ALMANAC XXIX TRANSITS OF MERCURY IN BCE

The almanac XXIX contains a list of transits of Mercury from the 125th millennium BCE to the 1st millennium BCE.

During the period of 250 000 years, the total number of transits of Mercury is 487 407 transits of Mercury (30 165 transits of Mercury visible from Venus, 40 540 transits of Mercury visible from Earth, 40 443 transits of Mercury visible from Moon, 54 411 transits of Mercury visible from Mars, 68 795 transits of Mercury visible from Jupiter, 73 583 transits of Mercury visible from Saturn, 73 928 transits of Mercury visible from Uranus, 76 531 transits of Mercury visible from Neptune, 29 011 transits of Mercury visible from Pluto).

125TH MILLENNIUM

BCE

This is a list of transits of Mercury in the 125th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Earth	**-124998-03-12 00:01 J**		**-43934026.58**	**-43934026.50**	**-43934026.42**	**0.2779**	**0.1794**	
Moon	**-124998-03-12 00:44 J**		**-43934026.55**	**-43934026.47**	**-43934026.39**	**0.2780**	**0.1899**	*
Mars	**-124997-05-19 00:30 J**		**-43933592.59**	**-43933592.48**	**-43933592.36**	**0.1647**	**0.0301**	
Neptune	**-124996-12-06 14:54 J**		**-43933025.89**	**-43933025.88**	**-43933025.83**	**0.0089**	**0.0088**	
Neptune	**-124995-03-04 18:30 J**		**-43932937.79**	**-43932937.73**	**-43932937.64**	**0.0089**	**0.0082**	
Jupiter	**-124995-03-08 04:35 J**		**-43932934.49**	**-43932934.31**	**-43932934.13**	**0.0499**	**0.0095**	
Neptune	**-124995-05-31 22:06 J**		**-43932849.66**	**-43932849.58**	**-43932849.47**	**0.0089**	**0.0076**	
Jupiter	**-124995-06-06 14:54 J**		**-43932843.91**	**-43932843.88**	**-43932843.85**	**0.0498**	**0.0489**	
Neptune	**-124995-08-28 01:27 J**		**-43932761.53**	**-43932761.44**	**-43932761.30**	**0.0089**	**0.0070**	
Moon	**-124995-09-09 09:08 J**		**-43932749.22**	**-43932749.12**	**-43932749.01**	**0.2567**	**0.1895**	
Earth	**-124995-09-09 09:51 J**		**-43932749.19**	**-43932749.09**	**-43932748.99**	**0.2561**	**0.1971**	*
Neptune	**-124995-11-24 05:03 J**		**-43932673.40**	**-43932673.29**	**-43932673.14**	**0.0089**	**0.0064**	
Neptune	**-124994-02-20 08:39 J**		**-43932585.27**	**-43932585.14**	**-43932584.97**	**0.0089**	**0.0058**	
Neptune	**-124994-05-19 12:44 J**		**-43932497.13**	**-43932496.97**	**-43932496.81**	**0.0089**	**0.0051**	
Neptune	**-124994-08-15 16:20 J**		**-43932408.99**	**-43932408.82**	**-43932408.66**	**0.0089**	**0.0045**	
Saturn	**-124994-11-08 11:18 J**		**-43932324.13**	**-43932324.03**	**-43932323.91**	**0.0259**	**0.0202**	
Neptune	**-124994-11-11 19:42 J**		**-43932320.84**	**-43932320.68**	**-43932320.50**	**0.0089**	**0.0039**	
Saturn	**-124993-02-05 06:44 J**		**-43932235.39**	**-43932235.22**	**-43932235.04**	**0.0259**	**0.0092**	
Neptune	**-124993-02-07 23:18 J**		**-43932232.70**	**-43932232.53**	**-43932232.34**	**0.0089**	**0.0033**	
Saturn	**-124993-05-04 02:25 J**		**-43932146.59**	**-43932146.40**	**-43932146.22**	**0.0258**	**0.0019**	

Neptune -124993-05-06 02:54 J -43932144.55 -43932144.38 -43932144.19 0.0089 0.0027

Saturn -124993-07-31 21:51 J -43932057.75 -43932057.59 -43932057.42 0.0258 0.0130

Neptune -124993-08-02 06:30 J -43932056.41 -43932056.23 -43932056.03 0.0089 0.0021

Saturn -124993-10-28 17:32 J -43931968.82 -43931968.77 -43931968.70 0.0258 0.0242

Neptune -124993-10-29 10:06 J -43931968.26 -43931968.08 -43931967.88 0.0089 0.0015

Mars -124992-01-23 05:18 J -43931882.42 -43931882.28 -43931882.14 0.1865 0.0936

Neptune -124992-01-25 13:56 J -43931880.11 -43931879.92 -43931879.73 0.0089 0.0008

Neptune -124992-04-23 17:32 J -43931791.96 -43931791.77 -43931791.57 0.0089 0.0002

Neptune -124992-07-20 21:08 J -43931703.81 -43931703.62 -43931703.42 0.0089 0.0004

Neptune -124992-10-17 00:44 J -43931615.66 -43931615.47 -43931615.27 0.0089 0.0010

Neptune -124991-01-13 04:35 J -43931527.50 -43931527.31 -43931527.12 0.0089 0.0016

Moon -124991-03-04 20:39 J -43931476.75 -43931476.64 -43931476.53 0.2781 0.0360

Earth -124991-03-04 21:23 J -43931476.72 -43931476.61 -43931476.50 0.2779 0.0282 *

Neptune -124991-04-11 07:56 J -43931439.35 -43931439.17 -43931438.97 0.0089 0.0023

Neptune -124991-07-08 11:32 J -43931351.19 -43931351.02 -43931350.83 0.0089 0.0029

Neptune -124991-10-04 15:08 J -43931263.04 -43931262.87 -43931262.68 0.0089 0.0035

Neptune -124991-12-31 18:59 J -43931174.88 -43931174.71 -43931174.53 0.0089 0.0041

Neptune -124990-03-29 22:35 J -43931086.72 -43931086.56 -43931086.39 0.0089 0.0048

Neptune -124990-06-26 01:56 J -43930998.55 -43930998.42 -43930998.25 0.0089 0.0054

Neptune -124990-09-22 05:47 J -43930910.39 -43930910.26 -43930910.10 0.0089 0.0060

Neptune -124990-12-19 09:23 J -43930822.22 -43930822.11 -43930821.97 0.0089 0.0066

Jupiter -124989-02-02 09:51 J -43930777.18 -43930777.09 -43930776.98 0.0526 0.0324

Neptune -124989-03-16 13:13 J -43930734.05 -43930733.95 -43930733.83 0.0089 0.0072

Jupiter -124989-05-01 16:20 J -43930687.94 -43930687.82 -43930687.69 0.0527 0.0134

Neptune -124989-06-12 17:03 J -43930645.88 -43930645.79 -43930645.70 0.0089 0.0079

Neptune -124989-09-08 20:11 J -43930557.69 -43930557.66 -43930557.58 0.0089 0.0085

Venus -124988-02-26 14:54 J -43930386.98 -43930386.88 -43930386.77 0.3612 0.2608

Moon -124988-08-31 20:39 J -43930200.78 -43930200.64 -43930200.50 0.2555 0.1354

Earth -124988-08-31 21:23 J -43930200.75 -43930200.61 -43930200.48 0.2561 0.1423 *

Mars -124988-10-09 11:32 J -43930162.14 -43930162.02 -43930161.90 0.1647 0.0112

Mars -124986-09-14 15:23 J -43929456.89 -43929456.86 -43929456.83 0.1648 0.1569

Venus -124986-12-09 16:35 J -43929370.89 -43929370.81 -43929370.72 0.3770 0.2061

Earth -124985-03-13 18:30 J -43929275.77 -43929275.73 -43929275.69 0.2778 0.2529

Moon -124985-03-13 19:13 J -43929275.74 -43929275.70 -43929275.66 0.2780 0.2522 *

Earth -124984-02-25 18:44 J -43928926.77 -43928926.72 -43928926.66 0.2779 0.2322

Moon -124984-02-25 19:13 J -43928926.75 -43928926.70 -43928926.64 0.2773 0.2340 *

Jupiter -124984-12-25 01:56 J -43928624.58 -43928624.42 -43928624.26 0.0499 0.0235

Jupiter -124983-03-25 12:15 J -43928534.12 -43928533.99 -43928533.86 0.0499 0.0348

Venus -124983-09-12 22:35 J -43928362.69 -43928362.56 -43928362.44 0.3605 0.2012

Venus -124980-06-24 09:08 J -43927347.23 -43927347.12 -43927347.02 0.3776 0.0280

Saturn -124979-09-05 15:51 J -43926908.91 -43926908.84 -43926908.76 0.0303 0.0250

Saturn -124979-12-03 05:32 J -43926820.39 -43926820.27 -43926820.15 0.0303 0.0123

Saturn -124978-03-01 18:59 J -43926731.84 -43926731.71 -43926731.58 0.0303 0.0007

Mars -124978-03-01 22:20 J -43926731.68 -43926731.57 -43926731.45 0.1647 0.0528 *

Moon -124978-03-07 15:08 J -43926725.98 -43926725.87 -43926725.77 0.2782 0.0370

Earth -124978-03-07 15:51 J -43926725.95 -43926725.84 -43926725.74 0.2779 0.0463 *

Saturn -124978-05-29 08:25 J -43926643.27 -43926643.15 -43926643.03 0.0303 0.0129

Saturn -124978-08-25 21:37 J -43926554.67 -43926554.60 -43926554.53 0.0303 0.0253

Uranus -124978-11-21 08:11 J -43926467.16 -43926467.16 -43926467.16 0.0130 0.0130

Jupiter -124978-11-21 14:25 J -43926466.97 -43926466.90 -43926466.82 0.0526 0.0429

Uranus -124977-02-17 11:03 J -43926379.10 -43926379.04 -43926378.98 0.0130 0.0115

Jupiter -124977-02-18 20:54 J -43926377.75 -43926377.63 -43926377.50 0.0527 0.0031

Uranus -124977-05-15 13:56 J -43926291.00 -43926290.92 -43926290.83 0.0130 0.0100

Jupiter -124977-05-18 03:08 J -43926288.41 -43926288.37 -43926288.32 0.0528 0.0484

Uranus -124977-08-11 16:49 J -43926202.89 -43926202.80 -43926202.69 0.0130 0.0085

Uranus -124977-11-07 19:42 J -43926114.78 -43926114.68 -43926114.56 0.0130 0.0070

Uranus -124976-02-03 22:35 J -43926026.67 -43926026.56 -43926026.43 0.0130 0.0056

Mars -124976-02-04 02:25 J -43926026.48 -43926026.40 -43926026.32 0.1648 0.1167 *

Uranus -124976-05-03 01:42 J -43925938.56 -43925938.43 -43925938.30 0.0130 0.0040

Uranus -124976-07-30 04:35 J -43925850.44 -43925850.31 -43925850.18 0.0130 0.0025

Uranus -124976-10-26 07:27 J -43925762.32 -43925762.19 -43925762.06 0.0130 0.0010

Uranus -124975-01-22 10:20 J -43925674.20 -43925674.07 -43925673.94 0.0130 0.0005

Uranus -124975-04-20 13:13 J -43925586.08 -43925585.95 -43925585.82 0.0130 0.0020

Uranus -124975-07-17 16:06 J -43925497.96 -43925497.83 -43925497.70 0.0131 0.0035

Moon -124975-09-04 03:23 J -43925449.52 -43925449.36 -43925449.19 0.2555 0.0204

Earth -124975-09-04 03:51 J -43925449.50 -43925449.34 -43925449.18 0.2561 0.0219 *

Uranus -124975-10-13 18:44 J -43925409.83 -43925409.72 -43925409.59 0.0131 0.0051

Venus -124974-01-08 01:13 J -43925323.54 -43925323.45 -43925323.35 0.3781 0.1601

Uranus -124974-01-09 21:37 J -43925321.71 -43925321.60 -43925321.48 0.0131 0.0066

Uranus -124974-04-08 00:30 J -43925233.58 -43925233.48 -43925233.37 0.0131 0.0080

Uranus -124974-07-05 03:37 J -43925145.44 -43925145.35 -43925145.26 0.0131 0.0095

Uranus -124974-10-01 06:15 J -43925057.30 -43925057.24 -43925057.17 0.0131 0.0110

Uranus -124974-12-28 09:08 J -43924969.15 -43924969.12 -43924969.08 0.0131 0.0125

Mars -124972-10-12 17:03 J -43924314.89 -43924314.79 -43924314.69 0.1865 0.1488

Jupiter -124972-10-12 21:51 J -43924314.70 -43924314.59 -43924314.48 0.0500 0.0391 *

Jupiter -124971-01-11 07:56 J -43924224.34 -43924224.17 -43924224.00 0.0499 0.0190

Earth -124971-02-28 13:13 J -43924176.04 -43924175.95 -43924175.86 0.2779 0.1603

Moon -124971-02-28 13:56 J -43924176.01 -43924175.92 -43924175.83 0.2775 0.1524 *

Mars -124969-07-22 09:23 J -43923301.21 -43923301.11 -43923301.01 0.1648 0.0938

Venus -124969-07-23 17:32 J -43923299.81 -43923299.77 -43923299.72 0.3786 0.3410

Mars -124967-06-27 13:27 J -43922596.04 -43922595.94 -43922595.83 0.1647 0.0762

Jupiter -124966-12-08 01:27 J -43922067.57 -43922067.44 -43922067.32 0.0527 0.0081

Jupiter -124965-03-06 07:42 J -43921978.27 -43921978.18 -43921978.09 0.0527 0.0376

Moon -124965-03-09 09:37 J -43921975.20 -43921975.10 -43921975.00 0.2780 0.1195

Earth -124965-03-09 10:20 J -43921975.17 -43921975.07 -43921974.97 0.2779 0.1190 *

Saturn -124964-03-27 10:49 J -43921592.12 -43921592.05 -43921591.97 0.0259 0.0234

Saturn -124964-06-24 06:01 J -43921503.40 -43921503.25 -43921503.08 0.0259 0.0125

Saturn -124964-09-21 01:42 J -43921414.62 -43921414.43 -43921414.25 0.0259 0.0015

Saturn -124964-12-18 21:08 J -43921325.79 -43921325.62 -43921325.44 0.0259 0.0097

Saturn -124963-03-17 16:49 J -43921236.90 -43921236.80 -43921236.68 0.0259 0.0209

Mars -124962-03-04 11:18 J -43920885.19 -43920885.03 -43920884.87 0.1865 0.0317

Moon -124962-09-07 10:06 J -43920698.23 -43920698.08 -43920697.93 0.2554 0.0888

Earth -124962-09-07 10:06 J -43920698.23 -43920698.08 -43920697.93 0.2561 0.0990 *

Jupiter -124960-10-30 05:03 J -43919914.47 -43919914.29 -43919914.11 0.0499 0.0047

Mars -124960-12-12 20:11 J -43919870.72 -43919870.66 -43919870.59 0.1648 0.1355

Earth -124958-03-03 07:42 J -43919425.28 -43919425.18 -43919425.08 0.2780 0.0877

Moon -124958-03-03 08:11 J -43919425.26 -43919425.16 -43919425.05 0.2775 0.0802 *

Mars -124958-11-18 00:30 J -43919165.59 -43919165.48 -43919165.36 0.1647 0.0355

Earth -124955-08-29 21:23 J -43918149.66 -43918149.61 -43918149.55 0.2561 0.2413

Moon -124955-08-29 22:35 J -43918149.62 -43918149.56 -43918149.50 0.2566 0.2380 *

Jupiter -124954-09-26 05:18 J -43917757.40 -43917757.28 -43917757.16 0.0526 0.0198

Jupiter -124954-12-24 11:32 J -43917668.13 -43917668.02 -43917667.91 0.0527 0.0258

Mars -124953-07-24 05:47 J -43917455.41 -43917455.26 -43917455.11 0.1865 0.0835

Moon -124952-03-12 04:06 J -43917224.41 -43917224.33 -43917224.25 0.2780 0.1890

Earth -124952-03-12 04:49 J -43917224.38 -43917224.30 -43917224.22 0.2779 0.1924 *

Saturn -124949-01-23 17:18 J -43916176.82 -43916176.78 -43916176.74 0.0303 0.0288

Saturn -124949-04-21 06:59 J -43916088.32 -43916088.21 -43916088.10 0.0303 0.0161

Saturn -124949-07-18 20:25 J -43915999.78 -43915999.65 -43915999.52 0.0304 0.0035

Earth -124949-09-09 16:20 J -43915946.90 -43915946.82 -43915946.74 0.2561 0.2177

Moon -124949-09-09 16:49 J -43915946.88 -43915946.80 -43915946.71 0.2556 0.2165 *

Saturn -124949-10-15 09:51 J -43915911.22 -43915911.09 -43915910.96 0.0304 0.0092

Saturn -124948-01-11 23:03 J -43915822.63 -43915822.54 -43915822.45 0.0304 0.0217

Mars -124948-04-09 11:32 J -43915735.14 -43915735.02 -43915734.90 0.1647 0.0059

Jupiter -124948-08-18 02:39 J -43915604.57 -43915604.39 -43915604.21 0.0499 0.0093

Jupiter -124948-11-16 12:59 J -43915513.98 -43915513.96 -43915513.93 0.0499 0.0492

Mars -124946-03-15 15:23 J -43915029.88 -43915029.86 -43915029.84 0.1648 0.1622

Earth -124945-03-05 02:11 J -43914674.52 -43914674.41 -43914674.30 0.2780 0.0147

Moon -124945-03-05 02:54 J -43914674.49 -43914674.38 -43914674.27 0.2777 0.0153 *

Jupiter -124942-07-15 09:08 J -43913447.22 -43913447.12 -43913447.02 0.0526 0.0313

Earth -124942-09-02 03:51 J -43913398.48 -43913398.34 -43913398.19 0.2561 0.1210

Moon -124942-09-02 04:49 J -43913398.44 -43913398.30 -43913398.15 0.2566 0.1061 *

Jupiter -124942-10-12 15:37 J -43913357.98 -43913357.85 -43913357.73 0.0527 0.0144

Moon -124939-03-14 22:49 J -43912473.60 -43912473.55 -43912473.51 0.2776 0.2541

Earth -124939-03-14 23:32 J -43912473.55 -43912473.52 -43912473.50 0.2778 0.2661 *

Mars -124939-08-30 22:35 J -43912304.68 -43912304.56 -43912304.45 0.1647 0.0466

Moon -124938-02-26 23:18 J -43912124.59 -43912124.53 -43912124.47 0.2784 0.2278

Earth -124938-02-26 23:47 J -43912124.58 -43912124.51 -43912124.45 0.2779 0.2197 *

Mars -124937-08-05 02:25 J -43911599.47 -43911599.40 -43911599.32 0.1648 0.1223

Jupiter -124936-06-06 00:15 J -43911294.65 -43911294.49 -43911294.33 0.0500 0.0232

Jupiter -124936-09-04 10:35 J -43911204.19 -43911204.06 -43911203.93 0.0499 0.0352

Uranus -124935-05-22 15:51 J -43910943.86 -43910943.84 -43910943.79 0.0148 0.0146

Uranus -124935-08-19 00:59 J -43910855.57 -43910855.46 -43910855.33 0.0148 0.0113

Saturn -124935-11-11 05:47 J -43910771.41 -43910771.26 -43910771.12 0.0259 0.0157

Uranus -124935-11-15 09:51 J -43910767.24 -43910767.09 -43910766.92 0.0148 0.0082

Venus -124935-12-30 21:51 J -43910721.64 -43910721.59 -43910721.53 0.3766 0.3209

Saturn -124934-02-08 00:59 J -43910682.64 -43910682.46 -43910682.27 0.0259 0.0048

Uranus -124934-02-11 18:59 J -43910678.89 -43910678.71 -43910678.53 0.0148 0.0049

Saturn -124934-05-07 20:39 J -43910593.82 -43910593.64 -43910593.46 0.0259 0.0063

Uranus -124934-05-11 04:06 J -43910590.52 -43910590.33 -43910590.14 0.0148 0.0017

Saturn -124934-08-04 16:06 J -43910504.95 -43910504.83 -43910504.68 0.0259 0.0176

Uranus -124934-08-07 12:59 J -43910502.15 -43910501.96 -43910501.77 0.0148 0.0015

Uranus -124934-11-03 21:51 J -43910413.76 -43910413.59 -43910413.40 0.0148 0.0048

Uranus -124933-01-31 06:59 J -43910325.37 -43910325.21 -43910325.04 0.0148 0.0080

Uranus -124933-04-28 15:51 J -43910236.95 -43910236.84 -43910236.70 0.0148 0.0112

Uranus -124933-07-26 00:59 J -43910148.49 -43910148.46 -43910148.41 0.0148 0.0144

Earth -124932-03-07 20:39 J -43909923.75 -43909923.64 -43909923.53 0.2779 0.0585

Moon -124932-03-07 21:23 J -43909923.72 -43909923.61 -43909923.51 0.2776 0.0604 *

Mars -124932-04-12 18:01 J -43909887.84 -43909887.75 -43909887.67 0.1865 0.1604

Venus -124932-10-03 16:35 J -43909713.96 -43909713.81 -43909713.66 0.3610 0.1030

Jupiter -124930-05-03 13:13 J -43909137.03 -43909136.95 -43909136.88 0.0526 0.0429

Jupiter -124930-07-31 19:27 J -43909047.81 -43909047.69 -43909047.56 0.0527 0.0031

Jupiter -124930-10-29 01:42 J -43908958.47 -43908958.43 -43908958.38 0.0528 0.0484

Mars -124929-01-21 09:23 J -43908874.21 -43908874.11 -43908874.01 0.1648 0.0879

Venus -124929-07-15 14:25 J -43908698.00 -43908697.90 -43908697.81 0.3772 0.1385

Earth -124929-09-04 10:20 J -43908647.23 -43908647.07 -43908646.91 0.2561 0.0011

Moon -124929-09-04 10:35 J -43908647.22 -43908647.06 -43908646.90 0.2567 0.0045 *

Mars -124928-12-26 13:27 J -43908169.04 -43908168.94 -43908168.84 0.1647 0.0820

Venus -124926-04-20 00:01 J -43907689.50 -43907689.50 -43907689.49 0.3603 0.3591

Moon -124925-02-29 17:47 J -43907373.86 -43907373.76 -43907373.67 0.2785 0.1465

Earth -124925-02-29 18:15 J -43907373.83 -43907373.74 -43907373.65 0.2779 0.1476 *

Jupiter -124924-03-24 21:37 J -43906984.72 -43906984.60 -43906984.48 0.0500 0.0373

Jupiter -124924-06-23 07:42 J -43906894.35 -43906894.18 -43906894.01 0.0499 0.0209

Venus -124923-01-29 06:44 J -43906674.32 -43906674.22 -43906674.12 0.3777 0.0458

Mars -124923-09-02 12:15 J -43906458.16 -43906457.99 -43906457.83 0.1865 0.0438

Mars -124920-06-12 20:11 J -43905443.73 -43905443.66 -43905443.59 0.1648 0.1297

Saturn -124920-09-08 07:27 J -43905356.28 -43905356.19 -43905356.09 0.0303 0.0208

Saturn -124920-12-05 21:08 J -43905267.75 -43905267.62 -43905267.49 0.0303 0.0081

Saturn -124919-03-04 10:35 J -43905179.19 -43905179.06 -43905178.93 0.0303 0.0045

Earth -124919-03-10 15:08 J -43905172.96 -43905172.87 -43905172.77 0.2779 0.1319

Moon -124919-03-10 15:51 J -43905172.93 -43905172.84 -43905172.74 0.2778 0.1441 *

Saturn -124919-05-31 23:47 J -43905090.61 -43905090.51 -43905090.40 0.0303 0.0170

Saturn -124919-08-28 12:59 J -43905001.98 -43905001.96 -43905001.93 0.0303 0.0294

Mars -124918-05-19 00:30 J -43904738.59 -43904738.48 -43904738.37 0.1647 0.0410

Jupiter -124918-05-20 00:01 J -43904737.62 -43904737.50 -43904737.37 0.0527 0.0079

Venus -124918-08-14 23:03 J -43904650.62 -43904650.54 -43904650.46 0.3783 0.2268

Jupiter -124918-08-17 06:15 J -43904648.32 -43904648.24 -43904648.15 0.0527 0.0379

Earth -124916-09-07 16:49 J -43903895.95 -43903895.80 -43903895.66 0.2561 0.1203

Moon -124916-09-07 16:49 J -43903895.94 -43903895.80 -43903895.66 0.2567 0.1117 *

Neptune -124915-07-04 07:13 J -43903596.20 -43903596.20 -43903596.19 0.0088 0.0088

Neptune -124915-09-30 08:25 J -43903508.17 -43903508.15 -43903508.10 0.0088 0.0084

Neptune -124915-12-27 10:06 J -43903420.13 -43903420.08 -43903420.02 0.0088 0.0080

Neptune -124914-03-25 11:32 J -43903332.09 -43903332.02 -43903331.95 0.0088 0.0076

Neptune -124914-06-21 12:44 J -43903244.04 -43903243.97 -43903243.88 0.0088 0.0072

Neptune -124914-09-17 14:11 J -43903155.99 -43903155.91 -43903155.82 0.0088 0.0067

Neptune -124914-12-14 15:23 J -43903067.94 -43903067.86 -43903067.75 0.0088 0.0063

Mars -124913-01-23 06:44 J -43903028.38 -43903028.22 -43903028.07 0.1865 0.0716

Neptune -124913-03-11 17:03 J -43902979.89 -43902979.79 -43902979.69 0.0088 0.0059

Neptune -124913-06-07 18:15 J -43902891.84 -43902891.74 -43902891.63 0.0088 0.0055

Neptune -124913-09-03 19:42 J -43902803.78 -43902803.68 -43902803.56 0.0088 0.0050

Neptune -124913-11-30 21:08 J -43902715.73 -43902715.62 -43902715.50 0.0088 0.0046

Neptune -124912-02-26 22:20 J -43902627.68 -43902627.57 -43902627.44 0.0088 0.0042

Moon -124912-03-03 12:01 J -43902623.10 -43902623.00 -43902622.89 0.2783 0.0752

Earth -124912-03-03 12:44 J -43902623.08 -43902622.97 -43902622.87 0.2780 0.0755 *

Jupiter -124912-04-11 03:23 J -43902584.54 -43902584.36 -43902584.17 0.0499 0.0052

Neptune -124912-05-26 00:01 J -43902539.63 -43902539.50 -43902539.38 0.0088 0.0038

Neptune -124912-08-22 01:13 J -43902451.57 -43902451.45 -43902451.32 0.0088 0.0034

Neptune -124912-11-18 02:39 J -43902363.52 -43902363.39 -43902363.26 0.0088 0.0029

Neptune -124911-02-14 03:51 J -43902275.46 -43902275.34 -43902275.20 0.0088 0.0025

Neptune -124911-05-13 05:18 J -43902187.41 -43902187.28 -43902187.15 0.0088 0.0021

Neptune -124911-08-09 06:44 J -43902099.35 -43902099.22 -43902099.09 0.0088 0.0017

Neptune -124911-11-05 07:56 J -43902011.30 -43902011.17 -43902011.03 0.0088 0.0013

Neptune -124910-02-01 09:23 J -43901923.24 -43901923.11 -43901922.97 0.0088 0.0008

Neptune -124910-04-30 10:49 J -43901835.19 -43901835.05 -43901834.92 0.0088 0.0004

Neptune -124910-07-27 12:01 J -43901747.13 -43901747.00 -43901746.86 0.0088 0.0002

Neptune -124910-10-23 13:27 J -43901659.07 -43901658.94 -43901658.81 0.0088 0.0004

Neptune -124909-01-19 14:54 J -43901571.02 -43901570.88 -43901570.75 0.0088 0.0009

Neptune -124909-04-16 16:06 J -43901482.96 -43901482.83 -43901482.70 0.0088 0.0013

Neptune -124909-07-13 17:32 J -43901394.90 -43901394.77 -43901394.64 0.0088 0.0017

Moon -124909-08-30 02:54 J -43901347.45 -43901347.38 -43901347.30 0.2556 0.2264

Earth -124909-08-30 04:06 J -43901347.41 -43901347.33 -43901347.25 0.2561 0.2203 *

Mars -124909-10-08 11:32 J -43901308.14 -43901308.02 -43901307.90 0.1647 0.0023

Neptune -124909-10-09 18:44 J -43901306.85 -43901306.72 -43901306.59 0.0088 0.0021

Neptune -124908-01-05 19:56 J -43901218.79 -43901218.67 -43901218.53 0.0088 0.0026

Neptune -124908-04-03 21:23 J -43901130.73 -43901130.61 -43901130.48 0.0088 0.0029

Neptune -124908-06-30 22:49 J -43901042.67 -43901042.55 -43901042.43 0.0088 0.0033

Neptune -124908-09-27 00:01 J -43900954.61 -43900954.50 -43900954.37 0.0088 0.0038

Neptune -124908-12-24 01:27 J -43900866.55 -43900866.44 -43900866.32 0.0088 0.0042

Neptune -124907-03-22 02:54 J -43900778.50 -43900778.38 -43900778.27 0.0088 0.0046

Neptune -124907-06-18 03:51 J -43900690.44 -43900690.34 -43900690.22 0.0088 0.0051

Neptune -124907-09-14 05:18 J -43900602.38 -43900602.28 -43900602.17 0.0088 0.0054

Neptune -124907-12-11 06:44 J -43900514.31 -43900514.22 -43900514.12 0.0088 0.0058

Jupiter -124906-03-08 04:20 J -43900427.44 -43900427.32 -43900427.20 0.0526 0.0189

Neptune -124906-03-09 07:56 J -43900426.25 -43900426.17 -43900426.07 0.0088 0.0062

Earth -124906-03-13 09:51 J -43900422.17 -43900422.09 -43900422.02 0.2779 0.2057

Moon -124906-03-13 10:35 J -43900422.13 -43900422.06 -43900422.00 0.2778 0.2122 *

Neptune -124906-06-05 09:23 J -43900338.19 -43900338.11 -43900338.02 0.0088 0.0066

Jupiter -124906-06-05 10:49 J -43900338.16 -43900338.05 -43900337.94 0.0527 0.0269 *

Neptune -124906-09-01 10:35 J -43900250.13 -43900250.06 -43900249.97 0.0088 0.0071

Neptune -124906-11-28 12:01 J -43900162.06 -43900162.00 -43900161.93 0.0088 0.0075

Neptune -124905-02-24 13:27 J -43900074.00 -43900073.94 -43900073.88 0.0088 0.0079

Saturn -124905-03-30 05:18 J -43900039.40 -43900039.28 -43900039.15 0.0259 0.0188

Neptune -124905-05-22 14:39 J -43899985.93 -43899985.89 -43899985.84 0.0088 0.0083

Saturn -124905-06-27 00:44 J -43899950.65 -43899950.47 -43899950.29 0.0259 0.0078

Neptune -124905-08-18 16:06 J -43899897.85 -43899897.83 -43899897.81 0.0088 0.0087

Saturn -124905-09-23 20:11 J -43899861.84 -43899861.66 -43899861.47 0.0259 0.0033

Saturn -124905-12-21 15:51 J -43899772.99 -43899772.84 -43899772.68 0.0259 0.0144

Saturn -124904-03-20 11:47 J -43899684.03 -43899684.01 -43899683.98 0.0259 0.0256

Mars -124904-06-14 01:27 J -43899598.46 -43899598.44 -43899598.42 0.1864 0.1846

Moon -124903-09-10 22:35 J -43899144.62 -43899144.56 -43899144.50 0.2567 0.2354

Earth -124903-09-10 23:03 J -43899144.60 -43899144.54 -43899144.49 0.2561 0.2392 *

Jupiter -124900-01-28 00:30 J -43898274.66 -43898274.48 -43898274.30 0.0499 0.0093

Jupiter -124900-04-28 10:49 J -43898184.08 -43898184.05 -43898184.02 0.0498 0.0491

Mars -124899-02-28 22:20 J -43897877.68 -43897877.57 -43897877.45 0.1648 0.0414

Moon -124899-03-06 06:30 J -43897872.34 -43897872.23 -43897872.12 0.2784 0.0129

Earth -124899-03-06 07:13 J -43897872.31 -43897872.20 -43897872.10 0.2780 0.0104 *

Mars -124897-02-04 02:25 J -43897172.47 -43897172.40 -43897172.33 0.1648 0.1276

Moon -124896-09-02 09:51 J -43896596.24 -43896596.09 -43896595.94 0.2556 0.0941

Earth -124896-09-02 10:35 J -43896596.20 -43896596.06 -43896595.91 0.2561 0.0993 *

Jupiter -124895-12-25 08:11 J -43896117.26 -43896117.16 -43896117.06 0.0526 0.0306

Jupiter -124894-03-24 14:25 J -43896028.02 -43896027.90 -43896027.77 0.0527 0.0152

Uranus -124894-12-11 15:23 J -43895765.88 -43895765.86 -43895765.82 0.0130 0.0126

Uranus -124893-03-08 18:15 J -43895677.80 -43895677.74 -43895677.66 0.0130 0.0111

Moon -124893-03-15 05:03 J -43895671.29 -43895671.29 -43895671.29 0.2778 0.2773

Uranus -124893-06-04 21:23 J -43895589.70 -43895589.61 -43895589.52 0.0130 0.0096

Uranus -124893-09-01 00:15 J -43895501.59 -43895501.49 -43895501.38 0.0130 0.0081

Mars -124893-10-11 18:30 J -43895460.79 -43895460.73 -43895460.67 0.1865 0.1707

Uranus -124893-11-28 03:08 J -43895413.48 -43895413.37 -43895413.25 0.0130 0.0066

Uranus -124892-02-24 06:01 J -43895325.37 -43895325.25 -43895325.12 0.0130 0.0051

Earth -124892-02-27 04:35 J -43895322.38 -43895322.31 -43895322.24 0.2779 0.2074

Moon -124892-02-27 05:03 J -43895322.36 -43895322.29 -43895322.22 0.2773 0.2081 *

Uranus -124892-05-23 08:54 J -43895237.25 -43895237.13 -43895237.00 0.0130 0.0036

Uranus -124892-08-19 11:47 J -43895149.14 -43895149.01 -43895148.87 0.0130 0.0021

Uranus -124892-11-15 14:39 J -43895061.02 -43895060.89 -43895060.75 0.0131 0.0007

Uranus -124891-02-11 17:32 J -43894972.90 -43894972.77 -43894972.63 0.0131 0.0010

Uranus -124891-05-10 20:25 J -43894884.78 -43894884.65 -43894884.52 0.0131 0.0025

Uranus -124891-08-06 23:18 J -43894796.65 -43894796.53 -43894796.40 0.0131 0.0040

Uranus -124891-11-03 02:11 J -43894708.53 -43894708.41 -43894708.29 0.0131 0.0055

Saturn -124890-01-26 09:23 J -43894624.19 -43894624.11 -43894624.03 0.0303 0.0242

Uranus -124890-01-30 05:03 J -43894620.40 -43894620.29 -43894620.18 0.0131 0.0069

Saturn -124890-04-24 23:03 J -43894535.67 -43894535.54 -43894535.42 0.0303 0.0116

Uranus -124890-04-28 07:42 J -43894532.27 -43894532.18 -43894532.07 0.0131 0.0085

Mars -124890-07-22 09:23 J -43894447.21 -43894447.11 -43894447.01 0.1648 0.0822

Saturn -124890-07-22 12:30 J -43894447.12 -43894446.98 -43894446.85 0.0303 0.0013 *

Uranus -124890-07-25 10:35 J -43894444.13 -43894444.06 -43894443.97 0.0131 0.0100

Saturn -124890-10-19 01:42 J -43894358.54 -43894358.43 -43894358.31 0.0304 0.0136

Uranus -124890-10-21 13:27 J -43894355.99 -43894355.94 -43894355.87 0.0131 0.0115

Saturn -124889-01-15 14:54 J -43894269.94 -43894269.88 -43894269.81 0.0304 0.0260

Uranus -124889-01-17 16:35 J -43894267.83 -43894267.81 -43894267.80 0.0131 0.0129

Jupiter -124889-11-15 21:51 J -43893964.75 -43893964.59 -43893964.42 0.0500 0.0235

Jupiter -124888-02-14 08:11 J -43893874.29 -43893874.16 -43893874.03 0.0499 0.0350

Mars -124888-06-26 13:27 J -43893742.04 -43893741.94 -43893741.84 0.1648 0.0873

Moon -124886-03-09 00:59 J -43893121.57 -43893121.46 -43893121.36 0.2781 0.0641

Earth -124886-03-09 01:42 J -43893121.54 -43893121.43 -43893121.33 0.2780 0.0721 *

Mars -124883-03-03 12:59 J -43892031.12 -43892030.96 -43892030.80 0.1865 0.0549

Moon -124883-09-05 16:35 J -43891844.97 -43891844.81 -43891844.64 0.2554 0.0190

Earth -124883-09-05 17:03 J -43891844.95 -43891844.79 -43891844.63 0.2561 0.0219 *

Jupiter -124883-10-13 12:01 J -43891807.07 -43891807.00 -43891806.92 0.0525 0.0422

Jupiter -124882-01-10 18:30 J -43891717.86 -43891717.73 -43891717.60 0.0526 0.0035

Jupiter -124882-04-10 00:44 J -43891628.52 -43891628.47 -43891628.43 0.0527 0.0490

Mars -124881-12-11 20:11 J -43891016.73 -43891016.66 -43891016.58 0.1648 0.1237

Earth -124879-03-01 23:03 J -43890571.63 -43890571.54 -43890571.44 0.2779 0.1351

Moon -124879-03-01 23:32 J -43890571.62 -43890571.52 -43890571.42 0.2773 0.1255 *

Mars -124879-11-17 00:30 J -43890311.59 -43890311.48 -43890311.37 0.1647 0.0469

Venus -124878-08-06 19:42 J -43890048.76 -43890048.68 -43890048.61 0.3767 0.2532

Jupiter -124877-09-03 19:27 J -43889654.81 -43889654.69 -43889654.57 0.0500 0.0374

Jupiter -124877-12-03 05:32 J -43889564.44 -43889564.27 -43889564.10 0.0499 0.0209

Saturn -124876-08-17 05:32 J -43889307.37 -43889307.27 -43889307.18 0.0259 0.0218

Saturn -124876-11-14 00:44 J -43889218.64 -43889218.47 -43889218.30 0.0259 0.0108

Saturn -124875-02-10 20:11 J -43889129.84 -43889129.66 -43889129.47 0.0259 0.0004

Saturn -124875-05-10 15:51 J -43889041.01 -43889040.84 -43889040.67 0.0259 0.0113

Venus -124875-05-10 18:01 J -43889040.90 -43889040.75 -43889040.60 0.3608 0.0502 *

Saturn -124875-08-07 11:32 J -43888952.10 -43888952.02 -43888951.92 0.0259 0.0226

Mars -124874-07-24 07:27 J -43888601.34 -43888601.19 -43888601.03 0.1865 0.0598

Moon -124873-03-10 19:27 J -43888370.78 -43888370.69 -43888370.60 0.2782 0.1473

Earth -124873-03-10 20:11 J -43888370.75 -43888370.66 -43888370.57 0.2779 0.1450 *

Venus -124872-02-19 12:01 J -43888025.10 -43888025.00 -43888024.90 0.3773 0.0708

Jupiter -124871-10-29 22:20 J -43887407.70 -43887407.57 -43887407.44 0.0526 0.0082

Jupiter -124870-01-27 04:35 J -43887318.40 -43887318.31 -43887318.22 0.0527 0.0375

Moon -124870-09-08 23:32 J -43887093.66 -43887093.52 -43887093.38 0.2555 0.1326

Earth -124870-09-08 23:18 J -43887093.66 -43887093.53 -43887093.39 0.2561 0.1418 *

Mars -124869-04-08 11:32 J -43886881.14 -43886881.02 -43886880.90 0.1647 0.0061

Venus -124867-09-05 04:20 J -43886001.42 -43886001.32 -43886001.22 0.3779 0.1122

Earth -124866-03-04 17:32 J -43885820.88 -43885820.77 -43885820.66 0.2780 0.0622

Moon -124866-03-04 18:15 J -43885820.85 -43885820.74 -43885820.64 0.2775 0.0552 *

Jupiter -124865-09-21 02:39 J -43885254.57 -43885254.39 -43885254.20 0.0499 0.0066

Mars -124865-12-13 02:11 J -43885171.46 -43885171.41 -43885171.35 0.1865 0.1727

Earth -124863-08-31 10:49 J -43884545.15 -43884545.05 -43884544.95 0.2561 0.1989

Moon -124863-08-31 12:01 J -43884545.10 -43884545.00 -43884544.89 0.2565 0.1901 *

Venus -124861-03-20 20:39 J -43883977.71 -43883977.64 -43883977.58 0.3784 0.2934

Saturn -124861-06-14 10:35 J -43883892.10 -43883892.06 -43883892.01 0.0302 0.0282

Saturn -124861-09-11 00:15 J -43883803.60 -43883803.49 -43883803.37 0.0303 0.0156

Saturn -124861-12-08 13:42 J -43883715.06 -43883714.93 -43883714.79 0.0303 0.0031

Saturn -124860-03-07 03:08 J -43883626.49 -43883626.37 -43883626.24 0.0303 0.0096

Moon -124860-03-13 13:56 J -43883619.99 -43883619.92 -43883619.85 0.2778 0.2143

Earth -124860-03-13 14:39 J -43883619.95 -43883619.89 -43883619.82 0.2778 0.2185 *

Saturn -124860-06-03 16:20 J -43883537.91 -43883537.82 -43883537.73 0.0303 0.0220

Mars -124860-08-29 22:20 J -43883450.68 -43883450.57 -43883450.45 0.1647 0.0355

Moon -124859-02-25 14:54 J -43883270.90 -43883270.88 -43883270.87 0.2785 0.2751

Earth -124859-02-25 15:08 J -43883270.90 -43883270.87 -43883270.85 0.2778 0.2669 *

Jupiter -124859-08-18 02:39 J -43883097.50 -43883097.39 -43883097.27 0.0526 0.0191

Jupiter -124859-11-15 09:08 J -43883008.23 -43883008.12 -43883008.01 0.0527 0.0268

Mars -124858-08-05 02:25 J -43882745.47 -43882745.40 -43882745.33 0.1648 0.1332

Earth -124853-03-06 12:01 J -43881070.11 -43881070.00 -43881069.89 0.2780 0.0112

Moon -124853-03-06 12:30 J -43881070.08 -43881069.98 -43881069.87 0.2776 0.0137 *

Mars -124853-04-11 19:13 J -43881033.73 -43881033.70 -43881033.66 0.1865 0.1819

Jupiter -124853-07-09 22:35 J -43880944.74 -43880944.56 -43880944.38 0.0499 0.0092

Jupiter -124853-10-08 08:39 J -43880854.16 -43880854.14 -43880854.11 0.0498 0.0491

Uranus -124851-06-11 22:20 J -43880242.61 -43880242.57 -43880242.50 0.0148 0.0142

Uranus -124851-09-08 07:27 J -43880154.32 -43880154.19 -43880154.06 0.0148 0.0110

Uranus -124851-12-05 16:20 J -43880065.98 -43880065.82 -43880065.65 0.0148 0.0078

Mars -124850-01-20 09:23 J -43880020.22 -43880020.11 -43880020.01 0.1648 0.0767

Uranus -124850-03-04 01:27 J -43879977.63 -43879977.44 -43879977.26 0.0148 0.0046

Uranus -124850-05-31 10:20 J -43879889.26 -43879889.07 -43879888.88 0.0148 0.0014

Uranus -124850-08-27 19:13 J -43879800.89 -43879800.70 -43879800.51 0.0148 0.0019

Earth -124850-09-03 17:18 J -43879793.93 -43879793.78 -43879793.63 0.2561 0.0781

Moon -124850-09-03 18:01 J -43879793.91 -43879793.75 -43879793.60 0.2566 0.0649 *

Uranus -124850-11-24 04:06 J -43879712.50 -43879712.33 -43879712.14 0.0148 0.0051

Uranus -124849-02-20 12:59 J -43879624.11 -43879623.96 -43879623.79 0.0148 0.0084

Pluto -124849-03-09 04:49 J -43879606.37 -43879606.30 -43879606.20 0.0061 0.0053

Uranus -124849-05-18 22:06 J -43879535.69 -43879535.58 -43879535.45 0.0148 0.0115

Pluto -124849-06-05 06:01 J -43879518.36 -43879518.25 -43879518.11 0.0061 0.0045

Uranus -124849-08-15 07:13 J -43879447.21 -43879447.20 -43879447.18 0.0148 0.0147

Pluto -124849-09-01 07:13 J -43879430.33 -43879430.20 -43879430.03 0.0061 0.0037

Pluto -124849-11-28 08:39 J -43879342.29 -43879342.14 -43879341.97 0.0061 0.0028

Mars -124849-12-25 13:27 J -43879315.04 -43879314.94 -43879314.84 0.1648 0.0928

Pluto -124848-02-24 09:51 J -43879254.25 -43879254.09 -43879253.90 0.0061 0.0020

Pluto -124848-05-23 11:18 J -43879166.21 -43879166.03 -43879165.84 0.0061 0.0012

Pluto -124848-08-19 12:30 J -43879078.16 -43879077.98 -43879077.79 0.0061 0.0004

Pluto -124848-11-15 13:42 J -43878990.11 -43878989.93 -43878989.74 0.0061 0.0006

Pluto -124847-02-11 14:54 J -43878902.05 -43878901.88 -43878901.69 0.0061 0.0014

Pluto -124847-05-10 16:20 J -43878813.99 -43878813.82 -43878813.64 0.0061 0.0022

Jupiter -124847-06-06 06:59 J -43878787.31 -43878787.21 -43878787.10 0.0526 0.0302

Pluto -124847-08-06 17:18 J -43878725.93 -43878725.78 -43878725.60 0.0061 0.0030

Jupiter -124847-09-03 13:27 J -43878698.06 -43878697.94 -43878697.82 0.0527 0.0157

Pluto -124847-11-02 18:30 J -43878637.86 -43878637.73 -43878637.57 0.0061 0.0039

Saturn -124846-01-04 05:18 J -43878575.33 -43878575.28 -43878575.22 0.0260 0.0247

Pluto -124846-01-29 19:56 J -43878549.78 -43878549.67 -43878549.54 0.0062 0.0047

Moon -124846-02-28 09:08 J -43878520.19 -43878520.12 -43878520.05 0.2786 0.2016

Earth -124846-02-28 09:37 J -43878520.18 -43878520.10 -43878520.03 0.2779 0.1949 *

Saturn -124846-04-03 00:30 J -43878486.63 -43878486.48 -43878486.31 0.0260 0.0138

Pluto -124846-04-27 20:54 J -43878461.69 -43878461.63 -43878461.53 0.0062 0.0056

Saturn -124846-06-30 20:11 J -43878397.85 -43878397.66 -43878397.47 0.0259 0.0027

Saturn -124846-09-27 15:51 J -43878309.02 -43878308.84 -43878308.67 0.0259 0.0084

Saturn -124846-12-25 11:32 J -43878220.14 -43878220.02 -43878219.90 0.0259 0.0196

Mars -124844-09-01 13:42 J -43877604.09 -43877603.93 -43877603.78 0.1865 0.0661

Jupiter -124841-04-27 19:27 J -43876634.85 -43876634.69 -43876634.52 0.0499 0.0238

Mars -124841-06-11 20:11 J -43876589.74 -43876589.66 -43876589.58 0.1648 0.1180

Jupiter -124841-07-27 05:47 J -43876544.39 -43876544.26 -43876544.13 0.0498 0.0345

Earth -124840-03-09 06:30 J -43876319.33 -43876319.23 -43876319.13 0.2780 0.0844

Moon -124840-03-09 07:13 J -43876319.30 -43876319.20 -43876319.10 0.2777 0.0880 *

Mars -124839-05-18 00:30 J -43875884.59 -43875884.48 -43875884.37 0.1647 0.0523

Earth -124837-09-05 23:47 J -43875042.67 -43875042.51 -43875042.35 0.2561 0.0432

Moon -124837-09-06 00:15 J -43875042.65 -43875042.49 -43875042.33 0.2566 0.0437 *

Jupiter -124835-03-25 10:49 J -43874477.13 -43874477.05 -43874476.98 0.0526 0.0420

Jupiter -124835-06-22 17:18 J -43874387.91 -43874387.78 -43874387.66 0.0527 0.0039

Jupiter -124835-09-19 23:18 J -43874298.57 -43874298.53 -43874298.48 0.0527 0.0494

Mars -124834-01-22 07:56 J -43874174.32 -43874174.17 -43874174.01 0.1865 0.0498

Moon -124833-03-02 03:23 J -43873769.45 -43873769.36 -43873769.26 0.2784 0.1209

Earth -124833-03-02 04:06 J -43873769.43 -43873769.33 -43873769.24 0.2779 0.1229 *

Mars -124832-11-02 06:59 J -43873159.23 -43873159.21 -43873159.18 0.1649 0.1597

Saturn -124831-01-29 02:25 J -43873071.50 -43873071.40 -43873071.29 0.0303 0.0187

Saturn -124831-04-27 15:51 J -43872982.96 -43872982.84 -43872982.70 0.0303 0.0062

Saturn -124831-07-25 05:18 J -43872894.41 -43872894.28 -43872894.15 0.0303 0.0065

Neptune -124831-09-02 12:44 J -43872854.99 -43872854.97 -43872854.90 0.0089 0.0086

Saturn -124831-10-21 18:44 J -43872805.82 -43872805.72 -43872805.62 0.0303 0.0189

Neptune -124831-11-29 16:20 J -43872766.88 -43872766.82 -43872766.71 0.0089 0.0080

Neptune -124830-02-25 19:56 J -43872678.76 -43872678.67 -43872678.54 0.0089 0.0074

Neptune -124830-05-24 23:32 J -43872590.62 -43872590.52 -43872590.38 0.0089 0.0068

Neptune -124830-08-21 03:37 J -43872502.49 -43872502.35 -43872502.22 0.0089 0.0062

Mars -124830-10-08 11:32 J -43872454.14 -43872454.02 -43872453.90 0.1648 0.0120

Neptune -124830-11-17 06:59 J -43872414.35 -43872414.21 -43872414.06 0.0089 0.0055

Neptune -124829-02-13 10:35 J -43872326.21 -43872326.06 -43872325.90 0.0089 0.0049

Jupiter -124829-02-14 16:49 J -43872324.91 -43872324.80 -43872324.68 0.0500 0.0380

Neptune -124829-05-11 14:11 J -43872238.07 -43872237.91 -43872237.74 0.0089 0.0043

Jupiter -124829-05-15 02:54 J -43872234.55 -43872234.38 -43872234.21 0.0499 0.0203

Neptune -124829-08-07 17:47 J -43872149.93 -43872149.76 -43872149.58 0.0089 0.0037

Neptune -124829-11-03 21:08 J -43872061.79 -43872061.62 -43872061.43 0.0089 0.0032

Neptune -124828-01-31 00:59 J -43871973.64 -43871973.46 -43871973.27 0.0089 0.0025

Neptune -124828-04-29 04:35 J -43871885.49 -43871885.31 -43871885.12 0.0089 0.0019

Neptune -124828-07-26 08:11 J -43871797.35 -43871797.16 -43871796.96 0.0089 0.0013

Neptune -124828-10-22 11:47 J -43871709.20 -43871709.01 -43871708.81 0.0089 0.0007

Neptune -124827-01-18 15:37 J -43871621.05 -43871620.85 -43871620.66 0.0089 0.0002

Earth -124827-03-12 00:59 J -43871568.55 -43871568.46 -43871568.37 0.2779 0.1579

Moon -124827-03-12 01:42 J -43871568.51 -43871568.43 -43871568.34 0.2778 0.1693 *

Neptune -124827-04-16 19:13 J -43871532.90 -43871532.70 -43871532.51 0.0089 0.0006

Neptune -124827-07-13 22:49 J -43871444.74 -43871444.55 -43871444.36 0.0089 0.0012

Venus -124827-08-28 00:44 J -43871399.48 -43871399.47 -43871399.45 0.3763 0.3677

Neptune -124827-10-10 02:25 J -43871356.59 -43871356.40 -43871356.21 0.0089 0.0019

Neptune -124826-01-06 05:47 J -43871268.43 -43871268.26 -43871268.06 0.0089 0.0025

Neptune -124826-04-04 09:37 J -43871180.28 -43871180.10 -43871179.91 0.0089 0.0031

Neptune -124826-07-01 13:13 J -43871092.12 -43871091.95 -43871091.77 0.0089 0.0037

Neptune -124826-09-27 17:03 J -43871003.96 -43871003.79 -43871003.62 0.0089 0.0043

Neptune -124826-12-24 20:25 J -43870915.80 -43870915.65 -43870915.48 0.0089 0.0050

Neptune -124825-03-22 00:01 J -43870827.64 -43870827.50 -43870827.33 0.0089 0.0056

Mars -124825-06-13 03:08 J -43870744.45 -43870744.37 -43870744.29 0.1865 0.1612

Neptune -124825-06-18 03:51 J -43870739.47 -43870739.34 -43870739.19 0.0089 0.0062

Neptune -124825-09-14 07:27 J -43870651.30 -43870651.19 -43870651.06 0.0089 0.0069

Neptune -124825-12-11 11:18 J -43870563.13 -43870563.03 -43870562.92 0.0089 0.0075

Neptune -124824-03-09 14:39 J -43870474.95 -43870474.89 -43870474.79 0.0089 0.0081

Venus -124824-05-31 12:15 J -43870392.10 -43870391.99 -43870391.88 0.3614 0.2525

Neptune -124824-06-05 18:15 J -43870386.76 -43870386.74 -43870386.68 0.0089 0.0087

Moon -124824-09-09 06:01 J -43870291.38 -43870291.25 -43870291.13 0.2567 0.1532

Earth -124824-09-09 06:01 J -43870291.37 -43870291.25 -43870291.13 0.2561 0.1632 *

Jupiter -124823-04-10 21:08 J -43870077.75 -43870077.62 -43870077.49 0.0526 0.0079

Jupiter -124823-07-09 03:23 J -43869988.45 -43869988.36 -43869988.27 0.0527 0.0377

Venus -124821-03-12 17:18 J -43869375.87 -43869375.78 -43869375.69 0.3769 0.1849

Mars -124820-02-27 22:20 J -43869023.68 -43869023.57 -43869023.45 0.1648 0.0298

Moon -124820-03-04 21:51 J -43869018.69 -43869018.59 -43869018.48 0.2785 0.0524

Earth -124820-03-04 22:20 J -43869018.67 -43869018.57 -43869018.46 0.2780 0.0505 *

Venus -124819-12-15 19:42 J -43868367.81 -43868367.68 -43868367.55 0.3607 0.2084

Mars -124818-02-03 02:25 J -43868318.46 -43868318.40 -43868318.34 0.1648 0.1387

Jupiter -124817-03-03 00:15 J -43867924.68 -43867924.49 -43867924.31 0.0499 0.0060

Saturn -124817-08-20 01:13 J -43867754.59 -43867754.45 -43867754.31 0.0259 0.0164

Moon -124817-08-31 16:06 J -43867742.94 -43867742.83 -43867742.71 0.2557 0.1808

Earth -124817-08-31 17:18 J -43867742.89 -43867742.78 -43867742.66 0.2561 0.1782 *

Saturn -124817-11-16 20:39 J -43867665.82 -43867665.64 -43867665.46 0.0259 0.0054

Saturn -124816-02-13 16:06 J -43867577.01 -43867576.83 -43867576.64 0.0259 0.0057

Saturn -124816-05-13 12:01 J -43867488.14 -43867488.00 -43867487.86 0.0259 0.0168

Venus -124816-09-26 09:37 J -43867352.20 -43867352.10 -43867352.00 0.3775 0.0039

Earth -124814-03-14 19:27 J -43866817.74 -43866817.69 -43866817.63 0.2779 0.2318

Moon -124814-03-14 20:25 J -43866817.71 -43866817.65 -43866817.60 0.2777 0.2359 *

Earth -124813-02-26 19:56 J -43866468.71 -43866468.67 -43866468.63 0.2779 0.2548

Moon -124813-02-26 20:25 J -43866468.69 -43866468.65 -43866468.62 0.2772 0.2571 *

Jupiter -124811-01-28 00:44 J -43865767.58 -43865767.47 -43865767.35 0.0526 0.0198

Jupiter -124811-04-27 07:13 J -43865678.31 -43865678.20 -43865678.09 0.0527 0.0260

Mars -124811-07-21 09:23 J -43865593.22 -43865593.11 -43865593.00 0.1648 0.0706

Venus -124810-04-12 01:56 J -43865328.51 -43865328.42 -43865328.33 0.3780 0.1790

Uranus -124810-12-31 22:35 J -43865064.60 -43865064.56 -43865064.51 0.0131 0.0123

Uranus -124809-03-29 01:27 J -43864976.51 -43864976.44 -43864976.36 0.0131 0.0108

Uranus -124809-06-25 04:20 J -43864888.41 -43864888.32 -43864888.22 0.0131 0.0093

Mars -124809-06-25 13:27 J -43864888.03 -43864887.94 -43864887.85 0.1648 0.0986

Uranus -124809-09-21 07:13 J -43864800.30 -43864800.20 -43864800.09 0.0131 0.0078

Uranus -124809-12-18 10:06 J -43864712.19 -43864712.08 -43864711.95 0.0131 0.0063

Uranus -124808-03-16 13:13 J -43864624.07 -43864623.95 -43864623.83 0.0131 0.0047

Uranus -124808-06-12 16:06 J -43864535.96 -43864535.83 -43864535.70 0.0131 0.0032

Uranus -124808-09-08 18:59 J -43864447.84 -43864447.71 -43864447.58 0.0131 0.0017

Uranus -124808-12-05 21:51 J -43864359.72 -43864359.59 -43864359.46 0.0131 0.0002

Uranus -124807-03-04 00:44 J -43864271.60 -43864271.47 -43864271.34 0.0131 0.0013

Moon -124807-03-07 16:20 J -43864267.93 -43864267.82 -43864267.71 0.2783 0.0143

Earth -124807-03-07 16:49 J -43864267.90 -43864267.80 -43864267.69 0.2780 0.0263 *

Uranus -124807-05-31 03:37 J -43864183.48 -43864183.35 -43864183.22 0.0131 0.0028

Uranus -124807-08-27 06:30 J -43864095.35 -43864095.23 -43864095.10 0.0131 0.0043

Uranus -124807-11-23 09:08 J -43864007.23 -43864007.12 -43864006.99 0.0131 0.0059

Uranus -124806-02-19 12:01 J -43863919.10 -43863919.00 -43863918.88 0.0131 0.0074

Uranus -124806-05-18 15:08 J -43863830.97 -43863830.87 -43863830.77 0.0131 0.0088

Uranus -124806-08-14 18:01 J -43863742.83 -43863742.75 -43863742.67 0.0131 0.0103

Uranus -124806-11-10 20:54 J -43863654.69 -43863654.63 -43863654.58 0.0131 0.0118

Jupiter -124806-12-20 21:23 J -43863614.79 -43863614.61 -43863614.43 0.0499 0.0085

Venus -124805-10-25 18:15 J -43863304.77 -43863304.74 -43863304.71 0.3786 0.3598

Mars -124804-03-02 14:25 J -43863177.05 -43863176.90 -43863176.75 0.1865 0.0772

Moon -124804-09-03 23:03 J -43862991.70 -43862991.54 -43862991.38 0.2555 0.0516

Earth -124804-09-04 00:01 J -43862991.66 -43862991.50 -43862991.35 0.2561 0.0569 *

Saturn -124802-06-18 04:20 J -43862339.41 -43862339.32 -43862339.23 0.0302 0.0223

Saturn -124802-09-14 17:47 J -43862250.88 -43862250.76 -43862250.63 0.0303 0.0097

Mars -124802-12-11 20:11 J -43862162.74 -43862162.66 -43862162.57 0.1648 0.1122

Saturn -124802-12-12 07:13 J -43862162.33 -43862162.20 -43862162.07 0.0303 0.0029

Saturn -124801-03-09 20:25 J -43862073.76 -43862073.65 -43862073.53 0.0303 0.0154

Saturn -124801-06-06 09:51 J -43861985.15 -43861985.09 -43861985.04 0.0303 0.0276

Earth -124800-02-28 14:25 J -43861717.98 -43861717.90 -43861717.82 0.2779 0.1825

Moon -124800-02-28 14:39 J -43861717.97 -43861717.89 -43861717.80 0.2773 0.1814 *

Mars -124800-11-16 00:30 J -43861457.59 -43861457.48 -43861457.37 0.1647 0.0581

Jupiter -124800-11-16 05:03 J -43861457.39 -43861457.29 -43861457.18 0.0526 0.0308 *

Jupiter -124799-02-13 11:32 J -43861368.14 -43861368.02 -43861367.90 0.0527 0.0151

Mars -124795-07-23 08:54 J -43859747.29 -43859747.13 -43859746.97 0.1865 0.0378

Moon -124794-03-10 10:49 J -43859517.15 -43859517.05 -43859516.95 0.2783 0.0940

Earth -124794-03-10 11:32 J -43859517.13 -43859517.02 -43859516.92 0.2780 0.0981 *

Jupiter -124794-10-08 17:18 J -43859304.94 -43859304.78 -43859304.62 0.0499 0.0240

Jupiter -124793-01-07 03:23 J -43859214.49 -43859214.36 -43859214.23 0.0498 0.0342

Mars -124792-05-03 06:59 J -43858732.25 -43858732.21 -43858732.17 0.1649 0.1542

Moon -124791-09-07 06:01 J -43858240.41 -43858240.25 -43858240.09 0.2555 0.0602

Earth -124791-09-07 06:15 J -43858240.39 -43858240.24 -43858240.08 0.2561 0.0646 *

Mars -124790-04-08 11:18 J -43858027.14 -43858027.03 -43858026.91 0.1647 0.0182

Jupiter -124788-09-04 09:23 J -43857147.19 -43857147.11 -43857147.04 0.0526 0.0420

Jupiter -124788-12-02 15:51 J -43857057.97 -43857057.84 -43857057.71 0.0527 0.0040

Saturn -124787-01-07 01:27 J -43857022.56 -43857022.44 -43857022.32 0.0260 0.0192

Jupiter -124787-03-01 22:06 J -43856968.62 -43856968.58 -43856968.54 0.0528 0.0496

Earth -124787-03-03 08:54 J -43856967.23 -43856967.13 -43856967.03 0.2780 0.1099

Moon -124787-03-03 09:23 J -43856967.21 -43856967.11 -43856967.01 0.2774 0.0992 *

Saturn -124787-04-05 20:54 J -43856933.81 -43856933.63 -43856933.46 0.0260 0.0082

Saturn -124787-07-03 16:20 J -43856845.00 -43856844.82 -43856844.63 0.0260 0.0029

Saturn -124787-09-30 12:01 J -43856756.15 -43856756.00 -43856755.84 0.0259 0.0141

Saturn -124787-12-28 07:42 J -43856667.20 -43856667.18 -43856667.13 0.0259 0.0254

Mars -124786-12-13 03:37 J -43856317.44 -43856317.35 -43856317.26 0.1864 0.1510

Jupiter -124782-07-27 14:11 J -43854995.02 -43854994.91 -43854994.79 0.0499 0.0386

Jupiter -124782-10-26 00:15 J -43854904.66 -43854904.49 -43854904.32 0.0498 0.0196

Moon -124781-03-12 05:18 J -43854766.37 -43854766.28 -43854766.20 0.2780 0.1734

Earth -124781-03-12 06:01 J -43854766.34 -43854766.25 -43854766.17 0.2779 0.1712 *

Mars -124781-08-28 22:20 J -43854596.68 -43854596.57 -43854596.45 0.1648 0.0241

Mars -124779-08-04 02:25 J -43853891.46 -43853891.40 -43853891.35 0.1648 0.1442

Moon -124778-09-10 12:30 J -43853489.10 -43853488.98 -43853488.86 0.2555 0.1734

Earth -124778-09-10 12:30 J -43853489.09 -43853488.98 -43853488.87 0.2561 0.1841 *

Jupiter -124776-09-20 19:27 J -43852747.81 -43852747.69 -43852747.56 0.0526 0.0081

Jupiter -124776-12-19 01:42 J -43852658.51 -43852658.43 -43852658.34 0.0527 0.0377

Earth -124774-03-06 03:23 J -43852216.47 -43852216.36 -43852216.26 0.2780 0.0374

Moon -124774-03-06 03:51 J -43852216.45 -43852216.34 -43852216.23 0.2775 0.0327 *

Saturn -124773-11-04 06:59 J -43851607.29 -43851607.21 -43851607.14 0.0303 0.0250

Saturn -124772-01-31 20:25 J -43851518.77 -43851518.65 -43851518.53 0.0303 0.0124

Saturn -124772-04-30 09:51 J -43851430.22 -43851430.09 -43851429.96 0.0303 0.0006

Saturn -124772-07-27 23:18 J -43851341.65 -43851341.53 -43851341.41 0.0303 0.0127

Saturn -124772-10-24 12:30 J -43851253.05 -43851252.98 -43851252.91 0.0303 0.0250

Mars -124771-01-19 09:23 J -43851166.22 -43851166.11 -43851166.00 0.1648 0.0649

Earth -124771-09-02 00:01 J -43850940.63 -43850940.50 -43850940.37 0.2561 0.1570

Moon -124771-09-02 00:59 J -43850940.58 -43850940.46 -43850940.33 0.2566 0.1486 *

Venus -124770-04-03 22:35 J -43850726.62 -43850726.56 -43850726.50 0.3765 0.2993

Jupiter -124770-08-13 21:08 J -43850594.80 -43850594.62 -43850594.43 0.0499 0.0052

Mars -124770-12-25 13:27 J -43850461.03 -43850460.94 -43850460.85 0.1648 0.1041

Moon -124768-03-14 23:47 J -43850015.56 -43850015.51 -43850015.46 0.2780 0.2373

Earth -124768-03-15 00:30 J -43850015.53 -43850015.48 -43850015.43 0.2778 0.2447 *

Venus -124767-01-05 13:56 J -43849719.07 -43849718.92 -43849718.78 0.3612 0.0959

Moon -124767-02-27 00:30 J -43849666.52 -43849666.48 -43849666.43 0.2786 0.2523

Earth -124767-02-27 00:44 J -43849666.52 -43849666.47 -43849666.41 0.2779 0.2428 *

Uranus -124767-07-02 06:01 J -43849541.32 -43849541.25 -43849541.16 0.0148 0.0134

Uranus -124767-09-28 14:54 J -43849453.01 -43849452.88 -43849452.73 0.0148 0.0102

Uranus -124767-12-25 23:47 J -43849364.67 -43849364.51 -43849364.33 0.0148 0.0070

Uranus -124766-03-24 08:54 J -43849276.31 -43849276.13 -43849275.94 0.0148 0.0038

Uranus -124766-06-20 17:47 J -43849187.95 -43849187.76 -43849187.56 0.0148 0.0007

Uranus -124766-09-17 02:39 J -43849099.57 -43849099.39 -43849099.19 0.0148 0.0027

Uranus -124766-12-14 11:47 J -43849011.19 -43849011.01 -43849010.83 0.0148 0.0058

Uranus -124765-03-11 20:39 J -43848922.79 -43848922.64 -43848922.48 0.0148 0.0090

Uranus -124765-06-08 05:47 J -43848834.36 -43848834.26 -43848834.15 0.0148 0.0122

Mars -124765-08-31 15:23 J -43848750.00 -43848749.86 -43848749.71 0.1865 0.0895

Venus -124765-10-17 14:54 J -43848702.98 -43848702.88 -43848702.78 0.3770 0.1173

Jupiter -124764-07-09 23:18 J -43848437.65 -43848437.53 -43848437.41 0.0526 0.0198

Jupiter -124764-10-07 05:47 J -43848348.37 -43848348.26 -43848348.15 0.0527 0.0260

Mars -124762-06-11 20:11 J -43847735.75 -43847735.66 -43847735.57 0.1648 0.1063

Earth -124761-03-07 21:51 J -43847465.70 -43847465.59 -43847465.48 0.2780 0.0372

Moon -124761-03-07 22:20 J -43847465.67 -43847465.57 -43847465.46 0.2776 0.0362 *

Mars -124760-05-17 00:30 J -43847030.59 -43847030.48 -43847030.37 0.1648 0.0637

Venus -124759-05-03 07:13 J -43846679.30 -43846679.20 -43846679.10 0.3776 0.0650

Saturn -124758-05-27 02:11 J -43846290.50 -43846290.41 -43846290.30 0.0260 0.0217

Jupiter -124758-06-01 18:30 J -43846284.91 -43846284.73 -43846284.55 0.0499 0.0093

Saturn -124758-08-23 21:37 J -43846201.76 -43846201.60 -43846201.42 0.0259 0.0107

Jupiter -124758-08-31 04:49 J -43846194.33 -43846194.30 -43846194.28 0.0498 0.0492

Earth -124758-09-05 06:30 J -43846189.39 -43846189.23 -43846189.07 0.2560 0.0358

Moon -124758-09-05 07:27 J -43846189.35 -43846189.19 -43846189.03 0.2565 0.0226 *

Saturn -124758-11-20 17:18 J -43846112.97 -43846112.78 -43846112.59 0.0259 0.0004

Saturn -124757-02-17 12:59 J -43846024.12 -43846023.96 -43846023.79 0.0259 0.0115

Saturn -124757-05-16 08:54 J -43845935.22 -43845935.13 -43845935.04 0.0259 0.0228

Pluto -124757-10-09 12:44 J -43845789.03 -43845788.97 -43845788.91 0.0084 0.0075

Pluto -124756-01-05 13:56 J -43845701.01 -43845700.92 -43845700.81 0.0084 0.0059

Pluto -124756-04-03 15:23 J -43845612.97 -43845612.86 -43845612.73 0.0084 0.0042

Pluto -124756-06-30 16:49 J -43845524.92 -43845524.80 -43845524.66 0.0084 0.0026

Pluto -124756-09-26 18:15 J -43845436.87 -43845436.74 -43845436.60 0.0084 0.0010

Pluto -124756-12-23 19:42 J -43845348.82 -43845348.68 -43845348.54 0.0084 0.0007

Mars -124755-01-21 09:37 J -43845320.26 -43845320.10 -43845319.93 0.1865 0.0267

Pluto -124755-03-21 21:08 J -43845260.75 -43845260.62 -43845260.49 0.0084 0.0023

Pluto -124755-06-17 22:20 J -43845172.69 -43845172.57 -43845172.44 0.0083 0.0039

Pluto -124755-09-13 23:47 J -43845084.61 -43845084.51 -43845084.40 0.0083 0.0054

Pluto -124755-12-11 00:59 J -43844996.52 -43844996.46 -43844996.38 0.0083 0.0071

Moon -124754-03-01 18:59 J -43844915.80 -43844915.71 -43844915.63 0.2785 0.1752

Earth -124754-03-01 19:13 J -43844915.78 -43844915.70 -43844915.61 0.2779 0.1703 *

Venus -124754-11-16 23:32 J -43844655.60 -43844655.52 -43844655.44 0.3781 0.2457

Mars -124753-11-01 06:59 J -43844305.26 -43844305.21 -43844305.16 0.1649 0.1482

Jupiter -124752-04-28 02:54 J -43844127.48 -43844127.38 -43844127.27 0.0526 0.0318

Jupiter -124752-07-26 09:23 J -43844038.23 -43844038.11 -43844037.98 0.0527 0.0141

Mars -124751-10-07 11:32 J -43843600.14 -43843600.02 -43843599.91 0.1647 0.0232

Neptune -124750-03-31 06:44 J -43843425.24 -43843425.22 -43843425.19 0.0088 0.0087

Neptune -124750-06-27 07:56 J -43843337.20 -43843337.17 -43843337.11 0.0088 0.0083

Neptune -124750-09-23 09:23 J -43843249.16 -43843249.11 -43843249.04 0.0088 0.0078

Neptune -124750-12-20 11:03 J -43843161.11 -43843161.04 -43843160.97 0.0088 0.0074

Neptune -124749-03-17 12:15 J -43843073.06 -43843072.99 -43843072.90 0.0088 0.0070

Neptune -124749-06-13 13:42 J -43842985.01 -43842984.93 -43842984.83 0.0088 0.0065

Neptune -124749-09-09 14:54 J -43842896.96 -43842896.88 -43842896.77 0.0088 0.0062

Neptune -124749-12-06 16:20 J -43842808.91 -43842808.82 -43842808.71 0.0088 0.0057

Neptune -124748-03-04 18:01 J -43842720.86 -43842720.75 -43842720.64 0.0088 0.0053

Earth -124748-03-10 16:20 J -43842714.92 -43842714.82 -43842714.72 0.2779 0.1103

Moon -124748-03-10 17:03 J -43842714.89 -43842714.79 -43842714.70 0.2777 0.1159 *

Neptune -124748-05-31 19:13 J -43842632.81 -43842632.70 -43842632.58 0.0088 0.0049

Neptune -124748-08-27 20:39 J -43842544.75 -43842544.64 -43842544.52 0.0088 0.0044

Neptune -124748-11-23 21:51 J -43842456.70 -43842456.59 -43842456.46 0.0088 0.0041

Neptune -124747-02-19 23:18 J -43842368.65 -43842368.53 -43842368.40 0.0088 0.0036

Neptune -124747-05-19 00:44 J -43842280.59 -43842280.47 -43842280.34 0.0088 0.0032

Neptune -124747-08-15 02:11 J -43842192.54 -43842192.41 -43842192.28 0.0088 0.0027

Neptune -124747-11-11 03:23 J -43842104.48 -43842104.36 -43842104.22 0.0088 0.0024

Neptune -124746-02-07 04:49 J -43842016.43 -43842016.30 -43842016.17 0.0088 0.0019

Jupiter -124746-03-20 15:37 J -43841975.02 -43841974.85 -43841974.69 0.0499 0.0238

Neptune -124746-05-06 06:15 J -43841928.37 -43841928.24 -43841928.11 0.0088 0.0015

Mars -124746-06-13 04:20 J -43841890.42 -43841890.32 -43841890.21 0.1864 0.1397

Jupiter -124746-06-19 01:27 J -43841884.56 -43841884.44 -43841884.30 0.0498 0.0347

Neptune -124746-08-02 07:27 J -43841840.32 -43841840.19 -43841840.05 0.0088 0.0011

Neptune -124746-10-29 08:54 J -43841752.26 -43841752.13 -43841751.99 0.0088 0.0007

Neptune -124745-01-25 10:20 J -43841664.21 -43841664.07 -43841663.94 0.0088 0.0003

Neptune -124745-04-22 11:32 J -43841576.15 -43841576.02 -43841575.88 0.0088 0.0004

Neptune -124745-07-19 12:59 J -43841488.09 -43841487.96 -43841487.83 0.0088 0.0006

Earth -124745-09-07 12:59 J -43841438.12 -43841437.96 -43841437.81 0.2560 0.0855

Moon -124745-09-07 13:13 J -43841438.10 -43841437.95 -43841437.80 0.2567 0.0836 *

Neptune -124745-10-15 14:25 J -43841400.04 -43841399.90 -43841399.77 0.0088 0.0010

Neptune -124744-01-11 15:37 J -43841311.98 -43841311.85 -43841311.72 0.0088 0.0014

Neptune -124744-04-09 17:03 J -43841223.92 -43841223.79 -43841223.66 0.0088 0.0018

Neptune -124744-07-06 18:15 J -43841135.86 -43841135.74 -43841135.61 0.0088 0.0023

Neptune -124744-10-02 19:27 J -43841047.81 -43841047.69 -43841047.55 0.0088 0.0028

Neptune -124744-12-29 20:54 J -43840959.75 -43840959.63 -43840959.50 0.0088 0.0031

Saturn -124743-03-24 09:08 J -43840875.16 -43840875.12 -43840875.07 0.0302 0.0281

Neptune -124743-03-27 22:20 J -43840871.69 -43840871.57 -43840871.45 0.0088 0.0035

Saturn -124743-06-20 22:49 J -43840786.67 -43840786.55 -43840786.44 0.0302 0.0155

Neptune -124743-06-23 23:32 J -43840783.63 -43840783.52 -43840783.39 0.0088 0.0039

Saturn -124743-09-17 12:15 J -43840698.12 -43840697.99 -43840697.86 0.0303 0.0030

Neptune -124743-09-20 00:59 J -43840695.57 -43840695.46 -43840695.34 0.0088 0.0043

Saturn -124743-12-15 01:27 J -43840609.56 -43840609.44 -43840609.31 0.0303 0.0096

Neptune -124743-12-17 02:11 J -43840607.51 -43840607.41 -43840607.29 0.0088 0.0048

Saturn -124742-03-13 14:39 J -43840520.97 -43840520.89 -43840520.79 0.0303 0.0219

Neptune -124742-03-15 03:37 J -43840519.45 -43840519.35 -43840519.24 0.0088 0.0052

Neptune -124742-06-11 05:03 J -43840431.39 -43840431.29 -43840431.19 0.0088 0.0056

Neptune -124742-09-07 06:01 J -43840343.33 -43840343.25 -43840343.14 0.0088 0.0060

Neptune -124742-12-04 07:27 J -43840255.27 -43840255.19 -43840255.09 0.0088 0.0064

Mars -124741-02-27 22:20 J -43840169.69 -43840169.57 -43840169.45 0.1648 0.0182

Neptune -124741-03-01 08:39 J -43840167.21 -43840167.14 -43840167.04 0.0088 0.0069

Moon -124741-03-03 13:13 J -43840165.05 -43840164.95 -43840164.85 0.2786 0.0940

Earth -124741-03-03 13:42 J -43840165.03 -43840164.93 -43840164.83 0.2780 0.0973 *

Neptune -124741-05-28 10:06 J -43840079.14 -43840079.08 -43840079.00 0.0088 0.0072

Neptune -124741-08-24 11:32 J -43839991.08 -43839991.02 -43839990.95 0.0088 0.0076

Neptune -124741-11-20 12:44 J -43839903.01 -43839902.97 -43839902.91 0.0088 0.0081

Jupiter -124740-02-14 07:13 J -43839817.27 -43839817.20 -43839817.13 0.0526 0.0429

Neptune -124740-02-16 14:11 J -43839814.94 -43839814.91 -43839814.87 0.0088 0.0084

Jupiter -124740-05-14 13:42 J -43839728.06 -43839727.93 -43839727.80 0.0527 0.0030

Jupiter -124740-08-11 19:56 J -43839638.72 -43839638.67 -43839638.62 0.0528 0.0486

Mars -124739-02-02 02:25 J -43839464.45 -43839464.40 -43839464.36 0.1648 0.1498

Earth -124735-03-13 10:49 J -43837964.13 -43837964.05 -43837963.97 0.2779 0.1839

Moon -124735-03-13 11:32 J -43837964.10 -43837964.02 -43837963.94 0.2777 0.1956 *

Jupiter -124734-01-06 11:32 J -43837665.12 -43837665.02 -43837664.90 0.0499 0.0391

Jupiter -124734-04-06 21:37 J -43837574.77 -43837574.60 -43837574.43 0.0498 0.0190

Mars -124732-07-20 09:23 J -43836739.22 -43836739.11 -43836739.00 0.1648 0.0593

Moon -124732-09-10 19:13 J -43836686.80 -43836686.70 -43836686.60 0.2567 0.1982

Earth -124732-09-10 19:13 J -43836686.79 -43836686.70 -43836686.61 0.2561 0.2054 *

Mars -124730-06-25 13:27 J -43836034.03 -43836033.94 -43836033.86 0.1648 0.1096

Saturn -124729-10-13 02:39 J -43835558.44 -43835558.39 -43835558.32 0.0260 0.0243

Saturn -124728-01-09 22:06 J -43835469.73 -43835469.58 -43835469.42 0.0260 0.0134

Jupiter -124728-03-02 17:47 J -43835417.88 -43835417.76 -43835417.63 0.0527 0.0084

Moon -124728-03-06 07:42 J -43835414.29 -43835414.18 -43835414.08 0.2784 0.0287

Earth -124728-03-06 08:11 J -43835414.27 -43835414.16 -43835414.05 0.2780 0.0243 *

Saturn -124728-04-08 17:32 J -43835380.95 -43835380.77 -43835380.58 0.0260 0.0024

Jupiter -124728-05-31 00:15 J -43835328.58 -43835328.49 -43835328.40 0.0528 0.0375

Saturn -124728-07-06 13:13 J -43835292.12 -43835291.95 -43835291.77 0.0260 0.0089

Saturn -124728-10-03 09:08 J -43835203.24 -43835203.12 -43835203.00 0.0260 0.0201

Uranus -124725-01-21 05:47 J -43834363.31 -43834363.26 -43834363.20 0.0131 0.0119

Mars -124725-03-01 15:51 J -43834322.98 -43834322.84 -43834322.70 0.1865 0.0994

Uranus -124725-04-18 08:39 J -43834275.21 -43834275.14 -43834275.05 0.0131 0.0104

Uranus -124725-07-15 11:32 J -43834187.11 -43834187.02 -43834186.91 0.0131 0.0089

Moon -124725-09-02 05:18 J -43834138.41 -43834138.28 -43834138.14 0.2556 0.1362

Earth -124725-09-02 06:44 J -43834138.36 -43834138.22 -43834138.09 0.2561 0.1356 *

Uranus -124725-10-11 14:39 J -43834099.00 -43834098.89 -43834098.78 0.0131 0.0073

Uranus -124724-01-07 17:32 J -43834010.89 -43834010.77 -43834010.65 0.0131 0.0058

Uranus -124724-04-05 20:25 J -43833922.77 -43833922.65 -43833922.52 0.0131 0.0043

Uranus -124724-07-02 23:18 J -43833834.66 -43833834.53 -43833834.40 0.0131 0.0028

Uranus -124724-09-29 02:11 J -43833746.54 -43833746.41 -43833746.27 0.0131 0.0013

Uranus -124724-12-26 05:03 J -43833658.42 -43833658.29 -43833658.15 0.0131 0.0005

Uranus -124723-03-24 07:56 J -43833570.30 -43833570.17 -43833570.03 0.0131 0.0018

Uranus -124723-06-20 10:49 J -43833482.17 -43833482.05 -43833481.92 0.0131 0.0033

Uranus -124723-09-16 13:42 J -43833394.05 -43833393.93 -43833393.80 0.0131 0.0048

Mars -124723-12-10 20:11 J -43833308.75 -43833308.66 -43833308.57 0.1649 0.1007

Uranus -124723-12-13 16:35 J -43833305.92 -43833305.81 -43833305.69 0.0131 0.0063

Jupiter -124722-01-23 18:15 J -43833264.92 -43833264.74 -43833264.55 0.0499 0.0044

Uranus -124722-03-11 19:27 J -43833217.79 -43833217.69 -43833217.58 0.0131 0.0078

Earth -124722-03-16 05:18 J -43833213.31 -43833213.28 -43833213.24 0.2778 0.2581

Moon -124722-03-16 06:01 J -43833213.28 -43833213.25 -43833213.21 0.2778 0.2611 *

Uranus -124722-06-07 22:06 J -43833129.66 -43833129.58 -43833129.47 0.0131 0.0093

Uranus -124722-09-04 00:59 J -43833041.52 -43833041.46 -43833041.37 0.0131 0.0108

Uranus -124722-12-01 04:06 J -43832953.37 -43832953.33 -43832953.28 0.0131 0.0122

Earth -124721-02-28 05:47 J -43832864.32 -43832864.26 -43832864.20 0.2779 0.2301

Moon -124721-02-28 06:01 J -43832864.31 -43832864.25 -43832864.20 0.2772 0.2341 *

Mars -124721-11-15 00:30 J -43832603.59 -43832603.48 -43832603.38 0.1648 0.0692

Jupiter -124717-12-19 21:37 J -43831107.72 -43831107.60 -43831107.48 0.0526 0.0203

Jupiter -124716-03-19 03:51 J -43831018.45 -43831018.34 -43831018.23 0.0527 0.0256

Mars -124716-07-22 10:20 J -43830893.24 -43830893.07 -43830892.91 0.1865 0.0159

Moon -124715-03-09 02:11 J -43830663.52 -43830663.41 -43830663.30 0.2785 0.0393

Earth -124715-03-09 02:39 J -43830663.49 -43830663.39 -43830663.28 0.2780 0.0501 *

Saturn -124714-11-08 01:42 J -43830054.54 -43830054.43 -43830054.33 0.0303 0.0181

Venus -124714-11-08 20:11 J -43830053.74 -43830053.66 -43830053.58 0.3766 0.2319

Saturn -124713-02-04 15:08 J -43829966.00 -43829965.87 -43829965.74 0.0303 0.0055

Mars -124713-05-02 06:59 J -43829878.27 -43829878.21 -43829878.15 0.1649 0.1423

Saturn -124713-05-03 04:20 J -43829877.44 -43829877.32 -43829877.19 0.0303 0.0071

Saturn -124713-07-30 17:32 J -43829788.86 -43829788.77 -43829788.66 0.0303 0.0194

Moon -124712-09-05 12:30 J -43829387.15 -43829386.98 -43829386.82 0.2555 0.0113

Earth -124712-09-05 13:13 J -43829387.11 -43829386.95 -43829386.79 0.2560 0.0144 *

Mars -124711-04-07 11:18 J -43829173.14 -43829173.03 -43829172.91 0.1648 0.0292

Venus -124711-08-12 15:37 J -43829046.01 -43829045.85 -43829045.70 0.3610 0.0629

Jupiter -124711-11-11 15:08 J -43828955.05 -43828954.87 -43828954.68 0.0499 0.0105

Jupiter -124710-02-10 01:27 J -43828864.48 -43828864.44 -43828864.39 0.0498 0.0480

Earth -124708-03-02 00:15 J -43828113.58 -43828113.49 -43828113.41 0.2779 0.1579

Moon -124708-03-02 00:30 J -43828113.57 -43828113.48 -43828113.39 0.2773 0.1550 *

Venus -124708-05-24 12:30 J -43828030.08 -43828029.98 -43828029.88 0.3772 0.0500

Mars -124707-12-12 05:32 J -43827463.39 -43827463.27 -43827463.15 0.1864 0.1272

Jupiter -124705-10-08 01:27 J -43826797.54 -43826797.44 -43826797.34 0.0526 0.0320

Jupiter -124704-01-05 07:42 J -43826708.30 -43826708.18 -43826708.05 0.0527 0.0139

Venus -124703-12-08 04:49 J -43826006.40 -43826006.30 -43826006.20 0.3777 0.1312

Moon -124702-03-11 20:25 J -43825912.74 -43825912.65 -43825912.55 0.2782 0.1203

Earth -124702-03-11 21:08 J -43825912.71 -43825912.62 -43825912.52 0.2779 0.1236 *

Mars -124702-08-28 22:20 J -43825742.68 -43825742.57 -43825742.45 0.1648 0.0133

Mars -124700-08-03 02:25 J -43825037.44 -43825037.40 -43825037.37 0.1648 0.1553

Saturn -124699-05-29 23:18 J -43824737.67 -43824737.53 -43824737.38 0.0260 0.0157

Saturn -124699-08-26 18:59 J -43824648.90 -43824648.71 -43824648.53 0.0259 0.0047

Jupiter -124699-08-30 12:15 J -43824645.14 -43824644.99 -43824644.83 0.0500 0.0249

Moon -124699-09-08 18:59 J -43824635.86 -43824635.71 -43824635.56 0.2554 0.0971

Earth -124699-09-08 19:27 J -43824635.83 -43824635.69 -43824635.54 0.2561 0.1068 *

Saturn -124699-11-23 14:25 J -43824560.08 -43824559.90 -43824559.71 0.0259 0.0065

Jupiter -124699-11-28 22:35 J -43824554.70 -43824554.56 -43824554.43 0.0499 0.0336

Saturn -124698-02-20 10:20 J -43824471.21 -43824471.07 -43824470.93 0.0259 0.0177

Venus -124697-06-22 21:08 J -43823982.68 -43823982.62 -43823982.57 0.3783 0.3122

Earth -124695-03-04 18:44 J -43823362.83 -43823362.72 -43823362.62 0.2780 0.0856

Moon -124695-03-04 18:59 J -43823362.81 -43823362.71 -43823362.60 0.2774 0.0755 *

Jupiter -124693-07-27 05:03 J -43822487.36 -43822487.29 -43822487.22 0.0526 0.0440

Jupiter -124693-10-24 11:32 J -43822398.15 -43822398.02 -43822397.90 0.0527 0.0023

Mars -124692-01-18 09:23 J -43822312.22 -43822312.11 -43822312.00 0.1648 0.0537

Jupiter -124692-01-21 17:47 J -43822308.82 -43822308.76 -43822308.71 0.0527 0.0475

Earth -124692-08-31 06:44 J -43822087.28 -43822087.22 -43822087.16 0.2561 0.2355

Moon -124692-08-31 08:11 J -43822087.22 -43822087.16 -43822087.10 0.2565 0.2372 *

Mars -124691-12-24 13:27 J -43821607.02 -43821606.94 -43821606.86 0.1648 0.1152

Moon -124689-03-13 15:08 J -43821161.95 -43821161.87 -43821161.80 0.2782 0.1986

Earth -124689-03-13 15:51 J -43821161.92 -43821161.84 -43821161.77 0.2779 0.1974 *

Jupiter -124687-06-18 09:23 J -43820335.22 -43820335.11 -43820334.99 0.0500 0.0393

Jupiter -124687-09-16 19:27 J -43820244.86 -43820244.69 -43820244.52 0.0499 0.0189

Mars -124686-08-31 16:49 J -43819895.94 -43819895.80 -43819895.67 0.1865 0.1113

Earth -124686-09-12 01:42 J -43819884.50 -43819884.43 -43819884.36 0.2561 0.2264

Moon -124686-09-12 01:56 J -43819884.50 -43819884.42 -43819884.34 0.2555 0.2178 *

Saturn -124684-03-27 04:06 J -43819322.42 -43819322.33 -43819322.23 0.0302 0.0209

Saturn -124684-06-23 17:47 J -43819233.89 -43819233.76 -43819233.63 0.0303 0.0084

Saturn -124684-09-20 07:13 J -43819145.33 -43819145.20 -43819145.07 0.0303 0.0042

Saturn -124684-12-17 20:25 J -43819056.76 -43819056.65 -43819056.54 0.0303 0.0165

Saturn -124683-03-16 09:37 J -43818968.14 -43818968.10 -43818968.06 0.0303 0.0288

Mars -124683-06-10 20:11 J -43818881.76 -43818881.66 -43818881.56 0.1648 0.0949

Uranus -124683-07-22 14:25 J -43818839.99 -43818839.90 -43818839.79 0.0148 0.0123

Uranus -124683-10-18 23:18 J -43818751.67 -43818751.53 -43818751.37 0.0148 0.0091

Uranus -124682-01-15 08:25 J -43818663.33 -43818663.15 -43818662.98 0.0148 0.0059

Earth -124682-03-07 12:59 J -43818612.06 -43818611.96 -43818611.85 0.2780 0.0166

Moon -124682-03-07 13:42 J -43818612.04 -43818611.93 -43818611.82 0.2775 0.0090 *

Uranus -124682-04-13 17:18 J -43818574.97 -43818574.78 -43818574.59 0.0148 0.0028

Uranus -124682-07-11 02:11 J -43818486.60 -43818486.41 -43818486.22 0.0148 0.0005

Uranus -124682-10-07 11:03 J -43818398.22 -43818398.04 -43818397.85 0.0148 0.0037

Uranus -124681-01-03 20:11 J -43818309.83 -43818309.66 -43818309.49 0.0148 0.0068

Uranus -124681-04-01 05:03 J -43818221.43 -43818221.29 -43818221.15 0.0148 0.0101

Mars -124681-05-16 00:30 J -43818176.59 -43818176.48 -43818176.38 0.1648 0.0749

Uranus -124681-06-28 13:42 J -43818133.00 -43818132.93 -43818132.83 0.0148 0.0133

Jupiter -124681-08-12 15:37 J -43818087.98 -43818087.85 -43818087.73 0.0527 0.0095

Jupiter -124681-11-09 21:51 J -43817998.68 -43817998.59 -43817998.50 0.0528 0.0363

Earth -124679-09-03 13:13 J -43817336.09 -43817335.95 -43817335.80 0.2560 0.1144

Moon -124679-09-03 14:39 J -43817336.04 -43817335.89 -43817335.75 0.2564 0.1007 *

Mars -124676-01-20 11:18 J -43816466.20 -43816466.03 -43816465.87 0.1865 0.0044

Moon -124676-03-16 09:37 J -43816411.14 -43816411.10 -43816411.07 0.2779 0.2621

Earth -124676-03-16 10:20 J -43816411.09 -43816411.07 -43816411.05 0.2778 0.2712 *

Moon -124675-02-28 10:20 J -43816062.13 -43816062.07 -43816062.01 0.2785 0.2265

Earth -124675-02-28 10:35 J -43816062.12 -43816062.06 -43816061.99 0.2779 0.2176 *

Jupiter -124675-07-05 15:37 J -43815935.03 -43815934.85 -43815934.66 0.0498 0.0036

Mars -124674-11-01 06:59 J -43815451.27 -43815451.21 -43815451.14 0.1649 0.1365

Mars -124672-10-06 11:32 J -43814746.14 -43814746.02 -43814745.91 0.1648 0.0348

Saturn -124670-10-16 23:47 J -43814005.63 -43814005.51 -43814005.37 0.0260 0.0183

Saturn -124669-01-13 19:13 J -43813916.87 -43813916.70 -43813916.51 0.0260 0.0073

Earth -124669-03-09 07:42 J -43813861.29 -43813861.18 -43813861.08 0.2780 0.0637

Moon -124669-03-09 08:11 J -43813861.27 -43813861.16 -43813861.05 0.2776 0.0605 *

Saturn -124669-04-11 14:54 J -43813828.06 -43813827.88 -43813827.69 0.0260 0.0039

Jupiter -124669-05-31 19:42 J -43813777.80 -43813777.68 -43813777.56 0.0527 0.0210

Saturn -124669-07-09 10:35 J -43813739.21 -43813739.06 -43813738.90 0.0260 0.0151

Jupiter -124669-08-29 01:56 J -43813688.53 -43813688.42 -43813688.30 0.0528 0.0251

Mars -124667-06-12 05:47 J -43813036.39 -43813036.26 -43813036.13 0.1864 0.1180

Neptune -124666-03-03 07:56 J -43812772.17 -43812772.17 -43812772.16 0.0089 0.0089

Neptune -124666-05-30 11:18 J -43812684.08 -43812684.03 -43812683.95 0.0089 0.0083

Neptune -124666-08-26 14:54 J -43812595.96 -43812595.88 -43812595.77 0.0089 0.0077

Earth -124666-09-06 19:42 J -43812584.84 -43812584.68 -43812584.52 0.2560 0.0076

Moon -124666-09-06 20:25 J -43812584.81 -43812584.65 -43812584.49 0.2566 0.0198 *

Neptune -124666-11-22 18:15 J -43812507.83 -43812507.74 -43812507.61 0.0089 0.0072

Neptune -124665-02-18 21:51 J -43812419.70 -43812419.59 -43812419.44 0.0089 0.0065

Neptune -124665-05-17 01:27 J -43812331.57 -43812331.44 -43812331.28 0.0089 0.0059

Neptune -124665-08-13 05:03 J -43812243.43 -43812243.29 -43812243.12 0.0089 0.0053

Neptune -124665-11-09 08:39 J -43812155.29 -43812155.14 -43812154.96 0.0089 0.0047

Neptune -124664-02-05 12:15 J -43812067.15 -43812066.99 -43812066.80 0.0089 0.0041

Neptune -124664-05-04 16:06 J -43811979.00 -43811978.83 -43811978.65 0.0089 0.0034

Neptune -124664-07-31 19:42 J -43811890.86 -43811890.68 -43811890.49 0.0089 0.0028

Neptune -124664-10-27 23:18 J -43811802.71 -43811802.53 -43811802.34 0.0089 0.0022

Neptune -124663-01-24 02:54 J -43811714.57 -43811714.38 -43811714.19 0.0089 0.0016

Neptune -124663-04-22 06:30 J -43811626.42 -43811626.23 -43811626.03 0.0089 0.0010

Jupiter -124663-04-23 12:30 J -43811625.16 -43811624.98 -43811624.80 0.0499 0.0112

Neptune -124663-07-19 10:06 J -43811538.27 -43811538.08 -43811537.88 0.0089 0.0005

Jupiter -124663-07-22 22:35 J -43811534.62 -43811534.56 -43811534.50 0.0498 0.0471

Neptune -124663-10-15 13:56 J -43811450.12 -43811449.92 -43811449.73 0.0089 0.0003

Venus -124663-11-30 01:27 J -43811404.48 -43811404.44 -43811404.41 0.3762 0.3469

Neptune -124662-01-11 17:32 J -43811361.96 -43811361.77 -43811361.58 0.0089 0.0009

Mars -124662-02-26 22:20 J -43811315.69 -43811315.57 -43811315.45 0.1648 0.0068

Moon -124662-03-03 04:49 J -43811311.39 -43811311.30 -43811311.21 0.2787 0.1463

Earth -124662-03-03 05:03 J -43811311.38 -43811311.29 -43811311.20 0.2780 0.1448 *

Neptune -124662-04-09 21:08 J -43811273.81 -43811273.62 -43811273.43 0.0089 0.0015

Neptune -124662-07-07 00:44 J -43811185.66 -43811185.47 -43811185.28 0.0089 0.0021

Neptune -124662-10-03 04:06 J -43811097.50 -43811097.33 -43811097.13 0.0089 0.0028

Neptune -124662-12-30 07:42 J -43811009.34 -43811009.18 -43811008.98 0.0089 0.0035

Neptune -124661-03-27 11:32 J -43810921.18 -43810921.02 -43810920.84 0.0089 0.0040

Neptune -124661-06-23 15:08 J -43810833.02 -43810832.87 -43810832.69 0.0089 0.0047

Neptune -124661-09-19 18:59 J -43810744.86 -43810744.71 -43810744.55 0.0089 0.0053

Neptune -124661-12-16 22:20 J -43810656.70 -43810656.57 -43810656.41 0.0089 0.0059

Mars -124660-02-01 02:11 J -43810610.43 -43810610.41 -43810610.38 0.1648 0.1605

Neptune -124660-03-15 02:11 J -43810568.53 -43810568.41 -43810568.27 0.0089 0.0065

Neptune -124660-06-11 05:47 J -43810480.36 -43810480.26 -43810480.13 0.0089 0.0071

Venus -124660-09-02 09:37 J -43810397.21 -43810397.10 -43810396.98 0.3616 0.2394

Neptune -124660-09-07 09:37 J -43810392.19 -43810392.10 -43810392.00 0.0089 0.0077

Neptune -124660-12-04 12:59 J -43810304.00 -43810303.96 -43810303.87 0.0089 0.0084

Jupiter -124657-03-19 23:32 J -43809467.62 -43809467.52 -43809467.42 0.0526 0.0327

Venus -124657-06-14 17:47 J -43809380.85 -43809380.76 -43809380.67 0.3768 0.1645

Jupiter -124657-06-17 05:47 J -43809378.38 -43809378.26 -43809378.13 0.0527 0.0132

Earth -124656-03-12 02:11 J -43809110.51 -43809110.41 -43809110.32 0.2780 0.1365

Moon -124656-03-12 02:39 J -43809110.48 -43809110.39 -43809110.29 0.2776 0.1450 *

Saturn -124655-08-14 06:59 J -43808590.29 -43808590.21 -43808590.12 0.0302 0.0234

Saturn -124655-11-10 20:39 J -43808501.76 -43808501.64 -43808501.52 0.0303 0.0108

Saturn -124654-02-07 10:06 J -43808413.21 -43808413.08 -43808412.95 0.0303 0.0017

Venus -124654-03-19 17:18 J -43808372.90 -43808372.78 -43808372.66 0.3608 0.2212

Saturn -124654-05-06 23:32 J -43808324.64 -43808324.52 -43808324.41 0.0303 0.0141

Saturn -124654-08-03 12:30 J -43808236.04 -43808235.98 -43808235.91 0.0303 0.0264

Mars -124653-07-19 09:23 J -43807885.23 -43807885.11 -43807885.00 0.1648 0.0478

Earth -124653-09-09 02:11 J -43807833.55 -43807833.41 -43807833.27 0.2560 0.1282

Moon -124653-09-09 02:39 J -43807833.53 -43807833.39 -43807833.26 0.2566 0.1248 *

Venus -124652-12-29 10:06 J -43807357.18 -43807357.08 -43807356.98 0.3773 0.0169

Jupiter -124651-02-09 09:08 J -43807315.28 -43807315.12 -43807314.96 0.0499 0.0260

Jupiter -124651-05-10 19:13 J -43807224.84 -43807224.70 -43807224.56 0.0499 0.0323

Mars -124651-06-24 13:13 J -43807180.02 -43807179.95 -43807179.87 0.1648 0.1207

Moon -124649-03-04 23:03 J -43806560.65 -43806560.54 -43806560.44 0.2785 0.0691

Earth -124649-03-04 23:32 J -43806560.62 -43806560.52 -43806560.42 0.2780 0.0718 *

Mars -124646-03-01 17:32 J -43805468.89 -43805468.77 -43805468.64 0.1865 0.1231

Venus -124646-07-15 02:25 J -43805333.49 -43805333.40 -43805333.31 0.3779 0.1980

Moon -124646-09-01 12:01 J -43805285.07 -43805285.00 -43805284.93 0.2557 0.2291

Earth -124646-09-01 13:27 J -43805285.02 -43805284.94 -43805284.85 0.2561 0.2143 *

Jupiter -124645-01-07 03:08 J -43805157.43 -43805157.37 -43805157.30 0.0525 0.0444

Jupiter -124645-04-05 09:51 J -43805068.22 -43805068.09 -43805067.97 0.0526 0.0023

Jupiter -124645-07-03 15:51 J -43804978.89 -43804978.84 -43804978.78 0.0527 0.0471

Mars -124644-12-09 20:11 J -43804454.76 -43804454.66 -43804454.56 0.1648 0.0889

Earth -124643-03-14 20:39 J -43804359.71 -43804359.64 -43804359.57 0.2779 0.2102

Moon -124643-03-14 21:23 J -43804359.67 -43804359.61 -43804359.55 0.2778 0.2212 *

Moon -124642-02-26 21:08 J -43804010.62 -43804010.62 -43804010.61 0.2771 0.2767

Earth -124642-02-26 21:08 J -43804010.62 -43804010.62 -43804010.62 0.2778 0.2775 *

Uranus -124642-11-14 10:06 J -43803750.09 -43803750.08 -43803750.06 0.0131 0.0130

Mars -124642-11-15 00:30 J -43803749.58 -43803749.48 -43803749.38 0.1648 0.0806

Uranus -124641-02-10 12:59 J -43803662.02 -43803661.96 -43803661.89 0.0131 0.0115

Uranus -124641-05-08 15:51 J -43803573.92 -43803573.84 -43803573.75 0.0131 0.0100

Uranus -124641-08-04 18:44 J -43803485.81 -43803485.72 -43803485.61 0.0131 0.0085

Uranus -124641-10-31 21:51 J -43803397.70 -43803397.59 -43803397.48 0.0131 0.0069

Uranus -124640-01-28 00:44 J -43803309.59 -43803309.47 -43803309.35 0.0131 0.0054

Saturn -124640-03-05 01:13 J -43803273.56 -43803273.45 -43803273.33 0.0260 0.0205

Uranus -124640-04-26 03:37 J -43803221.47 -43803221.35 -43803221.22 0.0131 0.0039

Saturn -124640-06-01 20:39 J -43803184.81 -43803184.64 -43803184.46 0.0260 0.0095

Uranus -124640-07-23 06:30 J -43803133.36 -43803133.23 -43803133.10 0.0131 0.0024

Saturn -124640-08-29 16:20 J -43803096.01 -43803095.82 -43803095.64 0.0259 0.0016

Moon -124640-09-12 08:25 J -43803082.20 -43803082.15 -43803082.10 0.2567 0.2413

Earth -124640-09-12 08:25 J -43803082.19 -43803082.15 -43803082.11 0.2561 0.2478 *

Uranus -124640-10-19 09:23 J -43803045.24 -43803045.11 -43803044.97 0.0131 0.0010

Saturn -124640-11-26 11:47 J -43803007.16 -43803007.01 -43803006.84 0.0259 0.0127

Jupiter -124640-11-28 06:15 J -43803005.35 -43803005.24 -43803005.13 0.0500 0.0405

Uranus -124639-01-15 12:15 J -43802957.12 -43802956.99 -43802956.85 0.0131 0.0008

Saturn -124639-02-23 07:42 J -43802918.24 -43802918.18 -43802918.10 0.0259 0.0239

Jupiter -124639-02-26 16:06 J -43802915.00 -43802914.83 -43802914.65 0.0499 0.0179

Uranus -124639-04-13 15:08 J -43802869.00 -43802868.87 -43802868.73 0.0131 0.0022

Uranus -124639-07-10 18:01 J -43802780.87 -43802780.75 -43802780.62 0.0131 0.0037

Uranus -124639-10-06 20:54 J -43802692.75 -43802692.63 -43802692.50 0.0131 0.0052

Uranus -124638-01-02 23:47 J -43802604.62 -43802604.51 -43802604.39 0.0131 0.0067

Uranus -124638-04-01 02:39 J -43802516.49 -43802516.39 -43802516.28 0.0131 0.0082

Uranus -124638-06-28 05:18 J -43802428.35 -43802428.28 -43802428.18 0.0131 0.0097

Uranus -124638-09-24 08:11 J -43802340.21 -43802340.16 -43802340.08 0.0131 0.0112

Uranus -124638-12-21 11:03 J -43802252.06 -43802252.04 -43802252.00 0.0131 0.0127

Mars -124637-07-21 12:01 J -43802039.17 -43802039.00 -43802038.83 0.1865 0.0076

Moon -124636-03-07 17:32 J -43801809.88 -43801809.77 -43801809.66 0.2786 0.0051

Earth -124636-03-07 18:01 J -43801809.86 -43801809.75 -43801809.64 0.2780 0.0019 *

Mars -124634-05-02 06:59 J -43801024.28 -43801024.21 -43801024.14 0.1649 0.1307

Jupiter -124633-01-23 13:27 J -43800758.07 -43800757.94 -43800757.82 0.0526 0.0108

Jupiter -124633-04-21 19:42 J -43800668.78 -43800668.68 -43800668.59 0.0527 0.0351

Moon -124633-09-03 18:59 J -43800533.87 -43800533.71 -43800533.56 0.2556 0.0913

Earth -124633-09-03 19:56 J -43800533.82 -43800533.67 -43800533.52 0.2561 0.0927 *

Mars -124632-04-06 11:18 J -43800319.14 -43800319.03 -43800318.91 0.1648 0.0402

Earth -124629-02-29 15:37 J -43799259.93 -43799259.85 -43799259.78 0.2779 0.2052

Moon -124629-02-29 15:51 J -43799259.91 -43799259.84 -43799259.77 0.2772 0.2088 *

Mars -124628-12-11 06:44 J -43798609.36 -43798609.22 -43798609.09 0.1864 0.1059

Jupiter -124628-12-15 13:13 J -43798605.13 -43798604.95 -43798604.77 0.0499 0.0032

Saturn -124625-01-01 09:51 J -43797858.16 -43797858.09 -43797858.03 0.0302 0.0262

Saturn -124625-03-29 23:18 J -43797769.64 -43797769.53 -43797769.41 0.0302 0.0136

Saturn -124625-06-26 12:44 J -43797681.10 -43797680.97 -43797680.83 0.0303 0.0014

Saturn -124625-09-23 02:11 J -43797592.53 -43797592.41 -43797592.29 0.0303 0.0113

Saturn -124625-12-20 15:23 J -43797503.94 -43797503.86 -43797503.78 0.0303 0.0236

Moon -124623-03-10 11:47 J -43797059.11 -43797059.01 -43797058.90 0.2783 0.0651

Earth -124623-03-10 12:30 J -43797059.08 -43797058.98 -43797058.88 0.2780 0.0756 *

Mars -124623-08-27 22:20 J -43796888.69 -43796888.57 -43796888.45 0.1648 0.0013

Jupiter -124622-11-11 17:18 J -43796447.89 -43796447.78 -43796447.66 0.0526 0.0221

Jupiter -124621-02-08 23:47 J -43796358.62 -43796358.51 -43796358.40 0.0527 0.0238

Moon -124620-09-07 01:27 J -43795782.60 -43795782.44 -43795782.28 0.2555 0.0297

Earth -124620-09-07 02:25 J -43795782.56 -43795782.40 -43795782.24 0.2560 0.0292 *

Earth -124616-03-03 10:06 J -43794509.18 -43794509.08 -43794508.99 0.2780 0.1326

Moon -124616-03-03 10:20 J -43794509.17 -43794509.07 -43794508.97 0.2774 0.1275 *

Jupiter -124616-10-03 09:37 J -43794295.27 -43794295.10 -43794294.92 0.0499 0.0119

Jupiter -124615-01-01 19:42 J -43794204.74 -43794204.68 -43794204.61 0.0498 0.0464

Mars -124613-01-18 09:23 J -43793458.23 -43793458.11 -43793458.00 0.1648 0.0425

Mars -124612-12-23 13:13 J -43792753.02 -43792752.95 -43792752.87 0.1648 0.1262

Saturn -124611-07-23 01:42 J -43792541.50 -43792541.43 -43792541.34 0.0260 0.0231

Saturn -124611-10-19 21:08 J -43792452.78 -43792452.62 -43792452.45 0.0260 0.0122

Saturn -124610-01-16 16:35 J -43792363.99 -43792363.81 -43792363.62 0.0260 0.0012

Moon -124610-03-13 06:30 J -43792308.33 -43792308.23 -43792308.14 0.2783 0.1502

Earth -124610-03-13 06:59 J -43792308.30 -43792308.21 -43792308.12 0.2779 0.1496 *

Saturn -124610-04-15 12:15 J -43792275.16 -43792274.99 -43792274.82 0.0260 0.0100

Saturn -124610-07-13 07:56 J -43792186.27 -43792186.17 -43792186.06 0.0260 0.0213

Jupiter -124610-08-30 21:23 J -43792137.71 -43792137.61 -43792137.51 0.0526 0.0336

Jupiter -124610-11-28 03:51 J -43792048.46 -43792048.34 -43792048.21 0.0527 0.0125

Mars -124607-08-30 18:15 J -43791041.85 -43791041.74 -43791041.62 0.1865 0.1337

Moon -124607-09-10 08:25 J -43791031.28 -43791031.15 -43791031.01 0.2554 0.1409

Earth -124607-09-10 08:39 J -43791031.27 -43791031.14 -43791031.01 0.2561 0.1495 *

Venus -124606-07-06 23:03 J -43790731.61 -43790731.54 -43790731.47 0.3763 0.2791

Mars -124604-06-09 20:11 J -43790027.76 -43790027.66 -43790027.56 0.1649 0.0833

Jupiter -124604-07-22 06:30 J -43789985.38 -43789985.23 -43789985.07 0.0499 0.0265

Jupiter -124604-10-20 16:35 J -43789894.95 -43789894.81 -43789894.67 0.0498 0.0317

Pluto -124604-11-06 17:47 J -43789877.80 -43789877.76 -43789877.67 0.0061 0.0057

Pluto -124603-02-02 18:59 J -43789789.79 -43789789.71 -43789789.57 0.0061 0.0049

Earth -124603-03-06 04:20 J -43789758.42 -43789758.32 -43789758.21 0.2780 0.0599

Moon -124603-03-06 04:49 J -43789758.40 -43789758.30 -43789758.19 0.2774 0.0498 *

Venus -124603-04-09 11:18 J -43789724.18 -43789724.03 -43789723.88 0.3614 0.0843

Pluto -124603-05-01 20:54 J -43789701.77 -43789701.63 -43789701.49 0.0061 0.0040

Pluto -124603-07-28 21:51 J -43789613.73 -43789613.59 -43789613.42 0.0061 0.0032

Pluto -124603-10-24 23:03 J -43789525.69 -43789525.54 -43789525.35 0.0061 0.0024

Pluto -124602-01-21 00:30 J -43789437.65 -43789437.48 -43789437.29 0.0061 0.0016

Pluto -124602-04-19 01:56 J -43789349.60 -43789349.42 -43789349.23 0.0061 0.0007

Mars -124602-05-16 00:15 J -43789322.58 -43789322.49 -43789322.39 0.1648 0.0860

Pluto -124602-07-16 03:08 J -43789261.55 -43789261.37 -43789261.18 0.0061 0.0002

Pluto -124602-10-12 04:20 J -43789173.50 -43789173.32 -43789173.13 0.0061 0.0010

Pluto -124601-01-08 05:18 J -43789085.44 -43789085.28 -43789085.08 0.0061 0.0019

Pluto -124601-04-05 06:44 J -43788997.38 -43788997.22 -43788997.04 0.0061 0.0026

Pluto -124601-07-02 07:56 J -43788909.31 -43788909.17 -43788909.00 0.0061 0.0035

Pluto -124601-09-28 08:54 J -43788821.23 -43788821.13 -43788820.97 0.0061 0.0044

Pluto -124601-12-25 10:20 J -43788733.15 -43788733.07 -43788732.95 0.0062 0.0052

Venus -124600-01-19 15:23 J -43788707.96 -43788707.86 -43788707.76 0.3769 0.0974

Pluto -124600-03-23 11:47 J -43788645.04 -43788645.01 -43788644.96 0.0062 0.0060

Earth -124600-09-01 20:11 J -43788482.76 -43788482.66 -43788482.55 0.2561 0.1928

Moon -124600-09-01 21:37 J -43788482.70 -43788482.60 -43788482.49 0.2563 0.1896 *

Uranus -124599-05-15 13:56 J -43788226.95 -43788226.92 -43788226.87 0.0148 0.0144

Uranus -124599-08-11 22:49 J -43788138.67 -43788138.55 -43788138.42 0.0148 0.0113

Uranus -124599-11-08 07:42 J -43788050.34 -43788050.18 -43788050.02 0.0148 0.0081

Uranus -124598-02-04 16:35 J -43787961.99 -43787961.81 -43787961.62 0.0148 0.0049

Uranus -124598-05-04 01:42 J -43787873.63 -43787873.43 -43787873.24 0.0148 0.0018

Jupiter -124598-06-19 01:13 J -43787827.51 -43787827.45 -43787827.38 0.0526 0.0451

Uranus -124598-07-31 10:20 J -43787785.25 -43787785.07 -43787784.87 0.0148 0.0016

Jupiter -124598-09-16 07:42 J -43787738.31 -43787738.18 -43787738.05 0.0527 0.0013

Uranus -124598-10-27 19:27 J -43787696.87 -43787696.69 -43787696.51 0.0148 0.0047

Jupiter -124598-12-14 13:56 J -43787648.97 -43787648.92 -43787648.86 0.0527 0.0464

Mars -124597-01-20 12:44 J -43787612.14 -43787611.97 -43787611.81 0.1865 0.0187

Uranus -124597-01-24 04:06 J -43787608.48 -43787608.33 -43787608.15 0.0148 0.0079

Moon -124597-03-15 00:44 J -43787557.53 -43787557.47 -43787557.40 0.2781 0.2241

Earth -124597-03-15 01:27 J -43787557.50 -43787557.44 -43787557.37 0.2779 0.2238 *

Uranus -124597-04-21 12:59 J -43787520.07 -43787519.96 -43787519.82 0.0148 0.0111

Uranus -124597-07-18 22:06 J -43787431.62 -43787431.58 -43787431.52 0.0148 0.0143

Moon -124596-02-27 01:42 J -43787208.45 -43787208.43 -43787208.40 0.2785 0.2685

Earth -124596-02-27 01:56 J -43787208.45 -43787208.42 -43787208.39 0.2778 0.2652 *

Saturn -124596-05-20 12:30 J -43787126.02 -43787125.98 -43787125.94 0.0302 0.0289

Saturn -124596-08-17 01:56 J -43787037.52 -43787037.42 -43787037.30 0.0303 0.0164

Saturn -124596-11-13 15:37 J -43786948.98 -43786948.85 -43786948.72 0.0303 0.0037

Saturn -124595-02-10 05:03 J -43786860.42 -43786860.29 -43786860.17 0.0303 0.0087

Saturn -124595-05-09 18:15 J -43786771.83 -43786771.74 -43786771.65 0.0303 0.0211

Venus -124595-08-05 07:42 J -43786684.28 -43786684.18 -43786684.08 0.3774 0.0843

Mars -124595-10-31 06:59 J -43786597.29 -43786597.21 -43786597.13 0.1649 0.1248

Mars -124593-10-05 11:18 J -43785892.14 -43785892.03 -43785891.91 0.1648 0.0456

Jupiter -124592-05-10 03:08 J -43785675.47 -43785675.37 -43785675.27 0.0500 0.0415

Jupiter -124592-08-08 12:59 J -43785585.13 -43785584.96 -43785584.78 0.0499 0.0168

Earth -124590-03-08 22:49 J -43785007.65 -43785007.55 -43785007.44 0.2780 0.0173

Moon -124590-03-08 23:32 J -43785007.63 -43785007.52 -43785007.41 0.2776 0.0183 *

Venus -124589-02-19 00:01 J -43784660.57 -43784660.50 -43784660.43 0.3780 0.2650

Mars -124588-06-11 07:27 J -43784182.33 -43784182.19 -43784182.05 0.1864 0.0945

Earth -124587-09-05 02:39 J -43783731.55 -43783731.39 -43783731.24 0.2560 0.0713

Moon -124587-09-05 03:37 J -43783731.50 -43783731.35 -43783731.19 0.2566 0.0577 *

Jupiter -124586-07-05 11:47 J -43783428.14 -43783428.01 -43783427.89 0.0526 0.0109

Jupiter -124586-10-02 18:01 J -43783338.85 -43783338.75 -43783338.66 0.0527 0.0349

Neptune -124586-12-26 06:15 J -43783254.26 -43783254.24 -43783254.19 0.0088 0.0085

Neptune -124585-03-23 07:42 J -43783166.22 -43783166.18 -43783166.11 0.0088 0.0080

Neptune -124585-06-19 09:23 J -43783078.18 -43783078.11 -43783078.04 0.0088 0.0076

Neptune -124585-09-15 10:35 J -43782990.13 -43782990.06 -43782989.97 0.0088 0.0072

Neptune -124585-12-12 12:01 J -43782902.08 -43782902.00 -43782901.91 0.0088 0.0067

Neptune -124584-03-10 13:27 J -43782814.03 -43782813.94 -43782813.84 0.0088 0.0063

Neptune -124584-06-06 14:39 J -43782725.98 -43782725.89 -43782725.78 0.0088 0.0059

Neptune -124584-09-02 16:20 J -43782637.92 -43782637.82 -43782637.71 0.0088 0.0055

Neptune -124584-11-29 17:32 J -43782549.87 -43782549.77 -43782549.65 0.0088 0.0051

Neptune -124583-02-25 18:59 J -43782461.82 -43782461.71 -43782461.59 0.0088 0.0046

Mars -124583-02-25 22:20 J -43782461.69 -43782461.57 -43782461.45 0.1648 0.0050 *

Moon -124583-03-01 20:11 J -43782457.73 -43782457.66 -43782457.58 0.2787 0.2010

Earth -124583-03-01 20:25 J -43782457.73 -43782457.65 -43782457.57 0.2779 0.1925 *

Neptune -124583-05-24 20:11 J -43782373.77 -43782373.66 -43782373.53 0.0088 0.0043

Neptune -124583-08-20 21:37 J -43782285.71 -43782285.60 -43782285.47 0.0088 0.0038

Neptune -124583-11-16 23:18 J -43782197.66 -43782197.53 -43782197.41 0.0088 0.0034

Neptune -124582-02-13 00:30 J -43782109.60 -43782109.48 -43782109.35 0.0088 0.0029

Neptune -124582-05-12 01:56 J -43782021.55 -43782021.42 -43782021.29 0.0088 0.0025

Neptune -124582-08-08 03:08 J -43781933.49 -43781933.37 -43781933.23 0.0088 0.0021

Neptune -124582-11-04 04:35 J -43781845.44 -43781845.31 -43781845.17 0.0088 0.0017

Saturn -124582-12-10 03:08 J -43781809.40 -43781809.37 -43781809.33 0.0260 0.0254

Neptune -124581-01-31 06:01 J -43781757.38 -43781757.25 -43781757.12 0.0088 0.0013

Saturn -124581-03-07 22:35 J -43781720.72 -43781720.56 -43781720.41 0.0260 0.0145

Neptune -124581-04-28 07:13 J -43781669.33 -43781669.20 -43781669.06 0.0088 0.0009

Saturn -124581-06-04 18:01 J -43781631.94 -43781631.75 -43781631.57 0.0259 0.0035

Neptune -124581-07-25 08:39 J -43781581.27 -43781581.14 -43781581.00 0.0088 0.0005

Saturn -124581-09-01 13:27 J -43781543.11 -43781542.94 -43781542.76 0.0259 0.0077

Neptune -124581-10-21 10:06 J -43781493.22 -43781493.08 -43781492.95 0.0088 0.0001

Saturn -124581-11-29 09:08 J -43781454.24 -43781454.12 -43781453.98 0.0259 0.0188

Neptune -124580-01-17 11:18 J -43781405.16 -43781405.03 -43781404.89 0.0088 0.0005

Neptune -124580-04-15 12:44 J -43781317.10 -43781316.97 -43781316.84 0.0088 0.0008

Jupiter -124580-05-27 10:06 J -43781275.27 -43781275.08 -43781274.90 0.0499 0.0022

Neptune -124580-07-12 14:11 J -43781229.05 -43781228.91 -43781228.78 0.0088 0.0013

Neptune -124580-10-08 15:23 J -43781140.99 -43781140.86 -43781140.73 0.0088 0.0017

Neptune -124579-01-04 16:49 J -43781052.93 -43781052.80 -43781052.67 0.0088 0.0021

Neptune -124579-04-02 18:01 J -43780964.87 -43780964.75 -43780964.62 0.0088 0.0025

Neptune -124579-06-29 19:13 J -43780876.82 -43780876.70 -43780876.56 0.0088 0.0030

Neptune -124579-09-25 20:39 J -43780788.76 -43780788.64 -43780788.51 0.0088 0.0033

Neptune -124579-12-22 22:06 J -43780700.70 -43780700.58 -43780700.46 0.0088 0.0037

Neptune -124578-03-20 23:18 J -43780612.64 -43780612.53 -43780612.41 0.0088 0.0041

Neptune -124578-06-17 00:44 J -43780524.58 -43780524.47 -43780524.36 0.0088 0.0045

Neptune -124578-09-13 01:56 J -43780436.52 -43780436.42 -43780436.30 0.0088 0.0050

Neptune -124578-12-10 03:23 J -43780348.46 -43780348.36 -43780348.25 0.0088 0.0054

Neptune -124577-03-07 04:35 J -43780260.40 -43780260.31 -43780260.20 0.0088 0.0058

Earth -124577-03-10 17:18 J -43780256.88 -43780256.78 -43780256.67 0.2780 0.0889

Moon -124577-03-10 18:01 J -43780256.86 -43780256.75 -43780256.65 0.2775 0.0872 *

Neptune -124577-06-03 05:47 J -43780172.34 -43780172.26 -43780172.15 0.0088 0.0062

Neptune -124577-08-30 07:13 J -43780084.28 -43780084.20 -43780084.11 0.0088 0.0066

Neptune -124577-11-26 08:25 J -43779996.22 -43779996.15 -43779996.06 0.0088 0.0071

Neptune -124576-02-22 09:51 J -43779908.15 -43779908.09 -43779908.01 0.0088 0.0074

Neptune -124576-05-21 11:03 J -43779820.09 -43779820.04 -43779819.97 0.0088 0.0079

Neptune -124576-08-17 12:30 J -43779732.02 -43779731.98 -43779731.93 0.0088 0.0082

Neptune -124576-11-13 13:42 J -43779643.94 -43779643.93 -43779643.89 0.0088 0.0087

Jupiter -124574-04-23 15:23 J -43779117.98 -43779117.86 -43779117.75 0.0526 0.0229

Mars -124574-07-19 09:23 J -43779031.23 -43779031.11 -43779031.00 0.1648 0.0364

Jupiter -124574-07-21 21:37 J -43779028.71 -43779028.60 -43779028.48 0.0527 0.0229

Earth -124574-09-08 08:54 J -43778980.28 -43778980.13 -43778979.97 0.2560 0.0505

Moon -124574-09-08 09:51 J -43778980.25 -43778980.09 -43778979.94 0.2565 0.0595 *

Mars -124572-06-23 13:27 J -43778326.01 -43778325.94 -43778325.88 0.1648 0.1318

Moon -124570-03-04 14:25 J -43777706.99 -43777706.90 -43777706.80 0.2786 0.1206

Earth -124570-03-04 14:54 J -43777706.98 -43777706.88 -43777706.78 0.2780 0.1194 *

Jupiter -124568-03-15 07:13 J -43776965.38 -43776965.20 -43776965.02 0.0499 0.0123

Jupiter -124568-06-13 17:18 J -43776874.84 -43776874.78 -43776874.71 0.0498 0.0461

Mars -124567-02-28 18:59 J -43776614.81 -43776614.71 -43776614.61 0.1865 0.1447

Saturn -124566-01-04 04:49 J -43776305.40 -43776305.30 -43776305.20 0.0303 0.0190

Saturn -124566-04-02 18:15 J -43776216.87 -43776216.74 -43776216.61 0.0303 0.0065

Saturn -124566-06-30 07:42 J -43776128.31 -43776128.18 -43776128.05 0.0303 0.0060

Saturn -124566-09-26 20:54 J -43776039.73 -43776039.63 -43776039.52 0.0303 0.0184

Mars -124565-12-08 20:11 J -43775600.77 -43775600.66 -43775600.56 0.1649 0.0777

Earth -124564-03-13 11:47 J -43775506.09 -43775506.01 -43775505.92 0.2780 0.1628

Moon -124564-03-13 12:30 J -43775506.06 -43775505.98 -43775505.89 0.2777 0.1712 *

Mars -124563-11-14 00:15 J -43774895.58 -43774895.49 -43774895.39 0.1648 0.0916

Jupiter -124562-02-09 19:13 J -43774807.79 -43774807.70 -43774807.60 0.0526 0.0344

Jupiter -124562-05-10 01:42 J -43774718.55 -43774718.43 -43774718.30 0.0527 0.0115

Earth -124561-09-10 15:23 J -43774228.98 -43774228.86 -43774228.74 0.2560 0.1711

Moon -124561-09-10 15:51 J -43774228.96 -43774228.84 -43774228.72 0.2567 0.1655 *

Mars -124558-07-21 13:27 J -43773185.10 -43773184.94 -43773184.78 0.1865 0.0295

Uranus -124558-12-04 17:18 J -43773048.81 -43773048.78 -43773048.75 0.0131 0.0126

Uranus -124557-03-01 20:11 J -43772960.72 -43772960.66 -43772960.59 0.0131 0.0111

Moon -124557-03-06 08:54 J -43772956.23 -43772956.13 -43772956.02 0.2786 0.0440

Earth -124557-03-06 09:23 J -43772956.22 -43772956.11 -43772956.00 0.2780 0.0462 *

Uranus -124557-05-28 23:03 J -43772872.62 -43772872.54 -43772872.44 0.0131 0.0096

Uranus -124557-08-25 01:56 J -43772784.52 -43772784.42 -43772784.31 0.0131 0.0081

Uranus -124557-11-21 04:49 J -43772696.41 -43772696.30 -43772696.18 0.0131 0.0066

Jupiter -124556-01-01 04:06 J -43772655.49 -43772655.33 -43772655.18 0.0499 0.0271

Uranus -124556-02-17 07:42 J -43772608.29 -43772608.18 -43772608.05 0.0131 0.0051

Jupiter -124556-04-01 13:56 J -43772565.06 -43772564.92 -43772564.77 0.0498 0.0312

Uranus -124556-05-16 10:49 J -43772520.18 -43772520.05 -43772519.92 0.0131 0.0035

Uranus -124556-08-12 13:42 J -43772432.06 -43772431.93 -43772431.80 0.0131 0.0020

Uranus -124556-11-08 16:35 J -43772343.94 -43772343.81 -43772343.68 0.0131 0.0005

Uranus -124555-02-04 19:27 J -43772255.82 -43772255.69 -43772255.56 0.0131 0.0010

Mars -124555-05-01 06:59 J -43772170.29 -43772170.21 -43772170.13 0.1649 0.1193

Uranus -124555-05-03 22:20 J -43772167.70 -43772167.57 -43772167.44 0.0131 0.0025

Uranus -124555-07-31 01:13 J -43772079.57 -43772079.45 -43772079.32 0.0131 0.0040

Uranus -124555-10-27 04:06 J -43771991.45 -43771991.33 -43771991.21 0.0131 0.0055

Uranus -124554-01-23 06:59 J -43771903.32 -43771903.21 -43771903.10 0.0131 0.0070

Uranus -124554-04-21 09:51 J -43771815.19 -43771815.09 -43771814.99 0.0131 0.0085

Uranus -124554-07-18 12:44 J -43771727.05 -43771726.97 -43771726.89 0.0131 0.0100

Moon -124554-09-03 01:27 J -43771680.55 -43771680.44 -43771680.33 0.2557 0.1829

Earth -124554-09-03 02:54 J -43771680.50 -43771680.38 -43771680.26 0.2561 0.1714 *

Uranus -124554-10-14 15:37 J -43771638.91 -43771638.85 -43771638.79 0.0131 0.0115

Uranus -124553-01-10 18:30 J -43771550.74 -43771550.73 -43771550.72 0.0131 0.0130

Mars -124553-04-05 11:18 J -43771465.14 -43771465.03 -43771464.92 0.1648 0.0508

Saturn -124552-07-25 22:49 J -43770988.69 -43770988.55 -43770988.41 0.0260 0.0172

Saturn -124552-10-22 18:15 J -43770899.92 -43770899.74 -43770899.56 0.0260 0.0062

Saturn -124551-01-19 13:42 J -43770811.11 -43770810.93 -43770810.75 0.0260 0.0048

Earth -124551-03-16 06:30 J -43770755.29 -43770755.23 -43770755.18 0.2779 0.2366

Moon -124551-03-16 07:13 J -43770755.25 -43770755.20 -43770755.15 0.2776 0.2449 *

Saturn -124551-04-18 09:23 J -43770722.25 -43770722.11 -43770721.96 0.0260 0.0160

Jupiter -124551-11-28 23:18 J -43770497.59 -43770497.53 -43770497.47 0.0526 0.0460

Jupiter -124550-02-26 05:47 J -43770408.39 -43770408.26 -43770408.13 0.0527 0.0002

Earth -124550-02-28 06:59 J -43770406.26 -43770406.21 -43770406.17 0.2779 0.2529

Moon -124550-02-28 06:59 J -43770406.25 -43770406.21 -43770406.16 0.2771 0.2526 *

Jupiter -124550-05-26 12:01 J -43770319.06 -43770319.00 -43770318.93 0.0528 0.0459

Venus -124549-02-10 20:39 J -43770058.72 -43770058.64 -43770058.55 0.3765 0.2110

Mars -124549-12-10 08:11 J -43769755.31 -43769755.16 -43769755.02 0.1864 0.0843

Venus -124547-11-14 12:59 J -43769051.11 -43769050.96 -43769050.81 0.3612 0.0733

Mars -124546-09-21 17:47 J -43768739.78 -43768739.76 -43768739.74 0.1650 0.1609

Jupiter -124545-10-20 00:59 J -43768345.56 -43768345.46 -43768345.36 0.0499 0.0416

Jupiter -124544-01-18 10:49 J -43768255.22 -43768255.05 -43768254.87 0.0498 0.0165

Moon -124544-03-09 03:08 J -43768205.47 -43768205.37 -43768205.26 0.2785 0.0229

Earth -124544-03-09 03:51 J -43768205.45 -43768205.34 -43768205.23 0.2780 0.0280 *

Venus -124544-08-26 12:59 J -43768035.06 -43768034.96 -43768034.85 0.3770 0.0314

Mars -124544-08-26 22:20 J -43768034.69 -43768034.57 -43768034.45 0.1648 0.0104

Moon -124541-09-05 07:56 J -43766929.33 -43766929.17 -43766929.01 0.2556 0.0471

Earth -124541-09-05 09:23 J -43766929.27 -43766929.11 -43766928.95 0.2560 0.0495 *

Jupiter -124539-12-15 09:51 J -43766098.22 -43766098.09 -43766097.97 0.0526 0.0115

Venus -124538-03-12 05:18 J -43766011.37 -43766011.28 -43766011.18 0.3776 0.1519

Jupiter -124538-03-14 16:06 J -43766008.93 -43766008.83 -43766008.73 0.0527 0.0343

Earth -124537-03-02 01:13 J -43765655.53 -43765655.45 -43765655.36 0.2779 0.1802

Moon -124537-03-02 01:27 J -43765655.52 -43765655.44 -43765655.36 0.2773 0.1833 *

Saturn -124537-05-23 06:59 J -43765573.29 -43765573.21 -43765573.11 0.0302 0.0222

Saturn -124537-08-19 20:39 J -43765484.76 -43765484.64 -43765484.51 0.0303 0.0096

Saturn -124537-11-16 10:06 J -43765396.21 -43765396.08 -43765395.94 0.0303 0.0031

Saturn -124536-02-12 23:32 J -43765307.63 -43765307.52 -43765307.41 0.0303 0.0154

Saturn -124536-05-12 12:44 J -43765219.02 -43765218.97 -43765218.92 0.0303 0.0276

Mars -124534-01-17 09:23 J -43764604.23 -43764604.11 -43764604.00 0.1648 0.0311

Venus -124533-09-24 21:37 J -43763987.64 -43763987.60 -43763987.55 0.3782 0.3322

Jupiter -124533-11-06 07:13 J -43763945.39 -43763945.20 -43763945.02 0.0499 0.0014

Mars -124533-12-22 13:13 J -43763899.01 -43763898.95 -43763898.88 0.1648 0.1371

Moon -124531-03-11 21:51 J -43763454.70 -43763454.59 -43763454.49 0.2785 0.0945

Earth -124531-03-11 22:20 J -43763454.67 -43763454.57 -43763454.47 0.2780 0.1019 *

Mars -124528-08-29 19:56 J -43762187.75 -43762187.67 -43762187.58 0.1865 0.1571

Moon -124528-09-08 14:54 J -43762178.03 -43762177.88 -43762177.72 0.2554 0.0732

Earth -124528-09-08 15:37 J -43762178.00 -43762177.85 -43762177.69 0.2560 0.0719 *

Jupiter -124527-10-03 13:42 J -43761788.04 -43761787.93 -43761787.81 0.0526 0.0230

Jupiter -124527-12-31 20:11 J -43761698.78 -43761698.66 -43761698.55 0.0527 0.0229

Mars -124525-06-08 20:11 J -43761173.77 -43761173.66 -43761173.55 0.1649 0.0718

Earth -124524-03-04 19:42 J -43760904.78 -43760904.68 -43760904.58 0.2780 0.1071

Moon -124524-03-04 20:11 J -43760904.76 -43760904.66 -43760904.56 0.2773 0.1002 *

Mars -124523-05-15 00:15 J -43760468.58 -43760468.49 -43760468.39 0.1648 0.0970

Saturn -124523-12-12 23:47 J -43760256.62 -43760256.51 -43760256.38 0.0259 0.0196

Saturn -124522-03-11 19:13 J -43760167.87 -43760167.70 -43760167.52 0.0259 0.0087

Saturn -124522-06-08 14:39 J -43760079.07 -43760078.89 -43760078.70 0.0259 0.0024

Saturn -124522-09-05 10:20 J -43759990.23 -43759990.07 -43759989.91 0.0259 0.0134

Saturn -124522-12-03 06:01 J -43759901.30 -43759901.25 -43759901.19 0.0259 0.0246

Jupiter -124521-08-25 04:20 J -43759635.50 -43759635.32 -43759635.15 0.0499 0.0132

Jupiter -124521-11-23 14:25 J -43759544.97 -43759544.90 -43759544.82 0.0499 0.0454

Mars -124518-01-19 14:11 J -43758758.07 -43758757.91 -43758757.74 0.1864 0.0413

Moon -124518-03-14 16:06 J -43758703.91 -43758703.83 -43758703.75 0.2783 0.1767

Earth -124518-03-14 16:49 J -43758703.88 -43758703.80 -43758703.72 0.2780 0.1756 *

Mars -124516-10-30 06:59 J -43757743.30 -43757743.21 -43757743.13 0.1649 0.1133

Uranus -124515-06-04 21:37 J -43757525.68 -43757525.60 -43757525.53 0.0148 0.0137

Jupiter -124515-07-22 17:18 J -43757477.87 -43757477.78 -43757477.68 0.0526 0.0350

Uranus -124515-09-01 06:01 J -43757437.37 -43757437.25 -43757437.10 0.0148 0.0106

Moon -124515-09-11 21:23 J -43757426.72 -43757426.61 -43757426.49 0.2555 0.1802

Earth -124515-09-11 21:51 J -43757426.69 -43757426.59 -43757426.48 0.2561 0.1925 *

Jupiter -124515-10-19 23:47 J -43757388.63 -43757388.51 -43757388.38 0.0527 0.0109

Uranus -124515-11-28 15:08 J -43757349.03 -43757348.87 -43757348.70 0.0148 0.0073

Uranus -124514-02-25 00:01 J -43757260.68 -43757260.50 -43757260.31 0.0148 0.0042

Uranus -124514-05-24 08:54 J -43757172.32 -43757172.13 -43757171.93 0.0148 0.0010

Uranus -124514-08-20 17:47 J -43757083.94 -43757083.76 -43757083.56 0.0148 0.0023

Mars -124514-10-05 11:18 J -43757038.14 -43757038.03 -43757037.92 0.1648 0.0569

Uranus -124514-11-17 02:39 J -43756995.56 -43756995.39 -43756995.20 0.0148 0.0055

Uranus -124513-02-13 11:47 J -43756907.16 -43756907.01 -43756906.85 0.0148 0.0086

Uranus -124513-05-11 20:39 J -43756818.75 -43756818.64 -43756818.52 0.0148 0.0118

Earth -124511-03-07 14:11 J -43756154.02 -43756153.91 -43756153.80 0.2780 0.0337

Moon -124511-03-07 14:39 J -43756154.00 -43756153.89 -43756153.78 0.2775 0.0250 *

Pluto -124511-06-09 02:54 J -43756060.38 -43756060.38 -43756060.35 0.0084 0.0084

Pluto -124511-09-05 04:20 J -43755972.39 -43755972.32 -43755972.22 0.0084 0.0067

Pluto -124511-12-02 06:01 J -43755884.36 -43755884.25 -43755884.14 0.0084 0.0051

Pluto -124510-02-28 07:27 J -43755796.32 -43755796.19 -43755796.07 0.0084 0.0034

Pluto -124510-05-27 08:54 J -43755708.27 -43755708.13 -43755708.00 0.0084 0.0018

Pluto -124510-08-23 10:06 J -43755620.21 -43755620.08 -43755619.94 0.0084 0.0003

Pluto -124510-11-19 11:32 J -43755532.15 -43755532.02 -43755531.88 0.0084 0.0014

Pluto -124509-02-15 12:59 J -43755444.09 -43755443.96 -43755443.83 0.0084 0.0030

Pluto -124509-05-13 13:56 J -43755356.02 -43755355.92 -43755355.79 0.0083 0.0047

Mars -124509-06-10 08:54 J -43755328.28 -43755328.13 -43755327.98 0.1864 0.0728

Jupiter -124509-06-13 01:27 J -43755325.59 -43755325.44 -43755325.28 0.0500 0.0275

Pluto -124509-08-09 15:37 J -43755267.94 -43755267.85 -43755267.76 0.0083 0.0062

Jupiter -124509-09-11 11:32 J -43755235.16 -43755235.02 -43755234.87 0.0499 0.0310

Pluto -124509-11-05 17:03 J -43755179.84 -43755179.79 -43755179.74 0.0083 0.0077

Earth -124508-09-03 09:23 J -43754878.24 -43754878.11 -43754877.98 0.2560 0.1501

Moon -124508-09-03 10:49 J -43754878.18 -43754878.05 -43754877.92 0.2564 0.1469 *

Saturn -124508-10-10 09:23 J -43754841.18 -43754841.11 -43754841.03 0.0303 0.0252

Saturn -124507-01-06 23:03 J -43754752.66 -43754752.54 -43754752.42 0.0303 0.0126

Saturn -124507-04-05 12:30 J -43754664.11 -43754663.98 -43754663.84 0.0303 0.0006

Saturn -124507-07-03 01:56 J -43754575.54 -43754575.42 -43754575.30 0.0303 0.0124

Saturn -124507-09-29 15:08 J -43754486.94 -43754486.87 -43754486.79 0.0303 0.0247

Mars -124506-03-22 17:47 J -43754312.80 -43754312.76 -43754312.73 0.1650 0.1553

Moon -124505-03-16 10:35 J -43753953.10 -43753953.06 -43753953.01 0.2781 0.2488

Earth -124505-03-16 11:18 J -43753953.07 -43753953.03 -43753952.98 0.2779 0.2499 *

Mars -124504-02-24 22:20 J -43753607.69 -43753607.57 -43753607.45 0.1648 0.0160

Moon -124504-02-28 11:47 J -43753604.06 -43753604.01 -43753603.97 0.2786 0.2459

Earth -124504-02-28 11:47 J -43753604.06 -43753604.01 -43753603.96 0.2779 0.2403 *

Jupiter -124503-05-10 21:23 J -43753167.67 -43753167.61 -43753167.55 0.0525 0.0465

Jupiter -124503-08-08 03:51 J -43753078.47 -43753078.34 -43753078.21 0.0527 0.0006

Jupiter -124503-11-05 10:06 J -43752989.14 -43752989.08 -43752989.01 0.0528 0.0451

Neptune -124502-11-28 06:15 J -43752601.27 -43752601.24 -43752601.17 0.0089 0.0086

Neptune -124501-02-24 09:51 J -43752513.15 -43752513.09 -43752512.99 0.0089 0.0080

Neptune -124501-05-22 13:27 J -43752425.03 -43752424.94 -43752424.82 0.0089 0.0074

Neptune -124501-08-18 17:03 J -43752336.90 -43752336.79 -43752336.66 0.0089 0.0068

Neptune -124501-11-14 20:25 J -43752248.77 -43752248.65 -43752248.50 0.0089 0.0062

Neptune -124500-02-11 00:01 J -43752160.63 -43752160.50 -43752160.34 0.0089 0.0056

Neptune -124500-05-10 03:37 J -43752072.49 -43752072.35 -43752072.18 0.0089 0.0050

Neptune -124500-08-06 07:13 J -43751984.35 -43751984.20 -43751984.02 0.0089 0.0044

Mars -124500-10-31 04:06 J -43751898.36 -43751898.33 -43751898.31 0.1863 0.1832

Neptune -124500-11-02 10:49 J -43751896.21 -43751896.05 -43751895.86 0.0089 0.0038

Neptune -124499-01-29 14:39 J -43751808.07 -43751807.89 -43751807.71 0.0089 0.0031

Neptune -124499-04-27 18:15 J -43751719.92 -43751719.74 -43751719.55 0.0089 0.0025

Neptune -124499-07-24 21:51 J -43751631.78 -43751631.59 -43751631.40 0.0089 0.0019

Neptune -124499-10-21 01:27 J -43751543.63 -43751543.44 -43751543.25 0.0089 0.0013

Neptune -124498-01-17 05:03 J -43751455.48 -43751455.29 -43751455.09 0.0089 0.0007

Venus -124498-03-04 01:56 J -43751409.47 -43751409.42 -43751409.37 0.3761 0.3247

Earth -124498-03-10 08:39 J -43751403.25 -43751403.14 -43751403.03 0.2780 0.0408

Moon -124498-03-10 09:08 J -43751403.23 -43751403.12 -43751403.01 0.2774 0.0391 *

Neptune -124498-04-15 08:39 J -43751367.33 -43751367.14 -43751366.94 0.0089 0.0002

Neptune -124498-07-12 12:15 J -43751279.18 -43751278.99 -43751278.79 0.0089 0.0006

Neptune -124498-10-08 15:51 J -43751191.03 -43751190.84 -43751190.64 0.0089 0.0012

Neptune -124497-01-04 19:27 J -43751102.87 -43751102.69 -43751102.49 0.0089 0.0018

Jupiter -124497-03-31 22:35 J -43751015.65 -43751015.56 -43751015.46 0.0499 0.0419

Neptune -124497-04-01 23:18 J -43751014.72 -43751014.53 -43751014.34 0.0089 0.0024

Neptune -124497-06-29 02:54 J -43750926.56 -43750926.38 -43750926.20 0.0089 0.0030

Jupiter -124497-06-30 08:25 J -43750925.32 -43750925.15 -43750924.97 0.0499 0.0163

Neptune -124497-09-25 06:15 J -43750838.40 -43750838.24 -43750838.05 0.0089 0.0037

Neptune -124497-12-22 10:06 J -43750750.24 -43750750.08 -43750749.90 0.0089 0.0043

Neptune -124496-03-20 13:42 J -43750662.08 -43750661.93 -43750661.76 0.0089 0.0049

Neptune -124496-06-16 17:32 J -43750573.92 -43750573.77 -43750573.62 0.0089 0.0055

Neptune -124496-09-12 20:54 J -43750485.75 -43750485.63 -43750485.47 0.0089 0.0062

Venus -124496-12-05 07:13 J -43750402.32 -43750402.20 -43750402.09 0.3617 0.2282

Neptune -124496-12-10 00:30 J -43750397.58 -43750397.48 -43750397.34 0.0089 0.0068

Neptune -124495-03-08 04:20 J -43750309.41 -43750309.32 -43750309.20 0.0089 0.0074

Neptune -124495-06-04 08:11 J -43750221.23 -43750221.16 -43750221.07 0.0089 0.0080

Mars -124495-07-18 09:08 J -43750177.23 -43750177.12 -43750177.00 0.1648 0.0257

Neptune -124495-08-31 12:01 J -43750133.04 -43750133.00 -43750132.96 0.0089 0.0087

Earth -124495-09-06 15:51 J -43750127.00 -43750126.84 -43750126.68 0.2560 0.0286

Moon -124495-09-06 17:03 J -43750126.95 -43750126.79 -43750126.64 0.2564 0.0146 *

Saturn -124493-05-01 00:01 J -43749524.59 -43749524.50 -43749524.41 0.0260 0.0225

Mars -124493-06-22 13:13 J -43749472.01 -43749471.95 -43749471.89 0.1648 0.1423

Saturn -124493-07-28 19:13 J -43749435.86 -43749435.70 -43749435.53 0.0260 0.0116

Venus -124493-09-16 18:15 J -43749385.83 -43749385.74 -43749385.64 0.3766 0.1438

Saturn -124493-10-25 14:39 J -43749347.07 -43749346.89 -43749346.70 0.0259 0.0006

Saturn -124492-01-22 10:20 J -43749258.24 -43749258.07 -43749257.90 0.0259 0.0105

Saturn -124492-04-21 05:47 J -43749169.35 -43749169.26 -43749169.15 0.0259 0.0217

Moon -124491-03-03 05:47 J -43748853.34 -43748853.26 -43748853.17 0.2786 0.1760

Earth -124491-03-03 06:15 J -43748853.33 -43748853.24 -43748853.16 0.2779 0.1673 *

Jupiter -124491-05-27 07:56 J -43748768.30 -43748768.17 -43748768.05 0.0527 0.0120

Jupiter -124491-08-24 14:11 J -43748679.00 -43748678.91 -43748678.81 0.0528 0.0339

Venus -124490-06-21 14:39 J -43748378.01 -43748377.89 -43748377.78 0.3610 0.2302

Mars -124488-02-27 20:25 J -43747760.72 -43747760.65 -43747760.58 0.1864 0.1667

Venus -124487-04-02 10:49 J -43747362.16 -43747362.05 -43747361.95 0.3772 0.0416

Mars -124486-12-08 20:11 J -43746746.77 -43746746.66 -43746746.55 0.1649 0.0662

Earth -124485-03-12 03:08 J -43746652.47 -43746652.37 -43746652.27 0.2780 0.1148

Moon -124485-03-12 03:51 J -43746652.44 -43746652.34 -43746652.24 0.2777 0.1145 *

Jupiter -124485-04-18 05:32 J -43746615.46 -43746615.27 -43746615.09 0.0499 0.0017

Mars -124484-11-13 00:15 J -43746041.58 -43746041.49 -43746041.40 0.1648 0.1025

Earth -124482-09-09 22:20 J -43745375.72 -43745375.57 -43745375.42 0.2560 0.0934

Moon -124482-09-09 23:03 J -43745375.68 -43745375.54 -43745375.39 0.2566 0.1013 *

Venus -124482-10-17 02:54 J -43745338.46 -43745338.38 -43745338.29 0.3778 0.2187

Jupiter -124479-03-15 12:01 J -43744458.11 -43744458.00 -43744457.88 0.0526 0.0233

Jupiter -124479-06-12 18:30 J -43744368.85 -43744368.73 -43744368.62 0.0527 0.0226

Mars -124479-07-20 14:54 J -43744331.04 -43744330.88 -43744330.72 0.1865 0.0518

Saturn -124478-02-27 11:03 J -43744109.07 -43744109.04 -43744108.99 0.0302 0.0288

Moon -124478-03-06 00:15 J -43744102.59 -43744102.49 -43744102.38 0.2787 0.0922

Earth -124478-03-06 00:44 J -43744102.58 -43744102.47 -43744102.37 0.2780 0.0944 *

Saturn -124478-05-27 00:59 J -43744020.57 -43744020.46 -43744020.35 0.0303 0.0161

Saturn -124478-08-23 14:25 J -43743932.03 -43743931.90 -43743931.76 0.0303 0.0036

Saturn -124478-11-20 03:51 J -43743843.46 -43743843.34 -43743843.21 0.0303 0.0090

Saturn -124477-02-16 17:18 J -43743754.87 -43743754.78 -43743754.69 0.0303 0.0213

Mars -124476-04-30 06:59 J -43743316.30 -43743316.21 -43743316.12 0.1649 0.1074

Earth -124475-09-01 09:37 J -43742827.13 -43742827.10 -43742827.08 0.2561 0.2510

Mars -124474-04-05 11:18 J -43742611.14 -43742611.03 -43742610.92 0.1648 0.0622

Uranus -124474-12-25 00:01 J -43742347.53 -43742347.50 -43742347.45 0.0131 0.0123

Jupiter -124473-02-05 01:42 J -43742305.61 -43742305.43 -43742305.25 0.0499 0.0136

Uranus -124473-03-22 03:08 J -43742259.44 -43742259.37 -43742259.30 0.0131 0.0108

Jupiter -124473-05-05 11:47 J -43742215.08 -43742215.01 -43742214.92 0.0499 0.0450

Uranus -124473-06-18 06:01 J -43742171.34 -43742171.25 -43742171.16 0.0131 0.0093

Uranus -124473-09-14 08:54 J -43742083.23 -43742083.13 -43742083.02 0.0131 0.0078

Uranus -124473-12-11 11:47 J -43741995.12 -43741995.01 -43741994.89 0.0131 0.0063

Uranus -124472-03-09 14:39 J -43741907.01 -43741906.89 -43741906.76 0.0131 0.0048

Earth -124472-03-14 21:37 J -43741901.67 -43741901.60 -43741901.52 0.2780 0.1892

Moon -124472-03-14 22:20 J -43741901.64 -43741901.57 -43741901.49 0.2776 0.1994 *

Uranus -124472-06-05 17:32 J -43741818.89 -43741818.77 -43741818.63 0.0131 0.0033

Uranus -124472-09-01 20:39 J -43741730.78 -43741730.64 -43741730.51 0.0131 0.0018

Uranus -124472-11-28 23:32 J -43741642.66 -43741642.52 -43741642.39 0.0131 0.0004

Uranus -124471-02-25 02:25 J -43741554.54 -43741554.40 -43741554.27 0.0131 0.0013

Uranus -124471-05-24 05:18 J -43741466.41 -43741466.28 -43741466.15 0.0131 0.0028

Uranus -124471-08-20 08:11 J -43741378.29 -43741378.16 -43741378.04 0.0131 0.0043

Uranus -124471-11-16 10:49 J -43741290.16 -43741290.05 -43741289.92 0.0131 0.0058

Uranus -124470-02-12 13:42 J -43741202.03 -43741201.93 -43741201.81 0.0131 0.0073

Uranus -124470-05-11 16:35 J -43741113.90 -43741113.81 -43741113.71 0.0131 0.0088

Uranus -124470-08-07 19:27 J -43741025.76 -43741025.69 -43741025.60 0.0131 0.0103

Uranus -124470-11-03 22:20 J -43740937.62 -43740937.57 -43740937.51 0.0131 0.0118

Mars -124470-12-10 09:51 J -43740901.24 -43740901.09 -43740900.93 0.1864 0.0605

Moon -124469-09-12 04:49 J -43740624.39 -43740624.30 -43740624.21 0.2566 0.2075

Earth -124469-09-12 04:35 J -43740624.39 -43740624.31 -43740624.22 0.2560 0.2141 *

Jupiter -124467-01-01 16:06 J -43740147.92 -43740147.83 -43740147.73 0.0525 0.0346

Jupiter -124467-03-31 22:35 J -43740058.68 -43740058.56 -43740058.43 0.0526 0.0112

Mars -124467-09-20 17:47 J -43739885.81 -43739885.76 -43739885.71 0.1650 0.1492

Moon -124465-03-07 18:30 J -43739351.83 -43739351.73 -43739351.62 0.2786 0.0226

Earth -124465-03-07 19:13 J -43739351.81 -43739351.70 -43739351.60 0.2780 0.0227 *

Mars -124465-08-25 22:20 J -43739180.69 -43739180.57 -43739180.45 0.1648 0.0217

Saturn -124464-09-18 00:44 J -43738792.51 -43738792.47 -43738792.42 0.0259 0.0250

Saturn -124464-12-15 19:56 J -43738703.82 -43738703.67 -43738703.51 0.0259 0.0142

Saturn -124463-03-14 15:23 J -43738615.04 -43738614.86 -43738614.68 0.0259 0.0033

Saturn -124463-06-11 10:49 J -43738526.22 -43738526.05 -43738525.87 0.0259 0.0077

Saturn -124463-09-08 06:30 J -43738437.35 -43738437.23 -43738437.10 0.0259 0.0188

Moon -124462-09-04 14:25 J -43738076.03 -43738075.90 -43738075.76 0.2557 0.1380

Earth -124462-09-04 16:06 J -43738075.97 -43738075.83 -43738075.69 0.2560 0.1290 *

Jupiter -124462-11-23 22:49 J -43737995.70 -43737995.55 -43737995.39 0.0500 0.0280

Jupiter -124461-02-22 08:54 J -43737905.27 -43737905.13 -43737904.98 0.0499 0.0306

Mars -124460-05-01 04:35 J -43737471.37 -43737471.31 -43737471.25 0.1863 0.1729

Earth -124459-03-17 16:20 J -43737150.85 -43737150.82 -43737150.79 0.2779 0.2631

Moon -124459-03-17 17:03 J -43737150.81 -43737150.79 -43737150.77 0.2778 0.2716 *

Earth -124458-03-01 16:35 J -43736801.87 -43736801.81 -43736801.75 0.2779 0.2279

Moon -124458-03-01 16:49 J -43736801.86 -43736801.80 -43736801.74 0.2772 0.2299 *

Jupiter -124456-10-20 19:42 J -43735837.73 -43735837.68 -43735837.62 0.0525 0.0465

Mars -124455-01-16 09:08 J -43735750.23 -43735750.12 -43735750.00 0.1648 0.0203

Jupiter -124455-01-18 02:25 J -43735748.53 -43735748.40 -43735748.28 0.0526 0.0019

Jupiter -124455-04-17 08:25 J -43735659.21 -43735659.15 -43735659.08 0.0527 0.0450

Mars -124454-12-22 13:13 J -43735045.00 -43735044.95 -43735044.90 0.1648 0.1480

Moon -124452-03-10 13:13 J -43734601.06 -43734600.95 -43734600.85 0.2785 0.0462

Earth -124452-03-10 13:42 J -43734601.04 -43734600.93 -43734600.83 0.2780 0.0548 *

Jupiter -124450-09-11 20:25 J -43733685.75 -43733685.65 -43733685.55 0.0500 0.0421

Jupiter -124450-12-11 06:15 J -43733595.41 -43733595.24 -43733595.06 0.0499 0.0162

Mars -124449-08-28 21:23 J -43733333.65 -43733333.61 -43733333.56 0.1865 0.1788

Moon -124449-09-06 21:37 J -43733324.77 -43733324.60 -43733324.44 0.2555 0.0043

Earth -124449-09-06 22:35 J -43733324.72 -43733324.56 -43733324.40 0.2560 0.0067 *

Saturn -124449-10-13 02:54 J -43733288.48 -43733288.38 -43733288.27 0.0303 0.0194

Saturn -124448-01-09 16:35 J -43733199.94 -43733199.81 -43733199.68 0.0303 0.0068

Saturn -124448-04-08 06:01 J -43733111.38 -43733111.25 -43733111.12 0.0303 0.0057

Saturn -124448-07-05 19:13 J -43733022.80 -43733022.70 -43733022.59 0.0303 0.0182

Mars -124446-06-08 20:11 J -43732319.77 -43732319.66 -43732319.55 0.1649 0.0605

Earth -124445-03-03 11:03 J -43732051.13 -43732051.04 -43732050.95 0.2780 0.1548

Moon -124445-03-03 11:18 J -43732051.12 -43732051.03 -43732050.94 0.2772 0.1573 *

Mars -124444-05-14 00:15 J -43731614.58 -43731614.49 -43731614.40 0.1648 0.1080

Jupiter -124444-11-06 06:15 J -43731438.36 -43731438.24 -43731438.11 0.0526 0.0122

Jupiter -124443-02-03 12:30 J -43731349.07 -43731348.98 -43731348.88 0.0527 0.0337

Venus -124442-10-08 23:32 J -43730736.59 -43730736.52 -43730736.44 0.3762 0.2577

Mars -124439-01-18 15:51 J -43729904.00 -43729903.84 -43729903.69 0.1864 0.0635

Moon -124439-03-13 07:27 J -43729850.29 -43729850.19 -43729850.09 0.2784 0.1202

Earth -124439-03-13 08:11 J -43729850.26 -43729850.16 -43729850.07 0.2780 0.1282 *

Venus -124439-07-12 08:39 J -43729729.29 -43729729.14 -43729728.99 0.3615 0.0729

Jupiter -124438-09-29 03:37 J -43729285.54 -43729285.35 -43729285.17 0.0499 0.0021

Mars -124437-10-29 06:59 J -43728889.30 -43728889.21 -43728889.12 0.1649 0.1018

Venus -124436-04-23 16:06 J -43728712.94 -43728712.83 -43728712.73 0.3768 0.0782

Moon -124436-09-10 04:06 J -43728573.48 -43728573.33 -43728573.18 0.2555 0.1111

Earth -124436-09-10 04:49 J -43728573.44 -43728573.30 -43728573.15 0.2560 0.1151 *

Mars -124435-10-04 11:18 J -43728184.14 -43728184.03 -43728183.92 0.1648 0.0677

Saturn -124434-05-04 19:27 J -43727971.82 -43727971.69 -43727971.54 0.0259 0.0174

Saturn -124434-08-01 14:54 J -43727883.06 -43727882.88 -43727882.70 0.0259 0.0064

Saturn -124434-10-29 10:20 J -43727794.25 -43727794.07 -43727793.88 0.0259 0.0046

Saturn -124433-01-26 06:01 J -43727705.40 -43727705.25 -43727705.10 0.0259 0.0156

Earth -124432-03-06 05:32 J -43727300.37 -43727300.27 -43727300.17 0.2780 0.0812

Moon -124432-03-06 06:01 J -43727300.36 -43727300.25 -43727300.15 0.2774 0.0740 *

Jupiter -124432-08-25 10:20 J -43727128.18 -43727128.07 -43727127.95 0.0526 0.0236

Jupiter -124432-11-22 16:49 J -43727038.92 -43727038.80 -43727038.69 0.0527 0.0223

Uranus -124431-06-25 03:23 J -43726824.44 -43726824.36 -43726824.28 0.0148 0.0135

Uranus -124431-09-21 12:01 J -43726736.13 -43726736.00 -43726735.86 0.0148 0.0103

Venus -124431-11-07 08:11 J -43726689.25 -43726689.16 -43726689.06 0.3773 0.1053

Uranus -124431-12-18 20:54 J -43726647.79 -43726647.63 -43726647.46 0.0148 0.0071

Uranus -124430-03-17 06:01 J -43726559.44 -43726559.25 -43726559.07 0.0148 0.0040

Mars -124430-06-10 10:06 J -43726474.24 -43726474.08 -43726473.92 0.1864 0.0516

Uranus -124430-06-13 14:54 J -43726471.07 -43726470.88 -43726470.69 0.0148 0.0008

Uranus -124430-09-09 23:47 J -43726382.70 -43726382.51 -43726382.32 0.0148 0.0024

Uranus -124430-12-07 08:39 J -43726294.32 -43726294.14 -43726293.96 0.0148 0.0056

Uranus -124429-03-04 17:47 J -43726205.92 -43726205.76 -43726205.61 0.0148 0.0089

Uranus -124429-06-01 02:25 J -43726117.50 -43726117.40 -43726117.28 0.0148 0.0121

Earth -124429-09-01 16:06 J -43726024.89 -43726024.83 -43726024.76 0.2561 0.2295

Moon -124429-09-01 17:47 J -43726024.82 -43726024.76 -43726024.69 0.2564 0.2317 *

Mars -124427-03-21 17:47 J -43725458.82 -43725458.76 -43725458.71 0.1650 0.1437

Moon -124426-03-16 01:56 J -43725099.49 -43725099.42 -43725099.35 0.2782 0.2038

Earth -124426-03-16 02:39 J -43725099.46 -43725099.39 -43725099.32 0.2780 0.2022 *

Jupiter -124426-07-18 00:44 J -43724975.65 -43724975.47 -43724975.29 0.0499 0.0126

Jupiter -124426-10-16 10:49 J -43724885.12 -43724885.05 -43724884.98 0.0498 0.0458

Mars -124425-02-24 22:20 J -43724753.69 -43724753.57 -43724753.46 0.1648 0.0272

Venus -124425-05-23 00:44 J -43724665.54 -43724665.47 -43724665.41 0.3779 0.2847

Moon -124423-09-13 11:03 J -43723822.11 -43723822.04 -43723821.96 0.2554 0.2244

Earth -124423-09-13 11:18 J -43723822.09 -43723822.03 -43723821.97 0.2561 0.2356 *

Neptune -124421-06-25 04:35 J -43723171.32 -43723171.31 -43723171.27 0.0088 0.0087

Neptune -124421-09-21 06:01 J -43723083.28 -43723083.25 -43723083.19 0.0088 0.0082

Mars -124421-10-30 05:32 J -43723044.35 -43723044.27 -43723044.19 0.1863 0.1608

Neptune -124421-12-18 07:42 J -43722995.24 -43722995.18 -43722995.11 0.0088 0.0078

Neptune -124420-03-16 09:08 J -43722907.19 -43722907.12 -43722907.04 0.0088 0.0073

Neptune -124420-06-12 10:20 J -43722819.14 -43722819.07 -43722818.98 0.0088 0.0069

Jupiter -124420-06-13 14:39 J -43722817.99 -43722817.89 -43722817.80 0.0526 0.0346

Neptune -124420-09-08 11:47 J -43722731.09 -43722731.01 -43722730.91 0.0088 0.0065

Jupiter -124420-09-10 21:08 J -43722728.75 -43722728.62 -43722728.50 0.0527 0.0113

Neptune -124420-12-05 13:27 J -43722643.04 -43722642.94 -43722642.85 0.0088 0.0061

Saturn -124419-03-02 04:06 J -43722556.41 -43722556.33 -43722556.25 0.0303 0.0236

Neptune -124419-03-03 14:39 J -43722554.99 -43722554.89 -43722554.78 0.0088 0.0057

Earth -124419-03-09 00:01 J -43722549.61 -43722549.50 -43722549.39 0.2780 0.0075

Moon -124419-03-09 00:30 J -43722549.59 -43722549.48 -43722549.37 0.2774 0.0033 *

Saturn -124419-05-29 17:47 J -43722467.88 -43722467.76 -43722467.64 0.0303 0.0110

Neptune -124419-05-30 16:06 J -43722466.93 -43722466.83 -43722466.72 0.0088 0.0052

Saturn -124419-08-26 07:13 J -43722379.33 -43722379.20 -43722379.07 0.0303 0.0017

Neptune -124419-08-26 17:18 J -43722378.88 -43722378.78 -43722378.66 0.0088 0.0048

Neptune -124419-11-22 18:44 J -43722290.83 -43722290.72 -43722290.59 0.0088 0.0044

Saturn -124419-11-22 20:39 J -43722290.76 -43722290.64 -43722290.52 0.0303 0.0140 *

Neptune -124418-02-18 20:11 J -43722202.77 -43722202.66 -43722202.53 0.0088 0.0040

Saturn -124418-02-19 09:51 J -43722202.15 -43722202.09 -43722202.02 0.0303 0.0264

Neptune -124418-05-17 21:37 J -43722114.72 -43722114.60 -43722114.47 0.0088 0.0035

Neptune -124418-08-13 23:03 J -43722026.66 -43722026.54 -43722026.41 0.0088 0.0031

Neptune -124418-11-10 00:15 J -43721938.61 -43721938.49 -43721938.35 0.0088 0.0027

Neptune -124417-02-06 01:42 J -43721850.56 -43721850.43 -43721850.30 0.0088 0.0023

Neptune -124417-05-04 03:08 J -43721762.50 -43721762.37 -43721762.24 0.0088 0.0018

Neptune -124417-07-31 04:35 J -43721674.44 -43721674.31 -43721674.18 0.0088 0.0014

Neptune -124417-10-27 05:47 J -43721586.39 -43721586.26 -43721586.12 0.0088 0.0011

Neptune -124416-01-23 07:13 J -43721498.33 -43721498.20 -43721498.06 0.0088 0.0006

Neptune -124416-04-21 08:39 J -43721410.28 -43721410.14 -43721410.01 0.0088 0.0002

Mars -124416-07-17 09:08 J -43721323.23 -43721323.12 -43721323.00 0.1648 0.0150

Neptune -124416-07-18 09:51 J -43721322.22 -43721322.09 -43721321.95 0.0088 0.0003

Earth -124416-09-04 22:35 J -43721273.70 -43721273.56 -43721273.41 0.2560 0.1077

Moon -124416-09-05 00:01 J -43721273.65 -43721273.50 -43721273.36 0.2564 0.1022 *

Neptune -124416-10-14 11:18 J -43721234.16 -43721234.03 -43721233.90 0.0088 0.0007

Neptune -124415-01-10 12:30 J -43721146.11 -43721145.98 -43721145.84 0.0088 0.0012

Neptune -124415-04-08 13:56 J -43721058.05 -43721057.92 -43721057.79 0.0088 0.0015

Neptune -124415-07-05 15:23 J -43720969.99 -43720969.86 -43720969.73 0.0088 0.0019

Neptune -124415-10-01 16:35 J -43720881.93 -43720881.81 -43720881.68 0.0088 0.0023

Neptune -124415-12-28 18:01 J -43720793.88 -43720793.75 -43720793.62 0.0088 0.0027

Neptune -124414-03-26 19:13 J -43720705.82 -43720705.70 -43720705.57 0.0088 0.0032

Jupiter -124414-05-05 20:54 J -43720665.78 -43720665.63 -43720665.48 0.0500 0.0280

Mars -124414-06-22 13:13 J -43720617.99 -43720617.95 -43720617.91 0.1648 0.1534

Neptune -124414-06-22 20:39 J -43720617.76 -43720617.64 -43720617.52 0.0088 0.0036

Jupiter -124414-08-04 06:59 J -43720575.36 -43720575.21 -43720575.07 0.0499 0.0305

Neptune -124414-09-18 21:51 J -43720529.70 -43720529.59 -43720529.46 0.0088 0.0040

Neptune -124414-12-15 23:03 J -43720441.64 -43720441.54 -43720441.41 0.0088 0.0045

Neptune -124413-03-13 00:30 J -43720353.58 -43720353.48 -43720353.36 0.0088 0.0048

Moon -124413-03-17 20:25 J -43720348.66 -43720348.65 -43720348.63 0.2781 0.2735

Earth -124413-03-17 21:08 J -43720348.62 -43720348.62 -43720348.61 0.2779 0.2767

Neptune -124413-06-09 01:56 J -43720265.52 -43720265.42 -43720265.31 0.0088 0.0052

Neptune -124413-09-05 03:08 J -43720177.46 -43720177.37 -43720177.26 0.0088 0.0056

Neptune -124413-12-02 04:35 J -43720089.40 -43720089.31 -43720089.21 0.0088 0.0060

Neptune -124412-02-28 05:47 J -43720001.34 -43720001.26 -43720001.16 0.0088 0.0065

Moon -124412-03-01 21:08 J -43719999.68 -43719999.62 -43719999.55 0.2786 0.2221

Earth -124412-03-01 21:37 J -43719999.67 -43719999.60 -43719999.54 0.2779 0.2154 *

Neptune -124412-05-27 07:13 J -43719913.28 -43719913.20 -43719913.11 0.0088 0.0068

Neptune -124412-08-23 08:39 J -43719825.21 -43719825.14 -43719825.07 0.0088 0.0073

Neptune -124412-11-19 09:51 J -43719737.15 -43719737.09 -43719737.02 0.0088 0.0077

Neptune -124411-02-15 11:18 J -43719649.08 -43719649.03 -43719648.98 0.0088 0.0081

Neptune -124411-05-14 12:15 J -43719561.01 -43719560.99 -43719560.94 0.0088 0.0085

Jupiter -124408-04-01 18:44 J -43718507.78 -43718507.72 -43718507.65 0.0525 0.0457

Jupiter -124408-06-30 01:13 J -43718418.57 -43718418.45 -43718418.32 0.0526 0.0018

Jupiter -124408-09-27 07:27 J -43718329.25 -43718329.19 -43718329.12 0.0527 0.0457

Mars -124407-12-07 20:11 J -43717892.77 -43717892.66 -43717892.55 0.1649 0.0545

Earth -124406-03-11 18:30 J -43717798.84 -43717798.73 -43717798.63 0.2780 0.0668

Moon -124406-03-11 19:13 J -43717798.81 -43717798.70 -43717798.60 0.2777 0.0668 *

Saturn -124405-09-20 19:56 J -43717239.78 -43717239.67 -43717239.55 0.0259 0.0201

Mars -124405-11-12 00:15 J -43717187.57 -43717187.49 -43717187.40 0.1648 0.1137

Saturn -124405-12-18 15:08 J -43717151.04 -43717150.87 -43717150.69 0.0259 0.0093

Saturn -124404-03-17 10:35 J -43717062.24 -43717062.06 -43717061.87 0.0259 0.0017

Saturn -124404-06-14 06:01 J -43716973.40 -43716973.25 -43716973.08 0.0259 0.0127

Saturn -124404-09-11 01:42 J -43716884.49 -43716884.43 -43716884.35 0.0259 0.0238

Earth -124403-09-08 05:03 J -43716522.45 -43716522.29 -43716522.13 0.2560 0.0146

Moon -124403-09-08 06:01 J -43716522.41 -43716522.25 -43716522.09 0.2566 0.0301 *

Jupiter -124402-02-21 18:01 J -43716355.84 -43716355.75 -43716355.65 0.0500 0.0422

Jupiter -124402-05-23 04:06 J -43716265.50 -43716265.33 -43716265.16 0.0499 0.0162

Mars -124400-07-19 16:35 J -43715476.96 -43715476.81 -43715476.66 0.1864 0.0744

Moon -124399-03-04 15:37 J -43715248.94 -43715248.85 -43715248.76 0.2786 0.1491

Earth -124399-03-04 16:06 J -43715248.93 -43715248.83 -43715248.74 0.2780 0.1424 *

Mars -124397-04-29 06:59 J -43714462.31 -43714462.21 -43714462.12 0.1649 0.0962

Jupiter -124396-04-18 05:03 J -43714108.41 -43714108.29 -43714108.16 0.0526 0.0118

Jupiter -124396-07-16 11:18 J -43714019.12 -43714019.03 -43714018.93 0.0527 0.0339

Mars -124395-04-04 11:18 J -43713757.14 -43713757.03 -43713756.93 0.1648 0.0732

Earth -124393-03-13 12:59 J -43713048.05 -43713047.96 -43713047.87 0.2780 0.1410

Moon -124393-03-13 13:42 J -43713048.03 -43713047.93 -43713047.84 0.2776 0.1427 *

Venus -124391-10-30 04:49 J -43712087.31 -43712087.30 -43712087.29 0.3758 0.3721

Mars -124391-12-09 11:18 J -43712047.19 -43712047.03 -43712046.87 0.1864 0.0393

Jupiter -124390-03-11 01:27 J -43711955.62 -43711955.44 -43711955.25 0.0499 0.0022

Saturn -124390-07-20 05:47 J -43711824.32 -43711824.26 -43711824.21 0.0303 0.0272

Earth -124390-09-11 11:32 J -43711771.16 -43711771.02 -43711770.89 0.2560 0.1365

Moon -124390-09-11 11:47 J -43711771.14 -43711771.01 -43711770.88 0.2566 0.1416 *

Saturn -124390-10-16 19:27 J -43711735.81 -43711735.69 -43711735.58 0.0303 0.0146

Saturn -124389-01-13 08:54 J -43711647.26 -43711647.13 -43711647.00 0.0303 0.0021

Uranus -124389-01-14 06:59 J -43711646.26 -43711646.21 -43711646.16 0.0131 0.0121

Saturn -124389-04-10 22:20 J -43711558.69 -43711558.57 -43711558.44 0.0304 0.0105

Uranus -124389-04-11 09:51 J -43711558.16 -43711558.09 -43711558.01 0.0131 0.0106

Saturn -124389-07-08 11:32 J -43711470.10 -43711470.02 -43711469.93 0.0304 0.0229

Uranus -124389-07-08 12:44 J -43711470.06 -43711469.97 -43711469.87 0.0131 0.0091 *

Uranus -124389-10-04 15:37 J -43711381.95 -43711381.85 -43711381.73 0.0131 0.0076

Uranus -124389-12-31 18:44 J -43711293.84 -43711293.72 -43711293.60 0.0131 0.0060

Uranus -124388-03-29 21:37 J -43711205.72 -43711205.60 -43711205.47 0.0131 0.0045

Uranus -124388-06-26 00:30 J -43711117.61 -43711117.48 -43711117.35 0.0131 0.0030

Mars -124388-09-19 17:47 J -43711031.82 -43711031.76 -43711031.70 0.1650 0.1378

Uranus -124388-09-22 03:23 J -43711029.49 -43711029.36 -43711029.22 0.0131 0.0015

Uranus -124388-12-19 06:15 J -43710941.37 -43710941.24 -43710941.10 0.0131 0.0003

Uranus -124387-03-17 09:08 J -43710853.25 -43710853.12 -43710852.98 0.0131 0.0016

Uranus -124387-06-13 12:01 J -43710765.13 -43710765.00 -43710764.87 0.0131 0.0031

Uranus -124387-09-09 14:54 J -43710677.00 -43710676.88 -43710676.75 0.0131 0.0046

Uranus -124387-12-06 17:47 J -43710588.87 -43710588.76 -43710588.64 0.0131 0.0061

Uranus -124386-03-04 20:39 J -43710500.74 -43710500.64 -43710500.53 0.0131 0.0075

Moon -124386-03-07 09:51 J -43710498.19 -43710498.09 -43710497.98 0.2786 0.0677

Earth -124386-03-07 10:20 J -43710498.17 -43710498.07 -43710497.96 0.2780 0.0692 *

Uranus -124386-05-31 23:18 J -43710412.61 -43710412.53 -43710412.42 0.0131 0.0091

Mars -124386-08-25 22:20 J -43710326.69 -43710326.57 -43710326.46 0.1648 0.0329

Uranus -124386-08-28 02:11 J -43710324.47 -43710324.41 -43710324.32 0.0131 0.0106

Uranus -124386-11-24 05:03 J -43710236.33 -43710236.29 -43710236.23 0.0131 0.0121

Venus -124385-05-14 21:08 J -43710063.70 -43710063.62 -43710063.53 0.3764 0.1909

Jupiter -124384-02-04 09:08 J -43709798.24 -43709798.12 -43709798.01 0.0526 0.0232

Jupiter -124384-05-04 15:23 J -43709708.97 -43709708.86 -43709708.74 0.0527 0.0226

Moon -124383-09-02 21:23 J -43709222.69 -43709222.61 -43709222.54 0.2558 0.2263

Earth -124383-09-02 22:49 J -43709222.64 -43709222.55 -43709222.46 0.2561 0.2079 *

Venus -124382-02-16 10:20 J -43709056.22 -43709056.07 -43709055.92 0.3613 0.0834

Mars -124381-04-30 06:01 J -43708617.34 -43708617.25 -43708617.15 0.1863 0.1508

Earth -124380-03-16 07:27 J -43708297.25 -43708297.19 -43708297.12 0.2780 0.2155

Moon -124380-03-16 08:11 J -43708297.22 -43708297.16 -43708297.09 0.2779 0.2271 *

Venus -124380-11-28 13:27 J -43708040.04 -43708039.94 -43708039.83 0.3769 0.0178

Earth -124379-02-28 07:56 J -43707948.18 -43707948.17 -43707948.16 0.2779 0.2755

Moon -124379-02-28 08:11 J -43707948.18 -43707948.16 -43707948.13 0.2772 0.2680 *

Jupiter -124379-12-27 23:03 J -43707645.72 -43707645.54 -43707645.36 0.0499 0.0121

Jupiter -124378-03-28 09:08 J -43707555.18 -43707555.12 -43707555.05 0.0498 0.0464

Moon -124377-09-13 17:47 J -43707019.79 -43707019.76 -43707019.72 0.2567 0.2491

Mars -124376-01-15 09:08 J -43706896.23 -43706896.12 -43706896.00 0.1648 0.0097

Saturn -124375-02-07 19:13 J -43706507.77 -43706507.70 -43706507.62 0.0259 0.0234

Saturn -124375-05-07 14:25 J -43706419.06 -43706418.90 -43706418.74 0.0259 0.0127

Saturn -124375-08-04 09:51 J -43706330.28 -43706330.09 -43706329.91 0.0259 0.0018

Saturn -124375-11-01 05:18 J -43706241.46 -43706241.28 -43706241.11 0.0259 0.0092

Mars -124375-12-21 13:13 J -43706190.98 -43706190.95 -43706190.92 0.1648 0.1587

Saturn -124374-01-29 00:44 J -43706152.58 -43706152.47 -43706152.35 0.0259 0.0203

Venus -124374-06-14 05:47 J -43706016.35 -43706016.26 -43706016.16 0.3775 0.1710

Moon -124373-03-09 04:20 J -43705747.43 -43705747.32 -43705747.21 0.2785 0.0070

Earth -124373-03-09 04:49 J -43705747.40 -43705747.30 -43705747.19 0.2780 0.0120 *

Jupiter -124373-11-23 13:13 J -43705488.05 -43705487.95 -43705487.86 0.0526 0.0346

Jupiter -124372-02-20 19:42 J -43705398.81 -43705398.68 -43705398.56 0.0527 0.0114

Moon -124370-09-06 04:20 J -43704471.47 -43704471.32 -43704471.17 0.2555 0.0933

Earth -124370-09-06 05:18 J -43704471.43 -43704471.28 -43704471.12 0.2560 0.0856 *

Venus -124369-12-27 22:06 J -43703992.61 -43703992.58 -43703992.54 0.3780 0.3501

Mars -124367-06-07 20:11 J -43703465.78 -43703465.66 -43703465.55 0.1649 0.0492

Jupiter -124367-10-15 20:25 J -43703335.81 -43703335.65 -43703335.50 0.0500 0.0263

Jupiter -124366-01-14 06:15 J -43703245.37 -43703245.24 -43703245.09 0.0499 0.0321

Earth -124366-03-03 02:25 J -43703197.47 -43703197.40 -43703197.33 0.2779 0.2025

Moon -124366-03-03 02:39 J -43703197.46 -43703197.39 -43703197.31 0.2772 0.2043 *

Mars -124365-05-13 00:15 J -43702760.57 -43702760.49 -43702760.41 0.1648 0.1188

Jupiter -124361-09-11 17:32 J -43701177.83 -43701177.77 -43701177.71 0.0525 0.0454

Jupiter -124361-12-10 00:01 J -43701088.63 -43701088.50 -43701088.37 0.0526 0.0004

Mars -124360-01-17 17:18 J -43701049.93 -43701049.78 -43701049.64 0.1865 0.0853

Saturn -124360-03-04 19:56 J -43701003.76 -43701003.67 -43701003.56 0.0303 0.0192

Jupiter -124360-03-09 06:15 J -43700999.30 -43700999.24 -43700999.18 0.0527 0.0461

Moon -124360-03-11 22:49 J -43700996.66 -43700996.55 -43700996.45 0.2784 0.0698

Earth -124360-03-11 23:18 J -43700996.63 -43700996.53 -43700996.42 0.2780 0.0809 *

Saturn -124360-06-01 09:51 J -43700915.22 -43700915.09 -43700914.96 0.0303 0.0066

Saturn -124360-08-28 23:18 J -43700826.66 -43700826.53 -43700826.40 0.0303 0.0060

Saturn -124360-11-25 12:30 J -43700738.08 -43700737.98 -43700737.87 0.0303 0.0184

Pluto -124358-07-07 07:56 J -43700149.20 -43700149.17 -43700149.10 0.0061 0.0058

Pluto -124358-10-03 09:08 J -43700061.20 -43700061.12 -43700060.99 0.0061 0.0050

Mars -124358-10-29 06:59 J -43700035.31 -43700035.21 -43700035.11 0.1649 0.0902

Pluto -124358-12-30 10:20 J -43699973.18 -43699973.07 -43699972.91 0.0061 0.0042

Pluto -124357-03-27 12:01 J -43699885.15 -43699885.00 -43699884.84 0.0061 0.0033

Pluto -124357-06-23 13:13 J -43699797.11 -43699796.95 -43699796.77 0.0061 0.0025

Moon -124357-09-08 11:03 J -43699720.20 -43699720.04 -43699719.88 0.2555 0.0416

Earth -124357-09-08 11:47 J -43699720.17 -43699720.01 -43699719.85 0.2560 0.0364 *

Pluto -124357-09-19 14:25 J -43699709.07 -43699708.90 -43699708.71 0.0061 0.0017

Pluto -124357-12-16 15:37 J -43699621.02 -43699620.85 -43699620.65 0.0061 0.0009

Pluto -124356-03-14 17:03 J -43699532.97 -43699532.79 -43699532.60 0.0061 0.0001

Pluto -124356-06-10 18:15 J -43699444.92 -43699444.74 -43699444.55 0.0061 0.0008

Pluto -124356-09-06 19:27 J -43699356.86 -43699356.69 -43699356.50 0.0061 0.0017

Mars -124356-10-03 11:18 J -43699330.13 -43699330.03 -43699329.93 0.1648 0.0788

Pluto -124356-12-03 20:54 J -43699268.80 -43699268.63 -43699268.46 0.0061 0.0025

Pluto -124355-03-01 21:51 J -43699180.73 -43699180.59 -43699180.42 0.0061 0.0034

Pluto -124355-05-28 23:03 J -43699092.66 -43699092.54 -43699092.39 0.0061 0.0042

Jupiter -124355-08-03 16:20 J -43699025.91 -43699025.82 -43699025.72 0.0500 0.0418

Pluto -124355-08-25 00:01 J -43699004.58 -43699004.50 -43699004.36 0.0062 0.0051

Jupiter -124355-11-02 02:25 J -43698935.58 -43698935.40 -43698935.23 0.0499 0.0166

Pluto -124355-11-21 01:27 J -43698916.47 -43698916.44 -43698916.36 0.0062 0.0059

Earth -124353-03-04 20:54 J -43698446.73 -43698446.63 -43698446.54 0.2780 0.1292

Moon -124353-03-04 21:23 J -43698446.71 -43698446.61 -43698446.51 0.2775 0.1306 *

Mars -124351-06-09 12:01 J -43697620.16 -43697620.00 -43697619.84 0.1864 0.0276

Jupiter -124349-09-28 04:20 J -43696778.44 -43696778.32 -43696778.19 0.0526 0.0106

Jupiter -124349-12-26 10:35 J -43696689.15 -43696689.06 -43696688.96 0.0527 0.0351

Mars -124348-03-20 17:47 J -43696604.83 -43696604.76 -43696604.69 0.1650 0.1319

Moon -124347-03-14 17:18 J -43696245.87 -43696245.78 -43696245.69 0.2781 0.1460

Earth -124347-03-14 18:01 J -43696245.84 -43696245.75 -43696245.66 0.2780 0.1547 *

Uranus -124347-07-15 08:25 J -43696123.22 -43696123.15 -43696123.06 0.0148 0.0134

Uranus -124347-10-11 17:03 J -43696034.91 -43696034.79 -43696034.64 0.0148 0.0104

Uranus -124346-01-08 02:11 J -43695946.57 -43695946.41 -43695946.24 0.0148 0.0071

Mars -124346-02-23 22:20 J -43695899.69 -43695899.57 -43695899.46 0.1648 0.0386

Uranus -124346-04-06 11:03 J -43695858.22 -43695858.04 -43695857.85 0.0148 0.0039

Uranus -124346-07-03 19:56 J -43695769.86 -43695769.67 -43695769.47 0.0148 0.0009

Saturn -124346-09-24 14:25 J -43695687.05 -43695686.90 -43695686.76 0.0259 0.0157

Uranus -124346-09-30 04:49 J -43695681.48 -43695681.30 -43695681.10 0.0148 0.0025

Saturn -124346-12-22 09:37 J -43695598.28 -43695598.10 -43695597.92 0.0259 0.0049

Uranus -124346-12-27 13:42 J -43695593.10 -43695592.93 -43695592.74 0.0148 0.0057

Saturn -124345-03-20 05:03 J -43695509.47 -43695509.29 -43695509.11 0.0259 0.0060

Uranus -124345-03-24 22:35 J -43695504.70 -43695504.56 -43695504.39 0.0148 0.0089

Saturn -124345-06-17 00:30 J -43695420.62 -43695420.48 -43695420.34 0.0258 0.0171

Uranus -124345-06-21 07:42 J -43695416.28 -43695416.18 -43695416.06 0.0148 0.0121

Moon -124344-09-11 18:01 J -43694968.87 -43694968.75 -43694968.62 0.2554 0.1604

Earth -124344-09-11 18:01 J -43694968.87 -43694968.75 -43694968.62 0.2560 0.1581 *

Jupiter -124343-08-20 23:47 J -43694625.70 -43694625.51 -43694625.33 0.0500 0.0026

Mars -124342-10-30 06:59 J -43694190.32 -43694190.21 -43694190.10 0.1863 0.1390

Earth -124340-03-07 15:23 J -43693695.97 -43693695.86 -43693695.76 0.2780 0.0559

Moon -124340-03-07 15:51 J -43693695.95 -43693695.84 -43693695.73 0.2775 0.0463 *

Neptune -124337-05-28 01:56 J -43692518.43 -43692518.42 -43692518.38 0.0089 0.0088

Mars -124337-07-16 09:08 J -43692469.23 -43692469.12 -43692469.00 0.1648 0.0055

Jupiter -124337-07-17 08:11 J -43692468.28 -43692468.16 -43692468.04 0.0525 0.0224

Neptune -124337-08-24 05:32 J -43692430.33 -43692430.27 -43692430.19 0.0089 0.0082

Earth -124337-09-03 05:32 J -43692420.38 -43692420.27 -43692420.16 0.2560 0.1862

Moon -124337-09-03 06:44 J -43692420.33 -43692420.22 -43692420.12 0.2565 0.1898 *

Jupiter -124337-10-14 14:25 J -43692379.01 -43692378.90 -43692378.78 0.0526 0.0234

Neptune -124337-11-20 09:08 J -43692342.21 -43692342.12 -43692342.02 0.0089 0.0076

Neptune -124336-02-16 12:30 J -43692254.08 -43692253.98 -43692253.85 0.0089 0.0071

Neptune -124336-05-15 16:06 J -43692165.95 -43692165.83 -43692165.69 0.0089 0.0064

Neptune -124336-08-11 19:42 J -43692077.82 -43692077.68 -43692077.53 0.0089 0.0058

Neptune -124336-11-07 23:18 J -43691989.68 -43691989.53 -43691989.37 0.0089 0.0052

Neptune -124335-02-04 02:39 J -43691901.54 -43691901.39 -43691901.21 0.0089 0.0047

Neptune -124335-05-03 06:15 J -43691813.40 -43691813.24 -43691813.06 0.0089 0.0040

Mars -124335-06-21 13:13 J -43691763.96 -43691763.95 -43691763.95 0.1648 0.1642

Neptune -124335-07-30 09:51 J -43691725.26 -43691725.09 -43691724.90 0.0089 0.0034

Neptune -124335-10-26 13:27 J -43691637.11 -43691636.94 -43691636.75 0.0089 0.0028

Neptune -124334-01-22 17:03 J -43691548.97 -43691548.79 -43691548.59 0.0089 0.0022

Moon -124334-03-17 11:47 J -43691495.07 -43691495.01 -43691494.95 0.2781 0.2304

Earth -124334-03-17 12:30 J -43691495.04 -43691494.98 -43691494.92 0.2779 0.2287 *

Neptune -124334-04-20 20:54 J -43691460.82 -43691460.63 -43691460.44 0.0089 0.0016

Venus -124334-06-06 02:25 J -43691414.46 -43691414.40 -43691414.34 0.3759 0.3047

Neptune -124334-07-18 00:30 J -43691372.67 -43691372.48 -43691372.29 0.0089 0.0009

Neptune -124334-10-14 04:06 J -43691284.52 -43691284.33 -43691284.14 0.0089 0.0003

Neptune -124333-01-10 07:42 J -43691196.37 -43691196.18 -43691195.99 0.0089 0.0003

Moon -124333-02-29 12:30 J -43691146.01 -43691145.98 -43691145.94 0.2785 0.2606

Earth -124333-02-29 12:59 J -43691145.99 -43691145.96 -43691145.93 0.2779 0.2631 *

Neptune -124333-04-07 11:18 J -43691108.22 -43691108.03 -43691107.84 0.0089 0.0009

Neptune -124333-07-04 14:54 J -43691020.07 -43691019.88 -43691019.69 0.0089 0.0015

Neptune -124333-09-30 18:30 J -43690931.91 -43690931.73 -43690931.54 0.0089 0.0022

Neptune -124333-12-27 21:51 J -43690843.76 -43690843.59 -43690843.39 0.0089 0.0029

Neptune -124332-03-26 01:42 J -43690755.60 -43690755.43 -43690755.24 0.0089 0.0034

Neptune -124332-06-22 05:18 J -43690667.44 -43690667.28 -43690667.10 0.0089 0.0040

Neptune -124332-09-18 09:08 J -43690579.28 -43690579.12 -43690578.95 0.0089 0.0046

Neptune -124332-12-15 12:30 J -43690491.12 -43690490.98 -43690490.81 0.0089 0.0053

Venus -124331-03-09 04:35 J -43690407.43 -43690407.31 -43690407.19 0.3619 0.2159

Neptune -124331-03-13 16:06 J -43690402.96 -43690402.83 -43690402.67 0.0089 0.0059

Jupiter -124331-06-08 21:23 J -43690315.79 -43690315.61 -43690315.43 0.0500 0.0118

Neptune -124331-06-09 19:56 J -43690314.79 -43690314.67 -43690314.53 0.0089 0.0065

Saturn -124331-07-22 21:08 J -43690271.70 -43690271.62 -43690271.53 0.0303 0.0233

Neptune -124331-09-05 23:47 J -43690226.62 -43690226.51 -43690226.39 0.0089 0.0071

Jupiter -124331-09-07 07:42 J -43690225.24 -43690225.18 -43690225.12 0.0499 0.0469

Saturn -124331-10-19 10:49 J -43690183.17 -43690183.05 -43690182.92 0.0304 0.0106

Neptune -124331-12-03 02:54 J -43690138.45 -43690138.38 -43690138.26 0.0089 0.0079

Saturn -124330-01-16 00:30 J -43690094.62 -43690094.48 -43690094.35 0.0304 0.0021

Neptune -124330-03-01 06:44 J -43690050.26 -43690050.22 -43690050.14 0.0089 0.0084

Saturn -124330-04-14 13:56 J -43690006.04 -43690005.92 -43690005.81 0.0304 0.0144

Saturn -124330-07-12 03:08 J -43689917.43 -43689917.37 -43689917.31 0.0304 0.0267

Venus -124329-12-19 18:44 J -43689390.81 -43689390.72 -43689390.62 0.3765 0.1248

Mars -124328-12-06 20:11 J -43689038.78 -43689038.66 -43689038.55 0.1649 0.0437

Earth -124327-03-10 09:51 J -43688945.20 -43688945.09 -43688944.99 0.2780 0.0205

Moon -124327-03-10 10:20 J -43688945.17 -43688945.07 -43688944.96 0.2778 0.0311 *

Venus -124326-09-23 12:01 J -43688383.11 -43688383.00 -43688382.89 0.3611 0.2404

Mars -124326-11-12 00:15 J -43688333.57 -43688333.49 -43688333.42 0.1648 0.1243

Jupiter -124325-05-05 12:15 J -43688158.09 -43688157.99 -43688157.89 0.0525 0.0338

Jupiter -124325-08-02 18:30 J -43688068.85 -43688068.73 -43688068.60 0.0526 0.0121

Earth -124324-09-06 12:01 J -43687669.16 -43687669.00 -43687668.85 0.2560 0.0644

Moon -124324-09-06 12:44 J -43687669.12 -43687668.97 -43687668.81 0.2566 0.0621 *

Venus -124323-07-05 11:18 J -43687367.14 -43687367.03 -43687366.93 0.3771 0.0582

Mars -124321-07-18 18:01 J -43686622.89 -43686622.75 -43686622.61 0.1864 0.0967

Moon -124320-03-03 06:59 J -43686395.29 -43686395.21 -43686395.14 0.2785 0.1973

Earth -124320-03-03 07:27 J -43686395.27 -43686395.19 -43686395.12 0.2779 0.1901 *

Jupiter -124319-03-27 18:59 J -43686005.87 -43686005.71 -43686005.55 0.0500 0.0256

Jupiter -124319-06-26 05:03 J -43685915.43 -43685915.29 -43685915.15 0.0499 0.0329

Mars -124318-04-29 06:59 J -43685608.31 -43685608.21 -43685608.11 0.1649 0.0847

Venus -124317-01-19 03:37 J -43685343.43 -43685343.35 -43685343.27 0.3776 0.2371

Saturn -124316-02-10 12:59 J -43684955.07 -43684954.96 -43684954.83 0.0259 0.0193

Mars -124316-04-03 11:18 J -43684903.13 -43684903.03 -43684902.93 0.1648 0.0843

Saturn -124316-05-10 08:25 J -43684866.32 -43684866.15 -43684865.97 0.0259 0.0085

Saturn -124316-08-07 03:51 J -43684777.53 -43684777.34 -43684777.16 0.0259 0.0025

Saturn -124316-11-03 23:18 J -43684688.69 -43684688.53 -43684688.37 0.0259 0.0134

Saturn -124315-01-31 18:44 J -43684599.77 -43684599.72 -43684599.65 0.0258 0.0244

Earth -124314-03-13 04:20 J -43684194.42 -43684194.32 -43684194.22 0.2780 0.0932

Moon -124314-03-13 05:03 J -43684194.40 -43684194.29 -43684194.19 0.2778 0.0924 *

Jupiter -124313-02-22 16:20 J -43683847.89 -43683847.82 -43683847.76 0.0525 0.0451

Jupiter -124313-05-21 22:49 J -43683758.68 -43683758.55 -43683758.42 0.0527 0.0009

Jupiter -124313-08-19 05:03 J -43683669.35 -43683669.29 -43683669.23 0.0527 0.0465

Mars -124312-12-08 12:30 J -43683193.14 -43683192.98 -43683192.81 0.1864 0.0179

Earth -124311-09-09 18:30 J -43682917.89 -43682917.73 -43682917.58 0.2560 0.0585

Moon -124311-09-09 18:30 J -43682917.88 -43682917.73 -43682917.58 0.2566 0.0676 *

Mars -124309-09-18 17:47 J -43682177.84 -43682177.76 -43682177.69 0.1650 0.1260

Jupiter -124307-01-13 16:20 J -43681695.92 -43681695.82 -43681695.70 0.0500 0.0397

Moon -124307-03-06 01:13 J -43681644.55 -43681644.45 -43681644.36 0.2785 0.1265

Earth -124307-03-06 01:42 J -43681644.52 -43681644.43 -43681644.33 0.2780 0.1165 *

Jupiter -124307-04-14 02:25 J -43681605.57 -43681605.40 -43681605.23 0.0499 0.0186

Mars -124307-08-24 22:20 J -43681472.69 -43681472.57 -43681472.46 0.1648 0.0441

Uranus -124305-02-03 13:42 J -43680944.98 -43680944.93 -43680944.87 0.0131 0.0119

Uranus -124305-05-01 16:35 J -43680856.88 -43680856.81 -43680856.72 0.0131 0.0104

Uranus -124305-07-28 19:27 J -43680768.78 -43680768.69 -43680768.58 0.0131 0.0089

Uranus -124305-10-24 22:20 J -43680680.67 -43680680.57 -43680680.45 0.0131 0.0074

Uranus -124304-01-21 01:27 J -43680592.56 -43680592.44 -43680592.32 0.0131 0.0058

Uranus -124304-04-19 04:20 J -43680504.44 -43680504.32 -43680504.19 0.0131 0.0043

Uranus -124304-07-16 07:13 J -43680416.33 -43680416.20 -43680416.07 0.0131 0.0028

Uranus -124304-10-12 10:06 J -43680328.21 -43680328.08 -43680327.94 0.0131 0.0013

Uranus -124303-01-08 13:13 J -43680240.09 -43680239.95 -43680239.82 0.0131 0.0004

Uranus -124303-04-06 16:06 J -43680151.97 -43680151.83 -43680151.70 0.0131 0.0018

Uranus -124303-07-03 18:59 J -43680063.84 -43680063.71 -43680063.58 0.0131 0.0033

Uranus -124303-09-29 21:37 J -43679975.72 -43679975.60 -43679975.47 0.0131 0.0048

Uranus -124303-12-27 00:30 J -43679887.59 -43679887.48 -43679887.36 0.0131 0.0063

Uranus -124302-03-25 03:23 J -43679799.46 -43679799.36 -43679799.25 0.0131 0.0078

Mars -124302-04-30 07:42 J -43679763.30 -43679763.18 -43679763.06 0.1863 0.1282

Uranus -124302-06-21 06:15 J -43679711.32 -43679711.24 -43679711.14 0.0131 0.0093

Uranus -124302-09-17 09:08 J -43679623.18 -43679623.12 -43679623.04 0.0131 0.0108

Saturn -124302-12-09 21:23 J -43679539.65 -43679539.61 -43679539.56 0.0303 0.0282

Uranus -124302-12-14 12:01 J -43679535.03 -43679535.00 -43679534.95 0.0131 0.0123

Saturn -124301-03-07 11:03 J -43679451.15 -43679451.04 -43679450.92 0.0303 0.0156

Jupiter -124301-03-10 03:23 J -43679448.49 -43679448.36 -43679448.24 0.0526 0.0101

Earth -124301-03-14 22:49 J -43679443.64 -43679443.55 -43679443.46 0.2780 0.1675

Moon -124301-03-14 23:32 J -43679443.60 -43679443.52 -43679443.43 0.2780 0.1687 *

Saturn -124301-06-04 00:44 J -43679362.60 -43679362.47 -43679362.34 0.0303 0.0031

Jupiter -124301-06-07 09:37 J -43679359.19 -43679359.10 -43679359.01 0.0527 0.0358

Saturn -124301-08-31 14:11 J -43679274.04 -43679273.91 -43679273.78 0.0303 0.0094

Saturn -124301-11-28 03:23 J -43679185.44 -43679185.36 -43679185.26 0.0304 0.0219

Moon -124298-09-13 00:30 J -43678166.59 -43678166.48 -43678166.37 0.2566 0.1827

Earth -124298-09-13 00:44 J -43678166.58 -43678166.47 -43678166.36 0.2560 0.1797 *

Mars -124297-01-15 09:08 J -43678042.24 -43678042.12 -43678042.00 0.1648 0.0050

Jupiter -124295-01-30 22:20 J -43677295.75 -43677295.57 -43677295.39 0.0500 0.0030

Moon -124294-03-08 19:42 J -43676893.79 -43676893.68 -43676893.58 0.2783 0.0444

Earth -124294-03-08 20:11 J -43676893.77 -43676893.66 -43676893.55 0.2780 0.0428 *

Moon -124291-09-04 11:18 J -43675618.15 -43675618.03 -43675617.91 0.2555 0.1785

Earth -124291-09-04 12:01 J -43675618.12 -43675618.00 -43675617.87 0.2560 0.1652 *

Jupiter -124290-12-28 07:42 J -43675138.30 -43675138.18 -43675138.06 0.0526 0.0208

Jupiter -124289-03-26 13:56 J -43675049.03 -43675048.92 -43675048.80 0.0527 0.0250

Earth -124288-03-17 17:18 J -43674692.83 -43674692.78 -43674692.73 0.2780 0.2420

Moon -124288-03-17 18:01 J -43674692.79 -43674692.75 -43674692.71 0.2780 0.2531 *

Mars -124288-06-06 20:11 J -43674611.78 -43674611.66 -43674611.55 0.1649 0.0376

Earth -124287-03-01 17:47 J -43674343.80 -43674343.76 -43674343.72 0.2779 0.2506

Moon -124287-03-01 18:15 J -43674343.79 -43674343.74 -43674343.69 0.2772 0.2410 *

Saturn -124287-06-30 12:44 J -43674223.06 -43674222.97 -43674222.88 0.0259 0.0225

Saturn -124287-09-27 07:42 J -43674134.34 -43674134.18 -43674134.01 0.0259 0.0118

Saturn -124287-12-25 03:08 J -43674045.56 -43674045.37 -43674045.19 0.0259 0.0009

Saturn -124286-03-23 22:20 J -43673956.73 -43673956.57 -43673956.39 0.0258 0.0101

Mars -124286-05-13 00:15 J -43673906.56 -43673906.49 -43673906.42 0.1648 0.1299

Saturn -124286-06-20 18:01 J -43673867.85 -43673867.75 -43673867.64 0.0258 0.0210

Jupiter -124284-11-18 19:42 J -43672985.86 -43672985.68 -43672985.50 0.0500 0.0112

Jupiter -124283-02-17 06:01 J -43672895.30 -43672895.25 -43672895.20 0.0499 0.0475

Mars -124281-01-17 18:59 J -43672195.85 -43672195.71 -43672195.58 0.1864 0.1082

Moon -124281-03-10 13:56 J -43672143.03 -43672142.92 -43672142.81 0.2783 0.0311

Earth -124281-03-10 14:39 J -43672143.00 -43672142.89 -43672142.78 0.2780 0.0317 *

Mars -124279-10-28 06:59 J -43671181.31 -43671181.21 -43671181.11 0.1649 0.0788

Moon -124278-09-07 18:15 J -43670866.90 -43670866.74 -43670866.58 0.2555 0.0474

Earth -124278-09-07 18:44 J -43670866.88 -43670866.72 -43670866.56 0.2560 0.0426 *

Jupiter -124278-10-16 11:32 J -43670828.12 -43670828.02 -43670827.92 0.0525 0.0325

Venus -124277-01-11 00:01 J -43670741.58 -43670741.50 -43670741.42 0.3761 0.2375

Jupiter -124277-01-13 18:01 J -43670738.88 -43670738.75 -43670738.63 0.0526 0.0133

Mars -124277-10-02 11:18 J -43670476.13 -43670476.03 -43670475.93 0.1648 0.0900

Venus -124275-10-14 06:15 J -43669734.39 -43669734.24 -43669734.09 0.3617 0.0599

Earth -124274-03-04 12:15 J -43669593.07 -43669592.99 -43669592.91 0.2780 0.1774

Moon -124274-03-04 12:44 J -43669593.05 -43669592.97 -43669592.88 0.2776 0.1755 *

Mars -124272-06-08 13:27 J -43668766.11 -43668765.94 -43668765.78 0.1864 0.0068

Saturn -124272-07-25 12:01 J -43668719.10 -43668719.00 -43668718.90 0.0303 0.0199

Venus -124272-07-26 16:35 J -43668717.91 -43668717.81 -43668717.71 0.3766 0.0572

Jupiter -124272-09-06 17:18 J -43668675.93 -43668675.78 -43668675.61 0.0500 0.0251

Saturn -124272-10-22 01:42 J -43668630.56 -43668630.43 -43668630.30 0.0304 0.0073

Jupiter -124272-12-06 03:37 J -43668585.49 -43668585.35 -43668585.21 0.0499 0.0336

Saturn -124271-01-18 15:08 J -43668542.00 -43668541.87 -43668541.74 0.0304 0.0053

Saturn -124271-04-17 04:35 J -43668453.42 -43668453.31 -43668453.20 0.0304 0.0177

Saturn -124271-07-14 17:47 J -43668364.77 -43668364.76 -43668364.74 0.0304 0.0300

Mars -124269-03-19 17:47 J -43667750.84 -43667750.76 -43667750.68 0.1650 0.1206

Moon -124268-03-13 08:25 J -43667392.25 -43667392.15 -43667392.05 0.2780 0.0963

Earth -124268-03-13 09:08 J -43667392.22 -43667392.12 -43667392.02 0.2780 0.1062 *

Mars -124267-02-22 22:06 J -43667045.69 -43667045.58 -43667045.46 0.1648 0.0498

Venus -124266-02-09 08:54 J -43666694.23 -43666694.13 -43666694.03 0.3772 0.1243

Jupiter -124266-08-04 15:37 J -43666517.92 -43666517.85 -43666517.78 0.0525 0.0439

Jupiter -124266-11-01 22:06 J -43666428.71 -43666428.58 -43666428.46 0.0526 0.0023

Jupiter -124265-01-30 04:06 J -43666339.38 -43666339.33 -43666339.27 0.0527 0.0475

Pluto -124265-05-04 19:56 J -43666243.75 -43666243.67 -43666243.59 0.0084 0.0069

Pluto -124265-07-31 21:23 J -43666155.72 -43666155.61 -43666155.50 0.0084 0.0052

Moon -124265-09-10 01:13 J -43666115.61 -43666115.45 -43666115.30 0.2553 0.0898

Earth -124265-09-10 00:59 J -43666115.61 -43666115.46 -43666115.31 0.2560 0.0800 *

Pluto -124265-10-27 22:35 J -43666067.68 -43666067.56 -43666067.43 0.0084 0.0036

Pluto -124264-01-24 00:01 J -43665979.63 -43665979.50 -43665979.36 0.0084 0.0020

Pluto -124264-04-22 01:27 J -43665891.58 -43665891.44 -43665891.30 0.0084 0.0004

Pluto -124264-07-19 02:54 J -43665803.52 -43665803.38 -43665803.24 0.0084 0.0012

Pluto -124264-10-15 04:06 J -43665715.45 -43665715.33 -43665715.19 0.0083 0.0028

Pluto -124263-01-11 05:18 J -43665627.38 -43665627.28 -43665627.15 0.0083 0.0045

Pluto -124263-04-09 06:59 J -43665539.30 -43665539.21 -43665539.11 0.0083 0.0060

Pluto -124263-07-06 08:11 J -43665451.21 -43665451.16 -43665451.09 0.0083 0.0076

Uranus -124263-08-04 14:25 J -43665421.98 -43665421.90 -43665421.82 0.0148 0.0132

Mars -124263-10-29 08:25 J -43665336.28 -43665336.15 -43665336.02 0.1863 0.1173

Uranus -124263-10-31 23:03 J -43665333.67 -43665333.54 -43665333.39 0.0148 0.0101

Uranus -124262-01-28 07:56 J -43665245.33 -43665245.17 -43665244.99 0.0148 0.0070

Uranus -124262-04-26 16:49 J -43665156.98 -43665156.80 -43665156.61 0.0148 0.0038

Uranus -124262-07-24 01:56 J -43665068.61 -43665068.42 -43665068.23 0.0148 0.0006

Uranus -124262-10-20 10:49 J -43664980.24 -43664980.05 -43664979.86 0.0148 0.0026

Uranus -124261-01-16 19:42 J -43664891.85 -43664891.68 -43664891.50 0.0148 0.0058

Earth -124261-03-06 06:44 J -43664842.32 -43664842.22 -43664842.12 0.2780 0.1037

Moon -124261-03-06 07:13 J -43664842.30 -43664842.20 -43664842.10 0.2776 0.1043 *

Uranus -124261-04-14 04:49 J -43664803.45 -43664803.30 -43664803.15 0.0148 0.0090

Uranus -124261-07-11 13:42 J -43664715.03 -43664714.93 -43664714.82 0.0148 0.0122

Venus -124261-08-25 01:13 J -43664670.51 -43664670.45 -43664670.39 0.3777 0.3037

Jupiter -124260-06-25 15:08 J -43664365.97 -43664365.87 -43664365.75 0.0500 0.0388

Mars -124260-08-10 04:20 J -43664320.33 -43664320.32 -43664320.30 0.1651 0.1624

Jupiter -124260-09-24 01:13 J -43664275.62 -43664275.45 -43664275.28 0.0499 0.0197

Mars -124258-07-16 09:08 J -43663615.24 -43663615.12 -43663615.00 0.1648 0.0095

Saturn -124257-02-14 06:15 J -43663402.38 -43663402.24 -43663402.08 0.0259 0.0155

Saturn -124257-05-13 01:42 J -43663313.61 -43663313.43 -43663313.25 0.0259 0.0047

Saturn -124257-08-09 20:54 J -43663224.81 -43663224.63 -43663224.44 0.0258 0.0062

Saturn -124257-11-06 16:35 J -43663135.95 -43663135.81 -43663135.67 0.0258 0.0172

Neptune -124257-12-24 03:23 J -43663088.37 -43663088.36 -43663088.34 0.0088 0.0088

Neptune -124256-03-22 04:49 J -43663000.34 -43663000.30 -43663000.25 0.0088 0.0083

Neptune -124256-06-18 06:01 J -43662912.29 -43662912.25 -43662912.18 0.0088 0.0080

Neptune -124256-09-14 07:27 J -43662824.25 -43662824.19 -43662824.11 0.0088 0.0075

Neptune -124256-12-11 09:08 J -43662736.20 -43662736.12 -43662736.04 0.0088 0.0071

Neptune -124255-03-09 10:20 J -43662648.15 -43662648.07 -43662647.97 0.0088 0.0067

Moon -124255-03-16 02:54 J -43662641.46 -43662641.38 -43662641.29 0.2780 0.1720

Earth -124255-03-16 03:37 J -43662641.43 -43662641.35 -43662641.27 0.2780 0.1809 *

Neptune -124255-06-05 11:47 J -43662560.10 -43662560.01 -43662559.91 0.0088 0.0062

Neptune -124255-09-01 12:59 J -43662472.05 -43662471.96 -43662471.84 0.0088 0.0059

Neptune -124255-11-28 14:25 J -43662383.99 -43662383.90 -43662383.78 0.0088 0.0054

Neptune -124254-02-24 16:06 J -43662295.94 -43662295.83 -43662295.72 0.0088 0.0050

Neptune -124254-05-23 17:18 J -43662207.89 -43662207.78 -43662207.66 0.0088 0.0046

Neptune -124254-08-19 18:44 J -43662119.83 -43662119.72 -43662119.60 0.0088 0.0041

Jupiter -124254-08-21 02:11 J -43662118.54 -43662118.41 -43662118.28 0.0526 0.0094

Neptune -124254-11-15 20:11 J -43662031.78 -43662031.66 -43662031.53 0.0088 0.0037

Jupiter -124254-11-18 08:25 J -43662029.24 -43662029.15 -43662029.06 0.0527 0.0364

Neptune -124253-02-11 21:37 J -43661943.72 -43661943.60 -43661943.47 0.0088 0.0033

Neptune -124253-05-09 23:03 J -43661855.67 -43661855.54 -43661855.41 0.0088 0.0028

Neptune -124253-08-06 00:15 J -43661767.61 -43661767.49 -43661767.36 0.0088 0.0024

Neptune -124253-11-02 01:42 J -43661679.56 -43661679.43 -43661679.30 0.0088 0.0020

Neptune -124252-01-29 03:08 J -43661591.50 -43661591.37 -43661591.24 0.0088 0.0016

Neptune -124252-04-27 04:20 J -43661503.45 -43661503.32 -43661503.18 0.0088 0.0012

Neptune -124252-07-24 05:47 J -43661415.39 -43661415.26 -43661415.12 0.0088 0.0008

Earth -124252-09-13 07:13 J -43661364.29 -43661364.20 -43661364.10 0.2560 0.2012

Moon -124252-09-13 08:11 J -43661364.26 -43661364.16 -43661364.07 0.2555 0.2099 *

Neptune -124252-10-20 07:13 J -43661327.33 -43661327.20 -43661327.07 0.0088 0.0003

Neptune -124251-01-16 08:39 J -43661239.28 -43661239.14 -43661239.01 0.0088 0.0002

Neptune -124251-04-14 09:51 J -43661151.22 -43661151.09 -43661150.95 0.0088 0.0005

Neptune -124251-07-11 11:18 J -43661063.16 -43661063.03 -43661062.90 0.0088 0.0009

Neptune -124251-10-07 12:30 J -43660975.11 -43660974.98 -43660974.84 0.0088 0.0014

Neptune -124250-01-03 13:56 J -43660887.05 -43660886.92 -43660886.79 0.0088 0.0018

Neptune -124250-04-01 15:08 J -43660798.99 -43660798.87 -43660798.73 0.0088 0.0022

Neptune -124250-06-28 16:35 J -43660710.93 -43660710.81 -43660710.68 0.0088 0.0026

Neptune -124250-09-24 17:47 J -43660622.88 -43660622.76 -43660622.63 0.0088 0.0031

Neptune -124250-12-21 19:13 J -43660534.82 -43660534.70 -43660534.57 0.0088 0.0034

Neptune -124249-03-18 20:39 J -43660446.76 -43660446.64 -43660446.52 0.0088 0.0038

Neptune -124249-06-14 21:51 J -43660358.70 -43660358.59 -43660358.47 0.0088 0.0043

Neptune -124249-09-10 23:18 J -43660270.64 -43660270.53 -43660270.42 0.0088 0.0047

Mars -124249-12-05 20:11 J -43660184.78 -43660184.66 -43660184.55 0.1649 0.0321

Neptune -124249-12-08 00:44 J -43660182.58 -43660182.47 -43660182.37 0.0088 0.0051

Neptune -124248-03-06 01:56 J -43660094.52 -43660094.42 -43660094.32 0.0088 0.0055

Earth -124248-03-09 00:59 J -43660091.56 -43660091.46 -43660091.35 0.2780 0.0320

Moon -124248-03-09 01:56 J -43660091.53 -43660091.42 -43660091.32 0.2779 0.0226 *

Neptune -124248-06-02 03:08 J -43660006.46 -43660006.37 -43660006.26 0.0088 0.0059

Jupiter -124248-07-12 22:49 J -43659965.74 -43659965.55 -43659965.37 0.0499 0.0056

Neptune -124248-08-29 04:20 J -43659918.40 -43659918.32 -43659918.22 0.0088 0.0063

Neptune -124248-11-25 05:47 J -43659830.34 -43659830.26 -43659830.17 0.0088 0.0067

Neptune -124247-02-21 06:59 J -43659742.27 -43659742.21 -43659742.12 0.0088 0.0071

Neptune -124247-05-20 08:25 J -43659654.21 -43659654.15 -43659654.08 0.0088 0.0075

Neptune -124247-08-16 09:37 J -43659566.14 -43659566.10 -43659566.03 0.0088 0.0080

Mars -124247-11-11 00:15 J -43659479.56 -43659479.49 -43659479.43 0.1648 0.1353

Neptune -124247-11-12 11:03 J -43659478.07 -43659478.04 -43659477.99 0.0088 0.0083

Neptune -124246-02-08 12:15 J -43659389.99 -43659389.99 -43659389.96 0.0088 0.0088

Earth -124245-09-04 18:44 J -43658815.85 -43658815.72 -43658815.59 0.2560 0.1434

Moon -124245-09-04 19:27 J -43658815.82 -43658815.69 -43658815.56 0.2566 0.1498 *

Saturn -124243-12-12 11:47 J -43657987.08 -43657987.01 -43657986.93 0.0303 0.0251

Saturn -124242-03-11 01:27 J -43657898.56 -43657898.44 -43657898.31 0.0303 0.0126

Moon -124242-03-18 21:37 J -43657890.64 -43657890.60 -43657890.56 0.2776 0.2556

Earth -124242-03-18 22:20 J -43657890.61 -43657890.57 -43657890.53 0.2780 0.2554 *

Saturn -124242-06-07 15:08 J -43657810.00 -43657809.87 -43657809.74 0.0303 0.0002

Jupiter -124242-06-09 06:44 J -43657808.34 -43657808.22 -43657808.10 0.0526 0.0200

Mars -124242-07-18 19:42 J -43657768.81 -43657768.68 -43657768.56 0.1865 0.1190

Saturn -124242-09-04 04:35 J -43657721.43 -43657721.31 -43657721.19 0.0303 0.0125

Jupiter -124242-09-06 12:59 J -43657719.07 -43657718.96 -43657718.85 0.0527 0.0258

Saturn -124242-12-01 18:01 J -43657632.83 -43657632.75 -43657632.68 0.0304 0.0248

Moon -124241-03-01 22:06 J -43657541.63 -43657541.58 -43657541.52 0.2783 0.2365

Earth -124241-03-01 22:35 J -43657541.61 -43657541.56 -43657541.50 0.2779 0.2382 *

Mars -124239-04-28 06:59 J -43656754.32 -43656754.21 -43656754.10 0.1649 0.0730

Mars -124237-04-02 11:18 J -43656049.13 -43656049.03 -43656048.94 0.1648 0.0954

Jupiter -124236-04-30 18:30 J -43655655.90 -43655655.73 -43655655.54 0.0500 0.0103

Jupiter -124236-07-30 04:49 J -43655565.33 -43655565.30 -43655565.26 0.0499 0.0486

Earth -124235-03-11 19:27 J -43655340.79 -43655340.69 -43655340.58 0.2781 0.0464

Moon -124235-03-11 20:11 J -43655340.76 -43655340.66 -43655340.55 0.2780 0.0555 *

Mars -124233-12-07 14:25 J -43654339.07 -43654338.90 -43654338.74 0.1864 0.0062

Moon -124232-09-08 00:59 J -43654064.61 -43654064.46 -43654064.30 0.2566 0.0276

Earth -124232-09-08 01:13 J -43654064.61 -43654064.45 -43654064.29 0.2560 0.0207 *

Jupiter -124230-03-28 11:18 J -43653498.14 -43653498.03 -43653497.93 0.0525 0.0308

Jupiter -124230-06-25 17:32 J -43653408.89 -43653408.77 -43653408.65 0.0526 0.0150

Mars -124230-09-18 17:47 J -43653323.85 -43653323.76 -43653323.68 0.1650 0.1146

Moon -124228-03-04 16:20 J -43652790.90 -43652790.82 -43652790.73 0.2783 0.1735

Earth -124228-03-04 17:03 J -43652790.87 -43652790.79 -43652790.70 0.2780 0.1645 *

Saturn -124228-07-03 05:32 J -43652670.39 -43652670.27 -43652670.14 0.0259 0.0189

Mars -124228-08-23 22:20 J -43652618.68 -43652618.57 -43652618.46 0.1648 0.0553

Saturn -124228-09-30 00:44 J -43652581.65 -43652581.47 -43652581.30 0.0259 0.0082

Saturn -124228-12-27 19:56 J -43652492.85 -43652492.67 -43652492.48 0.0258 0.0027

Saturn -124227-03-26 15:23 J -43652404.01 -43652403.86 -43652403.70 0.0258 0.0136

Saturn -124227-06-23 10:49 J -43652315.09 -43652315.05 -43652314.98 0.0258 0.0246

Venus -124226-02-01 05:18 J -43652092.31 -43652092.28 -43652092.24 0.3756 0.3505

Jupiter -124224-02-16 16:06 J -43651345.99 -43651345.83 -43651345.67 0.0500 0.0243

Jupiter -124224-05-18 02:11 J -43651255.54 -43651255.41 -43651255.28 0.0499 0.0344

Venus -124224-11-04 00:30 J -43651085.50 -43651085.48 -43651085.46 0.3623 0.3579

Mars -124223-04-29 09:08 J -43650909.26 -43650909.12 -43650908.99 0.1863 0.1069

Earth -124222-03-14 14:11 J -43650590.01 -43650589.91 -43650589.82 0.2780 0.1198

Moon -124222-03-14 14:54 J -43650589.98 -43650589.88 -43650589.79 0.2782 0.1198 *

Uranus -124221-02-23 20:25 J -43650243.70 -43650243.65 -43650243.58 0.0131 0.0117

Uranus -124221-05-21 23:32 J -43650155.60 -43650155.52 -43650155.44 0.0131 0.0101

Venus -124221-08-16 21:51 J -43650068.69 -43650068.59 -43650068.50 0.3762 0.1701

Uranus -124221-08-18 02:25 J -43650067.50 -43650067.40 -43650067.30 0.0131 0.0086

Uranus -124221-11-14 05:18 J -43649979.39 -43649979.28 -43649979.16 0.0131 0.0071

Mars -124220-02-08 04:20 J -43649893.35 -43649893.32 -43649893.28 0.1651 0.1566

Uranus -124220-02-10 08:11 J -43649891.27 -43649891.16 -43649891.03 0.0131 0.0056

Uranus -124220-05-09 11:18 J -43649803.16 -43649803.03 -43649802.90 0.0131 0.0040

Uranus -124220-08-05 14:11 J -43649715.04 -43649714.91 -43649714.78 0.0131 0.0025

Uranus -124220-11-01 17:03 J -43649626.92 -43649626.79 -43649626.66 0.0131 0.0010

Uranus -124219-01-28 19:56 J -43649538.80 -43649538.67 -43649538.53 0.0131 0.0006

Uranus -124219-04-26 22:49 J -43649450.68 -43649450.55 -43649450.41 0.0131 0.0021

Uranus -124219-07-24 01:42 J -43649362.55 -43649362.43 -43649362.30 0.0131 0.0036

Moon -124219-09-11 07:13 J -43649313.34 -43649313.20 -43649313.06 0.2566 0.1083

Earth -124219-09-11 07:42 J -43649313.33 -43649313.18 -43649313.03 0.2560 0.1016 *

Uranus -124219-10-20 04:35 J -43649274.43 -43649274.31 -43649274.18 0.0131 0.0051

Mars -124218-01-14 09:08 J -43649188.24 -43649188.12 -43649188.00 0.1648 0.0148

Jupiter -124218-01-14 14:54 J -43649187.95 -43649187.88 -43649187.80 0.0525 0.0425

Uranus -124218-01-16 07:27 J -43649186.30 -43649186.19 -43649186.07 0.0131 0.0066

Jupiter -124218-04-13 21:37 J -43649098.73 -43649098.60 -43649098.48 0.0526 0.0038

Uranus -124218-04-14 10:20 J -43649098.17 -43649098.07 -43649097.96 0.0131 0.0081

Venus -124218-05-21 07:42 J -43649061.33 -43649061.18 -43649061.03 0.3615 0.0919

Uranus -124218-07-11 13:13 J -43649010.03 -43649009.95 -43649009.85 0.0131 0.0096

Jupiter -124218-07-12 03:37 J -43649009.39 -43649009.35 -43649009.30 0.0527 0.0489

Uranus -124218-10-07 16:06 J -43648921.89 -43648921.83 -43648921.75 0.0131 0.0111

Uranus -124217-01-03 18:59 J -43648833.74 -43648833.71 -43648833.67 0.0131 0.0126

Venus -124215-03-02 14:11 J -43648045.01 -43648044.91 -43648044.81 0.3768 0.0110

Moon -124215-03-07 10:49 J -43648040.15 -43648040.05 -43648039.95 0.2781 0.1017

Earth -124215-03-07 11:32 J -43648040.12 -43648040.02 -43648039.92 0.2780 0.0905 *

Saturn -124213-04-30 12:15 J -43647255.01 -43647254.99 -43647254.96 0.0303 0.0297

Saturn -124213-07-28 02:11 J -43647166.52 -43647166.41 -43647166.30 0.0303 0.0171

Saturn -124213-10-24 15:51 J -43647077.97 -43647077.84 -43647077.71 0.0304 0.0045

Jupiter -124213-12-05 13:56 J -43647036.04 -43647035.92 -43647035.80 0.0500 0.0381

Saturn -124212-01-21 05:18 J -43646989.41 -43646989.28 -43646989.15 0.0304 0.0081

Jupiter -124212-03-06 00:01 J -43646945.67 -43646945.50 -43646945.34 0.0500 0.0205

Saturn -124212-04-19 18:30 J -43646900.82 -43646900.73 -43646900.63 0.0304 0.0205

Moon -124212-09-02 18:15 J -43646764.79 -43646764.74 -43646764.69 0.2554 0.2429

Earth -124212-09-02 18:59 J -43646764.76 -43646764.71 -43646764.67 0.2561 0.2449 *

Venus -124210-09-16 06:30 J -43646021.32 -43646021.23 -43646021.14 0.3773 0.1905

Earth -124209-03-16 08:39 J -43645839.22 -43645839.14 -43645839.07 0.2780 0.1940

Moon -124209-03-16 09:08 J -43645839.19 -43645839.12 -43645839.04 0.2783 0.1950 *

Mars -124209-06-05 20:11 J -43645757.78 -43645757.66 -43645757.55 0.1649 0.0268

Mars -124207-05-12 00:15 J -43645052.55 -43645052.49 -43645052.44 0.1648 0.1407

Jupiter -124206-01-31 01:42 J -43644788.56 -43644788.43 -43644788.31 0.0526 0.0083

Jupiter -124206-04-30 07:42 J -43644699.26 -43644699.18 -43644699.09 0.0527 0.0377

Moon -124206-09-14 12:59 J -43644562.04 -43644561.96 -43644561.89 0.2565 0.2242

Earth -124206-09-14 13:56 J -43644561.99 -43644561.92 -43644561.84 0.2560 0.2235 *

Venus -124204-03-31 22:49 J -43643997.57 -43643997.55 -43643997.53 0.3779 0.3696

Mars -124202-01-16 20:25 J -43643341.77 -43643341.65 -43643341.53 0.1864 0.1302

Moon -124202-03-10 05:18 J -43643289.39 -43643289.28 -43643289.17 0.2782 0.0172

Earth -124202-03-10 06:01 J -43643289.36 -43643289.25 -43643289.14 0.2780 0.0165 *

Jupiter -124201-12-22 21:37 J -43642635.78 -43642635.60 -43642635.41 0.0499 0.0066

Mars -124200-10-27 06:59 J -43642327.32 -43642327.21 -43642327.10 0.1650 0.0675

Moon -124199-09-06 01:13 J -43642013.59 -43642013.45 -43642013.31 0.2554 0.1301

Earth -124199-09-06 01:27 J -43642013.58 -43642013.44 -43642013.30 0.2560 0.1214 *

Saturn -124199-11-20 03:51 J -43641938.42 -43641938.34 -43641938.25 0.0259 0.0227

Saturn -124198-02-16 23:03 J -43641849.70 -43641849.54 -43641849.37 0.0259 0.0120

Saturn -124198-05-16 18:15 J -43641760.92 -43641760.74 -43641760.55 0.0258 0.0013

Saturn -124198-08-13 13:42 J -43641672.10 -43641671.93 -43641671.76 0.0258 0.0097

Mars -124198-10-02 11:18 J -43641622.13 -43641622.03 -43641621.94 0.1648 0.1008

Saturn -124198-11-10 09:08 J -43641583.23 -43641583.12 -43641583.00 0.0258 0.0207

Earth -124196-03-19 03:08 J -43641088.39 -43641088.37 -43641088.35 0.2779 0.2685

Earth -124195-03-03 03:37 J -43640739.41 -43640739.35 -43640739.29 0.2779 0.2255

Moon -124195-03-03 04:20 J -43640739.39 -43640739.32 -43640739.26 0.2777 0.2136 *

Jupiter -124195-11-19 05:47 J -43640478.38 -43640478.26 -43640478.14 0.0526 0.0194

Jupiter -124194-02-16 12:01 J -43640389.11 -43640389.00 -43640388.89 0.0527 0.0265

Mars -124193-06-07 14:39 J -43639912.05 -43639911.89 -43639911.72 0.1864 0.0152

Mars -124190-03-19 17:47 J -43638896.85 -43638896.76 -43638896.67 0.1650 0.1090

Moon -124189-03-11 23:47 J -43638538.62 -43638538.51 -43638538.40 0.2779 0.0588

Earth -124189-03-12 00:30 J -43638538.59 -43638538.48 -43638538.37 0.2781 0.0582 *

Jupiter -124189-10-10 19:13 J -43638325.88 -43638325.70 -43638325.52 0.0500 0.0075

Mars -124188-02-21 22:06 J -43638191.68 -43638191.58 -43638191.47 0.1648 0.0608

Earth -124186-09-09 07:56 J -43637262.33 -43637262.17 -43637262.01 0.2560 0.0016

Moon -124186-09-09 08:11 J -43637262.32 -43637262.16 -43637261.99 0.2553 0.0048 *

Mars -124184-10-28 10:06 J -43636482.22 -43636482.08 -43636481.94 0.1863 0.0944

Saturn -124184-12-15 01:56 J -43636434.51 -43636434.42 -43636434.33 0.0303 0.0223

Saturn -124183-03-13 15:37 J -43636345.97 -43636345.85 -43636345.72 0.0303 0.0098

Saturn -124183-06-10 05:18 J -43636257.42 -43636257.28 -43636257.15 0.0303 0.0029

Saturn -124183-09-06 18:44 J -43636168.84 -43636168.72 -43636168.61 0.0304 0.0152

Jupiter -124183-09-07 10:20 J -43636168.18 -43636168.07 -43636167.97 0.0525 0.0299

Saturn -124183-12-04 07:56 J -43636080.22 -43636080.17 -43636080.11 0.0304 0.0275

Jupiter -124183-12-05 16:35 J -43636078.93 -43636078.81 -43636078.68 0.0526 0.0161

Earth -124182-03-05 22:06 J -43635988.67 -43635988.58 -43635988.49 0.2780 0.1521

Moon -124182-03-05 22:35 J -43635988.65 -43635988.56 -43635988.47 0.2777 0.1503 *

Mars -124181-08-09 04:35 J -43635466.36 -43635466.31 -43635466.27 0.1651 0.1503

Mars -124179-07-15 09:08 J -43634761.23 -43634761.12 -43634761.00 0.1648 0.0208

Uranus -124179-08-24 21:23 J -43634720.69 -43634720.61 -43634720.50 0.0148 0.0126

Uranus -124179-11-21 06:30 J -43634632.37 -43634632.23 -43634632.08 0.0148 0.0094

Uranus -124178-02-17 15:08 J -43634544.03 -43634543.87 -43634543.69 0.0148 0.0063

Uranus -124178-05-17 00:15 J -43634455.68 -43634455.49 -43634455.30 0.0148 0.0031

Uranus -124178-08-13 09:08 J -43634367.31 -43634367.12 -43634366.93 0.0148 0.0001

Uranus -124178-11-09 18:01 J -43634278.93 -43634278.75 -43634278.56 0.0148 0.0033

Uranus -124177-02-06 02:54 J -43634190.55 -43634190.38 -43634190.20 0.0148 0.0065

Uranus -124177-05-04 11:47 J -43634102.15 -43634102.01 -43634101.86 0.0148 0.0097

Jupiter -124177-07-29 15:08 J -43634016.03 -43634015.87 -43634015.71 0.0500 0.0232

Uranus -124177-07-31 20:39 J -43634013.72 -43634013.64 -43634013.53 0.0148 0.0129

Jupiter -124177-10-28 01:13 J -43633925.58 -43633925.45 -43633925.32 0.0499 0.0355

Moon -124176-03-14 18:15 J -43633787.84 -43633787.74 -43633787.64 0.2779 0.1221

Earth -124176-03-14 18:59 J -43633787.80 -43633787.71 -43633787.61 0.2781 0.1329 *

Earth -124173-09-11 14:25 J -43632511.05 -43632510.90 -43632510.76 0.2560 0.1237

Moon -124173-09-11 15:23 J -43632511.00 -43632510.86 -43632510.73 0.2555 0.1358 *

Neptune -124172-02-22 01:13 J -43632347.50 -43632347.45 -43632347.38 0.0089 0.0084

Neptune -124172-05-21 04:49 J -43632259.38 -43632259.30 -43632259.21 0.0089 0.0078

Neptune -124172-08-17 08:11 J -43632171.26 -43632171.16 -43632171.04 0.0089 0.0073

Neptune -124172-11-13 11:47 J -43632083.13 -43632083.01 -43632082.88 0.0089 0.0066

Neptune -124171-02-09 15:23 J -43631994.99 -43631994.86 -43631994.71 0.0089 0.0060

Neptune -124171-05-08 18:59 J -43631906.86 -43631906.71 -43631906.56 0.0089 0.0054

Jupiter -124171-06-26 14:39 J -43631857.97 -43631857.89 -43631857.81 0.0525 0.0407

Neptune -124171-08-04 22:20 J -43631818.72 -43631818.57 -43631818.40 0.0089 0.0048

Jupiter -124171-09-23 21:08 J -43631768.74 -43631768.62 -43631768.49 0.0526 0.0053

Neptune -124171-11-01 01:56 J -43631730.58 -43631730.42 -43631730.24 0.0089 0.0042

Jupiter -124171-12-22 03:23 J -43631679.39 -43631679.36 -43631679.33 0.0527 0.0507

Neptune -124170-01-28 05:32 J -43631642.44 -43631642.27 -43631642.09 0.0089 0.0036

Neptune -124170-04-26 09:08 J -43631554.30 -43631554.12 -43631553.93 0.0089 0.0030

Neptune -124170-07-23 12:44 J -43631466.15 -43631465.97 -43631465.78 0.0089 0.0024

Venus -124170-09-08 03:08 J -43631419.44 -43631419.37 -43631419.31 0.3758 0.2836

Neptune -124170-10-19 16:20 J -43631378.01 -43631377.82 -43631377.63 0.0089 0.0018

Mars -124170-12-05 20:11 J -43631330.78 -43631330.66 -43631330.55 0.1649 0.0210

Neptune -124169-01-15 19:56 J -43631289.86 -43631289.67 -43631289.48 0.0089 0.0012

Earth -124169-03-07 16:20 J -43631237.92 -43631237.82 -43631237.71 0.2780 0.0783

Moon -124169-03-07 17:18 J -43631237.89 -43631237.78 -43631237.68 0.2780 0.0794 *

Neptune -124169-04-12 23:32 J -43631201.71 -43631201.52 -43631201.33 0.0089 0.0006

Saturn -124169-07-05 21:51 J -43631117.73 -43631117.59 -43631117.43 0.0259 0.0155

Neptune -124169-07-10 03:08 J -43631113.56 -43631113.37 -43631113.18 0.0089 0.0001

Saturn -124169-10-02 17:18 J -43631028.97 -43631028.78 -43631028.60 0.0259 0.0047

Neptune -124169-10-06 06:44 J -43631025.41 -43631025.22 -43631025.03 0.0089 0.0007

Saturn -124169-12-30 12:30 J -43630940.16 -43630939.98 -43630939.80 0.0258 0.0062

Neptune -124168-01-02 10:20 J -43630937.26 -43630937.07 -43630936.88 0.0089 0.0013

Saturn -124168-03-29 07:56 J -43630851.30 -43630851.17 -43630851.03 0.0258 0.0171

Neptune -124168-03-31 13:56 J -43630849.11 -43630848.92 -43630848.73 0.0089 0.0019

Neptune -124168-06-27 17:32 J -43630760.95 -43630760.77 -43630760.58 0.0089 0.0025

Neptune -124168-09-23 20:54 J -43630672.79 -43630672.63 -43630672.43 0.0089 0.0032

Mars -124168-11-10 00:15 J -43630625.54 -43630625.49 -43630625.44 0.1648 0.1463

Neptune -124168-12-21 00:44 J -43630584.64 -43630584.47 -43630584.29 0.0089 0.0038

Neptune -124167-03-19 04:20 J -43630496.48 -43630496.32 -43630496.14 0.0089 0.0044

Venus -124167-06-11 01:56 J -43630412.54 -43630412.42 -43630412.29 0.3621 0.2067

Neptune -124167-06-15 07:56 J -43630408.32 -43630408.17 -43630408.00 0.0089 0.0051

Neptune -124167-09-11 11:47 J -43630320.15 -43630320.01 -43630319.86 0.0089 0.0057

Neptune -124167-12-08 15:08 J -43630231.99 -43630231.87 -43630231.72 0.0089 0.0063

Neptune -124166-03-06 18:59 J -43630143.82 -43630143.71 -43630143.58 0.0089 0.0069

Neptune -124166-06-02 22:35 J -43630055.65 -43630055.56 -43630055.44 0.0089 0.0075

Neptune -124166-08-30 02:25 J -43629967.47 -43629967.40 -43629967.32 0.0089 0.0082

Earth -124166-09-04 01:27 J -43629962.51 -43629962.44 -43629962.36 0.2560 0.2231

Moon -124166-09-04 02:11 J -43629962.50 -43629962.41 -43629962.33 0.2566 0.2173 *

Neptune -124166-11-26 05:47 J -43629879.27 -43629879.26 -43629879.21 0.0089 0.0088

Jupiter -124165-05-17 12:30 J -43629706.10 -43629705.98 -43629705.86 0.0500 0.0373

Jupiter -124165-08-15 22:35 J -43629615.73 -43629615.56 -43629615.39 0.0499 0.0212

Venus -124164-03-23 19:27 J -43629395.79 -43629395.69 -43629395.59 0.3764 0.1029

Moon -124163-03-17 12:59 J -43629037.04 -43629036.96 -43629036.89 0.2775 0.1976

Earth -124163-03-17 13:27 J -43629037.01 -43629036.94 -43629036.87 0.2780 0.2076 *

Mars -124163-07-17 21:08 J -43628914.73 -43628914.62 -43628914.51 0.1864 0.1411

Venus -124162-12-26 09:23 J -43628388.22 -43628388.11 -43628388.00 0.3613 0.2478

Mars -124160-04-27 06:59 J -43627900.32 -43627900.21 -43627900.10 0.1650 0.0619

Earth -124160-09-14 20:39 J -43627759.69 -43627759.64 -43627759.60 0.2560 0.2448

Jupiter -124159-04-14 18:44 J -43627547.73 -43627547.72 -43627547.72 0.0525 0.0523

Jupiter -124159-07-13 01:13 J -43627458.58 -43627458.45 -43627458.33 0.0526 0.0066

Venus -124159-10-07 11:47 J -43627372.11 -43627372.01 -43627371.91 0.3769 0.0773

Jupiter -124159-10-10 07:13 J -43627369.28 -43627369.20 -43627369.11 0.0526 0.0392

Mars -124158-04-02 11:18 J -43627195.12 -43627195.03 -43627194.95 0.1648 0.1064

Earth -124156-03-10 10:49 J -43626487.16 -43626487.05 -43626486.94 0.2780 0.0090

Moon -124156-03-10 11:32 J -43626487.13 -43626487.02 -43626486.91 0.2781 0.0084 *

Saturn -124154-05-04 02:25 J -43625702.46 -43625702.40 -43625702.34 0.0303 0.0269

Saturn -124154-07-31 16:06 J -43625613.94 -43625613.83 -43625613.71 0.0304 0.0143

Saturn -124154-10-28 05:47 J -43625525.39 -43625525.26 -43625525.12 0.0304 0.0018

Mars -124154-12-07 15:51 J -43625485.01 -43625484.84 -43625484.68 0.1864 0.0278

Saturn -124153-01-24 19:13 J -43625436.82 -43625436.70 -43625436.57 0.0304 0.0108

Venus -124153-04-22 04:06 J -43625348.40 -43625348.33 -43625348.26 0.3775 0.2565

Saturn -124153-04-22 08:39 J -43625348.22 -43625348.14 -43625348.05 0.0304 0.0231

Jupiter -124153-06-03 20:25 J -43625305.84 -43625305.65 -43625305.47 0.0500 0.0074

Moon -124153-09-06 07:42 J -43625211.32 -43625211.18 -43625211.04 0.2566 0.1102

Earth -124153-09-06 08:11 J -43625211.31 -43625211.16 -43625211.02 0.2560 0.1000 *

Mars -124151-09-17 17:47 J -43624469.85 -43624469.76 -43624469.67 0.1650 0.1031

Moon -124149-03-03 07:42 J -43623937.25 -43623937.18 -43623937.11 0.2782 0.2114

Earth -124149-03-03 08:25 J -43623937.22 -43623937.15 -43623937.08 0.2779 0.2127 *

Mars -124149-08-22 22:06 J -43623764.68 -43623764.58 -43623764.47 0.1648 0.0665

Jupiter -124147-05-01 05:03 J -43623148.41 -43623148.29 -43623148.16 0.0525 0.0180

Jupiter -124147-07-29 11:32 J -43623059.13 -43623059.02 -43623058.91 0.0526 0.0278

Mars -124144-04-28 10:35 J -43622055.21 -43622055.06 -43622054.92 0.1863 0.0848

Earth -124143-03-13 05:18 J -43621736.38 -43621736.28 -43621736.17 0.2780 0.0717

Moon -124143-03-13 06:01 J -43621736.35 -43621736.25 -43621736.14 0.2783 0.0828 *

Mars -124141-02-08 04:20 J -43621039.37 -43621039.32 -43621039.26 0.1651 0.1451

Jupiter -124141-03-22 18:01 J -43620995.93 -43620995.75 -43620995.56 0.0500 0.0066

Moon -124140-09-09 13:56 J -43620460.08 -43620459.92 -43620459.76 0.2565 0.0150

Earth -124140-09-09 14:39 J -43620460.06 -43620459.89 -43620459.73 0.2560 0.0244 *

Saturn -124140-11-22 20:25 J -43620385.77 -43620385.65 -43620385.52 0.0259 0.0193

Mars -124139-01-13 09:08 J -43620334.24 -43620334.12 -43620334.00 0.1649 0.0257

Saturn -124139-02-19 15:37 J -43620297.02 -43620296.85 -43620296.67 0.0259 0.0085

Saturn -124139-05-19 10:49 J -43620208.23 -43620208.05 -43620207.86 0.0258 0.0024

Saturn -124139-08-16 06:15 J -43620119.40 -43620119.24 -43620119.08 0.0258 0.0132

Saturn -124139-11-13 01:56 J -43620030.48 -43620030.42 -43620030.36 0.0258 0.0241

Uranus -124138-12-18 00:30 J -43619630.50 -43619630.48 -43619630.46 0.0131 0.0129

Uranus -124137-03-15 03:23 J -43619542.42 -43619542.36 -43619542.29 0.0131 0.0114

Uranus -124137-06-11 06:15 J -43619454.32 -43619454.24 -43619454.15 0.0131 0.0099

Uranus -124137-09-07 09:08 J -43619366.21 -43619366.12 -43619366.01 0.0131 0.0084

Uranus -124137-12-04 12:15 J -43619278.10 -43619277.99 -43619277.87 0.0131 0.0068

Uranus -124136-03-02 15:08 J -43619189.99 -43619189.87 -43619189.74 0.0131 0.0053

Moon -124136-03-06 02:11 J -43619186.50 -43619186.41 -43619186.32 0.2780 0.1458

Earth -124136-03-06 02:54 J -43619186.47 -43619186.38 -43619186.29 0.2780 0.1387 *

Uranus -124136-05-29 18:01 J -43619101.87 -43619101.75 -43619101.62 0.0131 0.0038

Uranus -124136-08-25 21:08 J -43619013.75 -43619013.62 -43619013.49 0.0131 0.0023

Uranus -124136-11-22 00:01 J -43618925.63 -43618925.50 -43618925.37 0.0131 0.0007

Jupiter -124135-02-17 09:08 J -43618838.22 -43618838.12 -43618838.01 0.0525 0.0293

Uranus -124135-02-18 02:54 J -43618837.51 -43618837.38 -43618837.25 0.0131 0.0008

Uranus -124135-05-17 05:47 J -43618749.39 -43618749.26 -43618749.13 0.0131 0.0023

Jupiter -124135-05-17 15:37 J -43618748.97 -43618748.85 -43618748.73 0.0526 0.0166

Uranus -124135-08-13 08:39 J -43618661.26 -43618661.14 -43618661.01 0.0131 0.0038

Uranus -124135-11-09 11:32 J -43618573.14 -43618573.02 -43618572.89 0.0131 0.0053

Uranus -124134-02-05 14:25 J -43618485.01 -43618484.90 -43618484.78 0.0131 0.0068

Uranus -124134-05-04 17:32 J -43618396.88 -43618396.77 -43618396.67 0.0131 0.0083

Uranus -124134-07-31 20:25 J -43618308.74 -43618308.65 -43618308.57 0.0131 0.0098

Uranus -124134-10-27 23:18 J -43618220.60 -43618220.53 -43618220.47 0.0131 0.0113

Uranus -124133-01-24 02:11 J -43618132.43 -43618132.41 -43618132.39 0.0131 0.0128

Earth -124130-03-16 00:01 J -43616985.60 -43616985.50 -43616985.41 0.2780 0.1465

Moon -124130-03-16 00:30 J -43616985.57 -43616985.48 -43616985.39 0.2784 0.1465 *

Mars -124130-06-05 20:11 J -43616903.78 -43616903.66 -43616903.55 0.1649 0.0164

Jupiter -124129-01-09 15:37 J -43616686.01 -43616685.85 -43616685.68 0.0500 0.0206

Jupiter -124129-04-09 01:42 J -43616595.54 -43616595.43 -43616595.31 0.0499 0.0381

Mars -124128-05-11 00:01 J -43616198.54 -43616198.50 -43616198.45 0.1648 0.1515

Moon -124127-09-12 19:42 J -43615708.81 -43615708.68 -43615708.55 0.2565 0.1480

Earth -124127-09-12 20:54 J -43615708.76 -43615708.63 -43615708.49 0.2560 0.1460 *

Saturn -124125-12-17 16:06 J -43614881.93 -43614881.83 -43614881.73 0.0303 0.0195

Saturn -124124-03-16 05:47 J -43614793.39 -43614793.26 -43614793.13 0.0303 0.0070

Saturn -124124-06-12 19:13 J -43614704.83 -43614704.70 -43614704.57 0.0303 0.0055

Saturn -124124-09-09 08:39 J -43614616.24 -43614616.14 -43614616.03 0.0303 0.0179

Jupiter -124124-12-06 13:42 J -43614528.01 -43614527.93 -43614527.84 0.0525 0.0399

Saturn -124124-12-06 22:06 J -43614527.60 -43614527.58 -43614527.57 0.0304 0.0301

Mars -124123-01-15 21:51 J -43614487.68 -43614487.59 -43614487.49 0.1864 0.1527

Jupiter -124123-03-05 20:11 J -43614438.78 -43614438.66 -43614438.53 0.0526 0.0063

Moon -124123-03-08 20:39 J -43614435.75 -43614435.64 -43614435.54 0.2780 0.0759

Earth -124123-03-08 21:23 J -43614435.72 -43614435.61 -43614435.51 0.2780 0.0646 *

Jupiter -124123-06-03 02:25 J -43614349.42 -43614349.40 -43614349.37 0.0527 0.0516

Mars -124121-10-26 06:59 J -43613473.32 -43613473.21 -43613473.10 0.1650 0.0558

Moon -124120-09-04 08:11 J -43613160.26 -43613160.16 -43613160.06 0.2555 0.1957

Earth -124120-09-04 08:11 J -43613160.26 -43613160.16 -43613160.06 0.2560 0.2018 *

Mars -124119-10-01 11:18 J -43612768.12 -43612768.03 -43612767.95 0.1648 0.1120

Jupiter -124118-10-28 11:32 J -43612376.14 -43612376.02 -43612375.89 0.0500 0.0362

Jupiter -124117-01-26 21:37 J -43612285.77 -43612285.60 -43612285.44 0.0499 0.0223

Earth -124117-03-17 18:30 J -43612234.80 -43612234.73 -43612234.67 0.2780 0.2211

Moon -124117-03-17 18:59 J -43612234.77 -43612234.71 -43612234.64 0.2785 0.2214 *

Earth -124116-03-01 18:59 J -43611885.73 -43611885.71 -43611885.70 0.2779 0.2735

Moon -124116-03-01 19:42 J -43611885.71 -43611885.68 -43611885.66 0.2777 0.2672 *

Mars -124114-06-07 16:35 J -43611057.97 -43611057.81 -43611057.65 0.1864 0.0390

Venus -124113-04-14 00:44 J -43610746.56 -43610746.47 -43610746.39 0.3759 0.2164

Pluto -124112-06-01 22:20 J -43610332.63 -43610332.57 -43610332.46 0.0061 0.0054

Pluto -124112-08-29 00:01 J -43610244.62 -43610244.50 -43610244.37 0.0061 0.0045

Jupiter -124112-09-24 18:15 J -43610217.77 -43610217.74 -43610217.71 0.0525 0.0506

Pluto -124112-11-25 01:13 J -43610156.59 -43610156.45 -43610156.29 0.0061 0.0037

Jupiter -124112-12-23 00:44 J -43610128.60 -43610128.47 -43610128.34 0.0526 0.0049

Pluto -124111-02-21 02:25 J -43610068.55 -43610068.40 -43610068.22 0.0061 0.0029

Mars -124111-03-18 17:47 J -43610042.86 -43610042.76 -43610042.67 0.1650 0.0974

Jupiter -124111-03-22 06:59 J -43610039.29 -43610039.21 -43610039.13 0.0527 0.0409

Pluto -124111-05-20 03:37 J -43609980.51 -43609980.35 -43609980.16 0.0061 0.0021

Pluto -124111-08-16 05:18 J -43609892.47 -43609892.28 -43609892.10 0.0061 0.0012

Pluto -124111-11-12 06:30 J -43609804.42 -43609804.23 -43609804.05 0.0061 0.0004

Venus -124110-01-16 03:37 J -43609739.51 -43609739.35 -43609739.20 0.3619 0.0546

Pluto -124110-02-08 07:42 J -43609716.36 -43609716.18 -43609715.99 0.0061 0.0004

Moon -124110-03-11 15:08 J -43609684.98 -43609684.87 -43609684.76 0.2777 0.0079

Earth -124110-03-11 15:51 J -43609684.95 -43609684.84 -43609684.73 0.2781 0.0107 *

Saturn -124110-04-11 19:27 J -43609653.77 -43609653.69 -43609653.60 0.0259 0.0227

Pluto -124110-05-07 08:54 J -43609628.31 -43609628.13 -43609627.94 0.0061 0.0013

Saturn -124110-07-09 14:25 J -43609565.06 -43609564.90 -43609564.73 0.0259 0.0121

Pluto -124110-08-03 09:51 J -43609540.25 -43609540.09 -43609539.90 0.0061 0.0021

Saturn -124110-10-06 09:51 J -43609476.28 -43609476.09 -43609475.91 0.0259 0.0013

Pluto -124110-10-30 11:03 J -43609452.18 -43609452.04 -43609451.86 0.0061 0.0030

Saturn -124109-01-03 05:03 J -43609387.46 -43609387.29 -43609387.11 0.0259 0.0097

Pluto -124109-01-26 12:30 J -43609364.11 -43609363.98 -43609363.82 0.0061 0.0038

Mars -124109-02-21 22:20 J -43609337.68 -43609337.57 -43609337.47 0.1648 0.0721

Saturn -124109-04-01 00:44 J -43609298.58 -43609298.47 -43609298.36 0.0258 0.0206

Pluto -124109-04-23 13:27 J -43609276.04 -43609275.94 -43609275.79 0.0061 0.0047

Pluto -124109-07-20 14:54 J -43609187.95 -43609187.88 -43609187.78 0.0062 0.0055

Venus -124108-10-28 17:03 J -43608722.89 -43608722.79 -43608722.69 0.3765 0.0365

Earth -124107-09-07 14:39 J -43608409.04 -43608408.89 -43608408.73 0.2560 0.0781

Moon -124107-09-07 15:08 J -43608409.02 -43608408.87 -43608408.71 0.2554 0.0839 *

Jupiter -124106-11-14 18:59 J -43607975.90 -43607975.71 -43607975.53 0.0500 0.0081

Mars -124105-10-27 11:18 J -43607628.18 -43607628.03 -43607627.87 0.1863 0.0734

Earth -124103-03-04 13:13 J -43607135.02 -43607134.95 -43607134.87 0.2779 0.2004

Moon -124103-03-04 13:56 J -43607135.00 -43607134.92 -43607134.84 0.2778 0.1888 *

Venus -124102-05-14 09:23 J -43606699.20 -43606699.11 -43606699.01 0.3771 0.1436

Mars -124102-08-09 04:20 J -43606612.38 -43606612.32 -43606612.25 0.1651 0.1393

Mars -124100-07-14 09:08 J -43605907.24 -43605907.12 -43605907.00 0.1648 0.0313

Jupiter -124100-10-11 04:35 J -43605818.43 -43605818.31 -43605818.18 0.0525 0.0166

Jupiter -124099-01-08 11:03 J -43605729.15 -43605729.04 -43605728.94 0.0526 0.0293

Moon -124097-03-13 09:37 J -43604934.20 -43604934.10 -43604934.00 0.2778 0.0845

Earth -124097-03-13 10:20 J -43604934.17 -43604934.07 -43604933.97 0.2781 0.0845 *

Venus -124097-11-27 01:42 J -43604675.48 -43604675.43 -43604675.38 0.3776 0.3219

Mars -124095-03-19 06:30 J -43604198.25 -43604198.23 -43604198.20 0.1862 0.1828

Saturn -124095-05-06 16:49 J -43604149.88 -43604149.80 -43604149.72 0.0303 0.0239

Uranus -124095-06-17 20:54 J -43604107.63 -43604107.63 -43604107.63 0.0148 0.0148

Saturn -124095-08-03 06:30 J -43604061.35 -43604061.23 -43604061.11 0.0304 0.0114

Uranus -124095-09-14 05:18 J -43604019.38 -43604019.28 -43604019.15 0.0148 0.0117

Saturn -124095-10-30 19:56 J -43603972.80 -43603972.67 -43603972.53 0.0304 0.0015

Uranus -124095-12-11 14:25 J -43603931.05 -43603930.90 -43603930.74 0.0148 0.0085

Saturn -124094-01-27 09:23 J -43603884.22 -43603884.11 -43603883.99 0.0304 0.0136

Uranus -124094-03-09 23:18 J -43603842.70 -43603842.53 -43603842.35 0.0148 0.0054

Saturn -124094-04-25 22:49 J -43603795.61 -43603795.55 -43603795.48 0.0304 0.0259

Uranus -124094-06-06 08:11 J -43603754.35 -43603754.16 -43603753.97 0.0148 0.0022

Jupiter -124094-09-02 16:35 J -43603665.99 -43603665.81 -43603665.62 0.0500 0.0060

Uranus -124094-09-02 17:03 J -43603665.98 -43603665.79 -43603665.59 0.0148 0.0011 *

Earth -124094-09-10 21:08 J -43603657.78 -43603657.62 -43603657.46 0.2560 0.0453

Moon -124094-09-10 22:20 J -43603657.73 -43603657.57 -43603657.41 0.2555 0.0443 *

Uranus -124094-11-30 01:56 J -43603577.60 -43603577.42 -43603577.23 0.0148 0.0042

Uranus -124093-02-26 10:49 J -43603489.21 -43603489.05 -43603488.88 0.0148 0.0074

Uranus -124093-05-24 19:42 J -43603400.80 -43603400.68 -43603400.54 0.0148 0.0106

Uranus -124093-08-21 04:35 J -43603312.36 -43603312.31 -43603312.23 0.0148 0.0138

Neptune -124092-09-20 03:37 J -43602917.39 -43602917.35 -43602917.32 0.0088 0.0085

Neptune -124092-12-17 04:49 J -43602829.34 -43602829.30 -43602829.24 0.0088 0.0081

Neptune -124091-03-15 06:15 J -43602741.30 -43602741.24 -43602741.17 0.0088 0.0076

Neptune -124091-06-11 07:27 J -43602653.25 -43602653.19 -43602653.10 0.0088 0.0073

Neptune -124091-09-07 08:54 J -43602565.20 -43602565.13 -43602565.03 0.0088 0.0068

Neptune -124091-12-04 10:35 J -43602477.15 -43602477.06 -43602476.97 0.0088 0.0064

Mars -124091-12-04 20:11 J -43602476.78 -43602476.66 -43602476.55 0.1649 0.0115

Neptune -124090-03-02 11:47 J -43602389.10 -43602389.01 -43602388.90 0.0088 0.0060

Earth -124090-03-07 07:42 J -43602384.27 -43602384.18 -43602384.08 0.2780 0.1263

Moon -124090-03-07 08:25 J -43602384.24 -43602384.15 -43602384.05 0.2781 0.1236 *

Neptune -124090-05-29 13:13 J -43602301.05 -43602300.95 -43602300.84 0.0088 0.0055

Neptune -124090-08-25 14:25 J -43602212.99 -43602212.90 -43602212.77 0.0088 0.0052

Neptune -124090-11-21 16:06 J -43602124.94 -43602124.83 -43602124.71 0.0088 0.0047

Neptune -124089-02-17 17:32 J -43602036.89 -43602036.77 -43602036.65 0.0088 0.0042

Neptune -124089-05-15 18:44 J -43601948.83 -43601948.72 -43601948.59 0.0088 0.0039

Neptune -124089-08-11 20:11 J -43601860.78 -43601860.66 -43601860.53 0.0088 0.0034

Neptune -124089-11-07 21:37 J -43601772.72 -43601772.60 -43601772.47 0.0088 0.0030

Mars -124089-11-09 00:01 J -43601771.53 -43601771.50 -43601771.46 0.1648 0.1570

Neptune -124088-02-03 23:03 J -43601684.67 -43601684.54 -43601684.41 0.0088 0.0026

Neptune -124088-05-03 00:30 J -43601596.61 -43601596.48 -43601596.35 0.0088 0.0021

Neptune -124088-07-30 01:42 J -43601508.56 -43601508.43 -43601508.29 0.0088 0.0018

Jupiter -124088-07-30 08:39 J -43601508.25 -43601508.14 -43601508.03 0.0525 0.0279

Neptune -124088-10-26 03:08 J -43601420.50 -43601420.37 -43601420.23 0.0088 0.0013

Jupiter -124088-10-27 15:08 J -43601418.99 -43601418.87 -43601418.75 0.0526 0.0179

Neptune -124087-01-22 04:35 J -43601332.44 -43601332.31 -43601332.18 0.0088 0.0009

Neptune -124087-04-20 06:01 J -43601244.39 -43601244.25 -43601244.12 0.0088 0.0005

Neptune -124087-07-17 07:13 J -43601156.33 -43601156.20 -43601156.06 0.0088 0.0003

Neptune -124087-10-13 08:39 J -43601068.27 -43601068.14 -43601068.01 0.0088 0.0004

Neptune -124086-01-09 10:06 J -43600980.22 -43600980.08 -43600979.95 0.0088 0.0008

Neptune -124086-04-07 11:18 J -43600892.16 -43600892.03 -43600891.89 0.0088 0.0012

Neptune -124086-07-04 12:44 J -43600804.10 -43600803.97 -43600803.84 0.0088 0.0016

Neptune -124086-09-30 14:11 J -43600716.04 -43600715.91 -43600715.78 0.0088 0.0021

Neptune -124086-12-27 15:23 J -43600627.99 -43600627.86 -43600627.73 0.0088 0.0025

Neptune -124085-03-24 16:35 J -43600539.93 -43600539.81 -43600539.68 0.0088 0.0029

Neptune -124085-06-20 18:01 J -43600451.87 -43600451.75 -43600451.62 0.0088 0.0033

Neptune -124085-09-16 19:13 J -43600363.81 -43600363.70 -43600363.57 0.0088 0.0038

Neptune -124085-12-13 20:39 J -43600275.75 -43600275.64 -43600275.52 0.0088 0.0041

Neptune -124084-03-11 22:06 J -43600187.69 -43600187.58 -43600187.47 0.0088 0.0045

Moon -124084-03-16 04:20 J -43600183.41 -43600183.32 -43600183.23 0.2775 0.1511

Earth -124084-03-16 04:49 J -43600183.39 -43600183.30 -43600183.21 0.2780 0.1594 *

Neptune -124084-06-07 23:18 J -43600099.63 -43600099.53 -43600099.41 0.0088 0.0050

Mars -124084-07-16 22:49 J -43600060.63 -43600060.55 -43600060.48 0.1864 0.1635

Neptune -124084-09-04 00:44 J -43600011.57 -43600011.47 -43600011.36 0.0088 0.0054

Neptune -124084-12-01 02:11 J -43599923.51 -43599923.41 -43599923.31 0.0088 0.0058

Neptune -124083-02-27 03:08 J -43599835.45 -43599835.37 -43599835.26 0.0088 0.0062

Neptune -124083-05-26 04:35 J -43599747.39 -43599747.31 -43599747.22 0.0088 0.0066

Neptune -124083-08-22 05:47 J -43599659.33 -43599659.26 -43599659.17 0.0088 0.0070

Neptune -124083-11-18 07:13 J -43599571.26 -43599571.20 -43599571.12 0.0088 0.0074

Neptune -124082-02-14 08:25 J -43599483.20 -43599483.15 -43599483.08 0.0088 0.0079

Neptune -124082-05-13 09:51 J -43599395.13 -43599395.09 -43599395.04 0.0088 0.0082

Jupiter -124082-06-21 14:25 J -43599356.07 -43599355.90 -43599355.73 0.0500 0.0197

Neptune -124082-08-09 11:03 J -43599307.05 -43599307.04 -43599307.00 0.0088 0.0087

Jupiter -124082-09-20 00:30 J -43599265.59 -43599265.48 -43599265.36 0.0499 0.0390

Mars -124081-04-26 06:59 J -43599046.32 -43599046.21 -43599046.10 0.1650 0.0504

Earth -124081-09-13 03:37 J -43598906.48 -43598906.35 -43598906.23 0.2560 0.1672

Moon -124081-09-13 04:49 J -43598906.41 -43598906.30 -43598906.19 0.2556 0.1816 *

Saturn -124081-11-25 13:13 J -43598833.09 -43598832.95 -43598832.80 0.0259 0.0157

Saturn -124080-02-22 08:25 J -43598744.33 -43598744.15 -43598743.97 0.0259 0.0049

Saturn -124080-05-22 03:51 J -43598655.52 -43598655.34 -43598655.16 0.0258 0.0059

Saturn -124080-08-18 23:03 J -43598566.67 -43598566.54 -43598566.39 0.0258 0.0169

Mars -124079-04-01 11:03 J -43598341.12 -43598341.04 -43598340.95 0.1648 0.1172

Earth -124077-03-09 02:11 J -43597633.52 -43597633.41 -43597633.30 0.2780 0.0518

Moon -124077-03-09 02:54 J -43597633.49 -43597633.38 -43597633.27 0.2783 0.0530 *

Jupiter -124076-05-18 12:44 J -43597198.06 -43597197.97 -43597197.89 0.0525 0.0394

Jupiter -124076-08-15 19:13 J -43597108.83 -43597108.70 -43597108.58 0.0526 0.0066

Jupiter -124076-11-13 01:27 J -43597019.46 -43597019.44 -43597019.43 0.0527 0.0521

Mars -124075-12-06 17:03 J -43596630.95 -43596630.79 -43596630.63 0.1864 0.0492

Moon -124074-09-05 14:25 J -43596358.02 -43596357.90 -43596357.79 0.2566 0.1766

Earth -124074-09-05 14:54 J -43596358.00 -43596357.88 -43596357.77 0.2560 0.1798 *

Mars -124072-09-16 17:47 J -43595615.86 -43595615.76 -43595615.66 0.1650 0.0916

Moon -124071-03-18 22:49 J -43595432.61 -43595432.55 -43595432.49 0.2775 0.2262

Earth -124071-03-18 23:18 J -43595432.58 -43595432.53 -43595432.47 0.2780 0.2343 *

Moon -124070-03-02 23:03 J -43595083.57 -43595083.54 -43595083.51 0.2780 0.2642

Earth -124070-03-02 23:47 J -43595083.54 -43595083.51 -43595083.47 0.2779 0.2606 *

Jupiter -124070-04-09 12:01 J -43595046.13 -43595046.00 -43595045.87 0.0500 0.0338

Jupiter -124070-07-08 21:51 J -43594955.74 -43594955.59 -43594955.43 0.0499 0.0248

Mars -124070-08-22 22:06 J -43594910.68 -43594910.58 -43594910.47 0.1648 0.0772

Saturn -124066-09-23 16:49 J -43593417.83 -43593417.80 -43593417.76 0.0302 0.0289

Saturn -124066-12-21 06:30 J -43593329.34 -43593329.23 -43593329.11 0.0303 0.0164

Saturn -124065-03-18 20:11 J -43593240.79 -43593240.66 -43593240.52 0.0303 0.0039

Mars -124065-04-27 12:15 J -43593201.15 -43593200.99 -43593200.84 0.1863 0.0622

Saturn -124065-06-15 09:37 J -43593152.22 -43593152.10 -43593151.97 0.0303 0.0087

Saturn -124065-09-11 23:03 J -43593063.63 -43593063.54 -43593063.44 0.0303 0.0209

Jupiter -124064-03-06 17:18 J -43592887.82 -43592887.78 -43592887.75 0.0525 0.0500

Earth -124064-03-11 20:39 J -43592882.75 -43592882.64 -43592882.53 0.2781 0.0230

Moon -124064-03-11 21:23 J -43592882.72 -43592882.61 -43592882.50 0.2784 0.0317 *

Jupiter -124064-06-03 23:47 J -43592798.64 -43592798.51 -43592798.38 0.0526 0.0041

Jupiter -124064-09-01 06:01 J -43592709.33 -43592709.25 -43592709.17 0.0527 0.0416

Mars -124062-02-07 04:35 J -43592185.38 -43592185.31 -43592185.24 0.1651 0.1332

Venus -124062-05-06 06:01 J -43592097.30 -43592097.25 -43592097.21 0.3755 0.3296

Moon -124061-09-07 20:25 J -43591606.80 -43591606.65 -43591606.49 0.2565 0.0686

Earth -124061-09-07 21:23 J -43591606.77 -43591606.61 -43591606.46 0.2560 0.0566 *

Mars -124060-01-12 09:08 J -43591480.23 -43591480.12 -43591480.00 0.1649 0.0370

Venus -124059-02-05 22:06 J -43591090.62 -43591090.58 -43591090.54 0.3624 0.3469

Jupiter -124058-01-26 07:56 J -43590736.19 -43590736.17 -43590736.14 0.0500 0.0493

Jupiter -124058-04-26 17:47 J -43590645.94 -43590645.76 -43590645.58 0.0499 0.0090

Moon -124057-03-04 17:32 J -43590332.85 -43590332.77 -43590332.69 0.2778 0.1852

Earth -124057-03-04 18:15 J -43590332.82 -43590332.74 -43590332.66 0.2780 0.1872 *

Venus -124057-11-18 22:20 J -43590073.67 -43590073.57 -43590073.48 0.3761 0.1498

Mars -124056-09-17 07:27 J -43589771.25 -43589771.19 -43589771.13 0.1862 0.1709

Venus -124054-08-23 05:18 J -43589066.43 -43589066.28 -43589066.14 0.3617 0.1034

Uranus -124053-01-07 07:27 J -43588929.22 -43588929.19 -43588929.15 0.0131 0.0126

Uranus -124053-04-04 10:20 J -43588841.13 -43588841.07 -43588840.99 0.0131 0.0111

Uranus -124053-07-01 13:13 J -43588753.03 -43588752.95 -43588752.85 0.0131 0.0096

Uranus -124053-09-27 16:20 J -43588664.92 -43588664.82 -43588664.71 0.0131 0.0080

Uranus -124053-12-24 19:13 J -43588576.81 -43588576.70 -43588576.58 0.0131 0.0065

Uranus -124052-03-22 22:20 J -43588488.69 -43588488.57 -43588488.45 0.0131 0.0050

Jupiter -124052-03-23 04:06 J -43588488.45 -43588488.33 -43588488.20 0.0526 0.0151 *

Uranus -124052-06-19 01:13 J -43588400.58 -43588400.45 -43588400.32 0.0131 0.0034

Jupiter -124052-06-20 10:35 J -43588399.16 -43588399.06 -43588398.96 0.0527 0.0309

Uranus -124052-09-15 04:06 J -43588312.46 -43588312.33 -43588312.20 0.0131 0.0019

Uranus -124052-12-12 06:59 J -43588224.34 -43588224.21 -43588224.07 0.0131 0.0006

Uranus -124051-03-10 10:06 J -43588136.22 -43588136.08 -43588135.95 0.0131 0.0012

Earth -124051-03-14 15:08 J -43588131.97 -43588131.87 -43588131.77 0.2781 0.0976

Moon -124051-03-14 15:37 J -43588131.95 -43588131.85 -43588131.75 0.2786 0.1074 *

Saturn -124051-04-14 12:15 J -43588101.11 -43588100.99 -43588100.86 0.0259 0.0191

Venus -124051-06-04 14:39 J -43588049.99 -43588049.89 -43588049.79 0.3767 0.0307

Mars -124051-06-04 20:11 J -43588049.78 -43588049.66 -43588049.55 0.1649 0.0059

Uranus -124051-06-06 12:59 J -43588048.09 -43588047.96 -43588047.83 0.0131 0.0026

Saturn -124051-07-12 07:27 J -43588012.36 -43588012.19 -43588012.01 0.0259 0.0084

Uranus -124051-09-02 15:51 J -43587959.97 -43587959.84 -43587959.72 0.0131 0.0041

Saturn -124051-10-09 02:39 J -43587923.57 -43587923.39 -43587923.20 0.0259 0.0026

Uranus -124051-11-29 18:44 J -43587871.84 -43587871.72 -43587871.60 0.0131 0.0056

Saturn -124050-01-05 22:06 J -43587834.73 -43587834.58 -43587834.41 0.0259 0.0134

Uranus -124050-02-25 21:23 J -43587783.71 -43587783.61 -43587783.49 0.0131 0.0072

Saturn -124050-04-04 17:32 J -43587745.82 -43587745.77 -43587745.70 0.0259 0.0244

Uranus -124050-05-25 00:15 J -43587695.58 -43587695.49 -43587695.38 0.0131 0.0087

Uranus -124050-08-21 03:08 J -43587607.44 -43587607.37 -43587607.28 0.0131 0.0102

Uranus -124050-11-17 06:01 J -43587519.30 -43587519.25 -43587519.18 0.0131 0.0117

Mars -124049-05-10 00:01 J -43587344.51 -43587344.50 -43587344.48 0.1648 0.1625

Moon -124048-09-11 02:25 J -43586855.55 -43586855.40 -43586855.24 0.2564 0.0528

Earth -124048-09-11 03:51 J -43586855.50 -43586855.34 -43586855.19 0.2560 0.0670 *

Jupiter -124046-02-12 14:54 J -43586336.06 -43586335.88 -43586335.69 0.0500 0.0056

Venus -124046-12-19 06:59 J -43586026.29 -43586026.21 -43586026.12 0.3772 0.2093

Mars -124044-01-14 23:32 J -43585633.57 -43585633.52 -43585633.46 0.1864 0.1748

Moon -124044-03-07 12:01 J -43585582.10 -43585582.00 -43585581.91 0.2779 0.1216

Earth -124044-03-07 12:44 J -43585582.07 -43585581.97 -43585581.88 0.2780 0.1134 *

Mars -124042-10-26 06:59 J -43584619.33 -43584619.21 -43584619.10 0.1650 0.0447

Jupiter -124040-01-09 08:11 J -43584178.27 -43584178.16 -43584178.05 0.0525 0.0267

Jupiter -124040-04-08 14:25 J -43584089.02 -43584088.90 -43584088.78 0.0526 0.0192

Mars -124040-09-30 11:03 J -43583914.11 -43583914.04 -43583913.96 0.1648 0.1228

Earth -124038-03-17 09:37 J -43583381.18 -43583381.10 -43583381.01 0.2780 0.1726

Moon -124038-03-17 10:06 J -43583381.16 -43583381.08 -43583380.99 0.2786 0.1722 *

Saturn -124036-05-09 07:27 J -43582597.28 -43582597.19 -43582597.09 0.0303 0.0205

Saturn -124036-08-05 21:08 J -43582508.74 -43582508.62 -43582508.49 0.0303 0.0080

Saturn -124036-11-02 10:49 J -43582420.18 -43582420.05 -43582419.92 0.0304 0.0045

Saturn -124035-01-30 00:15 J -43582331.60 -43582331.49 -43582331.38 0.0304 0.0169

Saturn -124035-04-28 13:27 J -43582242.97 -43582242.94 -43582242.90 0.0304 0.0291

Mars -124035-06-06 18:01 J -43582203.91 -43582203.75 -43582203.60 0.1864 0.0603

Moon -124035-09-14 08:39 J -43582104.25 -43582104.14 -43582104.03 0.2562 0.1872

Earth -124035-09-14 10:06 J -43582104.18 -43582104.08 -43582103.97 0.2560 0.1893 *

Jupiter -124035-12-01 12:44 J -43582026.14 -43582025.97 -43582025.80 0.0500 0.0194

Jupiter -124034-03-01 22:49 J -43581935.66 -43581935.55 -43581935.44 0.0499 0.0394

Mars -124032-03-17 17:47 J -43581188.86 -43581188.76 -43581188.66 0.1650 0.0862

Moon -124031-03-10 06:30 J -43580831.34 -43580831.23 -43580831.12 0.2776 0.0499

Earth -124031-03-10 07:13 J -43580831.31 -43580831.20 -43580831.10 0.2781 0.0403 *

Mars -124030-02-20 22:06 J -43580483.68 -43580483.58 -43580483.48 0.1648 0.0826

Jupiter -124029-10-28 12:01 J -43579868.09 -43579868.00 -43579867.91 0.0525 0.0382

Jupiter -124028-01-25 18:30 J -43579778.86 -43579778.73 -43579778.61 0.0526 0.0077

Earth -124028-09-05 21:23 J -43579555.73 -43579555.61 -43579555.48 0.2560 0.1581

Moon -124028-09-05 22:06 J -43579555.71 -43579555.58 -43579555.45 0.2554 0.1483 *

Mars -124026-10-27 12:59 J -43578774.12 -43578773.96 -43578773.81 0.1863 0.0514

Earth -124025-03-19 04:20 J -43578630.37 -43578630.32 -43578630.28 0.2780 0.2478

Moon -124025-03-19 04:35 J -43578630.36 -43578630.31 -43578630.26 0.2787 0.2450 *

Earth -124024-03-03 04:35 J -43578281.35 -43578281.31 -43578281.26 0.2779 0.2482

Moon -124024-03-03 05:18 J -43578281.33 -43578281.28 -43578281.23 0.2779 0.2421 *

Mars -124023-08-08 04:35 J -43577758.39 -43577758.31 -43577758.24 0.1651 0.1276

Jupiter -124023-09-19 10:20 J -43577716.20 -43577716.07 -43577715.93 0.0500 0.0333

Jupiter -124023-12-18 20:25 J -43577625.81 -43577625.65 -43577625.49 0.0499 0.0254

Saturn -124022-09-01 11:18 J -43577369.11 -43577369.03 -43577368.93 0.0259 0.0225

Saturn -124022-11-29 06:30 J -43577280.39 -43577280.23 -43577280.06 0.0259 0.0118

Saturn -124021-02-26 01:56 J -43577191.61 -43577191.42 -43577191.24 0.0259 0.0011

Saturn -124021-05-24 21:08 J -43577102.79 -43577102.62 -43577102.44 0.0259 0.0099

Mars -124021-07-13 09:08 J -43577053.23 -43577053.12 -43577053.01 0.1649 0.0425

Saturn -124021-08-21 16:35 J -43577013.91 -43577013.81 -43577013.69 0.0258 0.0208

Pluto -124019-01-02 10:20 J -43576515.12 -43576515.07 -43576515.01 0.0084 0.0078

Pluto -124019-03-31 11:32 J -43576427.10 -43576427.02 -43576426.91 0.0084 0.0062

Pluto -124019-06-27 12:59 J -43576339.07 -43576338.96 -43576338.83 0.0084 0.0045

Pluto -124019-09-23 14:25 J -43576251.02 -43576250.90 -43576250.76 0.0084 0.0029

Pluto -124019-12-20 15:51 J -43576162.97 -43576162.84 -43576162.70 0.0084 0.0013

Moon -124018-03-13 00:59 J -43576080.57 -43576080.46 -43576080.35 0.2777 0.0356

Earth -124018-03-13 01:42 J -43576080.54 -43576080.43 -43576080.33 0.2781 0.0375 *

Pluto -124018-03-18 17:18 J -43576074.92 -43576074.78 -43576074.64 0.0084 0.0003

Pluto -124018-06-14 18:30 J -43575986.86 -43575986.73 -43575986.59 0.0084 0.0020

Pluto -124018-09-10 19:56 J -43575898.79 -43575898.67 -43575898.54 0.0083 0.0035

Pluto -124018-12-07 21:08 J -43575810.72 -43575810.62 -43575810.50 0.0083 0.0051

Pluto -124017-03-04 22:49 J -43575722.63 -43575722.55 -43575722.47 0.0083 0.0067

Pluto -124017-06-01 00:01 J -43575634.51 -43575634.50 -43575634.48 0.0083 0.0082

Jupiter -124017-08-16 15:51 J -43575557.88 -43575557.84 -43575557.80 0.0525 0.0497

Jupiter -124017-11-13 22:20 J -43575468.69 -43575468.57 -43575468.44 0.0526 0.0041

Jupiter -124016-02-11 04:35 J -43575379.38 -43575379.31 -43575379.23 0.0527 0.0419

Mars -124016-03-18 07:56 J -43575344.25 -43575344.17 -43575344.09 0.1862 0.1614

Earth -124015-09-09 04:06 J -43574804.49 -43574804.33 -43574804.17 0.2560 0.0351

Moon -124015-09-09 05:18 J -43574804.44 -43574804.28 -43574804.12 0.2556 0.0334 *

Mars -124012-12-03 20:11 J -43573622.78 -43573622.66 -43573622.55 0.1649 0.0062

Earth -124011-03-05 23:03 J -43573530.62 -43573530.54 -43573530.46 0.2780 0.1745

Moon -124011-03-05 23:47 J -43573530.59 -43573530.51 -43573530.42 0.2782 0.1623 *

Uranus -124011-07-08 04:35 J -43573406.36 -43573406.31 -43573406.23 0.0148 0.0139

Jupiter -124011-07-08 07:56 J -43573406.22 -43573406.17 -43573406.11 0.0500 0.0473

Uranus -124011-10-04 13:42 J -43573318.06 -43573317.93 -43573317.80 0.0148 0.0107

Jupiter -124011-10-06 17:47 J -43573315.94 -43573315.76 -43573315.58 0.0499 0.0111

Uranus -124011-12-31 22:20 J -43573229.72 -43573229.57 -43573229.40 0.0148 0.0076

Uranus -124010-03-30 07:27 J -43573141.38 -43573141.19 -43573141.01 0.0148 0.0044

Uranus -124010-06-26 16:20 J -43573053.01 -43573052.82 -43573052.63 0.0148 0.0013

Uranus -124010-09-23 01:13 J -43572964.64 -43572964.45 -43572964.26 0.0148 0.0019

Uranus -124010-12-20 10:06 J -43572876.26 -43572876.08 -43572875.90 0.0148 0.0051

Uranus -124009-03-17 18:59 J -43572787.87 -43572787.71 -43572787.55 0.0148 0.0083

Uranus -124009-06-14 03:51 J -43572699.45 -43572699.34 -43572699.22 0.0148 0.0115

Uranus -124009-09-10 12:44 J -43572610.98 -43572610.97 -43572610.94 0.0148 0.0147

Neptune -124008-08-22 20:54 J -43572264.66 -43572264.63 -43572264.56 0.0089 0.0087

Neptune -124008-11-19 00:30 J -43572176.55 -43572176.48 -43572176.38 0.0089 0.0080

Neptune -124007-02-15 04:06 J -43572088.42 -43572088.33 -43572088.21 0.0089 0.0074

Neptune -124007-05-14 07:42 J -43572000.29 -43572000.18 -43572000.05 0.0089 0.0068

Neptune -124007-08-10 11:03 J -43571912.16 -43571912.04 -43571911.89 0.0089 0.0062

Saturn -124007-09-26 08:11 J -43571865.24 -43571865.16 -43571865.09 0.0302 0.0252

Neptune -124007-11-06 14:39 J -43571824.03 -43571823.89 -43571823.73 0.0089 0.0056

Saturn -124007-12-23 21:51 J -43571776.71 -43571776.59 -43571776.47 0.0303 0.0127

Neptune -124006-02-02 18:15 J -43571735.89 -43571735.74 -43571735.57 0.0089 0.0050

Saturn -124006-03-22 11:18 J -43571688.16 -43571688.03 -43571687.89 0.0303 0.0006

Neptune -124006-05-01 21:37 J -43571647.75 -43571647.60 -43571647.42 0.0089 0.0045

Saturn -124006-06-19 00:44 J -43571599.59 -43571599.47 -43571599.35 0.0303 0.0122

Neptune -124006-07-29 01:13 J -43571559.61 -43571559.45 -43571559.26 0.0089 0.0038

Saturn -124006-09-15 14:11 J -43571510.99 -43571510.91 -43571510.83 0.0303 0.0245

Neptune -124006-10-25 04:49 J -43571471.47 -43571471.30 -43571471.11 0.0089 0.0032

Venus -124006-12-11 03:37 J -43571424.43 -43571424.35 -43571424.28 0.3757 0.2628

Neptune -124005-01-21 08:25 J -43571383.32 -43571383.15 -43571382.96 0.0089 0.0026

Moon -124005-03-14 19:42 J -43571329.78 -43571329.68 -43571329.58 0.2775 0.1138

Earth -124005-03-14 20:11 J -43571329.76 -43571329.66 -43571329.57 0.2781 0.1116 *

Neptune -124005-04-18 12:01 J -43571295.18 -43571295.00 -43571294.81 0.0089 0.0020

Neptune -124005-07-15 15:37 J -43571207.03 -43571206.85 -43571206.65 0.0089 0.0014

Mars -124005-07-16 00:15 J -43571206.50 -43571206.49 -43571206.48 0.1864 0.1856

Jupiter -124005-09-02 02:54 J -43571158.50 -43571158.38 -43571158.25 0.0526 0.0146

Neptune -124005-10-11 19:13 J -43571118.89 -43571118.70 -43571118.50 0.0089 0.0008

Jupiter -124005-11-30 09:23 J -43571069.22 -43571069.11 -43571069.01 0.0527 0.0313

Neptune -124004-01-07 22:49 J -43571030.74 -43571030.55 -43571030.35 0.0089 0.0003

Neptune -124004-04-06 02:25 J -43570942.59 -43570942.40 -43570942.20 0.0089 0.0005

Neptune -124004-07-03 06:01 J -43570854.44 -43570854.25 -43570854.05 0.0089 0.0011

Neptune -124004-09-29 09:37 J -43570766.28 -43570766.10 -43570765.91 0.0089 0.0017

Neptune -124004-12-26 13:13 J -43570678.13 -43570677.95 -43570677.76 0.0089 0.0023

Neptune -124003-03-24 17:03 J -43570589.98 -43570589.79 -43570589.61 0.0089 0.0030

Neptune -124003-06-20 20:11 J -43570501.82 -43570501.66 -43570501.47 0.0089 0.0037

Venus -124003-09-12 23:32 J -43570417.65 -43570417.52 -43570417.39 0.3622 0.1939

Neptune -124003-09-17 00:01 J -43570413.66 -43570413.50 -43570413.32 0.0089 0.0042

Neptune -124003-12-14 03:37 J -43570325.50 -43570325.35 -43570325.18 0.0089 0.0048

Neptune -124002-03-12 07:13 J -43570237.34 -43570237.20 -43570237.04 0.0089 0.0055

Mars -124002-04-26 06:59 J -43570192.33 -43570192.21 -43570192.10 0.1650 0.0390

Neptune -124002-06-08 11:03 J -43570149.18 -43570149.04 -43570148.89 0.0089 0.0061

Neptune -124002-09-04 14:25 J -43570061.01 -43570060.90 -43570060.76 0.0089 0.0067

Earth -124002-09-12 10:20 J -43570053.22 -43570053.07 -43570052.92 0.2560 0.0885

Moon -124002-09-12 11:47 J -43570053.16 -43570053.01 -43570052.86 0.2556 0.0893 *

Neptune -124002-12-01 18:01 J -43569972.84 -43569972.75 -43569972.62 0.0089 0.0074

Neptune -124001-02-27 21:51 J -43569884.66 -43569884.59 -43569884.49 0.0089 0.0079

Neptune -124001-05-26 01:42 J -43569796.48 -43569796.43 -43569796.37 0.0089 0.0085

124TH MILLENNIUM BCE

This is a list of transits of Mercury in the 124th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Mars -124000-03-31 11:03 J -43569487.11 -43569487.04 -43569486.97 0.1648 0.1280

Venus -124000-06-25 19:56 J -43569400.77 -43569400.67 -43569400.57 0.3763 0.0825

Jupiter -123999-07-25 13:42 J -43569006.12 -43569005.93 -43569005.75 0.0499 0.0048

Earth -123998-03-08 17:32 J -43568779.87 -43568779.77 -43568779.67 0.2780 0.1002

Moon -123998-03-08 18:15 J -43568779.85 -43568779.74 -43568779.64 0.2784 0.0982 *

Venus -123997-03-29 06:59 J -43568393.32 -43568393.21 -43568393.11 0.3615 0.2602

Mars -123996-12-05 18:59 J -43567776.86 -43567776.71 -43567776.56 0.1863 0.0725

Moon -123995-09-03 21:08 J -43567504.63 -43567504.62 -43567504.62 0.2567 0.2562

Venus -123994-01-09 12:15 J -43567377.09 -43567376.99 -43567376.89 0.3768 0.0971

Jupiter -123993-06-21 07:13 J -43566848.31 -43566848.20 -43566848.08 0.0526 0.0256

Mars -123993-09-15 17:47 J -43566761.86 -43566761.76 -43566761.66 0.1650 0.0802

Jupiter -123993-09-18 13:42 J -43566759.05 -43566758.93 -43566758.81 0.0527 0.0204

Saturn -123992-01-18 10:49 J -43566637.07 -43566637.05 -43566637.02 0.0260 0.0257

Moon -123992-03-17 14:11 J -43566578.99 -43566578.91 -43566578.82 0.2774 0.1798

Earth -123992-03-17 14:39 J -43566578.97 -43566578.89 -43566578.81 0.2780 0.1862 *

Saturn -123992-04-17 06:01 J -43566548.40 -43566548.25 -43566548.10 0.0259 0.0150

Saturn -123992-07-15 01:13 J -43566459.63 -43566459.45 -43566459.27 0.0259 0.0042

Saturn -123992-10-11 20:25 J -43566370.82 -43566370.65 -43566370.46 0.0259 0.0067

Saturn -123991-01-08 16:06 J -43566281.96 -43566281.83 -43566281.69 0.0259 0.0176

Mars -123991-08-21 22:06 J -43566056.67 -43566056.58 -43566056.48 0.1648 0.0885

Venus -123989-07-25 04:35 J -43565353.38 -43565353.31 -43565353.24 0.3774 0.2758

Earth -123989-09-14 16:35 J -43565301.90 -43565301.81 -43565301.72 0.2560 0.2104

Moon -123989-09-14 18:30 J -43565301.81 -43565301.73 -43565301.66 0.2559 0.2267 *

Jupiter -123987-05-13 10:49 J -43564696.22 -43564696.05 -43564695.88 0.0500 0.0192

Jupiter -123987-08-11 20:54 J -43564605.74 -43564605.63 -43564605.52 0.0499 0.0395

Mars -123986-04-27 13:27 J -43564347.10 -43564346.94 -43564346.77 0.1863 0.0410

Earth -123985-03-10 12:01 J -43564029.11 -43564029.00 -43564028.89 0.2781 0.0257

Moon -123985-03-10 12:44 J -43564029.08 -43564028.97 -43564028.87 0.2785 0.0300 *

Mars -123983-02-06 04:35 J -43563331.39 -43563331.31 -43563331.24 0.1651 0.1219

Moon -123982-09-07 03:08 J -43562753.50 -43562753.37 -43562753.23 0.2565 0.1351

Earth -123982-09-07 04:06 J -43562753.46 -43562753.33 -43562753.19 0.2560 0.1360 *

Mars -123981-01-12 09:08 J -43562626.23 -43562626.12 -43562626.01 0.1649 0.0481

Jupiter -123981-04-09 11:03 J -43562538.12 -43562538.04 -43562537.95 0.0525 0.0373

Jupiter -123981-07-07 17:32 J -43562448.89 -43562448.77 -43562448.64 0.0526 0.0087

Moon -123979-03-20 08:54 J -43561828.17 -43561828.13 -43561828.09 0.2773 0.2531

Earth -123979-03-20 09:08 J -43561828.15 -43561828.12 -43561828.09 0.2780 0.2610 *

Moon -123978-03-04 08:54 J -43561479.18 -43561479.13 -43561479.08 0.2776 0.2398

Earth -123978-03-04 09:37 J -43561479.16 -43561479.10 -43561479.05 0.2779 0.2353 *

Saturn -123977-02-13 09:23 J -43561133.14 -43561133.11 -43561133.07 0.0303 0.0289

Saturn -123977-05-11 23:03 J -43561044.65 -43561044.54 -43561044.42 0.0303 0.0164

Saturn -123977-08-08 12:44 J -43560956.10 -43560955.97 -43560955.83 0.0303 0.0039

Mars -123977-09-16 08:54 J -43560917.22 -43560917.13 -43560917.03 0.1862 0.1494

Saturn -123977-11-05 02:11 J -43560867.53 -43560867.41 -43560867.28 0.0304 0.0086

Saturn -123976-02-01 15:37 J -43560778.94 -43560778.85 -43560778.75 0.0304 0.0209

Jupiter -123975-03-01 08:25 J -43560386.29 -43560386.15 -43560386.01 0.0500 0.0333

Jupiter -123975-05-30 18:30 J -43560295.89 -43560295.73 -43560295.58 0.0499 0.0254

Mars -123974-06-29 15:08 J -43559900.88 -43559900.87 -43559900.86 0.1652 0.1636

Earth -123972-03-13 06:30 J -43559278.34 -43559278.23 -43559278.13 0.2781 0.0493

Moon -123972-03-13 06:59 J -43559278.32 -43559278.21 -43559278.11 0.2787 0.0558 *

Mars -123972-06-03 19:56 J -43559195.78 -43559195.67 -43559195.55 0.1649 0.0086

Uranus -123969-01-27 14:11 J -43558227.94 -43558227.91 -43558227.86 0.0131 0.0124

Jupiter -123969-01-27 14:54 J -43558227.92 -43558227.88 -43558227.83 0.0525 0.0489 *

Uranus -123969-04-24 17:18 J -43558139.85 -43558139.78 -43558139.70 0.0131 0.0108

Jupiter -123969-04-25 21:37 J -43558138.73 -43558138.60 -43558138.47 0.0526 0.0031

Uranus -123969-07-21 20:11 J -43558051.75 -43558051.66 -43558051.56 0.0131 0.0093

Jupiter -123969-07-24 03:51 J -43558049.42 -43558049.34 -43558049.27 0.0527 0.0427

Moon -123969-09-09 09:23 J -43558002.27 -43558002.11 -43558001.96 0.2564 0.0286

Earth -123969-09-09 10:35 J -43558002.22 -43558002.06 -43558001.90 0.2560 0.0128 *

Uranus -123969-10-17 23:03 J -43557963.64 -43557963.54 -43557963.42 0.0131 0.0078

Uranus -123968-01-14 02:11 J -43557875.53 -43557875.41 -43557875.29 0.0131 0.0062

Uranus -123968-04-12 05:03 J -43557787.41 -43557787.29 -43557787.16 0.0131 0.0047

Uranus -123968-07-09 07:56 J -43557699.29 -43557699.17 -43557699.04 0.0131 0.0032

Uranus -123968-10-05 11:03 J -43557611.18 -43557611.04 -43557610.91 0.0131 0.0017

Uranus -123967-01-01 13:56 J -43557523.06 -43557522.92 -43557522.79 0.0131 0.0003

Uranus -123967-03-30 16:49 J -43557434.93 -43557434.80 -43557434.67 0.0131 0.0013

Uranus -123967-06-26 19:42 J -43557346.81 -43557346.68 -43557346.55 0.0131 0.0029

Uranus -123967-09-22 22:35 J -43557258.68 -43557258.56 -43557258.43 0.0131 0.0044

Uranus -123967-12-20 01:27 J -43557170.56 -43557170.44 -43557170.32 0.0131 0.0059

Uranus -123966-03-18 04:20 J -43557082.43 -43557082.32 -43557082.21 0.0131 0.0074

Uranus -123966-06-14 07:13 J -43556994.29 -43556994.20 -43556994.10 0.0131 0.0089

Uranus -123966-09-10 09:51 J -43556906.16 -43556906.09 -43556906.00 0.0131 0.0105

Uranus -123966-12-07 12:44 J -43556818.01 -43556817.97 -43556817.90 0.0131 0.0119

Moon -123965-03-06 03:23 J -43556728.45 -43556728.36 -43556728.27 0.2778 0.1597

Earth -123965-03-06 04:06 J -43556728.42 -43556728.33 -43556728.25 0.2780 0.1616 *

Jupiter -123964-12-18 06:01 J -43556076.30 -43556076.25 -43556076.19 0.0501 0.0472

Jupiter -123963-03-18 15:51 J -43555986.02 -43555985.84 -43555985.66 0.0500 0.0112

Saturn -123963-09-04 05:32 J -43555816.39 -43555816.27 -43555816.13 0.0259 0.0182

Mars -123963-10-25 06:59 J -43555765.33 -43555765.21 -43555765.10 0.1650 0.0335

Saturn -123963-12-02 00:44 J -43555727.64 -43555727.47 -43555727.29 0.0259 0.0074

Saturn -123962-02-28 20:11 J -43555638.84 -43555638.66 -43555638.48 0.0259 0.0034

Saturn -123962-05-28 15:37 J -43555550.00 -43555549.85 -43555549.69 0.0259 0.0143

Saturn -123962-08-25 11:18 J -43555461.06 -43555461.03 -43555460.99 0.0259 0.0253

Mars -123961-09-29 11:03 J -43555060.10 -43555060.04 -43555059.97 0.1648 0.1334

Earth -123959-03-16 00:59 J -43554527.56 -43554527.46 -43554527.36 0.2781 0.1241

Moon -123959-03-16 01:27 J -43554527.54 -43554527.44 -43554527.35 0.2787 0.1332 *

Jupiter -123957-02-13 01:27 J -43553828.56 -43553828.44 -43553828.32 0.0526 0.0147

Jupiter -123957-05-12 07:42 J -43553739.28 -43553739.18 -43553739.08 0.0527 0.0312

Mars -123956-06-05 19:27 J -43553349.84 -43553349.69 -43553349.55 0.1863 0.0819

Moon -123956-09-12 15:23 J -43553251.01 -43553250.86 -43553250.71 0.2561 0.0943

Earth -123956-09-12 17:03 J -43553250.93 -43553250.79 -43553250.64 0.2560 0.1112 *

Mars -123953-03-16 17:47 J -43552334.87 -43552334.76 -43552334.66 0.1651 0.0745

Moon -123952-03-08 21:51 J -43551977.69 -43551977.59 -43551977.49 0.2775 0.0924

Earth -123952-03-08 22:35 J -43551977.67 -43551977.56 -43551977.46 0.2780 0.0877 *

Jupiter -123951-01-04 13:13 J -43551676.14 -43551675.95 -43551675.77 0.0500 0.0032

Mars -123951-02-19 22:06 J -43551629.67 -43551629.58 -43551629.48 0.1648 0.0937

Venus -123949-07-17 01:13 J -43550751.54 -43550751.45 -43550751.36 0.3758 0.1960

Earth -123949-09-04 04:20 J -43550702.38 -43550702.32 -43550702.27 0.2560 0.2380

Moon -123949-09-04 04:49 J -43550702.37 -43550702.30 -43550702.22 0.2555 0.2255 *

Saturn -123948-09-29 00:15 J -43550312.59 -43550312.49 -43550312.39 0.0302 0.0205

Saturn -123948-12-26 13:56 J -43550224.05 -43550223.92 -43550223.79 0.0303 0.0081

Saturn -123947-03-25 03:23 J -43550135.49 -43550135.36 -43550135.23 0.0303 0.0044

Saturn -123947-06-21 16:49 J -43550046.91 -43550046.80 -43550046.69 0.0303 0.0167

Saturn -123947-09-18 06:15 J -43549958.28 -43549958.24 -43549958.21 0.0303 0.0289

Mars -123947-10-26 14:39 J -43549920.05 -43549919.89 -43549919.73 0.1863 0.0283

Moon -123946-03-18 19:42 J -43549776.76 -43549776.68 -43549776.61 0.2788 0.1982

Earth -123946-03-18 19:27 J -43549776.76 -43549776.69 -43549776.61 0.2780 0.1995 *

Venus -123946-04-20 00:59 J -43549744.61 -43549744.46 -43549744.31 0.3621 0.0419

Jupiter -123946-12-02 05:47 J -43549518.37 -43549518.26 -43549518.15 0.0526 0.0256

Jupiter -123945-02-29 12:15 J -43549429.11 -43549428.99 -43549428.87 0.0527 0.0204

Mars -123944-08-07 04:35 J -43548904.39 -43548904.31 -43548904.23 0.1651 0.1157

Venus -123943-01-30 17:32 J -43548727.87 -43548727.77 -43548727.66 0.3764 0.0187

Moon -123943-09-15 21:37 J -43548499.66 -43548499.60 -43548499.53 0.2561 0.2314

Earth -123943-09-15 23:18 J -43548499.59 -43548499.53 -43548499.46 0.2560 0.2329 *

Mars -123942-07-13 09:08 J -43548199.23 -43548199.12 -43548199.01 0.1649 0.0537

Jupiter -123940-10-23 09:08 J -43547366.29 -43547366.12 -43547365.95 0.0500 0.0188

Jupiter -123939-01-21 19:13 J -43547275.81 -43547275.70 -43547275.59 0.0499 0.0398

Moon -123939-03-11 16:20 J -43547226.92 -43547226.82 -43547226.71 0.2776 0.0238

Earth -123939-03-11 16:49 J -43547226.90 -43547226.80 -43547226.69 0.2781 0.0159 *

Venus -123938-08-16 09:51 J -43546704.18 -43546704.09 -43546703.99 0.3769 0.1634

Mars -123937-03-17 09:37 J -43546490.21 -43546490.10 -43546490.00 0.1861 0.1392

Earth -123936-09-07 10:49 J -43545951.19 -43545951.05 -43545950.91 0.2560 0.1142

Moon -123936-09-07 12:15 J -43545951.14 -43545950.99 -43545950.84 0.2556 0.0984 *

Mars -123935-12-28 15:08 J -43545473.90 -43545473.87 -43545473.84 0.1652 0.1579

Jupiter -123934-09-20 10:06 J -43545208.17 -43545208.08 -43545207.99 0.0526 0.0367

Jupiter -123934-12-18 16:35 J -43545118.94 -43545118.81 -43545118.68 0.0526 0.0094

Saturn -123933-01-22 05:18 J -43545084.38 -43545084.28 -43545084.17 0.0260 0.0212

Moon -123933-03-20 14:11 J -43545025.93 -43545025.91 -43545025.89 0.2787 0.2716

Earth -123933-03-20 13:56 J -43545025.93 -43545025.92 -43545025.90 0.2780 0.2749 *

Saturn -123933-04-20 00:30 J -43544995.65 -43544995.48 -43544995.31 0.0260 0.0104

Saturn -123933-07-17 19:56 J -43544906.86 -43544906.67 -43544906.49 0.0259 0.0006

Saturn -123933-10-14 15:23 J -43544818.03 -43544817.86 -43544817.69 0.0259 0.0113

Mars -123933-12-02 20:11 J -43544768.78 -43544768.66 -43544768.55 0.1649 0.0145

Saturn -123932-01-11 10:49 J -43544729.14 -43544729.05 -43544728.95 0.0259 0.0223

Venus -123932-03-01 02:11 J -43544680.45 -43544680.41 -43544680.36 0.3775 0.3418

Earth -123932-03-04 14:25 J -43544676.96 -43544676.90 -43544676.84 0.2779 0.2226

Moon -123932-03-04 15:08 J -43544676.94 -43544676.87 -43544676.80 0.2782 0.2168 *

Jupiter -123928-08-11 06:15 J -43543056.37 -43543056.24 -43543056.10 0.0500 0.0333

Jupiter -123928-11-09 16:06 J -43542965.99 -43542965.83 -43542965.67 0.0499 0.0252

Neptune -123927-03-21 01:56 J -43542834.43 -43542834.42 -43542834.38 0.0088 0.0086

Neptune -123927-06-17 03:37 J -43542746.40 -43542746.35 -43542746.30 0.0088 0.0082

Uranus -123927-07-28 11:47 J -43542705.09 -43542705.01 -43542704.93 0.0148 0.0133

Neptune -123927-09-13 05:03 J -43542658.35 -43542658.29 -43542658.23 0.0088 0.0077

Uranus -123927-10-24 20:25 J -43542616.78 -43542616.65 -43542616.51 0.0148 0.0102

Neptune -123927-12-10 06:15 J -43542570.30 -43542570.24 -43542570.16 0.0088 0.0074

Uranus -123926-01-21 05:03 J -43542528.44 -43542528.29 -43542528.11 0.0148 0.0071

Neptune -123926-03-08 07:42 J -43542482.25 -43542482.18 -43542482.09 0.0088 0.0069

Moon -123926-03-14 11:03 J -43542476.15 -43542476.04 -43542475.94 0.2774 0.0628

Earth -123926-03-14 11:18 J -43542476.13 -43542476.03 -43542475.92 0.2781 0.0631 *

Uranus -123926-04-19 14:11 J -43542440.09 -43542439.91 -43542439.72 0.0148 0.0039

Neptune -123926-06-04 08:54 J -43542394.20 -43542394.13 -43542394.02 0.0088 0.0066

Uranus -123926-07-16 23:03 J -43542351.73 -43542351.54 -43542351.35 0.0148 0.0007

Neptune -123926-08-31 10:35 J -43542306.15 -43542306.06 -43542305.96 0.0088 0.0061

Uranus -123926-10-13 07:56 J -43542263.36 -43542263.17 -43542262.98 0.0148 0.0025

Neptune -123926-11-27 12:01 J -43542218.10 -43542218.00 -43542217.89 0.0088 0.0056

Uranus -123925-01-09 16:49 J -43542174.97 -43542174.80 -43542174.62 0.0148 0.0057

Neptune -123925-02-23 13:13 J -43542130.05 -43542129.95 -43542129.83 0.0088 0.0053

Uranus -123925-04-07 01:42 J -43542086.58 -43542086.43 -43542086.27 0.0148 0.0089

Neptune -123925-05-21 14:39 J -43542041.99 -43542041.89 -43542041.77 0.0088 0.0048

Uranus -123925-07-04 10:35 J -43541998.16 -43541998.06 -43541997.94 0.0148 0.0121

Neptune -123925-08-17 16:20 J -43541953.94 -43541953.82 -43541953.71 0.0088 0.0044

Neptune -123925-11-13 17:32 J -43541865.89 -43541865.77 -43541865.65 0.0088 0.0040

Neptune -123924-02-09 18:59 J -43541777.83 -43541777.71 -43541777.59 0.0088 0.0035

Neptune -123924-05-08 20:11 J -43541689.78 -43541689.66 -43541689.53 0.0088 0.0032

Neptune -123924-08-04 21:37 J -43541601.72 -43541601.60 -43541601.46 0.0088 0.0027

Neptune -123924-10-31 23:03 J -43541513.67 -43541513.54 -43541513.41 0.0088 0.0023

Neptune -123923-01-28 00:30 J -43541425.61 -43541425.48 -43541425.35 0.0088 0.0018

Mars -123923-04-25 06:59 J -43541338.33 -43541338.21 -43541338.10 0.1650 0.0281

Neptune -123923-04-26 01:56 J -43541337.55 -43541337.42 -43541337.29 0.0088 0.0014

Neptune -123923-07-23 03:08 J -43541249.50 -43541249.37 -43541249.23 0.0088 0.0011

Earth -123923-09-10 17:18 J -43541199.94 -43541199.78 -43541199.62 0.2560 0.0104

Moon -123923-09-10 18:44 J -43541199.88 -43541199.72 -43541199.55 0.2557 0.0123 *

Neptune -123923-10-19 04:35 J -43541161.44 -43541161.31 -43541161.17 0.0088 0.0006

Neptune -123922-01-15 06:01 J -43541073.39 -43541073.25 -43541073.12 0.0088 0.0002

Neptune -123922-04-13 07:27 J -43540985.33 -43540985.19 -43540985.06 0.0088 0.0004

Jupiter -123922-07-09 13:56 J -43540897.97 -43540897.92 -43540897.88 0.0525 0.0484

Neptune -123922-07-10 08:39 J -43540897.27 -43540897.14 -43540897.00 0.0088 0.0007

Neptune -123922-10-06 10:06 J -43540809.21 -43540809.08 -43540808.95 0.0088 0.0011

Jupiter -123922-10-06 20:25 J -43540808.78 -43540808.65 -43540808.52 0.0526 0.0025

Neptune -123921-01-02 11:18 J -43540721.16 -43540721.03 -43540720.89 0.0088 0.0016

Jupiter -123921-01-04 02:39 J -43540719.46 -43540719.39 -43540719.32 0.0527 0.0432

Mars -123921-03-30 11:03 J -43540633.10 -43540633.04 -43540632.98 0.1648 0.1389

Neptune -123921-03-30 12:44 J -43540633.10 -43540632.97 -43540632.84 0.0088 0.0019 *

Neptune -123921-06-26 14:11 J -43540545.04 -43540544.91 -43540544.78 0.0088 0.0023

Neptune -123921-09-22 15:23 J -43540456.98 -43540456.86 -43540456.73 0.0088 0.0028

Neptune -123921-12-19 16:35 J -43540368.92 -43540368.81 -43540368.67 0.0088 0.0033

Neptune -123920-03-17 18:01 J -43540280.86 -43540280.75 -43540280.62 0.0088 0.0036

Neptune -123920-06-13 19:27 J -43540192.81 -43540192.69 -43540192.57 0.0088 0.0040

Neptune -123920-09-09 20:39 J -43540104.75 -43540104.64 -43540104.52 0.0088 0.0045

Neptune -123920-12-06 22:06 J -43540016.69 -43540016.58 -43540016.46 0.0088 0.0048

Neptune -123919-03-04 23:32 J -43539928.63 -43539928.52 -43539928.41 0.0088 0.0052

Earth -123919-03-07 08:54 J -43539926.22 -43539926.13 -43539926.04 0.2780 0.1485

Moon -123919-03-07 09:23 J -43539926.20 -43539926.11 -43539926.01 0.2785 0.1384 *

Neptune -123919-06-01 00:44 J -43539840.57 -43539840.47 -43539840.36 0.0088 0.0057

Neptune -123919-08-28 02:11 J -43539752.50 -43539752.41 -43539752.31 0.0088 0.0061

Neptune -123919-11-24 03:08 J -43539664.44 -43539664.37 -43539664.26 0.0088 0.0066

Saturn -123918-02-16 01:56 J -43539580.49 -43539580.42 -43539580.33 0.0303 0.0239

Neptune -123918-02-20 04:35 J -43539576.38 -43539576.31 -43539576.22 0.0088 0.0069

Saturn -123918-05-15 15:37 J -43539491.97 -43539491.85 -43539491.72 0.0303 0.0115

Neptune -123918-05-19 06:01 J -43539488.31 -43539488.25 -43539488.17 0.0088 0.0073

Saturn -123918-08-12 05:18 J -43539403.41 -43539403.28 -43539403.15 0.0303 0.0010

Neptune -123918-08-15 07:13 J -43539400.25 -43539400.20 -43539400.12 0.0088 0.0077

Saturn -123918-11-08 18:44 J -43539314.84 -43539314.72 -43539314.60 0.0304 0.0134

Neptune -123918-11-11 08:39 J -43539312.18 -43539312.14 -43539312.08 0.0088 0.0081

Saturn -123917-02-05 08:11 J -43539226.23 -43539226.16 -43539226.10 0.0304 0.0256

Neptune -123917-02-07 09:51 J -43539224.11 -43539224.09 -43539224.04 0.0088 0.0085

Mars -123917-12-04 20:25 J -43538922.79 -43538922.65 -43538922.51 0.1863 0.0942

Jupiter -123916-05-30 03:37 J -43538746.40 -43538746.35 -43538746.29 0.0500 0.0476

Jupiter -123916-08-28 13:27 J -43538656.12 -43538655.94 -43538655.76 0.0500 0.0108

Mars -123914-09-15 17:47 J -43537907.87 -43537907.76 -43537907.65 0.1651 0.0688

Moon -123913-03-16 05:32 J -43537725.36 -43537725.27 -43537725.17 0.2774 0.1418

Earth -123913-03-16 05:47 J -43537725.35 -43537725.26 -43537725.16 0.2781 0.1378 *

Mars -123912-08-20 22:06 J -43537202.67 -43537202.58 -43537202.49 0.1648 0.0991

Jupiter -123910-07-26 00:15 J -43536498.61 -43536498.49 -43536498.36 0.0526 0.0142

Earth -123910-09-13 23:32 J -43536448.65 -43536448.52 -43536448.38 0.2560 0.1330

Moon -123910-09-14 01:27 J -43536448.58 -43536448.44 -43536448.30 0.2559 0.1341 *

Jupiter -123910-10-23 06:30 J -43536409.33 -43536409.23 -43536409.12 0.0526 0.0317

Mars -123907-04-26 14:54 J -43535493.04 -43535492.88 -43535492.71 0.1862 0.0195

Earth -123906-03-10 03:23 J -43535175.47 -43535175.36 -43535175.26 0.2780 0.0739

Moon -123906-03-10 03:51 J -43535175.44 -43535175.34 -43535175.23 0.2785 0.0726 *

Mars -123904-02-05 04:35 J -43534477.40 -43534477.31 -43534477.23 0.1652 0.1106

Saturn -123904-06-10 05:32 J -43534352.33 -43534352.27 -43534352.19 0.0260 0.0240

Jupiter -123904-06-16 10:49 J -43534346.23 -43534346.05 -43534345.87 0.0500 0.0034

Saturn -123904-09-07 00:44 J -43534263.62 -43534263.47 -43534263.31 0.0259 0.0133

Saturn -123904-12-04 20:11 J -43534174.85 -43534174.66 -43534174.48 0.0259 0.0025

Saturn -123903-03-03 15:23 J -43534086.03 -43534085.86 -43534085.68 0.0259 0.0085

Saturn -123903-05-31 11:03 J -43533997.16 -43533997.04 -43533996.92 0.0259 0.0194

Moon -123903-09-05 09:51 J -43533900.17 -43533900.09 -43533900.01 0.2565 0.2161

Earth -123903-09-05 11:03 J -43533900.13 -43533900.04 -43533899.96 0.2560 0.2157 *

Mars -123902-01-11 09:08 J -43533772.23 -43533772.12 -43533772.01 0.1649 0.0590

Moon -123900-03-19 00:15 J -43532974.56 -43532974.49 -43532974.42 0.2773 0.2071

Earth -123900-03-19 00:30 J -43532974.55 -43532974.48 -43532974.42 0.2780 0.2131 *

Jupiter -123898-05-14 04:06 J -43532188.44 -43532188.33 -43532188.22 0.0525 0.0260

Venus -123898-08-08 06:30 J -43532102.29 -43532102.23 -43532102.18 0.3754 0.3091

Jupiter -123898-08-11 10:20 J -43532099.18 -43532099.07 -43532098.95 0.0526 0.0200

Mars -123898-09-16 10:20 J -43532063.19 -43532063.07 -43532062.96 0.1862 0.1283

Earth -123897-09-16 06:01 J -43531697.27 -43531697.25 -43531697.24 0.2560 0.2546

Venus -123895-05-10 19:27 J -43531095.75 -43531095.69 -43531095.64 0.3626 0.3379

Mars -123895-06-28 15:08 J -43531046.91 -43531046.87 -43531046.82 0.1652 0.1519

Earth -123893-03-11 21:51 J -43530424.70 -43530424.59 -43530424.48 0.2781 0.0052

Moon -123893-03-11 22:06 J -43530424.69 -43530424.58 -43530424.47 0.2788 0.0052 *

Mars -123893-06-02 19:56 J -43530341.78 -43530341.67 -43530341.55 0.1649 0.0193

Venus -123892-02-20 22:49 J -43530078.64 -43530078.55 -43530078.45 0.3760 0.1291

Jupiter -123892-04-04 07:56 J -43530036.34 -43530036.17 -43530035.99 0.0500 0.0179

Jupiter -123892-07-03 18:01 J -43529945.85 -43529945.75 -43529945.64 0.0499 0.0409

Moon -123890-09-08 16:06 J -43529148.98 -43529148.83 -43529148.68 0.2564 0.0927

Earth -123890-09-08 17:32 J -43529148.92 -43529148.77 -43529148.62 0.2560 0.0920 *

Venus -123890-11-25 02:39 J -43529071.54 -43529071.39 -43529071.25 0.3618 0.1128

Saturn -123889-07-05 03:37 J -43528848.40 -43528848.35 -43528848.29 0.0302 0.0275

Saturn -123889-10-01 17:32 J -43528759.89 -43528759.77 -43528759.66 0.0302 0.0151

Saturn -123889-12-29 06:59 J -43528671.34 -43528671.21 -43528671.08 0.0303 0.0027

Saturn -123888-03-27 20:25 J -43528582.77 -43528582.65 -43528582.52 0.0303 0.0097

Saturn -123888-06-24 09:51 J -43528494.18 -43528494.09 -43528494.00 0.0303 0.0220

Venus -123887-09-06 15:08 J -43528054.97 -43528054.87 -43528054.76 0.3765 0.0523

Jupiter -123886-03-02 08:11 J -43527878.24 -43527878.16 -43527878.06 0.0525 0.0371

Moon -123886-03-05 18:44 J -43527874.79 -43527874.72 -43527874.65 0.2776 0.2125

Earth -123886-03-05 19:27 J -43527874.76 -43527874.69 -43527874.62 0.2780 0.2099 *

Jupiter -123886-05-30 14:54 J -43527789.01 -43527788.88 -43527788.76 0.0526 0.0090

Uranus -123885-02-16 21:08 J -43527526.67 -43527526.62 -43527526.57 0.0131 0.0121

Uranus -123885-05-15 00:01 J -43527438.57 -43527438.50 -43527438.42 0.0131 0.0106

Uranus -123885-08-11 02:54 J -43527350.47 -43527350.38 -43527350.28 0.0131 0.0091

Uranus -123885-11-07 05:47 J -43527262.36 -43527262.26 -43527262.14 0.0131 0.0076

Uranus -123884-02-03 08:54 J -43527174.25 -43527174.13 -43527174.01 0.0131 0.0060

Uranus -123884-05-02 11:47 J -43527086.13 -43527086.01 -43527085.88 0.0131 0.0045

Uranus -123884-07-29 14:54 J -43526998.01 -43526997.88 -43526997.75 0.0131 0.0030

Mars -123884-10-24 06:59 J -43526911.33 -43526911.21 -43526911.09 0.1650 0.0218

Uranus -123884-10-25 17:47 J -43526909.89 -43526909.76 -43526909.63 0.0131 0.0015

Uranus -123883-01-21 20:39 J -43526821.77 -43526821.64 -43526821.51 0.0131 0.0001

Uranus -123883-04-19 23:32 J -43526733.65 -43526733.52 -43526733.39 0.0131 0.0015

Uranus -123883-07-17 02:25 J -43526645.53 -43526645.40 -43526645.27 0.0131 0.0031

Uranus -123883-10-13 05:18 J -43526557.40 -43526557.28 -43526557.15 0.0131 0.0046

Uranus -123882-01-09 08:11 J -43526469.28 -43526469.16 -43526469.04 0.0131 0.0061

Uranus -123882-04-07 10:49 J -43526381.15 -43526381.05 -43526380.93 0.0131 0.0076

Uranus -123882-07-04 13:42 J -43526293.01 -43526292.93 -43526292.82 0.0131 0.0091

Mars -123882-09-29 11:03 J -43526206.09 -43526206.04 -43526205.98 0.1648 0.1444

Uranus -123882-09-30 16:35 J -43526204.88 -43526204.81 -43526204.72 0.0131 0.0106

Uranus -123882-12-27 19:27 J -43526116.73 -43526116.69 -43526116.63 0.0131 0.0121

Venus -123881-03-22 07:42 J -43526031.27 -43526031.18 -43526031.10 0.3771 0.2296

Jupiter -123880-01-21 04:06 J -43525726.46 -43525726.33 -43525726.19 0.0500 0.0334

Earth -123880-03-14 16:20 J -43525673.93 -43525673.82 -43525673.72 0.2781 0.0762

Moon -123880-03-14 16:35 J -43525673.91 -43525673.81 -43525673.71 0.2787 0.0812 *

Jupiter -123880-04-21 13:56 J -43525636.08 -43525635.92 -43525635.76 0.0499 0.0251

Mars -123877-06-04 21:08 J -43524495.75 -43524495.62 -43524495.48 0.1863 0.1051

Moon -123877-09-10 22:20 J -43524397.73 -43524397.57 -43524397.41 0.2560 0.0180

Earth -123877-09-11 00:01 J -43524397.66 -43524397.50 -43524397.34 0.2560 0.0324 *

Jupiter -123875-12-19 12:30 J -43523568.03 -43523567.98 -43523567.93 0.0525 0.0484

Saturn -123874-01-25 00:59 J -43523531.60 -43523531.46 -43523531.31 0.0260 0.0160

Mars -123874-03-16 17:47 J -43523480.87 -43523480.76 -43523480.65 0.1651 0.0633

Jupiter -123874-03-18 18:59 J -43523478.84 -43523478.71 -43523478.58 0.0526 0.0026

Saturn -123874-04-23 20:11 J -43523442.84 -43523442.66 -43523442.48 0.0260 0.0052

Jupiter -123874-06-16 01:13 J -43523389.51 -43523389.45 -43523389.37 0.0527 0.0436

Saturn -123874-07-21 15:37 J -43523354.03 -43523353.85 -43523353.67 0.0260 0.0057

Saturn -123874-10-18 11:03 J -43523265.18 -43523265.04 -43523264.89 0.0259 0.0166

Moon -123873-03-07 13:13 J -43523124.04 -43523123.95 -43523123.85 0.2774 0.1318

Earth -123873-03-07 13:42 J -43523124.02 -43523123.93 -43523123.83 0.2780 0.1357 *

Mars -123872-02-18 22:06 J -43522775.67 -43522775.58 -43522775.49 0.1648 0.1046

Jupiter -123869-11-09 01:13 J -43521416.49 -43521416.45 -43521416.39 0.0500 0.0479

Jupiter -123868-02-07 10:49 J -43521326.23 -43521326.05 -43521325.86 0.0499 0.0105

Mars -123868-10-25 15:51 J -43521066.00 -43521065.84 -43521065.67 0.1863 0.0081

Moon -123867-03-17 10:49 J -43520923.14 -43520923.05 -43520922.96 0.2789 0.1586

Earth -123867-03-17 10:49 J -43520923.14 -43520923.05 -43520922.96 0.2781 0.1510 *

Pluto -123866-01-30 11:47 J -43520604.05 -43520604.01 -43520603.92 0.0061 0.0057

Pluto -123866-04-28 12:59 J -43520516.05 -43520515.96 -43520515.82 0.0061 0.0049

Pluto -123866-07-25 14:11 J -43520428.02 -43520427.91 -43520427.74 0.0061 0.0041

Pluto -123866-10-21 15:51 J -43520339.99 -43520339.84 -43520339.67 0.0061 0.0032

Pluto -123865-01-17 17:03 J -43520251.95 -43520251.79 -43520251.61 0.0061 0.0024

Pluto -123865-04-14 18:30 J -43520163.90 -43520163.73 -43520163.54 0.0061 0.0016

Pluto -123865-07-11 19:56 J -43520075.86 -43520075.67 -43520075.49 0.0061 0.0007

Mars -123865-08-06 04:35 J -43520050.40 -43520050.31 -43520050.22 0.1651 0.1047

Pluto -123865-10-07 21:08 J -43519987.80 -43519987.62 -43519987.43 0.0061 0.0001

Pluto -123864-01-03 22:20 J -43519899.75 -43519899.57 -43519899.38 0.0061 0.0009

Pluto -123864-04-01 23:32 J -43519811.69 -43519811.52 -43519811.33 0.0061 0.0018

Pluto -123864-06-29 00:59 J -43519723.63 -43519723.46 -43519723.29 0.0061 0.0026

Moon -123864-09-14 04:35 J -43519646.44 -43519646.31 -43519646.17 0.2560 0.1387

Earth -123864-09-14 06:15 J -43519646.36 -43519646.24 -43519646.11 0.2560 0.1552 *

Pluto -123864-09-25 01:56 J -43519635.56 -43519635.42 -43519635.25 0.0061 0.0034

Pluto -123864-12-22 03:08 J -43519547.49 -43519547.37 -43519547.22 0.0061 0.0043

Pluto -123863-03-20 04:49 J -43519459.40 -43519459.30 -43519459.20 0.0062 0.0051

Pluto -123863-06-16 05:32 J -43519371.29 -43519371.27 -43519371.20 0.0062 0.0060

Mars -123863-07-12 09:08 J -43519345.23 -43519345.12 -43519345.01 0.1649 0.0646

Jupiter -123862-01-04 22:49 J -43519168.67 -43519168.55 -43519168.42 0.0526 0.0141

Jupiter -123862-04-04 05:18 J -43519079.39 -43519079.28 -43519079.18 0.0527 0.0318

Moon -123860-03-10 07:56 J -43518373.28 -43518373.17 -43518373.07 0.2775 0.0651

Earth -123860-03-10 08:11 J -43518373.26 -43518373.16 -43518373.05 0.2781 0.0611 *

Saturn -123859-02-18 19:42 J -43518027.78 -43518027.68 -43518027.57 0.0302 0.0180

Saturn -123859-05-18 09:23 J -43517939.24 -43517939.11 -43517938.98 0.0303 0.0055

Saturn -123859-08-14 22:49 J -43517850.67 -43517850.55 -43517850.42 0.0303 0.0069

Saturn -123859-11-11 12:15 J -43517762.09 -43517761.99 -43517761.89 0.0303 0.0191

Mars -123858-03-17 11:03 J -43517636.17 -43517636.04 -43517635.92 0.1861 0.1174

Earth -123857-09-05 17:32 J -43517097.87 -43517097.77 -43517097.67 0.2560 0.1943

Moon -123857-09-05 18:59 J -43517097.82 -43517097.71 -43517097.59 0.2557 0.1796 *

Jupiter -123857-11-26 08:11 J -43517016.35 -43517016.16 -43517015.98 0.0500 0.0043

Mars -123856-12-27 15:08 J -43516619.92 -43516619.87 -43516619.81 0.1653 0.1463

Moon -123854-03-20 05:18 J -43516172.34 -43516172.28 -43516172.22 0.2787 0.2240

Earth -123854-03-20 05:18 J -43516172.34 -43516172.28 -43516172.22 0.2780 0.2263 *

Mars -123854-12-02 19:56 J -43515914.78 -43515914.67 -43515914.55 0.1649 0.0249

Earth -123853-03-03 05:47 J -43515823.28 -43515823.26 -43515823.24 0.2779 0.2708

Moon -123853-03-03 06:30 J -43515823.25 -43515823.23 -43515823.22 0.2782 0.2738 *

Jupiter -123851-10-24 02:39 J -43514858.50 -43514858.39 -43514858.28 0.0525 0.0258

Jupiter -123850-01-21 09:08 J -43514769.24 -43514769.12 -43514769.00 0.0526 0.0201

Moon -123847-03-13 02:25 J -43513622.51 -43513622.40 -43513622.29 0.2774 0.0056

Earth -123847-03-13 02:39 J -43513622.50 -43513622.39 -43513622.28 0.2781 0.0154 *

Saturn -123845-06-13 01:42 J -43512799.55 -43512799.43 -43512799.30 0.0260 0.0186

Saturn -123845-09-09 20:54 J -43512710.80 -43512710.63 -43512710.45 0.0259 0.0078

Jupiter -123845-09-14 05:18 J -43512706.45 -43512706.28 -43512706.11 0.0500 0.0185

Saturn -123845-12-07 16:20 J -43512622.00 -43512621.82 -43512621.63 0.0259 0.0031

Jupiter -123845-12-13 15:23 J -43512615.96 -43512615.86 -43512615.75 0.0499 0.0403

Saturn -123844-03-06 11:47 J -43512533.16 -43512533.01 -43512532.85 0.0259 0.0140

Mars -123844-04-24 06:59 J -43512484.33 -43512484.21 -43512484.10 0.1650 0.0172

Saturn -123844-06-03 07:27 J -43512444.23 -43512444.19 -43512444.14 0.0259 0.0250

Earth -123844-09-09 00:01 J -43512346.65 -43512346.50 -43512346.34 0.2560 0.0702

Moon -123844-09-09 01:42 J -43512346.59 -43512346.43 -43512346.27 0.2557 0.0538 *

Neptune -123843-02-20 16:49 J -43512181.81 -43512181.80 -43512181.75 0.0089 0.0088

Neptune -123843-05-19 20:25 J -43512093.71 -43512093.65 -43512093.56 0.0089 0.0082

Neptune -123843-08-15 23:47 J -43512005.59 -43512005.51 -43512005.39 0.0089 0.0076

Uranus -123843-08-17 17:18 J -43512003.86 -43512003.78 -43512003.70 0.0148 0.0132

Neptune -123843-11-12 03:23 J -43511917.46 -43511917.36 -43511917.23 0.0089 0.0070

Uranus -123843-11-14 01:56 J -43511915.55 -43511915.42 -43511915.27 0.0148 0.0101

Neptune -123842-02-08 06:59 J -43511829.33 -43511829.21 -43511829.06 0.0089 0.0064

Uranus -123842-02-10 10:49 J -43511827.21 -43511827.05 -43511826.88 0.0148 0.0070

Mars -123842-03-30 11:03 J -43511779.09 -43511779.04 -43511778.99 0.1648 0.1494

Neptune -123842-05-07 10:35 J -43511741.19 -43511741.06 -43511740.90 0.0089 0.0058

Uranus -123842-05-09 19:42 J -43511738.86 -43511738.68 -43511738.49 0.0148 0.0038

Neptune -123842-08-03 13:56 J -43511653.06 -43511652.92 -43511652.75 0.0089 0.0052

Uranus -123842-08-06 04:35 J -43511650.50 -43511650.31 -43511650.12 0.0148 0.0006

Neptune -123842-10-30 17:32 J -43511564.92 -43511564.77 -43511564.59 0.0089 0.0046

Uranus -123842-11-02 13:27 J -43511562.13 -43511561.94 -43511561.75 0.0148 0.0026

Neptune -123841-01-26 21:08 J -43511476.78 -43511476.62 -43511476.44 0.0089 0.0040

Uranus -123841-01-29 22:20 J -43511473.74 -43511473.57 -43511473.39 0.0148 0.0058

Venus -123841-03-14 04:06 J -43511429.41 -43511429.33 -43511429.25 0.3755 0.2417

Neptune -123841-04-24 00:59 J -43511388.64 -43511388.46 -43511388.28 0.0089 0.0034

Uranus -123841-04-27 07:13 J -43511385.35 -43511385.20 -43511385.04 0.0148 0.0090

Neptune -123841-07-21 04:35 J -43511300.49 -43511300.31 -43511300.13 0.0089 0.0027

Uranus -123841-07-24 16:06 J -43511296.93 -43511296.83 -43511296.71 0.0148 0.0122

Neptune -123841-10-17 08:11 J -43511212.35 -43511212.16 -43511211.98 0.0089 0.0021

Neptune -123840-01-13 11:32 J -43511124.20 -43511124.02 -43511123.82 0.0089 0.0016

Earth -123840-03-06 00:15 J -43511072.57 -43511072.49 -43511072.42 0.2779 0.1970

Moon -123840-03-06 00:44 J -43511072.55 -43511072.47 -43511072.40 0.2785 0.1949 *

Neptune -123840-04-11 15:08 J -43511036.06 -43511035.87 -43511035.67 0.0089 0.0010

Neptune -123840-07-08 18:59 J -43510947.91 -43510947.71 -43510947.52 0.0089 0.0004

Neptune -123840-10-04 22:20 J -43510859.76 -43510859.57 -43510859.37 0.0089 0.0004

Neptune -123839-01-01 01:56 J -43510771.61 -43510771.42 -43510771.22 0.0089 0.0010

Neptune -123839-03-30 05:32 J -43510683.46 -43510683.27 -43510683.08 0.0089 0.0016

Neptune -123839-06-26 09:08 J -43510595.30 -43510595.12 -43510594.93 0.0089 0.0022

Jupiter -123839-08-12 06:15 J -43510548.32 -43510548.24 -43510548.15 0.0525 0.0378

Neptune -123839-09-22 12:44 J -43510507.15 -43510506.97 -43510506.78 0.0089 0.0028

Jupiter -123839-11-09 12:44 J -43510459.09 -43510458.97 -43510458.84 0.0526 0.0083

Venus -123839-12-15 20:54 J -43510422.76 -43510422.63 -43510422.50 0.3624 0.1850

Neptune -123839-12-19 16:20 J -43510418.99 -43510418.82 -43510418.64 0.0089 0.0034

Neptune -123838-03-17 19:56 J -43510330.83 -43510330.67 -43510330.49 0.0089 0.0040

Neptune -123838-06-13 23:32 J -43510242.68 -43510242.52 -43510242.35 0.0089 0.0047

Neptune -123838-09-10 03:23 J -43510154.52 -43510154.36 -43510154.20 0.0089 0.0053

Mars -123838-12-04 21:51 J -43510068.72 -43510068.59 -43510068.46 0.1863 0.1153

Neptune -123838-12-07 06:30 J -43510066.35 -43510066.23 -43510066.06 0.0089 0.0060

Neptune -123837-03-04 10:20 J -43509978.19 -43509978.07 -43509977.92 0.0089 0.0065

Neptune -123837-05-31 13:56 J -43509890.02 -43509889.92 -43509889.79 0.0089 0.0072

Neptune -123837-08-27 17:47 J -43509801.85 -43509801.76 -43509801.66 0.0089 0.0077

Neptune -123837-11-23 21:37 J -43509713.66 -43509713.60 -43509713.53 0.0089 0.0084

Venus -123836-09-27 20:39 J -43509405.75 -43509405.64 -43509405.54 0.3761 0.0641

Mars -123835-09-14 17:47 J -43509053.87 -43509053.76 -43509053.65 0.1651 0.0574

Moon -123834-03-15 21:08 J -43508871.72 -43508871.62 -43508871.52 0.2774 0.0901

Earth -123834-03-15 21:08 J -43508871.72 -43508871.62 -43508871.52 0.2781 0.0894 *

Venus -123833-07-01 04:20 J -43508398.43 -43508398.32 -43508398.22 0.3616 0.2678

Jupiter -123833-07-03 02:39 J -43508396.53 -43508396.39 -43508396.26 0.0500 0.0329

Mars -123833-08-19 22:06 J -43508348.67 -43508348.58 -43508348.49 0.1649 0.1099

Jupiter -123833-10-01 12:30 J -43508306.14 -43508305.98 -43508305.82 0.0499 0.0257

Earth -123831-09-12 06:30 J -43507595.39 -43507595.23 -43507595.07 0.2559 0.0539

Moon -123831-09-12 08:25 J -43507595.31 -43507595.15 -43507595.00 0.2559 0.0575 *

Venus -123830-04-13 12:59 J -43507382.06 -43507381.96 -43507381.87 0.3767 0.1175

Saturn -123830-07-08 21:51 J -43507295.69 -43507295.59 -43507295.50 0.0302 0.0212

Saturn -123830-10-05 11:32 J -43507207.15 -43507207.02 -43507206.90 0.0303 0.0088

Saturn -123829-01-02 00:59 J -43507118.59 -43507118.46 -43507118.33 0.0303 0.0035

Saturn -123829-03-30 14:25 J -43507030.01 -43507029.90 -43507029.79 0.0303 0.0158

Saturn -123829-06-27 03:37 J -43506941.39 -43506941.35 -43506941.30 0.0303 0.0280

Mars -123828-04-25 16:49 J -43506638.97 -43506638.80 -43506638.64 0.1863 0.0048

Earth -123827-03-08 18:44 J -43506321.82 -43506321.72 -43506321.63 0.2780 0.1228

Moon -123827-03-08 19:13 J -43506321.80 -43506321.70 -43506321.61 0.2786 0.1139 *

Jupiter -123827-05-31 10:20 J -43506238.11 -43506238.07 -43506238.02 0.0525 0.0491

Jupiter -123827-08-28 17:03 J -43506148.92 -43506148.79 -43506148.66 0.0526 0.0030

Jupiter -123827-11-25 23:18 J -43506059.60 -43506059.53 -43506059.46 0.0527 0.0428

Mars -123825-02-05 04:35 J -43505623.41 -43505623.31 -43505623.22 0.1651 0.0987

Venus -123825-10-27 05:18 J -43505358.35 -43505358.28 -43505358.22 0.3772 0.2950

Mars -123823-01-10 09:08 J -43504918.23 -43504918.12 -43504918.02 0.1649 0.0703

Moon -123821-03-17 15:37 J -43504120.93 -43504120.85 -43504120.76 0.2774 0.1697

Earth -123821-03-17 15:37 J -43504120.93 -43504120.85 -43504120.76 0.2781 0.1646 *

Jupiter -123821-04-20 22:49 J -43504086.59 -43504086.55 -43504086.50 0.0500 0.0482

Jupiter -123821-07-20 08:25 J -43503996.33 -43503996.15 -43503995.96 0.0499 0.0101

Mars -123819-09-15 12:01 J -43503209.14 -43503209.00 -43503208.87 0.1861 0.1060

Earth -123818-09-15 12:44 J -43502844.08 -43502843.97 -43502843.85 0.2559 0.1768

Moon -123818-09-15 14:25 J -43502844.01 -43502843.90 -43502843.78 0.2562 0.1768 *

Mars -123816-06-27 15:08 J -43502192.93 -43502192.87 -43502192.81 0.1652 0.1405

Saturn -123816-10-31 02:11 J -43502067.51 -43502067.41 -43502067.30 0.0260 0.0212

Saturn -123815-01-27 21:37 J -43501978.77 -43501978.60 -43501978.43 0.0260 0.0104

Saturn -123815-04-26 16:49 J -43501889.98 -43501889.80 -43501889.61 0.0260 0.0006

Jupiter -123815-06-16 21:08 J -43501838.74 -43501838.62 -43501838.49 0.0526 0.0144

Saturn -123815-07-24 12:15 J -43501801.15 -43501800.99 -43501800.82 0.0260 0.0115

Jupiter -123815-09-14 03:37 J -43501749.45 -43501749.35 -43501749.25 0.0527 0.0316

Saturn -123815-10-21 07:56 J -43501712.26 -43501712.17 -43501712.08 0.0259 0.0224

Earth -123814-03-11 13:13 J -43501571.06 -43501570.95 -43501570.85 0.2781 0.0488

Moon -123814-03-11 13:13 J -43501571.05 -43501570.95 -43501570.84 0.2788 0.0481 *

Mars -123814-06-02 19:56 J -43501487.78 -43501487.67 -43501487.55 0.1649 0.0305

Moon -123811-09-06 22:49 J -43500295.67 -43500295.55 -43500295.44 0.2564 0.1738

Earth -123811-09-07 00:15 J -43500295.61 -43500295.49 -43500295.37 0.2560 0.1721 *

Jupiter -123809-05-08 05:18 J -43499686.46 -43499686.28 -43499686.09 0.0499 0.0049

Earth -123808-03-20 10:06 J -43499370.13 -43499370.08 -43499370.02 0.2781 0.2400

Moon -123808-03-20 10:35 J -43499370.12 -43499370.06 -43499370.01 0.2774 0.2391 *

Moon -123807-03-04 10:06 J -43499021.10 -43499021.08 -43499021.05 0.2774 0.2675

Earth -123807-03-04 10:35 J -43499021.09 -43499021.06 -43499021.02 0.2779 0.2583 *

Mars -123805-10-23 06:59 J -43498057.33 -43498057.21 -43498057.10 0.1650 0.0118

Jupiter -123803-04-05 00:59 J -43497528.57 -43497528.46 -43497528.35 0.0526 0.0262

Jupiter -123803-07-03 07:27 J -43497439.31 -43497439.19 -43497439.07 0.0526 0.0198

Mars -123803-09-28 11:03 J -43497352.08 -43497352.04 -43497352.00 0.1648 0.1549

Uranus -123801-03-08 03:37 J -43496825.39 -43496825.35 -43496825.29 0.0131 0.0120

Moon -123801-03-13 07:42 J -43496820.29 -43496820.18 -43496820.07 0.2788 0.0224

Earth -123801-03-13 07:27 J -43496820.29 -43496820.19 -43496820.08 0.2781 0.0292 *

Uranus -123801-06-04 06:30 J -43496737.30 -43496737.23 -43496737.14 0.0131 0.0105

Uranus -123801-08-31 09:37 J -43496649.19 -43496649.10 -43496649.00 0.0131 0.0089

Saturn -123801-11-25 00:30 J -43496563.56 -43496563.48 -43496563.40 0.0302 0.0238

Uranus -123801-11-27 12:30 J -43496561.08 -43496560.98 -43496560.86 0.0131 0.0074

Saturn -123800-02-21 14:11 J -43496475.03 -43496474.91 -43496474.78 0.0303 0.0114

Uranus -123800-02-23 15:23 J -43496472.97 -43496472.86 -43496472.73 0.0131 0.0059

Saturn -123800-05-21 03:51 J -43496386.48 -43496386.34 -43496386.21 0.0303 0.0012

Uranus -123800-05-22 18:30 J -43496384.86 -43496384.73 -43496384.60 0.0131 0.0043

Saturn -123800-08-17 17:03 J -43496297.90 -43496297.79 -43496297.66 0.0303 0.0134

Uranus -123800-08-18 21:23 J -43496296.74 -43496296.61 -43496296.48 0.0131 0.0028

Saturn -123800-11-14 06:30 J -43496209.30 -43496209.23 -43496209.16 0.0303 0.0255

Uranus -123800-11-15 00:15 J -43496208.62 -43496208.49 -43496208.35 0.0131 0.0014

Uranus -123799-02-11 03:08 J -43496120.50 -43496120.37 -43496120.23 0.0131 0.0004

Uranus -123799-05-10 06:01 J -43496032.38 -43496032.25 -43496032.11 0.0131 0.0017

Uranus -123799-08-06 08:54 J -43495944.25 -43495944.13 -43495944.00 0.0131 0.0032

Uranus -123799-11-02 12:01 J -43495856.13 -43495856.00 -43495855.88 0.0131 0.0047

Uranus -123798-01-29 14:39 J -43495768.00 -43495767.89 -43495767.77 0.0131 0.0062

Uranus -123798-04-27 17:32 J -43495679.87 -43495679.77 -43495679.66 0.0131 0.0077

Mars -123798-06-04 22:35 J -43495641.68 -43495641.56 -43495641.44 0.1863 0.1266

Uranus -123798-07-24 20:25 J -43495591.74 -43495591.65 -43495591.55 0.0131 0.0092

Moon -123798-09-10 05:03 J -43495544.45 -43495544.29 -43495544.14 0.2560 0.0492

Earth -123798-09-10 06:44 J -43495544.38 -43495544.22 -43495544.06 0.2560 0.0483 *

Uranus -123798-10-20 23:18 J -43495503.60 -43495503.53 -43495503.45 0.0131 0.0107

Uranus -123797-01-17 02:11 J -43495415.45 -43495415.41 -43495415.36 0.0131 0.0122

Jupiter -123797-02-25 02:25 J -43495376.57 -43495376.40 -43495376.23 0.0500 0.0195

Jupiter -123797-05-25 12:30 J -43495286.10 -43495285.98 -43495285.87 0.0499 0.0393

Mars -123795-03-15 17:47 J -43494626.87 -43494626.76 -43494626.65 0.1651 0.0520

Moon -123794-03-07 04:35 J -43494270.38 -43494270.31 -43494270.23 0.2773 0.1869

Earth -123794-03-07 05:03 J -43494270.37 -43494270.29 -43494270.21 0.2780 0.1841 *

Mars -123793-02-18 22:06 J -43493921.66 -43493921.58 -43493921.50 0.1648 0.1153

Jupiter -123791-01-22 04:49 J -43493218.39 -43493218.30 -43493218.21 0.0525 0.0379

Jupiter -123791-04-21 11:18 J -43493129.16 -43493129.03 -43493128.90 0.0526 0.0081

Venus -123790-04-05 09:23 J -43492780.14 -43492780.11 -43492780.08 0.3751 0.3544

Mars -123789-10-24 17:32 J -43492211.94 -43492211.77 -43492211.61 0.1862 0.0153

Moon -123788-03-16 01:56 J -43492069.52 -43492069.42 -43492069.32 0.2789 0.1041

Earth -123788-03-16 01:56 J -43492069.52 -43492069.42 -43492069.31 0.2781 0.1032 *

Saturn -123786-03-20 03:37 J -43491335.43 -43491335.35 -43491335.27 0.0260 0.0234

Saturn -123786-06-16 22:49 J -43491246.71 -43491246.55 -43491246.39 0.0260 0.0127

Mars -123786-08-06 04:35 J -43491196.41 -43491196.31 -43491196.21 0.1652 0.0930

Saturn -123786-09-13 18:01 J -43491157.93 -43491157.75 -43491157.57 0.0260 0.0019

Saturn -123786-12-11 13:27 J -43491069.11 -43491068.94 -43491068.76 0.0259 0.0090

Jupiter -123786-12-13 23:32 J -43491066.65 -43491066.52 -43491066.39 0.0500 0.0339

Saturn -123785-03-09 08:54 J -43490980.24 -43490980.13 -43490980.00 0.0259 0.0200

Jupiter -123785-03-13 09:23 J -43490976.27 -43490976.11 -43490975.95 0.0499 0.0247

Moon -123785-09-12 11:32 J -43490793.18 -43490793.02 -43490792.86 0.2559 0.0605

Earth -123785-09-12 13:13 J -43490793.11 -43490792.95 -43490792.80 0.2559 0.0761 *

Venus -123785-10-19 01:42 J -43490756.52 -43490756.43 -43490756.34 0.3757 0.1753

Mars -123784-07-11 09:08 J -43490491.23 -43490491.12 -43490491.02 0.1649 0.0757

Venus -123782-07-22 22:35 J -43489749.71 -43489749.56 -43489749.41 0.3622 0.0296

Moon -123781-03-08 23:18 J -43489519.63 -43489519.53 -43489519.43 0.2774 0.1046

Earth -123781-03-08 23:32 J -43489519.62 -43489519.52 -43489519.42 0.2780 0.1096 *

Jupiter -123780-11-10 08:25 J -43488908.19 -43488908.15 -43488908.12 0.0525 0.0500

Jupiter -123779-02-07 14:54 J -43488819.01 -43488818.88 -43488818.75 0.0526 0.0040

Mars -123779-03-16 12:30 J -43488782.12 -43488781.98 -43488781.84 0.1862 0.0961

Venus -123779-05-04 18:15 J -43488732.85 -43488732.74 -43488732.64 0.3763 0.0112

Jupiter -123779-05-07 21:08 J -43488729.69 -43488729.62 -43488729.54 0.0527 0.0418

Mars -123777-12-26 15:08 J -43487765.93 -43487765.87 -43487765.80 0.1653 0.1347

Moon -123775-03-18 20:25 J -43487318.73 -43487318.65 -43487318.57 0.2787 0.1831

Earth -123775-03-18 20:39 J -43487318.73 -43487318.64 -43487318.56 0.2781 0.1781 *

Mars -123775-12-01 19:56 J -43487060.78 -43487060.67 -43487060.55 0.1649 0.0356

Pluto -123774-09-02 00:59 J -43486786.46 -43486786.46 -43486786.45 0.0084 0.0084

Jupiter -123774-10-01 20:39 J -43486756.68 -43486756.64 -43486756.59 0.0500 0.0483

Venus -123774-11-18 10:35 J -43486709.15 -43486709.06 -43486708.97 0.3768 0.1828

Pluto -123774-11-29 02:11 J -43486698.48 -43486698.41 -43486698.32 0.0084 0.0068

Jupiter -123774-12-31 06:30 J -43486666.41 -43486666.23 -43486666.05 0.0499 0.0101

Pluto -123773-02-25 03:51 J -43486610.45 -43486610.34 -43486610.23 0.0084 0.0052

Pluto -123773-05-23 05:18 J -43486522.40 -43486522.28 -43486522.16 0.0084 0.0036

Pluto -123773-08-19 06:30 J -43486434.36 -43486434.23 -43486434.09 0.0084 0.0020

Pluto -123773-11-15 07:56 J -43486346.30 -43486346.17 -43486346.03 0.0084 0.0004

Pluto -123772-02-11 09:23 J -43486258.25 -43486258.11 -43486257.97 0.0084 0.0013

Pluto -123772-05-10 10:35 J -43486170.18 -43486170.06 -43486169.92 0.0084 0.0029

Pluto -123772-08-06 12:01 J -43486082.11 -43486082.00 -43486081.88 0.0083 0.0044

Moon -123772-09-15 18:01 J -43486041.86 -43486041.75 -43486041.64 0.2556 0.1808

Earth -123772-09-15 19:27 J -43486041.79 -43486041.69 -43486041.59 0.2559 0.1992 *

Pluto -123772-11-02 13:13 J -43485994.03 -43485993.95 -43485993.84 0.0083 0.0060

Pluto -123771-01-29 14:54 J -43485905.94 -43485905.88 -43485905.83 0.0083 0.0076

Saturn -123771-04-14 03:08 J -43485831.43 -43485831.37 -43485831.31 0.0302 0.0266

Saturn -123771-07-11 16:49 J -43485742.92 -43485742.80 -43485742.68 0.0302 0.0142

Saturn -123771-10-08 06:30 J -43485654.37 -43485654.23 -43485654.10 0.0303 0.0019

Saturn -123770-01-04 19:56 J -43485565.80 -43485565.67 -43485565.55 0.0303 0.0105

Saturn -123770-04-03 09:08 J -43485477.20 -43485477.12 -43485477.03 0.0303 0.0227

Moon -123768-03-11 17:47 J -43484768.87 -43484768.76 -43484768.65 0.2773 0.0371

Earth -123768-03-11 18:01 J -43484768.86 -43484768.75 -43484768.64 0.2781 0.0346 *

Venus -123768-06-03 02:54 J -43484685.41 -43484685.38 -43484685.36 0.3774 0.3605

Jupiter -123768-11-26 18:59 J -43484508.83 -43484508.71 -43484508.59 0.0526 0.0154

Jupiter -123767-02-24 01:27 J -43484419.55 -43484419.44 -43484419.34 0.0527 0.0306

Mars -123765-04-23 06:59 J -43483630.33 -43483630.21 -43483630.09 0.1650 0.0058

Earth -123765-09-07 06:44 J -43483493.35 -43483493.22 -43483493.09 0.2560 0.1508

Moon -123765-09-07 08:25 J -43483493.29 -43483493.15 -43483493.01 0.2559 0.1368 *

Mars -123763-03-29 11:03 J -43482925.06 -43482925.04 -43482925.02 0.1648 0.1603

Neptune -123763-09-19 00:44 J -43482751.48 -43482751.47 -43482751.44 0.0088 0.0087

Neptune -123763-12-16 02:25 J -43482663.44 -43482663.40 -43482663.35 0.0088 0.0083

Neptune -123762-03-14 03:37 J -43482575.40 -43482575.35 -43482575.28 0.0088 0.0079

Moon -123762-03-21 14:54 J -43482567.93 -43482567.88 -43482567.84 0.2787 0.2498

Earth -123762-03-21 15:08 J -43482567.91 -43482567.87 -43482567.83 0.2780 0.2535 *

Neptune -123762-06-10 05:03 J -43482487.35 -43482487.29 -43482487.21 0.0088 0.0074

Neptune -123762-09-06 06:30 J -43482399.30 -43482399.23 -43482399.14 0.0088 0.0070

Jupiter -123762-10-19 02:39 J -43482356.57 -43482356.39 -43482356.20 0.0499 0.0055

Neptune -123762-12-03 08:11 J -43482311.25 -43482311.16 -43482311.07 0.0088 0.0066

Neptune -123761-02-29 09:23 J -43482223.20 -43482223.11 -43482223.01 0.0088 0.0062

Earth -123761-03-04 15:37 J -43482218.90 -43482218.85 -43482218.80 0.2779 0.2454

Moon -123761-03-04 15:51 J -43482218.88 -43482218.84 -43482218.80 0.2786 0.2504 *

Neptune -123761-05-27 10:49 J -43482135.15 -43482135.05 -43482134.95 0.0088 0.0057

Neptune -123761-08-23 12:01 J -43482047.10 -43482047.00 -43482046.88 0.0088 0.0054

Neptune -123761-11-19 13:27 J -43481959.04 -43481958.94 -43481958.82 0.0088 0.0049

Neptune -123760-02-15 15:08 J -43481870.99 -43481870.87 -43481870.76 0.0088 0.0045

Neptune -123760-05-14 16:20 J -43481782.94 -43481782.82 -43481782.70 0.0088 0.0041

Neptune -123760-08-10 17:47 J -43481694.88 -43481694.76 -43481694.64 0.0088 0.0036

Neptune -123760-11-06 18:59 J -43481606.83 -43481606.71 -43481606.57 0.0088 0.0033

Neptune -123759-02-02 20:25 J -43481518.77 -43481518.65 -43481518.51 0.0088 0.0028

Neptune -123759-05-01 21:51 J -43481430.72 -43481430.59 -43481430.46 0.0088 0.0024

Neptune -123759-07-28 23:18 J -43481342.66 -43481342.53 -43481342.40 0.0088 0.0019

Uranus -123759-09-06 22:06 J -43481302.65 -43481302.58 -43481302.49 0.0148 0.0133

Neptune -123759-10-25 00:44 J -43481254.60 -43481254.47 -43481254.34 0.0088 0.0015

Mars -123759-12-03 23:32 J -43481214.62 -43481214.52 -43481214.41 0.1863 0.1389

Uranus -123759-12-04 06:44 J -43481214.34 -43481214.22 -43481214.07 0.0148 0.0103

Neptune -123758-01-21 01:56 J -43481166.55 -43481166.42 -43481166.28 0.0088 0.0012

Uranus -123758-03-02 15:51 J -43481126.00 -43481125.84 -43481125.67 0.0148 0.0070

Neptune -123758-04-19 03:23 J -43481078.49 -43481078.36 -43481078.22 0.0088 0.0007

Uranus -123758-05-30 00:30 J -43481037.65 -43481037.48 -43481037.28 0.0148 0.0039

Neptune -123758-07-16 04:49 J -43480990.44 -43480990.30 -43480990.17 0.0088 0.0003

Uranus -123758-08-26 09:37 J -43480949.29 -43480949.10 -43480948.91 0.0148 0.0007

Neptune -123758-10-12 06:15 J -43480902.38 -43480902.24 -43480902.11 0.0088 0.0003

Uranus -123758-11-22 18:30 J -43480860.92 -43480860.73 -43480860.54 0.0148 0.0025

Neptune -123757-01-08 07:27 J -43480814.32 -43480814.19 -43480814.05 0.0088 0.0006

Uranus -123757-02-19 03:08 J -43480772.54 -43480772.37 -43480772.18 0.0148 0.0057

Neptune -123757-04-05 08:54 J -43480726.26 -43480726.13 -43480726.00 0.0088 0.0010

Uranus -123757-05-17 12:01 J -43480684.14 -43480684.00 -43480683.83 0.0148 0.0089

Neptune -123757-07-02 10:06 J -43480638.21 -43480638.08 -43480637.94 0.0088 0.0014

Saturn -123757-08-06 04:20 J -43480603.33 -43480603.32 -43480603.30 0.0261 0.0259

Uranus -123757-08-13 20:54 J -43480595.73 -43480595.63 -43480595.51 0.0148 0.0121

Neptune -123757-09-28 11:32 J -43480550.15 -43480550.02 -43480549.89 0.0088 0.0018

Saturn -123757-11-02 23:18 J -43480514.67 -43480514.53 -43480514.37 0.0260 0.0152

Neptune -123757-12-25 12:59 J -43480462.09 -43480461.96 -43480461.83 0.0088 0.0022

Saturn -123756-01-30 18:44 J -43480425.90 -43480425.72 -43480425.54 0.0260 0.0044

Neptune -123756-03-23 14:11 J -43480374.03 -43480373.91 -43480373.78 0.0088 0.0027

Saturn -123756-04-29 14:11 J -43480337.09 -43480336.91 -43480336.73 0.0260 0.0066

Neptune -123756-06-19 15:37 J -43480285.97 -43480285.85 -43480285.72 0.0088 0.0031

Saturn -123756-07-27 09:37 J -43480248.23 -43480248.10 -43480247.96 0.0260 0.0175

Mars -123756-09-13 17:47 J -43480199.87 -43480199.76 -43480199.65 0.1651 0.0460

Jupiter -123756-09-14 23:03 J -43480198.65 -43480198.54 -43480198.43 0.0526 0.0269

Neptune -123756-09-15 16:49 J -43480197.92 -43480197.80 -43480197.67 0.0088 0.0035

Neptune -123756-12-12 18:15 J -43480109.86 -43480109.74 -43480109.62 0.0088 0.0039

Jupiter -123756-12-13 05:32 J -43480109.39 -43480109.27 -43480109.15 0.0527 0.0192

Neptune -123755-03-10 19:27 J -43480021.80 -43480021.69 -43480021.56 0.0088 0.0043

Earth -123755-03-14 12:30 J -43480018.09 -43480017.98 -43480017.87 0.2781 0.0409

Moon -123755-03-14 12:30 J -43480018.08 -43480017.98 -43480017.87 0.2774 0.0361 *

Neptune -123755-06-06 20:54 J -43479933.74 -43479933.63 -43479933.51 0.0088 0.0047

Neptune -123755-09-02 22:20 J -43479845.68 -43479845.57 -43479845.46 0.0088 0.0051

Neptune -123755-11-29 23:32 J -43479757.62 -43479757.52 -43479757.41 0.0088 0.0056

Neptune -123754-02-26 00:59 J -43479669.55 -43479669.46 -43479669.36 0.0088 0.0060

Neptune -123754-05-25 02:25 J -43479581.49 -43479581.40 -43479581.31 0.0088 0.0064

Mars -123754-08-19 22:06 J -43479494.66 -43479494.58 -43479494.50 0.1648 0.1210

Neptune -123754-08-21 03:23 J -43479493.43 -43479493.36 -43479493.26 0.0088 0.0068

Neptune -123754-11-17 04:49 J -43479405.37 -43479405.30 -43479405.22 0.0088 0.0072

Neptune -123753-02-13 06:01 J -43479317.30 -43479317.25 -43479317.17 0.0088 0.0076

Neptune -123753-05-11 07:27 J -43479229.23 -43479229.19 -43479229.13 0.0088 0.0080

Neptune -123753-08-07 08:39 J -43479141.16 -43479141.14 -43479141.09 0.0088 0.0085

Neptune -123753-11-03 10:20 J -43479053.07 -43479053.07 -43479053.06 0.0088 0.0088

Earth -123752-09-10 13:27 J -43478742.11 -43478741.94 -43478741.78 0.2560 0.0271

Moon -123752-09-10 15:08 J -43478742.03 -43478741.87 -43478741.71 0.2560 0.0071 *

Jupiter -123750-08-06 23:32 J -43478046.68 -43478046.52 -43478046.35 0.0499 0.0202

Jupiter -123750-11-05 09:23 J -43477956.22 -43477956.11 -43477955.99 0.0499 0.0385

Mars -123749-04-24 18:01 J -43477784.91 -43477784.75 -43477784.58 0.1862 0.0255

Earth -123748-03-07 10:06 J -43477468.17 -43477468.08 -43477468.00 0.2780 0.1715

Moon -123748-03-07 10:20 J -43477468.16 -43477468.07 -43477467.99 0.2786 0.1701 *

Mars -123746-02-04 04:35 J -43476769.41 -43476769.31 -43476769.21 0.1652 0.0876

Mars -123744-01-09 09:08 J -43476064.23 -43476064.12 -43476064.02 0.1649 0.0812

Jupiter -123744-07-04 02:54 J -43475888.47 -43475888.38 -43475888.30 0.0525 0.0387

Jupiter -123744-10-01 09:23 J -43475799.24 -43475799.11 -43475798.98 0.0526 0.0074

Earth -123742-03-17 06:59 J -43475267.31 -43475267.21 -43475267.11 0.2781 0.1160

Moon -123742-03-17 07:13 J -43475267.30 -43475267.20 -43475267.11 0.2774 0.1185 *

Saturn -123742-09-01 05:47 J -43475099.28 -43475099.26 -43475099.22 0.0302 0.0292

Saturn -123742-11-28 19:42 J -43475010.79 -43475010.68 -43475010.57 0.0302 0.0168

Saturn -123741-02-25 09:08 J -43474922.25 -43474922.12 -43474921.98 0.0303 0.0045

Saturn -123741-05-23 22:49 J -43474833.68 -43474833.55 -43474833.43 0.0303 0.0080

Saturn -123741-08-20 12:01 J -43474745.09 -43474745.00 -43474744.90 0.0303 0.0202

Mars -123740-09-14 13:13 J -43474355.09 -43474354.95 -43474354.80 0.1861 0.0846

Earth -123739-09-13 19:42 J -43473990.83 -43473990.68 -43473990.53 0.2559 0.0977

Moon -123739-09-13 21:08 J -43473990.76 -43473990.62 -43473990.47 0.2562 0.1026 *

Jupiter -123738-05-25 20:25 J -43473736.78 -43473736.65 -43473736.52 0.0500 0.0350

Jupiter -123738-08-24 06:15 J -43473646.40 -43473646.24 -43473646.08 0.0499 0.0235

Mars -123737-06-26 15:08 J -43473338.94 -43473338.87 -43473338.79 0.1653 0.1291

Earth -123735-03-10 04:20 J -43472717.42 -43472717.32 -43472717.21 0.2780 0.0972

Moon -123735-03-10 04:35 J -43472717.41 -43472717.31 -43472717.21 0.2788 0.0899 *

Mars -123735-06-01 19:56 J -43472633.78 -43472633.67 -43472633.55 0.1649 0.0408

Venus -123734-11-10 06:59 J -43472107.28 -43472107.21 -43472107.15 0.3753 0.2880

Jupiter -123732-04-22 06:44 J -43471578.26 -43471578.22 -43471578.19 0.0525 0.0503

Jupiter -123732-07-20 13:13 J -43471489.08 -43471488.95 -43471488.82 0.0526 0.0043

Earth -123732-09-05 06:59 J -43471442.23 -43471442.21 -43471442.18 0.2560 0.2520

Jupiter -123732-10-17 19:27 J -43471399.76 -43471399.69 -43471399.61 0.0527 0.0415

Venus -123731-08-12 17:03 J -43471100.86 -43471100.79 -43471100.73 0.3628 0.3249

Earth -123729-03-19 01:27 J -43470516.52 -43470516.44 -43470516.36 0.2781 0.1913

Moon -123729-03-19 01:56 J -43470516.50 -43470516.42 -43470516.35 0.2774 0.2006 *

Venus -123728-05-25 23:18 J -43470083.62 -43470083.53 -43470083.43 0.3759 0.1096

Saturn -123727-03-23 00:44 J -43469782.60 -43469782.47 -43469782.33 0.0260 0.0174

Saturn -123727-06-19 19:56 J -43469693.84 -43469693.67 -43469693.49 0.0260 0.0067

Saturn -123727-09-16 15:23 J -43469605.04 -43469604.86 -43469604.67 0.0259 0.0043

Saturn -123727-12-14 11:03 J -43469516.19 -43469516.04 -43469515.89 0.0259 0.0152

Jupiter -123726-03-13 17:32 J -43469426.79 -43469426.77 -43469426.74 0.0500 0.0495

Jupiter -123726-06-12 03:08 J -43469336.55 -43469336.37 -43469336.18 0.0499 0.0090

Earth -123726-09-17 02:11 J -43469239.49 -43469239.41 -43469239.33 0.2559 0.2208

Moon -123726-09-17 03:23 J -43469239.44 -43469239.36 -43469239.28 0.2563 0.2201 *

Mars -123726-10-23 06:59 J -43469203.33 -43469203.21 -43469203.09 0.1650 0.0037

Venus -123725-02-27 00:15 J -43469076.64 -43469076.49 -43469076.35 0.3620 0.1244

Venus -123723-12-09 15:51 J -43468059.95 -43468059.84 -43468059.74 0.3764 0.0710

Moon -123722-03-12 22:49 J -43467966.66 -43467966.55 -43467966.44 0.2788 0.0216

Earth -123722-03-12 22:49 J -43467966.66 -43467966.55 -43467966.44 0.2781 0.0224 *

Jupiter -123720-05-08 16:49 J -43467178.92 -43467178.80 -43467178.68 0.0526 0.0164

Jupiter -123720-08-05 23:03 J -43467089.64 -43467089.54 -43467089.43 0.0527 0.0295

Mars -123719-06-04 00:01 J -43466787.60 -43466787.50 -43466787.40 0.1863 0.1480

Moon -123719-09-08 11:47 J -43466691.15 -43466691.01 -43466690.87 0.2559 0.1338

Earth -123719-09-08 13:27 J -43466691.08 -43466690.94 -43466690.80 0.2560 0.1282 *

Uranus -123717-03-28 10:20 J -43466124.12 -43466124.07 -43466124.01 0.0131 0.0118

Venus -123717-06-24 08:11 J -43466036.24 -43466036.16 -43466036.09 0.3770 0.2481

Uranus -123717-06-24 13:13 J -43466036.02 -43466035.95 -43466035.86 0.0131 0.0103

Uranus -123717-09-20 16:06 J -43465947.92 -43465947.83 -43465947.72 0.0131 0.0088

Uranus -123717-12-17 19:13 J -43465859.81 -43465859.70 -43465859.58 0.0131 0.0072

Mars -123716-03-14 17:47 J -43465772.88 -43465772.76 -43465772.65 0.1651 0.0405

Uranus -123716-03-15 22:20 J -43465771.69 -43465771.57 -43465771.45 0.0131 0.0057

Earth -123716-03-21 19:56 J -43465765.69 -43465765.67 -43465765.64 0.2780 0.2671

Moon -123716-03-21 20:25 J -43465765.67 -43465765.65 -43465765.62 0.2775 0.2681 *

Uranus -123716-06-12 01:13 J -43465683.58 -43465683.45 -43465683.33 0.0131 0.0042

Uranus -123716-09-08 04:06 J -43465595.46 -43465595.33 -43465595.20 0.0131 0.0027

Uranus -123716-12-05 06:59 J -43465507.34 -43465507.21 -43465507.08 0.0131 0.0012

Uranus -123715-03-03 09:51 J -43465419.22 -43465419.09 -43465418.95 0.0131 0.0004

Moon -123715-03-05 20:11 J -43465416.71 -43465416.66 -43465416.61 0.2772 0.2401

Earth -123715-03-05 20:25 J -43465416.71 -43465416.65 -43465416.59 0.2779 0.2324 *

Uranus -123715-05-30 12:44 J -43465331.10 -43465330.97 -43465330.83 0.0131 0.0019

Uranus -123715-08-26 15:37 J -43465242.97 -43465242.85 -43465242.72 0.0131 0.0034

Uranus -123715-11-22 18:30 J -43465154.85 -43465154.73 -43465154.60 0.0131 0.0049

Mars -123714-02-17 22:06 J -43465067.66 -43465067.58 -43465067.51 0.1649 0.1262

Uranus -123714-02-18 21:23 J -43465066.72 -43465066.61 -43465066.49 0.0131 0.0064

Jupiter -123714-03-31 00:15 J -43465026.67 -43465026.49 -43465026.31 0.0500 0.0057

Uranus -123714-05-18 00:15 J -43464978.59 -43464978.49 -43464978.38 0.0131 0.0079

Uranus -123714-08-14 03:08 J -43464890.46 -43464890.37 -43464890.27 0.0131 0.0094

Uranus -123714-11-10 06:01 J -43464802.32 -43464802.25 -43464802.17 0.0131 0.0109

Uranus -123713-02-06 08:54 J -43464714.17 -43464714.13 -43464714.09 0.0131 0.0124

Saturn -123712-04-16 22:20 J -43464278.67 -43464278.57 -43464278.46 0.0302 0.0194

Saturn -123712-07-14 12:01 J -43464190.13 -43464190.00 -43464189.87 0.0302 0.0070

Saturn -123712-10-11 01:27 J -43464101.57 -43464101.44 -43464101.31 0.0303 0.0054

Saturn -123711-01-07 14:54 J -43464012.99 -43464012.88 -43464012.77 0.0303 0.0175

Saturn -123711-04-06 04:06 J -43463924.35 -43463924.33 -43463924.30 0.0303 0.0296

Mars -123710-10-24 19:13 J -43463357.86 -43463357.70 -43463357.54 0.1863 0.0375

Moon -123709-03-14 17:03 J -43463215.89 -43463215.79 -43463215.68 0.2789 0.0472

Earth -123709-03-14 17:18 J -43463215.88 -43463215.78 -43463215.67 0.2781 0.0545 *

Jupiter -123708-02-24 20:54 J -43462868.74 -43462868.63 -43462868.53 0.0526 0.0280

Jupiter -123708-05-25 03:08 J -43462779.48 -43462779.37 -43462779.24 0.0527 0.0182

Mars -123707-08-05 04:35 J -43462342.41 -43462342.31 -43462342.21 0.1651 0.0816

Moon -123706-09-11 18:15 J -43461939.90 -43461939.74 -43461939.58 0.2558 0.0060

Earth -123706-09-11 19:56 J -43461939.83 -43461939.67 -43461939.51 0.2559 0.0042 *

Mars -123705-07-10 09:08 J -43461637.22 -43461637.12 -43461637.02 0.1649 0.0867

Jupiter -123702-01-16 20:54 J -43460716.79 -43460716.63 -43460716.46 0.0499 0.0208

Moon -123702-03-08 14:54 J -43460665.97 -43460665.88 -43460665.79 0.2773 0.1594

Earth -123702-03-08 14:54 J -43460665.97 -43460665.88 -43460665.79 0.2780 0.1579 *

Jupiter -123702-04-17 06:44 J -43460626.34 -43460626.22 -43460626.10 0.0499 0.0377

Mars -123700-03-15 13:56 J -43459928.07 -43459927.92 -43459927.77 0.1861 0.0741

Saturn -123698-08-10 01:42 J -43459050.55 -43459050.43 -43459050.31 0.0260 0.0199

Saturn -123698-11-06 20:39 J -43458961.81 -43458961.64 -43458961.46 0.0260 0.0092

Mars -123698-12-26 15:08 J -43458911.94 -43458911.87 -43458911.79 0.1653 0.1234

Saturn -123697-02-03 16:06 J -43458873.01 -43458872.83 -43458872.64 0.0260 0.0018

Saturn -123697-05-02 11:32 J -43458784.18 -43458784.02 -43458783.85 0.0260 0.0127

Saturn -123697-07-30 07:13 J -43458695.27 -43458695.20 -43458695.12 0.0260 0.0237

Jupiter -123697-12-14 00:44 J -43458558.55 -43458558.47 -43458558.39 0.0526 0.0396

Jupiter -123696-03-13 07:13 J -43458469.32 -43458469.20 -43458469.07 0.0527 0.0068

Moon -123696-03-17 11:32 J -43458465.12 -43458465.02 -43458464.93 0.2787 0.1268

Earth -123696-03-17 11:46 J -43458465.10 -43458465.01 -43458464.91 0.2781 0.1298 *

Jupiter -123696-06-10 13:27 J -43458379.94 -43458379.94 -43458379.92 0.0527 0.0525

Mars -123696-11-30 19:56 J -43458206.78 -43458206.67 -43458206.55 0.1649 0.0468

Moon -123693-09-14 00:58 J -43457188.61 -43457188.46 -43457188.31 0.2555 0.1078

Earth -123693-09-14 02:25 J -43457188.54 -43457188.40 -43457188.26 0.2559 0.1200 *

Mars -123691-08-05 09:22 J -43456498.14 -43456498.11 -43456498.07 0.1860 0.1813

Jupiter -123691-11-04 17:46 J -43456406.88 -43456406.76 -43456406.63 0.0500 0.0355

Jupiter -123690-02-03 03:37 J -43456316.52 -43456316.35 -43456316.19 0.0499 0.0229

Moon -123689-03-10 09:22 J -43455915.22 -43455915.11 -43455915.01 0.2773 0.0765

Earth -123689-03-10 09:22 J -43455915.22 -43455915.11 -43455915.01 0.2781 0.0834 *

Mars -123688-05-18 01:56 J -43455481.42 -43455481.42 -43455481.42 0.1654 0.1652

Mars -123686-04-23 06:58 J -43454776.33 -43454776.21 -43454776.10 0.1650 0.0079

Earth -123686-09-06 13:42 J -43454640.00 -43454639.93 -43454639.86 0.2560 0.2304

Moon -123686-09-06 15:22 J -43454639.93 -43454639.86 -43454639.79 0.2560 0.2305 *

Jupiter -123685-10-02 04:34 J -43454248.33 -43454248.31 -43454248.28 0.0525 0.0512

Jupiter -123685-12-30 11:18 J -43454159.16 -43454159.03 -43454158.91 0.0526 0.0053

Jupiter -123684-03-29 17:32 J -43454069.85 -43454069.77 -43454069.69 0.0527 0.0407

Moon -123683-03-20 06:01 J -43453714.32 -43453714.25 -43453714.18 0.2787 0.2094

Earth -123683-03-20 06:15 J -43453714.31 -43453714.24 -43453714.16 0.2781 0.2053 *

Saturn -123683-09-04 01:13 J -43453546.54 -43453546.45 -43453546.36 0.0302 0.0220

Saturn -123683-12-01 14:54 J -43453458.01 -43453457.88 -43453457.75 0.0302 0.0096

Saturn -123682-02-28 04:20 J -43453369.45 -43453369.32 -43453369.18 0.0303 0.0029

Saturn -123682-05-27 17:46 J -43453280.87 -43453280.76 -43453280.64 0.0303 0.0150

Saturn -123682-08-24 07:13 J -43453192.26 -43453192.20 -43453192.14 0.0303 0.0271

Moon -123680-09-17 07:56 J -43452437.24 -43452437.17 -43452437.10 0.2554 0.2287

Earth -123680-09-17 08:39 J -43452437.18 -43452437.14 -43452437.09 0.2559 0.2434 *

Mars -123680-12-03 00:58 J -43452360.54 -43452360.46 -43452360.37 0.1863 0.1603

Neptune -123679-11-17 16:49 J -43452010.87 -43452010.80 -43452010.74 0.0089 0.0084

Jupiter -123679-11-22 00:01 J -43452006.68 -43452006.50 -43452006.32 0.0499 0.0078

Neptune -123678-02-13 19:42 J -43451922.75 -43451922.68 -43451922.57 0.0089 0.0078

Neptune -123678-05-12 23:18 J -43451834.62 -43451834.53 -43451834.40 0.0089 0.0072

Neptune -123678-08-09 02:39 J -43451746.49 -43451746.39 -43451746.24 0.0089 0.0066

Neptune -123678-11-05 06:15 J -43451658.36 -43451658.24 -43451658.08 0.0089 0.0060

Neptune -123677-02-01 09:51 J -43451570.22 -43451570.09 -43451569.92 0.0089 0.0054

Neptune -123677-04-29 13:42 J -43451482.09 -43451481.93 -43451481.77 0.0089 0.0048

Venus -123677-06-16 04:34 J -43451434.39 -43451434.31 -43451434.23 0.3754 0.2218

Neptune -123677-07-26 17:18 J -43451393.95 -43451393.78 -43451393.61 0.0089 0.0041

Mars -123677-09-12 17:46 J -43451345.88 -43451345.76 -43451345.65 0.1651 0.0350

Neptune -123677-10-22 20:54 J -43451305.81 -43451305.63 -43451305.46 0.0089 0.0035

Neptune -123676-01-19 00:15 J -43451217.66 -43451217.49 -43451217.30 0.0089 0.0029

Earth -123676-03-13 03:51 J -43451164.45 -43451164.34 -43451164.23 0.2781 0.0106

Moon -123676-03-13 04:06 J -43451164.44 -43451164.33 -43451164.22 0.2774 0.0050 *

Neptune -123676-04-17 03:51 J -43451129.52 -43451129.34 -43451129.15 0.0089 0.0023

Neptune -123676-07-14 07:27 J -43451041.37 -43451041.19 -43451041.00 0.0089 0.0017

Neptune -123676-10-10 11:03 J -43450953.23 -43450953.04 -43450952.85 0.0089 0.0011

Neptune -123675-01-06 14:39 J -43450865.08 -43450864.89 -43450864.70 0.0089 0.0005

Neptune -123675-04-04 18:15 J -43450776.93 -43450776.74 -43450776.55 0.0089 0.0001

Neptune -123675-07-01 21:51 J -43450688.78 -43450688.59 -43450688.40 0.0089 0.0007

Mars -123675-08-18 22:06 J -43450640.65 -43450640.58 -43450640.51 0.1648 0.1315

Uranus -123675-09-27 04:06 J -43450601.41 -43450601.33 -43450601.24 0.0148 0.0131

Neptune -123675-09-28 01:13 J -43450600.63 -43450600.45 -43450600.25 0.0089 0.0014

Uranus -123675-12-24 12:44 J -43450513.10 -43450512.97 -43450512.82 0.0148 0.0100

Neptune -123675-12-25 04:49 J -43450512.48 -43450512.30 -43450512.10 0.0089 0.0020

Venus -123674-03-19 18:30 J -43450427.86 -43450427.73 -43450427.59 0.3626 0.1718

Uranus -123674-03-22 21:22 J -43450424.76 -43450424.61 -43450424.43 0.0148 0.0069

Neptune -123674-03-23 08:25 J -43450424.32 -43450424.15 -43450423.95 0.0089 0.0027

Uranus -123674-06-19 06:30 J -43450336.41 -43450336.23 -43450336.04 0.0148 0.0037

Neptune -123674-06-19 12:15 J -43450336.17 -43450335.99 -43450335.81 0.0089 0.0032 *

Uranus -123674-09-15 15:22 J -43450248.05 -43450247.86 -43450247.67 0.0148 0.0005

Neptune -123674-09-15 15:51 J -43450248.01 -43450247.84 -43450247.66 0.0089 0.0038 *

Neptune -123674-12-12 19:27 J -43450159.85 -43450159.69 -43450159.52 0.0089 0.0045

Uranus -123674-12-13 00:15 J -43450159.68 -43450159.49 -43450159.30 0.0148 0.0027 *

Neptune -123673-03-09 22:49 J -43450071.69 -43450071.55 -43450071.38 0.0089 0.0051

Uranus -123673-03-10 09:08 J -43450071.30 -43450071.12 -43450070.94 0.0148 0.0058

Neptune -123673-06-06 02:25 J -43449983.53 -43449983.40 -43449983.24 0.0089 0.0057

Uranus -123673-06-06 18:01 J -43449982.90 -43449982.75 -43449982.60 0.0148 0.0090

Neptune -123673-09-02 06:15 J -43449895.37 -43449895.24 -43449895.10 0.0089 0.0063

Uranus -123673-09-03 02:54 J -43449894.48 -43449894.38 -43449894.27 0.0148 0.0122

Earth -123673-09-08 20:10 J -43449888.81 -43449888.66 -43449888.51 0.2560 0.1059

Moon -123673-09-08 21:51 J -43449888.74 -43449888.59 -43449888.44 0.2561 0.0916 *

Jupiter -123673-10-18 15:08 J -43449848.99 -43449848.87 -43449848.75 0.0526 0.0167

Neptune -123673-11-29 09:51 J -43449807.20 -43449807.09 -43449806.96 0.0089 0.0069

Jupiter -123672-01-15 21:22 J -43449759.71 -43449759.61 -43449759.50 0.0526 0.0292

Neptune -123672-02-25 13:42 J -43449719.03 -43449718.93 -43449718.83 0.0089 0.0076

Neptune -123672-05-24 16:49 J -43449630.85 -43449630.80 -43449630.70 0.0089 0.0082

Neptune -123672-08-20 20:39 J -43449542.65 -43449542.64 -43449542.59 0.0089 0.0088

Venus -123672-12-30 21:08 J -43449410.73 -43449410.62 -43449410.52 0.3760 0.0451

Moon -123670-03-23 00:15 J -43448963.50 -43448963.49 -43448963.48 0.2784 0.2762

Mars -123670-04-24 19:27 J -43448930.85 -43448930.69 -43448930.53 0.1862 0.0465

Earth -123669-03-06 01:27 J -43448614.51 -43448614.44 -43448614.38 0.2779 0.2196

Moon -123669-03-06 01:27 J -43448614.50 -43448614.44 -43448614.38 0.2786 0.2253 *

Venus -123669-10-03 01:42 J -43448403.53 -43448403.43 -43448403.33 0.3618 0.2776

Saturn -123669-12-27 02:54 J -43448318.47 -43448318.38 -43448318.28 0.0260 0.0221

Saturn -123668-03-25 22:06 J -43448229.74 -43448229.58 -43448229.41 0.0260 0.0114

Saturn -123668-06-22 17:32 J -43448140.96 -43448140.77 -43448140.59 0.0260 0.0006

Saturn -123668-09-19 12:58 J -43448052.13 -43448051.96 -43448051.79 0.0259 0.0103

Saturn -123668-12-17 08:25 J -43447963.25 -43447963.15 -43447963.04 0.0259 0.0213

Mars -123667-02-03 04:34 J -43447915.42 -43447915.31 -43447915.21 0.1652 0.0762

Jupiter -123667-09-09 21:08 J -43447696.80 -43447696.62 -43447696.44 0.0500 0.0069

Venus -123666-07-16 13:27 J -43447387.04 -43447386.94 -43447386.85 0.3766 0.1359

Mars -123665-01-09 09:08 J -43447210.22 -43447210.12 -43447210.03 0.1649 0.0921

Earth -123663-03-15 22:20 J -43446413.68 -43446413.57 -43446413.47 0.2781 0.0679

Moon -123663-03-15 22:34 J -43446413.67 -43446413.56 -43446413.45 0.2775 0.0633 *

Jupiter -123661-08-06 18:44 J -43445538.83 -43445538.72 -43445538.61 0.0525 0.0289

Mars -123661-09-13 14:54 J -43445501.04 -43445500.88 -43445500.73 0.1862 0.0628

Jupiter -123661-11-04 01:13 J -43445449.57 -43445449.45 -43445449.33 0.0526 0.0172

Venus -123660-01-29 05:46 J -43445363.32 -43445363.26 -43445363.21 0.3771 0.3133

Earth -123660-09-12 02:39 J -43445137.55 -43445137.39 -43445137.23 0.2559 0.0184

Moon -123660-09-12 03:51 J -43445137.49 -43445137.34 -43445137.18 0.2563 0.0366 *

Mars -123658-06-26 15:22 J -43444484.95 -43444484.86 -43444484.78 0.1653 0.1173

Moon -123656-03-08 19:42 J -43443863.77 -43443863.68 -43443863.59 0.2788 0.1482

Earth -123656-03-08 19:42 J -43443863.77 -43443863.68 -43443863.58 0.2780 0.1452 *

Mars -123656-05-31 19:56 J -43443779.78 -43443779.67 -43443779.56 0.1650 0.0521

Jupiter -123655-06-28 18:15 J -43443386.91 -43443386.74 -43443386.57 0.0500 0.0214

Jupiter -123655-09-27 04:06 J -43443296.45 -43443296.33 -43443296.20 0.0499 0.0374

Saturn -123653-01-22 03:51 J -43442814.41 -43442814.34 -43442814.26 0.0302 0.0246

Saturn -123653-04-19 17:32 J -43442725.89 -43442725.77 -43442725.64 0.0302 0.0123

Saturn -123653-07-17 07:13 J -43442637.33 -43442637.20 -43442637.07 0.0303 0.0003

Saturn -123653-10-13 20:39 J -43442548.76 -43442548.64 -43442548.52 0.0303 0.0124

Saturn -123652-01-10 09:51 J -43442460.16 -43442460.09 -43442460.01 0.0303 0.0245

Mars -123651-02-03 10:20 J -43442071.14 -43442071.07 -43442071.01 0.1860 0.1702

Earth -123650-03-18 16:49 J -43441662.90 -43441662.80 -43441662.71 0.2781 0.1431

Moon -123650-03-18 17:18 J -43441662.87 -43441662.78 -43441662.69 0.2776 0.1460 *

Jupiter -123649-05-25 22:34 J -43441228.64 -43441228.56 -43441228.48 0.0525 0.0405

Jupiter -123649-08-23 05:03 J -43441139.41 -43441139.29 -43441139.16 0.0526 0.0057

Mars -123649-11-16 01:56 J -43441054.45 -43441054.42 -43441054.39 0.1654 0.1592

Jupiter -123649-11-20 11:18 J -43441050.05 -43441050.03 -43441050.00 0.0527 0.0514

Earth -123647-09-15 08:54 J -43440386.26 -43440386.13 -43440385.99 0.2559 0.1423

Moon -123647-09-15 10:06 J -43440386.21 -43440386.08 -43440385.95 0.2564 0.1454 *

Mars -123647-10-22 06:58 J -43440349.33 -43440349.21 -43440349.09 0.1650 0.0120

Moon -123643-03-11 13:56 J -43439113.02 -43439112.92 -43439112.81 0.2787 0.0663

Earth -123643-03-11 14:10 J -43439113.01 -43439112.91 -43439112.80 0.2781 0.0702 *

Jupiter -123643-04-16 15:08 J -43439076.99 -43439076.87 -43439076.74 0.0500 0.0361

Jupiter -123643-07-16 00:44 J -43438986.63 -43438986.47 -43438986.30 0.0499 0.0224

Mars -123640-06-03 01:42 J -43437933.49 -43437933.43 -43437933.36 0.1863 0.1709

Moon -123640-09-06 18:44 J -43437837.79 -43437837.72 -43437837.65 0.2559 0.2276

Earth -123640-09-06 20:25 J -43437837.74 -43437837.65 -43437837.56 0.2560 0.2077 *

Saturn -123639-05-16 03:37 J -43437586.40 -43437586.35 -43437586.29 0.0260 0.0246

Saturn -123639-08-12 22:49 J -43437497.70 -43437497.55 -43437497.39 0.0260 0.0139

Saturn -123639-11-09 18:01 J -43437408.93 -43437408.75 -43437408.56 0.0260 0.0031

Saturn -123638-02-06 13:27 J -43437320.12 -43437319.94 -43437319.76 0.0260 0.0078

Saturn -123638-05-06 09:08 J -43437231.25 -43437231.12 -43437231.00 0.0260 0.0187

Mars -123637-03-13 17:46 J -43436918.88 -43436918.76 -43436918.65 0.1651 0.0296

Jupiter -123637-03-14 02:25 J -43436918.41 -43436918.40 -43436918.39 0.0525 0.0522

Earth -123637-03-20 11:18 J -43436912.10 -43436912.03 -43436911.97 0.2781 0.2185

Moon -123637-03-20 11:46 J -43436912.07 -43436912.01 -43436911.95 0.2777 0.2289 *

Jupiter -123637-06-11 09:08 J -43436829.25 -43436829.12 -43436828.99 0.0526 0.0060

Jupiter -123637-09-08 15:22 J -43436739.94 -43436739.86 -43436739.77 0.0527 0.0401

Mars -123635-02-16 22:06 J -43436213.65 -43436213.58 -43436213.52 0.1649 0.1370

Uranus -123633-04-17 16:49 J -43435422.85 -43435422.80 -43435422.73 0.0131 0.0117

Uranus -123633-07-14 19:56 J -43435334.75 -43435334.67 -43435334.58 0.0131 0.0101

Uranus -123633-10-10 22:49 J -43435246.64 -43435246.55 -43435246.44 0.0131 0.0086

Uranus -123632-01-07 01:56 J -43435158.53 -43435158.42 -43435158.31 0.0131 0.0071

Uranus -123632-04-05 04:49 J -43435070.42 -43435070.30 -43435070.18 0.0131 0.0056

Uranus -123632-07-02 07:42 J -43434982.30 -43434982.18 -43434982.05 0.0131 0.0041

Uranus -123632-09-28 10:34 J -43434894.18 -43434894.06 -43434893.92 0.0131 0.0026

Uranus -123632-12-25 13:42 J -43434806.07 -43434805.93 -43434805.80 0.0131 0.0010

Uranus -123631-03-23 16:34 J -43434717.94 -43434717.81 -43434717.68 0.0131 0.0005

Jupiter -123631-05-03 21:37 J -43434676.78 -43434676.60 -43434676.41 0.0499 0.0076

Uranus -123631-06-19 19:27 J -43434629.82 -43434629.69 -43434629.56 0.0131 0.0020

Uranus -123631-09-15 22:20 J -43434541.70 -43434541.57 -43434541.44 0.0131 0.0035

Mars -123631-10-23 20:25 J -43434503.80 -43434503.65 -43434503.49 0.1862 0.0588

Uranus -123631-12-13 01:13 J -43434453.57 -43434453.45 -43434453.33 0.0131 0.0050

Uranus -123630-03-11 04:06 J -43434365.44 -43434365.33 -43434365.21 0.0131 0.0065

Moon -123630-03-14 08:25 J -43434362.26 -43434362.15 -43434362.05 0.2788 0.0086

Earth -123630-03-14 08:39 J -43434362.25 -43434362.14 -43434362.03 0.2781 0.0059 *

Uranus -123630-06-07 06:44 J -43434277.31 -43434277.22 -43434277.10 0.0131 0.0081

Uranus -123630-09-03 09:37 J -43434189.18 -43434189.10 -43434189.00 0.0131 0.0096

Uranus -123630-11-30 12:44 J -43434101.04 -43434100.97 -43434100.90 0.0131 0.0111

Uranus -123629-02-26 15:37 J -43434012.88 -43434012.85 -43434012.81 0.0131 0.0126

Mars -123628-08-04 04:34 J -43433488.42 -43433488.31 -43433488.21 0.1652 0.0704

Moon -123627-09-10 01:13 J -43433086.60 -43433086.45 -43433086.29 0.2557 0.0887

Earth -123627-09-10 02:54 J -43433086.53 -43433086.38 -43433086.23 0.2560 0.0838 *

Venus -123626-07-08 09:51 J -43432785.14 -43432785.09 -43432785.05 0.3750 0.3343

Mars -123626-07-10 09:08 J -43432783.22 -43432783.12 -43432783.03 0.1649 0.0976

Jupiter -123625-03-30 13:13 J -43432519.08 -43432518.95 -43432518.83 0.0526 0.0175

Jupiter -123625-06-27 19:27 J -43432429.79 -43432429.69 -43432429.58 0.0527 0.0285

Saturn -123624-06-10 06:15 J -43432082.29 -43432082.24 -43432082.18 0.0302 0.0276

Saturn -123624-09-06 20:10 J -43431993.78 -43431993.66 -43431993.55 0.0302 0.0152

Saturn -123624-12-04 09:37 J -43431905.23 -43431905.10 -43431904.96 0.0303 0.0029

Saturn -123623-03-02 23:03 J -43431816.66 -43431816.54 -43431816.41 0.0303 0.0096

Earth -123623-03-07 06:15 J -43431812.31 -43431812.24 -43431812.17 0.2780 0.2065

Moon -123623-03-07 06:30 J -43431812.30 -43431812.23 -43431812.16 0.2772 0.2103 *

Saturn -123623-05-30 12:30 J -43431728.07 -43431727.98 -43431727.88 0.0303 0.0217

Mars -123621-03-14 15:22 J -43431074.01 -43431073.86 -43431073.70 0.1861 0.0525

Pluto -123621-12-26 01:42 J -43430787.49 -43430787.43 -43430787.33 0.0061 0.0055

Venus -123620-01-21 02:10 J -43430761.50 -43430761.41 -43430761.31 0.3756 0.1556

Pluto -123620-03-24 02:54 J -43430699.48 -43430699.38 -43430699.24 0.0061 0.0047

Pluto -123620-06-20 04:06 J -43430611.45 -43430611.33 -43430611.16 0.0061 0.0039

Pluto -123620-09-16 05:32 J -43430523.42 -43430523.27 -43430523.09 0.0061 0.0031

Pluto -123620-12-13 06:58 J -43430435.38 -43430435.21 -43430435.03 0.0061 0.0022

Jupiter -123619-02-19 18:01 J -43430366.93 -43430366.75 -43430366.57 0.0500 0.0078

Pluto -123619-03-11 08:10 J -43430347.33 -43430347.16 -43430346.97 0.0061 0.0014

Pluto -123619-06-07 09:37 J -43430259.28 -43430259.10 -43430258.91 0.0061 0.0006

Pluto -123619-09-03 10:49 J -43430171.23 -43430171.05 -43430170.86 0.0061 0.0003

Pluto -123619-11-30 12:01 J -43430083.17 -43430083.00 -43430082.81 0.0061 0.0011

Mars -123619-12-25 15:08 J -43430057.95 -43430057.87 -43430057.78 0.1653 0.1120

Pluto -123618-02-26 13:13 J -43429995.11 -43429994.95 -43429994.76 0.0061 0.0020

Pluto -123618-05-25 14:39 J -43429907.05 -43429906.89 -43429906.72 0.0061 0.0028

Pluto -123618-08-21 15:37 J -43429818.98 -43429818.85 -43429818.68 0.0061 0.0036

Venus -123618-10-24 20:10 J -43429754.82 -43429754.66 -43429754.51 0.3624 0.0215

Pluto -123618-11-17 16:49 J -43429730.91 -43429730.80 -43429730.65 0.0061 0.0045

Pluto -123617-02-13 18:15 J -43429642.82 -43429642.74 -43429642.63 0.0061 0.0053

Moon -123617-03-16 02:39 J -43429611.50 -43429611.39 -43429611.29 0.2786 0.0707

Earth -123617-03-16 03:08 J -43429611.47 -43429611.37 -43429611.27 0.2781 0.0809 *

Pluto -123617-05-11 19:27 J -43429554.69 -43429554.69 -43429554.65 0.0062 0.0061

Mars -123617-11-29 19:56 J -43429352.78 -43429352.67 -43429352.56 0.1649 0.0575

Venus -123615-08-06 18:44 J -43428737.83 -43428737.72 -43428737.62 0.3761 0.0250

Moon -123614-09-13 07:56 J -43428335.33 -43428335.17 -43428335.01 0.2555 0.0434

Earth -123614-09-13 09:22 J -43428335.27 -43428335.11 -43428334.95 0.2559 0.0410 *

Jupiter -123613-01-17 17:03 J -43428208.89 -43428208.79 -43428208.68 0.0525 0.0289

Jupiter -123613-04-15 23:32 J -43428119.64 -43428119.52 -43428119.40 0.0526 0.0170

Mars -123612-08-04 10:34 J -43427644.13 -43427644.06 -43427643.98 0.1860 0.1609

Earth -123610-03-10 00:44 J -43427061.57 -43427061.47 -43427061.38 0.2780 0.1319

Moon -123610-03-10 00:58 J -43427061.56 -43427061.46 -43427061.37 0.2773 0.1324 *

Saturn -123610-12-31 00:01 J -43426765.64 -43426765.50 -43426765.36 0.0260 0.0163

Venus -123609-02-20 11:03 J -43426714.13 -43426714.04 -43426713.95 0.3767 0.2022

Saturn -123609-03-28 19:13 J -43426676.88 -43426676.70 -43426676.52 0.0260 0.0056

Mars -123609-05-17 01:56 J -43426627.46 -43426627.42 -43426627.38 0.1654 0.1537

Saturn -123609-06-25 14:25 J -43426588.08 -43426587.90 -43426587.71 0.0259 0.0053

Saturn -123609-09-22 09:51 J -43426499.23 -43426499.09 -43426498.94 0.0259 0.0162

Jupiter -123608-12-08 15:08 J -43426057.03 -43426056.87 -43426056.70 0.0500 0.0224

Jupiter -123607-03-09 01:13 J -43425966.58 -43425966.45 -43425966.33 0.0499 0.0364

Mars -123607-04-22 06:44 J -43425922.33 -43425922.22 -43425922.10 0.1650 0.0180

Moon -123604-03-18 21:08 J -43424860.71 -43424860.62 -43424860.53 0.2786 0.1528

Earth -123604-03-18 21:37 J -43424860.69 -43424860.60 -43424860.51 0.2781 0.1565 *

Jupiter -123602-11-05 20:39 J -43423898.72 -43423898.64 -43423898.56 0.0525 0.0411

Jupiter -123601-02-03 03:08 J -43423809.50 -43423809.37 -43423809.24 0.0526 0.0050

Jupiter -123601-05-02 09:22 J -43423720.14 -43423720.11 -43423720.08 0.0527 0.0506

Moon -123601-09-15 15:08 J -43423584.00 -43423583.87 -43423583.75 0.2554 0.1596

Earth -123601-09-15 15:37 J -43423583.97 -43423583.85 -43423583.72 0.2559 0.1650 *

Mars -123601-12-02 02:25 J -43423506.43 -43423506.40 -43423506.36 0.1863 0.1814

Neptune -123598-03-19 23:32 J -43422668.52 -43422668.52 -43422668.50 0.0088 0.0088

Neptune -123598-06-16 00:44 J -43422580.49 -43422580.47 -43422580.41 0.0088 0.0085

Neptune -123598-09-12 02:25 J -43422492.45 -43422492.40 -43422492.34 0.0088 0.0080

Mars -123598-09-12 17:46 J -43422491.88 -43422491.76 -43422491.64 0.1651 0.0235

Neptune -123598-12-09 03:51 J -43422404.40 -43422404.34 -43422404.26 0.0088 0.0075

Neptune -123597-03-06 05:03 J -43422316.35 -43422316.29 -43422316.20 0.0088 0.0072

Earth -123597-03-11 19:13 J -43422310.81 -43422310.70 -43422310.60 0.2781 0.0577

Moon -123597-03-11 19:27 J -43422310.79 -43422310.69 -43422310.58 0.2775 0.0480 *

Neptune -123597-06-02 06:30 J -43422228.30 -43422228.23 -43422228.13 0.0088 0.0067

Neptune -123597-08-29 08:10 J -43422140.25 -43422140.16 -43422140.06 0.0088 0.0063

Neptune -123597-11-25 09:37 J -43422052.20 -43422052.10 -43422052.00 0.0088 0.0058

Neptune -123596-02-21 10:49 J -43421964.15 -43421964.05 -43421963.93 0.0088 0.0054

Neptune -123596-05-20 12:15 J -43421876.09 -43421875.99 -43421875.87 0.0088 0.0050

Neptune -123596-08-16 13:27 J -43421788.04 -43421787.94 -43421787.81 0.0088 0.0047

Mars -123596-08-17 22:06 J -43421786.64 -43421786.58 -43421786.53 0.1649 0.1424

Jupiter -123596-09-26 12:30 J -43421747.10 -43421746.98 -43421746.86 0.0500 0.0367

Neptune -123596-11-12 15:08 J -43421699.99 -43421699.87 -43421699.75 0.0088 0.0042

Jupiter -123596-12-25 22:20 J -43421656.74 -43421656.57 -43421656.41 0.0499 0.0219

Neptune -123595-02-08 16:34 J -43421611.93 -43421611.81 -43421611.69 0.0088 0.0037

Neptune -123595-05-07 17:46 J -43421523.88 -43421523.76 -43421523.63 0.0088 0.0034

Neptune -123595-08-03 19:13 J -43421435.82 -43421435.70 -43421435.57 0.0088 0.0029

Neptune -123595-10-30 20:39 J -43421347.77 -43421347.64 -43421347.51 0.0088 0.0025

Saturn -123594-01-24 22:34 J -43421261.66 -43421261.56 -43421261.45 0.0302 0.0179

Neptune -123594-01-26 22:06 J -43421259.71 -43421259.58 -43421259.45 0.0088 0.0021

Saturn -123594-04-23 12:15 J -43421173.12 -43421172.99 -43421172.86 0.0303 0.0056

Neptune -123594-04-24 23:32 J -43421171.65 -43421171.52 -43421171.39 0.0088 0.0016

Saturn -123594-07-21 01:42 J -43421084.55 -43421084.43 -43421084.30 0.0303 0.0068

Neptune -123594-07-22 00:44 J -43421083.60 -43421083.47 -43421083.33 0.0088 0.0013

Earth -123594-09-08 02:54 J -43421035.49 -43421035.38 -43421035.27 0.2560 0.1865

Moon -123594-09-08 04:34 J -43421035.42 -43421035.31 -43421035.20 0.2562 0.1871 *

Saturn -123594-10-17 15:08 J -43420995.97 -43420995.87 -43420995.76 0.0303 0.0190

Neptune -123594-10-18 02:10 J -43420995.54 -43420995.41 -43420995.27 0.0088 0.0008

Neptune -123593-01-14 03:37 J -43420907.49 -43420907.35 -43420907.22 0.0088 0.0004

Neptune -123593-04-11 04:49 J -43420819.43 -43420819.30 -43420819.16 0.0088 0.0004

Neptune -123593-07-08 06:15 J -43420731.37 -43420731.24 -43420731.10 0.0088 0.0005

Neptune -123593-10-04 07:42 J -43420643.32 -43420643.18 -43420643.05 0.0088 0.0009

Neptune -123593-12-31 08:54 J -43420555.26 -43420555.13 -43420554.99 0.0088 0.0013

Neptune -123592-03-29 10:20 J -43420467.20 -43420467.07 -43420466.94 0.0088 0.0017

Neptune -123592-06-25 11:46 J -43420379.14 -43420379.01 -43420378.88 0.0088 0.0021

Neptune -123592-09-21 12:58 J -43420291.08 -43420290.96 -43420290.83 0.0088 0.0026

Neptune -123592-12-18 14:25 J -43420203.03 -43420202.90 -43420202.77 0.0088 0.0030

Neptune -123591-03-16 15:37 J -43420114.97 -43420114.85 -43420114.72 0.0088 0.0034

Moon -123591-03-21 15:22 J -43420109.91 -43420109.86 -43420109.80 0.2783 0.2343

Earth -123591-03-21 16:06 J -43420109.88 -43420109.83 -43420109.77 0.2781 0.2322 *

Mars -123591-04-23 21:22 J -43420076.76 -43420076.61 -43420076.46 0.1862 0.0698

Neptune -123591-06-12 16:49 J -43420026.91 -43420026.80 -43420026.67 0.0088 0.0039

Neptune -123591-09-08 18:15 J -43419938.85 -43419938.74 -43419938.61 0.0088 0.0042

Uranus -123591-10-17 11:03 J -43419900.13 -43419900.04 -43419899.93 0.0148 0.0125

Neptune -123591-12-05 19:42 J -43419850.79 -43419850.68 -43419850.56 0.0088 0.0046

Uranus -123590-01-13 19:56 J -43419811.81 -43419811.67 -43419811.52 0.0148 0.0094

Neptune -123590-03-03 20:54 J -43419762.73 -43419762.63 -43419762.51 0.0088 0.0051

Moon -123590-03-05 16:34 J -43419760.84 -43419760.81 -43419760.78 0.2785 0.2663

Earth -123590-03-05 16:34 J -43419760.83 -43419760.81 -43419760.78 0.2779 0.2682 *

Uranus -123590-04-12 04:49 J -43419723.47 -43419723.30 -43419723.13 0.0148 0.0062

Neptune -123590-05-30 22:20 J -43419674.67 -43419674.57 -43419674.46 0.0088 0.0054

Uranus -123590-07-09 13:27 J -43419635.12 -43419634.94 -43419634.74 0.0148 0.0031

Neptune -123590-08-26 23:46 J -43419586.61 -43419586.51 -43419586.41 0.0088 0.0058

Uranus -123590-10-05 22:34 J -43419546.76 -43419546.56 -43419546.37 0.0148 0.0003

Jupiter -123590-11-22 07:13 J -43419499.33 -43419499.20 -43419499.07 0.0526 0.0067

Neptune -123590-11-23 01:13 J -43419498.54 -43419498.45 -43419498.36 0.0088 0.0063

Uranus -123589-01-02 07:13 J -43419458.38 -43419458.20 -43419458.01 0.0148 0.0033

Neptune -123589-02-19 02:25 J -43419410.48 -43419410.40 -43419410.31 0.0088 0.0067

Jupiter -123589-02-19 13:27 J -43419410.02 -43419409.94 -43419409.86 0.0527 0.0392

Uranus -123589-03-30 16:06 J -43419370.00 -43419369.83 -43419369.65 0.0148 0.0064

Neptune -123589-05-17 03:37 J -43419322.42 -43419322.35 -43419322.26 0.0088 0.0071

Uranus -123589-06-27 00:58 J -43419281.60 -43419281.46 -43419281.31 0.0148 0.0096

Neptune -123589-08-13 04:49 J -43419234.35 -43419234.30 -43419234.22 0.0088 0.0075

Uranus -123589-09-23 09:51 J -43419193.18 -43419193.09 -43419192.99 0.0148 0.0128

Neptune -123589-11-09 06:15 J -43419146.29 -43419146.24 -43419146.17 0.0088 0.0079

Mars -123588-02-02 04:34 J -43419061.42 -43419061.31 -43419061.20 0.1652 0.0645

Neptune -123588-02-05 07:27 J -43419058.22 -43419058.19 -43419058.13 0.0088 0.0084

Neptune -123588-05-04 08:54 J -43418970.14 -43418970.13 -43418970.10 0.0088 0.0087

Mars -123586-01-08 09:08 J -43418356.21 -43418356.12 -43418356.03 0.1649 0.1031

Earth -123584-03-14 13:27 J -43417560.04 -43417559.94 -43417559.83 0.2781 0.0220

Moon -123584-03-14 13:56 J -43417560.02 -43417559.92 -43417559.81 0.2776 0.0266 *

Jupiter -123584-10-13 19:13 J -43417346.88 -43417346.70 -43417346.52 0.0499 0.0071

Mars -123582-09-13 16:20 J -43416646.98 -43416646.82 -43416646.66 0.1861 0.0410

Earth -123581-09-10 09:22 J -43416284.26 -43416284.11 -43416283.95 0.2559 0.0618

Moon -123581-09-10 10:34 J -43416284.21 -43416284.06 -43416283.90 0.2564 0.0542 *

Saturn -123580-05-19 00:15 J -43416033.61 -43416033.49 -43416033.36 0.0260 0.0190

Saturn -123580-08-15 19:27 J -43415944.86 -43415944.69 -43415944.51 0.0260 0.0083

Saturn -123580-11-12 14:54 J -43415856.07 -43415855.88 -43415855.70 0.0260 0.0026

Saturn -123579-02-09 10:06 J -43415767.23 -43415767.08 -43415766.92 0.0259 0.0134

Saturn -123579-05-09 05:46 J -43415678.32 -43415678.26 -43415678.20 0.0259 0.0243

Mars -123579-06-25 15:08 J -43415630.96 -43415630.87 -43415630.78 0.1653 0.1062

Jupiter -123578-09-10 11:03 J -43415189.16 -43415189.04 -43415188.92 0.0526 0.0183

Jupiter -123578-12-08 17:32 J -43415099.88 -43415099.77 -43415099.66 0.0527 0.0279

Moon -123577-03-07 10:49 J -43415010.12 -43415010.05 -43415009.97 0.2787 0.2023

Earth -123577-03-07 11:03 J -43415010.11 -43415010.04 -43415009.96 0.2780 0.1937 *

Mars -123577-05-30 19:56 J -43414925.78 -43414925.67 -43414925.56 0.1649 0.0628

Mars -123572-02-02 11:32 J -43413217.11 -43413217.02 -43413216.92 0.1860 0.1496

Jupiter -123572-08-01 16:20 J -43413037.00 -43413036.82 -43413036.64 0.0499 0.0075

Earth -123571-03-17 07:56 J -43412809.27 -43412809.17 -43412809.06 0.2782 0.0950

Moon -123571-03-17 08:39 J -43412809.24 -43412809.14 -43412809.04 0.2777 0.0917 *

Mars -123570-11-16 01:56 J -43412200.47 -43412200.42 -43412200.37 0.1654 0.1479

Venus -123569-02-12 07:27 J -43412112.26 -43412112.19 -43412112.11 0.3751 0.2672

Earth -123568-09-13 15:51 J -43411532.99 -43411532.84 -43411532.68 0.2559 0.0630

Moon -123568-09-13 16:49 J -43411532.95 -43411532.80 -43411532.65 0.2564 0.0776 *

Mars -123568-10-21 06:58 J -43411495.33 -43411495.21 -43411495.10 0.1650 0.0233

Venus -123567-11-14 14:39 J -43411105.97 -43411105.89 -43411105.82 0.3629 0.3121

Jupiter -123566-06-29 15:08 J -43410878.97 -43410878.87 -43410878.76 0.0525 0.0296

Jupiter -123566-09-26 21:37 J -43410789.72 -43410789.60 -43410789.48 0.0526 0.0165

Saturn -123565-06-13 00:30 J -43410529.57 -43410529.48 -43410529.38 0.0302 0.0213

Saturn -123565-09-09 14:25 J -43410441.03 -43410440.90 -43410440.77 0.0302 0.0089

Saturn -123565-12-07 03:51 J -43410352.47 -43410352.34 -43410352.20 0.0303 0.0035

Saturn -123564-03-05 17:18 J -43410263.89 -43410263.78 -43410263.66 0.0303 0.0157

Moon -123564-03-10 05:03 J -43410259.38 -43410259.29 -43410259.19 0.2786 0.1261

Earth -123564-03-10 05:32 J -43410259.37 -43410259.27 -43410259.17 0.2780 0.1187 *

Saturn -123564-06-02 06:44 J -43410175.27 -43410175.22 -43410175.17 0.0303 0.0278

Venus -123564-08-28 00:01 J -43410088.60 -43410088.50 -43410088.40 0.3757 0.0881

Venus -123561-05-30 21:22 J -43409081.75 -43409081.61 -43409081.46 0.3622 0.1314

Jupiter -123560-05-20 12:30 J -43408727.14 -43408726.98 -43408726.82 0.0500 0.0229

Jupiter -123560-08-18 22:20 J -43408636.69 -43408636.57 -43408636.44 0.0499 0.0358

Venus -123558-03-13 16:20 J -43408064.92 -43408064.82 -43408064.72 0.3763 0.0903

Mars -123558-03-13 17:46 J -43408064.88 -43408064.76 -43408064.64 0.1651 0.0183 *

Earth -123558-03-20 02:25 J -43408058.48 -43408058.40 -43408058.31 0.2781 0.1702

Moon -123558-03-20 03:08 J -43408058.45 -43408058.37 -43408058.28 0.2779 0.1730 *

Mars -123556-02-15 22:06 J -43407359.63 -43407359.58 -43407359.53 0.1649 0.1477

Earth -123555-09-16 22:20 J -43406781.68 -43406781.57 -43406781.46 0.2559 0.1867

Moon -123555-09-16 22:34 J -43406781.67 -43406781.56 -43406781.45 0.2566 0.1886 *

Jupiter -123554-04-17 19:13 J -43406568.77 -43406568.70 -43406568.62 0.0525 0.0409

Jupiter -123554-07-16 01:56 J -43406479.55 -43406479.42 -43406479.30 0.0526 0.0055

Jupiter -123554-10-13 07:56 J -43406390.19 -43406390.17 -43406390.14 0.0527 0.0509

Venus -123553-09-26 08:39 J -43406041.21 -43406041.14 -43406041.07 0.3768 0.2681

Mars -123552-10-22 21:51 J -43405649.73 -43405649.59 -43405649.44 0.1862 0.0800

Moon -123551-03-12 23:32 J -43405508.63 -43405508.52 -43405508.41 0.2787 0.0405

Earth -123551-03-13 00:01 J -43405508.61 -43405508.50 -43405508.39 0.2781 0.0435 *

Saturn -123551-10-06 00:58 J -43405301.55 -43405301.46 -43405301.35 0.0260 0.0216

Saturn -123550-01-02 20:10 J -43405212.82 -43405212.66 -43405212.49 0.0260 0.0109

Saturn -123550-04-01 15:37 J -43405124.04 -43405123.85 -43405123.67 0.0259 0.0006

Saturn -123550-06-29 10:49 J -43405035.21 -43405035.05 -43405034.88 0.0259 0.0107

Saturn -123550-09-26 06:15 J -43404946.33 -43404946.24 -43404946.13 0.0259 0.0216

Uranus -123549-02-09 20:54 J -43404809.64 -43404809.63 -43404809.61 0.0131 0.0129

Uranus -123549-05-07 23:46 J -43404721.57 -43404721.51 -43404721.44 0.0131 0.0114

Mars -123549-08-03 04:34 J -43404634.42 -43404634.31 -43404634.20 0.1652 0.0591

Uranus -123549-08-04 02:39 J -43404633.46 -43404633.39 -43404633.29 0.0131 0.0099

Uranus -123549-10-31 05:46 J -43404545.36 -43404545.26 -43404545.15 0.0131 0.0084

Uranus -123548-01-27 08:54 J -43404457.25 -43404457.13 -43404457.02 0.0131 0.0068

Jupiter -123548-03-08 09:37 J -43404417.22 -43404417.10 -43404416.98 0.0500 0.0374

Uranus -123548-04-25 11:46 J -43404369.13 -43404369.01 -43404368.89 0.0131 0.0053

Jupiter -123548-06-06 19:27 J -43404326.86 -43404326.69 -43404326.52 0.0500 0.0212

Uranus -123548-07-22 14:39 J -43404281.02 -43404280.89 -43404280.76 0.0131 0.0038

Moon -123548-09-08 08:10 J -43404233.27 -43404233.16 -43404233.04 0.2556 0.1807

Earth -123548-09-08 09:37 J -43404233.22 -43404233.10 -43404232.98 0.2560 0.1641 *

Uranus -123548-10-18 17:32 J -43404192.90 -43404192.77 -43404192.64 0.0131 0.0023

Uranus -123547-01-14 20:25 J -43404104.78 -43404104.65 -43404104.51 0.0131 0.0009

Uranus -123547-04-12 23:32 J -43404016.66 -43404016.52 -43404016.39 0.0131 0.0009

Mars -123547-07-09 08:54 J -43403929.21 -43403929.13 -43403929.04 0.1649 0.1082

Uranus -123547-07-10 02:25 J -43403928.53 -43403928.40 -43403928.27 0.0131 0.0023

Uranus -123547-10-06 05:18 J -43403840.41 -43403840.28 -43403840.15 0.0131 0.0038

Uranus -123546-01-02 08:10 J -43403752.28 -43403752.16 -43403752.04 0.0131 0.0053

Uranus -123546-03-31 11:03 J -43403664.15 -43403664.04 -43403663.93 0.0131 0.0068

Uranus -123546-06-27 13:56 J -43403576.02 -43403575.92 -43403575.82 0.0131 0.0083

Uranus -123546-09-23 16:49 J -43403487.89 -43403487.80 -43403487.71 0.0131 0.0098

Uranus -123546-12-20 19:42 J -43403399.74 -43403399.68 -43403399.61 0.0131 0.0113

Uranus -123545-03-17 22:20 J -43403311.58 -43403311.57 -43403311.53 0.0131 0.0129

Earth -123545-03-21 21:08 J -43403307.67 -43403307.62 -43403307.58 0.2781 0.2456

Moon -123545-03-21 21:51 J -43403307.63 -43403307.59 -43403307.56 0.2779 0.2579 *

Earth -123544-03-05 21:37 J -43402958.64 -43402958.60 -43402958.56 0.2779 0.2555

Moon -123544-03-05 21:51 J -43402958.64 -43402958.59 -43402958.54 0.2772 0.2477 *

Mars -123542-03-14 16:49 J -43402219.96 -43402219.80 -43402219.63 0.1862 0.0313

Jupiter -123542-05-04 05:32 J -43402169.40 -43402169.27 -43402169.14 0.0526 0.0069

Jupiter -123542-08-01 11:46 J -43402080.09 -43402080.01 -43402079.93 0.0526 0.0389

Mars -123540-12-24 15:22 J -43401203.96 -43401203.86 -43401203.77 0.1653 0.1004

Moon -123538-03-15 17:46 J -43400757.87 -43400757.76 -43400757.65 0.2785 0.0310

Earth -123538-03-15 18:30 J -43400757.84 -43400757.73 -43400757.62 0.2781 0.0321 *

Mars -123538-11-29 19:56 J -43400498.78 -43400498.67 -43400498.56 0.1650 0.0684

Jupiter -123536-03-25 16:49 J -43400016.98 -43400016.80 -43400016.62 0.0500 0.0068

Saturn -123536-10-31 02:39 J -43399797.46 -43399797.39 -43399797.31 0.0302 0.0244

Saturn -123535-01-27 16:20 J -43399708.94 -43399708.82 -43399708.69 0.0303 0.0121

Saturn -123535-04-26 06:01 J -43399620.38 -43399620.25 -43399620.11 0.0303 0.0008

Saturn -123535-07-23 19:27 J -43399531.81 -43399531.69 -43399531.57 0.0303 0.0127

Moon -123535-09-11 14:54 J -43399482.04 -43399481.88 -43399481.72 0.2554 0.0436

Earth -123535-09-11 16:06 J -43399481.99 -43399481.83 -43399481.67 0.2559 0.0397 *

Saturn -123535-10-20 08:54 J -43399443.20 -43399443.13 -43399443.05 0.0303 0.0248

Mars -123533-08-03 12:30 J -43398790.09 -43398789.98 -43398789.87 0.1860 0.1380

Earth -123531-03-08 16:06 J -43398207.92 -43398207.83 -43398207.75 0.2780 0.1808

Moon -123531-03-08 16:20 J -43398207.90 -43398207.82 -43398207.74 0.2774 0.1827 *

Jupiter -123530-02-20 09:22 J -43397859.23 -43397859.11 -43397858.99 0.0526 0.0185

Mars -123530-05-17 01:56 J -43397773.48 -43397773.42 -43397773.36 0.1654 0.1420

Jupiter -123530-05-20 15:51 J -43397769.95 -43397769.84 -43397769.73 0.0526 0.0275

Mars -123528-04-21 06:58 J -43397068.33 -43397068.21 -43397068.10 0.1650 0.0286

Pluto -123528-10-24 17:03 J -43396881.86 -43396881.79 -43396881.70 0.0084 0.0069

Pluto -123527-01-20 18:30 J -43396793.83 -43396793.73 -43396793.61 0.0084 0.0052

Pluto -123527-04-18 19:56 J -43396705.79 -43396705.67 -43396705.54 0.0084 0.0036

Pluto -123527-07-15 21:22 J -43396617.74 -43396617.61 -43396617.47 0.0084 0.0020

Pluto -123527-10-11 22:49 J -43396529.69 -43396529.55 -43396529.41 0.0084 0.0004

Pluto -123526-01-08 00:15 J -43396441.63 -43396441.49 -43396441.35 0.0084 0.0012

Pluto -123526-04-06 01:27 J -43396353.56 -43396353.44 -43396353.30 0.0084 0.0028

Pluto -123526-07-03 02:54 J -43396265.50 -43396265.38 -43396265.26 0.0083 0.0044

Pluto -123526-09-29 04:06 J -43396177.42 -43396177.33 -43396177.23 0.0083 0.0060

Pluto -123526-12-26 05:18 J -43396089.32 -43396089.28 -43396089.21 0.0083 0.0075

Moon -123525-03-17 12:15 J -43396007.09 -43396006.99 -43396006.89 0.2785 0.0969

Earth -123525-03-17 12:58 J -43396007.06 -43396006.96 -43396006.86 0.2781 0.1079 *

Jupiter -123524-01-11 14:10 J -43395707.10 -43395706.91 -43395706.73 0.0500 0.0077

Moon -123522-09-14 22:06 J -43394730.73 -43394730.58 -43394730.43 0.2553 0.0922

Earth -123522-09-14 22:34 J -43394730.72 -43394730.56 -43394730.41 0.2559 0.0851 *

Saturn -123521-02-23 01:13 J -43394569.51 -43394569.45 -43394569.39 0.0260 0.0244

Saturn -123521-05-21 20:10 J -43394480.81 -43394480.66 -43394480.50 0.0260 0.0138

Saturn -123521-08-18 15:22 J -43394392.04 -43394391.86 -43394391.68 0.0259 0.0031

Saturn -123521-11-15 10:34 J -43394303.23 -43394303.06 -43394302.88 0.0259 0.0078

Saturn -123520-02-12 06:01 J -43394214.37 -43394214.25 -43394214.11 0.0259 0.0186

Mars -123519-09-11 17:46 J -43393637.88 -43393637.76 -43393637.64 0.1651 0.0125

Jupiter -123519-12-09 13:27 J -43393549.05 -43393548.94 -43393548.84 0.0526 0.0300

Jupiter -123518-03-08 19:56 J -43393459.79 -43393459.67 -43393459.55 0.0527 0.0161

Earth -123518-03-11 10:20 J -43393457.17 -43393457.07 -43393456.97 0.2781 0.1059

Moon -123518-03-11 11:03 J -43393457.14 -43393457.04 -43393456.94 0.2775 0.1055 *

Mars -123517-08-16 22:06 J -43392932.62 -43392932.58 -43392932.54 0.1649 0.1531

Neptune -123514-05-18 12:30 J -43391928.02 -43391927.98 -43391927.92 0.0089 0.0085

Neptune -123514-08-14 15:51 J -43391839.91 -43391839.84 -43391839.74 0.0089 0.0079

Neptune -123514-11-10 19:27 J -43391751.79 -43391751.69 -43391751.57 0.0089 0.0073

Neptune -123513-02-06 23:03 J -43391663.66 -43391663.54 -43391663.41 0.0089 0.0067

Neptune -123513-05-05 02:25 J -43391575.53 -43391575.40 -43391575.25 0.0089 0.0061

Neptune -123513-08-01 06:01 J -43391487.39 -43391487.25 -43391487.09 0.0089 0.0055

Venus -123513-09-18 05:18 J -43391439.37 -43391439.28 -43391439.20 0.3753 0.2002

Neptune -123513-10-28 09:37 J -43391399.25 -43391399.10 -43391398.94 0.0089 0.0049

Jupiter -123513-10-30 11:18 J -43391397.19 -43391397.03 -43391396.87 0.0500 0.0221

Neptune -123512-01-24 12:58 J -43391311.11 -43391310.96 -43391310.78 0.0089 0.0044

Jupiter -123512-01-28 20:54 J -43391306.75 -43391306.63 -43391306.50 0.0499 0.0366

Moon -123512-03-20 06:44 J -43391256.31 -43391256.22 -43391256.14 0.2782 0.1762

Earth -123512-03-20 07:27 J -43391256.27 -43391256.19 -43391256.11 0.2781 0.1837 *

Neptune -123512-04-22 16:34 J -43391222.97 -43391222.81 -43391222.63 0.0089 0.0037

Mars -123512-04-22 22:34 J -43391222.70 -43391222.56 -43391222.41 0.1862 0.0906 *

Neptune -123512-07-19 20:10 J -43391134.83 -43391134.66 -43391134.47 0.0089 0.0031

Neptune -123512-10-15 23:46 J -43391046.69 -43391046.51 -43391046.32 0.0089 0.0025

Neptune -123511-01-12 03:22 J -43390958.54 -43390958.36 -43390958.17 0.0089 0.0019

Neptune -123511-04-10 06:58 J -43390870.40 -43390870.21 -43390870.02 0.0089 0.0013

Neptune -123511-07-07 10:34 J -43390782.25 -43390782.06 -43390781.87 0.0089 0.0007

Neptune -123511-10-03 14:10 J -43390694.10 -43390693.91 -43390693.72 0.0089 0.0001

Neptune -123511-12-30 17:46 J -43390605.95 -43390605.76 -43390605.57 0.0089 0.0006

Neptune -123510-03-28 21:22 J -43390517.80 -43390517.61 -43390517.42 0.0089 0.0012

Venus -123510-06-21 16:06 J -43390432.97 -43390432.83 -43390432.70 0.3627 0.1616

Neptune -123510-06-25 00:58 J -43390429.65 -43390429.46 -43390429.27 0.0089 0.0018

Neptune -123510-09-21 04:34 J -43390341.49 -43390341.31 -43390341.12 0.0089 0.0024

Neptune -123510-12-18 08:10 J -43390253.34 -43390253.16 -43390252.98 0.0089 0.0030

Mars -123509-02-02 04:34 J -43390207.43 -43390207.31 -43390207.20 0.1652 0.0537

Neptune -123509-03-15 11:46 J -43390165.18 -43390165.01 -43390164.83 0.0089 0.0037

Neptune -123509-06-11 15:08 J -43390077.03 -43390076.87 -43390076.69 0.0089 0.0043

Neptune -123509-09-07 18:44 J -43389988.87 -43389988.72 -43389988.55 0.0089 0.0049

Moon -123509-09-17 04:49 J -43389979.39 -43389979.30 -43389979.20 0.2553 0.2072

Earth -123509-09-17 05:03 J -43389979.38 -43389979.29 -43389979.20 0.2559 0.2094 *

Neptune -123509-12-04 22:20 J -43389900.71 -43389900.57 -43389900.40 0.0089 0.0056

Neptune -123508-03-03 02:10 J -43389812.54 -43389812.41 -43389812.26 0.0089 0.0061

Neptune -123508-05-30 06:01 J -43389724.38 -43389724.25 -43389724.13 0.0089 0.0068

Neptune -123508-08-26 09:08 J -43389636.21 -43389636.12 -43389635.99 0.0089 0.0074

Neptune -123508-11-22 12:44 J -43389548.03 -43389547.97 -43389547.86 0.0089 0.0081

Mars -123507-01-07 08:54 J -43389502.21 -43389502.13 -43389502.04 0.1649 0.1135

Neptune -123507-02-18 16:34 J -43389459.84 -43389459.81 -43389459.75 0.0089 0.0086

Venus -123507-04-03 21:37 J -43389415.70 -43389415.60 -43389415.50 0.3759 0.0215

Uranus -123507-08-10 10:20 J -43389287.07 -43389287.07 -43389287.06 0.0148 0.0148

Jupiter -123507-09-27 17:32 J -43389238.85 -43389238.77 -43389238.69 0.0525 0.0411

Uranus -123507-11-06 18:44 J -43389198.82 -43389198.72 -43389198.59 0.0148 0.0117

Jupiter -123507-12-26 00:15 J -43389149.62 -43389149.49 -43389149.37 0.0526 0.0053

Uranus -123506-02-03 03:51 J -43389110.49 -43389110.34 -43389110.18 0.0148 0.0085

Saturn -123506-03-20 04:06 J -43389065.37 -43389065.33 -43389065.28 0.0302 0.0283

Jupiter -123506-03-25 06:15 J -43389060.27 -43389060.24 -43389060.20 0.0527 0.0507

Uranus -123506-05-02 12:30 J -43389022.15 -43389021.98 -43389021.80 0.0148 0.0054

Saturn -123506-06-16 18:01 J -43388976.87 -43388976.75 -43388976.64 0.0302 0.0159

Uranus -123506-07-29 21:22 J -43388933.80 -43388933.61 -43388933.42 0.0148 0.0022

Saturn -123506-09-13 07:42 J -43388888.32 -43388888.18 -43388888.05 0.0303 0.0036

Uranus -123506-10-26 06:15 J -43388845.43 -43388845.24 -43388845.05 0.0148 0.0009

Saturn -123506-12-10 21:08 J -43388799.75 -43388799.62 -43388799.49 0.0303 0.0088

Uranus -123505-01-22 15:08 J -43388757.05 -43388756.87 -43388756.69 0.0148 0.0041

Saturn -123505-03-08 10:34 J -43388711.15 -43388711.06 -43388710.97 0.0303 0.0210

Earth -123505-03-13 04:49 J -43388706.40 -43388706.30 -43388706.19 0.2781 0.0312

Moon -123505-03-13 05:32 J -43388706.38 -43388706.27 -43388706.16 0.2778 0.0210 *

Uranus -123505-04-19 23:46 J -43388668.67 -43388668.51 -43388668.33 0.0148 0.0073

Uranus -123505-07-17 08:39 J -43388580.26 -43388580.14 -43388580.00 0.0148 0.0105

Uranus -123505-10-13 17:32 J -43388491.83 -43388491.77 -43388491.69 0.0148 0.0137

Venus -123504-01-04 23:03 J -43388408.63 -43388408.54 -43388408.45 0.3620 0.2842

Mars -123503-09-12 17:46 J -43387792.92 -43387792.76 -43387792.60 0.1861 0.0195

Earth -123502-09-09 16:06 J -43387430.96 -43387430.83 -43387430.69 0.2560 0.1423

Moon -123502-09-09 17:18 J -43387430.91 -43387430.78 -43387430.65 0.2565 0.1473 *

Venus -123502-10-18 13:56 J -43387392.01 -43387391.92 -43387391.82 0.3764 0.1565

Jupiter -123501-08-18 07:27 J -43387087.31 -43387087.19 -43387087.07 0.0500 0.0376

Jupiter -123501-11-16 17:03 J -43386996.95 -43386996.79 -43386996.62 0.0499 0.0211

Mars -123500-06-24 15:22 J -43386776.96 -43386776.86 -43386776.77 0.1653 0.0948

Moon -123499-03-23 01:13 J -43386505.48 -43386505.45 -43386505.41 0.2781 0.2610

Earth -123499-03-23 01:56 J -43386505.45 -43386505.42 -43386505.38 0.2781 0.2595 *

Moon -123498-03-07 02:10 J -43386156.46 -43386156.41 -43386156.36 0.2786 0.2418

Earth -123498-03-07 02:25 J -43386156.45 -43386156.40 -43386156.35 0.2779 0.2425 *

Mars -123498-05-30 19:56 J -43386071.77 -43386071.67 -43386071.57 0.1650 0.0737

Venus -123496-05-03 06:15 J -43385368.28 -43385368.24 -43385368.19 0.3770 0.3332

Jupiter -123495-07-16 21:37 J -43384928.60 -43384928.60 -43384928.59 0.0525 0.0523

Jupiter -123495-10-14 04:20 J -43384839.45 -43384839.32 -43384839.19 0.0526 0.0063

Jupiter -123494-01-11 10:34 J -43384750.14 -43384750.06 -43384749.97 0.0526 0.0396

Mars -123493-02-02 12:44 J -43384363.08 -43384362.97 -43384362.85 0.1860 0.1289

Earth -123492-03-15 23:18 J -43383955.63 -43383955.53 -43383955.42 0.2781 0.0460

Moon -123492-03-16 00:01 J -43383955.60 -43383955.50 -43383955.39 0.2778 0.0532 *

Saturn -123492-10-08 20:39 J -43383748.78 -43383748.64 -43383748.50 0.0260 0.0166

Saturn -123491-01-05 15:37 J -43383660.02 -43383659.85 -43383659.66 0.0259 0.0060

Saturn -123491-04-04 11:03 J -43383571.22 -43383571.04 -43383570.86 0.0259 0.0048

Saturn -123491-07-02 06:15 J -43383482.38 -43383482.24 -43383482.08 0.0259 0.0157

Mars -123491-11-15 01:56 J -43383346.48 -43383346.42 -43383346.35 0.1654 0.1362

Jupiter -123489-09-04 14:25 J -43382687.09 -43382686.90 -43382686.72 0.0500 0.0066

Earth -123489-09-11 22:49 J -43382679.72 -43382679.55 -43382679.39 0.2559 0.0181

Moon -123489-09-11 23:18 J -43382679.68 -43382679.53 -43382679.37 0.2565 0.0143 *

Mars -123489-10-20 06:58 J -43382641.33 -43382641.21 -43382641.10 0.1650 0.0341

Moon -123485-03-08 20:25 J -43381405.74 -43381405.65 -43381405.57 0.2784 0.1769

Earth -123485-03-08 20:54 J -43381405.72 -43381405.63 -43381405.54 0.2780 0.1676 *

Jupiter -123483-08-02 08:10 J -43380529.28 -43380529.16 -43380529.04 0.0525 0.0182

Jupiter -123483-10-30 14:25 J -43380440.01 -43380439.90 -43380439.79 0.0526 0.0277

Mars -123479-03-12 17:46 J -43379210.88 -43379210.76 -43379210.64 0.1651 0.0077

Earth -123479-03-18 17:46 J -43379204.85 -43379204.76 -43379204.66 0.2781 0.1215

Moon -123479-03-18 18:30 J -43379204.82 -43379204.73 -43379204.63 0.2781 0.1208 *

Mars -123477-02-15 21:51 J -43378505.62 -43378505.59 -43378505.56 0.1649 0.1583

Jupiter -123477-06-23 11:46 J -43378377.19 -43378377.01 -43378376.83 0.0500 0.0077

Saturn -123477-11-02 19:42 J -43378244.78 -43378244.68 -43378244.58 0.0303 0.0193

Saturn -123476-01-30 09:22 J -43378156.24 -43378156.11 -43378155.98 0.0303 0.0069

Saturn -123476-04-28 22:49 J -43378067.68 -43378067.55 -43378067.41 0.0303 0.0056

Saturn -123476-07-26 12:30 J -43377979.09 -43377978.98 -43377978.88 0.0304 0.0177

Earth -123476-09-15 05:03 J -43377928.43 -43377928.29 -43377928.14 0.2559 0.1077

Moon -123476-09-15 05:18 J -43377928.42 -43377928.28 -43377928.14 0.2566 0.1190 *

Saturn -123476-10-23 01:42 J -43377890.45 -43377890.43 -43377890.40 0.0304 0.0298

Mars -123473-10-21 23:46 J -43376795.65 -43376795.51 -43376795.37 0.1862 0.1029

Moon -123472-03-11 14:39 J -43376654.99 -43376654.89 -43376654.78 0.2785 0.1008

Earth -123472-03-11 15:22 J -43376654.96 -43376654.86 -43376654.76 0.2781 0.0924 *

Jupiter -123471-05-21 12:01 J -43376219.10 -43376219.00 -43376218.89 0.0525 0.0298

Jupiter -123471-08-18 18:30 J -43376129.85 -43376129.73 -43376129.61 0.0526 0.0162

Mars -123470-08-03 04:34 J -43375780.42 -43375780.31 -43375780.20 0.1652 0.0476

Moon -123469-09-06 15:08 J -43375379.89 -43375379.87 -43375379.84 0.2556 0.2508

Earth -123469-09-06 16:20 J -43375379.86 -43375379.82 -43375379.77 0.2560 0.2447 *

Mars -123468-07-08 08:54 J -43375075.21 -43375075.13 -43375075.05 0.1649 0.1192

Earth -123466-03-21 12:15 J -43374454.06 -43374453.99 -43374453.91 0.2781 0.1974

Moon -123466-03-21 12:58 J -43374454.03 -43374453.96 -43374453.88 0.2781 0.2017 *

Uranus -123465-03-01 03:37 J -43374108.37 -43374108.35 -43374108.31 0.0131 0.0127

Jupiter -123465-04-11 09:22 J -43374067.27 -43374067.11 -43374066.94 0.0500 0.0218

Uranus -123465-05-28 06:30 J -43374020.28 -43374020.23 -43374020.15 0.0131 0.0112

Jupiter -123465-07-10 19:13 J -43373976.82 -43373976.70 -43373976.57 0.0499 0.0369

Uranus -123465-08-24 09:37 J -43373932.18 -43373932.10 -43373932.00 0.0131 0.0096

Uranus -123465-11-20 12:44 J -43373844.08 -43373843.97 -43373843.87 0.0131 0.0081

Uranus -123464-02-16 15:37 J -43373755.96 -43373755.85 -43373755.73 0.0131 0.0066

Uranus -123464-05-15 18:30 J -43373667.85 -43373667.73 -43373667.60 0.0131 0.0051

Uranus -123464-08-11 21:22 J -43373579.73 -43373579.61 -43373579.48 0.0131 0.0036

Uranus -123464-11-08 00:30 J -43373491.61 -43373491.48 -43373491.35 0.0131 0.0020

Uranus -123463-02-04 03:22 J -43373403.49 -43373403.36 -43373403.23 0.0131 0.0005

Mars -123463-03-13 18:30 J -43373365.90 -43373365.73 -43373365.57 0.1861 0.0091

Uranus -123463-05-03 06:15 J -43373315.37 -43373315.24 -43373315.11 0.0131 0.0010

Uranus -123463-07-30 09:08 J -43373227.25 -43373227.12 -43373226.99 0.0131 0.0025

Moon -123463-09-18 11:03 J -43373177.11 -43373177.04 -43373176.98 0.2565 0.2311

Earth -123463-09-18 11:32 J -43373177.09 -43373177.02 -43373176.95 0.2559 0.2313 *

Uranus -123463-10-26 12:01 J -43373139.12 -43373139.00 -43373138.87 0.0131 0.0040

Uranus -123462-01-22 14:54 J -43373051.00 -43373050.88 -43373050.76 0.0131 0.0056

Saturn -123462-02-25 20:10 J -43373016.77 -43373016.66 -43373016.54 0.0260 0.0197

Uranus -123462-04-20 17:46 J -43372962.87 -43372962.76 -43372962.64 0.0131 0.0071

Saturn -123462-05-25 15:08 J -43372928.04 -43372927.87 -43372927.69 0.0259 0.0091

Uranus -123462-07-17 20:39 J -43372874.73 -43372874.64 -43372874.54 0.0131 0.0086

Saturn -123462-08-22 10:20 J -43372839.25 -43372839.07 -43372838.88 0.0259 0.0017

Venus -123462-10-10 10:20 J -43372790.12 -43372790.07 -43372790.01 0.3749 0.3130

Uranus -123462-10-13 23:32 J -43372786.60 -43372786.52 -43372786.43 0.0131 0.0101

Saturn -123462-11-19 05:46 J -43372750.42 -43372750.26 -43372750.10 0.0259 0.0124

Uranus -123461-01-10 02:10 J -43372698.45 -43372698.41 -43372698.33 0.0131 0.0116

Saturn -123461-02-16 00:58 J -43372661.53 -43372661.46 -43372661.37 0.0259 0.0233

Uranus -123461-04-07 05:32 J -43372610.28 -43372610.27 -43372610.27 0.0131 0.0131

Mars -123461-12-23 15:22 J -43372349.96 -43372349.86 -43372349.77 0.1653 0.0892

Jupiter -123459-03-09 15:51 J -43371908.91 -43371908.84 -43371908.76 0.0525 0.0414

Moon -123459-03-14 09:08 J -43371904.23 -43371904.12 -43371904.01 0.2783 0.0178

Earth -123459-03-14 09:51 J -43371904.20 -43371904.09 -43371903.98 0.2781 0.0178 *

Jupiter -123459-06-06 22:34 J -43371819.69 -43371819.56 -43371819.43 0.0526 0.0048

Jupiter -123459-09-04 04:49 J -43371730.33 -43371730.30 -43371730.27 0.0527 0.0506

Mars -123459-11-28 19:56 J -43371644.77 -43371644.67 -43371644.57 0.1650 0.0794

Venus -123456-04-25 02:54 J -43370766.48 -43370766.38 -43370766.28 0.3754 0.1340

Moon -123456-09-09 21:51 J -43370628.73 -43370628.59 -43370628.45 0.2554 0.1347

Earth -123456-09-09 22:49 J -43370628.69 -43370628.55 -43370628.41 0.2560 0.1198 *

Mars -123454-08-03 13:42 J -43369936.05 -43369935.93 -43369935.80 0.1860 0.1173

Venus -123453-01-26 17:32 J -43369759.93 -43369759.77 -43369759.62 0.3625 0.0157

Jupiter -123453-01-29 06:44 J -43369757.34 -43369757.22 -43369757.09 0.0500 0.0361

Earth -123453-03-23 06:58 J -43369703.23 -43369703.21 -43369703.20 0.2781 0.2732

Jupiter -123453-04-28 16:20 J -43369666.98 -43369666.82 -43369666.65 0.0499 0.0225

Earth -123452-03-07 07:27 J -43369354.25 -43369354.19 -43369354.13 0.2780 0.2296

Moon -123452-03-07 07:56 J -43369354.24 -43369354.17 -43369354.11 0.2775 0.2205 *

Mars -123451-05-16 01:56 J -43368919.49 -43368919.42 -43368919.35 0.1654 0.1307

Venus -123451-11-08 19:13 J -43368742.80 -43368742.70 -43368742.60 0.3760 0.0436

Mars -123449-04-20 06:44 J -43368214.33 -43368214.22 -43368214.10 0.1650 0.0392

Jupiter -123448-12-26 20:10 J -43367598.66 -43367598.66 -43367598.65 0.0525 0.0522

Saturn -123447-03-22 20:25 J -43367512.73 -43367512.65 -43367512.56 0.0302 0.0237

Jupiter -123447-03-26 02:54 J -43367509.51 -43367509.38 -43367509.25 0.0526 0.0061

Saturn -123447-06-19 10:20 J -43367424.20 -43367424.07 -43367423.95 0.0303 0.0113

Jupiter -123447-06-23 09:08 J -43367420.20 -43367420.12 -43367420.03 0.0527 0.0398

Saturn -123447-09-16 00:01 J -43367335.64 -43367335.50 -43367335.37 0.0303 0.0015

Saturn -123447-12-13 13:27 J -43367247.06 -43367246.94 -43367246.82 0.0303 0.0134

Saturn -123446-03-12 02:39 J -43367158.45 -43367158.39 -43367158.31 0.0303 0.0256

Moon -123446-03-17 03:37 J -43367153.46 -43367153.35 -43367153.25 0.2783 0.0570

Earth -123446-03-17 04:20 J -43367153.43 -43367153.32 -43367153.22 0.2781 0.0595 *

Venus -123445-05-24 11:32 J -43366719.10 -43366719.02 -43366718.93 0.3766 0.2217

Moon -123443-09-13 05:18 J -43365877.45 -43365877.28 -43365877.12 0.2553 0.0048

Earth -123443-09-13 05:18 J -43365877.44 -43365877.28 -43365877.12 0.2559 0.0058 *

Jupiter -123441-02-15 12:30 J -43365357.16 -43365356.98 -43365356.80 0.0500 0.0068

Mars -123440-09-10 17:46 J -43364783.88 -43364783.76 -43364783.64 0.1651 0.0032

Earth -123439-03-10 01:42 J -43364603.52 -43364603.43 -43364603.34 0.2780 0.1546

Moon -123439-03-10 02:25 J -43364603.49 -43364603.40 -43364603.31 0.2776 0.1547 *

Mars -123438-08-16 21:51 J -43364078.60 -43364078.59 -43364078.58 0.1649 0.1635

Jupiter -123435-01-12 07:13 J -43363199.32 -43363199.20 -43363199.08 0.0525 0.0172

Jupiter -123435-04-11 13:42 J -43363110.04 -43363109.93 -43363109.83 0.0526 0.0288

Neptune -123434-12-14 23:32 J -43362497.54 -43362497.52 -43362497.47 0.0088 0.0086

Neptune -123433-03-12 01:13 J -43362409.50 -43362409.45 -43362409.39 0.0088 0.0081

Moon -123433-03-18 22:06 J -43362402.68 -43362402.58 -43362402.49 0.2781 0.1232

Earth -123433-03-18 22:49 J -43362402.65 -43362402.55 -43362402.46 0.2781 0.1352 *

Mars -123433-04-22 00:01 J -43362368.63 -43362368.50 -43362368.36 0.1862 0.1119

Neptune -123433-06-08 02:39 J -43362321.45 -43362321.39 -43362321.32 0.0088 0.0076

Saturn -123433-07-14 20:10 J -43362284.74 -43362284.66 -43362284.57 0.0260 0.0227

Neptune -123433-09-04 03:51 J -43362233.40 -43362233.34 -43362233.25 0.0088 0.0073

Saturn -123433-10-11 15:08 J -43362196.03 -43362195.87 -43362195.71 0.0259 0.0121

Neptune -123433-12-01 05:18 J -43362145.35 -43362145.28 -43362145.18 0.0088 0.0068

Saturn -123432-01-08 10:20 J -43362107.26 -43362107.07 -43362106.89 0.0259 0.0015

Neptune -123432-02-27 06:58 J -43362057.30 -43362057.21 -43362057.12 0.0088 0.0064

Saturn -123432-04-07 05:32 J -43362018.44 -43362018.27 -43362018.09 0.0259 0.0093

Neptune -123432-05-26 08:10 J -43361969.25 -43361969.16 -43361969.05 0.0088 0.0060

Saturn -123432-07-05 00:58 J -43361929.57 -43361929.46 -43361929.34 0.0259 0.0201

Neptune -123432-08-22 09:37 J -43361881.20 -43361881.10 -43361880.99 0.0088 0.0055

Neptune -123432-11-18 11:03 J -43361793.14 -43361793.04 -43361792.93 0.0088 0.0051

Neptune -123431-02-14 12:15 J -43361705.09 -43361704.99 -43361704.86 0.0088 0.0048

Neptune -123431-05-13 13:56 J -43361617.04 -43361616.92 -43361616.80 0.0088 0.0043

Neptune -123431-08-09 15:22 J -43361528.98 -43361528.86 -43361528.74 0.0088 0.0038

Neptune -123431-11-05 16:34 J -43361440.93 -43361440.81 -43361440.68 0.0088 0.0034

Mars -123430-02-01 04:34 J -43361353.43 -43361353.31 -43361353.20 0.1652 0.0422

Neptune -123430-02-01 18:01 J -43361352.87 -43361352.75 -43361352.62 0.0088 0.0030

Neptune -123430-04-30 19:27 J -43361264.82 -43361264.69 -43361264.56 0.0088 0.0026

Neptune -123430-07-27 20:54 J -43361176.76 -43361176.63 -43361176.50 0.0088 0.0022

Earth -123430-09-16 11:46 J -43361126.15 -43361126.01 -43361125.87 0.2559 0.1302

Moon -123430-09-16 12:01 J -43361126.14 -43361126.00 -43361125.86 0.2553 0.1399 *

Neptune -123430-10-23 22:20 J -43361088.71 -43361088.57 -43361088.44 0.0088 0.0018

Jupiter -123430-12-04 09:37 J -43361047.28 -43361047.10 -43361046.91 0.0500 0.0077

Neptune -123429-01-19 23:32 J -43361000.65 -43361000.52 -43361000.38 0.0088 0.0013

Neptune -123429-04-17 00:58 J -43360912.59 -43360912.46 -43360912.33 0.0088 0.0009

Neptune -123429-07-14 02:25 J -43360824.54 -43360824.40 -43360824.27 0.0088 0.0005

Neptune -123429-10-10 03:37 J -43360736.48 -43360736.35 -43360736.21 0.0088 0.0003

Neptune -123428-01-06 05:03 J -43360648.42 -43360648.29 -43360648.16 0.0088 0.0003

Mars -123428-01-06 08:54 J -43360648.20 -43360648.13 -43360648.05 0.1649 0.1244 *

Neptune -123428-04-04 06:15 J -43360560.37 -43360560.24 -43360560.10 0.0088 0.0009

Neptune -123428-07-01 07:42 J -43360472.31 -43360472.18 -43360472.04 0.0088 0.0012

Neptune -123428-09-27 09:08 J -43360384.25 -43360384.12 -43360383.99 0.0088 0.0016

Neptune -123428-12-24 10:20 J -43360296.19 -43360296.07 -43360295.93 0.0088 0.0020

Neptune -123427-03-22 11:46 J -43360208.14 -43360208.01 -43360207.88 0.0088 0.0024

Neptune -123427-06-18 13:13 J -43360120.08 -43360119.95 -43360119.83 0.0088 0.0028

Neptune -123427-09-14 14:25 J -43360032.02 -43360031.90 -43360031.77 0.0088 0.0033

Neptune -123427-12-11 15:51 J -43359943.96 -43359943.84 -43359943.72 0.0088 0.0037

Neptune -123426-03-09 17:03 J -43359855.90 -43359855.79 -43359855.67 0.0088 0.0041

Earth -123426-03-12 20:10 J -43359852.76 -43359852.66 -43359852.55 0.2781 0.0792

Moon -123426-03-12 20:54 J -43359852.73 -43359852.63 -43359852.53 0.2779 0.0788 *

Neptune -123426-06-05 18:15 J -43359767.84 -43359767.74 -43359767.61 0.0088 0.0046

Neptune -123426-09-01 19:42 J -43359679.78 -43359679.68 -43359679.56 0.0088 0.0049

Neptune -123426-11-28 21:08 J -43359591.72 -43359591.62 -43359591.51 0.0088 0.0053

Neptune -123425-02-24 22:20 J -43359503.66 -43359503.57 -43359503.46 0.0088 0.0058

Neptune -123425-05-22 23:46 J -43359415.60 -43359415.51 -43359415.41 0.0088 0.0061

Neptune -123425-08-19 01:13 J -43359327.54 -43359327.45 -43359327.36 0.0088 0.0065

Neptune -123425-11-15 02:25 J -43359239.47 -43359239.40 -43359239.31 0.0088 0.0070

Neptune -123424-02-11 03:51 J -43359151.41 -43359151.34 -43359151.27 0.0088 0.0074

Neptune -123424-05-10 05:18 J -43359063.34 -43359063.28 -43359063.22 0.0088 0.0078

Neptune -123424-08-06 06:30 J -43358975.27 -43358975.23 -43358975.18 0.0088 0.0082

Mars -123424-09-11 19:27 J -43358938.86 -43358938.69 -43358938.53 0.1861 0.0048

Jupiter -123424-10-31 11:03 J -43358889.15 -43358889.04 -43358888.93 0.0525 0.0290

Neptune -123424-11-02 07:56 J -43358887.20 -43358887.17 -43358887.14 0.0088 0.0086

Jupiter -123423-01-28 17:32 J -43358799.89 -43358799.77 -43358799.65 0.0526 0.0170

Uranus -123423-08-30 17:46 J -43358585.81 -43358585.76 -43358585.69 0.0148 0.0140

Earth -123423-09-07 23:03 J -43358577.62 -43358577.54 -43358577.47 0.2560 0.2230

Moon -123423-09-07 23:46 J -43358577.59 -43358577.51 -43358577.43 0.2566 0.2180 *

Uranus -123423-11-27 02:54 J -43358497.51 -43358497.38 -43358497.26 0.0148 0.0109

Uranus -123422-02-23 11:32 J -43358409.18 -43358409.02 -43358408.86 0.0148 0.0077

Uranus -123422-05-22 20:10 J -43358320.83 -43358320.66 -43358320.47 0.0148 0.0046

Uranus -123422-08-19 05:03 J -43358232.48 -43358232.29 -43358232.09 0.0148 0.0014

Uranus -123422-11-15 13:56 J -43358144.11 -43358143.92 -43358143.73 0.0148 0.0018

Uranus -123421-02-11 22:34 J -43358055.73 -43358055.56 -43358055.37 0.0148 0.0050

Uranus -123421-05-10 07:42 J -43357967.34 -43357967.18 -43357967.02 0.0148 0.0081

Mars -123421-06-23 15:22 J -43357922.96 -43357922.86 -43357922.76 0.1653 0.0831

Uranus -123421-08-06 16:34 J -43357878.93 -43357878.81 -43357878.68 0.0148 0.0113

Uranus -123421-11-03 01:27 J -43357790.47 -43357790.44 -43357790.40 0.0148 0.0145

Moon -123420-03-21 16:34 J -43357651.88 -43357651.81 -43357651.74 0.2779 0.2035

Earth -123420-03-21 17:18 J -43357651.85 -43357651.78 -43357651.71 0.2781 0.2111 *

Mars -123419-05-29 19:56 J -43357217.77 -43357217.67 -43357217.57 0.1650 0.0847

Saturn -123418-08-09 21:37 J -43356780.65 -43356780.60 -43356780.54 0.0303 0.0276

Jupiter -123418-09-22 07:27 J -43356737.36 -43356737.19 -43356737.03 0.0500 0.0217

Saturn -123418-11-06 11:32 J -43356692.14 -43356692.02 -43356691.91 0.0303 0.0152

Jupiter -123418-12-21 17:18 J -43356646.90 -43356646.78 -43356646.65 0.0500 0.0372

Saturn -123417-02-03 01:13 J -43356603.58 -43356603.45 -43356603.32 0.0303 0.0028

Saturn -123417-05-01 14:39 J -43356515.01 -43356514.89 -43356514.76 0.0304 0.0096

Saturn -123417-07-29 04:06 J -43356426.42 -43356426.33 -43356426.24 0.0304 0.0218

Earth -123417-09-18 18:15 J -43356374.76 -43356374.74 -43356374.73 0.2559 0.2539

Mars -123414-02-01 14:39 J -43355509.03 -43355508.89 -43355508.76 0.1860 0.1063

Earth -123413-03-14 14:39 J -43355102.00 -43355101.89 -43355101.78 0.2781 0.0040

Moon -123413-03-14 15:22 J -43355101.97 -43355101.86 -43355101.75 0.2779 0.0084 *

Jupiter -123412-08-19 14:54 J -43354578.96 -43354578.88 -43354578.80 0.0525 0.0406

Mars -123412-11-14 01:56 J -43354492.50 -43354492.42 -43354492.34 0.1654 0.1249

Jupiter -123412-11-16 21:22 J -43354489.73 -43354489.61 -43354489.48 0.0526 0.0058

Jupiter -123411-02-14 03:37 J -43354400.37 -43354400.35 -43354400.32 0.0527 0.0512

Earth -123410-09-11 05:32 J -43353826.42 -43353826.27 -43353826.12 0.2560 0.0975

Moon -123410-09-11 05:46 J -43353826.40 -43353826.26 -43353826.11 0.2565 0.1051 *

Mars -123410-10-20 06:58 J -43353787.33 -43353787.21 -43353787.10 0.1650 0.0451

Moon -123406-03-08 11:32 J -43352552.08 -43352552.02 -43352551.95 0.2783 0.2156

Earth -123406-03-08 12:15 J -43352552.06 -43352551.99 -43352551.92 0.2780 0.2162 *

Jupiter -123406-07-11 05:18 J -43352427.41 -43352427.28 -43352427.16 0.0500 0.0356

Jupiter -123406-10-09 14:54 J -43352337.04 -43352336.88 -43352336.71 0.0499 0.0231

Venus -123405-05-16 08:10 J -43352117.24 -43352117.16 -43352117.09 0.3750 0.2470

Saturn -123403-02-28 14:10 J -43351464.05 -43351463.91 -43351463.75 0.0259 0.0155

Saturn -123403-05-28 09:22 J -43351375.29 -43351375.11 -43351374.93 0.0259 0.0049

Saturn -123403-08-25 04:34 J -43351286.49 -43351286.31 -43351286.13 0.0259 0.0059

Saturn -123403-11-21 23:46 J -43351197.64 -43351197.51 -43351197.36 0.0259 0.0167

Venus -123402-02-16 12:01 J -43351111.08 -43351111.00 -43351110.92 0.3631 0.3005

Mars -123400-03-11 17:46 J -43350356.88 -43350356.76 -43350356.64 0.1651 0.0058

Earth -123400-03-17 09:08 J -43350351.22 -43350351.12 -43350351.02 0.2782 0.0724

Moon -123400-03-17 09:51 J -43350351.19 -43350351.09 -43350350.99 0.2783 0.0823 *

Jupiter -123400-06-07 18:58 J -43350268.72 -43350268.71 -43350268.70 0.0525 0.0520

Jupiter -123400-09-05 01:27 J -43350179.56 -43350179.44 -43350179.31 0.0526 0.0062

Venus -123400-11-30 00:30 J -43350093.58 -43350093.48 -43350093.38 0.3756 0.0686

Jupiter -123400-12-03 07:56 J -43350090.25 -43350090.17 -43350090.09 0.0527 0.0400

Venus -123397-09-01 18:58 J -43349086.85 -43349086.71 -43349086.57 0.3623 0.1404

Moon -123397-09-13 12:01 J -43349075.16 -43349075.00 -43349074.84 0.2566 0.0266

Earth -123397-09-13 12:01 J -43349075.16 -43349075.00 -43349074.84 0.2559 0.0279 *

Jupiter -123394-04-29 02:39 J -43348117.40 -43348117.39 -43348117.36 0.0500 0.0497

Venus -123394-06-15 16:49 J -43348069.90 -43348069.80 -43348069.70 0.3762 0.1094

Jupiter -123394-07-28 12:15 J -43348027.17 -43348026.99 -43348026.81 0.0500 0.0087

Mars -123394-10-22 01:13 J -43347941.57 -43347941.45 -43347941.33 0.1862 0.1240

Moon -123393-03-10 06:01 J -43347801.34 -43347801.25 -43347801.16 0.2784 0.1511

Earth -123393-03-10 06:44 J -43347801.31 -43347801.22 -43347801.13 0.2780 0.1411 *

Mars -123391-08-02 04:34 J -43346926.43 -43346926.31 -43346926.20 0.1652 0.0366

Mars -123389-07-07 08:54 J -43346221.20 -43346221.13 -43346221.06 0.1649 0.1297

Venus -123389-12-29 09:08 J -43346046.18 -43346046.12 -43346046.05 0.3767 0.2861

Saturn -123388-03-25 12:01 J -43345960.10 -43345960.00 -43345959.90 0.0302 0.0198

Saturn -123388-06-22 01:42 J -43345871.56 -43345871.43 -43345871.30 0.0303 0.0074

Jupiter -123388-06-24 06:01 J -43345869.37 -43345869.25 -43345869.13 0.0525 0.0167

Saturn -123388-09-18 15:22 J -43345782.99 -43345782.86 -43345782.73 0.0303 0.0049

Jupiter -123388-09-21 12:30 J -43345780.09 -43345779.98 -43345779.88 0.0526 0.0293

Saturn -123388-12-16 04:49 J -43345694.41 -43345694.30 -43345694.19 0.0303 0.0171

Saturn -123387-03-14 18:01 J -43345605.78 -43345605.75 -43345605.71 0.0304 0.0293

Earth -123387-03-20 03:37 J -43345600.44 -43345600.35 -43345600.26 0.2782 0.1486

Moon -123387-03-20 04:20 J -43345600.41 -43345600.32 -43345600.23 0.2783 0.1475 *

Mars -123384-03-12 19:56 J -43344511.84 -43344511.67 -43344511.51 0.1861 0.0123

Moon -123384-09-16 17:32 J -43344323.89 -43344323.77 -43344323.64 0.2564 0.1573

Earth -123384-09-16 18:30 J -43344323.86 -43344323.73 -43344323.60 0.2559 0.1523 *

Jupiter -123382-05-16 08:10 J -43343717.34 -43343717.16 -43343716.98 0.0500 0.0070

Mars -123382-12-23 15:08 J -43343495.97 -43343495.87 -43343495.76 0.1653 0.0780

Uranus -123381-03-21 10:34 J -43343407.09 -43343407.06 -43343407.02 0.0131 0.0124

Uranus -123381-06-17 13:27 J -43343319.00 -43343318.94 -43343318.86 0.0131 0.0109

Uranus -123381-09-13 16:20 J -43343230.90 -43343230.82 -43343230.72 0.0131 0.0094

Uranus -123381-12-10 19:27 J -43343142.79 -43343142.69 -43343142.58 0.0131 0.0078

Uranus -123380-03-08 22:34 J -43343054.68 -43343054.56 -43343054.45 0.0131 0.0063

Moon -123380-03-13 00:15 J -43343050.59 -43343050.49 -43343050.38 0.2782 0.0773

Earth -123380-03-13 01:13 J -43343050.56 -43343050.45 -43343050.35 0.2781 0.0662 *

Uranus -123380-06-05 01:27 J -43342966.57 -43342966.44 -43342966.32 0.0131 0.0048

Uranus -123380-09-01 04:20 J -43342878.45 -43342878.32 -43342878.19 0.0131 0.0033

Mars -123380-11-27 19:56 J -43342790.77 -43342790.67 -43342790.57 0.1650 0.0900

Uranus -123380-11-28 07:13 J -43342790.33 -43342790.20 -43342790.07 0.0131 0.0018

Uranus -123379-02-24 10:06 J -43342702.21 -43342702.08 -43342701.94 0.0131 0.0004

Uranus -123379-05-23 12:58 J -43342614.09 -43342613.96 -43342613.82 0.0131 0.0014

Uranus -123379-08-19 16:06 J -43342525.96 -43342525.83 -43342525.70 0.0131 0.0028

Uranus -123379-11-15 18:44 J -43342437.84 -43342437.72 -43342437.59 0.0131 0.0043

Uranus -123378-02-11 21:37 J -43342349.71 -43342349.60 -43342349.47 0.0131 0.0058

Uranus -123378-05-11 00:30 J -43342261.58 -43342261.48 -43342261.36 0.0131 0.0073

Uranus -123378-08-07 03:22 J -43342173.45 -43342173.36 -43342173.25 0.0131 0.0088

Uranus -123378-11-03 06:15 J -43342085.31 -43342085.24 -43342085.15 0.0131 0.0103

Uranus -123377-01-30 09:08 J -43341997.16 -43341997.12 -43341997.05 0.0131 0.0118

Moon -123377-09-08 05:03 J -43341775.39 -43341775.29 -43341775.20 0.2554 0.2035

Earth -123377-09-08 05:46 J -43341775.36 -43341775.26 -43341775.16 0.2560 0.2004 *

Jupiter -123376-04-12 10:20 J -43341559.17 -43341559.07 -43341558.96 0.0525 0.0276

Jupiter -123376-07-10 16:49 J -43341469.92 -43341469.80 -43341469.68 0.0526 0.0184

Mars -123375-08-02 15:08 J -43341082.01 -43341081.87 -43341081.73 0.1860 0.0969

Pluto -123375-08-25 14:54 J -43341058.91 -43341058.88 -43341058.81 0.0061 0.0059

Pluto -123375-11-21 16:06 J -43340970.91 -43340970.83 -43340970.70 0.0061 0.0051

Pluto -123374-02-17 17:46 J -43340882.89 -43340882.76 -43340882.62 0.0061 0.0042

Earth -123374-03-22 22:06 J -43340849.64 -43340849.58 -43340849.52 0.2781 0.2245

Moon -123374-03-22 22:49 J -43340849.61 -43340849.55 -43340849.49 0.2785 0.2262 *

Pluto -123374-05-16 18:58 J -43340794.86 -43340794.71 -43340794.55 0.0061 0.0034

Saturn -123374-07-18 13:56 J -43340732.04 -43340731.92 -43340731.79 0.0259 0.0187

Pluto -123374-08-12 20:10 J -43340706.82 -43340706.66 -43340706.48 0.0061 0.0026

Saturn -123374-10-15 08:54 J -43340643.30 -43340643.13 -43340642.95 0.0259 0.0081

Pluto -123374-11-08 21:22 J -43340618.78 -43340618.61 -43340618.42 0.0061 0.0018

Saturn -123373-01-12 04:06 J -43340554.51 -43340554.33 -43340554.14 0.0259 0.0026

Pluto -123373-02-04 22:49 J -43340530.73 -43340530.55 -43340530.36 0.0061 0.0010

Moon -123373-03-05 23:18 J -43340500.55 -43340500.53 -43340500.51 0.2775 0.2702

Saturn -123373-04-09 23:18 J -43340465.68 -43340465.53 -43340465.36 0.0259 0.0133

Pluto -123373-05-03 00:15 J -43340442.68 -43340442.49 -43340442.30 0.0061 0.0001

Saturn -123373-07-07 18:44 J -43340376.78 -43340376.72 -43340376.65 0.0258 0.0241

Pluto -123373-07-30 01:27 J -43340354.62 -43340354.44 -43340354.25 0.0061 0.0007

Pluto -123373-10-26 02:39 J -43340266.57 -43340266.39 -43340266.21 0.0061 0.0015

Pluto -123372-01-22 04:06 J -43340178.50 -43340178.33 -43340178.16 0.0061 0.0024

Pluto -123372-04-20 04:49 J -43340090.44 -43340090.30 -43340090.12 0.0061 0.0033

Mars -123372-05-15 01:56 J -43340065.50 -43340065.42 -43340065.34 0.1654 0.1192

Pluto -123372-07-17 06:15 J -43340002.36 -43340002.24 -43340002.09 0.0061 0.0041

Pluto -123372-10-13 07:42 J -43339914.28 -43339914.18 -43339914.06 0.0061 0.0049

Pluto -123371-01-09 08:39 J -43339826.18 -43339826.14 -43339826.05 0.0062 0.0058

Jupiter -123370-03-04 05:32 J -43339407.43 -43339407.27 -43339407.10 0.0500 0.0213

Mars -123370-04-20 06:44 J -43339360.33 -43339360.22 -43339360.10 0.1650 0.0502

Jupiter -123370-06-02 15:37 J -43339316.97 -43339316.85 -43339316.73 0.0500 0.0376

Moon -123367-03-15 18:58 J -43338299.82 -43338299.71 -43338299.61 0.2781 0.0147

Earth -123367-03-15 19:42 J -43338299.79 -43338299.68 -43338299.58 0.2781 0.0156 *

Jupiter -123364-01-29 14:10 J -43337248.99 -43337248.91 -43337248.82 0.0525 0.0394

Jupiter -123364-04-28 20:39 J -43337159.76 -43337159.64 -43337159.51 0.0526 0.0068

Jupiter -123364-07-27 02:54 J -43337070.39 -43337070.38 -43337070.37 0.0526 0.0522

Earth -123364-09-11 12:15 J -43337024.15 -43337023.99 -43337023.84 0.2560 0.0753

Moon -123364-09-11 12:15 J -43337024.14 -43337023.99 -43337023.83 0.2553 0.0835 *

Mars -123363-10-05 12:30 J -43336635.00 -43336634.98 -43336634.95 0.1655 0.1610

Mars -123361-09-09 17:46 J -43335929.88 -43335929.76 -43335929.64 0.1651 0.0100

Earth -123360-03-08 17:03 J -43335749.86 -43335749.79 -43335749.71 0.2780 0.2034

Moon -123360-03-08 17:46 J -43335749.84 -43335749.76 -43335749.68 0.2777 0.1923 *

Saturn -123359-08-12 12:44 J -43335228.05 -43335227.97 -43335227.89 0.0303 0.0241

Saturn -123359-11-09 02:39 J -43335139.52 -43335139.39 -43335139.27 0.0303 0.0117

Jupiter -123359-12-21 03:22 J -43335097.48 -43335097.36 -43335097.23 0.0501 0.0353

Saturn -123358-02-05 16:06 J -43335050.96 -43335050.83 -43335050.69 0.0304 0.0013

Jupiter -123358-03-21 13:13 J -43335007.11 -43335006.95 -43335006.79 0.0500 0.0236

Saturn -123358-05-05 05:46 J -43334962.38 -43334962.26 -43334962.14 0.0304 0.0131

Saturn -123358-08-01 19:13 J -43334873.77 -43334873.70 -43334873.63 0.0304 0.0252

Moon -123354-03-18 13:13 J -43333549.05 -43333548.95 -43333548.84 0.2780 0.0846

Earth -123354-03-18 13:56 J -43333549.02 -43333548.92 -43333548.81 0.2782 0.0865 *

Mars -123354-04-22 01:56 J -43333514.53 -43333514.42 -43333514.31 0.1862 0.1349

Venus -123354-06-07 13:13 J -43333467.98 -43333467.95 -43333467.92 0.3746 0.3591

Jupiter -123353-11-17 18:15 J -43332938.77 -43332938.74 -43332938.71 0.0524 0.0509

Jupiter -123352-02-15 00:44 J -43332849.60 -43332849.47 -43332849.34 0.0525 0.0049

Jupiter -123352-05-15 06:58 J -43332760.28 -43332760.21 -43332760.13 0.0526 0.0409

Mars -123351-01-31 04:34 J -43332499.43 -43332499.31 -43332499.20 0.1652 0.0310

Earth -123351-09-14 18:30 J -43332272.88 -43332272.73 -43332272.57 0.2559 0.0502

Moon -123351-09-14 18:58 J -43332272.87 -43332272.71 -43332272.55 0.2554 0.0504 *

Neptune -123350-11-16 08:10 J -43331845.18 -43331845.16 -43331845.11 0.0089 0.0087

Mars -123349-01-06 08:54 J -43331794.19 -43331794.13 -43331794.06 0.1649 0.1351

Neptune -123349-02-12 11:46 J -43331757.08 -43331757.01 -43331756.93 0.0089 0.0081

Neptune -123349-05-10 15:08 J -43331668.96 -43331668.87 -43331668.76 0.0089 0.0075

Neptune -123349-08-06 18:44 J -43331580.83 -43331580.72 -43331580.60 0.0089 0.0069

Neptune -123349-11-02 22:20 J -43331492.70 -43331492.57 -43331492.44 0.0089 0.0063

Venus -123349-12-21 05:46 J -43331444.35 -43331444.26 -43331444.17 0.3752 0.1804

Neptune -123348-01-30 01:42 J -43331404.57 -43331404.43 -43331404.28 0.0089 0.0057

Neptune -123348-04-28 05:18 J -43331316.43 -43331316.28 -43331316.12 0.0089 0.0051

Neptune -123348-07-25 08:54 J -43331228.29 -43331228.13 -43331227.96 0.0089 0.0045

Neptune -123348-10-21 12:15 J -43331140.15 -43331139.99 -43331139.81 0.0089 0.0039

Neptune -123347-01-17 15:51 J -43331052.01 -43331051.84 -43331051.66 0.0089 0.0033

Earth -123347-03-11 11:32 J -43330999.12 -43330999.02 -43330998.92 0.2781 0.1279

Moon -123347-03-11 12:15 J -43330999.09 -43330998.99 -43330998.89 0.2781 0.1262 *

Neptune -123347-04-15 19:27 J -43330963.87 -43330963.69 -43330963.50 0.0089 0.0027

Neptune -123347-07-12 23:03 J -43330875.72 -43330875.54 -43330875.35 0.0089 0.0021

Neptune -123347-10-09 02:39 J -43330787.58 -43330787.39 -43330787.20 0.0089 0.0015

Jupiter -123347-10-09 01:27 J -43330787.47 -43330787.44 -43330787.40 0.0501 0.0489 *

Neptune -123346-01-05 06:15 J -43330699.43 -43330699.24 -43330699.05 0.0089 0.0009

Jupiter -123346-01-07 11:03 J -43330697.22 -43330697.04 -43330696.86 0.0500 0.0096

Neptune -123346-04-03 09:51 J -43330611.28 -43330611.09 -43330610.90 0.0089 0.0003

Neptune -123346-06-30 13:27 J -43330523.13 -43330522.94 -43330522.75 0.0089 0.0004

Venus -123346-09-23 13:27 J -43330438.07 -43330437.94 -43330437.80 0.3629 0.1507

Neptune -123346-09-26 16:49 J -43330434.98 -43330434.80 -43330434.60 0.0089 0.0010

Neptune -123346-12-23 20:25 J -43330346.83 -43330346.65 -43330346.45 0.0089 0.0016

Neptune -123345-03-21 00:01 J -43330258.68 -43330258.50 -43330258.31 0.0089 0.0022

Neptune -123345-06-17 03:37 J -43330170.52 -43330170.35 -43330170.16 0.0089 0.0028

Mars -123345-09-10 20:39 J -43330084.80 -43330084.64 -43330084.47 0.1861 0.0241

Neptune -123345-09-13 07:27 J -43330082.37 -43330082.19 -43330082.01 0.0089 0.0034

Saturn -123345-12-04 12:58 J -43330000.05 -43329999.96 -43329999.87 0.0259 0.0222

Neptune -123345-12-10 10:34 J -43329994.21 -43329994.06 -43329993.87 0.0089 0.0042

Saturn -123344-03-03 07:56 J -43329911.34 -43329911.17 -43329911.01 0.0259 0.0116

Neptune -123344-03-08 14:25 J -43329906.05 -43329905.90 -43329905.73 0.0089 0.0047

Saturn -123344-05-31 02:54 J -43329822.56 -43329822.38 -43329822.19 0.0259 0.0010

Neptune -123344-06-04 18:01 J -43329817.89 -43329817.75 -43329817.58 0.0089 0.0053

Saturn -123344-08-27 22:06 J -43329733.75 -43329733.58 -43329733.41 0.0259 0.0097

Neptune -123344-08-31 21:37 J -43329729.73 -43329729.60 -43329729.44 0.0089 0.0060

Saturn -123344-11-24 17:32 J -43329644.88 -43329644.77 -43329644.66 0.0258 0.0204

Neptune -123344-11-28 01:27 J -43329641.56 -43329641.44 -43329641.30 0.0089 0.0065

Neptune -123343-02-24 04:49 J -43329553.40 -43329553.30 -43329553.17 0.0089 0.0072

Neptune -123343-05-23 08:25 J -43329465.22 -43329465.15 -43329465.04 0.0089 0.0078

Venus -123343-07-06 22:06 J -43329420.68 -43329420.58 -43329420.47 0.3757 0.0073

Neptune -123343-08-19 12:15 J -43329377.04 -43329376.99 -43329376.92 0.0089 0.0084

Mars -123342-06-23 15:08 J -43329068.97 -43329068.87 -43329068.76 0.1653 0.0724

Moon -123341-03-20 07:56 J -43328798.26 -43328798.17 -43328798.08 0.2778 0.1519

Earth -123341-03-20 08:25 J -43328798.23 -43328798.15 -43328798.06 0.2782 0.1626 *

Jupiter -123341-12-04 04:49 J -43328539.42 -43328539.30 -43328539.18 0.0526 0.0163

Jupiter -123340-03-03 11:18 J -43328450.14 -43328450.03 -43328449.93 0.0526 0.0297

Venus -123340-04-08 20:39 J -43328413.73 -43328413.64 -43328413.56 0.3621 0.2948

Mars -123340-05-28 19:56 J -43328363.77 -43328363.67 -43328363.58 0.1650 0.0954

Uranus -123339-09-20 00:30 J -43327884.55 -43327884.48 -43327884.40 0.0148 0.0135

Uranus -123339-12-17 09:08 J -43327796.25 -43327796.12 -43327795.98 0.0148 0.0104

Uranus -123338-03-15 17:46 J -43327707.91 -43327707.76 -43327707.58 0.0148 0.0073

Uranus -123338-06-12 02:54 J -43327619.56 -43327619.38 -43327619.20 0.0148 0.0041

Uranus -123338-09-08 11:46 J -43327531.20 -43327531.01 -43327530.82 0.0148 0.0009

Earth -123338-09-18 00:58 J -43327521.57 -43327521.46 -43327521.34 0.2559 0.1748

Moon -123338-09-18 02:10 J -43327521.52 -43327521.41 -43327521.30 0.2554 0.1900 *

Uranus -123338-12-05 20:39 J -43327442.83 -43327442.64 -43327442.45 0.0148 0.0022

Venus -123337-01-20 14:25 J -43327396.99 -43327396.90 -43327396.80 0.3763 0.1758

Uranus -123337-03-03 05:32 J -43327354.45 -43327354.27 -43327354.09 0.0148 0.0054

Uranus -123337-05-30 14:25 J -43327266.06 -43327265.90 -43327265.74 0.0148 0.0086

Uranus -123337-08-26 23:18 J -43327177.64 -43327177.53 -43327177.41 0.0148 0.0118

Mars -123335-01-31 15:51 J -43326654.98 -43326654.84 -43326654.69 0.1860 0.0855

Jupiter -123335-10-26 08:25 J -43326387.33 -43326387.15 -43326386.96 0.0500 0.0048

Earth -123334-03-14 06:01 J -43326248.36 -43326248.25 -43326248.14 0.2781 0.0524

Moon -123334-03-14 06:44 J -43326248.33 -43326248.22 -43326248.11 0.2781 0.0515 *

Mars -123333-11-13 01:56 J -43325638.50 -43325638.42 -43325638.33 0.1654 0.1135

Venus -123332-08-05 06:58 J -43325373.25 -43325373.21 -43325373.18 0.3768 0.3516

Moon -123331-09-09 12:30 J -43324973.10 -43324972.98 -43324972.87 0.2566 0.1760

Earth -123331-09-09 12:15 J -43324973.10 -43324972.99 -43324972.87 0.2560 0.1782 *

Mars -123331-10-19 06:44 J -43324933.33 -43324933.22 -43324933.11 0.1650 0.0558

Saturn -123330-12-30 12:44 J -43324496.00 -43324495.97 -43324495.94 0.0302 0.0291

Saturn -123329-03-28 02:25 J -43324407.50 -43324407.40 -43324407.28 0.0303 0.0168

Saturn -123329-06-24 16:20 J -43324318.95 -43324318.82 -43324318.69 0.0303 0.0043

Saturn -123329-09-21 05:46 J -43324230.38 -43324230.26 -43324230.13 0.0303 0.0080

Jupiter -123329-09-22 09:22 J -43324229.22 -43324229.11 -43324229.00 0.0525 0.0269

Saturn -123329-12-18 19:13 J -43324141.79 -43324141.70 -43324141.60 0.0304 0.0202

Jupiter -123329-12-20 15:51 J -43324139.96 -43324139.84 -43324139.72 0.0526 0.0191

Moon -123328-03-23 02:25 J -43324047.46 -43324047.40 -43324047.34 0.2777 0.2307

Earth -123328-03-23 03:08 J -43324047.43 -43324047.37 -43324047.32 0.2781 0.2385 *

Moon -123327-03-07 02:54 J -43323698.41 -43323698.38 -43323698.36 0.2781 0.2679

Earth -123327-03-07 03:37 J -43323698.38 -43323698.35 -43323698.32 0.2779 0.2650 *

Mars -123323-04-05 12:30 J -43322208.02 -43322207.98 -43322207.94 0.1656 0.1555

Jupiter -123323-08-14 04:20 J -43322077.48 -43322077.32 -43322077.15 0.0500 0.0204

Jupiter -123323-11-12 14:25 J -43321987.01 -43321986.90 -43321986.78 0.0500 0.0386

Mars -123321-03-10 17:46 J -43321502.88 -43321502.76 -43321502.65 0.1651 0.0158

Earth -123321-03-16 00:30 J -43321497.59 -43321497.48 -43321497.37 0.2782 0.0236

Moon -123321-03-16 01:13 J -43321497.56 -43321497.45 -43321497.35 0.2785 0.0337 *

Moon -123318-09-12 18:30 J -43320221.88 -43320221.73 -43320221.57 0.2566 0.0644

Earth -123318-09-12 18:58 J -43320221.87 -43320221.71 -43320221.56 0.2559 0.0528 *

Jupiter -123317-07-11 13:42 J -43319919.01 -43319918.93 -43319918.84 0.0525 0.0378

Jupiter -123317-10-08 20:25 J -43319829.78 -43319829.65 -43319829.53 0.0526 0.0084

Saturn -123315-04-23 12:15 J -43319268.02 -43319267.99 -43319267.95 0.0260 0.0254

Saturn -123315-07-21 06:58 J -43319179.35 -43319179.21 -43319179.05 0.0259 0.0150

Saturn -123315-10-18 02:10 J -43319090.59 -43319090.41 -43319090.23 0.0259 0.0043

Mars -123315-10-21 02:25 J -43319087.50 -43319087.40 -43319087.29 0.1862 0.1448

Saturn -123314-01-14 21:22 J -43319001.79 -43319001.61 -43319001.43 0.0259 0.0063

Moon -123314-03-09 21:22 J -43318947.69 -43318947.61 -43318947.53 0.2781 0.1900

Earth -123314-03-09 22:06 J -43318947.66 -43318947.58 -43318947.51 0.2780 0.1903 *

Saturn -123314-04-13 16:34 J -43318912.94 -43318912.81 -43318912.67 0.0258 0.0171

Mars -123312-08-01 04:34 J -43318072.43 -43318072.31 -43318072.20 0.1652 0.0256

Jupiter -123311-06-02 01:56 J -43317767.55 -43317767.42 -43317767.29 0.0501 0.0346

Jupiter -123311-08-31 11:46 J -43317677.17 -43317677.01 -43317676.85 0.0500 0.0242

Mars -123310-07-07 08:54 J -43317367.19 -43317367.13 -43317367.07 0.1649 0.1402

Earth -123308-03-18 18:58 J -43316746.81 -43316746.71 -43316746.61 0.2782 0.0997

Moon -123308-03-18 19:27 J -43316746.78 -43316746.69 -43316746.59 0.2784 0.1086 *

Mars -123305-03-11 21:22 J -43315657.77 -43315657.61 -43315657.44 0.1861 0.0345

Jupiter -123305-04-29 17:32 J -43315608.80 -43315608.77 -43315608.72 0.0524 0.0495

Jupiter -123305-07-28 00:15 J -43315519.62 -43315519.49 -43315519.36 0.0525 0.0034

Moon -123305-09-15 00:15 J -43315470.64 -43315470.49 -43315470.34 0.2564 0.0627

Earth -123305-09-15 01:13 J -43315470.60 -43315470.45 -43315470.29 0.2559 0.0731 *

Jupiter -123305-10-25 06:30 J -43315430.30 -43315430.23 -43315430.16 0.0526 0.0423

Mars -123303-12-22 15:22 J -43314641.97 -43314641.86 -43314641.75 0.1653 0.0663

Moon -123301-03-11 15:37 J -43314196.94 -43314196.85 -43314196.75 0.2780 0.1247

Earth -123301-03-11 16:34 J -43314196.91 -43314196.81 -43314196.72 0.2781 0.1152 *

Mars -123301-11-26 19:56 J -43313936.76 -43313936.67 -43313936.58 0.1650 0.1009

Saturn -123300-08-15 03:08 J -43313675.46 -43313675.37 -43313675.27 0.0303 0.0211

Saturn -123300-11-11 16:49 J -43313586.92 -43313586.80 -43313586.67 0.0303 0.0088

Saturn -123299-02-08 06:30 J -43313498.36 -43313498.23 -43313498.09 0.0304 0.0038

Jupiter -123299-03-20 23:46 J -43313457.55 -43313457.51 -43313457.46 0.0501 0.0484

Saturn -123299-05-07 20:10 J -43313409.77 -43313409.66 -43313409.55 0.0304 0.0160

Jupiter -123299-06-19 09:37 J -43313367.28 -43313367.10 -43313366.92 0.0500 0.0103

Saturn -123299-08-04 09:37 J -43313321.15 -43313321.10 -43313321.05 0.0304 0.0281

Venus -123297-01-12 10:49 J -43312795.11 -43312795.05 -43312794.98 0.3747 0.2928

Uranus -123297-04-10 17:18 J -43312705.82 -43312705.78 -43312705.73 0.0131 0.0122

Uranus -123297-07-07 20:10 J -43312617.73 -43312617.66 -43312617.58 0.0131 0.0107

Uranus -123297-10-03 23:03 J -43312529.63 -43312529.54 -43312529.44 0.0131 0.0092

Uranus -123297-12-31 02:10 J -43312441.52 -43312441.41 -43312441.30 0.0131 0.0076

Uranus -123296-03-29 05:03 J -43312353.40 -43312353.29 -43312353.17 0.0131 0.0061

Uranus -123296-06-25 07:56 J -43312265.29 -43312265.17 -43312265.04 0.0131 0.0046

Mars -123296-08-01 16:49 J -43312227.95 -43312227.80 -43312227.65 0.1860 0.0740

Uranus -123296-09-21 11:03 J -43312177.17 -43312177.04 -43312176.91 0.0131 0.0031

Uranus -123296-12-18 13:56 J -43312089.05 -43312088.92 -43312088.79 0.0131 0.0016

Uranus -123295-03-16 16:49 J -43312000.93 -43312000.80 -43312000.67 0.0131 0.0001

Earth -123295-03-21 13:27 J -43311996.03 -43311995.94 -43311995.86 0.2781 0.1757

Moon -123295-03-21 13:56 J -43311996.00 -43311995.92 -43311995.84 0.2787 0.1747 *

Uranus -123295-06-12 19:42 J -43311912.81 -43311912.68 -43311912.55 0.0131 0.0014

Uranus -123295-09-08 22:34 J -43311824.69 -43311824.56 -43311824.43 0.0131 0.0029

Uranus -123295-12-06 01:27 J -43311736.56 -43311736.44 -43311736.31 0.0131 0.0045

Uranus -123294-03-04 04:20 J -43311648.43 -43311648.32 -43311648.20 0.0131 0.0060

Uranus -123294-05-31 07:13 J -43311560.30 -43311560.20 -43311560.09 0.0131 0.0075

Uranus -123294-08-27 10:06 J -43311472.17 -43311472.08 -43311471.98 0.0131 0.0090

Uranus -123294-11-23 12:58 J -43311384.03 -43311383.96 -43311383.88 0.0131 0.0105

Uranus -123293-02-19 15:51 J -43311295.88 -43311295.84 -43311295.78 0.0131 0.0120

Mars -123293-05-14 01:56 J -43311211.51 -43311211.42 -43311211.33 0.1654 0.1078

Jupiter -123293-05-16 04:20 J -43311209.45 -43311209.32 -43311209.20 0.0525 0.0149

Jupiter -123293-08-13 10:34 J -43311120.16 -43311120.06 -43311119.96 0.0526 0.0310

Venus -123292-07-28 03:22 J -43310771.46 -43310771.36 -43310771.26 0.3753 0.1138

Moon -123292-09-18 06:30 J -43310719.33 -43310719.23 -43310719.14 0.2563 0.2005

Earth -123292-09-18 07:42 J -43310719.28 -43310719.18 -43310719.08 0.2559 0.1972 *

Mars -123291-04-19 06:44 J -43310506.32 -43310506.22 -43310506.11 0.1650 0.0615

Venus -123289-04-29 14:54 J -43309765.03 -43309764.88 -43309764.73 0.3627 0.0053

Moon -123288-03-14 10:20 J -43309446.18 -43309446.07 -43309445.97 0.2779 0.0498

Earth -123288-03-14 10:49 J -43309446.15 -43309446.05 -43309445.94 0.2781 0.0401 *

Jupiter -123287-04-07 07:27 J -43309057.38 -43309057.19 -43309057.01 0.0500 0.0037

Mars -123287-12-22 12:15 J -43308798.02 -43308797.99 -43308797.96 0.1858 0.1807

Venus -123286-02-10 19:56 J -43308747.78 -43308747.67 -43308747.57 0.3759 0.0661

Saturn -123286-12-08 05:46 J -43308447.38 -43308447.26 -43308447.13 0.0259 0.0186

Saturn -123285-03-06 00:44 J -43308358.64 -43308358.47 -43308358.29 0.0259 0.0080

Saturn -123285-06-02 19:56 J -43308269.85 -43308269.67 -43308269.48 0.0259 0.0027

Saturn -123285-08-30 15:08 J -43308181.02 -43308180.87 -43308180.71 0.0258 0.0133

Earth -123285-09-09 18:58 J -43308170.84 -43308170.71 -43308170.58 0.2560 0.1558

Moon -123285-09-09 19:13 J -43308170.83 -43308170.70 -43308170.56 0.2553 0.1493 *

Saturn -123285-11-27 10:20 J -43308092.12 -43308092.07 -43308091.99 0.0258 0.0241

Mars -123284-10-04 12:30 J -43307781.03 -43307780.98 -43307780.93 0.1655 0.1498

Earth -123282-03-24 07:56 J -43307245.21 -43307245.17 -43307245.13 0.2781 0.2519

Moon -123282-03-24 08:25 J -43307245.19 -43307245.15 -43307245.11 0.2787 0.2526 *

Pluto -123282-06-24 07:42 J -43307153.23 -43307153.18 -43307153.13 0.0084 0.0078

Mars -123282-09-09 17:46 J -43307075.88 -43307075.76 -43307075.65 0.1651 0.0212

Pluto -123282-09-20 08:54 J -43307065.22 -43307065.13 -43307065.03 0.0084 0.0062

Pluto -123282-12-17 10:20 J -43306977.18 -43306977.07 -43306976.95 0.0084 0.0046

Jupiter -123281-03-04 08:25 J -43306899.26 -43306899.15 -43306899.04 0.0525 0.0263

Earth -123281-03-07 08:25 J -43306896.19 -43306896.15 -43306896.11 0.2779 0.2522

Moon -123281-03-07 09:08 J -43306896.17 -43306896.12 -43306896.07 0.2777 0.2431 *

Pluto -123281-03-14 11:46 J -43306889.14 -43306889.01 -43306888.88 0.0084 0.0029

Jupiter -123281-06-01 14:39 J -43306810.00 -43306809.89 -43306809.77 0.0526 0.0198

Pluto -123281-06-10 12:58 J -43306801.09 -43306800.96 -43306800.82 0.0084 0.0014

Venus -123281-08-26 12:15 J -43306724.07 -43306723.99 -43306723.91 0.3764 0.2409

Pluto -123281-09-06 14:25 J -43306713.03 -43306712.90 -43306712.76 0.0084 0.0004

Pluto -123281-12-03 15:51 J -43306624.97 -43306624.84 -43306624.70 0.0084 0.0018

Pluto -123280-03-01 17:03 J -43306536.91 -43306536.79 -43306536.66 0.0084 0.0035

Pluto -123280-05-28 18:15 J -43306448.83 -43306448.74 -43306448.61 0.0083 0.0051

Pluto -123280-08-24 19:56 J -43306360.75 -43306360.67 -43306360.58 0.0083 0.0066

Pluto -123280-11-20 21:08 J -43306272.64 -43306272.62 -43306272.59 0.0083 0.0081

Jupiter -123275-01-24 05:03 J -43304747.46 -43304747.29 -43304747.12 0.0500 0.0177

Moon -123275-03-17 04:34 J -43304695.41 -43304695.31 -43304695.20 0.2778 0.0381

Earth -123275-03-17 05:18 J -43304695.39 -43304695.28 -43304695.17 0.2782 0.0375 *

Mars -123275-04-21 03:22 J -43304660.45 -43304660.36 -43304660.28 0.1862 0.1556

Jupiter -123275-04-24 14:54 J -43304656.98 -43304656.88 -43304656.77 0.0499 0.0412

Mars -123272-01-30 04:34 J -43303645.43 -43303645.31 -43303645.20 0.1652 0.0204

Earth -123272-09-13 01:27 J -43303419.60 -43303419.44 -43303419.28 0.2559 0.0302

Moon -123272-09-13 02:10 J -43303419.57 -43303419.41 -43303419.25 0.2554 0.0343 *

Saturn -123270-01-02 03:08 J -43302943.44 -43302943.37 -43302943.30 0.0302 0.0261

Mars -123270-01-05 08:54 J -43302940.18 -43302940.13 -43302940.08 0.1649 0.1455

Saturn -123270-03-31 16:49 J -43302854.91 -43302854.80 -43302854.68 0.0303 0.0138

Saturn -123270-06-28 06:44 J -43302766.36 -43302766.22 -43302766.09 0.0303 0.0017

Saturn -123270-09-24 20:10 J -43302677.78 -43302677.66 -43302677.54 0.0303 0.0109

Saturn -123270-12-22 09:37 J -43302589.18 -43302589.10 -43302589.01 0.0304 0.0230

Jupiter -123270-12-22 12:44 J -43302589.06 -43302588.97 -43302588.88 0.0525 0.0370 *

Jupiter -123269-03-20 19:27 J -43302499.82 -43302499.69 -43302499.57 0.0526 0.0092

Neptune -123269-06-13 22:20 J -43302414.59 -43302414.57 -43302414.54 0.0088 0.0086

Neptune -123269-09-09 23:32 J -43302326.55 -43302326.52 -43302326.46 0.0088 0.0083

Neptune -123269-12-07 00:58 J -43302238.51 -43302238.46 -43302238.38 0.0088 0.0078

Neptune -123268-03-05 02:39 J -43302150.46 -43302150.39 -43302150.31 0.0088 0.0074

Earth -123268-03-10 02:54 J -43302145.46 -43302145.38 -43302145.30 0.2780 0.1770

Moon -123268-03-10 03:37 J -43302145.44 -43302145.35 -43302145.26 0.2782 0.1653 *

Neptune -123268-06-01 04:06 J -43302062.41 -43302062.33 -43302062.24 0.0088 0.0069

Neptune -123268-08-28 05:18 J -43301974.36 -43301974.28 -43301974.17 0.0088 0.0066

Neptune -123268-11-24 06:44 J -43301886.30 -43301886.22 -43301886.11 0.0088 0.0061

Neptune -123267-02-20 08:25 J -43301798.25 -43301798.15 -43301798.04 0.0088 0.0057

Neptune -123267-05-19 09:37 J -43301710.20 -43301710.10 -43301709.98 0.0088 0.0053

Neptune -123267-08-15 11:03 J -43301622.14 -43301622.04 -43301621.92 0.0088 0.0048

Neptune -123267-11-11 12:30 J -43301534.09 -43301533.98 -43301533.86 0.0088 0.0044

Neptune -123266-02-07 13:56 J -43301446.04 -43301445.92 -43301445.79 0.0088 0.0040

Neptune -123266-05-06 15:22 J -43301357.98 -43301357.86 -43301357.73 0.0088 0.0035

Neptune -123266-08-02 16:49 J -43301269.93 -43301269.80 -43301269.67 0.0088 0.0031

Mars -123266-09-10 22:20 J -43301230.73 -43301230.57 -43301230.41 0.1861 0.0452

Neptune -123266-10-29 18:01 J -43301181.87 -43301181.75 -43301181.61 0.0088 0.0028

Neptune -123265-01-25 19:27 J -43301093.81 -43301093.69 -43301093.55 0.0088 0.0023

Neptune -123265-04-22 20:54 J -43301005.76 -43301005.63 -43301005.49 0.0088 0.0019

Neptune -123265-07-19 22:20 J -43300917.70 -43300917.57 -43300917.44 0.0088 0.0014

Neptune -123265-10-15 23:46 J -43300829.65 -43300829.51 -43300829.38 0.0088 0.0010

Neptune -123264-01-12 01:13 J -43300741.59 -43300741.45 -43300741.32 0.0088 0.0007

Neptune -123264-04-10 02:25 J -43300653.53 -43300653.40 -43300653.26 0.0088 0.0002

Neptune -123264-07-07 03:51 J -43300565.48 -43300565.34 -43300565.21 0.0088 0.0003

Neptune -123264-10-03 05:03 J -43300477.42 -43300477.29 -43300477.15 0.0088 0.0007

Jupiter -123264-11-12 00:58 J -43300437.59 -43300437.46 -43300437.32 0.0500 0.0334

Neptune -123264-12-30 06:30 J -43300389.36 -43300389.23 -43300389.09 0.0088 0.0011

Jupiter -123263-02-10 10:49 J -43300347.21 -43300347.05 -43300346.89 0.0500 0.0253

Neptune -123263-03-28 07:42 J -43300301.30 -43300301.18 -43300301.04 0.0088 0.0016

Mars -123263-06-22 15:22 J -43300214.97 -43300214.86 -43300214.75 0.1653 0.0609

Neptune -123263-06-24 09:08 J -43300213.25 -43300213.12 -43300212.98 0.0088 0.0019

Neptune -123263-09-20 10:34 J -43300125.19 -43300125.06 -43300124.93 0.0088 0.0023

Neptune -123263-12-17 11:46 J -43300037.13 -43300037.01 -43300036.88 0.0088 0.0028

Neptune -123262-03-15 13:13 J -43299949.07 -43299948.95 -43299948.82 0.0088 0.0031

Moon -123262-03-19 23:18 J -43299944.63 -43299944.53 -43299944.43 0.2777 0.1142

Earth -123262-03-19 23:46 J -43299944.61 -43299944.51 -43299944.41 0.2782 0.1133 *

Neptune -123262-06-11 14:39 J -43299861.01 -43299860.89 -43299860.77 0.0088 0.0036

Neptune -123262-09-07 15:51 J -43299772.95 -43299772.84 -43299772.72 0.0088 0.0040

Neptune -123262-12-04 17:03 J -43299684.89 -43299684.79 -43299684.66 0.0088 0.0044

Neptune -123261-03-01 18:30 J -43299596.83 -43299596.73 -43299596.61 0.0088 0.0048

Mars -123261-05-27 19:56 J -43299509.76 -43299509.67 -43299509.58 0.1650 0.1062

Neptune -123261-05-28 19:42 J -43299508.77 -43299508.68 -43299508.56 0.0088 0.0053

Neptune -123261-08-24 21:08 J -43299420.71 -43299420.62 -43299420.51 0.0088 0.0056

Neptune -123261-11-20 22:34 J -43299332.65 -43299332.56 -43299332.46 0.0088 0.0060

Neptune -123260-02-16 23:46 J -43299244.59 -43299244.51 -43299244.41 0.0088 0.0065

Neptune -123260-05-16 01:13 J -43299156.53 -43299156.45 -43299156.36 0.0088 0.0068

Neptune -123260-08-12 02:25 J -43299068.46 -43299068.40 -43299068.31 0.0088 0.0073

Neptune -123260-11-08 03:51 J -43298980.40 -43298980.34 -43298980.27 0.0088 0.0077

Neptune -123259-02-04 05:18 J -43298892.33 -43298892.28 -43298892.23 0.0088 0.0080

Neptune -123259-05-03 06:30 J -43298804.26 -43298804.23 -43298804.19 0.0088 0.0085

Earth -123259-09-16 07:56 J -43298668.32 -43298668.17 -43298668.02 0.2559 0.0955

Moon -123259-09-16 09:08 J -43298668.27 -43298668.12 -43298667.97 0.2554 0.0979 *

Jupiter -123258-10-10 17:18 J -43298278.83 -43298278.78 -43298278.73 0.0525 0.0477

Jupiter -123257-01-08 00:01 J -43298189.63 -43298189.50 -43298189.38 0.0526 0.0025

Jupiter -123257-04-06 06:15 J -43298100.31 -43298100.24 -43298100.18 0.0526 0.0441

Mars -123256-01-30 17:18 J -43297800.94 -43297800.78 -43297800.63 0.1860 0.0649

Saturn -123256-04-26 05:03 J -43297715.38 -43297715.29 -43297715.19 0.0260 0.0219

Saturn -123256-07-24 00:01 J -43297626.66 -43297626.50 -43297626.34 0.0259 0.0114

Saturn -123256-10-20 18:58 J -43297537.89 -43297537.71 -43297537.52 0.0259 0.0009

Saturn -123255-01-17 14:10 J -43297449.08 -43297448.91 -43297448.73 0.0259 0.0099

Earth -123255-03-12 21:22 J -43297394.71 -43297394.61 -43297394.51 0.2781 0.1015

Moon -123255-03-12 22:06 J -43297394.68 -43297394.58 -43297394.48 0.2782 0.1006 *

Saturn -123255-04-16 09:22 J -43297360.21 -43297360.11 -43297359.99 0.0258 0.0207

Uranus -123255-10-10 06:01 J -43297183.32 -43297183.25 -43297183.17 0.0148 0.0135

Uranus -123254-01-06 14:39 J -43297095.02 -43297094.89 -43297094.75 0.0148 0.0103

Uranus -123254-04-04 23:18 J -43297006.68 -43297006.53 -43297006.35 0.0148 0.0072

Uranus -123254-07-02 08:25 J -43296918.34 -43296918.15 -43296917.97 0.0148 0.0040

Uranus -123254-09-28 17:18 J -43296829.97 -43296829.78 -43296829.59 0.0148 0.0009

Mars -123254-11-13 01:56 J -43296784.51 -43296784.42 -43296784.32 0.1654 0.1021

Uranus -123254-12-26 02:10 J -43296741.60 -43296741.41 -43296741.22 0.0148 0.0023

Uranus -123253-03-23 10:49 J -43296653.22 -43296653.05 -43296652.87 0.0148 0.0055

Uranus -123253-06-19 19:42 J -43296564.83 -43296564.68 -43296564.52 0.0148 0.0087

Uranus -123253-09-16 04:34 J -43296476.41 -43296476.31 -43296476.19 0.0148 0.0119

Jupiter -123252-08-30 22:34 J -43296127.61 -43296127.56 -43296127.50 0.0501 0.0475

Moon -123252-09-07 18:44 J -43296119.74 -43296119.72 -43296119.70 0.2566 0.2533

Mars -123252-10-18 06:44 J -43296079.32 -43296079.22 -43296079.11 0.1650 0.0665

Jupiter -123252-11-29 08:10 J -43296037.34 -43296037.16 -43296036.98 0.0500 0.0110

Moon -123249-03-21 17:46 J -43295193.84 -43295193.76 -43295193.67 0.2776 0.1801

Earth -123249-03-21 18:15 J -43295193.81 -43295193.74 -43295193.66 0.2782 0.1898 *

Mars -123247-06-22 12:58 J -43294371.02 -43294370.96 -43294370.89 0.1858 0.1699

Earth -123246-09-19 14:25 J -43293916.98 -43293916.90 -43293916.82 0.2559 0.2200

Moon -123246-09-19 15:51 J -43293916.90 -43293916.84 -43293916.78 0.2557 0.2363 *

Jupiter -123246-10-27 03:51 J -43293879.46 -43293879.34 -43293879.22 0.0525 0.0133

Jupiter -123245-01-24 10:06 J -43293790.18 -43293790.08 -43293789.98 0.0526 0.0325

Mars -123244-04-04 12:30 J -43293354.03 -43293353.98 -43293353.92 0.1655 0.1440

Mars -123242-03-10 17:46 J -43292648.88 -43292648.76 -43292648.65 0.1651 0.0266

Earth -123242-03-15 15:51 J -43292643.95 -43292643.84 -43292643.73 0.2781 0.0264

Moon -123242-03-15 16:20 J -43292643.92 -43292643.82 -43292643.71 0.2786 0.0285 *

Saturn -123241-08-17 17:18 J -43292122.89 -43292122.78 -43292122.67 0.0303 0.0184

Venus -123241-08-18 08:39 J -43292122.22 -43292122.14 -43292122.06 0.3749 0.2256

Saturn -123241-11-14 06:58 J -43292034.34 -43292034.21 -43292034.08 0.0303 0.0060

Saturn -123240-02-10 20:39 J -43291945.77 -43291945.64 -43291945.51 0.0304 0.0064

Saturn -123240-05-10 10:06 J -43291857.18 -43291857.08 -43291856.97 0.0304 0.0186

Jupiter -123240-09-17 06:01 J -43291727.44 -43291727.25 -43291727.07 0.0500 0.0030

Moon -123239-09-11 00:58 J -43291368.59 -43291368.46 -43291368.32 0.2566 0.1336

Earth -123239-09-11 01:27 J -43291368.57 -43291368.44 -43291368.30 0.2560 0.1338 *

Venus -123238-05-21 09:22 J -43291116.19 -43291116.11 -43291116.02 0.3633 0.2917

Moon -123236-03-24 12:30 J -43290443.01 -43290442.98 -43290442.94 0.2774 0.2586

Earth -123236-03-24 12:44 J -43290442.99 -43290442.97 -43290442.94 0.2781 0.2661 *

Mars -123236-10-20 04:20 J -43290233.39 -43290233.32 -43290233.25 0.1862 0.1680

Venus -123235-03-04 00:58 J -43290098.56 -43290098.46 -43290098.35 0.3755 0.0492

Moon -123235-03-08 12:44 J -43290094.03 -43290093.97 -43290093.92 0.2778 0.2420

Earth -123235-03-08 13:13 J -43290094.00 -43290093.95 -43290093.89 0.2779 0.2394 *

Jupiter -123234-08-15 07:56 J -43289569.29 -43289569.17 -43289569.06 0.0525 0.0248

Jupiter -123234-11-12 14:10 J -43289480.02 -43289479.91 -43289479.79 0.0526 0.0212

Mars -123233-07-31 04:34 J -43289218.43 -43289218.31 -43289218.19 0.1652 0.0142

Venus -123233-12-04 16:20 J -43289091.95 -43289091.82 -43289091.68 0.3625 0.1504

Mars -123231-07-06 08:54 J -43288513.17 -43288513.13 -43288513.08 0.1649 0.1510

Venus -123230-09-17 17:32 J -43288074.87 -43288074.77 -43288074.68 0.3760 0.1301

Earth -123229-03-17 10:20 J -43287893.18 -43287893.07 -43287892.97 0.2782 0.0514

Moon -123229-03-17 10:49 J -43287893.16 -43287893.05 -43287892.95 0.2786 0.0591 *

Jupiter -123228-07-06 03:51 J -43287417.51 -43287417.34 -43287417.17 0.0500 0.0167

Jupiter -123228-10-04 13:56 J -43287327.02 -43287326.92 -43287326.82 0.0500 0.0423

Saturn -123227-09-13 03:51 J -43286983.37 -43286983.34 -43286983.31 0.0260 0.0255

Saturn -123227-12-10 22:34 J -43286894.70 -43286894.56 -43286894.41 0.0259 0.0150

Saturn -123226-03-09 17:46 J -43286805.94 -43286805.76 -43286805.58 0.0259 0.0045

Mars -123226-03-11 22:49 J -43286803.70 -43286803.55 -43286803.39 0.1861 0.0557

Saturn -123226-06-06 12:44 J -43286717.14 -43286716.97 -43286716.78 0.0259 0.0062

Saturn -123226-09-03 07:56 J -43286628.30 -43286628.17 -43286628.02 0.0258 0.0170

Moon -123226-09-14 06:58 J -43286617.37 -43286617.21 -43286617.05 0.2563 0.0230

Earth -123226-09-14 08:10 J -43286617.32 -43286617.16 -43286617.00 0.2559 0.0070 *

Venus -123224-04-02 09:51 J -43286051.15 -43286051.09 -43286051.03 0.3766 0.3056

Mars -123224-12-21 15:22 J -43285787.98 -43285787.86 -43285787.75 0.1653 0.0555

Moon -123222-03-11 06:58 J -43285343.29 -43285343.21 -43285343.12 0.2778 0.1626

Earth -123222-03-11 07:42 J -43285343.26 -43285343.18 -43285343.09 0.2780 0.1641 *

Jupiter -123222-06-03 11:46 J -43285259.10 -43285259.01 -43285258.92 0.0525 0.0363

Jupiter -123222-08-31 18:15 J -43285169.86 -43285169.74 -43285169.61 0.0526 0.0099

Mars -123222-11-26 19:56 J -43285082.76 -43285082.67 -43285082.59 0.1650 0.1116

Mars -123217-07-31 18:15 J -43283373.90 -43283373.74 -43283373.59 0.1860 0.0535

Earth -123216-03-20 04:49 J -43283142.40 -43283142.30 -43283142.21 0.2782 0.1273

Moon -123216-03-20 05:03 J -43283142.38 -43283142.29 -43283142.19 0.2788 0.1364 *

Jupiter -123216-04-24 01:42 J -43283107.58 -43283107.43 -43283107.29 0.0500 0.0308

Jupiter -123216-07-23 11:18 J -43283017.18 -43283017.03 -43283016.87 0.0500 0.0280

Mars -123214-05-14 01:56 J -43282357.52 -43282357.42 -43282357.32 0.1654 0.0967

Uranus -123213-05-01 00:01 J -43282004.55 -43282004.50 -43282004.44 0.0131 0.0120

Uranus -123213-07-28 02:54 J -43281916.45 -43281916.38 -43281916.29 0.0131 0.0105

Moon -123213-09-16 13:13 J -43281866.10 -43281865.95 -43281865.81 0.2562 0.1058

Earth -123213-09-16 14:39 J -43281866.03 -43281865.89 -43281865.75 0.2559 0.1183 *

Uranus -123213-10-24 05:46 J -43281828.35 -43281828.26 -43281828.15 0.0131 0.0090

Uranus -123212-01-20 08:54 J -43281740.24 -43281740.13 -43281740.02 0.0131 0.0074

Mars -123212-04-18 06:44 J -43281652.32 -43281652.22 -43281652.11 0.1650 0.0716

Uranus -123212-04-18 12:01 J -43281652.12 -43281652.00 -43281651.88 0.0131 0.0059 *

Uranus -123212-07-15 14:54 J -43281564.01 -43281563.88 -43281563.76 0.0131 0.0044

Uranus -123212-10-11 17:46 J -43281475.89 -43281475.76 -43281475.63 0.0131 0.0029

Saturn -123211-01-04 17:03 J -43281390.87 -43281390.79 -43281390.70 0.0302 0.0235

Uranus -123211-01-07 20:39 J -43281387.77 -43281387.64 -43281387.50 0.0131 0.0014

Saturn -123211-04-03 06:58 J -43281302.33 -43281302.21 -43281302.08 0.0303 0.0110

Uranus -123211-04-05 23:32 J -43281299.65 -43281299.52 -43281299.38 0.0131 0.0004

Saturn -123211-06-30 20:39 J -43281213.77 -43281213.64 -43281213.50 0.0303 0.0014

Uranus -123211-07-03 02:25 J -43281211.53 -43281211.40 -43281211.26 0.0131 0.0017

Saturn -123211-09-27 10:20 J -43281125.19 -43281125.07 -43281124.96 0.0303 0.0136

Uranus -123211-09-29 05:32 J -43281123.40 -43281123.27 -43281123.14 0.0131 0.0032

Saturn -123211-12-24 23:32 J -43281036.58 -43281036.52 -43281036.44 0.0304 0.0257

Uranus -123211-12-26 08:25 J -43281035.28 -43281035.15 -43281035.03 0.0131 0.0047

Jupiter -123210-03-22 16:20 J -43280948.87 -43280948.82 -43280948.76 0.0525 0.0469

Uranus -123210-03-24 11:18 J -43280947.15 -43280947.03 -43280946.91 0.0131 0.0062

Jupiter -123210-06-19 23:03 J -43280859.67 -43280859.54 -43280859.42 0.0526 0.0016

Uranus -123210-06-20 14:10 J -43280859.02 -43280858.91 -43280858.80 0.0131 0.0077

Uranus -123210-09-16 17:03 J -43280770.88 -43280770.79 -43280770.70 0.0131 0.0092

Jupiter -123210-09-17 05:18 J -43280770.35 -43280770.28 -43280770.22 0.0526 0.0450

Uranus -123210-12-13 19:42 J -43280682.74 -43280682.68 -43280682.59 0.0131 0.0107

Uranus -123209-03-10 22:34 J -43280594.59 -43280594.56 -43280594.50 0.0131 0.0122

Moon -123209-03-13 01:42 J -43280592.53 -43280592.43 -43280592.33 0.2777 0.0945

Earth -123209-03-13 02:10 J -43280592.51 -43280592.41 -43280592.30 0.2781 0.0882 *

Mars -123208-12-21 13:42 J -43279944.01 -43279943.93 -43279943.85 0.1858 0.1601

Earth -123206-09-09 01:42 J -43279317.49 -43279317.43 -43279317.37 0.2560 0.2370

Moon -123206-09-09 02:25 J -43279317.48 -43279317.40 -43279317.33 0.2554 0.2236 *

Mars -123205-10-03 12:30 J -43278927.04 -43278926.98 -43278926.91 0.1656 0.1384

Jupiter -123204-02-09 21:37 J -43278797.66 -43278797.60 -43278797.53 0.0501 0.0464

Jupiter -123204-05-11 07:13 J -43278707.38 -43278707.20 -43278707.02 0.0500 0.0122

Earth -123203-03-22 23:18 J -43278391.61 -43278391.53 -43278391.46 0.2782 0.2034

Moon -123203-03-22 23:32 J -43278391.60 -43278391.52 -43278391.45 0.2788 0.2018 *

Mars -123203-09-08 17:46 J -43278221.88 -43278221.76 -43278221.65 0.1651 0.0320

Moon -123200-09-19 19:13 J -43277114.75 -43277114.70 -43277114.65 0.2560 0.2413

Earth -123200-09-19 20:54 J -43277114.68 -43277114.63 -43277114.58 0.2559 0.2425 *

Jupiter -123198-04-08 03:22 J -43276549.48 -43276549.36 -43276549.23 0.0525 0.0117

Jupiter -123198-07-06 09:51 J -43276460.19 -43276460.09 -43276460.00 0.0526 0.0343

Saturn -123197-04-28 21:37 J -43276162.72 -43276162.60 -43276162.46 0.0260 0.0184

Saturn -123197-07-26 16:49 J -43276073.98 -43276073.80 -43276073.63 0.0259 0.0078

Saturn -123197-10-23 11:46 J -43275985.19 -43275985.01 -43275984.82 0.0259 0.0028

Saturn -123196-01-20 06:58 J -43275896.36 -43275896.21 -43275896.05 0.0259 0.0135

Moon -123196-03-15 20:10 J -43275841.77 -43275841.66 -43275841.55 0.2777 0.0226

Earth -123196-03-15 20:39 J -43275841.75 -43275841.64 -43275841.53 0.2781 0.0124 *

Saturn -123196-04-19 02:10 J -43275807.46 -43275807.41 -43275807.33 0.0258 0.0243

Mars -123196-04-20 04:34 J -43275806.35 -43275806.31 -43275806.26 0.1862 0.1767

Mars -123193-01-30 04:34 J -43274791.43 -43274791.31 -43274791.19 0.1652 0.0092

Earth -123193-09-11 08:10 J -43274566.30 -43274566.16 -43274566.01 0.2560 0.1112

Moon -123193-09-11 09:22 J -43274566.26 -43274566.11 -43274565.96 0.2555 0.0992 *

Jupiter -123192-02-27 04:34 J -43274397.49 -43274397.31 -43274397.12 0.0500 0.0022

Mars -123191-01-04 08:54 J -43274086.16 -43274086.13 -43274086.10 0.1649 0.1561

Moon -123190-03-25 18:01 J -43273640.76 -43273640.75 -43273640.75 0.2789 0.2777

Venus -123190-09-09 13:42 J -43273472.97 -43273472.93 -43273472.88 0.3744 0.3382

Earth -123189-03-08 18:15 J -43273291.80 -43273291.74 -43273291.68 0.2779 0.2261

Moon -123189-03-08 18:58 J -43273291.78 -43273291.71 -43273291.65 0.2783 0.2207 *

Mars -123187-09-09 23:46 J -43272376.66 -43272376.51 -43272376.35 0.1861 0.0671

Jupiter -123186-01-25 07:27 J -43272239.31 -43272239.19 -43272239.08 0.0525 0.0232

Jupiter -123186-04-24 13:42 J -43272150.04 -43272149.93 -43272149.81 0.0526 0.0228

Neptune -123185-08-12 07:27 J -43271674.24 -43271674.19 -43271674.12 0.0089 0.0083

Neptune -123185-11-08 10:49 J -43271586.13 -43271586.05 -43271585.94 0.0089 0.0078

Neptune -123184-02-04 14:25 J -43271498.00 -43271497.90 -43271497.78 0.0089 0.0071

Venus -123184-03-25 06:15 J -43271449.33 -43271449.24 -43271449.14 0.3750 0.1594

Neptune -123184-05-03 18:01 J -43271409.87 -43271409.75 -43271409.62 0.0089 0.0065

Mars -123184-06-21 15:22 J -43271360.98 -43271360.86 -43271360.75 0.1653 0.0496

Neptune -123184-07-30 21:22 J -43271321.74 -43271321.61 -43271321.46 0.0089 0.0060

Neptune -123184-10-27 00:58 J -43271233.61 -43271233.46 -43271233.31 0.0089 0.0054

Neptune -123183-01-23 04:34 J -43271145.47 -43271145.31 -43271145.15 0.0089 0.0047

Moon -123183-03-18 14:54 J -43271090.99 -43271090.88 -43271090.78 0.2775 0.0652

Earth -123183-03-18 15:08 J -43271090.97 -43271090.87 -43271090.76 0.2782 0.0643 *

Neptune -123183-04-21 07:56 J -43271057.33 -43271057.17 -43271057.00 0.0089 0.0042

Neptune -123183-07-18 11:32 J -43270969.19 -43270969.02 -43270968.84 0.0089 0.0035

Neptune -123183-10-14 15:08 J -43270881.05 -43270880.87 -43270880.69 0.0089 0.0029

Neptune -123182-01-10 18:30 J -43270792.91 -43270792.73 -43270792.54 0.0089 0.0024

Neptune -123182-04-08 22:06 J -43270704.76 -43270704.58 -43270704.39 0.0089 0.0017

Saturn -123182-05-24 17:46 J -43270658.81 -43270658.76 -43270658.71 0.0302 0.0278

Mars -123182-05-27 19:56 J -43270655.76 -43270655.67 -43270655.59 0.1650 0.1169

Neptune -123182-07-06 01:42 J -43270616.62 -43270616.43 -43270616.24 0.0089 0.0011

Saturn -123182-08-21 07:42 J -43270570.30 -43270570.18 -43270570.07 0.0303 0.0154

Neptune -123182-10-02 05:18 J -43270528.47 -43270528.28 -43270528.09 0.0089 0.0005

Saturn -123182-11-17 21:22 J -43270481.75 -43270481.61 -43270481.48 0.0303 0.0031

Venus -123182-12-26 10:49 J -43270443.19 -43270443.05 -43270442.91 0.3631 0.1430

Neptune -123182-12-29 08:54 J -43270440.32 -43270440.13 -43270439.94 0.0089 0.0001

Saturn -123181-02-14 10:49 J -43270393.17 -43270393.05 -43270392.92 0.0304 0.0093

Neptune -123181-03-26 12:30 J -43270352.17 -43270351.98 -43270351.79 0.0089 0.0007

Saturn -123181-05-13 00:30 J -43270304.58 -43270304.48 -43270304.39 0.0304 0.0214

Neptune -123181-06-22 16:06 J -43270264.02 -43270263.83 -43270263.64 0.0089 0.0013

Neptune -123181-09-18 19:27 J -43270175.87 -43270175.69 -43270175.49 0.0089 0.0020

Neptune -123181-12-15 23:03 J -43270087.72 -43270087.54 -43270087.35 0.0089 0.0026

Jupiter -123181-12-16 02:25 J -43270087.57 -43270087.40 -43270087.23 0.0500 0.0162 *

Neptune -123180-03-14 02:39 J -43269999.56 -43269999.39 -43269999.20 0.0089 0.0032

Jupiter -123180-03-16 12:15 J -43269997.07 -43269996.99 -43269996.89 0.0500 0.0430

Neptune -123180-06-10 06:15 J -43269911.40 -43269911.24 -43269911.06 0.0089 0.0038

Neptune -123180-09-06 10:06 J -43269823.25 -43269823.08 -43269822.91 0.0089 0.0044

Earth -123180-09-14 14:39 J -43269815.05 -43269814.89 -43269814.73 0.2559 0.0153

Moon -123180-09-14 16:06 J -43269814.99 -43269814.83 -43269814.66 0.2555 0.0147 *

Neptune -123180-12-03 13:42 J -43269735.09 -43269734.93 -43269734.77 0.0089 0.0051

Neptune -123179-03-01 17:03 J -43269646.92 -43269646.79 -43269646.63 0.0089 0.0057

Neptune -123179-05-28 20:39 J -43269558.76 -43269558.64 -43269558.49 0.0089 0.0063

Neptune -123179-08-25 00:15 J -43269470.59 -43269470.49 -43269470.35 0.0089 0.0070

Venus -123179-10-08 22:49 J -43269425.66 -43269425.55 -43269425.45 0.3756 0.0229

Neptune -123179-11-21 04:06 J -43269382.42 -43269382.33 -43269382.22 0.0089 0.0075

Neptune -123178-02-17 07:56 J -43269294.24 -43269294.17 -43269294.09 0.0089 0.0082

Neptune -123178-05-16 11:03 J -43269206.05 -43269206.04 -43269205.99 0.0089 0.0088

Mars -123177-01-30 18:58 J -43268946.87 -43268946.71 -43268946.55 0.1859 0.0426

Earth -123176-03-11 12:44 J -43268541.06 -43268540.97 -43268540.88 0.2780 0.1508

Moon -123176-03-11 13:13 J -43268541.04 -43268540.95 -43268540.85 0.2783 0.1404 *

Venus -123176-07-11 18:01 J -43268418.83 -43268418.75 -43268418.67 0.3623 0.3029

Mars -123175-11-12 01:56 J -43267930.52 -43267930.42 -43267930.32 0.1654 0.0909

Jupiter -123175-11-13 11:18 J -43267929.12 -43267929.03 -43267928.93 0.0525 0.0348

Jupiter -123174-02-10 17:46 J -43267839.88 -43267839.76 -43267839.63 0.0526 0.0114

Venus -123173-04-23 15:08 J -43267401.96 -43267401.87 -43267401.78 0.3762 0.1947

Mars -123173-10-17 06:44 J -43267225.32 -43267225.22 -43267225.11 0.1650 0.0776

Uranus -123171-10-30 10:49 J -43266482.11 -43266482.05 -43266481.96 0.0148 0.0136

Uranus -123170-01-26 19:42 J -43266393.80 -43266393.68 -43266393.53 0.0148 0.0104

Moon -123170-03-21 09:22 J -43266340.21 -43266340.11 -43266340.02 0.2776 0.1427

Earth -123170-03-21 09:37 J -43266340.19 -43266340.10 -43266340.01 0.2782 0.1406 *

Uranus -123170-04-25 04:34 J -43266305.47 -43266305.31 -43266305.14 0.0148 0.0072

Uranus -123170-07-22 13:27 J -43266217.12 -43266216.94 -43266216.75 0.0148 0.0041

Uranus -123170-10-18 22:20 J -43266128.76 -43266128.57 -43266128.38 0.0148 0.0009

Uranus -123169-01-15 07:13 J -43266040.39 -43266040.20 -43266040.01 0.0148 0.0023

Uranus -123169-04-12 16:06 J -43265952.01 -43265951.83 -43265951.65 0.0148 0.0055

Uranus -123169-07-10 00:44 J -43265863.61 -43265863.47 -43265863.30 0.0148 0.0087

Jupiter -123169-10-04 00:15 J -43265777.63 -43265777.49 -43265777.34 0.0501 0.0299

Uranus -123169-10-06 09:37 J -43265775.20 -43265775.10 -43265774.97 0.0148 0.0119

Jupiter -123168-01-02 10:06 J -43265687.23 -43265687.08 -43265686.93 0.0500 0.0290

Mars -123168-06-21 14:25 J -43265517.00 -43265516.90 -43265516.81 0.1858 0.1494

Saturn -123168-09-15 20:25 J -43265430.73 -43265430.65 -43265430.54 0.0260 0.0220

Venus -123168-11-07 07:27 J -43265378.21 -43265378.19 -43265378.18 0.3768 0.3698

Saturn -123168-12-13 15:37 J -43265342.02 -43265341.85 -43265341.69 0.0259 0.0114

Saturn -123167-03-12 10:34 J -43265253.24 -43265253.06 -43265252.87 0.0259 0.0009

Saturn -123167-06-09 05:46 J -43265164.43 -43265164.26 -43265164.09 0.0259 0.0098

Saturn -123167-09-06 00:58 J -43265075.56 -43265075.46 -43265075.34 0.0258 0.0206

Earth -123167-09-17 21:08 J -43265063.75 -43265063.62 -43265063.48 0.2559 0.1407

Moon -123167-09-17 22:49 J -43265063.68 -43265063.55 -43265063.41 0.2558 0.1427 *

Mars -123165-04-03 12:30 J -43264500.05 -43264499.98 -43264499.91 0.1656 0.1327

Mars -123163-03-09 17:46 J -43263794.88 -43263794.76 -43263794.65 0.1651 0.0375

Earth -123163-03-14 07:13 J -43263790.31 -43263790.20 -43263790.10 0.2781 0.0753

Moon -123163-03-14 07:42 J -43263790.29 -43263790.18 -43263790.08 0.2787 0.0735 *

Jupiter -123163-09-01 15:08 J -43263618.92 -43263618.87 -43263618.81 0.0525 0.0464

Jupiter -123163-11-29 21:51 J -43263529.72 -43263529.59 -43263529.46 0.0526 0.0007

Jupiter -123162-02-27 04:06 J -43263440.39 -43263440.33 -43263440.27 0.0526 0.0456

Moon -123160-09-09 07:27 J -43262515.27 -43262515.19 -43262515.10 0.2566 0.2114

Earth -123160-09-09 08:25 J -43262515.24 -43262515.15 -43262515.07 0.2560 0.2146 *

Moon -123157-03-23 04:06 J -43261589.40 -43261589.33 -43261589.26 0.2774 0.2120

Earth -123157-03-23 04:06 J -43261589.39 -43261589.33 -43261589.26 0.2782 0.2173 *

Jupiter -123157-07-22 22:06 J -43261467.66 -43261467.58 -43261467.49 0.0501 0.0439

Jupiter -123157-10-21 07:42 J -43261377.36 -43261377.18 -43261377.00 0.0500 0.0147

Mars -123154-07-31 04:34 J -43260364.43 -43260364.31 -43260364.19 0.1652 0.0055

Saturn -123152-01-07 07:42 J -43259838.28 -43259838.18 -43259838.08 0.0302 0.0204

Saturn -123152-04-05 21:22 J -43259749.74 -43259749.61 -43259749.48 0.0303 0.0081

Saturn -123152-07-03 11:03 J -43259661.17 -43259661.04 -43259660.91 0.0303 0.0042

Mars -123152-07-05 08:54 J -43259659.15 -43259659.13 -43259659.11 0.1649 0.1612

Saturn -123152-09-30 00:30 J -43259572.59 -43259572.48 -43259572.37 0.0303 0.0164

Saturn -123152-12-27 13:56 J -43259483.96 -43259483.92 -43259483.88 0.0304 0.0285

Jupiter -123151-09-18 02:25 J -43259219.52 -43259219.40 -43259219.27 0.0525 0.0109

Jupiter -123151-12-16 08:39 J -43259130.23 -43259130.14 -43259130.04 0.0526 0.0352

Earth -123150-03-17 01:42 J -43259039.54 -43259039.43 -43259039.33 0.2782 0.0119

Moon -123150-03-17 01:56 J -43259039.53 -43259039.42 -43259039.31 0.2787 0.0027 *

Mars -123147-03-11 00:15 J -43257949.63 -43257949.49 -43257949.33 0.1861 0.0768

Moon -123147-09-12 13:27 J -43257764.09 -43257763.94 -43257763.79 0.2563 0.0896

Earth -123147-09-12 14:54 J -43257764.03 -43257763.88 -43257763.73 0.2559 0.0883 *

Jupiter -123145-08-09 03:37 J -43257067.53 -43257067.35 -43257067.17 0.0500 0.0011

Mars -123145-12-20 15:22 J -43256933.98 -43256933.86 -43256933.75 0.1653 0.0445

Moon -123143-03-09 22:34 J -43256489.63 -43256489.56 -43256489.50 0.2776 0.2156

Earth -123143-03-09 23:03 J -43256489.60 -43256489.54 -43256489.47 0.2780 0.2129 *

Mars -123143-11-25 19:56 J -43256228.75 -43256228.67 -43256228.60 0.1650 0.1222

Jupiter -123139-07-07 06:58 J -43254909.33 -43254909.21 -43254909.10 0.0525 0.0217

Jupiter -123139-10-04 13:13 J -43254820.06 -43254819.95 -43254819.83 0.0526 0.0244

Saturn -123138-02-02 19:42 J -43254698.71 -43254698.68 -43254698.63 0.0260 0.0253

Saturn -123138-05-02 14:39 J -43254610.04 -43254609.89 -43254609.74 0.0260 0.0148

Saturn -123138-07-30 09:37 J -43254521.28 -43254521.10 -43254520.92 0.0259 0.0042

Mars -123138-07-31 19:27 J -43254519.85 -43254519.69 -43254519.53 0.1860 0.0328

Saturn -123138-10-27 04:49 J -43254432.48 -43254432.30 -43254432.12 0.0259 0.0065

Saturn -123137-01-24 00:01 J -43254343.63 -43254343.50 -43254343.35 0.0259 0.0172

Earth -123137-03-18 19:56 J -43254288.77 -43254288.67 -43254288.56 0.2782 0.0784

Moon -123137-03-18 20:25 J -43254288.76 -43254288.65 -43254288.55 0.2789 0.0842 *

Mars -123135-05-13 01:56 J -43253503.52 -43253503.42 -43253503.32 0.1654 0.0852

Moon -123134-09-15 19:56 J -43253012.83 -43253012.67 -43253012.51 0.2561 0.0219

Earth -123134-09-15 21:22 J -43253012.77 -43253012.61 -43253012.45 0.2559 0.0381 *

Venus -123133-04-15 11:32 J -43252800.09 -43252800.02 -43252799.95 0.3746 0.2713

Mars -123133-04-17 06:44 J -43252798.32 -43252798.22 -43252798.12 0.1651 0.0826

Jupiter -123133-05-28 00:58 J -43252757.63 -43252757.46 -43252757.29 0.0500 0.0155

Jupiter -123133-08-26 10:49 J -43252667.13 -43252667.05 -43252666.96 0.0499 0.0435

Moon -123130-03-12 17:03 J -43251738.88 -43251738.79 -43251738.69 0.2775 0.1338

Earth -123130-03-12 17:32 J -43251738.86 -43251738.77 -43251738.67 0.2781 0.1374 *

Uranus -123129-05-21 06:44 J -43251303.27 -43251303.22 -43251303.16 0.0131 0.0118

Pluto -123129-07-21 06:01 J -43251242.33 -43251242.25 -43251242.17 0.0061 0.0054

Uranus -123129-08-17 09:37 J -43251215.17 -43251215.10 -43251215.01 0.0131 0.0103

Pluto -123129-10-17 06:58 J -43251154.32 -43251154.21 -43251154.08 0.0061 0.0046

Uranus -123129-11-13 12:30 J -43251127.07 -43251126.98 -43251126.87 0.0131 0.0088

Mars -123129-12-20 15:22 J -43251089.97 -43251089.86 -43251089.75 0.1858 0.1377

Pluto -123128-01-13 08:10 J -43251066.29 -43251066.16 -43251066.00 0.0061 0.0038

Uranus -123128-02-09 15:37 J -43251038.96 -43251038.85 -43251038.73 0.0131 0.0072

Pluto -123128-04-11 09:22 J -43250978.26 -43250978.11 -43250977.93 0.0061 0.0030

Uranus -123128-05-08 18:44 J -43250950.84 -43250950.72 -43250950.60 0.0131 0.0057

Pluto -123128-07-08 10:49 J -43250890.22 -43250890.05 -43250889.87 0.0061 0.0022

Uranus -123128-08-04 21:37 J -43250862.73 -43250862.60 -43250862.47 0.0131 0.0042

Pluto -123128-10-04 12:15 J -43250802.17 -43250801.99 -43250801.81 0.0061 0.0013

Venus -123128-10-30 03:51 J -43250776.44 -43250776.34 -43250776.24 0.3752 0.0941

Uranus -123128-11-01 00:30 J -43250774.61 -43250774.48 -43250774.35 0.0131 0.0027

Pluto -123128-12-31 13:27 J -43250714.12 -43250713.94 -43250713.75 0.0061 0.0005

Uranus -123127-01-28 03:22 J -43250686.49 -43250686.36 -43250686.22 0.0131 0.0012

Pluto -123127-03-29 14:54 J -43250626.07 -43250625.88 -43250625.70 0.0061 0.0003

Jupiter -123127-04-25 10:49 J -43250599.15 -43250599.05 -43250598.95 0.0525 0.0334

Uranus -123127-04-26 06:30 J -43250598.37 -43250598.23 -43250598.10 0.0131 0.0006

Pluto -123127-06-25 16:06 J -43250538.01 -43250537.83 -43250537.65 0.0061 0.0011

Uranus -123127-07-23 09:22 J -43250510.24 -43250510.11 -43250509.98 0.0131 0.0019

Jupiter -123127-07-23 17:18 J -43250509.90 -43250509.78 -43250509.66 0.0526 0.0127

Pluto -123127-09-21 17:18 J -43250449.95 -43250449.78 -43250449.60 0.0061 0.0020

Uranus -123127-10-19 12:15 J -43250422.12 -43250421.99 -43250421.86 0.0131 0.0034

Pluto -123127-12-18 18:15 J -43250361.89 -43250361.74 -43250361.56 0.0061 0.0028

Uranus -123126-01-15 15:08 J -43250333.99 -43250333.87 -43250333.75 0.0131 0.0049

Pluto -123126-03-16 19:42 J -43250273.82 -43250273.68 -43250273.52 0.0061 0.0036

Uranus -123126-04-13 18:01 J -43250245.87 -43250245.75 -43250245.63 0.0131 0.0064

Pluto -123126-06-12 20:54 J -43250185.74 -43250185.63 -43250185.49 0.0061 0.0045

Uranus -123126-07-10 20:54 J -43250157.73 -43250157.63 -43250157.52 0.0131 0.0079

Pluto -123126-09-08 21:51 J -43250097.65 -43250097.59 -43250097.47 0.0061 0.0054

Mars -123126-10-03 12:44 J -43250073.05 -43250072.97 -43250072.90 0.1656 0.1267

Uranus -123126-10-06 23:46 J -43250069.60 -43250069.51 -43250069.42 0.0131 0.0094

Pluto -123126-12-05 23:46 J -43250009.51 -43250009.51 -43250009.50 0.0062 0.0061

Uranus -123125-01-03 02:39 J -43249981.46 -43249981.39 -43249981.32 0.0131 0.0109

Uranus -123125-03-31 05:18 J -43249893.31 -43249893.28 -43249893.23 0.0131 0.0124

Venus -123125-08-01 12:30 J -43249770.13 -43249769.98 -43249769.83 0.3629 0.0094

Earth -123124-03-21 14:25 J -43249537.99 -43249537.90 -43249537.81 0.2782 0.1546

Moon -123124-03-21 14:39 J -43249537.98 -43249537.89 -43249537.81 0.2789 0.1612 *

Mars -123124-09-07 17:46 J -43249367.88 -43249367.76 -43249367.65 0.1651 0.0429

Saturn -123123-05-27 08:10 J -43249106.23 -43249106.16 -43249106.07 0.0302 0.0247

Saturn -123123-08-23 22:06 J -43249017.70 -43249017.58 -43249017.45 0.0303 0.0123

Saturn -123123-11-20 11:46 J -43248929.14 -43248929.01 -43248928.87 0.0303 0.0007

Saturn -123122-02-17 01:27 J -43248840.56 -43248840.44 -43248840.32 0.0304 0.0123

Venus -123122-05-15 20:25 J -43248752.75 -43248752.65 -43248752.55 0.3758 0.0841

Saturn -123122-05-16 14:54 J -43248751.96 -43248751.88 -43248751.80 0.0304 0.0244

Jupiter -123121-03-15 22:49 J -43248447.70 -43248447.55 -43248447.40 0.0501 0.0295

Jupiter -123121-06-14 08:25 J -43248357.29 -43248357.15 -43248357.00 0.0500 0.0295

Moon -123121-09-18 01:56 J -43248261.55 -43248261.42 -43248261.29 0.2559 0.1458

Earth -123121-09-18 03:51 J -43248261.46 -43248261.34 -43248261.22 0.2559 0.1633 *

Moon -123117-03-14 11:32 J -43246988.12 -43246988.02 -43246987.91 0.2775 0.0669

Earth -123117-03-14 12:01 J -43246988.11 -43246988.00 -43246987.89 0.2781 0.0612 *

Venus -123117-11-28 12:44 J -43246729.04 -43246728.97 -43246728.90 0.3763 0.2593

Jupiter -123115-02-11 14:39 J -43246288.95 -43246288.89 -43246288.82 0.0524 0.0449

Jupiter -123115-05-11 21:22 J -43246199.74 -43246199.61 -43246199.48 0.0525 0.0016

Jupiter -123115-08-09 03:22 J -43246110.41 -43246110.36 -43246110.30 0.0526 0.0469

Mars -123114-01-29 04:34 J -43245937.43 -43245937.31 -43245937.19 0.1652 0.0045

Earth -123114-09-10 15:08 J -43245712.98 -43245712.87 -43245712.77 0.2560 0.1921

Moon -123114-09-10 16:20 J -43245712.94 -43245712.82 -43245712.70 0.2556 0.1777 *

Moon -123111-03-24 09:08 J -43244787.18 -43244787.12 -43244787.06 0.2789 0.2281

Earth -123111-03-24 09:08 J -43244787.18 -43244787.12 -43244787.07 0.2781 0.2311 *

Earth -123110-03-08 09:37 J -43244438.11 -43244438.10 -43244438.09 0.2779 0.2748

Jupiter -123109-01-02 20:39 J -43244137.73 -43244137.64 -43244137.55 0.0501 0.0433

Jupiter -123109-04-02 06:15 J -43244047.41 -43244047.24 -43244047.06 0.0500 0.0154

Saturn -123109-09-18 13:27 J -43243878.06 -43243877.94 -43243877.80 0.0260 0.0183

Saturn -123109-12-16 08:39 J -43243789.31 -43243789.14 -43243788.96 0.0259 0.0077

Saturn -123108-03-15 03:51 J -43243700.53 -43243700.34 -43243700.16 0.0259 0.0029

Saturn -123108-06-11 22:49 J -43243611.70 -43243611.55 -43243611.38 0.0259 0.0137

Saturn -123108-09-08 18:15 J -43243522.79 -43243522.74 -43243522.67 0.0258 0.0244

Mars -123108-09-09 01:13 J -43243522.59 -43243522.45 -43243522.30 0.1861 0.0880

Mars -123105-06-20 15:22 J -43242506.98 -43242506.86 -43242506.75 0.1653 0.0388

Neptune -123105-12-12 20:54 J -43242331.63 -43242331.63 -43242331.62 0.0088 0.0088

Neptune -123104-03-10 22:20 J -43242243.61 -43242243.57 -43242243.53 0.0088 0.0084

Moon -123104-03-17 06:15 J -43242237.35 -43242237.24 -43242237.13 0.2774 0.0072

Earth -123104-03-17 06:30 J -43242237.34 -43242237.23 -43242237.12 0.2782 0.0161 *

Neptune -123104-06-06 23:46 J -43242155.56 -43242155.51 -43242155.45 0.0088 0.0079

Neptune -123104-09-03 00:58 J -43242067.52 -43242067.46 -43242067.38 0.0088 0.0076

Neptune -123104-11-30 02:25 J -43241979.47 -43241979.40 -43241979.31 0.0088 0.0071

Neptune -123103-02-26 04:06 J -43241891.42 -43241891.33 -43241891.24 0.0088 0.0067

Jupiter -123103-02-28 01:13 J -43241889.57 -43241889.45 -43241889.32 0.0525 0.0104

Neptune -123103-05-25 05:18 J -43241803.36 -43241803.28 -43241803.18 0.0088 0.0063

Mars -123103-05-26 19:42 J -43241801.75 -43241801.68 -43241801.60 0.1650 0.1276

Jupiter -123103-05-28 07:27 J -43241800.28 -43241800.19 -43241800.09 0.0526 0.0355

Neptune -123103-08-21 06:44 J -43241715.31 -43241715.22 -43241715.11 0.0088 0.0058

Neptune -123103-11-17 08:10 J -43241627.26 -43241627.16 -43241627.04 0.0088 0.0054

Neptune -123102-02-13 09:51 J -43241539.20 -43241539.09 -43241538.98 0.0088 0.0050

Neptune -123102-05-12 11:03 J -43241451.15 -43241451.04 -43241450.92 0.0088 0.0046

Neptune -123102-08-08 12:30 J -43241363.10 -43241362.98 -43241362.86 0.0088 0.0041

Neptune -123102-11-04 13:56 J -43241275.04 -43241274.92 -43241274.79 0.0088 0.0037

Neptune -123101-01-31 15:22 J -43241186.98 -43241186.86 -43241186.73 0.0088 0.0033

Neptune -123101-04-28 16:49 J -43241098.93 -43241098.80 -43241098.67 0.0088 0.0029

Neptune -123101-07-25 18:01 J -43241010.87 -43241010.75 -43241010.61 0.0088 0.0025

Earth -123101-09-12 21:22 J -43240961.76 -43240961.61 -43240961.45 0.2559 0.0666

Moon -123101-09-12 23:03 J -43240961.70 -43240961.54 -43240961.38 0.2556 0.0505 *

Neptune -123101-10-21 19:27 J -43240922.82 -43240922.69 -43240922.55 0.0088 0.0020

Neptune -123100-01-17 20:54 J -43240834.76 -43240834.63 -43240834.50 0.0088 0.0016

Neptune -123100-04-15 22:20 J -43240746.70 -43240746.57 -43240746.44 0.0088 0.0012

Neptune -123100-07-12 23:32 J -43240658.65 -43240658.52 -43240658.38 0.0088 0.0008

Neptune -123100-10-09 00:58 J -43240570.59 -43240570.46 -43240570.32 0.0088 0.0004

Neptune -123099-01-05 02:25 J -43240482.54 -43240482.40 -43240482.27 0.0088 0.0001

Neptune -123099-04-03 03:51 J -43240394.48 -43240394.34 -43240394.21 0.0088 0.0005

Neptune -123099-06-30 05:03 J -43240306.42 -43240306.29 -43240306.15 0.0088 0.0009

Neptune -123099-09-26 06:30 J -43240218.36 -43240218.23 -43240218.10 0.0088 0.0013

Neptune -123099-12-23 07:56 J -43240130.31 -43240130.17 -43240130.04 0.0088 0.0018

Mars -123098-01-29 20:25 J -43240092.81 -43240092.65 -43240092.49 0.1860 0.0214

Neptune -123098-03-21 09:08 J -43240042.25 -43240042.12 -43240041.99 0.0088 0.0022

Neptune -123098-06-17 10:20 J -43239954.19 -43239954.07 -43239953.93 0.0088 0.0026

Neptune -123098-09-13 11:46 J -43239866.13 -43239866.01 -43239865.88 0.0088 0.0030

Neptune -123098-12-10 13:13 J -43239778.07 -43239777.95 -43239777.83 0.0088 0.0034

Jupiter -123097-01-20 03:51 J -43239737.53 -43239737.34 -43239737.16 0.0500 0.0016

Neptune -123097-03-07 14:25 J -43239690.01 -43239689.90 -43239689.77 0.0088 0.0038

Earth -123097-03-10 04:06 J -43239687.41 -43239687.33 -43239687.26 0.2780 0.1997

Moon -123097-03-10 04:34 J -43239687.39 -43239687.31 -43239687.24 0.2785 0.1958 *

Neptune -123097-06-03 15:51 J -43239601.95 -43239601.84 -43239601.72 0.0088 0.0042

Neptune -123097-08-30 17:18 J -43239513.89 -43239513.78 -43239513.67 0.0088 0.0046

Neptune -123097-11-26 18:30 J -43239425.83 -43239425.73 -43239425.62 0.0088 0.0051

Neptune -123096-02-22 19:56 J -43239337.77 -43239337.67 -43239337.56 0.0088 0.0055

Neptune -123096-05-21 21:22 J -43239249.71 -43239249.61 -43239249.51 0.0088 0.0059

Neptune -123096-08-17 22:20 J -43239161.65 -43239161.57 -43239161.46 0.0088 0.0063

Mars -123096-11-11 01:56 J -43239076.52 -43239076.42 -43239076.31 0.1654 0.0797

Neptune -123096-11-13 23:46 J -43239073.59 -43239073.51 -43239073.42 0.0088 0.0067

Neptune -123095-02-10 00:58 J -43238985.52 -43238985.46 -43238985.37 0.0088 0.0071

Neptune -123095-05-09 02:25 J -43238897.46 -43238897.40 -43238897.32 0.0088 0.0075

Neptune -123095-08-05 03:37 J -43238809.39 -43238809.35 -43238809.28 0.0088 0.0080

Neptune -123095-11-01 05:03 J -43238721.32 -43238721.29 -43238721.24 0.0088 0.0083

Neptune -123094-01-28 06:15 J -43238633.24 -43238633.24 -43238633.21 0.0088 0.0088

Saturn -123094-10-14 08:39 J -43238374.16 -43238374.14 -43238374.10 0.0302 0.0292

Mars -123094-10-17 06:44 J -43238371.32 -43238371.22 -43238371.12 0.1650 0.0880

Saturn -123093-01-10 22:34 J -43238285.67 -43238285.56 -43238285.44 0.0302 0.0169

Saturn -123093-04-08 12:15 J -43238197.12 -43238196.99 -43238196.85 0.0303 0.0047

Saturn -123093-07-06 01:56 J -43238108.55 -43238108.42 -43238108.29 0.0303 0.0077

Saturn -123093-10-02 15:22 J -43238019.95 -43238019.86 -43238019.76 0.0303 0.0198

Jupiter -123092-12-17 05:46 J -43237579.38 -43237579.26 -43237579.14 0.0525 0.0212

Jupiter -123091-03-16 12:15 J -43237490.11 -43237489.99 -43237489.88 0.0526 0.0249

Moon -123091-03-20 00:44 J -43237486.57 -43237486.47 -43237486.36 0.2775 0.0931

Earth -123091-03-20 00:58 J -43237486.56 -43237486.46 -43237486.36 0.2782 0.0916 *

Mars -123089-06-20 15:37 J -43236662.96 -43236662.85 -43236662.73 0.1858 0.1290

Earth -123088-09-16 04:06 J -43236210.49 -43236210.33 -43236210.18 0.2559 0.0606

Moon -123088-09-16 05:46 J -43236210.42 -43236210.26 -43236210.11 0.2559 0.0642 *

Uranus -123087-11-19 17:18 J -43235780.85 -43235780.78 -43235780.68 0.0148 0.0132

Uranus -123086-02-16 02:10 J -43235692.54 -43235692.41 -43235692.26 0.0148 0.0100

Mars -123086-04-03 12:30 J -43235646.06 -43235645.98 -43235645.90 0.1656 0.1215

Uranus -123086-05-15 11:03 J -43235604.20 -43235604.04 -43235603.87 0.0148 0.0068

Uranus -123086-08-11 19:56 J -43235515.85 -43235515.67 -43235515.48 0.0148 0.0037

Jupiter -123086-11-07 23:46 J -43235427.69 -43235427.51 -43235427.33 0.0500 0.0146

Uranus -123086-11-08 04:49 J -43235427.49 -43235427.30 -43235427.11 0.0148 0.0005 *

Uranus -123085-02-04 13:42 J -43235339.12 -43235338.93 -43235338.74 0.0148 0.0027

Jupiter -123085-02-06 09:37 J -43235337.18 -43235337.10 -43235337.02 0.0499 0.0443

Uranus -123085-05-02 22:20 J -43235250.74 -43235250.57 -43235250.38 0.0148 0.0059

Uranus -123085-07-30 07:13 J -43235162.34 -43235162.20 -43235162.04 0.0148 0.0091

Uranus -123085-10-26 16:06 J -43235073.92 -43235073.83 -43235073.71 0.0148 0.0123

Mars -123084-03-08 17:32 J -43234940.88 -43234940.77 -43234940.65 0.1651 0.0482

Earth -123084-03-12 22:20 J -43234936.66 -43234936.57 -43234936.47 0.2781 0.1245

Moon -123084-03-12 22:49 J -43234936.65 -43234936.55 -43234936.45 0.2787 0.1146 *

Jupiter -123080-10-05 10:06 J -43233269.18 -43233269.08 -43233268.98 0.0525 0.0322

Jupiter -123079-01-02 16:34 J -43233179.93 -43233179.81 -43233179.68 0.0526 0.0140

Saturn -123079-02-05 12:58 J -43233146.06 -43233145.96 -43233145.85 0.0260 0.0214

Saturn -123079-05-05 07:56 J -43233057.33 -43233057.17 -43233057.00 0.0260 0.0109

Saturn -123079-08-02 03:08 J -43232968.56 -43232968.37 -43232968.19 0.0260 0.0004

Saturn -123079-10-29 22:20 J -43232879.74 -43232879.57 -43232879.40 0.0259 0.0104

Saturn -123078-01-26 17:46 J -43232790.87 -43232790.76 -43232790.66 0.0259 0.0211

Earth -123078-03-22 19:27 J -43232735.78 -43232735.69 -43232735.61 0.2782 0.1680

Moon -123078-03-22 19:27 J -43232735.77 -43232735.69 -43232735.60 0.2774 0.1745 *

Mars -123077-08-23 23:18 J -43232215.55 -43232215.53 -43232215.52 0.1657 0.1631

Venus -123077-11-20 09:08 J -43232127.21 -43232127.12 -43232127.03 0.3748 0.2052

Mars -123075-07-30 04:34 J -43231510.43 -43231510.31 -43231510.19 0.1652 0.0085

Earth -123075-09-19 10:20 J -43231459.18 -43231459.07 -43231458.96 0.2559 0.1858

Moon -123075-09-19 12:01 J -43231459.10 -43231459.00 -43231458.89 0.2560 0.1880 *

Venus -123074-08-23 07:13 J -43231121.30 -43231121.20 -43231121.11 0.3634 0.2793

Jupiter -123074-08-26 21:08 J -43231117.77 -43231117.62 -43231117.47 0.0500 0.0290

Jupiter -123074-11-25 06:44 J -43231027.36 -43231027.22 -43231027.07 0.0500 0.0298

Moon -123071-03-15 17:03 J -43230185.90 -43230185.79 -43230185.68 0.2788 0.0475

Earth -123071-03-15 16:49 J -43230185.90 -43230185.80 -43230185.69 0.2781 0.0483 *

Venus -123071-06-06 01:42 J -43230103.54 -43230103.43 -43230103.33 0.3754 0.0312

Venus -123068-03-08 14:10 J -43229097.05 -43229096.91 -43229096.78 0.3627 0.1622

Mars -123068-03-10 02:10 J -43229095.55 -43229095.41 -43229095.28 0.1861 0.0989

Jupiter -123068-07-24 13:56 J -43228958.99 -43228958.92 -43228958.85 0.0525 0.0439

Moon -123068-09-10 19:56 J -43228910.78 -43228910.67 -43228910.55 0.2563 0.1724

Earth -123068-09-10 21:37 J -43228910.72 -43228910.60 -43228910.48 0.2560 0.1697 *

Jupiter -123068-10-21 20:39 J -43228869.77 -43228869.64 -43228869.52 0.0525 0.0027

Jupiter -123067-01-19 02:39 J -43228780.43 -43228780.39 -43228780.33 0.0526 0.0480

Mars -123066-12-20 15:22 J -43228079.98 -43228079.86 -43228079.75 0.1653 0.0328

Venus -123066-12-20 18:01 J -43228079.85 -43228079.75 -43228079.66 0.3759 0.1487 *

Earth -123065-03-24 13:56 J -43227984.97 -43227984.92 -43227984.87 0.2782 0.2447

Moon -123065-03-24 14:10 J -43227984.96 -43227984.91 -43227984.86 0.2775 0.2435 *

Moon -123064-03-08 13:56 J -43227635.94 -43227635.92 -43227635.90 0.2774 0.2716

Earth -123064-03-08 14:25 J -43227635.93 -43227635.90 -43227635.86 0.2779 0.2617 *

Saturn -123064-05-29 23:46 J -43227553.61 -43227553.51 -43227553.41 0.0302 0.0207

Saturn -123064-08-26 13:27 J -43227465.07 -43227464.94 -43227464.81 0.0303 0.0085

Saturn -123064-11-23 03:08 J -43227376.50 -43227376.37 -43227376.24 0.0303 0.0038

Mars -123064-11-24 19:56 J -43227374.74 -43227374.67 -43227374.61 0.1650 0.1330

Saturn -123063-02-19 16:34 J -43227287.92 -43227287.81 -43227287.69 0.0304 0.0160

Saturn -123063-05-19 06:01 J -43227199.30 -43227199.25 -43227199.20 0.0304 0.0280

Jupiter -123062-06-14 18:44 J -43226807.81 -43226807.72 -43226807.62 0.0501 0.0431

Jupiter -123062-09-13 04:20 J -43226717.49 -43226717.32 -43226717.14 0.0500 0.0156

Venus -123060-07-05 10:20 J -43226056.12 -43226056.07 -43226056.02 0.3765 0.3241

Mars -123059-07-30 21:08 J -43225665.78 -43225665.62 -43225665.46 0.1859 0.0106

Earth -123058-03-18 11:18 J -43225435.14 -43225435.03 -43225434.92 0.2782 0.0287

Moon -123058-03-18 11:32 J -43225435.13 -43225435.02 -43225434.92 0.2789 0.0248 *

Mars -123056-05-12 01:56 J -43224649.52 -43224649.42 -43224649.31 0.1654 0.0741

Jupiter -123056-08-10 00:30 J -43224559.61 -43224559.48 -43224559.35 0.0525 0.0094

Jupiter -123056-11-07 06:44 J -43224470.31 -43224470.22 -43224470.13 0.0526 0.0365

Moon -123055-09-14 02:39 J -43224159.55 -43224159.39 -43224159.23 0.2560 0.0448

Earth -123055-09-14 04:20 J -43224159.48 -43224159.32 -43224159.16 0.2559 0.0434 *

Mars -123054-04-17 06:44 J -43223944.32 -43223944.22 -43223944.12 0.1650 0.0933

Moon -123051-03-11 08:39 J -43222885.22 -43222885.14 -43222885.06 0.2773 0.1885

Earth -123051-03-11 08:54 J -43222885.21 -43222885.13 -43222885.05 0.2780 0.1863 *

Saturn -123050-06-25 12:15 J -43222414.03 -43222413.99 -43222413.93 0.0260 0.0247

Jupiter -123050-07-02 01:56 J -43222407.60 -43222407.42 -43222407.23 0.0500 0.0016

Saturn -123050-09-22 07:27 J -43222325.35 -43222325.19 -43222325.04 0.0260 0.0142

Saturn -123050-12-20 02:25 J -43222236.58 -43222236.40 -43222236.22 0.0259 0.0036

Mars -123050-12-20 16:34 J -43222235.94 -43222235.81 -43222235.69 0.1858 0.1178

Saturn -123049-03-17 21:37 J -43222147.78 -43222147.60 -43222147.42 0.0259 0.0070

Saturn -123049-06-14 16:49 J -43222058.93 -43222058.80 -43222058.66 0.0259 0.0178

Mars -123047-10-02 12:30 J -43221219.06 -43221218.98 -43221218.89 0.1656 0.1158

Uranus -123045-03-14 10:34 J -43220690.06 -43220690.06 -43220690.04 0.0131 0.0131

Moon -123045-03-20 05:32 J -43220684.36 -43220684.27 -43220684.17 0.2789 0.1058

Earth -123045-03-20 05:46 J -43220684.36 -43220684.26 -43220684.16 0.2782 0.1052 *

Uranus -123045-06-10 13:42 J -43220601.99 -43220601.93 -43220601.86 0.0131 0.0115

Uranus -123045-09-06 16:34 J -43220513.89 -43220513.81 -43220513.72 0.0131 0.0100

Mars -123045-09-06 17:46 J -43220513.88 -43220513.76 -43220513.65 0.1651 0.0538 *

Uranus -123045-12-03 19:42 J -43220425.78 -43220425.68 -43220425.58 0.0131 0.0085

Uranus -123044-03-01 22:34 J -43220337.67 -43220337.56 -43220337.44 0.0131 0.0070

Uranus -123044-05-29 01:42 J -43220249.55 -43220249.43 -43220249.31 0.0131 0.0054

Jupiter -123044-05-29 04:20 J -43220249.44 -43220249.32 -43220249.20 0.0525 0.0211 *

Uranus -123044-08-25 04:34 J -43220161.44 -43220161.31 -43220161.18 0.0131 0.0039

Jupiter -123044-08-26 10:49 J -43220160.16 -43220160.05 -43220159.94 0.0526 0.0249

Uranus -123044-11-21 07:27 J -43220073.32 -43220073.19 -43220073.05 0.0131 0.0024

Uranus -123043-02-17 10:20 J -43219985.20 -43219985.07 -43219984.93 0.0131 0.0010

Uranus -123043-05-16 13:27 J -43219897.08 -43219896.94 -43219896.81 0.0131 0.0007

Uranus -123043-08-12 16:20 J -43219808.95 -43219808.82 -43219808.69 0.0131 0.0022

Uranus -123043-11-08 19:13 J -43219720.83 -43219720.70 -43219720.57 0.0131 0.0037

Uranus -123042-02-04 22:06 J -43219632.70 -43219632.58 -43219632.46 0.0131 0.0052

Uranus -123042-05-04 00:58 J -43219544.57 -43219544.46 -43219544.34 0.0131 0.0067

Uranus -123042-07-31 03:51 J -43219456.44 -43219456.34 -43219456.23 0.0131 0.0082

Moon -123042-09-17 08:54 J -43219408.29 -43219408.13 -43219407.97 0.2558 0.0663

Earth -123042-09-17 10:34 J -43219408.21 -43219408.06 -43219407.90 0.2559 0.0834 *

Uranus -123042-10-27 06:44 J -43219368.30 -43219368.22 -43219368.13 0.0131 0.0097

Uranus -123041-01-23 09:37 J -43219280.16 -43219280.10 -43219280.03 0.0131 0.0112

Uranus -123041-04-20 12:30 J -43219192.00 -43219191.98 -43219191.95 0.0131 0.0127

Moon -123038-03-14 03:08 J -43218134.47 -43218134.37 -43218134.27 0.2774 0.1056

Earth -123038-03-14 03:22 J -43218134.46 -43218134.36 -43218134.26 0.2781 0.1104 *

Jupiter -123038-04-19 23:32 J -43218097.70 -43218097.52 -43218097.35 0.0500 0.0129

Jupiter -123038-07-19 09:22 J -43218007.18 -43218007.11 -43218007.04 0.0499 0.0462

Mars -123037-02-22 23:03 J -43217788.57 -43217788.54 -43217788.50 0.1657 0.1577

Pluto -123036-05-19 23:03 J -43217336.60 -43217336.54 -43217336.46 0.0084 0.0073

Pluto -123036-08-16 00:30 J -43217248.57 -43217248.48 -43217248.37 0.0084 0.0057

Pluto -123036-11-12 01:56 J -43217160.54 -43217160.42 -43217160.30 0.0084 0.0041

Mars -123035-01-28 04:34 J -43217083.43 -43217083.31 -43217083.20 0.1652 0.0142

Pluto -123035-02-08 03:22 J -43217072.49 -43217072.36 -43217072.23 0.0084 0.0024

Pluto -123035-05-07 04:34 J -43216984.44 -43216984.31 -43216984.17 0.0084 0.0009

Pluto -123035-08-03 06:01 J -43216896.38 -43216896.25 -43216896.11 0.0084 0.0008

Saturn -123035-10-17 00:30 J -43216821.55 -43216821.48 -43216821.40 0.0302 0.0250

Pluto -123035-10-30 07:13 J -43216808.32 -43216808.20 -43216808.06 0.0084 0.0024

Saturn -123034-01-13 14:25 J -43216733.02 -43216732.90 -43216732.78 0.0302 0.0127

Pluto -123034-01-26 08:39 J -43216720.26 -43216720.14 -43216720.01 0.0083 0.0039

Saturn -123034-04-12 04:06 J -43216644.46 -43216644.33 -43216644.20 0.0303 0.0005

Pluto -123034-04-24 10:06 J -43216632.18 -43216632.08 -43216631.97 0.0083 0.0055

Saturn -123034-07-09 17:32 J -43216555.89 -43216555.77 -43216555.64 0.0303 0.0117

Pluto -123034-07-21 11:18 J -43216544.09 -43216544.03 -43216543.95 0.0083 0.0070

Saturn -123034-10-06 06:58 J -43216467.29 -43216467.21 -43216467.12 0.0303 0.0238

Jupiter -123032-03-17 08:39 J -43215939.24 -43215939.14 -43215939.04 0.0525 0.0321

Moon -123032-03-23 00:01 J -43215933.58 -43215933.50 -43215933.42 0.2789 0.1872

Earth -123032-03-23 00:15 J -43215933.57 -43215933.49 -43215933.41 0.2782 0.1818 *

Jupiter -123032-06-14 15:08 J -43215849.99 -43215849.87 -43215849.74 0.0526 0.0142

Mars -123029-09-08 02:39 J -43214668.52 -43214668.39 -43214668.25 0.1861 0.1093

Moon -123029-09-19 15:37 J -43214656.96 -43214656.85 -43214656.74 0.2555 0.1911

Earth -123029-09-19 17:03 J -43214656.88 -43214656.79 -43214656.70 0.2559 0.2082 *

Jupiter -123026-02-05 19:27 J -43213787.83 -43213787.69 -43213787.53 0.0500 0.0285

Jupiter -123026-05-07 05:18 J -43213697.43 -43213697.28 -43213697.14 0.0499 0.0303

Mars -123026-06-20 15:22 J -43213652.98 -43213652.86 -43213652.75 0.1653 0.0278

Venus -123026-12-12 14:25 J -43213477.96 -43213477.90 -43213477.85 0.3743 0.3175

Moon -123025-03-15 21:51 J -43213383.70 -43213383.59 -43213383.49 0.2774 0.0351

Earth -123025-03-15 21:51 J -43213383.70 -43213383.59 -43213383.49 0.2782 0.0351 *

Mars -123024-05-25 19:42 J -43212947.74 -43212947.68 -43212947.61 0.1650 0.1379

Earth -123022-09-12 04:20 J -43212108.45 -43212108.32 -43212108.19 0.2560 0.1470

Moon -123022-09-12 06:01 J -43212108.39 -43212108.25 -43212108.11 0.2558 0.1307 *

Jupiter -123020-01-03 12:58 J -43211629.03 -43211628.96 -43211628.89 0.0525 0.0432

Saturn -123020-02-08 06:58 J -43211593.35 -43211593.21 -43211593.07 0.0260 0.0173

Neptune -123020-02-10 03:08 J -43211591.42 -43211591.37 -43211591.32 0.0089 0.0086

Jupiter -123020-04-02 19:42 J -43211539.81 -43211539.68 -43211539.56 0.0526 0.0035

Saturn -123020-05-08 01:56 J -43211504.60 -43211504.42 -43211504.24 0.0260 0.0067

Neptune -123020-05-09 06:01 J -43211503.31 -43211503.25 -43211503.14 0.0089 0.0081

Venus -123020-06-27 06:44 J -43211454.31 -43211454.22 -43211454.12 0.3749 0.1396

Jupiter -123020-07-01 01:56 J -43211450.47 -43211450.42 -43211450.38 0.0527 0.0489

Saturn -123020-08-04 21:08 J -43211415.80 -43211415.62 -43211415.44 0.0260 0.0040

Neptune -123020-08-05 09:37 J -43211415.19 -43211415.10 -43211414.98 0.0089 0.0074

Neptune -123020-11-01 13:13 J -43211327.06 -43211326.95 -43211326.82 0.0089 0.0068

Saturn -123020-11-01 16:20 J -43211326.97 -43211326.82 -43211326.66 0.0259 0.0148 *

Neptune -123019-01-28 16:34 J -43211238.93 -43211238.81 -43211238.66 0.0089 0.0062

Mars -123019-01-28 21:37 J -43211238.76 -43211238.60 -43211238.44 0.1860 0.0013 *

Saturn -123019-01-29 11:46 J -43211238.03 -43211238.01 -43211237.97 0.0259 0.0255

Moon -123019-03-25 18:15 J -43211182.78 -43211182.74 -43211182.69 0.2788 0.2546

Earth -123019-03-25 18:44 J -43211182.75 -43211182.72 -43211182.68 0.2782 0.2587 *

Neptune -123019-04-26 20:10 J -43211150.79 -43211150.66 -43211150.50 0.0089 0.0056

Neptune -123019-07-23 23:46 J -43211062.66 -43211062.51 -43211062.35 0.0089 0.0050

Neptune -123019-10-20 03:08 J -43210974.52 -43210974.37 -43210974.19 0.0089 0.0044

Neptune -123018-01-16 06:44 J -43210886.38 -43210886.22 -43210886.04 0.0089 0.0038

Earth -123018-03-09 19:27 J -43210833.74 -43210833.69 -43210833.65 0.2779 0.2489

Moon -123018-03-09 19:42 J -43210833.72 -43210833.68 -43210833.64 0.2785 0.2535 *

Neptune -123018-04-14 10:20 J -43210798.24 -43210798.07 -43210797.89 0.0089 0.0032

Neptune -123018-07-11 13:42 J -43210710.10 -43210709.93 -43210709.73 0.0089 0.0026

Neptune -123018-10-07 17:18 J -43210621.96 -43210621.78 -43210621.58 0.0089 0.0020

Neptune -123017-01-03 20:54 J -43210533.81 -43210533.63 -43210533.43 0.0089 0.0014

Venus -123017-03-29 08:39 J -43210448.28 -43210448.14 -43210448.00 0.3632 0.1294

Neptune -123017-04-01 00:30 J -43210445.67 -43210445.48 -43210445.28 0.0089 0.0008

Neptune -123017-06-28 04:06 J -43210357.52 -43210357.33 -43210357.13 0.0089 0.0002

Neptune -123017-09-24 07:42 J -43210269.37 -43210269.18 -43210268.99 0.0089 0.0005

Mars -123017-11-10 01:56 J -43210222.52 -43210222.42 -43210222.31 0.1655 0.0685

Neptune -123017-12-21 11:18 J -43210181.22 -43210181.03 -43210180.84 0.0089 0.0011

Neptune -123016-03-19 14:54 J -43210093.07 -43210092.88 -43210092.69 0.0089 0.0017

Neptune -123016-06-15 18:30 J -43210004.92 -43210004.73 -43210004.54 0.0089 0.0023

Neptune -123016-09-11 22:06 J -43209916.76 -43209916.58 -43209916.40 0.0089 0.0029

Neptune -123016-12-09 01:42 J -43209828.61 -43209828.43 -43209828.25 0.0089 0.0035

Neptune -123015-03-07 05:03 J -43209740.45 -43209740.29 -43209740.11 0.0089 0.0042

Neptune -123015-06-03 08:39 J -43209652.29 -43209652.14 -43209651.97 0.0089 0.0048

Neptune -123015-08-30 12:15 J -43209564.13 -43209563.99 -43209563.82 0.0089 0.0054

Mars -123015-10-16 06:44 J -43209517.31 -43209517.22 -43209517.13 0.1651 0.0986

Jupiter -123015-11-24 17:03 J -43209477.89 -43209477.79 -43209477.70 0.0500 0.0429

Neptune -123015-11-26 15:51 J -43209475.97 -43209475.84 -43209475.68 0.0089 0.0061

Venus -123014-01-10 23:18 J -43209430.64 -43209430.53 -43209430.43 0.3755 0.0386

Neptune -123014-02-22 19:42 J -43209387.80 -43209387.68 -43209387.55 0.0089 0.0066

Jupiter -123014-02-23 02:25 J -43209387.58 -43209387.40 -43209387.23 0.0500 0.0157 *

Neptune -123014-05-21 23:03 J -43209299.63 -43209299.54 -43209299.41 0.0089 0.0073

Neptune -123014-08-18 02:39 J -43209211.46 -43209211.39 -43209211.28 0.0089 0.0079

Neptune -123014-11-14 06:30 J -43209123.27 -43209123.23 -43209123.16 0.0089 0.0085

Moon -123012-03-18 16:20 J -43208632.93 -43208632.82 -43208632.71 0.2775 0.0372

Earth -123012-03-18 16:20 J -43208632.93 -43208632.82 -43208632.72 0.2782 0.0435 *

Venus -123012-10-13 15:37 J -43208423.92 -43208423.85 -43208423.78 0.3625 0.3137

Mars -123010-06-20 17:18 J -43207808.91 -43207808.78 -43207808.64 0.1858 0.1068

Venus -123009-07-26 15:37 J -43207406.93 -43207406.85 -43207406.76 0.3760 0.2138

Earth -123009-09-14 10:49 J -43207357.21 -43207357.05 -43207356.89 0.2559 0.0207

Moon -123009-09-14 12:30 J -43207357.14 -43207356.98 -43207356.82 0.2561 0.0024 *

Jupiter -123008-01-19 23:32 J -43207229.65 -43207229.52 -43207229.40 0.0525 0.0087

Jupiter -123008-04-19 05:46 J -43207140.35 -43207140.26 -43207140.17 0.0526 0.0372

Mars -123007-04-02 12:44 J -43206792.06 -43206791.97 -43206791.89 0.1656 0.1099

Saturn -123005-03-05 02:10 J -43206089.45 -43206089.41 -43206089.37 0.0302 0.0284

Mars -123005-03-07 17:46 J -43206086.87 -43206086.76 -43206086.65 0.1651 0.0593

Earth -123005-03-11 13:42 J -43206083.01 -43206082.93 -43206082.84 0.2780 0.1733

Moon -123005-03-11 13:56 J -43206083.00 -43206082.92 -43206082.83 0.2787 0.1730 *

Saturn -123005-06-01 15:51 J -43206000.95 -43206000.84 -43206000.72 0.0302 0.0162

Saturn -123005-08-29 05:46 J -43205912.39 -43205912.26 -43205912.13 0.0303 0.0040

Saturn -123005-11-25 19:13 J -43205823.82 -43205823.70 -43205823.57 0.0303 0.0083

Saturn -123004-02-22 08:39 J -43205735.23 -43205735.14 -43205735.04 0.0303 0.0204

Uranus -123003-12-10 01:13 J -43205079.54 -43205079.45 -43205079.34 0.0148 0.0123

Jupiter -123003-12-11 23:46 J -43205077.69 -43205077.51 -43205077.33 0.0500 0.0013

Uranus -123002-03-08 09:51 J -43204991.23 -43204991.09 -43204990.93 0.0148 0.0092

Uranus -123002-06-04 18:44 J -43204902.89 -43204902.72 -43204902.54 0.0148 0.0060

Uranus -123002-09-01 03:37 J -43204814.53 -43204814.35 -43204814.16 0.0148 0.0029

Uranus -123002-11-28 12:30 J -43204726.17 -43204725.98 -43204725.79 0.0148 0.0004

Uranus -123001-02-24 21:22 J -43204637.79 -43204637.61 -43204637.42 0.0148 0.0035

Uranus -123001-05-23 06:01 J -43204549.41 -43204549.25 -43204549.07 0.0148 0.0067

Uranus -123001-08-19 14:54 J -43204461.01 -43204460.88 -43204460.72 0.0148 0.0099

Uranus -123001-11-15 23:46 J -43204372.58 -43204372.51 -43204372.41 0.0148 0.0131

123RD MILLENNIUM

BCE

This is a list of transits of Mercury in the 123rd millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Earth	-122999-03-21 10:49 J		-43203882.15	-43203882.05	-43203881.96	0.2782	0.1193	
Moon	-122999-03-21 11:03 J		-43203882.14	-43203882.04	-43203881.95	0.2775	0.1216	*
Mars	-122998-08-23 23:18 J		-43203361.58	-43203361.53	-43203361.49	0.1657	0.1518	
Jupiter	-122997-11-08 03:22 J		-43202919.48	-43202919.36	-43202919.24	0.0525	0.0204	
Jupiter	-122996-02-05 09:51 J		-43202830.21	-43202830.09	-43202829.98	0.0526	0.0257	
Mars	-122996-07-29 04:34 J		-43202656.43	-43202656.31	-43202656.19	0.1652	0.0190	
Earth	-122996-09-17 17:18 J		-43202605.93	-43202605.78	-43202605.64	0.2559	0.1057	
Moon	-122996-09-17 18:44 J		-43202605.86	-43202605.72	-43202605.57	0.2561	0.1092	*
Moon	-122992-03-14 08:10 J		-43201332.26	-43201332.16	-43201332.06	0.2788	0.0915	
Earth	-122992-03-14 08:10 J		-43201332.26	-43201332.16	-43201332.06	0.2781	0.0971	*
Saturn	-122991-06-28 06:44 J		-43200861.33	-43200861.22	-43200861.10	0.0260	0.0203	
Saturn	-122991-09-25 01:56 J		-43200772.59	-43200772.42	-43200772.25	0.0260	0.0097	
Jupiter	-122991-09-29 21:22 J		-43200767.79	-43200767.61	-43200767.44	0.0500	0.0130	
Saturn	-122991-12-22 20:54 J		-43200683.81	-43200683.63	-43200683.44	0.0260	0.0011	
Jupiter	-122991-12-29 07:13 J		-43200677.27	-43200677.20	-43200677.13	0.0500	0.0461	
Saturn	-122990-03-21 16:20 J		-43200594.99	-43200594.82	-43200594.66	0.0259	0.0116	
Saturn	-122990-06-18 11:32 J		-43200506.10	-43200506.02	-43200505.92	0.0259	0.0224	
Mars	-122989-03-09 03:22 J		-43200241.48	-43200241.36	-43200241.23	0.1861	0.1194	
Earth	-122989-09-09 04:34 J		-43200057.34	-43200057.31	-43200057.28	0.2560	0.2505	
Mars	-122987-12-19 15:08 J		-43199225.98	-43199225.87	-43199225.75	0.1653	0.0229	

Earth -122986-03-24 05:18 J -43199131.36 -43199131.28 -43199131.21 0.2782 0.1958

Moon -122986-03-24 05:32 J -43199131.34 -43199131.27 -43199131.19 0.2777 0.2051 *

Jupiter -122985-08-27 06:58 J -43198609.31 -43198609.21 -43198609.10 0.0525 0.0323

Mars -122985-11-23 19:42 J -43198520.73 -43198520.68 -43198520.62 0.1650 0.1433

Jupiter -122985-11-24 13:42 J -43198520.06 -43198519.93 -43198519.81 0.0526 0.0140

Earth -122983-09-20 23:46 J -43197854.58 -43197854.51 -43197854.45 0.2559 0.2314

Moon -122983-09-21 00:58 J -43197854.53 -43197854.46 -43197854.39 0.2563 0.2294 *

Mars -122980-07-29 22:34 J -43196811.72 -43196811.56 -43196811.40 0.1859 0.0103

Moon -122979-03-17 02:39 J -43196581.50 -43196581.39 -43196581.29 0.2789 0.0221

Earth -122979-03-17 02:39 J -43196581.50 -43196581.39 -43196581.28 0.2782 0.0208 *

Jupiter -122979-07-18 18:44 J -43196457.87 -43196457.72 -43196457.57 0.0500 0.0273

Jupiter -122979-10-17 04:20 J -43196367.46 -43196367.32 -43196367.17 0.0500 0.0316

Mars -122977-05-11 01:56 J -43195795.53 -43195795.42 -43195795.31 0.1655 0.0631

Moon -122976-09-12 09:22 J -43195306.25 -43195306.11 -43195305.97 0.2559 0.1287

Earth -122976-09-12 11:03 J -43195306.18 -43195306.04 -43195305.90 0.2560 0.1237 *

Saturn -122976-10-19 17:32 J -43195268.87 -43195268.77 -43195268.67 0.0302 0.0199

Saturn -122975-01-16 07:13 J -43195180.33 -43195180.20 -43195180.07 0.0302 0.0077

Saturn -122975-04-14 20:54 J -43195091.77 -43195091.63 -43195091.50 0.0303 0.0046

Mars -122975-04-16 06:44 J -43195090.31 -43195090.22 -43195090.13 0.1651 0.1038

Saturn -122975-07-12 10:20 J -43195003.18 -43195003.07 -43195002.96 0.0303 0.0166

Saturn -122975-10-08 23:32 J -43194914.55 -43194914.52 -43194914.47 0.0303 0.0286

Earth -122973-03-25 23:46 J -43194380.53 -43194380.51 -43194380.49 0.2782 0.2725

Moon -122973-03-26 00:15 J -43194380.51 -43194380.49 -43194380.48 0.2776 0.2735 *

Jupiter -122973-06-15 11:18 J -43194299.10 -43194299.03 -43194298.96 0.0525 0.0434

Jupiter -122973-09-12 18:01 J -43194209.88 -43194209.75 -43194209.62 0.0526 0.0031

Jupiter -122973-12-11 00:15 J -43194120.54 -43194120.49 -43194120.44 0.0527 0.0487

Moon -122972-03-10 00:15 J -43194031.55 -43194031.49 -43194031.44 0.2772 0.2415

Earth -122972-03-10 00:15 J -43194031.55 -43194031.49 -43194031.43 0.2779 0.2353 *

Mars -122971-12-19 17:46 J -43193381.89 -43193381.76 -43193381.62 0.1858 0.0973

Venus -122969-07-18 12:01 J -43192805.08 -43192805.00 -43192804.92 0.3745 0.2510

Mars -122968-10-01 12:44 J -43192365.07 -43192364.97 -43192364.88 0.1656 0.1043

Jupiter -122967-05-06 15:08 J -43192147.96 -43192147.87 -43192147.78 0.0500 0.0427

Jupiter -122967-08-05 00:30 J -43192057.66 -43192057.48 -43192057.31 0.0499 0.0158

Moon -122966-03-19 20:54 J -43191830.74 -43191830.63 -43191830.53 0.2789 0.0481

Earth -122966-03-19 21:08 J -43191830.73 -43191830.62 -43191830.51 0.2782 0.0563 *

Mars -122966-09-06 17:46 J -43191659.87 -43191659.76 -43191659.66 0.1651 0.0646

Venus -122963-02-01 04:34 J -43190781.42 -43190781.31 -43190781.21 0.3751 0.0755

Moon -122963-09-15 15:51 J -43190555.00 -43190554.84 -43190554.68 0.2557 0.0021

Earth -122963-09-15 17:32 J -43190554.93 -43190554.77 -43190554.61 0.2559 0.0037 *

Saturn -122962-11-15 06:30 J -43190129.30 -43190129.23 -43190129.14 0.0261 0.0232

Saturn -122961-02-12 01:42 J -43190040.59 -43190040.43 -43190040.27 0.0261 0.0126

Uranus -122961-04-03 17:46 J -43189988.78 -43189988.76 -43189988.72 0.0131 0.0127

Saturn -122961-05-10 20:54 J -43189951.81 -43189951.63 -43189951.45 0.0260 0.0020

Uranus -122961-06-30 20:39 J -43189900.70 -43189900.64 -43189900.56 0.0131 0.0112

Jupiter -122961-07-01 22:06 J -43189899.70 -43189899.58 -43189899.45 0.0526 0.0085

Saturn -122961-08-07 16:06 J -43189863.00 -43189862.83 -43189862.65 0.0260 0.0088

Uranus -122961-09-26 23:46 J -43189812.59 -43189812.51 -43189812.42 0.0131 0.0096

Jupiter -122961-09-29 04:34 J -43189810.40 -43189810.31 -43189810.22 0.0527 0.0376

Venus -122961-11-03 10:06 J -43189775.23 -43189775.08 -43189774.93 0.3630 0.0203

Saturn -122961-11-04 11:18 J -43189774.14 -43189774.03 -43189773.90 0.0260 0.0196

Uranus -122961-12-24 02:54 J -43189724.49 -43189724.38 -43189724.28 0.0131 0.0081

Uranus -122960-03-22 05:46 J -43189636.37 -43189636.26 -43189636.14 0.0131 0.0066

Uranus -122960-06-18 08:39 J -43189548.26 -43189548.14 -43189548.01 0.0131 0.0051

Uranus -122960-09-14 11:32 J -43189460.14 -43189460.02 -43189459.88 0.0131 0.0036

Uranus -122960-12-11 14:39 J -43189372.02 -43189371.89 -43189371.76 0.0131 0.0020

Uranus -122959-03-09 17:32 J -43189283.90 -43189283.77 -43189283.63 0.0131 0.0005

Moon -122959-03-12 18:44 J -43189280.81 -43189280.72 -43189280.63 0.2773 0.1606

Earth -122959-03-12 18:44 J -43189280.81 -43189280.72 -43189280.63 0.2780 0.1597 *

Uranus -122959-06-05 20:25 J -43189195.78 -43189195.65 -43189195.51 0.0131 0.0010

Uranus -122959-09-01 23:18 J -43189107.66 -43189107.53 -43189107.40 0.0131 0.0025

Uranus -122959-11-29 02:10 J -43189019.53 -43189019.41 -43189019.28 0.0131 0.0041

Mars -122958-02-21 23:18 J -43188934.59 -43188934.53 -43188934.48 0.1657 0.1460

Uranus -122958-02-25 05:18 J -43188931.40 -43188931.28 -43188931.16 0.0131 0.0055

Uranus -122958-05-24 08:10 J -43188843.27 -43188843.16 -43188843.05 0.0131 0.0070

Venus -122958-08-17 20:54 J -43188757.73 -43188757.63 -43188757.53 0.3756 0.1031

Uranus -122958-08-20 11:03 J -43188755.14 -43188755.04 -43188754.94 0.0131 0.0085

Uranus -122958-11-16 13:56 J -43188667.01 -43188666.92 -43188666.84 0.0131 0.0100

Uranus -122957-02-12 16:49 J -43188578.86 -43188578.80 -43188578.74 0.0131 0.0115

Uranus -122957-05-10 19:27 J -43188490.69 -43188490.69 -43188490.67 0.0131 0.0130

Mars -122956-01-27 04:34 J -43188229.43 -43188229.31 -43188229.20 0.1652 0.0249

Jupiter -122955-05-23 21:37 J -43187747.79 -43187747.60 -43187747.42 0.0500 0.0015

Moon -122953-03-21 15:08 J -43187079.96 -43187079.87 -43187079.77 0.2788 0.1307

Earth -122953-03-21 15:37 J -43187079.94 -43187079.85 -43187079.76 0.2782 0.1328 *

Venus -122952-03-02 13:13 J -43186734.01 -43186733.95 -43186733.88 0.3762 0.2788

Mars -122950-09-08 04:20 J -43185814.43 -43185814.32 -43185814.20 0.1861 0.1311

Moon -122950-09-18 22:49 J -43185803.70 -43185803.55 -43185803.41 0.2554 0.1189

Earth -122950-09-19 00:01 J -43185803.64 -43185803.50 -43185803.36 0.2559 0.1288 *

Jupiter -122949-04-20 01:56 J -43185589.53 -43185589.42 -43185589.30 0.0525 0.0202

Jupiter -122949-07-18 08:25 J -43185500.26 -43185500.15 -43185500.04 0.0526 0.0259

Mars -122947-06-19 15:22 J -43184798.98 -43184798.86 -43184798.74 0.1653 0.0165

Saturn -122946-03-08 19:27 J -43184536.77 -43184536.69 -43184536.60 0.0301 0.0230

Earth -122946-03-15 13:13 J -43184530.06 -43184529.95 -43184529.85 0.2781 0.0840

Moon -122946-03-15 13:13 J -43184530.05 -43184529.95 -43184529.84 0.2774 0.0757 *

Saturn -122946-06-05 09:08 J -43184448.24 -43184448.12 -43184447.99 0.0302 0.0108

Saturn -122946-09-01 22:49 J -43184359.68 -43184359.55 -43184359.41 0.0303 0.0015

Saturn -122946-11-29 12:15 J -43184271.10 -43184270.99 -43184270.87 0.0303 0.0135

Saturn -122945-02-26 01:42 J -43184182.50 -43184182.43 -43184182.36 0.0303 0.0255

Mars -122945-05-24 19:42 J -43184093.73 -43184093.68 -43184093.63 0.1650 0.1485

Jupiter -122943-03-11 18:44 J -43183437.90 -43183437.72 -43183437.54 0.0500 0.0135

Jupiter -122943-06-10 04:34 J -43183347.38 -43183347.31 -43183347.23 0.0499 0.0456

Earth -122943-09-10 11:03 J -43183255.11 -43183255.04 -43183254.97 0.2560 0.2279

Moon -122943-09-10 12:44 J -43183255.04 -43183254.97 -43183254.89 0.2559 0.2271 *

Mars -122940-01-27 23:18 J -43182384.69 -43182384.53 -43182384.36 0.1859 0.0212

Moon -122940-03-24 09:37 J -43182329.17 -43182329.10 -43182329.04 0.2787 0.2130

Earth -122940-03-24 10:06 J -43182329.15 -43182329.08 -43182329.01 0.2782 0.2094 *

Neptune -122940-09-08 20:39 J -43182160.66 -43182160.64 -43182160.60 0.0088 0.0086

Neptune -122940-12-05 22:06 J -43182072.62 -43182072.58 -43182072.52 0.0088 0.0081

Neptune -122939-03-03 23:18 J -43181984.58 -43181984.53 -43181984.45 0.0088 0.0078

Neptune -122939-05-31 00:58 J -43181896.53 -43181896.46 -43181896.38 0.0088 0.0073

Neptune -122939-08-27 02:25 J -43181808.48 -43181808.40 -43181808.31 0.0088 0.0068

Neptune -122939-11-23 03:37 J -43181720.43 -43181720.35 -43181720.24 0.0088 0.0065

Neptune -122938-02-19 05:03 J -43181632.37 -43181632.29 -43181632.18 0.0088 0.0061

Neptune -122938-05-18 06:44 J -43181544.32 -43181544.22 -43181544.11 0.0088 0.0056

Neptune -122938-08-14 08:10 J -43181456.27 -43181456.16 -43181456.05 0.0088 0.0051

Mars -122938-11-10 01:56 J -43181368.53 -43181368.42 -43181368.31 0.1654 0.0574

Neptune -122938-11-10 09:22 J -43181368.21 -43181368.11 -43181367.99 0.0088 0.0048

Neptune -122937-02-06 10:49 J -43181280.16 -43181280.05 -43181279.92 0.0088 0.0043

Jupiter -122937-02-07 05:46 J -43181279.36 -43181279.26 -43181279.15 0.0525 0.0319

Neptune -122937-05-04 12:30 J -43181192.10 -43181191.98 -43181191.86 0.0088 0.0039

Jupiter -122937-05-06 12:15 J -43181190.11 -43181189.99 -43181189.86 0.0526 0.0144

Neptune -122937-07-31 13:42 J -43181104.05 -43181103.93 -43181103.80 0.0088 0.0035

Moon -122937-09-21 05:18 J -43181052.33 -43181052.28 -43181052.22 0.2554 0.2391

Earth -122937-09-21 06:15 J -43181052.25 -43181052.24 -43181052.22 0.2559 0.2539 *

Neptune -122937-10-27 15:08 J -43181015.99 -43181015.87 -43181015.74 0.0088 0.0030

Neptune -122936-01-23 16:34 J -43180927.94 -43180927.81 -43180927.68 0.0088 0.0026

Neptune -122936-04-21 18:01 J -43180839.88 -43180839.75 -43180839.62 0.0088 0.0022

Neptune -122936-07-18 19:27 J -43180751.82 -43180751.69 -43180751.56 0.0088 0.0018

Neptune -122936-10-14 20:54 J -43180663.77 -43180663.63 -43180663.50 0.0088 0.0014

Mars -122936-10-15 06:44 J -43180663.31 -43180663.22 -43180663.13 0.1651 0.1095

Neptune -122935-01-10 22:06 J -43180575.71 -43180575.58 -43180575.44 0.0088 0.0009

Neptune -122935-04-08 23:32 J -43180487.65 -43180487.52 -43180487.38 0.0088 0.0005

Neptune -122935-07-06 00:58 J -43180399.60 -43180399.46 -43180399.33 0.0088 0.0001

Neptune -122935-10-02 02:10 J -43180311.54 -43180311.41 -43180311.27 0.0088 0.0005

Neptune -122935-12-29 03:37 J -43180223.48 -43180223.35 -43180223.21 0.0088 0.0008

Neptune -122934-03-27 05:03 J -43180135.42 -43180135.29 -43180135.16 0.0088 0.0012

Neptune -122934-06-23 06:15 J -43180047.37 -43180047.24 -43180047.10 0.0088 0.0016

Neptune -122934-09-19 07:42 J -43179959.31 -43179959.18 -43179959.05 0.0088 0.0020

Neptune -122934-12-16 09:08 J -43179871.25 -43179871.12 -43179870.99 0.0088 0.0024

Neptune -122933-03-13 10:20 J -43179783.19 -43179783.07 -43179782.94 0.0088 0.0029

Earth -122933-03-17 07:27 J -43179779.29 -43179779.19 -43179779.08 0.2782 0.0137

Moon -122933-03-17 07:56 J -43179779.28 -43179779.17 -43179779.06 0.2776 0.0026 *

Neptune -122933-06-09 11:46 J -43179695.13 -43179695.01 -43179694.88 0.0088 0.0032

Neptune -122933-09-05 13:13 J -43179607.07 -43179606.95 -43179606.83 0.0088 0.0037

Neptune -122933-12-02 14:10 J -43179519.01 -43179518.91 -43179518.78 0.0088 0.0042

Neptune -122932-02-28 15:37 J -43179430.96 -43179430.85 -43179430.73 0.0088 0.0045

Saturn -122932-04-03 07:13 J -43179397.22 -43179397.20 -43179397.18 0.0261 0.0259

Neptune -122932-05-27 17:03 J -43179342.90 -43179342.79 -43179342.67 0.0088 0.0049

Saturn -122932-07-01 01:56 J -43179308.56 -43179308.42 -43179308.26 0.0260 0.0154

Neptune -122932-08-23 18:15 J -43179254.83 -43179254.74 -43179254.62 0.0088 0.0053

Saturn -122932-09-27 21:08 J -43179219.80 -43179219.62 -43179219.44 0.0260 0.0048

Neptune -122932-11-19 19:42 J -43179166.77 -43179166.68 -43179166.57 0.0088 0.0057

Saturn -122932-12-25 16:20 J -43179130.99 -43179130.82 -43179130.63 0.0260 0.0060

Jupiter -122932-12-28 16:06 J -43179127.98 -43179127.83 -43179127.67 0.0500 0.0278

Neptune -122931-02-15 20:54 J -43179078.71 -43179078.63 -43179078.52 0.0088 0.0062

Saturn -122931-03-24 11:46 J -43179042.15 -43179042.01 -43179041.87 0.0259 0.0167

Jupiter -122931-03-29 01:42 J -43179037.56 -43179037.43 -43179037.28 0.0500 0.0312

Neptune -122931-05-14 22:20 J -43178990.65 -43178990.57 -43178990.47 0.0088 0.0065

Mars -122931-06-19 18:44 J -43178954.87 -43178954.72 -43178954.58 0.1858 0.0868

Neptune -122931-08-10 23:46 J -43178902.59 -43178902.51 -43178902.43 0.0088 0.0069

Neptune -122931-11-07 00:58 J -43178814.52 -43178814.46 -43178814.38 0.0088 0.0074

Neptune -122930-02-03 02:25 J -43178726.46 -43178726.40 -43178726.33 0.0088 0.0077

Neptune -122930-05-02 03:37 J -43178638.39 -43178638.35 -43178638.29 0.0088 0.0082

Neptune -122930-07-29 05:03 J -43178550.31 -43178550.29 -43178550.26 0.0088 0.0086

Earth -122930-09-13 17:32 J -43178503.91 -43178503.77 -43178503.62 0.2559 0.1017

Moon -122930-09-13 19:13 J -43178503.85 -43178503.70 -43178503.55 0.2562 0.0892 *

Mars -122928-04-01 12:44 J -43177938.07 -43177937.97 -43177937.88 0.1656 0.0989

Mars -122926-03-07 17:32 J -43177232.87 -43177232.77 -43177232.66 0.1651 0.0697

Earth -122926-03-11 05:03 J -43177229.35 -43177229.29 -43177229.22 0.2779 0.2222

Moon -122926-03-11 05:03 J -43177229.34 -43177229.29 -43177229.23 0.2787 0.2294 *

Jupiter -122926-11-26 09:22 J -43176969.18 -43176969.11 -43176969.04 0.0525 0.0440

Jupiter -122925-02-23 16:06 J -43176879.96 -43176879.83 -43176879.70 0.0526 0.0023

Jupiter -122925-05-22 22:20 J -43176790.62 -43176790.57 -43176790.52 0.0526 0.0481

Earth -122920-03-20 01:56 J -43175028.52 -43175028.42 -43175028.31 0.2782 0.0705

Moon -122920-03-20 02:25 J -43175028.50 -43175028.40 -43175028.29 0.2776 0.0662 *

Jupiter -122920-10-16 13:27 J -43174818.03 -43174817.94 -43174817.84 0.0501 0.0421

Jupiter -122919-01-14 23:03 J -43174727.71 -43174727.54 -43174727.37 0.0500 0.0165

Mars -122919-08-22 23:18 J -43174507.59 -43174507.53 -43174507.47 0.1657 0.1406

Uranus -122919-10-03 00:58 J -43174466.49 -43174466.46 -43174466.40 0.0148 0.0143

Uranus -122919-12-30 09:37 J -43174378.21 -43174378.10 -43174377.96 0.0148 0.0112

Uranus -122918-03-28 18:44 J -43174289.88 -43174289.72 -43174289.56 0.0148 0.0080

Uranus -122918-06-25 03:22 J -43174201.53 -43174201.36 -43174201.17 0.0148 0.0049

Venus -122918-08-09 17:03 J -43174155.81 -43174155.79 -43174155.76 0.3740 0.3629

Uranus -122918-09-21 12:15 J -43174113.18 -43174112.99 -43174112.80 0.0148 0.0017

Uranus -122918-12-18 21:08 J -43174024.81 -43174024.62 -43174024.43 0.0148 0.0014

Uranus -122917-03-16 06:01 J -43173936.43 -43173936.25 -43173936.07 0.0148 0.0046

Uranus -122917-06-12 14:39 J -43173848.04 -43173847.89 -43173847.72 0.0148 0.0078

Saturn -122917-07-25 21:22 J -43173804.67 -43173804.61 -43173804.54 0.0301 0.0262

Mars -122917-07-28 04:34 J -43173802.43 -43173802.31 -43173802.20 0.1652 0.0302

Uranus -122917-09-08 23:32 J -43173759.64 -43173759.52 -43173759.38 0.0148 0.0110

Earth -122917-09-16 00:01 J -43173752.66 -43173752.50 -43173752.33 0.2559 0.0263

Moon -122917-09-16 01:27 J -43173752.60 -43173752.44 -43173752.28 0.2562 0.0417 *

Saturn -122917-10-22 11:18 J -43173716.15 -43173716.03 -43173715.91 0.0302 0.0141

Uranus -122917-12-06 08:25 J -43173671.19 -43173671.15 -43173671.08 0.0148 0.0142

Saturn -122916-01-19 00:58 J -43173627.60 -43173627.46 -43173627.33 0.0302 0.0021

Saturn -122916-04-17 14:25 J -43173539.02 -43173538.90 -43173538.78 0.0303 0.0102

Saturn -122916-07-15 03:51 J -43173450.43 -43173450.34 -43173450.25 0.0303 0.0222

Jupiter -122914-12-12 20:10 J -43172569.78 -43172569.66 -43172569.53 0.0526 0.0091

Jupiter -122913-03-11 02:39 J -43172480.48 -43172480.39 -43172480.30 0.0526 0.0370

Moon -122913-03-12 23:18 J -43172478.62 -43172478.53 -43172478.44 0.2787 0.1518

Earth -122913-03-12 23:32 J -43172478.61 -43172478.52 -43172478.43 0.2780 0.1461 *

Venus -122912-02-22 09:37 J -43172132.19 -43172132.10 -43172132.01 0.3746 0.1850

Mars -122910-03-09 04:49 J -43171387.40 -43171387.30 -43171387.19 0.1861 0.1405

Venus -122910-11-25 04:34 J -43171126.41 -43171126.31 -43171126.21 0.3636 0.2682

Jupiter -122908-11-02 19:13 J -43170417.88 -43170417.70 -43170417.51 0.0499 0.0011

Mars -122908-12-18 15:22 J -43170371.98 -43170371.86 -43170371.75 0.1653 0.0122

Earth -122907-03-22 20:25 J -43170277.74 -43170277.65 -43170277.55 0.2782 0.1470

Moon -122907-03-22 21:08 J -43170277.71 -43170277.62 -43170277.53 0.2779 0.1493 *

Venus -122907-09-08 02:10 J -43170108.52 -43170108.41 -43170108.31 0.3752 0.0089

Mars -122906-11-23 19:42 J -43169666.72 -43169666.68 -43169666.64 0.1650 0.1537

Venus -122904-06-10 11:18 J -43169102.16 -43169102.03 -43169101.89 0.3628 0.1683

Earth -122904-09-19 06:30 J -43169001.35 -43169001.23 -43169001.10 0.2559 0.1519

Moon -122904-09-19 07:42 J -43169001.31 -43169001.18 -43169001.06 0.2564 0.1551 *

Saturn -122903-11-18 02:10 J -43168576.53 -43168576.41 -43168576.27 0.0261 0.0181

Saturn -122902-02-14 21:22 J -43168487.78 -43168487.61 -43168487.43 0.0261 0.0075

Saturn -122902-05-14 16:49 J -43168398.99 -43168398.80 -43168398.62 0.0260 0.0033

Saturn -122902-08-11 12:01 J -43168310.15 -43168310.00 -43168309.84 0.0260 0.0140

Jupiter -122902-10-01 00:15 J -43168259.60 -43168259.49 -43168259.37 0.0526 0.0205

Saturn -122902-11-08 07:42 J -43168221.23 -43168221.18 -43168221.13 0.0260 0.0248

Jupiter -122902-12-29 06:44 J -43168170.33 -43168170.22 -43168170.10 0.0527 0.0259

Venus -122901-03-23 18:30 J -43168084.82 -43168084.73 -43168084.64 0.3758 0.1686

Mars -122901-07-28 23:46 J -43167957.67 -43167957.51 -43167957.34 0.1860 0.0313

Moon -122900-03-15 17:46 J -43167727.87 -43167727.76 -43167727.66 0.2788 0.0666

Earth -122900-03-15 18:01 J -43167727.85 -43167727.75 -43167727.65 0.2781 0.0700 *

Mars -122898-05-11 01:56 J -43166941.53 -43166941.42 -43166941.30 0.1655 0.0519

Moon -122897-09-10 16:06 J -43166452.90 -43166452.83 -43166452.75 0.2558 0.2240

Earth -122897-09-10 17:46 J -43166452.86 -43166452.76 -43166452.67 0.2560 0.2056 *

Mars -122896-04-15 06:44 J -43166236.30 -43166236.22 -43166236.14 0.1651 0.1145

Jupiter -122896-08-21 16:20 J -43166108.00 -43166107.82 -43166107.65 0.0500 0.0139

Venus -122896-10-07 11:03 J -43166061.08 -43166061.04 -43166061.01 0.3764 0.3438

Jupiter -122896-11-20 01:56 J -43166017.49 -43166017.42 -43166017.34 0.0499 0.0450

Earth -122894-03-25 14:54 J -43165526.94 -43165526.88 -43165526.81 0.2782 0.2236

Moon -122894-03-25 15:37 J -43165526.91 -43165526.85 -43165526.79 0.2778 0.2345 *

Mars -122892-12-18 19:42 J -43164527.83 -43164527.68 -43164527.53 0.1858 0.0751

Jupiter -122890-07-20 04:06 J -43163949.43 -43163949.33 -43163949.23 0.0525 0.0322

Jupiter -122890-10-17 10:49 J -43163860.18 -43163860.05 -43163859.93 0.0526 0.0141

Mars -122889-09-30 12:44 J -43163511.07 -43163510.97 -43163510.87 0.1656 0.0930

Saturn -122888-12-12 23:46 J -43163072.54 -43163072.51 -43163072.47 0.0301 0.0290

Saturn -122887-03-11 13:42 J -43162984.04 -43162983.93 -43162983.82 0.0302 0.0168

Moon -122887-03-18 12:01 J -43162977.11 -43162977.00 -43162976.90 0.2787 0.0096

Earth -122887-03-18 12:30 J -43162977.09 -43162976.98 -43162976.87 0.2782 0.0071 *

Saturn -122887-06-08 03:22 J -43162895.49 -43162895.36 -43162895.23 0.0302 0.0046

Saturn -122887-09-04 17:03 J -43162806.92 -43162806.79 -43162806.66 0.0303 0.0075

Mars -122887-09-05 17:32 J -43162805.87 -43162805.77 -43162805.66 0.1651 0.0754

Saturn -122887-12-02 06:30 J -43162718.33 -43162718.23 -43162718.13 0.0303 0.0195

Jupiter -122884-06-09 13:13 J -43161798.09 -43161797.95 -43161797.79 0.0500 0.0286

Jupiter -122884-09-07 23:03 J -43161707.69 -43161707.54 -43161707.40 0.0500 0.0303

Moon -122884-09-13 22:49 J -43161701.71 -43161701.55 -43161701.40 0.2556 0.0833

Earth -122884-09-14 00:15 J -43161701.64 -43161701.49 -43161701.33 0.2559 0.0787 *

Pluto -122883-03-20 18:58 J -43161513.75 -43161513.71 -43161513.62 0.0061 0.0057

Pluto -122883-06-16 20:54 J -43161425.74 -43161425.63 -43161425.52 0.0061 0.0048

Pluto -122883-09-12 21:51 J -43161337.72 -43161337.59 -43161337.44 0.0061 0.0040

Pluto -122883-12-09 23:03 J -43161249.68 -43161249.54 -43161249.37 0.0061 0.0032

Pluto -122882-03-08 00:30 J -43161161.64 -43161161.48 -43161161.30 0.0061 0.0024

Mars -122882-05-10 15:08 J -43161097.91 -43161097.87 -43161097.84 0.1856 0.1803

Pluto -122882-06-04 01:42 J -43161073.60 -43161073.43 -43161073.24 0.0061 0.0016

Pluto -122882-08-31 03:22 J -43160985.55 -43160985.36 -43160985.18 0.0061 0.0007

Pluto -122882-11-27 04:34 J -43160897.50 -43160897.31 -43160897.12 0.0061 0.0001

Pluto -122881-02-23 05:46 J -43160809.44 -43160809.26 -43160809.07 0.0061 0.0009

Pluto -122881-05-21 06:58 J -43160721.38 -43160721.21 -43160721.02 0.0061 0.0018

Pluto -122881-08-17 07:56 J -43160633.32 -43160633.17 -43160632.98 0.0061 0.0027

Pluto -122881-11-13 09:22 J -43160545.25 -43160545.11 -43160544.94 0.0061 0.0035

Pluto -122880-02-09 10:49 J -43160457.17 -43160457.05 -43160456.91 0.0061 0.0043

Earth -122880-03-11 10:06 J -43160427.15 -43160427.08 -43160427.01 0.2780 0.2092

Moon -122880-03-11 10:20 J -43160427.14 -43160427.07 -43160427.00 0.2773 0.2117 *

Pluto -122880-05-08 11:46 J -43160369.09 -43160369.01 -43160368.89 0.0061 0.0052

Pluto -122880-08-04 13:13 J -43160280.98 -43160280.95 -43160280.89 0.0062 0.0060

Mars -122879-02-20 23:18 J -43160080.60 -43160080.53 -43160080.47 0.1657 0.1350

Jupiter -122878-05-08 07:56 J -43159639.24 -43159639.17 -43159639.10 0.0525 0.0439

Jupiter -122878-08-05 14:39 J -43159550.02 -43159549.89 -43159549.76 0.0526 0.0025

Jupiter -122878-11-02 20:54 J -43159460.68 -43159460.63 -43159460.58 0.0526 0.0481

Mars -122877-01-27 04:34 J -43159375.43 -43159375.31 -43159375.20 0.1652 0.0354

Uranus -122877-04-24 00:58 J -43159287.49 -43159287.46 -43159287.40 0.0131 0.0123

Uranus -122877-07-21 03:51 J -43159199.40 -43159199.34 -43159199.25 0.0131 0.0108

Uranus -122877-10-17 07:13 J -43159111.30 -43159111.20 -43159111.11 0.0131 0.0092

Uranus -122876-01-13 10:06 J -43159023.19 -43159023.08 -43159022.97 0.0131 0.0077

Uranus -122876-04-11 12:58 J -43158935.07 -43158934.96 -43158934.84 0.0131 0.0062

Uranus -122876-07-08 15:51 J -43158846.96 -43158846.84 -43158846.71 0.0131 0.0047

Uranus -122876-10-04 18:58 J -43158758.84 -43158758.71 -43158758.58 0.0131 0.0031

Uranus -122876-12-31 21:51 J -43158670.72 -43158670.59 -43158670.46 0.0131 0.0016

Uranus -122875-03-30 00:44 J -43158582.60 -43158582.47 -43158582.33 0.0131 0.0004

Uranus -122875-06-26 03:37 J -43158494.48 -43158494.35 -43158494.21 0.0131 0.0015

Uranus -122875-09-22 06:30 J -43158406.35 -43158406.23 -43158406.09 0.0131 0.0030

Uranus -122875-12-19 09:22 J -43158318.23 -43158318.11 -43158317.98 0.0131 0.0045

Uranus -122874-03-17 12:15 J -43158230.10 -43158229.99 -43158229.86 0.0131 0.0060

Moon -122874-03-21 06:15 J -43158226.34 -43158226.24 -43158226.13 0.2786 0.0743

Earth -122874-03-21 06:58 J -43158226.31 -43158226.21 -43158226.11 0.2782 0.0837 *

Uranus -122874-06-13 15:08 J -43158141.97 -43158141.87 -43158141.75 0.0131 0.0075

Uranus -122874-09-09 18:15 J -43158053.84 -43158053.74 -43158053.64 0.0131 0.0089

Uranus -122874-12-06 21:08 J -43157965.70 -43157965.62 -43157965.54 0.0131 0.0104

Uranus -122873-03-04 00:01 J -43157877.55 -43157877.50 -43157877.45 0.0131 0.0119

Saturn -122873-04-06 03:08 J -43157844.47 -43157844.37 -43157844.25 0.0261 0.0206

Saturn -122873-07-03 22:20 J -43157755.74 -43157755.57 -43157755.40 0.0260 0.0100

Saturn -122873-09-30 17:32 J -43157666.95 -43157666.77 -43157666.59 0.0260 0.0007

Saturn -122873-12-28 12:44 J -43157578.13 -43157577.97 -43157577.80 0.0260 0.0114

Saturn -122872-03-27 08:10 J -43157489.25 -43157489.16 -43157489.06 0.0259 0.0222

Jupiter -122872-03-28 10:34 J -43157488.15 -43157488.06 -43157487.96 0.0501 0.0430

Jupiter -122872-06-26 20:10 J -43157397.84 -43157397.66 -43157397.49 0.0500 0.0157

Mars -122871-09-07 05:46 J -43156960.35 -43156960.26 -43156960.16 0.1861 0.1518

Moon -122871-09-17 05:46 J -43156950.42 -43156950.26 -43156950.10 0.2553 0.0531

Earth -122871-09-17 06:44 J -43156950.38 -43156950.22 -43156950.06 0.2559 0.0482 *

Mars -122868-06-18 15:22 J -43155944.98 -43155944.86 -43155944.75 0.1653 0.0075

Earth -122867-03-14 04:34 J -43155676.41 -43155676.31 -43155676.22 0.2781 0.1333

Moon -122867-03-14 04:49 J -43155676.40 -43155676.30 -43155676.20 0.2774 0.1329 *

Jupiter -122866-05-24 18:15 J -43155239.87 -43155239.74 -43155239.61 0.0525 0.0098

Mars -122866-05-24 19:42 J -43155239.71 -43155239.68 -43155239.65 0.1650 0.1589 *

Jupiter -122866-08-22 00:30 J -43155150.57 -43155150.48 -43155150.38 0.0526 0.0362

Mars -122861-01-28 00:44 J -43153530.63 -43153530.47 -43153530.31 0.1859 0.0421

Venus -122861-03-15 14:54 J -43153482.94 -43153482.88 -43153482.82 0.3742 0.2957

Moon -122861-03-23 00:44 J -43153475.56 -43153475.47 -43153475.38 0.2786 0.1544

Earth -122861-03-23 01:27 J -43153475.53 -43153475.44 -43153475.35 0.2782 0.1606 *

Jupiter -122860-04-14 17:18 J -43153087.96 -43153087.78 -43153087.60 0.0500 0.0010

Mars -122859-11-09 01:56 J -43152514.53 -43152514.42 -43152514.30 0.1655 0.0464

Saturn -122858-07-29 16:06 J -43152251.93 -43152251.83 -43152251.73 0.0301 0.0197

Moon -122858-09-20 12:30 J -43152199.10 -43152198.98 -43152198.85 0.2553 0.1684

Earth -122858-09-20 13:13 J -43152199.07 -43152198.95 -43152198.83 0.2559 0.1742 *

Saturn -122858-10-26 05:46 J -43152163.39 -43152163.26 -43152163.13 0.0302 0.0075

Saturn -122857-01-22 19:27 J -43152074.82 -43152074.69 -43152074.56 0.0302 0.0046

Saturn -122857-04-20 08:54 J -43151986.24 -43151986.13 -43151986.02 0.0303 0.0166

Saturn -122857-07-17 22:20 J -43151897.61 -43151897.57 -43151897.53 0.0303 0.0286

Mars -122857-10-14 06:44 J -43151809.30 -43151809.22 -43151809.14 0.1651 0.1198

Neptune -122856-08-10 22:06 J -43151508.59 -43151508.58 -43151508.54 0.0089 0.0089

Venus -122856-09-29 07:27 J -43151459.29 -43151459.19 -43151459.09 0.3748 0.1185

Neptune -122856-11-07 01:42 J -43151420.49 -43151420.43 -43151420.35 0.0089 0.0083

Neptune -122855-02-03 05:18 J -43151332.37 -43151332.28 -43151332.19 0.0089 0.0077

Neptune -122855-05-02 08:10 J -43151244.25 -43151244.16 -43151244.02 0.0089 0.0072

Neptune -122855-07-29 11:46 J -43151156.12 -43151156.01 -43151155.86 0.0089 0.0065

Neptune -122855-10-25 15:22 J -43151067.99 -43151067.86 -43151067.71 0.0089 0.0059

Neptune -122854-01-21 18:44 J -43150979.86 -43150979.72 -43150979.55 0.0089 0.0053

Jupiter -122854-03-12 22:20 J -43150929.69 -43150929.57 -43150929.46 0.0525 0.0213

Earth -122854-03-16 22:49 J -43150925.65 -43150925.55 -43150925.44 0.2781 0.0569

Moon -122854-03-16 23:32 J -43150925.63 -43150925.52 -43150925.42 0.2777 0.0483 *

Neptune -122854-04-19 22:20 J -43150891.72 -43150891.57 -43150891.40 0.0089 0.0047

Jupiter -122854-06-10 04:49 J -43150840.41 -43150840.30 -43150840.19 0.0526 0.0249

Neptune -122854-07-17 01:42 J -43150803.58 -43150803.43 -43150803.25 0.0089 0.0042

Neptune -122854-10-13 05:18 J -43150715.44 -43150715.28 -43150715.09 0.0089 0.0035

Neptune -122853-01-09 08:54 J -43150627.30 -43150627.13 -43150626.94 0.0089 0.0029

Neptune -122853-04-06 12:30 J -43150539.16 -43150538.98 -43150538.79 0.0089 0.0023

Venus -122853-07-01 06:01 J -43150453.39 -43150453.25 -43150453.10 0.3634 0.1201

Neptune -122853-07-03 15:51 J -43150451.02 -43150450.84 -43150450.64 0.0089 0.0017

Neptune -122853-09-29 19:27 J -43150362.87 -43150362.69 -43150362.49 0.0089 0.0011

Neptune -122853-12-26 23:03 J -43150274.73 -43150274.54 -43150274.34 0.0089 0.0005

Neptune -122852-03-25 02:39 J -43150186.58 -43150186.39 -43150186.20 0.0089 0.0002

Mars -122852-06-18 19:56 J -43150100.82 -43150100.67 -43150100.52 0.1858 0.0665

Neptune -122852-06-21 06:15 J -43150098.43 -43150098.24 -43150098.05 0.0089 0.0008

Neptune -122852-09-17 09:37 J -43150010.28 -43150010.10 -43150009.90 0.0089 0.0014

Neptune -122852-12-14 13:13 J -43149922.13 -43149921.95 -43149921.75 0.0089 0.0020

Neptune -122851-03-12 16:49 J -43149833.98 -43149833.80 -43149833.61 0.0089 0.0026

Neptune -122851-06-08 20:25 J -43149745.82 -43149745.65 -43149745.46 0.0089 0.0032

Neptune -122851-09-05 00:01 J -43149657.67 -43149657.50 -43149657.32 0.0089 0.0038

Earth -122851-09-12 00:30 J -43149650.60 -43149650.48 -43149650.37 0.2560 0.1832

Moon -122851-09-12 01:56 J -43149650.53 -43149650.42 -43149650.31 0.2563 0.1855 *

Neptune -122851-12-02 03:37 J -43149569.51 -43149569.35 -43149569.18 0.0089 0.0045

Neptune -122850-02-28 06:58 J -43149481.35 -43149481.21 -43149481.03 0.0089 0.0051

Venus -122850-04-14 23:46 J -43149435.61 -43149435.51 -43149435.41 0.3754 0.0588

Neptune -122850-05-27 10:34 J -43149393.19 -43149393.06 -43149392.89 0.0089 0.0057

Neptune -122850-08-23 14:10 J -43149305.03 -43149304.91 -43149304.76 0.0089 0.0064

Neptune -122850-11-19 18:01 J -43149216.86 -43149216.75 -43149216.62 0.0089 0.0069

Neptune -122849-02-15 21:37 J -43149128.69 -43149128.60 -43149128.49 0.0089 0.0076

Mars -122849-03-31 12:44 J -43149084.08 -43149083.97 -43149083.87 0.1656 0.0878

Neptune -122849-05-14 00:58 J -43149040.51 -43149040.46 -43149040.36 0.0089 0.0082

Neptune -122849-08-10 04:34 J -43148952.31 -43148952.31 -43148952.25 0.0089 0.0089

Jupiter -122848-01-31 13:42 J -43148778.10 -43148777.93 -43148777.75 0.0500 0.0144

Moon -122848-03-25 19:13 J -43148724.75 -43148724.70 -43148724.65 0.2783 0.2388

Earth -122848-03-25 19:56 J -43148724.73 -43148724.67 -43148724.62 0.2782 0.2374 *

Jupiter -122848-05-01 23:18 J -43148687.60 -43148687.53 -43148687.44 0.0499 0.0445

Venus -122847-01-15 12:58 J -43148429.03 -43148428.96 -43148428.89 0.3626 0.3186

Mars -122847-03-06 17:32 J -43148378.87 -43148378.77 -43148378.66 0.1652 0.0803

Moon -122847-03-09 20:10 J -43148375.68 -43148375.66 -43148375.63 0.2786 0.2703

Earth -122847-03-09 20:25 J -43148375.67 -43148375.65 -43148375.63 0.2779 0.2716 *

Venus -122845-10-28 16:06 J -43147411.91 -43147411.83 -43147411.75 0.3759 0.2338

Saturn -122844-08-24 03:51 J -43147112.42 -43147112.34 -43147112.25 0.0261 0.0231

Saturn -122844-11-20 23:03 J -43147023.70 -43147023.54 -43147023.38 0.0261 0.0125

Saturn -122843-02-17 18:01 J -43146934.93 -43146934.75 -43146934.56 0.0261 0.0020

Saturn -122843-05-17 13:13 J -43146846.11 -43146845.95 -43146845.77 0.0260 0.0090

Saturn -122843-08-14 08:39 J -43146757.25 -43146757.14 -43146757.01 0.0260 0.0197

Mars -122843-11-08 16:06 J -43146670.90 -43146670.83 -43146670.77 0.1856 0.1693

Jupiter -122843-12-30 02:10 J -43146619.51 -43146619.41 -43146619.31 0.0526 0.0329

Jupiter -122842-03-29 08:54 J -43146530.26 -43146530.13 -43146530.01 0.0526 0.0135

Earth -122841-03-18 17:18 J -43146174.89 -43146174.78 -43146174.67 0.2782 0.0209

Moon -122841-03-18 18:01 J -43146174.86 -43146174.75 -43146174.65 0.2777 0.0288 *

Mars -122840-08-21 23:18 J -43145653.60 -43145653.53 -43145653.46 0.1657 0.1288

Mars -122838-07-28 04:34 J -43144948.43 -43144948.31 -43144948.20 0.1652 0.0409

Earth -122838-09-15 06:44 J -43144899.37 -43144899.22 -43144899.06 0.2559 0.0569

Moon -122838-09-15 07:56 J -43144899.33 -43144899.17 -43144899.02 0.2564 0.0494 *

Jupiter -122837-11-19 10:49 J -43144468.20 -43144468.05 -43144467.90 0.0500 0.0290

Jupiter -122836-02-17 20:10 J -43144377.80 -43144377.66 -43144377.51 0.0499 0.0296

Uranus -122835-10-23 09:08 J -43143765.19 -43143765.12 -43143765.03 0.0148 0.0134

Uranus -122834-01-19 18:01 J -43143676.88 -43143676.75 -43143676.61 0.0148 0.0102

Moon -122834-03-12 14:25 J -43143624.97 -43143624.90 -43143624.83 0.2786 0.2047

Earth -122834-03-12 14:54 J -43143624.96 -43143624.88 -43143624.80 0.2780 0.1957 *

Uranus -122834-04-18 02:54 J -43143588.54 -43143588.38 -43143588.21 0.0148 0.0071

Uranus -122834-07-15 11:32 J -43143500.20 -43143500.02 -43143499.83 0.0148 0.0040

Uranus -122834-10-11 20:25 J -43143411.84 -43143411.65 -43143411.45 0.0148 0.0009

Uranus -122833-01-08 05:18 J -43143323.46 -43143323.28 -43143323.09 0.0148 0.0025

Uranus -122833-04-05 14:10 J -43143235.08 -43143234.91 -43143234.73 0.0148 0.0056

Uranus -122833-07-02 23:03 J -43143146.69 -43143146.54 -43143146.38 0.0148 0.0088

Uranus -122833-09-29 07:56 J -43143058.27 -43143058.17 -43143058.05 0.0148 0.0120

Mars -122831-03-08 06:30 J -43142533.30 -43142533.23 -43142533.15 0.1861 0.1628

Jupiter -122831-10-18 06:01 J -43142309.31 -43142309.25 -43142309.18 0.0525 0.0446

Jupiter -122830-01-15 12:44 J -43142220.10 -43142219.97 -43142219.84 0.0526 0.0017

Jupiter -122830-04-14 18:58 J -43142130.76 -43142130.71 -43142130.66 0.0526 0.0476

Saturn -122829-12-15 18:44 J -43141519.80 -43141519.72 -43141519.63 0.0301 0.0223

Mars -122829-12-17 15:22 J -43141517.98 -43141517.86 -43141517.74 0.1653 0.0030

Saturn -122828-03-14 08:39 J -43141431.27 -43141431.14 -43141431.02 0.0302 0.0102

Earth -122828-03-21 11:46 J -43141424.11 -43141424.01 -43141423.91 0.2782 0.0972

Moon -122828-03-21 12:30 J -43141424.08 -43141423.98 -43141423.88 0.2780 0.0962 *

Saturn -122828-06-10 22:06 J -43141342.71 -43141342.58 -43141342.44 0.0302 0.0021

Saturn -122828-09-07 11:32 J -43141254.13 -43141254.02 -43141253.90 0.0303 0.0141

Saturn -122828-12-05 00:58 J -43141165.52 -43141165.46 -43141165.39 0.0303 0.0260

Mars -122827-11-22 19:42 J -43140812.69 -43140812.68 -43140812.67 0.1650 0.1642

Jupiter -122825-09-07 07:42 J -43140158.26 -43140158.18 -43140158.10 0.0500 0.0439

Earth -122825-09-17 13:13 J -43140148.10 -43140147.95 -43140147.79 0.2559 0.0707

Moon -122825-09-17 14:10 J -43140148.06 -43140147.91 -43140147.76 0.2564 0.0853 *

Jupiter -122825-12-06 17:03 J -43140067.97 -43140067.79 -43140067.62 0.0500 0.0146

Mars -122822-07-29 01:27 J -43139103.60 -43139103.44 -43139103.28 0.1859 0.0526

Moon -122821-03-14 08:54 J -43138874.23 -43138874.13 -43138874.04 0.2786 0.1270

Earth -122821-03-14 09:22 J -43138874.21 -43138874.11 -43138874.01 0.2781 0.1196 *

Mars -122819-05-10 01:56 J -43138087.53 -43138087.42 -43138087.30 0.1655 0.0408

Jupiter -122819-11-03 16:34 J -43137909.94 -43137909.81 -43137909.68 0.0525 0.0100

Jupiter -122818-01-31 23:03 J -43137820.64 -43137820.54 -43137820.45 0.0526 0.0360

Mars -122817-04-14 06:44 J -43137382.30 -43137382.22 -43137382.15 0.1651 0.1251

Earth -122815-03-24 06:15 J -43136673.32 -43136673.24 -43136673.16 0.2782 0.1742

Moon -122815-03-24 06:58 J -43136673.29 -43136673.21 -43136673.13 0.2780 0.1777 *

Saturn -122814-01-11 05:03 J -43136380.32 -43136380.29 -43136380.24 0.0261 0.0254

Saturn -122814-04-10 00:01 J -43136291.64 -43136291.50 -43136291.34 0.0261 0.0149

Saturn -122814-07-07 19:13 J -43136202.88 -43136202.70 -43136202.51 0.0260 0.0043

Saturn -122814-10-04 14:39 J -43136114.07 -43136113.89 -43136113.71 0.0260 0.0065

Saturn -122813-01-01 09:51 J -43136025.22 -43136025.09 -43136024.95 0.0260 0.0173

Jupiter -122813-09-24 14:10 J -43135758.10 -43135757.91 -43135757.73 0.0500 0.0005

Mars -122813-12-17 20:54 J -43135673.79 -43135673.63 -43135673.48 0.1858 0.0549

Moon -122812-09-20 19:42 J -43135396.78 -43135396.68 -43135396.58 0.2565 0.1986

Earth -122812-09-20 19:56 J -43135396.77 -43135396.67 -43135396.57 0.2558 0.1973 *

Mars -122810-09-30 12:44 J -43134657.08 -43134656.97 -43134656.87 0.1656 0.0819

Moon -122808-03-17 03:08 J -43134123.48 -43134123.37 -43134123.26 0.2786 0.0417

Earth -122808-03-17 03:51 J -43134123.45 -43134123.34 -43134123.24 0.2781 0.0435 *

Mars -122808-09-04 17:32 J -43133951.87 -43133951.77 -43133951.67 0.1651 0.0858

Jupiter -122807-08-22 20:10 J -43133599.78 -43133599.66 -43133599.54 0.0525 0.0222

Jupiter -122807-11-20 02:39 J -43133510.51 -43133510.39 -43133510.28 0.0526 0.0239

Moon -122805-09-12 05:46 J -43132848.38 -43132848.26 -43132848.14 0.2556 0.1768

Earth -122805-09-12 06:58 J -43132848.33 -43132848.21 -43132848.08 0.2560 0.1601 *

Venus -122805-10-20 12:30 J -43132810.06 -43132809.98 -43132809.90 0.3744 0.2300

Mars -122803-05-09 16:34 J -43132243.89 -43132243.81 -43132243.73 0.1856 0.1594

Earth -122802-03-27 00:44 J -43131922.51 -43131922.47 -43131922.42 0.2782 0.2513

Moon -122802-03-27 01:27 J -43131922.47 -43131922.44 -43131922.40 0.2783 0.2642 *

Earth -122801-03-10 01:27 J -43131573.48 -43131573.44 -43131573.41 0.2779 0.2584

Moon -122801-03-10 01:42 J -43131573.47 -43131573.43 -43131573.38 0.2773 0.2495 *

Jupiter -122801-07-13 11:18 J -43131448.20 -43131448.03 -43131447.85 0.0500 0.0147

Jupiter -122801-10-11 20:54 J -43131357.70 -43131357.63 -43131357.54 0.0499 0.0444

Mars -122800-02-19 23:18 J -43131226.61 -43131226.53 -43131226.45 0.1657 0.1236

Saturn -122799-05-04 21:37 J -43130787.68 -43130787.60 -43130787.53 0.0301 0.0248

Venus -122799-05-06 05:03 J -43130786.39 -43130786.29 -43130786.19 0.3749 0.0528

Saturn -122799-08-01 11:18 J -43130699.15 -43130699.03 -43130698.91 0.0302 0.0127

Saturn -122799-10-29 00:58 J -43130610.59 -43130610.46 -43130610.33 0.0302 0.0006

Saturn -122798-01-25 14:25 J -43130522.02 -43130521.90 -43130521.77 0.0303 0.0115

Mars -122798-01-26 04:34 J -43130521.43 -43130521.31 -43130521.20 0.1652 0.0463

Saturn -122798-04-24 03:51 J -43130433.42 -43130433.34 -43130433.26 0.0303 0.0235

Venus -122796-02-05 07:27 J -43129780.34 -43129780.19 -43129780.03 0.3632 0.0306

Moon -122795-03-19 21:37 J -43129372.71 -43129372.60 -43129372.49 0.2784 0.0328

Earth -122795-03-19 22:20 J -43129372.68 -43129372.57 -43129372.47 0.2782 0.0350 *

Jupiter -122795-06-11 00:01 J -43129289.60 -43129289.50 -43129289.40 0.0525 0.0338

Jupiter -122795-09-08 06:44 J -43129200.35 -43129200.22 -43129200.10 0.0526 0.0125

Venus -122794-11-19 21:22 J -43128762.70 -43128762.61 -43128762.51 0.3755 0.1231

Uranus -122793-05-14 08:10 J -43128586.21 -43128586.16 -43128586.10 0.0131 0.0119

Uranus -122793-08-10 11:03 J -43128498.11 -43128498.04 -43128497.95 0.0131 0.0104

Uranus -122793-11-06 14:10 J -43128410.00 -43128409.91 -43128409.81 0.0131 0.0088

Uranus -122792-02-02 17:18 J -43128321.89 -43128321.78 -43128321.67 0.0131 0.0073

Uranus -122792-05-01 20:10 J -43128233.78 -43128233.66 -43128233.54 0.0131 0.0058

Uranus -122792-07-28 23:03 J -43128145.66 -43128145.54 -43128145.41 0.0131 0.0043

Mars -122792-09-06 07:13 J -43128106.26 -43128106.20 -43128106.14 0.1860 0.1726

Moon -122792-09-15 12:58 J -43128097.13 -43128096.96 -43128096.80 0.2553 0.0376

Earth -122792-09-15 13:27 J -43128097.10 -43128096.94 -43128096.78 0.2559 0.0339 *

Uranus -122792-10-25 01:56 J -43128057.55 -43128057.42 -43128057.28 0.0131 0.0028

Uranus -122791-01-21 05:03 J -43127969.43 -43127969.29 -43127969.16 0.0131 0.0013

Uranus -122791-04-19 07:56 J -43127881.31 -43127881.17 -43127881.04 0.0131 0.0004

Mars -122791-07-13 09:51 J -43127796.10 -43127796.09 -43127796.09 0.1659 0.1655

Uranus -122791-07-16 10:49 J -43127793.18 -43127793.05 -43127792.92 0.0131 0.0018

Uranus -122791-10-12 13:42 J -43127705.06 -43127704.93 -43127704.80 0.0131 0.0033

Uranus -122790-01-08 16:34 J -43127616.93 -43127616.81 -43127616.69 0.0131 0.0048

Pluto -122790-01-17 14:25 J -43127607.95 -43127607.90 -43127607.83 0.0084 0.0075

Uranus -122790-04-06 19:27 J -43127528.81 -43127528.69 -43127528.57 0.0131 0.0063

Pluto -122790-04-15 15:37 J -43127519.93 -43127519.85 -43127519.74 0.0084 0.0060

Uranus -122790-07-03 22:20 J -43127440.68 -43127440.57 -43127440.46 0.0131 0.0078

Pluto -122790-07-12 17:18 J -43127431.89 -43127431.78 -43127431.66 0.0084 0.0043

Uranus -122790-09-30 00:58 J -43127352.54 -43127352.46 -43127352.36 0.0131 0.0093

Pluto -122790-10-08 18:44 J -43127343.85 -43127343.72 -43127343.59 0.0084 0.0027

Uranus -122790-12-27 03:51 J -43127264.40 -43127264.34 -43127264.25 0.0131 0.0108

Pluto -122789-01-04 20:10 J -43127255.80 -43127255.66 -43127255.53 0.0084 0.0011

Uranus -122789-03-24 06:44 J -43127176.25 -43127176.22 -43127176.16 0.0131 0.0123

Pluto -122789-04-01 21:22 J -43127167.74 -43127167.61 -43127167.47 0.0084 0.0005

Jupiter -122789-05-01 08:10 J -43127138.31 -43127138.16 -43127138.02 0.0500 0.0297

Mars -122789-06-17 15:08 J -43127090.98 -43127090.87 -43127090.75 0.1653 0.0084

Pluto -122789-06-28 22:49 J -43127079.68 -43127079.55 -43127079.42 0.0084 0.0021

Jupiter -122789-07-30 17:32 J -43127047.92 -43127047.77 -43127047.62 0.0499 0.0289

Pluto -122789-09-25 00:01 J -43126991.62 -43126991.50 -43126991.37 0.0084 0.0036

Pluto -122789-12-22 01:13 J -43126903.54 -43126903.45 -43126903.33 0.0083 0.0052

Earth -122788-03-12 19:42 J -43126822.76 -43126822.68 -43126822.60 0.2780 0.1825

Moon -122788-03-12 20:10 J -43126822.74 -43126822.66 -43126822.57 0.2774 0.1838 *

Pluto -122788-03-20 02:39 J -43126815.46 -43126815.39 -43126815.30 0.0083 0.0068

Venus -122788-06-04 13:56 J -43126738.98 -43126738.92 -43126738.86 0.3761 0.2979

Pluto -122788-06-16 04:06 J -43126727.33 -43126727.33 -43126727.32 0.0083 0.0083

Saturn -122785-08-27 01:13 J -43125559.59 -43125559.45 -43125559.32 0.0261 0.0173

Saturn -122785-11-23 20:10 J -43125470.84 -43125470.66 -43125470.48 0.0261 0.0066

Saturn -122784-02-20 15:22 J -43125382.04 -43125381.86 -43125381.68 0.0260 0.0041

Saturn -122784-05-20 10:34 J -43125293.20 -43125293.06 -43125292.90 0.0260 0.0149

Saturn -122784-08-17 06:15 J -43125204.27 -43125204.24 -43125204.21 0.0260 0.0256

Jupiter -122783-03-30 03:51 J -43124979.40 -43124979.34 -43124979.28 0.0525 0.0456

Jupiter -122783-06-27 10:34 J -43124890.19 -43124890.06 -43124889.93 0.0526 0.0013

Jupiter -122783-09-24 17:03 J -43124800.85 -43124800.79 -43124800.74 0.0527 0.0469

Mars -122782-01-27 02:10 J -43124676.57 -43124676.41 -43124676.26 0.1859 0.0625

Moon -122782-03-22 15:51 J -43124621.94 -43124621.84 -43124621.73 0.2784 0.0997

Earth -122782-03-22 16:49 J -43124621.90 -43124621.80 -43124621.71 0.2782 0.1119 *

Mars -122780-11-08 01:56 J -43123660.53 -43123660.42 -43123660.30 0.1655 0.0355

Moon -122779-09-18 19:42 J -43123345.83 -43123345.68 -43123345.53 0.2553 0.1009

Earth -122779-09-18 19:56 J -43123345.82 -43123345.67 -43123345.52 0.2559 0.0936 *

Mars -122778-10-14 06:44 J -43122955.29 -43122955.22 -43122955.15 0.1651 0.1304

Jupiter -122777-02-18 05:03 J -43122828.36 -43122828.29 -43122828.20 0.0500 0.0443

Jupiter -122777-05-18 14:25 J -43122738.08 -43122737.90 -43122737.72 0.0499 0.0140

Neptune -122775-03-09 18:58 J -43122077.72 -43122077.71 -43122077.70 0.0088 0.0088

Earth -122775-03-15 14:10 J -43122072.01 -43122071.91 -43122071.81 0.2781 0.1060

Moon -122775-03-15 14:54 J -43122071.98 -43122071.88 -43122071.78 0.2778 0.1060 *

Neptune -122775-06-05 20:10 J -43121989.69 -43121989.66 -43121989.61 0.0088 0.0084

Neptune -122775-09-01 21:37 J -43121901.65 -43121901.60 -43121901.53 0.0088 0.0079

Neptune -122775-11-28 23:03 J -43121813.60 -43121813.54 -43121813.46 0.0088 0.0075

Neptune -122774-02-25 00:44 J -43121725.55 -43121725.47 -43121725.39 0.0088 0.0071

Neptune -122774-05-24 01:56 J -43121637.50 -43121637.42 -43121637.32 0.0088 0.0067

Neptune -122774-08-20 03:22 J -43121549.45 -43121549.36 -43121549.26 0.0088 0.0062

Neptune -122774-11-16 04:49 J -43121461.39 -43121461.30 -43121461.19 0.0088 0.0058

Neptune -122773-02-12 06:15 J -43121373.34 -43121373.24 -43121373.13 0.0088 0.0054

Neptune -122773-05-10 07:42 J -43121285.29 -43121285.18 -43121285.06 0.0088 0.0049

Mars -122773-06-17 21:37 J -43121246.76 -43121246.60 -43121246.44 0.1858 0.0441

Neptune -122773-08-06 09:08 J -43121197.23 -43121197.12 -43121197.00 0.0088 0.0045

Neptune -122773-11-02 10:20 J -43121109.18 -43121109.07 -43121108.94 0.0088 0.0042

Neptune -122772-01-29 12:01 J -43121021.12 -43121021.00 -43121020.88 0.0088 0.0037

Neptune -122772-04-27 13:27 J -43120933.07 -43120932.94 -43120932.81 0.0088 0.0032

Neptune -122772-07-24 14:39 J -43120845.01 -43120844.89 -43120844.75 0.0088 0.0029

Neptune -122772-10-20 16:06 J -43120756.95 -43120756.83 -43120756.69 0.0088 0.0024

Neptune -122771-01-16 17:32 J -43120668.90 -43120668.77 -43120668.63 0.0088 0.0020

Neptune -122771-04-14 18:58 J -43120580.84 -43120580.71 -43120580.57 0.0088 0.0016

Jupiter -122771-04-15 14:25 J -43120580.02 -43120579.90 -43120579.77 0.0526 0.0110

Neptune -122771-07-11 20:25 J -43120492.78 -43120492.65 -43120492.52 0.0088 0.0011

Jupiter -122771-07-13 20:54 J -43120490.72 -43120490.63 -43120490.53 0.0526 0.0353

Neptune -122771-10-07 21:51 J -43120404.73 -43120404.59 -43120404.46 0.0088 0.0007

Neptune -122770-01-03 23:18 J -43120316.67 -43120316.53 -43120316.40 0.0088 0.0004

Mars -122770-03-31 12:44 J -43120230.08 -43120229.97 -43120229.87 0.1656 0.0762

Neptune -122770-04-02 00:30 J -43120228.61 -43120228.48 -43120228.34 0.0088 0.0002

Neptune -122770-06-29 01:56 J -43120140.55 -43120140.42 -43120140.29 0.0088 0.0006

Saturn -122770-09-22 00:15 J -43120055.54 -43120055.49 -43120055.43 0.0301 0.0274

Neptune -122770-09-25 03:22 J -43120052.50 -43120052.36 -43120052.23 0.0088 0.0010

Saturn -122770-12-19 14:10 J -43119967.03 -43119966.91 -43119966.80 0.0301 0.0153

Neptune -122770-12-22 04:34 J -43119964.44 -43119964.31 -43119964.17 0.0088 0.0014

Saturn -122769-03-17 03:51 J -43119878.48 -43119878.34 -43119878.21 0.0302 0.0032

Neptune -122769-03-19 06:01 J -43119876.38 -43119876.25 -43119876.12 0.0088 0.0018

Moon -122769-03-24 10:34 J -43119871.15 -43119871.06 -43119870.98 0.2781 0.1798

Earth -122769-03-24 11:18 J -43119871.11 -43119871.03 -43119870.96 0.2782 0.1885 *

Saturn -122769-06-13 17:18 J -43119789.90 -43119789.78 -43119789.65 0.0302 0.0090

Neptune -122769-06-15 07:27 J -43119788.32 -43119788.19 -43119788.06 0.0088 0.0022

Saturn -122769-09-10 06:44 J -43119701.31 -43119701.22 -43119701.12 0.0303 0.0210

Neptune -122769-09-11 08:39 J -43119700.26 -43119700.14 -43119700.01 0.0088 0.0027

Neptune -122769-12-08 10:06 J -43119612.20 -43119612.08 -43119611.95 0.0088 0.0031

Mars -122768-03-05 17:32 J -43119524.86 -43119524.77 -43119524.67 0.1651 0.0913

Neptune -122768-03-06 11:32 J -43119524.14 -43119524.02 -43119523.90 0.0088 0.0035

Neptune -122768-06-02 12:44 J -43119436.08 -43119435.97 -43119435.84 0.0088 0.0039

Neptune -122768-08-29 13:56 J -43119348.03 -43119347.92 -43119347.79 0.0088 0.0043

Neptune -122768-11-25 15:22 J -43119259.96 -43119259.86 -43119259.74 0.0088 0.0047

Neptune -122767-02-21 16:49 J -43119171.90 -43119171.80 -43119171.69 0.0088 0.0051

Neptune -122767-05-20 18:01 J -43119083.84 -43119083.75 -43119083.64 0.0088 0.0056

Neptune -122767-08-16 19:27 J -43118995.78 -43118995.69 -43118995.59 0.0088 0.0059

Neptune -122767-11-12 20:54 J -43118907.72 -43118907.63 -43118907.54 0.0088 0.0063

Neptune -122766-02-08 22:06 J -43118819.66 -43118819.58 -43118819.49 0.0088 0.0068

Neptune -122766-05-07 23:32 J -43118731.59 -43118731.52 -43118731.44 0.0088 0.0072

Neptune -122766-08-04 00:44 J -43118643.53 -43118643.47 -43118643.40 0.0088 0.0076

Earth -122766-09-22 02:25 J -43118594.48 -43118594.40 -43118594.32 0.2558 0.2197

Moon -122766-09-22 02:39 J -43118594.47 -43118594.39 -43118594.31 0.2552 0.2217 *

Neptune -122766-10-31 02:10 J -43118555.46 -43118555.41 -43118555.35 0.0088 0.0080

Neptune -122765-01-27 03:37 J -43118467.39 -43118467.35 -43118467.31 0.0088 0.0084

Jupiter -122765-03-06 11:03 J -43118428.23 -43118428.04 -43118427.86 0.0500 0.0015

Neptune -122765-04-24 04:49 J -43118379.31 -43118379.30 -43118379.28 0.0088 0.0088

Mars -122764-11-07 17:18 J -43117816.87 -43117816.78 -43117816.68 0.1856 0.1488

Earth -122762-03-18 08:39 J -43117321.25 -43117321.14 -43117321.03 0.2782 0.0294

Moon -122762-03-18 09:22 J -43117321.22 -43117321.11 -43117321.00 0.2778 0.0196 *

Mars -122761-08-20 23:18 J -43116799.61 -43116799.53 -43116799.45 0.1657 0.1178

Jupiter -122759-02-01 18:30 J -43116269.85 -43116269.73 -43116269.62 0.0525 0.0225

Jupiter -122759-05-02 00:58 J -43116180.58 -43116180.46 -43116180.35 0.0526 0.0237

Mars -122759-07-27 04:20 J -43116094.43 -43116094.32 -43116094.20 0.1652 0.0516

Earth -122759-09-13 13:42 J -43116046.07 -43116045.93 -43116045.79 0.2559 0.1373

Moon -122759-09-13 14:25 J -43116046.03 -43116045.90 -43116045.77 0.2565 0.1432 *

Moon -122756-03-27 05:03 J -43115120.32 -43115120.29 -43115120.27 0.2781 0.2667

Earth -122756-03-27 05:46 J -43115120.29 -43115120.26 -43115120.23 0.2782 0.2653 *

Saturn -122755-01-14 02:25 J -43114827.52 -43114827.40 -43114827.28 0.0261 0.0195

Moon -122755-03-11 05:46 J -43114771.31 -43114771.26 -43114771.21 0.2784 0.2441

Earth -122755-03-11 06:15 J -43114771.29 -43114771.24 -43114771.19 0.2779 0.2448 *

Saturn -122755-04-12 21:22 J -43114738.78 -43114738.61 -43114738.43 0.0260 0.0090

Saturn -122755-07-10 16:34 J -43114649.99 -43114649.81 -43114649.62 0.0260 0.0018

Saturn -122755-10-07 11:46 J -43114561.16 -43114561.01 -43114560.84 0.0260 0.0125

Saturn -122754-01-04 07:13 J -43114472.27 -43114472.20 -43114472.11 0.0259 0.0233

Venus -122754-11-11 17:46 J -43114160.80 -43114160.76 -43114160.72 0.3739 0.3419

Jupiter -122754-12-24 07:56 J -43114118.34 -43114118.17 -43114117.99 0.0500 0.0159

Jupiter -122753-03-23 17:46 J -43114027.85 -43114027.76 -43114027.67 0.0499 0.0432

Mars -122752-03-07 07:56 J -43113679.20 -43113679.17 -43113679.14 0.1861 0.1829

Mars -122751-01-11 09:37 J -43113369.12 -43113369.10 -43113369.07 0.1659 0.1601

Uranus -122751-11-12 16:34 J -43113063.90 -43113063.81 -43113063.71 0.0148 0.0127

Uranus -122750-02-09 01:13 J -43112975.59 -43112975.45 -43112975.30 0.0148 0.0095

Uranus -122750-05-08 09:51 J -43112887.25 -43112887.09 -43112886.91 0.0148 0.0064

Uranus -122750-08-04 18:44 J -43112798.90 -43112798.72 -43112798.53 0.0148 0.0033

Uranus -122750-11-01 03:51 J -43112710.54 -43112710.34 -43112710.15 0.0148 0.0003

Mars -122750-12-17 15:08 J -43112663.98 -43112663.87 -43112663.75 0.1653 0.0128

Uranus -122749-01-28 12:30 J -43112622.16 -43112621.98 -43112621.79 0.0148 0.0032

Earth -122749-03-20 03:08 J -43112570.48 -43112570.37 -43112570.26 0.2782 0.0477

Moon -122749-03-20 03:51 J -43112570.45 -43112570.34 -43112570.23 0.2782 0.0579 *

Uranus -122749-04-25 21:22 J -43112533.78 -43112533.61 -43112533.43 0.0148 0.0063

Uranus -122749-07-23 06:15 J -43112445.38 -43112445.24 -43112445.09 0.0148 0.0095

Uranus -122749-10-19 15:08 J -43112356.96 -43112356.87 -43112356.77 0.0148 0.0127

Venus -122748-05-27 10:20 J -43112137.17 -43112137.07 -43112136.98 0.3745 0.1648

Jupiter -122748-11-20 21:51 J -43111959.68 -43111959.59 -43111959.49 0.0525 0.0347

Jupiter -122747-02-18 04:34 J -43111870.44 -43111870.31 -43111870.19 0.0526 0.0116

Earth -122746-09-16 20:10 J -43111294.82 -43111294.66 -43111294.50 0.2559 0.0104

Moon -122746-09-16 20:39 J -43111294.80 -43111294.64 -43111294.48 0.2565 0.0079 *

Venus -122745-02-27 02:25 J -43111131.51 -43111131.40 -43111131.30 0.3638 0.2560

Mars -122743-07-28 02:54 J -43110249.53 -43110249.38 -43110249.22 0.1859 0.0738

Venus -122743-12-11 02:39 J -43110113.49 -43110113.39 -43110113.29 0.3751 0.0119

Moon -122742-03-14 00:01 J -43110020.58 -43110020.50 -43110020.41 0.2784 0.1777

Earth -122742-03-14 00:44 J -43110020.56 -43110020.47 -43110020.39 0.2780 0.1686 *

Jupiter -122742-10-12 05:18 J -43109808.42 -43109808.28 -43109808.13 0.0500 0.0304

Jupiter -122741-01-10 14:54 J -43109718.03 -43109717.88 -43109717.73 0.0500 0.0284

Saturn -122740-02-08 02:54 J -43109323.38 -43109323.38 -43109323.37 0.0301 0.0300

Saturn -122740-05-07 16:49 J -43109234.91 -43109234.80 -43109234.69 0.0302 0.0178

Mars -122740-05-09 01:56 J -43109233.53 -43109233.42 -43109233.30 0.1655 0.0298

Saturn -122740-08-04 06:30 J -43109146.36 -43109146.23 -43109146.10 0.0302 0.0057

Venus -122740-09-12 08:54 J -43109107.26 -43109107.13 -43109107.00 0.3630 0.1775

Saturn -122740-10-31 20:10 J -43109057.79 -43109057.66 -43109057.53 0.0303 0.0064

Saturn -122739-01-28 09:37 J -43108969.20 -43108969.10 -43108969.00 0.0303 0.0184

Saturn -122739-04-26 22:49 J -43108880.55 -43108880.55 -43108880.54 0.0303 0.0303

Mars -122738-04-14 06:44 J -43108528.29 -43108528.22 -43108528.16 0.1651 0.1356

Venus -122737-06-25 18:58 J -43108089.79 -43108089.71 -43108089.62 0.3757 0.1877

Earth -122736-03-22 21:37 J -43107819.70 -43107819.60 -43107819.50 0.2782 0.1250

Moon -122736-03-22 22:20 J -43107819.67 -43107819.57 -43107819.47 0.2783 0.1244 *

Jupiter -122736-09-09 01:42 J -43107649.49 -43107649.43 -43107649.37 0.0525 0.0465

Jupiter -122736-12-07 08:25 J -43107560.28 -43107560.15 -43107560.02 0.0526 0.0007

Jupiter -122735-03-06 14:39 J -43107470.94 -43107470.89 -43107470.82 0.0527 0.0459

Mars -122734-12-17 22:06 J -43106819.74 -43106819.58 -43106819.42 0.1858 0.0347

Moon -122733-09-19 02:10 J -43106543.54 -43106543.41 -43106543.27 0.2565 0.1248

Earth -122733-09-19 02:39 J -43106543.53 -43106543.39 -43106543.24 0.2558 0.1169 *

Venus -122731-01-09 11:32 J -43106066.05 -43106066.02 -43106066.00 0.3762 0.3616

Mars -122731-09-29 12:44 J -43105803.08 -43105802.97 -43105802.86 0.1656 0.0707

Jupiter -122730-07-31 02:25 J -43105498.47 -43105498.40 -43105498.32 0.0500 0.0450

Jupiter -122730-10-29 11:46 J -43105408.19 -43105408.01 -43105407.84 0.0499 0.0135

Moon -122729-03-15 18:30 J -43105269.83 -43105269.73 -43105269.63 0.2784 0.1028

Earth -122729-03-15 19:13 J -43105269.81 -43105269.70 -43105269.60 0.2781 0.0923 *

Mars -122729-09-03 17:32 J -43105097.86 -43105097.77 -43105097.67 0.1652 0.0963

Saturn -122726-06-03 03:22 J -43104095.45 -43104095.36 -43104095.25 0.0261 0.0219

Saturn -122726-08-30 22:20 J -43104006.73 -43104006.57 -43104006.40 0.0261 0.0113

Moon -122726-09-11 12:44 J -43103995.00 -43103994.97 -43103994.93 0.2556 0.2473

Earth -122726-09-11 13:56 J -43103994.97 -43103994.92 -43103994.87 0.2560 0.2418 *

Saturn -122726-11-27 17:32 J -43103917.95 -43103917.77 -43103917.58 0.0260 0.0008

Saturn -122725-02-24 12:44 J -43103829.13 -43103828.97 -43103828.79 0.0260 0.0101

Saturn -122725-05-23 08:25 J -43103740.26 -43103740.15 -43103740.04 0.0260 0.0208

Mars -122724-05-08 18:01 J -43103389.86 -43103389.75 -43103389.65 0.1856 0.1390

Jupiter -122724-09-25 12:15 J -43103250.11 -43103249.99 -43103249.86 0.0526 0.0120

Jupiter -122724-12-23 18:44 J -43103160.81 -43103160.72 -43103160.62 0.0527 0.0344

Earth -122723-03-25 16:06 J -43103068.90 -43103068.83 -43103068.76 0.2782 0.2023

Moon -122723-03-25 16:49 J -43103068.87 -43103068.80 -43103068.73 0.2785 0.2046 *

Mars -122721-02-19 23:18 J -43102372.62 -43102372.53 -43102372.44 0.1657 0.1121

Moon -122720-09-22 08:25 J -43101792.20 -43101792.15 -43101792.10 0.2564 0.2420

Earth -122720-09-22 09:08 J -43101792.17 -43101792.12 -43101792.07 0.2558 0.2430 *

Mars -122719-01-25 04:20 J -43101667.43 -43101667.32 -43101667.21 0.1653 0.0568

Jupiter -122718-08-17 08:39 J -43101098.32 -43101098.14 -43101097.96 0.0499 0.0015

Moon -122716-03-18 12:58 J -43100519.07 -43100518.96 -43100518.86 0.2782 0.0198

Earth -122716-03-18 13:42 J -43100519.04 -43100518.93 -43100518.83 0.2782 0.0192 *

Moon -122713-09-13 19:56 J -43099243.81 -43099243.67 -43099243.52 0.2553 0.1262

Earth -122713-09-13 20:25 J -43099243.80 -43099243.65 -43099243.51 0.2560 0.1144 *

Mars -122712-07-12 09:51 J -43098942.13 -43098942.09 -43098942.05 0.1659 0.1541

Jupiter -122712-07-14 16:20 J -43098939.93 -43098939.82 -43098939.70 0.0525 0.0234

Jupiter -122712-10-11 22:49 J -43098850.66 -43098850.55 -43098850.43 0.0526 0.0229

Saturn -122711-09-24 19:27 J -43098502.78 -43098502.69 -43098502.59 0.0301 0.0206

Saturn -122711-12-22 09:08 J -43098414.24 -43098414.12 -43098413.99 0.0302 0.0085

Saturn -122710-03-20 22:49 J -43098325.68 -43098325.55 -43098325.41 0.0302 0.0037

Saturn -122710-06-17 12:15 J -43098237.10 -43098236.99 -43098236.87 0.0303 0.0158

Mars -122710-06-17 15:22 J -43098236.98 -43098236.86 -43098236.75 0.1653 0.0171 *

Saturn -122710-09-14 01:42 J -43098148.48 -43098148.43 -43098148.37 0.0303 0.0277

Uranus -122709-03-07 12:30 J -43097972.99 -43097972.98 -43097972.96 0.0130 0.0130

Earth -122709-03-11 11:03 J -43097969.09 -43097969.04 -43097968.98 0.2779 0.2318

Moon -122709-03-11 11:46 J -43097969.08 -43097969.01 -43097968.95 0.2775 0.2212 *

Uranus -122709-06-03 15:22 J -43097884.92 -43097884.86 -43097884.79 0.0130 0.0115

Uranus -122709-08-30 18:15 J -43097796.81 -43097796.74 -43097796.64 0.0130 0.0100

Uranus -122709-11-26 21:22 J -43097708.71 -43097708.61 -43097708.50 0.0130 0.0084

Uranus -122708-02-23 00:15 J -43097620.60 -43097620.49 -43097620.37 0.0130 0.0069

Uranus -122708-05-22 03:22 J -43097532.48 -43097532.36 -43097532.24 0.0131 0.0054

Uranus -122708-08-18 06:15 J -43097444.37 -43097444.24 -43097444.11 0.0131 0.0039

Uranus -122708-11-14 09:08 J -43097356.25 -43097356.12 -43097355.99 0.0131 0.0024

Uranus -122707-02-10 12:01 J -43097268.13 -43097268.00 -43097267.86 0.0131 0.0009

Uranus -122707-05-09 14:54 J -43097180.01 -43097179.88 -43097179.74 0.0131 0.0008

Uranus -122707-08-05 17:46 J -43097091.89 -43097091.76 -43097091.62 0.0131 0.0022

Uranus -122707-11-01 20:39 J -43097003.76 -43097003.64 -43097003.51 0.0131 0.0037

Uranus -122706-01-28 23:32 J -43096915.63 -43096915.52 -43096915.39 0.0131 0.0052

Uranus -122706-04-27 02:25 J -43096827.51 -43096827.40 -43096827.28 0.0131 0.0067

Jupiter -122706-06-05 05:03 J -43096788.46 -43096788.29 -43096788.12 0.0500 0.0168

Uranus -122706-07-24 05:18 J -43096739.38 -43096739.28 -43096739.17 0.0131 0.0082

Jupiter -122706-09-03 14:39 J -43096697.98 -43096697.89 -43096697.79 0.0499 0.0422

Uranus -122706-10-20 08:25 J -43096651.24 -43096651.15 -43096651.06 0.0131 0.0096

Uranus -122705-01-16 11:03 J -43096563.10 -43096563.04 -43096562.96 0.0131 0.0111

Uranus -122705-04-13 13:56 J -43096474.94 -43096474.92 -43096474.88 0.0131 0.0126

Mars -122703-01-26 03:51 J -43095822.49 -43095822.34 -43095822.20 0.1859 0.0844

Moon -122703-03-21 07:13 J -43095768.30 -43095768.20 -43095768.09 0.2782 0.0602

Earth -122703-03-21 07:56 J -43095768.27 -43095768.17 -43095768.06 0.2782 0.0623 *

Mars -122701-11-07 01:56 J -43094806.53 -43094806.42 -43094806.30 0.1655 0.0246

Jupiter -122700-05-02 20:25 J -43094629.75 -43094629.65 -43094629.56 0.0525 0.0349

Jupiter -122700-07-31 02:54 J -43094540.51 -43094540.38 -43094540.26 0.0526 0.0114

Moon -122700-09-17 03:08 J -43094492.54 -43094492.37 -43094492.21 0.2553 0.0119

Earth -122700-09-17 02:54 J -43094492.54 -43094492.38 -43094492.22 0.2559 0.0132 *

Mars -122699-10-13 06:44 J -43094101.28 -43094101.22 -43094101.16 0.1651 0.1409

Venus -122697-06-17 15:22 J -43093487.93 -43093487.86 -43093487.79 0.3741 0.2758

Saturn -122697-10-20 04:49 J -43093363.36 -43093363.30 -43093363.23 0.0261 0.0241

Saturn -122696-01-16 23:46 J -43093274.66 -43093274.51 -43093274.35 0.0261 0.0136

Earth -122696-03-14 05:32 J -43093218.36 -43093218.27 -43093218.18 0.2780 0.1553

Moon -122696-03-14 06:15 J -43093218.33 -43093218.24 -43093218.15 0.2779 0.1531 *

Saturn -122696-04-15 18:58 J -43093185.90 -43093185.71 -43093185.53 0.0260 0.0030

Saturn -122696-07-13 14:10 J -43093097.09 -43093096.91 -43093096.74 0.0260 0.0077

Saturn -122696-10-10 09:22 J -43093008.23 -43093008.11 -43093007.97 0.0260 0.0184

Jupiter -122694-03-24 02:10 J -43092478.55 -43092478.41 -43092478.27 0.0500 0.0314

Mars -122694-06-17 22:49 J -43092392.71 -43092392.55 -43092392.38 0.1858 0.0245

Jupiter -122694-06-22 11:32 J -43092388.17 -43092388.02 -43092387.86 0.0500 0.0275

Venus -122691-01-01 07:56 J -43091464.27 -43091464.17 -43091464.07 0.3747 0.0994

Mars -122691-03-30 12:44 J -43091376.08 -43091375.97 -43091375.87 0.1656 0.0656

Neptune -122691-05-07 20:54 J -43091337.68 -43091337.63 -43091337.58 0.0089 0.0085

Neptune -122691-08-03 23:46 J -43091249.57 -43091249.51 -43091249.41 0.0089 0.0080

Neptune -122691-10-31 03:22 J -43091161.45 -43091161.36 -43091161.24 0.0089 0.0074

Neptune -122690-01-27 06:44 J -43091073.32 -43091073.22 -43091073.08 0.0089 0.0068

Moon -122690-03-24 01:56 J -43091017.52 -43091017.42 -43091017.33 0.2779 0.1291

Earth -122690-03-24 02:25 J -43091017.49 -43091017.40 -43091017.30 0.2782 0.1391 *

Neptune -122690-04-25 10:20 J -43090985.19 -43090985.07 -43090984.92 0.0089 0.0062

Neptune -122690-07-22 13:42 J -43090897.06 -43090896.93 -43090896.77 0.0089 0.0056

Neptune -122690-10-18 17:18 J -43090808.93 -43090808.78 -43090808.61 0.0089 0.0050

Neptune -122689-01-14 20:54 J -43090720.79 -43090720.63 -43090720.46 0.0089 0.0044

Mars -122689-03-04 17:32 J -43090670.86 -43090670.77 -43090670.68 0.1651 0.1014

Neptune -122689-04-12 00:15 J -43090632.65 -43090632.49 -43090632.31 0.0089 0.0038

Neptune -122689-07-09 03:51 J -43090544.51 -43090544.34 -43090544.16 0.0089 0.0032

Venus -122689-10-03 03:37 J -43090458.49 -43090458.35 -43090458.20 0.3636 0.1092

Neptune -122689-10-05 07:27 J -43090456.37 -43090456.19 -43090456.01 0.0089 0.0026

Neptune -122688-01-01 10:49 J -43090368.23 -43090368.05 -43090367.86 0.0089 0.0020

Jupiter -122688-02-18 23:46 J -43090319.56 -43090319.51 -43090319.45 0.0524 0.0471

Neptune -122688-03-30 14:25 J -43090280.08 -43090279.90 -43090279.71 0.0089 0.0014

Jupiter -122688-05-19 06:30 J -43090230.36 -43090230.23 -43090230.10 0.0525 0.0008

Neptune -122688-06-26 18:01 J -43090191.94 -43090191.75 -43090191.56 0.0089 0.0008

Jupiter -122688-08-16 12:44 J -43090141.03 -43090140.97 -43090140.90 0.0526 0.0451

Neptune -122688-09-22 21:37 J -43090103.79 -43090103.60 -43090103.41 0.0089 0.0002

Neptune -122688-12-20 00:58 J -43090015.65 -43090015.46 -43090015.26 0.0089 0.0005

Neptune -122687-03-18 04:34 J -43089927.50 -43089927.31 -43089927.12 0.0089 0.0010

Neptune -122687-06-14 08:10 J -43089839.35 -43089839.16 -43089838.97 0.0089 0.0016

Neptune -122687-09-10 11:46 J -43089751.20 -43089751.01 -43089750.83 0.0089 0.0023

Earth -122687-09-20 09:22 J -43089741.25 -43089741.11 -43089740.98 0.2559 0.1398

Moon -122687-09-20 09:51 J -43089741.22 -43089741.09 -43089740.96 0.2552 0.1526 *

Neptune -122687-12-07 15:08 J -43089663.04 -43089662.87 -43089662.68 0.0089 0.0029

Neptune -122686-03-05 18:44 J -43089574.89 -43089574.72 -43089574.54 0.0089 0.0035

Neptune -122686-06-01 22:20 J -43089486.73 -43089486.57 -43089486.39 0.0089 0.0041

Venus -122686-07-18 00:15 J -43089440.59 -43089440.49 -43089440.38 0.3752 0.0780

Neptune -122686-08-29 01:56 J -43089398.58 -43089398.42 -43089398.25 0.0089 0.0047

Neptune -122686-11-25 05:32 J -43089310.42 -43089310.27 -43089310.11 0.0089 0.0053

Neptune -122685-02-21 09:08 J -43089222.26 -43089222.12 -43089221.97 0.0089 0.0059

Neptune -122685-05-19 12:30 J -43089134.09 -43089133.98 -43089133.83 0.0089 0.0066

Neptune -122685-08-15 16:06 J -43089045.92 -43089045.83 -43089045.70 0.0089 0.0072

Mars -122685-11-06 18:44 J -43088962.83 -43088962.72 -43088962.60 0.1856 0.1282

Neptune -122685-11-11 19:42 J -43088957.75 -43088957.68 -43088957.57 0.0089 0.0078

Neptune -122684-02-07 23:32 J -43088869.57 -43088869.52 -43088869.45 0.0089 0.0084

Earth -122683-03-17 00:01 J -43088467.60 -43088467.50 -43088467.40 0.2781 0.0785

Moon -122683-03-17 00:44 J -43088467.57 -43088467.47 -43088467.37 0.2780 0.0781 *

Venus -122683-04-19 10:20 J -43088434.13 -43088434.07 -43088434.00 0.3628 0.3276

Jupiter -122682-01-09 23:32 J -43088168.59 -43088168.52 -43088168.44 0.0501 0.0458

Jupiter -122682-04-10 08:54 J -43088078.31 -43088078.13 -43088077.95 0.0500 0.0128

Mars -122682-08-20 23:18 J -43087945.62 -43087945.53 -43087945.44 0.1658 0.1066

Saturn -122681-02-11 22:06 J -43087770.66 -43087770.58 -43087770.49 0.0301 0.0232

Saturn -122681-05-10 12:01 J -43087682.13 -43087682.00 -43087681.88 0.0302 0.0110

Saturn -122681-08-07 01:42 J -43087593.57 -43087593.43 -43087593.30 0.0302 0.0014

Saturn -122681-11-03 15:08 J -43087504.99 -43087504.87 -43087504.75 0.0303 0.0132

Venus -122680-01-30 16:49 J -43087416.88 -43087416.80 -43087416.73 0.3758 0.2519

Saturn -122680-01-31 04:34 J -43087416.38 -43087416.31 -43087416.24 0.0303 0.0251

Mars -122680-07-26 04:20 J -43087240.42 -43087240.32 -43087240.21 0.1652 0.0622

Earth -122680-09-11 20:25 J -43087192.73 -43087192.65 -43087192.56 0.2560 0.2190

Moon -122680-09-11 20:54 J -43087192.71 -43087192.63 -43087192.54 0.2566 0.2147 *

Moon -122677-03-25 20:25 J -43086266.72 -43086266.65 -43086266.58 0.2779 0.2083

Earth -122677-03-25 20:54 J -43086266.69 -43086266.63 -43086266.56 0.2782 0.2165 *

Jupiter -122676-03-07 10:20 J -43085920.19 -43085920.07 -43085919.94 0.0525 0.0125

Jupiter -122676-06-04 16:49 J -43085830.90 -43085830.80 -43085830.70 0.0526 0.0336

Mars -122672-01-10 09:51 J -43084515.14 -43084515.09 -43084515.04 0.1659 0.1484

Mars -122671-12-16 15:22 J -43083809.98 -43083809.86 -43083809.75 0.1654 0.0226

Jupiter -122670-01-27 06:01 J -43083768.43 -43083768.25 -43083768.07 0.0500 0.0019

Earth -122670-03-19 18:30 J -43083716.84 -43083716.73 -43083716.62 0.2782 0.0037

Moon -122670-03-19 19:13 J -43083716.81 -43083716.70 -43083716.59 0.2784 0.0086 *

Saturn -122667-06-06 00:30 J -43082542.62 -43082542.48 -43082542.33 0.0261 0.0161

Saturn -122667-09-02 19:42 J -43082453.86 -43082453.68 -43082453.50 0.0260 0.0055

Earth -122667-09-15 02:54 J -43082441.53 -43082441.38 -43082441.22 0.2559 0.0918

Moon -122667-09-15 03:08 J -43082441.52 -43082441.37 -43082441.22 0.2565 0.1008 *

Saturn -122667-11-30 14:54 J -43082365.06 -43082364.88 -43082364.70 0.0260 0.0052

Uranus -122667-12-02 22:20 J -43082362.66 -43082362.57 -43082362.45 0.0148 0.0125

Saturn -122666-02-27 10:06 J -43082276.22 -43082276.08 -43082275.93 0.0260 0.0159

Uranus -122666-03-01 07:27 J -43082274.34 -43082274.19 -43082274.04 0.0148 0.0093

Uranus -122666-05-28 16:06 J -43082186.00 -43082185.83 -43082185.65 0.0148 0.0061

Uranus -122666-08-25 00:58 J -43082097.65 -43082097.46 -43082097.27 0.0148 0.0030

Uranus -122666-11-21 09:51 J -43082009.28 -43082009.09 -43082008.90 0.0148 0.0003

Uranus -122665-02-17 18:30 J -43081920.91 -43081920.73 -43081920.54 0.0148 0.0034

Uranus -122665-05-16 03:22 J -43081832.53 -43081832.36 -43081832.18 0.0148 0.0066

Uranus -122665-08-12 12:01 J -43081744.13 -43081744.00 -43081743.84 0.0148 0.0099

Uranus -122665-11-08 20:54 J -43081655.70 -43081655.63 -43081655.52 0.0148 0.0130

Jupiter -122665-12-24 14:10 J -43081610.02 -43081609.91 -43081609.79 0.0526 0.0243

Jupiter -122664-03-23 20:39 J -43081520.75 -43081520.64 -43081520.52 0.0527 0.0221

Mars -122664-07-27 04:20 J -43081395.46 -43081395.32 -43081395.18 0.1859 0.0940

Moon -122663-03-12 15:22 J -43081166.93 -43081166.86 -43081166.80 0.2781 0.2174

Earth -122663-03-12 16:06 J -43081166.90 -43081166.83 -43081166.77 0.2780 0.2183 *

Mars -122661-05-08 01:56 J -43080379.53 -43080379.42 -43080379.30 0.1655 0.0190

Mars -122659-04-13 06:30 J -43079674.28 -43079674.23 -43079674.17 0.1651 0.1459

Jupiter -122659-11-15 03:08 J -43079458.54 -43079458.37 -43079458.20 0.0500 0.0166

Jupiter -122658-02-13 12:44 J -43079368.07 -43079367.97 -43079367.87 0.0499 0.0422

Earth -122657-03-21 12:58 J -43078966.07 -43078965.96 -43078965.86 0.2782 0.0758

Moon -122657-03-21 13:27 J -43078966.04 -43078965.94 -43078965.83 0.2785 0.0857 *

Mars -122655-12-17 00:01 J -43077965.67 -43077965.50 -43077965.34 0.1858 0.0133

Moon -122654-09-18 08:54 J -43077690.29 -43077690.13 -43077689.98 0.2565 0.0284

Earth -122654-09-18 09:37 J -43077690.26 -43077690.10 -43077689.94 0.2559 0.0365 *

Jupiter -122653-10-12 18:15 J -43077299.83 -43077299.74 -43077299.65 0.0525 0.0356

Jupiter -122652-01-10 00:58 J -43077210.59 -43077210.46 -43077210.34 0.0526 0.0108

Saturn -122652-07-01 00:15 J -43077038.55 -43077038.49 -43077038.43 0.0301 0.0263

Saturn -122652-09-27 14:10 J -43076950.03 -43076949.91 -43076949.79 0.0302 0.0142

Mars -122652-09-28 12:44 J -43076949.08 -43076948.97 -43076948.86 0.1656 0.0595

Saturn -122652-12-25 03:51 J -43076861.48 -43076861.34 -43076861.21 0.0302 0.0022

Saturn -122651-03-23 17:18 J -43076772.90 -43076772.78 -43076772.65 0.0303 0.0100

Saturn -122651-06-20 06:44 J -43076684.31 -43076684.22 -43076684.13 0.0303 0.0220

Moon -122650-03-15 09:37 J -43076416.19 -43076416.10 -43076416.01 0.2781 0.1519

Earth -122650-03-15 10:34 J -43076416.16 -43076416.06 -43076415.97 0.2780 0.1421 *

Mars -122650-09-03 17:32 J -43076243.86 -43076243.77 -43076243.68 0.1651 0.1071

Jupiter -122647-09-02 23:18 J -43075148.66 -43075148.53 -43075148.39 0.0500 0.0321

Jupiter -122647-12-02 08:54 J -43075058.29 -43075058.13 -43075057.98 0.0500 0.0267

Mars -122645-05-07 19:13 J -43074535.82 -43074535.70 -43074535.57 0.1856 0.1186

Earth -122644-03-24 07:27 J -43074215.28 -43074215.19 -43074215.10 0.2782 0.1529

Moon -122644-03-24 07:56 J -43074215.26 -43074215.17 -43074215.08 0.2787 0.1526 *

Mars -122642-02-18 23:18 J -43073518.62 -43073518.53 -43073518.44 0.1658 0.1011

Jupiter -122641-07-31 22:20 J -43072989.63 -43072989.57 -43072989.52 0.0524 0.0470

Moon -122641-09-20 14:54 J -43072939.00 -43072938.88 -43072938.76 0.2563 0.1666

Earth -122641-09-20 16:06 J -43072938.96 -43072938.83 -43072938.71 0.2558 0.1631 *

Jupiter -122641-10-29 05:03 J -43072900.42 -43072900.29 -43072900.16 0.0525 0.0010

Venus -122640-01-22 12:58 J -43072815.04 -43072814.96 -43072814.87 0.3742 0.2101

Mars -122640-01-24 04:20 J -43072813.42 -43072813.32 -43072813.21 0.1652 0.0675

Jupiter -122640-01-26 11:18 J -43072811.09 -43072811.03 -43072810.97 0.0526 0.0452

Saturn -122638-10-24 01:42 J -43071810.55 -43071810.43 -43071810.30 0.0261 0.0184

Pluto -122638-11-18 08:39 J -43071785.16 -43071785.14 -43071785.10 0.0061 0.0060

Saturn -122637-01-20 20:39 J -43071721.81 -43071721.64 -43071721.46 0.0260 0.0079

Pluto -122637-02-14 09:51 J -43071697.17 -43071697.09 -43071696.98 0.0061 0.0052

Moon -122637-03-17 04:20 J -43071665.43 -43071665.32 -43071665.22 0.2779 0.0769

Earth -122637-03-17 04:49 J -43071665.40 -43071665.30 -43071665.19 0.2781 0.0657 *

Saturn -122637-04-18 15:51 J -43071633.02 -43071632.84 -43071632.66 0.0260 0.0027

Pluto -122637-05-12 11:03 J -43071609.15 -43071609.04 -43071608.89 0.0061 0.0044

Saturn -122637-07-16 11:03 J -43071544.19 -43071544.04 -43071543.88 0.0260 0.0134

Pluto -122637-08-08 12:15 J -43071521.12 -43071520.99 -43071520.82 0.0061 0.0036

Saturn -122637-10-13 06:15 J -43071455.29 -43071455.24 -43071455.16 0.0259 0.0242

Pluto -122637-11-04 13:27 J -43071433.09 -43071432.94 -43071432.75 0.0061 0.0028

Pluto -122636-01-31 15:08 J -43071345.04 -43071344.87 -43071344.69 0.0061 0.0019

Pluto -122636-04-29 16:20 J -43071257.00 -43071256.82 -43071256.63 0.0061 0.0011

Pluto -122636-07-26 17:46 J -43071168.94 -43071168.76 -43071168.57 0.0061 0.0003

Pluto -122636-10-22 18:58 J -43071080.89 -43071080.71 -43071080.52 0.0061 0.0006

Pluto -122635-01-18 20:10 J -43070992.83 -43070992.66 -43070992.47 0.0061 0.0014

Pluto -122635-04-16 21:22 J -43070904.77 -43070904.61 -43070904.42 0.0061 0.0023

Jupiter -122635-06-21 20:39 J -43070838.70 -43070838.64 -43070838.57 0.0501 0.0466

Pluto -122635-07-13 22:49 J -43070816.70 -43070816.55 -43070816.38 0.0061 0.0031

Venus -122635-08-08 05:32 J -43070791.37 -43070791.27 -43070791.16 0.3748 0.0335

Jupiter -122635-09-20 06:01 J -43070748.43 -43070748.25 -43070748.07 0.0500 0.0120

Pluto -122635-10-10 00:15 J -43070728.63 -43070728.49 -43070728.34 0.0061 0.0039

Pluto -122634-01-06 00:58 J -43070640.55 -43070640.46 -43070640.32 0.0061 0.0048

Pluto -122634-04-04 02:25 J -43070552.46 -43070552.40 -43070552.30 0.0061 0.0056

Moon -122634-09-13 02:54 J -43070390.48 -43070390.38 -43070390.27 0.2553 0.1930

Earth -122634-09-13 03:08 J -43070390.47 -43070390.37 -43070390.27 0.2560 0.1963 *

Mars -122633-07-11 09:51 J -43070088.15 -43070088.09 -43070088.03 0.1659 0.1428

Venus -122632-05-10 05:03 J -43069785.44 -43069785.29 -43069785.14 0.3634 0.0377

Earth -122631-03-27 01:56 J -43069464.48 -43069464.42 -43069464.36 0.2782 0.2301

Moon -122631-03-27 02:25 J -43069464.46 -43069464.40 -43069464.34 0.2788 0.2298 *

Mars -122631-06-16 15:08 J -43069382.98 -43069382.87 -43069382.75 0.1653 0.0279

Moon -122630-03-11 03:08 J -43069115.38 -43069115.37 -43069115.35 0.2776 0.2730

Venus -122629-02-21 22:06 J -43068767.68 -43068767.58 -43068767.49 0.3754 0.1428

Jupiter -122629-08-17 08:39 J -43068590.27 -43068590.14 -43068590.02 0.0525 0.0128

Jupiter -122629-11-14 14:54 J -43068500.97 -43068500.88 -43068500.78 0.0526 0.0333

Uranus -122625-03-27 19:42 J -43067271.71 -43067271.68 -43067271.65 0.0130 0.0126

Uranus -122625-06-23 22:34 J -43067183.62 -43067183.56 -43067183.49 0.0130 0.0111

Uranus -122625-09-20 01:27 J -43067095.52 -43067095.44 -43067095.34 0.0130 0.0096

Uranus -122625-12-17 04:20 J -43067007.41 -43067007.32 -43067007.20 0.0130 0.0081

Mars -122624-01-25 05:18 J -43066968.42 -43066968.28 -43066968.15 0.1859 0.1050

Uranus -122624-03-15 07:27 J -43066919.30 -43066919.19 -43066919.07 0.0130 0.0065

Moon -122624-03-19 22:34 J -43066914.66 -43066914.56 -43066914.45 0.2780 0.0154

Earth -122624-03-19 23:18 J -43066914.63 -43066914.53 -43066914.42 0.2782 0.0149 *

Uranus -122624-06-11 10:20 J -43066831.19 -43066831.07 -43066830.94 0.0130 0.0050

Venus -122624-09-06 14:25 J -43066743.95 -43066743.90 -43066743.85 0.3759 0.3167

Uranus -122624-09-07 13:13 J -43066743.07 -43066742.95 -43066742.81 0.0130 0.0036

Uranus -122624-12-04 16:20 J -43066654.95 -43066654.82 -43066654.69 0.0130 0.0020

Uranus -122623-03-02 19:13 J -43066566.83 -43066566.70 -43066566.57 0.0131 0.0005

Uranus -122623-05-29 22:06 J -43066478.71 -43066478.58 -43066478.45 0.0131 0.0010

Jupiter -122623-07-09 03:22 J -43066438.55 -43066438.36 -43066438.18 0.0500 0.0027

Uranus -122623-08-26 00:58 J -43066390.59 -43066390.46 -43066390.33 0.0131 0.0025

Saturn -122623-11-18 02:25 J -43066306.42 -43066306.40 -43066306.36 0.0301 0.0292

Uranus -122623-11-22 03:51 J -43066302.47 -43066302.34 -43066302.21 0.0131 0.0040

Saturn -122622-02-14 16:20 J -43066217.93 -43066217.82 -43066217.70 0.0302 0.0171

Uranus -122622-02-18 06:44 J -43066214.34 -43066214.22 -43066214.10 0.0131 0.0055

Saturn -122622-05-14 06:15 J -43066129.38 -43066129.24 -43066129.11 0.0302 0.0049

Uranus -122622-05-17 09:37 J -43066126.21 -43066126.10 -43066125.99 0.0131 0.0070

Saturn -122622-08-10 19:42 J -43066040.81 -43066040.68 -43066040.55 0.0303 0.0073

Uranus -122622-08-13 12:30 J -43066038.08 -43066037.98 -43066037.88 0.0131 0.0085

Mars -122622-11-07 01:56 J -43065952.54 -43065952.42 -43065952.30 0.1655 0.0137

Saturn -122622-11-07 09:22 J -43065952.22 -43065952.11 -43065952.01 0.0303 0.0192

Uranus -122622-11-09 15:22 J -43065949.94 -43065949.86 -43065949.77 0.0131 0.0100

Uranus -122621-02-05 18:01 J -43065861.80 -43065861.75 -43065861.68 0.0131 0.0115

Uranus -122621-05-03 20:54 J -43065773.63 -43065773.63 -43065773.60 0.0131 0.0130

Earth -122621-09-15 09:37 J -43065639.25 -43065639.10 -43065638.94 0.2559 0.0685

Moon -122621-09-15 10:20 J -43065639.23 -43065639.07 -43065638.92 0.2554 0.0731 *

Mars -122620-10-12 06:30 J -43065247.27 -43065247.23 -43065247.18 0.1651 0.1512

Earth -122617-03-12 20:54 J -43064364.70 -43064364.63 -43064364.56 0.2780 0.2050

Moon -122617-03-12 21:37 J -43064364.68 -43064364.60 -43064364.52 0.2780 0.1925 *

Jupiter -122617-06-05 12:30 J -43064280.09 -43064279.98 -43064279.87 0.0525 0.0246

Jupiter -122617-09-02 18:58 J -43064190.83 -43064190.71 -43064190.59 0.0526 0.0216

Mars -122615-06-17 00:15 J -43063538.66 -43063538.49 -43063538.33 0.1857 0.0045

Mars -122612-03-29 12:44 J -43062522.08 -43062521.97 -43062521.86 0.1656 0.0542

Moon -122611-03-22 17:18 J -43062163.89 -43062163.78 -43062163.68 0.2777 0.0910

Earth -122611-03-22 17:46 J -43062163.86 -43062163.76 -43062163.66 0.2782 0.0896 *

Jupiter -122611-04-27 00:44 J -43062128.64 -43062128.47 -43062128.30 0.0500 0.0169

Jupiter -122611-07-26 10:20 J -43062038.17 -43062038.07 -43062037.97 0.0499 0.0420

Neptune -122611-12-04 18:30 J -43061906.76 -43061906.73 -43061906.70 0.0088 0.0086

Neptune -122610-03-02 19:42 J -43061818.72 -43061818.68 -43061818.62 0.0088 0.0082

Mars -122610-03-04 17:32 J -43061816.86 -43061816.77 -43061816.69 0.1652 0.1120

Neptune -122610-05-29 21:08 J -43061730.67 -43061730.62 -43061730.55 0.0088 0.0078

Neptune -122610-08-25 22:34 J -43061642.62 -43061642.56 -43061642.47 0.0088 0.0073

Neptune -122610-11-22 00:15 J -43061554.57 -43061554.49 -43061554.41 0.0088 0.0069

Neptune -122609-02-18 01:27 J -43061466.52 -43061466.44 -43061466.34 0.0088 0.0065

Neptune -122609-05-16 02:54 J -43061378.47 -43061378.38 -43061378.27 0.0088 0.0060

Neptune -122609-08-12 04:20 J -43061290.42 -43061290.32 -43061290.21 0.0088 0.0056

Neptune -122609-11-08 05:46 J -43061202.36 -43061202.26 -43061202.14 0.0088 0.0052

Neptune -122608-02-04 07:13 J -43061114.31 -43061114.20 -43061114.08 0.0088 0.0048

Saturn -122608-03-12 02:10 J -43061078.51 -43061078.41 -43061078.30 0.0261 0.0211

Neptune -122608-05-03 08:39 J -43061026.25 -43061026.14 -43061026.02 0.0088 0.0043

Saturn -122608-06-08 21:08 J -43060989.78 -43060989.62 -43060989.45 0.0260 0.0106

Neptune -122608-07-30 10:06 J -43060938.20 -43060938.08 -43060937.96 0.0088 0.0039

Saturn -122608-09-05 16:20 J -43060901.01 -43060900.82 -43060900.64 0.0260 0.0003

Earth -122608-09-18 16:06 J -43060887.98 -43060887.83 -43060887.67 0.2559 0.0592

Moon -122608-09-18 17:03 J -43060887.95 -43060887.79 -43060887.63 0.2553 0.0598 *

Neptune -122608-10-26 11:18 J -43060850.14 -43060850.03 -43060849.89 0.0088 0.0036

Saturn -122608-12-03 11:32 J -43060812.19 -43060812.02 -43060811.85 0.0260 0.0107

Neptune -122607-01-22 12:58 J -43060762.09 -43060761.96 -43060761.83 0.0088 0.0031

Saturn -122607-03-02 06:44 J -43060723.32 -43060723.22 -43060723.11 0.0259 0.0214

Neptune -122607-04-20 14:25 J -43060674.03 -43060673.90 -43060673.77 0.0088 0.0026

Neptune -122607-07-17 15:37 J -43060585.98 -43060585.85 -43060585.71 0.0088 0.0022

Neptune -122607-10-13 17:03 J -43060497.92 -43060497.79 -43060497.65 0.0088 0.0018

Neptune -122606-01-09 18:30 J -43060409.86 -43060409.73 -43060409.60 0.0088 0.0014

Neptune -122606-04-07 19:56 J -43060321.81 -43060321.67 -43060321.54 0.0088 0.0010

Neptune -122606-07-04 21:08 J -43060233.75 -43060233.62 -43060233.48 0.0088 0.0007

Neptune -122606-09-30 22:34 J -43060145.69 -43060145.56 -43060145.42 0.0088 0.0003

Mars -122606-11-06 20:10 J -43060108.79 -43060108.66 -43060108.52 0.1856 0.1073

Neptune -122606-12-28 00:01 J -43060057.63 -43060057.50 -43060057.36 0.0088 0.0003

Jupiter -122605-03-24 16:20 J -43059969.91 -43059969.82 -43059969.73 0.0525 0.0363

Neptune -122605-03-25 01:27 J -43059969.57 -43059969.44 -43059969.31 0.0088 0.0007

Neptune -122605-06-21 02:54 J -43059881.52 -43059881.38 -43059881.25 0.0088 0.0012

Jupiter -122605-06-21 23:03 J -43059880.67 -43059880.54 -43059880.42 0.0526 0.0102

Neptune -122605-09-17 04:06 J -43059793.46 -43059793.33 -43059793.19 0.0088 0.0016

Neptune -122605-12-14 05:32 J -43059705.40 -43059705.27 -43059705.14 0.0088 0.0020

Neptune -122604-03-12 06:44 J -43059617.34 -43059617.22 -43059617.08 0.0088 0.0024

Earth -122604-03-15 15:22 J -43059613.96 -43059613.86 -43059613.77 0.2781 0.1283

Moon -122604-03-15 16:06 J -43059613.93 -43059613.83 -43059613.74 0.2782 0.1263 *

Neptune -122604-06-08 08:10 J -43059529.28 -43059529.16 -43059529.03 0.0088 0.0028

Neptune -122604-09-04 09:37 J -43059441.22 -43059441.10 -43059440.97 0.0088 0.0032

Neptune -122604-12-01 10:49 J -43059353.16 -43059353.05 -43059352.92 0.0088 0.0037

Neptune -122603-02-27 12:15 J -43059265.10 -43059264.99 -43059264.87 0.0088 0.0041

Neptune -122603-05-26 13:42 J -43059177.04 -43059176.93 -43059176.81 0.0088 0.0045

Mars -122603-08-19 23:18 J -43059091.62 -43059091.53 -43059091.43 0.1657 0.0952

Neptune -122603-08-22 15:08 J -43059088.98 -43059088.87 -43059088.76 0.0088 0.0049

Neptune -122603-11-18 16:06 J -43059000.92 -43059000.83 -43059000.71 0.0088 0.0054

Neptune -122602-02-14 17:32 J -43058912.86 -43058912.77 -43058912.66 0.0088 0.0057

Neptune -122602-05-13 18:58 J -43058824.80 -43058824.71 -43058824.61 0.0088 0.0061

Neptune -122602-08-09 20:10 J -43058736.74 -43058736.66 -43058736.56 0.0088 0.0065

Neptune -122602-11-05 21:37 J -43058648.67 -43058648.60 -43058648.51 0.0088 0.0069

Neptune -122601-02-01 22:49 J -43058560.61 -43058560.55 -43058560.47 0.0088 0.0074

Neptune -122601-04-30 00:15 J -43058472.54 -43058472.49 -43058472.42 0.0088 0.0077

Mars -122601-07-25 04:20 J -43058386.42 -43058386.32 -43058386.21 0.1653 0.0730

Neptune -122601-07-27 01:42 J -43058384.48 -43058384.43 -43058384.38 0.0088 0.0081

Neptune -122601-10-23 02:54 J -43058296.40 -43058296.38 -43058296.34 0.0088 0.0086

Jupiter -122599-02-12 21:51 J -43057818.72 -43057818.59 -43057818.44 0.0500 0.0314

Jupiter -122599-05-14 07:13 J -43057728.35 -43057728.20 -43057728.04 0.0499 0.0274

Moon -122598-03-25 11:46 J -43057413.10 -43057413.01 -43057412.92 0.2778 0.1578

Earth -122598-03-25 12:15 J -43057413.07 -43057412.99 -43057412.90 0.2783 0.1669 *

Earth -122595-09-21 22:34 J -43056136.67 -43056136.56 -43056136.45 0.2558 0.1857

Moon -122595-09-22 00:01 J -43056136.60 -43056136.50 -43056136.40 0.2555 0.2018 *

Mars -122593-01-10 09:51 J -43055661.16 -43055661.09 -43055661.03 0.1659 0.1373

Jupiter -122593-01-11 20:25 J -43055659.70 -43055659.65 -43055659.60 0.0525 0.0475

Jupiter -122593-04-10 03:08 J -43055570.50 -43055570.37 -43055570.24 0.0526 0.0015

Saturn -122593-07-03 18:15 J -43055485.84 -43055485.74 -43055485.64 0.0301 0.0205

Jupiter -122593-07-08 09:37 J -43055481.17 -43055481.10 -43055481.04 0.0526 0.0448

Saturn -122593-09-30 07:56 J -43055397.30 -43055397.17 -43055397.04 0.0302 0.0084

Saturn -122593-12-27 21:37 J -43055308.73 -43055308.60 -43055308.47 0.0302 0.0037

Saturn -122592-03-26 11:03 J -43055220.15 -43055220.04 -43055219.92 0.0303 0.0158

Saturn -122592-06-23 00:30 J -43055131.52 -43055131.48 -43055131.42 0.0303 0.0277

Mars -122592-12-15 15:22 J -43054955.98 -43054955.86 -43054955.75 0.1653 0.0332

Earth -122591-03-18 09:51 J -43054863.20 -43054863.09 -43054862.99 0.2781 0.0518

Moon -122591-03-18 10:34 J -43054863.17 -43054863.06 -43054862.96 0.2785 0.0532 *

Venus -122589-02-13 18:15 J -43054165.79 -43054165.74 -43054165.69 0.3738 0.3201

Moon -122588-09-13 09:37 J -43053588.22 -43053588.10 -43053587.99 0.2566 0.1720

Earth -122588-09-13 09:51 J -43053588.21 -43053588.09 -43053587.98 0.2560 0.1736 *

Jupiter -122588-12-01 18:15 J -43053508.80 -43053508.74 -43053508.68 0.0501 0.0469

Jupiter -122587-03-02 03:22 J -43053418.54 -43053418.36 -43053418.18 0.0500 0.0117

Moon -122585-03-27 06:30 J -43052662.29 -43052662.23 -43052662.18 0.2776 0.2357

Earth -122585-03-27 06:44 J -43052662.27 -43052662.22 -43052662.17 0.2783 0.2442 *

Mars -122585-07-26 06:01 J -43052541.38 -43052541.25 -43052541.13 0.1859 0.1155

Moon -122584-03-11 06:44 J -43052313.24 -43052313.22 -43052313.21 0.2778 0.2723

Earth -122584-03-11 07:27 J -43052313.22 -43052313.19 -43052313.17 0.2779 0.2679 *

Venus -122584-08-29 10:49 J -43052142.15 -43052142.05 -43052141.96 0.3744 0.1435

Uranus -122583-12-23 04:34 J -43051661.41 -43051661.31 -43051661.20 0.0148 0.0121

Uranus -122582-03-21 13:13 J -43051573.09 -43051572.95 -43051572.79 0.0148 0.0090

Mars -122582-05-08 01:56 J -43051525.54 -43051525.42 -43051525.30 0.1655 0.0083

Uranus -122582-06-17 22:06 J -43051484.75 -43051484.58 -43051484.40 0.0148 0.0059

Uranus -122582-09-14 06:58 J -43051396.40 -43051396.21 -43051396.02 0.0148 0.0027

Uranus -122582-12-11 15:51 J -43051308.03 -43051307.84 -43051307.65 0.0148 0.0005

Jupiter -122581-01-28 07:27 J -43051260.32 -43051260.19 -43051260.07 0.0525 0.0124

Uranus -122581-03-09 00:30 J -43051219.66 -43051219.48 -43051219.29 0.0148 0.0037

Jupiter -122581-04-26 13:42 J -43051171.02 -43051170.93 -43051170.83 0.0526 0.0337

Venus -122581-05-30 23:46 J -43051136.62 -43051136.51 -43051136.40 0.3639 0.2470

Uranus -122581-06-05 09:37 J -43051131.27 -43051131.10 -43051130.93 0.0148 0.0069

Uranus -122581-09-01 18:30 J -43051042.87 -43051042.73 -43051042.59 0.0148 0.0101

Uranus -122581-11-29 02:54 J -43050954.44 -43050954.38 -43050954.28 0.0148 0.0134

Mars -122580-04-12 06:30 J -43050820.26 -43050820.23 -43050820.19 0.1651 0.1564

Saturn -122579-07-30 02:54 J -43050346.45 -43050346.38 -43050346.30 0.0261 0.0236

Saturn -122579-10-26 21:51 J -43050257.74 -43050257.59 -43050257.43 0.0260 0.0132

Saturn -122578-01-23 16:49 J -43050168.98 -43050168.80 -43050168.61 0.0260 0.0027

Venus -122578-03-15 03:22 J -43050118.47 -43050118.36 -43050118.26 0.3750 0.0359

Earth -122578-03-21 04:20 J -43050112.43 -43050112.32 -43050112.22 0.2782 0.0285

Moon -122578-03-21 04:49 J -43050112.41 -43050112.30 -43050112.20 0.2787 0.0337 *

Saturn -122578-04-22 12:01 J -43050080.17 -43050080.00 -43050079.82 0.0260 0.0080

Saturn -122578-07-20 07:13 J -43049991.32 -43049991.20 -43049991.06 0.0259 0.0186

Venus -122576-12-15 06:30 J -43049112.36 -43049112.23 -43049112.10 0.3632 0.1863

Mars -122576-12-16 01:13 J -43049111.61 -43049111.45 -43049111.29 0.1858 0.0080

Jupiter -122576-12-19 00:44 J -43049108.66 -43049108.47 -43049108.29 0.0500 0.0030

Moon -122575-09-16 15:22 J -43048837.02 -43048836.86 -43048836.71 0.2565 0.0603

Earth -122575-09-16 16:20 J -43048836.98 -43048836.82 -43048836.66 0.2559 0.0458 *

Mars -122573-09-27 12:44 J -43048095.08 -43048094.97 -43048094.86 0.1656 0.0485

Venus -122573-09-27 19:42 J -43048094.77 -43048094.68 -43048094.59 0.3755 0.2072

Moon -122571-03-14 00:58 J -43047562.53 -43047562.46 -43047562.38 0.2779 0.1906

Earth -122571-03-14 01:42 J -43047562.50 -43047562.43 -43047562.35 0.2780 0.1917 *

Mars -122571-09-02 17:32 J -43047389.85 -43047389.77 -43047389.69 0.1651 0.1174

Jupiter -122570-11-16 11:03 J -43046950.15 -43046950.04 -43046949.93 0.0525 0.0244

Jupiter -122569-02-13 17:32 J -43046860.89 -43046860.77 -43046860.65 0.0526 0.0217

Mars -122566-05-07 20:39 J -43045681.77 -43045681.64 -43045681.50 0.1855 0.0980

Earth -122565-03-22 22:34 J -43045361.66 -43045361.56 -43045361.45 0.2782 0.1039

Moon -122565-03-22 23:18 J -43045361.63 -43045361.53 -43045361.43 0.2788 0.1131 *

Jupiter -122564-10-06 22:06 J -43044798.75 -43044798.58 -43044798.40 0.0500 0.0173

Saturn -122564-11-20 19:56 J -43044753.75 -43044753.67 -43044753.59 0.0302 0.0238

Jupiter -122563-01-05 07:56 J -43044708.27 -43044708.17 -43044708.07 0.0500 0.0418

Saturn -122563-02-17 09:51 J -43044665.22 -43044665.09 -43044664.97 0.0302 0.0117

Mars -122563-02-17 23:18 J -43044664.63 -43044664.53 -43044664.43 0.1658 0.0900

Saturn -122563-05-16 23:32 J -43044576.65 -43044576.52 -43044576.39 0.0303 0.0005

Saturn -122563-08-13 12:58 J -43044488.08 -43044487.96 -43044487.84 0.0303 0.0126

Saturn -122563-11-10 02:25 J -43044399.47 -43044399.40 -43044399.32 0.0304 0.0245

Moon -122562-09-19 21:37 J -43044085.76 -43044085.60 -43044085.45 0.2562 0.0697

Earth -122562-09-19 22:49 J -43044085.70 -43044085.55 -43044085.40 0.2558 0.0824 *

Mars -122561-01-24 04:20 J -43043959.42 -43043959.32 -43043959.21 0.1653 0.0779

Moon -122558-03-16 19:42 J -43042811.78 -43042811.68 -43042811.59 0.2777 0.1209

Earth -122558-03-16 20:10 J -43042811.76 -43042811.66 -43042811.56 0.2781 0.1148 *

Jupiter -122558-09-04 14:54 J -43042639.97 -43042639.88 -43042639.79 0.0525 0.0361

Jupiter -122558-12-02 21:37 J -43042550.73 -43042550.60 -43042550.48 0.0526 0.0103

Mars -122554-07-11 09:51 J -43041234.16 -43041234.09 -43041234.02 0.1659 0.1315

Earth -122552-03-25 17:18 J -43040610.87 -43040610.78 -43040610.70 0.2783 0.1812

Moon -122552-03-25 17:32 J -43040610.85 -43040610.77 -43040610.69 0.2789 0.1803 *

Mars -122552-06-15 15:08 J -43040528.98 -43040528.87 -43040528.75 0.1654 0.0384

Jupiter -122552-07-25 19:56 J -43040488.81 -43040488.67 -43040488.53 0.0500 0.0313

Jupiter -122552-10-24 05:18 J -43040398.43 -43040398.28 -43040398.12 0.0499 0.0274

Saturn -122549-03-14 21:51 J -43039525.73 -43039525.59 -43039525.44 0.0260 0.0161

Saturn -122549-06-11 16:49 J -43039436.98 -43039436.80 -43039436.62 0.0260 0.0056

Saturn -122549-09-08 12:01 J -43039348.18 -43039348.00 -43039347.82 0.0260 0.0050

Moon -122549-09-22 03:37 J -43039334.44 -43039334.35 -43039334.26 0.2561 0.2095

Earth -122549-09-22 05:18 J -43039334.37 -43039334.28 -43039334.19 0.2558 0.2093 *

Saturn -122549-12-06 06:58 J -43039259.35 -43039259.21 -43039259.05 0.0259 0.0157

Jupiter -122546-06-23 18:44 J -43038329.77 -43038329.72 -43038329.67 0.0525 0.0478

Jupiter -122546-09-21 01:27 J -43038240.57 -43038240.44 -43038240.31 0.0526 0.0015

Jupiter -122546-12-19 07:56 J -43038151.24 -43038151.17 -43038151.11 0.0527 0.0446

Mars -122545-01-25 06:44 J -43038114.34 -43038114.22 -43038114.10 0.1859 0.1258

Moon -122545-03-18 14:10 J -43038061.02 -43038060.91 -43038060.81 0.2778 0.0484

Earth -122545-03-18 14:39 J -43038061.00 -43038060.89 -43038060.78 0.2782 0.0375 *

Pluto -122545-12-13 06:15 J -43037791.31 -43037791.24 -43037791.16 0.0084 0.0068

Pluto -122544-03-11 07:42 J -43037703.28 -43037703.18 -43037703.07 0.0084 0.0052

Pluto -122544-06-07 09:08 J -43037615.24 -43037615.12 -43037615.00 0.0084 0.0036

Pluto -122544-09-03 10:20 J -43037527.20 -43037527.07 -43037526.93 0.0084 0.0021

Pluto -122544-11-30 11:46 J -43037439.14 -43037439.01 -43037438.87 0.0084 0.0005

Pluto -122543-02-26 13:13 J -43037351.09 -43037350.95 -43037350.81 0.0084 0.0011

Pluto -122543-05-25 14:39 J -43037263.02 -43037262.89 -43037262.76 0.0084 0.0027

Pluto -122543-08-21 15:51 J -43037174.95 -43037174.84 -43037174.72 0.0083 0.0043

Mars -122543-11-06 01:56 J -43037098.53 -43037098.42 -43037098.30 0.1655 0.0067

Pluto -122543-11-17 17:03 J -43037086.88 -43037086.79 -43037086.68 0.0083 0.0058

Pluto -122542-02-13 18:15 J -43036998.79 -43036998.74 -43036998.66 0.0083 0.0074

Earth -122542-09-14 16:20 J -43036785.95 -43036785.82 -43036785.69 0.2560 0.1511

Moon -122542-09-14 17:18 J -43036785.92 -43036785.78 -43036785.64 0.2555 0.1392 *

Uranus -122541-04-17 02:54 J -43036570.42 -43036570.38 -43036570.33 0.0131 0.0122

Uranus -122541-07-14 05:46 J -43036482.33 -43036482.26 -43036482.18 0.0131 0.0107

Uranus -122541-10-10 08:39 J -43036394.22 -43036394.14 -43036394.03 0.0131 0.0092

Mars -122541-10-11 06:30 J -43036393.25 -43036393.23 -43036393.21 0.1651 0.1617

Uranus -122540-01-06 11:46 J -43036306.11 -43036306.01 -43036305.90 0.0131 0.0076

Uranus -122540-04-04 14:39 J -43036218.00 -43036217.89 -43036217.77 0.0131 0.0061

Jupiter -122540-05-13 17:32 J -43036178.85 -43036178.77 -43036178.70 0.0501 0.0456

Uranus -122540-07-01 17:46 J -43036129.89 -43036129.76 -43036129.64 0.0131 0.0046

Jupiter -122540-08-12 02:39 J -43036088.57 -43036088.39 -43036088.21 0.0500 0.0129

Uranus -122540-09-27 20:39 J -43036041.77 -43036041.64 -43036041.51 0.0131 0.0031

Uranus -122540-12-24 23:32 J -43035953.65 -43035953.52 -43035953.38 0.0131 0.0016

Uranus -122539-03-23 02:25 J -43035865.53 -43035865.40 -43035865.26 0.0131 0.0003

Earth -122539-03-28 11:46 J -43035860.05 -43035860.01 -43035859.98 0.2782 0.2586

Moon -122539-03-28 12:01 J -43035860.04 -43035860.00 -43035859.96 0.2789 0.2568 *

Uranus -122539-06-19 05:18 J -43035777.41 -43035777.28 -43035777.14 0.0131 0.0015

Uranus -122539-09-15 08:10 J -43035689.28 -43035689.16 -43035689.02 0.0131 0.0030

Uranus -122539-12-12 11:03 J -43035601.16 -43035601.04 -43035600.91 0.0131 0.0045

Uranus -122538-03-10 13:56 J -43035513.03 -43035512.92 -43035512.80 0.0131 0.0060

Earth -122538-03-12 12:15 J -43035511.03 -43035510.99 -43035510.95 0.2779 0.2545

Moon -122538-03-12 12:58 J -43035511.01 -43035510.96 -43035510.91 0.2781 0.2486 *

Uranus -122538-06-06 16:49 J -43035424.90 -43035424.80 -43035424.68 0.0131 0.0074

Uranus -122538-09-02 19:56 J -43035336.77 -43035336.67 -43035336.58 0.0131 0.0089

Uranus -122538-11-29 22:34 J -43035248.63 -43035248.56 -43035248.47 0.0131 0.0104

Uranus -122537-02-26 01:27 J -43035160.49 -43035160.44 -43035160.38 0.0131 0.0119

Mars -122536-06-16 01:56 J -43034684.58 -43034684.42 -43034684.25 0.1857 0.0188

Saturn -122534-04-09 21:08 J -43034021.67 -43034021.62 -43034021.57 0.0301 0.0278

Saturn -122534-07-07 11:03 J -43033933.16 -43033933.04 -43033932.93 0.0302 0.0157

Jupiter -122534-07-10 05:46 J -43033930.38 -43033930.26 -43033930.13 0.0525 0.0125

Saturn -122534-10-04 00:44 J -43033844.60 -43033844.47 -43033844.34 0.0302 0.0036

Jupiter -122534-10-07 12:15 J -43033841.09 -43033840.99 -43033840.89 0.0526 0.0336

Saturn -122534-12-31 14:25 J -43033756.03 -43033755.90 -43033755.78 0.0303 0.0086

Mars -122533-03-28 12:44 J -43033668.09 -43033667.97 -43033667.86 0.1656 0.0431

Saturn -122533-03-29 03:51 J -43033667.44 -43033667.34 -43033667.24 0.0303 0.0205

Venus -122533-09-19 15:51 J -43033492.91 -43033492.84 -43033492.76 0.3740 0.2547

Moon -122532-03-21 08:39 J -43033310.25 -43033310.14 -43033310.03 0.2776 0.0390

Earth -122532-03-21 09:08 J -43033310.23 -43033310.12 -43033310.01 0.2782 0.0398 *

Mars -122531-03-03 17:32 J -43032962.85 -43032962.77 -43032962.69 0.1652 0.1227

Earth -122529-09-16 23:03 J -43032034.70 -43032034.54 -43032034.38 0.2559 0.0231

Moon -122529-09-17 00:01 J -43032034.66 -43032034.50 -43032034.33 0.2554 0.0252 *

Jupiter -122528-05-30 22:34 J -43031778.74 -43031778.56 -43031778.38 0.0500 0.0029

Venus -122527-04-05 08:25 J -43031469.25 -43031469.15 -43031469.05 0.3745 0.0783

Mars -122527-11-05 21:37 J -43031254.75 -43031254.60 -43031254.46 0.1855 0.0872

Neptune -122526-02-01 18:44 J -43031166.78 -43031166.72 -43031166.65 0.0089 0.0083

Neptune -122526-04-30 21:51 J -43031078.66 -43031078.59 -43031078.48 0.0089 0.0078

Neptune -122526-07-28 01:13 J -43030990.54 -43030990.45 -43030990.32 0.0089 0.0072

Neptune -122526-10-24 04:49 J -43030902.41 -43030902.30 -43030902.16 0.0089 0.0066

Neptune -122525-01-20 08:10 J -43030814.28 -43030814.16 -43030814.00 0.0089 0.0060

Earth -122525-03-14 06:44 J -43030760.30 -43030760.22 -43030760.14 0.2780 0.1782

Moon -122525-03-14 07:13 J -43030760.28 -43030760.20 -43030760.11 0.2783 0.1675 *

Neptune -122525-04-17 11:46 J -43030726.15 -43030726.01 -43030725.85 0.0089 0.0054

Neptune -122525-07-14 15:08 J -43030638.01 -43030637.87 -43030637.70 0.0089 0.0048

Neptune -122525-10-10 18:44 J -43030549.88 -43030549.72 -43030549.54 0.0089 0.0042

Venus -122524-01-05 01:13 J -43030463.60 -43030463.45 -43030463.31 0.3637 0.1005

Neptune -122524-01-06 22:20 J -43030461.74 -43030461.57 -43030461.39 0.0089 0.0036

Neptune -122524-04-05 01:42 J -43030373.60 -43030373.43 -43030373.24 0.0089 0.0030

Neptune -122524-07-02 05:18 J -43030285.46 -43030285.28 -43030285.09 0.0089 0.0024

Mars -122524-08-18 23:18 J -43030237.63 -43030237.53 -43030237.43 0.1658 0.0843

Neptune -122524-09-28 08:54 J -43030197.32 -43030197.13 -43030196.94 0.0089 0.0018

Neptune -122524-12-25 12:15 J -43030109.17 -43030108.99 -43030108.79 0.0089 0.0012

Neptune -122523-03-23 15:51 J -43030021.03 -43030020.84 -43030020.64 0.0089 0.0006

Neptune -122523-06-19 19:27 J -43029932.88 -43029932.69 -43029932.50 0.0089 0.0001

Neptune -122523-09-15 23:03 J -43029844.73 -43029844.54 -43029844.35 0.0089 0.0006

Neptune -122523-12-13 02:39 J -43029756.58 -43029756.39 -43029756.20 0.0089 0.0013

Neptune -122522-03-11 06:01 J -43029668.43 -43029668.25 -43029668.06 0.0089 0.0019

Jupiter -122522-04-28 10:06 J -43029620.19 -43029620.08 -43029619.96 0.0525 0.0235

Neptune -122522-06-07 09:22 J -43029580.28 -43029580.11 -43029579.91 0.0089 0.0025

Mars -122522-07-25 04:20 J -43029532.42 -43029532.32 -43029532.22 0.1652 0.0833

Jupiter -122522-07-26 16:34 J -43029530.92 -43029530.81 -43029530.69 0.0526 0.0226

Neptune -122522-09-03 12:58 J -43029492.13 -43029491.96 -43029491.77 0.0089 0.0031

Venus -122522-10-20 00:58 J -43029445.56 -43029445.46 -43029445.36 0.3751 0.0976

Neptune -122522-11-30 16:34 J -43029403.98 -43029403.81 -43029403.63 0.0089 0.0037

Neptune -122521-02-26 20:10 J -43029315.82 -43029315.66 -43029315.48 0.0089 0.0043

Neptune -122521-05-24 23:46 J -43029227.66 -43029227.51 -43029227.34 0.0089 0.0049

Neptune -122521-08-21 03:22 J -43029139.50 -43029139.36 -43029139.20 0.0089 0.0055

Neptune -122521-11-17 06:58 J -43029051.34 -43029051.21 -43029051.07 0.0089 0.0061

Neptune -122520-02-13 10:49 J -43028963.18 -43028963.05 -43028962.93 0.0089 0.0068

Neptune -122520-05-12 13:56 J -43028875.01 -43028874.92 -43028874.80 0.0089 0.0074

Saturn -122520-08-01 21:51 J -43028793.70 -43028793.59 -43028793.45 0.0260 0.0190

Neptune -122520-08-08 17:32 J -43028786.83 -43028786.77 -43028786.67 0.0089 0.0080

Saturn -122520-10-29 17:03 J -43028704.96 -43028704.79 -43028704.62 0.0260 0.0084

Neptune -122520-11-04 21:08 J -43028698.65 -43028698.62 -43028698.55 0.0089 0.0086

Saturn -122519-01-26 12:01 J -43028616.18 -43028616.00 -43028615.81 0.0260 0.0021

Moon -122519-03-24 03:22 J -43028559.46 -43028559.36 -43028559.27 0.2776 0.1203

Earth -122519-03-24 03:37 J -43028559.45 -43028559.35 -43028559.25 0.2783 0.1173 *

Saturn -122519-04-25 07:13 J -43028527.36 -43028527.20 -43028527.04 0.0259 0.0127

Venus -122519-07-22 07:56 J -43028439.22 -43028439.17 -43028439.11 0.3630 0.3364

Saturn -122519-07-23 02:25 J -43028438.47 -43028438.40 -43028438.31 0.0259 0.0233

Jupiter -122516-03-18 19:56 J -43027468.84 -43027468.67 -43027468.50 0.0501 0.0173

Venus -122516-05-04 17:18 J -43027421.85 -43027421.78 -43027421.71 0.3757 0.2715

Jupiter -122516-06-17 05:32 J -43027378.36 -43027378.27 -43027378.16 0.0500 0.0418

Earth -122516-09-20 05:18 J -43027283.42 -43027283.28 -43027283.13 0.2558 0.1056

Moon -122516-09-20 07:13 J -43027283.35 -43027283.20 -43027283.06 0.2556 0.1071 *

Mars -122514-01-09 09:51 J -43026807.17 -43026807.09 -43026807.01 0.1659 0.1260

Mars -122513-12-14 15:08 J -43026101.98 -43026101.87 -43026101.75 0.1654 0.0438

Earth -122512-03-17 01:13 J -43026009.55 -43026009.45 -43026009.35 0.2781 0.1014

Moon -122512-03-17 01:42 J -43026009.53 -43026009.43 -43026009.33 0.2786 0.0990 *

Jupiter -122510-02-14 13:56 J -43025310.02 -43025309.92 -43025309.83 0.0524 0.0355

Jupiter -122510-05-14 20:25 J -43025220.78 -43025220.65 -43025220.53 0.0525 0.0108

Moon -122509-09-11 16:06 J -43024734.86 -43024734.83 -43024734.81 0.2566 0.2515

Earth -122509-09-11 16:34 J -43024734.82 -43024734.81 -43024734.80 0.2560 0.2552 *

Moon -122506-03-26 21:51 J -43023808.67 -43023808.59 -43023808.51 0.2775 0.1888

Earth -122506-03-26 22:06 J -43023808.66 -43023808.58 -43023808.50 0.2783 0.1950 *

Mars -122506-07-26 07:27 J -43023687.30 -43023687.19 -43023687.08 0.1859 0.1364

Saturn -122505-11-23 12:15 J -43023201.09 -43023200.99 -43023200.88 0.0302 0.0194

Jupiter -122504-01-04 17:32 J -43023158.90 -43023158.77 -43023158.62 0.0501 0.0315

Saturn -122504-02-20 02:10 J -43023112.54 -43023112.41 -43023112.28 0.0303 0.0072

Jupiter -122504-04-05 03:08 J -43023068.52 -43023068.37 -43023068.21 0.0500 0.0275

Saturn -122504-05-19 15:51 J -43023023.98 -43023023.84 -43023023.71 0.0303 0.0050

Saturn -122504-08-16 05:18 J -43022935.39 -43022935.28 -43022935.17 0.0303 0.0170

Saturn -122504-11-12 18:44 J -43022846.76 -43022846.72 -43022846.68 0.0304 0.0289

Mars -122503-05-07 01:56 J -43022671.54 -43022671.42 -43022671.30 0.1655 0.0047

Earth -122503-09-23 11:46 J -43022532.07 -43022532.01 -43022531.94 0.2558 0.2321

Moon -122503-09-23 13:27 J -43022531.97 -43022531.94 -43022531.91 0.2557 0.2487 *

Earth -122499-03-19 19:27 J -43021258.79 -43021258.69 -43021258.58 0.2782 0.0259

Moon -122499-03-19 19:56 J -43021258.78 -43021258.67 -43021258.56 0.2788 0.0273 *

Uranus -122499-10-16 03:08 J -43021048.39 -43021048.37 -43021048.32 0.0148 0.0146

Jupiter -122499-12-03 17:32 J -43020999.82 -43020999.77 -43020999.71 0.0524 0.0472

Uranus -122498-01-12 12:01 J -43020960.11 -43020960.00 -43020959.87 0.0148 0.0114

Jupiter -122498-03-03 00:15 J -43020910.61 -43020910.49 -43020910.36 0.0525 0.0019

Uranus -122498-04-10 20:54 J -43020871.78 -43020871.63 -43020871.47 0.0148 0.0083

Jupiter -122498-05-31 06:30 J -43020821.29 -43020821.23 -43020821.16 0.0526 0.0452

Uranus -122498-07-08 05:32 J -43020783.44 -43020783.27 -43020783.08 0.0148 0.0051

Uranus -122498-10-04 14:25 J -43020695.09 -43020694.90 -43020694.71 0.0148 0.0020

Uranus -122498-12-31 23:18 J -43020606.72 -43020606.53 -43020606.34 0.0148 0.0012

Uranus -122497-03-29 07:56 J -43020518.34 -43020518.17 -43020517.98 0.0148 0.0045

Uranus -122497-06-25 16:49 J -43020429.95 -43020429.80 -43020429.63 0.0148 0.0076

Uranus -122497-09-22 01:42 J -43020341.55 -43020341.43 -43020341.29 0.0148 0.0108

Mars -122497-12-15 02:25 J -43020257.56 -43020257.40 -43020257.24 0.1857 0.0279

Uranus -122497-12-19 10:34 J -43020253.11 -43020253.06 -43020252.99 0.0148 0.0140

Moon -122496-09-14 21:51 J -43019983.72 -43019983.59 -43019983.45 0.2565 0.1283

Earth -122496-09-14 23:03 J -43019983.68 -43019983.54 -43019983.40 0.2559 0.1277 *

Mars -122494-09-27 12:44 J -43019241.09 -43019240.97 -43019240.86 0.1656 0.0376

Moon -122493-03-28 16:34 J -43019057.84 -43019057.81 -43019057.78 0.2776 0.2662

Earth -122493-03-28 16:34 J -43019057.83 -43019057.81 -43019057.79 0.2783 0.2726 *

Jupiter -122493-10-23 15:37 J -43018848.92 -43018848.85 -43018848.77 0.0501 0.0452

Jupiter -122492-01-22 00:58 J -43018758.64 -43018758.46 -43018758.29 0.0500 0.0134

Moon -122492-03-12 16:34 J -43018708.86 -43018708.81 -43018708.77 0.2777 0.2443

Earth -122492-03-12 17:03 J -43018708.84 -43018708.79 -43018708.73 0.2779 0.2411 *

Mars -122492-09-01 17:32 J -43018535.84 -43018535.77 -43018535.70 0.1652 0.1277

Saturn -122491-12-19 21:37 J -43018061.69 -43018061.60 -43018061.50 0.0260 0.0220

Saturn -122490-03-18 16:34 J -43017972.97 -43017972.81 -43017972.65 0.0260 0.0116

Saturn -122490-06-15 11:32 J -43017884.20 -43017884.02 -43017883.84 0.0260 0.0012

Saturn -122490-09-12 06:30 J -43017795.40 -43017795.23 -43017795.05 0.0259 0.0094

Saturn -122490-12-10 01:42 J -43017706.54 -43017706.43 -43017706.30 0.0259 0.0200

Mars -122487-05-06 22:20 J -43016827.72 -43016827.57 -43016827.43 0.1856 0.0771

Jupiter -122487-12-20 04:20 J -43016600.45 -43016600.32 -43016600.19 0.0525 0.0124

Jupiter -122486-03-19 10:49 J -43016511.15 -43016511.05 -43016510.95 0.0526 0.0337

Earth -122486-03-22 13:56 J -43016508.02 -43016507.92 -43016507.81 0.2782 0.0543

Moon -122486-03-22 14:25 J -43016508.00 -43016507.90 -43016507.79 0.2788 0.0608 *

Mars -122484-02-16 23:18 J -43015810.63 -43015810.53 -43015810.42 0.1658 0.0786

Moon -122483-09-18 04:06 J -43015232.48 -43015232.33 -43015232.17 0.2562 0.0163

Earth -122483-09-18 05:32 J -43015232.43 -43015232.27 -43015232.11 0.2559 0.0025 *

Mars -122482-01-23 04:20 J -43015105.42 -43015105.32 -43015105.22 0.1653 0.0887

Venus -122482-10-11 21:08 J -43014843.64 -43014843.62 -43014843.60 0.3735 0.3657

Jupiter -122481-11-09 22:20 J -43014448.75 -43014448.57 -43014448.39 0.0500 0.0011

Moon -122479-03-15 11:03 J -43013958.13 -43013958.04 -43013957.95 0.2776 0.1615

Earth -122479-03-15 11:32 J -43013958.10 -43013958.02 -43013957.93 0.2780 0.1644 *

Mars -122478-09-26 18:30 J -43013397.77 -43013397.73 -43013397.69 0.1853 0.1783

Venus -122476-04-26 13:42 J -43012820.02 -43012819.93 -43012819.84 0.3741 0.1891

Saturn -122475-04-12 12:58 J -43012469.04 -43012468.96 -43012468.88 0.0301 0.0238

Saturn -122475-07-10 02:39 J -43012380.51 -43012380.39 -43012380.26 0.0302 0.0117

Mars -122475-07-10 09:51 J -43012380.17 -43012380.09 -43012380.01 0.1659 0.1202

Saturn -122475-10-06 16:34 J -43012291.95 -43012291.81 -43012291.68 0.0302 0.0010

Jupiter -122475-10-08 08:39 J -43012290.25 -43012290.14 -43012290.02 0.0525 0.0233

Saturn -122474-01-03 06:01 J -43012203.37 -43012203.25 -43012203.13 0.0303 0.0125

Jupiter -122474-01-05 15:08 J -43012200.98 -43012200.87 -43012200.75 0.0526 0.0230

Saturn -122474-04-01 19:27 J -43012114.76 -43012114.69 -43012114.61 0.0303 0.0245

Earth -122473-03-24 08:25 J -43011757.24 -43011757.15 -43011757.05 0.2782 0.1314

Moon -122473-03-24 08:39 J -43011757.23 -43011757.14 -43011757.05 0.2790 0.1395 *

Mars -122473-06-14 15:22 J -43011674.98 -43011674.86 -43011674.75 0.1654 0.0492

Venus -122471-11-10 06:01 J -43010796.35 -43010796.25 -43010796.14 0.3747 0.0173

Moon -122470-09-21 10:34 J -43010481.21 -43010481.06 -43010480.92 0.2561 0.1143

Earth -122470-09-21 12:01 J -43010481.14 -43010481.00 -43010480.86 0.2558 0.1287 *

Jupiter -122469-08-28 18:15 J -43010138.91 -43010138.74 -43010138.56 0.0500 0.0169

Jupiter -122469-11-27 04:06 J -43010048.43 -43010048.33 -43010048.24 0.0500 0.0423

Venus -122468-08-12 02:39 J -43009790.54 -43009790.39 -43009790.24 0.3635 0.0473

Mars -122466-01-24 08:10 J -43009260.26 -43009260.16 -43009260.06 0.1859 0.1469

Moon -122466-03-18 05:32 J -43009207.38 -43009207.27 -43009207.17 0.2777 0.0947

Earth -122466-03-18 06:01 J -43009207.35 -43009207.25 -43009207.15 0.2781 0.0873 *

Mars -122466-11-30 20:25 J -43008949.68 -43008949.65 -43008949.63 0.1661 0.1625

Venus -122465-05-25 22:34 J -43008772.65 -43008772.56 -43008772.47 0.3753 0.1616

Mars -122464-11-05 01:56 J -43008244.54 -43008244.42 -43008244.30 0.1655 0.0091

Jupiter -122463-07-27 12:58 J -43007980.05 -43007979.96 -43007979.86 0.0525 0.0343

Earth -122463-09-12 23:18 J -43007932.60 -43007932.53 -43007932.47 0.2560 0.2327

Moon -122463-09-13 00:01 J -43007932.58 -43007932.50 -43007932.42 0.2555 0.2193 *

Jupiter -122463-10-24 19:42 J -43007890.81 -43007890.68 -43007890.56 0.0525 0.0120

Saturn -122461-05-07 21:22 J -43007329.65 -43007329.61 -43007329.56 0.0261 0.0251

Saturn -122461-08-04 16:06 J -43007240.97 -43007240.83 -43007240.68 0.0260 0.0148

Saturn -122461-11-01 11:03 J -43007152.22 -43007152.04 -43007151.86 0.0260 0.0043

Saturn -122460-01-29 06:15 J -43007063.42 -43007063.24 -43007063.06 0.0259 0.0062

Earth -122460-03-27 02:54 J -43007006.45 -43007006.38 -43007006.31 0.2783 0.2091

Moon -122460-03-27 03:08 J -43007006.44 -43007006.37 -43007006.30 0.2789 0.2071 *

Saturn -122460-04-28 01:13 J -43006974.58 -43006974.45 -43006974.30 0.0259 0.0168

Venus -122460-12-09 14:54 J -43006748.92 -43006748.88 -43006748.83 0.3758 0.3348

Uranus -122457-05-07 10:20 J -43005869.13 -43005869.07 -43005869.01 0.0131 0.0117

Mars -122457-06-15 03:22 J -43005830.52 -43005830.36 -43005830.20 0.1857 0.0386

Jupiter -122457-06-16 15:51 J -43005828.98 -43005828.84 -43005828.70 0.0501 0.0311

Uranus -122457-08-03 13:13 J -43005781.03 -43005780.95 -43005780.86 0.0131 0.0102

Jupiter -122457-09-15 01:27 J -43005738.60 -43005738.44 -43005738.29 0.0500 0.0278

Moon -122457-09-23 16:49 J -43005729.82 -43005729.80 -43005729.78 0.2558 0.2537

Earth -122457-09-23 18:30 J -43005729.73 -43005729.73 -43005729.73 0.2558 0.2557

Uranus -122457-10-30 16:06 J -43005692.92 -43005692.83 -43005692.72 0.0131 0.0087

Uranus -122456-01-26 19:13 J -43005604.81 -43005604.70 -43005604.59 0.0131 0.0072

Uranus -122456-04-24 22:06 J -43005516.70 -43005516.58 -43005516.46 0.0131 0.0056

Uranus -122456-07-22 00:58 J -43005428.58 -43005428.46 -43005428.33 0.0131 0.0042

Uranus -122456-10-18 04:06 J -43005340.46 -43005340.33 -43005340.20 0.0131 0.0026

Uranus -122455-01-14 06:58 J -43005252.34 -43005252.21 -43005252.08 0.0131 0.0011

Uranus -122455-04-12 09:51 J -43005164.22 -43005164.09 -43005163.96 0.0131 0.0004

Uranus -122455-07-09 12:44 J -43005076.10 -43005075.97 -43005075.84 0.0131 0.0019

Uranus -122455-10-05 15:37 J -43004987.98 -43004987.85 -43004987.72 0.0131 0.0034

Uranus -122454-01-01 18:30 J -43004899.85 -43004899.73 -43004899.60 0.0131 0.0049

Mars -122454-03-28 12:44 J -43004814.09 -43004813.97 -43004813.86 0.1656 0.0324

Uranus -122454-03-30 21:22 J -43004811.72 -43004811.61 -43004811.49 0.0131 0.0064

Uranus -122454-06-27 00:15 J -43004723.59 -43004723.49 -43004723.38 0.0131 0.0079

Uranus -122454-09-23 03:08 J -43004635.46 -43004635.37 -43004635.27 0.0131 0.0094

Uranus -122454-12-20 06:01 J -43004547.32 -43004547.25 -43004547.17 0.0131 0.0109

Uranus -122453-03-17 08:54 J -43004459.17 -43004459.13 -43004459.08 0.0131 0.0124

Moon -122453-03-20 00:01 J -43004456.61 -43004456.50 -43004456.39 0.2776 0.0197

Earth -122453-03-20 00:30 J -43004456.59 -43004456.48 -43004456.37 0.2782 0.0102 *

Mars -122452-03-02 17:32 J -43004108.84 -43004108.77 -43004108.70 0.1652 0.1329

Jupiter -122451-05-15 16:49 J -43003669.86 -43003669.80 -43003669.74 0.0524 0.0460

Jupiter -122451-08-12 23:32 J -43003580.65 -43003580.52 -43003580.39 0.0525 0.0006

Jupiter -122451-11-10 05:46 J -43003491.32 -43003491.26 -43003491.20 0.0526 0.0461

Earth -122450-09-16 05:46 J -43003181.41 -43003181.26 -43003181.11 0.2559 0.1042

Moon -122450-09-16 06:44 J -43003181.37 -43003181.22 -43003181.07 0.2554 0.0942 *

Mars -122448-11-04 23:03 J -43002400.69 -43002400.54 -43002400.39 0.1855 0.0664

Earth -122446-03-13 22:06 J -43001906.64 -43001906.58 -43001906.52 0.2779 0.2275

Moon -122446-03-13 22:34 J -43001906.62 -43001906.56 -43001906.49 0.2782 0.2217 *

Saturn -122446-08-30 13:42 J -43001736.98 -43001736.93 -43001736.88 0.0302 0.0279

Neptune -122446-08-31 17:32 J -43001735.80 -43001735.77 -43001735.72 0.0088 0.0085

Saturn -122446-11-27 03:37 J -43001648.46 -43001648.35 -43001648.24 0.0302 0.0157

Neptune -122446-11-27 18:58 J -43001647.75 -43001647.71 -43001647.64 0.0088 0.0080

Saturn -122445-02-23 17:18 J -43001559.91 -43001559.78 -43001559.64 0.0303 0.0037

Neptune -122445-02-23 20:25 J -43001559.71 -43001559.65 -43001559.57 0.0088 0.0076 *

Jupiter -122445-04-04 13:42 J -43001519.00 -43001518.93 -43001518.85 0.0501 0.0451

Neptune -122445-05-21 22:06 J -43001471.66 -43001471.58 -43001471.50 0.0088 0.0072

Saturn -122445-05-22 06:58 J -43001471.34 -43001471.21 -43001471.08 0.0303 0.0085

Jupiter -122445-07-03 23:03 J -43001428.72 -43001428.54 -43001428.36 0.0500 0.0136

Mars -122445-08-17 23:18 J -43001383.63 -43001383.53 -43001383.42 0.1658 0.0731

Neptune -122445-08-17 23:18 J -43001383.61 -43001383.53 -43001383.43 0.0088 0.0068 *

Saturn -122445-08-18 20:25 J -43001382.74 -43001382.65 -43001382.55 0.0304 0.0205

Neptune -122445-11-14 00:44 J -43001295.55 -43001295.47 -43001295.37 0.0088 0.0063

Neptune -122444-02-10 02:10 J -43001207.50 -43001207.41 -43001207.30 0.0088 0.0059

Neptune -122444-05-09 03:51 J -43001119.45 -43001119.34 -43001119.24 0.0088 0.0055

Neptune -122444-08-05 05:03 J -43001031.39 -43001031.29 -43001031.17 0.0088 0.0051

Neptune -122444-11-01 06:30 J -43000943.34 -43000943.23 -43000943.11 0.0088 0.0046

Neptune -122443-01-28 07:56 J -43000855.28 -43000855.17 -43000855.05 0.0088 0.0042

Neptune -122443-04-26 09:22 J -43000767.23 -43000767.11 -43000766.98 0.0088 0.0038

Neptune -122443-07-23 10:49 J -43000679.17 -43000679.05 -43000678.92 0.0088 0.0033

Mars -122443-07-24 04:20 J -43000678.41 -43000678.32 -43000678.22 0.1653 0.0939

Neptune -122443-10-19 12:15 J -43000591.12 -43000590.99 -43000590.86 0.0088 0.0029

Neptune -122442-01-15 13:27 J -43000503.06 -43000502.94 -43000502.80 0.0088 0.0026

Neptune -122442-04-13 14:54 J -43000415.00 -43000414.88 -43000414.74 0.0088 0.0021

Neptune -122442-07-10 16:20 J -43000326.95 -43000326.82 -43000326.68 0.0088 0.0017

Neptune -122442-10-06 17:46 J -43000238.89 -43000238.76 -43000238.62 0.0088 0.0012

Neptune -122441-01-02 19:13 J -43000150.83 -43000150.70 -43000150.57 0.0088 0.0008

Neptune -122441-03-30 20:39 J -43000062.78 -43000062.64 -43000062.51 0.0088 0.0004

Neptune -122441-06-26 22:06 J -42999974.72 -42999974.58 -42999974.45 0.0088 0.0003

Neptune -122441-09-22 23:18 J -42999886.66 -42999886.53 -42999886.39 0.0088 0.0005

Neptune -122441-12-20 00:44 J -42999798.60 -42999798.47 -42999798.34 0.0088 0.0009

Neptune -122440-03-18 01:56 J -42999710.55 -42999710.42 -42999710.28 0.0088 0.0014

Moon -122440-03-22 18:30 J -42999705.83 -42999705.73 -42999705.62 0.2777 0.0685

Earth -122440-03-22 18:58 J -42999705.82 -42999705.71 -42999705.61 0.2782 0.0680 *

Neptune -122440-06-14 03:22 J -42999622.49 -42999622.36 -42999622.22 0.0088 0.0017

Neptune -122440-09-10 04:49 J -42999534.43 -42999534.30 -42999534.17 0.0088 0.0021

Neptune -122440-12-07 06:15 J -42999446.37 -42999446.24 -42999446.11 0.0088 0.0025

Neptune -122439-03-05 07:27 J -42999358.31 -42999358.19 -42999358.06 0.0088 0.0030

Jupiter -122439-06-01 03:37 J -42999270.48 -42999270.35 -42999270.23 0.0525 0.0114

Neptune -122439-06-01 08:54 J -42999270.25 -42999270.13 -42999270.00 0.0088 0.0034 *

Neptune -122439-08-28 10:06 J -42999182.19 -42999182.08 -42999181.95 0.0088 0.0038

Jupiter -122439-08-29 09:51 J -42999181.18 -42999181.09 -42999180.99 0.0526 0.0347

Neptune -122439-11-24 11:32 J -42999094.13 -42999094.02 -42999093.90 0.0088 0.0042

Neptune -122438-02-20 12:58 J -42999006.07 -42999005.96 -42999005.84 0.0088 0.0046

Mars -122438-03-27 18:44 J -42998970.78 -42998970.72 -42998970.66 0.1853 0.1699

Neptune -122438-05-19 14:10 J -42998918.01 -42998917.91 -42998917.79 0.0088 0.0051

Neptune -122438-08-15 15:37 J -42998829.95 -42998829.85 -42998829.74 0.0088 0.0054

Neptune -122438-11-11 17:03 J -42998741.89 -42998741.79 -42998741.69 0.0088 0.0058

Neptune -122437-02-07 18:15 J -42998653.82 -42998653.74 -42998653.64 0.0088 0.0063

Neptune -122437-05-05 19:42 J -42998565.76 -42998565.68 -42998565.59 0.0088 0.0067

Neptune -122437-08-01 21:08 J -42998477.70 -42998477.62 -42998477.54 0.0088 0.0071

Earth -122437-09-18 12:15 J -42998430.15 -42998429.99 -42998429.83 0.2559 0.0239

Moon -122437-09-18 13:42 J -42998430.09 -42998429.93 -42998429.76 0.2555 0.0246 *

Neptune -122437-10-28 22:34 J -42998389.63 -42998389.56 -42998389.49 0.0088 0.0075

Neptune -122436-01-24 23:46 J -42998301.57 -42998301.51 -42998301.45 0.0088 0.0079

Neptune -122436-04-23 00:44 J -42998213.50 -42998213.47 -42998213.41 0.0088 0.0084

Neptune -122436-07-20 02:10 J -42998125.42 -42998125.41 -42998125.38 0.0088 0.0087

Mars -122435-01-08 09:51 J -42997953.17 -42997953.09 -42997953.00 0.1659 0.1146

Mars -122434-12-14 15:08 J -42997247.98 -42997247.87 -42997247.75 0.1654 0.0544

Earth -122433-03-15 16:34 J -42997155.90 -42997155.81 -42997155.72 0.2780 0.1511

Moon -122433-03-15 17:03 J -42997155.88 -42997155.79 -42997155.69 0.2784 0.1399 *

Jupiter -122433-04-21 20:54 J -42997118.81 -42997118.63 -42997118.45 0.0500 0.0004

Saturn -122432-12-22 15:08 J -42996508.99 -42996508.87 -42996508.73 0.0260 0.0182

Saturn -122431-03-21 10:06 J -42996420.25 -42996420.08 -42996419.90 0.0260 0.0078

Saturn -122431-06-18 05:03 J -42996331.47 -42996331.29 -42996331.10 0.0259 0.0028

Saturn -122431-09-15 00:01 J -42996242.65 -42996242.50 -42996242.33 0.0259 0.0133

Saturn -122431-12-12 19:27 J -42996153.75 -42996153.69 -42996153.62 0.0259 0.0239

Jupiter -122427-03-20 07:27 J -42994960.30 -42994960.19 -42994960.07 0.0525 0.0229

Moon -122427-03-25 12:58 J -42994955.05 -42994954.96 -42994954.86 0.2776 0.1475

Earth -122427-03-25 13:27 J -42994955.03 -42994954.94 -42994954.85 0.2783 0.1455 *

Jupiter -122427-06-17 13:56 J -42994871.03 -42994870.92 -42994870.80 0.0526 0.0234

Mars -122427-07-25 08:54 J -42994833.22 -42994833.13 -42994833.05 0.1859 0.1568

Mars -122426-05-31 20:25 J -42994522.69 -42994522.65 -42994522.62 0.1661 0.1567

Venus -122425-05-17 18:44 J -42994170.78 -42994170.72 -42994170.66 0.3737 0.2997

Mars -122424-05-06 01:56 J -42993817.54 -42993817.42 -42993817.30 0.1655 0.0146

Earth -122424-09-21 18:44 J -42993678.85 -42993678.72 -42993678.59 0.2558 0.1515

Moon -122424-09-21 20:10 J -42993678.79 -42993678.66 -42993678.53 0.2556 0.1556 *

Jupiter -122421-02-08 18:30 J -42992808.90 -42992808.73 -42992808.55 0.0500 0.0145

Jupiter -122421-05-09 04:06 J -42992718.41 -42992718.33 -42992718.24 0.0500 0.0445

Earth -122420-03-18 10:49 J -42992405.15 -42992405.05 -42992404.94 0.2781 0.0740

Moon -122420-03-18 11:32 J -42992405.13 -42992405.02 -42992404.92 0.2787 0.0737 *

Venus -122420-12-01 11:18 J -42992147.13 -42992147.03 -42992146.93 0.3743 0.1240

Mars -122418-12-15 04:20 J -42991403.48 -42991403.32 -42991403.16 0.1857 0.0501

Venus -122417-09-01 21:22 J -42991141.72 -42991141.61 -42991141.49 0.3641 0.2355

Moon -122417-09-13 05:18 J -42991130.38 -42991130.28 -42991130.19 0.2566 0.2045

Earth -122417-09-13 06:01 J -42991130.34 -42991130.25 -42991130.16 0.2560 0.2093 *

Saturn -122416-04-15 03:51 J -42990916.44 -42990916.34 -42990916.24 0.0301 0.0205

Saturn -122416-07-12 17:32 J -42990827.89 -42990827.77 -42990827.64 0.0302 0.0084

Saturn -122416-10-09 07:27 J -42990739.33 -42990739.19 -42990739.06 0.0303 0.0038

Saturn -122415-01-05 20:54 J -42990650.74 -42990650.63 -42990650.51 0.0303 0.0158

Jupiter -122415-01-06 12:01 J -42990650.10 -42990650.00 -42990649.90 0.0525 0.0337

Saturn -122415-04-04 10:20 J -42990562.12 -42990562.07 -42990562.02 0.0303 0.0277

Jupiter -122415-04-05 18:30 J -42990560.85 -42990560.73 -42990560.60 0.0526 0.0126

Mars -122415-09-26 12:44 J -42990387.09 -42990386.97 -42990386.85 0.1656 0.0264

Uranus -122415-11-05 12:01 J -42990347.07 -42990347.00 -42990346.91 0.0149 0.0134

Uranus -122414-02-01 20:39 J -42990258.76 -42990258.64 -42990258.49 0.0149 0.0103

Moon -122414-03-28 07:42 J -42990204.25 -42990204.18 -42990204.11 0.2776 0.2164

Earth -122414-03-28 07:56 J -42990204.24 -42990204.17 -42990204.11 0.2783 0.2232 *

Uranus -122414-05-01 05:32 J -42990170.43 -42990170.27 -42990170.10 0.0149 0.0071

Venus -122414-06-17 03:51 J -42990123.45 -42990123.34 -42990123.24 0.3749 0.0528

Uranus -122414-07-28 14:25 J -42990082.08 -42990081.90 -42990081.72 0.0148 0.0040

Uranus -122414-10-24 23:18 J -42989993.72 -42989993.53 -42989993.34 0.0148 0.0008

Uranus -122413-01-21 07:56 J -42989905.35 -42989905.17 -42989904.98 0.0148 0.0024

Uranus -122413-04-18 16:34 J -42989816.97 -42989816.81 -42989816.62 0.0148 0.0057

Uranus -122413-07-16 01:27 J -42989728.58 -42989728.44 -42989728.27 0.0148 0.0089

Mars -122413-08-31 17:32 J -42989681.83 -42989681.77 -42989681.71 0.1652 0.1384

Uranus -122413-10-12 10:20 J -42989640.17 -42989640.07 -42989639.94 0.0148 0.0120

Venus -122411-03-19 04:06 J -42989117.46 -42989117.33 -42989117.20 0.3633 0.1965

Jupiter -122410-11-27 14:39 J -42988499.04 -42988498.89 -42988498.75 0.0501 0.0303

Jupiter -122409-02-26 00:01 J -42988408.65 -42988408.50 -42988408.35 0.0500 0.0286

Venus -122409-12-30 20:10 J -42988099.74 -42988099.66 -42988099.58 0.3754 0.2255

Mars -122408-05-05 23:32 J -42987973.67 -42987973.52 -42987973.36 0.1855 0.0568

Earth -122407-03-21 05:18 J -42987654.39 -42987654.28 -42987654.17 0.2782 0.0046

Moon -122407-03-21 05:46 J -42987654.36 -42987654.26 -42987654.15 0.2787 0.0108 *

Mars -122405-02-16 23:18 J -42986956.64 -42986956.53 -42986956.42 0.1658 0.0677

Moon -122404-09-16 11:18 J -42986379.18 -42986379.03 -42986378.88 0.2564 0.0839

Earth -122404-09-16 12:30 J -42986379.14 -42986378.98 -42986378.83 0.2559 0.0814 *

Jupiter -122404-10-25 16:20 J -42986339.89 -42986339.82 -42986339.75 0.0524 0.0446

Mars -122403-01-22 04:20 J -42986251.41 -42986251.32 -42986251.22 0.1653 0.0991

Jupiter -122403-01-22 23:03 J -42986250.67 -42986250.54 -42986250.41 0.0525 0.0018

Jupiter -122403-04-22 05:18 J -42986161.33 -42986161.28 -42986161.23 0.0526 0.0476

Saturn -122402-05-11 14:39 J -42985776.99 -42985776.89 -42985776.79 0.0260 0.0214

Saturn -122402-08-08 09:22 J -42985688.27 -42985688.11 -42985687.94 0.0260 0.0110

Saturn -122402-11-05 04:20 J -42985599.50 -42985599.32 -42985599.14 0.0260 0.0006

Saturn -122401-02-01 23:32 J -42985510.69 -42985510.52 -42985510.35 0.0259 0.0099

Saturn -122401-04-30 18:30 J -42985421.83 -42985421.73 -42985421.61 0.0259 0.0205

Moon -122400-03-14 02:10 J -42985104.47 -42985104.41 -42985104.34 0.2776 0.2161

Earth -122400-03-14 02:54 J -42985104.45 -42985104.38 -42985104.31 0.2780 0.2139 *

Mars -122399-09-25 19:42 J -42984543.76 -42984543.68 -42984543.60 0.1853 0.1586

Jupiter -122398-09-15 12:15 J -42984189.07 -42984188.99 -42984188.91 0.0501 0.0444

Jupiter -122398-12-14 21:22 J -42984098.78 -42984098.61 -42984098.43 0.0500 0.0143

Mars -122396-07-09 09:51 J -42983526.18 -42983526.09 -42983526.00 0.1659 0.1092

Earth -122394-03-23 23:46 J -42982903.61 -42982903.51 -42982903.41 0.2782 0.0813

Moon -122394-03-24 00:15 J -42982903.60 -42982903.49 -42982903.39 0.2789 0.0895 *

Mars -122394-06-14 15:08 J -42982820.98 -42982820.87 -42982820.76 0.1654 0.0594

Pluto -122392-10-13 23:03 J -42981968.59 -42981968.54 -42981968.44 0.0061 0.0056

Jupiter -122392-11-11 02:54 J -42981940.50 -42981940.38 -42981940.25 0.0525 0.0100

Pluto -122391-01-10 00:15 J -42981880.58 -42981880.49 -42981880.35 0.0061 0.0048

Jupiter -122391-02-08 09:22 J -42981851.20 -42981851.11 -42981851.02 0.0526 0.0361

Pluto -122391-04-08 02:10 J -42981792.55 -42981792.41 -42981792.27 0.0061 0.0039

Pluto -122391-07-05 03:22 J -42981704.52 -42981704.36 -42981704.20 0.0061 0.0031

Moon -122391-09-19 17:32 J -42981627.92 -42981627.77 -42981627.61 0.2563 0.0305

Earth -122391-09-19 18:58 J -42981627.87 -42981627.71 -42981627.55 0.2559 0.0475 *

Pluto -122391-10-01 04:34 J -42981616.48 -42981616.31 -42981616.13 0.0061 0.0023

Pluto -122391-12-28 05:46 J -42981528.43 -42981528.26 -42981528.07 0.0061 0.0015

Pluto -122390-03-26 07:13 J -42981440.38 -42981440.20 -42981440.01 0.0061 0.0007

Pluto -122390-06-22 08:25 J -42981352.33 -42981352.15 -42981351.96 0.0061 0.0003

Pluto -122390-09-18 09:37 J -42981264.28 -42981264.10 -42981263.91 0.0061 0.0010

Pluto -122390-12-15 10:49 J -42981176.22 -42981176.05 -42981175.86 0.0061 0.0019

Pluto -122389-03-12 12:15 J -42981088.15 -42981087.99 -42981087.81 0.0061 0.0027

Pluto -122389-06-08 13:42 J -42981000.08 -42980999.93 -42980999.78 0.0061 0.0035

Pluto -122389-09-04 14:39 J -42980912.01 -42980911.89 -42980911.74 0.0061 0.0043

Pluto -122389-12-01 15:51 J -42980823.92 -42980823.84 -42980823.72 0.0061 0.0052

Pluto -122388-02-27 17:32 J -42980735.80 -42980735.77 -42980735.73 0.0062 0.0060

Mars -122387-01-23 09:37 J -42980406.16 -42980406.10 -42980406.03 0.1859 0.1678

Moon -122387-03-16 20:39 J -42980353.73 -42980353.64 -42980353.54 0.2778 0.1367

Earth -122387-03-16 21:22 J -42980353.70 -42980353.61 -42980353.52 0.2781 0.1369 *

Saturn -122387-09-02 04:20 J -42980184.39 -42980184.32 -42980184.24 0.0302 0.0248

Saturn -122387-11-29 18:15 J -42980095.86 -42980095.74 -42980095.62 0.0302 0.0127

Mars -122387-11-29 20:25 J -42980095.70 -42980095.65 -42980095.61 0.1661 0.1512 *

Saturn -122386-02-26 07:56 J -42980007.30 -42980007.17 -42980007.04 0.0303 0.0006

Saturn -122386-05-25 21:37 J -42979918.73 -42979918.60 -42979918.48 0.0303 0.0115

Saturn -122386-08-22 11:03 J -42979830.12 -42979830.04 -42979829.96 0.0304 0.0235

Jupiter -122386-10-02 19:13 J -42979788.88 -42979788.70 -42979788.51 0.0500 0.0010

Mars -122385-11-04 01:56 J -42979390.53 -42979390.42 -42979390.30 0.1655 0.0198

Earth -122381-03-25 18:15 J -42978152.83 -42978152.74 -42978152.65 0.2783 0.1592

Moon -122381-03-25 18:44 J -42978152.81 -42978152.72 -42978152.64 0.2789 0.1661 *

Jupiter -122380-08-30 06:58 J -42977630.33 -42977630.21 -42977630.09 0.0525 0.0215

Jupiter -122380-11-27 13:27 J -42977541.06 -42977540.94 -42977540.83 0.0526 0.0247

Mars -122378-06-15 04:34 J -42976976.46 -42976976.31 -42976976.15 0.1857 0.0585

Moon -122378-09-22 23:46 J -42976876.63 -42976876.51 -42976876.39 0.2560 0.1622

Earth -122378-09-23 01:27 J -42976876.56 -42976876.44 -42976876.33 0.2558 0.1753 *

Mars -122375-03-27 12:44 J -42975960.09 -42975959.97 -42975959.85 0.1656 0.0212

Moon -122374-03-19 15:08 J -42975602.97 -42975602.87 -42975602.76 0.2777 0.0689

Earth -122374-03-19 15:51 J -42975602.95 -42975602.84 -42975602.74 0.2782 0.0598 *

Jupiter -122374-07-21 17:18 J -42975478.96 -42975478.78 -42975478.60 0.0501 0.0136

Jupiter -122374-10-20 02:54 J -42975388.45 -42975388.38 -42975388.30 0.0500 0.0456

Uranus -122373-02-29 14:54 J -42975255.90 -42975255.88 -42975255.84 0.0131 0.0126

Mars -122373-03-01 17:32 J -42975254.83 -42975254.77 -42975254.72 0.1652 0.1434

Uranus -122373-05-27 18:01 J -42975167.82 -42975167.75 -42975167.68 0.0131 0.0111

Uranus -122373-08-23 20:54 J -42975079.71 -42975079.63 -42975079.53 0.0131 0.0096

Saturn -122373-09-27 13:27 J -42975044.99 -42975044.94 -42975044.89 0.0260 0.0250

Uranus -122373-11-19 23:46 J -42974991.61 -42974991.51 -42974991.40 0.0131 0.0081

Saturn -122373-12-25 07:56 J -42974956.31 -42974956.17 -42974956.01 0.0260 0.0147

Uranus -122372-02-16 02:54 J -42974903.49 -42974903.38 -42974903.26 0.0131 0.0066

Saturn -122372-03-24 02:54 J -42974867.56 -42974867.38 -42974867.20 0.0260 0.0043

Uranus -122372-05-15 05:46 J -42974815.38 -42974815.26 -42974815.13 0.0131 0.0051

Saturn -122372-06-20 22:06 J -42974778.76 -42974778.58 -42974778.40 0.0259 0.0062

Uranus -122372-08-11 08:39 J -42974727.26 -42974727.14 -42974727.00 0.0131 0.0036

Saturn -122372-09-17 17:03 J -42974689.92 -42974689.79 -42974689.64 0.0259 0.0168

Uranus -122372-11-07 11:46 J -42974639.14 -42974639.01 -42974638.88 0.0131 0.0020

Uranus -122371-02-03 14:39 J -42974551.02 -42974550.89 -42974550.76 0.0131 0.0005

Uranus -122371-05-02 17:32 J -42974462.90 -42974462.77 -42974462.63 0.0131 0.0010

Uranus -122371-07-29 20:25 J -42974374.78 -42974374.65 -42974374.52 0.0131 0.0025

Earth -122371-09-14 12:30 J -42974328.09 -42974327.98 -42974327.87 0.2560 0.1868

Moon -122371-09-14 12:58 J -42974328.08 -42974327.96 -42974327.84 0.2554 0.1736 *

Uranus -122371-10-25 23:18 J -42974286.65 -42974286.53 -42974286.40 0.0131 0.0040

Uranus -122370-01-22 02:10 J -42974198.53 -42974198.41 -42974198.28 0.0131 0.0055

Uranus -122370-04-20 05:03 J -42974110.40 -42974110.29 -42974110.17 0.0131 0.0070

Uranus -122370-07-17 07:56 J -42974022.26 -42974022.17 -42974022.06 0.0131 0.0085

Uranus -122370-10-13 10:49 J -42973934.13 -42973934.05 -42973933.96 0.0131 0.0100

Uranus -122369-01-09 13:42 J -42973845.98 -42973845.93 -42973845.86 0.0131 0.0115

Uranus -122369-04-06 16:34 J -42973757.82 -42973757.81 -42973757.79 0.0131 0.0130

Mars -122369-11-04 00:30 J -42973546.64 -42973546.48 -42973546.32 0.1856 0.0455

Venus -122369-12-22 16:34 J -42973497.90 -42973497.81 -42973497.73 0.3738 0.2347

Earth -122368-03-28 12:44 J -42973402.02 -42973401.97 -42973401.92 0.2783 0.2372

Moon -122368-03-28 12:58 J -42973402.02 -42973401.96 -42973401.90 0.2790 0.2339 *

Jupiter -122368-06-18 10:49 J -42973320.15 -42973320.05 -42973319.95 0.0525 0.0331

Jupiter -122368-09-15 17:32 J -42973230.90 -42973230.77 -42973230.65 0.0526 0.0133

Earth -122367-03-12 13:27 J -42973052.95 -42973052.94 -42973052.94 0.2778 0.2774

Mars -122366-08-17 23:18 J -42972529.64 -42972529.53 -42972529.42 0.1658 0.0621

Mars -122364-07-23 04:20 J -42971824.41 -42971824.32 -42971824.23 0.1653 0.1044

Venus -122363-07-08 08:54 J -42971474.23 -42971474.13 -42971474.02 0.3744 0.0596

Jupiter -122362-05-09 15:08 J -42971169.02 -42971168.87 -42971168.72 0.0501 0.0277

Neptune -122362-08-02 13:13 J -42971083.98 -42971083.95 -42971083.92 0.0089 0.0087

Jupiter -122362-08-08 00:30 J -42971078.62 -42971078.48 -42971078.34 0.0500 0.0313

Neptune -122362-10-29 16:06 J -42970995.88 -42970995.83 -42970995.74 0.0089 0.0082

Neptune -122361-01-25 19:42 J -42970907.76 -42970907.68 -42970907.57 0.0089 0.0076

Moon -122361-03-21 09:37 J -42970852.20 -42970852.10 -42970851.99 0.2778 0.0151

Earth -122361-03-21 10:20 J -42970852.18 -42970852.07 -42970851.97 0.2782 0.0206 *

Neptune -122361-04-22 23:03 J -42970819.64 -42970819.54 -42970819.41 0.0089 0.0070

Neptune -122361-07-20 02:39 J -42970731.51 -42970731.39 -42970731.25 0.0089 0.0064

Neptune -122361-10-16 06:01 J -42970643.38 -42970643.25 -42970643.09 0.0089 0.0058

Neptune -122360-01-12 09:37 J -42970555.25 -42970555.10 -42970554.94 0.0089 0.0052

Venus -122360-04-08 22:49 J -42970468.69 -42970468.55 -42970468.40 0.3639 0.0883

Neptune -122360-04-10 12:58 J -42970467.11 -42970466.96 -42970466.79 0.0089 0.0046

Neptune -122360-07-07 16:34 J -42970378.97 -42970378.81 -42970378.64 0.0089 0.0040

Neptune -122360-10-03 20:10 J -42970290.83 -42970290.66 -42970290.48 0.0089 0.0034

Neptune -122360-12-30 23:32 J -42970202.69 -42970202.52 -42970202.33 0.0089 0.0028

Mars -122359-03-26 20:25 J -42970116.75 -42970116.65 -42970116.56 0.1853 0.1487

Neptune -122359-03-29 03:08 J -42970114.55 -42970114.37 -42970114.18 0.0089 0.0022

Neptune -122359-06-25 06:44 J -42970026.41 -42970026.22 -42970026.04 0.0089 0.0016

Neptune -122359-09-21 10:06 J -42969938.27 -42969938.08 -42969937.89 0.0089 0.0010

Neptune -122359-12-18 13:42 J -42969850.12 -42969849.93 -42969849.74 0.0089 0.0004

Neptune -122358-03-16 17:03 J -42969761.98 -42969761.79 -42969761.59 0.0089 0.0003

Neptune -122358-06-12 20:39 J -42969673.83 -42969673.64 -42969673.45 0.0089 0.0008

Neptune -122358-09-09 00:15 J -42969585.68 -42969585.49 -42969585.30 0.0089 0.0014

Earth -122358-09-17 18:58 J -42969576.86 -42969576.71 -42969576.55 0.2559 0.0583

Moon -122358-09-17 20:10 J -42969576.82 -42969576.66 -42969576.50 0.2554 0.0486 *

Neptune -122358-12-06 03:37 J -42969497.53 -42969497.35 -42969497.16 0.0089 0.0021

Saturn -122357-01-20 04:06 J -42969452.34 -42969452.33 -42969452.31 0.0301 0.0298

Venus -122357-01-22 01:27 J -42969450.54 -42969450.44 -42969450.34 0.3750 0.1165

Neptune -122357-03-03 07:13 J -42969409.38 -42969409.20 -42969409.01 0.0089 0.0026

Saturn -122357-04-17 18:01 J -42969363.85 -42969363.75 -42969363.64 0.0302 0.0177

Neptune -122357-05-30 10:49 J -42969321.23 -42969321.05 -42969320.87 0.0089 0.0032

Saturn -122357-07-15 07:56 J -42969275.30 -42969275.17 -42969275.04 0.0302 0.0055

Neptune -122357-08-26 14:25 J -42969233.07 -42969232.90 -42969232.73 0.0089 0.0039

Saturn -122357-10-11 21:37 J -42969186.73 -42969186.60 -42969186.47 0.0303 0.0065

Neptune -122357-11-22 17:46 J -42969144.92 -42969144.76 -42969144.58 0.0089 0.0045

Mars -122356-01-07 09:51 J -42969099.18 -42969099.09 -42969099.00 0.1659 0.1036

Saturn -122356-01-08 11:03 J -42969098.14 -42969098.04 -42969097.93 0.0303 0.0185

Neptune -122356-02-18 21:08 J -42969056.76 -42969056.62 -42969056.44 0.0089 0.0051

Jupiter -122356-04-06 15:22 J -42969009.93 -42969009.86 -42969009.79 0.0524 0.0438

Neptune -122356-05-18 00:44 J -42968968.60 -42968968.47 -42968968.30 0.0089 0.0057

Jupiter -122356-07-04 22:06 J -42968920.71 -42968920.58 -42968920.45 0.0525 0.0028

Neptune -122356-08-14 04:20 J -42968880.44 -42968880.32 -42968880.17 0.0089 0.0064

Jupiter -122356-10-02 04:20 J -42968831.37 -42968831.32 -42968831.27 0.0526 0.0485

Neptune -122356-11-10 08:10 J -42968792.27 -42968792.16 -42968792.03 0.0089 0.0069

Neptune -122355-02-06 11:46 J -42968704.10 -42968704.01 -42968703.90 0.0089 0.0075

Neptune -122355-05-05 15:22 J -42968615.93 -42968615.86 -42968615.78 0.0089 0.0081

Neptune -122355-08-01 19:13 J -42968527.73 -42968527.70 -42968527.67 0.0089 0.0088

Venus -122355-10-24 05:32 J -42968444.31 -42968444.27 -42968444.22 0.3631 0.3459

Mars -122355-12-13 15:08 J -42968393.97 -42968393.87 -42968393.76 0.1654 0.0653

Earth -122354-03-15 07:42 J -42968302.25 -42968302.18 -42968302.10 0.2780 0.2009

Moon -122354-03-15 08:25 J -42968302.22 -42968302.15 -42968302.07 0.2782 0.1910 *

Venus -122352-08-06 17:46 J -42967426.82 -42967426.76 -42967426.69 0.3756 0.2905

Jupiter -122350-02-25 11:18 J -42966859.12 -42966859.03 -42966858.94 0.0501 0.0433

Jupiter -122350-05-26 20:25 J -42966768.82 -42966768.65 -42966768.47 0.0500 0.0153

Moon -122348-03-24 04:06 J -42966101.43 -42966101.33 -42966101.22 0.2777 0.0982

Earth -122348-03-24 04:34 J -42966101.41 -42966101.31 -42966101.20 0.2783 0.0962 *

Mars -122348-07-24 10:20 J -42965979.11 -42965979.07 -42965979.02 0.1859 0.1781

Mars -122347-05-30 20:25 J -42965668.71 -42965668.65 -42965668.60 0.1661 0.1454

Mars -122345-05-05 01:56 J -42964963.54 -42964963.42 -42964963.30 0.1655 0.0249

Earth -122345-09-20 01:27 J -42964825.59 -42964825.44 -42964825.28 0.2558 0.0709

Moon -122345-09-20 02:54 J -42964825.54 -42964825.38 -42964825.23 0.2554 0.0681 *

Jupiter -122344-04-23 02:39 J -42964610.52 -42964610.39 -42964610.27 0.0525 0.0084

Jupiter -122344-07-21 08:54 J -42964521.22 -42964521.13 -42964521.04 0.0526 0.0378

Saturn -122343-05-14 06:58 J -42964224.33 -42964224.21 -42964224.07 0.0260 0.0181

Saturn -122343-08-11 01:56 J -42964135.59 -42964135.42 -42964135.24 0.0260 0.0077

Saturn -122343-11-07 20:54 J -42964046.81 -42964046.63 -42964046.44 0.0260 0.0028

Saturn -122342-02-04 16:06 J -42963957.99 -42963957.83 -42963957.67 0.0259 0.0133

Saturn -122342-05-04 11:03 J -42963869.10 -42963869.04 -42963868.96 0.0259 0.0239

Earth -122341-03-17 02:10 J -42963551.50 -42963551.41 -42963551.31 0.2781 0.1237

Moon -122341-03-17 02:54 J -42963551.48 -42963551.38 -42963551.28 0.2785 0.1139 *

Mars -122339-12-14 05:32 J -42962549.42 -42962549.27 -42962549.11 0.1857 0.0703

Jupiter -122338-03-14 18:01 J -42962458.94 -42962458.75 -42962458.57 0.0500 0.0012

Mars -122336-09-25 12:44 J -42961533.09 -42961532.97 -42961532.85 0.1656 0.0156

Moon -122335-03-26 22:49 J -42961350.64 -42961350.55 -42961350.47 0.2777 0.1730

Earth -122335-03-26 23:03 J -42961350.62 -42961350.54 -42961350.45 0.2783 0.1735 *

Mars -122334-08-31 17:32 J -42960827.82 -42960827.77 -42960827.73 0.1652 0.1485

Jupiter -122332-02-09 06:30 J -42960300.35 -42960300.23 -42960300.11 0.0525 0.0199

Jupiter -122332-05-09 12:58 J -42960211.07 -42960210.96 -42960210.85 0.0525 0.0262

Earth -122332-09-23 07:56 J -42960074.27 -42960074.17 -42960074.07 0.2558 0.1979

Moon -122332-09-23 09:37 J -42960074.20 -42960074.10 -42960074.01 0.2555 0.2052 *

Uranus -122331-11-25 21:37 J -42959645.71 -42959645.60 -42959645.48 0.0149 0.0120

Uranus -122330-02-22 06:15 J -42959557.38 -42959557.24 -42959557.08 0.0149 0.0089

Uranus -122330-05-21 15:08 J -42959469.04 -42959468.87 -42959468.69 0.0148 0.0057

Uranus -122330-08-17 23:46 J -42959380.69 -42959380.51 -42959380.31 0.0148 0.0026

Uranus -122330-11-14 08:39 J -42959292.33 -42959292.14 -42959291.94 0.0148 0.0008

Uranus -122329-02-10 17:32 J -42959203.95 -42959203.77 -42959203.58 0.0148 0.0039

Mars -122329-05-05 00:58 J -42959119.62 -42959119.46 -42959119.30 0.1855 0.0364

Uranus -122329-05-09 02:25 J -42959115.56 -42959115.40 -42959115.23 0.0148 0.0071

Uranus -122329-08-05 11:18 J -42959027.16 -42959027.03 -42959026.89 0.0148 0.0103

Uranus -122329-11-01 20:10 J -42958938.73 -42958938.66 -42958938.57 0.0148 0.0135

Earth -122328-03-19 20:39 J -42958800.75 -42958800.64 -42958800.53 0.2782 0.0458

Moon -122328-03-19 21:22 J -42958800.72 -42958800.61 -42958800.51 0.2785 0.0472 *

Saturn -122328-09-04 18:15 J -42958631.82 -42958631.74 -42958631.64 0.0302 0.0222

Saturn -122328-12-02 08:10 J -42958543.28 -42958543.16 -42958543.03 0.0302 0.0101

Saturn -122327-02-28 21:51 J -42958454.72 -42958454.59 -42958454.45 0.0303 0.0023

Saturn -122327-05-28 11:32 J -42958366.14 -42958366.02 -42958365.90 0.0304 0.0141

Saturn -122327-08-25 00:58 J -42958277.52 -42958277.46 -42958277.39 0.0304 0.0260

Jupiter -122327-12-31 15:51 J -42958149.02 -42958148.84 -42958148.66 0.0501 0.0130

Mars -122326-02-15 23:18 J -42958102.64 -42958102.53 -42958102.42 0.1658 0.0568

Jupiter -122326-04-01 01:27 J -42958058.50 -42958058.44 -42958058.37 0.0500 0.0463

Moon -122325-09-14 18:30 J -42957525.85 -42957525.73 -42957525.60 0.2565 0.1582

Earth -122325-09-14 19:13 J -42957525.82 -42957525.70 -42957525.58 0.2560 0.1634 *

Mars -122324-01-21 04:20 J -42957397.41 -42957397.32 -42957397.23 0.1653 0.1094

Moon -122322-03-29 17:18 J -42956599.83 -42956599.78 -42956599.73 0.2776 0.2412

Earth -122322-03-29 17:32 J -42956599.81 -42956599.77 -42956599.72 0.2783 0.2515 *

Moon -122321-03-12 17:32 J -42956250.78 -42956250.77 -42956250.76 0.2777 0.2747

Earth -122321-03-12 18:15 J -42956250.77 -42956250.74 -42956250.71 0.2779 0.2636 *

Jupiter -122321-11-28 10:34 J -42955990.17 -42955990.06 -42955989.96 0.0524 0.0315

Jupiter -122320-02-25 17:03 J -42955900.91 -42955900.79 -42955900.67 0.0525 0.0148

Mars -122320-09-24 20:54 J -42955689.73 -42955689.63 -42955689.52 0.1853 0.1390

Venus -122317-01-13 21:37 J -42954848.64 -42954848.60 -42954848.56 0.3734 0.3449

Mars -122317-07-08 09:51 J -42954672.18 -42954672.09 -42954671.99 0.1659 0.0979

Earth -122315-03-22 15:08 J -42954049.98 -42954049.87 -42954049.76 0.2782 0.0319

Moon -122315-03-22 15:37 J -42954049.96 -42954049.85 -42954049.74 0.2788 0.0320 *

Mars -122315-06-13 15:08 J -42953966.97 -42953966.87 -42953966.76 0.1654 0.0702

Jupiter -122315-10-19 13:56 J -42953839.07 -42953838.92 -42953838.76 0.0501 0.0267

Jupiter -122314-01-17 23:18 J -42953748.66 -42953748.53 -42953748.38 0.0500 0.0324

Saturn -122314-10-01 05:32 J -42953492.36 -42953492.27 -42953492.16 0.0260 0.0218

Saturn -122314-12-29 00:30 J -42953403.64 -42953403.48 -42953403.31 0.0260 0.0114

Saturn -122313-03-26 19:27 J -42953314.87 -42953314.69 -42953314.51 0.0259 0.0010

Saturn -122313-06-23 14:25 J -42953226.07 -42953225.90 -42953225.72 0.0259 0.0096

Saturn -122313-09-20 09:37 J -42953137.21 -42953137.10 -42953136.98 0.0259 0.0201

Venus -122312-07-29 14:10 J -42952825.00 -42952824.91 -42952824.82 0.3740 0.1686

Moon -122312-09-18 00:44 J -42952774.62 -42952774.47 -42952774.31 0.2565 0.0411

Earth -122312-09-18 01:42 J -42952774.59 -42952774.43 -42952774.27 0.2559 0.0347 *

Jupiter -122309-09-16 14:25 J -42951679.97 -42951679.90 -42951679.83 0.0524 0.0431

Jupiter -122309-12-14 21:08 J -42951590.75 -42951590.62 -42951590.49 0.0525 0.0036

Jupiter -122308-03-14 03:22 J -42951501.40 -42951501.36 -42951501.32 0.0526 0.0492

Moon -122308-03-15 12:01 J -42951500.08 -42951500.00 -42951499.92 0.2779 0.1865

Earth -122308-03-15 12:44 J -42951500.05 -42951499.97 -42951499.89 0.2780 0.1869 *

Mars -122308-11-28 20:25 J -42951241.71 -42951241.65 -42951241.59 0.1661 0.1396

Venus -122306-02-12 06:44 J -42950801.33 -42950801.22 -42950801.12 0.3746 0.0112

Mars -122306-11-04 01:56 J -42950536.53 -42950536.42 -42950536.30 0.1655 0.0312

Venus -122304-11-14 00:15 J -42949795.64 -42949795.49 -42949795.34 0.3637 0.0581

Jupiter -122303-08-07 11:46 J -42949529.11 -42949529.01 -42949528.90 0.0501 0.0406

Jupiter -122303-11-05 21:08 J -42949438.79 -42949438.62 -42949438.45 0.0500 0.0181

Earth -122302-03-25 09:37 J -42949299.20 -42949299.10 -42949299.00 0.2783 0.1096

Moon -122302-03-25 10:06 J -42949299.18 -42949299.08 -42949298.98 0.2787 0.1202 *

Venus -122301-08-27 23:03 J -42948777.63 -42948777.54 -42948777.45 0.3751 0.1812

Mars -122299-06-14 06:15 J -42948122.38 -42948122.24 -42948122.09 0.1857 0.0807

Pluto -122299-08-12 21:08 J -42948062.68 -42948062.62 -42948062.56 0.0084 0.0075

Moon -122299-09-21 06:58 J -42948023.37 -42948023.21 -42948023.06 0.2562 0.0769

Earth -122299-09-21 08:10 J -42948023.31 -42948023.16 -42948023.01 0.2558 0.0940 *

Pluto -122299-11-08 22:34 J -42947974.66 -42947974.56 -42947974.46 0.0084 0.0059

Saturn -122298-01-22 18:15 J -42947899.79 -42947899.74 -42947899.68 0.0301 0.0271

Pluto -122298-02-04 23:46 J -42947886.62 -42947886.51 -42947886.39 0.0084 0.0043

Saturn -122298-04-21 08:10 J -42947811.27 -42947811.16 -42947811.04 0.0302 0.0150

Pluto -122298-05-04 01:13 J -42947798.58 -42947798.45 -42947798.32 0.0084 0.0027

Saturn -122298-07-18 22:06 J -42947722.72 -42947722.58 -42947722.45 0.0302 0.0030

Pluto -122298-07-31 02:39 J -42947710.53 -42947710.39 -42947710.25 0.0084 0.0011

Saturn -122298-10-15 11:32 J -42947634.14 -42947634.02 -42947633.89 0.0303 0.0092

Pluto -122298-10-27 03:51 J -42947622.47 -42947622.34 -42947622.20 0.0084 0.0006

Saturn -122297-01-12 01:13 J -42947545.54 -42947545.45 -42947545.36 0.0303 0.0210

Pluto -122297-01-23 05:18 J -42947534.41 -42947534.28 -42947534.14 0.0084 0.0021

Pluto -122297-04-20 06:30 J -42947446.35 -42947446.23 -42947446.10 0.0084 0.0037

Pluto -122297-07-17 07:42 J -42947358.27 -42947358.18 -42947358.06 0.0083 0.0053

Jupiter -122297-10-03 01:42 J -42947280.56 -42947280.43 -42947280.31 0.0525 0.0075

Pluto -122297-10-13 09:08 J -42947270.19 -42947270.12 -42947270.03 0.0083 0.0068

Jupiter -122297-12-31 07:56 J -42947191.25 -42947191.17 -42947191.08 0.0526 0.0387

Pluto -122296-01-09 10:34 J -42947182.06 -42947182.06 -42947182.05 0.0083 0.0083

Mars -122296-03-26 12:44 J -42947106.09 -42947105.97 -42947105.85 0.1656 0.0105

Venus -122295-03-13 15:37 J -42946753.88 -42946753.85 -42946753.82 0.3757 0.3543

Moon -122295-03-18 06:30 J -42946749.33 -42946749.23 -42946749.13 0.2778 0.1107

Earth -122295-03-18 07:13 J -42946749.30 -42946749.20 -42946749.10 0.2781 0.1100 *

Mars -122294-03-01 17:32 J -42946400.81 -42946400.77 -42946400.73 0.1652 0.1538

Jupiter -122291-08-24 17:03 J -42945128.97 -42945128.79 -42945128.61 0.0500 0.0022

Mars -122290-11-04 01:56 J -42944692.59 -42944692.42 -42944692.26 0.1855 0.0257

Uranus -122289-03-20 22:49 J -42944554.60 -42944554.55 -42944554.50 0.0131 0.0120

Earth -122289-03-27 04:06 J -42944548.41 -42944548.33 -42944548.25 0.2783 0.1875

Moon -122289-03-27 04:20 J -42944548.39 -42944548.32 -42944548.24 0.2790 0.1933 *

Uranus -122289-06-17 01:42 J -42944466.51 -42944466.43 -42944466.35 0.0131 0.0105

Uranus -122289-09-13 04:34 J -42944378.40 -42944378.31 -42944378.21 0.0131 0.0090

Uranus -122289-12-10 07:27 J -42944290.29 -42944290.19 -42944290.07 0.0131 0.0075

Uranus -122288-03-08 10:34 J -42944202.18 -42944202.06 -42944201.94 0.0131 0.0059

Uranus -122288-06-04 13:27 J -42944114.06 -42944113.94 -42944113.81 0.0131 0.0044

Uranus -122288-08-31 16:20 J -42944025.94 -42944025.82 -42944025.68 0.0131 0.0030

Uranus -122288-11-27 19:27 J -42943937.82 -42943937.69 -42943937.56 0.0131 0.0014

Uranus -122287-02-23 22:20 J -42943849.70 -42943849.57 -42943849.44 0.0131 0.0001

Uranus -122287-05-23 01:13 J -42943761.58 -42943761.45 -42943761.32 0.0131 0.0016

Mars -122287-08-16 23:18 J -42943675.64 -42943675.53 -42943675.41 0.1658 0.0512

Uranus -122287-08-19 04:06 J -42943673.46 -42943673.33 -42943673.20 0.0131 0.0031

Uranus -122287-11-15 06:58 J -42943585.33 -42943585.21 -42943585.08 0.0131 0.0046

Uranus -122286-02-11 09:51 J -42943497.20 -42943497.09 -42943496.97 0.0131 0.0061

Uranus -122286-05-10 12:44 J -42943409.07 -42943408.97 -42943408.86 0.0131 0.0076

Uranus -122286-08-06 15:37 J -42943320.94 -42943320.85 -42943320.75 0.0131 0.0091

Moon -122286-09-24 13:13 J -42943272.03 -42943271.95 -42943271.86 0.2562 0.2162

Earth -122286-09-24 14:39 J -42943271.97 -42943271.89 -42943271.81 0.2558 0.2218 *

Uranus -122286-11-02 18:30 J -42943232.80 -42943232.73 -42943232.65 0.0131 0.0106

Uranus -122285-01-29 21:22 J -42943144.65 -42943144.61 -42943144.56 0.0131 0.0121

Mars -122285-07-22 04:20 J -42942970.40 -42942970.32 -42942970.24 0.1653 0.1148

Jupiter -122285-07-22 06:01 J -42942970.37 -42942970.25 -42942970.12 0.0525 0.0183 *

Jupiter -122285-10-19 12:30 J -42942881.08 -42942880.98 -42942880.87 0.0526 0.0281

Saturn -122284-02-17 04:49 J -42942760.35 -42942760.30 -42942760.26 0.0261 0.0251

Saturn -122284-05-16 23:18 J -42942671.67 -42942671.53 -42942671.37 0.0260 0.0148

Saturn -122284-08-13 18:15 J -42942582.92 -42942582.74 -42942582.56 0.0260 0.0044

Saturn -122284-11-10 13:13 J -42942494.12 -42942493.95 -42942493.77 0.0260 0.0061

Saturn -122283-02-07 08:25 J -42942405.29 -42942405.15 -42942405.00 0.0259 0.0166

Moon -122282-03-21 00:58 J -42941998.57 -42941998.46 -42941998.35 0.2778 0.0425

Earth -122282-03-21 01:42 J -42941998.54 -42941998.43 -42941998.33 0.2782 0.0338 *

Neptune -122281-02-29 15:22 J -42941652.87 -42941652.86 -42941652.85 0.0088 0.0088

Neptune -122281-05-27 16:34 J -42941564.84 -42941564.81 -42941564.76 0.0088 0.0084

Neptune -122281-08-23 18:01 J -42941476.80 -42941476.75 -42941476.68 0.0088 0.0079

Neptune -122281-11-19 19:27 J -42941388.75 -42941388.69 -42941388.61 0.0088 0.0075

Neptune -122280-02-15 21:08 J -42941300.70 -42941300.62 -42941300.54 0.0088 0.0071

Mars -122280-03-25 21:51 J -42941262.71 -42941262.59 -42941262.48 0.1853 0.1286

Neptune -122280-05-14 22:20 J -42941212.65 -42941212.57 -42941212.47 0.0088 0.0067

Neptune -122280-08-10 23:46 J -42941124.60 -42941124.51 -42941124.40 0.0088 0.0062

Neptune -122280-11-07 01:13 J -42941036.54 -42941036.45 -42941036.34 0.0088 0.0058

Neptune -122279-02-03 02:54 J -42940948.49 -42940948.38 -42940948.27 0.0088 0.0054

Neptune -122279-05-02 04:06 J -42940860.43 -42940860.33 -42940860.21 0.0088 0.0050

Jupiter -122279-06-12 14:39 J -42940819.07 -42940818.89 -42940818.71 0.0500 0.0121

Neptune -122279-07-29 05:32 J -42940772.38 -42940772.27 -42940772.15 0.0088 0.0045

Jupiter -122279-09-11 00:15 J -42940728.54 -42940728.49 -42940728.43 0.0500 0.0471

Earth -122279-09-16 01:56 J -42940723.56 -42940723.42 -42940723.29 0.2560 0.1403

Moon -122279-09-16 02:25 J -42940723.54 -42940723.40 -42940723.26 0.2554 0.1262 *

Neptune -122279-10-25 06:58 J -42940684.32 -42940684.21 -42940684.08 0.0088 0.0041

Neptune -122278-01-21 08:25 J -42940596.27 -42940596.15 -42940596.02 0.0088 0.0037

Neptune -122278-04-19 09:51 J -42940508.21 -42940508.09 -42940507.96 0.0088 0.0033

Neptune -122278-07-16 11:18 J -42940420.16 -42940420.03 -42940419.90 0.0088 0.0028

Neptune -122278-10-12 12:30 J -42940332.10 -42940331.98 -42940331.84 0.0088 0.0025

Mars -122277-01-07 09:51 J -42940245.19 -42940245.09 -42940244.99 0.1659 0.0925

Neptune -122277-01-08 13:56 J -42940244.04 -42940243.92 -42940243.78 0.0088 0.0020

Neptune -122277-04-05 15:22 J -42940155.99 -42940155.86 -42940155.72 0.0088 0.0016

Neptune -122277-07-02 16:49 J -42940067.93 -42940067.80 -42940067.66 0.0088 0.0012

Neptune -122277-09-28 18:15 J -42939979.87 -42939979.74 -42939979.60 0.0088 0.0007

Neptune -122277-12-25 19:42 J -42939891.82 -42939891.68 -42939891.55 0.0088 0.0003

Neptune -122276-03-23 21:08 J -42939803.76 -42939803.62 -42939803.49 0.0088 0.0003

Earth -122276-03-29 22:34 J -42939797.59 -42939797.56 -42939797.53 0.2783 0.2654

Moon -122276-03-29 22:49 J -42939797.58 -42939797.55 -42939797.51 0.2789 0.2627 *

Neptune -122276-06-19 22:20 J -42939715.70 -42939715.57 -42939715.43 0.0088 0.0006

Neptune -122276-09-15 23:46 J -42939627.64 -42939627.51 -42939627.37 0.0088 0.0010

Mars -122276-12-12 15:08 J -42939539.97 -42939539.87 -42939539.76 0.1654 0.0756

Neptune -122276-12-13 01:13 J -42939539.58 -42939539.45 -42939539.32 0.0088 0.0014

Neptune -122275-03-11 02:25 J -42939451.53 -42939451.40 -42939451.26 0.0088 0.0018

Earth -122275-03-13 23:03 J -42939448.58 -42939448.54 -42939448.49 0.2779 0.2505

Moon -122275-03-13 23:46 J -42939448.55 -42939448.51 -42939448.46 0.2779 0.2490 *

Neptune -122275-06-07 03:51 J -42939363.47 -42939363.34 -42939363.21 0.0088 0.0022

Neptune -122275-09-03 05:18 J -42939275.41 -42939275.28 -42939275.15 0.0088 0.0026

Neptune -122275-11-30 06:30 J -42939187.35 -42939187.23 -42939187.10 0.0088 0.0031

Neptune -122274-02-26 07:56 J -42939099.29 -42939099.17 -42939099.04 0.0088 0.0035

Neptune -122274-05-25 09:22 J -42939011.23 -42939011.11 -42939010.99 0.0088 0.0039

Neptune -122274-08-21 10:34 J -42938923.17 -42938923.06 -42938922.94 0.0088 0.0043

Neptune -122274-11-17 11:46 J -42938835.11 -42938835.01 -42938834.88 0.0088 0.0048

Neptune -122273-02-13 13:13 J -42938747.05 -42938746.95 -42938746.83 0.0088 0.0051

Jupiter -122273-05-10 10:06 J -42938660.19 -42938660.08 -42938659.98 0.0524 0.0298

Neptune -122273-05-11 14:39 J -42938658.99 -42938658.89 -42938658.78 0.0088 0.0055

Jupiter -122273-08-07 16:34 J -42938570.93 -42938570.81 -42938570.69 0.0525 0.0164

Neptune -122273-08-07 16:06 J -42938570.92 -42938570.83 -42938570.73 0.0088 0.0059 *

Neptune -122273-11-03 17:18 J -42938482.86 -42938482.78 -42938482.68 0.0088 0.0064

Neptune -122272-01-30 18:44 J -42938394.80 -42938394.72 -42938394.63 0.0088 0.0067

Neptune -122272-04-28 20:10 J -42938306.73 -42938306.66 -42938306.58 0.0088 0.0071

Neptune -122272-07-25 21:22 J -42938218.67 -42938218.61 -42938218.54 0.0088 0.0076

Neptune -122272-10-21 22:49 J -42938130.60 -42938130.55 -42938130.49 0.0088 0.0080

Neptune -122271-01-18 00:15 J -42938042.53 -42938042.49 -42938042.45 0.0088 0.0084

Neptune -122271-04-16 01:27 J -42937954.44 -42937954.44 -42937954.42 0.0088 0.0088

Moon -122269-03-22 19:27 J -42937247.80 -42937247.69 -42937247.58 0.2778 0.0394

Earth -122269-03-22 19:56 J -42937247.77 -42937247.67 -42937247.56 0.2782 0.0474 *

Saturn -122269-09-07 08:25 J -42937079.25 -42937079.15 -42937079.05 0.0302 0.0196

Saturn -122269-12-04 22:20 J -42936990.70 -42936990.57 -42936990.44 0.0302 0.0075

Saturn -122268-03-03 12:01 J -42936902.13 -42936902.00 -42936901.87 0.0303 0.0046

Mars -122268-05-29 20:25 J -42936814.72 -42936814.65 -42936814.58 0.1661 0.1342

Saturn -122268-05-31 01:27 J -42936813.55 -42936813.44 -42936813.32 0.0304 0.0166

Saturn -122268-08-27 14:54 J -42936724.92 -42936724.88 -42936724.83 0.0304 0.0285

Jupiter -122267-03-31 12:30 J -42936509.13 -42936508.98 -42936508.82 0.0501 0.0261

Jupiter -122267-06-29 22:06 J -42936418.72 -42936418.58 -42936418.44 0.0500 0.0331

Mars -122266-05-05 01:56 J -42936109.53 -42936109.42 -42936109.30 0.1655 0.0354

Earth -122266-09-19 08:25 J -42935972.31 -42935972.15 -42935971.99 0.2559 0.0113

Moon -122266-09-19 09:08 J -42935972.28 -42935972.12 -42935971.95 0.2553 0.0091 *

Earth -122262-03-16 17:32 J -42934697.85 -42934697.77 -42934697.68 0.2780 0.1734

Moon -122262-03-16 18:15 J -42934697.83 -42934697.74 -42934697.65 0.2782 0.1628 *

Jupiter -122261-02-27 13:56 J -42934349.99 -42934349.92 -42934349.84 0.0524 0.0414

Jupiter -122261-05-26 20:39 J -42934260.77 -42934260.64 -42934260.51 0.0525 0.0049

Venus -122261-08-19 19:13 J -42934175.76 -42934175.70 -42934175.63 0.3736 0.2793

Jupiter -122261-08-24 02:54 J -42934171.41 -42934171.38 -42934171.35 0.0526 0.0507

Mars -122260-12-13 06:58 J -42933695.36 -42933695.21 -42933695.07 0.1857 0.0900

Mars -122257-09-24 12:44 J -42932679.09 -42932678.97 -42932678.85 0.1656 0.0047

Moon -122256-03-25 13:56 J -42932497.01 -42932496.92 -42932496.82 0.2778 0.1265

Earth -122256-03-25 14:25 J -42932496.99 -42932496.90 -42932496.80 0.2783 0.1241 *

Jupiter -122255-01-17 10:34 J -42932199.16 -42932199.06 -42932198.95 0.0501 0.0397

Venus -122255-03-05 11:46 J -42932152.11 -42932152.01 -42932151.91 0.3741 0.1039

Jupiter -122255-04-17 19:56 J -42932108.84 -42932108.67 -42932108.50 0.0500 0.0191

Mars -122255-08-30 17:18 J -42931973.80 -42931973.78 -42931973.75 0.1652 0.1589

Saturn -122255-10-03 21:51 J -42931939.71 -42931939.59 -42931939.46 0.0260 0.0185

Saturn -122255-12-31 16:49 J -42931850.97 -42931850.80 -42931850.62 0.0260 0.0081

Saturn -122254-03-30 11:46 J -42931762.19 -42931762.01 -42931761.83 0.0259 0.0023

Saturn -122254-06-27 06:58 J -42931673.37 -42931673.21 -42931673.05 0.0259 0.0128

Saturn -122254-09-24 01:56 J -42931584.49 -42931584.42 -42931584.33 0.0259 0.0234

Earth -122253-09-21 14:54 J -42931221.03 -42931220.88 -42931220.74 0.2558 0.1173

Moon -122253-09-21 16:06 J -42931220.97 -42931220.83 -42931220.68 0.2554 0.1141 *

Venus -122253-12-04 18:58 J -42931146.82 -42931146.71 -42931146.59 0.3643 0.2243

Mars -122250-05-05 02:39 J -42930265.55 -42930265.39 -42930265.23 0.1856 0.0150

Venus -122250-09-19 04:20 J -42930128.42 -42930128.32 -42930128.22 0.3747 0.0716

Jupiter -122249-03-15 00:44 J -42929950.60 -42929950.47 -42929950.35 0.0525 0.0068

Earth -122249-03-18 12:01 J -42929947.10 -42929947.00 -42929946.90 0.2781 0.0958

Moon -122249-03-18 12:44 J -42929947.07 -42929946.97 -42929946.87 0.2783 0.0886 *

Jupiter -122249-06-12 06:58 J -42929861.29 -42929861.21 -42929861.13 0.0526 0.0394

Mars -122247-02-14 23:18 J -42929248.64 -42929248.53 -42929248.41 0.1658 0.0458

Venus -122247-06-21 01:27 J -42929122.56 -42929122.44 -42929122.31 0.3635 0.2027

Uranus -122247-09-18 21:51 J -42929032.66 -42929032.59 -42929032.53 0.0149 0.0139

Uranus -122247-12-16 06:15 J -42928944.36 -42928944.24 -42928944.10 0.0149 0.0108

Uranus -122246-03-14 14:54 J -42928856.03 -42928855.88 -42928855.70 0.0149 0.0077

Uranus -122246-06-11 00:01 J -42928767.68 -42928767.50 -42928767.32 0.0149 0.0045

Uranus -122246-09-07 08:54 J -42928679.32 -42928679.13 -42928678.94 0.0149 0.0013

Moon -122246-09-14 01:56 J -42928672.47 -42928672.42 -42928672.37 0.2566 0.2432

Earth -122246-09-14 01:56 J -42928672.46 -42928672.42 -42928672.38 0.2560 0.2455 *

Uranus -122246-12-04 17:32 J -42928590.95 -42928590.77 -42928590.58 0.0149 0.0019

Mars -122245-01-21 04:20 J -42928543.40 -42928543.32 -42928543.24 0.1653 0.1201

Uranus -122245-03-02 02:25 J -42928502.57 -42928502.40 -42928502.22 0.0149 0.0051

Uranus -122245-05-29 11:18 J -42928414.18 -42928414.03 -42928413.87 0.0148 0.0083

Uranus -122245-08-25 20:10 J -42928325.77 -42928325.66 -42928325.53 0.0148 0.0115

Uranus -122245-11-22 05:03 J -42928237.30 -42928237.29 -42928237.26 0.0148 0.0148

Venus -122244-04-03 20:39 J -42928104.71 -42928104.64 -42928104.56 0.3753 0.2457

Jupiter -122243-02-03 17:32 J -42927798.95 -42927798.77 -42927798.58 0.0500 0.0050

Moon -122243-03-28 08:25 J -42927746.22 -42927746.15 -42927746.07 0.2777 0.1971

Earth -122243-03-28 08:54 J -42927746.20 -42927746.13 -42927746.05 0.2783 0.2020 *

Mars -122241-09-23 22:34 J -42926835.68 -42926835.56 -42926835.43 0.1853 0.1177

Earth -122240-09-24 21:08 J -42926469.66 -42926469.62 -42926469.57 0.2558 0.2446

Moon -122240-09-24 22:34 J -42926469.57 -42926469.56 -42926469.54 0.2555 0.2541 *

Saturn -122239-01-25 08:25 J -42926347.23 -42926347.15 -42926347.07 0.0301 0.0244

Saturn -122239-04-23 22:20 J -42926258.69 -42926258.57 -42926258.45 0.0302 0.0124

Saturn -122239-07-21 12:01 J -42926170.13 -42926170.00 -42926169.86 0.0302 0.0004

Saturn -122239-10-18 01:42 J -42926081.55 -42926081.43 -42926081.31 0.0303 0.0117

Saturn -122238-01-14 15:08 J -42925992.95 -42925992.87 -42925992.79 0.0303 0.0236

Mars -122238-07-08 09:51 J -42925818.19 -42925818.09 -42925817.98 0.1659 0.0869

Jupiter -122237-01-02 05:03 J -42925640.41 -42925640.29 -42925640.17 0.0525 0.0174

Jupiter -122237-03-31 11:32 J -42925551.12 -42925551.02 -42925550.91 0.0526 0.0288

Earth -122236-03-21 06:30 J -42925196.34 -42925196.23 -42925196.12 0.2782 0.0187

Moon -122236-03-21 06:58 J -42925196.31 -42925196.21 -42925196.10 0.2786 0.0224 *

Mars -122236-06-12 15:08 J -42925112.97 -42925112.87 -42925112.76 0.1654 0.0809

Moon -122233-09-16 08:10 J -42923921.31 -42923921.16 -42923921.02 0.2566 0.1102

Earth -122233-09-16 08:25 J -42923921.29 -42923921.15 -42923921.00 0.2559 0.1172 *

Jupiter -122232-11-22 13:42 J -42923489.11 -42923488.93 -42923488.75 0.0500 0.0109

Jupiter -122231-02-20 23:18 J -42923398.57 -42923398.53 -42923398.48 0.0500 0.0483

Moon -122230-03-31 03:08 J -42922995.39 -42922995.37 -42922995.35 0.2776 0.2700

Moon -122229-03-14 03:22 J -42922646.41 -42922646.36 -42922646.31 0.2780 0.2445

Earth -122229-03-14 04:06 J -42922646.39 -42922646.33 -42922646.28 0.2779 0.2367 *

Mars -122229-11-27 20:25 J -42922387.72 -42922387.65 -42922387.58 0.1661 0.1287

Mars -122227-11-03 01:56 J -42921682.53 -42921682.42 -42921682.30 0.1655 0.0409

Jupiter -122226-10-21 09:37 J -42921330.21 -42921330.10 -42921329.99 0.0525 0.0283

Jupiter -122225-01-18 16:06 J -42921240.95 -42921240.83 -42921240.71 0.0526 0.0181

Saturn -122225-02-20 21:08 J -42921207.72 -42921207.62 -42921207.52 0.0261 0.0218

Saturn -122225-05-19 15:51 J -42921119.00 -42921118.84 -42921118.67 0.0261 0.0115

Saturn -122225-08-16 10:49 J -42921030.23 -42921030.05 -42921029.87 0.0260 0.0010

Saturn -122225-11-13 05:46 J -42920941.43 -42920941.26 -42920941.08 0.0260 0.0095

Saturn -122224-02-10 00:58 J -42920852.57 -42920852.46 -42920852.34 0.0259 0.0200

Earth -122223-03-24 00:58 J -42920445.57 -42920445.46 -42920445.36 0.2782 0.0602

Moon -122223-03-24 01:27 J -42920445.54 -42920445.44 -42920445.33 0.2786 0.0654 *

Mars -122220-06-13 07:42 J -42919268.32 -42919268.18 -42919268.04 0.1857 0.1007

Jupiter -122220-09-10 11:18 J -42919179.19 -42919179.03 -42919178.87 0.0501 0.0252

Moon -122220-09-19 14:10 J -42919170.07 -42919169.91 -42919169.75 0.2564 0.0061

Earth -122220-09-19 14:54 J -42919170.04 -42919169.88 -42919169.71 0.2559 0.0143 *

Jupiter -122220-12-09 20:39 J -42919088.77 -42919088.64 -42919088.50 0.0500 0.0339

Mars -122217-03-25 12:44 J -42918252.09 -42918251.97 -42918251.85 0.1656 0.0016

Moon -122216-03-16 21:37 J -42917895.68 -42917895.60 -42917895.51 0.2779 0.1586

Earth -122216-03-16 22:34 J -42917895.65 -42917895.56 -42917895.48 0.2780 0.1599 *

Mars -122215-02-28 17:18 J -42917546.79 -42917546.78 -42917546.77 0.1652 0.1639

Jupiter -122214-08-09 13:27 J -42917020.02 -42917019.94 -42917019.86 0.0524 0.0399

Jupiter -122214-11-06 20:10 J -42916930.79 -42916930.66 -42916930.53 0.0525 0.0065

Jupiter -122213-02-04 02:25 J -42916841.41 -42916841.40 -42916841.39 0.0526 0.0522

Mars -122211-11-03 03:22 J -42915838.53 -42915838.36 -42915838.20 0.1855 0.0055

Earth -122210-03-26 19:27 J -42915694.79 -42915694.69 -42915694.60 0.2783 0.1380

Moon -122210-03-26 19:56 J -42915694.76 -42915694.67 -42915694.58 0.2788 0.1493 *

Saturn -122210-06-14 08:54 J -42915615.17 -42915615.13 -42915615.09 0.0301 0.0287

Saturn -122210-09-10 22:49 J -42915526.66 -42915526.55 -42915526.44 0.0302 0.0167

Saturn -122210-12-08 12:30 J -42915438.11 -42915437.98 -42915437.84 0.0302 0.0047

Saturn -122209-03-06 02:10 J -42915349.54 -42915349.41 -42915349.28 0.0303 0.0075

Saturn -122209-06-02 15:51 J -42915260.94 -42915260.84 -42915260.74 0.0304 0.0194

Jupiter -122208-06-29 09:08 J -42914869.23 -42914869.12 -42914869.00 0.0501 0.0391

Mars -122208-08-15 23:18 J -42914821.64 -42914821.53 -42914821.41 0.1658 0.0404

Jupiter -122208-09-27 18:30 J -42914778.90 -42914778.73 -42914778.56 0.0500 0.0197

Moon -122207-09-22 20:25 J -42914418.78 -42914418.65 -42914418.51 0.2563 0.1269

Earth -122207-09-22 21:37 J -42914418.74 -42914418.60 -42914418.47 0.2558 0.1411 *

Mars -122206-07-22 04:20 J -42914116.39 -42914116.32 -42914116.24 0.1653 0.1252

Uranus -122205-01-13 03:37 J -42913941.37 -42913941.35 -42913941.34 0.0130 0.0129

Uranus -122205-04-10 06:30 J -42913853.29 -42913853.23 -42913853.17 0.0130 0.0114

Uranus -122205-07-07 09:22 J -42913765.19 -42913765.11 -42913765.02 0.0130 0.0099

Uranus -122205-10-03 12:15 J -42913677.09 -42913676.99 -42913676.88 0.0130 0.0084

Uranus -122205-12-30 15:22 J -42913588.97 -42913588.86 -42913588.75 0.0130 0.0068

Venus -122204-03-26 17:03 J -42913502.88 -42913502.79 -42913502.71 0.3737 0.2134

Uranus -122204-03-28 18:15 J -42913500.86 -42913500.74 -42913500.62 0.0130 0.0053

Uranus -122204-06-24 21:08 J -42913412.74 -42913412.62 -42913412.49 0.0130 0.0038

Uranus -122204-09-21 00:15 J -42913324.62 -42913324.49 -42913324.36 0.0130 0.0023

Uranus -122204-12-18 03:08 J -42913236.50 -42913236.37 -42913236.24 0.0130 0.0008

Uranus -122203-03-16 06:01 J -42913148.38 -42913148.25 -42913148.12 0.0130 0.0007

Moon -122203-03-19 16:20 J -42913144.93 -42913144.82 -42913144.72 0.2779 0.0868

Earth -122203-03-19 16:49 J -42913144.90 -42913144.80 -42913144.69 0.2781 0.0825 *

Uranus -122203-06-12 08:54 J -42913060.26 -42913060.13 -42913060.00 0.0130 0.0022

Uranus -122203-09-08 11:46 J -42912972.14 -42912972.01 -42912971.88 0.0130 0.0037

Uranus -122203-12-05 14:39 J -42912884.01 -42912883.89 -42912883.76 0.0130 0.0052

Uranus -122202-03-03 17:32 J -42912795.88 -42912795.77 -42912795.65 0.0130 0.0067

Jupiter -122202-05-28 17:18 J -42912709.80 -42912709.78 -42912709.75 0.0524 0.0515

Uranus -122202-05-30 20:25 J -42912707.75 -42912707.65 -42912707.54 0.0130 0.0082

Jupiter -122202-08-26 00:15 J -42912620.62 -42912620.49 -42912620.36 0.0525 0.0052

Uranus -122202-08-26 23:18 J -42912619.61 -42912619.53 -42912619.44 0.0131 0.0097

Uranus -122202-11-23 02:10 J -42912531.47 -42912531.41 -42912531.34 0.0131 0.0112

Jupiter -122202-11-23 06:30 J -42912531.31 -42912531.23 -42912531.15 0.0526 0.0409

Uranus -122201-02-19 05:03 J -42912443.31 -42912443.29 -42912443.25 0.0131 0.0126

Mars -122201-03-24 23:03 J -42912408.67 -42912408.54 -42912408.41 0.1853 0.1091

Moon -122200-09-14 08:39 J -42911870.23 -42911870.14 -42911870.06 0.2554 0.2171

Earth -122200-09-14 08:25 J -42911870.22 -42911870.15 -42911870.07 0.2560 0.2230 *

Venus -122199-10-10 09:37 J -42911479.21 -42911479.10 -42911479.00 0.3743 0.0390

Mars -122198-01-06 09:51 J -42911391.19 -42911391.09 -42911390.98 0.1660 0.0814

Earth -122197-03-28 13:56 J -42910943.99 -42910943.92 -42910943.86 0.2783 0.2162

Moon -122197-03-28 14:25 J -42910943.97 -42910943.90 -42910943.84 0.2788 0.2188 *

Neptune -122197-04-28 10:20 J -42910913.10 -42910913.07 -42910913.02 0.0089 0.0086

Neptune -122197-07-25 13:56 J -42910825.00 -42910824.92 -42910824.84 0.0089 0.0080

Neptune -122197-10-21 16:49 J -42910736.88 -42910736.80 -42910736.67 0.0089 0.0075

Mars -122197-12-11 15:08 J -42910685.97 -42910685.87 -42910685.77 0.1654 0.0859

Neptune -122196-01-17 20:25 J -42910648.75 -42910648.65 -42910648.51 0.0089 0.0069

Neptune -122196-04-15 23:46 J -42910560.62 -42910560.51 -42910560.36 0.0089 0.0063

Saturn -122196-07-09 19:56 J -42910475.71 -42910475.67 -42910475.63 0.0261 0.0254

Venus -122196-07-11 20:25 J -42910473.80 -42910473.65 -42910473.50 0.3640 0.0794

Neptune -122196-07-13 03:22 J -42910472.49 -42910472.36 -42910472.20 0.0089 0.0057

Jupiter -122196-07-16 16:20 J -42910469.00 -42910468.82 -42910468.64 0.0500 0.0058

Saturn -122196-10-06 14:39 J -42910387.04 -42910386.89 -42910386.74 0.0260 0.0151

Neptune -122196-10-09 06:58 J -42910384.36 -42910384.21 -42910384.05 0.0089 0.0051

Saturn -122195-01-03 09:37 J -42910298.28 -42910298.10 -42910297.92 0.0260 0.0047

Neptune -122195-01-05 10:20 J -42910296.22 -42910296.07 -42910295.90 0.0089 0.0045

Saturn -122195-04-02 04:34 J -42910209.49 -42910209.31 -42910209.13 0.0260 0.0058

Neptune -122195-04-03 13:56 J -42910208.08 -42910207.92 -42910207.74 0.0089 0.0039

Saturn -122195-06-29 23:46 J -42910120.65 -42910120.51 -42910120.37 0.0259 0.0163

Neptune -122195-06-30 17:18 J -42910119.95 -42910119.78 -42910119.59 0.0089 0.0033

Neptune -122195-09-26 20:54 J -42910031.81 -42910031.63 -42910031.44 0.0089 0.0027

Neptune -122195-12-24 00:30 J -42909943.66 -42909943.48 -42909943.29 0.0089 0.0021

Neptune -122194-03-22 03:51 J -42909855.52 -42909855.34 -42909855.15 0.0089 0.0015

Neptune -122194-06-18 07:27 J -42909767.38 -42909767.19 -42909767.00 0.0089 0.0009

Neptune -122194-09-14 11:03 J -42909679.23 -42909679.04 -42909678.85 0.0089 0.0003

Neptune -122194-12-11 14:25 J -42909591.09 -42909590.90 -42909590.70 0.0089 0.0004

Neptune -122193-03-08 18:01 J -42909502.94 -42909502.75 -42909502.56 0.0089 0.0009

Venus -122193-04-25 01:56 J -42909455.51 -42909455.42 -42909455.32 0.3749 0.1366

Neptune -122193-06-04 21:37 J -42909414.79 -42909414.60 -42909414.41 0.0089 0.0015

Neptune -122193-09-01 00:58 J -42909326.64 -42909326.46 -42909326.27 0.0089 0.0022

Neptune -122193-11-28 04:20 J -42909238.49 -42909238.32 -42909238.12 0.0089 0.0028

Neptune -122192-02-24 07:56 J -42909150.33 -42909150.17 -42909149.98 0.0089 0.0034

Neptune -122192-05-23 11:32 J -42909062.18 -42909062.02 -42909061.84 0.0089 0.0040

Neptune -122192-08-19 15:08 J -42908974.02 -42908973.87 -42908973.70 0.0089 0.0046

Neptune -122192-11-15 18:44 J -42908885.87 -42908885.72 -42908885.56 0.0089 0.0052

Neptune -122191-02-11 22:20 J -42908797.71 -42908797.57 -42908797.42 0.0089 0.0058

Neptune -122191-05-11 01:56 J -42908709.54 -42908709.42 -42908709.28 0.0089 0.0064

Neptune -122191-08-07 05:32 J -42908621.38 -42908621.27 -42908621.15 0.0089 0.0070

Neptune -122191-11-03 08:39 J -42908533.21 -42908533.14 -42908533.02 0.0089 0.0077

Venus -122190-01-26 02:54 J -42908449.41 -42908449.38 -42908449.34 0.3633 0.3503

Neptune -122190-01-30 12:30 J -42908445.03 -42908444.98 -42908444.89 0.0089 0.0083

Moon -122190-03-22 10:34 J -42908394.17 -42908394.06 -42908393.95 0.2779 0.0185

Earth -122190-03-22 11:18 J -42908394.14 -42908394.03 -42908393.92 0.2782 0.0078 *

Neptune -122190-04-28 16:20 J -42908356.82 -42908356.82 -42908356.80 0.0089 0.0089

Jupiter -122190-06-14 04:06 J -42908310.45 -42908310.33 -42908310.21 0.0525 0.0168

Jupiter -122190-09-11 10:34 J -42908221.17 -42908221.06 -42908220.96 0.0526 0.0294

Mars -122189-05-28 20:25 J -42907960.73 -42907960.65 -42907960.57 0.1661 0.1229

Venus -122188-11-08 18:30 J -42907431.79 -42907431.73 -42907431.68 0.3754 0.3089

Mars -122187-05-04 01:56 J -42907255.53 -42907255.42 -42907255.30 0.1655 0.0466

Moon -122187-09-17 15:22 J -42907119.02 -42907118.86 -42907118.71 0.2553 0.0848

Earth -122187-09-17 15:08 J -42907119.02 -42907118.87 -42907118.72 0.2559 0.0938 *

Jupiter -122184-05-04 13:56 J -42906159.10 -42906158.92 -42906158.74 0.0500 0.0085

Earth -122183-03-15 08:54 J -42905844.19 -42905844.13 -42905844.07 0.2779 0.2232

Moon -122183-03-15 09:37 J -42905844.16 -42905844.10 -42905844.03 0.2780 0.2204 *

Mars -122181-12-12 08:39 J -42904841.27 -42904841.14 -42904841.01 0.1857 0.1123

Saturn -122180-01-27 23:03 J -42904794.63 -42904794.54 -42904794.44 0.0301 0.0213

Saturn -122180-04-26 12:58 J -42904706.09 -42904705.96 -42904705.83 0.0302 0.0092

Saturn -122180-07-24 02:39 J -42904617.52 -42904617.39 -42904617.26 0.0302 0.0028

Mars -122180-10-19 06:44 J -42904530.23 -42904530.22 -42904530.20 0.1663 0.1652

Saturn -122180-10-20 16:06 J -42904528.94 -42904528.83 -42904528.71 0.0303 0.0148

Saturn -122179-01-17 05:32 J -42904440.32 -42904440.27 -42904440.20 0.0303 0.0266

Jupiter -122178-04-02 08:25 J -42904000.26 -42904000.15 -42904000.04 0.0525 0.0277

Jupiter -122178-06-30 15:08 J -42903910.99 -42903910.87 -42903910.75 0.0526 0.0187

Mars -122178-09-24 12:44 J -42903825.09 -42903824.97 -42903824.85 0.1656 0.0064

Moon -122177-03-24 05:18 J -42903643.39 -42903643.28 -42903643.18 0.2779 0.0703

Earth -122177-03-24 05:46 J -42903643.36 -42903643.26 -42903643.15 0.2783 0.0740 *

Earth -122174-09-20 21:37 J -42902367.76 -42902367.60 -42902367.44 0.2559 0.0355

Moon -122174-09-20 22:34 J -42902367.73 -42902367.56 -42902367.40 0.2553 0.0353 *

Jupiter -122172-02-20 10:20 J -42901849.23 -42901849.07 -42901848.91 0.0500 0.0241

Jupiter -122172-05-21 19:27 J -42901758.81 -42901758.69 -42901758.55 0.0500 0.0349

Mars -122171-05-04 03:51 J -42901411.50 -42901411.34 -42901411.17 0.1855 0.0052

Earth -122170-03-18 03:22 J -42901093.45 -42901093.36 -42901093.27 0.2781 0.1460

Moon -122170-03-18 04:06 J -42901093.42 -42901093.33 -42901093.24 0.2780 0.1333 *

Mars -122168-02-13 23:18 J -42900394.64 -42900394.53 -42900394.41 0.1658 0.0349

Jupiter -122166-01-19 12:44 J -42899690.05 -42899689.97 -42899689.88 0.0525 0.0387

Mars -122166-01-20 04:20 J -42899689.39 -42899689.32 -42899689.25 0.1653 0.1303

Saturn -122166-02-23 13:42 J -42899655.05 -42899654.93 -42899654.79 0.0261 0.0184

Jupiter -122166-04-18 19:27 J -42899600.81 -42899600.69 -42899600.56 0.0526 0.0080

Saturn -122166-05-23 08:39 J -42899566.31 -42899566.14 -42899565.96 0.0261 0.0079

Saturn -122166-08-20 03:51 J -42899477.53 -42899477.34 -42899477.16 0.0260 0.0026

Saturn -122166-11-16 22:49 J -42899388.71 -42899388.55 -42899388.39 0.0260 0.0131

Saturn -122165-02-13 18:01 J -42899299.82 -42899299.75 -42899299.67 0.0259 0.0236

Moon -122164-03-26 23:32 J -42898892.61 -42898892.52 -42898892.43 0.2779 0.1537

Earth -122164-03-27 00:15 J -42898892.58 -42898892.49 -42898892.40 0.2783 0.1519 *

Uranus -122163-10-09 05:46 J -42898331.35 -42898331.26 -42898331.17 0.0149 0.0130

Uranus -122162-01-05 14:10 J -42898243.04 -42898242.91 -42898242.76 0.0149 0.0099

Uranus -122162-04-03 23:03 J -42898154.70 -42898154.54 -42898154.37 0.0149 0.0067

Uranus -122162-07-01 07:56 J -42898066.35 -42898066.17 -42898065.98 0.0149 0.0035

Mars -122162-09-24 00:01 J -42897981.64 -42897981.50 -42897981.36 0.1853 0.0978

Uranus -122162-09-27 16:49 J -42897977.99 -42897977.80 -42897977.61 0.0149 0.0004

Uranus -122162-12-25 01:42 J -42897889.62 -42897889.43 -42897889.24 0.0149 0.0028

Uranus -122161-03-22 10:20 J -42897801.23 -42897801.07 -42897800.89 0.0149 0.0061

Uranus -122161-06-18 19:13 J -42897712.84 -42897712.70 -42897712.54 0.0149 0.0093

Uranus -122161-09-15 04:20 J -42897624.42 -42897624.32 -42897624.21 0.0148 0.0125

Earth -122161-09-23 04:06 J -42897616.45 -42897616.33 -42897616.21 0.2558 0.1637

Moon -122161-09-23 05:03 J -42897616.41 -42897616.29 -42897616.16 0.2554 0.1614 *

Jupiter -122161-12-09 07:56 J -42897539.29 -42897539.17 -42897539.06 0.0501 0.0384

Jupiter -122160-03-09 17:03 J -42897448.96 -42897448.79 -42897448.62 0.0500 0.0203

Mars -122159-07-07 09:51 J -42896964.19 -42896964.09 -42896963.98 0.1660 0.0760

Earth -122157-03-19 21:51 J -42896342.70 -42896342.59 -42896342.49 0.2781 0.0688

Moon -122157-03-19 22:34 J -42896342.67 -42896342.56 -42896342.46 0.2784 0.0632 *

Mars -122157-06-11 15:08 J -42896258.97 -42896258.87 -42896258.77 0.1654 0.0911

Jupiter -122155-11-07 16:49 J -42895379.84 -42895379.80 -42895379.77 0.0524 0.0503

Jupiter -122154-02-04 23:32 J -42895290.65 -42895290.52 -42895290.39 0.0525 0.0038

Jupiter -122154-05-05 05:46 J -42895201.33 -42895201.26 -42895201.18 0.0526 0.0422

Moon -122154-09-15 15:22 J -42895067.96 -42895067.86 -42895067.75 0.2567 0.1918

Earth -122154-09-15 15:08 J -42895067.96 -42895067.87 -42895067.76 0.2560 0.1995 *

Venus -122153-04-16 22:06 J -42894853.63 -42894853.58 -42894853.53 0.3733 0.3237

Moon -122151-03-29 18:15 J -42894141.80 -42894141.74 -42894141.68 0.2777 0.2240

Earth -122151-03-29 18:44 J -42894141.78 -42894141.72 -42894141.66 0.2783 0.2301 *

Saturn -122151-06-16 23:46 J -42894062.58 -42894062.51 -42894062.44 0.0301 0.0254

Saturn -122151-09-13 13:42 J -42893974.05 -42893973.93 -42893973.81 0.0302 0.0133

Saturn -122151-12-11 03:22 J -42893885.49 -42893885.36 -42893885.22 0.0302 0.0014

Saturn -122150-03-09 17:03 J -42893796.91 -42893796.79 -42893796.67 0.0303 0.0106

Saturn -122150-06-06 06:30 J -42893708.31 -42893708.23 -42893708.14 0.0303 0.0225

Mars -122150-11-27 20:25 J -42893533.73 -42893533.65 -42893533.56 0.1661 0.1174

Jupiter -122149-12-26 14:39 J -42893139.07 -42893138.89 -42893138.71 0.0500 0.0061

Venus -122148-10-31 14:39 J -42892829.98 -42892829.89 -42892829.79 0.3739 0.1484

Mars -122148-11-02 01:56 J -42892828.53 -42892828.42 -42892828.30 0.1655 0.0518

Pluto -122146-09-09 12:58 J -42892152.02 -42892151.96 -42892151.85 0.0061 0.0054

Pluto -122146-12-06 14:54 J -42892064.01 -42892063.88 -42892063.76 0.0061 0.0045

Pluto -122145-03-03 15:51 J -42891975.98 -42891975.84 -42891975.68 0.0061 0.0037

Pluto -122145-05-30 17:18 J -42891887.94 -42891887.78 -42891887.61 0.0061 0.0029

Venus -122145-08-01 15:22 J -42891824.89 -42891824.86 -42891824.83 0.3646 0.3556

Pluto -122145-08-26 18:30 J -42891799.90 -42891799.73 -42891799.54 0.0061 0.0021

Pluto -122145-11-22 19:42 J -42891711.85 -42891711.68 -42891711.48 0.0061 0.0013

Pluto -122144-02-18 21:22 J -42891623.80 -42891623.61 -42891623.42 0.0061 0.0004

Earth -122144-03-22 16:20 J -42891591.93 -42891591.82 -42891591.72 0.2782 0.0154

Moon -122144-03-22 16:49 J -42891591.90 -42891591.80 -42891591.69 0.2784 0.0142 *

Pluto -122144-05-17 22:34 J -42891535.75 -42891535.56 -42891535.37 0.0061 0.0004

Pluto -122144-08-13 23:46 J -42891447.69 -42891447.51 -42891447.32 0.0061 0.0012

Pluto -122144-11-10 00:58 J -42891359.63 -42891359.46 -42891359.27 0.0061 0.0021

Pluto -122143-02-06 02:25 J -42891271.56 -42891271.40 -42891271.23 0.0061 0.0029

Pluto -122143-05-05 03:22 J -42891183.49 -42891183.36 -42891183.19 0.0061 0.0037

Pluto -122143-08-01 04:34 J -42891095.41 -42891095.31 -42891095.16 0.0061 0.0046

Pluto -122143-10-28 06:15 J -42891007.32 -42891007.24 -42891007.14 0.0061 0.0054

Jupiter -122143-11-24 03:22 J -42890980.48 -42890980.36 -42890980.23 0.0525 0.0156

Jupiter -122142-02-21 09:51 J -42890891.19 -42890891.09 -42890890.98 0.0526 0.0307

Venus -122142-05-17 07:13 J -42890806.30 -42890806.20 -42890806.10 0.3745 0.0269

Mars -122141-06-12 09:08 J -42890414.25 -42890414.12 -42890414.00 0.1857 0.1206

Moon -122141-09-17 21:22 J -42890316.76 -42890316.61 -42890316.46 0.2565 0.0656

Earth -122141-09-17 21:51 J -42890316.75 -42890316.59 -42890316.44 0.2559 0.0709 *

Mars -122140-04-19 06:58 J -42890103.24 -42890103.21 -42890103.18 0.1663 0.1594

Venus -122139-02-15 21:51 J -42889800.74 -42889800.59 -42889800.44 0.3638 0.0670

Mars -122138-03-25 12:44 J -42889398.09 -42889397.97 -42889397.85 0.1657 0.0114

Moon -122137-03-15 12:58 J -42889042.02 -42889041.96 -42889041.89 0.2780 0.2161

Earth -122137-03-15 13:56 J -42889041.99 -42889041.92 -42889041.85 0.2780 0.2096 *

Saturn -122137-07-12 12:58 J -42888923.05 -42888922.96 -42888922.85 0.0261 0.0217

Saturn -122137-10-09 07:56 J -42888834.33 -42888834.17 -42888834.00 0.0260 0.0113

Jupiter -122137-10-14 12:30 J -42888829.16 -42888828.98 -42888828.80 0.0501 0.0079

Venus -122137-11-29 23:32 J -42888782.60 -42888782.52 -42888782.43 0.3750 0.2005

Saturn -122136-01-06 02:54 J -42888745.56 -42888745.38 -42888745.20 0.0260 0.0009

Saturn -122136-04-04 21:51 J -42888656.75 -42888656.59 -42888656.41 0.0260 0.0097

Saturn -122136-07-02 17:03 J -42888567.89 -42888567.79 -42888567.67 0.0259 0.0202

Mars -122132-11-02 04:49 J -42886984.46 -42886984.30 -42886984.13 0.1856 0.0169

Earth -122131-03-25 10:34 J -42886841.16 -42886841.06 -42886840.95 0.2783 0.0883

Moon -122131-03-25 11:18 J -42886841.13 -42886841.03 -42886840.93 0.2787 0.0944 *

Venus -122131-06-15 16:06 J -42886758.84 -42886758.83 -42886758.82 0.3756 0.3725

Jupiter -122131-09-12 07:13 J -42886670.31 -42886670.20 -42886670.09 0.0525 0.0273

Jupiter -122131-12-10 13:42 J -42886581.04 -42886580.93 -42886580.80 0.0526 0.0192

Mars -122129-08-14 23:32 J -42885967.64 -42885967.52 -42885967.41 0.1658 0.0295

Moon -122128-09-21 03:37 J -42885565.50 -42885565.35 -42885565.19 0.2565 0.0482

Earth -122128-09-21 04:06 J -42885565.48 -42885565.33 -42885565.17 0.2558 0.0589 *

Mars -122127-07-21 04:20 J -42885262.38 -42885262.32 -42885262.25 0.1653 0.1356

Jupiter -122125-08-02 10:06 J -42884519.24 -42884519.08 -42884518.91 0.0501 0.0221

Jupiter -122125-10-31 19:27 J -42884428.81 -42884428.69 -42884428.56 0.0500 0.0370

Moon -122124-03-18 07:27 J -42884291.28 -42884291.19 -42884291.09 0.2781 0.1309

Earth -122124-03-18 08:10 J -42884291.25 -42884291.16 -42884291.06 0.2781 0.1322 *

Mars -122122-03-25 00:30 J -42883554.62 -42883554.48 -42883554.33 0.1853 0.0880

Saturn -122122-11-04 00:30 J -42883330.50 -42883330.48 -42883330.45 0.0300 0.0295

Saturn -122121-01-31 14:25 J -42883242.01 -42883241.90 -42883241.79 0.0301 0.0175

Uranus -122121-02-02 10:49 J -42883240.08 -42883240.05 -42883239.99 0.0130 0.0124

Saturn -122121-04-29 04:20 J -42883153.45 -42883153.32 -42883153.19 0.0302 0.0056

Uranus -122121-04-30 14:10 J -42883151.99 -42883151.91 -42883151.84 0.0130 0.0108

Saturn -122121-07-26 18:01 J -42883064.88 -42883064.75 -42883064.62 0.0302 0.0065

Uranus -122121-07-27 17:03 J -42883063.88 -42883063.79 -42883063.69 0.0130 0.0093

Saturn -122121-10-23 07:27 J -42882976.29 -42882976.19 -42882976.08 0.0303 0.0183

Uranus -122121-10-23 19:56 J -42882975.77 -42882975.67 -42882975.56 0.0130 0.0078

Uranus -122120-01-19 23:03 J -42882887.66 -42882887.54 -42882887.42 0.0130 0.0062

Saturn -122120-01-19 20:54 J -42882887.64 -42882887.63 -42882887.62 0.0303 0.0301 *

Uranus -122120-04-18 01:56 J -42882799.54 -42882799.42 -42882799.29 0.0130 0.0047

Uranus -122120-07-15 04:49 J -42882711.43 -42882711.30 -42882711.17 0.0130 0.0032

Uranus -122120-10-11 07:42 J -42882623.31 -42882623.18 -42882623.04 0.0130 0.0018

Mars -122119-01-05 09:51 J -42882537.19 -42882537.09 -42882536.98 0.1660 0.0706

Uranus -122119-01-07 10:49 J -42882535.19 -42882535.05 -42882534.92 0.0130 0.0004

Uranus -122119-04-05 13:42 J -42882447.07 -42882446.93 -42882446.80 0.0130 0.0013

Jupiter -122119-07-01 11:32 J -42882360.11 -42882360.02 -42882359.93 0.0525 0.0383

Uranus -122119-07-02 16:34 J -42882358.94 -42882358.81 -42882358.68 0.0130 0.0028

Jupiter -122119-09-28 18:15 J -42882270.87 -42882270.74 -42882270.61 0.0526 0.0081

Uranus -122119-09-28 19:27 J -42882270.82 -42882270.69 -42882270.56 0.0130 0.0043 *

Uranus -122119-12-25 22:20 J -42882182.69 -42882182.57 -42882182.45 0.0130 0.0058

Uranus -122118-03-24 01:13 J -42882094.56 -42882094.45 -42882094.34 0.0130 0.0072

Earth -122118-03-28 05:03 J -42882090.37 -42882090.29 -42882090.20 0.2783 0.1661

Moon -122118-03-28 05:46 J -42882090.34 -42882090.26 -42882090.18 0.2787 0.1766 *

Uranus -122118-06-20 04:06 J -42882006.43 -42882006.33 -42882006.23 0.0130 0.0087

Uranus -122118-09-16 06:44 J -42881918.29 -42881918.22 -42881918.13 0.0130 0.0103

Mars -122118-12-11 15:08 J -42881831.96 -42881831.87 -42881831.77 0.1654 0.0967

Uranus -122118-12-13 09:51 J -42881830.15 -42881830.09 -42881830.03 0.0130 0.0117

Neptune -122117-11-25 13:56 J -42881481.93 -42881481.92 -42881481.89 0.0088 0.0087

Neptune -122116-02-21 15:37 J -42881393.89 -42881393.85 -42881393.80 0.0088 0.0083

Neptune -122116-05-20 17:03 J -42881305.85 -42881305.79 -42881305.72 0.0088 0.0078

Neptune -122116-08-16 18:15 J -42881217.80 -42881217.74 -42881217.65 0.0088 0.0075

Neptune -122116-11-12 19:42 J -42881129.75 -42881129.68 -42881129.58 0.0088 0.0071

Neptune -122115-02-08 21:22 J -42881041.69 -42881041.61 -42881041.52 0.0088 0.0066

Neptune -122115-05-07 22:49 J -42880953.64 -42880953.55 -42880953.45 0.0088 0.0061

Neptune -122115-08-04 00:15 J -42880865.59 -42880865.49 -42880865.38 0.0088 0.0057

Moon -122115-09-24 09:37 J -42880814.22 -42880814.10 -42880813.99 0.2563 0.1734

Earth -122115-09-24 10:49 J -42880814.16 -42880814.05 -42880813.94 0.2558 0.1874 *

Neptune -122115-10-31 01:27 J -42880777.53 -42880777.44 -42880777.32 0.0088 0.0054

Neptune -122114-01-27 03:08 J -42880689.48 -42880689.37 -42880689.25 0.0088 0.0049

Neptune -122114-04-25 04:34 J -42880601.43 -42880601.31 -42880601.19 0.0088 0.0044

Neptune -122114-07-22 05:46 J -42880513.37 -42880513.26 -42880513.13 0.0088 0.0041

Neptune -122114-10-18 07:13 J -42880425.31 -42880425.20 -42880425.07 0.0088 0.0036

Neptune -122113-01-14 08:54 J -42880337.26 -42880337.13 -42880337.01 0.0088 0.0032

Neptune -122113-04-11 10:06 J -42880249.20 -42880249.08 -42880248.94 0.0088 0.0028

Jupiter -122113-05-21 06:30 J -42880209.35 -42880209.23 -42880209.11 0.0500 0.0376

Neptune -122113-07-08 11:32 J -42880161.15 -42880161.02 -42880160.88 0.0088 0.0023

Jupiter -122113-08-19 15:37 J -42880119.01 -42880118.85 -42880118.68 0.0500 0.0210

Neptune -122113-10-04 12:58 J -42880073.09 -42880072.96 -42880072.82 0.0088 0.0019

Neptune -122113-12-31 14:25 J -42879985.03 -42879984.90 -42879984.76 0.0088 0.0015

Neptune -122112-03-29 15:51 J -42879896.97 -42879896.84 -42879896.71 0.0088 0.0011

Neptune -122112-06-25 17:18 J -42879808.92 -42879808.78 -42879808.65 0.0088 0.0007

Neptune -122112-09-21 18:30 J -42879720.86 -42879720.73 -42879720.59 0.0088 0.0004

Neptune -122112-12-18 19:56 J -42879632.80 -42879632.67 -42879632.53 0.0088 0.0003

Neptune -122111-03-16 21:22 J -42879544.74 -42879544.61 -42879544.47 0.0088 0.0006

Moon -122111-03-21 01:56 J -42879540.53 -42879540.42 -42879540.31 0.2781 0.0617

Earth -122111-03-21 02:39 J -42879540.49 -42879540.39 -42879540.28 0.2782 0.0543 *

Neptune -122111-06-12 22:49 J -42879456.69 -42879456.55 -42879456.42 0.0088 0.0010

Neptune -122111-09-09 00:01 J -42879368.63 -42879368.50 -42879368.36 0.0088 0.0015

Neptune -122111-12-06 01:27 J -42879280.57 -42879280.44 -42879280.31 0.0088 0.0019

Neptune -122110-03-04 02:54 J -42879192.51 -42879192.38 -42879192.25 0.0088 0.0023

Mars -122110-05-28 20:25 J -42879106.73 -42879106.65 -42879106.56 0.1661 0.1119

Neptune -122110-05-31 04:06 J -42879104.45 -42879104.33 -42879104.20 0.0088 0.0027

Neptune -122110-08-27 05:32 J -42879016.39 -42879016.27 -42879016.14 0.0088 0.0031

Neptune -122110-11-23 06:44 J -42878928.33 -42878928.22 -42878928.09 0.0088 0.0036

Neptune -122109-02-19 08:10 J -42878840.27 -42878840.16 -42878840.03 0.0088 0.0039

Neptune -122109-05-17 09:37 J -42878752.21 -42878752.10 -42878751.98 0.0088 0.0043

Neptune -122109-08-13 11:03 J -42878664.15 -42878664.04 -42878663.93 0.0088 0.0047

Neptune -122109-11-09 12:15 J -42878576.09 -42878575.99 -42878575.88 0.0088 0.0052

Neptune -122108-02-05 13:42 J -42878488.03 -42878487.93 -42878487.82 0.0088 0.0056

Mars -122108-05-03 01:56 J -42878401.53 -42878401.42 -42878401.31 0.1655 0.0568

Neptune -122108-05-04 14:54 J -42878399.97 -42878399.88 -42878399.77 0.0088 0.0060

Neptune -122108-07-31 16:06 J -42878311.91 -42878311.83 -42878311.72 0.0088 0.0065

Moon -122108-09-15 21:37 J -42878265.72 -42878265.60 -42878265.48 0.2554 0.1694

Earth -122108-09-15 21:51 J -42878265.70 -42878265.59 -42878265.47 0.2560 0.1762 *

Neptune -122108-10-27 17:32 J -42878223.84 -42878223.77 -42878223.67 0.0088 0.0068

Saturn -122108-11-29 12:44 J -42878191.03 -42878190.97 -42878190.91 0.0262 0.0247

Neptune -122107-01-23 18:58 J -42878135.78 -42878135.71 -42878135.63 0.0088 0.0072

Saturn -122107-02-26 07:27 J -42878102.34 -42878102.19 -42878102.04 0.0261 0.0144

Jupiter -122107-04-19 15:51 J -42878049.88 -42878049.84 -42878049.80 0.0525 0.0496

Neptune -122107-04-21 20:10 J -42878047.71 -42878047.66 -42878047.58 0.0088 0.0077

Saturn -122107-05-26 02:25 J -42878013.58 -42878013.40 -42878013.22 0.0261 0.0039

Jupiter -122107-07-17 22:34 J -42877960.69 -42877960.56 -42877960.43 0.0526 0.0031

Neptune -122107-07-18 21:37 J -42877959.64 -42877959.60 -42877959.54 0.0088 0.0080

Saturn -122107-08-22 21:22 J -42877924.78 -42877924.61 -42877924.43 0.0260 0.0066

Neptune -122107-10-14 23:03 J -42877871.57 -42877871.54 -42877871.50 0.0088 0.0084

Jupiter -122107-10-15 05:03 J -42877871.36 -42877871.29 -42877871.22 0.0526 0.0432

Saturn -122107-11-19 16:34 J -42877835.94 -42877835.81 -42877835.67 0.0260 0.0172

Neptune -122106-01-11 00:30 J -42877783.48 -42877783.48 -42877783.48 0.0088 0.0088

Earth -122105-03-29 23:32 J -42877339.57 -42877339.52 -42877339.47 0.2783 0.2445

Moon -122105-03-30 00:15 J -42877339.54 -42877339.49 -42877339.44 0.2789 0.2456 *

Earth -122104-03-14 00:15 J -42876990.51 -42876990.49 -42876990.47 0.2778 0.2730

Moon -122104-03-14 00:58 J -42876990.47 -42876990.46 -42876990.45 0.2777 0.2743 *

Mars -122102-12-12 10:06 J -42875987.19 -42875987.08 -42875986.97 0.1857 0.1321

Jupiter -122101-06-07 12:58 J -42875809.14 -42875808.96 -42875808.78 0.0500 0.0065

Mars -122101-10-18 06:58 J -42875676.26 -42875676.21 -42875676.17 0.1663 0.1541

Mars -122099-09-23 12:44 J -42874971.09 -42874970.97 -42874970.85 0.1656 0.0168

Moon -122098-03-23 20:25 J -42874789.76 -42874789.65 -42874789.54 0.2780 0.0136

Earth -122098-03-23 21:08 J -42874789.73 -42874789.62 -42874789.51 0.2782 0.0239 *

Venus -122097-11-21 19:56 J -42874180.75 -42874180.67 -42874180.60 0.3734 0.2590

Jupiter -122095-05-06 02:39 J -42873650.52 -42873650.39 -42873650.27 0.0525 0.0147

Jupiter -122095-08-03 08:54 J -42873561.23 -42873561.13 -42873561.02 0.0526 0.0317

Earth -122095-09-19 04:34 J -42873514.47 -42873514.31 -42873514.16 0.2559 0.0473

Moon -122095-09-19 04:49 J -42873514.47 -42873514.30 -42873514.14 0.2553 0.0386 *

Mars -122092-05-03 05:18 J -42872557.44 -42872557.28 -42872557.12 0.1855 0.0250

Saturn -122092-06-19 15:51 J -42872509.94 -42872509.84 -42872509.75 0.0301 0.0211

Saturn -122092-09-16 05:32 J -42872421.39 -42872421.27 -42872421.14 0.0302 0.0092

Saturn -122092-12-13 19:13 J -42872332.83 -42872332.70 -42872332.56 0.0302 0.0030

Saturn -122091-03-12 08:54 J -42872244.25 -42872244.13 -42872244.01 0.0303 0.0147

Earth -122091-03-16 18:44 J -42872239.80 -42872239.72 -42872239.65 0.2780 0.1959

Moon -122091-03-16 19:27 J -42872239.77 -42872239.69 -42872239.61 0.2778 0.1887 *

Venus -122091-06-07 12:30 J -42872157.09 -42872156.98 -42872156.88 0.3740 0.0842

Saturn -122091-06-08 22:20 J -42872155.63 -42872155.57 -42872155.51 0.0303 0.0265

Mars -122089-02-13 23:18 J -42871540.64 -42871540.53 -42871540.41 0.1658 0.0243

Jupiter -122089-03-26 10:34 J -42871499.24 -42871499.06 -42871498.88 0.0500 0.0079

Venus -122088-03-08 16:49 J -42871151.92 -42871151.80 -42871151.68 0.3644 0.2115

Mars -122087-01-19 04:20 J -42870835.38 -42870835.32 -42870835.26 0.1653 0.1406

Venus -122086-12-22 04:49 J -42870133.40 -42870133.30 -42870133.20 0.3746 0.0911

Moon -122085-03-25 14:54 J -42870038.98 -42870038.88 -42870038.78 0.2780 0.1005

Earth -122085-03-25 15:37 J -42870038.95 -42870038.85 -42870038.75 0.2783 0.1022 *

Jupiter -122083-02-22 06:30 J -42869340.34 -42869340.23 -42869340.12 0.0525 0.0263

Jupiter -122083-05-22 12:58 J -42869251.08 -42869250.96 -42869250.84 0.0525 0.0200

Venus -122083-09-22 23:03 J -42869127.66 -42869127.54 -42869127.41 0.3636 0.2128

Mars -122083-09-23 01:13 J -42869127.59 -42869127.45 -42869127.30 0.1853 0.0780 *

Earth -122082-09-22 10:49 J -42868763.20 -42868763.05 -42868762.89 0.2558 0.0823

Moon -122082-09-22 11:32 J -42868763.18 -42868763.02 -42868762.86 0.2553 0.0781 *

Mars -122080-07-06 10:06 J -42868110.19 -42868110.08 -42868109.97 0.1660 0.0645

Venus -122080-07-06 21:22 J -42868109.69 -42868109.61 -42868109.54 0.3752 0.2640

Uranus -122079-10-29 12:01 J -42867630.09 -42867630.00 -42867629.90 0.0149 0.0126

Uranus -122078-01-25 20:39 J -42867541.78 -42867541.64 -42867541.49 0.0149 0.0095

Earth -122078-03-19 13:13 J -42867489.05 -42867488.95 -42867488.86 0.2781 0.1187

Moon -122078-03-19 13:56 J -42867489.02 -42867488.92 -42867488.82 0.2782 0.1061 *

Uranus -122078-04-24 05:32 J -42867453.44 -42867453.27 -42867453.09 0.0149 0.0063

Mars -122078-06-11 15:08 J -42867404.96 -42867404.87 -42867404.78 0.1654 0.1017

Saturn -122078-07-16 06:58 J -42867370.33 -42867370.21 -42867370.07 0.0261 0.0175

Uranus -122078-07-21 14:25 J -42867365.09 -42867364.90 -42867364.71 0.0149 0.0031

Saturn -122078-10-13 02:10 J -42867281.59 -42867281.41 -42867281.24 0.0261 0.0071

Uranus -122078-10-17 23:18 J -42867276.72 -42867276.53 -42867276.34 0.0149 0.0001

Saturn -122077-01-09 21:08 J -42867192.80 -42867192.62 -42867192.44 0.0260 0.0034

Jupiter -122077-01-13 08:10 J -42867189.32 -42867189.16 -42867189.00 0.0501 0.0220

Uranus -122077-01-14 08:10 J -42867188.35 -42867188.16 -42867187.97 0.0149 0.0033

Saturn -122077-04-07 16:06 J -42867103.98 -42867103.83 -42867103.67 0.0260 0.0140

Uranus -122077-04-11 17:03 J -42867099.96 -42867099.79 -42867099.62 0.0149 0.0065

Jupiter -122077-04-12 17:46 J -42867098.88 -42867098.76 -42867098.64 0.0500 0.0371

Saturn -122077-07-05 11:32 J -42867015.07 -42867015.02 -42867014.96 0.0259 0.0245

Uranus -122077-07-09 01:56 J -42867011.56 -42867011.42 -42867011.27 0.0149 0.0097

Uranus -122077-10-05 10:34 J -42866923.14 -42866923.06 -42866922.95 0.0149 0.0130

Mars -122073-02-12 21:37 J -42865697.64 -42865697.60 -42865697.56 0.1851 0.1777

Moon -122072-03-28 09:22 J -42865288.19 -42865288.11 -42865288.03 0.2778 0.1815

Earth -122072-03-28 10:06 J -42865288.16 -42865288.08 -42865288.00 0.2783 0.1804 *

Jupiter -122072-12-11 10:06 J -42865030.17 -42865030.08 -42865029.99 0.0524 0.0383

Jupiter -122071-03-10 16:49 J -42864940.93 -42864940.80 -42864940.67 0.0525 0.0082

Mars -122071-11-26 20:25 J -42864679.74 -42864679.65 -42864679.55 0.1661 0.1063

Earth -122069-09-24 17:18 J -42864011.87 -42864011.78 -42864011.69 0.2558 0.2105

Moon -122069-09-24 18:15 J -42864011.83 -42864011.74 -42864011.65 0.2552 0.2096 *

Mars -122069-11-01 01:56 J -42863974.53 -42863974.42 -42863974.31 0.1655 0.0625

Jupiter -122066-11-01 05:46 J -42862879.38 -42862879.26 -42862879.13 0.0501 0.0362

Jupiter -122065-01-30 15:08 J -42862789.04 -42862788.87 -42862788.71 0.0500 0.0226

Earth -122065-03-21 07:27 J -42862738.29 -42862738.19 -42862738.08 0.2782 0.0417

Moon -122065-03-21 08:10 J -42862738.26 -42862738.16 -42862738.05 0.2782 0.0399 *

Saturn -122063-11-06 16:49 J -42861777.87 -42861777.80 -42861777.72 0.0300 0.0250

Saturn -122062-02-03 06:44 J -42861689.34 -42861689.22 -42861689.10 0.0301 0.0130

Saturn -122062-05-02 20:25 J -42861600.78 -42861600.65 -42861600.51 0.0302 0.0014

Mars -122062-06-12 10:49 J -42861560.15 -42861560.05 -42861559.95 0.1857 0.1424

Saturn -122062-07-30 10:06 J -42861512.20 -42861512.08 -42861511.95 0.0302 0.0108

Earth -122062-09-17 04:34 J -42861463.44 -42861463.31 -42861463.18 0.2560 0.1527

Moon -122062-09-17 04:49 J -42861463.43 -42861463.30 -42861463.17 0.2566 0.1444 *

Saturn -122062-10-26 23:32 J -42861423.60 -42861423.52 -42861423.43 0.0303 0.0227

Mars -122061-04-18 06:58 J -42861249.27 -42861249.21 -42861249.16 0.1663 0.1485

Jupiter -122060-09-29 14:10 J -42860719.95 -42860719.91 -42860719.87 0.0524 0.0495

Jupiter -122060-12-27 21:08 J -42860630.75 -42860630.62 -42860630.49 0.0525 0.0030

Mars -122059-03-24 12:44 J -42860544.09 -42860543.97 -42860543.85 0.1656 0.0221

Jupiter -122059-03-27 03:22 J -42860541.42 -42860541.36 -42860541.28 0.0526 0.0432

Moon -122059-03-31 03:51 J -42860537.38 -42860537.34 -42860537.29 0.2779 0.2484

Earth -122059-03-31 04:34 J -42860537.35 -42860537.31 -42860537.27 0.2783 0.2588 *

Moon -122058-03-15 04:20 J -42860188.33 -42860188.32 -42860188.30 0.2781 0.2725

Earth -122058-03-15 05:03 J -42860188.32 -42860188.29 -42860188.25 0.2779 0.2595 *

Jupiter -122054-11-18 11:18 J -42858479.21 -42858479.03 -42858478.85 0.0500 0.0069

Pluto -122053-07-08 12:15 J -42858246.05 -42858245.99 -42858245.92 0.0084 0.0074

Pluto -122053-10-04 13:42 J -42858158.03 -42858157.93 -42858157.83 0.0084 0.0058

Mars -122053-11-01 06:15 J -42858130.40 -42858130.24 -42858130.08 0.1855 0.0362

Pluto -122053-12-31 14:54 J -42858069.99 -42858069.88 -42858069.75 0.0084 0.0042

Earth -122052-03-24 01:56 J -42857987.53 -42857987.42 -42857987.31 0.2782 0.0382

Moon -122052-03-24 02:39 J -42857987.50 -42857987.39 -42857987.28 0.2785 0.0372 *

Pluto -122052-03-29 16:20 J -42857981.95 -42857981.82 -42857981.69 0.0084 0.0026

Pluto -122052-06-25 17:46 J -42857893.90 -42857893.76 -42857893.62 0.0084 0.0010

Pluto -122052-09-21 19:13 J -42857805.84 -42857805.70 -42857805.57 0.0084 0.0006

Pluto -122052-12-18 20:25 J -42857717.78 -42857717.65 -42857717.51 0.0084 0.0021

Pluto -122051-03-16 21:51 J -42857629.71 -42857629.59 -42857629.47 0.0084 0.0037

Pluto -122051-06-12 23:03 J -42857541.64 -42857541.54 -42857541.43 0.0083 0.0053

Pluto -122051-09-09 00:15 J -42857453.56 -42857453.49 -42857453.40 0.0083 0.0068

Mars -122050-08-14 23:18 J -42857113.64 -42857113.53 -42857113.41 0.1658 0.0192

Moon -122049-09-19 11:03 J -42856712.20 -42856712.04 -42856711.88 0.2565 0.0199

Earth -122049-09-19 11:03 J -42856712.20 -42856712.04 -42856711.88 0.2559 0.0236 *

Saturn -122049-12-02 06:58 J -42856638.32 -42856638.21 -42856638.09 0.0262 0.0204

Saturn -122048-03-01 01:56 J -42856549.59 -42856549.42 -42856549.25 0.0261 0.0099

Saturn -122048-05-28 20:54 J -42856460.81 -42856460.63 -42856460.44 0.0261 0.0008

Mars -122048-07-20 04:20 J -42856408.37 -42856408.32 -42856408.27 0.1653 0.1458

Saturn -122048-08-25 16:06 J -42856371.99 -42856371.83 -42856371.66 0.0260 0.0111

Jupiter -122048-10-16 01:13 J -42856320.57 -42856320.45 -42856320.32 0.0526 0.0143

Saturn -122048-11-22 11:18 J -42856283.12 -42856283.03 -42856282.92 0.0260 0.0217

Jupiter -122047-01-13 07:56 J -42856231.27 -42856231.17 -42856231.07 0.0526 0.0321

Venus -122046-12-14 00:58 J -42855531.47 -42855531.46 -42855531.45 0.3730 0.3693

Moon -122045-03-16 22:49 J -42855437.63 -42855437.55 -42855437.47 0.2781 0.1855

Earth -122045-03-16 23:32 J -42855437.60 -42855437.52 -42855437.44 0.2780 0.1821 *

Mars -122043-03-24 01:56 J -42854700.57 -42854700.42 -42854700.27 0.1853 0.0679

Jupiter -122042-09-06 08:25 J -42854169.33 -42854169.15 -42854168.96 0.0500 0.0079

Mars -122040-01-04 10:06 J -42853683.20 -42853683.08 -42853682.97 0.1660 0.0595

Venus -122040-06-28 17:32 J -42853507.86 -42853507.77 -42853507.68 0.3736 0.1935

Earth -122039-03-26 20:25 J -42853236.75 -42853236.65 -42853236.55 0.2783 0.1161

Moon -122039-03-26 21:08 J -42853236.72 -42853236.62 -42853236.52 0.2785 0.1259 *

Mars -122039-12-10 15:08 J -42852977.96 -42852977.87 -42852977.78 0.1654 0.1068

Uranus -122037-02-22 18:30 J -42852538.77 -42852538.73 -42852538.66 0.0130 0.0118

Uranus -122037-05-20 21:51 J -42852450.67 -42852450.59 -42852450.51 0.0130 0.0102

Uranus -122037-08-17 00:44 J -42852362.57 -42852362.47 -42852362.37 0.0130 0.0087

Uranus -122037-11-13 03:37 J -42852274.45 -42852274.35 -42852274.23 0.0130 0.0072

Uranus -122036-02-09 06:44 J -42852186.34 -42852186.22 -42852186.10 0.0130 0.0056

Uranus -122036-05-08 09:37 J -42852098.22 -42852098.10 -42852097.97 0.0130 0.0041

Jupiter -122036-08-04 05:18 J -42852010.40 -42852010.28 -42852010.17 0.0525 0.0260

Uranus -122036-08-04 12:30 J -42852010.11 -42852009.98 -42852009.84 0.0130 0.0027

Moon -122036-09-22 16:49 J -42851960.94 -42851960.80 -42851960.65 0.2564 0.0943

Earth -122036-09-22 17:32 J -42851960.91 -42851960.77 -42851960.62 0.2558 0.1063 *

Uranus -122036-10-31 15:37 J -42851921.99 -42851921.85 -42851921.72 0.0130 0.0012

Jupiter -122036-11-01 11:46 J -42851921.13 -42851921.01 -42851920.89 0.0526 0.0204

Uranus -122035-01-27 18:30 J -42851833.87 -42851833.73 -42851833.60 0.0130 0.0004

Uranus -122035-04-25 21:22 J -42851745.74 -42851745.61 -42851745.48 0.0130 0.0019

Uranus -122035-07-23 00:15 J -42851657.62 -42851657.49 -42851657.36 0.0130 0.0034

Uranus -122035-10-19 03:08 J -42851569.49 -42851569.37 -42851569.24 0.0130 0.0049

Venus -122034-01-12 10:06 J -42851484.19 -42851484.08 -42851483.98 0.3742 0.0193

Uranus -122034-01-15 06:01 J -42851481.36 -42851481.25 -42851481.13 0.0130 0.0064

Uranus -122034-04-13 08:54 J -42851393.23 -42851393.13 -42851393.02 0.0130 0.0078

Uranus -122034-07-10 11:46 J -42851305.10 -42851305.01 -42851304.92 0.0130 0.0093

Mars -122034-08-13 22:06 J -42851270.64 -42851270.58 -42851270.52 0.1851 0.1688

Uranus -122034-10-06 14:25 J -42851216.96 -42851216.90 -42851216.81 0.0130 0.0109

Uranus -122033-01-02 17:32 J -42851128.81 -42851128.77 -42851128.73 0.0130 0.0123

Saturn -122033-03-25 18:44 J -42851045.76 -42851045.72 -42851045.67 0.0300 0.0281

Saturn -122033-06-22 08:39 J -42850957.25 -42850957.14 -42850957.03 0.0301 0.0162

Saturn -122033-09-18 22:20 J -42850868.70 -42850868.57 -42850868.43 0.0302 0.0043

Saturn -122033-12-16 12:01 J -42850780.13 -42850780.00 -42850779.87 0.0302 0.0076

Neptune -122032-01-23 07:42 J -42850742.22 -42850742.18 -42850742.12 0.0089 0.0085

Saturn -122032-03-15 01:27 J -42850691.54 -42850691.44 -42850691.34 0.0303 0.0195

Moon -122032-03-19 17:18 J -42850686.88 -42850686.78 -42850686.68 0.2782 0.1036

Earth -122032-03-19 18:01 J -42850686.85 -42850686.75 -42850686.65 0.2781 0.1043 *

Neptune -122032-04-21 11:03 J -42850654.12 -42850654.04 -42850653.95 0.0089 0.0079

Neptune -122032-07-18 14:10 J -42850566.00 -42850565.91 -42850565.79 0.0089 0.0074

Venus -122032-10-13 18:01 J -42850478.89 -42850478.75 -42850478.60 0.3642 0.0686

Neptune -122032-10-14 17:32 J -42850477.87 -42850477.77 -42850477.63 0.0089 0.0068

Neptune -122031-01-10 21:08 J -42850389.74 -42850389.62 -42850389.47 0.0089 0.0062

Neptune -122031-04-09 00:30 J -42850301.61 -42850301.48 -42850301.32 0.0089 0.0056

Mars -122031-05-27 20:25 J -42850252.74 -42850252.65 -42850252.55 0.1662 0.1009

Neptune -122031-07-06 04:06 J -42850213.48 -42850213.33 -42850213.17 0.0089 0.0050

Neptune -122031-10-02 07:27 J -42850125.34 -42850125.19 -42850125.01 0.0089 0.0044

Neptune -122031-12-29 11:03 J -42850037.20 -42850037.04 -42850036.86 0.0089 0.0038

Neptune -122030-03-27 14:39 J -42849949.07 -42849948.89 -42849948.71 0.0089 0.0032

Neptune -122030-06-23 18:01 J -42849860.93 -42849860.75 -42849860.56 0.0089 0.0026

Jupiter -122030-06-25 05:46 J -42849859.42 -42849859.26 -42849859.09 0.0500 0.0223

Neptune -122030-09-19 21:37 J -42849772.79 -42849772.60 -42849772.42 0.0089 0.0020

Jupiter -122030-09-23 15:08 J -42849768.99 -42849768.87 -42849768.74 0.0500 0.0368

Neptune -122030-12-17 00:58 J -42849684.64 -42849684.46 -42849684.27 0.0089 0.0014

Neptune -122029-03-14 04:34 J -42849596.50 -42849596.31 -42849596.12 0.0089 0.0008

Mars -122029-05-02 01:56 J -42849547.53 -42849547.42 -42849547.31 0.1655 0.0673

Neptune -122029-06-10 08:10 J -42849508.35 -42849508.16 -42849507.97 0.0089 0.0003

Venus -122029-07-28 02:39 J -42849460.49 -42849460.39 -42849460.30 0.3747 0.1558

Neptune -122029-09-06 11:32 J -42849420.21 -42849420.02 -42849419.83 0.0089 0.0004

Neptune -122029-12-03 15:08 J -42849332.06 -42849331.87 -42849331.68 0.0089 0.0010

Neptune -122028-03-01 18:30 J -42849243.91 -42849243.73 -42849243.54 0.0089 0.0016

Neptune -122028-05-28 22:06 J -42849155.76 -42849155.58 -42849155.39 0.0089 0.0022

Neptune -122028-08-25 01:42 J -42849067.61 -42849067.43 -42849067.25 0.0089 0.0028

Neptune -122028-11-21 05:18 J -42848979.46 -42848979.28 -42848979.10 0.0089 0.0034

Neptune -122027-02-17 08:25 J -42848891.30 -42848891.15 -42848890.96 0.0089 0.0041

Neptune -122027-05-16 12:01 J -42848803.15 -42848803.00 -42848802.82 0.0089 0.0047

Neptune -122027-08-12 15:37 J -42848714.99 -42848714.85 -42848714.68 0.0089 0.0053

Neptune -122027-11-08 19:13 J -42848626.83 -42848626.70 -42848626.54 0.0089 0.0059

Neptune -122026-02-04 22:49 J -42848538.67 -42848538.55 -42848538.41 0.0089 0.0065

Earth -122026-03-29 14:54 J -42848485.95 -42848485.88 -42848485.80 0.2783 0.1944

Moon -122026-03-29 15:37 J -42848485.92 -42848485.85 -42848485.78 0.2787 0.2050 *

Venus -122026-04-30 00:30 J -42848454.50 -42848454.48 -42848454.46 0.3635 0.3595

Neptune -122026-05-04 02:25 J -42848450.50 -42848450.40 -42848450.27 0.0089 0.0071

Neptune -122026-07-31 06:01 J -42848362.33 -42848362.25 -42848362.14 0.0089 0.0077

Neptune -122026-10-27 09:51 J -42848274.15 -42848274.09 -42848274.02 0.0089 0.0083

Jupiter -122024-05-23 08:54 J -42847700.21 -42847700.13 -42847700.04 0.0524 0.0377

Jupiter -122024-08-20 15:37 J -42847610.97 -42847610.85 -42847610.72 0.0525 0.0090

Venus -122023-02-10 18:58 J -42847436.76 -42847436.71 -42847436.66 0.3753 0.3273

Moon -122023-09-25 23:18 J -42847209.60 -42847209.53 -42847209.46 0.2563 0.2275

Earth -122023-09-26 00:01 J -42847209.56 -42847209.50 -42847209.44 0.2558 0.2346 *

Mars -122023-12-11 11:18 J -42847133.12 -42847133.03 -42847132.93 0.1857 0.1522

Mars -122022-10-18 06:58 J -42846822.27 -42846822.21 -42846822.15 0.1663 0.1423

Mars -122020-09-22 12:44 J -42846117.09 -42846116.97 -42846116.85 0.1657 0.0277

Moon -122019-03-22 11:46 J -42845936.12 -42845936.01 -42845935.90 0.2781 0.0348

Earth -122019-03-22 12:30 J -42845936.09 -42845935.98 -42845935.87 0.2782 0.0261 *

Saturn -122019-04-21 06:58 J -42845906.28 -42845906.21 -42845906.11 0.0262 0.0233

Saturn -122019-07-19 02:10 J -42845817.57 -42845817.41 -42845817.25 0.0261 0.0128

Saturn -122019-10-15 21:08 J -42845728.80 -42845728.62 -42845728.44 0.0261 0.0024

Saturn -122018-01-12 16:20 J -42845640.00 -42845639.82 -42845639.65 0.0260 0.0082

Saturn -122018-04-11 11:32 J -42845551.15 -42845551.02 -42845550.89 0.0260 0.0187

Jupiter -122018-04-13 03:37 J -42845549.48 -42845549.35 -42845549.23 0.0501 0.0365

Jupiter -122018-07-12 12:44 J -42845459.13 -42845458.97 -42845458.81 0.0500 0.0223

Moon -122016-09-17 11:03 J -42844661.19 -42844661.04 -42844660.90 0.2553 0.1210

Earth -122016-09-17 11:18 J -42844661.17 -42844661.03 -42844660.89 0.2560 0.1295 *

Earth -122013-03-31 09:22 J -42843735.13 -42843735.11 -42843735.09 0.2783 0.2730

Moon -122013-03-31 10:06 J -42843735.10 -42843735.08 -42843735.07 0.2787 0.2727 *

Mars -122013-05-02 06:58 J -42843703.37 -42843703.21 -42843703.05 0.1855 0.0466

Jupiter -122012-03-11 12:30 J -42843390.01 -42843389.98 -42843389.94 0.0524 0.0498

Earth -122012-03-15 10:06 J -42843386.13 -42843386.08 -42843386.04 0.2779 0.2459

Moon -122012-03-15 10:34 J -42843386.10 -42843386.06 -42843386.01 0.2775 0.2468 *

Jupiter -122012-06-08 19:27 J -42843300.82 -42843300.69 -42843300.56 0.0525 0.0034

Jupiter -122012-09-06 01:42 J -42843211.50 -42843211.43 -42843211.35 0.0526 0.0428

Mars -122010-02-12 23:32 J -42842686.64 -42842686.52 -42842686.40 0.1658 0.0134

Mars -122008-01-18 04:20 J -42841981.37 -42841981.32 -42841981.28 0.1653 0.1510

Moon -122006-03-25 06:15 J -42841185.35 -42841185.24 -42841185.14 0.2782 0.0428

Earth -122006-03-25 06:58 J -42841185.32 -42841185.21 -42841185.11 0.2783 0.0527 *

Jupiter -122006-04-30 10:06 J -42841149.26 -42841149.08 -42841148.90 0.0500 0.0078

Mars -122004-09-22 02:54 J -42840273.54 -42840273.38 -42840273.23 0.1853 0.0572

Saturn -122004-11-09 10:34 J -42840225.16 -42840225.06 -42840224.96 0.0301 0.0195

Saturn -122003-02-06 00:15 J -42840136.62 -42840136.49 -42840136.36 0.0301 0.0076

Saturn -122003-05-05 13:56 J -42840048.05 -42840047.92 -42840047.79 0.0302 0.0043

Saturn -122003-08-02 03:22 J -42839959.47 -42839959.36 -42839959.24 0.0302 0.0162

Moon -122003-09-20 17:46 J -42839909.92 -42839909.76 -42839909.59 0.2553 0.0043

Earth -122003-09-20 17:46 J -42839909.92 -42839909.76 -42839909.60 0.2559 0.0011 *

Saturn -122003-10-29 16:49 J -42839870.84 -42839870.80 -42839870.75 0.0303 0.0279

Mars -122001-07-05 10:06 J -42839256.20 -42839256.08 -42839255.97 0.1660 0.0540

122ND MILLENNIUM BCE

This is a list of transits of Mercury in the 122nd millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Jupiter -122000-03-27 23:32 J -42838990.64 -42838990.52 -42838990.39 0.0525 0.0146

Jupiter -122000-06-25 06:01 J -42838901.35 -42838901.25 -42838901.15 0.0526 0.0317

Earth -121999-03-18 04:34 J -42838635.40 -42838635.31 -42838635.23 0.2780 0.1686

Moon -121999-03-18 05:18 J -42838635.37 -42838635.28 -42838635.20 0.2779 0.1604 *

Mars -121999-06-10 15:08 J -42838550.95 -42838550.87 -42838550.78 0.1654 0.1121

Uranus -121995-11-18 19:13 J -42836928.80 -42836928.70 -42836928.58 0.0149 0.0120

Mars -121994-02-11 22:49 J -42836843.63 -42836843.55 -42836843.47 0.1851 0.1586

Uranus -121994-02-15 04:06 J -42836840.48 -42836840.33 -42836840.17 0.0149 0.0088

Jupiter -121994-02-16 06:30 J -42836839.41 -42836839.23 -42836839.05 0.0500 0.0077

Uranus -121994-05-14 12:44 J -42836752.13 -42836751.97 -42836751.78 0.0149 0.0057

Uranus -121994-08-10 21:37 J -42836663.78 -42836663.60 -42836663.40 0.0149 0.0025

Uranus -121994-11-07 06:44 J -42836575.41 -42836575.22 -42836575.03 0.0149 0.0008

Uranus -121993-02-03 15:22 J -42836487.04 -42836486.86 -42836486.67 0.0149 0.0040

Moon -121993-03-27 00:44 J -42836434.57 -42836434.47 -42836434.38 0.2780 0.1302

Earth -121993-03-27 01:27 J -42836434.54 -42836434.44 -42836434.35 0.2783 0.1309 *

Uranus -121993-05-02 00:15 J -42836398.65 -42836398.49 -42836398.32 0.0149 0.0072

Uranus -121993-07-29 09:08 J -42836310.25 -42836310.12 -42836309.98 0.0149 0.0104

Uranus -121993-10-25 18:15 J -42836221.81 -42836221.74 -42836221.66 0.0149 0.0136

Mars -121992-11-25 20:39 J -42835825.74 -42835825.64 -42835825.55 0.1661 0.0954

Saturn -121990-09-08 07:27 J -42835174.21 -42835174.19 -42835174.16 0.0262 0.0259

Earth -121990-09-24 00:15 J -42835158.63 -42835158.49 -42835158.35 0.2558 0.1296

Moon -121990-09-24 00:44 J -42835158.61 -42835158.47 -42835158.33 0.2552 0.1219 *

Mars -121990-11-01 01:56 J -42835120.52 -42835120.42 -42835120.31 0.1655 0.0728

Saturn -121990-12-06 02:25 J -42835085.54 -42835085.40 -42835085.25 0.0262 0.0155

Saturn -121989-03-03 21:22 J -42834996.79 -42834996.61 -42834996.43 0.0261 0.0050

Saturn -121989-05-31 16:34 J -42834907.99 -42834907.81 -42834907.63 0.0261 0.0055

Venus -121989-07-19 22:34 J -42834858.62 -42834858.56 -42834858.50 0.3732 0.3037

Saturn -121989-08-28 11:32 J -42834819.15 -42834819.02 -42834818.86 0.0261 0.0162

Jupiter -121988-01-14 03:37 J -42834680.46 -42834680.35 -42834680.24 0.0525 0.0261

Jupiter -121988-04-13 10:20 J -42834591.19 -42834591.07 -42834590.95 0.0526 0.0205

Earth -121986-03-20 22:49 J -42833884.65 -42833884.55 -42833884.44 0.2781 0.0910

Moon -121986-03-20 23:32 J -42833884.62 -42833884.52 -42833884.41 0.2779 0.0804 *

Venus -121983-02-02 15:08 J -42832834.97 -42832834.87 -42832834.77 0.3737 0.1287

Mars -121983-06-11 12:15 J -42832706.07 -42832705.99 -42832705.91 0.1857 0.1626

Earth -121983-09-15 11:17 J -42832610.09 -42832610.03 -42832609.97 0.2560 0.2353

Moon -121983-09-15 12:01 J -42832610.06 -42832610.00 -42832609.93 0.2566 0.2335 *

Jupiter -121983-12-05 03:37 J -42832529.51 -42832529.35 -42832529.18 0.0500 0.0224

Jupiter -121982-03-05 12:58 J -42832439.08 -42832438.96 -42832438.84 0.0499 0.0365

Mars -121982-04-18 06:58 J -42832395.28 -42832395.21 -42832395.15 0.1663 0.1371

Venus -121981-11-03 13:13 J -42831830.00 -42831829.95 -42831829.91 0.3648 0.3437

Mars -121980-03-23 12:44 J -42831690.09 -42831689.97 -42831689.85 0.1657 0.0328

Moon -121980-03-29 19:13 J -42831683.77 -42831683.70 -42831683.63 0.2781 0.2063

Earth -121980-03-29 19:56 J -42831683.74 -42831683.67 -42831683.60 0.2783 0.2091 *

Venus -121978-08-19 07:41 J -42830811.28 -42830811.18 -42830811.07 0.3743 0.0465

Jupiter -121977-11-02 07:27 J -42830370.28 -42830370.19 -42830370.10 0.0525 0.0378

Jupiter -121976-01-30 14:10 J -42830281.04 -42830280.91 -42830280.78 0.0526 0.0087

Venus -121975-05-20 19:13 J -42829805.85 -42829805.70 -42829805.55 0.3640 0.0734

Saturn -121974-03-29 12:44 J -42829493.06 -42829492.97 -42829492.88 0.0300 0.0224

Saturn -121974-06-26 02:25 J -42829404.52 -42829404.40 -42829404.27 0.0301 0.0105

Saturn -121974-09-22 16:05 J -42829315.96 -42829315.83 -42829315.69 0.0302 0.0018

Mars -121974-11-01 07:41 J -42829276.34 -42829276.18 -42829276.03 0.1855 0.0564

Saturn -121974-12-20 05:46 J -42829227.38 -42829227.26 -42829227.14 0.0302 0.0133

Saturn -121973-03-17 19:13 J -42829138.77 -42829138.70 -42829138.63 0.0303 0.0250

Earth -121973-03-22 17:17 J -42829133.89 -42829133.78 -42829133.67 0.2782 0.0131

Moon -121973-03-22 18:01 J -42829133.85 -42829133.75 -42829133.64 0.2783 0.0142 *

Venus -121972-03-04 00:15 J -42828787.57 -42828787.49 -42828787.41 0.3749 0.2193

Mars -121971-08-13 23:17 J -42828259.64 -42828259.53 -42828259.41 0.1658 0.0096

Jupiter -121971-09-23 00:44 J -42828219.58 -42828219.47 -42828219.34 0.0501 0.0371

Jupiter -121971-12-22 10:05 J -42828129.25 -42828129.08 -42828128.92 0.0500 0.0217

Earth -121970-09-18 17:46 J -42827858.90 -42827858.76 -42827858.61 0.2559 0.1062

Moon -121970-09-18 18:15 J -42827858.88 -42827858.74 -42827858.59 0.2565 0.0936 *

Mars -121969-07-19 04:20 J -42827554.36 -42827554.32 -42827554.29 0.1653 0.1560

Moon -121967-04-01 13:41 J -42826932.93 -42826932.93 -42826932.92 0.2778 0.2762

Moon -121966-03-16 14:25 J -42826583.96 -42826583.90 -42826583.85 0.2782 0.2431

Earth -121966-03-16 14:53 J -42826583.94 -42826583.88 -42826583.82 0.2779 0.2321 *

Jupiter -121965-08-21 11:17 J -42826060.07 -42826060.03 -42826059.99 0.0524 0.0496

Jupiter -121965-11-18 18:01 J -42825970.88 -42825970.75 -42825970.62 0.0525 0.0031

Jupiter -121964-02-16 00:29 J -42825881.55 -42825881.48 -42825881.41 0.0526 0.0430

Mars -121964-03-23 03:22 J -42825846.52 -42825846.36 -42825846.21 0.1853 0.0483

Mars -121961-01-04 10:05 J -42824829.20 -42824829.08 -42824828.97 0.1660 0.0482

Earth -121960-03-25 11:46 J -42824383.11 -42824383.01 -42824382.90 0.2783 0.0662

Moon -121960-03-25 12:29 J -42824383.08 -42824382.98 -42824382.88 0.2783 0.0680 *

Saturn -121960-04-24 02:53 J -42824353.50 -42824353.38 -42824353.25 0.0262 0.0182

Saturn -121960-07-21 21:51 J -42824264.76 -42824264.59 -42824264.41 0.0261 0.0078

Saturn -121960-10-18 17:03 J -42824175.97 -42824175.79 -42824175.61 0.0261 0.0028

Mars -121960-12-09 15:08 J -42824123.95 -42824123.87 -42824123.79 0.1654 0.1173

Saturn -121959-01-15 12:15 J -42824087.15 -42824086.99 -42824086.83 0.0260 0.0134

Saturn -121959-04-14 07:27 J -42823998.25 -42823998.19 -42823998.11 0.0260 0.0240

Jupiter -121959-10-10 07:13 J -42823819.38 -42823819.20 -42823819.01 0.0500 0.0072

Moon -121957-09-21 00:15 J -42823107.65 -42823107.49 -42823107.34 0.2565 0.0252

Earth -121957-09-21 00:15 J -42823107.65 -42823107.49 -42823107.33 0.2558 0.0240 *

Mars -121955-08-12 23:46 J -42822416.60 -42822416.51 -42822416.41 0.1851 0.1474

Uranus -121954-12-16 23:17 J -42821925.55 -42821925.53 -42821925.49 0.0130 0.0127

Uranus -121953-03-14 02:25 J -42821837.46 -42821837.40 -42821837.32 0.0130 0.0111

Moon -121953-03-18 08:39 J -42821833.23 -42821833.14 -42821833.05 0.2783 0.1552

Earth -121953-03-18 09:22 J -42821833.20 -42821833.11 -42821833.02 0.2780 0.1544 *

Uranus -121953-06-10 05:32 J -42821749.36 -42821749.27 -42821749.18 0.0130 0.0096

Uranus -121953-09-06 08:25 J -42821661.25 -42821661.15 -42821661.04 0.0130 0.0081

Jupiter -121953-09-06 21:37 J -42821660.72 -42821660.60 -42821660.48 0.0525 0.0152

Uranus -121953-12-03 11:32 J -42821573.14 -42821573.02 -42821572.91 0.0130 0.0065

Jupiter -121953-12-05 04:05 J -42821571.43 -42821571.33 -42821571.23 0.0526 0.0311

Uranus -121952-03-01 14:25 J -42821485.02 -42821484.90 -42821484.77 0.0130 0.0050

Mars -121952-05-26 20:39 J -42821398.74 -42821398.64 -42821398.54 0.1661 0.0895

Uranus -121952-05-28 17:17 J -42821396.90 -42821396.78 -42821396.65 0.0130 0.0035

Neptune -121952-08-22 12:29 J -42821310.99 -42821310.98 -42821310.94 0.0088 0.0087

Uranus -121952-08-24 20:25 J -42821308.79 -42821308.65 -42821308.52 0.0130 0.0020

Neptune -121952-11-18 14:10 J -42821222.95 -42821222.91 -42821222.86 0.0088 0.0083

Uranus -121952-11-20 23:17 J -42821220.66 -42821220.53 -42821220.40 0.0130 0.0005

Neptune -121951-02-14 15:37 J -42821134.90 -42821134.85 -42821134.78 0.0088 0.0078

Uranus -121951-02-17 02:10 J -42821132.54 -42821132.41 -42821132.28 0.0130 0.0010

Neptune -121951-05-13 17:03 J -42821046.85 -42821046.79 -42821046.71 0.0088 0.0074

Uranus -121951-05-16 05:03 J -42821044.42 -42821044.29 -42821044.16 0.0130 0.0025

Neptune -121951-08-09 18:44 J -42820958.80 -42820958.72 -42820958.64 0.0088 0.0070

Uranus -121951-08-12 07:56 J -42820956.29 -42820956.17 -42820956.04 0.0130 0.0040

Neptune -121951-11-05 19:56 J -42820870.75 -42820870.67 -42820870.57 0.0088 0.0066

Uranus -121951-11-08 10:49 J -42820868.17 -42820868.05 -42820867.93 0.0130 0.0055

Neptune -121950-02-01 21:22 J -42820782.70 -42820782.61 -42820782.50 0.0088 0.0061

Uranus -121950-02-04 13:41 J -42820780.04 -42820779.93 -42820779.81 0.0130 0.0070

Neptune -121950-04-30 22:49 J -42820694.65 -42820694.55 -42820694.44 0.0088 0.0057

Mars -121950-05-02 01:56 J -42820693.52 -42820693.42 -42820693.31 0.1655 0.0783

Uranus -121950-05-03 16:34 J -42820691.91 -42820691.81 -42820691.71 0.0130 0.0084

Neptune -121950-07-28 00:29 J -42820606.59 -42820606.48 -42820606.37 0.0088 0.0053

Uranus -121950-07-30 19:27 J -42820603.77 -42820603.69 -42820603.60 0.0130 0.0099

Neptune -121950-10-24 01:41 J -42820518.54 -42820518.43 -42820518.31 0.0088 0.0049

Uranus -121950-10-26 22:05 J -42820515.63 -42820515.58 -42820515.50 0.0130 0.0115

Neptune -121949-01-20 03:08 J -42820430.48 -42820430.37 -42820430.25 0.0088 0.0044

Uranus -121949-01-23 01:13 J -42820427.46 -42820427.45 -42820427.43 0.0131 0.0129

Neptune -121949-04-17 04:34 J -42820342.43 -42820342.31 -42820342.18 0.0088 0.0040

Neptune -121949-07-14 06:01 J -42820254.37 -42820254.25 -42820254.12 0.0088 0.0036

Neptune -121949-10-10 07:27 J -42820166.31 -42820166.19 -42820166.06 0.0088 0.0032

Neptune -121948-01-06 08:53 J -42820078.26 -42820078.13 -42820078.00 0.0088 0.0027

Neptune -121948-04-04 10:20 J -42819990.20 -42819990.07 -42819989.94 0.0088 0.0023

Neptune -121948-07-01 11:32 J -42819902.14 -42819902.02 -42819901.88 0.0088 0.0020

Neptune -121948-09-27 13:13 J -42819814.09 -42819813.95 -42819813.82 0.0088 0.0015

Neptune -121948-12-24 14:25 J -42819726.03 -42819725.90 -42819725.76 0.0088 0.0011

Neptune -121947-03-22 15:51 J -42819637.97 -42819637.84 -42819637.70 0.0088 0.0007

Earth -121947-03-28 06:15 J -42819632.33 -42819632.24 -42819632.15 0.2783 0.1446

Moon -121947-03-28 06:58 J -42819632.30 -42819632.21 -42819632.12 0.2785 0.1566 *

Neptune -121947-06-18 17:17 J -42819549.91 -42819549.78 -42819549.64 0.0088 0.0002

Jupiter -121947-07-29 04:34 J -42819509.49 -42819509.31 -42819509.13 0.0500 0.0075

Neptune -121947-09-14 18:44 J -42819461.86 -42819461.72 -42819461.59 0.0088 0.0002

Neptune -121947-12-11 20:10 J -42819373.80 -42819373.66 -42819373.53 0.0088 0.0007

Neptune -121946-03-09 21:22 J -42819285.74 -42819285.61 -42819285.47 0.0088 0.0011

Neptune -121946-06-05 22:49 J -42819197.68 -42819197.55 -42819197.41 0.0088 0.0015

Neptune -121946-09-02 00:01 J -42819109.62 -42819109.50 -42819109.36 0.0088 0.0020

Neptune -121946-11-29 01:27 J -42819021.56 -42819021.44 -42819021.30 0.0088 0.0023

Neptune -121945-02-25 02:53 J -42818933.50 -42818933.38 -42818933.25 0.0088 0.0027

Neptune -121945-05-23 04:20 J -42818845.45 -42818845.32 -42818845.19 0.0088 0.0031

Saturn -121945-08-15 14:53 J -42818760.95 -42818760.88 -42818760.80 0.0300 0.0253

Neptune -121945-08-19 05:32 J -42818757.39 -42818757.27 -42818757.14 0.0088 0.0036

Saturn -121945-11-12 04:49 J -42818672.42 -42818672.30 -42818672.18 0.0301 0.0134

Neptune -121945-11-15 06:58 J -42818669.33 -42818669.21 -42818669.09 0.0088 0.0040

Saturn -121944-02-08 18:29 J -42818583.86 -42818583.73 -42818583.60 0.0301 0.0015

Neptune -121944-02-11 08:25 J -42818581.27 -42818581.15 -42818581.03 0.0088 0.0044

Saturn -121944-05-08 08:10 J -42818495.29 -42818495.16 -42818495.04 0.0302 0.0104

Neptune -121944-05-10 09:37 J -42818493.20 -42818493.10 -42818492.98 0.0088 0.0048

Saturn -121944-08-04 21:37 J -42818406.69 -42818406.60 -42818406.51 0.0302 0.0221

Neptune -121944-08-06 10:49 J -42818405.14 -42818405.05 -42818404.93 0.0088 0.0053

Moon -121944-09-24 06:29 J -42818356.36 -42818356.23 -42818356.09 0.2564 0.1430

Earth -121944-09-24 06:58 J -42818356.34 -42818356.21 -42818356.09 0.2558 0.1535 *

Neptune -121944-11-02 12:15 J -42818317.08 -42818316.99 -42818316.88 0.0088 0.0056

Mars -121944-12-10 13:13 J -42818279.00 -42818278.95 -42818278.90 0.1857 0.1739

Neptune -121943-01-29 13:41 J -42818229.02 -42818228.93 -42818228.83 0.0088 0.0060

Neptune -121943-04-27 14:53 J -42818140.96 -42818140.88 -42818140.78 0.0088 0.0065

Neptune -121943-07-24 16:20 J -42818052.89 -42818052.82 -42818052.73 0.0088 0.0068

Mars -121943-10-17 06:58 J -42817968.28 -42817968.21 -42817968.14 0.1663 0.1314

Neptune -121943-10-20 17:46 J -42817964.83 -42817964.76 -42817964.68 0.0088 0.0072

Neptune -121942-01-16 18:58 J -42817876.76 -42817876.71 -42817876.63 0.0088 0.0077

Neptune -121942-04-14 20:25 J -42817788.69 -42817788.65 -42817788.59 0.0088 0.0081

Neptune -121942-07-11 21:51 J -42817700.62 -42817700.59 -42817700.55 0.0088 0.0084

Jupiter -121941-06-26 01:41 J -42817350.54 -42817350.43 -42817350.32 0.0525 0.0268

Mars -121941-09-21 12:44 J -42817263.08 -42817262.97 -42817262.85 0.1656 0.0383

Jupiter -121941-09-23 08:10 J -42817261.27 -42817261.16 -42817261.04 0.0526 0.0198

Moon -121940-03-21 03:08 J -42817082.48 -42817082.37 -42817082.27 0.2782 0.0771

Earth -121940-03-21 03:51 J -42817082.45 -42817082.34 -42817082.24 0.2781 0.0766 *

Moon -121937-09-15 17:03 J -42815807.87 -42815807.79 -42815807.70 0.2554 0.2160

Earth -121937-09-15 18:01 J -42815807.84 -42815807.75 -42815807.66 0.2560 0.2123 *

Jupiter -121935-05-17 01:13 J -42815199.61 -42815199.45 -42815199.28 0.0500 0.0227

Jupiter -121935-08-15 10:34 J -42815109.19 -42815109.06 -42815108.93 0.0499 0.0361

Earth -121934-03-31 00:44 J -42814881.53 -42814881.47 -42814881.41 0.2783 0.2231

Moon -121934-03-31 01:27 J -42814881.50 -42814881.44 -42814881.39 0.2786 0.2309 *

Mars -121934-05-02 08:10 J -42814849.31 -42814849.16 -42814849.00 0.1855 0.0663

Venus -121932-02-23 20:25 J -42814185.73 -42814185.65 -42814185.57 0.3733 0.2378

Mars -121931-02-11 23:17 J -42813832.64 -42813832.53 -42813832.41 0.1658 0.0057

Saturn -121931-09-11 03:22 J -42813621.46 -42813621.36 -42813621.24 0.0262 0.0208

Saturn -121931-12-08 22:34 J -42813532.73 -42813532.56 -42813532.39 0.0262 0.0102

Saturn -121930-03-07 17:32 J -42813443.95 -42813443.77 -42813443.58 0.0261 0.0007

Saturn -121930-06-04 12:44 J -42813355.13 -42813354.97 -42813354.80 0.0261 0.0109

Saturn -121930-09-01 08:10 J -42813266.26 -42813266.16 -42813266.05 0.0261 0.0215

Mars -121929-01-18 04:20 J -42813127.35 -42813127.32 -42813127.30 0.1653 0.1611

Jupiter -121929-04-14 05:32 J -42813040.36 -42813040.27 -42813040.18 0.0525 0.0385

Jupiter -121929-07-12 12:15 J -42812951.11 -42812950.99 -42812950.86 0.0526 0.0083

Moon -121927-03-23 21:37 J -42812331.71 -42812331.60 -42812331.50 0.2783 0.0151

Earth -121927-03-23 22:20 J -42812331.68 -42812331.57 -42812331.47 0.2782 0.0088 *

Venus -121927-09-09 12:58 J -42812162.06 -42812161.96 -42812161.86 0.3739 0.0630

Mars -121925-09-21 04:20 J -42811419.48 -42811419.32 -42811419.16 0.1853 0.0371

Venus -121924-06-10 14:25 J -42811157.03 -42811156.90 -42811156.78 0.3646 0.2041

Moon -121924-09-19 00:01 J -42811056.66 -42811056.50 -42811056.34 0.2554 0.0762

Earth -121924-09-19 00:29 J -42811056.63 -42811056.48 -42811056.33 0.2559 0.0825 *

Jupiter -121923-03-04 22:34 J -42810889.68 -42810889.56 -42810889.44 0.0500 0.0373

Jupiter -121923-06-03 07:27 J -42810799.35 -42810799.19 -42810799.02 0.0499 0.0212

Mars -121922-07-05 10:05 J -42810402.20 -42810402.08 -42810401.97 0.1660 0.0428

Venus -121921-03-25 05:32 J -42810138.37 -42810138.27 -42810138.17 0.3745 0.1114

Earth -121920-03-16 19:41 J -42809781.74 -42809781.68 -42809781.61 0.2779 0.2188

Moon -121920-03-16 20:25 J -42809781.71 -42809781.65 -42809781.58 0.2776 0.2187 *

Mars -121920-06-09 15:08 J -42809696.95 -42809696.87 -42809696.79 0.1654 0.1224

Venus -121919-12-25 20:39 J -42809132.76 -42809132.64 -42809132.52 0.3638 0.2201

Jupiter -121917-02-01 09:22 J -42808730.15 -42808730.11 -42808730.08 0.0525 0.0502

Jupiter -121917-04-30 16:20 J -42808640.95 -42808640.82 -42808640.70 0.0526 0.0039

Jupiter -121917-07-28 22:34 J -42808551.63 -42808551.56 -42808551.48 0.0526 0.0427

Venus -121916-10-08 21:51 J -42808114.65 -42808114.59 -42808114.52 0.3751 0.2833

Saturn -121915-01-02 17:32 J -42808028.81 -42808028.77 -42808028.72 0.0300 0.0278

Mars -121915-02-11 00:01 J -42807989.60 -42807989.50 -42807989.39 0.1851 0.1391

Saturn -121915-04-01 07:27 J -42807940.30 -42807940.19 -42807940.07 0.0300 0.0160

Saturn -121915-06-28 21:08 J -42807851.75 -42807851.62 -42807851.48 0.0301 0.0042

Saturn -121915-09-25 10:49 J -42807763.18 -42807763.05 -42807762.92 0.0302 0.0077

Saturn -121915-12-23 00:15 J -42807674.59 -42807674.49 -42807674.39 0.0302 0.0195

Moon -121914-03-26 15:51 J -42807580.94 -42807580.84 -42807580.73 0.2782 0.0726

Earth -121914-03-26 16:34 J -42807580.91 -42807580.81 -42807580.70 0.2783 0.0812 *

Mars -121913-11-24 20:39 J -42806971.75 -42806971.64 -42806971.54 0.1662 0.0840

Jupiter -121911-03-22 04:20 J -42806489.50 -42806489.32 -42806489.14 0.0500 0.0062

Uranus -121911-09-11 18:58 J -42806315.77 -42806315.71 -42806315.66 0.0149 0.0141

Moon -121911-09-22 06:44 J -42806305.38 -42806305.22 -42806305.06 0.2552 0.0438

Earth -121911-09-22 06:58 J -42806305.37 -42806305.21 -42806305.05 0.2558 0.0474 *

Mars -121911-10-31 01:56 J -42806266.52 -42806266.42 -42806266.32 0.1655 0.0834

Uranus -121911-12-09 03:22 J -42806227.48 -42806227.36 -42806227.22 0.0149 0.0110

Uranus -121910-03-07 12:01 J -42806139.15 -42806139.00 -42806138.83 0.0149 0.0079

Uranus -121910-06-03 21:08 J -42806050.80 -42806050.62 -42806050.44 0.0149 0.0047

Uranus -121910-08-31 05:46 J -42805962.44 -42805962.26 -42805962.06 0.0149 0.0016

Uranus -121910-11-27 14:39 J -42805874.08 -42805873.89 -42805873.70 0.0149 0.0017

Uranus -121909-02-23 23:32 J -42805785.70 -42805785.52 -42805785.34 0.0149 0.0049

Uranus -121909-05-22 08:10 J -42805697.31 -42805697.16 -42805696.99 0.0149 0.0082

Uranus -121909-08-18 17:03 J -42805608.90 -42805608.79 -42805608.65 0.0149 0.0114

Uranus -121909-11-15 02:10 J -42805520.44 -42805520.41 -42805520.37 0.0149 0.0146

Earth -121907-03-19 14:10 J -42805031.00 -42805030.91 -42805030.81 0.2781 0.1410

Moon -121907-03-19 14:53 J -42805030.98 -42805030.88 -42805030.79 0.2776 0.1300 *

Jupiter -121905-02-17 20:10 J -42804330.79 -42804330.66 -42804330.54 0.0525 0.0153

Jupiter -121905-05-17 02:39 J -42804241.50 -42804241.39 -42804241.29 0.0526 0.0310

Mars -121904-06-10 13:27 J -42803851.96 -42803851.94 -42803851.91 0.1857 0.1822

Mars -121903-04-17 06:58 J -42803541.29 -42803541.21 -42803541.13 0.1663 0.1258

Saturn -121901-01-29 04:34 J -42802889.39 -42802889.31 -42802889.22 0.0262 0.0231

Mars -121901-03-22 12:44 J -42802836.08 -42802835.97 -42802835.86 0.1657 0.0435

Moon -121901-03-28 10:20 J -42802830.15 -42802830.07 -42802829.98 0.2784 0.1606

Earth -121901-03-28 11:03 J -42802830.12 -42802830.04 -42802829.95 0.2783 0.1593 *

Saturn -121901-04-26 23:32 J -42802800.68 -42802800.52 -42802800.36 0.0262 0.0127

Saturn -121901-07-24 18:29 J -42802711.91 -42802711.73 -42802711.54 0.0261 0.0023

Saturn -121901-10-21 13:41 J -42802623.10 -42802622.93 -42802622.75 0.0261 0.0084

Saturn -121900-01-18 08:53 J -42802534.25 -42802534.13 -42802534.00 0.0260 0.0190

Pluto -121900-05-09 01:41 J -42802423.43 -42802423.43 -42802423.40 0.0061 0.0060

Pluto -121900-08-05 03:22 J -42802335.46 -42802335.36 -42802335.27 0.0061 0.0052

Pluto -121900-11-01 04:20 J -42802247.44 -42802247.32 -42802247.18 0.0061 0.0044

Jupiter -121899-01-08 01:27 J -42802179.61 -42802179.44 -42802179.25 0.0500 0.0086

Pluto -121899-01-28 05:32 J -42802159.41 -42802159.27 -42802159.10 0.0061 0.0036

Pluto -121899-04-26 06:58 J -42802071.37 -42802071.21 -42802071.04 0.0061 0.0028

Pluto -121899-07-23 08:10 J -42801983.33 -42801983.16 -42801982.97 0.0061 0.0020

Pluto -121899-10-19 09:37 J -42801895.28 -42801895.10 -42801894.91 0.0061 0.0012

Pluto -121898-01-15 11:03 J -42801807.23 -42801807.04 -42801806.85 0.0061 0.0003

Pluto -121898-04-13 12:15 J -42801719.17 -42801718.99 -42801718.80 0.0061 0.0005

Pluto -121898-07-10 13:27 J -42801631.11 -42801630.94 -42801630.75 0.0061 0.0013

Moon -121898-09-25 13:27 J -42801554.06 -42801553.94 -42801553.81 0.2552 0.1679

Earth -121898-09-25 13:27 J -42801554.06 -42801553.94 -42801553.82 0.2558 0.1767 *

Pluto -121898-10-06 14:53 J -42801543.05 -42801542.88 -42801542.70 0.0061 0.0022

Pluto -121897-01-02 15:51 J -42801454.99 -42801454.84 -42801454.66 0.0061 0.0030

Pluto -121897-03-30 17:03 J -42801366.91 -42801366.79 -42801366.62 0.0061 0.0039

Pluto -121897-06-26 18:29 J -42801278.83 -42801278.73 -42801278.59 0.0061 0.0047

Pluto -121897-09-22 20:10 J -42801190.74 -42801190.66 -42801190.58 0.0061 0.0055

Mars -121895-10-31 09:22 J -42800422.26 -42800422.11 -42800421.96 0.1855 0.0778

Earth -121894-03-22 08:39 J -42800280.24 -42800280.14 -42800280.03 0.2782 0.0626

Moon -121894-03-22 09:22 J -42800280.22 -42800280.11 -42800280.00 0.2779 0.0543 *

Jupiter -121894-12-06 23:32 J -42800020.63 -42800020.52 -42800020.41 0.0525 0.0276

Jupiter -121893-03-05 06:15 J -42799931.36 -42799931.24 -42799931.12 0.0526 0.0189

Mars -121892-08-12 23:32 J -42799405.64 -42799405.52 -42799405.40 0.1658 0.0046

Earth -121891-09-17 00:29 J -42799005.58 -42799005.48 -42799005.37 0.2560 0.1891

Moon -121891-09-17 01:56 J -42799005.53 -42799005.42 -42799005.30 0.2564 0.1755 *

Moon -121888-03-31 04:49 J -42798079.35 -42798079.30 -42798079.24 0.2782 0.2317

Earth -121888-03-31 05:32 J -42798079.32 -42798079.27 -42798079.21 0.2783 0.2378 *

Jupiter -121888-10-26 22:49 J -42797869.71 -42797869.55 -42797869.38 0.0500 0.0230

Jupiter -121887-01-25 08:10 J -42797779.28 -42797779.16 -42797779.03 0.0500 0.0360

Saturn -121886-08-19 10:05 J -42797208.18 -42797208.08 -42797207.97 0.0300 0.0185

Saturn -121886-11-15 23:46 J -42797119.64 -42797119.51 -42797119.37 0.0301 0.0067

Saturn -121885-02-12 13:27 J -42797031.07 -42797030.94 -42797030.81 0.0302 0.0052

Mars -121885-03-22 04:49 J -42796992.46 -42796992.30 -42796992.14 0.1853 0.0272

Saturn -121885-05-11 03:08 J -42796942.48 -42796942.37 -42796942.26 0.0302 0.0169

Saturn -121885-08-07 16:34 J -42796853.85 -42796853.81 -42796853.77 0.0303 0.0286

Mars -121882-01-03 10:05 J -42795975.20 -42795975.08 -42795974.97 0.1660 0.0373

Jupiter -121882-09-25 03:22 J -42795710.44 -42795710.36 -42795710.27 0.0525 0.0393

Jupiter -121882-12-23 10:05 J -42795621.20 -42795621.08 -42795620.95 0.0526 0.0075

Venus -121881-03-17 01:27 J -42795536.47 -42795536.44 -42795536.40 0.3729 0.3477

Earth -121881-03-24 03:08 J -42795529.48 -42795529.37 -42795529.26 0.2782 0.0167

Moon -121881-03-24 03:37 J -42795529.46 -42795529.35 -42795529.24 0.2778 0.0151 *

Mars -121881-12-08 15:08 J -42795269.94 -42795269.87 -42795269.79 0.1654 0.1278

Earth -121878-09-20 06:58 J -42794254.36 -42794254.21 -42794254.05 0.2559 0.0599

Moon -121878-09-20 08:10 J -42794254.32 -42794254.16 -42794254.00 0.2564 0.0456 *

Mars -121876-08-12 00:58 J -42793562.57 -42793562.46 -42793562.34 0.1851 0.1283

Jupiter -121876-08-14 19:56 J -42793559.79 -42793559.67 -42793559.55 0.0500 0.0378

Venus -121876-09-30 18:01 J -42793512.84 -42793512.75 -42793512.65 0.3735 0.1726

Jupiter -121876-11-13 04:49 J -42793469.47 -42793469.30 -42793469.13 0.0499 0.0207

Moon -121874-03-18 00:15 J -42792979.56 -42792979.49 -42792979.42 0.2786 0.2091

Earth -121874-03-18 00:44 J -42792979.54 -42792979.47 -42792979.40 0.2779 0.2047 *

Mars -121873-05-25 20:39 J -42792544.75 -42792544.64 -42792544.54 0.1661 0.0788

Saturn -121872-06-17 05:17 J -42792157.30 -42792157.28 -42792157.23 0.0263 0.0256

Saturn -121872-09-14 00:29 J -42792068.63 -42792068.48 -42792068.33 0.0262 0.0151

Saturn -121872-12-11 19:27 J -42791979.87 -42791979.69 -42791979.51 0.0262 0.0046

Saturn -121871-03-10 14:39 J -42791891.07 -42791890.89 -42791890.72 0.0261 0.0059

Mars -121871-05-01 01:56 J -42791839.52 -42791839.42 -42791839.32 0.1655 0.0883

Saturn -121871-06-07 09:51 J -42791802.23 -42791802.09 -42791801.95 0.0261 0.0165

Venus -121870-04-16 10:34 J -42791489.16 -42791489.06 -42791488.95 0.3741 0.0099

Jupiter -121870-07-14 07:13 J -42791400.23 -42791400.20 -42791400.18 0.0525 0.0512

Jupiter -121870-10-11 14:10 J -42791311.04 -42791310.91 -42791310.78 0.0526 0.0046

Uranus -121869-01-06 07:27 J -42791224.24 -42791224.19 -42791224.13 0.0130 0.0119

Jupiter -121869-01-08 20:39 J -42791221.72 -42791221.64 -42791221.57 0.0527 0.0419

Uranus -121869-04-03 10:20 J -42791136.14 -42791136.07 -42791135.98 0.0130 0.0104

Uranus -121869-06-30 13:27 J -42791048.04 -42791047.94 -42791047.84 0.0130 0.0089

Uranus -121869-09-26 16:20 J -42790959.92 -42790959.82 -42790959.70 0.0130 0.0074

Uranus -121869-12-23 19:27 J -42790871.81 -42790871.69 -42790871.57 0.0130 0.0059

Uranus -121868-03-21 22:20 J -42790783.69 -42790783.57 -42790783.44 0.0130 0.0044

Earth -121868-03-26 21:37 J -42790778.70 -42790778.60 -42790778.50 0.2783 0.0946

Moon -121868-03-26 22:05 J -42790778.68 -42790778.58 -42790778.47 0.2779 0.1017 *

Uranus -121868-06-18 01:13 J -42790695.58 -42790695.45 -42790695.31 0.0130 0.0029

Uranus -121868-09-14 04:20 J -42790607.46 -42790607.32 -42790607.19 0.0130 0.0014

Neptune -121868-10-20 04:49 J -42790571.35 -42790571.30 -42790571.24 0.0089 0.0084

Uranus -121868-12-11 07:13 J -42790519.33 -42790519.20 -42790519.07 0.0130 0.0002

Venus -121867-01-15 15:37 J -42790484.00 -42790483.85 -42790483.70 0.3644 0.0605

Neptune -121867-01-16 07:41 J -42790483.24 -42790483.18 -42790483.07 0.0089 0.0079

Uranus -121867-03-09 10:05 J -42790431.21 -42790431.08 -42790430.95 0.0130 0.0017

Neptune -121867-04-14 11:17 J -42790395.12 -42790395.03 -42790394.91 0.0089 0.0073

Uranus -121867-06-05 12:58 J -42790343.09 -42790342.96 -42790342.83 0.0130 0.0032

Neptune -121867-07-11 14:39 J -42790306.99 -42790306.89 -42790306.75 0.0089 0.0067

Uranus -121867-09-01 15:51 J -42790254.96 -42790254.84 -42790254.71 0.0130 0.0047

Neptune -121867-10-07 18:15 J -42790218.87 -42790218.74 -42790218.59 0.0089 0.0061

Uranus -121867-11-28 18:44 J -42790166.83 -42790166.72 -42790166.60 0.0130 0.0062

Neptune -121866-01-03 21:37 J -42790130.74 -42790130.60 -42790130.44 0.0089 0.0055

Uranus -121866-02-24 21:37 J -42790078.70 -42790078.60 -42790078.49 0.0131 0.0076

Neptune -121866-04-02 01:13 J -42790042.60 -42790042.45 -42790042.29 0.0089 0.0049

Uranus -121866-05-24 00:29 J -42789990.57 -42789990.48 -42789990.38 0.0131 0.0091

Neptune -121866-06-29 04:34 J -42789954.47 -42789954.31 -42789954.14 0.0089 0.0043

Uranus -121866-08-20 03:08 J -42789902.43 -42789902.37 -42789902.28 0.0131 0.0107

Neptune -121866-09-25 08:10 J -42789866.33 -42789866.16 -42789865.99 0.0089 0.0037

Uranus -121866-11-16 06:15 J -42789814.28 -42789814.24 -42789814.19 0.0131 0.0121

Neptune -121866-12-22 11:17 J -42789778.19 -42789778.03 -42789777.84 0.0089 0.0032

Neptune -121865-03-19 15:08 J -42789690.05 -42789689.87 -42789689.69 0.0089 0.0025

Neptune -121865-06-15 18:29 J -42789601.91 -42789601.73 -42789601.54 0.0089 0.0019

Neptune -121865-09-11 22:05 J -42789513.77 -42789513.58 -42789513.39 0.0089 0.0013

Earth -121865-09-22 13:41 J -42789503.09 -42789502.93 -42789502.78 0.2558 0.0710

Moon -121865-09-22 14:53 J -42789503.03 -42789502.88 -42789502.73 0.2563 0.0698 *

Venus -121865-10-30 03:08 J -42789465.46 -42789465.37 -42789465.28 0.3746 0.1749

Neptune -121865-12-09 01:27 J -42789425.63 -42789425.44 -42789425.25 0.0089 0.0008

Neptune -121864-03-07 05:03 J -42789337.48 -42789337.29 -42789337.10 0.0089 0.0001

Neptune -121864-06-03 08:39 J -42789249.33 -42789249.14 -42789248.95 0.0089 0.0005

Neptune -121864-08-30 12:01 J -42789161.19 -42789161.00 -42789160.81 0.0089 0.0011

Jupiter -121864-09-01 01:56 J -42789159.61 -42789159.42 -42789159.24 0.0499 0.0059

Mars -121864-10-16 06:58 J -42789114.29 -42789114.21 -42789114.13 0.1664 0.1203

Neptune -121864-11-26 15:22 J -42789073.04 -42789072.86 -42789072.66 0.0089 0.0017

Neptune -121863-02-22 18:58 J -42788984.89 -42788984.71 -42788984.52 0.0089 0.0023

Neptune -121863-05-21 22:34 J -42788896.74 -42788896.56 -42788896.37 0.0089 0.0029

Neptune -121863-08-18 02:10 J -42788808.58 -42788808.41 -42788808.23 0.0089 0.0035

Neptune -121863-11-14 05:32 J -42788720.43 -42788720.27 -42788720.09 0.0089 0.0041

Neptune -121862-02-10 09:22 J -42788632.27 -42788632.11 -42788631.95 0.0089 0.0047

Neptune -121862-05-09 12:58 J -42788544.12 -42788543.96 -42788543.81 0.0089 0.0053

Neptune -121862-08-05 16:05 J -42788455.96 -42788455.83 -42788455.67 0.0089 0.0060

Mars -121862-09-21 12:44 J -42788409.08 -42788408.97 -42788408.86 0.1657 0.0489

Neptune -121862-11-01 19:41 J -42788367.79 -42788367.68 -42788367.54 0.0089 0.0066

Neptune -121861-01-28 23:17 J -42788279.63 -42788279.53 -42788279.40 0.0089 0.0072

Moon -121861-03-19 18:44 J -42788228.81 -42788228.72 -42788228.62 0.2787 0.1239

Earth -121861-03-19 19:13 J -42788228.80 -42788228.70 -42788228.61 0.2781 0.1272 *

Neptune -121861-04-26 02:53 J -42788191.46 -42788191.38 -42788191.28 0.0089 0.0078

Neptune -121861-07-23 06:29 J -42788103.28 -42788103.23 -42788103.16 0.0089 0.0084

Venus -121859-05-15 19:27 J -42787441.72 -42787441.69 -42787441.65 0.3752 0.3469

Jupiter -121858-07-30 18:01 J -42787000.87 -42787000.75 -42787000.63 0.0525 0.0161

Jupiter -121858-10-28 00:29 J -42786911.58 -42786911.48 -42786911.37 0.0526 0.0303

Saturn -121856-01-05 12:44 J -42786476.06 -42786475.97 -42786475.87 0.0300 0.0211

Saturn -121856-04-04 02:39 J -42786387.52 -42786387.39 -42786387.26 0.0301 0.0092

Saturn -121856-07-01 16:20 J -42786298.95 -42786298.82 -42786298.69 0.0301 0.0026

Saturn -121856-09-28 05:46 J -42786210.37 -42786210.26 -42786210.14 0.0302 0.0144

Saturn -121856-12-25 19:13 J -42786121.76 -42786121.70 -42786121.63 0.0302 0.0261

Earth -121855-03-29 16:05 J -42786027.92 -42786027.83 -42786027.75 0.2783 0.1732

Moon -121855-03-29 16:34 J -42786027.89 -42786027.81 -42786027.73 0.2779 0.1820 *

Mars -121855-05-01 09:37 J -42785995.24 -42785995.10 -42785994.95 0.1855 0.0865

Mars -121854-03-08 17:17 J -42785683.80 -42785683.78 -42785683.75 0.1666 0.1625

Mars -121852-02-10 23:32 J -42784978.64 -42784978.52 -42784978.41 0.1658 0.0106

Jupiter -121852-06-19 22:34 J -42784849.74 -42784849.56 -42784849.38 0.0500 0.0095

Jupiter -121852-09-18 07:56 J -42784759.18 -42784759.17 -42784759.15 0.0499 0.0497

Earth -121852-09-25 20:10 J -42784751.76 -42784751.66 -42784751.56 0.2558 0.2005

Moon -121852-09-25 21:08 J -42784751.72 -42784751.62 -42784751.53 0.2563 0.2016 *

Moon -121848-03-22 13:13 J -42783478.05 -42783477.95 -42783477.84 0.2789 0.0548

Earth -121848-03-22 13:27 J -42783478.04 -42783477.94 -42783477.83 0.2781 0.0495 *

Jupiter -121846-05-18 21:51 J -42782690.70 -42782690.59 -42782690.48 0.0525 0.0278

Jupiter -121846-08-16 04:34 J -42782601.43 -42782601.31 -42782601.19 0.0526 0.0187

Mars -121846-09-21 05:32 J -42782565.43 -42782565.27 -42782565.10 0.1853 0.0173

Moon -121845-09-17 05:32 J -42782203.39 -42782203.27 -42782203.15 0.2561 0.1654

Earth -121845-09-17 07:13 J -42782203.32 -42782203.20 -42782203.08 0.2560 0.1657 *

Mars -121843-07-04 10:05 J -42781548.20 -42781548.08 -42781547.96 0.1660 0.0316

Saturn -121842-02-01 01:27 J -42781336.57 -42781336.44 -42781336.30 0.0262 0.0175

Earth -121842-04-01 10:34 J -42781277.11 -42781277.06 -42781277.02 0.2783 0.2521

Moon -121842-04-01 11:03 J -42781277.08 -42781277.04 -42781276.99 0.2779 0.2506 *

Saturn -121842-04-30 20:25 J -42781247.82 -42781247.65 -42781247.47 0.0261 0.0071

Saturn -121842-07-28 15:37 J -42781159.03 -42781158.85 -42781158.67 0.0261 0.0035

Saturn -121842-10-25 10:49 J -42781070.20 -42781070.05 -42781069.89 0.0261 0.0141

Saturn -121841-01-22 06:01 J -42780981.29 -42780981.25 -42780981.18 0.0260 0.0248

Earth -121841-03-15 11:03 J -42780928.06 -42780928.04 -42780928.01 0.2778 0.2686

Moon -121841-03-15 11:03 J -42780928.05 -42780928.04 -42780928.03 0.2771 0.2737 *

Mars -121841-06-08 15:08 J -42780842.94 -42780842.87 -42780842.80 0.1654 0.1327

Jupiter -121840-04-07 19:41 J -42780539.84 -42780539.68 -42780539.52 0.0500 0.0241

Jupiter -121840-07-07 05:03 J -42780449.42 -42780449.29 -42780449.16 0.0500 0.0349

Mars -121836-02-10 01:41 J -42779135.55 -42779135.43 -42779135.30 0.1851 0.1181

Moon -121835-03-25 07:41 J -42778727.28 -42778727.18 -42778727.07 0.2789 0.0248

Earth -121835-03-25 07:56 J -42778727.28 -42778727.17 -42778727.06 0.2782 0.0307 *

Jupiter -121834-03-07 01:13 J -42778380.53 -42778380.45 -42778380.36 0.0524 0.0401

Jupiter -121834-06-04 08:10 J -42778291.29 -42778291.16 -42778291.04 0.0525 0.0066

Jupiter -121834-09-01 14:25 J -42778201.91 -42778201.90 -42778201.89 0.0526 0.0523

Mars -121834-11-24 20:39 J -42778117.75 -42778117.64 -42778117.53 0.1661 0.0730

Moon -121832-09-20 12:01 J -42777452.16 -42777452.00 -42777451.84 0.2558 0.0442

Earth -121832-09-20 13:56 J -42777452.08 -42777451.92 -42777451.76 0.2559 0.0358 *

Mars -121832-10-30 01:56 J -42777412.51 -42777412.42 -42777412.32 0.1655 0.0940

Jupiter -121828-01-24 17:03 J -42776229.90 -42776229.79 -42776229.67 0.0501 0.0386

Moon -121828-03-18 05:17 J -42776177.36 -42776177.28 -42776177.20 0.2772 0.1869

Earth -121828-03-18 05:32 J -42776177.35 -42776177.27 -42776177.19 0.2780 0.1910 *

Jupiter -121828-04-25 02:10 J -42776139.58 -42776139.41 -42776139.24 0.0500 0.0201

Saturn -121827-05-25 15:37 J -42775743.93 -42775743.85 -42775743.76 0.0300 0.0235

Saturn -121827-08-22 05:32 J -42775655.40 -42775655.27 -42775655.15 0.0301 0.0117

Uranus -121827-10-02 04:34 J -42775614.39 -42775614.31 -42775614.20 0.0149 0.0126

Saturn -121827-11-18 19:13 J -42775566.84 -42775566.70 -42775566.57 0.0301 0.0006

Uranus -121827-12-29 13:13 J -42775526.08 -42775525.95 -42775525.79 0.0149 0.0095

Saturn -121826-02-15 08:39 J -42775478.26 -42775478.14 -42775478.01 0.0302 0.0120

Uranus -121826-03-27 22:05 J -42775437.74 -42775437.58 -42775437.40 0.0149 0.0063

Saturn -121826-05-14 22:05 J -42775389.66 -42775389.58 -42775389.49 0.0302 0.0237

Uranus -121826-06-24 07:13 J -42775349.39 -42775349.20 -42775349.02 0.0149 0.0031

Uranus -121826-09-20 15:51 J -42775261.03 -42775260.84 -42775260.65 0.0149 0.0002

Uranus -121826-12-18 00:44 J -42775172.66 -42775172.47 -42775172.28 0.0149 0.0033

Uranus -121825-03-15 09:37 J -42775084.27 -42775084.10 -42775083.93 0.0149 0.0065

Uranus -121825-06-11 18:29 J -42774995.87 -42774995.73 -42774995.59 0.0149 0.0097

Uranus -121825-09-08 03:22 J -42774907.45 -42774907.36 -42774907.27 0.0149 0.0129

Venus -121825-10-21 23:17 J -42774863.60 -42774863.53 -42774863.47 0.3731 0.2828

Mars -121824-04-16 06:58 J -42774687.29 -42774687.21 -42774687.12 0.1663 0.1148

Jupiter -121823-12-24 05:03 J -42774070.30 -42774070.29 -42774070.28 0.0524 0.0520

Mars -121822-03-22 12:44 J -42773982.08 -42773981.97 -42773981.86 0.1657 0.0541

Jupiter -121822-03-23 12:01 J -42773981.13 -42773981.00 -42773980.87 0.0525 0.0054

Moon -121822-03-28 02:10 J -42773976.51 -42773976.41 -42773976.31 0.2790 0.1143

Earth -121822-03-28 02:25 J -42773976.50 -42773976.40 -42773976.30 0.2783 0.1088 *

Jupiter -121822-06-20 18:29 J -42773891.81 -42773891.73 -42773891.65 0.0526 0.0409

Venus -121819-05-07 15:51 J -42772839.94 -42772839.84 -42772839.74 0.3736 0.1077

Moon -121819-09-23 18:29 J -42772700.88 -42772700.73 -42772700.57 0.2558 0.0758

Earth -121819-09-23 20:10 J -42772700.80 -42772700.66 -42772700.51 0.2558 0.0951 *

Venus -121816-02-05 10:49 J -42771835.11 -42771835.05 -42771834.99 0.3649 0.3335

Jupiter -121816-02-10 23:03 J -42771829.72 -42771829.54 -42771829.36 0.0500 0.0051

Mars -121816-10-30 10:34 J -42771568.19 -42771568.06 -42771567.92 0.1855 0.0976

Moon -121815-03-20 23:46 J -42771426.60 -42771426.51 -42771426.41 0.2774 0.1109

Earth -121815-03-21 00:01 J -42771426.60 -42771426.50 -42771426.40 0.2781 0.1128 *

Mars -121815-09-06 17:17 J -42771256.81 -42771256.78 -42771256.74 0.1666 0.1570

Venus -121814-11-21 08:10 J -42770816.26 -42770816.16 -42770816.05 0.3742 0.0671

Saturn -121813-06-20 02:39 J -42770604.50 -42770604.39 -42770604.27 0.0262 0.0198

Mars -121813-08-11 23:32 J -42770551.64 -42770551.52 -42770551.41 0.1658 0.0149

Saturn -121813-09-16 21:37 J -42770515.77 -42770515.60 -42770515.43 0.0262 0.0094

Saturn -121813-12-14 16:34 J -42770426.99 -42770426.81 -42770426.62 0.0261 0.0013

Saturn -121812-03-13 11:46 J -42770338.17 -42770338.01 -42770337.84 0.0261 0.0117

Saturn -121812-06-10 06:58 J -42770249.29 -42770249.21 -42770249.11 0.0261 0.0224

Venus -121811-08-22 17:03 J -42769810.94 -42769810.79 -42769810.65 0.3642 0.0844

Jupiter -121810-01-09 15:51 J -42769670.97 -42769670.84 -42769670.72 0.0526 0.0172

Jupiter -121810-04-08 22:20 J -42769581.67 -42769581.57 -42769581.46 0.0526 0.0293

Moon -121809-03-29 20:39 J -42769225.72 -42769225.64 -42769225.56 0.2790 0.1876

Earth -121809-03-29 20:53 J -42769225.71 -42769225.63 -42769225.55 0.2783 0.1875 *

Venus -121808-06-06 00:44 J -42768792.55 -42768792.47 -42768792.39 0.3748 0.2384

Pluto -121807-06-04 03:22 J -42768429.42 -42768429.36 -42768429.28 0.0084 0.0071

Pluto -121807-08-31 04:49 J -42768341.40 -42768341.30 -42768341.19 0.0084 0.0055

Pluto -121807-11-27 06:15 J -42768253.36 -42768253.24 -42768253.12 0.0084 0.0039

Pluto -121806-02-23 07:41 J -42768165.31 -42768165.18 -42768165.05 0.0084 0.0023

Mars -121806-03-22 06:15 J -42768138.40 -42768138.24 -42768138.08 0.1853 0.0073

Pluto -121806-05-22 09:08 J -42768077.26 -42768077.12 -42768076.99 0.0084 0.0008

Pluto -121806-08-18 10:20 J -42767989.20 -42767989.07 -42767988.93 0.0084 0.0008

Moon -121806-09-27 00:58 J -42767949.54 -42767949.46 -42767949.37 0.2556 0.2172

Earth -121806-09-27 02:39 J -42767949.46 -42767949.39 -42767949.31 0.2558 0.2241 *

Pluto -121806-11-14 11:46 J -42767901.14 -42767901.01 -42767900.88 0.0084 0.0024

Pluto -121805-02-10 12:58 J -42767813.08 -42767812.96 -42767812.83 0.0084 0.0040

Pluto -121805-05-08 14:10 J -42767725.00 -42767724.91 -42767724.80 0.0083 0.0055

Pluto -121805-08-04 15:37 J -42767636.91 -42767636.85 -42767636.77 0.0083 0.0070

Jupiter -121805-11-29 20:10 J -42767519.84 -42767519.66 -42767519.48 0.0500 0.0097

Jupiter -121804-02-28 05:32 J -42767429.30 -42767429.27 -42767429.24 0.0499 0.0492

Mars -121803-01-02 10:05 J -42767121.20 -42767121.08 -42767120.96 0.1660 0.0267

Moon -121802-03-23 18:15 J -42766675.85 -42766675.74 -42766675.64 0.2775 0.0437

Earth -121802-03-23 18:29 J -42766675.84 -42766675.73 -42766675.62 0.2782 0.0347 *

Mars -121802-12-08 15:08 J -42766415.93 -42766415.87 -42766415.81 0.1654 0.1378

Earth -121799-09-18 13:56 J -42765401.05 -42765400.92 -42765400.79 0.2560 0.1420

Moon -121799-09-18 15:08 J -42765401.01 -42765400.87 -42765400.72 0.2556 0.1260 *

Jupiter -121799-10-28 19:41 J -42765360.79 -42765360.68 -42765360.57 0.0525 0.0288

Jupiter -121798-01-26 02:25 J -42765271.52 -42765271.40 -42765271.28 0.0526 0.0178

Saturn -121798-10-12 18:15 J -42765011.80 -42765011.74 -42765011.67 0.0300 0.0261

Saturn -121797-01-09 08:10 J -42764923.28 -42764923.16 -42764923.04 0.0300 0.0143

Saturn -121797-04-06 21:51 J -42764834.72 -42764834.59 -42764834.45 0.0301 0.0025

Saturn -121797-07-04 11:32 J -42764746.15 -42764746.02 -42764745.89 0.0302 0.0094

Mars -121797-08-11 02:10 J -42764708.54 -42764708.41 -42764708.28 0.1851 0.1091

Saturn -121797-10-01 00:58 J -42764657.55 -42764657.46 -42764657.36 0.0302 0.0211

Moon -121796-04-01 15:22 J -42764474.90 -42764474.86 -42764474.83 0.2791 0.2600

Earth -121796-04-01 15:22 J -42764474.89 -42764474.86 -42764474.83 0.2783 0.2664 *

Earth -121795-03-16 16:05 J -42764125.87 -42764125.83 -42764125.79 0.2778 0.2550

Moon -121795-03-16 16:34 J -42764125.85 -42764125.81 -42764125.77 0.2784 0.2542 *

Mars -121794-05-25 20:39 J -42763690.75 -42763690.64 -42763690.53 0.1662 0.0675

Jupiter -121793-09-17 16:34 J -42763209.96 -42763209.81 -42763209.65 0.0500 0.0251

Jupiter -121793-12-17 01:41 J -42763119.56 -42763119.43 -42763119.29 0.0500 0.0339

Mars -121792-04-30 01:56 J -42762985.51 -42762985.42 -42762985.33 0.1655 0.0988

Moon -121789-03-25 12:44 J -42761925.08 -42761924.97 -42761924.86 0.2776 0.0434

Earth -121789-03-25 12:58 J -42761925.07 -42761924.96 -42761924.86 0.2783 0.0452 *

Neptune -121787-05-19 11:03 J -42761140.05 -42761140.04 -42761140.00 0.0088 0.0087

Neptune -121787-08-15 12:44 J -42761052.01 -42761051.97 -42761051.92 0.0088 0.0083

Jupiter -121787-08-16 23:32 J -42761050.60 -42761050.52 -42761050.44 0.0525 0.0404

Neptune -121787-11-11 14:10 J -42760963.96 -42760963.91 -42760963.84 0.0088 0.0078

Jupiter -121787-11-14 06:29 J -42760961.36 -42760961.23 -42760961.11 0.0525 0.0064

Neptune -121786-02-07 15:22 J -42760875.92 -42760875.86 -42760875.77 0.0088 0.0075

Jupiter -121786-02-11 12:44 J -42760871.98 -42760871.97 -42760871.96 0.0526 0.0522

Neptune -121786-05-06 17:17 J -42760787.86 -42760787.78 -42760787.70 0.0088 0.0070

Neptune -121786-08-02 18:29 J -42760699.81 -42760699.73 -42760699.63 0.0088 0.0066

Earth -121786-09-21 20:25 J -42760649.81 -42760649.65 -42760649.49 0.2559 0.0119

Moon -121786-09-21 21:51 J -42760649.75 -42760649.59 -42760649.42 0.2555 0.0112 *

Neptune -121786-10-29 19:56 J -42760611.76 -42760611.67 -42760611.56 0.0088 0.0061

Uranus -121786-10-30 12:29 J -42760611.00 -42760610.98 -42760610.94 0.0130 0.0127

Neptune -121785-01-25 21:22 J -42760523.70 -42760523.61 -42760523.50 0.0088 0.0057

Uranus -121785-01-26 15:37 J -42760522.92 -42760522.85 -42760522.78 0.0130 0.0112

Neptune -121785-04-22 23:03 J -42760435.65 -42760435.54 -42760435.43 0.0088 0.0053

Uranus -121785-04-23 18:29 J -42760434.81 -42760434.73 -42760434.63 0.0130 0.0097

Neptune -121785-07-20 00:15 J -42760347.59 -42760347.49 -42760347.37 0.0088 0.0049

Uranus -121785-07-20 21:22 J -42760346.70 -42760346.61 -42760346.50 0.0130 0.0082

Mars -121785-10-15 07:13 J -42760260.29 -42760260.20 -42760260.11 0.1663 0.1089

Neptune -121785-10-16 01:41 J -42760259.54 -42760259.43 -42760259.30 0.0088 0.0044

Uranus -121785-10-17 00:29 J -42760258.59 -42760258.48 -42760258.36 0.0130 0.0066

Neptune -121784-01-12 03:08 J -42760171.48 -42760171.37 -42760171.24 0.0088 0.0040

Uranus -121784-01-13 03:22 J -42760170.48 -42760170.36 -42760170.23 0.0130 0.0051

Neptune -121784-04-10 04:49 J -42760083.43 -42760083.30 -42760083.18 0.0088 0.0036

Uranus -121784-04-11 06:29 J -42760082.36 -42760082.23 -42760082.10 0.0130 0.0036

Neptune -121784-07-07 06:01 J -42759995.37 -42759995.25 -42759995.12 0.0088 0.0032

Uranus -121784-07-08 09:22 J -42759994.24 -42759994.11 -42759993.98 0.0130 0.0021

Neptune -121784-10-03 07:27 J -42759907.31 -42759907.19 -42759907.06 0.0088 0.0027

Uranus -121784-10-04 12:15 J -42759906.12 -42759905.99 -42759905.85 0.0130 0.0007

Saturn -121784-11-07 03:51 J -42759872.43 -42759872.34 -42759872.24 0.0262 0.0221

Neptune -121784-12-30 08:53 J -42759819.26 -42759819.13 -42759819.00 0.0088 0.0023

Uranus -121784-12-31 15:08 J -42759818.00 -42759817.87 -42759817.73 0.0130 0.0010

Saturn -121783-02-03 22:34 J -42759783.71 -42759783.56 -42759783.39 0.0262 0.0118

Neptune -121783-03-28 10:20 J -42759731.20 -42759731.07 -42759730.94 0.0088 0.0019

Uranus -121783-03-29 18:01 J -42759729.88 -42759729.75 -42759729.61 0.0130 0.0025

Saturn -121783-05-03 17:46 J -42759694.94 -42759694.76 -42759694.58 0.0261 0.0013

Neptune -121783-06-24 11:46 J -42759643.14 -42759643.01 -42759642.88 0.0088 0.0014

Uranus -121783-06-25 20:53 J -42759641.75 -42759641.63 -42759641.50 0.0130 0.0040

Saturn -121783-07-31 12:58 J -42759606.13 -42759605.96 -42759605.79 0.0261 0.0093

Neptune -121783-09-20 13:13 J -42759555.09 -42759554.95 -42759554.82 0.0088 0.0010

Mars -121783-09-20 12:44 J -42759555.08 -42759554.97 -42759554.86 0.1657 0.0597 *

Uranus -121783-09-21 23:46 J -42759553.62 -42759553.51 -42759553.38 0.0130 0.0055

Saturn -121783-10-28 08:10 J -42759517.27 -42759517.16 -42759517.04 0.0260 0.0199

Neptune -121783-12-17 14:39 J -42759467.03 -42759466.89 -42759466.76 0.0088 0.0007

Uranus -121783-12-19 02:53 J -42759465.49 -42759465.38 -42759465.27 0.0131 0.0069

Neptune -121782-03-15 15:51 J -42759378.97 -42759378.84 -42759378.70 0.0088 0.0003

Uranus -121782-03-17 05:46 J -42759377.36 -42759377.26 -42759377.16 0.0131 0.0084

Earth -121782-03-19 10:34 J -42759375.15 -42759375.06 -42759374.98 0.2780 0.1773

Moon -121782-03-19 11:03 J -42759375.12 -42759375.04 -42759374.95 0.2784 0.1661 *

Neptune -121782-06-11 17:17 J -42759290.91 -42759290.78 -42759290.64 0.0088 0.0003

Uranus -121782-06-13 08:25 J -42759289.23 -42759289.15 -42759289.06 0.0131 0.0099

Neptune -121782-09-07 18:44 J -42759202.85 -42759202.72 -42759202.58 0.0088 0.0006

Uranus -121782-09-09 11:17 J -42759201.08 -42759201.03 -42759200.96 0.0131 0.0114

Neptune -121782-12-04 20:10 J -42759114.80 -42759114.66 -42759114.53 0.0088 0.0011

Uranus -121782-12-06 14:10 J -42759112.92 -42759112.91 -42759112.88 0.0131 0.0128

Neptune -121781-03-01 21:22 J -42759026.74 -42759026.61 -42759026.47 0.0088 0.0015

Neptune -121781-05-28 22:49 J -42758938.68 -42758938.55 -42758938.42 0.0088 0.0019

Jupiter -121781-07-06 13:56 J -42758900.03 -42758899.92 -42758899.81 0.0501 0.0397

Neptune -121781-08-25 00:15 J -42758850.62 -42758850.49 -42758850.36 0.0088 0.0023

Jupiter -121781-10-04 22:49 J -42758809.72 -42758809.55 -42758809.38 0.0500 0.0191

Neptune -121781-11-21 01:27 J -42758762.56 -42758762.44 -42758762.31 0.0088 0.0028

Neptune -121780-02-17 02:53 J -42758674.50 -42758674.38 -42758674.25 0.0088 0.0031

Neptune -121780-05-16 04:20 J -42758586.44 -42758586.32 -42758586.20 0.0088 0.0035

Neptune -121780-08-12 05:46 J -42758498.38 -42758498.26 -42758498.14 0.0088 0.0040

Neptune -121780-11-08 06:58 J -42758410.32 -42758410.21 -42758410.09 0.0088 0.0044

Neptune -121779-02-04 08:10 J -42758322.26 -42758322.16 -42758322.04 0.0088 0.0048

Neptune -121779-05-03 09:37 J -42758234.20 -42758234.10 -42758233.99 0.0088 0.0052

Neptune -121779-07-30 10:49 J -42758146.14 -42758146.05 -42758145.93 0.0088 0.0057

Neptune -121779-10-26 12:15 J -42758058.08 -42758057.99 -42758057.88 0.0088 0.0060

Neptune -121778-01-22 13:41 J -42757970.01 -42757969.93 -42757969.83 0.0088 0.0064

Neptune -121778-04-20 14:53 J -42757881.95 -42757881.88 -42757881.78 0.0088 0.0069

Neptune -121778-07-17 16:20 J -42757793.89 -42757793.82 -42757793.74 0.0088 0.0072

Neptune -121778-10-13 17:46 J -42757705.82 -42757705.76 -42757705.69 0.0088 0.0076

Neptune -121777-01-09 18:58 J -42757617.75 -42757617.71 -42757617.65 0.0088 0.0081

Neptune -121777-04-06 20:25 J -42757529.68 -42757529.65 -42757529.61 0.0088 0.0084

Moon -121776-03-28 06:58 J -42757174.31 -42757174.21 -42757174.11 0.2777 0.1255

Earth -121776-03-28 07:27 J -42757174.29 -42757174.19 -42757174.10 0.2783 0.1235 *

Mars -121776-04-30 11:32 J -42757141.16 -42757141.02 -42757140.89 0.1855 0.1079

Mars -121775-03-07 17:17 J -42756829.82 -42756829.78 -42756829.73 0.1666 0.1515

Jupiter -121775-09-02 09:51 J -42756651.22 -42756651.09 -42756650.96 0.0525 0.0062

Jupiter -121775-11-30 16:20 J -42756561.90 -42756561.82 -42756561.74 0.0526 0.0401

Mars -121773-02-10 23:32 J -42756124.64 -42756124.52 -42756124.41 0.1658 0.0200

Earth -121773-09-24 02:53 J -42755898.52 -42755898.38 -42755898.24 0.2558 0.1184

Moon -121773-09-24 04:20 J -42755898.46 -42755898.32 -42755898.17 0.2556 0.1208 *

Earth -121769-03-21 04:49 J -42754624.40 -42754624.30 -42754624.20 0.2781 0.0990

Moon -121769-03-21 05:32 J -42754624.37 -42754624.27 -42754624.17 0.2786 0.0967 *

Jupiter -121769-07-23 20:10 J -42754499.84 -42754499.66 -42754499.48 0.0500 0.0044

Saturn -121768-02-28 20:53 J -42754279.66 -42754279.63 -42754279.59 0.0300 0.0286

Saturn -121768-05-28 10:49 J -42754191.16 -42754191.05 -42754190.93 0.0301 0.0168

Venus -121768-05-28 20:53 J -42754190.71 -42754190.63 -42754190.55 0.3732 0.2175

Saturn -121768-08-25 00:44 J -42754102.61 -42754102.47 -42754102.34 0.0301 0.0050

Saturn -121768-11-21 14:10 J -42754014.04 -42754013.91 -42754013.78 0.0302 0.0069

Saturn -121767-02-18 03:37 J -42753925.45 -42753925.35 -42753925.24 0.0302 0.0187

Saturn -121767-05-17 17:03 J -42753836.79 -42753836.79 -42753836.78 0.0303 0.0303

Mars -121767-09-20 06:58 J -42753711.37 -42753711.21 -42753711.04 0.1853 0.0056

Moon -121766-09-16 13:41 J -42753349.98 -42753349.93 -42753349.87 0.2567 0.2411

Earth -121766-09-16 14:10 J -42753349.95 -42753349.91 -42753349.88 0.2561 0.2484 *

Mars -121764-07-03 10:05 J -42752694.20 -42752694.08 -42752693.96 0.1660 0.0210

Moon -121763-03-31 01:27 J -42752423.51 -42752423.44 -42752423.36 0.2777 0.1953

Earth -121763-03-31 01:41 J -42752423.50 -42752423.43 -42752423.35 0.2783 0.2024 *

Jupiter -121763-06-21 13:41 J -42752341.05 -42752340.93 -42752340.81 0.0525 0.0179

Jupiter -121763-09-18 20:25 J -42752251.76 -42752251.65 -42752251.55 0.0526 0.0285

Venus -121763-12-12 13:27 J -42752167.04 -42752166.94 -42752166.84 0.3738 0.0436

Mars -121762-06-08 15:08 J -42751988.93 -42751988.87 -42751988.81 0.1654 0.1430

Venus -121760-09-12 12:01 J -42751162.13 -42751162.00 -42751161.88 0.3647 0.1927

Earth -121760-09-27 09:22 J -42751147.14 -42751147.11 -42751147.07 0.2558 0.2478

Mars -121757-02-10 03:08 J -42750281.51 -42750281.37 -42750281.24 0.1851 0.0985

Jupiter -121757-05-11 17:17 J -42750189.95 -42750189.78 -42750189.60 0.0500 0.0104

Venus -121757-06-27 06:01 J -42750143.35 -42750143.25 -42750143.16 0.3744 0.1297

Jupiter -121757-08-10 02:39 J -42750099.42 -42750099.39 -42750099.35 0.0499 0.0487

Earth -121756-03-23 23:17 J -42749873.64 -42749873.53 -42749873.42 0.2782 0.0207

Moon -121756-03-24 00:01 J -42749873.61 -42749873.50 -42749873.39 0.2785 0.0200 *

Mars -121755-11-23 20:39 J -42749263.75 -42749263.64 -42749263.53 0.1662 0.0620

Saturn -121754-03-27 05:03 J -42749140.35 -42749140.29 -42749140.23 0.0262 0.0245

Venus -121754-03-29 18:29 J -42749137.85 -42749137.73 -42749137.62 0.3640 0.2303

Saturn -121754-06-23 23:46 J -42749051.66 -42749051.51 -42749051.36 0.0262 0.0141

Saturn -121754-09-20 18:44 J -42748962.90 -42748962.72 -42748962.54 0.0261 0.0037

Saturn -121754-12-18 13:41 J -42748874.10 -42748873.93 -42748873.75 0.0261 0.0069

Saturn -121753-03-16 08:53 J -42748785.26 -42748785.13 -42748784.98 0.0261 0.0175

Moon -121753-09-18 20:10 J -42748598.80 -42748598.66 -42748598.52 0.2565 0.1189

Earth -121753-09-18 20:39 J -42748598.78 -42748598.64 -42748598.50 0.2559 0.1178 *

Mars -121753-10-29 01:56 J -42748558.51 -42748558.42 -42748558.33 0.1655 0.1042

Venus -121751-01-10 22:20 J -42748119.63 -42748119.57 -42748119.51 0.3749 0.3012

Jupiter -121751-04-09 17:32 J -42748030.88 -42748030.77 -42748030.67 0.0525 0.0299

Jupiter -121751-07-08 00:15 J -42747941.61 -42747941.49 -42747941.37 0.0526 0.0168

Moon -121750-04-02 19:56 J -42747672.68 -42747672.67 -42747672.66 0.2777 0.2746

Moon -121749-03-16 20:10 J -42747323.71 -42747323.66 -42747323.61 0.2778 0.2432

Earth -121749-03-16 20:53 J -42747323.68 -42747323.63 -42747323.58 0.2779 0.2411 *

Jupiter -121745-02-28 14:39 J -42745880.05 -42745879.89 -42745879.73 0.0500 0.0250

Mars -121745-04-15 06:58 J -42745833.30 -42745833.21 -42745833.11 0.1664 0.1038

Jupiter -121745-05-28 23:32 J -42745789.65 -42745789.52 -42745789.38 0.0499 0.0338

Mars -121743-03-21 12:44 J -42745128.08 -42745127.97 -42745127.86 0.1657 0.0646

Earth -121743-03-26 17:46 J -42745122.87 -42745122.76 -42745122.65 0.2783 0.0585

Moon -121743-03-26 18:29 J -42745122.84 -42745122.73 -42745122.63 0.2787 0.0698 *

Uranus -121743-07-26 05:17 J -42745001.31 -42745001.28 -42745001.21 0.0149 0.0143

Uranus -121743-10-22 14:10 J -42744913.03 -42744912.91 -42744912.78 0.0149 0.0112

Uranus -121742-01-18 23:03 J -42744824.70 -42744824.54 -42744824.38 0.0149 0.0080

Uranus -121742-04-17 07:41 J -42744736.35 -42744736.18 -42744736.00 0.0149 0.0049

Uranus -121742-07-14 16:34 J -42744648.00 -42744647.81 -42744647.62 0.0149 0.0017

Uranus -121742-10-11 01:13 J -42744559.63 -42744559.45 -42744559.25 0.0149 0.0016

Uranus -121741-01-07 10:05 J -42744471.25 -42744471.08 -42744470.89 0.0149 0.0047

Uranus -121741-04-04 18:44 J -42744382.87 -42744382.72 -42744382.54 0.0149 0.0080

Uranus -121741-07-02 03:37 J -42744294.46 -42744294.35 -42744294.21 0.0149 0.0112

Uranus -121741-09-28 12:29 J -42744206.01 -42744205.98 -42744205.91 0.0149 0.0144

Moon -121740-09-22 02:53 J -42743847.54 -42743847.38 -42743847.23 0.2565 0.0071

Earth -121740-09-22 03:08 J -42743847.53 -42743847.37 -42743847.21 0.2559 0.0127 *

Jupiter -121739-01-26 21:22 J -42743720.69 -42743720.61 -42743720.53 0.0525 0.0413

Jupiter -121739-04-26 04:20 J -42743631.45 -42743631.32 -42743631.19 0.0526 0.0055

Jupiter -121739-07-24 10:34 J -42743542.08 -42743542.06 -42743542.03 0.0526 0.0514

Saturn -121739-10-15 13:13 J -42743459.05 -42743458.95 -42743458.85 0.0300 0.0197

Saturn -121738-01-12 03:08 J -42743370.50 -42743370.37 -42743370.24 0.0301 0.0079

Saturn -121738-04-10 16:49 J -42743281.94 -42743281.80 -42743281.67 0.0301 0.0040

Saturn -121738-07-08 06:15 J -42743193.35 -42743193.24 -42743193.12 0.0302 0.0157

Saturn -121738-10-04 19:41 J -42743104.73 -42743104.68 -42743104.62 0.0302 0.0274

Mars -121737-10-29 12:01 J -42742714.13 -42742714.00 -42742713.87 0.1855 0.1172

Moon -121736-03-19 14:39 J -42742572.98 -42742572.89 -42742572.80 0.2781 0.1644

Earth -121736-03-19 15:22 J -42742572.95 -42742572.86 -42742572.77 0.2780 0.1631 *

Mars -121736-09-05 17:32 J -42742402.83 -42742402.77 -42742402.72 0.1666 0.1456

Mars -121734-08-11 23:32 J -42741697.64 -42741697.52 -42741697.41 0.1658 0.0252

Jupiter -121734-12-17 10:49 J -42741570.15 -42741570.05 -42741569.94 0.0501 0.0405

Jupiter -121733-03-16 19:56 J -42741479.84 -42741479.67 -42741479.50 0.0500 0.0182

Earth -121730-03-29 12:15 J -42740372.09 -42740371.99 -42740371.90 0.2783 0.1373

Moon -121730-03-29 12:58 J -42740372.06 -42740371.96 -42740371.87 0.2786 0.1438 *

Jupiter -121727-02-12 08:25 J -42739321.28 -42739321.15 -42739321.02 0.0525 0.0062

Mars -121727-03-21 07:41 J -42739284.34 -42739284.18 -42739284.02 0.1853 0.0129

Jupiter -121727-05-12 14:53 J -42739231.96 -42739231.88 -42739231.80 0.0526 0.0401

Moon -121727-09-25 08:53 J -42739096.26 -42739096.13 -42739096.00 0.2563 0.1398

Earth -121727-09-25 09:37 J -42739096.23 -42739096.10 -42739095.97 0.2558 0.1424 *

Saturn -121725-11-10 00:44 J -42738319.60 -42738319.47 -42738319.32 0.0262 0.0165

Mars -121724-01-01 10:05 J -42738267.20 -42738267.08 -42738266.96 0.1660 0.0156

Saturn -121724-02-06 19:41 J -42738230.85 -42738230.68 -42738230.50 0.0261 0.0061

Saturn -121724-05-06 14:53 J -42738142.06 -42738141.88 -42738141.70 0.0261 0.0044

Saturn -121724-08-03 10:05 J -42738053.23 -42738053.08 -42738052.93 0.0260 0.0149

Saturn -121724-10-31 05:17 J -42737964.31 -42737964.28 -42737964.24 0.0260 0.0255

Moon -121723-03-22 09:08 J -42737822.22 -42737822.12 -42737822.02 0.2782 0.0974

Earth -121723-03-22 09:51 J -42737822.19 -42737822.09 -42737821.99 0.2781 0.0845 *

Mars -121723-12-07 15:08 J -42737561.92 -42737561.87 -42737561.82 0.1654 0.1482

Jupiter -121721-01-03 17:03 J -42737169.97 -42737169.79 -42737169.61 0.0500 0.0034

Moon -121720-09-16 19:41 J -42736547.76 -42736547.68 -42736547.60 0.2555 0.2216

Earth -121720-09-16 20:39 J -42736547.71 -42736547.64 -42736547.56 0.2560 0.2246 *

Mars -121718-08-11 03:51 J -42735854.48 -42735854.34 -42735854.19 0.1850 0.0879

Earth -121717-03-31 06:44 J -42735621.29 -42735621.22 -42735621.16 0.2783 0.2163

Moon -121717-03-31 07:27 J -42735621.26 -42735621.19 -42735621.13 0.2787 0.2148 *

Venus -121717-06-19 01:56 J -42735541.47 -42735541.42 -42735541.37 0.3728 0.3278

Jupiter -121716-12-01 11:46 J -42735011.13 -42735011.01 -42735010.88 0.0525 0.0184

Jupiter -121715-02-28 18:29 J -42734921.84 -42734921.73 -42734921.62 0.0526 0.0280

Mars -121715-05-24 20:39 J -42734836.75 -42734836.64 -42734836.53 0.1662 0.0565

Mars -121713-04-29 01:56 J -42734131.50 -42734131.42 -42734131.33 0.1655 0.1094

Venus -121711-01-02 18:29 J -42733517.82 -42733517.73 -42733517.63 0.3733 0.1531

Moon -121710-03-25 03:37 J -42733071.46 -42733071.35 -42733071.25 0.2783 0.0142

Earth -121710-03-25 04:20 J -42733071.43 -42733071.32 -42733071.22 0.2782 0.0120 *

Jupiter -121710-10-22 14:25 J -42732860.07 -42732859.90 -42732859.72 0.0500 0.0111

Jupiter -121709-01-20 23:46 J -42732769.55 -42732769.51 -42732769.46 0.0500 0.0481

Saturn -121709-03-03 15:51 J -42732726.93 -42732726.84 -42732726.75 0.0300 0.0224

Saturn -121709-05-31 05:32 J -42732638.39 -42732638.27 -42732638.14 0.0301 0.0105

Saturn -121709-08-27 19:13 J -42732549.83 -42732549.70 -42732549.56 0.0302 0.0015

Saturn -121709-11-24 08:53 J -42732461.25 -42732461.13 -42732461.01 0.0302 0.0131

Saturn -121708-02-20 22:20 J -42732372.64 -42732372.57 -42732372.49 0.0303 0.0248

Moon -121707-09-20 02:39 J -42731796.54 -42731796.39 -42731796.24 0.2553 0.1035

Earth -121707-09-20 03:08 J -42731796.52 -42731796.37 -42731796.22 0.2559 0.0946 *

Venus -121706-07-19 11:03 J -42731494.14 -42731494.04 -42731493.93 0.3739 0.0242

Mars -121706-10-15 06:58 J -42731406.30 -42731406.21 -42731406.11 0.1663 0.0983

Mars -121704-09-19 12:44 J -42730701.08 -42730700.97 -42730700.86 0.1657 0.0699

Jupiter -121704-09-19 15:37 J -42730700.95 -42730700.85 -42730700.74 0.0525 0.0302 *

Jupiter -121704-12-17 22:20 J -42730611.69 -42730611.57 -42730611.45 0.0526 0.0163

Earth -121703-03-18 01:41 J -42730521.49 -42730521.43 -42730521.36 0.2779 0.2277

Moon -121703-03-18 02:25 J -42730521.47 -42730521.40 -42730521.34 0.2774 0.2156 *

Venus -121703-04-19 13:13 J -42730489.10 -42730488.95 -42730488.80 0.3646 0.0504

Neptune -121703-07-17 01:27 J -42730400.48 -42730400.44 -42730400.36 0.0089 0.0084

Neptune -121703-10-13 04:49 J -42730312.37 -42730312.30 -42730312.19 0.0089 0.0078

Neptune -121702-01-09 08:25 J -42730224.25 -42730224.15 -42730224.03 0.0089 0.0072

Neptune -121702-04-07 11:46 J -42730136.13 -42730136.01 -42730135.88 0.0089 0.0066

Neptune -121702-07-04 15:22 J -42730048.00 -42730047.86 -42730047.72 0.0089 0.0060

Neptune -121702-09-30 18:15 J -42729959.87 -42729959.74 -42729959.57 0.0089 0.0055

Uranus -121702-11-19 20:25 J -42729909.69 -42729909.65 -42729909.58 0.0130 0.0120

Neptune -121702-12-27 21:51 J -42729871.73 -42729871.59 -42729871.42 0.0089 0.0049

Uranus -121701-02-15 23:46 J -42729821.59 -42729821.51 -42729821.43 0.0130 0.0104

Neptune -121701-03-25 01:13 J -42729783.60 -42729783.45 -42729783.27 0.0089 0.0043

Uranus -121701-05-14 02:39 J -42729733.48 -42729733.39 -42729733.29 0.0130 0.0089

Neptune -121701-06-21 04:49 J -42729695.46 -42729695.30 -42729695.12 0.0089 0.0037

Uranus -121701-08-10 05:32 J -42729645.37 -42729645.27 -42729645.15 0.0130 0.0074

Neptune -121701-09-17 08:10 J -42729607.33 -42729607.16 -42729606.97 0.0089 0.0031

Uranus -121701-11-06 08:39 J -42729557.26 -42729557.14 -42729557.02 0.0130 0.0058

Neptune -121701-12-14 11:46 J -42729519.19 -42729519.01 -42729518.82 0.0089 0.0025

Venus -121700-02-01 03:37 J -42729470.44 -42729470.35 -42729470.26 0.3745 0.1935

Uranus -121700-02-02 11:32 J -42729469.14 -42729469.02 -42729468.89 0.0130 0.0043

Neptune -121700-03-12 15:22 J -42729431.05 -42729430.86 -42729430.68 0.0089 0.0019

Uranus -121700-05-01 14:25 J -42729381.03 -42729380.90 -42729380.76 0.0130 0.0029

Neptune -121700-06-08 18:44 J -42729342.90 -42729342.72 -42729342.53 0.0089 0.0013

Uranus -121700-07-28 17:32 J -42729292.91 -42729292.77 -42729292.64 0.0130 0.0014

Neptune -121700-09-04 22:20 J -42729254.76 -42729254.57 -42729254.38 0.0089 0.0007

Uranus -121700-10-24 20:25 J -42729204.79 -42729204.65 -42729204.52 0.0130 0.0002

Neptune -121700-12-02 01:41 J -42729166.62 -42729166.43 -42729166.23 0.0089 0.0002

Uranus -121699-01-20 23:17 J -42729116.66 -42729116.53 -42729116.40 0.0130 0.0017

Neptune -121699-02-28 05:17 J -42729078.47 -42729078.28 -42729078.09 0.0089 0.0005

Uranus -121699-04-19 02:10 J -42729028.54 -42729028.41 -42729028.28 0.0130 0.0032

Neptune -121699-05-27 08:53 J -42728990.32 -42728990.13 -42728989.94 0.0089 0.0011

Uranus -121699-07-16 05:03 J -42728940.41 -42728940.29 -42728940.16 0.0130 0.0046

Neptune -121699-08-23 12:15 J -42728902.17 -42728901.99 -42728901.80 0.0089 0.0017

Uranus -121699-10-12 07:56 J -42728852.29 -42728852.17 -42728852.05 0.0130 0.0061

Neptune -121699-11-19 15:51 J -42728814.02 -42728813.84 -42728813.66 0.0089 0.0023

Uranus -121698-01-08 10:49 J -42728764.16 -42728764.05 -42728763.94 0.0130 0.0076

Neptune -121698-02-15 19:27 J -42728725.87 -42728725.69 -42728725.51 0.0089 0.0029

Uranus -121698-04-06 13:41 J -42728676.02 -42728675.93 -42728675.83 0.0130 0.0091

Neptune -121698-05-14 22:34 J -42728637.72 -42728637.56 -42728637.37 0.0089 0.0036

Uranus -121698-07-03 16:34 J -42728587.88 -42728587.81 -42728587.73 0.0131 0.0106

Jupiter -121698-08-10 12:01 J -42728550.15 -42728550.00 -42728549.84 0.0500 0.0254

Neptune -121698-08-11 02:10 J -42728549.57 -42728549.41 -42728549.23 0.0089 0.0042

Uranus -121698-09-29 19:13 J -42728499.74 -42728499.70 -42728499.64 0.0131 0.0121

Neptune -121698-11-07 05:46 J -42728461.41 -42728461.26 -42728461.09 0.0089 0.0048

Jupiter -121698-11-08 21:08 J -42728459.75 -42728459.62 -42728459.48 0.0499 0.0334

Neptune -121697-02-03 09:08 J -42728373.25 -42728373.12 -42728372.95 0.0089 0.0054

Moon -121697-03-26 21:51 J -42728320.69 -42728320.59 -42728320.48 0.2785 0.0746

Earth -121697-03-26 22:34 J -42728320.66 -42728320.56 -42728320.45 0.2783 0.0737 *

Mars -121697-04-29 12:44 J -42728287.09 -42728286.97 -42728286.85 0.1855 0.1273

Neptune -121697-05-01 12:44 J -42728285.09 -42728284.97 -42728284.81 0.0089 0.0060

Neptune -121697-07-28 16:20 J -42728196.93 -42728196.82 -42728196.68 0.0089 0.0066

Neptune -121697-10-24 19:56 J -42728108.76 -42728108.67 -42728108.54 0.0089 0.0072

Neptune -121696-01-20 23:46 J -42728020.59 -42728020.51 -42728020.42 0.0089 0.0078

Mars -121696-03-06 17:32 J -42727975.84 -42727975.77 -42727975.71 0.1666 0.1403

Neptune -121696-04-19 03:22 J -42727932.41 -42727932.36 -42727932.30 0.0089 0.0084

Saturn -121695-03-30 01:41 J -42727587.55 -42727587.43 -42727587.30 0.0262 0.0190

Saturn -121695-06-26 20:25 J -42727498.82 -42727498.65 -42727498.47 0.0261 0.0086

Venus -121695-08-17 20:10 J -42727446.68 -42727446.66 -42727446.64 0.3751 0.3647

Saturn -121695-09-23 15:37 J -42727410.04 -42727409.85 -42727409.67 0.0261 0.0019

Saturn -121695-12-21 10:34 J -42727321.22 -42727321.06 -42727320.89 0.0261 0.0124

Mars -121694-02-09 23:32 J -42727270.64 -42727270.52 -42727270.41 0.1658 0.0305

Saturn -121694-03-20 05:46 J -42727232.34 -42727232.26 -42727232.16 0.0260 0.0229

Moon -121694-09-23 08:53 J -42727045.29 -42727045.13 -42727044.96 0.2553 0.0272

Earth -121694-09-23 09:51 J -42727045.25 -42727045.09 -42727044.93 0.2559 0.0365 *

Jupiter -121692-07-08 19:13 J -42726390.77 -42726390.70 -42726390.62 0.0525 0.0422

Jupiter -121692-10-06 02:10 J -42726301.54 -42726301.41 -42726301.28 0.0526 0.0046

Jupiter -121691-01-03 08:39 J -42726212.17 -42726212.14 -42726212.11 0.0527 0.0507

Earth -121690-03-20 20:10 J -42725770.75 -42725770.66 -42725770.57 0.2780 0.1493

Moon -121690-03-20 20:53 J -42725770.73 -42725770.63 -42725770.54 0.2776 0.1449 *

Mars -121688-09-19 08:39 J -42724857.31 -42724857.14 -42724856.98 0.1853 0.0240

Jupiter -121686-05-29 09:22 J -42724240.21 -42724240.11 -42724240.00 0.0500 0.0399

Jupiter -121686-08-27 18:15 J -42724149.91 -42724149.74 -42724149.57 0.0500 0.0186

Mars -121685-07-02 10:05 J -42723840.20 -42723840.08 -42723839.96 0.1660 0.0103

Moon -121684-03-29 16:20 J -42723569.91 -42723569.82 -42723569.72 0.2785 0.1438

Earth -121684-03-29 17:03 J -42723569.88 -42723569.79 -42723569.70 0.2783 0.1521 *

Mars -121683-06-07 15:08 J -42723134.91 -42723134.87 -42723134.83 0.1654 0.1531

Moon -121681-09-25 15:51 J -42722293.96 -42722293.84 -42722293.72 0.2552 0.1717

Earth -121681-09-25 16:20 J -42722293.94 -42722293.82 -42722293.70 0.2558 0.1665 *

Saturn -121680-07-21 17:46 J -42721994.83 -42721994.76 -42721994.70 0.0300 0.0256

Jupiter -121680-07-25 06:15 J -42721991.36 -42721991.24 -42721991.11 0.0525 0.0070

Saturn -121680-10-18 07:27 J -42721906.31 -42721906.19 -42721906.07 0.0300 0.0138

Jupiter -121680-10-22 12:58 J -42721902.05 -42721901.96 -42721901.88 0.0526 0.0395

Saturn -121679-01-14 21:22 J -42721817.75 -42721817.61 -42721817.48 0.0301 0.0021

Saturn -121679-04-13 10:49 J -42721729.17 -42721729.05 -42721728.92 0.0302 0.0099

Saturn -121679-07-11 00:29 J -42721640.57 -42721640.48 -42721640.39 0.0302 0.0216

Mars -121678-02-09 04:20 J -42721427.47 -42721427.32 -42721427.18 0.1850 0.0795

Earth -121677-03-22 14:39 J -42721019.99 -42721019.89 -42721019.78 0.2781 0.0706

Moon -121677-03-22 15:08 J -42721019.97 -42721019.87 -42721019.76 0.2775 0.0728 *

Mars -121676-11-22 20:39 J -42720409.75 -42720409.64 -42720409.53 0.1662 0.0511

Jupiter -121674-06-15 14:25 J -42719840.08 -42719839.90 -42719839.72 0.0500 0.0029

Earth -121674-09-18 03:22 J -42719745.46 -42719745.36 -42719745.27 0.2560 0.2018

Moon -121674-09-18 04:49 J -42719745.40 -42719745.30 -42719745.19 0.2562 0.1910 *

Mars -121674-10-29 01:56 J -42719704.50 -42719704.42 -42719704.33 0.1655 0.1144

Moon -121671-04-01 10:49 J -42718819.11 -42718819.05 -42718818.98 0.2786 0.2214

Earth -121671-04-01 11:32 J -42718819.08 -42718819.02 -42718818.96 0.2783 0.2308 *

Mars -121669-07-01 00:58 J -42717997.50 -42717997.46 -42717997.42 0.1848 0.1770

Jupiter -121668-05-13 10:34 J -42717681.18 -42717681.06 -42717680.94 0.0525 0.0181

Jupiter -121668-08-10 17:03 J -42717591.90 -42717591.79 -42717591.68 0.0526 0.0283

Mars -121666-04-15 07:13 J -42716979.30 -42716979.20 -42716979.10 0.1664 0.0925

Saturn -121666-08-17 02:39 J -42716855.49 -42716855.39 -42716855.29 0.0262 0.0214

Saturn -121666-11-13 21:22 J -42716766.77 -42716766.61 -42716766.45 0.0261 0.0111

Saturn -121665-02-10 16:20 J -42716678.00 -42716677.82 -42716677.64 0.0261 0.0007

Saturn -121665-05-09 11:17 J -42716589.20 -42716589.03 -42716588.86 0.0260 0.0098

Saturn -121665-08-06 06:44 J -42716500.34 -42716500.22 -42716500.11 0.0260 0.0202

Mars -121664-03-20 12:44 J -42716274.07 -42716273.97 -42716273.86 0.1657 0.0752

Earth -121664-03-25 09:08 J -42716269.23 -42716269.12 -42716269.01 0.2782 0.0084

Moon -121664-03-25 09:37 J -42716269.21 -42716269.10 -42716268.99 0.2777 0.0160 *

Jupiter -121662-04-03 11:32 J -42715530.19 -42715530.02 -42715529.84 0.0500 0.0119

Jupiter -121662-07-02 20:53 J -42715439.67 -42715439.63 -42715439.57 0.0500 0.0475

Earth -121661-09-20 09:51 J -42714994.24 -42714994.09 -42714993.93 0.2559 0.0706

Moon -121661-09-20 11:32 J -42714994.17 -42714994.02 -42714993.87 0.2562 0.0719 *

Venus -121660-01-23 23:46 J -42714868.59 -42714868.51 -42714868.44 0.3729 0.2625

Uranus -121659-08-15 14:53 J -42714299.96 -42714299.88 -42714299.77 0.0149 0.0129

Uranus -121659-11-11 23:46 J -42714211.65 -42714211.51 -42714211.36 0.0149 0.0097

Uranus -121658-02-08 08:25 J -42714123.31 -42714123.15 -42714122.97 0.0149 0.0066

Uranus -121658-05-07 17:17 J -42714034.96 -42714034.78 -42714034.59 0.0149 0.0034

Uranus -121658-08-04 02:10 J -42713946.60 -42713946.41 -42713946.22 0.0149 0.0003

Mars -121658-10-29 13:56 J -42713860.03 -42713859.92 -42713859.82 0.1855 0.1391

Uranus -121658-10-31 10:49 J -42713858.23 -42713858.05 -42713857.86 0.0149 0.0030

Uranus -121657-01-27 19:41 J -42713769.85 -42713769.68 -42713769.50 0.0149 0.0062

Moon -121657-03-18 06:44 J -42713719.29 -42713719.22 -42713719.15 0.2786 0.2103

Earth -121657-03-18 06:44 J -42713719.29 -42713719.22 -42713719.15 0.2779 0.2136 *

Uranus -121657-04-25 04:34 J -42713681.45 -42713681.31 -42713681.16 0.0149 0.0094

Uranus -121657-07-22 13:27 J -42713593.03 -42713592.94 -42713592.83 0.0149 0.0126

Mars -121657-09-04 17:32 J -42713548.84 -42713548.77 -42713548.70 0.1666 0.1344

Jupiter -121656-03-01 14:10 J -42713371.02 -42713370.91 -42713370.81 0.0524 0.0302

Jupiter -121656-05-29 20:53 J -42713281.76 -42713281.63 -42713281.51 0.0525 0.0164

Venus -121655-08-09 16:20 J -42712844.92 -42712844.82 -42712844.72 0.3735 0.0876

Mars -121655-08-10 23:32 J -42712843.64 -42712843.52 -42712843.41 0.1658 0.0357

Pluto -121654-07-01 16:20 J -42712518.90 -42712518.82 -42712518.72 0.0061 0.0053

Pluto -121654-09-27 17:32 J -42712430.88 -42712430.77 -42712430.63 0.0061 0.0045

Pluto -121654-12-24 18:58 J -42712342.85 -42712342.71 -42712342.55 0.0061 0.0037

Pluto -121653-03-21 20:10 J -42712254.81 -42712254.66 -42712254.48 0.0061 0.0029

Pluto -121653-06-17 21:22 J -42712166.77 -42712166.61 -42712166.42 0.0061 0.0021

Pluto -121653-09-13 22:49 J -42712078.72 -42712078.55 -42712078.35 0.0061 0.0013

Pluto -121653-12-11 00:15 J -42711990.67 -42711990.49 -42711990.30 0.0061 0.0004

Pluto -121652-03-09 01:41 J -42711902.62 -42711902.43 -42711902.24 0.0061 0.0004

Venus -121652-05-10 08:25 J -42711840.22 -42711840.15 -42711840.08 0.3651 0.3225

Pluto -121652-06-05 02:53 J -42711814.56 -42711814.38 -42711814.19 0.0061 0.0012

Pluto -121652-09-01 04:05 J -42711726.50 -42711726.33 -42711726.15 0.0061 0.0021

Pluto -121652-11-28 05:03 J -42711638.43 -42711638.29 -42711638.10 0.0061 0.0030

Pluto -121651-02-24 06:29 J -42711550.36 -42711550.23 -42711550.07 0.0061 0.0037

Earth -121651-03-28 03:37 J -42711518.46 -42711518.35 -42711518.25 0.2783 0.0873

Moon -121651-03-28 03:51 J -42711518.44 -42711518.34 -42711518.23 0.2777 0.0929 *

Pluto -121651-05-23 07:56 J -42711462.28 -42711462.17 -42711462.03 0.0061 0.0046

Pluto -121651-08-19 09:22 J -42711374.19 -42711374.11 -42711374.02 0.0061 0.0054

Saturn -121651-12-08 19:27 J -42711262.72 -42711262.69 -42711262.65 0.0300 0.0287

Jupiter -121650-01-20 09:22 J -42711220.27 -42711220.11 -42711219.96 0.0501 0.0261

Saturn -121650-03-07 09:22 J -42711174.22 -42711174.11 -42711173.99 0.0301 0.0169

Jupiter -121650-04-20 18:29 J -42711129.87 -42711129.73 -42711129.59 0.0500 0.0329

Saturn -121650-06-03 23:17 J -42711085.66 -42711085.53 -42711085.40 0.0302 0.0050

Saturn -121650-08-31 12:58 J -42710997.09 -42710996.96 -42710996.83 0.0302 0.0068

Saturn -121650-11-28 02:25 J -42710908.50 -42710908.40 -42710908.29 0.0303 0.0186

Venus -121649-02-23 08:53 J -42710821.23 -42710821.13 -42710821.03 0.3741 0.0856

Saturn -121649-02-24 15:51 J -42710819.84 -42710819.84 -42710819.83 0.0303 0.0302

Mars -121648-03-20 09:08 J -42710430.28 -42710430.12 -42710429.96 0.1853 0.0331

Earth -121648-09-23 16:20 J -42710242.97 -42710242.82 -42710242.66 0.2558 0.0602

Moon -121648-09-23 17:46 J -42710242.91 -42710242.76 -42710242.60 0.2561 0.0710 *

Venus -121647-11-24 14:39 J -42709816.03 -42709815.89 -42709815.74 0.3644 0.0949

Mars -121645-01-01 10:05 J -42709413.20 -42709413.08 -42709412.96 0.1660 0.0050

Jupiter -121645-12-18 17:46 J -42709060.83 -42709060.76 -42709060.68 0.0524 0.0421

Jupiter -121644-03-18 00:44 J -42708971.60 -42708971.47 -42708971.34 0.0525 0.0046

Moon -121644-03-21 00:58 J -42708968.55 -42708968.46 -42708968.37 0.2788 0.1419

Earth -121644-03-21 01:13 J -42708968.55 -42708968.45 -42708968.36 0.2780 0.1352 *

Jupiter -121644-06-15 06:58 J -42708882.24 -42708882.21 -42708882.17 0.0526 0.0505

Venus -121644-09-08 01:13 J -42708797.52 -42708797.45 -42708797.37 0.3746 0.2580

Mars -121644-12-06 15:08 J -42708707.90 -42708707.87 -42708707.84 0.1654 0.1582

Mars -121639-08-10 05:17 J -42707000.43 -42707000.28 -42707000.13 0.1851 0.0688

Jupiter -121639-11-08 07:13 J -42706910.31 -42706910.20 -42706910.09 0.0501 0.0401

Jupiter -121638-02-06 15:51 J -42706820.00 -42706819.84 -42706819.66 0.0500 0.0186

Earth -121638-03-30 22:05 J -42706767.67 -42706767.58 -42706767.50 0.2783 0.1666

Moon -121638-03-30 22:20 J -42706767.65 -42706767.57 -42706767.48 0.2778 0.1634 *

Saturn -121636-01-03 02:53 J -42706123.44 -42706123.38 -42706123.30 0.0262 0.0241

Saturn -121636-04-01 21:37 J -42706034.74 -42706034.60 -42706034.44 0.0261 0.0139

Mars -121636-05-23 20:39 J -42705982.76 -42705982.64 -42705982.53 0.1662 0.0458

Saturn -121636-06-29 16:34 J -42705945.99 -42705945.81 -42705945.62 0.0261 0.0035

Saturn -121636-09-26 11:46 J -42705857.19 -42705857.01 -42705856.84 0.0260 0.0070

Saturn -121636-12-24 06:44 J -42705768.35 -42705768.22 -42705768.08 0.0260 0.0175

Earth -121635-09-26 22:49 J -42705491.65 -42705491.55 -42705491.44 0.2558 0.1898

Moon -121635-09-27 00:29 J -42705491.57 -42705491.48 -42705491.39 0.2561 0.2092 *

Mars -121634-04-29 01:56 J -42705277.50 -42705277.42 -42705277.34 0.1655 0.1194

Jupiter -121632-01-04 04:34 J -42704661.44 -42704661.31 -42704661.19 0.0525 0.0074

Jupiter -121632-04-03 11:03 J -42704572.13 -42704572.04 -42704571.96 0.0526 0.0391

Moon -121631-03-23 19:41 J -42704217.79 -42704217.68 -42704217.58 0.2789 0.0582

Earth -121631-03-23 19:27 J -42704217.79 -42704217.69 -42704217.58 0.2781 0.0573 *

Mars -121630-12-31 01:41 J -42703570.50 -42703570.43 -42703570.37 0.1848 0.1675

Moon -121628-09-18 08:25 J -42702943.25 -42702943.15 -42702943.05 0.2562 0.1921

Earth -121628-09-18 10:05 J -42702943.20 -42702943.08 -42702942.97 0.2560 0.1778 *

Mars -121627-10-14 07:13 J -42702552.30 -42702552.20 -42702552.10 0.1664 0.0871

Jupiter -121627-11-25 13:13 J -42702510.13 -42702509.95 -42702509.76 0.0500 0.0041

Earth -121625-04-01 16:34 J -42702016.86 -42702016.81 -42702016.77 0.2784 0.2453

Moon -121625-04-01 16:49 J -42702016.85 -42702016.80 -42702016.75 0.2777 0.2484 *

Mars -121625-09-18 12:44 J -42701847.07 -42701846.97 -42701846.87 0.1657 0.0805

Moon -121624-03-16 16:49 J -42701667.82 -42701667.80 -42701667.79 0.2771 0.2731

Neptune -121622-02-13 09:22 J -42700969.11 -42700969.11 -42700969.07 0.0088 0.0088

Neptune -121622-05-12 11:17 J -42700881.08 -42700881.03 -42700880.98 0.0088 0.0083

Neptune -121622-08-08 12:29 J -42700793.03 -42700792.98 -42700792.91 0.0088 0.0079

Neptune -121622-11-04 13:56 J -42700704.98 -42700704.92 -42700704.84 0.0088 0.0074

Neptune -121621-01-31 15:22 J -42700616.93 -42700616.86 -42700616.77 0.0088 0.0070

Neptune -121621-04-28 17:03 J -42700528.88 -42700528.79 -42700528.70 0.0088 0.0066

Saturn -121621-07-24 10:49 J -42700442.14 -42700442.05 -42700441.94 0.0300 0.0205

Neptune -121621-07-25 18:29 J -42700440.82 -42700440.73 -42700440.63 0.0088 0.0061

Saturn -121621-10-21 00:44 J -42700353.60 -42700353.47 -42700353.34 0.0301 0.0087

Neptune -121621-10-21 19:41 J -42700352.77 -42700352.68 -42700352.56 0.0088 0.0058

Jupiter -121621-10-23 08:39 J -42700351.26 -42700351.14 -42700351.02 0.0525 0.0184

Saturn -121620-01-17 14:25 J -42700265.03 -42700264.90 -42700264.76 0.0302 0.0034

Neptune -121620-01-17 21:22 J -42700264.71 -42700264.61 -42700264.50 0.0088 0.0053

Jupiter -121620-01-20 15:22 J -42700261.97 -42700261.86 -42700261.75 0.0526 0.0280

Neptune -121620-04-15 22:49 J -42700176.66 -42700176.55 -42700176.43 0.0088 0.0049

Saturn -121620-04-16 04:05 J -42700176.44 -42700176.33 -42700176.21 0.0302 0.0150 *

Neptune -121620-07-13 00:15 J -42700088.60 -42700088.49 -42700088.37 0.0088 0.0044

Saturn -121620-07-13 17:32 J -42700087.83 -42700087.77 -42700087.70 0.0303 0.0266

Neptune -121620-10-09 01:41 J -42700000.55 -42700000.43 -42700000.30 0.0088 0.0040

Neptune -121619-01-05 03:08 J -42699912.49 -42699912.37 -42699912.24 0.0088 0.0036

Neptune -121619-04-03 04:34 J -42699824.43 -42699824.31 -42699824.18 0.0088 0.0031

Neptune -121619-06-30 06:01 J -42699736.38 -42699736.25 -42699736.12 0.0088 0.0027

Neptune -121619-09-26 07:27 J -42699648.32 -42699648.19 -42699648.06 0.0088 0.0023

Neptune -121619-12-23 08:53 J -42699560.26 -42699560.13 -42699560.00 0.0088 0.0019

Neptune -121618-03-21 10:20 J -42699472.20 -42699472.07 -42699471.94 0.0088 0.0015

Moon -121618-03-26 13:56 J -42699467.03 -42699466.92 -42699466.81 0.2790 0.0290

Earth -121618-03-26 13:56 J -42699467.03 -42699466.92 -42699466.81 0.2782 0.0234 *

Mars -121618-04-29 14:10 J -42699433.01 -42699432.91 -42699432.81 0.1855 0.1472

Neptune -121618-06-17 11:46 J -42699384.15 -42699384.01 -42699383.88 0.0088 0.0010

Uranus -121618-09-13 01:27 J -42699296.46 -42699296.44 -42699296.40 0.0130 0.0127

Neptune -121618-09-13 13:13 J -42699296.09 -42699295.95 -42699295.82 0.0088 0.0006

Uranus -121618-12-10 04:20 J -42699208.37 -42699208.32 -42699208.24 0.0130 0.0113

Neptune -121618-12-10 14:25 J -42699208.03 -42699207.90 -42699207.76 0.0088 0.0004

Mars -121617-03-05 17:32 J -42699121.84 -42699121.77 -42699121.69 0.1666 0.1288

Uranus -121617-03-07 07:41 J -42699120.27 -42699120.18 -42699120.09 0.0130 0.0097

Neptune -121617-03-07 15:51 J -42699119.97 -42699119.84 -42699119.70 0.0088 0.0003

Uranus -121617-06-03 10:34 J -42699032.16 -42699032.06 -42699031.95 0.0130 0.0082

Neptune -121617-06-03 17:17 J -42699031.91 -42699031.78 -42699031.64 0.0088 0.0006

Uranus -121617-08-30 13:27 J -42698944.05 -42698943.94 -42698943.82 0.0130 0.0067

Neptune -121617-08-30 18:44 J -42698943.86 -42698943.72 -42698943.59 0.0088 0.0011 *

Uranus -121617-11-26 16:34 J -42698855.93 -42698855.81 -42698855.69 0.0130 0.0051

Neptune -121617-11-26 19:56 J -42698855.80 -42698855.67 -42698855.53 0.0088 0.0015 *

Uranus -121616-02-22 19:27 J -42698767.82 -42698767.69 -42698767.56 0.0130 0.0036

Neptune -121616-02-22 21:22 J -42698767.74 -42698767.61 -42698767.47 0.0088 0.0019 *

Uranus -121616-05-21 22:20 J -42698679.70 -42698679.57 -42698679.43 0.0130 0.0022

Neptune -121616-05-21 22:49 J -42698679.68 -42698679.55 -42698679.42 0.0088 0.0023 *

Neptune -121616-08-18 00:01 J -42698591.62 -42698591.50 -42698591.36 0.0088 0.0028

Uranus -121616-08-18 01:13 J -42698591.58 -42698591.45 -42698591.31 0.0130 0.0008 *

Neptune -121616-11-14 01:27 J -42698503.56 -42698503.44 -42698503.31 0.0088 0.0032

Uranus -121616-11-14 04:20 J -42698503.46 -42698503.32 -42698503.19 0.0130 0.0009 *

Mars -121615-02-08 23:32 J -42698416.64 -42698416.52 -42698416.41 0.1658 0.0409

Neptune -121615-02-10 02:53 J -42698415.50 -42698415.38 -42698415.26 0.0088 0.0036

Uranus -121615-02-10 07:13 J -42698415.33 -42698415.20 -42698415.07 0.0130 0.0024 *

Neptune -121615-05-09 04:20 J -42698327.44 -42698327.32 -42698327.20 0.0088 0.0040

Uranus -121615-05-09 10:05 J -42698327.21 -42698327.08 -42698326.95 0.0130 0.0038 *

Neptune -121615-08-05 05:32 J -42698239.38 -42698239.27 -42698239.15 0.0088 0.0044

Uranus -121615-08-05 12:44 J -42698239.08 -42698238.97 -42698238.84 0.0130 0.0054

Jupiter -121615-09-13 09:22 J -42698200.29 -42698200.11 -42698199.93 0.0500 0.0119

Moon -121615-09-21 14:53 J -42698192.04 -42698191.88 -42698191.73 0.2562 0.0635

Earth -121615-09-21 16:34 J -42698191.97 -42698191.81 -42698191.65 0.2559 0.0472 *

Neptune -121615-11-01 06:44 J -42698151.32 -42698151.22 -42698151.10 0.0088 0.0049

Uranus -121615-11-01 15:37 J -42698150.96 -42698150.85 -42698150.73 0.0130 0.0068

Jupiter -121615-12-12 18:44 J -42698109.77 -42698109.72 -42698109.66 0.0500 0.0473

Neptune -121614-01-28 08:10 J -42698063.26 -42698063.16 -42698063.04 0.0088 0.0052

Uranus -121614-01-28 18:44 J -42698062.82 -42698062.72 -42698062.62 0.0130 0.0083

Neptune -121614-04-26 09:37 J -42697975.20 -42697975.10 -42697974.99 0.0088 0.0056

Uranus -121614-04-26 21:22 J -42697974.69 -42697974.61 -42697974.51 0.0130 0.0098

Neptune -121614-07-23 10:49 J -42697887.13 -42697887.05 -42697886.94 0.0088 0.0061

Uranus -121614-07-24 00:15 J -42697886.55 -42697886.49 -42697886.42 0.0130 0.0112

Neptune -121614-10-19 12:15 J -42697799.07 -42697798.99 -42697798.89 0.0088 0.0064

Uranus -121614-10-20 03:22 J -42697798.39 -42697798.36 -42697798.34 0.0130 0.0127

Neptune -121613-01-15 13:41 J -42697711.01 -42697710.93 -42697710.84 0.0088 0.0068

Neptune -121613-04-12 14:53 J -42697622.94 -42697622.88 -42697622.79 0.0088 0.0073

Neptune -121613-07-09 16:20 J -42697534.88 -42697534.82 -42697534.75 0.0088 0.0077

Neptune -121613-10-05 17:46 J -42697446.81 -42697446.76 -42697446.70 0.0088 0.0080

Neptune -121612-01-01 18:58 J -42697358.74 -42697358.71 -42697358.67 0.0088 0.0085

Moon -121611-03-19 11:03 J -42696917.11 -42696917.04 -42696916.96 0.2774 0.2034

Earth -121611-03-19 11:32 J -42696917.09 -42696917.02 -42696916.94 0.2779 0.1998 *

Venus -121609-02-15 04:49 J -42696219.30 -42696219.30 -42696219.30 0.3725 0.3717

Jupiter -121609-08-11 12:58 J -42696041.07 -42696040.96 -42696040.85 0.0525 0.0295

Mars -121609-09-18 09:51 J -42696003.24 -42696003.09 -42696002.93 0.1853 0.0439

Jupiter -121609-11-08 19:41 J -42695951.80 -42695951.68 -42695951.56 0.0525 0.0169

Saturn -121607-08-19 22:20 J -42695302.71 -42695302.57 -42695302.43 0.0262 0.0164

Saturn -121607-11-16 17:03 J -42695213.96 -42695213.79 -42695213.61 0.0261 0.0062

Saturn -121606-02-13 12:01 J -42695125.18 -42695125.00 -42695124.82 0.0260 0.0043

Saturn -121606-05-13 07:13 J -42695036.35 -42695036.20 -42695036.05 0.0260 0.0147

Mars -121606-07-02 10:05 J -42694986.20 -42694986.08 -42694985.96 0.1660 0.0038

Saturn -121606-08-10 02:25 J -42694947.44 -42694947.40 -42694947.35 0.0260 0.0252

Earth -121605-03-28 08:25 J -42694716.25 -42694716.15 -42694716.05 0.2783 0.1015

Moon -121605-03-28 08:39 J -42694716.24 -42694716.14 -42694716.04 0.2790 0.1001 *

Mars -121604-06-06 15:08 J -42694280.89 -42694280.87 -42694280.86 0.1654 0.1632

Venus -121604-08-30 21:22 J -42694195.70 -42694195.61 -42694195.52 0.3731 0.1967

Jupiter -121603-07-02 06:44 J -42693890.37 -42693890.22 -42693890.06 0.0501 0.0264

Jupiter -121603-09-30 15:51 J -42693799.97 -42693799.84 -42693799.69 0.0500 0.0327

Moon -121602-09-24 21:22 J -42693440.76 -42693440.61 -42693440.46 0.2559 0.0819

Earth -121602-09-24 23:03 J -42693440.69 -42693440.54 -42693440.39 0.2558 0.0837 *

Mars -121599-02-08 06:01 J -42692573.40 -42692573.25 -42692573.10 0.1850 0.0583

Venus -121598-03-16 13:56 J -42692172.02 -42692171.92 -42692171.81 0.3737 0.0264

Moon -121598-03-22 05:32 J -42692166.36 -42692166.27 -42692166.17 0.2774 0.1307

Earth -121598-03-22 06:01 J -42692166.35 -42692166.25 -42692166.15 0.2781 0.1211 *

Jupiter -121597-05-30 16:34 J -42691730.88 -42691730.81 -42691730.73 0.0524 0.0416

Jupiter -121597-08-27 23:32 J -42691641.65 -42691641.52 -42691641.40 0.0525 0.0053

Mars -121597-11-21 20:39 J -42691555.75 -42691555.64 -42691555.52 0.1662 0.0403

Jupiter -121597-11-25 05:46 J -42691552.29 -42691552.26 -42691552.23 0.0526 0.0509

Venus -121596-12-15 09:37 J -42691167.23 -42691167.10 -42691166.97 0.3649 0.1819

Mars -121595-10-28 01:56 J -42690850.49 -42690850.42 -42690850.34 0.1655 0.1250

Venus -121593-09-29 06:29 J -42690148.32 -42690148.23 -42690148.13 0.3742 0.1498

Moon -121592-03-31 02:53 J -42689965.46 -42689965.38 -42689965.29 0.2791 0.1768

Earth -121592-03-31 02:53 J -42689965.46 -42689965.38 -42689965.30 0.2783 0.1807 *

Saturn -121592-12-11 12:15 J -42689710.06 -42689709.99 -42689709.90 0.0301 0.0240

Saturn -121591-03-10 02:10 J -42689621.53 -42689621.41 -42689621.28 0.0301 0.0122

Jupiter -121591-04-20 04:34 J -42689580.41 -42689580.31 -42689580.20 0.0501 0.0405

Saturn -121591-06-06 16:05 J -42689532.96 -42689532.83 -42689532.69 0.0302 0.0003

Jupiter -121591-07-19 13:27 J -42689490.10 -42689489.94 -42689489.76 0.0500 0.0183

Saturn -121591-09-03 05:46 J -42689444.38 -42689444.26 -42689444.14 0.0303 0.0116

Saturn -121591-11-30 19:13 J -42689355.78 -42689355.70 -42689355.61 0.0303 0.0233

Mars -121590-07-01 02:10 J -42689143.49 -42689143.41 -42689143.32 0.1848 0.1578

Venus -121590-07-01 15:51 J -42689142.95 -42689142.84 -42689142.72 0.3641 0.2371

Moon -121589-09-27 03:51 J -42688689.43 -42688689.34 -42688689.25 0.2560 0.2074

Earth -121589-09-27 05:32 J -42688689.35 -42688689.27 -42688689.18 0.2558 0.2144 *

Mars -121587-04-14 07:13 J -42688125.31 -42688125.20 -42688125.10 0.1664 0.0817

Venus -121587-04-14 23:03 J -42688124.59 -42688124.54 -42688124.49 0.3748 0.3206

Mars -121585-03-19 12:44 J -42687420.07 -42687419.97 -42687419.87 0.1657 0.0856

Moon -121585-03-24 00:01 J -42687415.61 -42687415.50 -42687415.39 0.2777 0.0417

Earth -121585-03-24 00:29 J -42687415.59 -42687415.48 -42687415.37 0.2782 0.0425 *

Jupiter -121585-06-16 03:22 J -42687331.49 -42687331.36 -42687331.23 0.0525 0.0068

Jupiter -121585-09-13 09:51 J -42687242.18 -42687242.09 -42687242.01 0.0526 0.0395

Earth -121582-09-19 16:34 J -42686140.94 -42686140.81 -42686140.68 0.2560 0.1541

Moon -121582-09-19 17:32 J -42686140.89 -42686140.77 -42686140.64 0.2555 0.1574 *

Earth -121579-04-02 21:22 J -42685214.65 -42685214.61 -42685214.57 0.2784 0.2596

Moon -121579-04-02 21:37 J -42685214.63 -42685214.60 -42685214.58 0.2790 0.2678 *

Jupiter -121579-05-07 11:17 J -42685180.21 -42685180.03 -42685179.84 0.0500 0.0042

Mars -121579-10-28 15:08 J -42685005.95 -42685005.87 -42685005.79 0.1855 0.1583

Earth -121578-03-17 22:05 J -42684865.61 -42684865.58 -42684865.55 0.2778 0.2641

Moon -121578-03-17 22:49 J -42684865.59 -42684865.55 -42684865.51 0.2780 0.2528 *

Mars -121578-09-04 17:32 J -42684694.85 -42684694.77 -42684694.69 0.1666 0.1234

Saturn -121577-01-06 22:20 J -42684570.69 -42684570.57 -42684570.45 0.0261 0.0194

Saturn -121577-04-04 17:03 J -42684481.96 -42684481.79 -42684481.62 0.0261 0.0091

Saturn -121577-07-02 12:01 J -42684393.18 -42684393.00 -42684392.82 0.0260 0.0013

Saturn -121577-09-29 06:58 J -42684304.37 -42684304.21 -42684304.04 0.0260 0.0117

Saturn -121577-12-27 01:56 J -42684215.50 -42684215.42 -42684215.31 0.0260 0.0222

Mars -121576-08-09 23:32 J -42683989.64 -42683989.52 -42683989.41 0.1658 0.0461

Uranus -121575-09-04 22:05 J -42683598.67 -42683598.58 -42683598.46 0.0149 0.0122

Uranus -121575-12-02 07:13 J -42683510.35 -42683510.20 -42683510.05 0.0149 0.0090

Uranus -121574-02-28 15:37 J -42683422.01 -42683421.85 -42683421.67 0.0149 0.0059

Uranus -121574-05-28 00:44 J -42683333.66 -42683333.47 -42683333.29 0.0149 0.0027

Uranus -121574-08-24 09:22 J -42683245.30 -42683245.11 -42683244.92 0.0149 0.0005

Uranus -121574-11-20 18:15 J -42683156.93 -42683156.74 -42683156.56 0.0149 0.0037

Uranus -121573-02-17 02:53 J -42683068.54 -42683068.38 -42683068.20 0.0149 0.0069

Jupiter -121573-04-04 07:13 J -42683021.32 -42683021.20 -42683021.08 0.0525 0.0185

Uranus -121573-05-15 11:46 J -42682980.14 -42682980.01 -42682979.86 0.0149 0.0101

Jupiter -121573-07-02 13:41 J -42682932.03 -42682931.93 -42682931.82 0.0526 0.0279

Uranus -121573-08-11 20:39 J -42682891.71 -42682891.64 -42682891.55 0.0149 0.0133

Moon -121572-03-26 18:29 J -42682664.84 -42682664.73 -42682664.63 0.2777 0.0382

Earth -121572-03-26 18:58 J -42682664.82 -42682664.71 -42682664.61 0.2783 0.0374 *

Mars -121569-03-19 10:34 J -42681576.22 -42681576.06 -42681575.90 0.1853 0.0531

Earth -121569-09-21 23:17 J -42681389.69 -42681389.53 -42681389.37 0.2559 0.0239

Moon -121569-09-22 00:01 J -42681389.67 -42681389.50 -42681389.34 0.2553 0.0172 *

Mars -121568-01-25 03:51 J -42681264.35 -42681264.34 -42681264.33 0.1668 0.1659

Jupiter -121567-02-23 08:53 J -42680870.31 -42680870.13 -42680869.95 0.0500 0.0103

Jupiter -121567-05-24 18:15 J -42680779.77 -42680779.74 -42680779.70 0.0500 0.0488

Mars -121567-12-31 10:05 J -42680559.20 -42680559.08 -42680558.96 0.1660 0.0061

Earth -121565-03-19 16:20 J -42680114.89 -42680114.82 -42680114.74 0.2780 0.1862

Moon -121565-03-19 17:03 J -42680114.87 -42680114.79 -42680114.71 0.2782 0.1860 *

Saturn -121562-04-30 13:13 J -42678977.99 -42678977.95 -42678977.90 0.0300 0.0280

Saturn -121562-07-28 03:08 J -42678889.48 -42678889.37 -42678889.25 0.0301 0.0162

Saturn -121562-10-24 17:03 J -42678800.92 -42678800.79 -42678800.66 0.0301 0.0044

Saturn -121561-01-21 06:44 J -42678712.35 -42678712.22 -42678712.09 0.0302 0.0074

Jupiter -121561-01-22 11:32 J -42678711.13 -42678711.02 -42678710.92 0.0525 0.0296

Saturn -121561-04-18 20:25 J -42678623.76 -42678623.65 -42678623.55 0.0302 0.0192

Jupiter -121561-04-20 18:15 J -42678621.87 -42678621.74 -42678621.62 0.0526 0.0171

Pluto -121561-04-29 17:32 J -42678612.81 -42678612.77 -42678612.70 0.0084 0.0077

Pluto -121561-07-26 18:58 J -42678524.80 -42678524.71 -42678524.61 0.0084 0.0061

Pluto -121561-10-22 20:25 J -42678436.76 -42678436.65 -42678436.53 0.0084 0.0045

Pluto -121560-01-18 21:37 J -42678348.72 -42678348.60 -42678348.46 0.0084 0.0029

Pluto -121560-04-16 23:17 J -42678260.67 -42678260.53 -42678260.40 0.0084 0.0013

Pluto -121560-07-14 00:29 J -42678172.61 -42678172.48 -42678172.34 0.0084 0.0004

Mars -121560-08-09 06:29 J -42678146.39 -42678146.23 -42678146.07 0.1850 0.0493

Pluto -121560-10-10 01:56 J -42678084.55 -42678084.42 -42678084.29 0.0084 0.0018

Pluto -121559-01-06 03:08 J -42677996.49 -42677996.37 -42677996.24 0.0084 0.0034

Moon -121559-03-29 12:44 J -42677914.07 -42677913.97 -42677913.87 0.2779 0.1058

Earth -121559-03-29 13:13 J -42677914.04 -42677913.95 -42677913.85 0.2783 0.1166 *

Pluto -121559-04-04 04:34 J -42677908.42 -42677908.31 -42677908.20 0.0083 0.0049

Pluto -121559-07-01 05:32 J -42677820.34 -42677820.27 -42677820.17 0.0083 0.0066

Pluto -121559-09-27 06:58 J -42677732.23 -42677732.21 -42677732.16 0.0083 0.0081

Mars -121557-05-22 20:39 J -42677128.75 -42677128.64 -42677128.52 0.1662 0.0348

Earth -121556-09-25 05:46 J -42676638.41 -42676638.26 -42676638.12 0.2558 0.1076

Moon -121556-09-25 06:44 J -42676638.36 -42676638.22 -42676638.07 0.2553 0.1238 *

Jupiter -121556-12-12 05:03 J -42676560.44 -42676560.29 -42676560.14 0.0501 0.0260

Jupiter -121555-03-12 14:10 J -42676470.05 -42676469.91 -42676469.77 0.0500 0.0329

Mars -121555-04-28 01:56 J -42676423.49 -42676423.42 -42676423.35 0.1656 0.1297

Venus -121553-09-21 02:25 J -42675546.45 -42675546.40 -42675546.34 0.3726 0.3068

Earth -121552-03-22 10:49 J -42675364.15 -42675364.05 -42675363.95 0.2781 0.1074

Moon -121552-03-22 11:32 J -42675364.12 -42675364.02 -42675363.92 0.2782 0.1041 *

Mars -121551-12-30 03:08 J -42674716.47 -42674716.37 -42674716.27 0.1848 0.1472

Jupiter -121550-11-10 15:37 J -42674400.92 -42674400.85 -42674400.76 0.0524 0.0407

Jupiter -121549-02-07 22:34 J -42674311.69 -42674311.56 -42674311.43 0.0525 0.0060

Jupiter -121549-05-07 05:03 J -42674222.31 -42674222.29 -42674222.28 0.0526 0.0520

Saturn -121548-05-25 22:20 J -42673838.65 -42673838.57 -42673838.47 0.0262 0.0222

Saturn -121548-08-22 17:03 J -42673749.94 -42673749.79 -42673749.62 0.0261 0.0120

Mars -121548-10-13 07:13 J -42673698.31 -42673698.20 -42673698.09 0.1664 0.0758

Saturn -121548-11-19 12:01 J -42673661.18 -42673661.00 -42673660.82 0.0261 0.0016

Saturn -121547-02-16 06:58 J -42673572.38 -42673572.21 -42673572.03 0.0260 0.0088

Venus -121547-04-06 19:13 J -42673522.80 -42673522.70 -42673522.60 0.3732 0.1321

Saturn -121547-05-16 02:10 J -42673483.53 -42673483.41 -42673483.29 0.0260 0.0192

Moon -121546-04-01 07:13 J -42673163.28 -42673163.20 -42673163.12 0.2779 0.1907

Earth -121546-04-01 07:41 J -42673163.25 -42673163.18 -42673163.10 0.2783 0.1954 *

Mars -121546-09-18 12:44 J -42672993.07 -42672992.97 -42672992.87 0.1657 0.0909

Jupiter -121544-09-30 02:39 J -42672250.50 -42672250.39 -42672250.28 0.0501 0.0403

Jupiter -121544-12-29 11:32 J -42672160.19 -42672160.02 -42672159.85 0.0500 0.0184

Earth -121543-09-28 12:01 J -42671887.05 -42671887.00 -42671886.94 0.2558 0.2379

Moon -121543-09-28 12:58 J -42671887.01 -42671886.96 -42671886.90 0.2553 0.2379 *

Venus -121542-10-21 11:46 J -42671499.12 -42671499.01 -42671498.91 0.3738 0.0420

Earth -121539-03-25 05:17 J -42670613.39 -42670613.28 -42670613.17 0.2782 0.0284

Moon -121539-03-25 06:01 J -42670613.36 -42670613.25 -42670613.14 0.2784 0.0162 *

Mars -121539-04-28 15:51 J -42670578.90 -42670578.84 -42670578.77 0.1855 0.1686

Venus -121539-07-22 11:03 J -42670494.19 -42670494.04 -42670493.89 0.3647 0.0400

Neptune -121538-01-14 19:13 J -42670317.70 -42670317.70 -42670317.67 0.0089 0.0089

Mars -121538-03-05 17:32 J -42670267.85 -42670267.77 -42670267.69 0.1666 0.1180

Neptune -121538-04-12 22:34 J -42670229.61 -42670229.56 -42670229.48 0.0089 0.0083

Neptune -121538-07-10 01:56 J -42670141.50 -42670141.42 -42670141.31 0.0089 0.0077

Neptune -121538-10-06 05:32 J -42670053.37 -42670053.27 -42670053.15 0.0089 0.0071

Jupiter -121538-11-27 02:25 J -42670001.53 -42670001.40 -42670001.27 0.0525 0.0058

Neptune -121537-01-02 08:39 J -42669965.25 -42669965.14 -42669965.00 0.0089 0.0066

Jupiter -121537-02-24 08:53 J -42669912.21 -42669912.13 -42669912.05 0.0526 0.0403

Neptune -121537-03-30 12:01 J -42669877.12 -42669877.00 -42669876.85 0.0089 0.0060

Neptune -121537-06-26 15:22 J -42669788.99 -42669788.86 -42669788.69 0.0089 0.0054

Neptune -121537-09-22 18:58 J -42669700.86 -42669700.71 -42669700.54 0.0089 0.0048

Neptune -121537-12-19 22:20 J -42669612.73 -42669612.57 -42669612.39 0.0089 0.0042

Mars -121536-02-07 23:32 J -42669562.63 -42669562.52 -42669562.41 0.1658 0.0513

Neptune -121536-03-18 01:56 J -42669524.59 -42669524.42 -42669524.25 0.0089 0.0036

Venus -121536-05-06 04:20 J -42669475.41 -42669475.32 -42669475.24 0.3744 0.2135

Neptune -121536-06-14 05:17 J -42669436.45 -42669436.28 -42669436.10 0.0089 0.0030

Neptune -121536-09-10 08:53 J -42669348.31 -42669348.13 -42669347.95 0.0089 0.0024

Earth -121536-09-19 23:17 J -42669338.67 -42669338.53 -42669338.39 0.2560 0.1301

Moon -121536-09-19 23:32 J -42669338.65 -42669338.52 -42669338.38 0.2566 0.1369 *

Neptune -121536-12-07 12:15 J -42669260.17 -42669259.99 -42669259.80 0.0089 0.0018

Neptune -121535-03-05 15:37 J -42669172.03 -42669171.85 -42669171.66 0.0089 0.0013

Neptune -121535-06-01 19:13 J -42669083.89 -42669083.70 -42669083.51 0.0089 0.0006

Neptune -121535-08-28 22:34 J -42668995.75 -42668995.56 -42668995.37 0.0089 0.0002

Neptune -121535-11-25 02:10 J -42668907.60 -42668907.41 -42668907.22 0.0089 0.0006

Neptune -121534-02-21 05:32 J -42668819.45 -42668819.27 -42668819.08 0.0089 0.0012

Neptune -121534-05-20 08:53 J -42668731.31 -42668731.13 -42668730.93 0.0089 0.0018

Neptune -121534-08-16 12:29 J -42668643.16 -42668642.98 -42668642.79 0.0089 0.0024

Uranus -121534-10-03 09:22 J -42668595.15 -42668595.11 -42668595.05 0.0130 0.0120

Neptune -121534-11-12 16:05 J -42668555.01 -42668554.83 -42668554.65 0.0089 0.0030

Uranus -121534-12-30 12:15 J -42668507.06 -42668506.99 -42668506.90 0.0130 0.0106

Neptune -121533-02-08 19:27 J -42668466.85 -42668466.69 -42668466.50 0.0089 0.0036

Uranus -121533-03-27 15:22 J -42668418.95 -42668418.86 -42668418.76 0.0130 0.0090

Moon -121533-04-03 01:41 J -42668412.44 -42668412.43 -42668412.42 0.2779 0.2753

Earth -121533-04-03 02:10 J -42668412.42 -42668412.41 -42668412.39 0.2784 0.2744 *

Neptune -121533-05-06 23:03 J -42668378.70 -42668378.54 -42668378.36 0.0089 0.0042

Uranus -121533-06-23 18:15 J -42668330.84 -42668330.74 -42668330.62 0.0130 0.0075

Neptune -121533-08-03 02:39 J -42668290.54 -42668290.39 -42668290.22 0.0089 0.0048

Uranus -121533-09-19 21:22 J -42668242.73 -42668242.61 -42668242.49 0.0130 0.0060

Neptune -121533-10-30 06:15 J -42668202.39 -42668202.24 -42668202.08 0.0089 0.0054

Saturn -121533-12-14 04:05 J -42668157.42 -42668157.33 -42668157.22 0.0301 0.0201

Uranus -121533-12-17 00:15 J -42668154.61 -42668154.49 -42668154.36 0.0130 0.0045

Neptune -121532-01-26 09:51 J -42668114.23 -42668114.09 -42668113.95 0.0089 0.0060

Saturn -121532-03-12 18:01 J -42668068.88 -42668068.75 -42668068.62 0.0302 0.0082

Uranus -121532-03-15 03:08 J -42668066.49 -42668066.37 -42668066.23 0.0130 0.0031

Moon -121532-03-18 02:25 J -42668063.44 -42668063.40 -42668063.36 0.2782 0.2551

Earth -121532-03-18 02:53 J -42668063.42 -42668063.38 -42668063.33 0.2778 0.2499 *

Neptune -121532-04-24 13:27 J -42668026.06 -42668025.94 -42668025.81 0.0089 0.0066

Saturn -121532-06-09 07:56 J -42667980.31 -42667980.17 -42667980.04 0.0302 0.0038

Uranus -121532-06-11 06:15 J -42667978.37 -42667978.24 -42667978.11 0.0130 0.0015

Neptune -121532-07-21 16:34 J -42667937.90 -42667937.81 -42667937.68 0.0089 0.0073

Saturn -121532-09-05 21:22 J -42667891.72 -42667891.61 -42667891.49 0.0303 0.0155

Uranus -121532-09-07 09:08 J -42667890.25 -42667890.12 -42667889.99 0.0130 0.0000

Jupiter -121532-10-17 09:22 J -42667850.30 -42667850.11 -42667849.93 0.0500 0.0043

Neptune -121532-10-17 20:10 J -42667849.73 -42667849.66 -42667849.55 0.0089 0.0079

Saturn -121532-12-03 11:03 J -42667803.10 -42667803.04 -42667802.99 0.0303 0.0271

Uranus -121532-12-04 12:01 J -42667802.13 -42667802.00 -42667801.87 0.0130 0.0015

Neptune -121531-01-13 23:46 J -42667761.55 -42667761.51 -42667761.44 0.0089 0.0085

Uranus -121531-03-02 14:53 J -42667714.01 -42667713.88 -42667713.75 0.0130 0.0030

Uranus -121531-05-29 17:46 J -42667625.88 -42667625.76 -42667625.63 0.0130 0.0045

Uranus -121531-08-25 20:39 J -42667537.76 -42667537.64 -42667537.52 0.0130 0.0060

Uranus -121531-11-21 23:32 J -42667449.63 -42667449.52 -42667449.41 0.0130 0.0074

Uranus -121530-02-18 02:25 J -42667361.49 -42667361.40 -42667361.30 0.0130 0.0089

Uranus -121530-05-17 05:17 J -42667273.36 -42667273.28 -42667273.20 0.0130 0.0104

Uranus -121530-08-13 08:10 J -42667185.21 -42667185.16 -42667185.10 0.0130 0.0118

Mars -121530-09-18 11:32 J -42667149.18 -42667149.02 -42667148.87 0.1853 0.0640

Mars -121529-07-26 03:51 J -42666837.37 -42666837.34 -42666837.31 0.1668 0.1601

Mars -121527-07-01 10:05 J -42666132.20 -42666132.08 -42666131.96 0.1660 0.0117

Earth -121526-03-27 23:46 J -42665862.62 -42665862.51 -42665862.40 0.2783 0.0510

Moon -121526-03-28 00:29 J -42665862.59 -42665862.48 -42665862.37 0.2782 0.0542 *

Jupiter -121526-09-15 06:15 J -42665691.36 -42665691.24 -42665691.12 0.0525 0.0175

Jupiter -121526-12-13 12:44 J -42665602.07 -42665601.97 -42665601.86 0.0525 0.0289

Earth -121523-09-23 05:46 J -42664587.42 -42664587.26 -42664587.10 0.2559 0.0028

Moon -121523-09-23 06:01 J -42664587.40 -42664587.25 -42664587.09 0.2564 0.0121 *

Mars -121520-02-07 07:13 J -42663719.35 -42663719.20 -42663719.04 0.1850 0.0391

Jupiter -121520-08-05 07:13 J -42663540.38 -42663540.20 -42663540.02 0.0500 0.0098

Jupiter -121520-11-03 16:34 J -42663449.83 -42663449.81 -42663449.78 0.0500 0.0495

Moon -121519-03-20 20:39 J -42663312.72 -42663312.64 -42663312.56 0.2782 0.1838

Earth -121519-03-20 21:22 J -42663312.69 -42663312.61 -42663312.53 0.2780 0.1714 *

Saturn -121519-10-12 22:05 J -42663106.62 -42663106.58 -42663106.54 0.0262 0.0253

Saturn -121518-01-09 16:34 J -42663017.95 -42663017.81 -42663017.66 0.0261 0.0151

Saturn -121518-04-08 11:32 J -42662929.20 -42662929.02 -42662928.84 0.0261 0.0048

Saturn -121518-07-06 06:29 J -42662840.41 -42662840.23 -42662840.05 0.0260 0.0055

Saturn -121518-10-03 01:27 J -42662751.58 -42662751.44 -42662751.29 0.0260 0.0159

Mars -121518-11-21 20:39 J -42662701.75 -42662701.64 -42662701.52 0.1662 0.0296

Mars -121516-10-27 01:56 J -42661996.49 -42661996.42 -42661996.35 0.1655 0.1349

Jupiter -121514-07-04 10:05 J -42661381.19 -42661381.08 -42661380.97 0.0525 0.0293

Jupiter -121514-10-01 16:49 J -42661291.92 -42661291.80 -42661291.68 0.0526 0.0173

Earth -121513-03-29 18:15 J -42661111.84 -42661111.74 -42661111.65 0.2783 0.1304

Moon -121513-03-29 18:58 J -42661111.81 -42661111.71 -42661111.62 0.2784 0.1299 *

Mars -121511-06-30 03:37 J -42660289.46 -42660289.35 -42660289.25 0.1848 0.1387

Earth -121510-09-26 12:29 J -42659836.12 -42659835.98 -42659835.85 0.2558 0.1320

Moon -121510-09-26 12:29 J -42659836.11 -42659835.98 -42659835.84 0.2565 0.1379 *

Mars -121508-04-13 07:13 J -42659271.31 -42659271.20 -42659271.09 0.1664 0.0709

Jupiter -121508-05-24 05:03 J -42659230.45 -42659230.29 -42659230.13 0.0501 0.0240

Jupiter -121508-08-22 13:56 J -42659140.04 -42659139.92 -42659139.78 0.0500 0.0351

Mars -121506-03-19 12:44 J -42658566.07 -42658565.97 -42658565.88 0.1657 0.0958

Moon -121506-03-23 15:08 J -42658561.97 -42658561.87 -42658561.77 0.2786 0.0941

Earth -121506-03-23 15:51 J -42658561.94 -42658561.84 -42658561.74 0.2781 0.0930 *

Saturn -121503-05-03 04:49 J -42657425.38 -42657425.30 -42657425.22 0.0300 0.0243

Saturn -121503-07-30 18:44 J -42657336.84 -42657336.72 -42657336.60 0.0301 0.0125

Moon -121503-09-17 22:05 J -42657287.59 -42657287.58 -42657287.57 0.2558 0.2542

Earth -121503-09-17 23:32 J -42657287.58 -42657287.52 -42657287.47 0.2561 0.2372 *

Saturn -121503-10-27 08:25 J -42657248.28 -42657248.15 -42657248.01 0.0301 0.0009

Saturn -121502-01-23 22:05 J -42657159.70 -42657159.58 -42657159.45 0.0302 0.0111

Saturn -121502-04-22 11:46 J -42657071.10 -42657071.01 -42657070.93 0.0303 0.0228

Jupiter -121502-04-22 14:25 J -42657070.98 -42657070.90 -42657070.82 0.0524 0.0402 *

Jupiter -121502-07-20 21:22 J -42656981.74 -42656981.61 -42656981.49 0.0525 0.0066

Jupiter -121502-10-18 03:37 J -42656892.35 -42656892.35 -42656892.34 0.0526 0.0524

Earth -121500-04-01 12:44 J -42656361.04 -42656360.97 -42656360.90 0.2784 0.2095

Moon -121500-04-01 13:27 J -42656361.01 -42656360.94 -42656360.88 0.2782 0.2212 *

Mars -121500-10-27 16:20 J -42656151.86 -42656151.82 -42656151.77 0.1855 0.1780

Mars -121499-09-03 17:32 J -42655840.85 -42655840.77 -42655840.68 0.1666 0.1122

Mars -121497-08-08 23:32 J -42655135.63 -42655135.52 -42655135.41 0.1658 0.0566

Moon -121497-09-28 18:58 J -42655084.73 -42655084.71 -42655084.70 0.2563 0.2544

Jupiter -121496-03-12 01:13 J -42654920.56 -42654920.45 -42654920.34 0.0501 0.0396

Venus -121496-04-28 00:15 J -42654873.57 -42654873.49 -42654873.41 0.3728 0.2414

Jupiter -121496-06-10 10:05 J -42654830.25 -42654830.08 -42654829.91 0.0500 0.0191

Moon -121493-03-25 09:37 J -42653811.21 -42653811.10 -42653810.99 0.2786 0.0143

Earth -121493-03-25 10:20 J -42653811.18 -42653811.07 -42653810.97 0.2782 0.0175 *

Uranus -121491-06-28 20:39 J -42652985.65 -42652985.64 -42652985.60 0.0149 0.0147

Uranus -121491-09-25 05:17 J -42652897.38 -42652897.28 -42652897.15 0.0149 0.0116

Venus -121491-11-11 16:49 J -42652849.90 -42652849.80 -42652849.70 0.3734 0.0680

Uranus -121491-12-22 14:10 J -42652809.06 -42652808.91 -42652808.75 0.0149 0.0084

Jupiter -121490-02-08 18:44 J -42652760.74 -42652760.72 -42652760.69 0.0524 0.0512

Mars -121490-03-19 12:01 J -42652722.15 -42652722.00 -42652721.85 0.1853 0.0735

Uranus -121490-03-20 22:49 J -42652720.72 -42652720.55 -42652720.37 0.0149 0.0053

Jupiter -121490-05-09 01:41 J -42652671.56 -42652671.43 -42652671.30 0.0525 0.0046

Uranus -121490-06-17 07:41 J -42652632.37 -42652632.18 -42652631.99 0.0149 0.0021

Jupiter -121490-08-06 08:10 J -42652582.23 -42652582.16 -42652582.08 0.0526 0.0417

Uranus -121490-09-13 16:34 J -42652544.00 -42652543.81 -42652543.62 0.0149 0.0011

Moon -121490-09-21 04:34 J -42652536.46 -42652536.31 -42652536.17 0.2556 0.1138

Earth -121490-09-21 06:01 J -42652536.40 -42652536.25 -42652536.10 0.2560 0.1061 *

Uranus -121490-12-11 01:13 J -42652455.63 -42652455.45 -42652455.26 0.0149 0.0043

Mars -121489-01-25 03:51 J -42652410.38 -42652410.34 -42652410.30 0.1668 0.1545

Uranus -121489-03-08 10:05 J -42652367.24 -42652367.08 -42652366.91 0.0149 0.0075

Saturn -121489-05-28 16:20 J -42652285.94 -42652285.82 -42652285.69 0.0262 0.0181

Uranus -121489-06-04 18:58 J -42652278.84 -42652278.71 -42652278.57 0.0149 0.0107

Saturn -121489-08-25 11:03 J -42652197.21 -42652197.04 -42652196.86 0.0261 0.0079

Uranus -121489-09-01 04:05 J -42652190.40 -42652190.33 -42652190.27 0.0149 0.0139

Saturn -121489-11-22 06:01 J -42652108.43 -42652108.25 -42652108.07 0.0260 0.0025

Saturn -121488-02-19 00:58 J -42652019.62 -42652019.46 -42652019.30 0.0260 0.0128

Saturn -121488-05-18 19:56 J -42651930.74 -42651930.67 -42651930.58 0.0260 0.0233

Venus -121488-08-12 06:15 J -42651845.32 -42651845.24 -42651845.17 0.3653 0.3112

Mars -121488-12-30 10:05 J -42651705.19 -42651705.08 -42651704.96 0.1660 0.0178

Earth -121486-03-19 07:41 J -42651261.23 -42651261.18 -42651261.12 0.2779 0.2364

Moon -121486-03-19 08:10 J -42651261.22 -42651261.16 -42651261.11 0.2772 0.2376 *

Venus -121485-05-27 09:22 J -42650826.21 -42650826.11 -42650826.01 0.3740 0.1048

Jupiter -121484-03-29 07:27 J -42650520.37 -42650520.19 -42650520.00 0.0500 0.0049

Venus -121482-02-26 12:15 J -42649821.13 -42649820.99 -42649820.85 0.3645 0.1032

Mars -121481-08-08 08:10 J -42649292.32 -42649292.16 -42649292.00 0.1850 0.0285

Moon -121480-03-28 04:05 J -42649060.43 -42649060.33 -42649060.22 0.2788 0.0553

Earth -121480-03-28 04:34 J -42649060.41 -42649060.31 -42649060.20 0.2783 0.0660 *

Venus -121480-12-11 01:56 J -42648802.49 -42648802.42 -42648802.35 0.3745 0.2757

Jupiter -121478-02-25 05:32 J -42648361.39 -42648361.27 -42648361.14 0.0525 0.0163

Mars -121478-05-22 20:39 J -42648274.76 -42648274.64 -42648274.52 0.1662 0.0242

Jupiter -121478-05-25 12:15 J -42648272.10 -42648271.99 -42648271.89 0.0525 0.0301

Moon -121477-09-23 11:17 J -42647785.19 -42647785.03 -42647784.87 0.2555 0.0274

Earth -121477-09-23 12:29 J -42647785.14 -42647784.98 -42647784.82 0.2559 0.0254 *

Mars -121476-04-27 01:56 J -42647569.48 -42647569.42 -42647569.36 0.1655 0.1400

Saturn -121474-09-20 05:03 J -42646693.32 -42646693.29 -42646693.25 0.0300 0.0286

Saturn -121474-12-17 19:13 J -42646604.81 -42646604.70 -42646604.59 0.0301 0.0168

Saturn -121473-03-15 08:53 J -42646516.26 -42646516.13 -42646515.99 0.0302 0.0050

Earth -121473-03-21 02:10 J -42646510.49 -42646510.41 -42646510.32 0.2780 0.1577

Moon -121473-03-21 02:39 J -42646510.48 -42646510.39 -42646510.31 0.2773 0.1586 *

Saturn -121473-06-11 22:34 J -42646427.69 -42646427.56 -42646427.42 0.0302 0.0070

Saturn -121473-09-08 12:15 J -42646339.09 -42646338.99 -42646338.88 0.0303 0.0186

Saturn -121473-12-06 01:41 J -42646250.43 -42646250.43 -42646250.42 0.0304 0.0303

Jupiter -121472-01-15 05:32 J -42646210.45 -42646210.27 -42646210.09 0.0501 0.0094

Jupiter -121472-04-15 14:53 J -42646119.88 -42646119.88 -42646119.87 0.0500 0.0499

Mars -121472-12-29 04:20 J -42645862.43 -42645862.32 -42645862.21 0.1848 0.1283

Mars -121469-10-12 07:13 J -42644844.31 -42644844.20 -42644844.09 0.1664 0.0651

Moon -121467-03-30 22:34 J -42644309.66 -42644309.56 -42644309.47 0.2788 0.1393

Earth -121467-03-30 23:03 J -42644309.63 -42644309.54 -42644309.45 0.2783 0.1448 *

Mars -121467-09-17 12:44 J -42644139.06 -42644138.97 -42644138.88 0.1657 0.1011

Jupiter -121467-12-14 09:37 J -42644051.21 -42644051.10 -42644050.99 0.0524 0.0279

Jupiter -121466-03-13 16:05 J -42643961.95 -42643961.83 -42643961.71 0.0525 0.0186

Moon -121464-09-26 17:32 J -42643033.90 -42643033.77 -42643033.63 0.2554 0.1415

Earth -121464-09-26 18:58 J -42643033.84 -42643033.71 -42643033.58 0.2558 0.1557 *

Jupiter -121461-11-03 03:37 J -42641900.51 -42641900.35 -42641900.19 0.0501 0.0232

Jupiter -121460-02-01 12:44 J -42641810.09 -42641809.97 -42641809.84 0.0500 0.0359

Moon -121460-03-23 20:53 J -42641759.74 -42641759.63 -42641759.53 0.2775 0.0709

Earth -121460-03-23 20:39 J -42641759.74 -42641759.64 -42641759.54 0.2781 0.0787 *

Saturn -121460-10-15 15:22 J -42641553.95 -42641553.86 -42641553.75 0.0262 0.0216

Saturn -121459-01-12 10:05 J -42641465.24 -42641465.08 -42641464.91 0.0261 0.0113

Mars -121459-03-04 17:32 J -42641413.86 -42641413.77 -42641413.68 0.1666 0.1069

Saturn -121459-04-11 05:03 J -42641376.47 -42641376.29 -42641376.11 0.0260 0.0011

Saturn -121459-07-09 00:01 J -42641287.67 -42641287.50 -42641287.33 0.0260 0.0093

Saturn -121459-10-05 18:58 J -42641198.82 -42641198.71 -42641198.59 0.0260 0.0197

Neptune -121458-11-10 07:56 J -42640798.17 -42640798.17 -42640798.14 0.0088 0.0088

Neptune -121457-02-06 09:51 J -42640710.14 -42640710.09 -42640710.05 0.0088 0.0083

Mars -121457-02-07 23:32 J -42640708.63 -42640708.52 -42640708.41 0.1658 0.0618

Neptune -121457-05-04 11:03 J -42640622.09 -42640622.04 -42640621.97 0.0088 0.0079

Neptune -121457-07-31 12:29 J -42640534.04 -42640533.98 -42640533.90 0.0088 0.0074

Earth -121457-09-18 06:01 J -42640485.33 -42640485.25 -42640485.16 0.2560 0.2134

Moon -121457-09-18 07:56 J -42640485.26 -42640485.17 -42640485.08 0.2560 0.2123 *

Neptune -121457-10-27 13:56 J -42640445.99 -42640445.92 -42640445.83 0.0088 0.0070

Neptune -121456-01-23 15:37 J -42640357.94 -42640357.85 -42640357.76 0.0088 0.0066

Neptune -121456-04-21 16:49 J -42640269.89 -42640269.80 -42640269.69 0.0088 0.0062

Neptune -121456-07-18 18:15 J -42640181.83 -42640181.74 -42640181.63 0.0088 0.0057

Neptune -121456-10-14 19:41 J -42640093.78 -42640093.68 -42640093.56 0.0088 0.0053

Neptune -121455-01-10 21:22 J -42640005.72 -42640005.61 -42640005.50 0.0088 0.0049

Neptune -121455-04-08 22:49 J -42639917.67 -42639917.55 -42639917.43 0.0088 0.0044

Neptune -121455-07-06 00:01 J -42639829.61 -42639829.50 -42639829.37 0.0088 0.0041

Neptune -121455-10-02 01:27 J -42639741.55 -42639741.44 -42639741.31 0.0088 0.0036

Jupiter -121455-10-02 13:13 J -42639741.03 -42639740.95 -42639740.86 0.0524 0.0397

Neptune -121455-12-29 03:08 J -42639653.50 -42639653.37 -42639653.24 0.0088 0.0032

Jupiter -121455-12-30 20:10 J -42639651.79 -42639651.66 -42639651.53 0.0525 0.0070

Neptune -121454-03-27 04:34 J -42639565.44 -42639565.31 -42639565.18 0.0088 0.0027

Moon -121454-04-02 17:03 J -42639558.85 -42639558.79 -42639558.73 0.2789 0.2274

Earth -121454-04-02 17:32 J -42639558.83 -42639558.77 -42639558.71 0.2784 0.2240 *

Neptune -121454-06-23 05:46 J -42639477.38 -42639477.26 -42639477.12 0.0088 0.0024

Neptune -121454-09-19 07:13 J -42639389.33 -42639389.20 -42639389.06 0.0088 0.0019

Neptune -121454-12-16 08:53 J -42639301.27 -42639301.13 -42639301.00 0.0088 0.0015

Neptune -121453-03-13 10:20 J -42639213.21 -42639213.07 -42639212.94 0.0088 0.0011

Neptune -121453-06-09 11:32 J -42639125.15 -42639125.02 -42639124.88 0.0088 0.0007

Neptune -121453-09-05 12:58 J -42639037.09 -42639036.96 -42639036.82 0.0088 0.0003

Neptune -121453-12-02 14:25 J -42638949.03 -42638948.90 -42638948.76 0.0088 0.0002

Neptune -121452-02-28 15:51 J -42638860.98 -42638860.84 -42638860.71 0.0088 0.0006

Neptune -121452-05-27 17:17 J -42638772.92 -42638772.78 -42638772.65 0.0088 0.0011

Neptune -121452-08-23 18:29 J -42638684.86 -42638684.73 -42638684.59 0.0088 0.0015

Neptune -121452-11-19 19:56 J -42638596.80 -42638596.67 -42638596.54 0.0088 0.0019

Neptune -121451-02-15 21:22 J -42638508.74 -42638508.61 -42638508.48 0.0088 0.0023

Neptune -121451-05-14 22:34 J -42638420.68 -42638420.56 -42638420.42 0.0088 0.0028

Neptune -121451-08-11 00:01 J -42638332.62 -42638332.50 -42638332.37 0.0088 0.0031

Mars -121451-09-17 12:58 J -42638295.11 -42638294.96 -42638294.82 0.1853 0.0838

Neptune -121451-11-07 01:27 J -42638244.56 -42638244.44 -42638244.32 0.0088 0.0036

Neptune -121450-02-03 02:53 J -42638156.50 -42638156.38 -42638156.26 0.0088 0.0040

Neptune -121450-05-02 04:05 J -42638068.44 -42638068.33 -42638068.21 0.0088 0.0044

Mars -121450-07-26 03:51 J -42637983.39 -42637983.34 -42637983.29 0.1668 0.1490

Uranus -121450-07-27 14:10 J -42637981.92 -42637981.91 -42637981.89 0.0130 0.0129

Neptune -121450-07-29 05:17 J -42637980.38 -42637980.28 -42637980.16 0.0088 0.0048

Uranus -121450-10-23 17:03 J -42637893.84 -42637893.79 -42637893.71 0.0130 0.0115

Neptune -121450-10-25 06:44 J -42637892.32 -42637892.22 -42637892.10 0.0088 0.0052

Uranus -121449-01-19 20:10 J -42637805.74 -42637805.66 -42637805.57 0.0130 0.0099

Neptune -121449-01-21 08:10 J -42637804.26 -42637804.16 -42637804.05 0.0088 0.0056

Uranus -121449-04-16 23:17 J -42637717.63 -42637717.53 -42637717.43 0.0130 0.0084

Neptune -121449-04-18 09:22 J -42637716.20 -42637716.11 -42637716.00 0.0088 0.0061

Uranus -121449-07-14 02:10 J -42637629.52 -42637629.41 -42637629.29 0.0130 0.0069

Neptune -121449-07-15 10:49 J -42637628.13 -42637628.05 -42637627.95 0.0088 0.0064

Jupiter -121449-08-22 01:27 J -42637590.56 -42637590.44 -42637590.32 0.0501 0.0372

Uranus -121449-10-10 05:17 J -42637541.41 -42637541.28 -42637541.16 0.0130 0.0054

Neptune -121449-10-11 12:15 J -42637540.07 -42637539.99 -42637539.90 0.0088 0.0068

Jupiter -121449-11-20 10:20 J -42637500.23 -42637500.07 -42637499.90 0.0500 0.0216

Uranus -121448-01-06 08:10 J -42637453.29 -42637453.16 -42637453.03 0.0130 0.0039

Neptune -121448-01-07 13:27 J -42637452.00 -42637451.94 -42637451.85 0.0088 0.0073

Uranus -121448-04-04 11:03 J -42637365.17 -42637365.04 -42637364.91 0.0130 0.0024

Neptune -121448-04-05 14:53 J -42637363.94 -42637363.88 -42637363.81 0.0088 0.0076

Mars -121448-06-30 10:05 J -42637278.20 -42637278.08 -42637277.96 0.1660 0.0220

Uranus -121448-07-01 13:56 J -42637277.05 -42637276.92 -42637276.78 0.0130 0.0009

Neptune -121448-07-02 16:20 J -42637275.87 -42637275.82 -42637275.76 0.0088 0.0080

Uranus -121448-09-27 17:03 J -42637188.93 -42637188.79 -42637188.66 0.0130 0.0008

Neptune -121448-09-28 17:32 J -42637187.80 -42637187.77 -42637187.72 0.0088 0.0085

Uranus -121448-12-24 19:56 J -42637100.81 -42637100.67 -42637100.54 0.0130 0.0022

Uranus -121447-03-22 22:34 J -42637012.68 -42637012.56 -42637012.42 0.0130 0.0037

Earth -121447-03-26 15:08 J -42637008.98 -42637008.87 -42637008.76 0.2782 0.0025

Moon -121447-03-26 15:22 J -42637008.97 -42637008.86 -42637008.75 0.2775 0.0072 *

Uranus -121447-06-19 01:27 J -42636924.55 -42636924.44 -42636924.31 0.0130 0.0052

Uranus -121447-09-15 04:20 J -42636836.43 -42636836.32 -42636836.20 0.0130 0.0066

Uranus -121447-12-12 07:27 J -42636748.29 -42636748.19 -42636748.09 0.0130 0.0081

Uranus -121446-03-10 10:05 J -42636660.16 -42636660.08 -42636659.98 0.0130 0.0096

Uranus -121446-06-06 12:58 J -42636572.02 -42636571.96 -42636571.88 0.0130 0.0110

Uranus -121446-09-02 16:05 J -42636483.87 -42636483.83 -42636483.80 0.0130 0.0125

Venus -121445-05-19 05:17 J -42636224.31 -42636224.28 -42636224.25 0.3724 0.3509

Saturn -121444-05-05 19:13 J -42635872.79 -42635872.70 -42635872.60 0.0300 0.0214

Saturn -121444-08-02 09:08 J -42635784.24 -42635784.12 -42635783.99 0.0301 0.0096

Earth -121444-09-21 12:29 J -42635734.13 -42635733.98 -42635733.82 0.2559 0.0829

Moon -121444-09-21 14:25 J -42635734.06 -42635733.90 -42635733.75 0.2558 0.0643 *

Saturn -121444-10-29 23:03 J -42635695.68 -42635695.54 -42635695.41 0.0302 0.0023

Saturn -121443-01-26 12:44 J -42635607.09 -42635606.97 -42635606.85 0.0302 0.0140

Saturn -121443-04-25 02:10 J -42635518.48 -42635518.41 -42635518.34 0.0303 0.0256

Jupiter -121443-07-21 17:32 J -42635430.79 -42635430.77 -42635430.73 0.0524 0.0506

Jupiter -121443-10-19 00:44 J -42635341.60 -42635341.47 -42635341.34 0.0525 0.0041

Jupiter -121442-01-16 07:13 J -42635252.28 -42635252.20 -42635252.13 0.0526 0.0424

Mars -121441-02-07 08:25 J -42634865.31 -42634865.15 -42634864.99 0.1850 0.0203

Earth -121440-03-19 12:44 J -42634459.03 -42634458.97 -42634458.91 0.2779 0.2222

Moon -121440-03-19 12:58 J -42634459.02 -42634458.96 -42634458.90 0.2785 0.2277 *

Venus -121440-12-02 21:51 J -42634200.68 -42634200.59 -42634200.49 0.3730 0.1772

Mars -121439-11-20 20:39 J -42633847.76 -42633847.64 -42633847.52 0.1662 0.0192

Jupiter -121437-09-08 06:29 J -42633190.41 -42633190.23 -42633190.05 0.0500 0.0057

Mars -121437-10-26 01:56 J -42633142.47 -42633142.42 -42633142.36 0.1656 0.1450

Earth -121434-03-29 09:37 J -42632258.21 -42632258.10 -42632258.00 0.2783 0.0801

Moon -121434-03-29 09:37 J -42632258.20 -42632258.10 -42632257.99 0.2776 0.0750 *

Venus -121434-06-18 14:25 J -42632177.00 -42632176.90 -42632176.79 0.3736 0.0168

Mars -121432-06-29 05:03 J -42631435.41 -42631435.29 -42631435.16 0.1848 0.1182

Venus -121431-03-19 07:27 J -42631172.32 -42631172.19 -42631172.06 0.3651 0.1695

Jupiter -121431-08-07 05:03 J -42631031.41 -42631031.29 -42631031.16 0.0525 0.0148

Earth -121431-09-24 18:58 J -42630982.86 -42630982.71 -42630982.55 0.2558 0.0491

Moon -121431-09-24 20:53 J -42630982.79 -42630982.63 -42630982.48 0.2559 0.0650 *

Jupiter -121431-11-04 11:46 J -42630942.11 -42630942.01 -42630941.91 0.0526 0.0317

Saturn -121430-03-04 14:53 J -42630821.93 -42630821.88 -42630821.82 0.0262 0.0247

Saturn -121430-06-01 09:22 J -42630733.25 -42630733.11 -42630732.95 0.0261 0.0145

Saturn -121430-08-29 04:20 J -42630644.50 -42630644.32 -42630644.14 0.0261 0.0043

Saturn -121430-11-25 23:03 J -42630555.71 -42630555.54 -42630555.36 0.0260 0.0061

Saturn -121429-02-22 18:01 J -42630466.88 -42630466.75 -42630466.60 0.0260 0.0165

Mars -121429-04-12 07:13 J -42630417.31 -42630417.20 -42630417.09 0.1664 0.0596

Venus -121428-01-01 06:58 J -42630153.30 -42630153.21 -42630153.11 0.3741 0.1686

Mars -121427-03-18 12:44 J -42629712.06 -42629711.97 -42629711.88 0.1657 0.1064

Earth -121427-03-22 07:13 J -42629708.30 -42629708.20 -42629708.11 0.2780 0.1439

Moon -121427-03-22 07:27 J -42629708.28 -42629708.19 -42629708.10 0.2787 0.1390 *

Venus -121426-10-03 13:41 J -42629148.04 -42629147.93 -42629147.83 0.3643 0.2462

Jupiter -121425-06-27 04:05 J -42628880.51 -42628880.33 -42628880.15 0.0501 0.0087

Venus -121423-07-17 23:32 J -42628129.56 -42628129.52 -42628129.48 0.3747 0.3384

Moon -121421-03-31 04:05 J -42627507.42 -42627507.33 -42627507.24 0.2776 0.1638

Earth -121421-03-31 03:51 J -42627507.42 -42627507.34 -42627507.25 0.2784 0.1594 *

Mars -121420-09-02 17:46 J -42626986.86 -42626986.76 -42626986.67 0.1666 0.1014

Jupiter -121419-05-26 09:08 J -42626721.23 -42626721.12 -42626721.01 0.0524 0.0264

Jupiter -121419-08-23 15:37 J -42626631.96 -42626631.85 -42626631.73 0.0525 0.0202

Mars -121418-08-08 23:32 J -42626281.63 -42626281.52 -42626281.41 0.1658 0.0671

Earth -121418-09-28 01:41 J -42626231.55 -42626231.43 -42626231.32 0.2558 0.1799

Moon -121418-09-28 03:22 J -42626231.48 -42626231.36 -42626231.25 0.2557 0.1797 *

Saturn -121415-09-22 19:41 J -42625140.75 -42625140.68 -42625140.61 0.0300 0.0257

Saturn -121415-12-20 09:37 J -42625052.22 -42625052.10 -42625051.98 0.0301 0.0139

Saturn -121414-03-18 23:17 J -42624963.66 -42624963.53 -42624963.39 0.0302 0.0023

Earth -121414-03-25 01:27 J -42624957.54 -42624957.44 -42624957.33 0.2781 0.0655

Moon -121414-03-25 01:56 J -42624957.53 -42624957.42 -42624957.32 0.2788 0.0586 *

Saturn -121414-06-15 12:58 J -42624875.08 -42624874.96 -42624874.83 0.0303 0.0097

Saturn -121414-09-12 02:39 J -42624786.48 -42624786.39 -42624786.30 0.0303 0.0214

Jupiter -121413-04-15 01:56 J -42624570.57 -42624570.42 -42624570.25 0.0501 0.0227

Jupiter -121413-07-14 11:17 J -42624480.15 -42624480.03 -42624479.91 0.0500 0.0365

Mars -121411-03-18 13:27 J -42623868.08 -42623867.94 -42623867.80 0.1853 0.0931

Moon -121411-09-19 11:32 J -42623683.12 -42623683.02 -42623682.92 0.2565 0.1987

Earth -121411-09-19 12:44 J -42623683.08 -42623682.97 -42623682.86 0.2560 0.1896 *

Mars -121410-01-24 03:51 J -42623556.40 -42623556.34 -42623556.28 0.1668 0.1436

Mars -121409-12-29 10:05 J -42622851.20 -42622851.08 -42622850.96 0.1660 0.0271

Earth -121408-04-02 22:20 J -42622756.62 -42622756.57 -42622756.51 0.2784 0.2388

Moon -121408-04-02 22:34 J -42622756.61 -42622756.56 -42622756.51 0.2777 0.2409 *

Pluto -121408-05-27 05:03 J -42622702.34 -42622702.29 -42622702.20 0.0061 0.0056

Pluto -121408-08-23 06:15 J -42622614.33 -42622614.24 -42622614.10 0.0061 0.0048

Pluto -121408-11-19 07:41 J -42622526.30 -42622526.18 -42622526.02 0.0061 0.0040

Pluto -121407-02-15 08:53 J -42622438.27 -42622438.13 -42622437.95 0.0061 0.0032

Jupiter -121407-03-14 12:58 J -42622411.05 -42622410.96 -42622410.87 0.0524 0.0380

Pluto -121407-05-14 10:34 J -42622350.23 -42622350.06 -42622349.88 0.0061 0.0023

Jupiter -121407-06-11 19:41 J -42622321.81 -42622321.68 -42622321.55 0.0525 0.0086

Uranus -121407-07-19 03:51 J -42622284.39 -42622284.34 -42622284.28 0.0149 0.0141

Pluto -121407-08-10 11:46 J -42622262.18 -42622262.01 -42622261.82 0.0061 0.0015

Uranus -121407-10-15 12:29 J -42622196.10 -42622195.98 -42622195.85 0.0149 0.0110

Pluto -121407-11-06 13:13 J -42622174.13 -42622173.95 -42622173.76 0.0061 0.0007

Uranus -121406-01-11 20:53 J -42622107.78 -42622107.63 -42622107.46 0.0149 0.0079

Pluto -121406-02-02 14:39 J -42622086.08 -42622085.89 -42622085.70 0.0061 0.0002

Uranus -121406-04-10 05:46 J -42622019.44 -42622019.26 -42622019.08 0.0149 0.0047

Pluto -121406-05-01 15:51 J -42621998.02 -42621997.84 -42621997.65 0.0061 0.0010

Uranus -121406-07-07 14:39 J -42621931.08 -42621930.89 -42621930.70 0.0149 0.0016

Pluto -121406-07-28 16:49 J -42621909.96 -42621909.80 -42621909.60 0.0061 0.0018

Uranus -121406-10-03 23:17 J -42621842.72 -42621842.53 -42621842.34 0.0149 0.0017

Pluto -121406-10-24 18:15 J -42621821.90 -42621821.74 -42621821.56 0.0061 0.0026

Uranus -121406-12-31 08:10 J -42621754.34 -42621754.16 -42621753.98 0.0149 0.0048

Pluto -121405-01-20 19:27 J -42621733.83 -42621733.69 -42621733.52 0.0061 0.0035

Uranus -121405-03-28 17:03 J -42621665.95 -42621665.79 -42621665.63 0.0149 0.0080

Pluto -121405-04-17 20:53 J -42621645.76 -42621645.63 -42621645.49 0.0061 0.0043

Uranus -121405-06-25 01:41 J -42621577.54 -42621577.43 -42621577.30 0.0149 0.0113

Pluto -121405-07-14 21:51 J -42621557.67 -42621557.59 -42621557.46 0.0061 0.0051

Uranus -121405-09-21 10:34 J -42621489.09 -42621489.06 -42621489.01 0.0149 0.0145

Pluto -121405-10-10 23:17 J -42621469.56 -42621469.53 -42621469.47 0.0061 0.0060

Mars -121402-08-08 09:22 J -42620438.27 -42620438.11 -42620437.94 0.1850 0.0096

Jupiter -121401-02-02 00:15 J -42620260.61 -42620260.49 -42620260.36 0.0501 0.0363

Earth -121401-03-26 19:56 J -42620206.78 -42620206.67 -42620206.56 0.2782 0.0166

Moon -121401-03-26 20:25 J -42620206.76 -42620206.65 -42620206.54 0.2789 0.0119 *

Jupiter -121401-05-02 09:22 J -42620170.28 -42620170.11 -42620169.95 0.0500 0.0226

Saturn -121401-10-18 08:10 J -42620001.29 -42620001.16 -42620001.03 0.0261 0.0181

Saturn -121400-01-15 02:53 J -42619912.55 -42619912.38 -42619912.21 0.0261 0.0079

Saturn -121400-04-13 21:51 J -42619823.77 -42619823.59 -42619823.41 0.0260 0.0024

Saturn -121400-07-11 16:49 J -42619734.96 -42619734.80 -42619734.64 0.0260 0.0128

Saturn -121400-10-08 11:46 J -42619646.08 -42619646.01 -42619645.92 0.0259 0.0232

Mars -121399-05-21 20:39 J -42619420.76 -42619420.64 -42619420.52 0.1662 0.0140

Moon -121398-09-22 18:15 J -42618931.90 -42618931.74 -42618931.59 0.2564 0.0554

Earth -121398-09-22 19:27 J -42618931.85 -42618931.69 -42618931.54 0.2559 0.0585 *

Mars -121397-04-26 01:56 J -42618715.47 -42618715.42 -42618715.37 0.1656 0.1500

Jupiter -121396-12-31 16:34 J -42618100.84 -42618100.81 -42618100.77 0.0524 0.0498

Jupiter -121395-03-30 23:46 J -42618011.64 -42618011.51 -42618011.39 0.0525 0.0035

Jupiter -121395-06-28 06:01 J -42617922.32 -42617922.25 -42617922.17 0.0526 0.0432

Moon -121394-03-20 17:03 J -42617656.86 -42617656.79 -42617656.73 0.2775 0.2170

Earth -121394-03-20 17:32 J -42617656.84 -42617656.77 -42617656.70 0.2779 0.2082 *

Mars -121393-12-28 05:46 J -42617008.39 -42617008.26 -42617008.13 0.1848 0.1089

Mars -121390-10-12 07:13 J -42615990.31 -42615990.20 -42615990.09 0.1664 0.0543

Jupiter -121390-11-20 22:20 J -42615950.57 -42615950.57 -42615950.57 0.0501 0.0501

Jupiter -121389-02-19 06:58 J -42615860.39 -42615860.21 -42615860.03 0.0500 0.0084

Venus -121389-12-24 03:08 J -42615551.44 -42615551.37 -42615551.31 0.3725 0.2866

Earth -121388-03-29 14:25 J -42615456.00 -42615455.90 -42615455.80 0.2783 0.0942

Moon -121388-03-29 14:39 J -42615455.99 -42615455.89 -42615455.79 0.2790 0.0957 *

Mars -121388-09-16 12:44 J -42615285.06 -42615284.97 -42615284.88 0.1657 0.1114

Saturn -121385-05-08 09:37 J -42614320.21 -42614320.10 -42614319.99 0.0300 0.0187

Saturn -121385-08-04 23:32 J -42614231.65 -42614231.52 -42614231.39 0.0301 0.0069

Moon -121385-09-25 00:29 J -42614180.63 -42614180.48 -42614180.32 0.2563 0.0619

Earth -121385-09-25 01:56 J -42614180.58 -42614180.42 -42614180.27 0.2558 0.0734 *

Saturn -121385-11-01 13:13 J -42614143.08 -42614142.95 -42614142.82 0.0302 0.0049

Saturn -121384-01-29 02:39 J -42614054.49 -42614054.39 -42614054.27 0.0302 0.0167

Saturn -121384-04-27 16:20 J -42613965.86 -42613965.82 -42613965.77 0.0303 0.0282

Jupiter -121383-01-17 04:05 J -42613701.45 -42613701.33 -42613701.20 0.0525 0.0139

Jupiter -121383-04-16 10:34 J -42613612.15 -42613612.06 -42613611.95 0.0526 0.0326

Venus -121383-07-09 19:41 J -42613527.78 -42613527.68 -42613527.58 0.3731 0.1123

Moon -121381-03-22 11:17 J -42612906.12 -42612906.03 -42612905.93 0.2778 0.1279

Earth -121381-03-22 12:01 J -42612906.09 -42612906.00 -42612905.90 0.2780 0.1295 *

Mars -121380-03-03 17:46 J -42612559.86 -42612559.76 -42612559.67 0.1666 0.0959

Mars -121378-02-06 23:32 J -42611854.63 -42611854.52 -42611854.42 0.1659 0.0722

Jupiter -121378-12-08 03:08 J -42611550.55 -42611550.37 -42611550.19 0.0500 0.0075

Venus -121377-01-23 12:15 J -42611504.09 -42611503.99 -42611503.89 0.3737 0.0605

Earth -121375-04-01 08:53 J -42610705.21 -42610705.13 -42610705.05 0.2783 0.1734

Moon -121375-04-01 09:22 J -42610705.19 -42610705.11 -42610705.03 0.2789 0.1844 *

Venus -121375-10-24 08:53 J -42610499.28 -42610499.13 -42610498.99 0.3649 0.0300

Neptune -121374-10-11 16:05 J -42610146.83 -42610146.83 -42610146.78 0.0089 0.0088

Neptune -121373-01-07 19:41 J -42610058.74 -42610058.68 -42610058.60 0.0089 0.0082

Neptune -121373-04-04 23:03 J -42609970.62 -42609970.54 -42609970.44 0.0089 0.0076

Neptune -121373-07-02 02:10 J -42609882.50 -42609882.41 -42609882.28 0.0089 0.0071

Neptune -121373-09-28 05:32 J -42609794.38 -42609794.27 -42609794.12 0.0089 0.0065

Neptune -121373-12-25 09:08 J -42609706.25 -42609706.12 -42609705.97 0.0089 0.0059

Neptune -121372-03-23 12:29 J -42609618.12 -42609617.98 -42609617.82 0.0089 0.0053

Neptune -121372-06-19 16:05 J -42609529.99 -42609529.83 -42609529.67 0.0089 0.0047

Venus -121372-08-08 04:49 J -42609480.38 -42609480.30 -42609480.22 0.3743 0.2319

Neptune -121372-09-15 19:27 J -42609441.85 -42609441.69 -42609441.52 0.0089 0.0041

Mars -121372-09-16 14:25 J -42609441.04 -42609440.90 -42609440.77 0.1853 0.1039

Moon -121372-09-28 06:58 J -42609429.32 -42609429.21 -42609429.10 0.2561 0.1887

Earth -121372-09-28 08:10 J -42609429.25 -42609429.16 -42609429.06 0.2558 0.2039 *

Jupiter -121372-11-05 08:39 J -42609391.26 -42609391.14 -42609391.03 0.0525 0.0248

Neptune -121372-12-12 22:34 J -42609353.72 -42609353.56 -42609353.37 0.0089 0.0036

Jupiter -121371-02-02 15:22 J -42609301.98 -42609301.86 -42609301.75 0.0526 0.0218

Saturn -121371-03-07 07:13 J -42609269.30 -42609269.20 -42609269.09 0.0262 0.0215

Neptune -121371-03-11 02:10 J -42609265.58 -42609265.41 -42609265.23 0.0089 0.0030

Saturn -121371-06-04 01:56 J -42609180.58 -42609180.42 -42609180.26 0.0262 0.0112

Neptune -121371-06-07 05:32 J -42609177.44 -42609177.27 -42609177.08 0.0089 0.0024

Mars -121371-07-25 04:05 J -42609129.40 -42609129.33 -42609129.27 0.1668 0.1379

Saturn -121371-08-31 20:39 J -42609091.82 -42609091.64 -42609091.45 0.0261 0.0012

Neptune -121371-09-03 09:08 J -42609089.30 -42609089.12 -42609088.93 0.0089 0.0018

Saturn -121371-11-28 15:37 J -42609003.02 -42609002.85 -42609002.67 0.0260 0.0094

Neptune -121371-11-30 12:29 J -42609001.16 -42609000.98 -42609000.79 0.0089 0.0012

Saturn -121370-02-25 10:49 J -42608914.17 -42608914.05 -42608913.93 0.0260 0.0198

Neptune -121370-02-26 16:05 J -42608913.02 -42608912.83 -42608912.64 0.0089 0.0006

Neptune -121370-05-25 19:27 J -42608824.88 -42608824.69 -42608824.50 0.0089 0.0002

Neptune -121370-08-21 23:03 J -42608736.73 -42608736.54 -42608736.35 0.0089 0.0006

Neptune -121370-11-18 02:25 J -42608648.58 -42608648.40 -42608648.21 0.0089 0.0012

Neptune -121369-02-14 06:01 J -42608560.44 -42608560.25 -42608560.06 0.0089 0.0018

Neptune -121369-05-12 09:22 J -42608472.29 -42608472.11 -42608471.92 0.0089 0.0024

Mars -121369-06-29 10:20 J -42608424.19 -42608424.07 -42608423.96 0.1660 0.0332

Neptune -121369-08-08 12:58 J -42608384.14 -42608383.96 -42608383.78 0.0089 0.0030

Neptune -121369-11-04 16:34 J -42608295.99 -42608295.81 -42608295.64 0.0089 0.0036

Neptune -121368-01-31 19:41 J -42608207.83 -42608207.68 -42608207.50 0.0089 0.0043

Moon -121368-03-25 05:46 J -42608155.36 -42608155.26 -42608155.15 0.2778 0.0545

Earth -121368-03-25 06:29 J -42608155.34 -42608155.23 -42608155.12 0.2782 0.0503 *

Neptune -121368-04-29 23:17 J -42608119.68 -42608119.53 -42608119.36 0.0089 0.0049

Neptune -121368-07-27 02:53 J -42608031.52 -42608031.38 -42608031.22 0.0089 0.0055

Neptune -121368-10-23 06:15 J -42607943.36 -42607943.24 -42607943.08 0.0089 0.0061

Neptune -121367-01-19 09:51 J -42607855.20 -42607855.09 -42607854.95 0.0089 0.0067

Neptune -121367-04-17 13:27 J -42607767.03 -42607766.94 -42607766.82 0.0089 0.0073

Neptune -121367-07-14 17:03 J -42607678.86 -42607678.79 -42607678.69 0.0089 0.0079

Neptune -121367-10-10 20:39 J -42607590.68 -42607590.64 -42607590.57 0.0089 0.0085

Uranus -121366-08-16 21:51 J -42607280.62 -42607280.59 -42607280.54 0.0131 0.0124

Jupiter -121366-09-26 00:44 J -42607240.63 -42607240.47 -42607240.30 0.0501 0.0218

Uranus -121366-11-13 00:44 J -42607192.53 -42607192.47 -42607192.38 0.0130 0.0109

Jupiter -121366-12-25 09:51 J -42607150.20 -42607150.09 -42607149.96 0.0500 0.0374

Uranus -121365-02-09 04:05 J -42607104.42 -42607104.33 -42607104.24 0.0130 0.0093

Uranus -121365-05-07 06:58 J -42607016.32 -42607016.21 -42607016.10 0.0130 0.0078

Uranus -121365-08-03 09:51 J -42606928.20 -42606928.09 -42606927.97 0.0130 0.0063

Moon -121365-09-19 19:27 J -42606880.82 -42606880.69 -42606880.57 0.2553 0.1580

Earth -121365-09-19 19:27 J -42606880.81 -42606880.69 -42606880.57 0.2560 0.1659 *

Uranus -121365-10-30 12:58 J -42606840.09 -42606839.96 -42606839.84 0.0130 0.0048

Uranus -121364-01-26 15:51 J -42606751.97 -42606751.84 -42606751.71 0.0130 0.0033

Uranus -121364-04-24 18:44 J -42606663.85 -42606663.72 -42606663.58 0.0130 0.0018

Uranus -121364-07-21 21:51 J -42606575.73 -42606575.59 -42606575.46 0.0130 0.0004

Uranus -121364-10-18 00:44 J -42606487.61 -42606487.47 -42606487.34 0.0130 0.0013

Uranus -121363-01-14 03:37 J -42606399.48 -42606399.35 -42606399.22 0.0130 0.0027

Uranus -121363-04-12 06:29 J -42606311.36 -42606311.23 -42606311.10 0.0130 0.0042

Uranus -121363-07-09 09:22 J -42606223.23 -42606223.11 -42606222.99 0.0130 0.0057

Uranus -121363-10-05 12:15 J -42606135.10 -42606134.99 -42606134.88 0.0130 0.0072

Uranus -121362-01-01 14:53 J -42606046.97 -42606046.88 -42606046.77 0.0130 0.0088

Mars -121362-02-06 10:20 J -42606011.24 -42606011.07 -42606010.91 0.1850 0.0044

Uranus -121362-03-30 18:01 J -42605958.83 -42605958.75 -42605958.66 0.0130 0.0102

Earth -121362-04-04 03:22 J -42605954.40 -42605954.36 -42605954.32 0.2784 0.2529

Moon -121362-04-04 03:37 J -42605954.39 -42605954.35 -42605954.30 0.2790 0.2548 *

Uranus -121362-06-26 20:53 J -42605870.68 -42605870.63 -42605870.57 0.0130 0.0116

Earth -121361-03-18 04:05 J -42605605.35 -42605605.33 -42605605.32 0.2778 0.2729

Moon -121361-03-18 04:49 J -42605605.32 -42605605.30 -42605605.29 0.2776 0.2742 *

Jupiter -121360-08-24 12:29 J -42605081.07 -42605080.98 -42605080.89 0.0524 0.0364

Mars -121360-11-19 20:39 J -42604993.75 -42604993.64 -42604993.52 0.1662 0.0100

Jupiter -121360-11-21 19:13 J -42604991.82 -42604991.70 -42604991.57 0.0525 0.0104

Mars -121358-10-26 01:56 J -42604288.45 -42604288.42 -42604288.38 0.1655 0.1554

Saturn -121356-09-25 09:51 J -42603588.18 -42603588.09 -42603588.01 0.0300 0.0232

Saturn -121356-12-22 23:32 J -42603499.64 -42603499.52 -42603499.39 0.0301 0.0114

Saturn -121355-03-21 13:27 J -42603411.08 -42603410.94 -42603410.81 0.0302 0.0006

Moon -121355-03-28 00:15 J -42603404.60 -42603404.49 -42603404.39 0.2781 0.0196

Earth -121355-03-28 00:58 J -42603404.57 -42603404.46 -42603404.36 0.2782 0.0309 *

Saturn -121355-06-18 03:08 J -42603322.50 -42603322.37 -42603322.25 0.0302 0.0122

Saturn -121355-09-14 16:34 J -42603233.89 -42603233.81 -42603233.73 0.0303 0.0238

Jupiter -121354-07-14 22:49 J -42602930.67 -42602930.55 -42602930.42 0.0501 0.0357

Jupiter -121354-10-13 07:41 J -42602840.33 -42602840.18 -42602840.01 0.0500 0.0234

Mars -121353-06-28 06:15 J -42602581.37 -42602581.24 -42602581.10 0.1848 0.0994

Moon -121352-09-23 01:56 J -42602129.58 -42602129.42 -42602129.26 0.2553 0.0296

Earth -121352-09-23 01:56 J -42602129.58 -42602129.42 -42602129.26 0.2559 0.0346 *

Mars -121350-04-12 07:13 J -42601563.31 -42601563.20 -42601563.08 0.1664 0.0490

Mars -121348-03-17 12:44 J -42600858.05 -42600857.97 -42600857.89 0.1657 0.1164

Earth -121348-03-20 22:20 J -42600854.64 -42600854.57 -42600854.49 0.2779 0.1946

Moon -121348-03-20 23:17 J -42600854.61 -42600854.53 -42600854.46 0.2778 0.1872 *

Jupiter -121348-06-12 16:20 J -42600770.87 -42600770.82 -42600770.77 0.0524 0.0480

Jupiter -121348-09-09 23:17 J -42600681.66 -42600681.53 -42600681.40 0.0525 0.0015

Jupiter -121348-12-08 05:46 J -42600592.33 -42600592.26 -42600592.20 0.0526 0.0448

Moon -121342-03-30 18:29 J -42598653.82 -42598653.73 -42598653.63 0.2781 0.1082

Earth -121342-03-30 19:27 J -42598653.79 -42598653.69 -42598653.60 0.2783 0.1094 *

Jupiter -121342-05-02 21:22 J -42598620.64 -42598620.61 -42598620.58 0.0501 0.0491

Saturn -121342-07-25 05:46 J -42598537.30 -42598537.26 -42598537.21 0.0262 0.0251

Jupiter -121342-08-01 06:01 J -42598530.43 -42598530.25 -42598530.07 0.0500 0.0095

Saturn -121342-10-22 00:29 J -42598448.63 -42598448.48 -42598448.33 0.0261 0.0149

Saturn -121341-01-18 19:13 J -42598359.88 -42598359.70 -42598359.52 0.0261 0.0047

Saturn -121341-04-16 14:10 J -42598271.09 -42598270.91 -42598270.73 0.0260 0.0056

Saturn -121341-07-14 09:08 J -42598182.26 -42598182.12 -42598181.97 0.0260 0.0160

Mars -121341-09-01 17:46 J -42598132.86 -42598132.76 -42598132.66 0.1666 0.0905

Mars -121339-08-07 23:32 J -42597427.63 -42597427.52 -42597427.42 0.1658 0.0773

Moon -121339-09-26 08:10 J -42597378.31 -42597378.16 -42597378.00 0.2552 0.0861

Earth -121339-09-26 08:25 J -42597378.30 -42597378.15 -42597378.00 0.2558 0.0976 *

Jupiter -121336-06-29 03:08 J -42596371.49 -42596371.37 -42596371.24 0.0525 0.0131

Jupiter -121336-09-26 09:51 J -42596282.19 -42596282.09 -42596281.99 0.0526 0.0333

Earth -121335-03-23 16:49 J -42596103.89 -42596103.80 -42596103.70 0.2781 0.1156

Moon -121335-03-23 17:32 J -42596103.87 -42596103.77 -42596103.67 0.2777 0.1052 *

Mars -121332-03-17 14:53 J -42595014.01 -42595013.88 -42595013.75 0.1853 0.1133

Venus -121332-07-31 00:44 J -42594878.55 -42594878.47 -42594878.39 0.3727 0.2211

Mars -121331-01-23 04:05 J -42594702.41 -42594702.33 -42594702.26 0.1668 0.1324

Jupiter -121330-05-20 03:37 J -42594220.53 -42594220.35 -42594220.16 0.0501 0.0049

Mars -121330-12-29 10:05 J -42593997.19 -42593997.08 -42593996.96 0.1660 0.0378

Moon -121329-04-01 12:58 J -42593903.04 -42593902.96 -42593902.88 0.2784 0.1852

Earth -121329-04-01 13:41 J -42593903.00 -42593902.93 -42593902.85 0.2784 0.1887 *

Saturn -121326-02-12 09:51 J -42592856.14 -42592856.09 -42592856.05 0.0299 0.0278

Venus -121326-02-13 17:17 J -42592854.88 -42592854.78 -42592854.67 0.3733 0.0489

Saturn -121326-05-11 23:46 J -42592767.63 -42592767.51 -42592767.40 0.0300 0.0161

Saturn -121326-08-08 13:27 J -42592679.07 -42592678.94 -42592678.80 0.0301 0.0044

Moon -121326-09-29 15:08 J -42592626.95 -42592626.87 -42592626.80 0.2552 0.2276

Earth -121326-09-29 14:53 J -42592626.95 -42592626.88 -42592626.81 0.2558 0.2282 *

Saturn -121326-11-05 03:22 J -42592590.49 -42592590.36 -42592590.23 0.0302 0.0075

Saturn -121325-02-01 16:49 J -42592501.90 -42592501.80 -42592501.70 0.0302 0.0191

Jupiter -121324-04-17 07:41 J -42592061.30 -42592061.18 -42592061.07 0.0525 0.0239

Jupiter -121324-07-15 14:25 J -42591972.02 -42591971.90 -42591971.79 0.0526 0.0227

Venus -121324-11-14 04:05 J -42591850.42 -42591850.33 -42591850.25 0.3655 0.2988

Mars -121323-08-07 10:34 J -42591584.22 -42591584.06 -42591583.89 0.1850 0.0112

Uranus -121323-08-08 12:44 J -42591583.05 -42591582.97 -42591582.87 0.0149 0.0129

Uranus -121323-11-04 21:22 J -42591494.74 -42591494.61 -42591494.46 0.0149 0.0098

Uranus -121322-02-01 06:15 J -42591406.41 -42591406.24 -42591406.07 0.0149 0.0066

Earth -121322-03-26 11:17 J -42591353.14 -42591353.03 -42591352.92 0.2782 0.0361

Moon -121322-03-26 12:01 J -42591353.11 -42591353.00 -42591352.89 0.2778 0.0367 *

Uranus -121322-04-30 14:53 J -42591318.06 -42591317.88 -42591317.69 0.0149 0.0035

Uranus -121322-07-27 23:46 J -42591229.70 -42591229.51 -42591229.32 0.0149 0.0004

Uranus -121322-10-24 08:25 J -42591141.33 -42591141.15 -42591140.96 0.0149 0.0029

Uranus -121321-01-20 17:17 J -42591052.95 -42591052.78 -42591052.61 0.0149 0.0061

Uranus -121321-04-18 01:56 J -42590964.56 -42590964.42 -42590964.26 0.0149 0.0093

Uranus -121321-07-15 10:49 J -42590876.14 -42590876.05 -42590875.94 0.0149 0.0125

Venus -121321-08-29 09:51 J -42590831.19 -42590831.09 -42590830.99 0.3738 0.1247

Mars -121320-05-20 20:39 J -42590566.75 -42590566.64 -42590566.52 0.1662 0.0071

Earth -121319-09-21 01:56 J -42590078.55 -42590078.42 -42590078.28 0.2560 0.1425

Moon -121319-09-21 03:37 J -42590078.49 -42590078.35 -42590078.21 0.2563 0.1243 *

Jupiter -121318-03-08 00:01 J -42589910.66 -42589910.50 -42589910.33 0.0500 0.0205

Mars -121318-04-26 01:56 J -42589861.45 -42589861.42 -42589861.40 0.1656 0.1600

Venus -121318-05-31 09:51 J -42589826.23 -42589826.09 -42589825.95 0.3647 0.1096

Jupiter -121318-06-06 09:08 J -42589820.23 -42589820.12 -42589820.00 0.0500 0.0386

Moon -121316-04-04 07:27 J -42589152.23 -42589152.19 -42589152.15 0.2784 0.2551

Earth -121316-04-04 08:10 J -42589152.18 -42589152.16 -42589152.13 0.2784 0.2680 *

Venus -121315-03-15 02:25 J -42588807.46 -42588807.40 -42588807.34 0.3744 0.2947

Moon -121315-03-19 08:39 J -42588803.17 -42588803.14 -42588803.11 0.2784 0.2649

Earth -121315-03-19 08:53 J -42588803.17 -42588803.13 -42588803.09 0.2778 0.2589 *

Pluto -121315-03-26 08:10 J -42588796.19 -42588796.16 -42588796.12 0.0084 0.0081

Pluto -121315-06-22 09:08 J -42588708.19 -42588708.12 -42588708.02 0.0084 0.0066

Pluto -121315-09-18 10:49 J -42588620.16 -42588620.05 -42588619.94 0.0084 0.0049

Pluto -121315-12-15 12:15 J -42588532.11 -42588531.99 -42588531.86 0.0084 0.0033

Pluto -121314-03-13 13:27 J -42588444.07 -42588443.94 -42588443.80 0.0084 0.0018

Pluto -121314-06-09 14:53 J -42588356.02 -42588355.88 -42588355.74 0.0084 0.0002

Pluto -121314-09-05 16:20 J -42588267.96 -42588267.82 -42588267.69 0.0084 0.0014

Pluto -121314-12-02 17:32 J -42588179.89 -42588179.77 -42588179.64 0.0084 0.0029

Mars -121314-12-28 07:13 J -42588154.34 -42588154.20 -42588154.06 0.1848 0.0886

Pluto -121313-02-28 18:58 J -42588091.83 -42588091.71 -42588091.60 0.0083 0.0045

Pluto -121313-05-26 19:56 J -42588003.75 -42588003.67 -42588003.56 0.0083 0.0061

Pluto -121313-08-22 21:22 J -42587915.66 -42587915.61 -42587915.54 0.0083 0.0076

Jupiter -121312-02-03 12:01 J -42587751.09 -42587751.00 -42587750.90 0.0525 0.0349

Saturn -121312-03-09 23:17 J -42587716.65 -42587716.53 -42587716.39 0.0262 0.0183

Jupiter -121312-05-03 18:58 J -42587661.84 -42587661.71 -42587661.59 0.0525 0.0119

Saturn -121312-06-06 18:15 J -42587627.91 -42587627.74 -42587627.57 0.0262 0.0080

Saturn -121312-09-03 12:58 J -42587539.14 -42587538.96 -42587538.77 0.0261 0.0024

Saturn -121312-12-01 07:56 J -42587450.32 -42587450.17 -42587450.00 0.0260 0.0127

Saturn -121311-02-28 03:08 J -42587361.45 -42587361.37 -42587361.28 0.0260 0.0230

Mars -121311-10-11 07:13 J -42587136.31 -42587136.20 -42587136.08 0.1664 0.0436

Earth -121309-03-28 05:46 J -42586602.37 -42586602.26 -42586602.15 0.2783 0.0435

Moon -121309-03-28 06:15 J -42586602.35 -42586602.24 -42586602.13 0.2778 0.0471 *

Mars -121309-09-15 12:44 J -42586431.05 -42586430.97 -42586430.89 0.1657 0.1217

Jupiter -121307-12-24 21:51 J -42585600.72 -42585600.59 -42585600.46 0.0501 0.0346

Jupiter -121306-03-25 06:29 J -42585510.38 -42585510.23 -42585510.06 0.0500 0.0243

Earth -121306-09-24 08:39 J -42585327.30 -42585327.14 -42585326.98 0.2559 0.0105

Moon -121306-09-24 10:05 J -42585327.24 -42585327.08 -42585326.92 0.2562 0.0086 *

Moon -121302-03-22 03:08 J -42584052.45 -42584052.37 -42584052.28 0.2787 0.1753

Earth -121302-03-22 03:22 J -42584052.44 -42584052.36 -42584052.28 0.2779 0.1802 *

Mars -121301-03-02 17:46 J -42583705.87 -42583705.76 -42583705.66 0.1666 0.0851

Jupiter -121301-11-22 15:51 J -42583440.89 -42583440.84 -42583440.78 0.0524 0.0465

Jupiter -121300-02-19 22:49 J -42583351.68 -42583351.55 -42583351.42 0.0525 0.0013

Jupiter -121300-05-20 05:17 J -42583262.34 -42583262.28 -42583262.22 0.0526 0.0464

Mars -121299-02-05 23:32 J -42583000.62 -42583000.52 -42583000.42 0.1658 0.0826

Saturn -121297-09-28 00:01 J -42582035.60 -42582035.50 -42582035.40 0.0300 0.0204

Saturn -121297-12-25 13:56 J -42581947.05 -42581946.92 -42581946.79 0.0301 0.0087

Saturn -121296-03-24 03:37 J -42581858.48 -42581858.35 -42581858.22 0.0302 0.0031

Earth -121296-03-31 00:15 J -42581851.59 -42581851.49 -42581851.40 0.2783 0.1232

Moon -121296-03-31 00:44 J -42581851.57 -42581851.47 -42581851.38 0.2777 0.1330 *

Saturn -121296-06-20 17:17 J -42581769.90 -42581769.78 -42581769.67 0.0302 0.0148

Saturn -121296-09-17 06:44 J -42581681.28 -42581681.22 -42581681.16 0.0303 0.0264

Jupiter -121295-10-12 19:41 J -42581290.71 -42581290.68 -42581290.63 0.0501 0.0486

Jupiter -121294-01-11 04:34 J -42581200.49 -42581200.31 -42581200.13 0.0500 0.0101

Neptune -121293-08-06 06:29 J -42580627.24 -42580627.23 -42580627.19 0.0088 0.0087

Mars -121293-09-15 15:51 J -42580586.96 -42580586.84 -42580586.72 0.1853 0.1237

Earth -121293-09-26 15:08 J -42580576.02 -42580575.87 -42580575.73 0.2558 0.1213

Moon -121293-09-26 16:49 J -42580575.94 -42580575.80 -42580575.66 0.2560 0.1273 *

Neptune -121293-11-02 08:10 J -42580539.20 -42580539.16 -42580539.11 0.0088 0.0083

Neptune -121292-01-29 09:37 J -42580451.15 -42580451.10 -42580451.03 0.0088 0.0078

Neptune -121292-04-27 11:03 J -42580363.10 -42580363.04 -42580362.96 0.0088 0.0074

Mars -121292-07-24 04:05 J -42580275.41 -42580275.33 -42580275.26 0.1668 0.1267

Neptune -121292-07-24 12:44 J -42580275.05 -42580274.97 -42580274.89 0.0088 0.0070

Neptune -121292-10-20 13:56 J -42580187.00 -42580186.92 -42580186.82 0.0088 0.0066

Neptune -121291-01-16 15:22 J -42580098.95 -42580098.86 -42580098.75 0.0088 0.0062

Neptune -121291-04-14 16:49 J -42580010.89 -42580010.80 -42580010.68 0.0088 0.0057

Neptune -121291-07-11 18:29 J -42579922.84 -42579922.73 -42579922.62 0.0088 0.0053

Neptune -121291-10-07 19:56 J -42579834.78 -42579834.67 -42579834.55 0.0088 0.0048

Neptune -121290-01-03 21:22 J -42579746.73 -42579746.61 -42579746.49 0.0088 0.0044

Neptune -121290-04-01 22:34 J -42579658.67 -42579658.56 -42579658.43 0.0088 0.0041

Neptune -121290-06-29 00:15 J -42579570.61 -42579570.49 -42579570.36 0.0088 0.0036

Mars -121290-06-29 10:05 J -42579570.19 -42579570.08 -42579569.96 0.1660 0.0432

Neptune -121290-09-25 01:41 J -42579482.56 -42579482.43 -42579482.30 0.0088 0.0031

Neptune -121290-12-22 03:08 J -42579394.50 -42579394.37 -42579394.24 0.0088 0.0027

Neptune -121289-03-19 04:34 J -42579306.44 -42579306.31 -42579306.18 0.0088 0.0023

Moon -121289-03-23 21:51 J -42579301.69 -42579301.59 -42579301.49 0.2788 0.1036

Earth -121289-03-23 21:51 J -42579301.69 -42579301.59 -42579301.49 0.2781 0.1010 *

Neptune -121289-06-15 06:01 J -42579218.38 -42579218.25 -42579218.12 0.0088 0.0019

Neptune -121289-09-11 07:27 J -42579130.32 -42579130.19 -42579130.06 0.0088 0.0014

Neptune -121289-12-08 08:53 J -42579042.27 -42579042.13 -42579042.00 0.0088 0.0010

Jupiter -121289-12-09 02:53 J -42579041.51 -42579041.38 -42579041.25 0.0525 0.0113

Neptune -121288-03-06 10:20 J -42578954.21 -42578954.07 -42578953.94 0.0088 0.0006

Jupiter -121288-03-08 09:22 J -42578952.20 -42578952.11 -42578952.01 0.0525 0.0349

Neptune -121288-06-02 11:46 J -42578866.15 -42578866.01 -42578865.88 0.0088 0.0003

Neptune -121288-08-29 12:58 J -42578778.09 -42578777.96 -42578777.82 0.0088 0.0004

Neptune -121288-11-25 14:25 J -42578690.03 -42578689.90 -42578689.76 0.0088 0.0007

Neptune -121287-02-21 15:51 J -42578601.97 -42578601.84 -42578601.71 0.0088 0.0011

Neptune -121287-05-20 17:17 J -42578513.91 -42578513.78 -42578513.65 0.0088 0.0015

Neptune -121287-08-16 18:29 J -42578425.86 -42578425.73 -42578425.59 0.0088 0.0020

Neptune -121287-11-12 19:56 J -42578337.80 -42578337.67 -42578337.54 0.0088 0.0023

Neptune -121286-02-08 21:22 J -42578249.74 -42578249.61 -42578249.48 0.0088 0.0027

Neptune -121286-05-07 22:49 J -42578161.68 -42578161.55 -42578161.43 0.0088 0.0032

Neptune -121286-08-04 00:15 J -42578073.62 -42578073.49 -42578073.37 0.0088 0.0036

Moon -121286-09-19 00:44 J -42578027.51 -42578027.47 -42578027.44 0.2564 0.2494

Earth -121286-09-19 02:10 J -42578027.44 -42578027.41 -42578027.38 0.2561 0.2494 *

Neptune -121286-10-31 01:27 J -42577985.56 -42577985.44 -42577985.32 0.0088 0.0040

Neptune -121285-01-27 02:39 J -42577897.50 -42577897.39 -42577897.26 0.0088 0.0045

Neptune -121285-04-24 04:05 J -42577809.43 -42577809.33 -42577809.21 0.0088 0.0048

Neptune -121285-07-21 05:32 J -42577721.37 -42577721.27 -42577721.16 0.0088 0.0052

Neptune -121285-10-17 06:44 J -42577633.31 -42577633.22 -42577633.11 0.0088 0.0057

Neptune -121284-01-13 08:10 J -42577545.25 -42577545.16 -42577545.05 0.0088 0.0061

Neptune -121284-04-11 09:37 J -42577457.19 -42577457.10 -42577457.01 0.0088 0.0064

Neptune -121284-07-08 11:03 J -42577369.12 -42577369.04 -42577368.96 0.0088 0.0068

Neptune -121284-10-04 12:15 J -42577281.06 -42577280.99 -42577280.91 0.0088 0.0073

Neptune -121284-12-31 13:41 J -42577192.99 -42577192.93 -42577192.86 0.0088 0.0077

Mars -121283-02-05 11:32 J -42577157.18 -42577157.02 -42577156.86 0.1850 0.0205

Neptune -121283-03-29 15:08 J -42577104.92 -42577104.87 -42577104.82 0.0088 0.0081

Earth -121283-04-02 18:44 J -42577100.80 -42577100.72 -42577100.65 0.2784 0.2030

Moon -121283-04-02 18:58 J -42577100.79 -42577100.71 -42577100.64 0.2777 0.1993 *

Neptune -121283-06-25 16:20 J -42577016.85 -42577016.82 -42577016.78 0.0088 0.0085

Saturn -121283-07-27 21:51 J -42576984.68 -42576984.59 -42576984.49 0.0262 0.0220

Saturn -121283-10-24 16:34 J -42576895.97 -42576895.81 -42576895.64 0.0261 0.0118

Jupiter -121283-10-30 02:39 J -42576890.58 -42576890.39 -42576890.21 0.0501 0.0040

Saturn -121282-01-21 11:32 J -42576807.20 -42576807.02 -42576806.84 0.0261 0.0015

Saturn -121282-04-20 06:29 J -42576718.40 -42576718.23 -42576718.06 0.0260 0.0088

Saturn -121282-07-18 01:41 J -42576629.55 -42576629.43 -42576629.31 0.0260 0.0192

Uranus -121282-09-06 05:46 J -42576579.31 -42576579.26 -42576579.19 0.0131 0.0117

Uranus -121282-12-03 08:53 J -42576491.21 -42576491.13 -42576491.04 0.0131 0.0101

Uranus -121281-02-29 11:46 J -42576403.10 -42576403.01 -42576402.90 0.0131 0.0087

Uranus -121281-05-27 14:53 J -42576314.99 -42576314.88 -42576314.76 0.0131 0.0071

Venus -121281-08-21 05:46 J -42576229.30 -42576229.26 -42576229.21 0.3723 0.3305

Uranus -121281-08-23 18:01 J -42576226.88 -42576226.75 -42576226.63 0.0130 0.0056

Mars -121281-11-18 20:39 J -42576139.76 -42576139.64 -42576139.52 0.1662 0.0059

Uranus -121281-11-19 20:53 J -42576138.76 -42576138.63 -42576138.50 0.0130 0.0041

Uranus -121280-02-15 23:46 J -42576050.64 -42576050.51 -42576050.38 0.0130 0.0026

Uranus -121280-05-15 02:39 J -42575962.52 -42575962.39 -42575962.25 0.0130 0.0012

Uranus -121280-08-11 05:46 J -42575874.40 -42575874.26 -42575874.13 0.0130 0.0005

Earth -121280-09-29 21:37 J -42575824.63 -42575824.60 -42575824.58 0.2557 0.2520

Uranus -121280-11-07 08:39 J -42575786.27 -42575786.14 -42575786.01 0.0130 0.0020

Uranus -121279-02-03 11:32 J -42575698.15 -42575698.02 -42575697.89 0.0130 0.0034

Uranus -121279-05-02 14:25 J -42575610.02 -42575609.90 -42575609.77 0.0130 0.0049

Uranus -121279-07-29 17:17 J -42575521.89 -42575521.78 -42575521.66 0.0130 0.0064

Mars -121279-10-25 01:56 J -42575434.43 -42575434.42 -42575434.42 0.1656 0.1650

Uranus -121279-10-25 20:10 J -42575433.76 -42575433.66 -42575433.55 0.0130 0.0079

Uranus -121278-01-21 22:49 J -42575345.63 -42575345.55 -42575345.44 0.0130 0.0095

Uranus -121278-04-20 01:56 J -42575257.49 -42575257.42 -42575257.34 0.0130 0.0109

Uranus -121278-07-17 04:49 J -42575169.33 -42575169.30 -42575169.25 0.0131 0.0124

Jupiter -121277-09-27 06:44 J -42574731.34 -42574731.22 -42574731.11 0.0525 0.0232

Jupiter -121277-12-25 13:13 J -42574642.06 -42574641.95 -42574641.83 0.0525 0.0235

Moon -121276-03-26 16:20 J -42574550.93 -42574550.82 -42574550.71 0.2790 0.0252

Earth -121276-03-26 16:20 J -42574550.93 -42574550.82 -42574550.72 0.2782 0.0243 *

Venus -121275-03-06 22:34 J -42574205.66 -42574205.56 -42574205.47 0.3728 0.1566

Mars -121274-06-28 07:41 J -42573727.33 -42573727.18 -42573727.04 0.1847 0.0803

Moon -121273-09-21 07:27 J -42573276.33 -42573276.19 -42573276.05 0.2564 0.1283

Earth -121273-09-21 08:39 J -42573276.28 -42573276.14 -42573275.99 0.2560 0.1181 *

Mars -121271-04-11 07:13 J -42572709.31 -42572709.20 -42572709.08 0.1664 0.0383

Jupiter -121271-08-18 00:29 J -42572580.65 -42572580.48 -42572580.31 0.0501 0.0180

Jupiter -121271-11-16 09:37 J -42572490.20 -42572490.10 -42572490.00 0.0500 0.0412

Venus -121270-09-20 15:08 J -42572181.98 -42572181.87 -42572181.77 0.3734 0.0176

Mars -121269-03-16 12:44 J -42572004.05 -42572003.97 -42572003.90 0.1657 0.1265

Moon -121269-03-19 13:13 J -42572001.00 -42572000.95 -42572000.90 0.2774 0.2435

Earth -121269-03-19 13:41 J -42572000.97 -42572000.93 -42572000.88 0.2778 0.2452 *

Saturn -121267-02-15 00:01 J -42571303.57 -42571303.50 -42571303.42 0.0299 0.0250

Saturn -121267-05-14 14:10 J -42571215.04 -42571214.91 -42571214.79 0.0300 0.0133

Venus -121267-06-21 05:03 J -42571177.42 -42571177.29 -42571177.16 0.3652 0.1612

Saturn -121267-08-11 03:51 J -42571126.47 -42571126.34 -42571126.20 0.0301 0.0015

Saturn -121267-11-07 17:32 J -42571037.90 -42571037.77 -42571037.64 0.0302 0.0101

Saturn -121266-02-04 06:58 J -42570949.30 -42570949.21 -42570949.11 0.0302 0.0218

Jupiter -121265-07-16 11:03 J -42570421.14 -42570421.04 -42570420.94 0.0525 0.0341

Jupiter -121265-10-13 17:46 J -42570331.88 -42570331.76 -42570331.63 0.0525 0.0126

Mars -121265-11-17 04:34 J -42570297.36 -42570297.31 -42570297.27 0.1845 0.1760

Venus -121264-04-05 07:41 J -42570158.27 -42570158.18 -42570158.09 0.3740 0.1878

Earth -121263-03-29 10:34 J -42569800.16 -42569800.06 -42569799.95 0.2783 0.0584

Moon -121263-03-29 11:03 J -42569800.15 -42569800.04 -42569799.94 0.2789 0.0676 *

Mars -121262-09-01 17:46 J -42569278.86 -42569278.76 -42569278.65 0.1666 0.0791

Venus -121261-01-05 11:03 J -42569153.15 -42569153.04 -42569152.93 0.3645 0.2516

Mars -121260-08-06 23:32 J -42568573.62 -42568573.52 -42568573.42 0.1658 0.0877

Moon -121260-09-24 13:41 J -42568525.09 -42568524.93 -42568524.77 0.2562 0.0063

Earth -121260-09-24 15:08 J -42568525.03 -42568524.87 -42568524.71 0.2559 0.0141 *

Jupiter -121259-06-05 20:53 J -42568270.76 -42568270.63 -42568270.49 0.0501 0.0334

Jupiter -121259-09-04 05:32 J -42568180.42 -42568180.27 -42568180.11 0.0500 0.0254

Venus -121259-10-20 00:01 J -42568134.52 -42568134.50 -42568134.47 0.3746 0.3575

Moon -121256-03-22 07:27 J -42567250.27 -42567250.19 -42567250.10 0.2776 0.1699

Earth -121256-03-22 08:10 J -42567250.24 -42567250.16 -42567250.07 0.2780 0.1662 *

Saturn -121254-12-14 21:08 J -42566252.67 -42566252.62 -42566252.58 0.0263 0.0253

Saturn -121253-03-12 15:37 J -42566163.99 -42566163.85 -42566163.70 0.0262 0.0151

Mars -121253-03-16 16:34 J -42566159.93 -42566159.81 -42566159.70 0.1853 0.1335

Jupiter -121253-05-04 15:22 J -42566110.93 -42566110.86 -42566110.80 0.0525 0.0453

Saturn -121253-06-09 10:34 J -42566075.24 -42566075.06 -42566074.88 0.0262 0.0048

Jupiter -121253-08-01 22:20 J -42566021.70 -42566021.57 -42566021.44 0.0525 0.0019

Saturn -121253-09-06 05:32 J -42565986.45 -42565986.27 -42565986.09 0.0261 0.0055

Jupiter -121253-10-30 04:49 J -42565932.35 -42565932.30 -42565932.25 0.0526 0.0478

Saturn -121253-12-04 00:29 J -42565897.62 -42565897.48 -42565897.33 0.0261 0.0159

Mars -121252-01-22 04:05 J -42565848.41 -42565848.33 -42565848.25 0.1668 0.1213

Mars -121251-12-28 10:05 J -42565143.19 -42565143.08 -42565142.96 0.1660 0.0487

Earth -121250-04-01 05:03 J -42565049.38 -42565049.29 -42565049.19 0.2783 0.1377

Moon -121250-04-01 05:32 J -42565049.36 -42565049.27 -42565049.18 0.2790 0.1398 *

Jupiter -121247-03-24 18:44 J -42563960.77 -42563960.72 -42563960.67 0.0501 0.0475

Jupiter -121247-06-23 03:08 J -42563870.54 -42563870.37 -42563870.19 0.0500 0.0109

Moon -121247-09-27 20:39 J -42563773.77 -42563773.64 -42563773.51 0.2563 0.1473

Earth -121247-09-27 21:37 J -42563773.73 -42563773.60 -42563773.46 0.2558 0.1456 *

Mars -121244-08-06 12:15 J -42562730.15 -42562729.99 -42562729.83 0.1850 0.0309

Moon -121243-03-25 01:56 J -42562499.52 -42562499.42 -42562499.31 0.2778 0.0986

Earth -121243-03-25 02:39 J -42562499.49 -42562499.39 -42562499.29 0.2781 0.0867 *

Mars -121243-06-14 14:10 J -42562417.93 -42562417.91 -42562417.89 0.1670 0.1638

Mars -121241-05-19 20:39 J -42561712.75 -42561712.64 -42561712.52 0.1662 0.0096

Jupiter -121241-05-21 02:10 J -42561711.53 -42561711.41 -42561711.28 0.0525 0.0101

Jupiter -121241-08-18 08:53 J -42561622.22 -42561622.13 -42561622.04 0.0526 0.0364

Moon -121240-09-19 08:39 J -42561225.22 -42561225.14 -42561225.06 0.2554 0.2207

Earth -121240-09-19 08:53 J -42561225.21 -42561225.13 -42561225.06 0.2561 0.2258 *

Uranus -121239-06-01 13:27 J -42560969.96 -42560969.94 -42560969.90 0.0149 0.0146

Uranus -121239-08-28 22:05 J -42560881.69 -42560881.58 -42560881.45 0.0149 0.0115

Uranus -121239-11-25 06:44 J -42560793.37 -42560793.22 -42560793.06 0.0149 0.0084

Uranus -121238-02-21 15:22 J -42560705.03 -42560704.86 -42560704.67 0.0149 0.0053

Uranus -121238-05-21 00:15 J -42560616.68 -42560616.49 -42560616.30 0.0149 0.0021

Saturn -121238-07-05 00:44 J -42560571.50 -42560571.47 -42560571.44 0.0299 0.0291

Uranus -121238-08-17 08:53 J -42560528.31 -42560528.13 -42560527.93 0.0149 0.0012

Saturn -121238-10-01 14:39 J -42560483.00 -42560482.89 -42560482.78 0.0300 0.0174

Uranus -121238-11-13 17:46 J -42560439.94 -42560439.76 -42560439.58 0.0149 0.0043

Saturn -121238-12-29 04:20 J -42560394.45 -42560394.32 -42560394.18 0.0301 0.0058

Uranus -121237-02-10 02:25 J -42560351.55 -42560351.40 -42560351.23 0.0149 0.0075

Saturn -121237-03-26 18:15 J -42560305.88 -42560305.74 -42560305.61 0.0302 0.0061

Earth -121237-04-02 23:32 J -42560298.58 -42560298.52 -42560298.45 0.2784 0.2175

Moon -121237-04-03 00:01 J -42560298.56 -42560298.50 -42560298.43 0.2788 0.2174 *

Uranus -121237-05-08 11:17 J -42560263.15 -42560263.03 -42560262.89 0.0149 0.0107

Saturn -121237-06-23 07:41 J -42560217.29 -42560217.18 -42560217.07 0.0302 0.0177

Uranus -121237-08-04 20:10 J -42560174.71 -42560174.66 -42560174.58 0.0149 0.0139

Saturn -121237-09-19 21:08 J -42560128.65 -42560128.62 -42560128.58 0.0303 0.0292

Jupiter -121235-04-11 00:58 J -42559560.64 -42559560.46 -42559560.28 0.0501 0.0033

Mars -121235-12-27 08:25 J -42559300.30 -42559300.15 -42559300.00 0.1848 0.0697

Mars -121232-10-10 07:13 J -42558282.31 -42558282.20 -42558282.08 0.1664 0.0331

Moon -121230-03-27 20:25 J -42557748.76 -42557748.65 -42557748.54 0.2781 0.0101

Earth -121230-03-27 21:08 J -42557748.73 -42557748.62 -42557748.51 0.2782 0.0073 *

Mars -121230-09-15 12:44 J -42557577.04 -42557576.97 -42557576.90 0.1657 0.1317

Jupiter -121229-03-09 06:15 J -42557401.36 -42557401.24 -42557401.12 0.0525 0.0216

Jupiter -121229-06-06 12:44 J -42557312.08 -42557311.97 -42557311.85 0.0525 0.0249

Moon -121227-09-22 14:53 J -42556474.03 -42556473.88 -42556473.73 0.2554 0.1059

Earth -121227-09-22 15:22 J -42556474.01 -42556473.86 -42556473.71 0.2560 0.0937 *

Mars -121225-05-18 05:03 J -42555870.35 -42555870.29 -42555870.22 0.1845 0.1667

Venus -121224-03-28 03:37 J -42555556.43 -42555556.35 -42555556.28 0.3724 0.2652

Saturn -121224-07-30 14:25 J -42555432.02 -42555431.90 -42555431.77 0.0262 0.0187

Saturn -121224-10-27 09:08 J -42555343.28 -42555343.12 -42555342.94 0.0262 0.0085

Saturn -121223-01-24 04:05 J -42555254.51 -42555254.33 -42555254.14 0.0261 0.0020

Jupiter -121223-01-27 23:03 J -42555250.71 -42555250.54 -42555250.37 0.0501 0.0172

Earth -121223-03-20 18:44 J -42555198.78 -42555198.72 -42555198.66 0.2779 0.2310

Moon -121223-03-20 19:27 J -42555198.76 -42555198.69 -42555198.63 0.2776 0.2197 *

Saturn -121223-04-22 23:17 J -42555165.69 -42555165.53 -42555165.37 0.0260 0.0123

Jupiter -121223-04-28 08:10 J -42555160.26 -42555160.16 -42555160.06 0.0500 0.0420

Saturn -121223-07-20 18:29 J -42555076.82 -42555076.73 -42555076.64 0.0260 0.0226

Mars -121222-03-02 17:46 J -42554851.87 -42554851.76 -42554851.66 0.1666 0.0741

Mars -121220-02-04 23:32 J -42554146.62 -42554146.52 -42554146.43 0.1658 0.0927

Venus -121219-10-11 20:10 J -42553532.76 -42553532.66 -42553532.56 0.3730 0.0919

Jupiter -121218-12-27 09:51 J -42553091.19 -42553091.09 -42553090.99 0.0524 0.0336

Jupiter -121217-03-25 16:49 J -42553001.93 -42553001.80 -42553001.68 0.0525 0.0132

Moon -121217-03-29 14:53 J -42552997.99 -42552997.88 -42552997.78 0.2783 0.0707

Earth -121217-03-29 15:37 J -42552997.96 -42552997.85 -42552997.75 0.2783 0.0729 *

Mars -121214-09-15 17:17 J -42551732.89 -42551732.78 -42551732.68 0.1853 0.1433

Moon -121214-09-25 21:22 J -42551722.77 -42551722.61 -42551722.45 0.2552 0.0368

Earth -121214-09-25 21:51 J -42551722.75 -42551722.59 -42551722.43 0.2559 0.0378 *

Venus -121213-04-26 12:44 J -42551509.07 -42551508.97 -42551508.87 0.3736 0.0809

Mars -121213-07-23 04:05 J -42551421.42 -42551421.33 -42551421.25 0.1668 0.1158

Jupiter -121212-11-15 20:53 J -42550940.77 -42550940.63 -42550940.49 0.0501 0.0313

Jupiter -121211-02-14 05:46 J -42550850.41 -42550850.26 -42550850.11 0.0500 0.0276

Mars -121211-06-28 10:05 J -42550716.19 -42550716.08 -42550715.97 0.1660 0.0533

Venus -121210-01-26 06:15 J -42550504.39 -42550504.24 -42550504.09 0.3650 0.0218

Earth -121210-03-23 13:13 J -42550448.04 -42550447.95 -42550447.86 0.2780 0.1521

Moon -121210-03-23 13:41 J -42550448.02 -42550447.93 -42550447.84 0.2775 0.1535 *

Neptune -121209-07-07 13:27 J -42549975.96 -42549975.94 -42549975.89 0.0089 0.0087

Neptune -121209-10-03 16:49 J -42549887.86 -42549887.80 -42549887.72 0.0089 0.0081

Neptune -121209-12-30 19:56 J -42549799.75 -42549799.67 -42549799.55 0.0089 0.0076

Saturn -121208-02-17 15:08 J -42549750.96 -42549750.87 -42549750.77 0.0299 0.0216

Neptune -121208-03-28 23:17 J -42549711.63 -42549711.53 -42549711.40 0.0089 0.0070

Saturn -121208-05-17 05:03 J -42549662.42 -42549662.29 -42549662.16 0.0300 0.0099

Neptune -121208-06-25 02:53 J -42549623.50 -42549623.38 -42549623.24 0.0089 0.0064

Saturn -121208-08-13 18:44 J -42549573.85 -42549573.72 -42549573.58 0.0301 0.0019

Neptune -121208-09-21 06:15 J -42549535.37 -42549535.24 -42549535.09 0.0089 0.0058

Venus -121208-11-10 05:17 J -42549485.36 -42549485.28 -42549485.20 0.3742 0.2505

Saturn -121208-11-10 08:25 J -42549485.27 -42549485.15 -42549485.03 0.0302 0.0134 *

Neptune -121208-12-18 09:37 J -42549447.24 -42549447.10 -42549446.94 0.0089 0.0052

Saturn -121207-02-06 21:51 J -42549396.66 -42549396.59 -42549396.51 0.0302 0.0250

Neptune -121207-03-16 13:13 J -42549359.11 -42549358.95 -42549358.79 0.0089 0.0046

Neptune -121207-06-12 16:20 J -42549270.98 -42549270.82 -42549270.64 0.0089 0.0041

Neptune -121207-09-08 19:41 J -42549182.84 -42549182.68 -42549182.49 0.0089 0.0035

Neptune -121207-12-05 23:17 J -42549094.70 -42549094.53 -42549094.35 0.0089 0.0029

Neptune -121206-03-04 02:39 J -42549006.57 -42549006.39 -42549006.20 0.0089 0.0023

Neptune -121206-05-31 06:15 J -42548918.43 -42548918.24 -42548918.05 0.0089 0.0017

Neptune -121206-08-27 09:37 J -42548830.28 -42548830.10 -42548829.91 0.0089 0.0011

Jupiter -121206-10-15 14:10 J -42548780.98 -42548780.91 -42548780.84 0.0524 0.0447

Neptune -121206-11-23 13:13 J -42548742.14 -42548741.95 -42548741.76 0.0089 0.0005

Jupiter -121205-01-12 21:08 J -42548691.75 -42548691.62 -42548691.49 0.0525 0.0022

Neptune -121205-02-19 16:34 J -42548654.00 -42548653.81 -42548653.62 0.0089 0.0001

Jupiter -121205-04-11 03:37 J -42548602.40 -42548602.35 -42548602.30 0.0526 0.0483

Neptune -121205-05-17 19:56 J -42548565.85 -42548565.67 -42548565.48 0.0089 0.0007

Neptune -121205-08-13 23:32 J -42548477.71 -42548477.52 -42548477.33 0.0089 0.0013

Neptune -121205-11-10 02:53 J -42548389.56 -42548389.38 -42548389.19 0.0089 0.0019

Mars -121204-02-04 12:44 J -42548303.13 -42548302.97 -42548302.81 0.1850 0.0395

Neptune -121204-02-06 06:15 J -42548301.41 -42548301.24 -42548301.05 0.0089 0.0025

Moon -121204-04-01 09:22 J -42548247.21 -42548247.11 -42548247.02 0.2786 0.1401

Earth -121204-04-01 10:05 J -42548247.17 -42548247.08 -42548246.99 0.2783 0.1528 *

Neptune -121204-05-05 09:51 J -42548213.26 -42548213.09 -42548212.91 0.0089 0.0031

Neptune -121204-08-01 13:13 J -42548125.11 -42548124.95 -42548124.77 0.0089 0.0037

Neptune -121204-10-28 16:49 J -42548036.96 -42548036.80 -42548036.63 0.0089 0.0043

Mars -121204-12-13 14:25 J -42547990.94 -42547990.90 -42547990.87 0.1670 0.1579

Neptune -121203-01-24 20:25 J -42547948.80 -42547948.65 -42547948.49 0.0089 0.0049

Neptune -121203-04-23 00:01 J -42547860.65 -42547860.50 -42547860.35 0.0089 0.0055

Neptune -121203-07-20 03:37 J -42547772.49 -42547772.35 -42547772.21 0.0089 0.0061

Neptune -121203-10-16 07:13 J -42547684.33 -42547684.20 -42547684.08 0.0089 0.0067

Neptune -121202-01-12 10:05 J -42547596.16 -42547596.08 -42547595.95 0.0089 0.0074

Neptune -121202-04-10 13:41 J -42547507.99 -42547507.93 -42547507.82 0.0089 0.0080

Neptune -121202-07-07 17:17 J -42547419.80 -42547419.78 -42547419.71 0.0089 0.0086

Mars -121202-11-18 20:53 J -42547285.75 -42547285.63 -42547285.51 0.1662 0.0142

Moon -121201-09-28 03:37 J -42546971.47 -42546971.35 -42546971.23 0.2553 0.1713

Earth -121201-09-28 04:20 J -42546971.44 -42546971.32 -42546971.20 0.2558 0.1693 *

Jupiter -121200-09-03 17:32 J -42546630.83 -42546630.77 -42546630.70 0.0501 0.0466

Jupiter -121200-12-03 02:10 J -42546540.59 -42546540.41 -42546540.24 0.0500 0.0119

Uranus -121198-06-30 10:49 J -42545966.08 -42545966.05 -42545966.01 0.0131 0.0125

Uranus -121198-09-26 13:41 J -42545877.99 -42545877.93 -42545877.85 0.0131 0.0110

Uranus -121198-12-23 16:49 J -42545789.89 -42545789.80 -42545789.70 0.0131 0.0094

Uranus -121197-03-20 19:56 J -42545701.78 -42545701.67 -42545701.56 0.0131 0.0079

Earth -121197-03-25 07:27 J -42545697.29 -42545697.19 -42545697.08 0.2781 0.0732

Moon -121197-03-25 08:10 J -42545697.27 -42545697.16 -42545697.06 0.2777 0.0705 *

Uranus -121197-06-16 22:49 J -42545613.66 -42545613.55 -42545613.43 0.0131 0.0064

Uranus -121197-09-13 01:56 J -42545525.55 -42545525.42 -42545525.30 0.0131 0.0049

Uranus -121197-12-10 04:49 J -42545437.43 -42545437.30 -42545437.17 0.0130 0.0033

Uranus -121196-03-08 07:41 J -42545349.31 -42545349.18 -42545349.04 0.0130 0.0019

Uranus -121196-06-04 10:49 J -42545261.19 -42545261.05 -42545260.92 0.0130 0.0004

Uranus -121196-08-31 13:41 J -42545173.06 -42545172.93 -42545172.80 0.0130 0.0012

Uranus -121196-11-27 16:34 J -42545084.94 -42545084.81 -42545084.68 0.0130 0.0027

Uranus -121195-02-23 19:27 J -42544996.81 -42544996.69 -42544996.56 0.0130 0.0042

Uranus -121195-05-22 22:20 J -42544908.69 -42544908.57 -42544908.45 0.0130 0.0057

Mars -121195-06-27 09:22 J -42544873.27 -42544873.11 -42544872.96 0.1848 0.0598

Uranus -121195-08-19 01:13 J -42544820.55 -42544820.45 -42544820.33 0.0130 0.0072

Uranus -121195-11-15 04:05 J -42544732.42 -42544732.33 -42544732.22 0.0130 0.0087

Saturn -121195-12-17 13:41 J -42544700.02 -42544699.93 -42544699.83 0.0263 0.0219

Uranus -121194-02-11 06:58 J -42544644.28 -42544644.21 -42544644.12 0.0131 0.0101

Saturn -121194-03-16 08:25 J -42544611.31 -42544611.15 -42544610.99 0.0262 0.0117

Uranus -121194-05-10 10:05 J -42544556.14 -42544556.08 -42544556.02 0.0131 0.0116

Saturn -121194-06-13 03:22 J -42544522.54 -42544522.36 -42544522.18 0.0262 0.0013

Saturn -121194-09-09 22:20 J -42544433.74 -42544433.57 -42544433.40 0.0261 0.0091

Earth -121194-09-20 15:22 J -42544422.95 -42544422.86 -42544422.76 0.2561 0.2017

Moon -121194-09-20 17:17 J -42544422.88 -42544422.78 -42544422.68 0.2562 0.1995 *

Jupiter -121194-11-01 01:27 J -42544381.57 -42544381.44 -42544381.31 0.0525 0.0090

Saturn -121194-12-07 17:32 J -42544344.89 -42544344.77 -42544344.65 0.0261 0.0195

Jupiter -121193-01-29 07:56 J -42544292.25 -42544292.17 -42544292.08 0.0526 0.0375

Mars -121192-04-10 07:27 J -42543855.31 -42543855.19 -42543855.08 0.1664 0.0279

Moon -121191-04-04 03:51 J -42543496.40 -42543496.34 -42543496.28 0.2786 0.2296

Earth -121191-04-04 04:20 J -42543496.37 -42543496.32 -42543496.26 0.2784 0.2323 *

Mars -121190-03-16 12:44 J -42543150.03 -42543149.97 -42543149.91 0.1657 0.1368

Jupiter -121188-09-20 23:32 J -42542230.70 -42542230.52 -42542230.34 0.0500 0.0027

Mars -121186-11-17 05:46 J -42541443.34 -42541443.26 -42541443.17 0.1845 0.1567

Earth -121184-03-28 01:56 J -42540946.53 -42540946.42 -42540946.31 0.2782 0.0073

Moon -121184-03-28 02:10 J -42540946.52 -42540946.41 -42540946.30 0.2775 0.0180 *

Mars -121183-08-31 17:46 J -42540424.87 -42540424.76 -42540424.65 0.1666 0.0686

Jupiter -121182-08-20 05:17 J -42540071.40 -42540071.28 -42540071.16 0.0525 0.0207

Jupiter -121182-11-17 12:01 J -42539982.11 -42539982.00 -42539981.89 0.0526 0.0259

Mars -121181-08-05 23:32 J -42539719.62 -42539719.52 -42539719.43 0.1658 0.0979

Earth -121181-09-22 21:51 J -42539671.74 -42539671.59 -42539671.43 0.2559 0.0704

Moon -121181-09-22 23:32 J -42539671.67 -42539671.52 -42539671.36 0.2560 0.0636 *

Saturn -121179-07-07 16:05 J -42539018.90 -42539018.83 -42539018.76 0.0299 0.0254

Saturn -121179-10-04 06:01 J -42538930.37 -42538930.25 -42538930.13 0.0300 0.0138

Saturn -121179-12-31 19:41 J -42538841.81 -42538841.68 -42538841.54 0.0301 0.0022

Saturn -121178-03-30 09:22 J -42538753.23 -42538753.11 -42538752.98 0.0302 0.0095

Saturn -121178-06-26 22:49 J -42538664.64 -42538664.55 -42538664.45 0.0302 0.0211

Moon -121177-03-20 23:32 J -42538396.58 -42538396.52 -42538396.45 0.2786 0.2195

Earth -121177-03-20 23:32 J -42538396.58 -42538396.52 -42538396.45 0.2779 0.2167 *

Jupiter -121176-07-09 21:22 J -42537920.78 -42537920.61 -42537920.44 0.0501 0.0170

Jupiter -121176-10-08 06:15 J -42537830.33 -42537830.24 -42537830.14 0.0500 0.0423

Mars -121174-03-16 17:46 J -42537305.85 -42537305.76 -42537305.67 0.1853 0.1527

Mars -121173-01-22 04:05 J -42536994.42 -42536994.33 -42536994.24 0.1668 0.1104

Mars -121172-12-27 10:05 J -42536289.19 -42536289.08 -42536288.97 0.1660 0.0586

Earth -121171-03-30 20:25 J -42536195.75 -42536195.65 -42536195.55 0.2783 0.0869

Moon -121171-03-30 20:39 J -42536195.74 -42536195.64 -42536195.53 0.2777 0.0846 *

Jupiter -121170-06-08 09:08 J -42535761.22 -42535761.12 -42535761.01 0.0524 0.0324

Jupiter -121170-09-05 16:05 J -42535671.96 -42535671.83 -42535671.71 0.0525 0.0144

Earth -121168-09-26 04:34 J -42534920.47 -42534920.31 -42534920.16 0.2558 0.0622

Moon -121168-09-26 06:15 J -42534920.39 -42534920.24 -42534920.09 0.2559 0.0833 *

Venus -121168-11-02 01:13 J -42534883.54 -42534883.45 -42534883.36 0.3726 0.2008

Saturn -121165-05-05 12:58 J -42533968.00 -42533967.96 -42533967.91 0.0263 0.0253

Saturn -121165-08-02 07:41 J -42533879.33 -42533879.18 -42533879.03 0.0262 0.0151

Mars -121165-08-05 13:41 J -42533876.09 -42533875.93 -42533875.77 0.1850 0.0502

Saturn -121165-10-30 02:25 J -42533790.57 -42533790.40 -42533790.22 0.0262 0.0048

Saturn -121164-01-26 21:22 J -42533701.78 -42533701.61 -42533701.43 0.0261 0.0057

Earth -121164-03-23 18:01 J -42533645.84 -42533645.75 -42533645.66 0.2780 0.1375

Moon -121164-03-23 18:15 J -42533645.83 -42533645.74 -42533645.65 0.2787 0.1396 *

Saturn -121164-04-25 16:34 J -42533612.95 -42533612.81 -42533612.66 0.0261 0.0160

Jupiter -121164-04-27 19:13 J -42533610.84 -42533610.70 -42533610.56 0.0501 0.0309

Mars -121164-06-13 14:25 J -42533563.95 -42533563.90 -42533563.86 0.1671 0.1526

Jupiter -121164-07-27 04:05 J -42533520.48 -42533520.33 -42533520.18 0.0500 0.0280

Pluto -121162-04-22 17:32 J -42532885.78 -42532885.77 -42532885.73 0.0060 0.0060

Venus -121162-05-18 18:01 J -42532859.86 -42532859.75 -42532859.65 0.3732 0.0301

Mars -121162-05-19 20:53 J -42532858.75 -42532858.63 -42532858.52 0.1662 0.0196

Pluto -121162-07-19 18:44 J -42532797.80 -42532797.72 -42532797.61 0.0060 0.0052

Pluto -121162-10-15 20:10 J -42532709.78 -42532709.66 -42532709.52 0.0061 0.0044

Pluto -121161-01-11 21:22 J -42532621.75 -42532621.61 -42532621.44 0.0061 0.0036

Pluto -121161-04-08 22:34 J -42532533.71 -42532533.56 -42532533.37 0.0061 0.0028

Pluto -121161-07-06 00:01 J -42532445.67 -42532445.50 -42532445.31 0.0061 0.0020

Pluto -121161-10-02 01:27 J -42532357.62 -42532357.44 -42532357.25 0.0061 0.0012

Pluto -121161-12-29 02:53 J -42532269.57 -42532269.38 -42532269.19 0.0061 0.0003

Pluto -121160-03-27 04:05 J -42532181.51 -42532181.33 -42532181.14 0.0061 0.0005

Pluto -121160-06-23 05:32 J -42532093.45 -42532093.27 -42532093.09 0.0061 0.0013

Pluto -121160-09-19 06:44 J -42532005.39 -42532005.22 -42532005.04 0.0061 0.0021

Pluto -121160-12-16 07:41 J -42531917.32 -42531917.18 -42531917.00 0.0061 0.0030

Venus -121159-02-16 01:41 J -42531855.52 -42531855.43 -42531855.34 0.3656 0.2871

Pluto -121159-03-14 09:08 J -42531829.25 -42531829.12 -42531828.96 0.0061 0.0038

Pluto -121159-06-10 10:20 J -42531741.17 -42531741.07 -42531740.93 0.0061 0.0047

Pluto -121159-09-06 11:46 J -42531653.08 -42531653.01 -42531652.91 0.0061 0.0055

Jupiter -121158-03-27 12:44 J -42531451.03 -42531450.97 -42531450.90 0.0524 0.0444

Moon -121158-04-02 14:53 J -42531444.97 -42531444.88 -42531444.79 0.2776 0.1655

Earth -121158-04-02 14:53 J -42531444.97 -42531444.88 -42531444.79 0.2784 0.1669 *

Jupiter -121158-06-24 19:41 J -42531361.80 -42531361.68 -42531361.55 0.0525 0.0030

Jupiter -121158-09-22 02:10 J -42531272.45 -42531272.41 -42531272.36 0.0526 0.0486

Venus -121157-12-01 10:34 J -42530836.16 -42530836.06 -42530835.97 0.3737 0.1439

Mars -121156-12-26 09:51 J -42530446.25 -42530446.09 -42530445.94 0.1847 0.0509

Uranus -121155-06-21 23:17 J -42530268.61 -42530268.53 -42530268.43 0.0149 0.0131

Uranus -121155-09-18 07:56 J -42530180.30 -42530180.17 -42530180.02 0.0149 0.0100

Earth -121155-09-29 11:03 J -42530169.15 -42530169.04 -42530168.94 0.2558 0.1939

Moon -121155-09-29 12:44 J -42530169.07 -42530168.97 -42530168.87 0.2558 0.2004 *

Uranus -121155-12-15 16:49 J -42530091.97 -42530091.80 -42530091.63 0.0149 0.0068

Uranus -121154-03-14 01:27 J -42530003.62 -42530003.44 -42530003.25 0.0149 0.0037

Uranus -121154-06-10 10:20 J -42529915.26 -42529915.07 -42529914.88 0.0149 0.0005

Venus -121154-09-02 07:41 J -42529831.33 -42529831.18 -42529831.04 0.3648 0.1204

Uranus -121154-09-06 18:58 J -42529826.89 -42529826.71 -42529826.52 0.0149 0.0027

Uranus -121154-12-04 03:51 J -42529738.51 -42529738.34 -42529738.16 0.0149 0.0059

Uranus -121153-03-01 12:29 J -42529650.12 -42529649.98 -42529649.82 0.0149 0.0091

Uranus -121153-05-28 21:22 J -42529561.71 -42529561.61 -42529561.49 0.0149 0.0123

Mars -121153-10-09 07:13 J -42529428.31 -42529428.20 -42529428.08 0.1664 0.0229

Jupiter -121152-02-13 17:03 J -42529300.86 -42529300.79 -42529300.71 0.0501 0.0450

Jupiter -121152-05-15 01:41 J -42529210.61 -42529210.43 -42529210.26 0.0500 0.0136

Earth -121151-03-26 12:29 J -42528895.09 -42528894.98 -42528894.88 0.2781 0.0585

Moon -121151-03-26 12:44 J -42528895.08 -42528894.97 -42528894.86 0.2788 0.0498 *

Venus -121151-06-17 02:53 J -42528812.43 -42528812.38 -42528812.32 0.3743 0.3134

Mars -121151-09-14 12:44 J -42528723.03 -42528722.97 -42528722.91 0.1657 0.1417

Saturn -121150-11-24 17:03 J -42528286.81 -42528286.79 -42528286.76 0.0299 0.0292

Saturn -121149-02-21 06:58 J -42528198.32 -42528198.21 -42528198.10 0.0300 0.0176

Saturn -121149-05-19 20:53 J -42528109.76 -42528109.63 -42528109.50 0.0300 0.0060

Saturn -121149-08-16 10:34 J -42528021.19 -42528021.06 -42528020.93 0.0301 0.0057

Saturn -121149-11-13 00:01 J -42527932.60 -42527932.50 -42527932.39 0.0302 0.0172

Saturn -121148-02-09 13:27 J -42527843.97 -42527843.94 -42527843.90 0.0302 0.0287

Moon -121148-09-20 21:08 J -42527620.72 -42527620.62 -42527620.52 0.2566 0.1927

Earth -121148-09-20 22:05 J -42527620.69 -42527620.58 -42527620.46 0.2560 0.1778 *

Jupiter -121146-04-13 00:01 J -42527051.63 -42527051.50 -42527051.37 0.0525 0.0088

Mars -121146-05-18 06:15 J -42527016.33 -42527016.24 -42527016.14 0.1845 0.1480

Jupiter -121146-07-11 06:29 J -42526962.31 -42526962.23 -42526962.14 0.0526 0.0377

Moon -121145-04-04 09:22 J -42526694.16 -42526694.11 -42526694.07 0.2777 0.2520

Earth -121145-04-04 09:22 J -42526694.16 -42526694.11 -42526694.06 0.2784 0.2467 *

Mars -121143-03-01 17:46 J -42525997.87 -42525997.76 -42525997.65 0.1666 0.0630

Mars -121141-02-04 23:32 J -42525292.61 -42525292.52 -42525292.43 0.1659 0.1030

Jupiter -121140-03-02 22:05 J -42524900.76 -42524900.58 -42524900.40 0.0500 0.0021

Earth -121138-03-29 06:58 J -42524144.32 -42524144.21 -42524144.11 0.2782 0.0246

Moon -121138-03-29 07:27 J -42524144.30 -42524144.19 -42524144.09 0.2788 0.0246 *

Saturn -121136-12-20 07:13 J -42523147.32 -42523147.20 -42523147.07 0.0263 0.0181

Saturn -121135-03-19 02:10 J -42523058.58 -42523058.41 -42523058.24 0.0262 0.0078

Saturn -121135-06-15 21:08 J -42522969.80 -42522969.62 -42522969.44 0.0262 0.0026

Saturn -121135-09-12 16:05 J -42522880.98 -42522880.83 -42522880.67 0.0261 0.0131

Mars -121135-09-14 18:44 J -42522878.79 -42522878.72 -42522878.64 0.1853 0.1638

Moon -121135-09-24 03:51 J -42522869.50 -42522869.34 -42522869.18 0.2564 0.0435

Earth -121135-09-24 04:34 J -42522869.46 -42522869.31 -42522869.15 0.2559 0.0462 *

Saturn -121135-12-10 11:17 J -42522792.10 -42522792.03 -42522791.94 0.0261 0.0235

Jupiter -121134-01-30 04:05 J -42522741.45 -42522741.33 -42522741.21 0.0525 0.0202

Jupiter -121134-04-29 10:49 J -42522652.16 -42522652.05 -42522651.93 0.0526 0.0266

Mars -121134-07-23 04:05 J -42522567.42 -42522567.33 -42522567.24 0.1668 0.1047

Mars -121132-06-27 10:20 J -42521862.18 -42521862.07 -42521861.97 0.1660 0.0642

Moon -121131-03-22 03:51 J -42521594.41 -42521594.34 -42521594.28 0.2776 0.2149

Earth -121131-03-22 04:34 J -42521594.39 -42521594.31 -42521594.24 0.2779 0.2027 *

Jupiter -121129-12-19 19:41 J -42520590.85 -42520590.68 -42520590.51 0.0500 0.0165

Jupiter -121128-03-20 04:34 J -42520500.40 -42520500.31 -42520500.21 0.0499 0.0425

Neptune -121128-05-03 05:17 J -42520456.29 -42520456.28 -42520456.25 0.0088 0.0087

Neptune -121128-07-30 06:44 J -42520368.26 -42520368.22 -42520368.16 0.0088 0.0083

Neptune -121128-10-26 08:10 J -42520280.21 -42520280.16 -42520280.09 0.0088 0.0078

Neptune -121127-01-22 09:51 J -42520192.16 -42520192.09 -42520192.01 0.0088 0.0074

Neptune -121127-04-20 11:17 J -42520104.11 -42520104.03 -42520103.94 0.0088 0.0070

Neptune -121127-07-17 12:44 J -42520016.06 -42520015.97 -42520015.87 0.0088 0.0065

Neptune -121127-10-13 13:56 J -42519928.00 -42519927.92 -42519927.81 0.0088 0.0062

Neptune -121126-01-09 15:37 J -42519839.95 -42519839.85 -42519839.74 0.0088 0.0057

Neptune -121126-04-07 17:03 J -42519751.89 -42519751.79 -42519751.67 0.0088 0.0053

Neptune -121126-07-04 18:29 J -42519663.84 -42519663.73 -42519663.61 0.0088 0.0048

Neptune -121126-09-30 19:56 J -42519575.78 -42519575.67 -42519575.54 0.0088 0.0044

Neptune -121126-12-27 21:37 J -42519487.72 -42519487.60 -42519487.48 0.0088 0.0040

Mars -121125-02-04 14:25 J -42519449.05 -42519448.90 -42519448.74 0.1850 0.0603

Neptune -121125-03-24 22:49 J -42519399.67 -42519399.55 -42519399.42 0.0088 0.0036

Earth -121125-03-31 01:13 J -42519393.55 -42519393.45 -42519393.35 0.2783 0.1018

Moon -121125-03-31 01:56 J -42519393.53 -42519393.42 -42519393.32 0.2788 0.1007 *

Neptune -121125-06-21 00:15 J -42519311.61 -42519311.49 -42519311.36 0.0088 0.0031

Neptune -121125-09-17 01:41 J -42519223.55 -42519223.43 -42519223.29 0.0088 0.0027

Mars -121125-12-12 14:25 J -42519136.96 -42519136.90 -42519136.85 0.1670 0.1471

Neptune -121125-12-14 03:08 J -42519135.50 -42519135.37 -42519135.23 0.0088 0.0023

Neptune -121124-03-12 04:34 J -42519047.44 -42519047.31 -42519047.17 0.0088 0.0019

Neptune -121124-06-08 06:01 J -42518959.38 -42518959.25 -42518959.11 0.0088 0.0014

Neptune -121124-09-04 07:27 J -42518871.32 -42518871.19 -42518871.05 0.0088 0.0010

Neptune -121124-12-01 08:53 J -42518783.26 -42518783.13 -42518782.99 0.0088 0.0006

Neptune -121123-02-27 10:20 J -42518695.21 -42518695.07 -42518694.93 0.0088 0.0002

Neptune -121123-05-26 11:46 J -42518607.15 -42518607.01 -42518606.88 0.0088 0.0003

Neptune -121123-08-22 13:13 J -42518519.09 -42518518.95 -42518518.82 0.0088 0.0007

Mars -121123-11-17 20:53 J -42518431.75 -42518431.63 -42518431.52 0.1662 0.0243

Jupiter -121123-11-18 08:10 J -42518431.27 -42518431.16 -42518431.06 0.0525 0.0318

Neptune -121123-11-18 14:25 J -42518431.03 -42518430.90 -42518430.76 0.0088 0.0012

Neptune -121122-02-14 15:51 J -42518342.97 -42518342.84 -42518342.70 0.0088 0.0015

Jupiter -121122-02-15 14:53 J -42518342.00 -42518341.88 -42518341.75 0.0526 0.0150

Neptune -121122-05-13 17:17 J -42518254.91 -42518254.78 -42518254.65 0.0088 0.0019

Neptune -121122-08-09 18:44 J -42518166.85 -42518166.72 -42518166.59 0.0088 0.0024

Moon -121122-09-27 10:20 J -42518118.21 -42518118.07 -42518117.92 0.2564 0.0855

Earth -121122-09-27 11:03 J -42518118.19 -42518118.04 -42518117.88 0.2558 0.0869 *

Neptune -121122-11-05 20:10 J -42518078.79 -42518078.66 -42518078.53 0.0088 0.0028

Neptune -121121-02-01 21:22 J -42517990.73 -42517990.61 -42517990.48 0.0088 0.0032

Neptune -121121-04-29 22:49 J -42517902.67 -42517902.55 -42517902.42 0.0088 0.0036

Neptune -121121-07-27 00:01 J -42517814.61 -42517814.50 -42517814.37 0.0088 0.0041

Neptune -121121-10-23 01:27 J -42517726.55 -42517726.44 -42517726.32 0.0088 0.0045

Neptune -121120-01-19 02:53 J -42517638.49 -42517638.38 -42517638.26 0.0088 0.0049

Neptune -121120-04-17 04:20 J -42517550.42 -42517550.32 -42517550.21 0.0088 0.0053

Saturn -121120-07-10 08:25 J -42517466.24 -42517466.15 -42517466.05 0.0299 0.0210

Neptune -121120-07-14 05:46 J -42517462.36 -42517462.26 -42517462.16 0.0088 0.0057

Saturn -121120-10-06 22:20 J -42517377.70 -42517377.57 -42517377.44 0.0300 0.0094

Neptune -121120-10-10 07:13 J -42517374.30 -42517374.20 -42517374.11 0.0088 0.0061

Saturn -121119-01-03 12:01 J -42517289.13 -42517289.00 -42517288.86 0.0301 0.0023

Neptune -121119-01-06 08:10 J -42517286.24 -42517286.16 -42517286.06 0.0088 0.0065

Saturn -121119-04-02 01:41 J -42517200.55 -42517200.43 -42517200.31 0.0302 0.0138

Neptune -121119-04-04 09:37 J -42517198.17 -42517198.10 -42517198.01 0.0088 0.0069

Saturn -121119-06-29 15:08 J -42517111.94 -42517111.87 -42517111.80 0.0302 0.0253

Neptune -121119-07-01 10:49 J -42517110.11 -42517110.05 -42517109.96 0.0088 0.0074

Neptune -121119-09-27 12:15 J -42517022.04 -42517021.99 -42517021.91 0.0088 0.0077

Neptune -121119-12-24 13:41 J -42516933.97 -42516933.93 -42516933.87 0.0088 0.0081

Neptune -121118-03-22 14:53 J -42516845.90 -42516845.88 -42516845.83 0.0088 0.0086

Moon -121118-03-24 22:05 J -42516843.67 -42516843.58 -42516843.48 0.2781 0.1247

Earth -121118-03-24 23:03 J -42516843.64 -42516843.54 -42516843.45 0.2780 0.1238 *

Jupiter -121117-10-07 17:03 J -42516280.93 -42516280.79 -42516280.64 0.0501 0.0309

Venus -121117-11-23 06:15 J -42516234.29 -42516234.24 -42516234.18 0.3722 0.3101

Jupiter -121116-01-06 01:56 J -42516190.57 -42516190.42 -42516190.27 0.0500 0.0279

Mars -121116-06-26 10:20 J -42516019.22 -42516019.07 -42516018.91 0.1848 0.0413

Uranus -121114-07-20 18:44 J -42515264.77 -42515264.72 -42515264.66 0.0131 0.0118

Uranus -121114-10-16 21:37 J -42515176.67 -42515176.60 -42515176.51 0.0130 0.0103

Uranus -121113-01-13 00:44 J -42515088.56 -42515088.47 -42515088.36 0.0130 0.0087

Mars -121113-04-09 07:13 J -42515001.32 -42515001.20 -42515001.08 0.1664 0.0175

Uranus -121113-04-10 03:51 J -42515000.45 -42515000.34 -42515000.23 0.0130 0.0072

Uranus -121113-07-07 06:44 J -42514912.34 -42514912.22 -42514912.09 0.0130 0.0057

Uranus -121113-10-03 09:51 J -42514824.22 -42514824.09 -42514823.96 0.0130 0.0042

Uranus -121113-12-30 12:44 J -42514736.10 -42514735.97 -42514735.84 0.0130 0.0027

Uranus -121112-03-28 15:37 J -42514647.98 -42514647.85 -42514647.71 0.0130 0.0012

Earth -121112-04-02 19:41 J -42514642.76 -42514642.68 -42514642.60 0.2784 0.1812

Moon -121112-04-02 20:25 J -42514642.73 -42514642.65 -42514642.57 0.2786 0.1934 *

Uranus -121112-06-24 18:44 J -42514559.86 -42514559.72 -42514559.59 0.0130 0.0004

Uranus -121112-09-20 21:37 J -42514471.73 -42514471.60 -42514471.47 0.0130 0.0019

Uranus -121112-12-18 00:29 J -42514383.61 -42514383.48 -42514383.35 0.0130 0.0034

Mars -121111-03-15 12:44 J -42514296.02 -42514295.97 -42514295.92 0.1657 0.1466

Uranus -121111-03-16 03:22 J -42514295.48 -42514295.36 -42514295.23 0.0130 0.0049

Venus -121111-06-08 23:03 J -42514210.64 -42514210.54 -42514210.44 0.3727 0.1363

Uranus -121111-06-12 06:15 J -42514207.35 -42514207.24 -42514207.12 0.0130 0.0064

Jupiter -121111-09-06 11:46 J -42514121.07 -42514121.01 -42514120.93 0.0524 0.0436

Uranus -121111-09-08 09:08 J -42514119.22 -42514119.12 -42514119.01 0.0130 0.0079

Jupiter -121111-12-04 18:44 J -42514031.84 -42514031.72 -42514031.59 0.0525 0.0038

Uranus -121111-12-05 12:01 J -42514031.08 -42514031.00 -42514030.90 0.0130 0.0093

Uranus -121110-03-03 15:08 J -42513942.94 -42513942.87 -42513942.80 0.0130 0.0108

Jupiter -121110-03-04 01:13 J -42513942.49 -42513942.45 -42513942.40 0.0526 0.0494

Uranus -121110-05-30 17:46 J -42513854.79 -42513854.76 -42513854.71 0.0130 0.0123

Moon -121109-09-29 17:03 J -42513366.89 -42513366.79 -42513366.70 0.2563 0.2059

Earth -121109-09-29 17:32 J -42513366.85 -42513366.77 -42513366.68 0.2558 0.2183 *

Mars -121107-11-16 07:13 J -42512589.31 -42512589.20 -42512589.09 0.1845 0.1375

Saturn -121106-05-09 06:58 J -42512415.31 -42512415.21 -42512415.10 0.0263 0.0212

Saturn -121106-08-06 01:41 J -42512326.59 -42512326.43 -42512326.26 0.0262 0.0109

Saturn -121106-11-02 20:39 J -42512237.82 -42512237.64 -42512237.46 0.0262 0.0007

Venus -121106-12-23 15:37 J -42512186.96 -42512186.85 -42512186.75 0.3733 0.0357

Saturn -121105-01-30 15:51 J -42512149.01 -42512148.84 -42512148.67 0.0261 0.0098

Moon -121105-03-26 16:34 J -42512092.92 -42512092.81 -42512092.70 0.2782 0.0453

Earth -121105-03-26 17:17 J -42512092.89 -42512092.78 -42512092.67 0.2782 0.0437 *

Saturn -121105-04-28 10:49 J -42512060.15 -42512060.05 -42512059.93 0.0261 0.0203

Jupiter -121105-07-26 14:53 J -42511970.95 -42511970.88 -42511970.80 0.0501 0.0450

Jupiter -121105-10-24 23:32 J -42511880.70 -42511880.52 -42511880.34 0.0500 0.0136

Mars -121104-08-30 17:46 J -42511570.87 -42511570.76 -42511570.65 0.1666 0.0577

Venus -121103-09-23 02:53 J -42511182.52 -42511182.38 -42511182.25 0.3654 0.1496

Mars -121102-08-05 23:32 J -42510865.61 -42510865.52 -42510865.43 0.1658 0.1081

Moon -121102-09-22 03:37 J -42510818.48 -42510818.35 -42510818.22 0.2555 0.1549

Earth -121102-09-22 04:49 J -42510818.43 -42510818.30 -42510818.17 0.2560 0.1537 *

Venus -121100-07-08 08:10 J -42510163.25 -42510163.16 -42510163.08 0.3739 0.2061

Earth -121099-04-05 14:10 J -42509891.94 -42509891.91 -42509891.87 0.2784 0.2614

Moon -121099-04-05 14:53 J -42509891.91 -42509891.88 -42509891.85 0.2787 0.2677 *

Jupiter -121099-09-22 22:34 J -42509721.69 -42509721.56 -42509721.44 0.0525 0.0089

Jupiter -121099-12-21 05:03 J -42509632.38 -42509632.29 -42509632.20 0.0526 0.0376

Earth -121098-03-20 14:53 J -42509542.90 -42509542.88 -42509542.85 0.2778 0.2676

Moon -121098-03-20 15:22 J -42509542.88 -42509542.86 -42509542.83 0.2773 0.2686 *

Venus -121097-04-08 08:53 J -42509158.23 -42509158.13 -42509158.03 0.3646 0.2619

Mars -121095-03-15 19:13 J -42508451.75 -42508451.70 -42508451.64 0.1853 0.1726

Mars -121094-01-21 04:05 J -42508140.42 -42508140.33 -42508140.23 0.1668 0.0993

Jupiter -121093-08-12 21:08 J -42507570.80 -42507570.62 -42507570.44 0.0500 0.0010

Mars -121093-12-26 10:05 J -42507435.18 -42507435.08 -42507434.97 0.1660 0.0690

Moon -121092-03-29 11:03 J -42507342.14 -42507342.04 -42507341.93 0.2786 0.0255

Earth -121092-03-29 11:46 J -42507342.12 -42507342.01 -42507341.90 0.2783 0.0364 *

Saturn -121091-11-27 10:05 J -42506734.16 -42506734.08 -42506734.00 0.0299 0.0244

Saturn -121090-02-24 00:01 J -42506645.62 -42506645.50 -42506645.38 0.0300 0.0128

Saturn -121090-05-23 13:41 J -42506557.06 -42506556.93 -42506556.79 0.0300 0.0012

Saturn -121090-08-20 03:22 J -42506468.49 -42506468.36 -42506468.24 0.0301 0.0104

Saturn -121090-11-16 16:49 J -42506379.89 -42506379.80 -42506379.71 0.0302 0.0219

Moon -121089-09-24 10:20 J -42506067.23 -42506067.07 -42506066.91 0.2554 0.0201

Earth -121089-09-24 11:17 J -42506067.19 -42506067.03 -42506066.87 0.2559 0.0216 *

Jupiter -121087-07-12 02:39 J -42505411.51 -42505411.39 -42505411.27 0.0525 0.0203

Jupiter -121087-10-09 09:22 J -42505322.22 -42505322.11 -42505322.00 0.0526 0.0264

Mars -121086-08-05 14:53 J -42505022.03 -42505021.88 -42505021.73 0.1850 0.0689

Earth -121085-03-22 09:22 J -42504792.19 -42504792.11 -42504792.03 0.2779 0.1886

Moon -121085-03-22 09:51 J -42504792.17 -42504792.09 -42504792.01 0.2773 0.1853 *

Mars -121085-06-12 14:25 J -42504709.96 -42504709.90 -42504709.84 0.1670 0.1412

Mars -121083-05-18 20:53 J -42504004.75 -42504004.63 -42504004.52 0.1662 0.0296

Jupiter -121081-05-31 17:46 J -42503260.93 -42503260.76 -42503260.59 0.0500 0.0162

Jupiter -121081-08-30 02:39 J -42503170.48 -42503170.39 -42503170.29 0.0499 0.0427

Moon -121079-04-01 05:32 J -42502591.37 -42502591.27 -42502591.17 0.2786 0.1131

Earth -121079-04-01 06:15 J -42502591.34 -42502591.24 -42502591.14 0.2783 0.1162 *

Saturn -121077-09-25 07:13 J -42501683.27 -42501683.20 -42501683.13 0.0264 0.0240

Saturn -121077-12-23 01:41 J -42501594.58 -42501594.43 -42501594.27 0.0263 0.0138

Mars -121077-12-25 11:17 J -42501592.19 -42501592.03 -42501591.87 0.1848 0.0305

Saturn -121076-03-21 20:39 J -42501505.82 -42501505.64 -42501505.46 0.0263 0.0034

Saturn -121076-06-18 15:51 J -42501417.02 -42501416.84 -42501416.67 0.0262 0.0071

Saturn -121076-09-15 10:49 J -42501328.18 -42501328.05 -42501327.91 0.0261 0.0176

Moon -121076-09-27 16:34 J -42501315.96 -42501315.81 -42501315.66 0.2554 0.0935

Earth -121076-09-27 17:46 J -42501315.90 -42501315.76 -42501315.61 0.2558 0.1112 *

Jupiter -121075-04-30 06:29 J -42501101.33 -42501101.23 -42501101.12 0.0525 0.0319

Jupiter -121075-07-28 13:27 J -42501012.06 -42501011.94 -42501011.82 0.0526 0.0150

Mars -121074-10-09 07:27 J -42500574.31 -42500574.19 -42500574.07 0.1664 0.0115

Earth -121072-03-25 03:51 J -42500041.44 -42500041.34 -42500041.24 0.2781 0.1094

Moon -121072-03-25 04:05 J -42500041.43 -42500041.33 -42500041.23 0.2774 0.1010 *

Mars -121072-09-13 12:44 J -42499869.01 -42499868.97 -42499868.93 0.1657 0.1519

Uranus -121071-07-12 07:41 J -42499567.28 -42499567.18 -42499567.06 0.0149 0.0120

Uranus -121071-10-08 16:20 J -42499478.96 -42499478.82 -42499478.66 0.0149 0.0089

Uranus -121070-01-05 01:13 J -42499390.62 -42499390.45 -42499390.27 0.0149 0.0057

Uranus -121070-04-03 09:51 J -42499302.27 -42499302.09 -42499301.90 0.0149 0.0026

Uranus -121070-06-30 18:44 J -42499213.91 -42499213.72 -42499213.53 0.0149 0.0006

Uranus -121070-09-27 03:37 J -42499125.54 -42499125.35 -42499125.17 0.0149 0.0038

Uranus -121070-12-24 12:15 J -42499037.15 -42499036.99 -42499036.82 0.0149 0.0070

Jupiter -121069-03-19 15:22 J -42498951.01 -42498950.86 -42498950.72 0.0500 0.0307

Uranus -121069-03-21 21:08 J -42498948.76 -42498948.62 -42498948.48 0.0149 0.0102

Pluto -121069-05-17 22:34 J -42498891.60 -42498891.56 -42498891.49 0.0084 0.0078

Jupiter -121069-06-17 23:46 J -42498860.66 -42498860.51 -42498860.35 0.0499 0.0280

Uranus -121069-06-18 06:01 J -42498860.33 -42498860.25 -42498860.17 0.0149 0.0134

Pluto -121069-08-14 00:01 J -42498803.58 -42498803.50 -42498803.40 0.0084 0.0062

Moon -121069-09-19 06:29 J -42498767.23 -42498767.23 -42498767.22 0.2561 0.2553

Pluto -121069-11-10 01:27 J -42498715.55 -42498715.44 -42498715.32 0.0084 0.0046

Pluto -121068-02-06 02:53 J -42498627.50 -42498627.38 -42498627.25 0.0084 0.0030

Pluto -121068-05-05 04:20 J -42498539.46 -42498539.32 -42498539.19 0.0084 0.0014

Pluto -121068-08-01 05:32 J -42498451.40 -42498451.27 -42498451.13 0.0084 0.0003

Pluto -121068-10-28 06:58 J -42498363.34 -42498363.21 -42498363.08 0.0084 0.0017

Pluto -121067-01-24 08:10 J -42498275.28 -42498275.16 -42498275.03 0.0084 0.0032

Pluto -121067-04-22 09:37 J -42498187.21 -42498187.10 -42498186.99 0.0083 0.0048

Mars -121067-05-17 07:41 J -42498162.29 -42498162.18 -42498162.06 0.1844 0.1284

Pluto -121067-07-19 10:34 J -42498099.13 -42498099.06 -42498098.96 0.0083 0.0064

Pluto -121067-10-15 12:01 J -42498011.03 -42498011.00 -42498010.95 0.0083 0.0078

Moon -121066-04-04 00:01 J -42497840.57 -42497840.50 -42497840.42 0.2789 0.1970

Earth -121066-04-04 00:44 J -42497840.55 -42497840.47 -42497840.40 0.2784 0.1962 *

Mars -121064-02-28 17:46 J -42497143.87 -42497143.76 -42497143.65 0.1666 0.0524

Jupiter -121063-02-16 10:20 J -42496791.14 -42496791.07 -42496791.00 0.0525 0.0436

Jupiter -121063-05-16 17:17 J -42496701.90 -42496701.78 -42496701.65 0.0525 0.0039

Jupiter -121063-08-13 23:46 J -42496612.54 -42496612.51 -42496612.46 0.0526 0.0496

Moon -121063-09-30 23:17 J -42496564.60 -42496564.53 -42496564.47 0.2553 0.2336

Earth -121063-10-01 00:15 J -42496564.53 -42496564.49 -42496564.44 0.2558 0.2433 *

Mars -121062-02-03 23:32 J -42496438.61 -42496438.52 -42496438.44 0.1658 0.1132

Saturn -121061-04-15 12:01 J -42496002.05 -42496002.00 -42496001.95 0.0298 0.0274

Saturn -121061-07-13 01:56 J -42495913.54 -42495913.42 -42495913.31 0.0299 0.0159

Saturn -121061-10-09 15:37 J -42495824.98 -42495824.85 -42495824.71 0.0300 0.0043

Saturn -121060-01-06 05:17 J -42495736.41 -42495736.28 -42495736.15 0.0301 0.0073

Saturn -121060-04-04 18:44 J -42495647.82 -42495647.72 -42495647.61 0.0302 0.0189

Venus -121060-06-30 04:05 J -42495561.41 -42495561.33 -42495561.25 0.3723 0.2455

Earth -121059-03-27 22:20 J -42495290.68 -42495290.57 -42495290.47 0.2782 0.0308

Moon -121059-03-27 22:20 J -42495290.67 -42495290.57 -42495290.46 0.2774 0.0341 *

Jupiter -121057-01-06 12:29 J -42494641.05 -42494640.98 -42494640.90 0.0501 0.0453

Jupiter -121057-04-05 21:08 J -42494550.80 -42494550.62 -42494550.45 0.0500 0.0132

Mars -121056-09-13 20:10 J -42494024.68 -42494024.66 -42494024.64 0.1853 0.1828

Earth -121056-09-22 11:32 J -42494016.16 -42494016.02 -42494015.89 0.2560 0.1297

Moon -121056-09-22 13:13 J -42494016.10 -42494015.95 -42494015.81 0.2558 0.1094 *

Mars -121055-07-22 04:05 J -42493713.43 -42493713.33 -42493713.23 0.1668 0.0939

Venus -121054-01-13 20:39 J -42493537.74 -42493537.64 -42493537.53 0.3729 0.0728

Moon -121053-04-05 18:29 J -42493089.75 -42493089.73 -42493089.70 0.2790 0.2666

Earth -121053-04-05 19:13 J -42493089.71 -42493089.70 -42493089.69 0.2784 0.2763 *

Mars -121053-06-26 10:05 J -42493008.18 -42493008.08 -42493007.97 0.1660 0.0740

Earth -121052-03-20 19:41 J -42492740.72 -42492740.68 -42492740.63 0.2778 0.2537

Moon -121052-03-20 20:10 J -42492740.70 -42492740.66 -42492740.62 0.2784 0.2564 *

Jupiter -121051-03-04 21:22 J -42492391.74 -42492391.61 -42492391.49 0.0525 0.0085

Jupiter -121051-06-02 03:51 J -42492302.43 -42492302.34 -42492302.25 0.0526 0.0380

Venus -121049-07-29 13:13 J -42491514.05 -42491513.95 -42491513.84 0.3735 0.1000

Saturn -121047-05-12 02:10 J -42490862.55 -42490862.41 -42490862.27 0.0263 0.0165

Saturn -121047-08-08 20:53 J -42490773.80 -42490773.63 -42490773.45 0.0262 0.0063

Saturn -121047-11-05 16:05 J -42490685.01 -42490684.83 -42490684.65 0.0262 0.0042

Saturn -121046-02-02 11:17 J -42490596.18 -42490596.03 -42490595.88 0.0261 0.0146

Mars -121046-02-03 15:51 J -42490594.99 -42490594.84 -42490594.70 0.1850 0.0795

Moon -121046-03-30 16:34 J -42490539.91 -42490539.81 -42490539.70 0.2776 0.0505

Earth -121046-03-30 16:34 J -42490539.91 -42490539.81 -42490539.70 0.2783 0.0519 *

Venus -121046-04-30 04:05 J -42490509.48 -42490509.33 -42490509.19 0.3652 0.0141

Saturn -121046-05-02 06:29 J -42490507.27 -42490507.23 -42490507.18 0.0261 0.0251

Mars -121046-12-12 14:25 J -42490282.97 -42490282.90 -42490282.83 0.1671 0.1361

Jupiter -121045-01-23 18:29 J -42490240.91 -42490240.73 -42490240.54 0.0500 0.0016

Neptune -121044-04-03 10:34 J -42489805.09 -42489805.06 -42489805.00 0.0089 0.0086

Neptune -121044-06-30 14:10 J -42489716.98 -42489716.91 -42489716.83 0.0089 0.0080

Neptune -121044-09-26 17:32 J -42489628.87 -42489628.77 -42489628.66 0.0089 0.0074

Mars -121044-11-16 20:53 J -42489577.75 -42489577.63 -42489577.52 0.1662 0.0346

Neptune -121044-12-23 20:39 J -42489540.74 -42489540.64 -42489540.51 0.0089 0.0069

Venus -121043-02-12 05:46 J -42489490.33 -42489490.26 -42489490.19 0.3740 0.2689

Neptune -121043-03-22 00:01 J -42489452.62 -42489452.50 -42489452.35 0.0089 0.0063

Neptune -121043-06-18 03:22 J -42489364.49 -42489364.36 -42489364.20 0.0089 0.0057

Neptune -121043-09-14 06:58 J -42489276.36 -42489276.21 -42489276.05 0.0089 0.0051

Earth -121043-09-25 18:01 J -42489264.91 -42489264.75 -42489264.59 0.2559 0.0040

Moon -121043-09-25 19:41 J -42489264.84 -42489264.68 -42489264.52 0.2558 0.0099 *

Neptune -121043-12-11 10:20 J -42489188.22 -42489188.07 -42489187.90 0.0089 0.0045

Neptune -121042-03-09 13:56 J -42489100.09 -42489099.92 -42489099.75 0.0089 0.0039

Neptune -121042-06-05 17:03 J -42489011.95 -42489011.79 -42489011.61 0.0089 0.0034

Neptune -121042-09-01 20:25 J -42488923.82 -42488923.65 -42488923.46 0.0089 0.0028

Neptune -121042-11-29 00:01 J -42488835.68 -42488835.50 -42488835.31 0.0089 0.0022

Neptune -121041-02-25 03:22 J -42488747.54 -42488747.36 -42488747.17 0.0089 0.0016

Neptune -121041-05-23 06:58 J -42488659.40 -42488659.21 -42488659.02 0.0089 0.0010

Neptune -121041-08-19 10:20 J -42488571.26 -42488571.07 -42488570.88 0.0089 0.0004

Neptune -121041-11-15 13:56 J -42488483.11 -42488482.92 -42488482.73 0.0089 0.0002

Neptune -121040-02-11 17:17 J -42488394.97 -42488394.78 -42488394.59 0.0089 0.0008

Neptune -121040-05-10 20:39 J -42488306.82 -42488306.64 -42488306.45 0.0089 0.0014

Neptune -121040-08-07 00:15 J -42488218.67 -42488218.49 -42488218.30 0.0089 0.0020

Neptune -121040-11-03 03:37 J -42488130.53 -42488130.35 -42488130.16 0.0089 0.0026

Jupiter -121040-12-22 00:44 J -42488081.59 -42488081.47 -42488081.35 0.0525 0.0207

Neptune -121039-01-30 07:13 J -42488042.38 -42488042.20 -42488042.02 0.0089 0.0032

Jupiter -121039-03-21 07:27 J -42487992.30 -42487992.19 -42487992.08 0.0526 0.0260

Earth -121039-03-23 14:10 J -42487989.99 -42487989.91 -42487989.82 0.2779 0.1745

Moon -121039-03-23 14:39 J -42487989.98 -42487989.89 -42487989.80 0.2786 0.1649 *

Neptune -121039-04-28 10:34 J -42487954.22 -42487954.06 -42487953.88 0.0089 0.0038

Neptune -121039-07-25 14:10 J -42487866.07 -42487865.91 -42487865.74 0.0089 0.0044

Neptune -121039-10-21 17:46 J -42487777.92 -42487777.76 -42487777.60 0.0089 0.0050

Neptune -121038-01-17 21:22 J -42487689.76 -42487689.61 -42487689.47 0.0089 0.0056

Neptune -121038-04-16 00:15 J -42487601.60 -42487601.49 -42487601.33 0.0089 0.0063

Neptune -121038-07-13 03:51 J -42487513.44 -42487513.34 -42487513.20 0.0089 0.0069

Neptune -121038-10-09 07:27 J -42487425.27 -42487425.19 -42487425.07 0.0089 0.0075

Neptune -121037-01-05 11:03 J -42487337.10 -42487337.04 -42487336.94 0.0089 0.0081

Neptune -121037-04-02 14:39 J -42487248.91 -42487248.89 -42487248.83 0.0089 0.0087

Mars -121037-06-25 11:46 J -42487165.17 -42487165.01 -42487164.85 0.1847 0.0220

Mars -121034-04-09 07:27 J -42486147.31 -42486147.19 -42486147.08 0.1664 0.0089

Jupiter -121034-11-11 16:05 J -42485931.00 -42485930.83 -42485930.66 0.0500 0.0158

Jupiter -121033-02-10 01:13 J -42485840.54 -42485840.45 -42485840.36 0.0500 0.0433

Moon -121033-04-01 11:03 J -42485789.14 -42485789.04 -42485788.95 0.2776 0.1365

Earth -121033-04-01 11:03 J -42485789.13 -42485789.04 -42485788.94 0.2784 0.1310 *

Mars -121032-03-14 12:44 J -42485442.01 -42485441.97 -42485441.94 0.1657 0.1567

Saturn -121032-11-30 04:05 J -42485181.44 -42485181.33 -42485181.23 0.0299 0.0188

Saturn -121031-02-26 17:46 J -42485092.89 -42485092.76 -42485092.63 0.0300 0.0072

Saturn -121031-05-26 07:27 J -42485004.32 -42485004.19 -42485004.05 0.0301 0.0044

Saturn -121031-08-22 20:53 J -42484915.73 -42484915.63 -42484915.51 0.0301 0.0160

Saturn -121031-11-19 10:34 J -42484827.11 -42484827.06 -42484827.01 0.0302 0.0273

Uranus -121030-05-13 23:32 J -42484651.55 -42484651.52 -42484651.49 0.0130 0.0127

Uranus -121030-08-10 02:25 J -42484563.46 -42484563.40 -42484563.33 0.0130 0.0111

Earth -121030-09-29 00:29 J -42484513.62 -42484513.48 -42484513.34 0.2558 0.1354

Moon -121030-09-29 02:10 J -42484513.55 -42484513.41 -42484513.28 0.2555 0.1380 *

Uranus -121030-11-06 05:17 J -42484475.36 -42484475.28 -42484475.18 0.0130 0.0097

Uranus -121029-02-02 08:25 J -42484387.25 -42484387.15 -42484387.04 0.0130 0.0081

Uranus -121029-04-30 11:32 J -42484299.13 -42484299.02 -42484298.90 0.0130 0.0066

Uranus -121029-07-27 14:25 J -42484211.02 -42484210.90 -42484210.77 0.0130 0.0051

Uranus -121029-10-23 17:32 J -42484122.90 -42484122.77 -42484122.64 0.0130 0.0035

Uranus -121028-01-19 20:25 J -42484034.78 -42484034.65 -42484034.51 0.0130 0.0020

Uranus -121028-04-17 23:32 J -42483946.66 -42483946.52 -42483946.39 0.0130 0.0007

Uranus -121028-07-15 02:25 J -42483858.54 -42483858.40 -42483858.27 0.0130 0.0010

Jupiter -121028-10-10 04:49 J -42483771.40 -42483771.30 -42483771.20 0.0525 0.0323

Uranus -121028-10-11 05:17 J -42483770.41 -42483770.28 -42483770.15 0.0130 0.0025

Mars -121028-11-15 08:39 J -42483735.27 -42483735.14 -42483735.02 0.1845 0.1186

Uranus -121027-01-07 08:10 J -42483682.29 -42483682.16 -42483682.03 0.0130 0.0040

Jupiter -121027-01-07 11:32 J -42483682.14 -42483682.02 -42483681.89 0.0526 0.0146 *

Uranus -121027-04-05 11:03 J -42483594.16 -42483594.04 -42483593.92 0.0130 0.0055

Uranus -121027-07-02 13:56 J -42483506.03 -42483505.92 -42483505.80 0.0130 0.0070

Uranus -121027-09-28 16:49 J -42483417.89 -42483417.80 -42483417.69 0.0130 0.0084

Uranus -121027-12-25 19:41 J -42483329.76 -42483329.68 -42483329.59 0.0130 0.0099

Uranus -121026-03-23 22:49 J -42483241.62 -42483241.55 -42483241.49 0.0130 0.0114

Earth -121026-03-26 08:39 J -42483239.24 -42483239.14 -42483239.04 0.2781 0.0947

Moon -121026-03-26 09:08 J -42483239.22 -42483239.12 -42483239.02 0.2786 0.0924 *

Uranus -121026-06-20 01:27 J -42483153.45 -42483153.44 -42483153.41 0.0130 0.0129

Mars -121025-08-29 17:46 J -42482716.87 -42482716.76 -42482716.64 0.1666 0.0470

Mars -121023-08-04 23:32 J -42482011.60 -42482011.52 -42482011.44 0.1659 0.1183

Moon -121023-09-20 11:03 J -42481965.10 -42481965.04 -42481964.98 0.2567 0.2336

Earth -121023-09-20 11:32 J -42481965.07 -42481965.02 -42481964.96 0.2561 0.2376 *

Jupiter -121022-08-30 12:58 J -42481621.10 -42481620.96 -42481620.81 0.0500 0.0308

Jupiter -121022-11-28 21:37 J -42481530.75 -42481530.60 -42481530.44 0.0499 0.0278

Moon   -121020-04-04 05:17 J -42481038.35 -42481038.28 -42481038.21 0.2778 0.2040

Earth   -121020-04-04 05:32 J -42481038.34 -42481038.27 -42481038.20 0.2784 0.2109 *

Saturn -121018-09-29 02:39 J -42480130.51 -42480130.39 -42480130.26 0.0264 0.0191

Saturn -121018-12-26 21:37 J -42480041.77 -42480041.60 -42480041.43 0.0263 0.0087

Saturn -121017-03-24 16:34 J -42479952.99 -42479952.81 -42479952.63 0.0262 0.0017

Saturn -121017-06-21 11:46 J -42479864.17 -42479864.01 -42479863.85 0.0262 0.0121

Saturn -121017-09-18 06:58 J -42479775.30 -42479775.21 -42479775.12 0.0261 0.0226

Jupiter -121016-07-29 08:25 J -42479461.21 -42479461.15 -42479461.08 0.0525 0.0442

Jupiter -121016-10-26 15:37 J -42479371.98 -42479371.85 -42479371.72 0.0526 0.0029

Mars   -121015-01-20 04:05 J -42479286.43 -42479286.33 -42479286.23 0.1668 0.0886

Jupiter -121015-01-23 22:05 J -42479282.62 -42479282.58 -42479282.54 0.0527 0.0493

Mars   -121014-12-26 10:05 J -42478581.18 -42478581.08 -42478580.97 0.1660 0.0796

Earth   -121013-03-28 03:08 J -42478488.48 -42478488.37 -42478488.26 0.2782 0.0153

Moon   -121013-03-28 03:37 J -42478488.45 -42478488.35 -42478488.24 0.2786 0.0194 *

Jupiter -121010-06-18 10:34 J -42477311.13 -42477311.06 -42477310.99 0.0500 0.0453

Jupiter -121010-09-16 18:44 J -42477220.89 -42477220.72 -42477220.54 0.0499 0.0130

Moon   -121010-09-23 17:46 J -42477213.90 -42477213.76 -42477213.61 0.2566 0.1069

Earth   -121010-09-23 18:01 J -42477213.90 -42477213.75 -42477213.60 0.2560 0.1055 *

Venus   -121009-07-21 09:08 J -42476912.15 -42476912.12 -42476912.09 0.3719 0.3545

Mars   -121007-08-04 16:34 J -42476167.95 -42476167.81 -42476167.67 0.1850 0.0896

Moon   -121006-03-22 00:01 J -42475938.55 -42475938.50 -42475938.45 0.2778 0.2416

Earth   -121006-03-22 00:44 J -42475938.52 -42475938.47 -42475938.42 0.2778 0.2395 *

Mars   -121006-06-12 14:25 J -42475855.97 -42475855.90 -42475855.82 0.1670 0.1305

Mars   -121004-05-17 20:53 J -42475150.75 -42475150.63 -42475150.52 0.1662 0.0398

Jupiter -121004-08-14 19:27 J -42475061.82 -42475061.69 -42475061.56 0.0525 0.0088

Jupiter -121004-11-12 02:10 J -42474972.50 -42474972.41 -42474972.32 0.0526 0.0377

Venus   -121003-02-04 01:41 J -42474888.52 -42474888.43 -42474888.33 0.3724 0.1812

Saturn -121002-04-19 06:29 J -42474449.32 -42474449.23 -42474449.13 0.0299 0.0214

Saturn -121002-07-16 20:25 J -42474360.78 -42474360.65 -42474360.52 0.0299 0.0099

Saturn -121002-10-13 10:05 J -42474272.22 -42474272.08 -42474271.95 0.0300 0.0017

Saturn -121001-01-09 23:32 J -42474183.64 -42474183.52 -42474183.40 0.0301 0.0132

Saturn -121001-04-07 12:58 J -42474095.03 -42474094.96 -42474094.88 0.0302 0.0247

121ST MILLENNIUM BCE

This is a list of transits of Mercury in the 121st millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Earth -121000-03-30 21:37 J -42473737.71 -42473737.60 -42473737.50 0.2783 0.0657

Moon -121000-03-30 22:05 J -42473737.68 -42473737.58 -42473737.47 0.2786 0.0767 *

Jupiter -120998-07-05 15:51 J -42472911.02 -42472910.84 -42472910.66 0.0500 0.0020

Venus -120998-08-20 18:29 J -42472864.84 -42472864.73 -42472864.63 0.3730 0.0120

Mars -120998-12-25 12:44 J -42472738.14 -42472737.97 -42472737.81 0.1848 0.0125

Moon -120997-09-26 00:15 J -42472462.65 -42472462.49 -42472462.33 0.2565 0.0161

Earth -120997-09-26 00:29 J -42472462.64 -42472462.48 -42472462.31 0.2559 0.0284 *

Venus -120995-05-20 23:17 J -42471860.62 -42471860.53 -42471860.43 0.3658 0.2779

Mars -120995-10-08 07:27 J -42471720.31 -42471720.19 -42471720.07 0.1664 0.0034

Moon -120993-03-23 18:29 J -42471187.82 -42471187.73 -42471187.65 0.2782 0.1628

Earth -120993-03-23 19:13 J -42471187.79 -42471187.70 -42471187.62 0.2780 0.1601 *

Mars -120993-09-12 12:44 J -42471014.99 -42471014.97 -42471014.95 0.1657 0.1617

Venus -120992-03-05 11:03 J -42470841.14 -42470841.04 -42470840.95 0.3736 0.1625

Jupiter -120992-06-02 23:17 J -42470751.65 -42470751.53 -42470751.41 0.0525 0.0205

Jupiter -120992-08-31 06:01 J -42470662.36 -42470662.25 -42470662.14 0.0526 0.0261

Venus -120990-12-05 05:17 J -42469836.42 -42469836.28 -42469836.14 0.3650 0.1288

Saturn -120988-02-15 03:22 J -42469398.45 -42469398.36 -42469398.25 0.0264 0.0217

Saturn -120988-05-14 22:20 J -42469309.73 -42469309.57 -42469309.41 0.0263 0.0113

Mars -120988-05-16 09:08 J -42469308.25 -42469308.12 -42469307.99 0.1844 0.1095

Saturn -120988-08-11 17:17 J -42469220.96 -42469220.78 -42469220.60 0.0262 0.0010

Saturn -120988-11-08 12:15 J -42469132.15 -42469131.99 -42469131.81 0.0262 0.0095

Saturn -120987-02-05 07:27 J -42469043.30 -42469043.19 -42469043.06 0.0261 0.0200

Earth -120987-04-02 16:05 J -42468986.93 -42468986.83 -42468986.74 0.2784 0.1459

Moon -120987-04-02 16:49 J -42468986.89 -42468986.80 -42468986.71 0.2785 0.1519 *

Uranus -120987-05-05 06:29 J -42468954.26 -42468954.23 -42468954.17 0.0148 0.0144

Uranus -120987-08-01 15:08 J -42468865.98 -42468865.87 -42468865.73 0.0149 0.0113

Venus -120987-09-19 03:37 J -42468817.40 -42468817.35 -42468817.31 0.3742 0.3319

Uranus -120987-10-28 23:46 J -42468777.65 -42468777.51 -42468777.34 0.0149 0.0082

Uranus -120986-01-25 08:39 J -42468689.31 -42468689.14 -42468688.96 0.0149 0.0050

Jupiter -120986-04-23 13:13 J -42468601.12 -42468600.95 -42468600.78 0.0500 0.0166

Uranus -120986-04-23 17:17 J -42468600.96 -42468600.78 -42468600.59 0.0149 0.0019 *

Uranus -120986-07-21 02:10 J -42468512.60 -42468512.41 -42468512.22 0.0149 0.0013

Jupiter -120986-07-22 22:05 J -42468510.67 -42468510.58 -42468510.48 0.0500 0.0426

Uranus -120986-10-17 10:49 J -42468424.22 -42468424.05 -42468423.86 0.0149 0.0046

Uranus -120985-01-13 19:27 J -42468335.84 -42468335.69 -42468335.51 0.0149 0.0078

Mars -120985-02-28 17:46 J -42468289.88 -42468289.76 -42468289.64 0.1666 0.0418

Uranus -120985-04-11 04:20 J -42468247.43 -42468247.32 -42468247.18 0.0149 0.0110

Uranus -120985-07-08 13:13 J -42468158.99 -42468158.95 -42468158.88 0.0149 0.0142

Earth -120984-09-29 07:13 J -42467711.33 -42467711.20 -42467711.08 0.2558 0.1601

Moon -120984-09-29 07:13 J -42467711.32 -42467711.20 -42467711.08 0.2564 0.1671 *

Mars -120983-02-02 23:32 J -42467584.60 -42467584.52 -42467584.45 0.1659 0.1232

Jupiter -120980-03-22 02:39 J -42466441.48 -42466441.39 -42466441.28 0.0525 0.0330

Moon -120980-03-26 12:58 J -42466437.06 -42466436.96 -42466436.86 0.2783 0.0922

Earth -120980-03-26 13:27 J -42466437.04 -42466436.94 -42466436.83 0.2781 0.0809 *

Jupiter -120980-06-19 09:37 J -42466352.22 -42466352.10 -42466351.98 0.0525 0.0139

Moon -120977-09-20 16:49 J -42465162.89 -42465162.80 -42465162.71 0.2557 0.2143

Earth -120977-09-20 18:15 J -42465162.83 -42465162.74 -42465162.66 0.2561 0.2142 *

Mars -120976-07-21 04:20 J -42464859.43 -42464859.32 -42464859.22 0.1668 0.0832

Jupiter -120974-02-09 10:49 J -42464291.19 -42464291.05 -42464290.91 0.0501 0.0310

Earth -120974-04-05 10:20 J -42464236.13 -42464236.07 -42464236.00 0.2784 0.2259

Moon -120974-04-05 11:03 J -42464236.10 -42464236.04 -42464235.98 0.2784 0.2252 *

Jupiter -120974-05-10 19:27 J -42464200.84 -42464200.69 -42464200.54 0.0500 0.0278

Mars -120974-06-26 10:05 J -42464154.18 -42464154.08 -42464153.97 0.1660 0.0844

Saturn -120973-09-05 08:53 J -42463717.21 -42463717.13 -42463717.05 0.0299 0.0241

Saturn -120973-12-02 22:49 J -42463628.67 -42463628.55 -42463628.43 0.0299 0.0125

Saturn -120972-03-01 12:29 J -42463540.11 -42463539.98 -42463539.84 0.0300 0.0010

Saturn -120972-05-29 02:10 J -42463451.54 -42463451.41 -42463451.29 0.0301 0.0105

Saturn -120972-08-25 15:37 J -42463362.94 -42463362.85 -42463362.76 0.0302 0.0220

Jupiter -120968-01-08 06:29 J -42462131.29 -42462131.23 -42462131.16 0.0525 0.0447

Jupiter -120968-04-07 13:41 J -42462042.06 -42462041.93 -42462041.81 0.0526 0.0028

Jupiter -120968-07-05 20:10 J -42461952.71 -42461952.66 -42461952.62 0.0526 0.0485

Mars -120967-02-02 17:03 J -42461740.93 -42461740.79 -42461740.65 0.1850 0.0986

Moon -120967-03-29 07:27 J -42461686.30 -42461686.19 -42461686.08 0.2787 0.0064

Earth -120967-03-29 07:56 J -42461686.28 -42461686.17 -42461686.06 0.2782 0.0068 *

Mars -120967-12-11 14:25 J -42461428.97 -42461428.90 -42461428.82 0.1670 0.1249

Mars -120965-11-15 20:53 J -42460723.75 -42460723.63 -42460723.52 0.1662 0.0449

Moon -120964-09-23 23:17 J -42460411.68 -42460411.53 -42460411.38 0.2557 0.0994

Earth -120964-09-24 00:44 J -42460411.62 -42460411.47 -42460411.32 0.2560 0.0811 *

Neptune -120963-01-28 04:20 J -42460285.34 -42460285.32 -42460285.28 0.0088 0.0086

Neptune -120963-04-26 05:46 J -42460197.30 -42460197.26 -42460197.20 0.0088 0.0082

Neptune -120963-07-23 07:13 J -42460109.26 -42460109.20 -42460109.13 0.0088 0.0077

Neptune -120963-10-19 08:39 J -42460021.21 -42460021.14 -42460021.05 0.0088 0.0073

Jupiter -120963-11-28 07:56 J -42459981.23 -42459981.17 -42459981.09 0.0500 0.0457

Neptune -120962-01-15 10:20 J -42459933.15 -42459933.07 -42459932.98 0.0088 0.0069

Jupiter -120962-02-26 16:20 J -42459891.00 -42459890.82 -42459890.64 0.0499 0.0126

Neptune -120962-04-13 11:32 J -42459845.10 -42459845.02 -42459844.92 0.0088 0.0065

Neptune -120962-07-10 12:58 J -42459757.05 -42459756.96 -42459756.85 0.0088 0.0061

Neptune -120962-10-06 14:25 J -42459668.99 -42459668.90 -42459668.78 0.0088 0.0056

Neptune -120961-01-02 16:05 J -42459580.94 -42459580.83 -42459580.72 0.0088 0.0052

Neptune -120961-03-30 17:32 J -42459492.88 -42459492.77 -42459492.65 0.0088 0.0047

Neptune -120961-06-26 18:58 J -42459404.83 -42459404.71 -42459404.59 0.0088 0.0043

Neptune -120961-09-22 20:10 J -42459316.77 -42459316.66 -42459316.52 0.0088 0.0040

Neptune -120961-12-19 21:51 J -42459228.71 -42459228.59 -42459228.46 0.0088 0.0035

Neptune -120960-03-17 23:17 J -42459140.66 -42459140.53 -42459140.40 0.0088 0.0030

Earth -120960-03-22 05:32 J -42459136.33 -42459136.27 -42459136.21 0.2778 0.2255

Moon -120960-03-22 05:46 J -42459136.32 -42459136.26 -42459136.19 0.2772 0.2164 *

Neptune -120960-06-14 00:44 J -42459052.60 -42459052.47 -42459052.34 0.0088 0.0026

Neptune -120960-09-10 02:10 J -42458964.54 -42458964.41 -42458964.28 0.0088 0.0022

Neptune -120960-12-07 03:37 J -42458876.48 -42458876.35 -42458876.22 0.0088 0.0018

Neptune -120959-03-05 05:03 J -42458788.43 -42458788.29 -42458788.16 0.0088 0.0013

Neptune -120959-06-01 06:29 J -42458700.37 -42458700.23 -42458700.10 0.0088 0.0009

Saturn -120959-07-05 04:20 J -42458666.38 -42458666.32 -42458666.23 0.0264 0.0240

Neptune -120959-08-28 07:56 J -42458612.31 -42458612.17 -42458612.04 0.0088 0.0006

Saturn -120959-10-01 23:17 J -42458577.68 -42458577.53 -42458577.37 0.0263 0.0137

Neptune -120959-11-24 09:08 J -42458524.25 -42458524.12 -42458523.98 0.0088 0.0003

Saturn -120959-12-29 18:15 J -42458488.92 -42458488.74 -42458488.56 0.0263 0.0033

Neptune -120958-02-20 10:34 J -42458436.19 -42458436.06 -42458435.92 0.0088 0.0004

Saturn -120958-03-28 13:27 J -42458400.12 -42458399.94 -42458399.77 0.0262 0.0072

Neptune -120958-05-19 12:01 J -42458348.13 -42458348.00 -42458347.86 0.0088 0.0008

Saturn -120958-06-25 08:39 J -42458311.28 -42458311.14 -42458311.01 0.0262 0.0176

Mars -120958-06-25 13:27 J -42458311.11 -42458310.94 -42458310.78 0.1848 0.0041 *

Neptune -120958-08-15 13:27 J -42458260.07 -42458259.94 -42458259.81 0.0088 0.0012

Neptune -120958-11-11 14:39 J -42458172.01 -42458171.89 -42458171.75 0.0088 0.0017

Neptune -120957-02-07 16:05 J -42458083.95 -42458083.83 -42458083.69 0.0088 0.0020

Neptune -120957-05-05 17:32 J -42457995.89 -42457995.77 -42457995.64 0.0088 0.0024

Neptune -120957-08-01 18:58 J -42457907.84 -42457907.71 -42457907.58 0.0088 0.0028

Neptune -120957-10-28 20:25 J -42457819.77 -42457819.65 -42457819.52 0.0088 0.0032

Jupiter -120956-01-24 17:17 J -42457731.90 -42457731.78 -42457731.65 0.0526 0.0098

Neptune -120956-01-24 21:51 J -42457731.71 -42457731.59 -42457731.47 0.0088 0.0037 *

Neptune -120956-04-22 23:03 J -42457643.65 -42457643.54 -42457643.41 0.0088 0.0041

Jupiter -120956-04-24 00:01 J -42457642.59 -42457642.50 -42457642.41 0.0526 0.0370

Neptune -120956-07-20 00:15 J -42457555.59 -42457555.49 -42457555.36 0.0088 0.0046

Neptune -120956-10-16 01:41 J -42457467.53 -42457467.43 -42457467.31 0.0088 0.0049

Neptune -120955-01-12 03:08 J -42457379.47 -42457379.37 -42457379.26 0.0088 0.0053

Mars -120955-04-08 07:27 J -42457293.31 -42457293.19 -42457293.07 0.1664 0.0061

Neptune -120955-04-10 04:34 J -42457291.41 -42457291.31 -42457291.20 0.0088 0.0057

Neptune -120955-07-07 06:01 J -42457203.34 -42457203.25 -42457203.15 0.0088 0.0061

Neptune -120955-10-03 07:13 J -42457115.28 -42457115.20 -42457115.10 0.0088 0.0066

Neptune -120955-12-30 08:39 J -42457027.22 -42457027.14 -42457027.05 0.0088 0.0070

Neptune -120954-03-28 10:05 J -42456939.15 -42456939.08 -42456939.01 0.0088 0.0074

Moon -120954-04-01 01:56 J -42456935.52 -42456935.42 -42456935.32 0.2787 0.0809

Earth -120954-04-01 02:25 J -42456935.50 -42456935.40 -42456935.30 0.2783 0.0799 *

Neptune -120954-06-24 11:17 J -42456851.08 -42456851.03 -42456850.96 0.0088 0.0078

Neptune -120954-09-20 12:44 J -42456763.01 -42456762.97 -42456762.92 0.0088 0.0082

Neptune -120954-12-17 14:10 J -42456674.94 -42456674.91 -42456674.88 0.0088 0.0086

Venus -120952-02-25 06:44 J -42456239.28 -42456239.22 -42456239.15 0.3720 0.2894

Moon -120951-09-27 05:46 J -42455660.42 -42455660.26 -42455660.10 0.2555 0.0422

Earth -120951-09-27 07:13 J -42455660.36 -42455660.20 -42455660.04 0.2558 0.0521 *

Jupiter -120951-12-15 13:27 J -42455581.12 -42455580.94 -42455580.76 0.0500 0.0023

Mars -120949-11-14 09:51 J -42454881.22 -42454881.09 -42454880.95 0.1845 0.0994

Moon -120947-03-25 00:01 J -42454385.59 -42454385.50 -42454385.41 0.2772 0.1500

Earth -120947-03-25 00:01 J -42454385.59 -42454385.50 -42454385.41 0.2780 0.1458 *

Venus -120947-09-10 23:32 J -42454215.62 -42454215.52 -42454215.42 0.3726 0.1159

Uranus -120946-06-03 07:13 J -42453950.25 -42453950.20 -42453950.15 0.0130 0.0121

Mars -120946-08-29 17:46 J -42453862.87 -42453862.76 -42453862.64 0.1666 0.0364

Uranus -120946-08-30 10:05 J -42453862.15 -42453862.08 -42453862.00 0.0130 0.0106

Uranus -120946-11-26 12:58 J -42453774.05 -42453773.96 -42453773.85 0.0130 0.0091

Uranus -120945-02-22 16:05 J -42453685.93 -42453685.83 -42453685.72 0.0130 0.0075

Uranus -120945-05-20 18:58 J -42453597.82 -42453597.71 -42453597.58 0.0130 0.0061

Uranus -120945-08-16 22:05 J -42453509.70 -42453509.58 -42453509.45 0.0130 0.0045

Jupiter -120945-11-12 21:22 J -42453421.73 -42453421.61 -42453421.49 0.0525 0.0213

Uranus -120945-11-13 01:13 J -42453421.58 -42453421.45 -42453421.32 0.0130 0.0030 *

Uranus -120944-02-09 04:05 J -42453333.46 -42453333.33 -42453333.20 0.0130 0.0015

Jupiter -120944-02-10 04:05 J -42453332.44 -42453332.33 -42453332.22 0.0526 0.0254

Uranus -120944-05-08 06:58 J -42453245.34 -42453245.21 -42453245.07 0.0130 0.0004

Mars -120944-08-03 23:32 J -42453157.59 -42453157.52 -42453157.45 0.1658 0.1283

Uranus -120944-08-04 10:05 J -42453157.22 -42453157.08 -42453156.95 0.0130 0.0016

Uranus -120944-10-31 12:58 J -42453069.09 -42453068.96 -42453068.83 0.0130 0.0030

Saturn -120943-01-23 11:46 J -42452985.07 -42452985.01 -42452984.95 0.0298 0.0266

Uranus -120943-01-27 15:51 J -42452980.96 -42452980.84 -42452980.71 0.0130 0.0045

Saturn -120943-04-22 01:27 J -42452896.55 -42452896.44 -42452896.32 0.0299 0.0151

Uranus -120943-04-25 18:44 J -42452892.84 -42452892.72 -42452892.60 0.0130 0.0060

Saturn -120943-07-19 15:22 J -42452808.00 -42452807.86 -42452807.73 0.0300 0.0035

Uranus -120943-07-22 21:37 J -42452804.71 -42452804.60 -42452804.49 0.0130 0.0075

Saturn -120943-10-16 05:03 J -42452719.42 -42452719.29 -42452719.16 0.0301 0.0080

Uranus -120943-10-19 00:15 J -42452716.57 -42452716.49 -42452716.38 0.0130 0.0091

Saturn -120942-01-12 18:29 J -42452630.83 -42452630.73 -42452630.63 0.0301 0.0195

Uranus -120942-01-15 03:22 J -42452628.43 -42452628.36 -42452628.28 0.0130 0.0105

Uranus -120942-04-13 06:15 J -42452540.29 -42452540.24 -42452540.18 0.0130 0.0119

Venus -120941-03-26 16:05 J -42452191.93 -42452191.83 -42452191.72 0.3732 0.0571

Moon -120941-04-02 20:25 J -42452184.74 -42452184.65 -42452184.56 0.2790 0.1510

Earth -120941-04-02 20:53 J -42452184.72 -42452184.63 -42452184.54 0.2784 0.1603 *

Jupiter -120939-10-03 10:20 J -42451271.24 -42451271.07 -42451270.90 0.0500 0.0174

Venus -120939-12-26 00:29 J -42451187.61 -42451187.48 -42451187.34 0.3656 0.1405

Jupiter -120938-01-01 18:58 J -42451180.80 -42451180.71 -42451180.60 0.0500 0.0417

Moon -120938-09-30 12:15 J -42450909.11 -42450908.99 -42450908.88 0.2556 0.1835

Earth -120938-09-30 13:41 J -42450909.04 -42450908.93 -42450908.82 0.2558 0.1842 *

Mars -120936-01-19 04:20 J -42450432.43 -42450432.32 -42450432.22 0.1668 0.0779

Venus -120936-10-10 08:39 J -42450168.22 -42450168.14 -42450168.05 0.3738 0.2259

Mars -120935-12-25 10:05 J -42449727.18 -42449727.08 -42449726.98 0.1660 0.0895

Moon -120934-03-27 18:29 J -42449634.84 -42449634.73 -42449634.63 0.2774 0.0678

Earth -120934-03-27 18:29 J -42449634.84 -42449634.73 -42449634.63 0.2781 0.0661 *

Venus -120933-07-11 06:29 J -42449163.33 -42449163.23 -42449163.13 0.3648 0.2692

Jupiter -120933-09-01 01:13 J -42449111.55 -42449111.45 -42449111.35 0.0525 0.0331

Jupiter -120933-11-29 07:56 J -42449022.29 -42449022.17 -42449022.04 0.0525 0.0138

Earth -120931-09-22 00:44 J -42448360.57 -42448360.47 -42448360.36 0.2561 0.1898

Moon -120931-09-22 02:25 J -42448360.51 -42448360.40 -42448360.29 0.2557 0.1857 *

Saturn -120930-11-22 05:46 J -42447934.27 -42447934.26 -42447934.25 0.0264 0.0263

Saturn -120929-02-19 00:29 J -42447845.62 -42447845.48 -42447845.34 0.0263 0.0161

Saturn -120929-05-17 19:13 J -42447756.87 -42447756.70 -42447756.52 0.0263 0.0058

Saturn -120929-08-14 14:25 J -42447668.08 -42447667.90 -42447667.72 0.0262 0.0047

Saturn -120929-11-11 09:22 J -42447579.25 -42447579.11 -42447578.95 0.0262 0.0152

Saturn -120928-02-08 04:49 J -42447490.33 -42447490.30 -42447490.26 0.0261 0.0256

Moon -120928-04-05 14:53 J -42447433.93 -42447433.88 -42447433.82 0.2790 0.2395

Earth -120928-04-05 15:22 J -42447433.91 -42447433.86 -42447433.81 0.2784 0.2404 *

Mars -120928-08-03 18:01 J -42447313.88 -42447313.75 -42447313.62 0.1850 0.1088

Mars -120927-06-11 14:25 J -42447001.98 -42447001.90 -42447001.81 0.1671 0.1196

Jupiter -120927-07-22 07:41 J -42446961.32 -42446961.18 -42446961.04 0.0501 0.0320

Jupiter -120927-10-20 16:20 J -42446870.97 -42446870.82 -42446870.67 0.0500 0.0268

Mars -120925-05-16 20:53 J -42446296.75 -42446296.63 -42446296.52 0.1662 0.0500

Moon -120921-03-29 12:44 J -42444884.08 -42444883.97 -42444883.86 0.2775 0.0207

Earth -120921-03-29 12:58 J -42444884.07 -42444883.96 -42444883.86 0.2782 0.0172 *

Jupiter -120921-06-20 04:34 J -42444801.38 -42444801.31 -42444801.25 0.0524 0.0455

Jupiter -120921-09-17 11:32 J -42444712.15 -42444712.02 -42444711.89 0.0525 0.0014

Jupiter -120921-12-15 18:01 J -42444622.80 -42444622.75 -42444622.70 0.0526 0.0477

Mars -120919-12-24 13:56 J -42443884.09 -42443883.92 -42443883.76 0.1847 0.0082

Earth -120918-09-25 07:13 J -42443609.35 -42443609.20 -42443609.04 0.2559 0.0575

Moon -120918-09-25 08:39 J -42443609.30 -42443609.14 -42443608.98 0.2556 0.0549 *

Mars -120918-11-02 00:44 J -42443571.50 -42443571.47 -42443571.45 0.1673 0.1620

Pluto -120916-06-14 06:01 J -42442981.25 -42442981.25 -42442981.21 0.0060 0.0060

Pluto -120916-09-10 07:13 J -42442893.27 -42442893.20 -42442893.08 0.0061 0.0053

Mars -120916-10-07 07:27 J -42442866.31 -42442866.19 -42442866.07 0.1664 0.0106

Pluto -120916-12-07 08:53 J -42442805.25 -42442805.13 -42442804.99 0.0061 0.0044

Pluto -120915-03-05 10:20 J -42442717.22 -42442717.07 -42442716.92 0.0061 0.0036

Jupiter -120915-05-10 05:17 J -42442651.34 -42442651.28 -42442651.21 0.0501 0.0463

Pluto -120915-06-01 11:32 J -42442629.18 -42442629.02 -42442628.84 0.0061 0.0028

Jupiter -120915-08-08 13:41 J -42442561.11 -42442560.93 -42442560.75 0.0500 0.0121

Pluto -120915-08-28 12:44 J -42442541.14 -42442540.97 -42442540.78 0.0061 0.0020

Pluto -120915-11-24 14:10 J -42442453.09 -42442452.91 -42442452.72 0.0061 0.0012

Pluto -120914-02-20 15:37 J -42442365.04 -42442364.85 -42442364.66 0.0061 0.0004

Earth -120914-03-23 10:20 J -42442334.13 -42442334.07 -42442334.00 0.2779 0.2115

Moon -120914-03-23 11:03 J -42442334.11 -42442334.04 -42442333.97 0.2784 0.2083 *

Pluto -120914-05-19 16:49 J -42442276.98 -42442276.80 -42442276.61 0.0061 0.0005

Saturn -120914-06-12 14:25 J -42442252.93 -42442252.90 -42442252.86 0.0298 0.0289

Pluto -120914-08-15 18:01 J -42442188.92 -42442188.75 -42442188.55 0.0061 0.0013

Saturn -120914-09-09 04:20 J -42442164.43 -42442164.32 -42442164.21 0.0299 0.0174

Pluto -120914-11-11 19:27 J -42442100.86 -42442100.69 -42442100.51 0.0061 0.0021

Saturn -120914-12-06 18:15 J -42442075.87 -42442075.74 -42442075.61 0.0300 0.0058

Pluto -120913-02-07 20:39 J -42442012.79 -42442012.64 -42442012.46 0.0061 0.0030

Saturn -120913-03-04 07:56 J -42441987.31 -42441987.17 -42441987.04 0.0301 0.0057

Pluto -120913-05-05 22:05 J -42441924.72 -42441924.58 -42441924.43 0.0061 0.0038

Saturn -120913-05-31 21:22 J -42441898.72 -42441898.61 -42441898.50 0.0301 0.0172

Pluto -120913-08-01 23:03 J -42441836.64 -42441836.54 -42441836.40 0.0061 0.0046

Saturn -120913-08-28 10:49 J -42441810.09 -42441810.05 -42441810.01 0.0302 0.0285

Pluto -120913-10-29 00:29 J -42441748.55 -42441748.48 -42441748.38 0.0061 0.0055

Mars -120909-05-15 10:20 J -42440454.21 -42440454.07 -42440453.93 0.1845 0.0905

Jupiter -120909-07-06 15:22 J -42440401.99 -42440401.86 -42440401.73 0.0525 0.0104

Jupiter -120909-10-03 21:51 J -42440312.68 -42440312.59 -42440312.49 0.0526 0.0362

Moon -120908-04-01 06:58 J -42440133.31 -42440133.21 -42440133.10 0.2776 0.0895

Earth -120908-04-01 07:13 J -42440133.30 -42440133.20 -42440133.09 0.2783 0.0951 *

Mars -120906-02-27 17:46 J -42439435.87 -42439435.76 -42439435.64 0.1666 0.0315

Earth -120905-09-27 13:56 J -42438858.08 -42438857.92 -42438857.77 0.2558 0.0758

Moon -120905-09-27 15:08 J -42438858.02 -42438857.87 -42438857.71 0.2554 0.0938 *

Mars -120904-02-01 23:32 J -42438730.59 -42438730.52 -42438730.45 0.1659 0.1334

Uranus -120903-05-25 12:58 J -42438253.01 -42438252.96 -42438252.89 0.0148 0.0140

Jupiter -120903-05-27 10:49 J -42438251.23 -42438251.05 -42438250.87 0.0500 0.0028

Uranus -120903-08-21 21:37 J -42438164.72 -42438164.60 -42438164.47 0.0148 0.0109

Uranus -120903-11-18 06:15 J -42438076.39 -42438076.24 -42438076.07 0.0148 0.0078

Uranus -120902-02-14 14:53 J -42437988.05 -42437987.88 -42437987.69 0.0148 0.0046

Uranus -120902-05-13 23:46 J -42437899.70 -42437899.51 -42437899.32 0.0148 0.0015

Uranus -120902-08-10 08:25 J -42437811.34 -42437811.15 -42437810.96 0.0148 0.0017

Uranus -120902-11-06 17:17 J -42437722.96 -42437722.78 -42437722.60 0.0148 0.0049

Uranus -120901-02-03 01:56 J -42437634.57 -42437634.42 -42437634.25 0.0148 0.0081

Earth -120901-03-25 04:49 J -42437583.39 -42437583.30 -42437583.20 0.2780 0.1316

Moon -120901-03-25 05:32 J -42437583.36 -42437583.27 -42437583.18 0.2783 0.1316 *

Uranus -120901-05-01 10:34 J -42437546.17 -42437546.06 -42437545.92 0.0148 0.0113

Uranus -120901-07-28 19:27 J -42437457.72 -42437457.69 -42437457.64 0.0148 0.0145

Saturn -120900-07-08 01:41 J -42437113.55 -42437113.43 -42437113.30 0.0264 0.0183

Saturn -120900-10-04 20:39 J -42437024.81 -42437024.64 -42437024.47 0.0263 0.0079

Mars -120900-10-05 07:41 J -42437024.19 -42437024.18 -42437024.17 0.1841 0.1836

Saturn -120899-01-01 15:37 J -42436936.03 -42436935.85 -42436935.67 0.0262 0.0025

Saturn -120899-03-31 10:49 J -42436847.21 -42436847.05 -42436846.89 0.0262 0.0129

Saturn -120899-06-28 06:01 J -42436758.33 -42436758.25 -42436758.17 0.0261 0.0234

Jupiter -120897-04-24 18:58 J -42436091.83 -42436091.71 -42436091.59 0.0526 0.0225

Mars -120897-07-20 04:20 J -42436005.43 -42436005.32 -42436005.21 0.1668 0.0722

Jupiter -120897-07-23 01:56 J -42436002.54 -42436002.42 -42436002.31 0.0526 0.0244

Venus -120896-10-02 04:34 J -42435566.39 -42435566.31 -42435566.22 0.3722 0.2243

Moon -120895-04-04 01:13 J -42435382.53 -42435382.45 -42435382.36 0.2778 0.1682

Earth -120895-04-04 01:41 J -42435382.51 -42435382.43 -42435382.34 0.2784 0.1750 *

Mars -120895-06-25 10:20 J -42435300.17 -42435300.07 -42435299.98 0.1660 0.0948

Earth -120892-09-30 20:25 J -42434106.74 -42434106.65 -42434106.56 0.2558 0.2088

Moon -120892-09-30 21:37 J -42434106.68 -42434106.60 -42434106.51 0.2554 0.2156 *

Jupiter -120891-03-15 07:56 J -42433941.34 -42433941.17 -42433941.00 0.0500 0.0176

Jupiter -120891-06-13 16:49 J -42433850.90 -42433850.80 -42433850.70 0.0499 0.0412

Venus -120890-04-17 21:22 J -42433542.72 -42433542.61 -42433542.51 0.3728 0.0535

Mars -120888-02-01 18:44 J -42432886.85 -42432886.72 -42432886.60 0.1850 0.1187

Earth -120888-03-27 23:17 J -42432832.64 -42432832.53 -42432832.42 0.2781 0.0516

Moon -120888-03-28 00:01 J -42432832.61 -42432832.50 -42432832.39 0.2785 0.0409 *

Mars -120888-12-10 14:25 J -42432574.98 -42432574.90 -42432574.81 0.1671 0.1142

Mars -120886-11-15 20:53 J -42431869.75 -42431869.63 -42431869.52 0.1662 0.0552

Jupiter -120885-02-11 22:49 J -42431781.64 -42431781.55 -42431781.45 0.0525 0.0341

Jupiter -120885-05-11 05:46 J -42431692.38 -42431692.26 -42431692.13 0.0526 0.0129

Earth -120885-09-22 07:27 J -42431558.31 -42431558.19 -42431558.07 0.2560 0.1652

Moon -120885-09-22 07:56 J -42431558.29 -42431558.17 -42431558.06 0.2567 0.1737 *

Venus -120885-10-31 13:56 J -42431519.02 -42431518.92 -42431518.82 0.3734 0.1191

Saturn -120884-01-26 06:58 J -42431432.30 -42431432.21 -42431432.10 0.0299 0.0200

Saturn -120884-04-24 20:53 J -42431343.76 -42431343.63 -42431343.50 0.0299 0.0084

Saturn -120884-07-22 10:34 J -42431255.19 -42431255.06 -42431254.92 0.0300 0.0031

Saturn -120884-10-19 00:15 J -42431166.61 -42431166.49 -42431166.38 0.0301 0.0146

Saturn -120883-01-15 13:41 J -42431078.00 -42431077.93 -42431077.87 0.0301 0.0260

Moon -120882-04-06 19:41 J -42430631.72 -42430631.68 -42430631.64 0.2779 0.2573

Earth -120882-04-06 20:10 J -42430631.70 -42430631.66 -42430631.62 0.2784 0.2551 *

Venus -120882-08-02 01:41 J -42430514.57 -42430514.43 -42430514.28 0.3654 0.0111

Earth -120881-03-20 20:53 J -42430282.64 -42430282.63 -42430282.62 0.2777 0.2762

Neptune -120880-12-29 07:56 J -42429634.20 -42429634.17 -42429634.10 0.0089 0.0085

Jupiter -120879-01-01 04:49 J -42429631.44 -42429631.30 -42429631.17 0.0500 0.0329

Neptune -120879-03-27 11:17 J -42429546.10 -42429546.03 -42429545.93 0.0089 0.0079

Jupiter -120879-04-01 13:13 J -42429541.10 -42429540.95 -42429540.79 0.0500 0.0258

Venus -120879-05-17 06:29 J -42429495.30 -42429495.23 -42429495.17 0.3739 0.2883

Neptune -120879-06-23 14:53 J -42429457.98 -42429457.88 -42429457.77 0.0089 0.0073

Mars -120879-06-24 14:39 J -42429457.06 -42429456.89 -42429456.73 0.1848 0.0175

Neptune -120879-09-19 18:01 J -42429369.85 -42429369.75 -42429369.61 0.0089 0.0068

Neptune -120879-12-16 21:22 J -42429281.73 -42429281.61 -42429281.46 0.0089 0.0062

Neptune -120878-03-15 00:44 J -42429193.60 -42429193.47 -42429193.31 0.0089 0.0056

Mars -120878-05-03 00:44 J -42429144.51 -42429144.47 -42429144.43 0.1673 0.1567

Neptune -120878-06-11 04:20 J -42429105.47 -42429105.32 -42429105.16 0.0089 0.0050

Neptune -120878-09-07 07:41 J -42429017.34 -42429017.18 -42429017.01 0.0089 0.0044

Neptune -120878-12-04 11:03 J -42428929.20 -42428929.04 -42428928.86 0.0089 0.0038

Neptune -120877-03-01 14:39 J -42428841.06 -42428840.89 -42428840.71 0.0089 0.0032

Neptune -120877-05-28 18:01 J -42428752.93 -42428752.75 -42428752.57 0.0089 0.0026

Neptune -120877-08-24 21:22 J -42428664.79 -42428664.61 -42428664.42 0.0089 0.0021

Neptune -120877-11-21 00:44 J -42428576.65 -42428576.47 -42428576.28 0.0089 0.0015

Neptune -120876-02-17 04:20 J -42428488.51 -42428488.32 -42428488.13 0.0089 0.0009

Mars -120876-04-07 07:27 J -42428439.31 -42428439.19 -42428439.07 0.1664 0.0155

Neptune -120876-05-16 07:41 J -42428400.36 -42428400.18 -42428399.99 0.0089 0.0003

Neptune -120876-08-12 11:17 J -42428312.22 -42428312.03 -42428311.84 0.0089 0.0003

Neptune -120876-11-08 14:39 J -42428224.08 -42428223.89 -42428223.70 0.0089 0.0009

Neptune -120875-02-04 18:15 J -42428135.93 -42428135.74 -42428135.56 0.0089 0.0015

Earth -120875-03-30 17:46 J -42428081.87 -42428081.76 -42428081.65 0.2782 0.0288

Moon -120875-03-30 18:29 J -42428081.84 -42428081.73 -42428081.62 0.2783 0.0342 *

Neptune -120875-05-03 21:37 J -42428047.78 -42428047.60 -42428047.41 0.0089 0.0021

Neptune -120875-07-31 01:13 J -42427959.63 -42427959.45 -42427959.27 0.0089 0.0027

Neptune -120875-10-27 04:34 J -42427871.48 -42427871.31 -42427871.13 0.0089 0.0034

Neptune -120874-01-23 07:41 J -42427783.33 -42427783.18 -42427782.99 0.0089 0.0040

Neptune -120874-04-21 11:17 J -42427695.18 -42427695.03 -42427694.85 0.0089 0.0046

Neptune -120874-07-18 14:53 J -42427607.02 -42427606.88 -42427606.71 0.0089 0.0052

Neptune -120874-10-14 18:15 J -42427518.87 -42427518.74 -42427518.58 0.0089 0.0058

Jupiter -120874-12-01 02:39 J -42427471.45 -42427471.39 -42427471.32 0.0524 0.0458

Neptune -120873-01-10 21:51 J -42427430.71 -42427430.59 -42427430.44 0.0089 0.0064

Jupiter -120873-02-28 09:51 J -42427382.22 -42427382.09 -42427381.96 0.0525 0.0015

Neptune -120873-04-08 01:27 J -42427342.55 -42427342.44 -42427342.31 0.0089 0.0070

Jupiter -120873-05-27 16:20 J -42427292.87 -42427292.82 -42427292.77 0.0526 0.0475

Neptune -120873-07-05 04:49 J -42427254.38 -42427254.30 -42427254.18 0.0089 0.0076

Neptune -120873-10-01 08:25 J -42427166.20 -42427166.15 -42427166.06 0.0089 0.0082

Neptune -120873-12-28 12:01 J -42427078.01 -42427078.00 -42427077.96 0.0089 0.0088

Earth -120872-09-25 13:56 J -42426807.08 -42426806.92 -42426806.75 0.2559 0.0331

Moon -120872-09-25 14:25 J -42426807.06 -42426806.90 -42426806.74 0.2565 0.0247 *

Saturn -120871-11-25 02:53 J -42426381.48 -42426381.38 -42426381.26 0.0264 0.0206

Saturn -120870-02-21 21:51 J -42426292.76 -42426292.59 -42426292.42 0.0263 0.0103

Saturn -120870-05-21 16:49 J -42426203.98 -42426203.80 -42426203.62 0.0262 0.0001

Saturn -120870-08-18 12:01 J -42426115.17 -42426115.00 -42426114.84 0.0262 0.0105

Mars -120870-11-14 11:17 J -42426027.18 -42426027.03 -42426026.89 0.1844 0.0802

Saturn -120870-11-15 06:58 J -42426026.31 -42426026.21 -42426026.09 0.0261 0.0210

Moon -120868-03-23 14:39 J -42425531.96 -42425531.89 -42425531.82 0.2782 0.2092

Earth -120868-03-23 15:22 J -42425531.94 -42425531.86 -42425531.78 0.2779 0.1966 *

Jupiter -120868-10-20 02:10 J -42425321.47 -42425321.41 -42425321.36 0.0501 0.0474

Jupiter -120867-01-18 10:20 J -42425231.25 -42425231.07 -42425230.89 0.0500 0.0110

Mars -120867-08-28 17:46 J -42425008.87 -42425008.76 -42425008.64 0.1666 0.0262

Mars -120865-08-02 23:32 J -42424303.59 -42424303.52 -42424303.46 0.1659 0.1383

Earth -120862-04-02 12:15 J -42423331.09 -42423330.99 -42423330.89 0.2783 0.1096

Moon -120862-04-02 12:58 J -42423331.06 -42423330.96 -42423330.86 0.2784 0.1084 *

Uranus -120862-06-23 14:25 J -42423248.95 -42423248.90 -42423248.83 0.0131 0.0116

Uranus -120862-09-19 17:32 J -42423160.85 -42423160.77 -42423160.68 0.0131 0.0101

Uranus -120862-12-16 20:25 J -42423072.74 -42423072.65 -42423072.54 0.0131 0.0086

Jupiter -120862-12-17 13:13 J -42423072.07 -42423071.95 -42423071.82 0.0525 0.0112

Uranus -120861-03-13 23:32 J -42422984.63 -42422984.52 -42422984.40 0.0130 0.0070

Jupiter -120861-03-15 19:56 J -42422982.76 -42422982.67 -42422982.58 0.0526 0.0354

Uranus -120861-06-10 02:25 J -42422896.51 -42422896.40 -42422896.27 0.0130 0.0056

Uranus -120861-09-06 05:32 J -42422808.40 -42422808.27 -42422808.14 0.0130 0.0040

Uranus -120861-12-03 08:25 J -42422720.28 -42422720.15 -42422720.01 0.0130 0.0026

Uranus -120860-03-01 11:32 J -42422632.15 -42422632.02 -42422631.89 0.0130 0.0010

Mars -120860-04-05 07:56 J -42422597.21 -42422597.17 -42422597.13 0.1841 0.1760

Uranus -120860-05-28 14:25 J -42422544.03 -42422543.90 -42422543.76 0.0130 0.0006

Uranus -120860-08-24 17:32 J -42422455.91 -42422455.77 -42422455.64 0.0130 0.0021

Uranus -120860-11-20 20:25 J -42422367.78 -42422367.65 -42422367.52 0.0130 0.0035

Uranus -120859-02-16 23:17 J -42422279.65 -42422279.53 -42422279.41 0.0130 0.0050

Uranus -120859-05-16 02:10 J -42422191.52 -42422191.41 -42422191.29 0.0130 0.0065

Uranus -120859-08-12 04:49 J -42422103.39 -42422103.30 -42422103.18 0.0130 0.0081

Earth -120859-09-28 20:39 J -42422055.79 -42422055.64 -42422055.50 0.2558 0.1007

Moon -120859-09-28 21:08 J -42422055.76 -42422055.62 -42422055.48 0.2564 0.1092 *

Uranus -120859-11-08 07:56 J -42422015.26 -42422015.17 -42422015.08 0.0130 0.0095

Uranus -120858-02-04 10:49 J -42421927.12 -42421927.05 -42421926.98 0.0130 0.0110

Uranus -120858-05-03 13:41 J -42421838.96 -42421838.93 -42421838.89 0.0130 0.0124

Mars -120857-01-19 04:20 J -42421578.43 -42421578.32 -42421578.21 0.1668 0.0669

Jupiter -120856-11-06 07:41 J -42420921.36 -42420921.18 -42420920.99 0.0500 0.0039

Mars -120856-12-24 10:05 J -42420873.17 -42420873.08 -42420872.98 0.1660 0.0995

Moon -120855-03-26 09:22 J -42420781.21 -42420781.11 -42420781.02 0.2785 0.1192

Earth -120855-03-26 09:51 J -42420781.19 -42420781.09 -42420780.99 0.2780 0.1170 *

Saturn -120855-06-15 09:51 J -42420700.18 -42420700.09 -42420700.00 0.0299 0.0223

Saturn -120855-09-11 23:46 J -42420611.64 -42420611.51 -42420611.38 0.0300 0.0107

Saturn -120855-12-09 13:27 J -42420523.08 -42420522.94 -42420522.81 0.0300 0.0008

Saturn -120854-03-08 03:08 J -42420434.50 -42420434.37 -42420434.25 0.0301 0.0123

Saturn -120854-06-04 16:34 J -42420345.89 -42420345.81 -42420345.73 0.0302 0.0237

Jupiter -120850-10-05 17:03 J -42418761.91 -42418761.79 -42418761.68 0.0525 0.0231

Jupiter -120849-01-02 23:46 J -42418672.62 -42418672.51 -42418672.39 0.0526 0.0236

Earth -120849-04-04 06:44 J -42418580.30 -42418580.22 -42418580.15 0.2784 0.1898

Moon -120849-04-04 07:13 J -42418580.27 -42418580.20 -42418580.12 0.2781 0.2005 *

Mars -120849-08-02 19:13 J -42418459.82 -42418459.70 -42418459.58 0.1850 0.1276

Mars -120848-06-10 14:39 J -42418147.98 -42418147.89 -42418147.80 0.1671 0.1084

Mars -120846-05-16 20:53 J -42417442.74 -42417442.63 -42417442.52 0.1662 0.0603

Earth -120846-10-02 02:53 J -42417304.44 -42417304.38 -42417304.31 0.2557 0.2331

Moon -120846-10-02 03:37 J -42417304.42 -42417304.35 -42417304.28 0.2563 0.2280 *

Venus -120845-10-23 09:37 J -42416917.14 -42416917.10 -42416917.06 0.3718 0.3332

Jupiter -120844-08-25 05:17 J -42416611.45 -42416611.28 -42416611.11 0.0500 0.0182

Jupiter -120844-11-23 13:56 J -42416521.02 -42416520.92 -42416520.81 0.0499 0.0406

Moon -120842-03-29 03:37 J -42416030.45 -42416030.35 -42416030.24 0.2787 0.0367

Earth -120842-03-29 04:20 J -42416030.43 -42416030.32 -42416030.22 0.2782 0.0385 *

Saturn -120841-04-13 04:20 J -42415649.40 -42415649.32 -42415649.23 0.0264 0.0228

Saturn -120841-07-10 23:03 J -42415560.69 -42415560.54 -42415560.38 0.0263 0.0125

Saturn -120841-10-07 18:01 J -42415471.93 -42415471.75 -42415471.57 0.0263 0.0022

Saturn -120840-01-04 12:58 J -42415383.13 -42415382.96 -42415382.78 0.0262 0.0083

Saturn -120840-04-03 08:10 J -42415294.28 -42415294.16 -42415294.03 0.0262 0.0187

Mars -120840-12-23 15:37 J -42415030.01 -42415029.85 -42415029.69 0.1848 0.0281

Venus -120839-05-09 02:25 J -42414893.50 -42414893.40 -42414893.31 0.3723 0.1605

Moon -120839-09-23 12:29 J -42414756.11 -42414755.98 -42414755.85 0.2559 0.1488

Earth -120839-09-23 14:10 J -42414756.04 -42414755.91 -42414755.77 0.2560 0.1408 *

Mars -120839-11-01 00:44 J -42414717.52 -42414717.47 -42414717.42 0.1673 0.1510

Jupiter -120838-07-24 20:25 J -42414451.74 -42414451.65 -42414451.55 0.0525 0.0354

Jupiter -120838-10-22 03:37 J -42414362.48 -42414362.35 -42414362.23 0.0526 0.0118

Mars -120837-10-06 07:27 J -42414012.31 -42414012.19 -42414012.07 0.1664 0.0204

Earth -120836-04-07 01:13 J -42413829.48 -42413829.45 -42413829.43 0.2784 0.2700

Moon -120836-04-07 01:41 J -42413829.43 -42413829.43 -42413829.42 0.2782 0.2780 *

Earth -120835-03-22 01:56 J -42413480.46 -42413480.42 -42413480.39 0.2778 0.2623

Moon -120835-03-22 01:56 J -42413480.45 -42413480.42 -42413480.39 0.2771 0.2652 *

Venus -120834-11-22 18:58 J -42412869.82 -42412869.71 -42412869.61 0.3729 0.0117

Jupiter -120832-06-13 02:39 J -42412301.53 -42412301.39 -42412301.26 0.0500 0.0328

Jupiter -120832-09-11 11:03 J -42412211.20 -42412211.04 -42412210.88 0.0499 0.0257

Venus -120831-08-22 21:08 J -42411865.71 -42411865.62 -42411865.52 0.3659 0.2663

Mars -120830-05-15 11:46 J -42411600.16 -42411600.01 -42411599.86 0.1844 0.0712

Moon -120829-03-30 22:20 J -42411279.68 -42411279.57 -42411279.46 0.2789 0.0351

Earth -120829-03-30 22:34 J -42411279.66 -42411279.56 -42411279.45 0.2783 0.0440 *

Venus -120828-06-07 11:32 J -42410846.11 -42410846.02 -42410845.93 0.3735 0.1814

Mars -120827-02-26 17:46 J -42410581.88 -42410581.76 -42410581.64 0.1666 0.0210

Jupiter -120826-05-13 00:29 J -42410141.54 -42410141.48 -42410141.42 0.0525 0.0468

Jupiter -120826-08-10 07:41 J -42410052.31 -42410052.18 -42410052.05 0.0526 0.0015

Moon -120826-09-26 18:58 J -42410004.87 -42410004.71 -42410004.54 0.2558 0.0097

Earth -120826-09-26 20:39 J -42410004.80 -42410004.64 -42410004.48 0.2559 0.0090 *

Saturn -120826-11-02 12:29 J -42409968.05 -42409967.98 -42409967.90 0.0298 0.0249

Jupiter -120826-11-07 14:10 J -42409962.97 -42409962.91 -42409962.85 0.0526 0.0466

Saturn -120825-01-30 02:25 J -42409879.52 -42409879.40 -42409879.28 0.0299 0.0134

Mars -120825-02-01 23:32 J -42409876.58 -42409876.52 -42409876.47 0.1659 0.1433

Venus -120825-03-08 02:53 J -42409841.51 -42409841.38 -42409841.24 0.3651 0.1384

Saturn -120825-04-27 16:05 J -42409790.96 -42409790.83 -42409790.69 0.0300 0.0020

Saturn -120825-07-25 05:46 J -42409702.39 -42409702.26 -42409702.13 0.0301 0.0096

Saturn -120825-10-21 19:13 J -42409613.79 -42409613.70 -42409613.60 0.0301 0.0211

Pluto -120823-07-10 12:58 J -42408987.01 -42408986.96 -42408986.90 0.0084 0.0077

Pluto -120823-10-06 14:25 J -42408898.99 -42408898.90 -42408898.80 0.0084 0.0061

Venus -120823-12-22 04:05 J -42408822.37 -42408822.33 -42408822.30 0.3741 0.3496

Pluto -120822-01-02 15:37 J -42408810.95 -42408810.85 -42408810.72 0.0084 0.0045

Moon -120822-03-24 20:10 J -42408729.74 -42408729.66 -42408729.58 0.2771 0.1845

Earth -120822-03-24 20:10 J -42408729.74 -42408729.66 -42408729.58 0.2779 0.1825 *

Pluto -120822-03-31 17:03 J -42408722.91 -42408722.79 -42408722.66 0.0084 0.0030

Pluto -120822-06-27 18:29 J -42408634.86 -42408634.73 -42408634.59 0.0084 0.0014

Pluto -120822-09-23 19:56 J -42408546.81 -42408546.67 -42408546.53 0.0084 0.0002

Pluto -120822-12-20 21:08 J -42408458.75 -42408458.62 -42408458.48 0.0084 0.0018

Pluto -120821-03-17 22:34 J -42408370.69 -42408370.56 -42408370.43 0.0084 0.0033

Pluto -120821-06-13 23:46 J -42408282.62 -42408282.51 -42408282.39 0.0083 0.0048

Pluto -120821-09-10 01:13 J -42408194.54 -42408194.45 -42408194.36 0.0083 0.0063

Mars -120821-10-04 08:53 J -42408170.20 -42408170.13 -42408170.06 0.1841 0.1656

Pluto -120821-12-07 02:10 J -42408106.43 -42408106.41 -42408106.35 0.0083 0.0079

Jupiter -120820-03-31 23:17 J -42407991.58 -42407991.53 -42407991.49 0.0501 0.0482

Jupiter -120820-06-30 07:27 J -42407901.37 -42407901.19 -42407901.01 0.0500 0.0101

Uranus -120819-06-14 20:25 J -42407551.73 -42407551.65 -42407551.56 0.0148 0.0133

Uranus -120819-09-11 04:49 J -42407463.42 -42407463.30 -42407463.15 0.0148 0.0102

Uranus -120819-12-08 13:41 J -42407375.10 -42407374.93 -42407374.76 0.0148 0.0071

Uranus -120818-03-06 22:20 J -42407286.75 -42407286.57 -42407286.39 0.0148 0.0040

Uranus -120818-06-03 06:58 J -42407198.40 -42407198.21 -42407198.02 0.0148 0.0008

Mars -120818-07-20 04:20 J -42407151.43 -42407151.32 -42407151.21 0.1668 0.0616

Uranus -120818-08-30 15:37 J -42407110.03 -42407109.85 -42407109.66 0.0148 0.0024

Uranus -120818-11-27 00:15 J -42407021.66 -42407021.49 -42407021.30 0.0148 0.0056

Uranus -120817-02-23 09:08 J -42406933.27 -42406933.12 -42406932.96 0.0148 0.0087

Uranus -120817-05-21 18:01 J -42406844.86 -42406844.75 -42406844.63 0.0148 0.0119

Moon -120816-04-02 16:49 J -42406528.90 -42406528.80 -42406528.70 0.2790 0.1225

Earth -120816-04-02 17:03 J -42406528.89 -42406528.79 -42406528.69 0.2783 0.1240 *

Mars -120816-06-24 10:05 J -42406446.17 -42406446.08 -42406445.99 0.1660 0.1045

Jupiter -120814-05-29 11:32 J -42405742.14 -42405742.02 -42405741.89 0.0525 0.0114

Jupiter -120814-08-26 18:15 J -42405652.83 -42405652.74 -42405652.64 0.0526 0.0353

Moon -120813-09-29 01:27 J -42405253.58 -42405253.44 -42405253.29 0.2558 0.1070

Earth -120813-09-29 03:22 J -42405253.50 -42405253.36 -42405253.22 0.2558 0.1260 *

Saturn -120812-08-31 05:46 J -42404917.31 -42404917.26 -42404917.21 0.0264 0.0250

Saturn -120812-11-28 00:15 J -42404828.63 -42404828.49 -42404828.34 0.0263 0.0148

Saturn -120811-02-24 19:13 J -42404739.88 -42404739.70 -42404739.52 0.0263 0.0045

Saturn -120811-05-24 14:10 J -42404651.09 -42404650.91 -42404650.73 0.0262 0.0059

Saturn -120811-08-21 09:22 J -42404562.25 -42404562.11 -42404561.97 0.0261 0.0163

Mars -120809-02-01 20:10 J -42404032.77 -42404032.66 -42404032.56 0.1850 0.1381

Moon -120809-03-26 14:25 J -42403979.00 -42403978.90 -42403978.80 0.2774 0.0980

Earth -120809-03-26 14:39 J -42403978.99 -42403978.89 -42403978.79 0.2781 0.1025 *

Mars -120809-12-09 14:39 J -42403720.99 -42403720.89 -42403720.80 0.1671 0.1033

Jupiter -120808-04-18 04:34 J -42403591.49 -42403591.31 -42403591.13 0.0500 0.0047

Mars -120807-11-14 20:53 J -42403015.74 -42403015.63 -42403015.52 0.1662 0.0654

Earth -120806-09-21 14:10 J -42402704.94 -42402704.91 -42402704.87 0.2561 0.2497

Moon -120806-09-21 15:22 J -42402704.89 -42402704.86 -42402704.82 0.2557 0.2474 *

Moon -120803-04-05 11:32 J -42401778.09 -42401778.02 -42401777.95 0.2791 0.2098

Earth -120803-04-05 11:32 J -42401778.09 -42401778.02 -42401777.95 0.2784 0.2044 *

Jupiter -120802-03-17 15:08 J -42401431.99 -42401431.87 -42401431.76 0.0525 0.0236

Jupiter -120802-06-14 21:51 J -42401342.70 -42401342.59 -42401342.47 0.0525 0.0231

Mars -120800-06-23 15:51 J -42400603.00 -42400602.84 -42400602.68 0.1847 0.0359

Moon -120800-10-02 07:56 J -42400502.21 -42400502.17 -42400502.12 0.2557 0.2435

Mars -120799-05-02 00:44 J -42400290.53 -42400290.47 -42400290.41 0.1673 0.1453

Neptune -120799-10-25 03:22 J -42400114.39 -42400114.36 -42400114.32 0.0088 0.0085

Neptune -120798-01-21 04:49 J -42400026.35 -42400026.30 -42400026.24 0.0088 0.0080

Neptune -120798-04-19 06:15 J -42399938.30 -42399938.24 -42399938.16 0.0088 0.0076

Neptune -120798-07-16 07:56 J -42399850.25 -42399850.17 -42399850.09 0.0088 0.0072

Neptune -120798-10-12 09:22 J -42399762.19 -42399762.11 -42399762.02 0.0088 0.0067

Neptune -120797-01-08 10:34 J -42399674.14 -42399674.06 -42399673.95 0.0088 0.0064

Neptune -120797-04-05 12:01 J -42399586.09 -42399586.00 -42399585.88 0.0088 0.0060

Mars -120797-04-06 07:27 J -42399585.31 -42399585.19 -42399585.07 0.1664 0.0256

Neptune -120797-07-02 13:41 J -42399498.03 -42399497.93 -42399497.82 0.0088 0.0055

Neptune -120797-09-28 15:08 J -42399409.98 -42399409.87 -42399409.75 0.0088 0.0051

Neptune -120797-12-25 16:34 J -42399321.92 -42399321.81 -42399321.69 0.0088 0.0046

Jupiter -120796-02-04 02:10 J -42399281.58 -42399281.41 -42399281.24 0.0500 0.0192

Saturn -120796-03-21 14:53 J -42399235.92 -42399235.88 -42399235.82 0.0298 0.0274

Neptune -120796-03-23 18:01 J -42399233.86 -42399233.75 -42399233.62 0.0088 0.0042

Moon -120796-03-29 08:39 J -42399228.24 -42399228.14 -42399228.03 0.2775 0.0304

Earth -120796-03-29 09:08 J -42399228.23 -42399228.12 -42399228.01 0.2782 0.0220 *

Jupiter -120796-05-05 10:49 J -42399191.15 -42399191.05 -42399190.93 0.0500 0.0399

Saturn -120796-06-18 04:49 J -42399147.41 -42399147.30 -42399147.18 0.0299 0.0160

Neptune -120796-06-19 19:41 J -42399145.81 -42399145.68 -42399145.56 0.0088 0.0038

Saturn -120796-09-14 18:44 J -42399058.85 -42399058.72 -42399058.59 0.0300 0.0044

Neptune -120796-09-15 20:53 J -42399057.75 -42399057.63 -42399057.50 0.0088 0.0034

Saturn -120796-12-12 08:25 J -42398970.28 -42398970.15 -42398970.02 0.0301 0.0071

Neptune -120796-12-12 22:20 J -42398969.69 -42398969.57 -42398969.44 0.0088 0.0029

Saturn -120795-03-10 21:51 J -42398881.69 -42398881.59 -42398881.48 0.0301 0.0186

Neptune -120795-03-10 23:46 J -42398881.64 -42398881.51 -42398881.37 0.0088 0.0025 *

Neptune -120795-06-07 01:13 J -42398793.58 -42398793.45 -42398793.31 0.0088 0.0021

Saturn -120795-06-07 11:17 J -42398793.04 -42398793.03 -42398793.01 0.0302 0.0299

Neptune -120795-09-03 02:39 J -42398705.52 -42398705.39 -42398705.25 0.0088 0.0017

Neptune -120795-11-30 04:05 J -42398617.46 -42398617.33 -42398617.19 0.0088 0.0012

Neptune -120794-02-26 05:32 J -42398529.40 -42398529.27 -42398529.13 0.0088 0.0008

Neptune -120794-05-25 06:58 J -42398441.35 -42398441.21 -42398441.07 0.0088 0.0004

Neptune -120794-08-21 08:25 J -42398353.29 -42398353.15 -42398353.02 0.0088 0.0001

Neptune -120794-11-17 09:51 J -42398265.23 -42398265.09 -42398264.96 0.0088 0.0005

Neptune -120793-02-13 11:03 J -42398177.17 -42398177.04 -42398176.90 0.0088 0.0009

Neptune -120793-05-11 12:29 J -42398089.11 -42398088.98 -42398088.84 0.0088 0.0013

Neptune -120793-08-07 13:56 J -42398001.05 -42398000.92 -42398000.78 0.0088 0.0017

Earth -120793-09-23 20:53 J -42397953.78 -42397953.63 -42397953.49 0.2560 0.1167

Moon -120793-09-23 21:37 J -42397953.75 -42397953.60 -42397953.45 0.2554 0.1015 *

Neptune -120793-11-03 15:22 J -42397912.99 -42397912.86 -42397912.73 0.0088 0.0021

Neptune -120792-01-30 16:49 J -42397824.93 -42397824.80 -42397824.67 0.0088 0.0025

Neptune -120792-04-28 18:01 J -42397736.87 -42397736.75 -42397736.62 0.0088 0.0030

Neptune -120792-07-25 19:27 J -42397648.81 -42397648.69 -42397648.56 0.0088 0.0034

Neptune -120792-10-21 20:53 J -42397560.75 -42397560.63 -42397560.51 0.0088 0.0038

Neptune -120791-01-17 22:05 J -42397472.69 -42397472.58 -42397472.45 0.0088 0.0042

Neptune -120791-04-15 23:32 J -42397384.63 -42397384.52 -42397384.40 0.0088 0.0046

Neptune -120791-07-13 00:58 J -42397296.57 -42397296.46 -42397296.35 0.0088 0.0050

Neptune -120791-10-09 02:10 J -42397208.50 -42397208.41 -42397208.29 0.0088 0.0055

Mars -120791-11-13 12:29 J -42397173.13 -42397172.98 -42397172.82 0.1845 0.0614

Jupiter -120790-01-03 18:44 J -42397121.81 -42397121.72 -42397121.62 0.0525 0.0356

Neptune -120790-01-05 03:37 J -42397120.44 -42397120.35 -42397120.24 0.0088 0.0059

Jupiter -120790-04-03 01:41 J -42397032.56 -42397032.43 -42397032.30 0.0525 0.0112

Neptune -120790-04-03 05:03 J -42397032.38 -42397032.29 -42397032.19 0.0088 0.0062 *

Neptune -120790-06-30 06:29 J -42396944.31 -42396944.23 -42396944.14 0.0088 0.0066

Neptune -120790-09-26 07:56 J -42396856.25 -42396856.17 -42396856.09 0.0088 0.0070

Neptune -120790-12-23 09:08 J -42396768.18 -42396768.12 -42396768.04 0.0088 0.0075

Neptune -120789-03-20 10:34 J -42396680.11 -42396680.06 -42396680.00 0.0088 0.0079

Earth -120789-03-22 06:44 J -42396678.27 -42396678.22 -42396678.18 0.2778 0.2479

Moon -120789-03-22 07:13 J -42396678.24 -42396678.20 -42396678.15 0.2781 0.2491 *

Neptune -120789-06-16 12:01 J -42396592.04 -42396592.00 -42396591.96 0.0088 0.0083

Neptune -120789-09-12 13:27 J -42396503.96 -42396503.94 -42396503.92 0.0088 0.0087

Venus -120788-05-30 07:27 J -42396244.27 -42396244.19 -42396244.12 0.3719 0.2690

Mars -120788-08-27 18:01 J -42396154.87 -42396154.75 -42396154.63 0.1666 0.0154

Mars -120786-08-02 23:32 J -42395449.57 -42395449.52 -42395449.47 0.1659 0.1483

Jupiter -120785-11-22 23:46 J -42394971.64 -42394971.51 -42394971.37 0.0500 0.0334

Jupiter -120784-02-21 08:25 J -42394881.31 -42394881.15 -42394880.99 0.0500 0.0252

Moon -120783-04-01 03:08 J -42394477.48 -42394477.37 -42394477.26 0.2778 0.0518

Earth -120783-04-01 03:37 J -42394477.46 -42394477.35 -42394477.25 0.2783 0.0588 *

Venus -120783-12-14 00:01 J -42394220.60 -42394220.50 -42394220.40 0.3725 0.0968

Saturn -120782-04-17 01:27 J -42394096.58 -42394096.44 -42394096.31 0.0263 0.0172

Saturn -120782-07-14 20:10 J -42394007.83 -42394007.66 -42394007.48 0.0263 0.0069

Saturn -120782-10-11 15:08 J -42393919.05 -42393918.87 -42393918.69 0.0262 0.0035

Saturn -120781-01-08 10:05 J -42393830.23 -42393830.08 -42393829.92 0.0262 0.0139

Mars -120781-04-04 09:22 J -42393743.19 -42393743.11 -42393743.02 0.1841 0.1563

Saturn -120781-04-06 05:32 J -42393741.33 -42393741.27 -42393741.20 0.0261 0.0242

Earth -120780-09-27 03:22 J -42393202.52 -42393202.36 -42393202.20 0.2559 0.0173

Moon -120780-09-27 04:34 J -42393202.47 -42393202.31 -42393202.15 0.2554 0.0244 *

Jupiter -120779-10-22 22:20 J -42392811.62 -42392811.57 -42392811.52 0.0525 0.0478

Mars -120778-01-18 04:20 J -42392724.43 -42392724.32 -42392724.21 0.1668 0.0561

Jupiter -120778-01-20 05:32 J -42392722.40 -42392722.27 -42392722.15 0.0526 0.0020

Uranus -120778-04-16 18:44 J -42392635.74 -42392635.72 -42392635.68 0.0131 0.0127

Jupiter -120778-04-19 12:01 J -42392633.06 -42392633.00 -42392632.94 0.0526 0.0457

Uranus -120778-07-13 21:51 J -42392547.65 -42392547.59 -42392547.51 0.0131 0.0112

Uranus -120778-10-10 00:58 J -42392459.55 -42392459.46 -42392459.37 0.0131 0.0096

Uranus -120777-01-06 04:05 J -42392371.44 -42392371.33 -42392371.23 0.0131 0.0081

Uranus -120777-04-03 06:58 J -42392283.32 -42392283.21 -42392283.09 0.0131 0.0066

Venus -120777-06-28 16:34 J -42392196.91 -42392196.81 -42392196.70 0.3731 0.0754

Uranus -120777-06-30 09:51 J -42392195.21 -42392195.09 -42392194.96 0.0131 0.0051

Uranus -120777-09-26 12:58 J -42392107.09 -42392106.96 -42392106.83 0.0131 0.0035

Mars -120777-12-23 10:05 J -42392019.16 -42392019.08 -42392018.99 0.1660 0.1101

Uranus -120777-12-23 16:05 J -42392018.97 -42392018.83 -42392018.70 0.0131 0.0020

Uranus -120776-03-21 18:58 J -42391930.84 -42391930.71 -42391930.57 0.0131 0.0005

Earth -120776-03-25 01:13 J -42391927.54 -42391927.45 -42391927.37 0.2779 0.1683

Moon -120776-03-25 01:56 J -42391927.51 -42391927.42 -42391927.33 0.2782 0.1571 *

Uranus -120776-06-17 21:51 J -42391842.72 -42391842.59 -42391842.45 0.0131 0.0011

Uranus -120776-09-14 00:44 J -42391754.60 -42391754.47 -42391754.33 0.0131 0.0026

Uranus -120776-12-11 03:37 J -42391666.47 -42391666.35 -42391666.21 0.0131 0.0041

Uranus -120775-03-09 06:29 J -42391578.34 -42391578.23 -42391578.10 0.0131 0.0056

Uranus -120775-06-05 09:37 J -42391490.21 -42391490.10 -42391489.99 0.0131 0.0070

Uranus -120775-09-01 12:29 J -42391402.08 -42391401.98 -42391401.88 0.0131 0.0085

Uranus -120775-11-28 15:22 J -42391313.94 -42391313.86 -42391313.77 0.0131 0.0100

Uranus -120774-02-24 18:15 J -42391225.80 -42391225.74 -42391225.67 0.0131 0.0115

Venus -120774-03-29 22:20 J -42391192.70 -42391192.57 -42391192.43 0.3657 0.1289

Uranus -120774-05-23 20:53 J -42391137.63 -42391137.63 -42391137.60 0.0131 0.0130

Jupiter -120773-09-10 21:22 J -42390661.65 -42390661.61 -42390661.55 0.0500 0.0478

Jupiter -120773-12-10 05:32 J -42390571.45 -42390571.27 -42390571.09 0.0500 0.0104

Venus -120771-01-12 09:08 J -42390173.19 -42390173.12 -42390173.04 0.3736 0.2438

Moon -120770-04-03 21:22 J -42389726.70 -42389726.61 -42389726.52 0.2778 0.1410

Earth -120770-04-03 21:51 J -42389726.68 -42389726.59 -42389726.49 0.2784 0.1390 *

Mars -120770-08-02 20:53 J -42389605.73 -42389605.63 -42389605.54 0.1850 0.1479

Mars -120769-06-09 14:39 J -42389293.99 -42389293.89 -42389293.80 0.1671 0.0977

Venus -120769-10-13 04:20 J -42389168.42 -42389168.32 -42389168.23 0.3649 0.2781

Mars -120767-05-15 20:53 J -42388588.74 -42388588.63 -42388588.53 0.1662 0.0705

Earth -120767-09-30 09:51 J -42388451.22 -42388451.09 -42388450.96 0.2558 0.1501

Moon -120767-09-30 10:34 J -42388451.19 -42388451.06 -42388450.93 0.2552 0.1454 *

Saturn -120767-11-05 07:13 J -42388415.31 -42388415.20 -42388415.10 0.0299 0.0189

Jupiter -120767-11-08 09:22 J -42388412.23 -42388412.11 -42388411.98 0.0525 0.0123

Saturn -120766-02-01 20:53 J -42388326.76 -42388326.63 -42388326.49 0.0299 0.0074

Jupiter -120766-02-05 16:05 J -42388322.92 -42388322.83 -42388322.73 0.0526 0.0346

Saturn -120766-05-01 10:34 J -42388238.19 -42388238.06 -42388237.92 0.0300 0.0042

Saturn -120766-07-29 00:15 J -42388149.60 -42388149.49 -42388149.38 0.0301 0.0156

Saturn -120766-10-25 13:41 J -42388060.98 -42388060.93 -42388060.87 0.0302 0.0269

Earth -120763-03-27 19:27 J -42387176.79 -42387176.69 -42387176.58 0.2781 0.0888

Moon -120763-03-27 20:10 J -42387176.76 -42387176.66 -42387176.55 0.2781 0.0822 *

Jupiter -120761-09-28 01:56 J -42386261.60 -42386261.42 -42386261.24 0.0500 0.0054

Mars -120761-12-22 16:49 J -42386175.96 -42386175.80 -42386175.64 0.1848 0.0465

Earth -120760-09-21 20:53 J -42385902.70 -42385902.63 -42385902.55 0.2561 0.2253

Moon -120760-09-21 21:37 J -42385902.68 -42385902.60 -42385902.51 0.2567 0.2140 *

Mars -120760-10-31 00:44 J -42385863.53 -42385863.47 -42385863.40 0.1673 0.1401

Mars -120758-10-06 07:27 J -42385158.31 -42385158.19 -42385158.07 0.1664 0.0307

Moon -120757-04-05 15:51 J -42384975.91 -42384975.84 -42384975.77 0.2782 0.2102

Earth -120757-04-05 16:20 J -42384975.88 -42384975.82 -42384975.75 0.2784 0.2193 *

Jupiter -120755-08-27 13:27 J -42384102.05 -42384101.94 -42384101.82 0.0525 0.0236

Jupiter -120755-11-24 20:25 J -42384012.77 -42384012.65 -42384012.54 0.0526 0.0232

Saturn -120753-09-03 02:25 J -42383364.52 -42383364.40 -42383364.28 0.0263 0.0196

Saturn -120753-11-30 21:08 J -42383275.79 -42383275.62 -42383275.45 0.0263 0.0093

Saturn -120752-02-27 16:05 J -42383187.01 -42383186.83 -42383186.65 0.0262 0.0010

Saturn -120752-05-27 11:03 J -42383098.20 -42383098.04 -42383097.87 0.0262 0.0113

Saturn -120752-08-24 06:15 J -42383009.34 -42383009.24 -42383009.14 0.0261 0.0217

Mars -120751-05-14 13:13 J -42382746.11 -42382745.95 -42382745.80 0.1844 0.0527

Earth -120750-03-30 13:56 J -42382426.03 -42382425.92 -42382425.81 0.2782 0.0098

Moon -120750-03-30 14:39 J -42382426.00 -42382425.89 -42382425.78 0.2779 0.0094 *

Jupiter -120749-07-16 23:17 J -42381951.70 -42381951.53 -42381951.37 0.0501 0.0200

Jupiter -120749-10-15 07:56 J -42381861.28 -42381861.17 -42381861.05 0.0500 0.0391

Mars -120748-02-25 17:46 J -42381727.88 -42381727.76 -42381727.64 0.1666 0.0113

Earth -120747-09-25 03:22 J -42381151.51 -42381151.36 -42381151.21 0.2560 0.0923

Moon -120747-09-25 05:03 J -42381151.45 -42381151.29 -42381151.14 0.2563 0.0850 *

Mars -120746-01-31 23:32 J -42381022.57 -42381022.52 -42381022.48 0.1659 0.1532

Moon -120743-03-23 11:17 J -42379876.09 -42379876.03 -42379875.97 0.2784 0.2332

Earth -120743-03-23 11:32 J -42379876.07 -42379876.02 -42379875.96 0.2778 0.2337 *

Jupiter -120743-06-15 17:03 J -42379791.88 -42379791.79 -42379791.69 0.0524 0.0358

Jupiter -120743-09-13 00:01 J -42379702.62 -42379702.50 -42379702.37 0.0525 0.0111

Mars -120742-10-04 10:05 J -42379316.18 -42379316.08 -42379315.99 0.1842 0.1473

Mars -120739-07-19 04:20 J -42378297.43 -42378297.32 -42378297.21 0.1668 0.0505

Saturn -120737-03-24 09:22 J -42377683.20 -42377683.11 -42377683.02 0.0299 0.0217

Earth -120737-04-01 08:25 J -42377675.25 -42377675.15 -42377675.05 0.2783 0.0729

Moon -120737-04-01 08:53 J -42377675.23 -42377675.13 -42377675.03 0.2778 0.0825 *

Jupiter -120737-05-04 20:53 J -42377641.76 -42377641.63 -42377641.50 0.0501 0.0343

Saturn -120737-06-20 23:03 J -42377594.66 -42377594.54 -42377594.41 0.0300 0.0102

Mars -120737-06-23 10:05 J -42377592.16 -42377592.08 -42377591.99 0.1660 0.1148

Jupiter -120737-08-03 05:32 J -42377551.43 -42377551.27 -42377551.11 0.0500 0.0245

Saturn -120737-09-17 12:58 J -42377506.10 -42377505.96 -42377505.83 0.0301 0.0015

Saturn -120737-12-15 02:39 J -42377417.52 -42377417.39 -42377417.27 0.0301 0.0129

Saturn -120736-03-13 16:05 J -42377328.91 -42377328.83 -42377328.75 0.0302 0.0242

Uranus -120735-07-05 04:34 J -42376850.40 -42376850.31 -42376850.19 0.0148 0.0123

Uranus -120735-10-01 13:27 J -42376762.09 -42376761.94 -42376761.80 0.0148 0.0092

Uranus -120735-12-28 21:51 J -42376673.76 -42376673.59 -42376673.41 0.0148 0.0061

Uranus -120734-03-27 06:29 J -42376585.41 -42376585.23 -42376585.04 0.0148 0.0030

Uranus -120734-06-23 15:08 J -42376497.05 -42376496.87 -42376496.67 0.0148 0.0005

Uranus -120734-09-20 00:01 J -42376408.69 -42376408.50 -42376408.32 0.0148 0.0033

Earth -120734-09-28 09:51 J -42376400.24 -42376400.09 -42376399.93 0.2559 0.0420

Moon -120734-09-28 11:32 J -42376400.18 -42376400.02 -42376399.86 0.2562 0.0411 *

Uranus -120734-12-17 08:25 J -42376320.31 -42376320.15 -42376319.97 0.0148 0.0066

Uranus -120733-03-14 17:17 J -42376231.92 -42376231.78 -42376231.63 0.0148 0.0097

Uranus -120733-06-11 02:10 J -42376143.50 -42376143.41 -42376143.31 0.0148 0.0128

Venus -120731-01-04 05:03 J -42375571.38 -42375571.29 -42375571.20 0.3721 0.2045

Jupiter -120731-04-03 20:39 J -42375481.69 -42375481.64 -42375481.59 0.0524 0.0478

Jupiter -120731-07-02 03:51 J -42375392.47 -42375392.34 -42375392.21 0.0525 0.0009

Jupiter -120731-09-29 10:20 J -42375303.13 -42375303.07 -42375303.01 0.0526 0.0455

Mars -120730-01-31 21:22 J -42375178.69 -42375178.61 -42375178.52 0.1850 0.1571

Moon -120730-03-26 06:01 J -42375125.34 -42375125.25 -42375125.16 0.2787 0.1531

Earth -120730-03-26 06:01 J -42375125.34 -42375125.25 -42375125.16 0.2779 0.1537 *

Mars -120730-12-09 14:39 J -42374866.99 -42374866.89 -42374866.79 0.1671 0.0921

Mars -120728-11-13 20:53 J -42374161.74 -42374161.63 -42374161.53 0.1662 0.0758

Venus -120726-07-20 21:51 J -42373547.70 -42373547.59 -42373547.49 0.3727 0.0349

Jupiter -120725-02-21 18:58 J -42373331.75 -42373331.71 -42373331.66 0.0501 0.0481

Jupiter -120725-05-22 03:08 J -42373241.55 -42373241.37 -42373241.19 0.0500 0.0101

Earth -120724-04-04 02:53 J -42372924.47 -42372924.38 -42372924.29 0.2784 0.1536

Moon -120724-04-04 03:08 J -42372924.46 -42372924.37 -42372924.28 0.2777 0.1528 *

Saturn -120723-01-21 02:53 J -42372632.46 -42372632.38 -42372632.27 0.0263 0.0222

Saturn -120723-04-19 21:51 J -42372543.75 -42372543.59 -42372543.43 0.0263 0.0119

Saturn -120723-07-17 16:49 J -42372454.99 -42372454.80 -42372454.62 0.0262 0.0017

Saturn -120723-10-14 11:32 J -42372366.18 -42372366.02 -42372365.84 0.0262 0.0088

Saturn -120722-01-11 06:44 J -42372277.34 -42372277.22 -42372277.09 0.0261 0.0191

Mars -120721-06-22 17:32 J -42371748.93 -42371748.77 -42371748.62 0.1847 0.0563

Earth -120721-09-30 16:34 J -42371648.93 -42371648.81 -42371648.69 0.2558 0.1746

Moon -120721-09-30 18:15 J -42371648.84 -42371648.74 -42371648.64 0.2557 0.1947 *

Venus -120720-02-02 14:25 J -42371524.00 -42371523.90 -42371523.80 0.3732 0.1376

Mars -120720-05-01 00:44 J -42371436.54 -42371436.47 -42371436.40 0.1673 0.1347

Jupiter -120719-04-20 07:27 J -42371082.31 -42371082.19 -42371082.06 0.0525 0.0128

Jupiter -120719-07-18 14:10 J -42370993.00 -42370992.91 -42370992.81 0.0526 0.0339

Mars -120718-04-06 07:27 J -42370731.31 -42370731.19 -42370731.08 0.1664 0.0359

Venus -120718-11-03 23:32 J -42370519.67 -42370519.52 -42370519.37 0.3655 0.0115

Earth -120717-03-28 00:29 J -42370374.59 -42370374.48 -42370374.38 0.2781 0.0736

Moon -120717-03-28 00:44 J -42370374.57 -42370374.47 -42370374.37 0.2787 0.0766 *

Neptune -120715-06-29 02:39 J -42369551.39 -42369551.39 -42369551.37 0.0089 0.0089

Venus -120715-08-19 06:58 J -42369500.27 -42369500.21 -42369500.15 0.3738 0.3065

Neptune -120715-09-25 05:46 J -42369463.31 -42369463.26 -42369463.18 0.0089 0.0083

Neptune -120715-12-22 09:22 J -42369375.19 -42369375.11 -42369375.01 0.0089 0.0077

Neptune -120714-03-20 12:15 J -42369287.07 -42369286.99 -42369286.86 0.0089 0.0072

Neptune -120714-06-16 15:51 J -42369198.95 -42369198.84 -42369198.70 0.0089 0.0066

Neptune -120714-09-12 19:13 J -42369110.82 -42369110.70 -42369110.55 0.0089 0.0060

Moon -120714-09-23 02:39 J -42369100.49 -42369100.39 -42369100.30 0.2566 0.2062

Earth -120714-09-23 03:37 J -42369100.45 -42369100.35 -42369100.25 0.2561 0.2011 *

Neptune -120714-12-09 22:34 J -42369022.69 -42369022.56 -42369022.40 0.0089 0.0054

Neptune -120713-03-07 02:10 J -42368934.56 -42368934.41 -42368934.25 0.0089 0.0048

Jupiter -120713-03-10 00:29 J -42368931.66 -42368931.48 -42368931.30 0.0500 0.0046

Neptune -120713-06-03 05:32 J -42368846.43 -42368846.27 -42368846.10 0.0089 0.0042

Neptune -120713-08-30 09:08 J -42368758.29 -42368758.12 -42368757.95 0.0089 0.0036

Neptune -120713-11-26 12:15 J -42368670.16 -42368669.99 -42368669.81 0.0089 0.0031

Neptune -120712-02-22 15:37 J -42368582.02 -42368581.85 -42368581.66 0.0089 0.0025

Neptune -120712-05-21 19:13 J -42368493.88 -42368493.70 -42368493.51 0.0089 0.0019

Neptune -120712-08-17 22:34 J -42368405.74 -42368405.56 -42368405.37 0.0089 0.0013

Mars -120712-11-12 13:56 J -42368319.08 -42368318.92 -42368318.76 0.1844 0.0421

Neptune -120712-11-14 02:10 J -42368317.60 -42368317.41 -42368317.22 0.0089 0.0007

Neptune -120711-02-10 05:32 J -42368229.46 -42368229.27 -42368229.08 0.0089 0.0001

Moon -120711-04-06 21:08 J -42368173.68 -42368173.62 -42368173.56 0.2777 0.2300

Earth -120711-04-06 21:22 J -42368173.67 -42368173.61 -42368173.56 0.2784 0.2341 *

Neptune -120711-05-09 09:08 J -42368141.31 -42368141.12 -42368140.93 0.0089 0.0005

Neptune -120711-08-05 12:29 J -42368053.17 -42368052.98 -42368052.79 0.0089 0.0011

Neptune -120711-11-01 15:51 J -42367965.02 -42367964.84 -42367964.65 0.0089 0.0017

Neptune -120710-01-28 19:27 J -42367876.87 -42367876.69 -42367876.51 0.0089 0.0023

Neptune -120710-04-26 22:49 J -42367788.72 -42367788.55 -42367788.37 0.0089 0.0029

Neptune -120710-07-24 02:25 J -42367700.57 -42367700.40 -42367700.22 0.0089 0.0035

Neptune -120710-10-20 05:46 J -42367612.42 -42367612.26 -42367612.09 0.0089 0.0041

Neptune -120709-01-16 09:22 J -42367524.27 -42367524.11 -42367523.95 0.0089 0.0047

Neptune -120709-04-13 12:58 J -42367436.11 -42367435.96 -42367435.81 0.0089 0.0053

Neptune -120709-07-10 16:05 J -42367347.96 -42367347.83 -42367347.67 0.0089 0.0060

Mars -120709-08-26 18:01 J -42367300.87 -42367300.75 -42367300.63 0.1666 0.0065

Neptune -120709-10-06 19:27 J -42367259.80 -42367259.69 -42367259.54 0.0089 0.0066

Neptune -120708-01-02 23:03 J -42367171.63 -42367171.54 -42367171.41 0.0089 0.0072

Neptune -120708-04-01 02:39 J -42367083.46 -42367083.39 -42367083.28 0.0089 0.0078

Neptune -120708-06-28 06:15 J -42366995.29 -42366995.24 -42366995.16 0.0089 0.0084

Saturn -120708-08-11 11:03 J -42366951.11 -42366951.04 -42366950.97 0.0298 0.0250

Saturn -120708-11-08 00:58 J -42366862.58 -42366862.46 -42366862.34 0.0299 0.0135

Saturn -120707-02-04 14:39 J -42366774.02 -42366773.89 -42366773.75 0.0300 0.0021

Jupiter -120707-02-06 11:32 J -42366772.13 -42366772.02 -42366771.90 0.0525 0.0242

Saturn -120707-05-04 04:20 J -42366685.44 -42366685.32 -42366685.19 0.0301 0.0095

Jupiter -120707-05-06 18:29 J -42366682.85 -42366682.73 -42366682.61 0.0526 0.0227

Saturn -120707-07-31 17:46 J -42366596.85 -42366596.76 -42366596.66 0.0301 0.0209

Mars -120707-08-01 23:32 J -42366595.56 -42366595.52 -42366595.49 0.1659 0.1582

Earth -120704-03-30 18:58 J -42365623.82 -42365623.71 -42365623.61 0.2782 0.0114

Moon -120704-03-30 19:27 J -42365623.80 -42365623.69 -42365623.58 0.2788 0.0180 *

Mars -120702-04-04 10:49 J -42364889.16 -42364889.05 -42364888.95 0.1841 0.1378

Jupiter -120702-12-27 20:53 J -42364621.80 -42364621.63 -42364621.47 0.0500 0.0203

Jupiter -120701-03-27 05:32 J -42364531.38 -42364531.27 -42364531.15 0.0500 0.0387

Moon -120701-09-25 09:51 J -42364349.24 -42364349.09 -42364348.94 0.2566 0.0775

Earth -120701-09-25 10:05 J -42364349.23 -42364349.08 -42364348.92 0.2559 0.0674 *

Mars -120699-01-17 04:20 J -42363870.44 -42363870.32 -42363870.20 0.1668 0.0454

Mars -120698-12-23 10:05 J -42363165.16 -42363165.08 -42363165.00 0.1660 0.1197

Moon -120697-03-23 15:51 J -42363073.91 -42363073.84 -42363073.78 0.2778 0.2231

Earth -120697-03-23 16:34 J -42363073.88 -42363073.81 -42363073.75 0.2778 0.2197 *

Jupiter -120696-11-25 15:51 J -42362461.94 -42362461.84 -42362461.75 0.0525 0.0353

Jupiter -120695-02-22 22:49 J -42362372.68 -42362372.55 -42362372.43 0.0525 0.0116

Uranus -120694-05-07 02:10 J -42361934.44 -42361934.41 -42361934.35 0.0131 0.0122

Saturn -120694-06-10 03:37 J -42361900.40 -42361900.35 -42361900.28 0.0264 0.0247

Uranus -120694-08-03 05:17 J -42361846.35 -42361846.28 -42361846.19 0.0131 0.0107

Saturn -120694-09-06 22:20 J -42361811.71 -42361811.57 -42361811.42 0.0263 0.0145

Uranus -120694-10-30 08:25 J -42361758.24 -42361758.15 -42361758.05 0.0131 0.0091

Saturn -120694-12-04 17:17 J -42361722.96 -42361722.78 -42361722.60 0.0262 0.0043

Uranus -120693-01-26 11:32 J -42361670.13 -42361670.02 -42361669.91 0.0131 0.0076

Saturn -120693-03-02 12:01 J -42361634.17 -42361634.00 -42361633.82 0.0262 0.0061

Uranus -120693-04-23 14:25 J -42361582.01 -42361581.90 -42361581.78 0.0131 0.0061

Saturn -120693-05-30 07:13 J -42361545.34 -42361545.20 -42361545.06 0.0261 0.0164

Uranus -120693-07-20 17:17 J -42361493.90 -42361493.78 -42361493.64 0.0131 0.0046

Uranus -120693-10-16 20:25 J -42361405.78 -42361405.65 -42361405.52 0.0131 0.0030

Uranus -120692-01-12 23:32 J -42361317.66 -42361317.52 -42361317.39 0.0131 0.0015

Uranus -120692-04-11 02:25 J -42361229.53 -42361229.40 -42361229.26 0.0131 0.0001

Uranus -120692-07-08 05:17 J -42361141.41 -42361141.28 -42361141.14 0.0131 0.0016

Uranus -120692-10-04 08:10 J -42361053.28 -42361053.16 -42361053.02 0.0131 0.0031

Uranus -120692-12-31 11:03 J -42360965.16 -42360965.04 -42360964.91 0.0131 0.0046

Uranus -120691-03-29 13:56 J -42360877.03 -42360876.92 -42360876.79 0.0131 0.0061

Earth -120691-04-02 13:13 J -42360873.05 -42360872.95 -42360872.84 0.2783 0.0881

Moon -120691-04-02 13:56 J -42360873.02 -42360872.92 -42360872.82 0.2785 0.0908 *

Uranus -120691-06-25 17:03 J -42360788.90 -42360788.79 -42360788.68 0.0131 0.0075

Mars -120691-08-01 22:05 J -42360751.64 -42360751.58 -42360751.51 0.1850 0.1670

Uranus -120691-09-21 19:56 J -42360700.76 -42360700.67 -42360700.57 0.0131 0.0090

Uranus -120691-12-18 22:49 J -42360612.62 -42360612.55 -42360612.47 0.0131 0.0105

Uranus -120690-03-17 01:41 J -42360524.48 -42360524.43 -42360524.37 0.0131 0.0120

Mars -120690-06-09 14:39 J -42360439.99 -42360439.89 -42360439.79 0.1671 0.0870

Jupiter -120690-10-15 18:29 J -42360311.86 -42360311.73 -42360311.61 0.0501 0.0347

Jupiter -120689-01-14 02:53 J -42360221.54 -42360221.38 -42360221.22 0.0500 0.0240

Mars -120688-05-14 20:53 J -42359734.74 -42359734.63 -42359734.53 0.1662 0.0806

Moon -120688-09-28 16:34 J -42359597.96 -42359597.81 -42359597.66 0.2565 0.0740

Earth -120688-09-28 16:34 J -42359597.96 -42359597.81 -42359597.65 0.2558 0.0664 *

Moon -120684-03-26 10:20 J -42358323.16 -42358323.07 -42358322.98 0.2783 0.1520

Earth -120684-03-26 10:49 J -42358323.14 -42358323.05 -42358322.95 0.2780 0.1395 *

Jupiter -120684-09-13 19:27 J -42358151.74 -42358151.69 -42358151.64 0.0524 0.0474

Jupiter -120684-12-12 02:25 J -42358062.53 -42358062.40 -42358062.27 0.0525 0.0012

Jupiter -120683-03-11 08:53 J -42357973.18 -42357973.13 -42357973.06 0.0526 0.0458

Mars -120682-12-22 18:01 J -42357321.90 -42357321.75 -42357321.60 0.1847 0.0652

Mars -120681-10-30 00:58 J -42357009.54 -42357009.46 -42357009.39 0.1673 0.1289

Venus -120680-01-25 10:05 J -42356922.13 -42356922.08 -42356922.02 0.3716 0.3127

Mars -120679-10-05 07:27 J -42356304.31 -42356304.19 -42356304.07 0.1664 0.0411

Saturn -120679-12-29 12:29 J -42356219.02 -42356218.98 -42356218.94 0.0299 0.0283

Saturn -120678-03-28 02:25 J -42356130.51 -42356130.40 -42356130.28 0.0299 0.0168

Earth -120678-04-05 07:41 J -42356122.26 -42356122.18 -42356122.09 0.2784 0.1685

Moon -120678-04-05 08:25 J -42356122.23 -42356122.15 -42356122.06 0.2784 0.1700 *

Saturn -120678-06-24 16:20 J -42356041.95 -42356041.82 -42356041.69 0.0300 0.0053

Jupiter -120678-08-03 16:05 J -42356001.86 -42356001.83 -42356001.78 0.0501 0.0489

Saturn -120678-09-21 06:01 J -42355953.38 -42355953.25 -42355953.12 0.0301 0.0062

Jupiter -120678-11-02 00:29 J -42355911.66 -42355911.48 -42355911.30 0.0500 0.0096

Saturn -120678-12-18 19:41 J -42355864.79 -42355864.68 -42355864.57 0.0302 0.0177

Saturn -120677-03-16 09:08 J -42355776.15 -42355776.12 -42355776.09 0.0302 0.0290

Venus -120675-08-11 02:53 J -42354898.48 -42354898.38 -42354898.28 0.3722 0.1403

Earth -120675-10-01 23:03 J -42354846.64 -42354846.54 -42354846.44 0.2558 0.1992

Moon -120675-10-01 23:46 J -42354846.60 -42354846.51 -42354846.41 0.2563 0.2028 *

Mars -120672-05-13 14:39 J -42353892.05 -42353891.89 -42353891.73 0.1845 0.0330

Jupiter -120672-09-30 06:15 J -42353752.37 -42353752.24 -42353752.11 0.0525 0.0124

Jupiter -120672-12-28 12:58 J -42353663.06 -42353662.96 -42353662.86 0.0526 0.0342

Moon -120671-03-29 04:49 J -42353572.40 -42353572.30 -42353572.19 0.2786 0.0575

Earth -120671-03-29 05:17 J -42353572.38 -42353572.28 -42353572.17 0.2781 0.0591 *

Pluto -120670-11-02 19:13 J -42352988.76 -42352988.70 -42352988.61 0.0060 0.0056

Pluto -120669-01-29 20:25 J -42352900.74 -42352900.65 -42352900.51 0.0061 0.0048

Venus -120669-02-24 19:27 J -42352874.79 -42352874.69 -42352874.58 0.3728 0.0322

Mars -120669-02-25 18:01 J -42352873.87 -42352873.75 -42352873.63 0.1666 0.0025

Pluto -120669-04-26 21:51 J -42352812.72 -42352812.59 -42352812.43 0.0061 0.0040

Pluto -120669-07-23 23:03 J -42352724.68 -42352724.54 -42352724.36 0.0061 0.0032

Pluto -120669-10-20 00:29 J -42352636.64 -42352636.48 -42352636.29 0.0061 0.0024

Pluto -120668-01-16 02:10 J -42352548.60 -42352548.41 -42352548.23 0.0061 0.0015

Pluto -120668-04-14 03:22 J -42352460.55 -42352460.36 -42352460.17 0.0061 0.0007

Pluto -120668-07-11 04:34 J -42352372.49 -42352372.31 -42352372.12 0.0061 0.0002

Moon -120668-09-23 08:39 J -42352298.24 -42352298.14 -42352298.04 0.2559 0.1957

Earth -120668-09-23 10:20 J -42352298.19 -42352298.07 -42352297.96 0.2561 0.1766 *

Pluto -120668-10-07 06:01 J -42352284.44 -42352284.25 -42352284.06 0.0061 0.0009

Pluto -120667-01-03 07:13 J -42352196.38 -42352196.20 -42352196.01 0.0061 0.0017

Mars -120667-01-30 23:32 J -42352168.54 -42352168.52 -42352168.51 0.1659 0.1632

Pluto -120667-04-01 08:10 J -42352108.31 -42352108.16 -42352107.97 0.0061 0.0026

Pluto -120667-06-28 09:37 J -42352020.24 -42352020.10 -42352019.93 0.0061 0.0034

Pluto -120667-09-24 10:49 J -42351932.16 -42351932.05 -42351931.89 0.0061 0.0043

Venus -120667-11-24 19:13 J -42351870.81 -42351870.70 -42351870.60 0.3661 0.2537

Pluto -120667-12-21 12:15 J -42351844.08 -42351843.99 -42351843.87 0.0061 0.0051

Pluto -120666-03-19 13:56 J -42351755.97 -42351755.92 -42351755.87 0.0061 0.0059

Jupiter -120666-08-20 22:20 J -42351601.75 -42351601.57 -42351601.39 0.0500 0.0046

Earth -120665-04-07 02:10 J -42351371.46 -42351371.41 -42351371.36 0.2784 0.2488

Moon -120665-04-07 02:39 J -42351371.42 -42351371.39 -42351371.35 0.2780 0.2599 *

Saturn -120664-01-23 22:34 J -42351079.69 -42351079.56 -42351079.42 0.0263 0.0173

Saturn -120664-04-22 17:17 J -42350990.95 -42350990.78 -42350990.60 0.0262 0.0071

Saturn -120664-07-20 12:15 J -42350902.17 -42350901.99 -42350901.81 0.0262 0.0032

Venus -120664-09-09 12:01 J -42350851.08 -42350851.00 -42350850.91 0.3734 0.2009

Saturn -120664-10-17 07:13 J -42350813.35 -42350813.20 -42350813.04 0.0261 0.0135

Saturn -120663-01-14 02:25 J -42350724.47 -42350724.40 -42350724.32 0.0261 0.0238

Mars -120663-10-03 11:32 J -42350462.13 -42350462.02 -42350461.91 0.1841 0.1276

Venus -120661-06-10 00:44 J -42349846.61 -42349846.47 -42349846.34 0.3653 0.1452

Mars -120660-07-18 04:20 J -42349443.44 -42349443.32 -42349443.20 0.1668 0.0400

Jupiter -120660-07-19 09:51 J -42349442.20 -42349442.09 -42349441.97 0.0525 0.0244

Jupiter -120660-10-16 16:49 J -42349352.92 -42349352.80 -42349352.68 0.0526 0.0224

Venus -120658-03-26 04:34 J -42348827.32 -42348827.31 -42348827.29 0.3739 0.3688

Moon -120658-03-31 23:32 J -42348821.63 -42348821.52 -42348821.41 0.2790 0.0197

Earth -120658-03-31 23:46 J -42348821.62 -42348821.51 -42348821.40 0.2782 0.0219 *

Mars -120658-06-23 10:05 J -42348738.15 -42348738.08 -42348738.00 0.1660 0.1249

Moon -120655-09-26 15:08 J -42347547.03 -42347546.87 -42347546.71 0.2561 0.0441

Earth -120655-09-26 16:49 J -42347546.96 -42347546.80 -42347546.64 0.2559 0.0433 *

Jupiter -120654-06-08 20:10 J -42347291.83 -42347291.66 -42347291.50 0.0500 0.0189

Jupiter -120654-09-07 04:49 J -42347201.41 -42347201.30 -42347201.19 0.0500 0.0401

Mars -120651-01-30 23:03 J -42346324.59 -42346324.54 -42346324.50 0.1850 0.1769

Moon -120651-03-24 21:08 J -42346271.69 -42346271.62 -42346271.56 0.2772 0.2129

Earth -120651-03-24 21:22 J -42346271.68 -42346271.61 -42346271.54 0.2779 0.2050 *

Uranus -120651-04-28 05:17 J -42346237.33 -42346237.28 -42346237.22 0.0148 0.0140

Uranus -120651-07-25 13:41 J -42346149.05 -42346148.93 -42346148.80 0.0148 0.0110

Uranus -120651-10-21 22:05 J -42346060.72 -42346060.58 -42346060.41 0.0148 0.0080

Mars -120651-12-08 14:39 J -42346012.99 -42346012.89 -42346012.79 0.1671 0.0816

Uranus -120650-01-18 06:58 J -42345972.39 -42345972.21 -42345972.03 0.0148 0.0048

Uranus -120650-04-16 15:37 J -42345884.04 -42345883.85 -42345883.66 0.0148 0.0017

Uranus -120650-07-14 00:15 J -42345795.68 -42345795.49 -42345795.30 0.0148 0.0015

Uranus -120650-10-10 08:53 J -42345707.31 -42345707.13 -42345706.94 0.0148 0.0046

Uranus -120649-01-06 17:32 J -42345618.92 -42345618.77 -42345618.60 0.0148 0.0078

Uranus -120649-04-04 02:10 J -42345530.52 -42345530.41 -42345530.27 0.0148 0.0110

Uranus -120649-07-01 10:49 J -42345442.09 -42345442.05 -42345441.97 0.0148 0.0142

Saturn -120649-08-14 03:51 J -42345398.44 -42345398.34 -42345398.25 0.0299 0.0205

Saturn -120649-11-10 17:32 J -42345309.89 -42345309.77 -42345309.64 0.0299 0.0090

Mars -120649-11-12 20:53 J -42345307.73 -42345307.63 -42345307.53 0.1662 0.0857

Saturn -120648-02-07 07:27 J -42345221.33 -42345221.19 -42345221.06 0.0300 0.0026

Saturn -120648-05-06 20:53 J -42345132.74 -42345132.63 -42345132.51 0.0301 0.0140

Jupiter -120648-05-07 14:10 J -42345132.01 -42345131.91 -42345131.82 0.0525 0.0356

Saturn -120648-08-03 10:34 J -42345044.13 -42345044.06 -42345043.99 0.0302 0.0253

Jupiter -120648-08-04 21:08 J -42345042.75 -42345042.62 -42345042.50 0.0526 0.0114

Moon -120645-04-02 18:15 J -42344070.84 -42344070.74 -42344070.64 0.2790 0.1003

Earth -120645-04-02 18:15 J -42344070.84 -42344070.74 -42344070.64 0.2783 0.1026 *

Jupiter -120642-03-27 16:20 J -42342981.95 -42342981.82 -42342981.69 0.0501 0.0346

Mars -120642-06-22 18:44 J -42342894.87 -42342894.72 -42342894.57 0.1847 0.0751

Jupiter -120642-06-26 00:44 J -42342891.63 -42342891.47 -42342891.31 0.0500 0.0242

Moon -120642-09-29 21:51 J -42342795.75 -42342795.59 -42342795.44 0.2560 0.0826

Earth -120642-09-29 23:17 J -42342795.68 -42342795.53 -42342795.38 0.2558 0.0911 *

Mars -120641-04-30 00:44 J -42342582.54 -42342582.47 -42342582.39 0.1673 0.1238

Mars -120639-04-05 07:27 J -42341877.31 -42341877.19 -42341877.08 0.1664 0.0462

Moon -120638-03-27 15:08 J -42341520.96 -42341520.87 -42341520.77 0.2775 0.1236

Earth -120638-03-27 15:51 J -42341520.94 -42341520.84 -42341520.75 0.2780 0.1250 *

Jupiter -120636-02-23 18:15 J -42340821.79 -42340821.74 -42340821.68 0.0524 0.0467

Jupiter -120636-05-24 01:27 J -42340732.57 -42340732.44 -42340732.31 0.0525 0.0003

Jupiter -120636-08-21 07:56 J -42340643.22 -42340643.17 -42340643.11 0.0526 0.0467

Saturn -120635-06-12 22:49 J -42340347.66 -42340347.55 -42340347.43 0.0263 0.0200

Saturn -120635-09-09 17:32 J -42340258.94 -42340258.77 -42340258.60 0.0263 0.0099

Saturn -120635-12-07 12:15 J -42340170.17 -42340169.99 -42340169.80 0.0262 0.0008

Saturn -120634-03-06 07:13 J -42340081.36 -42340081.20 -42340081.03 0.0261 0.0106

Neptune -120634-04-25 01:13 J -42340031.46 -42340031.45 -42340031.43 0.0088 0.0087

Saturn -120634-06-03 02:25 J -42339992.51 -42339992.40 -42339992.29 0.0261 0.0209

Neptune -120634-07-22 02:25 J -42339943.43 -42339943.40 -42339943.34 0.0088 0.0084

Neptune -120634-10-18 04:20 J -42339855.38 -42339855.32 -42339855.26 0.0088 0.0079

Neptune -120633-01-14 05:32 J -42339767.33 -42339767.27 -42339767.19 0.0088 0.0075

Neptune -120633-04-11 06:58 J -42339679.28 -42339679.21 -42339679.11 0.0088 0.0071

Neptune -120633-07-08 08:25 J -42339591.23 -42339591.15 -42339591.05 0.0088 0.0067

Neptune -120633-10-04 10:05 J -42339503.17 -42339503.08 -42339502.98 0.0088 0.0062

Mars -120633-11-11 15:22 J -42339465.02 -42339464.86 -42339464.70 0.1844 0.0237

Neptune -120633-12-31 11:32 J -42339415.12 -42339415.02 -42339414.91 0.0088 0.0057

Neptune -120632-03-29 12:58 J -42339327.06 -42339326.96 -42339326.84 0.0088 0.0053

Earth -120632-04-05 12:44 J -42339320.05 -42339319.97 -42339319.89 0.2784 0.1833

Moon -120632-04-05 12:58 J -42339320.04 -42339319.96 -42339319.88 0.2791 0.1932 *

Neptune -120632-06-25 14:25 J -42339239.01 -42339238.90 -42339238.78 0.0088 0.0049

Mars -120632-09-20 11:03 J -42339152.05 -42339152.04 -42339152.03 0.1676 0.1663

Neptune -120632-09-21 16:05 J -42339150.95 -42339150.83 -42339150.71 0.0088 0.0045

Neptune -120632-12-18 17:17 J -42339062.89 -42339062.78 -42339062.65 0.0088 0.0041

Neptune -120631-03-16 18:44 J -42338974.84 -42338974.72 -42338974.59 0.0088 0.0036

Neptune -120631-06-12 20:10 J -42338886.78 -42338886.66 -42338886.53 0.0088 0.0032

Neptune -120631-09-08 21:51 J -42338798.72 -42338798.59 -42338798.46 0.0088 0.0028

Neptune -120631-12-05 23:03 J -42338710.67 -42338710.54 -42338710.40 0.0088 0.0024

Jupiter -120630-01-13 14:10 J -42338671.95 -42338671.91 -42338671.87 0.0501 0.0488

Neptune -120630-03-04 00:29 J -42338622.61 -42338622.48 -42338622.34 0.0088 0.0020

Jupiter -120630-04-13 22:20 J -42338581.75 -42338581.57 -42338581.39 0.0500 0.0096

Neptune -120630-05-31 01:56 J -42338534.55 -42338534.42 -42338534.28 0.0088 0.0015

Mars -120630-08-26 18:01 J -42338446.87 -42338446.75 -42338446.63 0.1666 0.0070

Neptune -120630-08-27 03:22 J -42338446.49 -42338446.36 -42338446.22 0.0088 0.0011

Neptune -120630-11-23 04:49 J -42338358.43 -42338358.30 -42338358.16 0.0088 0.0007

Neptune -120629-02-19 06:15 J -42338270.37 -42338270.24 -42338270.10 0.0088 0.0003

Neptune -120629-05-17 07:41 J -42338182.32 -42338182.18 -42338182.04 0.0088 0.0002

Neptune -120629-08-13 09:08 J -42338094.26 -42338094.12 -42338093.99 0.0088 0.0006

Moon -120629-10-02 04:49 J -42338044.39 -42338044.30 -42338044.22 0.2562 0.2103

Earth -120629-10-02 05:46 J -42338044.33 -42338044.26 -42338044.18 0.2557 0.2245 *

Neptune -120629-11-09 10:34 J -42338006.20 -42338006.06 -42338005.93 0.0088 0.0010

Neptune -120628-02-05 11:46 J -42337918.14 -42337918.01 -42337917.87 0.0088 0.0015

Neptune -120628-05-04 13:13 J -42337830.08 -42337829.95 -42337829.81 0.0088 0.0018

Neptune -120628-07-31 14:39 J -42337742.02 -42337741.89 -42337741.76 0.0088 0.0023

Neptune -120628-10-27 16:05 J -42337653.96 -42337653.83 -42337653.70 0.0088 0.0027

Neptune -120627-01-23 17:17 J -42337565.90 -42337565.78 -42337565.65 0.0088 0.0031

Neptune -120627-04-21 18:44 J -42337477.84 -42337477.72 -42337477.59 0.0088 0.0035

Neptune -120627-07-18 20:10 J -42337389.78 -42337389.66 -42337389.54 0.0088 0.0039

Neptune -120627-10-14 21:22 J -42337301.72 -42337301.61 -42337301.48 0.0088 0.0044

Neptune -120626-01-10 22:49 J -42337213.66 -42337213.55 -42337213.43 0.0088 0.0048

Neptune -120626-04-09 00:15 J -42337125.59 -42337125.49 -42337125.38 0.0088 0.0051

Neptune -120626-07-06 01:41 J -42337037.53 -42337037.43 -42337037.32 0.0088 0.0055

Neptune -120626-10-02 03:08 J -42336949.47 -42336949.37 -42336949.27 0.0088 0.0060

Neptune -120626-12-29 04:34 J -42336861.41 -42336861.31 -42336861.22 0.0088 0.0064

Neptune -120625-03-26 05:46 J -42336773.34 -42336773.26 -42336773.17 0.0088 0.0068

Moon -120625-03-29 09:37 J -42336770.21 -42336770.10 -42336770.00 0.2780 0.0514

Earth -120625-03-29 10:20 J -42336770.18 -42336770.07 -42336769.97 0.2781 0.0457 *

Neptune -120625-06-22 06:58 J -42336685.28 -42336685.21 -42336685.12 0.0088 0.0072

Neptune -120625-09-18 08:10 J -42336597.21 -42336597.16 -42336597.08 0.0088 0.0077

Neptune -120625-12-15 09:37 J -42336509.14 -42336509.10 -42336509.03 0.0088 0.0080

Jupiter -120624-03-12 05:17 J -42336422.41 -42336422.28 -42336422.16 0.0525 0.0116

Neptune -120624-03-13 11:03 J -42336421.07 -42336421.04 -42336420.99 0.0088 0.0084

Jupiter -120624-06-09 11:46 J -42336333.10 -42336333.01 -42336332.91 0.0525 0.0349

Neptune -120624-06-09 12:29 J -42336332.98 -42336332.98 -42336332.97 0.0088 0.0088 *

Venus -120624-09-01 07:56 J -42336249.25 -42336249.17 -42336249.09 0.3718 0.2482

Mars -120623-04-03 11:46 J -42336035.13 -42336035.01 -42336034.89 0.1841 0.1199

Moon -120622-09-24 16:34 J -42335495.95 -42335495.81 -42335495.68 0.2555 0.1461

Earth -120622-09-24 16:49 J -42335495.93 -42335495.80 -42335495.67 0.2561 0.1526 *

Mars -120620-01-16 04:20 J -42335016.44 -42335016.32 -42335016.20 0.1669 0.0348

Saturn -120619-01-01 04:49 J -42334666.38 -42334666.30 -42334666.22 0.0299 0.0242

Saturn -120619-03-30 18:44 J -42334577.84 -42334577.72 -42334577.60 0.0300 0.0127

Earth -120619-04-08 06:58 J -42334569.24 -42334569.21 -42334569.17 0.2784 0.2642

Moon -120619-04-08 07:41 J -42334569.21 -42334569.18 -42334569.15 0.2788 0.2646 *

Saturn -120619-06-27 08:25 J -42334489.28 -42334489.15 -42334489.01 0.0301 0.0014

Saturn -120619-09-23 22:05 J -42334400.70 -42334400.58 -42334400.45 0.0301 0.0104

Saturn -120619-12-21 11:46 J -42334312.10 -42334312.01 -42334311.92 0.0302 0.0218

Mars -120619-12-22 10:05 J -42334311.15 -42334311.08 -42334311.01 0.1661 0.1296

Jupiter -120618-01-30 20:10 J -42334271.84 -42334271.66 -42334271.48 0.0501 0.0047

Venus -120618-03-18 00:29 J -42334225.58 -42334225.48 -42334225.37 0.3724 0.0776

Earth -120618-03-23 07:41 J -42334220.20 -42334220.18 -42334220.16 0.2777 0.2707

Moon -120618-03-23 08:25 J -42334220.16 -42334220.15 -42334220.13 0.2774 0.2719 *

Venus -120613-09-30 17:17 J -42332201.88 -42332201.78 -42332201.68 0.3730 0.0945

Jupiter -120613-12-29 08:53 J -42332112.24 -42332112.13 -42332112.01 0.0525 0.0235

Jupiter -120612-03-28 15:51 J -42332022.96 -42332022.84 -42332022.73 0.0525 0.0233

Moon -120612-04-01 03:51 J -42332019.45 -42332019.34 -42332019.23 0.2783 0.0254

Earth -120612-04-01 04:34 J -42332019.41 -42332019.31 -42332019.20 0.2783 0.0375 *

Mars -120611-06-08 14:39 J -42331585.99 -42331585.89 -42331585.78 0.1671 0.0760

Uranus -120610-05-27 10:05 J -42331233.14 -42331233.08 -42331233.02 0.0131 0.0116

Venus -120610-07-01 20:10 J -42331197.80 -42331197.66 -42331197.52 0.3659 0.1199

Uranus -120610-08-23 12:58 J -42331145.04 -42331144.96 -42331144.87 0.0131 0.0101

Uranus -120610-11-19 15:51 J -42331056.93 -42331056.84 -42331056.73 0.0131 0.0086

Uranus -120609-02-15 18:58 J -42330968.82 -42330968.71 -42330968.59 0.0131 0.0070

Mars -120609-05-13 20:53 J -42330880.73 -42330880.63 -42330880.53 0.1662 0.0909

Uranus -120609-05-13 22:05 J -42330880.70 -42330880.58 -42330880.46 0.0131 0.0055 *

Uranus -120609-08-10 00:58 J -42330792.58 -42330792.46 -42330792.33 0.0131 0.0040

Moon -120609-09-26 22:20 J -42330744.73 -42330744.57 -42330744.40 0.2554 0.0263

Earth -120609-09-26 23:32 J -42330744.68 -42330744.52 -42330744.36 0.2559 0.0185 *

Uranus -120609-11-06 04:05 J -42330704.46 -42330704.33 -42330704.20 0.0131 0.0025

Uranus -120608-02-02 06:58 J -42330616.34 -42330616.21 -42330616.07 0.0131 0.0010

Uranus -120608-05-01 09:51 J -42330528.22 -42330528.09 -42330527.95 0.0131 0.0007

Uranus -120608-07-28 12:58 J -42330440.09 -42330439.96 -42330439.83 0.0131 0.0021

Uranus -120608-10-24 15:51 J -42330351.97 -42330351.84 -42330351.71 0.0131 0.0036

Uranus -120607-01-20 18:44 J -42330263.84 -42330263.72 -42330263.59 0.0131 0.0051

Venus -120607-04-16 09:51 J -42330178.16 -42330178.09 -42330178.02 0.3735 0.2630

Uranus -120607-04-18 21:37 J -42330175.71 -42330175.60 -42330175.48 0.0131 0.0066

Uranus -120607-07-16 00:29 J -42330087.58 -42330087.48 -42330087.37 0.0131 0.0081

Uranus -120607-10-12 03:22 J -42329999.44 -42329999.36 -42329999.26 0.0131 0.0096

Jupiter -120607-11-18 18:15 J -42329961.91 -42329961.74 -42329961.57 0.0501 0.0185

Uranus -120606-01-08 06:29 J -42329911.30 -42329911.23 -42329911.16 0.0131 0.0110

Jupiter -120606-02-17 02:53 J -42329871.48 -42329871.38 -42329871.27 0.0500 0.0406

Uranus -120606-04-06 09:08 J -42329823.15 -42329823.12 -42329823.07 0.0131 0.0125

Saturn -120606-10-30 22:34 J -42329615.64 -42329615.56 -42329615.48 0.0263 0.0231

Saturn -120605-01-27 17:03 J -42329526.94 -42329526.79 -42329526.63 0.0263 0.0130

Earth -120605-03-25 02:10 J -42329469.48 -42329469.41 -42329469.33 0.2779 0.1908

Moon -120605-03-25 02:39 J -42329469.47 -42329469.39 -42329469.31 0.2774 0.1822 *

Saturn -120605-04-25 12:01 J -42329438.18 -42329438.00 -42329437.82 0.0262 0.0029

Saturn -120605-07-23 06:44 J -42329349.39 -42329349.22 -42329349.04 0.0261 0.0074

Saturn -120605-10-20 01:56 J -42329260.55 -42329260.42 -42329260.29 0.0261 0.0177

Venus -120604-01-15 01:41 J -42329173.52 -42329173.43 -42329173.33 0.3651 0.2834

Mars -120603-12-21 19:41 J -42328467.82 -42328467.68 -42328467.53 0.1847 0.0858

Mars -120602-10-30 00:58 J -42328155.55 -42328155.46 -42328155.38 0.1673 0.1181

Jupiter -120601-10-17 12:44 J -42327802.07 -42327801.97 -42327801.88 0.0525 0.0355

Jupiter -120600-01-14 19:41 J -42327712.81 -42327712.68 -42327712.56 0.0525 0.0115

Mars -120600-10-04 07:27 J -42327450.30 -42327450.19 -42327450.08 0.1664 0.0515

Moon -120599-04-03 22:34 J -42327268.66 -42327268.56 -42327268.47 0.2788 0.1199

Earth -120599-04-03 23:03 J -42327268.64 -42327268.54 -42327268.44 0.2783 0.1173 *

Moon -120596-09-30 04:49 J -42325993.45 -42325993.30 -42325993.15 0.2554 0.0999

Earth -120596-09-30 06:01 J -42325993.40 -42325993.25 -42325993.11 0.2558 0.1156 *

Jupiter -120595-09-06 16:05 J -42325651.96 -42325651.83 -42325651.69 0.0501 0.0327

Jupiter -120595-12-06 00:29 J -42325561.63 -42325561.48 -42325561.32 0.0500 0.0261

Mars -120593-05-12 15:51 J -42325038.00 -42325037.84 -42325037.68 0.1844 0.0144

Mars -120592-03-21 11:03 J -42324725.07 -42324725.04 -42324725.01 0.1676 0.1610

Earth -120592-03-27 20:39 J -42324718.74 -42324718.64 -42324718.54 0.2780 0.1103

Moon -120592-03-27 20:53 J -42324718.73 -42324718.63 -42324718.53 0.2773 0.1071 *

Mars -120590-02-24 18:01 J -42324019.87 -42324019.75 -42324019.64 0.1666 0.0125

Saturn -120590-05-21 05:17 J -42323934.31 -42323934.28 -42323934.23 0.0298 0.0283

Saturn -120590-08-17 19:27 J -42323845.80 -42323845.69 -42323845.58 0.0299 0.0167

Saturn -120590-11-14 09:22 J -42323757.25 -42323757.11 -42323756.98 0.0300 0.0053

Saturn -120589-02-10 23:03 J -42323668.67 -42323668.54 -42323668.41 0.0301 0.0062

Saturn -120589-05-09 12:44 J -42323580.08 -42323579.97 -42323579.87 0.0301 0.0177

Jupiter -120589-08-05 16:49 J -42323491.85 -42323491.80 -42323491.74 0.0524 0.0466

Saturn -120589-08-06 02:10 J -42323491.44 -42323491.41 -42323491.38 0.0302 0.0290

Moon -120589-09-21 18:44 J -42323444.77 -42323444.72 -42323444.67 0.2559 0.2417

Jupiter -120589-11-03 00:01 J -42323402.63 -42323402.50 -42323402.37 0.0525 0.0006

Jupiter -120588-01-31 06:29 J -42323313.28 -42323313.23 -42323313.17 0.0526 0.0469

Moon -120586-04-06 17:03 J -42322517.87 -42322517.79 -42322517.71 0.2790 0.1922

Earth -120586-04-06 17:32 J -42322517.85 -42322517.77 -42322517.70 0.2784 0.1981 *

Mars -120584-10-02 12:44 J -42321608.10 -42321607.97 -42321607.84 0.1841 0.1094

Jupiter -120583-06-25 12:29 J -42321342.02 -42321341.98 -42321341.93 0.0501 0.0483

Jupiter -120583-09-23 20:39 J -42321251.82 -42321251.64 -42321251.46 0.0500 0.0101

Moon -120583-10-03 10:49 J -42321242.09 -42321242.05 -42321242.02 0.2555 0.2483

Earth -120583-10-03 12:29 J -42321242.02 -42321241.98 -42321241.95 0.2557 0.2486 *

Mars -120581-07-17 04:20 J -42320589.43 -42320589.32 -42320589.20 0.1668 0.0297

Moon -120579-03-30 14:53 J -42319967.99 -42319967.88 -42319967.77 0.2775 0.0358

Earth -120579-03-30 15:08 J -42319967.98 -42319967.87 -42319967.76 0.2782 0.0298 *

Mars -120579-06-22 10:05 J -42319884.14 -42319884.08 -42319884.01 0.1660 0.1346

Jupiter -120577-08-22 04:20 J -42319092.44 -42319092.32 -42319092.19 0.0525 0.0106

Jupiter -120577-11-19 11:03 J -42319003.13 -42319003.04 -42319002.94 0.0526 0.0361

Pluto -120577-11-28 03:22 J -42318994.43 -42318994.36 -42318994.29 0.0084 0.0071

Pluto -120576-02-24 04:34 J -42318906.41 -42318906.31 -42318906.20 0.0084 0.0055

Saturn -120576-03-18 22:20 J -42318883.59 -42318883.57 -42318883.54 0.0264 0.0261

Pluto -120576-05-23 06:01 J -42318818.37 -42318818.25 -42318818.13 0.0084 0.0039

Saturn -120576-06-15 16:49 J -42318794.93 -42318794.80 -42318794.65 0.0263 0.0160

Pluto -120576-08-19 07:13 J -42318730.32 -42318730.20 -42318730.06 0.0084 0.0024

Saturn -120576-09-12 11:32 J -42318706.19 -42318706.02 -42318705.84 0.0262 0.0059

Earth -120576-09-24 23:32 J -42318693.66 -42318693.52 -42318693.38 0.2560 0.1277

Moon -120576-09-25 00:58 J -42318693.60 -42318693.46 -42318693.32 0.2557 0.1177 *

Pluto -120576-11-15 08:39 J -42318642.27 -42318642.14 -42318642.00 0.0084 0.0009

Saturn -120576-12-10 06:29 J -42318617.41 -42318617.23 -42318617.05 0.0262 0.0044

Pluto -120575-02-11 10:05 J -42318554.22 -42318554.08 -42318553.94 0.0084 0.0007

Saturn -120575-03-09 01:27 J -42318528.59 -42318528.44 -42318528.29 0.0261 0.0147

Pluto -120575-05-10 11:17 J -42318466.16 -42318466.03 -42318465.89 0.0084 0.0023

Saturn -120575-06-05 20:25 J -42318439.69 -42318439.65 -42318439.59 0.0261 0.0250

Pluto -120575-08-06 12:29 J -42318378.09 -42318377.98 -42318377.85 0.0083 0.0039

Pluto -120575-11-02 13:56 J -42318290.02 -42318289.92 -42318289.81 0.0083 0.0054

Pluto -120574-01-29 15:22 J -42318201.93 -42318201.86 -42318201.78 0.0083 0.0069

Moon -120573-04-08 12:01 J -42317767.01 -42317767.00 -42317767.00 0.2792 0.2776

Venus -120573-09-22 12:44 J -42317599.99 -42317599.97 -42317599.94 0.3714 0.3571

Earth -120572-03-23 12:44 J -42317418.01 -42317417.97 -42317417.93 0.2777 0.2563

Moon -120572-03-23 13:13 J -42317417.99 -42317417.95 -42317417.90 0.2783 0.2482 *

Mars -120572-12-07 14:39 J -42317159.00 -42317158.89 -42317158.78 0.1671 0.0708

Jupiter -120571-07-12 18:15 J -42316941.92 -42316941.74 -42316941.56 0.0500 0.0044

Mars -120570-11-12 20:53 J -42316453.73 -42316453.63 -42316453.53 0.1662 0.0959

Venus -120567-04-08 05:32 J -42315576.36 -42315576.27 -42315576.17 0.3719 0.1843

Uranus -120567-05-18 13:41 J -42315536.01 -42315535.93 -42315535.82 0.0148 0.0129

Uranus -120567-08-14 22:20 J -42315447.70 -42315447.57 -42315447.42 0.0148 0.0098

Uranus -120567-11-11 06:58 J -42315359.37 -42315359.21 -42315359.04 0.0148 0.0067

Uranus -120566-02-07 15:37 J -42315271.03 -42315270.85 -42315270.66 0.0148 0.0036

Moon -120566-04-02 09:08 J -42315217.22 -42315217.12 -42315217.01 0.2776 0.0550

Earth -120566-04-02 09:37 J -42315217.21 -42315217.10 -42315217.00 0.2783 0.0519 *

Uranus -120566-05-07 00:15 J -42315182.68 -42315182.49 -42315182.30 0.0148 0.0005

Uranus -120566-08-03 08:53 J -42315094.31 -42315094.13 -42315093.94 0.0148 0.0026

Uranus -120566-10-30 17:32 J -42315005.94 -42315005.77 -42315005.59 0.0148 0.0058

Uranus -120565-01-27 02:10 J -42314917.55 -42314917.41 -42314917.25 0.0148 0.0089

Uranus -120565-04-24 10:49 J -42314829.14 -42314829.05 -42314828.93 0.0148 0.0121

Jupiter -120565-06-10 08:10 J -42314782.27 -42314782.16 -42314782.04 0.0525 0.0223

Jupiter -120565-09-07 15:08 J -42314692.99 -42314692.87 -42314692.76 0.0525 0.0244

Mars -120563-06-21 19:56 J -42314040.81 -42314040.67 -42314040.53 0.1847 0.0935

Earth -120563-09-28 06:01 J -42313942.41 -42313942.25 -42313942.09 0.2559 0.0064

Moon -120563-09-28 06:58 J -42313942.37 -42313942.21 -42313942.05 0.2553 0.0032 *

Mars -120562-04-30 00:58 J -42313728.55 -42313728.46 -42313728.37 0.1673 0.1126

Venus -120562-10-22 22:20 J -42313552.68 -42313552.57 -42313552.46 0.3725 0.0128

Saturn -120560-01-03 19:56 J -42313113.76 -42313113.67 -42313113.57 0.0299 0.0208

Saturn -120560-04-02 09:51 J -42313025.22 -42313025.09 -42313024.96 0.0300 0.0093

Mars -120560-04-04 07:27 J -42313023.30 -42313023.19 -42313023.08 0.1664 0.0564

Saturn -120560-06-29 23:46 J -42312936.65 -42312936.51 -42312936.38 0.0301 0.0024

Saturn -120560-09-26 13:13 J -42312848.06 -42312847.95 -42312847.83 0.0302 0.0137

Saturn -120560-12-24 02:53 J -42312759.45 -42312759.38 -42312759.31 0.0302 0.0250

Earth -120559-03-26 07:13 J -42312667.29 -42312667.20 -42312667.12 0.2779 0.1763

Moon -120559-03-26 07:56 J -42312667.26 -42312667.17 -42312667.09 0.2780 0.1705 *

Jupiter -120559-04-30 16:20 J -42312631.99 -42312631.82 -42312631.65 0.0501 0.0184

Jupiter -120559-07-30 01:13 J -42312541.56 -42312541.45 -42312541.35 0.0500 0.0408

Venus -120556-05-07 14:53 J -42311528.97 -42311528.88 -42311528.78 0.3731 0.1570

Mars -120554-11-11 16:49 J -42310610.97 -42310610.80 -42310610.64 0.1845 0.0055

Venus -120553-02-05 21:08 J -42310524.76 -42310524.62 -42310524.47 0.3657 0.0179

Jupiter -120553-03-29 12:01 J -42310472.10 -42310472.00 -42310471.90 0.0524 0.0341

Moon -120553-04-04 03:22 J -42310466.46 -42310466.36 -42310466.26 0.2780 0.1234

Earth -120553-04-04 04:05 J -42310466.43 -42310466.33 -42310466.24 0.2783 0.1327 *

Jupiter -120553-06-26 18:58 J -42310382.83 -42310382.71 -42310382.58 0.0525 0.0128

Mars -120553-09-19 11:03 J -42310298.08 -42310298.04 -42310298.00 0.1676 0.1553

Mars -120551-08-25 18:01 J -42309592.87 -42309592.75 -42309592.63 0.1666 0.0167

Venus -120551-11-21 07:27 J -42309505.24 -42309505.19 -42309505.14 0.3737 0.3245

Neptune -120550-03-26 00:29 J -42309380.50 -42309380.48 -42309380.43 0.0089 0.0087

Neptune -120550-06-22 03:51 J -42309292.40 -42309292.34 -42309292.25 0.0089 0.0081

Neptune -120550-09-18 07:13 J -42309204.28 -42309204.20 -42309204.09 0.0089 0.0075

Earth -120550-10-01 12:29 J -42309191.11 -42309190.98 -42309190.84 0.2558 0.1400

Moon -120550-10-01 13:13 J -42309191.08 -42309190.95 -42309190.82 0.2553 0.1508 *

Neptune -120550-12-15 10:49 J -42309116.16 -42309116.05 -42309115.93 0.0089 0.0069

Neptune -120549-03-12 13:41 J -42309028.04 -42309027.93 -42309027.78 0.0089 0.0064

Neptune -120549-06-08 17:17 J -42308939.91 -42308939.78 -42308939.63 0.0089 0.0058

Neptune -120549-09-04 20:39 J -42308851.78 -42308851.64 -42308851.48 0.0089 0.0052

Neptune -120549-12-02 00:01 J -42308763.65 -42308763.50 -42308763.33 0.0089 0.0046

Neptune -120548-02-28 03:37 J -42308675.52 -42308675.35 -42308675.18 0.0089 0.0040

Neptune -120548-05-27 06:58 J -42308587.38 -42308587.21 -42308587.04 0.0089 0.0034

Neptune -120548-08-23 10:05 J -42308499.24 -42308499.08 -42308498.89 0.0089 0.0029

Neptune -120548-11-19 13:41 J -42308411.11 -42308410.93 -42308410.74 0.0089 0.0023

Neptune -120547-02-15 17:03 J -42308322.97 -42308322.79 -42308322.60 0.0089 0.0017

Jupiter -120547-02-16 14:39 J -42308322.03 -42308321.89 -42308321.75 0.0501 0.0321

Neptune -120547-05-14 20:39 J -42308234.83 -42308234.64 -42308234.45 0.0089 0.0011

Jupiter -120547-05-17 23:03 J -42308231.69 -42308231.54 -42308231.38 0.0500 0.0268

Neptune -120547-08-11 00:01 J -42308146.69 -42308146.50 -42308146.31 0.0089 0.0005

Saturn -120547-11-02 16:05 J -42308062.94 -42308062.83 -42308062.71 0.0263 0.0193

Neptune -120547-11-07 03:37 J -42308058.54 -42308058.35 -42308058.16 0.0089 0.0002

Saturn -120546-01-30 10:49 J -42307974.22 -42307974.05 -42307973.88 0.0262 0.0092

Neptune -120546-02-03 06:58 J -42307970.40 -42307970.21 -42307970.02 0.0089 0.0007

Earth -120546-03-29 01:27 J -42307916.54 -42307916.44 -42307916.33 0.2781 0.0961

Moon -120546-03-29 02:25 J -42307916.51 -42307916.40 -42307916.30 0.2780 0.0968 *

Saturn -120546-04-29 05:32 J -42307885.45 -42307885.27 -42307885.09 0.0262 0.0011

Neptune -120546-05-02 10:20 J -42307882.25 -42307882.07 -42307881.88 0.0089 0.0013

Saturn -120546-07-27 00:29 J -42307796.64 -42307796.48 -42307796.31 0.0261 0.0112

Neptune -120546-07-29 13:56 J -42307794.11 -42307793.92 -42307793.74 0.0089 0.0019

Saturn -120546-10-23 19:41 J -42307707.78 -42307707.68 -42307707.58 0.0261 0.0215

Neptune -120546-10-25 17:17 J -42307705.96 -42307705.78 -42307705.59 0.0089 0.0025

Neptune -120545-01-21 20:53 J -42307617.81 -42307617.63 -42307617.45 0.0089 0.0031

Neptune -120545-04-19 00:15 J -42307529.66 -42307529.49 -42307529.31 0.0089 0.0037

Neptune -120545-07-16 03:51 J -42307441.50 -42307441.34 -42307441.17 0.0089 0.0043

Neptune -120545-10-12 07:27 J -42307353.35 -42307353.19 -42307353.03 0.0089 0.0050

Neptune -120544-01-08 10:34 J -42307265.19 -42307265.06 -42307264.90 0.0089 0.0056

Mars -120544-04-02 13:27 J -42307181.08 -42307180.94 -42307180.81 0.1841 0.1000

Neptune -120544-04-06 13:56 J -42307177.03 -42307176.92 -42307176.76 0.0089 0.0062

Neptune -120544-07-03 17:32 J -42307088.87 -42307088.77 -42307088.63 0.0089 0.0068

Neptune -120544-09-29 21:08 J -42307000.71 -42307000.62 -42307000.50 0.0089 0.0074

Neptune -120544-12-27 00:44 J -42306912.54 -42306912.47 -42306912.37 0.0089 0.0080

Neptune -120543-03-25 04:20 J -42306824.35 -42306824.32 -42306824.26 0.0089 0.0086

Earth -120543-09-22 23:46 J -42306642.57 -42306642.51 -42306642.45 0.2562 0.2367

Moon -120543-09-23 00:58 J -42306642.52 -42306642.46 -42306642.39 0.2566 0.2302 *

Mars -120541-01-16 04:20 J -42306162.44 -42306162.32 -42306162.20 0.1668 0.0244

Jupiter -120541-01-16 15:37 J -42306161.91 -42306161.85 -42306161.79 0.0524 0.0461

Jupiter -120541-04-14 22:49 J -42306072.68 -42306072.55 -42306072.42 0.0525 0.0011

Jupiter -120541-07-13 05:17 J -42305983.33 -42305983.28 -42305983.22 0.0526 0.0474

Moon -120540-04-06 21:37 J -42305715.67 -42305715.60 -42305715.52 0.2782 0.2037

Earth -120540-04-06 22:20 J -42305715.63 -42305715.57 -42305715.50 0.2784 0.2133 *

Mars -120540-12-21 10:05 J -42305457.14 -42305457.08 -42305457.01 0.1660 0.1399

Jupiter -120536-12-05 12:44 J -42304012.04 -42304011.97 -42304011.90 0.0501 0.0460

Jupiter -120535-03-05 20:53 J -42303921.81 -42303921.63 -42303921.46 0.0500 0.0125

Earth -120533-03-30 19:56 J -42303165.78 -42303165.67 -42303165.56 0.2782 0.0161

Moon -120533-03-30 20:39 J -42303165.75 -42303165.64 -42303165.54 0.2777 0.0102 *

Mars -120532-06-07 14:39 J -42302732.00 -42302731.89 -42302731.78 0.1671 0.0655

Saturn -120531-05-23 20:10 J -42302381.72 -42302381.66 -42302381.58 0.0298 0.0252

Saturn -120531-08-20 10:20 J -42302293.19 -42302293.07 -42302292.95 0.0299 0.0136

Saturn -120531-11-17 00:15 J -42302204.63 -42302204.49 -42302204.36 0.0300 0.0023

Saturn -120530-02-13 13:56 J -42302116.05 -42302115.92 -42302115.79 0.0301 0.0093

Saturn -120530-05-13 03:22 J -42302027.45 -42302027.36 -42302027.26 0.0301 0.0207

Mars -120530-05-13 20:53 J -42302026.73 -42302026.63 -42302026.54 0.1662 0.1008

Earth -120530-09-26 06:15 J -42301891.39 -42301891.24 -42301891.09 0.2560 0.1026

Moon -120530-09-26 07:41 J -42301891.32 -42301891.18 -42301891.03 0.2563 0.1028 *

Jupiter -120529-02-02 03:08 J -42301762.49 -42301762.37 -42301762.24 0.0525 0.0101

Jupiter -120529-05-01 09:51 J -42301673.18 -42301673.09 -42301673.00 0.0526 0.0366

Uranus -120526-03-20 14:10 J -42300619.94 -42300619.91 -42300619.88 0.0131 0.0127

Moon -120526-03-24 17:17 J -42300615.83 -42300615.78 -42300615.73 0.2785 0.2423

Earth -120526-03-24 17:32 J -42300615.82 -42300615.77 -42300615.72 0.2777 0.2420 *

Uranus -120526-06-16 17:03 J -42300531.85 -42300531.79 -42300531.71 0.0131 0.0112

Uranus -120526-09-12 20:10 J -42300443.74 -42300443.66 -42300443.56 0.0131 0.0096

Uranus -120526-12-09 23:17 J -42300355.63 -42300355.53 -42300355.42 0.0131 0.0081

Uranus -120525-03-07 02:10 J -42300267.52 -42300267.41 -42300267.29 0.0131 0.0066

Uranus -120525-06-03 05:17 J -42300179.40 -42300179.28 -42300179.15 0.0131 0.0051

Uranus -120525-08-30 08:10 J -42300091.28 -42300091.16 -42300091.02 0.0131 0.0036

Uranus -120525-11-26 11:17 J -42300003.16 -42300003.03 -42300002.90 0.0131 0.0020

Uranus -120524-02-22 14:10 J -42299915.04 -42299914.91 -42299914.77 0.0131 0.0007

Uranus -120524-05-21 17:17 J -42299826.92 -42299826.78 -42299826.65 0.0131 0.0010

Uranus -120524-08-17 20:10 J -42299738.79 -42299738.66 -42299738.53 0.0131 0.0025

Uranus -120524-11-13 23:03 J -42299650.66 -42299650.54 -42299650.41 0.0131 0.0040

Mars -120524-12-20 20:53 J -42299613.76 -42299613.63 -42299613.49 0.1847 0.1042

Jupiter -120524-12-22 17:03 J -42299611.97 -42299611.79 -42299611.61 0.0500 0.0035

Uranus -120523-02-10 02:10 J -42299562.54 -42299562.41 -42299562.29 0.0131 0.0055

Uranus -120523-05-09 05:03 J -42299474.41 -42299474.29 -42299474.18 0.0131 0.0070

Uranus -120523-08-05 07:41 J -42299386.27 -42299386.18 -42299386.07 0.0131 0.0085

Mars -120523-10-29 00:58 J -42299301.55 -42299301.46 -42299301.37 0.1673 0.1074

Uranus -120523-11-01 10:34 J -42299298.14 -42299298.06 -42299297.97 0.0131 0.0100

Uranus -120522-01-28 13:27 J -42299209.99 -42299209.94 -42299209.87 0.0131 0.0115

Uranus -120522-04-26 16:34 J -42299121.83 -42299121.81 -42299121.79 0.0131 0.0129

Mars -120521-10-03 07:27 J -42298596.30 -42298596.19 -42298596.08 0.1664 0.0615

Earth -120520-04-02 14:25 J -42298415.01 -42298414.90 -42298414.80 0.2783 0.0659

Moon -120520-04-02 14:53 J -42298414.99 -42298414.88 -42298414.78 0.2777 0.0684 *

Jupiter -120518-11-21 07:41 J -42297452.30 -42297452.18 -42297452.06 0.0525 0.0209

Jupiter -120517-02-18 14:25 J -42297363.01 -42297362.90 -42297362.79 0.0526 0.0259

Saturn -120517-03-21 15:22 J -42297330.94 -42297330.86 -42297330.75 0.0264 0.0225

Saturn -120517-06-18 10:20 J -42297242.23 -42297242.07 -42297241.92 0.0263 0.0123

Saturn -120517-09-15 05:03 J -42297153.47 -42297153.29 -42297153.11 0.0262 0.0022

Earth -120517-09-28 12:44 J -42297140.13 -42297139.97 -42297139.81 0.2559 0.0310

Moon -120517-09-28 14:25 J -42297140.05 -42297139.90 -42297139.74 0.2560 0.0521 *

Saturn -120517-12-12 23:46 J -42297064.68 -42297064.51 -42297064.33 0.0262 0.0081

Saturn -120516-03-11 18:58 J -42296975.84 -42296975.71 -42296975.58 0.0261 0.0183

Venus -120516-04-29 10:34 J -42296927.12 -42296927.06 -42296926.99 0.3715 0.2921

Mars -120514-05-12 17:17 J -42296183.95 -42296183.78 -42296183.62 0.1844 0.0067

Mars -120513-03-20 11:03 J -42295871.09 -42295871.04 -42295870.99 0.1676 0.1499

Earth -120513-03-26 12:01 J -42295865.09 -42295865.00 -42295864.91 0.2779 0.1615

Moon -120513-03-26 12:15 J -42295865.08 -42295864.99 -42295864.91 0.2786 0.1665 *

Jupiter -120512-10-10 14:53 J -42295302.05 -42295301.88 -42295301.71 0.0501 0.0178

Jupiter -120511-01-08 23:32 J -42295211.62 -42295211.52 -42295211.42 0.0500 0.0414

Mars -120511-02-23 18:01 J -42295165.87 -42295165.75 -42295165.63 0.1666 0.0218

Venus -120511-11-13 03:22 J -42294903.46 -42294903.36 -42294903.26 0.3721 0.1206

Moon -120507-04-05 08:53 J -42293664.22 -42293664.13 -42293664.04 0.2776 0.1437

Earth -120507-04-05 08:53 J -42293664.22 -42293664.13 -42293664.04 0.2784 0.1471 *

Jupiter -120506-09-09 11:32 J -42293142.12 -42293142.02 -42293141.92 0.0524 0.0326

Jupiter -120506-12-07 18:29 J -42293052.86 -42293052.73 -42293052.61 0.0525 0.0142

Venus -120505-05-28 19:56 J -42292879.77 -42292879.67 -42292879.56 0.3727 0.0527

Mars -120505-10-01 13:56 J -42292754.06 -42292753.92 -42292753.78 0.1842 0.0911

Earth -120504-10-01 19:13 J -42292388.82 -42292388.70 -42292388.58 0.2558 0.1647

Moon -120504-10-01 20:53 J -42292388.75 -42292388.63 -42292388.51 0.2558 0.1742 *

Venus -120502-02-26 16:49 J -42291875.90 -42291875.80 -42291875.69 0.3662 0.2429

Mars -120502-07-17 04:34 J -42291735.43 -42291735.31 -42291735.20 0.1669 0.0196

Saturn -120502-10-10 20:39 J -42291649.66 -42291649.64 -42291649.62 0.0298 0.0294

Saturn -120501-01-07 10:34 J -42291561.17 -42291561.06 -42291560.95 0.0299 0.0179

Saturn -120501-04-05 00:29 J -42291472.61 -42291472.48 -42291472.35 0.0300 0.0064

Saturn -120501-07-02 14:10 J -42291384.04 -42291383.91 -42291383.78 0.0301 0.0051

Saturn -120501-09-29 03:51 J -42291295.45 -42291295.34 -42291295.23 0.0302 0.0165

Saturn -120501-12-26 17:17 J -42291206.82 -42291206.78 -42291206.73 0.0302 0.0278

Earth -120500-03-29 06:29 J -42291114.34 -42291114.23 -42291114.13 0.2781 0.0811

Moon -120500-03-29 06:44 J -42291114.32 -42291114.22 -42291114.11 0.2788 0.0731 *

Mars -120500-06-21 10:05 J -42291030.13 -42291030.08 -42291030.02 0.1661 0.1445

Jupiter -120500-07-29 12:58 J -42290992.10 -42290991.96 -42290991.82 0.0501 0.0317

Jupiter -120500-10-27 21:22 J -42290901.76 -42290901.61 -42290901.45 0.0500 0.0272

Venus -120500-12-12 12:44 J -42290856.06 -42290855.97 -42290855.89 0.3733 0.2193

Venus -120497-09-11 22:20 J -42289851.70 -42289851.57 -42289851.43 0.3655 0.1546

Moon -120497-09-23 05:46 J -42289840.33 -42289840.26 -42289840.18 0.2568 0.2250

Earth -120497-09-23 06:29 J -42289840.32 -42289840.23 -42289840.14 0.2561 0.2118 *

Mars -120495-02-21 11:17 J -42289324.04 -42289324.03 -42289324.02 0.1838 0.1831

Moon -120494-04-08 03:08 J -42288913.43 -42288913.37 -42288913.31 0.2777 0.2325

Earth -120494-04-08 03:22 J -42288913.42 -42288913.36 -42288913.30 0.2784 0.2280 *

Jupiter -120494-06-28 15:22 J -42288831.93 -42288831.86 -42288831.79 0.0524 0.0444

Jupiter -120494-09-25 22:20 J -42288742.70 -42288742.57 -42288742.44 0.0525 0.0027

Jupiter -120494-12-24 04:49 J -42288653.34 -42288653.30 -42288653.25 0.0526 0.0489

Mars -120493-12-06 14:39 J -42288305.00 -42288304.89 -42288304.77 0.1671 0.0603

Mars -120491-11-11 20:53 J -42287599.72 -42287599.63 -42287599.54 0.1662 0.1061

Jupiter -120488-05-17 11:17 J -42286682.10 -42286682.03 -42286681.95 0.0501 0.0452

Saturn -120488-08-08 14:25 J -42286598.92 -42286598.90 -42286598.87 0.0263 0.0260

Jupiter -120488-08-15 19:27 J -42286591.86 -42286591.69 -42286591.51 0.0500 0.0134

Saturn -120488-11-05 08:53 J -42286510.27 -42286510.13 -42286509.98 0.0263 0.0159

Saturn -120487-02-02 03:37 J -42286421.52 -42286421.35 -42286421.17 0.0262 0.0058

Earth -120487-04-01 00:44 J -42286363.57 -42286363.47 -42286363.36 0.2782 0.0119

Moon -120487-04-01 01:27 J -42286363.55 -42286363.44 -42286363.33 0.2785 0.0055 *

Saturn -120487-05-01 22:34 J -42286332.74 -42286332.56 -42286332.38 0.0262 0.0045

Saturn -120487-07-29 17:32 J -42286243.92 -42286243.77 -42286243.62 0.0261 0.0147

Saturn -120487-10-26 12:29 J -42286155.02 -42286154.98 -42286154.92 0.0260 0.0250

Mars -120484-06-20 21:37 J -42285186.72 -42285186.60 -42285186.47 0.1847 0.1140

Moon -120484-09-26 12:44 J -42285089.12 -42285088.97 -42285088.82 0.2566 0.0717

Earth -120484-09-26 12:58 J -42285089.12 -42285088.96 -42285088.81 0.2560 0.0786 *

Mars -120483-04-29 00:58 J -42284874.56 -42284874.46 -42284874.37 0.1673 0.1020

Uranus -120483-06-07 21:22 J -42284834.71 -42284834.61 -42284834.50 0.0148 0.0122

Uranus -120483-09-04 06:01 J -42284746.40 -42284746.25 -42284746.10 0.0148 0.0091

Uranus -120483-12-01 14:25 J -42284658.07 -42284657.90 -42284657.72 0.0148 0.0060

Uranus -120482-02-27 23:03 J -42284569.72 -42284569.54 -42284569.35 0.0148 0.0029

Uranus -120482-05-27 07:41 J -42284481.37 -42284481.18 -42284480.99 0.0148 0.0004

Jupiter -120482-07-15 02:10 J -42284432.54 -42284432.41 -42284432.28 0.0525 0.0092

Uranus -120482-08-23 16:20 J -42284393.00 -42284392.82 -42284392.63 0.0148 0.0034

Jupiter -120482-10-12 08:53 J -42284343.22 -42284343.13 -42284343.04 0.0526 0.0373

Uranus -120482-11-20 00:58 J -42284304.62 -42284304.46 -42284304.28 0.0148 0.0065

Uranus -120481-02-16 09:51 J -42284216.23 -42284216.09 -42284215.95 0.0148 0.0097

Mars -120481-04-03 07:27 J -42284169.30 -42284169.19 -42284169.08 0.1664 0.0666

Uranus -120481-05-14 18:29 J -42284127.82 -42284127.73 -42284127.63 0.0148 0.0129

Moon -120480-03-24 21:37 J -42283813.65 -42283813.60 -42283813.54 0.2778 0.2407

Earth -120480-03-24 22:34 J -42283813.62 -42283813.56 -42283813.50 0.2778 0.2276 *

Jupiter -120476-06-03 17:32 J -42282281.95 -42282281.77 -42282281.59 0.0500 0.0011

Mars -120475-11-10 18:01 J -42281756.91 -42281756.75 -42281756.59 0.1844 0.0151

Earth -120474-04-03 19:13 J -42281612.80 -42281612.70 -42281612.59 0.2783 0.0811

Moon -120474-04-03 19:56 J -42281612.77 -42281612.67 -42281612.56 0.2785 0.0815 *

Mars -120474-09-19 11:03 J -42281444.10 -42281444.04 -42281443.98 0.1676 0.1443

Saturn -120472-05-26 10:34 J -42280829.14 -42280829.06 -42280828.97 0.0299 0.0225

Saturn -120472-08-23 00:29 J -42280740.60 -42280740.48 -42280740.35 0.0299 0.0110

Mars -120472-08-24 18:01 J -42280738.87 -42280738.75 -42280738.63 0.1666 0.0269

Saturn -120472-11-19 14:25 J -42280652.04 -42280651.90 -42280651.77 0.0300 0.0005

Saturn -120471-02-16 04:05 J -42280563.45 -42280563.33 -42280563.21 0.0301 0.0119

Saturn -120471-05-15 17:32 J -42280474.85 -42280474.77 -42280474.68 0.0302 0.0233

Earth -120471-09-29 19:27 J -42280337.85 -42280337.69 -42280337.53 0.2559 0.0561

Moon -120471-09-29 19:56 J -42280337.83 -42280337.67 -42280337.52 0.2565 0.0579 *

Jupiter -120470-05-03 06:29 J -42280122.35 -42280122.23 -42280122.11 0.0525 0.0203

Jupiter -120470-07-31 13:27 J -42280033.05 -42280032.94 -42280032.83 0.0526 0.0266

Neptune -120469-01-20 00:44 J -42279860.50 -42279860.47 -42279860.43 0.0088 0.0085

Neptune -120469-04-17 01:56 J -42279772.46 -42279772.42 -42279772.35 0.0088 0.0082

Neptune -120469-07-14 03:22 J -42279684.41 -42279684.36 -42279684.28 0.0088 0.0078

Neptune -120469-10-10 05:17 J -42279596.36 -42279596.28 -42279596.20 0.0088 0.0073

Neptune -120468-01-06 06:29 J -42279508.30 -42279508.23 -42279508.13 0.0088 0.0069

Neptune -120468-04-04 07:56 J -42279420.25 -42279420.17 -42279420.06 0.0088 0.0065

Neptune -120468-07-01 09:37 J -42279332.19 -42279332.10 -42279331.99 0.0088 0.0060

Neptune -120468-09-27 11:03 J -42279244.14 -42279244.04 -42279243.93 0.0088 0.0056

Neptune -120468-12-24 12:29 J -42279156.08 -42279155.98 -42279155.86 0.0088 0.0051

Neptune -120467-03-22 13:56 J -42279068.03 -42279067.92 -42279067.80 0.0088 0.0047

Moon -120467-03-27 16:20 J -42279062.91 -42279062.82 -42279062.73 0.2784 0.1462

Earth -120467-03-27 16:49 J -42279062.89 -42279062.80 -42279062.70 0.2779 0.1475 *

Neptune -120467-06-18 15:37 J -42278979.97 -42278979.85 -42278979.73 0.0088 0.0043

Neptune -120467-09-14 16:49 J -42278891.91 -42278891.80 -42278891.67 0.0088 0.0039

Neptune -120467-12-11 18:15 J -42278803.86 -42278803.74 -42278803.60 0.0088 0.0035

Neptune -120466-03-09 19:41 J -42278715.80 -42278715.68 -42278715.54 0.0088 0.0030

Neptune -120466-06-05 21:22 J -42278627.74 -42278627.61 -42278627.48 0.0088 0.0026

Neptune -120466-09-01 22:49 J -42278539.68 -42278539.55 -42278539.42 0.0088 0.0021

Neptune -120466-11-29 00:15 J -42278451.63 -42278451.49 -42278451.36 0.0088 0.0017

Neptune -120465-02-25 01:27 J -42278363.57 -42278363.44 -42278363.30 0.0088 0.0014

Mars -120465-04-01 14:39 J -42278327.03 -42278326.89 -42278326.75 0.1841 0.0817

Neptune -120465-05-23 02:53 J -42278275.51 -42278275.38 -42278275.24 0.0088 0.0009

Neptune -120465-08-19 04:20 J -42278187.45 -42278187.32 -42278187.18 0.0088 0.0005

Neptune -120465-11-15 05:46 J -42278099.39 -42278099.26 -42278099.12 0.0088 0.0002

Neptune -120464-02-11 07:13 J -42278011.33 -42278011.20 -42278011.06 0.0088 0.0004

Jupiter -120464-03-22 13:56 J -42277972.09 -42277971.92 -42277971.75 0.0500 0.0166

Neptune -120464-05-10 08:39 J -42277923.27 -42277923.14 -42277923.00 0.0088 0.0008

Jupiter -120464-06-20 22:34 J -42277881.65 -42277881.56 -42277881.47 0.0500 0.0425

Neptune -120464-08-06 10:05 J -42277835.22 -42277835.08 -42277834.95 0.0088 0.0012

Neptune -120464-11-02 11:32 J -42277747.16 -42277747.02 -42277746.89 0.0088 0.0016

Neptune -120463-01-29 12:44 J -42277659.10 -42277658.97 -42277658.83 0.0088 0.0021

Neptune -120463-04-27 14:10 J -42277571.04 -42277570.91 -42277570.78 0.0088 0.0025

Neptune -120463-07-24 15:37 J -42277482.98 -42277482.85 -42277482.72 0.0088 0.0029

Neptune -120463-10-20 16:49 J -42277394.92 -42277394.80 -42277394.67 0.0088 0.0033

Mars -120462-01-15 04:20 J -42277308.44 -42277308.32 -42277308.20 0.1669 0.0145

Neptune -120462-01-16 18:15 J -42277306.86 -42277306.74 -42277306.61 0.0088 0.0037

Neptune -120462-04-14 19:41 J -42277218.79 -42277218.68 -42277218.56 0.0088 0.0041

Neptune -120462-07-11 21:08 J -42277130.73 -42277130.62 -42277130.50 0.0088 0.0045

Neptune -120462-10-07 22:20 J -42277042.67 -42277042.57 -42277042.45 0.0088 0.0050

Neptune -120461-01-03 23:46 J -42276954.61 -42276954.51 -42276954.40 0.0088 0.0053

Neptune -120461-04-01 01:13 J -42276866.55 -42276866.45 -42276866.34 0.0088 0.0057

Earth -120461-04-05 13:41 J -42276862.02 -42276861.93 -42276861.84 0.2784 0.1616

Moon -120461-04-05 14:25 J -42276861.98 -42276861.90 -42276861.82 0.2781 0.1739 *

Neptune -120461-06-28 02:39 J -42276778.48 -42276778.39 -42276778.29 0.0088 0.0061

Neptune -120461-09-24 03:51 J -42276690.42 -42276690.34 -42276690.24 0.0088 0.0066

Mars -120461-12-20 10:05 J -42276603.13 -42276603.08 -42276603.03 0.1660 0.1493

Neptune -120461-12-21 05:17 J -42276602.36 -42276602.28 -42276602.19 0.0088 0.0070

Neptune -120460-03-19 06:44 J -42276514.29 -42276514.22 -42276514.15 0.0088 0.0074

Neptune -120460-06-15 08:10 J -42276426.22 -42276426.16 -42276426.10 0.0088 0.0078

Neptune -120460-09-11 09:22 J -42276338.15 -42276338.11 -42276338.06 0.0088 0.0082

Venus -120460-12-04 08:25 J -42276254.24 -42276254.15 -42276254.07 0.3717 0.2283

Neptune -120460-12-08 10:49 J -42276250.08 -42276250.05 -42276250.02 0.0088 0.0086

Jupiter -120458-02-19 11:03 J -42275812.15 -42275812.04 -42275811.94 0.0525 0.0312

Saturn -120458-03-25 08:10 J -42275778.27 -42275778.16 -42275778.03 0.0263 0.0191

Jupiter -120458-05-19 18:01 J -42275722.88 -42275722.75 -42275722.63 0.0525 0.0158

Saturn -120458-06-22 02:53 J -42275689.55 -42275689.38 -42275689.21 0.0263 0.0089

Saturn -120458-09-18 21:51 J -42275600.78 -42275600.59 -42275600.41 0.0262 0.0014

Earth -120458-10-03 01:56 J -42275586.53 -42275586.42 -42275586.31 0.2558 0.1901

Moon -120458-10-03 02:53 J -42275586.49 -42275586.38 -42275586.28 0.2563 0.1888 *

Saturn -120458-12-16 16:34 J -42275511.97 -42275511.81 -42275511.64 0.0262 0.0115

Saturn -120457-03-14 11:46 J -42275423.11 -42275423.01 -42275422.91 0.0261 0.0217

Mars -120456-08-22 11:46 J -42274897.05 -42274897.01 -42274896.96 0.1838 0.1746

Moon -120454-03-30 10:49 J -42274312.15 -42274312.05 -42274311.94 0.2787 0.0699

Earth -120454-03-30 11:17 J -42274312.13 -42274312.03 -42274311.92 0.2781 0.0665 *

Venus -120454-06-20 01:13 J -42274230.56 -42274230.45 -42274230.35 0.3723 0.0590

Mars -120453-06-06 14:39 J -42273878.00 -42273877.89 -42273877.77 0.1671 0.0551

Jupiter -120452-01-08 11:46 J -42273662.15 -42273662.01 -42273661.87 0.0501 0.0307

Jupiter -120452-04-08 20:10 J -42273571.81 -42273571.66 -42273571.51 0.0500 0.0281

Mars -120451-05-12 20:53 J -42273172.72 -42273172.63 -42273172.55 0.1662 0.1108

Moon -120451-09-24 11:03 J -42273038.14 -42273038.04 -42273037.93 0.2562 0.1892

Earth -120451-09-24 12:58 J -42273038.07 -42273037.96 -42273037.85 0.2561 0.1880 *

Venus -120448-01-02 17:46 J -42272206.86 -42272206.76 -42272206.66 0.3728 0.1131

Earth -120448-04-08 08:10 J -42272111.21 -42272111.16 -42272111.11 0.2784 0.2427

Moon -120448-04-08 08:39 J -42272111.18 -42272111.14 -42272111.09 0.2781 0.2442 *

Jupiter -120447-12-08 14:53 J -42271501.95 -42271501.88 -42271501.81 0.0524 0.0428

Jupiter -120446-03-07 21:51 J -42271412.71 -42271412.59 -42271412.46 0.0525 0.0046

Jupiter -120446-06-05 04:34 J -42271323.35 -42271323.31 -42271323.28 0.0526 0.0505

Venus -120446-10-03 18:01 J -42271202.89 -42271202.75 -42271202.61 0.3660 0.1085

Mars -120445-12-19 22:20 J -42270759.69 -42270759.57 -42270759.45 0.1847 0.1229

Mars -120444-10-28 00:58 J -42270447.55 -42270447.46 -42270447.36 0.1673 0.0963

Venus -120443-07-19 10:20 J -42270183.14 -42270183.07 -42270183.00 0.3734 0.2810

Saturn -120443-10-13 10:49 J -42270097.11 -42270097.05 -42270096.99 0.0298 0.0268

Saturn -120442-01-10 00:44 J -42270008.59 -42270008.47 -42270008.35 0.0299 0.0153

Saturn -120442-04-08 14:39 J -42269920.03 -42269919.89 -42269919.76 0.0300 0.0039

Uranus -120442-04-09 21:22 J -42269918.65 -42269918.61 -42269918.56 0.0131 0.0123

Saturn -120442-07-06 04:20 J -42269831.45 -42269831.32 -42269831.19 0.0301 0.0076

Uranus -120442-07-07 00:15 J -42269830.56 -42269830.49 -42269830.40 0.0131 0.0108

Saturn -120442-10-02 17:46 J -42269742.86 -42269742.76 -42269742.65 0.0302 0.0190

Uranus -120442-10-03 03:22 J -42269742.45 -42269742.36 -42269742.26 0.0131 0.0092

Mars -120442-10-03 07:27 J -42269742.30 -42269742.19 -42269742.08 0.1664 0.0719 *

Uranus -120442-12-30 06:29 J -42269654.34 -42269654.23 -42269654.12 0.0131 0.0077

Uranus -120441-03-27 09:22 J -42269566.22 -42269566.11 -42269565.98 0.0131 0.0062

Moon -120441-04-01 05:46 J -42269561.37 -42269561.26 -42269561.15 0.2790 0.0115

Earth -120441-04-01 05:46 J -42269561.37 -42269561.26 -42269561.15 0.2782 0.0148 *

Uranus -120441-06-23 12:29 J -42269478.10 -42269477.98 -42269477.85 0.0131 0.0047

Uranus -120441-09-19 15:22 J -42269389.98 -42269389.86 -42269389.72 0.0131 0.0032

Jupiter -120441-10-27 10:05 J -42269352.16 -42269352.08 -42269352.00 0.0501 0.0445

Uranus -120441-12-16 18:29 J -42269301.86 -42269301.73 -42269301.60 0.0131 0.0016

Jupiter -120440-01-25 18:01 J -42269261.92 -42269261.75 -42269261.57 0.0500 0.0141

Uranus -120440-03-14 21:22 J -42269213.74 -42269213.61 -42269213.47 0.0131 0.0003

Venus -120440-04-18 23:32 J -42269178.60 -42269178.52 -42269178.43 0.3653 0.2931

Uranus -120440-06-11 00:29 J -42269125.62 -42269125.48 -42269125.35 0.0131 0.0014

Uranus -120440-09-07 03:22 J -42269037.49 -42269037.36 -42269037.23 0.0131 0.0029

Uranus -120440-12-04 06:15 J -42268949.36 -42268949.24 -42268949.11 0.0131 0.0044

Uranus -120439-03-02 09:08 J -42268861.24 -42268861.12 -42268861.00 0.0131 0.0059

Uranus -120439-05-29 12:01 J -42268773.10 -42268773.00 -42268772.88 0.0131 0.0074

Uranus -120439-08-25 14:53 J -42268684.97 -42268684.88 -42268684.78 0.0131 0.0089

Uranus -120439-11-21 17:46 J -42268596.83 -42268596.76 -42268596.67 0.0131 0.0103

Uranus -120438-02-17 20:53 J -42268508.69 -42268508.63 -42268508.58 0.0131 0.0118

Moon -120438-09-27 18:01 J -42268286.91 -42268286.75 -42268286.59 0.2562 0.0632

Earth -120438-09-27 19:41 J -42268286.84 -42268286.68 -42268286.53 0.2560 0.0538 *

Mars -120435-05-11 18:44 J -42267329.88 -42267329.72 -42267329.56 0.1845 0.0242

Jupiter -120435-12-25 01:56 J -42267102.55 -42267102.42 -42267102.29 0.0525 0.0074

Mars -120434-03-20 11:03 J -42267017.10 -42267017.04 -42267016.97 0.1676 0.1390

Jupiter -120434-03-24 08:39 J -42267013.23 -42267013.14 -42267013.06 0.0525 0.0390

Moon -120434-03-26 02:53 J -42267011.45 -42267011.38 -42267011.31 0.2771 0.2108

Earth -120434-03-26 03:22 J -42267011.43 -42267011.36 -42267011.29 0.2778 0.2131 *

Mars -120432-02-22 18:01 J -42266311.87 -42266311.75 -42266311.63 0.1666 0.0322

Saturn -120429-08-11 06:44 J -42265046.30 -42265046.22 -42265046.12 0.0263 0.0228

Saturn -120429-11-08 01:27 J -42264957.59 -42264957.44 -42264957.28 0.0263 0.0126

Jupiter -120429-11-13 16:20 J -42264952.00 -42264951.82 -42264951.64 0.0501 0.0002

Saturn -120428-02-04 20:10 J -42264868.84 -42264868.66 -42264868.48 0.0262 0.0025

Moon -120428-04-04 00:15 J -42264810.59 -42264810.49 -42264810.39 0.2790 0.1035

Earth -120428-04-04 00:15 J -42264810.59 -42264810.49 -42264810.39 0.2783 0.0959 *

Saturn -120428-05-04 15:08 J -42264780.04 -42264779.87 -42264779.69 0.0261 0.0078

Saturn -120428-08-01 10:05 J -42264691.21 -42264691.08 -42264690.94 0.0261 0.0180

Mars -120426-10-01 15:22 J -42263900.00 -42263899.86 -42263899.71 0.1841 0.0719

Moon -120425-09-30 00:44 J -42263535.63 -42263535.47 -42263535.32 0.2563 0.0644

Earth -120425-09-30 02:10 J -42263535.57 -42263535.41 -42263535.26 0.2558 0.0813 *

Pluto -120423-03-23 06:58 J -42262996.26 -42262996.21 -42262996.13 0.0060 0.0057

Pluto -120423-06-19 08:25 J -42262908.25 -42262908.15 -42262908.03 0.0060 0.0049

Mars -120423-07-16 04:20 J -42262881.43 -42262881.32 -42262881.20 0.1668 0.0106

Pluto -120423-09-15 09:37 J -42262820.23 -42262820.10 -42262819.95 0.0061 0.0041

Jupiter -120423-10-13 05:46 J -42262792.38 -42262792.26 -42262792.14 0.0525 0.0193

Pluto -120423-12-12 10:49 J -42262732.19 -42262732.05 -42262731.88 0.0061 0.0033

Jupiter -120422-01-10 12:29 J -42262703.09 -42262702.98 -42262702.87 0.0525 0.0274

Pluto -120422-03-10 12:15 J -42262644.15 -42262643.99 -42262643.81 0.0061 0.0025

Pluto -120422-06-06 13:41 J -42262556.11 -42262555.93 -42262555.74 0.0061 0.0017

Pluto -120422-09-02 14:53 J -42262468.06 -42262467.88 -42262467.68 0.0061 0.0009

Pluto -120422-11-29 16:20 J -42262380.01 -42262379.82 -42262379.63 0.0061 0.0001

Pluto -120421-02-25 17:32 J -42262291.95 -42262291.77 -42262291.57 0.0061 0.0008

Moon -120421-03-27 21:08 J -42262260.71 -42262260.62 -42262260.53 0.2777 0.1381

Earth -120421-03-27 21:51 J -42262260.69 -42262260.59 -42262260.50 0.2780 0.1325 *

Pluto -120421-05-23 18:44 J -42262203.89 -42262203.72 -42262203.53 0.0061 0.0016

Mars -120421-06-20 10:05 J -42262176.12 -42262176.08 -42262176.04 0.1660 0.1545

Pluto -120421-08-19 20:10 J -42262115.83 -42262115.66 -42262115.48 0.0061 0.0024

Pluto -120421-11-15 21:22 J -42262027.76 -42262027.61 -42262027.44 0.0061 0.0032

Pluto -120420-02-11 22:49 J -42261939.68 -42261939.55 -42261939.40 0.0061 0.0041

Pluto -120420-05-11 00:15 J -42261851.60 -42261851.49 -42261851.38 0.0061 0.0049

Pluto -120420-08-07 00:58 J -42261763.50 -42261763.46 -42261763.37 0.0061 0.0058

Jupiter -120417-09-01 14:25 J -42260642.08 -42260641.90 -42260641.73 0.0501 0.0139

Jupiter -120417-11-30 23:03 J -42260551.61 -42260551.54 -42260551.46 0.0500 0.0453

Mars -120416-02-20 12:29 J -42260470.05 -42260469.98 -42260469.91 0.1838 0.1651

Earth -120415-04-06 18:29 J -42260059.81 -42260059.73 -42260059.64 0.2784 0.1770

Moon -120415-04-06 19:13 J -42260059.79 -42260059.70 -42260059.62 0.2789 0.1775 *

Mars -120414-12-06 14:53 J -42259451.00 -42259450.88 -42259450.77 0.1671 0.0496

Saturn -120413-05-29 00:58 J -42259276.56 -42259276.46 -42259276.36 0.0299 0.0198

Saturn -120413-08-25 14:39 J -42259188.01 -42259187.89 -42259187.75 0.0299 0.0085

Saturn -120413-11-22 04:34 J -42259099.44 -42259099.31 -42259099.18 0.0300 0.0031

Saturn -120412-02-18 18:15 J -42259010.86 -42259010.74 -42259010.62 0.0301 0.0144

Saturn -120412-05-18 07:41 J -42258922.24 -42258922.18 -42258922.11 0.0302 0.0258

Moon -120412-10-03 07:41 J -42258784.26 -42258784.18 -42258784.10 0.2562 0.2185

Earth -120412-10-03 08:39 J -42258784.23 -42258784.14 -42258784.06 0.2558 0.2148 *

Mars -120412-11-10 20:53 J -42258745.71 -42258745.63 -42258745.55 0.1662 0.1160

Jupiter -120411-08-01 10:05 J -42258482.19 -42258482.08 -42258481.98 0.0525 0.0304

Jupiter -120411-10-29 17:03 J -42258392.92 -42258392.79 -42258392.67 0.0525 0.0167

Venus -120409-12-25 13:13 J -42257604.99 -42257604.95 -42257604.90 0.3712 0.3369

Moon -120408-03-30 15:37 J -42257509.96 -42257509.85 -42257509.75 0.2779 0.0640

Earth -120408-03-30 16:20 J -42257509.93 -42257509.82 -42257509.72 0.2781 0.0528 *

Mars -120405-06-19 23:03 J -42256332.65 -42256332.54 -42256332.43 0.1847 0.1325

Jupiter -120405-06-20 10:49 J -42256332.19 -42256332.05 -42256331.90 0.0501 0.0295

Jupiter -120405-09-18 19:13 J -42256241.84 -42256241.70 -42256241.55 0.0500 0.0294

Moon -120405-09-24 18:58 J -42256235.84 -42256235.71 -42256235.59 0.2555 0.1681

Earth -120405-09-24 19:41 J -42256235.80 -42256235.68 -42256235.56 0.2561 0.1632 *

Mars -120404-04-28 00:58 J -42256020.56 -42256020.46 -42256020.36 0.1673 0.0912

Venus -120403-07-11 06:01 J -42255581.34 -42255581.25 -42255581.15 0.3718 0.1650

Mars -120402-04-03 07:27 J -42255315.29 -42255315.19 -42255315.08 0.1664 0.0767

Earth -120402-04-09 12:58 J -42255308.99 -42255308.96 -42255308.92 0.2784 0.2578

Moon -120402-04-09 13:41 J -42255308.97 -42255308.93 -42255308.90 0.2788 0.2603 *

Moon -120401-03-23 14:25 J -42254959.92 -42254959.90 -42254959.88 0.2772 0.2697

Saturn -120400-12-29 05:46 J -42254314.27 -42254314.26 -42254314.22 0.0264 0.0261

Saturn -120399-03-28 00:44 J -42254225.61 -42254225.47 -42254225.33 0.0264 0.0159

Jupiter -120399-05-20 14:10 J -42254171.98 -42254171.91 -42254171.82 0.0525 0.0415

Saturn -120399-06-24 19:13 J -42254136.87 -42254136.70 -42254136.52 0.0263 0.0058

Uranus -120399-06-28 03:37 J -42254133.46 -42254133.35 -42254133.24 0.0148 0.0119

Jupiter -120399-08-17 21:22 J -42254082.73 -42254082.61 -42254082.48 0.0525 0.0060

Saturn -120399-09-21 14:10 J -42254048.09 -42254047.91 -42254047.73 0.0262 0.0045

Uranus -120399-09-24 11:46 J -42254045.15 -42254045.01 -42254044.85 0.0148 0.0089

Jupiter -120399-11-15 04:05 J -42253993.35 -42253993.33 -42253993.32 0.0526 0.0521

Saturn -120399-12-19 09:08 J -42253959.27 -42253959.12 -42253958.97 0.0262 0.0147

Uranus -120399-12-21 20:25 J -42253956.81 -42253956.65 -42253956.47 0.0148 0.0057

Saturn -120398-03-18 04:05 J -42253870.37 -42253870.33 -42253870.27 0.0261 0.0250

Uranus -120398-03-20 05:03 J -42253868.47 -42253868.29 -42253868.10 0.0148 0.0026

Uranus -120398-06-16 13:41 J -42253780.11 -42253779.93 -42253779.74 0.0148 0.0006

Uranus -120398-09-12 22:20 J -42253691.75 -42253691.57 -42253691.38 0.0148 0.0037

Uranus -120398-12-10 06:58 J -42253603.37 -42253603.21 -42253603.03 0.0148 0.0068

Venus -120397-01-24 22:49 J -42253557.66 -42253557.55 -42253557.44 0.3724 0.0067

Uranus -120397-03-07 15:51 J -42253514.98 -42253514.84 -42253514.70 0.0148 0.0099

Uranus -120397-06-04 00:15 J -42253426.56 -42253426.49 -42253426.39 0.0148 0.0132

Mars -120396-11-09 19:27 J -42252902.85 -42252902.69 -42252902.53 0.1844 0.0338

Moon -120395-04-02 09:51 J -42252759.19 -42252759.09 -42252758.98 0.2785 0.0331

Earth -120395-04-02 10:34 J -42252759.16 -42252759.06 -42252758.95 0.2782 0.0308 *

Mars -120395-09-18 11:03 J -42252590.11 -42252590.04 -42252589.96 0.1676 0.1335

Venus -120395-10-24 13:56 J -42252553.94 -42252553.92 -42252553.91 0.3666 0.3633

Jupiter -120393-04-08 08:53 J -42252022.21 -42252022.13 -42252022.04 0.0501 0.0435

Jupiter -120393-07-07 17:03 J -42251931.97 -42251931.79 -42251931.62 0.0500 0.0150

Mars -120393-08-23 18:01 J -42251884.87 -42251884.75 -42251884.63 0.1666 0.0371

Venus -120392-08-09 15:22 J -42251533.95 -42251533.86 -42251533.76 0.3730 0.1761

Moon -120392-09-28 00:58 J -42251484.62 -42251484.46 -42251484.30 0.2555 0.0431

Earth -120392-09-28 02:10 J -42251484.57 -42251484.41 -42251484.25 0.2559 0.0289 *

Venus -120389-05-09 18:58 J -42250529.85 -42250529.71 -42250529.56 0.3658 0.0277

Earth -120388-03-26 08:10 J -42250209.23 -42250209.16 -42250209.08 0.2778 0.1989

Moon -120388-03-26 08:39 J -42250209.22 -42250209.14 -42250209.06 0.2772 0.1925 *

Jupiter -120387-06-06 01:27 J -42249772.57 -42249772.44 -42249772.31 0.0525 0.0058

Jupiter -120387-09-03 08:10 J -42249683.24 -42249683.16 -42249683.08 0.0526 0.0407

Venus -120386-02-23 07:56 J -42249510.20 -42249510.17 -42249510.13 0.3736 0.3432

Mars -120386-04-01 15:51 J -42249472.99 -42249472.84 -42249472.69 0.1841 0.0635

Neptune -120386-12-20 23:03 J -42249209.59 -42249209.54 -42249209.47 0.0089 0.0084

Neptune -120385-03-18 02:25 J -42249121.48 -42249121.40 -42249121.30 0.0089 0.0078

Neptune -120385-06-14 05:32 J -42249033.36 -42249033.27 -42249033.15 0.0089 0.0073

Neptune -120385-09-10 08:53 J -42248945.24 -42248945.13 -42248944.99 0.0089 0.0067

Neptune -120385-12-07 12:15 J -42248857.11 -42248856.99 -42248856.84 0.0089 0.0061

Neptune -120384-03-05 15:51 J -42248768.98 -42248768.84 -42248768.69 0.0089 0.0055

Neptune -120384-06-01 19:13 J -42248680.85 -42248680.70 -42248680.54 0.0089 0.0049

Neptune -120384-08-28 22:20 J -42248592.72 -42248592.57 -42248592.40 0.0089 0.0044

Saturn -120384-10-16 00:58 J -42248544.54 -42248544.46 -42248544.38 0.0298 0.0242

Neptune -120384-11-25 01:41 J -42248504.59 -42248504.43 -42248504.25 0.0089 0.0038

Saturn -120383-01-12 14:53 J -42248456.00 -42248455.88 -42248455.76 0.0299 0.0128

Mars -120383-01-14 04:34 J -42248454.43 -42248454.31 -42248454.19 0.1669 0.0052

Neptune -120383-02-21 05:03 J -42248416.45 -42248416.29 -42248416.10 0.0089 0.0032

Saturn -120383-04-11 04:34 J -42248367.44 -42248367.31 -42248367.17 0.0300 0.0017

Neptune -120383-05-20 08:39 J -42248328.32 -42248328.14 -42248327.96 0.0089 0.0026

Saturn -120383-07-08 18:15 J -42248278.86 -42248278.74 -42248278.61 0.0301 0.0101

Neptune -120383-08-16 12:01 J -42248240.18 -42248240.00 -42248239.81 0.0089 0.0020

Saturn -120383-10-05 07:56 J -42248190.26 -42248190.17 -42248190.08 0.0302 0.0214

Neptune -120383-11-12 15:37 J -42248152.04 -42248151.85 -42248151.67 0.0089 0.0014

Neptune -120382-02-08 18:58 J -42248063.90 -42248063.71 -42248063.52 0.0089 0.0008

Moon -120382-04-05 04:34 J -42248008.41 -42248008.31 -42248008.21 0.2787 0.1049

Earth -120382-04-05 05:03 J -42248008.39 -42248008.29 -42248008.19 0.2783 0.1108 *

Neptune -120382-05-07 22:20 J -42247975.76 -42247975.57 -42247975.38 0.0089 0.0003

Neptune -120382-08-04 01:56 J -42247887.61 -42247887.42 -42247887.23 0.0089 0.0004

Neptune -120382-10-31 05:17 J -42247799.47 -42247799.28 -42247799.09 0.0089 0.0010

Mars -120382-12-20 10:05 J -42247749.11 -42247749.08 -42247749.05 0.1661 0.1593

Neptune -120381-01-27 08:39 J -42247711.32 -42247711.14 -42247710.95 0.0089 0.0016

Neptune -120381-04-24 12:01 J -42247623.18 -42247623.00 -42247622.81 0.0089 0.0022

Jupiter -120381-04-25 14:53 J -42247622.06 -42247621.88 -42247621.69 0.0501 0.0014

Neptune -120381-07-21 15:22 J -42247535.03 -42247534.86 -42247534.67 0.0089 0.0028

Neptune -120381-10-17 18:58 J -42247446.88 -42247446.71 -42247446.53 0.0089 0.0034

Neptune -120380-01-13 22:20 J -42247358.73 -42247358.57 -42247358.39 0.0089 0.0040

Neptune -120380-04-12 01:56 J -42247270.57 -42247270.42 -42247270.25 0.0089 0.0046

Neptune -120380-07-09 05:17 J -42247182.42 -42247182.28 -42247182.11 0.0089 0.0053

Neptune -120380-10-05 08:53 J -42247094.26 -42247094.13 -42247093.97 0.0089 0.0058

Neptune -120379-01-01 12:29 J -42247006.10 -42247005.98 -42247005.84 0.0089 0.0064

Neptune -120379-03-30 16:05 J -42246917.94 -42246917.83 -42246917.71 0.0089 0.0070

Neptune -120379-06-26 19:41 J -42246829.77 -42246829.68 -42246829.58 0.0089 0.0076

Neptune -120379-09-22 23:17 J -42246741.60 -42246741.53 -42246741.46 0.0089 0.0082

Moon -120379-10-01 07:13 J -42246733.35 -42246733.20 -42246733.06 0.2555 0.1061

Earth -120379-10-01 08:39 J -42246733.29 -42246733.14 -42246732.99 0.2558 0.1056 *

Neptune -120379-12-20 02:53 J -42246653.40 -42246653.38 -42246653.36 0.0089 0.0088

Mars -120377-08-21 13:27 J -42246043.02 -42246042.94 -42246042.86 0.1838 0.1550

Jupiter -120375-03-25 05:17 J -42245462.40 -42245462.28 -42245462.15 0.0525 0.0176

Moon -120375-03-29 02:39 J -42245458.49 -42245458.39 -42245458.29 0.2773 0.1226

Earth -120375-03-29 02:39 J -42245458.49 -42245458.39 -42245458.29 0.2780 0.1178 *

Jupiter -120375-06-22 12:15 J -42245373.10 -42245372.99 -42245372.89 0.0525 0.0292

Mars -120374-06-06 14:53 J -42245024.00 -42245023.88 -42245023.77 0.1671 0.0440

Mars -120372-05-11 20:53 J -42244318.71 -42244318.63 -42244318.55 0.1662 0.1210

Saturn -120370-08-14 23:03 J -42243493.65 -42243493.54 -42243493.41 0.0264 0.0196

Saturn -120370-11-11 17:46 J -42243404.92 -42243404.76 -42243404.59 0.0263 0.0095

Saturn -120369-02-08 12:44 J -42243316.15 -42243315.97 -42243315.79 0.0262 0.0008

Jupiter -120369-02-12 13:13 J -42243312.12 -42243311.95 -42243311.77 0.0501 0.0129

Moon -120369-04-06 23:17 J -42243257.61 -42243257.53 -42243257.45 0.2791 0.1876

Earth -120369-04-06 23:32 J -42243257.60 -42243257.52 -42243257.44 0.2784 0.1919 *

Saturn -120369-05-07 07:27 J -42243227.35 -42243227.19 -42243227.02 0.0262 0.0111

Jupiter -120369-05-12 22:05 J -42243221.65 -42243221.58 -42243221.52 0.0500 0.0463

Saturn -120369-08-04 02:39 J -42243138.49 -42243138.39 -42243138.28 0.0261 0.0213

Moon -120366-10-04 13:41 J -42241982.00 -42241981.93 -42241981.86 0.2557 0.2277

Earth -120366-10-04 15:22 J -42241981.92 -42241981.86 -42241981.81 0.2557 0.2403 *

Mars -120366-12-20 00:01 J -42241905.60 -42241905.50 -42241905.40 0.1847 0.1430

Mars -120365-10-27 00:58 J -42241593.56 -42241593.46 -42241593.35 0.1673 0.0859

Jupiter -120363-01-11 09:08 J -42241152.23 -42241152.12 -42241152.01 0.0525 0.0294

Jupiter -120363-04-10 16:05 J -42241062.95 -42241062.83 -42241062.71 0.0525 0.0175

Mars -120363-10-02 07:27 J -42240888.29 -42240888.19 -42240888.09 0.1664 0.0819

Moon -120362-03-31 20:53 J -42240707.74 -42240707.63 -42240707.52 0.2774 0.0329

Earth -120362-03-31 21:08 J -42240707.73 -42240707.62 -42240707.51 0.2781 0.0369 *

Earth -120359-09-26 02:25 J -42239433.54 -42239433.40 -42239433.27 0.2561 0.1386

Moon -120359-09-26 03:37 J -42239433.49 -42239433.35 -42239433.22 0.2556 0.1398 *

Uranus -120358-04-30 04:20 J -42239217.37 -42239217.32 -42239217.27 0.0131 0.0120

Uranus -120358-07-27 07:13 J -42239129.27 -42239129.20 -42239129.11 0.0131 0.0105

Uranus -120358-10-23 10:20 J -42239041.16 -42239041.07 -42239040.97 0.0131 0.0089

Jupiter -120358-12-01 11:17 J -42239002.18 -42239002.03 -42239001.88 0.0501 0.0269

Uranus -120357-01-19 13:27 J -42238953.05 -42238952.94 -42238952.83 0.0131 0.0074

Jupiter -120357-02-29 19:41 J -42238911.82 -42238911.68 -42238911.54 0.0500 0.0320

Uranus -120357-04-16 16:20 J -42238864.93 -42238864.82 -42238864.69 0.0131 0.0059

Uranus -120357-07-13 19:27 J -42238776.82 -42238776.69 -42238776.56 0.0131 0.0044

Uranus -120357-10-09 22:20 J -42238688.70 -42238688.57 -42238688.43 0.0131 0.0029

Uranus -120356-01-06 01:27 J -42238600.57 -42238600.44 -42238600.31 0.0131 0.0013

Uranus -120356-04-04 04:20 J -42238512.45 -42238512.32 -42238512.18 0.0131 0.0003

Earth -120356-04-09 18:01 J -42238506.77 -42238506.75 -42238506.73 0.2784 0.2729

Mars -120356-05-10 19:56 J -42238475.83 -42238475.67 -42238475.51 0.1844 0.0426

Uranus -120356-07-01 07:13 J -42238424.33 -42238424.20 -42238424.06 0.0131 0.0018

Uranus -120356-09-27 10:20 J -42238336.20 -42238336.07 -42238335.94 0.0131 0.0032

Uranus -120356-12-24 13:13 J -42238248.07 -42238247.95 -42238247.82 0.0131 0.0047

Mars -120355-03-19 11:03 J -42238163.11 -42238163.04 -42238162.96 0.1676 0.1283

Uranus -120355-03-22 16:05 J -42238159.94 -42238159.83 -42238159.71 0.0131 0.0062

Earth -120355-03-24 18:44 J -42238157.75 -42238157.72 -42238157.69 0.2777 0.2648

Moon -120355-03-24 19:27 J -42238157.73 -42238157.69 -42238157.66 0.2780 0.2590 *

Uranus -120355-06-18 18:58 J -42238071.81 -42238071.71 -42238071.60 0.0131 0.0077

Uranus -120355-09-14 21:51 J -42237983.68 -42237983.59 -42237983.49 0.0131 0.0092

Uranus -120355-12-12 00:44 J -42237895.54 -42237895.47 -42237895.39 0.0131 0.0107

Saturn -120354-03-05 00:58 J -42237812.49 -42237812.46 -42237812.41 0.0298 0.0286

Uranus -120354-03-10 03:51 J -42237807.39 -42237807.34 -42237807.29 0.0131 0.0121

Saturn -120354-06-01 15:08 J -42237723.98 -42237723.87 -42237723.76 0.0299 0.0172

Saturn -120354-08-29 05:03 J -42237635.43 -42237635.29 -42237635.16 0.0299 0.0058

Saturn -120354-11-25 18:44 J -42237546.85 -42237546.72 -42237546.59 0.0300 0.0056

Saturn -120353-02-22 08:25 J -42237458.26 -42237458.15 -42237458.04 0.0301 0.0170

Mars -120353-02-22 18:01 J -42237457.87 -42237457.75 -42237457.64 0.1666 0.0422

Saturn -120353-05-20 21:51 J -42237369.63 -42237369.59 -42237369.54 0.0302 0.0282

Venus -120352-08-01 11:03 J -42236932.11 -42236932.04 -42236931.97 0.3714 0.2722

Jupiter -120352-10-30 13:13 J -42236842.03 -42236841.95 -42236841.86 0.0525 0.0406

Jupiter -120351-01-27 20:25 J -42236752.78 -42236752.65 -42236752.52 0.0525 0.0066

Moon -120349-04-02 15:08 J -42235956.98 -42235956.87 -42235956.77 0.2777 0.0391

Earth -120349-04-02 15:37 J -42235956.96 -42235956.85 -42235956.75 0.2783 0.0449 *

Mars -120347-09-30 16:49 J -42235045.95 -42235045.80 -42235045.64 0.1841 0.0530

Venus -120346-02-15 03:51 J -42234908.44 -42234908.34 -42234908.24 0.3720 0.1006

Jupiter -120346-09-19 08:10 J -42234692.26 -42234692.16 -42234692.07 0.0501 0.0422

Earth -120346-09-29 08:53 J -42234682.29 -42234682.13 -42234681.97 0.2559 0.0058

Moon -120346-09-29 09:22 J -42234682.27 -42234682.11 -42234681.94 0.2554 0.0089 *

Jupiter -120346-12-18 16:05 J -42234602.00 -42234601.83 -42234601.66 0.0500 0.0162

Mars -120344-07-15 04:34 J -42234027.43 -42234027.31 -42234027.19 0.1669 0.0047

Earth -120342-03-27 13:13 J -42233407.03 -42233406.95 -42233406.87 0.2778 0.1845

Moon -120342-03-27 13:56 J -42233407.00 -42233406.92 -42233406.84 0.2780 0.1859 *

Mars -120342-06-20 10:05 J -42233322.09 -42233322.08 -42233322.06 0.1661 0.1641

Venus -120341-08-30 20:39 J -42232884.75 -42232884.64 -42232884.54 0.3726 0.0710

Saturn -120341-12-31 22:20 J -42232761.65 -42232761.57 -42232761.48 0.0264 0.0228

Saturn -120340-03-30 17:03 J -42232672.95 -42232672.79 -42232672.63 0.0264 0.0127

Saturn -120340-06-27 11:46 J -42232584.19 -42232584.01 -42232583.83 0.0263 0.0025

Jupiter -120340-08-18 17:32 J -42232531.78 -42232531.77 -42232531.75 0.0525 0.0518

Saturn -120340-09-24 06:44 J -42232495.39 -42232495.22 -42232495.05 0.0262 0.0078

Jupiter -120340-11-16 00:58 J -42232442.59 -42232442.46 -42232442.34 0.0525 0.0049

Saturn -120340-12-22 01:41 J -42232406.56 -42232406.43 -42232406.29 0.0262 0.0181

Jupiter -120339-02-13 07:27 J -42232353.26 -42232353.19 -42232353.11 0.0526 0.0422

Venus -120338-05-31 14:39 J -42231881.00 -42231880.89 -42231880.78 0.3664 0.2342

Mars -120337-02-20 13:41 J -42231616.02 -42231615.93 -42231615.84 0.1838 0.1473

Moon -120336-04-05 09:22 J -42231206.21 -42231206.11 -42231206.01 0.2780 0.1166

Earth -120336-04-05 09:51 J -42231206.18 -42231206.09 -42231205.99 0.2783 0.1263 *

Venus -120335-03-16 13:13 J -42230861.03 -42230860.95 -42230860.87 0.3731 0.2379

Mars -120335-12-05 14:53 J -42230597.00 -42230596.88 -42230596.77 0.1671 0.0390

Jupiter -120334-10-06 13:56 J -42230292.10 -42230291.92 -42230291.74 0.0500 0.0020

Earth -120333-10-01 15:22 J -42229931.00 -42229930.86 -42229930.72 0.2558 0.1307

Moon -120333-10-01 15:37 J -42229930.99 -42229930.85 -42229930.71 0.2552 0.1304 *

Mars -120333-11-09 20:53 J -42229891.71 -42229891.63 -42229891.56 0.1662 0.1258

Venus -120333-12-14 20:10 J -42229856.79 -42229856.66 -42229856.53 0.3656 0.1625

Pluto -120330-04-18 16:05 J -42229001.88 -42229001.83 -42229001.76 0.0084 0.0075

Pluto -120330-07-15 17:32 J -42228913.86 -42228913.77 -42228913.67 0.0084 0.0059

Pluto -120330-10-11 18:44 J -42228825.83 -42228825.72 -42228825.59 0.0084 0.0043

Pluto -120329-01-07 20:10 J -42228737.78 -42228737.66 -42228737.52 0.0084 0.0028

Earth -120329-03-29 07:27 J -42228656.29 -42228656.19 -42228656.09 0.2780 0.1039

Moon -120329-03-29 08:10 J -42228656.26 -42228656.16 -42228656.06 0.2777 0.0916 *

Pluto -120329-04-04 21:37 J -42228649.73 -42228649.60 -42228649.46 0.0084 0.0012

Pluto -120329-07-01 23:03 J -42228561.68 -42228561.54 -42228561.40 0.0084 0.0004

Pluto -120329-09-28 00:15 J -42228473.62 -42228473.49 -42228473.35 0.0084 0.0019

Pluto -120329-12-25 01:41 J -42228385.56 -42228385.43 -42228385.31 0.0084 0.0035

Pluto -120328-03-23 02:39 J -42228297.48 -42228297.39 -42228297.27 0.0083 0.0051

Pluto -120328-06-19 04:05 J -42228209.40 -42228209.33 -42228209.24 0.0083 0.0065

Jupiter -120328-09-04 04:49 J -42228132.42 -42228132.30 -42228132.17 0.0525 0.0161

Pluto -120328-09-15 05:32 J -42228121.30 -42228121.27 -42228121.23 0.0083 0.0080

Jupiter -120328-12-02 11:32 J -42228043.12 -42228043.02 -42228042.91 0.0526 0.0308

Mars -120326-06-20 00:15 J -42227478.58 -42227478.49 -42227478.40 0.1847 0.1508

Earth -120326-09-24 02:25 J -42227382.43 -42227382.40 -42227382.36 0.2562 0.2479

Moon -120326-09-24 03:51 J -42227382.38 -42227382.34 -42227382.30 0.2565 0.2475 *

Mars -120325-04-27 01:13 J -42227166.56 -42227166.45 -42227166.35 0.1673 0.0804

Saturn -120325-10-18 15:37 J -42226991.94 -42226991.85 -42226991.75 0.0298 0.0212

Saturn -120324-01-15 05:32 J -42226903.40 -42226903.27 -42226903.14 0.0299 0.0099

Saturn -120324-04-13 19:13 J -42226814.83 -42226814.70 -42226814.56 0.0300 0.0015

Saturn -120324-07-11 08:53 J -42226726.25 -42226726.13 -42226726.01 0.0301 0.0128

Saturn -120324-10-07 22:20 J -42226637.64 -42226637.57 -42226637.49 0.0302 0.0241

Mars -120323-04-02 07:27 J -42226461.29 -42226461.19 -42226461.09 0.1664 0.0868

Moon -120323-04-08 03:37 J -42226455.42 -42226455.35 -42226455.28 0.2784 0.2081

Earth -120323-04-08 04:20 J -42226455.39 -42226455.32 -42226455.25 0.2784 0.2070 *

Jupiter -120322-07-25 11:46 J -42225982.18 -42225982.01 -42225981.83 0.0501 0.0123

Jupiter -120322-10-23 20:25 J -42225891.70 -42225891.65 -42225891.58 0.0500 0.0470

Moon -120320-10-04 21:22 J -42225179.61 -42225179.61 -42225179.61 0.2552 0.2548

Mars -120317-11-08 20:53 J -42224048.78 -42224048.63 -42224048.47 0.1845 0.0533

Earth -120316-04-01 01:56 J -42223905.53 -42223905.42 -42223905.31 0.2782 0.0225

Moon -120316-04-01 02:39 J -42223905.50 -42223905.39 -42223905.29 0.2778 0.0197 *

Jupiter -120316-06-23 08:39 J -42223822.25 -42223822.14 -42223822.03 0.0525 0.0278

Mars -120316-09-17 11:17 J -42223736.11 -42223736.03 -42223735.95 0.1676 0.1224

Jupiter -120316-09-20 15:37 J -42223732.97 -42223732.85 -42223732.73 0.0525 0.0192

Uranus -120315-07-18 08:53 J -42223432.23 -42223432.13 -42223432.01 0.0148 0.0118

Uranus -120315-10-14 17:32 J -42223343.92 -42223343.77 -42223343.62 0.0148 0.0087

Uranus -120314-01-11 01:56 J -42223255.59 -42223255.42 -42223255.24 0.0148 0.0057

Uranus -120314-04-09 10:34 J -42223167.24 -42223167.06 -42223166.87 0.0148 0.0026

Uranus -120314-07-06 19:13 J -42223078.89 -42223078.70 -42223078.51 0.0148 0.0006

Mars -120314-08-23 18:01 J -42223030.86 -42223030.75 -42223030.63 0.1666 0.0480

Uranus -120314-10-03 03:51 J -42222990.52 -42222990.34 -42222990.16 0.0148 0.0037

Uranus -120314-12-30 12:29 J -42222902.14 -42222901.98 -42222901.81 0.0148 0.0068

Uranus -120313-03-27 20:53 J -42222813.75 -42222813.63 -42222813.47 0.0148 0.0101

Uranus -120313-06-24 06:01 J -42222725.33 -42222725.25 -42222725.16 0.0148 0.0131

Earth -120313-09-26 08:53 J -42222631.27 -42222631.13 -42222630.99 0.2560 0.1143

Moon -120313-09-26 10:34 J -42222631.21 -42222631.06 -42222630.91 0.2563 0.0948 *

Saturn -120311-05-20 21:08 J -42222029.62 -42222029.62 -42222029.62 0.0264 0.0264

Saturn -120311-08-17 15:37 J -42221940.98 -42221940.85 -42221940.71 0.0264 0.0163

Saturn -120311-11-14 10:20 J -42221852.24 -42221852.07 -42221851.89 0.0263 0.0062

Saturn -120310-02-11 05:17 J -42221763.46 -42221763.28 -42221763.10 0.0262 0.0041

Saturn -120310-05-11 00:15 J -42221674.64 -42221674.49 -42221674.33 0.0262 0.0144

Jupiter -120310-05-13 10:05 J -42221672.24 -42221672.08 -42221671.93 0.0501 0.0261

Saturn -120310-08-07 19:27 J -42221585.74 -42221585.69 -42221585.63 0.0261 0.0246

Jupiter -120310-08-11 18:29 J -42221581.87 -42221581.73 -42221581.59 0.0500 0.0329

Moon -120309-03-24 23:32 J -42221355.56 -42221355.52 -42221355.48 0.2785 0.2574

Earth -120309-03-24 23:32 J -42221355.56 -42221355.52 -42221355.47 0.2777 0.2501 *

Mars -120307-03-31 17:17 J -42220618.93 -42220618.78 -42220618.62 0.1841 0.0443

Mars -120306-02-07 21:08 J -42220305.63 -42220305.62 -42220305.60 0.1679 0.1655

Neptune -120305-07-19 22:49 J -42219777.56 -42219777.55 -42219777.53 0.0088 0.0088

Neptune -120305-10-16 00:15 J -42219689.53 -42219689.49 -42219689.44 0.0088 0.0083

Neptune -120304-01-12 01:41 J -42219601.48 -42219601.43 -42219601.36 0.0088 0.0079

Mars -120304-01-13 04:34 J -42219600.43 -42219600.31 -42219600.19 0.1669 0.0083

Neptune -120304-04-10 03:22 J -42219513.43 -42219513.36 -42219513.29 0.0088 0.0075

Jupiter -120304-04-11 12:15 J -42219512.07 -42219511.99 -42219511.90 0.0524 0.0398

Neptune -120304-07-07 04:49 J -42219425.38 -42219425.30 -42219425.21 0.0088 0.0070

Jupiter -120304-07-09 19:27 J -42219422.82 -42219422.69 -42219422.56 0.0525 0.0073

Neptune -120304-10-03 06:15 J -42219337.32 -42219337.24 -42219337.14 0.0088 0.0066

Neptune -120304-12-30 07:41 J -42219249.27 -42219249.18 -42219249.07 0.0088 0.0062

Neptune -120303-03-28 09:22 J -42219161.21 -42219161.11 -42219161.01 0.0088 0.0058

Earth -120303-04-03 20:25 J -42219154.76 -42219154.65 -42219154.54 0.2783 0.0592

Moon -120303-04-03 20:39 J -42219154.75 -42219154.64 -42219154.53 0.2775 0.0570 *

Neptune -120303-06-24 10:34 J -42219073.16 -42219073.06 -42219072.94 0.0088 0.0054

Neptune -120303-09-20 12:01 J -42218985.10 -42218985.00 -42218984.87 0.0088 0.0050

Neptune -120303-12-17 13:41 J -42218897.05 -42218896.93 -42218896.81 0.0088 0.0045

Neptune -120302-03-15 15:08 J -42218808.99 -42218808.87 -42218808.74 0.0088 0.0041

Neptune -120302-06-11 16:34 J -42218720.93 -42218720.81 -42218720.68 0.0088 0.0036

Neptune -120302-09-07 18:01 J -42218632.87 -42218632.75 -42218632.62 0.0088 0.0032

Neptune -120302-12-04 19:27 J -42218544.82 -42218544.69 -42218544.56 0.0088 0.0028

Neptune -120301-03-01 20:53 J -42218456.76 -42218456.63 -42218456.49 0.0088 0.0024

Neptune -120301-05-28 22:20 J -42218368.70 -42218368.57 -42218368.43 0.0088 0.0019

Neptune -120301-08-24 23:46 J -42218280.64 -42218280.51 -42218280.37 0.0088 0.0015

Neptune -120301-11-21 01:13 J -42218192.58 -42218192.45 -42218192.31 0.0088 0.0011

Neptune -120300-02-17 02:39 J -42218104.52 -42218104.39 -42218104.25 0.0088 0.0007

Neptune -120300-05-16 04:05 J -42218016.47 -42218016.33 -42218016.19 0.0088 0.0003

Neptune -120300-08-12 05:32 J -42217928.41 -42217928.27 -42217928.13 0.0088 0.0002

Earth -120300-09-29 15:22 J -42217880.02 -42217879.86 -42217879.70 0.2559 0.0209

Moon -120300-09-29 17:03 J -42217879.95 -42217879.79 -42217879.63 0.2559 0.0289 *

Neptune -120300-11-08 06:58 J -42217840.35 -42217840.21 -42217840.08 0.0088 0.0006

Neptune -120299-02-04 08:25 J -42217752.29 -42217752.15 -42217752.02 0.0088 0.0010

Neptune -120299-05-03 09:37 J -42217664.23 -42217664.10 -42217663.96 0.0088 0.0015

Neptune -120299-07-30 11:03 J -42217576.17 -42217576.04 -42217575.90 0.0088 0.0019

Neptune -120299-10-26 12:29 J -42217488.11 -42217487.98 -42217487.85 0.0088 0.0023

Neptune -120298-01-22 13:56 J -42217400.05 -42217399.92 -42217399.79 0.0088 0.0027

Jupiter -120298-03-01 08:10 J -42217362.27 -42217362.16 -42217362.05 0.0501 0.0400

Neptune -120298-04-20 15:08 J -42217311.99 -42217311.87 -42217311.74 0.0088 0.0031

Jupiter -120298-05-30 16:20 J -42217271.99 -42217271.82 -42217271.65 0.0500 0.0186

Neptune -120298-07-17 16:34 J -42217223.93 -42217223.81 -42217223.68 0.0088 0.0035

Mars -120298-08-21 14:25 J -42217189.00 -42217188.90 -42217188.79 0.1838 0.1375

Neptune -120298-10-13 18:01 J -42217135.87 -42217135.75 -42217135.63 0.0088 0.0039

Neptune -120297-01-09 19:13 J -42217047.81 -42217047.70 -42217047.57 0.0088 0.0044

Neptune -120297-04-06 20:39 J -42216959.74 -42216959.64 -42216959.52 0.0088 0.0048

Neptune -120297-07-03 22:05 J -42216871.68 -42216871.58 -42216871.46 0.0088 0.0052

Neptune -120297-09-29 23:32 J -42216783.62 -42216783.52 -42216783.41 0.0088 0.0055

Neptune -120297-12-27 00:58 J -42216695.56 -42216695.46 -42216695.36 0.0088 0.0059

Neptune -120296-03-25 02:10 J -42216607.49 -42216607.41 -42216607.31 0.0088 0.0064

Earth -120296-03-27 18:01 J -42216604.84 -42216604.75 -42216604.67 0.2779 0.1696

Moon -120296-03-27 18:15 J -42216604.83 -42216604.74 -42216604.66 0.2786 0.1642 *

Neptune -120296-06-21 03:37 J -42216519.43 -42216519.35 -42216519.26 0.0088 0.0068

Neptune -120296-09-17 05:03 J -42216431.36 -42216431.29 -42216431.21 0.0088 0.0072

Neptune -120296-12-14 06:29 J -42216343.30 -42216343.23 -42216343.17 0.0088 0.0076

Saturn -120295-03-07 16:05 J -42216259.90 -42216259.83 -42216259.76 0.0298 0.0254

Venus -120295-03-08 08:53 J -42216259.22 -42216259.13 -42216259.04 0.3716 0.2078

Neptune -120295-03-12 07:27 J -42216255.23 -42216255.19 -42216255.12 0.0088 0.0080

Saturn -120295-06-04 06:01 J -42216171.37 -42216171.25 -42216171.13 0.0298 0.0141

Mars -120295-06-05 14:53 J -42216170.00 -42216169.88 -42216169.77 0.1671 0.0338

Neptune -120295-06-08 09:08 J -42216167.16 -42216167.12 -42216167.08 0.0088 0.0084

Saturn -120295-08-31 19:41 J -42216082.81 -42216082.68 -42216082.54 0.0299 0.0028

Neptune -120295-09-04 10:20 J -42216079.07 -42216079.07 -42216079.05 0.0088 0.0088

Saturn -120295-11-28 09:22 J -42215994.24 -42215994.11 -42215993.98 0.0300 0.0086

Saturn -120294-02-24 23:03 J -42215905.64 -42215905.54 -42215905.44 0.0301 0.0199

Mars -120293-05-10 20:53 J -42215464.70 -42215464.63 -42215464.56 0.1662 0.1307

Jupiter -120292-01-28 16:34 J -42215201.84 -42215201.81 -42215201.79 0.0524 0.0511

Jupiter -120292-04-27 23:46 J -42215112.64 -42215112.51 -42215112.38 0.0525 0.0038

Jupiter -120292-07-26 06:29 J -42215023.30 -42215023.23 -42215023.16 0.0526 0.0427

Moon -120290-04-06 14:53 J -42214403.97 -42214403.88 -42214403.79 0.2777 0.1464

Earth -120290-04-06 14:53 J -42214403.97 -42214403.88 -42214403.79 0.2784 0.1405 *

Venus -120290-09-22 01:41 J -42214235.54 -42214235.43 -42214235.33 0.3721 0.0377

Earth -120287-10-02 22:05 J -42213128.71 -42213128.58 -42213128.46 0.2558 0.1559

Moon -120287-10-02 23:46 J -42213128.64 -42213128.51 -42213128.38 0.2557 0.1574 *

Mars -120287-12-19 01:13 J -42213051.52 -42213051.45 -42213051.37 0.1847 0.1617

Jupiter -120286-03-18 12:58 J -42212962.15 -42212961.96 -42212961.78 0.0500 0.0032

Mars -120286-10-27 01:13 J -42212739.56 -42212739.45 -42212739.35 0.1674 0.0752

Venus -120284-04-06 18:15 J -42212211.84 -42212211.74 -42212211.64 0.3727 0.1325

Mars -120284-10-01 07:27 J -42212034.29 -42212034.19 -42212034.09 0.1664 0.0920

Earth -120283-03-30 12:29 J -42211854.09 -42211853.98 -42211853.88 0.2780 0.0889

Moon -120283-03-30 12:58 J -42211854.06 -42211853.96 -42211853.86 0.2786 0.0857 *

Saturn -120281-01-04 14:53 J -42211209.00 -42211208.88 -42211208.76 0.0265 0.0195

Venus -120281-01-05 15:37 J -42211207.99 -42211207.85 -42211207.71 0.3662 0.1005

Saturn -120281-04-02 09:37 J -42211120.27 -42211120.10 -42211119.93 0.0264 0.0093

Saturn -120281-06-30 04:34 J -42211031.49 -42211031.31 -42211031.13 0.0263 0.0010

Saturn -120281-09-26 23:32 J -42210942.69 -42210942.52 -42210942.36 0.0262 0.0112

Saturn -120281-12-24 18:29 J -42210853.82 -42210853.73 -42210853.62 0.0262 0.0215

Jupiter -120280-02-14 04:05 J -42210802.46 -42210802.33 -42210802.21 0.0525 0.0151

Jupiter -120280-05-14 10:49 J -42210713.15 -42210713.05 -42210712.94 0.0526 0.0319

Moon -120280-09-24 08:53 J -42210580.21 -42210580.13 -42210580.05 0.2568 0.2175

Earth -120280-09-24 09:08 J -42210580.20 -42210580.12 -42210580.05 0.2562 0.2238 *

Venus -120279-10-21 10:49 J -42210188.11 -42210188.05 -42210187.99 0.3733 0.3000

Moon -120277-04-08 08:53 J -42209653.19 -42209653.13 -42209653.06 0.2777 0.2146

Earth -120277-04-08 09:22 J -42209653.18 -42209653.11 -42209653.05 0.2784 0.2221 *

Mars -120277-05-09 21:22 J -42209621.76 -42209621.61 -42209621.46 0.1844 0.0614

Mars -120276-03-18 11:17 J -42209309.12 -42209309.03 -42209308.95 0.1676 0.1171

Venus -120276-07-21 21:22 J -42209183.69 -42209183.61 -42209183.53 0.3654 0.2997

Jupiter -120274-01-04 10:34 J -42208652.24 -42208652.06 -42208651.88 0.0500 0.0114

Mars -120274-02-21 18:01 J -42208603.86 -42208603.75 -42208603.64 0.1667 0.0525

Jupiter -120274-04-04 19:13 J -42208561.75 -42208561.70 -42208561.65 0.0500 0.0477

Uranus -120274-05-20 11:03 J -42208516.09 -42208516.04 -42208515.97 0.0131 0.0118

Uranus -120274-08-16 14:10 J -42208427.99 -42208427.91 -42208427.82 0.0131 0.0102

Uranus -120274-11-12 17:17 J -42208339.88 -42208339.78 -42208339.68 0.0131 0.0087

Uranus -120273-02-08 20:10 J -42208251.76 -42208251.66 -42208251.54 0.0131 0.0072

Uranus -120273-05-06 23:17 J -42208163.65 -42208163.53 -42208163.40 0.0131 0.0056

Uranus -120273-08-03 02:25 J -42208075.53 -42208075.40 -42208075.27 0.0131 0.0041

Uranus -120273-10-30 05:17 J -42207987.41 -42207987.28 -42207987.14 0.0131 0.0026

Uranus -120272-01-26 08:25 J -42207899.29 -42207899.15 -42207899.02 0.0131 0.0011

Uranus -120272-04-24 11:17 J -42207811.16 -42207811.03 -42207810.89 0.0131 0.0005

Uranus -120272-07-21 14:10 J -42207723.04 -42207722.91 -42207722.77 0.0131 0.0020

Uranus -120272-10-17 17:17 J -42207634.91 -42207634.78 -42207634.65 0.0131 0.0035

Uranus -120271-01-13 20:10 J -42207546.78 -42207546.66 -42207546.54 0.0131 0.0050

Uranus -120271-04-11 23:03 J -42207458.65 -42207458.54 -42207458.42 0.0131 0.0065

Uranus -120271-07-09 01:56 J -42207370.52 -42207370.42 -42207370.31 0.0131 0.0080

Uranus -120271-10-05 04:49 J -42207282.38 -42207282.30 -42207282.20 0.0131 0.0095

Uranus -120270-01-01 07:41 J -42207194.24 -42207194.18 -42207194.10 0.0131 0.0110

Uranus -120270-03-30 10:49 J -42207106.09 -42207106.05 -42207106.01 0.0131 0.0124

Earth -120270-04-02 06:58 J -42207103.32 -42207103.21 -42207103.11 0.2782 0.0136

Moon -120270-04-02 07:27 J -42207103.30 -42207103.19 -42207103.08 0.2785 0.0086 *

Jupiter -120269-12-03 07:56 J -42206492.28 -42206492.17 -42206492.06 0.0525 0.0266

Jupiter -120268-03-02 14:53 J -42206403.00 -42206402.88 -42206402.76 0.0526 0.0204

Mars -120268-09-29 18:01 J -42206191.91 -42206191.75 -42206191.59 0.1842 0.0349

Mars -120267-08-08 21:22 J -42205878.64 -42205878.61 -42205878.58 0.1679 0.1596

Moon -120267-09-27 15:37 J -42205829.00 -42205828.85 -42205828.70 0.2567 0.0896

Earth -120267-09-27 15:37 J -42205829.00 -42205828.85 -42205828.70 0.2560 0.0891 *

Saturn -120266-07-25 16:49 J -42205527.82 -42205527.80 -42205527.78 0.0297 0.0292

Saturn -120266-10-22 06:44 J -42205439.33 -42205439.22 -42205439.11 0.0298 0.0179

Saturn -120265-01-18 20:39 J -42205350.78 -42205350.64 -42205350.51 0.0299 0.0066

Saturn -120265-04-16 10:20 J -42205262.21 -42205262.07 -42205261.94 0.0300 0.0047

Saturn -120265-07-13 23:46 J -42205173.62 -42205173.51 -42205173.39 0.0301 0.0160

Mars -120265-07-14 04:34 J -42205173.43 -42205173.31 -42205173.19 0.1669 0.0128 *

Saturn -120265-10-10 13:13 J -42205085.00 -42205084.95 -42205084.89 0.0301 0.0273

Moon -120263-03-26 03:51 J -42204553.40 -42204553.34 -42204553.29 0.2781 0.2358

Earth -120263-03-26 04:34 J -42204553.37 -42204553.31 -42204553.26 0.2777 0.2358 *

Jupiter -120263-10-23 08:25 J -42204342.30 -42204342.15 -42204341.99 0.0501 0.0256

Jupiter -120262-01-21 16:49 J -42204251.93 -42204251.80 -42204251.66 0.0500 0.0334

Mars -120258-02-19 15:08 J -42202761.98 -42202761.87 -42202761.75 0.1838 0.1280

Earth -120257-04-04 01:13 J -42202352.55 -42202352.45 -42202352.34 0.2783 0.0743

Moon -120257-04-04 01:56 J -42202352.52 -42202352.42 -42202352.31 0.2782 0.0878 *

Jupiter -120257-09-21 11:46 J -42202182.10 -42202182.01 -42202181.92 0.0524 0.0384

Jupiter -120257-12-19 18:58 J -42202092.84 -42202092.71 -42202092.59 0.0525 0.0088

Mars -120256-12-04 14:53 J -42201743.00 -42201742.88 -42201742.76 0.1671 0.0282

Earth -120254-09-30 22:05 J -42201077.74 -42201077.58 -42201077.42 0.2559 0.0460

Moon -120254-09-30 23:03 J -42201077.70 -42201077.54 -42201077.39 0.2564 0.0452 *

Mars -120254-11-09 20:53 J -42201037.69 -42201037.63 -42201037.56 0.1662 0.1360

Saturn -120252-05-23 13:41 J -42200477.00 -42200476.93 -42200476.83 0.0265 0.0231

Saturn -120252-08-20 08:25 J -42200388.30 -42200388.15 -42200387.99 0.0264 0.0129

Saturn -120252-11-17 03:22 J -42200299.54 -42200299.36 -42200299.18 0.0263 0.0027

Saturn -120251-02-13 22:20 J -42200210.74 -42200210.57 -42200210.39 0.0262 0.0076

Saturn -120251-05-13 17:32 J -42200121.90 -42200121.77 -42200121.64 0.0262 0.0179

Jupiter -120251-08-11 06:44 J -42200032.33 -42200032.22 -42200032.11 0.0501 0.0394

Jupiter -120251-11-09 14:39 J -42199942.05 -42199941.89 -42199941.72 0.0500 0.0192

Moon -120250-03-28 22:20 J -42199802.66 -42199802.57 -42199802.48 0.2784 0.1584

Earth -120250-03-28 22:49 J -42199802.63 -42199802.55 -42199802.46 0.2779 0.1551 *

Mars -120247-06-19 01:56 J -42198624.47 -42198624.42 -42198624.36 0.1847 0.1713

Mars -120246-04-27 01:13 J -42198312.56 -42198312.45 -42198312.34 0.1673 0.0698

Jupiter -120245-07-10 15:22 J -42197871.89 -42197871.86 -42197871.83 0.0524 0.0505

Jupiter -120245-10-07 22:34 J -42197782.69 -42197782.56 -42197782.43 0.0525 0.0033

Jupiter -120244-01-05 05:17 J -42197693.35 -42197693.28 -42197693.21 0.0526 0.0432

Venus -120244-03-29 13:56 J -42197609.98 -42197609.92 -42197609.87 0.3711 0.3155

Mars -120244-04-01 07:27 J -42197607.28 -42197607.19 -42197607.09 0.1664 0.0970

Earth -120244-04-06 19:41 J -42197601.77 -42197601.68 -42197601.59 0.2784 0.1555

Moon -120244-04-06 20:25 J -42197601.74 -42197601.65 -42197601.56 0.2781 0.1573 *

Earth -120241-10-03 04:34 J -42196326.42 -42196326.31 -42196326.20 0.2558 0.1802

Moon -120241-10-03 05:46 J -42196326.36 -42196326.26 -42196326.16 0.2563 0.1977 *

Jupiter -120239-08-28 12:29 J -42195632.16 -42195631.98 -42195631.80 0.0500 0.0049

Venus -120239-10-13 06:44 J -42195586.32 -42195586.22 -42195586.13 0.3717 0.1441

Mars -120238-11-08 22:05 J -42195194.73 -42195194.58 -42195194.43 0.1844 0.0718

Moon -120237-03-30 17:03 J -42195051.89 -42195051.79 -42195051.68 0.2788 0.0811

Earth -120237-03-30 17:17 J -42195051.88 -42195051.78 -42195051.67 0.2781 0.0738 *

Mars -120237-09-16 11:17 J -42194882.12 -42194882.03 -42194881.94 0.1676 0.1116

Saturn -120236-03-10 07:41 J -42194707.27 -42194707.18 -42194707.09 0.0298 0.0217

Saturn -120236-06-06 21:37 J -42194618.73 -42194618.60 -42194618.47 0.0299 0.0104

Saturn -120236-09-03 11:17 J -42194530.16 -42194530.03 -42194529.89 0.0299 0.0010

Saturn -120236-12-01 00:58 J -42194441.58 -42194441.46 -42194441.34 0.0300 0.0122

Saturn -120235-02-27 14:25 J -42194352.98 -42194352.90 -42194352.81 0.0301 0.0234

Mars -120235-08-22 18:01 J -42194176.86 -42194176.75 -42194176.64 0.1666 0.0577

Moon -120234-09-25 14:10 J -42193778.00 -42193777.91 -42193777.82 0.2564 0.2112

Earth -120234-09-25 15:51 J -42193777.94 -42193777.84 -42193777.74 0.2561 0.1987 *

Venus -120233-04-27 23:17 J -42193562.63 -42193562.53 -42193562.42 0.3723 0.0292

Jupiter -120233-07-27 02:39 J -42193472.51 -42193472.39 -42193472.26 0.0525 0.0147

Jupiter -120233-10-24 09:37 J -42193383.20 -42193383.10 -42193383.00 0.0526 0.0322

Earth -120231-04-09 14:10 J -42192850.97 -42192850.91 -42192850.86 0.2784 0.2368

Moon -120231-04-09 14:39 J -42192850.95 -42192850.89 -42192850.84 0.2778 0.2376 *

Uranus -120231-05-11 06:58 J -42192819.24 -42192819.21 -42192819.16 0.0148 0.0144

Uranus -120231-08-07 15:22 J -42192730.97 -42192730.86 -42192730.73 0.0148 0.0114

Uranus -120231-11-04 00:01 J -42192642.65 -42192642.50 -42192642.34 0.0148 0.0083

Venus -120230-01-26 11:32 J -42192559.05 -42192559.02 -42192558.98 0.3667 0.3538

Uranus -120230-01-31 08:25 J -42192554.32 -42192554.15 -42192553.97 0.0148 0.0053

Uranus -120230-04-29 17:03 J -42192465.98 -42192465.79 -42192465.60 0.0148 0.0022

Uranus -120230-07-27 01:41 J -42192377.62 -42192377.43 -42192377.24 0.0148 0.0009

Uranus -120230-10-23 10:05 J -42192289.25 -42192289.08 -42192288.89 0.0148 0.0041

Uranus -120229-01-19 18:58 J -42192200.87 -42192200.71 -42192200.54 0.0148 0.0072

Uranus -120229-04-17 03:22 J -42192112.48 -42192112.36 -42192112.21 0.0148 0.0104

Uranus -120229-07-14 12:15 J -42192024.06 -42192023.99 -42192023.91 0.0148 0.0135

Mars -120228-03-30 18:44 J -42191764.88 -42191764.72 -42191764.56 0.1841 0.0258

Venus -120228-11-11 16:05 J -42191538.92 -42191538.83 -42191538.74 0.3729 0.1950

Mars -120227-02-06 21:22 J -42191451.66 -42191451.61 -42191451.57 0.1679 0.1547

Jupiter -120227-06-16 09:22 J -42191322.29 -42191322.11 -42191321.93 0.0500 0.0105

Jupiter -120227-09-14 18:01 J -42191231.79 -42191231.75 -42191231.71 0.0499 0.0485

Mars -120225-01-13 04:34 J -42190746.43 -42190746.31 -42190746.19 0.1669 0.0180

Venus -120225-08-11 16:49 J -42190534.94 -42190534.80 -42190534.65 0.3660 0.0372

Moon -120224-04-02 11:46 J -42190301.12 -42190301.01 -42190300.90 0.2789 0.0146

Earth -120224-04-02 11:46 J -42190301.12 -42190301.01 -42190300.90 0.2782 0.0078 *

Saturn -120223-10-10 13:13 J -42189744.96 -42189744.95 -42189744.91 0.0265 0.0262

Saturn -120222-01-07 07:56 J -42189656.30 -42189656.17 -42189656.02 0.0265 0.0160

Saturn -120222-04-06 02:53 J -42189567.55 -42189567.38 -42189567.20 0.0264 0.0057

Venus -120222-05-28 08:39 J -42189515.16 -42189515.14 -42189515.12 0.3735 0.3615

Saturn -120222-07-03 21:51 J -42189478.77 -42189478.59 -42189478.41 0.0263 0.0046

Saturn -120222-09-30 16:49 J -42189389.94 -42189389.80 -42189389.64 0.0263 0.0149

Saturn -120222-12-28 12:15 J -42189301.04 -42189300.99 -42189300.95 0.0262 0.0252

Jupiter -120221-05-15 06:44 J -42189162.33 -42189162.22 -42189162.10 0.0525 0.0262

Neptune -120221-06-19 18:15 J -42189126.76 -42189126.74 -42189126.68 0.0089 0.0087

Jupiter -120221-08-12 13:56 J -42189073.04 -42189072.92 -42189072.81 0.0526 0.0211

Neptune -120221-09-15 21:37 J -42189038.65 -42189038.60 -42189038.50 0.0089 0.0081

Moon -120221-09-27 20:39 J -42189026.79 -42189026.64 -42189026.48 0.2563 0.0814

Earth -120221-09-27 22:20 J -42189026.73 -42189026.57 -42189026.42 0.2560 0.0645 *

Neptune -120221-12-13 01:13 J -42188950.54 -42188950.45 -42188950.35 0.0089 0.0075

Neptune -120220-03-11 04:34 J -42188862.42 -42188862.31 -42188862.19 0.0089 0.0069

Neptune -120220-06-07 07:27 J -42188774.30 -42188774.19 -42188774.04 0.0089 0.0065

Neptune -120220-09-03 11:03 J -42188686.17 -42188686.04 -42188685.89 0.0089 0.0058

Neptune -120220-11-30 14:25 J -42188598.04 -42188597.90 -42188597.74 0.0089 0.0052

Neptune -120219-02-26 17:46 J -42188509.91 -42188509.76 -42188509.59 0.0089 0.0047

Neptune -120219-05-25 21:22 J -42188421.78 -42188421.61 -42188421.45 0.0089 0.0041

Mars -120219-08-20 15:37 J -42188334.97 -42188334.85 -42188334.72 0.1838 0.1196

Neptune -120219-08-22 00:29 J -42188333.64 -42188333.48 -42188333.30 0.0089 0.0035

Neptune -120219-11-18 03:51 J -42188245.51 -42188245.34 -42188245.15 0.0089 0.0029

Neptune -120218-02-14 07:13 J -42188157.37 -42188157.20 -42188157.01 0.0089 0.0023

Neptune -120218-05-13 10:49 J -42188069.23 -42188069.05 -42188068.86 0.0089 0.0017

Neptune -120218-08-09 14:10 J -42187981.09 -42187980.91 -42187980.72 0.0089 0.0011

Neptune -120218-11-05 17:32 J -42187892.95 -42187892.77 -42187892.58 0.0089 0.0005

Neptune -120217-02-01 21:08 J -42187804.81 -42187804.62 -42187804.43 0.0089 0.0002

Moon -120217-03-26 08:39 J -42187751.20 -42187751.14 -42187751.07 0.2773 0.2260

Earth -120217-03-26 09:22 J -42187751.17 -42187751.11 -42187751.05 0.2778 0.2211 *

Neptune -120217-04-30 00:29 J -42187716.67 -42187716.48 -42187716.29 0.0089 0.0007

Neptune -120217-07-27 03:51 J -42187628.52 -42187628.34 -42187628.15 0.0089 0.0013

Neptune -120217-10-23 07:13 J -42187540.38 -42187540.20 -42187540.01 0.0089 0.0019

Neptune -120216-01-19 10:34 J -42187452.23 -42187452.06 -42187451.87 0.0089 0.0025

Neptune -120216-04-17 14:10 J -42187364.08 -42187363.91 -42187363.73 0.0089 0.0031

Mars -120216-06-04 14:53 J -42187316.00 -42187315.88 -42187315.76 0.1671 0.0230

Neptune -120216-07-14 17:32 J -42187275.93 -42187275.77 -42187275.59 0.0089 0.0037

Neptune -120216-10-10 21:08 J -42187187.78 -42187187.62 -42187187.45 0.0089 0.0043

Neptune -120215-01-07 00:29 J -42187099.62 -42187099.48 -42187099.31 0.0089 0.0049

Jupiter -120215-04-04 06:58 J -42187012.36 -42187012.21 -42187012.05 0.0500 0.0249

Neptune -120215-04-05 04:05 J -42187011.47 -42187011.33 -42187011.17 0.0089 0.0055

Neptune -120215-07-02 07:41 J -42186923.31 -42186923.18 -42186923.04 0.0089 0.0061

Jupiter -120215-07-03 15:22 J -42186921.99 -42186921.86 -42186921.73 0.0499 0.0338

Neptune -120215-09-28 11:03 J -42186835.15 -42186835.04 -42186834.90 0.0089 0.0067

Neptune -120215-12-25 14:39 J -42186746.99 -42186746.89 -42186746.77 0.0089 0.0073

Neptune -120214-03-23 18:15 J -42186658.82 -42186658.74 -42186658.65 0.0089 0.0079

Mars -120214-05-10 20:53 J -42186610.69 -42186610.63 -42186610.57 0.1663 0.1406

Neptune -120214-06-19 21:51 J -42186570.63 -42186570.59 -42186570.53 0.0089 0.0086

Earth -120211-04-05 06:15 J -42185550.35 -42185550.24 -42185550.14 0.2783 0.0894

Moon -120211-04-05 06:29 J -42185550.33 -42185550.23 -42185550.12 0.2789 0.0890 *

Jupiter -120209-03-03 10:49 J -42184852.14 -42184852.05 -42184851.96 0.0525 0.0377

Jupiter -120209-05-31 17:46 J -42184762.88 -42184762.76 -42184762.63 0.0526 0.0097

Moon -120208-10-01 03:51 J -42184275.49 -42184275.34 -42184275.18 0.2564 0.0761

Earth -120208-10-01 04:49 J -42184275.46 -42184275.30 -42184275.15 0.2559 0.0708 *

Mars -120208-12-18 02:39 J -42184197.42 -42184197.39 -42184197.36 0.1847 0.1800

Saturn -120207-07-28 08:53 J -42183975.20 -42183975.13 -42183975.05 0.0297 0.0252

Saturn -120207-10-24 22:49 J -42183886.67 -42183886.55 -42183886.43 0.0298 0.0139

Mars -120207-10-26 01:13 J -42183885.56 -42183885.45 -42183885.34 0.1673 0.0640

Saturn -120206-01-21 12:29 J -42183798.11 -42183797.98 -42183797.84 0.0299 0.0028

Saturn -120206-04-20 02:10 J -42183709.54 -42183709.41 -42183709.28 0.0300 0.0087

Saturn -120206-07-17 15:51 J -42183620.94 -42183620.84 -42183620.74 0.0301 0.0199

Mars -120205-09-30 07:27 J -42183180.28 -42183180.19 -42183180.09 0.1664 0.1022

Moon -120204-03-29 03:08 J -42183000.46 -42183000.37 -42183000.28 0.2777 0.1507

Earth -120204-03-29 03:51 J -42183000.44 -42183000.34 -42183000.25 0.2779 0.1402 *

Jupiter -120203-01-21 04:49 J -42182702.41 -42182702.30 -42182702.19 0.0501 0.0391

Jupiter -120203-04-21 12:44 J -42182612.13 -42182611.97 -42182611.80 0.0500 0.0194

Earth -120198-04-08 00:29 J -42180799.56 -42180799.48 -42180799.39 0.2784 0.1706

Moon -120198-04-08 01:13 J -42180799.53 -42180799.45 -42180799.37 0.2787 0.1741 *

Mars -120198-05-09 22:49 J -42180767.69 -42180767.55 -42180767.40 0.1845 0.0810

Jupiter -120198-12-21 14:25 J -42180541.94 -42180541.90 -42180541.86 0.0524 0.0495

Mars -120197-03-17 11:17 J -42180455.12 -42180455.03 -42180454.94 0.1676 0.1064

Jupiter -120197-03-19 21:51 J -42180452.72 -42180452.59 -42180452.46 0.0525 0.0025

Jupiter -120197-06-17 04:20 J -42180363.38 -42180363.32 -42180363.25 0.0526 0.0443

Mars -120195-02-20 18:01 J -42179749.86 -42179749.75 -42179749.64 0.1666 0.0629

Moon -120195-10-04 10:49 J -42179524.15 -42179524.05 -42179523.95 0.2564 0.2003

Earth -120195-10-04 11:17 J -42179524.12 -42179524.03 -42179523.94 0.2558 0.2059 *

Saturn -120193-05-26 07:27 J -42178924.31 -42178924.19 -42178924.07 0.0265 0.0193

Saturn -120193-08-23 02:10 J -42178835.58 -42178835.41 -42178835.24 0.0264 0.0091

Saturn -120193-11-19 21:08 J -42178746.80 -42178746.62 -42178746.44 0.0263 0.0012

Saturn -120192-02-16 16:05 J -42178657.99 -42178657.83 -42178657.66 0.0263 0.0115

Saturn -120192-05-16 11:17 J -42178569.12 -42178569.03 -42178568.93 0.0262 0.0218

Jupiter -120191-02-07 10:34 J -42178302.24 -42178302.06 -42178301.88 0.0500 0.0051

Moon -120191-03-31 21:22 J -42178249.71 -42178249.61 -42178249.50 0.2783 0.0588

Earth -120191-03-31 22:20 J -42178249.68 -42178249.57 -42178249.47 0.2781 0.0598 *

Uranus -120190-03-13 14:53 J -42177902.88 -42177902.88 -42177902.87 0.0131 0.0131

Uranus -120190-06-09 18:01 J -42177814.81 -42177814.75 -42177814.69 0.0131 0.0115

Uranus -120190-09-05 20:53 J -42177726.71 -42177726.63 -42177726.54 0.0131 0.0100

Uranus -120190-12-03 00:01 J -42177638.60 -42177638.50 -42177638.39 0.0131 0.0085

Uranus -120189-02-29 03:08 J -42177550.48 -42177550.37 -42177550.25 0.0131 0.0069

Uranus -120189-05-27 06:01 J -42177462.37 -42177462.25 -42177462.12 0.0131 0.0054

Uranus -120189-08-23 09:08 J -42177374.25 -42177374.12 -42177373.99 0.0131 0.0039

Mars -120189-09-28 19:27 J -42177337.85 -42177337.69 -42177337.53 0.1841 0.0160

Uranus -120189-11-19 12:01 J -42177286.13 -42177286.00 -42177285.86 0.0131 0.0024

Uranus -120188-02-15 15:08 J -42177198.00 -42177197.87 -42177197.73 0.0131 0.0008

Uranus -120188-05-14 18:15 J -42177109.88 -42177109.74 -42177109.61 0.0131 0.0008

Mars -120188-08-07 21:22 J -42177024.66 -42177024.61 -42177024.56 0.1679 0.1488

Uranus -120188-08-10 21:08 J -42177021.75 -42177021.62 -42177021.49 0.0131 0.0022

Moon -120188-09-25 20:53 J -42176975.74 -42176975.63 -42176975.52 0.2558 0.1873

Earth -120188-09-25 22:20 J -42176975.68 -42176975.57 -42176975.45 0.2561 0.1740 *

Venus -120188-11-03 11:32 J -42176937.09 -42176937.02 -42176936.94 0.3713 0.2518

Uranus -120188-11-07 00:01 J -42176933.63 -42176933.50 -42176933.37 0.0131 0.0037

Uranus -120187-02-03 02:53 J -42176845.50 -42176845.38 -42176845.25 0.0131 0.0053

Uranus -120187-05-02 05:46 J -42176757.37 -42176757.26 -42176757.14 0.0131 0.0068

Uranus -120187-07-29 08:53 J -42176669.23 -42176669.13 -42176669.03 0.0131 0.0082

Uranus -120187-10-25 11:46 J -42176581.09 -42176581.01 -42176580.92 0.0131 0.0097

Uranus -120186-01-21 14:39 J -42176492.95 -42176492.89 -42176492.82 0.0131 0.0112

Uranus -120186-04-19 17:32 J -42176404.79 -42176404.77 -42176404.73 0.0131 0.0127

Mars -120186-07-14 04:34 J -42176319.43 -42176319.31 -42176319.19 0.1669 0.0229

Jupiter -120185-01-07 01:27 J -42176142.57 -42176142.44 -42176142.32 0.0525 0.0145

Jupiter -120185-04-05 08:10 J -42176053.26 -42176053.16 -42176053.06 0.0526 0.0323

Earth -120185-04-09 18:58 J -42176048.75 -42176048.71 -42176048.66 0.2784 0.2519

Moon -120185-04-09 19:41 J -42176048.71 -42176048.68 -42176048.65 0.2786 0.2649 *

Venus -120182-05-20 04:20 J -42174913.42 -42174913.32 -42174913.21 0.3719 0.0810

Jupiter -120180-11-26 08:25 J -42173992.33 -42173992.15 -42173991.97 0.0500 0.0093

Mars -120179-02-18 16:34 J -42173907.94 -42173907.81 -42173907.69 0.1838 0.1099

Jupiter -120179-02-24 17:03 J -42173901.79 -42173901.79 -42173901.78 0.0500 0.0499

Moon -120178-04-03 16:05 J -42173498.94 -42173498.83 -42173498.72 0.2786 0.0153

Earth -120178-04-03 16:34 J -42173498.91 -42173498.81 -42173498.70 0.2782 0.0242 *

Saturn -120178-12-15 10:05 J -42173243.10 -42173243.08 -42173243.04 0.0297 0.0286

Saturn -120177-03-13 00:15 J -42173154.60 -42173154.49 -42173154.38 0.0298 0.0173

Saturn -120177-06-09 13:56 J -42173066.05 -42173065.92 -42173065.78 0.0299 0.0061

Saturn -120177-09-06 03:37 J -42172977.48 -42172977.35 -42172977.21 0.0299 0.0052

Pluto -120177-11-06 18:44 J -42172915.78 -42172915.72 -42172915.61 0.0060 0.0054

Venus -120177-12-02 21:08 J -42172889.73 -42172889.62 -42172889.52 0.3725 0.0888

Mars -120177-12-03 14:53 J -42172889.00 -42172888.88 -42172888.76 0.1671 0.0178

Saturn -120177-12-03 17:17 J -42172888.89 -42172888.78 -42172888.67 0.0300 0.0164 *

Pluto -120176-02-02 20:10 J -42172827.77 -42172827.66 -42172827.52 0.0060 0.0046

Saturn -120176-03-02 06:44 J -42172800.27 -42172800.22 -42172800.17 0.0301 0.0275

Pluto -120176-05-01 21:22 J -42172739.74 -42172739.61 -42172739.44 0.0060 0.0038

Pluto -120176-07-28 22:49 J -42172651.70 -42172651.55 -42172651.37 0.0061 0.0030

Pluto -120176-10-25 00:15 J -42172563.66 -42172563.49 -42172563.30 0.0061 0.0022

Pluto -120175-01-21 01:27 J -42172475.61 -42172475.44 -42172475.24 0.0061 0.0014

Pluto -120175-04-19 03:08 J -42172387.56 -42172387.37 -42172387.18 0.0061 0.0005

Pluto -120175-07-16 04:34 J -42172299.50 -42172299.31 -42172299.13 0.0061 0.0003

Moon -120175-09-29 03:22 J -42172224.52 -42172224.36 -42172224.20 0.2557 0.0380

Earth -120175-09-29 05:03 J -42172224.45 -42172224.29 -42172224.13 0.2560 0.0393 *

Pluto -120175-10-12 05:46 J -42172211.45 -42172211.26 -42172211.07 0.0061 0.0011

Mars -120175-11-08 20:53 J -42172183.68 -42172183.63 -42172183.58 0.1662 0.1456

Pluto -120174-01-08 06:58 J -42172123.38 -42172123.21 -42172123.02 0.0061 0.0019

Pluto -120174-04-06 08:25 J -42172035.32 -42172035.15 -42172034.98 0.0061 0.0027

Pluto -120174-07-03 09:08 J -42171947.25 -42171947.12 -42171946.94 0.0061 0.0037

Venus -120174-09-02 12:29 J -42171886.09 -42171885.98 -42171885.86 0.3666 0.2220

Pluto -120174-09-29 10:34 J -42171859.17 -42171859.06 -42171858.91 0.0061 0.0044

Jupiter -120174-10-26 05:17 J -42171832.39 -42171832.28 -42171832.16 0.0525 0.0260

Pluto -120174-12-26 12:01 J -42171771.08 -42171771.00 -42171770.89 0.0061 0.0052

Jupiter -120173-01-23 12:15 J -42171743.10 -42171742.99 -42171742.87 0.0526 0.0212

Pluto -120173-03-23 13:13 J -42171682.96 -42171682.95 -42171682.90 0.0061 0.0061

Earth -120171-03-27 14:10 J -42170948.98 -42170948.91 -42170948.84 0.2778 0.2067

Moon -120171-03-27 14:25 J -42170948.97 -42170948.90 -42170948.84 0.2770 0.2109 *

Venus -120171-06-18 13:41 J -42170866.00 -42170865.93 -42170865.85 0.3730 0.2564

Venus -120168-03-18 18:01 J -42169861.88 -42169861.75 -42169861.62 0.3658 0.1726

Jupiter -120168-09-14 05:17 J -42169682.43 -42169682.28 -42169682.12 0.0500 0.0244

Jupiter -120168-12-13 13:41 J -42169592.06 -42169591.93 -42169591.80 0.0499 0.0343

Mars -120167-04-26 01:13 J -42169458.56 -42169458.45 -42169458.34 0.1674 0.0592

Mars -120165-03-31 07:27 J -42168753.28 -42168753.19 -42168753.10 0.1664 0.1068

Moon -120165-04-05 10:49 J -42168748.15 -42168748.05 -42168747.95 0.2790 0.0998

Earth -120165-04-05 11:03 J -42168748.14 -42168748.04 -42168747.94 0.2783 0.1040 *

Saturn -120164-10-13 07:27 J -42168192.29 -42168192.19 -42168192.10 0.0265 0.0222

Saturn -120163-01-10 01:56 J -42168103.57 -42168103.42 -42168103.25 0.0265 0.0120

Saturn -120163-04-08 20:53 J -42168014.81 -42168014.63 -42168014.45 0.0264 0.0017

Saturn -120163-07-06 15:51 J -42167926.00 -42167925.84 -42167925.66 0.0263 0.0087

Saturn -120163-10-03 11:03 J -42167837.16 -42167837.04 -42167836.91 0.0263 0.0190

Jupiter -120162-08-14 09:08 J -42167522.20 -42167522.12 -42167522.02 0.0525 0.0378

Moon -120162-10-02 09:37 J -42167473.25 -42167473.10 -42167472.94 0.2559 0.0799

Earth -120162-10-02 11:32 J -42167473.17 -42167473.02 -42167472.87 0.2559 0.0964 *

Jupiter -120162-11-11 16:34 J -42167432.94 -42167432.81 -42167432.69 0.0526 0.0098

Mars -120159-11-07 23:32 J -42166340.66 -42166340.52 -42166340.38 0.1844 0.0901

Moon -120158-03-30 08:25 J -42166198.25 -42166198.15 -42166198.05 0.2773 0.1210

Earth -120158-03-30 08:39 J -42166198.23 -42166198.14 -42166198.04 0.2780 0.1256 *

Mars -120158-09-16 11:17 J -42166028.12 -42166028.03 -42166027.93 0.1676 0.1009

Jupiter -120156-07-03 03:08 J -42165372.48 -42165372.37 -42165372.25 0.0500 0.0387

Mars -120156-08-21 18:01 J -42165322.86 -42165322.75 -42165322.64 0.1667 0.0679

Jupiter -120156-10-01 11:03 J -42165282.21 -42165282.04 -42165281.87 0.0499 0.0196

Moon -120152-04-08 05:32 J -42163997.35 -42163997.27 -42163997.19 0.2791 0.1919

Earth -120152-04-08 05:32 J -42163997.35 -42163997.27 -42163997.19 0.2784 0.1854 *

Jupiter -120150-06-02 12:58 J -42163212.00 -42163211.96 -42163211.91 0.0525 0.0494

Jupiter -120150-08-30 20:25 J -42163122.78 -42163122.65 -42163122.52 0.0526 0.0020

Jupiter -120150-11-28 03:08 J -42163033.43 -42163033.37 -42163033.30 0.0526 0.0446

Mars -120149-03-29 19:56 J -42162910.83 -42162910.67 -42162910.51 0.1841 0.0083

Moon -120149-10-04 16:20 J -42162721.91 -42162721.82 -42162721.74 0.2559 0.2155

Earth -120149-10-04 18:01 J -42162721.82 -42162721.75 -42162721.69 0.2558 0.2311 *

Mars -120148-02-05 21:22 J -42162597.67 -42162597.61 -42162597.55 0.1679 0.1433

Saturn -120148-07-31 01:56 J -42162422.51 -42162422.42 -42162422.32 0.0297 0.0204

Saturn -120148-10-27 15:51 J -42162333.97 -42162333.84 -42162333.71 0.0298 0.0092

Saturn -120147-01-24 05:32 J -42162245.40 -42162245.27 -42162245.13 0.0299 0.0021

Saturn -120147-04-22 19:13 J -42162156.82 -42162156.70 -42162156.58 0.0300 0.0133

Uranus -120147-05-31 14:39 J -42162117.95 -42162117.89 -42162117.82 0.0148 0.0136

Saturn -120147-07-20 08:39 J -42162068.22 -42162068.14 -42162068.06 0.0301 0.0244

Uranus -120147-08-27 23:03 J -42162029.66 -42162029.54 -42162029.41 0.0148 0.0106

Uranus -120147-11-24 07:27 J -42161941.34 -42161941.19 -42161941.02 0.0148 0.0076

Mars -120146-01-12 04:34 J -42161892.43 -42161892.31 -42161892.19 0.1669 0.0282

Uranus -120146-02-20 16:05 J -42161853.01 -42161852.83 -42161852.65 0.0148 0.0045

Uranus -120146-05-20 00:44 J -42161764.66 -42161764.47 -42161764.28 0.0148 0.0014

Uranus -120146-08-16 09:22 J -42161676.30 -42161676.11 -42161675.93 0.0148 0.0017

Uranus -120146-11-12 18:01 J -42161587.93 -42161587.75 -42161587.57 0.0148 0.0048

Uranus -120145-02-09 02:25 J -42161499.55 -42161499.40 -42161499.23 0.0148 0.0080

Moon -120145-04-01 02:39 J -42161447.50 -42161447.39 -42161447.29 0.2775 0.0518

Earth -120145-04-01 03:08 J -42161447.48 -42161447.37 -42161447.26 0.2781 0.0440 *

Uranus -120145-05-07 11:03 J -42161411.15 -42161411.04 -42161410.90 0.0148 0.0112

Uranus -120145-08-03 19:41 J -42161322.71 -42161322.68 -42161322.62 0.0148 0.0143

Jupiter -120144-07-20 08:25 J -42160972.33 -42160972.15 -42160971.97 0.0500 0.0050

Moon -120142-09-27 05:03 J -42160173.42 -42160173.29 -42160173.15 0.2555 0.1383

Earth -120142-09-27 05:03 J -42160173.42 -42160173.29 -42160173.16 0.2561 0.1494 *

Neptune -120140-04-15 22:20 J -42159606.59 -42159606.57 -42159606.52 0.0088 0.0086

Neptune -120140-07-13 00:15 J -42159518.54 -42159518.49 -42159518.44 0.0088 0.0081

Mars -120140-08-19 17:17 J -42159480.91 -42159480.78 -42159480.65 0.1838 0.1000

Neptune -120140-10-09 01:27 J -42159430.49 -42159430.44 -42159430.36 0.0088 0.0077

Neptune -120139-01-05 02:53 J -42159342.44 -42159342.38 -42159342.29 0.0088 0.0073

Neptune -120139-04-03 04:20 J -42159254.39 -42159254.32 -42159254.22 0.0088 0.0069

Earth -120139-04-11 00:01 J -42159246.53 -42159246.50 -42159246.48 0.2784 0.2670

Moon -120139-04-11 00:15 J -42159246.52 -42159246.49 -42159246.46 0.2792 0.2642 *

Neptune -120139-06-30 06:01 J -42159166.34 -42159166.25 -42159166.15 0.0088 0.0064

Neptune -120139-09-26 07:27 J -42159078.28 -42159078.19 -42159078.08 0.0088 0.0060

Neptune -120139-12-23 08:53 J -42158990.23 -42158990.13 -42158990.01 0.0088 0.0055

Neptune -120138-03-21 10:34 J -42158902.17 -42158902.06 -42158901.94 0.0088 0.0051

Earth -120138-03-26 00:44 J -42158897.49 -42158897.47 -42158897.46 0.2776 0.2729

Moon -120138-03-26 01:27 J -42158897.46 -42158897.44 -42158897.43 0.2777 0.2730 *

Neptune -120138-06-17 12:01 J -42158814.11 -42158814.00 -42158813.88 0.0088 0.0046

Jupiter -120138-06-19 00:15 J -42158812.61 -42158812.49 -42158812.36 0.0525 0.0138

Neptune -120138-09-13 13:27 J -42158726.05 -42158725.94 -42158725.81 0.0088 0.0042

Jupiter -120138-09-16 06:58 J -42158723.30 -42158723.21 -42158723.11 0.0526 0.0331

Neptune -120138-12-10 14:53 J -42158638.00 -42158637.88 -42158637.75 0.0088 0.0038

Neptune -120137-03-07 16:34 J -42158549.94 -42158549.81 -42158549.69 0.0088 0.0034

Mars -120137-06-03 14:53 J -42158462.00 -42158461.88 -42158461.76 0.1671 0.0129

Neptune -120137-06-03 17:46 J -42158461.88 -42158461.76 -42158461.62 0.0088 0.0030 *

Neptune -120137-08-30 19:13 J -42158373.82 -42158373.70 -42158373.56 0.0088 0.0026

Venus -120137-11-24 16:34 J -42158287.83 -42158287.81 -42158287.79 0.3709 0.3600

Neptune -120137-11-26 20:39 J -42158285.77 -42158285.64 -42158285.50 0.0088 0.0021

Neptune -120136-02-22 22:20 J -42158197.71 -42158197.57 -42158197.44 0.0088 0.0017

Neptune -120136-05-21 23:46 J -42158109.65 -42158109.51 -42158109.38 0.0088 0.0013

Neptune -120136-08-18 01:13 J -42158021.59 -42158021.45 -42158021.32 0.0088 0.0008

Neptune -120136-11-14 02:39 J -42157933.53 -42157933.39 -42157933.26 0.0088 0.0004

Neptune -120135-02-10 04:05 J -42157845.47 -42157845.33 -42157845.20 0.0088 0.0003

Neptune -120135-05-09 05:17 J -42157757.41 -42157757.28 -42157757.14 0.0088 0.0005

Mars -120135-05-09 20:53 J -42157756.68 -42157756.63 -42157756.58 0.1662 0.1505

Neptune -120135-08-05 06:44 J -42157669.35 -42157669.22 -42157669.08 0.0088 0.0009

Neptune -120135-11-01 08:10 J -42157581.29 -42157581.16 -42157581.02 0.0088 0.0013

Neptune -120134-01-28 09:37 J -42157493.23 -42157493.10 -42157492.97 0.0088 0.0017

Saturn -120134-03-02 06:58 J -42157460.25 -42157460.21 -42157460.15 0.0265 0.0253

Neptune -120134-04-26 11:03 J -42157405.17 -42157405.04 -42157404.91 0.0088 0.0021

Saturn -120134-05-30 01:41 J -42157371.57 -42157371.43 -42157371.27 0.0265 0.0151

Neptune -120134-07-23 12:15 J -42157317.11 -42157316.99 -42157316.85 0.0088 0.0026

Saturn -120134-08-26 20:39 J -42157282.81 -42157282.64 -42157282.46 0.0264 0.0048

Neptune -120134-10-19 13:41 J -42157229.05 -42157228.93 -42157228.80 0.0088 0.0030

Saturn -120134-11-23 15:51 J -42157194.02 -42157193.84 -42157193.67 0.0263 0.0056

Neptune -120133-01-15 15:08 J -42157140.99 -42157140.87 -42157140.74 0.0088 0.0034

Saturn -120133-02-20 10:49 J -42157105.19 -42157105.05 -42157104.90 0.0263 0.0159

Neptune -120133-04-12 16:34 J -42157052.93 -42157052.81 -42157052.69 0.0088 0.0038

Neptune -120133-07-09 18:01 J -42156964.87 -42156964.75 -42156964.63 0.0088 0.0042

Neptune -120133-10-05 19:13 J -42156876.81 -42156876.70 -42156876.58 0.0088 0.0046

Neptune -120132-01-01 20:25 J -42156788.75 -42156788.65 -42156788.53 0.0088 0.0051

Neptune -120132-03-30 21:51 J -42156700.68 -42156700.59 -42156700.47 0.0088 0.0054

Moon -120132-04-03 20:53 J -42156696.74 -42156696.63 -42156696.52 0.2780 0.0309

Earth -120132-04-03 21:37 J -42156696.71 -42156696.60 -42156696.50 0.2782 0.0386 *

Jupiter -120132-05-08 06:01 J -42156662.42 -42156662.25 -42156662.07 0.0500 0.0095

Neptune -120132-06-26 23:17 J -42156612.62 -42156612.53 -42156612.42 0.0088 0.0058

Jupiter -120132-08-06 14:53 J -42156571.90 -42156571.88 -42156571.87 0.0500 0.0497

Neptune -120132-09-23 00:44 J -42156524.56 -42156524.47 -42156524.37 0.0088 0.0062

Neptune -120132-12-20 01:56 J -42156436.50 -42156436.42 -42156436.32 0.0088 0.0067

Neptune -120131-03-18 03:22 J -42156348.43 -42156348.36 -42156348.27 0.0088 0.0070

Venus -120131-06-10 09:22 J -42156264.20 -42156264.11 -42156264.02 0.3715 0.1878

Neptune -120131-06-14 04:49 J -42156260.36 -42156260.30 -42156260.22 0.0088 0.0074

Neptune -120131-09-10 06:01 J -42156172.30 -42156172.25 -42156172.18 0.0088 0.0079

Neptune -120131-12-07 07:27 J -42156084.23 -42156084.19 -42156084.13 0.0088 0.0082

Neptune -120130-03-05 08:53 J -42155996.15 -42155996.13 -42155996.10 0.0088 0.0086

Moon -120129-09-29 11:32 J -42155422.19 -42155422.02 -42155421.86 0.2554 0.0207

Earth -120129-09-29 11:32 J -42155422.18 -42155422.02 -42155421.86 0.2560 0.0142 *

Mars -120128-10-25 01:13 J -42155031.56 -42155031.45 -42155031.34 0.1673 0.0537

Jupiter -120126-04-07 03:37 J -42154502.46 -42154502.35 -42154502.23 0.0525 0.0262

Jupiter -120126-07-05 10:49 J -42154413.17 -42154413.05 -42154412.94 0.0526 0.0209

Mars -120126-09-30 07:27 J -42154326.27 -42154326.19 -42154326.10 0.1664 0.1120

Venus -120126-12-25 02:10 J -42154240.52 -42154240.41 -42154240.31 0.3720 0.0189

Earth -120125-03-27 19:13 J -42154146.78 -42154146.70 -42154146.63 0.2778 0.1923

Moon -120125-03-27 19:41 J -42154146.76 -42154146.68 -42154146.59 0.2775 0.1796 *

Jupiter -120120-02-24 03:51 J -42152352.49 -42152352.34 -42152352.18 0.0500 0.0238

Jupiter -120120-05-25 12:15 J -42152262.12 -42152261.99 -42152261.86 0.0500 0.0351

Venus -120120-07-09 18:44 J -42152216.81 -42152216.72 -42152216.62 0.3726 0.1509

Moon -120119-04-06 15:08 J -42151945.96 -42151945.87 -42151945.77 0.2784 0.1203

Earth -120119-04-06 15:51 J -42151945.93 -42151945.84 -42151945.74 0.2783 0.1197 *

Mars -120119-05-09 00:15 J -42151913.63 -42151913.49 -42151913.36 0.1844 0.0995

Saturn -120119-12-18 03:51 J -42151690.42 -42151690.34 -42151690.25 0.0297 0.0234

Saturn -120118-03-16 17:46 J -42151601.88 -42151601.76 -42151601.63 0.0298 0.0122

Mars -120118-03-17 11:17 J -42151601.12 -42151601.03 -42151600.93 0.1676 0.0957

Saturn -120118-06-13 07:27 J -42151513.32 -42151513.19 -42151513.05 0.0299 0.0013

Saturn -120118-09-09 21:08 J -42151424.74 -42151424.62 -42151424.49 0.0300 0.0103

Saturn -120118-12-07 10:34 J -42151336.15 -42151336.06 -42151335.96 0.0300 0.0214

Venus -120117-04-08 13:41 J -42151213.07 -42151212.93 -42151212.79 0.3664 0.0878

Mars -120116-02-19 18:01 J -42150895.85 -42150895.75 -42150895.64 0.1666 0.0729

Moon -120116-10-02 17:03 J -42150670.93 -42150670.79 -42150670.64 0.2553 0.1128

Earth -120116-10-02 18:15 J -42150670.89 -42150670.74 -42150670.60 0.2559 0.1219 *

Venus -120114-01-23 11:17 J -42150193.08 -42150193.03 -42150192.97 0.3732 0.3179

Jupiter -120114-01-24 07:27 J -42150192.27 -42150192.19 -42150192.09 0.0525 0.0379

Jupiter -120114-04-23 14:39 J -42150103.01 -42150102.89 -42150102.76 0.0526 0.0095

Earth -120112-03-30 13:27 J -42149396.03 -42149395.94 -42149395.84 0.2780 0.1113

Moon -120112-03-30 13:56 J -42149396.02 -42149395.92 -42149395.82 0.2774 0.1098 *

Venus -120112-10-23 19:13 J -42149188.78 -42149188.70 -42149188.63 0.3656 0.3082

Mars -120110-09-28 20:53 J -42148483.79 -42148483.63 -42148483.47 0.1841 0.0030

Mars -120109-08-06 21:22 J -42148170.67 -42148170.61 -42148170.54 0.1679 0.1380

Moon -120109-09-24 06:44 J -42148122.27 -42148122.22 -42148122.16 0.2563 0.2396

Jupiter -120109-12-13 01:13 J -42148042.56 -42148042.45 -42148042.34 0.0500 0.0385

Jupiter -120108-03-13 09:08 J -42147952.29 -42147952.12 -42147951.96 0.0499 0.0198

Mars -120107-07-13 04:34 J -42147465.43 -42147465.31 -42147465.19 0.1669 0.0332

Uranus -120106-04-02 21:51 J -42147201.61 -42147201.59 -42147201.56 0.0131 0.0127

Moon -120106-04-09 09:51 J -42147195.17 -42147195.09 -42147195.01 0.2788 0.1906

Earth -120106-04-09 10:20 J -42147195.14 -42147195.07 -42147194.99 0.2784 0.2009 *

Uranus -120106-06-30 00:58 J -42147113.52 -42147113.46 -42147113.39 0.0131 0.0112

Uranus -120106-09-26 04:05 J -42147025.42 -42147025.33 -42147025.24 0.0131 0.0096

Uranus -120106-12-23 06:58 J -42146937.31 -42146937.21 -42146937.10 0.0131 0.0081

Uranus -120105-03-20 10:05 J -42146849.19 -42146849.08 -42146848.96 0.0131 0.0066

Uranus -120105-06-16 13:13 J -42146761.07 -42146760.95 -42146760.82 0.0131 0.0050

Uranus -120105-09-12 16:20 J -42146672.95 -42146672.82 -42146672.69 0.0131 0.0035

Saturn -120105-10-16 02:10 J -42146639.54 -42146639.41 -42146639.27 0.0265 0.0177

Uranus -120105-12-09 19:13 J -42146584.83 -42146584.70 -42146584.56 0.0131 0.0020

Saturn -120104-01-12 21:08 J -42146550.79 -42146550.62 -42146550.45 0.0265 0.0075

Uranus -120104-03-07 22:20 J -42146496.71 -42146496.57 -42146496.44 0.0131 0.0006

Saturn -120104-04-11 16:05 J -42146462.01 -42146461.83 -42146461.65 0.0264 0.0029

Uranus -120104-06-04 01:13 J -42146408.58 -42146408.45 -42146408.31 0.0131 0.0011

Saturn -120104-07-09 11:03 J -42146373.19 -42146373.04 -42146372.88 0.0263 0.0132

Uranus -120104-08-31 04:05 J -42146320.46 -42146320.33 -42146320.19 0.0131 0.0026

Saturn -120104-10-06 06:29 J -42146284.31 -42146284.23 -42146284.15 0.0263 0.0236

Uranus -120104-11-27 07:13 J -42146232.33 -42146232.20 -42146232.07 0.0131 0.0041

Uranus -120103-02-23 10:05 J -42146144.20 -42146144.08 -42146143.96 0.0131 0.0056

Uranus -120103-05-22 12:58 J -42146056.07 -42146055.96 -42146055.84 0.0131 0.0071

Uranus -120103-08-18 15:51 J -42145967.93 -42145967.84 -42145967.73 0.0131 0.0086

Jupiter -120103-11-12 11:17 J -42145882.07 -42145882.03 -42145881.99 0.0525 0.0499

Uranus -120103-11-14 18:44 J -42145879.79 -42145879.72 -42145879.63 0.0131 0.0101

Jupiter -120102-02-09 18:44 J -42145792.85 -42145792.72 -42145792.59 0.0526 0.0027

Uranus -120102-02-10 21:37 J -42145791.65 -42145791.60 -42145791.53 0.0131 0.0116

Jupiter -120102-05-10 01:27 J -42145703.51 -42145703.44 -42145703.37 0.0527 0.0444

Uranus -120102-05-10 00:44 J -42145703.47 -42145703.47 -42145703.46 0.0131 0.0130 *

Mars -120100-02-17 17:32 J -42145053.91 -42145053.77 -42145053.63 0.1838 0.0923

Earth -120099-04-02 07:56 J -42144645.28 -42144645.17 -42144645.06 0.2781 0.0299

Moon -120099-04-02 08:10 J -42144645.27 -42144645.16 -42144645.05 0.2774 0.0306 *

Mars -120098-12-03 14:53 J -42144035.00 -42144034.88 -42144034.76 0.1671 0.0078

Jupiter -120097-12-30 06:29 J -42143642.41 -42143642.23 -42143642.05 0.0499 0.0051

Earth -120096-09-27 11:32 J -42143371.16 -42143371.02 -42143370.87 0.2561 0.1248

Moon -120096-09-27 13:13 J -42143371.09 -42143370.95 -42143370.80 0.2558 0.1215 *

Mars -120096-11-07 20:53 J -42143329.67 -42143329.63 -42143329.59 0.1663 0.1553

Earth -120092-03-26 05:32 J -42142095.31 -42142095.27 -42142095.23 0.2776 0.2585

Moon -120092-03-26 06:01 J -42142095.30 -42142095.25 -42142095.21 0.2782 0.2505 *

Mars -120091-07-10 15:22 J -42141623.88 -42141623.86 -42141623.85 0.1835 0.1821

Jupiter -120091-11-28 22:34 J -42141482.69 -42141482.56 -42141482.44 0.0525 0.0140

Jupiter -120090-02-26 05:32 J -42141393.37 -42141393.27 -42141393.17 0.0526 0.0329

Saturn -120089-05-06 06:15 J -42140958.30 -42140958.24 -42140958.18 0.0296 0.0261

Saturn -120089-08-02 19:56 J -42140869.78 -42140869.67 -42140869.55 0.0297 0.0150

Saturn -120089-10-30 09:51 J -42140781.23 -42140781.09 -42140780.96 0.0298 0.0038

Saturn -120088-01-26 23:32 J -42140692.65 -42140692.52 -42140692.39 0.0299 0.0074

Mars -120088-04-25 01:13 J -42140604.56 -42140604.45 -42140604.33 0.1674 0.0484

Saturn -120088-04-25 12:58 J -42140604.06 -42140603.96 -42140603.85 0.0300 0.0186

Saturn -120088-07-23 02:10 J -42140515.42 -42140515.41 -42140515.38 0.0301 0.0297

Mars -120086-03-31 07:27 J -42139899.27 -42139899.19 -42139899.10 0.1665 0.1170

Moon -120086-04-05 02:10 J -42139894.51 -42139894.41 -42139894.30 0.2776 0.0565

Earth -120086-04-05 02:25 J -42139894.51 -42139894.40 -42139894.29 0.2783 0.0525 *

Jupiter -120085-10-18 03:37 J -42139332.53 -42139332.35 -42139332.17 0.0500 0.0099

Jupiter -120084-01-16 12:15 J -42139242.02 -42139241.99 -42139241.96 0.0500 0.0492

Pluto -120084-12-03 05:03 J -42138921.35 -42138921.29 -42138921.22 0.0084 0.0074

Pluto -120083-03-01 06:15 J -42138833.33 -42138833.24 -42138833.13 0.0084 0.0058

Pluto -120083-05-28 07:41 J -42138745.29 -42138745.18 -42138745.06 0.0084 0.0042

Pluto -120083-08-24 09:08 J -42138657.25 -42138657.12 -42138656.99 0.0084 0.0027

Earth -120083-09-30 18:15 J -42138619.90 -42138619.74 -42138619.58 0.2559 0.0113

Moon -120083-09-30 19:41 J -42138619.84 -42138619.68 -42138619.52 0.2556 0.0152 *

Pluto -120083-11-20 10:34 J -42138569.20 -42138569.06 -42138568.93 0.0084 0.0011

Pluto -120082-02-16 11:46 J -42138481.14 -42138481.01 -42138480.87 0.0084 0.0005

Pluto -120082-05-15 13:13 J -42138393.08 -42138392.95 -42138392.82 0.0084 0.0020

Pluto -120082-08-11 14:10 J -42138305.02 -42138304.91 -42138304.77 0.0084 0.0036

Pluto -120082-11-07 15:37 J -42138216.95 -42138216.85 -42138216.73 0.0083 0.0051

Pluto -120081-02-03 17:03 J -42138128.87 -42138128.79 -42138128.70 0.0083 0.0065

Pluto -120081-05-01 18:29 J -42138040.76 -42138040.73 -42138040.70 0.0083 0.0081

Venus -120080-07-01 14:25 J -42137614.97 -42137614.90 -42137614.84 0.3710 0.2963

Mars -120080-11-07 01:13 J -42137486.58 -42137486.45 -42137486.32 0.1845 0.1101

Earth -120079-03-29 00:01 J -42137344.58 -42137344.50 -42137344.42 0.2778 0.1772

Moon -120079-03-29 00:44 J -42137344.56 -42137344.47 -42137344.39 0.2783 0.1759 *

Mars -120079-09-15 11:32 J -42137174.12 -42137174.02 -42137173.92 0.1676 0.0901

Jupiter -120079-09-17 02:25 J -42137172.52 -42137172.40 -42137172.29 0.0525 0.0259

Jupiter -120079-12-15 09:22 J -42137083.23 -42137083.11 -42137082.99 0.0526 0.0212

Mars -120077-08-20 18:15 J -42136468.85 -42136468.74 -42136468.64 0.1666 0.0783

Saturn -120075-03-05 02:25 J -42135907.50 -42135907.40 -42135907.28 0.0265 0.0205

Saturn -120075-06-01 21:22 J -42135818.77 -42135818.61 -42135818.44 0.0264 0.0103

Saturn -120075-08-29 16:20 J -42135730.00 -42135729.82 -42135729.64 0.0264 0.0001

Saturn -120075-11-26 11:17 J -42135641.19 -42135641.03 -42135640.86 0.0263 0.0104

Venus -120074-01-15 07:13 J -42135591.30 -42135591.20 -42135591.10 0.3716 0.1251

Saturn -120074-02-23 06:44 J -42135552.33 -42135552.22 -42135552.11 0.0262 0.0207

Moon -120073-04-06 20:25 J -42135143.75 -42135143.65 -42135143.55 0.2777 0.1249

Earth -120073-04-06 20:53 J -42135143.73 -42135143.63 -42135143.54 0.2784 0.1345 *

Jupiter -120073-08-06 01:13 J -42135022.61 -42135022.45 -42135022.29 0.0500 0.0243

Jupiter -120073-11-04 09:37 J -42134932.23 -42134932.10 -42134931.97 0.0500 0.0345

Mars -120070-03-29 21:22 J -42134056.77 -42134056.61 -42134056.45 0.1841 0.0123

Earth -120070-10-04 00:44 J -42133868.60 -42133868.47 -42133868.34 0.2558 0.1464

Moon -120070-10-04 01:27 J -42133868.56 -42133868.44 -42133868.31 0.2552 0.1607 *

Mars -120069-02-05 21:22 J -42133743.68 -42133743.61 -42133743.53 0.1679 0.1327

Venus -120069-07-30 23:46 J -42133567.61 -42133567.51 -42133567.40 0.3722 0.0468

Mars -120067-01-11 04:34 J -42133038.43 -42133038.31 -42133038.19 0.1669 0.0382

Jupiter -120067-07-06 05:46 J -42132862.35 -42132862.26 -42132862.17 0.0525 0.0383

Jupiter -120067-10-03 12:58 J -42132773.09 -42132772.96 -42132772.84 0.0525 0.0090

Earth -120066-03-31 18:29 J -42132593.83 -42132593.73 -42132593.63 0.2780 0.0959

Moon -120066-03-31 19:13 J -42132593.80 -42132593.70 -42132593.60 0.2780 0.0926 *

Venus -120066-04-30 09:22 J -42132564.16 -42132564.11 -42132564.06 0.3669 0.3417

Venus -120063-02-13 16:34 J -42131543.90 -42131543.81 -42131543.73 0.3728 0.2130

Uranus -120063-06-20 23:03 J -42131416.64 -42131416.54 -42131416.45 0.0148 0.0126

Uranus -120063-09-17 07:13 J -42131328.33 -42131328.20 -42131328.05 0.0148 0.0096

Earth -120063-09-25 11:46 J -42131320.07 -42131320.01 -42131319.95 0.2562 0.2347

Moon -120063-09-25 12:44 J -42131320.03 -42131319.97 -42131319.92 0.2567 0.2367 *

Uranus -120063-12-14 15:51 J -42131240.01 -42131239.84 -42131239.67 0.0148 0.0065

Uranus -120062-03-13 00:15 J -42131151.67 -42131151.49 -42131151.30 0.0148 0.0035

Uranus -120062-06-09 08:53 J -42131063.32 -42131063.13 -42131062.94 0.0148 0.0004

Uranus -120062-09-05 17:32 J -42130974.95 -42130974.77 -42130974.58 0.0148 0.0027

Uranus -120062-12-03 01:56 J -42130886.58 -42130886.42 -42130886.23 0.0148 0.0059

Uranus -120061-02-29 10:49 J -42130798.20 -42130798.05 -42130797.90 0.0148 0.0090

Jupiter -120061-05-24 23:03 J -42130712.65 -42130712.54 -42130712.43 0.0501 0.0386

Uranus -120061-05-27 19:27 J -42130709.79 -42130709.69 -42130709.58 0.0148 0.0121

Mars -120061-08-18 18:29 J -42130626.87 -42130626.73 -42130626.59 0.1838 0.0822

Jupiter -120061-08-23 06:58 J -42130622.38 -42130622.21 -42130622.04 0.0500 0.0198

Venus -120061-11-13 14:39 J -42130540.03 -42130539.89 -42130539.74 0.3661 0.0464

Moon -120060-04-09 14:39 J -42130392.96 -42130392.89 -42130392.82 0.2782 0.2126

Earth -120060-04-09 15:22 J -42130392.93 -42130392.86 -42130392.80 0.2784 0.2161 *

Saturn -120060-09-23 08:25 J -42130226.17 -42130226.15 -42130226.11 0.0296 0.0288

Saturn -120060-12-20 22:20 J -42130137.67 -42130137.57 -42130137.46 0.0297 0.0176

Saturn -120059-03-19 12:15 J -42130049.12 -42130048.99 -42130048.86 0.0298 0.0064

Saturn -120059-06-16 01:56 J -42129960.56 -42129960.42 -42129960.29 0.0299 0.0048

Saturn -120059-09-12 15:22 J -42129871.97 -42129871.86 -42129871.74 0.0300 0.0159

Saturn -120059-12-10 04:49 J -42129783.35 -42129783.30 -42129783.24 0.0301 0.0270

Mars -120058-06-03 14:53 J -42129608.00 -42129607.88 -42129607.76 0.1671 0.0049

Neptune -120057-12-18 14:25 J -42129043.90 -42129043.90 -42129043.88 0.0089 0.0089

Neptune -120056-03-16 17:32 J -42128955.82 -42128955.77 -42128955.69 0.0089 0.0083

Mars -120056-05-08 20:53 J -42128902.66 -42128902.63 -42128902.60 0.1662 0.1601

Neptune -120056-06-12 20:53 J -42128867.71 -42128867.63 -42128867.53 0.0089 0.0078

Neptune -120056-09-09 00:01 J -42128779.59 -42128779.50 -42128779.38 0.0089 0.0072

Neptune -120056-12-06 03:22 J -42128691.47 -42128691.36 -42128691.22 0.0089 0.0066

Neptune -120055-03-04 06:44 J -42128603.35 -42128603.22 -42128603.07 0.0089 0.0060

Jupiter -120055-04-24 09:22 J -42128552.14 -42128552.11 -42128552.07 0.0525 0.0503

Neptune -120055-05-31 10:20 J -42128515.22 -42128515.07 -42128514.93 0.0089 0.0055

Jupiter -120055-07-22 16:49 J -42128462.93 -42128462.80 -42128462.67 0.0525 0.0029

Neptune -120055-08-27 13:13 J -42128427.09 -42128426.95 -42128426.78 0.0089 0.0049

Jupiter -120055-10-19 23:32 J -42128373.59 -42128373.52 -42128373.45 0.0526 0.0438

Neptune -120055-11-23 16:34 J -42128338.96 -42128338.81 -42128338.63 0.0089 0.0043

Neptune -120054-02-19 20:10 J -42128250.83 -42128250.66 -42128250.49 0.0089 0.0037

Neptune -120054-05-18 23:32 J -42128162.69 -42128162.52 -42128162.34 0.0089 0.0031

Neptune -120054-08-15 02:53 J -42128074.56 -42128074.38 -42128074.20 0.0089 0.0025

Neptune -120054-11-11 06:01 J -42127986.42 -42127986.25 -42127986.05 0.0089 0.0021

Neptune -120053-02-07 09:37 J -42127898.28 -42127898.10 -42127897.91 0.0089 0.0014

Earth -120053-04-02 12:58 J -42127843.07 -42127842.96 -42127842.86 0.2781 0.0181

Moon -120053-04-02 13:41 J -42127843.04 -42127842.93 -42127842.83 0.2780 0.0100 *

Neptune -120053-05-05 12:58 J -42127810.14 -42127809.96 -42127809.77 0.0089 0.0008

Neptune -120053-08-01 16:34 J -42127722.00 -42127721.81 -42127721.62 0.0089 0.0002

Neptune -120053-10-28 19:56 J -42127633.86 -42127633.67 -42127633.48 0.0089 0.0004

Neptune -120052-01-24 23:17 J -42127545.72 -42127545.53 -42127545.34 0.0089 0.0010

Neptune -120052-04-23 02:39 J -42127457.57 -42127457.39 -42127457.20 0.0089 0.0016

Neptune -120052-07-20 06:01 J -42127369.42 -42127369.25 -42127369.06 0.0089 0.0022

Neptune -120052-10-16 09:37 J -42127281.28 -42127281.10 -42127280.92 0.0089 0.0028

Mars -120051-01-08 15:51 J -42127196.89 -42127196.84 -42127196.79 0.1834 0.1731

Neptune -120051-01-12 12:58 J -42127193.13 -42127192.96 -42127192.78 0.0089 0.0034

Neptune -120051-04-10 16:20 J -42127104.98 -42127104.82 -42127104.64 0.0089 0.0041

Neptune -120051-07-07 19:56 J -42127016.82 -42127016.67 -42127016.50 0.0089 0.0046

Neptune -120051-10-03 23:32 J -42126928.67 -42126928.52 -42126928.36 0.0089 0.0052

Neptune -120051-12-31 02:53 J -42126840.51 -42126840.38 -42126840.23 0.0089 0.0058

Neptune -120050-03-29 06:29 J -42126752.35 -42126752.23 -42126752.09 0.0089 0.0064

Neptune -120050-06-25 10:05 J -42126664.19 -42126664.08 -42126663.96 0.0089 0.0070

Neptune -120050-09-21 13:41 J -42126576.02 -42126575.93 -42126575.83 0.0089 0.0077

Earth -120050-09-28 18:15 J -42126568.89 -42126568.74 -42126568.59 0.2560 0.0998

Moon -120050-09-28 19:41 J -42126568.83 -42126568.68 -42126568.53 0.2564 0.0934 *

Neptune -120050-12-18 16:34 J -42126487.85 -42126487.81 -42126487.71 0.0089 0.0084

Neptune -120049-03-15 20:25 J -42126399.65 -42126399.65 -42126399.62 0.0089 0.0089

Jupiter -120049-06-11 04:05 J -42126312.51 -42126312.33 -42126312.15 0.0499 0.0048

Mars -120049-10-24 01:13 J -42126177.56 -42126177.45 -42126177.33 0.1674 0.0432

Mars -120047-09-29 07:27 J -42125472.27 -42125472.19 -42125472.11 0.1664 0.1220

Moon -120046-03-27 10:05 J -42125293.12 -42125293.08 -42125293.03 0.2783 0.2497

Earth -120046-03-27 10:20 J -42125293.11 -42125293.07 -42125293.02 0.2777 0.2441 *

Saturn -120046-07-23 03:22 J -42125175.44 -42125175.36 -42125175.27 0.0266 0.0229

Saturn -120046-10-19 22:05 J -42125086.73 -42125086.58 -42125086.42 0.0265 0.0127

Saturn -120045-01-16 17:03 J -42124997.97 -42124997.79 -42124997.61 0.0264 0.0024

Saturn -120045-04-14 12:01 J -42124909.17 -42124909.00 -42124908.82 0.0264 0.0080

Saturn -120045-07-12 07:13 J -42124820.32 -42124820.20 -42124820.06 0.0263 0.0183

Jupiter -120043-05-10 20:25 J -42124152.77 -42124152.65 -42124152.52 0.0526 0.0149

Jupiter -120043-08-08 03:22 J -42124063.46 -42124063.36 -42124063.26 0.0526 0.0322

Earth -120040-04-05 07:13 J -42123092.30 -42123092.20 -42123092.09 0.2783 0.0678

Moon -120040-04-05 07:41 J -42123092.28 -42123092.18 -42123092.07 0.2777 0.0658 *

Mars -120040-05-08 01:27 J -42123059.56 -42123059.44 -42123059.31 0.1844 0.1178

Mars -120039-03-16 11:32 J -42122747.13 -42122747.02 -42122746.92 0.1676 0.0848

Mars -120037-02-19 18:01 J -42122041.85 -42122041.75 -42122041.64 0.1667 0.0829

Jupiter -120037-03-30 01:27 J -42122002.62 -42122002.44 -42122002.26 0.0500 0.0099

Jupiter -120037-06-28 09:51 J -42121912.12 -42121912.09 -42121912.06 0.0499 0.0489

Earth -120037-10-01 00:44 J -42121817.63 -42121817.47 -42121817.31 0.2559 0.0360

Moon -120037-10-01 02:25 J -42121817.56 -42121817.40 -42121817.25 0.2562 0.0549 *

Moon -120033-03-29 04:49 J -42120542.39 -42120542.30 -42120542.22 0.2786 0.1673

Earth -120033-03-29 04:49 J -42120542.38 -42120542.30 -42120542.21 0.2778 0.1628 *

Jupiter -120031-02-27 00:15 J -42119842.60 -42119842.49 -42119842.37 0.0525 0.0266

Jupiter -120031-05-27 07:27 J -42119753.31 -42119753.19 -42119753.07 0.0526 0.0206

Mars -120031-09-27 22:05 J -42119629.74 -42119629.58 -42119629.42 0.1842 0.0215

Saturn -120030-05-10 00:58 J -42119405.56 -42119405.46 -42119405.36 0.0297 0.0201

Saturn -120030-08-06 14:53 J -42119317.01 -42119316.88 -42119316.75 0.0298 0.0090

Mars -120030-08-06 21:37 J -42119316.68 -42119316.60 -42119316.52 0.1679 0.1269

Saturn -120030-11-03 04:34 J -42119228.45 -42119228.31 -42119228.18 0.0299 0.0022

Saturn -120029-01-30 18:01 J -42119139.86 -42119139.75 -42119139.62 0.0299 0.0134

Saturn -120029-04-28 07:41 J -42119051.26 -42119051.18 -42119051.11 0.0300 0.0245

Mars -120028-07-12 04:34 J -42118611.42 -42118611.31 -42118611.19 0.1669 0.0438

Earth -120027-04-08 01:41 J -42118341.52 -42118341.43 -42118341.34 0.2784 0.1492

Moon -120027-04-08 01:56 J -42118341.51 -42118341.42 -42118341.32 0.2777 0.1519 *

Jupiter -120025-01-16 22:20 J -42117692.72 -42117692.57 -42117692.41 0.0500 0.0250

Jupiter -120025-04-16 06:29 J -42117602.36 -42117602.23 -42117602.09 0.0500 0.0338

Earth -120024-10-04 07:27 J -42117066.31 -42117066.19 -42117066.07 0.2558 0.1719

Moon -120024-10-04 09:08 J -42117066.23 -42117066.12 -42117066.00 0.2558 0.1741 *

Venus -120023-02-05 12:01 J -42116942.08 -42116942.00 -42116941.91 0.3712 0.2321

Uranus -120022-04-23 04:49 J -42116500.33 -42116500.30 -42116500.25 0.0131 0.0124

Uranus -120022-07-20 07:41 J -42116412.24 -42116412.18 -42116412.09 0.0131 0.0109

Uranus -120022-10-16 11:03 J -42116324.13 -42116324.04 -42116323.94 0.0131 0.0093

Uranus -120021-01-12 13:56 J -42116236.02 -42116235.92 -42116235.80 0.0131 0.0078

Mars -120021-02-17 19:13 J -42116199.85 -42116199.70 -42116199.55 0.1838 0.0726

Uranus -120021-04-09 17:03 J -42116147.90 -42116147.79 -42116147.67 0.0131 0.0063

Uranus -120021-07-06 20:10 J -42116059.78 -42116059.66 -42116059.53 0.0131 0.0047

Uranus -120021-10-02 23:17 J -42115971.66 -42115971.53 -42115971.40 0.0131 0.0032

Uranus -120021-12-30 02:10 J -42115883.54 -42115883.41 -42115883.27 0.0131 0.0017

Uranus -120020-03-28 05:17 J -42115795.42 -42115795.28 -42115795.15 0.0131 0.0002

Earth -120020-03-31 23:17 J -42115791.63 -42115791.53 -42115791.43 0.2780 0.0812

Moon -120020-03-31 23:32 J -42115791.62 -42115791.52 -42115791.41 0.2786 0.0739 *

Uranus -120020-06-24 08:10 J -42115707.29 -42115707.16 -42115707.02 0.0131 0.0014

Uranus -120020-09-20 11:17 J -42115619.16 -42115619.03 -42115618.90 0.0131 0.0029

Jupiter -120020-12-16 04:05 J -42115532.42 -42115532.33 -42115532.24 0.0525 0.0384

Uranus -120020-12-17 14:10 J -42115531.04 -42115530.91 -42115530.78 0.0131 0.0044

Jupiter -120019-03-15 11:17 J -42115443.16 -42115443.03 -42115442.90 0.0526 0.0089

Uranus -120019-03-15 17:03 J -42115442.90 -42115442.79 -42115442.67 0.0131 0.0059 *

Uranus -120019-06-11 20:10 J -42115354.77 -42115354.66 -42115354.55 0.0131 0.0074

Uranus -120019-09-07 23:03 J -42115266.64 -42115266.54 -42115266.44 0.0131 0.0089

Mars -120019-12-02 15:08 J -42115180.99 -42115180.87 -42115180.75 0.1671 0.0066

Uranus -120019-12-05 01:56 J -42115178.50 -42115178.42 -42115178.34 0.0131 0.0104

Uranus -120018-03-03 04:49 J -42115090.35 -42115090.30 -42115090.24 0.0131 0.0119

Venus -120018-08-22 04:49 J -42114918.40 -42114918.30 -42114918.19 0.3718 0.0624

Moon -120017-09-25 17:32 J -42114517.85 -42114517.77 -42114517.69 0.2567 0.2186

Earth -120017-09-25 18:29 J -42114517.82 -42114517.73 -42114517.64 0.2562 0.2100 *

Mars -120017-11-06 20:53 J -42114475.64 -42114475.63 -42114475.62 0.1662 0.1653

Saturn -120017-12-09 04:05 J -42114443.37 -42114443.33 -42114443.27 0.0266 0.0255

Saturn -120016-03-07 22:49 J -42114354.69 -42114354.55 -42114354.40 0.0265 0.0153

Saturn -120016-06-04 17:46 J -42114265.93 -42114265.76 -42114265.58 0.0264 0.0050

Saturn -120016-09-01 12:44 J -42114177.14 -42114176.97 -42114176.79 0.0264 0.0053

Saturn -120016-11-29 07:56 J -42114088.31 -42114088.17 -42114088.02 0.0263 0.0156

Saturn -120015-02-26 03:08 J -42113999.38 -42113999.37 -42113999.34 0.0262 0.0260

Moon -120014-04-10 19:56 J -42113590.72 -42113590.67 -42113590.61 0.2777 0.2331

Earth -120014-04-10 20:10 J -42113590.72 -42113590.66 -42113590.60 0.2784 0.2310 *

Jupiter -120014-11-04 19:56 J -42113382.77 -42113382.67 -42113382.56 0.0501 0.0395

Jupiter -120013-02-03 03:51 J -42113292.50 -42113292.34 -42113292.17 0.0500 0.0190

Venus -120012-03-06 21:37 J -42112894.70 -42112894.60 -42112894.50 0.3723 0.1077

Mars -120012-07-09 16:34 J -42112769.88 -42112769.81 -42112769.75 0.1834 0.1643

Venus -120010-12-05 10:34 J -42111891.18 -42111891.06 -42111890.94 0.3667 0.2097

Mars -120009-04-24 01:13 J -42111750.56 -42111750.45 -42111750.33 0.1674 0.0381

Jupiter -120008-10-04 07:27 J -42111222.22 -42111222.19 -42111222.16 0.0524 0.0509

Jupiter -120007-01-01 14:39 J -42111133.02 -42111132.89 -42111132.76 0.0525 0.0039

Mars -120007-03-30 07:27 J -42111045.26 -42111045.19 -42111045.11 0.1664 0.1268

Jupiter -120007-03-31 21:37 J -42111043.68 -42111043.60 -42111043.53 0.0526 0.0431

Earth -120007-04-03 17:46 J -42111040.87 -42111040.76 -42111040.65 0.2782 0.0017

Moon -120007-04-03 18:15 J -42111040.85 -42111040.74 -42111040.63 0.2787 0.0016 *

Venus -120007-09-20 14:10 J -42110870.98 -42110870.91 -42110870.84 0.3729 0.2752

Venus -120004-06-20 15:37 J -42109866.97 -42109866.85 -42109866.72 0.3659 0.1785

Moon -120004-09-29 00:44 J -42109766.62 -42109766.47 -42109766.31 0.2567 0.0667

Earth -120004-09-29 00:58 J -42109766.61 -42109766.46 -42109766.30 0.2560 0.0745 *

Jupiter -120002-11-22 01:27 J -42108982.62 -42108982.44 -42108982.26 0.0500 0.0043

Saturn -120001-09-26 03:37 J -42108673.43 -42108673.35 -42108673.26 0.0297 0.0225

Mars -120001-11-06 02:25 J -42108632.52 -42108632.40 -42108632.28 0.1844 0.1281

Saturn -120001-12-23 17:32 J -42108584.89 -42108584.77 -42108584.64 0.0298 0.0113

120TH MILLENNIUM BCE

This is a list of transits of Mercury in the 120th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Saturn -120000-03-22 07:13 J -42108496.33 -42108496.20 -42108496.06 0.0299 0.0005

Moon -120000-03-27 14:39 J -42108490.94 -42108490.89 -42108490.84 0.2778 0.2375

Earth -120000-03-27 15:22 J -42108490.92 -42108490.86 -42108490.80 0.2777 0.2291 *

Saturn -120000-06-18 20:53 J -42108407.76 -42108407.63 -42108407.51 0.0299 0.0110

Mars -120000-09-14 11:32 J -42108320.13 -42108320.02 -42108319.92 0.1676 0.0795

Saturn -120000-09-15 10:20 J -42108319.16 -42108319.07 -42108318.98 0.0300 0.0221

Mars -119998-08-20 18:01 J -42107614.85 -42107614.75 -42107614.65 0.1666 0.0881

Jupiter -119996-10-20 18:29 J -42106822.85 -42106822.73 -42106822.61 0.0525 0.0155

Jupiter -119995-01-18 01:27 J -42106733.55 -42106733.44 -42106733.34 0.0526 0.0314

Earth -119994-04-06 12:15 J -42106290.10 -42106289.99 -42106289.89 0.2783 0.0830

Moon -119994-04-06 12:58 J -42106290.07 -42106289.96 -42106289.86 0.2784 0.0904 *

Mars -119991-03-28 22:49 J -42105202.71 -42105202.55 -42105202.39 0.1841 0.0303

Earth -119991-10-02 07:27 J -42105015.34 -42105015.19 -42105015.03 0.2559 0.0615

Moon -119991-10-02 07:41 J -42105015.33 -42105015.18 -42105015.02 0.2565 0.0561 *

Mars -119990-02-04 21:37 J -42104889.68 -42104889.60 -42104889.52 0.1679 0.1219

Jupiter -119990-09-09 22:49 J -42104672.73 -42104672.55 -42104672.37 0.0500 0.0104

Jupiter -119990-12-09 07:13 J -42104582.24 -42104582.20 -42104582.16 0.0499 0.0484

Mars -119988-01-10 04:34 J -42104184.42 -42104184.31 -42104184.19 0.1669 0.0485

Moon -119987-03-30 09:08 J -42103740.21 -42103740.12 -42103740.03 0.2782 0.1467

Earth -119987-03-30 09:51 J -42103740.18 -42103740.09 -42103740.00 0.2779 0.1481 *

Saturn -119987-07-26 00:15 J -42103622.62 -42103622.49 -42103622.36 0.0265 0.0176

Saturn -119987-10-22 18:58 J -42103533.88 -42103533.71 -42103533.54 0.0265 0.0073

Saturn -119986-01-19 13:56 J -42103445.10 -42103444.92 -42103444.74 0.0264 0.0030

Saturn -119986-04-18 09:08 J -42103356.28 -42103356.12 -42103355.97 0.0263 0.0133

Saturn -119986-07-16 04:20 J -42103267.39 -42103267.32 -42103267.24 0.0263 0.0237

Jupiter -119984-08-08 22:05 J -42102512.69 -42102512.58 -42102512.47 0.0526 0.0277

Jupiter -119984-11-06 05:03 J -42102423.41 -42102423.29 -42102423.17 0.0526 0.0196

Mars -119982-08-18 19:41 J -42101772.83 -42101772.68 -42101772.53 0.1838 0.0644

Earth -119981-04-08 06:29 J -42101539.31 -42101539.23 -42101539.14 0.2784 0.1645

Moon -119981-04-08 07:13 J -42101539.28 -42101539.20 -42101539.11 0.2783 0.1756 *

Mars -119981-06-27 07:41 J -42101459.21 -42101459.18 -42101459.16 0.1682 0.1643

Mars -119979-06-02 15:08 J -42100753.99 -42100753.87 -42100753.75 0.1671 0.0103

Uranus -119979-07-11 06:29 J -42100715.33 -42100715.23 -42100715.11 0.0148 0.0118

Uranus -119979-10-07 14:53 J -42100627.02 -42100626.88 -42100626.72 0.0148 0.0088

Uranus -119978-01-03 23:32 J -42100538.69 -42100538.52 -42100538.34 0.0148 0.0057

Uranus -119978-04-02 08:10 J -42100450.34 -42100450.16 -42100449.97 0.0148 0.0026

Jupiter -119978-06-28 20:10 J -42100362.81 -42100362.66 -42100362.50 0.0500 0.0251

Uranus -119978-06-29 16:49 J -42100361.99 -42100361.80 -42100361.61 0.0148 0.0005

Uranus -119978-09-26 01:13 J -42100273.63 -42100273.45 -42100273.26 0.0148 0.0036

Jupiter -119978-09-27 04:20 J -42100272.45 -42100272.32 -42100272.19 0.0499 0.0335

Earth -119978-10-05 13:56 J -42100264.02 -42100263.92 -42100263.82 0.2558 0.1968

Moon -119978-10-05 14:53 J -42100263.97 -42100263.88 -42100263.78 0.2564 0.2032 *

Uranus -119978-12-23 10:05 J -42100185.25 -42100185.08 -42100184.91 0.0148 0.0067

Uranus -119977-03-20 18:29 J -42100096.86 -42100096.73 -42100096.58 0.0148 0.0099

Uranus -119977-06-17 03:08 J -42100008.44 -42100008.37 -42100008.27 0.0148 0.0130

Neptune -119976-10-14 20:53 J -42099523.64 -42099523.63 -42099523.60 0.0088 0.0087

Neptune -119975-01-10 22:20 J -42099435.60 -42099435.57 -42099435.51 0.0088 0.0083

Neptune -119975-04-08 23:46 J -42099347.56 -42099347.51 -42099347.43 0.0088 0.0079

Neptune -119975-07-06 01:41 J -42099259.51 -42099259.43 -42099259.36 0.0088 0.0074

Neptune -119975-10-02 02:53 J -42099171.45 -42099171.38 -42099171.29 0.0088 0.0070

Neptune -119975-12-29 04:20 J -42099083.40 -42099083.32 -42099083.22 0.0088 0.0066

Neptune -119974-03-27 05:46 J -42098995.35 -42098995.26 -42098995.15 0.0088 0.0061

Moon -119974-04-02 03:51 J -42098989.44 -42098989.34 -42098989.24 0.2787 0.0751

Earth -119974-04-02 04:05 J -42098989.43 -42098989.33 -42098989.22 0.2780 0.0673 *

Neptune -119974-06-23 07:27 J -42098907.29 -42098907.19 -42098907.08 0.0088 0.0057

Neptune -119974-09-19 08:53 J -42098819.23 -42098819.13 -42098819.01 0.0088 0.0052

Neptune -119974-12-16 10:20 J -42098731.18 -42098731.07 -42098730.95 0.0088 0.0048

Neptune -119973-03-13 12:01 J -42098643.12 -42098643.00 -42098642.88 0.0088 0.0044

Neptune -119973-06-09 13:27 J -42098555.06 -42098554.94 -42098554.82 0.0088 0.0039

Neptune -119973-09-05 14:53 J -42098467.00 -42098466.88 -42098466.75 0.0088 0.0035

Neptune -119973-12-02 16:20 J -42098378.95 -42098378.82 -42098378.69 0.0088 0.0031

Mars -119972-01-07 17:17 J -42098342.86 -42098342.78 -42098342.70 0.1835 0.1548

Venus -119972-02-26 17:03 J -42098292.83 -42098292.79 -42098292.75 0.3708 0.3390

Neptune -119972-02-28 17:46 J -42098290.89 -42098290.76 -42098290.63 0.0088 0.0027

Neptune -119972-05-27 19:13 J -42098202.83 -42098202.70 -42098202.56 0.0088 0.0023

Jupiter -119972-05-28 01:56 J -42098202.51 -42098202.42 -42098202.34 0.0525 0.0394

Neptune -119972-08-23 20:39 J -42098114.77 -42098114.64 -42098114.50 0.0088 0.0018

Jupiter -119972-08-25 09:08 J -42098113.25 -42098113.12 -42098112.99 0.0526 0.0080

Neptune -119972-11-19 22:05 J -42098026.71 -42098026.58 -42098026.44 0.0088 0.0014

Saturn -119971-02-13 06:29 J -42097941.30 -42097941.23 -42097941.16 0.0296 0.0250

Neptune -119971-02-15 23:32 J -42097938.65 -42097938.52 -42097938.38 0.0088 0.0010

Saturn -119971-05-12 20:10 J -42097852.78 -42097852.66 -42097852.53 0.0297 0.0139

Neptune -119971-05-15 00:58 J -42097850.59 -42097850.46 -42097850.32 0.0088 0.0006

Saturn -119971-08-09 10:05 J -42097764.22 -42097764.08 -42097763.95 0.0298 0.0027

Neptune -119971-08-11 02:25 J -42097762.53 -42097762.40 -42097762.26 0.0088 0.0002

Moon -119971-09-26 23:32 J -42097715.63 -42097715.52 -42097715.41 0.2562 0.1860

Earth -119971-09-27 01:13 J -42097715.56 -42097715.45 -42097715.34 0.2562 0.1849 *

Saturn -119971-11-05 23:46 J -42097675.64 -42097675.51 -42097675.38 0.0299 0.0085

Neptune -119971-11-07 03:51 J -42097674.47 -42097674.34 -42097674.20 0.0088 0.0004

Saturn -119970-02-02 13:13 J -42097587.05 -42097586.95 -42097586.85 0.0300 0.0196

Neptune -119970-02-03 05:17 J -42097586.41 -42097586.28 -42097586.14 0.0088 0.0007

Neptune -119970-05-02 06:44 J -42097498.35 -42097498.22 -42097498.08 0.0088 0.0011

Neptune -119970-07-29 08:10 J -42097410.29 -42097410.16 -42097410.03 0.0088 0.0015

Mars -119970-10-24 01:27 J -42097323.56 -42097323.44 -42097323.32 0.1674 0.0325

Neptune -119970-10-25 09:37 J -42097322.23 -42097322.10 -42097321.97 0.0088 0.0020

Neptune -119969-01-21 10:49 J -42097234.17 -42097234.05 -42097233.91 0.0088 0.0024

Neptune -119969-04-18 12:15 J -42097146.11 -42097145.99 -42097145.85 0.0088 0.0028

Neptune -119969-07-15 13:41 J -42097058.05 -42097057.93 -42097057.80 0.0088 0.0032

Neptune -119969-10-11 15:08 J -42096969.99 -42096969.87 -42096969.74 0.0088 0.0036

Neptune -119968-01-07 16:34 J -42096881.93 -42096881.81 -42096881.69 0.0088 0.0040

Neptune -119968-04-05 18:01 J -42096793.87 -42096793.75 -42096793.63 0.0088 0.0044

Earth -119968-04-11 00:58 J -42096788.51 -42096788.46 -42096788.41 0.2784 0.2461

Moon -119968-04-11 01:41 J -42096788.48 -42096788.43 -42096788.38 0.2779 0.2430 *

Neptune -119968-07-02 19:13 J -42096705.81 -42096705.70 -42096705.58 0.0088 0.0049

Mars -119968-09-28 07:27 J -42096618.26 -42096618.19 -42096618.12 0.1665 0.1319

Neptune -119968-09-28 20:39 J -42096617.74 -42096617.64 -42096617.53 0.0088 0.0053

Neptune -119968-12-25 22:05 J -42096529.68 -42096529.58 -42096529.48 0.0088 0.0057

Neptune -119967-03-23 23:17 J -42096441.62 -42096441.53 -42096441.42 0.0088 0.0061

Neptune -119967-06-20 00:29 J -42096353.55 -42096353.48 -42096353.37 0.0088 0.0066

Venus -119967-09-12 09:51 J -42096269.18 -42096269.09 -42096268.99 0.3713 0.1675

Neptune -119967-09-16 01:56 J -42096265.49 -42096265.42 -42096265.33 0.0088 0.0069

Neptune -119967-12-13 03:22 J -42096177.42 -42096177.36 -42096177.28 0.0088 0.0073

Neptune -119966-03-11 04:34 J -42096089.36 -42096089.31 -42096089.23 0.0088 0.0078

Jupiter -119966-04-16 17:03 J -42096052.89 -42096052.79 -42096052.68 0.0500 0.0402

Neptune -119966-06-07 06:01 J -42096001.29 -42096001.25 -42096001.19 0.0088 0.0081

Jupiter -119966-07-16 00:58 J -42095962.63 -42095962.46 -42095962.29 0.0500 0.0181

Neptune -119966-09-03 07:27 J -42095913.21 -42095913.19 -42095913.15 0.0088 0.0085

Venus -119961-03-28 02:39 J -42094245.49 -42094245.39 -42094245.28 0.3719 0.0051

Moon -119961-04-03 22:20 J -42094238.67 -42094238.57 -42094238.46 0.2789 0.0164

Earth -119961-04-03 22:34 J -42094238.67 -42094238.56 -42094238.45 0.2782 0.0161 *

Mars -119961-05-07 03:08 J -42094205.48 -42094205.37 -42094205.26 0.1845 0.1376

Mars -119960-03-15 11:32 J -42093893.13 -42093893.02 -42093892.91 0.1676 0.0742

Jupiter -119960-03-16 05:32 J -42093892.29 -42093892.27 -42093892.24 0.0525 0.0512

Jupiter -119960-06-13 12:58 J -42093803.09 -42093802.96 -42093802.83 0.0525 0.0038

Jupiter -119960-09-10 19:41 J -42093713.75 -42093713.68 -42093713.60 0.0526 0.0430

Mars -119958-02-18 18:15 J -42093187.84 -42093187.74 -42093187.65 0.1666 0.0932

Moon -119958-09-30 06:01 J -42092964.41 -42092964.25 -42092964.10 0.2563 0.0692

Earth -119958-09-30 07:41 J -42092964.34 -42092964.18 -42092964.03 0.2560 0.0497 *

Saturn -119958-12-13 01:13 J -42092890.56 -42092890.45 -42092890.33 0.0265 0.0199

Saturn -119957-03-10 20:10 J -42092801.83 -42092801.66 -42092801.50 0.0265 0.0097

Saturn -119957-06-07 15:08 J -42092713.05 -42092712.87 -42092712.69 0.0264 0.0009

Saturn -119957-09-04 09:51 J -42092624.24 -42092624.09 -42092623.91 0.0263 0.0110

Saturn -119957-12-02 05:17 J -42092535.38 -42092535.28 -42092535.17 0.0263 0.0212

Venus -119956-10-11 19:27 J -42092221.79 -42092221.69 -42092221.60 0.3725 0.1708

Moon -119954-03-28 19:41 J -42091688.75 -42091688.68 -42091688.61 0.2772 0.2114

Earth -119954-03-28 20:10 J -42091688.72 -42091688.66 -42091688.59 0.2777 0.2145 *

Jupiter -119954-05-03 22:20 J -42091652.76 -42091652.57 -42091652.39 0.0500 0.0034

Venus -119953-07-11 11:32 J -42091218.17 -42091218.02 -42091217.88 0.3665 0.0788

Mars -119952-09-26 23:32 J -42090775.67 -42090775.52 -42090775.36 0.1841 0.0408

Mars -119951-08-05 21:37 J -42090462.68 -42090462.60 -42090462.51 0.1679 0.1161

Venus -119950-04-27 12:01 J -42090198.04 -42090198.00 -42090197.96 0.3731 0.3364

Mars -119949-07-11 04:34 J -42089757.42 -42089757.31 -42089757.19 0.1669 0.0538

Jupiter -119948-04-01 16:20 J -42089492.94 -42089492.82 -42089492.69 0.0525 0.0163

Earth -119948-04-06 17:03 J -42089487.89 -42089487.79 -42089487.69 0.2783 0.0975

Moon -119948-04-06 17:17 J -42089487.88 -42089487.78 -42089487.68 0.2790 0.1041 *

Jupiter -119948-06-29 23:17 J -42089403.63 -42089403.53 -42089403.42 0.0526 0.0307

Venus -119947-01-25 16:49 J -42089193.88 -42089193.80 -42089193.73 0.3657 0.3131

Moon -119945-10-02 12:58 J -42088213.11 -42088212.96 -42088212.81 0.2563 0.0799

Earth -119945-10-02 14:10 J -42088213.06 -42088212.91 -42088212.76 0.2559 0.0867 *

Mars -119942-02-16 20:25 J -42087345.80 -42087345.65 -42087345.50 0.1838 0.0548

Jupiter -119942-02-19 19:41 J -42087342.85 -42087342.68 -42087342.50 0.0500 0.0114

Jupiter -119942-05-21 04:20 J -42087252.37 -42087252.32 -42087252.27 0.0500 0.0477

Saturn -119942-07-03 09:08 J -42087209.17 -42087209.12 -42087209.06 0.0297 0.0272

Saturn -119942-09-29 23:03 J -42087120.65 -42087120.54 -42087120.42 0.0298 0.0161

Mars -119942-12-27 07:27 J -42087032.22 -42087032.19 -42087032.15 0.1682 0.1594

Saturn -119942-12-27 12:58 J -42087032.10 -42087031.96 -42087031.83 0.0298 0.0049

Saturn -119941-03-25 02:39 J -42086943.53 -42086943.39 -42086943.26 0.0299 0.0063

Moon -119941-03-30 14:10 J -42086938.01 -42086937.91 -42086937.82 0.2775 0.1425

Earth -119941-03-30 14:39 J -42086937.98 -42086937.89 -42086937.79 0.2779 0.1329 *

Saturn -119941-06-21 16:05 J -42086854.94 -42086854.83 -42086854.72 0.0300 0.0174

Saturn -119941-09-18 05:32 J -42086766.31 -42086766.27 -42086766.23 0.0301 0.0284

Mars -119940-12-01 15:08 J -42086326.99 -42086326.87 -42086326.75 0.1671 0.0143

Uranus -119938-05-13 11:46 J -42085799.05 -42085799.01 -42085798.95 0.0131 0.0121

Uranus -119938-08-09 14:39 J -42085710.95 -42085710.89 -42085710.80 0.0131 0.0106

Uranus -119938-11-05 18:01 J -42085622.84 -42085622.75 -42085622.65 0.0131 0.0090

Uranus -119937-02-01 20:53 J -42085534.73 -42085534.63 -42085534.51 0.0131 0.0075

Uranus -119937-04-30 00:15 J -42085446.61 -42085446.49 -42085446.37 0.0131 0.0059

Uranus -119937-07-27 03:08 J -42085358.49 -42085358.37 -42085358.24 0.0131 0.0044

Uranus -119937-10-23 06:15 J -42085270.37 -42085270.24 -42085270.11 0.0131 0.0029

Jupiter -119936-01-18 19:56 J -42085182.77 -42085182.67 -42085182.56 0.0525 0.0284

Uranus -119936-01-19 09:08 J -42085182.25 -42085182.12 -42085181.98 0.0131 0.0014

Uranus -119936-04-17 12:15 J -42085094.12 -42085093.99 -42085093.86 0.0131 0.0002

Jupiter -119936-04-18 03:08 J -42085093.49 -42085093.37 -42085093.25 0.0526 0.0188

Uranus -119936-07-14 15:08 J -42085006.00 -42085005.87 -42085005.73 0.0131 0.0018

Uranus -119936-10-10 18:15 J -42084917.87 -42084917.74 -42084917.61 0.0131 0.0032

Uranus -119935-01-06 21:08 J -42084829.74 -42084829.62 -42084829.49 0.0131 0.0047

Uranus -119935-04-05 00:01 J -42084741.61 -42084741.50 -42084741.38 0.0131 0.0062

Earth -119935-04-09 11:32 J -42084737.10 -42084737.02 -42084736.94 0.2784 0.1796

Moon -119935-04-09 12:01 J -42084737.09 -42084737.00 -42084736.92 0.2790 0.1772 *

Uranus -119935-07-02 03:08 J -42084653.48 -42084653.37 -42084653.26 0.0131 0.0077

Uranus -119935-09-28 06:01 J -42084565.34 -42084565.25 -42084565.15 0.0131 0.0092

Uranus -119935-12-25 08:53 J -42084477.20 -42084477.13 -42084477.05 0.0131 0.0107

Uranus -119934-03-23 11:46 J -42084389.05 -42084389.01 -42084388.96 0.0131 0.0122

Mars -119933-07-08 17:46 J -42083915.86 -42083915.76 -42083915.67 0.1834 0.1465

Moon -119932-10-05 19:41 J -42083461.75 -42083461.68 -42083461.60 0.2563 0.2261

Earth -119932-10-05 20:39 J -42083461.71 -42083461.64 -42083461.56 0.2558 0.2224 *

Jupiter -119931-12-08 17:32 J -42083032.93 -42083032.77 -42083032.62 0.0500 0.0257

Jupiter -119930-03-09 01:27 J -42082942.57 -42082942.44 -42082942.30 0.0499 0.0329

Mars -119930-04-24 01:13 J -42082896.56 -42082896.45 -42082896.33 0.1674 0.0280

Pluto -119930-06-24 06:15 J -42082835.32 -42082835.24 -42082835.16 0.0060 0.0054

Pluto -119930-09-20 07:27 J -42082747.31 -42082747.19 -42082747.06 0.0060 0.0046

Pluto -119930-12-17 08:53 J -42082659.28 -42082659.13 -42082658.98 0.0060 0.0038

Pluto -119929-03-14 10:05 J -42082571.24 -42082571.08 -42082570.91 0.0061 0.0030

Pluto -119929-06-10 11:17 J -42082483.20 -42082483.03 -42082482.85 0.0061 0.0022

Pluto -119929-09-06 12:44 J -42082395.15 -42082394.97 -42082394.78 0.0061 0.0014

Pluto -119929-12-03 14:10 J -42082307.10 -42082306.91 -42082306.72 0.0061 0.0006

Pluto -119928-03-01 15:22 J -42082219.05 -42082218.86 -42082218.67 0.0061 0.0002

Mars -119928-03-29 07:27 J -42082191.25 -42082191.19 -42082191.12 0.1665 0.1365

Moon -119928-04-02 08:25 J -42082187.26 -42082187.15 -42082187.05 0.2781 0.0564

Earth -119928-04-02 09:08 J -42082187.23 -42082187.12 -42082187.02 0.2781 0.0515 *

Saturn -119928-05-01 02:39 J -42082158.48 -42082158.39 -42082158.29 0.0265 0.0221

Pluto -119928-05-28 16:34 J -42082130.99 -42082130.81 -42082130.62 0.0061 0.0011

Saturn -119928-07-28 21:22 J -42082069.76 -42082069.61 -42082069.45 0.0265 0.0119

Pluto -119928-08-24 17:46 J -42082042.93 -42082042.76 -42082042.57 0.0061 0.0019

Saturn -119928-10-25 16:20 J -42081981.00 -42081980.82 -42081980.64 0.0264 0.0016

Pluto -119928-11-20 18:58 J -42081954.86 -42081954.71 -42081954.52 0.0061 0.0027

Saturn -119927-01-22 11:17 J -42081892.20 -42081892.03 -42081891.86 0.0263 0.0087

Pluto -119927-02-16 20:25 J -42081866.79 -42081866.65 -42081866.48 0.0061 0.0035

Saturn -119927-04-21 06:29 J -42081803.35 -42081803.23 -42081803.10 0.0263 0.0190

Pluto -119927-05-15 21:37 J -42081778.71 -42081778.60 -42081778.45 0.0061 0.0044

Pluto -119927-08-11 23:03 J -42081690.63 -42081690.54 -42081690.42 0.0061 0.0052

Pluto -119927-11-08 00:29 J -42081602.51 -42081602.48 -42081602.43 0.0061 0.0060

Moon -119925-09-27 06:44 J -42080913.33 -42080913.22 -42080913.10 0.2557 0.1740

Earth -119925-09-27 07:41 J -42080913.30 -42080913.18 -42080913.05 0.2562 0.1601 *

Jupiter -119925-11-06 23:32 J -42080872.60 -42080872.52 -42080872.44 0.0525 0.0407

Jupiter -119924-02-04 06:44 J -42080783.35 -42080783.22 -42080783.09 0.0526 0.0068

Earth -119922-04-12 06:01 J -42079986.29 -42079986.25 -42079986.22 0.2784 0.2613

Moon -119922-04-12 06:44 J -42079986.24 -42079986.22 -42079986.20 0.2787 0.2722 *

Mars -119922-11-06 03:51 J -42079778.44 -42079778.34 -42079778.25 0.1844 0.1466

Moon -119921-03-26 07:13 J -42079637.22 -42079637.20 -42079637.17 0.2772 0.2689

Mars -119921-09-13 11:32 J -42079466.13 -42079466.02 -42079465.91 0.1676 0.0686

Mars -119919-08-19 18:15 J -42078760.84 -42078760.74 -42078760.65 0.1667 0.0982

Jupiter -119919-09-26 14:53 J -42078722.98 -42078722.88 -42078722.77 0.0500 0.0402

Jupiter -119919-12-25 22:49 J -42078632.72 -42078632.55 -42078632.38 0.0499 0.0180

Venus -119916-10-03 14:53 J -42077619.95 -42077619.88 -42077619.81 0.3709 0.2750

Moon -119915-04-05 02:53 J -42077436.49 -42077436.38 -42077436.28 0.2784 0.0316

Earth -119915-04-05 03:37 J -42077436.46 -42077436.35 -42077436.25 0.2782 0.0321 *

Jupiter -119913-08-26 03:08 J -42076562.37 -42076562.37 -42076562.36 0.0525 0.0524

Jupiter -119913-11-23 10:49 J -42076473.18 -42076473.05 -42076472.92 0.0526 0.0049

Saturn -119912-02-16 01:41 J -42076388.53 -42076388.43 -42076388.32 0.0297 0.0186

Jupiter -119912-02-20 17:32 J -42076383.84 -42076383.77 -42076383.69 0.0526 0.0420

Mars -119912-03-28 00:15 J -42076348.65 -42076348.49 -42076348.34 0.1842 0.0490

Saturn -119912-05-15 15:37 J -42076299.98 -42076299.85 -42076299.72 0.0298 0.0074

Saturn -119912-08-12 05:17 J -42076211.41 -42076211.28 -42076211.14 0.0299 0.0038

Moon -119912-09-30 12:58 J -42076162.12 -42076161.96 -42076161.80 0.2556 0.0307

Earth -119912-09-30 14:25 J -42076162.06 -42076161.90 -42076161.74 0.2560 0.0241 *

Saturn -119912-11-08 18:58 J -42076122.83 -42076122.71 -42076122.60 0.0299 0.0149

Mars -119911-02-03 21:37 J -42076035.69 -42076035.60 -42076035.51 0.1679 0.1108

Saturn -119911-02-05 08:25 J -42076034.22 -42076034.15 -42076034.09 0.0300 0.0259

Venus -119910-04-19 07:41 J -42075596.28 -42075596.18 -42075596.08 0.3715 0.1039

Mars -119909-01-10 04:34 J -42075330.42 -42075330.31 -42075330.19 0.1669 0.0592

Earth -119908-03-29 01:13 J -42074886.53 -42074886.45 -42074886.38 0.2778 0.1997

Moon -119908-03-29 01:27 J -42074886.52 -42074886.44 -42074886.37 0.2771 0.2021 *

Jupiter -119907-10-13 19:13 J -42074322.88 -42074322.70 -42074322.52 0.0500 0.0024

Venus -119905-11-02 00:29 J -42073572.59 -42073572.48 -42073572.38 0.3721 0.0656

Mars -119903-08-17 21:08 J -42072918.77 -42072918.62 -42072918.46 0.1838 0.0453

Moon -119902-04-07 21:22 J -42072685.71 -42072685.61 -42072685.51 0.2789 0.1026

Earth -119902-04-07 21:51 J -42072685.69 -42072685.59 -42072685.49 0.2783 0.1130 *

Mars -119902-06-27 07:41 J -42072605.23 -42072605.18 -42072605.14 0.1682 0.1537

Venus -119902-08-02 07:27 J -42072569.25 -42072569.19 -42072569.13 0.3671 0.3287

Jupiter -119901-09-11 14:39 J -42072163.01 -42072162.89 -42072162.76 0.0525 0.0165

Jupiter -119901-12-09 21:37 J -42072073.70 -42072073.60 -42072073.49 0.0526 0.0305

Mars -119900-06-01 15:08 J -42071899.99 -42071899.87 -42071899.75 0.1671 0.0192

Venus -119899-05-18 17:03 J -42071548.87 -42071548.79 -42071548.71 0.3727 0.2321

Saturn -119899-09-18 03:51 J -42071426.40 -42071426.34 -42071426.26 0.0266 0.0244

Moon -119899-10-03 19:13 J -42071410.85 -42071410.70 -42071410.55 0.2557 0.1087

Earth -119899-10-03 20:53 J -42071410.78 -42071410.63 -42071410.49 0.2559 0.1121 *

Saturn -119899-12-15 22:34 J -42071337.70 -42071337.56 -42071337.40 0.0265 0.0142

Saturn -119898-03-14 17:32 J -42071248.95 -42071248.77 -42071248.59 0.0264 0.0040

Saturn -119898-06-11 12:29 J -42071160.15 -42071159.98 -42071159.80 0.0263 0.0063

Saturn -119898-09-08 07:27 J -42071071.32 -42071071.19 -42071071.04 0.0263 0.0166

Venus -119896-02-15 12:29 J -42070545.13 -42070544.98 -42070544.84 0.3663 0.0537

Moon -119895-03-31 19:41 J -42070135.78 -42070135.68 -42070135.58 0.2772 0.1178

Earth -119895-03-31 19:41 J -42070135.78 -42070135.68 -42070135.59 0.2780 0.1185 *

Uranus -119895-05-04 05:03 J -42070102.33 -42070102.29 -42070102.24 0.0148 0.0143

Uranus -119895-07-31 13:13 J -42070014.06 -42070013.95 -42070013.82 0.0148 0.0113

Jupiter -119895-08-01 16:34 J -42070012.98 -42070012.81 -42070012.63 0.0500 0.0124

Uranus -119895-10-27 21:37 J -42069925.74 -42069925.60 -42069925.43 0.0148 0.0083

Jupiter -119895-10-31 00:58 J -42069922.52 -42069922.46 -42069922.39 0.0500 0.0466

Uranus -119894-01-24 06:15 J -42069837.41 -42069837.24 -42069837.06 0.0148 0.0052

Uranus -119894-04-22 14:53 J -42069749.06 -42069748.88 -42069748.69 0.0148 0.0021

Uranus -119894-07-19 23:32 J -42069660.71 -42069660.52 -42069660.33 0.0148 0.0010

Uranus -119894-10-16 08:10 J -42069572.34 -42069572.16 -42069571.98 0.0148 0.0041

Mars -119893-01-07 18:29 J -42069488.84 -42069488.73 -42069488.63 0.1834 0.1370

Uranus -119893-01-12 16:49 J -42069483.96 -42069483.80 -42069483.64 0.0148 0.0072

Uranus -119893-04-10 01:13 J -42069395.57 -42069395.45 -42069395.30 0.0148 0.0104

Uranus -119893-07-07 10:05 J -42069307.15 -42069307.08 -42069307.00 0.0148 0.0135

Neptune -119892-09-14 13:27 J -42068872.97 -42068872.94 -42068872.87 0.0089 0.0085

Neptune -119892-12-11 16:49 J -42068784.87 -42068784.80 -42068784.70 0.0089 0.0079

Neptune -119891-03-09 20:25 J -42068696.75 -42068696.65 -42068696.55 0.0089 0.0073

Neptune -119891-06-05 23:17 J -42068608.63 -42068608.53 -42068608.39 0.0089 0.0068

Neptune -119891-09-02 02:39 J -42068520.51 -42068520.39 -42068520.24 0.0089 0.0062

Mars -119891-10-23 01:27 J -42068469.56 -42068469.44 -42068469.32 0.1674 0.0222

Neptune -119891-11-29 06:01 J -42068432.38 -42068432.25 -42068432.09 0.0089 0.0057

Neptune -119890-02-25 09:37 J -42068344.25 -42068344.10 -42068343.95 0.0089 0.0050

Neptune -119890-05-24 12:29 J -42068256.12 -42068255.98 -42068255.80 0.0089 0.0045

Neptune -119890-08-20 16:05 J -42068167.99 -42068167.83 -42068167.66 0.0089 0.0039

Neptune -119890-11-16 19:27 J -42068079.86 -42068079.69 -42068079.51 0.0089 0.0033

Neptune -119889-02-12 22:49 J -42067991.72 -42067991.55 -42067991.37 0.0089 0.0027

Moon -119889-04-09 16:05 J -42067934.90 -42067934.83 -42067934.75 0.2790 0.1963

Earth -119889-04-09 16:20 J -42067934.89 -42067934.82 -42067934.74 0.2784 0.1946 *

Neptune -119889-05-11 02:10 J -42067903.59 -42067903.41 -42067903.22 0.0089 0.0021

Jupiter -119889-06-30 18:01 J -42067852.85 -42067852.75 -42067852.64 0.0525 0.0289

Neptune -119889-08-07 05:32 J -42067815.45 -42067815.27 -42067815.08 0.0089 0.0016

Mars -119889-09-27 07:27 J -42067764.25 -42067764.19 -42067764.13 0.1664 0.1417

Jupiter -119889-09-28 01:13 J -42067763.57 -42067763.45 -42067763.33 0.0526 0.0183

Neptune -119889-11-03 08:53 J -42067727.31 -42067727.13 -42067726.94 0.0089 0.0010

Neptune -119888-01-30 12:29 J -42067639.17 -42067638.98 -42067638.80 0.0089 0.0004

Neptune -119888-04-28 15:51 J -42067551.03 -42067550.84 -42067550.65 0.0089 0.0002

Neptune -119888-07-25 19:13 J -42067462.89 -42067462.70 -42067462.51 0.0089 0.0008

Neptune -119888-10-21 22:34 J -42067374.74 -42067374.56 -42067374.37 0.0089 0.0014

Neptune -119887-01-18 01:56 J -42067286.60 -42067286.42 -42067286.23 0.0089 0.0020

Neptune -119887-04-16 05:17 J -42067198.45 -42067198.28 -42067198.09 0.0089 0.0026

Neptune -119887-07-13 08:39 J -42067110.30 -42067110.14 -42067109.95 0.0089 0.0032

Neptune -119887-10-09 12:15 J -42067022.16 -42067021.99 -42067021.81 0.0089 0.0038

Neptune -119886-01-05 15:37 J -42066934.00 -42066933.85 -42066933.68 0.0089 0.0044

Neptune -119886-04-03 18:58 J -42066845.85 -42066845.71 -42066845.54 0.0089 0.0051

Neptune -119886-06-30 22:34 J -42066757.70 -42066757.56 -42066757.40 0.0089 0.0056

Neptune -119886-09-27 01:56 J -42066669.54 -42066669.42 -42066669.27 0.0089 0.0063

Moon -119886-10-07 01:27 J -42066659.51 -42066659.44 -42066659.36 0.2557 0.2266

Earth -119886-10-07 03:22 J -42066659.40 -42066659.36 -42066659.32 0.2558 0.2477 *

Neptune -119886-12-24 05:32 J -42066581.38 -42066581.27 -42066581.14 0.0089 0.0068

Neptune -119885-03-21 09:08 J -42066493.21 -42066493.12 -42066493.01 0.0089 0.0074

Neptune -119885-06-17 12:44 J -42066405.04 -42066404.97 -42066404.88 0.0089 0.0080

Neptune -119885-09-13 16:05 J -42066316.86 -42066316.83 -42066316.77 0.0089 0.0087

Jupiter -119883-05-20 14:10 J -42065703.06 -42065702.91 -42065702.75 0.0500 0.0269

Saturn -119883-07-06 04:20 J -42065656.41 -42065656.32 -42065656.22 0.0297 0.0210

Jupiter -119883-08-18 22:20 J -42065612.71 -42065612.57 -42065612.43 0.0500 0.0319

Saturn -119883-10-02 18:15 J -42065567.87 -42065567.74 -42065567.61 0.0298 0.0098

Saturn -119883-12-30 07:56 J -42065479.30 -42065479.17 -42065479.03 0.0299 0.0013

Saturn -119882-03-28 21:37 J -42065390.72 -42065390.60 -42065390.48 0.0300 0.0125

Moon -119882-04-03 13:41 J -42065385.04 -42065384.93 -42065384.83 0.2775 0.0358

Earth -119882-04-03 13:56 J -42065385.03 -42065384.92 -42065384.81 0.2781 0.0365 *

Mars -119882-05-07 04:20 J -42065351.40 -42065351.32 -42065351.23 0.1844 0.1559

Saturn -119882-06-25 11:03 J -42065302.12 -42065302.04 -42065301.96 0.0301 0.0235

Mars -119881-03-14 11:32 J -42065039.13 -42065039.02 -42065038.91 0.1676 0.0635

Mars -119879-02-17 18:15 J -42064333.84 -42064333.74 -42064333.65 0.1667 0.1031

Earth -119879-09-28 14:25 J -42064111.03 -42064110.90 -42064110.76 0.2561 0.1349

Moon -119879-09-28 15:08 J -42064111.01 -42064110.87 -42064110.73 0.2556 0.1282 *

Jupiter -119877-04-18 21:37 J -42063542.68 -42063542.60 -42063542.52 0.0525 0.0411

Jupiter -119877-07-17 04:49 J -42063453.43 -42063453.30 -42063453.17 0.0525 0.0063

Earth -119876-04-12 10:49 J -42063184.06 -42063184.05 -42063184.04 0.2785 0.2765

Earth -119875-03-27 11:32 J -42062835.05 -42062835.02 -42062834.99 0.2776 0.2664

Moon -119875-03-27 12:15 J -42062835.02 -42062834.99 -42062834.96 0.2779 0.2663 *

Mars -119873-09-26 00:58 J -42061921.61 -42061921.46 -42061921.31 0.1841 0.0586

Mars -119872-08-04 21:37 J -42061608.69 -42061608.60 -42061608.50 0.1679 0.1056

Jupiter -119871-03-08 12:15 J -42061393.09 -42061392.99 -42061392.89 0.0500 0.0408

Jupiter -119871-06-06 19:56 J -42061302.84 -42061302.67 -42061302.50 0.0500 0.0174

Mars -119870-07-11 04:34 J -42060903.42 -42060903.31 -42060903.20 0.1669 0.0638

Saturn -119869-02-05 05:32 J -42060694.28 -42060694.27 -42060694.25 0.0266 0.0265

Moon -119869-04-05 07:56 J -42060634.28 -42060634.17 -42060634.06 0.2778 0.0354

Earth -119869-04-05 08:25 J -42060634.26 -42060634.15 -42060634.04 0.2782 0.0458 *

Saturn -119869-05-04 00:01 J -42060605.63 -42060605.50 -42060605.35 0.0265 0.0164

Saturn -119869-07-31 18:58 J -42060516.89 -42060516.71 -42060516.54 0.0264 0.0062

Saturn -119869-10-28 13:56 J -42060428.10 -42060427.92 -42060427.74 0.0264 0.0041

Saturn -119868-01-25 08:53 J -42060339.28 -42060339.13 -42060338.98 0.0263 0.0144

Saturn -119868-04-24 04:05 J -42060250.38 -42060250.33 -42060250.27 0.0262 0.0247

Earth -119866-10-01 20:53 J -42059359.79 -42059359.63 -42059359.47 0.2560 0.0026

Moon -119866-10-01 21:22 J -42059359.78 -42059359.61 -42059359.45 0.2553 0.0125 *

Jupiter -119865-05-05 08:25 J -42059143.28 -42059143.15 -42059143.02 0.0526 0.0060

Jupiter -119865-08-02 15:22 J -42059053.94 -42059053.86 -42059053.78 0.0526 0.0409

Mars -119863-02-15 21:37 J -42058491.76 -42058491.60 -42058491.44 0.1838 0.0372

Mars -119863-12-26 07:41 J -42058178.23 -42058178.18 -42058178.12 0.1682 0.1480

Earth -119862-03-30 06:01 J -42058084.33 -42058084.25 -42058084.17 0.2778 0.1851

Moon -119862-03-30 06:44 J -42058084.30 -42058084.22 -42058084.14 0.2776 0.1786 *

Mars -119861-11-30 15:08 J -42057472.99 -42057472.87 -42057472.75 0.1671 0.0239

Jupiter -119859-03-25 17:17 J -42056992.96 -42056992.78 -42056992.60 0.0500 0.0026

Venus -119859-05-10 12:44 J -42056947.06 -42056946.97 -42056946.89 0.3711 0.2116

Moon -119856-04-08 02:10 J -42055883.51 -42055883.41 -42055883.32 0.2782 0.1263

Earth -119856-04-08 02:53 J -42055883.48 -42055883.38 -42055883.29 0.2783 0.1278 *

Uranus -119854-06-02 18:29 J -42055097.78 -42055097.73 -42055097.67 0.0131 0.0119

Mars -119854-07-08 19:13 J -42055061.81 -42055061.70 -42055061.59 0.1835 0.1277

Uranus -119854-08-29 21:37 J -42055009.67 -42055009.60 -42055009.51 0.0131 0.0103

Saturn -119854-11-23 06:44 J -42054924.29 -42054924.22 -42054924.13 0.0296 0.0237

Venus -119854-11-24 05:17 J -42054923.38 -42054923.28 -42054923.17 0.3717 0.0440

Uranus -119854-11-26 00:44 J -42054921.57 -42054921.47 -42054921.37 0.0131 0.0088

Saturn -119853-02-19 20:39 J -42054835.76 -42054835.64 -42054835.51 0.0297 0.0125

Uranus -119853-02-22 03:51 J -42054833.45 -42054833.34 -42054833.23 0.0131 0.0072

Jupiter -119853-02-22 12:29 J -42054833.11 -42054832.98 -42054832.86 0.0525 0.0175

Saturn -119853-05-18 10:34 J -42054747.20 -42054747.06 -42054746.93 0.0298 0.0014

Uranus -119853-05-20 06:58 J -42054745.33 -42054745.21 -42054745.09 0.0131 0.0057

Jupiter -119853-05-21 19:27 J -42054743.80 -42054743.69 -42054743.59 0.0526 0.0296

Saturn -119853-08-15 00:15 J -42054658.62 -42054658.49 -42054658.37 0.0299 0.0098

Uranus -119853-08-16 09:51 J -42054657.21 -42054657.09 -42054656.96 0.0131 0.0042

Moon -119853-10-04 03:08 J -42054608.52 -42054608.37 -42054608.23 0.2553 0.1251

Earth -119853-10-04 03:22 J -42054608.49 -42054608.36 -42054608.22 0.2559 0.1378 *

Saturn -119853-11-11 13:41 J -42054570.02 -42054569.93 -42054569.83 0.0300 0.0209

Uranus -119853-11-12 12:58 J -42054569.09 -42054568.96 -42054568.83 0.0131 0.0026

Uranus -119852-02-08 16:05 J -42054480.97 -42054480.83 -42054480.70 0.0131 0.0012

Uranus -119852-05-07 18:58 J -42054392.84 -42054392.71 -42054392.57 0.0131 0.0004

Uranus -119852-08-03 21:51 J -42054304.72 -42054304.59 -42054304.45 0.0131 0.0020

Uranus -119852-10-31 00:58 J -42054216.59 -42054216.46 -42054216.33 0.0131 0.0034

Uranus -119851-01-27 03:51 J -42054128.46 -42054128.34 -42054128.21 0.0131 0.0049

Mars -119851-04-23 01:27 J -42054042.56 -42054042.44 -42054042.32 0.1674 0.0166

Uranus -119851-04-25 06:44 J -42054040.33 -42054040.22 -42054040.10 0.0131 0.0065

Uranus -119851-07-22 09:37 J -42053952.20 -42053952.10 -42053951.99 0.0131 0.0080

Uranus -119851-10-18 12:44 J -42053864.06 -42053863.97 -42053863.88 0.0131 0.0094

Uranus -119850-01-14 15:37 J -42053775.92 -42053775.85 -42053775.77 0.0131 0.0109

Uranus -119850-04-12 18:29 J -42053687.76 -42053687.73 -42053687.68 0.0131 0.0124

Mars -119849-03-28 07:27 J -42053337.24 -42053337.19 -42053337.13 0.1665 0.1466

Earth -119849-04-01 00:29 J -42053333.58 -42053333.48 -42053333.38 0.2780 0.1034

Moon -119849-04-01 00:58 J -42053333.56 -42053333.46 -42053333.35 0.2777 0.0929 *

Venus -119848-06-08 22:05 J -42052899.68 -42052899.58 -42052899.48 0.3722 0.1269

Jupiter -119847-01-11 13:41 J -42052683.10 -42052682.93 -42052682.75 0.0500 0.0131

Jupiter -119847-04-11 22:05 J -42052592.65 -42052592.58 -42052592.51 0.0500 0.0458

Earth -119846-09-26 14:39 J -42052059.94 -42052059.89 -42052059.85 0.2563 0.2457

Moon -119846-09-26 16:20 J -42052059.89 -42052059.82 -42052059.76 0.2565 0.2341 *

Venus -119845-03-08 08:25 J -42051896.27 -42051896.15 -42051896.03 0.3668 0.1984

Moon -119843-04-10 20:39 J -42051132.71 -42051132.64 -42051132.57 0.2785 0.2068

Earth -119843-04-10 21:08 J -42051132.68 -42051132.62 -42051132.55 0.2784 0.2101 *

Mars -119843-11-05 05:32 J -42050924.34 -42050924.27 -42050924.21 0.1845 0.1664

Venus -119843-12-23 14:39 J -42050875.95 -42050875.89 -42050875.82 0.3728 0.2930

Mars -119842-09-13 11:32 J -42050612.13 -42050612.02 -42050611.90 0.1676 0.0583

Jupiter -119842-12-11 16:20 J -42050522.92 -42050522.82 -42050522.71 0.0525 0.0290

Jupiter -119841-03-09 23:32 J -42050433.64 -42050433.52 -42050433.40 0.0526 0.0182

Mars -119840-08-18 18:15 J -42049906.83 -42049906.74 -42049906.65 0.1666 0.1081

Saturn -119840-09-21 01:13 J -42049873.57 -42049873.45 -42049873.32 0.0265 0.0187

Venus -119840-09-22 13:27 J -42049872.06 -42049871.94 -42049871.81 0.3661 0.1870

Saturn -119840-12-18 20:10 J -42049784.83 -42049784.66 -42049784.49 0.0264 0.0085

Saturn -119839-03-17 14:53 J -42049696.06 -42049695.88 -42049695.70 0.0264 0.0018

Saturn -119839-06-14 09:51 J -42049607.25 -42049607.09 -42049606.92 0.0263 0.0120

Saturn -119839-09-11 05:03 J -42049518.38 -42049518.29 -42049518.19 0.0262 0.0223

Pluto -119837-07-19 17:17 J -42048840.83 -42048840.78 -42048840.72 0.0084 0.0078

Pluto -119837-10-15 18:44 J -42048752.81 -42048752.72 -42048752.63 0.0084 0.0062

Pluto -119836-01-11 19:56 J -42048664.77 -42048664.67 -42048664.55 0.0084 0.0046

Earth -119836-04-03 18:58 J -42048582.82 -42048582.71 -42048582.61 0.2781 0.0231

Moon -119836-04-03 19:13 J -42048582.81 -42048582.70 -42048582.59 0.2774 0.0253 *

Pluto -119836-04-09 21:22 J -42048576.73 -42048576.61 -42048576.48 0.0084 0.0031

Pluto -119836-07-06 22:49 J -42048488.68 -42048488.55 -42048488.42 0.0084 0.0015

Pluto -119836-10-03 00:01 J -42048400.63 -42048400.50 -42048400.36 0.0084 0.0002

Jupiter -119836-10-30 11:17 J -42048373.18 -42048373.03 -42048372.88 0.0500 0.0277

Pluto -119836-12-30 01:27 J -42048312.57 -42048312.44 -42048312.31 0.0084 0.0016

Jupiter -119835-01-28 19:13 J -42048282.84 -42048282.70 -42048282.55 0.0500 0.0310

Pluto -119835-03-28 02:39 J -42048224.51 -42048224.39 -42048224.26 0.0084 0.0031

Pluto -119835-06-24 03:51 J -42048136.44 -42048136.34 -42048136.22 0.0083 0.0047

Pluto -119835-09-20 05:17 J -42048048.37 -42048048.28 -42048048.18 0.0083 0.0061

Pluto -119835-12-17 06:29 J -42047960.27 -42047960.23 -42047960.17 0.0083 0.0077

Mars -119833-03-27 01:27 J -42047494.59 -42047494.44 -42047494.29 0.1841 0.0677

Earth -119833-09-28 21:08 J -42047308.77 -42047308.62 -42047308.47 0.2561 0.1095

Moon -119833-09-28 22:49 J -42047308.70 -42047308.55 -42047308.40 0.2560 0.0933 *

Mars -119832-02-02 21:37 J -42047181.69 -42047181.60 -42047181.50 0.1679 0.1003

Mars -119830-01-09 04:34 J -42046476.41 -42046476.31 -42046476.20 0.1669 0.0688

Jupiter -119830-09-29 19:56 J -42046212.75 -42046212.67 -42046212.59 0.0524 0.0413

Jupiter -119830-12-28 03:08 J -42046123.50 -42046123.37 -42046123.24 0.0525 0.0060

Jupiter -119829-03-26 09:51 J -42046034.10 -42046034.09 -42046034.09 0.0526 0.0524

Earth -119829-03-27 16:34 J -42046032.86 -42046032.81 -42046032.77 0.2776 0.2519

Moon -119829-03-27 16:34 J -42046032.85 -42046032.81 -42046032.77 0.2783 0.2527 *

Saturn -119824-04-11 09:08 J -42044192.18 -42044192.12 -42044192.06 0.0297 0.0263

Saturn -119824-07-08 23:03 J -42044103.65 -42044103.54 -42044103.42 0.0298 0.0151

Mars -119824-08-16 22:34 J -42044064.72 -42044064.56 -42044064.40 0.1838 0.0271

Jupiter -119824-08-18 09:08 J -42044063.21 -42044063.12 -42044063.02 0.0501 0.0419

Saturn -119824-10-05 12:58 J -42044015.10 -42044014.96 -42044014.83 0.0299 0.0040

Jupiter -119824-11-16 16:49 J -42043972.97 -42043972.80 -42043972.63 0.0500 0.0164

Saturn -119823-01-02 02:39 J -42043926.52 -42043926.39 -42043926.26 0.0300 0.0073

Saturn -119823-03-31 16:05 J -42043837.93 -42043837.83 -42043837.72 0.0300 0.0184

Moon -119823-04-06 13:27 J -42043832.05 -42043831.94 -42043831.84 0.2776 0.0646

Earth -119823-04-06 13:13 J -42043832.05 -42043831.95 -42043831.84 0.2783 0.0615 *

Mars -119823-06-26 07:41 J -42043751.24 -42043751.18 -42043751.12 0.1682 0.1427

Saturn -119823-06-28 05:32 J -42043749.29 -42043749.27 -42043749.24 0.0301 0.0294

Mars -119821-05-31 15:08 J -42043045.99 -42043045.87 -42043045.75 0.1671 0.0290

Earth -119820-10-02 03:37 J -42042557.51 -42042557.35 -42042557.19 0.2559 0.0269

Moon -119820-10-02 05:17 J -42042557.44 -42042557.28 -42042557.12 0.2558 0.0274 *

Jupiter -119818-10-16 06:44 J -42041813.35 -42041813.22 -42041813.09 0.0525 0.0062

Jupiter -119817-01-13 13:41 J -42041724.01 -42041723.93 -42041723.85 0.0526 0.0407

Earth -119816-03-30 10:49 J -42041282.13 -42041282.05 -42041281.96 0.2778 0.1705

Moon -119816-03-30 11:17 J -42041282.11 -42041282.03 -42041281.94 0.2784 0.1620 *

Mars -119814-01-06 19:41 J -42040634.80 -42040634.68 -42040634.56 0.1834 0.1191

Jupiter -119812-09-04 14:39 J -42039663.07 -42039662.89 -42039662.71 0.0500 0.0022

Mars -119812-10-22 01:27 J -42039615.56 -42039615.44 -42039615.32 0.1674 0.0116

Neptune -119811-04-14 19:41 J -42039440.69 -42039440.68 -42039440.67 0.0088 0.0088

Uranus -119811-05-24 10:20 J -42039401.10 -42039401.07 -42039401.01 0.0148 0.0143

Neptune -119811-07-11 21:08 J -42039352.66 -42039352.62 -42039352.58 0.0088 0.0084

Uranus -119811-08-20 18:58 J -42039312.83 -42039312.71 -42039312.59 0.0148 0.0112

Neptune -119811-10-07 22:20 J -42039264.61 -42039264.57 -42039264.50 0.0088 0.0080

Uranus -119811-11-17 03:22 J -42039224.51 -42039224.36 -42039224.20 0.0148 0.0082

Neptune -119810-01-03 23:46 J -42039176.56 -42039176.51 -42039176.42 0.0088 0.0076

Saturn -119810-02-08 02:39 J -42039141.50 -42039141.39 -42039141.29 0.0265 0.0209

Uranus -119810-02-13 12:01 J -42039136.18 -42039136.00 -42039135.83 0.0148 0.0051

Neptune -119810-04-02 01:41 J -42039088.51 -42039088.43 -42039088.35 0.0088 0.0071

Moon -119810-04-09 07:27 J -42039081.28 -42039081.19 -42039081.10 0.2776 0.1425

Earth -119810-04-09 07:41 J -42039081.27 -42039081.18 -42039081.09 0.2784 0.1430 *

Saturn -119810-05-07 21:08 J -42039052.78 -42039052.62 -42039052.45 0.0264 0.0108

Uranus -119810-05-12 20:25 J -42039047.84 -42039047.65 -42039047.46 0.0148 0.0021

Neptune -119810-06-29 02:53 J -42039000.46 -42039000.38 -42039000.28 0.0088 0.0067

Saturn -119810-08-04 16:05 J -42038964.01 -42038963.83 -42038963.65 0.0264 0.0008

Uranus -119810-08-09 05:03 J -42038959.48 -42038959.29 -42038959.10 0.0148 0.0011

Neptune -119810-09-25 04:20 J -42038912.40 -42038912.32 -42038912.21 0.0088 0.0063

Mars -119810-09-27 07:27 J -42038910.23 -42038910.19 -42038910.14 0.1665 0.1514

Saturn -119810-11-01 10:49 J -42038875.21 -42038875.05 -42038874.87 0.0263 0.0096

Uranus -119810-11-05 13:27 J -42038871.12 -42038870.94 -42038870.75 0.0148 0.0042

Neptune -119810-12-22 05:46 J -42038824.35 -42038824.26 -42038824.14 0.0088 0.0059

Saturn -119809-01-29 06:01 J -42038786.36 -42038786.25 -42038786.13 0.0262 0.0199

Uranus -119809-02-01 22:05 J -42038782.74 -42038782.58 -42038782.41 0.0148 0.0073

Neptune -119809-03-19 07:27 J -42038736.29 -42038736.19 -42038736.07 0.0088 0.0054

Uranus -119809-04-30 06:44 J -42038694.35 -42038694.22 -42038694.08 0.0148 0.0104

Neptune -119809-06-15 08:53 J -42038648.24 -42038648.13 -42038648.01 0.0088 0.0050

Uranus -119809-07-27 15:08 J -42038605.92 -42038605.87 -42038605.78 0.0148 0.0136

Neptune -119809-09-11 10:20 J -42038560.18 -42038560.07 -42038559.94 0.0088 0.0045

Neptune -119809-12-08 12:01 J -42038472.12 -42038472.00 -42038471.88 0.0088 0.0041

Neptune -119808-03-06 13:27 J -42038384.06 -42038383.94 -42038383.81 0.0088 0.0037

Venus -119808-05-31 17:32 J -42038297.82 -42038297.77 -42038297.72 0.3707 0.3187

Neptune -119808-06-02 14:53 J -42038296.01 -42038295.88 -42038295.75 0.0088 0.0032

Neptune -119808-08-29 16:20 J -42038207.95 -42038207.82 -42038207.69 0.0088 0.0028

Neptune -119808-11-25 17:46 J -42038119.89 -42038119.76 -42038119.62 0.0088 0.0024

Neptune -119807-02-21 19:13 J -42038031.83 -42038031.70 -42038031.56 0.0088 0.0020

Neptune -119807-05-20 20:39 J -42037943.77 -42037943.64 -42037943.50 0.0088 0.0015

Neptune -119807-08-16 22:05 J -42037855.71 -42037855.58 -42037855.44 0.0088 0.0011

Earth -119807-10-05 10:05 J -42037806.20 -42037806.08 -42037805.95 0.2558 0.1627

Moon -119807-10-05 11:17 J -42037806.15 -42037806.03 -42037805.91 0.2554 0.1745 *

Neptune -119807-11-12 23:32 J -42037767.65 -42037767.52 -42037767.38 0.0088 0.0007

Neptune -119806-02-09 00:58 J -42037679.59 -42037679.46 -42037679.32 0.0088 0.0004

Neptune -119806-05-08 02:25 J -42037591.53 -42037591.40 -42037591.26 0.0088 0.0003

Neptune -119806-08-04 03:51 J -42037503.47 -42037503.34 -42037503.20 0.0088 0.0006

Jupiter -119806-08-04 10:20 J -42037503.19 -42037503.07 -42037502.95 0.0525 0.0183

Neptune -119806-10-31 05:17 J -42037415.41 -42037415.28 -42037415.14 0.0088 0.0010

Jupiter -119806-11-01 17:17 J -42037413.89 -42037413.78 -42037413.67 0.0526 0.0288

Neptune -119805-01-27 06:44 J -42037327.35 -42037327.22 -42037327.08 0.0088 0.0014

Neptune -119805-04-24 08:10 J -42037239.29 -42037239.16 -42037239.03 0.0088 0.0018

Neptune -119805-07-21 09:37 J -42037151.23 -42037151.10 -42037150.97 0.0088 0.0022

Neptune -119805-10-17 11:03 J -42037063.17 -42037063.04 -42037062.91 0.0088 0.0027

Neptune -119804-01-13 12:15 J -42036975.11 -42036974.99 -42036974.86 0.0088 0.0031

Neptune -119804-04-11 13:41 J -42036887.05 -42036886.93 -42036886.80 0.0088 0.0035

Neptune -119804-07-08 15:08 J -42036798.99 -42036798.87 -42036798.74 0.0088 0.0039

Neptune -119804-10-04 16:34 J -42036710.93 -42036710.81 -42036710.69 0.0088 0.0043

Neptune -119804-12-31 17:46 J -42036622.86 -42036622.76 -42036622.64 0.0088 0.0048

Neptune -119803-03-29 19:13 J -42036534.80 -42036534.70 -42036534.58 0.0088 0.0052

Earth -119803-04-02 05:17 J -42036531.38 -42036531.28 -42036531.18 0.2780 0.0883

Moon -119803-04-02 06:01 J -42036531.35 -42036531.25 -42036531.15 0.2783 0.0903 *

Mars -119803-05-06 05:46 J -42036497.31 -42036497.26 -42036497.21 0.1844 0.1739

Neptune -119803-06-25 20:39 J -42036446.74 -42036446.64 -42036446.53 0.0088 0.0056

Neptune -119803-09-21 22:05 J -42036358.68 -42036358.58 -42036358.48 0.0088 0.0060

Venus -119803-12-15 10:20 J -42036274.17 -42036274.07 -42036273.97 0.3712 0.1483

Neptune -119803-12-18 23:32 J -42036270.61 -42036270.52 -42036270.43 0.0088 0.0064

Mars -119802-03-14 11:32 J -42036185.13 -42036185.02 -42036184.90 0.1676 0.0532

Neptune -119802-03-17 00:58 J -42036182.55 -42036182.46 -42036182.38 0.0088 0.0068

Neptune -119802-06-13 02:10 J -42036094.48 -42036094.41 -42036094.33 0.0088 0.0072

Neptune -119802-09-09 03:37 J -42036006.42 -42036006.35 -42036006.28 0.0088 0.0076

Neptune -119802-12-06 05:03 J -42035918.35 -42035918.29 -42035918.24 0.0088 0.0080

Neptune -119801-03-03 06:01 J -42035830.27 -42035830.25 -42035830.20 0.0088 0.0084

Neptune -119801-05-30 07:41 J -42035742.19 -42035742.18 -42035742.17 0.0088 0.0088

Mars -119800-02-16 18:01 J -42035479.83 -42035479.75 -42035479.66 0.1667 0.1129

Jupiter -119800-06-23 12:15 J -42035353.16 -42035352.99 -42035352.81 0.0500 0.0124

Jupiter -119800-09-21 20:39 J -42035262.71 -42035262.64 -42035262.58 0.0499 0.0465

Moon -119800-09-26 21:37 J -42035257.69 -42035257.60 -42035257.52 0.2569 0.2129

Earth -119800-09-26 21:22 J -42035257.69 -42035257.61 -42035257.53 0.2562 0.2204 *

Moon -119797-04-11 01:41 J -42034330.50 -42034330.43 -42034330.37 0.2780 0.2149

Earth -119797-04-11 02:10 J -42034330.47 -42034330.41 -42034330.35 0.2784 0.2250 *

Venus -119797-06-30 03:08 J -42034250.47 -42034250.37 -42034250.26 0.3718 0.0212

Saturn -119795-08-29 11:03 J -42033460.05 -42033460.04 -42033460.02 0.0296 0.0293

Saturn -119795-11-26 00:58 J -42033371.56 -42033371.46 -42033371.35 0.0297 0.0182

Saturn -119794-02-22 14:53 J -42033283.01 -42033282.88 -42033282.75 0.0298 0.0070

Saturn -119794-05-22 04:34 J -42033194.44 -42033194.31 -42033194.17 0.0299 0.0042

Jupiter -119794-05-23 14:25 J -42033193.01 -42033192.90 -42033192.80 0.0525 0.0298

Saturn -119794-08-18 18:15 J -42033105.86 -42033105.74 -42033105.63 0.0300 0.0152

Jupiter -119794-08-20 21:22 J -42033103.73 -42033103.61 -42033103.48 0.0526 0.0176

Mars -119794-09-26 02:25 J -42033067.55 -42033067.40 -42033067.25 0.1842 0.0773

Saturn -119794-11-15 07:41 J -42033017.24 -42033017.18 -42033017.12 0.0300 0.0263

Mars -119793-08-03 21:51 J -42032754.69 -42032754.59 -42032754.49 0.1679 0.0945

Venus -119791-01-13 19:56 J -42032226.76 -42032226.67 -42032226.58 0.3724 0.1887

Mars -119791-07-10 04:49 J -42032049.41 -42032049.30 -42032049.20 0.1669 0.0742

Earth -119790-04-04 23:46 J -42031780.62 -42031780.51 -42031780.40 0.2781 0.0074

Moon -119790-04-05 00:29 J -42031780.59 -42031780.48 -42031780.37 0.2781 0.0035 *

Venus -119789-10-13 09:22 J -42031223.25 -42031223.11 -42031222.97 0.3666 0.0681

Jupiter -119788-04-11 08:39 J -42031043.28 -42031043.14 -42031042.99 0.0500 0.0281

Jupiter -119788-07-10 16:34 J -42030952.95 -42030952.81 -42030952.66 0.0500 0.0306

Earth -119787-09-30 03:37 J -42030506.50 -42030506.35 -42030506.19 0.2561 0.0847

Moon -119787-09-30 04:49 J -42030506.45 -42030506.30 -42030506.15 0.2565 0.0881 *

Venus -119786-07-30 12:29 J -42030203.01 -42030202.98 -42030202.95 0.3730 0.3536

Mars -119784-02-14 23:17 J -42029637.69 -42029637.53 -42029637.37 0.1838 0.0177

Mars -119784-12-25 07:41 J -42029324.25 -42029324.18 -42029324.11 0.1682 0.1374

Moon -119783-03-28 20:53 J -42029230.69 -42029230.63 -42029230.58 0.2781 0.2364

Earth -119783-03-28 21:22 J -42029230.67 -42029230.61 -42029230.56 0.2776 0.2370 *

Venus -119783-04-29 14:39 J -42029198.96 -42029198.89 -42029198.82 0.3659 0.3221

Jupiter -119782-03-11 18:29 J -42028882.81 -42028882.73 -42028882.65 0.0525 0.0411

Jupiter -119782-06-09 01:41 J -42028793.56 -42028793.43 -42028793.30 0.0525 0.0062

Mars -119782-11-30 15:08 J -42028618.99 -42028618.87 -42028618.75 0.1671 0.0341

Saturn -119781-06-27 03:37 J -42028409.43 -42028409.35 -42028409.27 0.0265 0.0233

Saturn -119781-09-23 22:05 J -42028320.73 -42028320.58 -42028320.42 0.0265 0.0132

Saturn -119781-12-21 16:49 J -42028231.97 -42028231.80 -42028231.62 0.0264 0.0031

Saturn -119780-03-20 11:46 J -42028143.18 -42028143.01 -42028142.83 0.0263 0.0072

Saturn -119780-06-17 06:44 J -42028054.35 -42028054.22 -42028054.08 0.0263 0.0174

Earth -119777-04-06 18:15 J -42027029.85 -42027029.74 -42027029.64 0.2783 0.0764

Moon -119777-04-06 18:44 J -42027029.82 -42027029.72 -42027029.61 0.2780 0.0840 *

Jupiter -119776-01-28 06:29 J -42026733.32 -42026733.23 -42026733.14 0.0501 0.0425

Jupiter -119776-04-28 14:10 J -42026643.09 -42026642.91 -42026642.74 0.0500 0.0158

Mars -119775-07-07 20:25 J -42026207.78 -42026207.65 -42026207.53 0.1834 0.1104

Earth -119774-10-03 10:20 J -42025755.23 -42025755.07 -42025754.91 0.2559 0.0521

Moon -119774-10-03 11:32 J -42025755.18 -42025755.02 -42025754.87 0.2564 0.0644 *

Mars -119772-04-22 01:27 J -42025188.56 -42025188.44 -42025188.32 0.1674 0.0069

Jupiter -119770-03-28 05:17 J -42024483.41 -42024483.28 -42024483.15 0.0525 0.0060

Mars -119770-03-28 07:27 J -42024483.23 -42024483.19 -42024483.15 0.1665 0.1560 *

Moon -119770-03-31 15:37 J -42024479.94 -42024479.85 -42024479.77 0.2786 0.1647

Earth -119770-03-31 15:51 J -42024479.93 -42024479.84 -42024479.75 0.2778 0.1552 *

Uranus -119770-06-23 01:27 J -42024396.50 -42024396.44 -42024396.38 0.0131 0.0116

Jupiter -119770-06-25 12:15 J -42024394.07 -42024393.99 -42024393.91 0.0526 0.0408

Uranus -119770-09-19 04:20 J -42024308.39 -42024308.32 -42024308.22 0.0131 0.0101

Uranus -119770-12-16 07:27 J -42024220.28 -42024220.19 -42024220.08 0.0131 0.0086

Uranus -119769-03-13 10:34 J -42024132.17 -42024132.06 -42024131.94 0.0131 0.0070

Uranus -119769-06-09 13:41 J -42024044.05 -42024043.93 -42024043.81 0.0131 0.0055

Uranus -119769-09-05 16:34 J -42023955.93 -42023955.81 -42023955.67 0.0131 0.0040

Uranus -119769-12-02 19:41 J -42023867.81 -42023867.68 -42023867.54 0.0131 0.0024

Uranus -119768-02-28 22:49 J -42023779.69 -42023779.55 -42023779.42 0.0131 0.0009

Uranus -119768-05-28 01:41 J -42023691.56 -42023691.43 -42023691.29 0.0131 0.0007

Uranus -119768-08-24 04:49 J -42023603.44 -42023603.30 -42023603.17 0.0131 0.0022

Uranus -119768-11-20 07:41 J -42023515.31 -42023515.18 -42023515.05 0.0131 0.0037

Uranus -119767-02-16 10:34 J -42023427.18 -42023427.06 -42023426.93 0.0131 0.0052

Uranus -119767-05-15 13:27 J -42023339.05 -42023338.94 -42023338.82 0.0131 0.0067

Uranus -119767-08-11 16:20 J -42023250.91 -42023250.82 -42023250.71 0.0131 0.0082

Uranus -119767-11-07 19:13 J -42023162.78 -42023162.70 -42023162.60 0.0131 0.0097

Uranus -119766-02-03 22:20 J -42023074.63 -42023074.57 -42023074.50 0.0131 0.0111

Uranus -119766-05-03 01:13 J -42022986.47 -42022986.45 -42022986.41 0.0131 0.0126

Saturn -119765-04-14 02:53 J -42022639.48 -42022639.38 -42022639.29 0.0297 0.0212

Saturn -119765-07-11 16:49 J -42022550.93 -42022550.80 -42022550.67 0.0298 0.0100

Saturn -119765-10-08 06:29 J -42022462.37 -42022462.23 -42022462.09 0.0299 0.0012

Saturn -119764-01-04 20:10 J -42022373.78 -42022373.66 -42022373.54 0.0300 0.0123

Jupiter -119764-02-14 11:46 J -42022333.19 -42022333.01 -42022332.83 0.0500 0.0016

Saturn -119764-04-03 09:37 J -42022285.18 -42022285.10 -42022285.01 0.0301 0.0234

Earth -119764-04-09 12:29 J -42022279.06 -42022278.98 -42022278.89 0.2784 0.1587

Moon -119764-04-09 13:13 J -42022279.04 -42022278.95 -42022278.86 0.2778 0.1555 *

Mars -119764-11-04 06:44 J -42022070.22 -42022070.22 -42022070.22 0.1844 0.1843

Mars -119763-09-12 11:46 J -42021758.13 -42021758.01 -42021757.90 0.1676 0.0478

Mars -119761-08-17 18:15 J -42021052.83 -42021052.74 -42021052.66 0.1667 0.1178

Earth -119761-10-05 16:49 J -42021003.91 -42021003.80 -42021003.69 0.2558 0.1884

Moon -119761-10-05 18:29 J -42021003.83 -42021003.73 -42021003.63 0.2559 0.2020 *

Jupiter -119758-01-14 08:53 J -42020173.25 -42020173.13 -42020173.00 0.0525 0.0181

Jupiter -119758-04-13 15:51 J -42020083.94 -42020083.84 -42020083.73 0.0526 0.0291

Moon -119757-04-02 10:20 J -42019729.18 -42019729.07 -42019728.97 0.2787 0.0712

Earth -119757-04-02 10:05 J -42019729.18 -42019729.08 -42019728.97 0.2780 0.0742 *

Mars -119754-03-27 02:53 J -42018640.52 -42018640.38 -42018640.23 0.1841 0.0863

Moon -119754-09-28 02:25 J -42018455.48 -42018455.40 -42018455.31 0.2566 0.2145

Earth -119754-09-28 03:51 J -42018455.44 -42018455.34 -42018455.24 0.2562 0.1957 *

Mars -119753-02-02 21:51 J -42018327.69 -42018327.59 -42018327.49 0.1679 0.0895

Jupiter -119753-12-03 09:51 J -42018023.26 -42018023.09 -42018022.91 0.0500 0.0127

Jupiter -119752-03-03 18:15 J -42017932.80 -42017932.74 -42017932.67 0.0500 0.0463

Saturn -119752-11-14 04:05 J -42017677.36 -42017677.33 -42017677.29 0.0265 0.0259

Venus -119751-01-05 15:22 J -42017624.94 -42017624.86 -42017624.79 0.3708 0.2553

Mars -119751-01-08 04:34 J -42017622.41 -42017622.31 -42017622.20 0.1669 0.0791

Saturn -119751-02-10 22:49 J -42017588.69 -42017588.55 -42017588.41 0.0265 0.0158

Earth -119751-04-12 06:58 J -42017528.26 -42017528.21 -42017528.16 0.2785 0.2403

Moon -119751-04-12 07:13 J -42017528.25 -42017528.20 -42017528.15 0.2778 0.2461 *

Saturn -119751-05-10 17:32 J -42017499.95 -42017499.77 -42017499.60 0.0264 0.0057

Saturn -119751-08-07 12:15 J -42017411.16 -42017410.99 -42017410.81 0.0263 0.0045

Saturn -119751-11-04 07:13 J -42017322.34 -42017322.20 -42017322.04 0.0263 0.0147

Saturn -119750-02-01 02:25 J -42017233.45 -42017233.40 -42017233.34 0.0262 0.0249

Jupiter -119747-11-02 12:29 J -42015863.09 -42015862.98 -42015862.87 0.0525 0.0302

Jupiter -119746-01-30 19:41 J -42015773.80 -42015773.68 -42015773.56 0.0526 0.0171

Venus -119746-07-22 08:10 J -42015601.26 -42015601.16 -42015601.06 0.3714 0.0850

Mars -119745-08-15 23:32 J -42015210.68 -42015210.52 -42015210.35 0.1838 0.0110

Earth -119744-04-05 04:34 J -42014978.42 -42014978.31 -42014978.20 0.2781 0.0104

Moon -119744-04-05 05:03 J -42014978.40 -42014978.29 -42014978.18 0.2788 0.0156 *

Mars -119744-06-25 07:56 J -42014897.25 -42014897.17 -42014897.10 0.1682 0.1316

Mars -119742-05-31 15:08 J -42014191.99 -42014191.87 -42014191.75 0.1671 0.0391

Jupiter -119741-09-21 07:41 J -42013713.33 -42013713.18 -42013713.03 0.0500 0.0269

Moon -119741-09-30 09:51 J -42013704.25 -42013704.09 -42013703.94 0.2566 0.0572

Earth -119741-09-30 10:20 J -42013704.22 -42013704.07 -42013703.91 0.2560 0.0594 *

Jupiter -119741-12-20 15:37 J -42013622.99 -42013622.85 -42013622.71 0.0500 0.0317

Venus -119740-02-04 00:58 J -42013577.57 -42013577.46 -42013577.36 0.3720 0.0839

Venus -119738-11-04 05:32 J -42012574.34 -42012574.27 -42012574.20 0.3672 0.3155

Moon -119737-03-29 01:27 J -42012428.49 -42012428.44 -42012428.38 0.2775 0.2340

Earth -119737-03-29 02:10 J -42012428.47 -42012428.41 -42012428.34 0.2777 0.2223 *

Saturn -119736-09-01 04:20 J -42011907.39 -42011907.32 -42011907.24 0.0297 0.0245

Saturn -119736-11-28 18:15 J -42011818.86 -42011818.74 -42011818.61 0.0298 0.0134

Mars -119735-01-05 21:08 J -42011780.75 -42011780.62 -42011780.49 0.1835 0.1005

Saturn -119735-02-25 08:10 J -42011730.29 -42011730.16 -42011730.02 0.0298 0.0022

Saturn -119735-05-24 21:51 J -42011641.72 -42011641.59 -42011641.46 0.0299 0.0090

Venus -119735-08-20 17:32 J -42011553.84 -42011553.77 -42011553.69 0.3725 0.2506

Saturn -119735-08-21 11:32 J -42011553.12 -42011553.02 -42011552.92 0.0300 0.0201

Jupiter -119735-08-21 16:34 J -42011552.89 -42011552.81 -42011552.73 0.0525 0.0416

Jupiter -119735-11-18 23:46 J -42011463.63 -42011463.51 -42011463.38 0.0526 0.0060

Jupiter -119734-02-16 06:29 J -42011374.23 -42011374.23 -42011374.22 0.0526 0.0524

Mars -119733-10-21 01:27 J -42010761.56 -42010761.44 -42010761.32 0.1674 0.0045

Venus -119732-05-20 10:20 J -42010550.22 -42010550.07 -42010549.93 0.3665 0.0625

Earth -119731-04-07 23:03 J -42010227.64 -42010227.54 -42010227.44 0.2783 0.0911

Moon -119731-04-07 23:46 J -42010227.62 -42010227.51 -42010227.41 0.2786 0.0909 *

Mars -119731-09-26 07:41 J -42010056.21 -42010056.18 -42010056.16 0.1665 0.1611

Jupiter -119729-07-10 04:05 J -42009403.41 -42009403.33 -42009403.23 0.0501 0.0426

Jupiter -119729-10-08 11:46 J -42009313.18 -42009313.01 -42009312.83 0.0500 0.0158

Moon -119728-10-03 16:34 J -42008952.96 -42008952.81 -42008952.66 0.2565 0.0799

Earth -119728-10-03 16:49 J -42008952.95 -42008952.80 -42008952.64 0.2559 0.0777 *

Neptune -119727-03-15 10:05 J -42008790.12 -42008790.08 -42008790.04 0.0089 0.0087

Neptune -119727-06-11 12:44 J -42008702.02 -42008701.97 -42008701.87 0.0089 0.0081

Uranus -119727-06-13 15:37 J -42008699.88 -42008699.85 -42008699.79 0.0148 0.0143

Neptune -119727-09-07 16:20 J -42008613.91 -42008613.82 -42008613.72 0.0089 0.0075

Uranus -119727-09-10 00:15 J -42008611.61 -42008611.49 -42008611.37 0.0148 0.0112

Neptune -119727-12-04 19:41 J -42008525.79 -42008525.68 -42008525.56 0.0089 0.0070

Uranus -119727-12-07 08:39 J -42008523.29 -42008523.14 -42008522.98 0.0148 0.0082

Neptune -119726-03-02 22:34 J -42008437.67 -42008437.56 -42008437.41 0.0089 0.0064

Uranus -119726-03-05 17:03 J -42008434.96 -42008434.79 -42008434.61 0.0148 0.0052

Neptune -119726-05-30 02:10 J -42008349.54 -42008349.41 -42008349.26 0.0089 0.0058

Uranus -119726-06-02 01:41 J -42008346.62 -42008346.43 -42008346.24 0.0148 0.0021

Neptune -119726-08-26 05:32 J -42008261.42 -42008261.27 -42008261.12 0.0089 0.0052

Uranus -119726-08-29 10:05 J -42008258.26 -42008258.08 -42008257.89 0.0148 0.0011

Neptune -119726-11-22 08:53 J -42008173.29 -42008173.13 -42008172.97 0.0089 0.0046

Uranus -119726-11-25 18:44 J -42008169.90 -42008169.72 -42008169.54 0.0148 0.0041

Neptune -119725-02-18 12:01 J -42008085.15 -42008085.00 -42008084.82 0.0089 0.0041

Uranus -119725-02-22 03:08 J -42008081.52 -42008081.37 -42008081.19 0.0148 0.0073

Neptune -119725-05-16 15:22 J -42007997.02 -42007996.86 -42007996.68 0.0089 0.0035

Uranus -119725-05-20 11:46 J -42007993.13 -42007993.01 -42007992.86 0.0148 0.0104

Neptune -119725-08-12 18:44 J -42007908.89 -42007908.72 -42007908.54 0.0089 0.0029

Uranus -119725-08-16 20:39 J -42007904.71 -42007904.64 -42007904.56 0.0148 0.0135

Neptune -119725-11-08 22:05 J -42007820.75 -42007820.58 -42007820.39 0.0089 0.0023

Neptune -119724-02-05 01:41 J -42007732.62 -42007732.43 -42007732.25 0.0089 0.0017

Moon -119724-03-31 19:56 J -42007677.76 -42007677.67 -42007677.58 0.2780 0.1435

Earth -119724-03-31 20:39 J -42007677.73 -42007677.64 -42007677.55 0.2779 0.1404 *

Neptune -119724-05-04 05:03 J -42007644.48 -42007644.29 -42007644.11 0.0089 0.0011

Neptune -119724-07-31 08:25 J -42007556.34 -42007556.15 -42007555.96 0.0089 0.0006

Neptune -119724-10-27 11:46 J -42007468.20 -42007468.01 -42007467.82 0.0089 0.0000

Neptune -119723-01-23 15:08 J -42007380.06 -42007379.87 -42007379.68 0.0089 0.0006

Mars -119723-03-13 11:46 J -42007331.13 -42007331.01 -42007330.90 0.1676 0.0426

Neptune -119723-04-21 18:29 J -42007291.91 -42007291.73 -42007291.54 0.0089 0.0012

Neptune -119723-07-18 21:51 J -42007203.77 -42007203.59 -42007203.40 0.0089 0.0018

Jupiter -119723-09-07 04:05 J -42007153.46 -42007153.33 -42007153.20 0.0525 0.0054

Neptune -119723-10-15 01:13 J -42007115.62 -42007115.45 -42007115.26 0.0089 0.0024

Jupiter -119723-12-05 11:03 J -42007064.12 -42007064.04 -42007063.97 0.0526 0.0414

Neptune -119722-01-11 04:34 J -42007027.48 -42007027.31 -42007027.12 0.0089 0.0030

Neptune -119722-04-09 08:10 J -42006939.33 -42006939.16 -42006938.98 0.0089 0.0036

Saturn -119722-06-30 23:17 J -42006856.65 -42006856.53 -42006856.40 0.0265 0.0183

Neptune -119722-07-06 11:32 J -42006851.18 -42006851.02 -42006850.85 0.0089 0.0042

Saturn -119722-09-27 18:01 J -42006767.92 -42006767.75 -42006767.58 0.0264 0.0082

Neptune -119722-10-02 14:53 J -42006763.03 -42006762.88 -42006762.71 0.0089 0.0048

Saturn -119722-12-25 12:44 J -42006679.15 -42006678.97 -42006678.79 0.0263 0.0020

Neptune -119722-12-29 18:29 J -42006674.87 -42006674.73 -42006674.57 0.0089 0.0054

Mars -119721-02-16 18:15 J -42006625.82 -42006625.74 -42006625.66 0.1667 0.1228

Saturn -119721-03-23 07:41 J -42006590.34 -42006590.18 -42006590.02 0.0263 0.0121

Neptune -119721-03-26 21:51 J -42006586.72 -42006586.59 -42006586.44 0.0089 0.0060

Saturn -119721-06-20 02:39 J -42006501.47 -42006501.39 -42006501.29 0.0262 0.0223

Neptune -119721-06-23 01:27 J -42006498.56 -42006498.44 -42006498.31 0.0089 0.0066

Neptune -119721-09-19 04:49 J -42006410.40 -42006410.30 -42006410.18 0.0089 0.0072

Neptune -119721-12-16 08:25 J -42006322.23 -42006322.15 -42006322.05 0.0089 0.0078

Neptune -119720-03-14 11:46 J -42006234.05 -42006234.01 -42006233.94 0.0089 0.0085

Earth -119718-04-10 17:32 J -42005476.86 -42005476.77 -42005476.69 0.2784 0.1735

Moon -119718-04-10 18:15 J -42005476.82 -42005476.74 -42005476.66 0.2786 0.1854 *

Jupiter -119717-07-27 09:22 J -42005003.29 -42005003.11 -42005002.92 0.0500 0.0016

Mars -119715-09-25 03:51 J -42004213.48 -42004213.34 -42004213.21 0.1841 0.0959

Earth -119715-10-06 23:17 J -42004201.61 -42004201.53 -42004201.44 0.2558 0.2137

Moon -119715-10-07 00:01 J -42004201.59 -42004201.50 -42004201.41 0.2564 0.2082 *

Mars -119714-08-03 21:51 J -42003900.69 -42003900.59 -42003900.49 0.1679 0.0840

Mars -119712-07-09 04:49 J -42003195.41 -42003195.30 -42003195.20 0.1669 0.0840

Moon -119711-04-03 14:25 J -42002927.00 -42002926.90 -42002926.79 0.2784 0.0612

Earth -119711-04-03 15:08 J -42002926.98 -42002926.87 -42002926.77 0.2780 0.0584 *

Jupiter -119711-06-26 07:56 J -42002843.30 -42002843.17 -42002843.05 0.0525 0.0174

Jupiter -119711-09-23 14:39 J -42002753.99 -42002753.89 -42002753.78 0.0525 0.0297

Moon -119708-09-28 08:53 J -42001653.25 -42001653.13 -42001653.01 0.2560 0.1742

Earth -119708-09-28 10:34 J -42001653.18 -42001653.06 -42001652.94 0.2562 0.1705 *

Saturn -119706-01-19 05:32 J -42001175.31 -42001175.27 -42001175.22 0.0297 0.0279

Saturn -119706-04-17 19:27 J -42001086.80 -42001086.69 -42001086.57 0.0298 0.0168

Saturn -119706-07-15 09:22 J -42000998.24 -42000998.11 -42000997.98 0.0299 0.0056

Saturn -119706-10-11 23:03 J -42000909.67 -42000909.54 -42000909.40 0.0300 0.0055

Saturn -119705-01-08 12:44 J -42000821.08 -42000820.97 -42000820.86 0.0300 0.0166

Mars -119705-02-15 00:29 J -42000783.64 -42000783.48 -42000783.32 0.1838 0.0018

Saturn -119705-04-06 02:10 J -42000732.46 -42000732.41 -42000732.36 0.0301 0.0277

Earth -119705-04-12 12:01 J -42000726.04 -42000726.00 -42000725.96 0.2785 0.2559

Moon -119705-04-12 12:29 J -42000726.01 -42000725.98 -42000725.94 0.2782 0.2591 *

Jupiter -119705-05-15 07:27 J -42000693.37 -42000693.19 -42000693.02 0.0501 0.0131

Jupiter -119705-08-13 15:51 J -42000602.91 -42000602.84 -42000602.77 0.0500 0.0460

Mars -119705-12-24 07:41 J -42000470.25 -42000470.18 -42000470.10 0.1682 0.1268

Mars -119703-11-29 15:08 J -41999764.98 -41999764.87 -41999764.75 0.1671 0.0441

Venus -119700-01-26 20:10 J -41998975.68 -41998975.66 -41998975.64 0.3704 0.3625

Jupiter -119699-04-14 11:32 J -41998533.13 -41998533.02 -41998532.91 0.0525 0.0294

Jupiter -119699-07-12 18:44 J -41998443.85 -41998443.72 -41998443.60 0.0525 0.0179

Moon -119698-04-06 09:08 J -41998176.23 -41998176.12 -41998176.01 0.2788 0.0142

Earth -119698-04-06 09:37 J -41998176.21 -41998176.10 -41998176.00 0.2782 0.0257 *

Mars -119696-07-06 21:37 J -41997353.74 -41997353.60 -41997353.46 0.1834 0.0925

Venus -119695-08-12 13:13 J -41996952.04 -41996951.95 -41996951.86 0.3710 0.1916

Moon -119695-10-01 15:08 J -41996902.02 -41996901.87 -41996901.71 0.2561 0.0433

Earth -119695-10-01 17:03 J -41996901.95 -41996901.79 -41996901.63 0.2560 0.0343 *

Jupiter -119693-03-03 05:46 J -41996383.41 -41996383.26 -41996383.11 0.0501 0.0268

Mars -119693-04-21 01:27 J -41996334.56 -41996334.44 -41996334.32 0.1674 0.0040

Jupiter -119693-06-01 13:41 J -41996293.07 -41996292.93 -41996292.79 0.0500 0.0319

Saturn -119693-11-16 23:17 J -41996124.63 -41996124.53 -41996124.42 0.0265 0.0213

Saturn -119692-02-13 18:01 J -41996035.91 -41996035.75 -41996035.59 0.0264 0.0112

Saturn -119692-05-13 12:44 J -41995947.15 -41995946.97 -41995946.79 0.0263 0.0011

Saturn -119692-08-10 07:41 J -41995858.35 -41995858.18 -41995858.01 0.0263 0.0091

Saturn -119692-11-07 02:39 J -41995769.51 -41995769.39 -41995769.27 0.0262 0.0193

Mars -119691-03-27 07:27 J -41995629.19 -41995629.19 -41995629.18 0.1665 0.1657

Moon -119691-03-30 06:58 J -41995626.28 -41995626.21 -41995626.14 0.2771 0.2059

Earth -119691-03-30 07:13 J -41995626.27 -41995626.20 -41995626.13 0.2777 0.2078 *

Venus -119689-02-26 06:01 J -41994928.36 -41994928.25 -41994928.15 0.3715 0.0250

Jupiter -119687-01-31 14:53 J -41994222.95 -41994222.88 -41994222.80 0.0525 0.0417

Jupiter -119687-04-30 22:20 J -41994133.70 -41994133.57 -41994133.44 0.0525 0.0058

Jupiter -119687-07-29 05:03 J -41994044.30 -41994044.29 -41994044.28 0.0526 0.0523

Mars -119687-11-26 19:27 J -41993923.71 -41993923.69 -41993923.67 0.1831 0.1807

Uranus -119686-04-16 04:49 J -41993783.30 -41993783.30 -41993783.29 0.0131 0.0131

Uranus -119686-07-13 07:56 J -41993695.23 -41993695.17 -41993695.10 0.0131 0.0115

Uranus -119686-10-09 10:49 J -41993607.12 -41993607.05 -41993606.95 0.0131 0.0100

Uranus -119685-01-05 14:10 J -41993519.01 -41993518.91 -41993518.81 0.0131 0.0084

Uranus -119685-04-02 17:03 J -41993430.90 -41993430.79 -41993430.67 0.0131 0.0069

Earth -119685-04-08 03:51 J -41993425.44 -41993425.34 -41993425.24 0.2783 0.1065

Moon -119685-04-08 04:05 J -41993425.43 -41993425.33 -41993425.24 0.2790 0.1133 *

Uranus -119685-06-29 20:10 J -41993342.78 -41993342.66 -41993342.53 0.0131 0.0054

Uranus -119685-09-25 23:17 J -41993254.66 -41993254.53 -41993254.40 0.0131 0.0038

Uranus -119685-12-23 02:25 J -41993166.54 -41993166.40 -41993166.27 0.0131 0.0023

Uranus -119684-03-21 05:17 J -41993078.41 -41993078.28 -41993078.14 0.0131 0.0008

Uranus -119684-06-17 08:25 J -41992990.29 -41992990.15 -41992990.02 0.0131 0.0008

Venus -119684-09-10 22:34 J -41992904.65 -41992904.56 -41992904.46 0.3721 0.1465

Mars -119684-09-11 11:46 J -41992904.13 -41992904.01 -41992903.89 0.1676 0.0368

Uranus -119684-09-13 11:17 J -41992902.16 -41992902.03 -41992901.90 0.0131 0.0023

Uranus -119684-12-10 14:10 J -41992814.03 -41992813.91 -41992813.78 0.0131 0.0038

Pluto -119683-02-07 16:34 J -41992754.86 -41992754.81 -41992754.71 0.0060 0.0055

Uranus -119683-03-08 17:17 J -41992725.90 -41992725.78 -41992725.66 0.0131 0.0053

Pluto -119683-05-06 17:46 J -41992666.85 -41992666.76 -41992666.61 0.0060 0.0048

Uranus -119683-06-04 20:10 J -41992637.77 -41992637.66 -41992637.54 0.0131 0.0068

Pluto -119683-08-02 19:13 J -41992578.82 -41992578.70 -41992578.53 0.0060 0.0040

Uranus -119683-08-31 23:03 J -41992549.64 -41992549.54 -41992549.43 0.0131 0.0083

Pluto -119683-10-29 20:39 J -41992490.78 -41992490.64 -41992490.46 0.0060 0.0032

Uranus -119683-11-28 01:56 J -41992461.50 -41992461.42 -41992461.33 0.0131 0.0098

Pluto -119682-01-25 22:05 J -41992402.74 -41992402.58 -41992402.39 0.0061 0.0023

Uranus -119682-02-24 04:49 J -41992373.36 -41992373.30 -41992373.22 0.0131 0.0113

Pluto -119682-04-23 23:46 J -41992314.70 -41992314.51 -41992314.33 0.0061 0.0015

Uranus -119682-05-23 07:56 J -41992285.19 -41992285.17 -41992285.14 0.0131 0.0127

Pluto -119682-07-21 00:58 J -41992226.64 -41992226.46 -41992226.27 0.0061 0.0007

Mars -119682-08-17 18:15 J -41992198.82 -41992198.74 -41992198.67 0.1667 0.1276

Moon -119682-10-04 22:05 J -41992150.73 -41992150.58 -41992150.43 0.2561 0.0844

Earth -119682-10-04 23:32 J -41992150.67 -41992150.52 -41992150.37 0.2559 0.1028 *

Pluto -119682-10-17 02:25 J -41992138.59 -41992138.40 -41992138.21 0.0061 0.0001

Jupiter -119682-12-21 03:37 J -41992073.44 -41992073.35 -41992073.24 0.0501 0.0409

Pluto -119681-01-13 03:37 J -41992050.53 -41992050.35 -41992050.16 0.0061 0.0009

Jupiter -119681-03-20 11:17 J -41991983.19 -41991983.03 -41991982.85 0.0500 0.0175

Pluto -119681-04-10 05:03 J -41991962.47 -41991962.29 -41991962.11 0.0061 0.0017

Venus -119681-06-10 06:15 J -41991901.36 -41991901.24 -41991901.12 0.3670 0.1901

Pluto -119681-07-07 06:01 J -41991874.41 -41991874.25 -41991874.06 0.0061 0.0026

Pluto -119681-10-03 07:13 J -41991786.34 -41991786.20 -41991786.02 0.0061 0.0034

Pluto -119681-12-30 08:25 J -41991698.26 -41991698.15 -41991697.99 0.0061 0.0043

Pluto -119680-03-28 09:51 J -41991610.17 -41991610.09 -41991609.96 0.0061 0.0050

Pluto -119680-06-24 11:17 J -41991522.07 -41991522.03 -41991521.96 0.0061 0.0059

Venus -119678-03-27 15:22 J -41990880.92 -41990880.86 -41990880.81 0.3727 0.3115

Moon -119678-04-02 00:58 J -41990875.56 -41990875.46 -41990875.36 0.2774 0.1276

Earth -119678-04-02 01:27 J -41990875.53 -41990875.44 -41990875.34 0.2779 0.1259 *

Saturn -119677-09-03 20:39 J -41990354.74 -41990354.64 -41990354.54 0.0297 0.0205

Saturn -119677-12-01 10:34 J -41990266.19 -41990266.06 -41990265.93 0.0298 0.0093

Saturn -119676-02-28 00:15 J -41990177.62 -41990177.49 -41990177.35 0.0299 0.0018

Saturn -119676-05-27 13:56 J -41990089.04 -41990088.92 -41990088.80 0.0300 0.0129

Saturn -119676-08-24 03:22 J -41990000.43 -41990000.36 -41990000.28 0.0300 0.0240

Venus -119676-12-25 11:17 J -41989877.15 -41989877.03 -41989876.90 0.3663 0.1954

Jupiter -119675-02-17 02:39 J -41989823.52 -41989823.39 -41989823.26 0.0525 0.0054

Mars -119675-03-26 04:20 J -41989786.45 -41989786.32 -41989786.19 0.1842 0.1046

Jupiter -119675-05-17 09:22 J -41989734.18 -41989734.11 -41989734.03 0.0526 0.0415

Mars -119674-02-01 21:51 J -41989473.69 -41989473.59 -41989473.48 0.1679 0.0787

Mars -119672-01-07 04:49 J -41988768.40 -41988768.30 -41988768.20 0.1669 0.0890

Earth -119672-04-10 22:20 J -41988674.65 -41988674.57 -41988674.49 0.2784 0.1886

Moon -119672-04-10 22:49 J -41988674.63 -41988674.55 -41988674.47 0.2790 0.1901 *

Jupiter -119669-01-07 07:41 J -41987673.36 -41987673.18 -41987673.00 0.0500 0.0015

Moon -119669-10-07 05:32 J -41987399.32 -41987399.27 -41987399.23 0.2564 0.2464

Earth -119669-10-07 06:01 J -41987399.30 -41987399.25 -41987399.19 0.2558 0.2394 *

Mars -119666-08-16 01:13 J -41986356.61 -41986356.45 -41986356.29 0.1838 0.0101

Moon -119665-04-03 19:13 J -41986124.80 -41986124.70 -41986124.59 0.2782 0.0538

Earth -119665-04-03 19:56 J -41986124.77 -41986124.67 -41986124.56 0.2780 0.0435 *

Mars -119665-06-24 07:56 J -41986043.25 -41986043.17 -41986043.09 0.1682 0.1211

Jupiter -119664-12-06 06:58 J -41985513.34 -41985513.21 -41985513.09 0.0525 0.0165

Jupiter -119663-03-05 13:56 J -41985424.03 -41985423.92 -41985423.82 0.0526 0.0306

Saturn -119663-04-05 23:17 J -41985392.59 -41985392.53 -41985392.44 0.0265 0.0241

Mars -119663-05-30 15:08 J -41985337.98 -41985337.87 -41985337.75 0.1671 0.0493

Saturn -119663-07-03 18:01 J -41985303.90 -41985303.75 -41985303.60 0.0265 0.0140

Saturn -119663-09-30 12:44 J -41985215.15 -41985214.97 -41985214.79 0.0264 0.0039

Saturn -119663-12-28 07:27 J -41985126.36 -41985126.19 -41985126.01 0.0263 0.0063

Saturn -119662-03-27 02:25 J -41985037.53 -41985037.40 -41985037.25 0.0263 0.0165

Moon -119662-09-29 15:51 J -41984850.96 -41984850.84 -41984850.71 0.2558 0.1563

Earth -119662-09-29 17:17 J -41984850.92 -41984850.78 -41984850.65 0.2562 0.1450 *

Earth -119659-04-13 16:49 J -41983923.82 -41983923.80 -41983923.78 0.2785 0.2709

Moon -119659-04-13 17:32 J -41983923.77 -41983923.77 -41983923.76 0.2784 0.2774

Earth -119658-03-28 17:32 J -41983574.78 -41983574.77 -41983574.76 0.2775 0.2744

Moon -119658-03-28 18:01 J -41983574.78 -41983574.75 -41983574.72 0.2769 0.2646 *

Jupiter -119658-10-26 05:32 J -41983363.45 -41983363.27 -41983363.10 0.0500 0.0129

Jupiter -119657-01-24 13:41 J -41983272.99 -41983272.93 -41983272.86 0.0500 0.0462

Mars -119656-01-04 22:20 J -41982926.71 -41982926.57 -41982926.43 0.1834 0.0829

Mars -119656-11-14 17:46 J -41982612.78 -41982612.76 -41982612.74 0.1685 0.1642

Mars -119654-10-21 01:27 J -41981907.56 -41981907.44 -41981907.32 0.1674 0.0103

Moon -119652-04-06 13:56 J -41981374.03 -41981373.92 -41981373.81 0.2787 0.0419

Earth -119652-04-06 14:25 J -41981374.01 -41981373.90 -41981373.79 0.2782 0.0392 *

Jupiter -119652-09-24 10:34 J -41981203.16 -41981203.06 -41981202.95 0.0525 0.0284

Jupiter -119652-12-22 17:46 J -41981113.88 -41981113.76 -41981113.64 0.0525 0.0188

Moon -119649-10-01 21:51 J -41980099.75 -41980099.59 -41980099.43 0.2560 0.0221

Earth -119649-10-01 23:46 J -41980099.67 -41980099.51 -41980099.35 0.2560 0.0089 *

Saturn -119647-01-21 21:08 J -41979622.69 -41979622.62 -41979622.53 0.0297 0.0243

Saturn -119647-04-20 11:17 J -41979534.15 -41979534.03 -41979533.91 0.0298 0.0132

Mars -119647-05-27 19:56 J -41979496.72 -41979496.67 -41979496.61 0.1831 0.1720

Saturn -119647-07-18 00:58 J -41979445.59 -41979445.46 -41979445.32 0.0299 0.0022

Saturn -119647-10-14 14:39 J -41979357.01 -41979356.89 -41979356.76 0.0300 0.0092

Neptune -119646-01-09 19:41 J -41979269.71 -41979269.68 -41979269.64 0.0088 0.0085

Saturn -119646-01-11 04:20 J -41979268.42 -41979268.32 -41979268.22 0.0301 0.0202

Neptune -119646-04-07 21:08 J -41979181.67 -41979181.62 -41979181.56 0.0088 0.0080

Neptune -119646-07-04 22:34 J -41979093.62 -41979093.56 -41979093.48 0.0088 0.0076

Jupiter -119646-08-14 03:37 J -41979053.50 -41979053.35 -41979053.20 0.0501 0.0269

Neptune -119646-10-01 00:15 J -41979005.57 -41979005.49 -41979005.41 0.0088 0.0072

Jupiter -119646-11-12 11:32 J -41978963.16 -41978963.02 -41978962.88 0.0500 0.0319

Neptune -119646-12-28 01:41 J -41978917.51 -41978917.43 -41978917.34 0.0088 0.0067

Neptune -119645-03-25 03:08 J -41978829.46 -41978829.37 -41978829.27 0.0088 0.0063

Moon -119645-03-30 11:46 J -41978824.09 -41978824.01 -41978823.94 0.2771 0.1983

Earth -119645-03-30 12:01 J -41978824.08 -41978824.00 -41978823.92 0.2777 0.1925 *

Neptune -119645-06-21 04:34 J -41978741.40 -41978741.31 -41978741.20 0.0088 0.0059

Neptune -119645-09-17 06:15 J -41978653.35 -41978653.24 -41978653.13 0.0088 0.0055

Neptune -119645-12-14 07:41 J -41978565.29 -41978565.18 -41978565.07 0.0088 0.0050

Neptune -119644-03-12 08:53 J -41978477.23 -41978477.13 -41978477.00 0.0088 0.0047

Mars -119644-03-12 11:46 J -41978477.13 -41978477.01 -41978476.89 0.1676 0.0320 *

Neptune -119644-06-08 10:20 J -41978389.18 -41978389.07 -41978388.93 0.0088 0.0043

Venus -119644-09-02 18:01 J -41978302.81 -41978302.75 -41978302.69 0.3705 0.2984

Neptune -119644-09-04 12:01 J -41978301.12 -41978301.00 -41978300.87 0.0088 0.0038

Neptune -119644-12-01 13:27 J -41978213.06 -41978212.94 -41978212.81 0.0088 0.0034

Neptune -119643-02-27 14:53 J -41978125.00 -41978124.88 -41978124.74 0.0088 0.0029

Neptune -119643-05-26 16:20 J -41978036.94 -41978036.82 -41978036.68 0.0088 0.0025

Uranus -119643-07-03 22:05 J -41977998.63 -41977998.58 -41977998.51 0.0148 0.0139

Neptune -119643-08-22 18:01 J -41977948.88 -41977948.75 -41977948.62 0.0088 0.0021

Uranus -119643-09-30 06:29 J -41977910.35 -41977910.23 -41977910.10 0.0148 0.0109

Neptune -119643-11-18 19:27 J -41977860.83 -41977860.69 -41977860.56 0.0088 0.0016

Uranus -119643-12-27 14:53 J -41977822.03 -41977821.88 -41977821.72 0.0148 0.0079

Neptune -119642-02-14 20:53 J -41977772.77 -41977772.63 -41977772.50 0.0088 0.0012

Mars -119642-02-15 18:15 J -41977771.81 -41977771.74 -41977771.67 0.1667 0.1324

Uranus -119642-03-25 23:17 J -41977733.70 -41977733.53 -41977733.35 0.0148 0.0049

Neptune -119642-05-13 22:20 J -41977684.71 -41977684.57 -41977684.43 0.0088 0.0008

Uranus -119642-06-22 07:56 J -41977645.36 -41977645.17 -41977644.98 0.0148 0.0018

Neptune -119642-08-09 23:46 J -41977596.65 -41977596.51 -41977596.37 0.0088 0.0004

Uranus -119642-09-18 16:20 J -41977557.00 -41977556.82 -41977556.63 0.0148 0.0013

Neptune -119642-11-06 01:13 J -41977508.59 -41977508.45 -41977508.31 0.0088 0.0001

Uranus -119642-12-16 00:58 J -41977468.64 -41977468.46 -41977468.28 0.0148 0.0044

Neptune -119641-02-02 02:39 J -41977420.53 -41977420.39 -41977420.26 0.0088 0.0005

Uranus -119641-03-13 09:37 J -41977380.26 -41977380.10 -41977379.94 0.0148 0.0075

Neptune -119641-04-30 04:05 J -41977332.47 -41977332.33 -41977332.20 0.0088 0.0009

Uranus -119641-06-09 17:46 J -41977291.87 -41977291.76 -41977291.61 0.0148 0.0107

Neptune -119641-07-27 05:32 J -41977244.41 -41977244.27 -41977244.14 0.0088 0.0013

Uranus -119641-09-06 02:39 J -41977203.45 -41977203.39 -41977203.31 0.0148 0.0138

Neptune -119641-10-23 06:44 J -41977156.35 -41977156.22 -41977156.08 0.0088 0.0018

Neptune -119640-01-19 08:10 J -41977068.29 -41977068.16 -41977068.02 0.0088 0.0022

Neptune -119640-04-17 09:37 J -41976980.23 -41976980.10 -41976979.97 0.0088 0.0026

Jupiter -119640-07-13 14:25 J -41976892.98 -41976892.90 -41976892.82 0.0524 0.0403

Neptune -119640-07-14 11:03 J -41976892.16 -41976892.04 -41976891.91 0.0088 0.0030

Neptune -119640-10-10 12:15 J -41976804.10 -41976803.99 -41976803.85 0.0088 0.0035

Jupiter -119640-10-10 21:37 J -41976803.73 -41976803.60 -41976803.47 0.0525 0.0070

Neptune -119639-01-06 13:41 J -41976716.04 -41976715.93 -41976715.80 0.0088 0.0039

Neptune -119639-04-04 15:08 J -41976627.98 -41976627.87 -41976627.74 0.0088 0.0042

Earth -119639-04-09 08:53 J -41976623.23 -41976623.13 -41976623.04 0.2783 0.1220

Moon -119639-04-09 08:53 J -41976623.22 -41976623.13 -41976623.03 0.2791 0.1171 *

Neptune -119639-07-01 16:34 J -41976539.92 -41976539.81 -41976539.69 0.0088 0.0046

Neptune -119639-09-27 18:01 J -41976451.85 -41976451.75 -41976451.63 0.0088 0.0050

Neptune -119639-12-24 19:27 J -41976363.79 -41976363.69 -41976363.58 0.0088 0.0054

Venus -119638-03-19 10:49 J -41976279.15 -41976279.05 -41976278.95 0.3711 0.1287

Neptune -119638-03-22 20:53 J -41976275.73 -41976275.63 -41976275.53 0.0088 0.0059

Neptune -119638-06-18 22:20 J -41976187.67 -41976187.57 -41976187.48 0.0088 0.0063

Neptune -119638-09-14 23:46 J -41976099.60 -41976099.51 -41976099.43 0.0088 0.0067

Neptune -119638-12-12 00:44 J -41976011.53 -41976011.47 -41976011.38 0.0088 0.0071

Neptune -119637-03-09 02:25 J -41975923.47 -41975923.40 -41975923.33 0.0088 0.0075

Neptune -119637-06-05 03:22 J -41975835.40 -41975835.36 -41975835.28 0.0088 0.0080

Neptune -119637-09-01 04:49 J -41975747.33 -41975747.30 -41975747.24 0.0088 0.0083

Neptune -119637-11-28 06:15 J -41975659.25 -41975659.24 -41975659.21 0.0088 0.0087

Mars -119636-09-24 05:03 J -41975359.41 -41975359.29 -41975359.16 0.1841 0.1142

Moon -119636-10-05 05:03 J -41975348.43 -41975348.29 -41975348.16 0.2563 0.1282

Earth -119636-10-05 06:15 J -41975348.38 -41975348.24 -41975348.10 0.2559 0.1281 *

Mars -119635-08-02 21:51 J -41975046.70 -41975046.59 -41975046.48 0.1679 0.0735

Jupiter -119634-06-02 02:10 J -41974743.52 -41974743.41 -41974743.31 0.0501 0.0404

Jupiter -119634-08-31 09:51 J -41974653.26 -41974653.09 -41974652.92 0.0500 0.0180

Saturn -119634-11-20 17:17 J -41974571.91 -41974571.78 -41974571.64 0.0265 0.0173

Saturn -119633-02-17 12:01 J -41974483.17 -41974483.00 -41974482.82 0.0264 0.0072

Saturn -119633-05-16 06:58 J -41974394.39 -41974394.21 -41974394.03 0.0263 0.0030

Mars -119633-07-08 04:49 J -41974341.40 -41974341.30 -41974341.21 0.1669 0.0938

Saturn -119633-08-13 01:41 J -41974305.58 -41974305.43 -41974305.27 0.0262 0.0131

Venus -119633-10-02 03:37 J -41974255.45 -41974255.35 -41974255.24 0.3717 0.0426

Saturn -119633-11-09 20:39 J -41974216.71 -41974216.64 -41974216.55 0.0262 0.0233

Moon -119632-04-02 05:46 J -41974073.36 -41974073.26 -41974073.16 0.2776 0.1151

Earth -119632-04-02 06:29 J -41974073.33 -41974073.23 -41974073.13 0.2779 0.1105 *

Earth -119629-09-26 17:32 J -41972799.78 -41972799.77 -41972799.77 0.2563 0.2556

Jupiter -119628-07-30 01:13 J -41972493.58 -41972493.45 -41972493.32 0.0525 0.0052

Jupiter -119628-10-27 08:10 J -41972404.24 -41972404.16 -41972404.08 0.0526 0.0418

Venus -119627-04-17 20:25 J -41972231.74 -41972231.65 -41972231.56 0.3723 0.2075

Mars -119626-02-14 01:41 J -41971929.59 -41971929.43 -41971929.27 0.1838 0.0179

Earth -119626-04-12 03:08 J -41971872.44 -41971872.37 -41971872.29 0.2784 0.2041

Moon -119626-04-12 03:51 J -41971872.41 -41971872.34 -41971872.27 0.2788 0.2140 *

Mars -119626-12-24 07:56 J -41971616.25 -41971616.17 -41971616.08 0.1682 0.1155

Venus -119624-01-15 07:13 J -41971228.35 -41971228.20 -41971228.06 0.3668 0.0608

Mars -119624-11-28 15:08 J -41970910.98 -41970910.87 -41970910.75 0.1671 0.0547

Moon -119623-10-08 12:15 J -41970597.01 -41970596.99 -41970596.97 0.2564 0.2531

Jupiter -119622-06-19 07:41 J -41970343.36 -41970343.18 -41970343.00 0.0500 0.0037

Venus -119622-11-01 12:58 J -41970207.96 -41970207.96 -41970207.95 0.3729 0.3722

Moon -119619-04-05 00:15 J -41969322.60 -41969322.49 -41969322.39 0.2784 0.0328

Earth -119619-04-05 00:58 J -41969322.57 -41969322.46 -41969322.36 0.2781 0.0304 *

Venus -119619-08-01 12:29 J -41969204.04 -41969203.98 -41969203.92 0.3660 0.3296

Saturn -119618-06-10 21:51 J -41968890.62 -41968890.59 -41968890.55 0.0296 0.0282

Saturn -119618-09-07 12:01 J -41968802.11 -41968802.00 -41968801.89 0.0297 0.0172

Saturn -119618-12-05 01:41 J -41968713.56 -41968713.43 -41968713.29 0.0298 0.0061

Saturn -119617-03-02 15:37 J -41968624.99 -41968624.85 -41968624.72 0.0299 0.0051

Saturn -119617-05-30 05:03 J -41968536.40 -41968536.29 -41968536.17 0.0300 0.0162

Mars -119617-07-05 23:03 J -41968499.68 -41968499.54 -41968499.39 0.1835 0.0737

Saturn -119617-08-26 18:29 J -41968447.78 -41968447.73 -41968447.67 0.0301 0.0272

Mars -119616-05-15 17:46 J -41968185.80 -41968185.76 -41968185.72 0.1685 0.1588

Jupiter -119616-05-18 05:32 J -41968183.39 -41968183.27 -41968183.14 0.0525 0.0161

Jupiter -119616-08-15 12:29 J -41968094.08 -41968093.98 -41968093.87 0.0526 0.0310

Moon -119616-09-29 22:05 J -41968048.72 -41968048.58 -41968048.43 0.2559 0.1217

Earth -119616-09-29 23:46 J -41968048.65 -41968048.51 -41968048.36 0.2561 0.1198 *

Mars -119614-04-21 01:41 J -41967480.55 -41967480.43 -41967480.32 0.1674 0.0156

Earth -119612-03-28 22:34 J -41966772.60 -41966772.56 -41966772.53 0.2776 0.2597

Moon -119612-03-28 22:34 J -41966772.59 -41966772.56 -41966772.52 0.2769 0.2631 *

Jupiter -119610-04-07 04:05 J -41966033.50 -41966033.33 -41966033.15 0.0500 0.0121

Jupiter -119610-07-06 12:29 J -41965943.04 -41965942.98 -41965942.92 0.0500 0.0469

Mars -119608-11-25 20:39 J -41965069.71 -41965069.64 -41965069.57 0.1830 0.1627

Moon -119606-04-07 18:58 J -41964571.81 -41964571.71 -41964571.60 0.2788 0.0476

Earth -119606-04-07 19:13 J -41964571.80 -41964571.70 -41964571.59 0.2782 0.0547 *

Mars -119605-09-10 11:46 J -41964050.13 -41964050.01 -41964049.89 0.1676 0.0267

Jupiter -119604-03-06 09:51 J -41963873.20 -41963873.09 -41963872.98 0.0525 0.0272

Saturn -119604-04-08 17:03 J -41963839.90 -41963839.79 -41963839.68 0.0265 0.0203

Jupiter -119604-06-03 17:03 J -41963783.91 -41963783.79 -41963783.67 0.0526 0.0201

Saturn -119604-07-06 11:32 J -41963751.18 -41963751.02 -41963750.85 0.0264 0.0102

Saturn -119604-10-03 06:15 J -41963662.42 -41963662.24 -41963662.06 0.0264 0.0006

Saturn -119604-12-31 01:13 J -41963573.62 -41963573.45 -41963573.28 0.0263 0.0100

Saturn -119603-03-29 20:10 J -41963484.77 -41963484.66 -41963484.54 0.0262 0.0202

Mars -119603-08-16 18:15 J -41963344.81 -41963344.74 -41963344.68 0.1666 0.1374

Moon -119603-10-03 04:34 J -41963297.47 -41963297.31 -41963297.15 0.2561 0.0071

Earth -119603-10-03 06:15 J -41963297.40 -41963297.24 -41963297.08 0.2560 0.0176 *

Uranus -119602-05-06 11:46 J -41963082.04 -41963082.01 -41963081.99 0.0131 0.0129

Uranus -119602-08-02 14:39 J -41962993.95 -41962993.89 -41962993.82 0.0131 0.0113

Uranus -119602-10-29 17:32 J -41962905.85 -41962905.77 -41962905.67 0.0131 0.0098

Uranus -119601-01-25 20:53 J -41962817.73 -41962817.63 -41962817.52 0.0131 0.0082

Uranus -119601-04-22 23:46 J -41962729.62 -41962729.51 -41962729.38 0.0131 0.0067

Uranus -119601-07-20 03:08 J -41962641.50 -41962641.37 -41962641.25 0.0131 0.0051

Uranus -119601-10-16 06:01 J -41962553.38 -41962553.25 -41962553.12 0.0131 0.0036

Uranus -119600-01-12 09:08 J -41962465.26 -41962465.12 -41962464.99 0.0131 0.0021

Uranus -119600-04-10 12:01 J -41962377.13 -41962377.00 -41962376.86 0.0131 0.0006

Uranus -119600-07-07 15:08 J -41962289.01 -41962288.87 -41962288.74 0.0131 0.0010

Uranus -119600-10-03 18:01 J -41962200.88 -41962200.75 -41962200.62 0.0131 0.0025

Uranus -119600-12-30 20:53 J -41962112.75 -41962112.63 -41962112.50 0.0131 0.0040

Uranus -119599-03-29 00:01 J -41962024.62 -41962024.50 -41962024.38 0.0131 0.0055

Moon -119599-03-31 16:34 J -41962021.90 -41962021.81 -41962021.73 0.2771 0.1745

Earth -119599-03-31 16:49 J -41962021.88 -41962021.80 -41962021.71 0.2778 0.1778 *

Uranus -119599-06-25 02:53 J -41961936.49 -41961936.38 -41961936.26 0.0131 0.0070

Uranus -119599-09-21 05:46 J -41961848.35 -41961848.26 -41961848.15 0.0131 0.0085

Uranus -119599-12-18 08:39 J -41961760.22 -41961760.14 -41961760.05 0.0131 0.0100

Jupiter -119598-01-24 02:10 J -41961723.57 -41961723.41 -41961723.26 0.0500 0.0263

Uranus -119598-03-16 11:32 J -41961672.07 -41961672.02 -41961671.95 0.0131 0.0115

Jupiter -119598-04-24 09:51 J -41961633.22 -41961633.09 -41961632.95 0.0500 0.0325

Uranus -119598-06-12 14:25 J -41961583.90 -41961583.90 -41961583.87 0.0131 0.0130

Mars -119596-03-25 05:46 J -41960932.38 -41960932.26 -41960932.14 0.1841 0.1231

Mars -119595-01-31 21:51 J -41960619.70 -41960619.59 -41960619.48 0.1679 0.0684

Mars -119593-01-07 04:49 J -41959914.40 -41959914.30 -41959914.21 0.1669 0.0987

Earth -119593-04-09 13:41 J -41959821.02 -41959820.93 -41959820.84 0.2783 0.1368

Moon -119593-04-09 13:56 J -41959821.01 -41959820.92 -41959820.83 0.2790 0.1461 *

Jupiter -119593-12-23 13:41 J -41959563.01 -41959562.93 -41959562.84 0.0524 0.0389

Jupiter -119592-03-22 20:53 J -41959473.75 -41959473.63 -41959473.50 0.0525 0.0086

Pluto -119590-03-06 05:03 J -41958760.29 -41958760.29 -41958760.27 0.0084 0.0084

Pluto -119590-06-02 06:29 J -41958672.30 -41958672.23 -41958672.15 0.0084 0.0069

Pluto -119590-08-29 07:41 J -41958584.27 -41958584.18 -41958584.06 0.0084 0.0053

Moon -119590-10-06 12:01 J -41958546.13 -41958546.00 -41958545.87 0.2564 0.1446

Earth -119590-10-06 12:58 J -41958546.09 -41958545.96 -41958545.84 0.2558 0.1543 *

Pluto -119590-11-25 09:08 J -41958496.23 -41958496.12 -41958495.99 0.0084 0.0037

Pluto -119589-02-21 10:34 J -41958408.19 -41958408.06 -41958407.93 0.0084 0.0022

Pluto -119589-05-19 12:01 J -41958320.14 -41958320.00 -41958319.87 0.0084 0.0006

Pluto -119589-08-15 13:13 J -41958232.08 -41958231.95 -41958231.81 0.0084 0.0009

Pluto -119589-11-11 14:25 J -41958144.02 -41958143.90 -41958143.76 0.0084 0.0025

Saturn -119588-01-24 12:01 J -41958070.09 -41958070.00 -41958069.90 0.0297 0.0213

Pluto -119588-02-07 15:51 J -41958055.96 -41958055.84 -41958055.72 0.0083 0.0040

Saturn -119588-04-23 01:56 J -41957981.54 -41957981.42 -41957981.29 0.0298 0.0102

Pluto -119588-05-06 17:03 J -41957967.88 -41957967.79 -41957967.68 0.0083 0.0055

Saturn -119588-07-20 15:51 J -41957892.98 -41957892.84 -41957892.71 0.0299 0.0010

Pluto -119588-08-02 18:15 J -41957879.80 -41957879.74 -41957879.65 0.0083 0.0070

Saturn -119588-10-17 05:32 J -41957804.39 -41957804.27 -41957804.15 0.0300 0.0120

Saturn -119587-01-13 18:58 J -41957715.79 -41957715.71 -41957715.62 0.0301 0.0231

Venus -119587-04-09 15:51 J -41957629.92 -41957629.84 -41957629.76 0.3707 0.2345

Mars -119587-08-15 02:39 J -41957502.55 -41957502.39 -41957502.23 0.1838 0.0281

Jupiter -119587-11-12 00:15 J -41957413.59 -41957413.49 -41957413.38 0.0501 0.0401

Jupiter -119586-02-10 07:56 J -41957323.34 -41957323.17 -41957323.00 0.0500 0.0183

Moon -119586-04-03 10:34 J -41957271.16 -41957271.06 -41957270.96 0.2779 0.1047

Earth -119586-04-03 11:17 J -41957271.13 -41957271.03 -41957270.93 0.2779 0.0953 *

Mars -119586-06-24 07:56 J -41957189.26 -41957189.17 -41957189.08 0.1682 0.1103

Mars -119584-05-29 15:08 J -41956483.98 -41956483.87 -41956483.76 0.1671 0.0595

Moon -119583-09-27 23:03 J -41955997.61 -41955997.54 -41955997.47 0.2558 0.2268

Earth -119583-09-28 00:01 J -41955997.57 -41955997.50 -41955997.43 0.2563 0.2311 *

Venus -119582-10-24 08:39 J -41955606.24 -41955606.14 -41955606.03 0.3713 0.0651

Jupiter -119581-10-11 17:32 J -41955252.80 -41955252.77 -41955252.74 0.0524 0.0508

Jupiter -119580-01-09 00:58 J -41955163.59 -41955163.46 -41955163.33 0.0525 0.0037

Jupiter -119580-04-08 07:41 J -41955074.25 -41955074.18 -41955074.11 0.0526 0.0433

Earth -119580-04-12 08:10 J -41955070.23 -41955070.16 -41955070.10 0.2784 0.2195

Moon -119580-04-12 08:53 J -41955070.20 -41955070.13 -41955070.07 0.2786 0.2185 *

Mars -119577-01-04 23:32 J -41954072.67 -41954072.52 -41954072.37 0.1834 0.0654

Mars -119577-11-13 17:46 J -41953758.80 -41953758.76 -41953758.71 0.1685 0.1534

Venus -119576-05-09 01:27 J -41953582.54 -41953582.44 -41953582.34 0.3719 0.1029

Saturn -119575-08-26 15:37 J -41953107.91 -41953107.85 -41953107.76 0.0265 0.0239

Mars -119575-10-20 01:27 J -41953053.56 -41953053.44 -41953053.32 0.1674 0.0199

Saturn -119575-11-23 10:20 J -41953019.22 -41953019.07 -41953018.91 0.0264 0.0138

Jupiter -119575-11-29 06:15 J -41953013.42 -41953013.24 -41953013.06 0.0500 0.0046

Saturn -119574-02-20 05:03 J -41952930.46 -41952930.29 -41952930.11 0.0264 0.0037

Saturn -119574-05-20 00:01 J -41952841.68 -41952841.50 -41952841.33 0.0263 0.0064

Saturn -119574-08-16 18:58 J -41952752.85 -41952752.71 -41952752.57 0.0262 0.0166

Venus -119573-02-06 03:22 J -41952579.44 -41952579.36 -41952579.29 0.3673 0.3067

Moon -119573-04-05 05:03 J -41952520.40 -41952520.29 -41952520.18 0.2785 0.0203

Earth -119573-04-05 05:46 J -41952520.37 -41952520.26 -41952520.15 0.2781 0.0130 *

Venus -119571-11-22 18:01 J -41951558.82 -41951558.75 -41951558.67 0.3724 0.2688

Moon -119570-10-01 04:49 J -41951246.45 -41951246.30 -41951246.16 0.2560 0.1146

Earth -119570-10-01 06:29 J -41951246.38 -41951246.23 -41951246.08 0.2561 0.0942 *

Jupiter -119569-10-28 04:34 J -41950853.43 -41950853.31 -41950853.19 0.0525 0.0154

Jupiter -119568-01-25 11:32 J -41950764.12 -41950764.02 -41950763.92 0.0526 0.0316

Mars -119568-05-26 21:08 J -41950642.70 -41950642.62 -41950642.54 0.1831 0.1548

Venus -119568-08-22 08:10 J -41950555.30 -41950555.16 -41950555.02 0.3666 0.0716

Moon -119566-03-30 03:22 J -41949970.42 -41949970.36 -41949970.31 0.2769 0.2386

Earth -119566-03-30 03:22 J -41949970.41 -41949970.36 -41949970.31 0.2776 0.2449 *

Mars -119565-03-11 11:46 J -41949623.13 -41949623.01 -41949622.89 0.1676 0.0217

Mars -119563-02-14 18:15 J -41948917.80 -41948917.74 -41948917.68 0.1667 0.1421

Neptune -119563-09-13 05:46 J -41948707.26 -41948707.26 -41948707.21 0.0089 0.0088

Jupiter -119563-09-17 04:20 J -41948703.49 -41948703.32 -41948703.14 0.0500 0.0096

Neptune -119563-12-10 09:22 J -41948619.17 -41948619.11 -41948619.04 0.0089 0.0082

Jupiter -119563-12-16 12:44 J -41948612.99 -41948612.97 -41948612.95 0.0500 0.0495

Neptune -119562-03-08 12:15 J -41948531.06 -41948530.99 -41948530.88 0.0089 0.0077

Neptune -119562-06-04 15:37 J -41948442.94 -41948442.85 -41948442.72 0.0089 0.0071

Neptune -119562-08-31 19:13 J -41948354.82 -41948354.70 -41948354.57 0.0089 0.0065

Neptune -119562-11-27 22:34 J -41948266.70 -41948266.56 -41948266.42 0.0089 0.0060

Neptune -119561-02-24 01:27 J -41948178.57 -41948178.44 -41948178.28 0.0089 0.0054

Neptune -119561-05-22 04:49 J -41948090.44 -41948090.30 -41948090.13 0.0089 0.0049

Neptune -119561-08-18 08:25 J -41948002.31 -41948002.15 -41948001.98 0.0089 0.0042

Neptune -119561-11-14 11:46 J -41947914.18 -41947914.01 -41947913.84 0.0089 0.0036

Neptune -119560-02-10 14:53 J -41947826.05 -41947825.88 -41947825.70 0.0089 0.0031

Moon -119560-04-08 00:01 J -41947769.60 -41947769.50 -41947769.39 0.2790 0.0728

Earth -119560-04-08 00:15 J -41947769.60 -41947769.49 -41947769.39 0.2782 0.0701 *

Neptune -119560-05-09 18:15 J -41947737.91 -41947737.74 -41947737.55 0.0089 0.0025

Neptune -119560-08-05 21:37 J -41947649.77 -41947649.60 -41947649.41 0.0089 0.0019

Neptune -119560-11-02 00:58 J -41947561.64 -41947561.46 -41947561.27 0.0089 0.0014

Neptune -119559-01-29 04:34 J -41947473.50 -41947473.31 -41947473.12 0.0089 0.0007

Neptune -119559-04-27 07:56 J -41947385.36 -41947385.17 -41947384.98 0.0089 0.0001

Saturn -119559-06-13 12:29 J -41947338.05 -41947337.98 -41947337.91 0.0296 0.0255

Uranus -119559-07-24 05:32 J -41947297.34 -41947297.27 -41947297.18 0.0148 0.0132

Neptune -119559-07-24 11:17 J -41947297.22 -41947297.03 -41947296.84 0.0089 0.0005 *

Saturn -119559-09-10 02:25 J -41947249.52 -41947249.40 -41947249.28 0.0297 0.0144

Neptune -119559-10-20 14:39 J -41947209.08 -41947208.89 -41947208.70 0.0089 0.0011

Uranus -119559-10-20 13:56 J -41947209.05 -41947208.92 -41947208.78 0.0148 0.0102 *

Saturn -119559-12-07 16:20 J -41947160.96 -41947160.82 -41947160.69 0.0298 0.0034

Neptune -119558-01-16 18:01 J -41947120.93 -41947120.75 -41947120.56 0.0089 0.0017

Uranus -119558-01-16 22:20 J -41947120.73 -41947120.57 -41947120.40 0.0148 0.0072 *

Saturn -119558-03-06 06:01 J -41947072.38 -41947072.25 -41947072.12 0.0299 0.0078

Neptune -119558-04-14 21:37 J -41947032.79 -41947032.60 -41947032.42 0.0089 0.0023

Uranus -119558-04-15 06:44 J -41947032.39 -41947032.22 -41947032.03 0.0148 0.0041

Saturn -119558-06-02 19:27 J -41946983.79 -41946983.69 -41946983.58 0.0300 0.0188

Neptune -119558-07-12 00:58 J -41946944.64 -41946944.46 -41946944.28 0.0089 0.0028

Uranus -119558-07-12 15:22 J -41946944.05 -41946943.86 -41946943.67 0.0148 0.0010

Saturn -119558-08-30 09:08 J -41946895.14 -41946895.12 -41946895.11 0.0301 0.0298

Neptune -119558-10-08 04:20 J -41946856.49 -41946856.32 -41946856.14 0.0089 0.0034

Uranus -119558-10-08 23:46 J -41946855.69 -41946855.51 -41946855.32 0.0148 0.0021

Neptune -119557-01-04 07:41 J -41946768.34 -41946768.18 -41946768.01 0.0089 0.0040

Uranus -119557-01-05 08:25 J -41946767.33 -41946767.15 -41946766.97 0.0148 0.0051

Neptune -119557-04-01 11:03 J -41946680.19 -41946680.04 -41946679.87 0.0089 0.0047

Uranus -119557-04-02 16:49 J -41946678.95 -41946678.80 -41946678.64 0.0148 0.0083

Neptune -119557-06-28 14:39 J -41946592.04 -41946591.89 -41946591.74 0.0089 0.0052

Uranus -119557-06-30 01:13 J -41946590.55 -41946590.45 -41946590.31 0.0148 0.0114

Jupiter -119557-08-16 08:53 J -41946543.25 -41946543.13 -41946543.02 0.0525 0.0266

Mars -119557-09-23 06:44 J -41946505.33 -41946505.22 -41946505.11 0.1842 0.1330

Neptune -119557-09-24 18:01 J -41946503.89 -41946503.75 -41946503.60 0.0089 0.0058

Uranus -119557-09-26 10:05 J -41946502.11 -41946502.08 -41946502.04 0.0148 0.0145

Moon -119557-10-03 11:32 J -41946495.18 -41946495.02 -41946494.86 0.2563 0.0388

Earth -119557-10-03 12:58 J -41946495.12 -41946494.96 -41946494.80 0.2560 0.0430 *

Jupiter -119557-11-13 15:51 J -41946453.95 -41946453.84 -41946453.72 0.0526 0.0208

Neptune -119557-12-21 21:22 J -41946415.73 -41946415.61 -41946415.47 0.0089 0.0065

Neptune -119556-03-20 00:58 J -41946327.57 -41946327.46 -41946327.34 0.0089 0.0070

Neptune -119556-06-16 04:20 J -41946239.40 -41946239.32 -41946239.21 0.0089 0.0077

Mars -119556-08-01 22:05 J -41946192.69 -41946192.58 -41946192.47 0.1679 0.0628

Neptune -119556-09-12 07:56 J -41946151.23 -41946151.17 -41946151.09 0.0089 0.0083

Neptune -119556-12-09 11:32 J -41946063.03 -41946063.02 -41946063.00 0.0089 0.0089

Mars -119554-07-08 04:49 J -41945487.39 -41945487.30 -41945487.21 0.1669 0.1039

Moon -119553-03-31 21:22 J -41945219.70 -41945219.61 -41945219.53 0.2772 0.1723

Earth -119553-03-31 21:51 J -41945219.68 -41945219.59 -41945219.50 0.2778 0.1626 *

Jupiter -119551-07-06 00:58 J -41944393.61 -41944393.46 -41944393.30 0.0500 0.0252

Jupiter -119551-10-04 08:53 J -41944303.26 -41944303.13 -41944302.99 0.0500 0.0335

Mars -119547-02-13 03:08 J -41943075.52 -41943075.37 -41943075.21 0.1838 0.0375

Earth -119547-04-10 18:29 J -41943018.82 -41943018.73 -41943018.64 0.2783 0.1521

Moon -119547-04-10 18:58 J -41943018.80 -41943018.71 -41943018.62 0.2789 0.1502 *

Mars -119547-12-23 07:56 J -41942762.26 -41942762.17 -41942762.07 0.1682 0.1051

Saturn -119545-04-11 09:37 J -41942287.23 -41942287.10 -41942286.96 0.0265 0.0169

Jupiter -119545-06-04 12:58 J -41942233.04 -41942232.96 -41942232.86 0.0525 0.0377

Saturn -119545-07-09 04:20 J -41942198.49 -41942198.32 -41942198.15 0.0264 0.0069

Jupiter -119545-09-01 20:25 J -41942143.78 -41942143.65 -41942143.52 0.0526 0.0098

Saturn -119545-10-05 23:03 J -41942109.71 -41942109.54 -41942109.36 0.0264 0.0033

Mars -119545-11-27 15:08 J -41942056.98 -41942056.87 -41942056.76 0.1671 0.0646

Saturn -119544-01-02 18:01 J -41942020.90 -41942020.75 -41942020.59 0.0263 0.0134

Saturn -119544-04-01 12:58 J -41941932.03 -41941931.96 -41941931.87 0.0262 0.0236

Moon -119544-10-06 18:44 J -41941743.84 -41941743.72 -41941743.61 0.2564 0.1774

Earth -119544-10-06 19:27 J -41941743.80 -41941743.69 -41941743.58 0.2558 0.1794 *

Moon -119540-04-03 15:22 J -41940468.96 -41940468.86 -41940468.75 0.2781 0.0812

Earth -119540-04-03 16:20 J -41940468.93 -41940468.82 -41940468.72 0.2780 0.0809 *

Jupiter -119539-04-23 23:03 J -41940083.64 -41940083.54 -41940083.42 0.0501 0.0392

Jupiter -119539-07-23 06:44 J -41939993.39 -41939993.22 -41939993.05 0.0500 0.0192

Mars -119538-07-06 00:15 J -41939645.64 -41939645.49 -41939645.34 0.1834 0.0564

Mars -119537-05-14 17:46 J -41939331.81 -41939331.76 -41939331.70 0.1685 0.1482

Moon -119537-09-28 05:17 J -41939195.36 -41939195.28 -41939195.20 0.2559 0.2213

Earth -119537-09-28 06:44 J -41939195.32 -41939195.22 -41939195.13 0.2562 0.2055 *

Venus -119536-04-30 20:39 J -41938980.68 -41938980.64 -41938980.60 0.3703 0.3418

Mars -119535-04-20 01:27 J -41938626.55 -41938626.44 -41938626.32 0.1674 0.0249

Earth -119534-04-13 12:58 J -41938268.02 -41938267.96 -41938267.90 0.2784 0.2344

Moon -119534-04-13 13:41 J -41938267.97 -41938267.93 -41938267.88 0.2785 0.2480 *

Jupiter -119533-03-23 16:49 J -41937922.83 -41937922.80 -41937922.75 0.0524 0.0494

Jupiter -119533-06-21 00:29 J -41937833.61 -41937833.48 -41937833.35 0.0525 0.0022

Jupiter -119533-09-18 07:13 J -41937744.26 -41937744.20 -41937744.14 0.0526 0.0449

Venus -119531-11-14 13:41 J -41936957.03 -41936956.93 -41936956.84 0.3709 0.1718

Saturn -119529-01-28 02:25 J -41936517.50 -41936517.40 -41936517.29 0.0297 0.0187

Saturn -119529-04-25 16:20 J -41936428.95 -41936428.82 -41936428.69 0.0298 0.0076

Saturn -119529-07-23 06:01 J -41936340.38 -41936340.25 -41936340.11 0.0299 0.0035

Saturn -119529-10-19 19:41 J -41936251.80 -41936251.68 -41936251.56 0.0300 0.0145

Mars -119529-11-24 22:05 J -41936215.68 -41936215.58 -41936215.49 0.1831 0.1449

Saturn -119528-01-16 09:22 J -41936163.18 -41936163.11 -41936163.05 0.0301 0.0255

Moon -119527-04-06 10:05 J -41935718.18 -41935718.08 -41935717.97 0.2786 0.0080

Earth -119527-04-06 10:34 J -41935718.17 -41935718.06 -41935717.95 0.2781 0.0078 *

Jupiter -119527-05-11 04:49 J -41935683.48 -41935683.30 -41935683.12 0.0500 0.0051

Mars -119526-09-10 11:46 J -41935196.13 -41935196.01 -41935195.89 0.1676 0.0170

Venus -119525-05-30 06:29 J -41934933.34 -41934933.23 -41934933.12 0.3714 0.0056

Mars -119524-08-15 18:15 J -41934490.79 -41934490.74 -41934490.69 0.1667 0.1470

Moon -119524-10-01 11:17 J -41934444.18 -41934444.03 -41934443.87 0.2560 0.0697

Earth -119524-10-01 13:13 J -41934444.11 -41934443.95 -41934443.80 0.2561 0.0694 *

Jupiter -119521-04-09 04:20 J -41933523.45 -41933523.32 -41933523.20 0.0525 0.0136

Jupiter -119521-07-07 11:17 J -41933434.13 -41933434.03 -41933433.93 0.0525 0.0334

Moon -119520-03-30 07:56 J -41933168.22 -41933168.17 -41933168.11 0.2769 0.2362

Earth -119520-03-30 08:10 J -41933168.22 -41933168.16 -41933168.10 0.2776 0.2300 *

Venus -119520-12-13 23:17 J -41932909.63 -41932909.53 -41932909.44 0.3720 0.1648

Uranus -119518-05-26 18:15 J -41932380.77 -41932380.74 -41932380.70 0.0131 0.0126

Uranus -119518-08-22 21:37 J -41932292.67 -41932292.60 -41932292.53 0.0131 0.0111

Uranus -119518-11-19 00:29 J -41932204.57 -41932204.48 -41932204.38 0.0131 0.0095

Uranus -119517-02-15 03:37 J -41932116.45 -41932116.35 -41932116.24 0.0131 0.0080

Mars -119517-03-24 07:13 J -41932078.30 -41932078.20 -41932078.10 0.1841 0.1414

Uranus -119517-05-13 06:44 J -41932028.34 -41932028.22 -41932028.10 0.0131 0.0064

Uranus -119517-08-09 09:37 J -41931940.22 -41931940.10 -41931939.97 0.0131 0.0050

Venus -119517-09-12 04:20 J -41931906.45 -41931906.32 -41931906.20 0.3671 0.1785

Uranus -119517-11-05 12:44 J -41931852.10 -41931851.97 -41931851.83 0.0131 0.0034

Mars -119516-01-30 22:05 J -41931765.70 -41931765.58 -41931765.47 0.1679 0.0579

Uranus -119516-02-01 15:51 J -41931763.97 -41931763.84 -41931763.71 0.0131 0.0018

Uranus -119516-04-30 18:58 J -41931675.85 -41931675.71 -41931675.58 0.0131 0.0005

Uranus -119516-07-27 21:51 J -41931587.72 -41931587.59 -41931587.45 0.0131 0.0012

Saturn -119516-08-29 07:56 J -41931555.27 -41931555.17 -41931555.05 0.0265 0.0208

Uranus -119516-10-24 00:44 J -41931499.60 -41931499.47 -41931499.33 0.0131 0.0028

Saturn -119516-11-26 02:39 J -41931466.55 -41931466.39 -41931466.22 0.0264 0.0107

Uranus -119515-01-20 03:51 J -41931411.47 -41931411.34 -41931411.21 0.0131 0.0042

Saturn -119515-02-22 21:22 J -41931377.79 -41931377.61 -41931377.43 0.0264 0.0009

Jupiter -119515-02-27 03:08 J -41931373.54 -41931373.37 -41931373.19 0.0501 0.0087

Uranus -119515-04-18 06:44 J -41931323.34 -41931323.22 -41931323.10 0.0131 0.0057

Saturn -119515-05-22 16:20 J -41931288.99 -41931288.82 -41931288.65 0.0263 0.0096

Uranus -119515-07-15 09:51 J -41931235.20 -41931235.09 -41931234.98 0.0131 0.0072

Saturn -119515-08-19 11:17 J -41931200.14 -41931200.03 -41931199.91 0.0262 0.0197

Uranus -119515-10-11 12:44 J -41931147.07 -41931146.97 -41931146.87 0.0131 0.0087

Mars -119514-01-06 04:49 J -41931060.39 -41931060.30 -41931060.21 0.1669 0.1085

Uranus -119514-01-07 15:37 J -41931058.93 -41931058.85 -41931058.77 0.0131 0.0102

Uranus -119514-04-05 18:29 J -41930970.78 -41930970.73 -41930970.67 0.0131 0.0117

Moon -119514-04-09 05:03 J -41930967.39 -41930967.29 -41930967.19 0.2790 0.0840

Earth -119514-04-09 05:03 J -41930967.39 -41930967.29 -41930967.19 0.2782 0.0848 *

Venus -119514-06-29 15:51 J -41930885.89 -41930885.84 -41930885.79 0.3726 0.3292

Venus -119511-03-29 09:22 J -41929882.23 -41929882.11 -41929881.99 0.3664 0.2057

Moon -119511-10-04 18:15 J -41929692.89 -41929692.74 -41929692.58 0.2564 0.0528

Earth -119511-10-04 19:41 J -41929692.84 -41929692.68 -41929692.53 0.2559 0.0683 *

Jupiter -119509-01-27 07:56 J -41929213.28 -41929213.17 -41929213.06 0.0525 0.0256

Jupiter -119509-04-25 15:08 J -41929123.99 -41929123.87 -41929123.76 0.0525 0.0217

Mars -119508-08-14 03:37 J -41928648.50 -41928648.35 -41928648.19 0.1838 0.0453

Moon -119507-04-02 01:56 J -41928417.51 -41928417.42 -41928417.32 0.2775 0.1465

Earth -119507-04-02 02:39 J -41928417.48 -41928417.39 -41928417.30 0.2778 0.1478 *

Mars -119507-06-23 08:10 J -41928335.26 -41928335.16 -41928335.07 0.1682 0.0995

Mars -119505-05-28 15:08 J -41927629.97 -41927629.87 -41927629.76 0.1671 0.0696

Jupiter -119504-12-16 01:27 J -41927063.60 -41927063.44 -41927063.28 0.0501 0.0226

Jupiter -119503-03-16 09:22 J -41926973.23 -41926973.11 -41926972.98 0.0500 0.0363

Earth -119501-04-10 23:32 J -41926216.61 -41926216.52 -41926216.44 0.2784 0.1674

Moon -119501-04-11 00:01 J -41926216.58 -41926216.50 -41926216.42 0.2787 0.1758 *

Saturn -119500-06-16 02:25 J -41925785.48 -41925785.40 -41925785.31 0.0296 0.0231

Saturn -119500-09-12 16:34 J -41925696.94 -41925696.81 -41925696.69 0.0297 0.0120

Saturn -119500-12-10 06:15 J -41925608.37 -41925608.24 -41925608.10 0.0298 0.0010

Saturn -119499-03-08 19:56 J -41925519.79 -41925519.67 -41925519.54 0.0299 0.0101

Saturn -119499-06-05 09:37 J -41925431.19 -41925431.10 -41925431.01 0.0300 0.0211

Mars -119498-01-04 01:13 J -41925218.61 -41925218.45 -41925218.30 0.1835 0.0465

Moon -119498-10-08 01:41 J -41924941.52 -41924941.43 -41924941.33 0.2564 0.2054

Earth -119498-10-08 02:10 J -41924941.50 -41924941.41 -41924941.31 0.2558 0.2055 *

Mars -119498-11-13 18:01 J -41924904.81 -41924904.75 -41924904.69 0.1685 0.1425

Jupiter -119498-11-15 12:15 J -41924903.09 -41924902.99 -41924902.90 0.0525 0.0368

Jupiter -119497-02-12 19:27 J -41924813.82 -41924813.69 -41924813.56 0.0526 0.0107

Mars -119496-10-19 01:41 J -41924199.55 -41924199.43 -41924199.31 0.1674 0.0298

Moon -119494-04-04 20:25 J -41923666.76 -41923666.65 -41923666.55 0.2781 0.0776

Earth -119494-04-04 21:08 J -41923666.73 -41923666.62 -41923666.52 0.2780 0.0652 *

Jupiter -119492-10-03 22:20 J -41922753.68 -41922753.57 -41922753.45 0.0500 0.0379

Jupiter -119491-01-02 05:46 J -41922663.42 -41922663.26 -41922663.09 0.0500 0.0205

Moon -119491-09-29 11:32 J -41922393.13 -41922393.02 -41922392.90 0.2560 0.1840

Earth -119491-09-29 13:13 J -41922393.06 -41922392.95 -41922392.83 0.2562 0.1807 *

Mars -119489-05-25 22:34 J -41921788.66 -41921788.56 -41921788.46 0.1830 0.1365

Earth -119488-04-13 17:46 J -41921465.80 -41921465.76 -41921465.71 0.2784 0.2501

Moon -119488-04-13 18:29 J -41921465.77 -41921465.73 -41921465.68 0.2784 0.2492 *

Saturn -119486-01-16 06:58 J -41920823.27 -41920823.21 -41920823.13 0.0266 0.0241

Mars -119486-03-11 11:46 J -41920769.13 -41920769.01 -41920768.89 0.1676 0.0120

Saturn -119486-04-15 01:41 J -41920734.58 -41920734.43 -41920734.28 0.0265 0.0140

Saturn -119486-07-12 20:25 J -41920645.83 -41920645.65 -41920645.47 0.0264 0.0039

Jupiter -119486-09-03 16:20 J -41920592.87 -41920592.82 -41920592.77 0.0525 0.0480

Saturn -119486-10-09 15:22 J -41920557.04 -41920556.86 -41920556.69 0.0264 0.0063

Jupiter -119486-12-01 23:46 J -41920503.64 -41920503.51 -41920503.38 0.0526 0.0015

Saturn -119485-01-06 10:20 J -41920468.21 -41920468.07 -41920467.93 0.0263 0.0164

Jupiter -119485-02-29 06:44 J -41920414.28 -41920414.22 -41920414.16 0.0526 0.0465

Mars -119484-02-13 18:15 J -41920063.79 -41920063.74 -41920063.69 0.1667 0.1518

Neptune -119482-07-10 18:15 J -41919186.76 -41919186.74 -41919186.70 0.0088 0.0086

Neptune -119482-10-06 19:41 J -41919098.72 -41919098.68 -41919098.62 0.0088 0.0082

Neptune -119481-01-02 21:08 J -41919010.67 -41919010.62 -41919010.54 0.0088 0.0077

Neptune -119481-03-30 22:34 J -41918922.62 -41918922.56 -41918922.47 0.0088 0.0073

Moon -119481-04-06 15:08 J -41918915.97 -41918915.87 -41918915.76 0.2788 0.0233

Earth -119481-04-06 15:37 J -41918915.96 -41918915.85 -41918915.75 0.2781 0.0192 *

Neptune -119481-06-27 00:15 J -41918834.57 -41918834.49 -41918834.40 0.0088 0.0069

Neptune -119481-09-23 01:41 J -41918746.51 -41918746.43 -41918746.33 0.0088 0.0064

Neptune -119481-12-20 03:08 J -41918658.46 -41918658.37 -41918658.26 0.0088 0.0060

Neptune -119480-03-18 04:49 J -41918570.40 -41918570.30 -41918570.19 0.0088 0.0056

Neptune -119480-06-14 06:15 J -41918482.35 -41918482.24 -41918482.12 0.0088 0.0052

Neptune -119480-09-10 07:41 J -41918394.29 -41918394.18 -41918394.06 0.0088 0.0047

Jupiter -119480-10-21 03:51 J -41918353.52 -41918353.34 -41918353.16 0.0500 0.0062

Venus -119480-12-05 18:29 J -41918307.80 -41918307.73 -41918307.66 0.3704 0.2786

Neptune -119480-12-07 09:08 J -41918306.23 -41918306.12 -41918305.99 0.0088 0.0043

Neptune -119479-03-05 10:49 J -41918218.17 -41918218.05 -41918217.93 0.0088 0.0039

Neptune -119479-06-01 12:15 J -41918130.12 -41918129.99 -41918129.86 0.0088 0.0034

Neptune -119479-08-28 13:41 J -41918042.06 -41918041.93 -41918041.80 0.0088 0.0030

Neptune -119479-11-24 15:08 J -41917954.00 -41917953.87 -41917953.74 0.0088 0.0026

Neptune -119478-02-20 16:34 J -41917865.94 -41917865.81 -41917865.67 0.0088 0.0022

Neptune -119478-05-19 18:01 J -41917777.88 -41917777.75 -41917777.61 0.0088 0.0018

Neptune -119478-08-15 19:27 J -41917689.82 -41917689.69 -41917689.55 0.0088 0.0013

Mars -119478-09-23 07:56 J -41917651.26 -41917651.17 -41917651.08 0.1841 0.1509

Moon -119478-10-02 18:15 J -41917641.90 -41917641.74 -41917641.59 0.2562 0.0627

Earth -119478-10-02 19:41 J -41917641.83 -41917641.68 -41917641.52 0.2561 0.0438 *

Neptune -119478-11-11 20:53 J -41917601.76 -41917601.63 -41917601.49 0.0088 0.0009

Neptune -119477-02-07 22:20 J -41917513.70 -41917513.57 -41917513.43 0.0088 0.0005

Neptune -119477-05-05 23:46 J -41917425.64 -41917425.51 -41917425.37 0.0088 0.0002

Mars -119477-07-31 22:05 J -41917338.70 -41917338.58 -41917338.47 0.1679 0.0524

Neptune -119477-08-02 01:13 J -41917337.58 -41917337.45 -41917337.31 0.0088 0.0004

Neptune -119477-10-29 02:39 J -41917249.52 -41917249.39 -41917249.25 0.0088 0.0008

Neptune -119476-01-25 04:05 J -41917161.46 -41917161.33 -41917161.19 0.0088 0.0012

Neptune -119476-04-23 05:32 J -41917073.40 -41917073.27 -41917073.14 0.0088 0.0016

Neptune -119476-07-20 06:58 J -41916985.34 -41916985.21 -41916985.08 0.0088 0.0020

Neptune -119476-10-16 08:25 J -41916897.28 -41916897.15 -41916897.02 0.0088 0.0024

Neptune -119475-01-12 09:51 J -41916809.22 -41916809.09 -41916808.96 0.0088 0.0029

Neptune -119475-04-10 11:03 J -41916721.16 -41916721.04 -41916720.91 0.0088 0.0033

Mars -119475-07-07 04:49 J -41916633.39 -41916633.30 -41916633.22 0.1669 0.1134

Neptune -119475-07-07 12:29 J -41916633.10 -41916632.98 -41916632.85 0.0088 0.0037

Uranus -119475-08-13 13:27 J -41916596.03 -41916595.94 -41916595.83 0.0148 0.0123

Neptune -119475-10-03 13:56 J -41916545.04 -41916544.92 -41916544.80 0.0088 0.0041

Uranus -119475-11-09 21:51 J -41916507.73 -41916507.59 -41916507.44 0.0148 0.0093

Neptune -119475-12-30 15:08 J -41916456.97 -41916456.87 -41916456.74 0.0088 0.0046

Uranus -119474-02-06 06:15 J -41916419.40 -41916419.24 -41916419.07 0.0148 0.0063

Neptune -119474-03-28 16:34 J -41916368.91 -41916368.81 -41916368.69 0.0088 0.0050

Moon -119474-03-31 12:44 J -41916366.03 -41916365.97 -41916365.90 0.2770 0.2128

Earth -119474-03-31 13:13 J -41916366.02 -41916365.95 -41916365.89 0.2777 0.2154 *

Uranus -119474-05-05 14:39 J -41916331.07 -41916330.89 -41916330.70 0.0148 0.0032

Venus -119474-06-21 11:17 J -41916284.13 -41916284.03 -41916283.92 0.3710 0.1093

Neptune -119474-06-24 18:01 J -41916280.85 -41916280.75 -41916280.63 0.0088 0.0054

Uranus -119474-08-01 23:17 J -41916242.72 -41916242.53 -41916242.34 0.0148 0.0002

Jupiter -119474-09-20 03:51 J -41916193.47 -41916193.34 -41916193.21 0.0525 0.0119

Neptune -119474-09-20 19:27 J -41916192.79 -41916192.69 -41916192.58 0.0088 0.0058

Uranus -119474-10-29 07:41 J -41916154.36 -41916154.18 -41916153.99 0.0148 0.0029

Neptune -119474-12-17 20:53 J -41916104.72 -41916104.63 -41916104.53 0.0088 0.0062

Jupiter -119474-12-18 10:49 J -41916104.15 -41916104.05 -41916103.96 0.0526 0.0351

Uranus -119473-01-25 16:20 J -41916065.99 -41916065.82 -41916065.65 0.0148 0.0060

Neptune -119473-03-14 22:20 J -41916016.66 -41916016.57 -41916016.48 0.0088 0.0066

Uranus -119473-04-23 00:44 J -41915977.61 -41915977.47 -41915977.32 0.0148 0.0091

Neptune -119473-06-10 23:46 J -41915928.59 -41915928.51 -41915928.43 0.0088 0.0070

Uranus -119473-07-20 09:08 J -41915889.21 -41915889.12 -41915889.00 0.0148 0.0123

Neptune -119473-09-07 01:13 J -41915840.52 -41915840.45 -41915840.38 0.0088 0.0074

Neptune -119473-12-04 02:25 J -41915752.46 -41915752.40 -41915752.33 0.0088 0.0078

Neptune -119472-03-02 03:51 J -41915664.38 -41915664.34 -41915664.29 0.0088 0.0082

Neptune -119472-05-29 05:17 J -41915576.31 -41915576.28 -41915576.25 0.0088 0.0086

Saturn -119471-11-03 02:39 J -41915053.44 -41915053.39 -41915053.34 0.0296 0.0273

Saturn -119470-01-30 16:34 J -41914964.93 -41914964.81 -41914964.70 0.0297 0.0163

Saturn -119470-04-29 06:15 J -41914876.37 -41914876.24 -41914876.10 0.0298 0.0053

Saturn -119470-07-26 19:56 J -41914787.80 -41914787.67 -41914787.53 0.0299 0.0059

Saturn -119470-10-23 09:37 J -41914699.21 -41914699.10 -41914698.99 0.0300 0.0168

Saturn -119469-01-19 23:03 J -41914610.58 -41914610.54 -41914610.49 0.0301 0.0278

Venus -119468-01-04 04:05 J -41914260.43 -41914260.33 -41914260.22 0.3716 0.0611

Mars -119468-02-12 04:34 J -41914221.47 -41914221.31 -41914221.16 0.1838 0.0549

Earth -119468-04-09 09:51 J -41914165.19 -41914165.09 -41914164.99 0.2783 0.1005

Moon -119468-04-09 10:05 J -41914165.18 -41914165.08 -41914164.98 0.2790 0.1012 *

Jupiter -119468-08-09 01:56 J -41914043.60 -41914043.42 -41914043.24 0.0500 0.0078

Mars -119468-12-22 07:56 J -41913908.26 -41913908.17 -41913908.07 0.1682 0.0948

Mars -119466-11-27 15:22 J -41913202.97 -41913202.86 -41913202.76 0.1671 0.0746

Moon -119465-10-05 01:13 J -41912890.60 -41912890.45 -41912890.31 0.2564 0.0966

Earth -119465-10-05 02:25 J -41912890.55 -41912890.40 -41912890.25 0.2559 0.0940 *

Venus -119463-07-20 20:53 J -41912236.71 -41912236.63 -41912236.55 0.3722 0.2254

Jupiter -119462-07-09 07:41 J -41911883.30 -41911883.18 -41911883.06 0.0525 0.0236

Jupiter -119462-10-06 14:53 J -41911794.00 -41911793.88 -41911793.77 0.0525 0.0236

Moon -119461-04-02 06:44 J -41911615.31 -41911615.22 -41911615.12 0.2777 0.1444

Earth -119461-04-02 07:27 J -41911615.28 -41911615.19 -41911615.09 0.2778 0.1330 *

Venus -119460-04-19 05:03 J -41911233.43 -41911233.29 -41911233.14 0.3670 0.0501

Mars -119459-07-05 01:27 J -41910791.59 -41910791.44 -41910791.28 0.1834 0.0387

Mars -119458-05-14 18:01 J -41910477.82 -41910477.75 -41910477.68 0.1685 0.1370

Saturn -119457-09-01 00:01 J -41910002.63 -41910002.50 -41910002.37 0.0265 0.0178

Saturn -119457-11-28 18:44 J -41909913.89 -41909913.72 -41909913.55 0.0264 0.0077

Saturn -119456-02-25 13:27 J -41909825.12 -41909824.94 -41909824.76 0.0264 0.0024

Mars -119456-04-19 01:41 J -41909772.55 -41909772.43 -41909772.32 0.1674 0.0349

Saturn -119456-05-25 08:25 J -41909736.31 -41909736.15 -41909735.99 0.0263 0.0125

Jupiter -119456-05-28 00:15 J -41909733.65 -41909733.49 -41909733.32 0.0501 0.0216

Saturn -119456-08-22 03:37 J -41909647.44 -41909647.35 -41909647.26 0.0262 0.0227

Jupiter -119456-08-26 08:10 J -41909643.27 -41909643.16 -41909643.03 0.0500 0.0374

Earth -119455-04-12 04:20 J -41909414.40 -41909414.32 -41909414.24 0.2784 0.1828

Moon -119455-04-12 05:03 J -41909414.37 -41909414.29 -41909414.21 0.2787 0.1870 *

Venus -119455-11-03 10:20 J -41909209.12 -41909209.07 -41909209.01 0.3662 0.3378

Earth -119452-10-08 08:53 J -41908139.20 -41908139.13 -41908139.07 0.2558 0.2311

Moon -119452-10-08 08:53 J -41908139.20 -41908139.13 -41908139.05 0.2564 0.2274 *

Jupiter -119450-04-27 11:17 J -41907573.12 -41907573.03 -41907572.93 0.0525 0.0357

Jupiter -119450-07-25 18:29 J -41907483.85 -41907483.73 -41907483.60 0.0525 0.0117

Mars -119450-11-24 23:17 J -41907361.65 -41907361.53 -41907361.42 0.1831 0.1278

Moon -119448-04-05 01:27 J -41906864.55 -41906864.44 -41906864.34 0.2783 0.0500

Earth -119448-04-05 01:56 J -41906864.52 -41906864.42 -41906864.31 0.2780 0.0504 *

Mars -119447-09-09 12:01 J -41906342.12 -41906342.00 -41906341.88 0.1676 0.0066

Mars -119445-08-14 18:15 J -41905636.78 -41905636.74 -41905636.70 0.1667 0.1566

Moon -119445-09-29 18:15 J -41905590.86 -41905590.74 -41905590.62 0.2560 0.1696

Earth -119445-09-29 19:56 J -41905590.80 -41905590.67 -41905590.54 0.2562 0.1552 *

Jupiter -119444-03-15 22:34 J -41905423.68 -41905423.56 -41905423.43 0.0501 0.0354

Jupiter -119444-06-14 06:15 J -41905333.40 -41905333.24 -41905333.07 0.0500 0.0232

Earth -119442-04-14 22:49 J -41904663.58 -41904663.55 -41904663.52 0.2785 0.2652

Moon -119442-04-14 23:17 J -41904663.54 -41904663.53 -41904663.51 0.2782 0.2750 *

Saturn -119441-06-18 16:49 J -41904232.90 -41904232.80 -41904232.71 0.0296 0.0206

Saturn -119441-09-15 06:29 J -41904144.36 -41904144.23 -41904144.10 0.0297 0.0096

Saturn -119441-12-12 20:25 J -41904055.79 -41904055.65 -41904055.52 0.0298 0.0016

Saturn -119440-03-11 10:05 J -41903967.21 -41903967.08 -41903966.96 0.0299 0.0125

Saturn -119440-06-07 23:32 J -41903878.60 -41903878.52 -41903878.44 0.0300 0.0235

Jupiter -119438-02-13 15:22 J -41903262.91 -41903262.86 -41903262.80 0.0525 0.0470

Mars -119438-03-24 08:39 J -41903224.22 -41903224.14 -41903224.06 0.1842 0.1599

Jupiter -119438-05-13 22:49 J -41903173.68 -41903173.55 -41903173.42 0.0525 0.0015

Jupiter -119438-08-11 05:46 J -41903084.31 -41903084.26 -41903084.21 0.0526 0.0473

Mars -119437-01-30 22:05 J -41902911.70 -41902911.58 -41902911.47 0.1679 0.0472

Pluto -119437-09-24 02:53 J -41902674.38 -41902674.38 -41902674.34 0.0060 0.0060

Pluto -119437-12-21 03:51 J -41902586.41 -41902586.34 -41902586.22 0.0060 0.0053

Pluto -119436-03-19 05:17 J -41902498.39 -41902498.28 -41902498.13 0.0060 0.0045

Pluto -119436-06-15 06:44 J -41902410.35 -41902410.22 -41902410.05 0.0060 0.0036

Pluto -119436-09-11 07:56 J -41902322.32 -41902322.17 -41902321.98 0.0061 0.0029

Pluto -119436-12-08 09:22 J -41902234.27 -41902234.11 -41902233.91 0.0061 0.0021

Mars -119435-01-05 04:49 J -41902206.38 -41902206.30 -41902206.22 0.1669 0.1185

Pluto -119435-03-06 11:03 J -41902146.22 -41902146.04 -41902145.85 0.0061 0.0012

Moon -119435-04-07 20:10 J -41902113.77 -41902113.66 -41902113.55 0.2789 0.0257

Earth -119435-04-07 20:25 J -41902113.76 -41902113.65 -41902113.54 0.2781 0.0328 *

Pluto -119435-06-02 12:15 J -41902058.17 -41902057.99 -41902057.79 0.0061 0.0004

Pluto -119435-08-29 13:41 J -41901970.12 -41901969.93 -41901969.74 0.0061 0.0004

Pluto -119435-11-25 14:53 J -41901882.06 -41901881.88 -41901881.69 0.0061 0.0012

Pluto -119434-02-21 16:20 J -41901794.00 -41901793.82 -41901793.64 0.0061 0.0020

Pluto -119434-05-20 17:32 J -41901705.93 -41901705.77 -41901705.60 0.0061 0.0028

Uranus -119434-06-16 01:13 J -41901679.49 -41901679.45 -41901679.40 0.0131 0.0123

Pluto -119434-08-16 18:58 J -41901617.86 -41901617.71 -41901617.56 0.0061 0.0037

Uranus -119434-09-12 04:34 J -41901591.39 -41901591.31 -41901591.24 0.0131 0.0108

Pluto -119434-11-12 19:41 J -41901529.78 -41901529.68 -41901529.52 0.0061 0.0046

Uranus -119434-12-09 07:27 J -41901503.28 -41901503.19 -41901503.09 0.0131 0.0092

Pluto -119433-02-08 21:08 J -41901441.69 -41901441.62 -41901441.50 0.0061 0.0053

Uranus -119433-03-06 10:34 J -41901415.17 -41901415.06 -41901414.95 0.0131 0.0077

Pluto -119433-05-06 23:03 J -41901353.54 -41901353.54 -41901353.54 0.0061 0.0061

Uranus -119433-06-02 13:41 J -41901327.05 -41901326.93 -41901326.81 0.0131 0.0061

Uranus -119433-08-29 16:34 J -41901238.93 -41901238.81 -41901238.68 0.0131 0.0046

Uranus -119433-11-25 19:41 J -41901150.81 -41901150.68 -41901150.55 0.0131 0.0031

Uranus -119432-02-21 22:49 J -41901062.68 -41901062.55 -41901062.42 0.0131 0.0015

Jupiter -119432-04-02 03:08 J -41901023.55 -41901023.37 -41901023.20 0.0500 0.0076

Uranus -119432-05-21 01:41 J -41900974.56 -41900974.43 -41900974.29 0.0131 0.0005

Uranus -119432-08-17 04:49 J -41900886.43 -41900886.30 -41900886.17 0.0131 0.0015

Moon -119432-10-03 00:58 J -41900839.62 -41900839.46 -41900839.30 0.2564 0.0199

Earth -119432-10-03 02:25 J -41900839.56 -41900839.40 -41900839.24 0.2560 0.0183 *

Uranus -119432-11-13 07:41 J -41900798.31 -41900798.18 -41900798.04 0.0131 0.0030

Uranus -119431-02-09 10:49 J -41900710.18 -41900710.05 -41900709.93 0.0131 0.0045

Uranus -119431-05-08 13:41 J -41900622.05 -41900621.93 -41900621.81 0.0131 0.0060

Uranus -119431-08-04 16:34 J -41900533.91 -41900533.81 -41900533.70 0.0131 0.0075

Uranus -119431-10-31 19:41 J -41900445.78 -41900445.68 -41900445.59 0.0131 0.0090

Uranus -119430-01-27 22:34 J -41900357.64 -41900357.56 -41900357.48 0.0131 0.0105

Uranus -119430-04-26 01:27 J -41900269.49 -41900269.44 -41900269.38 0.0131 0.0120

Mars -119429-08-13 05:17 J -41899794.43 -41899794.28 -41899794.13 0.1838 0.0645

Moon -119428-03-31 17:32 J -41899563.84 -41899563.77 -41899563.70 0.2772 0.2043

Earth -119428-03-31 18:01 J -41899563.82 -41899563.75 -41899563.68 0.2777 0.2001 *

Mars -119428-06-22 08:10 J -41899481.26 -41899481.16 -41899481.06 0.1682 0.0890

Saturn -119427-01-18 22:49 J -41899270.65 -41899270.55 -41899270.44 0.0266 0.0212

Saturn -119427-04-17 17:32 J -41899181.93 -41899181.77 -41899181.61 0.0265 0.0111

Saturn -119427-07-15 12:15 J -41899093.17 -41899092.99 -41899092.81 0.0265 0.0011

Saturn -119427-10-12 07:13 J -41899004.37 -41899004.20 -41899004.03 0.0264 0.0092

Saturn -119426-01-09 02:10 J -41898915.52 -41898915.41 -41898915.28 0.0263 0.0194

Jupiter -119426-03-02 03:08 J -41898863.49 -41898863.37 -41898863.24 0.0526 0.0107

Mars -119426-05-28 15:22 J -41898775.97 -41898775.86 -41898775.76 0.1671 0.0795

Jupiter -119426-05-30 10:20 J -41898774.17 -41898774.07 -41898773.98 0.0526 0.0365

Venus -119423-07-12 16:20 J -41897634.91 -41897634.82 -41897634.74 0.3706 0.2153

Earth -119422-04-10 14:53 J -41897362.98 -41897362.88 -41897362.78 0.2783 0.1157

Moon -119422-04-10 15:08 J -41897362.96 -41897362.87 -41897362.77 0.2788 0.1242 *

Jupiter -119420-01-19 00:58 J -41896713.64 -41896713.46 -41896713.28 0.0500 0.0067

Mars -119419-01-03 02:25 J -41896364.56 -41896364.40 -41896364.25 0.1834 0.0295

Moon -119419-10-06 08:10 J -41896088.30 -41896088.16 -41896088.01 0.2564 0.1061

Earth -119419-10-06 08:53 J -41896088.27 -41896088.13 -41896087.98 0.2559 0.1201 *

Mars -119419-11-12 18:01 J -41896050.82 -41896050.75 -41896050.67 0.1685 0.1317

Venus -119417-01-26 09:08 J -41895611.22 -41895611.12 -41895611.01 0.3712 0.0461

Mars -119417-10-18 01:41 J -41895345.55 -41895345.43 -41895345.32 0.1674 0.0397

Moon -119415-04-03 11:46 J -41894813.11 -41894813.01 -41894812.92 0.2778 0.1191

Earth -119415-04-03 12:29 J -41894813.08 -41894812.98 -41894812.88 0.2779 0.1176 *

Jupiter -119415-12-19 07:13 J -41894553.32 -41894553.20 -41894553.08 0.0525 0.0221

Jupiter -119414-03-18 14:25 J -41894464.02 -41894463.90 -41894463.79 0.0526 0.0251

Venus -119412-08-11 01:56 J -41893587.52 -41893587.42 -41893587.32 0.3717 0.1215

Saturn -119412-11-05 16:49 J -41893500.87 -41893500.80 -41893500.72 0.0296 0.0247

Saturn -119411-02-02 06:44 J -41893412.34 -41893412.22 -41893412.10 0.0297 0.0138

Saturn -119411-05-01 20:39 J -41893323.78 -41893323.64 -41893323.51 0.0298 0.0029

Saturn -119411-07-29 10:20 J -41893235.20 -41893235.07 -41893234.94 0.0299 0.0083

Saturn -119411-10-25 23:46 J -41893146.61 -41893146.51 -41893146.41 0.0300 0.0192

Mars -119410-05-25 23:46 J -41892934.63 -41892934.51 -41892934.39 0.1830 0.1192

Earth -119409-04-12 09:08 J -41892612.19 -41892612.12 -41892612.04 0.2784 0.1987

Moon -119409-04-12 09:51 J -41892612.16 -41892612.09 -41892612.01 0.2786 0.2048 *

Venus -119409-05-10 01:13 J -41892584.53 -41892584.45 -41892584.36 0.3675 0.2948

Jupiter -119409-11-06 23:03 J -41892403.70 -41892403.54 -41892403.37 0.0500 0.0207

Jupiter -119408-02-05 06:58 J -41892313.32 -41892313.21 -41892313.09 0.0500 0.0382

Mars -119407-03-10 11:46 J -41891915.13 -41891915.01 -41891914.89 0.1676 0.0061

Venus -119406-02-24 18:44 J -41891563.79 -41891563.72 -41891563.66 0.3723 0.2866

Mars -119405-02-13 18:15 J -41891209.77 -41891209.74 -41891209.72 0.1667 0.1613

Venus -119404-11-24 06:15 J -41890560.39 -41890560.24 -41890560.10 0.3668 0.0822

Jupiter -119403-10-07 11:03 J -41890243.14 -41890243.04 -41890242.94 0.0525 0.0339

Jupiter -119402-01-04 18:15 J -41890153.86 -41890153.74 -41890153.61 0.0525 0.0135

Moon -119402-04-06 06:29 J -41890062.34 -41890062.23 -41890062.13 0.2786 0.0453

Earth -119402-04-06 06:58 J -41890062.32 -41890062.21 -41890062.11 0.2780 0.0363 *

Mars -119399-09-22 09:22 J -41888797.17 -41888797.11 -41888797.05 0.1841 0.1692

Moon -119399-10-01 00:58 J -41888788.60 -41888788.46 -41888788.33 0.2562 0.1405

Earth -119399-10-01 02:25 J -41888788.53 -41888788.40 -41888788.26 0.2562 0.1304 *

Saturn -119398-06-07 21:08 J -41888538.67 -41888538.62 -41888538.55 0.0266 0.0250

Neptune -119398-06-10 05:17 J -41888536.32 -41888536.28 -41888536.20 0.0089 0.0084

Mars -119398-07-31 22:05 J -41888484.70 -41888484.58 -41888484.46 0.1679 0.0419

Saturn -119398-09-04 15:51 J -41888449.98 -41888449.84 -41888449.69 0.0265 0.0149

Neptune -119398-09-06 08:39 J -41888448.21 -41888448.14 -41888448.04 0.0089 0.0078

Saturn -119398-12-02 10:34 J -41888361.23 -41888361.06 -41888360.88 0.0265 0.0048

Neptune -119398-12-03 12:15 J -41888360.10 -41888359.99 -41888359.89 0.0089 0.0072

Saturn -119397-02-29 05:32 J -41888272.45 -41888272.27 -41888272.09 0.0264 0.0053

Neptune -119397-02-29 15:08 J -41888271.98 -41888271.87 -41888271.73 0.0089 0.0067

Neptune -119397-05-27 18:29 J -41888183.85 -41888183.73 -41888183.58 0.0089 0.0061

Saturn -119397-05-28 00:29 J -41888183.62 -41888183.48 -41888183.33 0.0263 0.0155 *

Neptune -119397-08-23 21:51 J -41888095.73 -41888095.59 -41888095.44 0.0089 0.0055

Saturn -119397-08-24 19:41 J -41888094.71 -41888094.68 -41888094.64 0.0262 0.0256

Jupiter -119397-08-25 21:37 J -41888093.73 -41888093.60 -41888093.47 0.0501 0.0344

Neptune -119397-11-20 00:58 J -41888007.60 -41888007.46 -41888007.29 0.0089 0.0050

Jupiter -119397-11-24 05:03 J -41888003.44 -41888003.29 -41888003.12 0.0500 0.0242

Neptune -119396-02-16 04:20 J -41887919.47 -41887919.32 -41887919.15 0.0089 0.0044

Neptune -119396-05-15 07:41 J -41887831.34 -41887831.18 -41887831.00 0.0089 0.0038

Mars -119396-07-06 04:49 J -41887779.38 -41887779.30 -41887779.22 0.1669 0.1232

Neptune -119396-08-11 11:03 J -41887743.20 -41887743.04 -41887742.86 0.0089 0.0032

Neptune -119396-11-07 14:39 J -41887655.07 -41887654.89 -41887654.71 0.0089 0.0026

Neptune -119395-02-03 18:01 J -41887566.93 -41887566.75 -41887566.57 0.0089 0.0021

Moon -119395-03-30 04:20 J -41887512.35 -41887512.32 -41887512.29 0.2768 0.2631

Earth -119395-03-30 04:20 J -41887512.34 -41887512.32 -41887512.29 0.2775 0.2677 *

Neptune -119395-05-02 21:08 J -41887478.80 -41887478.62 -41887478.43 0.0089 0.0015

Neptune -119395-07-30 00:29 J -41887390.66 -41887390.48 -41887390.29 0.0089 0.0009

Neptune -119395-10-26 04:05 J -41887302.52 -41887302.33 -41887302.14 0.0089 0.0003

Neptune -119394-01-22 07:27 J -41887214.38 -41887214.19 -41887214.00 0.0089 0.0003

Neptune -119394-04-20 10:49 J -41887126.24 -41887126.05 -41887125.86 0.0089 0.0009

Neptune -119394-07-17 14:10 J -41887038.09 -41887037.91 -41887037.72 0.0089 0.0015

Neptune -119394-10-13 17:32 J -41886949.95 -41886949.77 -41886949.58 0.0089 0.0021

Neptune -119393-01-09 20:53 J -41886861.80 -41886861.63 -41886861.44 0.0089 0.0027

Neptune -119393-04-07 00:15 J -41886773.66 -41886773.49 -41886773.31 0.0089 0.0033

Neptune -119393-07-04 03:37 J -41886685.51 -41886685.35 -41886685.17 0.0089 0.0039

Neptune -119393-09-30 06:58 J -41886597.36 -41886597.21 -41886597.03 0.0089 0.0045

Neptune -119393-12-27 10:34 J -41886509.21 -41886509.06 -41886508.90 0.0089 0.0051

Neptune -119392-03-25 13:56 J -41886421.05 -41886420.92 -41886420.76 0.0089 0.0057

Neptune -119392-06-21 17:17 J -41886332.90 -41886332.78 -41886332.63 0.0089 0.0063

Neptune -119392-09-17 20:53 J -41886244.74 -41886244.63 -41886244.50 0.0089 0.0069

Neptune -119392-12-15 00:15 J -41886156.57 -41886156.49 -41886156.37 0.0089 0.0075

Neptune -119391-03-13 03:37 J -41886068.40 -41886068.35 -41886068.25 0.0089 0.0082

Uranus -119391-06-06 12:29 J -41885982.99 -41885982.98 -41885982.94 0.0148 0.0146

Neptune -119391-06-09 07:13 J -41885980.22 -41885980.20 -41885980.14 0.0089 0.0087

Jupiter -119391-07-26 14:39 J -41885932.95 -41885932.89 -41885932.83 0.0524 0.0461

Uranus -119391-09-02 20:53 J -41885894.74 -41885894.63 -41885894.51 0.0148 0.0116

Jupiter -119391-10-23 22:05 J -41885843.71 -41885843.58 -41885843.45 0.0525 0.0021

Uranus -119391-11-30 05:17 J -41885806.43 -41885806.28 -41885806.12 0.0148 0.0086

Jupiter -119390-01-21 04:49 J -41885754.35 -41885754.30 -41885754.25 0.0526 0.0482

Uranus -119390-02-26 13:27 J -41885718.10 -41885717.94 -41885717.75 0.0148 0.0056

Uranus -119390-05-25 22:05 J -41885629.76 -41885629.58 -41885629.39 0.0148 0.0025

Uranus -119390-08-22 06:44 J -41885541.41 -41885541.22 -41885541.03 0.0148 0.0006

Uranus -119390-11-18 15:08 J -41885453.05 -41885452.87 -41885452.68 0.0148 0.0037

Mars -119389-02-12 05:46 J -41885367.41 -41885367.26 -41885367.11 0.1838 0.0725

Uranus -119389-02-14 23:32 J -41885364.68 -41885364.52 -41885364.34 0.0148 0.0068

Moon -119389-04-08 01:13 J -41885311.55 -41885311.45 -41885311.34 0.2789 0.0542

Earth -119389-04-08 01:13 J -41885311.55 -41885311.45 -41885311.34 0.2782 0.0484 *

Uranus -119389-05-13 08:10 J -41885276.29 -41885276.16 -41885276.01 0.0148 0.0099

Uranus -119389-08-09 16:49 J -41885187.88 -41885187.80 -41885187.70 0.0148 0.0130

Mars -119389-12-21 08:10 J -41885054.26 -41885054.16 -41885054.05 0.1682 0.0835

Mars -119387-11-26 15:22 J -41884348.96 -41884348.86 -41884348.76 0.1671 0.0845

Moon -119386-10-04 07:41 J -41884037.34 -41884037.18 -41884037.02 0.2564 0.0071

Earth -119386-10-04 09:08 J -41884037.28 -41884037.12 -41884036.96 0.2560 0.0081 *

Jupiter -119385-06-13 19:56 J -41883783.71 -41883783.67 -41883783.62 0.0501 0.0481

Jupiter -119385-09-12 03:22 J -41883693.54 -41883693.36 -41883693.19 0.0500 0.0101

Saturn -119382-03-25 17:03 J -41882768.81 -41882768.79 -41882768.76 0.0295 0.0289

Moon -119382-04-01 22:20 J -41882761.65 -41882761.57 -41882761.50 0.2774 0.1927

Earth -119382-04-01 22:49 J -41882761.63 -41882761.55 -41882761.47 0.2777 0.1853 *

Saturn -119382-06-22 06:58 J -41882680.31 -41882680.21 -41882680.10 0.0296 0.0179

Saturn -119382-09-18 20:53 J -41882591.76 -41882591.63 -41882591.50 0.0297 0.0069

Saturn -119382-12-16 10:34 J -41882503.19 -41882503.06 -41882502.92 0.0298 0.0041

Saturn -119381-03-14 00:15 J -41882414.60 -41882414.49 -41882414.37 0.0299 0.0150

Saturn -119381-06-10 13:41 J -41882325.99 -41882325.93 -41882325.86 0.0300 0.0259

Mars -119380-07-04 02:53 J -41881937.53 -41881937.38 -41881937.22 0.1834 0.0207

Mars -119379-05-13 18:01 J -41881623.83 -41881623.75 -41881623.67 0.1685 0.1265

Jupiter -119379-08-12 02:10 J -41881533.54 -41881533.41 -41881533.28 0.0525 0.0098

Jupiter -119379-11-09 09:08 J -41881444.21 -41881444.12 -41881444.03 0.0526 0.0373

Mars -119377-04-18 01:41 J -41880918.55 -41880918.43 -41880918.32 0.1674 0.0447

Earth -119376-04-10 19:41 J -41880560.78 -41880560.68 -41880560.59 0.2783 0.1308

Moon -119376-04-10 20:10 J -41880560.75 -41880560.66 -41880560.56 0.2788 0.1303 *

Jupiter -119373-07-01 00:01 J -41879383.67 -41879383.50 -41879383.32 0.0500 0.0056

Moon -119373-10-06 15:22 J -41879285.99 -41879285.86 -41879285.73 0.2565 0.1533

Earth -119373-10-06 15:37 J -41879285.98 -41879285.85 -41879285.72 0.2559 0.1452 *

Venus -119372-08-02 21:08 J -41878985.67 -41878985.62 -41878985.57 0.3702 0.3221

Mars -119371-11-24 00:29 J -41878507.60 -41878507.48 -41878507.35 0.1830 0.1098

Moon -119369-04-03 16:34 J -41878010.91 -41878010.81 -41878010.71 0.2780 0.1111

Earth -119369-04-03 17:17 J -41878010.88 -41878010.78 -41878010.68 0.2779 0.1025 *

Saturn -119368-01-21 14:53 J -41877718.00 -41877717.88 -41877717.75 0.0266 0.0182

Saturn -119368-04-20 09:37 J -41877629.26 -41877629.10 -41877628.93 0.0265 0.0081

Saturn -119368-07-18 04:34 J -41877540.49 -41877540.31 -41877540.13 0.0265 0.0021

Mars -119368-09-08 12:01 J -41877488.12 -41877488.00 -41877487.88 0.1676 0.0053

Saturn -119368-10-14 23:32 J -41877451.68 -41877451.52 -41877451.36 0.0264 0.0123

Saturn -119367-01-11 18:44 J -41877362.81 -41877362.72 -41877362.63 0.0263 0.0225

Jupiter -119367-05-31 06:29 J -41877223.35 -41877223.23 -41877223.11 0.0526 0.0211

Jupiter -119367-08-28 13:27 J -41877134.05 -41877133.94 -41877133.82 0.0526 0.0264

Venus -119366-02-16 14:10 J -41876962.01 -41876961.91 -41876961.82 0.3707 0.1524

Mars -119366-08-14 18:15 J -41876782.74 -41876782.74 -41876782.74 0.1667 0.1662

Earth -119366-09-29 02:53 J -41876737.44 -41876737.38 -41876737.33 0.2563 0.2412

Earth -119363-04-13 14:10 J -41875809.98 -41875809.91 -41875809.84 0.2784 0.2136

Moon -119363-04-13 14:53 J -41875809.95 -41875809.88 -41875809.82 0.2783 0.2222 *

Jupiter -119361-04-18 22:05 J -41875073.74 -41875073.58 -41875073.41 0.0500 0.0196

Jupiter -119361-07-18 05:46 J -41874983.36 -41874983.26 -41874983.14 0.0499 0.0392

Venus -119361-09-01 06:58 J -41874938.32 -41874938.21 -41874938.10 0.3713 0.0170

Mars -119359-03-23 10:05 J -41874370.12 -41874370.08 -41874370.05 0.1841 0.1782

Mars -119358-01-29 22:05 J -41874057.70 -41874057.58 -41874057.46 0.1679 0.0368

Mars -119356-01-04 04:49 J -41873352.37 -41873352.30 -41873352.23 0.1669 0.1280

Moon -119356-04-06 11:17 J -41873260.13 -41873260.03 -41873259.92 0.2787 0.0203

Earth -119356-04-06 11:46 J -41873260.12 -41873260.01 -41873259.90 0.2780 0.0199 *

Venus -119355-03-17 23:46 J -41872914.60 -41872914.51 -41872914.42 0.3719 0.1831

Jupiter -119355-03-19 10:20 J -41872913.17 -41872913.07 -41872912.97 0.0525 0.0326

Jupiter -119355-06-16 17:32 J -41872823.89 -41872823.77 -41872823.64 0.0526 0.0149

Moon -119353-10-01 07:27 J -41871986.33 -41871986.19 -41871986.04 0.2564 0.1098

Earth -119353-10-01 09:08 J -41871986.26 -41871986.12 -41871985.97 0.2561 0.1046 *

Saturn -119353-11-08 07:41 J -41871948.27 -41871948.18 -41871948.09 0.0296 0.0218

Venus -119353-12-15 02:10 J -41871911.54 -41871911.41 -41871911.28 0.3673 0.1674

Saturn -119352-02-04 21:37 J -41871859.73 -41871859.60 -41871859.48 0.0297 0.0109

Saturn -119352-05-04 11:17 J -41871771.17 -41871771.03 -41871770.89 0.0298 0.0002

Saturn -119352-08-01 00:58 J -41871682.59 -41871682.46 -41871682.34 0.0299 0.0111

Saturn -119352-10-28 14:25 J -41871593.99 -41871593.90 -41871593.81 0.0300 0.0220

Uranus -119350-07-06 07:56 J -41870978.21 -41870978.17 -41870978.11 0.0131 0.0121

Mars -119350-08-13 06:29 J -41870940.37 -41870940.23 -41870940.08 0.1838 0.0822

Venus -119350-10-01 16:20 J -41870890.85 -41870890.82 -41870890.78 0.3725 0.3475

Uranus -119350-10-02 11:03 J -41870890.11 -41870890.04 -41870889.95 0.0131 0.0105

Uranus -119350-12-29 14:10 J -41870802.00 -41870801.91 -41870801.81 0.0131 0.0090

Jupiter -119349-02-05 20:10 J -41870763.79 -41870763.66 -41870763.53 0.0500 0.0336

Uranus -119349-03-26 17:17 J -41870713.89 -41870713.78 -41870713.67 0.0131 0.0074

Moon -119349-03-30 09:08 J -41870710.16 -41870710.12 -41870710.09 0.2769 0.2594

Earth -119349-03-30 09:22 J -41870710.15 -41870710.11 -41870710.07 0.2776 0.2524 *

Jupiter -119349-05-06 03:51 J -41870673.50 -41870673.34 -41870673.18 0.0500 0.0248

Mars -119349-06-21 08:10 J -41870627.27 -41870627.16 -41870627.05 0.1682 0.0785

Uranus -119349-06-22 20:25 J -41870625.77 -41870625.65 -41870625.53 0.0131 0.0059

Uranus -119349-09-18 23:17 J -41870537.65 -41870537.53 -41870537.40 0.0131 0.0044

Uranus -119349-12-16 02:25 J -41870449.53 -41870449.40 -41870449.26 0.0131 0.0029

Uranus -119348-03-14 05:32 J -41870361.41 -41870361.27 -41870361.14 0.0131 0.0013

Uranus -119348-06-10 08:25 J -41870273.28 -41870273.15 -41870273.01 0.0131 0.0005

Uranus -119348-09-06 11:32 J -41870185.15 -41870185.02 -41870184.89 0.0131 0.0017

Uranus -119348-12-03 14:25 J -41870097.03 -41870096.90 -41870096.77 0.0131 0.0032

Uranus -119347-03-01 17:32 J -41870008.90 -41870008.77 -41870008.65 0.0131 0.0047

Mars -119347-05-27 15:22 J -41869921.96 -41869921.86 -41869921.76 0.1671 0.0893

Uranus -119347-05-28 20:25 J -41869920.77 -41869920.65 -41869920.53 0.0131 0.0062

Venus -119347-07-01 06:58 J -41869887.33 -41869887.21 -41869887.09 0.3665 0.2111

Uranus -119347-08-24 23:32 J -41869832.63 -41869832.52 -41869832.42 0.0131 0.0077

Uranus -119347-11-21 02:25 J -41869744.49 -41869744.40 -41869744.31 0.0131 0.0092

Uranus -119346-02-17 05:17 J -41869656.35 -41869656.28 -41869656.20 0.0131 0.0107

Uranus -119346-05-16 08:10 J -41869568.20 -41869568.16 -41869568.11 0.0131 0.0122

Jupiter -119343-01-05 14:10 J -41868602.98 -41868602.91 -41868602.84 0.0525 0.0444

Pluto -119343-01-16 17:46 J -41868591.79 -41868591.76 -41868591.70 0.0084 0.0078

Jupiter -119343-04-04 21:37 J -41868513.73 -41868513.60 -41868513.47 0.0525 0.0032

Earth -119343-04-09 06:15 J -41868509.35 -41868509.24 -41868509.14 0.2782 0.0641

Moon -119343-04-09 06:29 J -41868509.34 -41868509.23 -41868509.13 0.2788 0.0605 *

Pluto -119343-04-14 19:13 J -41868503.78 -41868503.70 -41868503.60 0.0084 0.0063

Jupiter -119343-07-03 04:20 J -41868424.36 -41868424.32 -41868424.28 0.0526 0.0498

Pluto -119343-07-11 20:25 J -41868415.75 -41868415.65 -41868415.52 0.0084 0.0048

Pluto -119343-10-07 22:05 J -41868327.70 -41868327.58 -41868327.45 0.0084 0.0031

Pluto -119342-01-03 23:17 J -41868239.66 -41868239.53 -41868239.39 0.0084 0.0016

Pluto -119342-04-02 00:44 J -41868151.60 -41868151.47 -41868151.33 0.0084 0.0002

Pluto -119342-06-29 02:10 J -41868063.55 -41868063.41 -41868063.28 0.0084 0.0015

Pluto -119342-09-25 03:22 J -41867975.48 -41867975.36 -41867975.23 0.0084 0.0030

Pluto -119342-12-22 04:34 J -41867887.41 -41867887.31 -41867887.19 0.0083 0.0046

Pluto -119341-03-19 06:01 J -41867799.34 -41867799.25 -41867799.15 0.0083 0.0060

Pluto -119341-06-15 07:13 J -41867711.25 -41867711.20 -41867711.14 0.0083 0.0076

Mars -119340-01-02 03:37 J -41867510.51 -41867510.35 -41867510.19 0.1834 0.0125

Moon -119340-10-04 14:39 J -41867235.05 -41867234.89 -41867234.74 0.2565 0.0304

Earth -119340-10-04 15:37 J -41867235.01 -41867234.85 -41867234.69 0.2560 0.0331 *

Mars -119340-11-11 18:15 J -41867196.83 -41867196.74 -41867196.66 0.1685 0.1211

Saturn -119339-06-10 13:27 J -41866986.03 -41866985.94 -41866985.83 0.0266 0.0219

Saturn -119339-09-07 08:10 J -41866897.31 -41866897.16 -41866897.00 0.0265 0.0118

Saturn -119339-12-05 03:08 J -41866808.55 -41866808.37 -41866808.19 0.0265 0.0017

Saturn -119338-03-03 22:05 J -41866719.75 -41866719.58 -41866719.41 0.0264 0.0085

Saturn -119338-05-31 17:03 J -41866630.91 -41866630.79 -41866630.66 0.0263 0.0187

Mars -119338-10-18 01:41 J -41866491.54 -41866491.43 -41866491.32 0.1674 0.0496

Jupiter -119338-11-24 18:29 J -41866453.78 -41866453.73 -41866453.67 0.0501 0.0473

Jupiter -119337-02-23 01:56 J -41866363.60 -41866363.42 -41866363.24 0.0500 0.0108

Moon -119336-04-02 03:08 J -41865959.46 -41865959.37 -41865959.29 0.2775 0.1719

Earth -119336-04-02 03:51 J -41865959.43 -41865959.34 -41865959.26 0.2778 0.1702 *

Jupiter -119331-01-22 01:13 J -41864203.58 -41864203.45 -41864203.32 0.0525 0.0090

Jupiter -119331-04-21 08:10 J -41864114.25 -41864114.16 -41864114.07 0.0526 0.0380

Mars -119331-05-25 00:58 J -41864080.59 -41864080.46 -41864080.33 0.1831 0.1017

Mars -119330-04-04 03:51 J -41863766.36 -41863766.34 -41863766.31 0.1688 0.1643

Earth -119330-04-12 00:29 J -41863758.57 -41863758.48 -41863758.39 0.2783 0.1463

Moon -119330-04-12 01:13 J -41863758.54 -41863758.45 -41863758.36 0.2787 0.1584 *

Mars -119328-03-09 12:01 J -41863061.12 -41863061.00 -41863060.88 0.1677 0.0096

Earth -119327-10-07 22:20 J -41862483.69 -41862483.57 -41862483.45 0.2559 0.1713

Moon -119327-10-07 22:34 J -41862483.68 -41862483.56 -41862483.44 0.2565 0.1664 *

Jupiter -119326-12-12 00:01 J -41862053.68 -41862053.50 -41862053.32 0.0500 0.0034

Saturn -119323-03-28 08:25 J -41861216.22 -41861216.15 -41861216.08 0.0295 0.0256

Moon -119323-04-04 21:37 J -41861208.70 -41861208.60 -41861208.50 0.2783 0.0933

Earth -119323-04-04 22:05 J -41861208.68 -41861208.58 -41861208.47 0.2779 0.0881 *

Saturn -119323-06-24 22:20 J -41861127.69 -41861127.57 -41861127.45 0.0296 0.0147

Saturn -119323-09-21 12:01 J -41861039.13 -41861039.00 -41861038.86 0.0297 0.0038

Saturn -119323-12-19 01:41 J -41860950.56 -41860950.43 -41860950.30 0.0298 0.0072

Saturn -119322-03-17 15:22 J -41860861.97 -41860861.86 -41860861.76 0.0299 0.0181

Saturn -119322-06-14 04:34 J -41860773.33 -41860773.31 -41860773.27 0.0300 0.0290

Moon -119320-09-29 07:41 J -41859935.26 -41859935.18 -41859935.09 0.2562 0.2162

Earth -119320-09-29 09:22 J -41859935.19 -41859935.11 -41859935.02 0.2563 0.2162 *

Jupiter -119320-11-10 05:17 J -41859893.40 -41859893.28 -41859893.16 0.0525 0.0204

Jupiter -119319-02-07 12:29 J -41859804.09 -41859803.98 -41859803.87 0.0526 0.0269

Mars -119319-07-30 22:05 J -41859630.69 -41859630.58 -41859630.46 0.1679 0.0320

Neptune -119317-01-08 17:03 J -41859103.81 -41859103.79 -41859103.77 0.0088 0.0087

Neptune -119317-04-05 18:15 J -41859015.77 -41859015.74 -41859015.68 0.0088 0.0083

Earth -119317-04-13 18:58 J -41859007.77 -41859007.71 -41859007.65 0.2784 0.2290

Moon -119317-04-13 19:41 J -41859007.74 -41859007.68 -41859007.62 0.2781 0.2282 *

Neptune -119317-07-02 19:41 J -41858927.73 -41858927.68 -41858927.60 0.0088 0.0079

Mars -119317-07-05 04:49 J -41858925.37 -41858925.30 -41858925.23 0.1669 0.1331

Neptune -119317-09-28 21:37 J -41858839.68 -41858839.60 -41858839.53 0.0088 0.0074

Neptune -119317-12-25 22:49 J -41858751.62 -41858751.55 -41858751.45 0.0088 0.0070

Neptune -119316-03-24 00:15 J -41858663.57 -41858663.49 -41858663.38 0.0088 0.0066

Neptune -119316-06-20 01:41 J -41858575.51 -41858575.43 -41858575.31 0.0088 0.0062

Neptune -119316-09-16 03:37 J -41858487.46 -41858487.35 -41858487.25 0.0088 0.0057

Neptune -119316-12-13 04:49 J -41858399.40 -41858399.30 -41858399.18 0.0088 0.0053

Venus -119315-03-09 18:58 J -41858312.78 -41858312.71 -41858312.63 0.3703 0.2580

Neptune -119315-03-11 06:15 J -41858311.34 -41858311.24 -41858311.11 0.0088 0.0049

Neptune -119315-06-07 07:41 J -41858223.29 -41858223.18 -41858223.05 0.0088 0.0045

Neptune -119315-09-03 09:22 J -41858135.23 -41858135.11 -41858134.98 0.0088 0.0040

Neptune -119315-11-30 10:49 J -41858047.17 -41858047.05 -41858046.92 0.0088 0.0036

Neptune -119314-02-26 12:15 J -41857959.11 -41857958.99 -41857958.85 0.0088 0.0031

Neptune -119314-05-25 13:56 J -41857871.05 -41857870.92 -41857870.79 0.0088 0.0027

Neptune -119314-08-21 15:22 J -41857782.99 -41857782.86 -41857782.73 0.0088 0.0023

Jupiter -119314-09-29 21:08 J -41857743.79 -41857743.62 -41857743.45 0.0500 0.0185

Neptune -119314-11-17 16:49 J -41857694.93 -41857694.80 -41857694.66 0.0088 0.0018

Jupiter -119314-12-29 04:49 J -41857653.40 -41857653.30 -41857653.19 0.0499 0.0401

Neptune -119313-02-13 18:15 J -41857606.87 -41857606.74 -41857606.60 0.0088 0.0014

Neptune -119313-05-11 19:41 J -41857518.82 -41857518.68 -41857518.54 0.0088 0.0010

Neptune -119313-08-07 21:08 J -41857430.76 -41857430.62 -41857430.48 0.0088 0.0006

Neptune -119313-11-03 22:34 J -41857342.70 -41857342.56 -41857342.42 0.0088 0.0002

Neptune -119312-01-31 00:01 J -41857254.64 -41857254.50 -41857254.36 0.0088 0.0003

Neptune -119312-04-29 01:27 J -41857166.58 -41857166.44 -41857166.30 0.0088 0.0007

Neptune -119312-07-26 02:53 J -41857078.52 -41857078.38 -41857078.24 0.0088 0.0011

Neptune -119312-10-22 04:20 J -41856990.46 -41856990.32 -41856990.19 0.0088 0.0015

Neptune -119311-01-18 05:46 J -41856902.39 -41856902.26 -41856902.13 0.0088 0.0019

Neptune -119311-04-16 07:13 J -41856814.33 -41856814.20 -41856814.07 0.0088 0.0024

Neptune -119311-07-13 08:39 J -41856726.27 -41856726.14 -41856726.01 0.0088 0.0028

Neptune -119311-10-09 09:51 J -41856638.21 -41856638.09 -41856637.96 0.0088 0.0032

Neptune -119310-01-05 11:17 J -41856550.15 -41856550.03 -41856549.90 0.0088 0.0036

Mars -119310-02-11 07:13 J -41856513.34 -41856513.20 -41856513.06 0.1838 0.0914

Neptune -119310-04-03 12:29 J -41856462.09 -41856461.98 -41856461.85 0.0088 0.0041

Moon -119310-04-07 16:20 J -41856457.93 -41856457.82 -41856457.71 0.2788 0.0113

Earth -119310-04-07 16:34 J -41856457.92 -41856457.81 -41856457.70 0.2781 0.0073 *

Neptune -119310-06-30 13:56 J -41856374.03 -41856373.92 -41856373.79 0.0088 0.0045

Venus -119310-09-23 12:01 J -41856289.11 -41856289.00 -41856288.90 0.3709 0.0899

Neptune -119310-09-26 15:22 J -41856285.96 -41856285.86 -41856285.74 0.0088 0.0048

Saturn -119310-10-28 12:44 J -41856254.02 -41856253.97 -41856253.90 0.0267 0.0251

Mars -119310-12-21 08:10 J -41856200.27 -41856200.16 -41856200.05 0.1682 0.0733

Neptune -119310-12-23 16:49 J -41856197.90 -41856197.80 -41856197.69 0.0088 0.0052

Saturn -119309-01-25 07:27 J -41856165.33 -41856165.19 -41856165.04 0.0266 0.0150

Neptune -119309-03-20 18:15 J -41856109.84 -41856109.74 -41856109.63 0.0088 0.0056

Saturn -119309-04-23 02:25 J -41856076.58 -41856076.40 -41856076.23 0.0265 0.0048

Neptune -119309-06-16 19:41 J -41856021.77 -41856021.68 -41856021.58 0.0088 0.0060

Saturn -119309-07-20 21:22 J -41855987.79 -41855987.61 -41855987.44 0.0265 0.0054

Neptune -119309-09-12 21:08 J -41855933.71 -41855933.62 -41855933.53 0.0088 0.0065

Saturn -119309-10-17 16:20 J -41855898.96 -41855898.82 -41855898.67 0.0264 0.0156

Neptune -119309-12-09 22:34 J -41855845.65 -41855845.56 -41855845.48 0.0088 0.0069

Saturn -119308-01-14 11:32 J -41855810.05 -41855810.02 -41855809.98 0.0263 0.0258

Neptune -119308-03-07 23:46 J -41855757.58 -41855757.51 -41855757.43 0.0088 0.0073

Neptune -119308-06-04 01:13 J -41855669.51 -41855669.45 -41855669.38 0.0088 0.0077

Jupiter -119308-08-29 09:08 J -41855583.22 -41855583.12 -41855583.01 0.0526 0.0321

Neptune -119308-08-31 02:39 J -41855581.44 -41855581.39 -41855581.34 0.0088 0.0081

Mars -119308-11-25 15:22 J -41855494.96 -41855494.86 -41855494.77 0.1671 0.0942

Jupiter -119308-11-26 16:34 J -41855493.93 -41855493.81 -41855493.68 0.0526 0.0156

Neptune -119308-11-27 04:05 J -41855493.37 -41855493.33 -41855493.30 0.0088 0.0085

Uranus -119307-06-26 19:13 J -41855281.75 -41855281.70 -41855281.66 0.0148 0.0142

Uranus -119307-09-23 03:08 J -41855193.48 -41855193.37 -41855193.24 0.0148 0.0113

Moon -119307-10-02 14:25 J -41855184.05 -41855183.90 -41855183.76 0.2565 0.0959

Earth -119307-10-02 15:51 J -41855183.99 -41855183.84 -41855183.68 0.2561 0.0784 *

Uranus -119307-12-20 11:46 J -41855105.17 -41855105.01 -41855104.86 0.0148 0.0082

Uranus -119306-03-18 19:56 J -41855016.84 -41855016.67 -41855016.49 0.0148 0.0052

Uranus -119306-06-15 04:34 J -41854928.50 -41854928.31 -41854928.13 0.0148 0.0021

Uranus -119306-09-11 12:58 J -41854840.15 -41854839.96 -41854839.77 0.0148 0.0010

Uranus -119306-12-08 21:37 J -41854751.78 -41854751.60 -41854751.42 0.0148 0.0040

Uranus -119305-03-06 05:46 J -41854663.41 -41854663.26 -41854663.08 0.0148 0.0072

Uranus -119305-06-02 14:25 J -41854575.02 -41854574.90 -41854574.75 0.0148 0.0103

Uranus -119305-08-29 23:03 J -41854486.60 -41854486.54 -41854486.45 0.0148 0.0134

Venus -119304-04-08 04:49 J -41854265.41 -41854265.30 -41854265.20 0.3715 0.0797

Moon -119303-03-31 13:41 J -41853907.99 -41853907.93 -41853907.87 0.2771 0.2346

Earth -119303-03-31 14:10 J -41853907.96 -41853907.91 -41853907.85 0.2776 0.2376 *

Jupiter -119302-07-18 18:58 J -41853433.84 -41853433.71 -41853433.57 0.0500 0.0326

Jupiter -119302-10-17 02:39 J -41853343.55 -41853343.39 -41853343.24 0.0499 0.0257

Mars -119301-07-03 04:05 J -41853083.49 -41853083.33 -41853083.17 0.1834 0.0055

Mars -119300-05-12 18:15 J -41852769.83 -41852769.74 -41852769.66 0.1685 0.1158

Venus -119299-10-22 21:22 J -41852241.68 -41852241.61 -41852241.53 0.3721 0.2447

Mars -119298-04-18 01:41 J -41852064.54 -41852064.43 -41852064.32 0.1674 0.0546

Earth -119297-04-09 11:03 J -41851707.14 -41851707.04 -41851706.94 0.2782 0.0785

Moon -119297-04-09 11:32 J -41851707.12 -41851707.02 -41851706.92 0.2788 0.0873 *

Jupiter -119296-06-17 13:13 J -41851273.02 -41851272.95 -41851272.88 0.0525 0.0436

Venus -119296-07-22 03:08 J -41851238.52 -41851238.37 -41851238.23 0.3671 0.0395

Jupiter -119296-09-14 20:39 J -41851183.77 -41851183.64 -41851183.51 0.0526 0.0041

Jupiter -119296-12-13 03:22 J -41851094.38 -41851094.36 -41851094.32 0.0526 0.0508

Saturn -119294-08-15 09:22 J -41850484.13 -41850484.11 -41850484.10 0.0295 0.0292

Moon -119294-10-05 21:51 J -41850432.75 -41850432.59 -41850432.44 0.2565 0.0576

Earth -119294-10-05 22:20 J -41850432.73 -41850432.57 -41850432.41 0.2560 0.0591 *

Saturn -119294-11-11 23:03 J -41850395.64 -41850395.54 -41850395.43 0.0296 0.0184

Saturn -119293-02-08 12:58 J -41850307.09 -41850306.96 -41850306.83 0.0297 0.0074

Saturn -119293-05-07 02:39 J -41850218.52 -41850218.39 -41850218.25 0.0298 0.0035

Saturn -119293-08-03 16:20 J -41850129.94 -41850129.82 -41850129.70 0.0299 0.0144

Saturn -119293-10-31 05:46 J -41850041.33 -41850041.26 -41850041.19 0.0300 0.0252

Mars -119292-11-23 01:56 J -41849653.56 -41849653.42 -41849653.29 0.1831 0.0922

Mars -119291-10-03 04:05 J -41849339.37 -41849339.33 -41849339.30 0.1688 0.1589

Venus -119290-02-05 07:56 J -41849214.21 -41849214.17 -41849214.12 0.3663 0.3422

Moon -119290-04-03 07:56 J -41849157.25 -41849157.17 -41849157.08 0.2776 0.1658

Earth -119290-04-03 08:39 J -41849157.23 -41849157.14 -41849157.05 0.2778 0.1548 *

Jupiter -119290-05-06 17:03 J -41849123.85 -41849123.79 -41849123.72 0.0501 0.0467

Jupiter -119290-08-05 00:15 J -41849033.67 -41849033.49 -41849033.31 0.0500 0.0113

Mars -119289-09-07 12:01 J -41848634.12 -41848634.00 -41848633.88 0.1676 0.0145

Earth -119284-04-12 05:32 J -41846956.36 -41846956.27 -41846956.19 0.2783 0.1619

Moon -119284-04-12 06:15 J -41846956.33 -41846956.24 -41846956.16 0.2785 0.1611 *

Jupiter -119284-07-04 00:29 J -41846873.61 -41846873.48 -41846873.35 0.0525 0.0077

Jupiter -119284-10-01 07:27 J -41846784.27 -41846784.19 -41846784.10 0.0526 0.0393

Mars -119282-04-14 23:32 J -41846223.54 -41846223.52 -41846223.50 0.1827 0.1800

Earth -119281-10-08 04:49 J -41845681.40 -41845681.30 -41845681.20 0.2558 0.1966

Moon -119281-10-08 05:17 J -41845681.37 -41845681.28 -41845681.19 0.2565 0.2053 *

Saturn -119280-06-13 06:29 J -41845433.35 -41845433.23 -41845433.10 0.0266 0.0185

Saturn -119280-09-10 01:27 J -41845344.61 -41845344.44 -41845344.27 0.0266 0.0083

Saturn -119280-12-07 20:25 J -41845255.83 -41845255.65 -41845255.48 0.0265 0.0020

Mars -119279-01-28 22:05 J -41845203.70 -41845203.58 -41845203.46 0.1679 0.0268

Saturn -119279-03-06 15:22 J -41845167.02 -41845166.86 -41845166.70 0.0264 0.0121

Saturn -119279-06-03 10:20 J -41845078.15 -41845078.07 -41845077.97 0.0263 0.0224

Jupiter -119278-05-23 22:20 J -41844723.75 -41844723.57 -41844723.39 0.0500 0.0029

Mars -119277-01-04 04:49 J -41844498.37 -41844498.30 -41844498.24 0.1669 0.1375

Moon -119277-04-05 02:39 J -41844406.50 -41844406.39 -41844406.29 0.2785 0.0731

Earth -119277-04-05 03:08 J -41844406.48 -41844406.37 -41844406.27 0.2779 0.0722 *

Moon -119274-09-30 14:25 J -41843132.99 -41843132.90 -41843132.81 0.2564 0.2104

Earth -119274-09-30 16:05 J -41843132.94 -41843132.83 -41843132.72 0.2563 0.1903 *

Jupiter -119272-04-22 04:05 J -41842563.45 -41842563.33 -41842563.21 0.0525 0.0199

Jupiter -119272-07-20 11:03 J -41842474.14 -41842474.04 -41842473.92 0.0526 0.0273

Earth -119271-04-14 23:46 J -41842205.56 -41842205.51 -41842205.46 0.2784 0.2445

Moon -119271-04-15 00:29 J -41842205.52 -41842205.48 -41842205.44 0.2780 0.2555 *

Mars -119271-08-12 07:41 J -41842086.31 -41842086.18 -41842086.04 0.1838 0.0997

Mars -119270-06-21 08:25 J -41841773.26 -41841773.15 -41841773.04 0.1682 0.0678

Mars -119268-05-26 15:22 J -41841067.96 -41841067.86 -41841067.77 0.1671 0.0991

Jupiter -119266-03-11 20:25 J -41840413.82 -41840413.65 -41840413.48 0.0500 0.0170

Jupiter -119266-06-10 04:20 J -41840323.42 -41840323.32 -41840323.22 0.0500 0.0418

Uranus -119266-07-26 14:53 J -41840276.93 -41840276.88 -41840276.82 0.0131 0.0118

Uranus -119266-10-22 17:46 J -41840188.83 -41840188.76 -41840188.67 0.0131 0.0103

Uranus -119265-01-18 20:53 J -41840100.72 -41840100.63 -41840100.52 0.0131 0.0088

Uranus -119265-04-16 00:01 J -41840012.61 -41840012.50 -41840012.38 0.0131 0.0072

Uranus -119265-07-13 03:08 J -41839924.49 -41839924.37 -41839924.24 0.0131 0.0057

Uranus -119265-10-09 06:15 J -41839836.37 -41839836.24 -41839836.11 0.0131 0.0041

Uranus -119264-01-05 09:08 J -41839748.25 -41839748.12 -41839747.98 0.0131 0.0027

Saturn -119264-03-31 00:15 J -41839663.57 -41839663.49 -41839663.39 0.0295 0.0218

Venus -119264-03-30 23:46 J -41839663.52 -41839663.51 -41839663.49 0.3699 0.3651 *

Uranus -119264-04-03 12:15 J -41839660.12 -41839659.99 -41839659.85 0.0131 0.0011

Moon -119264-04-07 21:22 J -41839655.71 -41839655.61 -41839655.50 0.2788 0.0161

Earth -119264-04-07 21:22 J -41839655.71 -41839655.61 -41839655.50 0.2781 0.0157 *

Saturn -119264-06-27 14:10 J -41839575.03 -41839574.91 -41839574.78 0.0296 0.0109

Uranus -119264-06-30 15:22 J -41839572.00 -41839571.86 -41839571.73 0.0131 0.0005

Saturn -119264-09-24 04:05 J -41839486.47 -41839486.33 -41839486.20 0.0297 0.0005

Uranus -119264-09-26 18:15 J -41839483.87 -41839483.74 -41839483.60 0.0131 0.0019

Saturn -119264-12-21 17:32 J -41839397.89 -41839397.77 -41839397.64 0.0298 0.0110

Uranus -119264-12-23 21:08 J -41839395.74 -41839395.62 -41839395.48 0.0131 0.0035

Saturn -119263-03-20 07:13 J -41839309.29 -41839309.20 -41839309.11 0.0299 0.0218

Uranus -119263-03-22 00:15 J -41839307.61 -41839307.49 -41839307.37 0.0131 0.0049

Uranus -119263-06-18 03:08 J -41839219.48 -41839219.37 -41839219.25 0.0131 0.0064

Uranus -119263-09-14 06:01 J -41839131.35 -41839131.25 -41839131.14 0.0131 0.0080

Uranus -119263-12-11 08:53 J -41839043.21 -41839043.13 -41839043.03 0.0131 0.0095

Uranus -119262-03-09 12:01 J -41838955.07 -41838955.00 -41838954.92 0.0131 0.0109

Uranus -119262-06-05 14:53 J -41838866.91 -41838866.88 -41838866.83 0.0131 0.0124

Mars -119261-01-02 05:03 J -41838656.45 -41838656.29 -41838656.13 0.1834 0.0083

Moon -119261-10-02 21:08 J -41838381.78 -41838381.62 -41838381.47 0.2565 0.0534

Earth -119261-10-02 22:34 J -41838381.72 -41838381.56 -41838381.41 0.2561 0.0535 *

Mars -119261-11-10 18:15 J -41838342.83 -41838342.74 -41838342.65 0.1685 0.1103

Jupiter -119260-02-08 07:56 J -41838253.27 -41838253.17 -41838253.06 0.0525 0.0316

Jupiter -119260-05-08 15:22 J -41838163.99 -41838163.86 -41838163.74 0.0526 0.0159

Venus -119259-10-14 16:49 J -41837639.89 -41837639.80 -41837639.71 0.3705 0.1946

Mars -119259-10-17 01:41 J -41837637.54 -41837637.43 -41837637.32 0.1674 0.0601

Moon -119257-03-31 18:29 J -41837105.79 -41837105.73 -41837105.67 0.2772 0.2338

Earth -119257-03-31 19:13 J -41837105.77 -41837105.70 -41837105.64 0.2776 0.2226 *

Jupiter -119255-12-28 17:46 J -41836103.90 -41836103.76 -41836103.62 0.0500 0.0318

Jupiter -119254-03-29 00:58 J -41836013.61 -41836013.46 -41836013.30 0.0499 0.0265

Venus -119253-04-29 09:37 J -41835616.20 -41835616.10 -41835615.99 0.3711 0.0290

Mars -119252-05-24 02:25 J -41835226.54 -41835226.40 -41835226.26 0.1830 0.0840

Mars -119251-04-03 04:05 J -41834912.38 -41834912.33 -41834912.29 0.1688 0.1536

Earth -119251-04-10 15:51 J -41834904.94 -41834904.84 -41834904.74 0.2782 0.0940

Moon -119251-04-10 16:20 J -41834904.92 -41834904.82 -41834904.71 0.2788 0.0955 *

Saturn -119251-10-31 06:15 J -41834701.33 -41834701.24 -41834701.13 0.0267 0.0214

Saturn -119250-01-28 01:13 J -41834612.61 -41834612.45 -41834612.29 0.0266 0.0112

Saturn -119250-04-26 19:56 J -41834523.84 -41834523.67 -41834523.49 0.0265 0.0013

Saturn -119250-07-24 15:08 J -41834435.04 -41834434.87 -41834434.70 0.0265 0.0092

Saturn -119250-10-21 10:05 J -41834346.19 -41834346.08 -41834345.95 0.0264 0.0194

Mars -119249-03-08 12:01 J -41834207.12 -41834207.00 -41834206.88 0.1676 0.0195

Jupiter -119249-11-27 11:46 J -41833943.08 -41833943.01 -41833942.94 0.0525 0.0435

Jupiter -119248-02-24 19:13 J -41833853.83 -41833853.70 -41833853.57 0.0526 0.0047

Jupiter -119248-05-25 02:10 J -41833764.43 -41833764.41 -41833764.38 0.0527 0.0512

Moon -119248-10-06 05:03 J -41833630.45 -41833630.29 -41833630.14 0.2566 0.0795

Earth -119248-10-06 05:03 J -41833630.44 -41833630.29 -41833630.14 0.2560 0.0852 *

Venus -119248-11-13 02:25 J -41833592.49 -41833592.40 -41833592.30 0.3717 0.1408

Venus -119245-08-11 23:17 J -41832589.62 -41832589.53 -41832589.44 0.3677 0.2821

Moon -119244-04-03 12:58 J -41832355.06 -41832354.96 -41832354.87 0.2780 0.1391

Earth -119244-04-03 13:27 J -41832355.03 -41832354.94 -41832354.84 0.2778 0.1402 *

Mars -119243-10-14 00:29 J -41831796.54 -41831796.48 -41831796.43 0.1827 0.1704

Jupiter -119243-10-16 15:37 J -41831793.91 -41831793.85 -41831793.77 0.0500 0.0459

Jupiter -119242-01-14 22:49 J -41831703.73 -41831703.55 -41831703.37 0.0499 0.0119

Venus -119242-05-29 19:13 J -41831568.76 -41831568.70 -41831568.64 0.3722 0.3051

Mars -119240-07-29 22:20 J -41830776.69 -41830776.57 -41830776.46 0.1679 0.0221

Venus -119239-02-26 04:05 J -41830565.47 -41830565.33 -41830565.19 0.3669 0.0908

Earth -119238-04-13 10:20 J -41830154.15 -41830154.07 -41830153.99 0.2784 0.1768

Moon -119238-04-13 11:03 J -41830154.12 -41830154.04 -41830153.96 0.2782 0.1878 *

Mars -119238-07-05 04:49 J -41830071.36 -41830071.30 -41830071.24 0.1669 0.1424

Jupiter -119237-12-13 23:17 J -41829543.66 -41829543.53 -41829543.40 0.0526 0.0072

Jupiter -119236-03-13 06:15 J -41829454.32 -41829454.24 -41829454.16 0.0526 0.0398

Saturn -119235-08-18 01:56 J -41828931.49 -41828931.42 -41828931.34 0.0295 0.0249

Earth -119235-10-09 11:32 J -41828879.09 -41828879.02 -41828878.94 0.2558 0.2231

Moon -119235-10-09 12:29 J -41828879.05 -41828878.98 -41828878.91 0.2563 0.2282 *

Saturn -119235-11-14 15:51 J -41828842.96 -41828842.84 -41828842.72 0.0296 0.0140

Saturn -119234-02-11 05:46 J -41828754.40 -41828754.26 -41828754.13 0.0297 0.0033

Saturn -119234-05-10 19:13 J -41828665.83 -41828665.70 -41828665.57 0.0298 0.0078

Saturn -119234-08-07 08:39 J -41828577.24 -41828577.14 -41828577.03 0.0299 0.0186

Saturn -119234-11-03 22:05 J -41828488.60 -41828488.58 -41828488.55 0.0300 0.0294

Neptune -119234-12-09 01:41 J -41828453.47 -41828453.43 -41828453.37 0.0089 0.0086

Neptune -119233-03-06 04:49 J -41828365.36 -41828365.30 -41828365.20 0.0089 0.0080

Neptune -119233-06-02 08:10 J -41828277.25 -41828277.16 -41828277.05 0.0089 0.0074

Neptune -119233-08-29 11:32 J -41828189.13 -41828189.02 -41828188.90 0.0089 0.0068

Neptune -119233-11-25 14:39 J -41828101.01 -41828100.89 -41828100.75 0.0089 0.0063

Neptune -119232-02-21 18:01 J -41828012.88 -41828012.75 -41828012.60 0.0089 0.0057

Neptune -119232-05-20 21:22 J -41827924.76 -41827924.61 -41827924.45 0.0089 0.0051

Neptune -119232-08-17 00:44 J -41827836.63 -41827836.47 -41827836.31 0.0089 0.0046

Neptune -119232-11-13 03:51 J -41827748.50 -41827748.34 -41827748.17 0.0089 0.0040

Neptune -119231-02-09 07:13 J -41827660.36 -41827660.20 -41827660.02 0.0089 0.0034

Mars -119231-02-10 08:39 J -41827659.27 -41827659.14 -41827659.01 0.1838 0.1093

Moon -119231-04-06 07:27 J -41827604.29 -41827604.19 -41827604.08 0.2786 0.0659

Earth -119231-04-06 07:56 J -41827604.27 -41827604.17 -41827604.06 0.2780 0.0569 *

Neptune -119231-05-08 10:34 J -41827572.23 -41827572.06 -41827571.88 0.0089 0.0028

Neptune -119231-08-04 13:56 J -41827484.10 -41827483.92 -41827483.74 0.0089 0.0022

Neptune -119231-10-31 17:17 J -41827395.96 -41827395.78 -41827395.59 0.0089 0.0016

Jupiter -119231-11-02 20:25 J -41827393.83 -41827393.65 -41827393.47 0.0500 0.0027

Mars -119231-12-20 08:10 J -41827346.27 -41827346.16 -41827346.04 0.1682 0.0631

Neptune -119230-01-27 20:39 J -41827307.82 -41827307.64 -41827307.45 0.0089 0.0011

Neptune -119230-04-26 00:01 J -41827219.68 -41827219.50 -41827219.31 0.0089 0.0005

Neptune -119230-07-23 03:22 J -41827131.54 -41827131.36 -41827131.17 0.0089 0.0002

Neptune -119230-10-19 06:44 J -41827043.40 -41827043.22 -41827043.03 0.0089 0.0007

Neptune -119229-01-15 10:05 J -41826955.26 -41826955.08 -41826954.89 0.0089 0.0013

Neptune -119229-04-12 13:27 J -41826867.12 -41826866.94 -41826866.75 0.0089 0.0019

Neptune -119229-07-09 16:49 J -41826778.97 -41826778.80 -41826778.61 0.0089 0.0025

Neptune -119229-10-05 20:10 J -41826690.83 -41826690.66 -41826690.47 0.0089 0.0031

Mars -119229-11-24 15:22 J -41826640.95 -41826640.86 -41826640.77 0.1671 0.1040

Neptune -119228-01-01 23:32 J -41826602.68 -41826602.52 -41826602.33 0.0089 0.0037

Neptune -119228-03-31 03:08 J -41826514.53 -41826514.37 -41826514.20 0.0089 0.0043

Neptune -119228-06-27 06:29 J -41826426.38 -41826426.23 -41826426.06 0.0089 0.0049

Neptune -119228-09-23 09:51 J -41826338.22 -41826338.09 -41826337.93 0.0089 0.0055

Moon -119228-09-30 20:53 J -41826330.75 -41826330.63 -41826330.51 0.2565 0.1673

Earth -119228-09-30 22:34 J -41826330.68 -41826330.56 -41826330.43 0.2562 0.1656 *

Neptune -119228-12-20 13:13 J -41826250.07 -41826249.95 -41826249.79 0.0089 0.0061

Neptune -119227-03-18 16:49 J -41826161.91 -41826161.80 -41826161.66 0.0089 0.0067

Neptune -119227-06-14 20:10 J -41826073.75 -41826073.66 -41826073.53 0.0089 0.0073

Neptune -119227-09-10 23:46 J -41825985.58 -41825985.51 -41825985.41 0.0089 0.0079

Neptune -119227-12-08 03:08 J -41825897.41 -41825897.37 -41825897.30 0.0089 0.0085

Earth -119225-04-15 04:49 J -41825403.34 -41825403.30 -41825403.27 0.2784 0.2602

Moon -119225-04-15 05:17 J -41825403.32 -41825403.28 -41825403.24 0.2779 0.2570 *

Jupiter -119225-10-02 03:08 J -41825233.49 -41825233.37 -41825233.25 0.0525 0.0191

Jupiter -119225-12-30 10:20 J -41825144.18 -41825144.07 -41825143.97 0.0526 0.0282

Uranus -119223-07-17 00:01 J -41824580.53 -41824580.50 -41824580.44 0.0148 0.0143

Uranus -119223-10-13 08:25 J -41824492.26 -41824492.15 -41824492.02 0.0148 0.0113

Uranus -119222-01-09 16:34 J -41824403.95 -41824403.81 -41824403.64 0.0148 0.0083

Uranus -119222-04-08 01:13 J -41824315.62 -41824315.45 -41824315.27 0.0148 0.0052

Mars -119222-07-03 05:17 J -41824229.44 -41824229.28 -41824229.12 0.1834 0.0157

Uranus -119222-07-05 09:37 J -41824227.28 -41824227.10 -41824226.91 0.0148 0.0022

Uranus -119222-10-01 18:15 J -41824138.93 -41824138.74 -41824138.55 0.0148 0.0009

Uranus -119222-12-29 02:39 J -41824050.57 -41824050.39 -41824050.20 0.0148 0.0040

Saturn -119221-03-19 05:46 J -41823969.31 -41823969.26 -41823969.18 0.0267 0.0247

Uranus -119221-03-26 11:17 J -41823962.19 -41823962.03 -41823961.86 0.0148 0.0071

Mars -119221-05-11 18:15 J -41823915.83 -41823915.74 -41823915.64 0.1685 0.1049

Saturn -119221-06-16 00:29 J -41823880.62 -41823880.48 -41823880.32 0.0266 0.0145

Uranus -119221-06-22 19:56 J -41823873.80 -41823873.67 -41823873.53 0.0148 0.0102

Saturn -119221-09-12 19:27 J -41823791.86 -41823791.69 -41823791.51 0.0266 0.0043

Uranus -119221-09-19 04:20 J -41823785.39 -41823785.32 -41823785.23 0.0148 0.0134

Saturn -119221-12-10 14:25 J -41823703.07 -41823702.90 -41823702.72 0.0265 0.0059

Saturn -119220-03-09 09:37 J -41823614.24 -41823614.10 -41823613.96 0.0264 0.0161

Mars -119219-04-17 01:41 J -41823210.54 -41823210.43 -41823210.32 0.1674 0.0645

Jupiter -119219-08-21 18:15 J -41823083.91 -41823083.74 -41823083.57 0.0500 0.0170

Jupiter -119219-11-20 02:10 J -41822993.51 -41822993.41 -41822993.31 0.0500 0.0418

Earth -119218-04-09 02:25 J -41822853.51 -41822853.40 -41822853.29 0.2781 0.0263

Moon -119218-04-09 02:39 J -41822853.50 -41822853.39 -41822853.28 0.2788 0.0316 *

Moon -119215-10-04 04:20 J -41821579.48 -41821579.32 -41821579.16 0.2566 0.0419

Earth -119215-10-04 05:17 J -41821579.44 -41821579.28 -41821579.12 0.2561 0.0274 *

Jupiter -119213-07-21 06:29 J -41820923.33 -41820923.23 -41820923.13 0.0525 0.0315

Jupiter -119213-10-18 13:56 J -41820834.05 -41820833.92 -41820833.80 0.0526 0.0161

Mars -119213-11-22 03:08 J -41820799.52 -41820799.37 -41820799.23 0.1831 0.0749

Mars -119212-10-02 04:05 J -41820485.38 -41820485.33 -41820485.27 0.1688 0.1479

Moon -119211-04-01 23:17 J -41820303.60 -41820303.53 -41820303.46 0.2773 0.2068

Earth -119211-04-02 00:01 J -41820303.57 -41820303.50 -41820303.43 0.2776 0.2075 *

Mars -119210-09-07 12:01 J -41819780.12 -41819780.00 -41819779.88 0.1676 0.0252

Venus -119208-11-04 21:37 J -41818990.66 -41818990.60 -41818990.54 0.3701 0.3014

Jupiter -119207-06-09 16:20 J -41818773.96 -41818773.82 -41818773.68 0.0500 0.0311

Jupiter -119207-09-07 23:46 J -41818683.66 -41818683.51 -41818683.35 0.0500 0.0274

Saturn -119205-01-05 03:37 J -41818199.39 -41818199.35 -41818199.31 0.0295 0.0279

Saturn -119205-04-02 17:32 J -41818110.88 -41818110.77 -41818110.66 0.0296 0.0171

Earth -119205-04-10 20:53 J -41818102.73 -41818102.63 -41818102.53 0.2783 0.1097

Moon -119205-04-10 21:22 J -41818102.71 -41818102.61 -41818102.51 0.2787 0.1155 *

Saturn -119205-06-30 07:13 J -41818022.33 -41818022.20 -41818022.06 0.0297 0.0064

Saturn -119205-09-26 20:53 J -41817933.76 -41817933.63 -41817933.49 0.0298 0.0047

Saturn -119205-12-24 10:34 J -41817845.18 -41817845.06 -41817844.95 0.0299 0.0154

Saturn -119204-03-23 00:01 J -41817756.56 -41817756.50 -41817756.44 0.0299 0.0262

Mars -119203-04-14 00:58 J -41817369.53 -41817369.46 -41817369.39 0.1827 0.1617

Venus -119202-05-21 14:39 J -41816966.99 -41816966.89 -41816966.79 0.3706 0.1318

Earth -119202-10-07 11:46 J -41816828.16 -41816828.01 -41816827.87 0.2559 0.1111

Moon -119202-10-07 11:46 J -41816828.15 -41816828.01 -41816827.87 0.2566 0.1203 *

Jupiter -119201-05-09 10:20 J -41816613.14 -41816613.07 -41816613.00 0.0525 0.0433

Jupiter -119201-08-06 17:46 J -41816523.89 -41816523.76 -41816523.63 0.0526 0.0044

Jupiter -119201-11-04 00:44 J -41816434.50 -41816434.47 -41816434.45 0.0526 0.0512

Mars -119200-01-27 22:20 J -41816349.69 -41816349.57 -41816349.45 0.1679 0.0165

Mars -119198-01-03 04:49 J -41815644.35 -41815644.30 -41815644.24 0.1669 0.1476

Moon -119198-04-04 17:46 J -41815552.85 -41815552.76 -41815552.66 0.2782 0.1368

Earth -119198-04-04 18:29 J -41815552.83 -41815552.73 -41815552.63 0.2778 0.1245 *

Venus -119197-12-04 07:27 J -41814943.30 -41814943.19 -41814943.08 0.3712 0.0355

Jupiter -119195-03-28 13:56 J -41814463.99 -41814463.92 -41814463.84 0.0500 0.0455

Jupiter -119195-06-26 20:53 J -41814373.80 -41814373.63 -41814373.45 0.0499 0.0123

Earth -119192-04-13 15:08 J -41813351.94 -41813351.87 -41813351.79 0.2784 0.1925

Moon -119192-04-13 15:51 J -41813351.91 -41813351.84 -41813351.76 0.2781 0.1940 *

Mars -119192-08-11 09:22 J -41813232.23 -41813232.11 -41813231.99 0.1838 0.1185

Saturn -119192-11-03 00:58 J -41813148.59 -41813148.46 -41813148.32 0.0267 0.0172

Saturn -119191-01-30 19:41 J -41813059.85 -41813059.68 -41813059.50 0.0266 0.0070

Saturn -119191-04-29 14:39 J -41812971.06 -41812970.89 -41812970.71 0.0265 0.0033

Venus -119191-06-20 00:15 J -41812919.58 -41812919.49 -41812919.40 0.3718 0.2014

Mars -119191-06-20 08:25 J -41812919.27 -41812919.15 -41812919.04 0.1682 0.0576

Saturn -119191-07-27 09:51 J -41812882.24 -41812882.09 -41812881.93 0.0265 0.0135

Saturn -119191-10-24 04:49 J -41812793.36 -41812793.30 -41812793.21 0.0264 0.0238

Pluto -119190-08-07 13:27 J -41812505.96 -41812505.94 -41812505.86 0.0060 0.0059

Pluto -119190-11-03 14:53 J -41812417.96 -41812417.88 -41812417.75 0.0060 0.0051

Pluto -119189-01-30 16:20 J -41812329.93 -41812329.82 -41812329.66 0.0060 0.0043

Pluto -119189-04-27 17:46 J -41812241.90 -41812241.76 -41812241.59 0.0060 0.0035

Mars -119189-05-25 15:22 J -41812213.95 -41812213.86 -41812213.77 0.1671 0.1087

Jupiter -119189-05-25 21:37 J -41812213.73 -41812213.60 -41812213.47 0.0526 0.0075

Pluto -119189-07-24 19:13 J -41812153.86 -41812153.70 -41812153.52 0.0060 0.0027

Jupiter -119189-08-23 04:34 J -41812124.39 -41812124.31 -41812124.22 0.0527 0.0397

Earth -119189-10-09 18:15 J -41812076.78 -41812076.74 -41812076.71 0.2558 0.2489

Moon -119189-10-09 19:41 J -41812076.70 -41812076.68 -41812076.67 0.2562 0.2536

Pluto -119189-10-20 20:25 J -41812065.82 -41812065.65 -41812065.45 0.0061 0.0019

Pluto -119188-01-16 21:51 J -41811977.77 -41811977.59 -41811977.39 0.0061 0.0011

Venus -119188-03-19 00:15 J -41811916.62 -41811916.49 -41811916.36 0.3674 0.1556

Pluto -119188-04-14 23:17 J -41811889.71 -41811889.53 -41811889.33 0.0061 0.0003

Pluto -119188-07-12 00:44 J -41811801.66 -41811801.47 -41811801.28 0.0061 0.0006

Pluto -119188-10-08 01:56 J -41811713.60 -41811713.42 -41811713.23 0.0061 0.0014

Pluto -119187-01-04 03:08 J -41811625.54 -41811625.37 -41811625.18 0.0061 0.0022

Pluto -119187-04-02 04:20 J -41811537.47 -41811537.32 -41811537.14 0.0061 0.0030

Pluto -119187-06-29 05:46 J -41811449.39 -41811449.26 -41811449.10 0.0061 0.0038

Pluto -119187-09-25 07:13 J -41811361.31 -41811361.20 -41811361.07 0.0061 0.0046

Pluto -119187-12-22 08:39 J -41811273.22 -41811273.14 -41811273.05 0.0061 0.0055

Venus -119185-01-03 16:49 J -41810895.81 -41810895.80 -41810895.78 0.3724 0.3651

Moon -119185-04-06 12:44 J -41810802.08 -41810801.97 -41810801.87 0.2786 0.0379

Earth -119185-04-06 12:58 J -41810802.07 -41810801.96 -41810801.86 0.2780 0.0430 *

Jupiter -119183-04-14 18:44 J -41810063.90 -41810063.72 -41810063.54 0.0499 0.0024

Venus -119183-10-03 05:03 J -41809892.41 -41809892.29 -41809892.18 0.3667 0.2199

Mars -119182-01-01 06:15 J -41809802.40 -41809802.24 -41809802.08 0.1834 0.0245

Uranus -119182-08-15 21:22 J -41809575.66 -41809575.61 -41809575.54 0.0131 0.0117

Moon -119182-10-02 03:51 J -41809528.47 -41809528.34 -41809528.22 0.2565 0.1559

Earth -119182-10-02 05:17 J -41809528.41 -41809528.28 -41809528.14 0.2562 0.1395 *

Mars -119182-11-10 18:15 J -41809488.83 -41809488.74 -41809488.64 0.1685 0.0998

Uranus -119182-11-12 00:29 J -41809487.56 -41809487.48 -41809487.39 0.0131 0.0101

Uranus -119181-02-08 03:37 J -41809399.45 -41809399.35 -41809399.24 0.0131 0.0086

Uranus -119181-05-06 06:29 J -41809311.33 -41809311.23 -41809311.10 0.0131 0.0071

Uranus -119181-08-02 09:51 J -41809223.21 -41809223.09 -41809222.97 0.0131 0.0055

Uranus -119181-10-29 12:44 J -41809135.09 -41809134.97 -41809134.84 0.0131 0.0040

Uranus -119180-01-25 15:51 J -41809046.97 -41809046.84 -41809046.71 0.0131 0.0025

Uranus -119180-04-23 18:58 J -41808958.85 -41808958.71 -41808958.58 0.0131 0.0010

Uranus -119180-07-20 21:51 J -41808870.72 -41808870.59 -41808870.45 0.0131 0.0006

Mars -119180-10-16 01:41 J -41808783.54 -41808783.43 -41808783.32 0.1674 0.0696

Uranus -119180-10-17 00:58 J -41808782.60 -41808782.46 -41808782.33 0.0131 0.0021

Uranus -119179-01-13 03:51 J -41808694.47 -41808694.34 -41808694.21 0.0131 0.0036

Uranus -119179-04-11 06:58 J -41808606.34 -41808606.21 -41808606.09 0.0131 0.0051

Earth -119179-04-16 09:37 J -41808601.11 -41808601.10 -41808601.09 0.2785 0.2754

Uranus -119179-07-08 09:51 J -41808518.21 -41808518.09 -41808517.97 0.0131 0.0066

Uranus -119179-10-04 12:44 J -41808430.07 -41808429.97 -41808429.86 0.0131 0.0081

Uranus -119179-12-31 15:37 J -41808341.93 -41808341.85 -41808341.75 0.0131 0.0096

Uranus -119178-03-29 18:29 J -41808253.79 -41808253.73 -41808253.65 0.0131 0.0111

Earth -119178-03-31 10:20 J -41808252.08 -41808252.07 -41808252.06 0.2774 0.2753

Uranus -119178-06-25 21:22 J -41808165.63 -41808165.61 -41808165.56 0.0131 0.0126

Jupiter -119177-03-14 01:27 J -41807903.56 -41807903.44 -41807903.32 0.0526 0.0192

Jupiter -119177-06-11 08:39 J -41807814.25 -41807814.14 -41807814.03 0.0526 0.0282

Saturn -119176-08-20 19:41 J -41807378.78 -41807378.68 -41807378.58 0.0295 0.0199

Saturn -119176-11-17 09:22 J -41807290.24 -41807290.11 -41807289.98 0.0296 0.0092

Saturn -119175-02-13 23:03 J -41807201.67 -41807201.54 -41807201.40 0.0297 0.0019

Saturn -119175-05-13 12:44 J -41807113.09 -41807112.97 -41807112.85 0.0298 0.0126

Saturn -119175-08-10 02:10 J -41807024.49 -41807024.41 -41807024.33 0.0299 0.0233

Mars -119173-05-23 03:37 J -41806372.50 -41806372.35 -41806372.20 0.1830 0.0664

Mars -119172-04-02 04:05 J -41806058.39 -41806058.33 -41806058.27 0.1688 0.1429

Earth -119172-04-09 07:13 J -41806051.30 -41806051.20 -41806051.09 0.2781 0.0425

Moon -119172-04-09 07:41 J -41806051.29 -41806051.18 -41806051.07 0.2788 0.0401 *

Jupiter -119171-01-31 16:05 J -41805754.00 -41805753.83 -41805753.66 0.0500 0.0170

Jupiter -119171-05-01 23:46 J -41805663.60 -41805663.51 -41805663.41 0.0499 0.0416

Mars -119170-03-08 12:01 J -41805353.12 -41805353.00 -41805352.88 0.1677 0.0296

Moon -119169-10-04 11:32 J -41804777.18 -41804777.02 -41804776.87 0.2567 0.0086

Earth -119169-10-04 11:46 J -41804777.17 -41804777.01 -41804776.85 0.2560 0.0017 *

Jupiter -119165-01-01 05:17 J -41803593.39 -41803593.28 -41803593.18 0.0525 0.0310

Jupiter -119165-03-30 12:29 J -41803504.10 -41803503.98 -41803503.85 0.0526 0.0165

Moon -119165-04-02 04:05 J -41803501.40 -41803501.33 -41803501.25 0.2776 0.2011

Earth -119165-04-02 04:49 J -41803501.37 -41803501.30 -41803501.22 0.2777 0.1924 *

Mars -119164-10-13 01:27 J -41802942.52 -41802942.44 -41802942.35 0.1827 0.1536

Saturn -119162-03-23 00:58 J -41802416.57 -41802416.46 -41802416.34 0.0267 0.0201

Saturn -119162-06-19 19:41 J -41802327.84 -41802327.68 -41802327.51 0.0266 0.0100

Saturn -119162-09-16 14:39 J -41802239.07 -41802238.89 -41802238.71 0.0265 0.0006

Saturn -119162-12-14 09:51 J -41802150.26 -41802150.09 -41802149.93 0.0265 0.0105

Saturn -119161-03-12 05:03 J -41802061.40 -41802061.29 -41802061.18 0.0264 0.0207

Mars -119161-07-28 22:20 J -41801922.69 -41801922.57 -41801922.45 0.1679 0.0110

Jupiter -119160-11-19 13:56 J -41801444.06 -41801443.92 -41801443.78 0.0500 0.0313

Jupiter -119159-02-17 21:22 J -41801353.76 -41801353.61 -41801353.46 0.0500 0.0270

Earth -119159-04-12 01:41 J -41801300.53 -41801300.43 -41801300.33 0.2783 0.1248

Moon -119159-04-12 02:25 J -41801300.50 -41801300.40 -41801300.31 0.2784 0.1331 *

Mars -119159-07-04 04:49 J -41801217.34 -41801217.30 -41801217.25 0.1669 0.1520

Earth -119156-10-07 18:15 J -41800025.87 -41800025.74 -41800025.60 0.2559 0.1372

Moon -119156-10-07 18:44 J -41800025.85 -41800025.72 -41800025.58 0.2565 0.1316 *

Jupiter -119154-10-20 08:25 J -41799283.21 -41799283.15 -41799283.07 0.0525 0.0436

Jupiter -119153-01-17 16:05 J -41799193.96 -41799193.83 -41799193.70 0.0526 0.0042

Jupiter -119153-04-15 22:49 J -41799104.57 -41799104.55 -41799104.52 0.0526 0.0509

Neptune -119153-07-08 15:22 J -41799020.86 -41799020.86 -41799020.85 0.0088 0.0088

Neptune -119153-10-04 17:03 J -41798932.83 -41798932.79 -41798932.75 0.0088 0.0084

Neptune -119153-12-31 18:15 J -41798844.78 -41798844.74 -41798844.67 0.0088 0.0080

Mars -119152-02-09 09:51 J -41798805.21 -41798805.09 -41798804.97 0.1838 0.1266

Neptune -119152-03-29 19:41 J -41798756.73 -41798756.68 -41798756.59 0.0088 0.0076

Moon -119152-04-04 22:49 J -41798750.65 -41798750.55 -41798750.46 0.2783 0.1088

Earth -119152-04-04 23:17 J -41798750.63 -41798750.53 -41798750.43 0.2778 0.1094 *

Neptune -119152-06-25 21:37 J -41798668.68 -41798668.60 -41798668.52 0.0088 0.0071

Neptune -119152-09-21 23:03 J -41798580.63 -41798580.54 -41798580.45 0.0088 0.0066

Neptune -119152-12-19 00:29 J -41798492.57 -41798492.48 -41798492.38 0.0088 0.0062

Mars -119152-12-19 08:25 J -41798492.26 -41798492.15 -41798492.04 0.1682 0.0521

Neptune -119151-03-17 02:10 J -41798404.51 -41798404.41 -41798404.31 0.0088 0.0058

Venus -119151-06-11 19:27 J -41798317.77 -41798317.69 -41798317.61 0.3702 0.2382

Neptune -119151-06-13 03:37 J -41798316.46 -41798316.35 -41798316.24 0.0088 0.0054

Neptune -119151-09-09 05:03 J -41798228.40 -41798228.29 -41798228.17 0.0088 0.0049

Neptune -119151-12-06 06:29 J -41798140.34 -41798140.23 -41798140.11 0.0088 0.0045

Neptune -119150-03-04 08:10 J -41798052.28 -41798052.16 -41798052.04 0.0088 0.0041

Neptune -119150-05-31 09:37 J -41797964.23 -41797964.10 -41797963.98 0.0088 0.0036

Neptune -119150-08-27 10:49 J -41797876.17 -41797876.05 -41797875.91 0.0088 0.0033

Neptune -119150-11-23 12:29 J -41797788.11 -41797787.98 -41797787.85 0.0088 0.0028

Mars -119150-11-24 15:22 J -41797786.95 -41797786.86 -41797786.77 0.1671 0.1137

Neptune -119149-02-19 13:56 J -41797700.05 -41797699.92 -41797699.78 0.0088 0.0024

Neptune -119149-05-17 15:22 J -41797611.99 -41797611.86 -41797611.72 0.0088 0.0020

Neptune -119149-08-13 16:49 J -41797523.93 -41797523.80 -41797523.66 0.0088 0.0015

Earth -119149-09-29 05:32 J -41797477.30 -41797477.27 -41797477.25 0.2564 0.2519

Neptune -119149-11-09 18:15 J -41797435.87 -41797435.74 -41797435.60 0.0088 0.0011

Neptune -119148-02-05 19:41 J -41797347.81 -41797347.68 -41797347.54 0.0088 0.0008

Neptune -119148-05-04 21:22 J -41797259.75 -41797259.61 -41797259.48 0.0088 0.0004

Neptune -119148-07-31 22:34 J -41797171.69 -41797171.56 -41797171.42 0.0088 0.0004

Jupiter -119148-09-07 12:01 J -41797134.07 -41797134.00 -41797133.93 0.0500 0.0454

Neptune -119148-10-28 00:01 J -41797083.63 -41797083.50 -41797083.36 0.0088 0.0007

Jupiter -119148-12-06 18:58 J -41797043.88 -41797043.71 -41797043.53 0.0500 0.0126

Neptune -119147-01-24 01:27 J -41796995.57 -41796995.44 -41796995.30 0.0088 0.0010

Neptune -119147-04-22 02:53 J -41796907.51 -41796907.38 -41796907.24 0.0088 0.0014

Neptune -119147-07-19 04:20 J -41796819.45 -41796819.32 -41796819.18 0.0088 0.0018

Neptune -119147-10-15 05:46 J -41796731.39 -41796731.26 -41796731.13 0.0088 0.0022

Saturn -119146-01-07 21:51 J -41796646.67 -41796646.59 -41796646.50 0.0295 0.0225

Neptune -119146-01-11 07:13 J -41796643.33 -41796643.20 -41796643.07 0.0088 0.0027

Saturn -119146-04-06 11:46 J -41796558.14 -41796558.01 -41796557.88 0.0296 0.0117

Neptune -119146-04-09 08:39 J -41796555.27 -41796555.14 -41796555.01 0.0088 0.0031

Earth -119146-04-14 20:10 J -41796549.73 -41796549.66 -41796549.59 0.2784 0.2081

Moon -119146-04-14 20:39 J -41796549.70 -41796549.64 -41796549.57 0.2781 0.2165 *

Saturn -119146-07-04 01:27 J -41796469.58 -41796469.44 -41796469.30 0.0297 0.0009

Neptune -119146-07-06 09:51 J -41796467.21 -41796467.09 -41796466.96 0.0088 0.0035

Saturn -119146-09-30 15:08 J -41796381.00 -41796380.87 -41796380.75 0.0298 0.0100

Neptune -119146-10-02 11:17 J -41796379.14 -41796379.03 -41796378.90 0.0088 0.0039

Venus -119146-12-26 12:29 J -41796294.09 -41796293.98 -41796293.88 0.3708 0.0717

Saturn -119146-12-28 04:34 J -41796292.41 -41796292.31 -41796292.21 0.0299 0.0207

Neptune -119146-12-29 12:44 J -41796291.08 -41796290.97 -41796290.85 0.0088 0.0043

Neptune -119145-03-26 14:10 J -41796203.02 -41796202.91 -41796202.79 0.0088 0.0047

Neptune -119145-06-22 15:37 J -41796114.96 -41796114.85 -41796114.74 0.0088 0.0051

Neptune -119145-09-18 17:03 J -41796026.89 -41796026.79 -41796026.68 0.0088 0.0055

Neptune -119145-12-15 18:15 J -41795938.83 -41795938.74 -41795938.63 0.0088 0.0060

Neptune -119144-03-13 19:41 J -41795850.77 -41795850.68 -41795850.58 0.0088 0.0064

Neptune -119144-06-09 21:08 J -41795762.70 -41795762.62 -41795762.53 0.0088 0.0068

Neptune -119144-09-05 22:34 J -41795674.63 -41795674.56 -41795674.48 0.0088 0.0072

Neptune -119144-12-03 00:01 J -41795586.57 -41795586.50 -41795586.43 0.0088 0.0076

Neptune -119143-03-01 01:27 J -41795498.50 -41795498.44 -41795498.39 0.0088 0.0080

Neptune -119143-05-28 02:39 J -41795410.42 -41795410.39 -41795410.35 0.0088 0.0084

Mars -119143-07-02 06:58 J -41795375.37 -41795375.21 -41795375.05 0.1834 0.0336

Neptune -119143-08-24 04:05 J -41795322.34 -41795322.33 -41795322.32 0.0088 0.0088

Mars -119142-05-11 18:15 J -41795061.84 -41795061.74 -41795061.64 0.1685 0.0946

Jupiter -119142-11-05 19:56 J -41794883.80 -41794883.67 -41794883.54 0.0526 0.0078

Jupiter -119141-02-03 02:53 J -41794794.46 -41794794.38 -41794794.30 0.0526 0.0393

Mars -119140-04-16 01:41 J -41794356.53 -41794356.43 -41794356.32 0.1674 0.0747

Venus -119140-07-11 05:17 J -41794270.39 -41794270.28 -41794270.18 0.3714 0.0977

Moon -119139-04-07 17:46 J -41793999.87 -41793999.76 -41793999.66 0.2787 0.0333

Earth -119139-04-07 17:46 J -41793999.87 -41793999.76 -41793999.65 0.2780 0.0261 *

Uranus -119139-08-06 05:17 J -41793879.31 -41793879.28 -41793879.22 0.0148 0.0143

Uranus -119139-11-02 13:41 J -41793791.04 -41793790.93 -41793790.80 0.0148 0.0113

Uranus -119138-01-29 22:20 J -41793702.73 -41793702.57 -41793702.42 0.0148 0.0082

Uranus -119138-04-28 06:29 J -41793614.40 -41793614.23 -41793614.05 0.0148 0.0052

Uranus -119138-07-25 15:08 J -41793526.06 -41793525.87 -41793525.68 0.0148 0.0021

Uranus -119138-10-21 23:32 J -41793437.70 -41793437.52 -41793437.33 0.0148 0.0010

Uranus -119137-01-18 08:10 J -41793349.34 -41793349.16 -41793348.98 0.0148 0.0040

Uranus -119137-04-15 16:34 J -41793260.97 -41793260.81 -41793260.64 0.0148 0.0071

Uranus -119137-07-13 00:58 J -41793172.58 -41793172.46 -41793172.31 0.0148 0.0103

Uranus -119137-10-09 09:37 J -41793084.16 -41793084.10 -41793084.01 0.0148 0.0134

Jupiter -119136-09-24 16:34 J -41792733.99 -41792733.81 -41792733.63 0.0499 0.0025

Moon -119136-10-02 10:34 J -41792726.20 -41792726.06 -41792725.92 0.2565 0.1180

Earth -119136-10-02 12:01 J -41792726.14 -41792726.00 -41792725.86 0.2562 0.1138 *

Venus -119134-01-24 21:51 J -41792246.66 -41792246.59 -41792246.51 0.3719 0.2622

Mars -119134-11-22 04:20 J -41791945.47 -41791945.32 -41791945.17 0.1831 0.0571

Saturn -119133-08-09 01:56 J -41791684.51 -41791684.42 -41791684.33 0.0268 0.0226

Mars -119133-10-01 04:05 J -41791631.39 -41791631.33 -41791631.26 0.1688 0.1374

Saturn -119133-11-05 20:25 J -41791595.80 -41791595.65 -41791595.49 0.0267 0.0125

Saturn -119132-02-02 15:22 J -41791507.03 -41791506.86 -41791506.68 0.0266 0.0023

Moon -119132-03-31 14:53 J -41791449.92 -41791449.88 -41791449.85 0.2769 0.2621

Earth -119132-03-31 15:22 J -41791449.90 -41791449.86 -41791449.83 0.2775 0.2602 *

Saturn -119132-05-02 10:34 J -41791418.23 -41791418.06 -41791417.89 0.0265 0.0080

Saturn -119132-07-30 05:46 J -41791329.39 -41791329.26 -41791329.13 0.0265 0.0183

Venus -119132-10-24 01:13 J -41791243.60 -41791243.45 -41791243.31 0.3672 0.0306

Mars -119131-09-06 12:01 J -41790926.11 -41790926.00 -41790925.88 0.1676 0.0351

Jupiter -119130-08-24 23:17 J -41790573.65 -41790573.53 -41790573.40 0.0526 0.0200

Jupiter -119130-11-22 06:44 J -41790484.33 -41790484.22 -41790484.11 0.0527 0.0276

Earth -119126-04-10 12:15 J -41789249.10 -41789248.99 -41789248.89 0.2782 0.0576

Moon -119126-04-10 12:29 J -41789249.08 -41789248.98 -41789248.87 0.2788 0.0658 *

Venus -119126-05-10 06:01 J -41789219.29 -41789219.25 -41789219.21 0.3665 0.3500

Mars -119124-04-13 02:10 J -41788515.50 -41788515.41 -41788515.32 0.1827 0.1449

Jupiter -119124-07-13 14:10 J -41788424.08 -41788423.91 -41788423.74 0.0499 0.0168

Jupiter -119124-10-11 21:51 J -41788333.69 -41788333.59 -41788333.49 0.0499 0.0416

Moon -119123-10-05 18:01 J -41787974.91 -41787974.75 -41787974.59 0.2567 0.0127

Earth -119123-10-05 18:29 J -41787974.89 -41787974.73 -41787974.57 0.2560 0.0248 *

Mars -119121-01-27 22:20 J -41787495.69 -41787495.57 -41787495.45 0.1679 0.0063

Mars -119119-01-02 04:49 J -41786790.34 -41786790.30 -41786790.26 0.1669 0.1567

Moon -119119-04-03 09:08 J -41786699.20 -41786699.12 -41786699.04 0.2778 0.1823

Earth -119119-04-03 09:51 J -41786699.18 -41786699.09 -41786699.01 0.2777 0.1774 *

Jupiter -119118-06-13 03:22 J -41786263.47 -41786263.36 -41786263.26 0.0525 0.0317

Jupiter -119118-09-10 10:34 J -41786174.18 -41786174.06 -41786173.93 0.0526 0.0160

Saturn -119117-05-27 00:29 J -41785914.55 -41785914.48 -41785914.41 0.0294 0.0251

Saturn -119117-08-23 14:10 J -41785826.03 -41785825.91 -41785825.79 0.0295 0.0143

Saturn -119117-11-20 03:51 J -41785737.47 -41785737.34 -41785737.20 0.0296 0.0036

Saturn -119116-02-16 17:32 J -41785648.90 -41785648.77 -41785648.64 0.0297 0.0073

Saturn -119116-05-16 06:58 J -41785560.31 -41785560.21 -41785560.10 0.0298 0.0181

Saturn -119116-08-12 20:25 J -41785471.68 -41785471.65 -41785471.61 0.0299 0.0288

Earth -119113-04-12 06:29 J -41784498.32 -41784498.23 -41784498.13 0.2783 0.1408

Moon -119113-04-12 07:13 J -41784498.29 -41784498.20 -41784498.10 0.2783 0.1433 *

Mars -119113-08-10 10:34 J -41784378.16 -41784378.06 -41784377.95 0.1838 0.1361

Jupiter -119112-05-01 11:32 J -41784114.16 -41784114.02 -41784113.89 0.0500 0.0317

Mars -119112-06-19 08:25 J -41784065.27 -41784065.15 -41784065.04 0.1682 0.0473

Jupiter -119112-07-30 18:44 J -41784023.87 -41784023.72 -41784023.57 0.0499 0.0265

Mars -119110-05-25 15:22 J -41783359.94 -41783359.86 -41783359.78 0.1671 0.1184

Earth -119110-10-09 00:58 J -41783223.58 -41783223.46 -41783223.34 0.2559 0.1628

Moon -119110-10-09 01:41 J -41783223.54 -41783223.43 -41783223.32 0.2564 0.1774 *

Jupiter -119106-04-01 06:58 J -41781953.28 -41781953.21 -41781953.14 0.0525 0.0435

Moon -119106-04-06 03:37 J -41781948.45 -41781948.35 -41781948.25 0.2783 0.1042

Earth -119106-04-06 04:05 J -41781948.43 -41781948.33 -41781948.22 0.2779 0.0947 *

Jupiter -119106-06-29 14:25 J -41781864.02 -41781863.90 -41781863.77 0.0526 0.0047

Jupiter -119106-09-26 21:22 J -41781774.64 -41781774.61 -41781774.58 0.0526 0.0510

Saturn -119104-12-27 02:25 J -41780952.45 -41780952.40 -41780952.34 0.0268 0.0253

Mars -119104-12-31 07:27 J -41780948.35 -41780948.19 -41780948.03 0.1834 0.0419

Saturn -119103-03-25 20:53 J -41780863.77 -41780863.63 -41780863.48 0.0267 0.0152

Saturn -119103-06-22 15:51 J -41780775.01 -41780774.84 -41780774.66 0.0266 0.0050

Saturn -119103-09-19 10:49 J -41780686.22 -41780686.05 -41780685.87 0.0265 0.0053

Moon -119103-09-30 10:20 J -41780675.12 -41780675.07 -41780675.02 0.2564 0.2414

Earth -119103-09-30 12:15 J -41780675.07 -41780674.99 -41780674.92 0.2564 0.2260 *

Mars -119103-11-09 18:29 J -41780634.83 -41780634.73 -41780634.63 0.1685 0.0890

Saturn -119103-12-17 06:01 J -41780597.39 -41780597.25 -41780597.10 0.0265 0.0155

Saturn -119102-03-16 01:13 J -41780508.48 -41780508.45 -41780508.41 0.0264 0.0258

Mars -119101-10-15 01:41 J -41779929.53 -41779929.43 -41779929.32 0.1674 0.0797

Jupiter -119100-02-17 09:08 J -41779804.18 -41779804.12 -41779804.05 0.0500 0.0461

Earth -119100-04-15 00:58 J -41779747.52 -41779747.46 -41779747.40 0.2784 0.2237

Moon -119100-04-15 01:41 J -41779747.50 -41779747.43 -41779747.37 0.2780 0.2273 *

Jupiter -119100-05-18 16:20 J -41779714.00 -41779713.82 -41779713.65 0.0500 0.0118

Venus -119100-07-03 00:15 J -41779668.53 -41779668.49 -41779668.45 0.3698 0.3456

Uranus -119098-06-09 00:58 J -41778962.46 -41778962.46 -41778962.45 0.0131 0.0131

Uranus -119098-09-05 04:05 J -41778874.39 -41778874.33 -41778874.26 0.0131 0.0115

Uranus -119098-12-02 06:58 J -41778786.28 -41778786.21 -41778786.11 0.0131 0.0100

Uranus -119097-02-28 10:20 J -41778698.17 -41778698.07 -41778697.97 0.0131 0.0084

Uranus -119097-05-26 13:13 J -41778610.06 -41778609.95 -41778609.83 0.0131 0.0069

Uranus -119097-08-22 16:20 J -41778521.94 -41778521.82 -41778521.69 0.0131 0.0054

Uranus -119097-11-18 19:27 J -41778433.82 -41778433.69 -41778433.56 0.0131 0.0038

Pluto -119097-11-29 06:01 J -41778423.29 -41778423.25 -41778423.19 0.0084 0.0078

Uranus -119096-02-14 22:34 J -41778345.69 -41778345.56 -41778345.43 0.0131 0.0023

Pluto -119096-02-25 07:13 J -41778335.28 -41778335.20 -41778335.09 0.0084 0.0063

Uranus -119096-05-14 01:41 J -41778257.57 -41778257.43 -41778257.30 0.0131 0.0008

Pluto -119096-05-24 08:53 J -41778247.24 -41778247.13 -41778247.02 0.0084 0.0047

Uranus -119096-08-10 04:34 J -41778169.44 -41778169.31 -41778169.17 0.0131 0.0008

Pluto -119096-08-20 10:05 J -41778159.20 -41778159.08 -41778158.95 0.0084 0.0031

Uranus -119096-11-06 07:41 J -41778081.32 -41778081.18 -41778081.05 0.0131 0.0023

Pluto -119096-11-16 11:32 J -41778071.15 -41778071.02 -41778070.89 0.0084 0.0016

Uranus -119095-02-02 10:34 J -41777993.19 -41777993.06 -41777992.93 0.0131 0.0038

Pluto -119095-02-12 12:44 J -41777983.10 -41777982.97 -41777982.83 0.0084 0.0003

Uranus -119095-05-01 13:41 J -41777905.06 -41777904.93 -41777904.81 0.0131 0.0053

Pluto -119095-05-11 14:10 J -41777895.04 -41777894.91 -41777894.78 0.0084 0.0015

Uranus -119095-07-28 16:34 J -41777816.92 -41777816.81 -41777816.70 0.0131 0.0068

Pluto -119095-08-07 15:22 J -41777806.98 -41777806.86 -41777806.73 0.0084 0.0030

Uranus -119095-10-24 19:27 J -41777728.79 -41777728.69 -41777728.58 0.0131 0.0083

Pluto -119095-11-03 16:34 J -41777718.91 -41777718.81 -41777718.69 0.0083 0.0046

Venus -119094-01-16 17:17 J -41777644.88 -41777644.78 -41777644.69 0.3704 0.1754

Uranus -119094-01-20 22:20 J -41777640.65 -41777640.57 -41777640.48 0.0131 0.0098

Pluto -119094-01-30 18:01 J -41777630.84 -41777630.75 -41777630.65 0.0083 0.0060

Jupiter -119094-04-17 18:01 J -41777553.88 -41777553.75 -41777553.63 0.0525 0.0084

Uranus -119094-04-19 01:13 J -41777552.50 -41777552.45 -41777552.37 0.0131 0.0113

Pluto -119094-04-28 19:13 J -41777542.75 -41777542.70 -41777542.64 0.0083 0.0075

Mars -119094-05-23 04:49 J -41777518.45 -41777518.30 -41777518.14 0.1831 0.0490

Jupiter -119094-07-16 00:58 J -41777464.55 -41777464.46 -41777464.37 0.0526 0.0388

Uranus -119094-07-16 04:05 J -41777464.34 -41777464.33 -41777464.29 0.0131 0.0128

Mars -119093-04-01 04:20 J -41777204.40 -41777204.32 -41777204.25 0.1688 0.1321

Earth -119093-04-07 22:34 J -41777197.67 -41777197.56 -41777197.45 0.2780 0.0119

Moon -119093-04-07 22:34 J -41777197.66 -41777197.56 -41777197.45 0.2788 0.0087 *

Mars -119091-03-07 12:15 J -41776499.11 -41776498.99 -41776498.88 0.1677 0.0403

Moon -119090-10-03 17:32 J -41775923.92 -41775923.77 -41775923.62 0.2567 0.0962

Earth -119090-10-03 18:29 J -41775923.88 -41775923.73 -41775923.58 0.2562 0.0886 *

Venus -119089-08-01 10:05 J -41775621.18 -41775621.08 -41775620.97 0.3710 0.0120

Jupiter -119088-03-06 13:56 J -41775404.10 -41775403.92 -41775403.74 0.0500 0.0028

Saturn -119088-10-14 02:53 J -41775182.42 -41775182.38 -41775182.33 0.0294 0.0274

Saturn -119087-01-10 16:49 J -41775093.91 -41775093.80 -41775093.69 0.0295 0.0167

Saturn -119087-04-09 06:29 J -41775005.36 -41775005.23 -41775005.09 0.0296 0.0059

Saturn -119087-07-06 20:10 J -41774916.79 -41774916.66 -41774916.52 0.0297 0.0050

Saturn -119087-10-03 09:51 J -41774828.21 -41774828.09 -41774827.98 0.0298 0.0157

Saturn -119087-12-30 23:17 J -41774739.59 -41774739.53 -41774739.47 0.0299 0.0265

Moon -119086-04-01 19:41 J -41774647.72 -41774647.68 -41774647.64 0.2771 0.2521

Earth -119086-04-01 20:10 J -41774647.71 -41774647.66 -41774647.61 0.2775 0.2451 *

Mars -119085-10-12 02:53 J -41774088.48 -41774088.38 -41774088.27 0.1827 0.1356

Venus -119083-02-15 02:53 J -41773597.47 -41773597.38 -41773597.28 0.3715 0.1589

Jupiter -119082-02-03 21:37 J -41773243.72 -41773243.60 -41773243.48 0.0525 0.0204

Jupiter -119082-05-04 04:49 J -41773154.41 -41773154.30 -41773154.19 0.0526 0.0270

Mars -119082-07-28 22:20 J -41773068.69 -41773068.57 -41773068.45 0.1679 0.0008

Venus -119081-11-13 21:22 J -41772594.70 -41772594.61 -41772594.51 0.3678 0.2702

Earth -119080-04-10 17:03 J -41772446.89 -41772446.79 -41772446.69 0.2782 0.0725

Moon -119080-04-10 17:32 J -41772446.87 -41772446.77 -41772446.67 0.2787 0.0706 *

Mars -119080-07-03 04:49 J -41772363.32 -41772363.30 -41772363.27 0.1669 0.1617

Venus -119078-08-31 19:41 J -41771573.73 -41771573.68 -41771573.63 0.3721 0.3229

Moon -119077-10-06 00:44 J -41771172.62 -41771172.47 -41771172.31 0.2566 0.0558

Earth -119077-10-06 01:13 J -41771172.61 -41771172.45 -41771172.30 0.2560 0.0507 *

Jupiter -119077-12-23 11:32 J -41771094.18 -41771094.02 -41771093.85 0.0500 0.0173

Jupiter -119076-03-23 19:13 J -41771003.80 -41771003.70 -41771003.60 0.0499 0.0413

Venus -119075-05-31 01:56 J -41770570.56 -41770570.42 -41770570.28 0.3671 0.0976

Saturn -119074-08-12 22:20 J -41770131.70 -41770131.57 -41770131.44 0.0267 0.0175

Saturn -119074-11-09 17:03 J -41770042.96 -41770042.79 -41770042.62 0.0266 0.0073

Saturn -119073-02-06 12:01 J -41769954.18 -41769954.00 -41769953.82 0.0266 0.0030

Mars -119073-02-09 11:17 J -41769951.12 -41769951.03 -41769950.93 0.1838 0.1454

Moon -119073-04-03 13:56 J -41769897.01 -41769896.92 -41769896.84 0.2778 0.1682

Earth -119073-04-03 14:39 J -41769896.98 -41769896.89 -41769896.80 0.2777 0.1620 *

Saturn -119073-05-05 07:13 J -41769865.36 -41769865.20 -41769865.05 0.0265 0.0132

Saturn -119073-08-02 02:10 J -41769776.48 -41769776.41 -41769776.32 0.0264 0.0236

Mars -119073-12-18 08:25 J -41769638.27 -41769638.15 -41769638.03 0.1682 0.0420

Jupiter -119071-11-23 00:58 J -41768933.56 -41768933.46 -41768933.36 0.0526 0.0327

Mars -119071-11-23 15:22 J -41768932.94 -41768932.86 -41768932.78 0.1671 0.1233

Jupiter -119070-02-20 08:25 J -41768844.27 -41768844.15 -41768844.02 0.0526 0.0150

Neptune -119069-06-07 21:51 J -41768370.61 -41768370.59 -41768370.54 0.0089 0.0087

Neptune -119069-09-04 01:13 J -41768282.51 -41768282.45 -41768282.37 0.0089 0.0081

Neptune -119069-12-01 04:05 J -41768194.40 -41768194.33 -41768194.21 0.0089 0.0076

Neptune -119068-02-27 07:27 J -41768106.28 -41768106.19 -41768106.06 0.0089 0.0070

Neptune -119068-05-26 11:03 J -41768018.16 -41768018.04 -41768017.91 0.0089 0.0064

Neptune -119068-08-22 13:56 J -41767930.04 -41767929.92 -41767929.76 0.0089 0.0059

Neptune -119068-11-18 17:17 J -41767841.91 -41767841.78 -41767841.62 0.0089 0.0053

Neptune -119067-02-14 20:39 J -41767753.79 -41767753.64 -41767753.47 0.0089 0.0047

Earth -119067-04-13 11:32 J -41767696.11 -41767696.02 -41767695.93 0.2783 0.1560

Moon -119067-04-13 12:15 J -41767696.08 -41767695.99 -41767695.91 0.2784 0.1666 *

Neptune -119067-05-14 00:15 J -41767665.66 -41767665.49 -41767665.33 0.0089 0.0041

Neptune -119067-08-10 03:08 J -41767577.53 -41767577.37 -41767577.19 0.0089 0.0036

Neptune -119067-11-06 06:29 J -41767489.39 -41767489.23 -41767489.04 0.0089 0.0030

Neptune -119066-02-02 09:51 J -41767401.26 -41767401.09 -41767400.90 0.0089 0.0024

Neptune -119066-05-01 13:27 J -41767313.12 -41767312.94 -41767312.76 0.0089 0.0018

Neptune -119066-07-28 16:49 J -41767224.99 -41767224.80 -41767224.62 0.0089 0.0012

Neptune -119066-10-24 19:56 J -41767136.85 -41767136.67 -41767136.48 0.0089 0.0007

Neptune -119065-01-20 23:32 J -41767048.71 -41767048.52 -41767048.34 0.0089 0.0001

Neptune -119065-04-18 02:53 J -41766960.57 -41766960.38 -41766960.20 0.0089 0.0005

Neptune -119065-07-15 06:15 J -41766872.43 -41766872.24 -41766872.06 0.0089 0.0011

Neptune -119065-10-11 09:37 J -41766784.28 -41766784.10 -41766783.92 0.0089 0.0017

Jupiter -119065-10-11 09:22 J -41766784.25 -41766784.11 -41766783.97 0.0500 0.0316 *

Neptune -119064-01-07 12:58 J -41766696.14 -41766695.96 -41766695.78 0.0089 0.0023

Jupiter -119064-01-09 16:34 J -41766693.96 -41766693.81 -41766693.66 0.0499 0.0264

Neptune -119064-04-05 16:20 J -41766607.99 -41766607.82 -41766607.64 0.0089 0.0029

Mars -119064-07-01 08:10 J -41766521.31 -41766521.16 -41766521.00 0.1834 0.0509

Neptune -119064-07-02 19:41 J -41766519.85 -41766519.68 -41766519.50 0.0089 0.0035

Neptune -119064-09-28 23:03 J -41766431.70 -41766431.54 -41766431.36 0.0089 0.0041

Earth -119064-10-09 07:41 J -41766421.29 -41766421.18 -41766421.07 0.2559 0.1894

Moon -119064-10-09 08:39 J -41766421.24 -41766421.14 -41766421.03 0.2564 0.1865 *

Neptune -119064-12-26 02:25 J -41766343.55 -41766343.40 -41766343.23 0.0089 0.0047

Neptune -119063-03-24 05:46 J -41766255.40 -41766255.26 -41766255.09 0.0089 0.0053

Mars -119063-05-10 18:29 J -41766207.84 -41766207.73 -41766207.63 0.1685 0.0841

Neptune -119063-06-20 09:22 J -41766167.24 -41766167.11 -41766166.96 0.0089 0.0059

Neptune -119063-09-16 12:44 J -41766079.08 -41766078.97 -41766078.83 0.0089 0.0065

Neptune -119063-12-13 16:05 J -41765990.92 -41765990.83 -41765990.70 0.0089 0.0072

Neptune -119062-03-11 19:41 J -41765902.76 -41765902.68 -41765902.57 0.0089 0.0077

Neptune -119062-06-07 23:03 J -41765814.59 -41765814.54 -41765814.46 0.0089 0.0083

Mars -119061-04-15 01:41 J -41765502.53 -41765502.43 -41765502.32 0.1674 0.0844

Moon -119060-04-06 08:39 J -41765146.24 -41765146.14 -41765146.04 0.2785 0.0793

Earth -119060-04-06 09:08 J -41765146.23 -41765146.12 -41765146.02 0.2779 0.0791 *

Jupiter -119059-09-11 04:49 J -41764623.37 -41764623.30 -41764623.24 0.0525 0.0445

Jupiter -119059-12-09 12:15 J -41764534.12 -41764533.99 -41764533.86 0.0526 0.0037

Jupiter -119058-03-08 19:13 J -41764444.73 -41764444.70 -41764444.66 0.0527 0.0503

Saturn -119058-05-30 19:41 J -41764361.79 -41764361.68 -41764361.58 0.0295 0.0190

Saturn -119058-08-27 09:22 J -41764273.24 -41764273.11 -41764272.98 0.0296 0.0082

Saturn -119058-11-23 23:03 J -41764184.67 -41764184.54 -41764184.40 0.0297 0.0026

Saturn -119057-02-20 12:29 J -41764096.09 -41764095.98 -41764095.85 0.0298 0.0134

Saturn -119057-05-19 01:56 J -41764007.49 -41764007.42 -41764007.33 0.0299 0.0241

Moon -119057-09-30 17:03 J -41763872.88 -41763872.79 -41763872.70 0.2564 0.2051

Earth -119057-09-30 18:44 J -41763872.82 -41763872.72 -41763872.62 0.2563 0.2010 *

Uranus -119055-08-26 11:46 J -41763178.05 -41763178.01 -41763177.93 0.0148 0.0139

Mars -119055-11-21 05:32 J -41763091.42 -41763091.27 -41763091.11 0.1831 0.0400

Uranus -119055-11-22 20:10 J -41763089.77 -41763089.66 -41763089.52 0.0148 0.0109

Uranus -119054-02-19 04:34 J -41763001.46 -41763001.31 -41763001.14 0.0148 0.0079

Earth -119054-04-16 05:46 J -41762945.31 -41762945.26 -41762945.20 0.2784 0.2395

Moon -119054-04-16 06:15 J -41762945.29 -41762945.24 -41762945.18 0.2778 0.2405 *

Uranus -119054-05-18 13:13 J -41762913.13 -41762912.95 -41762912.77 0.0148 0.0048

Uranus -119054-08-14 21:37 J -41762824.79 -41762824.60 -41762824.41 0.0148 0.0018

Mars -119054-10-01 04:20 J -41762777.40 -41762777.32 -41762777.24 0.1688 0.1267

Uranus -119054-11-11 06:01 J -41762736.43 -41762736.25 -41762736.06 0.0148 0.0014

Uranus -119053-02-07 14:39 J -41762648.07 -41762647.89 -41762647.71 0.0148 0.0044

Uranus -119053-05-05 23:03 J -41762559.70 -41762559.54 -41762559.37 0.0148 0.0075

Jupiter -119053-07-30 06:29 J -41762474.29 -41762474.23 -41762474.17 0.0500 0.0466

Uranus -119053-08-02 07:41 J -41762471.31 -41762471.18 -41762471.05 0.0148 0.0106

Jupiter -119053-10-28 13:27 J -41762384.12 -41762383.94 -41762383.77 0.0500 0.0111

Uranus -119053-10-29 16:05 J -41762382.88 -41762382.83 -41762382.75 0.0148 0.0138

Mars -119052-09-05 12:01 J -41762072.11 -41762072.00 -41762071.88 0.1677 0.0451

Moon -119047-04-09 03:37 J -41760395.46 -41760395.35 -41760395.24 0.2788 0.0030

Earth -119047-04-09 03:37 J -41760395.46 -41760395.35 -41760395.25 0.2781 0.0113 *

Jupiter -119047-09-27 16:05 J -41760223.95 -41760223.83 -41760223.70 0.0526 0.0087

Jupiter -119047-12-25 23:17 J -41760134.62 -41760134.53 -41760134.44 0.0526 0.0387

Mars -119045-04-12 03:08 J -41759661.48 -41759661.37 -41759661.26 0.1827 0.1285

Saturn -119045-12-29 23:03 J -41759399.65 -41759399.54 -41759399.42 0.0267 0.0199

Saturn -119044-03-28 18:01 J -41759310.92 -41759310.75 -41759310.59 0.0267 0.0098

Saturn -119044-06-25 12:58 J -41759222.14 -41759221.96 -41759221.78 0.0266 0.0006

Saturn -119044-09-22 07:56 J -41759133.33 -41759133.17 -41759133.00 0.0265 0.0107

Moon -119044-10-04 00:15 J -41759121.64 -41759121.49 -41759121.34 0.2567 0.0707

Earth -119044-10-04 01:13 J -41759121.60 -41759121.45 -41759121.29 0.2561 0.0625 *

Saturn -119044-12-20 03:08 J -41759044.48 -41759044.37 -41759044.26 0.0264 0.0209

Venus -119043-02-06 22:05 J -41758995.65 -41758995.58 -41758995.51 0.3700 0.2815

Mars -119042-01-26 22:20 J -41758641.69 -41758641.57 -41758641.45 0.1679 0.0043

Jupiter -119041-08-16 10:49 J -41758074.23 -41758074.05 -41758073.87 0.0500 0.0038

Mars -119040-01-01 04:49 J -41757936.31 -41757936.30 -41757936.29 0.1669 0.1661

Moon -119040-04-02 00:29 J -41757845.54 -41757845.48 -41757845.42 0.2773 0.2296

Earth -119040-04-02 01:13 J -41757845.51 -41757845.45 -41757845.40 0.2775 0.2301 *

Venus -119038-08-23 15:08 J -41756971.97 -41756971.87 -41756971.77 0.3705 0.1124

Jupiter -119035-07-16 19:27 J -41755913.80 -41755913.69 -41755913.57 0.0525 0.0210

Jupiter -119035-10-14 02:53 J -41755824.50 -41755824.38 -41755824.27 0.0526 0.0264

Earth -119034-04-11 21:51 J -41755644.69 -41755644.59 -41755644.48 0.2782 0.0881

Moon -119034-04-11 22:34 J -41755644.66 -41755644.56 -41755644.46 0.2786 0.1001 *

Mars -119034-08-10 12:01 J -41755524.09 -41755524.00 -41755523.92 0.1838 0.1537

Mars -119033-06-18 08:25 J -41755211.26 -41755211.15 -41755211.03 0.1682 0.0370

Venus -119032-03-08 07:56 J -41754948.27 -41754948.17 -41754948.06 0.3711 0.0550

Mars -119031-05-24 15:22 J -41754505.93 -41754505.86 -41754505.78 0.1672 0.1282

Moon -119031-10-07 07:56 J -41754370.33 -41754370.17 -41754370.02 0.2566 0.0731

Earth -119031-10-07 07:41 J -41754370.33 -41754370.18 -41754370.02 0.2560 0.0766 *

Jupiter -119029-06-04 08:39 J -41753764.31 -41753764.14 -41753763.97 0.0500 0.0181

Jupiter -119029-09-02 16:20 J -41753673.92 -41753673.82 -41753673.71 0.0499 0.0405

Saturn -119029-10-16 22:20 J -41753629.66 -41753629.57 -41753629.47 0.0295 0.0212

Saturn -119028-01-13 12:15 J -41753541.12 -41753540.99 -41753540.86 0.0296 0.0105

Saturn -119028-04-12 01:56 J -41753452.56 -41753452.42 -41753452.28 0.0297 0.0004

Saturn -119028-07-09 15:22 J -41753363.98 -41753363.86 -41753363.73 0.0298 0.0112

Saturn -119028-10-06 04:49 J -41753275.38 -41753275.30 -41753275.20 0.0299 0.0219

Moon -119027-04-04 18:44 J -41753094.81 -41753094.72 -41753094.63 0.2779 0.1542

Earth -119027-04-04 19:27 J -41753094.78 -41753094.69 -41753094.59 0.2777 0.1472 *

Venus -119027-09-22 00:44 J -41752924.55 -41752924.47 -41752924.38 0.3717 0.2199

Mars -119025-12-30 09:08 J -41752094.27 -41752094.12 -41752093.97 0.1834 0.0607

Venus -119024-06-20 22:05 J -41751921.71 -41751921.58 -41751921.45 0.3676 0.1469

Mars -119024-11-08 18:29 J -41751780.84 -41751780.73 -41751780.62 0.1685 0.0787

Jupiter -119023-05-04 23:03 J -41751603.64 -41751603.54 -41751603.44 0.0525 0.0332

Jupiter -119023-08-02 06:29 J -41751514.36 -41751514.23 -41751514.11 0.0526 0.0144

Mars -119022-10-15 01:56 J -41751075.52 -41751075.42 -41751075.32 0.1674 0.0895

Earth -119021-04-13 16:20 J -41750893.91 -41750893.82 -41750893.74 0.2783 0.1714

Moon -119021-04-13 17:03 J -41750893.88 -41750893.79 -41750893.71 0.2783 0.1716 *

Venus -119018-01-05 02:53 J -41749897.49 -41749897.38 -41749897.27 0.3668 0.2271

Earth -119018-10-10 14:10 J -41749618.99 -41749618.91 -41749618.82 0.2558 0.2146

Moon -119018-10-10 15:22 J -41749618.93 -41749618.86 -41749618.80 0.2564 0.2317 *

Jupiter -119017-03-23 06:29 J -41749454.36 -41749454.23 -41749454.09 0.0500 0.0323

Jupiter -119017-06-21 13:41 J -41749364.08 -41749363.93 -41749363.77 0.0499 0.0259

Saturn -119015-05-19 00:29 J -41748667.57 -41748667.48 -41748667.38 0.0268 0.0221

Mars -119015-05-22 06:01 J -41748664.40 -41748664.25 -41748664.09 0.1830 0.0320

Saturn -119015-08-15 19:13 J -41748578.85 -41748578.70 -41748578.54 0.0267 0.0120

Saturn -119015-11-12 14:10 J -41748490.09 -41748489.91 -41748489.73 0.0266 0.0018

Saturn -119014-02-09 09:08 J -41748401.29 -41748401.12 -41748400.94 0.0265 0.0085

Mars -119014-04-01 04:20 J -41748350.41 -41748350.32 -41748350.24 0.1688 0.1216

Moon -119014-04-07 13:41 J -41748344.03 -41748343.93 -41748343.83 0.2786 0.0671

Earth -119014-04-07 13:56 J -41748344.02 -41748343.92 -41748343.81 0.2779 0.0636 *

Saturn -119014-05-09 04:20 J -41748312.44 -41748312.32 -41748312.19 0.0265 0.0187

Uranus -119014-06-29 07:27 J -41748261.20 -41748261.19 -41748261.16 0.0131 0.0129

Uranus -119014-09-25 10:49 J -41748173.11 -41748173.05 -41748172.98 0.0131 0.0113

Uranus -119014-12-22 13:41 J -41748085.01 -41748084.93 -41748084.83 0.0131 0.0098

Uranus -119013-03-19 17:03 J -41747996.90 -41747996.79 -41747996.68 0.0131 0.0082

Uranus -119013-06-15 19:56 J -41747908.78 -41747908.67 -41747908.55 0.0131 0.0067

Uranus -119013-09-11 23:17 J -41747820.66 -41747820.53 -41747820.41 0.0131 0.0051

Uranus -119013-12-09 02:10 J -41747732.54 -41747732.41 -41747732.28 0.0131 0.0036

Mars -119012-03-06 12:01 J -41747645.11 -41747645.00 -41747644.88 0.1677 0.0498

Uranus -119012-03-07 05:17 J -41747644.41 -41747644.28 -41747644.15 0.0131 0.0021

Uranus -119012-06-03 08:25 J -41747556.29 -41747556.15 -41747556.02 0.0131 0.0006

Uranus -119012-08-30 11:17 J -41747468.16 -41747468.03 -41747467.89 0.0131 0.0010

Uranus -119012-11-26 14:25 J -41747380.03 -41747379.90 -41747379.77 0.0131 0.0025

Jupiter -119011-02-21 02:10 J -41747293.47 -41747293.41 -41747293.34 0.0525 0.0459

Uranus -119011-02-22 17:17 J -41747291.91 -41747291.78 -41747291.65 0.0131 0.0040

Jupiter -119011-05-21 09:51 J -41747204.22 -41747204.09 -41747203.96 0.0526 0.0028

Uranus -119011-05-21 20:25 J -41747203.77 -41747203.65 -41747203.53 0.0131 0.0055

Uranus -119011-08-17 23:17 J -41747115.64 -41747115.53 -41747115.42 0.0131 0.0070

Jupiter -119011-08-18 16:49 J -41747114.84 -41747114.80 -41747114.75 0.0527 0.0492

Moon -119011-10-02 00:01 J -41747070.61 -41747070.50 -41747070.40 0.2566 0.1932

Earth -119011-10-02 01:27 J -41747070.56 -41747070.44 -41747070.32 0.2563 0.1748 *

Uranus -119011-11-14 02:25 J -41747027.50 -41747027.40 -41747027.30 0.0131 0.0085

Uranus -119010-02-10 05:17 J -41746939.36 -41746939.28 -41746939.20 0.0131 0.0100

Uranus -119010-05-09 08:10 J -41746851.22 -41746851.16 -41746851.10 0.0131 0.0115

Uranus -119010-08-05 11:03 J -41746763.05 -41746763.04 -41746763.02 0.0131 0.0130

Earth -119008-04-16 10:49 J -41746143.09 -41746143.05 -41746143.01 0.2784 0.2547

Moon -119008-04-16 11:17 J -41746143.07 -41746143.03 -41746143.00 0.2778 0.2610 *

Mars -119006-10-12 04:05 J -41745234.45 -41745234.33 -41745234.21 0.1827 0.1186

Jupiter -119005-01-10 04:20 J -41745144.38 -41745144.32 -41745144.25 0.0500 0.0466

Jupiter -119005-04-09 11:17 J -41745054.21 -41745054.03 -41745053.85 0.0499 0.0111

Mars -119005-08-21 13:56 J -41744919.94 -41744919.92 -41744919.89 0.1692 0.1649

Mars -119003-07-27 22:20 J -41744214.69 -41744214.57 -41744214.45 0.1679 0.0102

Earth -119001-04-09 08:25 J -41743593.26 -41743593.15 -41743593.04 0.2781 0.0200

Moon -119001-04-09 08:39 J -41743593.25 -41743593.14 -41743593.04 0.2787 0.0266 *

119TH MILLENNIUM BCE

This is a list of transits of Mercury in the 119th millennium BCE.

FROM MAX- C START MAX END SUNRAD DEPTH S TRANSIT

Saturn -118999-03-06 01:13 J -41742897.53 -41742897.45 -41742897.37 0.0294 0.0236

Jupiter -118999-03-09 13:56 J -41742894.05 -41742893.92 -41742893.79 0.0526 0.0096

Saturn -118999-06-02 14:53 J -41742809.00 -41742808.88 -41742808.75 0.0295 0.0129

Jupiter -118999-06-06 20:53 J -41742804.71 -41742804.63 -41742804.54 0.0526 0.0377

Saturn -118999-08-30 04:49 J -41742720.44 -41742720.30 -41742720.17 0.0296 0.0023

Saturn -118999-11-26 18:15 J -41742631.87 -41742631.74 -41742631.61 0.0297 0.0087

Saturn -118998-02-23 07:41 J -41742543.28 -41742543.18 -41742543.07 0.0298 0.0195

Moon -118998-10-05 06:58 J -41742319.37 -41742319.21 -41742319.06 0.2567 0.0402

Earth -118998-10-05 07:56 J -41742319.33 -41742319.17 -41742319.01 0.2561 0.0369 *

Mars -118994-02-08 12:44 J -41741097.04 -41741096.97 -41741096.90 0.1838 0.1630

Moon -118994-04-03 05:17 J -41741043.34 -41741043.28 -41741043.22 0.2774 0.2271

Earth -118994-04-03 06:01 J -41741043.32 -41741043.25 -41741043.18 0.2776 0.2146 *

Mars -118994-12-18 08:25 J -41740784.27 -41740784.15 -41740784.03 0.1682 0.0319

Jupiter -118993-01-27 07:56 J -41740744.35 -41740744.17 -41740743.99 0.0500 0.0044

Mars -118992-11-22 15:22 J -41740078.93 -41740078.86 -41740078.79 0.1671 0.1329

Neptune -118988-04-04 15:08 J -41738849.89 -41738849.87 -41738849.82 0.0088 0.0086

Earth -118988-04-12 02:53 J -41738842.48 -41738842.38 -41738842.28 0.2782 0.1040

Moon -118988-04-12 03:22 J -41738842.46 -41738842.36 -41738842.26 0.2786 0.1028 *

Neptune -118988-07-01 17:03 J -41738761.84 -41738761.79 -41738761.74 0.0088 0.0081

Neptune -118988-09-27 18:15 J -41738673.79 -41738673.74 -41738673.66 0.0088 0.0077

Neptune -118988-12-24 19:41 J -41738585.74 -41738585.68 -41738585.58 0.0088 0.0073

Jupiter -118988-12-26 17:46 J -41738583.88 -41738583.76 -41738583.64 0.0525 0.0213

Neptune -118987-03-22 21:37 J -41738497.69 -41738497.60 -41738497.51 0.0088 0.0068

Jupiter -118987-03-26 00:58 J -41738494.57 -41738494.46 -41738494.35 0.0526 0.0262

Neptune -118987-06-18 23:03 J -41738409.63 -41738409.54 -41738409.44 0.0088 0.0063

Venus -118987-09-13 19:56 J -41738322.75 -41738322.67 -41738322.58 0.3701 0.2180

Neptune -118987-09-15 00:29 J -41738321.57 -41738321.48 -41738321.37 0.0088 0.0059

Neptune -118987-12-12 02:10 J -41738233.52 -41738233.41 -41738233.30 0.0088 0.0055

Neptune -118986-03-10 03:37 J -41738145.46 -41738145.35 -41738145.23 0.0088 0.0051

Neptune -118986-06-06 05:03 J -41738057.40 -41738057.29 -41738057.17 0.0088 0.0046

Neptune -118986-09-02 06:29 J -41737969.34 -41737969.23 -41737969.10 0.0088 0.0042

Saturn -118986-10-06 01:41 J -41737935.49 -41737935.43 -41737935.35 0.0268 0.0244

Neptune -118986-11-29 08:10 J -41737881.28 -41737881.16 -41737881.04 0.0088 0.0038

Saturn -118985-01-02 20:25 J -41737846.80 -41737846.65 -41737846.50 0.0267 0.0143

Neptune -118985-02-25 09:37 J -41737793.23 -41737793.10 -41737792.97 0.0088 0.0033

Saturn -118985-03-31 15:22 J -41737758.04 -41737757.86 -41737757.69 0.0266 0.0042

Neptune -118985-05-23 11:03 J -41737705.17 -41737705.04 -41737704.91 0.0088 0.0029

Saturn -118985-06-28 10:20 J -41737669.25 -41737669.07 -41737668.90 0.0265 0.0060

Mars -118985-06-30 09:22 J -41737667.26 -41737667.11 -41737666.96 0.1834 0.0679

Neptune -118985-08-19 12:29 J -41737617.11 -41737616.98 -41737616.84 0.0088 0.0025

Saturn -118985-09-25 05:17 J -41737580.42 -41737580.28 -41737580.13 0.0265 0.0163

Earth -118985-10-07 14:25 J -41737568.05 -41737567.90 -41737567.75 0.2560 0.1021

Moon -118985-10-07 14:53 J -41737568.03 -41737567.88 -41737567.74 0.2566 0.1067 *

Neptune -118985-11-15 14:10 J -41737529.05 -41737528.91 -41737528.78 0.0088 0.0021

Neptune -118984-02-11 15:37 J -41737440.99 -41737440.85 -41737440.72 0.0088 0.0016

Mars -118984-05-09 18:29 J -41737353.84 -41737353.73 -41737353.62 0.1685 0.0734

Neptune -118984-05-10 17:03 J -41737352.93 -41737352.79 -41737352.66 0.0088 0.0012

Neptune -118984-08-06 18:29 J -41737264.87 -41737264.73 -41737264.59 0.0088 0.0008

Neptune -118984-11-02 19:56 J -41737176.81 -41737176.67 -41737176.53 0.0088 0.0004

Neptune -118983-01-29 21:22 J -41737088.75 -41737088.61 -41737088.47 0.0088 0.0001

Neptune -118983-04-27 22:49 J -41737000.69 -41737000.55 -41737000.41 0.0088 0.0005

Neptune -118983-07-25 00:15 J -41736912.63 -41736912.49 -41736912.36 0.0088 0.0009

Neptune -118983-10-21 01:41 J -41736824.57 -41736824.43 -41736824.30 0.0088 0.0013

Neptune -118982-01-17 02:53 J -41736736.51 -41736736.38 -41736736.24 0.0088 0.0018

Mars -118982-04-15 01:41 J -41736648.52 -41736648.43 -41736648.33 0.1674 0.0940

Neptune -118982-04-15 04:20 J -41736648.45 -41736648.32 -41736648.18 0.0088 0.0022 *

Neptune -118982-07-12 05:46 J -41736560.38 -41736560.26 -41736560.12 0.0088 0.0026

Neptune -118982-10-08 07:13 J -41736472.32 -41736472.20 -41736472.07 0.0088 0.0030

Jupiter -118982-11-15 05:32 J -41736434.44 -41736434.27 -41736434.11 0.0500 0.0191

Neptune -118981-01-04 08:39 J -41736384.26 -41736384.14 -41736384.01 0.0088 0.0034

Jupiter -118981-02-13 13:13 J -41736344.06 -41736343.95 -41736343.84 0.0499 0.0395

Venus -118981-03-29 12:58 J -41736299.07 -41736298.96 -41736298.86 0.3707 0.0502

Neptune -118981-04-01 09:51 J -41736296.20 -41736296.09 -41736295.96 0.0088 0.0039

Moon -118981-04-04 23:46 J -41736292.60 -41736292.51 -41736292.41 0.2781 0.1335

Earth -118981-04-05 00:29 J -41736292.58 -41736292.48 -41736292.39 0.2778 0.1317 *

Neptune -118981-06-28 11:17 J -41736208.14 -41736208.03 -41736207.90 0.0088 0.0042

Neptune -118981-09-24 12:44 J -41736120.08 -41736119.97 -41736119.85 0.0088 0.0046

Neptune -118981-12-21 14:10 J -41736032.01 -41736031.91 -41736031.79 0.0088 0.0050

Neptune -118980-03-19 15:37 J -41735943.95 -41735943.85 -41735943.74 0.0088 0.0054

Neptune -118980-06-15 17:03 J -41735855.89 -41735855.79 -41735855.69 0.0088 0.0058

Neptune -118980-09-11 18:15 J -41735767.82 -41735767.74 -41735767.63 0.0088 0.0063

Neptune -118980-12-08 19:41 J -41735679.76 -41735679.68 -41735679.58 0.0088 0.0067

Neptune -118979-03-06 21:08 J -41735591.69 -41735591.62 -41735591.53 0.0088 0.0071

Neptune -118979-06-02 22:34 J -41735503.63 -41735503.56 -41735503.48 0.0088 0.0074

Neptune -118979-08-30 00:01 J -41735415.56 -41735415.50 -41735415.44 0.0088 0.0078

Neptune -118979-11-26 01:13 J -41735327.49 -41735327.45 -41735327.40 0.0088 0.0083

Neptune -118978-02-22 02:39 J -41735239.41 -41735239.39 -41735239.36 0.0088 0.0087

Venus -118976-10-13 05:46 J -41734275.36 -41734275.26 -41734275.16 0.3713 0.1165

Jupiter -118976-10-14 21:08 J -41734273.72 -41734273.62 -41734273.52 0.0525 0.0338

Mars -118976-11-20 06:58 J -41734237.37 -41734237.21 -41734237.05 0.1831 0.0221

Jupiter -118975-01-12 04:34 J -41734184.44 -41734184.31 -41734184.19 0.0526 0.0139

Earth -118975-04-14 21:08 J -41734091.70 -41734091.62 -41734091.54 0.2784 0.1870

Moon -118975-04-14 21:51 J -41734091.66 -41734091.59 -41734091.52 0.2781 0.1985 *

Mars -118975-09-30 04:20 J -41733923.40 -41733923.32 -41733923.23 0.1688 0.1160

Mars -118973-09-04 12:15 J -41733218.10 -41733217.99 -41733217.88 0.1677 0.0550

Earth -118972-10-10 20:53 J -41732816.68 -41732816.63 -41732816.58 0.2558 0.2411

Moon -118972-10-10 22:05 J -41732816.63 -41732816.58 -41732816.53 0.2563 0.2412 *

Uranus -118971-09-15 19:56 J -41732476.75 -41732476.67 -41732476.58 0.0148 0.0130

Uranus -118971-12-13 04:20 J -41732388.46 -41732388.32 -41732388.19 0.0148 0.0100

Uranus -118970-03-11 12:29 J -41732300.14 -41732299.98 -41732299.81 0.0148 0.0070

Venus -118970-04-28 22:34 J -41732251.63 -41732251.56 -41732251.49 0.3718 0.2808

Uranus -118970-06-07 20:53 J -41732211.81 -41732211.63 -41732211.45 0.0148 0.0040

Saturn -118970-07-24 03:51 J -41732165.40 -41732165.34 -41732165.28 0.0295 0.0259

Jupiter -118970-09-03 03:22 J -41732124.49 -41732124.36 -41732124.23 0.0500 0.0334

Uranus -118970-09-04 05:17 J -41732123.46 -41732123.28 -41732123.09 0.0148 0.0010

Saturn -118970-10-20 17:46 J -41732076.88 -41732076.76 -41732076.64 0.0296 0.0151

Uranus -118970-12-01 13:41 J -41732035.11 -41732034.93 -41732034.74 0.0148 0.0022

Jupiter -118970-12-02 10:34 J -41732034.21 -41732034.06 -41732033.90 0.0500 0.0248

Saturn -118969-01-17 07:27 J -41731988.32 -41731988.19 -41731988.05 0.0297 0.0043

Uranus -118969-02-27 22:05 J -41731946.74 -41731946.58 -41731946.39 0.0148 0.0053

Saturn -118969-04-14 21:08 J -41731899.75 -41731899.62 -41731899.49 0.0298 0.0065

Uranus -118969-05-26 06:44 J -41731858.37 -41731858.22 -41731858.06 0.0148 0.0084

Saturn -118969-07-12 10:34 J -41731811.17 -41731811.06 -41731810.95 0.0298 0.0172

Uranus -118969-08-22 15:08 J -41731769.97 -41731769.87 -41731769.73 0.0148 0.0115

Saturn -118969-10-09 00:01 J -41731722.54 -41731722.50 -41731722.45 0.0299 0.0279

Uranus -118969-11-18 23:46 J -41731681.52 -41731681.51 -41731681.46 0.0148 0.0146

Moon -118968-04-07 18:44 J -41731541.83 -41731541.72 -41731541.62 0.2787 0.0516

Earth -118968-04-07 18:58 J -41731541.82 -41731541.71 -41731541.61 0.2779 0.0492 *

Venus -118967-01-25 23:03 J -41731248.69 -41731248.54 -41731248.40 0.3674 0.0234

Mars -118966-04-12 04:49 J -41730807.43 -41730807.30 -41730807.18 0.1827 0.1101

Mars -118965-02-20 14:10 J -41730492.95 -41730492.91 -41730492.88 0.1692 0.1595

Moon -118965-10-02 06:44 J -41730268.35 -41730268.22 -41730268.09 0.2567 0.1480

Earth -118965-10-02 08:10 J -41730268.29 -41730268.16 -41730268.03 0.2563 0.1491 *

Jupiter -118964-08-03 00:29 J -41729963.54 -41729963.48 -41729963.42 0.0525 0.0462

Jupiter -118964-10-31 08:10 J -41729874.29 -41729874.16 -41729874.03 0.0526 0.0020

Mars -118963-01-25 22:20 J -41729787.69 -41729787.57 -41729787.45 0.1679 0.0149

Jupiter -118963-01-28 15:08 J -41729784.92 -41729784.87 -41729784.83 0.0526 0.0485

Earth -118962-04-17 15:37 J -41729340.87 -41729340.85 -41729340.83 0.2784 0.2704

Moon -118962-04-17 16:05 J -41729340.86 -41729340.83 -41729340.81 0.2778 0.2683 *

Venus -118962-08-12 03:51 J -41729224.37 -41729224.34 -41729224.31 0.3666 0.3575

Jupiter -118958-06-22 01:27 J -41727814.49 -41727814.44 -41727814.38 0.0500 0.0473

Jupiter -118958-09-20 08:25 J -41727724.33 -41727724.15 -41727723.97 0.0499 0.0104

Saturn -118956-02-22 03:08 J -41727203.38 -41727203.37 -41727203.34 0.0268 0.0266

Saturn -118956-05-21 21:51 J -41727114.72 -41727114.59 -41727114.45 0.0267 0.0165

Saturn -118956-08-18 16:34 J -41727025.98 -41727025.81 -41727025.63 0.0266 0.0064

Saturn -118956-11-15 11:32 J -41726937.19 -41726937.02 -41726936.84 0.0265 0.0039

Saturn -118955-02-12 06:44 J -41726848.37 -41726848.22 -41726848.07 0.0265 0.0140

Earth -118955-04-10 13:13 J -41726791.05 -41726790.95 -41726790.84 0.2781 0.0360

Moon -118955-04-10 13:41 J -41726791.04 -41726790.93 -41726790.82 0.2787 0.0368 *

Saturn -118955-05-12 01:41 J -41726759.49 -41726759.43 -41726759.35 0.0264 0.0243

Mars -118955-08-09 13:27 J -41726669.99 -41726669.94 -41726669.89 0.1838 0.1719

Mars -118954-06-18 08:25 J -41726357.26 -41726357.15 -41726357.03 0.1682 0.0272

Mars -118952-05-23 15:22 J -41725651.93 -41725651.86 -41725651.80 0.1671 0.1375

Jupiter -118952-08-19 11:32 J -41725564.15 -41725564.02 -41725563.89 0.0526 0.0108

Moon -118952-10-05 13:56 J -41725517.08 -41725516.92 -41725516.76 0.2566 0.0196

Earth -118952-10-05 14:39 J -41725517.05 -41725516.89 -41725516.73 0.2561 0.0105 *

Jupiter -118952-11-16 18:44 J -41725474.81 -41725474.72 -41725474.63 0.0527 0.0365

Moon -118948-04-03 10:05 J -41724241.15 -41724241.08 -41724241.00 0.2774 0.1985

Earth -118948-04-03 10:49 J -41724241.12 -41724241.05 -41724240.97 0.2776 0.1998 *

Jupiter -118946-07-09 06:01 J -41723414.43 -41723414.25 -41723414.07 0.0499 0.0043

Mars -118946-12-30 10:20 J -41723240.22 -41723240.07 -41723239.93 0.1834 0.0778

Mars -118945-11-07 18:29 J -41722926.84 -41722926.73 -41722926.62 0.1685 0.0683

Pluto -118943-09-16 00:58 J -41722249.54 -41722249.46 -41722249.37 0.0060 0.0054

Mars -118943-10-14 01:56 J -41722221.52 -41722221.42 -41722221.33 0.1674 0.0991

Pluto -118943-12-13 02:25 J -41722161.52 -41722161.40 -41722161.28 0.0060 0.0046

Pluto -118942-03-11 03:51 J -41722073.49 -41722073.34 -41722073.20 0.0060 0.0038

Earth -118942-04-13 07:41 J -41722040.28 -41722040.18 -41722040.08 0.2782 0.1189

Moon -118942-04-13 08:25 J -41722040.25 -41722040.15 -41722040.06 0.2785 0.1309 *

Pluto -118942-06-07 05:03 J -41721985.45 -41721985.29 -41721985.12 0.0060 0.0030

Pluto -118942-09-03 06:29 J -41721897.41 -41721897.23 -41721897.06 0.0061 0.0022

Pluto -118942-11-30 07:41 J -41721809.36 -41721809.18 -41721808.99 0.0061 0.0014

Pluto -118941-02-26 09:08 J -41721721.31 -41721721.12 -41721720.93 0.0061 0.0006

Pluto -118941-05-24 10:20 J -41721633.26 -41721633.07 -41721632.88 0.0061 0.0002

Pluto -118941-08-20 11:46 J -41721545.20 -41721545.01 -41721544.82 0.0061 0.0010

Pluto -118941-11-16 12:58 J -41721457.14 -41721456.96 -41721456.77 0.0061 0.0018

Saturn -118941-12-10 06:15 J -41721433.26 -41721433.24 -41721433.19 0.0294 0.0283

Pluto -118940-02-12 14:25 J -41721369.07 -41721368.90 -41721368.73 0.0061 0.0026

Saturn -118940-03-08 20:25 J -41721344.76 -41721344.65 -41721344.54 0.0295 0.0175

Pluto -118940-05-11 15:37 J -41721281.00 -41721280.85 -41721280.69 0.0061 0.0034

Saturn -118940-06-05 10:05 J -41721256.21 -41721256.08 -41721255.94 0.0296 0.0068

Jupiter -118940-06-07 15:22 J -41721253.98 -41721253.86 -41721253.74 0.0526 0.0224

Pluto -118940-08-07 17:03 J -41721192.92 -41721192.79 -41721192.65 0.0061 0.0043

Saturn -118940-09-01 23:46 J -41721167.64 -41721167.51 -41721167.37 0.0297 0.0040

Jupiter -118940-09-04 22:49 J -41721164.67 -41721164.55 -41721164.44 0.0526 0.0252

Pluto -118940-11-03 17:46 J -41721104.83 -41721104.76 -41721104.63 0.0061 0.0051

Saturn -118940-11-29 13:27 J -41721079.06 -41721078.94 -41721078.82 0.0298 0.0147

Pluto -118939-01-30 19:13 J -41721016.72 -41721016.70 -41721016.63 0.0061 0.0059

Saturn -118939-02-26 02:53 J -41720990.45 -41720990.38 -41720990.31 0.0299 0.0254

Earth -118939-10-08 21:08 J -41720765.76 -41720765.62 -41720765.48 0.2559 0.1285

Moon -118939-10-08 21:37 J -41720765.74 -41720765.60 -41720765.46 0.2566 0.1328 *

Mars -118936-05-21 07:27 J -41719810.35 -41719810.19 -41719810.03 0.1830 0.0139

Venus -118936-10-05 00:44 J -41719673.52 -41719673.47 -41719673.42 0.3697 0.3246

Mars -118935-03-31 04:20 J -41719496.41 -41719496.32 -41719496.23 0.1689 0.1109

Moon -118935-04-06 04:49 J -41719490.40 -41719490.30 -41719490.20 0.2783 0.1263

Earth -118935-04-06 05:17 J -41719490.38 -41719490.28 -41719490.18 0.2778 0.1161 *

Jupiter -118934-04-27 02:39 J -41719104.55 -41719104.39 -41719104.23 0.0500 0.0199

Jupiter -118934-07-26 10:05 J -41719014.19 -41719014.08 -41719013.96 0.0499 0.0387

Mars -118933-03-05 12:15 J -41718791.11 -41718790.99 -41718790.88 0.1677 0.0598

Venus -118930-04-20 17:46 J -41717649.86 -41717649.76 -41717649.66 0.3703 0.1551

Uranus -118930-07-19 14:39 J -41717559.92 -41717559.89 -41717559.85 0.0131 0.0125

Uranus -118930-10-15 17:32 J -41717471.83 -41717471.77 -41717471.68 0.0131 0.0110

Uranus -118929-01-11 20:53 J -41717383.72 -41717383.63 -41717383.53 0.0131 0.0094

Uranus -118929-04-09 00:01 J -41717295.60 -41717295.50 -41717295.39 0.0131 0.0079

Earth -118929-04-15 02:10 J -41717289.49 -41717289.41 -41717289.34 0.2784 0.2028

Moon -118929-04-15 02:39 J -41717289.46 -41717289.39 -41717289.31 0.2779 0.2004 *

Uranus -118929-07-06 03:08 J -41717207.49 -41717207.37 -41717207.25 0.0131 0.0063

Uranus -118929-10-02 06:15 J -41717119.37 -41717119.24 -41717119.11 0.0131 0.0048

Uranus -118929-12-29 09:08 J -41717031.24 -41717031.12 -41717030.98 0.0131 0.0033

Jupiter -118928-03-26 19:13 J -41716943.79 -41716943.70 -41716943.60 0.0525 0.0341

Uranus -118928-03-27 12:15 J -41716943.12 -41716942.99 -41716942.85 0.0131 0.0018

Uranus -118928-06-23 15:22 J -41716854.99 -41716854.86 -41716854.72 0.0131 0.0002

Jupiter -118928-06-24 02:39 J -41716854.51 -41716854.39 -41716854.26 0.0526 0.0138

Uranus -118928-09-19 18:29 J -41716766.87 -41716766.73 -41716766.60 0.0131 0.0014

Uranus -118928-12-16 21:22 J -41716678.74 -41716678.61 -41716678.48 0.0131 0.0028

Uranus -118927-03-15 00:15 J -41716590.61 -41716590.49 -41716590.36 0.0131 0.0044

Uranus -118927-06-11 03:22 J -41716502.48 -41716502.36 -41716502.24 0.0131 0.0059

Uranus -118927-09-07 06:15 J -41716414.34 -41716414.24 -41716414.12 0.0131 0.0074

Saturn -118927-10-08 23:03 J -41716382.66 -41716382.54 -41716382.41 0.0267 0.0188

Mars -118927-10-11 05:17 J -41716380.41 -41716380.28 -41716380.15 0.1827 0.1021

Uranus -118927-12-04 09:08 J -41716326.21 -41716326.12 -41716326.01 0.0131 0.0089

Saturn -118926-01-05 17:46 J -41716293.93 -41716293.76 -41716293.59 0.0266 0.0087

Uranus -118926-03-02 12:01 J -41716238.07 -41716238.00 -41716237.91 0.0131 0.0104

Saturn -118926-04-04 12:44 J -41716205.15 -41716204.97 -41716204.79 0.0266 0.0015

Uranus -118926-05-29 15:22 J -41716149.92 -41716149.86 -41716149.81 0.0131 0.0118

Saturn -118926-07-02 07:27 J -41716116.34 -41716116.19 -41716116.02 0.0265 0.0117

Mars -118926-08-21 14:10 J -41716065.96 -41716065.91 -41716065.86 0.1692 0.1537

Saturn -118926-09-29 02:53 J -41716027.48 -41716027.38 -41716027.28 0.0264 0.0218

Venus -118925-11-03 10:34 J -41715626.16 -41715626.06 -41715625.95 0.3709 0.0200

Mars -118924-07-26 22:20 J -41715360.68 -41715360.57 -41715360.45 0.1679 0.0207

Jupiter -118922-02-13 00:15 J -41714794.61 -41714794.49 -41714794.36 0.0500 0.0344

Moon -118922-04-08 23:32 J -41714739.62 -41714739.52 -41714739.41 0.2787 0.0330

Earth -118922-04-08 23:46 J -41714739.62 -41714739.51 -41714739.40 0.2780 0.0327 *

Jupiter -118922-05-14 07:27 J -41714704.35 -41714704.19 -41714704.03 0.0500 0.0238

Venus -118919-05-20 03:37 J -41713602.45 -41713602.35 -41713602.26 0.3714 0.1779

Moon -118919-10-03 13:13 J -41713466.08 -41713465.95 -41713465.81 0.2566 0.1429

Earth -118919-10-03 14:39 J -41713466.03 -41713465.89 -41713465.74 0.2562 0.1232 *

Jupiter -118916-01-12 22:34 J -41712633.61 -41712633.56 -41712633.50 0.0525 0.0465

Venus -118916-02-15 19:27 J -41712599.79 -41712599.69 -41712599.59 0.3679 0.2603

Jupiter -118916-04-12 06:15 J -41712544.37 -41712544.24 -41712544.11 0.0525 0.0014

Jupiter -118916-07-10 13:13 J -41712455.00 -41712454.95 -41712454.90 0.0526 0.0481

Mars -118915-02-07 13:56 J -41712242.94 -41712242.92 -41712242.89 0.1838 0.1805

Moon -118915-04-01 20:39 J -41712189.66 -41712189.64 -41712189.61 0.2770 0.2670

Earth -118915-04-01 21:22 J -41712189.64 -41712189.61 -41712189.59 0.2774 0.2675 *

Mars -118915-12-17 08:39 J -41711930.26 -41711930.14 -41711930.02 0.1682 0.0216

Venus -118914-12-03 20:10 J -41711578.70 -41711578.66 -41711578.62 0.3720 0.3405

Mars -118913-11-21 15:22 J -41711224.92 -41711224.86 -41711224.80 0.1672 0.1426

Saturn -118911-07-26 22:49 J -41710612.65 -41710612.55 -41710612.45 0.0295 0.0201

Venus -118911-09-01 23:46 J -41710575.64 -41710575.51 -41710575.37 0.3672 0.1073

Saturn -118911-10-23 12:29 J -41710524.11 -41710523.98 -41710523.85 0.0296 0.0093

Jupiter -118911-12-01 22:20 J -41710484.61 -41710484.57 -41710484.53 0.0501 0.0485

Saturn -118910-01-20 02:10 J -41710435.54 -41710435.41 -41710435.27 0.0297 0.0017

Jupiter -118910-03-02 05:17 J -41710394.46 -41710394.28 -41710394.11 0.0500 0.0093

Saturn -118910-04-18 15:51 J -41710346.96 -41710346.84 -41710346.72 0.0298 0.0123

Saturn -118910-07-16 05:17 J -41710258.36 -41710258.28 -41710258.19 0.0299 0.0230

Earth -118909-04-10 18:15 J -41709988.85 -41709988.74 -41709988.64 0.2781 0.0521

Moon -118909-04-10 18:44 J -41709988.83 -41709988.72 -41709988.62 0.2787 0.0568 *

Mars -118906-06-30 11:03 J -41708813.18 -41708813.04 -41708812.90 0.1834 0.0869

Moon -118906-10-06 20:53 J -41708714.78 -41708714.63 -41708714.47 0.2567 0.0239

Earth -118906-10-06 21:08 J -41708714.78 -41708714.62 -41708714.45 0.2561 0.0167 *

Mars -118905-05-08 18:29 J -41708499.84 -41708499.73 -41708499.61 0.1685 0.0632

Neptune -118905-12-06 18:01 J -41708287.75 -41708287.75 -41708287.72 0.0089 0.0089

Jupiter -118904-01-29 09:51 J -41708234.22 -41708234.09 -41708233.96 0.0525 0.0110

Neptune -118904-03-04 21:08 J -41708199.67 -41708199.62 -41708199.54 0.0089 0.0083

Jupiter -118904-04-28 16:49 J -41708144.89 -41708144.80 -41708144.70 0.0526 0.0363

Neptune -118904-06-01 00:44 J -41708111.56 -41708111.47 -41708111.38 0.0089 0.0077

Neptune -118904-08-28 03:37 J -41708023.44 -41708023.35 -41708023.23 0.0089 0.0072

Neptune -118904-11-24 06:58 J -41707935.33 -41707935.21 -41707935.08 0.0089 0.0066

Neptune -118903-02-20 09:51 J -41707847.20 -41707847.09 -41707846.94 0.0089 0.0061

Mars -118903-04-14 01:56 J -41707794.52 -41707794.42 -41707794.33 0.1674 0.1040

Neptune -118903-05-19 13:13 J -41707759.08 -41707758.95 -41707758.79 0.0089 0.0055

Neptune -118903-08-15 16:34 J -41707670.95 -41707670.81 -41707670.65 0.0089 0.0049

Neptune -118903-11-11 19:56 J -41707582.83 -41707582.67 -41707582.50 0.0089 0.0044

Neptune -118902-02-07 23:03 J -41707494.70 -41707494.54 -41707494.36 0.0089 0.0038

Moon -118902-04-04 15:08 J -41707438.95 -41707438.87 -41707438.80 0.2776 0.1967

Earth -118902-04-04 15:51 J -41707438.92 -41707438.84 -41707438.76 0.2776 0.1843 *

Neptune -118902-05-07 02:25 J -41707406.56 -41707406.40 -41707406.22 0.0089 0.0032

Neptune -118902-08-03 05:46 J -41707318.43 -41707318.26 -41707318.08 0.0089 0.0026

Neptune -118902-10-30 09:08 J -41707230.30 -41707230.12 -41707229.94 0.0089 0.0020

Neptune -118901-01-26 12:15 J -41707142.16 -41707141.99 -41707141.79 0.0089 0.0016

Neptune -118901-04-23 15:51 J -41707054.03 -41707053.84 -41707053.65 0.0089 0.0009

Neptune -118901-07-20 19:13 J -41706965.89 -41706965.70 -41706965.51 0.0089 0.0003

Neptune -118901-10-16 22:34 J -41706877.75 -41706877.56 -41706877.37 0.0089 0.0003

Neptune -118900-01-13 01:56 J -41706789.61 -41706789.42 -41706789.23 0.0089 0.0009

Neptune -118900-04-11 05:17 J -41706701.46 -41706701.28 -41706701.09 0.0089 0.0015

Neptune -118900-07-08 08:25 J -41706613.32 -41706613.15 -41706612.96 0.0089 0.0021

Neptune -118900-10-04 11:46 J -41706525.18 -41706525.01 -41706524.82 0.0089 0.0027

Neptune -118900-12-31 15:08 J -41706437.03 -41706436.87 -41706436.68 0.0089 0.0033

Neptune -118899-03-29 18:29 J -41706348.88 -41706348.73 -41706348.54 0.0089 0.0039

Neptune -118899-06-25 21:51 J -41706260.73 -41706260.59 -41706260.41 0.0089 0.0046

Neptune -118899-09-22 01:27 J -41706172.58 -41706172.44 -41706172.27 0.0089 0.0051

Jupiter -118899-12-19 03:08 J -41706084.54 -41706084.37 -41706084.19 0.0500 0.0050

Neptune -118899-12-19 04:49 J -41706084.43 -41706084.30 -41706084.14 0.0089 0.0057 *

Neptune -118898-03-17 08:10 J -41705996.27 -41705996.16 -41705996.01 0.0089 0.0063

Neptune -118898-06-13 11:32 J -41705908.11 -41705908.02 -41705907.88 0.0089 0.0070

Neptune -118898-09-09 15:08 J -41705819.95 -41705819.87 -41705819.75 0.0089 0.0075

Neptune -118898-12-06 18:29 J -41705731.78 -41705731.73 -41705731.63 0.0089 0.0081

Saturn -118897-02-26 00:29 J -41705650.59 -41705650.48 -41705650.38 0.0267 0.0210

Neptune -118897-03-03 22:05 J -41705643.60 -41705643.58 -41705643.52 0.0089 0.0087

Saturn -118897-05-24 18:58 J -41705561.87 -41705561.71 -41705561.55 0.0266 0.0110

Saturn -118897-08-21 13:56 J -41705473.10 -41705472.92 -41705472.75 0.0266 0.0010

Saturn -118897-11-18 08:53 J -41705384.30 -41705384.13 -41705383.96 0.0265 0.0093

Mars -118897-11-19 08:10 J -41705383.32 -41705383.16 -41705383.00 0.1831 0.0052

Saturn -118896-02-15 03:51 J -41705295.46 -41705295.34 -41705295.21 0.0264 0.0195

Earth -118896-04-13 12:29 J -41705238.07 -41705237.98 -41705237.88 0.2783 0.1348

Moon -118896-04-13 13:13 J -41705238.04 -41705237.95 -41705237.85 0.2783 0.1364 *

Mars -118896-09-29 04:34 J -41705069.41 -41705069.31 -41705069.22 0.1688 0.1056

Mars -118894-09-04 12:15 J -41704364.10 -41704363.99 -41704363.88 0.1677 0.0646

Earth -118893-10-09 03:51 J -41703963.47 -41703963.34 -41703963.22 0.2559 0.1551

Moon -118893-10-09 04:20 J -41703963.44 -41703963.32 -41703963.19 0.2565 0.1573 *

Jupiter -118893-11-17 13:13 J -41703924.07 -41703923.95 -41703923.84 0.0526 0.0235

Jupiter -118892-02-14 20:25 J -41703834.76 -41703834.65 -41703834.53 0.0526 0.0241

Moon -118889-04-06 09:37 J -41702688.20 -41702688.10 -41702688.00 0.2784 0.0993

Earth -118889-04-06 10:20 J -41702688.18 -41702688.07 -41702687.97 0.2778 0.1015 *

Mars -118887-04-11 05:46 J -41701953.39 -41701953.26 -41701953.12 0.1827 0.0935

Uranus -118887-10-06 03:51 J -41701775.44 -41701775.34 -41701775.23 0.0148 0.0121

Jupiter -118887-10-07 00:58 J -41701774.62 -41701774.46 -41701774.29 0.0500 0.0193

Uranus -118886-01-02 12:15 J -41701687.14 -41701686.99 -41701686.84 0.0148 0.0091

Jupiter -118886-01-05 08:25 J -41701684.26 -41701684.15 -41701684.04 0.0499 0.0391

Mars -118886-02-19 14:10 J -41701638.97 -41701638.91 -41701638.86 0.1692 0.1489

Uranus -118886-03-31 20:25 J -41701598.81 -41701598.65 -41701598.47 0.0148 0.0061

Uranus -118886-06-28 04:49 J -41701510.48 -41701510.30 -41701510.11 0.0148 0.0031

Uranus -118886-09-24 13:27 J -41701422.13 -41701421.94 -41701421.75 0.0148 0.0001

Moon -118886-10-01 13:13 J -41701414.98 -41701414.95 -41701414.92 0.2566 0.2518

Earth -118886-10-01 14:53 J -41701414.94 -41701414.88 -41701414.82 0.2564 0.2360 *

Uranus -118886-12-21 21:51 J -41701333.77 -41701333.59 -41701333.40 0.0148 0.0031

Uranus -118885-03-19 06:15 J -41701245.40 -41701245.24 -41701245.06 0.0148 0.0062

Uranus -118885-06-15 14:53 J -41701157.02 -41701156.88 -41701156.73 0.0148 0.0093

Uranus -118885-09-11 23:32 J -41701068.62 -41701068.52 -41701068.41 0.0148 0.0124

Mars -118884-01-24 22:20 J -41700933.69 -41700933.57 -41700933.45 0.1679 0.0247

Earth -118883-04-16 06:58 J -41700487.28 -41700487.21 -41700487.14 0.2784 0.2180

Moon -118883-04-16 07:41 J -41700487.24 -41700487.18 -41700487.12 0.2780 0.2296 *

Saturn -118882-12-14 00:58 J -41699880.54 -41699880.46 -41699880.37 0.0295 0.0227

Saturn -118881-03-11 14:53 J -41699792.01 -41699791.88 -41699791.75 0.0296 0.0120

Saturn -118881-06-08 04:34 J -41699703.44 -41699703.31 -41699703.17 0.0296 0.0013

Saturn -118881-09-04 18:15 J -41699614.87 -41699614.74 -41699614.61 0.0297 0.0095

Jupiter -118881-09-05 17:03 J -41699613.89 -41699613.79 -41699613.69 0.0525 0.0351

Saturn -118881-12-02 07:41 J -41699526.27 -41699526.18 -41699526.08 0.0298 0.0202

Jupiter -118881-12-04 00:29 J -41699524.60 -41699524.48 -41699524.35 0.0526 0.0127

Venus -118879-05-11 22:34 J -41699000.63 -41699000.56 -41699000.48 0.3699 0.2613

Mars -118878-09-01 04:05 J -41698523.36 -41698523.33 -41698523.30 0.1822 0.1782

Earth -118876-04-09 04:34 J -41697937.42 -41697937.31 -41697937.20 0.2780 0.0186

Moon -118876-04-09 04:49 J -41697937.41 -41697937.30 -41697937.20 0.2787 0.0235 *

Mars -118875-06-17 08:39 J -41697503.26 -41697503.14 -41697503.02 0.1682 0.0168

Jupiter -118875-07-25 21:37 J -41697464.72 -41697464.60 -41697464.47 0.0500 0.0349

Jupiter -118875-10-24 04:49 J -41697374.46 -41697374.30 -41697374.14 0.0500 0.0232

Venus -118874-11-25 15:37 J -41696976.96 -41696976.85 -41696976.75 0.3704 0.0937

Mars -118873-05-22 15:22 J -41696797.91 -41696797.86 -41696797.81 0.1672 0.1471

Moon -118873-10-03 20:10 J -41696663.81 -41696663.66 -41696663.51 0.2566 0.0957

Earth -118873-10-03 21:22 J -41696663.76 -41696663.61 -41696663.46 0.2562 0.0975 *

Moon -118869-04-02 01:41 J -41695387.47 -41695387.43 -41695387.40 0.2770 0.2612

Earth -118869-04-02 02:10 J -41695387.45 -41695387.41 -41695387.37 0.2774 0.2523 *

Jupiter -118869-06-24 21:08 J -41695303.68 -41695303.62 -41695303.57 0.0525 0.0466

Jupiter -118869-09-22 04:34 J -41695214.44 -41695214.31 -41695214.18 0.0526 0.0022

Jupiter -118869-12-20 11:46 J -41695125.06 -41695125.01 -41695124.97 0.0526 0.0482

Venus -118868-06-10 08:25 J -41694953.25 -41694953.15 -41694953.04 0.3710 0.0739

Saturn -118868-07-15 01:27 J -41694918.52 -41694918.44 -41694918.35 0.0267 0.0233

Saturn -118868-10-11 20:10 J -41694829.81 -41694829.66 -41694829.51 0.0267 0.0133

Saturn -118867-01-08 14:53 J -41694741.06 -41694740.88 -41694740.70 0.0266 0.0032

Saturn -118867-04-07 09:37 J -41694652.27 -41694652.10 -41694651.92 0.0265 0.0070

Saturn -118867-07-05 04:49 J -41694563.44 -41694563.30 -41694563.16 0.0264 0.0171

Mars -118867-12-29 11:32 J -41694386.16 -41694386.02 -41694385.89 0.1834 0.0950

Mars -118866-11-07 18:44 J -41694072.84 -41694072.72 -41694072.61 0.1685 0.0577

Mars -118864-10-13 01:56 J -41693367.51 -41693367.42 -41693367.33 0.1674 0.1088

Earth -118863-04-11 23:03 J -41693186.65 -41693186.54 -41693186.44 0.2782 0.0666

Moon -118863-04-11 23:32 J -41693186.62 -41693186.52 -41693186.42 0.2787 0.0714 *

Jupiter -118863-05-13 19:41 J -41693154.71 -41693154.68 -41693154.66 0.0500 0.0492

Jupiter -118863-08-12 02:10 J -41693064.58 -41693064.41 -41693064.23 0.0500 0.0086

Venus -118863-12-25 01:13 J -41692929.53 -41692929.45 -41692929.37 0.3716 0.2375

Venus -118860-09-22 20:10 J -41691926.79 -41691926.66 -41691926.53 0.3677 0.1353

Moon -118860-10-07 03:51 J -41691912.50 -41691912.34 -41691912.18 0.2567 0.0323

Earth -118860-10-07 03:51 J -41691912.50 -41691912.34 -41691912.18 0.2560 0.0424 *

Mars -118857-05-20 08:53 J -41690956.29 -41690956.13 -41690955.97 0.1831 0.0062

Jupiter -118857-07-11 08:10 J -41690904.29 -41690904.16 -41690904.03 0.0525 0.0110

Jupiter -118857-10-08 15:22 J -41690814.95 -41690814.86 -41690814.77 0.0526 0.0362

Mars -118856-03-30 04:34 J -41690642.41 -41690642.31 -41690642.22 0.1688 0.1004

Moon -118856-04-04 19:56 J -41690636.75 -41690636.67 -41690636.58 0.2779 0.1689

Earth -118856-04-04 20:39 J -41690636.72 -41690636.64 -41690636.55 0.2776 0.1690 *

Mars -118854-03-05 12:15 J -41689937.10 -41689936.99 -41689936.88 0.1677 0.0696

Venus -118854-04-09 00:58 J -41689902.57 -41689902.46 -41689902.35 0.3670 0.2366

Saturn -118852-05-02 02:53 J -41689148.45 -41689148.38 -41689148.31 0.0295 0.0256

Saturn -118852-07-29 16:49 J -41689059.92 -41689059.80 -41689059.68 0.0296 0.0148

Saturn -118852-10-26 06:29 J -41688971.36 -41688971.23 -41688971.09 0.0297 0.0042

Saturn -118851-01-22 20:10 J -41688882.79 -41688882.66 -41688882.52 0.0298 0.0068

Saturn -118851-04-21 09:51 J -41688794.20 -41688794.09 -41688793.98 0.0299 0.0175

Jupiter -118851-05-31 00:15 J -41688754.67 -41688754.49 -41688754.31 0.0500 0.0059

Saturn -118851-07-18 23:17 J -41688705.57 -41688705.53 -41688705.49 0.0300 0.0282

Earth -118850-04-14 17:32 J -41688435.86 -41688435.77 -41688435.68 0.2783 0.1506

Moon -118850-04-14 18:15 J -41688435.83 -41688435.74 -41688435.66 0.2782 0.1583 *

Pluto -118850-10-12 17:17 J -41688254.78 -41688254.78 -41688254.77 0.0085 0.0084

Pluto -118849-01-08 18:44 J -41688166.80 -41688166.72 -41688166.64 0.0084 0.0069

Pluto -118849-04-05 19:56 J -41688078.77 -41688078.67 -41688078.56 0.0084 0.0053

Pluto -118849-07-02 21:08 J -41687990.73 -41687990.62 -41687990.49 0.0084 0.0038

Pluto -118849-09-28 22:34 J -41687902.68 -41687902.56 -41687902.42 0.0084 0.0023

Pluto -118849-12-26 00:01 J -41687814.63 -41687814.50 -41687814.36 0.0084 0.0007

Pluto -118848-03-24 01:13 J -41687726.58 -41687726.45 -41687726.31 0.0084 0.0009

Pluto -118848-06-20 02:25 J -41687638.52 -41687638.40 -41687638.26 0.0084 0.0024

Pluto -118848-09-16 03:51 J -41687550.46 -41687550.34 -41687550.21 0.0083 0.0039

Mars -118848-10-10 06:44 J -41687526.36 -41687526.22 -41687526.08 0.1827 0.0841

Pluto -118848-12-13 05:03 J -41687462.38 -41687462.29 -41687462.18 0.0083 0.0054

Pluto -118847-03-11 06:29 J -41687374.30 -41687374.23 -41687374.15 0.0083 0.0068

Mars -118847-08-20 14:10 J -41687211.97 -41687211.91 -41687211.84 0.1692 0.1434

Earth -118847-10-10 10:20 J -41687161.18 -41687161.07 -41687160.96 0.2559 0.1808

Moon -118847-10-10 11:17 J -41687161.13 -41687161.03 -41687160.92 0.2564 0.1933 *

Uranus -118846-08-08 21:37 J -41686858.64 -41686858.60 -41686858.55 0.0131 0.0122

Uranus -118846-11-05 00:44 J -41686770.54 -41686770.47 -41686770.39 0.0131 0.0106

Uranus -118845-02-01 03:51 J -41686682.43 -41686682.34 -41686682.24 0.0131 0.0091

Uranus -118845-04-29 07:13 J -41686594.32 -41686594.20 -41686594.09 0.0131 0.0075

Jupiter -118845-04-29 11:46 J -41686594.13 -41686594.01 -41686593.89 0.0525 0.0232 *

Mars -118845-07-25 22:34 J -41686506.68 -41686506.56 -41686506.45 0.1679 0.0301

Uranus -118845-07-26 10:05 J -41686506.20 -41686506.08 -41686505.96 0.0131 0.0060

Jupiter -118845-07-27 18:58 J -41686504.82 -41686504.71 -41686504.59 0.0526 0.0243

Uranus -118845-10-22 13:13 J -41686418.08 -41686417.95 -41686417.82 0.0131 0.0044

Uranus -118844-01-18 16:20 J -41686329.95 -41686329.82 -41686329.69 0.0131 0.0029

Uranus -118844-04-16 19:13 J -41686241.83 -41686241.70 -41686241.56 0.0131 0.0015

Uranus -118844-07-13 22:20 J -41686153.70 -41686153.57 -41686153.43 0.0131 0.0003

Uranus -118844-10-10 01:27 J -41686065.58 -41686065.44 -41686065.31 0.0131 0.0017

Uranus -118843-01-06 04:20 J -41685977.45 -41685977.32 -41685977.19 0.0131 0.0032

Uranus -118843-04-04 07:27 J -41685889.32 -41685889.19 -41685889.07 0.0131 0.0047

Moon -118843-04-07 14:39 J -41685885.99 -41685885.89 -41685885.79 0.2784 0.0958

Earth -118843-04-07 15:08 J -41685885.97 -41685885.87 -41685885.77 0.2778 0.0854 *

Uranus -118843-07-01 10:20 J -41685801.18 -41685801.07 -41685800.95 0.0131 0.0062

Uranus -118843-09-27 13:13 J -41685713.05 -41685712.95 -41685712.83 0.0131 0.0077

Uranus -118843-12-24 16:05 J -41685624.91 -41685624.83 -41685624.72 0.0131 0.0092

Uranus -118842-03-22 18:58 J -41685536.77 -41685536.71 -41685536.62 0.0131 0.0107

Uranus -118842-06-18 22:20 J -41685448.62 -41685448.57 -41685448.53 0.0131 0.0121

Moon -118840-10-01 19:56 J -41684612.76 -41684612.67 -41684612.59 0.2566 0.2172

Earth -118840-10-01 21:37 J -41684612.69 -41684612.60 -41684612.51 0.2564 0.2102 *

Jupiter -118839-03-18 22:20 J -41684444.73 -41684444.57 -41684444.40 0.0500 0.0198

Jupiter -118839-06-17 05:46 J -41684354.37 -41684354.26 -41684354.14 0.0499 0.0388

Saturn -118839-12-02 02:10 J -41684186.44 -41684186.41 -41684186.36 0.0267 0.0258

Saturn -118838-02-28 20:39 J -41684097.77 -41684097.64 -41684097.49 0.0266 0.0159

Mars -118838-03-02 04:49 J -41684096.36 -41684096.30 -41684096.25 0.1823 0.1696

Saturn -118838-05-28 15:37 J -41684009.02 -41684008.85 -41684008.68 0.0266 0.0058

Saturn -118838-08-25 10:20 J -41683920.24 -41683920.07 -41683919.89 0.0265 0.0044

Saturn -118838-11-22 05:17 J -41683831.42 -41683831.28 -41683831.12 0.0264 0.0145

Saturn -118837-02-19 00:29 J -41683742.53 -41683742.48 -41683742.41 0.0264 0.0246

Earth -118837-04-16 11:46 J -41683685.06 -41683685.01 -41683684.95 0.2784 0.2341

Moon -118837-04-16 12:29 J -41683685.04 -41683684.98 -41683684.93 0.2779 0.2322 *

Mars -118836-12-16 08:39 J -41683076.26 -41683076.14 -41683076.02 0.1682 0.0113

Mars -118834-11-21 15:22 J -41682370.91 -41682370.86 -41682370.81 0.1671 0.1519

Jupiter -118833-02-16 15:08 J -41682283.97 -41682283.87 -41682283.78 0.0525 0.0357

Jupiter -118833-05-15 22:34 J -41682194.69 -41682194.56 -41682194.43 0.0526 0.0120

Earth -118830-04-10 09:37 J -41681135.21 -41681135.10 -41681135.00 0.2780 0.0101

Moon -118830-04-10 09:37 J -41681135.20 -41681135.10 -41681134.99 0.2787 0.0119 *

Venus -118828-06-02 03:22 J -41680351.36 -41680351.36 -41680351.36 0.3695 0.3681

Jupiter -118827-01-04 20:25 J -41680134.78 -41680134.65 -41680134.52 0.0500 0.0340

Jupiter -118827-04-05 03:37 J -41680044.51 -41680044.35 -41680044.19 0.0499 0.0242

Mars -118827-06-29 12:15 J -41679959.13 -41679958.99 -41679958.86 0.1834 0.1039

Moon -118827-10-05 03:08 J -41679861.52 -41679861.37 -41679861.22 0.2567 0.0847

Earth -118827-10-05 04:05 J -41679861.49 -41679861.33 -41679861.18 0.2562 0.0717 *

Mars -118826-05-08 18:44 J -41679645.84 -41679645.72 -41679645.61 0.1685 0.0532

Mars -118824-04-13 01:56 J -41678940.51 -41678940.42 -41678940.34 0.1674 0.1135

Neptune -118824-10-03 13:41 J -41678766.95 -41678766.93 -41678766.90 0.0088 0.0087

Neptune -118824-12-30 15:08 J -41678678.91 -41678678.87 -41678678.81 0.0088 0.0082

Neptune -118823-03-28 16:34 J -41678590.86 -41678590.81 -41678590.73 0.0088 0.0078

Moon -118823-04-03 06:29 J -41678585.28 -41678585.23 -41678585.18 0.2771 0.2393

Earth -118823-04-03 07:13 J -41678585.26 -41678585.20 -41678585.15 0.2775 0.2376 *

Neptune -118823-06-24 18:15 J -41678502.81 -41678502.74 -41678502.66 0.0088 0.0074

Saturn -118823-09-19 04:49 J -41678416.33 -41678416.30 -41678416.27 0.0294 0.0285

Neptune -118823-09-20 19:41 J -41678414.75 -41678414.68 -41678414.58 0.0088 0.0070

Saturn -118823-12-16 18:44 J -41678327.83 -41678327.72 -41678327.61 0.0295 0.0178

Venus -118823-12-16 20:25 J -41678327.74 -41678327.65 -41678327.56 0.3700 0.1988 *

Neptune -118823-12-17 21:08 J -41678326.70 -41678326.62 -41678326.51 0.0088 0.0066

Saturn -118822-03-15 08:25 J -41678239.28 -41678239.15 -41678239.01 0.0296 0.0071

Neptune -118822-03-15 23:03 J -41678238.64 -41678238.54 -41678238.44 0.0088 0.0061

Saturn -118822-06-11 22:20 J -41678150.71 -41678150.57 -41678150.44 0.0297 0.0038

Neptune -118822-06-12 00:29 J -41678150.58 -41678150.48 -41678150.37 0.0088 0.0056 *

Neptune -118822-09-08 01:56 J -41678062.52 -41678062.42 -41678062.30 0.0088 0.0052

Saturn -118822-09-08 11:46 J -41678062.12 -41678062.01 -41678061.89 0.0298 0.0145

Neptune -118822-12-05 03:37 J -41677974.47 -41677974.35 -41677974.23 0.0088 0.0048

Jupiter -118822-12-05 18:58 J -41677973.76 -41677973.71 -41677973.66 0.0525 0.0473

Saturn -118822-12-06 01:13 J -41677973.52 -41677973.45 -41677973.37 0.0299 0.0251

Neptune -118821-03-02 05:03 J -41677886.41 -41677886.29 -41677886.17 0.0088 0.0043

Jupiter -118821-03-04 02:39 J -41677884.52 -41677884.39 -41677884.26 0.0526 0.0007

Neptune -118821-05-29 06:29 J -41677798.35 -41677798.23 -41677798.10 0.0088 0.0039

Jupiter -118821-06-01 09:37 J -41677795.15 -41677795.10 -41677795.04 0.0526 0.0477

Neptune -118821-08-25 07:56 J -41677710.29 -41677710.17 -41677710.04 0.0088 0.0035

Neptune -118821-11-21 09:37 J -41677622.23 -41677622.10 -41677621.97 0.0088 0.0031

Neptune -118820-02-17 11:03 J -41677534.17 -41677534.04 -41677533.91 0.0088 0.0026

Neptune -118820-05-16 12:29 J -41677446.11 -41677445.98 -41677445.84 0.0088 0.0022

Neptune -118820-08-12 13:56 J -41677358.05 -41677357.92 -41677357.78 0.0088 0.0018

Neptune -118820-11-08 15:37 J -41677269.99 -41677269.85 -41677269.72 0.0088 0.0014

Neptune -118819-02-04 17:03 J -41677181.93 -41677181.79 -41677181.66 0.0088 0.0010

Neptune -118819-05-03 18:29 J -41677093.87 -41677093.73 -41677093.60 0.0088 0.0005

Neptune -118819-07-30 19:56 J -41677005.81 -41677005.67 -41677005.54 0.0088 0.0002

Neptune -118819-10-26 21:22 J -41676917.75 -41676917.61 -41676917.47 0.0088 0.0004

Neptune -118818-01-22 22:49 J -41676829.69 -41676829.55 -41676829.42 0.0088 0.0008

Neptune -118818-04-21 00:01 J -41676741.63 -41676741.50 -41676741.36 0.0088 0.0013

Neptune -118818-07-18 01:27 J -41676653.57 -41676653.44 -41676653.30 0.0088 0.0017

Neptune -118818-10-14 02:53 J -41676565.51 -41676565.38 -41676565.24 0.0088 0.0021

Mars -118818-11-19 09:22 J -41676529.27 -41676529.11 -41676528.95 0.1830 0.0131

Neptune -118817-01-10 04:20 J -41676477.44 -41676477.32 -41676477.18 0.0088 0.0025

Neptune -118817-04-07 05:46 J -41676389.38 -41676389.26 -41676389.13 0.0088 0.0029

Earth -118817-04-12 03:51 J -41676384.44 -41676384.34 -41676384.23 0.2782 0.0824

Moon -118817-04-12 04:34 J -41676384.42 -41676384.31 -41676384.21 0.2786 0.0846 *

Venus -118817-07-01 13:27 J -41676304.05 -41676303.94 -41676303.84 0.3706 0.0332

Neptune -118817-07-04 07:13 J -41676301.32 -41676301.20 -41676301.07 0.0088 0.0033

Mars -118817-09-28 04:34 J -41676215.41 -41676215.31 -41676215.21 0.1689 0.0950

Neptune -118817-09-30 08:39 J -41676213.26 -41676213.14 -41676213.01 0.0088 0.0037

Neptune -118817-12-27 10:05 J -41676125.20 -41676125.08 -41676124.96 0.0088 0.0041

Neptune -118816-03-25 11:17 J -41676037.13 -41676037.03 -41676036.90 0.0088 0.0045

Neptune -118816-06-21 12:44 J -41675949.07 -41675948.97 -41675948.85 0.0088 0.0049

Neptune -118816-09-17 14:10 J -41675861.01 -41675860.91 -41675860.79 0.0088 0.0053

Jupiter -118816-10-23 17:03 J -41675824.81 -41675824.79 -41675824.76 0.0500 0.0494

Neptune -118816-12-14 15:37 J -41675772.95 -41675772.85 -41675772.74 0.0088 0.0057

Jupiter -118815-01-22 00:01 J -41675734.68 -41675734.50 -41675734.33 0.0500 0.0083

Neptune -118815-03-12 17:03 J -41675684.88 -41675684.79 -41675684.69 0.0088 0.0061

Neptune -118815-06-08 18:15 J -41675596.82 -41675596.74 -41675596.64 0.0088 0.0066

Mars -118815-09-03 12:15 J -41675510.10 -41675509.99 -41675509.88 0.1677 0.0743

Neptune -118815-09-04 19:41 J -41675508.75 -41675508.68 -41675508.59 0.0088 0.0069

Neptune -118815-12-01 21:08 J -41675420.69 -41675420.62 -41675420.54 0.0088 0.0073

Neptune -118814-02-27 22:34 J -41675332.62 -41675332.56 -41675332.49 0.0088 0.0077

Neptune -118814-05-26 23:46 J -41675244.55 -41675244.51 -41675244.45 0.0088 0.0082

Neptune -118814-08-23 01:13 J -41675156.47 -41675156.45 -41675156.41 0.0088 0.0085

Moon -118814-10-08 10:34 J -41675110.22 -41675110.06 -41675109.91 0.2567 0.0782

Earth -118814-10-08 10:20 J -41675110.22 -41675110.07 -41675109.91 0.2560 0.0679 *

Venus -118811-01-15 06:15 J -41674280.34 -41674280.24 -41674280.14 0.3711 0.1347

Moon -118810-04-06 00:44 J -41673834.55 -41673834.47 -41673834.38 0.2780 0.1652

Earth -118810-04-06 01:27 J -41673834.53 -41673834.44 -41673834.35 0.2777 0.1539 *

Jupiter -118810-12-22 06:58 J -41673574.34 -41673574.21 -41673574.09 0.0526 0.0108

Jupiter -118809-03-20 13:56 J -41673485.01 -41673484.92 -41673484.82 0.0526 0.0366

Saturn -118809-07-17 21:37 J -41673365.72 -41673365.60 -41673365.47 0.0267 0.0182

Saturn -118809-10-14 16:20 J -41673276.99 -41673276.82 -41673276.65 0.0266 0.0082

Saturn -118808-01-11 11:03 J -41673188.22 -41673188.04 -41673187.86 0.0265 0.0019

Saturn -118808-04-10 06:01 J -41673099.41 -41673099.25 -41673099.09 0.0265 0.0120

Mars -118808-04-10 06:58 J -41673099.35 -41673099.21 -41673099.07 0.1827 0.0767 *

Saturn -118808-07-08 00:58 J -41673010.55 -41673010.46 -41673010.35 0.0264 0.0221

Mars -118807-02-18 14:25 J -41672784.97 -41672784.90 -41672784.83 0.1692 0.1379

Venus -118806-07-31 23:03 J -41672256.60 -41672256.54 -41672256.48 0.3717 0.2981

Mars -118805-01-24 22:34 J -41672079.68 -41672079.56 -41672079.45 0.1680 0.0348

Earth -118804-04-14 22:20 J -41671633.66 -41671633.57 -41671633.48 0.2783 0.1659

Moon -118804-04-14 23:03 J -41671633.62 -41671633.54 -41671633.45 0.2782 0.1710 *

Jupiter -118804-11-09 21:37 J -41671424.78 -41671424.60 -41671424.42 0.0500 0.0063

Venus -118803-04-29 20:53 J -41671253.77 -41671253.63 -41671253.48 0.3676 0.0156

Uranus -118803-07-30 03:08 J -41671162.40 -41671162.37 -41671162.32 0.0148 0.0143

Uranus -118803-10-26 11:32 J -41671074.13 -41671074.02 -41671073.90 0.0148 0.0113

Uranus -118802-01-22 19:41 J -41670985.82 -41670985.68 -41670985.52 0.0148 0.0083

Uranus -118802-04-21 04:05 J -41670897.50 -41670897.33 -41670897.15 0.0148 0.0053

Uranus -118802-07-18 12:44 J -41670809.16 -41670808.97 -41670808.79 0.0148 0.0022

Uranus -118802-10-14 21:08 J -41670720.81 -41670720.62 -41670720.43 0.0148 0.0008

Uranus -118801-01-11 05:32 J -41670632.45 -41670632.27 -41670632.08 0.0148 0.0039

Uranus -118801-04-08 14:10 J -41670544.08 -41670543.91 -41670543.74 0.0148 0.0070

Uranus -118801-07-05 22:34 J -41670455.69 -41670455.56 -41670455.42 0.0148 0.0102

Uranus -118801-10-02 07:27 J -41670367.27 -41670367.19 -41670367.11 0.0148 0.0133

Earth -118801-10-10 17:03 J -41670358.88 -41670358.79 -41670358.70 0.2559 0.2074

Moon -118801-10-10 18:15 J -41670358.83 -41670358.74 -41670358.64 0.2563 0.2078 *

Mars -118799-08-31 05:32 J -41669669.34 -41669669.27 -41669669.20 0.1823 0.1604

Jupiter -118798-10-10 10:34 J -41669264.18 -41669264.06 -41669263.95 0.0525 0.0229

Venus -118798-11-14 01:56 J -41669229.43 -41669229.42 -41669229.42 0.3668 0.3655

Jupiter -118797-01-07 17:46 J -41669174.87 -41669174.76 -41669174.65 0.0526 0.0246

Moon -118797-04-07 19:41 J -41669083.78 -41669083.68 -41669083.58 0.2785 0.0665

Earth -118797-04-07 19:56 J -41669083.77 -41669083.67 -41669083.56 0.2779 0.0702 *

Mars -118796-06-16 08:39 J -41668649.26 -41668649.14 -41668649.02 0.1682 0.0063

Mars -118794-05-22 15:22 J -41667943.90 -41667943.86 -41667943.82 0.1672 0.1567

Moon -118794-10-03 02:39 J -41667810.49 -41667810.39 -41667810.29 0.2566 0.1968

Earth -118794-10-03 04:05 J -41667810.44 -41667810.33 -41667810.22 0.2564 0.1847 *

Saturn -118793-05-04 19:56 J -41667595.76 -41667595.67 -41667595.57 0.0295 0.0211

Saturn -118793-08-01 09:51 J -41667507.22 -41667507.09 -41667506.96 0.0296 0.0103

Saturn -118793-10-28 23:32 J -41667418.65 -41667418.52 -41667418.38 0.0297 0.0008

Saturn -118792-01-25 13:13 J -41667330.07 -41667329.95 -41667329.82 0.0298 0.0112

Saturn -118792-04-24 02:53 J -41667241.47 -41667241.38 -41667241.29 0.0299 0.0220

Jupiter -118792-08-28 19:41 J -41667114.84 -41667114.68 -41667114.52 0.0500 0.0205

Jupiter -118792-11-27 03:08 J -41667024.48 -41667024.37 -41667024.25 0.0500 0.0382

Earth -118791-04-17 16:49 J -41666882.85 -41666882.80 -41666882.76 0.2784 0.2497

Moon -118791-04-17 17:03 J -41666882.83 -41666882.79 -41666882.75 0.2778 0.2552 *

Mars -118788-12-28 12:58 J -41665532.08 -41665531.96 -41665531.83 0.1834 0.1135

Mars -118787-11-06 18:44 J -41665218.84 -41665218.72 -41665218.61 0.1685 0.0477

Jupiter -118786-07-29 13:56 J -41664954.01 -41664953.92 -41664953.82 0.0525 0.0350

Jupiter -118786-10-26 21:22 J -41664864.73 -41664864.61 -41664864.48 0.0526 0.0128

Mars -118785-10-12 01:56 J -41664513.50 -41664513.42 -41664513.34 0.1674 0.1183

Earth -118784-04-10 14:25 J -41664333.01 -41664332.90 -41664332.79 0.2780 0.0139

Moon -118784-04-10 14:39 J -41664333.00 -41664332.89 -41664332.78 0.2788 0.0095 *

Moon -118781-10-05 10:05 J -41663059.24 -41663059.08 -41663058.93 0.2568 0.0432

Earth -118781-10-05 10:34 J -41663059.21 -41663059.06 -41663058.90 0.2562 0.0459 *

Jupiter -118780-06-16 18:15 J -41662804.87 -41662804.74 -41662804.61 0.0500 0.0341

Jupiter -118780-09-15 01:13 J -41662714.60 -41662714.45 -41662714.29 0.0500 0.0242

Saturn -118780-12-04 21:51 J -41662633.69 -41662633.59 -41662633.47 0.0267 0.0210

Saturn -118779-03-03 16:34 J -41662544.97 -41662544.81 -41662544.65 0.0266 0.0110

Saturn -118779-05-31 11:17 J -41662456.21 -41662456.03 -41662455.85 0.0265 0.0010

Saturn -118779-08-28 06:15 J -41662367.41 -41662367.24 -41662367.07 0.0264 0.0092

Saturn -118779-11-25 01:13 J -41662278.57 -41662278.45 -41662278.32 0.0264 0.0193

Mars -118778-05-20 10:05 J -41662102.24 -41662102.08 -41662101.92 0.1830 0.0212

Mars -118777-03-29 04:34 J -41661788.41 -41661788.31 -41661788.21 0.1688 0.0899

Moon -118777-04-03 11:17 J -41661783.09 -41661783.03 -41661782.97 0.2774 0.2273

Earth -118777-04-03 12:01 J -41661783.06 -41661783.00 -41661782.94 0.2775 0.2221 *

Mars -118775-03-04 12:15 J -41661083.10 -41661082.99 -41661082.89 0.1677 0.0792

Jupiter -118774-05-17 17:17 J -41660643.83 -41660643.78 -41660643.73 0.0525 0.0475

Jupiter -118774-08-15 00:58 J -41660554.59 -41660554.46 -41660554.33 0.0526 0.0006

Jupiter -118774-11-12 07:56 J -41660465.22 -41660465.17 -41660465.11 0.0526 0.0474

Venus -118771-01-07 01:13 J -41659678.51 -41659678.45 -41659678.39 0.3696 0.3048

Earth -118771-04-13 08:53 J -41659582.24 -41659582.13 -41659582.03 0.2782 0.0981

Moon -118771-04-13 09:22 J -41659582.20 -41659582.11 -41659582.01 0.2784 0.1090 *

Mars -118769-10-09 07:56 J -41658672.32 -41658672.17 -41658672.02 0.1827 0.0670

Jupiter -118768-04-04 16:20 J -41658494.86 -41658494.82 -41658494.77 0.0500 0.0480

Jupiter -118768-07-03 23:03 J -41658404.71 -41658404.54 -41658404.36 0.0500 0.0098

Mars -118768-08-19 14:25 J -41658357.98 -41658357.90 -41658357.83 0.1692 0.1327

Earth -118768-10-08 17:03 J -41658307.94 -41658307.79 -41658307.64 0.2560 0.0942

Moon -118768-10-08 17:32 J -41658307.92 -41658307.77 -41658307.62 0.2566 0.0876 *

Venus -118766-07-23 18:15 J -41657654.84 -41657654.74 -41657654.64 0.3702 0.1364

Mars -118766-07-25 22:34 J -41657652.68 -41657652.56 -41657652.45 0.1679 0.0397

Moon -118764-04-06 05:46 J -41657032.35 -41657032.26 -41657032.17 0.2780 0.1399

Earth -118764-04-06 06:29 J -41657032.33 -41657032.23 -41657032.14 0.2777 0.1386 *

Saturn -118764-09-21 21:22 J -41656863.68 -41656863.61 -41656863.53 0.0295 0.0243

Saturn -118764-12-19 11:17 J -41656775.15 -41656775.03 -41656774.91 0.0296 0.0136

Saturn -118763-03-18 01:13 J -41656686.59 -41656686.45 -41656686.32 0.0297 0.0029

Saturn -118763-06-14 14:53 J -41656598.01 -41656597.88 -41656597.75 0.0297 0.0079

Saturn -118763-09-11 04:20 J -41656509.42 -41656509.32 -41656509.21 0.0298 0.0186

Saturn -118763-12-08 17:46 J -41656420.78 -41656420.76 -41656420.73 0.0299 0.0293

Jupiter -118762-06-03 05:03 J -41656244.42 -41656244.29 -41656244.16 0.0526 0.0110

Uranus -118762-08-29 04:49 J -41656157.35 -41656157.30 -41656157.24 0.0131 0.0118

Jupiter -118762-08-31 12:15 J -41656155.08 -41656154.99 -41656154.90 0.0526 0.0364

Uranus -118762-11-25 07:41 J -41656069.25 -41656069.18 -41656069.08 0.0131 0.0103

Uranus -118761-02-21 11:03 J -41655981.14 -41655981.04 -41655980.94 0.0131 0.0087

Uranus -118761-05-19 13:56 J -41655893.02 -41655892.92 -41655892.80 0.0131 0.0072

Uranus -118761-08-15 17:03 J -41655804.90 -41655804.79 -41655804.66 0.0131 0.0057

Uranus -118761-11-11 20:25 J -41655716.78 -41655716.65 -41655716.53 0.0131 0.0041

Venus -118760-02-05 11:03 J -41655631.14 -41655631.04 -41655630.93 0.3707 0.0347

Uranus -118760-02-07 23:17 J -41655628.66 -41655628.53 -41655628.39 0.0131 0.0026

Uranus -118760-05-07 02:25 J -41655540.54 -41655540.40 -41655540.27 0.0131 0.0011

Uranus -118760-08-03 05:17 J -41655452.41 -41655452.28 -41655452.14 0.0131 0.0007

Uranus -118760-10-30 08:25 J -41655364.28 -41655364.15 -41655364.02 0.0131 0.0020

Uranus -118759-01-26 11:32 J -41655276.15 -41655276.02 -41655275.89 0.0131 0.0035

Mars -118759-03-01 05:46 J -41655242.34 -41655242.26 -41655242.18 0.1822 0.1533

Uranus -118759-04-24 14:25 J -41655188.02 -41655187.90 -41655187.78 0.0131 0.0050

Uranus -118759-07-21 17:17 J -41655099.89 -41655099.78 -41655099.66 0.0131 0.0065

Uranus -118759-10-17 20:25 J -41655011.76 -41655011.65 -41655011.55 0.0131 0.0080

Uranus -118758-01-13 23:17 J -41654923.62 -41654923.53 -41654923.44 0.0131 0.0095

Uranus -118758-04-12 02:10 J -41654835.48 -41654835.41 -41654835.33 0.0131 0.0110

Earth -118758-04-16 03:08 J -41654831.45 -41654831.37 -41654831.29 0.2783 0.1818

Moon -118758-04-16 03:51 J -41654831.42 -41654831.34 -41654831.26 0.2781 0.1870 *

Uranus -118758-07-09 05:17 J -41654747.32 -41654747.28 -41654747.24 0.0131 0.0124

Mars -118757-12-15 08:39 J -41654222.26 -41654222.14 -41654222.02 0.1682 0.0012

Jupiter -118756-04-21 19:41 J -41654094.86 -41654094.68 -41654094.50 0.0500 0.0061

Venus -118755-08-22 04:05 J -41653607.42 -41653607.33 -41653607.24 0.3713 0.1959

Earth -118755-10-11 23:32 J -41653556.58 -41653556.52 -41653556.45 0.2559 0.2332

Moon -118755-10-12 00:58 J -41653556.48 -41653556.46 -41653556.43 0.2563 0.2522 *

Mars -118755-11-20 15:22 J -41653516.89 -41653516.86 -41653516.83 0.1672 0.1612

Venus -118752-05-20 17:32 J -41652604.88 -41652604.77 -41652604.67 0.3681 0.2485

Moon -118751-04-09 00:44 J -41652281.57 -41652281.47 -41652281.36 0.2786 0.0613

Earth -118751-04-09 00:44 J -41652281.57 -41652281.47 -41652281.36 0.2779 0.0559 *

Jupiter -118750-03-22 09:22 J -41651934.23 -41651934.11 -41651933.99 0.0525 0.0222

Saturn -118750-04-23 22:20 J -41651901.64 -41651901.57 -41651901.48 0.0267 0.0236

Jupiter -118750-06-19 16:34 J -41651844.92 -41651844.81 -41651844.69 0.0526 0.0254

Saturn -118750-07-21 17:03 J -41651812.94 -41651812.79 -41651812.64 0.0267 0.0136

Saturn -118750-10-18 11:46 J -41651724.19 -41651724.01 -41651723.84 0.0266 0.0036

Saturn -118749-01-15 06:29 J -41651635.40 -41651635.23 -41651635.05 0.0265 0.0065

Venus -118749-03-06 20:53 J -41651583.66 -41651583.63 -41651583.61 0.3719 0.3585

Saturn -118749-04-13 01:27 J -41651546.58 -41651546.44 -41651546.30 0.0264 0.0166

Mars -118748-06-28 13:13 J -41651105.07 -41651104.95 -41651104.83 0.1834 0.1208

Moon -118748-10-03 09:37 J -41651008.22 -41651008.10 -41651007.99 0.2567 0.1691

Earth -118748-10-03 10:49 J -41651008.17 -41651008.05 -41651007.92 0.2563 0.1586 *

Mars -118747-05-07 18:44 J -41650791.84 -41650791.72 -41650791.60 0.1685 0.0423

Venus -118747-12-04 21:51 J -41650580.72 -41650580.59 -41650580.45 0.3674 0.1170

Mars -118745-04-12 01:56 J -41650086.50 -41650086.42 -41650086.34 0.1674 0.1230

Earth -118745-04-17 21:37 J -41650080.63 -41650080.60 -41650080.57 0.2784 0.2654

Moon -118745-04-17 21:51 J -41650080.62 -41650080.59 -41650080.56 0.2777 0.2646 *

Jupiter -118744-02-07 17:32 J -41649784.93 -41649784.77 -41649784.60 0.0500 0.0204

Jupiter -118744-05-09 00:58 J -41649694.57 -41649694.46 -41649694.34 0.0500 0.0381

Neptune -118740-09-02 17:03 J -41648116.82 -41648116.79 -41648116.72 0.0089 0.0085

Neptune -118740-11-29 20:25 J -41648028.72 -41648028.65 -41648028.56 0.0089 0.0080

Neptune -118739-02-25 23:32 J -41647940.61 -41647940.52 -41647940.40 0.0089 0.0074

Neptune -118739-05-25 02:53 J -41647852.49 -41647852.38 -41647852.26 0.0089 0.0068

Neptune -118739-08-21 06:15 J -41647764.37 -41647764.24 -41647764.11 0.0089 0.0063

Neptune -118739-11-17 09:08 J -41647676.25 -41647676.12 -41647675.96 0.0089 0.0057

Mars -118739-11-18 10:49 J -41647675.20 -41647675.05 -41647674.89 0.1831 0.0310

Jupiter -118738-01-08 12:58 J -41647624.06 -41647623.96 -41647623.86 0.0525 0.0342

Neptune -118738-02-13 12:29 J -41647588.12 -41647587.98 -41647587.82 0.0089 0.0051

Jupiter -118738-04-07 20:25 J -41647534.77 -41647534.65 -41647534.52 0.0526 0.0135

Earth -118738-04-11 19:13 J -41647530.81 -41647530.70 -41647530.59 0.2781 0.0296

Moon -118738-04-11 19:27 J -41647530.79 -41647530.69 -41647530.58 0.2787 0.0402 *

Neptune -118738-05-12 15:37 J -41647499.99 -41647499.85 -41647499.68 0.0089 0.0046

Neptune -118738-08-08 18:58 J -41647411.87 -41647411.71 -41647411.54 0.0089 0.0040

Mars -118738-09-28 04:34 J -41647361.41 -41647361.31 -41647361.20 0.1688 0.0845

Neptune -118738-11-04 22:20 J -41647323.74 -41647323.57 -41647323.39 0.0089 0.0034

Neptune -118737-02-01 01:41 J -41647235.60 -41647235.43 -41647235.25 0.0089 0.0028

Neptune -118737-04-29 04:49 J -41647147.47 -41647147.30 -41647147.11 0.0089 0.0023

Neptune -118737-07-26 08:10 J -41647059.34 -41647059.16 -41647058.97 0.0089 0.0017

Neptune -118737-10-22 11:32 J -41646971.20 -41646971.02 -41646970.83 0.0089 0.0011

Neptune -118736-01-18 14:53 J -41646883.06 -41646882.88 -41646882.69 0.0089 0.0005

Neptune -118736-04-16 18:15 J -41646794.93 -41646794.74 -41646794.55 0.0089 0.0001

Neptune -118736-07-13 21:37 J -41646706.79 -41646706.60 -41646706.41 0.0089 0.0007

Mars -118736-09-02 12:15 J -41646656.09 -41646655.99 -41646655.88 0.1677 0.0846

Neptune -118736-10-10 00:58 J -41646618.65 -41646618.46 -41646618.28 0.0089 0.0012

Neptune -118735-01-06 04:20 J -41646530.50 -41646530.32 -41646530.14 0.0089 0.0018

Neptune -118735-04-04 07:41 J -41646442.36 -41646442.18 -41646442.00 0.0089 0.0024

Neptune -118735-07-01 10:49 J -41646354.22 -41646354.05 -41646353.86 0.0089 0.0031

Neptune -118735-09-27 14:10 J -41646266.07 -41646265.91 -41646265.73 0.0089 0.0037

Moon -118735-10-06 16:34 J -41646256.96 -41646256.81 -41646256.65 0.2568 0.0290

Earth -118735-10-06 17:17 J -41646256.94 -41646256.78 -41646256.62 0.2561 0.0199 *

Neptune -118735-12-24 17:32 J -41646177.92 -41646177.77 -41646177.59 0.0089 0.0043

Saturn -118734-02-08 22:05 J -41646131.61 -41646131.58 -41646131.53 0.0295 0.0280

Neptune -118734-03-22 21:08 J -41646089.77 -41646089.62 -41646089.46 0.0089 0.0048

Saturn -118734-05-08 12:01 J -41646043.10 -41646043.00 -41646042.88 0.0296 0.0173

Neptune -118734-06-19 00:29 J -41646001.62 -41646001.48 -41646001.32 0.0089 0.0054

Saturn -118734-08-05 01:56 J -41645954.55 -41645954.42 -41645954.28 0.0297 0.0065

Neptune -118734-09-15 03:51 J -41645913.47 -41645913.34 -41645913.19 0.0089 0.0060

Saturn -118734-11-01 15:37 J -41645865.98 -41645865.85 -41645865.71 0.0298 0.0045

Neptune -118734-12-12 07:13 J -41645825.31 -41645825.20 -41645825.06 0.0089 0.0066

Saturn -118733-01-29 05:17 J -41645777.39 -41645777.28 -41645777.16 0.0299 0.0151

Neptune -118733-03-09 10:34 J -41645737.15 -41645737.06 -41645736.93 0.0089 0.0073

Saturn -118733-04-26 18:44 J -41645688.78 -41645688.72 -41645688.65 0.0299 0.0258

Neptune -118733-06-05 14:10 J -41645648.99 -41645648.91 -41645648.81 0.0089 0.0078

Neptune -118733-09-01 17:32 J -41645560.81 -41645560.77 -41645560.69 0.0089 0.0084

Jupiter -118733-11-26 15:51 J -41645474.97 -41645474.84 -41645474.71 0.0501 0.0344

Jupiter -118732-02-24 23:03 J -41645384.70 -41645384.54 -41645384.38 0.0500 0.0239

Moon -118731-04-04 16:05 J -41644980.90 -41644980.83 -41644980.76 0.2776 0.2153

Earth -118731-04-04 16:49 J -41644980.87 -41644980.80 -41644980.73 0.2775 0.2067 *

Mars -118729-04-09 08:25 J -41644245.30 -41644245.15 -41644245.00 0.1827 0.0588

Mars -118728-02-17 14:25 J -41643930.98 -41643930.90 -41643930.82 0.1692 0.1275

Jupiter -118727-10-27 16:34 J -41643313.87 -41643313.81 -41643313.75 0.0525 0.0463

Mars -118726-01-23 22:34 J -41643225.68 -41643225.56 -41643225.45 0.1679 0.0445

Jupiter -118726-01-25 00:15 J -41643224.62 -41643224.49 -41643224.36 0.0525 0.0017

Jupiter -118726-04-24 07:13 J -41643135.25 -41643135.20 -41643135.15 0.0526 0.0484

Earth -118725-04-13 13:41 J -41642780.03 -41642779.93 -41642779.83 0.2782 0.1134

Moon -118725-04-13 14:25 J -41642780.00 -41642779.90 -41642779.80 0.2784 0.1133 *

Earth -118722-10-09 23:46 J -41641505.65 -41641505.51 -41641505.37 0.2560 0.1201

Moon -118722-10-10 00:29 J -41641505.61 -41641505.48 -41641505.34 0.2565 0.1335 *

Saturn -118721-09-09 22:05 J -41641169.58 -41641169.58 -41641169.56 0.0267 0.0266

Jupiter -118721-09-14 14:39 J -41641164.94 -41641164.89 -41641164.84 0.0501 0.0478

Saturn -118721-12-07 16:34 J -41641080.94 -41641080.81 -41641080.67 0.0266 0.0167

Jupiter -118721-12-13 21:22 J -41641074.79 -41641074.61 -41641074.44 0.0500 0.0100

Saturn -118720-03-06 11:17 J -41640992.20 -41640992.03 -41640991.86 0.0266 0.0067

Saturn -118720-06-03 06:01 J -41640903.42 -41640903.25 -41640903.07 0.0265 0.0034

Mars -118720-08-30 06:29 J -41640815.32 -41640815.23 -41640815.13 0.1823 0.1444

Saturn -118720-08-31 00:58 J -41640814.61 -41640814.46 -41640814.30 0.0264 0.0134

Saturn -118720-11-27 19:56 J -41640725.74 -41640725.67 -41640725.58 0.0263 0.0235

Uranus -118719-08-19 09:37 J -41640461.15 -41640461.10 -41640461.03 0.0148 0.0139

Uranus -118719-11-15 18:01 J -41640372.87 -41640372.75 -41640372.62 0.0148 0.0109

Uranus -118718-02-12 02:25 J -41640284.56 -41640284.40 -41640284.25 0.0148 0.0079

Moon -118718-04-07 10:49 J -41640230.15 -41640230.05 -41640229.96 0.2781 0.1307

Earth -118718-04-07 11:17 J -41640230.13 -41640230.03 -41640229.93 0.2777 0.1230 *

Uranus -118718-05-11 10:34 J -41640196.23 -41640196.06 -41640195.88 0.0148 0.0049

Uranus -118718-08-07 18:58 J -41640107.89 -41640107.71 -41640107.52 0.0148 0.0019

Uranus -118718-11-04 03:37 J -41640019.54 -41640019.35 -41640019.16 0.0148 0.0012

Uranus -118717-01-31 12:01 J -41639931.18 -41639931.00 -41639930.82 0.0148 0.0043

Uranus -118717-04-28 20:25 J -41639842.80 -41639842.65 -41639842.48 0.0148 0.0074

Mars -118717-06-15 08:39 J -41639795.26 -41639795.14 -41639795.02 0.1682 0.0042

Uranus -118717-07-26 05:03 J -41639754.42 -41639754.29 -41639754.15 0.0148 0.0105

Uranus -118717-10-22 13:41 J -41639666.00 -41639665.93 -41639665.85 0.0148 0.0136

Mars -118715-05-21 15:22 J -41639089.87 -41639089.86 -41639089.85 0.1672 0.1658

Venus -118715-08-13 23:03 J -41639005.62 -41639005.54 -41639005.46 0.3697 0.2416

Jupiter -118715-11-13 03:37 J -41638914.47 -41638914.35 -41638914.22 0.0525 0.0108

Jupiter -118714-02-10 10:49 J -41638825.14 -41638825.05 -41638824.95 0.0526 0.0366

Earth -118712-04-16 08:10 J -41638029.24 -41638029.16 -41638029.09 0.2783 0.1973

Moon -118712-04-16 08:39 J -41638029.21 -41638029.14 -41638029.07 0.2780 0.2047 *

Venus -118709-02-27 16:05 J -41636981.94 -41636981.83 -41636981.73 0.3703 0.0740

Jupiter -118709-10-01 19:27 J -41636764.87 -41636764.69 -41636764.51 0.0500 0.0043

Mars -118709-12-27 14:25 J -41636678.02 -41636677.90 -41636677.79 0.1834 0.1309

Mars -118708-11-05 18:44 J -41636364.84 -41636364.72 -41636364.60 0.1685 0.0373

Mars -118706-10-12 01:56 J -41635659.50 -41635659.42 -41635659.35 0.1674 0.1279

Moon -118705-04-09 05:46 J -41635479.37 -41635479.26 -41635479.16 0.2787 0.0370

Earth -118705-04-09 05:46 J -41635479.37 -41635479.26 -41635479.15 0.2779 0.0395 *

Saturn -118705-09-24 12:58 J -41635311.05 -41635310.96 -41635310.86 0.0295 0.0209

Saturn -118705-12-22 02:53 J -41635222.51 -41635222.38 -41635222.25 0.0296 0.0102

Saturn -118704-03-20 16:34 J -41635133.94 -41635133.81 -41635133.67 0.0297 0.0012

Saturn -118704-06-17 06:15 J -41635045.36 -41635045.24 -41635045.11 0.0298 0.0113

Venus -118704-09-12 08:53 J -41634958.23 -41634958.13 -41634958.02 0.3709 0.0929

Saturn -118704-09-13 19:56 J -41634956.76 -41634956.67 -41634956.58 0.0299 0.0220

Jupiter -118703-09-01 07:41 J -41634604.29 -41634604.18 -41634604.06 0.0525 0.0222

Jupiter -118703-11-29 15:08 J -41634514.98 -41634514.87 -41634514.75 0.0526 0.0255

Moon -118702-10-04 16:20 J -41634205.96 -41634205.82 -41634205.69 0.2568 0.1351

Earth -118702-10-04 17:32 J -41634205.91 -41634205.77 -41634205.64 0.2563 0.1330 *

Mars -118699-05-19 11:17 J -41633248.19 -41633248.03 -41633247.87 0.1830 0.0381

Venus -118698-03-29 01:41 J -41632934.50 -41632934.43 -41632934.35 0.3715 0.2567

Mars -118698-03-29 04:34 J -41632934.41 -41632934.31 -41632934.20 0.1689 0.0794 *

Earth -118698-04-03 03:22 J -41632929.37 -41632929.36 -41632929.35 0.2773 0.2748

Jupiter -118697-07-20 16:05 J -41632454.99 -41632454.83 -41632454.67 0.0500 0.0198

Jupiter -118697-10-18 23:32 J -41632364.64 -41632364.52 -41632364.41 0.0499 0.0387

Mars -118696-03-03 12:15 J -41632229.09 -41632228.99 -41632228.89 0.1677 0.0889

Pluto -118696-07-29 09:37 J -41632081.11 -41632081.10 -41632081.06 0.0060 0.0060

Pluto -118696-10-25 11:03 J -41631993.12 -41631993.04 -41631992.93 0.0060 0.0052

Venus -118696-12-25 18:15 J -41631931.88 -41631931.74 -41631931.61 0.3679 0.1252

Pluto -118695-01-21 12:29 J -41631905.10 -41631904.98 -41631904.84 0.0060 0.0044

Pluto -118695-04-19 13:56 J -41631817.07 -41631816.92 -41631816.76 0.0060 0.0036

Pluto -118695-07-16 14:53 J -41631729.03 -41631728.88 -41631728.69 0.0060 0.0028

Pluto -118695-10-12 16:20 J -41631640.99 -41631640.82 -41631640.63 0.0060 0.0020

Pluto -118694-01-08 18:01 J -41631552.94 -41631552.75 -41631552.56 0.0061 0.0012

Pluto -118694-04-06 19:13 J -41631464.89 -41631464.70 -41631464.51 0.0061 0.0004

Pluto -118694-07-03 20:39 J -41631376.83 -41631376.64 -41631376.45 0.0061 0.0004

Pluto -118694-09-29 21:51 J -41631288.77 -41631288.59 -41631288.40 0.0061 0.0012

Pluto -118694-12-26 23:17 J -41631200.71 -41631200.53 -41631200.35 0.0061 0.0020

Pluto -118693-03-24 00:29 J -41631112.64 -41631112.48 -41631112.30 0.0061 0.0028

Pluto -118693-06-20 01:56 J -41631024.57 -41631024.42 -41631024.26 0.0061 0.0036

Pluto -118693-09-16 03:22 J -41630936.49 -41630936.36 -41630936.23 0.0061 0.0044

Pluto -118693-12-13 04:05 J -41630848.40 -41630848.33 -41630848.21 0.0061 0.0053

Pluto -118692-03-11 05:46 J -41630760.26 -41630760.26 -41630760.23 0.0061 0.0061

Earth -118692-04-12 00:15 J -41630728.60 -41630728.49 -41630728.39 0.2781 0.0463

Moon -118692-04-12 00:44 J -41630728.58 -41630728.47 -41630728.37 0.2786 0.0442 *

Saturn -118691-04-26 16:49 J -41630348.92 -41630348.80 -41630348.68 0.0267 0.0194

Jupiter -118691-06-20 12:01 J -41630294.10 -41630294.00 -41630293.90 0.0525 0.0333

Saturn -118691-07-24 11:17 J -41630260.19 -41630260.03 -41630259.86 0.0266 0.0095

Jupiter -118691-09-17 19:41 J -41630204.81 -41630204.68 -41630204.56 0.0526 0.0146

Saturn -118691-10-21 06:01 J -41630171.43 -41630171.25 -41630171.07 0.0266 0.0007

Saturn -118690-01-18 00:58 J -41630082.62 -41630082.46 -41630082.30 0.0265 0.0106

Saturn -118690-04-16 19:56 J -41629993.78 -41629993.67 -41629993.56 0.0264 0.0207

Venus -118690-07-11 22:49 J -41629907.66 -41629907.55 -41629907.45 0.3671 0.2426

Mars -118690-10-09 08:53 J -41629818.28 -41629818.13 -41629817.97 0.1827 0.0508

Mars -118689-08-18 14:25 J -41629503.98 -41629503.90 -41629503.81 0.1692 0.1220

Moon -118689-10-06 23:32 J -41629454.68 -41629454.52 -41629454.36 0.2567 0.0082

Earth -118689-10-07 00:01 J -41629454.66 -41629454.50 -41629454.34 0.2561 0.0080 *

Mars -118687-07-24 22:34 J -41628798.67 -41628798.56 -41628798.45 0.1679 0.0495

Moon -118685-04-04 21:08 J -41628178.70 -41628178.62 -41628178.55 0.2776 0.1943

Earth -118685-04-04 21:51 J -41628178.67 -41628178.59 -41628178.51 0.2776 0.1913 *

Jupiter -118685-05-08 14:10 J -41628145.04 -41628144.91 -41628144.78 0.0500 0.0339

Jupiter -118685-08-06 21:08 J -41628054.77 -41628054.62 -41628054.46 0.0500 0.0243

Mars -118680-02-28 07:13 J -41626388.30 -41626388.20 -41626388.09 0.1823 0.1356

Mars -118679-01-09 00:01 J -41626073.52 -41626073.50 -41626073.48 0.1695 0.1659

Jupiter -118679-04-08 15:51 J -41625983.91 -41625983.84 -41625983.78 0.0525 0.0451

Earth -118679-04-14 18:29 J -41625977.82 -41625977.73 -41625977.63 0.2782 0.1291

Moon -118679-04-14 19:13 J -41625977.79 -41625977.70 -41625977.60 0.2784 0.1418 *

Jupiter -118679-07-06 23:32 J -41625894.65 -41625894.52 -41625894.39 0.0525 0.0029

Jupiter -118679-10-04 06:29 J -41625805.27 -41625805.23 -41625805.19 0.0526 0.0496

Uranus -118678-06-22 08:39 J -41625544.15 -41625544.14 -41625544.13 0.0131 0.0130

Uranus -118678-09-18 11:46 J -41625456.07 -41625456.01 -41625455.94 0.0131 0.0115

Mars -118678-12-15 08:39 J -41625368.26 -41625368.14 -41625368.01 0.1682 0.0113

Uranus -118678-12-15 14:39 J -41625367.96 -41625367.89 -41625367.79 0.0131 0.0100

Uranus -118677-03-12 18:01 J -41625279.85 -41625279.75 -41625279.65 0.0131 0.0084

Uranus -118677-06-08 20:53 J -41625191.74 -41625191.63 -41625191.51 0.0131 0.0069

Uranus -118677-09-05 00:01 J -41625103.62 -41625103.50 -41625103.37 0.0131 0.0054

Uranus -118677-12-02 03:08 J -41625015.50 -41625015.37 -41625015.24 0.0131 0.0038

Uranus -118676-02-28 06:15 J -41624927.37 -41624927.24 -41624927.11 0.0131 0.0023

Uranus -118676-05-27 09:22 J -41624839.25 -41624839.11 -41624838.98 0.0131 0.0008

Uranus -118676-08-23 12:15 J -41624751.12 -41624750.99 -41624750.85 0.0131 0.0008

Earth -118676-10-10 06:29 J -41624703.37 -41624703.23 -41624703.10 0.2560 0.1466

Moon -118676-10-10 07:27 J -41624703.32 -41624703.19 -41624703.06 0.2565 0.1458 *

Uranus -118676-11-19 15:22 J -41624663.00 -41624662.86 -41624662.73 0.0131 0.0023

Saturn -118675-02-11 13:27 J -41624579.01 -41624578.94 -41624578.87 0.0295 0.0248

Uranus -118675-02-15 18:15 J -41624574.87 -41624574.74 -41624574.61 0.0131 0.0038

Saturn -118675-05-11 03:22 J -41624490.48 -41624490.36 -41624490.24 0.0296 0.0141

Uranus -118675-05-14 21:08 J -41624486.74 -41624486.62 -41624486.49 0.0131 0.0053

Saturn -118675-08-07 17:03 J -41624401.92 -41624401.79 -41624401.65 0.0297 0.0035

Uranus -118675-08-11 00:15 J -41624398.60 -41624398.49 -41624398.37 0.0131 0.0068

Saturn -118675-11-04 06:58 J -41624313.35 -41624313.21 -41624313.08 0.0298 0.0075

Uranus -118675-11-07 03:08 J -41624310.47 -41624310.37 -41624310.26 0.0131 0.0082

Saturn -118674-01-31 20:25 J -41624224.75 -41624224.65 -41624224.54 0.0299 0.0182

Uranus -118674-02-03 06:01 J -41624222.33 -41624222.25 -41624222.15 0.0131 0.0097

Saturn -118674-04-30 10:05 J -41624136.12 -41624136.08 -41624136.05 0.0300 0.0288

Uranus -118674-05-02 09:08 J -41624134.19 -41624134.12 -41624134.05 0.0131 0.0112

Uranus -118674-07-29 12:01 J -41624046.03 -41624046.00 -41624045.97 0.0131 0.0127

Jupiter -118673-02-25 12:29 J -41623835.02 -41623834.98 -41623834.92 0.0501 0.0477

Jupiter -118673-05-25 19:27 J -41623744.87 -41623744.69 -41623744.52 0.0500 0.0102

Moon -118672-04-07 15:51 J -41623427.94 -41623427.84 -41623427.74 0.2783 0.1118

Earth -118672-04-07 16:20 J -41623427.92 -41623427.82 -41623427.72 0.2778 0.1079 *

Mars -118669-06-27 14:53 J -41622250.98 -41622250.88 -41622250.77 0.1834 0.1396

Moon -118669-10-01 16:05 J -41622154.87 -41622154.83 -41622154.79 0.2566 0.2459

Earth -118669-10-01 17:46 J -41622154.80 -41622154.76 -41622154.72 0.2565 0.2453 *

Mars -118668-05-06 18:44 J -41621937.84 -41621937.72 -41621937.60 0.1685 0.0322

Jupiter -118667-04-25 03:08 J -41621584.49 -41621584.37 -41621584.24 0.0525 0.0093

Jupiter -118667-07-23 10:20 J -41621495.16 -41621495.07 -41621494.98 0.0526 0.0380

Mars -118666-04-12 01:56 J -41621232.49 -41621232.42 -41621232.35 0.1674 0.1326

Earth -118666-04-17 12:58 J -41621227.03 -41621226.96 -41621226.89 0.2784 0.2131

Moon -118666-04-17 13:27 J -41621227.01 -41621226.94 -41621226.87 0.2778 0.2117 *

Venus -118664-09-04 03:51 J -41620356.37 -41620356.34 -41620356.31 0.3693 0.3478

Saturn -118662-09-13 15:51 J -41619616.92 -41619616.84 -41619616.75 0.0267 0.0228

Saturn -118662-12-11 10:20 J -41619528.22 -41619528.07 -41619527.91 0.0266 0.0129

Saturn -118661-03-09 05:03 J -41619439.46 -41619439.29 -41619439.11 0.0265 0.0029

Jupiter -118661-03-13 17:46 J -41619434.94 -41619434.76 -41619434.58 0.0500 0.0037

Saturn -118661-06-06 00:01 J -41619350.67 -41619350.50 -41619350.33 0.0265 0.0072

Saturn -118661-09-02 18:44 J -41619261.84 -41619261.72 -41619261.57 0.0264 0.0173

Mars -118660-11-17 12:01 J -41618821.15 -41618821.00 -41618820.84 0.1831 0.0475

Neptune -118659-04-03 12:01 J -41618684.00 -41618684.00 -41618684.00 0.0088 0.0088

Moon -118659-04-10 10:34 J -41618677.17 -41618677.06 -41618676.95 0.2787 0.0276

Earth -118659-04-10 10:34 J -41618677.17 -41618677.06 -41618676.95 0.2779 0.0239 *

Neptune -118659-06-30 13:13 J -41618595.97 -41618595.95 -41618595.89 0.0088 0.0085

Neptune -118659-09-26 15:08 J -41618507.93 -41618507.87 -41618507.81 0.0088 0.0080

Mars -118659-09-27 04:49 J -41618507.41 -41618507.30 -41618507.20 0.1688 0.0744

Neptune -118659-12-23 16:34 J -41618419.87 -41618419.81 -41618419.73 0.0088 0.0075

Venus -118658-03-20 20:53 J -41618332.72 -41618332.63 -41618332.54 0.3699 0.1788

Neptune -118658-03-21 18:01 J -41618331.82 -41618331.75 -41618331.66 0.0088 0.0071

Neptune -118658-06-17 19:41 J -41618243.77 -41618243.68 -41618243.59 0.0088 0.0067

Neptune -118658-09-13 21:08 J -41618155.71 -41618155.62 -41618155.52 0.0088 0.0063

Neptune -118658-12-10 22:34 J -41618067.65 -41618067.56 -41618067.45 0.0088 0.0058

Neptune -118657-03-08 00:01 J -41617979.60 -41617979.50 -41617979.38 0.0088 0.0054

Neptune -118657-06-04 01:41 J -41617891.54 -41617891.43 -41617891.31 0.0088 0.0050

Neptune -118657-08-31 03:08 J -41617803.48 -41617803.37 -41617803.24 0.0088 0.0046

Mars -118657-09-01 12:15 J -41617802.09 -41617801.99 -41617801.89 0.1677 0.0938

Neptune -118657-11-27 04:34 J -41617715.42 -41617715.31 -41617715.17 0.0088 0.0042

Neptune -118656-02-23 06:15 J -41617627.36 -41617627.24 -41617627.11 0.0088 0.0037

Neptune -118656-05-22 07:41 J -41617539.30 -41617539.18 -41617539.04 0.0088 0.0033

Neptune -118656-08-18 09:08 J -41617451.24 -41617451.12 -41617450.98 0.0088 0.0029

Moon -118656-10-04 23:03 J -41617403.68 -41617403.54 -41617403.40 0.2568 0.1209

Earth -118656-10-05 00:01 J -41617403.64 -41617403.50 -41617403.35 0.2563 0.1068 *

Neptune -118656-11-14 10:34 J -41617363.18 -41617363.06 -41617362.92 0.0088 0.0025

Neptune -118655-02-10 12:15 J -41617275.12 -41617274.99 -41617274.85 0.0088 0.0020

Jupiter -118655-02-11 06:44 J -41617274.34 -41617274.22 -41617274.10 0.0525 0.0214

Neptune -118655-05-09 13:41 J -41617187.06 -41617186.93 -41617186.79 0.0088 0.0016

Jupiter -118655-05-11 13:56 J -41617185.03 -41617184.92 -41617184.80 0.0526 0.0262

Neptune -118655-08-05 15:08 J -41617099.00 -41617098.87 -41617098.73 0.0088 0.0012

Neptune -118655-11-01 16:49 J -41617010.94 -41617010.80 -41617010.67 0.0088 0.0007

Neptune -118654-01-28 18:15 J -41616922.88 -41616922.74 -41616922.61 0.0088 0.0003

Neptune -118654-04-26 19:41 J -41616834.82 -41616834.68 -41616834.54 0.0088 0.0002

Neptune -118654-07-23 21:08 J -41616746.76 -41616746.62 -41616746.48 0.0088 0.0006

Neptune -118654-10-19 22:34 J -41616658.70 -41616658.56 -41616658.43 0.0088 0.0010

Neptune -118653-01-16 00:01 J -41616570.64 -41616570.50 -41616570.37 0.0088 0.0014

Neptune -118653-04-13 01:27 J -41616482.57 -41616482.44 -41616482.31 0.0088 0.0018

Neptune -118653-07-10 02:53 J -41616394.51 -41616394.38 -41616394.25 0.0088 0.0023

Venus -118653-10-03 13:56 J -41616309.03 -41616308.92 -41616308.81 0.3705 0.0129

Neptune -118653-10-06 04:20 J -41616306.45 -41616306.32 -41616306.19 0.0088 0.0027

Neptune -118652-01-02 05:32 J -41616218.39 -41616218.27 -41616218.13 0.0088 0.0031

Neptune -118652-03-31 06:58 J -41616130.33 -41616130.21 -41616130.08 0.0088 0.0035

Moon -118652-04-03 07:27 J -41616127.22 -41616127.19 -41616127.15 0.2771 0.2581

Earth -118652-04-03 08:10 J -41616127.19 -41616127.16 -41616127.12 0.2774 0.2598 *

Neptune -118652-06-27 08:25 J -41616042.27 -41616042.15 -41616042.02 0.0088 0.0039

Neptune -118652-09-23 09:51 J -41615954.20 -41615954.09 -41615953.97 0.0088 0.0043

Neptune -118652-12-20 11:17 J -41615866.14 -41615866.03 -41615865.91 0.0088 0.0047

Neptune -118651-03-18 12:44 J -41615778.08 -41615777.97 -41615777.86 0.0088 0.0051

Neptune -118651-06-14 14:10 J -41615690.01 -41615689.91 -41615689.80 0.0088 0.0055

Neptune -118651-09-10 15:37 J -41615601.95 -41615601.85 -41615601.75 0.0088 0.0060

Neptune -118651-12-07 16:49 J -41615513.89 -41615513.80 -41615513.70 0.0088 0.0064

Neptune -118650-03-05 18:15 J -41615425.82 -41615425.74 -41615425.65 0.0088 0.0068

Mars -118650-04-09 09:37 J -41615391.25 -41615391.10 -41615390.94 0.1827 0.0420

Neptune -118650-06-01 19:41 J -41615337.75 -41615337.68 -41615337.60 0.0088 0.0072

Neptune -118650-08-28 21:08 J -41615249.69 -41615249.62 -41615249.55 0.0088 0.0076

Neptune -118650-11-24 22:34 J -41615161.62 -41615161.56 -41615161.51 0.0088 0.0080

Jupiter -118650-12-31 16:05 J -41615125.00 -41615124.83 -41615124.66 0.0500 0.0176

Mars -118649-02-17 14:25 J -41615076.99 -41615076.90 -41615076.81 0.1692 0.1171

Neptune -118649-02-20 23:46 J -41615073.54 -41615073.51 -41615073.46 0.0088 0.0084

Jupiter -118649-03-30 23:32 J -41615034.62 -41615034.52 -41615034.42 0.0500 0.0411

Neptune -118649-05-19 01:13 J -41614985.46 -41614985.45 -41614985.43 0.0088 0.0088

Mars -118647-01-22 22:34 J -41614371.67 -41614371.56 -41614371.45 0.1679 0.0542

Venus -118647-04-19 06:44 J -41614285.32 -41614285.22 -41614285.12 0.3710 0.1537

Earth -118646-04-13 05:03 J -41613926.40 -41613926.29 -41613926.19 0.2781 0.0605

Moon -118646-04-13 05:32 J -41613926.37 -41613926.27 -41613926.16 0.2786 0.0716 *

Saturn -118646-07-01 13:56 J -41613846.94 -41613846.92 -41613846.88 0.0294 0.0286

Saturn -118646-09-28 03:51 J -41613758.44 -41613758.34 -41613758.22 0.0295 0.0180

Saturn -118646-12-25 18:01 J -41613669.89 -41613669.75 -41613669.62 0.0296 0.0072

Saturn -118645-03-23 07:41 J -41613581.32 -41613581.18 -41613581.05 0.0297 0.0036

Saturn -118645-06-19 21:08 J -41613492.73 -41613492.62 -41613492.50 0.0298 0.0143

Saturn -118645-09-16 10:49 J -41613404.12 -41613404.05 -41613403.98 0.0299 0.0249

Venus -118644-01-15 14:39 J -41613282.91 -41613282.89 -41613282.86 0.3685 0.3597

Jupiter -118644-11-30 10:49 J -41612964.15 -41612964.05 -41612963.95 0.0525 0.0327

Jupiter -118643-02-27 18:15 J -41612874.86 -41612874.74 -41612874.61 0.0526 0.0151

Earth -118643-10-08 06:29 J -41612652.39 -41612652.23 -41612652.07 0.2561 0.0329

Moon -118643-10-08 06:29 J -41612652.38 -41612652.23 -41612652.07 0.2567 0.0355 *

Venus -118642-11-02 23:32 J -41612261.57 -41612261.52 -41612261.47 0.3716 0.3163

Mars -118641-08-29 07:41 J -41611961.29 -41611961.18 -41611961.07 0.1822 0.1277

Mars -118640-07-10 00:15 J -41611646.53 -41611646.49 -41611646.45 0.1695 0.1601

Moon -118639-04-06 01:56 J -41611376.50 -41611376.42 -41611376.34 0.2776 0.1860

Earth -118639-04-06 02:39 J -41611376.47 -41611376.39 -41611376.31 0.2776 0.1758 *

Venus -118639-08-01 18:58 J -41611258.85 -41611258.71 -41611258.56 0.3677 0.0045

Mars -118638-06-15 08:39 J -41610941.26 -41610941.14 -41610941.02 0.1682 0.0151

Jupiter -118638-10-19 12:58 J -41610815.09 -41610814.96 -41610814.82 0.0500 0.0330

Jupiter -118637-01-17 19:56 J -41610724.82 -41610724.67 -41610724.51 0.0500 0.0252

Uranus -118635-09-08 15:22 J -41609759.92 -41609759.86 -41609759.80 0.0148 0.0138

Uranus -118635-12-05 23:32 J -41609671.64 -41609671.52 -41609671.39 0.0148 0.0109

Uranus -118634-03-04 07:56 J -41609583.33 -41609583.17 -41609583.01 0.0148 0.0078

Uranus -118634-05-31 16:05 J -41609495.00 -41609494.83 -41609494.64 0.0148 0.0049

Uranus -118634-08-28 00:44 J -41609406.66 -41609406.47 -41609406.29 0.0148 0.0017

Uranus -118634-11-24 09:08 J -41609318.31 -41609318.12 -41609317.93 0.0148 0.0013

Uranus -118633-02-20 17:32 J -41609229.94 -41609229.77 -41609229.59 0.0148 0.0044

Earth -118633-04-14 23:32 J -41609175.62 -41609175.52 -41609175.43 0.2782 0.1449

Moon -118633-04-15 00:15 J -41609175.59 -41609175.49 -41609175.40 0.2783 0.1441 *

Uranus -118633-05-19 01:56 J -41609141.57 -41609141.42 -41609141.25 0.0148 0.0076

Uranus -118633-08-15 10:34 J -41609053.18 -41609053.06 -41609052.92 0.0148 0.0106

Uranus -118633-11-11 19:13 J -41608964.76 -41608964.70 -41608964.63 0.0148 0.0138

Saturn -118632-01-30 15:22 J -41608884.89 -41608884.86 -41608884.81 0.0268 0.0258

Saturn -118632-04-29 10:05 J -41608796.22 -41608796.08 -41608795.94 0.0267 0.0159

Saturn -118632-07-27 04:34 J -41608707.48 -41608707.31 -41608707.13 0.0266 0.0059

Jupiter -118632-09-18 15:08 J -41608653.94 -41608653.87 -41608653.80 0.0525 0.0440

Saturn -118632-10-23 23:32 J -41608618.70 -41608618.52 -41608618.35 0.0265 0.0042

Jupiter -118632-12-16 22:49 J -41608564.68 -41608564.55 -41608564.42 0.0526 0.0041

Saturn -118631-01-20 18:15 J -41608529.88 -41608529.74 -41608529.58 0.0265 0.0143

Jupiter -118631-03-16 05:46 J -41608475.29 -41608475.26 -41608475.23 0.0526 0.0510

Saturn -118631-04-19 13:27 J -41608441.00 -41608440.94 -41608440.87 0.0264 0.0243

Earth -118630-10-11 12:58 J -41607901.07 -41607900.96 -41607900.84 0.2559 0.1730

Moon -118630-10-11 13:56 J -41607901.03 -41607900.92 -41607900.81 0.2565 0.1856 *

Mars -118630-12-27 15:22 J -41607823.95 -41607823.86 -41607823.76 0.1834 0.1476

Mars -118629-11-04 18:58 J -41607510.83 -41607510.71 -41607510.60 0.1685 0.0274

Mars -118627-10-11 01:56 J -41606805.49 -41606805.42 -41606805.35 0.1674 0.1373

Moon -118626-04-08 20:39 J -41606625.74 -41606625.64 -41606625.54 0.2785 0.0935

Earth -118626-04-08 21:08 J -41606625.72 -41606625.62 -41606625.52 0.2778 0.0919 *

Jupiter -118626-08-07 11:17 J -41606505.08 -41606505.03 -41606504.96 0.0500 0.0468

Jupiter -118626-11-05 18:01 J -41606414.92 -41606414.75 -41606414.57 0.0500 0.0109

Moon -118623-10-02 22:49 J -41605352.60 -41605352.55 -41605352.50 0.2567 0.2397

Earth -118623-10-03 00:15 J -41605352.57 -41605352.49 -41605352.41 0.2564 0.2196 *

Earth -118620-04-17 17:46 J -41604424.82 -41604424.76 -41604424.70 0.2784 0.2288

Moon -118620-04-17 18:29 J -41604424.79 -41604424.73 -41604424.68 0.2778 0.2384 *

Mars -118620-05-18 12:44 J -41604394.12 -41604393.97 -41604393.82 0.1831 0.0560

Jupiter -118620-10-05 02:39 J -41604254.52 -41604254.39 -41604254.26 0.0525 0.0077

Jupiter -118619-01-02 09:51 J -41604165.18 -41604165.09 -41604165.01 0.0526 0.0395

Mars -118619-03-28 04:34 J -41604080.42 -41604080.31 -41604080.19 0.1688 0.0694

Mars -118617-03-02 12:15 J -41603375.08 -41603374.99 -41603374.89 0.1677 0.0989

Saturn -118616-02-14 04:05 J -41603026.42 -41603026.33 -41603026.24 0.0295 0.0220

Saturn -118616-05-13 18:01 J -41602937.88 -41602937.75 -41602937.62 0.0296 0.0113

Saturn -118616-08-10 07:41 J -41602849.32 -41602849.18 -41602849.04 0.0297 0.0007

Saturn -118616-11-06 21:22 J -41602760.74 -41602760.61 -41602760.48 0.0298 0.0101

Saturn -118615-02-03 10:49 J -41602672.14 -41602672.05 -41602671.95 0.0299 0.0208

Jupiter -118614-08-24 16:20 J -41602105.00 -41602104.82 -41602104.64 0.0500 0.0032

Moon -118613-04-10 15:37 J -41601874.96 -41601874.85 -41601874.74 0.2787 0.0056

Earth -118613-04-10 15:37 J -41601874.96 -41601874.85 -41601874.75 0.2780 0.0120 *

Mars -118611-10-08 10:20 J -41600964.22 -41600964.07 -41600963.91 0.1827 0.0331

Mars -118610-08-18 14:39 J -41600649.98 -41600649.89 -41600649.80 0.1692 0.1116

Moon -118610-10-06 05:46 J -41600601.41 -41600601.26 -41600601.11 0.2567 0.0805

Earth -118610-10-06 06:44 J -41600601.37 -41600601.22 -41600601.06 0.2562 0.0804 *

Mars -118608-07-23 22:34 J -41599944.67 -41599944.56 -41599944.45 0.1679 0.0594

Jupiter -118608-07-24 06:29 J -41599944.35 -41599944.23 -41599944.11 0.0525 0.0196

Jupiter -118608-10-21 13:41 J -41599855.04 -41599854.93 -41599854.82 0.0526 0.0279

Venus -118607-04-11 01:41 J -41599683.50 -41599683.43 -41599683.36 0.3695 0.2844

Moon -118606-04-04 12:29 J -41599325.02 -41599324.98 -41599324.94 0.2770 0.2567

Earth -118606-04-04 13:13 J -41599325.00 -41599324.95 -41599324.91 0.2774 0.2445 *

Saturn -118603-09-16 08:39 J -41598064.26 -41598064.14 -41598064.02 0.0267 0.0195

Pluto -118603-11-21 04:34 J -41597998.31 -41597998.31 -41597998.28 0.0084 0.0084

Saturn -118603-12-14 03:08 J -41597975.53 -41597975.37 -41597975.20 0.0266 0.0096

Pluto -118602-02-17 06:01 J -41597910.32 -41597910.25 -41597910.16 0.0084 0.0068

Saturn -118602-03-12 22:05 J -41597886.76 -41597886.58 -41597886.40 0.0265 0.0006

Pluto -118602-05-16 07:27 J -41597822.29 -41597822.19 -41597822.08 0.0084 0.0053

Saturn -118602-06-09 17:03 J -41597797.96 -41597797.79 -41597797.63 0.0265 0.0106

Jupiter -118602-06-12 14:53 J -41597795.05 -41597794.88 -41597794.71 0.0500 0.0167

Pluto -118602-08-12 08:39 J -41597734.25 -41597734.14 -41597734.01 0.0084 0.0038

Saturn -118602-09-06 11:46 J -41597709.11 -41597709.01 -41597708.89 0.0264 0.0207

Jupiter -118602-09-10 22:20 J -41597704.67 -41597704.57 -41597704.47 0.0500 0.0420

Venus -118602-10-25 18:44 J -41597659.82 -41597659.72 -41597659.62 0.3701 0.1163

Pluto -118602-11-08 10:05 J -41597646.21 -41597646.08 -41597645.95 0.0084 0.0022

Pluto -118601-02-04 11:32 J -41597558.16 -41597558.02 -41597557.89 0.0084 0.0007

Mars -118601-02-28 08:25 J -41597534.27 -41597534.15 -41597534.03 0.1823 0.1192

Pluto -118601-05-02 12:44 J -41597470.10 -41597469.97 -41597469.83 0.0084 0.0009

Pluto -118601-07-29 13:56 J -41597382.04 -41597381.92 -41597381.78 0.0084 0.0024

Pluto -118601-10-25 15:22 J -41597293.98 -41597293.86 -41597293.74 0.0083 0.0039

Mars -118600-01-08 00:15 J -41597219.54 -41597219.49 -41597219.45 0.1695 0.1552

Pluto -118600-01-21 16:34 J -41597205.91 -41597205.81 -41597205.70 0.0083 0.0054

Earth -118600-04-13 09:51 J -41597124.19 -41597124.09 -41597123.98 0.2781 0.0766

Moon -118600-04-13 10:34 J -41597124.17 -41597124.06 -41597123.96 0.2787 0.0761 *

Pluto -118600-04-19 18:01 J -41597117.83 -41597117.75 -41597117.68 0.0083 0.0069

Mars -118599-12-14 08:53 J -41596514.25 -41596514.13 -41596514.02 0.1682 0.0200

Earth -118597-10-08 13:13 J -41595850.11 -41595849.95 -41595849.79 0.2561 0.0597

Moon -118597-10-08 13:27 J -41595850.10 -41595849.94 -41595849.79 0.2567 0.0578 *

Venus -118596-05-10 11:46 J -41595636.12 -41595636.01 -41595635.91 0.3706 0.0513

Jupiter -118596-05-12 09:51 J -41595634.19 -41595634.09 -41595633.98 0.0525 0.0318

Jupiter -118596-08-09 17:32 J -41595544.90 -41595544.77 -41595544.65 0.0526 0.0160

Uranus -118594-07-12 15:37 J -41594842.87 -41594842.85 -41594842.82 0.0131 0.0127

Uranus -118594-10-08 18:44 J -41594754.78 -41594754.72 -41594754.65 0.0131 0.0112

Uranus -118593-01-04 21:37 J -41594666.68 -41594666.60 -41594666.49 0.0131 0.0097

Uranus -118593-04-02 00:58 J -41594578.56 -41594578.46 -41594578.35 0.0131 0.0081

Moon -118593-04-06 06:58 J -41594574.30 -41594574.21 -41594574.13 0.2778 0.1611

Earth -118593-04-06 07:27 J -41594574.27 -41594574.19 -41594574.10 0.2776 0.1610 *

Uranus -118593-06-29 04:05 J -41594490.45 -41594490.33 -41594490.21 0.0131 0.0065

Uranus -118593-09-25 07:13 J -41594402.33 -41594402.20 -41594402.08 0.0131 0.0050

Uranus -118593-12-22 10:20 J -41594314.21 -41594314.07 -41594313.94 0.0131 0.0035

Uranus -118592-03-20 13:13 J -41594226.08 -41594225.95 -41594225.81 0.0131 0.0020

Uranus -118592-06-16 16:20 J -41594137.96 -41594137.82 -41594137.69 0.0131 0.0005

Uranus -118592-09-12 19:13 J -41594049.83 -41594049.70 -41594049.56 0.0131 0.0011

Uranus -118592-12-09 22:20 J -41593961.70 -41593961.57 -41593961.44 0.0131 0.0026

Uranus -118591-03-08 01:13 J -41593873.57 -41593873.45 -41593873.32 0.0131 0.0041

Uranus -118591-06-04 04:05 J -41593785.44 -41593785.33 -41593785.20 0.0131 0.0056

Uranus -118591-08-31 07:13 J -41593697.31 -41593697.20 -41593697.09 0.0131 0.0071

Venus -118591-11-24 04:34 J -41593612.40 -41593612.31 -41593612.23 0.3712 0.2140

Uranus -118591-11-27 10:05 J -41593609.18 -41593609.08 -41593608.97 0.0131 0.0085

Uranus -118590-02-23 12:58 J -41593521.04 -41593520.96 -41593520.87 0.0131 0.0100

Jupiter -118590-03-31 13:13 J -41593485.09 -41593484.95 -41593484.80 0.0500 0.0305

Uranus -118590-05-22 16:05 J -41593432.89 -41593432.83 -41593432.77 0.0131 0.0115

Mars -118590-06-27 16:05 J -41593396.91 -41593396.83 -41593396.74 0.1834 0.1566

Jupiter -118590-06-29 20:25 J -41593394.80 -41593394.65 -41593394.50 0.0500 0.0278

Uranus -118590-08-18 18:58 J -41593344.72 -41593344.71 -41593344.69 0.0131 0.0130

Mars -118589-05-05 18:44 J -41593083.84 -41593083.72 -41593083.60 0.1685 0.0224

Venus -118588-08-22 15:37 J -41592609.96 -41592609.85 -41592609.74 0.3682 0.2364

Mars -118587-04-11 01:56 J -41592378.48 -41592378.42 -41592378.36 0.1674 0.1419

Earth -118587-04-16 04:20 J -41592373.41 -41592373.32 -41592373.23 0.2783 0.1603

Moon -118587-04-16 05:03 J -41592373.38 -41592373.29 -41592373.21 0.2781 0.1726 *

Saturn -118587-07-04 04:20 J -41592294.38 -41592294.32 -41592294.25 0.0294 0.0260

Saturn -118587-09-30 18:15 J -41592205.85 -41592205.74 -41592205.62 0.0295 0.0154

Saturn -118587-12-28 08:10 J -41592117.29 -41592117.16 -41592117.02 0.0296 0.0047

Saturn -118586-03-26 21:51 J -41592028.72 -41592028.59 -41592028.45 0.0297 0.0061

Saturn -118586-06-23 11:32 J -41591940.13 -41591940.02 -41591939.91 0.0298 0.0167

Saturn -118586-09-20 00:58 J -41591851.51 -41591851.46 -41591851.41 0.0299 0.0273

Jupiter -118584-02-28 13:56 J -41591323.99 -41591323.92 -41591323.84 0.0525 0.0432

Jupiter -118584-05-28 21:37 J -41591234.73 -41591234.60 -41591234.47 0.0526 0.0049

Jupiter -118584-08-26 04:34 J -41591145.32 -41591145.31 -41591145.28 0.0526 0.0517

Earth -118584-10-11 19:41 J -41591098.78 -41591098.68 -41591098.58 0.2559 0.1995

Moon -118584-10-11 20:39 J -41591098.73 -41591098.64 -41591098.54 0.2564 0.2023 *

Venus -118582-03-08 19:56 J -41590585.81 -41590585.67 -41590585.54 0.3675 0.1254

Mars -118581-11-16 13:27 J -41589967.09 -41589966.94 -41589966.79 0.1830 0.0647

Moon -118580-04-09 01:27 J -41589823.54 -41589823.44 -41589823.33 0.2784 0.0830

Earth -118580-04-09 01:56 J -41589823.52 -41589823.42 -41589823.31 0.2778 0.0766 *

Mars -118580-09-26 04:49 J -41589653.41 -41589653.30 -41589653.19 0.1689 0.0637

Jupiter -118578-01-17 10:34 J -41589175.13 -41589175.06 -41589174.99 0.0500 0.0456

Jupiter -118578-04-17 17:03 J -41589084.96 -41589084.79 -41589084.61 0.0500 0.0121

Mars -118578-09-01 12:15 J -41588948.08 -41588947.99 -41588947.89 0.1677 0.1036

Moon -118577-10-03 05:17 J -41588550.38 -41588550.28 -41588550.18 0.2567 0.1939

Earth -118577-10-03 06:58 J -41588550.31 -41588550.21 -41588550.11 0.2564 0.1938 *

Neptune -118575-03-03 12:58 J -41588033.98 -41588033.96 -41588033.92 0.0089 0.0087

Neptune -118575-05-30 15:51 J -41587945.89 -41587945.84 -41587945.75 0.0089 0.0082

Neptune -118575-08-26 19:13 J -41587857.78 -41587857.70 -41587857.60 0.0089 0.0076

Neptune -118575-11-22 22:20 J -41587769.67 -41587769.57 -41587769.45 0.0089 0.0071

Neptune -118574-02-19 01:41 J -41587681.55 -41587681.43 -41587681.30 0.0089 0.0065

Earth -118574-04-18 22:49 J -41587622.60 -41587622.55 -41587622.50 0.2784 0.2445

Moon -118574-04-18 23:17 J -41587622.58 -41587622.53 -41587622.48 0.2779 0.2425 *

Neptune -118574-05-18 05:03 J -41587593.42 -41587593.29 -41587593.15 0.0089 0.0059

Neptune -118574-08-14 07:56 J -41587505.30 -41587505.17 -41587505.01 0.0089 0.0054

Neptune -118574-11-10 11:17 J -41587417.18 -41587417.03 -41587416.87 0.0089 0.0048

Saturn -118573-02-03 07:56 J -41587332.26 -41587332.17 -41587332.07 0.0268 0.0227

Neptune -118573-02-06 14:39 J -41587329.05 -41587328.89 -41587328.72 0.0089 0.0042

Saturn -118573-05-02 02:25 J -41587243.55 -41587243.40 -41587243.24 0.0267 0.0127

Neptune -118573-05-04 17:46 J -41587240.92 -41587240.76 -41587240.58 0.0089 0.0037

Saturn -118573-07-29 21:08 J -41587154.79 -41587154.62 -41587154.44 0.0266 0.0028

Neptune -118573-07-31 21:08 J -41587152.79 -41587152.62 -41587152.44 0.0089 0.0031

Saturn -118573-10-26 16:05 J -41587066.00 -41587065.83 -41587065.66 0.0265 0.0074

Neptune -118573-10-28 00:29 J -41587064.66 -41587064.48 -41587064.30 0.0089 0.0025

Saturn -118572-01-23 11:03 J -41586977.17 -41586977.04 -41586976.90 0.0265 0.0175

Neptune -118572-01-24 03:51 J -41586976.52 -41586976.34 -41586976.16 0.0089 0.0019

Jupiter -118572-03-17 01:56 J -41586924.55 -41586924.42 -41586924.29 0.0526 0.0065

Neptune -118572-04-22 06:58 J -41586888.39 -41586888.21 -41586888.02 0.0089 0.0014

Jupiter -118572-06-14 09:08 J -41586835.20 -41586835.12 -41586835.04 0.0526 0.0409

Neptune -118572-07-19 10:20 J -41586800.25 -41586800.07 -41586799.88 0.0089 0.0008

Neptune -118572-10-15 13:41 J -41586712.12 -41586711.93 -41586711.74 0.0089 0.0002

Neptune -118571-01-11 17:03 J -41586623.98 -41586623.79 -41586623.61 0.0089 0.0004

Mars -118571-04-08 10:49 J -41586537.21 -41586537.05 -41586536.89 0.1827 0.0252

Neptune -118571-04-09 20:10 J -41586535.84 -41586535.66 -41586535.47 0.0089 0.0010

Neptune -118571-07-06 23:32 J -41586447.70 -41586447.52 -41586447.33 0.0089 0.0016

Neptune -118571-10-03 02:53 J -41586359.56 -41586359.38 -41586359.19 0.0089 0.0022

Neptune -118571-12-30 06:15 J -41586271.41 -41586271.24 -41586271.06 0.0089 0.0027

Mars -118570-02-16 14:39 J -41586222.98 -41586222.89 -41586222.80 0.1692 0.1061

Neptune -118570-03-28 09:37 J -41586183.27 -41586183.10 -41586182.92 0.0089 0.0033

Neptune -118570-06-24 12:58 J -41586095.12 -41586094.96 -41586094.78 0.0089 0.0039

Neptune -118570-09-20 16:20 J -41586006.97 -41586006.82 -41586006.65 0.0089 0.0045

Neptune -118570-12-17 19:41 J -41585918.82 -41585918.68 -41585918.52 0.0089 0.0051

Neptune -118569-03-14 23:03 J -41585830.67 -41585830.54 -41585830.38 0.0089 0.0057

Neptune -118569-06-11 02:25 J -41585742.52 -41585742.40 -41585742.25 0.0089 0.0063

Neptune -118569-09-07 05:46 J -41585654.36 -41585654.26 -41585654.12 0.0089 0.0069

Neptune -118569-12-04 09:22 J -41585566.20 -41585566.11 -41585566.00 0.0089 0.0075

Mars -118568-01-21 22:34 J -41585517.67 -41585517.56 -41585517.45 0.1680 0.0644

Neptune -118568-03-02 12:44 J -41585478.03 -41585477.97 -41585477.88 0.0089 0.0081

Neptune -118568-05-29 16:05 J -41585389.85 -41585389.83 -41585389.77 0.0089 0.0087

Earth -118567-04-11 20:25 J -41585072.76 -41585072.65 -41585072.54 0.2780 0.0084

Moon -118567-04-11 20:39 J -41585072.75 -41585072.64 -41585072.54 0.2787 0.0120 *

Jupiter -118566-02-03 15:08 J -41584775.05 -41584774.87 -41584774.69 0.0500 0.0023

Moon -118564-10-06 12:29 J -41583799.13 -41583798.98 -41583798.83 0.2567 0.0684

Earth -118564-10-06 13:27 J -41583799.10 -41583798.94 -41583798.79 0.2562 0.0546 *

Mars -118562-08-29 09:08 J -41583107.24 -41583107.12 -41583106.99 0.1823 0.1101

Mars -118561-07-09 00:15 J -41582792.54 -41582792.49 -41582792.43 0.1695 0.1497

Jupiter -118560-01-03 06:00 J -41582614.38 -41582614.25 -41582614.13 0.0525 0.0180

Jupiter -118560-04-02 13:12 J -41582525.05 -41582524.95 -41582524.84 0.0526 0.0295

Moon -118560-04-04 17:17 J -41582522.84 -41582522.78 -41582522.72 0.2770 0.2268

Earth -118560-04-04 18:00 J -41582522.81 -41582522.75 -41582522.69 0.2774 0.2290 *

Mars -118559-06-14 08:53 J -41582087.25 -41582087.13 -41582087.01 0.1682 0.0244

Saturn -118557-02-17 18:29 J -41581473.83 -41581473.73 -41581473.63 0.0295 0.0195

Saturn -118557-05-16 08:10 J -41581385.29 -41581385.16 -41581385.02 0.0296 0.0089

Saturn -118557-08-12 22:05 J -41581296.72 -41581296.58 -41581296.45 0.0297 0.0019

Saturn -118557-11-09 11:32 J -41581208.14 -41581208.02 -41581207.89 0.0298 0.0126

Saturn -118556-02-06 01:12 J -41581119.53 -41581119.45 -41581119.37 0.0299 0.0231

Jupiter -118555-11-22 13:27 J -41580465.11 -41580464.94 -41580464.77 0.0500 0.0160

Jupiter -118554-02-20 20:53 J -41580374.72 -41580374.63 -41580374.53 0.0500 0.0427

Earth -118554-04-14 14:53 J -41580321.99 -41580321.88 -41580321.78 0.2782 0.0924

Moon -118554-04-14 15:22 J -41580321.96 -41580321.86 -41580321.76 0.2786 0.1014 *

Uranus -118551-09-28 21:22 J -41579058.68 -41579058.61 -41579058.54 0.0148 0.0137

Moon -118551-10-09 19:56 J -41579047.82 -41579047.67 -41579047.52 0.2567 0.0901

Earth -118551-10-09 19:56 J -41579047.82 -41579047.67 -41579047.52 0.2560 0.0860 *

Venus -118551-11-15 23:32 J -41579010.61 -41579010.52 -41579010.43 0.3697 0.2218

Uranus -118551-12-26 05:17 J -41578970.40 -41578970.28 -41578970.14 0.0148 0.0107

Mars -118551-12-26 17:03 J -41578969.85 -41578969.79 -41578969.72 0.1834 0.1662

Uranus -118550-03-24 13:27 J -41578882.08 -41578881.94 -41578881.77 0.0148 0.0078

Uranus -118550-06-20 22:05 J -41578793.75 -41578793.58 -41578793.40 0.0148 0.0046

Uranus -118550-09-17 06:29 J -41578705.41 -41578705.23 -41578705.04 0.0148 0.0016

Mars -118550-11-04 18:58 J -41578656.83 -41578656.71 -41578656.59 0.1685 0.0179

Uranus -118550-12-14 14:53 J -41578617.06 -41578616.88 -41578616.69 0.0148 0.0015

Uranus -118549-03-11 23:17 J -41578528.70 -41578528.53 -41578528.35 0.0148 0.0046

Uranus -118549-06-08 07:56 J -41578440.33 -41578440.17 -41578440.01 0.0148 0.0077

Uranus -118549-09-04 16:05 J -41578351.94 -41578351.83 -41578351.68 0.0148 0.0109

Jupiter -118549-10-22 09:36 J -41578304.20 -41578304.10 -41578303.99 0.0525 0.0299

Uranus -118549-12-02 00:44 J -41578263.52 -41578263.47 -41578263.39 0.0148 0.0139

Jupiter -118548-01-19 17:17 J -41578214.91 -41578214.78 -41578214.66 0.0526 0.0179

Mars -118548-10-10 01:56 J -41577951.47 -41577951.42 -41577951.36 0.1674 0.1468

Moon -118547-04-07 11:46 J -41577772.10 -41577772.01 -41577771.92 0.2779 0.1574

Earth -118547-04-07 12:29 J -41577772.07 -41577771.98 -41577771.89 0.2776 0.1450 *

Venus -118545-05-31 16:34 J -41576986.92 -41576986.81 -41576986.70 0.3702 0.0541

Saturn -118544-06-22 06:15 J -41576600.26 -41576600.24 -41576600.21 0.0268 0.0265

Saturn -118544-09-19 00:44 J -41576511.60 -41576511.47 -41576511.32 0.0267 0.0165

Saturn -118544-12-16 19:27 J -41576422.86 -41576422.69 -41576422.51 0.0266 0.0065

Saturn -118543-03-15 14:24 J -41576334.08 -41576333.90 -41576333.72 0.0265 0.0036

Saturn -118543-06-12 09:22 J -41576245.26 -41576245.11 -41576244.96 0.0265 0.0137

Saturn -118543-09-09 04:34 J -41576156.39 -41576156.31 -41576156.23 0.0264 0.0237

Jupiter -118543-09-10 12:00 J -41576155.14 -41576155.00 -41576154.85 0.0500 0.0296

Jupiter -118543-12-09 19:12 J -41576064.84 -41576064.70 -41576064.55 0.0500 0.0289

Earth -118541-04-16 09:08 J -41575571.20 -41575571.12 -41575571.03 0.2783 0.1765

Moon -118541-04-16 09:51 J -41575571.17 -41575571.09 -41575571.00 0.2782 0.1759 *

Mars -118541-05-17 13:56 J -41575540.06 -41575539.92 -41575539.77 0.1831 0.0731

Mars -118540-03-27 04:48 J -41575226.41 -41575226.30 -41575226.19 0.1689 0.0587

Venus -118540-12-15 09:22 J -41574963.21 -41574963.11 -41574963.01 0.3708 0.1109

Mars -118538-03-02 12:15 J -41574521.08 -41574520.99 -41574520.90 0.1677 0.1083

Earth -118538-10-13 02:24 J -41574296.47 -41574296.40 -41574296.32 0.2559 0.2264

Moon -118538-10-13 03:36 J -41574296.41 -41574296.35 -41574296.29 0.2563 0.2359 *

Jupiter -118537-08-10 13:12 J -41573994.03 -41573993.95 -41573993.87 0.0525 0.0421

Jupiter -118537-11-07 20:53 J -41573904.76 -41573904.63 -41573904.50 0.0526 0.0058

Moon -118534-04-10 06:29 J -41573021.34 -41573021.23 -41573021.13 0.2784 0.0618

Earth -118534-04-10 06:58 J -41573021.32 -41573021.21 -41573021.11 0.2778 0.0621 *

Venus -118534-07-01 02:24 J -41572939.48 -41572939.40 -41572939.33 0.3714 0.2745

Mars -118532-10-07 11:46 J -41572110.17 -41572110.01 -41572109.85 0.1827 0.0162

Venus -118531-03-29 16:20 J -41571936.95 -41571936.82 -41571936.68 0.3680 0.1131

Jupiter -118531-06-29 10:34 J -41571845.14 -41571845.06 -41571844.96 0.0501 0.0432

Mars -118531-08-17 14:39 J -41571795.99 -41571795.89 -41571795.79 0.1692 0.1011

Jupiter -118531-09-27 17:32 J -41571754.94 -41571754.77 -41571754.60 0.0500 0.0148

Moon -118531-10-04 11:46 J -41571748.11 -41571748.01 -41571747.90 0.2566 0.1892

Earth -118531-10-04 13:27 J -41571748.06 -41571747.94 -41571747.82 0.2564 0.1682 *

Mars -118529-07-22 22:34 J -41571090.67 -41571090.56 -41571090.45 0.1679 0.0691

Earth -118528-04-19 03:36 J -41570820.39 -41570820.35 -41570820.31 0.2784 0.2601

Moon -118528-04-19 04:05 J -41570820.35 -41570820.33 -41570820.31 0.2779 0.2692 *

Saturn -118528-07-06 18:44 J -41570741.80 -41570741.72 -41570741.64 0.0294 0.0235

Saturn -118528-10-03 08:39 J -41570653.26 -41570653.14 -41570653.02 0.0295 0.0129

Saturn -118528-12-30 22:20 J -41570564.70 -41570564.57 -41570564.43 0.0296 0.0023

Saturn -118527-03-29 12:00 J -41570476.13 -41570476.00 -41570475.87 0.0297 0.0084

Saturn -118527-06-26 01:41 J -41570387.54 -41570387.43 -41570387.33 0.0298 0.0190

Saturn -118527-09-22 14:53 J -41570298.89 -41570298.88 -41570298.86 0.0299 0.0296

Venus -118526-10-13 20:39 J -41569912.74 -41569912.64 -41569912.53 0.3673 0.2518

Jupiter -118525-08-27 00:58 J -41569594.59 -41569594.46 -41569594.33 0.0526 0.0056

Jupiter -118525-11-24 08:10 J -41569505.23 -41569505.16 -41569505.08 0.0526 0.0418

Mars -118522-02-27 09:22 J -41568680.24 -41568680.11 -41568679.98 0.1822 0.1030

Mars -118521-01-08 00:15 J -41568365.55 -41568365.49 -41568365.43 0.1695 0.1444

Earth -118521-04-12 01:12 J -41568270.56 -41568270.45 -41568270.34 0.2780 0.0245

Moon -118521-04-12 01:27 J -41568270.55 -41568270.44 -41568270.33 0.2788 0.0246 *

Mars -118520-12-13 08:53 J -41567660.25 -41567660.13 -41567660.02 0.1683 0.0293

Jupiter -118519-07-16 14:24 J -41567445.08 -41567444.90 -41567444.72 0.0500 0.0007

Moon -118518-10-07 19:12 J -41566996.86 -41566996.70 -41566996.54 0.2568 0.0236

Earth -118518-10-07 19:56 J -41566996.83 -41566996.67 -41566996.50 0.2562 0.0290 *

Saturn -118514-02-05 23:46 J -41565779.62 -41565779.51 -41565779.39 0.0268 0.0198

Moon -118514-04-05 22:20 J -41565720.64 -41565720.57 -41565720.51 0.2771 0.2250

Earth -118514-04-05 22:48 J -41565720.61 -41565720.55 -41565720.48 0.2775 0.2137 *

Saturn -118514-05-05 18:29 J -41565690.89 -41565690.73 -41565690.56 0.0267 0.0098

Saturn -118514-08-02 13:27 J -41565602.12 -41565601.94 -41565601.77 0.0266 0.0007

Saturn -118514-10-30 08:10 J -41565513.32 -41565513.16 -41565512.99 0.0265 0.0104

Saturn -118513-01-27 03:22 J -41565424.47 -41565424.36 -41565424.25 0.0265 0.0205

Jupiter -118513-06-15 05:17 J -41565284.40 -41565284.28 -41565284.16 0.0526 0.0167

Jupiter -118513-09-12 12:44 J -41565195.08 -41565194.97 -41565194.87 0.0526 0.0309

Mars -118511-06-26 17:32 J -41564542.82 -41564542.77 -41564542.73 0.1834 0.1735

Mars -118510-05-05 18:58 J -41564229.83 -41564229.71 -41564229.59 0.1685 0.0117

Uranus -118510-08-01 22:34 J -41564141.60 -41564141.56 -41564141.52 0.0131 0.0124

Uranus -118510-10-29 01:27 J -41564053.50 -41564053.44 -41564053.36 0.0131 0.0109

Uranus -118509-01-25 04:34 J -41563965.39 -41563965.31 -41563965.21 0.0131 0.0094

Uranus -118509-04-22 07:56 J -41563877.28 -41563877.17 -41563877.06 0.0131 0.0078

Uranus -118509-07-19 10:48 J -41563789.16 -41563789.05 -41563788.92 0.0131 0.0063

Uranus -118509-10-15 13:56 J -41563701.04 -41563700.92 -41563700.79 0.0131 0.0048

Uranus -118508-01-11 17:03 J -41563612.92 -41563612.79 -41563612.66 0.0131 0.0032

Uranus -118508-04-09 20:10 J -41563524.80 -41563524.66 -41563524.53 0.0131 0.0017

Mars -118508-04-10 01:56 J -41563524.47 -41563524.42 -41563524.37 0.1674 0.1514

Earth -118508-04-14 19:41 J -41563519.78 -41563519.68 -41563519.58 0.2782 0.1078

Moon -118508-04-14 20:24 J -41563519.75 -41563519.65 -41563519.56 0.2785 0.1109 *

Uranus -118508-07-06 23:03 J -41563436.67 -41563436.54 -41563436.40 0.0131 0.0005

Uranus -118508-10-03 02:10 J -41563348.54 -41563348.41 -41563348.27 0.0131 0.0013

Uranus -118508-12-30 05:03 J -41563260.42 -41563260.29 -41563260.15 0.0131 0.0029

Uranus -118507-03-28 08:10 J -41563172.29 -41563172.16 -41563172.03 0.0131 0.0043

Jupiter -118507-05-04 12:29 J -41563135.14 -41563134.98 -41563134.80 0.0500 0.0148

Uranus -118507-06-24 11:03 J -41563084.16 -41563084.04 -41563083.92 0.0131 0.0058

Jupiter -118507-08-02 19:56 J -41563044.75 -41563044.67 -41563044.58 0.0499 0.0438

Uranus -118507-09-20 13:56 J -41562996.02 -41562995.92 -41562995.80 0.0131 0.0074

Uranus -118507-12-17 17:03 J -41562907.89 -41562907.79 -41562907.69 0.0131 0.0088

Uranus -118506-03-15 19:56 J -41562819.75 -41562819.67 -41562819.58 0.0131 0.0103

Uranus -118506-06-11 22:48 J -41562731.60 -41562731.55 -41562731.49 0.0131 0.0118

Moon -118505-10-10 02:39 J -41562245.54 -41562245.39 -41562245.25 0.2566 0.1089

Earth -118505-10-10 02:39 J -41562245.54 -41562245.39 -41562245.25 0.2560 0.1128 *

Mars -118502-11-16 14:53 J -41561113.02 -41561112.88 -41561112.74 0.1831 0.0827

Jupiter -118501-04-03 09:08 J -41560974.23 -41560974.12 -41560974.01 0.0525 0.0284

Moon -118501-04-07 16:34 J -41560969.90 -41560969.81 -41560969.71 0.2779 0.1287

Earth -118501-04-07 17:17 J -41560969.87 -41560969.78 -41560969.68 0.2777 0.1296 *

Jupiter -118501-07-01 16:48 J -41560884.92 -41560884.80 -41560884.68 0.0526 0.0195

Mars -118501-09-25 04:48 J -41560799.41 -41560799.30 -41560799.18 0.1688 0.0534

Venus -118500-12-07 04:20 J -41560361.37 -41560361.32 -41560361.28 0.3692 0.3284

Mars -118499-08-31 12:29 J -41560094.07 -41560093.98 -41560093.90 0.1677 0.1134

Saturn -118499-11-23 18:44 J -41560009.76 -41560009.72 -41560009.67 0.0293 0.0276

Saturn -118498-02-20 08:39 J -41559921.25 -41559921.14 -41559921.02 0.0294 0.0170

Saturn -118498-05-19 22:34 J -41559832.70 -41559832.56 -41559832.43 0.0296 0.0064

Saturn -118498-08-16 12:15 J -41559744.13 -41559743.99 -41559743.86 0.0297 0.0042

Saturn -118498-11-13 01:41 J -41559655.54 -41559655.43 -41559655.31 0.0298 0.0149

Saturn -118497-02-09 15:08 J -41559566.93 -41559566.87 -41559566.79 0.0299 0.0255

Jupiter -118495-02-20 10:48 J -41558825.19 -41558825.05 -41558824.90 0.0500 0.0287

Earth -118495-04-17 14:10 J -41558768.99 -41558768.91 -41558768.84 0.2783 0.1922

Moon -118495-04-17 14:53 J -41558768.95 -41558768.88 -41558768.81 0.2783 0.2048 *

Jupiter -118495-05-21 18:00 J -41558734.89 -41558734.75 -41558734.60 0.0500 0.0297

Neptune -118495-12-29 11:17 J -41558513.04 -41558513.03 -41558512.98 0.0088 0.0087

Neptune -118494-03-27 13:12 J -41558425.00 -41558424.95 -41558424.90 0.0088 0.0082

Venus -118494-06-22 21:22 J -41558337.71 -41558337.61 -41558337.51 0.3698 0.1595

Neptune -118494-06-23 14:39 J -41558336.95 -41558336.89 -41558336.82 0.0088 0.0077

Neptune -118494-09-19 16:05 J -41558248.89 -41558248.83 -41558248.74 0.0088 0.0073

Neptune -118494-12-16 17:46 J -41558160.84 -41558160.76 -41558160.67 0.0088 0.0069

Neptune -118493-03-13 19:12 J -41558072.78 -41558072.70 -41558072.60 0.0088 0.0065

Neptune -118493-06-09 20:39 J -41557984.73 -41557984.64 -41557984.53 0.0088 0.0061

Neptune -118493-09-05 22:34 J -41557896.67 -41557896.56 -41557896.46 0.0088 0.0056

Neptune -118493-12-02 23:46 J -41557808.61 -41557808.51 -41557808.39 0.0088 0.0052

Neptune -118492-03-01 01:27 J -41557720.55 -41557720.44 -41557720.32 0.0088 0.0047

Mars -118492-04-07 12:15 J -41557683.15 -41557682.99 -41557682.83 0.1827 0.0081

Neptune -118492-05-28 02:53 J -41557632.49 -41557632.38 -41557632.25 0.0088 0.0043

Neptune -118492-08-24 04:34 J -41557544.44 -41557544.31 -41557544.19 0.0088 0.0039

Earth -118492-10-13 09:08 J -41557494.14 -41557494.12 -41557494.10 0.2559 0.2526

Neptune -118492-11-20 06:00 J -41557456.38 -41557456.25 -41557456.12 0.0088 0.0034

Mars -118491-02-15 14:39 J -41557368.99 -41557368.89 -41557368.79 0.1692 0.0960

Neptune -118491-02-16 07:27 J -41557368.32 -41557368.19 -41557368.06 0.0088 0.0030

Neptune -118491-05-15 08:53 J -41557280.26 -41557280.13 -41557279.99 0.0088 0.0026

Neptune -118491-08-11 10:34 J -41557192.20 -41557192.06 -41557191.93 0.0088 0.0022

Neptune -118491-11-07 12:00 J -41557104.14 -41557104.00 -41557103.87 0.0088 0.0017

Neptune -118490-02-03 13:27 J -41557016.08 -41557015.94 -41557015.80 0.0088 0.0013

Neptune -118490-05-02 14:53 J -41556928.02 -41556927.88 -41556927.74 0.0088 0.0009

Neptune -118490-07-29 16:20 J -41556839.95 -41556839.82 -41556839.68 0.0088 0.0005

Neptune -118490-10-25 17:46 J -41556751.89 -41556751.76 -41556751.62 0.0088 0.0002

Jupiter -118489-01-21 12:58 J -41556664.04 -41556663.96 -41556663.88 0.0525 0.0402

Neptune -118489-01-21 19:12 J -41556663.83 -41556663.70 -41556663.56 0.0088 0.0005

Mars -118489-01-21 22:34 J -41556663.67 -41556663.56 -41556663.45 0.1680 0.0738 *

Neptune -118489-04-18 20:39 J -41556575.77 -41556575.64 -41556575.50 0.0088 0.0009

Jupiter -118489-04-19 20:39 J -41556574.77 -41556574.64 -41556574.51 0.0526 0.0077

Neptune -118489-07-15 22:05 J -41556487.71 -41556487.58 -41556487.44 0.0088 0.0013

Neptune -118489-10-11 23:46 J -41556399.65 -41556399.51 -41556399.38 0.0088 0.0017

Venus -118488-01-05 14:24 J -41556314.01 -41556313.90 -41556313.80 0.3704 0.0110

Neptune -118488-01-08 01:12 J -41556311.59 -41556311.45 -41556311.32 0.0088 0.0021

Neptune -118488-04-06 02:24 J -41556223.53 -41556223.40 -41556223.26 0.0088 0.0025

Moon -118488-04-10 11:32 J -41556219.13 -41556219.02 -41556218.92 0.2785 0.0528

Earth -118488-04-10 11:46 J -41556219.12 -41556219.01 -41556218.90 0.2779 0.0452 *

Neptune -118488-07-03 03:51 J -41556135.46 -41556135.34 -41556135.20 0.0088 0.0029

Neptune -118488-09-29 05:17 J -41556047.40 -41556047.28 -41556047.15 0.0088 0.0033

Neptune -118488-12-26 06:44 J -41555959.34 -41555959.22 -41555959.09 0.0088 0.0037

Neptune -118487-03-24 08:10 J -41555871.28 -41555871.16 -41555871.04 0.0088 0.0041

Neptune -118487-06-20 09:36 J -41555783.21 -41555783.10 -41555782.98 0.0088 0.0045

Neptune -118487-09-16 11:03 J -41555695.15 -41555695.04 -41555694.93 0.0088 0.0050

Neptune -118487-12-13 12:29 J -41555607.09 -41555606.98 -41555606.87 0.0088 0.0054

Neptune -118486-03-11 13:56 J -41555519.02 -41555518.92 -41555518.82 0.0088 0.0058

Neptune -118486-06-07 15:08 J -41555430.96 -41555430.87 -41555430.77 0.0088 0.0062

Neptune -118486-09-03 16:20 J -41555342.89 -41555342.82 -41555342.71 0.0088 0.0067

Neptune -118486-11-30 17:46 J -41555254.83 -41555254.76 -41555254.66 0.0088 0.0071

Neptune -118485-02-26 19:12 J -41555166.76 -41555166.70 -41555166.62 0.0088 0.0074

Neptune -118485-05-24 20:39 J -41555078.69 -41555078.64 -41555078.57 0.0088 0.0078

Saturn -118485-06-24 21:51 J -41555047.66 -41555047.59 -41555047.50 0.0268 0.0238

Neptune -118485-08-20 21:51 J -41554990.62 -41554990.59 -41554990.52 0.0088 0.0083

Saturn -118485-09-21 16:34 J -41554958.95 -41554958.81 -41554958.65 0.0267 0.0137

Moon -118485-10-04 18:44 J -41554945.86 -41554945.72 -41554945.59 0.2566 0.1432

Earth -118485-10-04 20:10 J -41554945.79 -41554945.66 -41554945.53 0.2564 0.1422 *

Neptune -118485-11-16 23:17 J -41554902.54 -41554902.53 -41554902.49 0.0088 0.0086

Saturn -118485-12-19 11:32 J -41554870.20 -41554870.02 -41554869.85 0.0266 0.0036

Saturn -118484-03-18 06:29 J -41554781.41 -41554781.23 -41554781.06 0.0266 0.0065

Saturn -118484-06-15 01:27 J -41554692.58 -41554692.44 -41554692.30 0.0265 0.0166

Jupiter -118484-12-09 09:36 J -41554515.19 -41554515.10 -41554515.00 0.0501 0.0421

Jupiter -118483-03-09 16:20 J -41554424.99 -41554424.82 -41554424.65 0.0500 0.0158

Venus -118483-07-22 07:12 J -41554290.29 -41554290.20 -41554290.10 0.3710 0.1712

Mars -118483-08-28 10:20 J -41554253.21 -41554253.07 -41554252.94 0.1823 0.0938

Earth -118482-04-20 08:24 J -41554018.16 -41554018.15 -41554018.14 0.2784 0.2765

Moon -118482-04-20 08:53 J -41554018.15 -41554018.13 -41554018.11 0.2778 0.2717 *

Mars -118482-07-09 00:15 J -41553938.55 -41553938.49 -41553938.42 0.1695 0.1392

Venus -118480-04-19 12:58 J -41553288.01 -41553287.96 -41553287.91 0.3686 0.3451

Mars -118480-06-13 08:53 J -41553233.25 -41553233.13 -41553233.01 0.1682 0.0340

Venus -118477-02-05 00:00 J -41552266.54 -41552266.50 -41552266.45 0.3715 0.3336

Jupiter -118477-02-07 00:15 J -41552264.62 -41552264.49 -41552264.36 0.0525 0.0044

Jupiter -118477-05-06 07:12 J -41552175.27 -41552175.20 -41552175.12 0.0526 0.0428

Earth -118475-04-13 06:15 J -41551468.35 -41551468.24 -41551468.14 0.2780 0.0401

Moon -118475-04-13 06:15 J -41551468.34 -41551468.24 -41551468.13 0.2788 0.0432 *

Venus -118475-11-03 17:03 J -41551263.93 -41551263.79 -41551263.64 0.3678 0.0116

Mars -118473-01-18 08:39 J -41550823.17 -41550823.14 -41550823.10 0.1818 0.1768

Moon -118472-10-08 01:56 J -41550194.58 -41550194.42 -41550194.26 0.2568 0.0175

Earth -118472-10-08 02:39 J -41550194.55 -41550194.39 -41550194.23 0.2562 0.0023 *

Mars -118472-12-25 18:29 J -41550115.73 -41550115.73 -41550115.73 0.1834 0.1834

Jupiter -118472-12-26 14:39 J -41550115.07 -41550114.89 -41550114.71 0.0500 0.0018

Mars -118471-11-03 18:58 J -41549802.83 -41549802.71 -41549802.59 0.1685 0.0072

Saturn -118469-07-09 09:08 J -41549189.21 -41549189.12 -41549189.02 0.0294 0.0209

Saturn -118469-10-05 23:03 J -41549100.67 -41549100.54 -41549100.41 0.0295 0.0103

Mars -118469-10-09 01:56 J -41549097.46 -41549097.42 -41549097.38 0.1674 0.1562

Saturn -118468-01-02 12:44 J -41549012.11 -41549011.97 -41549011.83 0.0296 0.0003

Saturn -118468-04-01 02:24 J -41548923.53 -41548923.40 -41548923.28 0.0297 0.0109

Moon -118468-04-06 03:08 J -41548918.45 -41548918.37 -41548918.30 0.2774 0.1991

Earth -118468-04-06 03:51 J -41548918.42 -41548918.34 -41548918.27 0.2775 0.1987 *

Saturn -118468-06-28 15:51 J -41548834.93 -41548834.84 -41548834.75 0.0298 0.0215

Uranus -118467-10-19 04:20 J -41548357.40 -41548357.32 -41548357.22 0.0148 0.0130

Uranus -118466-01-15 12:29 J -41548269.10 -41548268.98 -41548268.83 0.0148 0.0101

Uranus -118466-04-13 20:53 J -41548180.79 -41548180.63 -41548180.46 0.0148 0.0070

Uranus -118466-07-11 05:17 J -41548092.46 -41548092.28 -41548092.10 0.0148 0.0040

Uranus -118466-10-07 13:41 J -41548004.11 -41548003.93 -41548003.74 0.0148 0.0009

Jupiter -118466-11-26 04:20 J -41547954.44 -41547954.32 -41547954.20 0.0526 0.0158

Uranus -118465-01-03 22:05 J -41547915.76 -41547915.58 -41547915.39 0.0148 0.0022

Jupiter -118465-02-23 11:32 J -41547865.12 -41547865.02 -41547864.91 0.0526 0.0318

Uranus -118465-04-01 06:29 J -41547827.40 -41547827.23 -41547827.05 0.0148 0.0052

Uranus -118465-06-28 14:53 J -41547739.02 -41547738.88 -41547738.71 0.0148 0.0084

Uranus -118465-09-24 23:32 J -41547650.63 -41547650.52 -41547650.39 0.0148 0.0114

Uranus -118465-12-22 08:10 J -41547562.19 -41547562.16 -41547562.12 0.0148 0.0146

Earth -118462-04-16 00:29 J -41546717.57 -41546717.48 -41546717.38 0.2782 0.1236

Moon -118462-04-16 01:12 J -41546717.54 -41546717.45 -41546717.35 0.2784 0.1302 *

Mars -118462-05-17 15:08 J -41546686.01 -41546685.87 -41546685.73 0.1830 0.0900

Mars -118461-03-26 04:48 J -41546372.41 -41546372.30 -41546372.18 0.1689 0.0485

Jupiter -118460-10-14 11:46 J -41545805.18 -41545805.01 -41545804.83 0.0500 0.0134

Jupiter -118459-01-12 19:12 J -41545714.78 -41545714.70 -41545714.63 0.0499 0.0451

Mars -118459-03-01 12:15 J -41545667.07 -41545666.99 -41545666.90 0.1677 0.1177

Earth -118459-10-11 09:08 J -41545443.25 -41545443.12 -41545442.98 0.2560 0.1387

Moon -118459-10-11 09:36 J -41545443.23 -41545443.10 -41545442.97 0.2566 0.1489 *

Saturn -118455-02-08 15:36 J -41544226.98 -41544226.85 -41544226.71 0.0268 0.0170

Moon -118455-04-08 21:36 J -41544167.70 -41544167.60 -41544167.51 0.2780 0.1269

Earth -118455-04-08 22:05 J -41544167.67 -41544167.58 -41544167.48 0.2777 0.1144 *

Saturn -118455-05-08 10:34 J -41544138.23 -41544138.06 -41544137.89 0.0267 0.0069

Saturn -118455-08-05 05:17 J -41544049.45 -41544049.28 -41544049.10 0.0266 0.0032

Saturn -118455-11-02 00:15 J -41543960.64 -41543960.49 -41543960.33 0.0266 0.0133

Saturn -118454-01-29 19:12 J -41543871.77 -41543871.70 -41543871.60 0.0265 0.0235

Jupiter -118454-09-14 08:24 J -41543644.26 -41543644.15 -41543644.04 0.0526 0.0273

Jupiter -118454-12-12 15:51 J -41543554.95 -41543554.84 -41543554.72 0.0526 0.0207

Mars -118453-10-06 12:44 J -41543256.13 -41543255.97 -41543255.81 0.1827 0.0038

Mars -118452-08-16 14:53 J -41542941.99 -41542941.88 -41542941.78 0.1692 0.0906

Earth -118452-10-02 20:24 J -41542894.66 -41542894.65 -41542894.64 0.2566 0.2554

Mars -118450-07-22 22:48 J -41542236.66 -41542236.55 -41542236.45 0.1680 0.0791

Earth -118449-04-17 18:58 J -41541966.78 -41541966.71 -41541966.64 0.2783 0.2079

Moon -118449-04-17 19:41 J -41541966.75 -41541966.68 -41541966.61 0.2782 0.2082 *

Pluto -118449-12-03 19:41 J -41541736.73 -41541736.68 -41541736.59 0.0060 0.0056

Pluto -118448-03-01 21:08 J -41541648.72 -41541648.62 -41541648.49 0.0060 0.0048

Pluto -118448-05-28 22:34 J -41541560.69 -41541560.56 -41541560.41 0.0060 0.0040

Jupiter -118448-08-02 10:05 J -41541495.23 -41541495.08 -41541494.93 0.0500 0.0273

Pluto -118448-08-25 00:00 J -41541472.66 -41541472.50 -41541472.33 0.0060 0.0032

Jupiter -118448-10-31 17:03 J -41541404.93 -41541404.79 -41541404.65 0.0499 0.0308

Pluto -118448-11-21 01:27 J -41541384.61 -41541384.44 -41541384.26 0.0060 0.0024

Pluto -118447-02-17 02:39 J -41541296.57 -41541296.39 -41541296.20 0.0061 0.0016

Pluto -118447-05-16 04:05 J -41541208.52 -41541208.33 -41541208.14 0.0061 0.0008

Pluto -118447-08-12 05:32 J -41541120.46 -41541120.27 -41541120.08 0.0061 0.0001

Pluto -118447-11-08 06:44 J -41541032.40 -41541032.22 -41541032.03 0.0061 0.0008

Pluto -118446-02-04 08:10 J -41540944.34 -41540944.16 -41540943.98 0.0061 0.0016

Pluto -118446-05-03 09:36 J -41540856.28 -41540856.10 -41540855.93 0.0061 0.0024

Pluto -118446-07-30 10:48 J -41540768.21 -41540768.05 -41540767.89 0.0061 0.0032

Pluto -118446-10-26 11:46 J -41540680.13 -41540680.01 -41540679.85 0.0061 0.0041

Pluto -118445-01-22 12:58 J -41540592.05 -41540591.96 -41540591.82 0.0061 0.0049

Pluto -118445-04-19 14:24 J -41540503.94 -41540503.90 -41540503.81 0.0061 0.0057

Mars -118443-02-26 11:03 J -41539826.18 -41539826.04 -41539825.90 0.1823 0.0850

Venus -118443-07-14 02:10 J -41539688.49 -41539688.41 -41539688.34 0.3694 0.2656

Mars -118442-01-07 00:29 J -41539511.56 -41539511.48 -41539511.41 0.1695 0.1339

Moon -118442-04-11 16:34 J -41539416.92 -41539416.81 -41539416.71 0.2786 0.0265

Earth -118442-04-11 16:34 J -41539416.92 -41539416.81 -41539416.70 0.2779 0.0304 *

Jupiter -118442-07-03 12:15 J -41539334.08 -41539333.99 -41539333.90 0.0525 0.0389

Jupiter -118442-09-30 19:56 J -41539244.80 -41539244.67 -41539244.54 0.0526 0.0092

Mars -118441-12-12 08:53 J -41538806.25 -41538806.13 -41538806.01 0.1682 0.0391

Saturn -118440-11-26 09:22 J -41538457.17 -41538457.11 -41538457.03 0.0293 0.0249

Saturn -118439-02-22 23:32 J -41538368.64 -41538368.52 -41538368.40 0.0294 0.0143

Saturn -118439-05-22 13:12 J -41538280.09 -41538279.95 -41538279.81 0.0295 0.0037

Saturn -118439-08-19 02:53 J -41538191.51 -41538191.38 -41538191.25 0.0296 0.0069

Moon -118439-10-06 01:27 J -41538143.57 -41538143.44 -41538143.30 0.2567 0.1306

Earth -118439-10-06 02:53 J -41538143.52 -41538143.38 -41538143.24 0.2563 0.1155 *

Saturn -118439-11-15 16:20 J -41538102.93 -41538102.82 -41538102.71 0.0297 0.0174

Saturn -118438-02-12 05:46 J -41538014.30 -41538014.26 -41538014.21 0.0298 0.0279

Venus -118437-01-27 19:12 J -41537664.81 -41537664.70 -41537664.60 0.3700 0.0975

Jupiter -118436-05-21 08:24 J -41537185.25 -41537185.15 -41537185.05 0.0500 0.0412

Jupiter -118436-08-19 15:08 J -41537095.04 -41537094.87 -41537094.70 0.0500 0.0166

Moon -118435-04-04 13:41 J -41536866.95 -41536866.93 -41536866.90 0.2767 0.2680

Earth -118435-04-04 14:10 J -41536866.93 -41536866.91 -41536866.88 0.2773 0.2668 *

Mars -118434-07-19 09:22 J -41536396.17 -41536396.11 -41536396.06 0.1818 0.1688

Venus -118432-08-12 12:15 J -41535641.10 -41535640.99 -41535640.89 0.3705 0.0697

Mars -118431-05-04 18:58 J -41535375.83 -41535375.71 -41535375.59 0.1685 0.0026

Jupiter -118430-04-21 15:51 J -41535023.86 -41535023.84 -41535023.80 0.0525 0.0508

Jupiter -118430-07-19 23:46 J -41534934.64 -41534934.51 -41534934.38 0.0526 0.0031

Jupiter -118430-10-17 06:58 J -41534845.27 -41534845.21 -41534845.14 0.0526 0.0445

Mars -118429-04-09 01:56 J -41534670.45 -41534670.42 -41534670.39 0.1674 0.1606

Earth -118429-04-13 11:03 J -41534666.15 -41534666.04 -41534665.93 0.2781 0.0550

Moon -118429-04-13 11:17 J -41534666.13 -41534666.03 -41534665.92 0.2787 0.0554 *

Venus -118426-02-26 05:03 J -41533617.37 -41533617.29 -41533617.21 0.3711 0.2318

Saturn -118426-06-28 13:56 J -41533495.02 -41533494.92 -41533494.81 0.0268 0.0209

Uranus -118426-08-22 05:46 J -41533440.31 -41533440.26 -41533440.21 0.0131 0.0120

Saturn -118426-09-25 08:39 J -41533406.30 -41533406.14 -41533405.98 0.0267 0.0109

Moon -118426-10-09 08:39 J -41533392.30 -41533392.14 -41533391.98 0.2567 0.0307

Earth -118426-10-09 09:22 J -41533392.27 -41533392.11 -41533391.95 0.2561 0.0248 *

Uranus -118426-11-18 08:39 J -41533352.21 -41533352.14 -41533352.05 0.0131 0.0105

Saturn -118426-12-23 03:36 J -41533317.53 -41533317.35 -41533317.18 0.0267 0.0010

Uranus -118425-02-14 11:46 J -41533264.10 -41533264.01 -41533263.90 0.0131 0.0090

Saturn -118425-03-20 22:20 J -41533228.73 -41533228.57 -41533228.40 0.0266 0.0094

Uranus -118425-05-12 15:08 J -41533175.98 -41533175.87 -41533175.76 0.0131 0.0074

Saturn -118425-06-17 17:32 J -41533139.89 -41533139.77 -41533139.64 0.0265 0.0195

Uranus -118425-08-08 18:00 J -41533087.86 -41533087.75 -41533087.62 0.0131 0.0059

Uranus -118425-11-04 21:08 J -41532999.74 -41532999.62 -41532999.49 0.0131 0.0044

Uranus -118424-02-01 00:15 J -41532911.62 -41532911.49 -41532911.36 0.0131 0.0028

Uranus -118424-04-30 03:22 J -41532823.50 -41532823.36 -41532823.23 0.0131 0.0013

Jupiter -118424-06-07 13:27 J -41532785.12 -41532784.94 -41532784.76 0.0500 0.0028

Uranus -118424-07-27 06:15 J -41532735.37 -41532735.24 -41532735.10 0.0131 0.0005

Uranus -118424-10-23 09:22 J -41532647.24 -41532647.11 -41532646.98 0.0131 0.0017

Venus -118424-11-24 13:41 J -41532615.04 -41532614.93 -41532614.82 0.3684 0.2248

Uranus -118423-01-19 12:15 J -41532559.11 -41532558.99 -41532558.85 0.0131 0.0033

Uranus -118423-04-17 15:22 J -41532470.98 -41532470.86 -41532470.73 0.0131 0.0047

Uranus -118423-07-14 18:15 J -41532382.85 -41532382.74 -41532382.62 0.0131 0.0062

Uranus -118423-10-10 21:22 J -41532294.72 -41532294.61 -41532294.50 0.0131 0.0077

Mars -118423-11-15 16:05 J -41532258.97 -41532258.83 -41532258.70 0.1831 0.0994

Uranus -118422-01-07 00:15 J -41532206.58 -41532206.49 -41532206.39 0.0131 0.0092

Uranus -118422-04-05 03:08 J -41532118.44 -41532118.37 -41532118.29 0.0131 0.0107

Moon -118422-04-07 07:56 J -41532116.25 -41532116.17 -41532116.10 0.2775 0.1934

Earth -118422-04-07 08:39 J -41532116.22 -41532116.14 -41532116.06 0.2775 0.1828 *

Uranus -118422-07-02 06:00 J -41532030.29 -41532030.25 -41532030.20 0.0131 0.0122

Mars -118422-09-25 04:48 J -41531945.41 -41531945.30 -41531945.18 0.1689 0.0436

Mars -118420-08-30 12:15 J -41531240.06 -41531239.99 -41531239.91 0.1677 0.1227

Jupiter -118418-05-08 03:22 J -41530624.48 -41530624.36 -41530624.23 0.0525 0.0149

Venus -118418-06-10 17:46 J -41530590.89 -41530590.76 -41530590.63 0.3676 0.1315

Jupiter -118418-08-05 10:48 J -41530535.15 -41530535.05 -41530534.95 0.0526 0.0326

Earth -118416-04-16 05:32 J -41529915.37 -41529915.27 -41529915.18 0.2782 0.1396

Moon -118416-04-16 06:15 J -41529915.33 -41529915.24 -41529915.15 0.2785 0.1460 *

Mars -118413-04-06 13:27 J -41528829.10 -41528828.94 -41528828.78 0.1827 0.0099

Earth -118413-10-11 15:51 J -41528640.96 -41528640.84 -41528640.72 0.2560 0.1655

Moon -118413-10-11 16:34 J -41528640.93 -41528640.81 -41528640.68 0.2565 0.1616 *

Mars -118412-02-14 14:39 J -41528514.99 -41528514.89 -41528514.78 0.1692 0.0858

Jupiter -118412-03-26 11:46 J -41528475.19 -41528475.01 -41528474.84 0.0500 0.0113

Jupiter -118412-06-24 18:58 J -41528384.76 -41528384.71 -41528384.65 0.0499 0.0475

Neptune -118411-11-28 11:17 J -41527863.06 -41527863.03 -41527862.96 0.0089 0.0085

Mars -118410-01-20 22:34 J -41527809.66 -41527809.56 -41527809.45 0.1680 0.0839

Neptune -118410-02-24 14:39 J -41527774.96 -41527774.89 -41527774.80 0.0089 0.0079

Saturn -118410-04-15 10:05 J -41527725.10 -41527725.08 -41527725.05 0.0293 0.0285

Neptune -118410-05-23 18:00 J -41527686.85 -41527686.75 -41527686.65 0.0089 0.0073

Saturn -118410-07-13 00:00 J -41527636.61 -41527636.50 -41527636.39 0.0294 0.0180

Neptune -118410-08-19 20:53 J -41527598.73 -41527598.63 -41527598.50 0.0089 0.0068

Saturn -118410-10-09 13:56 J -41527548.06 -41527547.92 -41527547.79 0.0295 0.0075

Neptune -118410-11-16 00:15 J -41527510.61 -41527510.49 -41527510.35 0.0089 0.0062

Saturn -118409-01-06 03:36 J -41527459.49 -41527459.35 -41527459.22 0.0296 0.0032

Neptune -118409-02-12 03:08 J -41527422.49 -41527422.37 -41527422.21 0.0089 0.0057

Saturn -118409-04-03 17:03 J -41527370.91 -41527370.79 -41527370.67 0.0297 0.0137

Moon -118409-04-09 02:39 J -41527365.50 -41527365.39 -41527365.29 0.2782 0.0978

Earth -118409-04-09 03:08 J -41527365.47 -41527365.37 -41527365.27 0.2777 0.0987 *

Neptune -118409-05-10 06:29 J -41527334.37 -41527334.23 -41527334.07 0.0089 0.0051

Saturn -118409-07-01 06:29 J -41527282.30 -41527282.23 -41527282.15 0.0298 0.0242

Neptune -118409-08-06 09:51 J -41527246.24 -41527246.09 -41527245.92 0.0089 0.0045

Neptune -118409-11-02 12:58 J -41527158.11 -41527157.96 -41527157.78 0.0089 0.0040

Neptune -118408-01-29 16:20 J -41527069.98 -41527069.82 -41527069.64 0.0089 0.0034

Neptune -118408-04-27 19:41 J -41526981.85 -41526981.68 -41526981.50 0.0089 0.0028

Neptune -118408-07-24 23:03 J -41526893.72 -41526893.54 -41526893.36 0.0089 0.0022

Neptune -118408-10-21 02:10 J -41526805.59 -41526805.41 -41526805.22 0.0089 0.0017

Neptune -118407-01-17 05:32 J -41526717.45 -41526717.27 -41526717.08 0.0089 0.0011

Neptune -118407-04-15 08:53 J -41526629.32 -41526629.13 -41526628.95 0.0089 0.0005

Neptune -118407-07-12 12:15 J -41526541.18 -41526540.99 -41526540.81 0.0089 0.0002

Neptune -118407-10-08 15:22 J -41526453.04 -41526452.86 -41526452.67 0.0089 0.0007

Neptune -118406-01-04 18:44 J -41526364.90 -41526364.72 -41526364.53 0.0089 0.0012

Jupiter -118406-02-24 07:27 J -41526314.31 -41526314.19 -41526314.08 0.0525 0.0265

Neptune -118406-04-02 22:05 J -41526276.76 -41526276.58 -41526276.40 0.0089 0.0018

Jupiter -118406-05-24 14:53 J -41526225.00 -41526224.88 -41526224.76 0.0526 0.0213

Neptune -118406-06-30 01:12 J -41526188.62 -41526188.45 -41526188.26 0.0089 0.0025

Neptune -118406-09-26 04:34 J -41526100.48 -41526100.31 -41526100.12 0.0089 0.0030

Moon -118406-10-04 01:27 J -41526092.50 -41526092.44 -41526092.39 0.2565 0.2389

Earth -118406-10-04 03:08 J -41526092.44 -41526092.37 -41526092.30 0.2565 0.2290 *

Neptune -118406-12-23 07:56 J -41526012.33 -41526012.17 -41526011.99 0.0089 0.0036

Neptune -118405-03-20 11:17 J -41525924.19 -41525924.03 -41525923.85 0.0089 0.0042

Neptune -118405-06-16 14:39 J -41525836.04 -41525835.89 -41525835.72 0.0089 0.0048

Neptune -118405-09-12 17:46 J -41525747.89 -41525747.76 -41525747.59 0.0089 0.0055

Neptune -118405-12-09 21:36 J -41525659.73 -41525659.60 -41525659.46 0.0089 0.0060

Neptune -118404-03-08 00:58 J -41525571.58 -41525571.46 -41525571.33 0.0089 0.0065

Neptune -118404-06-04 04:20 J -41525483.42 -41525483.32 -41525483.20 0.0089 0.0072

Mars -118404-08-27 11:17 J -41525399.17 -41525399.03 -41525398.88 0.1823 0.0775

Neptune -118404-08-31 07:41 J -41525395.26 -41525395.18 -41525395.08 0.0089 0.0078

Neptune -118404-11-27 11:17 J -41525307.09 -41525307.03 -41525306.96 0.0089 0.0083

Earth -118403-04-18 23:46 J -41525164.57 -41525164.51 -41525164.44 0.2783 0.2237

Moon -118403-04-19 00:29 J -41525164.54 -41525164.48 -41525164.42 0.2779 0.2305 *

Mars -118403-07-08 00:29 J -41525084.56 -41525084.48 -41525084.40 0.1695 0.1282

Mars -118401-06-12 08:53 J -41524379.25 -41524379.13 -41524379.01 0.1683 0.0438

Jupiter -118400-01-12 09:08 J -41524165.27 -41524165.12 -41524164.96 0.0500 0.0261

Jupiter -118400-04-12 16:05 J -41524074.97 -41524074.83 -41524074.69 0.0499 0.0320

Saturn -118397-11-14 13:12 J -41522763.02 -41522762.95 -41522762.87 0.0269 0.0241

Saturn -118396-02-11 07:41 J -41522674.32 -41522674.18 -41522674.02 0.0268 0.0141

Moon -118396-04-11 21:22 J -41522614.72 -41522614.61 -41522614.50 0.2787 0.0217

Earth -118396-04-11 21:36 J -41522614.71 -41522614.60 -41522614.50 0.2779 0.0181 *

Saturn -118396-05-11 02:39 J -41522585.56 -41522585.39 -41522585.21 0.0267 0.0040

Saturn -118396-08-07 21:36 J -41522496.77 -41522496.60 -41522496.43 0.0267 0.0062

Saturn -118396-11-04 16:48 J -41522407.94 -41522407.80 -41522407.66 0.0266 0.0163

Saturn -118395-02-01 11:46 J -41522319.01 -41522319.01 -41522318.99 0.0265 0.0265

Jupiter -118395-12-13 11:17 J -41522004.12 -41522004.03 -41522003.94 0.0526 0.0382

Mars -118394-01-17 09:51 J -41521969.16 -41521969.09 -41521969.02 0.1819 0.1604

Jupiter -118394-03-12 18:58 J -41521914.84 -41521914.71 -41521914.58 0.0526 0.0100

Moon -118393-10-06 08:10 J -41521341.30 -41521341.16 -41521341.01 0.2568 0.0933

Earth -118393-10-06 09:22 J -41521341.26 -41521341.11 -41521340.96 0.2563 0.0897 *

Mars -118392-11-02 18:58 J -41520948.83 -41520948.71 -41520948.59 0.1685 0.0051

Mars -118390-10-09 01:56 J -41520243.43 -41520243.42 -41520243.40 0.1674 0.1655

Moon -118389-04-04 18:29 J -41520064.77 -41520064.73 -41520064.69 0.2769 0.2539

Earth -118389-04-04 19:12 J -41520064.75 -41520064.70 -41520064.66 0.2773 0.2516 *

Jupiter -118389-10-31 07:27 J -41519855.29 -41519855.19 -41519855.08 0.0500 0.0399

Jupiter -118388-01-29 13:56 J -41519765.08 -41519764.92 -41519764.75 0.0499 0.0177

Venus -118386-02-18 00:00 J -41519015.59 -41519015.50 -41519015.41 0.3695 0.2026

Earth -118383-04-14 15:51 J -41517863.94 -41517863.84 -41517863.73 0.2781 0.0708

Moon -118383-04-14 16:20 J -41517863.92 -41517863.82 -41517863.71 0.2786 0.0813 *

Mars -118383-05-16 16:48 J -41517831.93 -41517831.80 -41517831.67 0.1831 0.1082

Jupiter -118383-10-01 15:08 J -41517693.91 -41517693.87 -41517693.83 0.0525 0.0498

Uranus -118383-11-08 12:29 J -41517656.07 -41517655.98 -41517655.86 0.0148 0.0120

Jupiter -118383-12-29 23:03 J -41517604.67 -41517604.54 -41517604.41 0.0526 0.0017

Uranus -118382-02-04 20:53 J -41517567.77 -41517567.63 -41517567.47 0.0148 0.0090

Mars -118382-03-26 05:03 J -41517518.41 -41517518.29 -41517518.18 0.1689 0.0386

Jupiter -118382-03-29 06:15 J -41517515.30 -41517515.24 -41517515.18 0.0527 0.0456

Uranus -118382-05-04 05:17 J -41517479.44 -41517479.28 -41517479.10 0.0148 0.0060

Uranus -118382-07-31 13:41 J -41517391.11 -41517390.93 -41517390.74 0.0148 0.0029

Uranus -118382-10-27 22:05 J -41517302.77 -41517302.58 -41517302.39 0.0148 0.0002

Uranus -118381-01-24 06:29 J -41517214.41 -41517214.23 -41517214.04 0.0148 0.0032

Uranus -118381-04-21 14:53 J -41517126.04 -41517125.88 -41517125.70 0.0148 0.0063

Uranus -118381-07-18 23:32 J -41517037.66 -41517037.52 -41517037.37 0.0148 0.0094

Venus -118381-09-02 17:03 J -41516991.90 -41516991.79 -41516991.68 0.3701 0.0353

Uranus -118381-10-15 07:41 J -41516949.26 -41516949.18 -41516949.06 0.0148 0.0126

Saturn -118381-11-29 00:58 J -41516904.56 -41516904.46 -41516904.37 0.0293 0.0216

Saturn -118380-02-25 14:39 J -41516816.02 -41516815.89 -41516815.76 0.0294 0.0111

Mars -118380-02-28 12:29 J -41516813.06 -41516812.98 -41516812.91 0.1677 0.1275

Saturn -118380-05-25 04:20 J -41516727.45 -41516727.32 -41516727.18 0.0295 0.0008

Saturn -118380-08-21 18:00 J -41516638.88 -41516638.75 -41516638.62 0.0296 0.0099

Moon -118380-10-09 15:36 J -41516590.00 -41516589.85 -41516589.69 0.2567 0.0423

Earth -118380-10-09 15:51 J -41516589.99 -41516589.84 -41516589.68 0.2561 0.0516 *

Saturn -118380-11-18 07:27 J -41516550.29 -41516550.19 -41516550.09 0.0297 0.0204

Jupiter -118377-11-17 12:00 J -41515455.18 -41515455.00 -41515454.82 0.0500 0.0034

Moon -118376-04-07 12:44 J -41515314.05 -41515313.97 -41515313.88 0.2775 0.1699

Earth -118376-04-07 13:27 J -41515314.02 -41515313.94 -41515313.85 0.2776 0.1674 *

Venus -118375-03-19 09:51 J -41514968.19 -41514968.09 -41514967.99 0.3707 0.1302

Mars -118374-10-06 14:10 J -41514402.06 -41514401.91 -41514401.75 0.1827 0.0192

Mars -118373-08-15 14:53 J -41514087.99 -41514087.88 -41514087.78 0.1692 0.0802

Mars -118371-07-21 22:48 J -41513382.65 -41513382.55 -41513382.45 0.1679 0.0886

Jupiter -118371-10-18 02:53 J -41513294.51 -41513294.38 -41513294.26 0.0526 0.0135

Jupiter -118370-01-15 10:05 J -41513205.18 -41513205.08 -41513204.98 0.0526 0.0341

Earth -118370-04-17 10:20 J -41513113.16 -41513113.07 -41513112.98 0.2782 0.1552

Moon -118370-04-17 11:03 J -41513113.13 -41513113.04 -41513112.95 0.2784 0.1595 *

Venus -118370-10-03 02:53 J -41512944.45 -41512944.38 -41512944.32 0.3712 0.2921

Saturn -118367-07-01 06:15 J -41511942.36 -41511942.24 -41511942.10 0.0268 0.0179

Venus -118367-07-01 14:10 J -41511942.04 -41511941.91 -41511941.77 0.3682 0.1056

Saturn -118367-09-28 01:12 J -41511853.62 -41511853.45 -41511853.28 0.0268 0.0077

Earth -118367-10-12 22:34 J -41511838.67 -41511838.56 -41511838.46 0.2560 0.1921

Moon -118367-10-12 23:17 J -41511838.62 -41511838.53 -41511838.44 0.2565 0.2086 *

Saturn -118367-12-25 20:10 J -41511764.84 -41511764.66 -41511764.49 0.0267 0.0024

Saturn -118366-03-24 15:08 J -41511676.03 -41511675.87 -41511675.71 0.0266 0.0126

Saturn -118366-06-21 10:20 J -41511587.16 -41511587.07 -41511586.98 0.0265 0.0227

Jupiter -118365-09-05 10:20 J -41511145.25 -41511145.07 -41511144.90 0.0500 0.0106

Jupiter -118365-12-04 17:32 J -41511054.81 -41511054.77 -41511054.72 0.0499 0.0481

Mars -118364-02-25 12:00 J -41510972.15 -41510972.00 -41510971.85 0.1823 0.0689

Mars -118363-01-06 00:29 J -41510657.56 -41510657.48 -41510657.40 0.1695 0.1234

Moon -118363-04-10 07:27 J -41510563.29 -41510563.19 -41510563.08 0.2784 0.0922

Earth -118363-04-10 07:56 J -41510563.27 -41510563.17 -41510563.06 0.2777 0.0828 *

Mars -118362-12-12 08:53 J -41509952.24 -41509952.13 -41509952.01 0.1682 0.0488

Venus -118361-01-15 18:44 J -41509917.82 -41509917.72 -41509917.62 0.3674 0.2579

Moon -118360-10-04 08:10 J -41509290.24 -41509290.16 -41509290.08 0.2567 0.2182

Earth -118360-10-04 09:36 J -41509290.19 -41509290.10 -41509290.00 0.2565 0.2034 *

Jupiter -118359-08-06 06:15 J -41508984.35 -41508984.24 -41508984.12 0.0525 0.0258

Jupiter -118359-11-03 13:41 J -41508895.04 -41508894.93 -41508894.81 0.0526 0.0220

Earth -118357-04-19 04:48 J -41508362.36 -41508362.30 -41508362.25 0.2784 0.2397

Moon -118357-04-19 05:17 J -41508362.33 -41508362.28 -41508362.23 0.2778 0.2425 *

Pluto -118355-03-28 16:20 J -41507653.87 -41507653.82 -41507653.76 0.0084 0.0076

Pluto -118355-06-24 17:32 J -41507565.85 -41507565.77 -41507565.67 0.0084 0.0061

Mars -118355-07-18 10:34 J -41507542.15 -41507542.06 -41507541.98 0.1818 0.1524

Pluto -118355-09-20 18:58 J -41507477.82 -41507477.71 -41507477.59 0.0084 0.0045

Pluto -118355-12-17 20:10 J -41507389.77 -41507389.66 -41507389.52 0.0084 0.0030

Pluto -118354-03-15 21:36 J -41507301.73 -41507301.60 -41507301.46 0.0084 0.0015

Mars -118354-05-29 10:05 J -41507227.10 -41507227.08 -41507227.06 0.1699 0.1671

Pluto -118354-06-11 23:03 J -41507213.68 -41507213.54 -41507213.40 0.0084 0.0001

Pluto -118354-09-08 00:15 J -41507125.62 -41507125.49 -41507125.35 0.0084 0.0016

Pluto -118354-12-05 01:27 J -41507037.56 -41507037.44 -41507037.30 0.0084 0.0032

Pluto -118353-03-02 02:39 J -41506949.49 -41506949.39 -41506949.26 0.0083 0.0047

Pluto -118353-05-29 04:05 J -41506861.41 -41506861.33 -41506861.23 0.0083 0.0061

Jupiter -118353-06-24 08:39 J -41506835.30 -41506835.14 -41506834.99 0.0500 0.0245

Pluto -118353-08-25 05:17 J -41506773.32 -41506773.28 -41506773.22 0.0083 0.0076

Jupiter -118353-09-22 15:36 J -41506744.98 -41506744.85 -41506744.72 0.0499 0.0338

Mars -118352-05-03 18:58 J -41506521.83 -41506521.71 -41506521.59 0.1686 0.0081

Saturn -118351-04-18 01:56 J -41506172.49 -41506172.42 -41506172.35 0.0293 0.0250

Saturn -118351-07-15 15:51 J -41506083.96 -41506083.84 -41506083.72 0.0294 0.0145

Saturn -118351-10-12 05:32 J -41505995.41 -41505995.27 -41505995.13 0.0295 0.0040

Saturn -118350-01-08 19:12 J -41505906.84 -41505906.70 -41505906.57 0.0296 0.0065

Saturn -118350-04-07 08:39 J -41505818.25 -41505818.14 -41505818.03 0.0297 0.0170

Moon -118350-04-13 02:24 J -41505812.51 -41505812.40 -41505812.29 0.2786 0.0081

Earth -118350-04-13 02:24 J -41505812.51 -41505812.40 -41505812.29 0.2779 0.0026 *

Saturn -118350-07-04 22:05 J -41505729.63 -41505729.58 -41505729.53 0.0298 0.0274

Jupiter -118347-05-25 10:05 J -41504674.17 -41504674.08 -41504673.99 0.0525 0.0376

Jupiter -118347-08-22 17:46 J -41504584.89 -41504584.76 -41504584.63 0.0526 0.0105

Moon -118347-10-07 14:53 J -41504539.03 -41504538.88 -41504538.72 0.2568 0.0737

Earth -118347-10-07 16:05 J -41504538.98 -41504538.83 -41504538.67 0.2563 0.0630 *

Mars -118344-11-14 17:17 J -41503404.90 -41503404.78 -41503404.65 0.1830 0.1166

Moon -118343-04-05 23:17 J -41503262.58 -41503262.53 -41503262.48 0.2770 0.2447

Earth -118343-04-06 00:00 J -41503262.56 -41503262.50 -41503262.45 0.2773 0.2360 *

Mars -118343-09-24 05:03 J -41503091.41 -41503091.29 -41503091.17 0.1689 0.0328

Uranus -118342-09-11 12:58 J -41502739.02 -41502738.96 -41502738.89 0.0131 0.0116

Uranus -118342-12-08 16:05 J -41502650.91 -41502650.83 -41502650.74 0.0131 0.0100

Uranus -118341-03-05 19:12 J -41502562.80 -41502562.70 -41502562.59 0.0131 0.0085

Jupiter -118341-04-12 06:15 J -41502525.34 -41502525.24 -41502525.13 0.0500 0.0390

Uranus -118341-06-01 22:20 J -41502474.68 -41502474.57 -41502474.45 0.0131 0.0069

Jupiter -118341-07-11 12:44 J -41502435.13 -41502434.97 -41502434.80 0.0499 0.0187

Uranus -118341-08-29 01:27 J -41502386.56 -41502386.44 -41502386.31 0.0131 0.0054

Mars -118341-08-29 12:29 J -41502386.06 -41502385.98 -41502385.91 0.1677 0.1322

Uranus -118341-11-25 04:34 J -41502298.44 -41502298.31 -41502298.18 0.0131 0.0039

Uranus -118340-02-21 07:41 J -41502210.32 -41502210.18 -41502210.05 0.0131 0.0023

Uranus -118340-05-20 10:34 J -41502122.19 -41502122.06 -41502121.92 0.0131 0.0009

Uranus -118340-08-16 13:41 J -41502034.07 -41502033.93 -41502033.79 0.0131 0.0007

Uranus -118340-11-12 16:34 J -41501945.94 -41501945.81 -41501945.67 0.0131 0.0023

Uranus -118339-02-08 19:41 J -41501857.81 -41501857.68 -41501857.55 0.0131 0.0037

Uranus -118339-05-07 22:48 J -41501769.68 -41501769.55 -41501769.43 0.0131 0.0052

Uranus -118339-08-04 01:41 J -41501681.54 -41501681.43 -41501681.31 0.0131 0.0067

Uranus -118339-10-31 04:34 J -41501593.41 -41501593.31 -41501593.20 0.0131 0.0082

Uranus -118338-01-27 07:27 J -41501505.27 -41501505.19 -41501505.09 0.0131 0.0097

Uranus -118338-04-25 10:20 J -41501417.13 -41501417.07 -41501416.99 0.0131 0.0112

Uranus -118338-07-22 13:12 J -41501328.97 -41501328.95 -41501328.90 0.0131 0.0127

Saturn -118338-11-18 06:00 J -41501210.36 -41501210.25 -41501210.14 0.0269 0.0210

Saturn -118337-02-15 00:44 J -41501121.63 -41501121.47 -41501121.31 0.0268 0.0109

Earth -118337-04-14 20:53 J -41501061.74 -41501061.63 -41501061.53 0.2781 0.0870

Moon -118337-04-14 21:22 J -41501061.71 -41501061.61 -41501061.51 0.2786 0.0846 *

Saturn -118337-05-13 19:27 J -41501032.86 -41501032.69 -41501032.51 0.0267 0.0008

Saturn -118337-08-10 14:39 J -41500944.06 -41500943.89 -41500943.73 0.0267 0.0095

Saturn -118337-11-07 09:36 J -41500855.21 -41500855.10 -41500854.97 0.0266 0.0197

Venus -118335-03-11 04:48 J -41500366.36 -41500366.30 -41500366.25 0.3691 0.3082

Jupiter -118335-03-13 13:41 J -41500363.97 -41500363.93 -41500363.89 0.0526 0.0496

Jupiter -118335-06-10 21:36 J -41500274.73 -41500274.60 -41500274.47 0.0526 0.0020

Jupiter -118335-09-08 04:48 J -41500185.35 -41500185.30 -41500185.23 0.0527 0.0462

Mars -118334-04-06 14:39 J -41499975.05 -41499974.89 -41499974.73 0.1827 0.0261

Earth -118334-10-10 22:34 J -41499787.71 -41499787.56 -41499787.40 0.2561 0.0781

Moon -118334-10-10 22:48 J -41499787.70 -41499787.55 -41499787.40 0.2567 0.0859 *

Mars -118333-02-14 14:53 J -41499660.99 -41499660.88 -41499660.77 0.1692 0.0749

Mars -118331-01-19 22:48 J -41498955.65 -41498955.55 -41498955.45 0.1680 0.0934

Moon -118330-04-08 17:46 J -41498511.85 -41498511.76 -41498511.67 0.2777 0.1586

Earth -118330-04-08 18:29 J -41498511.82 -41498511.73 -41498511.64 0.2776 0.1516 *

Venus -118330-09-24 21:51 J -41498342.69 -41498342.59 -41498342.49 0.3697 0.1396

Neptune -118330-09-25 10:48 J -41498342.08 -41498342.05 -41498342.00 0.0088 0.0085

Neptune -118330-12-22 12:44 J -41498254.03 -41498253.97 -41498253.91 0.0088 0.0080

Neptune -118329-03-19 14:10 J -41498165.98 -41498165.91 -41498165.84 0.0088 0.0075

Jupiter -118329-04-29 10:48 J -41498125.23 -41498125.05 -41498124.87 0.0499 0.0044

Neptune -118329-06-15 15:36 J -41498077.92 -41498077.85 -41498077.76 0.0088 0.0071

Neptune -118329-09-11 17:17 J -41497989.87 -41497989.78 -41497989.69 0.0088 0.0067

Neptune -118329-12-08 18:44 J -41497901.81 -41497901.72 -41497901.62 0.0088 0.0063

Neptune -118328-03-06 20:10 J -41497813.76 -41497813.66 -41497813.55 0.0088 0.0058

Neptune -118328-06-02 21:36 J -41497725.70 -41497725.60 -41497725.48 0.0088 0.0054

Neptune -118328-08-29 23:17 J -41497637.64 -41497637.53 -41497637.41 0.0088 0.0050

Neptune -118328-11-26 00:44 J -41497549.58 -41497549.47 -41497549.34 0.0088 0.0046

Neptune -118327-02-22 02:10 J -41497461.52 -41497461.41 -41497461.28 0.0088 0.0042

Neptune -118327-05-21 03:36 J -41497373.46 -41497373.35 -41497373.21 0.0088 0.0038

Neptune -118327-08-17 05:17 J -41497285.40 -41497285.28 -41497285.14 0.0088 0.0033

Neptune -118327-11-13 06:44 J -41497197.34 -41497197.22 -41497197.08 0.0088 0.0029

Neptune -118326-02-09 08:24 J -41497109.28 -41497109.15 -41497109.02 0.0088 0.0024

Neptune -118326-05-08 09:51 J -41497021.22 -41497021.09 -41497020.95 0.0088 0.0020

Neptune -118326-08-04 11:17 J -41496933.16 -41496933.03 -41496932.89 0.0088 0.0016

Neptune -118326-10-31 12:58 J -41496845.10 -41496844.96 -41496844.83 0.0088 0.0012

Neptune -118325-01-27 14:24 J -41496757.04 -41496756.90 -41496756.77 0.0088 0.0007

Neptune -118325-04-24 15:51 J -41496668.98 -41496668.84 -41496668.70 0.0088 0.0003

Neptune -118325-07-21 17:17 J -41496580.92 -41496580.78 -41496580.64 0.0088 0.0002

Mars -118325-08-26 12:58 J -41496545.11 -41496544.96 -41496544.81 0.1823 0.0599

Neptune -118325-10-17 18:44 J -41496492.86 -41496492.72 -41496492.58 0.0088 0.0006

Neptune -118324-01-13 20:10 J -41496404.80 -41496404.66 -41496404.52 0.0088 0.0010

Venus -118324-04-09 14:53 J -41496318.99 -41496318.88 -41496318.77 0.3703 0.0268

Neptune -118324-04-11 21:36 J -41496316.73 -41496316.60 -41496316.46 0.0088 0.0014

Earth -118324-04-17 15:08 J -41496310.95 -41496310.87 -41496310.78 0.2783 0.1708

Moon -118324-04-17 15:51 J -41496310.92 -41496310.84 -41496310.76 0.2782 0.1807 *

Mars -118324-07-07 00:29 J -41496230.56 -41496230.48 -41496230.39 0.1695 0.1180

Neptune -118324-07-08 23:03 J -41496228.67 -41496228.54 -41496228.40 0.0088 0.0018

Neptune -118324-10-05 00:29 J -41496140.61 -41496140.48 -41496140.35 0.0088 0.0022

Neptune -118323-01-01 01:56 J -41496052.55 -41496052.42 -41496052.29 0.0088 0.0027

Jupiter -118323-03-30 01:41 J -41495964.56 -41495964.43 -41495964.30 0.0526 0.0128

Neptune -118323-03-30 03:22 J -41495964.49 -41495964.36 -41495964.23 0.0088 0.0031 *

Neptune -118323-06-26 04:34 J -41495876.42 -41495876.31 -41495876.17 0.0088 0.0036

Jupiter -118323-06-27 09:08 J -41495875.22 -41495875.12 -41495875.03 0.0527 0.0348

Neptune -118323-09-22 06:00 J -41495788.36 -41495788.25 -41495788.12 0.0088 0.0040

Neptune -118323-12-19 07:27 J -41495700.30 -41495700.19 -41495700.06 0.0088 0.0044

Neptune -118322-03-17 08:53 J -41495612.23 -41495612.13 -41495612.00 0.0088 0.0048

Mars -118322-06-12 08:53 J -41495525.24 -41495525.13 -41495525.01 0.1682 0.0539

Neptune -118322-06-13 10:20 J -41495524.17 -41495524.07 -41495523.95 0.0088 0.0052

Saturn -118322-09-05 03:08 J -41495440.40 -41495440.37 -41495440.33 0.0292 0.0283

Neptune -118322-09-09 11:46 J -41495436.11 -41495436.01 -41495435.90 0.0088 0.0056

Saturn -118322-12-02 17:03 J -41495351.90 -41495351.79 -41495351.68 0.0293 0.0179

Neptune -118322-12-06 13:12 J -41495348.04 -41495347.95 -41495347.84 0.0088 0.0060

Saturn -118321-02-29 06:44 J -41495263.35 -41495263.22 -41495263.08 0.0294 0.0075

Neptune -118321-03-03 14:39 J -41495259.98 -41495259.89 -41495259.79 0.0088 0.0064

Saturn -118321-05-27 20:24 J -41495174.78 -41495174.65 -41495174.51 0.0295 0.0031

Neptune -118321-05-30 16:05 J -41495171.91 -41495171.83 -41495171.74 0.0088 0.0068

Saturn -118321-08-24 09:51 J -41495086.20 -41495086.09 -41495085.96 0.0296 0.0136

Neptune -118321-08-26 17:32 J -41495083.84 -41495083.77 -41495083.69 0.0088 0.0072

Earth -118321-10-13 05:03 J -41495036.37 -41495036.29 -41495036.21 0.2559 0.2187

Moon -118321-10-13 06:00 J -41495036.33 -41495036.25 -41495036.16 0.2565 0.2155 *

Saturn -118321-11-20 23:17 J -41494997.60 -41494997.53 -41494997.45 0.0297 0.0240

Neptune -118321-11-22 18:58 J -41494995.77 -41494995.71 -41494995.64 0.0088 0.0076

Neptune -118320-02-18 20:24 J -41494907.70 -41494907.65 -41494907.59 0.0088 0.0080

Neptune -118320-05-17 21:51 J -41494819.63 -41494819.59 -41494819.55 0.0088 0.0084

Neptune -118320-08-13 23:03 J -41494731.54 -41494731.54 -41494731.52 0.0088 0.0088

Venus -118319-10-24 07:41 J -41494295.27 -41494295.18 -41494295.09 0.3708 0.1906

Jupiter -118317-02-16 08:39 J -41493815.32 -41493815.14 -41493814.97 0.0500 0.0101

Moon -118317-04-10 12:29 J -41493761.09 -41493760.98 -41493760.88 0.2785 0.0664

Earth -118317-04-10 12:58 J -41493761.07 -41493760.96 -41493760.86 0.2778 0.0679 *

Jupiter -118317-05-16 15:51 J -41493724.88 -41493724.84 -41493724.80 0.0499 0.0485

Venus -118316-07-22 11:03 J -41493293.10 -41493293.04 -41493292.98 0.3687 0.3334

Mars -118315-01-16 11:03 J -41493115.13 -41493115.04 -41493114.94 0.1818 0.1438

Mars -118315-11-27 10:05 J -41492800.11 -41492800.08 -41492800.04 0.1699 0.1617

Moon -118314-10-05 14:53 J -41492488.00 -41492487.88 -41492487.77 0.2568 0.1795

Earth -118314-10-05 16:20 J -41492487.93 -41492487.82 -41492487.70 0.2564 0.1770 *

Venus -118313-05-09 00:29 J -41492271.51 -41492271.48 -41492271.44 0.3714 0.3520

Mars -118313-11-01 18:58 J -41492094.83 -41492094.71 -41492094.59 0.1685 0.0147

Jupiter -118311-01-16 05:17 J -41491654.39 -41491654.28 -41491654.16 0.0526 0.0248

Jupiter -118311-04-15 12:58 J -41491565.08 -41491564.96 -41491564.84 0.0526 0.0231

Earth -118311-04-20 09:36 J -41491560.14 -41491560.10 -41491560.06 0.2784 0.2554

Moon -118311-04-20 10:05 J -41491560.11 -41491560.08 -41491560.04 0.2778 0.2589 *

Venus -118310-02-05 15:08 J -41491269.02 -41491268.87 -41491268.73 0.3680 0.0206

Saturn -118308-04-06 04:48 J -41490478.36 -41490478.30 -41490478.22 0.0269 0.0244

Saturn -118308-07-03 23:32 J -41490389.66 -41490389.52 -41490389.37 0.0268 0.0144

Saturn -118308-09-30 18:29 J -41490300.91 -41490300.73 -41490300.56 0.0268 0.0042

Saturn -118308-12-28 13:27 J -41490212.11 -41490211.94 -41490211.77 0.0267 0.0059

Saturn -118307-03-27 08:39 J -41490123.28 -41490123.14 -41490123.00 0.0266 0.0161

Saturn -118307-06-24 03:36 J -41490034.36 -41490034.35 -41490034.31 0.0265 0.0263

Jupiter -118306-12-05 06:44 J -41489505.37 -41489505.22 -41489505.06 0.0500 0.0242

Jupiter -118305-03-04 13:41 J -41489415.06 -41489414.93 -41489414.80 0.0499 0.0341

Earth -118304-04-13 07:12 J -41489010.31 -41489010.20 -41489010.09 0.2780 0.0188

Moon -118304-04-13 07:27 J -41489010.29 -41489010.19 -41489010.08 0.2786 0.0157 *

Mars -118304-05-15 18:00 J -41488977.87 -41488977.75 -41488977.64 0.1831 0.1249

Mars -118303-03-25 05:03 J -41488664.41 -41488664.29 -41488664.17 0.1689 0.0280

Mars -118301-02-28 12:29 J -41487959.05 -41487958.98 -41487958.92 0.1677 0.1368

Moon -118301-10-07 21:51 J -41487736.74 -41487736.59 -41487736.43 0.2568 0.0426

Earth -118301-10-07 22:48 J -41487736.71 -41487736.55 -41487736.39 0.2562 0.0367 *

Jupiter -118300-11-04 08:39 J -41487344.23 -41487344.14 -41487344.04 0.0525 0.0372

Jupiter -118299-02-01 16:34 J -41487254.94 -41487254.81 -41487254.69 0.0526 0.0109

Uranus -118299-09-01 12:58 J -41487043.01 -41487042.96 -41487042.89 0.0148 0.0139

Uranus -118299-11-28 21:22 J -41486954.73 -41486954.61 -41486954.48 0.0148 0.0109

Uranus -118298-02-25 05:46 J -41486866.42 -41486866.26 -41486866.11 0.0148 0.0079

Uranus -118298-05-24 13:56 J -41486778.09 -41486777.92 -41486777.74 0.0148 0.0048

Uranus -118298-08-20 22:20 J -41486689.75 -41486689.57 -41486689.38 0.0148 0.0018

Uranus -118298-11-17 06:44 J -41486601.40 -41486601.22 -41486601.03 0.0148 0.0013

Uranus -118297-02-13 15:08 J -41486513.05 -41486512.87 -41486512.69 0.0148 0.0044

Moon -118297-04-06 04:05 J -41486460.39 -41486460.33 -41486460.26 0.2771 0.2215

Earth -118297-04-06 04:48 J -41486460.36 -41486460.30 -41486460.23 0.2774 0.2207 *

Uranus -118297-05-11 23:46 J -41486424.67 -41486424.51 -41486424.35 0.0148 0.0075

Uranus -118297-08-08 08:10 J -41486336.29 -41486336.16 -41486336.02 0.0148 0.0106

Uranus -118297-11-04 16:34 J -41486247.87 -41486247.81 -41486247.73 0.0148 0.0137

Mars -118295-10-05 15:36 J -41485548.01 -41485547.85 -41485547.70 0.1827 0.0356

Mars -118294-08-15 14:53 J -41485233.99 -41485233.88 -41485233.77 0.1692 0.0700

Jupiter -118294-09-23 05:03 J -41485195.40 -41485195.29 -41485195.17 0.0500 0.0381

Jupiter -118294-12-22 11:46 J -41485105.18 -41485105.01 -41485104.85 0.0499 0.0198

Saturn -118292-04-20 18:29 J -41484619.82 -41484619.73 -41484619.63 0.0293 0.0210

Saturn -118292-07-18 08:24 J -41484531.28 -41484531.15 -41484531.02 0.0294 0.0105

Mars -118292-07-20 22:48 J -41484528.65 -41484528.55 -41484528.46 0.1680 0.0981

Saturn -118292-10-14 22:05 J -41484442.72 -41484442.58 -41484442.45 0.0295 0.0005

Saturn -118291-01-11 11:32 J -41484354.14 -41484354.02 -41484353.89 0.0296 0.0105

Saturn -118291-04-10 00:58 J -41484265.55 -41484265.46 -41484265.36 0.0297 0.0209

Earth -118291-04-16 01:41 J -41484259.53 -41484259.43 -41484259.33 0.2781 0.1020

Moon -118291-04-16 02:10 J -41484259.50 -41484259.41 -41484259.31 0.2786 0.1146 *

Jupiter -118288-08-23 12:29 J -41483034.03 -41483033.98 -41483033.94 0.0525 0.0492

Earth -118288-10-11 05:17 J -41482985.43 -41482985.28 -41482985.13 0.2561 0.1044

Moon -118288-10-11 05:46 J -41482985.41 -41482985.26 -41482985.12 0.2567 0.1028 *

Jupiter -118288-11-20 20:24 J -41482944.78 -41482944.65 -41482944.52 0.0526 0.0015

Jupiter -118287-02-18 03:36 J -41482855.41 -41482855.35 -41482855.29 0.0527 0.0463

Mars -118285-02-25 13:12 J -41482118.10 -41482117.95 -41482117.80 0.1823 0.0526

Mars -118284-01-05 00:44 J -41481803.56 -41481803.47 -41481803.38 0.1695 0.1126

Moon -118284-04-08 22:48 J -41481709.65 -41481709.55 -41481709.46 0.2780 0.1442

Earth -118284-04-08 23:17 J -41481709.62 -41481709.53 -41481709.44 0.2776 0.1361 *

Mars -118283-12-11 08:53 J -41481098.24 -41481098.13 -41481098.01 0.1683 0.0589

Jupiter -118282-10-10 09:08 J -41480795.30 -41480795.12 -41480794.94 0.0499 0.0049

Venus -118279-10-16 02:39 J -41479693.47 -41479693.39 -41479693.31 0.3693 0.2450

Saturn -118279-11-20 23:32 J -41479657.65 -41479657.52 -41479657.38 0.0269 0.0172

Saturn -118278-02-17 18:29 J -41479568.90 -41479568.73 -41479568.56 0.0268 0.0071

Earth -118278-04-18 20:10 J -41479508.74 -41479508.66 -41479508.59 0.2783 0.1870

Moon -118278-04-18 20:39 J -41479508.72 -41479508.64 -41479508.56 0.2780 0.1859 *

Saturn -118278-05-17 13:27 J -41479480.12 -41479479.94 -41479479.76 0.0267 0.0031

Saturn -118278-08-14 08:39 J -41479391.30 -41479391.14 -41479390.99 0.0266 0.0133

Saturn -118278-11-11 03:51 J -41479302.42 -41479302.34 -41479302.26 0.0266 0.0235

Mars -118276-07-17 11:46 J -41478688.11 -41478688.01 -41478687.91 0.1819 0.1355

Jupiter -118276-09-09 00:00 J -41478634.63 -41478634.50 -41478634.37 0.0526 0.0130

Jupiter -118276-12-07 07:27 J -41478545.29 -41478545.19 -41478545.09 0.0527 0.0348

Mars -118275-05-28 10:20 J -41478373.12 -41478373.07 -41478373.03 0.1699 0.1563

Earth -118275-10-14 11:46 J -41478234.05 -41478234.01 -41478233.97 0.2559 0.2456

Venus -118273-04-30 19:41 J -41477669.78 -41477669.68 -41477669.57 0.3699 0.0775

Mars -118273-05-02 19:12 J -41477667.82 -41477667.70 -41477667.58 0.1685 0.0191

Moon -118271-04-11 17:32 J -41476958.88 -41476958.77 -41476958.67 0.2785 0.0559

Earth -118271-04-11 17:46 J -41476958.87 -41476958.76 -41476958.65 0.2778 0.0513 *

Jupiter -118270-07-29 07:12 J -41476485.38 -41476485.20 -41476485.03 0.0499 0.0094

Jupiter -118270-10-27 14:10 J -41476394.94 -41476394.91 -41476394.87 0.0499 0.0490

Moon -118268-10-05 21:36 J -41475685.72 -41475685.60 -41475685.48 0.2568 0.1693

Earth -118268-10-05 23:03 J -41475685.67 -41475685.54 -41475685.41 0.2564 0.1505 *

Venus -118268-11-14 12:44 J -41475646.08 -41475645.97 -41475645.87 0.3704 0.0877

Earth -118265-04-20 14:24 J -41474757.92 -41474757.90 -41474757.88 0.2784 0.2712

Moon -118265-04-20 14:53 J -41474757.89 -41474757.88 -41474757.87 0.2778 0.2757 *

Mars -118265-11-13 18:58 J -41474550.82 -41474550.71 -41474550.61 0.1831 0.1346

Jupiter -118264-06-28 03:51 J -41474324.45 -41474324.34 -41474324.22 0.0526 0.0247

Mars -118264-09-23 05:03 J -41474237.41 -41474237.29 -41474237.17 0.1689 0.0229

Jupiter -118264-09-25 11:32 J -41474235.14 -41474235.02 -41474234.91 0.0527 0.0233

Saturn -118263-09-07 20:24 J -41473887.73 -41473887.65 -41473887.57 0.0292 0.0238

Saturn -118263-12-05 10:20 J -41473799.19 -41473799.07 -41473798.95 0.0293 0.0134

Saturn -118262-03-04 00:00 J -41473710.64 -41473710.50 -41473710.37 0.0295 0.0030

Venus -118262-05-31 05:32 J -41473622.35 -41473622.27 -41473622.19 0.3710 0.2503

Saturn -118262-05-31 13:27 J -41473622.07 -41473621.94 -41473621.81 0.0296 0.0075

Saturn -118262-08-28 02:53 J -41473533.48 -41473533.38 -41473533.27 0.0297 0.0179

Mars -118262-08-29 12:29 J -41473532.04 -41473531.98 -41473531.92 0.1677 0.1416

Saturn -118262-11-24 16:20 J -41473444.86 -41473444.82 -41473444.78 0.0298 0.0283

Venus -118259-02-26 11:46 J -41472620.12 -41472620.01 -41472619.90 0.3685 0.2139

Earth -118258-04-14 12:15 J -41472208.10 -41472207.99 -41472207.89 0.2780 0.0344

Moon -118258-04-14 12:29 J -41472208.08 -41472207.98 -41472207.87 0.2786 0.0424 *

Jupiter -118258-05-17 04:48 J -41472175.46 -41472175.30 -41472175.14 0.0500 0.0240

Uranus -118258-07-05 17:17 J -41472125.80 -41472125.78 -41472125.73 0.0131 0.0126

Jupiter -118258-08-15 11:32 J -41472085.14 -41472085.02 -41472084.88 0.0499 0.0342

Uranus -118258-10-01 20:39 J -41472037.71 -41472037.64 -41472037.57 0.0131 0.0110

Uranus -118258-12-28 23:32 J -41471949.60 -41471949.52 -41471949.42 0.0131 0.0095

Uranus -118257-03-26 02:53 J -41471861.49 -41471861.38 -41471861.27 0.0131 0.0079

Uranus -118257-06-22 05:46 J -41471773.37 -41471773.26 -41471773.13 0.0131 0.0064

Uranus -118257-09-18 08:53 J -41471685.25 -41471685.13 -41471685.00 0.0131 0.0049

Uranus -118257-12-15 12:00 J -41471597.13 -41471597.00 -41471596.86 0.0131 0.0033

Uranus -118256-03-13 15:08 J -41471509.00 -41471508.87 -41471508.74 0.0131 0.0018

Uranus -118256-06-09 18:15 J -41471420.88 -41471420.74 -41471420.61 0.0131 0.0004

Uranus -118256-09-05 21:08 J -41471332.75 -41471332.62 -41471332.48 0.0131 0.0013

Uranus -118256-12-03 00:15 J -41471244.62 -41471244.49 -41471244.36 0.0131 0.0027

Uranus -118255-03-01 03:08 J -41471156.49 -41471156.37 -41471156.24 0.0131 0.0042

Mars -118255-04-05 16:05 J -41471120.99 -41471120.83 -41471120.68 0.1827 0.0436

Uranus -118255-05-28 06:00 J -41471068.36 -41471068.25 -41471068.12 0.0131 0.0058

Uranus -118255-08-24 09:08 J -41470980.23 -41470980.12 -41470980.00 0.0131 0.0072

Moon -118255-10-09 05:17 J -41470934.44 -41470934.28 -41470934.12 0.2568 0.0066

Earth -118255-10-09 05:32 J -41470934.43 -41470934.27 -41470934.11 0.2562 0.0101 *

Uranus -118255-11-20 12:15 J -41470892.09 -41470891.99 -41470891.89 0.0131 0.0087

Mars -118254-02-13 14:53 J -41470806.99 -41470806.88 -41470806.77 0.1692 0.0649

Uranus -118254-02-16 15:08 J -41470803.95 -41470803.87 -41470803.79 0.0131 0.0102

Uranus -118254-05-15 18:00 J -41470715.80 -41470715.75 -41470715.69 0.0131 0.0117

Venus -118254-09-12 15:51 J -41470595.97 -41470595.84 -41470595.71 0.3678 0.1418

Mars -118252-01-18 22:48 J -41470101.65 -41470101.55 -41470101.46 0.1680 0.1028

Jupiter -118252-04-16 07:27 J -41470014.28 -41470014.19 -41470014.09 0.0525 0.0367

Jupiter -118252-07-14 15:22 J -41469924.99 -41469924.86 -41469924.74 0.0526 0.0115

Moon -118251-04-07 09:08 J -41469658.19 -41469658.12 -41469658.06 0.2773 0.2168

Earth -118251-04-07 09:51 J -41469658.17 -41469658.09 -41469658.02 0.2774 0.2052 *

Saturn -118249-04-08 23:03 J -41468925.64 -41468925.54 -41468925.42 0.0269 0.0205

Saturn -118249-07-06 18:00 J -41468836.91 -41468836.75 -41468836.59 0.0268 0.0103

Saturn -118249-10-03 12:58 J -41468748.14 -41468747.96 -41468747.78 0.0267 0.0003

Saturn -118249-12-31 07:56 J -41468659.33 -41468659.17 -41468659.00 0.0267 0.0100

Saturn -118248-03-30 03:08 J -41468570.48 -41468570.37 -41468570.25 0.0266 0.0202

Jupiter -118246-03-05 02:53 J -41467865.49 -41467865.38 -41467865.26 0.0500 0.0381

Neptune -118246-05-29 06:29 J -41467780.24 -41467780.23 -41467780.19 0.0089 0.0088

Jupiter -118246-06-03 09:22 J -41467775.27 -41467775.11 -41467774.94 0.0499 0.0197

Neptune -118246-08-25 09:51 J -41467692.15 -41467692.09 -41467692.02 0.0089 0.0082

Mars -118246-08-26 13:56 J -41467691.07 -41467690.92 -41467690.76 0.1823 0.0435

Neptune -118246-11-21 12:44 J -41467604.04 -41467603.97 -41467603.86 0.0089 0.0077

Neptune -118245-02-17 16:05 J -41467515.93 -41467515.83 -41467515.71 0.0089 0.0071

Earth -118245-04-16 06:29 J -41467457.33 -41467457.23 -41467457.13 0.2782 0.1183

Moon -118245-04-16 07:12 J -41467457.30 -41467457.20 -41467457.10 0.2783 0.1178 *

Neptune -118245-05-15 18:58 J -41467427.81 -41467427.71 -41467427.57 0.0089 0.0066

Mars -118245-07-06 00:44 J -41467376.56 -41467376.47 -41467376.38 0.1695 0.1074

Neptune -118245-08-11 22:20 J -41467339.69 -41467339.57 -41467339.42 0.0089 0.0060

Neptune -118245-11-08 01:41 J -41467251.57 -41467251.43 -41467251.28 0.0089 0.0054

Neptune -118244-02-04 04:48 J -41467163.44 -41467163.30 -41467163.14 0.0089 0.0049

Neptune -118244-05-03 08:10 J -41467075.32 -41467075.16 -41467074.99 0.0089 0.0043

Neptune -118244-07-30 11:32 J -41466987.19 -41466987.02 -41466986.85 0.0089 0.0037

Neptune -118244-10-26 14:24 J -41466899.06 -41466898.90 -41466898.71 0.0089 0.0032

Neptune -118243-01-22 17:46 J -41466810.93 -41466810.76 -41466810.57 0.0089 0.0026

Neptune -118243-04-20 21:08 J -41466722.79 -41466722.62 -41466722.43 0.0089 0.0020

Mars -118243-06-11 08:53 J -41466671.24 -41466671.13 -41466671.01 0.1682 0.0639

Neptune -118243-07-18 00:29 J -41466634.66 -41466634.48 -41466634.29 0.0089 0.0014

Neptune -118243-10-14 03:51 J -41466546.53 -41466546.34 -41466546.16 0.0089 0.0009

Neptune -118242-01-10 07:12 J -41466458.39 -41466458.20 -41466458.02 0.0089 0.0003

Neptune -118242-04-08 10:20 J -41466370.25 -41466370.07 -41466369.88 0.0089 0.0003

Neptune -118242-07-05 13:41 J -41466282.11 -41466281.93 -41466281.74 0.0089 0.0009

Neptune -118242-10-01 16:48 J -41466193.97 -41466193.80 -41466193.61 0.0089 0.0015

Earth -118242-10-12 12:00 J -41466183.14 -41466183.00 -41466182.86 0.2560 0.1313

Moon -118242-10-12 12:44 J -41466183.11 -41466182.97 -41466182.84 0.2566 0.1379 *

Neptune -118242-12-28 20:10 J -41466105.83 -41466105.66 -41466105.47 0.0089 0.0021

Neptune -118241-03-25 23:46 J -41466017.69 -41466017.51 -41466017.33 0.0089 0.0026

Neptune -118241-06-22 02:53 J -41465929.55 -41465929.38 -41465929.20 0.0089 0.0032

Neptune -118241-09-18 06:15 J -41465841.40 -41465841.24 -41465841.06 0.0089 0.0038

Neptune -118241-12-15 09:36 J -41465753.26 -41465753.10 -41465752.93 0.0089 0.0044

Jupiter -118240-02-02 10:48 J -41465704.09 -41465704.05 -41465704.01 0.0525 0.0492

Neptune -118240-03-13 12:58 J -41465665.11 -41465664.96 -41465664.80 0.0089 0.0050

Jupiter -118240-05-02 18:44 J -41465614.85 -41465614.72 -41465614.59 0.0526 0.0010

Neptune -118240-06-09 16:05 J -41465576.96 -41465576.83 -41465576.67 0.0089 0.0056

Jupiter -118240-07-31 01:56 J -41465525.48 -41465525.42 -41465525.36 0.0526 0.0462

Neptune -118240-09-05 19:27 J -41465488.81 -41465488.69 -41465488.54 0.0089 0.0062

Neptune -118240-12-02 22:48 J -41465400.65 -41465400.55 -41465400.41 0.0089 0.0068

Neptune -118239-03-01 02:10 J -41465312.49 -41465312.41 -41465312.28 0.0089 0.0074

Neptune -118239-05-28 05:32 J -41465224.33 -41465224.27 -41465224.16 0.0089 0.0080

Neptune -118239-08-24 09:08 J -41465136.15 -41465136.12 -41465136.05 0.0089 0.0086

Moon -118238-04-10 03:36 J -41464907.44 -41464907.35 -41464907.25 0.2782 0.1209

Earth -118238-04-10 04:05 J -41464907.42 -41464907.33 -41464907.23 0.2776 0.1211 *

Mars -118236-01-15 12:15 J -41464261.10 -41464260.99 -41464260.88 0.1818 0.1274

Mars -118236-11-26 10:20 J -41463946.13 -41463946.07 -41463946.02 0.1699 0.1511

Jupiter -118234-03-22 07:27 J -41463465.37 -41463465.19 -41463465.01 0.0500 0.0053

Mars -118234-11-01 19:12 J -41463240.82 -41463240.70 -41463240.58 0.1686 0.0238

Saturn -118233-01-25 22:20 J -41463155.62 -41463155.57 -41463155.51 0.0292 0.0265

Saturn -118233-04-23 12:15 J -41463067.10 -41463066.99 -41463066.87 0.0293 0.0161

Saturn -118233-07-21 01:56 J -41462978.55 -41462978.42 -41462978.28 0.0294 0.0057

Saturn -118233-10-17 15:36 J -41462889.99 -41462889.85 -41462889.72 0.0296 0.0048

Saturn -118232-01-14 05:03 J -41462801.40 -41462801.29 -41462801.17 0.0297 0.0152

Saturn -118232-04-12 18:29 J -41462712.80 -41462712.73 -41462712.66 0.0297 0.0256

Earth -118232-04-19 00:58 J -41462706.53 -41462706.46 -41462706.39 0.2783 0.2026

Moon -118232-04-19 01:41 J -41462706.50 -41462706.43 -41462706.37 0.2779 0.2145 *

Jupiter -118228-02-18 22:20 J -41461304.69 -41461304.57 -41461304.44 0.0526 0.0131

Jupiter -118228-05-19 05:46 J -41461215.35 -41461215.26 -41461215.16 0.0527 0.0346

Venus -118228-11-06 07:12 J -41461044.23 -41461044.20 -41461044.17 0.3689 0.3513

Earth -118225-04-11 22:34 J -41460156.67 -41460156.56 -41460156.45 0.2778 0.0362

Moon -118225-04-11 22:34 J -41460156.66 -41460156.56 -41460156.45 0.2785 0.0384 *

Mars -118225-05-14 19:12 J -41460123.80 -41460123.70 -41460123.60 0.1830 0.1416

Mars -118224-03-24 05:03 J -41459810.41 -41459810.29 -41459810.17 0.1689 0.0181

Jupiter -118222-01-08 05:03 J -41459155.46 -41459155.29 -41459155.11 0.0499 0.0093

Mars -118222-02-27 12:29 J -41459105.04 -41459104.98 -41459104.93 0.1677 0.1461

Jupiter -118222-04-08 12:15 J -41459065.02 -41459064.99 -41459064.96 0.0499 0.0491

Venus -118222-05-23 00:29 J -41459020.57 -41459020.48 -41459020.39 0.3695 0.1826

Moon -118222-10-07 04:34 J -41458883.45 -41458883.31 -41458883.17 0.2568 0.1224

Earth -118222-10-07 05:32 J -41458883.41 -41458883.27 -41458883.13 0.2564 0.1246 *

Saturn -118220-08-26 23:46 J -41458193.59 -41458193.51 -41458193.42 0.0270 0.0230

Saturn -118220-11-23 18:29 J -41458104.88 -41458104.73 -41458104.57 0.0269 0.0129

Saturn -118219-02-20 13:27 J -41458016.12 -41458015.94 -41458015.76 0.0268 0.0028

Saturn -118219-05-20 08:24 J -41457927.32 -41457927.15 -41457926.97 0.0267 0.0075

Saturn -118219-08-17 03:36 J -41457838.48 -41457838.35 -41457838.21 0.0266 0.0176

Earth -118218-04-05 20:10 J -41457606.67 -41457606.66 -41457606.65 0.2772 0.2739

Venus -118217-12-05 17:32 J -41456996.88 -41456996.77 -41456996.66 0.3700 0.0182

Jupiter -118217-12-08 01:56 J -41456994.54 -41456994.42 -41456994.31 0.0526 0.0253

Jupiter -118216-03-07 09:36 J -41456905.22 -41456905.10 -41456904.99 0.0527 0.0228

Mars -118216-10-04 16:48 J -41456693.96 -41456693.80 -41456693.65 0.1827 0.0524

Mars -118215-08-14 15:08 J -41456379.99 -41456379.87 -41456379.76 0.1692 0.0593

Uranus -118215-09-21 21:22 J -41456341.70 -41456341.61 -41456341.52 0.0148 0.0129

Uranus -118215-12-19 05:17 J -41456253.40 -41456253.28 -41456253.13 0.0148 0.0099

Uranus -118214-03-17 13:56 J -41456165.08 -41456164.92 -41456164.76 0.0148 0.0069

Uranus -118214-06-13 22:05 J -41456076.75 -41456076.58 -41456076.39 0.0148 0.0039

Uranus -118214-09-10 06:44 J -41455988.41 -41455988.22 -41455988.04 0.0148 0.0008

Uranus -118214-12-07 14:53 J -41455900.06 -41455899.88 -41455899.69 0.0148 0.0024

Uranus -118213-03-04 23:32 J -41455811.69 -41455811.52 -41455811.34 0.0148 0.0054

Uranus -118213-06-01 07:41 J -41455723.32 -41455723.18 -41455723.01 0.0148 0.0086

Mars -118213-07-19 22:48 J -41455674.64 -41455674.55 -41455674.46 0.1680 0.1080

Uranus -118213-08-28 16:20 J -41455634.92 -41455634.82 -41455634.69 0.0148 0.0116

Uranus -118213-11-25 00:58 J -41455546.47 -41455546.46 -41455546.43 0.0148 0.0148

Earth -118212-04-14 17:03 J -41455405.90 -41455405.79 -41455405.68 0.2780 0.0492

Moon -118212-04-14 17:32 J -41455405.88 -41455405.77 -41455405.66 0.2786 0.0512 *

Venus -118211-06-21 10:20 J -41454973.16 -41454973.07 -41454972.97 0.3706 0.1485

Jupiter -118211-10-27 03:08 J -41454845.53 -41454845.37 -41454845.21 0.0499 0.0235

Jupiter -118210-01-25 09:51 J -41454755.22 -41454755.09 -41454754.96 0.0499 0.0344

Earth -118209-10-09 12:00 J -41454132.16 -41454132.00 -41454131.84 0.2562 0.0170

Moon -118209-10-09 12:15 J -41454132.15 -41454131.99 -41454131.83 0.2569 0.0095 *

Mars -118206-02-24 14:39 J -41453264.04 -41453263.89 -41453263.73 0.1823 0.0347

Mars -118205-01-05 00:44 J -41452949.57 -41452949.47 -41452949.37 0.1695 0.1023

Venus -118205-01-05 03:22 J -41452949.42 -41452949.36 -41452949.31 0.3711 0.3093 *

Moon -118205-04-07 13:56 J -41452856.00 -41452855.92 -41452855.84 0.2777 0.1885

Earth -118205-04-07 14:39 J -41452855.97 -41452855.89 -41452855.81 0.2774 0.1894 *

Jupiter -118205-09-26 05:46 J -41452684.36 -41452684.26 -41452684.17 0.0526 0.0371

Jupiter -118205-12-24 13:27 J -41452595.07 -41452594.94 -41452594.81 0.0527 0.0111

Saturn -118204-06-14 00:44 J -41452423.47 -41452423.47 -41452423.47 0.0292 0.0291

Saturn -118204-09-10 14:39 J -41452335.00 -41452334.89 -41452334.79 0.0293 0.0188

Saturn -118204-12-08 04:20 J -41452246.45 -41452246.32 -41452246.19 0.0294 0.0084

Mars -118204-12-10 09:08 J -41452244.23 -41452244.12 -41452244.01 0.1682 0.0685

Saturn -118203-03-06 18:00 J -41452157.89 -41452157.75 -41452157.62 0.0295 0.0023

Saturn -118203-06-03 07:27 J -41452069.31 -41452069.19 -41452069.07 0.0296 0.0125

Saturn -118203-08-30 20:39 J -41451980.72 -41451980.64 -41451980.55 0.0297 0.0229

Venus -118203-10-03 12:29 J -41451947.12 -41451946.98 -41451946.85 0.3683 0.0941

Pluto -118201-04-10 05:32 J -41451392.35 -41451392.27 -41451392.18 0.0060 0.0053

Pluto -118201-07-07 06:58 J -41451304.33 -41451304.21 -41451304.08 0.0060 0.0046

Pluto -118201-10-03 08:24 J -41451216.30 -41451216.15 -41451216.00 0.0060 0.0038

Pluto -118201-12-30 09:08 J -41451128.26 -41451128.12 -41451127.93 0.0060 0.0031

Pluto -118200-03-28 10:34 J -41451040.22 -41451040.06 -41451039.86 0.0060 0.0023

Pluto -118200-06-24 12:00 J -41450952.17 -41450952.00 -41450951.80 0.0060 0.0015

Pluto -118200-09-20 13:27 J -41450864.12 -41450863.94 -41450863.74 0.0061 0.0007

Pluto -118200-12-17 14:53 J -41450776.07 -41450775.88 -41450775.68 0.0061 0.0002

Pluto -118199-03-15 16:20 J -41450688.01 -41450687.82 -41450687.63 0.0061 0.0010

Earth -118199-04-17 11:32 J -41450655.12 -41450655.02 -41450654.93 0.2782 0.1343

Moon -118199-04-17 12:15 J -41450655.09 -41450654.99 -41450654.90 0.2780 0.1444 *

Pluto -118199-06-11 17:32 J -41450599.95 -41450599.77 -41450599.58 0.0061 0.0018

Jupiter -118199-08-15 00:44 J -41450535.58 -41450535.47 -41450535.36 0.0500 0.0382

Pluto -118199-09-07 18:44 J -41450511.88 -41450511.72 -41450511.54 0.0061 0.0026

Jupiter -118199-11-13 06:58 J -41450445.37 -41450445.21 -41450445.04 0.0499 0.0195

Pluto -118199-12-04 20:10 J -41450423.81 -41450423.66 -41450423.49 0.0061 0.0034

Pluto -118198-03-02 21:22 J -41450335.73 -41450335.61 -41450335.46 0.0061 0.0042

Pluto -118198-05-29 22:48 J -41450247.64 -41450247.55 -41450247.43 0.0061 0.0050

Pluto -118198-08-26 00:15 J -41450159.53 -41450159.49 -41450159.43 0.0061 0.0059

Venus -118197-04-18 16:48 J -41449922.90 -41449922.80 -41449922.71 0.3676 0.2669

Mars -118197-07-16 12:44 J -41449834.08 -41449833.97 -41449833.85 0.1818 0.1195

Mars -118196-05-27 10:20 J -41449519.13 -41449519.07 -41449519.01 0.1699 0.1458

Earth -118196-10-12 18:44 J -41449380.85 -41449380.72 -41449380.60 0.2560 0.1584

Moon -118196-10-12 19:56 J -41449380.79 -41449380.67 -41449380.56 0.2564 0.1702 *

Mars -118194-05-02 19:12 J -41448813.82 -41448813.70 -41448813.59 0.1686 0.0287

Jupiter -118193-07-15 09:22 J -41448374.16 -41448374.11 -41448374.07 0.0525 0.0490

Jupiter -118193-10-12 17:17 J -41448284.91 -41448284.78 -41448284.65 0.0526 0.0008

Jupiter -118192-01-10 00:29 J -41448195.54 -41448195.48 -41448195.42 0.0527 0.0466

Moon -118192-04-10 08:39 J -41448105.24 -41448105.14 -41448105.04 0.2783 0.1139

Earth -118192-04-10 09:08 J -41448105.22 -41448105.12 -41448105.02 0.2776 0.1046 *

Saturn -118190-01-14 00:00 J -41447461.54 -41447461.50 -41447461.44 0.0270 0.0258

Saturn -118190-04-12 18:44 J -41447372.86 -41447372.72 -41447372.57 0.0269 0.0158

Saturn -118190-07-10 13:41 J -41447284.11 -41447283.93 -41447283.76 0.0268 0.0056

Saturn -118190-10-07 08:39 J -41447195.32 -41447195.14 -41447194.97 0.0267 0.0046

Saturn -118189-01-04 03:36 J -41447106.49 -41447106.35 -41447106.19 0.0266 0.0148

Saturn -118189-04-01 22:48 J -41447017.60 -41447017.55 -41447017.48 0.0266 0.0250

Moon -118189-10-04 04:05 J -41446832.37 -41446832.33 -41446832.28 0.2569 0.2430

Earth -118189-10-04 05:46 J -41446832.31 -41446832.26 -41446832.20 0.2566 0.2389 *

Jupiter -118187-09-01 04:48 J -41446135.48 -41446135.30 -41446135.12 0.0499 0.0049

Earth -118186-04-20 05:46 J -41445904.32 -41445904.26 -41445904.19 0.2783 0.2191

Moon -118186-04-20 06:15 J -41445904.30 -41445904.24 -41445904.17 0.2778 0.2160 *

Mars -118186-11-13 20:10 J -41445696.75 -41445696.66 -41445696.57 0.1831 0.1513

Mars -118185-09-22 05:17 J -41445383.40 -41445383.28 -41445383.16 0.1689 0.0139

Mars -118183-08-28 12:29 J -41444678.03 -41444677.98 -41444677.93 0.1677 0.1508

Jupiter -118181-07-31 20:39 J -41443974.77 -41443974.64 -41443974.51 0.0526 0.0133

Jupiter -118181-10-29 04:05 J -41443885.43 -41443885.33 -41443885.24 0.0526 0.0343

Earth -118179-04-13 03:36 J -41443354.46 -41443354.35 -41443354.25 0.2779 0.0225

Moon -118179-04-13 03:51 J -41443354.45 -41443354.34 -41443354.23 0.2786 0.0141 *

Mars -118176-04-04 17:17 J -41442266.93 -41442266.78 -41442266.62 0.1827 0.0609

Moon -118176-10-07 11:46 J -41442081.15 -41442081.01 -41442080.87 0.2570 0.1099

Earth -118176-10-07 12:15 J -41442081.14 -41442080.99 -41442080.84 0.2564 0.0981 *

Mars -118175-02-12 15:08 J -41441952.99 -41441952.87 -41441952.76 0.1692 0.0550

Jupiter -118175-06-20 02:53 J -41441825.56 -41441825.38 -41441825.21 0.0500 0.0095

Jupiter -118175-09-18 10:05 J -41441735.11 -41441735.08 -41441735.05 0.0499 0.0490

Saturn -118174-01-28 16:48 J -41441602.89 -41441602.80 -41441602.70 0.0293 0.0212

Saturn -118174-04-27 06:44 J -41441514.35 -41441514.22 -41441514.09 0.0294 0.0107

Saturn -118174-07-24 20:24 J -41441425.79 -41441425.65 -41441425.51 0.0295 0.0004

Uranus -118174-07-26 00:58 J -41441424.51 -41441424.46 -41441424.41 0.0131 0.0120

Saturn -118174-10-21 09:51 J -41441337.21 -41441337.09 -41441336.96 0.0296 0.0102

Uranus -118174-10-22 03:51 J -41441336.41 -41441336.34 -41441336.25 0.0131 0.0105

Saturn -118173-01-17 23:32 J -41441248.62 -41441248.52 -41441248.43 0.0297 0.0205

Uranus -118173-01-18 06:58 J -41441248.30 -41441248.21 -41441248.10 0.0131 0.0090

Mars -118173-01-18 22:48 J -41441247.64 -41441247.55 -41441247.46 0.1680 0.1124

Uranus -118173-04-15 10:20 J -41441160.18 -41441160.07 -41441159.96 0.0131 0.0074

Uranus -118173-07-12 13:12 J -41441072.06 -41441071.95 -41441071.82 0.0131 0.0059

Uranus -118173-10-08 16:20 J -41440983.94 -41440983.82 -41440983.69 0.0131 0.0044

Uranus -118172-01-04 19:27 J -41440895.82 -41440895.69 -41440895.55 0.0131 0.0028

Uranus -118172-04-02 22:34 J -41440807.70 -41440807.56 -41440807.42 0.0131 0.0013

Moon -118172-04-06 00:29 J -41440804.52 -41440804.48 -41440804.45 0.2770 0.2596

Earth -118172-04-06 00:58 J -41440804.49 -41440804.46 -41440804.42 0.2772 0.2588 *

Uranus -118172-06-30 01:41 J -41440719.57 -41440719.43 -41440719.30 0.0131 0.0004

Uranus -118172-09-26 04:34 J -41440631.44 -41440631.31 -41440631.17 0.0131 0.0017

Uranus -118172-12-23 07:27 J -41440543.31 -41440543.19 -41440543.05 0.0131 0.0033

Uranus -118171-03-21 10:34 J -41440455.18 -41440455.06 -41440454.93 0.0130 0.0047

Venus -118171-06-13 05:03 J -41440371.35 -41440371.29 -41440371.22 0.3690 0.2887

Uranus -118171-06-17 13:27 J -41440367.05 -41440366.94 -41440366.82 0.0130 0.0062

Uranus -118171-09-13 16:34 J -41440278.92 -41440278.81 -41440278.70 0.0130 0.0077

Uranus -118171-12-10 19:27 J -41440190.78 -41440190.69 -41440190.59 0.0130 0.0092

Uranus -118170-03-08 22:20 J -41440102.64 -41440102.57 -41440102.49 0.0130 0.0107

Uranus -118170-06-05 01:12 J -41440014.48 -41440014.45 -41440014.39 0.0130 0.0122

Jupiter -118169-05-20 00:15 J -41439664.61 -41439664.49 -41439664.38 0.0526 0.0255

Jupiter -118169-08-17 07:41 J -41439575.29 -41439575.18 -41439575.06 0.0526 0.0224

Mars -118167-08-25 15:08 J -41438837.03 -41438836.87 -41438836.72 0.1823 0.0274

Earth -118166-04-15 21:51 J -41438603.69 -41438603.59 -41438603.48 0.2780 0.0652

Moon -118166-04-15 22:34 J -41438603.67 -41438603.56 -41438603.46 0.2783 0.0694 *

Mars -118166-07-06 00:58 J -41438522.56 -41438522.46 -41438522.37 0.1695 0.0969

Venus -118166-12-27 22:20 J -41438347.67 -41438347.57 -41438347.47 0.3696 0.1211

Neptune -118165-03-25 08:53 J -41438259.15 -41438259.13 -41438259.11 0.0088 0.0087

Neptune -118165-06-21 10:20 J -41438171.11 -41438171.07 -41438171.02 0.0088 0.0083

Neptune -118165-09-17 11:46 J -41438083.06 -41438083.01 -41438082.94 0.0088 0.0078

Neptune -118165-12-14 13:27 J -41437995.01 -41437994.94 -41437994.86 0.0088 0.0074

Neptune -118164-03-12 14:53 J -41437906.96 -41437906.88 -41437906.79 0.0088 0.0070

Neptune -118164-06-08 16:20 J -41437818.90 -41437818.82 -41437818.72 0.0088 0.0066

Mars -118164-06-10 09:08 J -41437817.23 -41437817.12 -41437817.02 0.1683 0.0733

Neptune -118164-09-04 17:46 J -41437730.84 -41437730.76 -41437730.64 0.0088 0.0062

Neptune -118164-12-01 19:41 J -41437642.79 -41437642.68 -41437642.57 0.0088 0.0057

Neptune -118163-02-27 20:53 J -41437554.73 -41437554.63 -41437554.51 0.0088 0.0053

Jupiter -118163-04-08 00:44 J -41437515.62 -41437515.47 -41437515.31 0.0499 0.0237

Neptune -118163-05-26 22:34 J -41437466.67 -41437466.56 -41437466.44 0.0088 0.0048

Jupiter -118163-07-07 07:27 J -41437425.32 -41437425.19 -41437425.06 0.0499 0.0343

Neptune -118163-08-23 00:15 J -41437378.61 -41437378.49 -41437378.37 0.0088 0.0044

Earth -118163-10-10 18:44 J -41437329.88 -41437329.72 -41437329.56 0.2562 0.0434

Moon -118163-10-10 19:12 J -41437329.86 -41437329.70 -41437329.55 0.2568 0.0560 *

Neptune -118163-11-19 01:41 J -41437290.55 -41437290.43 -41437290.30 0.0088 0.0039

Neptune -118162-02-15 03:08 J -41437202.49 -41437202.37 -41437202.24 0.0088 0.0035

Neptune -118162-05-14 04:34 J -41437114.43 -41437114.31 -41437114.17 0.0088 0.0031

Neptune -118162-08-10 06:15 J -41437026.37 -41437026.24 -41437026.11 0.0088 0.0027

Neptune -118162-11-06 07:41 J -41436938.31 -41436938.18 -41436938.05 0.0088 0.0022

Neptune -118161-02-02 09:08 J -41436850.25 -41436850.12 -41436849.98 0.0088 0.0018

Neptune -118161-04-30 10:34 J -41436762.19 -41436762.06 -41436761.92 0.0088 0.0014

Neptune -118161-07-27 12:00 J -41436674.13 -41436674.00 -41436673.86 0.0088 0.0010

Saturn -118161-08-29 19:41 J -41436640.80 -41436640.68 -41436640.54 0.0269 0.0181

Neptune -118161-10-23 13:41 J -41436586.07 -41436585.93 -41436585.80 0.0088 0.0006

Saturn -118161-11-26 14:39 J -41436552.06 -41436551.89 -41436551.72 0.0268 0.0080

Neptune -118160-01-19 15:08 J -41436498.01 -41436497.87 -41436497.73 0.0088 0.0002

Saturn -118160-02-23 09:36 J -41436463.28 -41436463.10 -41436462.92 0.0268 0.0022

Neptune -118160-04-17 16:34 J -41436409.95 -41436409.81 -41436409.67 0.0088 0.0003

Saturn -118160-05-23 04:48 J -41436374.46 -41436374.30 -41436374.14 0.0267 0.0124

Venus -118160-07-12 15:22 J -41436323.97 -41436323.86 -41436323.76 0.3702 0.0454

Neptune -118160-07-14 18:00 J -41436321.89 -41436321.75 -41436321.61 0.0088 0.0007

Saturn -118160-08-19 23:46 J -41436285.59 -41436285.51 -41436285.40 0.0266 0.0226

Neptune -118160-10-10 19:27 J -41436233.83 -41436233.69 -41436233.55 0.0088 0.0011

Neptune -118159-01-06 20:53 J -41436145.76 -41436145.63 -41436145.49 0.0088 0.0016

Neptune -118159-04-04 22:20 J -41436057.70 -41436057.57 -41436057.43 0.0088 0.0020

Moon -118159-04-08 18:58 J -41436053.79 -41436053.71 -41436053.63 0.2779 0.1859

Earth -118159-04-08 19:27 J -41436053.77 -41436053.69 -41436053.60 0.2775 0.1740 *

Neptune -118159-07-01 23:46 J -41435969.64 -41435969.51 -41435969.38 0.0088 0.0024

Neptune -118159-09-28 01:12 J -41435881.58 -41435881.45 -41435881.32 0.0088 0.0028

Neptune -118159-12-25 02:39 J -41435793.52 -41435793.39 -41435793.26 0.0088 0.0032

Neptune -118158-03-23 04:05 J -41435705.45 -41435705.33 -41435705.20 0.0088 0.0036

Neptune -118158-06-19 05:32 J -41435617.39 -41435617.27 -41435617.15 0.0088 0.0040

Neptune -118158-09-15 06:58 J -41435529.33 -41435529.21 -41435529.09 0.0088 0.0045

Neptune -118158-12-12 08:24 J -41435441.26 -41435441.15 -41435441.04 0.0088 0.0049

Mars -118157-01-15 13:41 J -41435407.06 -41435406.93 -41435406.81 0.1819 0.1107

Jupiter -118157-03-08 03:22 J -41435354.45 -41435354.36 -41435354.27 0.0526 0.0381

Neptune -118157-03-09 09:51 J -41435353.20 -41435353.09 -41435352.98 0.0088 0.0053

Jupiter -118157-06-05 11:17 J -41435265.16 -41435265.03 -41435264.90 0.0527 0.0102

Neptune -118157-06-05 11:03 J -41435265.13 -41435265.04 -41435264.93 0.0088 0.0057 *

Neptune -118157-09-01 12:29 J -41435177.07 -41435176.98 -41435176.87 0.0088 0.0061

Mars -118157-11-25 10:20 J -41435092.13 -41435092.07 -41435092.00 0.1699 0.1405

Neptune -118157-11-28 13:56 J -41435089.00 -41435088.92 -41435088.82 0.0088 0.0065

Neptune -118156-02-24 15:08 J -41435000.94 -41435000.87 -41435000.77 0.0088 0.0070

Neptune -118156-05-23 16:34 J -41434912.87 -41434912.81 -41434912.72 0.0088 0.0074

Neptune -118156-08-19 18:00 J -41434824.80 -41434824.75 -41434824.67 0.0088 0.0078

Neptune -118156-11-15 19:27 J -41434736.73 -41434736.69 -41434736.63 0.0088 0.0081

Neptune -118155-02-11 20:53 J -41434648.65 -41434648.63 -41434648.59 0.0088 0.0085

Mars -118155-10-31 19:12 J -41434386.82 -41434386.70 -41434386.58 0.1685 0.0335

Venus -118154-01-26 08:10 J -41434300.24 -41434300.16 -41434300.07 0.3707 0.2080

Earth -118153-04-17 16:20 J -41433852.91 -41433852.82 -41433852.73 0.2782 0.1499

Moon -118153-04-17 17:03 J -41433852.88 -41433852.79 -41433852.70 0.2779 0.1527 *

Venus -118152-10-24 09:22 J -41433298.18 -41433298.11 -41433298.05 0.3689 0.3211

Jupiter -118151-01-24 22:48 J -41433205.66 -41433205.55 -41433205.44 0.0499 0.0379

Jupiter -118151-04-25 05:03 J -41433115.45 -41433115.29 -41433115.12 0.0499 0.0196

Earth -118150-10-14 01:12 J -41432578.56 -41432578.45 -41432578.34 0.2560 0.1848

Moon -118150-10-14 02:53 J -41432578.49 -41432578.38 -41432578.28 0.2563 0.1876 *

Venus -118149-08-11 00:58 J -41432276.46 -41432276.46 -41432276.45 0.3713 0.3686

Moon -118146-04-11 13:56 J -41431303.03 -41431302.92 -41431302.82 0.2784 0.0855

Earth -118146-04-11 13:56 J -41431303.02 -41431302.92 -41431302.82 0.2777 0.0892 *

Venus -118146-05-10 13:12 J -41431274.09 -41431273.95 -41431273.81 0.3681 0.0283

Mars -118146-05-14 20:53 J -41431269.71 -41431269.63 -41431269.56 0.1831 0.1601

Jupiter -118146-12-26 06:58 J -41431044.24 -41431044.21 -41431044.17 0.0526 0.0500

Mars -118145-03-23 05:17 J -41430956.41 -41430956.28 -41430956.16 0.1689 0.0098

Jupiter -118145-03-24 15:08 J -41430955.00 -41430954.87 -41430954.74 0.0526 0.0016

Saturn -118145-06-16 19:41 J -41430870.76 -41430870.68 -41430870.60 0.0292 0.0235

Jupiter -118145-06-21 22:20 J -41430865.63 -41430865.57 -41430865.50 0.0527 0.0459

Saturn -118145-09-13 09:22 J -41430782.23 -41430782.11 -41430781.98 0.0293 0.0132

Saturn -118145-12-10 23:17 J -41430693.67 -41430693.53 -41430693.40 0.0294 0.0028

Saturn -118144-03-09 12:44 J -41430605.10 -41430604.97 -41430604.84 0.0295 0.0077

Saturn -118144-06-06 02:10 J -41430516.51 -41430516.41 -41430516.30 0.0296 0.0181

Saturn -118144-09-02 15:36 J -41430427.89 -41430427.85 -41430427.81 0.0297 0.0284

Mars -118143-02-26 12:29 J -41430251.02 -41430250.98 -41430250.94 0.1677 0.1556

Moon -118143-10-05 11:03 J -41430030.11 -41430030.04 -41430029.96 0.2569 0.2247

Earth -118143-10-05 12:29 J -41430030.07 -41430029.98 -41430029.89 0.2565 0.2121 *

Earth -118140-04-20 10:48 J -41429102.11 -41429102.05 -41429102.00 0.2783 0.2348

Moon -118140-04-20 11:03 J -41429102.10 -41429102.04 -41429101.99 0.2777 0.2405 *

Jupiter -118139-02-11 02:10 J -41428805.59 -41428805.41 -41428805.23 0.0499 0.0044

Mars -118137-10-03 18:00 J -41427839.89 -41427839.75 -41427839.60 0.1827 0.0697

Mars -118136-08-13 15:08 J -41427525.99 -41427525.87 -41427525.75 0.1692 0.0493

Mars -118134-07-19 22:48 J -41426820.63 -41426820.55 -41426820.46 0.1680 0.1172

Jupiter -118133-01-11 18:58 J -41426644.84 -41426644.71 -41426644.58 0.0526 0.0134

Jupiter -118133-04-10 02:24 J -41426555.50 -41426555.40 -41426555.30 0.0527 0.0342

Earth -118133-04-13 08:24 J -41426552.26 -41426552.15 -41426552.04 0.2779 0.0046

Moon -118133-04-13 08:39 J -41426552.24 -41426552.14 -41426552.03 0.2786 0.0129 *

Saturn -118131-01-16 20:24 J -41425908.75 -41425908.65 -41425908.53 0.0270 0.0207

Saturn -118131-04-15 15:22 J -41425820.02 -41425819.86 -41425819.70 0.0269 0.0106

Saturn -118131-07-13 10:20 J -41425731.25 -41425731.07 -41425730.89 0.0268 0.0005

Saturn -118131-10-10 05:17 J -41425642.44 -41425642.28 -41425642.11 0.0267 0.0098

Uranus -118131-10-12 04:05 J -41425640.42 -41425640.33 -41425640.22 0.0148 0.0123

Saturn -118130-01-07 00:29 J -41425553.59 -41425553.48 -41425553.36 0.0266 0.0199

Uranus -118130-01-08 12:29 J -41425552.12 -41425551.98 -41425551.83 0.0148 0.0093

Uranus -118130-04-06 20:39 J -41425463.80 -41425463.64 -41425463.46 0.0148 0.0063

Uranus -118130-07-04 05:17 J -41425375.46 -41425375.28 -41425375.10 0.0148 0.0033

Uranus -118130-09-30 13:41 J -41425287.12 -41425286.93 -41425286.75 0.0148 0.0003

Moon -118130-10-08 18:44 J -41425278.87 -41425278.72 -41425278.57 0.2570 0.0656

Earth -118130-10-08 18:58 J -41425278.87 -41425278.71 -41425278.56 0.2563 0.0722 *

Uranus -118130-12-27 22:05 J -41425198.76 -41425198.58 -41425198.40 0.0148 0.0029

Uranus -118129-03-25 06:15 J -41425110.40 -41425110.24 -41425110.05 0.0148 0.0061

Uranus -118129-06-21 14:53 J -41425022.02 -41425021.88 -41425021.72 0.0148 0.0091

Uranus -118129-09-17 23:17 J -41424933.62 -41424933.53 -41424933.41 0.0148 0.0123

Jupiter -118128-11-29 23:46 J -41424495.68 -41424495.51 -41424495.33 0.0500 0.0103

Mars -118127-02-23 15:51 J -41424410.00 -41424409.84 -41424409.68 0.1823 0.0185

Jupiter -118127-02-28 06:58 J -41424405.25 -41424405.21 -41424405.16 0.0499 0.0482

Mars -118126-01-04 00:44 J -41424095.57 -41424095.47 -41424095.37 0.1695 0.0921

Moon -118126-04-07 05:17 J -41424002.33 -41424002.28 -41424002.24 0.2773 0.2502

Earth -118126-04-07 06:00 J -41424002.30 -41424002.25 -41424002.20 0.2773 0.2430 *

Mars -118125-12-09 09:08 J -41423390.23 -41423390.12 -41423390.02 0.1682 0.0781

Jupiter -118122-10-30 22:20 J -41422334.69 -41422334.57 -41422334.46 0.0526 0.0261

Jupiter -118121-01-28 05:46 J -41422245.38 -41422245.26 -41422245.14 0.0526 0.0219

Earth -118120-04-16 02:53 J -41421801.49 -41421801.38 -41421801.28 0.2781 0.0814

Moon -118120-04-16 03:36 J -41421801.46 -41421801.35 -41421801.25 0.2781 0.0914 *

Mars -118118-07-16 14:10 J -41420980.04 -41420979.91 -41420979.78 0.1818 0.1029

Mars -118117-05-26 10:34 J -41420665.14 -41420665.06 -41420664.99 0.1699 0.1352

Earth -118117-10-11 01:12 J -41420527.60 -41420527.45 -41420527.29 0.2561 0.0699

Moon -118117-10-11 02:10 J -41420527.56 -41420527.41 -41420527.26 0.2566 0.0662 *

Jupiter -118116-09-17 21:51 J -41420185.74 -41420185.59 -41420185.43 0.0500 0.0245

Saturn -118116-11-03 22:20 J -41420138.64 -41420138.57 -41420138.51 0.0292 0.0257

Jupiter -118116-12-17 04:34 J -41420095.44 -41420095.31 -41420095.17 0.0499 0.0336

Saturn -118115-01-31 12:00 J -41420050.11 -41420050.00 -41420049.88 0.0293 0.0154

Saturn -118115-04-30 01:41 J -41419961.56 -41419961.43 -41419961.29 0.0294 0.0050

Mars -118115-05-01 19:12 J -41419959.82 -41419959.70 -41419959.58 0.1686 0.0380

Saturn -118115-07-27 15:22 J -41419872.99 -41419872.86 -41419872.72 0.0296 0.0055

Saturn -118115-10-24 04:48 J -41419784.41 -41419784.30 -41419784.18 0.0296 0.0159

Venus -118114-01-18 03:08 J -41419698.46 -41419698.37 -41419698.29 0.3692 0.2262

Saturn -118114-01-20 18:15 J -41419695.80 -41419695.74 -41419695.68 0.0297 0.0262

Moon -118113-04-08 23:46 J -41419251.60 -41419251.51 -41419251.42 0.2780 0.1583

Earth -118113-04-09 00:29 J -41419251.57 -41419251.48 -41419251.39 0.2775 0.1586 *

Jupiter -118110-08-19 01:41 J -41418024.52 -41418024.43 -41418024.35 0.0525 0.0385

Jupiter -118110-11-16 09:22 J -41417935.24 -41417935.11 -41417934.98 0.0526 0.0097

Venus -118109-08-02 20:10 J -41417674.77 -41417674.66 -41417674.56 0.3698 0.0595

Pluto -118108-08-03 02:39 J -41417309.43 -41417309.39 -41417309.32 0.0084 0.0076

Pluto -118108-10-30 04:20 J -41417221.41 -41417221.32 -41417221.23 0.0084 0.0060

Pluto -118107-01-26 05:32 J -41417133.38 -41417133.27 -41417133.15 0.0084 0.0045

Earth -118107-04-18 21:08 J -41417050.70 -41417050.62 -41417050.53 0.2782 0.1659

Moon -118107-04-18 21:51 J -41417050.67 -41417050.59 -41417050.51 0.2779 0.1718 *

Pluto -118107-04-24 06:58 J -41417045.33 -41417045.21 -41417045.08 0.0084 0.0030

Pluto -118107-07-21 08:10 J -41416957.29 -41416957.16 -41416957.02 0.0084 0.0015

Pluto -118107-10-17 09:36 J -41416869.23 -41416869.10 -41416868.96 0.0084 0.0001

Mars -118107-11-12 21:22 J -41416842.67 -41416842.61 -41416842.55 0.1831 0.1680

Pluto -118106-01-13 11:03 J -41416781.18 -41416781.04 -41416780.91 0.0084 0.0016

Pluto -118106-04-11 12:15 J -41416693.11 -41416692.99 -41416692.86 0.0084 0.0031

Pluto -118106-07-08 13:27 J -41416605.05 -41416604.94 -41416604.82 0.0083 0.0046

Mars -118106-09-22 05:17 J -41416529.40 -41416529.28 -41416529.16 0.1689 0.0025

Pluto -118106-10-04 14:53 J -41416516.97 -41416516.88 -41416516.79 0.0083 0.0061

Pluto -118106-12-31 16:05 J -41416428.88 -41416428.83 -41416428.77 0.0083 0.0075

Jupiter -118104-07-06 19:56 J -41415875.77 -41415875.67 -41415875.55 0.0500 0.0385

Mars -118104-08-27 12:29 J -41415824.01 -41415823.98 -41415823.95 0.1677 0.1601

Jupiter -118104-10-05 02:24 J -41415785.57 -41415785.40 -41415785.23 0.0499 0.0191

Earth -118104-10-14 07:56 J -41415776.26 -41415776.17 -41415776.08 0.2560 0.2114

Moon -118104-10-14 09:36 J -41415776.17 -41415776.10 -41415776.04 0.2562 0.2314 *

Venus -118103-02-16 13:12 J -41415651.06 -41415650.95 -41415650.85 0.3703 0.1059

Saturn -118102-06-05 22:05 J -41415176.66 -41415176.58 -41415176.48 0.0270 0.0228

Saturn -118102-09-02 16:48 J -41415087.95 -41415087.80 -41415087.64 0.0269 0.0127

Saturn -118102-11-30 11:46 J -41414999.19 -41414999.01 -41414998.83 0.0268 0.0026

Saturn -118101-02-27 06:44 J -41414910.39 -41414910.22 -41414910.05 0.0267 0.0076

Saturn -118101-05-26 01:56 J -41414821.55 -41414821.42 -41414821.28 0.0266 0.0178

Moon -118100-04-11 18:58 J -41414500.82 -41414500.71 -41414500.61 0.2785 0.0796

Earth -118100-04-11 18:44 J -41414500.82 -41414500.72 -41414500.61 0.2777 0.0743 *

Jupiter -118098-06-07 04:34 J -41413714.33 -41413714.31 -41413714.28 0.0526 0.0513

Venus -118098-09-02 06:00 J -41413627.32 -41413627.25 -41413627.18 0.3709 0.2679

Jupiter -118098-09-04 12:44 J -41413625.10 -41413624.97 -41413624.84 0.0527 0.0028

Jupiter -118098-12-02 20:10 J -41413535.73 -41413535.66 -41413535.60 0.0527 0.0448

Mars -118097-04-03 18:29 J -41413412.87 -41413412.73 -41413412.58 0.1827 0.0775

Moon -118097-10-05 18:15 J -41413227.84 -41413227.74 -41413227.64 0.2570 0.1933

Earth -118097-10-05 19:12 J -41413227.81 -41413227.70 -41413227.60 0.2565 0.1861 *

Mars -118096-02-11 15:08 J -41413098.99 -41413098.87 -41413098.75 0.1692 0.0442

Venus -118095-05-31 09:51 J -41412625.21 -41412625.09 -41412624.97 0.3687 0.2038

Mars -118094-01-17 22:48 J -41412393.63 -41412393.55 -41412393.47 0.1680 0.1221

Moon -118094-04-21 15:36 J -41412299.89 -41412299.85 -41412299.80 0.2776 0.2474

Earth -118094-04-21 15:36 J -41412299.89 -41412299.85 -41412299.81 0.2784 0.2507 *

Jupiter -118092-07-24 00:00 J -41411475.68 -41411475.50 -41411475.32 0.0499 0.0045

Uranus -118090-05-19 05:17 J -41410811.28 -41410811.28 -41410811.26 0.0131 0.0130

Uranus -118090-08-15 08:24 J -41410723.21 -41410723.15 -41410723.08 0.0131 0.0115

Uranus -118090-11-11 11:32 J -41410635.10 -41410635.02 -41410634.93 0.0131 0.0099

Venus -118090-12-15 13:56 J -41410601.05 -41410600.92 -41410600.79 0.3679 0.1510

Uranus -118089-02-07 14:39 J -41410546.99 -41410546.89 -41410546.78 0.0131 0.0084

Uranus -118089-05-05 17:46 J -41410458.87 -41410458.76 -41410458.64 0.0131 0.0069

Uranus -118089-08-01 20:53 J -41410370.75 -41410370.63 -41410370.50 0.0131 0.0053

Uranus -118089-10-29 00:00 J -41410282.63 -41410282.50 -41410282.37 0.0131 0.0038

Uranus -118088-01-25 03:08 J -41410194.51 -41410194.37 -41410194.24 0.0130 0.0023

Uranus -118088-04-23 06:00 J -41410106.38 -41410106.25 -41410106.11 0.0130 0.0009

Uranus -118088-07-20 09:08 J -41410018.26 -41410018.12 -41410017.98 0.0130 0.0007

Mars -118088-08-24 16:34 J -41409982.97 -41409982.81 -41409982.65 0.1823 0.0099

Uranus -118088-10-16 12:15 J -41409930.13 -41409929.99 -41409929.86 0.0130 0.0023

Uranus -118087-01-12 15:08 J -41409842.00 -41409841.87 -41409841.74 0.0130 0.0038

Uranus -118087-04-10 18:00 J -41409753.87 -41409753.75 -41409753.62 0.0130 0.0053

Earth -118087-04-14 13:12 J -41409750.06 -41409749.95 -41409749.84 0.2779 0.0129

Moon -118087-04-14 13:41 J -41409750.04 -41409749.93 -41409749.82 0.2784 0.0224 *

Mars -118087-07-05 00:58 J -41409668.57 -41409668.46 -41409668.36 0.1695 0.0866

Uranus -118087-07-07 21:08 J -41409665.73 -41409665.62 -41409665.50 0.0130 0.0067

Uranus -118087-10-04 00:00 J -41409577.60 -41409577.50 -41409577.39 0.0130 0.0082

Uranus -118087-12-31 03:08 J -41409489.46 -41409489.37 -41409489.28 0.0130 0.0097

Saturn -118086-03-24 01:12 J -41409406.49 -41409406.45 -41409406.41 0.0292 0.0279

Uranus -118086-03-29 06:00 J -41409401.31 -41409401.25 -41409401.18 0.0130 0.0112

Saturn -118086-06-20 14:53 J -41409317.98 -41409317.88 -41409317.76 0.0293 0.0176

Jupiter -118086-06-23 16:34 J -41409314.94 -41409314.81 -41409314.68 0.0526 0.0145

Uranus -118086-06-25 08:53 J -41409313.15 -41409313.13 -41409313.09 0.0130 0.0126

Saturn -118086-09-17 04:48 J -41409229.44 -41409229.30 -41409229.17 0.0294 0.0072

Jupiter -118086-09-21 00:00 J -41409225.60 -41409225.50 -41409225.40 0.0527 0.0332

Saturn -118086-12-14 18:15 J -41409140.87 -41409140.74 -41409140.60 0.0295 0.0034

Saturn -118085-03-12 07:56 J -41409052.29 -41409052.17 -41409052.05 0.0296 0.0136

Saturn -118085-06-08 21:22 J -41408963.69 -41408963.61 -41408963.53 0.0297 0.0239

Mars -118085-06-09 09:08 J -41408963.22 -41408963.12 -41408963.02 0.1682 0.0829

Moon -118084-10-09 01:27 J -41408476.59 -41408476.44 -41408476.28 0.2570 0.0511

Earth -118084-10-09 01:27 J -41408476.59 -41408476.44 -41408476.28 0.2563 0.0451 *

Neptune -118081-02-23 04:34 J -41407609.34 -41407609.31 -41407609.26 0.0089 0.0086

Neptune -118081-05-21 07:27 J -41407521.24 -41407521.19 -41407521.10 0.0089 0.0081

Neptune -118081-08-17 10:48 J -41407433.14 -41407433.05 -41407432.94 0.0089 0.0075

Neptune -118081-11-13 14:10 J -41407345.02 -41407344.91 -41407344.80 0.0089 0.0069

Neptune -118080-02-09 17:03 J -41407256.90 -41407256.79 -41407256.65 0.0089 0.0064

Moon -118080-04-07 10:05 J -41407200.13 -41407200.08 -41407200.02 0.2775 0.2348

Earth -118080-04-07 10:48 J -41407200.11 -41407200.05 -41407199.99 0.2773 0.2273 *

Neptune -118080-05-08 20:24 J -41407168.78 -41407168.65 -41407168.51 0.0089 0.0058

Jupiter -118080-05-11 21:08 J -41407165.80 -41407165.62 -41407165.45 0.0499 0.0110

Neptune -118080-08-04 23:17 J -41407080.66 -41407080.53 -41407080.36 0.0089 0.0053

Jupiter -118080-08-10 04:05 J -41407075.38 -41407075.33 -41407075.28 0.0499 0.0474

Neptune -118080-11-01 02:39 J -41406992.53 -41406992.39 -41406992.22 0.0089 0.0047

Neptune -118079-01-28 06:00 J -41406904.41 -41406904.25 -41406904.08 0.0089 0.0041

Neptune -118079-04-26 09:08 J -41406816.28 -41406816.12 -41406815.94 0.0089 0.0036

Neptune -118079-07-23 12:29 J -41406728.15 -41406727.98 -41406727.80 0.0089 0.0030

Neptune -118079-10-19 15:51 J -41406640.02 -41406639.84 -41406639.66 0.0089 0.0024

Mars -118078-01-14 14:39 J -41406553.02 -41406552.89 -41406552.75 0.1818 0.0944

Neptune -118078-01-15 18:58 J -41406551.88 -41406551.71 -41406551.52 0.0089 0.0019

Neptune -118078-04-13 22:20 J -41406463.75 -41406463.57 -41406463.38 0.0089 0.0013

Neptune -118078-07-11 01:41 J -41406375.62 -41406375.43 -41406375.25 0.0089 0.0007

Neptune -118078-10-07 04:48 J -41406287.48 -41406287.30 -41406287.11 0.0089 0.0002

Mars -118078-11-25 10:34 J -41406238.14 -41406238.06 -41406237.98 0.1699 0.1299

Neptune -118077-01-03 08:10 J -41406199.34 -41406199.16 -41406198.97 0.0089 0.0005

Neptune -118077-03-31 11:32 J -41406111.20 -41406111.02 -41406110.83 0.0089 0.0011

Neptune -118077-06-27 14:53 J -41406023.07 -41406022.88 -41406022.70 0.0089 0.0016

Neptune -118077-09-23 18:00 J -41405934.92 -41405934.75 -41405934.56 0.0089 0.0022

Neptune -118077-12-20 21:22 J -41405846.78 -41405846.61 -41405846.43 0.0089 0.0028

Neptune -118076-03-19 00:44 J -41405758.64 -41405758.47 -41405758.29 0.0089 0.0034

Neptune -118076-06-15 03:51 J -41405670.49 -41405670.34 -41405670.16 0.0089 0.0040

Neptune -118076-09-11 07:12 J -41405582.35 -41405582.20 -41405582.03 0.0089 0.0046

Mars -118076-10-30 19:12 J -41405532.81 -41405532.70 -41405532.58 0.1686 0.0432

Neptune -118076-12-08 10:34 J -41405494.20 -41405494.06 -41405493.89 0.0089 0.0052

Neptune -118075-03-06 13:56 J -41405406.05 -41405405.92 -41405405.76 0.0089 0.0058

Neptune -118075-06-02 17:46 J -41405317.89 -41405317.76 -41405317.63 0.0089 0.0063

Neptune -118075-08-29 20:53 J -41405229.74 -41405229.63 -41405229.51 0.0089 0.0069

Neptune -118075-11-26 00:15 J -41405141.58 -41405141.49 -41405141.38 0.0089 0.0075

Neptune -118074-02-22 03:36 J -41405053.41 -41405053.35 -41405053.26 0.0089 0.0081

Jupiter -118074-04-11 20:24 J -41405004.76 -41405004.65 -41405004.54 0.0526 0.0264

Earth -118074-04-17 07:41 J -41404999.28 -41404999.18 -41404999.08 0.2781 0.0969

Moon -118074-04-17 08:24 J -41404999.25 -41404999.15 -41404999.05 0.2781 0.0977 *

Neptune -118074-05-21 06:58 J -41404965.23 -41404965.21 -41404965.16 0.0089 0.0087

Jupiter -118074-07-10 04:05 J -41404915.45 -41404915.33 -41404915.21 0.0526 0.0216

Saturn -118073-10-22 23:32 J -41404444.58 -41404444.52 -41404444.46 0.0270 0.0250

Saturn -118072-01-19 18:00 J -41404355.89 -41404355.75 -41404355.60 0.0269 0.0150

Saturn -118072-04-18 12:44 J -41404267.14 -41404266.97 -41404266.79 0.0268 0.0050

Saturn -118072-07-16 07:41 J -41404178.35 -41404178.18 -41404178.00 0.0267 0.0053

Saturn -118072-10-13 02:53 J -41404089.52 -41404089.38 -41404089.23 0.0266 0.0154

Saturn -118071-01-09 22:05 J -41404000.62 -41404000.58 -41404000.53 0.0266 0.0255

Earth -118071-10-12 07:56 J -41403725.32 -41403725.17 -41403725.02 0.2561 0.0964

Moon -118071-10-12 09:22 J -41403725.26 -41403725.11 -41403724.97 0.2565 0.1136 *

Mars -118069-06-05 13:27 J -41403122.98 -41403122.94 -41403122.90 0.1814 0.1757

Jupiter -118068-02-27 18:44 J -41402855.87 -41402855.72 -41402855.56 0.0500 0.0255

Jupiter -118068-05-29 01:27 J -41402765.57 -41402765.44 -41402765.30 0.0499 0.0326

Moon -118067-04-10 04:48 J -41402449.39 -41402449.30 -41402449.21 0.2781 0.1498

Earth -118067-04-10 05:17 J -41402449.37 -41402449.28 -41402449.19 0.2775 0.1425 *

Mars -118067-05-13 22:05 J -41402415.62 -41402415.58 -41402415.54 0.1831 0.1765

Mars -118066-03-23 05:17 J -41402102.40 -41402102.28 -41402102.16 0.1689 0.0034

Mars -118064-02-25 12:29 J -41401397.00 -41401396.98 -41401396.96 0.1677 0.1646

Venus -118063-02-08 07:41 J -41401049.22 -41401049.18 -41401049.13 0.3688 0.3314

Jupiter -118062-01-28 23:32 J -41400694.60 -41400694.52 -41400694.43 0.0525 0.0390

Jupiter -118062-04-28 07:27 J -41400605.32 -41400605.19 -41400605.06 0.0526 0.0092

Earth -118061-04-19 02:10 J -41400248.49 -41400248.41 -41400248.33 0.2782 0.1820

Moon -118061-04-19 02:39 J -41400248.47 -41400248.39 -41400248.31 0.2777 0.1874 *

Venus -118058-08-25 00:58 J -41399025.56 -41399025.46 -41399025.37 0.3693 0.1632

Mars -118058-10-03 19:27 J -41398985.83 -41398985.69 -41398985.55 0.1827 0.0865

Earth -118058-10-15 14:24 J -41398973.96 -41398973.90 -41398973.84 0.2560 0.2380

Moon -118058-10-15 16:05 J -41398973.88 -41398973.83 -41398973.77 0.2561 0.2390 *

Mars -118057-08-12 15:08 J -41398671.99 -41398671.87 -41398671.75 0.1692 0.0392

Saturn -118057-11-06 17:46 J -41398585.86 -41398585.76 -41398585.66 0.0293 0.0197

Jupiter -118057-12-16 16:48 J -41398545.90 -41398545.80 -41398545.69 0.0500 0.0396

Saturn -118056-02-03 07:27 J -41398497.32 -41398497.19 -41398497.06 0.0294 0.0093

Jupiter -118056-03-16 23:17 J -41398455.70 -41398455.53 -41398455.36 0.0499 0.0180

Saturn -118056-05-02 21:08 J -41398408.75 -41398408.62 -41398408.48 0.0295 0.0012

Saturn -118056-07-30 10:48 J -41398320.18 -41398320.05 -41398319.93 0.0296 0.0115

Saturn -118056-10-27 00:15 J -41398231.58 -41398231.49 -41398231.40 0.0297 0.0218

Mars -118055-07-18 22:48 J -41397966.62 -41397966.55 -41397966.47 0.1680 0.1267

Earth -118054-04-12 23:46 J -41397698.62 -41397698.51 -41397698.41 0.2778 0.0579

Moon -118054-04-12 23:46 J -41397698.61 -41397698.51 -41397698.40 0.2785 0.0520 *

Venus -118052-03-09 18:00 J -41397001.86 -41397001.75 -41397001.64 0.3699 0.0046

Moon -118051-10-07 01:12 J -41396425.57 -41396425.45 -41396425.33 0.2571 0.1588

Earth -118051-10-07 01:41 J -41396425.55 -41396425.43 -41396425.30 0.2565 0.1595 *

Jupiter -118051-11-17 02:53 J -41396384.40 -41396384.38 -41396384.36 0.0525 0.0515

Jupiter -118050-02-14 11:03 J -41396295.18 -41396295.04 -41396294.91 0.0526 0.0036

Jupiter -118050-05-14 18:15 J -41396205.81 -41396205.74 -41396205.67 0.0527 0.0442

Mars -118048-02-22 17:03 J -41395555.95 -41395555.79 -41395555.63 0.1823 0.0042

Moon -118048-04-21 20:24 J -41395497.67 -41395497.65 -41395497.62 0.2776 0.2672

Earth -118048-04-21 20:24 J -41395497.67 -41395497.65 -41395497.62 0.2784 0.2666 *

Mars -118047-01-03 00:58 J -41395241.56 -41395241.46 -41395241.35 0.1695 0.0812

Venus -118047-09-23 11:03 J -41394978.14 -41394978.04 -41394977.95 0.3705 0.1666

Uranus -118047-11-01 10:34 J -41394939.15 -41394939.06 -41394938.94 0.0148 0.0120

Uranus -118046-01-28 18:58 J -41394850.85 -41394850.71 -41394850.55 0.0148 0.0089

Uranus -118046-04-27 03:22 J -41394762.53 -41394762.36 -41394762.19 0.0148 0.0059

Uranus -118046-07-24 11:46 J -41394674.19 -41394674.01 -41394673.83 0.0148 0.0028

Uranus -118046-10-20 20:10 J -41394585.84 -41394585.66 -41394585.47 0.0148 0.0003

Mars -118046-12-09 09:08 J -41394536.22 -41394536.12 -41394536.02 0.1683 0.0878

Uranus -118045-01-17 04:34 J -41394497.49 -41394497.31 -41394497.12 0.0148 0.0033

Uranus -118045-04-14 12:58 J -41394409.12 -41394408.96 -41394408.78 0.0148 0.0064

Uranus -118045-07-11 21:22 J -41394320.74 -41394320.61 -41394320.45 0.0148 0.0096

Uranus -118045-10-08 06:00 J -41394232.33 -41394232.25 -41394232.14 0.0148 0.0127

Jupiter -118044-01-02 21:08 J -41394145.79 -41394145.62 -41394145.44 0.0499 0.0040

Saturn -118043-06-08 19:41 J -41393623.81 -41393623.68 -41393623.54 0.0269 0.0171

Saturn -118043-09-05 14:24 J -41393535.07 -41393534.90 -41393534.73 0.0268 0.0070

Saturn -118043-12-03 09:22 J -41393446.29 -41393446.11 -41393445.93 0.0267 0.0031

Saturn -118042-03-02 04:20 J -41393357.47 -41393357.32 -41393357.16 0.0267 0.0133

Saturn -118042-05-29 23:32 J -41393268.59 -41393268.52 -41393268.43 0.0266 0.0234

Venus -118041-04-08 03:51 J -41392954.39 -41392954.34 -41392954.29 0.3710 0.3274

Earth -118041-04-14 18:00 J -41392947.85 -41392947.75 -41392947.64 0.2779 0.0295

Moon -118041-04-14 18:44 J -41392947.83 -41392947.72 -41392947.61 0.2782 0.0265 *

Mars -118039-07-15 15:22 J -41392126.00 -41392125.86 -41392125.72 0.1819 0.0861

Jupiter -118039-12-03 14:10 J -41391985.04 -41391984.91 -41391984.79 0.0526 0.0158

Venus -118038-01-05 10:34 J -41391952.20 -41391952.06 -41391951.92 0.3685 0.0840

Jupiter -118038-03-02 21:36 J -41391895.70 -41391895.60 -41391895.49 0.0527 0.0320

Mars -118038-05-26 10:34 J -41391811.14 -41391811.06 -41391810.98 0.1699 0.1246

Earth -118038-10-10 08:10 J -41391674.32 -41391674.16 -41391674.00 0.2563 0.0187

Moon -118038-10-10 08:24 J -41391674.30 -41391674.15 -41391673.99 0.2569 0.0159 *

Mars -118036-04-30 19:12 J -41391105.81 -41391105.70 -41391105.58 0.1685 0.0484

Moon -118034-04-08 15:08 J -41390397.94 -41390397.87 -41390397.81 0.2776 0.2157

Earth -118034-04-08 15:51 J -41390397.91 -41390397.84 -41390397.78 0.2773 0.2118 *

Venus -118033-07-21 14:39 J -41389927.98 -41389927.89 -41389927.79 0.3677 0.2736

Jupiter -118033-10-21 18:58 J -41389835.88 -41389835.71 -41389835.53 0.0499 0.0108

Jupiter -118032-01-20 01:56 J -41389745.47 -41389745.42 -41389745.36 0.0499 0.0475

Mars -118030-12-05 14:10 J -41388695.97 -41388695.91 -41388695.85 0.1814 0.1669

Mars -118029-10-15 19:56 J -41388380.68 -41388380.67 -41388380.65 0.1702 0.1688

Earth -118028-04-17 12:29 J -41388197.08 -41388196.98 -41388196.88 0.2781 0.1127

Moon -118028-04-17 13:12 J -41388197.04 -41388196.95 -41388196.85 0.2780 0.1248 *

Saturn -118027-03-26 20:24 J -41387853.73 -41387853.65 -41387853.55 0.0292 0.0220

Saturn -118027-06-23 10:20 J -41387765.20 -41387765.07 -41387764.94 0.0293 0.0116

Saturn -118027-09-20 00:00 J -41387676.64 -41387676.50 -41387676.36 0.0294 0.0013

Mars -118027-09-21 05:17 J -41387675.40 -41387675.28 -41387675.16 0.1689 0.0075

Jupiter -118027-09-21 18:00 J -41387674.86 -41387674.75 -41387674.64 0.0526 0.0277

Saturn -118027-12-17 13:27 J -41387588.07 -41387587.94 -41387587.81 0.0295 0.0092

Jupiter -118027-12-20 01:41 J -41387585.55 -41387585.43 -41387585.31 0.0527 0.0205

Saturn -118026-03-16 03:08 J -41387499.48 -41387499.37 -41387499.27 0.0296 0.0195

Earth -118025-10-12 14:39 J -41386923.03 -41386922.89 -41386922.75 0.2561 0.1236

Moon -118025-10-12 16:05 J -41386922.97 -41386922.83 -41386922.69 0.2565 0.1256 *

Moon -118021-04-10 10:05 J -41385647.18 -41385647.08 -41385646.99 0.2783 0.1290

Earth -118021-04-10 10:05 J -41385647.17 -41385647.08 -41385646.98 0.2776 0.1272 *

Jupiter -118021-08-09 15:51 J -41385525.99 -41385525.84 -41385525.68 0.0500 0.0262

Jupiter -118021-11-07 22:34 J -41385435.70 -41385435.56 -41385435.42 0.0499 0.0318

Mars -118018-04-03 19:56 J -41384558.80 -41384558.67 -41384558.53 0.1827 0.0949

Mars -118017-02-11 15:08 J -41384244.98 -41384244.87 -41384244.75 0.1692 0.0345

Mars -118015-01-16 22:48 J -41383539.62 -41383539.55 -41383539.47 0.1680 0.1314

Earth -118015-04-20 06:58 J -41383446.28 -41383446.21 -41383446.14 0.2783 0.1979

Moon -118015-04-20 07:12 J -41383446.27 -41383446.20 -41383446.12 0.2776 0.1954 *

Jupiter -118015-07-10 21:51 J -41383364.68 -41383364.59 -41383364.51 0.0526 0.0394

Jupiter -118015-10-08 05:32 J -41383275.39 -41383275.27 -41383275.14 0.0526 0.0090

Saturn -118014-10-26 20:53 J -41382891.74 -41382891.63 -41382891.50 0.0269 0.0193

Saturn -118013-01-23 15:36 J -41382803.01 -41382802.85 -41382802.68 0.0268 0.0093

Saturn -118013-04-21 10:34 J -41382714.24 -41382714.06 -41382713.88 0.0268 0.0008

Saturn -118013-07-19 05:32 J -41382625.43 -41382625.27 -41382625.10 0.0267 0.0109

Saturn -118013-10-16 00:29 J -41382536.58 -41382536.48 -41382536.36 0.0266 0.0211

Jupiter -118009-05-28 13:56 J -41381216.02 -41381215.92 -41381215.82 0.0500 0.0405

Mars -118009-08-23 17:46 J -41381128.92 -41381128.76 -41381128.60 0.1823 0.0072

Jupiter -118009-08-26 20:10 J -41381125.83 -41381125.66 -41381125.49 0.0499 0.0170

Earth -118008-04-13 04:34 J -41380896.42 -41380896.31 -41380896.20 0.2778 0.0419

Moon -118008-04-13 04:48 J -41380896.40 -41380896.30 -41380896.19 0.2785 0.0440 *

Mars -118008-07-04 00:58 J -41380814.57 -41380814.46 -41380814.35 0.1695 0.0763

Venus -118007-09-15 05:32 J -41380376.34 -41380376.27 -41380376.19 0.3689 0.2687

Uranus -118006-06-08 12:44 J -41380110.00 -41380109.97 -41380109.93 0.0131 0.0125

Mars -118006-06-09 09:08 J -41380109.22 -41380109.12 -41380109.02 0.1683 0.0925

Uranus -118006-09-04 15:51 J -41380021.91 -41380021.84 -41380021.76 0.0131 0.0110

Uranus -118006-12-01 18:58 J -41379933.80 -41379933.71 -41379933.61 0.0131 0.0094

Uranus -118005-02-27 22:05 J -41379845.68 -41379845.58 -41379845.47 0.0131 0.0079

Uranus -118005-05-26 01:12 J -41379757.56 -41379757.45 -41379757.33 0.0131 0.0064

Uranus -118005-08-22 04:20 J -41379669.44 -41379669.32 -41379669.19 0.0131 0.0048

Moon -118005-10-07 07:56 J -41379623.30 -41379623.17 -41379623.04 0.2571 0.1431

Earth -118005-10-07 08:24 J -41379623.29 -41379623.15 -41379623.01 0.2565 0.1331 *

Uranus -118005-11-18 07:27 J -41379581.32 -41379581.19 -41379581.06 0.0131 0.0033

Uranus -118004-02-14 10:34 J -41379493.20 -41379493.06 -41379492.93 0.0131 0.0018

Uranus -118004-05-13 13:27 J -41379405.07 -41379404.94 -41379404.80 0.0130 0.0005

Uranus -118004-08-09 16:34 J -41379316.94 -41379316.81 -41379316.67 0.0130 0.0013

Uranus -118004-11-05 19:41 J -41379228.82 -41379228.68 -41379228.55 0.0130 0.0028

Uranus -118003-02-01 22:34 J -41379140.69 -41379140.56 -41379140.43 0.0130 0.0043

Jupiter -118003-04-29 00:58 J -41379054.47 -41379054.46 -41379054.44 0.0525 0.0519

Uranus -118003-05-01 01:27 J -41379052.55 -41379052.44 -41379052.31 0.0130 0.0058

Jupiter -118003-07-27 09:08 J -41378965.25 -41378965.12 -41378964.99 0.0526 0.0038

Uranus -118003-07-28 04:34 J -41378964.42 -41378964.31 -41378964.20 0.0130 0.0072

Uranus -118003-10-24 07:27 J -41378876.28 -41378876.19 -41378876.09 0.0130 0.0087

Jupiter -118003-10-24 16:20 J -41378875.89 -41378875.82 -41378875.75 0.0526 0.0438

Uranus -118002-01-20 10:34 J -41378788.14 -41378788.06 -41378787.98 0.0130 0.0102

Uranus -118002-04-18 13:27 J -41378700.00 -41378699.94 -41378699.88 0.0130 0.0117

Venus -118001-03-30 22:48 J -41378352.65 -41378352.55 -41378352.45 0.3695 0.1010

Neptune -118001-12-20 07:41 J -41378088.20 -41378088.18 -41378088.14 0.0088 0.0086

118TH MILLENNIUM BCE

This is a list of transits of Mercury in the 118th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Neptune -118000-03-18 09:08 J -41378000.16 -41378000.12 -41378000.06 0.0088 0.0082

Neptune -118000-06-14 10:34 J -41377912.11 -41377912.06 -41377911.98 0.0088 0.0078

Neptune -118000-09-10 12:29 J -41377824.06 -41377823.98 -41377823.90 0.0088 0.0073

Neptune -118000-12-07 13:56 J -41377736.00 -41377735.92 -41377735.83 0.0088 0.0069

Mars -117999-01-13 15:51 J -41377698.98 -41377698.84 -41377698.69 0.1818 0.0782

Neptune -117999-03-05 15:22 J -41377647.95 -41377647.86 -41377647.76 0.0088 0.0064

Neptune -117999-06-01 17:03 J -41377559.89 -41377559.79 -41377559.68 0.0088 0.0060

Neptune -117999-08-28 18:29 J -41377471.83 -41377471.73 -41377471.62 0.0088 0.0056

Mars -117999-11-24 10:34 J -41377384.14 -41377384.06 -41377383.97 0.1699 0.1195

Neptune -117999-11-24 19:56 J -41377383.77 -41377383.67 -41377383.55 0.0088 0.0052

Neptune -117998-02-20 21:22 J -41377295.71 -41377295.61 -41377295.48 0.0088 0.0048

Neptune -117998-05-19 23:17 J -41377207.65 -41377207.53 -41377207.41 0.0088 0.0043

Saturn -117998-08-13 22:48 J -41377121.62 -41377121.55 -41377121.47 0.0293 0.0244

Neptune -117998-08-16 00:44 J -41377119.59 -41377119.47 -41377119.34 0.0088 0.0038

Saturn -117998-11-10 12:44 J -41377033.09 -41377032.97 -41377032.85 0.0294 0.0140

Neptune -117998-11-12 02:10 J -41377031.53 -41377031.41 -41377031.28 0.0088 0.0034

Saturn -117997-02-07 02:39 J -41376944.53 -41376944.39 -41376944.26 0.0295 0.0037

Neptune -117997-02-08 03:36 J -41376943.47 -41376943.35 -41376943.21 0.0088 0.0030

Saturn -117997-05-05 16:05 J -41376855.96 -41376855.83 -41376855.69 0.0296 0.0069

Neptune -117997-05-06 05:17 J -41376855.41 -41376855.28 -41376855.15 0.0088 0.0026

Jupiter -117997-06-14 18:00 J -41376815.93 -41376815.75 -41376815.57 0.0500 0.0026

Saturn -117997-08-02 05:32 J -41376767.37 -41376767.27 -41376767.16 0.0297 0.0172

Neptune -117997-08-02 06:44 J -41376767.35 -41376767.22 -41376767.09 0.0088 0.0021 *

Neptune -117997-10-29 08:10 J -41376679.29 -41376679.16 -41376679.02 0.0088 0.0017

Mars -117997-10-29 19:12 J -41376678.81 -41376678.70 -41376678.58 0.1686 0.0529

Saturn -117997-10-29 18:58 J -41376678.75 -41376678.71 -41376678.66 0.0298 0.0275 *

Neptune -117996-01-25 09:36 J -41376591.23 -41376591.10 -41376590.96 0.0088 0.0013

Neptune -117996-04-23 11:03 J -41376503.17 -41376503.04 -41376502.90 0.0088 0.0009

Neptune -117996-07-20 12:44 J -41376415.11 -41376414.97 -41376414.83 0.0088 0.0005

Venus -117996-10-14 15:51 J -41376328.95 -41376328.84 -41376328.73 0.3701 0.0636

Neptune -117996-10-16 14:10 J -41376327.05 -41376326.91 -41376326.77 0.0088 0.0001

Neptune -117995-01-12 15:36 J -41376238.99 -41376238.85 -41376238.71 0.0088 0.0004

Neptune -117995-04-10 17:03 J -41376150.93 -41376150.79 -41376150.65 0.0088 0.0008

Earth -117995-04-15 23:03 J -41376145.65 -41376145.54 -41376145.43 0.2780 0.0435

Moon -117995-04-15 23:46 J -41376145.62 -41376145.51 -41376145.41 0.2782 0.0556 *

Neptune -117995-07-07 18:29 J -41376062.86 -41376062.73 -41376062.59 0.0088 0.0013

Neptune -117995-10-03 19:56 J -41375974.80 -41375974.67 -41375974.53 0.0088 0.0017

Neptune -117995-12-30 21:22 J -41375886.74 -41375886.61 -41375886.47 0.0088 0.0021

Neptune -117994-03-28 22:48 J -41375798.68 -41375798.55 -41375798.42 0.0088 0.0025

Neptune -117994-06-25 00:15 J -41375710.61 -41375710.49 -41375710.36 0.0088 0.0029

Neptune -117994-09-21 01:41 J -41375622.55 -41375622.43 -41375622.30 0.0088 0.0033

Neptune -117994-12-18 03:08 J -41375534.49 -41375534.37 -41375534.24 0.0088 0.0037

Neptune -117993-03-15 04:34 J -41375446.43 -41375446.31 -41375446.19 0.0088 0.0042

Neptune -117993-06-11 06:00 J -41375358.36 -41375358.25 -41375358.13 0.0088 0.0046

Neptune -117993-09-07 07:27 J -41375270.30 -41375270.19 -41375270.07 0.0088 0.0050

Neptune -117993-12-04 08:39 J -41375182.23 -41375182.14 -41375182.02 0.0088 0.0054

Neptune -117992-03-02 10:05 J -41375094.17 -41375094.08 -41375093.97 0.0088 0.0058

Neptune -117992-05-29 11:32 J -41375006.11 -41375006.02 -41375005.91 0.0088 0.0062

Neptune -117992-08-25 12:58 J -41374918.04 -41374917.96 -41374917.86 0.0088 0.0066

Earth -117992-10-10 14:53 J -41374872.04 -41374871.88 -41374871.72 0.2563 0.0091

Moon -117992-10-10 15:51 J -41374872.00 -41374871.84 -41374871.68 0.2568 0.0179 *

Neptune -117992-11-21 14:24 J -41374829.97 -41374829.90 -41374829.81 0.0088 0.0070

Neptune -117991-02-17 15:51 J -41374741.90 -41374741.84 -41374741.76 0.0088 0.0074

Jupiter -117991-05-15 12:29 J -41374655.11 -41374654.98 -41374654.86 0.0526 0.0160

Neptune -117991-05-16 17:03 J -41374653.84 -41374653.79 -41374653.71 0.0088 0.0079

Jupiter -117991-08-12 19:56 J -41374565.77 -41374565.67 -41374565.57 0.0526 0.0317

Neptune -117991-08-12 18:29 J -41374565.76 -41374565.73 -41374565.67 0.0088 0.0083 *

Neptune -117991-11-08 19:56 J -41374477.68 -41374477.67 -41374477.63 0.0088 0.0087

Venus -117990-04-30 08:53 J -41374305.22 -41374305.13 -41374305.05 0.3706 0.2268

Mars -117990-06-05 14:24 J -41374268.97 -41374268.90 -41374268.82 0.1814 0.1600

Mars -117989-04-15 20:10 J -41373953.69 -41373953.66 -41373953.63 0.1702 0.1631

Moon -117988-04-08 19:56 J -41373595.74 -41373595.67 -41373595.59 0.2777 0.2057

Earth -117988-04-08 20:39 J -41373595.72 -41373595.64 -41373595.56 0.2774 0.1960 *

Venus -117987-01-26 07:27 J -41373303.27 -41373303.19 -41373303.12 0.3690 0.3109

Mars -117987-03-22 05:17 J -41373248.40 -41373248.28 -41373248.16 0.1689 0.0134

Jupiter -117985-04-02 16:20 J -41372506.00 -41372505.82 -41372505.65 0.0499 0.0115

Jupiter -117985-07-01 23:03 J -41372415.59 -41372415.54 -41372415.47 0.0499 0.0469

Saturn -117984-03-14 22:34 J -41372159.66 -41372159.56 -41372159.46 0.0269 0.0214

Saturn -117984-06-11 17:03 J -41372070.94 -41372070.79 -41372070.63 0.0268 0.0115

Saturn -117984-09-08 12:00 J -41371982.18 -41371982.00 -41371981.82 0.0268 0.0014

Saturn -117984-12-06 06:58 J -41371893.38 -41371893.21 -41371893.04 0.0267 0.0087

Saturn -117983-03-05 02:10 J -41371804.54 -41371804.41 -41371804.28 0.0266 0.0188

Earth -117982-04-18 17:32 J -41371394.87 -41371394.77 -41371394.68 0.2781 0.1291

Moon -117982-04-18 18:00 J -41371394.84 -41371394.75 -41371394.65 0.2778 0.1272 *

Venus -117982-08-12 11:17 J -41371279.17 -41371279.03 -41371278.89 0.3683 0.0378

Jupiter -117979-03-03 15:36 J -41370344.96 -41370344.85 -41370344.74 0.0526 0.0287

Jupiter -117979-05-31 23:17 J -41370255.65 -41370255.53 -41370255.41 0.0527 0.0194

Mars -117979-10-02 20:39 J -41370131.77 -41370131.64 -41370131.50 0.1827 0.1036

Earth -117979-10-13 21:22 J -41370120.74 -41370120.61 -41370120.48 0.2561 0.1505

Moon -117979-10-13 22:48 J -41370120.67 -41370120.55 -41370120.43 0.2564 0.1660 *

Mars -117978-08-12 15:22 J -41369817.98 -41369817.86 -41369817.74 0.1692 0.0288

Mars -117976-07-17 23:03 J -41369112.61 -41369112.54 -41369112.47 0.1680 0.1363

Moon -117975-04-11 14:53 J -41368844.97 -41368844.88 -41368844.78 0.2784 0.1109

Earth -117975-04-11 15:08 J -41368844.97 -41368844.87 -41368844.77 0.2776 0.1110 *

Jupiter -117973-01-20 14:10 J -41368196.06 -41368195.91 -41368195.76 0.0500 0.0258

Jupiter -117973-04-19 20:39 J -41368105.77 -41368105.64 -41368105.50 0.0499 0.0322

Earth -117972-10-05 08:39 J -41367572.18 -41367572.14 -41367572.10 0.2566 0.2469

Mars -117969-02-22 18:29 J -41366701.89 -41366701.73 -41366701.57 0.1823 0.0156

Earth -117969-04-20 11:46 J -41366644.08 -41366644.01 -41366643.94 0.2783 0.2137

Moon -117969-04-20 12:00 J -41366644.06 -41366644.00 -41366643.93 0.2776 0.2207 *

Saturn -117969-12-31 01:27 J -41366389.49 -41366389.44 -41366389.38 0.0292 0.0267

Mars -117968-01-02 00:58 J -41366387.57 -41366387.46 -41366387.35 0.1695 0.0713

Saturn -117968-03-29 15:22 J -41366300.97 -41366300.86 -41366300.74 0.0293 0.0163

Saturn -117968-06-26 05:17 J -41366212.42 -41366212.28 -41366212.15 0.0294 0.0060

Saturn -117968-09-22 18:44 J -41366123.85 -41366123.72 -41366123.58 0.0295 0.0045

Saturn -117968-12-20 08:24 J -41366035.27 -41366035.15 -41366035.03 0.0296 0.0148

Jupiter -117968-12-20 19:27 J -41366034.78 -41366034.69 -41366034.61 0.0526 0.0406

Saturn -117967-03-18 21:36 J -41365946.66 -41365946.60 -41365946.52 0.0297 0.0251

Jupiter -117967-03-20 03:22 J -41365945.49 -41365945.36 -41365945.23 0.0526 0.0078

Mars -117967-12-08 09:08 J -41365682.21 -41365682.12 -41365682.02 0.1682 0.0973

Uranus -117963-08-25 09:36 J -41364326.14 -41364326.10 -41364326.06 0.0148 0.0144

Uranus -117963-11-21 17:32 J -41364237.88 -41364237.77 -41364237.64 0.0148 0.0114

Uranus -117962-02-18 01:41 J -41364149.57 -41364149.43 -41364149.26 0.0148 0.0085

Earth -117962-04-14 09:36 J -41364094.21 -41364094.10 -41364094.00 0.2778 0.0280

Moon -117962-04-14 09:51 J -41364094.19 -41364094.09 -41364093.98 0.2783 0.0239 *

Uranus -117962-05-17 10:20 J -41364061.24 -41364061.07 -41364060.90 0.0148 0.0054

Uranus -117962-08-13 18:44 J -41363972.91 -41363972.72 -41363972.54 0.0148 0.0023

Jupiter -117962-11-08 11:03 J -41363886.13 -41363886.04 -41363885.94 0.0500 0.0411

Uranus -117962-11-10 03:08 J -41363884.56 -41363884.37 -41363884.19 0.0148 0.0008

Uranus -117961-02-06 11:32 J -41363796.20 -41363796.02 -41363795.84 0.0148 0.0038

Jupiter -117961-02-06 17:17 J -41363795.95 -41363795.78 -41363795.61 0.0499 0.0163 *

Uranus -117961-05-04 19:56 J -41363707.83 -41363707.67 -41363707.50 0.0148 0.0069

Uranus -117961-08-01 04:20 J -41363619.45 -41363619.32 -41363619.17 0.0148 0.0101

Uranus -117961-10-28 12:58 J -41363531.04 -41363530.96 -41363530.87 0.0148 0.0132

Mars -117960-07-14 16:34 J -41363271.96 -41363271.81 -41363271.67 0.1818 0.0700

Mars -117959-05-25 10:34 J -41362957.14 -41362957.06 -41362956.97 0.1699 0.1144

Moon -117959-10-08 14:53 J -41362821.03 -41362820.88 -41362820.73 0.2570 0.0997

Earth -117959-10-08 15:08 J -41362821.02 -41362820.87 -41362820.73 0.2564 0.1068 *

Mars -117957-04-29 19:12 J -41362251.81 -41362251.70 -41362251.58 0.1686 0.0579

Jupiter -117956-10-08 23:17 J -41361724.54 -41361724.53 -41361724.52 0.0525 0.0522

Jupiter -117955-01-06 07:12 J -41361635.33 -41361635.20 -41361635.06 0.0526 0.0042

Jupiter -117955-04-05 14:39 J -41361545.96 -41361545.89 -41361545.82 0.0527 0.0437

Earth -117955-04-07 06:58 J -41361544.23 -41361544.21 -41361544.18 0.2772 0.2653

Saturn -117955-08-01 23:46 J -41361427.59 -41361427.51 -41361427.42 0.0270 0.0236

Saturn -117955-10-29 18:15 J -41361338.88 -41361338.74 -41361338.58 0.0269 0.0137

Saturn -117954-01-26 13:12 J -41361250.13 -41361249.95 -41361249.78 0.0268 0.0036

Saturn -117954-04-25 07:56 J -41361161.34 -41361161.17 -41361160.99 0.0267 0.0066

Saturn -117954-07-23 03:08 J -41361072.51 -41361072.37 -41361072.23 0.0266 0.0166

Pluto -117954-08-16 13:12 J -41361047.98 -41361047.95 -41361047.86 0.0060 0.0057

Pluto -117954-11-12 14:39 J -41360959.98 -41360959.89 -41360959.76 0.0060 0.0049

Pluto -117953-02-08 16:05 J -41360871.95 -41360871.83 -41360871.67 0.0060 0.0041

Pluto -117953-05-06 17:32 J -41360783.92 -41360783.77 -41360783.60 0.0060 0.0034

Pluto -117953-08-02 18:58 J -41360695.87 -41360695.71 -41360695.53 0.0060 0.0026

Pluto -117953-10-29 20:24 J -41360607.83 -41360607.65 -41360607.46 0.0060 0.0018

Pluto -117952-01-25 21:51 J -41360519.78 -41360519.59 -41360519.40 0.0061 0.0010

Pluto -117952-04-23 23:03 J -41360431.73 -41360431.54 -41360431.34 0.0061 0.0002

Pluto -117952-07-21 00:29 J -41360343.67 -41360343.48 -41360343.29 0.0061 0.0006

Pluto -117952-10-17 01:41 J -41360255.61 -41360255.43 -41360255.24 0.0061 0.0015

Pluto -117951-01-13 02:53 J -41360167.54 -41360167.38 -41360167.19 0.0061 0.0023

Pluto -117951-04-11 04:05 J -41360079.48 -41360079.33 -41360079.15 0.0061 0.0031

Pluto -117951-07-08 05:17 J -41359991.40 -41359991.28 -41359991.11 0.0061 0.0039

Pluto -117951-10-04 06:44 J -41359903.32 -41359903.22 -41359903.08 0.0061 0.0047

Mars -117951-12-04 15:22 J -41359841.94 -41359841.86 -41359841.77 0.1814 0.1508

Pluto -117951-12-31 08:10 J -41359815.22 -41359815.16 -41359815.06 0.0061 0.0055

Venus -117950-04-22 03:36 J -41359703.44 -41359703.35 -41359703.26 0.3691 0.2061

Mars -117950-10-15 20:10 J -41359526.70 -41359526.66 -41359526.62 0.1703 0.1580

Jupiter -117950-11-25 15:08 J -41359486.05 -41359485.87 -41359485.70 0.0499 0.0021

Earth -117949-04-16 03:51 J -41359343.44 -41359343.34 -41359343.23 0.2780 0.0600

Moon -117949-04-16 04:34 J -41359343.41 -41359343.31 -41359343.20 0.2782 0.0611 *

Mars -117948-09-20 05:32 J -41358821.39 -41358821.27 -41358821.15 0.1689 0.0186

Earth -117946-10-11 21:22 J -41358069.77 -41358069.61 -41358069.45 0.2562 0.0352

Moon -117946-10-11 22:34 J -41358069.72 -41358069.56 -41358069.40 0.2567 0.0376 *

Venus -117945-11-04 20:39 J -41357679.75 -41357679.64 -41357679.53 0.3697 0.0401

Jupiter -117944-10-25 10:48 J -41357325.18 -41357325.05 -41357324.93 0.0526 0.0161

Jupiter -117943-01-22 18:15 J -41357235.84 -41357235.74 -41357235.64 0.0526 0.0316

Moon -117942-04-10 00:58 J -41356793.54 -41356793.46 -41356793.37 0.2780 0.1791

Earth -117942-04-10 01:27 J -41356793.52 -41356793.44 -41356793.36 0.2774 0.1806 *

Mars -117939-04-02 21:22 J -41355704.74 -41355704.61 -41355704.49 0.1827 0.1115

Venus -117939-05-21 13:41 J -41355656.03 -41355655.93 -41355655.83 0.3702 0.1243

Saturn -117939-08-16 17:17 J -41355568.88 -41355568.78 -41355568.67 0.0293 0.0191

Saturn -117939-11-13 07:12 J -41355480.33 -41355480.20 -41355480.06 0.0294 0.0086

Saturn -117938-02-09 20:53 J -41355391.76 -41355391.63 -41355391.49 0.0295 0.0019

Mars -117938-02-10 15:22 J -41355390.98 -41355390.86 -41355390.74 0.1692 0.0245

Saturn -117938-05-09 10:34 J -41355303.19 -41355303.06 -41355302.94 0.0296 0.0122

Saturn -117938-08-06 00:00 J -41355214.59 -41355214.50 -41355214.41 0.0297 0.0225

Jupiter -117938-09-13 12:58 J -41355176.13 -41355175.96 -41355175.78 0.0500 0.0126

Jupiter -117938-12-12 19:56 J -41355085.73 -41355085.67 -41355085.60 0.0499 0.0458

Mars -117936-01-15 22:48 J -41354685.61 -41354685.55 -41354685.48 0.1680 0.1407

Earth -117936-04-18 22:20 J -41354592.66 -41354592.57 -41354592.48 0.2782 0.1446

Moon -117936-04-18 22:48 J -41354592.64 -41354592.55 -41354592.46 0.2776 0.1548 *

Venus -117934-12-05 06:29 J -41353632.29 -41353632.23 -41353632.16 0.3708 0.2852

Earth -117933-10-14 03:51 J -41353318.45 -41353318.34 -41353318.22 0.2561 0.1775

Moon -117933-10-14 05:32 J -41353318.38 -41353318.27 -41353318.16 0.2562 0.1867 *

Jupiter -117932-08-13 14:10 J -41353015.02 -41353014.91 -41353014.80 0.0525 0.0285

Jupiter -117932-11-10 21:51 J -41352925.71 -41352925.59 -41352925.47 0.0526 0.0194

Venus -117931-09-02 07:56 J -41352630.29 -41352630.17 -41352630.05 0.3688 0.1927

Mars -117930-08-23 18:58 J -41352274.87 -41352274.71 -41352274.56 0.1823 0.0233

Moon -117929-04-11 19:56 J -41352042.77 -41352042.67 -41352042.57 0.2784 0.0991

Earth -117929-04-11 19:56 J -41352042.77 -41352042.67 -41352042.57 0.2776 0.0952 *

Mars -117929-07-03 01:12 J -41351960.56 -41351960.45 -41351960.34 0.1695 0.0657

Mars -117927-06-08 09:08 J -41351255.21 -41351255.12 -41351255.02 0.1683 0.1021

Jupiter -117926-07-02 11:32 J -41350866.17 -41350866.02 -41350865.87 0.0500 0.0263

Jupiter -117926-09-30 18:00 J -41350775.88 -41350775.75 -41350775.61 0.0499 0.0317

Moon -117926-10-06 14:24 J -41350769.98 -41350769.90 -41350769.82 0.2572 0.2181

Earth -117926-10-06 15:08 J -41350769.94 -41350769.87 -41350769.79 0.2566 0.2214 *

Saturn -117926-12-20 00:58 J -41350695.50 -41350695.46 -41350695.42 0.0270 0.0260

Saturn -117925-03-17 19:27 J -41350606.83 -41350606.69 -41350606.55 0.0269 0.0161

Venus -117925-03-18 12:00 J -41350606.13 -41350606.00 -41350605.87 0.3680 0.1593

Saturn -117925-06-14 14:10 J -41350518.08 -41350517.91 -41350517.74 0.0268 0.0061

Saturn -117925-09-11 08:53 J -41350429.30 -41350429.13 -41350428.95 0.0267 0.0041

Saturn -117925-12-09 03:51 J -41350340.48 -41350340.34 -41350340.18 0.0266 0.0141

Saturn -117924-03-07 23:17 J -41350251.60 -41350251.53 -41350251.46 0.0265 0.0241

Moon -117923-04-21 16:48 J -41349841.86 -41349841.80 -41349841.74 0.2776 0.2239

Earth -117923-04-21 16:48 J -41349841.86 -41349841.80 -41349841.75 0.2783 0.2301 *

Uranus -117922-06-28 20:10 J -41349408.70 -41349408.66 -41349408.60 0.0131 0.0120

Uranus -117922-09-24 23:32 J -41349320.60 -41349320.52 -41349320.44 0.0131 0.0104

Uranus -117922-12-22 02:39 J -41349232.49 -41349232.39 -41349232.29 0.0131 0.0089

Uranus -117921-03-19 05:32 J -41349144.37 -41349144.27 -41349144.15 0.0131 0.0074

Uranus -117921-06-15 08:53 J -41349056.25 -41349056.13 -41349056.01 0.0131 0.0058

Uranus -117921-09-11 12:00 J -41348968.13 -41348968.00 -41348967.87 0.0131 0.0043

Uranus -117921-12-08 14:53 J -41348880.01 -41348879.88 -41348879.74 0.0131 0.0028

Mars -117920-01-12 17:17 J -41348844.93 -41348844.78 -41348844.63 0.1819 0.0609

Uranus -117920-03-06 18:00 J -41348791.88 -41348791.75 -41348791.61 0.0131 0.0013

Jupiter -117920-06-01 17:17 J -41348704.86 -41348704.78 -41348704.70 0.0525 0.0413

Uranus -117920-06-02 21:08 J -41348703.76 -41348703.62 -41348703.48 0.0131 0.0003

Uranus -117920-08-30 00:15 J -41348615.63 -41348615.49 -41348615.36 0.0131 0.0018

Jupiter -117920-08-30 01:12 J -41348615.58 -41348615.45 -41348615.32 0.0526 0.0070 *

Mars -117920-11-23 10:48 J -41348530.14 -41348530.05 -41348529.96 0.1699 0.1089

Uranus -117920-11-26 03:08 J -41348527.50 -41348527.37 -41348527.24 0.0131 0.0033

Uranus -117919-02-22 06:15 J -41348439.37 -41348439.24 -41348439.12 0.0131 0.0048

Uranus -117919-05-21 09:08 J -41348351.23 -41348351.12 -41348351.00 0.0131 0.0063

Uranus -117919-08-17 12:15 J -41348263.10 -41348262.99 -41348262.88 0.0131 0.0078

Uranus -117919-11-13 15:08 J -41348174.96 -41348174.87 -41348174.77 0.0131 0.0093

Uranus -117918-02-09 18:00 J -41348086.82 -41348086.75 -41348086.67 0.0131 0.0108

Uranus -117918-05-08 20:53 J -41347998.66 -41347998.63 -41347998.58 0.0131 0.0122

Mars -117918-10-29 19:27 J -41347824.80 -41347824.69 -41347824.58 0.1685 0.0629

Neptune -117917-11-19 02:24 J -41347438.45 -41347438.40 -41347438.34 0.0089 0.0084

Neptune -117916-02-15 05:17 J -41347350.34 -41347350.28 -41347350.18 0.0089 0.0079

Earth -117916-04-14 14:24 J -41347292.01 -41347291.90 -41347291.79 0.2778 0.0100

Moon -117916-04-14 15:08 J -41347291.98 -41347291.87 -41347291.77 0.2783 0.0126 *

Neptune -117916-05-14 08:53 J -41347262.23 -41347262.13 -41347262.03 0.0089 0.0073

Neptune -117916-08-10 11:32 J -41347174.12 -41347174.02 -41347173.88 0.0089 0.0068

Neptune -117916-11-06 15:08 J -41347086.00 -41347085.87 -41347085.74 0.0089 0.0062

Neptune -117915-02-02 18:00 J -41346997.88 -41346997.75 -41346997.60 0.0089 0.0057

Neptune -117915-05-01 21:22 J -41346909.75 -41346909.61 -41346909.46 0.0089 0.0051

Neptune -117915-07-29 00:44 J -41346821.63 -41346821.47 -41346821.31 0.0089 0.0045

Neptune -117915-10-25 03:36 J -41346733.50 -41346733.35 -41346733.17 0.0089 0.0040

Neptune -117914-01-21 06:58 J -41346645.37 -41346645.21 -41346645.03 0.0089 0.0034

Neptune -117914-04-19 10:20 J -41346557.24 -41346557.07 -41346556.90 0.0089 0.0028

Jupiter -117914-04-20 09:36 J -41346556.19 -41346556.10 -41346555.99 0.0500 0.0404

Neptune -117914-07-16 13:27 J -41346469.11 -41346468.94 -41346468.76 0.0089 0.0023

Jupiter -117914-07-19 15:51 J -41346466.01 -41346465.84 -41346465.67 0.0499 0.0171

Neptune -117914-10-12 16:48 J -41346380.98 -41346380.80 -41346380.62 0.0089 0.0017

Neptune -117913-01-08 19:56 J -41346292.85 -41346292.67 -41346292.48 0.0089 0.0011

Neptune -117913-04-05 23:17 J -41346204.71 -41346204.53 -41346204.34 0.0089 0.0005

Neptune -117913-07-03 02:39 J -41346116.58 -41346116.39 -41346116.21 0.0089 0.0001

Neptune -117913-09-29 05:46 J -41346028.44 -41346028.26 -41346028.07 0.0089 0.0007

Earth -117913-10-08 21:36 J -41346018.75 -41346018.60 -41346018.44 0.2564 0.0796

Moon -117913-10-08 22:05 J -41346018.73 -41346018.58 -41346018.43 0.2570 0.0863 *

Neptune -117913-12-26 09:08 J -41345940.30 -41345940.12 -41345939.93 0.0089 0.0012

Neptune -117912-03-24 12:15 J -41345852.16 -41345851.99 -41345851.80 0.0089 0.0018

Neptune -117912-06-20 15:36 J -41345764.02 -41345763.85 -41345763.66 0.0089 0.0024

Neptune -117912-09-16 18:58 J -41345675.88 -41345675.71 -41345675.53 0.0089 0.0030

Neptune -117912-12-13 22:20 J -41345587.74 -41345587.57 -41345587.39 0.0089 0.0035

Neptune -117911-03-12 01:41 J -41345499.59 -41345499.43 -41345499.26 0.0089 0.0041

Mars -117911-06-04 15:51 J -41345414.93 -41345414.84 -41345414.74 0.1814 0.1431

Neptune -117911-06-08 05:03 J -41345411.44 -41345411.29 -41345411.13 0.0089 0.0047

Neptune -117911-09-04 08:10 J -41345323.30 -41345323.16 -41345323.00 0.0089 0.0053

Neptune -117911-12-01 11:32 J -41345235.14 -41345235.02 -41345234.87 0.0089 0.0059

Neptune -117910-02-27 14:53 J -41345146.99 -41345146.88 -41345146.74 0.0089 0.0065

Mars -117910-04-15 20:10 J -41345099.71 -41345099.66 -41345099.61 0.1703 0.1528

Neptune -117910-05-26 18:15 J -41345058.84 -41345058.74 -41345058.61 0.0089 0.0071

Neptune -117910-08-22 21:36 J -41344970.67 -41344970.60 -41344970.49 0.0089 0.0077

Neptune -117910-11-19 00:58 J -41344882.51 -41344882.46 -41344882.37 0.0089 0.0083

Saturn -117909-01-03 19:41 J -41344836.77 -41344836.68 -41344836.59 0.0292 0.0216

Neptune -117909-02-15 04:34 J -41344794.31 -41344794.31 -41344794.28 0.0089 0.0089

Saturn -117909-04-01 09:22 J -41344748.23 -41344748.11 -41344747.98 0.0294 0.0113

Moon -117909-04-07 11:17 J -41344742.08 -41344742.03 -41344741.99 0.2773 0.2493

Earth -117909-04-07 12:00 J -41344742.05 -41344742.00 -41344741.96 0.2772 0.2498 *

Saturn -117909-06-28 23:17 J -41344659.67 -41344659.53 -41344659.40 0.0295 0.0012

Saturn -117909-09-25 12:44 J -41344571.10 -41344570.97 -41344570.84 0.0296 0.0095

Saturn -117909-12-23 02:24 J -41344482.50 -41344482.40 -41344482.30 0.0296 0.0198

Mars -117908-03-21 05:17 J -41344394.39 -41344394.28 -41344394.16 0.1689 0.0231

Jupiter -117908-06-18 05:03 J -41344305.42 -41344305.29 -41344305.15 0.0526 0.0050

Jupiter -117908-09-15 12:29 J -41344216.05 -41344215.98 -41344215.90 0.0527 0.0429

Earth -117903-04-17 08:53 J -41342541.24 -41342541.13 -41342541.03 0.2780 0.0760

Moon -117903-04-17 09:36 J -41342541.21 -41342541.10 -41342541.00 0.2780 0.0851 *

Jupiter -117902-05-07 12:29 J -41342156.16 -41342155.98 -41342155.80 0.0499 0.0014

Mars -117900-10-01 22:05 J -41341277.70 -41341277.58 -41341277.46 0.1827 0.1204

Earth -117900-10-12 04:05 J -41341267.49 -41341267.33 -41341267.17 0.2562 0.0621

Moon -117900-10-12 05:17 J -41341267.43 -41341267.28 -41341267.13 0.2566 0.0773 *

Venus -117899-05-13 08:10 J -41341054.22 -41341054.16 -41341054.10 0.3687 0.3112

Mars -117899-08-11 15:22 J -41340963.98 -41340963.86 -41340963.74 0.1692 0.0189

Mars -117897-07-16 22:48 J -41340258.60 -41340258.55 -41340258.49 0.1680 0.1455

Jupiter -117896-04-06 09:08 J -41339995.24 -41339995.12 -41339994.99 0.0526 0.0162

Moon -117896-04-10 06:00 J -41339991.33 -41339991.25 -41339991.16 0.2781 0.1750

Earth -117896-04-10 06:29 J -41339991.32 -41339991.23 -41339991.15 0.2774 0.1647 *

Jupiter -117896-07-04 16:48 J -41339905.90 -41339905.80 -41339905.70 0.0527 0.0317

Saturn -117896-08-04 20:24 J -41339874.77 -41339874.65 -41339874.52 0.0269 0.0183

Saturn -117896-11-01 15:08 J -41339786.04 -41339785.87 -41339785.70 0.0268 0.0084

Saturn -117895-01-29 09:51 J -41339697.26 -41339697.09 -41339696.91 0.0267 0.0017

Saturn -117895-04-28 04:48 J -41339608.46 -41339608.30 -41339608.14 0.0267 0.0117

Saturn -117895-07-25 23:46 J -41339519.60 -41339519.51 -41339519.40 0.0266 0.0218

Venus -117894-11-27 01:27 J -41339030.54 -41339030.44 -41339030.34 0.3693 0.1447

Mars -117890-02-21 19:41 J -41337847.84 -41337847.68 -41337847.52 0.1823 0.0320

Jupiter -117890-02-23 10:20 J -41337846.24 -41337846.07 -41337845.89 0.0500 0.0132

Earth -117890-04-20 03:08 J -41337790.45 -41337790.37 -41337790.28 0.2782 0.1612

Moon -117890-04-20 03:36 J -41337790.44 -41337790.35 -41337790.26 0.2776 0.1589 *

Jupiter -117890-05-24 17:17 J -41337755.85 -41337755.78 -41337755.70 0.0499 0.0452

Mars -117889-01-02 01:12 J -41337533.57 -41337533.45 -41337533.34 0.1695 0.0611

Venus -117888-06-11 18:29 J -41337006.84 -41337006.73 -41337006.62 0.3698 0.0215

Mars -117888-12-07 09:08 J -41336828.21 -41336828.12 -41336828.02 0.1683 0.1070

Earth -117887-10-15 10:34 J -41336516.15 -41336516.06 -41336515.96 0.2560 0.2044

Moon -117887-10-15 12:15 J -41336516.07 -41336515.99 -41336515.90 0.2559 0.2124 *

Jupiter -117884-01-23 12:44 J -41335685.08 -41335684.97 -41335684.86 0.0525 0.0283

Jupiter -117884-04-22 20:24 J -41335595.77 -41335595.65 -41335595.53 0.0526 0.0197

Earth -117883-04-13 00:44 J -41335240.57 -41335240.47 -41335240.36 0.2777 0.0803

Moon -117883-04-13 00:58 J -41335240.56 -41335240.46 -41335240.35 0.2783 0.0732 *

Venus -117883-12-26 11:32 J -41334983.12 -41334983.02 -41334982.93 0.3704 0.1842

Mars -117881-07-13 17:46 J -41334417.91 -41334417.76 -41334417.61 0.1818 0.0535

Saturn -117880-05-22 21:08 J -41334104.69 -41334104.62 -41334104.55 0.0293 0.0247

Mars -117880-05-24 10:48 J -41334103.15 -41334103.05 -41334102.95 0.1699 0.1036

Saturn -117880-08-19 11:03 J -41334016.16 -41334016.04 -41334015.92 0.0294 0.0143

Moon -117880-10-06 21:22 J -41333967.70 -41333967.61 -41333967.52 0.2572 0.2062

Earth -117880-10-06 21:51 J -41333967.69 -41333967.59 -41333967.48 0.2566 0.1945 *

Saturn -117880-11-16 00:44 J -41333927.60 -41333927.47 -41333927.33 0.0295 0.0040

Saturn -117879-02-12 14:24 J -41333839.03 -41333838.90 -41333838.77 0.0296 0.0065

Saturn -117879-05-12 03:51 J -41333750.45 -41333750.34 -41333750.22 0.0297 0.0169

Saturn -117879-08-08 17:17 J -41333661.83 -41333661.78 -41333661.72 0.0298 0.0272

Uranus -117879-09-14 18:15 J -41333624.82 -41333624.74 -41333624.66 0.0148 0.0132

Uranus -117879-12-12 02:24 J -41333536.53 -41333536.40 -41333536.27 0.0148 0.0103

Jupiter -117879-12-12 08:39 J -41333536.29 -41333536.14 -41333535.99 0.0500 0.0272 *

Uranus -117878-03-10 10:34 J -41333448.21 -41333448.06 -41333447.89 0.0148 0.0073

Jupiter -117878-03-12 15:08 J -41333446.01 -41333445.87 -41333445.73 0.0499 0.0309

Mars -117878-04-29 19:27 J -41333397.80 -41333397.69 -41333397.58 0.1686 0.0674

Uranus -117878-06-06 18:58 J -41333359.89 -41333359.71 -41333359.53 0.0148 0.0042

Uranus -117878-09-03 03:22 J -41333271.55 -41333271.36 -41333271.17 0.0148 0.0012

Uranus -117878-11-30 11:46 J -41333183.20 -41333183.01 -41333182.82 0.0148 0.0019

Uranus -117877-02-26 20:10 J -41333094.83 -41333094.66 -41333094.48 0.0148 0.0050

Moon -117877-04-21 21:22 J -41333039.65 -41333039.61 -41333039.56 0.2776 0.2497

Earth -117877-04-21 21:36 J -41333039.65 -41333039.60 -41333039.55 0.2783 0.2459 *

Uranus -117877-05-25 04:34 J -41333006.46 -41333006.31 -41333006.15 0.0148 0.0081

Venus -117877-07-11 04:20 J -41332959.36 -41332959.32 -41332959.28 0.3710 0.3441

Uranus -117877-08-21 13:12 J -41332918.07 -41332917.95 -41332917.83 0.0148 0.0112

Uranus -117877-11-17 21:22 J -41332829.64 -41332829.61 -41332829.54 0.0148 0.0144

Venus -117874-04-09 08:53 J -41331957.27 -41331957.13 -41331957.00 0.3686 0.0727

Jupiter -117873-11-11 16:05 J -41331374.91 -41331374.83 -41331374.75 0.0525 0.0407

Jupiter -117872-02-09 00:00 J -41331285.63 -41331285.50 -41331285.37 0.0526 0.0075

Mars -117872-12-03 16:20 J -41330987.92 -41330987.82 -41330987.71 0.1814 0.1354

Mars -117871-10-14 20:24 J -41330672.71 -41330672.65 -41330672.59 0.1702 0.1472

Earth -117870-04-15 19:12 J -41330489.81 -41330489.70 -41330489.59 0.2778 0.0072

Moon -117870-04-15 19:56 J -41330489.78 -41330489.67 -41330489.56 0.2782 0.0086 *

Mars -117869-09-19 05:32 J -41329967.39 -41329967.27 -41329967.15 0.1689 0.0274

Venus -117869-10-23 12:44 J -41329933.06 -41329932.97 -41329932.88 0.3678 0.2819

Jupiter -117867-09-30 07:12 J -41329226.29 -41329226.20 -41329226.09 0.0500 0.0407

Earth -117867-10-10 04:05 J -41329216.48 -41329216.33 -41329216.17 0.2564 0.0541

Moon -117867-10-10 05:03 J -41329216.45 -41329216.29 -41329216.13 0.2569 0.0387 *

Saturn -117867-12-22 20:53 J -41329142.73 -41329142.63 -41329142.52 0.0269 0.0210

Jupiter -117867-12-29 13:27 J -41329136.11 -41329135.94 -41329135.77 0.0499 0.0169

Saturn -117866-03-21 15:22 J -41329054.01 -41329053.86 -41329053.69 0.0268 0.0111

Saturn -117866-06-18 10:20 J -41328965.25 -41328965.07 -41328964.89 0.0267 0.0011

Saturn -117866-09-15 05:17 J -41328876.45 -41328876.28 -41328876.11 0.0266 0.0090

Saturn -117866-12-13 00:15 J -41328787.61 -41328787.49 -41328787.36 0.0266 0.0190

Moon -117863-04-08 16:20 J -41327939.87 -41327939.82 -41327939.77 0.2776 0.2445

Earth -117863-04-08 16:48 J -41327939.85 -41327939.80 -41327939.74 0.2772 0.2341 *

Jupiter -117861-11-28 03:22 J -41326975.49 -41326975.36 -41326975.23 0.0526 0.0050

Pluto -117861-12-08 12:15 J -41326964.99 -41326964.99 -41326964.95 0.0084 0.0084

Jupiter -117860-02-25 10:48 J -41326886.13 -41326886.05 -41326885.98 0.0527 0.0426

Pluto -117860-03-06 13:56 J -41326877.00 -41326876.92 -41326876.84 0.0084 0.0068

Mars -117860-04-01 22:34 J -41326850.67 -41326850.56 -41326850.44 0.1827 0.1285

Pluto -117860-06-02 15:08 J -41326788.97 -41326788.87 -41326788.76 0.0084 0.0052

Pluto -117860-08-29 16:34 J -41326700.93 -41326700.81 -41326700.69 0.0084 0.0037

Pluto -117860-11-25 17:46 J -41326612.88 -41326612.76 -41326612.62 0.0084 0.0022

Mars -117859-02-09 15:22 J -41326536.98 -41326536.86 -41326536.74 0.1692 0.0140

Pluto -117859-02-21 19:12 J -41326524.83 -41326524.70 -41326524.56 0.0084 0.0007

Pluto -117859-05-20 20:39 J -41326436.78 -41326436.64 -41326436.51 0.0084 0.0009

Pluto -117859-08-16 21:51 J -41326348.72 -41326348.59 -41326348.46 0.0084 0.0024

Pluto -117859-11-12 23:03 J -41326260.65 -41326260.54 -41326260.41 0.0083 0.0039

Pluto -117858-02-09 00:15 J -41326172.58 -41326172.49 -41326172.38 0.0083 0.0054

Pluto -117858-05-08 01:27 J -41326084.50 -41326084.44 -41326084.35 0.0083 0.0069

Pluto -117858-08-04 02:53 J -41325996.38 -41325996.38 -41325996.37 0.0083 0.0083

Mars -117857-01-15 23:03 J -41325831.59 -41325831.54 -41325831.49 0.1680 0.1502

Earth -117857-04-17 13:41 J -41325739.03 -41325738.93 -41325738.83 0.2780 0.0914

Moon -117857-04-17 14:24 J -41325739.00 -41325738.90 -41325738.80 0.2777 0.0974 *

Jupiter -117855-10-17 11:32 J -41324826.20 -41324826.02 -41324825.84 0.0499 0.0026

Earth -117854-10-13 10:48 J -41324465.21 -41324465.05 -41324464.90 0.2562 0.0894

Moon -117854-10-13 12:15 J -41324465.14 -41324464.99 -41324464.84 0.2564 0.0897 *

Mars -117851-08-22 20:24 J -41323420.80 -41323420.65 -41323420.49 0.1823 0.0412

Saturn -117851-10-09 22:48 J -41323372.59 -41323372.55 -41323372.50 0.0292 0.0276

Saturn -117850-01-06 12:44 J -41323284.08 -41323283.97 -41323283.86 0.0293 0.0173

Saturn -117850-04-05 02:39 J -41323195.53 -41323195.39 -41323195.26 0.0294 0.0070

Moon -117850-04-11 11:03 J -41323189.13 -41323189.04 -41323188.95 0.2782 0.1449

Earth -117850-04-11 11:17 J -41323189.12 -41323189.03 -41323188.94 0.2774 0.1489 *

Saturn -117850-07-02 16:20 J -41323106.96 -41323106.82 -41323106.69 0.0295 0.0035

Mars -117850-07-03 01:12 J -41323106.56 -41323106.45 -41323106.33 0.1695 0.0556

Saturn -117850-09-29 05:46 J -41323018.38 -41323018.26 -41323018.14 0.0296 0.0138

Saturn -117850-12-26 19:12 J -41322929.77 -41322929.70 -41322929.62 0.0297 0.0241

Jupiter -117849-09-16 07:12 J -41322665.32 -41322665.20 -41322665.07 0.0526 0.0167

Jupiter -117849-12-14 14:53 J -41322575.98 -41322575.88 -41322575.78 0.0527 0.0313

Mars -117848-06-07 09:08 J -41322401.20 -41322401.12 -41322401.03 0.1683 0.1118

Earth -117844-04-20 08:10 J -41320988.25 -41320988.16 -41320988.08 0.2782 0.1771

Moon -117844-04-20 08:24 J -41320988.23 -41320988.15 -41320988.07 0.2776 0.1831 *

Jupiter -117843-08-05 08:24 J -41320516.33 -41320516.15 -41320515.98 0.0500 0.0131

Jupiter -117843-11-03 15:08 J -41320425.94 -41320425.87 -41320425.79 0.0499 0.0452

Venus -117843-12-18 06:00 J -41320381.33 -41320381.25 -41320381.17 0.3688 0.2494

Mars -117841-01-12 18:29 J -41319990.89 -41319990.73 -41319990.58 0.1818 0.0451

Earth -117841-10-15 17:17 J -41319713.85 -41319713.78 -41319713.71 0.2560 0.2317

Moon -117841-10-15 18:58 J -41319713.74 -41319713.71 -41319713.67 0.2559 0.2479 *

Mars -117841-11-22 10:48 J -41319676.15 -41319676.05 -41319675.95 0.1699 0.0986

Mars -117839-10-28 19:27 J -41318970.80 -41318970.69 -41318970.58 0.1686 0.0722

Uranus -117838-04-22 00:44 J -41318795.48 -41318795.47 -41318795.44 0.0131 0.0129

Uranus -117838-07-19 04:05 J -41318707.39 -41318707.33 -41318707.26 0.0131 0.0113

Uranus -117838-10-15 07:12 J -41318619.29 -41318619.20 -41318619.11 0.0131 0.0098

Uranus -117837-01-11 10:20 J -41318531.17 -41318531.07 -41318530.96 0.0131 0.0082

Uranus -117837-04-08 13:27 J -41318443.05 -41318442.94 -41318442.82 0.0131 0.0067

Earth -117837-04-13 05:46 J -41318438.37 -41318438.26 -41318438.16 0.2777 0.0637

Moon -117837-04-13 06:15 J -41318438.35 -41318438.24 -41318438.14 0.2783 0.0672 *

Saturn -117837-05-10 21:22 J -41318410.68 -41318410.61 -41318410.52 0.0270 0.0236

Venus -117837-07-02 23:17 J -41318357.64 -41318357.53 -41318357.43 0.3694 0.0831

Jupiter -117837-07-05 11:32 J -41318355.14 -41318355.02 -41318354.91 0.0526 0.0280

Uranus -117837-07-05 16:34 J -41318354.93 -41318354.81 -41318354.68 0.0131 0.0052 *

Saturn -117837-08-07 16:05 J -41318321.98 -41318321.83 -41318321.68 0.0269 0.0136

Uranus -117837-10-01 19:41 J -41318266.81 -41318266.68 -41318266.55 0.0131 0.0036

Jupiter -117837-10-02 19:12 J -41318265.82 -41318265.70 -41318265.58 0.0526 0.0202

Saturn -117837-11-04 10:48 J -41318233.23 -41318233.05 -41318232.88 0.0268 0.0036

Uranus -117837-12-28 22:48 J -41318178.68 -41318178.55 -41318178.42 0.0131 0.0021

Saturn -117836-02-01 05:32 J -41318144.44 -41318144.27 -41318144.09 0.0267 0.0064

Uranus -117836-03-27 01:56 J -41318090.56 -41318090.42 -41318090.29 0.0131 0.0006

Saturn -117836-05-01 00:29 J -41318055.61 -41318055.48 -41318055.33 0.0266 0.0164

Uranus -117836-06-23 04:48 J -41318002.43 -41318002.30 -41318002.16 0.0131 0.0010

Saturn -117836-07-28 19:41 J -41317966.69 -41317966.68 -41317966.66 0.0265 0.0264

Neptune -117836-09-16 06:15 J -41317917.26 -41317917.24 -41317917.19 0.0088 0.0085

Uranus -117836-09-19 07:56 J -41317914.30 -41317914.17 -41317914.04 0.0131 0.0024

Neptune -117836-12-13 08:10 J -41317829.22 -41317829.16 -41317829.11 0.0088 0.0081

Uranus -117836-12-16 10:48 J -41317826.17 -41317826.05 -41317825.91 0.0131 0.0040

Neptune -117835-03-11 09:36 J -41317741.16 -41317741.10 -41317741.03 0.0088 0.0076

Uranus -117835-03-14 13:56 J -41317738.04 -41317737.92 -41317737.79 0.0131 0.0054

Neptune -117835-06-07 11:03 J -41317653.11 -41317653.04 -41317652.95 0.0088 0.0072

Uranus -117835-06-10 16:48 J -41317649.91 -41317649.80 -41317649.68 0.0131 0.0070

Neptune -117835-09-03 12:44 J -41317565.05 -41317564.97 -41317564.88 0.0088 0.0068

Uranus -117835-09-06 19:41 J -41317561.77 -41317561.68 -41317561.57 0.0131 0.0085

Neptune -117835-11-30 14:10 J -41317477.00 -41317476.91 -41317476.81 0.0088 0.0064

Uranus -117835-12-03 22:48 J -41317473.63 -41317473.55 -41317473.46 0.0131 0.0099

Neptune -117834-02-26 15:36 J -41317388.94 -41317388.85 -41317388.73 0.0088 0.0060

Uranus -117834-03-02 01:41 J -41317385.48 -41317385.43 -41317385.36 0.0131 0.0114

Neptune -117834-05-25 17:32 J -41317300.88 -41317300.77 -41317300.66 0.0088 0.0055

Uranus -117834-05-29 04:34 J -41317297.32 -41317297.31 -41317297.28 0.0131 0.0129

Neptune -117834-08-21 18:58 J -41317212.82 -41317212.71 -41317212.59 0.0088 0.0050

Earth -117834-10-08 04:20 J -41317165.44 -41317165.32 -41317165.20 0.2566 0.1689

Moon -117834-10-08 04:20 J -41317165.43 -41317165.32 -41317165.20 0.2571 0.1663 *

Neptune -117834-11-17 20:24 J -41317124.76 -41317124.65 -41317124.53 0.0088 0.0046

Neptune -117833-02-13 21:51 J -41317036.70 -41317036.59 -41317036.46 0.0088 0.0042

Neptune -117833-05-11 23:32 J -41316948.64 -41316948.52 -41316948.39 0.0088 0.0038

Neptune -117833-08-08 00:58 J -41316860.58 -41316860.46 -41316860.33 0.0088 0.0033

Neptune -117833-11-04 02:24 J -41316772.52 -41316772.40 -41316772.26 0.0088 0.0029

Neptune -117832-01-31 04:05 J -41316684.46 -41316684.33 -41316684.20 0.0088 0.0025

Neptune -117832-04-29 05:32 J -41316596.40 -41316596.27 -41316596.13 0.0088 0.0021

Mars -117832-06-03 17:03 J -41316560.90 -41316560.79 -41316560.68 0.1814 0.1272

Neptune -117832-07-26 06:58 J -41316508.34 -41316508.21 -41316508.07 0.0088 0.0016

Neptune -117832-10-22 08:24 J -41316420.28 -41316420.15 -41316420.01 0.0088 0.0013

Venus -117831-01-16 16:20 J -41316333.93 -41316333.82 -41316333.72 0.3700 0.0821

Neptune -117831-01-18 10:05 J -41316332.22 -41316332.08 -41316331.95 0.0088 0.0008

Mars -117831-04-14 20:24 J -41316245.72 -41316245.65 -41316245.59 0.1703 0.1426

Neptune -117831-04-16 11:32 J -41316244.16 -41316244.02 -41316243.88 0.0088 0.0004

Moon -117831-04-23 02:10 J -41316237.45 -41316237.41 -41316237.37 0.2777 0.2531

Earth -117831-04-23 02:24 J -41316237.43 -41316237.40 -41316237.36 0.2783 0.2624 *

Jupiter -117831-05-24 06:29 J -41316206.38 -41316206.23 -41316206.08 0.0500 0.0273

Neptune -117831-07-13 12:58 J -41316156.10 -41316155.96 -41316155.82 0.0088 0.0001

Jupiter -117831-08-22 12:58 J -41316116.10 -41316115.96 -41316115.82 0.0499 0.0307

Neptune -117831-10-09 14:24 J -41316068.04 -41316067.90 -41316067.76 0.0088 0.0005

Neptune -117830-01-05 15:51 J -41315979.97 -41315979.84 -41315979.70 0.0088 0.0009

Neptune -117830-04-03 17:17 J -41315891.91 -41315891.78 -41315891.64 0.0088 0.0013

Neptune -117830-06-30 18:44 J -41315803.85 -41315803.72 -41315803.58 0.0088 0.0017

Neptune -117830-09-26 20:10 J -41315715.79 -41315715.66 -41315715.52 0.0088 0.0022

Neptune -117830-12-23 21:51 J -41315627.73 -41315627.59 -41315627.46 0.0088 0.0026

Mars -117829-03-20 05:32 J -41315540.39 -41315540.27 -41315540.15 0.1689 0.0322

Neptune -117829-03-20 23:03 J -41315539.66 -41315539.54 -41315539.41 0.0088 0.0030

Neptune -117829-06-17 00:29 J -41315451.60 -41315451.48 -41315451.35 0.0088 0.0034

Neptune -117829-09-13 01:56 J -41315363.54 -41315363.42 -41315363.29 0.0088 0.0038

Neptune -117829-12-10 03:22 J -41315275.47 -41315275.36 -41315275.23 0.0088 0.0042

Neptune -117828-03-08 04:48 J -41315187.41 -41315187.30 -41315187.18 0.0088 0.0046

Neptune -117828-06-04 06:15 J -41315099.35 -41315099.24 -41315099.12 0.0088 0.0050

Neptune -117828-08-31 07:41 J -41315011.28 -41315011.18 -41315011.07 0.0088 0.0054

Neptune -117828-11-27 09:08 J -41314923.22 -41314923.12 -41314923.02 0.0088 0.0059

Neptune -117827-02-23 10:34 J -41314835.15 -41314835.06 -41314834.96 0.0088 0.0063

Neptune -117827-05-22 12:00 J -41314747.09 -41314747.00 -41314746.91 0.0088 0.0067

Neptune -117827-08-18 13:27 J -41314659.02 -41314658.94 -41314658.86 0.0088 0.0071

Neptune -117827-11-14 14:53 J -41314570.95 -41314570.88 -41314570.81 0.0088 0.0075

Neptune -117826-02-10 16:20 J -41314482.88 -41314482.82 -41314482.76 0.0088 0.0079

Neptune -117826-05-09 17:17 J -41314394.81 -41314394.78 -41314394.72 0.0088 0.0083

Venus -117826-08-02 09:08 J -41314310.20 -41314310.12 -41314310.04 0.3705 0.2438

Neptune -117826-08-05 18:58 J -41314306.73 -41314306.71 -41314306.69 0.0088 0.0087

Jupiter -117825-04-23 15:08 J -41314044.96 -41314044.87 -41314044.79 0.0525 0.0401

Jupiter -117825-07-21 22:48 J -41313955.67 -41313955.55 -41313955.42 0.0526 0.0084

Earth -117824-04-16 00:15 J -41313687.60 -41313687.49 -41313687.39 0.2779 0.0243

Moon -117824-04-16 00:44 J -41313687.57 -41313687.47 -41313687.36 0.2781 0.0339 *

Venus -117823-04-30 05:46 J -41313308.35 -41313308.26 -41313308.18 0.3692 0.2975

Saturn -117821-05-25 13:41 J -41312552.03 -41312551.93 -41312551.83 0.0293 0.0207

Saturn -117821-08-22 03:22 J -41312463.48 -41312463.36 -41312463.22 0.0294 0.0104

Mars -117821-09-30 23:32 J -41312423.63 -41312423.52 -41312423.42 0.1827 0.1374

Earth -117821-10-10 10:48 J -41312414.21 -41312414.05 -41312413.89 0.2563 0.0268

Moon -117821-10-10 11:46 J -41312414.16 -41312414.01 -41312413.85 0.2569 0.0302 *

Saturn -117821-11-18 17:17 J -41312374.92 -41312374.78 -41312374.65 0.0295 0.0006

Saturn -117820-02-15 06:44 J -41312286.34 -41312286.22 -41312286.09 0.0296 0.0104

Saturn -117820-05-14 20:24 J -41312197.75 -41312197.65 -41312197.56 0.0297 0.0207

Mars -117820-08-10 15:22 J -41312109.98 -41312109.86 -41312109.74 0.1692 0.0100

Jupiter -117819-03-12 04:48 J -41311896.39 -41311896.30 -41311896.20 0.0500 0.0411

Jupiter -117819-06-10 11:03 J -41311806.21 -41311806.04 -41311805.87 0.0500 0.0164

Mars -117818-07-16 23:03 J -41311404.59 -41311404.54 -41311404.50 0.1680 0.1547

Venus -117818-11-14 09:22 J -41311284.25 -41311284.11 -41311283.97 0.3684 0.0484

Moon -117817-04-08 21:08 J -41311137.68 -41311137.62 -41311137.55 0.2778 0.2211

Earth -117817-04-08 21:51 J -41311137.66 -41311137.59 -41311137.53 0.2773 0.2187 *

Jupiter -117813-02-10 18:29 J -41309734.74 -41309734.73 -41309734.73 0.0525 0.0523

Jupiter -117813-05-10 02:39 J -41309645.53 -41309645.39 -41309645.26 0.0526 0.0042

Jupiter -117813-08-07 09:51 J -41309556.16 -41309556.09 -41309556.02 0.0526 0.0435

Mars -117811-02-20 20:53 J -41308993.79 -41308993.63 -41308993.48 0.1823 0.0482

Earth -117811-04-18 18:29 J -41308936.83 -41308936.73 -41308936.63 0.2781 0.1077

Moon -117811-04-18 19:12 J -41308936.80 -41308936.70 -41308936.60 0.2776 0.1099 *

Mars -117810-01-01 01:12 J -41308679.56 -41308679.45 -41308679.33 0.1695 0.0507

Mars -117809-12-06 09:22 J -41307974.20 -41307974.11 -41307974.03 0.1683 0.1164

Saturn -117808-09-27 21:08 J -41307678.63 -41307678.62 -41307678.58 0.0270 0.0266

Earth -117808-10-13 17:17 J -41307662.92 -41307662.78 -41307662.63 0.2561 0.1159

Moon -117808-10-13 18:58 J -41307662.84 -41307662.71 -41307662.57 0.2562 0.1372 *

Saturn -117808-12-25 15:51 J -41307589.97 -41307589.84 -41307589.70 0.0269 0.0166

Saturn -117807-03-24 10:34 J -41307501.23 -41307501.06 -41307500.89 0.0268 0.0067

Jupiter -117807-03-29 09:36 J -41307496.28 -41307496.10 -41307495.92 0.0500 0.0028

Saturn -117807-06-21 05:17 J -41307412.45 -41307412.28 -41307412.10 0.0267 0.0033

Saturn -117807-09-18 00:15 J -41307323.64 -41307323.49 -41307323.33 0.0266 0.0133

Saturn -117807-12-15 19:27 J -41307234.77 -41307234.69 -41307234.60 0.0265 0.0233

Moon -117804-04-11 16:05 J -41306386.92 -41306386.83 -41306386.73 0.2782 0.1391

Earth -117804-04-11 16:05 J -41306386.92 -41306386.83 -41306386.73 0.2775 0.1334 *

Mars -117802-07-13 19:12 J -41305563.86 -41305563.70 -41305563.55 0.1819 0.0370

Jupiter -117801-02-27 05:46 J -41305335.38 -41305335.26 -41305335.13 0.0526 0.0165

Mars -117801-05-23 10:48 J -41305249.15 -41305249.05 -41305248.95 0.1699 0.0936

Jupiter -117801-05-26 13:27 J -41305246.04 -41305245.94 -41305245.84 0.0526 0.0314

Mars -117799-04-28 19:27 J -41304543.80 -41304543.69 -41304543.58 0.1686 0.0771

Earth -117798-04-21 12:58 J -41304186.04 -41304185.96 -41304185.88 0.2782 0.1929

Moon -117798-04-21 12:58 J -41304186.03 -41304185.96 -41304185.88 0.2775 0.1923 *

Jupiter -117795-01-15 07:41 J -41303186.35 -41303186.18 -41303186.00 0.0500 0.0115

Jupiter -117795-04-15 14:39 J -41303095.95 -41303095.89 -41303095.83 0.0499 0.0469

Uranus -117795-10-05 02:53 J -41302923.47 -41302923.38 -41302923.25 0.0148 0.0121

Uranus -117794-01-01 11:17 J -41302835.17 -41302835.03 -41302834.87 0.0148 0.0090

Uranus -117794-03-30 19:41 J -41302746.84 -41302746.68 -41302746.51 0.0148 0.0060

Uranus -117794-06-27 04:05 J -41302658.51 -41302658.33 -41302658.15 0.0148 0.0029

Uranus -117794-09-23 12:29 J -41302570.17 -41302569.98 -41302569.79 0.0148 0.0001

Uranus -117794-12-20 20:53 J -41302481.81 -41302481.63 -41302481.45 0.0148 0.0032

Uranus -117793-03-18 05:17 J -41302393.45 -41302393.28 -41302393.11 0.0148 0.0063

Uranus -117793-06-14 13:56 J -41302305.07 -41302304.92 -41302304.78 0.0149 0.0094

Uranus -117793-09-10 22:05 J -41302216.66 -41302216.58 -41302216.47 0.0149 0.0126

Mars -117793-12-02 17:46 J -41302133.88 -41302133.76 -41302133.64 0.1814 0.1184

Saturn -117792-10-12 14:53 J -41301819.96 -41301819.88 -41301819.80 0.0292 0.0240

Mars -117792-10-13 20:24 J -41301818.72 -41301818.65 -41301818.58 0.1703 0.1369

Venus -117791-01-08 10:34 J -41301732.08 -41301732.06 -41301732.03 0.3684 0.3551

Saturn -117791-01-09 04:48 J -41301731.42 -41301731.30 -41301731.18 0.0293 0.0137

Saturn -117791-04-07 18:29 J -41301642.87 -41301642.73 -41301642.59 0.0294 0.0033

Earth -117791-04-14 10:34 J -41301636.17 -41301636.06 -41301635.95 0.2777 0.0478

Moon -117791-04-14 11:03 J -41301636.14 -41301636.04 -41301635.93 0.2783 0.0372 *

Saturn -117791-07-05 08:10 J -41301554.29 -41301554.16 -41301554.03 0.0295 0.0070

Saturn -117791-10-01 21:51 J -41301465.70 -41301465.59 -41301465.49 0.0296 0.0174

Saturn -117791-12-29 11:03 J -41301377.08 -41301377.04 -41301376.99 0.0297 0.0276

Mars -117790-09-19 05:32 J -41301113.39 -41301113.27 -41301113.15 0.1689 0.0371

Jupiter -117790-12-16 09:51 J -41301025.20 -41301025.09 -41301024.98 0.0526 0.0280

Jupiter -117789-03-14 17:32 J -41300935.89 -41300935.77 -41300935.65 0.0526 0.0201

Earth -117788-10-08 11:03 J -41300363.17 -41300363.04 -41300362.91 0.2565 0.1419

Moon -117788-10-08 11:32 J -41300363.15 -41300363.02 -41300362.89 0.2571 0.1390 *

Venus -117786-07-25 03:51 J -41299708.43 -41299708.34 -41299708.24 0.3690 0.1873

Earth -117785-04-23 07:27 J -41299435.19 -41299435.19 -41299435.19 0.2784 0.2783

Jupiter -117784-11-03 04:48 J -41298876.45 -41298876.30 -41298876.15 0.0500 0.0269

Jupiter -117783-02-01 11:03 J -41298786.17 -41298786.04 -41298785.89 0.0499 0.0311

Mars -117781-04-01 00:00 J -41297996.60 -41297996.50 -41297996.40 0.1827 0.1454

Venus -117780-02-06 21:08 J -41297684.73 -41297684.62 -41297684.51 0.3695 0.0233

Mars -117780-02-08 15:22 J -41297682.98 -41297682.86 -41297682.74 0.1692 0.0067

Mars -117778-01-14 23:03 J -41296977.58 -41296977.54 -41296977.51 0.1680 0.1592

Earth -117778-04-17 05:03 J -41296885.40 -41296885.29 -41296885.18 0.2779 0.0382

Moon -117778-04-17 05:46 J -41296885.37 -41296885.26 -41296885.15 0.2778 0.0376 *

Saturn -117778-05-14 16:05 J -41296857.95 -41296857.83 -41296857.71 0.0269 0.0194

Saturn -117778-08-11 10:34 J -41296769.22 -41296769.06 -41296768.89 0.0268 0.0094

Jupiter -117778-10-04 13:56 J -41296715.01 -41296714.92 -41296714.83 0.0526 0.0394

Saturn -117778-11-08 05:17 J -41296680.45 -41296680.28 -41296680.10 0.0268 0.0008

Jupiter -117777-01-01 21:51 J -41296625.72 -41296625.59 -41296625.46 0.0526 0.0090

Saturn -117777-02-05 00:15 J -41296591.65 -41296591.49 -41296591.32 0.0267 0.0106

Saturn -117777-05-03 19:12 J -41296502.80 -41296502.70 -41296502.58 0.0266 0.0206

Venus -117775-08-23 14:10 J -41295661.01 -41295660.91 -41295660.81 0.3701 0.1423

Earth -117775-10-11 17:32 J -41295611.94 -41295611.77 -41295611.61 0.2563 0.0057

Moon -117775-10-11 18:44 J -41295611.88 -41295611.72 -41295611.56 0.2567 0.0143 *

Mars -117772-08-21 21:36 J -41294566.75 -41294566.60 -41294566.45 0.1823 0.0571

Jupiter -117772-08-22 03:08 J -41294566.47 -41294566.37 -41294566.27 0.0500 0.0408 *

Jupiter -117772-11-20 09:08 J -41294476.29 -41294476.12 -41294475.95 0.0499 0.0167

Moon -117771-04-10 02:10 J -41294335.48 -41294335.41 -41294335.34 0.2779 0.2078

Earth -117771-04-10 02:39 J -41294335.46 -41294335.39 -41294335.32 0.2773 0.2026 *

Mars -117771-07-02 01:12 J -41294252.56 -41294252.45 -41294252.33 0.1695 0.0459

Venus -117769-03-08 06:58 J -41293637.27 -41293637.21 -41293637.15 0.3707 0.3029

Mars -117769-06-06 09:22 J -41293547.20 -41293547.11 -41293547.03 0.1683 0.1210

Venus -117767-12-05 06:15 J -41292635.36 -41292635.24 -41292635.12 0.3690 0.1801

Jupiter -117766-07-23 17:32 J -41292404.79 -41292404.77 -41292404.74 0.0525 0.0513

Jupiter -117766-10-21 01:41 J -41292315.56 -41292315.43 -41292315.30 0.0526 0.0029

Jupiter -117765-01-18 09:08 J -41292226.19 -41292226.12 -41292226.06 0.0526 0.0446

Earth -117765-04-18 23:32 J -41292134.62 -41292134.52 -41292134.43 0.2781 0.1239

Moon -117765-04-19 00:00 J -41292134.60 -41292134.50 -41292134.41 0.2776 0.1315 *

Mars -117762-01-11 19:41 J -41291136.84 -41291136.68 -41291136.53 0.1818 0.0288

Saturn -117762-03-01 15:22 J -41291087.90 -41291087.86 -41291087.82 0.0292 0.0277

Saturn -117762-05-29 05:17 J -41290999.39 -41290999.28 -41290999.17 0.0293 0.0174

Saturn -117762-08-25 18:58 J -41290910.84 -41290910.71 -41290910.57 0.0294 0.0071

Earth -117762-10-15 00:00 J -41290860.64 -41290860.50 -41290860.37 0.2561 0.1429

Moon -117762-10-15 01:41 J -41290860.56 -41290860.43 -41290860.29 0.2561 0.1442 *

Saturn -117762-11-22 08:39 J -41290822.27 -41290822.14 -41290822.00 0.0295 0.0035

Mars -117762-11-22 11:03 J -41290822.15 -41290822.04 -41290821.94 0.1699 0.0882 *

Saturn -117761-02-18 22:20 J -41290733.69 -41290733.57 -41290733.45 0.0296 0.0136

Saturn -117761-05-17 11:46 J -41290645.09 -41290645.01 -41290644.93 0.0297 0.0239

Venus -117761-06-20 10:05 J -41290611.21 -41290611.08 -41290610.96 0.3682 0.1657

Jupiter -117760-09-08 07:27 J -41290166.37 -41290166.19 -41290166.01 0.0500 0.0026

Mars -117760-10-27 19:27 J -41290116.79 -41290116.69 -41290116.58 0.1686 0.0819

Earth -117758-04-12 21:08 J -41289584.72 -41289584.62 -41289584.53 0.2775 0.1176

Moon -117758-04-12 21:22 J -41289584.71 -41289584.61 -41289584.52 0.2782 0.1136 *

Moon -117755-10-06 10:48 J -41288312.07 -41288312.05 -41288312.02 0.2573 0.2532

Earth -117755-10-06 11:17 J -41288312.03 -41288312.03 -41288312.02 0.2567 0.2566 *

Uranus -117754-05-12 09:08 J -41288094.17 -41288094.12 -41288094.07 0.0131 0.0121

Uranus -117754-08-08 12:00 J -41288006.07 -41288006.00 -41288005.91 0.0131 0.0106

Jupiter -117754-08-09 05:17 J -41288005.40 -41288005.28 -41288005.15 0.0526 0.0149

Uranus -117754-11-04 15:08 J -41287917.96 -41287917.87 -41287917.76 0.0131 0.0091

Jupiter -117754-11-06 12:44 J -41287916.07 -41287915.97 -41287915.86 0.0526 0.0328

Uranus -117753-01-31 18:29 J -41287829.84 -41287829.73 -41287829.62 0.0131 0.0075

Uranus -117753-04-28 21:36 J -41287741.72 -41287741.60 -41287741.48 0.0131 0.0059

Mars -117753-06-02 18:00 J -41287706.87 -41287706.75 -41287706.62 0.1814 0.1114

Uranus -117753-07-26 00:29 J -41287653.60 -41287653.48 -41287653.34 0.0131 0.0045

Uranus -117753-10-22 03:51 J -41287565.48 -41287565.34 -41287565.21 0.0131 0.0029

Uranus -117752-01-18 06:44 J -41287477.35 -41287477.22 -41287477.08 0.0131 0.0014

Mars -117752-04-13 20:39 J -41287391.72 -41287391.64 -41287391.57 0.1702 0.1316

Uranus -117752-04-16 09:51 J -41287389.22 -41287389.09 -41287388.95 0.0131 0.0002

Moon -117752-04-21 17:46 J -41287383.83 -41287383.76 -41287383.69 0.2775 0.2053

Earth -117752-04-21 17:46 J -41287383.83 -41287383.76 -41287383.69 0.2783 0.2092 *

Neptune -117752-05-19 20:39 J -41287355.64 -41287355.64 -41287355.61 0.0089 0.0089

Uranus -117752-07-13 12:58 J -41287301.10 -41287300.96 -41287300.83 0.0131 0.0017

Neptune -117752-08-15 23:46 J -41287267.56 -41287267.51 -41287267.44 0.0089 0.0083

Uranus -117752-10-09 15:51 J -41287212.97 -41287212.84 -41287212.70 0.0131 0.0032

Neptune -117752-11-12 02:53 J -41287179.45 -41287179.38 -41287179.28 0.0089 0.0078

Uranus -117751-01-05 18:58 J -41287124.84 -41287124.71 -41287124.58 0.0131 0.0047

Neptune -117751-02-08 06:15 J -41287091.34 -41287091.24 -41287091.13 0.0089 0.0072

Uranus -117751-04-03 21:51 J -41287036.70 -41287036.59 -41287036.47 0.0131 0.0062

Neptune -117751-05-07 09:08 J -41287003.23 -41287003.12 -41287002.99 0.0089 0.0067

Uranus -117751-07-01 00:44 J -41286948.57 -41286948.47 -41286948.35 0.0131 0.0077

Neptune -117751-08-03 12:29 J -41286915.11 -41286914.98 -41286914.84 0.0089 0.0061

Uranus -117751-09-27 03:51 J -41286860.43 -41286860.34 -41286860.24 0.0131 0.0091

Neptune -117751-10-30 15:22 J -41286826.99 -41286826.86 -41286826.70 0.0089 0.0056

Uranus -117751-12-24 06:58 J -41286772.29 -41286772.21 -41286772.14 0.0131 0.0106

Neptune -117750-01-26 18:44 J -41286738.86 -41286738.72 -41286738.56 0.0089 0.0050

Mars -117750-03-20 05:32 J -41286686.38 -41286686.27 -41286686.15 0.1689 0.0422

Uranus -117750-03-22 09:36 J -41286684.14 -41286684.10 -41286684.04 0.0131 0.0121

Neptune -117750-04-24 22:05 J -41286650.74 -41286650.58 -41286650.42 0.0089 0.0044

Neptune -117750-07-22 00:58 J -41286562.61 -41286562.46 -41286562.28 0.0089 0.0039

Neptune -117750-10-18 04:20 J -41286474.48 -41286474.32 -41286474.14 0.0089 0.0033

Neptune -117749-01-14 07:41 J -41286386.36 -41286386.18 -41286386.01 0.0089 0.0027

Neptune -117749-04-11 10:48 J -41286298.23 -41286298.05 -41286297.87 0.0089 0.0022

Neptune -117749-07-08 14:10 J -41286210.09 -41286209.91 -41286209.73 0.0089 0.0016

Saturn -117749-09-30 15:08 J -41286125.96 -41286125.87 -41286125.78 0.0269 0.0227

Neptune -117749-10-04 17:17 J -41286121.96 -41286121.78 -41286121.59 0.0089 0.0010

Saturn -117749-12-28 09:36 J -41286037.25 -41286037.10 -41286036.94 0.0268 0.0129

Neptune -117749-12-31 20:39 J -41286033.83 -41286033.64 -41286033.46 0.0089 0.0004

Saturn -117748-03-27 04:20 J -41285948.49 -41285948.32 -41285948.14 0.0268 0.0029

Neptune -117748-03-29 23:46 J -41285945.69 -41285945.51 -41285945.32 0.0089 0.0003

Saturn -117748-06-23 23:17 J -41285859.70 -41285859.53 -41285859.36 0.0267 0.0071

Neptune -117748-06-26 03:08 J -41285857.55 -41285857.37 -41285857.18 0.0089 0.0007

Jupiter -117748-06-27 06:00 J -41285856.42 -41285856.25 -41285856.07 0.0500 0.0110

Saturn -117748-09-20 18:15 J -41285770.87 -41285770.74 -41285770.60 0.0266 0.0171

Neptune -117748-09-22 06:29 J -41285769.41 -41285769.23 -41285769.05 0.0089 0.0013

Jupiter -117748-09-25 12:58 J -41285766.01 -41285765.96 -41285765.90 0.0499 0.0475

Neptune -117748-12-19 09:36 J -41285681.27 -41285681.10 -41285680.91 0.0089 0.0019

Neptune -117747-03-17 12:58 J -41285593.13 -41285592.96 -41285592.78 0.0089 0.0025

Neptune -117747-06-13 16:05 J -41285504.99 -41285504.83 -41285504.64 0.0089 0.0031

Neptune -117747-09-09 19:41 J -41285416.85 -41285416.68 -41285416.51 0.0089 0.0036

Neptune -117747-12-06 23:03 J -41285328.70 -41285328.54 -41285328.37 0.0089 0.0042

Neptune -117746-03-05 02:10 J -41285240.56 -41285240.41 -41285240.24 0.0089 0.0048

Neptune -117746-06-01 05:32 J -41285152.41 -41285152.27 -41285152.11 0.0089 0.0054

Neptune -117746-08-28 08:53 J -41285064.26 -41285064.13 -41285063.98 0.0089 0.0060

Neptune -117746-11-24 12:15 J -41284976.10 -41284975.99 -41284975.85 0.0089 0.0066

Neptune -117745-02-20 15:36 J -41284887.95 -41284887.85 -41284887.73 0.0089 0.0072

Earth -117745-04-14 15:36 J -41284833.96 -41284833.85 -41284833.75 0.2777 0.0336

Moon -117745-04-14 16:05 J -41284833.94 -41284833.83 -41284833.72 0.2782 0.0330 *

Neptune -117745-05-18 18:58 J -41284799.78 -41284799.71 -41284799.61 0.0089 0.0078

Neptune -117745-08-14 22:05 J -41284711.61 -41284711.58 -41284711.49 0.0089 0.0084

Jupiter -117742-05-28 08:39 J -41283695.25 -41283695.14 -41283695.03 0.0525 0.0274

Jupiter -117742-08-25 16:20 J -41283605.94 -41283605.82 -41283605.70 0.0526 0.0207

Mars -117742-10-01 00:44 J -41283569.55 -41283569.47 -41283569.38 0.1827 0.1543

Earth -117742-10-09 17:46 J -41283560.90 -41283560.76 -41283560.62 0.2565 0.1149

Moon -117742-10-09 18:29 J -41283560.88 -41283560.73 -41283560.59 0.2571 0.1142 *

Mars -117741-08-09 15:36 J -41283255.97 -41283255.85 -41283255.73 0.1692 0.0031

Mars -117739-07-15 23:03 J -41282550.56 -41282550.54 -41282550.52 0.1680 0.1640

Moon -117738-04-08 12:29 J -41282284.00 -41282283.98 -41282283.97 0.2774 0.2725

Earth -117738-04-08 12:58 J -41282283.97 -41282283.96 -41282283.94 0.2771 0.2723 *

Jupiter -117736-04-15 04:34 J -41281546.46 -41281546.31 -41281546.15 0.0500 0.0248

Jupiter -117736-07-14 11:03 J -41281456.17 -41281456.04 -41281455.90 0.0499 0.0332

Venus -117735-08-15 08:39 J -41281059.21 -41281059.14 -41281059.08 0.3686 0.2920

Saturn -117733-10-15 06:00 J -41280267.34 -41280267.25 -41280267.15 0.0292 0.0210

Saturn -117732-01-11 19:56 J -41280178.80 -41280178.67 -41280178.54 0.0294 0.0107

Mars -117732-02-19 22:20 J -41280139.72 -41280139.57 -41280139.42 0.1823 0.0657

Saturn -117732-04-10 09:36 J -41280090.24 -41280090.10 -41280089.96 0.0295 0.0004

Earth -117732-04-17 09:51 J -41280083.19 -41280083.09 -41280082.98 0.2779 0.0542

Moon -117732-04-17 10:34 J -41280083.16 -41280083.06 -41280082.95 0.2777 0.0671 *

Saturn -117732-07-07 23:17 J -41280001.66 -41280001.53 -41280001.40 0.0296 0.0100

Saturn -117732-10-04 12:44 J -41279913.07 -41279912.97 -41279912.87 0.0297 0.0203

Mars -117732-12-31 01:12 J -41279825.56 -41279825.45 -41279825.33 0.1695 0.0411

Jupiter -117730-03-16 12:29 J -41279385.06 -41279384.98 -41279384.89 0.0525 0.0390

Jupiter -117730-06-13 20:39 J -41279295.77 -41279295.64 -41279295.52 0.0526 0.0095

Mars -117730-12-06 09:22 J -41279120.19 -41279120.11 -41279120.03 0.1683 0.1257

Venus -117729-02-29 01:56 J -41279035.53 -41279035.42 -41279035.32 0.3691 0.1260

Earth -117729-10-12 00:15 J -41278809.65 -41278809.49 -41278809.33 0.2563 0.0281

Moon -117729-10-12 01:41 J -41278809.59 -41278809.43 -41278809.27 0.2565 0.0364 *

Moon -117725-04-10 07:12 J -41277533.28 -41277533.20 -41277533.12 0.2780 0.1911

Earth -117725-04-10 07:27 J -41277533.27 -41277533.19 -41277533.11 0.2773 0.1869 *

Jupiter -117724-02-01 01:56 J -41277236.53 -41277236.42 -41277236.32 0.0500 0.0399

Jupiter -117724-05-02 07:56 J -41277146.34 -41277146.17 -41277146.01 0.0499 0.0175

Venus -117724-09-13 18:58 J -41277011.82 -41277011.71 -41277011.60 0.3697 0.0402

Mars -117723-07-12 20:10 J -41276709.81 -41276709.66 -41276709.50 0.1818 0.0209

Mars -117722-05-23 11:03 J -41276395.15 -41276395.04 -41276394.93 0.1699 0.0830

Mars -117720-04-27 19:27 J -41275689.79 -41275689.69 -41275689.59 0.1686 0.0866

Saturn -117719-02-17 14:39 J -41275393.93 -41275393.89 -41275393.83 0.0270 0.0257

Earth -117719-04-20 04:20 J -41275332.41 -41275332.32 -41275332.23 0.2781 0.1398

Moon -117719-04-20 04:34 J -41275332.40 -41275332.31 -41275332.21 0.2775 0.1372 *

Saturn -117719-05-17 09:08 J -41275305.25 -41275305.12 -41275304.97 0.0269 0.0159

Saturn -117719-08-14 04:05 J -41275216.50 -41275216.33 -41275216.16 0.0268 0.0058

Saturn -117719-11-10 22:48 J -41275127.72 -41275127.55 -41275127.37 0.0267 0.0042

Jupiter -117718-01-02 16:34 J -41275074.84 -41275074.81 -41275074.77 0.0525 0.0504

Saturn -117718-02-07 17:46 J -41275038.91 -41275038.76 -41275038.61 0.0267 0.0142

Venus -117718-03-30 12:00 J -41274988.09 -41274988.00 -41274987.91 0.3703 0.2022

Jupiter -117718-04-02 00:44 J -41274985.60 -41274985.47 -41274985.34 0.0526 0.0023

Saturn -117718-05-07 12:58 J -41274950.03 -41274949.96 -41274949.89 0.0266 0.0242

Jupiter -117718-06-30 08:10 J -41274896.22 -41274896.16 -41274896.10 0.0527 0.0457

Earth -117716-10-15 06:44 J -41274058.34 -41274058.22 -41274058.10 0.2561 0.1701

Moon -117716-10-15 08:24 J -41274058.26 -41274058.15 -41274058.05 0.2560 0.1900 *

Mars -117714-12-02 18:58 J -41273279.84 -41273279.71 -41273279.58 0.1814 0.1025

Mars -117713-10-12 20:39 J -41272964.72 -41272964.64 -41272964.56 0.1703 0.1266

Venus -117713-10-13 04:48 J -41272964.32 -41272964.30 -41272964.28 0.3708 0.3618

Jupiter -117712-02-18 06:00 J -41272836.43 -41272836.25 -41272836.07 0.0499 0.0034

Earth -117712-04-13 01:56 J -41272782.52 -41272782.42 -41272782.32 0.2776 0.1012

Moon -117712-04-13 02:24 J -41272782.50 -41272782.40 -41272782.30 0.2783 0.0998 *

Uranus -117711-07-29 04:48 J -41272310.37 -41272310.30 -41272310.22 0.0148 0.0135

Mars -117711-09-18 05:32 J -41272259.38 -41272259.27 -41272259.15 0.1689 0.0471

Uranus -117711-10-25 12:44 J -41272222.08 -41272221.97 -41272221.83 0.0148 0.0105

Uranus -117710-01-21 21:08 J -41272133.77 -41272133.62 -41272133.45 0.0148 0.0075

Uranus -117710-04-20 05:32 J -41272045.44 -41272045.27 -41272045.09 0.0148 0.0045

Venus -117710-07-12 06:44 J -41271962.36 -41271962.22 -41271962.08 0.3687 0.0642

Uranus -117710-07-17 13:56 J -41271957.11 -41271956.92 -41271956.73 0.0148 0.0014

Uranus -117710-10-13 22:20 J -41271868.76 -41271868.57 -41271868.39 0.0148 0.0016

Uranus -117709-01-10 06:29 J -41271780.40 -41271780.23 -41271780.04 0.0149 0.0048

Uranus -117709-04-07 14:53 J -41271692.02 -41271691.88 -41271691.71 0.0149 0.0079

Uranus -117709-07-04 23:32 J -41271603.64 -41271603.52 -41271603.38 0.0149 0.0110

Uranus -117709-10-01 08:10 J -41271515.21 -41271515.16 -41271515.10 0.0149 0.0141

Earth -117709-10-06 18:00 J -41271509.82 -41271509.75 -41271509.68 0.2567 0.2295

Moon -117709-10-06 18:15 J -41271509.80 -41271509.74 -41271509.69 0.2573 0.2398 *

Jupiter -117706-01-19 04:34 J -41270675.43 -41270675.31 -41270675.18 0.0526 0.0137

Pluto -117706-03-19 22:20 J -41270615.63 -41270615.57 -41270615.46 0.0060 0.0055

Jupiter -117706-04-18 12:15 J -41270586.09 -41270585.99 -41270585.89 0.0526 0.0342

Moon -117706-04-22 22:34 J -41270581.62 -41270581.56 -41270581.50 0.2775 0.2264

Earth -117706-04-22 22:48 J -41270581.62 -41270581.55 -41270581.49 0.2783 0.2254 *

Pluto -117706-06-16 00:00 J -41270527.61 -41270527.50 -41270527.37 0.0060 0.0046

Pluto -117706-09-12 01:27 J -41270439.58 -41270439.44 -41270439.29 0.0060 0.0039

Pluto -117706-12-09 02:53 J -41270351.54 -41270351.38 -41270351.21 0.0060 0.0031

Pluto -117705-03-06 04:20 J -41270263.50 -41270263.32 -41270263.15 0.0060 0.0023

Pluto -117705-06-02 05:17 J -41270175.45 -41270175.28 -41270175.08 0.0060 0.0015

Pluto -117705-08-29 06:44 J -41270087.40 -41270087.22 -41270087.02 0.0060 0.0007

Pluto -117705-11-25 08:10 J -41269999.35 -41269999.16 -41269998.97 0.0061 0.0001

Venus -117704-01-25 10:48 J -41269938.14 -41269938.05 -41269937.96 0.3680 0.2869

Pluto -117704-02-21 09:36 J -41269911.29 -41269911.10 -41269910.91 0.0061 0.0009

Pluto -117704-05-20 10:48 J -41269823.23 -41269823.05 -41269822.86 0.0061 0.0017

Pluto -117704-08-16 12:00 J -41269735.16 -41269735.00 -41269734.82 0.0061 0.0025

Pluto -117704-11-12 13:12 J -41269647.09 -41269646.95 -41269646.77 0.0061 0.0033

Pluto -117703-02-08 14:39 J -41269559.02 -41269558.89 -41269558.74 0.0061 0.0041

Saturn -117703-03-04 06:00 J -41269535.31 -41269535.25 -41269535.17 0.0292 0.0250

Pluto -117703-05-07 15:51 J -41269470.93 -41269470.84 -41269470.71 0.0061 0.0049

Saturn -117703-05-31 19:56 J -41269446.79 -41269446.67 -41269446.55 0.0293 0.0147

Pluto -117703-08-03 17:17 J -41269382.83 -41269382.78 -41269382.70 0.0061 0.0057

Saturn -117703-08-28 09:51 J -41269358.23 -41269358.09 -41269357.96 0.0294 0.0044

Saturn -117703-11-24 23:32 J -41269269.66 -41269269.52 -41269269.39 0.0295 0.0060

Saturn -117702-02-21 12:58 J -41269181.07 -41269180.96 -41269180.85 0.0296 0.0163

Mars -117702-04-01 01:12 J -41269142.52 -41269142.45 -41269142.37 0.1827 0.1622

Saturn -117702-05-21 02:24 J -41269092.46 -41269092.40 -41269092.34 0.0297 0.0265

Mars -117701-02-08 15:36 J -41268828.97 -41268828.85 -41268828.73 0.1692 0.0079

Jupiter -117701-12-07 04:20 J -41268526.49 -41268526.32 -41268526.14 0.0500 0.0106

Jupiter -117700-03-07 11:17 J -41268436.08 -41268436.03 -41268435.98 0.0499 0.0479

Earth -117699-04-15 20:24 J -41268031.76 -41268031.65 -41268031.54 0.2778 0.0161

Moon -117699-04-15 21:08 J -41268031.73 -41268031.62 -41268031.51 0.2779 0.0098 *

Earth -117696-10-10 00:15 J -41266758.64 -41266758.49 -41266758.33 0.2565 0.0886

Moon -117696-10-10 01:12 J -41266758.60 -41266758.45 -41266758.30 0.2570 0.0772 *

Jupiter -117695-11-07 08:24 J -41266365.27 -41266365.15 -41266365.04 0.0525 0.0257

Jupiter -117694-02-04 16:05 J -41266275.95 -41266275.83 -41266275.71 0.0526 0.0224

Mars -117693-08-20 22:48 J -41265712.70 -41265712.55 -41265712.40 0.1823 0.0732

Moon -117692-04-08 17:17 J -41265481.80 -41265481.78 -41265481.75 0.2776 0.2687

Earth -117692-04-08 18:00 J -41265481.79 -41265481.75 -41265481.71 0.2771 0.2564 *

Mars -117692-07-01 01:27 J -41265398.56 -41265398.44 -41265398.32 0.1695 0.0352

Mars -117690-06-06 09:22 J -41264693.18 -41264693.11 -41264693.04 0.1683 0.1304

Saturn -117690-10-04 07:56 J -41264573.28 -41264573.17 -41264573.04 0.0269 0.0194

Saturn -117689-01-01 02:39 J -41264484.55 -41264484.39 -41264484.22 0.0268 0.0095

Saturn -117689-03-29 21:22 J -41264395.78 -41264395.61 -41264395.43 0.0267 0.0007

Saturn -117689-06-26 16:20 J -41264306.98 -41264306.82 -41264306.65 0.0267 0.0105

Saturn -117689-09-23 11:32 J -41264218.13 -41264218.02 -41264217.91 0.0266 0.0205

Jupiter -117689-09-25 03:08 J -41264216.52 -41264216.37 -41264216.21 0.0500 0.0241

Jupiter -117689-12-24 09:36 J -41264126.22 -41264126.10 -41264125.96 0.0499 0.0341

Earth -117686-04-18 14:53 J -41263280.99 -41263280.88 -41263280.78 0.2780 0.0710

Moon -117686-04-18 15:22 J -41263280.96 -41263280.86 -41263280.75 0.2777 0.0696 *

Mars -117683-01-10 21:08 J -41262282.78 -41262282.62 -41262282.46 0.1819 0.0116

Jupiter -117683-08-26 11:32 J -41262055.10 -41262055.02 -41262054.92 0.0525 0.0381

Earth -117683-10-13 06:44 J -41262007.37 -41262007.22 -41262007.06 0.2563 0.0546

Moon -117683-10-13 08:39 J -41262007.30 -41262007.14 -41262006.99 0.2564 0.0649 *

Mars -117683-11-21 11:03 J -41261968.15 -41261968.04 -41261967.93 0.1699 0.0779

Jupiter -117683-11-23 19:41 J -41261965.81 -41261965.68 -41261965.56 0.0526 0.0103

Mars -117681-10-26 19:41 J -41261262.78 -41261262.68 -41261262.58 0.1685 0.0917

Moon -117679-04-11 12:29 J -41260731.07 -41260730.98 -41260730.90 0.2780 0.1680

Earth -117679-04-11 12:29 J -41260731.07 -41260730.98 -41260730.90 0.2773 0.1712 *

Venus -117678-03-22 06:29 J -41260386.31 -41260386.23 -41260386.14 0.3687 0.2293

Jupiter -117677-07-14 01:56 J -41259906.53 -41259906.42 -41259906.30 0.0500 0.0377

Jupiter -117677-10-12 07:56 J -41259816.33 -41259816.17 -41259816.00 0.0499 0.0200

Mars -117674-06-02 19:27 J -41258852.82 -41258852.69 -41258852.56 0.1814 0.0948

Saturn -117674-07-22 06:29 J -41258803.25 -41258803.23 -41258803.20 0.0291 0.0287

Saturn -117674-10-18 20:24 J -41258714.75 -41258714.65 -41258714.54 0.0293 0.0185

Saturn -117673-01-15 10:20 J -41258626.20 -41258626.07 -41258625.93 0.0294 0.0081

Mars -117673-04-12 20:39 J -41258537.73 -41258537.64 -41258537.56 0.1703 0.1214

Saturn -117673-04-13 00:00 J -41258537.63 -41258537.50 -41258537.36 0.0295 0.0023 *

Earth -117673-04-20 09:08 J -41258530.21 -41258530.12 -41258530.03 0.2781 0.1559

Moon -117673-04-20 09:22 J -41258530.20 -41258530.11 -41258530.03 0.2774 0.1627 *

Saturn -117673-07-10 13:41 J -41258449.05 -41258448.93 -41258448.81 0.0296 0.0125

Venus -117673-10-04 23:46 J -41258362.62 -41258362.51 -41258362.41 0.3693 0.0640

Saturn -117673-10-07 03:08 J -41258360.45 -41258360.37 -41258360.28 0.0297 0.0227

Mars -117671-03-19 05:32 J -41257832.38 -41257832.27 -41257832.15 0.1689 0.0516

Neptune -117671-06-13 05:03 J -41257746.32 -41257746.29 -41257746.25 0.0088 0.0085

Jupiter -117671-06-14 15:36 J -41257744.89 -41257744.85 -41257744.81 0.0525 0.0497

Neptune -117671-09-09 06:29 J -41257658.28 -41257658.23 -41257658.17 0.0088 0.0081

Jupiter -117671-09-11 23:46 J -41257655.64 -41257655.51 -41257655.38 0.0526 0.0015

Neptune -117671-12-06 07:56 J -41257570.22 -41257570.17 -41257570.09 0.0088 0.0077

Jupiter -117671-12-10 06:58 J -41257566.26 -41257566.21 -41257566.15 0.0527 0.0464

Neptune -117670-03-04 09:51 J -41257482.17 -41257482.09 -41257482.01 0.0088 0.0072

Uranus -117670-03-05 13:56 J -41257480.94 -41257480.92 -41257480.90 0.0131 0.0129

Neptune -117670-05-31 11:17 J -41257394.11 -41257394.03 -41257393.94 0.0088 0.0067

Uranus -117670-06-01 17:03 J -41257392.85 -41257392.79 -41257392.72 0.0131 0.0114

Neptune -117670-08-27 12:44 J -41257306.06 -41257305.97 -41257305.86 0.0088 0.0063

Uranus -117670-08-28 19:56 J -41257304.74 -41257304.67 -41257304.57 0.0131 0.0099

Earth -117670-10-16 13:27 J -41257256.04 -41257255.94 -41257255.84 0.2561 0.1980

Moon -117670-10-16 14:53 J -41257255.98 -41257255.88 -41257255.78 0.2558 0.2015 *

Neptune -117670-11-23 14:24 J -41257218.00 -41257217.90 -41257217.79 0.0088 0.0059

Uranus -117670-11-24 23:17 J -41257216.63 -41257216.53 -41257216.42 0.0131 0.0083

Neptune -117669-02-19 15:51 J -41257129.94 -41257129.84 -41257129.72 0.0088 0.0055

Uranus -117669-02-21 02:24 J -41257128.51 -41257128.40 -41257128.28 0.0131 0.0068

Neptune -117669-05-17 17:17 J -41257041.88 -41257041.78 -41257041.65 0.0088 0.0051

Uranus -117669-05-19 05:32 J -41257040.39 -41257040.27 -41257040.14 0.0131 0.0052

Neptune -117669-08-13 19:12 J -41256953.82 -41256953.70 -41256953.58 0.0088 0.0046

Uranus -117669-08-15 08:39 J -41256952.27 -41256952.14 -41256952.01 0.0131 0.0037

Neptune -117669-11-09 20:39 J -41256865.76 -41256865.64 -41256865.51 0.0088 0.0041

Uranus -117669-11-11 11:46 J -41256864.14 -41256864.01 -41256863.88 0.0131 0.0022

Neptune -117668-02-05 22:05 J -41256777.70 -41256777.58 -41256777.45 0.0088 0.0037

Uranus -117668-02-07 14:53 J -41256776.02 -41256775.88 -41256775.75 0.0131 0.0007

Neptune -117668-05-04 23:46 J -41256689.64 -41256689.51 -41256689.38 0.0088 0.0033

Uranus -117668-05-06 17:46 J -41256687.89 -41256687.76 -41256687.62 0.0131 0.0009

Neptune -117668-08-01 01:12 J -41256601.58 -41256601.45 -41256601.32 0.0088 0.0029

Uranus -117668-08-02 20:53 J -41256599.76 -41256599.63 -41256599.50 0.0130 0.0024

Neptune -117668-10-28 02:39 J -41256513.52 -41256513.39 -41256513.25 0.0088 0.0024

Uranus -117668-10-30 00:00 J -41256511.63 -41256511.50 -41256511.37 0.0130 0.0039

Neptune -117667-01-24 04:05 J -41256425.46 -41256425.33 -41256425.19 0.0088 0.0021

Uranus -117667-01-26 02:53 J -41256423.50 -41256423.38 -41256423.26 0.0130 0.0054

Venus -117667-04-20 16:48 J -41256338.90 -41256338.80 -41256338.70 0.3699 0.1007

Neptune -117667-04-22 05:46 J -41256337.40 -41256337.26 -41256337.12 0.0088 0.0016

Uranus -117667-04-24 05:46 J -41256335.37 -41256335.26 -41256335.14 0.0130 0.0069

Neptune -117667-07-19 07:12 J -41256249.34 -41256249.20 -41256249.06 0.0088 0.0012

Uranus -117667-07-21 08:39 J -41256247.23 -41256247.14 -41256247.03 0.0130 0.0084

Neptune -117667-10-15 08:39 J -41256161.27 -41256161.14 -41256161.00 0.0088 0.0008

Uranus -117667-10-17 11:32 J -41256159.09 -41256159.02 -41256158.92 0.0130 0.0099

Neptune -117666-01-11 10:20 J -41256073.21 -41256073.07 -41256072.94 0.0088 0.0004

Uranus -117666-01-13 14:39 J -41256070.95 -41256070.89 -41256070.82 0.0130 0.0113

Neptune -117666-04-09 11:46 J -41255985.15 -41255985.01 -41255984.87 0.0088 0.0002

Uranus -117666-04-11 17:32 J -41255982.79 -41255982.77 -41255982.73 0.0130 0.0128

Earth -117666-04-14 06:44 J -41255980.32 -41255980.22 -41255980.11 0.2776 0.0861

Moon -117666-04-14 07:12 J -41255980.30 -41255980.20 -41255980.09 0.2782 0.0831 *

Neptune -117666-07-06 13:12 J -41255897.09 -41255896.95 -41255896.81 0.0088 0.0005

Neptune -117666-10-02 14:39 J -41255809.03 -41255808.89 -41255808.75 0.0088 0.0010

Neptune -117666-12-29 16:05 J -41255720.96 -41255720.83 -41255720.69 0.0088 0.0014

Neptune -117665-03-26 17:32 J -41255632.90 -41255632.77 -41255632.63 0.0088 0.0018

Neptune -117665-06-22 18:58 J -41255544.84 -41255544.71 -41255544.57 0.0088 0.0022

Jupiter -117665-07-31 05:03 J -41255506.47 -41255506.29 -41255506.11 0.0499 0.0045

Neptune -117665-09-18 20:24 J -41255456.78 -41255456.65 -41255456.52 0.0088 0.0026

Mars -117665-10-22 18:29 J -41255422.77 -41255422.73 -41255422.69 0.1810 0.1737

Neptune -117665-12-15 21:51 J -41255368.71 -41255368.59 -41255368.46 0.0088 0.0030

Neptune -117664-03-13 23:17 J -41255280.65 -41255280.53 -41255280.40 0.0088 0.0035

Neptune -117664-06-10 00:44 J -41255192.59 -41255192.47 -41255192.34 0.0088 0.0039

Mars -117664-09-03 06:00 J -41255107.28 -41255107.25 -41255107.22 0.1706 0.1654

Neptune -117664-09-06 02:10 J -41255104.53 -41255104.41 -41255104.29 0.0088 0.0043

Neptune -117664-12-03 03:36 J -41255016.46 -41255016.35 -41255016.23 0.0088 0.0047

Neptune -117663-03-01 04:48 J -41254928.40 -41254928.30 -41254928.18 0.0088 0.0051

Neptune -117663-05-28 06:15 J -41254840.33 -41254840.24 -41254840.12 0.0088 0.0055

Neptune -117663-08-24 07:41 J -41254752.27 -41254752.18 -41254752.07 0.0088 0.0059

Mars -117663-09-30 02:10 J -41254715.47 -41254715.41 -41254715.36 0.1827 0.1710

Earth -117663-10-08 00:29 J -41254707.57 -41254707.48 -41254707.38 0.2567 0.2039

Moon -117663-10-08 00:44 J -41254707.57 -41254707.47 -41254707.36 0.2573 0.1927 *

Neptune -117663-11-20 09:08 J -41254664.20 -41254664.12 -41254664.02 0.0088 0.0063

Neptune -117662-02-16 10:34 J -41254576.14 -41254576.06 -41254575.96 0.0088 0.0067

Neptune -117662-05-15 12:00 J -41254488.07 -41254488.00 -41254487.91 0.0088 0.0071

Mars -117662-08-09 15:36 J -41254401.97 -41254401.85 -41254401.73 0.1692 0.0111

Neptune -117662-08-11 13:27 J -41254400.00 -41254399.94 -41254399.86 0.0088 0.0075

Venus -117662-11-04 09:51 J -41254315.17 -41254315.09 -41254315.02 0.3704 0.2619

Neptune -117662-11-07 14:39 J -41254311.93 -41254311.89 -41254311.82 0.0088 0.0080

Neptune -117661-02-03 16:05 J -41254223.86 -41254223.83 -41254223.77 0.0088 0.0084

Neptune -117661-05-01 17:32 J -41254135.77 -41254135.77 -41254135.74 0.0088 0.0088

Saturn -117660-02-20 07:12 J -41253841.29 -41253841.20 -41253841.10 0.0270 0.0226

Moon -117660-04-23 03:22 J -41253779.42 -41253779.36 -41253779.31 0.2777 0.2329

Earth -117660-04-23 03:36 J -41253779.40 -41253779.35 -41253779.30 0.2783 0.2414 *

Saturn -117660-05-20 01:56 J -41253752.57 -41253752.42 -41253752.27 0.0269 0.0126

Saturn -117660-08-16 20:39 J -41253663.82 -41253663.64 -41253663.46 0.0268 0.0027

Saturn -117660-11-13 15:36 J -41253575.02 -41253574.85 -41253574.68 0.0267 0.0074

Saturn -117659-02-10 10:34 J -41253486.19 -41253486.06 -41253485.92 0.0266 0.0174

Jupiter -117659-07-01 03:51 J -41253345.47 -41253345.34 -41253345.21 0.0526 0.0125

Venus -117659-08-02 03:51 J -41253313.43 -41253313.34 -41253313.25 0.3693 0.2856

Jupiter -117659-09-28 11:32 J -41253256.12 -41253256.02 -41253255.93 0.0527 0.0354

Venus -117653-02-16 07:27 J -41251289.33 -41251289.19 -41251289.05 0.3685 0.0546

Mars -117653-02-19 23:32 J -41251285.66 -41251285.52 -41251285.37 0.1823 0.0822

Earth -117653-04-16 01:12 J -41251229.56 -41251229.45 -41251229.34 0.2778 0.0064

Moon -117653-04-16 01:56 J -41251229.52 -41251229.42 -41251229.31 0.2777 0.0110 *

Jupiter -117653-05-19 03:22 J -41251196.53 -41251196.36 -41251196.18 0.0499 0.0095

Jupiter -117653-08-17 10:05 J -41251106.11 -41251106.08 -41251106.04 0.0499 0.0488

Mars -117653-12-30 01:27 J -41250971.56 -41250971.44 -41250971.32 0.1696 0.0305

Mars -117651-12-05 09:22 J -41250266.18 -41250266.11 -41250266.04 0.1683 0.1350

Earth -117650-10-11 06:58 J -41249956.36 -41249956.21 -41249956.05 0.2564 0.0613

Moon -117650-10-11 08:24 J -41249956.31 -41249956.15 -41249956.00 0.2568 0.0616 *

Jupiter -117647-04-19 07:41 J -41249035.29 -41249035.18 -41249035.06 0.0526 0.0241

Jupiter -117647-07-17 15:22 J -41248945.97 -41248945.86 -41248945.74 0.0526 0.0241

Moon -117646-04-09 22:20 J -41248679.62 -41248679.57 -41248679.52 0.2776 0.2390

Earth -117646-04-09 22:48 J -41248679.60 -41248679.55 -41248679.50 0.2771 0.2407 *

Saturn -117644-03-06 20:24 J -41247982.73 -41247982.65 -41247982.55 0.0292 0.0225

Saturn -117644-06-03 10:20 J -41247894.19 -41247894.07 -41247893.94 0.0293 0.0122

Mars -117644-07-11 21:22 J -41247855.77 -41247855.61 -41247855.45 0.1818 0.0051

Saturn -117644-08-31 00:00 J -41247805.63 -41247805.50 -41247805.36 0.0294 0.0022

Saturn -117644-11-27 13:41 J -41247717.06 -41247716.93 -41247716.80 0.0295 0.0084

Saturn -117643-02-24 03:08 J -41247628.47 -41247628.37 -41247628.26 0.0296 0.0187

Mars -117643-05-22 11:03 J -41247541.15 -41247541.04 -41247540.93 0.1699 0.0730

Saturn -117643-05-23 16:34 J -41247539.83 -41247539.81 -41247539.77 0.0297 0.0289

Jupiter -117641-03-07 01:56 J -41246886.58 -41246886.42 -41246886.26 0.0500 0.0233

Mars -117641-04-26 19:27 J -41246835.78 -41246835.69 -41246835.59 0.1686 0.0960

Jupiter -117641-06-05 08:24 J -41246796.28 -41246796.15 -41246796.02 0.0499 0.0347

Earth -117640-04-18 19:41 J -41246478.78 -41246478.68 -41246478.58 0.2780 0.0863

Moon -117640-04-18 20:10 J -41246478.76 -41246478.66 -41246478.56 0.2776 0.0958 *

Earth -117637-10-13 13:27 J -41245205.09 -41245204.94 -41245204.79 0.2562 0.0819

Moon -117637-10-13 15:22 J -41245205.01 -41245204.86 -41245204.72 0.2563 0.0963 *

Jupiter -117635-02-05 11:17 J -41244725.12 -41244725.03 -41244724.93 0.0525 0.0362

Jupiter -117635-05-05 19:27 J -41244635.82 -41244635.69 -41244635.57 0.0526 0.0123

Mars -117635-12-01 19:56 J -41244425.80 -41244425.67 -41244425.53 0.1814 0.0869

Mars -117634-10-12 20:39 J -41244110.73 -41244110.64 -41244110.55 0.1702 0.1159

Earth -117633-04-11 17:17 J -41243928.87 -41243928.78 -41243928.69 0.2774 0.1550

Moon -117633-04-11 17:32 J -41243928.86 -41243928.77 -41243928.69 0.2781 0.1607 *

Mars -117632-09-17 05:46 J -41243405.38 -41243405.26 -41243405.15 0.1689 0.0568

Saturn -117631-07-10 05:32 J -41243109.30 -41243109.27 -41243109.23 0.0270 0.0264

Saturn -117631-10-07 00:00 J -41243020.63 -41243020.50 -41243020.35 0.0269 0.0165

Saturn -117630-01-03 18:58 J -41242931.88 -41242931.71 -41242931.54 0.0268 0.0066

Saturn -117630-04-02 13:41 J -41242843.10 -41242842.93 -41242842.75 0.0267 0.0035

Saturn -117630-06-30 08:39 J -41242754.29 -41242754.14 -41242753.98 0.0267 0.0135

Saturn -117630-09-27 03:51 J -41242665.42 -41242665.34 -41242665.26 0.0266 0.0235

Jupiter -117630-12-25 00:44 J -41242576.59 -41242576.47 -41242576.35 0.0500 0.0367

Jupiter -117629-03-24 06:58 J -41242486.38 -41242486.21 -41242486.05 0.0500 0.0210

Venus -117627-04-12 11:03 J -41241737.08 -41241737.04 -41241736.99 0.3683 0.3347

Moon -117627-04-21 14:10 J -41241728.00 -41241727.91 -41241727.83 0.2774 0.1650

Earth -117627-04-21 14:10 J -41241728.00 -41241727.91 -41241727.83 0.2782 0.1724 *

Uranus -117627-08-18 12:58 J -41241609.05 -41241608.96 -41241608.85 0.0148 0.0125

Uranus -117627-11-14 21:22 J -41241520.75 -41241520.61 -41241520.47 0.0148 0.0095

Uranus -117626-02-11 05:32 J -41241432.43 -41241432.27 -41241432.10 0.0148 0.0065

Uranus -117626-05-10 13:56 J -41241344.10 -41241343.92 -41241343.74 0.0149 0.0034

Uranus -117626-08-06 22:20 J -41241255.76 -41241255.57 -41241255.39 0.0149 0.0004

Uranus -117626-11-03 06:44 J -41241167.40 -41241167.22 -41241167.04 0.0149 0.0027

Uranus -117625-01-30 15:08 J -41241079.04 -41241078.87 -41241078.70 0.0149 0.0058

Mars -117625-04-22 19:12 J -41240995.76 -41240995.70 -41240995.64 0.1810 0.1656

Uranus -117625-04-27 23:32 J -41240990.67 -41240990.52 -41240990.37 0.0149 0.0089

Uranus -117625-07-25 08:10 J -41240902.27 -41240902.16 -41240902.05 0.0149 0.0120

Mars -117624-03-04 06:00 J -41240680.29 -41240680.25 -41240680.21 0.1706 0.1603

Earth -117624-10-16 19:56 J -41240453.74 -41240453.67 -41240453.59 0.2561 0.2248

Moon -117624-10-16 21:08 J -41240453.68 -41240453.62 -41240453.55 0.2556 0.2334 *

Jupiter -117624-11-24 14:39 J -41240414.93 -41240414.89 -41240414.84 0.0525 0.0486

Jupiter -117623-02-21 22:48 J -41240325.68 -41240325.55 -41240325.42 0.0526 0.0014

Mars -117623-03-31 02:39 J -41240288.41 -41240288.39 -41240288.36 0.1827 0.1794

Jupiter -117623-05-22 06:15 J -41240236.29 -41240236.24 -41240236.19 0.0526 0.0473

Mars -117622-02-07 15:36 J -41239974.97 -41239974.85 -41239974.73 0.1692 0.0163

Venus -117622-10-27 04:20 J -41239713.41 -41239713.32 -41239713.22 0.3689 0.1676

Earth -117620-04-14 11:46 J -41239178.12 -41239178.01 -41239177.91 0.2776 0.0695

Moon -117620-04-14 12:15 J -41239178.09 -41239177.99 -41239177.88 0.2780 0.0612 *

Jupiter -117617-01-11 05:17 J -41238176.46 -41238176.28 -41238176.10 0.0500 0.0070

Earth -117617-10-08 07:12 J -41237905.31 -41237905.20 -41237905.08 0.2566 0.1767

Moon -117617-10-08 07:41 J -41237905.29 -41237905.18 -41237905.07 0.2572 0.1832 *

Venus -117616-05-11 21:36 J -41237689.71 -41237689.60 -41237689.49 0.3695 0.0060

Saturn -117615-07-24 20:39 J -41237250.69 -41237250.64 -41237250.57 0.0291 0.0264

Saturn -117615-10-21 10:34 J -41237162.17 -41237162.06 -41237161.94 0.0293 0.0162

Saturn -117614-01-18 00:29 J -41237073.61 -41237073.48 -41237073.34 0.0294 0.0059

Saturn -117614-04-16 14:10 J -41236985.05 -41236984.91 -41236984.77 0.0295 0.0044

Moon -117614-04-24 07:56 J -41236977.21 -41236977.17 -41236977.13 0.2779 0.2587

Earth -117614-04-24 08:24 J -41236977.19 -41236977.15 -41236977.11 0.2783 0.2575 *

Saturn -117614-07-14 03:36 J -41236896.46 -41236896.35 -41236896.23 0.0296 0.0147

Mars -117614-08-21 00:15 J -41236858.63 -41236858.49 -41236858.35 0.1823 0.0908

Saturn -117614-10-10 17:03 J -41236807.85 -41236807.79 -41236807.71 0.0297 0.0249

Mars -117613-06-30 01:27 J -41236544.56 -41236544.44 -41236544.32 0.1695 0.0256

Pluto -117613-07-11 22:20 J -41236532.58 -41236532.57 -41236532.53 0.0084 0.0082

Pluto -117613-10-07 23:46 J -41236444.58 -41236444.51 -41236444.42 0.0084 0.0067

Pluto -117612-01-04 01:12 J -41236356.55 -41236356.45 -41236356.34 0.0084 0.0051

Pluto -117612-04-02 02:24 J -41236268.51 -41236268.40 -41236268.27 0.0084 0.0036

Pluto -117612-06-29 03:51 J -41236180.47 -41236180.34 -41236180.21 0.0084 0.0021

Pluto -117612-09-25 05:17 J -41236092.42 -41236092.28 -41236092.15 0.0084 0.0006

Jupiter -117612-12-11 02:53 J -41236015.51 -41236015.38 -41236015.25 0.0526 0.0115

Pluto -117612-12-22 06:29 J -41236004.36 -41236004.23 -41236004.09 0.0084 0.0009

Jupiter -117611-03-10 10:34 J -41235926.16 -41235926.06 -41235925.97 0.0527 0.0363

Pluto -117611-03-20 07:41 J -41235916.30 -41235916.18 -41235916.04 0.0084 0.0025

Mars -117611-06-05 09:22 J -41235839.17 -41235839.11 -41235839.05 0.1683 0.1395

Pluto -117611-06-16 08:53 J -41235828.24 -41235828.13 -41235828.00 0.0083 0.0040

Pluto -117611-09-12 10:20 J -41235740.17 -41235740.07 -41235739.96 0.0083 0.0054

Venus -117611-11-25 14:39 J -41235665.99 -41235665.89 -41235665.80 0.3700 0.1603

Pluto -117611-12-09 11:32 J -41235652.09 -41235652.02 -41235651.94 0.0083 0.0069

Earth -117607-04-17 06:15 J -41234427.35 -41234427.24 -41234427.14 0.2778 0.0193

Moon -117607-04-17 06:58 J -41234427.32 -41234427.21 -41234427.10 0.2777 0.0237 *

Jupiter -117606-10-30 02:39 J -41233866.57 -41233866.39 -41233866.22 0.0499 0.0082

Venus -117605-06-10 07:27 J -41233642.24 -41233642.19 -41233642.13 0.3706 0.3209

Mars -117604-01-09 22:05 J -41233428.74 -41233428.58 -41233428.42 0.1819 0.0058

Earth -117604-10-11 13:41 J -41233154.09 -41233153.93 -41233153.77 0.2564 0.0353

Moon -117604-10-11 15:08 J -41233154.03 -41233153.87 -41233153.71 0.2566 0.0148 *

Mars -117604-11-20 11:17 J -41233114.15 -41233114.03 -41233113.92 0.1699 0.0680

Venus -117602-03-09 04:34 J -41232640.44 -41232640.31 -41232640.19 0.3691 0.1687

Mars -117602-10-26 19:41 J -41232408.78 -41232408.68 -41232408.59 0.1686 0.1010

Saturn -117601-02-23 23:17 J -41232288.64 -41232288.53 -41232288.41 0.0270 0.0197

Saturn -117601-05-22 18:00 J -41232199.91 -41232199.75 -41232199.59 0.0269 0.0097

Saturn -117601-08-19 12:44 J -41232111.14 -41232110.97 -41232110.79 0.0268 0.0007

Saturn -117601-11-16 07:41 J -41232022.34 -41232022.18 -41232022.01 0.0267 0.0103

Saturn -117600-02-13 02:53 J -41231933.49 -41231933.38 -41231933.26 0.0267 0.0203

Moon -117600-04-10 03:22 J -41231877.41 -41231877.36 -41231877.30 0.2778 0.2338

Earth -117600-04-10 03:36 J -41231877.41 -41231877.35 -41231877.28 0.2772 0.2251 *

Jupiter -117600-09-29 06:58 J -41231705.33 -41231705.21 -41231705.09 0.0526 0.0230

Jupiter -117600-12-27 14:53 J -41231616.00 -41231615.88 -41231615.77 0.0527 0.0253

Venus -117597-09-22 08:10 J -41230616.28 -41230616.16 -41230616.04 0.3683 0.1748

Mars -117595-06-01 20:39 J -41229998.78 -41229998.64 -41229998.50 0.1814 0.0788

Mars -117594-04-12 20:39 J -41229683.73 -41229683.64 -41229683.55 0.1703 0.1111

Earth -117594-04-20 00:29 J -41229676.58 -41229676.48 -41229676.38 0.2780 0.1027

Moon -117594-04-20 00:58 J -41229676.56 -41229676.46 -41229676.36 0.2774 0.1028 *

Jupiter -117594-08-18 00:58 J -41229556.61 -41229556.46 -41229556.30 0.0499 0.0220

Jupiter -117594-11-16 07:27 J -41229466.31 -41229466.19 -41229466.07 0.0499 0.0359

Mars -117592-03-18 05:46 J -41228978.38 -41228978.26 -41228978.15 0.1689 0.0614

Earth -117591-10-14 20:10 J -41228402.81 -41228402.66 -41228402.52 0.2562 0.1089

Moon -117591-10-14 21:36 J -41228402.74 -41228402.60 -41228402.45 0.2561 0.1130 *

Jupiter -117588-07-18 10:48 J -41227395.14 -41227395.05 -41227394.95 0.0526 0.0346

Jupiter -117588-10-15 18:58 J -41227305.84 -41227305.71 -41227305.59 0.0526 0.0139

Neptune -117587-02-13 18:29 J -41227184.76 -41227184.73 -41227184.70 0.0089 0.0087

Earth -117587-04-12 22:05 J -41227126.67 -41227126.58 -41227126.48 0.2774 0.1394

Moon -117587-04-12 22:20 J -41227126.66 -41227126.57 -41227126.47 0.2781 0.1312 *

Neptune -117587-05-12 21:22 J -41227096.67 -41227096.61 -41227096.53 0.0089 0.0082

Neptune -117587-08-09 00:15 J -41227008.56 -41227008.49 -41227008.38 0.0089 0.0077

Neptune -117587-11-05 03:36 J -41226920.45 -41226920.35 -41226920.24 0.0089 0.0071

Neptune -117586-02-01 06:29 J -41226832.34 -41226832.23 -41226832.09 0.0089 0.0066

Uranus -117586-03-25 21:51 J -41226779.63 -41226779.59 -41226779.54 0.0131 0.0122

Neptune -117586-04-30 09:51 J -41226744.22 -41226744.09 -41226743.95 0.0089 0.0060

Uranus -117586-06-22 00:58 J -41226691.53 -41226691.46 -41226691.37 0.0131 0.0106

Neptune -117586-07-27 12:44 J -41226656.10 -41226655.97 -41226655.81 0.0089 0.0055

Uranus -117586-09-18 04:20 J -41226603.42 -41226603.32 -41226603.22 0.0131 0.0091

Mars -117586-10-22 19:41 J -41226568.76 -41226568.68 -41226568.61 0.1810 0.1583

Neptune -117586-10-23 16:05 J -41226567.98 -41226567.83 -41226567.67 0.0089 0.0049

Uranus -117586-12-15 07:12 J -41226515.30 -41226515.20 -41226515.08 0.0131 0.0076

Neptune -117585-01-19 19:27 J -41226479.85 -41226479.69 -41226479.53 0.0089 0.0043

Saturn -117585-03-09 10:48 J -41226430.15 -41226430.05 -41226429.95 0.0292 0.0201

Uranus -117585-03-12 10:20 J -41226427.18 -41226427.07 -41226426.94 0.0131 0.0061

Neptune -117585-04-16 22:20 J -41226391.73 -41226391.57 -41226391.39 0.0089 0.0038

Saturn -117585-06-06 00:44 J -41226341.60 -41226341.47 -41226341.34 0.0293 0.0099

Uranus -117585-06-08 13:41 J -41226339.06 -41226338.93 -41226338.81 0.0130 0.0045

Neptune -117585-07-14 01:41 J -41226303.60 -41226303.43 -41226303.26 0.0089 0.0032

Mars -117585-09-02 06:15 J -41226253.29 -41226253.24 -41226253.19 0.1706 0.1545

Saturn -117585-09-02 14:24 J -41226253.04 -41226252.90 -41226252.77 0.0294 0.0008

Uranus -117585-09-04 16:34 J -41226250.94 -41226250.81 -41226250.67 0.0130 0.0030

Neptune -117585-10-10 04:48 J -41226215.47 -41226215.30 -41226215.12 0.0089 0.0027

Saturn -117585-11-30 03:51 J -41226164.46 -41226164.34 -41226164.21 0.0295 0.0106

Uranus -117585-12-01 19:41 J -41226162.81 -41226162.68 -41226162.54 0.0130 0.0015

Neptune -117584-01-06 07:56 J -41226127.34 -41226127.17 -41226126.98 0.0089 0.0021

Saturn -117584-02-26 17:17 J -41226075.87 -41226075.78 -41226075.68 0.0296 0.0208

Uranus -117584-02-27 22:48 J -41226074.69 -41226074.55 -41226074.41 0.0130 0.0001

Neptune -117584-04-04 11:17 J -41226039.21 -41226039.03 -41226038.84 0.0089 0.0015

Uranus -117584-05-27 01:41 J -41225986.56 -41225986.43 -41225986.29 0.0130 0.0016

Neptune -117584-07-01 14:24 J -41225951.08 -41225950.90 -41225950.71 0.0089 0.0010

Uranus -117584-08-23 04:48 J -41225898.43 -41225898.30 -41225898.17 0.0130 0.0031

Neptune -117584-09-27 17:46 J -41225862.94 -41225862.76 -41225862.57 0.0089 0.0004

Uranus -117584-11-19 07:41 J -41225810.30 -41225810.18 -41225810.05 0.0130 0.0046

Neptune -117584-12-24 21:08 J -41225774.81 -41225774.62 -41225774.44 0.0089 0.0002

Uranus -117583-02-15 10:48 J -41225722.17 -41225722.05 -41225721.93 0.0130 0.0060

Neptune -117583-03-23 00:15 J -41225686.67 -41225686.49 -41225686.30 0.0089 0.0008

Uranus -117583-05-14 13:41 J -41225634.03 -41225633.93 -41225633.82 0.0130 0.0075

Neptune -117583-06-19 03:36 J -41225598.53 -41225598.35 -41225598.17 0.0089 0.0014

Mars -117583-08-08 15:36 J -41225547.97 -41225547.85 -41225547.73 0.1692 0.0214

Uranus -117583-08-10 16:34 J -41225545.90 -41225545.81 -41225545.71 0.0130 0.0090

Neptune -117583-09-15 06:44 J -41225510.39 -41225510.22 -41225510.03 0.0089 0.0020

Uranus -117583-11-06 19:41 J -41225457.76 -41225457.68 -41225457.60 0.0130 0.0105

Neptune -117583-12-12 10:20 J -41225422.25 -41225422.07 -41225421.90 0.0089 0.0025

Uranus -117582-02-02 22:34 J -41225369.61 -41225369.56 -41225369.50 0.0130 0.0119

Neptune -117582-03-10 13:27 J -41225334.11 -41225333.94 -41225333.76 0.0089 0.0031

Jupiter -117582-06-05 23:32 J -41225246.64 -41225246.52 -41225246.39 0.0500 0.0357

Neptune -117582-06-06 16:34 J -41225245.97 -41225245.81 -41225245.63 0.0089 0.0037

Neptune -117582-09-02 19:56 J -41225157.82 -41225157.67 -41225157.50 0.0089 0.0043

Jupiter -117582-09-04 05:32 J -41225156.43 -41225156.27 -41225156.10 0.0499 0.0219

Neptune -117582-11-29 23:17 J -41225069.68 -41225069.53 -41225069.36 0.0089 0.0049

Neptune -117581-02-26 02:24 J -41224981.53 -41224981.40 -41224981.23 0.0089 0.0055

Moon -117581-04-21 18:44 J -41224925.79 -41224925.72 -41224925.64 0.2775 0.1922

Earth -117581-04-21 18:58 J -41224925.79 -41224925.71 -41224925.63 0.2782 0.1882 *

Neptune -117581-05-24 05:46 J -41224893.38 -41224893.26 -41224893.10 0.0089 0.0061

Neptune -117581-08-20 09:36 J -41224805.22 -41224805.10 -41224804.98 0.0089 0.0066

Neptune -117581-11-16 12:58 J -41224717.07 -41224716.96 -41224716.85 0.0089 0.0072

Neptune -117580-02-12 16:05 J -41224628.91 -41224628.83 -41224628.73 0.0089 0.0078

Neptune -117580-05-11 19:27 J -41224540.73 -41224540.69 -41224540.62 0.0089 0.0084

Earth -117578-10-18 02:39 J -41223651.41 -41223651.39 -41223651.37 0.2560 0.2524

Jupiter -117576-05-06 14:24 J -41223084.95 -41223084.90 -41223084.84 0.0525 0.0466

Jupiter -117576-08-03 22:34 J -41222995.69 -41222995.56 -41222995.42 0.0526 0.0025

Jupiter -117576-11-01 06:00 J -41222906.29 -41222906.25 -41222906.21 0.0527 0.0493

Mars -117574-02-19 00:44 J -41222431.61 -41222431.47 -41222431.34 0.1823 0.0979

Earth -117574-04-15 16:34 J -41222375.91 -41222375.81 -41222375.70 0.2776 0.0534

Moon -117574-04-15 17:17 J -41222375.88 -41222375.78 -41222375.67 0.2778 0.0536 *

Mars -117574-12-30 01:41 J -41222117.55 -41222117.43 -41222117.31 0.1695 0.0211

Saturn -117572-07-12 21:22 J -41221556.69 -41221556.61 -41221556.52 0.0270 0.0237

Saturn -117572-10-09 16:05 J -41221467.98 -41221467.83 -41221467.68 0.0269 0.0137

Mars -117572-12-04 09:22 J -41221412.17 -41221412.11 -41221412.05 0.1683 0.1442

Saturn -117571-01-06 10:48 J -41221379.22 -41221379.05 -41221378.87 0.0268 0.0037

Saturn -117571-04-05 05:46 J -41221290.43 -41221290.26 -41221290.09 0.0267 0.0063

Saturn -117571-07-03 00:44 J -41221201.61 -41221201.47 -41221201.32 0.0267 0.0164

Saturn -117571-09-29 19:56 J -41221112.68 -41221112.67 -41221112.65 0.0266 0.0264

Earth -117571-10-09 13:56 J -41221103.05 -41221102.92 -41221102.79 0.2566 0.1504

Moon -117571-10-09 14:53 J -41221103.01 -41221102.88 -41221102.75 0.2571 0.1380 *

Venus -117571-11-17 09:08 J -41221064.20 -41221064.12 -41221064.05 0.3685 0.2725

Jupiter -117570-03-24 22:34 J -41220936.59 -41220936.56 -41220936.53 0.0500 0.0490

Jupiter -117570-06-23 04:05 J -41220846.50 -41220846.33 -41220846.15 0.0500 0.0082

Moon -117568-04-24 12:44 J -41220175.01 -41220174.97 -41220174.94 0.2780 0.2609

Earth -117568-04-24 13:27 J -41220174.96 -41220174.94 -41220174.93 0.2783 0.2740 *

Venus -117565-06-02 02:10 J -41219040.51 -41219040.41 -41219040.30 0.3691 0.1069

Mars -117565-07-10 22:48 J -41219001.71 -41219001.55 -41219001.39 0.1819 0.0131

Mars -117564-05-21 11:17 J -41218687.15 -41218687.03 -41218686.92 0.1699 0.0627

Jupiter -117564-05-23 02:10 J -41218685.54 -41218685.41 -41218685.28 0.0526 0.0103

Jupiter -117564-08-20 09:36 J -41218596.19 -41218596.10 -41218596.01 0.0526 0.0374

Mars -117562-04-26 19:41 J -41217981.77 -41217981.68 -41217981.59 0.1686 0.1057

Earth -117561-04-17 11:03 J -41217625.15 -41217625.04 -41217624.93 0.2779 0.0326

Moon -117561-04-17 11:46 J -41217625.12 -41217625.01 -41217624.90 0.2776 0.0404 *

Venus -117560-12-16 19:27 J -41217016.80 -41217016.69 -41217016.59 0.3696 0.0588

Jupiter -117558-04-11 02:39 J -41216536.56 -41216536.39 -41216536.21 0.0500 0.0059

Earth -117558-10-12 20:24 J -41216351.82 -41216351.65 -41216351.49 0.2564 0.0103

Moon -117558-10-12 22:05 J -41216351.74 -41216351.58 -41216351.42 0.2566 0.0095 *

Saturn -117556-07-27 11:17 J -41215698.11 -41215698.03 -41215697.95 0.0291 0.0239

Saturn -117556-10-24 01:12 J -41215609.58 -41215609.45 -41215609.33 0.0293 0.0137

Mars -117556-11-30 21:22 J -41215571.75 -41215571.61 -41215571.46 0.1814 0.0701

Saturn -117555-01-20 14:53 J -41215521.02 -41215520.88 -41215520.74 0.0294 0.0035

Saturn -117555-04-19 04:20 J -41215432.45 -41215432.32 -41215432.18 0.0295 0.0069

Saturn -117555-07-16 18:00 J -41215343.86 -41215343.75 -41215343.64 0.0296 0.0170

Mars -117555-10-11 20:53 J -41215256.73 -41215256.63 -41215256.54 0.1703 0.1056

Saturn -117555-10-13 07:12 J -41215255.24 -41215255.20 -41215255.14 0.0297 0.0272

Moon -117554-04-11 08:24 J -41215075.22 -41215075.15 -41215075.07 0.2779 0.2063

Earth -117554-04-11 08:39 J -41215075.21 -41215075.14 -41215075.07 0.2772 0.2093 *

Venus -117554-07-02 12:29 J -41214993.07 -41214992.98 -41214992.90 0.3702 0.2199

Mars -117553-09-16 05:46 J -41214551.37 -41214551.26 -41214551.15 0.1689 0.0662

Jupiter -117552-03-11 06:15 J -41214375.36 -41214375.24 -41214375.12 0.0526 0.0220

Jupiter -117552-06-08 13:56 J -41214286.03 -41214285.92 -41214285.81 0.0527 0.0262

Earth -117548-04-20 05:32 J -41212874.37 -41212874.27 -41212874.18 0.2780 0.1191

Moon -117548-04-20 05:46 J -41212874.36 -41212874.26 -41212874.17 0.2773 0.1210 *

Jupiter -117546-01-28 00:15 J -41212226.65 -41212226.49 -41212226.33 0.0499 0.0206

Mars -117546-04-22 20:10 J -41212141.74 -41212141.66 -41212141.58 0.1810 0.1504

Jupiter -117546-04-28 06:29 J -41212136.34 -41212136.23 -41212136.10 0.0499 0.0374

Venus -117546-10-14 05:03 J -41211967.43 -41211967.29 -41211967.15 0.3689 0.0525

Mars -117545-03-03 06:15 J -41211826.30 -41211826.24 -41211826.19 0.1706 0.1498

Earth -117545-10-15 02:39 J -41211600.52 -41211600.39 -41211600.25 0.2562 0.1361

Moon -117545-10-15 04:20 J -41211600.45 -41211600.32 -41211600.20 0.2558 0.1547 *

Mars -117543-02-06 15:36 J -41211120.97 -41211120.85 -41211120.73 0.1692 0.0262

Uranus -117543-06-11 12:29 J -41210995.99 -41210995.98 -41210995.93 0.0148 0.0147

Uranus -117543-09-07 20:53 J -41210907.74 -41210907.63 -41210907.51 0.0148 0.0116

Saturn -117543-11-29 20:39 J -41210824.66 -41210824.64 -41210824.62 0.0271 0.0269

Uranus -117543-12-05 05:03 J -41210819.43 -41210819.29 -41210819.13 0.0148 0.0087

Saturn -117542-02-26 15:08 J -41210736.00 -41210735.87 -41210735.73 0.0270 0.0170

Uranus -117542-03-03 13:12 J -41210731.11 -41210730.95 -41210730.77 0.0149 0.0057

Saturn -117542-05-26 09:51 J -41210647.26 -41210647.09 -41210646.92 0.0269 0.0070

Uranus -117542-05-30 21:36 J -41210642.78 -41210642.60 -41210642.41 0.0149 0.0026

Saturn -117542-08-23 04:48 J -41210558.48 -41210558.30 -41210558.13 0.0268 0.0031

Uranus -117542-08-27 06:00 J -41210554.43 -41210554.25 -41210554.06 0.0149 0.0006

Saturn -117542-11-19 23:46 J -41210469.66 -41210469.51 -41210469.35 0.0267 0.0131

Uranus -117542-11-23 14:24 J -41210466.08 -41210465.90 -41210465.71 0.0149 0.0036

Saturn -117541-02-16 18:58 J -41210380.79 -41210380.71 -41210380.62 0.0267 0.0232

Uranus -117541-02-19 22:48 J -41210377.71 -41210377.55 -41210377.38 0.0149 0.0066

Earth -117541-04-13 03:08 J -41210324.47 -41210324.37 -41210324.28 0.2774 0.1233

Moon -117541-04-13 03:22 J -41210324.45 -41210324.36 -41210324.26 0.2780 0.1268 *

Uranus -117541-05-18 07:12 J -41210289.33 -41210289.20 -41210289.05 0.0149 0.0098

Uranus -117541-08-14 15:36 J -41210200.93 -41210200.85 -41210200.74 0.0149 0.0129

Jupiter -117541-12-28 10:05 J -41210065.18 -41210065.08 -41210064.98 0.0526 0.0336

Jupiter -117540-03-27 18:00 J -41209975.87 -41209975.75 -41209975.62 0.0527 0.0149

Venus -117540-04-29 08:53 J -41209943.21 -41209943.13 -41209943.04 0.3682 0.2961

Moon -117535-04-22 23:32 J -41208123.60 -41208123.52 -41208123.45 0.2776 0.1982

Earth -117535-04-22 23:46 J -41208123.58 -41208123.51 -41208123.43 0.2782 0.2048 *

Mars -117535-08-20 01:27 J -41208004.56 -41208004.44 -41208004.31 0.1823 0.1070

Jupiter -117535-11-15 22:48 J -41207916.67 -41207916.55 -41207916.42 0.0499 0.0343

Jupiter -117534-02-14 04:48 J -41207826.46 -41207826.30 -41207826.14 0.0499 0.0232

Mars -117534-06-30 01:27 J -41207690.56 -41207690.44 -41207690.31 0.1696 0.0169

Mars -117532-06-04 09:22 J -41206985.16 -41206985.11 -41206985.06 0.1683 0.1487

Jupiter -117529-10-16 13:56 J -41205754.99 -41205754.92 -41205754.85 0.0526 0.0452

Jupiter -117528-01-13 22:05 J -41205665.71 -41205665.58 -41205665.45 0.0526 0.0034

Jupiter -117528-04-13 05:32 J -41205576.30 -41205576.27 -41205576.24 0.0527 0.0508

Earth -117528-04-15 21:22 J -41205573.71 -41205573.61 -41205573.50 0.2777 0.0393

Moon -117528-04-15 22:20 J -41205573.68 -41205573.57 -41205573.47 0.2778 0.0257 *

Saturn -117527-12-14 11:17 J -41204966.06 -41204966.03 -41204965.98 0.0291 0.0278

Saturn -117526-03-13 01:12 J -41204877.56 -41204877.45 -41204877.34 0.0292 0.0176

Saturn -117526-06-09 15:08 J -41204789.01 -41204788.87 -41204788.74 0.0293 0.0075

Saturn -117526-09-06 04:34 J -41204700.44 -41204700.31 -41204700.17 0.0294 0.0030

Saturn -117526-12-03 18:15 J -41204611.86 -41204611.74 -41204611.62 0.0295 0.0129

Mars -117525-01-09 23:17 J -41204574.68 -41204574.53 -41204574.37 0.1818 0.0212

Saturn -117525-03-01 07:41 J -41204523.26 -41204523.18 -41204523.10 0.0296 0.0231

Earth -117525-10-09 20:24 J -41204300.79 -41204300.65 -41204300.51 0.2566 0.1234

Moon -117525-10-09 21:51 J -41204300.73 -41204300.59 -41204300.45 0.2569 0.1183 *

Mars -117525-11-19 11:17 J -41204260.14 -41204260.03 -41204259.91 0.1699 0.0574

Jupiter -117523-09-03 21:22 J -41203606.65 -41203606.61 -41203606.56 0.0500 0.0480

Mars -117523-10-25 19:41 J -41203554.77 -41203554.68 -41203554.59 0.1686 0.1103

Jupiter -117523-12-03 03:08 J -41203516.55 -41203516.37 -41203516.20 0.0499 0.0091

Jupiter -117517-11-02 01:56 J -41201355.55 -41201355.42 -41201355.29 0.0526 0.0085

Jupiter -117516-01-30 09:22 J -41201266.19 -41201266.11 -41201266.02 0.0527 0.0393

Mars -117516-05-31 21:51 J -41201144.74 -41201144.59 -41201144.45 0.1814 0.0631

Mars -117515-04-11 20:53 J -41200829.73 -41200829.63 -41200829.53 0.1703 0.1004

Earth -117515-04-18 15:51 J -41200822.94 -41200822.84 -41200822.73 0.2779 0.0490

Moon -117515-04-18 16:20 J -41200822.92 -41200822.82 -41200822.71 0.2774 0.0498 *

Venus -117514-06-24 06:58 J -41200391.30 -41200391.21 -41200391.12 0.3687 0.2102

Mars -117513-03-17 05:46 J -41200124.37 -41200124.26 -41200124.15 0.1689 0.0710

Saturn -117513-07-15 13:12 J -41200004.05 -41200003.95 -41200003.84 0.0271 0.0209

Saturn -117513-10-12 07:56 J -41199915.33 -41199915.17 -41199915.01 0.0270 0.0109

Saturn -117512-01-09 02:53 J -41199826.56 -41199826.38 -41199826.20 0.0269 0.0009

Saturn -117512-04-07 21:51 J -41199737.76 -41199737.59 -41199737.42 0.0268 0.0092

Saturn -117512-07-05 16:48 J -41199648.91 -41199648.80 -41199648.67 0.0267 0.0193

Earth -117512-10-13 02:53 J -41199549.54 -41199549.38 -41199549.22 0.2563 0.0195

Moon -117512-10-13 04:34 J -41199549.47 -41199549.31 -41199549.15 0.2564 0.0394 *

Jupiter -117511-09-21 01:41 J -41199206.61 -41199206.43 -41199206.26 0.0500 0.0047

Venus -117508-01-07 00:00 J -41198367.60 -41198367.50 -41198367.39 0.3692 0.0479

Earth -117508-04-11 13:27 J -41198273.02 -41198272.94 -41198272.86 0.2772 0.1932

Moon -117508-04-11 13:27 J -41198273.01 -41198272.94 -41198272.86 0.2780 0.1975 *

Mars -117507-10-21 20:53 J -41197714.72 -41197714.63 -41197714.53 0.1810 0.1418

Neptune -117506-03-10 03:22 J -41197575.39 -41197575.36 -41197575.32 0.0088 0.0085

Neptune -117506-06-06 04:48 J -41197487.34 -41197487.30 -41197487.23 0.0088 0.0081

Mars -117506-09-02 06:15 J -41197399.30 -41197399.24 -41197399.17 0.1706 0.1444

Neptune -117506-09-02 06:15 J -41197399.29 -41197399.24 -41197399.15 0.0088 0.0077 *

Neptune -117506-11-29 08:10 J -41197311.24 -41197311.16 -41197311.08 0.0088 0.0072

Neptune -117505-02-25 09:36 J -41197223.18 -41197223.10 -41197223.00 0.0088 0.0068

Neptune -117505-05-23 11:03 J -41197135.12 -41197135.04 -41197134.93 0.0088 0.0064

Neptune -117505-08-19 12:58 J -41197047.07 -41197046.96 -41197046.86 0.0088 0.0059

Jupiter -117505-08-21 05:17 J -41197045.40 -41197045.28 -41197045.16 0.0526 0.0208

Neptune -117505-11-15 14:24 J -41196959.01 -41196958.90 -41196958.79 0.0088 0.0054

Jupiter -117505-11-18 12:58 J -41196956.07 -41196955.96 -41196955.85 0.0526 0.0272

Neptune -117504-02-11 15:51 J -41196870.95 -41196870.84 -41196870.72 0.0088 0.0050

Neptune -117504-05-10 17:32 J -41196782.89 -41196782.77 -41196782.65 0.0088 0.0046

Neptune -117504-08-06 18:58 J -41196694.83 -41196694.71 -41196694.58 0.0088 0.0042

Mars -117504-08-07 15:51 J -41196693.96 -41196693.84 -41196693.73 0.1692 0.0311

Neptune -117504-11-02 20:24 J -41196606.77 -41196606.65 -41196606.51 0.0088 0.0038

Neptune -117503-01-29 22:05 J -41196518.70 -41196518.58 -41196518.45 0.0088 0.0033

Neptune -117503-04-27 23:46 J -41196430.64 -41196430.51 -41196430.38 0.0088 0.0029

Venus -117503-07-23 17:17 J -41196343.88 -41196343.78 -41196343.68 0.3698 0.1183

Neptune -117503-07-25 01:12 J -41196342.58 -41196342.45 -41196342.32 0.0088 0.0024

Neptune -117503-10-21 02:39 J -41196254.52 -41196254.39 -41196254.25 0.0088 0.0020

Neptune -117502-01-17 04:20 J -41196166.46 -41196166.32 -41196166.19 0.0088 0.0016

Uranus -117502-01-17 02:39 J -41196166.39 -41196166.39 -41196166.38 0.0131 0.0130 *

Neptune -117502-04-15 05:46 J -41196078.40 -41196078.26 -41196078.12 0.0088 0.0011

Uranus -117502-04-15 05:46 J -41196078.32 -41196078.26 -41196078.19 0.0131 0.0115 *

Moon -117502-04-21 10:34 J -41196072.16 -41196072.06 -41196071.97 0.2773 0.1370

Earth -117502-04-21 10:20 J -41196072.16 -41196072.07 -41196071.98 0.2781 0.1348 *

Neptune -117502-07-12 07:12 J -41195990.34 -41195990.20 -41195990.06 0.0088 0.0007

Uranus -117502-07-12 08:53 J -41195990.21 -41195990.13 -41195990.03 0.0131 0.0100 *

Neptune -117502-10-08 08:39 J -41195902.27 -41195902.14 -41195902.00 0.0088 0.0004

Uranus -117502-10-08 12:15 J -41195902.10 -41195901.99 -41195901.89 0.0131 0.0084 *

Neptune -117501-01-04 10:05 J -41195814.21 -41195814.08 -41195813.94 0.0088 0.0004

Uranus -117501-01-04 15:08 J -41195813.98 -41195813.87 -41195813.75 0.0131 0.0069 *

Neptune -117501-04-01 11:46 J -41195726.15 -41195726.01 -41195725.87 0.0088 0.0006

Uranus -117501-04-01 18:15 J -41195725.86 -41195725.74 -41195725.61 0.0131 0.0054

Neptune -117501-06-28 13:12 J -41195638.09 -41195637.95 -41195637.81 0.0088 0.0010

Uranus -117501-06-28 21:22 J -41195637.74 -41195637.61 -41195637.47 0.0130 0.0038

Neptune -117501-09-24 14:39 J -41195550.03 -41195549.89 -41195549.75 0.0088 0.0014

Uranus -117501-09-25 00:29 J -41195549.61 -41195549.48 -41195549.34 0.0130 0.0023

Neptune -117501-12-21 16:05 J -41195461.96 -41195461.83 -41195461.69 0.0088 0.0018

Uranus -117501-12-22 03:36 J -41195461.49 -41195461.35 -41195461.21 0.0130 0.0008

Neptune -117500-03-19 17:32 J -41195373.90 -41195373.77 -41195373.64 0.0088 0.0022

Uranus -117500-03-20 06:44 J -41195373.36 -41195373.22 -41195373.09 0.0130 0.0008

Neptune -117500-06-15 18:58 J -41195285.84 -41195285.71 -41195285.58 0.0088 0.0026

Uranus -117500-06-16 09:36 J -41195285.23 -41195285.10 -41195284.96 0.0130 0.0022

Neptune -117500-09-11 20:24 J -41195197.78 -41195197.65 -41195197.52 0.0088 0.0031

Uranus -117500-09-12 12:29 J -41195197.10 -41195196.98 -41195196.84 0.0130 0.0038

Neptune -117500-12-08 21:51 J -41195109.71 -41195109.59 -41195109.46 0.0088 0.0035

Uranus -117500-12-09 15:36 J -41195108.97 -41195108.85 -41195108.72 0.0130 0.0052

Neptune -117499-03-06 23:17 J -41195021.65 -41195021.53 -41195021.40 0.0088 0.0039

Uranus -117499-03-07 18:29 J -41195020.84 -41195020.73 -41195020.61 0.0130 0.0067

Neptune -117499-06-03 00:29 J -41194933.59 -41194933.48 -41194933.35 0.0088 0.0044

Uranus -117499-06-03 21:36 J -41194932.70 -41194932.60 -41194932.49 0.0130 0.0082

Jupiter -117499-07-10 00:15 J -41194896.65 -41194896.49 -41194896.33 0.0500 0.0184

Neptune -117499-08-30 01:56 J -41194845.52 -41194845.42 -41194845.29 0.0088 0.0048

Uranus -117499-08-31 00:29 J -41194844.56 -41194844.48 -41194844.39 0.0130 0.0096

Jupiter -117499-10-08 06:44 J -41194806.33 -41194806.22 -41194806.11 0.0499 0.0396

Earth -117499-10-16 09:22 J -41194798.23 -41194798.11 -41194797.98 0.2562 0.1639

Moon -117499-10-16 10:48 J -41194798.17 -41194798.05 -41194797.92 0.2558 0.1621 *

Neptune -117499-11-26 03:22 J -41194757.46 -41194757.36 -41194757.24 0.0088 0.0052

Uranus -117499-11-27 03:22 J -41194756.42 -41194756.36 -41194756.28 0.0130 0.0111

Neptune -117498-02-22 04:48 J -41194669.39 -41194669.30 -41194669.18 0.0088 0.0056

Uranus -117498-02-23 06:15 J -41194668.26 -41194668.24 -41194668.20 0.0130 0.0126

Neptune -117498-05-21 06:15 J -41194581.33 -41194581.24 -41194581.13 0.0088 0.0060

Neptune -117498-08-17 07:41 J -41194493.26 -41194493.18 -41194493.08 0.0088 0.0064

Neptune -117498-11-13 09:08 J -41194405.20 -41194405.12 -41194405.02 0.0088 0.0068

Venus -117497-02-06 10:20 J -41194320.14 -41194320.07 -41194320.01 0.3703 0.2790

Neptune -117497-02-09 10:34 J -41194317.13 -41194317.06 -41194316.97 0.0088 0.0072

Neptune -117497-05-07 12:00 J -41194229.06 -41194229.00 -41194228.92 0.0088 0.0075

Saturn -117497-07-30 01:56 J -41194145.51 -41194145.42 -41194145.32 0.0291 0.0212

Neptune -117497-08-03 13:27 J -41194140.99 -41194140.94 -41194140.88 0.0088 0.0079

Saturn -117497-10-26 15:51 J -41194056.97 -41194056.84 -41194056.72 0.0293 0.0111

Neptune -117497-10-30 14:53 J -41194052.92 -41194052.88 -41194052.83 0.0088 0.0083

Saturn -117496-01-23 05:32 J -41193968.41 -41193968.27 -41193968.14 0.0294 0.0012

Neptune -117496-01-26 16:05 J -41193964.83 -41193964.83 -41193964.80 0.0088 0.0088

Saturn -117496-04-21 18:58 J -41193879.84 -41193879.71 -41193879.58 0.0295 0.0093

Saturn -117496-07-19 08:24 J -41193791.25 -41193791.15 -41193791.05 0.0296 0.0195

Saturn -117496-10-15 21:51 J -41193702.59 -41193702.59 -41193702.58 0.0297 0.0296

Mars -117495-02-18 02:10 J -41193577.53 -41193577.41 -41193577.28 0.1823 0.1156

Earth -117495-04-14 07:56 J -41193522.27 -41193522.17 -41193522.07 0.2775 0.1074

Moon -117495-04-14 08:39 J -41193522.25 -41193522.14 -41193522.04 0.2779 0.0984 *

Venus -117495-11-04 02:10 J -41193318.50 -41193318.41 -41193318.32 0.3694 0.2726

Mars -117495-12-29 01:41 J -41193263.55 -41193263.43 -41193263.31 0.1695 0.0108

Jupiter -117493-06-09 09:08 J -41192735.22 -41192735.12 -41192735.02 0.0526 0.0326

Jupiter -117493-09-06 17:03 J -41192645.91 -41192645.79 -41192645.66 0.0526 0.0158

Mars -117493-12-03 09:22 J -41192558.15 -41192558.11 -41192558.06 0.1683 0.1535

Earth -117492-10-07 20:39 J -41192249.69 -41192249.64 -41192249.58 0.2568 0.2390

Moon -117492-10-07 21:22 J -41192249.68 -41192249.61 -41192249.55 0.2573 0.2316 *

Moon -117489-04-23 04:05 J -41191321.39 -41191321.33 -41191321.26 0.2777 0.2167

Earth -117489-04-23 04:48 J -41191321.37 -41191321.30 -41191321.24 0.2782 0.2208 *

Venus -117489-05-20 05:32 J -41191294.41 -41191294.27 -41191294.13 0.3687 0.0651

Jupiter -117487-04-27 22:05 J -41190586.71 -41190586.58 -41190586.45 0.0499 0.0329

Jupiter -117487-07-27 03:51 J -41190496.49 -41190496.34 -41190496.18 0.0499 0.0246

Mars -117486-07-11 00:00 J -41190147.66 -41190147.50 -41190147.34 0.1819 0.0285

Mars -117485-05-20 11:17 J -41189833.14 -41189833.03 -41189832.91 0.1699 0.0525

Saturn -117484-12-02 12:29 J -41189272.05 -41189271.98 -41189271.90 0.0271 0.0242

Saturn -117483-03-01 07:12 J -41189183.35 -41189183.20 -41189183.05 0.0270 0.0142

Mars -117483-04-25 19:41 J -41189127.77 -41189127.68 -41189127.59 0.1686 0.1148

Saturn -117483-05-29 01:56 J -41189094.59 -41189094.42 -41189094.24 0.0269 0.0042

Saturn -117483-08-25 20:53 J -41189005.80 -41189005.63 -41189005.45 0.0268 0.0060

Saturn -117483-11-22 16:05 J -41188916.97 -41188916.83 -41188916.69 0.0268 0.0161

Saturn -117482-02-19 11:17 J -41188828.05 -41188828.03 -41188827.99 0.0267 0.0262

Earth -117482-04-17 02:24 J -41188771.51 -41188771.40 -41188771.29 0.2777 0.0215

Moon -117482-04-17 03:08 J -41188771.48 -41188771.37 -41188771.26 0.2777 0.0221 *

Jupiter -117481-03-28 12:44 J -41188425.03 -41188424.97 -41188424.89 0.0526 0.0445

Jupiter -117481-06-25 21:08 J -41188335.75 -41188335.62 -41188335.49 0.0527 0.0043

Jupiter -117481-09-23 04:34 J -41188246.33 -41188246.31 -41188246.29 0.0527 0.0518

Earth -117479-10-11 03:08 J -41187498.52 -41187498.37 -41187498.22 0.2565 0.0967

Moon -117479-10-11 04:34 J -41187498.46 -41187498.31 -41187498.16 0.2569 0.0854 *

Mars -117477-11-29 22:34 J -41186717.71 -41186717.56 -41186717.41 0.1814 0.0544

Mars -117476-10-10 20:53 J -41186402.73 -41186402.63 -41186402.53 0.1703 0.0954

Jupiter -117475-02-13 20:39 J -41186276.70 -41186276.64 -41186276.57 0.0499 0.0465

Moon -117475-04-09 23:32 J -41186221.55 -41186221.52 -41186221.49 0.2777 0.2639

Earth -117475-04-10 00:00 J -41186221.53 -41186221.50 -41186221.47 0.2770 0.2631 *

Jupiter -117475-05-15 02:10 J -41186186.58 -41186186.41 -41186186.23 0.0499 0.0104

Mars -117474-09-16 05:46 J -41185697.37 -41185697.26 -41185697.15 0.1689 0.0756

Jupiter -117469-04-14 00:58 J -41184025.59 -41184025.46 -41184025.33 0.0526 0.0075

Earth -117469-04-18 20:53 J -41184020.74 -41184020.63 -41184020.53 0.2779 0.0658

Moon -117469-04-18 21:08 J -41184020.72 -41184020.62 -41184020.51 0.2773 0.0754 *

Jupiter -117469-07-12 08:39 J -41183936.22 -41183936.14 -41183936.06 0.0527 0.0405

Saturn -117468-12-17 02:39 J -41183413.46 -41183413.39 -41183413.32 0.0291 0.0248

Saturn -117467-03-15 16:34 J -41183324.93 -41183324.81 -41183324.69 0.0292 0.0147

Mars -117467-04-21 21:08 J -41183287.72 -41183287.62 -41183287.51 0.1810 0.1352

Saturn -117467-06-12 06:15 J -41183236.38 -41183236.24 -41183236.11 0.0293 0.0045

Saturn -117467-09-08 19:41 J -41183147.81 -41183147.68 -41183147.54 0.0294 0.0057

Saturn -117467-12-06 09:08 J -41183059.23 -41183059.12 -41183059.00 0.0295 0.0158

Mars -117466-03-03 06:29 J -41182972.30 -41182972.23 -41182972.16 0.1706 0.1391

Saturn -117466-03-04 22:34 J -41182970.62 -41182970.56 -41182970.49 0.0296 0.0259

Earth -117466-10-14 09:36 J -41182747.26 -41182747.10 -41182746.94 0.2563 0.0473

Moon -117466-10-14 11:17 J -41182747.19 -41182747.03 -41182746.87 0.2562 0.0515 *

Mars -117464-02-05 15:51 J -41182266.96 -41182266.84 -41182266.72 0.1692 0.0357

Jupiter -117463-03-03 00:29 J -41181876.66 -41181876.48 -41181876.31 0.0499 0.0039

Venus -117463-07-15 11:32 J -41181742.07 -41181742.02 -41181741.97 0.3682 0.3158

Earth -117462-04-12 18:29 J -41181470.82 -41181470.73 -41181470.65 0.2773 0.1773

Moon -117462-04-12 18:29 J -41181470.81 -41181470.73 -41181470.64 0.2780 0.1754 *

Uranus -117459-07-01 18:58 J -41180294.74 -41180294.71 -41180294.65 0.0148 0.0143

Uranus -117459-09-28 03:22 J -41180206.47 -41180206.36 -41180206.24 0.0148 0.0113

Pluto -117459-10-21 06:15 J -41180183.29 -41180183.24 -41180183.16 0.0060 0.0056

Uranus -117459-12-25 11:32 J -41180118.17 -41180118.02 -41180117.86 0.0149 0.0083

Pluto -117458-01-17 07:41 J -41180095.28 -41180095.18 -41180095.05 0.0060 0.0048

Uranus -117458-03-23 19:41 J -41180029.85 -41180029.68 -41180029.50 0.0149 0.0053

Pluto -117458-04-15 09:08 J -41180007.25 -41180007.12 -41180006.97 0.0060 0.0041

Uranus -117458-06-20 04:05 J -41179941.51 -41179941.33 -41179941.14 0.0149 0.0022

Pluto -117458-07-12 10:34 J -41179919.22 -41179919.06 -41179918.90 0.0060 0.0033

Uranus -117458-09-16 12:29 J -41179853.17 -41179852.98 -41179852.79 0.0149 0.0008

Pluto -117458-10-08 11:32 J -41179831.17 -41179831.02 -41179830.83 0.0060 0.0026

Uranus -117458-12-13 20:53 J -41179764.81 -41179764.63 -41179764.45 0.0149 0.0039

Pluto -117457-01-04 12:58 J -41179743.13 -41179742.96 -41179742.76 0.0060 0.0018

Venus -117457-01-29 04:48 J -41179718.40 -41179718.30 -41179718.20 0.3688 0.1486

Jupiter -117457-02-01 04:48 J -41179715.42 -41179715.30 -41179715.18 0.0526 0.0192

Uranus -117457-03-11 05:17 J -41179676.44 -41179676.28 -41179676.11 0.0149 0.0070

Pluto -117457-04-01 14:24 J -41179655.08 -41179654.90 -41179654.70 0.0060 0.0010

Jupiter -117457-04-30 12:29 J -41179626.08 -41179625.98 -41179625.87 0.0527 0.0289

Uranus -117457-06-07 13:41 J -41179588.06 -41179587.93 -41179587.79 0.0149 0.0101

Pluto -117457-06-28 16:05 J -41179567.02 -41179566.83 -41179566.64 0.0061 0.0001

Uranus -117457-09-03 22:20 J -41179499.65 -41179499.57 -41179499.49 0.0149 0.0132

Pluto -117457-09-24 17:17 J -41179478.97 -41179478.78 -41179478.59 0.0061 0.0007

Pluto -117457-12-21 18:29 J -41179390.91 -41179390.73 -41179390.54 0.0061 0.0015

Pluto -117456-03-19 19:41 J -41179302.84 -41179302.68 -41179302.49 0.0061 0.0023

Moon -117456-04-21 15:08 J -41179269.96 -41179269.87 -41179269.78 0.2774 0.1464

Earth -117456-04-21 15:08 J -41179269.96 -41179269.87 -41179269.78 0.2781 0.1512 *

Pluto -117456-06-15 21:08 J -41179214.77 -41179214.62 -41179214.44 0.0061 0.0031

Mars -117456-08-19 02:39 J -41179150.50 -41179150.39 -41179150.27 0.1823 0.1230

Pluto -117456-09-11 22:20 J -41179126.70 -41179126.57 -41179126.41 0.0061 0.0039

Pluto -117456-12-08 23:32 J -41179038.62 -41179038.52 -41179038.38 0.0061 0.0047

Pluto -117455-03-07 00:58 J -41178950.52 -41178950.46 -41178950.36 0.0061 0.0055

Mars -117455-06-29 01:41 J -41178836.55 -41178836.43 -41178836.31 0.1695 0.0062

Saturn -117454-07-19 05:32 J -41178451.40 -41178451.27 -41178451.14 0.0271 0.0180

Saturn -117454-10-16 00:15 J -41178362.65 -41178362.49 -41178362.32 0.0270 0.0080

Saturn -117453-01-12 19:12 J -41178273.87 -41178273.70 -41178273.52 0.0269 0.0021

Saturn -117453-04-10 14:24 J -41178185.06 -41178184.90 -41178184.74 0.0268 0.0122

Mars -117453-06-03 09:22 J -41178131.14 -41178131.11 -41178131.07 0.1683 0.1581

Saturn -117453-07-08 09:36 J -41178096.20 -41178096.10 -41178096.00 0.0267 0.0223

Earth -117453-10-16 16:05 J -41177995.94 -41177995.83 -41177995.73 0.2561 0.1906

Moon -117453-10-16 17:17 J -41177995.87 -41177995.78 -41177995.69 0.2557 0.2081 *

Venus -117452-08-13 22:05 J -41177694.69 -41177694.58 -41177694.48 0.3694 0.0209

Jupiter -117452-12-19 22:48 J -41177566.71 -41177566.55 -41177566.38 0.0500 0.0176

Jupiter -117451-03-20 05:17 J -41177476.38 -41177476.28 -41177476.17 0.0499 0.0405

Earth -117449-04-14 12:44 J -41176720.07 -41176719.97 -41176719.86 0.2775 0.0919

Moon -117449-04-14 13:27 J -41176720.04 -41176719.94 -41176719.83 0.2779 0.0900 *

Mars -117446-01-09 00:44 J -41175720.62 -41175720.47 -41175720.31 0.1819 0.0378

Venus -117446-02-27 15:08 J -41175670.97 -41175670.87 -41175670.78 0.3699 0.1780

Earth -117446-10-09 03:22 J -41175447.45 -41175447.36 -41175447.27 0.2567 0.2116

Moon -117446-10-09 04:34 J -41175447.40 -41175447.31 -41175447.23 0.2572 0.2138 *

Mars -117446-11-19 11:17 J -41175406.14 -41175406.03 -41175405.91 0.1699 0.0478

Jupiter -117446-11-20 08:10 J -41175405.26 -41175405.16 -41175405.05 0.0526 0.0317

Jupiter -117445-02-17 16:05 J -41175315.95 -41175315.83 -41175315.71 0.0526 0.0166

Mars -117444-10-24 19:41 J -41174700.76 -41174700.68 -41174700.59 0.1686 0.1198

Moon -117443-04-24 09:08 J -41174519.18 -41174519.12 -41174519.07 0.2777 0.2324

Earth -117443-04-24 09:36 J -41174519.15 -41174519.10 -41174519.05 0.2782 0.2369 *

Venus -117441-09-12 07:56 J -41173647.21 -41173647.17 -41173647.12 0.3705 0.3382

Jupiter -117440-10-07 21:36 J -41173256.74 -41173256.60 -41173256.46 0.0500 0.0312

Jupiter -117439-01-06 03:36 J -41173166.50 -41173166.35 -41173166.20 0.0499 0.0264

Saturn -117438-05-06 03:36 J -41172681.38 -41172681.35 -41172681.32 0.0290 0.0281

Venus -117438-06-11 02:39 J -41172645.52 -41172645.39 -41172645.27 0.3692 0.1600

Saturn -117438-08-02 17:32 J -41172592.88 -41172592.77 -41172592.66 0.0291 0.0181

Saturn -117438-10-30 07:12 J -41172504.33 -41172504.20 -41172504.07 0.0293 0.0079

Saturn -117437-01-26 20:39 J -41172415.77 -41172415.64 -41172415.50 0.0294 0.0024

Saturn -117437-04-24 10:20 J -41172327.20 -41172327.07 -41172326.95 0.0295 0.0123

Mars -117437-05-30 23:03 J -41172290.69 -41172290.54 -41172290.39 0.1814 0.0466

Saturn -117437-07-21 23:32 J -41172238.60 -41172238.52 -41172238.43 0.0296 0.0225

Mars -117436-04-10 20:53 J -41171975.73 -41171975.63 -41171975.52 0.1703 0.0904

Earth -117436-04-17 07:12 J -41171969.31 -41171969.20 -41171969.09 0.2777 0.0064

Moon -117436-04-17 07:56 J -41171969.28 -41171969.17 -41171969.06 0.2775 0.0068 *

Mars -117434-03-17 05:46 J -41171270.36 -41171270.26 -41171270.15 0.1689 0.0803

Jupiter -117434-09-08 11:46 J -41171095.08 -41171095.01 -41171094.93 0.0526 0.0436

Jupiter -117434-12-06 19:56 J -41171005.80 -41171005.67 -41171005.53 0.0526 0.0054

Jupiter -117433-03-05 03:22 J -41170916.37 -41170916.36 -41170916.35 0.0527 0.0524

Earth -117433-10-11 09:36 J -41170696.25 -41170696.10 -41170695.94 0.2565 0.0698

Moon -117433-10-11 11:17 J -41170696.19 -41170696.03 -41170695.87 0.2568 0.0584 *

Venus -117433-12-25 06:15 J -41170621.36 -41170621.24 -41170621.12 0.3685 0.1831

Moon -117429-04-10 04:34 J -41169419.35 -41169419.31 -41169419.27 0.2778 0.2545

Earth -117429-04-10 04:48 J -41169419.35 -41169419.30 -41169419.25 0.2770 0.2470 *

Jupiter -117428-07-26 19:41 J -41168946.75 -41168946.68 -41168946.61 0.0499 0.0454

Mars -117428-10-20 22:05 J -41168860.69 -41168860.58 -41168860.47 0.1810 0.1262

Jupiter -117428-10-25 01:12 J -41168856.63 -41168856.45 -41168856.28 0.0499 0.0116

Mars -117427-09-01 06:29 J -41168545.31 -41168545.23 -41168545.16 0.1706 0.1339

Mars -117425-08-06 15:51 J -41167839.96 -41167839.84 -41167839.72 0.1692 0.0405

Saturn -117425-12-05 05:03 J -41167719.40 -41167719.29 -41167719.18 0.0271 0.0212

Saturn -117424-03-03 23:46 J -41167630.67 -41167630.51 -41167630.35 0.0270 0.0111

Saturn -117424-05-31 18:44 J -41167541.90 -41167541.72 -41167541.55 0.0269 0.0011

Saturn -117424-08-28 13:41 J -41167453.10 -41167452.93 -41167452.76 0.0269 0.0091

Saturn -117424-11-25 08:53 J -41167364.25 -41167364.13 -41167364.00 0.0268 0.0192

Earth -117423-04-20 01:41 J -41167218.53 -41167218.43 -41167218.33 0.2779 0.0812

Moon -117423-04-20 01:56 J -41167218.52 -41167218.42 -41167218.31 0.2773 0.0782 *

Neptune -117423-11-10 15:22 J -41167013.88 -41167013.86 -41167013.80 0.0089 0.0087

Neptune -117422-02-06 18:29 J -41166925.79 -41166925.73 -41166925.64 0.0089 0.0081

Neptune -117422-05-05 21:36 J -41166837.68 -41166837.60 -41166837.49 0.0089 0.0076

Neptune -117422-08-02 00:44 J -41166749.57 -41166749.47 -41166749.35 0.0089 0.0070

Jupiter -117422-09-24 23:46 J -41166695.64 -41166695.51 -41166695.38 0.0527 0.0069

Neptune -117422-10-29 03:51 J -41166661.45 -41166661.34 -41166661.20 0.0089 0.0065

Jupiter -117422-12-23 07:27 J -41166606.27 -41166606.19 -41166606.11 0.0527 0.0411

Neptune -117421-01-25 06:58 J -41166573.33 -41166573.21 -41166573.06 0.0089 0.0059

Neptune -117421-04-22 10:05 J -41166485.21 -41166485.08 -41166484.92 0.0089 0.0054

Neptune -117421-07-19 13:12 J -41166397.09 -41166396.95 -41166396.79 0.0089 0.0048

Neptune -117421-10-15 16:20 J -41166308.97 -41166308.82 -41166308.65 0.0089 0.0043

Neptune -117420-01-11 19:41 J -41166220.84 -41166220.68 -41166220.51 0.0089 0.0037

Neptune -117420-04-09 23:03 J -41166132.71 -41166132.54 -41166132.37 0.0089 0.0031

Neptune -117420-07-07 01:56 J -41166044.59 -41166044.42 -41166044.24 0.0089 0.0026

Neptune -117420-10-03 05:17 J -41165956.46 -41165956.28 -41165956.10 0.0089 0.0020

Earth -117420-10-14 16:05 J -41165944.98 -41165944.83 -41165944.67 0.2563 0.0740

Moon -117420-10-14 17:46 J -41165944.91 -41165944.76 -41165944.61 0.2560 0.0884 *

Neptune -117420-12-30 08:24 J -41165868.33 -41165868.15 -41165867.96 0.0089 0.0014

Neptune -117419-03-28 11:46 J -41165780.19 -41165780.01 -41165779.83 0.0089 0.0009

Neptune -117419-06-24 14:53 J -41165692.06 -41165691.88 -41165691.69 0.0089 0.0003

Neptune -117419-09-20 18:15 J -41165603.93 -41165603.74 -41165603.56 0.0089 0.0003

Neptune -117419-12-17 21:22 J -41165515.79 -41165515.61 -41165515.42 0.0089 0.0009

Uranus -117418-02-06 10:34 J -41165465.10 -41165465.06 -41165465.02 0.0131 0.0124

Neptune -117418-03-16 00:29 J -41165427.65 -41165427.48 -41165427.29 0.0089 0.0015

Uranus -117418-05-05 13:27 J -41165377.00 -41165376.94 -41165376.86 0.0131 0.0109

Neptune -117418-06-12 04:05 J -41165339.51 -41165339.33 -41165339.15 0.0089 0.0020

Uranus -117418-08-01 16:48 J -41165288.89 -41165288.80 -41165288.70 0.0131 0.0093

Neptune -117418-09-08 07:12 J -41165251.37 -41165251.20 -41165251.02 0.0089 0.0026

Uranus -117418-10-28 19:56 J -41165200.78 -41165200.67 -41165200.56 0.0131 0.0078

Neptune -117418-12-05 10:20 J -41165163.23 -41165163.07 -41165162.88 0.0089 0.0032

Uranus -117417-01-24 23:03 J -41165112.66 -41165112.54 -41165112.42 0.0131 0.0062

Neptune -117417-03-02 13:41 J -41165075.09 -41165074.93 -41165074.75 0.0089 0.0038

Uranus -117417-04-22 01:56 J -41165024.54 -41165024.42 -41165024.28 0.0131 0.0048

Neptune -117417-05-29 16:48 J -41164986.94 -41164986.80 -41164986.62 0.0089 0.0044

Uranus -117417-07-19 05:17 J -41164936.41 -41164936.28 -41164936.15 0.0131 0.0032

Neptune -117417-08-25 20:39 J -41164898.80 -41164898.64 -41164898.49 0.0089 0.0049

Uranus -117417-10-15 08:10 J -41164848.29 -41164848.16 -41164848.02 0.0131 0.0018

Neptune -117417-11-21 23:46 J -41164810.65 -41164810.51 -41164810.36 0.0089 0.0055

Uranus -117416-01-11 11:17 J -41164760.16 -41164760.03 -41164759.89 0.0131 0.0003

Mars -117416-02-17 03:22 J -41164723.46 -41164723.36 -41164723.25 0.1823 0.1318

Neptune -117416-02-18 03:08 J -41164722.50 -41164722.37 -41164722.23 0.0089 0.0061

Uranus -117416-04-09 14:24 J -41164672.04 -41164671.90 -41164671.77 0.0131 0.0013

Earth -117416-04-12 23:17 J -41164668.62 -41164668.53 -41164668.44 0.2773 0.1612

Moon -117416-04-12 23:46 J -41164668.60 -41164668.51 -41164668.43 0.2779 0.1569 *

Neptune -117416-05-17 06:29 J -41164634.35 -41164634.23 -41164634.10 0.0089 0.0067

Uranus -117416-07-06 17:17 J -41164583.91 -41164583.78 -41164583.64 0.0130 0.0029

Jupiter -117416-08-12 23:32 J -41164546.70 -41164546.52 -41164546.35 0.0499 0.0028

Neptune -117416-08-13 09:36 J -41164546.19 -41164546.10 -41164545.98 0.0089 0.0073

Uranus -117416-10-02 20:24 J -41164495.78 -41164495.65 -41164495.52 0.0130 0.0043

Neptune -117416-11-09 12:58 J -41164458.03 -41164457.96 -41164457.86 0.0089 0.0079

Mars -117416-12-28 01:41 J -41164409.55 -41164409.43 -41164409.31 0.1696 0.0008

Uranus -117416-12-29 23:17 J -41164407.64 -41164407.53 -41164407.40 0.0130 0.0058

Neptune -117415-02-05 16:20 J -41164369.85 -41164369.82 -41164369.75 0.0089 0.0085

Uranus -117415-03-28 02:24 J -41164319.51 -41164319.40 -41164319.29 0.0130 0.0073

Uranus -117415-06-24 05:17 J -41164231.37 -41164231.28 -41164231.18 0.0130 0.0088

Uranus -117415-09-20 08:10 J -41164143.23 -41164143.16 -41164143.07 0.0130 0.0103

Uranus -117415-12-17 11:03 J -41164055.08 -41164055.04 -41164054.97 0.0130 0.0118

Mars -117414-12-03 09:22 J -41163704.13 -41163704.11 -41163704.08 0.1683 0.1626

Moon -117410-04-22 19:41 J -41162467.76 -41162467.68 -41162467.59 0.2775 0.1701

Earth -117410-04-22 20:10 J -41162467.75 -41162467.66 -41162467.58 0.2781 0.1674 *

Jupiter -117410-07-14 03:36 J -41162385.47 -41162385.35 -41162385.22 0.0526 0.0186

Jupiter -117410-10-11 11:32 J -41162296.13 -41162296.02 -41162295.91 0.0527 0.0297

Saturn -117409-12-19 18:29 J -41161860.82 -41161860.73 -41161860.63 0.0291 0.0214

Saturn -117408-03-18 08:24 J -41161772.28 -41161772.15 -41161772.02 0.0292 0.0113

Saturn -117408-06-14 21:51 J -41161683.72 -41161683.59 -41161683.45 0.0293 0.0016

Saturn -117408-09-11 11:32 J -41161595.15 -41161595.02 -41161594.89 0.0294 0.0089

Saturn -117408-12-09 00:58 J -41161506.57 -41161506.46 -41161506.36 0.0295 0.0190

Saturn -117407-03-07 14:10 J -41161417.93 -41161417.91 -41161417.88 0.0296 0.0291

Mars -117407-07-10 01:12 J -41161293.61 -41161293.45 -41161293.30 0.1818 0.0444

Earth -117407-10-17 22:34 J -41161193.64 -41161193.56 -41161193.47 0.2561 0.2184

Moon -117407-10-17 23:32 J -41161193.61 -41161193.52 -41161193.43 0.2556 0.2146 *

Venus -117406-02-19 09:22 J -41161069.18 -41161069.11 -41161069.03 0.3684 0.2532

Mars -117406-05-20 11:32 J -41160979.14 -41160979.02 -41160978.91 0.1699 0.0426

Mars -117404-04-24 19:41 J -41160273.76 -41160273.68 -41160273.60 0.1686 0.1241

Jupiter -117404-05-31 21:22 J -41160236.77 -41160236.61 -41160236.44 0.0499 0.0169

Jupiter -117404-08-30 03:51 J -41160146.44 -41160146.34 -41160146.24 0.0499 0.0411

Earth -117403-04-15 17:46 J -41159917.87 -41159917.76 -41159917.66 0.2775 0.0752

Moon -117403-04-15 18:29 J -41159917.84 -41159917.73 -41159917.63 0.2778 0.0670 *

Venus -117401-09-04 02:39 J -41159045.49 -41159045.39 -41159045.28 0.3689 0.0874

Earth -117400-10-09 10:05 J -41158645.19 -41158645.08 -41158644.97 0.2567 0.1853

Moon -117400-10-09 11:17 J -41158645.15 -41158645.03 -41158644.91 0.2572 0.1684 *

Jupiter -117398-05-02 07:27 J -41158075.30 -41158075.19 -41158075.08 0.0526 0.0304

Jupiter -117398-07-30 15:22 J -41157985.98 -41157985.86 -41157985.74 0.0527 0.0179

Mars -117398-11-29 23:46 J -41157863.67 -41157863.51 -41157863.36 0.1814 0.0383

Moon -117397-04-24 13:56 J -41157716.97 -41157716.92 -41157716.87 0.2779 0.2449

Earth -117397-04-24 14:24 J -41157716.94 -41157716.90 -41157716.86 0.2783 0.2534 *

Mars -117397-10-09 21:08 J -41157548.73 -41157548.62 -41157548.52 0.1703 0.0849

Venus -117395-03-20 19:56 J -41157021.78 -41157021.67 -41157021.57 0.3695 0.0768

Saturn -117395-04-24 03:36 J -41156987.41 -41156987.35 -41156987.27 0.0272 0.0248

Saturn -117395-07-21 22:20 J -41156898.71 -41156898.57 -41156898.42 0.0271 0.0148

Mars -117395-09-15 06:00 J -41156843.36 -41156843.25 -41156843.15 0.1689 0.0856

Saturn -117395-10-18 17:17 J -41156809.95 -41156809.78 -41156809.60 0.0270 0.0047

Saturn -117394-01-15 12:15 J -41156721.16 -41156720.99 -41156720.81 0.0269 0.0055

Saturn -117394-04-14 07:27 J -41156632.33 -41156632.19 -41156632.04 0.0268 0.0156

Saturn -117394-07-12 02:39 J -41156543.43 -41156543.39 -41156543.33 0.0267 0.0257

Jupiter -117392-03-19 19:56 J -41155926.81 -41155926.67 -41155926.53 0.0500 0.0307

Jupiter -117392-06-18 01:56 J -41155836.57 -41155836.42 -41155836.27 0.0499 0.0269

Earth -117390-04-18 12:15 J -41155167.10 -41155166.99 -41155166.89 0.2778 0.0155

Moon -117390-04-18 12:44 J -41155167.08 -41155166.97 -41155166.86 0.2773 0.0118 *

Venus -117390-10-04 12:58 J -41154998.04 -41154997.96 -41154997.88 0.3701 0.2375

Mars -117388-04-20 22:34 J -41154433.67 -41154433.56 -41154433.44 0.1810 0.1184

Mars -117387-03-02 06:29 J -41154118.31 -41154118.23 -41154118.15 0.1706 0.1288

Earth -117387-10-12 16:20 J -41153893.97 -41153893.82 -41153893.66 0.2565 0.0423

Moon -117387-10-12 18:00 J -41153893.90 -41153893.75 -41153893.59 0.2565 0.0375 *

Jupiter -117386-02-18 10:34 J -41153765.13 -41153765.06 -41153764.98 0.0526 0.0430

Jupiter -117386-05-18 18:44 J -41153675.85 -41153675.72 -41153675.59 0.0526 0.0058

Mars -117385-02-05 15:51 J -41153412.96 -41153412.84 -41153412.72 0.1692 0.0452

Moon -117383-04-11 09:36 J -41152617.16 -41152617.10 -41152617.04 0.2778 0.2279

Earth -117383-04-11 09:36 J -41152617.15 -41152617.10 -41152617.04 0.2771 0.2316 *

Venus -117381-01-16 03:08 J -41151972.51 -41151972.37 -41151972.23 0.3690 0.0443

Jupiter -117380-01-05 18:44 J -41151616.80 -41151616.72 -41151616.64 0.0500 0.0443

Jupiter -117380-04-06 00:15 J -41151526.66 -41151526.49 -41151526.32 0.0499 0.0128

Saturn -117379-05-08 19:56 J -41151128.74 -41151128.67 -41151128.59 0.0290 0.0244

Saturn -117379-08-05 09:36 J -41151040.21 -41151040.10 -41151039.97 0.0292 0.0144

Saturn -117379-11-01 23:32 J -41150951.66 -41150951.52 -41150951.39 0.0293 0.0043

Saturn -117378-01-29 12:58 J -41150863.09 -41150862.96 -41150862.82 0.0294 0.0059

Saturn -117378-04-28 02:24 J -41150774.51 -41150774.40 -41150774.28 0.0295 0.0160

Saturn -117378-07-25 15:51 J -41150685.90 -41150685.84 -41150685.78 0.0296 0.0260

Earth -117377-04-20 06:29 J -41150416.33 -41150416.23 -41150416.13 0.2780 0.0974

Moon -117377-04-20 06:44 J -41150416.32 -41150416.22 -41150416.12 0.2773 0.1046 *

Mars -117377-08-18 04:05 J -41150296.43 -41150296.33 -41150296.23 0.1823 0.1401

Mars -117376-06-28 01:41 J -41149982.55 -41149982.43 -41149982.31 0.1695 0.0058

Venus -117376-08-01 06:58 J -41149948.29 -41149948.21 -41149948.13 0.3683 0.3035

Uranus -117375-07-22 03:08 J -41149593.44 -41149593.37 -41149593.28 0.0148 0.0134

Uranus -117375-10-18 11:17 J -41149505.15 -41149505.03 -41149504.89 0.0148 0.0104

Uranus -117374-01-14 19:41 J -41149416.84 -41149416.68 -41149416.52 0.0148 0.0074

Jupiter -117374-03-06 22:34 J -41149365.69 -41149365.56 -41149365.43 0.0526 0.0063

Uranus -117374-04-13 03:51 J -41149328.52 -41149328.34 -41149328.16 0.0149 0.0044

Mars -117374-06-03 09:22 J -41149277.12 -41149277.11 -41149277.10 0.1683 0.1670

Jupiter -117374-06-04 06:15 J -41149276.32 -41149276.24 -41149276.16 0.0527 0.0415

Uranus -117374-07-10 12:00 J -41149240.18 -41149240.00 -41149239.81 0.0149 0.0014

Uranus -117374-10-06 20:24 J -41149151.83 -41149151.65 -41149151.46 0.0149 0.0017

Earth -117374-10-15 22:48 J -41149142.70 -41149142.55 -41149142.40 0.2563 0.1019

Moon -117374-10-16 00:29 J -41149142.63 -41149142.48 -41149142.34 0.2560 0.1096 *

Uranus -117373-01-03 04:48 J -41149063.47 -41149063.30 -41149063.12 0.0149 0.0048

Uranus -117373-03-31 13:12 J -41148975.10 -41148974.95 -41148974.79 0.0149 0.0079

Uranus -117373-06-27 21:36 J -41148886.72 -41148886.60 -41148886.47 0.0149 0.0110

Uranus -117373-09-24 06:15 J -41148798.29 -41148798.24 -41148798.18 0.0149 0.0141

Earth -117370-04-14 04:05 J -41147866.42 -41147866.33 -41147866.23 0.2773 0.1454

Moon -117370-04-14 04:48 J -41147866.40 -41147866.30 -41147866.21 0.2779 0.1456 *

Jupiter -117368-01-22 22:05 J -41147216.76 -41147216.58 -41147216.41 0.0499 0.0020

Mars -117367-01-08 01:56 J -41146866.57 -41146866.42 -41146866.27 0.1819 0.0533

Mars -117367-11-18 11:32 J -41146552.14 -41146552.02 -41146551.90 0.1699 0.0374

Saturn -117366-12-08 22:20 J -41146166.70 -41146166.57 -41146166.44 0.0271 0.0177

Saturn -117365-03-06 17:03 J -41146077.95 -41146077.79 -41146077.62 0.0270 0.0077

Pluto -117365-05-11 09:22 J -41146012.18 -41146012.11 -41146012.04 0.0084 0.0071

Saturn -117365-06-03 12:15 J -41145989.17 -41145988.99 -41145988.82 0.0269 0.0025

Pluto -117365-08-07 10:34 J -41145924.16 -41145924.06 -41145923.95 0.0084 0.0056

Saturn -117365-08-31 07:12 J -41145900.35 -41145900.20 -41145900.04 0.0269 0.0127

Mars -117365-10-23 19:41 J -41145846.75 -41145846.68 -41145846.60 0.1686 0.1290

Pluto -117365-11-03 12:00 J -41145836.12 -41145836.00 -41145835.88 0.0084 0.0040

Saturn -117365-11-28 02:39 J -41145811.48 -41145811.39 -41145811.30 0.0268 0.0228

Pluto -117364-01-30 13:12 J -41145748.08 -41145747.95 -41145747.82 0.0084 0.0025

Moon -117364-04-23 00:29 J -41145665.56 -41145665.48 -41145665.39 0.2775 0.1729

Earth -117364-04-23 00:58 J -41145665.54 -41145665.46 -41145665.38 0.2781 0.1836 *

Pluto -117364-04-28 14:39 J -41145660.03 -41145659.89 -41145659.76 0.0084 0.0010

Pluto -117364-07-25 15:51 J -41145571.97 -41145571.84 -41145571.70 0.0084 0.0005

Pluto -117364-10-21 17:03 J -41145483.92 -41145483.79 -41145483.65 0.0084 0.0020

Pluto -117363-01-17 18:29 J -41145395.85 -41145395.73 -41145395.61 0.0083 0.0035

Pluto -117363-04-15 19:41 J -41145307.78 -41145307.68 -41145307.57 0.0083 0.0050

Pluto -117363-07-12 20:53 J -41145219.71 -41145219.63 -41145219.54 0.0083 0.0065

Pluto -117363-10-08 22:05 J -41145131.61 -41145131.58 -41145131.53 0.0083 0.0079

Jupiter -117363-12-24 02:10 J -41145055.53 -41145055.41 -41145055.29 0.0527 0.0185

Jupiter -117362-03-23 10:05 J -41144966.19 -41144966.08 -41144965.98 0.0527 0.0298

Earth -117361-10-18 05:17 J -41144391.32 -41144391.28 -41144391.24 0.2561 0.2455

Moon -117361-10-18 05:32 J -41144391.29 -41144391.27 -41144391.24 0.2555 0.2524 *

Mars -117358-05-31 00:15 J -41143436.64 -41143436.49 -41143436.33 0.1814 0.0306

Mars -117357-04-09 21:08 J -41143121.73 -41143121.62 -41143121.52 0.1703 0.0802

Earth -117357-04-15 22:34 J -41143115.66 -41143115.56 -41143115.45 0.2776 0.0590

Moon -117357-04-15 23:17 J -41143115.64 -41143115.53 -41143115.42 0.2776 0.0528 *

Jupiter -117357-11-10 20:10 J -41142906.82 -41142906.66 -41142906.49 0.0499 0.0159

Jupiter -117356-02-09 02:24 J -41142816.49 -41142816.40 -41142816.30 0.0498 0.0419

Venus -117355-03-12 13:56 J -41142419.94 -41142419.92 -41142419.89 0.3680 0.3586

Mars -117355-03-16 05:46 J -41142416.36 -41142416.26 -41142416.16 0.1689 0.0899

Earth -117354-10-10 16:34 J -41141842.93 -41141842.81 -41141842.68 0.2567 0.1580

Moon -117354-10-10 18:00 J -41141842.87 -41141842.75 -41141842.63 0.2571 0.1599 *

Moon -117351-04-25 18:44 J -41140914.75 -41140914.72 -41140914.70 0.2782 0.2690

Earth -117351-04-25 19:27 J -41140914.72 -41140914.69 -41140914.67 0.2783 0.2696 *

Jupiter -117351-10-12 06:00 J -41140745.36 -41140745.25 -41140745.15 0.0526 0.0303

Jupiter -117350-01-09 13:56 J -41140656.04 -41140655.92 -41140655.80 0.0527 0.0183

Saturn -117350-09-25 21:36 J -41140396.64 -41140396.60 -41140396.55 0.0289 0.0273

Venus -117350-09-26 07:27 J -41140396.29 -41140396.19 -41140396.10 0.3685 0.1907

Saturn -117350-12-23 11:32 J -41140308.13 -41140308.02 -41140307.91 0.0291 0.0173

Saturn -117349-03-21 01:12 J -41140219.58 -41140219.45 -41140219.32 0.0292 0.0072

Saturn -117349-06-17 14:39 J -41140131.02 -41140130.89 -41140130.75 0.0293 0.0030

Saturn -117349-09-14 04:05 J -41140042.45 -41140042.33 -41140042.20 0.0294 0.0129

Mars -117349-10-19 23:03 J -41140006.66 -41140006.54 -41140006.42 0.1810 0.1112

Saturn -117349-12-11 17:32 J -41139953.85 -41139953.77 -41139953.68 0.0295 0.0229

Mars -117348-08-31 06:44 J -41139691.31 -41139691.22 -41139691.14 0.1706 0.1233

Mars -117346-08-06 15:51 J -41138985.95 -41138985.84 -41138985.72 0.1692 0.0502

Jupiter -117345-08-29 18:15 J -41138596.88 -41138596.74 -41138596.60 0.0499 0.0302

Jupiter -117345-11-28 00:15 J -41138506.64 -41138506.49 -41138506.34 0.0499 0.0273

Venus -117344-04-11 00:44 J -41138372.58 -41138372.47 -41138372.37 0.3691 0.0288

Earth -117344-04-18 17:03 J -41138364.90 -41138364.79 -41138364.68 0.2778 0.0277

Moon -117344-04-18 17:32 J -41138364.88 -41138364.77 -41138364.66 0.2773 0.0357 *

Neptune -117342-12-05 01:41 J -41137404.46 -41137404.43 -41137404.38 0.0088 0.0085

Neptune -117341-03-02 03:08 J -41137316.41 -41137316.37 -41137316.30 0.0088 0.0081

Neptune -117341-05-29 04:48 J -41137228.36 -41137228.30 -41137228.22 0.0088 0.0076

Neptune -117341-08-25 06:29 J -41137140.30 -41137140.23 -41137140.14 0.0088 0.0072

Earth -117341-10-12 23:03 J -41137091.70 -41137091.54 -41137091.38 0.2564 0.0153

Moon -117341-10-13 00:44 J -41137091.63 -41137091.47 -41137091.31 0.2563 0.0051 *

Neptune -117341-11-21 07:56 J -41137052.25 -41137052.17 -41137052.07 0.0088 0.0068

Neptune -117340-02-17 09:22 J -41136964.19 -41136964.11 -41136964.00 0.0088 0.0064

Neptune -117340-05-16 11:17 J -41136876.13 -41136876.03 -41136875.92 0.0088 0.0059

Neptune -117340-08-12 12:44 J -41136788.07 -41136787.97 -41136787.85 0.0088 0.0054

Neptune -117340-11-08 14:10 J -41136700.01 -41136699.91 -41136699.78 0.0088 0.0050

Neptune -117339-02-04 15:51 J -41136611.95 -41136611.84 -41136611.71 0.0088 0.0046

Neptune -117339-05-03 17:32 J -41136523.89 -41136523.77 -41136523.65 0.0088 0.0041

Neptune -117339-07-30 18:58 J -41136435.83 -41136435.71 -41136435.58 0.0088 0.0037

Jupiter -117339-07-31 09:36 J -41136435.18 -41136435.10 -41136435.02 0.0526 0.0422

Venus -117339-10-25 17:46 J -41136348.86 -41136348.76 -41136348.66 0.3697 0.1368

Neptune -117339-10-26 20:39 J -41136347.77 -41136347.64 -41136347.51 0.0088 0.0033

Jupiter -117339-10-28 17:46 J -41136345.89 -41136345.76 -41136345.63 0.0527 0.0064

Mars -117338-01-21 15:51 J -41136260.86 -41136260.84 -41136260.82 0.1710 0.1681

Neptune -117338-01-22 22:05 J -41136259.71 -41136259.58 -41136259.45 0.0088 0.0028

Neptune -117338-04-20 23:32 J -41136171.65 -41136171.52 -41136171.38 0.0088 0.0024

Neptune -117338-07-18 00:58 J -41136083.59 -41136083.46 -41136083.31 0.0088 0.0021

Neptune -117338-10-14 02:39 J -41135995.52 -41135995.39 -41135995.25 0.0088 0.0016

Neptune -117337-01-10 04:20 J -41135907.46 -41135907.32 -41135907.19 0.0088 0.0012

Mars -117337-02-17 04:34 J -41135869.40 -41135869.31 -41135869.21 0.1823 0.1476

Neptune -117337-04-07 05:46 J -41135819.40 -41135819.26 -41135819.12 0.0088 0.0007

Earth -117337-04-11 14:39 J -41135814.96 -41135814.89 -41135814.83 0.2771 0.2153

Moon -117337-04-11 14:39 J -41135814.95 -41135814.89 -41135814.82 0.2778 0.2212 *

Neptune -117337-07-04 07:12 J -41135731.34 -41135731.20 -41135731.06 0.0088 0.0003

Neptune -117337-09-30 08:39 J -41135643.28 -41135643.14 -41135643.00 0.0088 0.0002

Mars -117337-12-27 01:56 J -41135555.54 -41135555.42 -41135555.30 0.1695 0.0108

Neptune -117337-12-27 10:05 J -41135555.21 -41135555.08 -41135554.94 0.0088 0.0006

Neptune -117336-03-25 11:32 J -41135467.15 -41135467.02 -41135466.88 0.0088 0.0011

Saturn -117336-04-26 21:36 J -41135434.71 -41135434.60 -41135434.49 0.0272 0.0211

Neptune -117336-06-21 13:12 J -41135379.09 -41135378.95 -41135378.82 0.0088 0.0014

Saturn -117336-07-24 16:20 J -41135345.98 -41135345.82 -41135345.66 0.0271 0.0111

Neptune -117336-09-17 14:39 J -41135291.02 -41135290.89 -41135290.76 0.0088 0.0018

Saturn -117336-10-21 11:17 J -41135257.21 -41135257.03 -41135256.86 0.0270 0.0010

Neptune -117336-12-14 16:05 J -41135202.96 -41135202.83 -41135202.70 0.0088 0.0022

Saturn -117335-01-18 06:15 J -41135168.40 -41135168.24 -41135168.07 0.0269 0.0092

Neptune -117335-03-12 17:32 J -41135114.90 -41135114.77 -41135114.64 0.0088 0.0026

Saturn -117335-04-17 01:41 J -41135079.56 -41135079.43 -41135079.31 0.0268 0.0193

Neptune -117335-06-08 18:58 J -41135026.84 -41135026.71 -41135026.58 0.0088 0.0031

Neptune -117335-09-04 20:24 J -41134938.77 -41134938.65 -41134938.52 0.0088 0.0035

Neptune -117335-12-01 21:36 J -41134850.71 -41134850.60 -41134850.46 0.0088 0.0040

Uranus -117334-02-26 18:00 J -41134763.80 -41134763.75 -41134763.68 0.0131 0.0118

Neptune -117334-02-27 23:03 J -41134762.65 -41134762.54 -41134762.41 0.0088 0.0044

Uranus -117334-05-25 21:08 J -41134675.69 -41134675.62 -41134675.52 0.0131 0.0103

Neptune -117334-05-27 00:29 J -41134674.58 -41134674.48 -41134674.35 0.0088 0.0048

Uranus -117334-08-22 00:29 J -41134587.58 -41134587.48 -41134587.37 0.0131 0.0087

Neptune -117334-08-23 01:56 J -41134586.52 -41134586.42 -41134586.30 0.0088 0.0052

Uranus -117334-11-18 03:36 J -41134499.46 -41134499.35 -41134499.23 0.0131 0.0072

Neptune -117334-11-19 03:22 J -41134498.45 -41134498.36 -41134498.24 0.0088 0.0056

Uranus -117333-02-14 06:44 J -41134411.34 -41134411.22 -41134411.09 0.0131 0.0056

Neptune -117333-02-15 04:48 J -41134410.39 -41134410.30 -41134410.19 0.0088 0.0060

Venus -117333-05-10 10:48 J -41134325.11 -41134325.05 -41134324.99 0.3702 0.2968

Uranus -117333-05-12 09:51 J -41134323.22 -41134323.09 -41134322.96 0.0131 0.0041

Neptune -117333-05-13 06:15 J -41134322.32 -41134322.24 -41134322.14 0.0088 0.0064

Jupiter -117333-06-17 16:34 J -41134286.89 -41134286.81 -41134286.72 0.0500 0.0441

Uranus -117333-08-08 12:58 J -41134235.09 -41134234.96 -41134234.83 0.0131 0.0026

Neptune -117333-08-09 07:41 J -41134234.26 -41134234.18 -41134234.08 0.0088 0.0068

Jupiter -117333-09-15 22:05 J -41134196.75 -41134196.58 -41134196.40 0.0499 0.0130

Uranus -117333-11-04 16:05 J -41134146.97 -41134146.83 -41134146.69 0.0131 0.0011

Neptune -117333-11-05 09:08 J -41134146.19 -41134146.12 -41134146.03 0.0088 0.0072

Uranus -117332-01-31 19:12 J -41134058.84 -41134058.70 -41134058.57 0.0131 0.0006

Neptune -117332-02-01 10:34 J -41134058.12 -41134058.06 -41134057.98 0.0088 0.0076

Uranus -117332-04-29 22:05 J -41133970.71 -41133970.58 -41133970.44 0.0131 0.0020

Neptune -117332-04-30 12:00 J -41133970.05 -41133970.00 -41133969.94 0.0088 0.0080

Uranus -117332-07-27 01:12 J -41133882.58 -41133882.45 -41133882.32 0.0131 0.0035

Neptune -117332-07-27 13:27 J -41133881.98 -41133881.94 -41133881.89 0.0088 0.0084

Uranus -117332-10-23 04:05 J -41133794.45 -41133794.33 -41133794.20 0.0131 0.0050

Neptune -117332-10-23 14:53 J -41133793.89 -41133793.88 -41133793.86 0.0088 0.0087

Uranus -117331-01-19 07:12 J -41133706.32 -41133706.20 -41133706.08 0.0131 0.0064

Uranus -117331-04-17 10:05 J -41133618.18 -41133618.08 -41133617.97 0.0131 0.0079

Moon -117331-04-21 11:17 J -41133614.13 -41133614.03 -41133613.93 0.2773 0.1087

Earth -117331-04-21 11:32 J -41133614.12 -41133614.02 -41133613.93 0.2780 0.1141 *

Uranus -117331-07-14 13:12 J -41133530.04 -41133529.95 -41133529.86 0.0131 0.0094

Uranus -117331-10-10 16:05 J -41133441.90 -41133441.83 -41133441.75 0.0130 0.0109

Uranus -117330-01-06 18:58 J -41133353.74 -41133353.71 -41133353.66 0.0130 0.0123

Venus -117330-02-06 00:29 J -41133323.58 -41133323.48 -41133323.39 0.3695 0.2628

Mars -117328-07-09 02:39 J -41132439.54 -41132439.39 -41132439.24 0.1819 0.0617

Earth -117328-10-16 05:32 J -41132340.41 -41132340.27 -41132340.13 0.2562 0.1295

Moon -117328-10-16 06:44 J -41132340.36 -41132340.22 -41132340.08 0.2559 0.1355 *

Mars -117327-05-19 11:32 J -41132125.14 -41132125.02 -41132124.90 0.1699 0.0324

Jupiter -117327-08-16 21:08 J -41132035.75 -41132035.62 -41132035.49 0.0526 0.0061

Jupiter -117327-11-14 04:48 J -41131946.38 -41131946.30 -41131946.23 0.0527 0.0417

Mars -117325-04-23 19:41 J -41131419.75 -41131419.68 -41131419.60 0.1686 0.1337

Venus -117325-08-22 03:51 J -41131299.48 -41131299.34 -41131299.20 0.3688 0.0741

Earth -117324-04-14 09:08 J -41131064.22 -41131064.12 -41131064.03 0.2774 0.1293

Moon -117324-04-14 09:36 J -41131064.20 -41131064.10 -41131064.00 0.2779 0.1193 *

Jupiter -117321-07-04 20:24 J -41129886.83 -41129886.65 -41129886.47 0.0499 0.0012

Saturn -117320-05-11 13:27 J -41129576.04 -41129575.94 -41129575.84 0.0291 0.0200

Saturn -117320-08-08 03:08 J -41129487.50 -41129487.37 -41129487.24 0.0292 0.0100

Saturn -117320-11-04 16:34 J -41129398.94 -41129398.81 -41129398.67 0.0293 0.0006

Saturn -117319-02-01 06:00 J -41129310.37 -41129310.25 -41129310.12 0.0294 0.0102

Saturn -117319-04-30 19:27 J -41129221.78 -41129221.69 -41129221.59 0.0295 0.0202

Mars -117319-11-29 00:58 J -41129009.62 -41129009.46 -41129009.30 0.1814 0.0221

Moon -117318-04-24 05:17 J -41128863.35 -41128863.28 -41128863.20 0.2776 0.2020

Earth -117318-04-24 05:46 J -41128863.33 -41128863.26 -41128863.18 0.2782 0.1999 *

Mars -117318-10-09 21:08 J -41128694.73 -41128694.62 -41128694.51 0.1703 0.0749

Mars -117316-09-14 06:00 J -41127989.35 -41127989.25 -41127989.16 0.1689 0.0948

Jupiter -117315-06-05 00:44 J -41127725.59 -41127725.47 -41127725.35 0.0526 0.0182

Jupiter -117315-09-02 08:39 J -41127636.25 -41127636.14 -41127636.04 0.0527 0.0299

Earth -117311-04-17 03:22 J -41126313.46 -41126313.36 -41126313.25 0.2776 0.0445

Moon -117311-04-17 04:05 J -41126313.43 -41126313.33 -41126313.22 0.2774 0.0417 *

Mars -117309-04-19 23:32 J -41125579.64 -41125579.52 -41125579.39 0.1810 0.1034

Jupiter -117309-04-22 18:29 J -41125576.90 -41125576.73 -41125576.56 0.0499 0.0154

Jupiter -117309-07-22 00:44 J -41125486.56 -41125486.47 -41125486.38 0.0498 0.0423

Mars -117308-03-01 06:29 J -41125264.31 -41125264.23 -41125264.14 0.1706 0.1187

Earth -117308-10-10 23:17 J -41125040.67 -41125040.53 -41125040.40 0.2566 0.1316

Moon -117308-10-11 00:44 J -41125040.61 -41125040.47 -41125040.33 0.2568 0.1125 *

Saturn -117307-09-13 21:51 J -41124702.66 -41124702.59 -41124702.50 0.0272 0.0238

Saturn -117307-12-11 16:34 J -41124613.95 -41124613.81 -41124613.65 0.0271 0.0138

Mars -117306-02-04 15:51 J -41124558.95 -41124558.84 -41124558.72 0.1692 0.0548

Saturn -117306-03-10 11:32 J -41124525.19 -41124525.02 -41124524.84 0.0270 0.0037

Saturn -117306-06-07 06:44 J -41124436.40 -41124436.22 -41124436.05 0.0269 0.0065

Saturn -117306-09-04 01:56 J -41124347.56 -41124347.42 -41124347.28 0.0268 0.0166

Moon -117305-04-25 23:32 J -41124112.54 -41124112.52 -41124112.50 0.2784 0.2729

Jupiter -117303-03-24 04:05 J -41123415.44 -41123415.33 -41123415.23 0.0527 0.0307

Jupiter -117303-06-21 12:00 J -41123326.12 -41123326.00 -41123325.87 0.0527 0.0180

Mars -117300-09-09 23:03 J -41122149.55 -41122149.54 -41122149.54 0.1805 0.1802

Mars -117299-07-22 15:51 J -41121833.87 -41121833.84 -41121833.80 0.1710 0.1627

Venus -117299-10-17 12:00 J -41121747.06 -41121747.00 -41121746.94 0.3681 0.2954

Earth -117298-04-19 21:51 J -41121562.69 -41121562.59 -41121562.48 0.2778 0.0443

Moon -117298-04-19 22:20 J -41121562.68 -41121562.57 -41121562.46 0.2773 0.0461 *

Mars -117298-08-18 05:32 J -41121442.35 -41121442.27 -41121442.19 0.1823 0.1564

Jupiter -117297-02-09 16:48 J -41121266.94 -41121266.80 -41121266.66 0.0499 0.0295

Jupiter -117297-05-09 22:34 J -41121176.71 -41121176.56 -41121176.41 0.0498 0.0278

Mars -117297-06-27 01:56 J -41121128.54 -41121128.42 -41121128.30 0.1696 0.0149

Earth -117295-10-14 05:46 J -41120289.42 -41120289.26 -41120289.10 0.2564 0.0136

Moon -117295-10-14 07:27 J -41120289.35 -41120289.19 -41120289.03 0.2563 0.0145 *

Venus -117293-05-02 05:17 J -41119723.38 -41119723.28 -41119723.18 0.3687 0.1290

Jupiter -117291-01-10 07:41 J -41119105.25 -41119105.18 -41119105.10 0.0526 0.0426

Jupiter -117291-04-09 16:05 J -41119015.96 -41119015.83 -41119015.70 0.0527 0.0063

Earth -117291-04-12 19:27 J -41119012.76 -41119012.69 -41119012.61 0.2771 0.1993

Moon -117291-04-12 19:56 J -41119012.75 -41119012.67 -41119012.60 0.2778 0.1912 *

Uranus -117291-08-11 11:46 J -41118892.11 -41118892.01 -41118891.91 0.0148 0.0123

Saturn -117291-09-28 15:36 J -41118843.94 -41118843.85 -41118843.77 0.0290 0.0226

Uranus -117291-11-07 19:41 J -41118803.81 -41118803.68 -41118803.53 0.0148 0.0093

Saturn -117291-12-26 05:17 J -41118755.40 -41118755.28 -41118755.15 0.0291 0.0126

Uranus -117290-02-04 03:51 J -41118715.49 -41118715.34 -41118715.16 0.0148 0.0064

Saturn -117290-03-24 18:58 J -41118666.85 -41118666.71 -41118666.57 0.0292 0.0026

Uranus -117290-05-03 12:15 J -41118627.17 -41118626.99 -41118626.80 0.0148 0.0033

Saturn -117290-06-21 08:24 J -41118578.28 -41118578.15 -41118578.02 0.0293 0.0075

Uranus -117290-07-30 20:39 J -41118538.83 -41118538.64 -41118538.45 0.0149 0.0003

Saturn -117290-09-17 21:36 J -41118489.70 -41118489.60 -41118489.48 0.0294 0.0176

Uranus -117290-10-27 04:48 J -41118450.48 -41118450.30 -41118450.11 0.0149 0.0028

Saturn -117290-12-15 11:03 J -41118401.08 -41118401.04 -41118400.99 0.0295 0.0275

Uranus -117289-01-23 13:12 J -41118362.11 -41118361.95 -41118361.77 0.0149 0.0059

Uranus -117289-04-20 21:36 J -41118273.74 -41118273.60 -41118273.44 0.0149 0.0090

Uranus -117289-07-18 06:00 J -41118185.35 -41118185.25 -41118185.13 0.0149 0.0121

Mars -117288-01-07 03:08 J -41118012.52 -41118012.37 -41118012.22 0.1819 0.0691

Venus -117288-11-15 22:34 J -41117699.67 -41117699.56 -41117699.46 0.3693 0.0372

Mars -117288-11-17 11:32 J -41117698.14 -41117698.02 -41117697.90 0.1699 0.0278

Mars -117286-10-23 19:41 J -41116992.74 -41116992.68 -41116992.61 0.1686 0.1383

Jupiter -117286-11-28 14:39 J -41116956.97 -41116956.89 -41116956.81 0.0499 0.0439

Jupiter -117285-02-26 19:56 J -41116866.84 -41116866.67 -41116866.49 0.0499 0.0131

Moon -117285-04-21 16:05 J -41116811.92 -41116811.83 -41116811.73 0.2773 0.1318

Earth -117285-04-21 16:20 J -41116811.92 -41116811.82 -41116811.73 0.2780 0.1300 *

Venus -117282-06-01 15:36 J -41115675.94 -41115675.85 -41115675.76 0.3698 0.1961

Earth -117282-10-17 12:15 J -41115538.12 -41115537.99 -41115537.87 0.2562 0.1569

Moon -117282-10-17 12:58 J -41115538.08 -41115537.96 -41115537.84 0.2557 0.1673 *

Jupiter -117279-01-26 19:41 J -41114705.81 -41114705.68 -41114705.55 0.0527 0.0059

Jupiter -117279-04-26 03:22 J -41114616.43 -41114616.36 -41114616.28 0.0527 0.0421

Mars -117279-05-30 01:27 J -41114582.60 -41114582.44 -41114582.28 0.1814 0.0149

Mars -117278-04-09 21:08 J -41114267.73 -41114267.62 -41114267.51 0.1703 0.0700

Earth -117278-04-15 13:56 J -41114262.02 -41114261.92 -41114261.82 0.2774 0.1129

Moon -117278-04-15 14:39 J -41114261.99 -41114261.89 -41114261.79 0.2778 0.1142 *

Saturn -117277-01-31 21:36 J -41113970.62 -41113970.60 -41113970.56 0.0272 0.0269

Saturn -117277-04-29 16:20 J -41113881.95 -41113881.82 -41113881.68 0.0271 0.0168

Saturn -117277-07-27 11:17 J -41113793.20 -41113793.03 -41113792.86 0.0270 0.0067

Saturn -117277-10-24 06:15 J -41113704.41 -41113704.24 -41113704.06 0.0269 0.0034

Venus -117277-12-15 08:24 J -41113652.17 -41113652.15 -41113652.12 0.3704 0.3548

Saturn -117276-01-21 01:27 J -41113615.59 -41113615.44 -41113615.28 0.0269 0.0135

Mars -117276-03-15 06:00 J -41113562.35 -41113562.25 -41113562.16 0.1689 0.0994

Saturn -117276-04-19 20:39 J -41113526.71 -41113526.64 -41113526.55 0.0268 0.0237

Earth -117275-10-08 23:32 J -41112989.56 -41112989.52 -41112989.48 0.2568 0.2469

Moon -117275-10-09 00:29 J -41112989.54 -41112989.48 -41112989.42 0.2574 0.2372 *

Venus -117274-09-13 00:58 J -41112650.59 -41112650.46 -41112650.33 0.3693 0.1484

Jupiter -117274-12-15 18:00 J -41112556.93 -41112556.75 -41112556.57 0.0499 0.0014

Moon -117272-04-24 10:05 J -41112061.15 -41112061.08 -41112061.01 0.2778 0.2054

Earth -117272-04-24 10:48 J -41112061.12 -41112061.05 -41112060.99 0.2782 0.2166 *

Mars -117270-10-20 00:29 J -41111152.61 -41111152.48 -41111152.35 0.1810 0.0945

Mars -117269-08-30 06:44 J -41110837.31 -41110837.22 -41110837.13 0.1706 0.1132

Venus -117268-03-29 04:34 J -41110626.43 -41110626.31 -41110626.19 0.3686 0.1925

Jupiter -117268-11-14 23:03 J -41110395.66 -41110395.54 -41110395.42 0.0526 0.0184

Jupiter -117267-02-12 06:44 J -41110306.32 -41110306.22 -41110306.11 0.0527 0.0298

Mars -117267-08-05 16:05 J -41110131.95 -41110131.83 -41110131.72 0.1692 0.0599

Earth -117265-04-17 08:24 J -41109511.26 -41109511.15 -41109511.04 0.2776 0.0270

Moon -117265-04-17 09:08 J -41109511.23 -41109511.12 -41109511.01 0.2774 0.0166 *

Jupiter -117262-10-03 16:20 J -41108246.99 -41108246.82 -41108246.65 0.0499 0.0155

Earth -117262-10-12 05:46 J -41108238.40 -41108238.26 -41108238.11 0.2566 0.1043

Moon -117262-10-12 07:41 J -41108238.33 -41108238.18 -41108238.04 0.2567 0.1014 *

Jupiter -117261-01-01 22:34 J -41108156.65 -41108156.56 -41108156.47 0.0499 0.0424

Saturn -117261-02-15 17:46 J -41108111.83 -41108111.76 -41108111.69 0.0290 0.0250

Saturn -117261-05-14 07:27 J -41108023.30 -41108023.19 -41108023.07 0.0291 0.0151

Saturn -117261-08-10 21:08 J -41107934.75 -41107934.62 -41107934.48 0.0292 0.0050

Saturn -117261-11-07 10:48 J -41107846.19 -41107846.05 -41107845.92 0.0293 0.0051

Saturn -117260-02-04 00:00 J -41107757.61 -41107757.50 -41107757.38 0.0294 0.0152

Mars -117260-03-10 23:32 J -41107722.56 -41107722.52 -41107722.48 0.1805 0.1725

Saturn -117260-05-03 13:27 J -41107669.01 -41107668.94 -41107668.87 0.0295 0.0251

Mars -117259-01-20 16:05 J -41107406.88 -41107406.83 -41107406.79 0.1710 0.1576

Mars -117258-02-16 06:15 J -41107015.31 -41107015.24 -41107015.18 0.1823 0.1648

Moon -117258-04-11 05:46 J -41106961.29 -41106961.26 -41106961.24 0.2776 0.2688

Earth -117258-04-11 06:00 J -41106961.28 -41106961.25 -41106961.23 0.2769 0.2698 *

Neptune -117258-08-07 12:29 J -41106843.00 -41106842.98 -41106842.91 0.0089 0.0086

Neptune -117258-11-03 15:51 J -41106754.90 -41106754.84 -41106754.75 0.0089 0.0080

Mars -117258-12-27 01:56 J -41106701.54 -41106701.42 -41106701.30 0.1696 0.0193

Neptune -117257-01-30 18:44 J -41106666.80 -41106666.72 -41106666.61 0.0089 0.0075

Neptune -117257-04-27 22:20 J -41106578.69 -41106578.57 -41106578.46 0.0089 0.0069

Neptune -117257-07-25 00:58 J -41106490.57 -41106490.46 -41106490.32 0.0089 0.0064

Neptune -117257-10-21 04:05 J -41106402.45 -41106402.33 -41106402.18 0.0089 0.0059

Neptune -117256-01-17 07:12 J -41106314.33 -41106314.20 -41106314.04 0.0089 0.0053

Neptune -117256-04-15 10:34 J -41106226.21 -41106226.06 -41106225.90 0.0089 0.0047

Neptune -117256-07-12 13:27 J -41106138.09 -41106137.94 -41106137.77 0.0089 0.0042

Jupiter -117256-09-03 02:24 J -41106085.50 -41106085.40 -41106085.29 0.0526 0.0307

Neptune -117256-10-08 16:48 J -41106049.96 -41106049.80 -41106049.63 0.0089 0.0036

Jupiter -117256-12-01 10:34 J -41105996.19 -41105996.06 -41105995.94 0.0527 0.0178

Neptune -117255-01-04 19:56 J -41105961.84 -41105961.67 -41105961.49 0.0089 0.0031

Neptune -117255-04-02 23:03 J -41105873.71 -41105873.54 -41105873.36 0.0089 0.0025

Neptune -117255-06-30 02:24 J -41105785.58 -41105785.40 -41105785.22 0.0089 0.0019

Neptune -117255-09-26 05:32 J -41105697.45 -41105697.27 -41105697.09 0.0089 0.0014

Neptune -117255-12-23 08:53 J -41105609.32 -41105609.13 -41105608.95 0.0089 0.0008

Neptune -117254-03-21 12:00 J -41105521.18 -41105521.00 -41105520.82 0.0089 0.0002

Neptune -117254-06-17 15:08 J -41105433.05 -41105432.87 -41105432.68 0.0089 0.0004

Neptune -117254-09-13 18:29 J -41105344.91 -41105344.73 -41105344.55 0.0089 0.0009

Neptune -117254-12-10 21:36 J -41105256.78 -41105256.60 -41105256.41 0.0089 0.0015

Neptune -117253-03-08 00:44 J -41105168.64 -41105168.47 -41105168.28 0.0089 0.0021

Neptune -117253-06-04 04:05 J -41105080.50 -41105080.33 -41105080.15 0.0089 0.0027

Neptune -117253-08-31 07:27 J -41104992.36 -41104992.19 -41104992.01 0.0089 0.0032

Neptune -117253-11-27 10:48 J -41104904.22 -41104904.05 -41104903.88 0.0089 0.0038

Neptune -117252-02-23 13:56 J -41104816.07 -41104815.92 -41104815.75 0.0089 0.0044

Earth -117252-04-20 02:53 J -41104760.49 -41104760.38 -41104760.28 0.2778 0.0606

Moon -117252-04-20 03:08 J -41104760.48 -41104760.37 -41104760.27 0.2772 0.0610 *

Neptune -117252-05-22 17:03 J -41104727.93 -41104727.79 -41104727.62 0.0089 0.0050

Neptune -117252-08-18 20:24 J -41104639.78 -41104639.65 -41104639.49 0.0089 0.0056

Neptune -117252-11-14 23:46 J -41104551.63 -41104551.51 -41104551.36 0.0089 0.0062

Neptune -117251-02-11 03:22 J -41104463.48 -41104463.36 -41104463.23 0.0089 0.0067

Neptune -117251-05-10 06:44 J -41104375.32 -41104375.22 -41104375.11 0.0089 0.0073

Neptune -117251-08-06 10:05 J -41104287.16 -41104287.08 -41104286.99 0.0089 0.0079

Neptune -117251-11-02 13:12 J -41104198.98 -41104198.95 -41104198.88 0.0089 0.0085

Uranus -117251-12-20 23:03 J -41104150.57 -41104150.54 -41104150.50 0.0131 0.0126

Uranus -117250-03-19 02:10 J -41104062.48 -41104062.41 -41104062.33 0.0131 0.0111

Uranus -117250-06-15 05:17 J -41103974.37 -41103974.28 -41103974.18 0.0131 0.0095

Jupiter -117250-07-22 14:39 J -41103937.03 -41103936.89 -41103936.75 0.0499 0.0295

Uranus -117250-09-11 08:24 J -41103886.25 -41103886.15 -41103886.04 0.0131 0.0080

Jupiter -117250-10-20 20:24 J -41103846.80 -41103846.65 -41103846.50 0.0498 0.0278

Uranus -117250-12-08 11:32 J -41103798.13 -41103798.02 -41103797.89 0.0131 0.0065

Uranus -117249-03-05 14:53 J -41103710.01 -41103709.88 -41103709.76 0.0131 0.0049

Uranus -117249-06-01 17:46 J -41103621.89 -41103621.76 -41103621.62 0.0131 0.0034

Mars -117249-07-08 03:51 J -41103585.49 -41103585.34 -41103585.20 0.1819 0.0773

Uranus -117249-08-28 20:53 J -41103533.76 -41103533.63 -41103533.49 0.0131 0.0019

Earth -117249-10-14 12:15 J -41103487.15 -41103486.99 -41103486.83 0.2564 0.0395

Moon -117249-10-14 13:56 J -41103487.08 -41103486.92 -41103486.77 0.2562 0.0597 *

Uranus -117249-11-25 00:00 J -41103445.64 -41103445.50 -41103445.36 0.0131 0.0003

Uranus -117248-02-21 03:08 J -41103357.51 -41103357.37 -41103357.24 0.0131 0.0012

Mars -117248-05-18 11:32 J -41103271.14 -41103271.02 -41103270.90 0.1699 0.0230

Uranus -117248-05-20 06:00 J -41103269.38 -41103269.25 -41103269.11 0.0131 0.0027

Uranus -117248-08-16 09:08 J -41103181.25 -41103181.12 -41103180.99 0.0131 0.0042

Saturn -117248-09-16 17:03 J -41103149.90 -41103149.79 -41103149.66 0.0272 0.0194

Uranus -117248-11-12 12:00 J -41103093.12 -41103093.00 -41103092.87 0.0131 0.0057

Saturn -117248-12-14 12:00 J -41103061.16 -41103061.00 -41103060.83 0.0271 0.0093

Uranus -117247-02-08 15:08 J -41103004.98 -41103004.87 -41103004.76 0.0131 0.0072

Saturn -117247-03-13 06:58 J -41102972.38 -41102972.21 -41102972.03 0.0270 0.0011

Uranus -117247-05-07 18:00 J -41102916.84 -41102916.75 -41102916.64 0.0131 0.0087

Saturn -117247-06-10 02:10 J -41102883.57 -41102883.41 -41102883.25 0.0269 0.0110

Uranus -117247-08-03 20:53 J -41102828.70 -41102828.63 -41102828.53 0.0131 0.0102

Saturn -117247-09-06 21:22 J -41102794.71 -41102794.61 -41102794.49 0.0268 0.0212

Uranus -117247-10-31 00:00 J -41102740.55 -41102740.50 -41102740.43 0.0131 0.0116

Uranus -117246-01-27 03:08 J -41102652.37 -41102652.37 -41102652.37 0.0131 0.0130

Mars -117246-04-23 19:41 J -41102565.74 -41102565.68 -41102565.62 0.1686 0.1426

Earth -117245-04-13 00:29 J -41102210.57 -41102210.48 -41102210.40 0.2772 0.1836

Moon -117245-04-13 00:44 J -41102210.55 -41102210.47 -41102210.39 0.2779 0.1871 *

Jupiter -117244-06-22 05:32 J -41101775.34 -41101775.27 -41101775.20 0.0526 0.0435

Jupiter -117244-09-19 13:56 J -41101686.05 -41101685.92 -41101685.79 0.0527 0.0054

Venus -117242-05-24 09:51 J -41101074.17 -41101074.09 -41101074.00 0.3683 0.2335

Mars -117240-11-28 02:10 J -41100155.57 -41100155.41 -41100155.25 0.1814 0.0063

Moon -117239-04-22 20:53 J -41100009.72 -41100009.63 -41100009.53 0.2773 0.1421

Earth -117239-04-22 21:08 J -41100009.71 -41100009.62 -41100009.53 0.2780 0.1467 *

Mars -117239-10-08 21:08 J -41099840.73 -41099840.62 -41099840.50 0.1703 0.0652

Jupiter -117238-05-10 12:58 J -41099627.04 -41099626.96 -41099626.88 0.0499 0.0434

Jupiter -117238-08-08 18:15 J -41099536.91 -41099536.74 -41099536.57 0.0498 0.0133

Mars -117237-09-13 06:00 J -41099135.35 -41099135.25 -41099135.16 0.1689 0.1040

Venus -117237-12-07 03:08 J -41099050.48 -41099050.37 -41099050.26 0.3689 0.0687

Earth -117236-10-17 18:44 J -41098735.83 -41098735.72 -41098735.61 0.2562 0.1844

Moon -117236-10-17 19:27 J -41098735.80 -41098735.69 -41098735.57 0.2556 0.1804 *

Earth -117232-04-15 18:44 J -41097459.82 -41097459.72 -41097459.61 0.2774 0.0973

Moon -117232-04-15 19:27 J -41097459.79 -41097459.69 -41097459.58 0.2775 0.0846 *

Saturn -117232-07-04 20:24 J -41097379.69 -41097379.65 -41097379.61 0.0289 0.0273

Jupiter -117232-07-08 17:32 J -41097375.90 -41097375.77 -41097375.63 0.0527 0.0067

Saturn -117232-10-01 10:05 J -41097291.19 -41097291.08 -41097290.97 0.0290 0.0174

Jupiter -117232-10-06 01:12 J -41097286.52 -41097286.45 -41097286.37 0.0527 0.0416

Saturn -117232-12-28 23:46 J -41097202.64 -41097202.51 -41097202.37 0.0291 0.0074

Saturn -117231-03-27 13:27 J -41097114.08 -41097113.94 -41097113.81 0.0292 0.0027

Venus -117231-06-22 20:24 J -41097026.76 -41097026.65 -41097026.55 0.3694 0.0952

Saturn -117231-06-24 02:39 J -41097025.51 -41097025.39 -41097025.26 0.0294 0.0127

Saturn -117231-09-20 16:05 J -41096936.91 -41096936.83 -41096936.74 0.0295 0.0226

Mars -117230-04-20 00:44 J -41096725.61 -41096725.47 -41096725.33 0.1810 0.0879

Mars -117229-02-29 06:44 J -41096410.31 -41096410.22 -41096410.12 0.1706 0.1079

Earth -117229-10-09 06:15 J -41096187.32 -41096187.24 -41096187.16 0.2568 0.2205

Moon -117229-10-09 07:27 J -41096187.28 -41096187.19 -41096187.11 0.2572 0.2141 *

Mars -117227-02-03 16:05 J -41095704.94 -41095704.83 -41095704.72 0.1692 0.0646

Moon -117226-04-25 14:53 J -41095258.94 -41095258.88 -41095258.82 0.2780 0.2309

Earth -117226-04-25 15:36 J -41095258.91 -41095258.85 -41095258.79 0.2782 0.2327 *

Jupiter -117226-05-27 15:36 J -41095227.03 -41095226.85 -41095226.67 0.0499 0.0017

Venus -117225-01-06 13:27 J -41095003.02 -41095002.94 -41095002.87 0.3700 0.2546

Venus -117223-10-03 22:20 J -41094001.60 -41094001.57 -41094001.55 0.3699 0.3620

Mars -117221-09-09 00:15 J -41093295.55 -41093295.49 -41093295.43 0.1805 0.1644

Jupiter -117220-04-26 21:22 J -41093065.73 -41093065.61 -41093065.49 0.0526 0.0184

Mars -117220-07-21 16:05 J -41092979.88 -41092979.83 -41092979.78 0.1710 0.1522

Jupiter -117220-07-25 05:17 J -41092976.39 -41092976.28 -41092976.18 0.0527 0.0298

Earth -117219-04-18 13:12 J -41092709.06 -41092708.95 -41092708.84 0.2777 0.0119

Moon -117219-04-18 13:56 J -41092709.03 -41092708.92 -41092708.81 0.2774 0.0099 *

Mars -117219-08-17 06:29 J -41092588.27 -41092588.23 -41092588.18 0.1823 0.1722

Saturn -117218-02-03 17:46 J -41092417.86 -41092417.76 -41092417.66 0.0272 0.0220

Saturn -117218-05-03 12:29 J -41092329.14 -41092328.98 -41092328.82 0.0271 0.0120

Mars -117218-06-27 01:56 J -41092274.54 -41092274.42 -41092274.30 0.1695 0.0244

Saturn -117218-07-31 07:27 J -41092240.37 -41092240.19 -41092240.02 0.0270 0.0020

Saturn -117218-10-28 02:24 J -41092151.57 -41092151.40 -41092151.23 0.0269 0.0082

Saturn -117217-01-24 21:36 J -41092062.72 -41092062.60 -41092062.47 0.0268 0.0184

Venus -117217-04-19 01:27 J -41091977.58 -41091977.44 -41091977.30 0.3692 0.0328

Earth -117216-10-12 12:29 J -41091436.13 -41091435.98 -41091435.82 0.2566 0.0770

Moon -117216-10-12 14:24 J -41091436.06 -41091435.90 -41091435.75 0.2566 0.0582 *

Jupiter -117214-03-15 13:27 J -41090917.10 -41090916.94 -41090916.77 0.0499 0.0162

Jupiter -117214-06-13 19:41 J -41090826.77 -41090826.68 -41090826.58 0.0499 0.0417

Moon -117212-04-11 10:48 J -41090159.09 -41090159.05 -41090159.01 0.2777 0.2556

Earth -117212-04-11 10:48 J -41090159.09 -41090159.05 -41090159.01 0.2770 0.2535 *

Venus -117212-11-03 05:17 J -41089953.36 -41089953.28 -41089953.21 0.3684 0.3112

Pluto -117211-05-24 13:41 J -41089750.93 -41089750.93 -41089750.91 0.0060 0.0060

Pluto -117211-08-20 14:53 J -41089662.96 -41089662.88 -41089662.77 0.0060 0.0052

Pluto -117211-11-16 16:20 J -41089574.94 -41089574.82 -41089574.68 0.0060 0.0045

Pluto -117210-02-12 18:00 J -41089486.91 -41089486.75 -41089486.60 0.0060 0.0037

Pluto -117210-05-11 18:44 J -41089398.87 -41089398.72 -41089398.53 0.0060 0.0030

Pluto -117210-08-07 20:10 J -41089310.82 -41089310.66 -41089310.46 0.0060 0.0022

Pluto -117210-11-03 21:36 J -41089222.77 -41089222.60 -41089222.40 0.0060 0.0014

Mars -117209-01-07 04:34 J -41089158.45 -41089158.31 -41089158.17 0.1819 0.0862

Pluto -117209-01-30 23:17 J -41089134.72 -41089134.53 -41089134.34 0.0060 0.0005

Pluto -117209-04-28 00:44 J -41089046.67 -41089046.47 -41089046.28 0.0061 0.0003

Pluto -117209-07-25 01:56 J -41088958.61 -41088958.42 -41088958.23 0.0061 0.0011

Pluto -117209-10-21 03:08 J -41088870.54 -41088870.37 -41088870.18 0.0061 0.0019

Mars -117209-11-16 11:46 J -41088844.14 -41088844.01 -41088843.89 0.1699 0.0186

Pluto -117208-01-17 04:20 J -41088782.48 -41088782.32 -41088782.13 0.0061 0.0027

Jupiter -117208-02-13 00:29 J -41088755.58 -41088755.48 -41088755.37 0.0526 0.0311

Pluto -117208-04-15 05:32 J -41088694.40 -41088694.27 -41088694.09 0.0061 0.0035

Jupiter -117208-05-13 08:39 J -41088666.26 -41088666.14 -41088666.02 0.0527 0.0173

Pluto -117208-07-12 06:58 J -41088606.33 -41088606.21 -41088606.06 0.0061 0.0043

Pluto -117208-10-08 08:10 J -41088518.24 -41088518.16 -41088518.03 0.0061 0.0051

Pluto -117207-01-04 09:36 J -41088430.13 -41088430.10 -41088430.03 0.0061 0.0059

Uranus -117207-06-04 13:27 J -41088279.00 -41088278.94 -41088278.86 0.0148 0.0137

Uranus -117207-08-31 21:22 J -41088190.72 -41088190.61 -41088190.47 0.0148 0.0108

Mars -117207-10-22 19:56 J -41088138.73 -41088138.67 -41088138.62 0.1686 0.1474

Uranus -117207-11-28 05:46 J -41088102.41 -41088102.26 -41088102.10 0.0148 0.0078

Uranus -117206-02-24 13:56 J -41088014.09 -41088013.92 -41088013.74 0.0148 0.0048

Moon -117206-04-21 07:41 J -41087958.28 -41087958.18 -41087958.07 0.2771 0.0815

Earth -117206-04-21 07:41 J -41087958.28 -41087958.18 -41087958.08 0.2779 0.0762 *

Uranus -117206-05-23 22:20 J -41087925.76 -41087925.57 -41087925.39 0.0148 0.0017

Uranus -117206-08-20 06:29 J -41087837.41 -41087837.23 -41087837.04 0.0148 0.0014

Uranus -117206-11-16 14:53 J -41087749.06 -41087748.88 -41087748.70 0.0149 0.0044

Uranus -117205-02-12 23:17 J -41087660.69 -41087660.53 -41087660.37 0.0149 0.0075

Uranus -117205-05-11 07:41 J -41087572.30 -41087572.18 -41087572.04 0.0149 0.0106

Uranus -117205-08-07 16:05 J -41087483.89 -41087483.83 -41087483.75 0.0149 0.0137

Earth -117203-10-15 18:58 J -41086684.87 -41086684.71 -41086684.56 0.2564 0.0675

Moon -117203-10-15 20:10 J -41086684.81 -41086684.66 -41086684.50 0.2560 0.0664 *

Jupiter -117202-01-01 11:46 J -41086607.15 -41086607.01 -41086606.87 0.0499 0.0302

Saturn -117202-02-18 12:29 J -41086559.07 -41086558.98 -41086558.87 0.0291 0.0197

Jupiter -117202-04-01 17:32 J -41086516.91 -41086516.77 -41086516.62 0.0499 0.0273

Saturn -117202-05-18 02:24 J -41086470.53 -41086470.40 -41086470.27 0.0292 0.0096

Saturn -117202-08-14 16:05 J -41086381.97 -41086381.83 -41086381.70 0.0293 0.0010

Saturn -117202-11-11 05:32 J -41086293.40 -41086293.27 -41086293.14 0.0294 0.0104

Saturn -117201-02-07 18:58 J -41086204.81 -41086204.71 -41086204.62 0.0295 0.0204

Mars -117200-05-29 02:39 J -41085728.55 -41085728.39 -41085728.23 0.1814 0.0018

Mars -117199-04-08 21:22 J -41085413.73 -41085413.61 -41085413.50 0.1703 0.0599

Earth -117199-04-14 05:17 J -41085408.37 -41085408.28 -41085408.20 0.2772 0.1674

Moon -117199-04-14 05:46 J -41085408.35 -41085408.26 -41085408.18 0.2778 0.1596 *

Mars -117197-03-14 06:00 J -41084708.34 -41084708.25 -41084708.16 0.1689 0.1086

Jupiter -117197-12-02 03:51 J -41084445.41 -41084445.34 -41084445.27 0.0526 0.0437

Jupiter -117196-03-01 12:00 J -41084356.13 -41084356.00 -41084355.87 0.0527 0.0053

Jupiter -117196-05-29 19:27 J -41084266.69 -41084266.69 -41084266.68 0.0527 0.0527

Moon -117193-04-23 01:41 J -41083207.52 -41083207.43 -41083207.34 0.2775 0.1592

Earth -117193-04-23 02:10 J -41083207.50 -41083207.41 -41083207.33 0.2781 0.1630 *

Venus -117191-06-14 14:24 J -41082424.94 -41082424.90 -41082424.86 0.3679 0.3387

Mars -117191-10-19 01:27 J -41082298.58 -41082298.44 -41082298.29 0.1810 0.0793

Jupiter -117191-10-20 10:20 J -41082297.15 -41082297.07 -41082296.98 0.0499 0.0439

Jupiter -117190-01-18 15:36 J -41082207.02 -41082206.85 -41082206.67 0.0498 0.0130

Mars -117190-08-30 06:44 J -41081983.31 -41081983.22 -41081983.12 0.1706 0.1030

Earth -117190-10-19 01:27 J -41081933.53 -41081933.44 -41081933.35 0.2562 0.2116

Moon -117190-10-19 01:56 J -41081933.49 -41081933.42 -41081933.34 0.2556 0.2232 *

Saturn -117189-06-22 19:12 J -41081685.78 -41081685.70 -41081685.63 0.0272 0.0243

Saturn -117189-09-19 13:41 J -41081597.07 -41081596.93 -41081596.78 0.0271 0.0143

Saturn -117189-12-17 08:39 J -41081508.31 -41081508.14 -41081507.97 0.0270 0.0042

Saturn -117188-03-16 03:36 J -41081419.52 -41081419.35 -41081419.17 0.0269 0.0060

Saturn -117188-06-12 22:48 J -41081330.69 -41081330.55 -41081330.40 0.0268 0.0161

Mars -117188-08-04 16:05 J -41081277.94 -41081277.83 -41081277.72 0.1692 0.0692

Saturn -117188-09-09 18:15 J -41081241.77 -41081241.74 -41081241.70 0.0268 0.0262

Earth -117186-04-16 23:46 J -41080657.62 -41080657.51 -41080657.41 0.2775 0.0810

Moon -117186-04-17 00:29 J -41080657.58 -41080657.48 -41080657.38 0.2775 0.0811 *

Venus -117186-12-29 07:41 J -41080401.27 -41080401.18 -41080401.08 0.3684 0.1726

Jupiter -117185-12-18 15:22 J -41080045.99 -41080045.86 -41080045.73 0.0527 0.0077

Jupiter -117184-03-17 23:03 J -41079956.62 -41079956.54 -41079956.46 0.0528 0.0404

Earth -117183-10-10 12:44 J -41079385.07 -41079384.97 -41079384.86 0.2568 0.1931

Moon -117183-10-10 14:24 J -41079385.01 -41079384.90 -41079384.79 0.2570 0.1869 *

Mars -117181-03-10 00:29 J -41078868.55 -41078868.48 -41078868.40 0.1805 0.1577

Mars -117180-01-19 16:05 J -41078552.89 -41078552.83 -41078552.77 0.1710 0.1471

Moon -117180-04-25 19:41 J -41078456.73 -41078456.68 -41078456.62 0.2780 0.2391

Earth -117180-04-25 20:24 J -41078456.69 -41078456.65 -41078456.60 0.2782 0.2492 *

Venus -117180-07-14 00:58 J -41078377.57 -41078377.46 -41078377.35 0.3690 0.0108

Mars -117179-02-15 07:27 J -41078161.21 -41078161.19 -41078161.18 0.1823 0.1808

Jupiter -117179-11-06 13:41 J -41077897.11 -41077896.93 -41077896.75 0.0499 0.0015

Mars -117179-12-26 01:56 J -41077847.54 -41077847.42 -41077847.30 0.1696 0.0286

Neptune -117177-08-31 00:15 J -41077233.53 -41077233.49 -41077233.45 0.0088 0.0085

Neptune -117177-11-27 01:41 J -41077145.48 -41077145.43 -41077145.37 0.0088 0.0080

Neptune -117176-02-23 03:08 J -41077057.43 -41077057.37 -41077057.29 0.0088 0.0076

Neptune -117176-05-22 04:48 J -41076969.37 -41076969.30 -41076969.21 0.0088 0.0072

Neptune -117176-08-18 06:15 J -41076881.32 -41076881.24 -41076881.14 0.0088 0.0068

Neptune -117176-11-14 07:56 J -41076793.26 -41076793.17 -41076793.06 0.0088 0.0063

Neptune -117175-02-10 09:36 J -41076705.20 -41076705.10 -41076704.99 0.0088 0.0059

Neptune -117175-05-09 11:03 J -41076617.14 -41076617.04 -41076616.92 0.0088 0.0055

Neptune -117175-08-05 12:29 J -41076529.08 -41076528.98 -41076528.85 0.0088 0.0051

Neptune -117175-11-01 14:24 J -41076441.02 -41076440.90 -41076440.78 0.0088 0.0046

Venus -117174-01-27 18:15 J -41076353.84 -41076353.74 -41076353.65 0.3696 0.1546

Neptune -117174-01-28 15:51 J -41076352.96 -41076352.84 -41076352.71 0.0088 0.0041

Neptune -117174-04-26 17:17 J -41076264.90 -41076264.78 -41076264.65 0.0088 0.0037

Neptune -117174-07-23 18:58 J -41076176.84 -41076176.71 -41076176.58 0.0088 0.0033

Neptune -117174-10-19 20:24 J -41076088.78 -41076088.65 -41076088.51 0.0088 0.0029

Neptune -117173-01-15 21:51 J -41076000.71 -41076000.59 -41076000.45 0.0088 0.0025

Neptune -117173-04-12 23:32 J -41075912.65 -41075912.52 -41075912.38 0.0088 0.0020

Earth -117173-04-18 18:00 J -41075906.85 -41075906.75 -41075906.64 0.2777 0.0135

Moon -117173-04-18 18:44 J -41075906.83 -41075906.72 -41075906.61 0.2773 0.0179 *

Saturn -117173-07-07 15:36 J -41075826.94 -41075826.85 -41075826.76 0.0290 0.0217

Neptune -117173-07-10 01:12 J -41075824.59 -41075824.45 -41075824.32 0.0088 0.0016

Saturn -117173-10-04 05:17 J -41075738.41 -41075738.28 -41075738.15 0.0291 0.0118

Neptune -117173-10-06 02:39 J -41075736.53 -41075736.39 -41075736.25 0.0088 0.0011

Jupiter -117173-10-06 18:58 J -41075735.83 -41075735.71 -41075735.59 0.0527 0.0196

Saturn -117173-12-31 18:58 J -41075649.85 -41075649.71 -41075649.57 0.0292 0.0018

Neptune -117172-01-02 04:05 J -41075648.47 -41075648.33 -41075648.19 0.0088 0.0007

Jupiter -117172-01-04 02:53 J -41075646.49 -41075646.38 -41075646.27 0.0527 0.0288

Saturn -117172-03-30 08:24 J -41075561.28 -41075561.15 -41075561.02 0.0293 0.0082

Neptune -117172-03-31 05:32 J -41075560.40 -41075560.27 -41075560.13 0.0088 0.0004

Saturn -117172-06-26 21:51 J -41075472.70 -41075472.59 -41075472.49 0.0294 0.0182

Neptune -117172-06-27 07:12 J -41075472.34 -41075472.20 -41075472.06 0.0088 0.0002

Neptune -117172-09-23 08:39 J -41075384.28 -41075384.14 -41075384.00 0.0088 0.0006

Saturn -117172-09-23 11:03 J -41075384.07 -41075384.04 -41075384.00 0.0295 0.0281 *

Neptune -117172-12-20 10:05 J -41075296.21 -41075296.08 -41075295.94 0.0088 0.0010

Neptune -117171-03-18 11:32 J -41075208.15 -41075208.02 -41075207.88 0.0088 0.0014

Neptune -117171-06-14 12:58 J -41075120.09 -41075119.96 -41075119.82 0.0088 0.0019

Neptune -117171-09-10 14:39 J -41075032.03 -41075031.89 -41075031.76 0.0088 0.0022

Neptune -117171-12-07 16:05 J -41074943.96 -41074943.83 -41074943.70 0.0088 0.0027

Neptune -117170-03-05 17:32 J -41074855.90 -41074855.77 -41074855.64 0.0088 0.0031

Neptune -117170-06-01 18:44 J -41074767.84 -41074767.72 -41074767.58 0.0088 0.0035

Mars   -117170-07-08 04:48 J -41074731.43 -41074731.30 -41074731.16 0.1819 0.0930

Neptune -117170-08-28 20:10 J -41074679.77 -41074679.66 -41074679.53 0.0088 0.0040

Earth   -117170-10-13 18:58 J -41074633.86 -41074633.71 -41074633.55 0.2565 0.0505

Moon   -117170-10-13 20:53 J -41074633.79 -41074633.63 -41074633.47 0.2565 0.0446 *

Neptune -117170-11-24 21:36 J -41074591.71 -41074591.60 -41074591.47 0.0088 0.0044

Neptune -117169-02-20 23:03 J -41074503.64 -41074503.54 -41074503.41 0.0088 0.0048

Mars   -117169-05-17 11:46 J -41074417.13 -41074417.01 -41074416.89 0.1699 0.0124

Neptune -117169-05-19 00:44 J -41074415.58 -41074415.47 -41074415.36 0.0088 0.0051

Venus   -117169-08-12 11:17 J -41074330.09 -41074330.03 -41074329.98 0.3701 0.3135

Neptune -117169-08-15 02:10 J -41074327.51 -41074327.41 -41074327.30 0.0088 0.0055

Neptune -117169-11-11 03:36 J -41074239.45 -41074239.35 -41074239.25 0.0088 0.0059

Neptune -117168-02-07 05:03 J -41074151.38 -41074151.29 -41074151.20 0.0088 0.0064

Neptune -117168-05-06 06:29 J -41074063.32 -41074063.23 -41074063.14 0.0088 0.0068

Neptune -117168-08-02 07:56 J -41073975.25 -41073975.17 -41073975.09 0.0088 0.0072

Neptune -117168-10-29 09:22 J -41073887.18 -41073887.11 -41073887.04 0.0088 0.0076

Neptune -117167-01-25 10:34 J -41073799.11 -41073799.06 -41073799.00 0.0088 0.0080

Mars -117167-04-22 19:56 J -41073711.72 -41073711.67 -41073711.62 0.1686 0.1518

Neptune -117167-04-23 12:00 J -41073711.03 -41073711.00 -41073710.95 0.0088 0.0084

Neptune -117167-07-20 13:27 J -41073622.95 -41073622.94 -41073622.92 0.0088 0.0088

Jupiter -117167-08-25 10:48 J -41073587.21 -41073587.05 -41073586.88 0.0499 0.0167

Jupiter -117167-11-23 16:48 J -41073496.89 -41073496.80 -41073496.69 0.0498 0.0411

Uranus -117166-01-10 06:58 J -41073449.26 -41073449.21 -41073449.14 0.0131 0.0119

Uranus -117166-04-08 10:20 J -41073361.15 -41073361.07 -41073360.99 0.0131 0.0103

Earth -117166-04-12 15:36 J -41073356.90 -41073356.85 -41073356.79 0.2770 0.2376

Moon -117166-04-12 15:51 J -41073356.89 -41073356.84 -41073356.79 0.2778 0.2382 *

Venus -117166-05-10 22:48 J -41073328.66 -41073328.55 -41073328.45 0.3697 0.2505

Uranus -117166-07-05 13:27 J -41073273.04 -41073272.94 -41073272.84 0.0131 0.0088

Uranus -117166-10-01 16:34 J -41073184.92 -41073184.81 -41073184.69 0.0131 0.0072

Uranus -117166-12-28 19:41 J -41073096.80 -41073096.68 -41073096.55 0.0131 0.0057

Uranus -117165-03-25 22:48 J -41073008.68 -41073008.55 -41073008.42 0.0131 0.0041

Uranus -117165-06-22 01:56 J -41072920.55 -41072920.42 -41072920.28 0.0131 0.0026

Uranus -117165-09-18 05:03 J -41072832.43 -41072832.29 -41072832.15 0.0131 0.0011

Uranus -117165-12-15 08:10 J -41072744.30 -41072744.16 -41072744.03 0.0131 0.0005

Uranus -117164-03-13 11:03 J -41072656.17 -41072656.04 -41072655.90 0.0131 0.0020

Uranus -117164-06-09 14:10 J -41072568.04 -41072567.91 -41072567.78 0.0131 0.0034

Uranus -117164-09-05 17:03 J -41072479.91 -41072479.79 -41072479.66 0.0131 0.0050

Uranus -117164-12-02 20:10 J -41072391.77 -41072391.66 -41072391.54 0.0131 0.0064

Uranus -117163-02-28 23:17 J -41072303.64 -41072303.53 -41072303.42 0.0131 0.0079

Uranus -117163-05-28 02:10 J -41072215.50 -41072215.41 -41072215.31 0.0131 0.0094

Uranus -117163-08-24 05:03 J -41072127.35 -41072127.29 -41072127.21 0.0131 0.0109

Uranus -117163-11-20 07:56 J -41072039.20 -41072039.17 -41072039.12 0.0130 0.0124

Jupiter -117161-07-25 22:34 J -41071425.66 -41071425.56 -41071425.45 0.0526 0.0316

Jupiter -117161-10-23 06:44 J -41071336.34 -41071336.22 -41071336.09 0.0527 0.0172

Venus -117161-11-24 02:10 J -41071304.55 -41071304.41 -41071304.28 0.3690 0.0839

Mars -117161-11-27 03:22 J -41071301.52 -41071301.36 -41071301.20 0.1815 0.0103

Moon -117160-04-21 12:44 J -41071156.08 -41071155.97 -41071155.87 0.2771 0.0886

Earth -117160-04-21 12:29 J -41071156.08 -41071155.98 -41071155.88 0.2779 0.0930 *

Mars -117160-10-07 21:22 J -41070986.72 -41070986.61 -41070986.49 0.1703 0.0546

Saturn -117160-11-09 19:56 J -41070953.70 -41070953.67 -41070953.63 0.0272 0.0267

Saturn -117159-02-06 14:24 J -41070865.03 -41070864.90 -41070864.75 0.0271 0.0168

Saturn -117159-05-06 09:22 J -41070776.28 -41070776.11 -41070775.94 0.0270 0.0067

Saturn -117159-08-03 04:20 J -41070687.49 -41070687.32 -41070687.14 0.0270 0.0034

Saturn -117159-10-30 23:32 J -41070598.67 -41070598.52 -41070598.37 0.0269 0.0135

Saturn -117158-01-27 18:44 J -41070509.80 -41070509.72 -41070509.63 0.0268 0.0236

Mars -117158-09-13 06:00 J -41070281.33 -41070281.25 -41070281.16 0.1689 0.1136

Earth -117157-10-16 01:27 J -41069882.59 -41069882.44 -41069882.29 0.2563 0.0946

Moon -117157-10-16 02:39 J -41069882.54 -41069882.39 -41069882.24 0.2558 0.1104 *

Jupiter -117155-06-13 08:53 J -41069277.27 -41069277.13 -41069276.99 0.0499 0.0310

Jupiter -117155-09-11 14:39 J -41069187.04 -41069186.89 -41069186.74 0.0499 0.0264

Earth -117153-04-14 10:05 J -41068606.17 -41068606.08 -41068605.99 0.2773 0.1512

Moon -117153-04-14 10:48 J -41068606.14 -41068606.05 -41068605.96 0.2777 0.1488 *

Mars -117151-04-19 02:10 J -41067871.56 -41067871.41 -41067871.27 0.1810 0.0716

Mars -117150-02-28 06:44 J -41067556.31 -41067556.22 -41067556.12 0.1706 0.0982

Jupiter -117149-05-14 01:56 J -41067115.49 -41067115.42 -41067115.35 0.0526 0.0442

Jupiter -117149-08-11 10:05 J -41067026.21 -41067026.08 -41067025.95 0.0526 0.0046

Jupiter -117149-11-08 17:32 J -41066936.78 -41066936.77 -41066936.75 0.0527 0.0521

Mars -117148-02-02 16:05 J -41066850.94 -41066850.83 -41066850.72 0.1692 0.0738

Moon -117147-04-24 06:29 J -41066405.32 -41066405.23 -41066405.15 0.2776 0.1773

Earth -117147-04-24 06:58 J -41066405.29 -41066405.21 -41066405.13 0.2781 0.1791 *

Earth -117144-10-19 08:10 J -41065131.22 -41065131.16 -41065131.11 0.2561 0.2398

Moon -117144-10-19 08:24 J -41065131.22 -41065131.15 -41065131.09 0.2556 0.2312 *

Saturn -117144-11-24 18:15 J -41065094.82 -41065094.74 -41065094.67 0.0290 0.0239

Saturn -117143-02-21 07:56 J -41065006.29 -41065006.17 -41065006.05 0.0291 0.0140

Jupiter -117143-04-01 07:12 J -41064967.27 -41064967.20 -41064967.12 0.0500 0.0450

Saturn -117143-05-20 21:36 J -41064917.74 -41064917.60 -41064917.46 0.0292 0.0040

Jupiter -117143-06-30 12:29 J -41064877.15 -41064876.98 -41064876.80 0.0499 0.0120

Saturn -117143-08-17 11:03 J -41064829.17 -41064829.04 -41064828.90 0.0293 0.0061

Saturn -117143-11-14 00:29 J -41064740.59 -41064740.48 -41064740.36 0.0294 0.0161

Saturn -117142-02-10 13:41 J -41064651.98 -41064651.93 -41064651.86 0.0295 0.0261

Mars -117142-09-09 01:12 J -41064441.53 -41064441.45 -41064441.36 0.1805 0.1494

Mars -117141-07-20 16:05 J -41064125.89 -41064125.83 -41064125.76 0.1710 0.1420

Earth -117140-04-17 04:34 J -41063855.41 -41063855.31 -41063855.20 0.2775 0.0647

Moon -117140-04-17 05:17 J -41063855.38 -41063855.28 -41063855.17 0.2775 0.0523 *

Mars -117139-06-26 01:56 J -41063420.54 -41063420.42 -41063420.30 0.1696 0.0338

Jupiter -117137-05-30 13:27 J -41062716.07 -41062715.94 -41062715.81 0.0526 0.0080

Jupiter -117137-08-27 21:08 J -41062626.70 -41062626.62 -41062626.53 0.0527 0.0400

Earth -117137-10-10 19:27 J -41062582.81 -41062582.69 -41062582.57 0.2568 0.1666

Moon -117137-10-10 21:08 J -41062582.75 -41062582.62 -41062582.50 0.2570 0.1509 *

Venus -117134-01-19 12:29 J -41061752.06 -41061751.98 -41061751.91 0.3680 0.2767

Moon -117134-04-27 00:44 J -41061654.51 -41061654.47 -41061654.44 0.2781 0.2614

Earth -117134-04-27 01:27 J -41061654.47 -41061654.44 -41061654.41 0.2782 0.2655 *

Jupiter -117131-04-18 10:48 J -41060567.23 -41060567.05 -41060566.87 0.0499 0.0022

Mars -117130-01-06 05:46 J -41060304.39 -41060304.26 -41060304.13 0.1819 0.1020

Saturn -117130-06-26 16:05 J -41060132.95 -41060132.83 -41060132.70 0.0271 0.0189

Saturn -117130-09-23 10:48 J -41060044.21 -41060044.05 -41060043.88 0.0271 0.0089

Mars -117130-11-16 11:46 J -41059990.13 -41059990.01 -41059989.89 0.1699 0.0076

Saturn -117130-12-21 05:46 J -41059955.43 -41059955.26 -41059955.08 0.0270 0.0014

Saturn -117129-03-19 00:58 J -41059866.62 -41059866.46 -41059866.30 0.0269 0.0113

Saturn -117129-06-15 20:10 J -41059777.76 -41059777.66 -41059777.55 0.0268 0.0214

Venus -117129-08-04 05:46 J -41059728.37 -41059728.26 -41059728.16 0.3686 0.1114

Mars -117128-10-21 19:56 J -41059284.71 -41059284.67 -41059284.63 0.1686 0.1564

Earth -117127-04-19 23:03 J -41059104.65 -41059104.54 -41059104.43 0.2777 0.0223

Moon -117127-04-19 23:32 J -41059104.63 -41059104.52 -41059104.42 0.2771 0.0217 *

Jupiter -117125-03-18 16:34 J -41058405.93 -41058405.81 -41058405.69 0.0527 0.0208

Jupiter -117125-06-16 00:29 J -41058316.59 -41058316.48 -41058316.37 0.0527 0.0276

Earth -117124-10-14 01:41 J -41057831.59 -41057831.43 -41057831.27 0.2565 0.0227

Moon -117124-10-14 03:22 J -41057831.52 -41057831.36 -41057831.20 0.2563 0.0111 *

Venus -117123-02-17 22:48 J -41057704.65 -41057704.55 -41057704.44 0.3692 0.0545

Uranus -117123-06-24 22:20 J -41057577.66 -41057577.57 -41057577.46 0.0148 0.0125

Uranus -117123-09-21 06:44 J -41057489.36 -41057489.22 -41057489.08 0.0148 0.0095

Uranus -117123-12-18 14:53 J -41057401.05 -41057400.88 -41057400.72 0.0148 0.0065

Uranus -117122-03-16 23:03 J -41057312.72 -41057312.54 -41057312.36 0.0148 0.0035

Uranus -117122-06-13 07:27 J -41057224.38 -41057224.19 -41057224.01 0.0148 0.0005

Uranus -117122-09-09 15:36 J -41057136.03 -41057135.85 -41057135.66 0.0148 0.0026

Uranus -117122-12-07 00:00 J -41057047.67 -41057047.50 -41057047.33 0.0148 0.0057

Uranus -117121-03-04 08:24 J -41056959.30 -41056959.15 -41056959.00 0.0149 0.0088

Mars -117121-05-28 03:51 J -41056874.50 -41056874.34 -41056874.18 0.1814 0.0171

Uranus -117121-05-31 16:48 J -41056870.90 -41056870.80 -41056870.68 0.0149 0.0119

Mars -117120-04-07 21:22 J -41056559.73 -41056559.61 -41056559.49 0.1703 0.0499

Earth -117120-04-12 20:39 J -41056554.71 -41056554.64 -41056554.58 0.2770 0.2214

Moon -117120-04-12 20:39 J -41056554.70 -41056554.64 -41056554.57 0.2778 0.2192 *

Jupiter -117119-02-04 08:53 J -41056257.29 -41056257.13 -41056256.96 0.0499 0.0164

Jupiter -117119-05-05 14:53 J -41056166.98 -41056166.88 -41056166.78 0.0498 0.0412

Mars -117118-03-14 06:00 J -41055854.34 -41055854.25 -41055854.17 0.1689 0.1177

Venus -117118-09-03 16:05 J -41055680.92 -41055680.83 -41055680.74 0.3697 0.2137

Pluto -117118-12-13 17:17 J -41055579.79 -41055579.78 -41055579.73 0.0084 0.0083

Pluto -117117-03-10 18:58 J -41055491.79 -41055491.71 -41055491.63 0.0084 0.0067

Pluto -117117-06-06 20:24 J -41055403.76 -41055403.65 -41055403.55 0.0084 0.0052

Pluto -117117-09-02 21:36 J -41055315.72 -41055315.60 -41055315.48 0.0084 0.0036

Pluto -117117-11-29 23:03 J -41055227.67 -41055227.54 -41055227.41 0.0084 0.0021

Pluto -117116-02-26 00:15 J -41055139.62 -41055139.49 -41055139.36 0.0084 0.0006

Pluto -117116-05-25 01:27 J -41055051.57 -41055051.44 -41055051.30 0.0084 0.0009

Pluto -117116-08-21 02:53 J -41054963.51 -41054963.38 -41054963.25 0.0084 0.0024

Pluto -117116-11-17 04:05 J -41054875.45 -41054875.33 -41054875.21 0.0083 0.0038

Pluto -117115-02-13 05:17 J -41054787.38 -41054787.28 -41054787.17 0.0083 0.0053

Pluto -117115-05-12 06:29 J -41054699.30 -41054699.23 -41054699.15 0.0083 0.0068

Pluto -117115-08-08 07:56 J -41054611.18 -41054611.17 -41054611.16 0.0083 0.0082

Saturn -117114-04-13 20:53 J -41054362.68 -41054362.63 -41054362.56 0.0289 0.0260

Moon -117114-04-22 17:17 J -41054353.88 -41054353.78 -41054353.68 0.2772 0.1139

Earth -117114-04-22 17:32 J -41054353.87 -41054353.77 -41054353.67 0.2779 0.1093 *

Saturn -117114-07-11 10:48 J -41054274.16 -41054274.05 -41054273.93 0.0291 0.0161

Saturn -117114-10-08 00:29 J -41054185.61 -41054185.48 -41054185.34 0.0292 0.0061

Saturn -117113-01-04 14:10 J -41054097.05 -41054096.91 -41054096.78 0.0293 0.0040

Jupiter -117113-01-05 20:10 J -41054095.76 -41054095.66 -41054095.56 0.0526 0.0328

Saturn -117113-04-02 03:22 J -41054008.47 -41054008.36 -41054008.23 0.0294 0.0139

Jupiter -117113-04-04 04:20 J -41054006.44 -41054006.32 -41054006.19 0.0527 0.0159

Saturn -117113-06-29 16:48 J -41053919.88 -41053919.80 -41053919.72 0.0295 0.0238

Mars -117112-10-18 02:39 J -41053444.54 -41053444.39 -41053444.25 0.1810 0.0644

Mars -117111-08-29 06:58 J -41053129.31 -41053129.21 -41053129.11 0.1706 0.0924

Earth -117111-10-17 08:10 J -41053080.30 -41053080.16 -41053080.02 0.2563 0.1224

Moon -117111-10-17 09:22 J -41053080.26 -41053080.11 -41053079.97 0.2558 0.1214 *

Venus -117110-12-15 23:17 J -41052655.66 -41052655.53 -41052655.40 0.3695 0.1366

Mars -117109-08-03 16:05 J -41052423.94 -41052423.83 -41052423.72 0.1692 0.0787

Jupiter -117108-11-23 06:00 J -41051947.38 -41051947.25 -41051947.11 0.0499 0.0317

Jupiter -117107-02-21 11:46 J -41051857.16 -41051857.01 -41051856.86 0.0499 0.0256

Earth -117107-04-15 15:08 J -41051803.97 -41051803.87 -41051803.78 0.2773 0.1350

Moon -117107-04-15 15:51 J -41051803.94 -41051803.84 -41051803.75 0.2776 0.1294 *

Venus -117104-07-01 02:39 J -41050631.51 -41050631.39 -41050631.27 0.3687 0.1988

Mars -117102-03-10 01:56 J -41050014.52 -41050014.42 -41050014.33 0.1805 0.1415

Jupiter -117102-10-25 00:00 J -41049785.57 -41049785.50 -41049785.44 0.0526 0.0447

Mars -117101-01-19 16:20 J -41049698.89 -41049698.82 -41049698.75 0.1710 0.1368

Jupiter -117101-01-22 08:10 J -41049696.29 -41049696.16 -41049696.02 0.0527 0.0045

Jupiter -117101-04-20 15:51 J -41049606.86 -41049606.84 -41049606.82 0.0527 0.0518

Moon -117101-04-24 11:17 J -41049603.11 -41049603.03 -41049602.95 0.2777 0.1856

Earth -117101-04-24 11:46 J -41049603.08 -41049603.01 -41049602.93 0.2781 0.1957 *

Saturn -117101-11-12 17:32 J -41049400.88 -41049400.77 -41049400.66 0.0272 0.0210

Saturn -117100-02-09 12:00 J -41049312.15 -41049312.00 -41049311.83 0.0271 0.0111

Saturn -117100-05-09 06:58 J -41049223.38 -41049223.21 -41049223.03 0.0270 0.0011

Saturn -117100-08-06 01:56 J -41049134.58 -41049134.42 -41049134.25 0.0269 0.0091

Saturn -117100-11-02 21:08 J -41049045.74 -41049045.62 -41049045.49 0.0268 0.0191

Mars -117100-12-25 02:10 J -41048993.53 -41048993.41 -41048993.30 0.1695 0.0390

Jupiter -117096-09-11 04:20 J -41047637.39 -41047637.32 -41047637.25 0.0499 0.0458

Jupiter -117096-12-10 09:22 J -41047547.28 -41047547.11 -41047546.93 0.0499 0.0110

Earth -117094-04-18 09:22 J -41047053.21 -41047053.11 -41047053.00 0.2775 0.0495

Moon -117094-04-18 10:05 J -41047053.18 -41047053.08 -41047052.97 0.2774 0.0477 *

Neptune -117093-05-03 09:51 J -41046672.12 -41046672.09 -41046672.02 0.0089 0.0085

Neptune -117093-07-30 13:27 J -41046584.02 -41046583.94 -41046583.86 0.0089 0.0079

Neptune -117093-10-26 16:05 J -41046495.91 -41046495.83 -41046495.72 0.0089 0.0074

Neptune -117092-01-22 18:58 J -41046407.80 -41046407.71 -41046407.57 0.0089 0.0069

Neptune -117092-04-20 22:20 J -41046319.69 -41046319.57 -41046319.43 0.0089 0.0063

Neptune -117092-07-18 01:12 J -41046231.57 -41046231.45 -41046231.29 0.0089 0.0058

Neptune -117092-10-14 04:34 J -41046143.45 -41046143.31 -41046143.15 0.0089 0.0052

Neptune -117091-01-10 07:27 J -41046055.32 -41046055.19 -41046055.02 0.0089 0.0047

Neptune -117091-04-08 10:48 J -41045967.20 -41045967.05 -41045966.88 0.0089 0.0041

Neptune -117091-07-05 14:10 J -41045879.08 -41045878.91 -41045878.74 0.0089 0.0035

Mars -117091-07-07 06:29 J -41045877.36 -41045877.23 -41045877.11 0.1819 0.1101

Neptune -117091-10-01 17:03 J -41045790.95 -41045790.79 -41045790.61 0.0089 0.0030

Earth -117091-10-12 02:10 J -41045780.55 -41045780.41 -41045780.28 0.2567 0.1390

Moon -117091-10-12 03:36 J -41045780.48 -41045780.35 -41045780.21 0.2569 0.1353 *

Neptune -117091-12-28 20:24 J -41045702.82 -41045702.65 -41045702.47 0.0089 0.0024

Neptune -117090-03-26 23:32 J -41045614.69 -41045614.52 -41045614.34 0.0089 0.0019

Mars -117090-05-17 11:46 J -41045563.13 -41045563.01 -41045562.89 0.1699 0.0030

Neptune -117090-06-23 02:39 J -41045526.56 -41045526.39 -41045526.20 0.0089 0.0013

Neptune -117090-09-19 06:00 J -41045438.43 -41045438.25 -41045438.07 0.0089 0.0007

Jupiter -117090-11-10 11:32 J -41045386.15 -41045386.02 -41045385.89 0.0526 0.0085

Neptune -117090-12-16 09:08 J -41045350.30 -41045350.12 -41045349.93 0.0089 0.0002

Jupiter -117089-02-07 19:12 J -41045296.78 -41045296.70 -41045296.61 0.0527 0.0395

Neptune -117089-03-13 12:29 J -41045262.17 -41045261.98 -41045261.80 0.0089 0.0004

Neptune -117089-06-09 15:36 J -41045174.03 -41045173.85 -41045173.66 0.0089 0.0010

Neptune -117089-09-05 18:44 J -41045085.89 -41045085.72 -41045085.53 0.0089 0.0016

Neptune -117089-12-02 21:51 J -41044997.76 -41044997.59 -41044997.40 0.0089 0.0022

Neptune -117088-03-01 01:27 J -41044909.62 -41044909.44 -41044909.27 0.0089 0.0027

Mars -117088-04-21 19:56 J -41044857.70 -41044857.67 -41044857.64 0.1686 0.1608

Moon -117088-04-27 05:32 J -41044852.27 -41044852.27 -41044852.26 0.2784 0.2772

Neptune -117088-05-28 04:34 J -41044821.48 -41044821.31 -41044821.13 0.0089 0.0033

Neptune -117088-08-24 07:41 J -41044733.34 -41044733.18 -41044733.00 0.0089 0.0039

Neptune -117088-11-20 10:48 J -41044645.19 -41044645.05 -41044644.87 0.0089 0.0045

Neptune -117087-02-16 14:10 J -41044557.05 -41044556.91 -41044556.74 0.0089 0.0051

Neptune -117087-05-15 17:46 J -41044468.90 -41044468.76 -41044468.61 0.0089 0.0056

Neptune -117087-08-11 20:53 J -41044380.75 -41044380.63 -41044380.48 0.0089 0.0062

Neptune -117087-11-08 00:15 J -41044292.60 -41044292.49 -41044292.36 0.0089 0.0068

Neptune -117086-02-04 03:36 J -41044204.44 -41044204.35 -41044204.24 0.0089 0.0074

Neptune -117086-05-03 06:44 J -41044116.28 -41044116.22 -41044116.12 0.0089 0.0080

Neptune -117086-07-30 10:05 J -41044028.11 -41044028.08 -41044028.01 0.0089 0.0086

Saturn -117085-08-30 23:32 J -41043630.55 -41043630.52 -41043630.50 0.0290 0.0283

Saturn -117085-11-27 13:12 J -41043542.05 -41043541.95 -41043541.84 0.0291 0.0184

Saturn -117084-02-24 02:53 J -41043453.51 -41043453.38 -41043453.24 0.0292 0.0084

Saturn -117084-05-23 16:34 J -41043364.94 -41043364.81 -41043364.67 0.0293 0.0018

Saturn -117084-08-20 06:00 J -41043276.37 -41043276.25 -41043276.12 0.0294 0.0117

Jupiter -117084-09-28 07:27 J -41043237.36 -41043237.19 -41043237.01 0.0499 0.0036

Saturn -117084-11-16 19:27 J -41043187.78 -41043187.69 -41043187.59 0.0295 0.0217

Uranus -117083-11-03 11:46 J -41042836.03 -41042836.01 -41042835.97 0.0131 0.0127

Uranus -117082-01-30 15:08 J -41042747.94 -41042747.87 -41042747.80 0.0131 0.0111

Uranus -117082-04-28 18:15 J -41042659.83 -41042659.74 -41042659.64 0.0131 0.0096

Uranus -117082-07-25 21:36 J -41042571.71 -41042571.60 -41042571.50 0.0131 0.0080

Uranus -117082-10-22 00:29 J -41042483.59 -41042483.48 -41042483.35 0.0131 0.0065

Mars -117082-11-27 04:34 J -41042447.47 -41042447.31 -41042447.15 0.1814 0.0256

Uranus -117081-01-18 03:36 J -41042395.47 -41042395.35 -41042395.22 0.0131 0.0050

Uranus -117081-04-15 06:44 J -41042307.35 -41042307.22 -41042307.08 0.0131 0.0035

Earth -117081-04-20 03:51 J -41042302.44 -41042302.34 -41042302.23 0.2778 0.0390

Moon -117081-04-20 04:20 J -41042302.43 -41042302.32 -41042302.22 0.2771 0.0483 *

Uranus -117081-07-12 09:51 J -41042219.22 -41042219.09 -41042218.95 0.0131 0.0019

Mars -117081-10-06 21:22 J -41042132.72 -41042132.61 -41042132.49 0.1703 0.0452

Uranus -117081-10-08 12:58 J -41042131.09 -41042130.96 -41042130.82 0.0131 0.0005

Uranus -117080-01-04 16:05 J -41042042.96 -41042042.83 -41042042.69 0.0131 0.0012

Uranus -117080-04-02 19:12 J -41041954.84 -41041954.70 -41041954.57 0.0131 0.0027

Uranus -117080-06-29 22:05 J -41041866.70 -41041866.58 -41041866.45 0.0131 0.0042

Uranus -117080-09-26 01:12 J -41041778.57 -41041778.45 -41041778.33 0.0130 0.0056

Uranus -117080-12-23 04:05 J -41041690.44 -41041690.33 -41041690.21 0.0130 0.0072

Uranus -117079-03-21 06:58 J -41041602.30 -41041602.21 -41041602.10 0.0130 0.0087

Uranus -117079-06-17 10:20 J -41041514.16 -41041514.07 -41041513.99 0.0130 0.0101

Mars -117079-09-12 06:00 J -41041427.33 -41041427.25 -41041427.17 0.1689 0.1225

Uranus -117079-09-13 12:58 J -41041426.01 -41041425.96 -41041425.89 0.0130 0.0116

Uranus -117079-12-10 16:05 J -41041337.83 -41041337.83 -41041337.82 0.0130 0.0130

Venus -117078-08-26 10:20 J -41041079.16 -41041079.07 -41041078.98 0.3682 0.2141

Jupiter -117078-08-29 14:53 J -41041076.00 -41041075.88 -41041075.76 0.0526 0.0210

Earth -117078-10-15 08:24 J -41041029.31 -41041029.15 -41041028.99 0.2565 0.0061

Moon -117078-10-15 09:51 J -41041029.25 -41041029.09 -41041028.93 0.2561 0.0171 *

Jupiter -117078-11-26 22:48 J -41040986.66 -41040986.55 -41040986.44 0.0527 0.0273

Earth -117074-04-14 01:27 J -41039752.51 -41039752.44 -41039752.37 0.2771 0.2054

Moon -117074-04-14 01:56 J -41039752.49 -41039752.42 -41039752.35 0.2777 0.2077 *

Venus -117072-03-11 03:36 J -41039055.46 -41039055.35 -41039055.24 0.3688 0.0497

Mars -117072-04-18 03:08 J -41039017.52 -41039017.37 -41039017.22 0.1810 0.0562

Jupiter -117072-07-17 06:00 J -41038927.41 -41038927.25 -41038927.08 0.0499 0.0172

Jupiter -117072-10-15 12:00 J -41038837.10 -41038837.00 -41038836.89 0.0498 0.0405

Mars -117071-02-27 06:58 J -41038702.32 -41038702.21 -41038702.11 0.1707 0.0879

Saturn -117071-04-01 18:58 J -41038668.79 -41038668.71 -41038668.62 0.0272 0.0232

Saturn -117071-06-29 13:41 J -41038580.08 -41038579.93 -41038579.78 0.0271 0.0132

Saturn -117071-09-26 08:24 J -41038491.32 -41038491.15 -41038490.97 0.0270 0.0033

Saturn -117071-12-24 03:22 J -41038402.53 -41038402.36 -41038402.18 0.0269 0.0069

Saturn -117070-03-22 22:34 J -41038313.69 -41038313.56 -41038313.42 0.0268 0.0169

Mars -117069-02-02 16:05 J -41037996.93 -41037996.83 -41037996.72 0.1692 0.0833

Moon -117068-04-22 22:05 J -41037551.68 -41037551.58 -41037551.48 0.2773 0.1164

Earth -117068-04-22 22:20 J -41037551.67 -41037551.57 -41037551.47 0.2779 0.1253 *

Venus -117067-09-24 20:53 J -41037031.74 -41037031.63 -41037031.53 0.3693 0.1135

Jupiter -117066-06-17 17:46 J -41036765.86 -41036765.76 -41036765.66 0.0526 0.0340

Jupiter -117066-09-15 01:56 J -41036676.54 -41036676.42 -41036676.29 0.0527 0.0147

Earth -117065-10-17 14:53 J -41036278.01 -41036277.88 -41036277.75 0.2563 0.1498

Moon -117065-10-17 15:36 J -41036277.98 -41036277.85 -41036277.72 0.2558 0.1594 *

Mars -117063-09-08 02:24 J -41035587.50 -41035587.40 -41035587.30 0.1805 0.1342

Mars -117062-07-20 16:20 J -41035271.89 -41035271.82 -41035271.74 0.1710 0.1313

Venus -117061-04-09 13:56 J -41035007.99 -41035007.92 -41035007.85 0.3699 0.2726

Earth -117061-04-15 19:56 J -41035001.77 -41035001.67 -41035001.57 0.2773 0.1187

Moon -117061-04-15 20:39 J -41035001.74 -41035001.64 -41035001.54 0.2776 0.1118 *

Jupiter -117060-05-05 04:20 J -41034617.46 -41034617.32 -41034617.18 0.0499 0.0313

Mars -117060-06-25 01:56 J -41034566.53 -41034566.42 -41034566.30 0.1696 0.0437

Jupiter -117060-08-03 09:51 J -41034527.24 -41034527.09 -41034526.94 0.0498 0.0259

Venus -117058-01-05 20:39 J -41034006.68 -41034006.64 -41034006.60 0.3700 0.3498

Earth -117058-10-10 02:24 J -41033729.42 -41033729.40 -41033729.39 0.2569 0.2550

Moon -117058-10-10 03:36 J -41033729.35 -41033729.35 -41033729.34 0.2573 0.2573

Saturn -117055-04-16 16:05 J -41032809.93 -41032809.83 -41032809.73 0.0290 0.0205

Moon -117055-04-25 16:05 J -41032800.90 -41032800.83 -41032800.76 0.2777 0.2114

Earth -117055-04-25 16:48 J -41032800.87 -41032800.80 -41032800.74 0.2781 0.2120 *

Saturn -117055-07-14 05:46 J -41032721.39 -41032721.26 -41032721.13 0.0291 0.0106

Saturn -117055-10-10 19:27 J -41032632.83 -41032632.69 -41032632.55 0.0292 0.0007

Saturn -117054-01-07 08:53 J -41032544.25 -41032544.13 -41032544.00 0.0293 0.0095

Jupiter -117054-04-05 21:22 J -41032455.67 -41032455.61 -41032455.55 0.0526 0.0460

Saturn -117054-04-05 22:20 J -41032455.67 -41032455.57 -41032455.46 0.0294 0.0194 *

Saturn -117054-07-03 11:46 J -41032367.02 -41032367.01 -41032367.00 0.0295 0.0293

Jupiter -117054-07-04 05:46 J -41032366.39 -41032366.26 -41032366.13 0.0527 0.0031

Jupiter -117054-10-01 13:27 J -41032276.97 -41032276.94 -41032276.91 0.0527 0.0506

Venus -117053-07-21 23:46 J -41031982.65 -41031982.51 -41031982.37 0.3693 0.0253

Mars -117051-01-05 06:58 J -41031450.33 -41031450.21 -41031450.09 0.1819 0.1174

Mars -117051-11-15 12:00 J -41031136.13 -41031136.00 -41031135.88 0.1699 0.0061

Mars -117049-10-20 19:56 J -41030430.69 -41030430.67 -41030430.65 0.1686 0.1653

Jupiter -117048-02-21 01:41 J -41030307.50 -41030307.43 -41030307.37 0.0499 0.0465

Earth -117048-04-18 14:24 J -41030251.01 -41030250.90 -41030250.79 0.2776 0.0318

Moon -117048-04-18 14:53 J -41030250.98 -41030250.88 -41030250.77 0.2772 0.0270 *

Jupiter -117048-05-22 06:44 J -41030217.40 -41030217.22 -41030217.05 0.0499 0.0103

Venus -117047-02-05 03:08 J -41029958.44 -41029958.37 -41029958.30 0.3685 0.3160

Earth -117045-10-12 08:39 J -41028978.28 -41028978.14 -41028977.99 0.2567 0.1117

Moon -117045-10-12 10:20 J -41028978.22 -41028978.07 -41028977.92 0.2567 0.0924 *

Jupiter -117042-04-22 09:51 J -41028056.22 -41028056.09 -41028055.96 0.0527 0.0089

Mars -117042-05-28 05:03 J -41028020.44 -41028020.29 -41028020.13 0.1815 0.0335

Jupiter -117042-07-20 17:32 J -41027966.86 -41027966.77 -41027966.69 0.0527 0.0393

Saturn -117042-08-19 20:10 J -41027936.71 -41027936.66 -41027936.58 0.0272 0.0254

Saturn -117042-11-16 15:08 J -41027848.02 -41027847.87 -41027847.73 0.0271 0.0154

Saturn -117041-02-13 09:51 J -41027759.26 -41027759.09 -41027758.92 0.0270 0.0054

Mars -117041-04-06 21:36 J -41027705.72 -41027705.60 -41027705.49 0.1703 0.0402

Earth -117041-04-11 12:00 J -41027701.01 -41027701.00 -41027701.00 0.2768 0.2758

Saturn -117041-05-12 04:34 J -41027670.48 -41027670.31 -41027670.13 0.0269 0.0047

Saturn -117041-08-08 23:46 J -41027581.66 -41027581.51 -41027581.36 0.0268 0.0147

Saturn -117041-11-05 18:58 J -41027492.77 -41027492.71 -41027492.64 0.0268 0.0247

Mars -117039-03-13 06:00 J -41027000.32 -41027000.25 -41027000.17 0.1689 0.1273

Uranus -117039-04-17 23:03 J -41026964.58 -41026964.54 -41026964.48 0.0148 0.0142

Uranus -117039-07-15 07:27 J -41026876.31 -41026876.19 -41026876.08 0.0148 0.0113

Uranus -117039-10-11 15:22 J -41026788.01 -41026787.86 -41026787.70 0.0148 0.0083

Uranus -117038-01-07 23:32 J -41026699.69 -41026699.52 -41026699.34 0.0148 0.0053

Uranus -117038-04-06 07:56 J -41026611.35 -41026611.17 -41026610.99 0.0148 0.0023

Uranus -117038-07-03 16:05 J -41026523.01 -41026522.83 -41026522.64 0.0148 0.0008

Uranus -117038-09-30 00:29 J -41026434.66 -41026434.48 -41026434.30 0.0148 0.0038

Uranus -117038-12-27 08:53 J -41026346.29 -41026346.13 -41026345.96 0.0148 0.0069

Uranus -117037-03-24 17:17 J -41026257.91 -41026257.78 -41026257.64 0.0149 0.0100

Uranus -117037-06-21 01:41 J -41026169.51 -41026169.43 -41026169.33 0.0149 0.0131

Jupiter -117036-03-10 04:34 J -41025907.49 -41025907.31 -41025907.13 0.0499 0.0043

Earth -117035-04-21 08:53 J -41025500.24 -41025500.13 -41025500.03 0.2778 0.0557

Moon -117035-04-21 09:08 J -41025500.23 -41025500.12 -41025500.01 0.2771 0.0521 *

Mars -117033-10-17 04:05 J -41024590.49 -41024590.33 -41024590.18 0.1810 0.0477

Mars -117032-08-28 06:58 J -41024275.31 -41024275.21 -41024275.10 0.1706 0.0827

Earth -117032-10-15 15:08 J -41024227.03 -41024226.87 -41024226.71 0.2565 0.0332

Moon -117032-10-15 16:34 J -41024226.97 -41024226.81 -41024226.65 0.2561 0.0386 *

Jupiter -117030-02-08 12:58 J -41023746.08 -41023745.96 -41023745.83 0.0526 0.0213

Jupiter -117030-05-08 20:53 J -41023656.74 -41023656.63 -41023656.51 0.0527 0.0271

Mars -117030-08-03 16:05 J -41023569.93 -41023569.83 -41023569.72 0.1692 0.0882

Earth -117028-04-14 06:15 J -41022950.31 -41022950.24 -41022950.16 0.2771 0.1898

Moon -117028-04-14 06:58 J -41022950.30 -41022950.21 -41022950.13 0.2776 0.1797 *

Venus -117027-09-16 14:53 J -41022429.93 -41022429.88 -41022429.83 0.3678 0.3188

Saturn -117026-09-03 18:00 J -41022077.83 -41022077.75 -41022077.66 0.0290 0.0231

Saturn -117026-12-01 07:56 J -41021989.29 -41021989.17 -41021989.05 0.0292 0.0131

Saturn -117025-02-27 21:36 J -41021900.74 -41021900.60 -41021900.46 0.0293 0.0031

Saturn -117025-05-26 11:17 J -41021812.17 -41021812.03 -41021811.90 0.0294 0.0070

Saturn -117025-08-23 00:29 J -41021723.58 -41021723.48 -41021723.36 0.0295 0.0170

Saturn -117025-11-19 13:56 J -41021634.97 -41021634.92 -41021634.86 0.0296 0.0269

Jupiter -117025-12-27 02:39 J -41021597.55 -41021597.39 -41021597.22 0.0499 0.0185

Jupiter -117024-03-27 08:53 J -41021507.24 -41021507.13 -41021507.02 0.0499 0.0393

Mars -117023-03-09 02:53 J -41021160.49 -41021160.38 -41021160.27 0.1805 0.1266

Mars -117022-01-18 16:20 J -41020844.90 -41020844.82 -41020844.74 0.1710 0.1265

Moon -117022-04-24 02:53 J -41020749.48 -41020749.38 -41020749.29 0.2773 0.1447

Earth -117022-04-24 03:08 J -41020749.46 -41020749.37 -41020749.27 0.2780 0.1419 *

Venus -117021-04-01 08:10 J -41020406.26 -41020406.16 -41020406.06 0.3683 0.1531

Mars -117021-12-24 02:10 J -41020139.53 -41020139.41 -41020139.30 0.1696 0.0482

Earth -117019-10-18 21:36 J -41019475.72 -41019475.60 -41019475.49 0.2563 0.1779

Moon -117019-10-18 21:51 J -41019475.71 -41019475.59 -41019475.47 0.2557 0.1781 *

Jupiter -117019-11-27 16:20 J -41019435.92 -41019435.82 -41019435.72 0.0526 0.0338

Jupiter -117018-02-25 00:29 J -41019346.61 -41019346.48 -41019346.35 0.0527 0.0147

Venus -117016-10-16 01:27 J -41018382.55 -41018382.44 -41018382.33 0.3689 0.0146

Earth -117015-04-17 00:44 J -41018199.57 -41018199.47 -41018199.36 0.2774 0.1030

Moon -117015-04-17 01:27 J -41018199.54 -41018199.44 -41018199.33 0.2775 0.0996 *

Mars -117013-06-10 01:41 J -41017414.44 -41017414.43 -41017414.43 0.1714 0.1713

Jupiter -117013-10-15 01:27 J -41017287.57 -41017287.44 -41017287.30 0.0499 0.0321

Jupiter -117012-01-13 06:58 J -41017197.36 -41017197.21 -41017197.05 0.0499 0.0253

Saturn -117012-04-04 16:20 J -41017115.95 -41017115.82 -41017115.68 0.0271 0.0176

Neptune -117012-05-27 22:34 J -41017062.59 -41017062.56 -41017062.52 0.0088 0.0085

Saturn -117012-07-02 11:03 J -41017027.20 -41017027.04 -41017026.87 0.0270 0.0077

Mars -117012-07-06 07:27 J -41017023.30 -41017023.19 -41017023.07 0.1819 0.1257

Neptune -117012-08-24 00:00 J -41016974.54 -41016974.50 -41016974.43 0.0088 0.0080

Saturn -117012-09-29 06:00 J -41016938.43 -41016938.25 -41016938.07 0.0269 0.0024

Earth -117012-10-10 08:53 J -41016927.20 -41016927.13 -41016927.05 0.2569 0.2281

Moon -117012-10-10 10:20 J -41016927.16 -41016927.07 -41016926.98 0.2573 0.2099 *

Neptune -117012-11-20 01:56 J -41016886.49 -41016886.42 -41016886.35 0.0088 0.0076

Saturn -117012-12-27 00:58 J -41016849.61 -41016849.46 -41016849.30 0.0268 0.0124

Neptune -117011-02-16 03:22 J -41016798.44 -41016798.36 -41016798.27 0.0088 0.0071

Saturn -117011-03-25 20:10 J -41016760.75 -41016760.66 -41016760.56 0.0267 0.0224

Neptune -117011-05-15 04:48 J -41016710.38 -41016710.30 -41016710.20 0.0088 0.0067

Mars -117011-05-16 11:46 J -41016709.13 -41016709.01 -41016708.89 0.1699 0.0081

Neptune -117011-08-11 06:29 J -41016622.32 -41016622.23 -41016622.13 0.0088 0.0063

Neptune -117011-11-07 07:56 J -41016534.26 -41016534.17 -41016534.05 0.0088 0.0059

Neptune -117010-02-03 09:36 J -41016446.20 -41016446.10 -41016445.98 0.0088 0.0054

Venus -117010-05-01 18:44 J -41016358.82 -41016358.72 -41016358.63 0.3695 0.1725

Neptune -117010-05-02 11:17 J -41016358.14 -41016358.03 -41016357.91 0.0088 0.0050

Neptune -117010-07-29 12:44 J -41016270.08 -41016269.97 -41016269.84 0.0088 0.0046

Neptune -117010-10-25 14:10 J -41016182.02 -41016181.91 -41016181.78 0.0088 0.0042

Neptune -117009-01-21 15:51 J -41016093.96 -41016093.84 -41016093.71 0.0088 0.0037

Neptune -117009-04-18 17:32 J -41016005.90 -41016005.77 -41016005.64 0.0088 0.0033

Moon -117009-04-25 20:53 J -41015998.69 -41015998.63 -41015998.56 0.2780 0.2162

Earth -117009-04-25 21:36 J -41015998.66 -41015998.60 -41015998.54 0.2781 0.2284 *

Neptune -117009-07-15 18:58 J -41015917.84 -41015917.71 -41015917.58 0.0088 0.0028

Neptune -117009-10-11 20:24 J -41015829.78 -41015829.65 -41015829.51 0.0088 0.0024

Neptune -117008-01-07 22:05 J -41015741.72 -41015741.58 -41015741.44 0.0088 0.0020

Neptune -117008-04-05 23:32 J -41015653.65 -41015653.52 -41015653.38 0.0088 0.0016

Neptune -117008-07-03 01:12 J -41015565.59 -41015565.45 -41015565.32 0.0088 0.0011

Neptune -117008-09-29 02:39 J -41015477.53 -41015477.39 -41015477.25 0.0088 0.0007

Neptune -117008-12-26 04:05 J -41015389.47 -41015389.33 -41015389.19 0.0088 0.0003

Neptune -117007-03-24 05:32 J -41015301.40 -41015301.27 -41015301.13 0.0088 0.0004

Neptune -117007-06-20 07:12 J -41015213.34 -41015213.20 -41015213.06 0.0088 0.0006

Jupiter -117007-09-15 19:12 J -41015125.76 -41015125.70 -41015125.64 0.0526 0.0469

Neptune -117007-09-16 08:39 J -41015125.28 -41015125.14 -41015125.00 0.0088 0.0010

Neptune -117007-12-13 10:05 J -41015037.21 -41015037.08 -41015036.94 0.0088 0.0014

Jupiter -117007-12-14 03:36 J -41015036.48 -41015036.35 -41015036.22 0.0527 0.0020

Neptune -117006-03-11 11:32 J -41014949.15 -41014949.02 -41014948.88 0.0088 0.0018

Jupiter -117006-03-13 11:17 J -41014947.07 -41014947.03 -41014946.99 0.0527 0.0497

Neptune -117006-06-07 12:58 J -41014861.09 -41014860.96 -41014860.82 0.0088 0.0023

Neptune -117006-09-03 14:39 J -41014773.02 -41014772.89 -41014772.76 0.0088 0.0027

Neptune -117006-11-30 15:51 J -41014684.96 -41014684.84 -41014684.70 0.0088 0.0031

Neptune -117005-02-26 17:17 J -41014596.90 -41014596.78 -41014596.65 0.0088 0.0035

Neptune -117005-05-24 18:44 J -41014508.83 -41014508.72 -41014508.59 0.0088 0.0040

Neptune -117005-08-20 20:10 J -41014420.77 -41014420.66 -41014420.53 0.0088 0.0044

Venus -117005-11-14 11:46 J -41014335.06 -41014335.01 -41014334.97 0.3700 0.3308

Neptune -117005-11-16 21:51 J -41014332.70 -41014332.59 -41014332.47 0.0088 0.0047

Neptune -117004-02-12 23:17 J -41014244.64 -41014244.53 -41014244.42 0.0088 0.0051

Neptune -117004-05-12 00:44 J -41014156.57 -41014156.47 -41014156.36 0.0088 0.0056

Neptune -117004-08-08 02:10 J -41014068.51 -41014068.41 -41014068.31 0.0088 0.0060

Neptune -117004-11-04 03:36 J -41013980.44 -41013980.35 -41013980.26 0.0088 0.0064

Neptune -117003-01-31 05:03 J -41013892.37 -41013892.29 -41013892.20 0.0088 0.0068

Neptune -117003-04-29 06:29 J -41013804.31 -41013804.23 -41013804.15 0.0088 0.0072

Neptune -117003-07-26 07:41 J -41013716.24 -41013716.18 -41013716.10 0.0088 0.0076

Neptune -117003-10-22 08:53 J -41013628.17 -41013628.13 -41013628.06 0.0088 0.0081

Mars -117003-11-26 05:46 J -41013593.41 -41013593.26 -41013593.10 0.1814 0.0416

Neptune -117002-01-18 10:20 J -41013540.09 -41013540.07 -41013540.01 0.0088 0.0085

Neptune -117002-04-16 12:00 J -41013452.00 -41013452.00 -41013451.98 0.0088 0.0088

Earth -117002-04-19 19:12 J -41013448.81 -41013448.70 -41013448.59 0.2776 0.0167

Moon -117002-04-19 19:56 J -41013448.78 -41013448.67 -41013448.56 0.2771 0.0143 *

Venus -117002-08-12 21:08 J -41013333.73 -41013333.62 -41013333.52 0.3698 0.2384

Mars -117002-10-06 21:36 J -41013278.72 -41013278.60 -41013278.48 0.1703 0.0347

Jupiter -117001-08-02 23:46 J -41012977.57 -41012977.51 -41012977.43 0.0500 0.0460

Jupiter -117001-11-01 05:03 J -41012887.46 -41012887.29 -41012887.11 0.0499 0.0108

117TH MILLENNIUM BCE

This is a list of transits of Mercury in the 117th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Mars	**-117000-09-11 06:00**	**J**	**-41012573.32**	**-41012573.25**	**-41012573.17**	**0.1689**	**0.1318**	
Earth	**-116999-10-13 15:22**	**J**	**-41012176.02**	**-41012175.86**	**-41012175.71**	**0.2566**	**0.0846**	
Moon	**-116999-10-13 17:03**	**J**	**-41012175.95**	**-41012175.79**	**-41012175.64**	**0.2565**	**0.0840**	*****
Uranus	**-116999-11-23 19:41**	**J**	**-41012134.72**	**-41012134.68**	**-41012134.61**	**0.0131**	**0.0120**	
Uranus	**-116998-02-19 23:03**	**J**	**-41012046.62**	**-41012046.54**	**-41012046.45**	**0.0131**	**0.0104**	
Uranus	**-116998-05-19 02:10**	**J**	**-41011958.50**	**-41011958.41**	**-41011958.30**	**0.0131**	**0.0089**	
Uranus	**-116998-08-15 05:32**	**J**	**-41011870.39**	**-41011870.27**	**-41011870.16**	**0.0131**	**0.0073**	
Uranus	**-116998-11-11 08:24**	**J**	**-41011782.26**	**-41011782.15**	**-41011782.02**	**0.0131**	**0.0058**	
Uranus	**-116997-02-07 11:32**	**J**	**-41011694.14**	**-41011694.02**	**-41011693.88**	**0.0131**	**0.0043**	
Uranus	**-116997-05-05 14:39**	**J**	**-41011606.02**	**-41011605.89**	**-41011605.75**	**0.0131**	**0.0028**	
Uranus	**-116997-08-01 17:46**	**J**	**-41011517.89**	**-41011517.76**	**-41011517.62**	**0.0131**	**0.0013**	
Uranus	**-116997-10-28 20:53**	**J**	**-41011429.76**	**-41011429.63**	**-41011429.49**	**0.0130**	**0.0005**	
Saturn	**-116996-01-20 20:39**	**J**	**-41011345.71**	**-41011345.64**	**-41011345.57**	**0.0290**	**0.0254**	
Uranus	**-116996-01-25 00:00**	**J**	**-41011341.63**	**-41011341.50**	**-41011341.36**	**0.0130**	**0.0018**	
Venus	**-116996-02-26 00:15**	**J**	**-41011309.63**	**-41011309.49**	**-41011309.35**	**0.3691**	**0.0914**	
Saturn	**-116996-04-19 10:34**	**J**	**-41011257.18**	**-41011257.06**	**-41011256.94**	**0.0291**	**0.0154**	
Uranus	**-116996-04-23 03:08**	**J**	**-41011253.50**	**-41011253.37**	**-41011253.24**	**0.0130**	**0.0033**	
Saturn	**-116996-07-17 00:15**	**J**	**-41011168.63**	**-41011168.49**	**-41011168.36**	**0.0292**	**0.0054**	
Uranus	**-116996-07-20 06:00**	**J**	**-41011165.37**	**-41011165.25**	**-41011165.12**	**0.0130**	**0.0049**	
Saturn	**-116996-10-13 13:41**	**J**	**-41011080.06**	**-41011079.93**	**-41011079.79**	**0.0293**	**0.0047**	
Uranus	**-116996-10-16 09:08**	**J**	**-41011077.24**	**-41011077.12**	**-41011077.00**	**0.0130**	**0.0063**	
Saturn	**-116995-01-10 03:22**	**J**	**-41010991.48**	**-41010991.36**	**-41010991.24**	**0.0294**	**0.0145**	

Uranus -116995-01-12 12:00 J -41010989.10 -41010989.00 -41010988.89 0.0130 0.0078

Saturn -116995-04-08 16:34 J -41010902.88 -41010902.81 -41010902.73 0.0295 0.0245

Uranus -116995-04-10 15:08 J -41010900.96 -41010900.87 -41010900.77 0.0130 0.0093

Moon -116995-04-12 16:48 J -41010898.84 -41010898.80 -41010898.76 0.2776 0.2545

Earth -116995-04-12 16:48 J -41010898.83 -41010898.80 -41010898.77 0.2769 0.2597 *

Uranus -116995-07-07 18:00 J -41010812.82 -41010812.75 -41010812.67 0.0130 0.0108

Jupiter -116995-10-02 07:27 J -41010726.32 -41010726.19 -41010726.06 0.0527 0.0098

Uranus -116995-10-03 20:53 J -41010724.66 -41010724.63 -41010724.58 0.0130 0.0122

Jupiter -116995-12-30 15:08 J -41010636.95 -41010636.87 -41010636.78 0.0527 0.0383

Mars -116993-04-17 04:20 J -41010163.48 -41010163.32 -41010163.17 0.1810 0.0414

Mars -116992-02-26 07:12 J -41009848.31 -41009848.20 -41009848.09 0.1706 0.0774

Mars -116990-02-01 16:05 J -41009142.93 -41009142.83 -41009142.73 0.1692 0.0929

Moon -116989-04-21 13:41 J -41008698.03 -41008697.93 -41008697.82 0.2771 0.0746

Earth -116989-04-21 13:41 J -41008698.03 -41008697.93 -41008697.83 0.2778 0.0715 *

Jupiter -116989-08-20 01:56 J -41008577.60 -41008577.42 -41008577.24 0.0499 0.0048

Earth -116986-10-16 21:36 J -41007424.75 -41007424.60 -41007424.44 0.2564 0.0603

Moon -116986-10-16 23:03 J -41007424.70 -41007424.54 -41007424.39 0.2560 0.0744 *

Mars -116984-09-07 03:36 J -41006733.46 -41006733.35 -41006733.23 0.1805 0.1184

Mars -116983-07-19 16:34 J -41006417.90 -41006417.81 -41006417.73 0.1710 0.1213

Jupiter -116983-07-21 11:17 J -41006416.15 -41006416.03 -41006415.91 0.0526 0.0215

Saturn -116983-08-22 17:32 J -41006383.88 -41006383.77 -41006383.64 0.0272 0.0198

Jupiter -116983-10-18 19:27 J -41006326.80 -41006326.69 -41006326.58 0.0527 0.0270

Saturn -116983-11-19 12:15 J -41006295.15 -41006294.99 -41006294.82 0.0271 0.0098

Saturn -116982-02-16 07:12 J -41006206.38 -41006206.20 -41006206.03 0.0270 0.0005

Earth -116982-04-15 11:17 J -41006148.12 -41006148.03 -41006147.95 0.2771 0.1728

Moon -116982-04-15 11:46 J -41006148.09 -41006148.01 -41006147.92 0.2776 0.1755 *

Saturn -116982-05-16 02:10 J -41006117.58 -41006117.41 -41006117.25 0.0269 0.0102

Saturn -116982-08-12 21:08 J -41006028.73 -41006028.62 -41006028.50 0.0268 0.0202

Mars -116981-06-24 02:10 J -41005712.53 -41005712.41 -41005712.30 0.1695 0.0529

Jupiter -116977-06-08 00:00 J -41004267.66 -41004267.50 -41004267.33 0.0499 0.0191

Jupiter -116977-09-06 06:00 J -41004177.36 -41004177.25 -41004177.14 0.0499 0.0386

Moon -116976-04-24 07:41 J -41003947.27 -41003947.18 -41003947.09 0.2774 0.1481

Earth -116976-04-24 08:10 J -41003947.25 -41003947.16 -41003947.07 0.2780 0.1587 *

Mars -116974-12-10 01:41 J -41002987.46 -41002987.43 -41002987.40 0.1714 0.1659

Moon -116973-10-19 04:20 J -41002673.42 -41002673.32 -41002673.23 0.2556 0.2032

Earth -116973-10-19 04:20 J -41002673.42 -41002673.32 -41002673.23 0.2562 0.2062 *

Mars -116972-01-04 08:24 J -41002596.25 -41002596.15 -41002596.04 0.1819 0.1346

Mars -116972-11-14 12:00 J -41002282.12 -41002282.00 -41002281.88 0.1699 0.0125

Jupiter -116971-05-09 14:39 J -41002105.99 -41002105.89 -41002105.78 0.0526 0.0338

Jupiter -116971-08-06 23:03 J -41002016.67 -41002016.54 -41002016.42 0.0527 0.0149

Venus -116970-04-23 12:44 J -41001757.04 -41001756.97 -41001756.89 0.3679 0.2569

Earth -116969-04-17 05:46 J -41001397.37 -41001397.26 -41001397.16 0.2774 0.0863

Moon -116969-04-17 06:29 J -41001397.34 -41001397.23 -41001397.13 0.2773 0.0753 *

Saturn -116967-06-09 22:05 J -41000613.60 -41000613.58 -41000613.54 0.0290 0.0282

Saturn -116967-09-06 12:15 J -41000525.10 -41000524.99 -41000524.88 0.0291 0.0182

Saturn -116967-12-04 01:56 J -41000436.55 -41000436.42 -41000436.29 0.0292 0.0082

Saturn -116966-03-02 15:36 J -41000347.99 -41000347.85 -41000347.71 0.0293 0.0018

Saturn -116966-05-30 05:03 J -41000259.41 -41000259.29 -41000259.16 0.0294 0.0118

Saturn -116966-08-26 18:29 J -41000170.82 -41000170.73 -41000170.64 0.0295 0.0217

Earth -116966-10-11 15:36 J -41000124.95 -41000124.85 -41000124.76 0.2569 0.2014

Moon -116966-10-11 17:03 J -41000124.89 -41000124.79 -41000124.69 0.2571 0.1991 *

Jupiter -116965-03-26 22:34 J -40999957.69 -40999957.56 -40999957.43 0.0500 0.0331

Jupiter -116965-06-25 03:51 J -40999867.49 -40999867.34 -40999867.18 0.0499 0.0243

Venus -116965-11-06 06:15 J -40999733.35 -40999733.24 -40999733.14 0.3685 0.0928

Moon -116963-04-27 01:41 J -40999196.48 -40999196.43 -40999196.38 0.2782 0.2458

Earth -116963-04-27 02:24 J -40999196.45 -40999196.40 -40999196.35 0.2782 0.2450 *

Mars -116963-05-27 06:15 J -40999166.39 -40999166.24 -40999166.08 0.1814 0.0492

Pluto -116963-06-19 22:05 J -40999142.65 -40999142.58 -40999142.47 0.0060 0.0053

Pluto -116963-09-15 23:32 J -40999054.63 -40999054.52 -40999054.38 0.0060 0.0046

Pluto -116963-12-13 00:58 J -40998966.60 -40998966.46 -40998966.30 0.0060 0.0038

Pluto -116962-03-11 02:39 J -40998878.56 -40998878.39 -40998878.22 0.0060 0.0030

Mars -116962-04-06 21:36 J -40998851.72 -40998851.60 -40998851.48 0.1703 0.0299

Pluto -116962-06-07 03:36 J -40998790.51 -40998790.35 -40998790.16 0.0060 0.0022

Pluto -116962-09-03 05:03 J -40998702.46 -40998702.29 -40998702.09 0.0060 0.0014

Pluto -116962-11-30 06:29 J -40998614.41 -40998614.23 -40998614.03 0.0060 0.0007

Pluto -116961-02-26 07:56 J -40998526.36 -40998526.17 -40998525.97 0.0061 0.0002

Pluto -116961-05-24 09:22 J -40998438.30 -40998438.11 -40998437.92 0.0061 0.0010

Pluto -116961-08-20 10:34 J -40998350.24 -40998350.06 -40998349.87 0.0061 0.0018

Pluto -116961-11-16 11:46 J -40998262.17 -40998262.01 -40998261.82 0.0061 0.0026

Pluto -116960-02-12 12:58 J -40998174.10 -40998173.96 -40998173.78 0.0061 0.0034

Mars -116960-03-12 06:00 J -40998146.32 -40998146.25 -40998146.18 0.1689 0.1362

Pluto -116960-05-11 14:24 J -40998086.02 -40998085.90 -40998085.74 0.0061 0.0042

Pluto -116960-08-07 15:36 J -40997997.93 -40997997.85 -40997997.72 0.0061 0.0050

Pluto -116960-11-03 17:03 J -40997909.83 -40997909.79 -40997909.71 0.0061 0.0058

Jupiter -116959-02-25 18:00 J -40997795.81 -40997795.75 -40997795.69 0.0526 0.0464

Venus -116959-05-22 23:17 J -40997709.63 -40997709.53 -40997709.42 0.3691 0.0724

Jupiter -116959-05-26 02:24 J -40997706.53 -40997706.40 -40997706.27 0.0526 0.0025

Jupiter -116959-08-23 09:51 J -40997617.12 -40997617.09 -40997617.05 0.0527 0.0501

Earth -116956-04-20 00:15 J -40996646.60 -40996646.49 -40996646.39 0.2776 0.0093

Moon -116956-04-20 00:44 J -40996646.58 -40996646.47 -40996646.36 0.2771 0.0070 *

Uranus -116955-05-08 06:15 J -40996263.31 -40996263.24 -40996263.17 0.0148 0.0136

Uranus -116955-08-04 14:10 J -40996175.03 -40996174.91 -40996174.78 0.0148 0.0107

Uranus -116955-10-31 22:20 J -40996086.72 -40996086.57 -40996086.41 0.0148 0.0078

Uranus -116954-01-28 06:29 J -40995998.40 -40995998.23 -40995998.05 0.0148 0.0048

Uranus -116954-04-26 14:53 J -40995910.06 -40995909.88 -40995909.70 0.0148 0.0017

Uranus -116954-07-23 23:17 J -40995821.72 -40995821.53 -40995821.35 0.0148 0.0013

Mars -116954-10-17 05:03 J -40995736.44 -40995736.29 -40995736.13 0.1810 0.0324

Uranus -116954-10-20 07:27 J -40995733.36 -40995733.19 -40995733.01 0.0148 0.0044

Venus -116954-12-06 16:34 J -40995685.90 -40995685.81 -40995685.73 0.3696 0.2310

Saturn -116953-01-09 18:29 J -40995651.82 -40995651.73 -40995651.63 0.0271 0.0222

Jupiter -116953-01-13 21:22 J -40995647.67 -40995647.61 -40995647.55 0.0500 0.0464

Uranus -116953-01-16 15:51 J -40995645.00 -40995644.84 -40995644.68 0.0148 0.0074

Saturn -116953-04-07 12:58 J -40995563.11 -40995562.96 -40995562.80 0.0270 0.0124

Jupiter -116953-04-13 02:24 J -40995557.57 -40995557.40 -40995557.22 0.0499 0.0104

Uranus -116953-04-14 00:15 J -40995556.61 -40995556.49 -40995556.35 0.0148 0.0105

Saturn -116953-07-05 07:56 J -40995474.35 -40995474.17 -40995474.00 0.0270 0.0024

Uranus -116953-07-11 08:39 J -40995468.20 -40995468.14 -40995468.06 0.0148 0.0137

Mars -116953-08-27 07:12 J -40995421.31 -40995421.20 -40995421.09 0.1707 0.0727

Saturn -116953-10-02 02:53 J -40995385.55 -40995385.38 -40995385.21 0.0269 0.0076

Earth -116953-10-13 21:51 J -40995373.75 -40995373.59 -40995373.43 0.2566 0.0573

Moon -116953-10-13 23:32 J -40995373.68 -40995373.52 -40995373.36 0.2564 0.0357 *

Saturn -116953-12-29 21:51 J -40995296.72 -40995296.59 -40995296.45 0.0268 0.0176

Mars -116951-08-02 16:05 J -40994715.92 -40994715.83 -40994715.73 0.1692 0.0975

Earth -116949-04-12 21:36 J -40994096.65 -40994096.60 -40994096.55 0.2769 0.2438

Moon -116949-04-12 21:51 J -40994096.63 -40994096.59 -40994096.54 0.2775 0.2471 *

Jupiter -116947-03-14 05:32 J -40993396.40 -40993396.27 -40993396.14 0.0526 0.0103

Jupiter -116947-06-11 13:12 J -40993307.03 -40993306.95 -40993306.86 0.0527 0.0378

Venus -116945-03-18 21:36 J -40992660.73 -40992660.60 -40992660.47 0.3696 0.1260

Mars -116944-03-08 03:51 J -40992306.46 -40992306.34 -40992306.21 0.1805 0.1118

Mars -116943-01-17 16:34 J -40991990.90 -40991990.81 -40991990.72 0.1711 0.1161

Moon -116943-04-22 18:29 J -40991895.84 -40991895.73 -40991895.63 0.2771 0.0861

Earth -116943-04-22 18:29 J -40991895.83 -40991895.73 -40991895.62 0.2778 0.0884 *

Mars -116942-12-24 02:10 J -40991285.52 -40991285.41 -40991285.30 0.1696 0.0575

Jupiter -116941-01-31 00:44 J -40991247.65 -40991247.47 -40991247.29 0.0499 0.0038

Venus -116940-10-03 00:44 J -40990636.58 -40990636.47 -40990636.35 0.3689 0.2075

Earth -116940-10-17 04:20 J -40990622.47 -40990622.32 -40990622.17 0.2564 0.0885

Moon -116940-10-17 05:17 J -40990622.44 -40990622.28 -40990622.13 0.2559 0.0853 *

Saturn -116937-01-24 13:56 J -40989793.01 -40989792.92 -40989792.81 0.0290 0.0210

Saturn -116937-04-22 03:51 J -40989704.47 -40989704.34 -40989704.21 0.0291 0.0110

Saturn -116937-07-19 17:32 J -40989615.90 -40989615.77 -40989615.63 0.0292 0.0012

Saturn -116937-10-16 07:12 J -40989527.33 -40989527.20 -40989527.07 0.0294 0.0090

Saturn -116936-01-12 20:39 J -40989438.74 -40989438.64 -40989438.54 0.0295 0.0190

Saturn -116936-04-11 09:51 J -40989350.11 -40989350.09 -40989350.06 0.0296 0.0289

Earth -116936-04-15 16:05 J -40989345.92 -40989345.83 -40989345.74 0.2772 0.1570

Moon -116936-04-15 16:48 J -40989345.89 -40989345.80 -40989345.71 0.2776 0.1451 *

Jupiter -116936-12-31 09:22 J -40989086.23 -40989086.11 -40989085.99 0.0526 0.0222

Jupiter -116935-03-30 17:17 J -40988996.89 -40988996.78 -40988996.67 0.0527 0.0263

Mars -116934-06-10 01:56 J -40988560.46 -40988560.42 -40988560.38 0.1714 0.1604

Mars -116933-07-05 08:39 J -40988169.24 -40988169.14 -40988169.04 0.1819 0.1412

Mars -116932-05-15 12:00 J -40987855.12 -40987855.00 -40987854.88 0.1699 0.0170

Moon -116930-04-25 12:29 J -40987145.07 -40987144.98 -40987144.90 0.2776 0.1741

Earth -116930-04-25 12:58 J -40987145.04 -40987144.96 -40987144.88 0.2780 0.1748 *

Jupiter -116930-11-18 21:51 J -40986937.75 -40986937.59 -40986937.43 0.0499 0.0193

Jupiter -116929-02-17 03:36 J -40986847.46 -40986847.35 -40986847.24 0.0499 0.0384

Neptune -116928-01-28 07:12 J -40986501.24 -40986501.20 -40986501.13 0.0089 0.0084

Neptune -116928-04-26 10:05 J -40986413.14 -40986413.08 -40986412.98 0.0089 0.0079

Neptune -116928-07-23 13:27 J -40986325.03 -40986324.94 -40986324.83 0.0089 0.0073

Neptune -116928-10-19 16:20 J -40986236.92 -40986236.82 -40986236.69 0.0089 0.0068

Neptune -116927-01-15 19:41 J -40986148.80 -40986148.68 -40986148.55 0.0089 0.0062

Neptune -116927-04-13 22:34 J -40986060.68 -40986060.56 -40986060.41 0.0089 0.0057

Neptune -116927-07-11 01:56 J -40985972.56 -40985972.42 -40985972.27 0.0089 0.0051

Neptune -116927-10-07 04:48 J -40985884.44 -40985884.30 -40985884.13 0.0089 0.0046

Moon -116927-10-20 10:34 J -40985871.12 -40985871.06 -40985870.99 0.2555 0.2359

Earth -116927-10-20 10:48 J -40985871.11 -40985871.05 -40985870.99 0.2562 0.2335 *

Neptune -116926-01-03 08:10 J -40985796.32 -40985796.16 -40985795.99 0.0089 0.0040

Neptune -116926-04-01 11:03 J -40985708.19 -40985708.04 -40985707.86 0.0089 0.0035

Neptune -116926-06-28 14:24 J -40985620.07 -40985619.90 -40985619.72 0.0089 0.0029

Neptune -116926-09-24 17:46 J -40985531.94 -40985531.76 -40985531.59 0.0089 0.0023

Neptune -116926-12-21 20:39 J -40985443.81 -40985443.64 -40985443.45 0.0089 0.0018

Neptune -116925-03-19 00:00 J -40985355.68 -40985355.50 -40985355.32 0.0089 0.0012

Neptune -116925-06-15 03:08 J -40985267.55 -40985267.37 -40985267.18 0.0089 0.0007

Neptune -116925-09-11 06:29 J -40985179.42 -40985179.23 -40985179.05 0.0089 0.0001

Neptune -116925-12-08 09:36 J -40985091.28 -40985091.10 -40985090.92 0.0089 0.0005

Neptune -116924-03-06 12:44 J -40985003.15 -40985002.97 -40985002.78 0.0089 0.0011

Saturn -116924-05-28 19:27 J -40984919.76 -40984919.69 -40984919.61 0.0272 0.0245

Neptune -116924-06-02 15:51 J -40984915.01 -40984914.84 -40984914.65 0.0089 0.0017

Saturn -116924-08-25 14:10 J -40984831.06 -40984830.91 -40984830.77 0.0271 0.0146

Neptune -116924-08-29 19:12 J -40984826.87 -40984826.70 -40984826.52 0.0089 0.0022

Jupiter -116924-10-19 13:12 J -40984776.05 -40984775.95 -40984775.85 0.0526 0.0337

Saturn -116924-11-22 08:53 J -40984742.31 -40984742.13 -40984741.96 0.0270 0.0047

Mars -116924-11-25 07:12 J -40984739.35 -40984739.20 -40984739.05 0.1815 0.0577

Neptune -116924-11-25 22:20 J -40984738.74 -40984738.57 -40984738.38 0.0089 0.0028

Jupiter -116923-01-16 21:22 J -40984686.73 -40984686.61 -40984686.48 0.0527 0.0151

Saturn -116923-02-19 03:36 J -40984653.52 -40984653.35 -40984653.17 0.0269 0.0053

Neptune -116923-02-22 01:41 J -40984650.60 -40984650.43 -40984650.25 0.0089 0.0034

Earth -116923-04-18 10:34 J -40984595.16 -40984595.06 -40984594.95 0.2774 0.0698

Moon -116923-04-18 11:17 J -40984595.13 -40984595.03 -40984594.92 0.2771 0.0705 *

Saturn -116923-05-18 22:48 J -40984564.70 -40984564.55 -40984564.41 0.0268 0.0153

Neptune -116923-05-21 04:48 J -40984562.45 -40984562.30 -40984562.12 0.0089 0.0040

Saturn -116923-08-15 17:46 J -40984475.81 -40984475.76 -40984475.70 0.0267 0.0252

Neptune -116923-08-17 08:24 J -40984474.31 -40984474.15 -40984473.99 0.0089 0.0045

Mars -116923-10-05 21:36 J -40984424.72 -40984424.60 -40984424.48 0.1703 0.0253

Neptune -116923-11-13 11:32 J -40984386.17 -40984386.02 -40984385.86 0.0089 0.0051

Neptune -116922-02-09 14:39 J -40984298.02 -40984297.89 -40984297.73 0.0089 0.0057

Neptune -116922-05-08 18:00 J -40984209.87 -40984209.75 -40984209.61 0.0089 0.0063

Neptune -116922-08-04 21:08 J -40984121.72 -40984121.62 -40984121.48 0.0089 0.0069

Neptune -116922-11-01 00:29 J -40984033.56 -40984033.48 -40984033.36 0.0089 0.0075

Neptune -116921-01-28 04:20 J -40983945.40 -40983945.32 -40983945.24 0.0089 0.0080

Neptune -116921-04-25 07:27 J -40983857.22 -40983857.19 -40983857.14 0.0089 0.0086

Mars -116921-09-10 06:15 J -40983719.31 -40983719.24 -40983719.18 0.1689 0.1410

Earth -116920-10-11 22:05 J -40983322.69 -40983322.58 -40983322.46 0.2568 0.1742

Moon -116920-10-11 23:46 J -40983322.63 -40983322.51 -40983322.38 0.2568 0.1599 *

Venus -116919-05-14 17:17 J -40983107.79 -40983107.78 -40983107.76 0.3675 0.3617

Jupiter -116918-09-06 20:10 J -40982627.79 -40982627.66 -40982627.53 0.0499 0.0333

Jupiter -116918-12-06 01:41 J -40982537.59 -40982537.43 -40982537.28 0.0499 0.0239

Moon -116917-04-27 06:44 J -40982394.27 -40982394.22 -40982394.18 0.2783 0.2489

Earth -116917-04-27 07:27 J -40982394.23 -40982394.19 -40982394.16 0.2782 0.2617 *

Uranus -116915-09-17 00:15 J -40981521.50 -40981521.49 -40981521.46 0.0131 0.0129

Uranus -116915-12-14 03:22 J -40981433.41 -40981433.36 -40981433.28 0.0131 0.0114

Uranus -116914-03-12 06:44 J -40981345.30 -40981345.22 -40981345.12 0.0131 0.0098

Mars -116914-04-17 05:32 J -40981309.42 -40981309.27 -40981309.11 0.1810 0.0248

Uranus -116914-06-08 09:51 J -40981257.19 -40981257.09 -40981256.97 0.0131 0.0083

Uranus -116914-09-04 13:12 J -40981169.07 -40981168.95 -40981168.83 0.0131 0.0067

Venus -116914-11-28 10:48 J -40981084.15 -40981084.05 -40981083.96 0.3681 0.1958

Uranus -116914-12-01 16:20 J -40981080.95 -40981080.82 -40981080.69 0.0131 0.0051

Mars -116913-02-26 07:12 J -40980994.31 -40980994.20 -40980994.09 0.1707 0.0677

Uranus -116913-02-27 19:27 J -40980992.82 -40980992.69 -40980992.56 0.0131 0.0036

Uranus -116913-05-25 22:34 J -40980904.70 -40980904.56 -40980904.42 0.0131 0.0021

Uranus -116913-08-22 01:41 J -40980816.57 -40980816.43 -40980816.29 0.0131 0.0006

Uranus -116913-11-18 04:48 J -40980728.44 -40980728.30 -40980728.17 0.0131 0.0010

Uranus -116912-02-14 07:41 J -40980640.31 -40980640.18 -40980640.04 0.0131 0.0025

Uranus -116912-05-13 10:48 J -40980552.18 -40980552.05 -40980551.92 0.0130 0.0040

Jupiter -116912-08-07 16:34 J -40980465.87 -40980465.81 -40980465.74 0.0526 0.0460

Uranus -116912-08-09 13:56 J -40980464.04 -40980463.92 -40980463.80 0.0130 0.0055

Jupiter -116912-11-05 01:12 J -40980376.58 -40980376.45 -40980376.32 0.0526 0.0032

Uranus -116912-11-05 16:48 J -40980375.91 -40980375.80 -40980375.68 0.0130 0.0069

Mars -116911-01-31 16:05 J -40980288.92 -40980288.83 -40980288.73 0.1692 0.1020

Uranus -116911-02-01 19:41 J -40980287.77 -40980287.68 -40980287.57 0.0130 0.0085

Jupiter -116911-02-02 08:39 J -40980287.17 -40980287.14 -40980287.10 0.0527 0.0506

Uranus -116911-04-30 22:34 J -40980199.63 -40980199.56 -40980199.46 0.0130 0.0100

Uranus -116911-07-28 01:56 J -40980111.48 -40980111.42 -40980111.36 0.0130 0.0114

Uranus -116911-10-24 04:48 J -40980023.32 -40980023.30 -40980023.28 0.0130 0.0128

Earth -116910-04-21 05:03 J -40979844.40 -40979844.29 -40979844.18 0.2777 0.0174

Moon -116910-04-21 05:17 J -40979844.39 -40979844.28 -40979844.17 0.2771 0.0248 *

Saturn -116908-06-12 15:22 J -40979060.94 -40979060.86 -40979060.79 0.0290 0.0240

Venus -116908-06-13 04:05 J -40979060.44 -40979060.33 -40979060.22 0.3687 0.0311

Saturn -116908-09-09 05:03 J -40978972.41 -40978972.29 -40978972.17 0.0291 0.0141

Saturn -116908-12-06 18:44 J -40978883.85 -40978883.72 -40978883.58 0.0293 0.0042

Saturn -116907-03-05 08:24 J -40978795.28 -40978795.15 -40978795.01 0.0294 0.0059

Saturn -116907-06-01 21:51 J -40978706.70 -40978706.59 -40978706.47 0.0295 0.0159

Saturn -116907-08-29 11:17 J -40978618.09 -40978618.03 -40978617.96 0.0296 0.0258

Earth -116907-10-15 04:34 J -40978571.47 -40978571.31 -40978571.15 0.2566 0.0304

Moon -116907-10-15 06:00 J -40978571.41 -40978571.25 -40978571.09 0.2563 0.0294 *

Jupiter -116906-06-25 18:44 J -40978317.77 -40978317.72 -40978317.66 0.0500 0.0470

Jupiter -116906-09-23 23:46 J -40978227.68 -40978227.51 -40978227.33 0.0499 0.0098

Mars -116905-09-06 04:48 J -40977879.43 -40977879.30 -40977879.18 0.1805 0.1034

Mars -116904-07-18 16:34 J -40977563.90 -40977563.81 -40977563.72 0.1710 0.1109

Earth -116903-04-14 02:39 J -40977294.45 -40977294.39 -40977294.33 0.2769 0.2279

Moon -116903-04-14 02:53 J -40977294.44 -40977294.38 -40977294.31 0.2776 0.2217 *

Venus -116903-12-27 21:08 J -40977036.72 -40977036.62 -40977036.51 0.3692 0.1306

Mars -116902-06-24 02:10 J -40976858.52 -40976858.41 -40976858.30 0.1696 0.0624

Jupiter -116900-08-24 04:34 J -40976066.44 -40976066.31 -40976066.18 0.0526 0.0094

Jupiter -116900-11-21 12:15 J -40975977.07 -40975976.99 -40975976.90 0.0527 0.0387

Moon -116897-04-22 23:17 J -40975093.64 -40975093.53 -40975093.43 0.2771 0.1012

Earth -116897-04-22 23:32 J -40975093.62 -40975093.52 -40975093.42 0.2779 0.1046 *

Venus -116897-07-12 14:24 J -40975012.97 -40975012.90 -40975012.84 0.3698 0.2895

Mars -116895-01-27 04:20 J -40974449.34 -40974449.32 -40974449.31 0.1800 0.1790

Mars -116895-12-09 01:41 J -40974133.47 -40974133.43 -40974133.38 0.1714 0.1557

Saturn -116894-01-12 14:10 J -40974099.03 -40974098.91 -40974098.77 0.0271 0.0175

Venus -116894-04-09 18:58 J -40974011.76 -40974011.71 -40974011.65 0.3701 0.3363

Saturn -116894-04-11 08:53 J -40974010.29 -40974010.13 -40974009.96 0.0270 0.0076

Saturn -116894-07-09 03:51 J -40973921.52 -40973921.34 -40973921.17 0.0269 0.0024

Jupiter -116894-07-12 22:34 J -40973917.74 -40973917.56 -40973917.38 0.0499 0.0040

Saturn -116894-10-05 22:48 J -40973832.71 -40973832.55 -40973832.39 0.0268 0.0124

Earth -116894-10-18 10:48 J -40973820.19 -40973820.05 -40973819.90 0.2564 0.1156

Moon -116894-10-18 11:17 J -40973820.17 -40973820.03 -40973819.89 0.2557 0.1281 *

Saturn -116893-01-02 17:46 J -40973743.85 -40973743.76 -40973743.66 0.0267 0.0223

Mars -116893-01-04 09:36 J -40973742.19 -40973742.10 -40973742.01 0.1819 0.1501

Mars -116893-11-13 12:00 J -40973428.12 -40973428.00 -40973427.88 0.1699 0.0216

Earth -116890-04-16 21:08 J -40972543.72 -40972543.62 -40972543.53 0.2772 0.1411

Moon -116890-04-16 21:36 J -40972543.69 -40972543.60 -40972543.50 0.2774 0.1412 *

Venus -116889-10-23 22:05 J -40971987.72 -40971987.58 -40971987.44 0.3694 0.0144

Jupiter -116888-06-12 07:41 J -40971756.30 -40971756.18 -40971756.06 0.0526 0.0221

Jupiter -116888-09-09 15:36 J -40971666.96 -40971666.85 -40971666.73 0.0527 0.0263

Moon -116884-04-25 17:17 J -40970342.86 -40970342.78 -40970342.70 0.2778 0.1844

Earth -116884-04-25 17:46 J -40970342.83 -40970342.76 -40970342.68 0.2780 0.1915 *

Mars -116884-05-26 07:27 J -40970312.34 -40970312.19 -40970312.04 0.1814 0.0646

Mars -116883-04-05 21:36 J -40969997.72 -40969997.60 -40969997.48 0.1703 0.0205

Venus -116883-05-10 01:27 J -40969963.50 -40969963.44 -40969963.37 0.3687 0.3245

Jupiter -116882-04-30 20:53 J -40969607.79 -40969607.63 -40969607.46 0.0499 0.0179

Jupiter -116882-07-30 02:53 J -40969517.48 -40969517.38 -40969517.27 0.0499 0.0399

Mars -116881-03-11 06:00 J -40969292.30 -40969292.25 -40969292.19 0.1689 0.1452

Moon -116881-10-20 17:03 J -40969068.82 -40969068.79 -40969068.76 0.2556 0.2507

Saturn -116879-10-30 16:48 J -40968328.85 -40968328.80 -40968328.75 0.0290 0.0269

Saturn -116878-01-27 06:44 J -40968240.33 -40968240.22 -40968240.11 0.0291 0.0170

Saturn -116878-04-25 20:24 J -40968151.78 -40968151.65 -40968151.51 0.0292 0.0071

Saturn -116878-07-23 10:05 J -40968063.21 -40968063.08 -40968062.94 0.0293 0.0030

Saturn -116878-10-19 23:46 J -40967974.63 -40967974.51 -40967974.39 0.0294 0.0129

Saturn -116877-01-16 13:12 J -40967886.04 -40967885.95 -40967885.87 0.0295 0.0228

Earth -116877-04-18 15:36 J -40967792.96 -40967792.85 -40967792.75 0.2775 0.0548

Moon -116877-04-18 16:05 J -40967792.93 -40967792.83 -40967792.72 0.2771 0.0414 *

Jupiter -116876-03-31 11:32 J -40967446.12 -40967446.02 -40967445.92 0.0526 0.0340

Jupiter -116876-06-28 19:41 J -40967356.80 -40967356.68 -40967356.55 0.0527 0.0147

Mars -116875-10-16 06:00 J -40966882.40 -40966882.25 -40966882.09 0.1810 0.0178

Mars -116874-08-27 07:27 J -40966567.31 -40966567.19 -40966567.08 0.1706 0.0624

Earth -116874-10-13 04:48 J -40966520.43 -40966520.30 -40966520.17 0.2568 0.1470

Moon -116874-10-13 06:29 J -40966520.36 -40966520.23 -40966520.09 0.2567 0.1365 *

Mars -116872-08-01 16:20 J -40965861.91 -40965861.82 -40965861.73 0.1692 0.1068

Moon -116871-04-28 11:32 J -40965592.02 -40965592.02 -40965592.02 0.2784 0.2780

Earth -116871-04-28 12:15 J -40965591.99 -40965591.99 -40965591.99 0.2782 0.2779

Uranus -116871-05-28 13:27 J -40965562.02 -40965561.94 -40965561.86 0.0148 0.0130

Uranus -116871-08-24 21:22 J -40965473.74 -40965473.61 -40965473.47 0.0148 0.0101

Uranus -116871-11-21 05:32 J -40965385.43 -40965385.27 -40965385.11 0.0148 0.0072

Jupiter -116870-02-16 18:15 J -40965297.87 -40965297.74 -40965297.61 0.0499 0.0331

Uranus -116870-02-17 13:41 J -40965297.10 -40965296.93 -40965296.75 0.0148 0.0042

Uranus -116870-05-16 22:05 J -40965208.77 -40965208.58 -40965208.40 0.0148 0.0012

Jupiter -116870-05-17 23:32 J -40965207.67 -40965207.52 -40965207.36 0.0499 0.0242

Uranus -116870-08-13 06:15 J -40965120.42 -40965120.24 -40965120.05 0.0148 0.0019

Pluto -116870-10-13 02:39 J -40965059.41 -40965059.39 -40965059.36 0.0084 0.0083

Uranus -116870-11-09 14:39 J -40965032.06 -40965031.89 -40965031.71 0.0148 0.0050

Pluto -116869-01-09 03:51 J -40964971.41 -40964971.34 -40964971.25 0.0084 0.0068

Uranus -116869-02-05 22:48 J -40964943.70 -40964943.55 -40964943.38 0.0148 0.0081

Pluto -116869-04-06 05:17 J -40964883.38 -40964883.28 -40964883.17 0.0084 0.0052

Uranus -116869-05-04 07:12 J -40964855.31 -40964855.20 -40964855.07 0.0148 0.0112

Pluto -116869-07-03 06:29 J -40964795.34 -40964795.23 -40964795.10 0.0084 0.0038

Uranus -116869-07-31 15:36 J -40964766.88 -40964766.85 -40964766.78 0.0148 0.0143

Pluto -116869-09-29 07:56 J -40964707.30 -40964707.17 -40964707.04 0.0084 0.0022

Pluto -116869-12-26 09:22 J -40964619.25 -40964619.11 -40964618.98 0.0084 0.0007

Pluto -116868-03-24 10:34 J -40964531.19 -40964531.06 -40964530.92 0.0084 0.0008

Pluto -116868-06-20 11:46 J -40964443.13 -40964443.01 -40964442.87 0.0084 0.0023

Pluto -116868-09-16 12:58 J -40964355.07 -40964354.96 -40964354.83 0.0083 0.0038

Pluto -116868-12-13 14:10 J -40964267.00 -40964266.91 -40964266.79 0.0083 0.0053

Pluto -116867-03-11 15:22 J -40964178.92 -40964178.86 -40964178.76 0.0083 0.0068

Pluto -116867-06-07 17:03 J -40964090.81 -40964090.79 -40964090.77 0.0083 0.0081

Mars -116865-03-07 05:17 J -40963452.41 -40963452.28 -40963452.15 0.1805 0.0955

Saturn -116865-05-31 14:39 J -40963367.00 -40963366.89 -40963366.77 0.0272 0.0200

Saturn -116865-08-28 09:22 J -40963278.27 -40963278.11 -40963277.95 0.0271 0.0101

Saturn -116865-11-25 04:05 J -40963189.50 -40963189.33 -40963189.15 0.0270 0.0006

Mars -116864-01-16 16:34 J -40963136.90 -40963136.81 -40963136.71 0.1710 0.1060

Jupiter -116864-01-17 15:22 J -40963135.92 -40963135.86 -40963135.79 0.0526 0.0456

Saturn -116864-02-21 23:03 J -40963100.70 -40963100.54 -40963100.37 0.0269 0.0098

Jupiter -116864-04-17 00:00 J -40963046.64 -40963046.50 -40963046.37 0.0527 0.0038

Moon -116864-04-21 10:05 J -40963042.19 -40963042.08 -40963041.97 0.2770 0.0294

Earth -116864-04-21 09:51 J -40963042.19 -40963042.09 -40963041.98 0.2777 0.0348 *

Saturn -116864-05-21 18:00 J -40963011.86 -40963011.75 -40963011.62 0.0268 0.0198

Jupiter -116864-07-15 07:27 J -40962957.21 -40962957.19 -40962957.16 0.0527 0.0512

Venus -116863-12-19 15:08 J -40962434.93 -40962434.87 -40962434.80 0.3677 0.3005

Mars -116863-12-23 02:10 J -40962431.52 -40962431.41 -40962431.30 0.1696 0.0674

Earth -116861-10-15 11:03 J -40961769.20 -40961769.04 -40961768.87 0.2566 0.0075

Moon -116861-10-15 12:29 J -40961769.15 -40961768.98 -40961768.82 0.2562 0.0145 *

Jupiter -116859-12-05 17:03 J -40960987.85 -40960987.79 -40960987.74 0.0500 0.0468

Jupiter -116858-03-05 21:51 J -40960897.76 -40960897.59 -40960897.41 0.0499 0.0099

Earth -116857-04-14 07:27 J -40960492.26 -40960492.19 -40960492.12 0.2770 0.2114

Moon -116857-04-14 07:56 J -40960492.24 -40960492.17 -40960492.10 0.2776 0.2104 *

Venus -116857-07-04 08:39 J -40960411.24 -40960411.14 -40960411.04 0.3683 0.1343

Mars -116856-07-28 04:48 J -40960022.35 -40960022.30 -40960022.26 0.1801 0.1715

Mars -116855-06-09 01:55 J -40959706.48 -40959706.42 -40959706.36 0.1714 0.1502

Mars -116854-07-05 10:19 J -40959315.15 -40959315.07 -40959315.00 0.1819 0.1581

Mars -116853-05-14 12:00 J -40959001.12 -40959001.00 -40959000.88 0.1699 0.0263

Jupiter -116852-02-03 03:36 J -40958736.48 -40958736.35 -40958736.22 0.0526 0.0085

Jupiter -116852-05-03 11:17 J -40958647.11 -40958647.03 -40958646.94 0.0527 0.0395

Venus -116851-01-18 01:55 J -40958387.53 -40958387.42 -40958387.31 0.3688 0.0290

Moon -116851-04-24 04:05 J -40958291.43 -40958291.33 -40958291.24 0.2773 0.1211

Earth -116851-04-24 04:19 J -40958291.42 -40958291.32 -40958291.22 0.2779 0.1209 *

Saturn -116849-06-15 07:12 J -40957508.29 -40957508.20 -40957508.09 0.0290 0.0206

Saturn -116849-09-11 21:07 J -40957419.75 -40957419.62 -40957419.49 0.0292 0.0106

Saturn -116849-12-09 10:48 J -40957331.19 -40957331.05 -40957330.91 0.0293 0.0008

Saturn -116848-03-08 00:29 J -40957242.61 -40957242.48 -40957242.35 0.0294 0.0094

Saturn -116848-06-04 13:55 J -40957154.02 -40957153.92 -40957153.82 0.0295 0.0193

Saturn -116848-09-01 03:07 J -40957065.38 -40957065.37 -40957065.35 0.0296 0.0292

Earth -116848-10-18 17:31 J -40957017.90 -40957017.77 -40957017.63 0.2563 0.1437

Moon -116848-10-18 18:00 J -40957017.89 -40957017.75 -40957017.61 0.2557 0.1352 *

Neptune -116848-11-25 19:41 J -40956979.68 -40956979.68 -40956979.68 0.0088 0.0088

Neptune -116847-02-21 20:53 J -40956891.65 -40956891.63 -40956891.57 0.0088 0.0085

Neptune -116847-05-20 22:48 J -40956803.60 -40956803.55 -40956803.49 0.0088 0.0080

Neptune -116847-08-17 00:15 J -40956715.55 -40956715.49 -40956715.41 0.0088 0.0075

Neptune -116847-11-13 01:41 J -40956627.50 -40956627.43 -40956627.33 0.0088 0.0072

Jupiter -116847-12-22 20:10 J -40956587.83 -40956587.66 -40956587.48 0.0499 0.0043

Neptune -116846-02-09 03:36 J -40956539.44 -40956539.35 -40956539.25 0.0088 0.0067

Neptune -116846-05-08 05:03 J -40956451.38 -40956451.29 -40956451.18 0.0088 0.0062

Venus -116846-08-03 19:12 J -40956363.80 -40956363.70 -40956363.61 0.3694 0.1898

Neptune -116846-08-04 06:29 J -40956363.32 -40956363.23 -40956363.11 0.0088 0.0059

Neptune -116846-10-31 08:24 J -40956275.26 -40956275.15 -40956275.04 0.0088 0.0054

Neptune -116845-01-27 09:51 J -40956187.20 -40956187.09 -40956186.97 0.0088 0.0049

Neptune -116845-04-24 11:17 J -40956099.14 -40956099.03 -40956098.90 0.0088 0.0045

Neptune -116845-07-21 12:58 J -40956011.08 -40956010.96 -40956010.83 0.0088 0.0041

Neptune -116845-10-17 14:24 J -40955923.02 -40955922.90 -40955922.76 0.0088 0.0037

Mars -116845-11-24 08:10 J -40955885.30 -40955885.16 -40955885.01 0.1814 0.0733

Neptune -116844-01-13 16:05 J -40955834.96 -40955834.83 -40955834.70 0.0088 0.0032

Neptune -116844-04-11 17:46 J -40955746.89 -40955746.76 -40955746.63 0.0088 0.0028

Earth -116844-04-17 01:55 J -40955741.52 -40955741.42 -40955741.32 0.2772 0.1244

Moon -116844-04-17 02:39 J -40955741.49 -40955741.39 -40955741.29 0.2772 0.1139 *

Neptune -116844-07-08 19:12 J -40955658.83 -40955658.70 -40955658.56 0.0088 0.0024

Neptune -116844-10-04 20:39 J -40955570.77 -40955570.64 -40955570.50 0.0088 0.0020

Mars -116844-10-04 21:51 J -40955570.71 -40955570.59 -40955570.47 0.1703 0.0155 *

Neptune -116844-12-31 22:19 J -40955482.71 -40955482.57 -40955482.43 0.0088 0.0015

Neptune -116843-03-29 23:46 J -40955394.65 -40955394.51 -40955394.37 0.0088 0.0011

Neptune -116843-06-26 01:12 J -40955306.58 -40955306.45 -40955306.31 0.0088 0.0007

Neptune -116843-09-22 02:53 J -40955218.52 -40955218.38 -40955218.24 0.0088 0.0003

Neptune -116843-12-19 04:19 J -40955130.46 -40955130.32 -40955130.18 0.0088 0.0002

Neptune -116842-03-17 05:46 J -40955042.40 -40955042.26 -40955042.12 0.0088 0.0006

Neptune -116842-06-13 07:27 J -40954954.33 -40954954.19 -40954954.06 0.0088 0.0011

Neptune -116842-09-09 08:53 J -40954866.27 -40954866.13 -40954866.00 0.0088 0.0015

Mars -116842-09-10 06:15 J -40954865.29 -40954865.24 -40954865.19 0.1689 0.1499

Neptune -116842-12-06 10:19 J -40954778.21 -40954778.07 -40954777.94 0.0088 0.0019

Neptune -116841-03-03 11:46 J -40954690.14 -40954690.01 -40954689.88 0.0088 0.0023

Neptune -116841-05-30 13:12 J -40954602.08 -40954601.95 -40954601.82 0.0088 0.0027

Neptune -116841-08-26 14:39 J -40954514.01 -40954513.89 -40954513.76 0.0088 0.0031

Moon -116841-10-10 06:43 J -40954469.26 -40954469.22 -40954469.18 0.2572 0.2455

Jupiter -116841-11-22 06:58 J -40954426.33 -40954426.21 -40954426.08 0.0526 0.0209

Neptune -116841-11-22 16:05 J -40954425.95 -40954425.83 -40954425.70 0.0088 0.0036

Venus -116840-02-16 12:15 J -40954340.03 -40954339.99 -40954339.96 0.3699 0.3475

Neptune -116840-02-18 17:31 J -40954337.89 -40954337.77 -40954337.64 0.0088 0.0040

Jupiter -116840-02-19 15:07 J -40954336.98 -40954336.87 -40954336.76 0.0527 0.0276

Neptune -116840-05-17 19:12 J -40954249.82 -40954249.70 -40954249.58 0.0088 0.0044

Neptune -116840-08-13 20:24 J -40954161.76 -40954161.65 -40954161.53 0.0088 0.0048

Neptune -116840-11-09 21:51 J -40954073.69 -40954073.59 -40954073.47 0.0088 0.0052

Neptune -116839-02-05 23:17 J -40953985.63 -40953985.53 -40953985.42 0.0088 0.0056

Neptune -116839-05-05 00:43 J -40953897.56 -40953897.47 -40953897.36 0.0088 0.0060

Neptune -116839-08-01 02:10 J -40953809.49 -40953809.41 -40953809.31 0.0088 0.0064

Neptune -116839-10-28 03:36 J -40953721.42 -40953721.35 -40953721.25 0.0088 0.0069

Neptune -116838-01-24 05:03 J -40953633.36 -40953633.29 -40953633.20 0.0088 0.0073

Neptune -116838-04-22 06:29 J -40953545.29 -40953545.23 -40953545.15 0.0088 0.0077

Moon -116838-04-26 22:05 J -40953540.66 -40953540.58 -40953540.51 0.2780 0.2009

Earth -116838-04-26 22:48 J -40953540.62 -40953540.55 -40953540.48 0.2781 0.2079 *

Neptune -116838-07-19 07:55 J -40953457.22 -40953457.17 -40953457.11 0.0088 0.0080

Neptune -116838-10-15 09:22 J -40953369.14 -40953369.11 -40953369.07 0.0088 0.0084

Venus -116838-11-14 19:27 J -40953338.80 -40953338.69 -40953338.58 0.3699 0.2258

Saturn -116836-10-18 13:55 J -40952634.99 -40952634.92 -40952634.82 0.0272 0.0233

Saturn -116835-01-15 08:39 J -40952546.28 -40952546.14 -40952545.98 0.0271 0.0134

Saturn -116835-04-14 03:36 J -40952457.53 -40952457.35 -40952457.18 0.0270 0.0035

Mars -116835-04-16 06:43 J -40952455.38 -40952455.22 -40952455.06 0.1810 0.0095

Saturn -116835-07-11 22:19 J -40952368.74 -40952368.57 -40952368.39 0.0269 0.0065

Saturn -116835-10-08 17:17 J -40952279.91 -40952279.78 -40952279.63 0.0268 0.0165

Jupiter -116835-10-10 19:12 J -40952277.87 -40952277.70 -40952277.54 0.0500 0.0176

Saturn -116834-01-05 12:43 J -40952190.99 -40952190.97 -40952190.95 0.0267 0.0264

Jupiter -116834-01-09 00:58 J -40952187.56 -40952187.46 -40952187.35 0.0499 0.0402

Mars -116834-02-25 07:12 J -40952140.31 -40952140.20 -40952140.08 0.1707 0.0578

Mars -116832-01-30 16:19 J -40951434.91 -40951434.82 -40951434.73 0.1692 0.1112

Venus -116832-05-30 22:34 J -40951314.70 -40951314.56 -40951314.43 0.3692 0.1010

Earth -116831-04-19 20:24 J -40950990.76 -40950990.65 -40950990.54 0.2775 0.0374

Moon -116831-04-19 20:53 J -40950990.74 -40950990.63 -40950990.52 0.2771 0.0389 *

Uranus -116831-10-07 08:10 J -40950820.21 -40950820.16 -40950820.12 0.0131 0.0123

Uranus -116830-01-03 11:03 J -40950732.11 -40950732.04 -40950731.95 0.0131 0.0108

Uranus -116830-04-01 14:24 J -40950643.99 -40950643.90 -40950643.80 0.0131 0.0092

Uranus -116830-06-28 17:31 J -40950555.88 -40950555.77 -40950555.65 0.0131 0.0077

Uranus -116830-09-24 20:53 J -40950467.75 -40950467.63 -40950467.51 0.0131 0.0061

Uranus -116830-12-22 00:00 J -40950379.63 -40950379.50 -40950379.37 0.0131 0.0046

Uranus -116829-03-19 03:07 J -40950291.51 -40950291.37 -40950291.24 0.0131 0.0031

Uranus -116829-06-15 06:15 J -40950203.38 -40950203.24 -40950203.11 0.0131 0.0015

Jupiter -116829-09-10 10:19 J -40950116.17 -40950116.07 -40950115.97 0.0526 0.0335

Uranus -116829-09-11 09:22 J -40950115.25 -40950115.11 -40950114.98 0.0131 0.0003

Uranus -116829-12-08 12:15 J -40950027.12 -40950026.99 -40950026.85 0.0131 0.0016

Jupiter -116829-12-08 18:29 J -40950026.86 -40950026.73 -40950026.61 0.0527 0.0152 *

Uranus -116828-03-06 15:22 J -40949938.99 -40949938.86 -40949938.72 0.0131 0.0030

Uranus -116828-06-02 18:29 J -40949850.86 -40949850.73 -40949850.60 0.0131 0.0045

Uranus -116828-08-29 21:22 J -40949762.72 -40949762.61 -40949762.48 0.0131 0.0061

Earth -116828-10-13 11:17 J -40949718.17 -40949718.03 -40949717.88 0.2568 0.1195

Moon -116828-10-13 13:12 J -40949718.10 -40949717.95 -40949717.81 0.2567 0.1090 *

Uranus -116828-11-26 00:29 J -40949674.59 -40949674.48 -40949674.37 0.0131 0.0075

Uranus -116827-02-22 03:36 J -40949586.45 -40949586.35 -40949586.25 0.0131 0.0090

Uranus -116827-05-21 06:29 J -40949498.30 -40949498.23 -40949498.15 0.0131 0.0105

Uranus -116827-08-17 09:22 J -40949410.15 -40949410.11 -40949410.05 0.0130 0.0120

Mars -116826-09-06 05:46 J -40949025.40 -40949025.26 -40949025.13 0.1805 0.0885

Mars -116825-07-17 16:48 J -40948709.90 -40948709.80 -40948709.70 0.1710 0.1006

Moon -116824-04-12 18:00 J -40948440.75 -40948440.75 -40948440.75 0.2775 0.2773

Mars -116823-06-23 02:10 J -40948004.52 -40948004.41 -40948004.30 0.1696 0.0717

Jupiter -116823-07-29 17:46 J -40947967.89 -40947967.76 -40947967.62 0.0500 0.0313

Jupiter -116823-10-27 23:17 J -40947877.68 -40947877.53 -40947877.38 0.0499 0.0260

Saturn -116820-11-02 08:24 J -40946776.22 -40946776.15 -40946776.07 0.0290 0.0237

Saturn -116819-01-29 22:19 J -40946687.69 -40946687.57 -40946687.45 0.0291 0.0138

Saturn -116819-04-28 12:00 J -40946599.14 -40946599.00 -40946598.86 0.0292 0.0039

Saturn -116819-07-26 01:41 J -40946510.57 -40946510.43 -40946510.30 0.0293 0.0061

Saturn -116819-10-22 15:07 J -40946421.98 -40946421.87 -40946421.75 0.0294 0.0160

Saturn -116818-01-19 04:34 J -40946333.37 -40946333.31 -40946333.25 0.0295 0.0259

Moon -116818-04-22 14:39 J -40946239.99 -40946239.89 -40946239.78 0.2769 0.0573

Earth -116818-04-22 14:53 J -40946239.99 -40946239.88 -40946239.78 0.2777 0.0513 *

Jupiter -116817-06-29 13:55 J -40945805.98 -40945805.92 -40945805.85 0.0526 0.0453

Jupiter -116817-09-26 22:19 J -40945716.70 -40945716.57 -40945716.43 0.0527 0.0039

Jupiter -116817-12-25 06:00 J -40945627.27 -40945627.25 -40945627.22 0.0527 0.0513

Mars -116816-01-26 05:17 J -40945595.34 -40945595.28 -40945595.22 0.1801 0.1641

Mars -116816-12-08 01:55 J -40945279.48 -40945279.42 -40945279.35 0.1714 0.1450

Earth -116815-10-16 17:46 J -40944966.92 -40944966.76 -40944966.60 0.2565 0.0256

Moon -116815-10-16 18:29 J -40944966.89 -40944966.73 -40944966.56 0.2560 0.0284 *

Mars -116814-01-03 10:48 J -40944888.12 -40944888.05 -40944887.99 0.1819 0.1655

Mars -116814-11-13 12:15 J -40944574.11 -40944573.99 -40944573.88 0.1699 0.0319

Earth -116811-04-15 12:15 J -40943690.06 -40943689.99 -40943689.91 0.2770 0.1953

Moon -116811-04-15 12:58 J -40943690.04 -40943689.96 -40943689.88 0.2774 0.1913 *

Jupiter -116811-05-17 15:22 J -40943657.92 -40943657.86 -40943657.79 0.0499 0.0461

Jupiter -116811-08-15 20:24 J -40943567.83 -40943567.65 -40943567.48 0.0499 0.0105

Saturn -116806-03-07 14:24 J -40941902.95 -40941902.90 -40941902.85 0.0273 0.0260

Saturn -116806-06-04 08:39 J -40941814.27 -40941814.14 -40941813.99 0.0272 0.0162

Venus -116806-07-26 13:12 J -40941762.03 -40941761.95 -40941761.87 0.3679 0.2384

Saturn -116806-09-01 03:22 J -40941725.53 -40941725.36 -40941725.19 0.0271 0.0063

Saturn -116806-11-28 22:19 J -40941636.74 -40941636.57 -40941636.40 0.0270 0.0037

Saturn -116805-02-25 17:17 J -40941547.93 -40941547.78 -40941547.62 0.0269 0.0137

Moon -116805-04-24 08:39 J -40941489.24 -40941489.14 -40941489.04 0.2775 0.1270

Earth -116805-04-24 09:07 J -40941489.21 -40941489.12 -40941489.02 0.2779 0.1379 *

Saturn -116805-05-24 12:29 J -40941459.06 -40941458.98 -40941458.90 0.0268 0.0237

Mars -116805-05-25 08:53 J -40941458.27 -40941458.13 -40941457.99 0.1815 0.0810

Jupiter -116805-07-16 02:39 J -40941406.52 -40941406.39 -40941406.26 0.0527 0.0078

Jupiter -116805-10-13 10:19 J -40941317.15 -40941317.07 -40941316.98 0.0527 0.0404

Mars -116804-04-04 21:51 J -40941143.71 -40941143.59 -40941143.47 0.1703 0.0104

Mars -116802-03-11 06:15 J -40940438.29 -40940438.24 -40940438.19 0.1689 0.1545

Moon -116802-10-20 00:15 J -40940215.61 -40940215.49 -40940215.38 0.2557 0.1785

Earth -116802-10-20 00:15 J -40940215.61 -40940215.49 -40940215.37 0.2563 0.1716 *

Venus -116800-02-08 06:29 J -40939738.33 -40939738.23 -40939738.12 0.3684 0.0739

Jupiter -116799-06-03 18:43 J -40939257.89 -40939257.72 -40939257.54 0.0499 0.0036

Earth -116798-04-18 06:43 J -40938939.32 -40938939.22 -40938939.12 0.2773 0.1083

Moon -116798-04-18 07:41 J -40938939.28 -40938939.18 -40938939.08 0.2771 0.1047 *

Mars -116796-10-15 07:27 J -40938028.35 -40938028.19 -40938028.03 0.1810 0.0025

Venus -116795-08-24 23:46 J -40937714.61 -40937714.51 -40937714.40 0.3690 0.0890

Mars -116795-08-26 07:27 J -40937713.31 -40937713.19 -40937713.08 0.1706 0.0525

Earth -116795-10-11 11:46 J -40937667.07 -40937667.01 -40937666.95 0.2570 0.2361

Moon -116795-10-11 13:27 J -40937667.00 -40937666.94 -40937666.88 0.2571 0.2351 *

Jupiter -116793-05-04 06:15 J -40937096.36 -40937096.24 -40937096.11 0.0526 0.0196

Mars -116793-07-31 16:19 J -40937007.91 -40937007.82 -40937007.73 0.1692 0.1158

Jupiter -116793-08-01 14:24 J -40937007.01 -40937006.90 -40937006.79 0.0527 0.0288

Moon -116792-04-27 02:53 J -40936738.44 -40936738.38 -40936738.32 0.2781 0.2202

Earth -116792-04-27 03:36 J -40936738.41 -40936738.35 -40936738.29 0.2781 0.2244 *

Saturn -116790-03-22 08:39 J -40936044.17 -40936044.14 -40936044.09 0.0289 0.0274

Saturn -116790-06-18 22:34 J -40935955.67 -40935955.56 -40935955.44 0.0290 0.0175

Saturn -116790-09-15 12:29 J -40935867.12 -40935866.98 -40935866.85 0.0292 0.0076

Saturn -116790-12-13 02:10 J -40935778.55 -40935778.41 -40935778.28 0.0293 0.0025

Venus -116789-03-09 17:03 J -40935690.87 -40935690.79 -40935690.71 0.3695 0.2484

Saturn -116789-03-10 15:36 J -40935689.98 -40935689.85 -40935689.73 0.0294 0.0123

Saturn -116789-06-07 04:48 J -40935601.38 -40935601.30 -40935601.20 0.0295 0.0222

Jupiter -116787-03-22 17:17 J -40934947.94 -40934947.78 -40934947.61 0.0499 0.0173

Uranus -116787-06-17 20:39 J -40934860.72 -40934860.64 -40934860.52 0.0148 0.0123

Jupiter -116787-06-20 23:03 J -40934857.64 -40934857.54 -40934857.43 0.0499 0.0405

Uranus -116787-09-14 05:03 J -40934772.43 -40934772.29 -40934772.14 0.0148 0.0093

Uranus -116787-12-11 12:58 J -40934684.11 -40934683.96 -40934683.78 0.0148 0.0064

Mars -116786-03-07 06:15 J -40934598.38 -40934598.24 -40934598.10 0.1805 0.0808

Uranus -116786-03-09 21:22 J -40934595.79 -40934595.61 -40934595.43 0.0148 0.0034

Uranus -116786-06-06 05:31 J -40934507.45 -40934507.27 -40934507.08 0.0148 0.0004

Uranus -116786-09-02 13:55 J -40934419.10 -40934418.92 -40934418.74 0.0148 0.0027

Uranus -116786-11-29 22:05 J -40934330.75 -40934330.58 -40934330.40 0.0148 0.0057

Mars -116785-01-16 16:48 J -40934282.90 -40934282.80 -40934282.70 0.1710 0.0959

Uranus -116785-02-26 06:29 J -40934242.38 -40934242.23 -40934242.08 0.0148 0.0088

Earth -116785-04-20 01:12 J -40934188.56 -40934188.45 -40934188.34 0.2775 0.0214

Moon -116785-04-20 01:41 J -40934188.54 -40934188.43 -40934188.33 0.2769 0.0176 *

Uranus -116785-05-24 14:53 J -40934153.99 -40934153.88 -40934153.76 0.0148 0.0119

Mars -116784-12-22 02:10 J -40933577.51 -40933577.41 -40933577.30 0.1696 0.0765

Earth -116782-10-14 18:00 J -40932915.90 -40932915.75 -40932915.60 0.2567 0.0920

Moon -116782-10-14 19:27 J -40932915.84 -40932915.69 -40932915.53 0.2565 0.0777 *

Jupiter -116781-02-21 09:51 J -40932786.20 -40932786.09 -40932785.99 0.0526 0.0318

Jupiter -116781-05-20 18:00 J -40932696.87 -40932696.75 -40932696.62 0.0527 0.0169

Venus -116781-06-20 19:41 J -40932665.81 -40932665.68 -40932665.55 0.3697 0.1172

Earth -116778-04-13 22:48 J -40931638.58 -40931638.55 -40931638.53 0.2768 0.2659

Moon -116778-04-13 23:03 J -40931638.56 -40931638.54 -40931638.52 0.2775 0.2702 *

Mars -116777-07-27 05:46 J -40931168.33 -40931168.26 -40931168.18 0.1801 0.1566

Saturn -116777-10-21 07:27 J -40931082.30 -40931082.19 -40931082.07 0.0272 0.0197

Saturn -116776-01-18 02:10 J -40930993.57 -40930993.41 -40930993.24 0.0271 0.0098

Saturn -116776-04-16 21:07 J -40930904.80 -40930904.62 -40930904.45 0.0270 0.0006

Mars -116776-06-08 01:55 J -40930852.48 -40930852.42 -40930852.35 0.1715 0.1401

Saturn -116776-07-14 16:05 J -40930816.00 -40930815.83 -40930815.67 0.0269 0.0101

Saturn -116776-10-11 11:03 J -40930727.15 -40930727.04 -40930726.92 0.0268 0.0201

Venus -116775-01-04 23:03 J -40930641.65 -40930641.54 -40930641.43 0.3690 0.2150

Jupiter -116775-01-08 16:19 J -40930637.96 -40930637.82 -40930637.68 0.0500 0.0307

Jupiter -116775-04-08 21:51 J -40930547.74 -40930547.59 -40930547.44 0.0499 0.0267

Mars -116775-07-04 11:31 J -40930461.07 -40930461.02 -40930460.98 0.1819 0.1738

Mars -116774-05-14 12:00 J -40930147.11 -40930147.00 -40930146.88 0.1699 0.0364

Moon -116772-04-22 19:27 J -40929437.79 -40929437.69 -40929437.58 0.2770 0.0594

Earth -116772-04-22 19:41 J -40929437.79 -40929437.68 -40929437.58 0.2778 0.0667 *

Jupiter -116770-12-10 12:58 J -40928476.03 -40928475.96 -40928475.89 0.0526 0.0444

Jupiter -116769-03-08 21:22 J -40928386.74 -40928386.61 -40928386.48 0.0526 0.0045

Jupiter -116769-06-06 05:03 J -40928297.31 -40928297.29 -40928297.27 0.0527 0.0521

Earth -116769-10-17 00:29 J -40928164.64 -40928164.48 -40928164.32 0.2565 0.0539

Moon -116769-10-17 01:12 J -40928164.61 -40928164.45 -40928164.29 0.2559 0.0588 *

Mars -116766-11-24 09:36 J -40927031.24 -40927031.10 -40927030.96 0.1814 0.0889

Earth -116765-04-15 17:17 J -40926887.86 -40926887.78 -40926887.70 0.2770 0.1787

Moon -116765-04-15 18:00 J -40926887.84 -40926887.75 -40926887.67 0.2772 0.1685 *

Mars -116765-10-03 21:51 J -40926716.71 -40926716.59 -40926716.47 0.1703 0.0054

Neptune -116764-07-29 01:55 J -40926418.43 -40926418.42 -40926418.40 0.0089 0.0088

Neptune -116764-10-25 04:48 J -40926330.35 -40926330.30 -40926330.23 0.0089 0.0083

Jupiter -116764-10-27 15:22 J -40926327.94 -40926327.86 -40926327.78 0.0500 0.0441

Neptune -116763-01-21 07:41 J -40926242.25 -40926242.18 -40926242.08 0.0089 0.0078

Jupiter -116763-01-25 20:24 J -40926237.82 -40926237.65 -40926237.48 0.0499 0.0127

Neptune -116763-04-19 11:03 J -40926154.14 -40926154.04 -40926153.93 0.0089 0.0072

Neptune -116763-07-16 13:55 J -40926066.03 -40926065.92 -40926065.79 0.0089 0.0067

Mars -116763-09-09 06:15 J -40926011.28 -40926011.24 -40926011.20 0.1689 0.1588

Neptune -116763-10-12 17:03 J -40925977.91 -40925977.79 -40925977.65 0.0089 0.0061

Neptune -116762-01-08 19:55 J -40925889.79 -40925889.67 -40925889.51 0.0089 0.0056

Neptune -116762-04-06 23:17 J -40925801.67 -40925801.53 -40925801.37 0.0089 0.0050

Neptune -116762-07-04 02:10 J -40925713.55 -40925713.41 -40925713.24 0.0089 0.0045

Neptune -116762-09-30 05:31 J -40925625.43 -40925625.27 -40925625.10 0.0089 0.0039

Neptune -116762-12-27 08:39 J -40925537.30 -40925537.14 -40925536.96 0.0089 0.0034

Neptune -116761-03-24 11:46 J -40925449.18 -40925449.01 -40925448.83 0.0089 0.0028

Neptune -116761-06-20 15:07 J -40925361.05 -40925360.87 -40925360.69 0.0089 0.0022

Neptune -116761-09-16 18:15 J -40925272.92 -40925272.74 -40925272.56 0.0089 0.0017

Saturn -116761-11-04 23:17 J -40925223.62 -40925223.53 -40925223.43 0.0290 0.0210

Neptune -116761-12-13 21:22 J -40925184.79 -40925184.61 -40925184.43 0.0089 0.0011

Saturn -116760-02-01 13:12 J -40925135.08 -40925134.95 -40925134.82 0.0291 0.0111

Neptune -116760-03-12 00:29 J -40925096.66 -40925096.48 -40925096.29 0.0089 0.0006

Saturn -116760-05-01 02:53 J -40925046.52 -40925046.38 -40925046.24 0.0292 0.0012

Neptune -116760-06-08 03:51 J -40925008.52 -40925008.34 -40925008.16 0.0089 0.0001

Saturn -116760-07-28 16:34 J -40924957.94 -40924957.81 -40924957.68 0.0293 0.0088

Neptune -116760-09-04 06:58 J -40924920.39 -40924920.21 -40924920.02 0.0089 0.0006

Saturn -116760-10-25 06:00 J -40924869.36 -40924869.25 -40924869.15 0.0294 0.0186

Neptune -116760-12-01 10:05 J -40924832.26 -40924832.08 -40924831.89 0.0089 0.0012

Saturn -116759-01-21 19:12 J -40924780.73 -40924780.70 -40924780.66 0.0295 0.0285

Neptune -116759-02-27 13:12 J -40924744.12 -40924743.95 -40924743.76 0.0089 0.0018

Moon -116759-04-25 13:27 J -40924687.03 -40924686.94 -40924686.85 0.2777 0.1547

Earth -116759-04-25 14:10 J -40924687.00 -40924686.91 -40924686.82 0.2779 0.1540 *

Neptune -116759-05-26 16:34 J -40924655.98 -40924655.81 -40924655.63 0.0089 0.0023

Neptune -116759-08-22 19:41 J -40924567.84 -40924567.68 -40924567.49 0.0089 0.0029

Neptune -116759-11-18 23:03 J -40924479.70 -40924479.54 -40924479.36 0.0089 0.0035

Neptune -116758-02-15 02:10 J -40924391.56 -40924391.41 -40924391.23 0.0089 0.0041

Neptune -116758-05-14 05:46 J -40924303.42 -40924303.26 -40924303.10 0.0089 0.0046

Neptune -116758-08-10 08:53 J -40924215.27 -40924215.13 -40924214.97 0.0089 0.0052

Neptune -116758-11-06 12:00 J -40924127.13 -40924127.00 -40924126.85 0.0089 0.0058

Jupiter -116758-12-27 01:27 J -40924076.57 -40924076.44 -40924076.31 0.0526 0.0072

Neptune -116757-02-02 15:07 J -40924038.98 -40924038.87 -40924038.72 0.0089 0.0064

Jupiter -116757-03-25 09:07 J -40923987.20 -40923987.12 -40923987.04 0.0527 0.0409

Neptune -116757-04-30 18:29 J -40923950.83 -40923950.73 -40923950.60 0.0089 0.0070

Neptune -116757-07-27 22:19 J -40923862.67 -40923862.57 -40923862.48 0.0089 0.0075

Neptune -116757-10-24 01:27 J -40923774.51 -40923774.44 -40923774.36 0.0089 0.0081

Neptune -116756-01-20 04:34 J -40923686.33 -40923686.31 -40923686.26 0.0089 0.0087

Mars -116756-04-15 07:41 J -40923601.33 -40923601.18 -40923601.02 0.1810 0.0069

Moon -116756-10-20 06:15 J -40923413.35 -40923413.24 -40923413.13 0.2557 0.1899

Earth -116756-10-20 06:58 J -40923413.31 -40923413.21 -40923413.11 0.2563 0.1998 *

Mars -116755-02-24 07:27 J -40923286.31 -40923286.19 -40923286.07 0.1706 0.0473

Venus -116755-08-16 17:46 J -40923112.80 -40923112.76 -40923112.73 0.3674 0.3429

Mars -116753-01-30 16:19 J -40922580.90 -40922580.82 -40922580.74 0.1692 0.1204

Earth -116752-04-18 11:46 J -40922137.11 -40922137.01 -40922136.91 0.2773 0.0914

Moon -116752-04-18 12:29 J -40922137.09 -40922136.98 -40922136.88 0.2771 0.0850 *

Jupiter -116752-11-13 17:46 J -40921927.94 -40921927.76 -40921927.59 0.0499 0.0027

Venus -116749-03-01 11:03 J -40921089.13 -40921089.04 -40921088.94 0.3680 0.1771

Earth -116749-10-11 18:29 J -40920864.83 -40920864.73 -40920864.64 0.2569 0.2088

Moon -116749-10-11 20:10 J -40920864.77 -40920864.66 -40920864.55 0.2570 0.1869 *

Saturn -116747-03-10 06:58 J -40920350.30 -40920350.21 -40920350.11 0.0273 0.0228

Saturn -116747-06-07 01:27 J -40920261.58 -40920261.44 -40920261.28 0.0271 0.0130

Saturn -116747-09-03 20:24 J -40920172.82 -40920172.65 -40920172.48 0.0270 0.0030

Mars -116747-09-05 07:12 J -40920171.35 -40920171.20 -40920171.06 0.1805 0.0725

Uranus -116747-10-27 15:22 J -40920118.91 -40920118.86 -40920118.79 0.0131 0.0118

Saturn -116747-12-01 15:22 J -40920084.03 -40920083.86 -40920083.69 0.0270 0.0070

Uranus -116746-01-23 18:43 J -40920030.80 -40920030.72 -40920030.63 0.0131 0.0102

Saturn -116746-02-28 10:19 J -40919995.20 -40919995.07 -40919994.93 0.0269 0.0170

Uranus -116746-04-21 21:51 J -40919942.68 -40919942.59 -40919942.48 0.0131 0.0087

Moon -116746-04-28 07:41 J -40919936.23 -40919936.18 -40919936.12 0.2783 0.2314

Earth -116746-04-28 08:24 J -40919936.20 -40919936.15 -40919936.10 0.2781 0.2410 *

Mars -116746-07-17 16:48 J -40919855.90 -40919855.80 -40919855.70 0.1710 0.0907

Uranus -116746-07-19 01:12 J -40919854.56 -40919854.45 -40919854.33 0.0131 0.0071

Uranus -116746-10-15 04:19 J -40919766.44 -40919766.32 -40919766.19 0.0131 0.0056

Jupiter -116746-10-15 05:31 J -40919766.40 -40919766.27 -40919766.15 0.0527 0.0187 *

Uranus -116745-01-11 07:27 J -40919678.32 -40919678.19 -40919678.06 0.0131 0.0040

Jupiter -116745-01-12 13:27 J -40919677.04 -40919676.94 -40919676.83 0.0527 0.0299

Uranus -116745-04-08 10:34 J -40919590.19 -40919590.06 -40919589.92 0.0131 0.0025

Uranus -116745-07-05 13:41 J -40919502.06 -40919501.93 -40919501.79 0.0131 0.0010

Uranus -116745-10-01 16:48 J -40919413.93 -40919413.80 -40919413.66 0.0131 0.0006

Uranus -116745-12-28 19:55 J -40919325.80 -40919325.67 -40919325.53 0.0131 0.0021

Uranus -116744-03-26 23:03 J -40919237.67 -40919237.54 -40919237.41 0.0131 0.0036

Mars -116744-06-22 02:24 J -40919150.51 -40919150.40 -40919150.30 0.1696 0.0813

Uranus -116744-06-23 01:55 J -40919149.54 -40919149.42 -40919149.29 0.0131 0.0051

Venus -116744-09-15 04:34 J -40919065.42 -40919065.31 -40919065.20 0.3686 0.0158

Uranus -116744-09-19 05:03 J -40919061.40 -40919061.29 -40919061.17 0.0131 0.0066

Uranus -116744-12-16 07:55 J -40918973.27 -40918973.17 -40918973.06 0.0131 0.0081

Uranus -116743-03-14 11:03 J -40918885.13 -40918885.04 -40918884.94 0.0131 0.0096

Uranus -116743-06-10 13:55 J -40918796.98 -40918796.92 -40918796.84 0.0131 0.0111

Uranus -116743-09-06 17:03 J -40918708.82 -40918708.79 -40918708.75 0.0131 0.0125

Jupiter -116740-09-01 16:19 J -40917617.99 -40917617.82 -40917617.65 0.0499 0.0163

Jupiter -116740-11-30 21:51 J -40917527.68 -40917527.59 -40917527.48 0.0498 0.0414

Moon   -116739-04-21 06:15 J -40917386.35 -40917386.24 -40917386.13 0.2768 0.0092

Earth   -116739-04-21 06:15 J -40917386.35 -40917386.24 -40917386.14 0.2776 0.0104 *

Venus   -116738-03-31 21:36 J -40917041.69 -40917041.60 -40917041.50 0.3691 0.1487

Mars   -116737-01-26 06:29 J -40916741.32 -40916741.23 -40916741.15 0.1801 0.1488

Mars   -116737-12-07 02:10 J -40916425.49 -40916425.41 -40916425.34 0.1714 0.1347

Earth   -116736-10-15 00:43 J -40916113.63 -40916113.47 -40916113.32 0.2567 0.0641

Moon   -116736-10-15 01:55 J -40916113.58 -40916113.42 -40916113.27 0.2562 0.0655 *

Mars   -116735-11-12 12:15 J -40915720.11 -40915719.99 -40915719.88 0.1699 0.0410

Jupiter -116734-08-03 09:07 J -40915456.22 -40915456.12 -40915456.01 0.0526 0.0304

Jupiter -116734-10-31 17:31 J -40915366.90 -40915366.77 -40915366.65 0.0527 0.0184

Venus   -116733-10-14 14:53 J -40915017.94 -40915017.88 -40915017.82 0.3697 0.3066

Earth   -116732-04-14 03:36 J -40914836.39 -40914836.35 -40914836.30 0.2768 0.2498

Moon   -116732-04-14 04:05 J -40914836.38 -40914836.33 -40914836.28 0.2774 0.2405 *

Saturn -116731-03-24 23:31 J -40914491.59 -40914491.52 -40914491.45 0.0289 0.0249

Saturn -116731-06-21 13:12 J -40914403.06 -40914402.95 -40914402.83 0.0290 0.0150

Saturn -116731-09-18 02:53 J -40914314.51 -40914314.38 -40914314.24 0.0292 0.0052

Saturn -116731-12-15 16:34 J -40914225.94 -40914225.81 -40914225.67 0.0293 0.0048

Saturn -116730-03-14 06:00 J -40914137.37 -40914137.25 -40914137.13 0.0294 0.0147

Saturn -116730-06-10 19:27 J -40914048.76 -40914048.69 -40914048.62 0.0295 0.0245

Venus   -116730-07-12 17:17 J -40914016.84 -40914016.78 -40914016.72 0.3703 0.3253

Jupiter -116728-06-20 14:53 J -40913308.02 -40913307.88 -40913307.74 0.0499 0.0300

Jupiter -116728-09-18 20:24 J -40913217.80 -40913217.65 -40913217.50 0.0499 0.0273

Moon   -116726-04-24 00:15 J -40912635.60 -40912635.49 -40912635.39 0.2772 0.0847

Earth   -116726-04-24 00:29 J -40912635.58 -40912635.48 -40912635.37 0.2778 0.0836 *

Mars   -116726-05-25 10:05 J -40912604.22 -40912604.08 -40912603.95 0.1814 0.0964

Mars   -116725-04-03 21:51 J -40912289.71 -40912289.59 -40912289.47 0.1703 0.0021

Venus   -116724-01-25 20:10 J -40911992.80 -40911992.66 -40911992.52 0.3696 0.0066

Mars   -116723-03-10 06:15 J -40911584.27 -40911584.24 -40911584.21 0.1689 0.1631

Earth -116723-10-18 06:58 J -40911362.36 -40911362.21 -40911362.05 0.2565 0.0815

Moon -116723-10-18 07:27 J -40911362.35 -40911362.19 -40911362.04 0.2559 0.0857 *

Jupiter -116722-05-22 12:43 J -40911146.05 -40911145.97 -40911145.89 0.0526 0.0425

Jupiter -116722-08-19 21:07 J -40911056.75 -40911056.62 -40911056.49 0.0527 0.0064

Earth -116719-04-16 22:05 J -40910085.66 -40910085.58 -40910085.49 0.2771 0.1626

Moon -116719-04-16 22:48 J -40910085.63 -40910085.55 -40910085.46 0.2771 0.1622 *

Venus -116719-08-11 23:46 J -40909968.57 -40909968.51 -40909968.46 0.3688 0.3314

Saturn -116718-07-28 05:17 J -40909618.31 -40909618.28 -40909618.24 0.0273 0.0266

Saturn -116718-10-24 23:46 J -40909529.64 -40909529.51 -40909529.37 0.0272 0.0168

Saturn -116717-01-21 18:29 J -40909440.89 -40909440.73 -40909440.56 0.0271 0.0069

Saturn -116717-04-19 13:27 J -40909352.11 -40909351.94 -40909351.76 0.0270 0.0031

Saturn -116717-07-17 08:24 J -40909263.30 -40909263.15 -40909262.99 0.0269 0.0131

Saturn -116717-10-14 03:36 J -40909174.43 -40909174.35 -40909174.26 0.0268 0.0231

Mars -116717-10-14 08:39 J -40909174.30 -40909174.14 -40909173.98 0.1810 0.0144 *

Jupiter -116716-04-08 14:10 J -40908998.00 -40908997.91 -40908997.83 0.0500 0.0432

Jupiter -116716-07-07 18:58 J -40908907.88 -40908907.71 -40908907.53 0.0499 0.0138

Mars -116716-08-25 07:27 J -40908859.31 -40908859.19 -40908859.07 0.1707 0.0427

Pluto -116715-04-19 04:48 J -40908622.35 -40908622.30 -40908622.22 0.0060 0.0056

Pluto -116715-07-16 06:29 J -40908534.34 -40908534.23 -40908534.12 0.0060 0.0048

Pluto -116715-10-12 07:12 J -40908446.31 -40908446.20 -40908446.03 0.0060 0.0042

Pluto -116714-01-08 08:53 J -40908358.28 -40908358.13 -40908357.96 0.0060 0.0033

Pluto -116714-04-06 10:19 J -40908270.23 -40908270.07 -40908269.89 0.0060 0.0025

Pluto -116714-07-03 11:46 J -40908182.19 -40908182.01 -40908181.82 0.0060 0.0017

Mars -116714-07-31 16:19 J -40908153.90 -40908153.82 -40908153.74 0.1692 0.1249

Pluto -116714-09-29 13:12 J -40908094.14 -40908093.95 -40908093.76 0.0060 0.0010

Pluto -116714-12-26 14:39 J -40908006.08 -40908005.89 -40908005.70 0.0060 0.0002

Pluto -116713-03-23 15:51 J -40907918.02 -40907917.84 -40907917.64 0.0061 0.0006

Moon -116713-04-25 18:15 J -40907884.83 -40907884.74 -40907884.65 0.2777 0.1569

Earth -116713-04-25 18:58 J -40907884.79 -40907884.71 -40907884.63 0.2780 0.1704 *

Pluto -116713-06-19 17:03 J -40907829.96 -40907829.79 -40907829.59 0.0061 0.0015

Pluto -116713-09-15 18:43 J -40907741.90 -40907741.72 -40907741.54 0.0061 0.0022

Pluto -116713-12-12 19:55 J -40907653.83 -40907653.67 -40907653.50 0.0061 0.0030

Pluto -116712-03-10 21:07 J -40907565.75 -40907565.62 -40907565.46 0.0061 0.0038

Pluto -116712-06-06 22:34 J -40907477.67 -40907477.56 -40907477.43 0.0061 0.0046

Pluto -116712-09-02 23:46 J -40907389.58 -40907389.51 -40907389.41 0.0061 0.0054

Jupiter -116710-06-08 00:29 J -40906746.61 -40906746.48 -40906746.35 0.0526 0.0061

Jupiter -116710-09-05 08:24 J -40906657.23 -40906657.15 -40906657.08 0.0527 0.0420

Moon -116710-10-21 12:29 J -40906611.06 -40906610.98 -40906610.90 0.2558 0.2215

Earth -116710-10-21 13:41 J -40906611.01 -40906610.93 -40906610.86 0.2563 0.2279 *

Mars -116707-03-06 07:27 J -40905744.34 -40905744.19 -40905744.05 0.1805 0.0657

Mars -116706-01-15 17:03 J -40905428.90 -40905428.79 -40905428.69 0.1711 0.0856

Earth -116706-04-19 16:34 J -40905334.91 -40905334.81 -40905334.70 0.2773 0.0752

Moon -116706-04-19 17:03 J -40905334.89 -40905334.79 -40905334.68 0.2768 0.0683 *

Mars -116705-12-21 02:24 J -40904723.51 -40904723.40 -40904723.30 0.1696 0.0858

Jupiter -116704-04-25 17:46 J -40904597.94 -40904597.76 -40904597.58 0.0499 0.0002

Uranus -116703-04-10 22:05 J -40904247.64 -40904247.58 -40904247.52 0.0148 0.0139

Uranus -116703-07-08 06:00 J -40904159.36 -40904159.25 -40904159.12 0.0148 0.0110

Uranus -116703-10-04 13:55 J -40904071.06 -40904070.92 -40904070.76 0.0148 0.0081

Earth -116703-10-13 00:58 J -40904062.57 -40904062.46 -40904062.35 0.2569 0.1815

Moon -116703-10-13 02:39 J -40904062.51 -40904062.39 -40904062.28 0.2568 0.1806 *

Uranus -116703-12-31 22:05 J -40903982.74 -40903982.58 -40903982.40 0.0148 0.0051

Uranus -116702-03-30 06:29 J -40903894.41 -40903894.23 -40903894.05 0.0148 0.0021

Uranus -116702-06-26 14:39 J -40903806.07 -40903805.89 -40903805.70 0.0148 0.0009

Saturn -116702-08-12 00:00 J -40903759.52 -40903759.50 -40903759.48 0.0289 0.0284

Uranus -116702-09-22 22:48 J -40903717.72 -40903717.55 -40903717.37 0.0148 0.0039

Saturn -116702-11-08 13:55 J -40903671.03 -40903670.92 -40903670.82 0.0290 0.0186

Uranus -116702-12-20 07:12 J -40903629.36 -40903629.20 -40903629.03 0.0148 0.0070

Saturn -116701-02-05 03:36 J -40903582.48 -40903582.35 -40903582.22 0.0291 0.0087

Uranus -116701-03-17 15:22 J -40903540.98 -40903540.86 -40903540.71 0.0148 0.0101

Saturn -116701-05-03 17:17 J -40903493.92 -40903493.78 -40903493.64 0.0292 0.0012

Uranus -116701-06-13 23:46 J -40903452.58 -40903452.51 -40903452.41 0.0148 0.0132

Saturn -116701-07-31 06:43 J -40903405.34 -40903405.22 -40903405.09 0.0293 0.0110

Saturn -116701-10-27 20:10 J -40903316.75 -40903316.66 -40903316.56 0.0294 0.0209

Moon -116700-04-28 12:43 J -40903134.00 -40903133.97 -40903133.93 0.2786 0.2599

Earth -116700-04-28 13:27 J -40903133.98 -40903133.94 -40903133.91 0.2781 0.2574 *

Venus -116698-03-23 15:36 J -40902439.92 -40902439.85 -40902439.78 0.3676 0.2806

Jupiter -116698-03-27 04:19 J -40902436.44 -40902436.32 -40902436.19 0.0526 0.0178

Jupiter -116698-06-24 12:29 J -40902347.09 -40902346.98 -40902346.88 0.0527 0.0307

Mars -116698-07-27 06:58 J -40902314.31 -40902314.21 -40902314.12 0.1801 0.1416

Mars -116697-06-07 02:10 J -40901998.49 -40901998.41 -40901998.33 0.1714 0.1294

Mars -116695-05-13 12:15 J -40901293.11 -40901292.99 -40901292.87 0.1699 0.0457

Moon -116693-04-21 11:03 J -40900584.15 -40900584.04 -40900583.93 0.2768 0.0154

Earth -116693-04-21 11:03 J -40900584.15 -40900584.04 -40900583.93 0.2776 0.0126 *

Venus -116693-10-06 09:07 J -40900416.23 -40900416.12 -40900416.02 0.3682 0.1154

Jupiter -116692-02-11 15:22 J -40900288.03 -40900287.86 -40900287.69 0.0499 0.0150

Jupiter -116692-05-12 21:07 J -40900197.71 -40900197.62 -40900197.53 0.0498 0.0426

Earth -116690-10-16 07:27 J -40899311.35 -40899311.19 -40899311.04 0.2567 0.0369

Moon -116690-10-16 08:10 J -40899311.32 -40899311.16 -40899310.99 0.2561 0.0210 *

Saturn -116688-03-12 22:48 J -40898797.65 -40898797.55 -40898797.42 0.0273 0.0201

Saturn -116688-06-09 17:46 J -40898708.92 -40898708.76 -40898708.60 0.0271 0.0101

Saturn -116688-09-06 12:29 J -40898620.15 -40898619.98 -40898619.80 0.0270 0.0006

Saturn -116688-12-04 07:27 J -40898531.35 -40898531.19 -40898531.02 0.0270 0.0099

Saturn -116687-03-03 02:39 J -40898442.50 -40898442.39 -40898442.27 0.0269 0.0199

Venus -116687-04-22 02:24 J -40898392.51 -40898392.40 -40898392.29 0.3687 0.0477

Mars -116687-11-23 10:48 J -40898177.18 -40898177.05 -40898176.92 0.1815 0.1051

Jupiter -116686-01-13 08:24 J -40898126.26 -40898126.15 -40898126.04 0.0527 0.0293

Jupiter -116686-04-12 16:34 J -40898036.93 -40898036.81 -40898036.69 0.0527 0.0195

Earth -116686-04-15 08:39 J -40898034.20 -40898034.14 -40898034.09 0.2768 0.2334

Moon -116686-04-15 09:07 J -40898034.17 -40898034.12 -40898034.06 0.2772 0.2347 *

Mars -116686-10-03 21:51 J -40897862.71 -40897862.59 -40897862.46 0.1703 0.0071

Mars -116684-09-08 06:15 J -40897157.25 -40897157.24 -40897157.23 0.1689 0.1679

Neptune -116683-08-22 18:15 J -40896808.75 -40896808.74 -40896808.71 0.0088 0.0088

Neptune -116683-11-18 19:41 J -40896720.71 -40896720.68 -40896720.62 0.0088 0.0084

Neptune -116682-02-14 21:36 J -40896632.66 -40896632.60 -40896632.53 0.0088 0.0079

Neptune -116682-05-13 23:03 J -40896544.60 -40896544.54 -40896544.45 0.0088 0.0075

Neptune -116682-08-10 00:29 J -40896456.55 -40896456.48 -40896456.38 0.0088 0.0071

Venus -116682-11-05 19:41 J -40896368.77 -40896368.68 -40896368.60 0.3693 0.2077

Neptune -116682-11-06 02:24 J -40896368.49 -40896368.40 -40896368.30 0.0088 0.0066

Neptune -116681-02-02 03:51 J -40896280.43 -40896280.34 -40896280.23 0.0088 0.0062

Neptune -116681-04-30 05:17 J -40896192.37 -40896192.28 -40896192.16 0.0088 0.0058

Neptune -116681-07-27 07:12 J -40896104.31 -40896104.20 -40896104.09 0.0088 0.0053

Neptune -116681-10-23 08:39 J -40896016.25 -40896016.14 -40896016.02 0.0088 0.0049

Jupiter -116681-11-30 14:10 J -40895978.05 -40895977.91 -40895977.77 0.0499 0.0286

Neptune -116680-01-19 10:05 J -40895928.19 -40895928.08 -40895927.95 0.0088 0.0045

Jupiter -116680-02-28 19:27 J -40895887.83 -40895887.69 -40895887.54 0.0498 0.0286

Neptune -116680-04-17 11:46 J -40895840.13 -40895840.01 -40895839.88 0.0088 0.0040

Moon -116680-04-24 04:48 J -40895833.40 -40895833.30 -40895833.19 0.2774 0.0922

Earth -116680-04-24 05:31 J -40895833.37 -40895833.27 -40895833.17 0.2778 0.1002 *

Neptune -116680-07-14 13:27 J -40895752.07 -40895751.94 -40895751.81 0.0088 0.0036

Neptune -116680-10-10 14:53 J -40895664.01 -40895663.88 -40895663.74 0.0088 0.0031

Neptune -116679-01-06 16:19 J -40895575.95 -40895575.82 -40895575.68 0.0088 0.0027

Neptune -116679-04-04 18:00 J -40895487.88 -40895487.75 -40895487.61 0.0088 0.0023

Neptune -116679-07-01 19:27 J -40895399.82 -40895399.69 -40895399.55 0.0088 0.0019

Neptune -116679-09-27 21:07 J -40895311.76 -40895311.62 -40895311.48 0.0088 0.0014

Neptune -116679-12-24 22:34 J -40895223.70 -40895223.56 -40895223.42 0.0088 0.0010

Neptune -116678-03-23 00:00 J -40895135.63 -40895135.50 -40895135.36 0.0088 0.0007

Neptune -116678-06-19 01:41 J -40895047.57 -40895047.43 -40895047.29 0.0088 0.0002

Neptune -116678-09-15 03:07 J -40894959.51 -40894959.37 -40894959.23 0.0088 0.0003

Neptune -116678-12-12 04:34 J -40894871.44 -40894871.31 -40894871.17 0.0088 0.0007

Neptune -116677-03-09 06:00 J -40894783.38 -40894783.25 -40894783.11 0.0088 0.0012

Mars -116677-04-14 09:07 J -40894747.27 -40894747.12 -40894746.96 0.1810 0.0222

Neptune -116677-06-05 07:41 J -40894695.32 -40894695.18 -40894695.05 0.0088 0.0015

Neptune -116677-09-01 09:07 J -40894607.26 -40894607.12 -40894606.99 0.0088 0.0019

Moon -116677-10-18 13:27 J -40894560.09 -40894559.94 -40894559.79 0.2559 0.1005

Earth -116677-10-18 13:41 J -40894560.07 -40894559.93 -40894559.78 0.2564 0.1100 *

Neptune -116677-11-28 10:34 J -40894519.19 -40894519.06 -40894518.93 0.0088 0.0024

Mars -116676-02-23 07:27 J -40894432.31 -40894432.19 -40894432.07 0.1707 0.0379

Neptune -116676-02-24 12:00 J -40894431.13 -40894431.00 -40894430.87 0.0088 0.0028

Venus -116676-05-21 12:43 J -40894344.99 -40894344.97 -40894344.96 0.3698 0.3646

Neptune -116676-05-23 13:27 J -40894343.06 -40894342.94 -40894342.81 0.0088 0.0032

Neptune -116676-08-19 14:53 J -40894255.00 -40894254.88 -40894254.75 0.0088 0.0036

Neptune -116676-11-15 16:19 J -40894166.93 -40894166.82 -40894166.69 0.0088 0.0040

Neptune -116675-02-11 17:46 J -40894078.87 -40894078.76 -40894078.63 0.0088 0.0045

Neptune -116675-05-10 19:27 J -40893990.80 -40893990.69 -40893990.58 0.0088 0.0048

Neptune -116675-08-06 20:53 J -40893902.74 -40893902.63 -40893902.52 0.0088 0.0053

Jupiter -116675-11-01 12:00 J -40893816.08 -40893816.00 -40893815.91 0.0526 0.0411

Neptune -116675-11-02 22:19 J -40893814.67 -40893814.57 -40893814.47 0.0088 0.0057

Mars -116674-01-29 16:19 J -40893726.89 -40893726.82 -40893726.74 0.1692 0.1295

Jupiter -116674-01-29 20:39 J -40893726.77 -40893726.64 -40893726.51 0.0527 0.0079 *

Neptune -116674-01-29 23:46 J -40893726.61 -40893726.51 -40893726.41 0.0088 0.0061 *

Neptune -116674-04-28 00:58 J -40893638.54 -40893638.46 -40893638.36 0.0088 0.0065

Neptune -116674-07-25 02:24 J -40893550.47 -40893550.40 -40893550.31 0.0088 0.0069

Neptune -116674-10-21 03:51 J -40893462.40 -40893462.34 -40893462.25 0.0088 0.0073

Neptune -116673-01-17 05:17 J -40893374.33 -40893374.28 -40893374.20 0.0088 0.0077

Venus -116673-02-16 17:46 J -40893343.88 -40893343.76 -40893343.65 0.3701 0.2167

Neptune -116673-04-14 06:43 J -40893286.26 -40893286.22 -40893286.16 0.0088 0.0081

Earth -116673-04-17 03:07 J -40893283.47 -40893283.37 -40893283.28 0.2771 0.1464

Moon -116673-04-17 03:51 J -40893283.44 -40893283.34 -40893283.25 0.2771 0.1337 *

Neptune -116673-07-11 08:10 J -40893198.18 -40893198.16 -40893198.12 0.0088 0.0085

Saturn -116672-03-27 13:55 J -40892939.01 -40892938.92 -40892938.83 0.0289 0.0225

Saturn -116672-06-24 03:36 J -40892850.47 -40892850.35 -40892850.22 0.0290 0.0127

Saturn -116672-09-20 17:17 J -40892761.92 -40892761.78 -40892761.64 0.0291 0.0029

Saturn -116672-12-18 06:58 J -40892673.35 -40892673.21 -40892673.08 0.0293 0.0071

Saturn -116671-03-16 20:24 J -40892584.76 -40892584.65 -40892584.54 0.0294 0.0169

Saturn -116671-06-13 09:36 J -40892496.15 -40892496.10 -40892496.04 0.0295 0.0267

Jupiter -116669-09-18 12:58 J -40891668.05 -40891667.96 -40891667.87 0.0499 0.0421

Jupiter -116669-12-17 17:46 J -40891577.92 -40891577.76 -40891577.58 0.0499 0.0147

Venus -116668-09-01 20:39 J -40891319.77 -40891319.64 -40891319.50 0.3693 0.1100

Mars -116668-09-04 08:10 J -40891317.31 -40891317.16 -40891317.01 0.1805 0.0574

Moon -116667-04-26 23:03 J -40891082.61 -40891082.54 -40891082.46 0.2780 0.1874

Earth -116667-04-26 23:46 J -40891082.59 -40891082.51 -40891082.43 0.2780 0.1873 *

Mars -116667-07-16 17:03 J -40891001.90 -40891001.79 -40891001.68 0.1710 0.0805

Mars -116665-06-21 02:24 J -40890296.50 -40890296.40 -40890296.30 0.1696 0.0904

Moon -116664-10-21 18:58 J -40889808.75 -40889808.71 -40889808.67 0.2558 0.2477

Earth -116664-10-21 20:10 J -40889808.66 -40889808.66 -40889808.65 0.2562 0.2558

Uranus -116663-08-20 20:10 J -40889505.69 -40889505.66 -40889505.63 0.0131 0.0127

Uranus -116663-11-16 23:31 J -40889417.59 -40889417.52 -40889417.45 0.0131 0.0112

Jupiter -116663-11-18 00:15 J -40889416.62 -40889416.49 -40889416.35 0.0527 0.0043

Uranus -116662-02-13 02:24 J -40889329.48 -40889329.40 -40889329.30 0.0131 0.0096

Jupiter -116662-02-15 08:10 J -40889327.23 -40889327.16 -40889327.09 0.0527 0.0440

Uranus -116662-05-12 05:46 J -40889241.36 -40889241.26 -40889241.15 0.0131 0.0080

Uranus -116662-08-08 08:53 J -40889153.24 -40889153.13 -40889153.01 0.0131 0.0065

Uranus -116662-11-04 12:15 J -40889065.12 -40889064.99 -40889064.87 0.0131 0.0049

Uranus -116661-01-31 15:22 J -40888976.99 -40888976.86 -40888976.73 0.0131 0.0034

Uranus -116661-04-28 18:29 J -40888888.87 -40888888.73 -40888888.60 0.0131 0.0019

Uranus -116661-07-25 21:36 J -40888800.74 -40888800.60 -40888800.46 0.0131 0.0004

Uranus -116661-10-22 00:43 J -40888712.61 -40888712.47 -40888712.34 0.0131 0.0012

Uranus -116660-01-18 03:36 J -40888624.48 -40888624.35 -40888624.21 0.0131 0.0028

Uranus -116660-04-16 06:43 J -40888536.35 -40888536.22 -40888536.09 0.0131 0.0042

Earth -116660-04-19 21:36 J -40888532.71 -40888532.60 -40888532.50 0.2774 0.0597

Moon -116660-04-19 21:51 J -40888532.70 -40888532.59 -40888532.48 0.2767 0.0606 *

Uranus -116660-07-13 09:51 J -40888448.21 -40888448.09 -40888447.97 0.0131 0.0057

Uranus -116660-10-09 12:58 J -40888360.08 -40888359.96 -40888359.85 0.0131 0.0072

Uranus -116659-01-05 15:51 J -40888271.94 -40888271.84 -40888271.74 0.0131 0.0087

Uranus -116659-04-03 18:43 J -40888183.79 -40888183.72 -40888183.63 0.0131 0.0102

Uranus -116659-06-30 21:51 J -40888095.64 -40888095.59 -40888095.53 0.0131 0.0117

Saturn -116659-07-30 20:53 J -40888065.71 -40888065.63 -40888065.55 0.0273 0.0241

Saturn -116659-10-27 15:22 J -40887977.00 -40887976.86 -40887976.70 0.0272 0.0142

Saturn -116658-01-24 10:19 J -40887888.24 -40887888.07 -40887887.90 0.0271 0.0042

Mars -116658-01-25 07:27 J -40887887.29 -40887887.19 -40887887.09 0.1801 0.1341

Saturn -116658-04-23 05:17 J -40887799.45 -40887799.28 -40887799.11 0.0270 0.0058

Saturn -116658-07-21 00:29 J -40887710.63 -40887710.48 -40887710.34 0.0269 0.0158

Saturn -116658-10-17 19:41 J -40887621.72 -40887621.68 -40887621.63 0.0268 0.0258

Mars -116658-12-07 02:10 J -40887571.49 -40887571.41 -40887571.32 0.1715 0.1247

Jupiter -116657-10-05 16:48 J -40887267.98 -40887267.80 -40887267.63 0.0499 0.0016

Earth -116657-10-13 07:41 J -40887260.31 -40887260.18 -40887260.06 0.2569 0.1542

Moon -116657-10-13 08:53 J -40887260.26 -40887260.13 -40887259.99 0.2565 0.1383 *

Mars -116656-11-11 12:15 J -40886866.11 -40886865.99 -40886865.88 0.1699 0.0502

Moon -116654-04-29 17:46 J -40886331.79 -40886331.76 -40886331.73 0.2788 0.2637

Earth -116654-04-29 18:15 J -40886331.76 -40886331.74 -40886331.73 0.2782 0.2739 *

Jupiter -116651-09-06 03:36 J -40885106.47 -40885106.35 -40885106.22 0.0526 0.0165

Jupiter -116651-12-04 11:46 J -40885017.12 -40885017.01 -40885016.91 0.0527 0.0319

Mars -116648-04-28 11:17 J -40884141.04 -40884141.03 -40884141.01 0.1718 0.1694

Moon -116647-04-22 15:51 J -40883781.95 -40883781.84 -40883781.74 0.2769 0.0316

Earth -116647-04-22 15:51 J -40883781.95 -40883781.84 -40883781.73 0.2776 0.0297 *

Mars -116647-05-24 11:17 J -40883750.16 -40883750.03 -40883749.91 0.1814 0.1119

Mars -116646-04-03 21:51 J -40883435.71 -40883435.59 -40883435.46 0.1703 0.0114

Jupiter -116645-07-24 15:22 J -40882958.03 -40882957.86 -40882957.68 0.0499 0.0127

Jupiter -116645-10-22 21:07 J -40882867.68 -40882867.62 -40882867.54 0.0499 0.0452

Earth -116644-10-16 13:55 J -40882509.08 -40882508.92 -40882508.76 0.2566 0.0091

Moon -116644-10-16 14:39 J -40882509.06 -40882508.89 -40882508.73 0.2561 0.0152 *

Saturn -116643-08-14 14:10 J -40882206.96 -40882206.91 -40882206.85 0.0289 0.0261

Saturn -116643-11-11 04:05 J -40882118.44 -40882118.33 -40882118.21 0.0290 0.0163

Saturn -116642-02-07 17:46 J -40882029.89 -40882029.76 -40882029.62 0.0291 0.0065

Saturn -116642-05-07 07:27 J -40881941.33 -40881941.19 -40881941.05 0.0292 0.0033

Saturn -116642-08-03 20:53 J -40881852.75 -40881852.63 -40881852.51 0.0293 0.0132

Venus -116642-10-28 13:41 J -40881767.02 -40881766.93 -40881766.84 0.3678 0.2189

Saturn -116642-10-31 10:19 J -40881764.15 -40881764.07 -40881763.99 0.0294 0.0230

Earth -116640-04-15 13:27 J -40881232.01 -40881231.94 -40881231.87 0.2769 0.2172

Moon -116640-04-15 14:10 J -40881231.98 -40881231.91 -40881231.84 0.2771 0.2056 *

Jupiter -116639-06-25 07:27 J -40880796.30 -40880796.19 -40880796.08 0.0526 0.0283

Jupiter -116639-09-22 15:51 J -40880706.96 -40880706.84 -40880706.72 0.0527 0.0205

Mars -116638-10-14 09:51 J -40880320.25 -40880320.09 -40880319.94 0.1810 0.0300

Mars -116637-08-24 07:41 J -40880005.30 -40880005.18 -40880005.06 0.1706 0.0323

Venus -116636-05-13 06:58 J -40879743.32 -40879743.21 -40879743.10 0.3683 0.0551

Mars -116635-07-30 16:34 J -40879299.89 -40879299.81 -40879299.74 0.1692 0.1344

Moon -116634-04-25 09:36 J -40879031.20 -40879031.10 -40879031.00 0.2774 0.1123

Earth -116634-04-25 10:19 J -40879031.17 -40879031.07 -40879030.97 0.2778 0.1166 *

Jupiter -116633-05-12 13:27 J -40878648.09 -40878647.94 -40878647.79 0.0499 0.0271

Jupiter -116633-08-10 18:43 J -40878557.86 -40878557.72 -40878557.58 0.0498 0.0300

Moon -116631-10-19 19:27 J -40877757.82 -40877757.69 -40877757.55 0.2558 0.1414

Earth -116631-10-19 20:24 J -40877757.79 -40877757.65 -40877757.52 0.2564 0.1376 *

Venus -116631-11-27 00:15 J -40877719.59 -40877719.49 -40877719.38 0.3689 0.1066

Saturn -116629-03-15 14:24 J -40877245.02 -40877244.90 -40877244.76 0.0273 0.0176

Saturn -116629-06-12 09:22 J -40877156.28 -40877156.11 -40877155.94 0.0272 0.0075

Saturn -116629-09-09 04:19 J -40877067.50 -40877067.32 -40877067.15 0.0271 0.0025

Saturn -116629-12-06 23:17 J -40876978.69 -40876978.53 -40876978.37 0.0270 0.0125

Mars -116628-03-05 08:39 J -40876890.29 -40876890.14 -40876889.98 0.1805 0.0500

Saturn -116628-03-05 18:15 J -40876889.82 -40876889.74 -40876889.63 0.0269 0.0226

Mars -116627-01-14 17:03 J -40876574.90 -40876574.79 -40876574.68 0.1710 0.0757

Jupiter -116627-04-13 11:17 J -40876486.12 -40876486.03 -40876485.95 0.0527 0.0401

Earth -116627-04-18 07:55 J -40876481.27 -40876481.17 -40876481.07 0.2772 0.1295

Moon -116627-04-18 08:39 J -40876481.24 -40876481.14 -40876481.05 0.2768 0.1307 *

Jupiter -116627-07-11 19:41 J -40876396.81 -40876396.68 -40876396.55 0.0527 0.0092

Mars -116626-12-21 02:24 J -40875869.50 -40875869.40 -40875869.30 0.1696 0.0951

Venus -116625-06-11 17:31 J -40875695.85 -40875695.77 -40875695.70 0.3694 0.2659

Pluto -116622-11-08 11:31 J -40874451.05 -40874451.02 -40874450.95 0.0084 0.0078

Pluto -116621-02-04 12:58 J -40874363.04 -40874362.96 -40874362.86 0.0084 0.0062

Jupiter -116621-02-29 12:15 J -40874338.09 -40874337.99 -40874337.89 0.0499 0.0406

Moon -116621-04-27 04:05 J -40874280.41 -40874280.33 -40874280.25 0.2783 0.1949

Earth -116621-04-27 04:48 J -40874280.37 -40874280.30 -40874280.23 0.2780 0.2040 *

Pluto -116621-05-02 14:24 J -40874275.00 -40874274.90 -40874274.78 0.0084 0.0047

Jupiter -116621-05-29 17:17 J -40874247.95 -40874247.78 -40874247.62 0.0498 0.0161

Pluto -116621-07-29 15:36 J -40874186.96 -40874186.85 -40874186.71 0.0084 0.0032

Pluto -116621-10-25 17:03 J -40874098.92 -40874098.79 -40874098.65 0.0084 0.0017

Pluto -116620-01-21 18:29 J -40874010.87 -40874010.73 -40874010.60 0.0084 0.0002

Pluto -116620-04-19 19:41 J -40873922.81 -40873922.68 -40873922.54 0.0084 0.0013

Pluto -116620-07-16 21:07 J -40873834.75 -40873834.62 -40873834.50 0.0084 0.0028

Pluto -116620-10-12 22:19 J -40873746.69 -40873746.57 -40873746.45 0.0083 0.0043

Pluto -116619-01-08 23:17 J -40873658.61 -40873658.53 -40873658.42 0.0083 0.0058

Pluto -116619-04-07 00:29 J -40873570.53 -40873570.48 -40873570.40 0.0083 0.0072

Uranus -116619-05-01 07:12 J -40873546.29 -40873546.20 -40873546.10 0.0148 0.0126

Mars -116619-07-26 07:55 J -40873460.27 -40873460.17 -40873460.06 0.1801 0.1267

Uranus -116619-07-28 15:07 J -40873458.00 -40873457.87 -40873457.73 0.0148 0.0097

Uranus -116619-10-24 23:03 J -40873369.69 -40873369.54 -40873369.36 0.0148 0.0068

Uranus -116618-01-21 07:27 J -40873281.37 -40873281.19 -40873281.01 0.0148 0.0038

Uranus -116618-04-19 15:36 J -40873193.03 -40873192.85 -40873192.67 0.0148 0.0008

Mars -116618-06-07 02:24 J -40873144.49 -40873144.40 -40873144.32 0.1714 0.1195

Uranus -116618-07-16 23:46 J -40873104.69 -40873104.51 -40873104.32 0.0148 0.0022

Uranus -116618-10-13 08:10 J -40873016.34 -40873016.16 -40873015.99 0.0148 0.0053

Uranus -116617-01-09 16:05 J -40872927.97 -40872927.83 -40872927.66 0.0148 0.0084

Uranus -116617-04-07 00:43 J -40872839.59 -40872839.47 -40872839.35 0.0148 0.0114

Uranus -116617-07-04 08:53 J -40872751.16 -40872751.13 -40872751.08 0.0148 0.0145

Venus -116617-09-22 18:15 J -40872670.88 -40872670.74 -40872670.61 0.3699 0.1056

Mars -116616-05-12 12:15 J -40872439.10 -40872438.99 -40872438.88 0.1699 0.0549

Jupiter -116615-01-30 14:53 J -40872175.89 -40872175.88 -40872175.85 0.0526 0.0519

Jupiter -116615-04-29 23:46 J -40872086.64 -40872086.51 -40872086.38 0.0527 0.0026

Jupiter -116615-07-28 07:27 J -40871997.25 -40871997.19 -40871997.12 0.0527 0.0455

Earth -116614-04-21 02:24 J -40871730.51 -40871730.40 -40871730.29 0.2774 0.0423

Moon -116614-04-21 02:39 J -40871730.50 -40871730.39 -40871730.28 0.2767 0.0339 *

Saturn -116613-03-30 04:19 J -40871386.42 -40871386.32 -40871386.22 0.0289 0.0202

Saturn -116613-06-26 18:00 J -40871297.88 -40871297.75 -40871297.62 0.0290 0.0104

Saturn -116613-09-23 07:41 J -40871209.32 -40871209.18 -40871209.04 0.0291 0.0007

Saturn -116613-12-20 21:07 J -40871120.75 -40871120.62 -40871120.49 0.0293 0.0092

Saturn -116612-03-19 10:34 J -40871032.16 -40871032.06 -40871031.96 0.0294 0.0190

Saturn -116612-06-15 23:46 J -40870943.53 -40870943.51 -40870943.48 0.0295 0.0288

Venus -116611-04-08 21:22 J -40870646.72 -40870646.61 -40870646.50 0.3691 0.2243

Earth -116611-10-14 14:10 J -40870458.05 -40870457.91 -40870457.77 0.2569 0.1270

Moon -116611-10-14 15:22 J -40870458.00 -40870457.86 -40870457.72 0.2564 0.1232 *

Jupiter -116609-03-17 15:36 J -40869938.03 -40869937.85 -40869937.67 0.0499 0.0021

Mars -116609-10-27 11:17 J -40869714.06 -40869714.03 -40869713.99 0.1719 0.1645

Mars -116608-11-22 12:00 J -40869323.12 -40869323.00 -40869322.88 0.1814 0.1206

Mars -116607-10-02 22:05 J -40869008.70 -40869008.58 -40869008.46 0.1703 0.0142

Jupiter -116603-02-16 03:22 J -40867776.48 -40867776.36 -40867776.23 0.0526 0.0145

Jupiter -116603-05-16 11:31 J -40867687.12 -40867687.02 -40867686.92 0.0527 0.0339

Moon -116601-04-22 20:24 J -40866979.76 -40866979.65 -40866979.54 0.2771 0.0369

Earth -116601-04-22 20:53 J -40866979.74 -40866979.63 -40866979.53 0.2776 0.0462 *

Saturn -116600-08-02 12:15 J -40866513.09 -40866512.99 -40866512.88 0.0273 0.0216

Saturn -116600-10-30 06:58 J -40866424.36 -40866424.21 -40866424.05 0.0272 0.0117

Saturn -116599-01-27 01:55 J -40866335.59 -40866335.42 -40866335.24 0.0271 0.0016

Neptune -116599-04-24 23:31 J -40866247.55 -40866247.52 -40866247.48 0.0089 0.0087

Saturn -116599-04-25 20:53 J -40866246.79 -40866246.63 -40866246.46 0.0270 0.0084

Neptune -116599-07-22 02:10 J -40866159.46 -40866159.41 -40866159.32 0.0089 0.0082

Saturn -116599-07-23 16:05 J -40866157.95 -40866157.83 -40866157.70 0.0269 0.0184

Neptune -116599-10-18 05:46 J -40866071.35 -40866071.26 -40866071.17 0.0089 0.0076

Neptune -116598-01-14 08:24 J -40865983.24 -40865983.15 -40865983.03 0.0089 0.0071

Neptune -116598-04-12 11:17 J -40865895.13 -40865895.03 -40865894.89 0.0089 0.0066

Mars -116598-04-14 10:19 J -40865893.22 -40865893.07 -40865892.91 0.1810 0.0374

Neptune -116598-07-09 14:39 J -40865807.01 -40865806.89 -40865806.75 0.0089 0.0060

Neptune -116598-10-05 17:31 J -40865718.89 -40865718.77 -40865718.61 0.0089 0.0055

Moon -116598-10-17 20:39 J -40865706.81 -40865706.64 -40865706.48 0.2560 0.0272

Earth -116598-10-17 20:39 J -40865706.80 -40865706.64 -40865706.48 0.2566 0.0197 *

Neptune -116597-01-01 20:53 J -40865630.77 -40865630.63 -40865630.47 0.0089 0.0049

Jupiter -116597-01-04 14:24 J -40865628.07 -40865627.90 -40865627.73 0.0499 0.0115

Mars -116597-02-23 07:41 J -40865578.30 -40865578.18 -40865578.06 0.1707 0.0285

Neptune -116597-03-29 23:46 J -40865542.65 -40865542.51 -40865542.34 0.0089 0.0044

Jupiter -116597-04-03 20:10 J -40865537.72 -40865537.66 -40865537.59 0.0499 0.0463

Neptune -116597-06-26 03:07 J -40865454.53 -40865454.37 -40865454.20 0.0089 0.0038

Neptune -116597-09-22 06:15 J -40865366.40 -40865366.24 -40865366.06 0.0089 0.0032

Neptune -116597-12-19 09:22 J -40865278.28 -40865278.11 -40865277.93 0.0089 0.0027

Neptune -116596-03-17 12:29 J -40865190.15 -40865189.98 -40865189.79 0.0089 0.0021

Neptune -116596-06-13 15:51 J -40865102.02 -40865101.84 -40865101.66 0.0089 0.0015

Neptune -116596-09-09 18:58 J -40865013.89 -40865013.71 -40865013.53 0.0089 0.0010

Neptune -116596-12-06 22:05 J -40864925.76 -40864925.58 -40864925.39 0.0089 0.0005

Mars -116595-01-28 16:19 J -40864872.88 -40864872.82 -40864872.75 0.1692 0.1386

Neptune -116595-03-05 01:27 J -40864837.63 -40864837.44 -40864837.26 0.0089 0.0002

Neptune -116595-06-01 04:34 J -40864749.49 -40864749.31 -40864749.12 0.0089 0.0007

Neptune -116595-08-28 07:41 J -40864661.36 -40864661.18 -40864660.99 0.0089 0.0013

Neptune -116595-11-24 10:48 J -40864573.22 -40864573.05 -40864572.86 0.0089 0.0019

Neptune -116594-02-20 14:10 J -40864485.08 -40864484.91 -40864484.73 0.0089 0.0025

Earth -116594-04-16 18:15 J -40864429.81 -40864429.74 -40864429.66 0.2769 0.2011

Moon -116594-04-16 19:12 J -40864429.78 -40864429.70 -40864429.63 0.2771 0.1994 *

Neptune -116594-05-19 17:31 J -40864396.94 -40864396.77 -40864396.60 0.0089 0.0030

Neptune -116594-08-15 20:39 J -40864308.80 -40864308.64 -40864308.47 0.0089 0.0036

Neptune -116594-11-11 23:46 J -40864220.66 -40864220.51 -40864220.33 0.0089 0.0042

Neptune -116593-02-08 03:07 J -40864132.52 -40864132.37 -40864132.20 0.0089 0.0048

Neptune -116593-05-06 06:15 J -40864044.37 -40864044.24 -40864044.08 0.0089 0.0054

Neptune -116593-08-02 09:51 J -40863956.22 -40863956.09 -40863955.95 0.0089 0.0059

Neptune -116593-10-29 12:58 J -40863868.08 -40863867.96 -40863867.82 0.0089 0.0065

Neptune -116592-01-25 16:19 J -40863779.92 -40863779.82 -40863779.70 0.0089 0.0071

Neptune -116592-04-23 19:27 J -40863691.76 -40863691.69 -40863691.58 0.0089 0.0077

Neptune -116592-07-20 22:48 J -40863603.60 -40863603.55 -40863603.47 0.0089 0.0083

Neptune -116592-10-17 02:10 J -40863515.41 -40863515.41 -40863515.38 0.0089 0.0089

Jupiter -116592-12-05 06:43 J -40863466.33 -40863466.22 -40863466.11 0.0526 0.0270

Jupiter -116591-03-04 14:53 J -40863377.00 -40863376.88 -40863376.76 0.0527 0.0217

Venus -116591-11-18 18:00 J -40863117.80 -40863117.75 -40863117.70 0.3674 0.3234

Mars -116589-09-03 09:07 J -40862463.27 -40862463.12 -40862462.97 0.1805 0.0428

Moon -116588-04-25 14:39 J -40862228.99 -40862228.89 -40862228.80 0.2776 0.1285

Earth -116588-04-25 15:07 J -40862228.96 -40862228.87 -40862228.77 0.2778 0.1333 *

Mars -116588-07-15 17:03 J -40862147.90 -40862147.79 -40862147.67 0.1710 0.0706

Mars -116586-06-21 02:24 J -40861442.50 -40861442.40 -40861442.30 0.1696 0.0995

Jupiter -116586-10-23 13:27 J -40861318.10 -40861317.94 -40861317.79 0.0499 0.0251

Jupiter -116585-01-21 18:43 J -40861227.85 -40861227.72 -40861227.58 0.0499 0.0323

Venus -116585-06-03 11:31 J -40861094.12 -40861094.02 -40861093.92 0.3679 0.1576

Moon -116585-10-20 01:55 J -40860955.55 -40860955.42 -40860955.28 0.2558 0.1487

Earth -116585-10-20 03:07 J -40860955.50 -40860955.37 -40860955.25 0.2564 0.1661 *

Saturn -116584-08-17 04:48 J -40860654.38 -40860654.30 -40860654.22 0.0289 0.0237

Saturn -116584-11-13 18:29 J -40860565.85 -40860565.73 -40860565.60 0.0290 0.0140

Saturn -116583-02-10 08:24 J -40860477.29 -40860477.15 -40860477.02 0.0291 0.0042

Saturn -116583-05-09 21:51 J -40860388.73 -40860388.59 -40860388.45 0.0292 0.0057

Saturn -116583-08-06 11:17 J -40860300.15 -40860300.03 -40860299.91 0.0293 0.0155

Saturn -116583-11-03 00:29 J -40860211.54 -40860211.48 -40860211.41 0.0294 0.0252

Earth -116581-04-18 12:43 J -40859679.06 -40859678.97 -40859678.87 0.2772 0.1138

Moon -116581-04-18 13:12 J -40859679.05 -40859678.95 -40859678.84 0.2766 0.1037 *

Jupiter -116580-09-23 10:19 J -40859156.15 -40859156.07 -40859155.98 0.0526 0.0390

Venus -116580-12-18 04:48 J -40859070.41 -40859070.30 -40859070.19 0.3685 0.0126

Jupiter -116580-12-21 18:58 J -40859066.84 -40859066.71 -40859066.58 0.0527 0.0101

Mars -116579-01-24 08:39 J -40859033.26 -40859033.14 -40859033.02 0.1801 0.1190

Uranus -116579-09-10 03:36 J -40858804.39 -40858804.35 -40858804.29 0.0131 0.0122

Mars -116579-12-06 02:24 J -40858717.49 -40858717.40 -40858717.31 0.1714 0.1142

Uranus -116579-12-07 06:58 J -40858716.28 -40858716.21 -40858716.12 0.0131 0.0105

Uranus -116578-03-05 10:05 J -40858628.17 -40858628.08 -40858627.97 0.0131 0.0090

Uranus -116578-06-01 13:27 J -40858540.05 -40858539.94 -40858539.82 0.0131 0.0074

Uranus -116578-08-28 16:34 J -40858451.93 -40858451.81 -40858451.68 0.0131 0.0059

Earth -116578-10-12 14:39 J -40858406.94 -40858406.89 -40858406.85 0.2571 0.2437

Moon -116578-10-12 16:05 J -40858406.90 -40858406.83 -40858406.76 0.2568 0.2279 *

Uranus -116578-11-24 19:55 J -40858363.80 -40858363.67 -40858363.54 0.0131 0.0043

Uranus -116577-02-20 23:03 J -40858275.68 -40858275.54 -40858275.41 0.0131 0.0028

Uranus -116577-05-19 02:10 J -40858187.55 -40858187.41 -40858187.27 0.0131 0.0012

Uranus -116577-08-15 05:17 J -40858099.42 -40858099.28 -40858099.14 0.0131 0.0003

Mars -116577-11-10 12:29 J -40858012.10 -40858011.98 -40858011.87 0.1699 0.0602

Uranus -116577-11-11 08:24 J -40858011.29 -40858011.15 -40858011.02 0.0131 0.0018

Uranus -116576-02-07 11:17 J -40857923.16 -40857923.03 -40857922.89 0.0131 0.0034

Uranus -116576-05-06 14:24 J -40857835.02 -40857834.90 -40857834.77 0.0131 0.0048

Uranus -116576-08-02 17:17 J -40857746.89 -40857746.78 -40857746.65 0.0131 0.0064

Uranus -116576-10-29 20:39 J -40857658.75 -40857658.64 -40857658.54 0.0131 0.0078

Uranus -116575-01-25 23:31 J -40857570.61 -40857570.52 -40857570.42 0.0131 0.0093

Uranus -116575-04-24 02:24 J -40857482.47 -40857482.40 -40857482.32 0.0131 0.0108

Moon -116575-04-28 08:53 J -40857478.19 -40857478.13 -40857478.06 0.2785 0.2177

Earth -116575-04-28 09:36 J -40857478.16 -40857478.10 -40857478.04 0.2780 0.2203 *

Uranus -116575-07-21 05:17 J -40857394.31 -40857394.28 -40857394.22 0.0131 0.0123

Venus -116574-07-03 22:05 J -40857046.67 -40857046.58 -40857046.48 0.3690 0.1657

Jupiter -116574-08-11 11:31 J -40857008.12 -40857008.02 -40857007.91 0.0499 0.0391

Jupiter -116574-11-09 16:19 J -40856917.98 -40856917.82 -40856917.65 0.0498 0.0175

Saturn -116571-12-20 11:17 J -40855781.09 -40855781.03 -40855780.95 0.0274 0.0250

Saturn -116570-03-19 06:00 J -40855692.39 -40855692.25 -40855692.10 0.0273 0.0150

Saturn -116570-06-16 00:58 J -40855603.63 -40855603.46 -40855603.29 0.0272 0.0050

Saturn -116570-09-12 19:55 J -40855514.84 -40855514.67 -40855514.50 0.0271 0.0050

Saturn -116570-12-10 15:07 J -40855426.02 -40855425.87 -40855425.73 0.0270 0.0151

Saturn -116569-03-08 10:05 J -40855337.13 -40855337.08 -40855337.01 0.0269 0.0252

Mars -116569-04-27 11:31 J -40855287.07 -40855287.02 -40855286.98 0.1718 0.1592

Venus -116568-01-16 15:22 J -40855022.91 -40855022.86 -40855022.81 0.3696 0.3234

Earth -116568-04-21 07:12 J -40854928.31 -40854928.20 -40854928.09 0.2774 0.0259

Moon -116568-04-21 07:12 J -40854928.30 -40854928.20 -40854928.09 0.2768 0.0326 *

Mars -116568-05-23 12:43 J -40854896.08 -40854895.97 -40854895.86 0.1815 0.1284

Jupiter -116568-07-12 13:55 J -40854845.95 -40854845.92 -40854845.89 0.0527 0.0510

Jupiter -116568-10-09 22:48 J -40854756.68 -40854756.55 -40854756.42 0.0527 0.0017

Jupiter -116567-01-07 06:43 J -40854667.28 -40854667.22 -40854667.16 0.0528 0.0465

Mars -116567-04-02 22:05 J -40854581.70 -40854581.58 -40854581.46 0.1703 0.0189

Venus -116566-10-14 15:51 J -40854021.92 -40854021.84 -40854021.77 0.3704 0.3122

Earth -116565-10-14 20:53 J -40853655.78 -40853655.63 -40853655.49 0.2568 0.0994

Moon -116565-10-14 21:51 J -40853655.75 -40853655.59 -40853655.44 0.2563 0.0908 *

Jupiter -116562-08-28 14:53 J -40852608.05 -40852607.88 -40852607.70 0.0498 0.0037

Earth -116561-04-14 04:48 J -40852378.32 -40852378.30 -40852378.29 0.2767 0.2719

Moon -116561-04-14 05:31 J -40852378.30 -40852378.27 -40852378.24 0.2771 0.2642 *

Venus -116560-04-29 18:29 J -40851997.86 -40851997.73 -40851997.59 0.3697 0.0143

Mars -116559-10-13 11:03 J -40851466.19 -40851466.04 -40851465.89 0.1810 0.0457

Mars -116558-08-24 07:41 J -40851151.30 -40851151.18 -40851151.06 0.1707 0.0228

Jupiter -116556-07-29 02:39 J -40850446.52 -40850446.39 -40850446.26 0.0527 0.0133

Mars -116556-07-29 16:19 J -40850445.88 -40850445.82 -40850445.75 0.1692 0.1432

Jupiter -116556-10-26 10:48 J -40850357.15 -40850357.05 -40850356.96 0.0528 0.0352

Moon -116555-04-24 01:12 J -40850177.56 -40850177.45 -40850177.35 0.2771 0.0640

Earth -116555-04-24 01:41 J -40850177.53 -40850177.43 -40850177.32 0.2777 0.0622 *

Venus -116555-11-13 21:51 J -40849973.64 -40849973.59 -40849973.53 0.3689 0.3387

Saturn -116554-01-04 05:17 J -40849922.32 -40849922.28 -40849922.23 0.0288 0.0273

Saturn -116554-04-02 19:12 J -40849833.81 -40849833.70 -40849833.59 0.0289 0.0176

Saturn -116554-06-30 08:53 J -40849745.27 -40849745.13 -40849745.00 0.0290 0.0079

Saturn -116554-09-26 22:19 J -40849656.71 -40849656.57 -40849656.43 0.0291 0.0019

Saturn -116554-12-24 11:46 J -40849568.13 -40849568.01 -40849567.88 0.0292 0.0117

Saturn -116553-03-22 00:58 J -40849479.54 -40849479.46 -40849479.36 0.0294 0.0215

Moon -116552-10-18 02:39 J -40848904.55 -40848904.39 -40848904.23 0.2560 0.0382

Earth -116552-10-18 03:07 J -40848904.53 -40848904.37 -40848904.21 0.2566 0.0469 *

Jupiter -116550-06-16 13:27 J -40848298.12 -40848297.94 -40848297.77 0.0499 0.0104

Jupiter -116550-09-14 18:58 J -40848207.76 -40848207.71 -40848207.65 0.0498 0.0474

Mars -116549-03-04 09:51 J -40848036.25 -40848036.09 -40848035.94 0.1805 0.0348

Mars -116548-01-13 17:03 J -40847720.90 -40847720.79 -40847720.67 0.1710 0.0659

Earth -116548-04-16 23:17 J -40847627.61 -40847627.53 -40847627.45 0.2770 0.1846

Moon -116548-04-17 00:00 J -40847627.59 -40847627.50 -40847627.42 0.2769 0.1771 *

Mars -116547-12-20 02:24 J -40847015.49 -40847015.40 -40847015.30 0.1696 0.1043

Jupiter -116544-05-17 06:15 J -40846136.35 -40846136.24 -40846136.12 0.0526 0.0253

Jupiter -116544-08-14 14:39 J -40846047.01 -40846046.89 -40846046.78 0.0527 0.0235

Moon -116542-04-26 19:27 J -40845426.79 -40845426.69 -40845426.60 0.2780 0.1395

Earth -116542-04-26 20:10 J -40845426.75 -40845426.66 -40845426.57 0.2779 0.1498 *

Saturn -116541-08-05 04:05 J -40844960.45 -40844960.33 -40844960.21 0.0273 0.0191

Saturn -116541-11-01 22:48 J -40844871.72 -40844871.55 -40844871.39 0.0272 0.0091

Saturn -116540-01-29 17:46 J -40844782.94 -40844782.76 -40844782.59 0.0271 0.0010

Saturn -116540-04-28 12:43 J -40844694.13 -40844693.97 -40844693.80 0.0270 0.0111

Mars -116540-07-25 09:07 J -40844606.24 -40844606.12 -40844606.00 0.1801 0.1116

Saturn -116540-07-26 07:55 J -40844605.27 -40844605.17 -40844605.05 0.0269 0.0211

Mars -116539-06-06 02:24 J -40844290.49 -40844290.40 -40844290.30 0.1715 0.1093

Moon -116539-10-21 08:24 J -40844153.26 -40844153.15 -40844153.05 0.2560 0.1940

Earth -116539-10-21 09:36 J -40844153.20 -40844153.10 -40844152.99 0.2564 0.1935 *

Jupiter -116538-04-04 12:15 J -40843988.15 -40843987.99 -40843987.84 0.0499 0.0240

Jupiter -116538-07-03 17:31 J -40843897.90 -40843897.77 -40843897.64 0.0499 0.0334

Mars -116537-05-11 12:15 J -40843585.10 -40843584.99 -40843584.87 0.1699 0.0645

Uranus -116535-02-22 08:10 J -40842933.20 -40842933.16 -40842933.11 0.0148 0.0143

Earth -116535-04-19 17:46 J -40842876.86 -40842876.76 -40842876.66 0.2772 0.0971

Moon -116535-04-19 18:00 J -40842876.85 -40842876.75 -40842876.64 0.2766 0.0981 *

Uranus -116535-05-21 16:05 J -40842844.94 -40842844.83 -40842844.71 0.0148 0.0114

Uranus -116535-08-18 00:00 J -40842756.64 -40842756.50 -40842756.34 0.0148 0.0085

Uranus -116535-11-14 08:10 J -40842668.33 -40842668.16 -40842667.99 0.0148 0.0055

Uranus -116534-02-10 16:19 J -40842580.00 -40842579.82 -40842579.64 0.0148 0.0026

Uranus -116534-05-10 00:29 J -40842491.66 -40842491.48 -40842491.29 0.0148 0.0005

Venus -116534-06-25 16:05 J -40842444.91 -40842444.83 -40842444.76 0.3675 0.2618

Uranus -116534-08-06 08:53 J -40842403.31 -40842403.13 -40842402.95 0.0148 0.0035

Uranus -116534-11-02 16:48 J -40842314.96 -40842314.80 -40842314.62 0.0148 0.0065

Uranus -116533-01-30 01:12 J -40842226.58 -40842226.45 -40842226.30 0.0148 0.0096

Uranus -116533-04-27 09:22 J -40842138.19 -40842138.11 -40842138.00 0.0148 0.0127

Jupiter -116532-03-05 09:36 J -40841826.19 -40841826.10 -40841826.01 0.0526 0.0378

Jupiter -116532-06-02 18:00 J -40841736.88 -40841736.75 -40841736.62 0.0527 0.0111

Earth -116532-10-12 21:07 J -40841604.70 -40841604.62 -40841604.54 0.2571 0.2164

Moon -116532-10-12 22:34 J -40841604.65 -40841604.56 -40841604.48 0.2566 0.2154 *

Mars -116530-10-27 11:31 J -40840860.07 -40840860.02 -40840859.96 0.1718 0.1537

Moon -116529-04-28 13:55 J -40840675.98 -40840675.92 -40840675.86 0.2786 0.2331

Earth -116529-04-28 14:24 J -40840675.95 -40840675.90 -40840675.84 0.2781 0.2371 *

Mars -116529-11-21 13:12 J -40840469.05 -40840468.95 -40840468.84 0.1814 0.1359

Venus -116528-01-08 09:22 J -40840421.21 -40840421.11 -40840421.00 0.3681 0.0982

Mars -116528-10-01 22:05 J -40840154.70 -40840154.58 -40840154.46 0.1703 0.0241

Jupiter -116526-01-21 11:03 J -40839678.15 -40839678.04 -40839677.92 0.0499 0.0374

Jupiter -116526-04-21 16:05 J -40839587.99 -40839587.83 -40839587.67 0.0499 0.0194

Saturn -116525-08-19 19:55 J -40839101.77 -40839101.67 -40839101.58 0.0289 0.0210

Saturn -116525-11-16 09:36 J -40839013.23 -40839013.10 -40839012.97 0.0290 0.0112

Saturn -116524-02-12 23:17 J -40838924.67 -40838924.53 -40838924.39 0.0291 0.0016

Saturn -116524-05-12 12:43 J -40838836.10 -40838835.97 -40838835.84 0.0292 0.0083

Saturn -116524-08-09 01:55 J -40838747.52 -40838747.42 -40838747.31 0.0293 0.0181

Saturn -116524-11-05 15:22 J -40838658.90 -40838658.86 -40838658.82 0.0294 0.0277

Venus -116523-07-25 02:53 J -40838397.49 -40838397.38 -40838397.28 0.3686 0.0658

Moon -116522-04-22 12:00 J -40838126.11 -40838126.00 -40838125.89 0.2768 0.0111

Earth -116522-04-22 12:15 J -40838126.10 -40838125.99 -40838125.88 0.2775 0.0126 *

Jupiter -116521-12-22 13:12 J -40837515.99 -40837515.95 -40837515.91 0.0526 0.0499

Jupiter -116520-03-21 21:51 J -40837426.72 -40837426.59 -40837426.46 0.0527 0.0007

Jupiter -116520-06-19 05:31 J -40837337.32 -40837337.27 -40837337.21 0.0527 0.0474

Mars -116519-04-13 11:31 J -40837039.17 -40837039.02 -40837038.87 0.1810 0.0526

Earth -116519-10-16 03:22 J -40836853.51 -40836853.36 -40836853.20 0.2568 0.0713

Moon -116519-10-16 03:51 J -40836853.50 -40836853.34 -40836853.18 0.2562 0.0655 *

Mars -116518-02-22 07:41 J -40836724.30 -40836724.18 -40836724.06 0.1707 0.0183

Neptune -116518-05-19 17:17 J -40836637.80 -40836637.78 -40836637.74 0.0088 0.0086

Neptune -116518-08-15 19:12 J -40836549.75 -40836549.70 -40836549.65 0.0088 0.0082

Neptune -116518-11-11 20:39 J -40836461.70 -40836461.64 -40836461.57 0.0088 0.0077

Venus -116517-02-07 19:55 J -40836373.75 -40836373.67 -40836373.58 0.3692 0.2246

Neptune -116517-02-07 22:05 J -40836373.65 -40836373.58 -40836373.49 0.0088 0.0073 *

Neptune -116517-05-06 00:00 J -40836285.59 -40836285.50 -40836285.41 0.0088 0.0069

Neptune -116517-08-02 01:27 J -40836197.53 -40836197.44 -40836197.34 0.0088 0.0064

Neptune -116517-10-29 02:53 J -40836109.47 -40836109.38 -40836109.27 0.0088 0.0060

Neptune -116516-01-25 04:48 J -40836021.41 -40836021.30 -40836021.19 0.0088 0.0056

Mars -116516-01-27 16:34 J -40836018.87 -40836018.81 -40836018.76 0.1692 0.1477

Neptune -116516-04-23 06:15 J -40835933.35 -40835933.24 -40835933.12 0.0088 0.0051

Neptune -116516-07-20 07:41 J -40835845.29 -40835845.18 -40835845.05 0.0088 0.0047

Neptune -116516-10-16 09:22 J -40835757.23 -40835757.11 -40835756.98 0.0088 0.0043

Neptune -116515-01-12 10:48 J -40835669.17 -40835669.05 -40835668.92 0.0088 0.0039

Neptune -116515-04-10 12:29 J -40835581.11 -40835580.98 -40835580.85 0.0088 0.0034

Earth -116515-04-15 09:36 J -40835576.14 -40835576.10 -40835576.06 0.2767 0.2555

Moon -116515-04-15 10:19 J -40835576.11 -40835576.07 -40835576.03 0.2770 0.2543 *

Neptune -116515-07-07 13:55 J -40835493.05 -40835492.92 -40835492.78 0.0088 0.0030

Neptune -116515-10-03 15:36 J -40835404.98 -40835404.85 -40835404.72 0.0088 0.0026

Neptune -116515-12-30 17:03 J -40835316.92 -40835316.79 -40835316.65 0.0088 0.0022

Jupiter -116514-02-07 13:55 J -40835278.09 -40835277.92 -40835277.74 0.0498 0.0050

Neptune -116514-03-28 18:43 J -40835228.86 -40835228.72 -40835228.58 0.0088 0.0017

Neptune -116514-06-24 20:10 J -40835140.80 -40835140.66 -40835140.52 0.0088 0.0013

Neptune -116514-09-20 21:36 J -40835052.73 -40835052.60 -40835052.46 0.0088 0.0009

Neptune -116514-12-17 23:17 J -40834964.67 -40834964.53 -40834964.39 0.0088 0.0005

Neptune -116513-03-15 00:43 J -40834876.61 -40834876.47 -40834876.33 0.0088 0.0001

Neptune -116513-06-11 02:10 J -40834788.55 -40834788.41 -40834788.27 0.0088 0.0004

Neptune -116513-09-07 03:36 J -40834700.48 -40834700.35 -40834700.21 0.0088 0.0009

Neptune -116513-12-04 05:17 J -40834612.42 -40834612.28 -40834612.14 0.0088 0.0012

Neptune -116512-03-02 06:43 J -40834524.36 -40834524.22 -40834524.08 0.0088 0.0017

Neptune -116512-05-29 08:10 J -40834436.29 -40834436.16 -40834436.02 0.0088 0.0021

Neptune -116512-08-25 09:36 J -40834348.23 -40834348.10 -40834347.96 0.0088 0.0025

Neptune -116512-11-21 11:03 J -40834260.16 -40834260.04 -40834259.90 0.0088 0.0029

Saturn -116512-12-23 03:22 J -40834228.46 -40834228.36 -40834228.26 0.0274 0.0223

Neptune -116511-02-17 12:29 J -40834172.10 -40834171.98 -40834171.85 0.0088 0.0033

Saturn -116511-03-21 22:05 J -40834139.73 -40834139.58 -40834139.42 0.0273 0.0123

Neptune -116511-05-16 13:55 J -40834084.04 -40834083.92 -40834083.79 0.0088 0.0038

Saturn -116511-06-18 17:03 J -40834050.97 -40834050.79 -40834050.62 0.0272 0.0022

Neptune -116511-08-12 15:36 J -40833995.97 -40833995.85 -40833995.73 0.0088 0.0041

Saturn -116511-09-15 12:00 J -40833962.16 -40833962.00 -40833961.83 0.0271 0.0079

Neptune -116511-11-08 17:03 J -40833907.91 -40833907.79 -40833907.67 0.0088 0.0046

Saturn -116511-12-13 07:12 J -40833873.33 -40833873.20 -40833873.06 0.0270 0.0179

Neptune -116510-02-04 18:29 J -40833819.84 -40833819.73 -40833819.62 0.0088 0.0050

Neptune -116510-05-03 19:55 J -40833731.78 -40833731.67 -40833731.56 0.0088 0.0054

Neptune -116510-07-30 21:07 J -40833643.71 -40833643.62 -40833643.50 0.0088 0.0058

Mars -116510-09-03 10:34 J -40833609.21 -40833609.06 -40833608.90 0.1805 0.0265

Neptune -116510-10-26 22:34 J -40833555.64 -40833555.56 -40833555.45 0.0088 0.0062

Neptune -116509-01-23 00:00 J -40833467.58 -40833467.50 -40833467.40 0.0088 0.0066

Neptune -116509-04-20 01:27 J -40833379.51 -40833379.44 -40833379.35 0.0088 0.0070

Moon -116509-04-24 06:00 J -40833375.36 -40833375.25 -40833375.15 0.2773 0.0669

Earth -116509-04-24 06:29 J -40833375.33 -40833375.23 -40833375.12 0.2777 0.0795 *

Venus -116509-05-20 16:05 J -40833348.95 -40833348.83 -40833348.72 0.3702 0.2043

Mars -116509-07-14 17:17 J -40833293.90 -40833293.78 -40833293.67 0.1710 0.0605

Neptune -116509-07-17 02:53 J -40833291.44 -40833291.38 -40833291.29 0.0088 0.0074

Neptune -116509-10-13 04:19 J -40833203.37 -40833203.32 -40833203.25 0.0088 0.0078

Jupiter -116508-01-08 01:27 J -40833116.57 -40833116.44 -40833116.31 0.0527 0.0127

Neptune -116508-01-09 05:46 J -40833115.30 -40833115.26 -40833115.20 0.0088 0.0082

Neptune -116508-04-07 07:12 J -40833027.22 -40833027.20 -40833027.16 0.0088 0.0086

Jupiter -116508-04-07 09:36 J -40833027.20 -40833027.10 -40833027.01 0.0528 0.0358 *

Mars -116507-06-20 02:39 J -40832588.49 -40832588.39 -40832588.30 0.1696 0.1091

Moon -116506-10-19 09:07 J -40832102.28 -40832102.12 -40832101.96 0.2559 0.0733

Earth -116506-10-19 09:51 J -40832102.24 -40832102.09 -40832101.94 0.2565 0.0753 *

Venus -116504-12-04 18:58 J -40831324.84 -40831324.71 -40831324.57 0.3695 0.1192

Jupiter -116503-11-26 12:29 J -40830968.15 -40830967.98 -40830967.80 0.0498 0.0091

Jupiter -116502-02-24 18:15 J -40830877.77 -40830877.74 -40830877.70 0.0498 0.0486

Earth -116502-04-18 04:05 J -40830825.41 -40830825.33 -40830825.24 0.2770 0.1681

Moon -116502-04-18 04:48 J -40830825.39 -40830825.30 -40830825.21 0.2766 0.1602 *

Mars -116500-01-23 09:51 J -40830179.22 -40830179.09 -40830178.97 0.1801 0.1040

Mars -116500-12-05 02:24 J -40829863.49 -40829863.40 -40829863.30 0.1714 0.1044

Mars -116498-11-10 12:29 J -40829158.09 -40829157.98 -40829157.87 0.1699 0.0693

Jupiter -116497-10-27 05:17 J -40828806.40 -40828806.28 -40828806.16 0.0527 0.0244

Jupiter -116496-01-24 13:27 J -40828717.05 -40828716.94 -40828716.82 0.0528 0.0245

Moon -116496-04-27 00:15 J -40828624.57 -40828624.49 -40828624.40 0.2782 0.1671

Earth -116496-04-27 00:58 J -40828624.55 -40828624.46 -40828624.37 0.2779 0.1664 *

Saturn -116495-01-06 20:53 J -40828369.70 -40828369.63 -40828369.56 0.0288 0.0243

Saturn -116495-04-05 10:34 J -40828281.18 -40828281.06 -40828280.94 0.0289 0.0146

Saturn -116495-07-03 00:15 J -40828192.63 -40828192.49 -40828192.35 0.0290 0.0049

Uranus -116495-07-04 08:24 J -40828191.16 -40828191.15 -40828191.14 0.0131 0.0130

Saturn -116495-09-29 13:41 J -40828104.06 -40828103.93 -40828103.79 0.0291 0.0049

Uranus -116495-09-30 11:17 J -40828103.08 -40828103.03 -40828102.95 0.0131 0.0116

Saturn -116495-12-27 03:07 J -40828015.49 -40828015.37 -40828015.25 0.0292 0.0146

Uranus -116495-12-27 14:39 J -40828014.97 -40828014.89 -40828014.79 0.0131 0.0099

Saturn -116494-03-25 16:19 J -40827926.89 -40827926.82 -40827926.74 0.0294 0.0243

Uranus -116494-03-25 18:00 J -40827926.85 -40827926.75 -40827926.64 0.0131 0.0083 *

Uranus -116494-06-21 21:07 J -40827838.73 -40827838.62 -40827838.50 0.0131 0.0068

Uranus -116494-09-18 00:15 J -40827750.61 -40827750.49 -40827750.36 0.0131 0.0053

Uranus -116494-12-15 03:36 J -40827662.48 -40827662.35 -40827662.22 0.0131 0.0037

Uranus -116493-03-12 06:43 J -40827574.36 -40827574.22 -40827574.09 0.0131 0.0022

Uranus -116493-06-08 09:51 J -40827486.23 -40827486.09 -40827485.95 0.0131 0.0006

Uranus -116493-09-04 12:58 J -40827398.10 -40827397.96 -40827397.83 0.0131 0.0009

Moon -116493-10-21 14:39 J -40827350.99 -40827350.89 -40827350.79 0.2562 0.2042

Earth -116493-10-21 16:19 J -40827350.90 -40827350.82 -40827350.74 0.2563 0.2218 *

Uranus -116493-12-01 16:05 J -40827309.97 -40827309.83 -40827309.70 0.0131 0.0024

Uranus -116492-02-27 18:58 J -40827221.84 -40827221.71 -40827221.58 0.0131 0.0039

Uranus -116492-05-26 22:05 J -40827133.70 -40827133.58 -40827133.45 0.0131 0.0054

Uranus -116492-08-23 01:12 J -40827045.57 -40827045.45 -40827045.34 0.0131 0.0069

Uranus -116492-11-19 04:05 J -40826957.43 -40826957.33 -40826957.22 0.0131 0.0084

Uranus -116491-02-15 06:58 J -40826869.29 -40826869.21 -40826869.11 0.0131 0.0099

Uranus -116491-05-14 10:05 J -40826781.14 -40826781.08 -40826781.01 0.0131 0.0113

Mars -116491-06-15 09:36 J -40826749.12 -40826749.10 -40826749.09 0.1796 0.1781

Uranus -116491-08-10 13:12 J -40826692.97 -40826692.95 -40826692.93 0.0131 0.0128

Jupiter -116491-09-14 11:03 J -40826658.20 -40826658.04 -40826657.89 0.0499 0.0230

Jupiter -116491-12-13 16:19 J -40826567.95 -40826567.82 -40826567.69 0.0498 0.0343

Mars -116490-04-27 11:31 J -40826433.08 -40826433.02 -40826432.96 0.1719 0.1491

Earth -116489-04-19 22:34 J -40826074.66 -40826074.56 -40826074.45 0.2773 0.0803

Moon -116489-04-19 22:48 J -40826074.65 -40826074.55 -40826074.44 0.2766 0.0756 *

Mars -116489-05-22 13:41 J -40826042.02 -40826041.93 -40826041.83 0.1814 0.1436

Mars -116488-04-01 22:05 J -40825727.70 -40825727.58 -40825727.46 0.1703 0.0285

Earth -116486-10-14 03:51 J -40824802.45 -40824802.34 -40824802.23 0.2570 0.1887

Moon -116486-10-14 05:03 J -40824802.41 -40824802.29 -40824802.17 0.2566 0.1707 *

Jupiter -116485-08-15 08:53 J -40824496.22 -40824496.13 -40824496.03 0.0526 0.0364

Jupiter -116485-11-12 17:17 J -40824406.90 -40824406.78 -40824406.65 0.0527 0.0127

Moon -116483-04-29 18:58 J -40823873.75 -40823873.71 -40823873.66 0.2787 0.2492

Earth -116483-04-29 19:27 J -40823873.74 -40823873.69 -40823873.65 0.2781 0.2538 *

Venus -116483-07-16 20:24 J -40823795.65 -40823795.65 -40823795.65 0.3671 0.3667

Saturn -116482-05-12 01:27 J -40823496.48 -40823496.44 -40823496.38 0.0274 0.0261

Saturn -116482-08-08 20:24 J -40823407.79 -40823407.65 -40823407.51 0.0273 0.0161

Saturn -116482-11-05 15:07 J -40823319.04 -40823318.87 -40823318.70 0.0272 0.0061

Saturn -116481-02-02 10:19 J -40823230.25 -40823230.07 -40823229.90 0.0271 0.0040

Saturn -116481-05-01 05:31 J -40823141.42 -40823141.27 -40823141.12 0.0270 0.0140

Saturn -116481-07-29 00:43 J -40823052.54 -40823052.47 -40823052.39 0.0269 0.0241

Mars -116480-10-12 12:15 J -40822612.14 -40822611.99 -40822611.84 0.1810 0.0612

Jupiter -116479-07-03 09:36 J -40822348.21 -40822348.10 -40822347.98 0.0499 0.0366

Mars -116479-08-23 07:41 J -40822297.30 -40822297.18 -40822297.05 0.1707 0.0145

Jupiter -116479-10-01 14:39 J -40822258.05 -40822257.89 -40822257.73 0.0499 0.0202

Venus -116477-01-30 13:55 J -40821772.01 -40821771.92 -40821771.83 0.3677 0.2005

Mars -116477-07-28 16:34 J -40821591.86 -40821591.81 -40821591.76 0.1692 0.1521

Moon -116476-04-22 16:34 J -40821323.92 -40821323.81 -40821323.70 0.2769 0.0064

Earth -116476-04-22 17:03 J -40821323.90 -40821323.79 -40821323.68 0.2775 0.0078 *

Jupiter -116473-06-03 12:00 J -40820186.04 -40820186.00 -40820185.95 0.0526 0.0491

Jupiter -116473-08-31 20:39 J -40820096.77 -40820096.64 -40820096.50 0.0527 0.0018

Moon -116473-10-16 09:51 J -40820051.25 -40820051.09 -40820050.93 0.2561 0.0511

Earth -116473-10-16 10:05 J -40820051.24 -40820051.08 -40820050.92 0.2568 0.0432 *

Jupiter -116473-11-29 04:34 J -40820007.36 -40820007.31 -40820007.26 0.0527 0.0481

Venus -116472-08-15 07:27 J -40819748.30 -40819748.19 -40819748.08 0.3682 0.0372

Mars -116470-03-04 10:48 J -40819182.20 -40819182.05 -40819181.89 0.1805 0.0204

Mars -116469-01-13 17:17 J -40818866.89 -40818866.78 -40818866.66 0.1711 0.0554

Earth -116469-04-15 14:39 J -40818773.95 -40818773.89 -40818773.84 0.2767 0.2394

Moon -116469-04-15 15:22 J -40818773.92 -40818773.86 -40818773.80 0.2769 0.2278 *

Mars -116468-12-19 02:24 J -40818161.48 -40818161.40 -40818161.31 0.1696 0.1136

Pluto -116467-05-15 11:17 J -40818014.06 -40818014.03 -40818013.94 0.0060 0.0057

Jupiter -116467-07-20 13:12 J -40817948.13 -40817947.95 -40817947.77 0.0499 0.0063

Pluto -116467-08-11 12:43 J -40817926.06 -40817925.97 -40817925.84 0.0060 0.0049

Pluto -116467-11-07 14:24 J -40817838.03 -40817837.90 -40817837.75 0.0060 0.0041

Pluto -116466-02-03 15:51 J -40817749.99 -40817749.84 -40817749.68 0.0060 0.0034

Venus -116466-03-01 00:43 J -40817724.57 -40817724.47 -40817724.37 0.3688 0.1240

Pluto -116466-05-02 16:48 J -40817661.95 -40817661.80 -40817661.61 0.0060 0.0026

Saturn -116466-05-26 22:05 J -40817637.62 -40817637.58 -40817637.54 0.0288 0.0273

Pluto -116466-07-29 18:15 J -40817573.91 -40817573.74 -40817573.54 0.0060 0.0019

Saturn -116466-08-23 11:46 J -40817549.12 -40817549.01 -40817548.90 0.0289 0.0177

Pluto -116466-10-25 19:55 J -40817485.86 -40817485.67 -40817485.48 0.0060 0.0010

Saturn -116466-11-20 01:27 J -40817460.57 -40817460.44 -40817460.30 0.0290 0.0080

Pluto -116465-01-21 21:22 J -40817397.80 -40817397.61 -40817397.42 0.0060 0.0002

Saturn -116465-02-16 15:07 J -40817372.01 -40817371.87 -40817371.74 0.0291 0.0020

Pluto -116465-04-18 22:34 J -40817309.74 -40817309.56 -40817309.36 0.0061 0.0006

Saturn -116465-05-15 04:19 J -40817283.44 -40817283.32 -40817283.19 0.0292 0.0115

Pluto -116465-07-16 00:00 J -40817221.68 -40817221.50 -40817221.31 0.0061 0.0014

Saturn -116465-08-11 17:46 J -40817194.85 -40817194.76 -40817194.67 0.0293 0.0212

Pluto -116465-10-12 01:12 J -40817133.62 -40817133.45 -40817133.26 0.0061 0.0022

Pluto -116464-01-08 02:24 J -40817045.55 -40817045.40 -40817045.22 0.0061 0.0030

Pluto -116464-04-06 03:36 J -40816957.48 -40816957.35 -40816957.18 0.0061 0.0038

Pluto -116464-07-03 05:03 J -40816869.39 -40816869.29 -40816869.14 0.0061 0.0046

Pluto -116464-09-29 06:15 J -40816781.30 -40816781.24 -40816781.12 0.0061 0.0054

Moon -116463-04-25 10:48 J -40816573.15 -40816573.05 -40816572.95 0.2776 0.0956

Earth -116463-04-25 11:31 J -40816573.12 -40816573.02 -40816572.92 0.2777 0.0956 *

Jupiter -116461-06-20 00:29 J -40815786.61 -40815786.48 -40815786.35 0.0527 0.0120

Mars -116461-07-24 10:19 J -40815752.20 -40815752.07 -40815751.94 0.1801 0.0967

Venus -116461-09-13 18:00 J -40815700.82 -40815700.75 -40815700.69 0.3693 0.2830

Jupiter -116461-09-17 08:24 J -40815697.24 -40815697.15 -40815697.05 0.0527 0.0365

Mars -116460-06-05 02:39 J -40815436.49 -40815436.39 -40815436.29 0.1714 0.0990

Moon -116460-10-19 15:22 J -40815300.01 -40815299.86 -40815299.71 0.2560 0.0970

Earth -116460-10-19 16:19 J -40815299.96 -40815299.82 -40815299.67 0.2565 0.1035 *

Mars -116458-05-11 12:29 J -40814731.09 -40814730.98 -40814730.87 0.1699 0.0739

Earth -116456-04-18 09:07 J -40814023.21 -40814023.12 -40814023.03 0.2770 0.1515

Moon -116456-04-18 09:36 J -40814023.19 -40814023.10 -40814023.01 0.2765 0.1499 *

Jupiter -116455-05-08 11:17 J -40813638.20 -40813638.03 -40813637.85 0.0498 0.0080

Jupiter -116455-08-06 17:03 J -40813547.80 -40813547.79 -40813547.78 0.0498 0.0496

Venus -116453-12-25 16:34 J -40812675.95 -40812675.81 -40812675.68 0.3700 0.0943

Saturn -116453-12-25 20:10 J -40812675.78 -40812675.66 -40812675.54 0.0274 0.0192 *

Saturn -116452-03-24 14:53 J -40812587.04 -40812586.88 -40812586.72 0.0273 0.0092

Saturn -116452-06-21 09:51 J -40812498.26 -40812498.09 -40812497.91 0.0272 0.0009

Saturn -116452-09-18 05:03 J -40812409.45 -40812409.29 -40812409.13 0.0271 0.0110

Mars -116452-12-14 10:05 J -40812322.12 -40812322.08 -40812322.03 0.1796 0.1701

Saturn -116452-12-16 00:15 J -40812320.59 -40812320.49 -40812320.37 0.0270 0.0211

Uranus -116451-03-14 15:51 J -40812231.91 -40812231.84 -40812231.76 0.0148 0.0135

Uranus -116451-06-10 23:46 J -40812143.63 -40812143.51 -40812143.38 0.0148 0.0106

Uranus -116451-09-07 07:41 J -40812055.33 -40812055.18 -40812055.02 0.0148 0.0077

Mars -116451-10-26 11:46 J -40812006.08 -40812006.01 -40812005.95 0.1718 0.1436

Uranus -116451-12-04 15:51 J -40811967.01 -40811966.84 -40811966.66 0.0148 0.0047

Uranus -116450-03-03 00:00 J -40811878.68 -40811878.50 -40811878.32 0.0148 0.0018

Moon -116450-04-28 05:17 J -40811822.37 -40811822.28 -40811822.20 0.2783 0.1713

Earth -116450-04-28 05:46 J -40811822.34 -40811822.26 -40811822.18 0.2779 0.1833 *

Uranus -116450-05-30 08:10 J -40811790.34 -40811790.16 -40811789.97 0.0148 0.0012

Uranus -116450-08-26 16:19 J -40811701.99 -40811701.82 -40811701.64 0.0148 0.0043

Mars -116450-11-21 14:39 J -40811614.97 -40811614.89 -40811614.80 0.1815 0.1525

Uranus -116450-11-23 00:29 J -40811613.63 -40811613.48 -40811613.31 0.0148 0.0073

Uranus -116449-02-19 08:53 J -40811525.26 -40811525.13 -40811524.99 0.0148 0.0103

Jupiter -116449-04-08 03:51 J -40811476.46 -40811476.34 -40811476.22 0.0527 0.0243

Uranus -116449-05-17 17:03 J -40811436.85 -40811436.79 -40811436.70 0.0148 0.0134

Jupiter -116449-07-06 12:00 J -40811387.11 -40811387.00 -40811386.88 0.0528 0.0247

Mars -116449-09-30 22:19 J -40811300.69 -40811300.57 -40811300.46 0.1703 0.0338

Venus -116447-07-11 19:27 J -40810651.80 -40810651.69 -40810651.58 0.3693 0.2298

Moon -116447-10-22 21:07 J -40810548.67 -40810548.62 -40810548.57 0.2562 0.2430

Earth -116447-10-22 23:03 J -40810548.57 -40810548.54 -40810548.51 0.2563 0.2503 *

Jupiter -116443-02-24 10:05 J -40809328.24 -40809328.08 -40809327.92 0.0498 0.0217

Moon -116443-04-21 03:22 J -40809272.46 -40809272.36 -40809272.25 0.2766 0.0633

Earth -116443-04-21 03:36 J -40809272.46 -40809272.35 -40809272.25 0.2773 0.0645 *

Jupiter -116443-05-25 15:07 J -40809237.99 -40809237.87 -40809237.74 0.0498 0.0354

Mars -116440-04-12 12:58 J -40808185.11 -40808184.96 -40808184.82 0.1810 0.0689

Earth -116440-10-14 10:19 J -40808000.19 -40808000.07 -40807999.95 0.2570 0.1613

Moon -116440-10-14 11:03 J -40808000.16 -40808000.04 -40807999.91 0.2565 0.1650 *

Mars -116439-02-21 07:55 J -40807870.29 -40807870.17 -40807870.05 0.1707 0.0093

Jupiter -116437-01-26 07:27 J -40807166.28 -40807166.19 -40807166.09 0.0527 0.0361

Mars -116437-01-27 16:34 J -40807164.85 -40807164.81 -40807164.77 0.1692 0.1565

Jupiter -116437-04-24 16:05 J -40807076.96 -40807076.83 -40807076.70 0.0528 0.0130

Earth -116437-04-30 00:15 J -40807071.51 -40807071.49 -40807071.47 0.2781 0.2703

Moon -116437-04-30 00:15 J -40807071.50 -40807071.49 -40807071.48 0.2788 0.2764 *

Saturn -116436-01-09 13:12 J -40806817.05 -40806816.95 -40806816.85 0.0288 0.0207

Saturn -116436-04-08 02:53 J -40806728.51 -40806728.38 -40806728.25 0.0289 0.0111

Saturn -116436-07-05 16:19 J -40806639.95 -40806639.82 -40806639.68 0.0290 0.0017

Saturn -116436-10-02 06:00 J -40806551.39 -40806551.25 -40806551.12 0.0291 0.0083

Saturn -116436-12-29 19:12 J -40806462.80 -40806462.70 -40806462.59 0.0292 0.0180

Saturn -116435-03-28 08:24 J -40806374.19 -40806374.15 -40806374.10 0.0294 0.0276

Neptune -116434-01-19 21:07 J -40806076.65 -40806076.62 -40806076.56 0.0089 0.0086

Neptune -116434-04-18 00:15 J -40805988.55 -40805988.49 -40805988.40 0.0089 0.0080

Neptune -116434-07-15 03:07 J -40805900.45 -40805900.37 -40805900.26 0.0089 0.0075

Neptune -116434-10-11 06:29 J -40805812.34 -40805812.23 -40805812.11 0.0089 0.0069

Neptune -116433-01-07 09:22 J -40805724.22 -40805724.11 -40805723.97 0.0089 0.0064

Neptune -116433-04-04 12:15 J -40805636.11 -40805635.99 -40805635.84 0.0089 0.0059

Neptune -116433-07-01 15:36 J -40805547.99 -40805547.85 -40805547.70 0.0089 0.0053

Neptune -116433-09-27 18:29 J -40805459.87 -40805459.73 -40805459.56 0.0089 0.0048

Neptune -116433-12-24 21:51 J -40805371.74 -40805371.59 -40805371.43 0.0089 0.0042

Neptune -116432-03-23 00:58 J -40805283.62 -40805283.46 -40805283.29 0.0089 0.0036

Neptune -116432-06-19 04:05 J -40805195.50 -40805195.33 -40805195.16 0.0089 0.0031

Neptune -116432-09-15 07:12 J -40805107.37 -40805107.20 -40805107.02 0.0089 0.0025

Neptune -116432-12-12 10:19 J -40805019.24 -40805019.07 -40805018.89 0.0089 0.0020

Jupiter -116432-12-13 08:24 J -40805018.27 -40805018.15 -40805018.03 0.0499 0.0358

Neptune -116431-03-10 13:27 J -40804931.11 -40804930.94 -40804930.75 0.0089 0.0014

Jupiter -116431-03-13 12:58 J -40804928.11 -40804927.96 -40804927.79 0.0498 0.0210

Neptune -116431-06-06 16:48 J -40804842.98 -40804842.80 -40804842.62 0.0089 0.0008

Mars -116431-09-02 11:31 J -40804755.17 -40804755.02 -40804754.86 0.1805 0.0128

Neptune -116431-09-02 19:55 J -40804754.85 -40804754.67 -40804754.48 0.0089 0.0003

Neptune -116431-11-29 23:03 J -40804666.72 -40804666.54 -40804666.35 0.0089 0.0004

Neptune -116430-02-26 02:24 J -40804578.58 -40804578.40 -40804578.22 0.0089 0.0009

Moon -116430-04-23 21:22 J -40804521.72 -40804521.61 -40804521.50 0.2770 0.0244

Earth -116430-04-23 21:51 J -40804521.69 -40804521.59 -40804521.48 0.2775 0.0257 *

Neptune -116430-05-25 05:31 J -40804490.45 -40804490.27 -40804490.09 0.0089 0.0015

Mars -116430-07-14 17:17 J -40804439.89 -40804439.78 -40804439.66 0.1710 0.0508

Neptune -116430-08-21 08:39 J -40804402.31 -40804402.14 -40804401.95 0.0089 0.0020

Neptune -116430-11-17 12:00 J -40804314.18 -40804314.00 -40804313.82 0.0089 0.0026

Neptune -116429-02-13 15:07 J -40804226.04 -40804225.87 -40804225.69 0.0089 0.0032

Neptune -116429-05-11 18:15 J -40804137.90 -40804137.74 -40804137.56 0.0089 0.0038

Neptune -116429-08-07 21:51 J -40804049.75 -40804049.59 -40804049.43 0.0089 0.0043

Neptune -116429-11-04 00:58 J -40803961.61 -40803961.46 -40803961.30 0.0089 0.0049

Neptune -116428-01-31 04:05 J -40803873.46 -40803873.33 -40803873.17 0.0089 0.0055

Neptune -116428-04-29 07:12 J -40803785.32 -40803785.20 -40803785.05 0.0089 0.0061

Mars -116428-06-19 02:39 J -40803734.48 -40803734.39 -40803734.31 0.1696 0.1180

Neptune -116428-07-26 10:34 J -40803697.17 -40803697.06 -40803696.92 0.0089 0.0067

Neptune -116428-10-22 13:41 J -40803609.01 -40803608.93 -40803608.80 0.0089 0.0073

Neptune -116427-01-18 17:31 J -40803520.85 -40803520.77 -40803520.68 0.0089 0.0078

Neptune -116427-04-16 20:39 J -40803432.69 -40803432.64 -40803432.57 0.0089 0.0084

Moon -116427-10-17 16:19 J -40803248.98 -40803248.82 -40803248.66 0.2561 0.0092

Earth -116427-10-17 16:48 J -40803248.96 -40803248.80 -40803248.64 0.2567 0.0159 *

Venus -116426-02-20 18:29 J -40803122.79 -40803122.73 -40803122.67 0.3673 0.3044

Jupiter -116426-11-14 11:03 J -40802856.09 -40802856.04 -40802855.99 0.0526 0.0482

Jupiter -116425-02-11 19:55 J -40802766.81 -40802766.67 -40802766.54 0.0527 0.0019

Jupiter -116425-05-11 03:36 J -40802677.39 -40802677.35 -40802677.30 0.0528 0.0492

Earth -116423-04-16 19:27 J -40801971.75 -40801971.69 -40801971.63 0.2768 0.2227

Moon -116423-04-16 20:10 J -40801971.72 -40801971.66 -40801971.60 0.2766 0.2234 *

Saturn -116423-05-14 18:58 J -40801943.80 -40801943.71 -40801943.61 0.0274 0.0227

Saturn -116423-08-11 13:41 J -40801855.08 -40801854.93 -40801854.77 0.0273 0.0127

Saturn -116423-11-08 08:39 J -40801766.31 -40801766.14 -40801765.96 0.0272 0.0027

Saturn -116422-02-05 03:51 J -40801677.51 -40801677.34 -40801677.17 0.0271 0.0074

Saturn -116422-05-04 23:03 J -40801588.67 -40801588.54 -40801588.40 0.0270 0.0175

Mars -116421-01-23 10:48 J -40801325.18 -40801325.05 -40801324.91 0.1801 0.0892

Venus -116421-09-05 12:00 J -40801099.10 -40801099.00 -40801098.90 0.3678 0.1388

Mars -116421-12-04 02:39 J -40801009.49 -40801009.39 -40801009.29 0.1715 0.0942

Jupiter -116420-10-01 06:58 J -40800708.23 -40800708.21 -40800708.19 0.0499 0.0495

Jupiter -116420-12-30 11:31 J -40800618.20 -40800618.02 -40800617.85 0.0499 0.0068

Mars -116419-11-09 12:29 J -40800304.09 -40800303.98 -40800303.87 0.1699 0.0784

Moon -116417-04-25 15:36 J -40799770.95 -40799770.85 -40799770.75 0.2779 0.1010

Earth -116417-04-25 16:19 J -40799770.92 -40799770.82 -40799770.72 0.2778 0.1120 *

Venus -116415-03-22 05:17 J -40799075.39 -40799075.28 -40799075.17 0.3684 0.0247

Moon -116414-10-20 21:36 J -40798497.74 -40798497.60 -40798497.45 0.2562 0.1165

Earth -116414-10-20 23:03 J -40798497.67 -40798497.54 -40798497.40 0.2565 0.1319 *

Jupiter -116414-11-30 23:03 J -40798456.67 -40798456.54 -40798456.41 0.0527 0.0115

Jupiter -116413-02-28 07:12 J -40798367.29 -40798367.20 -40798367.11 0.0527 0.0369

Mars -116412-06-14 10:34 J -40797895.12 -40797895.06 -40797895.00 0.1796 0.1637

Mars -116411-04-26 11:46 J -40797579.08 -40797579.01 -40797578.93 0.1718 0.1383

Uranus -116411-07-24 15:36 J -40797489.88 -40797489.85 -40797489.80 0.0131 0.0126

Uranus -116411-10-20 18:43 J -40797401.78 -40797401.72 -40797401.63 0.0131 0.0110

Uranus -116410-01-16 22:05 J -40797313.67 -40797313.58 -40797313.48 0.0131 0.0094

Uranus -116410-04-15 01:27 J -40797225.55 -40797225.44 -40797225.33 0.0131 0.0078

Earth -116410-04-19 13:55 J -40797221.01 -40797220.92 -40797220.82 0.2771 0.1350

Moon -116410-04-19 14:24 J -40797221.00 -40797220.90 -40797220.80 0.2765 0.1257 *

Mars -116410-05-22 15:07 J -40797187.95 -40797187.87 -40797187.80 0.1814 0.1591

Uranus -116410-07-12 04:34 J -40797137.43 -40797137.31 -40797137.19 0.0131 0.0063

Venus -116410-10-05 22:34 J -40797051.65 -40797051.56 -40797051.46 0.3689 0.1835

Uranus -116410-10-08 07:41 J -40797049.30 -40797049.18 -40797049.05 0.0131 0.0048

Uranus -116409-01-04 11:03 J -40796961.18 -40796961.04 -40796960.91 0.0131 0.0032

Mars -116409-03-31 22:19 J -40796873.69 -40796873.57 -40796873.45 0.1703 0.0382

Uranus -116409-04-01 14:10 J -40796873.05 -40796872.91 -40796872.78 0.0131 0.0017

Uranus -116409-06-28 17:17 J -40796784.92 -40796784.78 -40796784.65 0.0131 0.0003

Uranus -116409-09-24 20:10 J -40796696.79 -40796696.66 -40796696.52 0.0131 0.0015

Uranus -116409-12-21 23:17 J -40796608.66 -40796608.53 -40796608.39 0.0131 0.0029

Uranus -116408-03-20 02:24 J -40796520.53 -40796520.40 -40796520.27 0.0131 0.0044

Uranus -116408-06-16 05:31 J -40796432.39 -40796432.27 -40796432.15 0.0131 0.0059

Uranus -116408-09-12 08:24 J -40796344.26 -40796344.15 -40796344.03 0.0131 0.0074

Jupiter -116408-10-18 10:05 J -40796308.26 -40796308.08 -40796307.91 0.0499 0.0073

Uranus -116408-12-09 11:31 J -40796256.12 -40796256.02 -40796255.92 0.0131 0.0089

Uranus -116407-03-07 14:24 J -40796167.97 -40796167.90 -40796167.81 0.0131 0.0104

Saturn -116407-05-29 14:53 J -40796084.96 -40796084.88 -40796084.80 0.0288 0.0235

Uranus -116407-06-03 17:31 J -40796079.82 -40796079.77 -40796079.71 0.0131 0.0118

Saturn -116407-08-26 04:34 J -40795996.43 -40795996.31 -40795996.19 0.0289 0.0138

Saturn -116407-11-22 18:15 J -40795907.88 -40795907.74 -40795907.60 0.0290 0.0042

Saturn -116406-02-19 07:41 J -40795819.32 -40795819.18 -40795819.05 0.0291 0.0056

Saturn -116406-05-18 21:07 J -40795730.74 -40795730.62 -40795730.51 0.0292 0.0153

Saturn -116406-08-15 10:19 J -40795642.14 -40795642.07 -40795642.00 0.0294 0.0249

Venus -116404-04-20 15:51 J -40795027.88 -40795027.84 -40795027.80 0.3695 0.3406

Moon -116404-04-28 10:05 J -40795020.15 -40795020.08 -40795020.00 0.2784 0.2024

Earth -116404-04-28 10:48 J -40795020.13 -40795020.05 -40795019.98 0.2779 0.1997 *

Jupiter -116402-09-19 02:39 J -40794146.51 -40794146.39 -40794146.27 0.0527 0.0238

Jupiter -116402-12-17 10:48 J -40794057.16 -40794057.05 -40794056.93 0.0527 0.0250

Venus -116401-01-16 14:10 J -40794026.99 -40794026.91 -40794026.83 0.3705 0.3008

Mars -116401-10-11 13:27 J -40793758.08 -40793757.94 -40793757.80 0.1810 0.0763

Mars -116400-08-22 07:55 J -40793443.29 -40793443.17 -40793443.05 0.1706 0.0042

Mars -116398-07-28 16:34 J -40792737.84 -40792737.81 -40792737.77 0.1692 0.1612

Moon -116397-04-21 08:10 J -40792470.27 -40792470.16 -40792470.05 0.2766 0.0525

Earth -116397-04-21 08:24 J -40792470.26 -40792470.15 -40792470.04 0.2773 0.0468 *

Venus -116396-08-01 16:48 J -40792002.93 -40792002.80 -40792002.66 0.3698 0.0190

Jupiter -116396-08-06 08:24 J -40791998.31 -40791998.15 -40791997.99 0.0498 0.0211

Jupiter -116396-11-04 13:27 J -40791908.06 -40791907.94 -40791907.81 0.0498 0.0360

Saturn -116394-10-01 19:12 J -40791211.76 -40791211.70 -40791211.63 0.0274 0.0255

Earth -116394-10-15 17:03 J -40791197.93 -40791197.79 -40791197.66 0.2569 0.1336

Moon -116394-10-15 17:03 J -40791197.93 -40791197.79 -40791197.64 0.2563 0.1242 *

Saturn -116394-12-29 13:55 J -40791123.06 -40791122.92 -40791122.77 0.0273 0.0155

Saturn -116393-03-27 08:53 J -40791034.30 -40791034.13 -40791033.96 0.0272 0.0055

Saturn -116393-06-24 03:51 J -40790945.51 -40790945.34 -40790945.16 0.0271 0.0047

Saturn -116393-09-20 23:03 J -40790856.68 -40790856.54 -40790856.39 0.0271 0.0148

Saturn -116393-12-18 18:29 J -40790767.79 -40790767.73 -40790767.66 0.0270 0.0249

Mars -116391-03-03 12:15 J -40790328.15 -40790327.99 -40790327.83 0.1805 0.0044

Mars -116390-01-12 17:17 J -40790012.89 -40790012.78 -40790012.66 0.1711 0.0460

Venus -116390-02-15 19:55 J -40789978.71 -40789978.67 -40789978.62 0.3691 0.3439

Jupiter -116390-07-08 05:46 J -40789836.36 -40789836.26 -40789836.17 0.0527 0.0365

Jupiter -116390-10-05 14:24 J -40789747.03 -40789746.90 -40789746.78 0.0528 0.0129

Mars -116389-12-18 02:39 J -40789307.47 -40789307.39 -40789307.31 0.1696 0.1226

Moon -116384-04-24 02:10 J -40787719.52 -40787719.41 -40787719.30 0.2772 0.0366

Earth -116384-04-24 02:53 J -40787719.49 -40787719.38 -40787719.28 0.2776 0.0416 *

Jupiter -116384-05-25 06:58 J -40787688.33 -40787688.21 -40787688.08 0.0498 0.0349

Jupiter -116384-08-23 11:46 J -40787598.17 -40787598.01 -40787597.85 0.0498 0.0217

Mars -116382-07-24 11:31 J -40786898.16 -40786898.02 -40786897.89 0.1801 0.0817

Mars -116381-06-04 02:39 J -40786582.49 -40786582.39 -40786582.28 0.1714 0.0891

Moon -116381-10-17 22:34 J -40786446.72 -40786446.56 -40786446.39 0.2561 0.0031

Earth -116381-10-17 23:17 J -40786446.69 -40786446.53 -40786446.37 0.2567 0.0129 *

Mars -116379-05-10 12:29 J -40785877.08 -40785876.98 -40785876.87 0.1699 0.0831

Jupiter -116378-04-26 09:22 J -40785526.16 -40785526.11 -40785526.06 0.0527 0.0484

Jupiter -116378-07-24 18:15 J -40785436.88 -40785436.74 -40785436.61 0.0528 0.0019

Saturn -116378-10-16 17:03 J -40785352.85 -40785352.79 -40785352.74 0.0287 0.0260

Jupiter -116378-10-22 01:55 J -40785347.46 -40785347.42 -40785347.37 0.0528 0.0493

Saturn -116377-01-13 06:43 J -40785264.34 -40785264.22 -40785264.11 0.0288 0.0164

Saturn -116377-04-10 20:10 J -40785175.79 -40785175.66 -40785175.52 0.0289 0.0069

Earth -116377-04-17 00:15 J -40785169.56 -40785169.49 -40785169.41 0.2768 0.2067

Moon -116377-04-17 00:58 J -40785169.53 -40785169.46 -40785169.38 0.2765 0.1936 *

Saturn -116377-07-08 09:51 J -40785087.23 -40785087.09 -40785086.95 0.0290 0.0029

Saturn -116377-10-04 23:03 J -40784998.66 -40784998.54 -40784998.41 0.0292 0.0126

Saturn -116376-01-01 12:29 J -40784910.07 -40784909.98 -40784909.89 0.0293 0.0221

Pluto -116374-12-04 19:55 J -40783842.70 -40783842.67 -40783842.60 0.0084 0.0078

Pluto -116373-03-01 21:36 J -40783754.69 -40783754.60 -40783754.51 0.0084 0.0062

Pluto -116373-05-28 22:48 J -40783666.65 -40783666.55 -40783666.43 0.0084 0.0047

Pluto -116373-08-25 00:00 J -40783578.61 -40783578.50 -40783578.36 0.0084 0.0032

Pluto -116373-11-21 01:27 J -40783490.57 -40783490.44 -40783490.30 0.0084 0.0017

Mars -116373-12-13 11:17 J -40783468.11 -40783468.03 -40783467.96 0.1796 0.1555

Pluto -116372-02-17 02:53 J -40783402.52 -40783402.38 -40783402.25 0.0084 0.0002

Jupiter -116372-03-13 05:17 J -40783378.31 -40783378.28 -40783378.25 0.0499 0.0490

Pluto -116372-05-16 04:05 J -40783314.46 -40783314.33 -40783314.19 0.0084 0.0013

Jupiter -116372-06-11 09:36 J -40783288.28 -40783288.10 -40783287.92 0.0498 0.0071

Pluto -116372-08-12 05:31 J -40783226.40 -40783226.27 -40783226.15 0.0084 0.0028

Mars -116372-10-25 11:46 J -40783152.08 -40783152.01 -40783151.93 0.1719 0.1336

Pluto -116372-11-08 06:43 J -40783138.34 -40783138.22 -40783138.10 0.0083 0.0042

Pluto -116371-02-04 07:41 J -40783050.26 -40783050.18 -40783050.07 0.0083 0.0058

Moon -116371-04-26 20:24 J -40782968.74 -40782968.65 -40782968.55 0.2780 0.1263

Earth -116371-04-26 21:07 J -40782968.71 -40782968.62 -40782968.52 0.2778 0.1290 *

Pluto -116371-05-03 08:53 J -40782962.18 -40782962.13 -40782962.05 0.0083 0.0072

Mars -116371-11-20 15:51 J -40782760.90 -40782760.84 -40782760.78 0.1815 0.1677

Venus -116370-09-27 16:34 J -40782449.90 -40782449.81 -40782449.73 0.3674 0.2429

Mars -116370-09-30 22:19 J -40782446.69 -40782446.57 -40782446.45 0.1703 0.0429

Moon -116368-10-21 04:05 J -40781695.46 -40781695.33 -40781695.21 0.2563 0.1568

Earth -116368-10-21 05:46 J -40781695.39 -40781695.26 -40781695.14 0.2565 0.1594 *

Uranus -116367-04-03 22:19 J -40781530.64 -40781530.57 -40781530.48 0.0148 0.0131

Uranus -116367-07-01 06:15 J -40781442.36 -40781442.24 -40781442.10 0.0148 0.0102

Uranus -116367-09-27 14:10 J -40781354.06 -40781353.91 -40781353.74 0.0148 0.0073

Uranus -116367-12-24 22:19 J -40781265.74 -40781265.57 -40781265.39 0.0148 0.0044

Uranus -116366-03-23 06:29 J -40781177.41 -40781177.23 -40781177.04 0.0148 0.0014

Jupiter -116366-05-12 21:51 J -40781126.72 -40781126.59 -40781126.46 0.0527 0.0109

Uranus -116366-06-19 14:39 J -40781089.07 -40781088.89 -40781088.70 0.0148 0.0016

Jupiter -116366-08-10 06:00 J -40781037.34 -40781037.25 -40781037.16 0.0528 0.0375

Uranus -116366-09-15 22:48 J -40781000.72 -40781000.55 -40781000.37 0.0148 0.0047

Uranus -116366-12-13 07:12 J -40780912.36 -40780912.20 -40780912.04 0.0148 0.0077

Uranus -116365-03-10 15:22 J -40780823.98 -40780823.86 -40780823.73 0.0148 0.0107

Uranus -116365-06-06 23:31 J -40780735.57 -40780735.52 -40780735.44 0.0148 0.0138

Venus -116364-04-12 09:51 J -40780426.19 -40780426.09 -40780425.98 0.3680 0.0791

Moon -116364-04-19 18:58 J -40780418.81 -40780418.71 -40780418.61 0.2764 0.1224

Earth -116364-04-19 18:43 J -40780418.81 -40780418.72 -40780418.62 0.2771 0.1187 *

Saturn -116364-05-17 13:27 J -40780391.06 -40780390.94 -40780390.81 0.0274 0.0187

Saturn -116364-08-14 08:10 J -40780302.32 -40780302.16 -40780301.99 0.0273 0.0087

Saturn -116364-11-11 03:22 J -40780213.54 -40780213.36 -40780213.19 0.0272 0.0015

Saturn -116363-02-07 22:19 J -40780124.72 -40780124.57 -40780124.40 0.0271 0.0115

Saturn -116363-05-07 17:46 J -40780035.86 -40780035.76 -40780035.65 0.0270 0.0216

Mars -116361-04-11 13:55 J -40779331.06 -40779330.92 -40779330.78 0.1810 0.0840

Earth -116361-10-12 17:17 J -40779146.81 -40779146.78 -40779146.75 0.2572 0.2515

Moon -116361-10-12 18:29 J -40779146.78 -40779146.73 -40779146.68 0.2567 0.2418 *

Mars -116360-02-20 07:55 J -40779016.29 -40779016.17 -40779016.05 0.1707 0.0016

Jupiter -116360-03-30 07:55 J -40778978.35 -40778978.17 -40778978.00 0.0499 0.0071

Venus -116359-10-27 03:22 J -40778402.47 -40778402.36 -40778402.26 0.3685 0.0838

Mars -116358-01-26 16:34 J -40778310.83 -40778310.81 -40778310.79 0.1692 0.1653

Moon -116358-04-29 15:22 J -40778217.93 -40778217.86 -40778217.79 0.2787 0.2101

Earth -116358-04-29 15:36 J -40778217.92 -40778217.85 -40778217.78 0.2780 0.2164 *

Jupiter -116354-03-01 00:58 J -40776816.58 -40776816.46 -40776816.34 0.0527 0.0236

Jupiter -116354-05-29 09:22 J -40776727.23 -40776727.11 -40776727.00 0.0527 0.0251

Neptune -116353-02-13 16:34 J -40776466.84 -40776466.81 -40776466.77 0.0088 0.0085

Neptune -116353-05-11 18:00 J -40776378.79 -40776378.75 -40776378.68 0.0088 0.0081

Venus -116353-05-11 20:24 J -40776378.73 -40776378.65 -40776378.56 0.3691 0.2424 *

Neptune -116353-08-07 19:41 J -40776290.74 -40776290.68 -40776290.60 0.0088 0.0076

Neptune -116353-11-03 21:22 J -40776202.68 -40776202.61 -40776202.52 0.0088 0.0072

Neptune -116352-01-30 22:48 J -40776114.63 -40776114.55 -40776114.45 0.0088 0.0068

Neptune -116352-04-29 00:29 J -40776026.57 -40776026.48 -40776026.37 0.0088 0.0063

Neptune -116352-07-26 02:10 J -40775938.51 -40775938.41 -40775938.30 0.0088 0.0059

Mars -116352-09-01 12:43 J -40775901.13 -40775900.97 -40775900.81 0.1805 0.0032

Neptune -116352-10-22 03:36 J -40775850.45 -40775850.35 -40775850.23 0.0088 0.0055

Neptune -116351-01-18 05:17 J -40775762.39 -40775762.28 -40775762.15 0.0088 0.0050

Neptune -116351-04-16 06:58 J -40775674.33 -40775674.21 -40775674.08 0.0088 0.0046

Moon -116351-04-22 12:58 J -40775668.07 -40775667.96 -40775667.85 0.2767 0.0279

Earth -116351-04-22 13:12 J -40775668.05 -40775667.95 -40775667.84 0.2774 0.0314 *

Neptune -116351-07-13 08:24 J -40775586.26 -40775586.15 -40775586.02 0.0088 0.0042

Mars -116351-07-13 17:31 J -40775585.89 -40775585.77 -40775585.65 0.1710 0.0404

Neptune -116351-10-09 10:05 J -40775498.20 -40775498.08 -40775497.95 0.0088 0.0037

Neptune -116350-01-05 11:46 J -40775410.14 -40775410.01 -40775409.88 0.0088 0.0033

Neptune -116350-04-03 13:12 J -40775322.08 -40775321.95 -40775321.81 0.0088 0.0028

Neptune -116350-06-30 14:39 J -40775234.02 -40775233.89 -40775233.75 0.0088 0.0025

Neptune -116350-09-26 16:19 J -40775145.95 -40775145.82 -40775145.68 0.0088 0.0020

Neptune -116350-12-23 18:00 J -40775057.89 -40775057.75 -40775057.62 0.0088 0.0016

Neptune -116349-03-20 19:27 J -40774969.83 -40774969.69 -40774969.55 0.0088 0.0011

Neptune -116349-06-16 20:53 J -40774881.77 -40774881.63 -40774881.49 0.0088 0.0007

Mars -116349-06-18 02:39 J -40774880.47 -40774880.39 -40774880.31 0.1696 0.1270

Neptune -116349-09-12 22:34 J -40774793.70 -40774793.56 -40774793.42 0.0088 0.0004

Neptune -116349-12-10 00:00 J -40774705.64 -40774705.50 -40774705.36 0.0088 0.0001

Jupiter -116348-01-16 06:29 J -40774668.39 -40774668.23 -40774668.07 0.0499 0.0210

Saturn -116348-03-04 18:58 J -40774620.72 -40774620.71 -40774620.70 0.0287 0.0285

Neptune -116348-03-08 01:27 J -40774617.58 -40774617.44 -40774617.30 0.0088 0.0006

Jupiter -116348-04-16 11:31 J -40774578.14 -40774578.02 -40774577.89 0.0498 0.0362

Saturn -116348-06-01 08:39 J -40774532.24 -40774532.14 -40774532.03 0.0288 0.0190

Neptune -116348-06-04 02:53 J -40774529.51 -40774529.38 -40774529.24 0.0088 0.0010

Saturn -116348-08-28 22:19 J -40774443.70 -40774443.57 -40774443.44 0.0289 0.0093

Neptune -116348-08-31 04:19 J -40774441.45 -40774441.32 -40774441.18 0.0088 0.0015

Moon -116348-10-15 23:31 J -40774395.67 -40774395.52 -40774395.38 0.2562 0.1125

Earth -116348-10-15 23:31 J -40774395.66 -40774395.52 -40774395.37 0.2569 0.1058 *

Saturn -116348-11-25 11:46 J -40774355.15 -40774355.01 -40774354.87 0.0291 0.0007

Neptune -116348-11-27 06:00 J -40774353.39 -40774353.25 -40774353.11 0.0088 0.0018

Saturn -116347-02-22 01:12 J -40774266.58 -40774266.45 -40774266.32 0.0292 0.0100

Neptune -116347-02-23 07:27 J -40774265.32 -40774265.19 -40774265.05 0.0088 0.0022

Saturn -116347-05-21 14:39 J -40774177.99 -40774177.89 -40774177.79 0.0293 0.0196

Neptune -116347-05-22 08:53 J -40774177.26 -40774177.13 -40774176.99 0.0088 0.0027

Saturn -116347-08-18 03:51 J -40774089.35 -40774089.34 -40774089.33 0.0294 0.0292

Neptune -116347-08-18 10:19 J -40774089.19 -40774089.07 -40774088.93 0.0088 0.0031

Neptune -116347-11-14 12:00 J -40774001.13 -40774001.00 -40774000.88 0.0088 0.0035

Neptune -116346-02-10 13:12 J -40773913.07 -40773912.95 -40773912.82 0.0088 0.0039

Neptune -116346-05-09 14:39 J -40773825.00 -40773824.89 -40773824.76 0.0088 0.0043

Neptune -116346-08-05 16:05 J -40773736.93 -40773736.83 -40773736.70 0.0088 0.0048

Neptune -116346-11-01 17:31 J -40773648.87 -40773648.77 -40773648.65 0.0088 0.0052

Neptune -116345-01-28 18:58 J -40773560.80 -40773560.71 -40773560.59 0.0088 0.0056

Neptune -116345-04-25 20:39 J -40773472.74 -40773472.64 -40773472.54 0.0088 0.0059

Neptune -116345-07-22 22:05 J -40773384.67 -40773384.58 -40773384.48 0.0088 0.0063

Venus -116345-08-22 14:39 J -40773354.01 -40773353.89 -40773353.78 0.3703 0.1922

Neptune -116345-10-18 23:31 J -40773296.60 -40773296.52 -40773296.43 0.0088 0.0067

Neptune -116344-01-15 00:58 J -40773208.53 -40773208.46 -40773208.38 0.0088 0.0071

Neptune -116344-04-13 02:24 J -40773120.47 -40773120.40 -40773120.33 0.0088 0.0075

Moon -116344-04-15 11:31 J -40773118.04 -40773118.02 -40773118.00 0.2765 0.2702

Neptune -116344-07-10 03:51 J -40773032.39 -40773032.34 -40773032.28 0.0088 0.0080

Neptune -116344-10-06 05:17 J -40772944.32 -40772944.28 -40772944.24 0.0088 0.0084

Neptune -116343-01-02 06:43 J -40772856.23 -40772856.22 -40772856.20 0.0088 0.0087

Jupiter -116343-12-18 04:19 J -40772506.42 -40772506.32 -40772506.22 0.0527 0.0361

Mars -116342-01-22 12:00 J -40772471.14 -40772471.00 -40772470.85 0.1801 0.0739

Jupiter -116342-03-17 12:43 J -40772417.09 -40772416.97 -40772416.84 0.0527 0.0131

Mars -116342-12-04 02:53 J -40772155.49 -40772155.38 -40772155.28 0.1714 0.0839

Mars -116340-11-08 12:43 J -40771450.08 -40771449.97 -40771449.87 0.1699 0.0883

Venus -116339-03-08 17:17 J -40771329.91 -40771329.78 -40771329.65 0.3696 0.1268

Moon -116338-04-25 06:58 J -40770917.32 -40770917.21 -40770917.10 0.2775 0.0476

Earth -116338-04-25 07:41 J -40770917.28 -40770917.18 -40770917.07 0.2776 0.0579 *

Jupiter -116337-11-04 05:03 J -40770358.41 -40770358.29 -40770358.16 0.0499 0.0346

Jupiter -116336-02-02 09:51 J -40770268.25 -40770268.09 -40770267.93 0.0498 0.0219

Saturn -116335-10-04 14:10 J -40769659.01 -40769658.91 -40769658.80 0.0274 0.0213

Moon -116335-10-19 04:48 J -40769644.46 -40769644.30 -40769644.14 0.2563 0.0417

Earth -116335-10-19 06:00 J -40769644.41 -40769644.25 -40769644.09 0.2566 0.0410 *

Saturn -116334-01-01 09:07 J -40769570.28 -40769570.12 -40769569.96 0.0273 0.0112

Saturn -116334-03-31 04:05 J -40769481.51 -40769481.33 -40769481.16 0.0272 0.0012

Saturn -116334-06-27 23:17 J -40769392.70 -40769392.53 -40769392.37 0.0271 0.0090

Saturn -116334-09-24 18:29 J -40769303.85 -40769303.73 -40769303.60 0.0270 0.0190

Mars -116333-06-13 11:46 J -40769041.10 -40769041.01 -40769040.93 0.1796 0.1483

Mars -116332-04-25 12:00 J -40768725.08 -40768725.00 -40768724.92 0.1719 0.1284

Earth -116331-04-18 05:17 J -40768367.36 -40768367.28 -40768367.20 0.2769 0.1899

Moon -116331-04-18 05:46 J -40768367.34 -40768367.26 -40768367.18 0.2764 0.1900 *

Mars -116331-05-21 16:34 J -40768333.85 -40768333.81 -40768333.78 0.1815 0.1755

Jupiter -116331-10-06 07:12 J -40768196.25 -40768196.20 -40768196.16 0.0527 0.0492

Jupiter -116330-01-03 16:05 J -40768106.96 -40768106.83 -40768106.70 0.0528 0.0005

Mars -116330-03-31 22:19 J -40768019.69 -40768019.57 -40768019.45 0.1703 0.0474

Jupiter -116330-04-03 00:00 J -40768017.55 -40768017.50 -40768017.45 0.0528 0.0486

Uranus -116327-08-13 22:48 J -40766788.59 -40766788.55 -40766788.48 0.0131 0.0122

Uranus -116327-11-10 02:10 J -40766700.48 -40766700.41 -40766700.32 0.0131 0.0106

Uranus -116326-02-06 05:31 J -40766612.37 -40766612.27 -40766612.17 0.0131 0.0090

Uranus -116326-05-05 08:39 J -40766524.25 -40766524.14 -40766524.02 0.0131 0.0074

Uranus -116326-08-01 12:00 J -40766436.12 -40766436.00 -40766435.88 0.0131 0.0058

Uranus -116326-10-28 15:07 J -40766348.00 -40766347.87 -40766347.74 0.0131 0.0043

Uranus -116325-01-24 18:15 J -40766259.87 -40766259.74 -40766259.61 0.0131 0.0028

Uranus -116325-04-21 21:22 J -40766171.75 -40766171.61 -40766171.47 0.0131 0.0012

Moon -116325-04-27 01:27 J -40766166.53 -40766166.44 -40766166.35 0.2781 0.1395

Earth -116325-04-27 02:10 J -40766166.50 -40766166.41 -40766166.32 0.2778 0.1459 *

Uranus -116325-07-19 00:29 J -40766083.62 -40766083.48 -40766083.34 0.0131 0.0003

Jupiter -116325-08-23 03:51 J -40766048.38 -40766048.34 -40766048.30 0.0499 0.0483

Uranus -116325-10-15 03:36 J -40765995.49 -40765995.35 -40765995.21 0.0131 0.0018

Jupiter -116325-11-21 07:55 J -40765958.34 -40765958.17 -40765957.99 0.0498 0.0078

Uranus -116324-01-11 06:43 J -40765907.35 -40765907.22 -40765907.09 0.0131 0.0033

Uranus -116324-04-09 09:36 J -40765819.22 -40765819.10 -40765818.97 0.0131 0.0048

Uranus -116324-07-06 12:43 J -40765731.09 -40765730.97 -40765730.85 0.0131 0.0063

Uranus -116324-10-02 15:51 J -40765642.95 -40765642.84 -40765642.73 0.0131 0.0078

Uranus -116324-12-29 18:43 J -40765554.81 -40765554.72 -40765554.62 0.0131 0.0093

Uranus -116323-03-27 21:51 J -40765466.66 -40765466.59 -40765466.51 0.0131 0.0108

Uranus -116323-06-24 00:43 J -40765378.51 -40765378.47 -40765378.42 0.0131 0.0122

Mars -116322-10-11 14:53 J -40764904.02 -40764903.88 -40764903.75 0.1810 0.0923

Moon -116322-10-22 10:34 J -40764893.18 -40764893.06 -40764892.93 0.2563 0.1666

Earth -116322-10-22 12:29 J -40764893.09 -40764892.98 -40764892.88 0.2564 0.1881 *

Mars -116321-08-21 07:55 J -40764589.29 -40764589.17 -40764589.04 0.1707 0.0082

Venus -116319-10-18 20:53 J -40763800.66 -40763800.63 -40763800.60 0.3670 0.3469

Saturn -116319-10-19 11:03 J -40763800.13 -40763800.04 -40763799.94 0.0287 0.0213

Jupiter -116319-10-22 19:41 J -40763796.81 -40763796.68 -40763796.55 0.0527 0.0116

Saturn -116318-01-16 00:58 J -40763711.59 -40763711.46 -40763711.34 0.0289 0.0117

Jupiter -116318-01-20 03:51 J -40763707.43 -40763707.34 -40763707.24 0.0528 0.0371

Saturn -116318-04-14 14:24 J -40763623.04 -40763622.90 -40763622.76 0.0290 0.0020

Moon -116318-04-20 23:46 J -40763616.62 -40763616.51 -40763616.41 0.2764 0.0962

Earth -116318-04-20 23:46 J -40763616.61 -40763616.51 -40763616.41 0.2771 0.1019 *

Saturn -116318-07-12 03:51 J -40763534.47 -40763534.34 -40763534.21 0.0291 0.0076

Saturn -116318-10-08 17:17 J -40763445.89 -40763445.78 -40763445.67 0.0292 0.0172

Saturn -116317-01-05 06:15 J -40763357.28 -40763357.24 -40763357.18 0.0293 0.0268

Earth -116315-10-14 00:00 J -40762344.58 -40762344.50 -40762344.42 0.2571 0.2237

Moon -116315-10-14 00:29 J -40762344.57 -40762344.48 -40762344.40 0.2566 0.2162 *

Venus -116313-05-03 14:24 J -40761776.99 -40761776.90 -40761776.80 0.3676 0.1810

Jupiter -116313-09-09 05:46 J -40761648.44 -40761648.26 -40761648.09 0.0498 0.0072

Mars -116312-03-02 13:27 J -40761474.10 -40761473.94 -40761473.78 0.1805 0.0113

Moon -116312-04-29 20:24 J -40761415.70 -40761415.65 -40761415.60 0.2788 0.2367

Earth -116312-04-29 20:24 J -40761415.70 -40761415.65 -40761415.59 0.2780 0.2334 *

Mars -116311-01-11 17:31 J -40761158.89 -40761158.77 -40761158.65 0.1711 0.0358

Mars -116310-12-18 02:39 J -40760453.46 -40760453.39 -40760453.31 0.1696 0.1317

Venus -116308-11-17 07:55 J -40759753.28 -40759753.17 -40759753.06 0.3681 0.0219

Jupiter -116307-08-10 23:31 J -40759486.64 -40759486.52 -40759486.41 0.0527 0.0236

Jupiter -116307-11-08 07:41 J -40759397.29 -40759397.18 -40759397.06 0.0528 0.0253

Saturn -116305-02-21 14:24 J -40758926.98 -40758926.90 -40758926.82 0.0275 0.0240

Moon -116305-04-22 17:46 J -40758865.87 -40758865.76 -40758865.66 0.2769 0.0262

Earth -116305-04-22 18:15 J -40758865.85 -40758865.74 -40758865.64 0.2774 0.0163 *

Saturn -116305-05-20 09:07 J -40758838.27 -40758838.12 -40758837.97 0.0273 0.0141

Saturn -116305-08-17 04:05 J -40758749.50 -40758749.33 -40758749.16 0.0272 0.0040

Saturn -116305-11-13 23:03 J -40758660.71 -40758660.54 -40758660.36 0.0271 0.0061

Saturn -116304-02-10 18:15 J -40758571.87 -40758571.74 -40758571.59 0.0271 0.0162

Saturn -116304-05-10 13:55 J -40758482.96 -40758482.92 -40758482.88 0.0270 0.0262

Mars -116303-07-23 12:29 J -40758044.12 -40758043.98 -40758043.83 0.1801 0.0669

Venus -116302-06-03 01:12 J -40757729.55 -40757729.45 -40757729.35 0.3687 0.1420

Mars -116302-06-04 02:53 J -40757728.49 -40757728.38 -40757728.27 0.1715 0.0790

Moon -116302-10-17 05:46 J -40757593.42 -40757593.26 -40757593.10 0.2563 0.0772

Earth -116302-10-17 06:15 J -40757593.39 -40757593.24 -40757593.09 0.2569 0.0781 *

Jupiter -116301-06-28 03:51 J -40757338.49 -40757338.34 -40757338.18 0.0499 0.0214

Jupiter -116301-09-26 09:07 J -40757248.24 -40757248.12 -40757248.00 0.0498 0.0358

Mars -116300-05-09 12:29 J -40757023.08 -40757022.98 -40757022.88 0.1699 0.0923

Earth -116298-04-16 15:36 J -40756315.88 -40756315.85 -40756315.82 0.2766 0.2616

Moon -116298-04-16 16:19 J -40756315.86 -40756315.82 -40756315.78 0.2764 0.2540 *

Venus -116297-12-16 18:15 J -40755705.80 -40755705.74 -40755705.67 0.3692 0.2992

Jupiter -116295-05-30 02:24 J -40755176.49 -40755176.40 -40755176.30 0.0526 0.0364

Jupiter -116295-08-27 11:03 J -40755087.17 -40755087.04 -40755086.91 0.0527 0.0127

Mars -116294-12-13 12:15 J -40754614.09 -40754613.99 -40754613.90 0.1796 0.1414

Mars -116293-10-24 12:00 J -40754298.08 -40754298.00 -40754297.91 0.1718 0.1230

Moon -116292-04-25 11:46 J -40754115.11 -40754115.01 -40754114.90 0.2776 0.0733

Earth -116292-04-25 12:29 J -40754115.08 -40754114.98 -40754114.87 0.2776 0.0748 *

Mars -116291-09-29 22:19 J -40753592.68 -40753592.57 -40753592.45 0.1703 0.0526

Saturn -116289-03-07 13:41 J -40753068.01 -40753067.93 -40753067.85 0.0288 0.0235

Jupiter -116289-04-16 02:24 J -40753028.52 -40753028.40 -40753028.27 0.0499 0.0352

Saturn -116289-06-04 03:22 J -40752979.48 -40752979.36 -40752979.24 0.0289 0.0139

Jupiter -116289-07-15 07:12 J -40752938.36 -40752938.20 -40752938.04 0.0498 0.0215

Saturn -116289-08-31 17:03 J -40752890.93 -40752890.79 -40752890.66 0.0290 0.0043

Moon -116289-10-19 11:03 J -40752842.20 -40752842.04 -40752841.89 0.2564 0.0513

Earth -116289-10-19 12:29 J -40752842.13 -40752841.98 -40752841.82 0.2566 0.0690 *

Saturn -116289-11-28 06:29 J -40752802.37 -40752802.23 -40752802.10 0.0291 0.0054

Saturn -116288-02-24 19:41 J -40752713.79 -40752713.68 -40752713.56 0.0292 0.0151

Venus -116288-03-29 14:53 J -40752681.01 -40752680.88 -40752680.74 0.3701 0.0833

Saturn -116288-05-24 08:53 J -40752625.19 -40752625.13 -40752625.05 0.0293 0.0247

Earth -116285-04-18 10:05 J -40751565.16 -40751565.08 -40751564.99 0.2769 0.1735

Moon -116285-04-18 10:34 J -40751565.15 -40751565.06 -40751564.98 0.2763 0.1669 *

Mars -116283-03-16 21:07 J -40750867.65 -40750867.62 -40750867.60 0.1723 0.1685

Jupiter -116283-03-18 05:31 J -40750866.31 -40750866.27 -40750866.22 0.0526 0.0491

Uranus -116283-04-24 04:34 J -40750829.39 -40750829.31 -40750829.21 0.0148 0.0128

Jupiter -116283-06-15 14:24 J -40750777.03 -40750776.90 -40750776.77 0.0527 0.0009

Uranus -116283-07-21 12:29 J -40750741.10 -40750740.98 -40750740.83 0.0148 0.0099

Jupiter -116283-09-12 22:19 J -40750687.62 -40750687.57 -40750687.52 0.0528 0.0484

Venus -116283-10-13 17:46 J -40750656.86 -40750656.76 -40750656.65 0.3694 0.2382

Uranus -116283-10-17 20:24 J -40750652.80 -40750652.65 -40750652.47 0.0148 0.0070

Uranus -116282-01-14 04:48 J -40750564.48 -40750564.30 -40750564.12 0.0148 0.0040

Mars -116282-04-11 15:07 J -40750477.00 -40750476.87 -40750476.73 0.1810 0.0994

Uranus -116282-04-12 12:43 J -40750476.15 -40750475.97 -40750475.78 0.0148 0.0011

Uranus -116282-07-09 20:53 J -40750387.81 -40750387.63 -40750387.44 0.0148 0.0020

Uranus -116282-10-06 05:03 J -40750299.46 -40750299.29 -40750299.11 0.0148 0.0050

Uranus -116281-01-02 13:12 J -40750211.10 -40750210.95 -40750210.78 0.0148 0.0080

Mars -116281-02-20 08:10 J -40750162.28 -40750162.16 -40750162.04 0.1707 0.0118

Uranus -116281-03-30 21:36 J -40750122.72 -40750122.60 -40750122.47 0.0148 0.0110

Uranus -116281-06-27 05:46 J -40750034.30 -40750034.26 -40750034.19 0.0148 0.0141

Moon -116279-04-28 06:29 J -40749364.31 -40749364.23 -40749364.14 0.2784 0.1570

Earth -116279-04-28 06:58 J -40749364.30 -40749364.21 -40749364.12 0.2778 0.1624 *

Jupiter -116277-02-03 01:12 J -40748718.48 -40748718.45 -40748718.40 0.0499 0.0486

Jupiter -116277-05-03 05:31 J -40748628.44 -40748628.27 -40748628.09 0.0498 0.0076

Saturn -116276-07-10 15:36 J -40748194.89 -40748194.85 -40748194.80 0.0275 0.0264

Saturn -116276-10-07 10:19 J -40748106.20 -40748106.07 -40748105.93 0.0274 0.0164

Moon -116276-10-22 17:17 J -40748090.86 -40748090.78 -40748090.69 0.2565 0.2157

Earth -116276-10-22 18:58 J -40748090.79 -40748090.71 -40748090.62 0.2564 0.2165 *

Saturn -116275-01-04 05:17 J -40748017.45 -40748017.28 -40748017.11 0.0273 0.0064

Saturn -116275-04-03 00:15 J -40747928.66 -40747928.49 -40747928.31 0.0272 0.0037

Saturn -116275-06-30 19:27 J -40747839.84 -40747839.69 -40747839.53 0.0271 0.0138

Saturn -116275-09-27 14:53 J -40747750.96 -40747750.88 -40747750.80 0.0270 0.0239

Mars -116273-08-31 14:10 J -40747047.07 -40747046.91 -40747046.75 0.1805 0.0194

Moon -116272-04-21 04:19 J -40746814.42 -40746814.32 -40746814.21 0.2764 0.0924

Earth -116272-04-21 04:34 J -40746814.41 -40746814.31 -40746814.20 0.2772 0.0852 *

Mars -116272-07-12 17:31 J -40746731.89 -40746731.77 -40746731.65 0.1710 0.0311

Jupiter -116271-04-03 17:31 J -40746466.90 -40746466.77 -40746466.64 0.0527 0.0127

Jupiter -116271-07-02 01:41 J -40746377.52 -40746377.43 -40746377.34 0.0528 0.0360

Mars -116270-06-18 02:39 J -40746026.46 -40746026.39 -40746026.32 0.1696 0.1362

Neptune -116270-07-20 16:34 J -40745993.81 -40745993.81 -40745993.79 0.0089 0.0089

Neptune -116270-10-16 19:41 J -40745905.73 -40745905.68 -40745905.61 0.0089 0.0083

Neptune -116269-01-12 22:34 J -40745817.63 -40745817.56 -40745817.47 0.0089 0.0078

Neptune -116269-04-10 01:27 J -40745729.52 -40745729.44 -40745729.32 0.0089 0.0073

Neptune -116269-07-07 04:48 J -40745641.41 -40745641.30 -40745641.18 0.0089 0.0067

Neptune -116269-10-03 07:27 J -40745553.30 -40745553.19 -40745553.04 0.0089 0.0062

Earth -116269-10-14 06:29 J -40745542.33 -40745542.23 -40745542.13 0.2571 0.1963

Moon -116269-10-14 06:43 J -40745542.32 -40745542.22 -40745542.12 0.2564 0.2015 *

Neptune -116269-12-30 10:48 J -40745465.18 -40745465.05 -40745464.91 0.0089 0.0056

Neptune -116268-03-28 13:41 J -40745377.06 -40745376.93 -40745376.77 0.0089 0.0051

Neptune -116268-06-24 17:03 J -40745288.94 -40745288.79 -40745288.63 0.0089 0.0045

Neptune -116268-09-20 19:55 J -40745200.82 -40745200.67 -40745200.50 0.0089 0.0040

Neptune -116268-12-17 23:17 J -40745112.70 -40745112.53 -40745112.36 0.0089 0.0034

Neptune -116267-03-16 02:10 J -40745024.57 -40745024.41 -40745024.23 0.0089 0.0029

Neptune -116267-06-12 05:31 J -40744936.45 -40744936.27 -40744936.09 0.0089 0.0023

Neptune -116267-09-08 08:39 J -40744848.32 -40744848.14 -40744847.96 0.0089 0.0017

Neptune -116267-12-05 11:46 J -40744760.19 -40744760.01 -40744759.83 0.0089 0.0012

Neptune -116266-03-03 14:53 J -40744672.06 -40744671.88 -40744671.69 0.0089 0.0006

Moon -116266-05-01 01:27 J -40744613.49 -40744613.44 -40744613.40 0.2788 0.2501

Earth -116266-05-01 01:27 J -40744613.49 -40744613.44 -40744613.40 0.2780 0.2501 *

Neptune -116266-05-30 18:15 J -40744583.93 -40744583.74 -40744583.56 0.0089 0.0002

Neptune -116266-08-26 21:22 J -40744495.79 -40744495.61 -40744495.43 0.0089 0.0005

Neptune -116266-11-23 00:29 J -40744407.66 -40744407.48 -40744407.30 0.0089 0.0011

Neptune -116265-02-19 03:36 J -40744319.53 -40744319.35 -40744319.16 0.0089 0.0017

Jupiter -116265-02-20 03:51 J -40744318.51 -40744318.34 -40744318.16 0.0498 0.0068

Neptune -116265-05-17 06:58 J -40744231.39 -40744231.21 -40744231.03 0.0089 0.0022

Neptune -116265-08-13 10:05 J -40744143.25 -40744143.08 -40744142.90 0.0089 0.0028

Neptune -116265-11-09 13:12 J -40744055.11 -40744054.95 -40744054.77 0.0089 0.0034

Neptune -116264-02-05 16:19 J -40743966.97 -40743966.82 -40743966.64 0.0089 0.0040

Neptune -116264-05-04 19:55 J -40743878.83 -40743878.67 -40743878.51 0.0089 0.0045

Neptune -116264-07-31 23:03 J -40743790.68 -40743790.54 -40743790.38 0.0089 0.0051

Neptune -116264-10-28 02:10 J -40743702.54 -40743702.41 -40743702.25 0.0089 0.0057

Mars -116263-01-21 13:12 J -40743617.10 -40743616.95 -40743616.80 0.1801 0.0590

Neptune -116263-01-24 05:31 J -40743614.39 -40743614.27 -40743614.13 0.0089 0.0063

Neptune -116263-04-22 08:39 J -40743526.24 -40743526.14 -40743526.01 0.0089 0.0069

Neptune -116263-07-19 12:00 J -40743438.08 -40743438.00 -40743437.88 0.0089 0.0075

Neptune -116263-10-15 15:36 J -40743349.92 -40743349.85 -40743349.77 0.0089 0.0080

Mars -116263-12-03 02:53 J -40743301.49 -40743301.38 -40743301.27 0.1714 0.0740

Neptune -116262-01-11 18:58 J -40743261.75 -40743261.71 -40743261.66 0.0089 0.0086

Venus -116262-05-25 18:58 J -40743127.78 -40743127.71 -40743127.65 0.3672 0.2854

Mars -116261-11-07 12:43 J -40742596.07 -40742595.97 -40742595.88 0.1699 0.0971

Saturn -116260-07-25 16:34 J -40742335.87 -40742335.81 -40742335.75 0.0287 0.0255

Saturn -116260-10-22 06:15 J -40742247.36 -40742247.24 -40742247.13 0.0288 0.0160

Saturn -116259-01-18 19:41 J -40742158.81 -40742158.68 -40742158.54 0.0289 0.0065

Jupiter -116259-01-20 21:07 J -40742156.74 -40742156.62 -40742156.51 0.0527 0.0247

Saturn -116259-04-17 09:22 J -40742070.25 -40742070.11 -40742069.98 0.0290 0.0033

Jupiter -116259-04-20 05:31 J -40742067.39 -40742067.27 -40742067.15 0.0528 0.0243

Moon -116259-04-23 22:19 J -40742063.68 -40742063.57 -40742063.46 0.2772 0.0051

Earth -116259-04-23 23:03 J -40742063.65 -40742063.54 -40742063.43 0.2774 0.0030 *

Saturn -116259-07-14 22:34 J -40741981.68 -40741981.56 -40741981.43 0.0291 0.0128

Saturn -116259-10-11 12:00 J -40741893.09 -40741893.00 -40741892.92 0.0292 0.0224

Venus -116257-12-08 12:15 J -40741104.09 -40741103.99 -40741103.88 0.3677 0.1217

Moon -116256-10-17 11:46 J -40740791.17 -40740791.01 -40740790.85 0.2564 0.0549

Earth -116256-10-17 12:43 J -40740791.12 -40740790.97 -40740790.81 0.2568 0.0506 *

Mars -116254-06-13 12:43 J -40740187.07 -40740186.97 -40740186.86 0.1796 0.1339

Jupiter -116254-12-09 01:27 J -40740008.60 -40740008.44 -40740008.28 0.0498 0.0216

Jupiter -116253-03-08 06:29 J -40739918.35 -40739918.23 -40739918.10 0.0498 0.0354

Mars -116253-04-24 12:00 J -40739871.09 -40739871.00 -40739870.91 0.1719 0.1183

Earth -116252-04-16 20:24 J -40739513.69 -40739513.65 -40739513.60 0.2766 0.2452

Moon -116252-04-16 21:07 J -40739513.67 -40739513.62 -40739513.56 0.2764 0.2413 *

Mars -116251-03-30 22:19 J -40739165.68 -40739165.57 -40739165.45 0.1703 0.0571

Venus -116251-06-24 05:46 J -40739080.37 -40739080.26 -40739080.15 0.3683 0.0412

Jupiter -116248-11-09 00:43 J -40737846.57 -40737846.47 -40737846.38 0.0527 0.0367

Jupiter -116247-02-06 09:22 J -40737757.24 -40737757.11 -40737756.98 0.0527 0.0126

Saturn -116246-02-24 11:03 J -40737374.16 -40737374.04 -40737373.92 0.0274 0.0189

Moon -116246-04-26 16:48 J -40737312.91 -40737312.80 -40737312.70 0.2778 0.0792

Earth -116246-04-26 17:31 J -40737312.87 -40737312.77 -40737312.67 0.2777 0.0915 *

Saturn -116246-05-24 05:46 J -40737285.42 -40737285.26 -40737285.09 0.0273 0.0090

Saturn -116246-08-21 00:43 J -40737196.64 -40737196.47 -40737196.29 0.0272 0.0013

Saturn -116246-11-17 19:55 J -40737107.83 -40737107.67 -40737107.51 0.0271 0.0112

Venus -116245-01-07 23:03 J -40737056.63 -40737056.54 -40737056.45 0.3688 0.1999

Saturn -116245-02-14 15:07 J -40737018.97 -40737018.87 -40737018.75 0.0270 0.0213

Mars -116244-09-14 21:07 J -40736440.65 -40736440.62 -40736440.58 0.1723 0.1629

Uranus -116243-09-03 05:46 J -40736087.31 -40736087.26 -40736087.19 0.0131 0.0118

Mars -116243-10-10 16:05 J -40736049.96 -40736049.83 -40736049.70 0.1810 0.1077

Moon -116243-10-20 17:31 J -40736039.92 -40736039.77 -40736039.62 0.2564 0.0912

Earth -116243-10-20 19:12 J -40736039.85 -40736039.70 -40736039.55 0.2566 0.0971 *

Uranus -116243-11-30 09:07 J -40735999.20 -40735999.12 -40735999.03 0.0131 0.0102

Uranus -116242-02-26 12:29 J -40735911.08 -40735910.98 -40735910.88 0.0131 0.0087

Uranus -116242-05-25 15:36 J -40735822.96 -40735822.85 -40735822.73 0.0131 0.0071

Mars -116242-08-21 08:10 J -40735735.28 -40735735.16 -40735735.04 0.1707 0.0162

Uranus -116242-08-21 18:58 J -40735734.84 -40735734.71 -40735734.59 0.0131 0.0055

Jupiter -116242-09-26 23:46 J -40735698.63 -40735698.51 -40735698.39 0.0499 0.0358

Uranus -116242-11-17 22:05 J -40735646.71 -40735646.58 -40735646.45 0.0131 0.0040

Jupiter -116242-12-26 04:19 J -40735608.48 -40735608.32 -40735608.15 0.0498 0.0209

Uranus -116241-02-14 01:12 J -40735558.58 -40735558.45 -40735558.31 0.0131 0.0024

Uranus -116241-05-12 04:19 J -40735470.46 -40735470.32 -40735470.18 0.0131 0.0009

Uranus -116241-08-08 07:27 J -40735382.33 -40735382.19 -40735382.05 0.0131 0.0006

Uranus -116241-11-04 10:34 J -40735294.19 -40735294.06 -40735293.93 0.0131 0.0021

Uranus -116240-01-31 13:27 J -40735206.06 -40735205.94 -40735205.80 0.0131 0.0037

Uranus -116240-04-29 16:34 J -40735117.93 -40735117.81 -40735117.68 0.0131 0.0052

Venus -116240-07-23 16:05 J -40735032.85 -40735032.83 -40735032.80 0.3694 0.3565

Uranus -116240-07-26 19:41 J -40735029.79 -40735029.68 -40735029.56 0.0131 0.0067

Uranus -116240-10-22 22:34 J -40734941.65 -40734941.56 -40734941.44 0.0131 0.0082

Uranus -116239-01-19 01:55 J -40734853.51 -40734853.42 -40734853.33 0.0131 0.0096

Uranus -116239-04-17 04:48 J -40734765.36 -40734765.30 -40734765.23 0.0131 0.0111

Moon -116239-04-19 15:07 J -40734762.96 -40734762.87 -40734762.78 0.2762 0.1546

Earth -116239-04-19 15:07 J -40734762.96 -40734762.87 -40734762.78 0.2769 0.1571 *

Uranus -116239-07-14 07:41 J -40734677.20 -40734677.18 -40734677.14 0.0131 0.0126

Venus -116237-04-19 12:43 J -40734032.06 -40734031.97 -40734031.89 0.3706 0.2869

Jupiter -116236-08-28 03:36 J -40733536.39 -40733536.35 -40733536.30 0.0526 0.0495

Jupiter -116236-11-25 12:29 J -40733447.11 -40733446.98 -40733446.85 0.0527 0.0009

Jupiter -116235-02-22 20:24 J -40733357.70 -40733357.65 -40733357.60 0.0528 0.0480

Mars -116233-03-01 14:24 J -40732620.05 -40732619.90 -40732619.74 0.1805 0.0258

Moon -116233-04-28 11:31 J -40732562.10 -40732562.02 -40732561.94 0.2786 0.1825

Earth -116233-04-28 11:46 J -40732562.09 -40732562.01 -40732561.92 0.2778 0.1790 *

Mars -116232-01-10 17:46 J -40732304.88 -40732304.76 -40732304.64 0.1711 0.0260

Venus -116232-11-03 15:22 J -40732008.00 -40732007.86 -40732007.72 0.3699 0.0272

Saturn -116231-12-12 18:58 J -40731603.74 -40731603.71 -40731603.68 0.0287 0.0277

Mars -116231-12-17 02:39 J -40731599.45 -40731599.39 -40731599.32 0.1696 0.1407

Saturn -116230-03-11 08:39 J -40731515.24 -40731515.14 -40731515.03 0.0288 0.0182

Saturn -116230-06-07 22:19 J -40731426.70 -40731426.57 -40731426.43 0.0289 0.0085

Jupiter -116230-07-15 22:19 J -40731388.58 -40731388.57 -40731388.55 0.0499 0.0496

Saturn -116230-09-04 11:46 J -40731338.14 -40731338.01 -40731337.87 0.0291 0.0015

Jupiter -116230-10-14 02:39 J -40731298.57 -40731298.39 -40731298.21 0.0498 0.0065

Moon -116230-10-24 00:15 J -40731288.56 -40731288.49 -40731288.42 0.2567 0.2270

Earth -116230-10-24 01:41 J -40731288.48 -40731288.43 -40731288.39 0.2563 0.2446 *

Saturn -116230-12-02 01:12 J -40731249.57 -40731249.45 -40731249.32 0.0292 0.0108

Saturn -116229-02-28 14:39 J -40731160.99 -40731160.89 -40731160.79 0.0293 0.0203

Moon -116226-04-22 09:07 J -40730012.23 -40730012.12 -40730012.01 0.2766 0.0684

Earth -116226-04-22 09:36 J -40730012.21 -40730012.10 -40730012.00 0.2772 0.0696 *

Venus -116226-05-20 18:15 J -40729983.77 -40729983.74 -40729983.70 0.3692 0.3519

Mars -116224-07-22 13:41 J -40729190.08 -40729189.93 -40729189.78 0.1801 0.0517

Jupiter -116224-09-13 15:51 J -40729136.97 -40729136.84 -40729136.71 0.0527 0.0128

Jupiter -116224-12-12 00:00 J -40729047.60 -40729047.50 -40729047.41 0.0528 0.0358

Mars -116223-06-03 02:53 J -40728874.49 -40728874.38 -40728874.26 0.1714 0.0692

Moon -116223-10-15 12:58 J -40728740.08 -40728739.96 -40728739.83 0.2564 0.1603

Earth -116223-10-15 13:12 J -40728740.07 -40728739.95 -40728739.83 0.2571 0.1684 *

Mars -116221-05-08 12:43 J -40728169.07 -40728168.97 -40728168.88 0.1699 0.1018

Earth -116220-05-01 06:15 J -40727811.27 -40727811.24 -40727811.21 0.2780 0.2666

Moon -116220-05-01 06:29 J -40727811.25 -40727811.23 -40727811.20 0.2787 0.2679 *

Pluto -116219-09-06 18:29 J -40727317.80 -40727317.73 -40727317.63 0.0060 0.0053

Pluto -116219-12-03 19:55 J -40727229.78 -40727229.67 -40727229.54 0.0060 0.0046

Pluto -116218-03-01 20:53 J -40727141.75 -40727141.63 -40727141.46 0.0060 0.0039

Pluto -116218-05-28 22:34 J -40727053.71 -40727053.56 -40727053.38 0.0060 0.0030

Jupiter -116218-08-02 01:12 J -40726988.62 -40726988.45 -40726988.27 0.0498 0.0073

Pluto -116218-08-25 00:00 J -40726965.67 -40726965.50 -40726965.31 0.0060 0.0022

Pluto -116218-11-21 01:27 J -40726877.62 -40726877.44 -40726877.25 0.0060 0.0014

Pluto -116217-02-17 02:53 J -40726789.57 -40726789.38 -40726789.19 0.0060 0.0007

Pluto -116217-05-15 04:19 J -40726701.51 -40726701.32 -40726701.13 0.0060 0.0001

Saturn -116217-07-13 12:29 J -40726642.08 -40726641.98 -40726641.86 0.0274 0.0211

Pluto -116217-08-11 05:31 J -40726613.45 -40726613.27 -40726613.08 0.0060 0.0009

Saturn -116217-10-10 07:27 J -40726553.35 -40726553.19 -40726553.03 0.0273 0.0111

Pluto -116217-11-07 06:58 J -40726525.39 -40726525.21 -40726525.02 0.0061 0.0017

Saturn -116216-01-07 02:24 J -40726464.58 -40726464.40 -40726464.23 0.0272 0.0012

Pluto -116216-02-03 08:10 J -40726437.33 -40726437.16 -40726436.98 0.0061 0.0025

Saturn -116216-04-05 21:22 J -40726375.77 -40726375.61 -40726375.44 0.0271 0.0090

Pluto -116216-05-02 09:36 J -40726349.25 -40726349.10 -40726348.93 0.0061 0.0033

Saturn -116216-07-03 16:48 J -40726286.93 -40726286.80 -40726286.68 0.0270 0.0190

Pluto -116216-07-29 10:48 J -40726261.18 -40726261.05 -40726260.90 0.0061 0.0041

Pluto -116216-10-25 12:00 J -40726173.09 -40726173.00 -40726172.87 0.0061 0.0049

Pluto -116215-01-21 13:27 J -40726084.99 -40726084.94 -40726084.86 0.0061 0.0057

Mars -116215-12-12 13:27 J -40725760.05 -40725759.94 -40725759.83 0.1796 0.1259

Mars -116214-10-24 12:15 J -40725444.08 -40725443.99 -40725443.90 0.1719 0.1128

Moon -116213-04-24 03:07 J -40725261.48 -40725261.37 -40725261.26 0.2773 0.0088

Earth -116213-04-24 03:51 J -40725261.45 -40725261.34 -40725261.23 0.2774 0.0213 *

Jupiter -116212-07-02 18:43 J -40724826.84 -40724826.72 -40724826.61 0.0527 0.0259

Mars -116212-09-28 22:34 J -40724738.67 -40724738.56 -40724738.45 0.1703 0.0619

Jupiter -116212-09-30 03:07 J -40724737.49 -40724737.37 -40724737.25 0.0528 0.0231

Moon -116210-10-18 18:00 J -40723988.91 -40723988.75 -40723988.59 0.2565 0.0379

Earth -116210-10-18 19:27 J -40723988.85 -40723988.69 -40723988.53 0.2568 0.0223 *

Earth -116206-04-18 01:27 J -40722711.50 -40722711.44 -40722711.38 0.2767 0.2284

Moon -116206-04-18 01:55 J -40722711.48 -40722711.42 -40722711.35 0.2763 0.2188 *

Jupiter -116206-05-20 23:31 J -40722678.67 -40722678.52 -40722678.36 0.0498 0.0214

Jupiter -116206-08-19 04:34 J -40722588.43 -40722588.31 -40722588.19 0.0498 0.0356

Venus -116206-12-30 16:48 J -40722454.89 -40722454.80 -40722454.71 0.3673 0.2243

Mars -116204-03-15 21:07 J -40722013.66 -40722013.62 -40722013.57 0.1723 0.1581

Mars -116203-04-10 16:34 J -40721622.93 -40721622.81 -40721622.69 0.1810 0.1151

Mars -116202-02-19 08:10 J -40721308.28 -40721308.16 -40721308.04 0.1707 0.0207

Saturn -116201-07-28 11:46 J -40720783.11 -40720783.01 -40720782.91 0.0288 0.0201

Saturn -116201-10-25 01:27 J -40720694.57 -40720694.44 -40720694.31 0.0289 0.0105

Saturn -116200-01-21 15:07 J -40720606.01 -40720605.87 -40720605.74 0.0290 0.0013

Saturn -116200-04-20 04:19 J -40720517.45 -40720517.32 -40720517.18 0.0291 0.0088

Jupiter -116200-04-20 22:05 J -40720516.67 -40720516.58 -40720516.49 0.0527 0.0380

Moon -116200-04-26 21:51 J -40720510.69 -40720510.59 -40720510.49 0.2781 0.1101

Earth -116200-04-26 22:19 J -40720510.67 -40720510.57 -40720510.47 0.2777 0.1078 *

Venus -116200-07-15 10:19 J -40720431.18 -40720431.07 -40720430.96 0.3679 0.0607

Saturn -116200-07-17 17:46 J -40720428.87 -40720428.76 -40720428.65 0.0292 0.0183

Jupiter -116200-07-19 06:43 J -40720427.34 -40720427.22 -40720427.09 0.0528 0.0114

Saturn -116200-10-14 06:58 J -40720340.25 -40720340.21 -40720340.17 0.0293 0.0278

Uranus -116199-05-14 12:00 J -40720128.10 -40720128.00 -40720127.89 0.0148 0.0121

Uranus -116199-08-10 19:55 J -40720039.81 -40720039.67 -40720039.52 0.0148 0.0092

Uranus -116199-11-07 03:51 J -40719951.50 -40719951.34 -40719951.17 0.0148 0.0063

Uranus -116198-02-03 12:00 J -40719863.18 -40719863.00 -40719862.82 0.0148 0.0034

Uranus -116198-05-02 20:10 J -40719774.85 -40719774.66 -40719774.48 0.0148 0.0005

Uranus -116198-07-30 04:05 J -40719686.51 -40719686.33 -40719686.14 0.0148 0.0026

Uranus -116198-10-26 12:15 J -40719598.16 -40719597.99 -40719597.81 0.0148 0.0056

Uranus -116197-01-22 20:24 J -40719509.79 -40719509.65 -40719509.49 0.0148 0.0086

Uranus -116197-04-20 04:48 J -40719421.41 -40719421.30 -40719421.18 0.0148 0.0116

Uranus -116197-07-17 12:58 J -40719332.97 -40719332.96 -40719332.93 0.0148 0.0147

Moon -116197-10-21 00:00 J -40719237.64 -40719237.50 -40719237.35 0.2565 0.1122

Earth -116197-10-21 01:41 J -40719237.57 -40719237.43 -40719237.29 0.2566 0.1250 *

Venus -116194-01-29 03:36 J -40718407.45 -40718407.35 -40718407.24 0.3684 0.1009

Jupiter -116194-03-08 21:07 J -40718368.74 -40718368.62 -40718368.50 0.0499 0.0363

Jupiter -116194-06-07 01:41 J -40718278.59 -40718278.43 -40718278.27 0.0498 0.0202

Mars -116194-08-31 15:07 J -40718193.02 -40718192.87 -40718192.71 0.1806 0.0344

Moon -116193-04-19 19:55 J -40717960.76 -40717960.67 -40717960.58 0.2762 0.1422

Earth -116193-04-19 19:55 J -40717960.76 -40717960.67 -40717960.58 0.2770 0.1402 *

Mars -116193-07-11 17:46 J -40717877.88 -40717877.76 -40717877.64 0.1711 0.0214

Mars -116191-06-17 02:39 J -40717172.45 -40717172.39 -40717172.33 0.1696 0.1451

Neptune -116189-08-13 14:10 J -40716383.92 -40716383.91 -40716383.88 0.0088 0.0087

Venus -116189-08-13 20:53 J -40716383.70 -40716383.63 -40716383.55 0.3690 0.2582

Neptune -116189-11-09 16:05 J -40716295.88 -40716295.83 -40716295.78 0.0088 0.0083

Neptune -116188-02-05 17:31 J -40716207.83 -40716207.77 -40716207.70 0.0088 0.0078

Jupiter -116188-02-07 01:41 J -40716206.47 -40716206.43 -40716206.39 0.0526 0.0501

Neptune -116188-05-04 18:58 J -40716119.77 -40716119.71 -40716119.62 0.0088 0.0075

Jupiter -116188-05-07 10:34 J -40716117.19 -40716117.06 -40716116.92 0.0527 0.0012

Neptune -116188-07-31 20:53 J -40716031.71 -40716031.63 -40716031.54 0.0088 0.0070

Jupiter -116188-08-04 18:29 J -40716027.78 -40716027.73 -40716027.67 0.0528 0.0477

Neptune -116188-10-27 22:19 J -40715943.65 -40715943.57 -40715943.47 0.0088 0.0065

Saturn -116188-11-30 13:41 J -40715910.01 -40715909.93 -40715909.84 0.0274 0.0233

Neptune -116187-01-23 23:46 J -40715855.59 -40715855.51 -40715855.39 0.0088 0.0062

Saturn -116187-02-27 08:24 J -40715821.30 -40715821.15 -40715821.00 0.0273 0.0134

Neptune -116187-04-22 01:41 J -40715767.53 -40715767.43 -40715767.32 0.0088 0.0057

Moon -116187-04-29 16:34 J -40715759.89 -40715759.81 -40715759.73 0.2786 0.1894

Earth -116187-04-29 16:48 J -40715759.88 -40715759.80 -40715759.73 0.2779 0.1960 *

Saturn -116187-05-27 03:22 J -40715732.53 -40715732.36 -40715732.19 0.0272 0.0034

Neptune -116187-07-19 03:07 J -40715679.47 -40715679.37 -40715679.25 0.0088 0.0053

Saturn -116187-08-23 22:19 J -40715643.74 -40715643.57 -40715643.40 0.0271 0.0066

Neptune -116187-10-15 04:34 J -40715591.41 -40715591.31 -40715591.18 0.0088 0.0049

Saturn -116187-11-20 17:31 J -40715554.91 -40715554.77 -40715554.63 0.0270 0.0167

Neptune -116186-01-11 06:29 J -40715503.35 -40715503.23 -40715503.11 0.0088 0.0044

Saturn -116186-02-17 12:58 J -40715465.98 -40715465.96 -40715465.94 0.0270 0.0267

Neptune -116186-04-09 07:55 J -40715415.29 -40715415.17 -40715415.04 0.0088 0.0039

Neptune -116186-07-06 09:22 J -40715327.23 -40715327.11 -40715326.97 0.0088 0.0036

Neptune -116186-10-02 11:17 J -40715239.16 -40715239.03 -40715238.90 0.0088 0.0031

Neptune -116186-12-29 12:43 J -40715151.10 -40715150.97 -40715150.83 0.0088 0.0026

Neptune -116185-03-26 14:10 J -40715063.04 -40715062.91 -40715062.77 0.0088 0.0022

Neptune -116185-06-22 15:51 J -40714974.98 -40714974.84 -40714974.70 0.0088 0.0018

Neptune -116185-09-18 17:17 J -40714886.91 -40714886.78 -40714886.64 0.0088 0.0014

Neptune -116185-12-15 18:58 J -40714798.85 -40714798.71 -40714798.57 0.0088 0.0009

Mars -116184-01-20 14:24 J -40714763.05 -40714762.90 -40714762.75 0.1801 0.0442

Neptune -116184-03-13 20:24 J -40714710.79 -40714710.65 -40714710.51 0.0088 0.0005

Neptune -116184-06-09 21:51 J -40714622.72 -40714622.59 -40714622.45 0.0088 0.0003

Neptune -116184-09-05 23:31 J -40714534.66 -40714534.52 -40714534.38 0.0088 0.0004

Mars -116184-12-02 03:07 J -40714447.48 -40714447.37 -40714447.26 0.1715 0.0640

Neptune -116184-12-03 00:58 J -40714446.60 -40714446.46 -40714446.32 0.0088 0.0008

Neptune -116183-03-01 02:24 J -40714358.53 -40714358.40 -40714358.26 0.0088 0.0012

Neptune -116183-05-28 03:51 J -40714270.47 -40714270.34 -40714270.20 0.0088 0.0016

Neptune -116183-08-24 05:17 J -40714182.41 -40714182.28 -40714182.14 0.0088 0.0021

Neptune -116183-11-20 06:58 J -40714094.34 -40714094.21 -40714094.08 0.0088 0.0024

Neptune -116182-02-16 08:24 J -40714006.28 -40714006.15 -40714006.02 0.0088 0.0028

Jupiter -116182-03-25 23:46 J -40713968.69 -40713968.51 -40713968.34 0.0498 0.0058

Neptune -116182-05-15 09:51 J -40713918.21 -40713918.09 -40713917.96 0.0088 0.0033

Neptune -116182-08-11 11:17 J -40713830.15 -40713830.03 -40713829.90 0.0088 0.0037

Neptune -116182-11-07 12:58 J -40713742.08 -40713741.96 -40713741.84 0.0088 0.0041

Mars -116182-11-07 12:43 J -40713742.06 -40713741.97 -40713741.88 0.1699 0.1062 *

Neptune -116181-02-03 14:10 J -40713654.02 -40713653.91 -40713653.78 0.0088 0.0045

Neptune -116181-05-01 15:36 J -40713565.95 -40713565.85 -40713565.73 0.0088 0.0049

Neptune -116181-07-28 17:03 J -40713477.89 -40713477.79 -40713477.67 0.0088 0.0053

Neptune -116181-10-24 18:29 J -40713389.82 -40713389.73 -40713389.62 0.0088 0.0057

Venus -116181-11-24 12:58 J -40713359.08 -40713358.96 -40713358.84 0.3704 0.1802

Neptune -116180-01-20 19:55 J -40713301.76 -40713301.67 -40713301.56 0.0088 0.0062

Neptune -116180-04-18 21:22 J -40713213.69 -40713213.61 -40713213.51 0.0088 0.0066

Moon -116180-04-22 13:41 J -40713210.03 -40713209.93 -40713209.82 0.2768 0.0573

Earth -116180-04-22 14:24 J -40713210.01 -40713209.90 -40713209.79 0.2772 0.0519 *

Neptune -116180-07-15 22:48 J -40713125.62 -40713125.55 -40713125.46 0.0088 0.0070

Neptune -116180-10-12 00:15 J -40713037.55 -40713037.49 -40713037.40 0.0088 0.0074

Neptune -116179-01-08 01:41 J -40712949.48 -40712949.43 -40712949.36 0.0088 0.0078

Neptune -116179-04-06 03:07 J -40712861.41 -40712861.37 -40712861.31 0.0088 0.0082

Neptune -116179-07-03 04:34 J -40712773.33 -40712773.31 -40712773.27 0.0088 0.0085

Moon -116177-10-15 19:12 J -40711937.83 -40711937.70 -40711937.57 0.2565 0.1537

Earth -116177-10-15 19:41 J -40711937.81 -40711937.68 -40711937.54 0.2570 0.1406 *

Jupiter -116176-02-23 13:55 J -40711807.05 -40711806.92 -40711806.80 0.0527 0.0133

Jupiter -116176-05-23 22:05 J -40711717.68 -40711717.58 -40711717.49 0.0527 0.0353

Venus -116175-06-10 15:36 J -40711334.98 -40711334.85 -40711334.72 0.3697 0.1343

Mars -116175-06-12 13:55 J -40711333.04 -40711332.92 -40711332.81 0.1796 0.1196

Mars -116174-04-24 12:15 J -40711017.08 -40711016.99 -40711016.89 0.1718 0.1077

Mars -116172-03-29 22:34 J -40710311.67 -40710311.56 -40710311.45 0.1703 0.0664

Saturn -116172-12-15 14:10 J -40710050.99 -40710050.91 -40710050.82 0.0288 0.0223

Saturn -116171-03-14 03:51 J -40709962.46 -40709962.34 -40709962.21 0.0289 0.0127

Saturn -116171-06-10 17:31 J -40709873.91 -40709873.77 -40709873.63 0.0290 0.0031

Saturn -116171-09-07 06:58 J -40709785.34 -40709785.21 -40709785.07 0.0291 0.0066

Saturn -116171-12-04 20:24 J -40709696.76 -40709696.65 -40709696.54 0.0292 0.0162

Jupiter -116170-01-11 21:51 J -40709658.76 -40709658.59 -40709658.41 0.0499 0.0086

Saturn -116170-03-03 09:36 J -40709608.16 -40709608.10 -40709608.03 0.0293 0.0257

Jupiter -116170-04-12 03:22 J -40709568.39 -40709568.36 -40709568.33 0.0498 0.0490

Moon -116167-04-25 08:10 J -40708459.27 -40708459.16 -40708459.06 0.2775 0.0359

Earth -116167-04-25 08:53 J -40708459.24 -40708459.13 -40708459.03 0.2775 0.0371 *

Mars -116165-09-13 21:22 J -40707586.67 -40707586.61 -40707586.56 0.1723 0.1527

Jupiter -116165-12-12 17:03 J -40707496.91 -40707496.79 -40707496.68 0.0527 0.0260

Jupiter -116164-03-12 01:27 J -40707407.56 -40707407.44 -40707407.32 0.0527 0.0229

Mars -116164-10-09 17:17 J -40707195.90 -40707195.78 -40707195.67 0.1810 0.1229

Moon -116164-10-19 00:29 J -40707186.64 -40707186.48 -40707186.32 0.2565 0.0040

Earth -116164-10-19 02:10 J -40707186.57 -40707186.41 -40707186.25 0.2568 0.0077 *

Mars -116163-08-20 08:10 J -40706881.28 -40706881.16 -40706881.04 0.1706 0.0266

Earth -116160-04-18 06:15 J -40705909.30 -40705909.24 -40705909.17 0.2767 0.2120

Moon -116160-04-18 06:43 J -40705909.29 -40705909.22 -40705909.16 0.2761 0.2149 *

Uranus -116159-06-27 09:36 J -40705474.10 -40705474.10 -40705474.07 0.0131 0.0131

Uranus -116159-09-23 12:58 J -40705386.02 -40705385.96 -40705385.89 0.0131 0.0114

Jupiter -116159-10-30 20:39 J -40705348.79 -40705348.64 -40705348.48 0.0499 0.0222

Uranus -116159-12-20 16:19 J -40705297.91 -40705297.82 -40705297.73 0.0131 0.0099

Jupiter -116158-01-29 01:41 J -40705258.55 -40705258.43 -40705258.30 0.0498 0.0349

Uranus -116158-03-18 19:41 J -40705209.79 -40705209.68 -40705209.58 0.0131 0.0083

Saturn -116158-04-19 15:22 J -40705177.92 -40705177.86 -40705177.80 0.0274 0.0255

Uranus -116158-06-14 22:48 J -40705121.67 -40705121.55 -40705121.43 0.0131 0.0067

Saturn -116158-07-17 09:51 J -40705089.22 -40705089.09 -40705088.94 0.0273 0.0156

Uranus -116158-09-11 01:55 J -40705033.54 -40705033.42 -40705033.29 0.0131 0.0052

Saturn -116158-10-14 04:48 J -40705000.47 -40705000.30 -40705000.13 0.0272 0.0056

Uranus -116158-12-08 05:03 J -40704945.42 -40704945.29 -40704945.15 0.0131 0.0037

Saturn -116157-01-10 23:46 J -40704911.68 -40704911.51 -40704911.33 0.0271 0.0044

Uranus -116157-03-05 08:24 J -40704857.29 -40704857.15 -40704857.02 0.0131 0.0021

Saturn -116157-04-08 18:58 J -40704822.86 -40704822.71 -40704822.56 0.0270 0.0144

Uranus -116157-06-01 11:31 J -40704769.16 -40704769.02 -40704768.88 0.0131 0.0006

Saturn -116157-07-06 14:10 J -40704733.97 -40704733.91 -40704733.83 0.0270 0.0245

Uranus -116157-08-28 14:39 J -40704681.03 -40704680.89 -40704680.76 0.0131 0.0010

Uranus -116157-11-24 17:46 J -40704592.90 -40704592.76 -40704592.63 0.0131 0.0025

Uranus -116156-02-20 20:53 J -40704504.76 -40704504.63 -40704504.50 0.0131 0.0040

Uranus -116156-05-19 23:46 J -40704416.63 -40704416.51 -40704416.38 0.0131 0.0056

Uranus -116156-08-16 02:53 J -40704328.49 -40704328.38 -40704328.26 0.0131 0.0070

Uranus -116156-11-12 06:00 J -40704240.35 -40704240.25 -40704240.15 0.0131 0.0085

Uranus -116155-02-08 08:53 J -40704152.21 -40704152.13 -40704152.04 0.0131 0.0100

Uranus -116155-05-07 12:00 J -40704064.06 -40704064.00 -40704063.93 0.0131 0.0115

Uranus -116155-08-03 14:53 J -40703975.88 -40703975.88 -40703975.86 0.0131 0.0130

Venus -116154-01-20 21:07 J -40703805.66 -40703805.62 -40703805.57 0.3669 0.3281

Mars -116154-03-01 15:51 J -40703765.99 -40703765.84 -40703765.68 0.1805 0.0422

Moon -116154-04-28 02:53 J -40703708.48 -40703708.38 -40703708.29 0.2783 0.1161

Earth -116154-04-28 03:07 J -40703708.46 -40703708.37 -40703708.27 0.2777 0.1249 *

Mars -116153-01-10 17:46 J -40703450.88 -40703450.76 -40703450.64 0.1711 0.0163

Jupiter -116153-09-30 19:41 J -40703186.77 -40703186.68 -40703186.59 0.0527 0.0393

Jupiter -116153-12-29 04:19 J -40703097.44 -40703097.32 -40703097.19 0.0528 0.0102

Mars -116152-12-16 02:53 J -40702745.44 -40702745.38 -40702745.33 0.1696 0.1497

Moon -116151-10-22 06:58 J -40702435.35 -40702435.21 -40702435.08 0.2568 0.1399

Earth -116151-10-22 08:24 J -40702435.28 -40702435.15 -40702435.02 0.2565 0.1536 *

Venus -116149-08-05 14:53 J -40701781.98 -40701781.88 -40701781.79 0.3675 0.1637

Moon -116147-04-21 00:43 J -40701158.57 -40701158.47 -40701158.37 0.2763 0.1202

Earth -116147-04-21 00:43 J -40701158.56 -40701158.47 -40701158.37 0.2770 0.1239 *

Jupiter -116147-08-18 19:12 J -40701038.82 -40701038.70 -40701038.58 0.0499 0.0360

Jupiter -116147-11-16 23:46 J -40700948.67 -40700948.51 -40700948.35 0.0498 0.0204

Mars -116145-07-21 14:53 J -40700336.03 -40700335.88 -40700335.73 0.1801 0.0366

Mars -116144-06-02 03:07 J -40700020.48 -40700020.37 -40700020.25 0.1714 0.0590

Venus -116143-02-19 08:10 J -40699758.27 -40699758.16 -40699758.05 0.3680 0.0104

Saturn -116142-05-04 17:03 J -40699318.86 -40699318.79 -40699318.71 0.0287 0.0243

Mars -116142-05-08 12:43 J -40699315.06 -40699314.97 -40699314.88 0.1699 0.1107

Saturn -116142-08-01 06:58 J -40699230.33 -40699230.21 -40699230.09 0.0288 0.0147

Saturn -116142-10-28 20:39 J -40699141.78 -40699141.64 -40699141.51 0.0289 0.0051

Saturn -116141-01-25 10:05 J -40699053.22 -40699053.08 -40699052.94 0.0291 0.0045

Saturn -116141-04-22 23:31 J -40698964.64 -40698964.52 -40698964.40 0.0292 0.0141

Earth -116141-04-29 21:36 J -40698957.67 -40698957.60 -40698957.53 0.2779 0.2126

Moon -116141-04-29 21:36 J -40698957.66 -40698957.60 -40698957.53 0.2786 0.2205 *

Jupiter -116141-07-19 23:03 J -40698876.56 -40698876.54 -40698876.51 0.0526 0.0515

Saturn -116141-07-20 12:43 J -40698876.05 -40698875.97 -40698875.89 0.0293 0.0236

Jupiter -116141-10-17 08:10 J -40698787.29 -40698787.16 -40698787.03 0.0527 0.0022

Jupiter -116140-01-14 16:05 J -40698697.89 -40698697.83 -40698697.77 0.0528 0.0464

Venus -116138-09-05 01:41 J -40697734.53 -40697734.43 -40697734.34 0.3686 0.1597

Mars -116136-12-11 14:39 J -40696906.01 -40696905.89 -40696905.77 0.1796 0.1115

Jupiter -116135-09-04 20:53 J -40696638.81 -40696638.63 -40696638.45 0.0498 0.0050

Mars -116135-10-23 12:15 J -40696590.08 -40696589.99 -40696589.89 0.1719 0.1031

Moon -116134-04-23 18:29 J -40696407.83 -40696407.73 -40696407.62 0.2770 0.0446

Earth -116134-04-23 19:12 J -40696407.81 -40696407.70 -40696407.59 0.2773 0.0356 *

Mars -116133-09-27 22:34 J -40695884.67 -40695884.56 -40695884.45 0.1703 0.0711

Venus -116132-03-20 18:43 J -40695710.77 -40695710.72 -40695710.66 0.3691 0.3161

Moon -116131-10-17 01:12 J -40695135.60 -40695135.45 -40695135.31 0.2566 0.1116

Earth -116131-10-17 02:24 J -40695135.54 -40695135.40 -40695135.26 0.2570 0.1126 *

Jupiter -116129-08-05 12:00 J -40694477.13 -40694477.00 -40694476.88 0.0527 0.0138

Jupiter -116129-11-02 20:10 J -40694387.76 -40694387.66 -40694387.56 0.0528 0.0349

Saturn -116129-12-03 11:17 J -40694357.16 -40694357.03 -40694356.90 0.0274 0.0177

Saturn -116128-03-02 06:00 J -40694268.41 -40694268.25 -40694268.08 0.0273 0.0078

Saturn -116128-05-30 00:58 J -40694179.63 -40694179.46 -40694179.28 0.0272 0.0022

Saturn -116128-08-26 20:10 J -40694090.82 -40694090.66 -40694090.51 0.0271 0.0122

Saturn -116128-11-23 15:22 J -40694001.96 -40694001.86 -40694001.76 0.0270 0.0222

Mars -116125-03-14 21:22 J -40693159.67 -40693159.61 -40693159.55 0.1723 0.1476

Pluto -116125-03-28 04:19 J -40693146.38 -40693146.32 -40693146.25 0.0084 0.0073

Pluto -116125-06-24 05:31 J -40693058.35 -40693058.27 -40693058.16 0.0084 0.0059

Pluto -116125-09-20 06:58 J -40692970.32 -40692970.21 -40692970.09 0.0084 0.0043

Pluto -116125-12-17 08:24 J -40692882.28 -40692882.15 -40692882.02 0.0084 0.0028

Pluto -116124-03-15 09:36 J -40692794.23 -40692794.10 -40692793.96 0.0084 0.0014

Mars -116124-04-09 17:46 J -40692768.87 -40692768.76 -40692768.65 0.1810 0.1304

Pluto -116124-06-11 11:03 J -40692706.18 -40692706.04 -40692705.91 0.0084 0.0002

Venus -116124-07-01 13:12 J -40692686.09 -40692685.95 -40692685.82 0.3702 0.0749

Pluto -116124-09-07 12:15 J -40692618.12 -40692617.99 -40692617.86 0.0084 0.0016

Pluto -116124-12-04 13:27 J -40692530.06 -40692529.94 -40692529.81 0.0083 0.0031

Mars -116123-02-18 08:10 J -40692454.28 -40692454.16 -40692454.04 0.1707 0.0304

Pluto -116123-03-02 14:53 J -40692441.99 -40692441.88 -40692441.77 0.0083 0.0046

Pluto -116123-05-29 15:51 J -40692353.92 -40692353.84 -40692353.74 0.0083 0.0061

Jupiter -116123-06-23 18:58 J -40692328.88 -40692328.71 -40692328.53 0.0498 0.0094

Pluto -116123-08-25 17:03 J -40692265.83 -40692265.79 -40692265.72 0.0083 0.0075

Jupiter -116123-09-22 00:15 J -40692238.53 -40692238.49 -40692238.44 0.0498 0.0480

Moon -116121-04-25 12:58 J -40691657.06 -40691656.96 -40691656.85 0.2778 0.0468

Earth -116121-04-25 13:41 J -40691657.04 -40691656.93 -40691656.82 0.2775 0.0532 *

Venus -116118-01-15 16:05 J -40690661.93 -40690661.83 -40690661.73 0.3695 0.2461

Moon -116118-10-20 06:58 J -40690384.37 -40690384.21 -40690384.05 0.2566 0.0152

Earth -116118-10-20 08:39 J -40690384.30 -40690384.14 -40690383.98 0.2567 0.0344 *

Jupiter -116117-05-24 15:07 J -40690166.98 -40690166.87 -40690166.75 0.0527 0.0263

Jupiter -116117-08-21 23:31 J -40690077.64 -40690077.52 -40690077.40 0.0527 0.0226

Uranus -116115-03-07 12:15 J -40689515.04 -40689514.99 -40689514.93 0.0148 0.0140

Uranus -116115-06-03 19:55 J -40689426.77 -40689426.67 -40689426.54 0.0148 0.0112

Mars -116115-08-30 16:19 J -40689338.97 -40689338.82 -40689338.67 0.1805 0.0490

Uranus -116115-08-31 03:51 J -40689338.48 -40689338.34 -40689338.18 0.0148 0.0083

Uranus -116115-11-27 12:00 J -40689250.17 -40689250.00 -40689249.82 0.0148 0.0053

Uranus -116114-02-23 20:10 J -40689161.84 -40689161.66 -40689161.48 0.0148 0.0024

Moon -116114-04-19 11:17 J -40689107.11 -40689107.03 -40689106.95 0.2760 0.1867

Earth -116114-04-19 11:17 J -40689107.11 -40689107.03 -40689106.96 0.2768 0.1954 *

Uranus -116114-05-23 04:19 J -40689073.51 -40689073.32 -40689073.14 0.0148 0.0006

Mars -116114-07-11 18:00 J -40689023.87 -40689023.75 -40689023.63 0.1710 0.0116

Uranus -116114-08-19 12:15 J -40688985.16 -40688984.99 -40688984.80 0.0148 0.0036

Uranus -116114-11-15 20:24 J -40688896.81 -40688896.65 -40688896.48 0.0148 0.0066

Uranus -116113-02-12 04:34 J -40688808.44 -40688808.31 -40688808.16 0.0148 0.0096

Uranus -116113-05-10 12:58 J -40688720.05 -40688719.96 -40688719.86 0.0148 0.0126

Saturn -116113-09-20 19:12 J -40688586.74 -40688586.70 -40688586.64 0.0287 0.0267

Saturn -116113-12-18 09:07 J -40688498.23 -40688498.12 -40688498.01 0.0289 0.0171

Saturn -116112-03-16 22:48 J -40688409.69 -40688409.55 -40688409.42 0.0290 0.0075

Saturn -116112-06-13 12:15 J -40688321.12 -40688320.99 -40688320.85 0.0291 0.0023

Mars -116112-06-16 02:53 J -40688318.43 -40688318.38 -40688318.33 0.1696 0.1541

Saturn -116112-09-10 01:41 J -40688232.55 -40688232.43 -40688232.30 0.0292 0.0118

Saturn -116112-12-07 15:07 J -40688143.96 -40688143.87 -40688143.78 0.0293 0.0213

Jupiter -116111-04-11 17:17 J -40688018.93 -40688018.78 -40688018.62 0.0499 0.0235

Jupiter -116111-07-10 22:19 J -40687928.70 -40687928.57 -40687928.44 0.0498 0.0336

Moon -116108-04-28 07:41 J -40686906.27 -40686906.18 -40686906.08 0.2784 0.1440

Earth -116108-04-28 08:10 J -40686906.26 -40686906.16 -40686906.07 0.2777 0.1415 *

Mars -116105-01-20 15:36 J -40685909.01 -40685908.85 -40685908.70 0.1801 0.0287

Jupiter -116105-03-12 18:15 J -40685856.83 -40685856.74 -40685856.65 0.0526 0.0391

Neptune -116105-04-15 15:07 J -40685822.90 -40685822.87 -40685822.82 0.0089 0.0086

Jupiter -116105-06-10 02:53 J -40685767.51 -40685767.38 -40685767.25 0.0527 0.0101

Neptune -116105-07-12 18:00 J -40685734.81 -40685734.75 -40685734.66 0.0089 0.0081

Neptune -116105-10-08 20:53 J -40685646.70 -40685646.63 -40685646.52 0.0089 0.0076

Moon -116105-10-22 13:41 J -40685633.04 -40685632.93 -40685632.82 0.2569 0.1802

Earth -116105-10-22 15:07 J -40685632.98 -40685632.87 -40685632.76 0.2565 0.1823 *

Mars -116105-12-01 03:07 J -40685593.48 -40685593.37 -40685593.25 0.1714 0.0543

Neptune -116104-01-05 00:00 J -40685558.59 -40685558.50 -40685558.38 0.0089 0.0070

Neptune -116104-04-03 02:53 J -40685470.48 -40685470.38 -40685470.24 0.0089 0.0065

Neptune -116104-06-30 06:15 J -40685382.37 -40685382.24 -40685382.10 0.0089 0.0059

Neptune -116104-09-26 09:07 J -40685294.25 -40685294.12 -40685293.97 0.0089 0.0054

Neptune -116104-12-23 12:29 J -40685206.13 -40685205.98 -40685205.83 0.0089 0.0048

Neptune -116103-03-21 15:22 J -40685118.01 -40685117.86 -40685117.70 0.0089 0.0043

Neptune -116103-06-17 18:29 J -40685029.89 -40685029.73 -40685029.56 0.0089 0.0037

Neptune -116103-09-13 21:36 J -40684941.77 -40684941.60 -40684941.43 0.0089 0.0032

Mars -116103-11-06 12:58 J -40684888.05 -40684887.96 -40684887.88 0.1699 0.1158

Neptune -116103-12-11 00:43 J -40684853.64 -40684853.47 -40684853.29 0.0089 0.0026

Neptune -116102-03-09 03:51 J -40684765.51 -40684765.34 -40684765.16 0.0089 0.0021

Neptune -116102-06-05 06:58 J -40684677.39 -40684677.21 -40684677.03 0.0089 0.0015

Neptune -116102-09-01 10:05 J -40684589.26 -40684589.08 -40684588.89 0.0089 0.0010

Neptune -116102-11-28 13:27 J -40684501.13 -40684500.94 -40684500.76 0.0089 0.0004

Neptune -116101-02-24 16:34 J -40684413.00 -40684412.81 -40684412.63 0.0089 0.0002

Moon -116101-04-21 05:17 J -40684356.38 -40684356.28 -40684356.18 0.2765 0.1162

Earth -116101-04-21 05:46 J -40684356.36 -40684356.26 -40684356.16 0.2770 0.1067 *

Neptune -116101-05-22 19:41 J -40684324.86 -40684324.68 -40684324.50 0.0089 0.0008

Neptune -116101-08-18 22:48 J -40684236.73 -40684236.55 -40684236.37 0.0089 0.0013

Neptune -116101-11-15 01:55 J -40684148.59 -40684148.42 -40684148.23 0.0089 0.0019

Neptune -116100-02-11 05:03 J -40684060.46 -40684060.29 -40684060.10 0.0089 0.0025

Neptune -116100-05-10 08:10 J -40683972.32 -40683972.16 -40683971.97 0.0089 0.0031

Neptune -116100-08-06 11:31 J -40683884.18 -40683884.02 -40683883.84 0.0089 0.0036

Neptune -116100-11-02 14:53 J -40683796.04 -40683795.88 -40683795.71 0.0089 0.0042

Jupiter -116099-01-28 16:19 J -40683708.93 -40683708.82 -40683708.70 0.0499 0.0369

Neptune -116099-01-29 18:00 J -40683707.89 -40683707.75 -40683707.58 0.0089 0.0048

Saturn -116099-04-22 12:29 J -40683625.09 -40683624.98 -40683624.85 0.0274 0.0200

Neptune -116099-04-27 21:07 J -40683619.75 -40683619.62 -40683619.46 0.0089 0.0054

Jupiter -116099-04-28 20:53 J -40683618.79 -40683618.63 -40683618.47 0.0498 0.0197

Saturn -116099-07-20 07:27 J -40683536.35 -40683536.19 -40683536.03 0.0273 0.0100

Neptune -116099-07-25 00:43 J -40683531.60 -40683531.47 -40683531.33 0.0089 0.0059

Saturn -116099-10-17 02:24 J -40683447.58 -40683447.40 -40683447.23 0.0272 0.0006

Neptune -116099-10-21 03:51 J -40683443.45 -40683443.34 -40683443.20 0.0089 0.0065

Saturn -116098-01-13 21:22 J -40683358.77 -40683358.61 -40683358.45 0.0271 0.0099

Neptune -116098-01-17 07:12 J -40683355.30 -40683355.20 -40683355.08 0.0089 0.0071

Saturn -116098-04-12 16:34 J -40683269.93 -40683269.81 -40683269.69 0.0270 0.0199

Neptune -116098-04-15 10:19 J -40683267.14 -40683267.07 -40683266.96 0.0089 0.0077

Neptune -116098-07-12 13:41 J -40683178.98 -40683178.93 -40683178.85 0.0089 0.0083

Venus -116098-08-27 19:12 J -40683132.77 -40683132.70 -40683132.62 0.3671 0.2663

Neptune -116098-10-08 17:03 J -40683090.79 -40683090.79 -40683090.76 0.0089 0.0089

Moon -116098-10-15 02:24 J -40683084.47 -40683084.40 -40683084.33 0.2567 0.2303

Earth -116098-10-15 02:39 J -40683084.45 -40683084.39 -40683084.32 0.2572 0.2311 *

Mars -116096-06-11 15:07 J -40682479.00 -40682478.87 -40682478.75 0.1796 0.1043

Mars -116095-04-23 12:29 J -40682163.08 -40682162.98 -40682162.88 0.1719 0.0980

Earth -116095-05-01 02:24 J -40682155.46 -40682155.40 -40682155.34 0.2779 0.2295

Moon -116095-05-01 02:53 J -40682155.44 -40682155.38 -40682155.32 0.2786 0.2279 *

Jupiter -116094-12-30 20:53 J -40681546.64 -40681546.63 -40681546.62 0.0526 0.0525

Mars -116093-03-28 22:34 J -40681457.67 -40681457.56 -40681457.45 0.1703 0.0755

Jupiter -116093-03-29 05:46 J -40681457.39 -40681457.26 -40681457.13 0.0527 0.0030

Jupiter -116093-06-26 13:55 J -40681367.99 -40681367.92 -40681367.86 0.0528 0.0454

Venus -116092-03-12 12:43 J -40681109.07 -40681108.97 -40681108.86 0.3676 0.1026

Moon -116088-04-23 23:31 J -40679605.63 -40679605.52 -40679605.42 0.2771 0.0223

Earth -116088-04-24 00:15 J -40679605.60 -40679605.49 -40679605.38 0.2773 0.0202 *

Jupiter -116087-02-14 19:12 J -40679308.88 -40679308.70 -40679308.52 0.0498 0.0054

Venus -116087-09-26 06:15 J -40679085.35 -40679085.24 -40679085.13 0.3682 0.0594

Mars -116087-11-01 15:07 J -40679048.89 -40679048.87 -40679048.84 0.1791 0.1760

Mars -116086-09-13 21:36 J -40678732.67 -40678732.60 -40678732.54 0.1723 0.1425

Mars -116085-10-08 18:29 J -40678341.83 -40678341.73 -40678341.63 0.1810 0.1388

Moon -116085-10-17 07:27 J -40678333.33 -40678333.19 -40678333.04 0.2566 0.1022

Earth -116085-10-17 08:53 J -40678333.28 -40678333.13 -40678332.98 0.2570 0.0849 *

Mars -116084-08-19 08:24 J -40678027.27 -40678027.15 -40678027.03 0.1707 0.0353

Saturn -116083-05-07 11:46 J -40677766.11 -40677766.01 -40677765.90 0.0288 0.0192

Saturn -116083-08-04 01:27 J -40677677.57 -40677677.44 -40677677.30 0.0289 0.0096

Saturn -116083-10-31 15:07 J -40677589.01 -40677588.87 -40677588.73 0.0290 0.0002

Saturn -116082-01-28 04:34 J -40677500.44 -40677500.31 -40677500.18 0.0291 0.0096

Saturn -116082-04-26 18:00 J -40677411.85 -40677411.75 -40677411.65 0.0292 0.0192

Saturn -116082-07-24 07:12 J -40677323.22 -40677323.20 -40677323.17 0.0293 0.0287

Jupiter -116081-01-16 09:22 J -40677147.23 -40677147.11 -40677146.98 0.0527 0.0150

Venus -116081-04-10 23:31 J -40677061.61 -40677061.52 -40677061.43 0.3687 0.2176

Jupiter -116081-04-14 17:46 J -40677057.86 -40677057.76 -40677057.66 0.0528 0.0338

Earth -116081-04-16 21:36 J -40677055.62 -40677055.60 -40677055.58 0.2765 0.2670

Moon -116081-04-16 22:05 J -40677055.61 -40677055.58 -40677055.55 0.2760 0.2592 *

Jupiter -116076-12-03 16:19 J -40674998.99 -40674998.82 -40674998.65 0.0498 0.0100

Mars -116075-02-28 17:03 J -40674911.94 -40674911.79 -40674911.64 0.1806 0.0569

Jupiter -116075-03-03 21:36 J -40674908.65 -40674908.60 -40674908.55 0.0498 0.0474

Moon -116075-04-26 18:00 J -40674854.85 -40674854.75 -40674854.64 0.2781 0.0636

Earth -116075-04-26 18:29 J -40674854.83 -40674854.73 -40674854.62 0.2775 0.0710 *

Uranus -116075-07-17 16:48 J -40674772.83 -40674772.80 -40674772.76 0.0132 0.0126

Uranus -116075-10-13 20:10 J -40674684.73 -40674684.66 -40674684.58 0.0131 0.0111

Mars -116074-01-09 17:46 J -40674596.88 -40674596.76 -40674596.63 0.1711 0.0087

Uranus -116074-01-09 23:31 J -40674596.62 -40674596.52 -40674596.43 0.0131 0.0095

Uranus -116074-04-08 02:24 J -40674508.50 -40674508.40 -40674508.28 0.0131 0.0080

Uranus -116074-07-05 05:46 J -40674420.37 -40674420.26 -40674420.13 0.0131 0.0064

Uranus -116074-10-01 08:53 J -40674332.25 -40674332.13 -40674331.99 0.0131 0.0049

Uranus -116074-12-28 12:15 J -40674244.12 -40674243.99 -40674243.86 0.0131 0.0032

Uranus -116073-03-25 15:22 J -40674155.99 -40674155.86 -40674155.72 0.0131 0.0017

Uranus -116073-06-21 18:29 J -40674067.86 -40674067.73 -40674067.59 0.0131 0.0004

Venus -116073-07-22 11:03 J -40674037.13 -40674037.04 -40674036.95 0.3707 0.2757

Uranus -116073-09-17 21:36 J -40673979.73 -40673979.60 -40673979.46 0.0131 0.0015

Uranus -116073-12-15 00:43 J -40673891.60 -40673891.47 -40673891.33 0.0131 0.0029

Mars -116073-12-15 02:53 J -40673891.42 -40673891.38 -40673891.34 0.1696 0.1585 *

Uranus -116072-03-13 03:51 J -40673803.47 -40673803.34 -40673803.21 0.0131 0.0044

Uranus -116072-06-09 06:58 J -40673715.33 -40673715.21 -40673715.09 0.0131 0.0059

Uranus -116072-09-05 10:05 J -40673627.19 -40673627.08 -40673626.97 0.0131 0.0074

Moon -116072-10-20 13:41 J -40673582.08 -40673581.93 -40673581.77 0.2568 0.0620

Earth -116072-10-20 15:22 J -40673582.02 -40673581.86 -40673581.70 0.2567 0.0629 *

Uranus -116072-12-02 13:12 J -40673539.05 -40673538.95 -40673538.85 0.0131 0.0089

Uranus -116071-02-28 16:05 J -40673450.91 -40673450.83 -40673450.74 0.0131 0.0104

Uranus -116071-05-27 18:58 J -40673362.75 -40673362.71 -40673362.65 0.0131 0.0119

Saturn -116070-09-09 13:55 J -40672893.02 -40672892.92 -40672892.82 0.0274 0.0221

Jupiter -116070-11-04 13:12 J -40672837.06 -40672836.95 -40672836.83 0.0527 0.0267

Saturn -116070-12-07 08:39 J -40672804.29 -40672804.14 -40672803.99 0.0273 0.0122

Jupiter -116069-02-01 21:51 J -40672747.71 -40672747.59 -40672747.47 0.0528 0.0223

Saturn -116069-03-05 03:22 J -40672715.53 -40672715.36 -40672715.18 0.0272 0.0023

Saturn -116069-06-01 22:19 J -40672626.73 -40672626.57 -40672626.40 0.0271 0.0077

Saturn -116069-08-29 17:31 J -40672537.90 -40672537.77 -40672537.63 0.0270 0.0177

Moon -116068-04-19 16:05 J -40672304.91 -40672304.83 -40672304.74 0.2761 0.1835

Earth -116068-04-19 16:05 J -40672304.91 -40672304.83 -40672304.75 0.2768 0.1785 *

Venus -116067-02-05 13:27 J -40672013.07 -40672012.94 -40672012.80 0.3701 0.0348

Mars -116066-07-21 16:05 J -40671481.99 -40671481.83 -40671481.68 0.1801 0.0225

Mars -116065-06-01 03:22 J -40671166.48 -40671166.36 -40671166.25 0.1715 0.0494

Jupiter -116064-09-21 14:39 J -40670689.04 -40670688.89 -40670688.73 0.0499 0.0241

Jupiter -116064-12-20 19:27 J -40670598.82 -40670598.69 -40670598.55 0.0498 0.0328

Mars -116063-05-07 12:43 J -40670461.05 -40670460.97 -40670460.88 0.1699 0.1197

Moon -116062-04-29 12:58 J -40670104.05 -40670103.96 -40670103.88 0.2785 0.1564

Earth -116062-04-29 12:58 J -40670104.05 -40670103.96 -40670103.87 0.2778 0.1583 *

Venus -116062-08-22 16:34 J -40669988.84 -40669988.81 -40669988.78 0.3693 0.3585

Moon -116059-10-23 20:24 J -40668830.75 -40668830.65 -40668830.55 0.2569 0.1944

Earth -116059-10-23 21:51 J -40668830.68 -40668830.59 -40668830.50 0.2565 0.2110 *

Jupiter -116058-08-23 16:34 J -40668526.90 -40668526.81 -40668526.72 0.0526 0.0392

Jupiter -116058-11-21 01:12 J -40668437.58 -40668437.45 -40668437.32 0.0527 0.0100

Mars -116057-12-10 15:36 J -40668051.98 -40668051.85 -40668051.72 0.1796 0.0970

Mars -116056-10-22 12:29 J -40667736.08 -40667735.98 -40667735.87 0.1718 0.0926

Moon -116055-04-22 10:05 J -40667554.19 -40667554.08 -40667553.98 0.2766 0.0887

Earth -116055-04-22 10:34 J -40667554.16 -40667554.06 -40667553.95 0.2771 0.0903 *

Saturn -116054-09-24 13:27 J -40667034.02 -40667033.94 -40667033.84 0.0288 0.0219

Mars -116054-09-27 22:48 J -40667030.66 -40667030.55 -40667030.45 0.1703 0.0807

Saturn -116054-12-22 03:07 J -40666945.49 -40666945.37 -40666945.24 0.0289 0.0124

Saturn -116053-03-19 16:48 J -40666856.93 -40666856.80 -40666856.66 0.0290 0.0028

Saturn -116053-06-16 06:29 J -40666768.37 -40666768.23 -40666768.10 0.0291 0.0070

Saturn -116053-09-12 19:55 J -40666679.79 -40666679.67 -40666679.56 0.0293 0.0166

Saturn -116053-12-10 09:07 J -40666591.18 -40666591.12 -40666591.06 0.0294 0.0261

Jupiter -116052-07-10 13:12 J -40666379.06 -40666378.95 -40666378.83 0.0499 0.0380

Jupiter -116052-10-08 17:46 J -40666288.92 -40666288.76 -40666288.60 0.0498 0.0186

Moon -116052-10-15 08:24 J -40666282.24 -40666282.15 -40666282.06 0.2567 0.2061

Earth -116052-10-15 09:22 J -40666282.20 -40666282.11 -40666282.01 0.2572 0.2030 *

Earth -116049-05-01 07:27 J -40665353.24 -40665353.19 -40665353.15 0.2780 0.2463

Moon -116049-05-01 07:55 J -40665353.21 -40665353.17 -40665353.13 0.2786 0.2559 *

Mars -116047-05-02 15:51 J -40664621.89 -40664621.84 -40664621.79 0.1791 0.1687

Mars -116046-03-14 21:36 J -40664305.67 -40664305.60 -40664305.53 0.1723 0.1374

Jupiter -116046-06-11 19:27 J -40664216.70 -40664216.69 -40664216.67 0.0526 0.0520

Jupiter -116046-09-09 04:34 J -40664127.44 -40664127.31 -40664127.18 0.0527 0.0026

Jupiter -116046-12-07 12:29 J -40664038.04 -40664037.98 -40664037.91 0.0528 0.0457

Mars -116045-04-08 18:58 J -40663914.80 -40663914.71 -40663914.61 0.1810 0.1460

Mars -116044-02-17 08:24 J -40663600.27 -40663600.15 -40663600.03 0.1707 0.0400

Moon -116042-04-25 04:19 J -40662803.43 -40662803.32 -40662803.21 0.2774 0.0135

Earth -116042-04-25 05:03 J -40662803.40 -40662803.29 -40662803.18 0.2773 0.0013 *

Venus -116041-04-02 17:17 J -40662459.87 -40662459.78 -40662459.69 0.3672 0.2053

Saturn -116040-01-26 14:53 J -40662160.95 -40662160.88 -40662160.80 0.0274 0.0245

Saturn -116040-04-25 09:22 J -40662072.25 -40662072.11 -40662071.96 0.0273 0.0147

Saturn -116040-07-23 04:19 J -40661983.49 -40661983.32 -40661983.15 0.0272 0.0048

Jupiter -116040-07-27 16:34 J -40661978.99 -40661978.81 -40661978.64 0.0499 0.0049

Saturn -116040-10-19 23:17 J -40661894.70 -40661894.53 -40661894.36 0.0271 0.0052

Saturn -116039-01-16 18:29 J -40661805.88 -40661805.73 -40661805.59 0.0270 0.0151

Saturn -116039-04-15 13:27 J -40661716.99 -40661716.94 -40661716.87 0.0269 0.0251

Moon -116039-10-18 13:55 J -40661531.07 -40661530.92 -40661530.76 0.2566 0.0619

Earth -116039-10-18 15:36 J -40661531.01 -40661530.85 -40661530.69 0.2569 0.0568 *

Mars -116036-08-29 17:46 J -40660484.91 -40660484.76 -40660484.61 0.1806 0.0650

Venus -116036-10-17 10:48 J -40660436.16 -40660436.05 -40660435.94 0.3678 0.0432

Earth -116035-04-18 02:24 J -40660253.44 -40660253.40 -40660253.35 0.2765 0.2508

Moon -116035-04-18 02:53 J -40660253.43 -40660253.38 -40660253.33 0.2758 0.2474 *

Mars -116035-07-10 18:00 J -40660169.87 -40660169.75 -40660169.63 0.1710 0.0029

Jupiter -116034-06-28 07:27 J -40659817.32 -40659817.19 -40659817.06 0.0527 0.0156

Jupiter -116034-09-25 15:51 J -40659727.94 -40659727.84 -40659727.74 0.0528 0.0332

Mars -116033-06-15 02:53 J -40659464.41 -40659464.38 -40659464.35 0.1696 0.1628

Uranus -116031-03-27 20:39 J -40658813.72 -40658813.64 -40658813.55 0.0148 0.0130

Uranus -116031-06-24 04:19 J -40658725.44 -40658725.32 -40658725.18 0.0148 0.0102

Uranus -116031-09-20 12:15 J -40658637.14 -40658636.99 -40658636.82 0.0148 0.0073

Uranus -116031-12-17 20:24 J -40658548.82 -40658548.65 -40658548.47 0.0148 0.0043

Uranus -116030-03-16 04:34 J -40658460.50 -40658460.31 -40658460.13 0.0148 0.0014

Venus -116030-05-03 04:05 J -40658412.43 -40658412.33 -40658412.22 0.3683 0.1187

Uranus -116030-06-12 12:29 J -40658372.16 -40658371.98 -40658371.79 0.0148 0.0016

Uranus -116030-09-08 20:39 J -40658283.81 -40658283.64 -40658283.46 0.0148 0.0046

Uranus -116030-12-06 04:48 J -40658195.45 -40658195.30 -40658195.14 0.0148 0.0076

Uranus -116029-03-03 13:12 J -40658107.08 -40658106.95 -40658106.82 0.0148 0.0106

Moon -116029-04-26 23:03 J -40658052.64 -40658052.54 -40658052.44 0.2782 0.0873

Earth -116029-04-26 23:31 J -40658052.63 -40658052.52 -40658052.42 0.2776 0.0872 *

Uranus -116029-05-30 21:07 J -40658018.67 -40658018.62 -40658018.53 0.0148 0.0137

Jupiter -116028-05-15 14:53 J -40657669.05 -40657668.88 -40657668.70 0.0499 0.0093

Jupiter -116028-08-13 20:10 J -40657578.70 -40657578.66 -40657578.61 0.0498 0.0482

Mars -116026-01-19 16:48 J -40657054.96 -40657054.80 -40657054.65 0.1801 0.0149

Moon -116026-10-21 20:24 J -40656779.81 -40656779.65 -40656779.50 0.2570 0.0718

Earth -116026-10-21 21:51 J -40656779.74 -40656779.59 -40656779.44 0.2567 0.0912 *

Mars -116026-12-01 03:22 J -40656739.48 -40656739.36 -40656739.24 0.1715 0.0443

Venus -116025-11-15 21:22 J -40656388.68 -40656388.61 -40656388.54 0.3689 0.2754

Saturn -116024-02-10 15:51 J -40656301.91 -40656301.84 -40656301.77 0.0287 0.0242

Saturn -116024-05-10 05:31 J -40656213.39 -40656213.27 -40656213.14 0.0289 0.0147

Neptune -116024-05-10 13:55 J -40656212.95 -40656212.92 -40656212.88 0.0088 0.0085

Neptune -116024-08-06 15:22 J -40656124.90 -40656124.86 -40656124.79 0.0088 0.0081

Saturn -116024-08-06 19:12 J -40656124.83 -40656124.70 -40656124.56 0.0290 0.0051 *

Neptune -116024-11-02 17:03 J -40656036.85 -40656036.79 -40656036.71 0.0088 0.0076

Saturn -116024-11-03 08:53 J -40656036.27 -40656036.13 -40656035.99 0.0291 0.0045

Mars -116024-11-05 12:58 J -40656034.04 -40656033.96 -40656033.88 0.1699 0.1245

Neptune -116023-01-29 18:43 J -40655948.79 -40655948.72 -40655948.63 0.0088 0.0072

Saturn -116023-01-30 22:19 J -40655947.69 -40655947.57 -40655947.45 0.0292 0.0141

Neptune -116023-04-27 20:24 J -40655860.74 -40655860.65 -40655860.56 0.0088 0.0067

Saturn -116023-04-29 11:31 J -40655859.09 -40655859.02 -40655858.94 0.0293 0.0237

Neptune -116023-07-24 21:51 J -40655772.68 -40655772.59 -40655772.48 0.0088 0.0063

Neptune -116023-10-20 23:46 J -40655684.62 -40655684.51 -40655684.41 0.0088 0.0059

Neptune -116022-01-17 01:12 J -40655596.56 -40655596.45 -40655596.33 0.0088 0.0054

Neptune -116022-04-15 02:39 J -40655508.49 -40655508.39 -40655508.26 0.0088 0.0050

Jupiter -116022-04-16 11:03 J -40655507.15 -40655507.04 -40655506.93 0.0527 0.0276

Moon -116022-04-20 20:53 J -40655502.72 -40655502.63 -40655502.55 0.2762 0.1606

Earth -116022-04-20 21:07 J -40655502.71 -40655502.62 -40655502.54 0.2768 0.1623 *

Neptune -116022-07-12 04:34 J -40655420.43 -40655420.31 -40655420.19 0.0088 0.0046

Jupiter -116022-07-14 19:41 J -40655417.80 -40655417.68 -40655417.56 0.0528 0.0215

Neptune -116022-10-08 06:00 J -40655332.37 -40655332.25 -40655332.12 0.0088 0.0041

Neptune -116021-01-04 07:27 J -40655244.31 -40655244.19 -40655244.05 0.0088 0.0037

Neptune -116021-04-01 09:22 J -40655156.24 -40655156.11 -40655155.98 0.0088 0.0033

Neptune -116021-06-28 10:48 J -40655068.18 -40655068.05 -40655067.92 0.0088 0.0028

Neptune -116021-09-24 12:15 J -40654980.12 -40654979.99 -40654979.85 0.0088 0.0024

Neptune -116021-12-21 13:55 J -40654892.06 -40654891.92 -40654891.78 0.0088 0.0020

Neptune -116020-03-19 15:36 J -40654803.99 -40654803.85 -40654803.72 0.0088 0.0016

Neptune -116020-06-15 17:03 J -40654715.93 -40654715.79 -40654715.65 0.0088 0.0011

Neptune -116020-09-11 18:29 J -40654627.87 -40654627.73 -40654627.59 0.0088 0.0007

Neptune -116020-12-08 20:10 J -40654539.80 -40654539.66 -40654539.52 0.0088 0.0003

Neptune -116019-03-06 21:36 J -40654451.74 -40654451.60 -40654451.46 0.0088 0.0002

Neptune -116019-06-02 23:03 J -40654363.67 -40654363.54 -40654363.40 0.0088 0.0006

Neptune -116019-08-30 00:43 J -40654275.61 -40654275.47 -40654275.33 0.0088 0.0010

Neptune -116019-11-26 02:10 J -40654187.55 -40654187.41 -40654187.27 0.0088 0.0014

Neptune -116018-02-22 03:36 J -40654099.48 -40654099.35 -40654099.21 0.0088 0.0018

Neptune -116018-05-21 05:03 J -40654011.42 -40654011.29 -40654011.15 0.0088 0.0023

Neptune -116018-08-17 06:43 J -40653923.35 -40653923.22 -40653923.09 0.0088 0.0027

Neptune -116018-11-13 07:55 J -40653835.29 -40653835.17 -40653835.03 0.0088 0.0031

Neptune -116017-02-09 09:22 J -40653747.22 -40653747.11 -40653746.97 0.0088 0.0036

Neptune -116017-05-07 11:03 J -40653659.16 -40653659.04 -40653658.91 0.0088 0.0039

Mars -116017-06-10 16:05 J -40653624.96 -40653624.83 -40653624.69 0.1796 0.0898

Neptune -116017-08-03 12:29 J -40653571.10 -40653570.98 -40653570.86 0.0088 0.0043

Neptune -116017-10-30 13:55 J -40653483.03 -40653482.92 -40653482.80 0.0088 0.0047

Neptune -116016-01-26 15:22 J -40653394.96 -40653394.86 -40653394.74 0.0088 0.0052

Venus -116016-02-26 11:17 J -40653364.15 -40653364.03 -40653363.91 0.3706 0.1708

Jupiter -116016-03-03 12:15 J -40653359.14 -40653358.99 -40653358.83 0.0499 0.0244

Mars -116016-04-22 12:29 J -40653309.08 -40653308.98 -40653308.87 0.1719 0.0880

Neptune -116016-04-24 16:48 J -40653306.90 -40653306.80 -40653306.69 0.0088 0.0056

Earth -116016-04-29 17:46 J -40653301.84 -40653301.76 -40653301.67 0.2778 0.1755

Moon -116016-04-29 18:00 J -40653301.83 -40653301.75 -40653301.67 0.2785 0.1758 *

Jupiter -116016-06-01 17:03 J -40653268.92 -40653268.79 -40653268.65 0.0498 0.0325

Neptune -116016-07-21 18:15 J -40653218.83 -40653218.74 -40653218.63 0.0088 0.0060

Neptune -116016-10-17 19:41 J -40653130.77 -40653130.68 -40653130.58 0.0088 0.0064

Neptune -116015-01-13 21:22 J -40653042.70 -40653042.61 -40653042.52 0.0088 0.0068

Neptune -116015-04-11 22:48 J -40652954.63 -40652954.55 -40652954.47 0.0088 0.0072

Neptune -116015-07-09 00:15 J -40652866.56 -40652866.49 -40652866.42 0.0088 0.0076

Neptune -116015-10-05 01:41 J -40652778.49 -40652778.43 -40652778.37 0.0088 0.0080

Neptune -116014-01-01 02:53 J -40652690.41 -40652690.38 -40652690.33 0.0088 0.0084

Mars -116014-03-28 22:48 J -40652603.66 -40652603.55 -40652603.45 0.1703 0.0851

Neptune -116014-03-30 04:19 J -40652602.32 -40652602.32 -40652602.30 0.0088 0.0088

Moon -116013-10-24 03:36 J -40652028.40 -40652028.35 -40652028.31 0.2569 0.2436

Earth -116013-10-24 04:19 J -40652028.37 -40652028.32 -40652028.26 0.2564 0.2393 *

Saturn -116011-06-15 16:05 J -40651428.86 -40651428.83 -40651428.79 0.0275 0.0267

Saturn -116011-09-12 10:34 J -40651340.19 -40651340.06 -40651339.92 0.0274 0.0169

Venus -116011-09-12 13:55 J -40651340.04 -40651339.92 -40651339.79 0.3699 0.1436 *

Saturn -116011-12-10 05:17 J -40651251.44 -40651251.28 -40651251.11 0.0273 0.0070

Jupiter -116010-02-02 14:53 J -40651196.97 -40651196.88 -40651196.79 0.0527 0.0394

Saturn -116010-03-09 00:15 J -40651162.66 -40651162.49 -40651162.32 0.0272 0.0029

Jupiter -116010-05-02 23:31 J -40651107.65 -40651107.52 -40651107.39 0.0527 0.0100

Saturn -116010-06-05 19:12 J -40651073.85 -40651073.70 -40651073.54 0.0271 0.0129

Saturn -116010-09-02 14:24 J -40650984.99 -40650984.90 -40650984.80 0.0270 0.0228

Moon -116009-04-22 14:53 J -40650751.99 -40650751.88 -40650751.78 0.2767 0.0854

Earth -116009-04-22 15:36 J -40650751.96 -40650751.85 -40650751.75 0.2771 0.0741 *

Mars -116008-10-31 16:05 J -40650194.89 -40650194.83 -40650194.76 0.1791 0.1621

Mars -116007-09-12 21:36 J -40649878.67 -40649878.60 -40649878.52 0.1723 0.1321

Mars -116006-10-08 19:41 J -40649487.76 -40649487.68 -40649487.59 0.1810 0.1539

Moon -116006-10-16 14:39 J -40649480.00 -40649479.89 -40649479.78 0.2567 0.1887

Earth -116006-10-16 15:51 J -40649479.95 -40649479.84 -40649479.72 0.2572 0.1757 *

Mars -116005-08-18 08:24 J -40649173.27 -40649173.15 -40649173.03 0.1707 0.0446

Jupiter -116005-12-20 10:48 J -40649049.15 -40649049.05 -40649048.93 0.0499 0.0383

Jupiter -116004-03-20 15:22 J -40648959.03 -40648958.86 -40648958.70 0.0498 0.0181

Earth -116003-05-02 12:15 J -40648551.02 -40648550.99 -40648550.96 0.2780 0.2632

Moon -116003-05-02 12:43 J -40648551.00 -40648550.97 -40648550.94 0.2785 0.2660 *

116TH MILLENNIUM BCE

This is a list of transits of Mercury in the 116th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Jupiter -115999-11-21 18:00 J -40646886.76 -40646886.75 -40646886.72 0.0526 0.0518

Jupiter -115998-02-19 03:07 J -40646797.50 -40646797.37 -40646797.24 0.0527 0.0022

Jupiter -115998-05-19 11:03 J -40646708.10 -40646708.04 -40646707.97 0.0528 0.0461

Mars -115996-02-27 18:00 J -40646057.89 -40646057.75 -40646057.60 0.1806 0.0716

Moon -115996-04-25 09:22 J -40646001.22 -40646001.11 -40646001.01 0.2777 0.0185

Earth -115996-04-25 09:51 J -40646001.19 -40646001.09 -40646000.98 0.2774 0.0182 *

Mars -115995-01-08 18:00 J -40645742.87 -40645742.75 -40645742.63 0.1711 0.0039

Saturn -115995-06-30 17:03 J -40645569.83 -40645569.79 -40645569.74 0.0287 0.0272

Saturn -115995-09-27 06:58 J -40645481.32 -40645481.21 -40645481.10 0.0289 0.0176

Saturn -115995-12-24 20:39 J -40645392.77 -40645392.64 -40645392.51 0.0290 0.0080

Saturn -115994-03-23 10:19 J -40645304.21 -40645304.07 -40645303.93 0.0291 0.0017

Saturn -115994-06-19 23:46 J -40645215.64 -40645215.51 -40645215.38 0.0292 0.0112

Saturn -115994-09-16 12:58 J -40645127.05 -40645126.96 -40645126.86 0.0293 0.0208

Mars -115994-12-15 02:53 J -40645037.39 -40645037.38 -40645037.36 0.1696 0.1673

Moon -115993-10-18 20:39 J -40644728.80 -40644728.64 -40644728.48 0.2569 0.0396

Earth -115993-10-18 22:19 J -40644728.73 -40644728.57 -40644728.41 0.2569 0.0287 *

Jupiter -115992-01-06 13:41 J -40644649.11 -40644648.93 -40644648.76 0.0499 0.0040

Uranus -115991-08-07 00:15 J -40644071.54 -40644071.49 -40644071.44 0.0131 0.0122

Uranus -115991-11-03 03:22 J -40643983.44 -40643983.36 -40643983.28 0.0131 0.0106

Uranus -115990-01-30 06:29 J -40643895.32 -40643895.23 -40643895.12 0.0131 0.0091

Venus -115990-04-24 21:36 J -40643810.66 -40643810.60 -40643810.54 0.3669 0.3085

Uranus -115990-04-28 09:51 J -40643807.20 -40643807.09 -40643806.97 0.0131 0.0075

Uranus -115990-07-25 12:58 J -40643719.08 -40643718.96 -40643718.83 0.0131 0.0059

Uranus -115990-10-21 16:19 J -40643630.95 -40643630.82 -40643630.69 0.0131 0.0044

Uranus -115989-01-17 19:27 J -40643542.82 -40643542.69 -40643542.55 0.0131 0.0028

Uranus -115989-04-14 22:34 J -40643454.69 -40643454.56 -40643454.42 0.0131 0.0013

Earth -115989-04-18 07:27 J -40643451.25 -40643451.19 -40643451.14 0.2766 0.2340

Moon -115989-04-18 07:41 J -40643451.24 -40643451.18 -40643451.12 0.2759 0.2322 *

Uranus -115989-07-12 01:55 J -40643366.56 -40643366.42 -40643366.29 0.0131 0.0005

Uranus -115989-10-08 05:03 J -40643278.43 -40643278.29 -40643278.16 0.0131 0.0018

Uranus -115988-01-04 08:10 J -40643190.30 -40643190.16 -40643190.03 0.0131 0.0033

Uranus -115988-04-02 11:03 J -40643102.16 -40643102.04 -40643101.91 0.0131 0.0049

Uranus -115988-06-29 14:10 J -40643014.02 -40643013.91 -40643013.79 0.0131 0.0064

Uranus -115988-09-25 17:03 J -40642925.89 -40642925.79 -40642925.67 0.0131 0.0079

Uranus -115988-12-22 20:10 J -40642837.74 -40642837.66 -40642837.56 0.0131 0.0094

Uranus -115987-03-20 23:31 J -40642749.60 -40642749.52 -40642749.45 0.0131 0.0108

Uranus -115987-06-17 02:24 J -40642661.44 -40642661.40 -40642661.35 0.0131 0.0123

Mars -115987-07-20 17:17 J -40642627.94 -40642627.78 -40642627.62 0.1801 0.0067

Jupiter -115987-12-08 06:29 J -40642487.36 -40642487.23 -40642487.11 0.0527 0.0148

Jupiter -115986-03-07 14:39 J -40642397.99 -40642397.89 -40642397.79 0.0527 0.0339

Mars -115986-06-01 03:22 J -40642312.48 -40642312.36 -40642312.24 0.1715 0.0394

Venus -115985-11-07 15:07 J -40641786.97 -40641786.87 -40641786.77 0.3674 0.1446

Mars -115984-05-06 12:58 J -40641607.04 -40641606.96 -40641606.88 0.1699 0.1291

Moon -115983-04-28 04:05 J -40641250.43 -40641250.33 -40641250.23 0.2782 0.0965

Earth -115983-04-28 04:19 J -40641250.42 -40641250.32 -40641250.22 0.2776 0.1039 *

Saturn -115981-01-30 11:03 J -40640608.16 -40640608.04 -40640607.92 0.0274 0.0197

Saturn -115981-04-28 05:31 J -40640519.43 -40640519.27 -40640519.10 0.0273 0.0099

Saturn -115981-07-26 00:29 J -40640430.66 -40640430.48 -40640430.31 0.0272 0.0002

Saturn -115981-10-22 19:27 J -40640341.85 -40640341.69 -40640341.53 0.0271 0.0100

Jupiter -115981-10-25 12:29 J -40640339.15 -40640338.98 -40640338.80 0.0499 0.0096

Saturn -115980-01-19 14:24 J -40640253.01 -40640252.90 -40640252.77 0.0270 0.0200

Jupiter -115980-01-23 17:46 J -40640248.80 -40640248.76 -40640248.71 0.0498 0.0479

Moon -115980-10-22 03:07 J -40639977.51 -40639977.37 -40639977.23 0.2570 0.1174

Earth -115980-10-22 04:34 J -40639977.45 -40639977.31 -40639977.17 0.2566 0.1196 *

Venus -115979-05-24 08:39 J -40639763.25 -40639763.14 -40639763.03 0.3680 0.0185

Mars -115978-12-10 16:48 J -40639197.93 -40639197.80 -40639197.66 0.1796 0.0819

Mars -115977-10-21 12:43 J -40638882.08 -40638881.97 -40638881.86 0.1719 0.0826

Moon -115976-04-21 01:27 J -40638700.53 -40638700.44 -40638700.35 0.2763 0.1495

Earth -115976-04-21 01:55 J -40638700.51 -40638700.42 -40638700.33 0.2769 0.1453 *

Jupiter -115975-09-26 09:22 J -40638177.22 -40638177.11 -40638177.00 0.0526 0.0278

Mars -115975-09-26 22:48 J -40638176.65 -40638176.55 -40638176.45 0.1703 0.0897

Jupiter -115975-12-24 17:46 J -40638087.88 -40638087.76 -40638087.64 0.0527 0.0213

Venus -115974-12-08 01:55 J -40637739.51 -40637739.42 -40637739.32 0.3685 0.1767

Pluto -115971-12-30 00:15 J -40636621.55 -40636621.49 -40636621.40 0.0060 0.0054

Pluto -115970-03-28 01:12 J -40636533.54 -40636533.45 -40636533.30 0.0060 0.0047

Earth -115970-04-30 22:48 J -40636499.63 -40636499.55 -40636499.48 0.2778 0.1922

Moon -115970-04-30 23:03 J -40636499.61 -40636499.54 -40636499.47 0.2785 0.1997 *

Pluto -115970-06-24 02:53 J -40636445.51 -40636445.38 -40636445.22 0.0060 0.0039

Pluto -115970-09-20 04:19 J -40636357.47 -40636357.32 -40636357.14 0.0060 0.0031

Pluto -115970-12-17 05:46 J -40636269.43 -40636269.26 -40636269.07 0.0060 0.0024

Pluto -115969-03-14 07:12 J -40636181.38 -40636181.20 -40636181.01 0.0060 0.0016

Pluto -115969-06-10 08:24 J -40636093.33 -40636093.15 -40636092.95 0.0060 0.0009

Jupiter -115969-08-13 11:17 J -40636029.18 -40636029.03 -40636028.88 0.0499 0.0233

Pluto -115969-09-06 10:05 J -40636005.27 -40636005.08 -40636004.89 0.0060 0.0001

Jupiter -115969-11-11 16:05 J -40635938.96 -40635938.83 -40635938.70 0.0498 0.0337

Pluto -115969-12-03 11:17 J -40635917.22 -40635917.03 -40635916.83 0.0060 0.0008

Pluto -115968-03-01 12:43 J -40635829.15 -40635828.97 -40635828.78 0.0061 0.0016

Mars -115968-05-01 16:48 J -40635767.88 -40635767.80 -40635767.73 0.1791 0.1548

Pluto -115968-05-28 13:55 J -40635741.09 -40635740.92 -40635740.73 0.0061 0.0024

Venus -115968-06-22 19:12 J -40635715.74 -40635715.70 -40635715.65 0.3691 0.3328

Pluto -115968-08-24 15:07 J -40635653.02 -40635652.87 -40635652.69 0.0061 0.0032

Pluto -115968-11-20 16:19 J -40635564.94 -40635564.82 -40635564.65 0.0061 0.0040

Pluto -115967-02-16 17:46 J -40635476.86 -40635476.76 -40635476.62 0.0061 0.0048

Mars -115967-03-13 21:36 J -40635451.68 -40635451.60 -40635451.51 0.1723 0.1275

Pluto -115967-05-15 18:58 J -40635388.76 -40635388.71 -40635388.61 0.0061 0.0056

Mars -115966-04-08 20:24 J -40635060.72 -40635060.65 -40635060.58 0.1810 0.1613

Saturn -115965-02-14 08:39 J -40634749.23 -40634749.14 -40634749.03 0.0288 0.0203

Mars -115965-02-17 08:24 J -40634746.26 -40634746.15 -40634746.03 0.1707 0.0493

Venus -115965-03-19 09:22 J -40634715.12 -40634715.11 -40634715.09 0.3711 0.3664

Saturn -115965-05-12 22:34 J -40634660.69 -40634660.56 -40634660.43 0.0289 0.0107

Saturn -115965-08-09 12:15 J -40634572.13 -40634571.99 -40634571.85 0.0290 0.0013

Saturn -115965-11-06 01:41 J -40634483.56 -40634483.43 -40634483.30 0.0291 0.0085

Saturn -115964-02-02 15:07 J -40634394.98 -40634394.87 -40634394.76 0.0292 0.0180

Saturn -115964-05-02 04:19 J -40634306.36 -40634306.32 -40634306.27 0.0293 0.0276

Moon -115963-04-23 19:41 J -40633949.79 -40633949.68 -40633949.57 0.2770 0.0577

Earth -115963-04-23 20:24 J -40633949.76 -40633949.65 -40633949.54 0.2771 0.0566 *

Jupiter -115963-07-15 12:58 J -40633867.05 -40633866.96 -40633866.88 0.0526 0.0399

Jupiter -115963-10-12 21:36 J -40633777.73 -40633777.60 -40633777.47 0.0527 0.0096

Venus -115960-10-03 11:46 J -40632691.15 -40632691.01 -40632690.88 0.3704 0.0647

Moon -115960-10-16 21:07 J -40632677.75 -40632677.62 -40632677.49 0.2567 0.1488

Earth -115960-10-16 22:34 J -40632677.69 -40632677.56 -40632677.43 0.2571 0.1476 *

Mars -115958-08-04 06:43 J -40632021.22 -40632021.22 -40632021.22 0.1727 0.1727

Jupiter -115957-06-01 08:53 J -40631719.24 -40631719.13 -40631719.02 0.0499 0.0382

Mars -115957-08-28 18:58 J -40631630.85 -40631630.71 -40631630.57 0.1806 0.0799

Jupiter -115957-08-30 13:12 J -40631629.12 -40631628.95 -40631628.79 0.0498 0.0181

Mars -115956-07-09 18:00 J -40631315.87 -40631315.75 -40631315.63 0.1711 0.0087

Venus -115954-04-19 14:24 J -40630667.00 -40630666.90 -40630666.80 0.3697 0.2552

Saturn -115952-06-18 11:31 J -40629876.11 -40629876.02 -40629875.91 0.0274 0.0221

Saturn -115952-09-15 06:15 J -40629787.39 -40629787.24 -40629787.08 0.0273 0.0123

Saturn -115952-12-13 00:58 J -40629698.63 -40629698.46 -40629698.28 0.0272 0.0024

Saturn -115951-03-11 19:55 J -40629609.84 -40629609.67 -40629609.50 0.0271 0.0076

Jupiter -115951-05-03 16:34 J -40629556.83 -40629556.81 -40629556.78 0.0526 0.0517

Saturn -115951-06-08 14:53 J -40629521.00 -40629520.88 -40629520.74 0.0270 0.0176

Jupiter -115951-08-01 01:41 J -40629467.56 -40629467.43 -40629467.30 0.0527 0.0020

Jupiter -115951-10-29 09:51 J -40629378.15 -40629378.09 -40629378.03 0.0528 0.0464

Moon -115950-04-26 14:10 J -40629199.02 -40629198.91 -40629198.80 0.2779 0.0205

Earth -115950-04-26 14:53 J -40629198.99 -40629198.88 -40629198.78 0.2774 0.0334 *

Mars -115947-01-18 17:46 J -40628200.91 -40628200.76 -40628200.60 0.1801 0.0045

Uranus -115947-04-17 04:19 J -40628112.41 -40628112.32 -40628112.21 0.0147 0.0122

Uranus -115947-07-14 12:15 J -40628024.12 -40628023.99 -40628023.84 0.0148 0.0093

Uranus -115947-10-10 20:10 J -40627935.82 -40627935.66 -40627935.49 0.0148 0.0064

Moon -115947-10-20 03:07 J -40627926.53 -40627926.37 -40627926.21 0.2570 0.0161

Earth -115947-10-20 04:48 J -40627926.46 -40627926.30 -40627926.14 0.2568 0.0020 *

Mars -115947-11-30 03:36 J -40627885.47 -40627885.35 -40627885.23 0.1715 0.0347

Uranus -115946-01-07 04:19 J -40627847.50 -40627847.32 -40627847.14 0.0148 0.0034

Uranus -115946-04-05 12:29 J -40627759.17 -40627758.98 -40627758.80 0.0148 0.0005

Uranus -115946-07-02 20:39 J -40627670.83 -40627670.64 -40627670.46 0.0148 0.0025

Uranus -115946-09-29 04:34 J -40627582.48 -40627582.31 -40627582.13 0.0148 0.0055

Uranus -115946-12-26 12:43 J -40627494.11 -40627493.97 -40627493.81 0.0148 0.0085

Uranus -115945-03-23 21:07 J -40627405.73 -40627405.62 -40627405.50 0.0148 0.0115

Jupiter -115945-06-18 11:31 J -40627319.19 -40627319.02 -40627318.84 0.0498 0.0041

Uranus -115945-06-20 05:17 J -40627317.30 -40627317.28 -40627317.24 0.0148 0.0146

Mars -115945-11-04 12:58 J -40627180.03 -40627179.96 -40627179.89 0.1699 0.1334

Moon -115943-04-19 12:15 J -40626649.06 -40626648.99 -40626648.92 0.2760 0.2131

Earth -115943-04-19 12:15 J -40626649.05 -40626648.99 -40626648.92 0.2766 0.2175 *

Neptune -115941-10-14 11:17 J -40625740.04 -40625740.03 -40625740.01 0.0089 0.0088

Neptune -115940-01-10 13:55 J -40625651.96 -40625651.92 -40625651.84 0.0089 0.0083

Neptune -115940-04-08 16:48 J -40625563.86 -40625563.80 -40625563.70 0.0089 0.0078

Neptune -115940-07-05 20:10 J -40625475.76 -40625475.66 -40625475.55 0.0089 0.0072

Neptune -115940-10-01 23:03 J -40625387.65 -40625387.54 -40625387.41 0.0089 0.0067

Neptune -115940-12-29 01:55 J -40625299.53 -40625299.42 -40625299.28 0.0089 0.0062

Neptune -115939-03-27 05:03 J -40625211.42 -40625211.29 -40625211.14 0.0089 0.0056

Jupiter -115939-05-20 05:17 J -40625157.41 -40625157.28 -40625157.15 0.0527 0.0141

Neptune -115939-06-23 07:55 J -40625123.30 -40625123.17 -40625123.01 0.0089 0.0051

Jupiter -115939-08-17 13:27 J -40625068.03 -40625067.94 -40625067.84 0.0527 0.0346

Neptune -115939-09-19 11:17 J -40625035.18 -40625035.03 -40625034.87 0.0089 0.0045

Neptune -115939-12-16 14:10 J -40624947.06 -40624946.91 -40624946.74 0.0089 0.0040

Neptune -115938-03-14 17:17 J -40624858.94 -40624858.78 -40624858.61 0.0089 0.0035

Mars -115938-06-10 17:17 J -40624770.92 -40624770.78 -40624770.64 0.1796 0.0755

Neptune -115938-06-10 20:24 J -40624770.82 -40624770.65 -40624770.47 0.0089 0.0029 *

Neptune -115938-09-06 23:31 J -40624682.69 -40624682.52 -40624682.34 0.0089 0.0023

Neptune -115938-12-04 02:39 J -40624594.56 -40624594.39 -40624594.21 0.0089 0.0018

Neptune -115937-03-01 05:46 J -40624506.44 -40624506.26 -40624506.08 0.0089 0.0012

Mars -115937-04-21 12:43 J -40624455.08 -40624454.97 -40624454.86 0.1718 0.0776

Moon -115937-04-28 09:07 J -40624448.21 -40624448.12 -40624448.02 0.2783 0.1268

Earth -115937-04-28 09:07 J -40624448.21 -40624448.12 -40624448.02 0.2776 0.1210 *

Neptune -115937-05-28 08:53 J -40624418.31 -40624418.13 -40624417.94 0.0089 0.0007

Neptune -115937-08-24 12:00 J -40624330.18 -40624330.00 -40624329.81 0.0089 0.0003

Neptune -115937-11-20 15:22 J -40624242.05 -40624241.86 -40624241.68 0.0089 0.0005

Neptune -115936-02-16 18:29 J -40624153.91 -40624153.73 -40624153.55 0.0089 0.0011

Neptune -115936-05-15 21:36 J -40624065.78 -40624065.60 -40624065.42 0.0089 0.0016

Saturn -115936-07-03 09:36 J -40624017.18 -40624017.10 -40624017.02 0.0288 0.0236

Neptune -115936-08-12 00:43 J -40623977.64 -40623977.47 -40623977.29 0.0089 0.0022

Saturn -115936-09-29 23:17 J -40623928.65 -40623928.53 -40623928.41 0.0289 0.0140

Neptune -115936-11-08 03:51 J -40623889.51 -40623889.34 -40623889.16 0.0089 0.0028

Saturn -115936-12-27 12:58 J -40623840.10 -40623839.96 -40623839.82 0.0290 0.0045

Neptune -115935-02-04 07:12 J -40623801.37 -40623801.20 -40623801.03 0.0089 0.0033

Saturn -115935-03-26 02:24 J -40623751.53 -40623751.40 -40623751.26 0.0291 0.0052

Mars -115935-03-27 22:48 J -40623749.65 -40623749.55 -40623749.45 0.1703 0.0942

Neptune -115935-05-03 10:19 J -40623713.23 -40623713.07 -40623712.90 0.0089 0.0039

Saturn -115935-06-22 15:51 J -40623662.95 -40623662.84 -40623662.72 0.0292 0.0147

Neptune -115935-07-30 13:27 J -40623625.09 -40623624.94 -40623624.77 0.0089 0.0045

Saturn -115935-09-19 05:17 J -40623574.35 -40623574.28 -40623574.20 0.0293 0.0242

Neptune -115935-10-26 16:34 J -40623536.95 -40623536.81 -40623536.64 0.0089 0.0051

Neptune -115934-01-22 20:10 J -40623448.80 -40623448.66 -40623448.52 0.0089 0.0056

Neptune -115934-04-20 23:17 J -40623360.65 -40623360.53 -40623360.39 0.0089 0.0062

Neptune -115934-07-18 02:24 J -40623272.50 -40623272.40 -40623272.27 0.0089 0.0068

Neptune -115934-10-14 05:46 J -40623184.35 -40623184.26 -40623184.15 0.0089 0.0074

Moon -115934-10-23 10:05 J -40623175.22 -40623175.08 -40623174.95 0.2570 0.1366

Earth -115934-10-23 11:17 J -40623175.16 -40623175.03 -40623174.90 0.2566 0.1481 *

Venus -115934-11-29 19:41 J -40623137.77 -40623137.68 -40623137.60 0.3670 0.2481

Neptune -115933-01-10 08:53 J -40623096.19 -40623096.13 -40623096.03 0.0089 0.0080

Jupiter -115933-04-06 10:05 J -40623009.25 -40623009.08 -40623008.90 0.0499 0.0099

Neptune -115933-04-07 12:15 J -40623008.02 -40623007.99 -40623007.92 0.0089 0.0086

Jupiter -115933-07-05 15:22 J -40622918.91 -40622918.86 -40622918.81 0.0498 0.0476

Moon -115930-04-22 06:15 J -40621898.33 -40621898.24 -40621898.14 0.2764 0.1340

Earth -115930-04-22 06:43 J -40621898.31 -40621898.22 -40621898.12 0.2769 0.1288 *

Mars -115929-10-30 17:31 J -40621340.86 -40621340.77 -40621340.68 0.1791 0.1469

Venus -115928-06-14 13:12 J -40621114.06 -40621113.95 -40621113.84 0.3676 0.0839

Mars -115928-09-11 21:51 J -40621024.68 -40621024.59 -40621024.51 0.1723 0.1221

Jupiter -115927-03-08 08:39 J -40620847.26 -40620847.14 -40620847.03 0.0526 0.0265

Jupiter -115927-06-05 17:03 J -40620757.91 -40620757.79 -40620757.67 0.0527 0.0224

Mars -115927-10-07 21:07 J -40620633.67 -40620633.62 -40620633.57 0.1811 0.1693

Mars -115926-08-18 08:39 J -40620319.26 -40620319.14 -40620319.03 0.1707 0.0543

Earth -115924-05-01 03:36 J -40619697.42 -40619697.35 -40619697.28 0.2778 0.2089

Moon -115924-05-01 04:05 J -40619697.40 -40619697.33 -40619697.26 0.2785 0.2080 *

Saturn -115923-11-05 11:31 J -40619144.09 -40619144.02 -40619143.96 0.0274 0.0252

Venus -115923-12-29 06:29 J -40619090.33 -40619090.23 -40619090.12 0.3681 0.0775

Saturn -115922-02-02 06:00 J -40619055.39 -40619055.25 -40619055.11 0.0273 0.0154

Saturn -115922-05-02 00:43 J -40618966.64 -40618966.47 -40618966.30 0.0272 0.0055

Saturn -115922-07-29 19:41 J -40618877.86 -40618877.68 -40618877.51 0.0271 0.0044

Saturn -115922-10-26 14:39 J -40618789.04 -40618788.89 -40618788.74 0.0270 0.0144

Saturn -115921-01-23 10:05 J -40618700.16 -40618700.08 -40618700.01 0.0269 0.0243

Jupiter -115921-01-24 09:07 J -40618699.27 -40618699.12 -40618698.96 0.0499 0.0233

Jupiter -115921-04-23 13:55 J -40618609.04 -40618608.92 -40618608.78 0.0498 0.0338

Mars -115918-02-02 06:43 J -40617594.25 -40617594.22 -40617594.19 0.1727 0.1675

Mars -115917-02-27 19:41 J -40617203.82 -40617203.68 -40617203.55 0.1806 0.0879

Moon -115917-04-24 00:29 J -40617147.58 -40617147.48 -40617147.37 0.2773 0.0478

Earth -115917-04-24 01:12 J -40617147.56 -40617147.45 -40617147.34 0.2772 0.0401 *

Venus -115917-07-14 00:00 J -40617066.59 -40617066.50 -40617066.42 0.3687 0.2345

Mars -115916-01-07 18:15 J -40616888.87 -40616888.74 -40616888.62 0.1711 0.0143

Jupiter -115916-12-25 11:31 J -40616537.11 -40616537.02 -40616536.93 0.0526 0.0395

Jupiter -115915-03-24 20:24 J -40616447.78 -40616447.65 -40616447.52 0.0527 0.0099

Moon -115914-10-18 03:36 J -40615875.49 -40615875.35 -40615875.22 0.2569 0.1394

Earth -115914-10-18 05:03 J -40615875.43 -40615875.29 -40615875.15 0.2571 0.1198 *

Jupiter -115910-11-12 08:10 J -40614389.27 -40614389.16 -40614389.04 0.0499 0.0368

Jupiter -115909-02-10 12:29 J -40614299.14 -40614298.98 -40614298.81 0.0498 0.0198

Venus -115909-10-24 09:36 J -40614042.19 -40614042.10 -40614042.00 0.3709 0.2630

Mars -115908-07-19 18:29 J -40613773.89 -40613773.73 -40613773.58 0.1801 0.0091

Mars -115907-05-31 03:36 J -40613458.47 -40613458.35 -40613458.23 0.1715 0.0297

Uranus -115907-08-27 06:58 J -40613370.26 -40613370.21 -40613370.14 0.0131 0.0119

Saturn -115907-11-20 10:48 J -40613285.10 -40613285.05 -40613284.99 0.0287 0.0265

Uranus -115907-11-23 10:19 J -40613282.15 -40613282.07 -40613281.98 0.0131 0.0103

Saturn -115906-02-17 00:43 J -40613196.58 -40613196.47 -40613196.36 0.0288 0.0170

Uranus -115906-02-19 13:27 J -40613194.03 -40613193.94 -40613193.83 0.0131 0.0087

Saturn -115906-05-16 14:24 J -40613108.03 -40613107.90 -40613107.76 0.0289 0.0074

Uranus -115906-05-18 16:48 J -40613105.91 -40613105.80 -40613105.68 0.0131 0.0071

Saturn -115906-08-13 04:05 J -40613019.47 -40613019.33 -40613019.19 0.0291 0.0022

Uranus -115906-08-14 20:10 J -40613017.79 -40613017.66 -40613017.54 0.0131 0.0056

Saturn -115906-11-09 17:31 J -40612930.90 -40612930.77 -40612930.64 0.0292 0.0117

Uranus -115906-11-10 23:17 J -40612929.66 -40612929.53 -40612929.40 0.0131 0.0040

Saturn -115905-02-06 06:58 J -40612842.30 -40612842.21 -40612842.12 0.0293 0.0213

Uranus -115905-02-07 02:24 J -40612841.53 -40612841.40 -40612841.26 0.0131 0.0025

Uranus -115905-05-05 05:46 J -40612753.40 -40612753.26 -40612753.13 0.0131 0.0009

Mars -115905-05-05 12:58 J -40612753.03 -40612752.96 -40612752.89 0.1699 0.1378

Uranus -115905-08-01 08:53 J -40612665.27 -40612665.13 -40612664.99 0.0131 0.0006

Uranus -115905-10-28 12:00 J -40612577.14 -40612577.00 -40612576.87 0.0131 0.0022

Uranus -115904-01-24 15:07 J -40612489.00 -40612488.87 -40612488.74 0.0131 0.0037

Uranus -115904-04-22 18:15 J -40612400.87 -40612400.74 -40612400.62 0.0131 0.0052

Moon -115904-04-26 19:12 J -40612396.81 -40612396.70 -40612396.59 0.2779 0.0502

Earth -115904-04-26 19:41 J -40612396.79 -40612396.68 -40612396.57 0.2774 0.0490 *

Uranus -115904-07-19 21:07 J -40612312.73 -40612312.62 -40612312.50 0.0131 0.0067

Jupiter -115904-10-13 15:07 J -40612226.89 -40612226.87 -40612226.85 0.0526 0.0516

Uranus -115904-10-16 00:15 J -40612224.59 -40612224.49 -40612224.38 0.0131 0.0082

Jupiter -115903-01-11 00:00 J -40612137.63 -40612137.50 -40612137.36 0.0527 0.0024

Uranus -115903-01-12 03:22 J -40612136.45 -40612136.36 -40612136.27 0.0131 0.0097

Uranus -115903-04-10 06:15 J -40612048.30 -40612048.24 -40612048.16 0.0131 0.0112

Jupiter -115903-04-10 08:10 J -40612048.22 -40612048.16 -40612048.10 0.0528 0.0463 *

Venus -115903-05-10 12:00 J -40612018.14 -40612018.00 -40612017.86 0.3702 0.0443

Uranus -115903-07-07 09:22 J -40611960.13 -40611960.11 -40611960.07 0.0131 0.0127

Moon -115901-10-20 09:51 J -40611124.25 -40611124.09 -40611123.94 0.2570 0.0237

Earth -115901-10-20 11:31 J -40611124.18 -40611124.02 -40611123.86 0.2568 0.0286 *

Mars -115899-12-09 18:00 J -40610343.90 -40610343.75 -40610343.61 0.1796 0.0674

Mars -115898-10-21 12:43 J -40610028.08 -40610027.97 -40610027.86 0.1719 0.0730

Venus -115898-11-24 14:53 J -40609993.89 -40609993.88 -40609993.86 0.3695 0.3657

Jupiter -115898-11-29 09:51 J -40609989.26 -40609989.09 -40609988.91 0.0498 0.0046

Moon -115897-04-19 17:03 J -40609846.86 -40609846.79 -40609846.72 0.2760 0.2081

Earth -115897-04-19 17:17 J -40609846.86 -40609846.78 -40609846.71 0.2767 0.2004 *

Mars -115896-09-25 22:48 J -40609322.65 -40609322.55 -40609322.45 0.1703 0.0987

Saturn -115893-06-21 06:15 J -40608323.37 -40608323.24 -40608323.11 0.0274 0.0180

Saturn -115893-09-18 00:58 J -40608234.63 -40608234.46 -40608234.30 0.0273 0.0082

Saturn -115893-12-15 19:41 J -40608145.85 -40608145.68 -40608145.50 0.0272 0.0018

Saturn -115892-03-14 14:39 J -40608057.04 -40608056.89 -40608056.72 0.0271 0.0117

Saturn -115892-06-11 09:51 J -40607968.19 -40607968.09 -40607967.98 0.0270 0.0216

Jupiter -115892-10-30 04:05 J -40607827.46 -40607827.33 -40607827.20 0.0527 0.0136

Jupiter -115891-01-27 12:29 J -40607738.08 -40607737.98 -40607737.89 0.0528 0.0352

Earth -115891-04-29 14:10 J -40607646.01 -40607645.91 -40607645.82 0.2777 0.1378

Moon -115891-04-29 14:10 J -40607646.00 -40607645.91 -40607645.81 0.2784 0.1333 *

Mars -115889-04-30 17:46 J -40606913.86 -40606913.76 -40606913.67 0.1791 0.1408

Mars -115888-03-12 21:51 J -40606597.68 -40606597.59 -40606597.50 0.1723 0.1170

Moon -115888-10-23 17:17 J -40606372.90 -40606372.78 -40606372.67 0.2571 0.1721

Earth -115888-10-23 17:46 J -40606372.87 -40606372.76 -40606372.64 0.2566 0.1766 *

Mars -115887-04-07 21:36 J -40606206.63 -40606206.60 -40606206.57 0.1810 0.1766

Mars -115886-02-16 08:39 J -40605892.26 -40605892.14 -40605892.03 0.1707 0.0587

Jupiter -115886-09-17 08:39 J -40605679.32 -40605679.14 -40605678.97 0.0498 0.0094

Jupiter -115886-12-16 13:41 J -40605588.97 -40605588.93 -40605588.88 0.0498 0.0479

Moon -115884-04-22 11:03 J -40605096.14 -40605096.04 -40605095.94 0.2766 0.1137

Earth -115884-04-22 11:46 J -40605096.11 -40605096.01 -40605095.91 0.2770 0.1119 *

Venus -115883-12-20 23:46 J -40604488.53 -40604488.51 -40604488.48 0.3666 0.3526

Moon -115881-10-15 04:34 J -40603824.34 -40603824.31 -40603824.29 0.2569 0.2526

Earth -115881-10-15 05:31 J -40603824.32 -40603824.27 -40603824.21 0.2573 0.2376 *

Jupiter -115880-08-18 07:41 J -40603517.30 -40603517.18 -40603517.06 0.0527 0.0255

Jupiter -115880-11-15 16:05 J -40603427.94 -40603427.83 -40603427.71 0.0527 0.0236

Mars -115879-08-03 06:58 J -40603167.25 -40603167.21 -40603167.17 0.1727 0.1621

Earth -115878-05-02 08:24 J -40602895.21 -40602895.15 -40602895.09 0.2779 0.2257

Moon -115878-05-02 09:07 J -40602895.18 -40602895.12 -40602895.07 0.2783 0.2376 *

Mars -115878-08-28 19:55 J -40602776.80 -40602776.67 -40602776.53 0.1806 0.0946

Venus -115877-07-05 17:31 J -40602464.86 -40602464.77 -40602464.67 0.3672 0.1869

Saturn -115877-07-06 01:12 J -40602464.55 -40602464.45 -40602464.35 0.0288 0.0204

Mars -115877-07-08 18:15 J -40602461.86 -40602461.74 -40602461.62 0.1710 0.0180

Pluto -115877-07-20 11:31 J -40602450.07 -40602450.02 -40602449.95 0.0084 0.0076

Saturn -115877-10-02 14:53 J -40602376.01 -40602375.88 -40602375.75 0.0289 0.0109

Pluto -115877-10-16 12:58 J -40602362.05 -40602361.96 -40602361.86 0.0084 0.0061

Saturn -115877-12-30 04:34 J -40602287.45 -40602287.31 -40602287.17 0.0290 0.0014

Pluto -115876-01-12 14:24 J -40602274.01 -40602273.90 -40602273.79 0.0084 0.0045

Saturn -115876-03-28 18:00 J -40602198.88 -40602198.75 -40602198.61 0.0291 0.0082

Pluto -115876-04-10 15:36 J -40602185.97 -40602185.85 -40602185.72 0.0084 0.0031

Saturn -115876-06-25 07:27 J -40602110.30 -40602110.19 -40602110.08 0.0292 0.0177

Pluto -115876-07-07 16:48 J -40602097.92 -40602097.80 -40602097.66 0.0084 0.0016

Saturn -115876-09-21 20:39 J -40602021.68 -40602021.64 -40602021.59 0.0293 0.0273

Pluto -115876-10-03 18:15 J -40602009.87 -40602009.74 -40602009.60 0.0084 0.0001

Pluto -115876-12-30 19:27 J -40601921.82 -40601921.69 -40601921.55 0.0084 0.0015

Pluto -115875-03-28 20:53 J -40601833.76 -40601833.63 -40601833.50 0.0084 0.0029

Pluto -115875-06-24 22:05 J -40601745.69 -40601745.58 -40601745.46 0.0083 0.0043

Pluto -115875-09-20 23:03 J -40601657.62 -40601657.54 -40601657.43 0.0083 0.0059

Pluto -115875-12-18 00:29 J -40601569.54 -40601569.48 -40601569.41 0.0083 0.0073

Jupiter -115874-07-06 07:12 J -40601369.35 -40601369.20 -40601369.04 0.0499 0.0231

Jupiter -115874-10-04 12:00 J -40601279.13 -40601279.00 -40601278.87 0.0498 0.0339

Venus -115871-01-19 11:03 J -40600441.15 -40600441.04 -40600440.93 0.3677 0.0263

Moon -115871-04-25 05:31 J -40600345.38 -40600345.27 -40600345.17 0.2775 0.0311

Earth -115871-04-25 06:15 J -40600345.35 -40600345.24 -40600345.14 0.2772 0.0250 *

Mars -115868-01-17 19:12 J -40599346.86 -40599346.70 -40599346.55 0.1801 0.0164

Jupiter -115868-06-06 11:03 J -40599207.13 -40599207.04 -40599206.95 0.0526 0.0379

Jupiter -115868-09-03 19:41 J -40599117.80 -40599117.68 -40599117.55 0.0527 0.0115

Moon -115868-10-18 10:05 J -40599073.23 -40599073.08 -40599072.93 0.2571 0.0927

Earth -115868-10-18 11:46 J -40599073.16 -40599073.01 -40599072.86 0.2570 0.0915 *

Mars -115868-11-29 03:36 J -40599031.47 -40599031.35 -40599031.23 0.1715 0.0246

Venus -115866-08-05 04:34 J -40598417.41 -40598417.31 -40598417.21 0.3683 0.1350

Mars -115866-11-04 12:58 J -40598326.02 -40598325.96 -40598325.89 0.1699 0.1427

Earth -115864-04-18 03:36 J -40597795.36 -40597795.35 -40597795.34 0.2764 0.2725

Moon -115864-04-18 03:51 J -40597795.34 -40597795.34 -40597795.34 0.2757 0.2756 *

Saturn -115864-11-08 05:03 J -40597591.39 -40597591.29 -40597591.18 0.0274 0.0215

Saturn -115863-02-04 23:46 J -40597502.66 -40597502.51 -40597502.35 0.0273 0.0117

Uranus -115863-02-08 03:07 J -40597499.38 -40597499.37 -40597499.33 0.0147 0.0146

Saturn -115863-05-04 18:43 J -40597413.90 -40597413.72 -40597413.55 0.0272 0.0018

Uranus -115863-05-07 11:17 J -40597411.14 -40597411.03 -40597410.92 0.0147 0.0117

Saturn -115863-08-01 13:41 J -40597325.10 -40597324.93 -40597324.76 0.0271 0.0082

Uranus -115863-08-03 19:12 J -40597322.85 -40597322.70 -40597322.56 0.0148 0.0088

Saturn -115863-10-29 08:39 J -40597236.26 -40597236.14 -40597236.00 0.0270 0.0181

Uranus -115863-10-31 03:07 J -40597234.54 -40597234.37 -40597234.20 0.0148 0.0059

Uranus -115862-01-27 11:03 J -40597146.22 -40597146.04 -40597145.86 0.0148 0.0030

Jupiter -115862-04-24 06:29 J -40597059.35 -40597059.23 -40597059.11 0.0499 0.0363

Uranus -115862-04-25 19:12 J -40597057.89 -40597057.70 -40597057.52 0.0148 0.0001

Uranus -115862-07-23 03:07 J -40596969.54 -40596969.37 -40596969.18 0.0148 0.0030

Jupiter -115862-07-23 10:48 J -40596969.21 -40596969.05 -40596968.88 0.0499 0.0203 *

Uranus -115862-10-19 11:17 J -40596881.19 -40596881.03 -40596880.86 0.0148 0.0060

Uranus -115861-01-15 19:27 J -40596792.83 -40596792.69 -40596792.54 0.0148 0.0090

Uranus -115861-04-13 03:36 J -40596704.44 -40596704.35 -40596704.23 0.0148 0.0120

Venus -115860-02-17 21:51 J -40596393.66 -40596393.59 -40596393.53 0.3688 0.2917

Neptune -115860-11-08 12:00 J -40596130.02 -40596130.00 -40596129.97 0.0088 0.0087

Neptune -115859-02-04 13:27 J -40596041.98 -40596041.94 -40596041.88 0.0088 0.0083

Neptune -115859-05-03 14:53 J -40595953.93 -40595953.88 -40595953.80 0.0088 0.0079

Mars -115859-06-09 18:29 J -40595916.88 -40595916.73 -40595916.58 0.1796 0.0602

Neptune -115859-07-30 16:48 J -40595865.87 -40595865.80 -40595865.72 0.0088 0.0074

Neptune -115859-10-26 18:15 J -40595777.81 -40595777.74 -40595777.64 0.0088 0.0070

Neptune -115858-01-22 20:10 J -40595689.75 -40595689.66 -40595689.56 0.0088 0.0065

Neptune -115858-04-20 21:36 J -40595601.69 -40595601.60 -40595601.49 0.0088 0.0061

Mars -115858-04-21 12:58 J -40595601.08 -40595600.96 -40595600.85 0.1719 0.0681

Moon -115858-04-28 00:15 J -40595594.59 -40595594.49 -40595594.38 0.2781 0.0614

Earth -115858-04-28 00:29 J -40595594.58 -40595594.48 -40595594.37 0.2774 0.0664 *

Neptune -115858-07-17 23:17 J -40595513.63 -40595513.53 -40595513.41 0.0088 0.0056

Neptune -115858-10-14 00:58 J -40595425.57 -40595425.46 -40595425.34 0.0088 0.0052

Neptune -115857-01-10 02:24 J -40595337.51 -40595337.40 -40595337.27 0.0088 0.0048

Neptune -115857-04-07 04:05 J -40595249.45 -40595249.33 -40595249.20 0.0088 0.0043

Neptune -115857-07-04 05:46 J -40595161.38 -40595161.26 -40595161.13 0.0088 0.0039

Neptune -115857-09-30 07:12 J -40595073.32 -40595073.20 -40595073.06 0.0088 0.0035

Neptune -115857-12-27 08:53 J -40594985.26 -40594985.13 -40594984.99 0.0088 0.0030

Neptune -115856-03-25 10:19 J -40594897.20 -40594897.07 -40594896.93 0.0088 0.0026

Jupiter -115856-03-25 13:55 J -40594896.95 -40594896.92 -40594896.89 0.0526 0.0508 *

Mars -115856-03-26 22:48 J -40594895.64 -40594895.55 -40594895.45 0.1703 0.1033

Neptune -115856-06-21 12:00 J -40594809.13 -40594809.00 -40594808.86 0.0088 0.0022

Jupiter -115856-06-22 23:03 J -40594807.67 -40594807.54 -40594807.41 0.0527 0.0015

Neptune -115856-09-17 13:41 J -40594721.07 -40594720.93 -40594720.79 0.0088 0.0017

Jupiter -115856-09-20 06:58 J -40594718.26 -40594718.21 -40594718.15 0.0528 0.0470

Neptune -115856-12-14 15:07 J -40594633.00 -40594632.87 -40594632.73 0.0088 0.0013

Neptune -115855-03-12 16:48 J -40594544.94 -40594544.80 -40594544.66 0.0088 0.0009

Neptune -115855-06-08 18:15 J -40594456.88 -40594456.74 -40594456.60 0.0088 0.0005

Neptune -115855-09-04 19:55 J -40594368.81 -40594368.67 -40594368.53 0.0088 0.0002

Moon -115855-10-21 16:34 J -40594321.97 -40594321.81 -40594321.65 0.2571 0.0396

Earth -115855-10-21 18:00 J -40594321.91 -40594321.75 -40594321.59 0.2568 0.0565 *

Neptune -115855-12-01 21:22 J -40594280.75 -40594280.61 -40594280.47 0.0088 0.0004

Neptune -115854-02-27 22:48 J -40594192.68 -40594192.55 -40594192.41 0.0088 0.0009

Neptune -115854-05-27 00:29 J -40594104.62 -40594104.48 -40594104.34 0.0088 0.0013

Neptune -115854-08-23 01:55 J -40594016.56 -40594016.42 -40594016.28 0.0088 0.0017

Neptune -115854-11-19 03:22 J -40593928.49 -40593928.36 -40593928.22 0.0088 0.0021

Neptune -115853-02-15 04:48 J -40593840.43 -40593840.30 -40593840.16 0.0088 0.0025

Neptune -115853-05-13 06:15 J -40593752.36 -40593752.24 -40593752.10 0.0088 0.0030

Neptune -115853-08-09 07:55 J -40593664.30 -40593664.17 -40593664.04 0.0088 0.0033

Neptune -115853-11-05 09:22 J -40593576.23 -40593576.11 -40593575.98 0.0088 0.0037

Neptune -115852-02-01 10:48 J -40593488.17 -40593488.05 -40593487.92 0.0088 0.0042

Neptune -115852-04-30 12:29 J -40593400.10 -40593399.98 -40593399.87 0.0088 0.0046

Venus -115852-05-31 09:51 J -40593369.22 -40593369.09 -40593368.97 0.3707 0.1595

Neptune -115852-07-27 13:55 J -40593312.04 -40593311.92 -40593311.81 0.0088 0.0050

Neptune -115852-10-23 15:07 J -40593223.97 -40593223.87 -40593223.75 0.0088 0.0054

Neptune -115851-01-19 16:34 J -40593135.90 -40593135.81 -40593135.70 0.0088 0.0058

Neptune -115851-04-17 18:00 J -40593047.84 -40593047.75 -40593047.64 0.0088 0.0062

Moon -115851-04-20 21:36 J -40593044.68 -40593044.60 -40593044.51 0.2760 0.1800

Earth -115851-04-20 22:05 J -40593044.66 -40593044.58 -40593044.50 0.2767 0.1838 *

Neptune -115851-07-14 19:27 J -40592959.77 -40592959.69 -40592959.59 0.0088 0.0066

Neptune -115851-10-10 20:53 J -40592871.70 -40592871.63 -40592871.54 0.0088 0.0070

Neptune -115850-01-06 22:19 J -40592783.63 -40592783.57 -40592783.49 0.0088 0.0074

Jupiter -115850-02-10 05:46 J -40592749.28 -40592749.26 -40592749.25 0.0499 0.0496

Neptune -115850-04-04 23:46 J -40592695.56 -40592695.51 -40592695.44 0.0088 0.0078

Jupiter -115850-05-11 09:36 J -40592659.28 -40592659.10 -40592658.92 0.0499 0.0064

Neptune -115850-07-02 01:12 J -40592607.49 -40592607.45 -40592607.39 0.0088 0.0082

Neptune -115850-09-28 02:39 J -40592519.41 -40592519.39 -40592519.35 0.0088 0.0086

Mars -115850-10-30 18:29 J -40592486.83 -40592486.73 -40592486.63 0.1791 0.1327

Mars -115849-09-10 22:05 J -40592170.68 -40592170.58 -40592170.49 0.1723 0.1120

Saturn -115848-11-23 02:10 J -40591732.49 -40591732.41 -40591732.33 0.0287 0.0237

Saturn -115847-02-19 15:51 J -40591643.96 -40591643.84 -40591643.71 0.0288 0.0142

Saturn -115847-05-19 05:31 J -40591555.41 -40591555.27 -40591555.13 0.0290 0.0046

Saturn -115847-08-15 19:12 J -40591466.84 -40591466.70 -40591466.57 0.0291 0.0050

Mars -115847-08-17 08:39 J -40591465.25 -40591465.14 -40591465.03 0.1707 0.0634

Saturn -115847-11-12 08:24 J -40591378.26 -40591378.15 -40591378.02 0.0292 0.0145

Venus -115847-12-15 12:29 J -40591345.11 -40591344.98 -40591344.86 0.3700 0.1532

Saturn -115846-02-08 21:51 J -40591289.66 -40591289.59 -40591289.51 0.0293 0.0240

Earth -115845-04-29 18:58 J -40590843.80 -40590843.71 -40590843.62 0.2777 0.1542

Moon -115845-04-29 19:12 J -40590843.79 -40590843.70 -40590843.61 0.2784 0.1627 *

Jupiter -115844-04-11 02:39 J -40590497.51 -40590497.39 -40590497.26 0.0527 0.0133

Jupiter -115844-07-09 11:03 J -40590408.13 -40590408.04 -40590407.94 0.0528 0.0355

Moon -115842-10-25 00:00 J -40589570.59 -40589570.50 -40589570.41 0.2572 0.2082

Earth -115842-10-25 00:29 J -40589570.58 -40589570.48 -40589570.39 0.2565 0.2050 *

Mars -115839-02-01 06:58 J -40588740.26 -40588740.21 -40588740.16 0.1727 0.1574

Mars -115838-02-26 20:39 J -40588349.77 -40588349.64 -40588349.51 0.1806 0.1025

Jupiter -115838-02-27 07:12 J -40588349.37 -40588349.20 -40588349.02 0.0498 0.0085

Moon -115838-04-23 15:51 J -40588293.94 -40588293.84 -40588293.74 0.2769 0.1067

Earth -115838-04-23 16:34 J -40588293.91 -40588293.81 -40588293.71 0.2770 0.0947 *

Jupiter -115838-05-28 12:15 J -40588259.02 -40588258.99 -40588258.95 0.0498 0.0488

Mars -115837-01-07 18:15 J -40588034.86 -40588034.74 -40588034.62 0.1711 0.0223

Moon -115835-10-16 10:48 J -40587022.14 -40587022.05 -40587021.97 0.2570 0.2145

Earth -115835-10-16 12:15 J -40587022.08 -40587021.99 -40587021.90 0.2573 0.2103 *

Saturn -115834-03-28 05:03 J -40586859.36 -40586859.29 -40586859.21 0.0275 0.0244

Saturn -115834-06-24 23:46 J -40586770.66 -40586770.51 -40586770.37 0.0274 0.0145

Saturn -115834-09-21 18:29 J -40586681.90 -40586681.73 -40586681.56 0.0273 0.0046

Saturn -115834-12-19 13:27 J -40586593.11 -40586592.94 -40586592.77 0.0272 0.0053

Saturn -115833-03-17 08:24 J -40586504.29 -40586504.15 -40586504.00 0.0271 0.0153

Saturn -115833-06-14 03:51 J -40586415.40 -40586415.34 -40586415.28 0.0270 0.0252

Jupiter -115832-01-28 06:29 J -40586187.34 -40586187.23 -40586187.11 0.0527 0.0249

Jupiter -115832-04-27 15:07 J -40586097.98 -40586097.87 -40586097.75 0.0528 0.0244

Earth -115832-05-02 13:27 J -40586092.99 -40586092.94 -40586092.89 0.2779 0.2431

Moon -115832-05-02 14:10 J -40586092.96 -40586092.91 -40586092.86 0.2781 0.2428 *

Mars -115829-07-18 19:27 J -40584919.84 -40584919.69 -40584919.53 0.1801 0.0231

Mars -115828-05-30 03:36 J -40584604.47 -40584604.35 -40584604.23 0.1715 0.0201

Jupiter -115827-12-16 06:00 J -40584039.40 -40584039.25 -40584039.09 0.0498 0.0222

Jupiter -115826-03-16 10:48 J -40583949.18 -40583949.05 -40583948.92 0.0498 0.0347

Mars -115826-05-05 12:58 J -40583899.02 -40583898.96 -40583898.90 0.1699 0.1466

Venus -115826-07-27 21:51 J -40583815.65 -40583815.59 -40583815.52 0.3668 0.2909

Moon -115825-04-25 10:19 J -40583543.17 -40583543.07 -40583542.96 0.2776 0.0124

Earth -115825-04-25 11:03 J -40583543.15 -40583543.04 -40583542.93 0.2772 0.0060 *

Uranus -115823-06-20 11:03 J -40582757.05 -40582757.04 -40582757.03 0.0131 0.0131

Uranus -115823-09-16 13:55 J -40582668.97 -40582668.92 -40582668.84 0.0131 0.0116

Uranus -115823-12-13 17:17 J -40582580.86 -40582580.78 -40582580.68 0.0131 0.0100

Uranus -115822-03-11 20:39 J -40582492.74 -40582492.64 -40582492.53 0.0131 0.0083

Uranus -115822-06-07 23:46 J -40582404.62 -40582404.51 -40582404.38 0.0131 0.0068

Uranus -115822-09-04 03:07 J -40582316.49 -40582316.37 -40582316.24 0.0131 0.0052

Moon -115822-10-19 16:48 J -40582270.96 -40582270.80 -40582270.65 0.2571 0.0845

Earth -115822-10-19 18:29 J -40582270.89 -40582270.73 -40582270.58 0.2570 0.0627 *

Uranus -115822-12-01 06:15 J -40582228.37 -40582228.24 -40582228.10 0.0131 0.0037

Uranus -115821-02-27 09:36 J -40582140.24 -40582140.10 -40582139.97 0.0131 0.0021

Uranus -115821-05-25 12:43 J -40582052.11 -40582051.97 -40582051.83 0.0131 0.0006

Uranus -115821-08-21 15:51 J -40581963.97 -40581963.84 -40581963.70 0.0131 0.0010

Jupiter -115821-11-16 10:19 J -40581877.17 -40581877.07 -40581876.98 0.0527 0.0367

Uranus -115821-11-17 18:58 J -40581875.84 -40581875.71 -40581875.57 0.0131 0.0025

Venus -115820-02-09 15:36 J -40581791.96 -40581791.85 -40581791.75 0.3673 0.1265

Jupiter -115820-02-13 18:58 J -40581787.83 -40581787.71 -40581787.58 0.0527 0.0128

Uranus -115820-02-13 22:05 J -40581787.71 -40581787.58 -40581787.45 0.0131 0.0040 *

Uranus -115820-05-13 01:12 J -40581699.57 -40581699.45 -40581699.32 0.0131 0.0055

Uranus -115820-08-09 04:19 J -40581611.43 -40581611.32 -40581611.20 0.0131 0.0070

Uranus -115820-11-05 07:27 J -40581523.29 -40581523.19 -40581523.09 0.0131 0.0085

Mars -115820-12-08 18:58 J -40581489.85 -40581489.71 -40581489.56 0.1796 0.0530

Uranus -115819-02-01 10:19 J -40581435.15 -40581435.07 -40581434.98 0.0131 0.0100

Uranus -115819-04-30 13:27 J -40581347.00 -40581346.94 -40581346.87 0.0131 0.0115

Uranus -115819-07-27 16:19 J -40581258.82 -40581258.82 -40581258.79 0.0131 0.0130

Mars -115819-10-20 12:58 J -40581174.07 -40581173.96 -40581173.84 0.1718 0.0627

Saturn -115818-04-12 02:24 J -40581000.44 -40581000.40 -40581000.36 0.0287 0.0273

Moon -115818-04-19 08:24 J -40580993.19 -40580993.15 -40580993.11 0.2757 0.2514

Earth -115818-04-19 08:24 J -40580993.18 -40580993.15 -40580993.11 0.2764 0.2562 *

Saturn -115818-07-09 16:05 J -40580911.94 -40580911.83 -40580911.72 0.0288 0.0178

Saturn -115818-10-06 05:46 J -40580823.39 -40580823.26 -40580823.12 0.0289 0.0084

Saturn -115817-01-02 19:27 J -40580734.83 -40580734.69 -40580734.55 0.0290 0.0012

Saturn -115817-03-31 08:53 J -40580646.26 -40580646.13 -40580646.00 0.0291 0.0107

Saturn -115817-06-27 22:05 J -40580557.67 -40580557.58 -40580557.47 0.0292 0.0203

Mars -115817-09-24 23:03 J -40580468.63 -40580468.54 -40580468.45 0.1703 0.1082

Venus -115815-08-26 09:07 J -40579768.23 -40579768.12 -40579768.01 0.3679 0.0357

Jupiter -115815-10-04 05:03 J -40579729.41 -40579729.29 -40579729.17 0.0499 0.0357

Jupiter -115814-01-02 09:22 J -40579639.27 -40579639.11 -40579638.95 0.0498 0.0208

Moon -115812-04-28 05:31 J -40578792.38 -40578792.27 -40578792.17 0.2783 0.0832

Earth -115812-04-28 05:31 J -40578792.38 -40578792.27 -40578792.17 0.2775 0.0830 *

Mars -115810-04-30 18:58 J -40578059.82 -40578059.71 -40578059.60 0.1791 0.1257

Venus -115809-03-11 02:24 J -40577744.49 -40577744.40 -40577744.31 0.3684 0.1932

Mars -115809-03-11 22:05 J -40577743.68 -40577743.58 -40577743.49 0.1723 0.1071

Jupiter -115809-09-04 13:41 J -40577566.98 -40577566.93 -40577566.88 0.0526 0.0490

Moon -115809-10-21 23:46 J -40577519.66 -40577519.51 -40577519.36 0.2572 0.0889

Earth -115809-10-22 00:43 J -40577519.62 -40577519.47 -40577519.32 0.2567 0.0854 *

Jupiter -115809-12-02 22:34 J -40577477.69 -40577477.56 -40577477.42 0.0527 0.0020

Jupiter -115808-03-02 06:43 J -40577388.27 -40577388.22 -40577388.17 0.0528 0.0488

Mars -115807-02-15 08:39 J -40577038.25 -40577038.14 -40577038.03 0.1707 0.0680

Moon -115805-04-21 02:39 J -40576242.48 -40576242.39 -40576242.31 0.2762 0.1776

Earth -115805-04-21 03:07 J -40576242.46 -40576242.37 -40576242.29 0.2767 0.1672 *

Saturn -115805-11-10 22:05 J -40576038.70 -40576038.58 -40576038.45 0.0274 0.0183

Saturn -115804-02-07 16:48 J -40575949.96 -40575949.80 -40575949.63 0.0273 0.0084

Saturn -115804-05-07 11:46 J -40575861.19 -40575861.01 -40575860.84 0.0272 0.0015

Saturn -115804-08-04 06:43 J -40575772.38 -40575772.22 -40575772.06 0.0271 0.0115

Venus -115804-09-24 19:41 J -40575720.71 -40575720.68 -40575720.65 0.3690 0.3492

Saturn -115804-11-01 01:55 J -40575683.52 -40575683.42 -40575683.31 0.0270 0.0214

Jupiter -115803-07-23 04:19 J -40575419.35 -40575419.32 -40575419.28 0.0499 0.0488

Jupiter -115803-10-21 08:10 J -40575329.33 -40575329.16 -40575328.98 0.0499 0.0073

Venus -115801-06-21 07:55 J -40574720.21 -40574720.17 -40574720.14 0.3712 0.3559

Mars -115800-08-02 06:58 J -40574313.26 -40574313.21 -40574313.15 0.1727 0.1520

Earth -115799-04-30 23:46 J -40574041.59 -40574041.51 -40574041.42 0.2777 0.1715

Moon -115799-05-01 00:15 J -40574041.57 -40574041.49 -40574041.41 0.2783 0.1723 *

Mars -115799-08-27 21:22 J -40573922.73 -40573922.61 -40573922.48 0.1806 0.1105

Mars -115798-07-08 18:15 J -40573607.86 -40573607.74 -40573607.62 0.1711 0.0272

Jupiter -115797-09-21 01:55 J -40573167.55 -40573167.42 -40573167.29 0.0527 0.0121

Jupiter -115797-12-19 10:05 J -40573078.17 -40573078.08 -40573077.98 0.0527 0.0366

Moon -115796-10-25 06:58 J -40572768.28 -40572768.21 -40572768.14 0.2571 0.2279

Earth -115796-10-25 07:12 J -40572768.27 -40572768.20 -40572768.14 0.2565 0.2341 *

Venus -115795-01-05 10:05 J -40572696.22 -40572696.08 -40572695.94 0.3705 0.0536

Moon -115792-04-23 20:39 J -40571491.74 -40571491.64 -40571491.53 0.2771 0.0780

Earth -115792-04-23 21:36 J -40571491.71 -40571491.60 -40571491.50 0.2770 0.0786 *

Jupiter -115791-08-09 07:12 J -40571019.38 -40571019.20 -40571019.03 0.0499 0.0064

Venus -115790-07-22 12:43 J -40570672.07 -40570671.97 -40570671.87 0.3698 0.2603

Mars -115789-01-17 20:10 J -40570492.81 -40570492.66 -40570492.50 0.1801 0.0315

Moon -115789-10-16 17:03 J -40570219.89 -40570219.79 -40570219.68 0.2572 0.1929

Earth -115789-10-16 18:43 J -40570219.83 -40570219.72 -40570219.60 0.2573 0.1819 *

Saturn -115789-11-25 16:48 J -40570179.89 -40570179.80 -40570179.70 0.0287 0.0212

Mars -115789-11-28 03:51 J -40570177.46 -40570177.34 -40570177.22 0.1715 0.0156

Saturn -115788-02-22 06:43 J -40570091.35 -40570091.22 -40570091.09 0.0288 0.0116

Saturn -115788-05-21 20:24 J -40570002.79 -40570002.65 -40570002.51 0.0290 0.0023

Saturn -115788-08-18 09:51 J -40569914.22 -40569914.09 -40569913.96 0.0291 0.0074

Saturn -115788-11-14 23:17 J -40569825.64 -40569825.53 -40569825.42 0.0292 0.0169

Saturn -115787-02-11 12:29 J -40569737.03 -40569736.98 -40569736.92 0.0293 0.0264

Mars -115787-11-03 13:12 J -40569472.01 -40569471.95 -40569471.90 0.1699 0.1514

Earth -115786-05-03 18:15 J -40569290.78 -40569290.74 -40569290.71 0.2779 0.2595

Moon -115786-05-03 18:58 J -40569290.73 -40569290.71 -40569290.69 0.2780 0.2724 *

Jupiter -115785-07-10 05:31 J -40568857.39 -40568857.27 -40568857.15 0.0527 0.0240

Jupiter -115785-10-07 14:10 J -40568768.03 -40568767.91 -40568767.80 0.0528 0.0250

Mars -115780-06-08 19:41 J -40567062.83 -40567062.68 -40567062.53 0.1796 0.0458

Uranus -115779-02-28 09:07 J -40566798.15 -40566798.12 -40566798.08 0.0147 0.0144

Mars -115779-04-20 12:58 J -40566747.07 -40566746.96 -40566746.84 0.1719 0.0581

Moon -115779-04-26 15:22 J -40566740.96 -40566740.86 -40566740.75 0.2778 0.0108

Earth -115779-04-26 15:51 J -40566740.95 -40566740.84 -40566740.73 0.2773 0.0140 *

Uranus -115779-05-27 16:48 J -40566709.90 -40566709.80 -40566709.68 0.0147 0.0116

Jupiter -115779-05-28 05:03 J -40566709.44 -40566709.29 -40566709.13 0.0498 0.0210

Uranus -115779-08-24 00:43 J -40566621.61 -40566621.47 -40566621.31 0.0148 0.0087

Jupiter -115779-08-26 09:51 J -40566619.21 -40566619.09 -40566618.97 0.0498 0.0359

Uranus -115779-11-20 08:53 J -40566533.30 -40566533.13 -40566532.96 0.0148 0.0058

Uranus -115778-02-16 16:48 J -40566444.98 -40566444.80 -40566444.62 0.0148 0.0028

Uranus -115778-05-16 00:58 J -40566356.65 -40566356.46 -40566356.28 0.0148 0.0002

Uranus -115778-08-12 08:53 J -40566268.30 -40566268.13 -40566267.94 0.0148 0.0031

Uranus -115778-11-08 17:03 J -40566179.95 -40566179.79 -40566179.62 0.0148 0.0061

Uranus -115777-02-05 01:12 J -40566091.59 -40566091.45 -40566091.30 0.0148 0.0091

Mars -115777-03-25 23:03 J -40566041.63 -40566041.54 -40566041.46 0.1703 0.1124

Uranus -115777-05-03 09:22 J -40566003.20 -40566003.11 -40566002.99 0.0148 0.0121

Neptune -115776-07-11 10:05 J -40565569.11 -40565569.08 -40565569.02 0.0089 0.0085

Neptune -115776-10-07 12:58 J -40565481.02 -40565480.96 -40565480.87 0.0089 0.0080

Moon -115776-10-19 23:17 J -40565468.68 -40565468.53 -40565468.37 0.2572 0.0381

Earth -115776-10-20 00:58 J -40565468.62 -40565468.46 -40565468.30 0.2570 0.0347 *

Neptune -115775-01-03 16:19 J -40565392.91 -40565392.82 -40565392.72 0.0089 0.0074

Saturn -115775-03-30 21:36 J -40565306.70 -40565306.60 -40565306.49 0.0275 0.0214

Neptune -115775-04-01 18:58 J -40565304.80 -40565304.71 -40565304.58 0.0089 0.0069

Saturn -115775-06-27 16:19 J -40565217.98 -40565217.82 -40565217.66 0.0274 0.0115

Neptune -115775-06-28 21:51 J -40565216.69 -40565216.59 -40565216.45 0.0089 0.0064

Saturn -115775-09-24 11:03 J -40565129.21 -40565129.04 -40565128.86 0.0273 0.0017

Neptune -115775-09-25 01:12 J -40565128.58 -40565128.45 -40565128.31 0.0089 0.0058

Neptune -115775-12-22 04:05 J -40565040.46 -40565040.33 -40565040.17 0.0089 0.0053

Saturn -115775-12-22 06:15 J -40565040.41 -40565040.24 -40565040.08 0.0272 0.0084 *

Neptune -115774-03-20 07:27 J -40564952.34 -40564952.19 -40564952.04 0.0089 0.0047

Saturn -115774-03-21 01:12 J -40564951.57 -40564951.45 -40564951.31 0.0271 0.0184

Neptune -115774-06-16 10:05 J -40564864.22 -40564864.08 -40564863.91 0.0089 0.0043

Neptune -115774-09-12 13:27 J -40564776.10 -40564775.94 -40564775.77 0.0089 0.0036

Neptune -115774-12-09 16:19 J -40564687.98 -40564687.82 -40564687.64 0.0089 0.0031

Neptune -115773-03-06 19:41 J -40564599.86 -40564599.68 -40564599.51 0.0089 0.0025

Jupiter -115773-04-28 09:22 J -40564547.21 -40564547.11 -40564547.01 0.0527 0.0358

Neptune -115773-06-02 22:34 J -40564511.73 -40564511.56 -40564511.38 0.0089 0.0020

Jupiter -115773-07-26 18:15 J -40564457.87 -40564457.74 -40564457.62 0.0528 0.0137

Neptune -115773-08-30 01:41 J -40564423.60 -40564423.43 -40564423.25 0.0089 0.0014

Neptune -115773-11-26 04:48 J -40564335.48 -40564335.30 -40564335.11 0.0089 0.0009

Neptune -115772-02-22 07:55 J -40564247.35 -40564247.17 -40564246.98 0.0089 0.0004

Moon -115772-04-19 13:12 J -40564191.00 -40564190.95 -40564190.90 0.2757 0.2426

Earth -115772-04-19 13:27 J -40564190.99 -40564190.94 -40564190.89 0.2765 0.2391 *

Neptune -115772-05-21 11:17 J -40564159.22 -40564159.03 -40564158.85 0.0089 0.0003

Neptune -115772-08-17 14:24 J -40564071.09 -40564070.90 -40564070.72 0.0089 0.0008

Neptune -115772-11-13 17:17 J -40563982.95 -40563982.78 -40563982.59 0.0089 0.0014

Neptune -115771-02-09 20:24 J -40563894.82 -40563894.65 -40563894.46 0.0089 0.0020

Neptune -115771-05-08 23:46 J -40563806.68 -40563806.51 -40563806.33 0.0089 0.0025

Neptune -115771-08-05 02:53 J -40563718.55 -40563718.38 -40563718.20 0.0089 0.0031

Mars -115771-10-29 19:27 J -40563632.80 -40563632.69 -40563632.58 0.1791 0.1190

Neptune -115771-11-01 06:00 J -40563630.41 -40563630.25 -40563630.07 0.0089 0.0037

Neptune -115770-01-28 09:22 J -40563542.27 -40563542.11 -40563541.95 0.0089 0.0042

Neptune -115770-04-26 12:29 J -40563454.13 -40563453.98 -40563453.82 0.0089 0.0048

Neptune -115770-07-23 15:36 J -40563365.98 -40563365.85 -40563365.69 0.0089 0.0054

Mars -115770-09-10 22:19 J -40563316.67 -40563316.57 -40563316.48 0.1723 0.1018

Neptune -115770-10-19 18:43 J -40563277.84 -40563277.72 -40563277.56 0.0089 0.0060

Neptune -115769-01-15 22:05 J -40563189.69 -40563189.58 -40563189.44 0.0089 0.0066

Venus -115769-03-02 19:55 J -40563142.76 -40563142.67 -40563142.58 0.3669 0.2293

Neptune -115769-04-13 01:41 J -40563101.54 -40563101.43 -40563101.32 0.0089 0.0071

Neptune -115769-07-10 04:48 J -40563013.38 -40563013.30 -40563013.20 0.0089 0.0077

Neptune -115769-10-06 07:55 J -40562925.22 -40562925.17 -40562925.09 0.0089 0.0083

Neptune -115768-01-02 11:31 J -40562837.02 -40562837.02 -40562837.01 0.0089 0.0089

Mars -115768-08-16 08:39 J -40562611.25 -40562611.14 -40562611.03 0.1707 0.0727

Jupiter -115767-03-16 04:05 J -40562399.45 -40562399.33 -40562399.20 0.0499 0.0344

Jupiter -115767-06-14 08:24 J -40562309.31 -40562309.15 -40562308.99 0.0498 0.0220

Moon -115766-04-29 10:19 J -40561990.17 -40561990.07 -40561989.97 0.2783 0.1032

Earth -115766-04-29 10:19 J -40561990.17 -40561990.07 -40561989.97 0.2775 0.0998 *

Venus -115764-09-16 13:27 J -40561119.04 -40561118.94 -40561118.83 0.3675 0.0678

Moon -115763-10-23 06:43 J -40560717.37 -40560717.22 -40560717.07 0.2573 0.1003

Earth -115763-10-23 07:27 J -40560717.34 -40560717.19 -40560717.05 0.2567 0.1142 *

Jupiter -115761-02-15 12:58 J -40560237.01 -40560236.96 -40560236.90 0.0527 0.0477

Jupiter -115761-05-14 22:05 J -40560147.71 -40560147.58 -40560147.45 0.0527 0.0021

Jupiter -115761-08-12 06:00 J -40560058.28 -40560058.25 -40560058.21 0.0528 0.0503

Mars -115760-01-31 06:58 J -40559886.27 -40559886.21 -40559886.14 0.1727 0.1471

Mars -115759-02-25 21:51 J -40559495.71 -40559495.59 -40559495.47 0.1806 0.1171

Saturn -115759-04-14 17:03 J -40559447.86 -40559447.79 -40559447.72 0.0286 0.0249

Moon -115759-04-22 07:12 J -40559440.29 -40559440.20 -40559440.11 0.2765 0.1508

Earth -115759-04-22 07:55 J -40559440.26 -40559440.17 -40559440.08 0.2768 0.1501 *

Saturn -115759-07-12 06:43 J -40559359.33 -40559359.22 -40559359.10 0.0288 0.0154

Saturn -115759-10-08 20:24 J -40559270.79 -40559270.65 -40559270.51 0.0289 0.0060

Saturn -115758-01-05 09:51 J -40559182.22 -40559182.09 -40559181.95 0.0290 0.0036

Mars -115758-01-06 18:29 J -40559180.85 -40559180.73 -40559180.61 0.1711 0.0324

Venus -115758-04-02 06:58 J -40559095.31 -40559095.21 -40559095.10 0.3680 0.0945

Saturn -115758-04-03 23:17 J -40559093.65 -40559093.53 -40559093.40 0.0291 0.0130

Saturn -115758-07-01 12:43 J -40559005.06 -40559004.97 -40559004.89 0.0292 0.0224

Jupiter -115755-01-02 03:07 J -40558089.41 -40558089.37 -40558089.32 0.0499 0.0477

Jupiter -115755-04-02 06:58 J -40557999.38 -40557999.21 -40557999.03 0.0498 0.0082

Earth -115753-05-01 04:48 J -40557239.38 -40557239.30 -40557239.22 0.2778 0.1885

Moon -115753-05-01 05:17 J -40557239.35 -40557239.28 -40557239.20 0.2781 0.1941 *

Venus -115753-10-16 00:29 J -40557071.56 -40557071.48 -40557071.41 0.3686 0.2515

Mars -115750-07-18 20:53 J -40556065.78 -40556065.63 -40556065.47 0.1801 0.0386

Jupiter -115749-03-03 01:41 J -40555837.56 -40555837.43 -40555837.30 0.0527 0.0101

Mars -115749-05-29 03:51 J -40555750.46 -40555750.34 -40555750.22 0.1715 0.0104

Jupiter -115749-05-31 09:51 J -40555748.17 -40555748.09 -40555748.00 0.0528 0.0386

Mars -115747-05-04 13:12 J -40555045.00 -40555044.95 -40555044.91 0.1699 0.1558

Moon -115746-04-25 01:41 J -40554689.54 -40554689.43 -40554689.33 0.2772 0.0745

Earth -115746-04-25 02:24 J -40554689.51 -40554689.40 -40554689.29 0.2770 0.0610 *

Saturn -115746-08-17 19:41 J -40554574.74 -40554574.68 -40554574.62 0.0275 0.0253

Saturn -115746-11-14 14:10 J -40554486.05 -40554485.91 -40554485.76 0.0274 0.0155

Saturn -115745-02-11 09:07 J -40554397.29 -40554397.12 -40554396.95 0.0273 0.0056

Saturn -115745-05-10 04:05 J -40554308.50 -40554308.33 -40554308.16 0.0272 0.0044

Saturn -115745-08-06 23:03 J -40554219.68 -40554219.54 -40554219.38 0.0271 0.0144

Saturn -115745-11-03 18:29 J -40554130.80 -40554130.73 -40554130.65 0.0270 0.0243

Venus -115744-01-26 07:55 J -40554047.26 -40554047.17 -40554047.07 0.3710 0.2530

Jupiter -115743-01-19 06:00 J -40553689.42 -40553689.25 -40553689.07 0.0499 0.0053

Moon -115743-10-17 23:31 J -40553417.64 -40553417.52 -40553417.40 0.2572 0.1687

Earth -115743-10-18 01:12 J -40553417.57 -40553417.45 -40553417.32 0.2572 0.1544 *

Mars -115741-12-07 20:10 J -40552635.81 -40552635.66 -40552635.50 0.1796 0.0382

Earth -115740-05-03 23:03 J -40552488.54 -40552488.54 -40552488.53 0.2780 0.2767

Mars -115740-10-19 13:12 J -40552320.07 -40552319.95 -40552319.84 0.1719 0.0531

Uranus -115739-07-10 17:31 J -40552055.79 -40552055.77 -40552055.74 0.0131 0.0129

Venus -115739-08-12 10:34 J -40552023.20 -40552023.06 -40552022.93 0.3703 0.0552

Uranus -115739-10-06 20:39 J -40551967.70 -40551967.64 -40551967.56 0.0131 0.0113

Uranus -115738-01-03 00:00 J -40551879.58 -40551879.50 -40551879.40 0.0131 0.0097

Uranus -115738-04-01 03:22 J -40551791.46 -40551791.36 -40551791.25 0.0131 0.0081

Uranus -115738-06-28 06:43 J -40551703.34 -40551703.22 -40551703.10 0.0131 0.0066

Uranus -115738-09-24 09:51 J -40551615.21 -40551615.09 -40551614.96 0.0131 0.0050

Mars -115738-09-24 23:03 J -40551614.63 -40551614.54 -40551614.46 0.1703 0.1169

Jupiter -115738-12-21 04:48 J -40551527.42 -40551527.30 -40551527.18 0.0527 0.0227

Uranus -115738-12-21 13:12 J -40551527.09 -40551526.95 -40551526.82 0.0131 0.0035

Uranus -115737-03-18 16:19 J -40551438.96 -40551438.82 -40551438.68 0.0131 0.0019

Jupiter -115737-03-19 13:27 J -40551438.06 -40551437.94 -40551437.83 0.0527 0.0263

Uranus -115737-06-14 19:27 J -40551350.83 -40551350.69 -40551350.55 0.0131 0.0004

Uranus -115737-09-10 22:34 J -40551262.69 -40551262.56 -40551262.42 0.0131 0.0012

Uranus -115737-12-08 01:41 J -40551174.56 -40551174.43 -40551174.29 0.0131 0.0027

Uranus -115736-03-06 04:48 J -40551086.43 -40551086.30 -40551086.17 0.0131 0.0042

Uranus -115736-06-02 07:55 J -40550998.29 -40550998.17 -40550998.05 0.0131 0.0057

Uranus -115736-08-29 11:03 J -40550910.15 -40550910.04 -40550909.93 0.0131 0.0072

Uranus -115736-11-25 14:10 J -40550822.01 -40550821.91 -40550821.81 0.0131 0.0087

Uranus -115735-02-21 17:17 J -40550733.87 -40550733.78 -40550733.70 0.0131 0.0102

Uranus -115735-05-20 20:10 J -40550645.71 -40550645.66 -40550645.60 0.0131 0.0117

Moon -115733-04-26 20:39 J -40549938.75 -40549938.64 -40549938.54 0.2780 0.0331

Earth -115733-04-26 20:53 J -40549938.74 -40549938.63 -40549938.52 0.2773 0.0286 *

Jupiter -115732-11-07 05:03 J -40549379.45 -40549379.29 -40549379.13 0.0499 0.0188

Jupiter -115731-02-05 09:51 J -40549289.20 -40549289.09 -40549288.98 0.0498 0.0382

Mars -115731-04-29 19:55 J -40549205.79 -40549205.67 -40549205.55 0.1791 0.1118

Mars -115730-03-11 22:05 J -40548889.68 -40548889.58 -40548889.48 0.1723 0.0973

Saturn -115730-09-01 17:31 J -40548715.78 -40548715.77 -40548715.74 0.0286 0.0282

Moon -115730-10-21 06:29 J -40548666.39 -40548666.23 -40548666.08 0.2573 0.0190

Earth -115730-10-21 07:41 J -40548666.34 -40548666.18 -40548666.02 0.2569 0.0080 *

Saturn -115730-11-29 07:27 J -40548627.30 -40548627.19 -40548627.08 0.0287 0.0188

Saturn -115729-02-25 21:07 J -40548538.75 -40548538.62 -40548538.49 0.0288 0.0094

Saturn -115729-05-24 10:34 J -40548450.19 -40548450.06 -40548449.92 0.0290 0.0010

Saturn -115729-08-21 00:15 J -40548361.62 -40548361.49 -40548361.36 0.0291 0.0096

Saturn -115729-11-17 13:27 J -40548273.04 -40548272.94 -40548272.83 0.0292 0.0190

Saturn -115728-02-14 02:53 J -40548184.41 -40548184.38 -40548184.36 0.0293 0.0284

Mars -115728-02-14 08:39 J -40548184.24 -40548184.14 -40548184.03 0.1707 0.0774

Moon -115726-04-20 18:00 J -40547388.81 -40547388.75 -40547388.69 0.2758 0.2238

Earth -115726-04-20 18:15 J -40547388.80 -40547388.74 -40547388.67 0.2765 0.2224 *

Jupiter -115726-10-09 08:24 J -40547217.25 -40547217.15 -40547217.05 0.0527 0.0347

Jupiter -115725-01-06 17:17 J -40547127.91 -40547127.78 -40547127.66 0.0527 0.0146

Pluto -115722-04-23 04:48 J -40545925.31 -40545925.30 -40545925.25 0.0060 0.0059

Pluto -115722-07-20 06:15 J -40545837.32 -40545837.24 -40545837.13 0.0060 0.0051

Pluto -115722-10-16 07:27 J -40545749.30 -40545749.19 -40545749.04 0.0060 0.0044

Pluto -115721-01-12 08:53 J -40545661.27 -40545661.13 -40545660.96 0.0060 0.0036

Pluto -115721-04-09 10:19 J -40545573.23 -40545573.07 -40545572.89 0.0060 0.0028

Pluto -115721-07-06 11:46 J -40545485.18 -40545485.01 -40545484.82 0.0060 0.0021

Mars -115721-08-01 07:12 J -40545459.27 -40545459.20 -40545459.13 0.1727 0.1417

Pluto -115721-10-02 13:27 J -40545397.13 -40545396.94 -40545396.76 0.0060 0.0013

Pluto -115721-12-29 14:39 J -40545309.08 -40545308.89 -40545308.70 0.0060 0.0005

Pluto -115720-03-27 16:05 J -40545221.02 -40545220.83 -40545220.64 0.0060 0.0003

Earth -115720-04-29 15:07 J -40545187.96 -40545187.87 -40545187.77 0.2776 0.1172

Moon -115720-04-29 15:22 J -40545187.95 -40545187.86 -40545187.76 0.2782 0.1154 *

Pluto -115720-06-23 17:17 J -40545132.96 -40545132.78 -40545132.59 0.0060 0.0011

Jupiter -115720-08-26 03:22 J -40545069.49 -40545069.36 -40545069.23 0.0498 0.0329

Mars -115720-08-26 22:34 J -40545068.67 -40545068.56 -40545068.44 0.1806 0.1254

Pluto -115720-09-19 18:43 J -40545044.90 -40545044.72 -40545044.53 0.0060 0.0019

Jupiter -115720-11-24 07:27 J -40544979.34 -40544979.19 -40544979.03 0.0498 0.0234

Pluto -115720-12-16 19:55 J -40544956.83 -40544956.67 -40544956.49 0.0061 0.0027

Pluto -115719-03-14 21:07 J -40544868.76 -40544868.62 -40544868.45 0.0061 0.0035

Pluto -115719-06-10 22:19 J -40544780.68 -40544780.57 -40544780.41 0.0061 0.0043

Mars -115719-07-07 18:29 J -40544753.85 -40544753.73 -40544753.61 0.1711 0.0368

Pluto -115719-09-06 23:46 J -40544692.59 -40544692.51 -40544692.38 0.0061 0.0051

Pluto -115719-12-04 00:58 J -40544604.48 -40544604.46 -40544604.38 0.0061 0.0059

Venus -115718-03-25 00:15 J -40544493.53 -40544493.49 -40544493.45 0.3665 0.3332

Moon -115717-10-23 13:27 J -40543915.06 -40543914.94 -40543914.81 0.2573 0.1495

Earth -115717-10-23 13:55 J -40543915.05 -40543914.92 -40543914.78 0.2567 0.1428 *

Saturn -115716-04-02 13:27 J -40543754.06 -40543753.94 -40543753.81 0.0275 0.0187

Saturn -115716-06-30 08:10 J -40543665.32 -40543665.16 -40543664.99 0.0274 0.0088

Saturn -115716-09-27 03:07 J -40543576.54 -40543576.37 -40543576.19 0.0273 0.0014

Saturn -115716-12-24 22:19 J -40543487.73 -40543487.57 -40543487.41 0.0272 0.0112

Saturn -115715-03-23 17:31 J -40543398.87 -40543398.77 -40543398.66 0.0271 0.0212

Jupiter -115714-07-28 12:00 J -40542907.06 -40542907.00 -40542906.94 0.0527 0.0468

Jupiter -115714-10-25 21:07 J -40542817.75 -40542817.62 -40542817.49 0.0528 0.0030

Jupiter -115713-01-23 05:17 J -40542728.31 -40542728.28 -40542728.25 0.0528 0.0514

Moon -115713-04-22 12:00 J -40542638.09 -40542638.00 -40542637.90 0.2767 0.1424

Earth -115713-04-22 12:43 J -40542638.06 -40542637.97 -40542637.87 0.2768 0.1334 *

Venus -115713-10-07 18:00 J -40542469.85 -40542469.75 -40542469.65 0.3671 0.1682

Mars -115710-01-16 21:22 J -40541638.76 -40541638.61 -40541638.46 0.1801 0.0454

Mars -115710-11-28 03:51 J -40541323.46 -40541323.34 -40541323.22 0.1715 0.0060

Jupiter -115708-06-14 02:24 J -40540759.45 -40540759.40 -40540759.33 0.0499 0.0462

Jupiter -115708-09-12 06:15 J -40540669.41 -40540669.24 -40540669.06 0.0498 0.0096

Mars -115708-11-02 13:12 J -40540617.99 -40540617.95 -40540617.92 0.1699 0.1600

Venus -115707-04-23 11:31 J -40540446.13 -40540446.02 -40540445.91 0.3676 0.0077

Earth -115707-05-02 09:36 J -40540437.17 -40540437.10 -40540437.03 0.2778 0.2053

Moon -115707-05-02 10:19 J -40540437.14 -40540437.07 -40540437.00 0.2780 0.2139 *

Jupiter -115702-08-14 00:58 J -40538507.59 -40538507.46 -40538507.33 0.0527 0.0087

Venus -115702-11-07 05:03 J -40538422.39 -40538422.29 -40538422.19 0.3682 0.1529

Jupiter -115702-11-11 09:22 J -40538418.20 -40538418.11 -40538418.03 0.0528 0.0400

Mars -115701-06-07 20:39 J -40538208.79 -40538208.64 -40538208.49 0.1796 0.0313

Saturn -115700-04-17 07:41 J -40537895.26 -40537895.18 -40537895.09 0.0286 0.0224

Mars -115700-04-19 13:12 J -40537893.07 -40537892.95 -40537892.83 0.1719 0.0481

Moon -115700-04-25 06:43 J -40537887.33 -40537887.22 -40537887.12 0.2774 0.0443

Earth -115700-04-25 07:12 J -40537887.30 -40537887.20 -40537887.09 0.2771 0.0447 *

Saturn -115700-07-14 21:22 J -40537806.73 -40537806.61 -40537806.48 0.0287 0.0131

Saturn -115700-10-11 11:03 J -40537718.18 -40537718.04 -40537717.90 0.0289 0.0036

Saturn -115699-01-08 00:29 J -40537629.61 -40537629.48 -40537629.34 0.0290 0.0058

Saturn -115699-04-06 13:55 J -40537541.04 -40537540.92 -40537540.81 0.0291 0.0153

Saturn -115699-07-04 03:07 J -40537452.44 -40537452.37 -40537452.30 0.0292 0.0246

Mars -115698-03-25 23:03 J -40537187.62 -40537187.54 -40537187.46 0.1703 0.1215

Moon -115697-10-18 06:15 J -40536615.38 -40536615.24 -40536615.10 0.2573 0.1326

Earth -115697-10-18 07:55 J -40536615.31 -40536615.17 -40536615.03 0.2572 0.1260 *

Venus -115696-05-22 22:19 J -40536398.63 -40536398.57 -40536398.51 0.3687 0.3087

Jupiter -115696-07-01 05:03 J -40536359.47 -40536359.29 -40536359.12 0.0498 0.0042

Uranus -115695-03-20 14:53 J -40536096.91 -40536096.88 -40536096.83 0.0147 0.0142

Neptune -115695-05-09 10:05 J -40536047.08 -40536047.08 -40536047.06 0.0088 0.0088

Uranus -115695-06-16 22:34 J -40536008.66 -40536008.56 -40536008.43 0.0147 0.0114

Neptune -115695-08-05 11:46 J -40535959.04 -40535959.01 -40535958.96 0.0088 0.0084

Uranus -115695-09-13 06:29 J -40535920.37 -40535920.23 -40535920.07 0.0147 0.0086

Neptune -115695-11-01 13:27 J -40535870.99 -40535870.94 -40535870.87 0.0088 0.0079

Uranus -115695-12-10 14:24 J -40535832.06 -40535831.90 -40535831.72 0.0148 0.0057

Neptune -115694-01-28 14:53 J -40535782.94 -40535782.88 -40535782.79 0.0088 0.0076

Uranus -115694-03-08 22:34 J -40535743.74 -40535743.56 -40535743.38 0.0148 0.0027

Neptune -115694-04-26 16:48 J -40535694.88 -40535694.80 -40535694.71 0.0088 0.0071

Uranus -115694-06-05 06:29 J -40535655.41 -40535655.23 -40535655.04 0.0148 0.0004

Neptune -115694-07-23 18:15 J -40535606.82 -40535606.74 -40535606.64 0.0088 0.0067

Uranus -115694-09-01 14:39 J -40535567.07 -40535566.89 -40535566.71 0.0148 0.0032

Neptune -115694-10-19 20:10 J -40535518.76 -40535518.66 -40535518.56 0.0088 0.0062

Uranus -115694-11-28 22:34 J -40535478.72 -40535478.56 -40535478.38 0.0148 0.0062

Neptune -115693-01-15 21:36 J -40535430.70 -40535430.60 -40535430.49 0.0088 0.0058

Uranus -115693-02-25 06:43 J -40535390.35 -40535390.22 -40535390.06 0.0148 0.0092

Neptune -115693-04-12 23:03 J -40535342.64 -40535342.54 -40535342.41 0.0088 0.0054

Uranus -115693-05-23 14:53 J -40535301.97 -40535301.88 -40535301.76 0.0148 0.0122

Neptune -115693-07-10 00:58 J -40535254.58 -40535254.46 -40535254.34 0.0088 0.0049

Neptune -115693-10-06 02:24 J -40535166.52 -40535166.40 -40535166.27 0.0088 0.0045

Neptune -115692-01-02 03:51 J -40535078.45 -40535078.34 -40535078.20 0.0088 0.0041

Neptune -115692-03-31 05:46 J -40534990.39 -40534990.26 -40534990.13 0.0088 0.0036

Neptune -115692-06-27 07:12 J -40534902.33 -40534902.20 -40534902.06 0.0088 0.0032

Neptune -115692-09-23 08:53 J -40534814.26 -40534814.13 -40534814.00 0.0088 0.0027

Mars -115692-10-28 20:53 J -40534778.76 -40534778.63 -40534778.51 0.1791 0.1038

Neptune -115692-12-20 10:19 J -40534726.20 -40534726.07 -40534725.93 0.0088 0.0023

Neptune -115691-03-18 12:00 J -40534638.14 -40534638.00 -40534637.86 0.0088 0.0019

Neptune -115691-06-14 13:27 J -40534550.07 -40534549.94 -40534549.80 0.0088 0.0015

Mars -115691-09-09 22:19 J -40534462.67 -40534462.57 -40534462.47 0.1723 0.0918

Neptune -115691-09-10 15:07 J -40534462.01 -40534461.87 -40534461.73 0.0088 0.0010

Neptune -115691-12-07 16:34 J -40534373.95 -40534373.81 -40534373.67 0.0088 0.0006

Neptune -115690-03-05 18:15 J -40534285.88 -40534285.74 -40534285.60 0.0088 0.0002

Neptune -115690-06-01 19:41 J -40534197.82 -40534197.68 -40534197.54 0.0088 0.0003

Jupiter -115690-06-02 04:34 J -40534197.43 -40534197.31 -40534197.19 0.0527 0.0207

Neptune -115690-08-28 21:22 J -40534109.75 -40534109.61 -40534109.47 0.0088 0.0007

Jupiter -115690-08-30 13:12 J -40534108.06 -40534107.95 -40534107.84 0.0528 0.0283

Neptune -115690-11-24 22:48 J -40534021.69 -40534021.55 -40534021.41 0.0088 0.0011

Neptune -115689-02-21 00:15 J -40533933.62 -40533933.49 -40533933.35 0.0088 0.0015

Neptune -115689-05-19 01:55 J -40533845.56 -40533845.42 -40533845.29 0.0088 0.0020

Neptune -115689-08-15 03:22 J -40533757.49 -40533757.36 -40533757.22 0.0088 0.0024

Mars -115689-08-15 08:53 J -40533757.24 -40533757.13 -40533757.02 0.1707 0.0820 *

Neptune -115689-11-11 04:48 J -40533669.43 -40533669.30 -40533669.16 0.0088 0.0028

Neptune -115688-02-07 06:15 J -40533581.36 -40533581.24 -40533581.10 0.0088 0.0032

Neptune -115688-05-06 07:41 J -40533493.30 -40533493.18 -40533493.05 0.0088 0.0037

Neptune -115688-08-02 09:22 J -40533405.23 -40533405.11 -40533404.99 0.0088 0.0040

Venus -115688-09-02 08:24 J -40533374.28 -40533374.15 -40533374.03 0.3708 0.1482

Neptune -115688-10-29 10:48 J -40533317.17 -40533317.05 -40533316.93 0.0088 0.0044

Neptune -115687-01-25 12:15 J -40533229.10 -40533228.99 -40533228.87 0.0088 0.0049

Neptune -115687-04-23 13:41 J -40533141.03 -40533140.93 -40533140.81 0.0088 0.0053

Moon -115687-04-28 01:41 J -40533136.54 -40533136.43 -40533136.33 0.2781 0.0389

Earth -115687-04-28 01:41 J -40533136.54 -40533136.43 -40533136.32 0.2773 0.0449 *

Neptune -115687-07-20 15:22 J -40533052.97 -40533052.86 -40533052.76 0.0088 0.0057

Saturn -115687-08-20 11:03 J -40533022.12 -40533022.04 -40533021.93 0.0275 0.0229

Neptune -115687-10-16 16:48 J -40532964.90 -40532964.80 -40532964.70 0.0088 0.0061

Saturn -115687-11-17 06:00 J -40532933.40 -40532933.25 -40532933.10 0.0274 0.0129

Neptune -115686-01-12 18:00 J -40532876.83 -40532876.75 -40532876.65 0.0088 0.0065

Saturn -115686-02-14 00:58 J -40532844.64 -40532844.46 -40532844.29 0.0273 0.0030

Neptune -115686-04-10 19:27 J -40532788.76 -40532788.69 -40532788.60 0.0088 0.0069

Saturn -115686-05-13 19:55 J -40532755.84 -40532755.67 -40532755.50 0.0272 0.0070

Neptune -115686-07-07 20:53 J -40532700.70 -40532700.63 -40532700.55 0.0088 0.0073

Saturn -115686-08-10 15:07 J -40532667.00 -40532666.87 -40532666.73 0.0271 0.0170

Neptune -115686-10-03 22:19 J -40532612.62 -40532612.57 -40532612.50 0.0088 0.0077

Neptune -115686-12-30 23:46 J -40532524.55 -40532524.51 -40532524.45 0.0088 0.0081

Neptune -115685-03-28 00:58 J -40532436.47 -40532436.46 -40532436.41 0.0088 0.0086

Jupiter -115684-04-19 04:05 J -40532049.50 -40532049.33 -40532049.17 0.0499 0.0176

Jupiter -115684-07-18 08:39 J -40531959.24 -40531959.14 -40531959.03 0.0498 0.0394

Moon -115684-10-21 13:12 J -40531864.11 -40531863.95 -40531863.79 0.2575 0.0157

Earth -115684-10-21 14:10 J -40531864.07 -40531863.91 -40531863.75 0.2569 0.0220 *

Venus -115682-03-19 10:48 J -40531350.17 -40531350.05 -40531349.93 0.3701 0.1611

Mars -115682-03-20 20:53 J -40531348.66 -40531348.63 -40531348.60 0.1786 0.1747

Mars -115681-01-31 07:12 J -40531032.27 -40531032.20 -40531032.12 0.1727 0.1368

Mars -115680-02-24 23:17 J -40530641.64 -40530641.53 -40530641.42 0.1806 0.1330

Moon -115680-04-20 22:34 J -40530586.63 -40530586.56 -40530586.48 0.2761 0.2074

Earth -115680-04-20 23:17 J -40530586.61 -40530586.53 -40530586.46 0.2765 0.2060 *

Mars -115679-01-05 18:29 J -40530326.85 -40530326.73 -40530326.61 0.1711 0.0412

Jupiter -115678-03-21 07:41 J -40529887.28 -40529887.18 -40529887.08 0.0527 0.0334

Jupiter -115678-06-18 16:34 J -40529797.94 -40529797.81 -40529797.69 0.0527 0.0159

Earth -115674-04-30 20:10 J -40528385.76 -40528385.66 -40528385.57 0.2776 0.1338

Moon -115674-04-30 20:39 J -40528385.74 -40528385.64 -40528385.55 0.2781 0.1444 *

Jupiter -115672-02-05 03:07 J -40527739.50 -40527739.37 -40527739.23 0.0499 0.0310

Jupiter -115672-05-06 07:27 J -40527649.34 -40527649.19 -40527649.04 0.0498 0.0256

Mars -115671-07-17 21:51 J -40527211.74 -40527211.59 -40527211.43 0.1801 0.0531

Saturn -115671-09-04 08:10 J -40527163.21 -40527163.16 -40527163.09 0.0286 0.0258

Moon -115671-10-24 20:39 J -40527112.76 -40527112.64 -40527112.52 0.2572 0.1664

Earth -115671-10-24 20:24 J -40527112.76 -40527112.65 -40527112.53 0.2566 0.1713 *

Saturn -115671-12-01 22:05 J -40527074.69 -40527074.58 -40527074.46 0.0287 0.0164

Saturn -115670-02-28 11:46 J -40526986.15 -40526986.01 -40526985.88 0.0288 0.0070

Saturn -115670-05-28 01:12 J -40526897.59 -40526897.45 -40526897.31 0.0290 0.0024

Mars -115670-05-29 03:51 J -40526896.46 -40526896.34 -40526896.22 0.1715 0.0033

Saturn -115670-08-24 14:39 J -40526809.02 -40526808.89 -40526808.76 0.0291 0.0118

Saturn -115670-11-21 03:51 J -40526720.43 -40526720.34 -40526720.24 0.0292 0.0212

Mars -115668-05-03 13:12 J -40526190.98 -40526190.95 -40526190.93 0.1699 0.1643

Moon -115667-04-23 16:48 J -40525835.89 -40525835.80 -40525835.70 0.2768 0.1222

Earth -115667-04-23 17:46 J -40525835.86 -40525835.76 -40525835.66 0.2768 0.1168 *

Jupiter -115666-01-07 11:17 J -40525577.10 -40525577.03 -40525576.97 0.0527 0.0455

Jupiter -115666-04-06 20:10 J -40525487.79 -40525487.66 -40525487.52 0.0527 0.0045

Jupiter -115666-07-05 04:19 J -40525398.33 -40525398.32 -40525398.30 0.0528 0.0523

Moon -115664-10-16 06:29 J -40524564.27 -40524564.23 -40524564.18 0.2573 0.2459

Earth -115664-10-16 08:24 J -40524564.20 -40524564.15 -40524564.11 0.2574 0.2453 *

Venus -115662-10-29 22:19 J -40523820.64 -40523820.57 -40523820.50 0.3667 0.2713

Mars -115662-12-07 21:22 J -40523781.76 -40523781.61 -40523781.45 0.1796 0.0235

Earth -115661-05-02 14:24 J -40523634.96 -40523634.90 -40523634.83 0.2778 0.2227

Moon -115661-05-02 15:07 J -40523634.93 -40523634.87 -40523634.80 0.2780 0.2256 *

Mars -115661-10-18 13:12 J -40523466.07 -40523465.95 -40523465.83 0.1719 0.0433

Jupiter -115661-11-24 01:41 J -40523429.50 -40523429.43 -40523429.35 0.0499 0.0447

Jupiter -115660-02-22 05:31 J -40523339.44 -40523339.27 -40523339.10 0.0498 0.0111

Mars -115659-09-23 23:03 J -40522760.62 -40522760.54 -40522760.46 0.1703 0.1260

Saturn -115657-01-07 10:19 J -40522290.11 -40522290.07 -40522290.01 0.0276 0.0262

Saturn -115657-04-05 05:03 J -40522201.42 -40522201.29 -40522201.15 0.0275 0.0163

Saturn -115657-07-03 00:00 J -40522112.67 -40522112.50 -40522112.33 0.0274 0.0063

Saturn -115657-09-29 18:58 J -40522023.88 -40522023.71 -40522023.54 0.0273 0.0037

Saturn -115657-12-27 14:10 J -40521935.06 -40521934.91 -40521934.76 0.0272 0.0138

Saturn -115656-03-26 09:22 J -40521846.18 -40521846.11 -40521846.02 0.0271 0.0238

Venus -115656-05-14 16:05 J -40521796.94 -40521796.83 -40521796.73 0.3672 0.1085

Uranus -115655-07-31 00:15 J -40521354.52 -40521354.49 -40521354.46 0.0132 0.0127

Uranus -115655-10-27 03:22 J -40521266.42 -40521266.36 -40521266.28 0.0131 0.0111

Uranus -115654-01-23 06:43 J -40521178.31 -40521178.22 -40521178.12 0.0131 0.0095

Jupiter -115654-01-24 00:00 J -40521177.63 -40521177.50 -40521177.37 0.0528 0.0078

Uranus -115654-04-21 10:05 J -40521090.19 -40521090.08 -40521089.97 0.0131 0.0079

Jupiter -115654-04-23 08:24 J -40521088.23 -40521088.15 -40521088.07 0.0528 0.0410

Moon -115654-04-26 11:46 J -40521085.12 -40521085.01 -40521084.90 0.2777 0.0347

Earth -115654-04-26 12:15 J -40521085.10 -40521084.99 -40521084.89 0.2771 0.0285 *

Uranus -115654-07-18 13:27 J -40521002.06 -40521001.94 -40521001.82 0.0131 0.0064

Uranus -115654-10-14 16:34 J -40520913.94 -40520913.81 -40520913.68 0.0131 0.0048

Uranus -115653-01-10 19:41 J -40520825.81 -40520825.68 -40520825.54 0.0131 0.0033

Uranus -115653-04-07 23:03 J -40520737.68 -40520737.54 -40520737.41 0.0131 0.0017

Uranus -115653-07-05 02:10 J -40520649.55 -40520649.41 -40520649.27 0.0131 0.0002

Uranus -115653-10-01 05:17 J -40520561.42 -40520561.28 -40520561.14 0.0131 0.0014

Uranus -115653-12-28 08:24 J -40520473.28 -40520473.15 -40520473.01 0.0131 0.0029

Uranus -115652-03-26 11:31 J -40520385.15 -40520385.02 -40520384.89 0.0131 0.0044

Mars -115652-04-28 21:07 J -40520351.75 -40520351.62 -40520351.50 0.1791 0.0978

Uranus -115652-06-22 14:39 J -40520297.01 -40520296.89 -40520296.77 0.0131 0.0059

Uranus -115652-09-18 17:46 J -40520208.87 -40520208.76 -40520208.65 0.0131 0.0074

Uranus -115652-12-15 20:53 J -40520120.73 -40520120.63 -40520120.53 0.0131 0.0089

Mars -115651-03-10 22:19 J -40520035.67 -40520035.57 -40520035.46 0.1723 0.0869

Uranus -115651-03-13 23:46 J -40520032.58 -40520032.51 -40520032.42 0.0131 0.0104

Uranus -115651-06-10 02:53 J -40519944.43 -40519944.38 -40519944.32 0.0131 0.0119

Moon -115651-10-19 13:12 J -40519813.10 -40519812.95 -40519812.81 0.2574 0.1155

Earth -115651-10-19 14:39 J -40519813.04 -40519812.89 -40519812.75 0.2571 0.0979 *

Venus -115651-11-28 09:36 J -40519773.21 -40519773.10 -40519773.00 0.3678 0.0550

Mars -115649-02-14 08:53 J -40519330.23 -40519330.13 -40519330.03 0.1707 0.0864

Jupiter -115649-12-11 04:19 J -40519029.49 -40519029.32 -40519029.14 0.0498 0.0027

Moon -115647-04-19 09:22 J -40518535.12 -40518535.11 -40518535.09 0.2755 0.2719

Venus -115645-06-13 02:53 J -40517749.47 -40517749.38 -40517749.29 0.3683 0.2105

Mars -115643-09-18 21:36 J -40516921.65 -40516921.60 -40516921.55 0.1787 0.1673

Jupiter -115643-11-12 03:51 J -40516867.47 -40516867.34 -40516867.22 0.0527 0.0196

Jupiter -115642-02-09 12:15 J -40516778.09 -40516777.99 -40516777.88 0.0528 0.0296

Mars -115642-08-01 07:27 J -40516605.27 -40516605.19 -40516605.11 0.1727 0.1316

Saturn -115641-04-19 22:34 J -40516342.66 -40516342.56 -40516342.46 0.0286 0.0200

Moon -115641-04-28 06:29 J -40516334.33 -40516334.23 -40516334.12 0.2781 0.0688

Earth -115641-04-28 06:29 J -40516334.33 -40516334.23 -40516334.12 0.2774 0.0625 *

Saturn -115641-07-17 12:15 J -40516254.12 -40516253.99 -40516253.86 0.0287 0.0106

Mars -115641-08-25 23:46 J -40516214.61 -40516214.51 -40516214.41 0.1806 0.1398

Saturn -115641-10-14 01:41 J -40516165.57 -40516165.43 -40516165.29 0.0289 0.0013

Saturn -115640-01-10 15:07 J -40516077.00 -40516076.87 -40516076.74 0.0290 0.0082

Saturn -115640-04-09 04:19 J -40515988.42 -40515988.32 -40515988.20 0.0291 0.0176

Mars -115640-07-06 18:29 J -40515899.84 -40515899.73 -40515899.61 0.1710 0.0465

Saturn -115640-07-06 17:31 J -40515899.81 -40515899.77 -40515899.71 0.0292 0.0269 *

Venus -115640-12-27 20:10 J -40515725.67 -40515725.66 -40515725.65 0.3689 0.3649

Moon -115638-10-22 20:10 J -40515061.82 -40515061.66 -40515061.51 0.2575 0.0492

Earth -115638-10-22 20:53 J -40515061.79 -40515061.63 -40515061.47 0.2569 0.0510 *

Venus -115637-09-23 06:29 J -40514725.28 -40514725.23 -40514725.18 0.3713 0.3422

Jupiter -115637-09-29 03:07 J -40514719.54 -40514719.37 -40514719.21 0.0498 0.0164

Jupiter -115637-12-28 07:41 J -40514629.28 -40514629.18 -40514629.08 0.0498 0.0405

Moon -115634-04-22 03:22 J -40513784.43 -40513784.36 -40513784.28 0.2763 0.1999

Earth -115634-04-22 04:05 J -40513784.41 -40513784.33 -40513784.25 0.2766 0.1889 *

Mars -115631-01-15 22:48 J -40512784.70 -40512784.55 -40512784.40 0.1801 0.0611

Venus -115631-04-09 08:39 J -40512701.28 -40512701.14 -40512701.00 0.3706 0.0422

Jupiter -115631-08-31 07:27 J -40512557.30 -40512557.19 -40512557.09 0.0527 0.0316

Mars -115631-11-27 04:05 J -40512469.46 -40512469.33 -40512469.21 0.1715 0.0074

Jupiter -115631-11-28 16:05 J -40512467.95 -40512467.83 -40512467.70 0.0528 0.0178

Mars -115629-11-01 13:12 J -40511763.96 -40511763.95 -40511763.94 0.1699 0.1690

Pluto -115628-02-07 18:43 J -40511665.78 -40511665.72 -40511665.65 0.0084 0.0075

Earth -115628-05-01 00:58 J -40511583.55 -40511583.46 -40511583.37 0.2776 0.1508

Moon -115628-05-01 01:41 J -40511583.52 -40511583.43 -40511583.34 0.2780 0.1498 *

Pluto -115628-05-06 20:10 J -40511577.75 -40511577.66 -40511577.57 0.0084 0.0060

Pluto -115628-08-02 21:22 J -40511489.72 -40511489.61 -40511489.49 0.0084 0.0045

Saturn -115628-08-23 02:53 J -40511469.49 -40511469.38 -40511469.27 0.0276 0.0203

Pluto -115628-10-29 22:34 J -40511401.68 -40511401.56 -40511401.43 0.0084 0.0030

Saturn -115628-11-19 21:36 J -40511380.76 -40511380.60 -40511380.44 0.0274 0.0104

Pluto -115627-01-26 00:00 J -40511313.63 -40511313.50 -40511313.36 0.0084 0.0015

Saturn -115627-02-16 16:34 J -40511291.98 -40511291.81 -40511291.63 0.0273 0.0006

Pluto -115627-04-24 01:27 J -40511225.58 -40511225.44 -40511225.31 0.0084 0.0002

Saturn -115627-05-16 11:46 J -40511203.17 -40511203.01 -40511202.84 0.0272 0.0096

Pluto -115627-07-21 02:39 J -40511137.52 -40511137.39 -40511137.26 0.0084 0.0015

Saturn -115627-08-13 06:58 J -40511114.32 -40511114.21 -40511114.08 0.0271 0.0197

Pluto -115627-10-17 03:51 J -40511049.46 -40511049.34 -40511049.21 0.0084 0.0030

Pluto -115626-01-13 05:03 J -40510961.40 -40510961.29 -40510961.17 0.0083 0.0044

Pluto -115626-04-11 06:29 J -40510873.32 -40510873.23 -40510873.13 0.0083 0.0059

Pluto -115626-07-08 07:27 J -40510785.24 -40510785.19 -40510785.11 0.0083 0.0073

Venus -115626-10-24 11:03 J -40510677.13 -40510677.04 -40510676.94 0.3699 0.2690

Jupiter -115625-07-18 02:10 J -40510409.55 -40510409.41 -40510409.27 0.0499 0.0298

Jupiter -115625-10-16 06:29 J -40510319.38 -40510319.23 -40510319.08 0.0498 0.0267

Earth -115625-10-25 03:07 J -40510310.47 -40510310.37 -40510310.27 0.2566 0.1998

Moon -115625-10-25 03:51 J -40510310.43 -40510310.34 -40510310.25 0.2572 0.2063 *

Mars -115622-06-07 21:51 J -40509354.74 -40509354.59 -40509354.43 0.1796 0.0165

Mars -115621-04-18 13:12 J -40509039.06 -40509038.95 -40509038.83 0.1719 0.0388

Moon -115621-04-23 21:51 J -40509033.69 -40509033.59 -40509033.49 0.2770 0.1051

Earth -115621-04-23 22:34 J -40509033.66 -40509033.56 -40509033.46 0.2769 0.0997 *

Mars -115619-03-24 23:03 J -40508333.61 -40508333.54 -40508333.46 0.1703 0.1303

Jupiter -115619-06-19 10:19 J -40508247.13 -40508247.07 -40508246.99 0.0527 0.0444

Jupiter -115619-09-16 19:27 J -40508157.82 -40508157.69 -40508157.56 0.0527 0.0053

Moon -115618-10-17 13:12 J -40507762.00 -40507761.95 -40507761.89 0.2573 0.2380

Earth -115618-10-17 14:53 J -40507761.96 -40507761.88 -40507761.79 0.2574 0.2167 *

Earth -115615-05-03 19:27 J -40506832.75 -40506832.69 -40506832.64 0.2778 0.2395

Moon -115615-05-03 20:10 J -40506832.71 -40506832.66 -40506832.62 0.2777 0.2510 *

Jupiter -115613-05-06 01:27 J -40506099.53 -40506099.44 -40506099.36 0.0499 0.0430

Jupiter -115613-08-04 05:03 J -40506009.46 -40506009.29 -40506009.11 0.0498 0.0131

Mars -115613-10-27 21:51 J -40505924.73 -40505924.59 -40505924.46 0.1791 0.0898

Saturn -115612-09-06 23:17 J -40505610.61 -40505610.53 -40505610.44 0.0286 0.0232

Mars -115612-09-08 22:34 J -40505608.67 -40505608.56 -40505608.46 0.1723 0.0822

Saturn -115612-12-04 12:58 J -40505522.08 -40505521.96 -40505521.83 0.0287 0.0139

Neptune -115611-01-09 06:15 J -40505486.25 -40505486.24 -40505486.18 0.0089 0.0087

Saturn -115611-03-03 02:39 J -40505433.53 -40505433.39 -40505433.25 0.0288 0.0045

Neptune -115611-04-07 09:36 J -40505398.16 -40505398.10 -40505398.02 0.0089 0.0081

Uranus -115611-04-09 21:36 J -40505395.65 -40505395.60 -40505395.52 0.0147 0.0138

Saturn -115611-05-30 16:05 J -40505344.97 -40505344.83 -40505344.69 0.0290 0.0049

Neptune -115611-07-04 12:29 J -40505310.06 -40505309.98 -40505309.88 0.0089 0.0076

Uranus -115611-07-07 05:46 J -40505307.38 -40505307.26 -40505307.14 0.0147 0.0109

Saturn -115611-08-27 05:17 J -40505256.39 -40505256.28 -40505256.15 0.0291 0.0144

Neptune -115611-09-30 15:22 J -40505221.95 -40505221.86 -40505221.74 0.0089 0.0071

Uranus -115611-10-03 13:27 J -40505219.09 -40505218.94 -40505218.78 0.0147 0.0080

Saturn -115611-11-23 18:43 J -40505167.80 -40505167.72 -40505167.64 0.0292 0.0237

Neptune -115611-12-27 18:29 J -40505133.84 -40505133.73 -40505133.60 0.0089 0.0065

Uranus -115611-12-30 21:22 J -40505130.78 -40505130.61 -40505130.43 0.0147 0.0051

Neptune -115610-03-25 21:22 J -40505045.73 -40505045.61 -40505045.47 0.0089 0.0060

Uranus -115610-03-29 05:17 J -40505042.46 -40505042.28 -40505042.09 0.0148 0.0023

Neptune -115610-06-22 00:15 J -40504957.61 -40504957.49 -40504957.33 0.0089 0.0055

Uranus -115610-06-25 13:27 J -40504954.12 -40504953.94 -40504953.76 0.0148 0.0007

Mars -115610-08-15 08:53 J -40504903.23 -40504903.13 -40504903.03 0.1707 0.0910

Neptune -115610-09-18 03:22 J -40504869.50 -40504869.36 -40504869.20 0.0089 0.0050

Uranus -115610-09-21 21:22 J -40504865.78 -40504865.61 -40504865.43 0.0148 0.0037

Neptune -115610-12-15 06:29 J -40504781.38 -40504781.23 -40504781.06 0.0089 0.0044

Uranus -115610-12-19 05:31 J -40504777.43 -40504777.27 -40504777.10 0.0148 0.0067

Neptune -115609-03-12 09:36 J -40504693.26 -40504693.10 -40504692.93 0.0089 0.0038

Uranus -115609-03-16 13:27 J -40504689.07 -40504688.94 -40504688.79 0.0148 0.0097

Neptune -115609-06-08 12:29 J -40504605.13 -40504604.98 -40504604.80 0.0089 0.0033

Uranus -115609-06-12 21:36 J -40504600.68 -40504600.60 -40504600.49 0.0148 0.0127

Neptune -115609-09-04 15:51 J -40504517.01 -40504516.84 -40504516.67 0.0089 0.0027

Neptune -115609-12-01 18:43 J -40504428.89 -40504428.72 -40504428.54 0.0089 0.0022

Neptune -115608-02-27 21:51 J -40504340.76 -40504340.59 -40504340.41 0.0089 0.0016

Moon -115608-04-26 16:48 J -40504282.91 -40504282.80 -40504282.70 0.2779 0.0161

Earth -115608-04-26 17:03 J -40504282.90 -40504282.79 -40504282.68 0.2771 0.0107 *

Neptune -115608-05-27 00:58 J -40504252.63 -40504252.46 -40504252.27 0.0089 0.0011

Neptune -115608-08-23 04:05 J -40504164.51 -40504164.33 -40504164.14 0.0089 0.0006

Neptune -115608-11-19 07:12 J -40504076.38 -40504076.20 -40504076.01 0.0089 0.0002

Neptune -115607-02-15 10:19 J -40503988.25 -40503988.07 -40503987.88 0.0089 0.0007

Neptune -115607-05-14 13:27 J -40503900.12 -40503899.94 -40503899.75 0.0089 0.0012

Jupiter -115607-07-05 23:03 J -40503847.67 -40503847.54 -40503847.41 0.0527 0.0068

Neptune -115607-08-10 16:34 J -40503811.98 -40503811.81 -40503811.62 0.0089 0.0018

Jupiter -115607-10-03 07:27 J -40503758.27 -40503758.19 -40503758.11 0.0528 0.0419

Neptune -115607-11-06 19:55 J -40503723.85 -40503723.67 -40503723.49 0.0089 0.0023

Neptune -115606-02-02 22:48 J -40503635.71 -40503635.55 -40503635.37 0.0089 0.0029

Neptune -115606-05-02 01:55 J -40503547.58 -40503547.42 -40503547.24 0.0089 0.0035

Neptune -115606-07-29 05:17 J -40503459.44 -40503459.28 -40503459.11 0.0089 0.0040

Neptune -115606-10-25 08:24 J -40503371.30 -40503371.15 -40503370.98 0.0089 0.0046

Neptune -115605-01-21 11:31 J -40503283.15 -40503283.02 -40503282.86 0.0089 0.0052

Neptune -115605-04-18 14:39 J -40503195.01 -40503194.89 -40503194.73 0.0089 0.0058

Venus -115605-06-04 20:24 J -40503147.74 -40503147.65 -40503147.56 0.3668 0.2105

Neptune -115605-07-15 18:15 J -40503106.86 -40503106.74 -40503106.61 0.0089 0.0063

Neptune -115605-10-11 21:22 J -40503018.71 -40503018.61 -40503018.49 0.0089 0.0069

Moon -115605-10-19 19:55 J -40503010.82 -40503010.67 -40503010.52 0.2576 0.0675

Earth -115605-10-19 21:07 J -40503010.77 -40503010.62 -40503010.47 0.2571 0.0695 *

Neptune -115604-01-08 00:29 J -40502930.56 -40502930.48 -40502930.37 0.0089 0.0075

Neptune -115604-04-06 03:36 J -40502842.40 -40502842.35 -40502842.25 0.0089 0.0081

Neptune -115604-07-03 07:27 J -40502754.23 -40502754.19 -40502754.15 0.0089 0.0087

Mars -115603-03-19 21:51 J -40502494.65 -40502494.59 -40502494.52 0.1786 0.1610

Mars -115602-01-30 07:27 J -40502178.27 -40502178.19 -40502178.11 0.1727 0.1268

Mars -115601-02-25 00:29 J -40501787.57 -40501787.48 -40501787.39 0.1806 0.1477

Moon -115601-04-19 14:10 J -40501732.93 -40501732.91 -40501732.89 0.2757 0.2691

Earth -115601-04-19 14:24 J -40501732.93 -40501732.90 -40501732.86 0.2763 0.2612 *

Jupiter -115601-05-23 03:36 J -40501699.53 -40501699.35 -40501699.18 0.0498 0.0017

Mars -115600-01-04 18:29 J -40501472.84 -40501472.73 -40501472.61 0.1711 0.0504

Venus -115600-12-19 13:55 J -40501124.03 -40501123.92 -40501123.81 0.3674 0.0487

Saturn -115598-01-10 02:10 J -40500737.49 -40500737.41 -40500737.32 0.0276 0.0236

Saturn -115598-04-08 20:53 J -40500648.78 -40500648.63 -40500648.48 0.0275 0.0137

Saturn -115598-07-06 15:51 J -40500560.01 -40500559.84 -40500559.67 0.0274 0.0037

Saturn -115598-10-03 11:03 J -40500471.21 -40500471.04 -40500470.87 0.0273 0.0064

Saturn -115598-12-31 06:15 J -40500382.38 -40500382.24 -40500382.10 0.0272 0.0164

Saturn -115597-03-29 01:41 J -40500293.46 -40500293.43 -40500293.39 0.0271 0.0264

Jupiter -115595-04-24 02:39 J -40499537.52 -40499537.39 -40499537.27 0.0528 0.0190

Earth -115595-04-29 11:31 J -40499532.13 -40499532.02 -40499531.92 0.2774 0.0794

Moon -115595-04-29 11:46 J -40499532.12 -40499532.01 -40499531.91 0.2780 0.0779 *

Jupiter -115595-07-22 11:17 J -40499448.14 -40499448.03 -40499447.93 0.0529 0.0303

Venus -115594-07-05 07:27 J -40499100.29 -40499100.19 -40499100.09 0.3679 0.1111

Mars -115593-06-21 16:19 J -40498747.83 -40498747.82 -40498747.81 0.1731 0.1719

Mars -115592-07-16 23:03 J -40498357.68 -40498357.54 -40498357.39 0.1801 0.0675

Moon -115592-10-23 03:07 J -40498259.53 -40498259.37 -40498259.22 0.2574 0.0719

Earth -115592-10-23 03:22 J -40498259.51 -40498259.36 -40498259.21 0.2568 0.0792 *

Mars -115591-05-28 04:05 J -40498042.45 -40498042.33 -40498042.21 0.1715 0.0092

Jupiter -115589-03-11 02:24 J -40497389.57 -40497389.40 -40497389.23 0.0498 0.0148

Jupiter -115589-06-09 06:58 J -40497299.30 -40497299.21 -40497299.12 0.0497 0.0420

Venus -115588-01-18 00:43 J -40497076.54 -40497076.47 -40497076.39 0.3685 0.2674

Moon -115588-04-22 08:10 J -40496982.24 -40496982.16 -40496982.07 0.2764 0.1718

Earth -115588-04-22 08:53 J -40496982.21 -40496982.13 -40496982.04 0.2766 0.1723 *

Jupiter -115583-02-10 06:15 J -40495227.35 -40495227.24 -40495227.13 0.0527 0.0308

Jupiter -115583-05-10 15:07 J -40495137.99 -40495137.87 -40495137.75 0.0528 0.0187

Mars -115583-12-06 22:34 J -40494927.72 -40494927.56 -40494927.40 0.1796 0.0089

Saturn -115582-01-25 00:15 J -40494878.54 -40494878.49 -40494878.44 0.0285 0.0264

Saturn -115582-04-23 13:55 J -40494790.03 -40494789.92 -40494789.80 0.0286 0.0171

Earth -115582-05-02 05:46 J -40494781.34 -40494781.26 -40494781.17 0.2776 0.1681

Moon -115582-05-02 06:29 J -40494781.31 -40494781.23 -40494781.15 0.2780 0.1808 *

Saturn -115582-07-21 03:36 J -40494701.49 -40494701.35 -40494701.22 0.0287 0.0078

Saturn -115582-10-17 17:03 J -40494612.93 -40494612.79 -40494612.65 0.0288 0.0015

Mars -115582-10-18 13:27 J -40494612.06 -40494611.94 -40494611.82 0.1718 0.0332

Saturn -115581-01-14 06:29 J -40494524.36 -40494524.23 -40494524.11 0.0290 0.0109

Saturn -115581-04-11 19:41 J -40494435.78 -40494435.68 -40494435.58 0.0291 0.0202

Venus -115580-04-30 06:43 J -40494052.33 -40494052.22 -40494052.12 0.3711 0.2396

Mars -115580-09-22 23:17 J -40493906.60 -40493906.53 -40493906.46 0.1703 0.1351

Earth -115579-10-26 09:51 J -40493508.16 -40493508.09 -40493508.02 0.2566 0.2288

Moon -115579-10-26 10:48 J -40493508.11 -40493508.05 -40493507.99 0.2571 0.2373 *

Jupiter -115578-12-29 00:58 J -40493079.60 -40493079.46 -40493079.31 0.0498 0.0286

Jupiter -115577-03-28 05:17 J -40492989.43 -40492989.28 -40492989.13 0.0498 0.0278

Moon -115575-04-25 02:53 J -40492231.48 -40492231.38 -40492231.28 0.2773 0.0919

Earth -115575-04-25 03:22 J -40492231.46 -40492231.36 -40492231.25 0.2769 0.0834 *

Venus -115575-11-14 08:53 J -40492028.26 -40492028.13 -40492027.99 0.3704 0.0637

Mars -115573-04-27 22:19 J -40491497.71 -40491497.57 -40491497.43 0.1791 0.0827

Mars -115572-03-09 22:34 J -40491181.67 -40491181.56 -40491181.45 0.1723 0.0773

Moon -115572-10-17 19:55 J -40490959.77 -40490959.67 -40490959.56 0.2575 0.1920

Earth -115572-10-17 21:36 J -40490959.71 -40490959.60 -40490959.50 0.2574 0.1890 *

Jupiter -115572-11-29 09:51 J -40490917.17 -40490917.09 -40490917.01 0.0527 0.0428

Jupiter -115571-02-26 18:58 J -40490827.84 -40490827.71 -40490827.58 0.0528 0.0069

Uranus -115571-08-20 06:58 J -40490653.25 -40490653.21 -40490653.17 0.0132 0.0125

Uranus -115571-11-16 09:51 J -40490565.15 -40490565.09 -40490565.00 0.0132 0.0110

Uranus -115570-02-12 13:12 J -40490477.03 -40490476.95 -40490476.84 0.0131 0.0094

Mars -115570-02-13 08:53 J -40490476.23 -40490476.13 -40490476.03 0.1707 0.0955

Uranus -115570-05-11 16:34 J -40490388.91 -40490388.81 -40490388.69 0.0131 0.0078

Uranus -115570-08-07 19:55 J -40490300.79 -40490300.67 -40490300.54 0.0131 0.0062

Uranus -115570-11-03 23:03 J -40490212.66 -40490212.54 -40490212.40 0.0131 0.0047

Uranus -115569-01-31 02:24 J -40490124.53 -40490124.40 -40490124.26 0.0131 0.0031

Uranus -115569-04-28 05:31 J -40490036.40 -40490036.27 -40490036.13 0.0131 0.0016

Earth -115569-05-04 00:15 J -40490030.53 -40490030.49 -40490030.45 0.2779 0.2566

Moon -115569-05-04 00:58 J -40490030.50 -40490030.46 -40490030.42 0.2775 0.2548 *

Saturn -115569-05-29 00:15 J -40490005.50 -40490005.49 -40490005.49 0.0277 0.0276

Uranus -115569-07-25 08:53 J -40489948.27 -40489948.13 -40489947.99 0.0131 0.0002

Saturn -115569-08-25 18:43 J -40489916.85 -40489916.72 -40489916.59 0.0276 0.0177

Uranus -115569-10-21 12:00 J -40489860.14 -40489860.00 -40489859.86 0.0131 0.0016

Saturn -115569-11-22 13:41 J -40489828.10 -40489827.93 -40489827.76 0.0274 0.0077

Uranus -115568-01-17 15:07 J -40489772.00 -40489771.87 -40489771.74 0.0131 0.0031

Saturn -115568-02-19 08:39 J -40489739.31 -40489739.14 -40489738.96 0.0273 0.0024

Uranus -115568-04-15 18:15 J -40489683.87 -40489683.74 -40489683.61 0.0131 0.0046

Saturn -115568-05-19 03:51 J -40489650.49 -40489650.34 -40489650.18 0.0272 0.0124

Uranus -115568-07-12 21:22 J -40489595.73 -40489595.61 -40489595.49 0.0131 0.0061

Saturn -115568-08-15 23:17 J -40489561.62 -40489561.53 -40489561.43 0.0271 0.0224

Uranus -115568-10-09 00:29 J -40489507.59 -40489507.48 -40489507.37 0.0131 0.0076

Uranus -115567-01-05 03:22 J -40489419.45 -40489419.36 -40489419.26 0.0131 0.0092

Uranus -115567-04-03 06:29 J -40489331.30 -40489331.23 -40489331.15 0.0131 0.0106

Uranus -115567-06-30 09:36 J -40489243.15 -40489243.10 -40489243.05 0.0131 0.0121

Jupiter -115566-10-17 00:15 J -40488769.59 -40488769.49 -40488769.40 0.0499 0.0420

Jupiter -115565-01-15 03:51 J -40488679.51 -40488679.34 -40488679.17 0.0498 0.0139

Mars -115564-09-17 22:34 J -40488067.63 -40488067.56 -40488067.48 0.1786 0.1534

Mars -115563-07-31 07:27 J -40487751.27 -40487751.19 -40487751.10 0.1727 0.1217

Moon -115562-04-27 21:36 J -40487480.70 -40487480.60 -40487480.49 0.2779 0.0094

Earth -115562-04-27 21:51 J -40487480.70 -40487480.59 -40487480.48 0.2772 0.0093 *

Mars -115562-08-26 01:12 J -40487360.53 -40487360.45 -40487360.37 0.1806 0.1556

Mars -115561-07-05 18:43 J -40487045.84 -40487045.72 -40487045.61 0.1711 0.0555

Jupiter -115560-12-15 22:05 J -40486517.71 -40486517.58 -40486517.45 0.0527 0.0058

Jupiter -115559-03-15 06:29 J -40486428.30 -40486428.23 -40486428.16 0.0528 0.0429

Moon -115559-10-21 02:39 J -40486208.54 -40486208.39 -40486208.23 0.2576 0.0586

Earth -115559-10-21 03:51 J -40486208.50 -40486208.34 -40486208.19 0.2571 0.0413 *

Moon -115555-04-20 18:43 J -40484930.76 -40484930.72 -40484930.67 0.2759 0.2432

Earth -115555-04-20 19:27 J -40484930.74 -40484930.69 -40484930.64 0.2764 0.2444 *

Venus -115554-06-27 00:29 J -40484498.53 -40484498.48 -40484498.42 0.3665 0.3148

Jupiter -115554-11-03 02:39 J -40484369.56 -40484369.39 -40484369.21 0.0498 0.0011

Mars -115554-12-21 16:19 J -40484320.85 -40484320.82 -40484320.79 0.1732 0.1673

Saturn -115553-09-09 14:53 J -40484057.97 -40484057.88 -40484057.77 0.0286 0.0202

Saturn -115553-12-07 04:34 J -40483969.43 -40483969.31 -40483969.17 0.0287 0.0109

Mars -115552-01-14 23:46 J -40483930.65 -40483930.51 -40483930.36 0.1801 0.0758

Saturn -115552-03-05 18:15 J -40483880.88 -40483880.74 -40483880.60 0.0288 0.0015

Saturn -115552-06-02 07:41 J -40483792.32 -40483792.18 -40483792.05 0.0290 0.0078

Saturn -115552-08-29 20:53 J -40483703.74 -40483703.63 -40483703.52 0.0291 0.0172

Mars -115552-11-26 04:05 J -40483615.45 -40483615.33 -40483615.21 0.1715 0.0140

Saturn -115552-11-26 10:05 J -40483615.13 -40483615.08 -40483615.02 0.0292 0.0264

Earth -115549-04-29 16:19 J -40482729.92 -40482729.82 -40482729.72 0.2774 0.0958

Moon -115549-04-29 16:48 J -40482729.90 -40482729.80 -40482729.70 0.2780 0.1019 *

Venus -115548-01-09 18:15 J -40482474.84 -40482474.74 -40482474.64 0.3670 0.1507

Jupiter -115548-10-04 01:41 J -40482207.56 -40482207.43 -40482207.31 0.0527 0.0179

Jupiter -115547-01-01 10:19 J -40482118.18 -40482118.07 -40482117.97 0.0528 0.0311

Earth -115546-10-24 10:05 J -40481457.23 -40481457.08 -40481456.94 0.2568 0.1082

Moon -115546-10-24 10:19 J -40481457.21 -40481457.07 -40481456.93 0.2574 0.1186 *

Mars -115543-06-06 23:03 J -40480500.70 -40480500.54 -40480500.38 0.1796 0.0026

Venus -115543-07-26 12:00 J -40480451.12 -40480451.00 -40480450.89 0.3675 0.0187

Mars -115542-04-18 13:27 J -40480185.06 -40480184.94 -40480184.82 0.1719 0.0290

Moon -115542-04-23 13:12 J -40480180.04 -40480179.95 -40480179.86 0.2766 0.1677

Earth -115542-04-23 13:55 J -40480180.01 -40480179.92 -40480179.83 0.2767 0.1547 *

Jupiter -115542-08-22 01:12 J -40480059.61 -40480059.45 -40480059.28 0.0498 0.0137

Jupiter -115542-11-20 05:46 J -40479969.34 -40479969.26 -40479969.17 0.0497 0.0431

Mars -115540-03-23 23:03 J -40479479.60 -40479479.54 -40479479.47 0.1703 0.1392

Saturn -115539-01-12 18:15 J -40479184.84 -40479184.74 -40479184.62 0.0276 0.0209

Saturn -115539-04-11 13:12 J -40479096.11 -40479095.95 -40479095.79 0.0275 0.0109

Saturn -115539-07-09 08:10 J -40479007.33 -40479007.16 -40479006.98 0.0274 0.0010

Saturn -115539-10-06 03:22 J -40478918.52 -40478918.36 -40478918.19 0.0273 0.0092

Saturn -115538-01-02 22:34 J -40478829.67 -40478829.56 -40478829.43 0.0272 0.0193

Venus -115537-02-09 05:17 J -40478427.37 -40478427.28 -40478427.18 0.3681 0.1696

Earth -115536-05-02 10:48 J -40477979.13 -40477979.05 -40477978.97 0.2777 0.1851

Moon -115536-05-02 11:17 J -40477979.10 -40477979.03 -40477978.95 0.2778 0.1861 *

Jupiter -115536-07-23 04:48 J -40477897.41 -40477897.30 -40477897.19 0.0528 0.0305

Jupiter -115536-10-20 13:41 J -40477808.05 -40477807.93 -40477807.80 0.0529 0.0191

Mars -115534-10-27 22:48 J -40477070.69 -40477070.55 -40477070.41 0.1791 0.0760

Mars -115533-09-07 22:34 J -40476754.67 -40476754.56 -40476754.44 0.1723 0.0721

Venus -115532-08-24 22:48 J -40476403.60 -40476403.55 -40476403.50 0.3686 0.3247

Mars -115531-08-14 09:07 J -40476049.22 -40476049.12 -40476049.03 0.1707 0.1003

Neptune -115530-02-03 09:51 J -40475876.11 -40475876.09 -40475876.04 0.0088 0.0086

Neptune -115530-05-02 11:46 J -40475788.06 -40475788.01 -40475787.95 0.0088 0.0081

Jupiter -115530-06-10 00:15 J -40475749.63 -40475749.49 -40475749.34 0.0498 0.0272

Neptune -115530-07-29 13:12 J -40475700.00 -40475699.95 -40475699.86 0.0088 0.0077

Jupiter -115530-09-08 04:19 J -40475659.46 -40475659.32 -40475659.17 0.0497 0.0291

Neptune -115530-10-25 14:53 J -40475611.95 -40475611.88 -40475611.79 0.0088 0.0072

Neptune -115529-01-21 16:34 J -40475523.89 -40475523.81 -40475523.71 0.0088 0.0068

Neptune -115529-04-18 18:15 J -40475435.83 -40475435.74 -40475435.63 0.0088 0.0063

Moon -115529-04-25 07:55 J -40475429.28 -40475429.17 -40475429.07 0.2775 0.0643

Earth -115529-04-25 08:24 J -40475429.26 -40475429.15 -40475429.05 0.2770 0.0656 *

Neptune -115529-07-15 20:10 J -40475347.77 -40475347.66 -40475347.56 0.0088 0.0059

Neptune -115529-10-11 21:36 J -40475259.71 -40475259.60 -40475259.49 0.0088 0.0054

Neptune -115528-01-07 23:03 J -40475171.65 -40475171.54 -40475171.41 0.0088 0.0051

Neptune -115528-04-06 00:58 J -40475083.58 -40475083.46 -40475083.34 0.0088 0.0046

Neptune -115528-07-03 02:24 J -40474995.52 -40474995.40 -40474995.27 0.0088 0.0042

Neptune -115528-09-29 03:51 J -40474907.46 -40474907.34 -40474907.20 0.0088 0.0038

Neptune -115528-12-26 05:31 J -40474819.39 -40474819.27 -40474819.13 0.0088 0.0033

Neptune -115527-03-24 07:12 J -40474731.33 -40474731.20 -40474731.06 0.0088 0.0029

Uranus -115527-04-30 05:31 J -40474694.35 -40474694.27 -40474694.19 0.0147 0.0130

Neptune -115527-06-20 08:39 J -40474643.27 -40474643.14 -40474643.00 0.0088 0.0025

Uranus -115527-07-27 13:12 J -40474606.08 -40474605.95 -40474605.81 0.0147 0.0101

Neptune -115527-09-16 10:19 J -40474555.20 -40474555.07 -40474554.93 0.0088 0.0020

Uranus -115527-10-23 21:07 J -40474517.78 -40474517.62 -40474517.46 0.0147 0.0073

Neptune -115527-12-13 12:00 J -40474467.14 -40474467.00 -40474466.86 0.0088 0.0016

Uranus -115526-01-20 05:03 J -40474429.47 -40474429.29 -40474429.12 0.0147 0.0044

Neptune -115526-03-11 13:27 J -40474379.08 -40474378.94 -40474378.80 0.0088 0.0012

Uranus -115526-04-18 12:58 J -40474341.14 -40474340.96 -40474340.78 0.0148 0.0015

Neptune -115526-06-07 15:07 J -40474291.01 -40474290.87 -40474290.73 0.0088 0.0007

Uranus -115526-07-15 20:53 J -40474252.81 -40474252.63 -40474252.44 0.0148 0.0015

Neptune -115526-09-03 16:34 J -40474202.95 -40474202.81 -40474202.67 0.0088 0.0003

Uranus -115526-10-12 04:48 J -40474164.47 -40474164.30 -40474164.12 0.0148 0.0045

Moon -115526-10-19 02:53 J -40474157.50 -40474157.38 -40474157.27 0.2577 0.1739

Earth -115526-10-19 04:19 J -40474157.45 -40474157.32 -40474157.20 0.2573 0.1602 *

Neptune -115526-11-30 18:15 J -40474114.88 -40474114.74 -40474114.60 0.0088 0.0002

Uranus -115525-01-08 12:58 J -40474076.11 -40474075.96 -40474075.80 0.0148 0.0074

Neptune -115525-02-26 19:41 J -40474026.82 -40474026.68 -40474026.54 0.0088 0.0006

Uranus -115525-04-05 21:07 J -40473987.75 -40473987.62 -40473987.48 0.0148 0.0104

Neptune -115525-05-24 21:07 J -40473938.75 -40473938.62 -40473938.48 0.0088 0.0010

Uranus -115525-07-03 05:17 J -40473899.35 -40473899.28 -40473899.20 0.0148 0.0134

Neptune -115525-08-20 22:48 J -40473850.69 -40473850.55 -40473850.41 0.0088 0.0014

Neptune -115525-11-17 00:15 J -40473762.62 -40473762.49 -40473762.35 0.0088 0.0018

Neptune -115524-02-13 01:41 J -40473674.56 -40473674.43 -40473674.29 0.0088 0.0023

Mars -115524-03-18 23:03 J -40473640.62 -40473640.54 -40473640.45 0.1787 0.1464

Jupiter -115524-05-11 08:24 J -40473587.22 -40473587.15 -40473587.07 0.0527 0.0425

Neptune -115524-05-12 03:22 J -40473586.49 -40473586.36 -40473586.23 0.0088 0.0027

Neptune -115524-08-08 04:48 J -40473498.43 -40473498.30 -40473498.17 0.0088 0.0031

Jupiter -115524-08-08 17:31 J -40473497.90 -40473497.77 -40473497.64 0.0528 0.0075

Neptune -115524-11-04 06:15 J -40473410.36 -40473410.24 -40473410.11 0.0088 0.0035

Venus -115524-12-05 06:43 J -40473379.34 -40473379.22 -40473379.09 0.3709 0.1373

Saturn -115523-01-27 16:34 J -40473325.89 -40473325.81 -40473325.73 0.0285 0.0231

Mars -115523-01-29 07:41 J -40473324.27 -40473324.18 -40473324.09 0.1727 0.1166

Neptune -115523-01-31 07:41 J -40473322.30 -40473322.18 -40473322.05 0.0088 0.0039

Saturn -115523-04-26 06:00 J -40473237.37 -40473237.25 -40473237.12 0.0286 0.0139

Neptune -115523-04-29 09:07 J -40473234.23 -40473234.12 -40473233.99 0.0088 0.0044

Earth -115523-05-05 05:03 J -40473228.30 -40473228.29 -40473228.27 0.2779 0.2736

Saturn -115523-07-23 19:41 J -40473148.82 -40473148.68 -40473148.54 0.0287 0.0046

Neptune -115523-07-26 10:48 J -40473146.16 -40473146.05 -40473145.93 0.0088 0.0047

Saturn -115523-10-20 09:07 J -40473060.26 -40473060.12 -40473059.99 0.0289 0.0048

Neptune -115523-10-22 12:15 J -40473058.10 -40473057.99 -40473057.87 0.0088 0.0051

Saturn -115522-01-16 22:19 J -40472971.69 -40472971.57 -40472971.45 0.0290 0.0140

Neptune -115522-01-18 13:41 J -40472970.03 -40472969.93 -40472969.82 0.0088 0.0056

Mars -115522-02-24 01:41 J -40472933.50 -40472933.43 -40472933.37 0.1806 0.1625

Saturn -115522-04-15 11:31 J -40472883.10 -40472883.02 -40472882.94 0.0291 0.0233

Neptune -115522-04-16 15:07 J -40472881.96 -40472881.87 -40472881.76 0.0088 0.0060

Neptune -115522-07-13 16:48 J -40472793.90 -40472793.80 -40472793.71 0.0088 0.0064

Neptune -115522-10-09 18:15 J -40472705.83 -40472705.74 -40472705.65 0.0088 0.0068

Mars -115521-01-04 18:43 J -40472618.83 -40472618.72 -40472618.61 0.1711 0.0601

Neptune -115521-01-05 19:41 J -40472617.76 -40472617.68 -40472617.60 0.0088 0.0072

Neptune -115521-04-02 20:53 J -40472529.69 -40472529.63 -40472529.55 0.0088 0.0076

Neptune -115521-06-29 22:19 J -40472441.61 -40472441.57 -40472441.50 0.0088 0.0080

Neptune -115521-09-25 23:46 J -40472353.54 -40472353.51 -40472353.46 0.0088 0.0084

Neptune -115521-12-23 01:12 J -40472265.45 -40472265.45 -40472265.43 0.0088 0.0088

Jupiter -115518-03-28 22:48 J -40471439.64 -40471439.55 -40471439.45 0.0498 0.0410

Venus -115518-06-21 09:07 J -40471355.24 -40471355.12 -40471355.00 0.3702 0.1674

Jupiter -115518-06-27 02:39 J -40471349.56 -40471349.39 -40471349.22 0.0498 0.0148

Moon -115516-04-28 02:53 J -40470678.49 -40470678.38 -40470678.28 0.2779 0.0225

Earth -115516-04-28 02:53 J -40470678.49 -40470678.38 -40470678.28 0.2772 0.0255 *

Mars -115514-06-21 16:34 J -40469893.85 -40469893.81 -40469893.77 0.1731 0.1620

Mars -115513-07-16 00:29 J -40469503.62 -40469503.48 -40469503.34 0.1801 0.0830

Moon -115513-10-21 09:36 J -40469406.26 -40469406.10 -40469405.94 0.2576 0.0089

Earth -115513-10-21 10:19 J -40469406.23 -40469406.07 -40469405.91 0.2570 0.0128 *

Mars -115512-05-27 04:05 J -40469188.45 -40469188.33 -40469188.21 0.1715 0.0187

Jupiter -115512-05-27 21:22 J -40469187.75 -40469187.61 -40469187.48 0.0528 0.0047

Jupiter -115512-08-25 05:31 J -40469098.33 -40469098.27 -40469098.19 0.0528 0.0441

Saturn -115510-06-01 16:48 J -40468452.87 -40468452.80 -40468452.72 0.0277 0.0246

Saturn -115510-08-29 11:31 J -40468364.16 -40468364.02 -40468363.87 0.0276 0.0146

Saturn -115510-11-26 06:29 J -40468275.40 -40468275.23 -40468275.06 0.0274 0.0046

Saturn -115509-02-23 01:41 J -40468186.60 -40468186.43 -40468186.26 0.0273 0.0054

Moon -115509-04-20 23:46 J -40468128.57 -40468128.51 -40468128.46 0.2760 0.2376

Earth -115509-04-21 00:15 J -40468128.55 -40468128.49 -40468128.43 0.2764 0.2275 *

Saturn -115509-05-21 20:53 J -40468097.77 -40468097.63 -40468097.48 0.0272 0.0155

Saturn -115509-08-18 16:19 J -40468008.87 -40468008.82 -40468008.76 0.0271 0.0256

Jupiter -115506-04-15 01:12 J -40467039.63 -40467039.45 -40467039.27 0.0498 0.0009

Mars -115504-12-05 23:46 J -40466073.67 -40466073.51 -40466073.36 0.1796 0.0066

Earth -115503-04-30 21:07 J -40465927.72 -40465927.62 -40465927.52 0.2775 0.1130

Moon -115503-04-30 21:51 J -40465927.69 -40465927.59 -40465927.50 0.2780 0.1180 *

Mars -115503-10-17 13:27 J -40465758.06 -40465757.94 -40465757.82 0.1719 0.0241

Mars -115501-09-21 23:17 J -40465052.59 -40465052.53 -40465052.47 0.1703 0.1437

Jupiter -115500-03-16 00:29 J -40464877.61 -40464877.48 -40464877.36 0.0527 0.0173

Jupiter -115500-06-13 08:53 J -40464788.23 -40464788.13 -40464788.02 0.0528 0.0318

Earth -115500-10-24 16:34 J -40464654.94 -40464654.81 -40464654.67 0.2568 0.1368

Moon -115500-10-24 17:17 J -40464654.92 -40464654.78 -40464654.65 0.2574 0.1312 *

Venus -115497-01-31 22:34 J -40463825.64 -40463825.56 -40463825.48 0.3666 0.2533

Moon -115496-04-23 18:00 J -40463377.84 -40463377.75 -40463377.65 0.2769 0.1382

Earth -115496-04-23 18:43 J -40463377.81 -40463377.72 -40463377.62 0.2767 0.1383 *

Jupiter -115494-02-01 00:00 J -40462729.67 -40462729.50 -40462729.33 0.0498 0.0128

Mars -115494-04-27 23:17 J -40462643.67 -40462643.53 -40462643.38 0.1791 0.0687

Jupiter -115494-05-02 04:34 J -40462639.39 -40462639.31 -40462639.23 0.0498 0.0441

Saturn -115494-06-16 17:46 J -40462593.81 -40462593.76 -40462593.70 0.0285 0.0259

Saturn -115494-09-13 07:41 J -40462505.30 -40462505.18 -40462505.07 0.0286 0.0167

Saturn -115494-12-10 21:07 J -40462416.75 -40462416.62 -40462416.48 0.0287 0.0074

Saturn -115493-03-08 10:34 J -40462328.20 -40462328.06 -40462327.92 0.0289 0.0020

Mars -115493-03-08 22:34 J -40462327.67 -40462327.56 -40462327.44 0.1723 0.0675

Saturn -115493-06-05 00:00 J -40462239.63 -40462239.50 -40462239.38 0.0290 0.0113

Saturn -115493-09-01 12:58 J -40462151.05 -40462150.96 -40462150.85 0.0291 0.0206

Venus -115492-08-16 16:19 J -40461801.93 -40461801.82 -40461801.71 0.3671 0.0906

Mars -115491-02-12 09:07 J -40461622.22 -40461622.12 -40461622.03 0.1707 0.1046

Earth -115490-05-03 15:36 J -40461176.92 -40461176.85 -40461176.78 0.2777 0.2018

Moon -115490-05-03 16:19 J -40461176.89 -40461176.82 -40461176.75 0.2776 0.2104 *

Jupiter -115488-01-02 03:51 J -40460567.45 -40460567.34 -40460567.23 0.0527 0.0297

Jupiter -115488-04-01 12:29 J -40460478.10 -40460477.98 -40460477.85 0.0528 0.0198

Uranus -115487-09-09 13:55 J -40459951.97 -40459951.92 -40459951.88 0.0132 0.0122

Uranus -115487-12-06 16:48 J -40459863.87 -40459863.80 -40459863.71 0.0132 0.0107

Venus -115486-03-02 09:51 J -40459778.20 -40459778.09 -40459777.98 0.3677 0.0698

Uranus -115486-03-04 20:10 J -40459775.75 -40459775.66 -40459775.55 0.0132 0.0091

Uranus -115486-05-31 23:31 J -40459687.63 -40459687.52 -40459687.40 0.0131 0.0075

Uranus -115486-08-28 02:53 J -40459599.50 -40459599.38 -40459599.25 0.0131 0.0059

Uranus -115486-11-24 06:00 J -40459511.37 -40459511.25 -40459511.11 0.0131 0.0044

Uranus -115485-02-20 09:22 J -40459423.25 -40459423.11 -40459422.98 0.0131 0.0028

Uranus -115485-05-18 12:29 J -40459335.12 -40459334.98 -40459334.84 0.0131 0.0012

Uranus -115485-08-14 15:36 J -40459246.98 -40459246.85 -40459246.71 0.0131 0.0005

Mars -115485-09-16 23:31 J -40459213.61 -40459213.52 -40459213.42 0.1786 0.1397

Uranus -115485-11-10 18:43 J -40459158.85 -40459158.72 -40459158.58 0.0131 0.0020

Uranus -115484-02-06 21:51 J -40459070.71 -40459070.59 -40459070.45 0.0131 0.0035

Uranus -115484-05-06 00:58 J -40458982.58 -40458982.46 -40458982.33 0.0131 0.0050

Mars -115484-07-30 07:41 J -40458897.27 -40458897.18 -40458897.08 0.1727 0.1115

Uranus -115484-08-02 04:05 J -40458894.44 -40458894.33 -40458894.20 0.0131 0.0065

Uranus -115484-10-29 07:12 J -40458806.30 -40458806.20 -40458806.09 0.0131 0.0079

Uranus -115483-01-25 10:19 J -40458718.16 -40458718.07 -40458717.97 0.0131 0.0094

Uranus -115483-04-23 13:27 J -40458630.01 -40458629.94 -40458629.86 0.0131 0.0109

Moon -115483-04-26 12:43 J -40458627.07 -40458626.97 -40458626.86 0.2776 0.0600

Earth -115483-04-26 13:12 J -40458627.05 -40458626.95 -40458626.84 0.2770 0.0487 *

Uranus -115483-07-20 16:19 J -40458541.85 -40458541.82 -40458541.77 0.0131 0.0124

Mars -115483-08-25 02:24 J -40458506.45 -40458506.40 -40458506.35 0.1806 0.1703

Jupiter -115483-11-19 22:48 J -40458419.69 -40458419.55 -40458419.40 0.0498 0.0264

Jupiter -115482-02-18 02:53 J -40458329.52 -40458329.38 -40458329.24 0.0497 0.0299

Mars -115482-07-05 18:43 J -40458191.83 -40458191.72 -40458191.61 0.1711 0.0644

Venus -115481-09-15 03:22 J -40457754.45 -40457754.36 -40457754.28 0.3682 0.2272

Saturn -115481-10-18 16:48 J -40457720.81 -40457720.80 -40457720.78 0.0277 0.0275

Saturn -115480-01-15 11:31 J -40457632.15 -40457632.02 -40457631.89 0.0276 0.0176

Saturn -115480-04-14 06:29 J -40457543.40 -40457543.23 -40457543.06 0.0275 0.0076

Saturn -115480-07-12 01:27 J -40457454.61 -40457454.44 -40457454.26 0.0274 0.0025

Saturn -115480-10-08 20:53 J -40457365.79 -40457365.63 -40457365.48 0.0273 0.0125

Moon -115480-10-19 09:22 J -40457355.24 -40457355.11 -40457354.98 0.2577 0.1401

Earth -115480-10-19 10:48 J -40457355.19 -40457355.05 -40457354.92 0.2573 0.1322 *

Saturn -115479-01-05 16:05 J -40457276.92 -40457276.83 -40457276.73 0.0272 0.0226

Jupiter -115477-10-21 06:43 J -40456257.30 -40456257.22 -40456257.14 0.0528 0.0427

Jupiter -115476-01-18 15:51 J -40456167.97 -40456167.84 -40456167.71 0.0528 0.0073

Mars -115475-12-20 16:34 J -40455466.86 -40455466.81 -40455466.76 0.1731 0.1568

Pluto -115474-11-11 10:19 J -40455141.10 -40455141.07 -40455141.00 0.0060 0.0058

Mars -115473-01-15 00:58 J -40455076.60 -40455076.46 -40455076.33 0.1801 0.0898

Pluto -115473-02-07 11:46 J -40455053.10 -40455053.01 -40455052.89 0.0060 0.0050

Pluto -115473-05-05 13:27 J -40454965.07 -40454964.94 -40454964.80 0.0060 0.0042

Pluto -115473-08-01 14:24 J -40454877.04 -40454876.90 -40454876.72 0.0060 0.0035

Pluto -115473-10-28 15:51 J -40454789.00 -40454788.84 -40454788.65 0.0060 0.0028

Mars -115473-11-25 04:19 J -40454761.44 -40454761.32 -40454761.20 0.1715 0.0237

Venus -115473-12-26 05:03 J -40454730.35 -40454730.29 -40454730.23 0.3714 0.3290

Pluto -115472-01-24 17:31 J -40454700.95 -40454700.77 -40454700.59 0.0060 0.0019

Pluto -115472-04-22 18:58 J -40454612.90 -40454612.71 -40454612.52 0.0060 0.0012

Pluto -115472-07-19 20:10 J -40454524.85 -40454524.66 -40454524.46 0.0060 0.0004

Pluto -115472-10-15 21:36 J -40454436.79 -40454436.60 -40454436.41 0.0060 0.0004

Pluto -115471-01-11 23:03 J -40454348.73 -40454348.54 -40454348.35 0.0060 0.0012

Pluto -115471-04-10 00:15 J -40454260.67 -40454260.49 -40454260.30 0.0060 0.0020

Pluto -115471-07-07 01:27 J -40454172.60 -40454172.44 -40454172.26 0.0061 0.0028

Jupiter -115471-09-07 21:51 J -40454109.69 -40454109.59 -40454109.49 0.0498 0.0398

Pluto -115471-10-03 02:39 J -40454084.52 -40454084.39 -40454084.21 0.0061 0.0036

Jupiter -115471-12-07 01:27 J -40454019.61 -40454019.44 -40454019.27 0.0497 0.0159

Pluto -115471-12-30 03:51 J -40453996.45 -40453996.34 -40453996.18 0.0061 0.0044

Pluto -115470-03-28 05:17 J -40453908.36 -40453908.28 -40453908.15 0.0061 0.0052

Earth -115470-04-29 07:41 J -40453876.29 -40453876.18 -40453876.07 0.2773 0.0409

Moon -115470-04-29 07:55 J -40453876.28 -40453876.17 -40453876.06 0.2779 0.0488 *

Pluto -115470-06-24 07:12 J -40453820.24 -40453820.20 -40453820.16 0.0061 0.0059

Venus -115467-07-12 06:58 J -40452706.34 -40452706.21 -40452706.07 0.3707 0.0340

Moon -115467-10-22 16:48 J -40452603.96 -40452603.80 -40452603.64 0.2576 0.0097

Earth -115467-10-22 17:03 J -40452603.95 -40452603.79 -40452603.63 0.2570 0.0169 *

Jupiter -115465-11-06 19:41 J -40451857.81 -40451857.68 -40451857.55 0.0528 0.0046

Saturn -115464-01-30 09:22 J -40451773.21 -40451773.11 -40451773.00 0.0285 0.0193

Jupiter -115464-02-04 04:05 J -40451768.40 -40451768.33 -40451768.26 0.0529 0.0442

Saturn -115464-04-28 23:03 J -40451684.67 -40451684.54 -40451684.41 0.0286 0.0101

Mars -115464-06-06 00:15 J -40451646.65 -40451646.49 -40451646.34 0.1796 0.0133

Saturn -115464-07-26 12:29 J -40451596.12 -40451595.98 -40451595.84 0.0288 0.0008

Saturn -115464-10-23 01:55 J -40451507.56 -40451507.42 -40451507.29 0.0289 0.0085

Saturn -115463-01-19 15:07 J -40451418.98 -40451418.87 -40451418.76 0.0290 0.0177

Mars -115463-04-17 13:41 J -40451331.06 -40451330.93 -40451330.81 0.1719 0.0199

Saturn -115463-04-18 04:19 J -40451330.37 -40451330.32 -40451330.27 0.0291 0.0269

Moon -115463-04-22 04:34 J -40451326.38 -40451326.31 -40451326.24 0.2761 0.2129

Earth -115463-04-22 05:17 J -40451326.35 -40451326.28 -40451326.21 0.2764 0.2108 *

Venus -115461-01-26 09:22 J -40450682.20 -40450682.11 -40450682.01 0.3700 0.2753

Mars -115461-03-22 23:17 J -40450625.59 -40450625.53 -40450625.47 0.1703 0.1482

Jupiter -115459-09-24 23:31 J -40449709.69 -40449709.52 -40449709.34 0.0498 0.0015

Earth -115457-05-01 02:10 J -40449125.51 -40449125.41 -40449125.32 0.2775 0.1303

Moon -115457-05-01 02:39 J -40449125.48 -40449125.39 -40449125.29 0.2779 0.1337 *

Mars -115455-10-27 00:00 J -40448216.64 -40448216.50 -40448216.35 0.1791 0.0609

Mars -115454-09-07 22:48 J -40447900.66 -40447900.55 -40447900.44 0.1723 0.0621

Earth -115454-10-25 23:17 J -40447852.65 -40447852.53 -40447852.41 0.2567 0.1658

Moon -115454-10-26 00:00 J -40447852.61 -40447852.50 -40447852.39 0.2573 0.1817 *

Jupiter -115453-08-25 23:17 J -40447547.66 -40447547.53 -40447547.41 0.0528 0.0166

Jupiter -115453-11-23 07:55 J -40447458.27 -40447458.17 -40447458.07 0.0528 0.0325

Mars -115452-08-13 09:07 J -40447195.21 -40447195.12 -40447195.03 0.1707 0.1092

Saturn -115451-06-04 10:34 J -40446900.17 -40446900.06 -40446899.95 0.0276 0.0210

Saturn -115451-09-01 05:17 J -40446811.43 -40446811.28 -40446811.12 0.0275 0.0111

Saturn -115451-11-29 00:29 J -40446722.66 -40446722.48 -40446722.31 0.0274 0.0010

Saturn -115450-02-25 19:41 J -40446633.85 -40446633.68 -40446633.52 0.0273 0.0090

Moon -115450-04-24 23:03 J -40446575.63 -40446575.54 -40446575.44 0.2772 0.1320

Earth -115450-04-24 23:46 J -40446575.61 -40446575.51 -40446575.41 0.2767 0.1212 *

Saturn -115450-05-25 14:53 J -40446545.00 -40446544.88 -40446544.75 0.0272 0.0191

Neptune -115447-07-10 03:07 J -40445403.38 -40445403.37 -40445403.34 0.0089 0.0088

Jupiter -115447-07-13 22:05 J -40445399.75 -40445399.58 -40445399.41 0.0498 0.0125

Neptune -115447-10-06 05:46 J -40445315.30 -40445315.26 -40445315.18 0.0089 0.0083

Jupiter -115447-10-12 02:39 J -40445309.46 -40445309.39 -40445309.31 0.0498 0.0444

Earth -115447-10-17 11:17 J -40445304.06 -40445304.03 -40445304.00 0.2575 0.2512

Neptune -115446-01-02 08:39 J -40445227.20 -40445227.14 -40445227.03 0.0089 0.0078

Venus -115446-02-22 02:53 J -40445176.40 -40445176.38 -40445176.36 0.3662 0.3574

Neptune -115446-03-31 12:00 J -40445139.09 -40445139.00 -40445138.89 0.0089 0.0072

Neptune -115446-06-27 14:53 J -40445050.98 -40445050.88 -40445050.75 0.0089 0.0067

Neptune -115446-09-23 18:00 J -40444962.87 -40444962.75 -40444962.62 0.0089 0.0061

Neptune -115446-12-20 20:53 J -40444874.76 -40444874.63 -40444874.48 0.0089 0.0056

Neptune -115445-03-17 23:46 J -40444786.64 -40444786.51 -40444786.35 0.0089 0.0051

Mars -115445-03-18 00:00 J -40444786.60 -40444786.50 -40444786.40 0.1786 0.1328 *

Neptune -115445-06-14 03:07 J -40444698.52 -40444698.37 -40444698.21 0.0089 0.0045

Neptune -115445-09-10 06:00 J -40444610.40 -40444610.25 -40444610.08 0.0089 0.0040

Neptune -115445-12-07 09:07 J -40444522.28 -40444522.12 -40444521.95 0.0089 0.0034

Mars -115444-01-28 07:41 J -40444470.27 -40444470.18 -40444470.08 0.1727 0.1068

Neptune -115444-03-05 12:00 J -40444434.16 -40444434.00 -40444433.82 0.0089 0.0029

Earth -115444-05-03 20:24 J -40444374.71 -40444374.65 -40444374.58 0.2777 0.2192

Moon -115444-05-03 21:07 J -40444374.68 -40444374.62 -40444374.55 0.2775 0.2242 *

Neptune -115444-06-01 15:22 J -40444346.03 -40444345.86 -40444345.69 0.0089 0.0023

Neptune -115444-08-28 18:15 J -40444257.91 -40444257.74 -40444257.55 0.0089 0.0018

Neptune -115444-11-24 21:22 J -40444169.78 -40444169.61 -40444169.42 0.0089 0.0012

Neptune -115443-02-21 00:29 J -40444081.66 -40444081.48 -40444081.29 0.0089 0.0007

Mars -115443-02-23 02:53 J -40444079.40 -40444079.38 -40444079.35 0.1806 0.1779

Neptune -115443-05-20 03:36 J -40443993.53 -40443993.35 -40443993.16 0.0089 0.0002

Uranus -115443-05-20 13:12 J -40443993.05 -40443992.95 -40443992.85 0.0147 0.0122

Neptune -115443-08-16 06:43 J -40443905.40 -40443905.22 -40443905.03 0.0089 0.0005

Uranus -115443-08-16 20:53 J -40443904.76 -40443904.63 -40443904.48 0.0147 0.0093

Neptune -115443-11-12 09:51 J -40443817.27 -40443817.09 -40443816.90 0.0089 0.0011

Uranus -115443-11-13 04:48 J -40443816.46 -40443816.30 -40443816.13 0.0147 0.0065

Mars -115442-01-03 18:43 J -40443764.83 -40443764.72 -40443764.61 0.1711 0.0690

Neptune -115442-02-08 12:58 J -40443729.13 -40443728.96 -40443728.77 0.0089 0.0016

Uranus -115442-02-09 12:43 J -40443728.15 -40443727.97 -40443727.79 0.0148 0.0036

Neptune -115442-05-07 16:05 J -40443641.00 -40443640.83 -40443640.65 0.0089 0.0022

Uranus -115442-05-08 20:39 J -40443639.82 -40443639.64 -40443639.45 0.0148 0.0007

Neptune -115442-08-03 19:27 J -40443552.87 -40443552.69 -40443552.52 0.0089 0.0027

Uranus -115442-08-05 04:34 J -40443551.49 -40443551.31 -40443551.12 0.0148 0.0023

Neptune -115442-10-30 22:19 J -40443464.73 -40443464.57 -40443464.39 0.0089 0.0033

Uranus -115442-11-01 12:29 J -40443463.14 -40443462.98 -40443462.80 0.0148 0.0053

Neptune -115441-01-27 01:27 J -40443376.59 -40443376.44 -40443376.26 0.0089 0.0039

Uranus -115441-01-28 20:39 J -40443374.78 -40443374.64 -40443374.48 0.0148 0.0082

Neptune -115441-04-24 05:03 J -40443288.45 -40443288.29 -40443288.13 0.0089 0.0045

Uranus -115441-04-26 05:03 J -40443286.41 -40443286.29 -40443286.17 0.0148 0.0112

Jupiter -115441-06-14 02:24 J -40443237.51 -40443237.40 -40443237.29 0.0527 0.0294

Neptune -115441-07-21 07:55 J -40443200.31 -40443200.17 -40443200.01 0.0089 0.0050

Uranus -115441-07-23 13:12 J -40443198.00 -40443197.95 -40443197.90 0.0148 0.0142

Venus -115441-09-06 20:39 J -40443152.73 -40443152.64 -40443152.54 0.3667 0.1922

Jupiter -115441-09-11 11:03 J -40443148.16 -40443148.04 -40443147.91 0.0528 0.0201

Neptune -115441-10-17 11:03 J -40443112.17 -40443112.04 -40443111.88 0.0089 0.0056

Neptune -115440-01-13 14:10 J -40443024.02 -40443023.91 -40443023.76 0.0089 0.0062

Neptune -115440-04-11 17:46 J -40442935.88 -40442935.76 -40442935.64 0.0089 0.0067

Neptune -115440-07-08 20:53 J -40442847.72 -40442847.63 -40442847.52 0.0089 0.0073

Neptune -115440-10-05 00:00 J -40442759.57 -40442759.50 -40442759.40 0.0089 0.0079

Neptune -115439-01-01 03:07 J -40442671.40 -40442671.37 -40442671.30 0.0089 0.0085

Moon -115437-04-26 18:00 J -40441824.86 -40441824.75 -40441824.65 0.2777 0.0296

Earth -115437-04-26 18:15 J -40441824.85 -40441824.74 -40441824.64 0.2770 0.0332 *

Venus -115435-03-23 14:24 J -40441129.01 -40441128.90 -40441128.79 0.3673 0.0322

Jupiter -115435-05-01 20:53 J -40441089.77 -40441089.63 -40441089.48 0.0498 0.0262

Saturn -115435-06-19 11:17 J -40441041.12 -40441041.03 -40441040.94 0.0286 0.0219

Mars -115435-06-20 16:34 J -40441039.87 -40441039.81 -40441039.75 0.1732 0.1520

Jupiter -115435-07-31 01:12 J -40440999.59 -40440999.45 -40440999.31 0.0498 0.0303

Saturn -115435-09-16 00:43 J -40440952.59 -40440952.47 -40440952.34 0.0287 0.0127

Saturn -115435-12-13 14:24 J -40440864.04 -40440863.90 -40440863.76 0.0288 0.0033

Saturn -115434-03-12 03:51 J -40440775.48 -40440775.34 -40440775.21 0.0289 0.0060

Saturn -115434-06-08 17:03 J -40440686.90 -40440686.79 -40440686.67 0.0290 0.0152

Mars -115434-07-16 01:27 J -40440649.57 -40440649.44 -40440649.30 0.1801 0.0975

Saturn -115434-09-05 06:15 J -40440598.31 -40440598.24 -40440598.17 0.0291 0.0244

Moon -115434-10-20 16:19 J -40440552.97 -40440552.82 -40440552.68 0.2577 0.1109

Earth -115434-10-20 17:17 J -40440552.92 -40440552.78 -40440552.63 0.2572 0.1038 *

Mars -115433-05-26 04:19 J -40440334.44 -40440334.32 -40440334.20 0.1715 0.0281

Venus -115430-10-07 07:55 J -40439105.28 -40439105.17 -40439105.07 0.3678 0.1288

Jupiter -115429-04-02 05:31 J -40438927.35 -40438927.27 -40438927.19 0.0527 0.0421

Jupiter -115429-06-30 14:39 J -40438838.02 -40438837.89 -40438837.76 0.0528 0.0077

Mars -115425-12-05 00:58 J -40437219.62 -40437219.46 -40437219.31 0.1796 0.0208

Venus -115424-04-22 01:12 J -40437081.52 -40437081.45 -40437081.38 0.3684 0.2847

Earth -115424-04-29 12:29 J -40437074.08 -40437073.98 -40437073.87 0.2773 0.0585

Moon -115424-04-29 12:58 J -40437074.07 -40437073.96 -40437073.86 0.2780 0.0549 *

Mars -115424-10-16 13:41 J -40436904.05 -40436903.93 -40436903.81 0.1719 0.0143

Jupiter -115423-02-17 19:55 J -40436779.77 -40436779.67 -40436779.56 0.0498 0.0395

Jupiter -115423-05-18 23:31 J -40436689.68 -40436689.52 -40436689.35 0.0497 0.0163

Mars -115422-09-21 23:17 J -40436198.58 -40436198.53 -40436198.48 0.1703 0.1525

Saturn -115422-10-22 11:03 J -40436168.12 -40436168.04 -40436167.95 0.0277 0.0237

Saturn -115421-01-19 05:46 J -40436079.40 -40436079.26 -40436079.10 0.0276 0.0138

Saturn -115421-04-17 00:58 J -40435990.63 -40435990.46 -40435990.29 0.0275 0.0037

Saturn -115421-07-14 20:10 J -40435901.83 -40435901.66 -40435901.49 0.0274 0.0064

Saturn -115421-10-11 15:22 J -40435813.00 -40435812.86 -40435812.72 0.0273 0.0164

Earth -115421-10-22 23:31 J -40435801.68 -40435801.52 -40435801.36 0.2569 0.0448

Moon -115421-10-22 23:46 J -40435801.67 -40435801.51 -40435801.36 0.2576 0.0497 *

Saturn -115420-01-08 11:03 J -40435724.08 -40435724.04 -40435724.01 0.0272 0.0265

Jupiter -115417-04-18 17:31 J -40434527.90 -40434527.77 -40434527.63 0.0528 0.0054

Moon -115417-04-22 09:22 J -40434524.18 -40434524.11 -40434524.03 0.2764 0.1998

Earth -115417-04-22 10:05 J -40434524.16 -40434524.08 -40434524.00 0.2765 0.1935 *

Jupiter -115417-07-17 02:10 J -40434438.48 -40434438.41 -40434438.34 0.0529 0.0437

Venus -115416-08-02 05:03 J -40434057.39 -40434057.29 -40434057.18 0.3712 0.2285

Mars -115415-04-27 00:15 J -40433789.64 -40433789.49 -40433789.34 0.1791 0.0550

Mars -115414-03-08 22:48 J -40433473.66 -40433473.55 -40433473.43 0.1723 0.0573

Mars -115412-02-11 09:07 J -40432768.21 -40432768.12 -40432768.03 0.1707 0.1135

Jupiter -115411-03-06 22:19 J -40432379.75 -40432379.57 -40432379.40 0.0497 0.0027

Earth -115411-05-02 06:58 J -40432323.30 -40432323.21 -40432323.12 0.2775 0.1473

Moon -115411-05-02 07:41 J -40432323.27 -40432323.18 -40432323.09 0.2776 0.1585 *

Venus -115410-02-16 07:12 J -40432033.33 -40432033.20 -40432033.06 0.3705 0.0708

Earth -115408-10-26 06:00 J -40431050.36 -40431050.25 -40431050.15 0.2567 0.1951

Moon -115408-10-26 06:58 J -40431050.31 -40431050.21 -40431050.10 0.2571 0.1950 *

Mars -115406-09-17 00:43 J -40430359.58 -40430359.47 -40430359.36 0.1787 0.1252

Saturn -115406-11-06 13:41 J -40430309.00 -40430308.93 -40430308.86 0.0285 0.0241

Saturn -115405-02-03 03:22 J -40430220.48 -40430220.36 -40430220.24 0.0286 0.0149

Jupiter -115405-02-05 21:07 J -40430217.74 -40430217.62 -40430217.49 0.0528 0.0173

Saturn -115405-05-01 16:48 J -40430131.94 -40430131.80 -40430131.66 0.0287 0.0057

Jupiter -115405-05-05 06:00 J -40430128.36 -40430128.25 -40430128.15 0.0529 0.0321

Saturn -115405-07-29 06:15 J -40430043.38 -40430043.24 -40430043.10 0.0288 0.0035

Mars -115405-07-29 07:55 J -40430043.27 -40430043.17 -40430043.07 0.1727 0.1016 *

Saturn -115405-10-25 19:27 J -40429954.81 -40429954.69 -40429954.56 0.0289 0.0128

Saturn -115404-01-22 08:39 J -40429866.22 -40429866.14 -40429866.05 0.0290 0.0220

Moon -115404-04-25 04:05 J -40429773.43 -40429773.33 -40429773.23 0.2772 0.1059

Earth -115404-04-25 04:34 J -40429773.41 -40429773.31 -40429773.21 0.2768 0.1040 *

Mars -115403-07-04 18:58 J -40429337.82 -40429337.71 -40429337.61 0.1710 0.0741

Uranus -115403-09-29 20:24 J -40429250.70 -40429250.65 -40429250.58 0.0132 0.0120

Uranus -115403-12-26 23:46 J -40429162.59 -40429162.51 -40429162.42 0.0131 0.0104

Uranus -115402-03-25 03:07 J -40429074.47 -40429074.37 -40429074.26 0.0131 0.0088

Uranus -115402-06-21 06:29 J -40428986.35 -40428986.23 -40428986.12 0.0131 0.0072

Uranus -115402-09-17 09:36 J -40428898.22 -40428898.10 -40428897.97 0.0131 0.0056

Uranus -115402-12-14 12:58 J -40428810.09 -40428809.96 -40428809.83 0.0131 0.0041

Uranus -115401-03-11 16:05 J -40428721.96 -40428721.83 -40428721.69 0.0131 0.0025

Uranus -115401-06-07 19:12 J -40428633.83 -40428633.70 -40428633.56 0.0131 0.0011

Uranus -115401-09-03 22:34 J -40428545.70 -40428545.56 -40428545.43 0.0131 0.0006

Moon -115401-10-17 16:05 J -40428501.90 -40428501.83 -40428501.75 0.2578 0.2246

Earth -115401-10-17 17:46 J -40428501.84 -40428501.76 -40428501.68 0.2575 0.2237 *

Uranus -115401-12-01 01:41 J -40428457.57 -40428457.43 -40428457.30 0.0131 0.0021

Uranus -115400-02-27 04:48 J -40428369.43 -40428369.30 -40428369.17 0.0131 0.0036

Uranus -115400-05-26 07:55 J -40428281.30 -40428281.17 -40428281.04 0.0131 0.0052

Uranus -115400-08-22 11:03 J -40428193.16 -40428193.04 -40428192.92 0.0131 0.0067

Uranus -115400-11-18 13:55 J -40428105.02 -40428104.92 -40428104.81 0.0131 0.0082

Jupiter -115400-12-23 20:10 J -40428069.83 -40428069.66 -40428069.49 0.0498 0.0122

Uranus -115399-02-14 17:03 J -40428016.87 -40428016.79 -40428016.69 0.0131 0.0097

Jupiter -115399-03-24 00:29 J -40427979.55 -40427979.48 -40427979.40 0.0497 0.0445

Uranus -115399-05-13 20:10 J -40427928.72 -40427928.66 -40427928.59 0.0131 0.0112

Uranus -115399-08-09 23:17 J -40427840.56 -40427840.53 -40427840.49 0.0131 0.0126

Earth -115398-05-05 01:27 J -40427572.50 -40427572.44 -40427572.39 0.2778 0.2364

Moon -115398-05-05 01:55 J -40427572.47 -40427572.42 -40427572.36 0.2775 0.2412 *

Mars -115396-12-19 16:48 J -40426612.87 -40426612.80 -40426612.74 0.1731 0.1469

Mars -115394-01-14 02:24 J -40426222.53 -40426222.40 -40426222.27 0.1801 0.1056

Jupiter -115394-11-25 00:43 J -40425907.58 -40425907.47 -40425907.36 0.0527 0.0293

Mars -115394-11-25 04:19 J -40425907.44 -40425907.32 -40425907.20 0.1715 0.0327 *

Jupiter -115393-02-22 09:36 J -40425818.22 -40425818.10 -40425817.97 0.0528 0.0203

Saturn -115392-03-10 11:03 J -40425436.08 -40425436.04 -40425436.00 0.0277 0.0267

Saturn -115392-06-07 05:31 J -40425347.40 -40425347.27 -40425347.13 0.0276 0.0168

Saturn -115392-09-04 00:29 J -40425258.65 -40425258.48 -40425258.31 0.0275 0.0068

Saturn -115392-12-01 19:41 J -40425169.86 -40425169.68 -40425169.51 0.0274 0.0033

Saturn -115391-02-28 14:53 J -40425081.03 -40425080.88 -40425080.73 0.0273 0.0133

Moon -115391-04-27 23:03 J -40425022.65 -40425022.54 -40425022.43 0.2778 0.0195

Earth -115391-04-27 23:03 J -40425022.65 -40425022.54 -40425022.43 0.2770 0.0147 *

Saturn -115391-05-28 10:19 J -40424992.16 -40424992.07 -40424991.98 0.0272 0.0233

Venus -115390-09-29 00:58 J -40424503.52 -40424503.46 -40424503.40 0.3664 0.2954

Jupiter -115388-10-11 18:43 J -40423759.87 -40423759.72 -40423759.57 0.0498 0.0262

Moon -115388-10-20 23:17 J -40423750.68 -40423750.53 -40423750.38 0.2577 0.0851

Earth -115388-10-21 00:00 J -40423750.66 -40423750.50 -40423750.35 0.2572 0.0760 *

Jupiter -115387-01-09 22:48 J -40423669.69 -40423669.55 -40423669.41 0.0498 0.0301

Mars -115385-06-05 01:12 J -40422792.60 -40422792.45 -40422792.29 0.1796 0.0278

Venus -115384-04-13 18:43 J -40422479.82 -40422479.72 -40422479.62 0.3669 0.1318

Mars -115384-04-16 13:41 J -40422477.05 -40422476.93 -40422476.81 0.1719 0.0096

Moon -115384-04-20 19:55 J -40422472.70 -40422472.67 -40422472.65 0.2757 0.2658

Earth -115384-04-20 20:24 J -40422472.67 -40422472.65 -40422472.62 0.2762 0.2666 *

Mars -115382-03-22 23:17 J -40421771.57 -40421771.53 -40421771.48 0.1703 0.1567

Jupiter -115382-09-13 03:51 J -40421597.42 -40421597.34 -40421597.26 0.0527 0.0421

Jupiter -115382-12-11 12:58 J -40421508.09 -40421507.96 -40421507.83 0.0528 0.0076

Pluto -115380-08-29 01:27 J -40420881.49 -40420881.44 -40420881.36 0.0084 0.0075

Pluto -115380-11-25 02:53 J -40420793.47 -40420793.38 -40420793.28 0.0084 0.0059

Pluto -115379-02-21 04:19 J -40420705.43 -40420705.32 -40420705.20 0.0084 0.0044

Pluto -115379-05-20 05:46 J -40420617.39 -40420617.26 -40420617.14 0.0084 0.0029

Pluto -115379-08-16 06:58 J -40420529.34 -40420529.21 -40420529.08 0.0084 0.0014

Venus -115379-10-28 12:15 J -40420456.10 -40420455.99 -40420455.88 0.3674 0.0313

Pluto -115379-11-12 08:10 J -40420441.29 -40420441.16 -40420441.02 0.0084 0.0003

Pluto -115378-02-08 09:36 J -40420353.23 -40420353.10 -40420352.97 0.0084 0.0015

Earth -115378-04-30 17:31 J -40420271.88 -40420271.77 -40420271.67 0.2773 0.0752

Moon -115378-04-30 18:00 J -40420271.86 -40420271.75 -40420271.65 0.2779 0.0864 *

Pluto -115378-05-07 10:48 J -40420265.17 -40420265.05 -40420264.92 0.0084 0.0030

Pluto -115378-08-03 12:00 J -40420177.11 -40420177.00 -40420176.88 0.0083 0.0044

Pluto -115378-10-30 13:27 J -40420089.04 -40420088.94 -40420088.85 0.0083 0.0059

Pluto -115377-01-26 14:24 J -40420000.95 -40420000.90 -40420000.83 0.0083 0.0073

Saturn -115376-03-25 15:51 J -40419576.89 -40419576.84 -40419576.79 0.0285 0.0265

Saturn -115376-06-22 05:31 J -40419488.38 -40419488.27 -40419488.16 0.0286 0.0173

Jupiter -115376-07-30 17:31 J -40419449.87 -40419449.77 -40419449.66 0.0499 0.0399

Saturn -115376-09-18 18:58 J -40419399.84 -40419399.71 -40419399.57 0.0287 0.0081

Mars -115376-10-26 01:12 J -40419362.60 -40419362.45 -40419362.30 0.1791 0.0472

Jupiter -115376-10-28 21:07 J -40419359.78 -40419359.62 -40419359.45 0.0498 0.0161

Saturn -115376-12-16 08:24 J -40419311.28 -40419311.15 -40419311.01 0.0288 0.0016

Saturn -115375-03-14 21:51 J -40419222.72 -40419222.59 -40419222.46 0.0289 0.0105

Saturn -115375-06-11 11:03 J -40419134.14 -40419134.04 -40419133.94 0.0291 0.0197

Mars -115375-09-06 22:48 J -40419046.66 -40419046.55 -40419046.43 0.1723 0.0528

Saturn -115375-09-08 00:00 J -40419045.50 -40419045.50 -40419045.48 0.0292 0.0290

Earth -115375-10-24 06:15 J -40418999.40 -40418999.24 -40418999.09 0.2569 0.0740

Moon -115375-10-24 06:29 J -40418999.38 -40418999.23 -40418999.07 0.2576 0.0766 *

Venus -115373-05-13 05:46 J -40418432.35 -40418432.26 -40418432.16 0.3680 0.1868

Mars -115373-08-12 09:07 J -40418341.20 -40418341.12 -40418341.03 0.1707 0.1180

Moon -115371-04-23 14:10 J -40417721.98 -40417721.91 -40417721.83 0.2767 0.1866

Earth -115371-04-23 14:53 J -40417721.96 -40417721.88 -40417721.79 0.2765 0.1770 *

Jupiter -115370-09-29 16:05 J -40417197.96 -40417197.83 -40417197.69 0.0528 0.0052

Jupiter -115370-12-28 00:29 J -40417108.55 -40417108.48 -40417108.40 0.0528 0.0438

Venus -115368-11-26 23:17 J -40416408.57 -40416408.53 -40416408.50 0.3685 0.3414

Mars -115366-03-18 01:12 J -40415932.57 -40415932.45 -40415932.34 0.1786 0.1190

Neptune -115366-08-04 08:24 J -40415793.17 -40415793.15 -40415793.11 0.0088 0.0086

Neptune -115366-10-31 10:19 J -40415705.12 -40415705.07 -40415705.02 0.0088 0.0082

Neptune -115365-01-27 11:46 J -40415617.07 -40415617.01 -40415616.93 0.0088 0.0077

Mars -115365-01-28 07:55 J -40415616.27 -40415616.17 -40415616.07 0.1727 0.0967

Neptune -115365-04-24 13:41 J -40415529.01 -40415528.93 -40415528.85 0.0088 0.0073

Earth -115365-05-02 11:46 J -40415521.09 -40415521.01 -40415520.92 0.2776 0.1647

Moon -115365-05-02 12:43 J -40415521.06 -40415520.97 -40415520.89 0.2775 0.1646 *

Neptune -115365-07-21 15:07 J -40415440.95 -40415440.87 -40415440.77 0.0088 0.0069

Neptune -115365-10-17 16:34 J -40415352.89 -40415352.81 -40415352.70 0.0088 0.0065

Neptune -115364-01-13 18:29 J -40415264.83 -40415264.73 -40415264.62 0.0088 0.0060

Neptune -115364-04-11 19:55 J -40415176.77 -40415176.67 -40415176.55 0.0088 0.0056

Neptune -115364-07-08 21:36 J -40415088.71 -40415088.60 -40415088.48 0.0088 0.0051

Jupiter -115364-08-16 19:55 J -40415049.84 -40415049.67 -40415049.49 0.0498 0.0023

Neptune -115364-10-04 23:17 J -40415000.65 -40415000.53 -40415000.41 0.0088 0.0047

Neptune -115363-01-01 00:58 J -40414912.58 -40414912.46 -40414912.33 0.0088 0.0042

Mars -115363-01-02 18:43 J -40414910.82 -40414910.72 -40414910.61 0.1711 0.0783

Neptune -115363-03-30 02:24 J -40414824.52 -40414824.40 -40414824.27 0.0088 0.0038

Neptune -115363-06-26 03:51 J -40414736.46 -40414736.34 -40414736.20 0.0088 0.0035

Neptune -115363-09-22 05:46 J -40414648.39 -40414648.26 -40414648.13 0.0088 0.0030

Saturn -115363-10-25 06:29 J -40414615.34 -40414615.23 -40414615.10 0.0276 0.0192

Neptune -115363-12-19 07:12 J -40414560.33 -40414560.20 -40414560.06 0.0088 0.0026

Saturn -115362-01-22 01:27 J -40414526.60 -40414526.44 -40414526.27 0.0275 0.0093

Neptune -115362-03-17 08:53 J -40414472.27 -40414472.13 -40414471.99 0.0088 0.0021

Saturn -115362-04-20 20:39 J -40414437.82 -40414437.64 -40414437.47 0.0274 0.0009

Neptune -115362-06-13 10:19 J -40414384.20 -40414384.07 -40414383.93 0.0088 0.0017

Saturn -115362-07-18 15:51 J -40414349.00 -40414348.84 -40414348.68 0.0273 0.0108

Neptune -115362-09-09 12:00 J -40414296.14 -40414296.00 -40414295.86 0.0088 0.0012

Saturn -115362-10-15 11:03 J -40414260.14 -40414260.04 -40414259.92 0.0272 0.0209

Earth -115362-10-27 12:29 J -40414248.05 -40414247.98 -40414247.90 0.2567 0.2239

Moon -115362-10-27 13:55 J -40414247.97 -40414247.92 -40414247.86 0.2569 0.2394 *

Neptune -115362-12-06 13:41 J -40414208.07 -40414207.93 -40414207.79 0.0088 0.0008

Neptune -115361-03-03 15:07 J -40414120.01 -40414119.87 -40414119.73 0.0088 0.0004

Neptune -115361-05-30 16:48 J -40414031.94 -40414031.80 -40414031.66 0.0088 0.0003

Neptune -115361-08-26 18:15 J -40413943.88 -40413943.74 -40413943.60 0.0088 0.0005

Neptune -115361-11-22 19:41 J -40413855.82 -40413855.68 -40413855.54 0.0088 0.0009

Neptune -115360-02-18 21:22 J -40413767.75 -40413767.61 -40413767.47 0.0088 0.0013

Neptune -115360-05-17 22:48 J -40413679.69 -40413679.55 -40413679.41 0.0088 0.0017

Neptune -115360-08-14 00:15 J -40413591.62 -40413591.49 -40413591.35 0.0088 0.0022

Neptune -115360-11-10 01:55 J -40413503.56 -40413503.42 -40413503.29 0.0088 0.0026

Neptune -115359-02-06 03:22 J -40413415.49 -40413415.36 -40413415.23 0.0088 0.0030

Venus -115359-03-09 05:17 J -40413384.41 -40413384.28 -40413384.15 0.3710 0.1263

Uranus -115359-03-13 12:43 J -40413380.01 -40413379.97 -40413379.93 0.0147 0.0144

Neptune -115359-05-05 04:48 J -40413327.42 -40413327.30 -40413327.17 0.0088 0.0034

Uranus -115359-06-09 20:24 J -40413291.76 -40413291.65 -40413291.54 0.0147 0.0116

Neptune -115359-08-01 06:15 J -40413239.36 -40413239.24 -40413239.11 0.0088 0.0038

Uranus -115359-09-06 04:05 J -40413203.47 -40413203.33 -40413203.18 0.0147 0.0087

Neptune -115359-10-28 07:41 J -40413151.29 -40413151.18 -40413151.05 0.0088 0.0042

Uranus -115359-12-03 12:00 J -40413115.17 -40413115.00 -40413114.83 0.0147 0.0059

Neptune -115358-01-24 09:07 J -40413063.23 -40413063.12 -40413062.99 0.0088 0.0047

Uranus -115358-03-01 19:55 J -40413026.85 -40413026.67 -40413026.49 0.0148 0.0030

Neptune -115358-04-22 10:48 J -40412975.16 -40412975.05 -40412974.93 0.0088 0.0050

Moon -115358-04-26 09:07 J -40412971.23 -40412971.12 -40412971.02 0.2773 0.0936

Earth -115358-04-26 09:22 J -40412971.21 -40412971.11 -40412971.00 0.2768 0.0877 *

Uranus -115358-05-29 03:51 J -40412938.52 -40412938.34 -40412938.16 0.0148 0.0001

Jupiter -115358-07-18 18:58 J -40412887.83 -40412887.71 -40412887.58 0.0528 0.0181

Neptune -115358-07-19 12:15 J -40412887.09 -40412886.99 -40412886.88 0.0088 0.0055

Uranus -115358-08-25 11:46 J -40412850.19 -40412850.01 -40412849.83 0.0148 0.0029

Neptune -115358-10-15 13:41 J -40412799.03 -40412798.93 -40412798.82 0.0088 0.0059

Jupiter -115358-10-16 03:36 J -40412798.45 -40412798.35 -40412798.24 0.0529 0.0312

Uranus -115358-11-21 19:41 J -40412761.84 -40412761.68 -40412761.50 0.0148 0.0059

Neptune -115357-01-11 15:22 J -40412710.96 -40412710.86 -40412710.77 0.0088 0.0063

Uranus -115357-02-18 03:36 J -40412673.48 -40412673.35 -40412673.19 0.0148 0.0089

Neptune -115357-04-08 16:48 J -40412622.89 -40412622.80 -40412622.71 0.0088 0.0067

Uranus -115357-05-16 12:00 J -40412585.10 -40412585.00 -40412584.89 0.0148 0.0118

Neptune -115357-07-05 18:15 J -40412534.82 -40412534.74 -40412534.66 0.0088 0.0071

Neptune -115357-10-01 19:41 J -40412446.75 -40412446.68 -40412446.61 0.0088 0.0075

Neptune -115357-12-28 21:07 J -40412358.68 -40412358.62 -40412358.56 0.0088 0.0079

Neptune -115356-03-26 22:34 J -40412270.60 -40412270.56 -40412270.51 0.0088 0.0083

Mars -115356-06-19 16:48 J -40412185.87 -40412185.80 -40412185.73 0.1731 0.1415

Neptune -115356-06-22 23:46 J -40412182.52 -40412182.51 -40412182.47 0.0088 0.0087

Mars -115355-07-15 02:39 J -40411795.51 -40411795.39 -40411795.27 0.1801 0.1116

Moon -115355-10-18 23:03 J -40411699.63 -40411699.54 -40411699.46 0.2578 0.2147

Earth -115355-10-19 00:29 J -40411699.59 -40411699.48 -40411699.38 0.2575 0.1948 *

Mars -115354-05-26 04:19 J -40411480.43 -40411480.32 -40411480.20 0.1715 0.0378

Venus -115354-09-23 07:41 J -40411360.30 -40411360.18 -40411360.06 0.3703 0.1767

Earth -115352-05-05 06:15 J -40410770.28 -40410770.24 -40410770.20 0.2778 0.2535

Moon -115352-05-05 06:43 J -40410770.25 -40410770.22 -40410770.19 0.2773 0.2603 *

Jupiter -115352-06-04 18:29 J -40410739.90 -40410739.73 -40410739.56 0.0498 0.0117

Jupiter -115352-09-02 22:48 J -40410649.62 -40410649.55 -40410649.47 0.0497 0.0450

Saturn -115347-11-09 08:10 J -40408756.26 -40408756.16 -40408756.05 0.0285 0.0194

Saturn -115346-02-05 21:51 J -40408667.72 -40408667.59 -40408667.46 0.0286 0.0102

Saturn -115346-05-05 11:17 J -40408579.17 -40408579.03 -40408578.89 0.0287 0.0009

Jupiter -115346-05-06 22:19 J -40408577.67 -40408577.57 -40408577.46 0.0528 0.0304

Saturn -115346-08-02 00:29 J -40408490.61 -40408490.48 -40408490.34 0.0289 0.0084

Jupiter -115346-08-04 07:27 J -40408488.31 -40408488.19 -40408488.07 0.0528 0.0193

Saturn -115346-10-29 13:41 J -40408402.03 -40408401.93 -40408401.81 0.0290 0.0176

Mars -115346-12-05 01:55 J -40408365.57 -40408365.42 -40408365.26 0.1797 0.0350

Saturn -115345-01-26 02:53 J -40408313.43 -40408313.38 -40408313.32 0.0291 0.0267

Earth -115345-04-28 03:51 J -40408220.45 -40408220.34 -40408220.23 0.2771 0.0076

Moon -115345-04-28 04:05 J -40408220.44 -40408220.33 -40408220.22 0.2778 0.0083 *

Mars -115345-10-15 13:41 J -40408050.05 -40408049.93 -40408049.80 0.1719 0.0076

Mars -115343-09-20 23:31 J -40407344.56 -40407344.52 -40407344.49 0.1703 0.1615

Moon -115342-10-22 06:15 J -40406948.39 -40406948.24 -40406948.08 0.2578 0.0404

Earth -115342-10-22 06:29 J -40406948.39 -40406948.23 -40406948.07 0.2571 0.0473 *

Jupiter -115340-03-23 16:34 J -40406429.96 -40406429.81 -40406429.67 0.0498 0.0263

Jupiter -115340-06-21 20:24 J -40406339.79 -40406339.65 -40406339.51 0.0497 0.0299

Moon -115338-04-22 00:43 J -40405670.50 -40405670.47 -40405670.44 0.2759 0.2608

Earth -115338-04-22 01:27 J -40405670.49 -40405670.44 -40405670.40 0.2763 0.2495 *

Mars -115336-04-26 01:41 J -40404935.58 -40404935.43 -40404935.28 0.1791 0.0400

Mars -115335-03-07 23:03 J -40404619.66 -40404619.54 -40404619.43 0.1723 0.0482

Jupiter -115334-02-23 01:55 J -40404267.50 -40404267.42 -40404267.34 0.0527 0.0424

Jupiter -115334-05-23 11:03 J -40404178.17 -40404178.04 -40404177.90 0.0528 0.0077

Mars -115333-02-11 09:07 J -40403914.20 -40403914.12 -40403914.04 0.1707 0.1224

Saturn -115333-03-13 07:12 J -40403883.30 -40403883.20 -40403883.10 0.0277 0.0218

Venus -115333-05-04 23:03 J -40403830.63 -40403830.54 -40403830.46 0.3665 0.2343

Saturn -115333-06-10 01:55 J -40403794.57 -40403794.42 -40403794.26 0.0276 0.0119

Saturn -115333-09-06 20:53 J -40403705.80 -40403705.63 -40403705.45 0.0274 0.0019

Saturn -115333-12-04 16:05 J -40403617.00 -40403616.83 -40403616.66 0.0273 0.0081

Saturn -115332-03-03 11:31 J -40403528.15 -40403528.02 -40403527.89 0.0272 0.0182

Earth -115332-04-30 22:19 J -40403469.67 -40403469.57 -40403469.47 0.2773 0.0923

Moon -115332-04-30 23:03 J -40403469.64 -40403469.54 -40403469.44 0.2777 0.0925 *

Earth -115329-10-24 12:43 J -40402197.12 -40402196.97 -40402196.82 0.2569 0.1023

Moon -115329-10-24 13:27 J -40402197.08 -40402196.94 -40402196.80 0.2574 0.1050 *

Jupiter -115328-01-09 15:07 J -40402119.97 -40402119.87 -40402119.77 0.0498 0.0402

Jupiter -115328-04-09 18:43 J -40402029.89 -40402029.72 -40402029.56 0.0498 0.0156

Venus -115328-11-18 16:48 J -40401806.91 -40401806.80 -40401806.70 0.3671 0.0736

Mars -115327-09-16 01:41 J -40401505.55 -40401505.43 -40401505.31 0.1786 0.1115

Mars -115326-07-29 08:10 J -40401189.27 -40401189.16 -40401189.06 0.1727 0.0917

Moon -115325-04-23 19:12 J -40400919.79 -40400919.70 -40400919.61 0.2769 0.1618

Earth -115325-04-23 19:55 J -40400919.76 -40400919.67 -40400919.58 0.2766 0.1600 *

Mars -115324-07-03 18:58 J -40400483.82 -40400483.71 -40400483.61 0.1711 0.0829

Jupiter -115322-03-11 14:24 J -40399868.04 -40399867.90 -40399867.77 0.0528 0.0054

Venus -115322-06-04 10:19 J -40399783.18 -40399783.07 -40399782.96 0.3676 0.0872

Jupiter -115322-06-08 22:48 J -40399778.62 -40399778.55 -40399778.48 0.0528 0.0435

Earth -115319-05-03 16:48 J -40398718.88 -40398718.80 -40398718.72 0.2776 0.1815

Moon -115319-05-03 17:31 J -40398718.85 -40398718.77 -40398718.70 0.2775 0.1947 *

Uranus -115319-10-20 03:22 J -40398549.42 -40398549.36 -40398549.29 0.0131 0.0116

Uranus -115318-01-16 06:43 J -40398461.30 -40398461.22 -40398461.13 0.0131 0.0100

Uranus -115318-04-14 10:05 J -40398373.18 -40398373.08 -40398372.97 0.0131 0.0085

Uranus -115318-07-11 13:12 J -40398285.06 -40398284.95 -40398284.83 0.0131 0.0069

Uranus -115318-10-07 16:34 J -40398196.94 -40398196.81 -40398196.68 0.0131 0.0053

Uranus -115317-01-03 19:41 J -40398108.81 -40398108.68 -40398108.54 0.0131 0.0038

Saturn -115317-03-28 10:34 J -40398024.15 -40398024.06 -40398023.96 0.0286 0.0215

Uranus -115317-03-31 23:03 J -40398020.68 -40398020.54 -40398020.41 0.0131 0.0022

Saturn -115317-06-25 00:15 J -40397935.62 -40397935.49 -40397935.36 0.0287 0.0123

Uranus -115317-06-28 02:10 J -40397932.55 -40397932.41 -40397932.27 0.0131 0.0007

Saturn -115317-09-21 13:41 J -40397847.07 -40397846.93 -40397846.79 0.0288 0.0032

Uranus -115317-09-24 05:17 J -40397844.41 -40397844.28 -40397844.14 0.0131 0.0009

Venus -115317-12-18 03:36 J -40397759.43 -40397759.35 -40397759.26 0.3682 0.2436

Mars -115317-12-18 16:48 J -40397758.87 -40397758.80 -40397758.72 0.1732 0.1370

Saturn -115317-12-19 03:07 J -40397758.50 -40397758.37 -40397758.23 0.0289 0.0062

Uranus -115317-12-21 08:24 J -40397756.28 -40397756.15 -40397756.01 0.0131 0.0024

Jupiter -115316-01-26 17:03 J -40397719.96 -40397719.79 -40397719.61 0.0498 0.0015

Saturn -115316-03-17 16:19 J -40397669.93 -40397669.82 -40397669.70 0.0290 0.0155

Uranus -115316-03-19 11:31 J -40397668.15 -40397668.02 -40397667.88 0.0131 0.0039

Saturn -115316-06-14 05:46 J -40397581.33 -40397581.26 -40397581.19 0.0291 0.0246

Uranus -115316-06-15 14:39 J -40397580.01 -40397579.89 -40397579.76 0.0131 0.0054

Uranus -115316-09-11 17:46 J -40397491.87 -40397491.76 -40397491.64 0.0131 0.0069

Earth -115316-10-27 19:12 J -40397445.73 -40397445.70 -40397445.68 0.2566 0.2529

Uranus -115316-12-08 20:53 J -40397403.73 -40397403.63 -40397403.52 0.0131 0.0084

Mars -115315-01-13 03:22 J -40397368.47 -40397368.36 -40397368.24 0.1801 0.1198

Uranus -115315-03-07 00:00 J -40397315.59 -40397315.50 -40397315.41 0.0131 0.0099

Uranus -115315-06-03 02:53 J -40397227.44 -40397227.38 -40397227.31 0.0131 0.0114

Uranus -115315-08-30 06:00 J -40397139.26 -40397139.25 -40397139.22 0.0131 0.0129

Mars -115315-11-24 04:19 J -40397053.43 -40397053.32 -40397053.20 0.1715 0.0424

Moon -115312-04-26 14:10 J -40396169.02 -40396168.91 -40396168.81 0.2775 0.0737

Earth -115312-04-26 14:24 J -40396169.01 -40396168.90 -40396168.80 0.2768 0.0702 *

Jupiter -115311-12-28 17:31 J -40395557.90 -40395557.77 -40395557.65 0.0527 0.0181

Jupiter -115310-03-28 02:10 J -40395468.52 -40395468.41 -40395468.31 0.0528 0.0311

Moon -115309-10-19 06:00 J -40394897.37 -40394897.25 -40394897.13 0.2579 0.1654

Earth -115309-10-19 06:58 J -40394897.33 -40394897.21 -40394897.09 0.2574 0.1672 *

Venus -115308-03-30 03:36 J -40394735.42 -40394735.35 -40394735.28 0.3715 0.3162

Earth -115306-05-06 11:03 J -40393968.06 -40393968.04 -40393968.02 0.2778 0.2709

Moon -115306-05-06 11:31 J -40393968.05 -40393968.02 -40393968.00 0.2771 0.2667 *

Mars -115306-06-05 02:24 J -40393938.55 -40393938.40 -40393938.25 0.1796 0.0416

Mars -115305-04-15 13:41 J -40393623.05 -40393622.93 -40393622.81 0.1719 0.0037

Jupiter -115305-11-14 16:05 J -40393410.00 -40393409.83 -40393409.66 0.0498 0.0122

Jupiter -115304-02-12 20:24 J -40393319.73 -40393319.65 -40393319.57 0.0497 0.0446

Saturn -115304-07-31 08:39 J -40393151.22 -40393151.14 -40393151.05 0.0277 0.0240

Saturn -115304-10-28 03:22 J -40393062.50 -40393062.36 -40393062.21 0.0275 0.0141

Saturn -115303-01-24 22:19 J -40392973.74 -40392973.57 -40392973.40 0.0274 0.0041

Mars -115303-03-21 23:17 J -40392917.55 -40392917.53 -40392917.50 0.1703 0.1653

Saturn -115303-04-23 17:17 J -40392884.94 -40392884.78 -40392884.60 0.0273 0.0059

Saturn -115303-07-21 12:29 J -40392796.11 -40392795.98 -40392795.83 0.0273 0.0160

Venus -115303-10-14 05:31 J -40392711.41 -40392711.27 -40392711.13 0.3708 0.0233

Saturn -115303-10-18 07:55 J -40392707.21 -40392707.17 -40392707.11 0.0272 0.0260

Earth -115299-04-29 08:53 J -40391418.24 -40391418.13 -40391418.02 0.2771 0.0212

Moon -115299-04-29 09:07 J -40391418.23 -40391418.12 -40391418.01 0.2778 0.0205 *

Jupiter -115299-10-16 20:10 J -40391247.77 -40391247.66 -40391247.56 0.0528 0.0315

Jupiter -115298-01-14 05:03 J -40391158.41 -40391158.29 -40391158.17 0.0528 0.0182

Venus -115297-04-29 07:55 J -40390687.26 -40390687.17 -40390687.08 0.3702 0.2832

Mars -115297-10-25 02:10 J -40390508.57 -40390508.41 -40390508.26 0.1791 0.0334

Mars -115296-09-05 23:03 J -40390192.65 -40390192.54 -40390192.42 0.1723 0.0428

Moon -115296-10-22 13:12 J -40390146.11 -40390145.95 -40390145.79 0.2578 0.0277

Earth -115296-10-22 13:12 J -40390146.11 -40390145.95 -40390145.79 0.2571 0.0188 *

Mars -115294-08-12 09:22 J -40389487.19 -40389487.11 -40389487.03 0.1707 0.1271

Jupiter -115293-09-02 14:39 J -40389100.03 -40389099.89 -40389099.74 0.0498 0.0260

Jupiter -115293-12-01 18:29 J -40389009.86 -40389009.73 -40389009.58 0.0497 0.0303

Moon -115292-04-22 05:31 J -40388868.33 -40388868.27 -40388868.21 0.2763 0.2320

Earth -115292-04-22 06:15 J -40388868.29 -40388868.24 -40388868.18 0.2763 0.2325 *

Saturn -115288-08-15 13:41 J -40387292.01 -40387291.93 -40387291.85 0.0285 0.0234

Saturn -115288-11-12 03:22 J -40387203.48 -40387203.36 -40387203.24 0.0286 0.0142

Saturn -115287-02-08 16:48 J -40387114.93 -40387114.80 -40387114.66 0.0287 0.0050

Mars -115287-03-17 02:24 J -40387078.53 -40387078.40 -40387078.28 0.1787 0.1045

Saturn -115287-05-08 06:15 J -40387026.37 -40387026.24 -40387026.10 0.0288 0.0043

Saturn -115287-08-04 19:27 J -40386937.80 -40386937.69 -40386937.56 0.0289 0.0136

Jupiter -115287-08-04 23:17 J -40386937.60 -40386937.53 -40386937.45 0.0527 0.0438 *

Saturn -115287-11-01 08:53 J -40386849.22 -40386849.13 -40386849.05 0.0290 0.0227

Jupiter -115287-11-02 08:39 J -40386848.27 -40386848.14 -40386848.01 0.0528 0.0062

Mars -115286-01-27 08:10 J -40386762.27 -40386762.16 -40386762.06 0.1727 0.0869

Earth -115286-05-02 03:07 J -40386667.47 -40386667.37 -40386667.27 0.2774 0.1099

Moon -115286-05-02 03:51 J -40386667.43 -40386667.34 -40386667.24 0.2775 0.1208 *

Mars -115284-01-01 18:58 J -40386056.81 -40386056.71 -40386056.61 0.1710 0.0875

Earth -115283-10-25 19:27 J -40385394.83 -40385394.69 -40385394.55 0.2568 0.1316

Moon -115283-10-25 20:39 J -40385394.77 -40385394.64 -40385394.51 0.2572 0.1474 *

Neptune -115282-04-06 02:39 J -40385232.44 -40385232.39 -40385232.33 0.0089 0.0084

Venus -115282-05-27 03:07 J -40385181.41 -40385181.37 -40385181.33 0.3661 0.3386

Neptune -115282-07-03 05:31 J -40385144.34 -40385144.27 -40385144.18 0.0089 0.0079

Neptune -115282-09-29 08:10 J -40385056.23 -40385056.16 -40385056.04 0.0089 0.0074

Neptune -115282-12-26 11:31 J -40384968.13 -40384968.02 -40384967.90 0.0089 0.0068

Neptune -115281-03-23 14:24 J -40384880.01 -40384879.90 -40384879.77 0.0089 0.0063

Neptune -115281-06-19 17:17 J -40384791.90 -40384791.78 -40384791.63 0.0089 0.0058

Jupiter -115281-06-21 12:29 J -40384790.07 -40384789.98 -40384789.88 0.0498 0.0407

Neptune -115281-09-15 20:24 J -40384703.78 -40384703.65 -40384703.50 0.0089 0.0052

Jupiter -115281-09-19 16:05 J -40384700.00 -40384699.83 -40384699.66 0.0498 0.0150

Neptune -115281-12-12 23:17 J -40384615.67 -40384615.53 -40384615.36 0.0089 0.0047

Neptune -115280-03-11 02:39 J -40384527.55 -40384527.39 -40384527.23 0.0089 0.0041

Neptune -115280-06-07 05:31 J -40384439.43 -40384439.27 -40384439.10 0.0089 0.0036

Neptune -115280-09-03 08:39 J -40384351.31 -40384351.14 -40384350.97 0.0089 0.0030

Neptune -115280-11-30 11:31 J -40384263.18 -40384263.02 -40384262.84 0.0089 0.0025

Neptune -115279-02-26 14:53 J -40384175.06 -40384174.88 -40384174.71 0.0089 0.0019

Moon -115279-04-25 00:15 J -40384117.58 -40384117.49 -40384117.40 0.2770 0.1541

Earth -115279-04-25 00:43 J -40384117.56 -40384117.47 -40384117.37 0.2766 0.1428 *

Neptune -115279-05-25 17:46 J -40384086.93 -40384086.76 -40384086.58 0.0089 0.0014

Neptune -115279-08-21 20:53 J -40383998.81 -40383998.63 -40383998.45 0.0089 0.0008

Neptune -115279-11-18 00:00 J -40383910.68 -40383910.50 -40383910.32 0.0089 0.0003

Neptune -115278-02-14 03:07 J -40383822.55 -40383822.37 -40383822.19 0.0089 0.0003

Neptune -115278-05-13 06:15 J -40383734.42 -40383734.24 -40383734.06 0.0089 0.0009

Mars -115278-08-07 02:53 J -40383648.41 -40383648.38 -40383648.35 0.1781 0.1734

Neptune -115278-08-09 09:22 J -40383646.29 -40383646.11 -40383645.93 0.0089 0.0014

Neptune -115278-11-05 12:29 J -40383558.15 -40383557.98 -40383557.80 0.0089 0.0020

Neptune -115277-02-01 15:36 J -40383470.02 -40383469.85 -40383469.67 0.0089 0.0026

Neptune -115277-04-29 18:58 J -40383381.88 -40383381.71 -40383381.54 0.0089 0.0031

Mars -115277-06-18 17:03 J -40383331.87 -40383331.79 -40383331.71 0.1731 0.1317

Neptune -115277-07-26 21:51 J -40383293.75 -40383293.59 -40383293.41 0.0089 0.0037

Neptune -115277-10-23 00:58 J -40383205.61 -40383205.46 -40383205.29 0.0089 0.0043

Venus -115277-12-09 21:07 J -40383157.72 -40383157.62 -40383157.53 0.3667 0.1751

Neptune -115276-01-19 04:05 J -40383117.47 -40383117.33 -40383117.16 0.0089 0.0049

Neptune -115276-04-17 07:27 J -40383029.33 -40383029.19 -40383029.04 0.0089 0.0054

Mars -115276-07-14 04:05 J -40382941.44 -40382941.33 -40382941.22 0.1801 0.1271

Neptune -115276-07-14 10:34 J -40382941.18 -40382941.06 -40382940.91 0.0089 0.0060

Neptune -115276-10-10 13:41 J -40382853.04 -40382852.93 -40382852.79 0.0089 0.0066

Neptune -115275-01-06 17:17 J -40382764.89 -40382764.78 -40382764.67 0.0089 0.0072

Uranus -115275-04-02 18:43 J -40382678.76 -40382678.72 -40382678.67 0.0147 0.0141

Neptune -115275-04-04 20:24 J -40382676.73 -40382676.65 -40382676.55 0.0089 0.0077

Mars -115275-05-25 04:19 J -40382626.43 -40382626.32 -40382626.20 0.1715 0.0469

Uranus -115275-06-30 02:24 J -40382590.51 -40382590.40 -40382590.28 0.0147 0.0113

Neptune -115275-07-01 23:31 J -40382588.57 -40382588.52 -40382588.44 0.0089 0.0083

Jupiter -115275-08-21 12:29 J -40382538.12 -40382537.98 -40382537.85 0.0528 0.0059

Uranus -115275-09-26 10:19 J -40382502.22 -40382502.07 -40382501.92 0.0147 0.0085

Neptune -115275-09-28 02:53 J -40382500.38 -40382500.38 -40382500.36 0.0089 0.0089

Jupiter -115275-11-18 20:53 J -40382448.70 -40382448.63 -40382448.56 0.0529 0.0431

Saturn -115275-12-18 09:36 J -40382419.14 -40382419.10 -40382419.04 0.0277 0.0263

Uranus -115275-12-23 18:00 J -40382413.91 -40382413.75 -40382413.58 0.0148 0.0056

Saturn -115274-03-17 04:19 J -40382330.45 -40382330.32 -40382330.18 0.0276 0.0164

Uranus -115274-03-22 01:55 J -40382325.60 -40382325.42 -40382325.24 0.0148 0.0027

Saturn -115274-06-13 23:17 J -40382241.70 -40382241.53 -40382241.37 0.0275 0.0065

Uranus -115274-06-18 09:51 J -40382237.27 -40382237.09 -40382236.90 0.0148 0.0004

Saturn -115274-09-10 18:15 J -40382152.91 -40382152.74 -40382152.57 0.0274 0.0035

Uranus -115274-09-14 17:46 J -40382148.93 -40382148.76 -40382148.57 0.0148 0.0032

Saturn -115274-12-08 13:27 J -40382064.09 -40382063.94 -40382063.79 0.0273 0.0135

Uranus -115274-12-12 01:55 J -40382060.58 -40382060.42 -40382060.25 0.0148 0.0061

Saturn -115273-03-06 08:39 J -40381975.22 -40381975.14 -40381975.04 0.0272 0.0235

Uranus -115273-03-09 09:51 J -40381972.22 -40381972.09 -40381971.93 0.0148 0.0091

Earth -115273-05-03 21:36 J -40381916.67 -40381916.60 -40381916.53 0.2776 0.1989

Moon -115273-05-03 22:19 J -40381916.65 -40381916.57 -40381916.50 0.2773 0.1978 *

Uranus -115273-06-05 18:00 J -40381883.84 -40381883.75 -40381883.63 0.0148 0.0121

Venus -115271-06-25 14:39 J -40381134.00 -40381133.89 -40381133.78 0.3672 0.0160

Jupiter -115269-07-08 14:24 J -40380390.08 -40380389.90 -40380389.73 0.0498 0.0015

Mars -115267-12-04 03:07 J -40379511.52 -40379511.37 -40379511.22 0.1796 0.0495

Moon -115266-04-27 19:12 J -40379366.81 -40379366.70 -40379366.59 0.2777 0.0494

Earth -115266-04-27 19:12 J -40379366.81 -40379366.70 -40379366.59 0.2769 0.0531 *

Mars -115266-10-15 13:55 J -40379196.04 -40379195.92 -40379195.80 0.1719 0.0051

Venus -115265-01-09 08:10 J -40379110.26 -40379110.16 -40379110.06 0.3677 0.1450

Mars -115264-09-19 23:31 J -40378490.53 -40378490.52 -40378490.52 0.1703 0.1699

Jupiter -115263-06-09 15:36 J -40378227.98 -40378227.85 -40378227.73 0.0527 0.0186

Jupiter -115263-09-07 00:15 J -40378138.60 -40378138.49 -40378138.39 0.0528 0.0307

Moon -115263-10-20 12:58 J -40378095.08 -40378094.96 -40378094.83 0.2580 0.1494

Earth -115263-10-20 13:41 J -40378095.07 -40378094.93 -40378094.80 0.2574 0.1384 *

Venus -115260-07-25 01:41 J -40377086.49 -40377086.43 -40377086.37 0.3683 0.3002

Saturn -115258-01-02 15:51 J -40376559.89 -40376559.84 -40376559.78 0.0285 0.0256

Saturn -115258-04-01 05:31 J -40376471.38 -40376471.27 -40376471.15 0.0286 0.0165

Saturn -115258-06-28 19:12 J -40376382.83 -40376382.70 -40376382.56 0.0287 0.0072

Saturn -115258-09-25 08:39 J -40376294.28 -40376294.14 -40376294.00 0.0288 0.0021

Saturn -115258-12-22 22:05 J -40376205.71 -40376205.58 -40376205.45 0.0290 0.0113

Saturn -115257-03-20 11:17 J -40376117.12 -40376117.03 -40376116.93 0.0291 0.0205

Mars -115257-04-25 02:39 J -40376081.54 -40376081.39 -40376081.23 0.1791 0.0260

Jupiter -115257-04-26 12:43 J -40376080.13 -40376079.97 -40376079.80 0.0498 0.0134

Jupiter -115257-07-25 17:03 J -40375989.87 -40375989.79 -40375989.70 0.0498 0.0435

Mars -115256-03-06 23:03 J -40375765.66 -40375765.54 -40375765.42 0.1723 0.0382

Mars -115254-02-10 09:22 J -40375060.19 -40375060.11 -40375060.04 0.1707 0.1314

Earth -115253-04-29 13:41 J -40374616.04 -40374615.93 -40374615.82 0.2772 0.0368

Moon -115253-04-29 14:10 J -40374616.02 -40374615.91 -40374615.80 0.2777 0.0400 *

Venus -115252-11-04 03:51 J -40374062.45 -40374062.34 -40374062.23 0.3713 0.2160

Jupiter -115251-03-28 18:29 J -40373917.84 -40373917.73 -40373917.62 0.0527 0.0314

Jupiter -115251-06-26 03:22 J -40373828.48 -40373828.36 -40373828.23 0.0528 0.0182

Earth -115250-10-23 19:41 J -40373343.84 -40373343.68 -40373343.52 0.2571 0.0103

Moon -115250-10-23 19:55 J -40373343.82 -40373343.67 -40373343.51 0.2577 0.0228 *

Mars -115248-09-15 02:39 J -40372651.51 -40372651.39 -40372651.26 0.1786 0.0980

Mars -115247-07-28 08:10 J -40372335.27 -40372335.16 -40372335.05 0.1727 0.0818

Moon -115246-04-23 10:19 J -40372066.12 -40372066.07 -40372066.01 0.2764 0.2289

Earth -115246-04-23 11:17 J -40372066.10 -40372066.03 -40372065.97 0.2763 0.2154 *

Venus -115246-05-21 05:46 J -40372038.39 -40372038.26 -40372038.13 0.3707 0.0806

Jupiter -115245-02-13 11:46 J -40371770.15 -40371770.01 -40371769.86 0.0498 0.0267

Jupiter -115245-05-13 15:51 J -40371679.98 -40371679.84 -40371679.70 0.0497 0.0296

Mars -115245-07-02 18:58 J -40371629.81 -40371629.71 -40371629.61 0.1711 0.0917

Saturn -115245-08-03 06:00 J -40371598.37 -40371598.25 -40371598.12 0.0276 0.0185

Saturn -115245-10-31 00:58 J -40371509.63 -40371509.46 -40371509.30 0.0275 0.0086

Saturn -115244-01-27 19:55 J -40371420.85 -40371420.67 -40371420.50 0.0274 0.0014

Saturn -115244-04-26 14:53 J -40371332.03 -40371331.88 -40371331.71 0.0273 0.0114

Saturn -115244-07-24 10:19 J -40371243.17 -40371243.07 -40371242.96 0.0272 0.0214

Earth -115240-05-02 08:10 J -40369865.26 -40369865.16 -40369865.07 0.2774 0.1268

Moon -115240-05-02 08:53 J -40369865.23 -40369865.13 -40369865.04 0.2775 0.1301 *

Jupiter -115239-01-14 20:53 J -40369607.69 -40369607.63 -40369607.56 0.0527 0.0450

Jupiter -115239-04-14 06:15 J -40369518.37 -40369518.24 -40369518.11 0.0528 0.0050

Mars -115238-02-05 03:07 J -40369221.42 -40369221.37 -40369221.31 0.1782 0.1670

Mars -115238-12-18 17:03 J -40368904.87 -40368904.79 -40368904.71 0.1731 0.1266

Earth -115237-10-26 01:55 J -40368592.54 -40368592.42 -40368592.29 0.2568 0.1607

Moon -115237-10-26 03:36 J -40368592.48 -40368592.35 -40368592.23 0.2572 0.1619 *

Mars -115236-01-12 04:34 J -40368514.42 -40368514.31 -40368514.21 0.1801 0.1339

Mars -115236-11-23 04:34 J -40368199.42 -40368199.31 -40368199.19 0.1715 0.0514

Uranus -115235-08-13 06:43 J -40367936.23 -40367936.22 -40367936.20 0.0132 0.0130

Uranus -115235-11-09 10:05 J -40367848.14 -40367848.08 -40367848.01 0.0131 0.0114

Uranus -115234-02-05 13:27 J -40367760.03 -40367759.94 -40367759.85 0.0131 0.0098

Uranus -115234-05-04 16:48 J -40367671.91 -40367671.80 -40367671.69 0.0131 0.0083

Uranus -115234-07-31 19:55 J -40367583.78 -40367583.67 -40367583.55 0.0131 0.0067

Uranus -115234-10-27 23:17 J -40367495.66 -40367495.53 -40367495.40 0.0131 0.0051

Jupiter -115234-12-02 10:48 J -40367460.15 -40367460.05 -40367459.95 0.0498 0.0404

Uranus -115233-01-24 02:24 J -40367407.53 -40367407.40 -40367407.26 0.0131 0.0036

Jupiter -115233-03-01 14:10 J -40367370.08 -40367369.91 -40367369.74 0.0497 0.0153

Uranus -115233-04-21 05:46 J -40367319.40 -40367319.26 -40367319.13 0.0131 0.0021

Moon -115233-04-25 05:17 J -40367315.38 -40367315.28 -40367315.18 0.2772 0.1232

Earth -115233-04-25 05:46 J -40367315.36 -40367315.26 -40367315.17 0.2766 0.1257 *

Uranus -115233-07-18 08:53 J -40367231.27 -40367231.13 -40367230.99 0.0131 0.0005

Uranus -115233-10-14 12:00 J -40367143.14 -40367143.00 -40367142.86 0.0131 0.0010

Uranus -115232-01-10 15:07 J -40367055.00 -40367054.87 -40367054.73 0.0131 0.0026

Uranus -115232-04-08 18:15 J -40366966.87 -40366966.74 -40366966.61 0.0131 0.0041

Uranus -115232-07-05 21:22 J -40366878.73 -40366878.61 -40366878.48 0.0131 0.0056

Uranus -115232-10-02 00:29 J -40366790.59 -40366790.48 -40366790.36 0.0131 0.0071

Uranus -115232-12-29 03:36 J -40366702.45 -40366702.35 -40366702.25 0.0131 0.0086

Uranus -115231-03-27 06:29 J -40366614.31 -40366614.23 -40366614.14 0.0131 0.0101

Uranus -115231-06-23 09:36 J -40366526.15 -40366526.10 -40366526.03 0.0131 0.0116

Uranus -115231-09-19 12:43 J -40366437.97 -40366437.97 -40366437.96 0.0131 0.0130

Saturn -115229-05-21 18:58 J -40365827.74 -40365827.71 -40365827.67 0.0284 0.0274

Saturn -115229-08-18 08:39 J -40365739.24 -40365739.14 -40365739.02 0.0286 0.0183

Saturn -115229-11-14 22:19 J -40365650.70 -40365650.57 -40365650.43 0.0287 0.0090

Saturn -115228-02-11 12:00 J -40365562.14 -40365562.00 -40365561.86 0.0288 0.0009

Mars -115228-05-10 01:41 J -40365474.43 -40365474.43 -40365474.42 0.1736 0.1729

Saturn -115228-05-11 01:12 J -40365473.58 -40365473.45 -40365473.32 0.0289 0.0095

Saturn -115228-08-07 14:24 J -40365385.00 -40365384.90 -40365384.79 0.0290 0.0187

Saturn -115228-11-04 03:36 J -40365296.38 -40365296.35 -40365296.31 0.0291 0.0278

Jupiter -115227-01-31 09:51 J -40365208.22 -40365208.09 -40365207.96 0.0528 0.0072

Jupiter -115227-04-30 18:15 J -40365118.81 -40365118.74 -40365118.66 0.0529 0.0419

Earth -115227-05-05 02:24 J -40365114.46 -40365114.40 -40365114.33 0.2777 0.2162

Moon -115227-05-05 02:53 J -40365114.44 -40365114.38 -40365114.31 0.2771 0.2246 *

Mars -115227-06-04 03:36 J -40365084.50 -40365084.35 -40365084.20 0.1796 0.0565

Mars -115226-04-15 13:55 J -40364769.04 -40364768.92 -40364768.80 0.1719 0.0096

Venus -115225-01-01 01:12 J -40364508.52 -40364508.45 -40364508.38 0.3663 0.2778

Pluto -115225-05-31 15:36 J -40364356.88 -40364356.85 -40364356.78 0.0060 0.0058

Pluto -115225-08-27 17:17 J -40364268.88 -40364268.78 -40364268.67 0.0060 0.0050

Pluto -115225-11-23 18:15 J -40364180.85 -40364180.74 -40364180.58 0.0060 0.0043

Pluto -115224-02-19 19:41 J -40364092.82 -40364092.68 -40364092.50 0.0060 0.0035

Pluto -115224-05-18 21:22 J -40364004.78 -40364004.61 -40364004.43 0.0060 0.0027

Pluto -115224-08-14 22:48 J -40363916.73 -40363916.55 -40363916.37 0.0060 0.0020

Pluto -115224-11-11 00:00 J -40363828.68 -40363828.50 -40363828.30 0.0060 0.0012

Pluto -115223-02-07 01:27 J -40363740.63 -40363740.44 -40363740.24 0.0060 0.0004

Pluto -115223-05-06 02:53 J -40363652.57 -40363652.38 -40363652.19 0.0060 0.0004

Pluto -115223-08-02 04:05 J -40363564.51 -40363564.33 -40363564.13 0.0060 0.0012

Pluto -115223-10-29 05:17 J -40363476.45 -40363476.28 -40363476.08 0.0060 0.0020

Pluto -115222-01-25 06:43 J -40363388.38 -40363388.22 -40363388.04 0.0061 0.0027

Pluto -115222-04-23 07:55 J -40363300.31 -40363300.17 -40363300.00 0.0061 0.0036

Pluto -115222-07-20 09:36 J -40363212.23 -40363212.10 -40363211.96 0.0061 0.0043

Pluto -115222-10-16 10:48 J -40363124.14 -40363124.05 -40363123.93 0.0061 0.0051

Jupiter -115222-12-19 11:31 J -40363060.19 -40363060.02 -40363059.84 0.0498 0.0006

Pluto -115221-01-12 12:15 J -40363036.02 -40363035.99 -40363035.93 0.0061 0.0059

Moon -115220-04-28 00:15 J -40362564.60 -40362564.49 -40362564.38 0.2777 0.0409

Earth -115220-04-28 00:15 J -40362564.60 -40362564.49 -40362564.39 0.2769 0.0373 *

Venus -115220-07-16 18:58 J -40362484.81 -40362484.71 -40362484.60 0.3668 0.1150

Mars -115218-10-25 03:22 J -40361654.51 -40361654.36 -40361654.20 0.1791 0.0182

Mars -115217-09-04 23:17 J -40361338.65 -40361338.53 -40361338.41 0.1723 0.0335

Moon -115217-10-20 19:41 J -40361292.82 -40361292.68 -40361292.53 0.2580 0.1080

Earth -115217-10-20 20:10 J -40361292.81 -40361292.66 -40361292.52 0.2573 0.1104 *

Jupiter -115216-11-19 13:27 J -40360898.06 -40360897.94 -40360897.81 0.0528 0.0191

Saturn -115216-12-21 07:27 J -40360866.30 -40360866.19 -40360866.08 0.0276 0.0206

Jupiter -115215-02-16 22:19 J -40360808.68 -40360808.57 -40360808.47 0.0528 0.0302

Saturn -115215-03-20 02:10 J -40360777.57 -40360777.41 -40360777.25 0.0275 0.0107

Saturn -115215-06-16 21:07 J -40360688.79 -40360688.62 -40360688.45 0.0274 0.0008

Mars -115215-08-11 09:22 J -40360633.18 -40360633.11 -40360633.04 0.1707 0.1357

Saturn -115215-09-13 16:05 J -40360599.99 -40360599.83 -40360599.66 0.0273 0.0092

Saturn -115215-12-11 11:31 J -40360511.15 -40360511.02 -40360510.90 0.0272 0.0191

Venus -115214-01-30 12:43 J -40360461.08 -40360460.97 -40360460.86 0.3674 0.0459

Jupiter -115210-10-07 09:51 J -40358750.25 -40358750.09 -40358749.92 0.0498 0.0142

Jupiter -115209-01-05 14:10 J -40358660.00 -40358659.91 -40358659.82 0.0497 0.0425

Venus -115209-08-15 06:15 J -40358437.33 -40358437.24 -40358437.15 0.3679 0.2026

Mars -115208-03-16 03:22 J -40358224.50 -40358224.36 -40358224.23 0.1786 0.0911

Mars -115207-01-26 08:10 J -40357908.27 -40357908.16 -40357908.05 0.1727 0.0772

Earth -115207-04-30 18:29 J -40357813.83 -40357813.73 -40357813.62 0.2772 0.0547

Moon -115207-04-30 19:12 J -40357813.80 -40357813.70 -40357813.59 0.2775 0.0638 *

Mars -115205-01-01 18:58 J -40357202.81 -40357202.71 -40357202.61 0.1711 0.0962

Jupiter -115204-09-07 16:34 J -40356587.92 -40356587.81 -40356587.70 0.0527 0.0318

Earth -115204-10-24 02:24 J -40356541.56 -40356541.40 -40356541.24 0.2571 0.0399

Moon -115204-10-24 03:22 J -40356541.52 -40356541.36 -40356541.21 0.2575 0.0385 *

Jupiter -115204-12-06 01:27 J -40356498.56 -40356498.44 -40356498.31 0.0528 0.0179

Venus -115203-02-28 23:31 J -40356413.54 -40356413.52 -40356413.49 0.3684 0.3568

Neptune -115201-02-02 06:43 J -40355710.22 -40355710.22 -40355710.18 0.0088 0.0088

Neptune -115201-04-30 08:39 J -40355622.18 -40355622.14 -40355622.09 0.0088 0.0083

Neptune -115201-07-27 10:05 J -40355534.13 -40355534.08 -40355534.00 0.0088 0.0079

Neptune -115201-10-23 11:46 J -40355446.07 -40355446.01 -40355445.92 0.0088 0.0074

Neptune -115200-01-19 13:41 J -40355358.01 -40355357.93 -40355357.84 0.0088 0.0070

Neptune -115200-04-17 15:07 J -40355269.95 -40355269.87 -40355269.76 0.0088 0.0065

Moon -115200-04-23 15:22 J -40355263.93 -40355263.86 -40355263.79 0.2765 0.1994

Earth -115200-04-23 16:05 J -40355263.90 -40355263.83 -40355263.75 0.2764 0.1984 *

Neptune -115200-07-14 17:03 J -40355181.89 -40355181.79 -40355181.69 0.0088 0.0061

Neptune -115200-10-10 18:29 J -40355093.83 -40355093.73 -40355093.61 0.0088 0.0057

Saturn -115199-01-05 11:03 J -40355007.14 -40355007.04 -40355006.94 0.0286 0.0205

Neptune -115199-01-06 19:55 J -40355005.77 -40355005.67 -40355005.54 0.0088 0.0053

Saturn -115199-04-04 00:43 J -40354918.60 -40354918.47 -40354918.34 0.0287 0.0112

Neptune -115199-04-04 21:51 J -40354917.71 -40354917.59 -40354917.47 0.0088 0.0048

Saturn -115199-07-01 14:10 J -40354830.05 -40354829.91 -40354829.77 0.0288 0.0021

Neptune -115199-07-01 23:17 J -40354829.64 -40354829.53 -40354829.40 0.0088 0.0044

Mars -115199-08-06 03:51 J -40354794.40 -40354794.34 -40354794.27 0.1781 0.1598

Neptune -115199-09-28 00:58 J -40354741.58 -40354741.46 -40354741.33 0.0088 0.0039

Saturn -115199-09-28 03:36 J -40354741.48 -40354741.35 -40354741.21 0.0289 0.0073 *

Neptune -115199-12-25 02:39 J -40354653.52 -40354653.39 -40354653.26 0.0088 0.0035

Saturn -115199-12-25 16:48 J -40354652.91 -40354652.80 -40354652.68 0.0290 0.0165

Neptune -115198-03-23 04:19 J -40354565.45 -40354565.32 -40354565.19 0.0088 0.0031

Saturn -115198-03-24 06:15 J -40354564.30 -40354564.24 -40354564.18 0.0291 0.0257

Mars -115198-06-18 17:03 J -40354477.87 -40354477.79 -40354477.70 0.1732 0.1219

Neptune -115198-06-19 05:46 J -40354477.39 -40354477.26 -40354477.12 0.0088 0.0026

Jupiter -115198-07-26 08:39 J -40354440.28 -40354440.14 -40354440.00 0.0498 0.0280

Neptune -115198-09-15 07:12 J -40354389.33 -40354389.20 -40354389.05 0.0088 0.0023

Jupiter -115198-10-24 12:29 J -40354350.13 -40354349.98 -40354349.84 0.0498 0.0282

Neptune -115198-12-12 09:07 J -40354301.26 -40354301.12 -40354300.99 0.0088 0.0018

Neptune -115197-03-09 10:34 J -40354213.20 -40354213.06 -40354212.92 0.0088 0.0013

Neptune -115197-06-05 12:15 J -40354125.13 -40354124.99 -40354124.85 0.0088 0.0009

Mars -115197-07-13 05:17 J -40354087.38 -40354087.28 -40354087.19 0.1801 0.1415

Neptune -115197-09-01 13:41 J -40354037.07 -40354036.93 -40354036.79 0.0088 0.0005

Neptune -115197-11-28 15:22 J -40353949.00 -40353948.86 -40353948.72 0.0088 0.0003

Neptune -115196-02-24 16:48 J -40353860.94 -40353860.80 -40353860.66 0.0088 0.0004

Neptune -115196-05-23 18:15 J -40353772.87 -40353772.74 -40353772.59 0.0088 0.0008

Mars -115196-05-24 04:34 J -40353772.42 -40353772.31 -40353772.19 0.1715 0.0557

Neptune -115196-08-19 19:55 J -40353684.81 -40353684.67 -40353684.53 0.0088 0.0012

Neptune -115196-11-15 21:22 J -40353596.74 -40353596.61 -40353596.47 0.0088 0.0016

Neptune -115195-02-11 22:48 J -40353508.68 -40353508.55 -40353508.41 0.0088 0.0021

Neptune -115195-05-11 00:29 J -40353420.61 -40353420.48 -40353420.35 0.0088 0.0025

Venus -115195-06-11 03:51 J -40353389.47 -40353389.34 -40353389.21 0.3712 0.1158

Neptune -115195-08-07 01:55 J -40353332.55 -40353332.42 -40353332.28 0.0088 0.0029

Neptune -115195-11-03 03:22 J -40353244.48 -40353244.36 -40353244.22 0.0088 0.0033

Neptune -115194-01-30 04:48 J -40353156.42 -40353156.30 -40353156.17 0.0088 0.0037

Neptune -115194-04-28 06:15 J -40353068.35 -40353068.24 -40353068.11 0.0088 0.0042

Earth -115194-05-03 12:58 J -40353063.05 -40353062.96 -40353062.87 0.2774 0.1436

Moon -115194-05-03 13:41 J -40353063.02 -40353062.93 -40353062.84 0.2774 0.1507 *

Neptune -115194-07-25 07:55 J -40352980.28 -40352980.17 -40352980.05 0.0088 0.0045

Neptune -115194-10-21 09:22 J -40352892.22 -40352892.11 -40352891.99 0.0088 0.0050

Neptune -115193-01-17 10:48 J -40352804.15 -40352804.05 -40352803.93 0.0088 0.0054

Neptune -115193-04-14 12:29 J -40352716.08 -40352715.98 -40352715.88 0.0088 0.0058

Neptune -115193-07-11 13:55 J -40352628.02 -40352627.92 -40352627.82 0.0088 0.0062

Neptune -115193-10-07 15:22 J -40352539.95 -40352539.86 -40352539.77 0.0088 0.0066

Neptune -115192-01-03 16:34 J -40352451.88 -40352451.81 -40352451.71 0.0088 0.0070

Neptune -115192-04-01 18:00 J -40352363.81 -40352363.75 -40352363.66 0.0088 0.0075

Jupiter -115192-06-26 19:27 J -40352277.76 -40352277.69 -40352277.62 0.0527 0.0448

Neptune -115192-06-28 19:27 J -40352275.73 -40352275.69 -40352275.61 0.0088 0.0079

Jupiter -115192-09-24 04:48 J -40352188.43 -40352188.30 -40352188.17 0.0528 0.0052

Neptune -115192-09-24 20:53 J -40352187.66 -40352187.63 -40352187.56 0.0088 0.0083

Neptune -115192-12-21 22:19 J -40352099.58 -40352099.57 -40352099.52 0.0088 0.0087

Uranus -115191-04-23 00:00 J -40351977.54 -40351977.50 -40351977.44 0.0147 0.0142

Uranus -115191-07-20 07:41 J -40351889.28 -40351889.18 -40351889.06 0.0147 0.0114

Uranus -115191-10-16 15:36 J -40351800.99 -40351800.85 -40351800.70 0.0147 0.0085

Earth -115191-10-27 08:39 J -40351790.25 -40351790.14 -40351790.03 0.2568 0.1898

Moon -115191-10-27 10:19 J -40351790.16 -40351790.07 -40351789.99 0.2571 0.2113 *

Uranus -115190-01-12 23:17 J -40351712.69 -40351712.53 -40351712.35 0.0148 0.0057

Uranus -115190-04-11 07:12 J -40351624.37 -40351624.20 -40351624.01 0.0148 0.0028

Uranus -115190-07-08 15:22 J -40351536.05 -40351535.86 -40351535.68 0.0148 0.0004

Uranus -115190-10-04 23:03 J -40351447.71 -40351447.54 -40351447.35 0.0148 0.0032

Venus -115190-12-26 06:00 J -40351365.37 -40351365.25 -40351365.13 0.3705 0.1854

Uranus -115189-01-01 07:12 J -40351359.36 -40351359.20 -40351359.03 0.0148 0.0061

Uranus -115189-03-29 15:07 J -40351271.00 -40351270.87 -40351270.71 0.0148 0.0091

Uranus -115189-06-25 23:17 J -40351182.62 -40351182.53 -40351182.41 0.0148 0.0121

Mars -115189-11-08 01:55 J -40351047.45 -40351047.42 -40351047.39 0.1736 0.1674

Mars -115188-12-03 04:19 J -40350657.47 -40350657.32 -40350657.17 0.1796 0.0637

Moon -115187-04-26 10:19 J -40350513.17 -40350513.07 -40350512.97 0.2774 0.1172

Earth -115187-04-26 10:34 J -40350513.16 -40350513.06 -40350512.96 0.2767 0.1083 *

Mars -115187-10-14 13:55 J -40350342.04 -40350341.92 -40350341.80 0.1719 0.0147

Saturn -115186-05-10 08:53 J -40350134.22 -40350134.13 -40350134.03 0.0276 0.0227

Jupiter -115186-05-14 07:55 J -40350130.27 -40350130.17 -40350130.08 0.0499 0.0412

Saturn -115186-08-07 03:36 J -40350045.50 -40350045.35 -40350045.19 0.0275 0.0129

Jupiter -115186-08-12 11:17 J -40350040.20 -40350040.03 -40350039.86 0.0498 0.0145

Saturn -115186-11-03 22:34 J -40349956.73 -40349956.56 -40349956.39 0.0274 0.0030

Saturn -115185-01-31 17:31 J -40349867.93 -40349867.77 -40349867.60 0.0273 0.0070

Saturn -115185-04-29 12:43 J -40349779.10 -40349778.97 -40349778.83 0.0272 0.0170

Saturn -115185-07-27 08:24 J -40349690.17 -40349690.15 -40349690.13 0.0271 0.0269

Moon -115184-10-18 19:55 J -40349241.73 -40349241.67 -40349241.62 0.2581 0.2409

Earth -115184-10-18 20:39 J -40349241.71 -40349241.64 -40349241.57 0.2576 0.2293 *

Earth -115181-05-05 07:27 J -40348312.25 -40348312.19 -40348312.14 0.2777 0.2333

Moon -115181-05-05 07:41 J -40348312.24 -40348312.18 -40348312.12 0.2770 0.2323 *

Jupiter -115180-07-13 07:27 J -40347878.32 -40347878.19 -40347878.06 0.0528 0.0082

Jupiter -115180-10-10 16:05 J -40347788.91 -40347788.83 -40347788.75 0.0528 0.0408

Mars -115178-04-25 03:36 J -40347227.51 -40347227.35 -40347227.19 0.1791 0.0123

Mars -115177-03-05 23:17 J -40346911.65 -40346911.53 -40346911.41 0.1723 0.0282

Mars -115175-02-09 09:22 J -40346206.18 -40346206.11 -40346206.05 0.1707 0.1400

Earth -115174-04-29 05:03 J -40345762.40 -40345762.29 -40345762.18 0.2770 0.0184

Moon -115174-04-29 05:17 J -40345762.39 -40345762.28 -40345762.17 0.2776 0.0101 *

Jupiter -115174-05-31 09:51 J -40345730.27 -40345730.09 -40345729.92 0.0498 0.0007

Moon -115171-10-22 02:39 J -40344490.54 -40344490.39 -40344490.24 0.2579 0.0840

Earth -115171-10-22 02:39 J -40344490.54 -40344490.39 -40344490.24 0.2573 0.0815 *

Saturn -115170-05-25 13:55 J -40344275.01 -40344274.92 -40344274.83 0.0285 0.0224

Saturn -115170-08-22 03:36 J -40344186.48 -40344186.35 -40344186.23 0.0286 0.0132

Saturn -115170-11-18 17:17 J -40344097.92 -40344097.78 -40344097.65 0.0287 0.0041

Saturn -115169-02-15 06:29 J -40344009.36 -40344009.23 -40344009.09 0.0288 0.0054

Saturn -115169-05-13 19:55 J -40343920.79 -40343920.67 -40343920.55 0.0290 0.0145

Venus -115169-08-06 23:17 J -40343835.62 -40343835.53 -40343835.44 0.3664 0.2170

Saturn -115169-08-10 09:07 J -40343832.20 -40343832.12 -40343832.04 0.0291 0.0236

Mars -115169-09-14 04:05 J -40343797.47 -40343797.33 -40343797.20 0.1787 0.0834

Jupiter -115168-05-01 10:48 J -40343568.17 -40343568.05 -40343567.92 0.0528 0.0206

Mars -115168-07-27 08:24 J -40343481.26 -40343481.15 -40343481.04 0.1727 0.0720

Jupiter -115168-07-29 19:41 J -40343478.79 -40343478.68 -40343478.57 0.0528 0.0290

Earth -115167-04-22 02:24 J -40343212.41 -40343212.40 -40343212.38 0.2761 0.2713

Mars -115166-07-02 19:12 J -40342775.80 -40342775.70 -40342775.61 0.1710 0.1011

Venus -115163-02-20 17:03 J -40341811.90 -40341811.79 -40341811.68 0.3670 0.0549

Jupiter -115162-03-19 07:12 J -40341420.36 -40341420.20 -40341420.03 0.0498 0.0148

Jupiter -115162-06-17 11:31 J -40341330.11 -40341330.02 -40341329.93 0.0497 0.0419

Earth -115161-04-30 23:31 J -40341011.63 -40341011.52 -40341011.42 0.2772 0.0718

Moon -115161-05-01 00:15 J -40341011.60 -40341011.49 -40341011.39 0.2775 0.0727 *

Mars -115159-02-04 04:19 J -40340367.39 -40340367.32 -40340367.24 0.1781 0.1528

Mars -115159-12-17 17:17 J -40340050.87 -40340050.78 -40340050.69 0.1731 0.1168

Venus -115158-09-06 10:34 J -40339788.16 -40339788.06 -40339787.95 0.3675 0.1053

Earth -115158-10-25 08:53 J -40339739.28 -40339739.13 -40339738.97 0.2570 0.0682

Moon -115158-10-25 10:19 J -40339739.22 -40339739.07 -40339738.93 0.2574 0.0839 *

Mars -115157-01-12 06:00 J -40339660.34 -40339660.25 -40339660.16 0.1801 0.1495

Saturn -115157-09-26 10:19 J -40339402.13 -40339402.07 -40339401.99 0.0277 0.0248

Mars -115157-11-22 04:34 J -40339345.42 -40339345.31 -40339345.19 0.1715 0.0605

Saturn -115157-12-24 05:03 J -40339313.43 -40339313.29 -40339313.14 0.0276 0.0150

Jupiter -115156-02-17 14:39 J -40339258.00 -40339257.89 -40339257.79 0.0527 0.0324

Saturn -115156-03-23 00:00 J -40339224.67 -40339224.50 -40339224.33 0.0275 0.0051

Jupiter -115156-05-17 23:46 J -40339168.64 -40339168.51 -40339168.39 0.0528 0.0174

Saturn -115156-06-19 18:58 J -40339135.88 -40339135.71 -40339135.54 0.0274 0.0049

Saturn -115156-09-16 14:10 J -40339047.06 -40339046.91 -40339046.76 0.0273 0.0148

Saturn -115156-12-14 09:22 J -40338958.17 -40338958.11 -40338958.03 0.0272 0.0248

Moon -115154-04-24 20:24 J -40338461.73 -40338461.65 -40338461.57 0.2768 0.1898

Earth -115154-04-24 20:53 J -40338461.71 -40338461.63 -40338461.54 0.2764 0.1816 *

Venus -115152-03-22 04:05 J -40337764.40 -40337764.33 -40337764.25 0.3680 0.2599

Uranus -115151-09-02 13:12 J -40337234.96 -40337234.95 -40337234.91 0.0132 0.0129

Uranus -115151-11-29 16:34 J -40337146.87 -40337146.81 -40337146.73 0.0132 0.0113

Jupiter -115150-01-05 05:46 J -40337110.39 -40337110.26 -40337110.11 0.0498 0.0287

Uranus -115150-02-25 19:55 J -40337058.76 -40337058.67 -40337058.57 0.0131 0.0097

Jupiter -115150-04-05 09:36 J -40337020.24 -40337020.10 -40337019.95 0.0498 0.0275

Uranus -115150-05-24 23:17 J -40336970.63 -40336970.53 -40336970.42 0.0131 0.0081

Uranus -115150-08-21 02:24 J -40336882.51 -40336882.40 -40336882.27 0.0131 0.0066

Uranus -115150-11-17 05:46 J -40336794.38 -40336794.26 -40336794.13 0.0131 0.0050

Uranus -115149-02-13 09:07 J -40336706.25 -40336706.12 -40336705.99 0.0131 0.0034

Mars -115149-05-09 01:55 J -40336620.46 -40336620.42 -40336620.38 0.1736 0.1629

Uranus -115149-05-11 12:15 J -40336618.12 -40336617.99 -40336617.85 0.0131 0.0019

Uranus -115149-08-07 15:22 J -40336529.99 -40336529.86 -40336529.72 0.0131 0.0006

Uranus -115149-11-03 18:43 J -40336441.86 -40336441.72 -40336441.59 0.0131 0.0012

Uranus -115148-01-30 21:51 J -40336353.73 -40336353.59 -40336353.46 0.0131 0.0027

Uranus -115148-04-29 00:58 J -40336265.59 -40336265.46 -40336265.33 0.0131 0.0043

Earth -115148-05-03 17:46 J -40336260.84 -40336260.76 -40336260.67 0.2775 0.1611

Moon -115148-05-03 18:29 J -40336260.82 -40336260.73 -40336260.65 0.2771 0.1686 *

Mars -115148-06-03 04:48 J -40336230.45 -40336230.30 -40336230.16 0.1796 0.0705

Uranus -115148-07-26 03:51 J -40336177.45 -40336177.34 -40336177.21 0.0131 0.0058

Uranus -115148-10-22 06:58 J -40336089.31 -40336089.21 -40336089.09 0.0131 0.0073

Uranus -115147-01-18 10:05 J -40336001.17 -40336001.08 -40336000.97 0.0131 0.0088

Mars -115147-04-14 13:55 J -40335915.04 -40335914.92 -40335914.79 0.1719 0.0194

Uranus -115147-04-16 13:12 J -40335913.03 -40335912.95 -40335912.86 0.0131 0.0103

Uranus -115147-07-13 16:05 J -40335824.87 -40335824.83 -40335824.76 0.0131 0.0118

Earth -115145-10-27 15:22 J -40334987.95 -40334987.86 -40334987.78 0.2568 0.2193

Moon -115145-10-27 16:48 J -40334987.87 -40334987.80 -40334987.72 0.2568 0.2207 *

Jupiter -115145-12-06 17:46 J -40334947.83 -40334947.76 -40334947.69 0.0527 0.0450

Jupiter -115144-03-06 02:53 J -40334858.51 -40334858.38 -40334858.24 0.0528 0.0052

Venus -115144-07-02 02:10 J -40334740.48 -40334740.41 -40334740.33 0.3717 0.3057

Moon -115141-04-26 15:22 J -40333710.96 -40333710.86 -40333710.76 0.2774 0.0876

Earth -115141-04-26 15:22 J -40333710.96 -40333710.86 -40333710.75 0.2767 0.0919 *

Saturn -115141-10-11 15:36 J -40333542.91 -40333542.85 -40333542.77 0.0285 0.0249

Saturn -115140-01-08 05:31 J -40333454.39 -40333454.27 -40333454.15 0.0286 0.0157

Saturn -115140-04-06 19:12 J -40333365.84 -40333365.70 -40333365.57 0.0288 0.0065

Saturn -115140-07-04 08:38 J -40333277.28 -40333277.14 -40333277.00 0.0289 0.0028

Saturn -115140-09-30 21:50 J -40333188.71 -40333188.59 -40333188.46 0.0290 0.0121

Saturn -115140-12-28 11:17 J -40333100.12 -40333100.03 -40333099.94 0.0291 0.0212

Mars -115139-10-24 04:34 J -40332800.47 -40332800.31 -40332800.16 0.1791 0.0066

Jupiter -115139-10-24 04:34 J -40332800.39 -40332800.31 -40332800.21 0.0499 0.0424 *

Venus -115138-01-16 04:05 J -40332716.47 -40332716.33 -40332716.20 0.3710 0.0147

Jupiter -115138-01-22 07:55 J -40332710.33 -40332710.17 -40332709.99 0.0498 0.0134

Mars -115138-09-04 23:17 J -40332484.65 -40332484.53 -40332484.41 0.1723 0.0237

Moon -115138-10-20 02:24 J -40332439.49 -40332439.40 -40332439.30 0.2582 0.1991

Earth -115138-10-20 03:07 J -40332439.47 -40332439.37 -40332439.27 0.2576 0.2017 *

Mars -115136-08-10 09:22 J -40331779.17 -40331779.11 -40331779.05 0.1707 0.1445

Earth -115135-05-06 12:14 J -40331510.03 -40331509.99 -40331509.95 0.2777 0.2503

Moon -115135-05-06 12:29 J -40331510.02 -40331509.98 -40331509.94 0.2770 0.2534 *

Venus -115133-08-01 06:14 J -40330692.32 -40330692.24 -40330692.15 0.3703 0.2897

Jupiter -115133-12-23 06:14 J -40330548.38 -40330548.24 -40330548.11 0.0527 0.0079

Jupiter -115132-03-22 14:38 J -40330458.97 -40330458.89 -40330458.81 0.0528 0.0411

Pluto -115131-03-19 07:41 J -40330097.21 -40330097.18 -40330097.12 0.0084 0.0080

Pluto -115131-06-15 09:07 J -40330009.19 -40330009.12 -40330009.02 0.0084 0.0064

Pluto -115131-09-11 10:34 J -40329921.16 -40329921.06 -40329920.95 0.0084 0.0049

Pluto -115131-12-08 12:00 J -40329833.12 -40329833.00 -40329832.88 0.0084 0.0034

Pluto -115130-03-06 13:12 J -40329745.08 -40329744.95 -40329744.81 0.0084 0.0020

Pluto -115130-06-02 14:38 J -40329657.03 -40329656.89 -40329656.76 0.0084 0.0005

Pluto -115130-08-29 15:50 J -40329568.97 -40329568.84 -40329568.70 0.0084 0.0010

Pluto -115130-11-25 17:02 J -40329480.91 -40329480.79 -40329480.66 0.0084 0.0025

Pluto -115129-02-21 18:14 J -40329392.85 -40329392.74 -40329392.61 0.0083 0.0040

Mars -115129-03-15 04:19 J -40329370.46 -40329370.32 -40329370.18 0.1786 0.0772

Pluto -115129-05-19 19:41 J -40329304.78 -40329304.68 -40329304.58 0.0083 0.0054

Pluto -115129-08-15 20:53 J -40329216.70 -40329216.63 -40329216.55 0.0083 0.0068

Pluto -115129-11-11 22:19 J -40329128.58 -40329128.57 -40329128.56 0.0083 0.0082

Mars -115128-01-25 08:24 J -40329054.26 -40329054.15 -40329054.04 0.1727 0.0671

Earth -115128-04-29 09:50 J -40328960.19 -40328960.09 -40328959.98 0.2770 0.0100

Moon -115128-04-29 10:34 J -40328960.17 -40328960.06 -40328959.96 0.2775 0.0121 *

Saturn -115127-02-13 11:46 J -40328670.04 -40328670.01 -40328669.98 0.0277 0.0271

Saturn -115127-05-13 06:14 J -40328581.37 -40328581.24 -40328581.10 0.0276 0.0173

Saturn -115127-08-10 00:58 J -40328492.62 -40328492.46 -40328492.29 0.0275 0.0075

Saturn -115127-11-06 19:55 J -40328403.84 -40328403.67 -40328403.49 0.0274 0.0026

Jupiter -115127-11-10 06:58 J -40328400.38 -40328400.21 -40328400.03 0.0498 0.0004

Mars -115127-12-31 18:58 J -40328348.80 -40328348.71 -40328348.61 0.1711 0.1054

Saturn -115126-02-03 15:07 J -40328315.02 -40328314.87 -40328314.71 0.0273 0.0124

Saturn -115126-05-03 10:19 J -40328226.16 -40328226.07 -40328225.96 0.0272 0.0224

Earth -115125-10-22 09:22 J -40327688.27 -40327688.11 -40327687.96 0.2573 0.0526

Moon -115125-10-22 09:50 J -40327688.24 -40327688.09 -40327687.94 0.2578 0.0516 *

Moon -115121-04-22 06:29 J -40326410.26 -40326410.23 -40326410.19 0.2761 0.2584

Earth -115121-04-22 07:26 J -40326410.23 -40326410.19 -40326410.15 0.2761 0.2543 *

Jupiter -115121-10-11 08:53 J -40326238.25 -40326238.13 -40326238.01 0.0527 0.0212

Jupiter -115120-01-08 17:46 J -40326148.87 -40326148.76 -40326148.65 0.0528 0.0282

Mars -115120-08-05 04:48 J -40325940.39 -40325940.30 -40325940.22 0.1782 0.1465

Mars -115119-06-17 17:17 J -40325623.87 -40325623.78 -40325623.68 0.1731 0.1116

Mars -115118-07-13 06:14 J -40325233.32 -40325233.24 -40325233.16 0.1801 0.1553

Venus -115118-08-29 03:36 J -40325186.41 -40325186.35 -40325186.30 0.3660 0.3202

Neptune -115118-10-04 23:31 J -40325149.56 -40325149.52 -40325149.47 0.0089 0.0085

Neptune -115117-01-01 02:10 J -40325061.47 -40325061.41 -40325061.32 0.0089 0.0080

Neptune -115117-03-29 05:02 J -40324973.37 -40324973.29 -40324973.18 0.0089 0.0075

Mars -115117-05-23 04:48 J -40324918.42 -40324918.30 -40324918.19 0.1715 0.0652

Neptune -115117-06-25 08:24 J -40324885.26 -40324885.15 -40324885.04 0.0089 0.0069

Neptune -115117-09-21 11:02 J -40324797.15 -40324797.04 -40324796.91 0.0089 0.0064

Neptune -115117-12-18 13:55 J -40324709.04 -40324708.92 -40324708.77 0.0089 0.0059

Neptune -115116-03-16 17:17 J -40324620.92 -40324620.78 -40324620.64 0.0089 0.0053

Neptune -115116-06-12 19:55 J -40324532.81 -40324532.67 -40324532.51 0.0089 0.0048

Neptune -115116-09-08 22:48 J -40324444.69 -40324444.55 -40324444.37 0.0089 0.0043

Neptune -115116-12-06 02:10 J -40324356.57 -40324356.41 -40324356.24 0.0089 0.0037

Neptune -115115-03-04 05:02 J -40324268.45 -40324268.29 -40324268.11 0.0089 0.0032

Earth -115115-05-02 04:19 J -40324209.42 -40324209.32 -40324209.22 0.2773 0.0888

Moon -115115-05-02 05:02 J -40324209.39 -40324209.29 -40324209.19 0.2774 0.1013 *

Neptune -115115-05-31 08:10 J -40324180.32 -40324180.16 -40324179.98 0.0089 0.0026

Neptune -115115-08-27 11:17 J -40324092.20 -40324092.03 -40324091.85 0.0089 0.0021

Jupiter -115115-08-29 05:46 J -40324090.43 -40324090.26 -40324090.09 0.0498 0.0141

Neptune -115115-11-23 14:24 J -40324004.08 -40324003.90 -40324003.72 0.0089 0.0015

Jupiter -115115-11-27 09:50 J -40324000.18 -40324000.09 -40324000.00 0.0497 0.0425

Neptune -115114-02-19 17:17 J -40323915.95 -40323915.78 -40323915.59 0.0089 0.0010

Neptune -115114-05-18 20:38 J -40323827.82 -40323827.64 -40323827.46 0.0089 0.0004

Neptune -115114-08-14 23:46 J -40323739.69 -40323739.51 -40323739.33 0.0089 0.0002

Neptune -115114-11-11 02:53 J -40323651.56 -40323651.38 -40323651.20 0.0089 0.0008

Neptune -115113-02-07 05:46 J -40323563.43 -40323563.26 -40323563.07 0.0089 0.0013

Neptune -115113-05-05 08:53 J -40323475.30 -40323475.13 -40323474.95 0.0089 0.0019

Neptune -115113-08-01 12:00 J -40323387.17 -40323387.00 -40323386.82 0.0089 0.0024

Neptune -115113-10-28 15:07 J -40323299.03 -40323298.87 -40323298.69 0.0089 0.0030

Neptune -115112-01-24 18:14 J -40323210.90 -40323210.74 -40323210.56 0.0089 0.0036

Venus -115112-03-13 21:22 J -40323162.71 -40323162.61 -40323162.51 0.3666 0.1567

Neptune -115112-04-22 21:36 J -40323122.76 -40323122.60 -40323122.44 0.0089 0.0041

Neptune -115112-07-20 00:43 J -40323034.62 -40323034.47 -40323034.31 0.0089 0.0047

Neptune -115112-10-16 03:36 J -40322946.48 -40322946.35 -40322946.18 0.0089 0.0053

Earth -115112-10-25 15:36 J -40322937.00 -40322936.85 -40322936.70 0.2570 0.0980

Moon -115112-10-25 17:02 J -40322936.94 -40322936.79 -40322936.65 0.2574 0.1033 *

Neptune -115111-01-12 07:12 J -40322858.34 -40322858.20 -40322858.06 0.0089 0.0058

Saturn -115111-02-28 18:14 J -40322810.78 -40322810.74 -40322810.69 0.0285 0.0270

Neptune -115111-04-10 10:19 J -40322770.19 -40322770.07 -40322769.94 0.0089 0.0064

Saturn -115111-05-28 08:10 J -40322722.27 -40322722.16 -40322722.05 0.0286 0.0178

Neptune -115111-07-07 13:26 J -40322682.04 -40322681.94 -40322681.82 0.0089 0.0070

Saturn -115111-08-24 21:50 J -40322633.73 -40322633.59 -40322633.46 0.0287 0.0086

Neptune -115111-10-03 16:34 J -40322593.89 -40322593.81 -40322593.70 0.0089 0.0076

Saturn -115111-11-21 11:17 J -40322545.17 -40322545.03 -40322544.89 0.0288 0.0009

Neptune -115111-12-30 20:10 J -40322505.73 -40322505.66 -40322505.59 0.0089 0.0081

Saturn -115110-02-18 00:43 J -40322456.60 -40322456.47 -40322456.34 0.0289 0.0099

Neptune -115110-03-28 23:17 J -40322417.56 -40322417.53 -40322417.49 0.0089 0.0087

Saturn -115110-05-17 13:55 J -40322368.02 -40322367.92 -40322367.81 0.0290 0.0191

Saturn -115110-08-14 03:07 J -40322279.39 -40322279.37 -40322279.33 0.0291 0.0283

Mars -115110-11-08 01:55 J -40322193.47 -40322193.42 -40322193.37 0.1736 0.1578

Jupiter -115109-07-30 12:14 J -40321928.09 -40321927.99 -40321927.89 0.0527 0.0335

Jupiter -115109-10-27 21:22 J -40321838.74 -40321838.61 -40321838.49 0.0528 0.0163

Mars -115109-12-02 05:31 J -40321803.41 -40321803.27 -40321803.13 0.1797 0.0783

Moon -115108-04-25 01:26 J -40321659.52 -40321659.44 -40321659.35 0.2770 0.1688

Earth -115108-04-25 01:55 J -40321659.51 -40321659.42 -40321659.33 0.2764 0.1642 *

Mars -115108-10-13 14:10 J -40321488.03 -40321487.91 -40321487.79 0.1719 0.0238

Uranus -115107-05-13 05:46 J -40321276.30 -40321276.26 -40321276.20 0.0147 0.0140

Uranus -115107-08-09 13:26 J -40321188.05 -40321187.94 -40321187.82 0.0147 0.0112

Venus -115107-09-27 15:07 J -40321138.98 -40321138.87 -40321138.76 0.3671 0.0051

Uranus -115107-11-05 21:22 J -40321099.76 -40321099.61 -40321099.46 0.0147 0.0084

Uranus -115106-02-02 05:02 J -40321011.45 -40321011.29 -40321011.12 0.0147 0.0055

Uranus -115106-05-01 12:58 J -40320923.14 -40320922.96 -40320922.78 0.0147 0.0026

Uranus -115106-07-28 20:53 J -40320834.81 -40320834.63 -40320834.44 0.0148 0.0004

Uranus -115106-10-25 04:48 J -40320746.47 -40320746.30 -40320746.12 0.0148 0.0033

Uranus -115105-01-21 12:58 J -40320658.13 -40320657.96 -40320657.79 0.0148 0.0062

Uranus -115105-04-18 20:53 J -40320569.77 -40320569.63 -40320569.48 0.0148 0.0092

Uranus -115105-07-16 05:02 J -40320481.39 -40320481.29 -40320481.18 0.0148 0.0122

Jupiter -115103-06-17 03:22 J -40319780.50 -40319780.36 -40319780.22 0.0498 0.0291

Jupiter -115103-09-15 06:58 J -40319690.35 -40319690.21 -40319690.06 0.0497 0.0271

Earth -115102-05-04 22:48 J -40319458.63 -40319458.55 -40319458.47 0.2775 0.1787

Moon -115102-05-04 23:17 J -40319458.61 -40319458.53 -40319458.45 0.2770 0.1778 *

Venus -115101-04-12 08:38 J -40319115.24 -40319115.14 -40319115.04 0.3677 0.1620

Mars -115099-04-24 05:02 J -40318373.45 -40318373.29 -40318373.14 0.1791 0.0045

Earth -115099-10-28 21:50 J -40318185.62 -40318185.59 -40318185.55 0.2567 0.2485

Mars -115098-03-05 23:17 J -40318057.65 -40318057.53 -40318057.40 0.1723 0.0195

Saturn -115098-09-30 07:26 J -40317849.30 -40317849.19 -40317849.06 0.0276 0.0195

Saturn -115098-12-28 02:10 J -40317760.56 -40317760.41 -40317760.24 0.0275 0.0096

Saturn -115097-03-25 21:07 J -40317671.79 -40317671.62 -40317671.44 0.0274 0.0008

Jupiter -115097-05-18 15:50 J -40317617.91 -40317617.84 -40317617.77 0.0527 0.0454

Saturn -115097-06-22 16:19 J -40317582.98 -40317582.82 -40317582.66 0.0273 0.0102

Jupiter -115097-08-16 01:12 J -40317528.58 -40317528.45 -40317528.32 0.0528 0.0046

Saturn -115097-09-19 11:17 J -40317494.13 -40317494.03 -40317493.90 0.0272 0.0202

Mars -115096-02-08 09:22 J -40317352.16 -40317352.11 -40317352.05 0.1707 0.1488

Venus -115096-10-27 02:10 J -40317091.47 -40317091.41 -40317091.36 0.3682 0.3166

Earth -115095-04-27 20:24 J -40316908.76 -40316908.65 -40316908.55 0.2767 0.0740

Moon -115095-04-27 20:24 J -40316908.75 -40316908.65 -40316908.55 0.2774 0.0774 *

Moon -115092-10-20 09:22 J -40315637.22 -40315637.11 -40315637.00 0.2581 0.1851

Earth -115092-10-20 09:50 J -40315637.21 -40315637.09 -40315636.98 0.2575 0.1729 *

Jupiter -115091-04-05 02:10 J -40315470.49 -40315470.41 -40315470.32 0.0498 0.0428

Jupiter -115091-07-04 05:31 J -40315380.44 -40315380.27 -40315380.10 0.0498 0.0128

Mars -115090-09-14 05:02 J -40314943.44 -40314943.29 -40314943.15 0.1787 0.0699

Moon -115089-05-06 17:17 J -40314707.81 -40314707.78 -40314707.76 0.2771 0.2688

Earth -115089-05-06 17:02 J -40314707.81 -40314707.79 -40314707.76 0.2778 0.2679 *

Mars -115089-07-26 08:24 J -40314627.26 -40314627.15 -40314627.03 0.1727 0.0624

Venus -115087-02-06 02:24 J -40314067.52 -40314067.40 -40314067.29 0.3715 0.2062

Mars -115087-07-01 19:12 J -40313921.79 -40313921.70 -40313921.61 0.1711 0.1097

Jupiter -115085-06-04 04:34 J -40313218.44 -40313218.31 -40313218.18 0.0528 0.0077

Jupiter -115085-09-01 13:12 J -40313129.03 -40313128.95 -40313128.87 0.0528 0.0412

Earth -115082-04-30 14:53 J -40312157.99 -40312157.88 -40312157.77 0.2770 0.0176

Moon -115082-04-30 15:22 J -40312157.97 -40312157.86 -40312157.75 0.2775 0.0278 *

Venus -115082-08-23 04:19 J -40312043.45 -40312043.32 -40312043.19 0.3708 0.0896

Saturn -115082-10-15 09:36 J -40311990.20 -40311990.10 -40311990.00 0.0286 0.0206

Saturn -115081-01-11 23:17 J -40311901.66 -40311901.53 -40311901.40 0.0287 0.0114

Saturn -115081-04-09 12:43 J -40311813.11 -40311812.97 -40311812.83 0.0288 0.0023

Saturn -115081-07-07 02:10 J -40311724.54 -40311724.41 -40311724.27 0.0289 0.0072

Saturn -115081-10-03 15:36 J -40311635.96 -40311635.85 -40311635.74 0.0290 0.0163

Saturn -115081-12-31 04:48 J -40311547.36 -40311547.30 -40311547.23 0.0291 0.0255

Mars -115080-02-03 05:17 J -40311513.37 -40311513.28 -40311513.18 0.1781 0.1395

Mars -115080-12-16 17:17 J -40311196.87 -40311196.78 -40311196.68 0.1732 0.1072

Jupiter -115079-04-22 04:05 J -40311070.51 -40311070.33 -40311070.15 0.0498 0.0012

Earth -115079-10-23 15:50 J -40310886.00 -40310885.84 -40310885.68 0.2572 0.0240

Moon -115079-10-23 16:48 J -40310885.95 -40310885.80 -40310885.64 0.2577 0.0119 *

Mars -115078-01-11 06:58 J -40310806.27 -40310806.21 -40310806.14 0.1801 0.1636

Mars -115078-11-22 04:48 J -40310491.41 -40310491.30 -40310491.19 0.1715 0.0696

Moon -115075-04-23 11:31 J -40309608.06 -40309608.02 -40309607.97 0.2763 0.2483

Earth -115075-04-23 12:14 J -40309608.04 -40309607.99 -40309607.94 0.2762 0.2373 *

Jupiter -115073-03-23 07:41 J -40308908.30 -40308908.18 -40308908.05 0.0527 0.0204

Jupiter -115073-06-20 16:34 J -40308818.92 -40308818.81 -40308818.70 0.0528 0.0289

Mars -115070-05-09 02:10 J -40307766.47 -40307766.41 -40307766.35 0.1736 0.1524

Earth -115069-05-02 09:07 J -40307407.22 -40307407.12 -40307407.02 0.2773 0.1066

Moon -115069-05-02 09:50 J -40307407.19 -40307407.09 -40307406.99 0.2772 0.1057 *

Mars -115069-06-02 06:00 J -40307376.39 -40307376.25 -40307376.11 0.1796 0.0849

Saturn -115068-02-16 07:55 J -40307117.26 -40307117.17 -40307117.06 0.0276 0.0222

Mars -115068-04-13 14:10 J -40307061.03 -40307060.91 -40307060.79 0.1719 0.0281

Saturn -115068-05-16 02:38 J -40307028.54 -40307028.39 -40307028.23 0.0275 0.0123

Saturn -115068-08-12 21:36 J -40306939.77 -40306939.60 -40306939.43 0.0274 0.0024

Saturn -115068-11-09 16:34 J -40306850.97 -40306850.81 -40306850.64 0.0273 0.0075

Saturn -115067-02-06 11:46 J -40306762.14 -40306762.01 -40306761.87 0.0272 0.0174

Jupiter -115067-02-08 03:07 J -40306760.53 -40306760.37 -40306760.20 0.0498 0.0146

Jupiter -115067-05-09 07:26 J -40306670.28 -40306670.19 -40306670.10 0.0498 0.0421

Uranus -115067-09-22 19:41 J -40306533.70 -40306533.68 -40306533.64 0.0132 0.0128

Uranus -115067-12-19 23:02 J -40306445.60 -40306445.54 -40306445.46 0.0132 0.0112

Uranus -115066-03-18 02:24 J -40306357.49 -40306357.40 -40306357.30 0.0132 0.0096

Uranus -115066-06-14 05:46 J -40306269.37 -40306269.26 -40306269.15 0.0132 0.0080

Uranus -115066-09-10 08:53 J -40306181.24 -40306181.13 -40306181.00 0.0131 0.0065

Earth -115066-10-26 22:05 J -40306134.72 -40306134.58 -40306134.44 0.2569 0.1267

Moon -115066-10-26 23:46 J -40306134.65 -40306134.51 -40306134.38 0.2572 0.1382 *

Uranus -115066-12-07 12:14 J -40306093.12 -40306092.99 -40306092.86 0.0131 0.0049

Uranus -115065-03-04 15:22 J -40306004.99 -40306004.86 -40306004.72 0.0131 0.0034

Uranus -115065-05-31 18:43 J -40305916.85 -40305916.72 -40305916.58 0.0131 0.0017

Uranus -115065-08-27 21:50 J -40305828.72 -40305828.59 -40305828.45 0.0131 0.0005

Uranus -115065-11-24 01:12 J -40305740.59 -40305740.45 -40305740.32 0.0131 0.0014

Uranus -115064-02-20 04:19 J -40305652.46 -40305652.32 -40305652.19 0.0131 0.0029

Uranus -115064-05-19 07:26 J -40305564.32 -40305564.19 -40305564.06 0.0131 0.0044

Uranus -115064-08-15 10:34 J -40305476.18 -40305476.06 -40305475.94 0.0131 0.0059

Uranus -115064-11-11 13:41 J -40305388.04 -40305387.93 -40305387.82 0.0131 0.0074

Uranus -115063-02-07 16:48 J -40305299.90 -40305299.80 -40305299.70 0.0131 0.0089

Uranus -115063-05-06 19:41 J -40305211.75 -40305211.68 -40305211.59 0.0131 0.0104

Uranus -115063-08-02 22:48 J -40305123.60 -40305123.55 -40305123.49 0.0131 0.0119

Moon -115062-04-26 06:29 J -40304857.32 -40304857.23 -40304857.14 0.2772 0.1484

Earth -115062-04-26 06:43 J -40304857.31 -40304857.22 -40304857.13 0.2765 0.1470 *

Jupiter -115061-01-10 10:19 J -40304598.17 -40304598.07 -40304597.96 0.0527 0.0338

Venus -115061-04-04 01:41 J -40304513.51 -40304513.43 -40304513.36 0.3662 0.2593

Jupiter -115061-04-08 19:26 J -40304508.81 -40304508.69 -40304508.56 0.0528 0.0160

Mars -115060-10-23 05:31 J -40303946.43 -40303946.27 -40303946.12 0.1792 0.0103

Mars -115059-09-03 23:31 J -40303630.64 -40303630.52 -40303630.40 0.1723 0.0137

Mars -115057-08-09 09:22 J -40302925.16 -40302925.11 -40302925.06 0.1707 0.1534

Earth -115056-05-05 03:36 J -40302656.42 -40302656.35 -40302656.27 0.2776 0.1958

Moon -115056-05-05 04:05 J -40302656.40 -40302656.33 -40302656.26 0.2770 0.2051 *

Venus -115056-10-18 19:26 J -40302489.80 -40302489.69 -40302489.58 0.3667 0.0966

Jupiter -115056-11-27 02:10 J -40302450.55 -40302450.41 -40302450.27 0.0498 0.0282

Jupiter -115055-02-25 06:00 J -40302360.40 -40302360.25 -40302360.11 0.0498 0.0280

Saturn -115052-03-03 11:46 J -40301258.09 -40301258.01 -40301257.93 0.0285 0.0229

Saturn -115052-05-31 01:26 J -40301169.56 -40301169.44 -40301169.32 0.0286 0.0137

Saturn -115052-08-27 15:07 J -40301081.01 -40301080.87 -40301080.73 0.0287 0.0046

Saturn -115052-11-24 04:34 J -40300992.45 -40300992.31 -40300992.17 0.0289 0.0047

Saturn -115051-02-20 17:46 J -40300903.88 -40300903.76 -40300903.63 0.0290 0.0139

Saturn -115051-05-20 07:12 J -40300815.28 -40300815.20 -40300815.12 0.0291 0.0231

Mars -115050-03-15 05:31 J -40300516.42 -40300516.27 -40300516.13 0.1787 0.0627

Venus -115050-05-04 13:12 J -40300466.06 -40300465.95 -40300465.84 0.3673 0.0645

Jupiter -115050-10-29 13:41 J -40300287.99 -40300287.93 -40300287.86 0.0527 0.0461

Mars -115049-01-25 08:24 J -40300200.26 -40300200.15 -40300200.03 0.1727 0.0580

Jupiter -115049-01-26 23:02 J -40300198.67 -40300198.54 -40300198.40 0.0528 0.0044

Jupiter -115049-04-25 07:26 J -40300109.19 -40300109.19 -40300109.17 0.0529 0.0526

Earth -115049-04-28 01:12 J -40300106.55 -40300106.45 -40300106.34 0.2768 0.0570

Moon -115049-04-28 01:26 J -40300106.54 -40300106.44 -40300106.33 0.2774 0.0555 *

Mars -115048-12-30 19:12 J -40299494.79 -40299494.70 -40299494.61 0.1711 0.1142

Moon -115046-10-21 16:19 J -40298834.95 -40298834.82 -40298834.68 0.2581 0.1358

Earth -115046-10-21 16:19 J -40298834.95 -40298834.82 -40298834.69 0.2575 0.1451 *

Venus -115045-11-17 06:43 J -40298442.31 -40298442.22 -40298442.14 0.3678 0.2199

Jupiter -115044-09-15 00:00 J -40298140.58 -40298140.50 -40298140.41 0.0498 0.0428

Jupiter -115044-12-14 03:22 J -40298050.53 -40298050.36 -40298050.19 0.0498 0.0127

Mars -115041-08-04 05:46 J -40297086.36 -40297086.26 -40297086.15 0.1781 0.1326

Mars -115040-06-16 17:31 J -40296769.87 -40296769.77 -40296769.67 0.1731 0.1019

Saturn -115039-07-06 09:07 J -40296385.20 -40296385.12 -40296385.04 0.0277 0.0244

Mars -115039-07-12 07:41 J -40296379.23 -40296379.18 -40296379.13 0.1801 0.1709

Saturn -115039-10-03 03:36 J -40296296.49 -40296296.35 -40296296.20 0.0276 0.0146

Saturn -115039-12-30 22:34 J -40296207.73 -40296207.56 -40296207.39 0.0275 0.0047

Saturn -115038-03-29 17:31 J -40296118.94 -40296118.77 -40296118.60 0.0274 0.0052

Mars -115038-05-23 04:48 J -40296064.41 -40296064.30 -40296064.19 0.1715 0.0740

Saturn -115038-06-26 12:43 J -40296030.12 -40296029.97 -40296029.83 0.0273 0.0151

Saturn -115038-09-23 07:55 J -40295941.23 -40295941.17 -40295941.10 0.0272 0.0250

Jupiter -115038-11-15 02:53 J -40295888.51 -40295888.38 -40295888.24 0.0528 0.0080

Jupiter -115037-02-12 11:31 J -40295799.09 -40295799.02 -40295798.93 0.0529 0.0414

Neptune -115037-08-02 05:31 J -40295627.27 -40295627.27 -40295627.27 0.0088 0.0088

Neptune -115037-10-29 07:12 J -40295539.24 -40295539.20 -40295539.16 0.0088 0.0084

Neptune -115036-01-25 08:38 J -40295451.19 -40295451.14 -40295451.07 0.0088 0.0080

Neptune -115036-04-23 10:05 J -40295363.14 -40295363.08 -40295362.99 0.0088 0.0076

Earth -115036-04-30 19:41 J -40295355.79 -40295355.68 -40295355.57 0.2771 0.0333

Moon -115036-04-30 20:24 J -40295355.76 -40295355.65 -40295355.54 0.2774 0.0348 *

Neptune -115036-07-20 12:00 J -40295275.08 -40295275.00 -40295274.91 0.0088 0.0071

Neptune -115036-10-16 13:41 J -40295187.02 -40295186.93 -40295186.83 0.0088 0.0066

Neptune -115035-01-12 15:07 J -40295098.96 -40295098.87 -40295098.75 0.0088 0.0062

Neptune -115035-04-10 17:02 J -40295010.89 -40295010.79 -40295010.68 0.0088 0.0058

Neptune -115035-07-07 18:29 J -40294922.83 -40294922.73 -40294922.61 0.0088 0.0054

Neptune -115035-10-03 20:24 J -40294834.77 -40294834.65 -40294834.53 0.0088 0.0049

Neptune -115035-12-30 21:50 J -40294746.71 -40294746.59 -40294746.46 0.0088 0.0045

Neptune -115034-03-28 23:17 J -40294658.64 -40294658.53 -40294658.39 0.0088 0.0041

Neptune -115034-06-25 01:12 J -40294570.58 -40294570.45 -40294570.32 0.0088 0.0036

Neptune -115034-09-21 02:38 J -40294482.52 -40294482.39 -40294482.25 0.0088 0.0032

Neptune -115034-12-18 04:19 J -40294394.45 -40294394.32 -40294394.18 0.0088 0.0027

Neptune -115033-03-15 05:46 J -40294306.39 -40294306.26 -40294306.12 0.0088 0.0023

Neptune -115033-06-11 07:26 J -40294218.32 -40294218.19 -40294218.05 0.0088 0.0019

Neptune -115033-09-07 09:07 J -40294130.26 -40294130.12 -40294129.98 0.0088 0.0014

Earth -115033-10-23 22:34 J -40294083.72 -40294083.56 -40294083.40 0.2572 0.0077

Moon -115033-10-23 23:46 J -40294083.67 -40294083.51 -40294083.36 0.2577 0.0072 *

Neptune -115033-12-04 10:34 J -40294042.19 -40294042.06 -40294041.91 0.0088 0.0011

Neptune -115032-03-02 12:14 J -40293954.13 -40293953.99 -40293953.85 0.0088 0.0006

Neptune -115032-05-29 13:41 J -40293866.07 -40293865.93 -40293865.78 0.0088 0.0004

Neptune -115032-08-25 15:22 J -40293778.00 -40293777.86 -40293777.72 0.0088 0.0003

Jupiter -115032-10-02 01:55 J -40293740.59 -40293740.42 -40293740.24 0.0498 0.0013

Neptune -115032-11-21 16:48 J -40293689.94 -40293689.80 -40293689.66 0.0088 0.0007

Neptune -115031-02-17 18:29 J -40293601.87 -40293601.73 -40293601.59 0.0088 0.0011

Neptune -115031-05-16 19:55 J -40293513.81 -40293513.67 -40293513.53 0.0088 0.0015

Neptune -115031-08-12 21:22 J -40293425.74 -40293425.61 -40293425.47 0.0088 0.0020

Venus -115031-09-13 02:24 J -40293394.53 -40293394.40 -40293394.27 0.3713 0.1052

Mars -115031-11-07 02:10 J -40293339.47 -40293339.41 -40293339.34 0.1736 0.1476

Neptune -115031-11-08 23:02 J -40293337.67 -40293337.54 -40293337.40 0.0088 0.0024

Neptune -115030-02-05 00:29 J -40293249.61 -40293249.48 -40293249.34 0.0088 0.0028

Neptune -115030-05-04 01:55 J -40293161.54 -40293161.42 -40293161.28 0.0088 0.0032

Neptune -115030-07-31 03:22 J -40293073.48 -40293073.36 -40293073.22 0.0088 0.0037

Neptune -115030-10-27 05:02 J -40292985.41 -40292985.29 -40292985.16 0.0088 0.0040

Mars -115030-12-02 06:43 J -40292949.36 -40292949.22 -40292949.09 0.1796 0.0927

Neptune -115029-01-23 06:29 J -40292897.34 -40292897.23 -40292897.11 0.0088 0.0044

Neptune -115029-04-20 07:55 J -40292809.28 -40292809.17 -40292809.05 0.0088 0.0049

Moon -115029-04-23 16:34 J -40292805.87 -40292805.81 -40292805.75 0.2766 0.2194

Earth -115029-04-23 17:02 J -40292805.85 -40292805.79 -40292805.72 0.2762 0.2206 *

Neptune -115029-07-17 09:22 J -40292721.21 -40292721.11 -40292720.99 0.0088 0.0053

Mars -115029-10-12 14:10 J -40292634.03 -40292633.91 -40292633.79 0.1719 0.0333

Neptune -115029-10-13 11:02 J -40292633.14 -40292633.04 -40292632.93 0.0088 0.0057

Neptune -115028-01-09 12:29 J -40292545.08 -40292544.98 -40292544.88 0.0088 0.0061

Neptune -115028-04-07 13:55 J -40292457.01 -40292456.92 -40292456.82 0.0088 0.0065

Neptune -115028-07-04 15:36 J -40292368.94 -40292368.85 -40292368.77 0.0088 0.0069

Neptune -115028-09-30 16:34 J -40292280.87 -40292280.81 -40292280.72 0.0088 0.0074

Neptune -115028-12-27 18:00 J -40292192.80 -40292192.75 -40292192.66 0.0088 0.0078

Neptune -115027-03-25 19:41 J -40292104.72 -40292104.68 -40292104.62 0.0088 0.0081

Neptune -115027-06-21 21:07 J -40292016.64 -40292016.62 -40292016.57 0.0088 0.0085

Jupiter -115026-09-03 06:29 J -40291578.35 -40291578.23 -40291578.11 0.0527 0.0200

Jupiter -115026-12-01 15:22 J -40291488.97 -40291488.86 -40291488.75 0.0528 0.0294

Venus -115025-03-29 04:34 J -40291370.43 -40291370.31 -40291370.19 0.3706 0.1932

Earth -115023-05-03 14:10 J -40290605.01 -40290604.91 -40290604.82 0.2773 0.1233

Moon -115023-05-03 14:38 J -40290604.98 -40290604.89 -40290604.79 0.2770 0.1352 *

Uranus -115023-06-02 12:29 J -40290575.03 -40290574.98 -40290574.90 0.0147 0.0135

Saturn -115023-07-21 12:29 J -40290526.03 -40290525.98 -40290525.91 0.0285 0.0260

Uranus -115023-08-29 20:10 J -40290486.77 -40290486.66 -40290486.52 0.0147 0.0108

Saturn -115023-10-18 02:24 J -40290437.51 -40290437.40 -40290437.28 0.0286 0.0168

Uranus -115023-11-26 04:05 J -40290398.48 -40290398.33 -40290398.17 0.0147 0.0079

Saturn -115022-01-14 16:05 J -40290348.96 -40290348.83 -40290348.69 0.0287 0.0076

Uranus -115022-02-22 11:46 J -40290310.17 -40290310.01 -40290309.83 0.0147 0.0051

Saturn -115022-04-13 05:31 J -40290260.41 -40290260.27 -40290260.13 0.0288 0.0018

Uranus -115022-05-21 19:55 J -40290221.85 -40290221.67 -40290221.49 0.0147 0.0021

Saturn -115022-07-10 18:58 J -40290171.84 -40290171.71 -40290171.58 0.0289 0.0108

Uranus -115022-08-18 03:50 J -40290133.52 -40290133.34 -40290133.16 0.0147 0.0008

Saturn -115022-10-07 08:10 J -40290083.25 -40290083.16 -40290083.05 0.0291 0.0201

Uranus -115022-11-14 11:46 J -40290045.19 -40290045.01 -40290044.83 0.0148 0.0037

Saturn -115021-01-03 21:22 J -40289994.61 -40289994.61 -40289994.60 0.0292 0.0292

Uranus -115021-02-10 19:41 J -40289956.84 -40289956.68 -40289956.51 0.0148 0.0067

Uranus -115021-05-09 03:36 J -40289868.48 -40289868.35 -40289868.20 0.0148 0.0097

Uranus -115021-08-05 11:46 J -40289780.09 -40289780.01 -40289779.90 0.0148 0.0127

Mars -115020-04-23 06:00 J -40289519.41 -40289519.25 -40289519.09 0.1791 0.0166

Jupiter -115020-07-21 00:43 J -40289430.64 -40289430.47 -40289430.30 0.0498 0.0150

Jupiter -115020-10-19 04:48 J -40289340.39 -40289340.30 -40289340.20 0.0498 0.0416

Earth -115020-10-27 04:48 J -40289332.43 -40289332.30 -40289332.17 0.2569 0.1560

Moon -115020-10-27 06:29 J -40289332.35 -40289332.23 -40289332.11 0.2569 0.1718 *

Mars -115019-03-04 23:31 J -40289203.65 -40289203.52 -40289203.40 0.1723 0.0104

Mars -115017-02-08 09:22 J -40288498.15 -40288498.11 -40288498.06 0.1707 0.1574

Moon -115016-04-26 11:31 J -40288055.12 -40288055.02 -40288054.93 0.2772 0.1361

Earth -115016-04-26 11:46 J -40288055.11 -40288055.01 -40288054.92 0.2765 0.1302 *

Jupiter -115014-06-22 09:36 J -40287268.20 -40287268.10 -40287267.99 0.0527 0.0326

Jupiter -115014-09-19 18:43 J -40287178.85 -40287178.72 -40287178.60 0.0528 0.0171

Mars -115011-09-13 06:00 J -40286089.40 -40286089.25 -40286089.11 0.1786 0.0564

Venus -115010-04-26 05:46 J -40285864.27 -40285864.26 -40285864.25 0.3658 0.3623

Earth -115010-05-06 08:24 J -40285854.21 -40285854.15 -40285854.08 0.2776 0.2132

Moon -115010-05-06 08:53 J -40285854.20 -40285854.13 -40285854.06 0.2769 0.2089 *

Mars -115010-07-26 08:38 J -40285773.26 -40285773.14 -40285773.02 0.1727 0.0525

Saturn -115010-11-23 08:53 J -40285653.14 -40285653.13 -40285653.10 0.0277 0.0274

Saturn -115009-02-20 03:36 J -40285564.48 -40285564.35 -40285564.22 0.0276 0.0176

Saturn -115009-05-18 22:19 J -40285475.74 -40285475.57 -40285475.41 0.0275 0.0078

Saturn -115009-08-15 17:17 J -40285386.96 -40285386.78 -40285386.61 0.0274 0.0021

Saturn -115009-11-12 12:14 J -40285298.14 -40285297.99 -40285297.83 0.0273 0.0120

Saturn -115008-02-09 07:41 J -40285209.28 -40285209.18 -40285209.08 0.0272 0.0219

Jupiter -115008-05-09 00:00 J -40285120.64 -40285120.50 -40285120.36 0.0499 0.0283

Mars -115008-06-30 19:12 J -40285067.79 -40285067.70 -40285067.61 0.1711 0.1184

Jupiter -115008-08-07 03:36 J -40285030.49 -40285030.35 -40285030.20 0.0498 0.0279

Venus -115005-11-08 23:46 J -40283840.61 -40283840.51 -40283840.42 0.3664 0.1987

Earth -115003-04-29 06:14 J -40283304.35 -40283304.24 -40283304.14 0.2768 0.0410

Moon -115003-04-29 06:43 J -40283304.33 -40283304.22 -40283304.12 0.2774 0.0353 *

Jupiter -115002-04-10 12:14 J -40282958.05 -40282957.99 -40282957.92 0.0527 0.0458

Jupiter -115002-07-08 21:36 J -40282868.73 -40282868.60 -40282868.46 0.0528 0.0044

Jupiter -115002-10-06 06:00 J -40282779.25 -40282779.25 -40282779.24 0.0528 0.0527

Mars -115001-02-03 06:14 J -40282659.34 -40282659.24 -40282659.13 0.1782 0.1260

Mars -115001-12-15 17:31 J -40282342.87 -40282342.77 -40282342.67 0.1731 0.0969

115TH MILLENNIUM BCE

This is a list of transits of Mercury in the 115th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Earth	-115000-10-21 22:48	J	-40282032.69	-40282032.55	-40282032.40	0.2574	0.1161	
Moon	-115000-10-21 23:31	J	-40282032.65	-40282032.52	-40282032.38	0.2580	0.1205	*
Mars	-114999-01-10 08:10	J	-40281952.18	-40281952.16	-40281952.14	0.1801	0.1777	
Venus	-114999-05-25 17:31	J	-40281816.88	-40281816.77	-40281816.66	0.3669	0.0375	
Mars	-114999-11-21 04:48	J	-40281637.40	-40281637.30	-40281637.19	0.1715	0.0791	
Jupiter	-114996-02-24 23:17	J	-40280810.63	-40280810.53	-40280810.44	0.0499	0.0416	
Jupiter	-114996-05-26 02:24	J	-40280720.57	-40280720.40	-40280720.23	0.0498	0.0140	
Venus	-114994-12-09 11:02	J	-40279793.14	-40279793.04	-40279792.93	0.3674	0.1208	
Saturn	-114993-03-06 04:05	J	-40279705.43	-40279705.33	-40279705.22	0.0286	0.0194	
Saturn	-114993-06-02 17:46	J	-40279616.89	-40279616.76	-40279616.62	0.0287	0.0103	
Saturn	-114993-08-30 07:26	J	-40279528.33	-40279528.19	-40279528.05	0.0288	0.0011	
Saturn	-114993-11-26 20:53	J	-40279439.76	-40279439.63	-40279439.50	0.0289	0.0081	
Saturn	-114992-02-23 10:05	J	-40279351.19	-40279351.08	-40279350.97	0.0290	0.0173	
Saturn	-114992-05-22 23:17	J	-40279262.58	-40279262.53	-40279262.47	0.0291	0.0265	
Mars	-114991-05-08 02:10	J	-40278912.47	-40278912.41	-40278912.34	0.1736	0.1428	
Jupiter	-114990-04-27 01:12	J	-40278558.58	-40278558.45	-40278558.32	0.0528	0.0080	
Earth	-114990-05-02 00:29	J	-40278553.58	-40278553.48	-40278553.37	0.2771	0.0515	
Moon	-114990-05-02 01:12	J	-40278553.55	-40278553.45	-40278553.34	0.2772	0.0588	*
Mars	-114990-06-02 07:12	J	-40278522.33	-40278522.20	-40278522.07	0.1797	0.0996	
Jupiter	-114990-07-25 09:50	J	-40278469.17	-40278469.09	-40278469.01	0.0528	0.0411	
Mars	-114989-04-12 14:10	J	-40278207.03	-40278206.91	-40278206.79	0.1719	0.0377	
Venus	-114988-06-24 04:34	J	-40277769.38	-40277769.31	-40277769.24	0.3680	0.2764	

Earth -114987-10-25 05:02 J -40277281.45 -40277281.29 -40277281.13 0.2571 0.0336

Moon -114987-10-25 06:29 J -40277281.39 -40277281.23 -40277281.08 0.2575 0.0527 *

Jupiter -114984-03-14 00:14 J -40276410.67 -40276410.49 -40276410.32 0.0498 0.0016

Moon -114983-04-24 21:36 J -40276003.67 -40276003.60 -40276003.54 0.2768 0.2152

Earth -114983-04-24 22:05 J -40276003.65 -40276003.58 -40276003.51 0.2762 0.2029 *

Uranus -114983-10-13 02:24 J -40275832.43 -40275832.40 -40275832.35 0.0132 0.0125

Uranus -114982-01-09 05:46 J -40275744.33 -40275744.26 -40275744.18 0.0132 0.0109

Uranus -114982-04-07 09:07 J -40275656.21 -40275656.12 -40275656.02 0.0132 0.0093

Uranus -114982-07-04 12:29 J -40275568.09 -40275567.98 -40275567.87 0.0132 0.0078

Uranus -114982-09-30 15:50 J -40275479.96 -40275479.84 -40275479.72 0.0131 0.0062

Uranus -114982-12-27 18:58 J -40275391.84 -40275391.71 -40275391.58 0.0131 0.0046

Uranus -114981-03-24 22:19 J -40275303.71 -40275303.57 -40275303.44 0.0131 0.0031

Uranus -114981-06-21 01:26 J -40275215.57 -40275215.44 -40275215.30 0.0131 0.0015

Uranus -114981-09-17 04:48 J -40275127.44 -40275127.30 -40275127.17 0.0131 0.0003

Mars -114981-10-22 06:43 J -40275092.38 -40275092.22 -40275092.07 0.1791 0.0242

Uranus -114981-12-14 07:55 J -40275039.31 -40275039.17 -40275039.03 0.0131 0.0016

Uranus -114980-03-12 11:02 J -40274951.17 -40274951.04 -40274950.91 0.0131 0.0031

Uranus -114980-06-08 14:10 J -40274863.04 -40274862.91 -40274862.78 0.0131 0.0046

Saturn -114980-07-09 03:50 J -40274832.45 -40274832.34 -40274832.22 0.0277 0.0203

Mars -114980-09-02 23:31 J -40274776.64 -40274776.52 -40274776.40 0.1723 0.0054

Uranus -114980-09-04 17:17 J -40274774.90 -40274774.78 -40274774.66 0.0131 0.0062

Venus -114980-10-04 00:58 J -40274745.54 -40274745.46 -40274745.38 0.3718 0.2921

Saturn -114980-10-05 22:34 J -40274743.71 -40274743.56 -40274743.40 0.0275 0.0104

Uranus -114980-12-01 20:24 J -40274686.76 -40274686.65 -40274686.54 0.0131 0.0077

Saturn -114979-01-02 17:31 J -40274654.94 -40274654.77 -40274654.60 0.0274 0.0005

Uranus -114979-02-27 23:17 J -40274598.61 -40274598.53 -40274598.42 0.0131 0.0092

Saturn -114979-04-01 12:29 J -40274566.14 -40274565.98 -40274565.81 0.0273 0.0094

Uranus -114979-05-27 02:38 J -40274510.47 -40274510.39 -40274510.31 0.0131 0.0107

Saturn -114979-06-29 07:41 J -40274477.30 -40274477.18 -40274477.05 0.0272 0.0193

Uranus -114979-08-23 05:46 J -40274422.31 -40274422.26 -40274422.21 0.0131 0.0121

Jupiter -114978-02-13 05:02 J -40274248.41 -40274248.29 -40274248.17 0.0528 0.0197

Jupiter -114978-05-13 13:55 J -40274159.03 -40274158.92 -40274158.81 0.0529 0.0298

Mars -114978-08-09 09:22 J -40274071.14 -40274071.11 -40274071.07 0.1707 0.1619

Earth -114977-05-03 18:58 J -40273802.80 -40273802.71 -40273802.62 0.2774 0.1406

Moon -114977-05-03 19:41 J -40273802.78 -40273802.68 -40273802.59 0.2769 0.1407 *

Pluto -114977-12-19 21:07 J -40273572.65 -40273572.62 -40273572.53 0.0060 0.0057

Pluto -114976-03-17 22:34 J -40273484.65 -40273484.56 -40273484.43 0.0060 0.0049

Pluto -114976-06-14 00:14 J -40273396.62 -40273396.49 -40273396.34 0.0060 0.0041

Pluto -114976-09-10 01:12 J -40273308.58 -40273308.45 -40273308.27 0.0060 0.0034

Pluto -114976-12-07 02:53 J -40273220.54 -40273220.38 -40273220.19 0.0060 0.0026

Pluto -114975-03-05 04:19 J -40273132.50 -40273132.32 -40273132.13 0.0060 0.0018

Pluto -114975-06-01 05:46 J -40273044.45 -40273044.26 -40273044.07 0.0060 0.0011

Pluto -114975-08-28 07:12 J -40272956.39 -40272956.20 -40272956.01 0.0060 0.0003

Pluto -114975-11-24 08:24 J -40272868.33 -40272868.15 -40272867.95 0.0060 0.0006

Pluto -114974-02-20 09:50 J -40272780.27 -40272780.09 -40272779.90 0.0060 0.0013

Venus -114974-04-20 02:38 J -40272721.52 -40272721.39 -40272721.25 0.3711 0.0051

Pluto -114974-05-19 11:02 J -40272692.21 -40272692.04 -40272691.85 0.0060 0.0021

Pluto -114974-08-15 12:29 J -40272604.14 -40272603.98 -40272603.80 0.0061 0.0029

Earth -114974-10-28 11:17 J -40272530.14 -40272530.03 -40272529.92 0.2569 0.1850

Moon -114974-10-28 13:12 J -40272530.06 -40272529.95 -40272529.85 0.2567 0.1894 *

Pluto -114974-11-11 13:41 J -40272516.07 -40272515.93 -40272515.76 0.0061 0.0037

Pluto -114973-02-07 14:53 J -40272427.99 -40272427.88 -40272427.73 0.0061 0.0045

Pluto -114973-05-05 16:48 J -40272339.89 -40272339.80 -40272339.70 0.0061 0.0052

Pluto -114973-08-01 18:00 J -40272251.76 -40272251.75 -40272251.72 0.0061 0.0060

Jupiter -114973-12-30 23:02 J -40272100.71 -40272100.54 -40272100.37 0.0498 0.0146

Jupiter -114972-03-31 02:53 J -40272010.47 -40272010.38 -40272010.28 0.0497 0.0419

Mars -114971-03-14 06:29 J -40271662.38 -40271662.23 -40271662.08 0.1787 0.0491

Mars -114970-01-24 08:38 J -40271346.26 -40271346.14 -40271346.02 0.1727 0.0479

Moon -114970-04-27 16:34 J -40271252.91 -40271252.81 -40271252.71 0.2772 0.1072

Earth -114970-04-27 16:34 J -40271252.91 -40271252.81 -40271252.71 0.2766 0.1129 *

Venus -114969-11-03 04:48 J -40270697.38 -40270697.30 -40270697.22 0.3704 0.2981

Mars -114969-12-29 19:12 J -40270640.78 -40270640.70 -40270640.61 0.1711 0.1231

Moon -114967-10-19 23:02 J -40269981.59 -40269981.54 -40269981.48 0.2583 0.2415

Earth -114967-10-19 23:31 J -40269981.58 -40269981.52 -40269981.46 0.2577 0.2361 *

Jupiter -114967-12-02 08:24 J -40269938.25 -40269938.15 -40269938.04 0.0527 0.0319

Jupiter -114966-03-01 17:46 J -40269848.89 -40269848.76 -40269848.64 0.0528 0.0180

Moon -114964-05-06 13:26 J -40269052.00 -40269051.94 -40269051.89 0.2769 0.2352

Earth -114964-05-06 13:26 J -40269052.00 -40269051.94 -40269051.88 0.2776 0.2303 *

Saturn -114964-07-24 04:34 J -40268973.39 -40268973.31 -40268973.22 0.0285 0.0228

Saturn -114964-10-20 18:29 J -40268884.86 -40268884.73 -40268884.61 0.0286 0.0136

Saturn -114963-01-17 07:55 J -40268796.30 -40268796.17 -40268796.03 0.0287 0.0045

Saturn -114963-04-15 21:22 J -40268707.74 -40268707.61 -40268707.47 0.0288 0.0049

Saturn -114963-07-13 10:48 J -40268619.17 -40268619.05 -40268618.93 0.0290 0.0139

Saturn -114963-10-10 00:00 J -40268530.58 -40268530.50 -40268530.41 0.0291 0.0231

Mars -114962-08-04 06:58 J -40268232.32 -40268232.21 -40268232.10 0.1782 0.1190

Mars -114961-06-15 17:31 J -40267915.87 -40267915.77 -40267915.66 0.1732 0.0923

Jupiter -114961-10-18 21:50 J -40267790.73 -40267790.59 -40267790.44 0.0498 0.0283

Jupiter -114960-01-17 01:41 J -40267700.58 -40267700.43 -40267700.29 0.0498 0.0279

Mars -114959-05-22 04:48 J -40267210.40 -40267210.30 -40267210.19 0.1715 0.0829

Earth -114957-04-29 11:02 J -40266502.15 -40266502.04 -40266501.93 0.2768 0.0225

Moon -114957-04-29 11:31 J -40266502.13 -40266502.02 -40266501.91 0.2774 0.0220 *

Jupiter -114955-09-20 11:46 J -40265628.08 -40265628.01 -40265627.94 0.0527 0.0443

Jupiter -114955-12-18 21:07 J -40265538.75 -40265538.62 -40265538.49 0.0528 0.0057

Earth -114954-10-23 05:31 J -40265230.42 -40265230.27 -40265230.12 0.2574 0.0874

Moon -114954-10-23 06:29 J -40265230.38 -40265230.23 -40265230.08 0.2580 0.0737 *

Venus -114954-12-01 03:50 J -40265191.40 -40265191.34 -40265191.28 0.3660 0.3017

Neptune -114953-04-03 19:41 J -40265066.69 -40265066.68 -40265066.62 0.0089 0.0087

Neptune -114953-06-30 23:02 J -40264978.60 -40264978.54 -40264978.47 0.0089 0.0081

Neptune -114953-09-27 01:41 J -40264890.50 -40264890.43 -40264890.33 0.0089 0.0076

Neptune -114953-12-24 04:34 J -40264802.40 -40264802.31 -40264802.19 0.0089 0.0071

Neptune -114952-03-22 07:26 J -40264714.29 -40264714.19 -40264714.05 0.0089 0.0066

Neptune -114952-06-18 10:34 J -40264626.18 -40264626.06 -40264625.92 0.0089 0.0060

Neptune -114952-09-14 13:26 J -40264538.06 -40264537.94 -40264537.79 0.0089 0.0055

Mars -114952-11-06 02:24 J -40264485.47 -40264485.40 -40264485.32 0.1736 0.1373

Neptune -114952-12-11 16:48 J -40264449.95 -40264449.80 -40264449.65 0.0089 0.0049

Neptune -114951-03-09 19:26 J -40264361.83 -40264361.69 -40264361.52 0.0089 0.0044

Neptune -114951-06-05 22:34 J -40264273.71 -40264273.56 -40264273.39 0.0089 0.0039

Neptune -114951-09-02 01:41 J -40264185.59 -40264185.43 -40264185.26 0.0089 0.0033

Saturn -114951-11-26 02:53 J -40264100.46 -40264100.38 -40264100.29 0.0277 0.0237

Neptune -114951-11-29 04:34 J -40264097.47 -40264097.31 -40264097.13 0.0089 0.0028

Mars -114951-12-01 07:41 J -40264095.30 -40264095.18 -40264095.05 0.1796 0.1068

Saturn -114950-02-22 21:36 J -40264011.74 -40264011.60 -40264011.45 0.0276 0.0139

Neptune -114950-02-25 07:41 J -40264009.35 -40264009.18 -40264009.00 0.0089 0.0022

Saturn -114950-05-22 16:34 J -40263922.98 -40263922.81 -40263922.64 0.0275 0.0040

Neptune -114950-05-24 10:48 J -40263921.22 -40263921.05 -40263920.87 0.0089 0.0017

Saturn -114950-08-19 11:31 J -40263834.19 -40263834.02 -40263833.85 0.0273 0.0059

Neptune -114950-08-20 13:55 J -40263833.10 -40263832.92 -40263832.74 0.0089 0.0011

Mars -114950-10-12 14:24 J -40263780.02 -40263779.90 -40263779.79 0.1719 0.0423

Saturn -114950-11-16 06:29 J -40263745.36 -40263745.23 -40263745.08 0.0272 0.0159

Neptune -114950-11-16 17:02 J -40263744.97 -40263744.79 -40263744.61 0.0089 0.0006

Neptune -114949-02-12 20:10 J -40263656.84 -40263656.66 -40263656.48 0.0089 0.0002

Saturn -114949-02-13 01:55 J -40263656.47 -40263656.42 -40263656.36 0.0271 0.0257

Neptune -114949-05-10 23:02 J -40263568.72 -40263568.54 -40263568.35 0.0089 0.0006

Jupiter -114949-08-06 21:22 J -40263480.70 -40263480.61 -40263480.51 0.0499 0.0413

Neptune -114949-08-07 02:10 J -40263480.59 -40263480.41 -40263480.23 0.0089 0.0011 *

Neptune -114949-11-03 05:17 J -40263392.45 -40263392.28 -40263392.10 0.0089 0.0017

Jupiter -114949-11-05 00:43 J -40263390.64 -40263390.47 -40263390.31 0.0498 0.0144

Neptune -114948-01-30 08:24 J -40263304.32 -40263304.15 -40263303.97 0.0089 0.0023

Neptune -114948-04-28 11:31 J -40263216.19 -40263216.02 -40263215.84 0.0089 0.0028

Venus -114948-06-15 21:50 J -40263167.70 -40263167.59 -40263167.49 0.3665 0.1389

Neptune -114948-07-25 14:38 J -40263128.05 -40263127.89 -40263127.71 0.0089 0.0034

Neptune -114948-10-21 17:46 J -40263039.91 -40263039.76 -40263039.59 0.0089 0.0040

Neptune -114947-01-17 21:07 J -40262951.78 -40262951.62 -40262951.46 0.0089 0.0045

Neptune -114947-04-16 00:00 J -40262863.64 -40262863.50 -40262863.34 0.0089 0.0051

Neptune -114947-07-13 03:07 J -40262775.49 -40262775.37 -40262775.21 0.0089 0.0057

Neptune -114947-10-09 06:43 J -40262687.35 -40262687.22 -40262687.09 0.0089 0.0062

Neptune -114946-01-05 09:50 J -40262599.20 -40262599.09 -40262598.97 0.0089 0.0068

Neptune -114946-04-03 12:58 J -40262511.05 -40262510.96 -40262510.85 0.0089 0.0074

Neptune -114946-06-30 16:05 J -40262422.89 -40262422.83 -40262422.74 0.0089 0.0080

Neptune -114946-09-26 19:41 J -40262334.73 -40262334.68 -40262334.63 0.0089 0.0086

Earth -114944-05-02 05:31 J -40261751.38 -40261751.27 -40261751.17 0.2771 0.0681

Moon -114944-05-02 06:14 J -40261751.35 -40261751.24 -40261751.14 0.2770 0.0760 *

Jupiter -114943-10-07 00:00 J -40261228.63 -40261228.50 -40261228.36 0.0527 0.0075

Venus -114943-12-30 15:22 J -40261143.97 -40261143.86 -40261143.75 0.3670 0.0237

Jupiter -114942-01-04 08:38 J -40261139.21 -40261139.14 -40261139.06 0.0528 0.0417

Mars -114941-04-22 06:58 J -40260665.36 -40260665.21 -40260665.05 0.1792 0.0304

Earth -114941-10-25 11:46 J -40260479.17 -40260479.01 -40260478.86 0.2571 0.0636

Moon -114941-10-25 13:26 J -40260479.10 -40260478.94 -40260478.79 0.2572 0.0651 *

Mars -114940-03-03 23:46 J -40260349.64 -40260349.51 -40260349.39 0.1723 0.0053

Uranus -114939-06-22 20:24 J -40259873.74 -40259873.65 -40259873.57 0.0147 0.0128

Uranus -114939-09-19 03:50 J -40259785.46 -40259785.34 -40259785.20 0.0147 0.0100

Uranus -114939-12-16 11:31 J -40259697.17 -40259697.02 -40259696.85 0.0147 0.0072

Mars -114938-02-07 09:36 J -40259644.13 -40259644.10 -40259644.08 0.1707 0.1661

Uranus -114938-03-14 19:26 J -40259608.86 -40259608.69 -40259608.51 0.0147 0.0043

Uranus -114938-06-11 03:22 J -40259520.54 -40259520.36 -40259520.17 0.0147 0.0014

Uranus -114938-09-07 11:17 J -40259432.21 -40259432.03 -40259431.84 0.0147 0.0016

Uranus -114938-12-04 19:26 J -40259343.87 -40259343.69 -40259343.52 0.0148 0.0045

Uranus -114937-03-02 03:22 J -40259255.52 -40259255.36 -40259255.20 0.0148 0.0075

Moon -114937-04-25 02:38 J -40259201.47 -40259201.39 -40259201.31 0.2769 0.1839

Earth -114937-04-25 02:53 J -40259201.46 -40259201.38 -40259201.30 0.2763 0.1860 *

Uranus -114937-05-29 11:17 J -40259167.15 -40259167.03 -40259166.89 0.0148 0.0104

Venus -114937-07-15 09:07 J -40259120.22 -40259120.12 -40259120.03 0.3676 0.1788

Jupiter -114937-08-23 23:31 J -40259080.69 -40259080.52 -40259080.34 0.0498 0.0010

Uranus -114937-08-25 19:41 J -40259078.76 -40259078.68 -40259078.61 0.0148 0.0134

Saturn -114935-12-11 05:46 J -40258241.31 -40258241.26 -40258241.19 0.0285 0.0257

Saturn -114934-03-09 19:41 J -40258152.79 -40258152.68 -40258152.56 0.0286 0.0165

Saturn -114934-06-06 09:22 J -40258064.25 -40258064.11 -40258063.98 0.0287 0.0074

Saturn -114934-09-02 22:48 J -40257975.69 -40257975.55 -40257975.41 0.0288 0.0018

Saturn -114934-11-30 12:14 J -40257887.12 -40257886.99 -40257886.86 0.0289 0.0110

Saturn -114933-02-27 01:26 J -40257798.53 -40257798.44 -40257798.34 0.0290 0.0201

Mars -114932-09-12 07:12 J -40257235.35 -40257235.20 -40257235.05 0.1787 0.0415

Venus -114931-01-29 02:24 J -40257096.44 -40257096.40 -40257096.35 0.3681 0.3325

Earth -114931-05-04 23:46 J -40257000.59 -40257000.51 -40257000.42 0.2774 0.1583

Moon -114931-05-05 00:14 J -40257000.57 -40257000.49 -40257000.40 0.2769 0.1650 *

Mars -114931-07-25 08:53 J -40256919.25 -40256919.13 -40256919.01 0.1727 0.0432

Jupiter -114931-07-26 03:36 J -40256918.47 -40256918.35 -40256918.22 0.0527 0.0194

Jupiter -114931-10-23 12:29 J -40256829.08 -40256828.98 -40256828.87 0.0528 0.0300

Mars -114929-06-29 19:26 J -40256213.77 -40256213.69 -40256213.61 0.1710 0.1277

Earth -114928-10-28 18:00 J -40255727.84 -40255727.75 -40255727.66 0.2568 0.2143

Moon -114928-10-28 19:41 J -40255727.74 -40255727.68 -40255727.62 0.2567 0.2339 *

Jupiter -114925-06-11 21:36 J -40254770.77 -40254770.60 -40254770.43 0.0498 0.0139

Jupiter -114925-09-10 01:41 J -40254680.52 -40254680.43 -40254680.34 0.0497 0.0426

Earth -114924-04-27 21:22 J -40254450.71 -40254450.61 -40254450.50 0.2766 0.0959

Moon -114924-04-27 21:50 J -40254450.69 -40254450.59 -40254450.49 0.2773 0.1002 *

Venus -114923-05-11 00:58 J -40254072.57 -40254072.46 -40254072.34 0.3716 0.1931

Mars -114922-02-02 07:26 J -40253805.31 -40253805.19 -40253805.07 0.1781 0.1121

Mars -114922-12-15 17:46 J -40253488.87 -40253488.76 -40253488.66 0.1732 0.0873

Saturn -114921-04-14 03:07 J -40253368.42 -40253368.37 -40253368.32 0.0277 0.0265

Saturn -114921-07-11 21:36 J -40253279.73 -40253279.60 -40253279.46 0.0276 0.0167

Saturn -114921-10-08 16:19 J -40253190.98 -40253190.82 -40253190.65 0.0275 0.0069

Earth -114921-10-20 06:00 J -40253179.34 -40253179.25 -40253179.16 0.2577 0.2073

Moon -114921-10-20 06:29 J -40253179.32 -40253179.23 -40253179.14 0.2583 0.2083 *

Saturn -114920-01-05 11:17 J -40253102.20 -40253102.03 -40253101.85 0.0274 0.0032

Saturn -114920-04-04 06:29 J -40253013.38 -40253013.23 -40253013.07 0.0273 0.0130

Saturn -114920-07-02 01:41 J -40252924.52 -40252924.43 -40252924.33 0.0272 0.0230

Mars -114920-11-20 04:48 J -40252783.40 -40252783.30 -40252783.19 0.1715 0.0878

Jupiter -114919-05-14 07:12 J -40252608.30 -40252608.20 -40252608.09 0.0528 0.0313

Jupiter -114919-08-11 16:34 J -40252518.94 -40252518.81 -40252518.69 0.0528 0.0186

Moon -114918-05-07 18:14 J -40252249.80 -40252249.74 -40252249.69 0.2769 0.2408

Earth -114918-05-07 18:14 J -40252249.78 -40252249.74 -40252249.69 0.2776 0.2479 *

Venus -114918-11-25 02:53 J -40252048.51 -40252048.38 -40252048.25 0.3709 0.0989

Jupiter -114913-03-30 20:38 J -40250460.78 -40250460.64 -40250460.49 0.0498 0.0274

Jupiter -114913-06-29 00:14 J -40250370.63 -40250370.49 -40250370.34 0.0497 0.0287

Mars -114912-05-07 02:24 J -40250058.48 -40250058.40 -40250058.32 0.1736 0.1328

Earth -114911-04-30 15:50 J -40249699.95 -40249699.84 -40249699.73 0.2769 0.0084

Moon -114911-04-30 16:34 J -40249699.92 -40249699.81 -40249699.70 0.2772 0.0066 *

Mars -114911-06-01 08:10 J -40249668.28 -40249668.16 -40249668.03 0.1796 0.1138

Mars -114910-04-12 14:24 J -40249353.02 -40249352.90 -40249352.79 0.1719 0.0467

Earth -114908-10-23 12:00 J -40248428.15 -40248428.00 -40248427.84 0.2574 0.0585

Moon -114908-10-23 13:12 J -40248428.10 -40248427.95 -40248427.79 0.2578 0.0560 *

Jupiter -114907-03-02 10:48 J -40248298.12 -40248298.05 -40248297.97 0.0527 0.0433

Jupiter -114907-05-30 20:10 J -40248208.79 -40248208.66 -40248208.52 0.0528 0.0070

Saturn -114905-07-26 19:55 J -40247420.76 -40247420.67 -40247420.56 0.0285 0.0201

Saturn -114905-10-23 09:36 J -40247332.23 -40247332.10 -40247331.97 0.0286 0.0109

Saturn -114904-01-19 23:17 J -40247243.67 -40247243.53 -40247243.39 0.0287 0.0018

Saturn -114904-04-18 12:43 J -40247155.11 -40247154.97 -40247154.84 0.0289 0.0074

Moon -114904-04-23 12:43 J -40247150.00 -40247149.97 -40247149.94 0.2764 0.2639

Earth -114904-04-23 13:26 J -40247149.98 -40247149.94 -40247149.91 0.2760 0.2592 *

Saturn -114904-07-16 01:55 J -40247066.53 -40247066.42 -40247066.31 0.0290 0.0165

Saturn -114904-10-12 15:07 J -40246977.93 -40246977.87 -40246977.81 0.0291 0.0256

Mars -114902-10-22 07:55 J -40246238.33 -40246238.17 -40246238.02 0.1792 0.0385

Jupiter -114901-01-17 19:41 J -40246150.77 -40246150.68 -40246150.57 0.0499 0.0408

Jupiter -114901-04-16 23:02 J -40246060.71 -40246060.54 -40246060.37 0.0498 0.0149

Mars -114901-09-01 23:46 J -40245922.63 -40245922.51 -40245922.39 0.1723 0.0057

Mars -114899-08-08 09:36 J -40245217.10 -40245217.10 -40245217.10 0.1707 0.1704

Uranus -114899-11-02 09:07 J -40245131.16 -40245131.12 -40245131.06 0.0132 0.0123

Uranus -114898-01-29 12:29 J -40245043.05 -40245042.98 -40245042.89 0.0132 0.0107

Uranus -114898-04-27 15:50 J -40244954.93 -40244954.84 -40244954.73 0.0132 0.0091

Earth -114898-05-03 10:19 J -40244949.17 -40244949.07 -40244948.97 0.2772 0.0851

Moon -114898-05-03 11:02 J -40244949.14 -40244949.04 -40244948.94 0.2769 0.0880 *

Uranus -114898-07-24 19:12 J -40244866.81 -40244866.70 -40244866.58 0.0131 0.0075

Uranus -114898-10-20 22:34 J -40244778.68 -40244778.56 -40244778.43 0.0131 0.0059

Uranus -114897-01-17 01:55 J -40244690.55 -40244690.42 -40244690.29 0.0131 0.0043

Uranus -114897-04-14 05:02 J -40244602.42 -40244602.29 -40244602.15 0.0131 0.0028

Venus -114897-07-07 01:55 J -40244518.50 -40244518.42 -40244518.34 0.3661 0.2412

Uranus -114897-07-11 08:24 J -40244514.29 -40244514.15 -40244514.02 0.0131 0.0013

Uranus -114897-10-07 11:31 J -40244426.16 -40244426.02 -40244425.88 0.0131 0.0003

Uranus -114896-01-03 14:38 J -40244338.02 -40244337.89 -40244337.75 0.0131 0.0019

Uranus -114896-04-01 17:46 J -40244249.89 -40244249.76 -40244249.62 0.0131 0.0034

Uranus -114896-06-28 20:53 J -40244161.75 -40244161.63 -40244161.50 0.0131 0.0050

Uranus -114896-09-25 00:14 J -40244073.61 -40244073.49 -40244073.37 0.0131 0.0064

Uranus -114896-12-22 03:22 J -40243985.47 -40243985.36 -40243985.25 0.0131 0.0079

Jupiter -114895-03-18 23:46 J -40243898.64 -40243898.51 -40243898.38 0.0528 0.0055

Uranus -114895-03-20 06:29 J -40243897.32 -40243897.23 -40243897.14 0.0131 0.0094

Jupiter -114895-06-16 08:24 J -40243809.22 -40243809.15 -40243809.08 0.0528 0.0435

Uranus -114895-06-16 09:22 J -40243809.17 -40243809.11 -40243809.03 0.0131 0.0109 *

Uranus -114895-09-12 12:29 J -40243721.01 -40243720.98 -40243720.93 0.0131 0.0124

Earth -114895-10-26 18:14 J -40243676.89 -40243676.74 -40243676.59 0.2571 0.0922

Moon -114895-10-26 19:55 J -40243676.81 -40243676.67 -40243676.52 0.2571 0.1135 *

Mars -114892-03-13 07:26 J -40242808.34 -40242808.19 -40242808.04 0.1786 0.0357

Saturn -114892-11-28 19:55 J -40242547.78 -40242547.67 -40242547.55 0.0277 0.0205

Venus -114891-01-20 19:41 J -40242494.79 -40242494.68 -40242494.57 0.3666 0.0797

Mars -114891-01-23 08:53 J -40242492.25 -40242492.13 -40242492.01 0.1727 0.0382

Saturn -114891-02-25 14:38 J -40242459.05 -40242458.89 -40242458.73 0.0276 0.0106

Moon -114891-04-26 07:41 J -40242399.26 -40242399.18 -40242399.10 0.2770 0.1749

Earth -114891-04-26 07:55 J -40242399.26 -40242399.17 -40242399.09 0.2763 0.1685 *

Saturn -114891-05-25 09:36 J -40242370.27 -40242370.10 -40242369.93 0.0274 0.0007

Saturn -114891-08-22 04:34 J -40242281.47 -40242281.31 -40242281.14 0.0273 0.0092

Saturn -114891-11-18 23:46 J -40242192.63 -40242192.51 -40242192.38 0.0272 0.0191

Mars -114890-12-29 19:12 J -40241786.77 -40241786.70 -40241786.62 0.1711 0.1318

Jupiter -114889-02-03 22:05 J -40241750.75 -40241750.58 -40241750.40 0.0498 0.0015

Venus -114886-08-06 13:26 J -40240471.05 -40240470.94 -40240470.83 0.3672 0.0794

Earth -114885-05-05 04:48 J -40240198.38 -40240198.30 -40240198.22 0.2774 0.1753

Moon -114885-05-05 05:02 J -40240198.37 -40240198.29 -40240198.21 0.2768 0.1771 *

Jupiter -114883-01-05 02:38 J -40239588.51 -40239588.39 -40239588.26 0.0527 0.0184

Jupiter -114883-04-04 11:31 J -40239499.12 -40239499.02 -40239498.91 0.0528 0.0310

Mars -114883-08-03 07:55 J -40239378.29 -40239378.17 -40239378.05 0.1782 0.1056

Pluto -114883-10-07 15:22 J -40239312.91 -40239312.86 -40239312.81 0.0084 0.0077

Pluto -114882-01-03 16:34 J -40239224.89 -40239224.81 -40239224.72 0.0084 0.0062

Pluto -114882-04-01 17:46 J -40239136.86 -40239136.76 -40239136.64 0.0084 0.0047

Mars -114882-06-15 17:46 J -40239061.87 -40239061.76 -40239061.65 0.1731 0.0823

Pluto -114882-06-28 19:12 J -40239048.82 -40239048.70 -40239048.57 0.0084 0.0032

Pluto -114882-09-24 20:38 J -40238960.77 -40238960.64 -40238960.51 0.0084 0.0017

Earth -114882-10-30 00:43 J -40238925.52 -40238925.47 -40238925.43 0.2568 0.2444

Moon -114882-10-30 02:10 J -40238925.46 -40238925.41 -40238925.37 0.2565 0.2439 *

Pluto -114882-12-21 21:50 J -40238872.72 -40238872.59 -40238872.45 0.0084 0.0002

Pluto -114881-03-18 23:02 J -40238784.67 -40238784.54 -40238784.40 0.0084 0.0013

Pluto -114881-06-15 00:29 J -40238696.61 -40238696.48 -40238696.35 0.0084 0.0027

Pluto -114881-09-11 01:41 J -40238608.54 -40238608.43 -40238608.31 0.0083 0.0041

Pluto -114881-12-08 02:38 J -40238520.47 -40238520.39 -40238520.28 0.0083 0.0056

Venus -114880-02-19 06:58 J -40238447.29 -40238447.21 -40238447.12 0.3677 0.2357

Pluto -114880-03-06 04:05 J -40238432.39 -40238432.33 -40238432.25 0.0083 0.0070

Mars -114880-05-21 05:02 J -40238356.39 -40238356.29 -40238356.19 0.1715 0.0922

Earth -114878-04-29 02:24 J -40237648.51 -40237648.40 -40237648.30 0.2766 0.0781

Moon -114878-04-29 02:38 J -40237648.49 -40237648.39 -40237648.28 0.2773 0.0691 *

Jupiter -114878-11-22 21:22 J -40237440.78 -40237440.61 -40237440.44 0.0498 0.0121

Jupiter -114877-02-21 01:12 J -40237350.52 -40237350.45 -40237350.37 0.0498 0.0447

Saturn -114876-12-13 20:53 J -40236688.71 -40236688.63 -40236688.55 0.0285 0.0232

Saturn -114875-03-12 10:34 J -40236600.18 -40236600.06 -40236599.94 0.0286 0.0141

Saturn -114875-06-09 00:14 J -40236511.63 -40236511.49 -40236511.35 0.0287 0.0050

Saturn -114875-09-05 13:41 J -40236423.07 -40236422.93 -40236422.79 0.0288 0.0043

Earth -114875-10-21 12:29 J -40236377.09 -40236376.98 -40236376.86 0.2576 0.1792

Moon -114875-10-21 13:12 J -40236377.07 -40236376.95 -40236376.83 0.2583 0.1707 *

Saturn -114875-12-03 02:53 J -40236334.50 -40236334.38 -40236334.25 0.0289 0.0134

Saturn -114874-03-01 16:19 J -40236245.91 -40236245.82 -40236245.74 0.0290 0.0225

Mars -114874-12-24 08:53 J -40235948.16 -40235948.13 -40235948.10 0.1777 0.1721

Mars -114873-11-05 02:38 J -40235631.48 -40235631.39 -40235631.31 0.1736 0.1276

Neptune -114872-04-29 05:02 J -40235456.31 -40235456.29 -40235456.23 0.0088 0.0086

Moon -114872-05-07 22:48 J -40235447.57 -40235447.55 -40235447.52 0.2770 0.2656

Earth -114872-05-07 23:02 J -40235447.56 -40235447.54 -40235447.51 0.2777 0.2654 *

Neptune -114872-07-26 06:58 J -40235368.26 -40235368.21 -40235368.14 0.0088 0.0081

Neptune -114872-10-22 08:38 J -40235280.20 -40235280.14 -40235280.06 0.0088 0.0076

Jupiter -114872-10-24 06:14 J -40235278.35 -40235278.24 -40235278.13 0.0527 0.0305

Mars -114872-11-30 09:07 J -40235241.24 -40235241.12 -40235241.01 0.1797 0.1217

Neptune -114871-01-18 10:34 J -40235192.14 -40235192.06 -40235191.98 0.0088 0.0072

Jupiter -114871-01-21 15:22 J -40235188.98 -40235188.86 -40235188.74 0.0528 0.0192

Neptune -114871-04-16 12:00 J -40235104.08 -40235104.00 -40235103.90 0.0088 0.0068

Neptune -114871-07-13 13:41 J -40235016.02 -40235015.93 -40235015.82 0.0088 0.0063

Neptune -114871-10-09 15:22 J -40234927.96 -40234927.86 -40234927.75 0.0088 0.0059

Mars -114871-10-11 14:24 J -40234926.01 -40234925.90 -40234925.78 0.1719 0.0515

Neptune -114870-01-05 17:02 J -40234839.90 -40234839.79 -40234839.67 0.0088 0.0054

Neptune -114870-04-03 18:29 J -40234751.83 -40234751.73 -40234751.60 0.0088 0.0051

Neptune -114870-06-30 20:24 J -40234663.77 -40234663.65 -40234663.53 0.0088 0.0046

Neptune -114870-09-26 21:50 J -40234575.71 -40234575.59 -40234575.45 0.0088 0.0042

Neptune -114870-12-23 23:46 J -40234487.64 -40234487.51 -40234487.38 0.0088 0.0037

Neptune -114869-03-21 01:12 J -40234399.58 -40234399.45 -40234399.31 0.0088 0.0033

Neptune -114869-06-17 02:53 J -40234311.51 -40234311.38 -40234311.24 0.0088 0.0028

Neptune -114869-09-13 04:19 J -40234223.45 -40234223.32 -40234223.18 0.0088 0.0024

Neptune -114869-12-10 06:00 J -40234135.38 -40234135.25 -40234135.11 0.0088 0.0020

Neptune -114868-03-08 07:41 J -40234047.32 -40234047.18 -40234047.04 0.0088 0.0015

Neptune -114868-06-04 09:07 J -40233959.25 -40233959.12 -40233958.97 0.0088 0.0012

Neptune -114868-08-31 10:48 J -40233871.19 -40233871.05 -40233870.91 0.0088 0.0007

Neptune -114868-11-27 12:29 J -40233783.12 -40233782.98 -40233782.84 0.0088 0.0003

Neptune -114867-02-23 13:55 J -40233695.06 -40233694.92 -40233694.78 0.0088 0.0002

Neptune -114867-05-22 15:36 J -40233606.99 -40233606.85 -40233606.71 0.0088 0.0006

Neptune -114867-08-18 17:02 J -40233518.93 -40233518.79 -40233518.65 0.0088 0.0010

Neptune -114867-11-14 18:29 J -40233430.86 -40233430.73 -40233430.59 0.0088 0.0015

Venus -114867-12-16 00:58 J -40233399.59 -40233399.46 -40233399.33 0.3714 0.0949

Neptune -114866-02-10 20:10 J -40233342.80 -40233342.66 -40233342.52 0.0088 0.0019

Neptune -114866-05-09 21:36 J -40233254.73 -40233254.60 -40233254.46 0.0088 0.0023

Neptune -114866-08-05 23:02 J -40233166.67 -40233166.54 -40233166.40 0.0088 0.0027

Jupiter -114866-09-10 19:41 J -40233130.83 -40233130.68 -40233130.54 0.0498 0.0262

Neptune -114866-11-02 00:29 J -40233078.60 -40233078.48 -40233078.34 0.0088 0.0032

Jupiter -114866-12-09 23:02 J -40233040.68 -40233040.54 -40233040.39 0.0497 0.0298

Neptune -114865-01-29 02:10 J -40232990.53 -40232990.41 -40232990.28 0.0088 0.0035

Neptune -114865-04-26 03:36 J -40232902.47 -40232902.35 -40232902.22 0.0088 0.0039

Earth -114865-04-30 20:53 J -40232897.74 -40232897.63 -40232897.52 0.2769 0.0146

Moon -114865-04-30 21:36 J -40232897.71 -40232897.60 -40232897.49 0.2770 0.0135 *

Neptune -114865-07-23 05:02 J -40232814.40 -40232814.29 -40232814.16 0.0088 0.0044

Neptune -114865-10-19 06:43 J -40232726.34 -40232726.22 -40232726.10 0.0088 0.0048

Neptune -114864-01-15 08:10 J -40232638.27 -40232638.16 -40232638.04 0.0088 0.0052

Neptune -114864-04-13 09:36 J -40232550.20 -40232550.10 -40232549.99 0.0088 0.0056

Neptune -114864-07-10 11:17 J -40232462.13 -40232462.03 -40232461.93 0.0088 0.0060

Neptune -114864-10-06 12:29 J -40232374.07 -40232373.98 -40232373.88 0.0088 0.0064

Neptune -114863-01-02 13:55 J -40232286.00 -40232285.92 -40232285.82 0.0088 0.0068

Neptune -114863-03-31 15:22 J -40232197.93 -40232197.86 -40232197.77 0.0088 0.0072

Neptune -114863-06-27 16:48 J -40232109.85 -40232109.80 -40232109.72 0.0088 0.0076

Neptune -114863-09-23 18:14 J -40232021.78 -40232021.74 -40232021.67 0.0088 0.0080

Neptune -114863-12-20 19:41 J -40231933.70 -40231933.68 -40231933.62 0.0088 0.0084

Neptune -114862-03-18 21:22 J -40231845.61 -40231845.61 -40231845.59 0.0088 0.0088

Saturn -114862-04-17 19:26 J -40231815.77 -40231815.69 -40231815.60 0.0277 0.0236

Mars -114862-04-22 08:24 J -40231811.30 -40231811.15 -40231811.00 0.1791 0.0453

Saturn -114862-07-15 14:10 J -40231727.05 -40231726.91 -40231726.76 0.0276 0.0137

Saturn -114862-10-12 09:07 J -40231638.29 -40231638.12 -40231637.95 0.0275 0.0038

Earth -114862-10-24 18:43 J -40231625.88 -40231625.72 -40231625.56 0.2573 0.0293

Moon -114862-10-24 20:10 J -40231625.82 -40231625.66 -40231625.50 0.2576 0.0191 *

Saturn -114861-01-09 04:05 J -40231549.50 -40231549.33 -40231549.16 0.0274 0.0061

Mars -114861-03-02 23:46 J -40231495.63 -40231495.51 -40231495.39 0.1723 0.0095

Saturn -114861-04-06 23:17 J -40231460.67 -40231460.53 -40231460.39 0.0273 0.0161

Venus -114861-07-01 02:53 J -40231375.49 -40231375.38 -40231375.26 0.3707 0.1996

Saturn -114861-07-04 18:29 J -40231371.77 -40231371.73 -40231371.67 0.0272 0.0260

Jupiter -114860-08-12 09:50 J -40230968.17 -40230968.09 -40230968.02 0.0528 0.0426

Jupiter -114860-11-09 19:12 J -40230878.83 -40230878.70 -40230878.57 0.0528 0.0076

Moon -114858-04-24 17:31 J -40230347.81 -40230347.77 -40230347.72 0.2765 0.2479

Earth -114858-04-24 18:14 J -40230347.79 -40230347.74 -40230347.69 0.2760 0.2419 *

Uranus -114855-07-13 04:05 J -40229172.43 -40229172.33 -40229172.23 0.0147 0.0120

Uranus -114855-10-09 11:46 J -40229084.15 -40229084.01 -40229083.87 0.0147 0.0091

Uranus -114854-01-05 19:26 J -40228995.85 -40228995.69 -40228995.52 0.0147 0.0063

Uranus -114854-04-04 03:22 J -40228907.54 -40228907.36 -40228907.18 0.0147 0.0034

Jupiter -114854-06-29 18:58 J -40228820.81 -40228820.71 -40228820.60 0.0498 0.0394

Uranus -114854-07-01 11:17 J -40228819.21 -40228819.03 -40228818.85 0.0147 0.0005

Uranus -114854-09-27 19:12 J -40228730.88 -40228730.70 -40228730.52 0.0148 0.0024

Jupiter -114854-09-27 22:05 J -40228730.75 -40228730.58 -40228730.42 0.0497 0.0160 *

Uranus -114854-12-25 03:07 J -40228642.54 -40228642.37 -40228642.20 0.0148 0.0054

Uranus -114853-03-22 11:17 J -40228554.18 -40228554.03 -40228553.88 0.0148 0.0083

Uranus -114853-06-18 19:12 J -40228465.81 -40228465.70 -40228465.58 0.0148 0.0113

Mars -114853-09-11 08:10 J -40228381.31 -40228381.16 -40228381.01 0.1787 0.0282

Uranus -114853-09-15 03:22 J -40228377.40 -40228377.36 -40228377.31 0.0148 0.0143

Earth -114852-05-03 15:07 J -40228146.97 -40228146.87 -40228146.76 0.2772 0.1031

Moon -114852-05-03 15:50 J -40228146.94 -40228146.84 -40228146.74 0.2769 0.1124 *

Mars -114852-07-24 08:53 J -40228065.25 -40228065.13 -40228065.01 0.1727 0.0335

Mars -114850-06-29 19:26 J -40227359.76 -40227359.69 -40227359.62 0.1711 0.1361

Earth -114849-10-27 00:58 J -40226874.60 -40226874.46 -40226874.32 0.2570 0.1223

Moon -114849-10-27 02:53 J -40226874.52 -40226874.38 -40226874.25 0.2570 0.1266 *

Jupiter -114848-08-28 23:02 J -40226568.68 -40226568.54 -40226568.41 0.0528 0.0043

Jupiter -114848-11-26 07:41 J -40226479.25 -40226479.18 -40226479.11 0.0529 0.0448

Saturn -114846-05-02 20:53 J -40225956.67 -40225956.63 -40225956.58 0.0284 0.0268

Venus -114846-07-29 06:00 J -40225869.28 -40225869.25 -40225869.21 0.3657 0.3451

Saturn -114846-07-30 10:48 J -40225868.16 -40225868.05 -40225867.94 0.0285 0.0177

Saturn -114846-10-27 00:14 J -40225779.62 -40225779.49 -40225779.35 0.0286 0.0086

Saturn -114845-01-23 13:55 J -40225691.06 -40225690.92 -40225690.78 0.0287 0.0008

Saturn -114845-04-21 03:07 J -40225602.50 -40225602.37 -40225602.23 0.0288 0.0097

Earth -114845-04-26 12:43 J -40225597.06 -40225596.97 -40225596.88 0.2764 0.1514

Moon -114845-04-26 12:58 J -40225597.05 -40225596.96 -40225596.87 0.2771 0.1497 *

Saturn -114845-07-18 16:19 J -40225513.92 -40225513.82 -40225513.71 0.0290 0.0188

Saturn -114845-10-15 05:31 J -40225425.30 -40225425.27 -40225425.23 0.0291 0.0278

Mars -114843-02-01 08:24 J -40224951.28 -40224951.15 -40224951.02 0.1782 0.0986

Mars -114843-12-14 17:46 J -40224634.87 -40224634.76 -40224634.65 0.1732 0.0777

Jupiter -114842-07-16 20:53 J -40224420.81 -40224420.63 -40224420.46 0.0498 0.0023

Mars -114841-11-19 05:02 J -40223929.39 -40223929.29 -40223929.19 0.1715 0.0965

Venus -114840-02-11 00:00 J -40223845.60 -40223845.50 -40223845.40 0.3663 0.1810

Earth -114839-05-06 09:36 J -40223396.18 -40223396.10 -40223396.02 0.2775 0.1926

Moon -114839-05-06 09:36 J -40223396.17 -40223396.10 -40223396.02 0.2767 0.1898 *

Jupiter -114836-06-17 02:24 J -40222258.52 -40222258.40 -40222258.27 0.0528 0.0164

Jupiter -114836-09-14 11:17 J -40222169.13 -40222169.03 -40222168.93 0.0528 0.0330

Venus -114835-08-27 17:46 J -40221821.87 -40221821.76 -40221821.65 0.3668 0.0206

Mars -114834-06-24 09:07 J -40221521.17 -40221521.12 -40221521.07 0.1776 0.1665

Mars -114833-05-06 02:38 J -40221204.47 -40221204.39 -40221204.30 0.1736 0.1225

Saturn -114833-09-03 17:31 J -40221083.79 -40221083.77 -40221083.75 0.0278 0.0275

Saturn -114833-12-01 12:00 J -40220995.12 -40220995.00 -40220994.86 0.0277 0.0178

Saturn -114832-02-28 06:58 J -40220906.37 -40220906.21 -40220906.05 0.0276 0.0078

Earth -114832-04-29 07:12 J -40220846.30 -40220846.20 -40220846.09 0.2767 0.0610

Moon -114832-04-29 07:41 J -40220846.28 -40220846.18 -40220846.07 0.2772 0.0622 *

Saturn -114832-05-28 01:55 J -40220817.59 -40220817.42 -40220817.25 0.0274 0.0021

Mars -114832-05-31 09:22 J -40220814.21 -40220814.11 -40220814.00 0.1796 0.1280

Saturn -114832-08-24 21:07 J -40220728.78 -40220728.62 -40220728.46 0.0273 0.0120

Saturn -114832-11-21 16:19 J -40220639.92 -40220639.82 -40220639.71 0.0272 0.0220

Mars -114831-04-11 14:24 J -40220499.01 -40220498.90 -40220498.78 0.1719 0.0559

Jupiter -114830-05-04 20:10 J -40220110.83 -40220110.66 -40220110.49 0.0498 0.0110

Jupiter -114830-08-03 00:00 J -40220020.56 -40220020.50 -40220020.42 0.0498 0.0457

Venus -114829-03-12 11:31 J -40219798.13 -40219798.02 -40219797.92 0.3673 0.1376

Earth -114829-10-21 19:12 J -40219574.83 -40219574.70 -40219574.57 0.2576 0.1499

Moon -114829-10-21 19:55 J -40219574.79 -40219574.67 -40219574.54 0.2582 0.1523 *

Jupiter -114824-04-05 05:31 J -40217948.38 -40217948.27 -40217948.16 0.0527 0.0292

Jupiter -114824-07-03 14:38 J -40217859.01 -40217858.89 -40217858.77 0.0528 0.0205

Venus -114824-09-26 05:02 J -40217774.36 -40217774.29 -40217774.23 0.3679 0.2924

Mars -114824-09-26 11:17 J -40217774.06 -40217774.03 -40217774.01 0.1740 0.1689

Mars -114823-10-21 08:53 J -40217384.28 -40217384.13 -40217383.98 0.1792 0.0520

Mars -114822-09-02 00:00 J -40217068.63 -40217068.50 -40217068.38 0.1723 0.0156

Earth -114819-05-02 01:41 J -40216095.54 -40216095.43 -40216095.32 0.2770 0.0298

Moon -114819-05-02 02:24 J -40216095.51 -40216095.40 -40216095.29 0.2769 0.0440 *

Jupiter -114818-02-20 19:26 J -40215800.84 -40215800.69 -40215800.54 0.0498 0.0243

Jupiter -114818-05-21 23:02 J -40215710.67 -40215710.54 -40215710.40 0.0498 0.0319

Saturn -114817-12-16 11:31 J -40215136.12 -40215136.02 -40215135.93 0.0285 0.0209

Saturn -114816-03-15 00:58 J -40215047.58 -40215047.46 -40215047.32 0.0286 0.0119

Saturn -114816-06-11 14:38 J -40214959.03 -40214958.89 -40214958.75 0.0287 0.0027

Saturn -114816-09-08 04:05 J -40214870.47 -40214870.33 -40214870.19 0.0288 0.0064

Earth -114816-10-25 01:12 J -40214823.61 -40214823.45 -40214823.29 0.2573 0.0058

Moon -114816-10-25 02:53 J -40214823.53 -40214823.38 -40214823.22 0.2574 0.0168 *

Saturn -114816-12-05 17:17 J -40214781.89 -40214781.78 -40214781.66 0.0289 0.0155

Venus -114815-01-05 23:31 J -40214750.61 -40214750.52 -40214750.43 0.3719 0.2798

Saturn -114815-03-04 06:43 J -40214693.29 -40214693.22 -40214693.15 0.0290 0.0246

Uranus -114815-11-22 16:19 J -40214429.87 -40214429.82 -40214429.76 0.0132 0.0119

Uranus -114814-02-18 19:26 J -40214341.76 -40214341.69 -40214341.59 0.0131 0.0104

Uranus -114814-05-17 22:48 J -40214253.64 -40214253.55 -40214253.44 0.0131 0.0088

Uranus -114814-08-14 02:10 J -40214165.52 -40214165.41 -40214165.29 0.0131 0.0072

Uranus -114814-11-10 05:31 J -40214077.39 -40214077.27 -40214077.14 0.0131 0.0056

Uranus -114813-02-06 08:53 J -40213989.26 -40213989.13 -40213989.00 0.0131 0.0040

Mars -114813-03-12 08:53 J -40213954.29 -40213954.13 -40213953.98 0.1787 0.0217

Uranus -114813-05-04 12:00 J -40213901.13 -40213901.00 -40213900.86 0.0131 0.0025

Uranus -114813-07-31 15:22 J -40213813.00 -40213812.86 -40213812.72 0.0131 0.0009

Uranus -114813-10-27 18:29 J -40213724.87 -40213724.73 -40213724.59 0.0131 0.0007

Mars -114812-01-22 08:53 J -40213638.25 -40213638.13 -40213638.01 0.1727 0.0289

Jupiter -114812-01-22 08:53 J -40213638.21 -40213638.13 -40213638.05 0.0527 0.0414 *

Uranus -114812-01-23 21:36 J -40213636.73 -40213636.60 -40213636.46 0.0131 0.0022

Jupiter -114812-04-21 18:14 J -40213548.87 -40213548.74 -40213548.61 0.0528 0.0086

Uranus -114812-04-22 00:58 J -40213548.59 -40213548.46 -40213548.33 0.0131 0.0037

Moon -114812-04-24 22:48 J -40213545.61 -40213545.55 -40213545.49 0.2766 0.2313

Earth -114812-04-24 23:02 J -40213545.60 -40213545.54 -40213545.47 0.2761 0.2249 *

Uranus -114812-07-19 04:05 J -40213460.46 -40213460.33 -40213460.20 0.0131 0.0052

Uranus -114812-10-15 07:12 J -40213372.32 -40213372.20 -40213372.08 0.0131 0.0067

Uranus -114811-01-11 10:19 J -40213284.17 -40213284.07 -40213283.96 0.0131 0.0082

Uranus -114811-04-09 13:26 J -40213196.03 -40213195.94 -40213195.85 0.0131 0.0097

Uranus -114811-07-06 16:34 J -40213107.88 -40213107.81 -40213107.74 0.0131 0.0112

Uranus -114811-10-02 19:26 J -40213019.71 -40213019.69 -40213019.65 0.0131 0.0127

Mars -114811-12-28 19:26 J -40212932.76 -40212932.69 -40212932.62 0.1711 0.1405

Venus -114810-07-23 01:12 J -40212726.59 -40212726.45 -40212726.32 0.3712 0.0120

Jupiter -114807-12-09 18:00 J -40211490.85 -40211490.75 -40211490.64 0.0498 0.0381

Jupiter -114806-03-09 21:07 J -40211400.78 -40211400.62 -40211400.45 0.0497 0.0174

Earth -114806-05-04 20:10 J -40211344.76 -40211344.66 -40211344.56 0.2772 0.1203

Moon -114806-05-04 20:38 J -40211344.74 -40211344.64 -40211344.54 0.2767 0.1179 *

Venus -114804-02-05 03:07 J -40210702.44 -40210702.37 -40210702.29 0.3705 0.3031

Mars -114804-08-02 08:53 J -40210524.26 -40210524.13 -40210523.99 0.1782 0.0918

Saturn -114803-04-20 11:31 J -40210263.13 -40210263.02 -40210262.91 0.0277 0.0210

Mars -114803-06-14 18:00 J -40210207.86 -40210207.75 -40210207.64 0.1732 0.0725

Saturn -114803-07-18 06:00 J -40210174.40 -40210174.25 -40210174.09 0.0276 0.0112

Saturn -114803-10-15 01:12 J -40210085.63 -40210085.45 -40210085.28 0.0275 0.0013

Earth -114803-10-28 07:26 J -40210072.32 -40210072.19 -40210072.06 0.2570 0.1511

Moon -114803-10-28 09:07 J -40210072.24 -40210072.12 -40210072.00 0.2568 0.1662 *

Saturn -114802-01-11 20:10 J -40209996.82 -40209996.66 -40209996.49 0.0274 0.0088

Saturn -114802-04-10 15:36 J -40209907.98 -40209907.85 -40209907.73 0.0273 0.0188

Mars -114801-05-20 05:02 J -40209502.39 -40209502.29 -40209502.19 0.1715 0.1009

Jupiter -114800-02-07 22:05 J -40209238.72 -40209238.58 -40209238.45 0.0528 0.0036

Jupiter -114800-05-08 06:43 J -40209149.28 -40209149.22 -40209149.16 0.0529 0.0458

Earth -114799-04-27 17:46 J -40208794.86 -40208794.76 -40208794.67 0.2764 0.1345

Moon -114799-04-27 17:46 J -40208794.85 -40208794.76 -40208794.66 0.2772 0.1334 *

Mars -114795-12-23 09:50 J -40207094.16 -40207094.09 -40207094.03 0.1777 0.1591

Jupiter -114795-12-26 20:10 J -40207090.83 -40207090.66 -40207090.48 0.0497 0.0039

Mars -114794-11-05 02:38 J -40206777.48 -40206777.39 -40206777.30 0.1736 0.1178

Moon -114793-05-06 14:24 J -40206593.96 -40206593.90 -40206593.83 0.2767 0.2136

Earth -114793-05-06 14:38 J -40206593.96 -40206593.89 -40206593.83 0.2775 0.2104 *

Mars -114793-11-29 10:05 J -40206387.18 -40206387.08 -40206386.97 0.1796 0.1357

Mars -114792-10-10 14:38 J -40206072.01 -40206071.89 -40206071.78 0.1719 0.0606

Venus -114789-03-04 04:05 J -40205196.40 -40205196.33 -40205196.26 0.3659 0.2840

Neptune -114789-10-02 16:34 J -40204983.82 -40204983.81 -40204983.77 0.0089 0.0088

Jupiter -114789-11-27 01:41 J -40204928.56 -40204928.43 -40204928.30 0.0528 0.0151

Neptune -114789-12-29 19:26 J -40204895.74 -40204895.69 -40204895.61 0.0089 0.0083

Jupiter -114788-02-24 10:34 J -40204839.15 -40204839.06 -40204838.96 0.0529 0.0344

Neptune -114788-03-27 22:34 J -40204807.64 -40204807.56 -40204807.47 0.0089 0.0077

Neptune -114788-06-24 01:26 J -40204719.53 -40204719.44 -40204719.33 0.0089 0.0072

Neptune -114788-09-20 04:05 J -40204631.43 -40204631.33 -40204631.20 0.0089 0.0067

Neptune -114788-12-17 06:58 J -40204543.32 -40204543.21 -40204543.06 0.0089 0.0062

Neptune -114787-03-15 10:19 J -40204455.20 -40204455.07 -40204454.93 0.0089 0.0056

Saturn -114787-05-05 11:31 J -40204404.08 -40204404.02 -40204403.94 0.0284 0.0245

Neptune -114787-06-11 12:58 J -40204367.09 -40204366.96 -40204366.80 0.0089 0.0051

Saturn -114787-08-02 01:12 J -40204315.56 -40204315.45 -40204315.32 0.0285 0.0155

Neptune -114787-09-07 16:19 J -40204278.97 -40204278.82 -40204278.67 0.0089 0.0046

Saturn -114787-10-29 14:53 J -40204227.02 -40204226.88 -40204226.74 0.0286 0.0064

Neptune -114787-12-04 19:12 J -40204190.86 -40204190.70 -40204190.54 0.0089 0.0040

Saturn -114786-01-26 04:19 J -40204138.46 -40204138.32 -40204138.18 0.0287 0.0027

Neptune -114786-03-02 22:05 J -40204102.74 -40204102.58 -40204102.41 0.0089 0.0035

Saturn -114786-04-24 17:31 J -40204049.89 -40204049.77 -40204049.64 0.0288 0.0118

Earth -114786-04-30 12:14 J -40204044.10 -40204043.99 -40204043.89 0.2767 0.0448

Moon -114786-04-30 12:43 J -40204044.07 -40204043.97 -40204043.86 0.2770 0.0363 *

Neptune -114786-05-30 01:12 J -40204014.62 -40204014.45 -40204014.28 0.0089 0.0029

Saturn -114786-07-22 06:43 J -40203961.31 -40203961.22 -40203961.12 0.0290 0.0209

Neptune -114786-08-26 04:05 J -40203926.50 -40203926.33 -40203926.15 0.0089 0.0024

Neptune -114786-11-22 07:12 J -40203838.37 -40203838.20 -40203838.02 0.0089 0.0018

Neptune -114785-02-18 10:05 J -40203750.25 -40203750.08 -40203749.89 0.0089 0.0013

Neptune -114785-05-16 13:12 J -40203662.12 -40203661.95 -40203661.76 0.0089 0.0008

Neptune -114785-08-12 16:19 J -40203574.00 -40203573.82 -40203573.64 0.0089 0.0002

Neptune -114785-11-08 19:26 J -40203485.87 -40203485.69 -40203485.51 0.0089 0.0004

Neptune -114784-02-04 22:34 J -40203397.74 -40203397.56 -40203397.38 0.0089 0.0009

Mars -114784-03-27 11:17 J -40203347.07 -40203347.03 -40203346.99 0.1741 0.1640

Neptune -114784-05-04 01:41 J -40203309.61 -40203309.43 -40203309.25 0.0089 0.0015

Neptune -114784-07-31 04:34 J -40203221.48 -40203221.31 -40203221.12 0.0089 0.0021

Venus -114784-09-17 22:05 J -40203172.69 -40203172.58 -40203172.47 0.3664 0.1206

Neptune -114784-10-27 07:55 J -40203133.34 -40203133.17 -40203133.00 0.0089 0.0026

Neptune -114783-01-23 10:48 J -40203045.21 -40203045.05 -40203044.87 0.0089 0.0032

Mars -114783-04-21 09:22 J -40202957.26 -40202957.11 -40202956.96 0.1792 0.0590

Neptune -114783-04-21 13:55 J -40202957.07 -40202956.92 -40202956.74 0.0089 0.0038 *

Neptune -114783-07-18 17:17 J -40202868.94 -40202868.78 -40202868.62 0.0089 0.0043

Jupiter -114783-10-14 19:12 J -40202780.87 -40202780.70 -40202780.53 0.0498 0.0098

Neptune -114783-10-14 20:24 J -40202780.80 -40202780.65 -40202780.49 0.0089 0.0049 *

Earth -114783-10-23 01:41 J -40202772.57 -40202772.43 -40202772.29 0.2576 0.1218

Moon -114783-10-23 02:53 J -40202772.52 -40202772.38 -40202772.24 0.2580 0.1050 *

Neptune -114782-01-10 23:17 J -40202692.66 -40202692.53 -40202692.37 0.0089 0.0055

Jupiter -114782-01-12 23:02 J -40202690.59 -40202690.54 -40202690.48 0.0497 0.0468

Mars -114782-03-02 23:46 J -40202641.63 -40202641.51 -40202641.39 0.1723 0.0187

Neptune -114782-04-09 02:53 J -40202604.51 -40202604.38 -40202604.25 0.0089 0.0060

Neptune -114782-07-06 06:00 J -40202516.37 -40202516.25 -40202516.12 0.0089 0.0066

Neptune -114782-10-02 08:53 J -40202428.22 -40202428.13 -40202428.01 0.0089 0.0072

Neptune -114782-12-29 12:00 J -40202340.06 -40202340.00 -40202339.89 0.0089 0.0078

Neptune -114781-03-26 15:50 J -40202251.90 -40202251.84 -40202251.78 0.0089 0.0084

Venus -114778-04-03 15:50 J -40201148.95 -40201148.84 -40201148.73 0.3669 0.0386

Jupiter -114777-09-15 05:17 J -40200618.40 -40200618.28 -40200618.17 0.0528 0.0272

Jupiter -114777-12-13 14:24 J -40200529.02 -40200528.90 -40200528.78 0.0528 0.0225

Saturn -114774-09-07 09:07 J -40199531.19 -40199531.12 -40199531.05 0.0278 0.0251

Mars -114774-09-11 09:07 J -40199527.27 -40199527.12 -40199526.96 0.1786 0.0148

Saturn -114774-12-05 03:36 J -40199442.49 -40199442.35 -40199442.20 0.0277 0.0153

Saturn -114773-03-02 22:34 J -40199353.73 -40199353.56 -40199353.39 0.0276 0.0054

Earth -114773-05-02 06:29 J -40199293.33 -40199293.23 -40199293.12 0.2770 0.0485

Moon -114773-05-02 07:26 J -40199293.30 -40199293.19 -40199293.09 0.2769 0.0487 *

Saturn -114773-05-30 17:31 J -40199264.93 -40199264.77 -40199264.59 0.0275 0.0047

Mars -114773-07-23 09:07 J -40199211.24 -40199211.12 -40199211.00 0.1727 0.0237

Saturn -114773-08-27 12:58 J -40199176.11 -40199175.96 -40199175.81 0.0274 0.0146

Venus -114773-10-17 09:22 J -40199125.20 -40199125.11 -40199125.01 0.3675 0.1955

Saturn -114773-11-24 08:10 J -40199087.23 -40199087.16 -40199087.08 0.0272 0.0245

Uranus -114771-05-06 03:36 J -40198559.39 -40198559.35 -40198559.30 0.0147 0.0142

Mars -114771-06-28 19:26 J -40198505.75 -40198505.69 -40198505.63 0.1711 0.1447

Uranus -114771-08-02 11:17 J -40198471.14 -40198471.03 -40198470.92 0.0147 0.0114

Jupiter -114771-08-02 18:29 J -40198470.89 -40198470.73 -40198470.58 0.0498 0.0231

Uranus -114771-10-29 18:58 J -40198382.86 -40198382.71 -40198382.56 0.0147 0.0086

Jupiter -114771-10-31 21:50 J -40198380.71 -40198380.59 -40198380.45 0.0498 0.0332

Uranus -114770-01-26 02:38 J -40198294.55 -40198294.39 -40198294.22 0.0147 0.0057

Uranus -114770-04-24 10:34 J -40198206.24 -40198206.06 -40198205.88 0.0147 0.0028

Uranus -114770-07-21 18:29 J -40198117.91 -40198117.73 -40198117.55 0.0148 0.0001

Uranus -114770-10-18 02:10 J -40198029.58 -40198029.41 -40198029.22 0.0148 0.0031

Earth -114770-10-26 07:55 J -40198021.33 -40198021.17 -40198021.01 0.2572 0.0294

Moon -114770-10-26 09:36 J -40198021.25 -40198021.10 -40198020.94 0.2573 0.0364 *

Uranus -114769-01-14 10:19 J -40197941.23 -40197941.07 -40197940.90 0.0148 0.0060

Uranus -114769-04-11 18:14 J -40197852.88 -40197852.74 -40197852.59 0.0148 0.0089

Uranus -114769-07-09 02:24 J -40197764.50 -40197764.40 -40197764.29 0.0148 0.0119

Venus -114767-05-03 02:53 J -40197101.41 -40197101.38 -40197101.35 0.3680 0.3487

Moon -114766-04-26 03:50 J -40196743.41 -40196743.34 -40196743.27 0.2768 0.2046

Earth -114766-04-26 04:05 J -40196743.40 -40196743.33 -40196743.26 0.2761 0.2076 *

Jupiter -114765-07-04 08:10 J -40196308.24 -40196308.16 -40196308.07 0.0527 0.0401

Jupiter -114765-10-01 17:31 J -40196218.90 -40196218.77 -40196218.64 0.0528 0.0100

Mars -114764-01-31 09:36 J -40196097.24 -40196097.10 -40196096.97 0.1782 0.0849

Mars -114764-12-13 18:00 J -40195780.86 -40195780.75 -40195780.63 0.1731 0.0677

Mars -114762-11-19 05:17 J -40195075.38 -40195075.28 -40195075.19 0.1715 0.1059

Earth -114760-05-05 00:58 J -40194542.55 -40194542.46 -40194542.36 0.2773 0.1376

Moon -114760-05-05 01:12 J -40194542.54 -40194542.45 -40194542.35 0.2766 0.1463 *

Jupiter -114759-05-21 17:46 J -40194160.87 -40194160.76 -40194160.64 0.0498 0.0362

Venus -114759-08-12 23:31 J -40194077.63 -40194077.52 -40194077.40 0.3717 0.1823

Jupiter -114759-08-19 20:53 J -40194070.79 -40194070.63 -40194070.46 0.0498 0.0196

Saturn -114758-09-22 12:00 J -40193672.02 -40193672.00 -40193671.96 0.0283 0.0278

Saturn -114758-12-20 01:55 J -40193583.53 -40193583.42 -40193583.31 0.0285 0.0187

Saturn -114757-03-17 15:36 J -40193494.99 -40193494.85 -40193494.72 0.0286 0.0097

Saturn -114757-06-14 05:02 J -40193406.43 -40193406.29 -40193406.15 0.0287 0.0007

Saturn -114757-09-10 18:14 J -40193317.87 -40193317.74 -40193317.60 0.0288 0.0085

Earth -114757-10-28 14:10 J -40193270.02 -40193269.91 -40193269.80 0.2570 0.1808

Moon -114757-10-28 15:22 J -40193269.97 -40193269.86 -40193269.75 0.2565 0.1894 *

Saturn -114757-12-08 07:41 J -40193229.29 -40193229.18 -40193229.07 0.0289 0.0175

Saturn -114756-03-06 20:38 J -40193140.68 -40193140.64 -40193140.58 0.0290 0.0266

Mars -114755-06-23 10:19 J -40192667.15 -40192667.07 -40192667.00 0.1777 0.1526

Mars -114754-05-06 02:53 J -40192350.48 -40192350.38 -40192350.29 0.1736 0.1129

Venus -114753-02-27 01:12 J -40192053.58 -40192053.45 -40192053.32 0.3710 0.1066

Jupiter -114753-04-22 11:31 J -40191998.03 -40191998.02 -40191998.01 0.0527 0.0524

Earth -114753-04-27 22:34 J -40191992.66 -40191992.56 -40191992.46 0.2764 0.1167

Moon -114753-04-27 22:48 J -40191992.65 -40191992.55 -40191992.45 0.2771 0.1168 *

Mars -114753-05-30 10:48 J -40191960.15 -40191960.05 -40191959.96 0.1797 0.1426

Jupiter -114753-07-20 21:07 J -40191908.75 -40191908.62 -40191908.48 0.0528 0.0025

Jupiter -114753-10-18 05:46 J -40191819.31 -40191819.26 -40191819.20 0.0529 0.0469

Mars -114752-04-10 14:38 J -40191645.01 -40191644.89 -40191644.78 0.1719 0.0650

Earth -114750-10-21 02:10 J -40190721.46 -40190721.41 -40190721.35 0.2578 0.2424

Moon -114750-10-21 02:38 J -40190721.45 -40190721.39 -40190721.32 0.2585 0.2317 *

Jupiter -114747-03-09 16:48 J -40189850.81 -40189850.80 -40189850.78 0.0498 0.0495

Moon -114747-05-07 19:12 J -40189791.77 -40189791.70 -40189791.64 0.2769 0.2194

Earth -114747-05-07 19:26 J -40189791.75 -40189791.69 -40189791.63 0.2775 0.2279 *

Jupiter -114747-06-07 19:26 J -40189760.87 -40189760.69 -40189760.52 0.0497 0.0053

Mars -114745-09-25 11:31 J -40188920.07 -40188920.02 -40188919.98 0.1740 0.1589

Saturn -114744-04-23 02:53 J -40188710.50 -40188710.38 -40188710.25 0.0277 0.0186

Saturn -114744-07-20 21:50 J -40188621.75 -40188621.59 -40188621.43 0.0276 0.0086

Saturn -114744-10-17 16:48 J -40188532.97 -40188532.80 -40188532.62 0.0275 0.0014

Mars -114744-10-20 10:05 J -40188530.22 -40188530.08 -40188529.93 0.1792 0.0667

Saturn -114743-01-14 12:00 J -40188444.16 -40188444.00 -40188443.84 0.0274 0.0113

Saturn -114743-04-13 07:12 J -40188355.30 -40188355.20 -40188355.08 0.0273 0.0214

Mars -114743-09-01 00:00 J -40188214.62 -40188214.50 -40188214.38 0.1723 0.0236

Jupiter -114741-05-09 00:43 J -40187598.60 -40187598.47 -40187598.34 0.0528 0.0142

Jupiter -114741-08-06 09:36 J -40187509.19 -40187509.10 -40187509.00 0.0529 0.0353

Earth -114740-04-30 17:02 J -40187241.90 -40187241.79 -40187241.68 0.2768 0.0262

Moon -114740-04-30 17:46 J -40187241.87 -40187241.76 -40187241.65 0.2769 0.0199 *

Earth -114737-10-23 08:24 J -40185970.30 -40185970.15 -40185970.00 0.2575 0.0927

Moon -114737-10-23 09:50 J -40185970.24 -40185970.09 -40185969.94 0.2578 0.0924 *

Jupiter -114735-03-26 18:29 J -40185450.90 -40185450.73 -40185450.55 0.0497 0.0082

Jupiter -114735-06-24 22:34 J -40185360.60 -40185360.56 -40185360.52 0.0497 0.0483

Mars -114734-03-12 09:50 J -40185100.25 -40185100.09 -40185099.94 0.1787 0.0077

Mars -114733-01-22 09:07 J -40184784.24 -40184784.12 -40184784.00 0.1727 0.0193

Venus -114733-10-09 02:10 J -40184523.49 -40184523.41 -40184523.32 0.3660 0.2233

Mars -114732-12-27 19:26 J -40184078.74 -40184078.69 -40184078.63 0.1711 0.1492

Uranus -114731-12-12 23:17 J -40183728.59 -40183728.53 -40183728.46 0.0131 0.0116

Uranus -114730-03-11 02:38 J -40183640.48 -40183640.39 -40183640.30 0.0131 0.0100

Uranus -114730-06-07 05:46 J -40183552.36 -40183552.26 -40183552.14 0.0131 0.0084

Uranus -114730-09-03 09:07 J -40183464.23 -40183464.12 -40183464.00 0.0131 0.0068

Uranus -114730-11-30 12:29 J -40183376.10 -40183375.98 -40183375.85 0.0131 0.0053

Jupiter -114729-02-26 04:19 J -40183288.43 -40183288.32 -40183288.20 0.0528 0.0260

Uranus -114729-02-26 15:36 J -40183287.98 -40183287.85 -40183287.71 0.0131 0.0038

Uranus -114729-05-24 18:58 J -40183199.84 -40183199.71 -40183199.57 0.0131 0.0022

Jupiter -114729-05-25 13:26 J -40183199.05 -40183198.94 -40183198.82 0.0529 0.0239

Uranus -114729-08-20 22:19 J -40183111.71 -40183111.57 -40183111.43 0.0131 0.0007

Uranus -114729-11-17 01:26 J -40183023.58 -40183023.44 -40183023.30 0.0131 0.0009

Uranus -114728-02-13 04:34 J -40182935.44 -40182935.31 -40182935.17 0.0131 0.0025

Saturn -114728-05-08 02:24 J -40182851.49 -40182851.40 -40182851.31 0.0283 0.0221

Uranus -114728-05-12 07:41 J -40182847.31 -40182847.18 -40182847.04 0.0131 0.0040

Pluto -114728-07-10 02:38 J -40182788.43 -40182788.39 -40182788.29 0.0060 0.0056

Saturn -114728-08-04 16:05 J -40182762.96 -40182762.83 -40182762.71 0.0285 0.0132

Uranus -114728-08-08 10:48 J -40182759.17 -40182759.05 -40182758.92 0.0131 0.0055

Pluto -114728-10-06 04:19 J -40182700.41 -40182700.32 -40182700.18 0.0060 0.0048

Saturn -114728-11-01 05:31 J -40182674.41 -40182674.27 -40182674.13 0.0286 0.0041

Uranus -114728-11-04 14:10 J -40182671.03 -40182670.91 -40182670.80 0.0131 0.0070

Pluto -114727-01-02 06:00 J -40182612.39 -40182612.25 -40182612.10 0.0060 0.0040

Saturn -114727-01-28 18:58 J -40182585.85 -40182585.71 -40182585.57 0.0287 0.0049

Uranus -114727-01-31 17:17 J -40182582.89 -40182582.78 -40182582.68 0.0131 0.0085

Pluto -114727-03-31 06:58 J -40182524.35 -40182524.21 -40182524.03 0.0060 0.0033

Venus -114727-04-24 20:10 J -40182499.77 -40182499.66 -40182499.55 0.3666 0.0610

Saturn -114727-04-27 08:10 J -40182497.28 -40182497.16 -40182497.04 0.0288 0.0139

Uranus -114727-04-29 20:10 J -40182494.74 -40182494.66 -40182494.57 0.0131 0.0100

Earth -114727-05-03 11:31 J -40182491.13 -40182491.02 -40182490.92 0.2770 0.0648

Moon -114727-05-03 12:00 J -40182491.10 -40182491.00 -40182490.89 0.2767 0.0737 *

Pluto -114727-06-27 08:24 J -40182436.31 -40182436.15 -40182435.96 0.0060 0.0026

Saturn -114727-07-24 21:22 J -40182408.69 -40182408.61 -40182408.53 0.0289 0.0229

Uranus -114727-07-26 23:17 J -40182406.59 -40182406.53 -40182406.46 0.0131 0.0115

Pluto -114727-09-23 10:05 J -40182348.26 -40182348.08 -40182347.89 0.0060 0.0017

Uranus -114727-10-23 02:10 J -40182318.41 -40182318.41 -40182318.38 0.0131 0.0130

Pluto -114727-12-20 11:31 J -40182260.21 -40182260.02 -40182259.83 0.0060 0.0010

Pluto -114726-03-18 12:58 J -40182172.15 -40182171.96 -40182171.77 0.0060 0.0002

Pluto -114726-06-14 14:10 J -40182084.10 -40182083.91 -40182083.71 0.0060 0.0006

Pluto -114726-09-10 15:36 J -40181996.03 -40181995.85 -40181995.66 0.0060 0.0014

Pluto -114726-12-07 16:48 J -40181907.97 -40181907.80 -40181907.61 0.0060 0.0022

Pluto -114725-03-04 18:00 J -40181819.90 -40181819.75 -40181819.56 0.0061 0.0030

Pluto -114725-05-31 19:12 J -40181731.83 -40181731.70 -40181731.52 0.0061 0.0038

Mars -114725-08-01 10:05 J -40181670.22 -40181670.08 -40181669.95 0.1782 0.0784

Pluto -114725-08-27 20:38 J -40181643.74 -40181643.64 -40181643.49 0.0061 0.0046

Pluto -114725-11-23 22:34 J -40181555.65 -40181555.56 -40181555.47 0.0061 0.0053

Mars -114724-06-13 18:00 J -40181353.86 -40181353.75 -40181353.63 0.1732 0.0632

Earth -114724-10-26 14:24 J -40181219.06 -40181218.90 -40181218.74 0.2572 0.0578

Moon -114724-10-26 16:05 J -40181218.98 -40181218.83 -40181218.68 0.2572 0.0767 *

Jupiter -114723-01-12 17:31 J -40181140.92 -40181140.77 -40181140.61 0.0498 0.0217

Jupiter -114723-04-12 20:53 J -40181050.75 -40181050.63 -40181050.50 0.0497 0.0344

Mars -114722-05-20 05:02 J -40180648.38 -40180648.29 -40180648.20 0.1715 0.1097

Venus -114722-11-08 13:55 J -40180476.03 -40180475.92 -40180475.82 0.3671 0.0971

Earth -114720-04-26 08:53 J -40179941.21 -40179941.13 -40179941.05 0.2762 0.1904

Moon -114720-04-26 08:53 J -40179941.20 -40179941.13 -40179941.05 0.2769 0.1980 *

Jupiter -114718-12-15 07:41 J -40178978.26 -40178978.18 -40178978.08 0.0528 0.0383

Jupiter -114717-03-13 17:17 J -40178888.91 -40178888.78 -40178888.65 0.0528 0.0119

Venus -114716-05-24 07:26 J -40178452.27 -40178452.19 -40178452.11 0.3676 0.2522

Mars -114716-12-22 10:34 J -40178240.14 -40178240.06 -40178239.97 0.1777 0.1463

Saturn -114715-09-10 00:29 J -40177978.57 -40177978.48 -40177978.38 0.0278 0.0227

Mars -114715-11-04 02:53 J -40177923.47 -40177923.38 -40177923.28 0.1736 0.1077

Saturn -114715-12-07 19:12 J -40177889.84 -40177889.70 -40177889.54 0.0277 0.0129

Saturn -114714-03-06 14:10 J -40177801.08 -40177800.91 -40177800.73 0.0276 0.0030

Moon -114714-05-06 06:00 J -40177740.34 -40177740.25 -40177740.16 0.2766 0.1501

Earth -114714-05-06 06:00 J -40177740.34 -40177740.25 -40177740.17 0.2773 0.1554 *

Saturn -114714-06-03 09:22 J -40177712.27 -40177712.11 -40177711.94 0.0275 0.0071

Saturn -114714-08-31 04:48 J -40177623.44 -40177623.30 -40177623.16 0.0274 0.0171

Saturn -114714-11-28 00:00 J -40177534.51 -40177534.50 -40177534.47 0.0273 0.0271

Mars -114714-11-29 11:17 J -40177533.11 -40177533.03 -40177532.94 0.1796 0.1497

Mars -114713-10-09 14:38 J -40177218.00 -40177217.89 -40177217.78 0.1719 0.0695

Jupiter -114712-10-31 16:48 J -40176830.92 -40176830.80 -40176830.68 0.0498 0.0349

Jupiter -114711-01-29 19:55 J -40176740.83 -40176740.67 -40176740.51 0.0498 0.0207

Earth -114711-10-29 20:38 J -40176467.73 -40176467.64 -40176467.55 0.2569 0.2103

Moon -114711-10-29 21:50 J -40176467.68 -40176467.59 -40176467.50 0.2564 0.2130 *

Venus -114708-09-02 22:19 J -40175428.60 -40175428.57 -40175428.55 0.3722 0.3634

Neptune -114708-10-28 03:36 J -40175373.37 -40175373.35 -40175373.32 0.0088 0.0087

Neptune -114707-01-24 05:02 J -40175285.32 -40175285.29 -40175285.22 0.0088 0.0083

Neptune -114707-04-22 06:58 J -40175197.27 -40175197.21 -40175197.14 0.0088 0.0078

Earth -114707-04-29 03:22 J -40175190.46 -40175190.36 -40175190.25 0.2765 0.0999

Moon -114707-04-29 04:05 J -40175190.44 -40175190.33 -40175190.23 0.2769 0.0911 *

Neptune -114707-07-19 08:24 J -40175109.21 -40175109.15 -40175109.06 0.0088 0.0074

Neptune -114707-10-15 10:19 J -40175021.15 -40175021.07 -40175020.98 0.0088 0.0069

Neptune -114706-01-11 12:00 J -40174933.09 -40174933.00 -40174932.90 0.0088 0.0064

Neptune -114706-04-09 13:26 J -40174845.03 -40174844.94 -40174844.82 0.0088 0.0061

Neptune -114706-07-06 15:22 J -40174756.97 -40174756.86 -40174756.75 0.0088 0.0056

Neptune -114706-10-02 16:48 J -40174668.90 -40174668.80 -40174668.67 0.0088 0.0052

Jupiter -114706-10-03 10:48 J -40174668.08 -40174668.05 -40174668.02 0.0527 0.0510

Neptune -114706-12-29 18:29 J -40174580.84 -40174580.73 -40174580.60 0.0088 0.0047

Jupiter -114706-12-31 20:24 J -40174578.78 -40174578.65 -40174578.51 0.0528 0.0013

Mars -114705-03-26 11:31 J -40174493.08 -40174493.02 -40174492.97 0.1741 0.1539

Neptune -114705-03-26 20:10 J -40174492.78 -40174492.66 -40174492.53 0.0088 0.0043

Jupiter -114705-03-30 05:02 J -40174489.34 -40174489.29 -40174489.24 0.0529 0.0481

Neptune -114705-06-22 21:50 J -40174404.71 -40174404.59 -40174404.46 0.0088 0.0038

Neptune -114705-09-18 23:17 J -40174316.65 -40174316.53 -40174316.39 0.0088 0.0035

Neptune -114705-12-16 01:12 J -40174228.58 -40174228.45 -40174228.31 0.0088 0.0030

Neptune -114704-03-14 02:38 J -40174140.52 -40174140.39 -40174140.25 0.0088 0.0026

Mars -114704-04-20 10:34 J -40174103.21 -40174103.06 -40174102.92 0.1792 0.0730

Neptune -114704-06-10 04:19 J -40174052.45 -40174052.32 -40174052.18 0.0088 0.0021

Neptune -114704-09-06 06:00 J -40173964.39 -40173964.25 -40173964.11 0.0088 0.0017

Earth -114704-10-21 08:53 J -40173919.22 -40173919.13 -40173919.05 0.2578 0.2137

Moon -114704-10-21 09:36 J -40173919.18 -40173919.10 -40173919.01 0.2583 0.2137 *

Neptune -114704-12-03 07:41 J -40173876.32 -40173876.18 -40173876.04 0.0088 0.0012

Neptune -114703-03-01 09:07 J -40173788.26 -40173788.12 -40173787.97 0.0088 0.0009

Mars -114703-03-02 00:00 J -40173787.62 -40173787.50 -40173787.38 0.1723 0.0285

Neptune -114703-05-28 10:48 J -40173700.19 -40173700.05 -40173699.91 0.0088 0.0004

Neptune -114703-08-24 12:29 J -40173612.13 -40173611.98 -40173611.84 0.0088 0.0003

Neptune -114703-11-20 13:55 J -40173524.06 -40173523.92 -40173523.78 0.0088 0.0005

Neptune -114702-02-16 15:22 J -40173435.99 -40173435.86 -40173435.71 0.0088 0.0010

Venus -114702-03-19 23:46 J -40173404.64 -40173404.51 -40173404.38 0.3715 0.0840

Neptune -114702-05-15 17:02 J -40173347.93 -40173347.79 -40173347.65 0.0088 0.0013

Neptune -114702-08-11 18:29 J -40173259.86 -40173259.73 -40173259.59 0.0088 0.0018

Neptune -114702-11-07 20:10 J -40173171.80 -40173171.66 -40173171.53 0.0088 0.0022

Neptune -114701-02-03 21:36 J -40173083.73 -40173083.60 -40173083.46 0.0088 0.0026

Neptune -114701-05-01 23:02 J -40172995.66 -40172995.54 -40172995.40 0.0088 0.0030

Moon -114701-05-07 23:46 J -40172989.55 -40172989.51 -40172989.46 0.2770 0.2468

Earth -114701-05-08 00:14 J -40172989.54 -40172989.49 -40172989.44 0.2776 0.2451 *

Neptune -114701-07-29 00:29 J -40172907.60 -40172907.48 -40172907.34 0.0088 0.0035

Neptune -114701-10-25 02:10 J -40172819.53 -40172819.41 -40172819.28 0.0088 0.0038

Neptune -114700-01-21 03:36 J -40172731.47 -40172731.35 -40172731.22 0.0088 0.0042

Neptune -114700-04-19 05:02 J -40172643.40 -40172643.29 -40172643.16 0.0088 0.0047

Neptune -114700-07-16 06:43 J -40172555.33 -40172555.22 -40172555.11 0.0088 0.0051

Jupiter -114700-08-19 16:19 J -40172520.86 -40172520.82 -40172520.77 0.0499 0.0479

Neptune -114700-10-12 08:10 J -40172467.26 -40172467.16 -40172467.05 0.0088 0.0055

Jupiter -114700-11-17 18:58 J -40172430.88 -40172430.71 -40172430.53 0.0498 0.0073

Neptune -114699-01-08 09:50 J -40172379.20 -40172379.09 -40172378.99 0.0088 0.0059

Neptune -114699-04-06 11:17 J -40172291.13 -40172291.03 -40172290.94 0.0088 0.0063

Neptune -114699-07-03 12:29 J -40172203.06 -40172202.98 -40172202.88 0.0088 0.0067

Saturn -114699-09-25 03:07 J -40172119.43 -40172119.37 -40172119.30 0.0283 0.0253

Neptune -114699-09-29 13:55 J -40172114.99 -40172114.92 -40172114.83 0.0088 0.0071

Saturn -114699-12-22 16:48 J -40172030.91 -40172030.80 -40172030.68 0.0285 0.0163

Neptune -114699-12-26 15:22 J -40172026.92 -40172026.86 -40172026.78 0.0088 0.0075

Saturn -114698-03-21 06:14 J -40171942.37 -40171942.24 -40171942.10 0.0286 0.0074

Neptune -114698-03-24 16:48 J -40171938.84 -40171938.80 -40171938.73 0.0088 0.0079

Saturn -114698-06-17 19:55 J -40171853.81 -40171853.67 -40171853.53 0.0287 0.0020

Neptune -114698-06-20 18:14 J -40171850.77 -40171850.74 -40171850.68 0.0088 0.0083

Saturn -114698-09-14 09:07 J -40171765.25 -40171765.12 -40171764.99 0.0288 0.0108

Neptune -114698-09-16 19:41 J -40171762.68 -40171762.68 -40171762.64 0.0088 0.0088

Saturn -114698-12-11 22:19 J -40171676.67 -40171676.57 -40171676.47 0.0289 0.0198

Saturn -114697-03-09 11:31 J -40171588.04 -40171588.02 -40171588.01 0.0290 0.0287

Venus -114697-10-03 01:26 J -40171380.55 -40171380.44 -40171380.32 0.3708 0.2088

Mars -114695-09-10 10:34 J -40170673.22 -40170673.06 -40170672.91 0.1787 0.0038

Earth -114694-05-01 21:50 J -40170439.70 -40170439.59 -40170439.48 0.2768 0.0105

Moon -114694-05-01 22:34 J -40170439.67 -40170439.56 -40170439.45 0.2769 0.0099 *

Mars -114694-07-23 09:07 J -40170357.24 -40170357.12 -40170357.00 0.1727 0.0149

Jupiter -114694-10-20 00:00 J -40170268.63 -40170268.50 -40170268.37 0.0528 0.0130

Jupiter -114693-01-17 08:53 J -40170179.23 -40170179.13 -40170179.04 0.0529 0.0364

Mars -114692-06-27 19:26 J -40169651.74 -40169651.69 -40169651.63 0.1711 0.1537

Earth -114691-10-24 14:53 J -40169168.04 -40169167.88 -40169167.73 0.2575 0.0643

Moon -114691-10-24 16:34 J -40169167.97 -40169167.81 -40169167.66 0.2577 0.0429 *

Jupiter -114688-09-05 17:46 J -40168120.93 -40168120.76 -40168120.59 0.0497 0.0066

Moon -114687-04-24 18:58 J -40167889.72 -40167889.71 -40167889.70 0.2765 0.2732

Earth -114687-04-24 19:12 J -40167889.72 -40167889.70 -40167889.67 0.2759 0.2639 *

Uranus -114687-05-26 09:36 J -40167858.14 -40167858.10 -40167858.03 0.0147 0.0139

Uranus -114687-08-22 17:31 J -40167769.89 -40167769.77 -40167769.65 0.0147 0.0111

Uranus -114687-11-19 01:12 J -40167681.60 -40167681.45 -40167681.30 0.0147 0.0083

Uranus -114686-02-15 08:53 J -40167593.29 -40167593.13 -40167592.96 0.0147 0.0054

Uranus -114686-05-14 16:48 J -40167504.98 -40167504.80 -40167504.62 0.0148 0.0025

Uranus -114686-08-11 00:43 J -40167416.65 -40167416.47 -40167416.29 0.0148 0.0004

Uranus -114686-11-07 08:38 J -40167328.32 -40167328.14 -40167327.96 0.0148 0.0033

Saturn -114685-01-27 23:46 J -40167246.56 -40167246.51 -40167246.45 0.0279 0.0260

Mars -114685-01-31 10:34 J -40167243.20 -40167243.06 -40167242.92 0.1782 0.0713

Uranus -114685-02-03 16:34 J -40167239.97 -40167239.81 -40167239.64 0.0148 0.0063

Saturn -114685-04-25 18:29 J -40167157.86 -40167157.73 -40167157.59 0.0278 0.0162

Uranus -114685-05-02 00:29 J -40167151.61 -40167151.48 -40167151.33 0.0148 0.0093

Saturn -114685-07-23 13:26 J -40167069.11 -40167068.94 -40167068.77 0.0276 0.0062

Uranus -114685-07-29 08:38 J -40167063.23 -40167063.14 -40167063.03 0.0148 0.0122

Saturn -114685-10-20 08:38 J -40166980.31 -40166980.14 -40166979.97 0.0275 0.0038

Mars -114685-12-12 18:14 J -40166926.86 -40166926.74 -40166926.63 0.1732 0.0582

Saturn -114684-01-17 03:50 J -40166891.49 -40166891.34 -40166891.19 0.0274 0.0138

Saturn -114684-04-15 23:17 J -40166802.61 -40166802.53 -40166802.44 0.0273 0.0238

Mars -114683-11-18 05:17 J -40166221.37 -40166221.28 -40166221.20 0.1715 0.1144

Jupiter -114682-08-08 03:07 J -40165958.48 -40165958.37 -40165958.25 0.0528 0.0254

Venus -114682-10-31 06:29 J -40165874.28 -40165874.23 -40165874.19 0.3657 0.3264

Jupiter -114682-11-05 12:29 J -40165869.10 -40165868.98 -40165868.87 0.0529 0.0245

Earth -114681-05-03 16:19 J -40165688.92 -40165688.82 -40165688.71 0.2771 0.0821

Moon -114681-05-03 16:48 J -40165688.90 -40165688.80 -40165688.70 0.2765 0.0846 *

Earth -114678-10-27 21:07 J -40164416.77 -40164416.62 -40164416.47 0.2572 0.0877

Moon -114678-10-27 22:34 J -40164416.71 -40164416.56 -40164416.41 0.2569 0.0878 *

Venus -114676-05-16 00:29 J -40163850.58 -40163850.48 -40163850.38 0.3662 0.1633

Mars -114676-06-22 11:17 J -40163813.13 -40163813.03 -40163812.94 0.1777 0.1394

Jupiter -114676-06-24 17:02 J -40163810.95 -40163810.79 -40163810.63 0.0497 0.0199

Jupiter -114676-09-22 20:24 J -40163720.77 -40163720.65 -40163720.53 0.0497 0.0360

Mars -114675-05-05 02:53 J -40163496.48 -40163496.38 -40163496.28 0.1736 0.1032

Moon -114674-04-27 13:55 J -40163139.01 -40163138.92 -40163138.83 0.2769 0.1663

Earth -114674-04-27 13:55 J -40163139.01 -40163138.92 -40163138.84 0.2762 0.1731 *

Mars -114674-05-30 12:00 J -40163106.08 -40163106.00 -40163105.93 0.1796 0.1569

Mars -114673-04-09 14:38 J -40162791.00 -40162790.89 -40162790.78 0.1719 0.0740

Venus -114671-11-29 18:14 J -40161826.86 -40161826.74 -40161826.63 0.3667 0.0119

Jupiter -114670-05-27 06:43 J -40161648.31 -40161648.22 -40161648.12 0.0528 0.0373

Jupiter -114670-08-24 16:19 J -40161558.95 -40161558.82 -40161558.69 0.0529 0.0129

Saturn -114669-05-10 17:31 J -40161298.87 -40161298.77 -40161298.67 0.0283 0.0196

Saturn -114669-08-07 07:12 J -40161210.33 -40161210.20 -40161210.07 0.0285 0.0107

Saturn -114669-11-03 20:38 J -40161121.78 -40161121.64 -40161121.50 0.0286 0.0018

Saturn -114668-01-31 09:50 J -40161033.22 -40161033.09 -40161032.95 0.0287 0.0073

Saturn -114668-04-29 23:02 J -40160944.65 -40160944.54 -40160944.42 0.0288 0.0163

Earth -114668-05-06 10:48 J -40160938.14 -40160938.05 -40160937.97 0.2773 0.1723

Moon -114668-05-06 10:48 J -40160938.13 -40160938.05 -40160937.97 0.2766 0.1761 *

Saturn -114668-07-27 12:14 J -40160856.05 -40160855.99 -40160855.93 0.0289 0.0252

Mars -114666-09-25 11:46 J -40160066.08 -40160066.01 -40160065.95 0.1741 0.1487

Venus -114665-06-14 11:46 J -40159803.11 -40159803.01 -40159802.91 0.3673 0.1548

Mars -114665-10-19 11:17 J -40159676.17 -40159676.03 -40159675.89 0.1792 0.0807

Earth -114665-10-30 03:22 J -40159665.41 -40159665.36 -40159665.31 0.2569 0.2396

Moon -114665-10-30 04:19 J -40159665.35 -40159665.32 -40159665.29 0.2563 0.2505 *

Jupiter -114664-04-12 16:05 J -40159500.96 -40159500.83 -40159500.71 0.0498 0.0335

Jupiter -114664-07-11 18:58 J -40159410.87 -40159410.71 -40159410.55 0.0497 0.0220

Mars -114664-08-31 00:00 J -40159360.62 -40159360.50 -40159360.38 0.1723 0.0329

Earth -114661-04-29 08:24 J -40158388.26 -40158388.15 -40158388.05 0.2765 0.0824

Moon -114661-04-29 09:07 J -40158388.23 -40158388.12 -40158388.02 0.2769 0.0837 *

Venus -114660-12-29 05:17 J -40157779.33 -40157779.28 -40157779.22 0.3678 0.3078

Jupiter -114658-03-15 10:05 J -40157338.12 -40157338.08 -40157338.03 0.0527 0.0495

Jupiter -114658-06-12 19:55 J -40157248.80 -40157248.67 -40157248.54 0.0528 0.0010

Jupiter -114658-09-10 04:34 J -40157159.35 -40157159.31 -40157159.27 0.0529 0.0498

Earth -114658-10-22 15:22 J -40157116.97 -40157116.86 -40157116.75 0.2578 0.1846

Moon -114658-10-22 16:48 J -40157116.91 -40157116.80 -40157116.69 0.2581 0.1750 *

Saturn -114656-09-12 16:19 J -40156425.93 -40156425.82 -40156425.70 0.0278 0.0202

Saturn -114656-12-10 11:17 J -40156337.19 -40156337.03 -40156336.87 0.0277 0.0103

Saturn -114655-03-09 06:14 J -40156248.41 -40156248.24 -40156248.07 0.0276 0.0003

Mars -114655-03-11 10:48 J -40156246.21 -40156246.05 -40156245.90 0.1786 0.0067

Moon -114655-05-09 04:34 J -40156187.35 -40156187.31 -40156187.27 0.2771 0.2502

Earth -114655-05-09 05:02 J -40156187.32 -40156187.29 -40156187.25 0.2776 0.2628 *

Saturn -114655-06-06 01:26 J -40156159.60 -40156159.44 -40156159.27 0.0275 0.0097

Saturn -114655-09-02 20:38 J -40156070.75 -40156070.64 -40156070.51 0.0274 0.0198

Mars -114654-01-21 09:22 J -40155930.24 -40155930.11 -40155929.99 0.1727 0.0108

Mars -114653-12-26 19:26 J -40155224.73 -40155224.69 -40155224.64 0.1711 0.1577

Jupiter -114652-01-29 15:07 J -40155190.92 -40155190.87 -40155190.80 0.0498 0.0468

Jupiter -114652-04-29 18:00 J -40155100.93 -40155100.75 -40155100.58 0.0498 0.0084

Venus -114651-04-09 22:19 J -40154755.66 -40154755.57 -40154755.48 0.3720 0.2671

Earth -114648-05-02 02:53 J -40153637.49 -40153637.38 -40153637.27 0.2768 0.0124

Moon -114648-05-02 03:36 J -40153637.46 -40153637.35 -40153637.25 0.2767 0.0215 *

Uranus -114647-10-06 02:53 J -40153115.40 -40153115.38 -40153115.35 0.0131 0.0129

Uranus -114646-01-02 06:14 J -40153027.31 -40153027.24 -40153027.17 0.0131 0.0113

Uranus -114646-03-31 09:36 J -40152939.19 -40152939.10 -40152939.01 0.0131 0.0097

Jupiter -114646-03-31 23:02 J -40152938.67 -40152938.54 -40152938.41 0.0528 0.0118

Uranus -114646-06-27 12:43 J -40152851.07 -40152850.97 -40152850.85 0.0131 0.0081

Jupiter -114646-06-29 07:55 J -40152849.26 -40152849.17 -40152849.08 0.0529 0.0375

Mars -114646-08-01 11:02 J -40152816.18 -40152816.04 -40152815.89 0.1782 0.0646

Uranus -114646-09-23 16:05 J -40152762.94 -40152762.83 -40152762.70 0.0131 0.0065

Venus -114646-10-24 23:46 J -40152731.65 -40152731.51 -40152731.38 0.3713 0.0153

Uranus -114646-12-20 19:26 J -40152674.82 -40152674.69 -40152674.56 0.0131 0.0050

Uranus -114645-03-17 22:48 J -40152586.69 -40152586.55 -40152586.42 0.0131 0.0034

Mars -114645-06-12 18:14 J -40152499.85 -40152499.74 -40152499.62 0.1731 0.0532

Uranus -114645-06-14 01:55 J -40152498.55 -40152498.42 -40152498.28 0.0131 0.0019

Uranus -114645-09-10 05:17 J -40152410.42 -40152410.28 -40152410.14 0.0131 0.0004

Earth -114645-10-24 21:22 J -40152365.76 -40152365.61 -40152365.45 0.2574 0.0352

Moon -114645-10-24 23:02 J -40152365.69 -40152365.54 -40152365.38 0.2575 0.0324 *

Uranus -114645-12-07 08:24 J -40152322.29 -40152322.15 -40152322.01 0.0131 0.0012

Uranus -114644-03-05 11:31 J -40152234.15 -40152234.02 -40152233.88 0.0131 0.0028

Uranus -114644-06-01 14:38 J -40152146.01 -40152145.89 -40152145.76 0.0131 0.0043

Uranus -114644-08-28 17:46 J -40152057.88 -40152057.76 -40152057.63 0.0131 0.0058

Uranus -114644-11-24 20:53 J -40151969.74 -40151969.63 -40151969.51 0.0131 0.0073

Uranus -114643-02-21 00:00 J -40151881.59 -40151881.50 -40151881.39 0.0131 0.0088

Mars -114643-05-19 05:17 J -40151794.37 -40151794.28 -40151794.19 0.1715 0.1188

Uranus -114643-05-20 03:07 J -40151793.45 -40151793.37 -40151793.28 0.0131 0.0103

Uranus -114643-08-16 06:14 J -40151705.29 -40151705.24 -40151705.18 0.0131 0.0118

Moon -114641-04-25 00:00 J -40151087.55 -40151087.50 -40151087.45 0.2766 0.2455

Earth -114641-04-25 00:14 J -40151087.54 -40151087.49 -40151087.44 0.2759 0.2464 *

Jupiter -114640-02-15 17:02 J -40150790.96 -40150790.79 -40150790.62 0.0498 0.0052

Venus -114640-05-10 01:41 J -40150707.50 -40150707.43 -40150707.35 0.3706 0.3112

Saturn -114640-09-27 18:29 J -40150566.81 -40150566.73 -40150566.64 0.0283 0.0226

Saturn -114640-12-25 08:10 J -40150478.28 -40150478.16 -40150478.03 0.0285 0.0136

Saturn -114639-03-23 21:36 J -40150389.74 -40150389.60 -40150389.46 0.0286 0.0047

Saturn -114639-06-20 11:02 J -40150301.18 -40150301.04 -40150300.90 0.0287 0.0044

Saturn -114639-09-17 00:14 J -40150212.61 -40150212.49 -40150212.36 0.0288 0.0134

Saturn -114639-12-14 13:26 J -40150124.02 -40150123.94 -40150123.85 0.0289 0.0223

Mars -114637-12-21 12:00 J -40149386.11 -40149386.00 -40149385.90 0.1777 0.1322

Mars -114636-11-03 03:07 J -40149069.47 -40149069.37 -40149069.27 0.1736 0.0978

Earth -114635-05-04 21:22 J -40148886.72 -40148886.61 -40148886.51 0.2771 0.1002

Moon -114635-05-04 21:36 J -40148886.70 -40148886.60 -40148886.50 0.2764 0.1020 *

Mars -114635-11-28 12:43 J -40148679.03 -40148678.97 -40148678.91 0.1797 0.1648

Jupiter -114634-01-18 02:24 J -40148628.52 -40148628.40 -40148628.28 0.0528 0.0242

Jupiter -114634-04-17 11:31 J -40148539.13 -40148539.02 -40148538.90 0.0529 0.0256

Pluto -114634-04-27 22:19 J -40148528.62 -40148528.57 -40148528.52 0.0084 0.0077

Pluto -114634-07-24 23:46 J -40148440.60 -40148440.51 -40148440.42 0.0084 0.0062

Mars -114634-10-09 14:53 J -40148363.99 -40148363.88 -40148363.78 0.1719 0.0788

Pluto -114634-10-21 00:43 J -40148352.57 -40148352.47 -40148352.35 0.0084 0.0047

Pluto -114633-01-17 02:10 J -40148264.53 -40148264.41 -40148264.28 0.0084 0.0032

Pluto -114633-04-14 03:36 J -40148176.48 -40148176.35 -40148176.22 0.0084 0.0017

Pluto -114633-07-11 04:48 J -40148088.43 -40148088.30 -40148088.16 0.0084 0.0003

Pluto -114633-10-07 06:00 J -40148000.38 -40148000.25 -40148000.11 0.0084 0.0012

Pluto -114632-01-03 07:26 J -40147912.32 -40147912.19 -40147912.06 0.0084 0.0027

Pluto -114632-04-01 08:24 J -40147824.25 -40147824.15 -40147824.02 0.0083 0.0042

Pluto -114632-06-28 09:50 J -40147736.18 -40147736.09 -40147735.99 0.0083 0.0056

Pluto -114632-09-24 10:48 J -40147648.10 -40147648.05 -40147647.96 0.0083 0.0071

Earth -114632-10-28 03:36 J -40147614.49 -40147614.35 -40147614.21 0.2571 0.1164

Moon -114632-10-28 05:02 J -40147614.43 -40147614.29 -40147614.16 0.2567 0.1357 *

Jupiter -114629-12-04 16:05 J -40146480.99 -40146480.83 -40146480.67 0.0497 0.0187

Jupiter -114628-03-04 19:26 J -40146390.80 -40146390.69 -40146390.57 0.0497 0.0373

Earth -114628-04-27 18:43 J -40146336.81 -40146336.72 -40146336.63 0.2763 0.1555

Moon -114628-04-27 18:58 J -40146336.79 -40146336.71 -40146336.62 0.2769 0.1591 *

Saturn -114626-01-30 15:50 J -40145693.92 -40145693.84 -40145693.74 0.0279 0.0234

Mars -114626-03-26 11:46 J -40145639.08 -40145639.01 -40145638.95 0.1741 0.1440

Saturn -114626-04-29 10:48 J -40145605.20 -40145605.05 -40145604.90 0.0277 0.0135

Saturn -114626-07-27 05:46 J -40145516.43 -40145516.26 -40145516.09 0.0276 0.0035

Saturn -114626-10-24 00:58 J -40145427.63 -40145427.46 -40145427.29 0.0275 0.0066

Saturn -114625-01-20 20:10 J -40145338.79 -40145338.66 -40145338.51 0.0274 0.0166

Saturn -114625-04-18 15:36 J -40145249.88 -40145249.85 -40145249.80 0.0273 0.0266

Mars -114625-04-19 11:46 J -40145249.15 -40145249.01 -40145248.87 0.1792 0.0874

Venus -114625-06-06 04:34 J -40145201.39 -40145201.31 -40145201.24 0.3658 0.2657

Mars -114624-03-01 00:00 J -40144933.61 -40144933.50 -40144933.38 0.1723 0.0377

Neptune -114624-06-29 16:05 J -40144812.87 -40144812.83 -40144812.76 0.0089 0.0084

Neptune -114624-09-25 18:58 J -40144724.78 -40144724.71 -40144724.62 0.0089 0.0079

Neptune -114624-12-22 21:36 J -40144636.67 -40144636.60 -40144636.48 0.0089 0.0074

Neptune -114623-03-21 00:58 J -40144548.57 -40144548.46 -40144548.34 0.0089 0.0068

Neptune -114623-06-17 03:36 J -40144460.46 -40144460.35 -40144460.21 0.0089 0.0063

Neptune -114623-09-13 06:29 J -40144372.35 -40144372.23 -40144372.08 0.0089 0.0058

Jupiter -114623-11-06 05:17 J -40144318.37 -40144318.28 -40144318.18 0.0528 0.0370

Neptune -114623-12-10 09:50 J -40144284.23 -40144284.09 -40144283.95 0.0089 0.0052

Jupiter -114622-02-03 14:53 J -40144229.01 -40144228.88 -40144228.75 0.0529 0.0133

Neptune -114622-03-08 12:29 J -40144196.12 -40144195.98 -40144195.82 0.0089 0.0047

Moon -114622-05-07 15:22 J -40144135.94 -40144135.86 -40144135.78 0.2767 0.1855

Earth -114622-05-07 15:36 J -40144135.93 -40144135.85 -40144135.77 0.2774 0.1900 *

Neptune -114622-06-04 15:22 J -40144108.00 -40144107.86 -40144107.69 0.0089 0.0042

Neptune -114622-08-31 18:29 J -40144019.89 -40144019.73 -40144019.56 0.0089 0.0036

Neptune -114622-11-27 21:22 J -40143931.77 -40143931.61 -40143931.43 0.0089 0.0031

Neptune -114621-02-24 00:29 J -40143843.65 -40143843.48 -40143843.30 0.0089 0.0026

Neptune -114621-05-22 03:36 J -40143755.52 -40143755.35 -40143755.17 0.0089 0.0020

Neptune -114621-08-18 06:29 J -40143667.40 -40143667.23 -40143667.05 0.0089 0.0015

Neptune -114621-11-14 09:36 J -40143579.28 -40143579.10 -40143578.92 0.0089 0.0009

Neptune -114620-02-10 12:43 J -40143491.15 -40143490.97 -40143490.79 0.0089 0.0004

Neptune -114620-05-09 15:50 J -40143403.02 -40143402.84 -40143402.66 0.0089 0.0003

Neptune -114620-08-05 18:43 J -40143314.90 -40143314.72 -40143314.54 0.0089 0.0008

Neptune -114620-11-01 21:50 J -40143226.77 -40143226.59 -40143226.41 0.0089 0.0013

Venus -114620-12-20 22:19 J -40143177.67 -40143177.57 -40143177.46 0.3663 0.1042

Neptune -114619-01-29 00:58 J -40143138.64 -40143138.46 -40143138.28 0.0089 0.0019

Neptune -114619-04-27 04:05 J -40143050.50 -40143050.33 -40143050.15 0.0089 0.0024

Neptune -114619-07-24 06:58 J -40142962.37 -40142962.21 -40142962.03 0.0089 0.0030

Neptune -114619-10-20 10:05 J -40142874.24 -40142874.08 -40142873.90 0.0089 0.0036

Neptune -114618-01-16 13:26 J -40142786.10 -40142785.94 -40142785.78 0.0089 0.0041

Neptune -114618-04-14 16:19 J -40142697.96 -40142697.82 -40142697.65 0.0089 0.0047

Neptune -114618-07-11 19:26 J -40142609.82 -40142609.69 -40142609.53 0.0089 0.0053

Neptune -114618-10-07 23:02 J -40142521.68 -40142521.54 -40142521.40 0.0089 0.0058

Neptune -114617-01-04 01:55 J -40142433.53 -40142433.42 -40142433.28 0.0089 0.0064

Neptune -114617-04-01 05:02 J -40142345.39 -40142345.29 -40142345.16 0.0089 0.0070

Neptune -114617-06-28 08:10 J -40142257.24 -40142257.16 -40142257.05 0.0089 0.0076

Jupiter -114617-09-22 15:22 J -40142170.99 -40142170.86 -40142170.73 0.0497 0.0319

Neptune -114617-09-24 11:46 J -40142169.08 -40142169.01 -40142168.93 0.0089 0.0081

Neptune -114617-12-21 14:53 J -40142080.91 -40142080.88 -40142080.84 0.0089 0.0087

Jupiter -114617-12-21 18:14 J -40142080.89 -40142080.74 -40142080.58 0.0497 0.0236 *

Mars -114616-09-09 11:31 J -40141819.18 -40141819.02 -40141818.87 0.1787 0.0137

Earth -114615-04-30 13:12 J -40141586.06 -40141585.95 -40141585.84 0.2766 0.0648

Moon -114615-04-30 13:55 J -40141586.03 -40141585.92 -40141585.81 0.2769 0.0515 *

Mars -114615-07-22 09:22 J -40141503.23 -40141503.11 -40141502.99 0.1727 0.0058

Venus -114614-07-06 16:05 J -40141153.94 -40141153.83 -40141153.72 0.3669 0.0569

Mars -114613-06-26 19:41 J -40140797.72 -40140797.68 -40140797.65 0.1711 0.1620

Earth -114612-10-22 22:05 J -40140314.71 -40140314.58 -40140314.46 0.2577 0.1560

Moon -114612-10-22 23:31 J -40140314.65 -40140314.52 -40140314.39 0.2580 0.1444 *

Jupiter -114611-08-25 08:53 J -40140008.18 -40140008.13 -40140008.08 0.0528 0.0490

Jupiter -114611-11-22 18:43 J -40139918.85 -40139918.72 -40139918.59 0.0529 0.0016

Saturn -114610-02-14 19:55 J -40139834.73 -40139834.67 -40139834.61 0.0282 0.0254

Jupiter -114610-02-20 03:22 J -40139829.39 -40139829.36 -40139829.32 0.0529 0.0506

Saturn -114610-05-14 09:36 J -40139746.22 -40139746.10 -40139745.99 0.0284 0.0166

Saturn -114610-08-10 23:02 J -40139657.68 -40139657.54 -40139657.41 0.0285 0.0076

Saturn -114610-11-07 12:29 J -40139569.12 -40139568.98 -40139568.84 0.0286 0.0016

Saturn -114609-02-04 01:41 J -40139480.56 -40139480.43 -40139480.30 0.0287 0.0103

Saturn -114609-05-02 14:38 J -40139391.98 -40139391.89 -40139391.78 0.0288 0.0193

Saturn -114609-07-30 03:50 J -40139303.37 -40139303.34 -40139303.31 0.0289 0.0281

Venus -114608-01-19 09:50 J -40139130.18 -40139130.09 -40139130.00 0.3674 0.2108

Mars -114606-01-30 11:46 J -40138389.16 -40138389.01 -40138388.87 0.1782 0.0579

Mars -114606-12-12 18:14 J -40138072.85 -40138072.74 -40138072.62 0.1732 0.0490

Jupiter -114605-07-11 14:10 J -40137860.97 -40137860.91 -40137860.84 0.0498 0.0455

Jupiter -114605-10-09 16:48 J -40137770.97 -40137770.80 -40137770.63 0.0497 0.0095

Mars -114604-11-17 05:17 J -40137367.36 -40137367.28 -40137367.20 0.1715 0.1231

Uranus -114603-06-15 15:07 J -40137156.91 -40137156.87 -40137156.80 0.0147 0.0139

Venus -114603-08-05 03:22 J -40137106.38 -40137106.36 -40137106.35 0.3680 0.3632

Uranus -114603-09-11 22:48 J -40137068.66 -40137068.55 -40137068.42 0.0147 0.0111

Uranus -114603-12-09 06:29 J -40136980.37 -40136980.23 -40136980.07 0.0147 0.0083

Uranus -114602-03-07 14:24 J -40136892.06 -40136891.90 -40136891.73 0.0148 0.0054

Earth -114602-05-03 07:41 J -40136835.29 -40136835.18 -40136835.07 0.2769 0.0264

Moon -114602-05-03 08:24 J -40136835.26 -40136835.15 -40136835.04 0.2765 0.0269 *

Uranus -114602-06-03 22:19 J -40136803.75 -40136803.57 -40136803.39 0.0148 0.0025

Uranus -114602-08-31 06:14 J -40136715.42 -40136715.24 -40136715.06 0.0148 0.0004

Uranus -114602-11-27 14:10 J -40136627.09 -40136626.91 -40136626.73 0.0148 0.0033

Uranus -114601-02-23 22:05 J -40136538.74 -40136538.58 -40136538.41 0.0148 0.0063

Uranus -114601-05-22 06:00 J -40136450.38 -40136450.25 -40136450.10 0.0148 0.0093

Uranus -114601-08-18 13:55 J -40136362.01 -40136361.92 -40136361.80 0.0148 0.0123

Jupiter -114599-09-10 22:19 J -40135608.70 -40135608.57 -40135608.44 0.0528 0.0105

Earth -114599-10-26 04:05 J -40135563.49 -40135563.33 -40135563.17 0.2574 0.0053

Moon -114599-10-26 05:46 J -40135563.42 -40135563.26 -40135563.10 0.2573 0.0111 *

Jupiter -114599-12-09 07:12 J -40135519.29 -40135519.20 -40135519.11 0.0529 0.0389

Saturn -114597-06-18 14:10 J -40134961.94 -40134961.91 -40134961.87 0.0279 0.0272

Mars -114597-06-21 12:00 J -40134959.10 -40134959.00 -40134958.89 0.1777 0.1266

Saturn -114597-09-15 08:53 J -40134873.26 -40134873.13 -40134873.00 0.0278 0.0173

Saturn -114597-12-13 03:50 J -40134784.51 -40134784.34 -40134784.18 0.0277 0.0073

Saturn -114596-03-11 22:48 J -40134695.72 -40134695.55 -40134695.37 0.0276 0.0028

Mars -114596-05-04 03:07 J -40134642.47 -40134642.37 -40134642.26 0.1736 0.0930

Saturn -114596-06-08 18:14 J -40134606.89 -40134606.74 -40134606.59 0.0275 0.0127

Saturn -114596-09-05 13:41 J -40134518.02 -40134517.93 -40134517.83 0.0274 0.0227

Moon -114595-04-26 05:02 J -40134285.35 -40134285.29 -40134285.24 0.2767 0.2337

Earth -114595-04-26 05:02 J -40134285.34 -40134285.29 -40134285.23 0.2759 0.2293 *

Mars -114595-05-29 12:58 J -40134252.00 -40134251.96 -40134251.91 0.1796 0.1707

Venus -114595-11-14 22:19 J -40134082.69 -40134082.57 -40134082.45 0.3718 0.1706

Mars -114594-04-09 14:53 J -40133936.99 -40133936.88 -40133936.78 0.1719 0.0831

Jupiter -114593-07-28 15:36 J -40133461.02 -40133460.85 -40133460.67 0.0498 0.0045

Earth -114589-05-05 02:10 J -40132084.51 -40132084.41 -40132084.31 0.2771 0.1169

Moon -114589-05-05 02:24 J -40132084.50 -40132084.40 -40132084.30 0.2765 0.1210 *

Venus -114589-05-31 00:00 J -40132058.63 -40132058.50 -40132058.38 0.3711 0.1160

Jupiter -114587-06-30 01:12 J -40131298.56 -40131298.45 -40131298.32 0.0528 0.0234

Mars -114587-09-24 11:46 J -40131212.08 -40131212.01 -40131211.93 0.1741 0.1388

Jupiter -114587-09-27 10:34 J -40131209.18 -40131209.06 -40131208.95 0.0529 0.0264

Mars -114586-10-19 12:14 J -40130822.12 -40130821.99 -40130821.85 0.1792 0.0944

Earth -114586-10-29 10:19 J -40130812.20 -40130812.07 -40130811.94 0.2571 0.1468

Moon -114586-10-29 11:31 J -40130812.15 -40130812.02 -40130811.89 0.2566 0.1451 *

Mars -114585-08-30 00:14 J -40130506.61 -40130506.49 -40130506.37 0.1723 0.0422

Earth -114582-04-28 23:46 J -40129534.61 -40129534.51 -40129534.42 0.2763 0.1386

Moon -114582-04-29 00:14 J -40129534.59 -40129534.49 -40129534.40 0.2768 0.1300 *

Jupiter -114581-05-16 14:53 J -40129151.04 -40129150.88 -40129150.72 0.0498 0.0177

Jupiter -114581-08-14 18:14 J -40129060.84 -40129060.74 -40129060.62 0.0497 0.0384

Saturn -114581-09-30 10:48 J -40129014.15 -40129014.05 -40129013.95 0.0284 0.0194

Saturn -114581-12-28 00:14 J -40128925.62 -40128925.49 -40128925.36 0.0285 0.0105

Saturn -114580-03-26 13:41 J -40128837.07 -40128836.93 -40128836.79 0.0286 0.0016

Saturn -114580-06-23 03:07 J -40128748.51 -40128748.37 -40128748.24 0.0287 0.0075

Saturn -114580-09-19 16:05 J -40128659.94 -40128659.83 -40128659.71 0.0288 0.0165

Saturn -114580-12-17 05:17 J -40128571.34 -40128571.28 -40128571.21 0.0289 0.0253

Mars -114576-03-10 12:00 J -40127392.15 -40127392.00 -40127391.84 0.1787 0.0214

Moon -114576-05-07 20:10 J -40127333.73 -40127333.66 -40127333.59 0.2768 0.2027

Earth -114576-05-07 20:38 J -40127333.71 -40127333.64 -40127333.57 0.2774 0.2078 *

Mars -114575-01-20 09:22 J -40127076.23 -40127076.11 -40127075.99 0.1727 0.0013

Jupiter -114575-04-18 04:34 J -40126988.41 -40126988.31 -40126988.21 0.0528 0.0359

Jupiter -114575-07-16 13:55 J -40126899.05 -40126898.92 -40126898.79 0.0529 0.0142

Mars -114574-12-26 19:41 J -40126370.70 -40126370.68 -40126370.66 0.1711 0.1664

Jupiter -114569-03-04 13:55 J -40124841.05 -40124840.92 -40124840.78 0.0498 0.0310

Earth -114569-04-30 18:14 J -40124783.85 -40124783.74 -40124783.64 0.2766 0.0481

Moon -114569-04-30 18:58 J -40124783.82 -40124783.71 -40124783.61 0.2767 0.0486 *

Jupiter -114569-06-02 17:02 J -40124750.94 -40124750.79 -40124750.64 0.0497 0.0245

Venus -114568-01-11 02:38 J -40124528.49 -40124528.39 -40124528.30 0.3660 0.2063

Saturn -114567-02-02 08:38 J -40124141.25 -40124141.14 -40124141.02 0.0278 0.0204

Saturn -114567-05-02 03:36 J -40124052.51 -40124052.35 -40124052.19 0.0277 0.0104

Saturn -114567-07-29 22:48 J -40123963.73 -40123963.55 -40123963.38 0.0276 0.0005

Mars -114567-07-31 12:14 J -40123962.14 -40123961.99 -40123961.85 0.1782 0.0510

Saturn -114567-10-26 18:00 J -40123874.91 -40123874.75 -40123874.59 0.0275 0.0097

Saturn -114566-01-23 13:12 J -40123786.06 -40123785.95 -40123785.82 0.0274 0.0198

Mars -114566-06-12 18:29 J -40123645.85 -40123645.73 -40123645.61 0.1732 0.0437

Earth -114566-10-24 04:34 J -40123512.45 -40123512.31 -40123512.17 0.2577 0.1267

Moon -114566-10-24 06:14 J -40123512.38 -40123512.24 -40123512.10 0.2579 0.1200 *

Mars -114564-05-18 05:17 J -40122940.36 -40122940.28 -40122940.20 0.1715 0.1273

Jupiter -114563-02-04 07:12 J -40122678.24 -40122678.20 -40122678.15 0.0528 0.0491

Jupiter -114563-05-04 17:02 J -40122588.92 -40122588.79 -40122588.66 0.0529 0.0015

Venus -114563-07-27 20:24 J -40122504.76 -40122504.65 -40122504.54 0.3665 0.0451

Jupiter -114563-08-02 01:41 J -40122499.46 -40122499.43 -40122499.39 0.0530 0.0507

Uranus -114563-10-26 09:22 J -40122414.13 -40122414.11 -40122414.06 0.0131 0.0127

Uranus -114562-01-22 12:43 J -40122326.03 -40122325.97 -40122325.88 0.0131 0.0111

Uranus -114562-04-20 16:19 J -40122237.91 -40122237.82 -40122237.72 0.0131 0.0094

Uranus -114562-07-17 19:41 J -40122149.79 -40122149.68 -40122149.57 0.0131 0.0079

Uranus -114562-10-13 22:48 J -40122061.67 -40122061.55 -40122061.42 0.0131 0.0063

Uranus -114561-01-10 02:10 J -40121973.54 -40121973.41 -40121973.28 0.0131 0.0047

Uranus -114561-04-07 05:31 J -40121885.41 -40121885.27 -40121885.14 0.0131 0.0032

Uranus -114561-07-04 08:38 J -40121797.27 -40121797.14 -40121797.00 0.0131 0.0016

Uranus -114561-09-30 12:00 J -40121709.14 -40121709.00 -40121708.86 0.0131 0.0002

Uranus -114561-12-27 15:07 J -40121621.01 -40121620.87 -40121620.73 0.0131 0.0015

Uranus -114560-03-25 18:14 J -40121532.87 -40121532.74 -40121532.60 0.0131 0.0030

Uranus -114560-06-21 21:22 J -40121444.73 -40121444.61 -40121444.48 0.0131 0.0045

Uranus -114560-09-18 00:29 J -40121356.60 -40121356.48 -40121356.35 0.0131 0.0060

Uranus -114560-12-15 03:36 J -40121268.46 -40121268.35 -40121268.23 0.0131 0.0075

Uranus -114559-03-13 06:43 J -40121180.31 -40121180.22 -40121180.12 0.0131 0.0090

Uranus -114559-06-09 09:50 J -40121092.16 -40121092.09 -40121092.00 0.0131 0.0105

Uranus -114559-09-05 12:58 J -40121004.01 -40121003.96 -40121003.90 0.0131 0.0120

Mars -114558-12-21 12:43 J -40120532.08 -40120531.97 -40120531.85 0.1777 0.1192

Jupiter -114558-12-22 13:26 J -40120531.02 -40120530.94 -40120530.86 0.0498 0.0441

Venus -114557-02-10 14:10 J -40120481.01 -40120480.91 -40120480.80 0.3670 0.1132

Jupiter -114557-03-21 15:50 J -40120441.01 -40120440.84 -40120440.67 0.0497 0.0108

Mars -114557-11-02 03:22 J -40120215.47 -40120215.36 -40120215.26 0.1736 0.0885

Earth -114556-05-03 12:29 J -40120033.08 -40120032.98 -40120032.87 0.2769 0.0447

Moon -114556-05-03 13:12 J -40120033.06 -40120032.95 -40120032.85 0.2764 0.0557 *

Mars -114556-11-27 13:41 J -40119824.94 -40119824.93 -40119824.91 0.1797 0.1786

Mars -114555-10-08 14:53 J -40119509.98 -40119509.88 -40119509.78 0.1719 0.0875

Earth -114553-10-26 10:34 J -40118761.22 -40118761.06 -40118760.90 0.2574 0.0245

Moon -114553-10-26 12:14 J -40118761.15 -40118760.99 -40118760.83 0.2570 0.0337 *

Venus -114552-08-26 07:41 J -40118457.25 -40118457.18 -40118457.10 0.3675 0.2678

Saturn -114551-02-17 12:29 J -40118282.06 -40118281.98 -40118281.89 0.0283 0.0220

Jupiter -114551-02-20 20:38 J -40118278.77 -40118278.64 -40118278.51 0.0529 0.0105

Saturn -114551-05-17 02:10 J -40118193.54 -40118193.41 -40118193.28 0.0284 0.0131

Jupiter -114551-05-21 05:46 J -40118189.35 -40118189.26 -40118189.17 0.0529 0.0391

Saturn -114551-08-13 15:36 J -40118104.99 -40118104.85 -40118104.71 0.0285 0.0042

Saturn -114551-11-10 04:48 J -40118016.43 -40118016.30 -40118016.16 0.0286 0.0048

Saturn -114550-02-06 18:00 J -40117927.87 -40117927.75 -40117927.62 0.0287 0.0137

Saturn -114550-05-06 07:12 J -40117839.28 -40117839.20 -40117839.11 0.0288 0.0225

Moon -114549-04-26 10:05 J -40117483.15 -40117483.08 -40117483.01 0.2767 0.2125

Earth -114549-04-26 10:05 J -40117483.15 -40117483.08 -40117483.01 0.2760 0.2119 *

Mars -114547-03-25 12:00 J -40116785.08 -40116785.00 -40116784.93 0.1741 0.1340

Mars -114546-04-19 12:58 J -40116395.09 -40116394.96 -40116394.83 0.1792 0.1014

Jupiter -114545-01-08 14:24 J -40116131.08 -40116130.90 -40116130.73 0.0497 0.0035

Mars -114545-02-29 00:14 J -40116079.61 -40116079.49 -40116079.37 0.1723 0.0464

Venus -114544-12-05 21:07 J -40115433.67 -40115433.62 -40115433.58 0.3723 0.3507

Neptune -114543-04-28 01:55 J -40115290.43 -40115290.42 -40115290.41 0.0088 0.0088

Moon -114543-05-06 06:58 J -40115282.30 -40115282.21 -40115282.11 0.2765 0.1296

Earth -114543-05-06 06:58 J -40115282.30 -40115282.21 -40115282.11 0.2772 0.1346 *

Neptune -114543-07-25 03:22 J -40115202.39 -40115202.36 -40115202.30 0.0088 0.0084

Neptune -114543-10-21 05:02 J -40115114.34 -40115114.29 -40115114.22 0.0088 0.0079

Neptune -114542-01-17 06:58 J -40115026.28 -40115026.21 -40115026.13 0.0088 0.0075

Neptune -114542-04-15 08:24 J -40114938.22 -40114938.15 -40114938.05 0.0088 0.0071

Neptune -114542-07-12 10:19 J -40114850.16 -40114850.07 -40114849.97 0.0088 0.0066

Neptune -114542-10-08 11:46 J -40114762.10 -40114762.01 -40114761.90 0.0088 0.0062

Neptune -114541-01-04 13:26 J -40114674.04 -40114673.94 -40114673.82 0.0088 0.0057

Neptune -114541-04-01 15:22 J -40114585.98 -40114585.86 -40114585.75 0.0088 0.0053

Neptune -114541-06-28 16:48 J -40114497.91 -40114497.80 -40114497.67 0.0088 0.0049

Neptune -114541-09-24 18:29 J -40114409.85 -40114409.73 -40114409.60 0.0088 0.0044

Neptune -114541-12-21 20:10 J -40114321.78 -40114321.66 -40114321.53 0.0088 0.0040

Neptune -114540-03-19 21:50 J -40114233.72 -40114233.59 -40114233.46 0.0088 0.0035

Neptune -114540-06-15 23:17 J -40114145.65 -40114145.53 -40114145.39 0.0088 0.0031

Neptune -114540-09-12 01:12 J -40114057.59 -40114057.45 -40114057.32 0.0088 0.0027

Earth -114540-10-29 16:48 J -40114009.91 -40114009.80 -40114009.68 0.2571 0.1762

Moon -114540-10-29 17:46 J -40114009.87 -40114009.76 -40114009.65 0.2566 0.1888 *

Neptune -114540-12-09 02:38 J -40113969.52 -40113969.39 -40113969.25 0.0088 0.0022

Jupiter -114540-12-10 00:14 J -40113968.61 -40113968.49 -40113968.37 0.0528 0.0225

Neptune -114539-03-07 04:19 J -40113881.46 -40113881.32 -40113881.18 0.0088 0.0018

Jupiter -114539-03-09 09:22 J -40113879.22 -40113879.11 -40113878.99 0.0529 0.0273

Neptune -114539-06-03 06:00 J -40113793.39 -40113793.25 -40113793.11 0.0088 0.0014

Neptune -114539-08-30 07:26 J -40113705.33 -40113705.19 -40113705.04 0.0088 0.0010

Neptune -114539-11-26 09:07 J -40113617.26 -40113617.12 -40113616.98 0.0088 0.0005

Neptune -114538-02-22 10:48 J -40113529.19 -40113529.05 -40113528.91 0.0088 0.0002

Neptune -114538-05-21 12:14 J -40113441.13 -40113440.99 -40113440.85 0.0088 0.0004

Venus -114538-06-21 22:19 J -40113409.71 -40113409.57 -40113409.44 0.3716 0.0760

Saturn -114538-06-22 07:41 J -40113409.27 -40113409.18 -40113409.10 0.0279 0.0238

Neptune -114538-08-17 13:55 J -40113353.06 -40113352.92 -40113352.78 0.0088 0.0008

Saturn -114538-09-19 02:24 J -40113320.55 -40113320.40 -40113320.25 0.0278 0.0139

Neptune -114538-11-13 15:22 J -40113265.00 -40113264.86 -40113264.72 0.0088 0.0012

Saturn -114538-12-16 21:22 J -40113231.78 -40113231.61 -40113231.44 0.0277 0.0040

Neptune -114537-02-09 16:48 J -40113176.93 -40113176.80 -40113176.65 0.0088 0.0017

Saturn -114537-03-14 16:34 J -40113142.98 -40113142.81 -40113142.64 0.0276 0.0061

Neptune -114537-05-07 18:29 J -40113088.86 -40113088.73 -40113088.59 0.0088 0.0020

Saturn -114537-06-11 12:00 J -40113054.14 -40113054.00 -40113053.86 0.0275 0.0161

Neptune -114537-08-03 20:10 J -40113000.80 -40113000.66 -40113000.53 0.0088 0.0025

Saturn -114537-09-08 07:26 J -40112965.24 -40112965.19 -40112965.14 0.0274 0.0261

Mars -114537-09-08 12:29 J -40112965.13 -40112964.98 -40112964.82 0.1787 0.0271

Neptune -114537-10-30 21:36 J -40112912.73 -40112912.60 -40112912.47 0.0088 0.0029

Neptune -114536-01-26 23:02 J -40112824.66 -40112824.54 -40112824.41 0.0088 0.0033

Neptune -114536-04-25 00:29 J -40112736.60 -40112736.48 -40112736.35 0.0088 0.0037

Earth -114536-04-29 04:34 J -40112732.41 -40112732.31 -40112732.21 0.2763 0.1207

Moon -114536-04-29 05:02 J -40112732.38 -40112732.29 -40112732.19 0.2768 0.1192 *

Mars -114536-07-21 09:36 J -40112649.22 -40112649.10 -40112648.98 0.1727 0.0056

Neptune -114536-07-22 01:55 J -40112648.53 -40112648.42 -40112648.29 0.0088 0.0042

Neptune -114536-10-18 03:36 J -40112560.46 -40112560.35 -40112560.23 0.0088 0.0045

Neptune -114535-01-14 05:02 J -40112472.40 -40112472.29 -40112472.17 0.0088 0.0050

Neptune -114535-04-12 06:29 J -40112384.33 -40112384.23 -40112384.11 0.0088 0.0054

Neptune -114535-07-09 08:10 J -40112296.26 -40112296.16 -40112296.05 0.0088 0.0058

Neptune -114535-10-05 09:36 J -40112208.19 -40112208.10 -40112208.00 0.0088 0.0062

Neptune -114534-01-01 11:02 J -40112120.12 -40112120.04 -40112119.94 0.0088 0.0066

Neptune -114534-03-30 12:43 J -40112032.05 -40112031.97 -40112031.89 0.0088 0.0070

Neptune -114534-06-26 14:10 J -40111943.98 -40111943.91 -40111943.84 0.0088 0.0074

Mars -114534-06-26 19:41 J -40111943.69 -40111943.68 -40111943.68 0.1711 0.1705

Neptune -114534-09-22 15:36 J -40111855.91 -40111855.85 -40111855.78 0.0088 0.0078

Jupiter -114534-10-27 13:12 J -40111821.11 -40111820.95 -40111820.79 0.0498 0.0171

Neptune -114534-12-19 17:02 J -40111767.84 -40111767.79 -40111767.74 0.0088 0.0082

Jupiter -114533-01-25 16:34 J -40111730.91 -40111730.81 -40111730.70 0.0497 0.0389

Neptune -114533-03-16 18:29 J -40111679.75 -40111679.73 -40111679.70 0.0088 0.0086

Earth -114533-10-21 05:02 J -40111461.33 -40111461.29 -40111461.25 0.2579 0.2478

Moon -114533-10-21 06:29 J -40111461.27 -40111461.23 -40111461.20 0.2584 0.2503 *

Venus -114532-01-05 00:00 J -40111385.61 -40111385.50 -40111385.39 0.3709 0.2164

Moon -114530-05-09 00:58 J -40110531.52 -40110531.46 -40110531.40 0.2768 0.2220

Earth -114530-05-09 01:26 J -40110531.50 -40110531.44 -40110531.38 0.2774 0.2248 *

Jupiter -114528-09-28 03:07 J -40109658.46 -40109658.37 -40109658.27 0.0528 0.0354

Jupiter -114528-12-26 12:43 J -40109569.10 -40109568.97 -40109568.85 0.0528 0.0147

Mars -114527-01-29 12:43 J -40109535.12 -40109534.97 -40109534.82 0.1782 0.0439

Mars -114527-12-11 18:29 J -40109218.85 -40109218.73 -40109218.61 0.1732 0.0389

Mars -114525-11-16 05:31 J -40108513.35 -40108513.27 -40108513.20 0.1715 0.1321

Earth -114523-05-01 23:02 J -40107981.65 -40107981.54 -40107981.43 0.2766 0.0298

Moon -114523-05-01 23:46 J -40107981.62 -40107981.51 -40107981.40 0.2765 0.0188 *

Saturn -114522-07-07 14:24 J -40107549.97 -40107549.90 -40107549.83 0.0283 0.0245

Jupiter -114522-08-15 12:14 J -40107511.12 -40107510.99 -40107510.85 0.0498 0.0306

Saturn -114522-10-04 03:50 J -40107461.46 -40107461.34 -40107461.22 0.0284 0.0156

Jupiter -114522-11-13 15:22 J -40107421.01 -40107420.86 -40107420.71 0.0497 0.0250

Saturn -114522-12-31 17:17 J -40107372.91 -40107372.78 -40107372.64 0.0285 0.0068

Saturn -114521-03-29 06:43 J -40107284.36 -40107284.22 -40107284.08 0.0286 0.0022

Saturn -114521-06-25 19:55 J -40107195.79 -40107195.67 -40107195.54 0.0287 0.0111

Saturn -114521-09-22 09:07 J -40107107.22 -40107107.12 -40107107.02 0.0288 0.0200

Saturn -114521-12-19 22:05 J -40107018.58 -40107018.58 -40107018.57 0.0290 0.0289

Earth -114520-10-24 11:02 J -40106710.19 -40106710.04 -40106709.89 0.2576 0.0985

Moon -114520-10-24 12:43 J -40106710.12 -40106709.97 -40106709.82 0.2577 0.0804 *

Uranus -114519-07-05 21:22 J -40106455.66 -40106455.61 -40106455.53 0.0147 0.0136

Uranus -114519-10-02 05:02 J -40106367.40 -40106367.29 -40106367.16 0.0147 0.0108

Uranus -114519-12-29 12:43 J -40106279.11 -40106278.97 -40106278.81 0.0147 0.0080

Uranus -114518-03-27 20:38 J -40106190.81 -40106190.64 -40106190.47 0.0148 0.0051

Mars -114518-06-21 13:12 J -40106105.06 -40106104.95 -40106104.83 0.1777 0.1126

Uranus -114518-06-24 04:34 J -40106102.49 -40106102.31 -40106102.13 0.0148 0.0022

Uranus -114518-09-20 12:29 J -40106014.17 -40106013.98 -40106013.80 0.0148 0.0008

Uranus -114518-12-17 20:10 J -40105925.83 -40105925.66 -40105925.48 0.0148 0.0036

Venus -114517-02-02 06:43 J -40105879.28 -40105879.22 -40105879.16 0.3656 0.3084

Uranus -114517-03-15 04:05 J -40105837.49 -40105837.33 -40105837.16 0.0148 0.0066

Mars -114517-05-03 03:22 J -40105788.47 -40105788.36 -40105788.25 0.1736 0.0834

Uranus -114517-06-11 12:14 J -40105749.13 -40105748.99 -40105748.85 0.0148 0.0095

Uranus -114517-09-07 20:10 J -40105660.75 -40105660.66 -40105660.55 0.0148 0.0125

Jupiter -114516-07-17 06:14 J -40105348.29 -40105348.24 -40105348.19 0.0527 0.0482

Jupiter -114516-10-14 15:50 J -40105258.97 -40105258.84 -40105258.70 0.0528 0.0028

Jupiter -114515-01-12 00:29 J -40105169.50 -40105169.48 -40105169.44 0.0529 0.0513

Mars -114515-04-08 14:53 J -40105082.98 -40105082.88 -40105082.78 0.1719 0.0918

Venus -114512-08-18 00:43 J -40103855.58 -40103855.47 -40103855.37 0.3661 0.1462

Earth -114510-05-04 17:31 J -40103230.88 -40103230.77 -40103230.67 0.2769 0.0615

Moon -114510-05-04 18:00 J -40103230.86 -40103230.75 -40103230.64 0.2764 0.0589 *

Jupiter -114510-06-03 11:46 J -40103201.09 -40103201.01 -40103200.93 0.0498 0.0435

Jupiter -114510-09-01 14:10 J -40103111.08 -40103110.91 -40103110.74 0.0497 0.0114

Saturn -114509-11-08 07:55 J -40102677.21 -40102677.17 -40102677.12 0.0279 0.0266

Saturn -114508-02-05 02:38 J -40102588.52 -40102588.39 -40102588.25 0.0278 0.0167

Saturn -114508-05-04 21:36 J -40102499.76 -40102499.60 -40102499.43 0.0277 0.0068

Saturn -114508-08-01 16:48 J -40102410.97 -40102410.80 -40102410.63 0.0276 0.0033

Mars -114508-09-23 12:00 J -40102358.08 -40102358.00 -40102357.92 0.1741 0.1288

Saturn -114508-10-29 12:00 J -40102322.15 -40102322.00 -40102321.84 0.0275 0.0133

Saturn -114507-01-26 07:41 J -40102233.27 -40102233.18 -40102233.09 0.0274 0.0233

Mars -114507-10-18 13:41 J -40101968.06 -40101967.93 -40101967.81 0.1792 0.1091

Earth -114507-10-27 17:17 J -40101958.94 -40101958.78 -40101958.63 0.2573 0.0534

Moon -114507-10-27 18:43 J -40101958.88 -40101958.72 -40101958.56 0.2570 0.0620 *

Venus -114506-03-03 18:29 J -40101831.84 -40101831.73 -40101831.62 0.3666 0.0140

Mars -114506-08-30 00:14 J -40101652.60 -40101652.49 -40101652.37 0.1723 0.0516

Jupiter -114504-08-02 18:43 J -40100948.85 -40100948.72 -40100948.59 0.0529 0.0109

Jupiter -114504-10-31 03:50 J -40100859.43 -40100859.34 -40100859.25 0.0530 0.0387

Earth -114503-04-27 14:53 J -40100680.95 -40100680.88 -40100680.80 0.2760 0.1946

Moon -114503-04-27 15:22 J -40100680.94 -40100680.86 -40100680.79 0.2767 0.1887 *

Venus -114501-09-16 12:14 J -40099808.09 -40099807.99 -40099807.89 0.3672 0.1708

Jupiter -114498-06-20 13:12 J -40098801.12 -40098800.95 -40098800.78 0.0497 0.0023

Mars -114497-03-09 13:12 J -40098538.11 -40098537.95 -40098537.80 0.1787 0.0344

Moon -114497-05-06 11:46 J -40098480.10 -40098480.01 -40098479.92 0.2765 0.1563

Earth -114497-05-06 12:00 J -40098480.09 -40098480.00 -40098479.91 0.2772 0.1524 *

Mars -114496-01-19 09:36 J -40098222.23 -40098222.10 -40098221.98 0.1727 0.0106

Venus -114495-04-02 05:46 J -40097784.31 -40097784.26 -40097784.21 0.3677 0.3235

Moon -114494-10-30 23:46 J -40097207.61 -40097207.51 -40097207.41 0.2564 0.2042

Earth -114494-10-30 23:31 J -40097207.61 -40097207.52 -40097207.42 0.2570 0.2062 *

Saturn -114493-11-23 16:34 J -40096817.85 -40096817.81 -40096817.77 0.0282 0.0268

Saturn -114492-02-20 06:14 J -40096729.35 -40096729.24 -40096729.13 0.0283 0.0179

Saturn -114492-05-19 19:41 J -40096640.81 -40096640.68 -40096640.55 0.0284 0.0091

Jupiter -114492-05-21 22:19 J -40096638.69 -40096638.57 -40096638.45 0.0528 0.0230

Saturn -114492-08-16 09:07 J -40096552.26 -40096552.12 -40096551.98 0.0285 0.0005

Jupiter -114492-08-19 07:26 J -40096549.30 -40096549.19 -40096549.07 0.0529 0.0271

Saturn -114492-11-12 22:19 J -40096463.70 -40096463.57 -40096463.44 0.0286 0.0087

Saturn -114491-02-09 11:31 J -40096375.13 -40096375.02 -40096374.91 0.0287 0.0176

Saturn -114491-05-09 00:29 J -40096286.53 -40096286.48 -40096286.42 0.0289 0.0264

Earth -114490-04-30 09:22 J -40095930.21 -40095930.11 -40095930.01 0.2764 0.1037

Moon -114490-04-30 10:05 J -40095930.18 -40095930.08 -40095929.98 0.2767 0.0972 *

Mars -114488-07-30 13:12 J -40095108.10 -40095107.95 -40095107.80 0.1782 0.0376

Mars -114487-06-11 18:29 J -40094791.85 -40094791.73 -40094791.61 0.1732 0.0346

Venus -114487-07-12 20:53 J -40094760.73 -40094760.63 -40094760.54 0.3721 0.2569

Earth -114487-10-22 11:46 J -40094659.09 -40094659.01 -40094658.93 0.2579 0.2191

Moon -114487-10-22 13:12 J -40094659.05 -40094658.95 -40094658.86 0.2583 0.1999 *

Jupiter -114486-04-08 11:31 J -40094491.18 -40094491.02 -40094490.86 0.0497 0.0166

Jupiter -114486-07-07 14:53 J -40094400.99 -40094400.88 -40094400.77 0.0497 0.0393

Mars -114485-05-17 05:17 J -40094086.35 -40094086.28 -40094086.21 0.1715 0.1360

Moon -114484-05-09 05:46 J -40093729.32 -40093729.26 -40093729.21 0.2771 0.2321

Earth -114484-05-09 06:14 J -40093729.29 -40093729.24 -40093729.19 0.2775 0.2425 *

Venus -114481-01-26 22:19 J -40092736.70 -40092736.57 -40092736.43 0.3714 0.0246

Jupiter -114480-03-10 01:41 J -40092328.53 -40092328.43 -40092328.33 0.0528 0.0351

Jupiter -114480-06-07 11:17 J -40092239.16 -40092239.03 -40092238.90 0.0529 0.0151

Pluto -114479-01-28 09:36 J -40092004.19 -40092004.10 -40092004.01 0.0060 0.0052

Pluto -114479-04-26 10:34 J -40091916.17 -40091916.06 -40091915.91 0.0060 0.0045

Saturn -114479-06-25 01:55 J -40091856.53 -40091856.42 -40091856.30 0.0279 0.0200

Pluto -114479-07-23 12:00 J -40091828.14 -40091828.00 -40091827.83 0.0060 0.0037

Saturn -114479-09-21 20:53 J -40091767.79 -40091767.63 -40091767.47 0.0278 0.0100

Pluto -114479-10-19 13:41 J -40091740.10 -40091739.93 -40091739.76 0.0060 0.0029

Uranus -114479-11-15 16:19 J -40091712.86 -40091712.82 -40091712.77 0.0132 0.0124

Saturn -114479-12-19 16:05 J -40091679.01 -40091678.83 -40091678.66 0.0277 0.0007

Mars -114479-12-20 13:41 J -40091678.05 -40091677.93 -40091677.80 0.1777 0.1062

Pluto -114478-01-15 14:38 J -40091652.05 -40091651.89 -40091651.69 0.0060 0.0022

Uranus -114478-02-11 19:41 J -40091624.75 -40091624.68 -40091624.60 0.0132 0.0108

Saturn -114478-03-18 11:02 J -40091590.19 -40091590.04 -40091589.87 0.0275 0.0101

Pluto -114478-04-13 16:19 J -40091564.00 -40091563.82 -40091563.63 0.0060 0.0014

Uranus -114478-05-10 23:02 J -40091536.63 -40091536.54 -40091536.44 0.0131 0.0092

Saturn -114478-06-15 06:29 J -40091501.34 -40091501.23 -40091501.10 0.0274 0.0201

Pluto -114478-07-10 17:46 J -40091475.95 -40091475.76 -40091475.57 0.0060 0.0006

Uranus -114478-08-07 02:24 J -40091448.51 -40091448.40 -40091448.28 0.0131 0.0076

Pluto -114478-10-06 19:12 J -40091387.89 -40091387.70 -40091387.51 0.0060 0.0001

Mars -114478-11-02 03:36 J -40091361.46 -40091361.35 -40091361.24 0.1736 0.0781

Uranus -114478-11-03 05:46 J -40091360.38 -40091360.26 -40091360.14 0.0131 0.0060

Pluto -114477-01-02 20:24 J -40091299.84 -40091299.65 -40091299.45 0.0060 0.0009

Uranus -114477-01-30 09:07 J -40091272.25 -40091272.12 -40091271.99 0.0131 0.0045

Pluto -114477-03-30 21:50 J -40091211.77 -40091211.59 -40091211.40 0.0060 0.0017

Uranus -114477-04-27 12:14 J -40091184.12 -40091183.99 -40091183.85 0.0131 0.0029

Earth -114477-05-02 03:50 J -40091179.45 -40091179.34 -40091179.23 0.2767 0.0147

Moon -114477-05-02 04:34 J -40091179.42 -40091179.31 -40091179.20 0.2763 0.0098 *

Pluto -114477-06-26 23:02 J -40091123.71 -40091123.54 -40091123.35 0.0061 0.0025

Uranus -114477-07-24 15:36 J -40091095.99 -40091095.85 -40091095.71 0.0131 0.0014

Pluto -114477-09-23 00:14 J -40091035.63 -40091035.49 -40091035.31 0.0061 0.0033

Uranus -114477-10-20 18:43 J -40091007.86 -40091007.72 -40091007.58 0.0131 0.0002

Pluto -114477-12-20 01:41 J -40090947.56 -40090947.43 -40090947.27 0.0061 0.0041

Uranus -114476-01-16 21:50 J -40090919.72 -40090919.59 -40090919.45 0.0131 0.0018

Pluto -114476-03-18 02:53 J -40090859.47 -40090859.38 -40090859.24 0.0061 0.0049

Uranus -114476-04-15 00:58 J -40090831.59 -40090831.46 -40090831.32 0.0131 0.0033

Pluto -114476-06-14 04:05 J -40090771.37 -40090771.33 -40090771.23 0.0061 0.0057

Uranus -114476-07-12 04:05 J -40090743.45 -40090743.33 -40090743.19 0.0131 0.0048

Venus -114476-08-12 00:14 J -40090712.56 -40090712.49 -40090712.42 0.3707 0.3175

Mars -114476-10-07 15:07 J -40090655.97 -40090655.87 -40090655.77 0.1719 0.0968

Uranus -114476-10-08 07:12 J -40090655.31 -40090655.20 -40090655.07 0.0131 0.0064

Uranus -114475-01-04 10:19 J -40090567.17 -40090567.07 -40090566.95 0.0131 0.0078

Uranus -114475-04-02 13:26 J -40090479.03 -40090478.94 -40090478.83 0.0131 0.0093

Uranus -114475-06-29 16:34 J -40090390.88 -40090390.81 -40090390.72 0.0131 0.0108

Uranus -114475-09-25 19:55 J -40090302.72 -40090302.67 -40090302.63 0.0131 0.0122

Jupiter -114474-01-25 10:19 J -40090181.20 -40090181.07 -40090180.93 0.0498 0.0304

Jupiter -114474-04-25 13:12 J -40090091.10 -40090090.95 -40090090.79 0.0497 0.0252

Earth -114474-10-25 17:46 J -40089907.92 -40089907.76 -40089907.61 0.2576 0.0693

Moon -114474-10-25 19:12 J -40089907.85 -40089907.70 -40089907.54 0.2574 0.0683 *

Moon -114470-04-26 01:12 J -40088629.48 -40088629.45 -40088629.42 0.2764 0.2647

Earth -114470-04-26 01:12 J -40088629.47 -40088629.45 -40088629.43 0.2757 0.2687 *

Mars -114469-05-11 14:53 J -40088247.91 -40088247.88 -40088247.84 0.1772 0.1713

Jupiter -114469-12-27 04:34 J -40088018.36 -40088018.31 -40088018.25 0.0527 0.0481

Mars -114468-03-24 12:00 J -40087931.08 -40087931.00 -40087930.91 0.1741 0.1241

Jupiter -114468-03-26 14:24 J -40087929.03 -40087928.90 -40087928.77 0.0528 0.0024

Jupiter -114468-06-23 23:02 J -40087839.57 -40087839.54 -40087839.51 0.0529 0.0513

Mars -114467-04-18 13:55 J -40087541.04 -40087540.92 -40087540.80 0.1792 0.1154

Mars -114466-02-28 00:29 J -40087225.60 -40087225.48 -40087225.37 0.1723 0.0560

Earth -114464-05-04 22:19 J -40086428.67 -40086428.57 -40086428.46 0.2770 0.0791

Moon -114464-05-04 22:34 J -40086428.66 -40086428.56 -40086428.46 0.2763 0.0852 *

Saturn -114463-07-10 08:10 J -40085997.26 -40085997.16 -40085997.06 0.0283 0.0203

Saturn -114463-10-06 21:36 J -40085908.72 -40085908.60 -40085908.47 0.0284 0.0115

Jupiter -114463-11-13 09:36 J -40085871.18 -40085871.10 -40085871.02 0.0498 0.0438

Saturn -114462-01-03 11:02 J -40085820.18 -40085820.04 -40085819.90 0.0285 0.0027

Jupiter -114462-02-11 12:00 J -40085781.17 -40085781.00 -40085780.83 0.0497 0.0112

Saturn -114462-04-02 00:29 J -40085731.62 -40085731.48 -40085731.35 0.0287 0.0064

Saturn -114462-06-29 13:41 J -40085643.05 -40085642.93 -40085642.81 0.0288 0.0153

Saturn -114462-09-26 02:38 J -40085554.46 -40085554.39 -40085554.31 0.0289 0.0241

Venus -114461-09-08 04:48 J -40085206.38 -40085206.30 -40085206.22 0.3657 0.2476

Earth -114461-10-27 23:46 J -40085156.66 -40085156.51 -40085156.36 0.2573 0.0825

Moon -114461-10-28 00:58 J -40085156.61 -40085156.46 -40085156.31 0.2568 0.0946 *

Neptune -114460-12-28 12:29 J -40084730.01 -40084729.98 -40084729.93 0.0089 0.0086

Neptune -114459-03-26 15:07 J -40084641.92 -40084641.87 -40084641.78 0.0089 0.0081

Neptune -114459-06-22 18:29 J -40084553.82 -40084553.73 -40084553.64 0.0089 0.0075

Mars -114459-08-14 20:38 J -40084500.66 -40084500.64 -40084500.62 0.1745 0.1703

Neptune -114459-09-18 21:07 J -40084465.72 -40084465.62 -40084465.50 0.0089 0.0070

Neptune -114459-12-16 00:00 J -40084377.61 -40084377.50 -40084377.37 0.0089 0.0065

Neptune -114458-03-14 02:53 J -40084289.50 -40084289.38 -40084289.24 0.0089 0.0060

Neptune -114458-06-10 06:00 J -40084201.39 -40084201.25 -40084201.11 0.0089 0.0054

Neptune -114458-09-06 08:38 J -40084113.27 -40084113.14 -40084112.98 0.0089 0.0049

Mars -114458-09-08 13:55 J -40084111.08 -40084110.92 -40084110.77 0.1787 0.0419

Neptune -114458-12-03 11:31 J -40084025.16 -40084025.02 -40084024.85 0.0089 0.0044

Neptune -114457-02-29 14:53 J -40083937.04 -40083936.88 -40083936.72 0.0089 0.0038

Earth -114457-04-27 19:55 J -40083878.76 -40083878.67 -40083878.59 0.2761 0.1775

Moon -114457-04-27 20:24 J -40083878.73 -40083878.65 -40083878.57 0.2767 0.1792 *

Neptune -114457-05-27 17:31 J -40083848.92 -40083848.77 -40083848.59 0.0089 0.0033

Mars -114457-07-20 09:36 J -40083795.22 -40083795.10 -40083794.98 0.1727 0.0138

Neptune -114457-08-23 20:38 J -40083760.80 -40083760.64 -40083760.46 0.0089 0.0028

Neptune -114457-11-19 23:46 J -40083672.68 -40083672.51 -40083672.34 0.0089 0.0022

Jupiter -114456-01-12 17:31 J -40083618.90 -40083618.77 -40083618.64 0.0528 0.0104

Neptune -114456-02-16 02:38 J -40083584.56 -40083584.39 -40083584.21 0.0089 0.0017

Jupiter -114456-04-12 02:24 J -40083529.48 -40083529.40 -40083529.31 0.0529 0.0391

Neptune -114456-05-15 05:46 J -40083496.44 -40083496.26 -40083496.08 0.0089 0.0011

Neptune -114456-08-11 08:38 J -40083408.31 -40083408.14 -40083407.96 0.0089 0.0006

Neptune -114456-11-07 11:46 J -40083320.19 -40083320.01 -40083319.83 0.0089 0.0001

Neptune -114455-02-03 14:53 J -40083232.06 -40083231.88 -40083231.70 0.0089 0.0005

Venus   -114455-03-24 22:48 J -40083182.66 -40083182.55 -40083182.44 0.3663 0.0866

Neptune -114455-05-02 17:46 J -40083143.93 -40083143.76 -40083143.58 0.0089 0.0011

Neptune -114455-07-29 20:53 J -40083055.80 -40083055.63 -40083055.45 0.0089 0.0017

Neptune -114455-10-26 00:00 J -40082967.67 -40082967.50 -40082967.32 0.0089 0.0022

Neptune -114454-01-22 02:53 J -40082879.54 -40082879.38 -40082879.20 0.0089 0.0028

Neptune -114454-04-20 06:14 J -40082791.41 -40082791.24 -40082791.07 0.0089 0.0033

Neptune -114454-07-17 09:07 J -40082703.27 -40082703.12 -40082702.95 0.0089 0.0039

Neptune -114454-10-13 12:14 J -40082615.14 -40082614.99 -40082614.82 0.0089 0.0045

Neptune -114453-01-09 15:36 J -40082527.00 -40082526.85 -40082526.70 0.0089 0.0050

Neptune -114453-04-06 18:29 J -40082438.86 -40082438.73 -40082438.58 0.0089 0.0056

Neptune -114453-07-03 21:36 J -40082350.72 -40082350.60 -40082350.45 0.0089 0.0062

Neptune -114453-09-30 00:58 J -40082262.57 -40082262.46 -40082262.33 0.0089 0.0067

Neptune -114453-12-27 04:05 J -40082174.42 -40082174.33 -40082174.22 0.0089 0.0073

Neptune -114452-03-25 07:12 J -40082086.27 -40082086.20 -40082086.10 0.0089 0.0079

Neptune -114452-06-21 10:48 J -40081998.11 -40081998.05 -40081998.00 0.0089 0.0085

Moon   -114451-05-07 16:19 J -40081677.90 -40081677.82 -40081677.73 0.2766 0.1595

Earth   -114451-05-07 16:48 J -40081677.89 -40081677.80 -40081677.72 0.2772 0.1698 *

Jupiter -114451-11-30 11:02 J -40081471.21 -40081471.04 -40081470.86 0.0497 0.0024

Venus   -114450-10-08 16:34 J -40081158.92 -40081158.81 -40081158.70 0.3668 0.0724

Saturn -114450-11-12 02:53 J -40081124.47 -40081124.38 -40081124.28 0.0279 0.0224

Saturn -114449-02-08 21:36 J -40081035.74 -40081035.60 -40081035.44 0.0278 0.0126

Saturn -114449-05-07 16:48 J -40080946.97 -40080946.80 -40080946.63 0.0277 0.0026

Saturn -114449-08-04 12:00 J -40080858.17 -40080858.00 -40080857.83 0.0276 0.0074

Saturn -114449-11-01 07:26 J -40080769.32 -40080769.19 -40080769.06 0.0275 0.0175

Mars   -114448-01-28 13:55 J -40080681.08 -40080680.92 -40080680.77 0.1782 0.0307

Moon   -114448-10-31 06:00 J -40080405.32 -40080405.25 -40080405.19 0.2563 0.2320

Earth   -114448-10-31 06:00 J -40080405.31 -40080405.25 -40080405.18 0.2570 0.2357 *

Mars   -114448-12-10 18:43 J -40080364.84 -40080364.72 -40080364.60 0.1732 0.0295

Mars -114446-11-16 05:31 J -40079659.34 -40079659.27 -40079659.20 0.1715 0.1406

Jupiter -114445-10-31 20:10 J -40079308.78 -40079308.66 -40079308.54 0.0528 0.0238

Jupiter -114444-01-29 05:31 J -40079219.39 -40079219.27 -40079219.16 0.0529 0.0263

Venus -114444-04-23 10:19 J -40079135.16 -40079135.07 -40079134.99 0.3673 0.2278

Earth -114444-04-30 14:24 J -40079128.01 -40079127.90 -40079127.80 0.2764 0.0863

Moon -114444-04-30 15:07 J -40079127.98 -40079127.87 -40079127.77 0.2764 0.0766 *

Earth -114441-10-22 18:14 J -40077856.85 -40077856.74 -40077856.64 0.2579 0.1908

Moon -114441-10-22 19:41 J -40077856.78 -40077856.68 -40077856.57 0.2580 0.1878 *

Mars -114439-06-20 14:24 J -40077251.03 -40077250.90 -40077250.78 0.1777 0.0993

Jupiter -114439-09-18 10:05 J -40077161.24 -40077161.08 -40077160.92 0.0497 0.0159

Jupiter -114439-12-17 13:26 J -40077071.04 -40077070.94 -40077070.84 0.0496 0.0400

Mars -114438-05-03 03:36 J -40076934.47 -40076934.35 -40076934.24 0.1736 0.0739

Moon -114438-05-10 10:34 J -40076927.10 -40076927.06 -40076927.03 0.2775 0.2607

Earth -114438-05-10 11:17 J -40076927.07 -40076927.03 -40076927.00 0.2775 0.2602 *

Mars -114436-04-07 15:07 J -40076228.97 -40076228.87 -40076228.78 0.1719 0.1010

Uranus -114435-07-26 04:34 J -40075754.38 -40075754.31 -40075754.21 0.0147 0.0130

Uranus -114435-10-22 12:14 J -40075666.11 -40075665.99 -40075665.85 0.0147 0.0102

Uranus -114434-01-18 19:55 J -40075577.82 -40075577.67 -40075577.50 0.0147 0.0074

Uranus -114434-04-17 03:50 J -40075489.51 -40075489.34 -40075489.17 0.0148 0.0045

Uranus -114434-07-14 11:46 J -40075401.19 -40075401.01 -40075400.83 0.0148 0.0016

Uranus -114434-10-10 19:26 J -40075312.87 -40075312.69 -40075312.50 0.0148 0.0013

Saturn -114434-11-27 10:48 J -40075265.13 -40075265.05 -40075264.96 0.0282 0.0223

Uranus -114433-01-07 03:22 J -40075224.53 -40075224.36 -40075224.18 0.0148 0.0042

Saturn -114433-02-24 00:29 J -40075176.60 -40075176.48 -40075176.35 0.0283 0.0134

Uranus -114433-04-04 11:17 J -40075136.18 -40075136.03 -40075135.87 0.0148 0.0072

Saturn -114433-05-22 13:55 J -40075088.06 -40075087.92 -40075087.78 0.0285 0.0046

Uranus -114433-07-01 19:26 J -40075047.82 -40075047.69 -40075047.56 0.0148 0.0101

Saturn -114433-08-19 03:07 J -40074999.50 -40074999.37 -40074999.23 0.0286 0.0044

Jupiter -114433-08-19 23:17 J -40074998.62 -40074998.53 -40074998.43 0.0528 0.0361

Uranus -114433-09-28 03:22 J -40074959.44 -40074959.36 -40074959.27 0.0148 0.0131

Saturn -114433-11-15 16:19 J -40074910.94 -40074910.82 -40074910.69 0.0287 0.0132

Jupiter -114433-11-17 09:07 J -40074909.25 -40074909.12 -40074909.00 0.0529 0.0143

Saturn -114432-02-12 05:31 J -40074822.36 -40074822.27 -40074822.18 0.0288 0.0220

Earth -114431-05-03 08:53 J -40074377.24 -40074377.13 -40074377.02 0.2767 0.0079

Moon -114431-05-03 09:22 J -40074377.22 -40074377.11 -40074377.00 0.2762 0.0119 *

Venus -114430-02-16 20:53 J -40074087.75 -40074087.63 -40074087.51 0.3719 0.1611

Mars -114430-11-10 15:22 J -40073820.91 -40073820.86 -40073820.81 0.1772 0.1651

Mars -114429-09-22 12:14 J -40073504.08 -40073503.99 -40073503.90 0.1741 0.1188

Mars -114428-10-17 14:38 J -40073114.00 -40073113.89 -40073113.77 0.1792 0.1230

Earth -114428-10-26 00:14 J -40073105.65 -40073105.49 -40073105.33 0.2576 0.0401

Moon -114428-10-26 01:41 J -40073105.59 -40073105.43 -40073105.27 0.2572 0.0200 *

Jupiter -114427-07-07 08:24 J -40072851.29 -40072851.15 -40072851.01 0.0498 0.0302

Mars -114427-08-29 00:29 J -40072798.60 -40072798.48 -40072798.37 0.1723 0.0602

Jupiter -114427-10-05 11:17 J -40072761.18 -40072761.03 -40072760.88 0.0497 0.0252

Venus -114425-09-01 22:34 J -40072063.69 -40072063.56 -40072063.43 0.3712 0.1244

Earth -114424-04-26 06:14 J -40071827.28 -40071827.24 -40071827.20 0.2758 0.2511

Moon -114424-04-26 06:29 J -40071827.27 -40071827.23 -40071827.19 0.2765 0.2560 *

Jupiter -114421-06-08 02:53 J -40070688.43 -40070688.38 -40070688.33 0.0528 0.0483

Jupiter -114421-09-05 12:43 J -40070599.11 -40070598.97 -40070598.84 0.0529 0.0025

Jupiter -114421-12-03 21:22 J -40070509.63 -40070509.61 -40070509.58 0.0529 0.0514

Saturn -114420-03-31 02:53 J -40070392.44 -40070392.38 -40070392.30 0.0279 0.0253

Saturn -114420-06-27 21:50 J -40070303.73 -40070303.59 -40070303.45 0.0278 0.0153

Saturn -114420-09-24 16:48 J -40070214.97 -40070214.80 -40070214.63 0.0277 0.0054

Saturn -114420-12-22 12:00 J -40070126.17 -40070126.00 -40070125.83 0.0276 0.0046

Mars -114419-02-12 20:38 J -40070073.67 -40070073.64 -40070073.60 0.1745 0.1654

Saturn -114419-03-21 07:12 J -40070037.35 -40070037.20 -40070037.05 0.0275 0.0146

Saturn -114419-06-18 02:38 J -40069948.46 -40069948.39 -40069948.31 0.0274 0.0246

Mars -114418-03-09 14:10 J -40069684.06 -40069683.91 -40069683.76 0.1787 0.0476

Moon -114418-05-06 03:07 J -40069626.47 -40069626.37 -40069626.27 0.2763 0.0927

Earth -114418-05-06 03:22 J -40069626.47 -40069626.36 -40069626.26 0.2770 0.0970 *

Mars -114417-01-19 09:36 J -40069368.22 -40069368.10 -40069367.97 0.1727 0.0194

Jupiter -114415-04-25 07:12 J -40068541.27 -40068541.20 -40068541.12 0.0498 0.0439

Jupiter -114415-07-24 09:36 J -40068451.27 -40068451.10 -40068450.93 0.0497 0.0110

Earth -114415-10-29 06:29 J -40068354.37 -40068354.23 -40068354.09 0.2572 0.1127

Moon -114415-10-29 06:58 J -40068354.36 -40068354.21 -40068354.07 0.2566 0.1066 *

Earth -114411-04-29 00:43 J -40067076.56 -40067076.47 -40067076.38 0.2761 0.1600

Moon -114411-04-29 01:12 J -40067076.54 -40067076.45 -40067076.35 0.2766 0.1488 *

Venus -114410-09-30 08:53 J -40066557.16 -40066557.13 -40066557.10 0.3654 0.3511

Jupiter -114409-06-24 15:36 J -40066288.98 -40066288.85 -40066288.71 0.0528 0.0107

Mars -114409-07-29 14:24 J -40066254.05 -40066253.90 -40066253.75 0.1782 0.0234

Jupiter -114409-09-22 00:43 J -40066199.56 -40066199.47 -40066199.38 0.0529 0.0389

Mars -114408-06-10 18:43 J -40065937.84 -40065937.72 -40065937.60 0.1732 0.0247

Mars -114406-05-17 05:31 J -40065232.33 -40065232.27 -40065232.21 0.1715 0.1451

Moon -114405-05-07 21:07 J -40064875.70 -40064875.62 -40064875.54 0.2768 0.1874

Earth -114405-05-07 21:36 J -40064875.68 -40064875.60 -40064875.52 0.2773 0.1874 *

Venus -114404-04-15 02:53 J -40064533.48 -40064533.38 -40064533.28 0.3659 0.1875

Saturn -114404-04-15 13:12 J -40064533.02 -40064532.95 -40064532.88 0.0283 0.0245

Saturn -114404-07-13 02:38 J -40064444.50 -40064444.39 -40064444.27 0.0284 0.0157

Saturn -114404-10-09 16:19 J -40064355.96 -40064355.82 -40064355.69 0.0285 0.0068

Saturn -114403-01-06 05:31 J -40064267.41 -40064267.27 -40064267.13 0.0286 0.0023

Saturn -114403-04-04 18:43 J -40064178.84 -40064178.72 -40064178.59 0.0287 0.0111

Jupiter -114403-05-12 08:24 J -40064141.32 -40064141.15 -40064140.98 0.0497 0.0029

Saturn -114403-07-02 07:55 J -40064090.26 -40064090.17 -40064090.07 0.0288 0.0199

Saturn -114403-09-28 21:07 J -40064001.64 -40064001.62 -40064001.61 0.0289 0.0287

Mars -114400-12-19 14:53 J -40062824.01 -40062823.88 -40062823.75 0.1777 0.0922

Venus -114399-10-29 20:53 J -40062509.74 -40062509.63 -40062509.52 0.3664 0.0287

Mars -114399-11-01 03:36 J -40062507.46 -40062507.35 -40062507.24 0.1736 0.0687

Earth -114398-05-01 19:12 J -40062325.80 -40062325.70 -40062325.59 0.2765 0.0684

Moon -114398-05-01 19:55 J -40062325.77 -40062325.67 -40062325.56 0.2762 0.0679 *

Jupiter -114397-04-12 18:43 J -40061978.84 -40061978.72 -40061978.60 0.0528 0.0235

Jupiter -114397-07-11 03:50 J -40061889.45 -40061889.34 -40061889.22 0.0529 0.0265

Mars -114397-10-06 15:07 J -40061801.97 -40061801.87 -40061801.78 0.1719 0.1054

Earth -114395-10-24 00:43 J -40061054.59 -40061054.47 -40061054.34 0.2578 0.1618

Moon -114395-10-24 02:24 J -40061054.53 -40061054.40 -40061054.27 0.2577 0.1470 *

Uranus -114395-12-05 23:17 J -40061011.58 -40061011.53 -40061011.47 0.0132 0.0120

Uranus -114394-03-04 02:38 J -40060923.47 -40060923.39 -40060923.30 0.0132 0.0105

Uranus -114394-05-31 06:00 J -40060835.35 -40060835.25 -40060835.14 0.0131 0.0089

Uranus -114394-08-27 09:22 J -40060747.22 -40060747.11 -40060746.99 0.0131 0.0073

Uranus -114394-11-23 12:29 J -40060659.10 -40060658.98 -40060658.85 0.0131 0.0058

Uranus -114393-02-19 15:50 J -40060570.97 -40060570.84 -40060570.70 0.0131 0.0042

Venus -114393-05-14 14:38 J -40060486.00 -40060485.89 -40060485.79 0.3669 0.1302

Uranus -114393-05-17 19:12 J -40060482.84 -40060482.70 -40060482.56 0.0131 0.0026

Uranus -114393-08-13 22:19 J -40060394.70 -40060394.57 -40060394.43 0.0131 0.0011

Uranus -114393-11-10 01:41 J -40060306.57 -40060306.43 -40060306.29 0.0131 0.0005

Uranus -114392-02-06 04:48 J -40060218.43 -40060218.30 -40060218.16 0.0131 0.0020

Uranus -114392-05-05 07:55 J -40060130.30 -40060130.17 -40060130.03 0.0131 0.0036

Moon -114392-05-10 15:22 J -40060124.89 -40060124.86 -40060124.83 0.2776 0.2642

Uranus -114392-08-01 11:02 J -40060042.16 -40060042.04 -40060041.91 0.0131 0.0051

Uranus -114392-10-28 14:10 J -40059954.02 -40059953.91 -40059953.78 0.0131 0.0066

Uranus -114391-01-24 17:17 J -40059865.88 -40059865.78 -40059865.66 0.0131 0.0081

Jupiter -114391-02-28 07:41 J -40059831.34 -40059831.18 -40059831.02 0.0497 0.0162

Uranus -114391-04-22 20:24 J -40059777.73 -40059777.65 -40059777.55 0.0131 0.0096

Jupiter -114391-05-29 11:02 J -40059741.15 -40059741.04 -40059740.94 0.0497 0.0397

Uranus -114391-07-19 23:31 J -40059689.58 -40059689.52 -40059689.44 0.0131 0.0111

Saturn -114391-08-18 04:19 J -40059660.34 -40059660.32 -40059660.29 0.0279 0.0275

Uranus -114391-10-16 02:38 J -40059601.42 -40059601.39 -40059601.35 0.0131 0.0125

Saturn -114391-11-14 23:02 J -40059571.67 -40059571.54 -40059571.41 0.0278 0.0177

Saturn -114390-02-11 18:00 J -40059482.92 -40059482.75 -40059482.59 0.0277 0.0078

Saturn -114390-05-11 12:58 J -40059394.13 -40059393.96 -40059393.79 0.0276 0.0022

Mars -114390-05-11 15:50 J -40059393.91 -40059393.84 -40059393.77 0.1772 0.1586 *

Saturn -114390-08-08 08:10 J -40059305.31 -40059305.16 -40059305.00 0.0275 0.0122

Saturn -114390-11-05 03:50 J -40059216.44 -40059216.34 -40059216.24 0.0274 0.0222

Mars -114389-03-23 12:14 J -40059077.08 -40059076.99 -40059076.90 0.1741 0.1142

Mars -114388-04-17 15:22 J -40058686.97 -40058686.86 -40058686.76 0.1792 0.1298

Venus -114388-11-28 08:10 J -40058462.23 -40058462.16 -40058462.09 0.3675 0.2836

Mars -114387-02-27 00:29 J -40058371.59 -40058371.48 -40058371.37 0.1723 0.0646

Pluto -114386-08-20 05:02 J -40057832.30 -40057832.29 -40057832.27 0.0084 0.0084

Pluto -114386-11-16 06:00 J -40057744.31 -40057744.25 -40057744.16 0.0084 0.0070

Jupiter -114385-01-30 21:07 J -40057668.72 -40057668.62 -40057668.53 0.0528 0.0371

Pluto -114385-02-12 07:26 J -40057656.28 -40057656.19 -40057656.08 0.0084 0.0055

Jupiter -114385-04-29 06:43 J -40057579.35 -40057579.22 -40057579.09 0.0529 0.0132

Earth -114385-05-03 13:41 J -40057575.04 -40057574.93 -40057574.82 0.2768 0.0230

Moon -114385-05-03 13:55 J -40057575.03 -40057574.92 -40057574.81 0.2762 0.0295 *

Pluto -114385-05-10 08:53 J -40057568.24 -40057568.13 -40057568.01 0.0084 0.0039

Pluto -114385-08-06 10:19 J -40057480.20 -40057480.07 -40057479.94 0.0084 0.0024

Pluto -114385-11-02 11:31 J -40057392.15 -40057392.02 -40057391.88 0.0084 0.0010

Pluto -114384-01-29 12:43 J -40057304.10 -40057303.97 -40057303.83 0.0084 0.0006

Pluto -114384-04-27 14:10 J -40057216.04 -40057215.91 -40057215.78 0.0084 0.0019

Pluto -114384-07-24 15:22 J -40057127.98 -40057127.86 -40057127.73 0.0083 0.0034

Pluto -114384-10-20 16:34 J -40057039.91 -40057039.81 -40057039.70 0.0083 0.0048

Pluto -114383-01-16 18:00 J -40056951.84 -40056951.75 -40056951.66 0.0083 0.0063

Pluto -114383-04-14 18:58 J -40056863.75 -40056863.71 -40056863.65 0.0083 0.0077

Earth -114382-10-27 06:43 J -40056303.38 -40056303.22 -40056303.06 0.2575 0.0121

Moon -114382-10-27 08:10 J -40056303.33 -40056303.16 -40056303.00 0.2571 0.0134 *

Mars -114380-08-13 20:53 J -40055646.68 -40055646.63 -40055646.59 0.1745 0.1604

Jupiter -114380-12-17 06:43 J -40055521.36 -40055521.22 -40055521.08 0.0498 0.0298

Venus -114379-03-09 19:41 J -40055438.73 -40055438.68 -40055438.63 0.3724 0.3388

Jupiter -114379-03-17 09:22 J -40055431.25 -40055431.11 -40055430.95 0.0497 0.0257

Mars -114379-09-07 14:53 J -40055257.03 -40055256.88 -40055256.73 0.1787 0.0554

Neptune -114378-01-23 01:12 J -40055119.47 -40055119.45 -40055119.40 0.0088 0.0086

Neptune -114378-04-21 03:22 J -40055031.42 -40055031.36 -40055031.31 0.0088 0.0081

Earth -114378-04-27 11:02 J -40055025.09 -40055025.04 -40055024.98 0.2758 0.2338

Moon -114378-04-27 11:31 J -40055025.08 -40055025.02 -40055024.96 0.2765 0.2260 *

Neptune -114378-07-18 04:48 J -40054943.36 -40054943.30 -40054943.22 0.0088 0.0077

Mars -114378-07-20 09:50 J -40054941.21 -40054941.09 -40054940.97 0.1727 0.0235

Neptune -114378-10-14 06:29 J -40054855.30 -40054855.23 -40054855.14 0.0088 0.0072

Neptune -114377-01-10 08:10 J -40054767.24 -40054767.16 -40054767.06 0.0088 0.0068

Neptune -114377-04-07 09:50 J -40054679.18 -40054679.09 -40054678.98 0.0088 0.0063

Neptune -114377-07-04 11:46 J -40054591.12 -40054591.01 -40054590.91 0.0088 0.0059

Neptune -114377-09-30 13:12 J -40054503.05 -40054502.95 -40054502.83 0.0088 0.0055

Neptune -114377-12-27 14:53 J -40054414.99 -40054414.88 -40054414.76 0.0088 0.0050

Neptune -114376-03-25 16:34 J -40054326.93 -40054326.81 -40054326.68 0.0088 0.0046

Neptune -114376-06-21 18:14 J -40054238.86 -40054238.74 -40054238.61 0.0088 0.0041

Neptune -114376-09-17 19:41 J -40054150.80 -40054150.68 -40054150.54 0.0088 0.0038

Neptune -114376-12-14 21:36 J -40054062.73 -40054062.60 -40054062.47 0.0088 0.0033

Neptune -114375-03-12 23:02 J -40053974.67 -40053974.54 -40053974.40 0.0088 0.0029

Neptune -114375-06-09 00:43 J -40053886.60 -40053886.47 -40053886.33 0.0088 0.0024

Saturn -114375-09-02 16:05 J -40053800.88 -40053800.83 -40053800.78 0.0282 0.0263

Neptune -114375-09-05 02:24 J -40053798.54 -40053798.40 -40053798.26 0.0088 0.0020

Saturn -114375-11-30 05:46 J -40053712.37 -40053712.26 -40053712.15 0.0283 0.0175

Neptune -114375-12-02 04:05 J -40053710.47 -40053710.33 -40053710.19 0.0088 0.0015

Saturn -114374-02-26 19:12 J -40053623.83 -40053623.70 -40053623.56 0.0284 0.0087

Neptune -114374-02-28 05:31 J -40053622.40 -40053622.27 -40053622.12 0.0088 0.0012

Saturn -114374-05-26 08:38 J -40053535.28 -40053535.14 -40053535.00 0.0285 0.0003

Neptune -114374-05-27 07:12 J -40053534.34 -40053534.20 -40053534.06 0.0088 0.0007

Saturn -114374-08-22 21:50 J -40053446.72 -40053446.59 -40053446.45 0.0286 0.0091

Neptune -114374-08-23 08:53 J -40053446.27 -40053446.13 -40053445.99 0.0088 0.0003

Venus -114374-09-23 20:53 J -40053414.76 -40053414.63 -40053414.50 0.3717 0.0642

Jupiter -114374-11-19 00:14 J -40053358.53 -40053358.49 -40053358.44 0.0528 0.0496

Neptune -114374-11-19 10:34 J -40053358.21 -40053358.06 -40053357.92 0.0088 0.0003

Saturn -114374-11-19 11:02 J -40053358.14 -40053358.04 -40053357.93 0.0287 0.0179 *

Neptune -114373-02-15 12:00 J -40053270.14 -40053270.00 -40053269.86 0.0088 0.0006

Saturn -114373-02-16 00:00 J -40053269.54 -40053269.50 -40053269.44 0.0289 0.0267

Jupiter -114373-02-16 10:05 J -40053269.21 -40053269.08 -40053268.94 0.0529 0.0021

Neptune -114373-05-13 13:41 J -40053182.07 -40053181.93 -40053181.79 0.0088 0.0010

Jupiter -114373-05-15 18:58 J -40053179.74 -40053179.71 -40053179.67 0.0530 0.0503

Neptune -114373-08-09 15:07 J -40053094.01 -40053093.87 -40053093.73 0.0088 0.0015

Neptune -114373-11-05 16:48 J -40053005.94 -40053005.80 -40053005.66 0.0088 0.0019

Neptune -114372-02-01 18:14 J -40052917.87 -40052917.74 -40052917.60 0.0088 0.0023

Neptune -114372-04-30 19:41 J -40052829.81 -40052829.68 -40052829.54 0.0088 0.0027

Moon -114372-05-06 07:55 J -40052824.27 -40052824.17 -40052824.07 0.2763 0.1119

Earth -114372-05-06 08:10 J -40052824.26 -40052824.16 -40052824.06 0.2770 0.1141 *

Neptune -114372-07-27 21:22 J -40052741.74 -40052741.61 -40052741.48 0.0088 0.0031

Neptune -114372-10-23 22:48 J -40052653.67 -40052653.55 -40052653.42 0.0088 0.0036

Neptune -114371-01-20 00:29 J -40052565.60 -40052565.48 -40052565.36 0.0088 0.0040

Neptune -114371-04-18 01:55 J -40052477.54 -40052477.42 -40052477.30 0.0088 0.0044

Neptune -114371-07-15 03:22 J -40052389.47 -40052389.36 -40052389.24 0.0088 0.0048

Neptune -114371-10-11 04:48 J -40052301.40 -40052301.30 -40052301.18 0.0088 0.0052

Neptune -114370-01-07 06:14 J -40052213.33 -40052213.24 -40052213.12 0.0088 0.0057

Neptune -114370-04-05 07:55 J -40052125.26 -40052125.17 -40052125.06 0.0088 0.0060

Neptune -114370-07-02 09:22 J -40052037.19 -40052037.11 -40052037.01 0.0088 0.0064

Neptune -114370-09-28 10:48 J -40051949.13 -40051949.05 -40051948.95 0.0088 0.0069

Neptune -114370-12-25 12:14 J -40051861.05 -40051860.99 -40051860.90 0.0088 0.0073

Mars -114369-01-28 14:53 J -40051827.03 -40051826.88 -40051826.73 0.1782 0.0168

Neptune -114369-03-22 13:55 J -40051772.98 -40051772.92 -40051772.85 0.0088 0.0076

Neptune -114369-06-18 15:22 J -40051684.91 -40051684.86 -40051684.80 0.0088 0.0080

Neptune -114369-09-14 16:48 J -40051596.83 -40051596.80 -40051596.75 0.0088 0.0084

Moon -114369-10-29 12:58 J -40051552.09 -40051551.96 -40051551.83 0.2565 0.1507

Earth -114369-10-29 12:58 J -40051552.09 -40051551.96 -40051551.82 0.2572 0.1418 *

Mars -114369-12-09 18:43 J -40051510.84 -40051510.72 -40051510.59 0.1732 0.0209

Neptune -114369-12-11 18:29 J -40051508.73 -40051508.73 -40051508.73 0.0088 0.0088

Venus   -114368-04-08 22:34 J -40051390.66 -40051390.56 -40051390.45 0.3710 0.2244

Jupiter -114368-10-05 04:48 J -40051211.37 -40051211.30 -40051211.22 0.0498 0.0442

Jupiter -114367-01-03 07:12 J -40051121.37 -40051121.20 -40051121.03 0.0497 0.0107

Mars   -114367-11-15 05:31 J -40050805.33 -40050805.27 -40050805.21 0.1715 0.1491

Earth   -114365-04-29 05:31 J -40050274.36 -40050274.27 -40050274.17 0.2762 0.1425

Moon   -114365-04-29 06:14 J -40050274.33 -40050274.24 -40050274.14 0.2763 0.1426 *

Jupiter -114362-12-05 13:41 J -40048959.06 -40048958.93 -40048958.79 0.0528 0.0111

Jupiter -114361-03-03 22:48 J -40048869.64 -40048869.55 -40048869.46 0.0529 0.0386

Saturn -114361-04-02 23:31 J -40048839.62 -40048839.52 -40048839.39 0.0279 0.0202

Saturn -114361-06-30 18:29 J -40048750.89 -40048750.73 -40048750.57 0.0278 0.0103

Saturn -114361-09-27 13:26 J -40048662.11 -40048661.94 -40048661.76 0.0277 0.0008

Saturn -114361-12-25 08:38 J -40048573.30 -40048573.14 -40048572.97 0.0276 0.0097

Saturn -114360-03-24 04:05 J -40048484.45 -40048484.33 -40048484.20 0.0274 0.0196

Mars   -114360-06-19 15:07 J -40048397.00 -40048396.87 -40048396.73 0.1777 0.0865

Mars   -114359-05-02 03:50 J -40048080.46 -40048080.34 -40048080.23 0.1736 0.0639

Moon   -114359-05-09 01:55 J -40048073.50 -40048073.42 -40048073.35 0.2772 0.1963

Earth   -114359-05-09 02:38 J -40048073.46 -40048073.39 -40048073.32 0.2773 0.2051 *

Mars   -114357-04-06 15:07 J -40047374.96 -40047374.87 -40047374.78 0.1719 0.1097

Jupiter -114356-10-22 05:46 J -40046811.43 -40046811.26 -40046811.08 0.0497 0.0035

Venus   -114353-05-06 06:58 J -40045884.28 -40045884.21 -40045884.14 0.3655 0.2900

Earth   -114352-05-02 00:14 J -40045523.60 -40045523.49 -40045523.39 0.2765 0.0522

Moon   -114352-05-02 00:43 J -40045523.58 -40045523.47 -40045523.36 0.2761 0.0389 *

Uranus -114351-08-15 12:43 J -40045053.07 -40045052.97 -40045052.87 0.0147 0.0121

Mars   -114351-11-09 16:34 J -40044966.89 -40044966.81 -40044966.73 0.1772 0.1513

Uranus -114351-11-11 20:24 J -40044964.79 -40044964.65 -40044964.51 0.0148 0.0093

Uranus -114350-02-08 03:50 J -40044876.49 -40044876.34 -40044876.17 0.0148 0.0065

Uranus -114350-05-07 11:46 J -40044788.19 -40044788.01 -40044787.83 0.0148 0.0036

Uranus -114350-08-03 19:26 J -40044699.87 -40044699.69 -40044699.50 0.0148 0.0008

Mars   -114350-09-22 12:29 J -40044650.08 -40044649.98 -40044649.89 0.1741 0.1090

Jupiter -114350-09-23 16:48 J -40044648.92 -40044648.80 -40044648.68 0.0528 0.0238

Uranus -114350-10-31 03:22 J -40044611.54 -40044611.36 -40044611.18 0.0148 0.0022

Jupiter -114350-12-22 02:10 J -40044559.53 -40044559.41 -40044559.30 0.0529 0.0261

Uranus -114349-01-27 11:17 J -40044523.20 -40044523.03 -40044522.86 0.0148 0.0051

Uranus -114349-04-24 19:12 J -40044434.85 -40044434.70 -40044434.54 0.0148 0.0081

Uranus -114349-07-22 03:07 J -40044346.48 -40044346.37 -40044346.24 0.0148 0.0110

Mars -114349-10-16 15:50 J -40044259.94 -40044259.84 -40044259.74 0.1792 0.1371

Uranus -114349-10-18 11:17 J -40044258.08 -40044258.03 -40044257.97 0.0148 0.0140

Earth -114349-10-24 07:12 J -40044252.33 -40044252.20 -40044252.06 0.2578 0.1331

Moon -114349-10-24 08:53 J -40044252.27 -40044252.13 -40044251.99 0.2575 0.1220 *

Mars -114348-08-28 00:43 J -40043944.58 -40043944.47 -40043944.36 0.1723 0.0698

Venus -114348-11-20 00:58 J -40043860.56 -40043860.46 -40043860.35 0.3660 0.1281

Saturn -114345-04-18 07:55 J -40042980.27 -40042980.17 -40042980.06 0.0283 0.0197

Saturn -114345-07-15 21:36 J -40042891.73 -40042891.60 -40042891.47 0.0285 0.0108

Saturn -114345-10-12 11:02 J -40042803.18 -40042803.04 -40042802.90 0.0286 0.0019

Saturn -114344-01-09 00:14 J -40042714.62 -40042714.49 -40042714.35 0.0287 0.0070

Saturn -114344-04-07 13:26 J -40042626.05 -40042625.94 -40042625.82 0.0288 0.0158

Saturn -114344-07-05 02:38 J -40042537.46 -40042537.39 -40042537.32 0.0289 0.0246

Jupiter -114344-08-10 04:34 J -40042501.47 -40042501.31 -40042501.15 0.0498 0.0173

Jupiter -114344-11-08 07:41 J -40042411.28 -40042411.18 -40042411.06 0.0497 0.0387

Venus -114342-06-05 18:58 J -40041836.83 -40041836.71 -40041836.60 0.3666 0.0329

Mars -114340-02-11 20:53 J -40041219.68 -40041219.63 -40041219.57 0.1745 0.1554

Mars -114339-03-08 15:36 J -40040830.00 -40040829.85 -40040829.71 0.1787 0.0625

Moon -114339-05-04 18:43 J -40040772.83 -40040772.72 -40040772.62 0.2761 0.0367

Earth -114339-05-04 18:29 J -40040772.83 -40040772.73 -40040772.62 0.2768 0.0420 *

Mars -114338-01-18 09:50 J -40040514.21 -40040514.09 -40040513.97 0.1727 0.0277

Jupiter -114338-07-12 19:26 J -40040338.78 -40040338.69 -40040338.59 0.0528 0.0370

Jupiter -114338-10-10 05:02 J -40040249.41 -40040249.29 -40040249.16 0.0529 0.0135

Venus -114337-12-19 12:29 J -40039813.07 -40039812.98 -40039812.88 0.3671 0.1867

Earth -114336-10-27 13:26 J -40039501.10 -40039500.94 -40039500.78 0.2575 0.0189

Moon -114336-10-27 13:55 J -40039501.08 -40039500.92 -40039500.76 0.2569 0.0274 *

Earth -114332-04-27 16:05 J -40038222.90 -40038222.83 -40038222.77 0.2759 0.2161

Moon -114332-04-27 16:34 J -40038222.88 -40038222.81 -40038222.74 0.2764 0.2149 *

Jupiter -114332-05-29 03:50 J -40038191.47 -40038191.34 -40038191.20 0.0498 0.0305

Saturn -114332-08-21 01:12 J -40038107.54 -40038107.45 -40038107.35 0.0279 0.0223

Jupiter -114332-08-27 06:43 J -40038101.37 -40038101.22 -40038101.07 0.0497 0.0250

Saturn -114332-11-17 19:55 J -40038018.82 -40038018.67 -40038018.51 0.0277 0.0125

Saturn -114331-02-14 15:07 J -40037930.05 -40037929.87 -40037929.70 0.0276 0.0027

Saturn -114331-05-14 10:05 J -40037841.24 -40037841.08 -40037840.91 0.0275 0.0074

Venus -114331-07-05 06:14 J -40037789.28 -40037789.24 -40037789.20 0.3676 0.3392

Saturn -114331-08-11 05:31 J -40037752.40 -40037752.27 -40037752.13 0.0274 0.0173

Saturn -114331-11-08 00:58 J -40037663.46 -40037663.46 -40037663.45 0.0273 0.0273

Mars -114330-07-29 15:22 J -40037400.01 -40037399.86 -40037399.70 0.1782 0.0101

Mars -114329-06-09 18:58 J -40037083.83 -40037083.71 -40037083.59 0.1732 0.0154

Mars -114327-05-16 05:31 J -40036378.32 -40036378.27 -40036378.22 0.1715 0.1533

Jupiter -114326-04-30 21:50 J -40036028.62 -40036028.59 -40036028.56 0.0528 0.0507

Moon -114326-05-07 12:29 J -40036022.07 -40036021.98 -40036021.88 0.2765 0.1304

Earth -114326-05-07 12:58 J -40036022.05 -40036021.96 -40036021.86 0.2771 0.1319 *

Jupiter -114326-07-29 07:41 J -40035939.31 -40035939.18 -40035939.04 0.0529 0.0016

Jupiter -114326-10-26 16:34 J -40035849.85 -40035849.81 -40035849.76 0.0529 0.0491

Venus -114323-10-14 19:41 J -40034765.78 -40034765.68 -40034765.58 0.3722 0.2443

Moon -114323-10-30 19:12 J -40034749.82 -40034749.70 -40034749.57 0.2565 0.1594

Earth -114323-10-30 19:41 J -40034749.80 -40034749.68 -40034749.56 0.2572 0.1721 *

Mars -114321-12-18 16:05 J -40033969.97 -40033969.83 -40033969.70 0.1777 0.0790

Jupiter -114320-03-17 03:07 J -40033881.45 -40033881.37 -40033881.29 0.0498 0.0438

Jupiter -114320-06-15 05:31 J -40033791.44 -40033791.27 -40033791.10 0.0497 0.0110

Mars -114320-10-31 03:50 J -40033653.46 -40033653.34 -40033653.23 0.1736 0.0593

Earth -114319-04-30 10:34 J -40033472.16 -40033472.06 -40033471.96 0.2762 0.1246

Moon -114319-04-30 11:17 J -40033472.13 -40033472.03 -40033471.93 0.2761 0.1131 *

Mars -114318-10-06 15:07 J -40032947.96 -40032947.87 -40032947.78 0.1719 0.1143

Venus -114317-04-29 21:07 J -40032741.76 -40032741.62 -40032741.49 0.3715 0.0356

Saturn -114316-09-05 11:02 J -40032248.12 -40032248.04 -40032247.94 0.0283 0.0214

Earth -114316-10-22 08:10 J -40032201.19 -40032201.16 -40032201.14 0.2581 0.2533

Moon -114316-10-22 09:36 J -40032201.16 -40032201.10 -40032201.03 0.2580 0.2327 *

Saturn -114316-12-03 00:43 J -40032159.59 -40032159.47 -40032159.34 0.0284 0.0125

Saturn -114315-03-01 14:10 J -40032071.05 -40032070.91 -40032070.77 0.0285 0.0037

Saturn -114315-05-29 03:36 J -40031982.49 -40031982.35 -40031982.21 0.0286 0.0052

Saturn -114315-08-25 16:48 J -40031893.92 -40031893.80 -40031893.68 0.0287 0.0140

Saturn -114315-11-22 06:00 J -40031805.33 -40031805.25 -40031805.17 0.0288 0.0229

Jupiter -114314-05-17 11:02 J -40031629.17 -40031629.04 -40031628.91 0.0529 0.0125

Jupiter -114314-08-14 20:24 J -40031539.75 -40031539.65 -40031539.56 0.0529 0.0373

Moon -114313-05-09 06:43 J -40031271.29 -40031271.22 -40031271.16 0.2773 0.2159

Earth -114313-05-09 07:26 J -40031271.25 -40031271.19 -40031271.13 0.2773 0.2224 *

Venus -114312-11-13 22:48 J -40030717.61 -40030717.55 -40030717.49 0.3709 0.3245

Mars -114311-05-10 16:48 J -40030539.89 -40030539.80 -40030539.72 0.1771 0.1457

Uranus -114311-12-26 06:14 J -40030310.29 -40030310.24 -40030310.16 0.0132 0.0117

Mars -114310-03-23 12:29 J -40030223.08 -40030222.98 -40030222.88 0.1741 0.1041

Uranus -114310-03-24 09:50 J -40030222.17 -40030222.09 -40030222.00 0.0131 0.0100

Uranus -114310-06-20 13:12 J -40030134.05 -40030133.95 -40030133.84 0.0131 0.0084

Uranus -114310-09-16 16:34 J -40030045.93 -40030045.81 -40030045.69 0.0131 0.0069

Uranus -114310-12-13 19:41 J -40029957.80 -40029957.68 -40029957.54 0.0131 0.0053

Uranus -114309-03-10 23:02 J -40029869.67 -40029869.54 -40029869.40 0.0131 0.0038

Mars -114309-04-16 16:34 J -40029832.90 -40029832.81 -40029832.72 0.1792 0.1438

Uranus -114309-06-07 02:24 J -40029781.54 -40029781.40 -40029781.26 0.0131 0.0022

Uranus -114309-09-03 05:31 J -40029693.40 -40029693.27 -40029693.13 0.0131 0.0007

Uranus -114309-11-30 08:53 J -40029605.27 -40029605.13 -40029604.99 0.0131 0.0009

Mars -114308-02-26 00:29 J -40029517.58 -40029517.48 -40029517.37 0.1723 0.0740

Uranus -114308-02-26 12:00 J -40029517.13 -40029517.00 -40029516.86 0.0131 0.0024

Jupiter -114308-04-03 03:07 J -40029481.54 -40029481.37 -40029481.19 0.0497 0.0041

Uranus -114308-05-25 15:07 J -40029429.00 -40029428.87 -40029428.73 0.0131 0.0040

Uranus -114308-08-21 18:14 J -40029340.86 -40029340.74 -40029340.61 0.0131 0.0055

Uranus -114308-11-17 21:22 J -40029252.72 -40029252.61 -40029252.49 0.0131 0.0070

Uranus -114307-02-14 00:29 J -40029164.58 -40029164.48 -40029164.37 0.0131 0.0085

Uranus -114307-05-13 03:36 J -40029076.43 -40029076.35 -40029076.26 0.0131 0.0100

Uranus -114307-08-09 06:58 J -40028988.28 -40028988.21 -40028988.15 0.0131 0.0115

Uranus -114307-11-05 09:50 J -40028900.10 -40028900.09 -40028900.07 0.0131 0.0129

Earth -114306-05-03 05:02 J -40028721.40 -40028721.29 -40028721.18 0.2765 0.0332

Moon -114306-05-03 05:31 J -40028721.38 -40028721.27 -40028721.16 0.2760 0.0356 *

Earth -114303-10-25 13:55 J -40027450.06 -40027449.92 -40027449.77 0.2577 0.1033

Moon -114303-10-25 15:22 J -40027450.01 -40027449.86 -40027449.71 0.2574 0.0967 *

Saturn -114302-01-08 02:24 J -40027375.47 -40027375.40 -40027375.32 0.0279 0.0245

Jupiter -114302-03-05 14:38 J -40027319.01 -40027318.89 -40027318.77 0.0528 0.0245

Saturn -114302-04-06 21:07 J -40027286.76 -40027286.62 -40027286.47 0.0278 0.0147

Jupiter -114302-06-03 00:00 J -40027229.61 -40027229.50 -40027229.38 0.0529 0.0255

Saturn -114302-07-04 16:05 J -40027198.00 -40027197.83 -40027197.66 0.0277 0.0049

Saturn -114302-10-01 11:02 J -40027109.21 -40027109.04 -40027108.87 0.0276 0.0051

Saturn -114302-12-29 06:14 J -40027020.38 -40027020.24 -40027020.09 0.0275 0.0151

Saturn -114301-03-27 01:41 J -40026931.49 -40026931.43 -40026931.35 0.0274 0.0250

Mars -114301-08-12 21:07 J -40026792.68 -40026792.62 -40026792.56 0.1745 0.1500

Mars -114300-09-06 15:50 J -40026402.98 -40026402.84 -40026402.69 0.1787 0.0686

Mars -114299-07-19 10:05 J -40026087.20 -40026087.08 -40026086.96 0.1727 0.0332

Venus -114297-12-11 05:02 J -40025211.38 -40025211.29 -40025211.20 0.3657 0.2304

Jupiter -114296-01-20 01:55 J -40025171.58 -40025171.42 -40025171.26 0.0497 0.0180

Jupiter -114296-04-20 05:02 J -40025081.40 -40025081.29 -40025081.18 0.0497 0.0379

Neptune -114295-06-28 08:38 J -40024647.15 -40024647.14 -40024647.10 0.0089 0.0088

Neptune -114295-09-24 11:17 J -40024559.07 -40024559.03 -40024558.95 0.0089 0.0083

Neptune -114295-12-21 14:38 J -40024470.97 -40024470.89 -40024470.80 0.0089 0.0077

Neptune -114294-03-19 17:17 J -40024382.87 -40024382.78 -40024382.67 0.0089 0.0072

Neptune -114294-06-15 20:10 J -40024294.76 -40024294.66 -40024294.53 0.0089 0.0067

Neptune -114294-09-11 23:02 J -40024206.65 -40024206.54 -40024206.40 0.0089 0.0062

Neptune -114294-12-09 02:10 J -40024118.54 -40024118.41 -40024118.27 0.0089 0.0056

Neptune -114293-03-06 05:02 J -40024030.43 -40024030.29 -40024030.14 0.0089 0.0051

Moon -114293-05-04 23:17 J -40023970.64 -40023970.53 -40023970.42 0.2761 0.0633

Earth -114293-05-04 23:31 J -40023970.63 -40023970.52 -40023970.42 0.2768 0.0582 *

Neptune -114293-06-02 07:41 J -40023942.32 -40023942.18 -40023942.01 0.0089 0.0046

Neptune -114293-08-29 11:02 J -40023854.20 -40023854.04 -40023853.89 0.0089 0.0040

Neptune -114293-11-25 13:41 J -40023766.08 -40023765.93 -40023765.76 0.0089 0.0035

Neptune -114292-02-21 16:34 J -40023677.97 -40023677.81 -40023677.63 0.0089 0.0030

Neptune -114292-05-20 19:41 J -40023589.85 -40023589.68 -40023589.50 0.0089 0.0024

Neptune -114292-08-16 22:34 J -40023501.72 -40023501.56 -40023501.38 0.0089 0.0019

Neptune -114292-11-13 01:41 J -40023413.60 -40023413.43 -40023413.25 0.0089 0.0014

Neptune -114291-02-09 04:48 J -40023325.48 -40023325.30 -40023325.12 0.0089 0.0008

Neptune -114291-05-08 07:41 J -40023237.35 -40023237.18 -40023237.00 0.0089 0.0003

Venus -114291-06-26 23:02 J -40023187.65 -40023187.54 -40023187.43 0.3662 0.0691

Neptune -114291-08-04 10:48 J -40023149.23 -40023149.05 -40023148.87 0.0089 0.0003

Neptune -114291-10-31 13:41 J -40023061.10 -40023060.93 -40023060.74 0.0089 0.0009

Jupiter -114291-12-22 17:46 J -40023008.86 -40023008.76 -40023008.67 0.0528 0.0374

Mars -114290-01-27 16:05 J -40022972.99 -40022972.83 -40022972.68 0.1782 0.0029

Neptune -114290-01-27 16:48 J -40022972.97 -40022972.80 -40022972.62 0.0089 0.0014 *

Jupiter -114290-03-22 03:22 J -40022919.49 -40022919.36 -40022919.23 0.0529 0.0130

Neptune -114290-04-25 19:55 J -40022884.84 -40022884.67 -40022884.49 0.0089 0.0020

Neptune -114290-07-22 23:02 J -40022796.71 -40022796.54 -40022796.37 0.0089 0.0025

Neptune -114290-10-19 01:55 J -40022708.58 -40022708.42 -40022708.24 0.0089 0.0031

Moon -114290-10-28 20:10 J -40022698.82 -40022698.66 -40022698.50 0.2568 0.0482

Earth -114290-10-28 19:55 J -40022698.82 -40022698.67 -40022698.51 0.2574 0.0486 *

Mars -114290-12-09 18:58 J -40022656.83 -40022656.71 -40022656.59 0.1732 0.0105

Neptune -114289-01-15 05:17 J -40022620.45 -40022620.28 -40022620.12 0.0089 0.0036

Neptune -114289-04-12 08:10 J -40022532.31 -40022532.16 -40022531.99 0.0089 0.0042

Neptune -114289-07-09 11:02 J -40022444.18 -40022444.04 -40022443.87 0.0089 0.0048

Neptune -114289-10-05 14:24 J -40022356.04 -40022355.90 -40022355.75 0.0089 0.0053

Neptune -114288-01-01 17:31 J -40022267.90 -40022267.77 -40022267.63 0.0089 0.0059

Neptune -114288-03-30 20:24 J -40022179.75 -40022179.65 -40022179.51 0.0089 0.0065

Neptune -114288-06-27 00:00 J -40022091.61 -40022091.50 -40022091.39 0.0089 0.0070

Neptune -114288-09-23 02:53 J -40022003.46 -40022003.38 -40022003.27 0.0089 0.0076

Mars -114288-11-14 05:46 J -40021951.31 -40021951.26 -40021951.22 0.1715 0.1580

Neptune -114288-12-20 06:00 J -40021915.30 -40021915.25 -40021915.16 0.0089 0.0082

Neptune -114287-03-18 09:36 J -40021827.13 -40021827.10 -40021827.07 0.0089 0.0088

Saturn -114286-01-23 13:12 J -40021516.02 -40021515.95 -40021515.87 0.0283 0.0237

Saturn -114286-04-22 02:53 J -40021427.50 -40021427.38 -40021427.26 0.0284 0.0148

Earth -114286-04-28 20:53 J -40021420.70 -40021420.63 -40021420.55 0.2759 0.1987

Moon -114286-04-28 21:36 J -40021420.68 -40021420.60 -40021420.52 0.2762 0.1939 *

Saturn -114286-07-19 16:34 J -40021338.95 -40021338.81 -40021338.68 0.0285 0.0059

Saturn -114286-10-16 05:46 J -40021250.40 -40021250.26 -40021250.12 0.0286 0.0031

Venus -114285-01-10 16:48 J -40021163.90 -40021163.80 -40021163.69 0.3667 0.0889

Saturn -114285-01-12 19:12 J -40021161.83 -40021161.70 -40021161.58 0.0287 0.0119

Saturn -114285-04-10 08:10 J -40021073.25 -40021073.16 -40021073.06 0.0288 0.0207

Jupiter -114285-11-08 00:43 J -40020861.60 -40020861.47 -40020861.34 0.0498 0.0317

Jupiter -114284-02-06 03:36 J -40020771.51 -40020771.35 -40020771.20 0.0497 0.0238

Mars -114281-06-18 16:34 J -40019542.95 -40019542.81 -40019542.67 0.1777 0.0725

Mars -114280-05-01 03:50 J -40019226.45 -40019226.34 -40019226.22 0.1736 0.0543

Moon -114280-05-07 17:17 J -40019219.88 -40019219.78 -40019219.69 0.2768 0.1376

Earth -114280-05-07 18:00 J -40019219.85 -40019219.75 -40019219.66 0.2771 0.1496 *

Venus -114280-07-26 10:34 J -40019140.14 -40019140.06 -40019139.98 0.3672 0.2428

Jupiter -114279-10-10 20:24 J -40018698.69 -40018698.65 -40018698.61 0.0527 0.0505

Jupiter -114278-01-08 06:14 J -40018609.37 -40018609.24 -40018609.10 0.0528 0.0009

Mars -114278-04-06 15:07 J -40018520.95 -40018520.87 -40018520.78 0.1719 0.1187

Jupiter -114278-04-07 15:07 J -40018519.91 -40018519.87 -40018519.82 0.0529 0.0492

Moon -114277-10-31 01:12 J -40017947.55 -40017947.45 -40017947.35 0.2567 0.1998

Earth -114277-10-31 02:10 J -40017947.51 -40017947.41 -40017947.31 0.2571 0.2014 *

Earth -114273-04-30 15:22 J -40016669.96 -40016669.86 -40016669.76 0.2763 0.1073

Moon -114273-04-30 16:05 J -40016669.93 -40016669.83 -40016669.73 0.2760 0.1041 *

Saturn -114273-05-27 03:50 J -40016643.38 -40016643.34 -40016643.28 0.0279 0.0267

Saturn -114273-08-23 22:34 J -40016554.69 -40016554.56 -40016554.42 0.0278 0.0169

Jupiter -114273-08-27 00:14 J -40016551.56 -40016551.49 -40016551.41 0.0498 0.0447

Saturn -114273-11-20 17:31 J -40016465.94 -40016465.77 -40016465.61 0.0277 0.0071

Jupiter -114273-11-25 02:38 J -40016461.56 -40016461.39 -40016461.22 0.0497 0.0102

Saturn -114272-02-17 12:29 J -40016377.15 -40016376.98 -40016376.81 0.0276 0.0029

Saturn -114272-05-17 07:41 J -40016288.33 -40016288.18 -40016288.02 0.0275 0.0128

Saturn -114272-08-14 03:07 J -40016199.46 -40016199.37 -40016199.27 0.0274 0.0227

Mars -114272-11-08 17:31 J -40016112.86 -40016112.77 -40016112.68 0.1772 0.1385

Mars -114271-09-21 12:43 J -40015796.07 -40015795.97 -40015795.87 0.1741 0.0993

Mars -114270-10-16 17:17 J -40015405.87 -40015405.78 -40015405.70 0.1792 0.1513

Earth -114270-10-23 14:24 J -40015398.97 -40015398.90 -40015398.82 0.2580 0.2249

Moon -114270-10-23 16:05 J -40015398.90 -40015398.83 -40015398.75 0.2578 0.2239 *

Mars -114269-08-27 00:43 J -40015090.58 -40015090.47 -40015090.36 0.1723 0.0784

Moon -114267-05-10 11:31 J -40014469.07 -40014469.02 -40014468.96 0.2775 0.2357

Earth -114267-05-10 12:14 J -40014469.04 -40014468.99 -40014468.94 0.2774 0.2401 *

Uranus -114267-06-08 12:43 J -40014440.01 -40014439.97 -40014439.90 0.0147 0.0141

Uranus -114267-09-04 20:24 J -40014351.76 -40014351.65 -40014351.53 0.0148 0.0113

Jupiter -114267-10-27 08:53 J -40014299.26 -40014299.13 -40014299.00 0.0528 0.0136

Uranus -114267-12-02 04:05 J -40014263.47 -40014263.33 -40014263.18 0.0148 0.0084

Jupiter -114266-01-24 18:00 J -40014209.85 -40014209.75 -40014209.66 0.0529 0.0361

Uranus -114266-02-28 12:00 J -40014175.17 -40014175.00 -40014174.84 0.0148 0.0056

Venus -114266-05-21 19:41 J -40014092.80 -40014092.68 -40014092.56 0.3720 0.1493

Uranus -114266-05-27 19:41 J -40014086.86 -40014086.68 -40014086.50 0.0148 0.0027

Uranus -114266-08-24 03:36 J -40013998.54 -40013998.35 -40013998.17 0.0148 0.0004

Uranus -114266-11-20 11:17 J -40013910.21 -40013910.03 -40013909.85 0.0148 0.0031

Uranus -114265-02-16 19:12 J -40013821.86 -40013821.70 -40013821.53 0.0148 0.0060

Uranus -114265-05-15 03:07 J -40013733.51 -40013733.37 -40013733.22 0.0148 0.0090

Uranus -114265-08-11 11:17 J -40013645.13 -40013645.03 -40013644.92 0.0148 0.0119

Mars -114261-02-11 21:07 J -40012365.69 -40012365.62 -40012365.55 0.1745 0.1456

Jupiter -114261-09-13 01:26 J -40012151.62 -40012151.44 -40012151.27 0.0497 0.0038

Venus -114261-12-04 21:07 J -40012068.74 -40012068.62 -40012068.49 0.3714 0.1330

Mars -114260-03-07 16:34 J -40011975.95 -40011975.81 -40011975.67 0.1787 0.0759

Earth -114260-05-03 09:50 J -40011919.20 -40011919.09 -40011918.98 0.2766 0.0178

Moon -114260-05-03 10:05 J -40011919.19 -40011919.08 -40011918.97 0.2759 0.0095 *

Mars -114259-01-17 09:50 J -40011660.21 -40011660.09 -40011659.97 0.1727 0.0369

Saturn -114257-06-11 16:19 J -40010783.88 -40010783.82 -40010783.76 0.0282 0.0254

Saturn -114257-09-08 06:00 J -40010695.37 -40010695.25 -40010695.14 0.0284 0.0166

Earth -114257-10-25 20:24 J -40010647.80 -40010647.65 -40010647.49 0.2577 0.0745

Moon -114257-10-25 21:22 J -40010647.77 -40010647.61 -40010647.46 0.2572 0.0620 *

Saturn -114257-12-05 19:26 J -40010606.82 -40010606.69 -40010606.55 0.0285 0.0078

Saturn -114256-03-04 08:53 J -40010518.27 -40010518.13 -40010517.99 0.0286 0.0013

Saturn -114256-05-31 22:19 J -40010429.70 -40010429.57 -40010429.44 0.0287 0.0100

Saturn -114256-08-28 11:17 J -40010341.12 -40010341.03 -40010340.92 0.0288 0.0189

Saturn -114256-11-25 00:29 J -40010252.51 -40010252.48 -40010252.44 0.0289 0.0276

Jupiter -114255-08-15 12:00 J -40009989.11 -40009989.00 -40009988.88 0.0528 0.0260

Jupiter -114255-11-12 21:36 J -40009899.72 -40009899.60 -40009899.49 0.0529 0.0241

Earth -114253-04-26 07:12 J -40009369.21 -40009369.20 -40009369.19 0.2756 0.2727

Moon -114253-04-26 07:41 J -40009369.18 -40009369.18 -40009369.18 0.2762 0.2755

Mars -114251-07-28 16:34 J -40008545.97 -40008545.81 -40008545.66 0.1782 0.0053

Mars -114250-06-09 18:58 J -40008229.83 -40008229.71 -40008229.58 0.1732 0.0085

Jupiter -114249-07-01 23:17 J -40007841.69 -40007841.53 -40007841.37 0.0497 0.0186

Jupiter -114249-09-30 02:10 J -40007751.52 -40007751.41 -40007751.29 0.0497 0.0373

Mars -114248-05-15 05:46 J -40007524.30 -40007524.26 -40007524.23 0.1715 0.1620

Moon -114247-05-06 04:05 J -40007168.44 -40007168.33 -40007168.22 0.2762 0.0666

Earth -114247-05-06 04:19 J -40007168.42 -40007168.32 -40007168.21 0.2769 0.0761 *

Venus -114245-01-02 09:07 J -40006562.17 -40006562.12 -40006562.08 0.3653 0.3338

Moon -114244-10-29 02:24 J -40005896.55 -40005896.40 -40005896.24 0.2567 0.0744

Earth -114244-10-29 02:38 J -40005896.54 -40005896.39 -40005896.24 0.2574 0.0787 *

Saturn -114243-01-11 00:00 J -40005822.62 -40005822.50 -40005822.37 0.0278 0.0189

Saturn -114243-04-09 18:58 J -40005733.87 -40005733.71 -40005733.55 0.0277 0.0091

Jupiter -114243-06-03 15:36 J -40005678.94 -40005678.85 -40005678.76 0.0528 0.0381

Saturn -114243-07-07 13:55 J -40005645.09 -40005644.92 -40005644.75 0.0276 0.0008

Jupiter -114243-09-01 01:12 J -40005589.58 -40005589.45 -40005589.32 0.0529 0.0123

Saturn -114243-10-04 08:53 J -40005556.28 -40005556.13 -40005555.96 0.0275 0.0107

Saturn -114242-01-01 04:19 J -40005467.43 -40005467.32 -40005467.20 0.0274 0.0206

Mars -114242-12-18 17:02 J -40005115.94 -40005115.79 -40005115.65 0.1777 0.0659

Mars -114241-10-30 04:05 J -40004799.45 -40004799.33 -40004799.21 0.1736 0.0490

Earth -114240-04-29 01:55 J -40004618.51 -40004618.42 -40004618.34 0.2760 0.1817

Moon -114240-04-29 02:38 J -40004618.48 -40004618.39 -40004618.31 0.2759 0.1704 *

Venus -114240-07-18 03:07 J -40004538.47 -40004538.37 -40004538.27 0.3658 0.1706

Mars -114239-10-05 15:22 J -40004093.94 -40004093.86 -40004093.78 0.1719 0.1232

Jupiter -114237-04-19 22:05 J -40003531.71 -40003531.58 -40003531.45 0.0498 0.0323

Jupiter -114237-07-19 00:43 J -40003441.63 -40003441.47 -40003441.31 0.0497 0.0230

Venus -114234-01-31 21:07 J -40002514.73 -40002514.62 -40002514.51 0.3663 0.0108

Moon -114234-05-08 22:05 J -40002417.67 -40002417.58 -40002417.50 0.2770 0.1672

Earth -114234-05-08 22:48 J -40002417.64 -40002417.55 -40002417.46 0.2772 0.1668 *

Mars -114232-05-09 18:00 J -40001685.85 -40001685.75 -40001685.65 0.1772 0.1321

Mars -114231-03-22 12:43 J -40001369.08 -40001368.97 -40001368.87 0.1741 0.0945

Jupiter -114231-03-22 18:29 J -40001368.76 -40001368.73 -40001368.70 0.0527 0.0509

Pluto -114231-05-22 13:41 J -40001307.95 -40001307.93 -40001307.85 0.0060 0.0058

Jupiter -114231-06-20 04:34 J -40001279.45 -40001279.31 -40001279.18 0.0528 0.0018

Pluto -114231-08-18 15:22 J -40001219.95 -40001219.86 -40001219.74 0.0060 0.0050

Jupiter -114231-09-17 13:12 J -40001189.99 -40001189.95 -40001189.90 0.0529 0.0489

Moon -114231-11-01 07:26 J -40001145.27 -40001145.19 -40001145.11 0.2568 0.2197

Earth -114231-11-01 08:53 J -40001145.20 -40001145.13 -40001145.06 0.2571 0.2318 *

Pluto -114231-11-14 17:02 J -40001131.93 -40001131.79 -40001131.66 0.0060 0.0042

Pluto -114230-02-10 18:00 J -40001043.89 -40001043.75 -40001043.58 0.0060 0.0035

Mars -114230-04-16 17:31 J -40000978.84 -40000978.77 -40000978.69 0.1792 0.1578

Pluto -114230-05-09 19:26 J -40000955.85 -40000955.69 -40000955.51 0.0060 0.0027

Pluto -114230-08-05 21:07 J -40000867.80 -40000867.62 -40000867.44 0.0060 0.0020

Pluto -114230-11-01 22:19 J -40000779.75 -40000779.57 -40000779.37 0.0060 0.0012

Pluto -114229-01-28 23:46 J -40000691.70 -40000691.51 -40000691.31 0.0060 0.0004

Mars -114229-02-26 00:43 J -40000663.57 -40000663.47 -40000663.36 0.1723 0.0828

Pluto -114229-04-26 01:12 J -40000603.64 -40000603.45 -40000603.26 0.0060 0.0004

Pluto -114229-07-23 02:24 J -40000515.58 -40000515.40 -40000515.20 0.0060 0.0012

Venus -114229-08-16 14:53 J -40000490.98 -40000490.88 -40000490.78 0.3669 0.1457

Pluto -114229-10-19 03:36 J -40000427.52 -40000427.35 -40000427.15 0.0060 0.0020

Pluto -114228-01-15 05:17 J -40000339.45 -40000339.28 -40000339.10 0.0061 0.0027

Pluto -114228-04-13 06:29 J -40000251.38 -40000251.23 -40000251.06 0.0061 0.0035

Pluto -114228-07-10 07:41 J -40000163.30 -40000163.18 -40000163.03 0.0061 0.0043

Pluto -114228-10-06 09:07 J -40000075.21 -40000075.12 -40000075.00 0.0061 0.0051

Saturn -114228-10-29 18:00 J -40000051.76 -40000051.75 -40000051.72 0.0282 0.0279

Pluto -114227-01-02 10:19 J -39999987.09 -39999987.07 -39999987.00 0.0061 0.0059

Saturn -114227-01-26 07:55 J -39999963.27 -39999963.17 -39999963.06 0.0284 0.0190

Saturn -114227-04-24 21:36 J -39999874.73 -39999874.60 -39999874.47 0.0285 0.0101

Earth -114227-05-01 20:24 J -39999867.76 -39999867.65 -39999867.55 0.2763 0.0896

Moon -114227-05-01 20:53 J -39999867.73 -39999867.63 -39999867.52 0.2759 0.0839 *

Saturn -114227-07-22 11:02 J -39999786.18 -39999786.04 -39999785.90 0.0286 0.0012

Saturn -114227-10-19 00:14 J -39999697.62 -39999697.49 -39999697.35 0.0287 0.0077

Uranus -114227-10-19 10:19 J -39999697.09 -39999697.07 -39999697.03 0.0131 0.0128

Saturn -114226-01-15 13:41 J -39999609.05 -39999608.93 -39999608.82 0.0288 0.0165

Uranus -114226-01-15 13:41 J -39999609.00 -39999608.93 -39999608.85 0.0131 0.0112 *

Uranus -114226-04-13 17:02 J -39999520.88 -39999520.79 -39999520.69 0.0131 0.0096

Saturn -114226-04-14 02:38 J -39999520.45 -39999520.39 -39999520.32 0.0289 0.0254

Uranus -114226-07-10 20:24 J -39999432.76 -39999432.65 -39999432.54 0.0131 0.0080

Uranus -114226-10-06 23:46 J -39999344.63 -39999344.51 -39999344.39 0.0131 0.0064

Uranus -114225-01-03 03:07 J -39999256.50 -39999256.37 -39999256.24 0.0131 0.0049

Jupiter -114225-02-06 21:07 J -39999221.68 -39999221.62 -39999221.56 0.0498 0.0459

Uranus -114225-03-31 06:14 J -39999168.37 -39999168.24 -39999168.10 0.0131 0.0033

Jupiter -114225-05-06 23:17 J -39999131.70 -39999131.53 -39999131.36 0.0497 0.0089

Uranus -114225-06-27 09:36 J -39999080.24 -39999080.10 -39999079.96 0.0131 0.0018

Uranus -114225-09-23 12:43 J -39998992.11 -39998991.97 -39998991.83 0.0131 0.0004

Uranus -114225-12-20 16:05 J -39998903.97 -39998903.83 -39998903.70 0.0131 0.0013

Uranus -114224-03-18 19:12 J -39998815.84 -39998815.70 -39998815.57 0.0131 0.0028

Uranus -114224-06-14 22:19 J -39998727.70 -39998727.57 -39998727.44 0.0131 0.0044

Uranus -114224-09-11 01:26 J -39998639.56 -39998639.44 -39998639.31 0.0131 0.0059

Earth -114224-10-23 21:07 J -39998596.72 -39998596.62 -39998596.52 0.2580 0.1961

Moon -114224-10-23 22:34 J -39998596.68 -39998596.56 -39998596.45 0.2577 0.1761 *

Uranus -114224-12-08 04:34 J -39998551.42 -39998551.31 -39998551.19 0.0131 0.0074

Venus -114223-03-02 08:38 J -39998467.20 -39998467.14 -39998467.08 0.3674 0.2990

Uranus -114223-03-06 07:41 J -39998463.27 -39998463.18 -39998463.08 0.0131 0.0089

Uranus -114223-06-02 10:34 J -39998375.13 -39998375.06 -39998374.96 0.0131 0.0104

Uranus -114223-08-29 13:55 J -39998286.97 -39998286.92 -39998286.86 0.0131 0.0118

Mars -114222-08-12 21:22 J -39997938.69 -39997938.61 -39997938.54 0.1745 0.1403

Moon -114221-05-10 16:34 J -39997666.85 -39997666.81 -39997666.76 0.2778 0.2485

Earth -114221-05-10 17:17 J -39997666.82 -39997666.78 -39997666.75 0.2774 0.2578 *

Mars -114221-09-05 17:17 J -39997548.92 -39997548.78 -39997548.64 0.1787 0.0833

Mars -114220-07-18 10:05 J -39997233.20 -39997233.08 -39997232.96 0.1727 0.0416

Jupiter -114219-04-08 07:26 J -39996969.32 -39996969.19 -39996969.06 0.0528 0.0131

Jupiter -114219-07-06 16:34 J -39996879.90 -39996879.81 -39996879.72 0.0529 0.0364

Venus -114215-06-11 18:29 J -39995443.79 -39995443.73 -39995443.67 0.3725 0.3265

Moon -114214-05-04 14:53 J -39995116.99 -39995116.88 -39995116.77 0.2758 0.0088

Earth -114214-05-04 14:53 J -39995116.99 -39995116.88 -39995116.77 0.2766 0.0069 *

Saturn -114214-05-31 01:12 J -39995090.55 -39995090.45 -39995090.33 0.0278 0.0213

Neptune -114214-07-23 23:17 J -39995036.54 -39995036.53 -39995036.50 0.0088 0.0087

Saturn -114214-08-27 20:10 J -39995001.82 -39995001.66 -39995001.51 0.0277 0.0114

Neptune -114214-10-20 01:12 J -39994948.50 -39994948.45 -39994948.40 0.0088 0.0083

Saturn -114214-11-24 15:07 J -39994913.05 -39994912.87 -39994912.70 0.0276 0.0017

Neptune -114213-01-16 02:38 J -39994860.44 -39994860.39 -39994860.31 0.0088 0.0079

Saturn -114213-02-21 10:05 J -39994824.24 -39994824.08 -39994823.91 0.0275 0.0083

Jupiter -114213-02-23 22:34 J -39994821.74 -39994821.56 -39994821.39 0.0498 0.0045

Neptune -114213-04-13 04:19 J -39994772.39 -39994772.32 -39994772.23 0.0088 0.0074

Saturn -114213-05-20 05:17 J -39994735.40 -39994735.28 -39994735.14 0.0274 0.0182

Neptune -114213-07-10 06:14 J -39994684.33 -39994684.24 -39994684.15 0.0088 0.0070

Neptune -114213-10-06 07:41 J -39994596.26 -39994596.18 -39994596.07 0.0088 0.0066

Neptune -114212-01-02 09:36 J -39994508.20 -39994508.10 -39994508.00 0.0088 0.0061

Neptune -114212-03-31 11:02 J -39994420.14 -39994420.04 -39994419.92 0.0088 0.0057

Neptune -114212-06-27 12:43 J -39994332.08 -39994331.97 -39994331.84 0.0088 0.0052

Neptune -114212-09-23 14:38 J -39994244.01 -39994243.89 -39994243.77 0.0088 0.0048

Neptune -114212-12-20 16:05 J -39994155.95 -39994155.83 -39994155.70 0.0088 0.0044

Mars -114211-01-26 17:02 J -39994118.94 -39994118.79 -39994118.63 0.1782 0.0117

Neptune -114211-03-18 17:46 J -39994067.88 -39994067.76 -39994067.63 0.0088 0.0039

Neptune -114211-06-14 19:26 J -39993979.82 -39993979.69 -39993979.55 0.0088 0.0035

Neptune -114211-09-10 21:07 J -39993891.75 -39993891.62 -39993891.48 0.0088 0.0030

Earth -114211-10-27 03:07 J -39993845.53 -39993845.37 -39993845.21 0.2577 0.0445

Moon -114211-10-27 03:22 J -39993845.52 -39993845.36 -39993845.20 0.2570 0.0523 *

Neptune -114211-12-07 22:34 J -39993803.69 -39993803.56 -39993803.41 0.0088 0.0027

Mars -114211-12-08 19:12 J -39993802.82 -39993802.70 -39993802.58 0.1732 0.0017

Neptune -114210-03-06 00:29 J -39993715.62 -39993715.48 -39993715.34 0.0088 0.0022

Neptune -114210-06-02 01:55 J -39993627.55 -39993627.42 -39993627.28 0.0088 0.0018

Neptune -114210-08-29 03:36 J -39993539.49 -39993539.35 -39993539.21 0.0088 0.0013

Neptune -114210-11-25 05:17 J -39993451.42 -39993451.28 -39993451.14 0.0088 0.0009

Venus -114210-12-26 19:41 J -39993419.81 -39993419.68 -39993419.55 0.3718 0.0529

Neptune -114209-02-21 06:43 J -39993363.36 -39993363.22 -39993363.07 0.0088 0.0006

Neptune -114209-05-19 08:24 J -39993275.29 -39993275.15 -39993275.01 0.0088 0.0001

Neptune -114209-08-15 10:05 J -39993187.22 -39993187.08 -39993186.94 0.0088 0.0004

Neptune -114209-11-11 11:31 J -39993099.16 -39993099.02 -39993098.88 0.0088 0.0008

Mars -114209-11-13 05:46 J -39993097.28 -39993097.26 -39993097.23 0.1715 0.1664

Neptune -114208-02-07 13:12 J -39993011.09 -39993010.95 -39993010.81 0.0088 0.0012

Neptune -114208-05-06 14:38 J -39992923.02 -39992922.89 -39992922.75 0.0088 0.0017

Neptune -114208-08-02 16:05 J -39992834.96 -39992834.83 -39992834.68 0.0088 0.0022

Neptune -114208-10-29 17:46 J -39992746.89 -39992746.76 -39992746.62 0.0088 0.0025

Jupiter -114207-01-25 09:50 J -39992659.20 -39992659.09 -39992658.97 0.0528 0.0268

Neptune -114207-01-25 19:12 J -39992658.82 -39992658.70 -39992658.56 0.0088 0.0030

Neptune -114207-04-23 20:53 J -39992570.76 -39992570.63 -39992570.50 0.0088 0.0034

Jupiter -114207-04-24 19:12 J -39992569.81 -39992569.70 -39992569.58 0.0529 0.0234

Earth -114207-04-27 12:14 J -39992567.03 -39992566.99 -39992566.95 0.2757 0.2555

Moon -114207-04-27 12:43 J -39992567.02 -39992566.97 -39992566.92 0.2761 0.2443 *

Neptune -114207-07-20 22:34 J -39992482.69 -39992482.56 -39992482.44 0.0088 0.0038

Neptune -114207-10-17 00:00 J -39992394.62 -39992394.50 -39992394.38 0.0088 0.0042

Neptune -114206-01-13 01:26 J -39992306.55 -39992306.44 -39992306.32 0.0088 0.0046

Neptune -114206-04-11 02:53 J -39992218.48 -39992218.38 -39992218.26 0.0088 0.0050

Neptune -114206-07-08 04:19 J -39992130.42 -39992130.32 -39992130.20 0.0088 0.0055

Neptune -114206-10-04 06:00 J -39992042.35 -39992042.25 -39992042.14 0.0088 0.0058

Neptune -114206-12-31 07:26 J -39991954.28 -39991954.19 -39991954.08 0.0088 0.0063

Neptune -114205-03-28 09:07 J -39991866.21 -39991866.12 -39991866.03 0.0088 0.0066

Neptune -114205-06-24 10:34 J -39991778.14 -39991778.06 -39991777.97 0.0088 0.0071

Neptune -114205-09-20 12:00 J -39991690.06 -39991690.00 -39991689.92 0.0088 0.0075

Neptune -114205-12-17 13:26 J -39991601.99 -39991601.94 -39991601.87 0.0088 0.0079

Neptune -114204-03-15 14:53 J -39991513.91 -39991513.88 -39991513.82 0.0088 0.0083

Neptune -114204-06-11 16:34 J -39991425.83 -39991425.81 -39991425.78 0.0088 0.0087

Venus -114204-07-11 21:07 J -39991395.72 -39991395.62 -39991395.51 0.3712 0.2299

Mars -114202-06-18 17:31 J -39990688.92 -39990688.77 -39990688.63 0.1777 0.0592

Jupiter -114202-12-12 21:36 J -39990511.76 -39990511.60 -39990511.44 0.0498 0.0182

Jupiter -114201-03-12 00:29 J -39990421.59 -39990421.48 -39990421.36 0.0497 0.0377

Mars -114201-04-30 04:05 J -39990372.45 -39990372.33 -39990372.21 0.1736 0.0451

Moon -114201-05-06 08:38 J -39990366.24 -39990366.14 -39990366.03 0.2765 0.0934

Earth -114201-05-06 09:22 J -39990366.22 -39990366.11 -39990366.01 0.2769 0.0942 *

Mars -114199-04-05 15:22 J -39989666.94 -39989666.86 -39989666.78 0.1719 0.1272

Saturn -114198-06-15 10:48 J -39989231.15 -39989231.05 -39989230.96 0.0283 0.0209

Saturn -114198-09-12 00:14 J -39989142.61 -39989142.49 -39989142.36 0.0284 0.0121

Moon -114198-10-30 08:38 J -39989094.29 -39989094.14 -39989094.00 0.2568 0.1088

Earth -114198-10-30 09:07 J -39989094.26 -39989094.12 -39989093.97 0.2574 0.1081 *

Saturn -114198-12-09 13:55 J -39989054.06 -39989053.92 -39989053.78 0.0285 0.0031

Saturn -114197-03-07 03:07 J -39988965.50 -39988965.37 -39988965.23 0.0286 0.0059

Saturn -114197-06-03 16:34 J -39988876.93 -39988876.81 -39988876.69 0.0287 0.0146

Saturn -114197-08-31 05:31 J -39988788.34 -39988788.27 -39988788.18 0.0289 0.0235

Jupiter -114196-11-13 12:58 J -39988349.04 -39988348.96 -39988348.87 0.0528 0.0394

Jupiter -114195-02-10 22:48 J -39988259.68 -39988259.55 -39988259.42 0.0529 0.0111

Earth -114194-04-30 06:43 J -39987816.31 -39987816.22 -39987816.13 0.2760 0.1635

Moon -114194-04-30 07:26 J -39987816.28 -39987816.19 -39987816.10 0.2759 0.1620 *

Mars -114193-11-07 18:14 J -39987258.84 -39987258.74 -39987258.63 0.1772 0.1261

Mars -114192-09-20 12:58 J -39986942.07 -39986941.96 -39986941.86 0.1741 0.0893

Mars -114191-10-15 18:14 J -39986551.79 -39986551.74 -39986551.68 0.1792 0.1651

Mars -114190-08-27 00:43 J -39986236.57 -39986236.47 -39986236.36 0.1723 0.0873

Jupiter -114190-09-30 19:26 J -39986201.81 -39986201.69 -39986201.56 0.0498 0.0328

Jupiter -114190-12-29 22:05 J -39986111.73 -39986111.58 -39986111.42 0.0497 0.0224

Venus -114189-08-08 07:12 J -39985889.27 -39985889.20 -39985889.13 0.3654 0.2733

Moon -114188-05-09 02:53 J -39985615.46 -39985615.38 -39985615.29 0.2770 0.1712

Earth -114188-05-09 03:36 J -39985615.43 -39985615.35 -39985615.27 0.2772 0.1850 *

Saturn -114185-10-17 02:38 J -39984358.47 -39984358.39 -39984358.29 0.0279 0.0233

Moon -114185-11-01 13:55 J -39984342.94 -39984342.92 -39984342.89 0.2567 0.2519

Saturn -114184-01-13 21:22 J -39984269.75 -39984269.61 -39984269.46 0.0278 0.0135

Saturn -114184-04-12 16:19 J -39984180.99 -39984180.82 -39984180.65 0.0277 0.0037

Saturn -114184-07-10 11:17 J -39984092.19 -39984092.03 -39984091.86 0.0276 0.0062

Jupiter -114184-09-01 16:19 J -39984038.84 -39984038.82 -39984038.79 0.0528 0.0516

Saturn -114184-10-07 06:43 J -39984003.36 -39984003.22 -39984003.08 0.0275 0.0161

Jupiter -114184-11-30 02:24 J -39983949.53 -39983949.40 -39983949.26 0.0529 0.0019

Saturn -114183-01-04 01:55 J -39983914.46 -39983914.42 -39983914.36 0.0274 0.0260

Venus -114183-02-22 01:12 J -39983865.55 -39983865.45 -39983865.34 0.3659 0.1116

Jupiter -114183-02-27 11:31 J -39983860.07 -39983860.02 -39983859.97 0.0529 0.0485

Uranus -114183-06-28 20:10 J -39983738.72 -39983738.66 -39983738.58 0.0148 0.0134

Uranus -114183-09-25 03:50 J -39983650.46 -39983650.34 -39983650.21 0.0148 0.0106

Uranus -114183-12-22 11:31 J -39983562.17 -39983562.02 -39983561.87 0.0148 0.0078

Mars -114182-02-10 21:22 J -39983511.69 -39983511.61 -39983511.53 0.1745 0.1353

Uranus -114182-03-20 19:12 J -39983473.87 -39983473.70 -39983473.53 0.0148 0.0049

Uranus -114182-06-17 02:53 J -39983385.55 -39983385.38 -39983385.19 0.0148 0.0021

Uranus -114182-09-13 10:48 J -39983297.23 -39983297.05 -39983296.87 0.0148 0.0009

Uranus -114182-12-10 18:43 J -39983208.90 -39983208.72 -39983208.54 0.0148 0.0038

Mars -114181-03-06 17:31 J -39983121.90 -39983121.77 -39983121.63 0.1787 0.0895

Uranus -114181-03-08 02:38 J -39983120.55 -39983120.39 -39983120.23 0.0148 0.0067

Earth -114181-05-02 01:12 J -39983065.55 -39983065.45 -39983065.34 0.2763 0.0720

Moon -114181-05-02 01:41 J -39983065.54 -39983065.43 -39983065.32 0.2758 0.0660 *

Uranus -114181-06-04 10:19 J -39983032.19 -39983032.07 -39983031.92 0.0148 0.0097

Uranus -114181-08-31 18:43 J -39982943.81 -39982943.72 -39982943.62 0.0148 0.0126

Mars -114180-01-16 10:05 J -39982806.19 -39982806.08 -39982805.96 0.1727 0.0466

Jupiter -114178-07-19 18:29 J -39981891.78 -39981891.73 -39981891.66 0.0498 0.0463

Venus -114178-09-07 19:12 J -39981841.81 -39981841.70 -39981841.59 0.3665 0.0473

Jupiter -114178-10-17 20:38 J -39981801.81 -39981801.64 -39981801.46 0.0497 0.0085

Earth -114178-10-25 03:36 J -39981794.47 -39981794.35 -39981794.23 0.2579 0.1672

Moon -114178-10-25 04:48 J -39981794.42 -39981794.30 -39981794.17 0.2576 0.1667 *

Moon -114175-05-11 21:36 J -39980864.61 -39980864.60 -39980864.60 0.2779 0.2770

Earth -114175-05-11 22:05 J -39980864.59 -39980864.58 -39980864.57 0.2774 0.2751

Venus -114172-03-23 12:58 J -39979818.05 -39979817.96 -39979817.87 0.3670 0.2022

Mars -114172-07-27 17:46 J -39979691.92 -39979691.76 -39979691.61 0.1782 0.0177

Jupiter -114172-09-18 05:46 J -39979639.39 -39979639.26 -39979639.13 0.0528 0.0132

Jupiter -114172-12-16 14:53 J -39979549.97 -39979549.88 -39979549.78 0.0529 0.0364

Mars -114171-06-08 19:12 J -39979375.82 -39979375.70 -39979375.58 0.1732 0.0038

Mars -114169-05-14 05:46 J -39978670.26 -39978670.26 -39978670.25 0.1715 0.1707

Saturn -114169-11-01 12:14 J -39978499.07 -39978498.99 -39978498.91 0.0283 0.0235

Saturn -114168-01-29 01:55 J -39978410.54 -39978410.42 -39978410.30 0.0284 0.0147

Saturn -114168-04-27 15:22 J -39978322.00 -39978321.86 -39978321.72 0.0285 0.0058

Earth -114168-05-04 19:41 J -39978314.79 -39978314.68 -39978314.57 0.2766 0.0198

Moon -114168-05-04 19:55 J -39978314.78 -39978314.67 -39978314.56 0.2759 0.0257 *

Saturn -114168-07-25 04:48 J -39978233.44 -39978233.30 -39978233.16 0.0286 0.0031

Saturn -114168-10-21 18:00 J -39978144.87 -39978144.75 -39978144.62 0.0287 0.0120

Saturn -114167-01-18 07:26 J -39978056.29 -39978056.19 -39978056.10 0.0289 0.0208

Venus -114167-10-07 06:29 J -39977794.25 -39977794.23 -39977794.20 0.3675 0.3550

Jupiter -114166-08-05 19:26 J -39977491.86 -39977491.69 -39977491.51 0.0498 0.0056

Earth -114165-10-27 09:36 J -39977043.26 -39977043.10 -39977042.94 0.2576 0.0156

Moon -114165-10-27 10:19 J -39977043.23 -39977043.07 -39977042.91 0.2570 0.0023 *

Mars -114163-12-17 18:00 J -39976261.89 -39976261.75 -39976261.60 0.1777 0.0524

Mars -114162-10-30 04:05 J -39975945.45 -39975945.33 -39975945.21 0.1736 0.0402

Earth -114161-04-27 17:02 J -39975764.84 -39975764.79 -39975764.74 0.2757 0.2378

Moon -114161-04-27 17:31 J -39975764.82 -39975764.77 -39975764.71 0.2761 0.2401 *

Jupiter -114160-07-07 08:38 J -39975329.25 -39975329.14 -39975329.02 0.0528 0.0261

Mars -114160-10-04 15:22 J -39975239.93 -39975239.86 -39975239.78 0.1719 0.1317

Jupiter -114160-10-04 18:00 J -39975239.86 -39975239.75 -39975239.63 0.0529 0.0240 *

Venus -114158-01-16 18:14 J -39974770.84 -39974770.74 -39974770.63 0.3723 0.2334

Saturn -114155-03-06 03:36 J -39973626.40 -39973626.35 -39973626.28 0.0279 0.0258

Moon -114155-05-07 13:41 J -39973564.03 -39973563.93 -39973563.83 0.2764 0.1017

Earth -114155-05-07 14:10 J -39973564.01 -39973563.91 -39973563.81 0.2769 0.1114 *

Saturn -114155-06-02 22:19 J -39973537.71 -39973537.57 -39973537.43 0.0278 0.0160

Saturn -114155-08-30 17:02 J -39973448.95 -39973448.79 -39973448.62 0.0277 0.0063

Saturn -114155-11-27 12:14 J -39973360.17 -39973359.99 -39973359.82 0.0276 0.0037

Saturn -114154-02-24 07:12 J -39973271.35 -39973271.20 -39973271.04 0.0275 0.0136

Saturn -114154-05-24 02:38 J -39973182.47 -39973182.39 -39973182.30 0.0274 0.0234

Jupiter -114154-05-24 18:58 J -39973181.87 -39973181.71 -39973181.55 0.0498 0.0188

Jupiter -114154-08-22 21:50 J -39973091.70 -39973091.59 -39973091.47 0.0497 0.0371

Mars -114153-05-08 18:58 J -39972831.82 -39972831.71 -39972831.60 0.1772 0.1192

Venus -114153-08-01 19:41 J -39972746.82 -39972746.68 -39972746.55 0.3716 0.0435

Mars -114152-03-21 12:58 J -39972515.07 -39972514.96 -39972514.86 0.1741 0.0849

Moon -114152-10-30 15:22 J -39972292.00 -39972291.86 -39972291.72 0.2567 0.1290

Earth -114152-10-30 15:50 J -39972291.97 -39972291.84 -39972291.70 0.2573 0.1382 *

Mars -114151-04-15 18:58 J -39972124.75 -39972124.71 -39972124.67 0.1792 0.1720

Mars -114150-02-25 00:58 J -39971809.57 -39971809.46 -39971809.36 0.1723 0.0918

Jupiter -114148-04-25 11:02 J -39971019.12 -39971019.04 -39971018.95 0.0527 0.0398

Earth -114148-04-30 11:31 J -39971014.11 -39971014.02 -39971013.92 0.2760 0.1464

Moon -114148-04-30 12:29 J -39971014.08 -39971013.98 -39971013.89 0.2762 0.1356 *

Jupiter -114148-07-23 20:53 J -39970929.76 -39970929.63 -39970929.50 0.0528 0.0107

Venus -114147-02-15 21:22 J -39970722.67 -39970722.61 -39970722.55 0.3710 0.3291

Mars -114143-08-11 21:36 J -39969084.69 -39969084.60 -39969084.52 0.1745 0.1304

Uranus -114143-11-08 17:46 J -39968995.80 -39968995.76 -39968995.71 0.0131 0.0123

Uranus -114142-02-04 21:07 J -39968907.70 -39968907.62 -39968907.54 0.0131 0.0107

Jupiter -114142-03-12 18:00 J -39968871.88 -39968871.75 -39968871.62 0.0498 0.0322

Uranus -114142-05-04 00:14 J -39968819.58 -39968819.49 -39968819.38 0.0131 0.0092

Moon -114142-05-10 07:55 J -39968813.24 -39968813.17 -39968813.10 0.2770 0.2028

Earth -114142-05-10 08:38 J -39968813.22 -39968813.14 -39968813.07 0.2772 0.2025 *

Jupiter -114142-06-10 20:38 J -39968781.79 -39968781.64 -39968781.48 0.0497 0.0232

Uranus -114142-07-31 03:50 J -39968731.45 -39968731.34 -39968731.23 0.0131 0.0075

Mars -114142-09-05 18:29 J -39968694.86 -39968694.73 -39968694.60 0.1787 0.0971

Uranus -114142-10-27 07:12 J -39968643.33 -39968643.20 -39968643.08 0.0131 0.0060

Uranus -114141-01-23 10:19 J -39968555.20 -39968555.07 -39968554.93 0.0131 0.0044

Uranus -114141-04-20 13:41 J -39968467.07 -39968466.93 -39968466.79 0.0131 0.0028

Mars -114141-07-17 10:05 J -39968379.19 -39968379.08 -39968378.96 0.1727 0.0509

Uranus -114141-07-17 16:48 J -39968378.93 -39968378.80 -39968378.66 0.0131 0.0014

Uranus -114141-10-13 20:10 J -39968290.80 -39968290.66 -39968290.52 0.0131 0.0003

Uranus -114140-01-09 23:17 J -39968202.67 -39968202.53 -39968202.39 0.0131 0.0018

Uranus -114140-04-08 02:24 J -39968114.53 -39968114.40 -39968114.26 0.0131 0.0033

Uranus -114140-07-05 05:31 J -39968026.39 -39968026.27 -39968026.14 0.0131 0.0048

Uranus -114140-10-01 08:53 J -39967938.25 -39967938.13 -39967938.01 0.0131 0.0063

Uranus -114140-12-28 12:00 J -39967850.11 -39967850.00 -39967849.89 0.0131 0.0078

Saturn -114139-03-21 14:38 J -39967766.95 -39967766.89 -39967766.83 0.0283 0.0256

Uranus -114139-03-26 14:53 J -39967761.97 -39967761.88 -39967761.78 0.0131 0.0093

Saturn -114139-06-18 04:19 J -39967678.43 -39967678.32 -39967678.20 0.0284 0.0168

Uranus -114139-06-22 18:00 J -39967673.82 -39967673.75 -39967673.67 0.0131 0.0108

Saturn -114139-09-14 18:00 J -39967589.89 -39967589.75 -39967589.62 0.0285 0.0079

Uranus -114139-09-18 21:07 J -39967585.66 -39967585.62 -39967585.57 0.0131 0.0123

Saturn -114139-12-12 07:26 J -39967501.33 -39967501.19 -39967501.05 0.0286 0.0010

Saturn -114138-03-10 20:38 J -39967412.77 -39967412.64 -39967412.50 0.0287 0.0099

Saturn -114138-06-07 09:50 J -39967324.19 -39967324.09 -39967323.98 0.0288 0.0187

Saturn -114138-09-03 23:02 J -39967235.58 -39967235.54 -39967235.50 0.0289 0.0275

Pluto -114137-03-09 12:14 J -39967048.01 -39967047.99 -39967047.94 0.0084 0.0081

Pluto -114137-06-05 13:41 J -39966960.00 -39966959.93 -39966959.84 0.0084 0.0066

Pluto -114137-09-01 15:07 J -39966871.97 -39966871.87 -39966871.76 0.0084 0.0051

Pluto -114137-11-28 16:19 J -39966783.94 -39966783.82 -39966783.69 0.0084 0.0036

Jupiter -114136-02-11 14:10 J -39966708.92 -39966708.91 -39966708.89 0.0527 0.0524

Pluto -114136-02-24 17:46 J -39966695.89 -39966695.76 -39966695.63 0.0084 0.0021

Jupiter -114136-05-12 00:14 J -39966619.62 -39966619.49 -39966619.35 0.0528 0.0021

Pluto -114136-05-23 18:58 J -39966607.84 -39966607.71 -39966607.57 0.0084 0.0007

Jupiter -114136-08-09 09:07 J -39966530.17 -39966530.12 -39966530.06 0.0529 0.0477

Pluto -114136-08-19 20:10 J -39966519.79 -39966519.66 -39966519.52 0.0084 0.0009

Pluto -114136-11-15 21:36 J -39966431.73 -39966431.60 -39966431.47 0.0084 0.0023

Pluto -114135-02-11 22:34 J -39966343.67 -39966343.56 -39966343.43 0.0083 0.0038

Earth -114135-05-03 06:14 J -39966263.35 -39966263.24 -39966263.14 0.2764 0.0551

Moon -114135-05-03 06:43 J -39966263.33 -39966263.22 -39966263.11 0.2759 0.0504 *

Pluto -114135-05-11 00:00 J -39966255.60 -39966255.50 -39966255.39 0.0083 0.0051

Pluto -114135-08-07 01:26 J -39966167.52 -39966167.44 -39966167.36 0.0083 0.0066

Pluto -114135-11-03 02:24 J -39966079.42 -39966079.40 -39966079.36 0.0083 0.0080

Mars -114132-01-25 18:14 J -39965264.90 -39965264.74 -39965264.59 0.1782 0.0242

Venus -114132-03-15 05:17 J -39965216.37 -39965216.28 -39965216.19 0.3656 0.2132

Earth -114132-10-25 10:05 J -39964992.21 -39964992.08 -39964991.94 0.2579 0.1381

Moon -114132-10-25 11:31 J -39964992.16 -39964992.02 -39964991.87 0.2576 0.1188 *

Mars -114132-12-07 19:12 J -39964948.82 -39964948.70 -39964948.57 0.1732 0.0106

Jupiter -114131-12-29 16:19 J -39964561.87 -39964561.82 -39964561.76 0.0498 0.0465

Neptune -114130-03-25 07:26 J -39964476.23 -39964476.19 -39964476.13 0.0089 0.0085

Jupiter -114130-03-29 18:29 J -39964471.90 -39964471.73 -39964471.56 0.0497 0.0082

Neptune -114130-06-21 10:19 J -39964388.14 -39964388.07 -39964387.99 0.0089 0.0080

Neptune -114130-09-17 12:58 J -39964300.04 -39964299.96 -39964299.85 0.0089 0.0075

Neptune -114130-12-14 15:50 J -39964211.93 -39964211.84 -39964211.72 0.0089 0.0070

Neptune -114129-03-11 19:12 J -39964123.82 -39964123.70 -39964123.58 0.0089 0.0064

Neptune -114129-06-07 21:50 J -39964035.71 -39964035.59 -39964035.45 0.0089 0.0059

Neptune -114129-09-04 00:29 J -39963947.60 -39963947.48 -39963947.32 0.0089 0.0054

Neptune -114129-12-01 03:22 J -39963859.49 -39963859.36 -39963859.19 0.0089 0.0049

Neptune -114128-02-27 06:29 J -39963771.37 -39963771.23 -39963771.07 0.0089 0.0043

Neptune -114128-05-26 09:22 J -39963683.26 -39963683.11 -39963682.94 0.0089 0.0038

Neptune -114128-08-22 12:14 J -39963595.14 -39963594.99 -39963594.81 0.0089 0.0033

Neptune -114128-11-18 15:22 J -39963507.02 -39963506.86 -39963506.68 0.0089 0.0027

Neptune -114127-02-14 18:14 J -39963418.90 -39963418.74 -39963418.56 0.0089 0.0022

Neptune -114127-05-13 21:22 J -39963330.78 -39963330.61 -39963330.43 0.0089 0.0016

Neptune -114127-08-10 00:29 J -39963242.66 -39963242.48 -39963242.30 0.0089 0.0011

Venus -114127-09-28 23:17 J -39963192.64 -39963192.53 -39963192.41 0.3661 0.0542

Neptune -114127-11-06 03:22 J -39963154.54 -39963154.36 -39963154.18 0.0089 0.0006

Neptune -114126-02-02 06:29 J -39963066.41 -39963066.23 -39963066.05 0.0089 0.0000

Neptune -114126-05-01 09:22 J -39962978.28 -39962978.11 -39962977.93 0.0089 0.0006

Saturn -114126-07-24 05:02 J -39962894.29 -39962894.29 -39962894.28 0.0279 0.0279

Neptune -114126-07-28 12:29 J -39962890.16 -39962889.98 -39962889.80 0.0089 0.0011

Saturn -114126-10-20 23:31 J -39962805.64 -39962805.52 -39962805.39 0.0278 0.0182

Neptune -114126-10-24 15:22 J -39962802.03 -39962801.86 -39962801.67 0.0089 0.0017

Saturn -114125-01-17 18:14 J -39962716.90 -39962716.74 -39962716.57 0.0277 0.0084

Neptune -114125-01-20 18:43 J -39962713.90 -39962713.72 -39962713.55 0.0089 0.0022

Saturn -114125-04-15 13:12 J -39962628.12 -39962627.95 -39962627.78 0.0276 0.0015

Neptune -114125-04-17 21:36 J -39962625.77 -39962625.60 -39962625.42 0.0089 0.0028

Saturn -114125-07-13 08:24 J -39962539.31 -39962539.15 -39962538.99 0.0275 0.0113

Neptune -114125-07-15 00:29 J -39962537.64 -39962537.48 -39962537.30 0.0089 0.0034

Saturn -114125-10-10 03:36 J -39962450.45 -39962450.35 -39962450.24 0.0274 0.0212

Neptune -114125-10-11 03:36 J -39962449.50 -39962449.35 -39962449.18 0.0089 0.0039

Neptune -114124-01-07 06:43 J -39962361.37 -39962361.22 -39962361.05 0.0089 0.0045

Jupiter -114124-02-28 03:50 J -39962309.46 -39962309.34 -39962309.20 0.0528 0.0137

Neptune -114124-04-05 10:05 J -39962273.23 -39962273.08 -39962272.93 0.0089 0.0050

Jupiter -114124-05-28 13:12 J -39962220.04 -39962219.95 -39962219.85 0.0529 0.0362

Neptune -114124-07-02 12:58 J -39962185.09 -39962184.96 -39962184.81 0.0089 0.0056

Neptune -114124-09-28 15:50 J -39962096.95 -39962096.84 -39962096.69 0.0089 0.0062

Neptune -114124-12-25 19:12 J -39962008.81 -39962008.70 -39962008.57 0.0089 0.0067

Neptune -114123-03-23 22:19 J -39961920.66 -39961920.57 -39961920.46 0.0089 0.0073

Mars -114123-06-17 18:29 J -39961834.88 -39961834.73 -39961834.58 0.1777 0.0461

Neptune -114123-06-20 01:12 J -39961832.51 -39961832.45 -39961832.34 0.0089 0.0079

Neptune -114123-09-16 04:48 J -39961744.35 -39961744.30 -39961744.24 0.0089 0.0084

Mars -114122-04-30 04:19 J -39961518.44 -39961518.32 -39961518.20 0.1736 0.0352

Earth -114122-05-06 00:29 J -39961512.58 -39961512.48 -39961512.37 0.2767 0.0392

Moon -114122-05-06 00:43 J -39961512.57 -39961512.47 -39961512.36 0.2760 0.0379 *

Venus -114121-04-13 17:17 J -39961168.89 -39961168.78 -39961168.67 0.3666 0.1050

Mars -114120-04-04 15:22 J -39960812.93 -39960812.86 -39960812.78 0.1719 0.1362

Earth -114119-10-28 16:19 J -39960240.98 -39960240.82 -39960240.67 0.2576 0.0161

Moon -114119-10-28 17:17 J -39960240.94 -39960240.78 -39960240.62 0.2571 0.0131 *

Jupiter -114118-01-15 17:17 J -39960161.95 -39960161.78 -39960161.61 0.0497 0.0057

Venus -114116-10-28 11:02 J -39959145.12 -39959145.04 -39959144.96 0.3672 0.2588

Earth -114115-04-28 22:05 J -39958962.65 -39958962.58 -39958962.52 0.2757 0.2207

Moon -114115-04-28 22:34 J -39958962.63 -39958962.56 -39958962.49 0.2763 0.2102 *

Mars -114114-11-07 19:41 J -39958404.80 -39958404.68 -39958404.56 0.1772 0.1119

Mars -114113-09-19 12:58 J -39958088.07 -39958087.96 -39958087.85 0.1741 0.0797

Jupiter -114113-12-17 07:12 J -39957999.31 -39957999.20 -39957999.08 0.0528 0.0259

Jupiter -114112-03-16 16:48 J -39957909.92 -39957909.80 -39957909.69 0.0529 0.0242

Mars -114111-08-26 00:58 J -39957382.56 -39957382.46 -39957382.36 0.1723 0.0964

Saturn -114110-11-05 05:31 J -39956946.37 -39956946.27 -39956946.17 0.0283 0.0196

Saturn -114109-02-01 19:12 J -39956857.83 -39956857.70 -39956857.57 0.0284 0.0108

Saturn -114109-04-30 08:38 J -39956769.28 -39956769.14 -39956769.00 0.0286 0.0019

Moon -114109-05-07 18:43 J -39956761.82 -39956761.72 -39956761.62 0.2763 0.1316

Earth -114109-05-07 18:58 J -39956761.80 -39956761.71 -39956761.61 0.2770 0.1290 *

Saturn -114109-07-27 22:05 J -39956680.72 -39956680.58 -39956680.45 0.0287 0.0069

Saturn -114109-10-24 11:17 J -39956592.14 -39956592.03 -39956591.91 0.0288 0.0158

Saturn -114108-01-21 00:29 J -39956503.55 -39956503.48 -39956503.41 0.0289 0.0246

Jupiter -114107-11-03 16:19 J -39955851.98 -39955851.82 -39955851.66 0.0498 0.0193

Jupiter -114106-02-01 19:12 J -39955761.82 -39955761.70 -39955761.58 0.0497 0.0365

Moon -114106-10-31 22:19 J -39955489.69 -39955489.57 -39955489.45 0.2566 0.1711

Earth -114106-10-31 22:19 J -39955489.69 -39955489.57 -39955489.45 0.2573 0.1675 *

Mars -114104-03-29 20:53 J -39954974.63 -39954974.63 -39954974.63 0.1767 0.1766

Mars -114103-02-09 21:36 J -39954657.69 -39954657.60 -39954657.52 0.1745 0.1255

Mars -114102-03-06 18:58 J -39954267.84 -39954267.71 -39954267.58 0.1787 0.1039

Earth -114102-05-01 16:34 J -39954211.91 -39954211.81 -39954211.72 0.2761 0.1286

Moon -114102-05-01 17:17 J -39954211.88 -39954211.78 -39954211.69 0.2763 0.1271 *

Venus -114102-08-23 18:14 J -39954097.86 -39954097.74 -39954097.61 0.3721 0.1387

Mars -114101-01-16 10:19 J -39953952.19 -39953952.07 -39953951.96 0.1727 0.0553

Jupiter -114101-10-05 10:05 J -39953689.16 -39953689.08 -39953688.98 0.0528 0.0388

Jupiter -114100-01-02 19:55 J -39953599.80 -39953599.67 -39953599.54 0.0528 0.0117

Uranus -114099-07-19 02:24 J -39953037.46 -39953037.40 -39953037.30 0.0148 0.0131

Uranus -114099-10-15 10:05 J -39952949.19 -39952949.08 -39952948.94 0.0148 0.0103

Moon -114099-10-23 12:14 J -39952941.04 -39952940.99 -39952940.94 0.2585 0.2439

Uranus -114098-01-11 18:00 J -39952860.90 -39952860.75 -39952860.59 0.0148 0.0074

Uranus -114098-04-10 01:41 J -39952772.60 -39952772.43 -39952772.25 0.0148 0.0046

Uranus -114098-07-07 09:36 J -39952684.28 -39952684.10 -39952683.92 0.0148 0.0017

Uranus -114098-10-03 17:17 J -39952595.96 -39952595.78 -39952595.59 0.0148 0.0013

Uranus -114098-12-31 01:12 J -39952507.62 -39952507.45 -39952507.27 0.0148 0.0042

Uranus -114097-03-28 09:07 J -39952419.27 -39952419.12 -39952418.95 0.0148 0.0071

Uranus -114097-06-24 17:02 J -39952330.91 -39952330.79 -39952330.65 0.0148 0.0101

Uranus -114097-09-21 01:12 J -39952242.53 -39952242.45 -39952242.36 0.0148 0.0130

Venus -114096-03-08 19:41 J -39952073.80 -39952073.68 -39952073.56 0.3714 0.1398

Saturn -114096-03-08 23:31 J -39952073.62 -39952073.52 -39952073.40 0.0278 0.0211 *

Moon -114096-05-10 12:43 J -39952011.04 -39952010.97 -39952010.90 0.2770 0.2078

Earth -114096-05-10 13:26 J -39952011.00 -39952010.94 -39952010.88 0.2772 0.2201 *

Saturn -114096-06-05 18:14 J -39951984.89 -39951984.74 -39951984.58 0.0277 0.0113

Saturn -114096-09-02 13:12 J -39951896.12 -39951895.95 -39951895.78 0.0276 0.0015

Saturn -114096-11-30 08:10 J -39951807.32 -39951807.16 -39951806.99 0.0275 0.0085

Saturn -114095-02-27 03:36 J -39951718.48 -39951718.35 -39951718.22 0.0274 0.0183

Jupiter -114095-08-22 15:50 J -39951541.97 -39951541.84 -39951541.71 0.0498 0.0325

Jupiter -114095-11-20 18:14 J -39951451.89 -39951451.74 -39951451.58 0.0497 0.0229

Mars -114094-07-03 06:00 J -39951227.27 -39951227.25 -39951227.24 0.1750 0.1725

Mars -114093-07-26 18:43 J -39950837.87 -39950837.72 -39950837.57 0.1782 0.0308

Mars -114092-06-07 19:26 J -39950521.82 -39950521.69 -39950521.57 0.1732 0.0138

Earth -114089-05-03 11:02 J -39949461.15 -39949461.04 -39949460.93 0.2764 0.0366

Moon -114089-05-03 11:46 J -39949461.12 -39949461.01 -39949460.90 0.2761 0.0299 *

Jupiter -114089-07-24 12:43 J -39949378.98 -39949378.97 -39949378.96 0.0527 0.0522

Jupiter -114089-10-21 22:48 J -39949289.69 -39949289.55 -39949289.42 0.0528 0.0019

Jupiter -114088-01-19 07:41 J -39949200.23 -39949200.18 -39949200.13 0.0529 0.0477

Earth -114086-10-26 16:48 J -39948189.95 -39948189.80 -39948189.66 0.2579 0.1090

Moon -114086-10-26 18:29 J -39948189.88 -39948189.73 -39948189.59 0.2577 0.1072 *

Mars -114084-12-16 19:12 J -39947407.85 -39947407.70 -39947407.55 0.1777 0.0387

Jupiter -114083-06-10 15:07 J -39947231.93 -39947231.87 -39947231.80 0.0498 0.0456

Jupiter -114083-09-08 17:17 J -39947141.95 -39947141.78 -39947141.61 0.0497 0.0092

Mars -114083-10-29 04:19 J -39947091.44 -39947091.32 -39947091.20 0.1736 0.0304

Venus -114081-04-05 09:22 J -39946567.17 -39946567.11 -39946567.06 0.3652 0.3157

Mars -114081-10-03 15:36 J -39946385.92 -39946385.85 -39946385.79 0.1719 0.1405

Saturn -114080-03-24 07:26 J -39946214.28 -39946214.19 -39946214.10 0.0283 0.0220

Saturn -114080-06-20 21:07 J -39946125.75 -39946125.62 -39946125.49 0.0284 0.0132

Saturn -114080-09-17 10:34 J -39946037.20 -39946037.06 -39946036.92 0.0285 0.0044

Saturn -114080-12-15 00:00 J -39945948.64 -39945948.50 -39945948.36 0.0286 0.0045

Saturn -114079-03-13 13:26 J -39945860.07 -39945859.94 -39945859.82 0.0287 0.0133

Saturn -114079-06-10 02:24 J -39945771.48 -39945771.40 -39945771.31 0.0288 0.0222

Jupiter -114077-08-10 02:10 J -39944979.54 -39944979.41 -39944979.28 0.0528 0.0139

Jupiter -114077-11-07 11:17 J -39944890.12 -39944890.03 -39944889.93 0.0529 0.0358

Earth -114076-05-06 05:31 J -39944710.38 -39944710.27 -39944710.16 0.2767 0.0553

Moon -114076-05-06 05:46 J -39944710.37 -39944710.26 -39944710.15 0.2761 0.0608 *

Venus -114076-10-20 03:36 J -39944543.46 -39944543.35 -39944543.25 0.3657 0.1534

Mars -114074-05-08 19:55 J -39943977.79 -39943977.67 -39943977.55 0.1772 0.1066

Mars -114073-03-20 13:12 J -39943661.06 -39943660.95 -39943660.84 0.1741 0.0748

Earth -114073-10-28 22:48 J -39943438.71 -39943438.55 -39943438.39 0.2575 0.0439

Moon -114073-10-29 00:00 J -39943438.66 -39943438.50 -39943438.34 0.2571 0.0603 *

Mars -114071-02-24 00:58 J -39942955.56 -39942955.46 -39942955.36 0.1723 0.1005

Jupiter -114071-06-27 15:22 J -39942832.03 -39942831.86 -39942831.69 0.0497 0.0056

Venus -114070-05-05 21:36 J -39942519.72 -39942519.60 -39942519.49 0.3663 0.0143

Earth -114069-04-29 02:53 J -39942160.45 -39942160.38 -39942160.31 0.2758 0.2026

Moon -114069-04-29 03:07 J -39942160.44 -39942160.37 -39942160.30 0.2765 0.2076 *

Saturn -114067-07-27 00:29 J -39941341.56 -39941341.48 -39941341.39 0.0279 0.0235

Saturn -114067-10-23 19:12 J -39941252.85 -39941252.70 -39941252.55 0.0278 0.0137

Saturn -114066-01-20 14:10 J -39941164.08 -39941163.91 -39941163.75 0.0277 0.0039

Saturn -114066-04-19 09:07 J -39941075.29 -39941075.12 -39941074.95 0.0276 0.0060

Saturn -114066-07-17 04:19 J -39940986.46 -39940986.32 -39940986.18 0.0275 0.0159

Saturn -114066-10-13 23:31 J -39940897.57 -39940897.52 -39940897.45 0.0274 0.0258

Jupiter -114065-05-29 05:46 J -39940669.38 -39940669.26 -39940669.15 0.0528 0.0259

Jupiter -114065-08-26 15:07 J -39940579.98 -39940579.87 -39940579.75 0.0529 0.0243

Mars -114065-09-27 21:22 J -39940547.65 -39940547.61 -39940547.57 0.1767 0.1699

Venus -114065-11-18 15:22 J -39940495.96 -39940495.86 -39940495.76 0.3668 0.1622

Mars -114064-08-10 21:36 J -39940230.68 -39940230.60 -39940230.51 0.1745 0.1205

Moon -114063-05-08 23:46 J -39939959.60 -39939959.51 -39939959.41 0.2763 0.1391

Earth -114063-05-09 00:00 J -39939959.60 -39939959.50 -39939959.41 0.2770 0.1469 *

Mars -114063-09-04 19:26 J -39939840.82 -39939840.69 -39939840.57 0.1787 0.1102

Mars -114062-07-17 10:19 J -39939525.18 -39939525.07 -39939524.95 0.1727 0.0601

Earth -114060-11-01 05:02 J -39938687.39 -39938687.29 -39938687.19 0.2572 0.1977

Moon -114060-11-01 05:31 J -39938687.38 -39938687.27 -39938687.17 0.2566 0.1961 *

Jupiter -114059-04-15 14:24 J -39938522.06 -39938521.90 -39938521.74 0.0497 0.0191

Venus -114059-06-04 09:07 J -39938472.18 -39938472.12 -39938472.07 0.3673 0.3150

Jupiter -114059-07-14 17:17 J -39938431.89 -39938431.78 -39938431.66 0.0497 0.0366

Uranus -114059-11-29 00:58 J -39938294.51 -39938294.46 -39938294.40 0.0131 0.0118

Uranus -114058-02-25 04:19 J -39938206.40 -39938206.32 -39938206.23 0.0131 0.0103

Uranus -114058-05-24 07:41 J -39938118.28 -39938118.18 -39938118.07 0.0131 0.0087

Uranus -114058-08-20 10:48 J -39938030.16 -39938030.05 -39938029.92 0.0131 0.0072

Uranus -114058-11-16 14:24 J -39937942.03 -39937941.90 -39937941.78 0.0131 0.0055

Uranus -114057-02-12 17:31 J -39937853.90 -39937853.77 -39937853.63 0.0131 0.0040

Uranus -114057-05-10 20:53 J -39937765.77 -39937765.63 -39937765.49 0.0131 0.0024

Uranus -114057-08-07 00:00 J -39937677.63 -39937677.50 -39937677.36 0.0131 0.0010

Uranus -114057-11-03 03:22 J -39937589.50 -39937589.36 -39937589.22 0.0131 0.0007

Uranus -114056-01-30 06:29 J -39937501.36 -39937501.23 -39937501.09 0.0131 0.0022

Uranus -114056-04-28 09:36 J -39937413.23 -39937413.10 -39937412.96 0.0131 0.0037

Earth -114056-05-01 21:22 J -39937409.71 -39937409.61 -39937409.51 0.2761 0.1111

Moon -114056-05-01 22:05 J -39937409.68 -39937409.58 -39937409.48 0.2764 0.1004 *

Uranus -114056-07-25 12:58 J -39937325.09 -39937324.96 -39937324.84 0.0131 0.0052

Uranus -114056-10-21 16:05 J -39937236.95 -39937236.83 -39937236.71 0.0131 0.0067

Uranus -114055-01-17 19:12 J -39937148.81 -39937148.70 -39937148.59 0.0131 0.0082

Uranus -114055-04-15 22:19 J -39937060.66 -39937060.57 -39937060.48 0.0131 0.0097

Uranus -114055-07-13 01:12 J -39936972.51 -39936972.45 -39936972.37 0.0131 0.0112

Uranus -114055-10-09 04:19 J -39936884.34 -39936884.32 -39936884.28 0.0131 0.0127

Mars -114054-01-01 06:00 J -39936800.28 -39936800.25 -39936800.22 0.1750 0.1674

Mars -114053-01-25 19:26 J -39936410.84 -39936410.69 -39936410.54 0.1782 0.0383

Jupiter -114053-03-17 08:53 J -39936359.22 -39936359.13 -39936359.03 0.0528 0.0382

Jupiter -114053-06-14 18:43 J -39936269.85 -39936269.72 -39936269.59 0.0529 0.0123

Earth -114053-10-23 17:17 J -39936138.84 -39936138.78 -39936138.71 0.2582 0.2304

Moon -114053-10-23 18:43 J -39936138.79 -39936138.72 -39936138.65 0.2585 0.2268 *

Mars -114053-12-06 19:26 J -39936094.81 -39936094.69 -39936094.57 0.1732 0.0177

Saturn -114051-08-11 08:10 J -39935482.22 -39935482.16 -39935482.09 0.0282 0.0251

Venus -114051-09-13 17:17 J -39935448.85 -39935448.78 -39935448.71 0.3726 0.3136

Saturn -114051-11-07 21:50 J -39935393.70 -39935393.59 -39935393.47 0.0283 0.0163

Saturn -114050-02-04 11:31 J -39935305.16 -39935305.02 -39935304.88 0.0285 0.0075

Saturn -114050-05-04 00:58 J -39935216.60 -39935216.46 -39935216.32 0.0286 0.0014

Moon -114050-05-11 17:46 J -39935208.82 -39935208.76 -39935208.71 0.2769 0.2386

Earth -114050-05-11 18:14 J -39935208.79 -39935208.74 -39935208.68 0.2773 0.2378 *

Saturn -114050-07-31 14:24 J -39935128.03 -39935127.90 -39935127.77 0.0287 0.0102

Saturn -114050-10-28 03:36 J -39935039.46 -39935039.35 -39935039.25 0.0288 0.0190

Saturn -114049-01-24 16:34 J -39934950.84 -39934950.81 -39934950.77 0.0289 0.0278

Neptune -114049-04-18 22:34 J -39934865.58 -39934865.56 -39934865.51 0.0088 0.0085

Neptune -114049-07-16 00:29 J -39934777.53 -39934777.48 -39934777.42 0.0088 0.0081

Neptune -114049-10-12 01:55 J -39934689.48 -39934689.42 -39934689.33 0.0088 0.0077

Neptune -114048-01-08 03:36 J -39934601.42 -39934601.35 -39934601.25 0.0088 0.0073

Neptune -114048-04-06 05:31 J -39934513.36 -39934513.27 -39934513.17 0.0088 0.0068

Neptune -114048-07-03 06:58 J -39934425.29 -39934425.21 -39934425.09 0.0088 0.0064

Neptune -114048-09-29 08:53 J -39934337.23 -39934337.13 -39934337.02 0.0088 0.0059

Neptune -114048-12-26 10:34 J -39934249.17 -39934249.06 -39934248.94 0.0088 0.0054

Jupiter -114047-02-01 13:41 J -39934212.06 -39934211.93 -39934211.80 0.0498 0.0325

Neptune -114047-03-24 12:00 J -39934161.10 -39934161.00 -39934160.87 0.0088 0.0051

Jupiter -114047-05-02 16:05 J -39934121.98 -39934121.83 -39934121.67 0.0497 0.0227

Neptune -114047-06-20 13:55 J -39934073.04 -39934072.92 -39934072.79 0.0088 0.0046

Neptune -114047-09-16 15:36 J -39933984.97 -39933984.85 -39933984.72 0.0088 0.0041

Neptune -114047-12-13 17:02 J -39933896.91 -39933896.79 -39933896.65 0.0088 0.0038

Neptune -114046-03-11 18:58 J -39933808.84 -39933808.71 -39933808.58 0.0088 0.0033

Neptune -114046-06-07 20:24 J -39933720.78 -39933720.65 -39933720.51 0.0088 0.0029

Neptune -114046-09-03 22:05 J -39933632.71 -39933632.58 -39933632.44 0.0088 0.0024

Neptune -114046-11-30 23:46 J -39933544.64 -39933544.51 -39933544.37 0.0088 0.0020

Neptune -114045-02-27 01:26 J -39933456.58 -39933456.44 -39933456.30 0.0088 0.0015

Venus -114045-03-29 18:14 J -39933424.87 -39933424.74 -39933424.60 0.3719 0.0444

Neptune -114045-05-25 03:07 J -39933368.51 -39933368.37 -39933368.23 0.0088 0.0011

Neptune -114045-08-21 04:34 J -39933280.45 -39933280.31 -39933280.16 0.0088 0.0008

Neptune -114045-11-17 06:14 J -39933192.38 -39933192.24 -39933192.10 0.0088 0.0003

Neptune -114044-02-13 07:55 J -39933104.31 -39933104.17 -39933104.03 0.0088 0.0002

Neptune -114044-05-12 09:22 J -39933016.25 -39933016.11 -39933015.96 0.0088 0.0007

Mars -114044-06-16 19:41 J -39932980.83 -39932980.68 -39932980.53 0.1777 0.0322

Neptune -114044-08-08 11:02 J -39932928.18 -39932928.04 -39932927.90 0.0088 0.0010

Neptune -114044-11-04 12:43 J -39932840.11 -39932839.97 -39932839.84 0.0088 0.0015

Neptune -114043-01-31 14:10 J -39932752.05 -39932751.91 -39932751.77 0.0088 0.0019

Mars -114043-04-29 04:19 J -39932664.44 -39932664.32 -39932664.19 0.1736 0.0262

Neptune -114043-04-29 15:36 J -39932663.98 -39932663.85 -39932663.71 0.0088 0.0023

Earth -114043-05-04 15:50 J -39932658.95 -39932658.84 -39932658.73 0.2765 0.0198

Moon -114043-05-04 16:34 J -39932658.92 -39932658.81 -39932658.70 0.2764 0.0143 *

Neptune -114043-07-26 17:17 J -39932575.91 -39932575.78 -39932575.64 0.0088 0.0027

Neptune -114043-10-22 18:43 J -39932487.84 -39932487.72 -39932487.58 0.0088 0.0031

Neptune -114042-01-18 20:24 J -39932399.78 -39932399.65 -39932399.52 0.0088 0.0035

Neptune -114042-04-16 21:50 J -39932311.71 -39932311.59 -39932311.46 0.0088 0.0040

Neptune -114042-07-13 23:31 J -39932223.64 -39932223.52 -39932223.40 0.0088 0.0044

Neptune -114042-10-10 00:43 J -39932135.57 -39932135.47 -39932135.34 0.0088 0.0049

Jupiter -114041-01-04 12:00 J -39932049.03 -39932049.00 -39932048.97 0.0527 0.0509

Neptune -114041-01-06 02:24 J -39932047.50 -39932047.40 -39932047.28 0.0088 0.0052

Jupiter -114041-04-02 22:05 J -39931959.72 -39931959.58 -39931959.45 0.0528 0.0008

Neptune -114041-04-03 03:50 J -39931959.44 -39931959.34 -39931959.22 0.0088 0.0056

Mars -114041-04-03 15:36 J -39931958.92 -39931958.85 -39931958.79 0.1719 0.1446

Neptune -114041-06-30 05:31 J -39931871.37 -39931871.27 -39931871.16 0.0088 0.0060

Jupiter -114041-07-01 06:58 J -39931870.26 -39931870.21 -39931870.16 0.0529 0.0490

Neptune -114041-09-26 06:58 J -39931783.30 -39931783.21 -39931783.11 0.0088 0.0064

Neptune -114041-12-23 08:24 J -39931695.22 -39931695.15 -39931695.05 0.0088 0.0069

Neptune -114040-03-21 10:05 J -39931607.15 -39931607.08 -39931607.00 0.0088 0.0072

Neptune -114040-06-17 11:31 J -39931519.08 -39931519.02 -39931518.95 0.0088 0.0077

Neptune -114040-09-13 12:58 J -39931431.01 -39931430.96 -39931430.90 0.0088 0.0081

Venus -114040-10-13 19:41 J -39931400.78 -39931400.68 -39931400.57 0.3713 0.2383

Earth -114040-10-26 23:17 J -39931387.68 -39931387.53 -39931387.38 0.2578 0.0793

Moon -114040-10-27 00:58 J -39931387.61 -39931387.46 -39931387.30 0.2579 0.0569 *

Neptune -114040-12-10 14:24 J -39931342.93 -39931342.90 -39931342.85 0.0088 0.0085

Saturn -114038-12-13 23:46 J -39930609.55 -39930609.51 -39930609.46 0.0279 0.0267

Saturn -114037-03-11 18:29 J -39930520.86 -39930520.73 -39930520.59 0.0278 0.0170

Saturn -114037-06-08 13:12 J -39930432.11 -39930431.95 -39930431.78 0.0277 0.0072

Saturn -114037-09-05 08:24 J -39930343.33 -39930343.15 -39930342.98 0.0276 0.0027

Saturn -114037-12-03 03:22 J -39930254.51 -39930254.36 -39930254.20 0.0275 0.0126

Saturn -114036-03-01 22:48 J -39930165.64 -39930165.55 -39930165.45 0.0274 0.0225

Jupiter -114036-11-20 13:12 J -39929902.01 -39929901.95 -39929901.88 0.0498 0.0454

Jupiter -114035-02-18 15:22 J -39929812.03 -39929811.86 -39929811.69 0.0497 0.0093

Mars -114035-11-06 20:38 J -39929550.77 -39929550.64 -39929550.52 0.1772 0.0993

Mars -114034-09-19 13:12 J -39929234.06 -39929233.95 -39929233.84 0.1741 0.0701

Mars -114032-08-25 00:58 J -39928528.55 -39928528.46 -39928528.36 0.1723 0.1052

Earth -114030-05-07 10:19 J -39927908.17 -39927908.07 -39927907.96 0.2768 0.0728

Moon -114030-05-07 10:48 J -39927908.16 -39927908.05 -39927907.95 0.2761 0.0728 *

Jupiter -114029-01-21 00:58 J -39927649.59 -39927649.46 -39927649.33 0.0528 0.0134

Jupiter -114029-04-19 10:05 J -39927560.18 -39927560.08 -39927559.99 0.0529 0.0363

Earth -114027-10-30 05:17 J -39926636.43 -39926636.28 -39926636.13 0.2575 0.0735

Moon -114027-10-30 06:43 J -39926636.38 -39926636.22 -39926636.07 0.2571 0.0739 *

Mars -114025-03-28 21:50 J -39926120.65 -39926120.59 -39926120.54 0.1767 0.1639

Venus -114025-11-10 07:26 J -39925894.27 -39925894.19 -39925894.11 0.3654 0.2552

Mars -114024-02-08 21:50 J -39925803.69 -39925803.59 -39925803.50 0.1745 0.1159

Jupiter -114024-12-07 14:24 J -39925502.07 -39925501.90 -39925501.72 0.0498 0.0044

Mars -114023-03-05 20:10 J -39925413.78 -39925413.66 -39925413.54 0.1787 0.1176

Moon -114023-04-30 07:55 J -39925358.25 -39925358.17 -39925358.09 0.2766 0.1789

Earth -114023-04-30 07:55 J -39925358.25 -39925358.17 -39925358.09 0.2758 0.1853 *

Mars -114022-01-15 10:19 J -39925098.18 -39925098.07 -39925097.96 0.1727 0.0641

Saturn -114022-12-29 09:36 J -39924750.11 -39924750.10 -39924750.07 0.0282 0.0277

Saturn -114021-03-26 23:31 J -39924661.62 -39924661.52 -39924661.41 0.0283 0.0189

Saturn -114021-06-23 13:12 J -39924573.08 -39924572.95 -39924572.82 0.0284 0.0101

Saturn -114021-09-20 02:38 J -39924484.53 -39924484.39 -39924484.25 0.0285 0.0013

Saturn -114021-12-17 16:05 J -39924395.97 -39924395.83 -39924395.70 0.0287 0.0076

Saturn -114020-03-16 05:17 J -39924307.39 -39924307.28 -39924307.17 0.0288 0.0164

Saturn -114020-06-12 18:29 J -39924218.80 -39924218.73 -39924218.67 0.0289 0.0252

Venus -114019-05-27 01:41 J -39923870.54 -39923870.43 -39923870.32 0.3659 0.0938

Jupiter -114018-11-09 04:05 J -39923339.44 -39923339.33 -39923339.21 0.0528 0.0257

Jupiter -114017-02-06 13:41 J -39923250.05 -39923249.93 -39923249.81 0.0529 0.0244

Earth -114017-05-09 04:48 J -39923157.39 -39923157.30 -39923157.21 0.2771 0.1643

Moon -114017-05-09 04:48 J -39923157.38 -39923157.30 -39923157.21 0.2764 0.1699 *

Mars -114015-07-02 06:14 J -39922373.28 -39922373.24 -39922373.19 0.1750 0.1618

Uranus -114015-08-08 08:53 J -39922336.22 -39922336.13 -39922336.04 0.0148 0.0128

Uranus -114015-11-04 16:19 J -39922247.94 -39922247.82 -39922247.68 0.0148 0.0100

Uranus -114014-02-01 00:00 J -39922159.65 -39922159.50 -39922159.34 0.0148 0.0072

Uranus -114014-04-30 07:55 J -39922071.34 -39922071.17 -39922071.00 0.0148 0.0043

Mars -114014-07-26 19:55 J -39921983.83 -39921983.67 -39921983.52 0.1782 0.0444

Uranus -114014-07-27 15:36 J -39921983.03 -39921982.85 -39921982.67 0.0148 0.0014

Uranus -114014-10-23 23:31 J -39921894.70 -39921894.52 -39921894.34 0.0148 0.0015

Earth -114014-11-02 11:31 J -39921885.09 -39921885.02 -39921884.95 0.2572 0.2275

Moon -114014-11-02 12:29 J -39921885.04 -39921884.98 -39921884.92 0.2566 0.2344 *

Venus -114014-12-10 19:26 J -39921846.80 -39921846.69 -39921846.58 0.3664 0.0650

Uranus -114013-01-20 07:26 J -39921806.37 -39921806.19 -39921806.02 0.0148 0.0044

Uranus -114013-04-17 15:22 J -39921718.02 -39921717.86 -39921717.70 0.0148 0.0073

Mars -114013-06-06 19:41 J -39921667.81 -39921667.68 -39921667.56 0.1732 0.0233

Uranus -114013-07-14 23:17 J -39921629.66 -39921629.53 -39921629.40 0.0148 0.0103

Uranus -114013-10-11 07:12 J -39921541.27 -39921541.20 -39921541.11 0.0148 0.0133

Jupiter -114012-09-25 12:43 J -39921192.12 -39921191.97 -39921191.80 0.0497 0.0186

Jupiter -114012-12-24 15:36 J -39921101.96 -39921101.85 -39921101.73 0.0497 0.0371

Earth -114010-05-03 02:24 J -39920607.51 -39920607.40 -39920607.30 0.2762 0.0933

Moon -114010-05-03 02:53 J -39920607.48 -39920607.38 -39920607.27 0.2766 0.0923 *

Venus -114008-06-25 13:26 J -39919823.03 -39919822.94 -39919822.86 0.3669 0.2189

Saturn -114008-07-29 18:58 J -39919788.83 -39919788.71 -39919788.59 0.0279 0.0196

Saturn -114008-10-26 13:41 J -39919700.09 -39919699.93 -39919699.77 0.0278 0.0098

Saturn -114007-01-23 08:38 J -39919611.31 -39919611.14 -39919610.97 0.0277 0.0002

Saturn -114007-04-22 03:36 J -39919522.51 -39919522.35 -39919522.18 0.0276 0.0100

Saturn -114007-07-19 23:02 J -39919433.66 -39919433.54 -39919433.42 0.0275 0.0198

Earth -114007-10-25 00:00 J -39919336.60 -39919336.50 -39919336.41 0.2581 0.2015

Moon -114007-10-25 01:12 J -39919336.56 -39919336.45 -39919336.34 0.2585 0.1878 *

Jupiter -114006-08-28 07:26 J -39919029.28 -39919029.19 -39919029.09 0.0528 0.0380

Jupiter -114006-11-25 17:31 J -39918939.90 -39918939.77 -39918939.64 0.0529 0.0128

Mars -114005-12-15 20:10 J -39918553.81 -39918553.66 -39918553.51 0.1777 0.0257

Moon -114004-05-11 22:48 J -39918406.60 -39918406.55 -39918406.50 0.2767 0.2438

Earth -114004-05-11 23:17 J -39918406.57 -39918406.53 -39918406.49 0.2773 0.2557 *

Mars -114004-10-28 04:34 J -39918237.43 -39918237.31 -39918237.19 0.1736 0.0206

Mars -114002-10-03 15:36 J -39917531.90 -39917531.85 -39917531.79 0.1719 0.1492

114TH MILLENNIUM

BCE

This is a list of transits of Mercury in the 114th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Jupiter	-114000-07-14 12:14	J	-39916882.12	-39916881.99	-39916881.86	0.0498	0.0317	
Jupiter	-114000-10-12 14:38	J	-39916792.04	-39916791.89	-39916791.74	0.0497	0.0234	
Earth	-113997-05-04 20:53	J	-39915856.74	-39915856.63	-39915856.52	0.2765	0.0101	
Moon	-113997-05-04 21:36	J	-39915856.71	-39915856.60	-39915856.50	0.2765	0.0111	*
Mars	-113995-05-07 21:07	J	-39915123.75	-39915123.62	-39915123.49	0.1772	0.0927	
Mars	-113994-03-20 13:12	J	-39914807.06	-39914806.95	-39914806.83	0.1741	0.0655	
Venus	-113994-04-20 17:17	J	-39914775.89	-39914775.78	-39914775.68	0.3724	0.2202	
Jupiter	-113994-06-16 10:48	J	-39914719.08	-39914719.05	-39914719.00	0.0528	0.0501	
Jupiter	-113994-09-13 21:07	J	-39914629.76	-39914629.62	-39914629.49	0.0529	0.0015	
Earth	-113994-10-28 05:46	J	-39914585.41	-39914585.26	-39914585.10	0.2578	0.0500	
Moon	-113994-10-28 07:26	J	-39914585.35	-39914585.19	-39914585.04	0.2580	0.0492	*
Jupiter	-113994-12-12 06:00	J	-39914540.29	-39914540.25	-39914540.21	0.0529	0.0500	
Mars	-113992-02-23 00:58	J	-39914101.55	-39914101.46	-39914101.36	0.1723	0.1096	
Saturn	-113992-08-14 00:00	J	-39913929.58	-39913929.50	-39913929.41	0.0282	0.0222	
Saturn	-113992-11-10 13:41	J	-39913841.05	-39913840.93	-39913840.80	0.0283	0.0134	
Saturn	-113991-02-07 03:07	J	-39913752.51	-39913752.37	-39913752.23	0.0285	0.0047	
Saturn	-113991-05-06 16:34	J	-39913663.95	-39913663.81	-39913663.67	0.0286	0.0042	
Saturn	-113991-08-03 05:46	J	-39913575.38	-39913575.26	-39913575.13	0.0287	0.0130	
Saturn	-113991-10-30 18:58	J	-39913486.80	-39913486.71	-39913486.62	0.0288	0.0218	
Moon	-113990-04-28 17:46	J	-39913306.80	-39913306.76	-39913306.73	0.2762	0.2575	

Earth -113990-04-28 18:14 J -39913306.78 -39913306.74 -39913306.71 0.2755 0.2597 *

Venus -113989-11-03 18:14 J -39912751.87 -39912751.74 -39912751.60 0.3717 0.0540

Jupiter -113988-05-02 11:31 J -39912572.09 -39912572.02 -39912571.95 0.0498 0.0450

Jupiter -113988-07-31 13:26 J -39912482.11 -39912481.94 -39912481.76 0.0497 0.0098

Mars -113986-09-27 22:19 J -39911693.64 -39911693.57 -39911693.50 0.1767 0.1570

Mars -113985-08-09 21:50 J -39911376.68 -39911376.59 -39911376.49 0.1745 0.1106

Earth -113984-05-07 15:22 J -39911105.97 -39911105.86 -39911105.76 0.2768 0.0911

Moon -113984-05-07 15:50 J -39911105.94 -39911105.84 -39911105.74 0.2763 0.0997 *

Mars -113984-09-03 20:53 J -39910986.74 -39910986.63 -39910986.52 0.1787 0.1249

Venus -113983-05-20 19:55 J -39910727.72 -39910727.67 -39910727.61 0.3711 0.3375

Mars -113983-07-16 10:34 J -39910671.17 -39910671.06 -39910670.95 0.1727 0.0690

Pluto -113983-12-10 20:10 J -39910523.72 -39910523.66 -39910523.55 0.0060 0.0054

Pluto -113982-03-08 21:50 J -39910435.70 -39910435.59 -39910435.46 0.0060 0.0046

Pluto -113982-06-04 23:31 J -39910347.67 -39910347.52 -39910347.37 0.0060 0.0038

Jupiter -113982-07-03 00:14 J -39910319.62 -39910319.49 -39910319.35 0.0528 0.0118

Pluto -113982-09-01 00:29 J -39910259.63 -39910259.48 -39910259.30 0.0060 0.0031

Jupiter -113982-09-30 09:36 J -39910230.19 -39910230.10 -39910230.01 0.0529 0.0380

Pluto -113982-11-28 01:55 J -39910171.59 -39910171.42 -39910171.23 0.0060 0.0024

Pluto -113981-02-24 03:36 J -39910083.54 -39910083.35 -39910083.16 0.0060 0.0016

Pluto -113981-05-22 04:48 J -39909995.49 -39909995.30 -39909995.10 0.0060 0.0008

Pluto -113981-08-18 06:14 J -39909907.43 -39909907.24 -39909907.04 0.0060 0.0001

Earth -113981-10-30 12:00 J -39909834.15 -39909834.00 -39909833.86 0.2575 0.1034

Moon -113981-10-30 13:26 J -39909834.08 -39909833.94 -39909833.80 0.2572 0.1233 *

Pluto -113981-11-14 07:41 J -39909819.37 -39909819.18 -39909818.99 0.0060 0.0008

Pluto -113980-02-10 08:53 J -39909731.31 -39909731.13 -39909730.94 0.0060 0.0016

Pluto -113980-05-09 10:05 J -39909643.24 -39909643.08 -39909642.89 0.0061 0.0024

Pluto -113980-08-05 11:46 J -39909555.17 -39909555.01 -39909554.84 0.0061 0.0031

Pluto -113980-11-01 12:58 J -39909467.10 -39909466.96 -39909466.80 0.0061 0.0039

Pluto -113979-01-28 14:10 J -39909379.01 -39909378.91 -39909378.77 0.0061 0.0047

Pluto -113979-04-26 15:36 J -39909290.91 -39909290.85 -39909290.75 0.0061 0.0055

Saturn -113979-12-16 17:17 J -39909056.86 -39909056.78 -39909056.68 0.0279 0.0233

Saturn -113978-03-15 12:14 J -39908968.14 -39908967.99 -39908967.84 0.0278 0.0135

Saturn -113978-06-12 06:58 J -39908879.38 -39908879.21 -39908879.04 0.0277 0.0037

Saturn -113978-09-09 02:10 J -39908790.58 -39908790.41 -39908790.24 0.0276 0.0062

Saturn -113978-12-06 21:22 J -39908701.75 -39908701.61 -39908701.46 0.0275 0.0161

Saturn -113977-03-04 17:02 J -39908612.85 -39908612.79 -39908612.74 0.0274 0.0260

Earth -113977-04-30 12:43 J -39908556.06 -39908555.97 -39908555.88 0.2759 0.1671

Moon -113977-04-30 12:43 J -39908556.05 -39908555.97 -39908555.89 0.2766 0.1732 *

Jupiter -113976-05-19 12:58 J -39908172.14 -39908171.96 -39908171.79 0.0498 0.0037

Mars -113976-12-31 06:14 J -39907946.29 -39907946.24 -39907946.19 0.1750 0.1575

Uranus -113975-09-22 04:34 J -39907681.31 -39907681.31 -39907681.28 0.0131 0.0131

Uranus -113975-12-19 08:10 J -39907593.22 -39907593.16 -39907593.09 0.0131 0.0114

Mars -113974-01-24 20:24 J -39907556.80 -39907556.65 -39907556.50 0.1782 0.0517

Uranus -113974-03-17 11:31 J -39907505.11 -39907505.02 -39907504.92 0.0131 0.0098

Uranus -113974-06-13 14:53 J -39907416.98 -39907416.88 -39907416.77 0.0131 0.0083

Uranus -113974-09-09 18:00 J -39907328.86 -39907328.75 -39907328.62 0.0131 0.0068

Venus -113974-12-02 11:31 J -39907245.04 -39907245.02 -39907245.01 0.3650 0.3589

Mars -113974-12-06 19:41 J -39907240.80 -39907240.68 -39907240.56 0.1732 0.0272

Uranus -113974-12-06 21:36 J -39907240.73 -39907240.60 -39907240.47 0.0131 0.0051 *

Uranus -113973-03-04 00:43 J -39907152.60 -39907152.47 -39907152.33 0.0131 0.0036

Uranus -113973-05-31 04:05 J -39907064.47 -39907064.33 -39907064.19 0.0131 0.0020

Uranus -113973-08-27 07:26 J -39906976.33 -39906976.19 -39906976.05 0.0131 0.0006

Uranus -113973-11-23 10:34 J -39906888.20 -39906888.06 -39906887.92 0.0131 0.0011

Uranus -113972-02-19 13:41 J -39906800.06 -39906799.93 -39906799.79 0.0131 0.0026

Uranus -113972-05-18 17:02 J -39906711.92 -39906711.79 -39906711.66 0.0131 0.0041

Uranus -113972-08-14 20:10 J -39906623.78 -39906623.66 -39906623.54 0.0131 0.0056

Uranus -113972-11-10 23:17 J -39906535.64 -39906535.53 -39906535.41 0.0131 0.0071

Uranus -113971-02-07 02:24 J -39906447.50 -39906447.40 -39906447.30 0.0131 0.0086

Uranus -113971-05-06 05:31 J -39906359.35 -39906359.27 -39906359.18 0.0131 0.0101

Moon -113971-05-10 09:50 J -39906355.18 -39906355.09 -39906355.01 0.2764 0.1767

Earth -113971-05-10 09:36 J -39906355.18 -39906355.10 -39906355.02 0.2771 0.1821 *

Uranus -113971-08-02 08:38 J -39906271.20 -39906271.14 -39906271.08 0.0131 0.0116

Uranus -113971-10-29 11:46 J -39906183.01 -39906183.01 -39906183.01 0.0131 0.0131

Jupiter -113970-04-21 03:07 J -39906009.49 -39906009.37 -39906009.25 0.0528 0.0248

Jupiter -113970-07-19 12:43 J -39905920.09 -39905919.97 -39905919.86 0.0529 0.0253

Venus -113968-06-17 05:46 J -39905221.36 -39905221.26 -39905221.17 0.3655 0.1953

Neptune -113966-09-23 03:07 J -39904393.38 -39904393.37 -39904393.34 0.0089 0.0088

Neptune -113966-12-20 06:00 J -39904305.30 -39904305.25 -39904305.18 0.0089 0.0083

Neptune -113965-03-17 08:38 J -39904217.20 -39904217.14 -39904217.04 0.0089 0.0078

Neptune -113965-06-13 11:31 J -39904129.10 -39904129.02 -39904128.90 0.0089 0.0073

Mars -113965-06-15 20:38 J -39904126.79 -39904126.64 -39904126.48 0.1777 0.0194

Neptune -113965-09-09 14:38 J -39904041.00 -39904040.89 -39904040.77 0.0089 0.0067

Neptune -113965-12-06 17:17 J -39903952.89 -39903952.78 -39903952.64 0.0089 0.0062

Neptune -113964-03-04 20:10 J -39903864.78 -39903864.66 -39903864.51 0.0089 0.0057

Jupiter -113964-03-07 12:14 J -39903862.15 -39903861.99 -39903861.83 0.0498 0.0169

Mars -113964-04-28 04:34 J -39903810.43 -39903810.31 -39903810.19 0.1736 0.0167

Earth -113964-05-03 07:12 J -39903805.30 -39903805.20 -39903805.09 0.2762 0.0753

Moon -113964-05-03 07:41 J -39903805.28 -39903805.18 -39903805.07 0.2768 0.0677 *

Neptune -113964-05-31 23:02 J -39903776.67 -39903776.54 -39903776.38 0.0089 0.0052

Jupiter -113964-06-05 15:07 J -39903771.97 -39903771.87 -39903771.76 0.0497 0.0389

Neptune -113964-08-28 02:10 J -39903688.56 -39903688.41 -39903688.25 0.0089 0.0046

Neptune -113964-11-24 05:02 J -39903600.44 -39903600.29 -39903600.13 0.0089 0.0041

Neptune -113963-02-20 07:55 J -39903512.32 -39903512.17 -39903512.00 0.0089 0.0036

Neptune -113963-05-19 11:02 J -39903424.21 -39903424.04 -39903423.87 0.0089 0.0030

Neptune -113963-08-15 13:55 J -39903336.09 -39903335.92 -39903335.75 0.0089 0.0025

Neptune -113963-11-11 17:02 J -39903247.97 -39903247.79 -39903247.62 0.0089 0.0019

Venus -113963-12-31 23:46 J -39903197.63 -39903197.51 -39903197.40 0.3660 0.0371

Saturn -113962-01-01 01:12 J -39903197.51 -39903197.45 -39903197.39 0.0282 0.0250 *

Neptune -113962-02-07 19:55 J -39903159.85 -39903159.67 -39903159.49 0.0089 0.0014

Saturn -113962-03-30 14:53 J -39903109.00 -39903108.88 -39903108.76 0.0283 0.0163

Mars -113962-04-03 15:36 J -39903104.90 -39903104.85 -39903104.80 0.1719 0.1530

Neptune -113962-05-06 22:48 J -39903071.72 -39903071.55 -39903071.37 0.0089 0.0009

Saturn -113962-06-27 04:19 J -39903020.45 -39903020.32 -39903020.18 0.0284 0.0075

Neptune -113962-08-03 01:55 J -39902983.60 -39902983.42 -39902983.24 0.0089 0.0003

Saturn -113962-09-23 17:46 J -39902931.90 -39902931.76 -39902931.61 0.0286 0.0016

Neptune -113962-10-30 04:48 J -39902895.48 -39902895.30 -39902895.12 0.0089 0.0003

Saturn -113962-12-21 07:12 J -39902843.33 -39902843.20 -39902843.07 0.0287 0.0101

Neptune -113961-01-26 07:55 J -39902807.35 -39902807.17 -39902806.99 0.0089 0.0008

Saturn -113961-03-18 20:24 J -39902754.75 -39902754.65 -39902754.55 0.0288 0.0189

Neptune -113961-04-23 10:48 J -39902719.22 -39902719.05 -39902718.87 0.0089 0.0014

Saturn -113961-06-15 09:36 J -39902666.14 -39902666.10 -39902666.07 0.0289 0.0276

Neptune -113961-07-20 13:55 J -39902631.09 -39902630.92 -39902630.74 0.0089 0.0019

Neptune -113961-10-16 16:48 J -39902542.96 -39902542.80 -39902542.62 0.0089 0.0025

Earth -113961-10-25 06:29 J -39902534.34 -39902534.23 -39902534.11 0.2581 0.1716

Moon -113961-10-25 07:26 J -39902534.30 -39902534.19 -39902534.07 0.2586 0.1725 *

Neptune -113960-01-12 19:55 J -39902454.83 -39902454.67 -39902454.49 0.0089 0.0030

Neptune -113960-04-10 22:48 J -39902366.70 -39902366.55 -39902366.37 0.0089 0.0036

Neptune -113960-07-08 02:10 J -39902278.57 -39902278.41 -39902278.25 0.0089 0.0041

Neptune -113960-10-04 05:02 J -39902190.43 -39902190.29 -39902190.12 0.0089 0.0047

Neptune -113960-12-31 07:55 J -39902102.30 -39902102.17 -39902102.00 0.0089 0.0053

Neptune -113959-03-29 11:17 J -39902014.16 -39902014.03 -39902013.88 0.0089 0.0058

Neptune -113959-06-25 14:24 J -39901926.02 -39901925.90 -39901925.76 0.0089 0.0064

Neptune -113959-09-21 17:46 J -39901837.87 -39901837.76 -39901837.65 0.0089 0.0069

Neptune -113959-12-18 20:38 J -39901749.72 -39901749.64 -39901749.53 0.0089 0.0075

Jupiter -113958-02-07 06:29 J -39901699.33 -39901699.23 -39901699.14 0.0528 0.0372

Neptune -113958-03-16 23:46 J -39901661.57 -39901661.51 -39901661.42 0.0089 0.0081

Jupiter -113958-05-07 16:05 J -39901609.95 -39901609.83 -39901609.70 0.0529 0.0133

Moon -113958-05-13 03:50 J -39901604.35 -39901604.34 -39901604.34 0.2766 0.2758

Earth -113958-05-13 04:05 J -39901604.35 -39901604.33 -39901604.32 0.2773 0.2731 *

Neptune -113958-06-13 02:38 J -39901573.40 -39901573.39 -39901573.32 0.0089 0.0087

Venus -113957-07-16 17:31 J -39901173.87 -39901173.77 -39901173.66 0.3666 0.1215

Mars -113956-11-05 21:36 J -39900696.74 -39900696.60 -39900696.47 0.1772 0.0867

Mars -113955-09-18 13:26 J -39900380.05 -39900379.94 -39900379.82 0.1741 0.0601

Mars -113953-08-24 01:12 J -39899674.54 -39899674.45 -39899674.36 0.1723 0.1139

Jupiter -113953-12-24 11:02 J -39899552.18 -39899552.04 -39899551.91 0.0498 0.0308

Jupiter -113952-03-24 13:12 J -39899462.10 -39899461.95 -39899461.79 0.0497 0.0244

Venus -113951-01-30 11:17 J -39899150.10 -39899150.03 -39899149.96 0.3671 0.2740

Earth -113951-05-06 01:41 J -39899054.54 -39899054.43 -39899054.32 0.2765 0.0167

Moon -113951-05-06 02:24 J -39899054.51 -39899054.40 -39899054.29 0.2766 0.0232 *

Saturn -113949-05-04 17:17 J -39898324.83 -39898324.78 -39898324.71 0.0280 0.0262

Saturn -113949-08-01 12:00 J -39898236.13 -39898236.00 -39898235.86 0.0279 0.0164

Saturn -113949-10-29 06:58 J -39898147.38 -39898147.21 -39898147.04 0.0278 0.0066

Saturn -113948-01-26 01:55 J -39898058.59 -39898058.42 -39898058.25 0.0277 0.0034

Saturn -113948-04-24 21:07 J -39897969.77 -39897969.62 -39897969.46 0.0276 0.0133

Saturn -113948-07-22 16:34 J -39897880.90 -39897880.81 -39897880.71 0.0275 0.0232

Earth -113948-10-28 12:29 J -39897783.14 -39897782.98 -39897782.82 0.2577 0.0201

Moon -113948-10-28 13:55 J -39897783.08 -39897782.92 -39897782.76 0.2580 0.0016 *

Jupiter -113947-11-26 09:36 J -39897389.14 -39897389.10 -39897389.05 0.0528 0.0496

Jupiter -113946-02-23 19:55 J -39897299.81 -39897299.67 -39897299.54 0.0529 0.0019

Mars -113946-03-28 22:48 J -39897266.63 -39897266.55 -39897266.47 0.1767 0.1508

Jupiter -113946-05-24 04:48 J -39897210.33 -39897210.30 -39897210.26 0.0530 0.0507

Mars -113945-02-08 22:05 J -39896949.68 -39896949.58 -39896949.49 0.1745 0.1058

Mars -113944-03-04 21:07 J -39896559.72 -39896559.62 -39896559.51 0.1787 0.1309

Moon -113944-04-28 22:34 J -39896504.60 -39896504.56 -39896504.52 0.2761 0.2549

Earth -113944-04-28 23:02 J -39896504.59 -39896504.54 -39896504.49 0.2756 0.2417 *

Mars -113943-01-14 10:34 J -39896244.17 -39896244.06 -39896243.95 0.1727 0.0735

Jupiter -113941-10-12 10:34 J -39895242.13 -39895242.06 -39895241.98 0.0498 0.0437

Jupiter -113940-01-10 12:29 J -39895152.15 -39895151.98 -39895151.81 0.0497 0.0108

Earth -113938-05-08 20:10 J -39894303.76 -39894303.66 -39894303.56 0.2768 0.1084

Moon -113938-05-08 20:53 J -39894303.73 -39894303.63 -39894303.53 0.2766 0.1091 *

Venus -113938-11-25 17:02 J -39894102.91 -39894102.79 -39894102.66 0.3722 0.1272

Mars -113936-07-01 06:29 J -39893519.29 -39893519.23 -39893519.17 0.1750 0.1522

Mars -113935-07-25 21:07 J -39893129.77 -39893129.62 -39893129.47 0.1782 0.0584

Earth -113935-10-31 18:29 J -39893031.86 -39893031.73 -39893031.59 0.2574 0.1335

Moon -113935-10-31 20:24 J -39893031.79 -39893031.65 -39893031.52 0.2573 0.1378 *

Jupiter -113935-12-12 23:31 J -39892989.65 -39892989.52 -39892989.39 0.0529 0.0106

Jupiter -113934-03-12 08:38 J -39892900.22 -39892900.14 -39892900.05 0.0529 0.0392

Mars -113934-06-06 19:41 J -39892813.80 -39892813.68 -39892813.56 0.1732 0.0314

Saturn -113933-08-16 15:22 J -39892376.96 -39892376.86 -39892376.76 0.0282 0.0196

Saturn -113933-11-13 04:48 J -39892288.43 -39892288.30 -39892288.17 0.0283 0.0109

Saturn -113932-02-09 18:14 J -39892199.88 -39892199.74 -39892199.60 0.0285 0.0022

Saturn -113932-05-09 07:41 J -39892111.32 -39892111.18 -39892111.04 0.0286 0.0066

Venus -113932-06-10 18:14 J -39892078.86 -39892078.74 -39892078.61 0.3716 0.1483

Saturn -113932-08-05 20:53 J -39892022.75 -39892022.63 -39892022.51 0.0287 0.0154

Saturn -113932-11-02 09:50 J -39891934.16 -39891934.09 -39891934.01 0.0288 0.0242

Moon -113931-05-01 17:31 J -39891753.86 -39891753.77 -39891753.68 0.2766 0.1453

Earth -113931-05-01 17:31 J -39891753.86 -39891753.77 -39891753.67 0.2759 0.1500 *

Uranus -113931-08-28 16:05 J -39891634.93 -39891634.83 -39891634.73 0.0148 0.0122

Uranus -113931-11-24 23:31 J -39891546.65 -39891546.52 -39891546.38 0.0148 0.0094

Uranus -113930-02-21 07:12 J -39891458.36 -39891458.20 -39891458.04 0.0148 0.0066

Uranus -113930-05-20 14:53 J -39891370.05 -39891369.88 -39891369.70 0.0148 0.0037

Uranus -113930-08-16 22:48 J -39891281.73 -39891281.55 -39891281.37 0.0148 0.0009

Uranus -113930-11-13 06:29 J -39891193.41 -39891193.23 -39891193.05 0.0148 0.0021

Uranus -113929-02-09 14:24 J -39891105.07 -39891104.90 -39891104.73 0.0148 0.0050

Uranus -113929-05-07 22:19 J -39891016.72 -39891016.57 -39891016.41 0.0148 0.0079

Uranus -113929-08-04 06:14 J -39890928.35 -39890928.24 -39890928.11 0.0148 0.0109

Jupiter -113929-10-29 11:31 J -39890842.19 -39890842.02 -39890841.84 0.0497 0.0028

Uranus -113929-10-31 14:10 J -39890839.96 -39890839.91 -39890839.83 0.0148 0.0139

Mars -113926-12-15 21:22 J -39889699.76 -39889699.61 -39889699.45 0.1777 0.0119

Earth -113925-05-10 14:38 J -39889552.97 -39889552.89 -39889552.82 0.2771 0.1998

Moon -113925-05-10 14:38 J -39889552.96 -39889552.89 -39889552.81 0.2764 0.2072 *

Mars -113925-10-27 04:34 J -39889383.43 -39889383.31 -39889383.18 0.1736 0.0133

Jupiter -113923-10-01 02:53 J -39888679.51 -39888679.38 -39888679.26 0.0528 0.0230

Mars -113923-10-02 15:36 J -39888677.89 -39888677.85 -39888677.80 0.1719 0.1577

Jupiter -113923-12-29 12:14 J -39888590.10 -39888589.99 -39888589.87 0.0529 0.0271

Saturn -113920-12-19 10:05 J -39887504.19 -39887504.08 -39887503.96 0.0279 0.0204

Saturn -113919-03-18 04:48 J -39887415.45 -39887415.30 -39887415.14 0.0278 0.0106

Saturn -113919-06-14 23:46 J -39887326.68 -39887326.51 -39887326.33 0.0277 0.0009

Saturn -113919-09-11 18:58 J -39887237.87 -39887237.71 -39887237.54 0.0276 0.0093

Saturn -113919-12-09 14:24 J -39887149.02 -39887148.90 -39887148.77 0.0275 0.0192

Earth -113918-05-04 12:00 J -39887003.10 -39887003.00 -39887002.89 0.2762 0.0585

Moon -113918-05-04 12:29 J -39887003.09 -39887002.98 -39887002.88 0.2769 0.0576 *

Venus -113917-07-08 09:36 J -39886572.16 -39886572.10 -39886572.04 0.3651 0.2983

Jupiter -113917-08-17 11:02 J -39886532.20 -39886532.04 -39886531.88 0.0498 0.0160

Jupiter -113917-11-15 13:55 J -39886442.02 -39886441.92 -39886441.81 0.0497 0.0398

Mars -113916-05-06 22:05 J -39886269.72 -39886269.58 -39886269.44 0.1772 0.0798

Mars -113915-03-19 13:26 J -39885953.06 -39885952.94 -39885952.82 0.1741 0.0558

Earth -113915-10-26 12:58 J -39885732.09 -39885731.96 -39885731.83 0.2580 0.1430

Moon -113915-10-26 13:26 J -39885732.07 -39885731.94 -39885731.80 0.2587 0.1319 *

Mars -113913-02-23 01:12 J -39885247.54 -39885247.45 -39885247.36 0.1723 0.1182

Venus -113911-01-22 03:50 J -39884548.45 -39884548.34 -39884548.24 0.3656 0.1369

Jupiter -113911-07-20 05:31 J -39884369.36 -39884369.27 -39884369.17 0.0528 0.0360

Jupiter -113911-10-17 15:22 J -39884279.99 -39884279.86 -39884279.73 0.0529 0.0144

Mars -113907-09-26 23:17 J -39882839.61 -39882839.53 -39882839.44 0.1767 0.1445

Venus -113906-08-07 21:50 J -39882524.71 -39882524.59 -39882524.48 0.3662 0.0247

Mars -113906-08-09 22:05 J -39882522.68 -39882522.58 -39882522.48 0.1745 0.1009

Earth -113905-05-06 06:43 J -39882252.33 -39882252.22 -39882252.12 0.2766 0.0365

Moon -113905-05-06 07:26 J -39882252.30 -39882252.19 -39882252.09 0.2768 0.0422 *

Jupiter -113905-06-05 10:34 J -39882222.20 -39882222.06 -39882221.92 0.0498 0.0290

Mars -113905-09-02 21:50 J -39882132.69 -39882132.59 -39882132.49 0.1787 0.1384

Jupiter -113905-09-03 12:58 J -39882132.10 -39882131.96 -39882131.81 0.0497 0.0263

Mars -113904-07-15 10:34 J -39881817.17 -39881817.06 -39881816.95 0.1727 0.0776

Saturn -113903-01-03 16:05 J -39881644.91 -39881644.83 -39881644.74 0.0282 0.0226

Saturn -113903-04-02 05:46 J -39881556.38 -39881556.26 -39881556.13 0.0283 0.0139

Saturn -113903-06-29 19:12 J -39881467.83 -39881467.70 -39881467.56 0.0284 0.0052

Saturn -113903-09-26 08:38 J -39881379.28 -39881379.14 -39881379.00 0.0285 0.0036

Saturn -113903-12-23 21:50 J -39881290.71 -39881290.59 -39881290.46 0.0287 0.0124

Saturn -113902-03-22 11:02 J -39881202.13 -39881202.04 -39881201.94 0.0288 0.0211

Earth -113902-10-29 18:58 J -39880980.86 -39880980.71 -39880980.55 0.2577 0.0124

Moon -113902-10-29 20:24 J -39880980.80 -39880980.65 -39880980.49 0.2580 0.0123 *

Venus -113900-02-20 15:36 J -39880500.95 -39880500.85 -39880500.75 0.3667 0.1777

Jupiter -113899-05-08 08:53 J -39880059.18 -39880059.13 -39880059.08 0.0528 0.0485

Jupiter -113899-08-05 18:58 J -39879969.85 -39879969.71 -39879969.58 0.0529 0.0026

Jupiter -113899-11-03 03:50 J -39879880.36 -39879880.34 -39879880.31 0.0529 0.0515

Moon -113898-04-30 03:22 J -39879702.42 -39879702.36 -39879702.30 0.2759 0.2236

Earth -113898-04-30 04:05 J -39879702.40 -39879702.33 -39879702.27 0.2756 0.2242 *

Mars -113897-12-30 06:29 J -39879092.29 -39879092.23 -39879092.16 0.1750 0.1472

Mars -113895-01-23 21:36 J -39878702.75 -39878702.60 -39878702.46 0.1782 0.0647

Venus -113895-09-06 09:22 J -39878477.16 -39878477.11 -39878477.06 0.3672 0.3294

Mars -113895-12-05 19:41 J -39878386.80 -39878386.68 -39878386.56 0.1732 0.0363

Jupiter -113893-03-24 09:36 J -39877912.18 -39877912.10 -39877912.01 0.0498 0.0425

Jupiter -113893-06-22 11:31 J -39877822.19 -39877822.02 -39877821.85 0.0497 0.0120

Earth -113892-05-09 00:58 J -39877501.55 -39877501.46 -39877501.36 0.2769 0.1264

Moon -113892-05-09 01:41 J -39877501.52 -39877501.43 -39877501.33 0.2767 0.1374 *

Uranus -113891-10-12 12:00 J -39876980.03 -39876980.00 -39876979.96 0.0132 0.0126

Uranus -113890-01-08 15:07 J -39876891.93 -39876891.87 -39876891.78 0.0131 0.0111

Uranus -113890-04-06 18:43 J -39876803.81 -39876803.72 -39876803.62 0.0131 0.0094

Saturn -113890-05-08 09:36 J -39876772.19 -39876772.10 -39876772.01 0.0280 0.0235

Uranus -113890-07-03 22:05 J -39876715.69 -39876715.58 -39876715.46 0.0131 0.0078

Saturn -113890-08-05 04:19 J -39876683.47 -39876683.32 -39876683.17 0.0279 0.0137

Uranus -113890-09-30 01:26 J -39876627.56 -39876627.44 -39876627.31 0.0131 0.0062

Saturn -113890-11-01 23:17 J -39876594.70 -39876594.53 -39876594.36 0.0278 0.0039

Uranus -113890-12-27 04:34 J -39876539.43 -39876539.31 -39876539.17 0.0131 0.0048

Saturn -113889-01-29 18:14 J -39876505.90 -39876505.74 -39876505.57 0.0277 0.0061

Uranus -113889-03-24 07:55 J -39876451.30 -39876451.17 -39876451.03 0.0131 0.0032

Saturn -113889-04-27 13:41 J -39876417.07 -39876416.93 -39876416.79 0.0276 0.0160

Uranus -113889-06-20 11:17 J -39876363.17 -39876363.03 -39876362.89 0.0131 0.0016

Saturn -113889-07-25 09:07 J -39876328.17 -39876328.12 -39876328.06 0.0275 0.0260

Uranus -113889-09-16 14:38 J -39876275.03 -39876274.89 -39876274.75 0.0131 0.0002

Pluto -113889-09-27 20:38 J -39876263.70 -39876263.64 -39876263.56 0.0084 0.0071

Earth -113889-11-01 01:12 J -39876229.57 -39876229.45 -39876229.33 0.2574 0.1638

Moon -113889-11-01 02:53 J -39876229.49 -39876229.38 -39876229.27 0.2575 0.1824 *

Uranus -113889-12-13 17:46 J -39876186.90 -39876186.76 -39876186.62 0.0131 0.0015

Pluto -113889-12-24 22:05 J -39876175.67 -39876175.58 -39876175.48 0.0084 0.0056

Uranus -113888-03-11 20:53 J -39876098.76 -39876098.63 -39876098.49 0.0131 0.0031

Pluto -113888-03-22 23:31 J -39876087.64 -39876087.52 -39876087.40 0.0084 0.0041

Uranus -113888-06-08 00:00 J -39876010.62 -39876010.50 -39876010.36 0.0131 0.0046

Pluto -113888-06-19 00:43 J -39875999.59 -39875999.47 -39875999.34 0.0084 0.0027

Uranus -113888-09-04 03:22 J -39875922.48 -39875922.36 -39875922.24 0.0131 0.0061

Pluto -113888-09-15 02:10 J -39875911.55 -39875911.41 -39875911.28 0.0084 0.0012

Uranus -113888-12-01 06:29 J -39875834.34 -39875834.23 -39875834.12 0.0131 0.0076

Pluto -113888-12-12 03:22 J -39875823.49 -39875823.36 -39875823.23 0.0084 0.0003

Uranus -113887-02-27 09:36 J -39875746.19 -39875746.10 -39875746.00 0.0131 0.0091

Pluto -113887-03-10 04:34 J -39875735.44 -39875735.31 -39875735.18 0.0084 0.0017

Jupiter -113887-05-24 22:19 J -39875659.70 -39875659.57 -39875659.44 0.0529 0.0098

Uranus -113887-05-26 12:29 J -39875658.04 -39875657.98 -39875657.89 0.0131 0.0106

Pluto -113887-06-06 05:46 J -39875647.38 -39875647.26 -39875647.13 0.0083 0.0032

Jupiter -113887-08-22 07:41 J -39875570.27 -39875570.18 -39875570.10 0.0530 0.0400

Uranus -113887-08-22 15:50 J -39875569.89 -39875569.84 -39875569.78 0.0131 0.0120

Pluto -113887-09-02 07:12 J -39875559.31 -39875559.20 -39875559.09 0.0083 0.0046

Pluto -113887-11-29 08:10 J -39875471.24 -39875471.16 -39875471.06 0.0083 0.0060

Venus -113887-12-16 16:05 J -39875453.91 -39875453.83 -39875453.75 0.3727 0.3014

Pluto -113886-02-25 09:36 J -39875383.15 -39875383.10 -39875383.04 0.0083 0.0074

Mars -113886-06-15 21:50 J -39875272.75 -39875272.59 -39875272.44 0.1777 0.0071

Mars -113885-04-27 04:48 J -39874956.42 -39874956.30 -39874956.18 0.1736 0.0068

Moon -113885-05-01 22:19 J -39874951.66 -39874951.57 -39874951.48 0.2767 0.1402

Earth -113885-05-01 22:34 J -39874951.66 -39874951.56 -39874951.47 0.2760 0.1319 *

Neptune -113885-10-17 19:55 J -39874782.67 -39874782.67 -39874782.65 0.0088 0.0088

Neptune -113884-01-13 21:50 J -39874694.63 -39874694.59 -39874694.54 0.0088 0.0084

Neptune -113884-04-11 23:17 J -39874606.58 -39874606.53 -39874606.45 0.0088 0.0080

Neptune -113884-07-09 01:26 J -39874518.52 -39874518.44 -39874518.37 0.0088 0.0075

Neptune -113884-10-05 02:53 J -39874430.46 -39874430.38 -39874430.29 0.0088 0.0071

Neptune -113883-01-01 04:34 J -39874342.40 -39874342.31 -39874342.21 0.0088 0.0066

Neptune -113883-03-30 06:14 J -39874254.33 -39874254.24 -39874254.13 0.0088 0.0062

Mars -113883-04-02 15:50 J -39874250.88 -39874250.84 -39874250.80 0.1719 0.1619

Neptune -113883-06-26 07:55 J -39874166.27 -39874166.17 -39874166.05 0.0088 0.0057

Neptune -113883-09-22 09:50 J -39874078.20 -39874078.09 -39874077.98 0.0088 0.0053

Neptune -113883-12-19 11:17 J -39873990.14 -39873990.03 -39873989.90 0.0088 0.0049

Neptune -113882-03-17 12:58 J -39873902.08 -39873901.96 -39873901.83 0.0088 0.0044

Neptune -113882-06-13 14:53 J -39873814.01 -39873813.88 -39873813.75 0.0088 0.0040

Neptune -113882-09-09 16:19 J -39873725.94 -39873725.82 -39873725.68 0.0088 0.0036

Neptune -113882-12-06 18:00 J -39873637.88 -39873637.75 -39873637.61 0.0088 0.0031

Neptune -113881-03-03 19:41 J -39873549.81 -39873549.68 -39873549.54 0.0088 0.0027

Jupiter -113881-04-10 10:48 J -39873512.22 -39873512.05 -39873511.87 0.0497 0.0015

Neptune -113881-05-30 21:22 J -39873461.75 -39873461.61 -39873461.47 0.0088 0.0022

Venus -113881-07-01 17:02 J -39873429.93 -39873429.79 -39873429.66 0.3720 0.0370

Neptune -113881-08-26 22:48 J -39873373.68 -39873373.55 -39873373.40 0.0088 0.0019

Neptune -113881-11-23 00:29 J -39873285.61 -39873285.48 -39873285.33 0.0088 0.0014

Neptune -113880-02-19 02:10 J -39873197.55 -39873197.41 -39873197.27 0.0088 0.0010

Neptune -113880-05-18 03:50 J -39873109.48 -39873109.34 -39873109.20 0.0088 0.0005

Neptune -113880-08-14 05:31 J -39873021.42 -39873021.27 -39873021.13 0.0088 0.0002

Neptune -113880-11-10 06:58 J -39872933.35 -39872933.21 -39872933.07 0.0088 0.0004

Neptune -113879-02-06 08:38 J -39872845.28 -39872845.14 -39872845.00 0.0088 0.0008

Neptune -113879-05-05 10:05 J -39872757.22 -39872757.08 -39872756.94 0.0088 0.0012

Earth -113879-05-11 19:26 J -39872750.76 -39872750.69 -39872750.63 0.2772 0.2178

Moon -113879-05-11 19:55 J -39872750.74 -39872750.67 -39872750.61 0.2765 0.2138 *

Neptune -113879-08-01 11:46 J -39872669.15 -39872669.01 -39872668.87 0.0088 0.0016

Neptune -113879-10-28 13:12 J -39872581.08 -39872580.95 -39872580.81 0.0088 0.0021

Neptune -113878-01-24 14:53 J -39872493.01 -39872492.88 -39872492.74 0.0088 0.0024

Neptune -113878-04-22 16:19 J -39872404.95 -39872404.82 -39872404.68 0.0088 0.0029

Neptune -113878-07-19 18:00 J -39872316.88 -39872316.75 -39872316.62 0.0088 0.0033

Neptune -113878-10-15 19:26 J -39872228.81 -39872228.69 -39872228.56 0.0088 0.0037

Neptune -113877-01-11 20:53 J -39872140.74 -39872140.63 -39872140.50 0.0088 0.0042

Neptune -113877-04-08 22:34 J -39872052.67 -39872052.56 -39872052.44 0.0088 0.0045

Neptune -113877-07-06 00:00 J -39871964.61 -39871964.50 -39871964.38 0.0088 0.0050

Neptune -113877-10-02 01:41 J -39871876.54 -39871876.43 -39871876.32 0.0088 0.0053

Mars -113877-11-04 22:48 J -39871842.69 -39871842.55 -39871842.41 0.1772 0.0727

Neptune -113877-12-29 03:07 J -39871788.47 -39871788.37 -39871788.26 0.0088 0.0058

Neptune -113876-03-27 04:48 J -39871700.40 -39871700.30 -39871700.20 0.0088 0.0062

Neptune -113876-06-23 06:14 J -39871612.33 -39871612.24 -39871612.14 0.0088 0.0066

Mars -113876-09-17 13:41 J -39871526.05 -39871525.93 -39871525.82 0.1741 0.0510

Neptune -113876-09-19 07:55 J -39871524.26 -39871524.17 -39871524.09 0.0088 0.0070

Neptune -113876-12-16 09:07 J -39871436.18 -39871436.12 -39871436.04 0.0088 0.0074

Venus -113875-01-15 18:29 J -39871405.83 -39871405.73 -39871405.63 0.3714 0.2453

Jupiter -113875-03-13 01:55 J -39871349.54 -39871349.42 -39871349.30 0.0529 0.0217

Neptune -113875-03-14 10:34 J -39871348.11 -39871348.06 -39871347.98 0.0088 0.0078

Jupiter -113875-06-10 11:31 J -39871260.13 -39871260.02 -39871259.91 0.0529 0.0284

Neptune -113875-06-10 12:00 J -39871260.03 -39871260.00 -39871259.94 0.0088 0.0082 *

Neptune -113875-09-06 13:26 J -39871171.95 -39871171.94 -39871171.89 0.0088 0.0087

Saturn -113874-05-23 16:34 J -39870912.86 -39870912.81 -39870912.76 0.0281 0.0260

Saturn -113874-08-20 06:14 J -39870824.36 -39870824.24 -39870824.13 0.0282 0.0173

Mars -113874-08-24 01:12 J -39870820.53 -39870820.45 -39870820.36 0.1723 0.1228

Saturn -113874-11-16 19:41 J -39870735.82 -39870735.68 -39870735.55 0.0283 0.0086

Saturn -113873-02-13 09:07 J -39870647.26 -39870647.12 -39870646.98 0.0284 0.0005

Saturn -113873-05-11 22:19 J -39870558.70 -39870558.57 -39870558.44 0.0286 0.0088

Saturn -113873-08-08 11:31 J -39870470.13 -39870470.02 -39870469.91 0.0287 0.0175

Saturn -113873-11-05 00:29 J -39870381.53 -39870381.48 -39870381.42 0.0288 0.0262

Earth -113872-05-04 17:02 J -39870200.90 -39870200.79 -39870200.68 0.2763 0.0398

Moon -113872-05-04 17:17 J -39870200.89 -39870200.78 -39870200.68 0.2770 0.0368 *

Jupiter -113869-01-28 10:05 J -39869202.25 -39869202.08 -39869201.92 0.0497 0.0148

Jupiter -113869-04-27 12:43 J -39869112.06 -39869111.97 -39869111.87 0.0497 0.0409

Moon -113869-10-26 19:41 J -39868929.82 -39868929.68 -39868929.54 0.2586 0.1213

Earth -113869-10-26 19:41 J -39868929.82 -39868929.68 -39868929.54 0.2580 0.1131 *

Mars -113867-03-27 23:46 J -39868412.60 -39868412.51 -39868412.42 0.1767 0.1383

Mars -113866-02-07 22:05 J -39868095.68 -39868095.58 -39868095.47 0.1745 0.0963

Mars -113865-03-03 22:34 J -39867705.65 -39867705.56 -39867705.47 0.1787 0.1453

Mars -113864-01-13 10:34 J -39867390.16 -39867390.06 -39867389.95 0.1727 0.0821

Jupiter -113864-12-30 05:17 J -39867039.38 -39867039.28 -39867039.18 0.0528 0.0340

Jupiter -113863-03-29 15:07 J -39866950.00 -39866949.87 -39866949.75 0.0529 0.0164

Saturn -113861-09-24 07:12 J -39866040.22 -39866040.20 -39866040.17 0.0280 0.0277

Saturn -113861-12-22 01:41 J -39865951.55 -39865951.43 -39865951.29 0.0279 0.0179

Venus -113860-02-12 07:41 J -39865899.26 -39865899.18 -39865899.09 0.3653 0.2382

Saturn -113860-03-20 20:38 J -39865862.80 -39865862.64 -39865862.47 0.0278 0.0081

Saturn -113860-06-17 15:50 J -39865774.01 -39865773.84 -39865773.67 0.0277 0.0019

Saturn -113860-09-14 11:02 J -39865685.20 -39865685.04 -39865684.88 0.0276 0.0118

Saturn -113860-12-12 06:29 J -39865596.33 -39865596.23 -39865596.12 0.0275 0.0218

Earth -113859-05-07 11:31 J -39865450.13 -39865450.02 -39865449.91 0.2766 0.0524

Moon -113859-05-07 12:14 J -39865450.10 -39865449.99 -39865449.89 0.2770 0.0609 *

Jupiter -113858-11-16 09:36 J -39864892.24 -39864892.10 -39864891.96 0.0498 0.0279

Jupiter -113857-02-14 12:00 J -39864802.15 -39864802.00 -39864801.86 0.0497 0.0274

Mars -113857-06-30 06:29 J -39864665.30 -39864665.23 -39864665.15 0.1750 0.1426

Mars -113856-07-24 22:05 J -39864275.72 -39864275.58 -39864275.44 0.1782 0.0717

Earth -113856-10-30 01:41 J -39864178.59 -39864178.43 -39864178.28 0.2576 0.0400

Moon -113856-10-30 02:53 J -39864178.54 -39864178.38 -39864178.23 0.2581 0.0586 *

Mars -113855-06-05 19:55 J -39863959.79 -39863959.67 -39863959.56 0.1732 0.0410

Venus -113855-08-29 01:55 J -39863875.53 -39863875.42 -39863875.31 0.3658 0.0778

Moon -113852-04-30 08:10 J -39862900.22 -39862900.16 -39862900.09 0.2758 0.2193

Earth -113852-04-30 08:53 J -39862900.20 -39862900.13 -39862900.06 0.2757 0.2063 *

Jupiter -113852-10-18 08:10 J -39862729.22 -39862729.16 -39862729.10 0.0527 0.0470

Jupiter -113851-01-15 18:14 J -39862639.88 -39862639.74 -39862639.61 0.0528 0.0039

Jupiter -113851-04-15 03:07 J -39862550.37 -39862550.37 -39862550.37 0.0529 0.0528

Venus -113849-03-13 19:55 J -39861851.78 -39861851.67 -39861851.56 0.3663 0.0801

Uranus -113847-06-21 16:19 J -39861021.86 -39861021.82 -39861021.77 0.0148 0.0141

Uranus -113847-09-17 23:46 J -39860933.61 -39860933.51 -39860933.39 0.0148 0.0113

Mars -113847-12-14 22:34 J -39860845.72 -39860845.56 -39860845.41 0.1777 0.0033

Uranus -113847-12-15 07:12 J -39860845.33 -39860845.20 -39860845.04 0.0148 0.0086

Uranus -113846-03-13 15:07 J -39860757.03 -39860756.87 -39860756.70 0.0148 0.0057

Earth -113846-05-10 06:00 J -39860699.35 -39860699.25 -39860699.16 0.2769 0.1445

Moon -113846-05-10 06:43 J -39860699.32 -39860699.22 -39860699.13 0.2768 0.1458 *

Uranus -113846-06-09 22:48 J -39860668.72 -39860668.55 -39860668.37 0.0148 0.0029

Jupiter -113846-09-04 09:07 J -39860582.21 -39860582.12 -39860582.02 0.0498 0.0408

Uranus -113846-09-06 06:43 J -39860580.40 -39860580.22 -39860580.04 0.0148 0.0001

Mars -113846-10-27 04:48 J -39860529.42 -39860529.30 -39860529.18 0.1736 0.0025

Jupiter -113846-12-03 11:17 J -39860492.20 -39860492.03 -39860491.87 0.0497 0.0140

Uranus -113846-12-03 14:24 J -39860492.07 -39860491.90 -39860491.72 0.0148 0.0030 *

Uranus -113845-02-29 22:19 J -39860403.73 -39860403.57 -39860403.40 0.0148 0.0059

Uranus -113845-05-28 06:29 J -39860315.38 -39860315.23 -39860315.09 0.0148 0.0088

Uranus -113845-08-24 14:10 J -39860227.01 -39860226.91 -39860226.79 0.0148 0.0118

Uranus -113845-11-20 22:19 J -39860138.57 -39860138.57 -39860138.56 0.0148 0.0148

Saturn -113844-01-06 06:58 J -39860092.31 -39860092.21 -39860092.11 0.0282 0.0204

Saturn -113844-04-04 20:24 J -39860003.78 -39860003.65 -39860003.52 0.0283 0.0117

Saturn -113844-07-02 09:50 J -39859915.23 -39859915.09 -39859914.95 0.0284 0.0031

Venus -113844-09-27 13:41 J -39859828.01 -39859827.93 -39859827.84 0.3668 0.2341

Saturn -113844-09-28 23:17 J -39859826.67 -39859826.53 -39859826.39 0.0285 0.0058

Mars -113844-10-01 15:50 J -39859823.87 -39859823.84 -39859823.81 0.1719 0.1660

Saturn -113844-12-26 12:29 J -39859738.10 -39859737.98 -39859737.86 0.0287 0.0145

Saturn -113843-03-25 01:26 J -39859649.51 -39859649.44 -39859649.35 0.0288 0.0232

Earth -113843-11-02 07:41 J -39859427.28 -39859427.18 -39859427.07 0.2573 0.1937

Moon -113843-11-02 09:22 J -39859427.21 -39859427.11 -39859427.01 0.2575 0.1988 *

Jupiter -113840-11-03 21:36 J -39858329.73 -39858329.60 -39858329.47 0.0528 0.0086

Jupiter -113839-02-01 06:43 J -39858240.30 -39858240.22 -39858240.13 0.0529 0.0411

Moon -113839-05-03 02:53 J -39858149.47 -39858149.38 -39858149.28 0.2766 0.1132

Earth -113839-05-03 03:22 J -39858149.46 -39858149.36 -39858149.26 0.2760 0.1142 *

Mars -113837-05-05 22:48 J -39857415.69 -39857415.55 -39857415.40 0.1772 0.0676

Mars -113836-03-18 13:41 J -39857099.05 -39857098.93 -39857098.81 0.1741 0.0460

Moon -113836-10-24 19:12 J -39856878.74 -39856878.70 -39856878.65 0.2588 0.2462

Earth -113836-10-24 20:10 J -39856878.72 -39856878.66 -39856878.59 0.2583 0.2356 *

Mars -113834-02-22 01:12 J -39856393.53 -39856393.45 -39856393.37 0.1723 0.1268

Jupiter -113834-09-21 10:05 J -39856182.26 -39856182.08 -39856181.91 0.0497 0.0010

Earth -113833-05-12 00:14 J -39855948.54 -39855948.49 -39855948.43 0.2772 0.2357

Moon -113833-05-12 00:58 J -39855948.51 -39855948.46 -39855948.42 0.2767 0.2469 *

Saturn -113831-05-11 00:58 J -39855219.56 -39855219.46 -39855219.34 0.0280 0.0212

Saturn -113831-08-07 19:55 J -39855130.82 -39855130.67 -39855130.51 0.0279 0.0113

Saturn -113831-11-04 15:07 J -39855042.05 -39855041.87 -39855041.70 0.0278 0.0015

Saturn -113830-02-01 10:19 J -39854953.24 -39854953.07 -39854952.91 0.0277 0.0086

Saturn -113830-05-01 05:31 J -39854864.39 -39854864.27 -39854864.14 0.0276 0.0186

Venus -113830-07-23 15:50 J -39854780.95 -39854780.84 -39854780.73 0.3725 0.2102

Jupiter -113828-08-23 00:43 J -39854019.59 -39854019.47 -39854019.34 0.0529 0.0210

Mars -113828-09-26 00:14 J -39853985.58 -39853985.49 -39853985.38 0.1767 0.1315

Jupiter -113828-11-20 10:19 J -39853930.17 -39853930.07 -39853929.96 0.0530 0.0293

Mars -113827-08-08 22:19 J -39853668.68 -39853668.57 -39853668.47 0.1745 0.0910

Earth -113826-05-05 21:50 J -39853398.70 -39853398.59 -39853398.48 0.2763 0.0231

Moon -113826-05-05 22:05 J -39853398.69 -39853398.58 -39853398.47 0.2770 0.0235 *

Mars -113826-09-02 22:48 J -39853278.63 -39853278.55 -39853278.46 0.1787 0.1517

Mars -113825-07-14 10:48 J -39852963.16 -39852963.05 -39852962.95 0.1727 0.0869

Venus -113824-02-05 17:02 J -39852756.93 -39852756.79 -39852756.66 0.3719 0.0609

Moon -113823-10-28 01:55 J -39852127.57 -39852127.42 -39852127.27 0.2585 0.0776

Earth -113823-10-28 02:10 J -39852127.56 -39852127.41 -39852127.26 0.2579 0.0844 *

Jupiter -113822-07-10 09:22 J -39851872.27 -39851872.11 -39851871.94 0.0497 0.0131

Jupiter -113822-10-08 12:14 J -39851782.08 -39851781.99 -39851781.90 0.0496 0.0425

Venus -113819-08-22 18:29 J -39850732.77 -39850732.73 -39850732.68 0.3712 0.3438

Mars -113818-12-30 06:43 J -39850238.29 -39850238.22 -39850238.14 0.1750 0.1374

Mars -113816-01-22 22:48 J -39849848.68 -39849848.55 -39849848.41 0.1782 0.0793

Jupiter -113816-06-11 04:19 J -39849709.42 -39849709.32 -39849709.21 0.0529 0.0329

Jupiter -113816-09-08 14:10 J -39849620.03 -39849619.91 -39849619.78 0.0529 0.0177

Mars -113816-12-04 19:55 J -39849532.79 -39849532.67 -39849532.55 0.1732 0.0452

Saturn -113815-05-26 07:26 J -39849360.26 -39849360.19 -39849360.11 0.0281 0.0237

Saturn -113815-08-22 20:53 J -39849271.74 -39849271.63 -39849271.50 0.0282 0.0151

Saturn -113815-11-19 10:34 J -39849183.20 -39849183.06 -39849182.93 0.0283 0.0064

Saturn -113814-02-15 23:46 J -39849094.65 -39849094.51 -39849094.37 0.0284 0.0023

Saturn -113814-05-15 12:58 J -39849006.09 -39849005.96 -39849005.83 0.0286 0.0110

Saturn -113814-08-12 02:10 J -39848917.51 -39848917.41 -39848917.31 0.0287 0.0196

Saturn -113814-11-08 15:07 J -39848828.89 -39848828.87 -39848828.84 0.0288 0.0283

Earth -113813-05-07 16:19 J -39848647.92 -39848647.82 -39848647.71 0.2766 0.0703

Moon -113813-05-07 16:48 J -39848647.90 -39848647.80 -39848647.69 0.2772 0.0723 *

Jupiter -113810-04-28 08:38 J -39847562.28 -39847562.14 -39847561.99 0.0497 0.0264

Jupiter -113810-07-27 11:02 J -39847472.18 -39847472.04 -39847471.90 0.0497 0.0287

Earth -113810-10-31 08:10 J -39847376.31 -39847376.16 -39847376.01 0.2576 0.0694

Moon -113810-10-31 08:53 J -39847376.28 -39847376.13 -39847375.97 0.2582 0.0652 *

Venus -113809-03-05 11:46 J -39847250.05 -39847250.01 -39847249.98 0.3649 0.3415

Mars -113807-06-14 22:48 J -39846418.70 -39846418.55 -39846418.39 0.1777 0.0086

Uranus -113807-11-01 19:26 J -39846278.73 -39846278.69 -39846278.63 0.0131 0.0120

Uranus -113806-01-28 22:48 J -39846190.62 -39846190.55 -39846190.45 0.0131 0.0105

Uranus -113806-04-27 02:10 J -39846102.50 -39846102.41 -39846102.30 0.0131 0.0089

Mars -113806-04-27 04:48 J -39846102.42 -39846102.30 -39846102.17 0.1736 0.0054 *

Moon -113806-05-01 12:58 J -39846098.03 -39846097.96 -39846097.88 0.2759 0.1888

Earth -113806-05-01 13:41 J -39846098.00 -39846097.93 -39846097.85 0.2757 0.1891 *

Uranus -113806-07-24 05:46 J -39846014.38 -39846014.26 -39846014.14 0.0131 0.0072

Uranus -113806-10-20 09:07 J -39845926.25 -39845926.12 -39845926.00 0.0131 0.0057

Uranus -113805-01-16 12:14 J -39845838.12 -39845837.99 -39845837.85 0.0131 0.0041

Uranus -113805-04-13 15:36 J -39845749.98 -39845749.85 -39845749.71 0.0131 0.0026

Uranus -113805-07-10 18:58 J -39845661.85 -39845661.71 -39845661.57 0.0131 0.0010

Uranus -113805-10-06 22:05 J -39845573.72 -39845573.58 -39845573.44 0.0131 0.0006

Uranus -113804-01-03 01:26 J -39845485.58 -39845485.44 -39845485.30 0.0131 0.0021

Jupiter -113804-03-30 07:41 J -39845399.25 -39845399.18 -39845399.11 0.0528 0.0452

Uranus -113804-04-01 04:34 J -39845397.44 -39845397.31 -39845397.17 0.0131 0.0036

Mars -113804-04-01 15:50 J -39845396.85 -39845396.84 -39845396.83 0.1719 0.1701

Jupiter -113804-06-27 17:46 J -39845309.89 -39845309.76 -39845309.63 0.0529 0.0056

Uranus -113804-06-28 07:41 J -39845309.30 -39845309.18 -39845309.05 0.0131 0.0051

Venus -113804-09-19 06:00 J -39845226.35 -39845226.25 -39845226.15 0.3654 0.1779

Uranus -113804-09-24 11:02 J -39845221.16 -39845221.04 -39845220.92 0.0131 0.0066

Uranus -113804-12-21 14:10 J -39845133.02 -39845132.91 -39845132.80 0.0131 0.0081

Uranus -113803-03-19 17:17 J -39845044.87 -39845044.78 -39845044.69 0.0131 0.0096

Uranus -113803-06-15 20:24 J -39844956.72 -39844956.65 -39844956.58 0.0131 0.0111

Uranus -113803-09-11 23:17 J -39844868.55 -39844868.53 -39844868.48 0.0131 0.0126

Saturn -113802-09-27 22:19 J -39844487.63 -39844487.57 -39844487.49 0.0281 0.0255

Saturn -113802-12-25 17:02 J -39844398.92 -39844398.79 -39844398.64 0.0279 0.0157

Saturn -113801-03-23 12:14 J -39844310.16 -39844309.99 -39844309.82 0.0278 0.0057

Neptune -113801-06-19 01:26 J -39844222.47 -39844222.44 -39844222.39 0.0089 0.0086

Saturn -113801-06-20 07:26 J -39844221.36 -39844221.19 -39844221.02 0.0277 0.0043

Neptune -113801-09-15 04:05 J -39844134.38 -39844134.33 -39844134.24 0.0089 0.0081

Saturn -113801-09-17 02:38 J -39844132.54 -39844132.39 -39844132.24 0.0276 0.0142

Neptune -113801-12-12 06:58 J -39844046.28 -39844046.21 -39844046.11 0.0089 0.0076

Saturn -113801-12-14 22:05 J -39844043.65 -39844043.58 -39844043.49 0.0275 0.0242

Neptune -113800-03-10 09:50 J -39843958.18 -39843958.09 -39843957.97 0.0089 0.0071

Earth -113800-05-10 10:48 J -39843897.14 -39843897.05 -39843896.96 0.2769 0.1618

Moon -113800-05-10 11:31 J -39843897.10 -39843897.02 -39843896.94 0.2769 0.1734 *

Neptune -113800-06-06 12:58 J -39843870.08 -39843869.96 -39843869.84 0.0089 0.0065

Neptune -113800-09-02 15:36 J -39843781.97 -39843781.85 -39843781.71 0.0089 0.0060

Neptune -113800-11-29 18:29 J -39843693.86 -39843693.73 -39843693.58 0.0089 0.0055

Neptune -113799-02-25 21:22 J -39843605.75 -39843605.61 -39843605.46 0.0089 0.0050

Neptune -113799-05-25 00:29 J -39843517.63 -39843517.48 -39843517.33 0.0089 0.0044

Neptune -113799-08-21 03:07 J -39843429.52 -39843429.37 -39843429.20 0.0089 0.0039

Neptune -113799-11-17 06:00 J -39843341.40 -39843341.25 -39843341.07 0.0089 0.0034

Neptune -113798-02-13 09:07 J -39843253.28 -39843253.12 -39843252.95 0.0089 0.0028

Jupiter -113798-02-14 08:10 J -39843252.26 -39843252.16 -39843252.05 0.0498 0.0395

Venus -113798-04-05 00:00 J -39843202.61 -39843202.50 -39843202.39 0.3659 0.0192

Neptune -113798-05-12 12:00 J -39843165.16 -39843165.00 -39843164.82 0.0089 0.0023

Jupiter -113798-05-15 10:05 J -39843162.24 -39843162.08 -39843161.91 0.0497 0.0153

Neptune -113798-08-08 14:53 J -39843077.04 -39843076.88 -39843076.70 0.0089 0.0018

Neptune -113798-11-04 18:00 J -39842988.92 -39842988.75 -39842988.57 0.0089 0.0012

Mars -113798-11-04 23:46 J -39842988.66 -39842988.51 -39842988.37 0.1772 0.0601 *

Neptune -113797-01-31 21:07 J -39842900.80 -39842900.62 -39842900.44 0.0089 0.0007

Neptune -113797-04-29 00:00 J -39842812.68 -39842812.50 -39842812.32 0.0089 0.0001

Neptune -113797-07-26 03:07 J -39842724.55 -39842724.37 -39842724.19 0.0089 0.0005

Mars -113797-09-16 13:41 J -39842672.05 -39842671.93 -39842671.81 0.1741 0.0415

Neptune -113797-10-22 06:00 J -39842636.43 -39842636.25 -39842636.07 0.0089 0.0010

Earth -113797-11-02 14:24 J -39842624.98 -39842624.90 -39842624.83 0.2573 0.2238

Moon -113797-11-02 15:50 J -39842624.89 -39842624.84 -39842624.79 0.2575 0.2410 *

Neptune -113796-01-18 08:53 J -39842548.30 -39842548.13 -39842547.95 0.0089 0.0016

Neptune -113796-04-16 12:00 J -39842460.17 -39842460.00 -39842459.82 0.0089 0.0021

Neptune -113796-07-13 14:53 J -39842372.04 -39842371.88 -39842371.70 0.0089 0.0027

Neptune -113796-10-09 18:00 J -39842283.91 -39842283.75 -39842283.57 0.0089 0.0032

Neptune -113795-01-05 21:07 J -39842195.78 -39842195.62 -39842195.45 0.0089 0.0038

Neptune -113795-04-04 00:14 J -39842107.64 -39842107.49 -39842107.33 0.0089 0.0043

Neptune -113795-07-01 03:07 J -39842019.51 -39842019.37 -39842019.21 0.0089 0.0049

Mars -113795-08-23 01:26 J -39841966.52 -39841966.44 -39841966.37 0.1723 0.1312

Neptune -113795-09-27 06:14 J -39841931.37 -39841931.24 -39841931.09 0.0089 0.0055

Neptune -113795-12-24 09:22 J -39841843.23 -39841843.11 -39841842.96 0.0089 0.0060

Neptune -113794-03-22 12:29 J -39841755.09 -39841754.98 -39841754.85 0.0089 0.0066

Neptune -113794-06-18 15:50 J -39841666.94 -39841666.84 -39841666.73 0.0089 0.0071

Neptune -113794-09-14 18:43 J -39841578.80 -39841578.72 -39841578.62 0.0089 0.0077

Neptune -113794-12-11 21:50 J -39841490.64 -39841490.59 -39841490.51 0.0089 0.0083

Neptune -113793-03-09 01:12 J -39841402.46 -39841402.45 -39841402.43 0.0089 0.0088

Moon -113793-05-03 07:41 J -39841347.28 -39841347.18 -39841347.08 0.2765 0.1064

Earth -113793-05-03 08:24 J -39841347.26 -39841347.15 -39841347.05 0.2760 0.0966 *

Venus -113793-10-18 18:00 J -39841178.85 -39841178.75 -39841178.65 0.3665 0.1374

Jupiter -113792-04-15 20:53 J -39840999.76 -39840999.63 -39840999.50 0.0528 0.0072

Jupiter -113792-07-14 06:00 J -39840910.32 -39840910.25 -39840910.17 0.0529 0.0425

Moon -113790-10-26 01:26 J -39840076.53 -39840076.44 -39840076.35 0.2586 0.2112

Earth -113790-10-26 02:53 J -39840076.47 -39840076.38 -39840076.29 0.2582 0.2061 *

Mars -113788-03-27 00:43 J -39839558.57 -39839558.47 -39839558.36 0.1767 0.1255

Mars -113787-02-06 22:19 J -39839241.67 -39839241.57 -39839241.46 0.1746 0.0865

Venus -113787-05-04 11:46 J -39839155.08 -39839155.01 -39839154.94 0.3670 0.2901

Earth -113787-05-13 05:17 J -39839146.33 -39839146.28 -39839146.24 0.2772 0.2535

Moon -113787-05-13 05:46 J -39839146.30 -39839146.26 -39839146.22 0.2769 0.2520 *

Jupiter -113786-03-03 09:36 J -39838852.27 -39838852.10 -39838851.93 0.0497 0.0019

Mars -113786-03-03 23:46 J -39838851.58 -39838851.51 -39838851.44 0.1787 0.1591

Saturn -113786-10-13 07:55 J -39838628.20 -39838628.17 -39838628.12 0.0281 0.0268

Saturn -113785-01-09 21:50 J -39838539.70 -39838539.59 -39838539.48 0.0282 0.0181

Mars -113785-01-13 10:48 J -39838536.15 -39838536.05 -39838535.95 0.1727 0.0910

Saturn -113785-04-07 11:17 J -39838451.16 -39838451.03 -39838450.90 0.0283 0.0095

Saturn -113785-07-05 00:43 J -39838362.61 -39838362.47 -39838362.33 0.0284 0.0010

Saturn -113785-10-01 13:55 J -39838274.05 -39838273.92 -39838273.79 0.0285 0.0079

Saturn -113785-12-29 03:07 J -39838185.48 -39838185.37 -39838185.26 0.0287 0.0166

Saturn -113784-03-27 16:05 J -39838096.89 -39838096.83 -39838096.76 0.0288 0.0252

Jupiter -113780-02-02 00:14 J -39836689.62 -39836689.49 -39836689.37 0.0528 0.0196

Jupiter -113780-05-02 09:36 J -39836600.20 -39836600.10 -39836599.99 0.0529 0.0305

Moon -113780-05-06 02:53 J -39836596.49 -39836596.38 -39836596.27 0.2771 0.0080

Earth -113780-05-06 02:53 J -39836596.49 -39836596.38 -39836596.27 0.2764 0.0084 *

Mars -113778-06-30 06:58 J -39835811.29 -39835811.21 -39835811.13 0.1750 0.1320

Mars -113777-07-23 23:02 J -39835421.67 -39835421.54 -39835421.40 0.1782 0.0849

Moon -113777-10-28 08:24 J -39835325.30 -39835325.15 -39835325.00 0.2585 0.0654

Earth -113777-10-28 08:38 J -39835325.29 -39835325.14 -39835324.98 0.2579 0.0544 *

Mars -113776-06-04 19:55 J -39835105.78 -39835105.67 -39835105.55 0.1732 0.0498

Jupiter -113775-12-20 08:38 J -39834542.31 -39834542.14 -39834541.97 0.0497 0.0116

Jupiter -113774-03-20 11:17 J -39834452.10 -39834452.03 -39834451.94 0.0496 0.0440

Venus -113773-02-27 15:50 J -39834107.97 -39834107.84 -39834107.72 0.3723 0.1178

Moon -113773-04-28 23:31 J -39834046.55 -39834046.52 -39834046.48 0.2749 0.2612

Earth -113773-04-29 00:14 J -39834046.52 -39834046.49 -39834046.47 0.2754 0.2639 *

Saturn -113772-05-13 16:34 J -39833666.93 -39833666.81 -39833666.69 0.0280 0.0189

Saturn -113772-08-10 11:17 J -39833578.18 -39833578.03 -39833577.86 0.0279 0.0091

Saturn -113772-11-07 06:29 J -39833489.40 -39833489.23 -39833489.06 0.0278 0.0009

Saturn -113771-02-04 01:55 J -39833400.58 -39833400.42 -39833400.27 0.0277 0.0109

Saturn -113771-05-03 21:07 J -39833311.72 -39833311.62 -39833311.50 0.0276 0.0209

Jupiter -113769-11-21 03:07 J -39832379.47 -39832379.37 -39832379.26 0.0529 0.0323

Jupiter -113768-02-18 12:58 J -39832290.08 -39832289.96 -39832289.83 0.0530 0.0184

Venus -113768-09-12 17:02 J -39832083.91 -39832083.79 -39832083.67 0.3717 0.1566

Mars -113768-12-13 23:31 J -39831991.68 -39831991.52 -39831991.37 0.1777 0.0146

Earth -113767-05-08 21:22 J -39831845.72 -39831845.61 -39831845.51 0.2767 0.0886

Moon -113767-05-08 21:36 J -39831845.70 -39831845.60 -39831845.50 0.2773 0.0942 *

Mars -113767-10-26 05:02 J -39831675.41 -39831675.29 -39831675.17 0.1736 0.0073

Earth -113764-10-31 14:38 J -39830574.04 -39830573.89 -39830573.74 0.2575 0.0988

Moon -113764-10-31 14:53 J -39830574.02 -39830573.88 -39830573.73 0.2582 0.1108 *

Uranus -113763-07-12 00:58 J -39830320.53 -39830320.46 -39830320.36 0.0148 0.0130

Jupiter -113763-10-08 08:10 J -39830232.30 -39830232.16 -39830232.01 0.0497 0.0246

Uranus -113763-10-08 08:38 J -39830232.26 -39830232.14 -39830232.00 0.0148 0.0102 *

Uranus -113762-01-04 16:19 J -39830143.97 -39830143.82 -39830143.66 0.0148 0.0073

Jupiter -113762-01-06 10:34 J -39830142.20 -39830142.06 -39830141.92 0.0496 0.0305

Uranus -113762-04-03 00:00 J -39830055.67 -39830055.50 -39830055.32 0.0148 0.0045

Uranus -113762-06-30 07:55 J -39829967.35 -39829967.17 -39829966.99 0.0148 0.0016

Uranus -113762-09-26 15:36 J -39829879.03 -39829878.85 -39829878.67 0.0148 0.0013

Uranus -113762-12-23 23:31 J -39829790.69 -39829790.52 -39829790.35 0.0148 0.0042

Uranus -113761-03-21 07:26 J -39829702.35 -39829702.19 -39829702.03 0.0148 0.0071

Uranus -113761-06-17 15:07 J -39829613.99 -39829613.87 -39829613.72 0.0148 0.0101

Uranus -113761-09-13 23:31 J -39829525.61 -39829525.52 -39829525.44 0.0148 0.0130

Moon -113760-05-01 18:00 J -39829295.83 -39829295.75 -39829295.67 0.2758 0.1853

Earth -113760-05-01 18:43 J -39829295.81 -39829295.72 -39829295.64 0.2758 0.1711 *

Mars -113758-05-06 00:14 J -39828561.64 -39828561.49 -39828561.34 0.1772 0.0534

Mars -113757-03-17 13:55 J -39828245.04 -39828244.92 -39828244.80 0.1741 0.0372

Jupiter -113757-09-09 06:43 J -39828069.29 -39828069.22 -39828069.15 0.0528 0.0443

Jupiter -113757-12-07 16:48 J -39827979.93 -39827979.80 -39827979.67 0.0529 0.0066

Saturn -113756-05-28 22:34 J -39827807.65 -39827807.56 -39827807.47 0.0281 0.0213

Saturn -113756-08-25 12:00 J -39827719.13 -39827719.00 -39827718.87 0.0282 0.0127

Saturn -113756-11-22 01:26 J -39827630.58 -39827630.44 -39827630.30 0.0283 0.0040

Saturn -113755-02-18 14:38 J -39827542.03 -39827541.89 -39827541.75 0.0284 0.0046

Mars -113755-02-21 01:26 J -39827539.51 -39827539.44 -39827539.37 0.1723 0.1355

Saturn -113755-05-18 03:50 J -39827453.46 -39827453.34 -39827453.22 0.0285 0.0132

Saturn -113755-08-14 16:48 J -39827364.88 -39827364.80 -39827364.71 0.0287 0.0219

Earth -113754-05-11 15:36 J -39827094.93 -39827094.85 -39827094.77 0.2770 0.1797

Moon -113754-05-11 16:19 J -39827094.90 -39827094.82 -39827094.74 0.2772 0.1806 *

Venus -113753-10-10 09:50 J -39826577.16 -39826577.09 -39826577.02 0.3651 0.2803

Jupiter -113751-07-27 07:26 J -39825922.30 -39825922.19 -39825922.08 0.0497 0.0380

Jupiter -113751-10-25 09:22 J -39825832.27 -39825832.11 -39825831.95 0.0497 0.0166

Earth -113751-11-03 20:53 J -39825822.65 -39825822.63 -39825822.61 0.2573 0.2537

Mars -113749-09-25 01:26 J -39825131.56 -39825131.44 -39825131.33 0.1767 0.1188

Mars -113748-08-07 22:34 J -39824814.67 -39824814.56 -39824814.45 0.1745 0.0813

Venus -113747-04-26 04:05 J -39824553.44 -39824553.33 -39824553.22 0.3656 0.1187

Moon -113747-05-04 12:29 J -39824545.08 -39824544.98 -39824544.87 0.2764 0.0809

Earth -113747-05-04 13:12 J -39824545.05 -39824544.95 -39824544.85 0.2761 0.0788 *

Mars -113747-09-02 00:14 J -39824424.54 -39824424.49 -39824424.43 0.1787 0.1661

Mars -113746-07-14 10:48 J -39824109.15 -39824109.05 -39824108.95 0.1727 0.0956

Jupiter -113745-09-25 20:24 J -39823669.79 -39823669.65 -39823669.52 0.0529 0.0056

Jupiter -113745-12-24 05:31 J -39823580.34 -39823580.27 -39823580.19 0.0530 0.0442

Moon -113744-10-26 07:41 J -39823274.28 -39823274.18 -39823274.07 0.2584 0.1940

Earth -113744-10-26 09:22 J -39823274.23 -39823274.11 -39823274.00 0.2582 0.1771 *

Saturn -113743-09-30 14:10 J -39822935.01 -39822934.91 -39822934.82 0.0281 0.0231

Saturn -113743-12-28 08:53 J -39822846.28 -39822846.13 -39822845.98 0.0279 0.0132

Saturn -113742-03-27 03:50 J -39822757.51 -39822757.34 -39822757.17 0.0278 0.0033

Saturn -113742-06-23 23:02 J -39822668.71 -39822668.54 -39822668.37 0.0277 0.0067

Saturn -113742-09-20 18:29 J -39822579.87 -39822579.73 -39822579.59 0.0276 0.0166

Venus -113742-11-09 22:05 J -39822529.69 -39822529.58 -39822529.47 0.3661 0.0400

Saturn -113742-12-18 13:55 J -39822490.95 -39822490.92 -39822490.87 0.0275 0.0266

Earth -113741-05-13 10:05 J -39822344.10 -39822344.08 -39822344.06 0.2772 0.2709

Jupiter -113739-08-13 08:38 J -39821522.32 -39821522.14 -39821521.97 0.0497 0.0033

Mars -113739-12-29 06:58 J -39821384.30 -39821384.21 -39821384.13 0.1750 0.1279

Mars -113737-01-22 23:46 J -39820994.64 -39820994.51 -39820994.37 0.1782 0.0923

Mars -113737-12-03 19:55 J -39820678.78 -39820678.67 -39820678.55 0.1732 0.0544

Venus -113736-05-25 16:05 J -39820505.93 -39820505.83 -39820505.74 0.3666 0.1940

Pluto -113734-04-04 00:43 J -39819827.48 -39819827.47 -39819827.41 0.0060 0.0059

Moon -113734-05-07 07:26 J -39819794.30 -39819794.19 -39819794.08 0.2772 0.0120

Earth -113734-05-07 07:41 J -39819794.29 -39819794.18 -39819794.07 0.2764 0.0140 *

Pluto -113734-07-01 02:24 J -39819739.48 -39819739.40 -39819739.29 0.0060 0.0051

Pluto -113734-09-27 03:36 J -39819651.46 -39819651.35 -39819651.20 0.0060 0.0044

Pluto -113734-12-24 05:02 J -39819563.43 -39819563.29 -39819563.12 0.0060 0.0036

Pluto -113733-03-21 06:43 J -39819475.38 -39819475.22 -39819475.04 0.0060 0.0028

Pluto -113733-06-17 07:55 J -39819387.34 -39819387.17 -39819386.97 0.0060 0.0021

Jupiter -113733-07-14 23:17 J -39819359.65 -39819359.53 -39819359.40 0.0528 0.0183

Pluto -113733-09-13 09:22 J -39819299.29 -39819299.11 -39819298.91 0.0060 0.0014

Jupiter -113733-10-12 08:53 J -39819270.24 -39819270.13 -39819270.02 0.0529 0.0317

Pluto -113733-12-10 11:02 J -39819211.23 -39819211.04 -39819210.85 0.0060 0.0005

Pluto -113732-03-08 12:29 J -39819123.18 -39819122.98 -39819122.79 0.0060 0.0003

Pluto -113732-06-04 13:26 J -39819035.12 -39819034.94 -39819034.74 0.0060 0.0011

Pluto -113732-08-31 15:07 J -39818947.05 -39818946.87 -39818946.68 0.0060 0.0018

Pluto -113732-11-27 16:19 J -39818858.99 -39818858.82 -39818858.64 0.0061 0.0026

Pluto -113731-02-23 17:31 J -39818770.91 -39818770.77 -39818770.59 0.0061 0.0034

Pluto -113731-05-22 18:43 J -39818682.83 -39818682.72 -39818682.55 0.0061 0.0042

Pluto -113731-08-18 20:38 J -39818594.75 -39818594.64 -39818594.52 0.0061 0.0049

Moon -113731-10-29 14:24 J -39818523.05 -39818522.90 -39818522.74 0.2585 0.0215

Earth -113731-10-29 15:22 J -39818523.02 -39818522.86 -39818522.71 0.2578 0.0259 *

Pluto -113731-11-14 21:50 J -39818506.64 -39818506.59 -39818506.51 0.0061 0.0057

Venus -113731-12-09 09:50 J -39818482.13 -39818482.09 -39818482.06 0.3672 0.3451

Mars -113729-05-20 15:07 J -39817953.87 -39817953.87 -39817953.86 0.1755 0.1749

Mars -113728-06-14 00:00 J -39817564.65 -39817564.50 -39817564.35 0.1777 0.0209

Mars -113727-04-26 05:02 J -39817248.41 -39817248.29 -39817248.17 0.1736 0.0117

Moon -113727-04-30 04:34 J -39817244.35 -39817244.31 -39817244.27 0.2749 0.2542

Earth -113727-04-30 05:02 J -39817244.34 -39817244.29 -39817244.24 0.2754 0.2455 *

Jupiter -113727-06-01 07:55 J -39817212.34 -39817212.17 -39817212.00 0.0497 0.0101

Jupiter -113727-08-30 10:48 J -39817122.11 -39817122.05 -39817121.98 0.0497 0.0456

Saturn -113727-10-15 23:17 J -39817075.59 -39817075.53 -39817075.45 0.0281 0.0243

Saturn -113726-01-12 12:58 J -39816987.08 -39816986.96 -39816986.84 0.0282 0.0156

Saturn -113726-04-11 02:24 J -39816898.54 -39816898.40 -39816898.26 0.0283 0.0070

Saturn -113726-07-08 15:50 J -39816809.98 -39816809.84 -39816809.70 0.0284 0.0018

Saturn -113726-10-05 04:48 J -39816721.42 -39816721.30 -39816721.16 0.0285 0.0104

Saturn -113725-01-01 18:00 J -39816632.85 -39816632.75 -39816632.64 0.0287 0.0189

Saturn -113725-03-30 07:12 J -39816544.24 -39816544.20 -39816544.17 0.0288 0.0275

Uranus -113723-08-26 00:00 J -39815665.52 -39815665.50 -39815665.48 0.0131 0.0130

Uranus -113723-11-22 03:22 J -39815577.43 -39815577.36 -39815577.29 0.0131 0.0114

Uranus -113722-02-18 06:43 J -39815489.31 -39815489.22 -39815489.12 0.0131 0.0098

Venus -113722-03-20 14:53 J -39815458.96 -39815458.88 -39815458.80 0.3728 0.2889

Uranus -113722-05-17 09:50 J -39815401.19 -39815401.09 -39815400.97 0.0131 0.0083

Uranus -113722-08-13 13:26 J -39815313.06 -39815312.94 -39815312.82 0.0131 0.0066

Uranus -113722-11-09 16:48 J -39815224.93 -39815224.80 -39815224.67 0.0131 0.0050

Uranus -113721-02-05 19:55 J -39815136.80 -39815136.67 -39815136.53 0.0131 0.0036

Jupiter -113721-05-03 02:24 J -39815049.50 -39815049.40 -39815049.29 0.0528 0.0309

Uranus -113721-05-03 23:17 J -39815048.66 -39815048.53 -39815048.39 0.0131 0.0020

Earth -113721-05-09 02:10 J -39815043.51 -39815043.41 -39815043.31 0.2767 0.1059

Moon -113721-05-09 02:24 J -39815043.50 -39815043.40 -39815043.30 0.2773 0.1070 *

Uranus -113721-07-31 02:38 J -39814960.53 -39814960.39 -39814960.25 0.0131 0.0004

Jupiter -113721-07-31 12:14 J -39814960.11 -39814959.99 -39814959.86 0.0529 0.0196

Uranus -113721-10-27 06:00 J -39814872.39 -39814872.25 -39814872.12 0.0131 0.0012

Uranus -113720-01-23 09:07 J -39814784.26 -39814784.12 -39814783.98 0.0131 0.0027

Uranus -113720-04-21 12:14 J -39814696.12 -39814695.99 -39814695.86 0.0131 0.0042

Neptune -113720-07-14 19:12 J -39814611.73 -39814611.70 -39814611.68 0.0088 0.0087

Uranus -113720-07-18 15:36 J -39814607.98 -39814607.85 -39814607.73 0.0131 0.0057

Neptune -113720-10-10 20:38 J -39814523.68 -39814523.64 -39814523.58 0.0088 0.0083

Uranus -113720-10-14 18:43 J -39814519.83 -39814519.72 -39814519.61 0.0131 0.0072

Neptune -113719-01-06 22:19 J -39814435.63 -39814435.57 -39814435.49 0.0088 0.0078

Uranus -113719-01-10 21:50 J -39814431.69 -39814431.59 -39814431.49 0.0131 0.0087

Neptune -113719-04-05 00:00 J -39814347.57 -39814347.50 -39814347.41 0.0088 0.0074

Uranus -113719-04-09 00:58 J -39814343.54 -39814343.46 -39814343.37 0.0131 0.0102

Neptune -113719-07-02 01:41 J -39814259.50 -39814259.43 -39814259.33 0.0088 0.0070

Uranus -113719-07-06 04:05 J -39814255.39 -39814255.33 -39814255.27 0.0131 0.0117

Neptune -113719-09-28 03:36 J -39814171.44 -39814171.35 -39814171.25 0.0088 0.0065

Mars -113719-11-04 00:43 J -39814134.62 -39814134.47 -39814134.33 0.1772 0.0476

Neptune -113719-12-25 05:17 J -39814083.38 -39814083.28 -39814083.17 0.0088 0.0060

Neptune -113718-03-23 07:12 J -39813995.31 -39813995.20 -39813995.09 0.0088 0.0056

Neptune -113718-06-19 08:38 J -39813907.25 -39813907.14 -39813907.02 0.0088 0.0052

Neptune -113718-09-15 10:19 J -39813819.18 -39813819.07 -39813818.94 0.0088 0.0047

Mars -113718-09-16 14:10 J -39813818.04 -39813817.91 -39813817.79 0.1741 0.0321

Moon -113718-11-01 21:22 J -39813771.75 -39813771.61 -39813771.47 0.2581 0.1220

Earth -113718-11-01 21:22 J -39813771.75 -39813771.61 -39813771.47 0.2575 0.1295 *

Neptune -113718-12-12 12:14 J -39813731.12 -39813730.99 -39813730.87 0.0088 0.0043

Neptune -113717-03-09 13:41 J -39813643.05 -39813642.93 -39813642.80 0.0088 0.0039

Neptune -113717-06-05 15:22 J -39813554.99 -39813554.86 -39813554.72 0.0088 0.0034

Neptune -113717-09-01 17:02 J -39813466.92 -39813466.79 -39813466.65 0.0088 0.0030

Venus -113717-10-03 15:50 J -39813434.98 -39813434.84 -39813434.71 0.3721 0.0263

Neptune -113717-11-28 18:43 J -39813378.86 -39813378.72 -39813378.58 0.0088 0.0025

Neptune -113716-02-24 20:10 J -39813290.79 -39813290.66 -39813290.51 0.0088 0.0022

Neptune -113716-05-23 22:05 J -39813202.72 -39813202.58 -39813202.44 0.0088 0.0017

Neptune -113716-08-19 23:31 J -39813114.66 -39813114.52 -39813114.37 0.0088 0.0013

Mars -113716-08-22 01:26 J -39813112.51 -39813112.44 -39813112.37 0.1723 0.1400

Neptune -113716-11-16 01:12 J -39813026.59 -39813026.45 -39813026.31 0.0088 0.0008

Neptune -113715-02-12 02:53 J -39812938.52 -39812938.38 -39812938.24 0.0088 0.0004

Jupiter -113715-03-20 07:12 J -39812902.35 -39812902.20 -39812902.04 0.0497 0.0233

Neptune -113715-05-11 04:34 J -39812850.46 -39812850.31 -39812850.17 0.0088 0.0003

Jupiter -113715-06-18 09:36 J -39812812.23 -39812812.10 -39812811.97 0.0496 0.0318

Neptune -113715-08-07 06:00 J -39812762.39 -39812762.25 -39812762.11 0.0088 0.0005

Neptune -113715-11-03 07:41 J -39812674.32 -39812674.18 -39812674.04 0.0088 0.0009

Neptune -113714-01-30 09:07 J -39812586.26 -39812586.12 -39812585.98 0.0088 0.0013

Neptune -113714-04-28 10:48 J -39812498.19 -39812498.05 -39812497.91 0.0088 0.0017

Moon -113714-05-02 22:48 J -39812493.64 -39812493.55 -39812493.46 0.2756 0.1527

Earth -113714-05-02 23:31 J -39812493.61 -39812493.52 -39812493.43 0.2758 0.1534 *

Neptune -113714-07-25 12:14 J -39812410.12 -39812409.99 -39812409.85 0.0088 0.0022

Neptune -113714-10-21 13:55 J -39812322.05 -39812321.92 -39812321.78 0.0088 0.0026

Neptune -113713-01-17 15:22 J -39812233.99 -39812233.86 -39812233.72 0.0088 0.0030

Saturn -113713-02-17 13:12 J -39812202.99 -39812202.95 -39812202.88 0.0281 0.0264

Neptune -113713-04-14 16:48 J -39812145.92 -39812145.80 -39812145.66 0.0088 0.0035

Saturn -113713-05-16 08:10 J -39812114.29 -39812114.16 -39812114.02 0.0280 0.0165

Neptune -113713-07-11 18:29 J -39812057.85 -39812057.73 -39812057.60 0.0088 0.0038

Saturn -113713-08-13 03:07 J -39812025.53 -39812025.37 -39812025.20 0.0279 0.0066

Neptune -113713-10-07 19:55 J -39811969.78 -39811969.67 -39811969.54 0.0088 0.0043

Saturn -113713-11-09 22:19 J -39811936.74 -39811936.57 -39811936.40 0.0278 0.0033

Neptune -113712-01-03 21:36 J -39811881.71 -39811881.60 -39811881.48 0.0088 0.0047

Saturn -113712-02-06 17:31 J -39811847.91 -39811847.77 -39811847.61 0.0277 0.0134

Neptune -113712-04-01 23:17 J -39811793.64 -39811793.53 -39811793.42 0.0088 0.0051

Saturn -113712-05-06 13:12 J -39811759.04 -39811758.95 -39811758.86 0.0276 0.0233

Neptune -113712-06-29 00:43 J -39811705.58 -39811705.47 -39811705.36 0.0088 0.0055

Neptune -113712-09-25 02:24 J -39811617.51 -39811617.40 -39811617.30 0.0088 0.0059

Neptune -113712-12-22 03:50 J -39811529.44 -39811529.34 -39811529.24 0.0088 0.0063

Neptune -113711-03-20 05:02 J -39811441.37 -39811441.29 -39811441.19 0.0088 0.0067

Venus -113711-04-19 17:02 J -39811410.88 -39811410.79 -39811410.69 0.3715 0.2541

Neptune -113711-06-16 06:29 J -39811353.29 -39811353.23 -39811353.13 0.0088 0.0072

Neptune -113711-09-12 08:10 J -39811265.22 -39811265.16 -39811265.08 0.0088 0.0075

Neptune -113711-12-09 09:36 J -39811177.15 -39811177.10 -39811177.03 0.0088 0.0079

Neptune -113710-03-07 11:02 J -39811089.07 -39811089.04 -39811088.98 0.0088 0.0083

Neptune -113710-06-03 12:29 J -39811000.98 -39811000.98 -39811000.94 0.0088 0.0088

Jupiter -113709-02-20 05:17 J -39810739.35 -39810739.28 -39810739.21 0.0529 0.0440

Mars -113709-03-26 01:41 J -39810704.54 -39810704.43 -39810704.31 0.1767 0.1126

Jupiter -113709-05-19 15:22 J -39810649.99 -39810649.86 -39810649.72 0.0530 0.0073

Mars -113708-02-05 22:34 J -39810387.67 -39810387.56 -39810387.45 0.1745 0.0768

Earth -113708-05-11 20:38 J -39810292.72 -39810292.64 -39810292.57 0.2770 0.1978

Moon -113708-05-11 21:07 J -39810292.69 -39810292.62 -39810292.55 0.2774 0.2102 *

Mars -113707-03-03 00:43 J -39809997.51 -39809997.47 -39809997.43 0.1787 0.1721

Mars -113706-01-12 11:02 J -39809682.14 -39809682.04 -39809681.95 0.1727 0.1002

Jupiter -113703-01-06 06:58 J -39808592.32 -39808592.21 -39808592.09 0.0497 0.0362

Jupiter -113703-04-06 08:53 J -39808502.29 -39808502.13 -39808501.97 0.0496 0.0183

Moon -113701-05-04 17:31 J -39807742.88 -39807742.77 -39807742.67 0.2765 0.0712

Earth -113701-05-04 18:14 J -39807742.85 -39807742.74 -39807742.64 0.2761 0.0617 *

Mars -113700-08-16 03:22 J -39807274.37 -39807274.36 -39807274.35 0.1762 0.1750

Mars -113699-06-29 06:58 J -39806957.29 -39806957.21 -39806957.12 0.1750 0.1228

Mars -113698-07-24 00:29 J -39806567.61 -39806567.48 -39806567.35 0.1782 0.0990

Moon -113698-10-27 14:24 J -39806472.03 -39806471.90 -39806471.77 0.2583 0.1526

Earth -113698-10-27 15:50 J -39806471.96 -39806471.84 -39806471.71 0.2582 0.1475 *

Saturn -113697-03-04 00:29 J -39806343.51 -39806343.48 -39806343.45 0.0280 0.0271

Jupiter -113697-03-07 19:12 J -39806339.84 -39806339.70 -39806339.57 0.0529 0.0050

Saturn -113697-05-31 13:55 J -39806255.02 -39806254.92 -39806254.80 0.0281 0.0186

Mars -113697-06-03 20:10 J -39806251.78 -39806251.66 -39806251.55 0.1732 0.0589

Jupiter -113697-06-05 04:19 J -39806250.38 -39806250.32 -39806250.25 0.0530 0.0450

Saturn -113697-08-28 03:36 J -39806166.48 -39806166.35 -39806166.22 0.0282 0.0100

Saturn -113697-11-24 17:02 J -39806077.94 -39806077.79 -39806077.65 0.0283 0.0017

Saturn -113696-02-21 06:14 J -39805989.38 -39805989.24 -39805989.11 0.0284 0.0073

Venus -113696-05-17 08:10 J -39805904.25 -39805904.16 -39805904.07 0.3652 0.2203

Saturn -113696-05-20 19:12 J -39805900.81 -39805900.70 -39805900.58 0.0285 0.0158

Saturn -113696-08-17 08:10 J -39805812.23 -39805812.16 -39805812.08 0.0287 0.0244

Jupiter -113692-10-25 06:14 J -39804282.25 -39804282.24 -39804282.23 0.0498 0.0495

Jupiter -113691-01-23 07:41 J -39804192.36 -39804192.18 -39804192.01 0.0497 0.0046

Venus -113691-12-01 02:10 J -39803880.52 -39803880.41 -39803880.30 0.3657 0.0609

Mars -113690-11-19 15:22 J -39803526.89 -39803526.86 -39803526.83 0.1755 0.1699

Mars -113689-12-13 00:43 J -39803137.63 -39803137.47 -39803137.32 0.1777 0.0282

Moon -113688-05-07 12:14 J -39802992.10 -39802991.99 -39802991.88 0.2771 0.0285

Earth -113688-05-07 12:29 J -39802992.08 -39802991.98 -39802991.87 0.2765 0.0332 *

Mars -113688-10-25 05:17 J -39802821.41 -39802821.28 -39802821.16 0.1736 0.0172

Jupiter -113686-12-25 22:34 J -39802029.69 -39802029.56 -39802029.43 0.0529 0.0170

Jupiter -113685-03-24 08:10 J -39801940.26 -39801940.16 -39801940.06 0.0530 0.0332

Venus -113685-06-15 20:10 J -39801856.77 -39801856.66 -39801856.55 0.3662 0.0964

Moon -113685-10-29 20:38 J -39801720.80 -39801720.64 -39801720.48 0.2583 0.0132

Earth -113685-10-29 21:50 J -39801720.75 -39801720.59 -39801720.43 0.2578 0.0056 *

Saturn -113684-10-03 06:00 J -39801382.36 -39801382.25 -39801382.14 0.0281 0.0205

Saturn -113684-12-31 00:58 J -39801293.62 -39801293.46 -39801293.31 0.0279 0.0107

Saturn -113683-03-29 19:55 J -39801204.84 -39801204.67 -39801204.50 0.0278 0.0008

Saturn -113683-06-26 15:07 J -39801116.03 -39801115.87 -39801115.70 0.0277 0.0093

Saturn -113683-09-23 10:34 J -39801027.18 -39801027.06 -39801026.93 0.0276 0.0193

Moon -113681-04-30 09:36 J -39800442.16 -39800442.10 -39800442.04 0.2749 0.2246

Earth -113681-04-30 09:50 J -39800442.14 -39800442.09 -39800442.03 0.2755 0.2283 *

Jupiter -113680-11-11 06:43 J -39799882.39 -39799882.22 -39799882.05 0.0497 0.0091

Venus -113680-12-30 13:55 J -39799833.00 -39799832.92 -39799832.84 0.3668 0.2491

Jupiter -113679-02-09 09:36 J -39799792.16 -39799792.10 -39799792.04 0.0496 0.0466

Mars -113679-05-05 01:12 J -39799707.60 -39799707.45 -39799707.30 0.1772 0.0407

Uranus -113679-05-05 01:55 J -39799707.42 -39799707.42 -39799707.39 0.0148 0.0147 *

Uranus -113679-08-01 09:36 J -39799619.20 -39799619.10 -39799618.99 0.0148 0.0119

Uranus -113679-10-28 17:17 J -39799530.92 -39799530.78 -39799530.64 0.0148 0.0091

Uranus -113678-01-25 00:43 J -39799442.62 -39799442.47 -39799442.30 0.0148 0.0063

Mars -113678-03-17 13:55 J -39799391.04 -39799390.92 -39799390.80 0.1741 0.0275

Uranus -113678-04-23 08:38 J -39799354.32 -39799354.14 -39799353.96 0.0148 0.0034

Uranus -113678-07-20 16:19 J -39799266.00 -39799265.82 -39799265.64 0.0148 0.0006

Uranus -113678-10-17 00:14 J -39799177.67 -39799177.49 -39799177.31 0.0148 0.0024

Uranus -113677-01-13 07:55 J -39799089.33 -39799089.17 -39799088.99 0.0148 0.0053

Uranus -113677-04-10 15:50 J -39799000.98 -39799000.84 -39799000.68 0.0148 0.0083

Uranus -113677-07-07 23:46 J -39798912.62 -39798912.51 -39798912.38 0.0148 0.0112

Uranus -113677-10-04 07:41 J -39798824.21 -39798824.18 -39798824.11 0.0148 0.0142

Mars -113676-02-20 01:26 J -39798685.50 -39798685.44 -39798685.37 0.1723 0.1441

Earth -113675-05-10 06:58 J -39798241.30 -39798241.21 -39798241.11 0.2767 0.1237

Moon -113675-05-10 07:12 J -39798241.29 -39798241.20 -39798241.10 0.2775 0.1287 *

Jupiter -113674-10-14 01:26 J -39797719.55 -39797719.44 -39797719.32 0.0528 0.0299

Jupiter -113673-01-11 11:17 J -39797630.15 -39797630.03 -39797629.90 0.0529 0.0206

Moon -113672-11-02 03:36 J -39796969.46 -39796969.35 -39796969.23 0.2581 0.1672

Earth -113672-11-02 03:50 J -39796969.46 -39796969.34 -39796969.21 0.2575 0.1592 *

Mars -113670-09-25 02:10 J -39796277.53 -39796277.41 -39796277.28 0.1767 0.1064

Mars -113669-08-06 22:48 J -39795960.67 -39795960.55 -39795960.44 0.1745 0.0721

Moon -113668-05-03 03:50 J -39795691.43 -39795691.34 -39795691.25 0.2754 0.1468

Earth -113668-05-03 04:34 J -39795691.41 -39795691.31 -39795691.22 0.2759 0.1351 *

Jupiter -113668-08-30 06:14 J -39795572.39 -39795572.24 -39795572.09 0.0497 0.0223

Saturn -113668-10-18 15:07 J -39795522.96 -39795522.87 -39795522.77 0.0281 0.0214

Jupiter -113668-11-28 08:38 J -39795482.27 -39795482.14 -39795482.01 0.0497 0.0330

Saturn -113667-01-15 04:48 J -39795434.43 -39795434.30 -39795434.18 0.0282 0.0128

Saturn -113667-04-13 18:00 J -39795345.89 -39795345.75 -39795345.61 0.0283 0.0043

Saturn -113667-07-11 07:26 J -39795257.33 -39795257.19 -39795257.05 0.0284 0.0044

Mars -113667-07-13 10:48 J -39795255.14 -39795255.05 -39795254.95 0.1727 0.1043

Saturn -113667-10-07 20:24 J -39795168.77 -39795168.65 -39795168.52 0.0286 0.0131

Saturn -113666-01-04 09:36 J -39795080.19 -39795080.10 -39795080.01 0.0287 0.0216

Venus -113666-10-25 14:38 J -39794786.00 -39794785.89 -39794785.77 0.3726 0.1984

Earth -113662-05-13 01:26 J -39793490.51 -39793490.44 -39793490.37 0.2770 0.2157

Moon -113662-05-13 01:55 J -39793490.48 -39793490.42 -39793490.35 0.2775 0.2147 *

Jupiter -113662-08-02 04:34 J -39793409.39 -39793409.31 -39793409.23 0.0528 0.0426

Jupiter -113662-10-30 14:38 J -39793320.02 -39793319.89 -39793319.76 0.0529 0.0082

Mars -113660-02-14 03:36 J -39792847.38 -39792847.35 -39792847.31 0.1762 0.1693

Venus -113660-05-10 15:36 J -39792761.98 -39792761.85 -39792761.71 0.3720 0.0710

Mars -113660-12-28 07:12 J -39792530.29 -39792530.20 -39792530.11 0.1750 0.1175

Mars -113658-01-22 00:58 J -39792140.59 -39792140.46 -39792140.33 0.1782 0.1053

Mars -113658-12-03 20:10 J -39791824.77 -39791824.66 -39791824.54 0.1732 0.0634

Jupiter -113656-06-18 05:46 J -39791262.38 -39791262.26 -39791262.14 0.0497 0.0352

Jupiter -113656-09-16 07:41 J -39791172.34 -39791172.18 -39791172.02 0.0496 0.0194

Moon -113655-05-05 22:19 J -39790940.68 -39790940.57 -39790940.46 0.2764 0.0444

Earth -113655-05-05 23:02 J -39790940.65 -39790940.54 -39790940.43 0.2762 0.0426 *

Venus -113655-11-24 17:17 J -39790737.83 -39790737.78 -39790737.74 0.3713 0.3499

Saturn -113654-02-20 05:46 J -39790650.35 -39790650.26 -39790650.17 0.0281 0.0236

Saturn -113654-05-20 00:29 J -39790561.62 -39790561.48 -39790561.33 0.0280 0.0138

Saturn -113654-08-16 19:41 J -39790472.85 -39790472.68 -39790472.51 0.0279 0.0038

Saturn -113654-11-13 14:53 J -39790384.05 -39790383.88 -39790383.71 0.0278 0.0062

Saturn -113653-02-10 10:19 J -39790295.21 -39790295.07 -39790294.93 0.0277 0.0162

Saturn -113653-05-09 06:00 J -39790206.30 -39790206.25 -39790206.20 0.0276 0.0262

Moon -113652-10-27 20:53 J -39789669.77 -39789669.63 -39789669.50 0.2582 0.1349

Earth -113652-10-27 22:19 J -39789669.71 -39789669.57 -39789669.42 0.2581 0.1182 *

Mars -113650-05-20 15:22 J -39789099.90 -39789099.86 -39789099.82 0.1755 0.1650

Jupiter -113650-08-18 17:31 J -39789009.90 -39789009.77 -39789009.63 0.0529 0.0047

Jupiter -113650-11-16 02:53 J -39788920.44 -39788920.38 -39788920.31 0.0530 0.0451

Mars -113649-06-13 00:58 J -39788710.61 -39788710.46 -39788710.30 0.1777 0.0345

Mars -113648-04-25 05:17 J -39788394.40 -39788394.28 -39788394.16 0.1736 0.0212

Venus -113645-06-07 12:00 J -39787255.05 -39787255.00 -39787254.95 0.3648 0.3236

Jupiter -113644-04-06 05:31 J -39786952.31 -39786952.27 -39786952.23 0.0497 0.0480

Jupiter -113644-07-05 06:58 J -39786862.39 -39786862.21 -39786862.04 0.0496 0.0061

Moon -113642-05-08 17:02 J -39786189.90 -39786189.79 -39786189.69 0.2770 0.0463

Earth -113642-05-08 17:31 J -39786189.88 -39786189.77 -39786189.66 0.2765 0.0497 *

Pluto -113640-01-20 03:07 J -39785567.40 -39785567.37 -39785567.34 0.0084 0.0082

Pluto -113640-04-18 04:05 J -39785479.39 -39785479.33 -39785479.24 0.0084 0.0068

Pluto -113640-07-15 05:31 J -39785391.37 -39785391.27 -39785391.16 0.0084 0.0053

Pluto -113640-10-11 06:58 J -39785303.33 -39785303.21 -39785303.09 0.0084 0.0038

Mars -113640-11-03 01:55 J -39785280.57 -39785280.42 -39785280.27 0.1772 0.0338

Venus -113640-12-22 06:14 J -39785231.34 -39785231.24 -39785231.14 0.3654 0.1619

Pluto -113639-01-07 08:10 J -39785215.28 -39785215.16 -39785215.03 0.0084 0.0023

Pluto -113639-04-05 09:36 J -39785127.24 -39785127.10 -39785126.97 0.0084 0.0008

Pluto -113639-07-02 10:48 J -39785039.18 -39785039.05 -39785038.91 0.0084 0.0006

Uranus -113639-09-15 07:55 J -39784964.22 -39784964.17 -39784964.12 0.0131 0.0122

Mars -113639-09-15 14:10 J -39784964.03 -39784963.91 -39784963.79 0.1741 0.0227

Pluto -113639-09-28 12:00 J -39784951.13 -39784951.00 -39784950.87 0.0084 0.0021

Moon -113639-10-31 02:53 J -39784918.53 -39784918.38 -39784918.22 0.2581 0.0353

Earth -113639-10-31 04:19 J -39784918.47 -39784918.32 -39784918.16 0.2578 0.0357 *

Uranus -113639-12-12 11:17 J -39784876.11 -39784876.03 -39784875.95 0.0131 0.0107

Pluto -113639-12-25 13:12 J -39784863.06 -39784862.95 -39784862.82 0.0083 0.0035

Saturn -113638-03-07 16:48 J -39784790.87 -39784790.80 -39784790.72 0.0280 0.0240

Uranus -113638-03-10 14:38 J -39784787.99 -39784787.89 -39784787.79 0.0131 0.0091

Pluto -113638-03-23 14:24 J -39784775.00 -39784774.90 -39784774.78 0.0083 0.0050

Saturn -113638-06-04 06:29 J -39784702.35 -39784702.23 -39784702.11 0.0281 0.0154

Uranus -113638-06-06 18:00 J -39784699.86 -39784699.75 -39784699.63 0.0131 0.0075

Jupiter -113638-06-06 21:07 J -39784699.75 -39784699.62 -39784699.49 0.0529 0.0168 *

Pluto -113638-06-19 15:50 J -39784686.92 -39784686.84 -39784686.75 0.0083 0.0064

Saturn -113638-08-31 19:55 J -39784613.81 -39784613.67 -39784613.54 0.0282 0.0069

Uranus -113638-09-02 21:22 J -39784611.73 -39784611.61 -39784611.48 0.0131 0.0059

Jupiter -113638-09-04 06:43 J -39784610.32 -39784610.22 -39784610.12 0.0530 0.0335

Pluto -113638-09-15 16:48 J -39784598.83 -39784598.80 -39784598.74 0.0083 0.0078

Saturn -113638-11-28 09:07 J -39784525.26 -39784525.12 -39784524.98 0.0283 0.0017

Uranus -113638-11-30 00:43 J -39784523.60 -39784523.47 -39784523.34 0.0131 0.0043

Saturn -113637-02-24 22:19 J -39784436.70 -39784436.57 -39784436.44 0.0284 0.0103

Uranus -113637-02-26 04:05 J -39784435.47 -39784435.33 -39784435.20 0.0131 0.0028

Saturn -113637-05-23 11:17 J -39784348.13 -39784348.03 -39784347.92 0.0286 0.0188

Uranus -113637-05-24 07:12 J -39784347.33 -39784347.20 -39784347.06 0.0131 0.0013

Saturn -113637-08-20 00:14 J -39784259.52 -39784259.49 -39784259.45 0.0287 0.0273

Uranus -113637-08-20 10:34 J -39784259.20 -39784259.06 -39784258.92 0.0131 0.0003

Mars -113637-08-21 01:41 J -39784258.49 -39784258.43 -39784258.37 0.1723 0.1484

Uranus -113637-11-16 13:41 J -39784171.06 -39784170.93 -39784170.79 0.0131 0.0019

Uranus -113636-02-12 17:02 J -39784082.93 -39784082.79 -39784082.66 0.0131 0.0034

Neptune -113636-03-15 23:46 J -39784051.56 -39784051.51 -39784051.46 0.0089 0.0084

Uranus -113636-05-11 20:10 J -39783994.79 -39783994.66 -39783994.53 0.0131 0.0049

Neptune -113636-06-12 02:24 J -39783963.47 -39783963.40 -39783963.32 0.0089 0.0079

Uranus -113636-08-07 23:17 J -39783906.65 -39783906.53 -39783906.41 0.0131 0.0064

Neptune -113636-09-08 05:02 J -39783875.37 -39783875.29 -39783875.18 0.0089 0.0074

Uranus -113636-11-04 02:24 J -39783818.50 -39783818.40 -39783818.28 0.0131 0.0079

Neptune -113636-12-05 07:55 J -39783787.27 -39783787.17 -39783787.05 0.0089 0.0069

Uranus -113635-01-31 05:31 J -39783730.36 -39783730.27 -39783730.17 0.0131 0.0094

Neptune -113635-03-03 10:34 J -39783699.16 -39783699.06 -39783698.92 0.0089 0.0064

Uranus -113635-04-29 08:38 J -39783642.21 -39783642.14 -39783642.06 0.0131 0.0109

Moon -113635-05-01 14:38 J -39783639.96 -39783639.89 -39783639.82 0.2748 0.2175

Earth -113635-05-01 14:53 J -39783639.95 -39783639.88 -39783639.81 0.2755 0.2101 *

Neptune -113635-05-30 13:26 J -39783611.05 -39783610.94 -39783610.79 0.0089 0.0059

Uranus -113635-07-26 12:00 J -39783554.05 -39783554.00 -39783553.96 0.0131 0.0123

Neptune -113635-08-26 16:34 J -39783522.94 -39783522.81 -39783522.67 0.0089 0.0053

Neptune -113635-11-22 19:26 J -39783434.83 -39783434.69 -39783434.54 0.0089 0.0048

Neptune -113634-02-18 22:05 J -39783346.72 -39783346.58 -39783346.41 0.0089 0.0043

Neptune -113634-05-18 00:58 J -39783258.61 -39783258.46 -39783258.29 0.0089 0.0038

Venus -113634-07-08 00:14 J -39783207.60 -39783207.49 -39783207.37 0.3659 0.0105

Neptune -113634-08-14 04:05 J -39783170.49 -39783170.33 -39783170.16 0.0089 0.0032

Neptune -113634-11-10 06:58 J -39783082.37 -39783082.21 -39783082.03 0.0089 0.0027

Neptune -113633-02-06 09:50 J -39782994.25 -39782994.09 -39782993.91 0.0089 0.0022

Neptune -113633-05-04 12:58 J -39782906.13 -39782905.96 -39782905.78 0.0089 0.0016

Neptune -113633-07-31 15:50 J -39782818.01 -39782817.84 -39782817.66 0.0089 0.0011

Neptune -113633-10-27 18:58 J -39782729.89 -39782729.71 -39782729.53 0.0089 0.0005

Neptune -113632-01-23 21:50 J -39782641.77 -39782641.59 -39782641.41 0.0089 0.0001

Neptune -113632-04-22 00:58 J -39782553.64 -39782553.46 -39782553.29 0.0089 0.0006

Jupiter -113632-04-23 05:31 J -39782552.44 -39782552.27 -39782552.09 0.0497 0.0081

Neptune -113632-07-19 03:50 J -39782465.52 -39782465.34 -39782465.16 0.0089 0.0011

Jupiter -113632-07-22 08:24 J -39782462.20 -39782462.15 -39782462.11 0.0496 0.0476

Neptune -113632-10-15 06:43 J -39782377.39 -39782377.22 -39782377.04 0.0089 0.0017

Neptune -113631-01-11 09:50 J -39782289.26 -39782289.09 -39782288.91 0.0089 0.0022

Neptune -113631-04-09 12:43 J -39782201.13 -39782200.97 -39782200.79 0.0089 0.0028

Neptune -113631-07-06 15:36 J -39782113.00 -39782112.85 -39782112.67 0.0089 0.0034

Neptune -113631-10-02 18:58 J -39782024.87 -39782024.71 -39782024.55 0.0089 0.0039

Neptune -113631-12-29 21:50 J -39781936.74 -39781936.59 -39781936.42 0.0089 0.0045

Mars -113630-03-26 02:38 J -39781850.51 -39781850.39 -39781850.26 0.1767 0.1000

Neptune -113630-03-28 00:58 J -39781848.60 -39781848.46 -39781848.30 0.0089 0.0050

Neptune -113630-06-24 04:05 J -39781760.46 -39781760.33 -39781760.18 0.0089 0.0056

Neptune -113630-09-20 07:26 J -39781672.32 -39781672.19 -39781672.06 0.0089 0.0061

Neptune -113630-12-17 10:19 J -39781584.18 -39781584.07 -39781583.94 0.0089 0.0067

Mars -113629-02-05 22:48 J -39781533.67 -39781533.55 -39781533.44 0.1745 0.0673

Neptune -113629-03-14 13:12 J -39781496.04 -39781495.95 -39781495.83 0.0089 0.0073

Moon -113629-05-10 12:00 J -39781439.10 -39781439.00 -39781438.91 0.2776 0.1386

Earth -113629-05-10 12:00 J -39781439.10 -39781439.00 -39781438.91 0.2768 0.1419 *

Neptune -113629-06-10 16:34 J -39781407.89 -39781407.81 -39781407.72 0.0089 0.0078

Neptune -113629-09-06 19:41 J -39781319.73 -39781319.68 -39781319.61 0.0089 0.0084

Venus -113628-01-20 18:14 J -39781183.84 -39781183.74 -39781183.64 0.3664 0.1523

Mars -113627-01-11 11:02 J -39780828.14 -39780828.04 -39780827.95 0.1727 0.1086

Jupiter -113626-03-26 00:29 J -39780389.59 -39780389.48 -39780389.37 0.0529 0.0290

Jupiter -113626-06-23 10:19 J -39780300.19 -39780300.07 -39780299.95 0.0530 0.0216

Moon -113626-11-03 10:05 J -39780167.19 -39780167.08 -39780166.97 0.2581 0.1787

Earth -113626-11-03 10:34 J -39780167.17 -39780167.06 -39780166.95 0.2574 0.1903 *

Saturn -113625-07-09 04:05 J -39779918.36 -39779918.33 -39779918.28 0.0281 0.0273

Saturn -113625-10-05 23:02 J -39779829.67 -39779829.54 -39779829.41 0.0280 0.0175

Saturn -113624-01-02 17:46 J -39779740.92 -39779740.76 -39779740.59 0.0279 0.0076

Saturn -113624-04-01 12:58 J -39779652.13 -39779651.96 -39779651.79 0.0278 0.0024

Saturn -113624-06-29 08:24 J -39779563.31 -39779563.15 -39779563.00 0.0277 0.0124

Saturn -113624-09-26 03:50 J -39779474.44 -39779474.34 -39779474.23 0.0276 0.0224

Venus -113623-08-06 12:00 J -39779160.06 -39779160.00 -39779159.94 0.3669 0.3043

Moon -113622-05-04 08:53 J -39778889.23 -39778889.13 -39778889.03 0.2754 0.1159

Earth -113622-05-04 09:22 J -39778889.21 -39778889.11 -39778889.01 0.2759 0.1176 *

Mars -113621-08-15 04:19 J -39778420.37 -39778420.32 -39778420.26 0.1762 0.1626

Jupiter -113620-02-09 04:48 J -39778242.45 -39778242.30 -39778242.14 0.0497 0.0214

Jupiter -113620-05-10 06:58 J -39778152.33 -39778152.21 -39778152.08 0.0496 0.0338

Mars -113620-06-28 07:12 J -39778103.29 -39778103.20 -39778103.10 0.1750 0.1130

Mars -113619-07-23 01:26 J -39777713.56 -39777713.44 -39777713.31 0.1782 0.1123

Moon -113619-10-25 22:05 J -39777618.62 -39777618.58 -39777618.54 0.2580 0.2476

Earth -113619-10-25 23:17 J -39777618.59 -39777618.53 -39777618.48 0.2584 0.2399 *

Mars -113618-06-03 20:10 J -39777397.77 -39777397.66 -39777397.55 0.1732 0.0676

Earth -113616-05-13 06:14 J -39776688.29 -39776688.24 -39776688.18 0.2771 0.2332

Moon -113616-05-13 06:43 J -39776688.27 -39776688.22 -39776688.17 0.2776 0.2437 *

Venus -113615-11-15 13:55 J -39776136.94 -39776136.92 -39776136.90 0.3731 0.3661

Jupiter -113614-01-12 03:22 J -39776079.44 -39776079.36 -39776079.28 0.0528 0.0419

Jupiter -113614-04-11 13:26 J -39775990.07 -39775989.94 -39775989.81 0.0529 0.0089

Mars -113611-11-18 15:36 J -39774672.90 -39774672.85 -39774672.80 0.1755 0.1598

Mars -113610-12-13 01:41 J -39774283.58 -39774283.43 -39774283.28 0.1777 0.0411

Moon -113609-05-06 03:07 J -39774138.48 -39774138.37 -39774138.26 0.2762 0.0357

Earth -113609-05-06 03:50 J -39774138.44 -39774138.34 -39774138.23 0.2762 0.0265 *

Venus -113609-05-31 14:38 J -39774113.02 -39774112.89 -39774112.77 0.3724 0.1071

Saturn -113609-07-24 18:14 J -39774058.78 -39774058.74 -39774058.69 0.0280 0.0266

Saturn -113609-10-21 07:55 J -39773970.28 -39773970.17 -39773970.06 0.0281 0.0181

Mars -113609-10-24 05:17 J -39773967.40 -39773967.28 -39773967.16 0.1736 0.0254

Jupiter -113609-11-28 04:19 J -39773932.44 -39773932.32 -39773932.20 0.0498 0.0347

Saturn -113608-01-17 21:22 J -39773881.74 -39773881.61 -39773881.48 0.0282 0.0095

Jupiter -113608-02-26 06:00 J -39773842.40 -39773842.25 -39773842.09 0.0497 0.0201

Saturn -113608-04-16 10:34 J -39773793.20 -39773793.06 -39773792.91 0.0284 0.0013

Saturn -113608-07-13 23:46 J -39773704.64 -39773704.51 -39773704.37 0.0285 0.0078

Saturn -113608-10-10 12:58 J -39773616.07 -39773615.96 -39773615.84 0.0286 0.0163

Saturn -113607-01-07 01:55 J -39773527.48 -39773527.42 -39773527.35 0.0287 0.0248

Moon -113606-10-29 03:22 J -39772867.51 -39772867.36 -39772867.22 0.2580 0.0937

Earth -113606-10-29 05:02 J -39772867.44 -39772867.29 -39772867.14 0.2580 0.0882 *

Venus -113604-12-15 15:50 J -39772088.96 -39772088.84 -39772088.72 0.3718 0.1652

Jupiter -113602-01-28 16:34 J -39771679.94 -39771679.81 -39771679.67 0.0529 0.0038

Jupiter -113602-04-28 01:55 J -39771590.48 -39771590.42 -39771590.36 0.0530 0.0459

Mars -113600-05-04 01:55 J -39770853.57 -39770853.42 -39770853.26 0.1772 0.0288

Mars -113599-03-16 14:10 J -39770537.03 -39770536.91 -39770536.79 0.1741 0.0179

Mars -113597-02-20 01:41 J -39769831.49 -39769831.43 -39769831.38 0.1723 0.1525

Jupiter -113597-09-16 03:50 J -39769622.38 -39769622.34 -39769622.28 0.0497 0.0474

Jupiter -113597-12-15 05:17 J -39769532.45 -39769532.28 -39769532.10 0.0496 0.0068

Moon -113596-05-08 21:50 J -39769387.70 -39769387.59 -39769387.48 0.2770 0.0626

Earth -113596-05-08 22:19 J -39769387.67 -39769387.57 -39769387.46 0.2765 0.0682 *

Saturn -113595-02-22 23:02 J -39769097.65 -39769097.54 -39769097.42 0.0281 0.0204

Saturn -113595-05-22 18:00 J -39769008.91 -39769008.75 -39769008.59 0.0280 0.0105

Uranus -113595-05-25 10:05 J -39769006.12 -39769006.08 -39769006.00 0.0148 0.0138

Saturn -113595-08-19 13:12 J -39768920.13 -39768919.95 -39768919.78 0.0278 0.0008

Uranus -113595-08-21 17:46 J -39768917.87 -39768917.76 -39768917.63 0.0148 0.0110

Saturn -113595-11-16 08:24 J -39768831.31 -39768831.15 -39768830.99 0.0277 0.0095

Uranus -113595-11-18 01:26 J -39768829.58 -39768829.44 -39768829.28 0.0148 0.0082

Saturn -113594-02-13 03:50 J -39768742.46 -39768742.34 -39768742.21 0.0276 0.0195

Uranus -113594-02-14 09:07 J -39768741.28 -39768741.12 -39768740.95 0.0148 0.0053

Uranus -113594-05-13 16:48 J -39768652.97 -39768652.80 -39768652.62 0.0148 0.0025

Uranus -113594-08-10 00:43 J -39768564.65 -39768564.47 -39768564.29 0.0148 0.0004

Uranus -113594-11-06 08:24 J -39768476.32 -39768476.15 -39768475.97 0.0148 0.0034

Uranus -113593-02-02 16:19 J -39768387.98 -39768387.82 -39768387.65 0.0148 0.0063

Uranus -113593-05-01 00:14 J -39768299.63 -39768299.49 -39768299.34 0.0148 0.0092

Uranus -113593-07-28 08:10 J -39768211.25 -39768211.16 -39768211.05 0.0148 0.0122

Moon -113593-10-31 09:22 J -39768116.26 -39768116.11 -39768115.95 0.2579 0.0455

Earth -113593-10-31 11:02 J -39768116.20 -39768116.04 -39768115.89 0.2577 0.0655 *

Mars -113591-09-24 03:22 J -39767423.49 -39767423.36 -39767423.23 0.1767 0.0930

Jupiter -113591-11-16 19:12 J -39767369.83 -39767369.70 -39767369.57 0.0529 0.0170

Jupiter -113590-02-14 04:48 J -39767280.40 -39767280.30 -39767280.19 0.0530 0.0333

Mars -113590-08-06 22:48 J -39767106.66 -39767106.55 -39767106.43 0.1745 0.0625

Moon -113589-05-01 19:41 J -39766837.76 -39766837.68 -39766837.60 0.2748 0.1850

Earth -113589-05-01 19:41 J -39766837.75 -39766837.68 -39766837.60 0.2756 0.1927 *

Venus -113588-01-12 10:05 J -39766582.16 -39766582.08 -39766582.00 0.3650 0.2638

Mars -113588-07-12 11:02 J -39766401.13 -39766401.04 -39766400.94 0.1727 0.1135

Jupiter -113585-10-03 04:34 J -39765222.48 -39765222.31 -39765222.13 0.0497 0.0068

Jupiter -113584-01-01 07:12 J -39765132.22 -39765132.20 -39765132.17 0.0496 0.0488

Moon -113583-05-11 16:34 J -39764636.89 -39764636.81 -39764636.72 0.2776 0.1632

Earth -113583-05-11 16:48 J -39764636.89 -39764636.80 -39764636.71 0.2768 0.1596 *

Venus -113583-07-29 04:19 J -39764558.43 -39764558.32 -39764558.21 0.3655 0.1030

Mars -113581-02-14 04:48 J -39763993.37 -39763993.30 -39763993.23 0.1762 0.1563

Mars -113581-12-27 07:26 J -39763676.29 -39763676.19 -39763676.10 0.1750 0.1081

Moon -113580-11-03 16:05 J -39763364.90 -39763364.83 -39763364.75 0.2580 0.2232

Earth -113580-11-03 17:02 J -39763364.87 -39763364.79 -39763364.71 0.2574 0.2201 *

Mars -113579-01-21 02:24 J -39763286.52 -39763286.40 -39763286.29 0.1782 0.1196

Saturn -113579-03-10 09:50 J -39763238.18 -39763238.09 -39763237.99 0.0280 0.0204

Saturn -113579-06-06 23:31 J -39763149.65 -39763149.52 -39763149.39 0.0281 0.0119

Saturn -113579-09-03 12:43 J -39763061.11 -39763060.97 -39763060.83 0.0283 0.0034

Jupiter -113579-09-04 22:34 J -39763059.67 -39763059.56 -39763059.45 0.0529 0.0293

Saturn -113579-12-01 01:55 J -39762972.55 -39762972.42 -39762972.28 0.0284 0.0053

Mars -113579-12-02 20:10 J -39762970.77 -39762970.66 -39762970.54 0.1732 0.0723

Jupiter -113579-12-03 08:24 J -39762970.27 -39762970.15 -39762970.02 0.0530 0.0215

Saturn -113578-02-27 15:07 J -39762883.99 -39762883.87 -39762883.75 0.0285 0.0138

Saturn -113578-05-27 04:05 J -39762795.41 -39762795.33 -39762795.24 0.0286 0.0223

Venus -113577-02-11 22:19 J -39762534.68 -39762534.57 -39762534.45 0.3660 0.0568

Moon -113576-05-04 13:41 J -39762087.03 -39762086.93 -39762086.83 0.2755 0.1109

Earth -113576-05-04 14:24 J -39762087.01 -39762086.90 -39762086.80 0.2759 0.1000 *

Jupiter -113573-07-22 03:22 J -39760912.52 -39760912.36 -39760912.20 0.0497 0.0207

Jupiter -113573-10-20 05:31 J -39760822.39 -39760822.27 -39760822.14 0.0496 0.0344

Moon -113573-10-26 04:34 J -39760816.39 -39760816.31 -39760816.23 0.2580 0.2194

Earth -113573-10-26 05:46 J -39760816.35 -39760816.26 -39760816.18 0.2584 0.2114 *

Venus -113572-08-27 16:19 J -39760510.91 -39760510.82 -39760510.73 0.3665 0.2085

Mars -113571-05-19 15:36 J -39760245.91 -39760245.85 -39760245.79 0.1755 0.1552

Earth -113570-05-14 11:17 J -39759886.08 -39759886.03 -39759885.99 0.2771 0.2513

Moon -113570-05-14 11:46 J -39759886.06 -39759886.01 -39759885.97 0.2777 0.2507 *

Mars -113570-06-13 02:10 J -39759856.56 -39759856.41 -39759856.26 0.1777 0.0474

Mars -113569-04-24 05:17 J -39759540.40 -39759540.28 -39759540.16 0.1736 0.0300

Jupiter -113567-06-24 01:55 J -39758749.50 -39758749.42 -39758749.34 0.0528 0.0416

Jupiter -113567-09-21 12:00 J -39758660.13 -39758660.00 -39758659.86 0.0529 0.0096

Venus -113566-03-13 10:05 J -39758487.10 -39758487.08 -39758487.06 0.3671 0.3593

Saturn -113566-07-12 22:05 J -39758365.66 -39758365.58 -39758365.48 0.0281 0.0237

Saturn -113566-10-09 17:02 J -39758276.93 -39758276.79 -39758276.64 0.0280 0.0138

Saturn -113565-01-06 12:00 J -39758188.16 -39758188.00 -39758187.83 0.0279 0.0039

Saturn -113565-04-04 07:12 J -39758099.36 -39758099.20 -39758099.03 0.0278 0.0062

Saturn -113565-07-02 02:38 J -39758010.53 -39758010.39 -39758010.24 0.0277 0.0161

Saturn -113565-09-28 22:19 J -39757921.62 -39757921.57 -39757921.51 0.0276 0.0261

Moon -113563-05-07 08:10 J -39757336.27 -39757336.16 -39757336.05 0.2762 0.0128

Earth -113563-05-07 08:53 J -39757336.24 -39757336.13 -39757336.02 0.2763 0.0089 *

Jupiter -113561-05-10 02:24 J -39756602.52 -39756602.40 -39756602.27 0.0497 0.0342

Jupiter -113561-08-08 04:19 J -39756512.48 -39756512.32 -39756512.16 0.0496 0.0204

Mars -113561-11-02 02:53 J -39756426.54 -39756426.38 -39756426.23 0.1772 0.0209

Mars -113560-09-14 14:10 J -39756110.03 -39756109.91 -39756109.78 0.1741 0.0143

Moon -113560-10-29 09:50 J -39756065.24 -39756065.09 -39756064.94 0.2579 0.0768

Earth -113560-10-29 11:31 J -39756065.17 -39756065.02 -39756064.87 0.2580 0.0587 *

Venus -113558-06-22 13:41 J -39755464.01 -39755463.93 -39755463.84 0.3729 0.2777

Mars -113558-08-21 01:41 J -39755404.48 -39755404.43 -39755404.38 0.1723 0.1569

Earth -113556-04-30 06:00 J -39754786.27 -39754786.25 -39754786.22 0.2753 0.2676

Moon -113556-04-30 06:29 J -39754786.26 -39754786.23 -39754786.20 0.2746 0.2611 *

Neptune -113555-04-10 17:17 J -39754440.79 -39754440.78 -39754440.74 0.0088 0.0087

Neptune -113555-07-07 19:26 J -39754352.74 -39754352.69 -39754352.64 0.0088 0.0082

Jupiter -113555-07-10 15:07 J -39754350.00 -39754349.87 -39754349.73 0.0529 0.0034

Neptune -113555-10-03 20:53 J -39754264.69 -39754264.63 -39754264.55 0.0088 0.0078

Uranus -113555-10-05 15:50 J -39754262.90 -39754262.84 -39754262.77 0.0131 0.0115

Jupiter -113555-10-08 00:29 J -39754260.54 -39754260.48 -39754260.42 0.0530 0.0462

Neptune -113555-12-30 22:48 J -39754176.63 -39754176.55 -39754176.47 0.0088 0.0073

Uranus -113554-01-01 19:12 J -39754174.79 -39754174.70 -39754174.60 0.0131 0.0100

Neptune -113554-03-29 00:29 J -39754088.56 -39754088.48 -39754088.38 0.0088 0.0069

Uranus -113554-03-30 22:34 J -39754086.66 -39754086.56 -39754086.45 0.0131 0.0084

Neptune -113554-06-25 01:55 J -39754000.50 -39754000.42 -39754000.30 0.0088 0.0065

Uranus -113554-06-27 01:55 J -39753998.54 -39753998.42 -39753998.30 0.0131 0.0068

Neptune -113554-09-21 03:50 J -39753912.44 -39753912.34 -39753912.23 0.0088 0.0060

Uranus -113554-09-23 05:17 J -39753910.41 -39753910.28 -39753910.15 0.0131 0.0052

Neptune -113554-12-18 05:31 J -39753824.37 -39753824.27 -39753824.15 0.0088 0.0055

Uranus -113554-12-20 08:38 J -39753822.27 -39753822.14 -39753822.00 0.0131 0.0037

Neptune -113553-03-15 07:26 J -39753736.31 -39753736.19 -39753736.07 0.0088 0.0051

Uranus -113553-03-17 12:00 J -39753734.14 -39753734.00 -39753733.86 0.0131 0.0021

Neptune -113553-06-11 08:53 J -39753648.24 -39753648.13 -39753648.00 0.0088 0.0047

Uranus -113553-06-13 15:07 J -39753646.01 -39753645.87 -39753645.73 0.0131 0.0006

Neptune -113553-09-07 10:34 J -39753560.18 -39753560.06 -39753559.92 0.0088 0.0042

Uranus -113553-09-09 18:29 J -39753557.87 -39753557.73 -39753557.59 0.0131 0.0010

Neptune -113553-12-04 12:29 J -39753472.11 -39753471.98 -39753471.85 0.0088 0.0038

Uranus -113553-12-06 21:36 J -39753469.73 -39753469.60 -39753469.46 0.0131 0.0025

Venus -113552-01-05 14:24 J -39753440.03 -39753439.90 -39753439.76 0.3723 0.0195

Neptune -113552-03-02 13:55 J -39753384.04 -39753383.92 -39753383.78 0.0088 0.0034

Uranus -113552-03-05 00:58 J -39753381.60 -39753381.46 -39753381.33 0.0131 0.0040

Neptune -113552-05-29 15:36 J -39753295.98 -39753295.85 -39753295.71 0.0088 0.0029

Uranus -113552-06-01 04:05 J -39753293.46 -39753293.33 -39753293.21 0.0131 0.0055

Neptune -113552-08-25 17:31 J -39753207.91 -39753207.77 -39753207.64 0.0088 0.0025

Uranus -113552-08-28 07:12 J -39753205.32 -39753205.20 -39753205.08 0.0131 0.0070

Neptune -113552-11-21 18:58 J -39753119.84 -39753119.71 -39753119.56 0.0088 0.0021

Uranus -113552-11-24 10:19 J -39753117.17 -39753117.07 -39753116.96 0.0131 0.0085

Neptune -113551-02-17 20:38 J -39753031.78 -39753031.64 -39753031.50 0.0088 0.0016

Uranus -113551-02-20 13:26 J -39753029.02 -39753028.94 -39753028.85 0.0131 0.0100

Mars -113551-03-25 03:36 J -39752996.48 -39752996.35 -39752996.21 0.1767 0.0875

Neptune -113551-05-16 22:19 J -39752943.71 -39752943.57 -39752943.43 0.0088 0.0012

Uranus -113551-05-19 16:19 J -39752940.87 -39752940.82 -39752940.74 0.0131 0.0115

Neptune -113551-08-13 00:00 J -39752855.64 -39752855.50 -39752855.36 0.0088 0.0007

Uranus -113551-08-15 19:26 J -39752852.69 -39752852.69 -39752852.66 0.0131 0.0130

Neptune -113551-11-09 01:41 J -39752767.58 -39752767.43 -39752767.29 0.0088 0.0004

Mars -113550-02-04 23:02 J -39752679.66 -39752679.54 -39752679.43 0.1746 0.0578

Neptune -113550-02-05 03:07 J -39752679.51 -39752679.37 -39752679.22 0.0088 0.0003 *

Neptune -113550-05-04 04:48 J -39752591.44 -39752591.30 -39752591.16 0.0088 0.0005

Moon -113550-05-10 02:53 J -39752585.48 -39752585.38 -39752585.28 0.2772 0.0799

Earth -113550-05-10 03:22 J -39752585.47 -39752585.36 -39752585.26 0.2766 0.0861 *

Saturn -113550-07-28 11:46 J -39752506.09 -39752506.01 -39752505.93 0.0281 0.0228

Neptune -113550-07-31 06:29 J -39752503.37 -39752503.23 -39752503.09 0.0088 0.0010

Saturn -113550-10-25 01:12 J -39752417.57 -39752417.45 -39752417.32 0.0282 0.0143

Neptune -113550-10-27 07:55 J -39752415.31 -39752415.17 -39752415.03 0.0088 0.0014

Saturn -113549-01-21 14:38 J -39752329.03 -39752328.89 -39752328.75 0.0283 0.0057

Neptune -113549-01-23 09:36 J -39752327.24 -39752327.10 -39752326.96 0.0088 0.0018

Jupiter -113549-02-27 01:55 J -39752292.47 -39752292.42 -39752292.37 0.0498 0.0474

Saturn -113549-04-19 04:05 J -39752240.47 -39752240.33 -39752240.19 0.0284 0.0030

Neptune -113549-04-20 11:02 J -39752239.17 -39752239.04 -39752238.90 0.0088 0.0023

Jupiter -113549-05-27 03:22 J -39752202.53 -39752202.36 -39752202.19 0.0497 0.0068

Saturn -113549-07-16 17:02 J -39752151.91 -39752151.79 -39752151.66 0.0285 0.0115

Neptune -113549-07-17 12:43 J -39752151.10 -39752150.97 -39752150.83 0.0088 0.0027

Saturn -113549-10-13 06:14 J -39752063.34 -39752063.24 -39752063.14 0.0286 0.0200

Neptune -113549-10-13 14:24 J -39752063.04 -39752062.90 -39752062.77 0.0088 0.0031

Neptune -113548-01-09 15:36 J -39751974.97 -39751974.85 -39751974.71 0.0088 0.0036

Saturn -113548-01-09 19:12 J -39751974.72 -39751974.70 -39751974.69 0.0287 0.0285 *

Mars -113548-01-10 11:02 J -39751974.13 -39751974.04 -39751973.95 0.1727 0.1172

Neptune -113548-04-07 17:17 J -39751886.90 -39751886.78 -39751886.65 0.0088 0.0039

Neptune -113548-07-04 18:43 J -39751798.83 -39751798.72 -39751798.59 0.0088 0.0044

Neptune -113548-09-30 20:24 J -39751710.76 -39751710.65 -39751710.53 0.0088 0.0047

Neptune -113548-12-27 21:50 J -39751622.69 -39751622.59 -39751622.47 0.0088 0.0052

Neptune -113547-03-25 23:31 J -39751534.62 -39751534.52 -39751534.41 0.0088 0.0056

Neptune -113547-06-22 00:58 J -39751446.55 -39751446.46 -39751446.35 0.0088 0.0060

Venus -113547-07-22 15:36 J -39751415.94 -39751415.85 -39751415.75 0.3716 0.2590

Neptune -113547-09-18 02:38 J -39751358.48 -39751358.39 -39751358.29 0.0088 0.0064

Moon -113547-11-01 16:19 J -39751313.96 -39751313.82 -39751313.67 0.2581 0.0962

Earth -113547-11-01 17:31 J -39751313.92 -39751313.77 -39751313.62 0.2577 0.0957 *

Neptune -113547-12-15 04:05 J -39751270.41 -39751270.33 -39751270.24 0.0088 0.0068

Neptune -113546-03-13 05:46 J -39751182.34 -39751182.26 -39751182.18 0.0088 0.0072

Neptune -113546-06-09 07:12 J -39751094.27 -39751094.20 -39751094.13 0.0088 0.0076

Neptune -113546-09-05 08:24 J -39751006.19 -39751006.15 -39751006.08 0.0088 0.0080

Neptune -113546-12-02 09:50 J -39750918.11 -39750918.09 -39750918.03 0.0088 0.0084

Neptune -113545-02-28 11:46 J -39750830.02 -39750830.01 -39750830.00 0.0088 0.0088

Jupiter -113543-04-28 18:00 J -39750039.87 -39750039.75 -39750039.62 0.0529 0.0164

Moon -113543-05-03 00:29 J -39750035.56 -39750035.48 -39750035.40 0.2749 0.1808

Earth -113543-05-03 00:43 J -39750035.56 -39750035.47 -39750035.39 0.2756 0.1745 *

Jupiter -113543-07-27 03:36 J -39749950.45 -39749950.35 -39749950.24 0.0530 0.0339

Mars -113542-08-15 05:02 J -39749566.36 -39749566.29 -39749566.21 0.1762 0.1507

Mars -113541-06-27 07:26 J -39749249.28 -39749249.19 -39749249.09 0.1750 0.1031

Mars -113540-07-22 02:24 J -39748859.51 -39748859.40 -39748859.28 0.1782 0.1251

Mars -113539-06-02 20:24 J -39748543.76 -39748543.65 -39748543.54 0.1732 0.0765

Jupiter -113537-03-15 02:38 J -39747892.56 -39747892.39 -39747892.21 0.0497 0.0066

Earth -113537-05-11 21:36 J -39747834.68 -39747834.60 -39747834.51 0.2769 0.1780

Moon -113537-05-11 21:50 J -39747834.67 -39747834.59 -39747834.51 0.2775 0.1785 *

Jupiter -113537-06-13 05:17 J -39747802.29 -39747802.28 -39747802.25 0.0496 0.0491

Saturn -113537-11-28 22:48 J -39747633.60 -39747633.55 -39747633.48 0.0281 0.0262

Saturn -113536-02-25 17:46 J -39747544.90 -39747544.76 -39747544.62 0.0280 0.0164

Saturn -113536-05-25 12:43 J -39747456.14 -39747455.97 -39747455.80 0.0279 0.0065

Saturn -113536-08-22 07:55 J -39747367.34 -39747367.17 -39747367.00 0.0278 0.0035

Saturn -113536-11-19 03:22 J -39747278.51 -39747278.36 -39747278.21 0.0277 0.0134

Saturn -113535-02-15 22:48 J -39747189.64 -39747189.55 -39747189.46 0.0276 0.0234

Moon -113534-11-04 23:17 J -39746562.58 -39746562.53 -39746562.47 0.2580 0.2397

Earth -113534-11-04 23:46 J -39746562.54 -39746562.51 -39746562.48 0.2573 0.2509 *

Venus -113532-08-19 08:24 J -39745909.25 -39745909.15 -39745909.06 0.3651 0.2044

Mars -113532-11-17 15:50 J -39745818.91 -39745818.84 -39745818.78 0.1755 0.1503

Jupiter -113531-02-14 20:24 J -39745729.76 -39745729.65 -39745729.53 0.0529 0.0300

Jupiter -113531-05-15 06:29 J -39745640.35 -39745640.23 -39745640.11 0.0530 0.0208

Mars -113531-12-12 02:53 J -39745429.53 -39745429.38 -39745429.24 0.1777 0.0545

Moon -113530-05-05 18:29 J -39745284.83 -39745284.73 -39745284.62 0.2757 0.0811

Earth -113530-05-05 19:12 J -39745284.80 -39745284.70 -39745284.59 0.2760 0.0817 *

Mars -113530-10-24 05:31 J -39745113.39 -39745113.27 -39745113.15 0.1736 0.0348

Moon -113527-10-27 10:34 J -39744014.17 -39744014.06 -39744013.95 0.2581 0.1866

Earth -113527-10-27 12:14 J -39744014.10 -39744013.99 -39744013.88 0.2583 0.1820 *

Venus -113526-03-05 02:24 J -39743885.51 -39743885.40 -39743885.28 0.3656 0.0458

Jupiter -113525-01-02 02:10 J -39743582.57 -39743582.41 -39743582.26 0.0497 0.0198

Jupiter -113525-04-01 04:05 J -39743492.44 -39743492.33 -39743492.20 0.0496 0.0353

Earth -113524-05-14 16:05 J -39743083.85 -39743083.83 -39743083.81 0.2771 0.2692

Mars -113521-05-03 03:22 J -39741999.51 -39741999.36 -39741999.21 0.1772 0.0144

Venus -113521-09-17 20:38 J -39741861.75 -39741861.64 -39741861.54 0.3662 0.1129

Saturn -113521-12-14 14:24 J -39741773.96 -39741773.90 -39741773.83 0.0280 0.0248

Saturn -113520-03-13 03:50 J -39741685.45 -39741685.34 -39741685.22 0.0281 0.0163

Mars -113520-03-15 14:24 J -39741683.03 -39741682.90 -39741682.78 0.1741 0.0094

Saturn -113520-06-09 17:17 J -39741596.91 -39741596.78 -39741596.64 0.0282 0.0078

Saturn -113520-09-06 06:43 J -39741508.36 -39741508.22 -39741508.08 0.0283 0.0008

Saturn -113520-12-03 19:55 J -39741419.80 -39741419.67 -39741419.54 0.0284 0.0094

Jupiter -113520-12-03 23:46 J -39741419.59 -39741419.51 -39741419.43 0.0529 0.0424 *

Saturn -113519-03-02 08:53 J -39741331.23 -39741331.13 -39741331.02 0.0285 0.0179

Jupiter -113519-03-03 10:05 J -39741330.22 -39741330.08 -39741329.95 0.0530 0.0088

Saturn -113519-05-29 21:50 J -39741242.64 -39741242.59 -39741242.53 0.0286 0.0263

Mars -113518-02-19 01:41 J -39740977.47 -39740977.43 -39740977.39 0.1723 0.1610

Moon -113517-05-07 12:58 J -39740534.06 -39740533.96 -39740533.85 0.2766 0.0113

Earth -113517-05-07 13:41 J -39740534.04 -39740533.93 -39740533.82 0.2763 0.0113 *

Venus -113515-04-03 14:24 J -39739837.98 -39739837.90 -39739837.82 0.3667 0.2644

Jupiter -113514-10-21 00:43 J -39739272.59 -39739272.47 -39739272.34 0.0497 0.0338

Moon -113514-10-30 16:34 J -39739262.97 -39739262.81 -39739262.66 0.2581 0.0390

Earth -113514-10-30 18:00 J -39739262.90 -39739262.75 -39739262.59 0.2580 0.0294 *

Jupiter -113513-01-19 02:24 J -39739182.56 -39739182.40 -39739182.24 0.0496 0.0207

Mars -113512-09-23 04:19 J -39738569.46 -39738569.32 -39738569.19 0.1767 0.0806

Uranus -113511-06-14 17:02 J -39738304.85 -39738304.79 -39738304.70 0.0148 0.0133

Mars -113511-08-05 23:02 J -39738252.66 -39738252.54 -39738252.42 0.1745 0.0528

Uranus -113511-09-11 00:43 J -39738216.59 -39738216.47 -39738216.34 0.0148 0.0105

Uranus -113511-12-08 08:10 J -39738128.30 -39738128.16 -39738127.99 0.0148 0.0077

Uranus -113510-03-06 16:05 J -39738040.00 -39738039.83 -39738039.66 0.0148 0.0048

Earth -113510-05-01 11:02 J -39737984.09 -39737984.04 -39737984.00 0.2753 0.2498

Moon -113510-05-01 11:02 J -39737984.08 -39737984.04 -39737983.99 0.2745 0.2478 *

Uranus -113510-06-02 23:46 J -39737951.68 -39737951.51 -39737951.33 0.0148 0.0020

Uranus -113510-08-30 07:41 J -39737863.36 -39737863.18 -39737863.00 0.0148 0.0010

Uranus -113510-11-26 15:22 J -39737775.03 -39737774.86 -39737774.68 0.0148 0.0039

Uranus -113509-02-22 23:17 J -39737686.69 -39737686.53 -39737686.37 0.0148 0.0068

Uranus -113509-05-21 07:12 J -39737598.33 -39737598.20 -39737598.06 0.0148 0.0098

Mars -113509-07-11 11:17 J -39737547.12 -39737547.03 -39737546.95 0.1727 0.1217

Uranus -113509-08-17 15:07 J -39737509.95 -39737509.87 -39737509.77 0.0148 0.0127

Jupiter -113508-12-20 13:26 J -39737020.07 -39737019.94 -39737019.80 0.0529 0.0035

Jupiter -113507-03-19 22:48 J -39736930.61 -39736930.55 -39736930.48 0.0530 0.0464

Saturn -113507-07-15 17:31 J -39736812.89 -39736812.77 -39736812.64 0.0281 0.0193

Saturn -113507-10-12 12:29 J -39736724.14 -39736723.98 -39736723.82 0.0280 0.0094

Saturn -113506-01-09 07:26 J -39736635.36 -39736635.19 -39736635.01 0.0279 0.0008

Saturn -113506-04-08 02:53 J -39736546.54 -39736546.38 -39736546.22 0.0278 0.0104

Saturn -113506-07-05 22:05 J -39736457.68 -39736457.58 -39736457.45 0.0276 0.0205

Moon -113504-05-10 07:55 J -39735783.27 -39735783.17 -39735783.07 0.2773 0.1062

Earth -113504-05-10 08:10 J -39735783.26 -39735783.16 -39735783.06 0.2766 0.1034 *

Mars -113502-02-13 05:46 J -39735139.35 -39735139.26 -39735139.18 0.1762 0.1441

Jupiter -113502-08-09 00:00 J -39734962.55 -39734962.50 -39734962.45 0.0497 0.0472

Jupiter -113502-11-07 01:12 J -39734872.62 -39734872.45 -39734872.28 0.0497 0.0068

Mars -113502-12-27 07:26 J -39734822.29 -39734822.19 -39734822.08 0.1750 0.0988

Venus -113501-01-27 13:26 J -39734791.05 -39734790.94 -39734790.82 0.3727 0.1879

Moon -113501-11-01 23:17 J -39734511.67 -39734511.53 -39734511.39 0.2582 0.1138

Earth -113501-11-02 00:00 J -39734511.64 -39734511.50 -39734511.36 0.2576 0.1255 *

Mars -113500-01-20 03:22 J -39734432.47 -39734432.36 -39734432.26 0.1782 0.1326

Mars -113500-12-01 20:24 J -39734116.76 -39734116.65 -39734116.54 0.1732 0.0808

Moon -113497-05-03 05:02 J -39733233.38 -39733233.29 -39733233.20 0.2752 0.1590

Earth -113497-05-03 05:31 J -39733233.36 -39733233.27 -39733233.18 0.2757 0.1567 *

Venus -113496-08-12 14:24 J -39732767.03 -39732766.90 -39732766.77 0.3721 0.0786

Jupiter -113496-10-08 16:34 J -39732709.94 -39732709.81 -39732709.69 0.0529 0.0164

Jupiter -113495-01-06 02:10 J -39732620.51 -39732620.41 -39732620.31 0.0530 0.0339

Mars -113492-05-18 15:50 J -39731391.91 -39731391.84 -39731391.77 0.1755 0.1451

Saturn -113491-05-03 16:19 J -39731041.85 -39731041.82 -39731041.78 0.0280 0.0271

Earth -113491-05-13 02:38 J -39731032.47 -39731032.39 -39731032.32 0.2769 0.1958

Moon -113491-05-13 03:07 J -39731032.45 -39731032.37 -39731032.30 0.2775 0.1974 *

Mars -113491-06-12 03:22 J -39731002.51 -39731002.36 -39731002.22 0.1777 0.0608

Saturn -113491-07-31 05:46 J -39730953.36 -39730953.26 -39730953.14 0.0281 0.0186

Saturn -113491-10-27 19:26 J -39730864.82 -39730864.69 -39730864.56 0.0282 0.0100

Saturn -113490-01-24 08:38 J -39730776.28 -39730776.14 -39730775.99 0.0283 0.0018

Venus -113490-02-26 15:50 J -39730742.88 -39730742.84 -39730742.81 0.3714 0.3545

Saturn -113490-04-22 22:05 J -39730687.72 -39730687.58 -39730687.45 0.0284 0.0071

Mars -113490-04-24 05:31 J -39730686.39 -39730686.27 -39730686.15 0.1736 0.0390

Saturn -113490-07-20 11:02 J -39730599.15 -39730599.04 -39730598.92 0.0286 0.0156

Jupiter -113490-08-26 00:14 J -39730562.66 -39730562.49 -39730562.32 0.0497 0.0069

Saturn -113490-10-17 00:00 J -39730510.57 -39730510.50 -39730510.42 0.0287 0.0241

Jupiter -113490-11-24 02:53 J -39730472.41 -39730472.38 -39730472.35 0.0496 0.0487

Pluto -113486-10-23 07:26 J -39729043.25 -39729043.19 -39729043.10 0.0060 0.0055

Pluto -113485-01-19 08:53 J -39728955.23 -39728955.13 -39728955.00 0.0060 0.0047

Pluto -113485-04-16 10:05 J -39728867.20 -39728867.08 -39728866.91 0.0060 0.0040

Pluto -113485-07-13 11:46 J -39728779.16 -39728779.01 -39728778.84 0.0060 0.0032

Pluto -113485-10-09 13:12 J -39728691.12 -39728690.95 -39728690.76 0.0060 0.0025

Pluto -113484-01-05 14:24 J -39728603.07 -39728602.90 -39728602.70 0.0060 0.0017

Pluto -113484-04-03 16:05 J -39728515.02 -39728514.83 -39728514.64 0.0060 0.0009

Moon -113484-05-05 23:17 J -39728482.63 -39728482.53 -39728482.42 0.2759 0.0766

Earth -113484-05-06 00:14 J -39728482.60 -39728482.49 -39728482.39 0.2760 0.0645 *

Pluto -113484-06-30 17:31 J -39728426.96 -39728426.77 -39728426.58 0.0060 0.0001

Jupiter -113484-07-27 19:12 J -39728399.81 -39728399.70 -39728399.59 0.0528 0.0294

Pluto -113484-09-26 18:43 J -39728338.90 -39728338.72 -39728338.52 0.0060 0.0007

Jupiter -113484-10-25 05:02 J -39728310.41 -39728310.29 -39728310.16 0.0529 0.0213

Pluto -113484-12-23 20:10 J -39728250.84 -39728250.66 -39728250.47 0.0060 0.0014

Pluto -113483-03-21 21:36 J -39728162.78 -39728162.60 -39728162.42 0.0061 0.0022

Pluto -113483-06-17 22:48 J -39728074.71 -39728074.55 -39728074.37 0.0061 0.0030

Pluto -113483-09-14 00:00 J -39727986.63 -39727986.50 -39727986.33 0.0061 0.0038

Pluto -113483-12-11 01:26 J -39727898.55 -39727898.44 -39727898.29 0.0061 0.0046

Pluto -113482-03-09 02:38 J -39727810.45 -39727810.39 -39727810.27 0.0061 0.0054

Mars -113482-11-02 03:36 J -39727572.50 -39727572.35 -39727572.19 0.1772 0.0099

Venus -113481-09-09 12:14 J -39727260.05 -39727259.99 -39727259.93 0.3648 0.3061

Mars -113481-09-13 14:24 J -39727256.02 -39727255.90 -39727255.77 0.1741 0.0070

Moon -113481-10-27 17:02 J -39727211.91 -39727211.79 -39727211.68 0.2582 0.1733

Earth -113481-10-27 18:43 J -39727211.85 -39727211.72 -39727211.60 0.2583 0.1527 *

Mars -113479-08-20 01:41 J -39726550.46 -39726550.43 -39726550.39 0.1723 0.1654

Jupiter -113478-06-13 23:46 J -39726252.66 -39726252.51 -39726252.35 0.0497 0.0200

Jupiter -113478-09-12 01:55 J -39726162.54 -39726162.42 -39726162.30 0.0496 0.0351

Saturn -113478-12-02 18:43 J -39726080.82 -39726080.72 -39726080.61 0.0281 0.0217

Saturn -113477-02-29 13:26 J -39725992.09 -39725991.94 -39725991.78 0.0280 0.0119

Saturn -113477-05-28 08:38 J -39725903.31 -39725903.14 -39725902.97 0.0279 0.0020

Saturn -113477-08-25 03:50 J -39725814.50 -39725814.34 -39725814.17 0.0278 0.0080

Saturn -113477-11-21 23:17 J -39725725.66 -39725725.53 -39725725.40 0.0277 0.0180

Venus -113475-03-26 06:29 J -39725236.33 -39725236.23 -39725236.13 0.3653 0.1448

Mars -113472-03-24 04:48 J -39724142.44 -39724142.30 -39724142.16 0.1767 0.0743

Jupiter -113472-05-15 21:22 J -39724089.68 -39724089.61 -39724089.53 0.0528 0.0433

Jupiter -113472-08-13 07:41 J -39724000.31 -39724000.18 -39724000.05 0.0530 0.0078

Neptune -113472-09-13 18:43 J -39723968.73 -39723968.72 -39723968.69 0.0089 0.0088

Neptune -113472-12-10 21:22 J -39723880.65 -39723880.61 -39723880.53 0.0089 0.0083

Mars -113471-02-03 23:02 J -39723825.66 -39723825.54 -39723825.42 0.1745 0.0484

Neptune -113471-03-09 00:14 J -39723792.56 -39723792.49 -39723792.40 0.0089 0.0078

Moon -113471-05-08 18:14 J -39723731.85 -39723731.74 -39723731.64 0.2769 0.0334

Earth -113471-05-08 18:29 J -39723731.83 -39723731.73 -39723731.62 0.2763 0.0312 *

Neptune -113471-06-05 02:53 J -39723704.46 -39723704.38 -39723704.26 0.0089 0.0073

Uranus -113471-07-29 20:24 J -39723649.69 -39723649.65 -39723649.61 0.0131 0.0125

Neptune -113471-09-01 05:46 J -39723616.36 -39723616.26 -39723616.13 0.0089 0.0068

Uranus -113471-10-25 23:46 J -39723561.59 -39723561.51 -39723561.43 0.0131 0.0109

Neptune -113471-11-28 08:53 J -39723528.25 -39723528.13 -39723528.01 0.0089 0.0062

Uranus -113470-01-22 02:53 J -39723473.47 -39723473.38 -39723473.27 0.0131 0.0094

Neptune -113470-02-24 11:31 J -39723440.14 -39723440.02 -39723439.88 0.0089 0.0057

Uranus -113470-04-20 06:29 J -39723385.34 -39723385.23 -39723385.11 0.0131 0.0077

Neptune -113470-05-23 14:24 J -39723352.03 -39723351.90 -39723351.75 0.0089 0.0052

Uranus -113470-07-17 09:50 J -39723297.21 -39723297.09 -39723296.96 0.0131 0.0061

Neptune -113470-08-19 17:02 J -39723263.92 -39723263.79 -39723263.63 0.0089 0.0047

Venus -113470-10-10 00:43 J -39723212.59 -39723212.47 -39723212.36 0.3658 0.0159

Uranus -113470-10-13 12:58 J -39723209.08 -39723208.96 -39723208.82 0.0131 0.0047

Neptune -113470-11-15 19:55 J -39723175.81 -39723175.67 -39723175.50 0.0089 0.0042

Uranus -113469-01-09 16:34 J -39723120.95 -39723120.81 -39723120.68 0.0131 0.0030

Mars -113469-01-10 11:17 J -39723120.11 -39723120.03 -39723119.95 0.1727 0.1260

Neptune -113469-02-11 23:02 J -39723087.70 -39723087.54 -39723087.37 0.0089 0.0036

Uranus -113469-04-06 19:41 J -39723032.81 -39723032.68 -39723032.54 0.0131 0.0015

Neptune -113469-05-10 01:55 J -39722999.58 -39722999.42 -39722999.25 0.0089 0.0031

Uranus -113469-07-03 23:02 J -39722944.68 -39722944.54 -39722944.40 0.0131 0.0001

Neptune -113469-08-06 04:48 J -39722911.46 -39722911.30 -39722911.13 0.0089 0.0026

Uranus -113469-09-30 02:10 J -39722856.54 -39722856.41 -39722856.27 0.0131 0.0017

Neptune -113469-11-02 07:41 J -39722823.35 -39722823.18 -39722823.00 0.0089 0.0020

Uranus -113469-12-27 05:31 J -39722768.41 -39722768.27 -39722768.14 0.0131 0.0031

Neptune -113468-01-29 10:34 J -39722735.23 -39722735.06 -39722734.88 0.0089 0.0015

Uranus -113468-03-25 08:38 J -39722680.27 -39722680.14 -39722680.01 0.0131 0.0046

Neptune -113468-04-27 13:41 J -39722647.11 -39722646.93 -39722646.75 0.0089 0.0009

Uranus -113468-06-21 11:46 J -39722592.13 -39722592.01 -39722591.88 0.0131 0.0062

Neptune -113468-07-24 16:34 J -39722558.98 -39722558.81 -39722558.63 0.0089 0.0004

Uranus -113468-09-17 14:53 J -39722503.99 -39722503.88 -39722503.76 0.0131 0.0077

Neptune -113468-10-20 19:41 J -39722470.86 -39722470.68 -39722470.50 0.0089 0.0002

Moon -113468-10-30 23:17 J -39722460.68 -39722460.53 -39722460.37 0.2584 0.0076

Earth -113468-10-31 00:29 J -39722460.63 -39722460.48 -39722460.32 0.2579 0.0070 *

Uranus -113468-12-14 18:00 J -39722415.84 -39722415.75 -39722415.65 0.0131 0.0091

Neptune -113467-01-16 22:34 J -39722382.74 -39722382.56 -39722382.38 0.0089 0.0007

Uranus -113467-03-12 21:07 J -39722327.69 -39722327.62 -39722327.53 0.0131 0.0106

Neptune -113467-04-15 01:26 J -39722294.61 -39722294.44 -39722294.26 0.0089 0.0013

Uranus -113467-06-09 00:14 J -39722239.53 -39722239.49 -39722239.43 0.0131 0.0121

Neptune -113467-07-12 04:34 J -39722206.48 -39722206.31 -39722206.13 0.0089 0.0018

Neptune -113467-10-08 07:26 J -39722118.36 -39722118.19 -39722118.01 0.0089 0.0024

Neptune -113466-01-04 10:34 J -39722030.23 -39722030.06 -39722029.89 0.0089 0.0029

Jupiter -113466-04-01 23:17 J -39721942.66 -39721942.53 -39721942.41 0.0497 0.0332

Neptune -113466-04-02 13:26 J -39721942.10 -39721941.94 -39721941.77 0.0089 0.0035

Neptune -113466-06-29 16:34 J -39721853.96 -39721853.81 -39721853.64 0.0089 0.0040

Jupiter -113466-07-01 00:58 J -39721852.62 -39721852.46 -39721852.31 0.0496 0.0213

Neptune -113466-09-25 19:26 J -39721765.83 -39721765.69 -39721765.52 0.0089 0.0046

Neptune -113466-12-22 22:48 J -39721677.69 -39721677.55 -39721677.40 0.0089 0.0051

Neptune -113465-03-20 01:41 J -39721589.56 -39721589.43 -39721589.28 0.0089 0.0057

Neptune -113465-06-16 04:34 J -39721501.42 -39721501.31 -39721501.16 0.0089 0.0063

Neptune -113465-09-12 07:55 J -39721413.28 -39721413.17 -39721413.05 0.0089 0.0068

Neptune -113465-12-09 10:48 J -39721325.13 -39721325.05 -39721324.93 0.0089 0.0074

Neptune -113464-03-07 14:24 J -39721236.98 -39721236.90 -39721236.82 0.0089 0.0079

Venus -113464-04-24 18:43 J -39721188.82 -39721188.72 -39721188.62 0.3663 0.1689

Moon -113464-05-01 15:50 J -39721181.90 -39721181.84 -39721181.79 0.2747 0.2351

Earth -113464-05-01 15:50 J -39721181.89 -39721181.84 -39721181.78 0.2754 0.2318 *

Neptune -113464-06-03 17:17 J -39721148.82 -39721148.78 -39721148.72 0.0089 0.0085

Mars -113463-08-14 06:14 J -39720712.33 -39720712.24 -39720712.15 0.1762 0.1376

Mars -113462-06-27 07:41 J -39720395.28 -39720395.18 -39720395.07 0.1750 0.0934

Saturn -113462-12-18 08:53 J -39720221.22 -39720221.13 -39720221.03 0.0280 0.0203

Saturn -113461-03-15 22:34 J -39720132.69 -39720132.56 -39720132.43 0.0282 0.0118

Saturn -113461-06-12 11:46 J -39720044.15 -39720044.01 -39720043.87 0.0283 0.0033

Mars -113461-07-21 03:50 J -39720005.43 -39720005.34 -39720005.24 0.1782 0.1395

Saturn -113461-09-09 00:58 J -39719955.59 -39719955.46 -39719955.32 0.0284 0.0054

Saturn -113461-12-06 14:10 J -39719867.03 -39719866.91 -39719866.79 0.0285 0.0138

Saturn -113460-03-05 03:07 J -39719778.45 -39719778.37 -39719778.28 0.0286 0.0223

Jupiter -113460-06-01 11:02 J -39719690.17 -39719690.04 -39719689.91 0.0529 0.0046

Mars -113460-06-01 20:24 J -39719689.75 -39719689.65 -39719689.54 0.1732 0.0853

Jupiter -113460-08-29 20:24 J -39719600.71 -39719600.65 -39719600.58 0.0530 0.0454

Venus -113459-11-08 12:29 J -39719165.03 -39719164.98 -39719164.93 0.3668 0.3197

Moon -113458-05-11 13:12 J -39718981.05 -39718980.95 -39718980.86 0.2773 0.1170

Earth -113458-05-11 12:58 J -39718981.05 -39718980.96 -39718980.86 0.2766 0.1220 *

Moon -113455-11-03 06:14 J -39717709.36 -39717709.24 -39717709.11 0.2582 0.1559

Earth -113455-11-03 06:43 J -39717709.35 -39717709.22 -39717709.09 0.2576 0.1559 *

Jupiter -113454-01-18 21:50 J -39717632.64 -39717632.59 -39717632.54 0.0497 0.0473

Jupiter -113454-04-18 23:02 J -39717542.71 -39717542.54 -39717542.37 0.0496 0.0067

Mars -113453-11-16 16:05 J -39716964.91 -39716964.83 -39716964.76 0.1755 0.1404

Mars -113452-12-11 03:50 J -39716575.48 -39716575.34 -39716575.19 0.1777 0.0678

Moon -113451-05-04 09:50 J -39716431.19 -39716431.09 -39716431.00 0.2754 0.1436

Earth -113451-05-04 10:34 J -39716431.16 -39716431.06 -39716430.97 0.2757 0.1387 *

Mars -113451-10-23 05:31 J -39716259.38 -39716259.27 -39716259.15 0.1736 0.0440

Venus -113450-02-17 12:43 J -39716142.00 -39716141.97 -39716141.93 0.3732 0.3545

Jupiter -113448-03-20 14:24 J -39715380.02 -39715379.90 -39715379.77 0.0529 0.0168

Saturn -113448-04-20 19:26 J -39715348.77 -39715348.69 -39715348.61 0.0281 0.0241

Jupiter -113448-06-18 00:14 J -39715290.59 -39715290.49 -39715290.39 0.0530 0.0335

Saturn -113448-07-18 13:55 J -39715260.06 -39715259.92 -39715259.77 0.0280 0.0144

Saturn -113448-10-15 09:07 J -39715171.29 -39715171.12 -39715170.95 0.0279 0.0045

Saturn -113447-01-12 04:19 J -39715082.49 -39715082.32 -39715082.16 0.0278 0.0055

Saturn -113447-04-10 23:31 J -39714993.66 -39714993.52 -39714993.37 0.0277 0.0154

Saturn -113447-07-08 19:12 J -39714904.77 -39714904.70 -39714904.63 0.0276 0.0253

Earth -113445-05-13 07:26 J -39714230.26 -39714230.19 -39714230.12 0.2769 0.2133

Moon -113445-05-13 08:10 J -39714230.23 -39714230.16 -39714230.10 0.2774 0.2250 *

Venus -113445-09-02 13:26 J -39714118.07 -39714117.94 -39714117.81 0.3725 0.0962

Jupiter -113442-02-04 21:50 J -39713232.76 -39713232.59 -39713232.42 0.0497 0.0072

Mars -113442-05-03 04:19 J -39713145.48 -39713145.32 -39713145.17 0.1772 0.0028

Jupiter -113442-05-06 00:29 J -39713142.52 -39713142.48 -39713142.44 0.0496 0.0482

Mars -113441-03-14 14:24 J -39712829.02 -39712828.90 -39712828.78 0.1741 0.0020

Mars -113439-02-18 01:41 J -39712123.44 -39712123.43 -39712123.41 0.1723 0.1694

Venus -113439-03-19 14:24 J -39712094.02 -39712093.90 -39712093.78 0.3719 0.1723

Moon -113438-05-07 04:19 J -39711680.43 -39711680.32 -39711680.21 0.2763 0.0493

Earth -113438-05-07 05:02 J -39711680.40 -39711680.29 -39711680.18 0.2760 0.0458 *

Jupiter -113436-01-06 17:17 J -39711069.89 -39711069.78 -39711069.66 0.0528 0.0297

Jupiter -113436-04-06 03:22 J -39710980.48 -39710980.36 -39710980.24 0.0529 0.0209

Moon -113435-10-28 23:46 J -39710409.65 -39710409.51 -39710409.37 0.2584 0.1240

Earth -113435-10-29 01:12 J -39710409.58 -39710409.45 -39710409.31 0.2582 0.1228 *

Mars -113433-09-22 05:17 J -39709715.42 -39709715.28 -39709715.14 0.1767 0.0681

Saturn -113432-05-06 11:02 J -39709489.12 -39709489.04 -39709488.95 0.0281 0.0225

Saturn -113432-08-03 00:43 J -39709400.59 -39709400.47 -39709400.35 0.0282 0.0140

Mars -113432-08-04 23:17 J -39709398.65 -39709398.53 -39709398.41 0.1745 0.0434

Saturn -113432-10-30 14:10 J -39709312.05 -39709311.91 -39709311.77 0.0283 0.0054

Saturn -113431-01-27 03:22 J -39709223.50 -39709223.36 -39709223.22 0.0284 0.0032

Saturn -113431-04-25 16:34 J -39709134.94 -39709134.81 -39709134.68 0.0285 0.0117

Saturn -113431-07-23 05:31 J -39709046.36 -39709046.27 -39709046.17 0.0286 0.0202

Saturn -113431-10-19 18:43 J -39708957.73 -39708957.72 -39708957.72 0.0287 0.0287

Jupiter -113431-11-23 20:53 J -39708922.78 -39708922.63 -39708922.47 0.0497 0.0209

Jupiter -113430-02-21 23:02 J -39708832.66 -39708832.54 -39708832.41 0.0496 0.0342

Mars -113430-07-11 11:17 J -39708693.11 -39708693.03 -39708692.95 0.1727 0.1301

Uranus -113427-07-05 00:29 J -39707603.56 -39707603.48 -39707603.38 0.0148 0.0126

Uranus -113427-10-01 08:10 J -39707515.29 -39707515.16 -39707515.02 0.0148 0.0098

Uranus -113427-12-28 15:50 J -39707427.00 -39707426.84 -39707426.68 0.0148 0.0070

Uranus -113426-03-26 23:17 J -39707338.69 -39707338.53 -39707338.35 0.0148 0.0042

Uranus -113426-06-23 07:12 J -39707250.38 -39707250.20 -39707250.02 0.0148 0.0013

Uranus -113426-09-19 14:53 J -39707162.06 -39707161.88 -39707161.70 0.0148 0.0016

Uranus -113426-12-16 22:34 J -39707073.72 -39707073.56 -39707073.38 0.0148 0.0045

Uranus -113425-03-14 06:29 J -39706985.38 -39706985.23 -39706985.07 0.0148 0.0075

Moon -113425-05-08 23:17 J -39706929.64 -39706929.53 -39706929.43 0.2771 0.0402

Earth -113425-05-08 23:31 J -39706929.63 -39706929.52 -39706929.41 0.2764 0.0474 *

Uranus -113425-06-10 14:24 J -39706897.02 -39706896.90 -39706896.76 0.0148 0.0104

Uranus -113425-09-06 22:34 J -39706808.64 -39706808.56 -39706808.48 0.0148 0.0134

Jupiter -113425-10-25 19:55 J -39706759.74 -39706759.67 -39706759.59 0.0528 0.0429

Jupiter -113424-01-23 06:14 J -39706670.37 -39706670.24 -39706670.10 0.0529 0.0081

Venus -113424-04-16 10:19 J -39706587.15 -39706587.07 -39706586.98 0.3649 0.2464

Mars -113423-02-12 06:43 J -39706285.32 -39706285.22 -39706285.13 0.1762 0.1319

Mars -113423-12-26 07:55 J -39705968.28 -39705968.17 -39705968.07 0.1750 0.0886

Moon -113422-11-01 06:14 J -39705658.39 -39705658.24 -39705658.08 0.2585 0.0176

Earth -113422-11-01 07:12 J -39705658.36 -39705658.20 -39705658.04 0.2579 0.0310 *

Mars -113421-01-20 04:19 J -39705578.41 -39705578.32 -39705578.23 0.1782 0.1455

Mars -113421-11-30 20:38 J -39705262.74 -39705262.64 -39705262.54 0.1732 0.0900

Saturn -113419-09-07 20:53 J -39704616.68 -39704616.63 -39704616.57 0.0281 0.0263

Jupiter -113419-09-11 20:38 J -39704612.77 -39704612.64 -39704612.52 0.0497 0.0338

Venus -113419-10-31 04:34 J -39704563.42 -39704563.31 -39704563.20 0.3654 0.0867

Saturn -113419-12-05 15:22 J -39704527.99 -39704527.86 -39704527.72 0.0280 0.0166

Jupiter -113419-12-10 22:19 J -39704522.73 -39704522.57 -39704522.41 0.0496 0.0208

Saturn -113418-03-04 10:19 J -39704439.23 -39704439.07 -39704438.90 0.0279 0.0068

Moon -113418-05-02 20:24 J -39704379.72 -39704379.65 -39704379.58 0.2749 0.2115

Earth -113418-05-02 20:53 J -39704379.70 -39704379.63 -39704379.56 0.2754 0.2137 *

Saturn -113418-06-01 05:31 J -39704350.44 -39704350.27 -39704350.10 0.0278 0.0032

Saturn -113418-08-29 00:43 J -39704261.61 -39704261.47 -39704261.31 0.0277 0.0131

Saturn -113418-11-25 20:24 J -39704172.74 -39704172.65 -39704172.55 0.0276 0.0230

Venus -113413-05-15 22:48 J -39702539.66 -39702539.55 -39702539.44 0.3659 0.0714

Mars -113413-05-17 16:05 J -39702537.91 -39702537.83 -39702537.75 0.1755 0.1355

Jupiter -113413-11-11 08:38 J -39702360.27 -39702360.14 -39702360.00 0.0529 0.0057

Jupiter -113412-02-08 18:14 J -39702270.81 -39702270.74 -39702270.67 0.0530 0.0443

Earth -113412-05-11 18:00 J -39702178.85 -39702178.75 -39702178.66 0.2767 0.1397

Moon -113412-05-11 18:14 J -39702178.83 -39702178.74 -39702178.64 0.2773 0.1502 *

Mars -113412-06-11 04:19 J -39702148.46 -39702148.32 -39702148.18 0.1777 0.0738

Mars -113411-04-23 05:31 J -39701832.38 -39701832.27 -39701832.15 0.1736 0.0484

Earth -113409-11-03 13:12 J -39700907.06 -39700906.95 -39700906.84 0.2575 0.1859

Moon -113409-11-03 13:41 J -39700907.03 -39700906.93 -39700906.83 0.2581 0.1937 *

Venus -113408-11-29 16:34 J -39700515.89 -39700515.81 -39700515.72 0.3665 0.2248

Jupiter -113407-06-30 19:55 J -39700302.71 -39700302.67 -39700302.61 0.0498 0.0470

Jupiter -113407-09-28 21:22 J -39700212.79 -39700212.61 -39700212.44 0.0497 0.0071

Moon -113405-05-04 14:38 J -39699628.99 -39699628.89 -39699628.79 0.2756 0.1307

Earth -113405-05-04 15:22 J -39699628.96 -39699628.86 -39699628.76 0.2758 0.1207 *

Saturn -113403-09-23 14:10 J -39698756.97 -39698756.91 -39698756.83 0.0280 0.0241

Mars -113403-11-01 05:02 J -39698718.45 -39698718.29 -39698718.14 0.1772 0.0061

Saturn -113403-12-21 03:50 J -39698668.46 -39698668.34 -39698668.22 0.0281 0.0156

Saturn -113402-03-19 17:17 J -39698579.92 -39698579.78 -39698579.64 0.0282 0.0071

Saturn -113402-06-16 06:43 J -39698491.36 -39698491.22 -39698491.08 0.0283 0.0016

Saturn -113402-09-12 19:55 J -39698402.80 -39698402.67 -39698402.54 0.0284 0.0100

Mars -113402-09-13 14:38 J -39698402.02 -39698401.89 -39698401.77 0.1741 0.0065

Moon -113402-10-27 00:14 J -39698358.52 -39698358.49 -39698358.45 0.2585 0.2510

Earth -113402-10-27 02:10 J -39698358.46 -39698358.41 -39698358.37 0.2585 0.2451 *

Saturn -113402-12-10 08:53 J -39698314.23 -39698314.13 -39698314.02 0.0285 0.0185

Saturn -113401-03-07 21:50 J -39698225.63 -39698225.59 -39698225.54 0.0286 0.0269

Jupiter -113401-08-30 11:46 J -39698050.13 -39698050.01 -39698049.88 0.0529 0.0182

Jupiter -113401-11-27 21:36 J -39697960.70 -39697960.60 -39697960.49 0.0530 0.0322

Earth -113399-05-14 12:14 J -39697428.04 -39697427.99 -39697427.93 0.2770 0.2318

Moon -113399-05-14 12:58 J -39697428.01 -39697427.96 -39697427.90 0.2772 0.2315 *

Jupiter -113395-07-17 19:26 J -39695902.86 -39695902.69 -39695902.52 0.0497 0.0076

Jupiter -113395-10-15 21:50 J -39695812.63 -39695812.59 -39695812.54 0.0496 0.0478

Venus -113394-09-24 12:29 J -39695469.07 -39695468.98 -39695468.88 0.3730 0.2661

Mars -113393-03-23 05:46 J -39695288.40 -39695288.26 -39695288.12 0.1767 0.0617

Mars -113392-02-02 23:17 J -39694971.65 -39694971.53 -39694971.41 0.1745 0.0389

Moon -113392-05-07 09:22 J -39694878.22 -39694878.11 -39694878.00 0.2767 0.0312

Earth -113392-05-07 09:50 J -39694878.20 -39694878.09 -39694877.98 0.2761 0.0284 *

Pluto -113392-08-10 11:17 J -39694783.09 -39694783.03 -39694782.96 0.0084 0.0073

Pluto -113392-11-06 12:43 J -39694695.06 -39694694.97 -39694694.87 0.0084 0.0058

Pluto -113391-02-02 13:55 J -39694607.03 -39694606.92 -39694606.80 0.0084 0.0043

Pluto -113391-05-01 15:22 J -39694518.99 -39694518.86 -39694518.74 0.0084 0.0028

Pluto -113391-07-28 16:34 J -39694430.94 -39694430.81 -39694430.68 0.0084 0.0014

Pluto -113391-10-24 17:46 J -39694342.89 -39694342.76 -39694342.62 0.0084 0.0003

Neptune -113390-01-05 16:05 J -39694269.86 -39694269.83 -39694269.80 0.0088 0.0086

Mars -113390-01-09 11:17 J -39694266.10 -39694266.03 -39694265.95 0.1727 0.1345

Pluto -113390-01-20 19:12 J -39694254.83 -39694254.70 -39694254.57 0.0084 0.0015

Neptune -113390-04-03 17:31 J -39694181.81 -39694181.77 -39694181.70 0.0088 0.0082

Pluto -113390-04-18 20:24 J -39694166.78 -39694166.65 -39694166.52 0.0084 0.0029

Neptune -113390-06-30 19:41 J -39694093.75 -39694093.68 -39694093.61 0.0088 0.0077

Pluto -113390-07-15 21:36 J -39694078.71 -39694078.60 -39694078.48 0.0083 0.0044

Neptune -113390-09-26 21:07 J -39694005.69 -39694005.62 -39694005.53 0.0088 0.0073

Pluto -113390-10-11 22:34 J -39693990.64 -39693990.56 -39693990.45 0.0083 0.0059

Neptune -113390-12-23 22:48 J -39693917.63 -39693917.55 -39693917.45 0.0088 0.0068

Pluto -113389-01-08 00:00 J -39693902.56 -39693902.50 -39693902.43 0.0083 0.0072

Neptune -113389-03-21 00:43 J -39693829.57 -39693829.47 -39693829.37 0.0088 0.0064

Saturn -113389-04-23 16:34 J -39693795.93 -39693795.81 -39693795.69 0.0281 0.0189

Neptune -113389-06-17 02:10 J -39693741.50 -39693741.41 -39693741.29 0.0088 0.0060

Jupiter -113389-06-18 15:07 J -39693739.97 -39693739.87 -39693739.75 0.0529 0.0305

Saturn -113389-07-21 11:17 J -39693707.19 -39693707.03 -39693706.86 0.0280 0.0091

Neptune -113389-09-13 04:05 J -39693653.44 -39693653.33 -39693653.21 0.0088 0.0055

Jupiter -113389-09-16 01:12 J -39693650.57 -39693650.45 -39693650.32 0.0530 0.0204

Saturn -113389-10-18 06:29 J -39693618.40 -39693618.23 -39693618.06 0.0279 0.0009

Moon -113389-10-29 06:43 J -39693607.36 -39693607.22 -39693607.08 0.2586 0.1100

Earth -113389-10-29 07:41 J -39693607.32 -39693607.18 -39693607.03 0.2582 0.0933 *

Neptune -113389-12-10 05:46 J -39693565.37 -39693565.26 -39693565.13 0.0088 0.0050

Saturn -113388-01-15 01:41 J -39693529.59 -39693529.43 -39693529.27 0.0277 0.0107

Neptune -113388-03-08 07:26 J -39693477.30 -39693477.19 -39693477.06 0.0088 0.0046

Venus -113388-04-09 13:12 J -39693445.08 -39693444.95 -39693444.81 0.3723 0.0129

Saturn -113388-04-13 21:07 J -39693440.73 -39693440.62 -39693440.50 0.0276 0.0206

Neptune -113388-06-04 09:07 J -39693389.24 -39693389.12 -39693388.98 0.0088 0.0042

Neptune -113388-08-31 10:48 J -39693301.17 -39693301.05 -39693300.91 0.0088 0.0037

Neptune -113388-11-27 12:43 J -39693213.11 -39693212.97 -39693212.84 0.0088 0.0033

Neptune -113387-02-23 14:10 J -39693125.04 -39693124.91 -39693124.77 0.0088 0.0029

Neptune -113387-05-22 15:50 J -39693036.97 -39693036.84 -39693036.70 0.0088 0.0024

Neptune -113387-08-18 17:31 J -39692948.90 -39692948.77 -39692948.63 0.0088 0.0020

Uranus -113387-08-19 04:05 J -39692948.39 -39692948.33 -39692948.27 0.0131 0.0119

Neptune -113387-11-14 19:12 J -39692860.84 -39692860.70 -39692860.56 0.0088 0.0016

Uranus -113387-11-15 07:26 J -39692860.27 -39692860.19 -39692860.10 0.0131 0.0103

Neptune -113386-02-10 20:53 J -39692772.77 -39692772.63 -39692772.49 0.0088 0.0011

Uranus -113386-02-11 10:48 J -39692772.15 -39692772.05 -39692771.94 0.0131 0.0087

Neptune -113386-05-09 22:34 J -39692684.70 -39692684.56 -39692684.42 0.0088 0.0007

Uranus -113386-05-10 14:10 J -39692684.02 -39692683.91 -39692683.79 0.0131 0.0071

Neptune -113386-08-06 00:14 J -39692596.63 -39692596.49 -39692596.35 0.0088 0.0003

Uranus -113386-08-06 17:31 J -39692595.89 -39692595.77 -39692595.64 0.0131 0.0055

Neptune -113386-11-02 01:41 J -39692508.57 -39692508.43 -39692508.28 0.0088 0.0003

Uranus -113386-11-02 20:53 J -39692507.76 -39692507.63 -39692507.50 0.0131 0.0040

Neptune -113385-01-29 03:22 J -39692420.50 -39692420.36 -39692420.22 0.0088 0.0006

Uranus -113385-01-30 00:14 J -39692419.63 -39692419.49 -39692419.36 0.0131 0.0024

Neptune -113385-04-26 05:02 J -39692332.43 -39692332.29 -39692332.15 0.0088 0.0010

Uranus -113385-04-27 03:22 J -39692331.50 -39692331.36 -39692331.22 0.0131 0.0009

Neptune -113385-07-23 06:29 J -39692244.36 -39692244.23 -39692244.08 0.0088 0.0015

Uranus -113385-07-24 06:43 J -39692243.36 -39692243.22 -39692243.08 0.0131 0.0007

Neptune -113385-10-19 08:10 J -39692156.30 -39692156.16 -39692156.02 0.0088 0.0019

Uranus -113385-10-20 09:50 J -39692155.22 -39692155.09 -39692154.95 0.0131 0.0022

Neptune -113384-01-15 09:36 J -39692068.23 -39692068.10 -39692067.96 0.0088 0.0023

Uranus -113384-01-16 13:12 J -39692067.09 -39692066.95 -39692066.82 0.0131 0.0037

Neptune -113384-04-13 11:17 J -39691980.16 -39691980.03 -39691979.89 0.0088 0.0027

Uranus -113384-04-14 16:19 J -39691978.95 -39691978.82 -39691978.69 0.0131 0.0052

Neptune -113384-07-10 12:43 J -39691892.09 -39691891.97 -39691891.83 0.0088 0.0032

Uranus -113384-07-11 19:26 J -39691890.81 -39691890.69 -39691890.57 0.0131 0.0067

Mars -113384-08-13 07:12 J -39691858.31 -39691858.20 -39691858.10 0.1762 0.1254

Neptune -113384-10-06 14:24 J -39691804.02 -39691803.90 -39691803.77 0.0088 0.0036

Uranus -113384-10-07 22:19 J -39691802.66 -39691802.57 -39691802.45 0.0131 0.0083

Neptune -113383-01-02 16:05 J -39691715.96 -39691715.83 -39691715.71 0.0088 0.0040

Uranus -113383-01-04 01:41 J -39691714.52 -39691714.43 -39691714.33 0.0131 0.0097

Neptune -113383-03-31 17:31 J -39691627.89 -39691627.77 -39691627.64 0.0088 0.0044

Uranus -113383-04-02 04:48 J -39691626.36 -39691626.30 -39691626.23 0.0131 0.0112

Jupiter -113383-05-05 18:29 J -39691592.89 -39691592.73 -39691592.58 0.0497 0.0214

Mars -113383-06-26 07:55 J -39691541.28 -39691541.17 -39691541.06 0.1750 0.0842

Neptune -113383-06-27 19:12 J -39691539.82 -39691539.70 -39691539.58 0.0088 0.0048

Uranus -113383-06-29 07:41 J -39691538.20 -39691538.18 -39691538.13 0.0131 0.0127

Jupiter -113383-08-03 20:24 J -39691502.78 -39691502.65 -39691502.52 0.0496 0.0336

Neptune -113383-09-23 20:24 J -39691451.75 -39691451.65 -39691451.52 0.0088 0.0053

Venus -113383-10-24 14:24 J -39691420.99 -39691420.90 -39691420.81 0.3717 0.2661

Neptune -113383-12-20 22:05 J -39691363.68 -39691363.58 -39691363.47 0.0088 0.0056

Neptune -113382-03-18 23:31 J -39691275.61 -39691275.52 -39691275.41 0.0088 0.0060

Neptune -113382-06-15 00:58 J -39691187.54 -39691187.46 -39691187.35 0.0088 0.0065

Mars -113382-07-21 05:02 J -39691151.37 -39691151.29 -39691151.22 0.1782 0.1523

Neptune -113382-09-11 02:38 J -39691099.47 -39691099.39 -39691099.30 0.0088 0.0068

Neptune -113382-12-08 04:05 J -39691011.40 -39691011.33 -39691011.24 0.0088 0.0073

Neptune -113381-03-05 05:31 J -39690923.32 -39690923.27 -39690923.19 0.0088 0.0077

Mars -113381-05-31 20:38 J -39690835.74 -39690835.64 -39690835.54 0.1732 0.0940

Neptune -113381-06-01 07:12 J -39690835.25 -39690835.20 -39690835.14 0.0088 0.0080

Neptune -113381-08-28 08:38 J -39690747.17 -39690747.14 -39690747.09 0.0088 0.0085

Neptune -113381-11-24 10:19 J -39690659.07 -39690659.07 -39690659.07 0.0088 0.0088

Moon -113379-05-10 04:19 J -39690127.42 -39690127.32 -39690127.21 0.2771 0.0680

Earth -113379-05-10 04:19 J -39690127.42 -39690127.32 -39690127.21 0.2764 0.0655 *

Jupiter -113377-04-06 18:00 J -39689429.82 -39689429.75 -39689429.67 0.0528 0.0433

Jupiter -113377-07-05 04:19 J -39689340.45 -39689340.32 -39689340.18 0.0529 0.0078

Moon -113376-11-01 13:26 J -39688856.09 -39688855.94 -39688855.79 0.2585 0.0685

Earth -113376-11-01 13:41 J -39688856.08 -39688855.93 -39688855.77 0.2578 0.0617 *

Mars -113374-11-16 16:19 J -39688110.91 -39688110.82 -39688110.74 0.1755 0.1304

Saturn -113373-02-10 16:19 J -39688024.86 -39688024.82 -39688024.77 0.0280 0.0263

Venus -113373-05-07 14:10 J -39687937.94 -39687937.91 -39687937.88 0.3646 0.3488

Saturn -113373-05-09 06:00 J -39687936.36 -39687936.25 -39687936.14 0.0281 0.0178

Saturn -113373-08-05 19:26 J -39687847.82 -39687847.69 -39687847.55 0.0282 0.0093

Saturn -113373-11-02 08:53 J -39687759.27 -39687759.13 -39687758.99 0.0284 0.0008

Mars -113373-12-10 05:02 J -39687721.43 -39687721.29 -39687721.15 0.1777 0.0807

Saturn -113372-01-29 22:05 J -39687670.71 -39687670.58 -39687670.44 0.0285 0.0079

Saturn -113372-04-28 11:17 J -39687582.14 -39687582.03 -39687581.92 0.0286 0.0163

Moon -113372-05-03 00:58 J -39687577.53 -39687577.46 -39687577.38 0.2751 0.2087

Earth -113372-05-03 01:41 J -39687577.50 -39687577.43 -39687577.35 0.2754 0.1957 *

Saturn -113372-07-26 00:14 J -39687493.55 -39687493.49 -39687493.42 0.0287 0.0248

Mars -113372-10-22 05:46 J -39687405.38 -39687405.26 -39687405.15 0.1736 0.0526

Jupiter -113371-02-21 17:31 J -39687282.89 -39687282.77 -39687282.65 0.0497 0.0349

Jupiter -113371-05-22 18:58 J -39687192.86 -39687192.71 -39687192.54 0.0497 0.0197

Venus -113368-11-21 08:38 J -39685914.24 -39685914.14 -39685914.05 0.3651 0.1870

Earth -113366-05-12 22:48 J -39685376.64 -39685376.55 -39685376.46 0.2767 0.1575

Moon -113366-05-12 23:31 J -39685376.61 -39685376.52 -39685376.44 0.2772 0.1587 *

Jupiter -113365-04-23 07:12 J -39685030.33 -39685030.20 -39685030.06 0.0529 0.0054

Jupiter -113365-07-21 16:48 J -39684940.87 -39684940.80 -39684940.73 0.0530 0.0445

Mars -113363-05-02 05:17 J -39684291.44 -39684291.28 -39684291.13 0.1772 0.0113

Earth -113363-11-04 19:55 J -39684104.76 -39684104.67 -39684104.59 0.2575 0.2169

Moon -113363-11-04 20:53 J -39684104.71 -39684104.63 -39684104.54 0.2580 0.2168 *

Mars -113362-03-14 14:38 J -39683975.01 -39683974.89 -39683974.76 0.1741 0.0106

Venus -113362-06-07 02:53 J -39683890.50 -39683890.38 -39683890.27 0.3656 0.0290

Saturn -113360-09-10 18:00 J -39683063.85 -39683063.75 -39683063.63 0.0280 0.0210

Saturn -113360-12-08 12:58 J -39682975.12 -39682974.96 -39682974.81 0.0279 0.0113

Jupiter -113360-12-10 17:17 J -39682972.82 -39682972.78 -39682972.73 0.0498 0.0477

Saturn -113359-03-07 07:55 J -39682886.34 -39682886.17 -39682886.00 0.0278 0.0014

Jupiter -113359-03-10 18:29 J -39682882.90 -39682882.73 -39682882.56 0.0497 0.0063

Moon -113359-05-05 19:41 J -39682826.78 -39682826.68 -39682826.58 0.2760 0.1030

Earth -113359-05-05 20:24 J -39682826.76 -39682826.65 -39682826.55 0.2758 0.1028 *

Saturn -113359-06-04 03:07 J -39682797.54 -39682797.37 -39682797.21 0.0277 0.0085

Saturn -113359-08-31 22:19 J -39682708.69 -39682708.57 -39682708.43 0.0276 0.0184

Venus -113357-12-20 20:53 J -39681866.74 -39681866.63 -39681866.53 0.3661 0.1274

Moon -113356-10-27 06:58 J -39681556.28 -39681556.21 -39681556.14 0.2587 0.2282

Earth -113356-10-27 08:38 J -39681556.23 -39681556.14 -39681556.06 0.2585 0.2158 *

Mars -113354-09-22 06:29 J -39680861.38 -39680861.23 -39680861.09 0.1767 0.0549

Jupiter -113353-02-10 09:36 J -39680720.23 -39680720.10 -39680719.98 0.0529 0.0192

Jupiter -113353-05-09 19:12 J -39680630.80 -39680630.70 -39680630.59 0.0530 0.0312

Earth -113353-05-14 17:17 J -39680625.83 -39680625.78 -39680625.74 0.2770 0.2497

Moon -113353-05-14 18:00 J -39680625.79 -39680625.75 -39680625.72 0.2768 0.2618 *

Mars -113353-08-03 23:31 J -39680544.65 -39680544.52 -39680544.40 0.1745 0.0345

Venus -113351-07-06 14:38 J -39679842.96 -39679842.89 -39679842.81 0.3666 0.2801

Mars -113351-07-10 11:31 J -39679839.09 -39679839.02 -39679838.95 0.1727 0.1390

Jupiter -113348-12-27 17:31 J -39678572.94 -39678572.77 -39678572.60 0.0497 0.0074

Jupiter -113347-03-27 19:55 J -39678482.70 -39678482.67 -39678482.62 0.0496 0.0481

Moon -113346-05-08 14:24 J -39678076.00 -39678075.90 -39678075.79 0.2768 0.0186

Earth -113346-05-08 14:53 J -39678075.99 -39678075.88 -39678075.77 0.2761 0.0117 *

Mars -113344-02-11 07:41 J -39677431.29 -39677431.18 -39677431.07 0.1762 0.1192

Saturn -113344-06-29 19:41 J -39677292.69 -39677292.68 -39677292.68 0.0280 0.0279

Saturn -113344-09-26 09:22 J -39677204.22 -39677204.11 -39677204.01 0.0281 0.0194

Saturn -113344-12-23 22:48 J -39677115.68 -39677115.55 -39677115.42 0.0282 0.0109

Mars -113344-12-25 07:55 J -39677114.28 -39677114.17 -39677114.06 0.1750 0.0793

Saturn -113343-03-22 12:14 J -39677027.13 -39677026.99 -39677026.85 0.0283 0.0024

Uranus -113343-04-28 00:43 J -39676990.49 -39676990.47 -39676990.44 0.0148 0.0146

Saturn -113343-06-19 01:26 J -39676938.58 -39676938.44 -39676938.30 0.0284 0.0062

Uranus -113343-07-25 07:55 J -39676902.26 -39676902.17 -39676902.05 0.0148 0.0119

Saturn -113343-09-15 14:38 J -39676850.01 -39676849.89 -39676849.77 0.0285 0.0147

Uranus -113343-10-21 15:36 J -39676813.98 -39676813.85 -39676813.70 0.0148 0.0091

Moon -113343-10-30 13:41 J -39676805.08 -39676804.93 -39676804.78 0.2587 0.0631

Earth -113343-10-30 14:24 J -39676805.05 -39676804.90 -39676804.75 0.2581 0.0629 *

Saturn -113343-12-13 03:36 J -39676761.42 -39676761.35 -39676761.27 0.0286 0.0232

Uranus -113342-01-17 23:17 J -39676725.69 -39676725.53 -39676725.36 0.0148 0.0063

Mars -113342-01-19 05:46 J -39676724.33 -39676724.26 -39676724.20 0.1782 0.1597

Uranus -113342-04-16 06:58 J -39676637.38 -39676637.21 -39676637.03 0.0148 0.0034

Uranus -113342-07-13 14:38 J -39676549.07 -39676548.89 -39676548.71 0.0148 0.0006

Uranus -113342-10-09 22:34 J -39676460.74 -39676460.56 -39676460.39 0.0148 0.0024

Jupiter -113342-11-29 12:29 J -39676410.08 -39676409.98 -39676409.87 0.0529 0.0319

Mars -113342-11-30 20:38 J -39676408.74 -39676408.64 -39676408.54 0.1732 0.0984

Uranus -113341-01-06 06:14 J -39676372.41 -39676372.24 -39676372.07 0.0148 0.0052

Jupiter -113341-02-26 22:34 J -39676320.68 -39676320.56 -39676320.43 0.0530 0.0190

Uranus -113341-04-03 13:55 J -39676284.06 -39676283.92 -39676283.76 0.0148 0.0082

Uranus -113341-06-30 21:50 J -39676195.70 -39676195.59 -39676195.46 0.0148 0.0111

Uranus -113341-09-27 05:46 J -39676107.30 -39676107.26 -39676107.19 0.0148 0.0141

Earth -113339-05-01 12:00 J -39675526.01 -39675526.00 -39675525.98 0.2751 0.2711

Venus -113337-04-30 12:29 J -39674796.10 -39674795.98 -39674795.87 0.3728 0.1756

Jupiter -113336-10-15 15:50 J -39674262.99 -39674262.84 -39674262.69 0.0497 0.0219

Jupiter -113335-01-13 17:46 J -39674172.89 -39674172.76 -39674172.63 0.0496 0.0330

Mars -113334-05-17 16:19 J -39673683.91 -39673683.82 -39673683.74 0.1755 0.1260

Earth -113333-05-10 09:22 J -39673325.22 -39673325.11 -39673325.01 0.2765 0.0836

Moon -113333-05-10 09:36 J -39673325.20 -39673325.10 -39673325.00 0.2771 0.0888 *

Mars -113333-06-10 05:31 J -39673294.41 -39673294.27 -39673294.14 0.1777 0.0871

Mars -113332-04-22 05:46 J -39672978.38 -39672978.26 -39672978.15 0.1736 0.0569

Venus -113332-11-14 13:12 J -39672772.08 -39672771.95 -39672771.82 0.3722 0.0881

Saturn -113330-01-28 19:26 J -39672331.78 -39672331.69 -39672331.59 0.0281 0.0231

Saturn -113330-04-27 14:10 J -39672243.05 -39672242.91 -39672242.76 0.0280 0.0134

Saturn -113330-07-25 09:07 J -39672154.29 -39672154.12 -39672153.95 0.0279 0.0035

Jupiter -113330-09-17 15:50 J -39672099.91 -39672099.84 -39672099.77 0.0528 0.0442

Saturn -113330-10-22 04:19 J -39672065.49 -39672065.32 -39672065.15 0.0278 0.0064

Earth -113330-11-02 20:24 J -39672053.80 -39672053.65 -39672053.51 0.2578 0.0917

Moon -113330-11-02 20:38 J -39672053.78 -39672053.64 -39672053.49 0.2584 0.0870 *

Jupiter -113330-12-16 02:10 J -39672010.54 -39672010.41 -39672010.27 0.0529 0.0072

Saturn -113329-01-18 23:31 J -39671976.65 -39671976.52 -39671976.37 0.0277 0.0163

Saturn -113329-04-16 18:58 J -39671887.75 -39671887.71 -39671887.65 0.0276 0.0262

Moon -113326-05-04 06:00 J -39670775.34 -39670775.25 -39670775.17 0.2753 0.1780

Earth -113326-05-04 06:43 J -39670775.30 -39670775.22 -39670775.14 0.2755 0.1778 *

Venus -113326-05-31 14:24 J -39670747.93 -39670747.90 -39670747.87 0.3715 0.3614

Mars -113325-10-07 00:29 J -39670253.50 -39670253.48 -39670253.46 0.1760 0.1733

Jupiter -113324-08-03 14:53 J -39669952.99 -39669952.88 -39669952.76 0.0497 0.0355

Mars -113324-10-31 06:00 J -39669864.40 -39669864.25 -39669864.10 0.1772 0.0181

Jupiter -113324-11-01 16:34 J -39669862.98 -39669862.81 -39669862.65 0.0496 0.0190

Mars -113323-09-12 14:38 J -39669548.01 -39669547.89 -39669547.76 0.1741 0.0152

Earth -113320-05-13 03:36 J -39668574.43 -39668574.35 -39668574.26 0.2768 0.1756

Moon -113320-05-13 04:19 J -39668574.40 -39668574.32 -39668574.24 0.2770 0.1842 *

Jupiter -113318-10-04 05:17 J -39667700.41 -39667700.28 -39667700.14 0.0529 0.0058

Jupiter -113317-01-01 14:53 J -39667610.95 -39667610.88 -39667610.81 0.0530 0.0441

Earth -113317-11-05 02:24 J -39667302.44 -39667302.40 -39667302.36 0.2575 0.2472

Venus -113317-12-12 12:29 J -39667265.05 -39667264.98 -39667264.92 0.3647 0.2894

Saturn -113314-02-13 11:17 J -39666472.12 -39666472.03 -39666471.94 0.0281 0.0217

Mars -113314-03-23 06:43 J -39666434.37 -39666434.22 -39666434.07 0.1767 0.0495

Saturn -113314-05-13 00:43 J -39666383.59 -39666383.47 -39666383.34 0.0282 0.0132

Saturn -113314-08-09 14:10 J -39666295.05 -39666294.91 -39666294.77 0.0283 0.0047

Saturn -113314-11-06 03:36 J -39666206.49 -39666206.35 -39666206.21 0.0284 0.0039

Saturn -113313-02-02 16:48 J -39666117.93 -39666117.80 -39666117.68 0.0285 0.0124

Mars -113313-02-02 23:31 J -39666117.64 -39666117.52 -39666117.40 0.1746 0.0296

Saturn -113313-05-01 05:46 J -39666029.35 -39666029.26 -39666029.16 0.0286 0.0209

Moon -113313-05-06 00:43 J -39666024.57 -39666024.47 -39666024.37 0.2764 0.0961

Earth -113313-05-06 01:12 J -39666024.55 -39666024.45 -39666024.34 0.2758 0.0843 *

Jupiter -113312-05-22 14:10 J -39665642.94 -39665642.91 -39665642.88 0.0498 0.0488

Jupiter -113312-08-20 15:22 J -39665553.04 -39665552.86 -39665552.69 0.0497 0.0052

Mars -113311-01-08 11:17 J -39665412.09 -39665412.03 -39665411.96 0.1727 0.1428

Venus -113311-06-28 06:43 J -39665241.32 -39665241.22 -39665241.11 0.3652 0.1280

Moon -113310-10-28 13:55 J -39664754.02 -39664753.92 -39664753.82 0.2589 0.2001

Earth -113310-10-28 15:07 J -39664753.98 -39664753.87 -39664753.76 0.2584 0.1866 *

Earth -113307-05-15 22:05 J -39663823.60 -39663823.58 -39663823.55 0.2770 0.2675

Moon -113307-05-15 22:48 J -39663823.58 -39663823.55 -39663823.53 0.2766 0.2680 *

Neptune -113307-06-10 16:19 J -39663797.84 -39663797.82 -39663797.77 0.0089 0.0087

Neptune -113307-09-06 18:58 J -39663709.76 -39663709.71 -39663709.62 0.0089 0.0082

Neptune -113307-12-03 21:50 J -39663621.66 -39663621.59 -39663621.49 0.0089 0.0077

Neptune -113306-03-02 00:29 J -39663533.56 -39663533.48 -39663533.36 0.0089 0.0072

Neptune -113306-05-29 03:50 J -39663445.46 -39663445.34 -39663445.23 0.0089 0.0066

Jupiter -113306-07-23 08:10 J -39663390.29 -39663390.16 -39663390.03 0.0529 0.0188

Neptune -113306-08-25 06:29 J -39663357.35 -39663357.23 -39663357.10 0.0089 0.0061

Jupiter -113306-10-20 18:00 J -39663300.86 -39663300.75 -39663300.65 0.0529 0.0315

Neptune -113306-11-21 09:07 J -39663269.24 -39663269.12 -39663268.98 0.0089 0.0056

Venus -113305-01-12 00:58 J -39663217.57 -39663217.46 -39663217.35 0.3657 0.0300

Neptune -113305-02-17 12:00 J -39663181.14 -39663181.00 -39663180.85 0.0089 0.0051

Neptune -113305-05-15 14:38 J -39663093.02 -39663092.89 -39663092.72 0.0089 0.0046

Neptune -113305-08-11 17:31 J -39663004.91 -39663004.77 -39663004.60 0.0089 0.0041

Mars -113305-08-12 07:55 J -39663004.28 -39663004.17 -39663004.05 0.1762 0.1134

Neptune -113305-11-07 20:38 J -39662916.80 -39662916.64 -39662916.48 0.0089 0.0035

Neptune -113304-02-03 23:31 J -39662828.68 -39662828.52 -39662828.35 0.0089 0.0030

Neptune -113304-05-03 02:10 J -39662740.57 -39662740.41 -39662740.23 0.0089 0.0025

Mars -113304-06-25 08:10 J -39662687.27 -39662687.16 -39662687.05 0.1750 0.0743

Neptune -113304-07-30 05:17 J -39662652.45 -39662652.28 -39662652.10 0.0089 0.0019

Neptune -113304-10-26 08:10 J -39662564.33 -39662564.16 -39662563.98 0.0089 0.0014

Neptune -113303-01-22 11:02 J -39662476.21 -39662476.04 -39662475.86 0.0089 0.0009

Neptune -113303-04-20 14:10 J -39662388.09 -39662387.91 -39662387.73 0.0089 0.0003

Uranus -113303-06-12 08:10 J -39662335.17 -39662335.16 -39662335.12 0.0132 0.0129

Neptune -113303-07-17 17:02 J -39662299.97 -39662299.79 -39662299.61 0.0089 0.0003

Mars -113303-07-20 06:00 J -39662297.31 -39662297.25 -39662297.20 0.1782 0.1651

Uranus -113303-09-08 11:46 J -39662247.08 -39662247.01 -39662246.93 0.0132 0.0112

Neptune -113303-10-13 19:55 J -39662211.84 -39662211.67 -39662211.49 0.0089 0.0008

Uranus -113303-12-05 15:07 J -39662158.96 -39662158.87 -39662158.77 0.0131 0.0096

Neptune -113302-01-09 23:02 J -39662123.72 -39662123.54 -39662123.36 0.0089 0.0013

Uranus -113302-03-03 18:29 J -39662070.83 -39662070.73 -39662070.61 0.0131 0.0081

Neptune -113302-04-08 01:55 J -39662035.59 -39662035.42 -39662035.24 0.0089 0.0019

Uranus -113302-05-30 22:05 J -39661982.70 -39661982.58 -39661982.46 0.0131 0.0065

Mars -113302-05-31 20:38 J -39661981.73 -39661981.64 -39661981.54 0.1732 0.1029

Neptune -113302-07-05 05:02 J -39661947.46 -39661947.29 -39661947.12 0.0089 0.0024

Uranus -113302-08-27 01:12 J -39661894.57 -39661894.45 -39661894.31 0.0131 0.0049

Neptune -113302-10-01 07:55 J -39661859.33 -39661859.17 -39661859.00 0.0089 0.0030

Uranus -113302-11-23 04:34 J -39661806.44 -39661806.31 -39661806.17 0.0131 0.0033

Neptune -113302-12-28 10:48 J -39661771.20 -39661771.05 -39661770.87 0.0089 0.0036

Uranus -113301-02-19 07:55 J -39661718.31 -39661718.17 -39661718.03 0.0131 0.0018

Neptune -113301-03-25 13:55 J -39661683.07 -39661682.92 -39661682.75 0.0089 0.0041

Uranus -113301-05-17 11:17 J -39661630.17 -39661630.03 -39661629.89 0.0131 0.0003

Saturn -113301-06-16 20:38 J -39661599.70 -39661599.64 -39661599.56 0.0281 0.0254

Neptune -113301-06-21 16:48 J -39661594.94 -39661594.80 -39661594.63 0.0089 0.0047

Uranus -113301-08-13 14:24 J -39661542.04 -39661541.90 -39661541.76 0.0131 0.0013

Saturn -113301-09-13 15:22 J -39661510.99 -39661510.86 -39661510.72 0.0280 0.0157

Neptune -113301-09-17 19:55 J -39661506.80 -39661506.67 -39661506.51 0.0089 0.0052

Uranus -113301-11-09 17:46 J -39661453.90 -39661453.76 -39661453.63 0.0131 0.0029

Saturn -113301-12-11 10:19 J -39661422.23 -39661422.07 -39661421.90 0.0279 0.0059

Neptune -113301-12-14 23:02 J -39661418.67 -39661418.54 -39661418.39 0.0089 0.0058

Uranus -113300-02-05 20:53 J -39661365.76 -39661365.63 -39661365.50 0.0131 0.0044

Saturn -113300-03-10 05:31 J -39661333.44 -39661333.27 -39661333.10 0.0278 0.0040

Neptune -113300-03-13 02:24 J -39661330.53 -39661330.40 -39661330.27 0.0089 0.0063

Uranus -113300-05-05 00:00 J -39661277.62 -39661277.50 -39661277.37 0.0131 0.0059

Moon -113300-05-08 19:41 J -39661273.79 -39661273.68 -39661273.57 0.2769 0.0142

Earth -113300-05-08 19:41 J -39661273.79 -39661273.68 -39661273.57 0.2762 0.0089 *

Saturn -113300-06-07 00:43 J -39661244.62 -39661244.47 -39661244.32 0.0277 0.0138

Jupiter -113300-06-08 14:38 J -39661243.06 -39661242.89 -39661242.72 0.0497 0.0082

Neptune -113300-06-09 05:02 J -39661242.38 -39661242.29 -39661242.16 0.0089 0.0069

Venus -113300-07-27 18:58 J -39661193.81 -39661193.71 -39661193.61 0.3663 0.1836

Uranus -113300-08-01 03:07 J -39661189.48 -39661189.37 -39661189.25 0.0131 0.0074

Saturn -113300-09-03 19:55 J -39661155.74 -39661155.67 -39661155.57 0.0276 0.0238

Neptune -113300-09-05 08:10 J -39661154.24 -39661154.16 -39661154.05 0.0089 0.0075

Jupiter -113300-09-06 17:02 J -39661152.83 -39661152.79 -39661152.73 0.0496 0.0474

Uranus -113300-10-28 06:14 J -39661101.33 -39661101.24 -39661101.13 0.0131 0.0089

Neptune -113300-12-02 11:31 J -39661066.09 -39661066.02 -39661065.94 0.0089 0.0080

Uranus -113299-01-24 09:22 J -39661013.18 -39661013.11 -39661013.02 0.0131 0.0104

Neptune -113299-02-28 14:24 J -39660977.93 -39660977.90 -39660977.84 0.0089 0.0086

Uranus -113299-04-22 12:43 J -39660925.03 -39660924.97 -39660924.91 0.0131 0.0118

Moon -113297-10-30 20:24 J -39660002.80 -39660002.65 -39660002.49 0.2587 0.0389

Earth -113297-10-30 20:53 J -39660002.79 -39660002.63 -39660002.47 0.2581 0.0333 *

Mars -113295-01-02 10:05 J -39659574.10 -39659574.08 -39659574.07 0.1757 0.1739

Mars -113295-11-15 16:19 J -39659256.91 -39659256.82 -39659256.73 0.1755 0.1209

Venus -113294-02-10 12:43 J -39659170.01 -39659169.97 -39659169.92 0.3668 0.3344

Jupiter -113294-05-11 10:19 J -39659080.17 -39659080.07 -39659079.96 0.0528 0.0327

Jupiter -113294-08-08 20:24 J -39658990.77 -39658990.65 -39658990.52 0.0529 0.0181

Mars -113294-12-10 06:14 J -39658867.38 -39658867.24 -39658867.11 0.1777 0.0943

Moon -113293-05-01 16:19 J -39658723.85 -39658723.82 -39658723.79 0.2748 0.2588

Earth -113293-05-01 17:02 J -39658723.83 -39658723.79 -39658723.75 0.2752 0.2532 *

Mars -113293-10-21 06:00 J -39658551.37 -39658551.25 -39658551.14 0.1736 0.0619

Jupiter -113288-03-27 13:55 J -39656933.07 -39656932.92 -39656932.76 0.0497 0.0216

Jupiter -113288-06-25 15:50 J -39656842.96 -39656842.84 -39656842.71 0.0496 0.0334

Earth -113287-05-11 14:10 J -39656523.01 -39656522.91 -39656522.81 0.2765 0.1013

Moon -113287-05-11 14:38 J -39656522.99 -39656522.89 -39656522.79 0.2770 0.1023 *

Venus -113286-05-22 11:46 J -39656147.06 -39656147.01 -39656146.96 0.3733 0.3407

Mars -113285-04-07 00:29 J -39655826.51 -39655826.48 -39655826.45 0.1760 0.1685

Saturn -113285-07-02 14:10 J -39655739.99 -39655739.91 -39655739.83 0.0281 0.0235

Saturn -113285-09-29 03:36 J -39655651.46 -39655651.35 -39655651.22 0.0282 0.0150

Saturn -113285-12-26 17:17 J -39655562.92 -39655562.78 -39655562.64 0.0283 0.0064

Saturn -113284-03-25 06:29 J -39655474.37 -39655474.23 -39655474.08 0.0284 0.0023

Mars -113284-05-01 06:29 J -39655437.39 -39655437.23 -39655437.08 0.1772 0.0244

Saturn -113284-06-21 19:55 J -39655385.80 -39655385.67 -39655385.54 0.0285 0.0107

Saturn -113284-09-18 08:53 J -39655297.23 -39655297.13 -39655297.02 0.0286 0.0192

Earth -113284-11-03 02:53 J -39655251.52 -39655251.38 -39655251.24 0.2578 0.1220

Moon -113284-11-03 03:50 J -39655251.47 -39655251.34 -39655251.20 0.2583 0.1360 *

Saturn -113284-12-15 21:50 J -39655208.62 -39655208.59 -39655208.55 0.0287 0.0276

Mars -113283-03-13 14:53 J -39655121.01 -39655120.88 -39655120.76 0.1741 0.0199

Jupiter -113282-02-27 13:12 J -39654770.01 -39654769.95 -39654769.88 0.0528 0.0456

Jupiter -113282-05-27 23:46 J -39654680.64 -39654680.51 -39654680.38 0.0529 0.0056

Venus -113281-12-05 12:14 J -39654123.12 -39654122.99 -39654122.86 0.3726 0.0858

Moon -113280-05-04 10:48 J -39653973.13 -39653973.05 -39653972.96 0.2756 0.1702

Earth -113280-05-04 11:31 J -39653973.11 -39653973.02 -39653972.93 0.2755 0.1597 *

Jupiter -113276-01-13 12:29 J -39652623.10 -39652622.98 -39652622.87 0.0497 0.0360

Jupiter -113276-04-13 13:55 J -39652533.08 -39652532.92 -39652532.76 0.0496 0.0184

Venus -113275-06-21 13:12 J -39652099.07 -39652098.95 -39652098.84 0.3720 0.1796

Mars -113275-09-21 07:12 J -39652007.35 -39652007.20 -39652007.05 0.1767 0.0428

Earth -113274-05-14 08:38 J -39651772.22 -39651772.14 -39651772.07 0.2768 0.1936

Moon -113274-05-14 09:22 J -39651772.19 -39651772.11 -39651772.04 0.2767 0.2016 *

Mars -113274-08-03 23:31 J -39651690.64 -39651690.52 -39651690.40 0.1745 0.0250

Mars -113272-07-09 11:31 J -39650985.08 -39650985.02 -39650984.96 0.1727 0.1471

Saturn -113272-11-03 22:19 J -39650867.60 -39650867.57 -39650867.53 0.0281 0.0274

Saturn -113271-01-31 16:48 J -39650778.92 -39650778.80 -39650778.66 0.0280 0.0178

Saturn -113271-04-30 11:46 J -39650690.17 -39650690.01 -39650689.85 0.0279 0.0079

Saturn -113271-07-28 06:43 J -39650601.39 -39650601.22 -39650601.05 0.0278 0.0020

Saturn -113271-10-25 01:55 J -39650512.57 -39650512.42 -39650512.26 0.0277 0.0118

Saturn -113270-01-21 21:22 J -39650423.71 -39650423.61 -39650423.50 0.0276 0.0217

Jupiter -113270-03-16 03:22 J -39650370.50 -39650370.36 -39650370.23 0.0529 0.0065

Jupiter -113270-06-13 12:58 J -39650281.04 -39650280.96 -39650280.89 0.0530 0.0436

Moon -113267-05-07 05:46 J -39649222.37 -39649222.26 -39649222.16 0.2765 0.0645

Earth -113267-05-07 06:14 J -39649222.35 -39649222.24 -39649222.14 0.2759 0.0676 *

Mars -113265-02-11 08:38 J -39648577.26 -39648577.14 -39648577.02 0.1762 0.1068

Jupiter -113265-11-01 11:46 J -39648313.03 -39648313.01 -39648312.99 0.0498 0.0492

Mars -113265-12-24 08:10 J -39648260.28 -39648260.16 -39648260.05 0.1750 0.0700

Jupiter -113264-01-30 12:43 J -39648223.14 -39648222.97 -39648222.80 0.0497 0.0045

Moon -113264-10-28 20:38 J -39647951.76 -39647951.64 -39647951.51 0.2590 0.1555

Earth -113264-10-28 21:36 J -39647951.72 -39647951.60 -39647951.47 0.2584 0.1567 *

Mars -113263-01-18 06:43 J -39647870.25 -39647870.22 -39647870.18 0.1782 0.1728

Mars -113263-11-29 20:53 J -39647554.73 -39647554.63 -39647554.54 0.1732 0.1072

Venus -113260-07-19 10:34 J -39646592.15 -39646592.06 -39646591.97 0.3649 0.2297

Uranus -113259-05-18 09:36 J -39646289.16 -39646289.10 -39646289.01 0.0148 0.0134

Uranus -113259-08-14 17:17 J -39646200.90 -39646200.78 -39646200.65 0.0148 0.0106

Uranus -113259-11-11 00:43 J -39646112.61 -39646112.47 -39646112.31 0.0148 0.0078

Jupiter -113258-01-02 06:29 J -39646060.36 -39646060.23 -39646060.11 0.0529 0.0190

Uranus -113258-02-07 08:24 J -39646024.31 -39646024.15 -39646023.98 0.0148 0.0050

Jupiter -113258-04-01 16:19 J -39645970.93 -39645970.82 -39645970.72 0.0530 0.0314

Uranus -113258-05-06 16:05 J -39645936.00 -39645935.83 -39645935.65 0.0148 0.0021

Uranus -113258-08-02 23:46 J -39645847.69 -39645847.51 -39645847.33 0.0148 0.0008

Uranus -113258-10-30 07:41 J -39645759.36 -39645759.18 -39645759.01 0.0148 0.0036

Uranus -113257-01-26 15:22 J -39645671.02 -39645670.86 -39645670.69 0.0148 0.0065

Uranus -113257-04-23 23:02 J -39645582.67 -39645582.54 -39645582.39 0.0148 0.0095

Uranus -113257-07-21 06:58 J -39645494.29 -39645494.21 -39645494.10 0.0148 0.0125

Mars -113256-07-03 10:05 J -39645147.11 -39645147.08 -39645147.04 0.1757 0.1688

Saturn -113256-11-19 15:50 J -39645007.89 -39645007.84 -39645007.79 0.0280 0.0259

Saturn -113255-02-16 05:17 J -39644919.39 -39644919.28 -39644919.16 0.0281 0.0175

Saturn -113255-05-15 18:58 J -39644830.84 -39644830.71 -39644830.57 0.0282 0.0089

Mars -113255-05-16 16:34 J -39644829.90 -39644829.81 -39644829.72 0.1755 0.1158

Saturn -113255-08-12 08:24 J -39644742.29 -39644742.15 -39644742.01 0.0284 0.0005

Saturn -113255-11-08 21:36 J -39644653.73 -39644653.60 -39644653.46 0.0285 0.0082

Venus -113254-02-02 04:48 J -39644568.41 -39644568.30 -39644568.18 0.3653 0.0711

Saturn -113254-02-05 10:48 J -39644565.16 -39644565.05 -39644564.94 0.0286 0.0167

Saturn -113254-05-04 23:46 J -39644476.57 -39644476.51 -39644476.44 0.0287 0.0252

Earth -113254-05-10 00:43 J -39644471.58 -39644471.47 -39644471.37 0.2762 0.0291

Moon -113254-05-10 00:58 J -39644471.57 -39644471.46 -39644471.36 0.2769 0.0247 *

Mars -113254-06-10 06:29 J -39644440.36 -39644440.23 -39644440.10 0.1777 0.1000

Mars -113253-04-21 05:46 J -39644124.37 -39644124.26 -39644124.14 0.1736 0.0660

Jupiter -113253-11-18 11:46 J -39643913.18 -39643913.01 -39643912.84 0.0497 0.0092

Jupiter -113252-02-16 13:55 J -39643822.97 -39643822.92 -39643822.85 0.0496 0.0463

Earth -113251-11-01 03:22 J -39643200.52 -39643200.36 -39643200.20 0.2580 0.0064

Moon -113251-11-01 03:36 J -39643200.50 -39643200.35 -39643200.19 0.2586 0.0078 *

Venus -113249-08-17 23:02 J -39642544.65 -39642544.54 -39642544.43 0.3659 0.0862

Moon -113247-05-02 21:07 J -39641921.67 -39641921.62 -39641921.56 0.2749 0.2393

Earth -113247-05-02 21:50 J -39641921.64 -39641921.59 -39641921.53 0.2752 0.2352 *

Jupiter -113247-10-21 09:07 J -39641750.22 -39641750.12 -39641750.01 0.0528 0.0321

Jupiter -113246-01-18 19:12 J -39641660.82 -39641660.70 -39641660.57 0.0529 0.0186

Mars -113246-10-07 00:43 J -39641399.52 -39641399.47 -39641399.43 0.1759 0.1634

Mars -113245-10-30 06:43 J -39641010.37 -39641010.22 -39641010.06 0.1772 0.0309

Mars -113244-09-11 14:53 J -39640694.00 -39640693.88 -39640693.76 0.1741 0.0241

Venus -113243-03-03 17:02 J -39640520.87 -39640520.79 -39640520.71 0.3664 0.2394

Saturn -113242-06-20 17:46 J -39640046.87 -39640046.76 -39640046.64 0.0280 0.0202

Saturn -113242-09-17 12:29 J -39639958.13 -39639957.98 -39639957.82 0.0279 0.0105

Saturn -113242-12-15 07:26 J -39639869.36 -39639869.19 -39639869.01 0.0278 0.0010

Saturn -113241-03-13 02:38 J -39639780.55 -39639780.39 -39639780.22 0.0277 0.0092

Earth -113241-05-11 18:58 J -39639720.80 -39639720.71 -39639720.61 0.2765 0.1199

Moon -113241-05-11 19:41 J -39639720.78 -39639720.68 -39639720.59 0.2769 0.1311 *

Saturn -113241-06-09 21:50 J -39639691.70 -39639691.59 -39639691.45 0.0276 0.0192

Jupiter -113241-09-06 11:17 J -39639603.18 -39639603.03 -39639602.88 0.0497 0.0223

Jupiter -113241-12-05 13:12 J -39639513.08 -39639512.95 -39639512.82 0.0497 0.0327

Earth -113238-11-04 09:22 J -39638449.23 -39638449.11 -39638448.98 0.2577 0.1523

Moon -113238-11-04 10:48 J -39638449.18 -39638449.05 -39638448.93 0.2582 0.1577 *

Pluto -113237-02-14 12:14 J -39638346.99 -39638346.99 -39638346.97 0.0060 0.0060

Pluto -113237-05-12 13:41 J -39638259.02 -39638258.93 -39638258.83 0.0060 0.0052

Pluto -113237-08-08 14:38 J -39638170.99 -39638170.89 -39638170.74 0.0060 0.0045

Pluto -113237-11-04 16:19 J -39638082.96 -39638082.82 -39638082.66 0.0060 0.0037

Pluto -113236-01-31 18:00 J -39637994.92 -39637994.75 -39637994.58 0.0060 0.0030

Pluto -113236-04-29 18:58 J -39637906.87 -39637906.71 -39637906.51 0.0060 0.0023

Pluto -113236-07-26 20:38 J -39637818.82 -39637818.64 -39637818.45 0.0060 0.0014

Pluto -113236-10-22 22:05 J -39637730.77 -39637730.58 -39637730.38 0.0060 0.0007

Pluto -113235-01-18 23:31 J -39637642.71 -39637642.52 -39637642.32 0.0060 0.0001

Mars -113235-03-22 07:55 J -39637580.32 -39637580.17 -39637580.02 0.1767 0.0362

Pluto -113235-04-17 00:58 J -39637554.65 -39637554.46 -39637554.27 0.0060 0.0009

Pluto -113235-07-14 02:10 J -39637466.59 -39637466.41 -39637466.22 0.0060 0.0017

Jupiter -113235-08-09 11:17 J -39637440.09 -39637440.03 -39637439.96 0.0528 0.0460

Pluto -113235-10-10 03:22 J -39637378.52 -39637378.36 -39637378.17 0.0061 0.0025

Jupiter -113235-11-06 21:50 J -39637350.73 -39637350.59 -39637350.46 0.0529 0.0052

Pluto -113234-01-06 04:34 J -39637290.45 -39637290.31 -39637290.12 0.0061 0.0033

Mars -113234-02-01 23:31 J -39637263.64 -39637263.52 -39637263.39 0.1745 0.0210

Pluto -113234-04-04 06:29 J -39637202.37 -39637202.23 -39637202.08 0.0061 0.0040

Moon -113234-05-05 15:50 J -39637170.93 -39637170.84 -39637170.75 0.2760 0.1471

Earth -113234-05-05 16:34 J -39637170.91 -39637170.81 -39637170.72 0.2756 0.1419 *

Pluto -113234-07-01 07:41 J -39637114.29 -39637114.18 -39637114.05 0.0061 0.0048

Pluto -113234-09-27 08:53 J -39637026.18 -39637026.13 -39637026.03 0.0061 0.0056

Mars -113232-01-07 11:31 J -39636558.07 -39636558.02 -39636557.96 0.1727 0.1515

Venus -113230-12-27 11:31 J -39635474.11 -39635474.02 -39635473.93 0.3731 0.2535

Jupiter -113229-06-25 10:48 J -39635293.17 -39635293.05 -39635292.93 0.0498 0.0355

Jupiter -113229-09-23 12:14 J -39635203.15 -39635202.99 -39635202.83 0.0497 0.0189

Earth -113228-05-14 13:26 J -39634970.01 -39634969.94 -39634969.87 0.2768 0.2118

Moon -113228-05-14 14:10 J -39634969.98 -39634969.91 -39634969.84 0.2765 0.2130 *

Saturn -113226-04-08 18:29 J -39634275.74 -39634275.73 -39634275.72 0.0280 0.0278

Saturn -113226-07-06 08:10 J -39634187.27 -39634187.16 -39634187.06 0.0281 0.0193

Mars -113226-08-12 09:07 J -39634150.24 -39634150.12 -39634150.00 0.1762 0.1004

Neptune -113226-10-02 14:10 J -39634098.93 -39634098.91 -39634098.87 0.0088 0.0086

Saturn -113226-10-02 21:36 J -39634098.73 -39634098.60 -39634098.47 0.0282 0.0108

Neptune -113226-12-29 15:50 J -39634010.88 -39634010.84 -39634010.77 0.0088 0.0081

Saturn -113226-12-30 11:02 J -39634010.18 -39634010.04 -39634009.90 0.0283 0.0023

Neptune -113225-03-26 17:46 J -39633922.82 -39633922.76 -39633922.68 0.0088 0.0077

Saturn -113225-03-28 00:29 J -39633921.62 -39633921.48 -39633921.35 0.0284 0.0063

Neptune -113225-06-22 19:26 J -39633834.76 -39633834.69 -39633834.60 0.0088 0.0072

Mars -113225-06-24 08:24 J -39633833.27 -39633833.15 -39633833.04 0.1750 0.0651

Saturn -113225-06-24 13:41 J -39633833.05 -39633832.93 -39633832.81 0.0285 0.0148 *

Neptune -113225-09-18 21:22 J -39633746.70 -39633746.61 -39633746.52 0.0088 0.0068

Saturn -113225-09-21 02:38 J -39633744.47 -39633744.39 -39633744.31 0.0286 0.0233

Neptune -113225-12-15 22:48 J -39633658.64 -39633658.55 -39633658.44 0.0088 0.0064

Neptune -113224-03-14 00:29 J -39633570.57 -39633570.48 -39633570.36 0.0088 0.0060

Neptune -113224-06-10 02:24 J -39633482.51 -39633482.40 -39633482.28 0.0088 0.0055

Venus -113224-07-12 12:00 J -39633450.13 -39633450.00 -39633449.87 0.3725 0.0041

Neptune -113224-09-06 04:05 J -39633394.44 -39633394.33 -39633394.20 0.0088 0.0050

Neptune -113224-12-03 06:00 J -39633306.37 -39633306.25 -39633306.13 0.0088 0.0046

Neptune -113223-03-01 07:26 J -39633218.31 -39633218.19 -39633218.05 0.0088 0.0042

Neptune -113223-05-28 09:07 J -39633130.24 -39633130.12 -39633129.98 0.0088 0.0037

Mars -113223-05-30 20:53 J -39633127.73 -39633127.63 -39633127.54 0.1732 0.1114

Neptune -113223-08-24 11:02 J -39633042.17 -39633042.04 -39633041.91 0.0088 0.0033

Jupiter -113223-08-26 00:58 J -39633040.59 -39633040.46 -39633040.33 0.0529 0.0074

Neptune -113223-11-20 12:29 J -39632954.11 -39632953.98 -39632953.83 0.0088 0.0029

Jupiter -113223-11-23 10:34 J -39632951.14 -39632951.06 -39632950.98 0.0530 0.0426

Neptune -113222-02-16 14:24 J -39632866.04 -39632865.90 -39632865.76 0.0088 0.0024

Neptune -113222-05-15 16:05 J -39632777.97 -39632777.83 -39632777.69 0.0088 0.0020

Neptune -113222-08-11 17:31 J -39632689.90 -39632689.77 -39632689.62 0.0088 0.0016

Neptune -113222-11-07 19:12 J -39632601.84 -39632601.70 -39632601.55 0.0088 0.0011

Neptune -113221-02-03 20:53 J -39632513.77 -39632513.63 -39632513.48 0.0088 0.0007

Neptune -113221-05-01 22:34 J -39632425.70 -39632425.56 -39632425.42 0.0088 0.0003

Moon -113221-05-07 10:48 J -39632420.16 -39632420.05 -39632419.94 0.2766 0.0550

Earth -113221-05-07 11:02 J -39632420.15 -39632420.04 -39632419.93 0.2759 0.0484 *

Neptune -113221-07-29 00:14 J -39632337.63 -39632337.49 -39632337.35 0.0088 0.0002

Neptune -113221-10-25 01:55 J -39632249.56 -39632249.42 -39632249.28 0.0088 0.0006

Neptune -113220-01-21 03:22 J -39632161.50 -39632161.36 -39632161.21 0.0088 0.0011

Neptune -113220-04-19 05:02 J -39632073.43 -39632073.29 -39632073.15 0.0088 0.0015

Neptune -113220-07-16 06:29 J -39631985.36 -39631985.23 -39631985.08 0.0088 0.0020

Neptune -113220-10-12 08:10 J -39631897.29 -39631897.16 -39631897.02 0.0088 0.0023

Neptune -113219-01-08 09:50 J -39631809.22 -39631809.09 -39631808.95 0.0088 0.0028

Neptune -113219-04-06 11:31 J -39631721.15 -39631721.02 -39631720.89 0.0088 0.0032

Uranus -113219-07-02 16:19 J -39631633.87 -39631633.82 -39631633.76 0.0132 0.0121

Neptune -113219-07-03 12:43 J -39631633.09 -39631632.97 -39631632.83 0.0088 0.0037

Uranus -113219-09-28 19:55 J -39631545.75 -39631545.67 -39631545.59 0.0132 0.0105

Neptune -113219-09-29 14:24 J -39631545.02 -39631544.90 -39631544.77 0.0088 0.0040

Uranus -113219-12-25 23:17 J -39631457.63 -39631457.53 -39631457.43 0.0131 0.0089

Neptune -113219-12-26 16:05 J -39631456.95 -39631456.83 -39631456.71 0.0088 0.0044

Venus -113218-01-26 13:12 J -39631426.04 -39631425.95 -39631425.86 0.3718 0.2730

Uranus -113218-03-24 02:24 J -39631369.51 -39631369.40 -39631369.27 0.0131 0.0074

Neptune -113218-03-24 17:31 J -39631368.88 -39631368.77 -39631368.64 0.0088 0.0049

Uranus -113218-06-20 06:00 J -39631281.38 -39631281.25 -39631281.12 0.0131 0.0057

Neptune -113218-06-20 19:12 J -39631280.81 -39631280.70 -39631280.59 0.0088 0.0052

Uranus -113218-09-16 09:22 J -39631193.24 -39631193.11 -39631192.98 0.0131 0.0042

Neptune -113218-09-16 20:38 J -39631192.74 -39631192.64 -39631192.53 0.0088 0.0057

Moon -113218-10-30 03:22 J -39631149.49 -39631149.36 -39631149.23 0.2590 0.1416

Earth -113218-10-30 04:05 J -39631149.47 -39631149.33 -39631149.19 0.2584 0.1273 *

Uranus -113218-12-13 12:29 J -39631105.11 -39631104.98 -39631104.84 0.0131 0.0027

Neptune -113218-12-13 22:19 J -39631104.67 -39631104.57 -39631104.47 0.0088 0.0061

Uranus -113217-03-10 15:50 J -39631016.98 -39631016.84 -39631016.70 0.0131 0.0011

Neptune -113217-03-10 23:46 J -39631016.60 -39631016.51 -39631016.41 0.0088 0.0065

Jupiter -113217-04-13 09:22 J -39630983.12 -39630983.11 -39630983.09 0.0498 0.0496

Uranus -113217-06-06 19:12 J -39630928.84 -39630928.70 -39630928.56 0.0131 0.0005

Neptune -113217-06-07 01:26 J -39630928.53 -39630928.44 -39630928.36 0.0088 0.0069

Jupiter -113217-07-12 10:19 J -39630893.24 -39630893.07 -39630892.90 0.0497 0.0042

Uranus -113217-09-02 22:19 J -39630840.70 -39630840.57 -39630840.43 0.0131 0.0021

Neptune -113217-09-03 02:53 J -39630840.46 -39630840.38 -39630840.30 0.0088 0.0073 *

Uranus -113217-11-30 01:41 J -39630752.57 -39630752.43 -39630752.30 0.0131 0.0035

Neptune -113217-11-30 04:19 J -39630752.38 -39630752.32 -39630752.25 0.0088 0.0077 *

Mars -113216-01-01 10:48 J -39630720.10 -39630720.05 -39630719.99 0.1757 0.1622

Uranus -113216-02-26 04:48 J -39630664.43 -39630664.30 -39630664.17 0.0131 0.0051

Neptune -113216-02-26 06:00 J -39630664.31 -39630664.25 -39630664.20 0.0088 0.0081 *

Uranus -113216-05-25 07:55 J -39630576.28 -39630576.17 -39630576.05 0.0131 0.0066

Neptune -113216-05-25 07:26 J -39630576.22 -39630576.19 -39630576.15 0.0088 0.0085 *

Uranus -113216-08-21 11:02 J -39630488.14 -39630488.04 -39630487.92 0.0131 0.0081

Mars -113216-11-14 16:34 J -39630402.90 -39630402.81 -39630402.71 0.1755 0.1113

Uranus -113216-11-17 14:10 J -39630399.99 -39630399.91 -39630399.81 0.0131 0.0096

Uranus -113215-02-13 17:31 J -39630311.84 -39630311.77 -39630311.70 0.0131 0.0110

Uranus -113215-05-12 20:38 J -39630223.68 -39630223.64 -39630223.60 0.0131 0.0125

Mars -113215-12-09 07:12 J -39630013.33 -39630013.20 -39630013.08 0.1777 0.1070

Mars -113214-10-21 06:00 J -39629697.36 -39629697.25 -39629697.14 0.1736 0.0703

Saturn -113213-11-06 18:58 J -39629314.80 -39629314.71 -39629314.60 0.0281 0.0224

Saturn -113212-02-03 13:41 J -39629226.07 -39629225.93 -39629225.77 0.0280 0.0127

Saturn -113212-05-03 08:38 J -39629137.31 -39629137.14 -39629136.97 0.0279 0.0029

Saturn -113212-07-31 03:50 J -39629048.51 -39629048.34 -39629048.17 0.0278 0.0070

Saturn -113212-10-27 23:02 J -39628959.67 -39628959.54 -39628959.40 0.0277 0.0169

Saturn -113211-01-24 18:43 J -39628870.76 -39628870.72 -39628870.68 0.0276 0.0267

Jupiter -113211-06-14 04:19 J -39628730.44 -39628730.32 -39628730.19 0.0529 0.0196

Jupiter -113211-09-11 14:24 J -39628641.01 -39628640.90 -39628640.80 0.0530 0.0310

Venus -113209-08-09 14:24 J -39627942.95 -39627942.90 -39627942.86 0.3645 0.3327

Earth -113208-05-10 05:31 J -39627669.38 -39627669.27 -39627669.16 0.2762 0.0447

Moon -113208-05-10 06:00 J -39627669.36 -39627669.25 -39627669.15 0.2769 0.0552 *

Mars -113206-04-07 00:43 J -39626972.52 -39626972.47 -39626972.42 0.1760 0.1589

Mars -113205-04-30 07:26 J -39626583.34 -39626583.19 -39626583.04 0.1772 0.0370

Jupiter -113205-04-30 09:22 J -39626583.27 -39626583.11 -39626582.94 0.0497 0.0095 *

Jupiter -113205-07-29 11:31 J -39626493.07 -39626493.02 -39626492.95 0.0496 0.0459

Earth -113205-11-01 10:05 J -39626398.24 -39626398.08 -39626397.92 0.2580 0.0274

Moon -113205-11-01 10:48 J -39626398.20 -39626398.05 -39626397.90 0.2586 0.0398 *

Mars -113204-03-12 14:53 J -39626267.00 -39626266.88 -39626266.76 0.1741 0.0277

Venus -113203-02-23 08:53 J -39625919.23 -39625919.13 -39625919.03 0.3650 0.1707

Moon -113201-05-03 02:10 J -39625119.47 -39625119.41 -39625119.35 0.2752 0.2276

Earth -113201-05-03 02:53 J -39625119.45 -39625119.38 -39625119.32 0.2752 0.2171 *

Jupiter -113199-04-02 07:26 J -39624420.29 -39624420.19 -39624420.08 0.0528 0.0321

Jupiter -113199-06-30 17:46 J -39624330.89 -39624330.76 -39624330.64 0.0529 0.0188

Venus -113198-09-09 03:07 J -39623895.49 -39623895.37 -39623895.26 0.3655 0.0136

Saturn -113197-11-22 09:22 J -39623455.20 -39623455.11 -39623455.02 0.0281 0.0221

Saturn -113196-02-18 23:02 J -39623366.67 -39623366.54 -39623366.42 0.0282 0.0136

Saturn -113196-05-18 12:29 J -39623278.12 -39623277.98 -39623277.84 0.0283 0.0050

Saturn -113196-08-15 01:41 J -39623189.57 -39623189.43 -39623189.29 0.0284 0.0036

Mars -113196-09-20 08:10 J -39623153.31 -39623153.16 -39623153.00 0.1767 0.0306

Saturn -113196-11-11 15:07 J -39623101.00 -39623100.87 -39623100.75 0.0285 0.0120

Saturn -113195-02-08 04:05 J -39623012.42 -39623012.33 -39623012.23 0.0286 0.0205

Earth -113195-05-13 00:00 J -39622918.60 -39622918.50 -39622918.41 0.2766 0.1376

Moon -113195-05-13 00:43 J -39622918.57 -39622918.47 -39622918.38 0.2767 0.1374 *

Mars -113195-08-02 23:46 J -39622836.63 -39622836.51 -39622836.39 0.1746 0.0156

Jupiter -113193-02-17 08:38 J -39622273.29 -39622273.14 -39622272.99 0.0497 0.0230

Jupiter -113193-05-17 10:34 J -39622183.20 -39622183.06 -39622182.93 0.0496 0.0320

Mars -113193-07-08 11:31 J -39622131.07 -39622131.02 -39622130.97 0.1727 0.1555

Venus -113192-03-24 21:07 J -39621871.72 -39621871.62 -39621871.52 0.3660 0.1425

Earth -113192-11-04 16:05 J -39621646.94 -39621646.83 -39621646.72 0.2577 0.1832

Moon -113192-11-04 17:31 J -39621646.87 -39621646.77 -39621646.67 0.2580 0.1936 *

Moon -113188-05-05 20:53 J -39620368.73 -39620368.63 -39620368.54 0.2761 0.1277

Earth -113188-05-05 21:22 J -39620368.71 -39620368.61 -39620368.51 0.2756 0.1236 *

Jupiter -113187-01-19 10:19 J -39620110.14 -39620110.07 -39620110.00 0.0528 0.0450

Jupiter -113187-04-18 20:53 J -39620020.77 -39620020.63 -39620020.50 0.0529 0.0063

Venus -113187-10-08 15:07 J -39619847.94 -39619847.87 -39619847.81 0.3665 0.2945

Mars -113186-02-10 09:36 J -39619723.23 -39619723.10 -39619722.98 0.1762 0.0947

Mars -113186-12-24 08:24 J -39619406.27 -39619406.15 -39619406.04 0.1750 0.0602

Earth -113185-10-27 04:48 J -39619098.33 -39619098.30 -39619098.26 0.2587 0.2502

Mars -113184-11-28 20:53 J -39618700.72 -39618700.63 -39618700.54 0.1732 0.1160

Saturn -113183-03-26 19:12 J -39618582.76 -39618582.70 -39618582.62 0.0281 0.0252

Saturn -113183-06-23 13:55 J -39618494.06 -39618493.92 -39618493.78 0.0280 0.0155

Saturn -113183-09-20 08:53 J -39618405.30 -39618405.13 -39618404.97 0.0279 0.0057

Saturn -113183-12-18 03:50 J -39618316.51 -39618316.34 -39618316.17 0.0278 0.0041

Saturn -113182-03-16 23:02 J -39618227.68 -39618227.54 -39618227.39 0.0277 0.0140

Earth -113182-05-15 18:14 J -39618167.79 -39618167.74 -39618167.68 0.2769 0.2303

Moon -113182-05-15 18:58 J -39618167.76 -39618167.71 -39618167.66 0.2765 0.2409 *

Saturn -113182-06-13 18:43 J -39618138.81 -39618138.72 -39618138.64 0.0276 0.0238

Jupiter -113182-12-06 08:24 J -39617963.27 -39617963.15 -39617963.04 0.0498 0.0359

Jupiter -113181-03-05 09:50 J -39617873.25 -39617873.09 -39617872.93 0.0497 0.0186

Mars -113177-07-02 11:17 J -39616293.10 -39616293.03 -39616292.96 0.1757 0.1561

Mars -113176-05-15 16:34 J -39615975.90 -39615975.81 -39615975.71 0.1755 0.1067

Jupiter -113175-02-04 23:17 J -39615710.66 -39615710.53 -39615710.39 0.0529 0.0074

Jupiter -113175-05-05 08:53 J -39615621.21 -39615621.13 -39615621.05 0.0530 0.0425

Earth -113175-05-08 15:50 J -39615617.95 -39615617.84 -39615617.73 0.2760 0.0313

Moon -113175-05-08 15:50 J -39615617.94 -39615617.84 -39615617.73 0.2766 0.0306 *

Uranus -113175-06-07 18:43 J -39615587.82 -39615587.72 -39615587.62 0.0148 0.0122

Mars -113175-06-09 07:41 J -39615586.30 -39615586.18 -39615586.06 0.1777 0.1134

Uranus -113175-09-04 02:10 J -39615499.54 -39615499.41 -39615499.27 0.0148 0.0094

Uranus -113175-12-01 09:50 J -39615411.25 -39615411.09 -39615410.93 0.0148 0.0066

Uranus -113174-02-27 17:17 J -39615322.95 -39615322.78 -39615322.60 0.0148 0.0038

Mars -113174-04-21 06:00 J -39615270.36 -39615270.25 -39615270.14 0.1736 0.0745

Uranus -113174-05-27 00:58 J -39615234.64 -39615234.46 -39615234.28 0.0148 0.0010

Uranus -113174-08-23 08:38 J -39615146.31 -39615146.14 -39615145.96 0.0148 0.0020

Uranus -113174-11-19 16:34 J -39615057.98 -39615057.81 -39615057.64 0.0148 0.0048

Uranus -113173-02-16 00:00 J -39614969.64 -39614969.50 -39614969.33 0.0148 0.0078

Uranus -113173-05-14 08:10 J -39614881.28 -39614881.16 -39614881.03 0.0148 0.0107

Venus -113173-08-02 11:17 J -39614801.15 -39614801.03 -39614800.92 0.3729 0.1661

Uranus -113173-08-10 16:19 J -39614792.89 -39614792.82 -39614792.75 0.0148 0.0137

Moon -113172-10-30 10:34 J -39614347.21 -39614347.06 -39614346.92 0.2589 0.0899

Earth -113172-10-30 10:48 J -39614347.20 -39614347.05 -39614346.91 0.2583 0.0976 *

Jupiter -113170-09-24 07:55 J -39613653.19 -39613653.17 -39613653.14 0.0498 0.0489

Jupiter -113170-12-23 08:53 J -39613563.30 -39613563.13 -39613562.95 0.0497 0.0051

Venus -113167-02-16 12:00 J -39612777.13 -39612777.00 -39612776.88 0.3723 0.0949

Saturn -113167-04-11 11:31 J -39612723.09 -39612723.02 -39612722.95 0.0280 0.0242

Saturn -113167-07-09 01:12 J -39612634.57 -39612634.45 -39612634.33 0.0282 0.0157

Saturn -113167-10-05 14:38 J -39612546.03 -39612545.89 -39612545.75 0.0283 0.0072

Mars -113167-10-06 00:58 J -39612545.52 -39612545.46 -39612545.40 0.1760 0.1536

Saturn -113166-01-02 04:05 J -39612457.47 -39612457.33 -39612457.19 0.0284 0.0013

Saturn -113166-03-31 17:17 J -39612368.91 -39612368.78 -39612368.65 0.0285 0.0099

Saturn -113166-06-28 06:29 J -39612280.33 -39612280.23 -39612280.12 0.0286 0.0183

Saturn -113166-09-24 19:26 J -39612191.73 -39612191.69 -39612191.64 0.0287 0.0268

Mars -113166-10-30 08:10 J -39612156.31 -39612156.16 -39612156.01 0.1772 0.0441

Mars -113165-09-10 15:07 J -39611839.99 -39611839.87 -39611839.75 0.1741 0.0329

Jupiter -113164-11-24 02:24 J -39611400.52 -39611400.40 -39611400.27 0.0529 0.0200

Jupiter -113163-02-21 12:14 J -39611311.09 -39611310.99 -39611310.88 0.0530 0.0304

Earth -113162-05-11 10:19 J -39610867.17 -39610867.07 -39610866.96 0.2763 0.0631

Moon -113162-05-11 10:48 J -39610867.15 -39610867.05 -39610866.94 0.2769 0.0626 *

Venus -113162-09-02 13:12 J -39610752.97 -39610752.95 -39610752.94 0.3716 0.3670

Earth -113159-11-02 16:34 J -39609595.97 -39609595.81 -39609595.66 0.2579 0.0574

Moon -113159-11-02 17:31 J -39609595.92 -39609595.77 -39609595.62 0.2585 0.0556 *

Jupiter -113158-10-11 07:26 J -39609253.36 -39609253.19 -39609253.02 0.0497 0.0095

Jupiter -113157-01-09 09:36 J -39609163.16 -39609163.10 -39609163.04 0.0496 0.0458

Mars -113156-03-21 08:53 J -39608726.29 -39608726.13 -39608725.98 0.1767 0.0241

Mars -113155-01-31 23:46 J -39608409.63 -39608409.51 -39608409.39 0.1745 0.0113

Moon -113155-05-04 06:58 J -39608317.28 -39608317.21 -39608317.13 0.2755 0.1995

Earth -113155-05-04 07:41 J -39608317.25 -39608317.18 -39608317.10 0.2753 0.1992 *

Saturn -113154-08-13 20:24 J -39607850.68 -39607850.65 -39607850.61 0.0282 0.0275

Saturn -113154-11-10 15:07 J -39607762.00 -39607761.87 -39607761.74 0.0281 0.0178

Mars -113153-01-07 11:31 J -39607704.06 -39607704.02 -39607703.97 0.1727 0.1597

Saturn -113153-02-07 09:50 J -39607673.25 -39607673.09 -39607672.93 0.0279 0.0080

Saturn -113153-05-06 04:48 J -39607584.47 -39607584.30 -39607584.13 0.0278 0.0018

Saturn -113153-08-03 00:00 J -39607495.66 -39607495.50 -39607495.34 0.0277 0.0116

Saturn -113153-10-30 19:12 J -39607406.80 -39607406.70 -39607406.58 0.0276 0.0216

Venus -113152-03-16 12:29 J -39607270.05 -39607269.98 -39607269.90 0.3646 0.2731

Jupiter -113152-09-12 05:46 J -39607090.37 -39607090.26 -39607090.15 0.0529 0.0323

Jupiter -113152-12-10 16:05 J -39607000.96 -39607000.83 -39607000.71 0.0530 0.0186

Earth -113149-05-13 04:48 J -39606116.39 -39606116.30 -39606116.21 0.2766 0.1555

Moon -113149-05-13 05:31 J -39606116.35 -39606116.27 -39606116.18 0.2765 0.1686 *

Mars -113147-08-11 10:05 J -39605296.21 -39605296.08 -39605295.95 0.1762 0.0884

Venus -113147-09-30 06:58 J -39605246.32 -39605246.21 -39605246.10 0.3651 0.1116

Mars -113146-06-24 08:24 J -39604979.27 -39604979.15 -39604979.03 0.1750 0.0558

Jupiter -113146-07-30 06:43 J -39604943.37 -39604943.22 -39604943.07 0.0497 0.0228

Jupiter -113146-10-28 08:24 J -39604853.28 -39604853.15 -39604853.01 0.0496 0.0321

Earth -113146-11-05 22:34 J -39604844.64 -39604844.56 -39604844.47 0.2576 0.2133

Moon -113146-11-06 00:14 J -39604844.56 -39604844.49 -39604844.42 0.2577 0.2298 *

Mars -113144-05-29 20:53 J -39604273.72 -39604273.63 -39604273.54 0.1732 0.1197

Pluto -113144-12-02 17:31 J -39604086.78 -39604086.77 -39604086.74 0.0085 0.0084

Pluto -113143-02-28 18:58 J -39603998.78 -39603998.71 -39603998.63 0.0084 0.0069

Pluto -113143-05-27 19:55 J -39603910.76 -39603910.67 -39603910.55 0.0084 0.0055

Pluto -113143-08-23 21:22 J -39603822.72 -39603822.61 -39603822.48 0.0084 0.0040

Pluto -113143-11-19 22:48 J -39603734.68 -39603734.55 -39603734.42 0.0084 0.0025

Pluto -113142-02-16 00:00 J -39603646.63 -39603646.50 -39603646.36 0.0084 0.0011

Neptune -113142-03-07 13:55 J -39603626.94 -39603626.92 -39603626.86 0.0089 0.0086

Moon -113142-05-07 01:55 J -39603566.52 -39603566.42 -39603566.32 0.2762 0.1133

Earth -113142-05-07 02:24 J -39603566.51 -39603566.40 -39603566.30 0.2757 0.1060 *

Pluto -113142-05-15 01:26 J -39603558.58 -39603558.44 -39603558.31 0.0084 0.0005

Neptune -113142-06-03 16:48 J -39603538.86 -39603538.80 -39603538.72 0.0089 0.0081

Pluto -113142-08-11 02:38 J -39603470.52 -39603470.39 -39603470.26 0.0084 0.0019

Neptune -113142-08-30 19:26 J -39603450.76 -39603450.69 -39603450.58 0.0089 0.0076

Pluto -113142-11-07 03:50 J -39603382.46 -39603382.34 -39603382.21 0.0084 0.0033

Neptune -113142-11-26 22:34 J -39603362.66 -39603362.56 -39603362.45 0.0089 0.0070

Pluto -113141-02-03 05:02 J -39603294.39 -39603294.29 -39603294.17 0.0083 0.0047

Neptune -113141-02-23 01:12 J -39603274.56 -39603274.45 -39603274.32 0.0089 0.0065

Venus -113141-04-15 01:12 J -39603222.56 -39603222.45 -39603222.34 0.3656 0.0455

Pluto -113141-05-01 06:14 J -39603206.32 -39603206.24 -39603206.14 0.0083 0.0062

Neptune -113141-05-21 04:05 J -39603186.45 -39603186.33 -39603186.20 0.0089 0.0060

Pluto -113141-07-28 07:41 J -39603118.23 -39603118.18 -39603118.13 0.0083 0.0075

Neptune -113141-08-17 06:43 J -39603098.34 -39603098.22 -39603098.07 0.0089 0.0055

Neptune -113141-11-13 09:36 J -39603010.23 -39603010.10 -39603009.95 0.0089 0.0050

Neptune -113140-02-09 12:14 J -39602922.12 -39602921.99 -39602921.82 0.0089 0.0045

Neptune -113140-05-08 15:22 J -39602834.01 -39602833.86 -39602833.70 0.0089 0.0039

Jupiter -113140-07-01 08:53 J -39602780.20 -39602780.13 -39602780.06 0.0528 0.0447

Neptune -113140-08-04 18:14 J -39602745.90 -39602745.74 -39602745.57 0.0089 0.0034

Jupiter -113140-09-28 19:26 J -39602690.82 -39602690.69 -39602690.56 0.0529 0.0065

Neptune -113140-10-31 20:53 J -39602657.78 -39602657.63 -39602657.45 0.0089 0.0029

Neptune -113139-01-27 23:46 J -39602569.67 -39602569.51 -39602569.33 0.0089 0.0024

Neptune -113139-04-26 02:53 J -39602481.55 -39602481.38 -39602481.21 0.0089 0.0018

Neptune -113139-07-23 05:46 J -39602393.43 -39602393.26 -39602393.08 0.0089 0.0013

Neptune -113139-10-19 08:38 J -39602305.31 -39602305.14 -39602304.96 0.0089 0.0008

Moon -113139-10-28 10:19 J -39602296.14 -39602296.07 -39602295.99 0.2592 0.2224

Earth -113139-10-28 11:31 J -39602296.10 -39602296.02 -39602295.94 0.2586 0.2207 *

Neptune -113138-01-15 11:31 J -39602217.19 -39602217.02 -39602216.84 0.0089 0.0003

Neptune -113138-04-13 14:38 J -39602129.07 -39602128.89 -39602128.72 0.0089 0.0004

Neptune -113138-07-10 17:31 J -39602040.95 -39602040.77 -39602040.59 0.0089 0.0009

Saturn -113138-08-29 12:14 J -39601991.01 -39601990.99 -39601990.95 0.0280 0.0272

Neptune -113138-10-06 20:24 J -39601952.82 -39601952.65 -39601952.47 0.0089 0.0014

Saturn -113138-11-26 02:10 J -39601902.52 -39601902.41 -39601902.30 0.0281 0.0187

Mars -113137-01-01 11:31 J -39601866.09 -39601866.02 -39601865.94 0.1757 0.1505

Neptune -113137-01-02 23:17 J -39601864.70 -39601864.53 -39601864.35 0.0089 0.0020

Saturn -113137-02-22 15:36 J -39601813.98 -39601813.85 -39601813.71 0.0282 0.0102

Neptune -113137-03-31 02:24 J -39601776.57 -39601776.40 -39601776.23 0.0089 0.0025

Saturn -113137-05-21 05:02 J -39601725.43 -39601725.29 -39601725.15 0.0283 0.0018

Neptune -113137-06-27 05:17 J -39601688.44 -39601688.28 -39601688.11 0.0089 0.0031

Saturn -113137-08-17 18:14 J -39601636.87 -39601636.74 -39601636.60 0.0284 0.0070

Neptune -113137-09-23 08:24 J -39601600.31 -39601600.15 -39601599.99 0.0089 0.0036

Mars -113137-11-13 16:48 J -39601548.90 -39601548.80 -39601548.70 0.1755 0.1014

Saturn -113137-11-14 07:26 J -39601548.30 -39601548.19 -39601548.07 0.0285 0.0154

Neptune -113137-12-20 11:02 J -39601512.18 -39601512.04 -39601511.87 0.0089 0.0042

Saturn -113136-02-10 20:38 J -39601459.71 -39601459.64 -39601459.56 0.0286 0.0238

Neptune -113136-03-18 14:24 J -39601424.05 -39601423.90 -39601423.75 0.0089 0.0047

Earth -113136-05-15 23:17 J -39601365.58 -39601365.53 -39601365.49 0.2769 0.2481

Moon -113136-05-15 23:46 J -39601365.56 -39601365.51 -39601365.46 0.2765 0.2462 *

Neptune -113136-06-14 17:17 J -39601335.91 -39601335.78 -39601335.63 0.0089 0.0053

Neptune -113136-09-10 20:24 J -39601247.78 -39601247.65 -39601247.51 0.0089 0.0058

Venus -113136-10-29 19:12 J -39601198.79 -39601198.70 -39601198.60 0.3662 0.1992

Neptune -113136-12-07 23:17 J -39601159.64 -39601159.53 -39601159.39 0.0089 0.0064

Mars -113136-12-08 08:24 J -39601159.27 -39601159.15 -39601159.04 0.1777 0.1201

Neptune -113135-03-06 02:10 J -39601071.50 -39601071.41 -39601071.27 0.0089 0.0070

Uranus -113135-04-25 21:07 J -39601020.64 -39601020.62 -39601020.59 0.0132 0.0129

Neptune -113135-06-02 05:31 J -39600983.35 -39600983.27 -39600983.16 0.0089 0.0075

Uranus -113135-07-23 00:29 J -39600932.54 -39600932.48 -39600932.40 0.0132 0.0113

Neptune -113135-08-29 08:24 J -39600895.20 -39600895.15 -39600895.05 0.0089 0.0081

Uranus -113135-10-19 04:05 J -39600844.43 -39600844.33 -39600844.24 0.0131 0.0097

Mars -113135-10-20 06:00 J -39600843.35 -39600843.25 -39600843.14 0.1736 0.0794

Neptune -113135-11-25 12:00 J -39600807.04 -39600807.00 -39600806.96 0.0089 0.0086

Uranus -113134-01-15 07:12 J -39600756.30 -39600756.20 -39600756.08 0.0131 0.0081

Uranus -113134-04-13 10:34 J -39600668.17 -39600668.06 -39600667.93 0.0131 0.0066

Jupiter -113134-05-18 06:00 J -39600633.36 -39600633.25 -39600633.13 0.0498 0.0361

Uranus -113134-07-10 14:10 J -39600580.04 -39600579.91 -39600579.78 0.0131 0.0050

Jupiter -113134-08-16 07:26 J -39600543.35 -39600543.19 -39600543.03 0.0497 0.0183

Uranus -113134-10-06 17:17 J -39600491.91 -39600491.78 -39600491.64 0.0131 0.0034

Uranus -113133-01-02 20:38 J -39600403.77 -39600403.64 -39600403.50 0.0131 0.0019

Uranus -113133-03-31 00:00 J -39600315.64 -39600315.50 -39600315.36 0.0131 0.0003

Uranus -113133-06-27 03:22 J -39600227.50 -39600227.36 -39600227.22 0.0131 0.0013

Uranus -113133-09-23 06:29 J -39600139.36 -39600139.23 -39600139.09 0.0131 0.0028

Uranus -113133-12-20 09:36 J -39600051.22 -39600051.10 -39600050.96 0.0131 0.0043

Uranus -113132-03-18 12:58 J -39599963.08 -39599962.96 -39599962.84 0.0131 0.0058

Uranus -113132-06-14 16:05 J -39599874.94 -39599874.83 -39599874.71 0.0131 0.0073

Uranus -113132-09-10 19:12 J -39599786.80 -39599786.70 -39599786.59 0.0131 0.0088

Uranus -113132-12-07 22:19 J -39599698.65 -39599698.57 -39599698.48 0.0131 0.0103

Uranus -113131-03-06 01:26 J -39599610.49 -39599610.44 -39599610.38 0.0131 0.0118

Venus -113130-05-15 13:12 J -39599174.98 -39599174.95 -39599174.92 0.3667 0.3493

Earth -113129-05-08 20:53 J -39598815.74 -39598815.63 -39598815.52 0.2760 0.0142

Moon -113129-05-08 21:07 J -39598815.73 -39598815.62 -39598815.52 0.2767 0.0138 *

Jupiter -113128-07-17 22:34 J -39598380.70 -39598380.56 -39598380.43 0.0529 0.0062

Jupiter -113128-10-15 08:10 J -39598291.24 -39598291.16 -39598291.09 0.0530 0.0437

Mars -113127-04-06 00:58 J -39598118.52 -39598118.46 -39598118.40 0.1760 0.1488

Mars -113126-04-30 08:24 J -39597729.30 -39597729.15 -39597729.00 0.1772 0.0495

Earth -113126-10-31 17:02 J -39597544.94 -39597544.79 -39597544.63 0.2583 0.0679

Moon -113126-10-31 17:31 J -39597544.92 -39597544.77 -39597544.62 0.2589 0.0739 *

Mars -113125-03-11 15:07 J -39597412.99 -39597412.87 -39597412.75 0.1741 0.0372

Saturn -113124-03-29 14:10 J -39597030.01 -39597029.91 -39597029.79 0.0281 0.0211

Saturn -113124-06-26 09:07 J -39596941.27 -39596941.12 -39596940.96 0.0280 0.0113

Saturn -113124-09-23 04:05 J -39596852.50 -39596852.33 -39596852.16 0.0279 0.0015

Saturn -113124-12-20 23:17 J -39596763.70 -39596763.53 -39596763.37 0.0277 0.0084

Saturn -113123-03-19 18:29 J -39596674.85 -39596674.73 -39596674.59 0.0276 0.0182

Jupiter -113122-03-06 05:46 J -39596323.28 -39596323.26 -39596323.22 0.0498 0.0489

Moon -113122-05-02 17:17 J -39596265.78 -39596265.78 -39596265.77 0.2746 0.2737

Earth -113122-05-02 18:00 J -39596265.75 -39596265.75 -39596265.75 0.2750 0.2746

Jupiter -113122-06-04 06:58 J -39596233.39 -39596233.21 -39596233.04 0.0497 0.0051

Venus -113122-08-24 10:48 J -39596152.11 -39596152.05 -39596152.00 0.3733 0.3289

Mars -113117-09-19 09:22 J -39594299.26 -39594299.11 -39594298.95 0.1767 0.0172

Venus -113116-03-09 11:02 J -39594128.17 -39594128.04 -39594127.91 0.3727 0.0769

Jupiter -113116-05-06 01:12 J -39594070.58 -39594070.45 -39594070.33 0.0528 0.0196

Earth -113116-05-11 15:22 J -39594064.97 -39594064.86 -39594064.76 0.2763 0.0813

Moon -113116-05-11 15:50 J -39594064.94 -39594064.84 -39594064.74 0.2767 0.0891 *

Mars -113116-08-02 00:00 J -39593982.63 -39593982.50 -39593982.38 0.1745 0.0083

Jupiter -113116-08-03 11:02 J -39593981.15 -39593981.04 -39593980.94 0.0529 0.0308

Mars -113114-07-08 11:46 J -39593277.05 -39593277.01 -39593276.98 0.1727 0.1640

Earth -113113-11-02 23:02 J -39592793.69 -39592793.54 -39592793.39 0.2579 0.0876

Moon -113113-11-03 00:14 J -39592793.63 -39592793.49 -39592793.35 0.2584 0.1051 *

Venus -113111-09-23 12:00 J -39592104.12 -39592104.00 -39592103.89 0.3721 0.1874

Jupiter -113110-03-23 06:14 J -39591923.41 -39591923.24 -39591923.07 0.0497 0.0084

Jupiter -113110-06-21 08:38 J -39591833.19 -39591833.14 -39591833.09 0.0496 0.0471

Moon -113109-05-04 12:00 J -39591515.08 -39591515.00 -39591514.93 0.2757 0.1946

Earth -113109-05-04 12:43 J -39591515.05 -39591514.97 -39591514.89 0.2753 0.1808 *

Saturn -113108-04-14 03:50 J -39591170.43 -39591170.34 -39591170.24 0.0281 0.0211

Saturn -113108-07-11 17:31 J -39591081.90 -39591081.77 -39591081.64 0.0282 0.0126

Saturn -113108-10-08 06:58 J -39590993.35 -39590993.21 -39590993.07 0.0283 0.0041

Saturn -113107-01-04 20:10 J -39590904.79 -39590904.66 -39590904.52 0.0284 0.0045

Mars -113107-02-09 10:34 J -39590869.20 -39590869.06 -39590868.93 0.1762 0.0819

Saturn -113107-04-03 09:36 J -39590816.23 -39590816.10 -39590815.98 0.0285 0.0129

Saturn -113107-06-30 22:34 J -39590727.65 -39590727.56 -39590727.47 0.0286 0.0214

Mars -113107-12-23 08:24 J -39590552.26 -39590552.15 -39590552.03 0.1750 0.0513

Mars -113105-11-27 20:53 J -39589846.71 -39589846.63 -39589846.54 0.1732 0.1244

Jupiter -113104-02-22 04:05 J -39589760.43 -39589760.33 -39589760.22 0.0528 0.0323

Jupiter -113104-05-22 14:24 J -39589671.03 -39589670.90 -39589670.78 0.0529 0.0186

Earth -113103-05-14 09:36 J -39589314.18 -39589314.10 -39589314.01 0.2767 0.1741

Moon -113103-05-14 10:34 J -39589314.15 -39589314.06 -39589313.98 0.2765 0.1747 *

Earth -113100-11-06 05:17 J -39588042.33 -39588042.28 -39588042.23 0.2576 0.2442

Moon -113100-11-06 06:58 J -39588042.24 -39588042.21 -39588042.17 0.2576 0.2492 *

Jupiter -113098-01-09 05:02 J -39587613.44 -39587613.29 -39587613.14 0.0497 0.0224

Jupiter -113098-04-09 06:43 J -39587523.35 -39587523.22 -39587523.09 0.0496 0.0324

Mars -113098-07-02 12:14 J -39587439.08 -39587438.99 -39587438.91 0.1757 0.1441

Mars -113097-05-14 16:48 J -39587121.90 -39587121.80 -39587121.69 0.1755 0.0970

Moon -113096-05-07 06:58 J -39586764.31 -39586764.21 -39586764.11 0.2763 0.0851

Earth -113096-05-07 07:12 J -39586764.30 -39586764.20 -39586764.10 0.2757 0.0874 *

Mars -113096-06-08 08:53 J -39586732.24 -39586732.13 -39586732.03 0.1777 0.1265

Venus -113096-10-21 10:48 J -39586597.14 -39586597.05 -39586596.95 0.3648 0.2128

Mars -113095-04-20 06:14 J -39586416.35 -39586416.24 -39586416.14 0.1736 0.0835

Saturn -113095-08-16 15:07 J -39586297.96 -39586297.87 -39586297.78 0.0281 0.0236

Saturn -113095-11-13 09:50 J -39586209.24 -39586209.09 -39586208.95 0.0280 0.0139

Saturn -113094-02-10 04:34 J -39586120.48 -39586120.31 -39586120.14 0.0279 0.0041

Saturn -113094-05-09 23:46 J -39586031.68 -39586031.51 -39586031.34 0.0278 0.0058

Saturn -113094-08-06 18:58 J -39585942.85 -39585942.71 -39585942.56 0.0277 0.0157

Saturn -113094-11-03 14:24 J -39585853.96 -39585853.90 -39585853.83 0.0276 0.0255

Moon -113093-10-28 17:17 J -39585493.87 -39585493.78 -39585493.68 0.2591 0.1985

Earth -113093-10-28 18:00 J -39585493.85 -39585493.75 -39585493.64 0.2586 0.1905 *

Jupiter -113093-12-11 07:26 J -39585450.26 -39585450.19 -39585450.12 0.0529 0.0447

Jupiter -113092-03-10 18:00 J -39585360.89 -39585360.75 -39585360.62 0.0530 0.0068

Uranus -113091-03-31 20:24 J -39584974.71 -39584974.65 -39584974.58 0.0148 0.0136

Uranus -113091-06-28 03:50 J -39584886.45 -39584886.34 -39584886.21 0.0148 0.0109

Uranus -113091-09-24 11:31 J -39584798.17 -39584798.02 -39584797.87 0.0148 0.0081

Uranus -113091-12-21 18:58 J -39584709.87 -39584709.71 -39584709.54 0.0148 0.0053

Uranus -113090-03-20 02:38 J -39584621.56 -39584621.39 -39584621.21 0.0148 0.0025

Venus -113090-05-07 05:17 J -39584573.39 -39584573.28 -39584573.17 0.3653 0.0532

Earth -113090-05-17 04:05 J -39584563.36 -39584563.33 -39584563.30 0.2769 0.2659

Moon -113090-05-17 04:19 J -39584563.33 -39584563.32 -39584563.31 0.2763 0.2741 *

Uranus -113090-06-16 10:19 J -39584533.25 -39584533.07 -39584532.89 0.0148 0.0005

Uranus -113090-09-12 18:00 J -39584444.92 -39584444.75 -39584444.57 0.0148 0.0033

Uranus -113090-12-10 01:55 J -39584356.58 -39584356.42 -39584356.25 0.0148 0.0062

Uranus -113089-03-07 09:50 J -39584268.23 -39584268.09 -39584267.95 0.0148 0.0091

Uranus -113089-06-03 17:31 J -39584179.86 -39584179.77 -39584179.66 0.0148 0.0121

Mars -113088-10-05 01:12 J -39583691.52 -39583691.45 -39583691.38 0.1760 0.1440

Jupiter -113087-10-28 04:34 J -39583303.42 -39583303.31 -39583303.19 0.0497 0.0354

Mars -113087-10-29 09:07 J -39583302.27 -39583302.12 -39583301.97 0.1772 0.0567

Jupiter -113086-01-26 06:00 J -39583213.41 -39583213.25 -39583213.09 0.0496 0.0189

Mars -113086-09-10 15:07 J -39582985.99 -39582985.87 -39582985.75 0.1741 0.0414

Venus -113085-11-19 23:17 J -39582549.63 -39582549.53 -39582549.42 0.3658 0.1029

Earth -113083-05-10 01:41 J -39582013.54 -39582013.43 -39582013.32 0.2760 0.0062

Moon -113083-05-10 01:55 J -39582013.53 -39582013.42 -39582013.31 0.2768 0.0091 *

Jupiter -113081-12-27 21:22 J -39581050.74 -39581050.61 -39581050.48 0.0529 0.0055

Jupiter -113080-03-27 06:58 J -39580961.28 -39580961.21 -39580961.14 0.0530 0.0445

Earth -113080-10-31 23:46 J -39580742.67 -39580742.51 -39580742.35 0.2582 0.0373

Moon -113080-11-01 00:14 J -39580742.64 -39580742.49 -39580742.33 0.2589 0.0261 *

Venus -113079-06-05 17:17 J -39580525.85 -39580525.78 -39580525.70 0.3663 0.2551

Saturn -113079-09-01 04:34 J -39580438.38 -39580438.31 -39580438.24 0.0280 0.0242

Saturn -113079-11-28 18:00 J -39580349.86 -39580349.75 -39580349.63 0.0281 0.0158

Saturn -113078-02-25 07:41 J -39580261.32 -39580261.18 -39580261.05 0.0282 0.0073

Saturn -113078-05-24 20:53 J -39580172.77 -39580172.63 -39580172.49 0.0283 0.0013

Saturn -113078-08-21 10:05 J -39580084.21 -39580084.08 -39580083.94 0.0284 0.0097

Saturn -113078-11-17 23:17 J -39579995.63 -39579995.53 -39579995.42 0.0285 0.0181

Saturn -113077-02-14 12:14 J -39579907.03 -39579906.99 -39579906.93 0.0287 0.0266

Mars -113077-03-20 09:36 J -39579872.25 -39579872.10 -39579871.94 0.1767 0.0122

Mars -113076-01-31 00:00 J -39579555.62 -39579555.50 -39579555.38 0.1746 0.0019

Moon -113076-05-02 22:19 J -39579463.60 -39579463.57 -39579463.55 0.2750 0.2675

Earth -113076-05-02 23:02 J -39579463.58 -39579463.54 -39579463.51 0.2750 0.2565 *

Jupiter -113075-08-16 04:05 J -39578993.36 -39578993.33 -39578993.29 0.0498 0.0485

Jupiter -113075-11-14 05:02 J -39578903.46 -39578903.29 -39578903.12 0.0497 0.0053

Mars -113074-01-06 11:46 J -39578850.04 -39578850.01 -39578849.99 0.1727 0.1680

Earth -113070-05-12 20:10 J -39577262.76 -39577262.66 -39577262.56 0.2764 0.0990

Moon -113070-05-12 20:53 J -39577262.73 -39577262.63 -39577262.53 0.2765 0.1061 *

Jupiter -113069-10-16 00:29 J -39576740.61 -39576740.48 -39576740.35 0.0529 0.0181

Jupiter -113068-01-13 10:19 J -39576651.17 -39576651.07 -39576650.96 0.0530 0.0323

Mars -113068-08-10 11:02 J -39576442.18 -39576442.04 -39576441.90 0.1762 0.0759

Mars -113067-06-23 08:38 J -39576125.26 -39576125.14 -39576125.02 0.1750 0.0460

Earth -113067-11-04 05:31 J -39575991.41 -39575991.27 -39575991.12 0.2579 0.1182

Moon -113067-11-04 07:12 J -39575991.34 -39575991.20 -39575991.06 0.2581 0.1191 *

Saturn -113065-01-03 13:55 J -39575565.96 -39575565.92 -39575565.88 0.0282 0.0271

Venus -113065-03-30 10:34 J -39575479.16 -39575479.06 -39575478.97 0.3732 0.2419

Saturn -113065-04-01 08:24 J -39575477.28 -39575477.15 -39575477.02 0.0281 0.0174

Mars -113065-05-28 21:07 J -39575419.70 -39575419.62 -39575419.54 0.1732 0.1287

Saturn -113065-06-29 03:22 J -39575388.53 -39575388.36 -39575388.20 0.0280 0.0077

Saturn -113065-09-25 22:19 J -39575299.74 -39575299.57 -39575299.40 0.0278 0.0022

Saturn -113065-12-23 17:31 J -39575210.92 -39575210.77 -39575210.61 0.0277 0.0121

Saturn -113064-03-22 12:58 J -39575122.06 -39575121.96 -39575121.85 0.0276 0.0219

Moon -113063-05-05 16:48 J -39574712.88 -39574712.80 -39574712.71 0.2758 0.1624

Earth -113063-05-05 17:31 J -39574712.86 -39574712.77 -39574712.68 0.2754 0.1628 *

Jupiter -113063-09-02 04:34 J -39574593.48 -39574593.31 -39574593.14 0.0497 0.0079

Jupiter -113063-12-01 06:58 J -39574503.26 -39574503.21 -39574503.17 0.0496 0.0475

Neptune -113061-06-28 12:29 J -39573928.01 -39573927.98 -39573927.94 0.0088 0.0086

Neptune -113061-09-24 13:55 J -39573839.96 -39573839.92 -39573839.85 0.0088 0.0082

Neptune -113061-12-21 16:05 J -39573751.90 -39573751.83 -39573751.76 0.0088 0.0077

Neptune -113060-03-19 17:31 J -39573663.84 -39573663.77 -39573663.67 0.0088 0.0073

Neptune -113060-06-15 19:26 J -39573575.78 -39573575.69 -39573575.59 0.0088 0.0068

Neptune -113060-09-11 21:07 J -39573487.71 -39573487.62 -39573487.51 0.0088 0.0064

Venus -113060-10-14 10:48 J -39573455.18 -39573455.05 -39573454.91 0.3725 0.0190

Neptune -113060-12-08 23:02 J -39573399.65 -39573399.54 -39573399.43 0.0088 0.0059

Neptune -113059-03-07 00:43 J -39573311.58 -39573311.47 -39573311.35 0.0088 0.0055

Neptune -113059-06-03 02:10 J -39573223.52 -39573223.41 -39573223.28 0.0088 0.0051

Neptune -113059-08-30 04:05 J -39573135.45 -39573135.33 -39573135.20 0.0088 0.0046

Neptune -113059-11-26 05:46 J -39573047.38 -39573047.26 -39573047.13 0.0088 0.0041

Mars -113059-12-31 12:43 J -39573012.06 -39573011.97 -39573011.88 0.1757 0.1376

Neptune -113058-02-22 07:26 J -39572959.31 -39572959.19 -39572959.05 0.0088 0.0037

Neptune -113058-05-21 09:07 J -39572871.25 -39572871.12 -39572870.98 0.0088 0.0033

Neptune -113058-08-17 10:48 J -39572783.18 -39572783.05 -39572782.91 0.0088 0.0028

Neptune -113058-11-13 12:29 J -39572695.11 -39572694.98 -39572694.84 0.0088 0.0024

Mars -113058-11-13 17:02 J -39572694.90 -39572694.79 -39572694.69 0.1755 0.0920 *

Neptune -113057-02-09 14:10 J -39572607.04 -39572606.91 -39572606.76 0.0088 0.0020

Neptune -113057-05-07 15:50 J -39572518.98 -39572518.84 -39572518.69 0.0088 0.0015

Earth -113057-05-14 14:38 J -39572511.97 -39572511.89 -39572511.82 0.2767 0.1918

Moon -113057-05-14 15:22 J -39572511.94 -39572511.86 -39572511.79 0.2764 0.2022 *

Neptune -113057-08-03 17:31 J -39572430.91 -39572430.77 -39572430.62 0.0088 0.0011

Jupiter -113057-08-04 03:07 J -39572430.48 -39572430.37 -39572430.26 0.0528 0.0314

Neptune -113057-10-30 19:12 J -39572342.84 -39572342.70 -39572342.56 0.0088 0.0007

Jupiter -113057-11-01 13:12 J -39572341.07 -39572340.95 -39572340.82 0.0529 0.0194

Mars -113057-12-07 09:22 J -39572305.21 -39572305.11 -39572305.00 0.1777 0.1337

Neptune -113056-01-26 20:53 J -39572254.77 -39572254.63 -39572254.49 0.0088 0.0002

Neptune -113056-04-24 22:34 J -39572166.70 -39572166.56 -39572166.42 0.0088 0.0002

Neptune -113056-07-22 00:14 J -39572078.64 -39572078.49 -39572078.35 0.0088 0.0007

Neptune -113056-10-18 01:41 J -39571990.57 -39571990.43 -39571990.28 0.0088 0.0011

Mars -113056-10-19 06:14 J -39571989.34 -39571989.24 -39571989.14 0.1736 0.0879

Neptune -113055-01-14 03:22 J -39571902.50 -39571902.36 -39571902.22 0.0088 0.0015

Neptune -113055-04-12 05:02 J -39571814.43 -39571814.29 -39571814.15 0.0088 0.0019

Neptune -113055-07-09 06:29 J -39571726.36 -39571726.23 -39571726.09 0.0088 0.0024

Neptune -113055-10-05 08:10 J -39571638.29 -39571638.16 -39571638.02 0.0088 0.0028

Neptune -113054-01-01 09:50 J -39571550.22 -39571550.09 -39571549.96 0.0088 0.0032

Neptune -113054-03-30 11:17 J -39571462.15 -39571462.03 -39571461.90 0.0088 0.0036

Venus -113054-04-30 12:00 J -39571431.09 -39571431.00 -39571430.92 0.3719 0.2808

Neptune -113054-06-26 12:43 J -39571374.08 -39571373.97 -39571373.83 0.0088 0.0041

Neptune -113054-09-22 14:24 J -39571286.02 -39571285.90 -39571285.77 0.0088 0.0044

Neptune -113054-12-19 15:50 J -39571197.95 -39571197.84 -39571197.71 0.0088 0.0049

Neptune -113053-03-16 17:31 J -39571109.88 -39571109.77 -39571109.65 0.0088 0.0053

Neptune -113053-06-12 19:12 J -39571021.81 -39571021.70 -39571021.59 0.0088 0.0057

Neptune -113053-09-08 20:38 J -39570933.74 -39570933.64 -39570933.53 0.0088 0.0061

Neptune -113053-12-05 22:19 J -39570845.66 -39570845.57 -39570845.48 0.0088 0.0065

Neptune -113052-03-03 23:31 J -39570757.59 -39570757.52 -39570757.42 0.0088 0.0069

Neptune -113052-05-31 00:58 J -39570669.52 -39570669.46 -39570669.37 0.0088 0.0074

Neptune -113052-08-27 02:38 J -39570581.45 -39570581.39 -39570581.31 0.0088 0.0077

Neptune -113052-11-23 04:05 J -39570493.37 -39570493.33 -39570493.26 0.0088 0.0081

Neptune -113051-02-19 05:31 J -39570405.29 -39570405.27 -39570405.22 0.0088 0.0085

Uranus -113051-05-16 05:17 J -39570319.33 -39570319.28 -39570319.22 0.0132 0.0121

Jupiter -113051-06-21 04:05 J -39570283.48 -39570283.33 -39570283.17 0.0497 0.0211

Uranus -113051-08-12 08:38 J -39570231.22 -39570231.14 -39570231.05 0.0131 0.0105

Jupiter -113051-09-19 06:00 J -39570193.38 -39570193.25 -39570193.12 0.0497 0.0339

Uranus -113051-11-08 12:00 J -39570143.09 -39570143.00 -39570142.89 0.0131 0.0089

Uranus -113050-02-04 15:22 J -39570054.97 -39570054.86 -39570054.74 0.0131 0.0074

Uranus -113050-05-03 18:58 J -39569966.84 -39569966.71 -39569966.59 0.0131 0.0058

Moon -113050-05-08 12:00 J -39569962.10 -39569962.00 -39569961.89 0.2765 0.0765

Earth -113050-05-08 12:00 J -39569962.10 -39569962.00 -39569961.89 0.2758 0.0697 *

Uranus -113050-07-30 22:05 J -39569878.71 -39569878.58 -39569878.44 0.0131 0.0042

Uranus -113050-10-27 01:41 J -39569790.57 -39569790.43 -39569790.30 0.0131 0.0027

Saturn -113049-01-19 05:46 J -39569706.29 -39569706.26 -39569706.22 0.0280 0.0268

Uranus -113049-01-23 04:48 J -39569702.44 -39569702.30 -39569702.16 0.0131 0.0011

Saturn -113049-04-16 19:26 J -39569617.79 -39569617.69 -39569617.58 0.0281 0.0184

Uranus -113049-04-20 08:10 J -39569614.30 -39569614.16 -39569614.02 0.0131 0.0005

Saturn -113049-07-14 09:07 J -39569529.26 -39569529.12 -39569528.99 0.0282 0.0099

Uranus -113049-07-17 11:17 J -39569526.16 -39569526.03 -39569525.89 0.0131 0.0020

Saturn -113049-10-10 22:34 J -39569440.71 -39569440.56 -39569440.42 0.0283 0.0017

Uranus -113049-10-13 14:38 J -39569438.02 -39569437.89 -39569437.76 0.0131 0.0035

Saturn -113048-01-07 11:46 J -39569352.15 -39569352.01 -39569351.87 0.0284 0.0070

Uranus -113048-01-09 17:46 J -39569349.88 -39569349.76 -39569349.63 0.0131 0.0050

Mars -113048-04-05 01:12 J -39569264.53 -39569264.45 -39569264.38 0.1760 0.1393

Saturn -113048-04-06 00:58 J -39569263.58 -39569263.46 -39569263.35 0.0285 0.0155

Uranus -113048-04-07 20:53 J -39569261.74 -39569261.63 -39569261.50 0.0131 0.0066

Saturn -113048-07-03 13:55 J -39569174.99 -39569174.92 -39569174.84 0.0286 0.0239

Uranus -113048-07-05 00:00 J -39569173.60 -39569173.50 -39569173.38 0.0131 0.0081

Uranus -113048-10-01 03:22 J -39569085.45 -39569085.36 -39569085.27 0.0131 0.0095

Uranus -113048-12-28 06:29 J -39568997.30 -39568997.23 -39568997.16 0.0131 0.0110

Uranus -113047-03-26 09:36 J -39568909.13 -39568909.10 -39568909.06 0.0131 0.0125

Mars -113047-04-29 09:36 J -39568875.25 -39568875.10 -39568874.95 0.1772 0.0629

Moon -113047-10-30 00:29 J -39568691.60 -39568691.48 -39568691.36 0.2592 0.1645

Earth -113047-10-30 00:29 J -39568691.60 -39568691.48 -39568691.36 0.2585 0.1612 *

Mars -113046-03-11 15:07 J -39568558.98 -39568558.87 -39568558.75 0.1741 0.0460

Jupiter -113045-05-23 06:00 J -39568120.32 -39568120.25 -39568120.17 0.0528 0.0441

Jupiter -113045-08-20 16:34 J -39568030.94 -39568030.81 -39568030.68 0.0529 0.0071

Venus -113045-11-11 14:38 J -39567947.95 -39567947.89 -39567947.83 0.3644 0.3149

Jupiter -113039-04-09 03:07 J -39565973.48 -39565973.37 -39565973.24 0.0497 0.0347

Venus -113039-05-28 09:07 J -39565924.22 -39565924.12 -39565924.02 0.3649 0.1534

Jupiter -113039-07-08 04:34 J -39565883.47 -39565883.31 -39565883.15 0.0496 0.0196

Mars -113038-09-19 10:19 J -39565445.22 -39565445.07 -39565444.91 0.1767 0.0052

Earth -113037-05-10 06:29 J -39565211.33 -39565211.23 -39565211.12 0.2761 0.0269

Moon -113037-05-10 06:58 J -39565211.32 -39565211.21 -39565211.10 0.2767 0.0331 *

Mars -113037-08-01 00:00 J -39565128.62 -39565128.50 -39565128.37 0.1745 0.0049

Saturn -113036-08-19 08:38 J -39564745.25 -39564745.14 -39564745.02 0.0281 0.0202

Saturn -113036-11-16 03:22 J -39564656.51 -39564656.36 -39564656.20 0.0280 0.0105

Saturn -113035-02-12 22:19 J -39564567.74 -39564567.57 -39564567.40 0.0279 0.0008

Saturn -113035-05-12 17:31 J -39564478.93 -39564478.77 -39564478.60 0.0278 0.0093

Mars -113035-07-07 11:46 J -39564423.02 -39564423.01 -39564423.01 0.1727 0.1722

Saturn -113035-08-09 12:58 J -39564390.08 -39564389.96 -39564389.83 0.0277 0.0191

Earth -113034-11-02 06:14 J -39563940.40 -39563940.24 -39563940.08 0.2582 0.0082

Moon -113034-11-02 06:58 J -39563940.36 -39563940.21 -39563940.05 0.2587 0.0103 *

Venus -113034-12-12 03:22 J -39563900.47 -39563900.36 -39563900.25 0.3654 0.0043

Jupiter -113033-06-08 19:55 J -39563720.80 -39563720.67 -39563720.53 0.0530 0.0053

Jupiter -113033-09-06 05:46 J -39563631.33 -39563631.26 -39563631.19 0.0530 0.0450

Moon -113030-05-04 03:07 J -39562661.42 -39562661.37 -39562661.32 0.2752 0.2428

Earth -113030-05-04 03:50 J -39562661.39 -39562661.34 -39562661.29 0.2751 0.2384 *

Mars -113028-02-08 11:31 J -39562015.16 -39562015.02 -39562014.88 0.1762 0.0696

Venus -113028-06-26 21:36 J -39561876.71 -39561876.60 -39561876.50 0.3660 0.1592

Mars -113028-12-22 08:38 J -39561698.26 -39561698.14 -39561698.02 0.1750 0.0418

Jupiter -113027-01-26 03:07 J -39561663.42 -39561663.37 -39561663.32 0.0497 0.0473

Jupiter -113027-04-26 03:50 J -39561573.51 -39561573.34 -39561573.17 0.0496 0.0063

Mars -113026-11-27 21:07 J -39560992.70 -39560992.62 -39560992.54 0.1732 0.1327

Earth -113024-05-13 00:58 J -39560460.55 -39560460.46 -39560460.36 0.2764 0.1175

Moon -113024-05-13 01:55 J -39560460.52 -39560460.42 -39560460.33 0.2765 0.1223 *

Venus -113022-01-10 15:22 J -39559852.92 -39559852.86 -39559852.80 0.3665 0.3087

Jupiter -113021-03-27 23:31 J -39559410.65 -39559410.52 -39559410.39 0.0529 0.0172

Jupiter -113021-06-25 09:22 J -39559321.21 -39559321.11 -39559321.01 0.0530 0.0333

Earth -113021-11-04 12:14 J -39559189.12 -39559188.99 -39559188.86 0.2578 0.1490

Moon -113021-11-04 13:55 J -39559189.04 -39559188.92 -39559188.80 0.2580 0.1701 *

Saturn -113020-09-03 19:55 J -39558885.76 -39558885.67 -39558885.58 0.0280 0.0216

Saturn -113020-12-01 09:36 J -39558797.23 -39558797.10 -39558796.97 0.0281 0.0132

Saturn -113019-02-27 23:02 J -39558708.68 -39558708.54 -39558708.40 0.0282 0.0047

Saturn -113019-05-27 12:14 J -39558620.13 -39558619.99 -39558619.85 0.0283 0.0038

Mars -113019-07-01 12:58 J -39558585.06 -39558584.96 -39558584.86 0.1757 0.1325

Saturn -113019-08-24 01:26 J -39558531.56 -39558531.44 -39558531.31 0.0284 0.0122

Saturn -113019-11-20 14:38 J -39558442.99 -39558442.89 -39558442.80 0.0285 0.0206

Mars -113018-05-14 17:02 J -39558267.89 -39558267.79 -39558267.68 0.1755 0.0873

Moon -113017-05-05 22:05 J -39557910.67 -39557910.58 -39557910.49 0.2759 0.1551

Earth -113017-05-05 22:34 J -39557910.66 -39557910.56 -39557910.47 0.2754 0.1448 *

Mars -113017-06-07 09:50 J -39557878.19 -39557878.09 -39557878.00 0.1777 0.1391

Mars -113016-04-19 06:14 J -39557562.34 -39557562.24 -39557562.14 0.1736 0.0920

Jupiter -113015-02-12 03:07 J -39557263.54 -39557263.37 -39557263.20 0.0497 0.0072

Jupiter -113015-05-13 05:17 J -39557173.32 -39557173.28 -39557173.24 0.0496 0.0481

Earth -113011-05-15 19:26 J -39555709.76 -39555709.69 -39555709.62 0.2767 0.2100

Moon -113011-05-15 19:55 J -39555709.73 -39555709.67 -39555709.60 0.2762 0.2129 *

Jupiter -113009-01-15 02:38 J -39555100.50 -39555100.39 -39555100.28 0.0529 0.0297

Jupiter -113009-04-13 12:43 J -39555011.09 -39555010.97 -39555010.84 0.0530 0.0212

Mars -113009-10-04 01:12 J -39554837.52 -39554837.45 -39554837.37 0.1760 0.1343

Venus -113009-11-04 10:05 J -39554806.19 -39554806.08 -39554805.96 0.3730 0.1547

Mars -113008-10-28 10:05 J -39554448.22 -39554448.08 -39554447.94 0.1772 0.0692

Uranus -113007-04-21 04:05 J -39554273.40 -39554273.33 -39554273.23 0.0148 0.0129

Uranus -113007-07-18 11:46 J -39554185.13 -39554185.01 -39554184.88 0.0148 0.0101

Mars -113007-09-09 15:22 J -39554131.98 -39554131.86 -39554131.74 0.1741 0.0507

Uranus -113007-10-14 19:12 J -39554096.85 -39554096.70 -39554096.54 0.0148 0.0073

Saturn -113006-01-06 06:43 J -39554013.30 -39554013.22 -39554013.13 0.0282 0.0241

Uranus -113006-01-11 02:53 J -39554008.55 -39554008.38 -39554008.21 0.0148 0.0045

Saturn -113006-04-05 01:26 J -39553924.58 -39553924.44 -39553924.30 0.0281 0.0144

Uranus -113006-04-09 10:34 J -39553920.24 -39553920.06 -39553919.88 0.0148 0.0016

Saturn -113006-07-02 20:24 J -39553835.82 -39553835.65 -39553835.48 0.0279 0.0046

Uranus -113006-07-06 18:14 J -39553831.92 -39553831.74 -39553831.56 0.0148 0.0013

Saturn -113006-09-29 15:36 J -39553747.02 -39553746.85 -39553746.69 0.0278 0.0054

Uranus -113006-10-03 01:55 J -39553743.59 -39553743.42 -39553743.24 0.0148 0.0042

Saturn -113006-12-27 10:48 J -39553658.19 -39553658.05 -39553657.90 0.0277 0.0152

Uranus -113006-12-30 09:36 J -39553655.25 -39553655.10 -39553654.93 0.0148 0.0071

Saturn -113005-03-25 06:14 J -39553569.30 -39553569.24 -39553569.16 0.0276 0.0251

Uranus -113005-03-27 17:31 J -39553566.89 -39553566.77 -39553566.63 0.0148 0.0100

Uranus -113005-06-24 01:41 J -39553478.51 -39553478.43 -39553478.34 0.0148 0.0130

Moon -113004-05-08 17:02 J -39553159.90 -39553159.79 -39553159.68 0.2766 0.0439

Earth -113004-05-08 17:02 J -39553159.90 -39553159.79 -39553159.68 0.2758 0.0510 *

Jupiter -113004-12-01 02:53 J -39552953.54 -39552953.38 -39552953.23 0.0497 0.0202

Jupiter -113003-03-01 04:34 J -39552863.43 -39552863.31 -39552863.18 0.0496 0.0347

Venus -113003-05-21 10:48 J -39552782.18 -39552782.05 -39552781.92 0.3724 0.1039

Earth -113001-10-30 06:58 J -39551889.34 -39551889.21 -39551889.07 0.2585 0.1313

Moon -113001-10-30 07:12 J -39551889.33 -39551889.20 -39551889.06 0.2592 0.1256 *

113TH MILLENNIUM BCE

This is a list of transits of Mercury in the 113th millennium BCE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Mars -112998-03-20 11:02 J -39551018.20 -39551018.04 -39551017.89 0.1767 0.0049

Jupiter -112998-11-03 05:17 J -39550790.36 -39550790.28 -39550790.20 0.0528 0.0429

Mars -112997-01-31 00:14 J -39550701.62 -39550701.49 -39550701.37 0.1745 0.0093

Jupiter -112997-01-31 15:50 J -39550700.98 -39550700.84 -39550700.71 0.0529 0.0084

Jupiter -112992-09-19 02:38 J -39548643.52 -39548643.39 -39548643.26 0.0498 0.0331

Jupiter -112992-12-18 03:50 J -39548553.49 -39548553.34 -39548553.18 0.0497 0.0213

Earth -112991-05-11 11:31 J -39548409.13 -39548409.02 -39548408.91 0.2761 0.0426

Moon -112991-05-11 12:00 J -39548409.10 -39548409.00 -39548408.89 0.2765 0.0431 *

Saturn -112990-01-21 20:53 J -39548153.69 -39548153.63 -39548153.56 0.0280 0.0244

Saturn -112990-04-20 10:34 J -39548065.18 -39548065.06 -39548064.94 0.0281 0.0160

Saturn -112990-07-18 00:00 J -39547976.64 -39547976.50 -39547976.36 0.0282 0.0076

Saturn -112990-10-14 13:26 J -39547888.08 -39547887.94 -39547887.80 0.0283 0.0009

Saturn -112989-01-11 02:38 J -39547799.52 -39547799.39 -39547799.26 0.0284 0.0093

Saturn -112989-04-08 15:50 J -39547710.95 -39547710.84 -39547710.74 0.0285 0.0177

Saturn -112989-07-06 04:34 J -39547622.35 -39547622.31 -39547622.25 0.0286 0.0262

Mars -112989-08-09 12:00 J -39547588.14 -39547588.00 -39547587.86 0.1762 0.0634

Pluto -112989-09-03 18:58 J -39547562.77 -39547562.71 -39547562.63 0.0060 0.0055

Pluto -112989-11-30 19:55 J -39547474.76 -39547474.67 -39547474.53 0.0060 0.0048

Pluto -112988-02-26 21:36 J -39547386.73 -39547386.60 -39547386.44 0.0060 0.0040

Pluto -112988-05-25 22:48 J -39547298.69 -39547298.55 -39547298.37 0.0060 0.0033

Venus -112988-06-18 12:58 J -39547275.04 -39547274.96 -39547274.88 0.3646 0.2557

Mars -112988-06-22 08:53 J -39547271.25 -39547271.13 -39547271.01 0.1750 0.0372

Pluto -112988-08-22 00:29 J -39547210.65 -39547210.48 -39547210.30 0.0060 0.0025

Earth -112988-11-02 12:58 J -39547138.12 -39547137.96 -39547137.81 0.2581 0.0243

Moon -112988-11-02 13:55 J -39547138.07 -39547137.92 -39547137.76 0.2585 0.0334 *

Pluto -112988-11-18 01:55 J -39547122.60 -39547122.42 -39547122.23 0.0060 0.0018

Pluto -112987-02-14 03:07 J -39547034.55 -39547034.37 -39547034.16 0.0060 0.0011

Pluto -112987-05-13 04:48 J -39546946.49 -39546946.30 -39546946.10 0.0060 0.0002

Pluto -112987-08-09 06:14 J -39546858.43 -39546858.24 -39546858.05 0.0060 0.0006

Pluto -112987-11-05 07:26 J -39546770.37 -39546770.19 -39546769.99 0.0060 0.0014

Pluto -112986-02-01 08:38 J -39546682.30 -39546682.14 -39546681.94 0.0061 0.0022

Pluto -112986-04-30 10:19 J -39546594.23 -39546594.07 -39546593.89 0.0061 0.0029

Mars -112986-05-28 21:07 J -39546565.69 -39546565.62 -39546565.55 0.1732 0.1368

Pluto -112986-07-27 11:31 J -39546506.16 -39546506.02 -39546505.85 0.0061 0.0037

Pluto -112986-10-23 12:43 J -39546418.08 -39546417.97 -39546417.82 0.0061 0.0045

Jupiter -112986-11-19 18:58 J -39546390.84 -39546390.71 -39546390.57 0.0529 0.0042

Pluto -112985-01-19 14:10 J -39546329.98 -39546329.91 -39546329.79 0.0061 0.0053

Jupiter -112985-02-17 04:34 J -39546301.37 -39546301.31 -39546301.24 0.0530 0.0458

Pluto -112985-04-16 16:05 J -39546241.85 -39546241.83 -39546241.81 0.0061 0.0060

Moon -112984-05-04 08:10 J -39545859.22 -39545859.16 -39545859.11 0.2753 0.2289

Earth -112984-05-04 08:53 J -39545859.20 -39545859.13 -39545859.07 0.2751 0.2203 *

Venus -112982-01-02 07:12 J -39545251.31 -39545251.20 -39545251.09 0.3651 0.0959

Jupiter -112980-07-08 01:55 J -39544333.47 -39544333.42 -39544333.35 0.0497 0.0463

Jupiter -112980-10-06 02:38 J -39544243.56 -39544243.39 -39544243.21 0.0496 0.0075

Mars -112980-12-30 13:41 J -39544158.04 -39544157.93 -39544157.83 0.1757 0.1258

Mars -112979-11-12 17:17 J -39543840.89 -39543840.78 -39543840.68 0.1755 0.0829

Earth -112978-05-14 06:00 J -39543658.35 -39543658.25 -39543658.16 0.2765 0.1356

Moon -112978-05-14 06:43 J -39543658.31 -39543658.22 -39543658.13 0.2765 0.1457 *

Neptune -112978-12-02 11:31 J -39543456.05 -39543456.02 -39543455.96 0.0089 0.0085

Mars -112978-12-07 10:34 J -39543451.15 -39543451.06 -39543450.97 0.1777 0.1463

Neptune -112977-02-28 14:10 J -39543367.96 -39543367.91 -39543367.82 0.0089 0.0080

Saturn -112977-05-25 06:43 J -39543281.27 -39543281.22 -39543281.18 0.0282 0.0271

Neptune -112977-05-26 17:02 J -39543279.87 -39543279.79 -39543279.68 0.0089 0.0075

Venus -112977-07-18 01:26 J -39543227.55 -39543227.44 -39543227.33 0.3656 0.0613

Saturn -112977-08-22 01:12 J -39543192.58 -39543192.45 -39543192.31 0.0281 0.0174

Neptune -112977-08-22 19:41 J -39543191.77 -39543191.68 -39543191.55 0.0089 0.0070

Mars -112977-10-18 06:14 J -39543135.34 -39543135.24 -39543135.14 0.1736 0.0967

Saturn -112977-11-18 20:10 J -39543103.82 -39543103.66 -39543103.50 0.0280 0.0075

Neptune -112977-11-18 22:34 J -39543103.66 -39543103.56 -39543103.43 0.0089 0.0065 *

Neptune -112976-02-15 01:41 J -39543015.56 -39543015.43 -39543015.30 0.0089 0.0059

Saturn -112976-02-15 15:22 J -39543015.03 -39543014.86 -39543014.69 0.0279 0.0024

Neptune -112976-05-14 04:19 J -39542927.45 -39542927.32 -39542927.18 0.0089 0.0054

Saturn -112976-05-15 10:34 J -39542926.21 -39542926.06 -39542925.91 0.0278 0.0122

Neptune -112976-08-10 07:12 J -39542839.34 -39542839.20 -39542839.05 0.0089 0.0049

Saturn -112976-08-12 05:46 J -39542837.35 -39542837.26 -39542837.14 0.0277 0.0222

Neptune -112976-11-06 09:50 J -39542751.23 -39542751.09 -39542750.93 0.0089 0.0044

Neptune -112975-02-02 12:43 J -39542663.12 -39542662.97 -39542662.80 0.0089 0.0039

Neptune -112975-05-01 15:50 J -39542575.01 -39542574.84 -39542574.68 0.0089 0.0033

Neptune -112975-07-28 18:29 J -39542486.89 -39542486.73 -39542486.56 0.0089 0.0028

Neptune -112975-10-24 21:22 J -39542398.78 -39542398.61 -39542398.43 0.0089 0.0023

Earth   -112975-11-05 18:43 J -39542386.83 -39542386.72 -39542386.60 0.2578 0.1796

Moon   -112975-11-05 20:38 J -39542386.75 -39542386.64 -39542386.53 0.2579 0.1840 *

Neptune -112974-01-21 00:14 J -39542310.66 -39542310.49 -39542310.31 0.0089 0.0017

Neptune -112974-04-19 03:07 J -39542222.54 -39542222.37 -39542222.19 0.0089 0.0012

Neptune -112974-07-16 06:00 J -39542134.42 -39542134.25 -39542134.07 0.0089 0.0007

Jupiter -112974-09-07 22:05 J -39542080.70 -39542080.58 -39542080.45 0.0529 0.0167

Neptune -112974-10-12 09:07 J -39542046.30 -39542046.12 -39542045.95 0.0089 0.0002

Jupiter -112974-12-06 08:10 J -39541991.26 -39541991.16 -39541991.06 0.0530 0.0340

Neptune -112973-01-08 12:00 J -39541958.18 -39541958.00 -39541957.82 0.0089 0.0004

Neptune -112973-04-05 14:53 J -39541870.06 -39541869.88 -39541869.70 0.0089 0.0009

Neptune -112973-07-02 17:46 J -39541781.93 -39541781.76 -39541781.58 0.0089 0.0015

Neptune -112973-09-28 20:38 J -39541693.81 -39541693.64 -39541693.46 0.0089 0.0021

Neptune -112973-12-25 23:31 J -39541605.68 -39541605.52 -39541605.34 0.0089 0.0026

Neptune -112972-03-24 02:38 J -39541517.55 -39541517.39 -39541517.22 0.0089 0.0031

Neptune -112972-06-20 05:31 J -39541429.42 -39541429.27 -39541429.10 0.0089 0.0037

Neptune -112972-09-16 08:38 J -39541341.29 -39541341.14 -39541340.98 0.0089 0.0042

Neptune -112972-12-13 11:31 J -39541253.16 -39541253.02 -39541252.86 0.0089 0.0048

Venus   -112971-01-31 19:41 J -39541203.78 -39541203.68 -39541203.59 0.3661 0.2141

Neptune -112971-03-11 14:53 J -39541165.03 -39541164.88 -39541164.74 0.0089 0.0053

Moon -112971-05-07 03:07 J -39541108.47 -39541108.37 -39541108.27 0.2762 0.1259

Earth -112971-05-07 03:22 J -39541108.46 -39541108.36 -39541108.26 0.2755 0.1264 *

Neptune -112971-06-07 17:31 J -39541076.89 -39541076.77 -39541076.62 0.0089 0.0059

Neptune -112971-09-03 20:24 J -39540988.75 -39540988.65 -39540988.51 0.0089 0.0065

Neptune -112971-11-30 23:46 J -39540900.61 -39540900.51 -39540900.39 0.0089 0.0070

Neptune -112970-02-27 02:38 J -39540812.47 -39540812.39 -39540812.28 0.0089 0.0076

Neptune -112970-05-26 06:00 J -39540724.31 -39540724.25 -39540724.17 0.0089 0.0081

Neptune -112970-08-22 08:53 J -39540636.15 -39540636.13 -39540636.08 0.0089 0.0087

Mars -112969-04-04 01:26 J -39540410.52 -39540410.44 -39540410.36 0.1760 0.1295

Mars -112968-04-28 10:34 J -39540021.20 -39540021.06 -39540020.91 0.1772 0.0760

Jupiter -112968-07-25 02:24 J -39539933.57 -39539933.40 -39539933.23 0.0496 0.0057

Jupiter -112968-10-23 04:19 J -39539843.32 -39539843.32 -39539843.30 0.0496 0.0495

Moon -112968-10-28 07:12 J -39539838.23 -39539838.20 -39539838.16 0.2594 0.2500

Earth -112968-10-28 07:55 J -39539838.20 -39539838.17 -39539838.15 0.2588 0.2545 *

Uranus -112967-03-09 09:50 J -39539706.10 -39539706.09 -39539706.06 0.0132 0.0130

Mars -112967-03-10 15:22 J -39539704.98 -39539704.86 -39539704.75 0.1741 0.0546

Uranus -112967-06-05 13:12 J -39539618.01 -39539617.95 -39539617.87 0.0132 0.0114

Uranus -112967-09-01 16:48 J -39539529.89 -39539529.80 -39539529.70 0.0131 0.0097

Uranus -112967-11-28 20:10 J -39539441.76 -39539441.66 -39539441.55 0.0131 0.0082

Uranus -112966-02-24 23:31 J -39539353.64 -39539353.52 -39539353.39 0.0131 0.0066

Uranus -112966-05-24 02:53 J -39539265.50 -39539265.38 -39539265.25 0.0131 0.0050

Venus -112966-08-17 13:26 J -39539179.95 -39539179.94 -39539179.93 0.3666 0.3625

Uranus -112966-08-20 06:14 J -39539177.37 -39539177.24 -39539177.10 0.0131 0.0034

Uranus -112966-11-16 09:36 J -39539089.24 -39539089.10 -39539088.96 0.0131 0.0019

Uranus -112965-02-12 12:58 J -39539001.10 -39539000.96 -39539000.82 0.0131 0.0004

Uranus -112965-05-10 16:05 J -39538912.96 -39538912.83 -39538912.69 0.0131 0.0013

Earth -112965-05-16 00:29 J -39538907.54 -39538907.48 -39538907.42 0.2768 0.2285

Moon -112965-05-16 00:43 J -39538907.53 -39538907.47 -39538907.41 0.2761 0.2296 *

Uranus -112965-08-06 19:26 J -39538824.83 -39538824.69 -39538824.55 0.0131 0.0027

Uranus -112965-11-02 22:34 J -39538736.69 -39538736.56 -39538736.42 0.0131 0.0043

Uranus -112964-01-30 01:41 J -39538648.55 -39538648.43 -39538648.30 0.0131 0.0058

Uranus -112964-04-28 05:02 J -39538560.40 -39538560.29 -39538560.17 0.0131 0.0073

Uranus -112964-07-25 08:10 J -39538472.26 -39538472.16 -39538472.05 0.0131 0.0088

Uranus -112964-10-21 11:17 J -39538384.11 -39538384.03 -39538383.94 0.0131 0.0103

Uranus -112963-01-17 14:38 J -39538295.95 -39538295.89 -39538295.83 0.0131 0.0117

Jupiter -112962-06-27 01:41 J -39537770.54 -39537770.43 -39537770.32 0.0529 0.0286

Jupiter -112962-09-24 12:00 J -39537681.12 -39537681.00 -39537680.88 0.0530 0.0223

Saturn -112961-06-09 21:22 J -39537421.62 -39537421.61 -39537421.59 0.0279 0.0276

Saturn -112961-09-06 11:02 J -39537333.14 -39537333.04 -39537332.93 0.0280 0.0193

Saturn -112961-12-04 00:29 J -39537244.61 -39537244.48 -39537244.34 0.0281 0.0109

Saturn -112960-03-02 13:55 J -39537156.06 -39537155.92 -39537155.78 0.0282 0.0025

Saturn -112960-05-30 03:07 J -39537067.51 -39537067.37 -39537067.23 0.0283 0.0060

Saturn -112960-08-26 16:19 J -39536978.94 -39536978.82 -39536978.70 0.0284 0.0144

Saturn -112960-11-23 05:17 J -39536890.36 -39536890.28 -39536890.19 0.0285 0.0227

Mars -112959-09-18 11:17 J -39536591.18 -39536591.03 -39536590.87 0.1767 0.0079

Earth -112958-05-09 21:50 J -39536357.70 -39536357.59 -39536357.48 0.2758 0.0336

Moon -112958-05-09 22:05 J -39536357.69 -39536357.58 -39536357.47 0.2765 0.0372 *

Mars -112958-08-01 00:14 J -39536274.61 -39536274.49 -39536274.37 0.1746 0.0125

Venus -112958-11-26 09:36 J -39536157.16 -39536157.10 -39536157.03 0.3734 0.3164

Jupiter -112956-05-13 01:41 J -39535623.58 -39535623.43 -39535623.27 0.0497 0.0191

Jupiter -112956-08-11 03:22 J -39535533.48 -39535533.36 -39535533.24 0.0496 0.0358

Earth -112955-10-31 13:26 J -39535087.08 -39535086.94 -39535086.79 0.2584 0.1015

Moon -112955-10-31 13:55 J -39535087.06 -39535086.92 -39535086.78 0.2591 0.1060 *

Venus -112952-06-11 09:50 J -39534133.22 -39534133.09 -39534132.96 0.3728 0.0672

Jupiter -112950-04-15 04:48 J -39533460.38 -39533460.30 -39533460.22 0.0528 0.0411

Jupiter -112950-07-13 15:22 J -39533370.99 -39533370.86 -39533370.73 0.0529 0.0101

Mars -112949-02-08 12:29 J -39533161.13 -39533160.98 -39533160.84 0.1762 0.0573

Mars -112949-12-21 08:53 J -39532844.25 -39532844.13 -39532844.01 0.1750 0.0322

Saturn -112947-01-08 22:48 J -39532460.65 -39532460.55 -39532460.43 0.0282 0.0215

Saturn -112947-04-07 17:46 J -39532371.91 -39532371.76 -39532371.61 0.0281 0.0116

Saturn -112947-07-05 12:43 J -39532283.14 -39532282.97 -39532282.80 0.0280 0.0018

Saturn -112947-10-02 07:55 J -39532194.33 -39532194.17 -39532194.00 0.0278 0.0081

Mars -112947-11-26 21:22 J -39532138.68 -39532138.61 -39532138.55 0.1732 0.1415

Venus -112947-12-26 10:48 J -39532109.17 -39532109.05 -39532108.94 0.3722 0.1953

Saturn -112947-12-30 03:22 J -39532105.49 -39532105.36 -39532105.23 0.0277 0.0180

Earth -112945-05-11 16:19 J -39531606.92 -39531606.82 -39531606.71 0.2762 0.0611

Moon -112945-05-11 17:02 J -39531606.89 -39531606.79 -39531606.68 0.2764 0.0746 *

Jupiter -112944-03-01 01:26 J -39531313.56 -39531313.44 -39531313.31 0.0497 0.0320

Jupiter -112944-05-30 02:38 J -39531223.54 -39531223.39 -39531223.23 0.0496 0.0225

Earth -112942-11-03 19:26 J -39530335.85 -39530335.69 -39530335.54 0.2581 0.0538

Moon -112942-11-03 20:53 J -39530335.78 -39530335.63 -39530335.48 0.2584 0.0678 *

Mars -112940-06-30 14:10 J -39529731.02 -39529730.91 -39529730.80 0.1757 0.1197

Mars -112939-05-13 17:17 J -39529413.89 -39529413.78 -39529413.67 0.1755 0.0779

Jupiter -112938-05-01 18:14 J -39529060.87 -39529060.74 -39529060.60 0.0529 0.0028

Moon -112938-05-05 12:58 J -39529057.03 -39529056.96 -39529056.89 0.2755 0.2093

Earth -112938-05-05 13:41 J -39529057.00 -39529056.93 -39529056.86 0.2752 0.2020 *

Mars -112938-06-07 11:02 J -39529024.12 -39529024.04 -39529023.96 0.1777 0.1529

Jupiter -112938-07-30 03:50 J -39528971.40 -39528971.34 -39528971.28 0.0530 0.0471

Mars -112937-04-18 06:29 J -39528708.33 -39528708.23 -39528708.14 0.1736 0.1009

Venus -112937-07-09 16:34 J -39528625.83 -39528625.81 -39528625.80 0.3642 0.3588

Jupiter -112933-12-18 01:26 J -39527003.51 -39527003.44 -39527003.37 0.0498 0.0447

Jupiter -112932-03-18 02:24 J -39526913.57 -39526913.40 -39526913.23 0.0497 0.0092

Earth -112932-05-14 10:48 J -39526856.14 -39526856.05 -39526855.96 0.2765 0.1541

Moon -112932-05-14 11:31 J -39526856.11 -39526856.02 -39526855.93 0.2763 0.1542 *

Venus -112931-01-23 11:02 J -39526602.14 -39526602.04 -39526601.94 0.3647 0.1968

Saturn -112931-01-24 11:46 J -39526601.09 -39526601.01 -39526600.91 0.0280 0.0222

Saturn -112931-04-23 01:26 J -39526512.56 -39526512.44 -39526512.31 0.0281 0.0138

Saturn -112931-07-20 14:53 J -39526424.02 -39526423.88 -39526423.74 0.0282 0.0054

Saturn -112931-10-17 04:19 J -39526335.46 -39526335.32 -39526335.18 0.0283 0.0031

Saturn -112930-01-13 17:17 J -39526246.90 -39526246.78 -39526246.65 0.0284 0.0116

Saturn -112930-04-12 06:29 J -39526158.33 -39526158.23 -39526158.13 0.0285 0.0199

Saturn -112930-07-09 19:26 J -39526069.71 -39526069.69 -39526069.67 0.0286 0.0282

Mars -112930-10-04 01:41 J -39525983.52 -39525983.43 -39525983.35 0.1760 0.1245

Mars -112929-10-27 11:17 J -39525594.16 -39525594.03 -39525593.89 0.1772 0.0828

Earth -112929-11-06 01:26 J -39525584.53 -39525584.44 -39525584.35 0.2577 0.2105

Moon -112929-11-06 03:07 J -39525584.44 -39525584.37 -39525584.30 0.2577 0.2272 *

Mars -112928-09-08 15:22 J -39525277.97 -39525277.86 -39525277.74 0.1741 0.0598

Jupiter -112926-02-17 21:22 J -39524750.74 -39524750.61 -39524750.48 0.0529 0.0154

Jupiter -112926-05-18 07:26 J -39524661.29 -39524661.19 -39524661.09 0.0530 0.0351

Venus -112926-08-09 05:31 J -39524578.39 -39524578.27 -39524578.16 0.3652 0.0407

Moon -112925-05-07 08:10 J -39524306.26 -39524306.16 -39524306.06 0.2763 0.1115

Earth -112925-05-07 08:24 J -39524306.25 -39524306.15 -39524306.05 0.2755 0.1084 *

Uranus -112923-05-11 12:00 J -39523572.10 -39523572.00 -39523571.90 0.0148 0.0121

Uranus -112923-08-07 19:12 J -39523483.82 -39523483.70 -39523483.55 0.0148 0.0094

Uranus -112923-11-04 02:53 J -39523395.53 -39523395.38 -39523395.21 0.0148 0.0065

Uranus -112922-01-31 10:34 J -39523307.23 -39523307.06 -39523306.89 0.0148 0.0037

Uranus -112922-04-29 18:14 J -39523218.92 -39523218.74 -39523218.56 0.0148 0.0009

Uranus -112922-07-27 01:55 J -39523130.60 -39523130.42 -39523130.24 0.0148 0.0020

Uranus -112922-10-23 09:36 J -39523042.26 -39523042.10 -39523041.92 0.0148 0.0049

Earth -112922-10-29 14:24 J -39523035.98 -39523035.90 -39523035.82 0.2588 0.2245

Moon -112922-10-29 14:10 J -39523035.97 -39523035.91 -39523035.85 0.2594 0.2367 *

Uranus -112921-01-19 17:31 J -39522953.92 -39522953.77 -39522953.61 0.0148 0.0078

Uranus -112921-04-17 01:12 J -39522865.56 -39522865.45 -39522865.32 0.0148 0.0108

Uranus -112921-07-14 09:07 J -39522777.17 -39522777.12 -39522777.04 0.0148 0.0138

Jupiter -112920-01-04 01:26 J -39522603.61 -39522603.44 -39522603.27 0.0496 0.0044

Venus -112920-02-21 23:31 J -39522554.62 -39522554.52 -39522554.41 0.3657 0.1180

Mars -112920-02-23 09:22 J -39522553.13 -39522553.11 -39522553.08 0.1765 0.1729

Mars -112919-03-19 11:46 J -39522164.16 -39522164.01 -39522163.85 0.1767 0.0147

Earth -112919-05-17 05:17 J -39522105.33 -39522105.28 -39522105.23 0.2768 0.2465

Moon -112919-05-17 05:31 J -39522105.31 -39522105.27 -39522105.23 0.2761 0.2514 *

Mars -112918-01-30 00:14 J -39521847.61 -39521847.49 -39521847.37 0.1745 0.0163

Saturn -112918-05-28 22:19 J -39521728.64 -39521728.57 -39521728.48 0.0282 0.0247

Saturn -112918-08-25 17:17 J -39521639.92 -39521639.78 -39521639.64 0.0281 0.0148

Saturn -112918-11-22 12:14 J -39521551.16 -39521550.99 -39521550.82 0.0280 0.0050

Saturn -112917-02-19 07:26 J -39521462.36 -39521462.19 -39521462.02 0.0279 0.0049

Saturn -112917-05-18 02:38 J -39521373.53 -39521373.39 -39521373.24 0.0278 0.0149

Saturn -112917-08-14 22:19 J -39521284.64 -39521284.57 -39521284.49 0.0277 0.0248

Venus -112915-09-07 17:46 J -39520530.84 -39520530.76 -39520530.69 0.3662 0.2689

Jupiter -112915-12-07 00:29 J -39520440.60 -39520440.48 -39520440.37 0.0529 0.0280

Jupiter -112914-03-06 10:48 J -39520351.17 -39520351.05 -39520350.93 0.0530 0.0230

Earth -112912-05-10 02:53 J -39519555.49 -39519555.38 -39519555.27 0.2759 0.0159

Moon -112912-05-10 03:22 J -39519555.47 -39519555.36 -39519555.26 0.2764 0.0127 *

Mars -112910-08-09 12:58 J -39518734.11 -39518733.96 -39518733.81 0.1762 0.0511

Mars -112909-06-21 08:53 J -39518417.25 -39518417.13 -39518417.01 0.1750 0.0279

Jupiter -112909-10-23 01:12 J -39518293.61 -39518293.45 -39518293.29 0.0497 0.0173

Earth -112909-10-31 20:10 J -39518284.82 -39518284.66 -39518284.51 0.2584 0.0714

Moon -112909-10-31 20:53 J -39518284.78 -39518284.63 -39518284.48 0.2589 0.0571 *

Jupiter -112908-01-21 02:53 J -39518203.49 -39518203.38 -39518203.27 0.0496 0.0374

Mars -112907-05-27 21:07 J -39517711.68 -39517711.62 -39517711.55 0.1732 0.1453

Jupiter -112903-09-25 03:50 J -39516130.43 -39516130.34 -39516130.25 0.0529 0.0401

Jupiter -112903-12-23 14:24 J -39516041.03 -39516040.90 -39516040.77 0.0530 0.0112

Saturn -112902-06-13 12:29 J -39515869.04 -39515868.98 -39515868.92 0.0278 0.0253

Saturn -112902-09-10 02:10 J -39515780.53 -39515780.41 -39515780.30 0.0280 0.0170

Saturn -112902-12-07 15:22 J -39515691.99 -39515691.86 -39515691.72 0.0281 0.0087

Saturn -112901-03-05 04:48 J -39515603.44 -39515603.30 -39515603.16 0.0282 0.0003

Saturn -112901-06-01 18:00 J -39515514.89 -39515514.75 -39515514.62 0.0283 0.0081

Venus -112901-07-02 09:07 J -39515484.22 -39515484.12 -39515484.01 0.3733 0.2325

Saturn -112901-08-29 06:58 J -39515426.32 -39515426.21 -39515426.09 0.0284 0.0165

Saturn -112901-11-25 20:10 J -39515337.73 -39515337.66 -39515337.60 0.0285 0.0248

Mars -112901-12-29 14:24 J -39515304.01 -39515303.90 -39515303.78 0.1757 0.1139

Mars -112900-11-11 17:31 J -39514986.88 -39514986.77 -39514986.66 0.1755 0.0726

Earth -112899-05-12 21:22 J -39514804.72 -39514804.61 -39514804.51 0.2762 0.0794

Moon -112899-05-12 22:05 J -39514804.69 -39514804.58 -39514804.48 0.2764 0.0790 *

Mars -112899-12-06 11:31 J -39514597.08 -39514597.02 -39514596.95 0.1777 0.1594

Mars -112898-10-18 06:29 J -39514281.32 -39514281.23 -39514281.13 0.1736 0.1053

Jupiter -112897-08-11 00:43 J -39513983.60 -39513983.47 -39513983.34 0.0497 0.0305

Jupiter -112897-11-09 01:55 J -39513893.57 -39513893.42 -39513893.27 0.0496 0.0237

Neptune -112896-03-25 10:34 J -39513757.08 -39513757.06 -39513757.01 0.0088 0.0086

Neptune -112896-06-21 12:43 J -39513669.03 -39513668.97 -39513668.92 0.0088 0.0081

Neptune -112896-09-17 14:10 J -39513580.97 -39513580.91 -39513580.83 0.0088 0.0077

Earth -112896-11-04 01:55 J -39513533.57 -39513533.42 -39513533.27 0.2580 0.0840

Moon -112896-11-04 03:36 J -39513533.50 -39513533.35 -39513533.20 0.2583 0.0905 *

Neptune -112896-12-14 15:50 J -39513492.91 -39513492.84 -39513492.74 0.0088 0.0072

Venus -112895-01-16 09:36 J -39513460.23 -39513460.10 -39513459.96 0.3727 0.0260

Neptune -112895-03-12 17:46 J -39513404.85 -39513404.76 -39513404.66 0.0088 0.0068

Neptune -112895-06-08 19:26 J -39513316.78 -39513316.69 -39513316.58 0.0088 0.0063

Pluto -112895-06-23 01:55 J -39513302.48 -39513302.42 -39513302.35 0.0084 0.0074

Neptune -112895-09-04 21:22 J -39513228.72 -39513228.61 -39513228.50 0.0088 0.0059

Pluto -112895-09-19 03:07 J -39513214.45 -39513214.37 -39513214.27 0.0084 0.0059

Neptune -112895-12-01 22:48 J -39513140.65 -39513140.55 -39513140.42 0.0088 0.0055

Pluto -112895-12-16 04:34 J -39513126.42 -39513126.31 -39513126.19 0.0084 0.0044

Neptune -112894-02-28 00:29 J -39513052.59 -39513052.48 -39513052.35 0.0088 0.0051

Pluto -112894-03-14 05:46 J -39513038.38 -39513038.26 -39513038.13 0.0084 0.0030

Neptune -112894-05-27 02:24 J -39512964.52 -39512964.40 -39512964.27 0.0088 0.0046

Pluto -112894-06-10 07:12 J -39512950.33 -39512950.20 -39512950.07 0.0084 0.0015

Neptune -112894-08-23 04:05 J -39512876.45 -39512876.33 -39512876.20 0.0088 0.0041

Pluto -112894-09-06 08:24 J -39512862.28 -39512862.15 -39512862.01 0.0084 0.0002

Neptune -112894-11-19 06:00 J -39512788.38 -39512788.25 -39512788.12 0.0088 0.0037

Pluto -112894-12-03 09:36 J -39512774.23 -39512774.10 -39512773.96 0.0084 0.0014

Neptune -112893-02-15 07:26 J -39512700.32 -39512700.19 -39512700.05 0.0088 0.0033

Pluto -112893-02-29 11:02 J -39512686.17 -39512686.04 -39512685.92 0.0084 0.0028

Neptune -112893-05-13 09:07 J -39512612.25 -39512612.12 -39512611.98 0.0088 0.0028

Pluto -112893-05-27 12:00 J -39512598.10 -39512598.00 -39512597.87 0.0083 0.0043

Neptune -112893-08-09 11:02 J -39512524.18 -39512524.04 -39512523.90 0.0088 0.0024

Pluto -112893-08-23 13:12 J -39512510.03 -39512509.95 -39512509.84 0.0083 0.0057

Neptune -112893-11-05 12:29 J -39512436.11 -39512435.98 -39512435.83 0.0088 0.0020

Pluto -112893-11-19 14:38 J -39512421.95 -39512421.89 -39512421.82 0.0083 0.0070

Neptune -112892-02-01 14:10 J -39512348.05 -39512347.91 -39512347.76 0.0088 0.0015

Neptune -112892-04-30 15:50 J -39512259.98 -39512259.84 -39512259.69 0.0088 0.0011

Moon -112892-05-05 18:14 J -39512254.82 -39512254.74 -39512254.66 0.2757 0.1849

Earth -112892-05-05 18:43 J -39512254.80 -39512254.72 -39512254.64 0.2752 0.1842 *

Neptune -112892-07-27 17:31 J -39512171.91 -39512171.77 -39512171.62 0.0088 0.0007

Neptune -112892-10-23 19:12 J -39512083.84 -39512083.70 -39512083.55 0.0088 0.0003

Neptune -112891-01-19 20:53 J -39511995.77 -39511995.63 -39511995.49 0.0088 0.0002

Neptune -112891-04-17 22:34 J -39511907.70 -39511907.56 -39511907.42 0.0088 0.0007

Mars -112891-05-21 16:34 J -39511873.83 -39511873.81 -39511873.79 0.1752 0.1735

Jupiter -112891-07-14 06:58 J -39511820.22 -39511820.21 -39511820.20 0.0528 0.0525

Neptune -112891-07-15 00:00 J -39511819.63 -39511819.50 -39511819.35 0.0088 0.0012

Neptune -112891-10-11 01:41 J -39511731.57 -39511731.43 -39511731.29 0.0088 0.0015

Jupiter -112891-10-11 17:46 J -39511730.89 -39511730.76 -39511730.62 0.0529 0.0017

Neptune -112890-01-07 03:22 J -39511643.50 -39511643.36 -39511643.22 0.0088 0.0019

Jupiter -112890-01-09 03:22 J -39511641.40 -39511641.36 -39511641.31 0.0530 0.0490

Mars -112890-04-04 01:41 J -39511556.52 -39511556.43 -39511556.34 0.1760 0.1199

Neptune -112890-04-05 05:02 J -39511555.43 -39511555.29 -39511555.15 0.0088 0.0024

Neptune -112890-07-02 06:29 J -39511467.36 -39511467.23 -39511467.09 0.0088 0.0028

Venus -112890-08-02 10:34 J -39511436.15 -39511436.06 -39511435.98 0.3720 0.2851

Neptune -112890-09-28 08:10 J -39511379.29 -39511379.16 -39511379.03 0.0088 0.0032

Neptune -112890-12-25 09:36 J -39511291.22 -39511291.10 -39511290.96 0.0088 0.0037

Neptune -112889-03-22 11:17 J -39511203.15 -39511203.03 -39511202.90 0.0088 0.0040

Mars -112889-04-27 11:31 J -39511167.15 -39511167.02 -39511166.88 0.1772 0.0883

Neptune -112889-06-18 12:58 J -39511115.08 -39511114.96 -39511114.84 0.0088 0.0044

Neptune -112889-09-14 14:24 J -39511027.01 -39511026.90 -39511026.78 0.0088 0.0049

Neptune -112889-12-11 16:05 J -39510938.94 -39510938.83 -39510938.72 0.0088 0.0053

Saturn -112888-01-11 14:38 J -39510908.01 -39510907.89 -39510907.77 0.0282 0.0191

Mars -112888-03-09 15:36 J -39510850.97 -39510850.85 -39510850.74 0.1741 0.0639

Neptune -112888-03-09 17:17 J -39510850.87 -39510850.78 -39510850.66 0.0088 0.0058 *

Saturn -112888-04-10 09:22 J -39510819.26 -39510819.11 -39510818.94 0.0281 0.0093

Neptune -112888-06-05 18:58 J -39510762.80 -39510762.71 -39510762.60 0.0088 0.0061

Saturn -112888-07-08 04:34 J -39510730.48 -39510730.31 -39510730.14 0.0280 0.0008

Neptune -112888-09-01 20:24 J -39510674.73 -39510674.65 -39510674.54 0.0088 0.0066

Saturn -112888-10-05 00:00 J -39510641.66 -39510641.50 -39510641.34 0.0279 0.0106

Neptune -112888-11-28 22:05 J -39510586.66 -39510586.58 -39510586.48 0.0088 0.0069

Saturn -112887-01-01 19:26 J -39510552.80 -39510552.69 -39510552.57 0.0277 0.0205

Neptune -112887-02-24 23:31 J -39510498.58 -39510498.52 -39510498.43 0.0088 0.0074

Neptune -112887-05-24 01:12 J -39510410.51 -39510410.45 -39510410.38 0.0088 0.0077

Neptune -112887-08-20 02:38 J -39510322.43 -39510322.39 -39510322.33 0.0088 0.0081

Neptune -112887-11-16 04:05 J -39510234.35 -39510234.33 -39510234.28 0.0088 0.0086

Earth -112886-05-15 15:50 J -39510053.93 -39510053.84 -39510053.76 0.2765 0.1723

Moon -112886-05-15 16:19 J -39510053.90 -39510053.82 -39510053.74 0.2760 0.1834 *

Jupiter -112885-05-30 00:29 J -39509673.56 -39509673.48 -39509673.40 0.0497 0.0434

Jupiter -112885-08-28 01:26 J -39509583.61 -39509583.44 -39509583.28 0.0497 0.0105

Uranus -112883-03-29 17:46 J -39509004.80 -39509004.76 -39509004.70 0.0132 0.0123

Uranus -112883-06-25 21:07 J -39508916.69 -39508916.62 -39508916.53 0.0132 0.0107

Uranus -112883-09-22 00:43 J -39508828.57 -39508828.47 -39508828.37 0.0131 0.0091

Earth -112883-11-07 07:55 J -39508782.22 -39508782.17 -39508782.12 0.2577 0.2409

Moon -112883-11-07 09:22 J -39508782.14 -39508782.11 -39508782.08 0.2574 0.2512 *

Uranus -112883-12-19 04:05 J -39508740.44 -39508740.33 -39508740.21 0.0131 0.0075

Uranus -112882-03-17 07:26 J -39508652.31 -39508652.19 -39508652.06 0.0131 0.0059

Uranus -112882-06-13 10:48 J -39508564.18 -39508564.05 -39508563.91 0.0131 0.0043

Uranus -112882-09-09 14:10 J -39508476.04 -39508475.91 -39508475.77 0.0131 0.0028

Uranus -112882-12-06 17:31 J -39508387.91 -39508387.77 -39508387.63 0.0131 0.0012

Uranus -112881-03-03 20:53 J -39508299.77 -39508299.63 -39508299.49 0.0131 0.0004

Uranus -112881-05-31 00:00 J -39508211.63 -39508211.50 -39508211.36 0.0131 0.0019

Mars -112881-08-24 09:36 J -39508126.13 -39508126.10 -39508126.06 0.1764 0.1675

Uranus -112881-08-27 03:22 J -39508123.50 -39508123.36 -39508123.23 0.0131 0.0034

Uranus -112881-11-23 06:29 J -39508035.35 -39508035.23 -39508035.10 0.0131 0.0049

Venus -112880-02-13 14:53 J -39507952.95 -39507952.88 -39507952.82 0.3643 0.2987

Uranus -112880-02-19 09:50 J -39507947.21 -39507947.09 -39507946.97 0.0131 0.0064

Uranus -112880-05-18 12:58 J -39507859.07 -39507858.96 -39507858.85 0.0131 0.0079

Uranus -112880-08-14 16:05 J -39507770.92 -39507770.83 -39507770.73 0.0131 0.0094

Mars -112880-09-17 12:29 J -39507737.13 -39507736.98 -39507736.82 0.1767 0.0212

Uranus -112880-11-10 19:12 J -39507682.77 -39507682.70 -39507682.62 0.0131 0.0109

Uranus -112879-02-06 22:19 J -39507594.60 -39507594.57 -39507594.52 0.0131 0.0124

Moon -112879-05-08 13:12 J -39507504.06 -39507503.95 -39507503.85 0.2763 0.0913

Earth -112879-05-08 13:12 J -39507504.05 -39507503.95 -39507503.85 0.2756 0.0901 *

Jupiter -112879-07-30 20:38 J -39507420.77 -39507420.64 -39507420.50 0.0529 0.0140

Mars -112879-07-31 00:29 J -39507420.61 -39507420.48 -39507420.36 0.1745 0.0216 *

Jupiter -112879-10-28 06:43 J -39507331.32 -39507331.22 -39507331.13 0.0530 0.0365

Moon -112876-10-29 20:53 J -39506233.74 -39506233.63 -39506233.53 0.2594 0.1876

Earth -112876-10-29 20:53 J -39506233.73 -39506233.63 -39506233.53 0.2587 0.1955 *

Venus -112875-08-30 09:22 J -39505929.22 -39505929.11 -39505929.01 0.3648 0.1382

Moon -112873-05-17 10:19 J -39505303.10 -39505303.07 -39505303.04 0.2762 0.2606

Earth -112873-05-17 10:05 J -39505303.10 -39505303.08 -39505303.05 0.2768 0.2650 *

Jupiter -112873-06-16 00:58 J -39505273.63 -39505273.46 -39505273.29 0.0497 0.0028

Saturn -112872-01-27 02:53 J -39505048.48 -39505048.38 -39505048.28 0.0280 0.0199

Saturn -112872-04-25 16:19 J -39504959.95 -39504959.82 -39504959.69 0.0281 0.0116

Saturn -112872-07-23 05:46 J -39504871.40 -39504871.26 -39504871.12 0.0282 0.0032

Saturn -112872-10-19 18:58 J -39504782.85 -39504782.71 -39504782.57 0.0283 0.0052

Saturn -112871-01-16 07:55 J -39504694.28 -39504694.17 -39504694.04 0.0284 0.0137

Saturn -112871-04-14 21:07 J -39504605.71 -39504605.62 -39504605.53 0.0285 0.0219

Mars -112870-02-07 13:26 J -39504307.09 -39504306.94 -39504306.79 0.1762 0.0447

Mars -112870-12-21 09:07 J -39503990.24 -39503990.12 -39503990.00 0.1750 0.0232

Venus -112869-03-15 03:36 J -39503905.46 -39503905.35 -39503905.24 0.3653 0.0194

Mars -112868-11-25 21:22 J -39503284.67 -39503284.61 -39503284.55 0.1732 0.1497

Jupiter -112867-05-18 23:46 J -39503110.62 -39503110.51 -39503110.39 0.0529 0.0265

Jupiter -112867-08-16 10:05 J -39503021.20 -39503021.08 -39503020.96 0.0530 0.0243

Earth -112866-05-11 07:41 J -39502753.29 -39502753.18 -39502753.07 0.2759 0.0042

Moon -112866-05-11 08:24 J -39502753.26 -39502753.15 -39502753.04 0.2764 0.0118 *

Venus -112864-09-28 21:50 J -39501881.69 -39501881.59 -39501881.49 0.3659 0.1738

Earth -112863-11-02 02:38 J -39501482.55 -39501482.39 -39501482.24 0.2583 0.0419

Moon -112863-11-02 03:50 J -39501482.49 -39501482.34 -39501482.19 0.2587 0.0424 *

Jupiter -112861-04-04 00:14 J -39500963.65 -39500963.49 -39500963.32 0.0497 0.0160

Mars -112861-06-29 14:53 J -39500876.99 -39500876.88 -39500876.76 0.1757 0.1078

Jupiter -112861-07-03 01:55 J -39500873.52 -39500873.42 -39500873.31 0.0496 0.0388

Mars -112860-05-12 17:31 J -39500559.89 -39500559.77 -39500559.66 0.1755 0.0686

Moon -112859-05-04 04:05 J -39500203.36 -39500203.33 -39500203.29 0.2750 0.2601

Earth -112859-05-04 05:02 J -39500203.33 -39500203.29 -39500203.26 0.2749 0.2601 *

Saturn -112859-05-31 14:10 J -39500176.01 -39500175.91 -39500175.81 0.0282 0.0223

Mars -112859-06-06 12:00 J -39500170.05 -39500170.00 -39500169.94 0.1777 0.1657

Saturn -112859-08-28 08:53 J -39500087.28 -39500087.13 -39500086.98 0.0281 0.0125

Saturn -112859-11-25 04:05 J -39499998.50 -39499998.33 -39499998.16 0.0280 0.0026

Saturn -112858-02-21 23:17 J -39499909.70 -39499909.53 -39499909.36 0.0279 0.0074

Venus -112858-04-14 15:50 J -39499857.89 -39499857.84 -39499857.79 0.3664 0.3234

Mars -112858-04-18 06:29 J -39499854.32 -39499854.23 -39499854.14 0.1736 0.1093

Saturn -112858-05-21 18:43 J -39499820.85 -39499820.72 -39499820.58 0.0278 0.0173

Saturn -112858-08-18 14:24 J -39499731.92 -39499731.90 -39499731.87 0.0277 0.0272

Jupiter -112855-03-07 02:38 J -39498800.48 -39498800.39 -39498800.30 0.0529 0.0395

Jupiter -112855-06-04 13:12 J -39498711.08 -39498710.95 -39498710.82 0.0530 0.0119

Earth -112853-05-13 02:10 J -39498002.51 -39498002.41 -39498002.31 0.2763 0.0972

Moon -112853-05-13 02:53 J -39498002.48 -39498002.38 -39498002.28 0.2762 0.1088 *

Mars -112852-11-19 17:02 J -39497446.83 -39497446.79 -39497446.75 0.1752 0.1677

Mars -112851-10-03 01:41 J -39497129.52 -39497129.43 -39497129.33 0.1760 0.1150

Mars -112850-10-27 12:29 J -39496740.11 -39496739.98 -39496739.85 0.1772 0.0954

Earth -112850-11-05 08:24 J -39496731.29 -39496731.15 -39496731.00 0.2580 0.1149

Moon -112850-11-05 10:05 J -39496731.21 -39496731.08 -39496730.94 0.2581 0.1338 *

Jupiter -112849-01-22 00:14 J -39496653.63 -39496653.49 -39496653.35 0.0497 0.0287

Jupiter -112849-04-21 01:26 J -39496563.59 -39496563.44 -39496563.29 0.0496 0.0255

Mars -112849-09-07 15:36 J -39496423.96 -39496423.85 -39496423.74 0.1741 0.0680

Moon -112846-05-06 23:17 J -39495452.62 -39495452.53 -39495452.45 0.2759 0.1760

Earth -112846-05-06 23:31 J -39495452.61 -39495452.52 -39495452.43 0.2752 0.1659 *

Venus -112844-02-06 09:07 J -39494811.24 -39494811.12 -39494811.00 0.3731 0.1448

Jupiter -112844-12-24 06:00 J -39494490.28 -39494490.25 -39494490.23 0.0529 0.0517

Jupiter -112843-03-23 16:48 J -39494400.93 -39494400.80 -39494400.66 0.0530 0.0002

Saturn -112843-06-16 03:50 J -39494316.42 -39494316.34 -39494316.26 0.0278 0.0229

Jupiter -112843-06-21 02:24 J -39494311.43 -39494311.40 -39494311.35 0.0531 0.0501

Saturn -112843-09-12 17:17 J -39494227.90 -39494227.78 -39494227.66 0.0280 0.0146

Saturn -112843-12-10 06:43 J -39494139.36 -39494139.22 -39494139.08 0.0281 0.0063

Saturn -112842-03-08 19:55 J -39494050.81 -39494050.67 -39494050.53 0.0282 0.0021

Saturn -112842-06-05 09:07 J -39493962.25 -39493962.12 -39493961.99 0.0283 0.0104

Saturn -112842-09-01 22:05 J -39493873.68 -39493873.58 -39493873.48 0.0284 0.0187

Saturn -112842-11-29 11:02 J -39493785.08 -39493785.04 -39493785.00 0.0285 0.0269

Mars -112841-02-23 09:50 J -39493699.14 -39493699.09 -39493699.05 0.1764 0.1625

Mars -112840-03-18 12:43 J -39493310.12 -39493309.97 -39493309.81 0.1767 0.0269

Earth -112840-05-15 20:38 J -39493251.72 -39493251.64 -39493251.56 0.2766 0.1904

Moon -112840-05-15 21:07 J -39493251.70 -39493251.62 -39493251.54 0.2760 0.1874 *

Mars -112839-01-29 00:29 J -39492993.60 -39492993.48 -39492993.36 0.1746 0.0256

Uranus -112839-03-04 11:31 J -39492959.05 -39492959.02 -39492958.97 0.0147 0.0143

Uranus -112839-05-31 18:58 J -39492870.81 -39492870.71 -39492870.59 0.0147 0.0115

Venus -112839-08-23 09:36 J -39492787.23 -39492787.10 -39492786.97 0.3725 0.1120

Uranus -112839-08-28 02:24 J -39492782.53 -39492782.40 -39492782.25 0.0148 0.0088

Uranus -112839-11-24 10:05 J -39492694.24 -39492694.08 -39492693.92 0.0148 0.0060

Uranus -112838-02-20 17:31 J -39492605.94 -39492605.77 -39492605.59 0.0148 0.0032

Uranus -112838-05-20 01:12 J -39492517.63 -39492517.45 -39492517.27 0.0148 0.0004

Uranus -112838-08-16 08:53 J -39492429.30 -39492429.13 -39492428.95 0.0148 0.0026

Jupiter -112838-11-09 23:46 J -39492343.60 -39492343.51 -39492343.42 0.0497 0.0418

Uranus -112838-11-12 16:34 J -39492340.97 -39492340.81 -39492340.63 0.0148 0.0055

Jupiter -112837-02-08 00:29 J -39492253.65 -39492253.48 -39492253.31 0.0496 0.0119

Uranus -112837-02-09 00:14 J -39492252.62 -39492252.49 -39492252.33 0.0148 0.0084

Uranus -112837-05-07 08:10 J -39492164.26 -39492164.16 -39492164.03 0.0148 0.0113

Uranus -112837-08-03 16:05 J -39492075.86 -39492075.83 -39492075.77 0.0148 0.0143

Earth -112833-05-08 18:00 J -39490701.85 -39490701.75 -39490701.64 0.2756 0.0725

Moon -112833-05-08 18:14 J -39490701.84 -39490701.74 -39490701.63 0.2763 0.0673 *

Jupiter -112831-01-09 20:10 J -39490090.79 -39490090.66 -39490090.53 0.0529 0.0122

Jupiter -112831-04-09 06:14 J -39490001.33 -39490001.24 -39490001.15 0.0530 0.0382

Mars -112831-08-08 13:55 J -39489880.07 -39489879.92 -39489879.77 0.1762 0.0386

Mars -112830-06-21 09:07 J -39489563.24 -39489563.12 -39489562.99 0.1750 0.0186

Saturn -112830-10-18 11:31 J -39489444.07 -39489444.02 -39489443.96 0.0283 0.0264

Earth -112830-10-31 03:22 J -39489431.48 -39489431.36 -39489431.24 0.2587 0.1656

Moon -112830-10-31 03:50 J -39489431.46 -39489431.34 -39489431.23 0.2593 0.1688 *

Saturn -112829-01-15 06:14 J -39489355.37 -39489355.24 -39489355.10 0.0282 0.0167

Saturn -112829-04-13 01:12 J -39489266.61 -39489266.45 -39489266.28 0.0281 0.0069

Saturn -112829-07-10 20:24 J -39489177.82 -39489177.65 -39489177.48 0.0280 0.0031

Saturn -112829-10-07 15:50 J -39489088.99 -39489088.84 -39489088.69 0.0279 0.0130

Saturn -112828-01-04 11:31 J -39489000.12 -39489000.02 -39488999.93 0.0277 0.0230

Mars -112828-05-26 21:22 J -39488857.66 -39488857.61 -39488857.56 0.1732 0.1540

Jupiter -112826-11-27 00:00 J -39487943.67 -39487943.50 -39487943.33 0.0497 0.0014

Venus -112824-09-20 13:12 J -39487280.04 -39487279.95 -39487279.87 0.3645 0.2390

Mars -112822-12-29 15:36 J -39486449.97 -39486449.85 -39486449.73 0.1757 0.1012

Mars -112821-11-10 17:31 J -39486132.88 -39486132.77 -39486132.65 0.1755 0.0638

Earth -112820-05-11 12:29 J -39485951.08 -39485950.98 -39485950.87 0.2760 0.0242

Moon -112820-05-11 13:12 J -39485951.06 -39485950.95 -39485950.84 0.2764 0.0285 *

Jupiter -112820-10-28 23:02 J -39485780.66 -39485780.54 -39485780.42 0.0529 0.0251

Mars -112820-12-05 12:58 J -39485743.00 -39485742.96 -39485742.93 0.1778 0.1729

Jupiter -112819-01-26 09:22 J -39485691.23 -39485691.11 -39485691.00 0.0530 0.0257

Mars -112819-10-17 06:29 J -39485427.32 -39485427.23 -39485427.13 0.1736 0.1140

Venus -112818-04-06 07:26 J -39485256.30 -39485256.19 -39485256.07 0.3650 0.0802

Earth -112817-11-02 09:07 J -39484680.28 -39484680.12 -39484679.96 0.2583 0.0114

Moon -112817-11-02 10:34 J -39484680.22 -39484680.06 -39484679.90 0.2587 0.0093 *

Jupiter -112814-09-14 23:31 J -39483633.68 -39483633.52 -39483633.35 0.0497 0.0146

Saturn -112814-11-03 04:34 J -39483584.36 -39483584.31 -39483584.25 0.0279 0.0258

Jupiter -112814-12-14 01:12 J -39483543.54 -39483543.45 -39483543.34 0.0496 0.0404

Saturn -112813-01-30 18:14 J -39483495.85 -39483495.74 -39483495.63 0.0280 0.0175

Saturn -112813-04-28 07:41 J -39483407.32 -39483407.18 -39483407.05 0.0281 0.0092

Moon -112813-05-04 09:07 J -39483401.15 -39483401.12 -39483401.08 0.2753 0.2541

Earth -112813-05-04 09:50 J -39483401.14 -39483401.09 -39483401.04 0.2749 0.2415 *

Saturn -112813-07-25 20:53 J -39483318.77 -39483318.63 -39483318.49 0.0282 0.0009

Neptune -112813-08-28 09:07 J -39483285.16 -39483285.12 -39483285.06 0.0089 0.0084

Venus -112813-10-20 01:55 J -39483232.54 -39483232.42 -39483232.31 0.3655 0.0778

Saturn -112813-10-22 10:05 J -39483230.22 -39483230.08 -39483229.94 0.0283 0.0075

Neptune -112813-11-24 11:46 J -39483197.07 -39483197.01 -39483196.92 0.0089 0.0079

Saturn -112812-01-18 23:02 J -39483141.65 -39483141.54 -39483141.42 0.0284 0.0159

Neptune -112812-02-20 14:38 J -39483108.97 -39483108.89 -39483108.79 0.0089 0.0074

Saturn -112812-04-17 12:00 J -39483053.07 -39483053.00 -39483052.92 0.0285 0.0241

Neptune -112812-05-19 17:17 J -39483020.87 -39483020.78 -39483020.66 0.0089 0.0069

Mars -112812-05-20 17:31 J -39483019.83 -39483019.77 -39483019.72 0.1752 0.1618

Neptune -112812-08-15 20:10 J -39482932.77 -39482932.66 -39482932.53 0.0089 0.0064

Neptune -112812-11-11 22:48 J -39482844.66 -39482844.55 -39482844.41 0.0089 0.0059

Neptune -112811-02-08 01:41 J -39482756.56 -39482756.43 -39482756.28 0.0089 0.0054

Mars -112811-04-03 01:55 J -39482702.52 -39482702.42 -39482702.33 0.1760 0.1104

Neptune -112811-05-07 04:34 J -39482668.45 -39482668.31 -39482668.16 0.0089 0.0048

Neptune -112811-08-03 07:26 J -39482580.34 -39482580.19 -39482580.03 0.0089 0.0043

Neptune -112811-10-30 10:05 J -39482492.23 -39482492.08 -39482491.91 0.0089 0.0038

Neptune -112810-01-26 12:58 J -39482404.11 -39482403.96 -39482403.79 0.0089 0.0033

Neptune -112810-04-24 16:05 J -39482316.00 -39482315.83 -39482315.66 0.0089 0.0027

Mars -112810-04-27 12:58 J -39482313.09 -39482312.96 -39482312.84 0.1772 0.1017

Neptune -112810-07-21 18:43 J -39482227.88 -39482227.72 -39482227.54 0.0089 0.0022

Neptune -112810-10-17 21:36 J -39482139.77 -39482139.60 -39482139.42 0.0089 0.0017

Neptune -112809-01-14 00:29 J -39482051.65 -39482051.48 -39482051.30 0.0089 0.0012

Mars -112809-03-08 15:36 J -39481996.96 -39481996.85 -39481996.74 0.1741 0.0724

Neptune -112809-04-11 03:36 J -39481963.53 -39481963.35 -39481963.18 0.0089 0.0006

Neptune -112809-07-08 06:29 J -39481875.41 -39481875.23 -39481875.06 0.0089 0.0001

Neptune -112809-10-04 09:22 J -39481787.29 -39481787.11 -39481786.93 0.0089 0.0005

Neptune -112809-12-31 12:14 J -39481699.17 -39481698.99 -39481698.81 0.0089 0.0010

Neptune -112808-03-29 15:07 J -39481611.04 -39481610.87 -39481610.69 0.0089 0.0016

Neptune -112808-06-25 18:00 J -39481522.92 -39481522.75 -39481522.57 0.0089 0.0021

Jupiter -112808-08-17 01:55 J -39481470.51 -39481470.42 -39481470.32 0.0529 0.0380

Neptune -112808-09-21 20:53 J -39481434.79 -39481434.63 -39481434.45 0.0089 0.0027

Jupiter -112808-11-14 12:29 J -39481381.11 -39481380.98 -39481380.85 0.0530 0.0133

Neptune -112808-12-19 00:00 J -39481346.66 -39481346.50 -39481346.33 0.0089 0.0032

Neptune -112807-03-17 02:38 J -39481258.54 -39481258.39 -39481258.21 0.0089 0.0038

Venus -112807-05-05 19:55 J -39481208.76 -39481208.67 -39481208.58 0.3660 0.2293

Earth -112807-05-14 06:58 J -39481200.31 -39481200.21 -39481200.11 0.2763 0.1158

Moon -112807-05-14 07:41 J -39481200.28 -39481200.18 -39481200.08 0.2760 0.1187 *

Neptune -112807-06-13 05:46 J -39481170.41 -39481170.26 -39481170.09 0.0089 0.0043

Neptune -112807-09-09 09:07 J -39481082.27 -39481082.12 -39481081.97 0.0089 0.0048

Neptune -112807-12-06 11:46 J -39480994.14 -39480994.01 -39480993.86 0.0089 0.0054

Neptune -112806-03-04 14:38 J -39480906.00 -39480905.89 -39480905.74 0.0089 0.0060

Neptune -112806-05-31 17:46 J -39480817.87 -39480817.76 -39480817.62 0.0089 0.0065

Neptune -112806-08-27 20:38 J -39480729.73 -39480729.64 -39480729.51 0.0089 0.0071

Neptune -112806-11-24 00:00 J -39480641.58 -39480641.50 -39480641.40 0.0089 0.0076

Neptune -112805-02-20 02:53 J -39480553.43 -39480553.38 -39480553.29 0.0089 0.0082

Neptune -112805-05-18 06:14 J -39480465.26 -39480465.24 -39480465.20 0.0089 0.0087

Earth -112804-11-05 14:53 J -39479929.01 -39479928.88 -39479928.75 0.2580 0.1451

Moon -112804-11-05 16:34 J -39479928.94 -39479928.81 -39479928.68 0.2578 0.1466 *

Jupiter -112802-07-03 23:17 J -39479323.67 -39479323.53 -39479323.39 0.0497 0.0274

Mars -112802-08-24 09:50 J -39479272.14 -39479272.09 -39479272.03 0.1765 0.1578

Jupiter -112802-10-02 00:29 J -39479233.62 -39479233.48 -39479233.33 0.0496 0.0269

Mars -112801-09-16 13:26 J -39478883.09 -39478882.94 -39478882.79 0.1767 0.0338

Moon -112800-05-07 04:05 J -39478650.42 -39478650.33 -39478650.23 0.2760 0.1444

Earth -112800-05-07 04:34 J -39478650.41 -39478650.31 -39478650.22 0.2753 0.1480 *

Saturn -112800-06-03 05:46 J -39478623.38 -39478623.26 -39478623.14 0.0282 0.0200

Mars -112800-07-30 00:29 J -39478566.60 -39478566.48 -39478566.35 0.1745 0.0305

Saturn -112800-08-31 00:43 J -39478534.63 -39478534.47 -39478534.32 0.0281 0.0101

Saturn -112800-11-27 19:41 J -39478445.85 -39478445.68 -39478445.51 0.0280 0.0006

Saturn -112799-02-24 15:07 J -39478357.03 -39478356.87 -39478356.71 0.0279 0.0098

Uranus -112799-04-19 01:26 J -39478303.50 -39478303.44 -39478303.37 0.0132 0.0117

Saturn -112799-05-24 10:34 J -39478268.18 -39478268.06 -39478267.93 0.0278 0.0197

Uranus -112799-07-16 04:48 J -39478215.38 -39478215.30 -39478215.20 0.0132 0.0101

Uranus -112799-10-12 08:24 J -39478127.26 -39478127.15 -39478127.04 0.0132 0.0085

Uranus -112798-01-08 11:46 J -39478039.13 -39478039.01 -39478038.89 0.0131 0.0069

Uranus -112798-04-06 15:07 J -39477951.00 -39477950.87 -39477950.74 0.0131 0.0053

Uranus -112798-07-03 18:29 J -39477862.86 -39477862.73 -39477862.59 0.0131 0.0037

Uranus -112798-09-29 21:50 J -39477774.73 -39477774.59 -39477774.45 0.0131 0.0022

Uranus -112798-12-27 01:12 J -39477686.59 -39477686.45 -39477686.31 0.0131 0.0006

Uranus -112797-03-24 04:34 J -39477598.45 -39477598.31 -39477598.17 0.0131 0.0010

Uranus -112797-06-20 07:41 J -39477510.31 -39477510.18 -39477510.04 0.0131 0.0025

Uranus -112797-09-16 11:02 J -39477422.17 -39477422.04 -39477421.91 0.0131 0.0040

Uranus -112797-12-13 14:10 J -39477334.03 -39477333.91 -39477333.78 0.0131 0.0055

Uranus -112796-03-11 17:31 J -39477245.89 -39477245.77 -39477245.66 0.0131 0.0070

Jupiter -112796-06-05 04:34 J -39477160.34 -39477160.31 -39477160.28 0.0529 0.0513

Uranus -112796-06-07 20:38 J -39477157.74 -39477157.64 -39477157.53 0.0131 0.0085

Jupiter -112796-09-02 15:22 J -39477070.99 -39477070.86 -39477070.72 0.0530 0.0015

Uranus -112796-09-03 23:46 J -39477069.59 -39477069.51 -39477069.42 0.0131 0.0100

Jupiter -112796-12-01 01:12 J -39476981.49 -39476981.45 -39476981.41 0.0531 0.0506

Uranus -112796-12-01 02:53 J -39476981.44 -39476981.38 -39476981.31 0.0131 0.0115 *

Uranus -112795-02-27 06:00 J -39476893.25 -39476893.25 -39476893.23 0.0131 0.0130

Earth -112794-05-17 01:26 J -39476449.51 -39476449.44 -39476449.37 0.2766 0.2087

Moon -112794-05-17 01:55 J -39476449.49 -39476449.42 -39476449.36 0.2760 0.2168 *

Venus -112793-02-28 08:38 J -39476162.22 -39476162.14 -39476162.07 0.3735 0.3052

Mars -112791-02-06 14:24 J -39475453.05 -39475452.90 -39475452.75 0.1762 0.0326

Mars -112791-12-20 09:07 J -39475136.24 -39475136.12 -39475135.99 0.1750 0.0146

Jupiter -112790-04-21 23:17 J -39475013.62 -39475013.53 -39475013.43 0.0497 0.0400

Jupiter -112790-07-21 00:00 J -39474923.66 -39474923.50 -39474923.33 0.0496 0.0137

Mars -112789-11-24 21:22 J -39474430.65 -39474430.61 -39474430.56 0.1732 0.1579

Venus -112788-09-13 08:53 J -39474138.26 -39474138.13 -39474138.00 0.3729 0.0562

Earth -112787-05-09 23:02 J -39473899.65 -39473899.54 -39473899.43 0.2757 0.0538

Moon -112787-05-09 23:31 J -39473899.63 -39473899.52 -39473899.42 0.2762 0.0560 *

Saturn -112784-06-18 19:26 J -39472763.79 -39472763.69 -39472763.59 0.0278 0.0203

Jupiter -112784-06-21 18:58 J -39472760.84 -39472760.71 -39472760.58 0.0530 0.0116

Saturn -112784-09-15 08:38 J -39472675.26 -39472675.14 -39472675.00 0.0280 0.0121

Jupiter -112784-09-19 05:02 J -39472671.38 -39472671.29 -39472671.20 0.0531 0.0390

Earth -112784-10-31 09:50 J -39472629.22 -39472629.09 -39472628.96 0.2586 0.1358

Moon -112784-10-31 10:48 J -39472629.18 -39472629.05 -39472628.91 0.2591 0.1280 *

Saturn -112784-12-12 22:05 J -39472586.72 -39472586.58 -39472586.44 0.0281 0.0037

Saturn -112783-03-11 11:17 J -39472498.17 -39472498.03 -39472497.89 0.0282 0.0046

Saturn -112783-06-08 00:14 J -39472409.61 -39472409.49 -39472409.36 0.0283 0.0129

Saturn -112783-09-04 13:12 J -39472321.04 -39472320.95 -39472320.85 0.0284 0.0211

Venus -112782-03-30 09:22 J -39472114.22 -39472114.11 -39472113.99 0.3723 0.2026

Mars -112782-06-29 15:50 J -39472022.97 -39472022.84 -39472022.72 0.1757 0.0961

Mars -112781-05-11 17:46 J -39471705.88 -39471705.76 -39471705.64 0.1755 0.0587

Mars -112779-04-17 06:43 J -39471000.31 -39471000.22 -39471000.14 0.1736 0.1180

Jupiter -112778-05-08 23:02 J -39470613.71 -39470613.54 -39470613.36 0.0496 0.0012

Earth -112774-05-12 17:31 J -39469148.88 -39469148.77 -39469148.66 0.2760 0.0403

Moon -112774-05-12 18:14 J -39469148.85 -39469148.74 -39469148.64 0.2762 0.0492 *

Venus -112773-10-11 16:48 J -39468630.84 -39468630.80 -39468630.77 0.3641 0.3415

Mars -112773-11-18 18:00 J -39468592.81 -39468592.75 -39468592.68 0.1752 0.1553

Jupiter -112772-04-09 22:19 J -39468450.69 -39468450.57 -39468450.45 0.0529 0.0238

Jupiter -112772-07-08 08:38 J -39468361.26 -39468361.14 -39468361.03 0.0530 0.0271

Mars -112772-10-02 01:55 J -39468275.52 -39468275.42 -39468275.32 0.1760 0.1052

Saturn -112771-10-21 03:22 J -39467891.44 -39467891.36 -39467891.27 0.0283 0.0240

Mars -112771-10-26 13:26 J -39467886.06 -39467885.94 -39467885.82 0.1772 0.1081

Earth -112771-11-03 15:36 J -39467878.01 -39467877.85 -39467877.69 0.2583 0.0192

Moon -112771-11-03 17:02 J -39467877.94 -39467877.79 -39467877.63 0.2585 0.0221 *

Saturn -112770-01-17 22:19 J -39467802.72 -39467802.57 -39467802.43 0.0282 0.0142

Saturn -112770-04-16 17:17 J -39467713.95 -39467713.78 -39467713.61 0.0281 0.0043

Saturn -112770-07-14 12:29 J -39467625.14 -39467624.98 -39467624.81 0.0280 0.0057

Mars -112770-09-07 15:50 J -39467569.95 -39467569.84 -39467569.73 0.1741 0.0772

Saturn -112770-10-11 07:55 J -39467536.31 -39467536.17 -39467536.02 0.0279 0.0156

Saturn -112769-01-08 03:36 J -39467447.41 -39467447.35 -39467447.28 0.0278 0.0256

Venus -112767-04-27 11:17 J -39466607.13 -39466607.03 -39466606.93 0.3646 0.1797

Moon -112767-05-05 14:10 J -39466598.97 -39466598.91 -39466598.84 0.2755 0.2239

Earth -112767-05-05 14:53 J -39466598.95 -39466598.88 -39466598.82 0.2750 0.2237 *

Jupiter -112766-02-24 22:34 J -39466303.72 -39466303.56 -39466303.39 0.0497 0.0133

Jupiter -112766-05-26 00:14 J -39466213.58 -39466213.49 -39466213.40 0.0496 0.0415

Mars -112762-02-22 10:05 J -39464845.14 -39464845.08 -39464845.02 0.1765 0.1529

Venus -112762-11-11 05:46 J -39464583.38 -39464583.26 -39464583.15 0.3651 0.0222

Mars -112761-03-17 14:10 J -39464456.06 -39464455.91 -39464455.76 0.1767 0.0402

Earth -112761-05-14 12:00 J -39464398.10 -39464398.00 -39464397.91 0.2763 0.1338

Moon -112761-05-14 12:29 J -39464398.07 -39464397.98 -39464397.88 0.2759 0.1402 *

Jupiter -112760-01-27 01:12 J -39464140.55 -39464140.45 -39464140.36 0.0529 0.0368

Mars -112760-01-28 00:43 J -39464139.60 -39464139.47 -39464139.35 0.1746 0.0350

Jupiter -112760-04-26 11:46 J -39464051.14 -39464051.01 -39464050.89 0.0530 0.0145

Earth -112758-11-06 21:36 J -39463126.72 -39463126.60 -39463126.49 0.2579 0.1760

Moon -112758-11-06 23:02 J -39463126.64 -39463126.54 -39463126.43 0.2576 0.1971 *

Venus -112756-05-27 00:00 J -39462559.61 -39462559.50 -39462559.40 0.3656 0.1332

Uranus -112755-03-24 20:10 J -39462257.73 -39462257.66 -39462257.58 0.0147 0.0132

Uranus -112755-06-21 03:36 J -39462169.47 -39462169.35 -39462169.22 0.0147 0.0105

Uranus -112755-09-17 11:02 J -39462081.19 -39462081.04 -39462080.89 0.0148 0.0077

Saturn -112755-11-05 20:24 J -39462031.73 -39462031.65 -39462031.57 0.0279 0.0231

Jupiter -112755-12-13 22:19 J -39461993.71 -39461993.57 -39461993.43 0.0497 0.0263

Uranus -112755-12-14 18:29 J -39461992.89 -39461992.73 -39461992.56 0.0148 0.0049

Saturn -112754-02-02 09:50 J -39461943.21 -39461943.09 -39461942.96 0.0280 0.0148

Uranus -112754-03-13 02:10 J -39461904.59 -39461904.41 -39461904.23 0.0148 0.0021

Jupiter -112754-03-13 23:31 J -39461903.66 -39461903.52 -39461903.38 0.0496 0.0281

Saturn -112754-05-01 23:17 J -39461854.67 -39461854.53 -39461854.39 0.0281 0.0065

Earth -112754-05-08 09:22 J -39461848.21 -39461848.11 -39461848.01 0.2753 0.1289

Moon -112754-05-08 09:22 J -39461848.20 -39461848.11 -39461848.01 0.2760 0.1355 *

Uranus -112754-06-09 09:50 J -39461816.27 -39461816.09 -39461815.91 0.0148 0.0008

Saturn -112754-07-29 12:29 J -39461766.12 -39461765.98 -39461765.84 0.0282 0.0019

Uranus -112754-09-05 17:31 J -39461727.95 -39461727.77 -39461727.60 0.0148 0.0036

Saturn -112754-10-26 01:41 J -39461677.56 -39461677.43 -39461677.30 0.0283 0.0101

Uranus -112754-12-03 01:12 J -39461639.61 -39461639.45 -39461639.28 0.0148 0.0065

Saturn -112753-01-22 14:38 J -39461588.99 -39461588.89 -39461588.78 0.0284 0.0184

Uranus -112753-02-29 09:07 J -39461551.26 -39461551.12 -39461550.98 0.0148 0.0094

Saturn -112753-04-20 03:36 J -39461500.40 -39461500.35 -39461500.30 0.0285 0.0266

Uranus -112753-05-27 16:34 J -39461462.89 -39461462.81 -39461462.69 0.0148 0.0124

Mars -112752-08-07 14:53 J -39461026.03 -39461025.88 -39461025.73 0.1762 0.0264

Mars -112751-06-20 09:22 J -39460709.23 -39460709.11 -39460708.99 0.1750 0.0094

Earth -112751-10-29 10:48 J -39460578.05 -39460578.05 -39460578.04 0.2590 0.2584

Venus -112751-12-10 18:00 J -39460535.82 -39460535.75 -39460535.68 0.3662 0.2835

Mars -112749-05-25 21:22 J -39460003.65 -39460003.61 -39460003.57 0.1732 0.1621

Jupiter -112749-11-15 03:50 J -39459830.38 -39459830.34 -39459830.29 0.0528 0.0498

Jupiter -112748-02-12 14:53 J -39459741.02 -39459740.88 -39459740.75 0.0530 0.0025

Jupiter -112748-05-13 00:29 J -39459651.51 -39459651.48 -39459651.46 0.0530 0.0517

Moon -112748-05-17 06:29 J -39459647.29 -39459647.23 -39459647.17 0.2760 0.2237

Earth -112748-05-17 06:29 J -39459647.29 -39459647.23 -39459647.17 0.2767 0.2271 *

Jupiter -112743-10-01 22:05 J -39457683.68 -39457683.58 -39457683.47 0.0497 0.0389

Mars -112743-12-28 16:34 J -39457595.94 -39457595.81 -39457595.68 0.1757 0.0891

Jupiter -112743-12-30 22:48 J -39457593.71 -39457593.55 -39457593.38 0.0496 0.0149

Mars -112742-11-10 17:46 J -39457278.88 -39457278.76 -39457278.64 0.1755 0.0543

Saturn -112741-03-09 03:07 J -39457159.41 -39457159.37 -39457159.32 0.0283 0.0271

Earth -112741-05-10 03:50 J -39457097.45 -39457097.34 -39457097.23 0.2757 0.0358

Moon -112741-05-10 04:34 J -39457097.42 -39457097.31 -39457097.21 0.2763 0.0265 *

Saturn -112741-06-05 21:50 J -39457070.72 -39457070.59 -39457070.46 0.0282 0.0174

Saturn -112741-09-02 16:48 J -39456981.96 -39456981.80 -39456981.63 0.0281 0.0075

Saturn -112741-11-30 12:00 J -39456893.17 -39456893.00 -39456892.83 0.0280 0.0025

Pluto -112741-12-26 23:31 J -39456866.52 -39456866.52 -39456866.48 0.0060 0.0060

Saturn -112740-02-27 07:26 J -39456804.34 -39456804.19 -39456804.03 0.0279 0.0124

Pluto -112740-03-25 00:58 J -39456778.54 -39456778.46 -39456778.35 0.0060 0.0052

Saturn -112740-05-27 03:07 J -39456715.47 -39456715.37 -39456715.27 0.0278 0.0224

Pluto -112740-06-21 02:38 J -39456690.52 -39456690.39 -39456690.26 0.0060 0.0044

Pluto -112740-09-17 03:36 J -39456602.48 -39456602.35 -39456602.18 0.0060 0.0037

Mars -112740-10-16 06:43 J -39456573.30 -39456573.22 -39456573.13 0.1736 0.1224

Pluto -112740-12-14 05:17 J -39456514.44 -39456514.28 -39456514.10 0.0060 0.0029

Pluto -112739-03-12 06:29 J -39456426.39 -39456426.23 -39456426.03 0.0060 0.0022

Pluto -112739-06-08 08:10 J -39456338.34 -39456338.16 -39456337.97 0.0060 0.0014

Pluto -112739-09-04 09:36 J -39456250.29 -39456250.10 -39456249.90 0.0060 0.0007

Pluto -112739-12-01 11:02 J -39456162.23 -39456162.04 -39456161.84 0.0060 0.0002

Pluto -112738-02-27 12:14 J -39456074.17 -39456073.99 -39456073.79 0.0060 0.0010

Pluto -112738-05-26 13:55 J -39455986.11 -39455985.92 -39455985.73 0.0060 0.0017

Pluto -112738-08-22 15:07 J -39455898.04 -39455897.87 -39455897.68 0.0061 0.0025

Earth -112738-11-01 16:19 J -39455826.96 -39455826.82 -39455826.67 0.2586 0.1054

Moon -112738-11-01 17:46 J -39455826.91 -39455826.76 -39455826.62 0.2590 0.0948 *

Pluto -112738-11-18 16:19 J -39455809.97 -39455809.82 -39455809.64 0.0061 0.0033

Pluto -112737-02-14 18:00 J -39455721.89 -39455721.75 -39455721.60 0.0061 0.0040

Pluto -112737-05-12 19:12 J -39455633.80 -39455633.70 -39455633.57 0.0061 0.0048

Pluto -112737-08-08 20:38 J -39455545.70 -39455545.64 -39455545.55 0.0061 0.0056

Venus -112737-10-04 08:10 J -39455489.26 -39455489.16 -39455489.05 0.3734 0.2203

Jupiter -112737-12-01 17:31 J -39455430.91 -39455430.77 -39455430.64 0.0530 0.0115

Jupiter -112736-03-01 03:22 J -39455341.44 -39455341.36 -39455341.27 0.0531 0.0393

Mars -112733-05-19 18:14 J -39454165.81 -39454165.74 -39454165.66 0.1752 0.1501

Mars -112732-04-02 02:10 J -39453848.51 -39453848.41 -39453848.31 0.1760 0.1005

Neptune -112732-12-20 08:53 J -39453586.15 -39453586.13 -39453586.08 0.0088 0.0085

Neptune -112731-03-18 10:48 J -39453498.10 -39453498.05 -39453497.99 0.0088 0.0081

Venus -112731-04-20 08:38 J -39453465.27 -39453465.14 -39453465.01 0.3727 0.0317

Mars -112731-04-26 13:55 J -39453459.04 -39453458.92 -39453458.80 0.1772 0.1145

Neptune -112731-06-14 12:29 J -39453410.04 -39453409.98 -39453409.90 0.0088 0.0076

Neptune -112731-09-10 14:24 J -39453321.98 -39453321.90 -39453321.81 0.0088 0.0072

Jupiter -112731-10-18 22:34 J -39453283.73 -39453283.56 -39453283.39 0.0496 0.0017

Neptune -112731-12-07 15:50 J -39453233.92 -39453233.84 -39453233.73 0.0088 0.0068

Neptune -112730-03-05 18:00 J -39453145.85 -39453145.75 -39453145.65 0.0088 0.0063

Mars -112730-03-08 15:50 J -39453142.95 -39453142.84 -39453142.74 0.1741 0.0812

Neptune -112730-06-01 19:26 J -39453057.79 -39453057.69 -39453057.57 0.0088 0.0059

Neptune -112730-08-28 21:07 J -39452969.72 -39452969.62 -39452969.49 0.0088 0.0055

Neptune -112730-11-24 23:02 J -39452881.66 -39452881.54 -39452881.42 0.0088 0.0050

Neptune -112729-02-21 00:43 J -39452793.59 -39452793.47 -39452793.34 0.0088 0.0045

Neptune -112729-05-19 02:38 J -39452705.52 -39452705.39 -39452705.26 0.0088 0.0041

Neptune -112729-08-15 04:05 J -39452617.45 -39452617.33 -39452617.19 0.0088 0.0037

Neptune -112729-11-11 05:46 J -39452529.39 -39452529.26 -39452529.12 0.0088 0.0032

Neptune -112728-02-07 07:41 J -39452441.32 -39452441.18 -39452441.04 0.0088 0.0028

Neptune -112728-05-06 09:22 J -39452353.25 -39452353.11 -39452352.97 0.0088 0.0023

Earth -112728-05-12 22:19 J -39452346.67 -39452346.57 -39452346.46 0.2761 0.0591

Moon -112728-05-12 23:02 J -39452346.64 -39452346.54 -39452346.43 0.2759 0.0602 *

Neptune -112728-08-02 10:48 J -39452265.18 -39452265.05 -39452264.90 0.0088 0.0020

Neptune -112728-10-29 12:43 J -39452177.11 -39452176.97 -39452176.83 0.0088 0.0015

Neptune -112727-01-25 14:24 J -39452089.05 -39452088.90 -39452088.76 0.0088 0.0011

Neptune -112727-04-23 16:05 J -39452000.98 -39452000.83 -39452000.69 0.0088 0.0007

Neptune -112727-07-20 17:31 J -39451912.91 -39451912.77 -39451912.62 0.0088 0.0004

Neptune -112727-10-16 19:12 J -39451824.84 -39451824.70 -39451824.55 0.0088 0.0004

Neptune -112726-01-12 20:53 J -39451736.77 -39451736.63 -39451736.49 0.0088 0.0007

Neptune -112726-04-10 22:34 J -39451648.70 -39451648.56 -39451648.42 0.0088 0.0011

Neptune -112726-07-08 00:14 J -39451560.63 -39451560.49 -39451560.35 0.0088 0.0015

Neptune -112726-10-04 01:41 J -39451472.56 -39451472.43 -39451472.29 0.0088 0.0020

Venus -112726-11-04 09:22 J -39451441.19 -39451441.11 -39451441.03 0.3721 0.2927

Neptune -112726-12-31 03:22 J -39451384.49 -39451384.36 -39451384.22 0.0088 0.0024

Saturn -112725-03-24 22:05 J -39451299.63 -39451299.58 -39451299.52 0.0278 0.0255

Neptune -112725-03-28 04:48 J -39451296.42 -39451296.30 -39451296.16 0.0088 0.0029

Saturn -112725-06-21 11:31 J -39451211.13 -39451211.02 -39451210.90 0.0279 0.0173

Neptune -112725-06-24 06:29 J -39451208.36 -39451208.23 -39451208.09 0.0088 0.0032

Saturn -112725-09-18 00:58 J -39451122.60 -39451122.46 -39451122.32 0.0280 0.0091

Jupiter -112725-09-19 20:53 J -39451120.76 -39451120.63 -39451120.51 0.0530 0.0236

Neptune -112725-09-20 08:10 J -39451120.29 -39451120.16 -39451120.03 0.0088 0.0036

Earth -112725-11-03 22:05 J -39451075.73 -39451075.58 -39451075.42 0.2582 0.0504

Moon -112725-11-03 23:46 J -39451075.66 -39451075.51 -39451075.36 0.2582 0.0656 *

Saturn -112725-12-15 14:10 J -39451034.05 -39451033.91 -39451033.77 0.0281 0.0009

Neptune -112725-12-17 09:50 J -39451032.22 -39451032.09 -39451031.97 0.0088 0.0041

Jupiter -112725-12-18 07:12 J -39451031.32 -39451031.20 -39451031.09 0.0531 0.0275

Saturn -112724-03-14 03:22 J -39450945.50 -39450945.36 -39450945.23 0.0282 0.0074

Neptune -112724-03-15 11:31 J -39450944.15 -39450944.02 -39450943.90 0.0088 0.0045

Saturn -112724-06-10 16:19 J -39450856.93 -39450856.82 -39450856.70 0.0283 0.0157

Neptune -112724-06-11 12:43 J -39450856.08 -39450855.97 -39450855.84 0.0088 0.0049

Saturn -112724-09-07 05:17 J -39450768.35 -39450768.28 -39450768.21 0.0284 0.0239

Neptune -112724-09-07 14:24 J -39450768.01 -39450767.90 -39450767.78 0.0088 0.0053

Neptune -112724-12-04 15:50 J -39450679.93 -39450679.84 -39450679.72 0.0088 0.0058

Neptune -112723-03-02 17:31 J -39450591.86 -39450591.77 -39450591.66 0.0088 0.0061

Neptune -112723-05-29 18:58 J -39450503.79 -39450503.71 -39450503.60 0.0088 0.0066

Mars -112723-08-23 10:19 J -39450418.14 -39450418.07 -39450418.01 0.1764 0.1477

Neptune -112723-08-25 20:38 J -39450415.72 -39450415.64 -39450415.55 0.0088 0.0069

Neptune -112723-11-21 22:05 J -39450327.64 -39450327.58 -39450327.49 0.0088 0.0074

Neptune -112722-02-17 23:46 J -39450239.57 -39450239.51 -39450239.44 0.0088 0.0078

Neptune -112722-05-17 01:12 J -39450151.49 -39450151.45 -39450151.39 0.0088 0.0082

Neptune -112722-08-13 02:53 J -39450063.41 -39450063.38 -39450063.35 0.0088 0.0086

Mars -112722-09-16 14:24 J -39450029.05 -39450028.90 -39450028.75 0.1767 0.0456

Moon -112721-05-05 19:12 J -39449796.76 -39449796.70 -39449796.63 0.2756 0.2133

Earth -112721-05-05 19:41 J -39449796.75 -39449796.68 -39449796.61 0.2750 0.2051 *

Mars -112721-07-29 00:43 J -39449712.59 -39449712.47 -39449712.35 0.1745 0.0394

Jupiter -112719-08-06 21:36 J -39448973.77 -39448973.60 -39448973.43 0.0496 0.0120

Jupiter -112719-11-04 23:02 J -39448883.62 -39448883.54 -39448883.45 0.0496 0.0427

Venus -112716-05-18 15:07 J -39447957.94 -39447957.87 -39447957.80 0.3643 0.2817

Uranus -112715-02-10 05:31 J -39447690.29 -39447690.27 -39447690.22 0.0132 0.0127

Uranus -112715-05-09 09:07 J -39447602.19 -39447602.12 -39447602.04 0.0132 0.0111

Earth -112715-05-15 16:48 J -39447595.89 -39447595.80 -39447595.71 0.2764 0.1522

Moon -112715-05-15 17:17 J -39447595.87 -39447595.78 -39447595.69 0.2759 0.1578 *

Uranus -112715-08-05 12:29 J -39447514.07 -39447513.98 -39447513.87 0.0132 0.0095

Uranus -112715-11-01 16:05 J -39447425.94 -39447425.83 -39447425.71 0.0132 0.0078

Uranus -112714-01-28 19:26 J -39447337.81 -39447337.69 -39447337.56 0.0132 0.0063

Uranus -112714-04-26 23:02 J -39447249.67 -39447249.54 -39447249.41 0.0131 0.0047

Uranus -112714-07-24 02:24 J -39447161.54 -39447161.40 -39447161.27 0.0131 0.0031

Uranus -112714-10-20 05:46 J -39447073.40 -39447073.26 -39447073.12 0.0131 0.0015

Uranus -112713-01-16 08:53 J -39446985.27 -39446985.13 -39446984.99 0.0131 0.0004

Uranus -112713-04-13 12:14 J -39446897.13 -39446896.99 -39446896.85 0.0131 0.0016

Jupiter -112713-07-09 00:00 J -39446810.60 -39446810.50 -39446810.40 0.0529 0.0359

Uranus -112713-07-10 15:36 J -39446808.99 -39446808.85 -39446808.72 0.0131 0.0031

Jupiter -112713-10-06 10:34 J -39446721.18 -39446721.06 -39446720.93 0.0530 0.0155

Uranus -112713-10-06 18:43 J -39446720.85 -39446720.72 -39446720.59 0.0131 0.0047

Uranus -112712-01-02 21:50 J -39446632.70 -39446632.59 -39446632.46 0.0131 0.0062

Mars -112712-02-05 15:36 J -39446599.01 -39446598.85 -39446598.70 0.1762 0.0201

Uranus -112712-04-01 01:12 J -39446544.56 -39446544.45 -39446544.33 0.0131 0.0077

Uranus -112712-06-28 04:19 J -39446456.41 -39446456.32 -39446456.21 0.0131 0.0092

Uranus -112712-09-24 07:26 J -39446368.26 -39446368.19 -39446368.10 0.0131 0.0107

Saturn -112712-10-23 19:55 J -39446338.78 -39446338.67 -39446338.56 0.0283 0.0212

Earth -112712-11-07 04:05 J -39446324.42 -39446324.33 -39446324.24 0.2579 0.2070

Moon -112712-11-07 05:31 J -39446324.36 -39446324.27 -39446324.17 0.2575 0.2073 *

Mars -112712-12-19 09:22 J -39446282.23 -39446282.11 -39446281.98 0.1750 0.0052

Uranus -112712-12-21 10:34 J -39446280.10 -39446280.06 -39446280.00 0.0131 0.0122

Saturn -112711-01-20 14:38 J -39446250.04 -39446249.89 -39446249.73 0.0282 0.0114

Saturn -112711-04-19 09:50 J -39446161.26 -39446161.09 -39446160.92 0.0281 0.0015

Saturn -112711-07-17 05:17 J -39446072.45 -39446072.28 -39446072.12 0.0280 0.0085

Saturn -112711-10-14 00:43 J -39445983.60 -39445983.47 -39445983.34 0.0279 0.0185

Venus -112711-12-02 09:36 J -39445934.21 -39445934.10 -39445933.99 0.3648 0.1218

Mars -112710-11-24 21:36 J -39445576.63 -39445576.60 -39445576.57 0.1732 0.1666

Earth -112708-05-08 14:10 J -39445046.01 -39445045.91 -39445045.80 0.2754 0.1115

Moon -112708-05-08 14:38 J -39445045.99 -39445045.89 -39445045.79 0.2761 0.1045 *

Jupiter -112707-05-25 21:07 J -39444663.77 -39444663.62 -39444663.48 0.0497 0.0253

Jupiter -112707-08-23 22:19 J -39444573.71 -39444573.57 -39444573.43 0.0496 0.0290

Venus -112705-06-17 03:50 J -39443910.45 -39443910.34 -39443910.22 0.3653 0.0359

Earth -112705-10-29 17:17 J -39443775.85 -39443775.78 -39443775.71 0.2589 0.2291

Moon -112705-10-29 18:00 J -39443775.84 -39443775.75 -39443775.67 0.2594 0.2163 *

Mars -112703-06-28 17:02 J -39443168.93 -39443168.79 -39443168.66 0.1757 0.0831

Mars -112702-05-11 18:00 J -39442851.87 -39442851.75 -39442851.63 0.1755 0.0498

Moon -112702-05-18 11:02 J -39442845.09 -39442845.04 -39442844.99 0.2759 0.2435

Earth -112702-05-18 11:17 J -39442845.08 -39442845.03 -39442844.98 0.2767 0.2451 *

Jupiter -112701-04-27 02:53 J -39442500.43 -39442500.38 -39442500.33 0.0528 0.0489

Jupiter -112701-07-25 13:41 J -39442411.07 -39442410.93 -39442410.80 0.0530 0.0027

Jupiter -112701-10-22 23:17 J -39442321.54 -39442321.53 -39442321.51 0.0530 0.0526

Mars -112700-04-16 06:43 J -39442146.30 -39442146.22 -39442146.14 0.1736 0.1265

Venus -112700-12-31 22:05 J -39441886.68 -39441886.58 -39441886.48 0.3658 0.1878

Saturn -112696-11-08 12:43 J -39440479.06 -39440478.97 -39440478.86 0.0279 0.0200

Saturn -112695-02-05 02:24 J -39440390.53 -39440390.40 -39440390.27 0.0280 0.0117

Jupiter -112695-03-13 20:53 J -39440353.74 -39440353.63 -39440353.53 0.0497 0.0383

Saturn -112695-05-04 15:36 J -39440301.99 -39440301.85 -39440301.71 0.0281 0.0034

Earth -112695-05-11 08:53 J -39440295.24 -39440295.13 -39440295.02 0.2757 0.0184

Moon -112695-05-11 09:22 J -39440295.22 -39440295.11 -39440295.00 0.2761 0.0189 *

Jupiter -112695-06-11 21:36 J -39440263.77 -39440263.60 -39440263.44 0.0496 0.0156

Saturn -112695-08-01 04:48 J -39440213.44 -39440213.30 -39440213.16 0.0282 0.0048

Saturn -112695-10-28 17:46 J -39440124.88 -39440124.76 -39440124.63 0.0283 0.0131

Saturn -112694-01-25 06:43 J -39440036.31 -39440036.22 -39440036.12 0.0284 0.0213

Venus -112694-07-17 16:05 J -39439862.87 -39439862.83 -39439862.79 0.3663 0.3374

Mars -112694-11-18 18:58 J -39439738.80 -39439738.71 -39439738.63 0.1752 0.1436

Mars -112693-10-01 02:10 J -39439421.51 -39439421.41 -39439421.30 0.1760 0.0957

Mars -112692-10-25 14:38 J -39439032.00 -39439031.89 -39439031.78 0.1772 0.1213

Earth -112692-11-01 22:48 J -39439024.70 -39439024.55 -39439024.40 0.2585 0.0756

Moon -112692-11-02 00:14 J -39439024.64 -39439024.49 -39439024.34 0.2589 0.0699 *

Mars -112691-09-06 15:50 J -39438715.94 -39438715.84 -39438715.73 0.1741 0.0858

Jupiter -112689-05-13 16:34 J -39438100.94 -39438100.81 -39438100.67 0.0529 0.0102

Jupiter -112689-08-11 02:38 J -39438011.48 -39438011.39 -39438011.31 0.0530 0.0402

Mars -112683-02-21 10:05 J -39435991.15 -39435991.08 -39435991.00 0.1765 0.1436

Jupiter -112683-03-30 21:07 J -39435953.79 -39435953.62 -39435953.45 0.0496 0.0025

Saturn -112682-03-12 19:55 J -39435606.75 -39435606.67 -39435606.58 0.0283 0.0241

Mars -112682-03-17 15:07 J -39435602.02 -39435601.87 -39435601.73 0.1767 0.0525

Earth -112682-05-14 03:22 J -39435544.47 -39435544.36 -39435544.26 0.2761 0.0773

Moon -112682-05-14 04:05 J -39435544.44 -39435544.33 -39435544.23 0.2758 0.0904 *

Saturn -112682-06-09 14:38 J -39435518.03 -39435517.89 -39435517.74 0.0282 0.0144

Saturn -112682-09-06 09:50 J -39435429.26 -39435429.09 -39435428.92 0.0281 0.0045

Saturn -112682-12-04 05:02 J -39435340.45 -39435340.29 -39435340.12 0.0280 0.0055

Mars -112681-01-28 00:43 J -39435285.59 -39435285.47 -39435285.35 0.1746 0.0432

Saturn -112681-03-02 00:29 J -39435251.62 -39435251.48 -39435251.33 0.0279 0.0155

Saturn -112681-05-29 20:24 J -39435162.72 -39435162.65 -39435162.58 0.0278 0.0254

Venus -112680-05-11 07:55 J -39434816.29 -39434816.17 -39434816.05 0.3732 0.1336

Earth -112679-11-05 04:48 J -39434273.45 -39434273.30 -39434273.15 0.2582 0.0811

Moon -112679-11-05 06:29 J -39434273.38 -39434273.23 -39434273.08 0.2580 0.0926 *

Jupiter -112677-03-01 18:58 J -39433790.83 -39433790.71 -39433790.59 0.0530 0.0237

Jupiter -112677-05-30 05:17 J -39433701.39 -39433701.28 -39433701.16 0.0531 0.0274

Moon -112675-05-07 00:29 J -39432994.56 -39432994.48 -39432994.41 0.2757 0.1889

Earth -112675-05-07 00:43 J -39432994.55 -39432994.47 -39432994.39 0.2751 0.1871 *

Venus -112675-11-25 08:24 J -39432792.27 -39432792.15 -39432792.02 0.3726 0.1201

Mars -112673-08-06 16:05 J -39432171.99 -39432171.83 -39432171.68 0.1762 0.0145

Mars -112672-06-19 09:36 J -39431855.23 -39431855.10 -39431854.98 0.1750 0.0057

Jupiter -112671-01-16 20:38 J -39431643.80 -39431643.64 -39431643.47 0.0496 0.0107

Uranus -112671-04-14 04:48 J -39431556.39 -39431556.30 -39431556.19 0.0147 0.0121

Jupiter -112671-04-16 22:19 J -39431553.65 -39431553.57 -39431553.49 0.0495 0.0440

Uranus -112671-07-11 12:14 J -39431468.12 -39431467.99 -39431467.85 0.0147 0.0093

Uranus -112671-10-07 19:41 J -39431379.83 -39431379.68 -39431379.52 0.0147 0.0066

Uranus -112670-01-04 03:22 J -39431291.53 -39431291.36 -39431291.19 0.0148 0.0038

Uranus -112670-04-02 10:48 J -39431203.22 -39431203.05 -39431202.87 0.0148 0.0010

Mars -112670-05-25 21:36 J -39431149.62 -39431149.60 -39431149.58 0.1732 0.1703

Uranus -112670-06-29 18:29 J -39431114.91 -39431114.73 -39431114.55 0.0148 0.0019

Uranus -112670-09-26 02:10 J -39431026.58 -39431026.41 -39431026.24 0.0148 0.0048

Uranus -112670-12-23 09:50 J -39430938.24 -39430938.09 -39430937.93 0.0148 0.0077

Uranus -112669-03-20 17:31 J -39430849.88 -39430849.77 -39430849.63 0.0148 0.0106

Earth -112669-05-15 21:50 J -39430793.68 -39430793.59 -39430793.51 0.2764 0.1708

Moon -112669-05-15 22:05 J -39430793.67 -39430793.58 -39430793.50 0.2758 0.1687 *

Uranus -112669-06-17 01:41 J -39430761.50 -39430761.43 -39430761.36 0.0148 0.0135

Saturn -112666-03-28 14:53 J -39429746.96 -39429746.88 -39429746.79 0.0278 0.0222

Saturn -112666-06-25 04:19 J -39429658.44 -39429658.32 -39429658.19 0.0279 0.0140

Saturn -112666-09-21 17:46 J -39429569.90 -39429569.76 -39429569.62 0.0280 0.0058

Earth -112666-11-08 10:48 J -39429522.11 -39429522.05 -39429521.99 0.2578 0.2385

Moon -112666-11-08 12:00 J -39429522.03 -39429522.00 -39429521.98 0.2574 0.2528 *

Saturn -112666-12-19 06:58 J -39429481.35 -39429481.21 -39429481.07 0.0281 0.0025

Jupiter -112666-12-19 22:19 J -39429480.67 -39429480.57 -39429480.47 0.0529 0.0361

Saturn -112665-03-16 19:55 J -39429392.80 -39429392.67 -39429392.54 0.0282 0.0107

Jupiter -112665-03-18 08:53 J -39429391.26 -39429391.13 -39429391.00 0.0530 0.0153

Saturn -112665-06-13 08:53 J -39429304.23 -39429304.13 -39429304.02 0.0283 0.0189

Saturn -112665-09-09 21:50 J -39429215.63 -39429215.59 -39429215.55 0.0284 0.0270

Mars -112664-12-27 17:17 J -39428741.91 -39428741.78 -39428741.64 0.1757 0.0774

Mars -112663-11-09 18:00 J -39428424.87 -39428424.75 -39428424.63 0.1755 0.0448

Earth -112662-05-09 19:12 J -39428243.80 -39428243.70 -39428243.60 0.2754 0.0926

Moon -112662-05-09 19:41 J -39428243.79 -39428243.68 -39428243.58 0.2761 0.0934 *

Mars -112661-10-15 06:58 J -39427719.29 -39427719.21 -39427719.14 0.1736 0.1311

Jupiter -112660-11-04 19:55 J -39427333.82 -39427333.67 -39427333.53 0.0497 0.0244

Venus -112660-12-23 13:12 J -39427285.04 -39427284.95 -39427284.86 0.3644 0.2232

Jupiter -112659-02-02 20:53 J -39427243.77 -39427243.63 -39427243.49 0.0496 0.0298

Earth -112659-10-30 23:46 J -39426973.61 -39426973.51 -39426973.41 0.2589 0.1995

Moon -112659-10-31 00:43 J -39426973.56 -39426973.47 -39426973.37 0.2594 0.2032 *

Moon -112656-05-18 15:50 J -39426042.87 -39426042.84 -39426042.81 0.2760 0.2616

Earth -112656-05-18 16:05 J -39426042.86 -39426042.83 -39426042.80 0.2767 0.2636 *

Mars -112654-05-19 19:26 J -39425311.79 -39425311.69 -39425311.60 0.1752 0.1378

Venus -112654-07-09 07:41 J -39425261.29 -39425261.18 -39425261.06 0.3649 0.0643

Jupiter -112654-10-08 01:26 J -39425170.49 -39425170.44 -39425170.39 0.0529 0.0485

Jupiter -112653-01-05 12:29 J -39425081.12 -39425080.98 -39425080.85 0.0530 0.0036

Mars -112653-04-01 02:10 J -39424994.51 -39424994.41 -39424994.30 0.1760 0.0913

Saturn -112653-07-29 18:43 J -39424874.75 -39424874.72 -39424874.68 0.0284 0.0276

Saturn -112653-10-26 13:26 J -39424786.06 -39424785.94 -39424785.81 0.0283 0.0178

Saturn -112652-01-23 08:24 J -39424697.31 -39424697.15 -39424696.98 0.0282 0.0080

Saturn -112652-04-22 03:36 J -39424608.52 -39424608.35 -39424608.18 0.0280 0.0020

Mars -112652-04-25 14:53 J -39424604.98 -39424604.88 -39424604.77 0.1772 0.1271

Saturn -112652-07-19 23:02 J -39424519.70 -39424519.54 -39424519.38 0.0279 0.0119

Saturn -112652-10-16 18:29 J -39424430.83 -39424430.73 -39424430.62 0.0278 0.0219

Mars -112651-03-07 16:05 J -39424288.94 -39424288.83 -39424288.73 0.1741 0.0903

Earth -112649-05-11 13:41 J -39423493.04 -39423492.93 -39423492.82 0.2758 0.0035

Moon -112649-05-11 14:24 J -39423493.01 -39423492.90 -39423492.79 0.2759 0.0136 *

Venus -112648-01-22 01:55 J -39423237.53 -39423237.42 -39423237.31 0.3654 0.0923

Neptune -112648-02-26 04:05 J -39423202.34 -39423202.33 -39423202.30 0.0089 0.0088

Neptune -112648-05-25 06:58 J -39423114.27 -39423114.21 -39423114.15 0.0089 0.0083

Neptune -112648-08-21 09:36 J -39423026.17 -39423026.10 -39423026.02 0.0089 0.0078

Jupiter -112648-08-23 19:12 J -39423023.80 -39423023.70 -39423023.58 0.0497 0.0376

Neptune -112648-11-17 12:14 J -39422938.08 -39422937.99 -39422937.89 0.0089 0.0073

Jupiter -112648-11-21 19:55 J -39422933.83 -39422933.67 -39422933.51 0.0496 0.0161

Neptune -112647-02-13 14:53 J -39422849.98 -39422849.88 -39422849.76 0.0089 0.0068

Neptune -112647-05-12 17:46 J -39422761.87 -39422761.76 -39422761.63 0.0089 0.0063

Neptune -112647-08-08 20:24 J -39422673.77 -39422673.65 -39422673.51 0.0089 0.0058

Pluto -112647-10-15 08:24 J -39422606.16 -39422606.15 -39422606.11 0.0085 0.0083

Neptune -112647-11-04 23:17 J -39422585.66 -39422585.53 -39422585.38 0.0089 0.0053

Pluto -112646-01-11 09:50 J -39422518.16 -39422518.09 -39422518.01 0.0084 0.0068

Neptune -112646-02-01 01:55 J -39422497.55 -39422497.42 -39422497.26 0.0089 0.0048

Pluto -112646-04-09 11:02 J -39422430.13 -39422430.04 -39422429.93 0.0084 0.0053

Neptune -112646-04-30 05:02 J -39422409.44 -39422409.29 -39422409.13 0.0089 0.0042

Pluto -112646-07-06 12:29 J -39422342.10 -39422341.98 -39422341.86 0.0084 0.0039

Neptune -112646-07-27 07:41 J -39422321.33 -39422321.18 -39422321.01 0.0089 0.0037

Pluto -112646-10-02 13:41 J -39422254.05 -39422253.93 -39422253.80 0.0084 0.0024

Neptune -112646-10-23 10:34 J -39422233.22 -39422233.06 -39422232.89 0.0089 0.0032

Earth -112646-11-03 05:31 J -39422222.43 -39422222.27 -39422222.12 0.2585 0.0452

Moon -112646-11-03 06:58 J -39422222.37 -39422222.21 -39422222.05 0.2586 0.0265 *

Pluto -112646-12-29 15:07 J -39422166.01 -39422165.87 -39422165.74 0.0084 0.0010

Neptune -112645-01-19 13:26 J -39422145.10 -39422144.94 -39422144.77 0.0089 0.0027

Pluto -112645-03-26 16:19 J -39422077.95 -39422077.82 -39422077.69 0.0084 0.0005

Neptune -112645-04-16 16:19 J -39422056.99 -39422056.82 -39422056.65 0.0089 0.0021

Pluto -112645-06-22 17:31 J -39421989.90 -39421989.77 -39421989.64 0.0084 0.0019

Neptune -112645-07-13 19:12 J -39421968.87 -39421968.70 -39421968.52 0.0089 0.0016

Pluto -112645-09-18 18:43 J -39421901.84 -39421901.72 -39421901.59 0.0084 0.0033

Neptune -112645-10-09 22:05 J -39421880.75 -39421880.58 -39421880.40 0.0089 0.0011

Pluto -112645-12-15 19:55 J -39421813.77 -39421813.67 -39421813.55 0.0083 0.0048

Neptune -112644-01-06 00:58 J -39421792.63 -39421792.46 -39421792.28 0.0089 0.0005

Pluto -112644-03-13 21:22 J -39421725.70 -39421725.61 -39421725.52 0.0083 0.0062

Neptune -112644-04-04 03:50 J -39421704.51 -39421704.34 -39421704.16 0.0089 0.0002

Pluto -112644-06-09 22:34 J -39421637.61 -39421637.56 -39421637.51 0.0083 0.0076

Neptune -112644-07-01 06:43 J -39421616.39 -39421616.22 -39421616.04 0.0089 0.0006

Mars -112644-08-22 10:19 J -39421564.14 -39421564.07 -39421563.99 0.1764 0.1382

Neptune -112644-09-27 09:50 J -39421528.27 -39421528.09 -39421527.92 0.0089 0.0011

Neptune -112644-12-24 12:29 J -39421440.15 -39421439.98 -39421439.80 0.0089 0.0017

Neptune -112643-03-22 15:36 J -39421352.02 -39421351.85 -39421351.68 0.0089 0.0022

Neptune -112643-06-18 18:14 J -39421263.89 -39421263.74 -39421263.56 0.0089 0.0028

Venus -112643-08-07 20:10 J -39421213.74 -39421213.66 -39421213.58 0.3659 0.2428

Neptune -112643-09-14 21:22 J -39421175.77 -39421175.61 -39421175.44 0.0089 0.0033

Mars -112643-09-15 15:36 J -39421174.99 -39421174.85 -39421174.70 0.1767 0.0595

Neptune -112643-12-12 00:29 J -39421087.64 -39421087.48 -39421087.32 0.0089 0.0038

Neptune -112642-03-10 03:22 J -39420999.51 -39420999.36 -39420999.20 0.0089 0.0044

Moon -112642-05-05 10:19 J -39420943.08 -39420943.07 -39420943.06 0.2752 0.2739

Earth -112642-05-05 10:48 J -39420943.07 -39420943.05 -39420943.02 0.2747 0.2631 *

Neptune -112642-06-06 06:29 J -39420911.38 -39420911.23 -39420911.08 0.0089 0.0049

Mars -112642-07-29 00:58 J -39420858.58 -39420858.46 -39420858.35 0.1745 0.0482

Neptune -112642-09-02 09:07 J -39420823.24 -39420823.12 -39420822.96 0.0089 0.0055

Jupiter -112642-10-24 15:22 J -39420771.00 -39420770.86 -39420770.73 0.0529 0.0097

Neptune -112642-11-29 12:29 J -39420735.11 -39420734.98 -39420734.85 0.0089 0.0060

Jupiter -112641-01-22 01:12 J -39420681.53 -39420681.45 -39420681.36 0.0530 0.0408

Neptune -112641-02-25 15:22 J -39420646.97 -39420646.86 -39420646.73 0.0089 0.0066

Neptune -112641-05-23 18:29 J -39420558.83 -39420558.73 -39420558.62 0.0089 0.0071

Neptune -112641-08-19 21:22 J -39420470.68 -39420470.61 -39420470.51 0.0089 0.0077

Neptune -112641-11-16 00:14 J -39420382.53 -39420382.49 -39420382.40 0.0089 0.0083

Neptune -112640-02-12 03:36 J -39420294.36 -39420294.35 -39420294.32 0.0089 0.0088

Saturn -112637-08-14 16:19 J -39419014.87 -39419014.82 -39419014.75 0.0278 0.0248

Saturn -112637-11-11 06:00 J -39418926.36 -39418926.25 -39418926.13 0.0279 0.0165

Saturn -112636-02-07 19:26 J -39418837.83 -39418837.69 -39418837.55 0.0280 0.0082

Saturn -112636-05-07 08:38 J -39418749.28 -39418749.14 -39418749.00 0.0281 0.0003

Earth -112636-05-14 08:10 J -39418742.26 -39418742.16 -39418742.06 0.2761 0.0956

Moon -112636-05-14 08:53 J -39418742.23 -39418742.13 -39418742.03 0.2758 0.0945 *

Saturn -112636-08-03 21:50 J -39418660.73 -39418660.59 -39418660.46 0.0282 0.0083

Jupiter -112636-09-09 19:12 J -39418623.87 -39418623.70 -39418623.53 0.0496 0.0027

Saturn -112636-10-31 10:48 J -39418572.16 -39418572.05 -39418571.94 0.0284 0.0165

Saturn -112635-01-27 23:46 J -39418483.58 -39418483.51 -39418483.44 0.0285 0.0247

Mars -112633-02-05 16:34 J -39417744.96 -39417744.81 -39417744.66 0.1762 0.0072

Earth -112633-11-05 11:17 J -39417471.17 -39417471.03 -39417470.89 0.2581 0.1114

Moon -112633-11-05 12:58 J -39417471.10 -39417470.96 -39417470.82 0.2579 0.1209 *

Mars -112633-12-18 09:36 J -39417428.22 -39417428.10 -39417427.98 0.1750 0.0046

Uranus -112631-03-02 13:26 J -39416988.99 -39416988.94 -39416988.87 0.0132 0.0120

Uranus -112631-05-29 17:02 J -39416900.87 -39416900.79 -39416900.70 0.0132 0.0104

Uranus -112631-08-25 20:24 J -39416812.75 -39416812.65 -39416812.54 0.0132 0.0088

Uranus -112631-11-22 00:00 J -39416724.62 -39416724.50 -39416724.38 0.0132 0.0071

Uranus -112630-02-18 03:22 J -39416636.48 -39416636.36 -39416636.23 0.0132 0.0056

Uranus -112630-05-17 06:43 J -39416548.35 -39416548.22 -39416548.08 0.0131 0.0040

Jupiter -112630-08-12 18:00 J -39416460.87 -39416460.75 -39416460.62 0.0529 0.0227

Uranus -112630-08-13 10:05 J -39416460.21 -39416460.08 -39416459.94 0.0131 0.0024

Uranus -112630-11-09 13:26 J -39416372.08 -39416371.94 -39416371.80 0.0131 0.0009

Jupiter -112630-11-10 04:19 J -39416371.43 -39416371.32 -39416371.20 0.0530 0.0282

Uranus -112629-02-05 16:48 J -39416283.94 -39416283.80 -39416283.66 0.0131 0.0008

Uranus -112629-05-03 20:10 J -39416195.80 -39416195.66 -39416195.52 0.0131 0.0023

Earth -112629-05-07 05:31 J -39416192.36 -39416192.27 -39416192.18 0.2751 0.1685

Moon -112629-05-07 05:31 J -39416192.35 -39416192.27 -39416192.18 0.2758 0.1663 *

Venus -112629-06-01 07:41 J -39416167.26 -39416167.18 -39416167.11 0.3736 0.2933

Uranus -112629-07-30 23:17 J -39416107.66 -39416107.53 -39416107.39 0.0131 0.0039

Uranus -112629-10-27 02:38 J -39416019.51 -39416019.39 -39416019.26 0.0131 0.0053

Uranus -112628-01-23 06:00 J -39415931.37 -39415931.25 -39415931.13 0.0131 0.0068

Uranus -112628-04-21 09:07 J -39415843.22 -39415843.12 -39415843.01 0.0131 0.0084

Uranus -112628-07-18 12:29 J -39415755.07 -39415754.98 -39415754.89 0.0131 0.0099

Uranus -112628-10-14 15:36 J -39415666.92 -39415666.85 -39415666.78 0.0131 0.0113

Uranus -112627-01-10 18:29 J -39415578.74 -39415578.73 -39415578.70 0.0131 0.0128

Mars -112624-06-27 17:46 J -39414314.89 -39414314.76 -39414314.62 0.1757 0.0714

Jupiter -112624-06-28 18:58 J -39414313.88 -39414313.71 -39414313.54 0.0496 0.0102

Jupiter -112624-09-26 20:38 J -39414223.72 -39414223.64 -39414223.57 0.0495 0.0445

Venus -112624-12-16 07:41 J -39414143.31 -39414143.18 -39414143.05 0.3730 0.0474

Saturn -112623-03-15 13:55 J -39414054.03 -39414053.92 -39414053.81 0.0283 0.0206

Mars -112623-05-10 18:00 J -39413997.87 -39413997.75 -39413997.63 0.1755 0.0406

Earth -112623-05-17 02:38 J -39413991.47 -39413991.39 -39413991.31 0.2765 0.1889

Moon -112623-05-17 02:38 J -39413991.46 -39413991.39 -39413991.31 0.2757 0.1950 *

Saturn -112623-06-12 08:53 J -39413965.29 -39413965.13 -39413964.98 0.0282 0.0108

Saturn -112623-09-09 03:50 J -39413876.51 -39413876.34 -39413876.17 0.0281 0.0010

Saturn -112623-12-06 23:17 J -39413787.69 -39413787.53 -39413787.37 0.0279 0.0091

Saturn -112622-03-05 18:43 J -39413698.84 -39413698.72 -39413698.59 0.0278 0.0190

Mars -112621-04-15 06:58 J -39413292.29 -39413292.21 -39413292.14 0.1736 0.1350

Jupiter -112618-05-31 20:10 J -39412150.75 -39412150.66 -39412150.56 0.0529 0.0366

Venus -112618-07-02 08:10 J -39412119.27 -39412119.16 -39412119.05 0.3724 0.2082

Jupiter -112618-08-29 06:58 J -39412061.34 -39412061.21 -39412061.08 0.0530 0.0148

Earth -112616-05-10 00:00 J -39411441.60 -39411441.50 -39411441.39 0.2755 0.0746

Moon -112616-05-10 00:29 J -39411441.58 -39411441.48 -39411441.37 0.2760 0.0688 *

Mars -112615-11-17 19:41 J -39410884.77 -39410884.68 -39410884.58 0.1752 0.1320

Mars -112614-10-01 02:24 J -39410567.51 -39410567.40 -39410567.29 0.1760 0.0861

Mars -112613-10-24 15:50 J -39410177.94 -39410177.84 -39410177.74 0.1772 0.1342

Earth -112613-10-31 06:14 J -39410171.36 -39410171.24 -39410171.12 0.2588 0.1701

Moon -112613-10-31 07:12 J -39410171.32 -39410171.20 -39410171.07 0.2593 0.1527 *

Jupiter -112612-04-16 18:43 J -39410003.87 -39410003.72 -39410003.57 0.0496 0.0233

Jupiter -112612-07-15 19:41 J -39409913.81 -39409913.68 -39409913.54 0.0495 0.0309

Mars -112612-09-05 16:05 J -39409861.93 -39409861.83 -39409861.73 0.1741 0.0944

Moon -112610-05-19 20:38 J -39409240.65 -39409240.64 -39409240.63 0.2762 0.2738

Venus -112608-01-13 16:48 J -39408635.85 -39408635.80 -39408635.75 0.3641 0.3257

Saturn -112607-01-01 18:58 J -39408282.74 -39408282.71 -39408282.67 0.0277 0.0267

Saturn -112607-03-31 08:38 J -39408194.25 -39408194.14 -39408194.04 0.0278 0.0184

Saturn -112607-06-27 21:50 J -39408105.72 -39408105.59 -39408105.45 0.0279 0.0103

Saturn -112607-09-24 11:17 J -39408017.17 -39408017.03 -39408016.89 0.0280 0.0020

Saturn -112607-12-22 00:29 J -39407928.62 -39407928.48 -39407928.35 0.0282 0.0063

Jupiter -112606-03-19 23:17 J -39407840.58 -39407840.53 -39407840.48 0.0529 0.0492

Saturn -112606-03-20 13:26 J -39407840.06 -39407839.94 -39407839.82 0.0283 0.0144

Saturn -112606-06-17 02:10 J -39407751.48 -39407751.41 -39407751.32 0.0284 0.0226

Jupiter -112606-06-17 10:19 J -39407751.21 -39407751.07 -39407750.94 0.0530 0.0028

Jupiter -112606-09-14 20:10 J -39407661.67 -39407661.66 -39407661.65 0.0531 0.0527

Mars -112604-02-20 10:34 J -39407137.14 -39407137.06 -39407136.98 0.1764 0.1331

Mars -112603-03-16 16:05 J -39406747.98 -39406747.83 -39406747.69 0.1767 0.0648

Earth -112603-05-12 18:29 J -39406690.83 -39406690.73 -39406690.62 0.2758 0.0233

Moon -112603-05-12 19:26 J -39406690.80 -39406690.69 -39406690.58 0.2757 0.0239 *

Venus -112603-07-30 11:31 J -39406612.12 -39406612.02 -39406611.92 0.3646 0.1642

Mars -112602-01-27 00:58 J -39406431.57 -39406431.46 -39406431.34 0.1746 0.0527

Jupiter -112600-02-02 17:31 J -39405693.87 -39405693.77 -39405693.65 0.0497 0.0371

Jupiter -112600-05-03 18:14 J -39405603.90 -39405603.74 -39405603.58 0.0496 0.0166

Earth -112600-11-03 11:46 J -39405420.16 -39405420.01 -39405419.85 0.2584 0.0166

Moon -112600-11-03 13:41 J -39405420.09 -39405419.93 -39405419.78 0.2584 0.0153 *

Venus -112597-02-13 06:00 J -39404588.37 -39404588.25 -39404588.14 0.3651 0.0082

Moon -112596-05-05 15:22 J -39404140.91 -39404140.86 -39404140.81 0.2753 0.2442

Earth -112596-05-05 15:50 J -39404140.89 -39404140.84 -39404140.79 0.2748 0.2451 *

Jupiter -112594-04-05 13:41 J -39403441.06 -39403440.93 -39403440.80 0.0530 0.0096

Jupiter -112594-07-03 23:46 J -39403351.59 -39403351.51 -39403351.43 0.0531 0.0409

Saturn -112594-08-02 13:26 J -39403322.03 -39403321.94 -39403321.85 0.0283 0.0236

Mars -112594-08-06 17:02 J -39403317.94 -39403317.79 -39403317.64 0.1762 0.0013

Saturn -112594-10-30 08:10 J -39403233.30 -39403233.16 -39403233.01 0.0282 0.0139

Saturn -112593-01-27 03:07 J -39403144.53 -39403144.37 -39403144.20 0.0281 0.0041

Saturn -112593-04-24 22:34 J -39403055.73 -39403055.56 -39403055.40 0.0280 0.0059

Mars -112593-06-18 09:36 J -39403001.22 -39403001.10 -39403000.97 0.1750 0.0101

Saturn -112593-07-22 18:00 J -39402966.89 -39402966.75 -39402966.61 0.0279 0.0158

Saturn -112593-10-19 13:26 J -39402877.99 -39402877.94 -39402877.87 0.0278 0.0258

Venus -112592-08-29 00:14 J -39402564.59 -39402564.49 -39402564.39 0.3656 0.1473

Earth -112590-05-15 13:12 J -39401940.05 -39401939.95 -39401939.86 0.2762 0.1142

Moon -112590-05-15 13:41 J -39401940.03 -39401939.93 -39401939.84 0.2757 0.1243 *

Jupiter -112588-02-19 17:17 J -39401293.95 -39401293.78 -39401293.61 0.0496 0.0030

Uranus -112587-02-05 06:58 J -39400943.28 -39400943.21 -39400943.14 0.0147 0.0135

Uranus -112587-05-04 14:10 J -39400855.03 -39400854.91 -39400854.79 0.0147 0.0107

Uranus -112587-07-31 21:22 J -39400766.75 -39400766.61 -39400766.45 0.0147 0.0081

Uranus -112587-10-28 05:02 J -39400678.45 -39400678.29 -39400678.12 0.0147 0.0052

Earth -112587-11-06 17:46 J -39400668.89 -39400668.76 -39400668.63 0.2581 0.1423

Moon -112587-11-06 19:12 J -39400668.83 -39400668.70 -39400668.57 0.2578 0.1563 *

Uranus -112586-01-24 12:29 J -39400590.15 -39400589.98 -39400589.80 0.0148 0.0025

Venus -112586-03-14 18:14 J -39400540.80 -39400540.74 -39400540.67 0.3661 0.2977

Uranus -112586-04-22 20:10 J -39400501.84 -39400501.66 -39400501.48 0.0148 0.0005

Uranus -112586-07-20 03:50 J -39400413.51 -39400413.34 -39400413.16 0.0148 0.0033

Uranus -112586-10-16 11:31 J -39400325.18 -39400325.02 -39400324.85 0.0148 0.0061

Uranus -112585-01-12 19:12 J -39400236.83 -39400236.70 -39400236.55 0.0148 0.0091

Uranus -112585-04-10 02:53 J -39400148.47 -39400148.38 -39400148.26 0.0148 0.0120

Mars -112585-12-26 18:29 J -39399887.87 -39399887.73 -39399887.59 0.1757 0.0646

Mars -112584-11-08 18:14 J -39399570.86 -39399570.74 -39399570.62 0.1755 0.0355

Earth -112583-05-08 10:19 J -39399390.16 -39399390.07 -39399389.97 0.2751 0.1505

Moon -112583-05-08 10:34 J -39399390.15 -39399390.06 -39399389.97 0.2759 0.1537 *

Jupiter -112582-01-22 16:34 J -39399130.94 -39399130.81 -39399130.69 0.0529 0.0226

Jupiter -112582-04-22 02:53 J -39399041.50 -39399041.38 -39399041.27 0.0530 0.0283

Mars -112582-10-15 06:58 J -39398865.28 -39398865.21 -39398865.14 0.1736 0.1393

Saturn -112578-08-18 10:19 J -39397462.16 -39397462.07 -39397461.97 0.0279 0.0208

Saturn -112578-11-14 23:46 J -39397373.64 -39397373.51 -39397373.38 0.0280 0.0126

Saturn -112577-02-11 13:12 J -39397285.09 -39397284.95 -39397284.81 0.0281 0.0044

Saturn -112577-05-10 02:24 J -39397196.54 -39397196.40 -39397196.26 0.0282 0.0040

Moon -112577-05-17 07:26 J -39397189.26 -39397189.19 -39397189.11 0.2757 0.1995

Earth -112577-05-17 07:26 J -39397189.26 -39397189.19 -39397189.12 0.2765 0.2075 *

Saturn -112577-08-06 15:22 J -39397107.98 -39397107.86 -39397107.73 0.0283 0.0122

Saturn -112577-11-03 04:19 J -39397019.41 -39397019.32 -39397019.22 0.0284 0.0204

Jupiter -112577-12-08 16:34 J -39396983.97 -39396983.81 -39396983.64 0.0497 0.0106

Saturn -112576-01-30 17:17 J -39396930.78 -39396930.78 -39396930.78 0.0285 0.0285

Jupiter -112576-03-08 18:14 J -39396893.82 -39396893.74 -39396893.67 0.0496 0.0442

Mars -112575-05-18 20:10 J -39396457.76 -39396457.66 -39396457.55 0.1752 0.1259

Mars -112574-04-01 02:24 J -39396140.51 -39396140.40 -39396140.29 0.1760 0.0817

Mars -112573-04-24 16:19 J -39395750.92 -39395750.82 -39395750.73 0.1772 0.1405

Venus -112572-01-06 07:12 J -39395494.30 -39395494.20 -39395494.09 0.3735 0.2080

Mars -112572-03-06 16:05 J -39395434.93 -39395434.83 -39395434.73 0.1741 0.0987

Jupiter -112571-11-10 18:58 J -39394820.80 -39394820.71 -39394820.60 0.0529 0.0359

Jupiter -112570-02-08 05:46 J -39394731.39 -39394731.26 -39394731.13 0.0530 0.0155

Earth -112570-05-11 05:02 J -39394639.40 -39394639.29 -39394639.18 0.2755 0.0561

Moon -112570-05-11 05:31 J -39394639.37 -39394639.27 -39394639.16 0.2758 0.0493 *

Venus -112567-07-23 07:26 J -39393470.32 -39393470.19 -39393470.06 0.3728 0.0392

Neptune -112567-09-16 07:26 J -39393415.22 -39393415.19 -39393415.14 0.0088 0.0085

Earth -112567-11-01 12:43 J -39393369.10 -39393368.97 -39393368.84 0.2588 0.1396

Moon -112567-11-01 14:10 J -39393369.04 -39393368.91 -39393368.78 0.2591 0.1378 *

Neptune -112567-12-13 09:07 J -39393327.16 -39393327.12 -39393327.04 0.0088 0.0080

Neptune -112566-03-11 11:02 J -39393239.11 -39393239.04 -39393238.96 0.0088 0.0076

Neptune -112566-06-07 12:43 J -39393151.04 -39393150.97 -39393150.87 0.0088 0.0071

Neptune -112566-09-03 14:38 J -39393062.98 -39393062.89 -39393062.79 0.0088 0.0067

Neptune -112566-11-30 16:19 J -39392974.91 -39392974.82 -39392974.71 0.0088 0.0062

Neptune -112565-02-26 18:14 J -39392886.85 -39392886.74 -39392886.63 0.0088 0.0058

Neptune -112565-05-24 19:41 J -39392798.78 -39392798.68 -39392798.55 0.0088 0.0054

Neptune -112565-08-20 21:22 J -39392710.72 -39392710.61 -39392710.48 0.0088 0.0050

Mars -112565-08-21 10:34 J -39392710.14 -39392710.06 -39392709.97 0.1765 0.1286

Jupiter -112565-09-26 16:34 J -39392673.96 -39392673.81 -39392673.66 0.0497 0.0233

Neptune -112565-11-16 23:17 J -39392622.65 -39392622.53 -39392622.40 0.0088 0.0045

Saturn -112565-12-19 14:10 J -39392589.96 -39392589.91 -39392589.84 0.0283 0.0261

Jupiter -112565-12-25 17:31 J -39392583.90 -39392583.77 -39392583.63 0.0496 0.0309

Neptune -112564-02-13 00:58 J -39392534.58 -39392534.46 -39392534.32 0.0088 0.0040

Saturn -112564-03-18 09:07 J -39392501.25 -39392501.12 -39392500.98 0.0282 0.0164

Neptune -112564-05-12 02:53 J -39392446.51 -39392446.38 -39392446.25 0.0088 0.0036

Saturn -112564-06-15 04:05 J -39392412.49 -39392412.33 -39392412.16 0.0281 0.0065

Neptune -112564-08-08 04:19 J -39392358.45 -39392358.32 -39392358.18 0.0088 0.0032

Saturn -112564-09-11 23:17 J -39392323.70 -39392323.53 -39392323.36 0.0280 0.0034

Mars -112564-09-14 16:48 J -39392320.95 -39392320.80 -39392320.66 0.1767 0.0718

Neptune -112564-11-04 06:00 J -39392270.38 -39392270.25 -39392270.10 0.0088 0.0028

Saturn -112564-12-09 18:43 J -39392234.87 -39392234.72 -39392234.57 0.0279 0.0133

Neptune -112563-01-31 07:55 J -39392182.31 -39392182.17 -39392182.03 0.0088 0.0023

Saturn -112563-03-08 14:24 J -39392145.99 -39392145.90 -39392145.81 0.0278 0.0232

Neptune -112563-04-29 09:36 J -39392094.24 -39392094.10 -39392093.96 0.0088 0.0018

Neptune -112563-07-26 11:17 J -39392006.17 -39392006.03 -39392005.89 0.0088 0.0014

Mars -112563-07-28 00:58 J -39392004.57 -39392004.46 -39392004.34 0.1745 0.0569

Neptune -112563-10-22 12:43 J -39391918.11 -39391917.97 -39391917.82 0.0088 0.0011

Neptune -112562-01-18 14:38 J -39391830.04 -39391829.89 -39391829.75 0.0088 0.0006

Neptune -112562-04-16 16:19 J -39391741.97 -39391741.82 -39391741.68 0.0088 0.0003

Neptune -112562-07-13 17:46 J -39391653.90 -39391653.76 -39391653.61 0.0088 0.0004

Neptune -112562-10-09 19:26 J -39391565.83 -39391565.69 -39391565.55 0.0088 0.0007

Neptune -112561-01-05 21:07 J -39391477.76 -39391477.62 -39391477.48 0.0088 0.0012

Venus -112561-02-06 08:10 J -39391446.24 -39391446.16 -39391446.08 0.3722 0.2988

Neptune -112561-04-02 22:48 J -39391389.69 -39391389.55 -39391389.41 0.0088 0.0016

Neptune -112561-06-30 00:14 J -39391301.62 -39391301.49 -39391301.35 0.0088 0.0020

Neptune -112561-09-26 01:55 J -39391213.55 -39391213.42 -39391213.28 0.0088 0.0024

Neptune -112561-12-23 03:36 J -39391125.48 -39391125.35 -39391125.22 0.0088 0.0028

Neptune -112560-03-21 05:17 J -39391037.41 -39391037.28 -39391037.15 0.0088 0.0033

Neptune -112560-06-17 06:29 J -39390949.34 -39390949.23 -39390949.09 0.0088 0.0038

Neptune -112560-09-13 08:10 J -39390861.28 -39390861.16 -39390861.03 0.0088 0.0041

Neptune -112560-12-10 09:50 J -39390773.21 -39390773.09 -39390772.96 0.0088 0.0045

Neptune -112559-03-08 11:31 J -39390685.13 -39390685.02 -39390684.90 0.0088 0.0049

Neptune -112559-06-04 12:58 J -39390597.06 -39390596.96 -39390596.84 0.0088 0.0054

Jupiter -112559-08-29 21:07 J -39390510.66 -39390510.62 -39390510.58 0.0529 0.0500

Neptune -112559-08-31 14:38 J -39390508.99 -39390508.89 -39390508.78 0.0088 0.0058

Jupiter -112559-11-27 08:10 J -39390421.30 -39390421.16 -39390421.03 0.0530 0.0024

Neptune -112559-11-27 16:19 J -39390420.92 -39390420.82 -39390420.72 0.0088 0.0062

Neptune -112558-02-23 17:46 J -39390332.85 -39390332.76 -39390332.66 0.0088 0.0066

Jupiter -112558-02-24 17:46 J -39390331.78 -39390331.76 -39390331.73 0.0531 0.0520

Neptune -112558-05-22 18:58 J -39390244.78 -39390244.71 -39390244.61 0.0088 0.0071

Neptune -112558-08-18 20:38 J -39390156.70 -39390156.64 -39390156.55 0.0088 0.0074

Neptune -112558-11-14 22:05 J -39390068.63 -39390068.58 -39390068.50 0.0088 0.0079

Neptune -112557-02-10 23:46 J -39389980.55 -39389980.51 -39389980.45 0.0088 0.0082

Neptune -112557-05-09 01:12 J -39389892.46 -39389892.45 -39389892.41 0.0088 0.0086

Earth -112557-05-12 23:31 J -39389888.63 -39389888.52 -39389888.41 0.2759 0.0384

Moon -112557-05-13 00:14 J -39389888.60 -39389888.49 -39389888.38 0.2757 0.0479 *

Mars -112555-01-11 18:29 J -39389279.73 -39389279.73 -39389279.72 0.1769 0.1768

Mars -112554-02-04 17:31 J -39388890.92 -39388890.77 -39388890.62 0.1762 0.0049

Earth -112554-11-04 18:29 J -39388617.89 -39388617.73 -39388617.57 0.2584 0.0157

Moon -112554-11-04 20:10 J -39388617.82 -39388617.66 -39388617.50 0.2583 0.0384 *

Mars -112554-12-18 09:50 J -39388574.22 -39388574.09 -39388573.97 0.1750 0.0144

Jupiter -112553-07-15 16:19 J -39388363.93 -39388363.82 -39388363.71 0.0497 0.0363

Jupiter -112553-10-13 16:48 J -39388273.96 -39388273.80 -39388273.64 0.0496 0.0173

Venus -112552-08-20 15:07 J -39387962.95 -39387962.87 -39387962.79 0.3642 0.2660

Moon -112550-05-06 20:38 J -39387338.70 -39387338.64 -39387338.59 0.2755 0.2355

Earth -112550-05-06 20:38 J -39387338.70 -39387338.64 -39387338.58 0.2748 0.2267 *

Saturn -112548-01-04 13:12 J -39386730.03 -39386729.95 -39386729.86 0.0278 0.0225

Saturn -112548-04-03 02:38 J -39386641.51 -39386641.39 -39386641.26 0.0279 0.0143

Saturn -112548-06-30 16:05 J -39386552.97 -39386552.83 -39386552.69 0.0280 0.0061

Saturn -112548-09-27 05:17 J -39386464.42 -39386464.28 -39386464.14 0.0281 0.0022

Saturn -112548-12-24 18:29 J -39386375.86 -39386375.73 -39386375.60 0.0282 0.0103

Uranus -112548-12-24 18:00 J -39386375.77 -39386375.75 -39386375.71 0.0132 0.0129 *

Uranus -112547-03-22 21:22 J -39386287.67 -39386287.61 -39386287.52 0.0132 0.0113

Saturn -112547-03-23 07:26 J -39386287.29 -39386287.19 -39386287.09 0.0283 0.0185

Uranus -112547-06-19 01:12 J -39386199.55 -39386199.45 -39386199.36 0.0132 0.0096

Saturn -112547-06-19 20:24 J -39386198.70 -39386198.65 -39386198.61 0.0284 0.0266

Uranus -112547-09-15 04:19 J -39386111.42 -39386111.32 -39386111.20 0.0132 0.0081

Jupiter -112547-09-15 11:17 J -39386111.16 -39386111.03 -39386110.90 0.0530 0.0107

Uranus -112547-12-12 07:55 J -39386023.29 -39386023.17 -39386023.04 0.0132 0.0064

Jupiter -112547-12-13 21:22 J -39386021.70 -39386021.61 -39386021.52 0.0531 0.0399

Venus -112546-03-06 09:50 J -39385939.20 -39385939.09 -39385938.98 0.3647 0.1061

Uranus -112546-03-10 11:17 J -39385935.15 -39385935.03 -39385934.89 0.0131 0.0049

Uranus -112546-06-06 14:53 J -39385847.02 -39385846.88 -39385846.75 0.0131 0.0033

Uranus -112546-09-02 18:14 J -39385758.88 -39385758.74 -39385758.60 0.0131 0.0017

Uranus -112546-11-29 21:36 J -39385670.74 -39385670.60 -39385670.46 0.0131 0.0003

Uranus -112545-02-26 00:43 J -39385582.60 -39385582.47 -39385582.33 0.0131 0.0015

Uranus -112545-05-24 04:05 J -39385494.46 -39385494.33 -39385494.19 0.0131 0.0030

Mars -112545-06-26 18:43 J -39385460.86 -39385460.72 -39385460.57 0.1757 0.0593

Uranus -112545-08-20 07:12 J -39385406.32 -39385406.20 -39385406.06 0.0131 0.0046

Uranus -112545-11-16 10:34 J -39385318.18 -39385318.06 -39385317.93 0.0131 0.0060

Uranus -112544-02-12 13:55 J -39385230.03 -39385229.92 -39385229.81 0.0131 0.0075

Mars -112544-05-09 18:29 J -39385143.86 -39385143.73 -39385143.61 0.1755 0.0313

Uranus -112544-05-11 17:02 J -39385141.89 -39385141.79 -39385141.69 0.0131 0.0090

Earth -112544-05-15 18:00 J -39385137.85 -39385137.75 -39385137.66 0.2762 0.1323

Moon -112544-05-15 18:14 J -39385137.84 -39385137.74 -39385137.64 0.2755 0.1300 *

Uranus -112544-08-07 20:10 J -39385053.73 -39385053.66 -39385053.57 0.0131 0.0105

Uranus -112544-11-03 23:17 J -39384965.57 -39384965.53 -39384965.47 0.0131 0.0120

Mars -112542-04-15 06:58 J -39384438.27 -39384438.21 -39384438.14 0.1736 0.1436

Jupiter -112541-08-01 15:22 J -39383964.03 -39383963.86 -39383963.69 0.0496 0.0030

Venus -112541-09-19 04:05 J -39383915.44 -39383915.33 -39383915.21 0.3652 0.0517

Earth -112541-11-07 00:14 J -39383866.60 -39383866.49 -39383866.37 0.2580 0.1732

Moon -112541-11-07 01:12 J -39383866.57 -39383866.45 -39383866.33 0.2575 0.1711 *

Earth -112537-05-08 15:22 J -39382587.96 -39382587.86 -39382587.77 0.2752 0.1322

Moon -112537-05-08 15:36 J -39382587.95 -39382587.85 -39382587.75 0.2759 0.1241 *

Mars -112536-11-16 20:53 J -39382030.74 -39382030.63 -39382030.52 0.1752 0.1193

Venus -112535-04-04 22:19 J -39381891.66 -39381891.57 -39381891.47 0.3657 0.2027

Jupiter -112535-07-04 14:38 J -39381801.02 -39381800.89 -39381800.77 0.0529 0.0230

Saturn -112535-08-05 09:22 J -39381769.23 -39381769.11 -39381768.99 0.0283 0.0190

Mars -112535-09-30 02:38 J -39381713.50 -39381713.39 -39381713.28 0.1760 0.0765

Jupiter -112535-10-02 00:58 J -39381711.57 -39381711.46 -39381711.35 0.0531 0.0280

Saturn -112535-11-02 04:19 J -39381680.48 -39381680.32 -39381680.17 0.0282 0.0093

Saturn -112534-01-29 23:17 J -39381591.70 -39381591.53 -39381591.36 0.0281 0.0006

Saturn -112534-04-28 18:29 J -39381502.88 -39381502.73 -39381502.57 0.0280 0.0105

Saturn -112534-07-26 13:55 J -39381414.03 -39381413.92 -39381413.79 0.0278 0.0205

Mars -112534-10-24 16:48 J -39381323.88 -39381323.80 -39381323.71 0.1773 0.1470

Moon -112534-10-30 14:38 J -39381317.91 -39381317.89 -39381317.88 0.2597 0.2583

Mars -112533-09-04 16:19 J -39381007.92 -39381007.82 -39381007.73 0.1741 0.1034

Moon -112531-05-18 12:14 J -39380387.05 -39380386.99 -39380386.93 0.2759 0.2289

Earth -112531-05-18 12:29 J -39380387.04 -39380386.98 -39380386.92 0.2765 0.2256 *

Venus -112530-10-19 16:19 J -39379867.84 -39379867.82 -39379867.79 0.3662 0.3522

Jupiter -112529-05-20 14:24 J -39379654.06 -39379653.90 -39379653.73 0.0496 0.0107

Jupiter -112529-08-18 15:50 J -39379563.91 -39379563.84 -39379563.76 0.0495 0.0440

Mars -112525-02-20 10:48 J -39378283.14 -39378283.05 -39378282.96 0.1765 0.1238

Mars -112524-03-15 17:17 J -39377893.92 -39377893.78 -39377893.64 0.1767 0.0781

Earth -112524-05-11 09:50 J -39377837.20 -39377837.09 -39377836.98 0.2756 0.0376

Moon -112524-05-11 10:34 J -39377837.17 -39377837.06 -39377836.95 0.2757 0.0359 *

Mars -112523-01-26 01:12 J -39377577.57 -39377577.45 -39377577.34 0.1746 0.0614

Jupiter -112523-04-22 17:17 J -39377490.88 -39377490.78 -39377490.68 0.0529 0.0360

Jupiter -112523-07-21 04:05 J -39377401.46 -39377401.33 -39377401.21 0.0530 0.0154

Venus -112521-01-28 06:58 J -39376845.23 -39376845.21 -39376845.18 0.3739 0.3642

Earth -112521-11-01 19:12 J -39376566.84 -39376566.70 -39376566.56 0.2587 0.1100

Moon -112521-11-01 20:53 J -39376566.78 -39376566.63 -39376566.49 0.2588 0.0944 *

Saturn -112519-05-24 15:07 J -39375997.93 -39375997.87 -39375997.80 0.0278 0.0248

Saturn -112519-08-21 04:48 J -39375909.42 -39375909.30 -39375909.19 0.0279 0.0166

Saturn -112519-11-17 18:14 J -39375820.88 -39375820.74 -39375820.61 0.0280 0.0083

Saturn -112518-02-14 07:26 J -39375732.33 -39375732.19 -39375732.05 0.0281 0.0001

Saturn -112518-05-13 20:38 J -39375643.78 -39375643.64 -39375643.51 0.0282 0.0082

Saturn -112518-08-10 09:36 J -39375555.21 -39375555.10 -39375554.98 0.0284 0.0164

Saturn -112518-11-06 22:34 J -39375466.63 -39375466.56 -39375466.49 0.0285 0.0245

Jupiter -112517-03-08 13:55 J -39375344.07 -39375343.92 -39375343.78 0.0497 0.0241

Jupiter -112517-06-06 14:53 J -39375254.02 -39375253.88 -39375253.74 0.0496 0.0301

Mars -112516-07-12 18:43 J -39374852.75 -39374852.72 -39374852.70 0.1769 0.1720

Venus -112516-08-13 06:58 J -39374821.33 -39374821.21 -39374821.09 0.3733 0.1236

Mars -112515-08-05 18:00 J -39374463.90 -39374463.75 -39374463.59 0.1762 0.0114

Mars -112514-06-18 09:50 J -39374147.21 -39374147.09 -39374146.97 0.1750 0.0182

Jupiter -112511-02-08 19:55 J -39373180.72 -39373180.67 -39373180.63 0.0528 0.0494

Jupiter -112511-05-09 06:43 J -39373091.35 -39373091.22 -39373091.08 0.0530 0.0026

Earth -112511-05-14 04:19 J -39373086.42 -39373086.32 -39373086.21 0.2759 0.0577

Moon -112511-05-14 05:02 J -39373086.40 -39373086.29 -39373086.18 0.2756 0.0625 *

Jupiter -112511-08-06 16:34 J -39373001.83 -39373001.81 -39373001.79 0.0531 0.0523

Venus -112510-02-27 07:12 J -39372797.32 -39372797.20 -39372797.08 0.3727 0.1265

Earth -112508-11-05 00:58 J -39371815.61 -39371815.46 -39371815.30 0.2584 0.0466

Moon -112508-11-05 02:38 J -39371815.55 -39371815.39 -39371815.24 0.2581 0.0481 *

Saturn -112506-12-23 10:34 J -39371037.16 -39371037.06 -39371036.95 0.0283 0.0213

Jupiter -112506-12-26 13:41 J -39371034.04 -39371033.93 -39371033.81 0.0497 0.0368

Mars -112506-12-26 19:26 J -39371033.83 -39371033.69 -39371033.54 0.1757 0.0524 *

Saturn -112505-03-21 05:17 J -39370948.43 -39370948.28 -39370948.12 0.0281 0.0116

Jupiter -112505-03-25 14:10 J -39370944.06 -39370943.91 -39370943.74 0.0496 0.0170

Saturn -112505-06-18 00:29 J -39370859.65 -39370859.48 -39370859.31 0.0280 0.0018

Saturn -112505-09-14 19:41 J -39370770.84 -39370770.68 -39370770.51 0.0279 0.0081

Mars -112505-11-07 18:29 J -39370716.85 -39370716.73 -39370716.61 0.1755 0.0265

Saturn -112505-12-12 15:07 J -39370682.00 -39370681.87 -39370681.73 0.0278 0.0180

Moon -112504-05-07 01:41 J -39370536.50 -39370536.43 -39370536.36 0.2756 0.2027

Earth -112504-05-07 01:41 J -39370536.50 -39370536.43 -39370536.36 0.2749 0.2080 *

Uranus -112503-02-25 15:07 J -39370241.95 -39370241.87 -39370241.76 0.0147 0.0125

Uranus -112503-05-24 22:34 J -39370153.68 -39370153.56 -39370153.42 0.0147 0.0097

Uranus -112503-08-21 06:00 J -39370065.40 -39370065.25 -39370065.09 0.0147 0.0070

Mars -112503-10-14 07:12 J -39370011.26 -39370011.20 -39370011.14 0.1736 0.1479

Uranus -112503-11-17 13:41 J -39369977.10 -39369976.93 -39369976.76 0.0147 0.0042

Uranus -112502-02-13 21:07 J -39369888.80 -39369888.62 -39369888.44 0.0148 0.0014

Uranus -112502-05-13 04:48 J -39369800.48 -39369800.30 -39369800.12 0.0148 0.0015

Uranus -112502-08-09 12:14 J -39369712.15 -39369711.99 -39369711.81 0.0148 0.0044

Uranus -112502-11-05 20:10 J -39369623.82 -39369623.66 -39369623.50 0.0148 0.0072

Uranus -112501-02-02 03:50 J -39369535.47 -39369535.34 -39369535.21 0.0148 0.0101

Uranus -112501-04-30 11:46 J -39369447.09 -39369447.01 -39369446.93 0.0148 0.0130

Jupiter -112499-02-25 08:53 J -39368781.26 -39368781.13 -39368780.99 0.0530 0.0117

Jupiter -112499-05-25 19:12 J -39368691.79 -39368691.70 -39368691.62 0.0531 0.0390

Earth -112498-05-16 22:48 J -39368335.64 -39368335.55 -39368335.46 0.2763 0.1508

Moon -112498-05-16 23:02 J -39368335.63 -39368335.54 -39368335.45 0.2755 0.1543 *

Mars -112496-05-17 21:07 J -39367603.73 -39367603.62 -39367603.51 0.1752 0.1144

Venus -112495-03-27 13:26 J -39367290.03 -39367289.94 -39367289.84 0.3644 0.2069

Mars -112495-03-31 02:38 J -39367286.50 -39367286.39 -39367286.27 0.1760 0.0722

Earth -112495-11-08 06:58 J -39367064.30 -39367064.21 -39367064.11 0.2580 0.2044

Moon -112495-11-08 07:41 J -39367064.27 -39367064.18 -39367064.10 0.2574 0.2179 *

Mars -112494-04-24 17:17 J -39366896.85 -39366896.78 -39366896.70 0.1772 0.1531

Jupiter -112494-10-14 13:41 J -39366723.94 -39366723.93 -39366723.93 0.0497 0.0496

Jupiter -112493-01-12 13:41 J -39366634.10 -39366633.93 -39366633.76 0.0496 0.0034

Mars -112493-03-05 16:05 J -39366580.92 -39366580.83 -39366580.73 0.1741 0.1073

Pluto -112492-07-17 06:58 J -39366082.29 -39366082.21 -39366082.12 0.0060 0.0053

Pluto -112492-10-13 07:55 J -39365994.27 -39365994.17 -39365994.02 0.0060 0.0046

Pluto -112491-01-09 09:36 J -39365906.24 -39365906.10 -39365905.94 0.0060 0.0038

Pluto -112491-04-07 10:48 J -39365818.20 -39365818.05 -39365817.86 0.0060 0.0031

Earth -112491-05-09 20:10 J -39365785.76 -39365785.66 -39365785.56 0.2752 0.1138

Moon -112491-05-09 20:38 J -39365785.74 -39365785.64 -39365785.54 0.2757 0.1161 *

Pluto -112491-07-04 12:29 J -39365730.15 -39365729.98 -39365729.79 0.0060 0.0023

Pluto -112491-09-30 13:55 J -39365642.10 -39365641.92 -39365641.73 0.0060 0.0016

Pluto -112491-12-27 15:22 J -39365554.05 -39365553.86 -39365553.66 0.0060 0.0008

Pluto -112490-03-25 16:48 J -39365465.99 -39365465.80 -39365465.60 0.0060 0.0001

Pluto -112490-06-21 18:14 J -39365377.93 -39365377.74 -39365377.55 0.0060 0.0007

Pluto -112490-09-17 19:26 J -39365289.87 -39365289.69 -39365289.49 0.0060 0.0015

Venus -112490-10-11 07:55 J -39365266.28 -39365266.17 -39365266.05 0.3648 0.0493

Saturn -112490-10-11 18:14 J -39365265.78 -39365265.74 -39365265.70 0.0278 0.0264

Pluto -112490-12-14 21:07 J -39365201.80 -39365201.62 -39365201.44 0.0061 0.0023

Saturn -112489-01-08 07:55 J -39365177.28 -39365177.17 -39365177.06 0.0279 0.0182

Pluto -112489-03-11 22:19 J -39365113.73 -39365113.57 -39365113.40 0.0061 0.0031

Saturn -112489-04-05 21:22 J -39365088.75 -39365088.61 -39365088.48 0.0280 0.0100

Pluto -112489-06-07 23:31 J -39365025.65 -39365025.52 -39365025.35 0.0061 0.0039

Saturn -112489-07-03 10:34 J -39365000.20 -39365000.06 -39364999.92 0.0281 0.0018

Pluto -112489-09-04 00:43 J -39364937.57 -39364937.47 -39364937.32 0.0061 0.0047

Saturn -112489-09-29 23:46 J -39364911.65 -39364911.51 -39364911.37 0.0282 0.0065

Pluto -112489-12-01 02:38 J -39364849.47 -39364849.39 -39364849.30 0.0061 0.0054

Saturn -112489-12-27 12:58 J -39364823.08 -39364822.96 -39364822.85 0.0283 0.0147

Saturn -112488-03-26 01:41 J -39364734.50 -39364734.43 -39364734.34 0.0284 0.0229

Earth -112488-10-30 20:10 J -39364515.73 -39364515.66 -39364515.60 0.2591 0.2335

Moon -112488-10-30 21:22 J -39364515.68 -39364515.61 -39364515.54 0.2595 0.2297 *

Jupiter -112488-12-14 12:00 J -39364471.12 -39364471.00 -39364470.88 0.0529 0.0244

Jupiter -112487-03-13 22:19 J -39364381.68 -39364381.57 -39364381.45 0.0531 0.0268

Mars -112487-10-07 23:31 J -39364173.54 -39364173.52 -39364173.50 0.1747 0.1724

Mars -112486-08-21 11:02 J -39363856.14 -39363856.04 -39363855.95 0.1764 0.1186

Moon -112485-05-18 16:48 J -39363584.85 -39363584.80 -39363584.74 0.2760 0.2352

Earth -112485-05-18 17:17 J -39363584.83 -39363584.78 -39363584.73 0.2766 0.2442 *

Mars -112485-09-13 17:31 J -39363466.90 -39363466.77 -39363466.63 0.1767 0.0839

Venus -112484-04-26 02:24 J -39363242.51 -39363242.40 -39363242.29 0.3654 0.1070

Mars -112484-07-27 01:12 J -39363150.56 -39363150.45 -39363150.33 0.1745 0.0661

Neptune -112484-11-23 01:55 J -39363031.45 -39363031.42 -39363031.39 0.0089 0.0087

Neptune -112483-02-19 04:34 J -39362943.37 -39362943.31 -39362943.25 0.0089 0.0082

Neptune -112483-05-18 07:12 J -39362855.28 -39362855.20 -39362855.11 0.0089 0.0077

Neptune -112483-08-14 10:05 J -39362767.18 -39362767.08 -39362766.98 0.0089 0.0072

Neptune -112483-11-10 12:43 J -39362679.08 -39362678.97 -39362678.86 0.0089 0.0067

Neptune -112482-02-06 15:22 J -39362590.98 -39362590.86 -39362590.73 0.0089 0.0062

Neptune -112482-05-05 18:00 J -39362502.87 -39362502.75 -39362502.61 0.0089 0.0057

Neptune -112482-08-01 20:53 J -39362414.76 -39362414.63 -39362414.48 0.0089 0.0052

Neptune -112482-10-28 23:31 J -39362326.65 -39362326.52 -39362326.36 0.0089 0.0047

Jupiter -112482-10-31 12:14 J -39362324.16 -39362323.99 -39362323.83 0.0496 0.0109

Neptune -112481-01-25 02:38 J -39362238.54 -39362238.39 -39362238.24 0.0089 0.0041

Jupiter -112481-01-29 13:26 J -39362234.01 -39362233.94 -39362233.86 0.0495 0.0437

Neptune -112481-04-22 05:17 J -39362150.43 -39362150.28 -39362150.11 0.0089 0.0036

Neptune -112481-07-19 08:10 J -39362062.32 -39362062.16 -39362061.99 0.0089 0.0031

Neptune -112481-10-15 10:48 J -39361974.20 -39361974.05 -39361973.87 0.0089 0.0026

Neptune -112480-01-11 13:55 J -39361886.09 -39361885.92 -39361885.75 0.0089 0.0020

Neptune -112480-04-09 16:48 J -39361797.97 -39361797.80 -39361797.63 0.0089 0.0015

Neptune -112480-07-06 19:41 J -39361709.86 -39361709.68 -39361709.51 0.0089 0.0010

Neptune -112480-10-02 22:34 J -39361621.74 -39361621.56 -39361621.38 0.0089 0.0004

Neptune -112480-12-30 01:26 J -39361533.62 -39361533.44 -39361533.26 0.0089 0.0001

Neptune -112479-03-28 04:19 J -39361445.49 -39361445.32 -39361445.14 0.0089 0.0006

Neptune -112479-06-24 07:12 J -39361357.37 -39361357.20 -39361357.02 0.0089 0.0012

Neptune -112479-09-20 10:05 J -39361269.25 -39361269.08 -39361268.90 0.0089 0.0017

Venus -112479-11-09 20:24 J -39361218.72 -39361218.65 -39361218.57 0.3659 0.2579

Neptune -112479-12-17 12:58 J -39361181.12 -39361180.96 -39361180.78 0.0089 0.0023

Neptune -112478-03-15 16:05 J -39361093.00 -39361092.83 -39361092.66 0.0089 0.0028

Earth -112478-05-12 14:53 J -39361034.99 -39361034.88 -39361034.77 0.2756 0.0208

Moon -112478-05-12 15:36 J -39361034.96 -39361034.85 -39361034.74 0.2757 0.0070 *

Neptune -112478-06-11 18:43 J -39361004.87 -39361004.72 -39361004.54 0.0089 0.0034

Neptune -112478-09-07 21:50 J -39360916.74 -39360916.59 -39360916.42 0.0089 0.0039

Neptune -112478-12-05 00:43 J -39360828.61 -39360828.47 -39360828.30 0.0089 0.0045

Neptune -112477-03-02 03:50 J -39360740.48 -39360740.34 -39360740.19 0.0089 0.0050

Neptune -112477-05-29 06:43 J -39360652.35 -39360652.22 -39360652.07 0.0089 0.0056

Neptune -112477-08-25 09:50 J -39360564.21 -39360564.09 -39360563.95 0.0089 0.0061

Neptune -112477-11-21 12:43 J -39360476.07 -39360475.97 -39360475.84 0.0089 0.0067

Mars -112476-01-10 18:43 J -39360425.76 -39360425.72 -39360425.68 0.1770 0.1671

Neptune -112476-02-17 15:50 J -39360387.93 -39360387.84 -39360387.73 0.0089 0.0072

Saturn -112476-05-11 11:31 J -39360305.10 -39360305.02 -39360304.92 0.0283 0.0236

Neptune -112476-05-16 18:43 J -39360299.79 -39360299.72 -39360299.62 0.0089 0.0078

Saturn -112476-08-08 06:14 J -39360216.38 -39360216.24 -39360216.09 0.0282 0.0139

Neptune -112476-08-12 22:05 J -39360211.63 -39360211.58 -39360211.51 0.0089 0.0083

Jupiter -112476-10-02 15:07 J -39360160.97 -39360160.87 -39360160.77 0.0529 0.0368

Saturn -112476-11-05 01:12 J -39360127.61 -39360127.45 -39360127.28 0.0281 0.0042

Neptune -112476-11-09 01:12 J -39360123.45 -39360123.45 -39360123.45 0.0089 0.0089

Jupiter -112476-12-31 01:55 J -39360071.55 -39360071.42 -39360071.29 0.0530 0.0147

Saturn -112475-02-01 20:24 J -39360038.81 -39360038.65 -39360038.48 0.0280 0.0057

Mars -112475-02-03 18:43 J -39360036.87 -39360036.72 -39360036.57 0.1762 0.0180

Saturn -112475-05-01 15:50 J -39359949.98 -39359949.84 -39359949.70 0.0279 0.0156

Saturn -112475-07-29 11:31 J -39359861.09 -39359861.02 -39359860.95 0.0278 0.0255

Earth -112475-11-03 01:41 J -39359764.58 -39359764.43 -39359764.28 0.2587 0.0793

Moon -112475-11-03 03:36 J -39359764.51 -39359764.35 -39359764.20 0.2587 0.0690 *

Mars -112475-12-17 10:05 J -39359720.21 -39359720.08 -39359719.96 0.1750 0.0236

Jupiter -112470-08-19 11:31 J -39358014.17 -39358014.02 -39358013.88 0.0497 0.0245

Jupiter -112470-11-17 12:14 J -39357924.12 -39357923.99 -39357923.85 0.0496 0.0297

Mars -112466-06-26 19:55 J -39356606.82 -39356606.67 -39356606.52 0.1757 0.0465

Mars -112465-05-08 18:29 J -39356289.85 -39356289.73 -39356289.61 0.1755 0.0217

Earth -112465-05-14 09:22 J -39356284.22 -39356284.11 -39356284.01 0.2760 0.0755

Moon -112465-05-14 09:50 J -39356284.20 -39356284.09 -39356283.99 0.2754 0.0763 *

Venus -112465-09-03 06:43 J -39356172.31 -39356172.22 -39356172.14 0.3737 0.2811

Jupiter -112464-07-21 17:46 J -39355850.80 -39355850.76 -39355850.71 0.0528 0.0498

Jupiter -112464-10-19 04:48 J -39355761.43 -39355761.30 -39355761.16 0.0530 0.0023

Uranus -112463-01-14 01:55 J -39355674.47 -39355674.42 -39355674.36 0.0132 0.0122

Jupiter -112463-01-16 14:38 J -39355671.91 -39355671.89 -39355671.86 0.0531 0.0520

Uranus -112463-04-12 05:17 J -39355586.35 -39355586.28 -39355586.19 0.0132 0.0106

Mars -112463-04-14 07:12 J -39355584.26 -39355584.20 -39355584.15 0.1736 0.1519

Uranus -112463-07-09 08:53 J -39355498.23 -39355498.13 -39355498.02 0.0132 0.0090

Uranus -112463-10-05 12:14 J -39355410.10 -39355409.99 -39355409.86 0.0132 0.0074

Uranus -112462-01-01 15:50 J -39355321.96 -39355321.84 -39355321.71 0.0132 0.0057

Uranus -112462-03-30 19:12 J -39355233.83 -39355233.70 -39355233.56 0.0131 0.0042

Uranus -112462-06-26 22:34 J -39355145.69 -39355145.56 -39355145.42 0.0131 0.0026

Uranus -112462-09-23 01:55 J -39355057.56 -39355057.42 -39355057.28 0.0131 0.0011

Earth -112462-11-06 07:26 J -39355013.34 -39355013.19 -39355013.04 0.2583 0.0774

Moon -112462-11-06 08:38 J -39355013.29 -39355013.14 -39355012.99 0.2579 0.0928 *

Uranus -112462-12-20 05:17 J -39354969.42 -39354969.28 -39354969.14 0.0131 0.0006

Uranus -112461-03-17 08:38 J -39354881.28 -39354881.14 -39354881.00 0.0131 0.0021

Uranus -112461-06-13 12:00 J -39354793.14 -39354793.00 -39354792.87 0.0131 0.0036

Uranus -112461-09-09 15:07 J -39354704.99 -39354704.87 -39354704.74 0.0131 0.0051

Uranus -112461-12-06 18:29 J -39354616.85 -39354616.73 -39354616.61 0.0131 0.0067

Uranus -112460-03-04 21:22 J -39354528.70 -39354528.61 -39354528.49 0.0131 0.0082

Saturn -112460-05-27 09:50 J -39354445.18 -39354445.09 -39354444.99 0.0279 0.0204

Uranus -112460-06-01 00:43 J -39354440.56 -39354440.47 -39354440.37 0.0131 0.0097

Saturn -112460-08-23 23:17 J -39354356.65 -39354356.53 -39354356.40 0.0280 0.0122

Uranus -112460-08-28 04:05 J -39354352.40 -39354352.33 -39354352.26 0.0131 0.0111

Saturn -112460-11-20 12:43 J -39354268.11 -39354267.97 -39354267.83 0.0281 0.0039

Uranus -112460-11-24 07:12 J -39354264.23 -39354264.20 -39354264.16 0.0131 0.0126

Saturn -112459-02-17 01:55 J -39354179.56 -39354179.42 -39354179.28 0.0282 0.0044

Venus -112459-03-20 06:43 J -39354148.35 -39354148.22 -39354148.10 0.3731 0.0405

Saturn -112459-05-16 15:07 J -39354091.00 -39354090.87 -39354090.75 0.0283 0.0126

Saturn -112459-08-13 04:05 J -39354002.42 -39354002.33 -39354002.24 0.0284 0.0207

Moon -112458-05-08 06:43 J -39353734.30 -39353734.22 -39353734.14 0.2757 0.1944

Earth -112458-05-08 06:29 J -39353734.30 -39353734.23 -39353734.15 0.2749 0.1897 *

Jupiter -112458-06-07 10:48 J -39353704.16 -39353704.05 -39353703.94 0.0497 0.0378

Jupiter -112458-09-05 11:17 J -39353614.19 -39353614.03 -39353613.87 0.0496 0.0159

Mars -112457-11-15 21:50 J -39353176.71 -39353176.59 -39353176.48 0.1752 0.1078

Mars -112456-09-29 02:53 J -39352859.49 -39352859.38 -39352859.27 0.1760 0.0672

Mars -112455-10-23 18:00 J -39352469.82 -39352469.75 -39352469.69 0.1772 0.1600

Mars -112454-09-04 16:19 J -39352153.91 -39352153.82 -39352153.73 0.1741 0.1117

Venus -112454-10-04 07:12 J -39352124.31 -39352124.20 -39352124.10 0.3725 0.2161

Moon -112452-05-17 03:50 J -39351533.43 -39351533.34 -39351533.26 0.2756 0.1682

Earth -112452-05-17 03:50 J -39351533.43 -39351533.34 -39351533.26 0.2763 0.1694 *

Jupiter -112452-08-07 07:41 J -39351451.32 -39351451.18 -39351451.05 0.0529 0.0114

Jupiter -112452-11-04 17:46 J -39351361.85 -39351361.76 -39351361.67 0.0530 0.0393

Earth -112449-11-08 13:26 J -39350262.00 -39350261.94 -39350261.87 0.2580 0.2355

Moon -112449-11-08 13:55 J -39350261.99 -39350261.92 -39350261.85 0.2573 0.2274 *

Mars -112447-04-08 00:00 J -39349746.54 -39349746.50 -39349746.46 0.1747 0.1667

Saturn -112447-09-28 12:58 J -39349573.02 -39349572.96 -39349572.89 0.0283 0.0258

Saturn -112447-12-26 07:41 J -39349484.31 -39349484.18 -39349484.04 0.0282 0.0161

Mars -112446-02-19 11:02 J -39349429.14 -39349429.04 -39349428.95 0.1765 0.1144

Saturn -112446-03-25 02:38 J -39349395.55 -39349395.39 -39349395.22 0.0281 0.0064

Saturn -112446-06-21 21:50 J -39349306.76 -39349306.59 -39349306.42 0.0280 0.0035

Jupiter -112446-06-24 10:48 J -39349304.22 -39349304.05 -39349303.87 0.0496 0.0030

Saturn -112446-09-18 17:02 J -39349217.94 -39349217.79 -39349217.63 0.0279 0.0133

Saturn -112446-12-16 12:43 J -39349129.06 -39349128.97 -39349128.88 0.0278 0.0232

Mars -112445-03-14 18:14 J -39349039.87 -39349039.74 -39349039.60 0.1767 0.0907

Earth -112445-05-10 01:12 J -39348983.55 -39348983.45 -39348983.35 0.2753 0.0949

Moon -112445-05-10 01:55 J -39348983.53 -39348983.42 -39348983.32 0.2756 0.0831 *

Mars -112444-01-25 01:12 J -39348723.56 -39348723.45 -39348723.34 0.1746 0.0700

Venus -112444-04-17 17:02 J -39348640.85 -39348640.79 -39348640.73 0.3640 0.3090

Earth -112442-11-01 02:38 J -39347713.48 -39347713.39 -39347713.29 0.2590 0.2036

Moon -112442-11-01 04:05 J -39347713.43 -39347713.33 -39347713.22 0.2592 0.1856 *

Jupiter -112440-05-26 09:36 J -39347141.22 -39347141.10 -39347140.98 0.0529 0.0253

Jupiter -112440-08-23 20:10 J -39347051.78 -39347051.66 -39347051.55 0.0530 0.0258

Moon -112439-05-19 21:36 J -39346782.63 -39346782.60 -39346782.57 0.2762 0.2593

Earth -112439-05-19 22:05 J -39346782.61 -39346782.58 -39346782.54 0.2766 0.2629 *

Venus -112439-11-01 11:46 J -39346617.12 -39346617.01 -39346616.91 0.3645 0.1481

Mars -112437-07-11 18:58 J -39345998.75 -39345998.71 -39345998.66 0.1769 0.1617

Mars -112436-08-04 19:12 J -39345609.86 -39345609.70 -39345609.55 0.1762 0.0242

Mars -112435-06-17 10:05 J -39345293.20 -39345293.08 -39345292.96 0.1750 0.0273

Jupiter -112434-04-12 10:19 J -39344994.24 -39344994.07 -39344993.90 0.0497 0.0107

Jupiter -112434-07-11 11:46 J -39344904.09 -39344904.01 -39344903.93 0.0496 0.0440

Venus -112433-05-17 06:14 J -39344593.35 -39344593.24 -39344593.13 0.3650 0.0093

Earth -112432-05-12 19:41 J -39344232.79 -39344232.68 -39344232.57 0.2757 0.0024

Moon -112432-05-12 20:24 J -39344232.76 -39344232.65 -39344232.54 0.2756 0.0032 *

Saturn -112431-10-14 12:58 J -39343713.04 -39343712.96 -39343712.86 0.0278 0.0220

Saturn -112430-01-11 02:38 J -39343624.51 -39343624.39 -39343624.26 0.0279 0.0137

Saturn -112430-04-09 16:05 J -39343535.97 -39343535.83 -39343535.69 0.0281 0.0054

Saturn -112430-07-07 05:17 J -39343447.42 -39343447.28 -39343447.14 0.0282 0.0028

Saturn -112430-10-03 18:29 J -39343358.86 -39343358.73 -39343358.60 0.0283 0.0110

Saturn -112430-12-31 07:26 J -39343270.29 -39343270.19 -39343270.09 0.0284 0.0192

Saturn -112429-03-28 20:24 J -39343181.68 -39343181.65 -39343181.61 0.0285 0.0273

Earth -112429-11-03 08:10 J -39342962.31 -39342962.16 -39342962.00 0.2586 0.0492

Moon -112429-11-03 09:50 J -39342962.24 -39342962.09 -39342961.93 0.2586 0.0375 *

Jupiter -112428-03-14 12:29 J -39342831.07 -39342830.98 -39342830.89 0.0529 0.0382

Jupiter -112428-06-11 23:17 J -39342741.66 -39342741.53 -39342741.40 0.0530 0.0133

Venus -112428-12-01 00:29 J -39342569.58 -39342569.48 -39342569.38 0.3655 0.1623

Mars -112427-12-25 20:24 J -39342179.80 -39342179.65 -39342179.50 0.1757 0.0407

Mars -112426-11-07 18:43 J -39341862.84 -39341862.72 -39341862.60 0.1755 0.0167

Moon -112425-05-05 16:34 J -39341682.83 -39341682.81 -39341682.79 0.2753 0.2682

Earth -112425-05-05 16:48 J -39341682.82 -39341682.80 -39341682.77 0.2746 0.2663 *

Mars -112424-10-13 07:12 J -39341157.25 -39341157.20 -39341157.15 0.1736 0.1563

Jupiter -112422-01-29 08:53 J -39340684.27 -39340684.13 -39340683.98 0.0497 0.0249

Jupiter -112422-04-29 09:50 J -39340594.23 -39340594.09 -39340593.95 0.0496 0.0292

Venus -112422-06-16 18:43 J -39340545.78 -39340545.72 -39340545.67 0.3660 0.3120

Uranus -112420-12-19 15:50 J -39339628.87 -39339628.84 -39339628.79 0.0147 0.0143

Uranus -112419-03-17 23:02 J -39339540.63 -39339540.54 -39339540.42 0.0147 0.0116

Earth -112419-05-15 14:10 J -39339482.01 -39339481.91 -39339481.81 0.2760 0.0935

Moon -112419-05-15 14:38 J -39339482.00 -39339481.89 -39339481.79 0.2753 0.1021 *

Uranus -112419-06-14 06:43 J -39339452.36 -39339452.22 -39339452.08 0.0147 0.0089

Uranus -112419-09-10 13:55 J -39339364.07 -39339363.92 -39339363.75 0.0147 0.0061

Uranus -112419-12-07 21:22 J -39339275.78 -39339275.61 -39339275.43 0.0148 0.0034

Uranus -112418-03-06 05:02 J -39339187.47 -39339187.29 -39339187.11 0.0148 0.0005

Uranus -112418-06-02 12:43 J -39339099.15 -39339098.97 -39339098.79 0.0148 0.0023

Uranus -112418-08-29 20:10 J -39339010.82 -39339010.66 -39339010.48 0.0148 0.0052

Uranus -112418-11-26 03:50 J -39338922.48 -39338922.34 -39338922.18 0.0148 0.0081

Saturn -112417-02-15 14:24 J -39338840.92 -39338840.90 -39338840.87 0.0284 0.0279

Uranus -112417-02-22 11:31 J -39338834.13 -39338834.02 -39338833.89 0.0148 0.0110

Saturn -112417-05-14 09:07 J -39338752.25 -39338752.12 -39338751.99 0.0282 0.0182

Mars -112417-05-16 22:19 J -39338749.70 -39338749.57 -39338749.45 0.1752 0.1018

Uranus -112417-05-20 19:26 J -39338745.74 -39338745.69 -39338745.62 0.0148 0.0139

Saturn -112417-08-11 03:50 J -39338663.50 -39338663.34 -39338663.17 0.0281 0.0085

Saturn -112417-11-07 23:02 J -39338574.71 -39338574.54 -39338574.37 0.0280 0.0014

Jupiter -112417-12-31 15:36 J -39338520.89 -39338520.85 -39338520.82 0.0529 0.0507

Saturn -112416-02-04 18:14 J -39338485.90 -39338485.74 -39338485.58 0.0279 0.0112

Mars -112416-03-30 02:53 J -39338432.49 -39338432.38 -39338432.26 0.1760 0.0627

Jupiter -112416-03-31 02:38 J -39338431.52 -39338431.39 -39338431.25 0.0530 0.0014

Saturn -112416-05-04 13:41 J -39338397.04 -39338396.93 -39338396.81 0.0278 0.0210

Jupiter -112416-06-28 12:29 J -39338342.00 -39338341.98 -39338341.94 0.0531 0.0514

Earth -112416-11-06 14:10 J -39338211.06 -39338210.91 -39338210.77 0.2583 0.1084

Moon -112416-11-06 15:07 J -39338211.02 -39338210.87 -39338210.73 0.2577 0.1109 *

Mars -112415-04-23 18:29 J -39338042.78 -39338042.73 -39338042.68 0.1773 0.1661

Mars -112414-03-05 16:19 J -39337726.91 -39337726.82 -39337726.73 0.1741 0.1161

Earth -112412-05-08 11:31 J -39336932.11 -39336932.02 -39336931.94 0.2750 0.1712

Moon -112412-05-08 11:46 J -39336932.10 -39336932.01 -39336931.92 0.2756 0.1665 *

Jupiter -112411-11-17 08:24 J -39336374.25 -39336374.15 -39336374.04 0.0497 0.0382

Jupiter -112410-02-15 08:38 J -39336284.30 -39336284.14 -39336283.97 0.0496 0.0154

Venus -112408-04-10 06:14 J -39335499.35 -39335499.24 -39335499.13 0.3735 0.1969

Mars -112408-10-07 00:29 J -39335319.54 -39335319.48 -39335319.42 0.1747 0.1604

Mars -112407-08-20 11:17 J -39335002.13 -39335002.03 -39335001.94 0.1765 0.1091

Moon -112406-05-18 08:24 J -39334731.23 -39334731.15 -39334731.07 0.2757 0.1821

Earth -112406-05-18 08:38 J -39334731.22 -39334731.14 -39334731.06 0.2763 0.1874 *

Mars -112406-09-13 18:58 J -39334612.84 -39334612.71 -39334612.58 0.1767 0.0974

Mars -112405-07-26 01:26 J -39334296.55 -39334296.44 -39334296.33 0.1745 0.0747

Jupiter -112404-01-17 05:46 J -39334121.40 -39334121.26 -39334121.13 0.0529 0.0118

Jupiter -112404-04-16 15:50 J -39334031.93 -39334031.84 -39334031.75 0.0530 0.0390

Venus -112403-10-25 06:14 J -39333475.37 -39333475.24 -39333475.11 0.3729 0.0495

Neptune -112402-03-17 04:19 J -39333332.32 -39333332.32 -39333332.30 0.0088 0.0088

Neptune -112402-06-13 06:14 J -39333244.28 -39333244.24 -39333244.19 0.0088 0.0084

Neptune -112402-09-09 07:41 J -39333156.22 -39333156.18 -39333156.10 0.0088 0.0080

Neptune -112402-12-06 09:50 J -39333068.16 -39333068.09 -39333068.01 0.0088 0.0075

Saturn -112401-03-02 14:53 J -39332980.94 -39332980.88 -39332980.81 0.0278 0.0242

Neptune -112401-03-03 11:31 J -39332980.10 -39332980.02 -39332979.92 0.0088 0.0070

Saturn -112401-05-30 04:34 J -39332892.43 -39332892.31 -39332892.19 0.0279 0.0160

Neptune -112401-05-30 13:26 J -39332892.04 -39332891.94 -39332891.84 0.0088 0.0066

Neptune -112401-08-26 14:53 J -39332803.97 -39332803.88 -39332803.76 0.0088 0.0062

Saturn -112401-08-26 18:00 J -39332803.89 -39332803.75 -39332803.61 0.0281 0.0077 *

Neptune -112401-11-22 17:02 J -39332715.90 -39332715.79 -39332715.68 0.0088 0.0057

Saturn -112401-11-23 07:12 J -39332715.34 -39332715.20 -39332715.05 0.0282 0.0009

Neptune -112400-02-18 18:29 J -39332627.84 -39332627.73 -39332627.60 0.0088 0.0053

Saturn -112400-02-19 20:24 J -39332626.78 -39332626.65 -39332626.51 0.0283 0.0088

Neptune -112400-05-17 20:10 J -39332539.77 -39332539.66 -39332539.53 0.0088 0.0048

Saturn -112400-05-19 09:22 J -39332538.21 -39332538.11 -39332537.99 0.0284 0.0170

Neptune -112400-08-13 22:05 J -39332451.70 -39332451.58 -39332451.45 0.0088 0.0044

Saturn -112400-08-15 22:34 J -39332449.63 -39332449.56 -39332449.50 0.0285 0.0251

Neptune -112400-11-09 23:46 J -39332363.64 -39332363.51 -39332363.38 0.0088 0.0039

Neptune -112399-02-06 01:26 J -39332275.57 -39332275.44 -39332275.30 0.0088 0.0035

Neptune -112399-05-05 03:07 J -39332187.50 -39332187.37 -39332187.23 0.0088 0.0031

Earth -112399-05-11 06:00 J -39332181.35 -39332181.25 -39332181.14 0.2753 0.0767

Moon -112399-05-11 06:43 J -39332181.32 -39332181.22 -39332181.11 0.2756 0.0762 *

Neptune -112399-08-01 04:48 J -39332099.43 -39332099.30 -39332099.15 0.0088 0.0026

Neptune -112399-10-28 06:29 J -39332011.36 -39332011.23 -39332011.08 0.0088 0.0022

Jupiter -112399-12-04 07:55 J -39331974.35 -39331974.17 -39331974.00 0.0496 0.0019

Neptune -112398-01-24 08:24 J -39331923.29 -39331923.15 -39331923.01 0.0088 0.0018

Neptune -112398-04-22 10:05 J -39331835.22 -39331835.08 -39331834.94 0.0088 0.0013

Pluto   -112398-05-05 17:02 J -39331821.85 -39331821.79 -39331821.70 0.0084 0.0071

Neptune -112398-07-19 11:31 J -39331747.16 -39331747.02 -39331746.87 0.0088 0.0010

Pluto   -112398-08-01 18:29 J -39331733.82 -39331733.73 -39331733.62 0.0084 0.0056

Neptune -112398-10-15 13:12 J -39331659.09 -39331658.95 -39331658.80 0.0088 0.0006

Pluto   -112398-10-28 19:41 J -39331645.79 -39331645.68 -39331645.55 0.0084 0.0041

Mars   -112397-01-10 18:58 J -39331571.76 -39331571.71 -39331571.65 0.1770 0.1574

Neptune -112397-01-11 14:53 J -39331571.02 -39331570.88 -39331570.73 0.0088 0.0003

Pluto   -112397-01-24 21:07 J -39331557.74 -39331557.62 -39331557.49 0.0084 0.0027

Neptune -112397-04-08 16:34 J -39331482.95 -39331482.81 -39331482.66 0.0088 0.0005

Pluto   -112397-04-21 22:34 J -39331469.70 -39331469.56 -39331469.43 0.0084 0.0012

Venus   -112397-05-10 06:58 J -39331451.28 -39331451.21 -39331451.13 0.3723 0.3054

Neptune -112397-07-05 18:14 J -39331394.88 -39331394.74 -39331394.59 0.0088 0.0008

Pluto   -112397-07-18 23:46 J -39331381.64 -39331381.51 -39331381.38 0.0084 0.0002

Neptune -112397-10-01 19:55 J -39331306.81 -39331306.67 -39331306.53 0.0088 0.0012

Pluto   -112397-10-15 00:58 J -39331293.59 -39331293.46 -39331293.33 0.0084 0.0017

Neptune -112397-12-28 21:36 J -39331218.74 -39331218.60 -39331218.46 0.0088 0.0017

Pluto   -112396-01-11 02:10 J -39331205.53 -39331205.41 -39331205.28 0.0084 0.0031

Mars   -112396-02-02 19:41 J -39331182.83 -39331182.68 -39331182.53 0.1762 0.0301

Neptune -112396-03-26 23:02 J -39331130.67 -39331130.54 -39331130.40 0.0088 0.0021

Pluto   -112396-04-09 03:22 J -39331117.47 -39331117.36 -39331117.24 0.0083 0.0045

Neptune -112396-06-23 00:43 J -39331042.60 -39331042.47 -39331042.33 0.0088 0.0025

Pluto   -112396-07-06 04:34 J -39331029.40 -39331029.31 -39331029.21 0.0083 0.0059

Neptune -112396-09-19 02:24 J -39330954.53 -39330954.40 -39330954.27 0.0088 0.0029

Pluto   -112396-10-02 05:46 J -39330941.31 -39330941.26 -39330941.19 0.0083 0.0073

Earth   -112396-11-01 09:07 J -39330911.23 -39330911.12 -39330911.00 0.2590 0.1732

Moon   -112396-11-01 10:48 J -39330911.16 -39330911.05 -39330910.93 0.2591 0.1712 *

Neptune -112396-12-16 04:05 J -39330866.46 -39330866.33 -39330866.20 0.0088 0.0034

Mars -112396-12-16 10:05 J -39330866.20 -39330866.08 -39330865.96 0.1750 0.0318 *

Neptune -112395-03-14 05:31 J -39330778.39 -39330778.27 -39330778.14 0.0088 0.0038

Neptune -112395-06-10 06:58 J -39330690.32 -39330690.21 -39330690.08 0.0088 0.0042

Neptune -112395-09-06 08:38 J -39330602.25 -39330602.14 -39330602.01 0.0088 0.0046

Neptune -112395-12-03 10:05 J -39330514.18 -39330514.08 -39330513.95 0.0088 0.0051

Neptune -112394-03-01 11:46 J -39330426.11 -39330426.01 -39330425.89 0.0088 0.0055

Neptune -112394-05-28 13:26 J -39330338.04 -39330337.94 -39330337.83 0.0088 0.0058

Neptune -112394-08-24 15:07 J -39330249.97 -39330249.87 -39330249.77 0.0088 0.0063

Neptune -112394-11-20 16:34 J -39330161.90 -39330161.81 -39330161.71 0.0088 0.0067

Neptune -112393-02-16 18:14 J -39330073.82 -39330073.74 -39330073.66 0.0088 0.0071

Neptune -112393-05-14 19:41 J -39329985.75 -39329985.68 -39329985.60 0.0088 0.0075

Moon -112393-05-20 02:24 J -39329980.41 -39329980.40 -39329980.39 0.2762 0.2730

Neptune -112393-08-10 21:22 J -39329897.67 -39329897.61 -39329897.55 0.0088 0.0079

Jupiter -112393-11-05 08:10 J -39329811.28 -39329811.16 -39329811.03 0.0529 0.0250

Neptune -112393-11-06 22:34 J -39329809.59 -39329809.56 -39329809.50 0.0088 0.0083

Jupiter -112392-02-02 18:43 J -39329721.84 -39329721.72 -39329721.60 0.0530 0.0261

Neptune -112392-02-03 00:00 J -39329721.50 -39329721.50 -39329721.46 0.0088 0.0087

Saturn -112388-10-01 10:34 J -39328020.17 -39328020.06 -39328019.95 0.0282 0.0204

Venus -112388-11-22 15:22 J -39327967.94 -39327967.86 -39327967.78 0.3642 0.2493

Saturn -112388-12-29 05:17 J -39327931.43 -39327931.28 -39327931.12 0.0281 0.0108

Saturn -112387-03-28 00:14 J -39327842.66 -39327842.49 -39327842.32 0.0280 0.0011

Saturn -112387-06-24 19:26 J -39327753.85 -39327753.69 -39327753.52 0.0279 0.0089

Mars -112387-06-25 20:53 J -39327752.78 -39327752.63 -39327752.48 0.1757 0.0344

Saturn -112387-09-21 14:53 J -39327665.00 -39327664.88 -39327664.75 0.0278 0.0187

Jupiter -112387-09-22 07:26 J -39327664.35 -39327664.19 -39327664.02 0.0497 0.0115

Jupiter -112387-12-21 08:53 J -39327574.21 -39327574.13 -39327574.05 0.0496 0.0432

Mars -112386-05-08 18:43 J -39327435.85 -39327435.72 -39327435.60 0.1755 0.0135

Earth -112386-05-14 00:43 J -39327430.58 -39327430.47 -39327430.37 0.2757 0.0212

Moon -112386-05-14 01:12 J -39327430.56 -39327430.45 -39327430.34 0.2753 0.0301 *

Mars -112384-04-13 07:12 J -39326730.24 -39326730.20 -39326730.15 0.1736 0.1601

Earth -112383-11-04 14:53 J -39326160.04 -39326159.88 -39326159.72 0.2586 0.0183

Moon -112383-11-04 16:19 J -39326159.98 -39326159.82 -39326159.66 0.2583 0.0052 *

Venus -112382-06-08 10:05 J -39325944.19 -39325944.08 -39325943.97 0.3646 0.0901

Jupiter -112381-08-24 10:19 J -39325501.16 -39325501.07 -39325500.98 0.0529 0.0390

Jupiter -112381-11-21 21:07 J -39325411.75 -39325411.62 -39325411.49 0.0530 0.0125

Uranus -112380-11-07 06:14 J -39325061.24 -39325061.24 -39325061.22 0.0132 0.0132

Uranus -112379-02-03 09:50 J -39324973.15 -39324973.09 -39324973.02 0.0132 0.0115

Uranus -112379-05-02 13:26 J -39324885.03 -39324884.94 -39324884.85 0.0132 0.0099

Moon -112379-05-06 21:36 J -39324880.64 -39324880.60 -39324880.56 0.2754 0.2527

Earth -112379-05-06 21:50 J -39324880.64 -39324880.59 -39324880.55 0.2746 0.2478 *

Uranus -112379-07-29 16:48 J -39324796.91 -39324796.80 -39324796.69 0.0132 0.0083

Uranus -112379-10-25 20:10 J -39324708.78 -39324708.66 -39324708.53 0.0132 0.0067

Uranus -112378-01-21 23:31 J -39324620.64 -39324620.52 -39324620.38 0.0132 0.0051

Uranus -112378-04-20 03:07 J -39324532.51 -39324532.37 -39324532.24 0.0131 0.0035

Uranus -112378-07-17 06:29 J -39324444.37 -39324444.23 -39324444.09 0.0131 0.0020

Uranus -112378-10-13 09:50 J -39324356.23 -39324356.09 -39324355.95 0.0131 0.0004

Mars -112378-11-15 22:34 J -39324322.68 -39324322.56 -39324322.43 0.1752 0.0961

Uranus -112377-01-09 12:58 J -39324268.09 -39324267.96 -39324267.81 0.0131 0.0013

Uranus -112377-04-06 16:19 J -39324179.95 -39324179.82 -39324179.68 0.0131 0.0027

Uranus -112377-07-03 19:41 J -39324091.81 -39324091.68 -39324091.55 0.0131 0.0042

Mars -112377-09-28 03:07 J -39324005.49 -39324005.37 -39324005.25 0.1760 0.0575

Uranus -112377-09-29 23:02 J -39324003.67 -39324003.54 -39324003.42 0.0131 0.0058

Venus -112377-12-22 04:19 J -39323920.43 -39323920.32 -39323920.20 0.3652 0.0660

Uranus -112377-12-27 02:10 J -39323915.52 -39323915.41 -39323915.29 0.0131 0.0073

Uranus -112376-03-25 05:17 J -39323827.38 -39323827.28 -39323827.17 0.0131 0.0088

Uranus -112376-06-21 08:38 J -39323739.23 -39323739.14 -39323739.06 0.0131 0.0102

Uranus -112376-09-17 11:46 J -39323651.07 -39323651.01 -39323650.95 0.0131 0.0117

Mars -112376-10-22 19:12 J -39323615.73 -39323615.70 -39323615.67 0.1772 0.1729

Jupiter -112375-07-11 07:12 J -39323354.35 -39323354.20 -39323354.06 0.0497 0.0247

Mars -112375-09-03 16:34 J -39323299.90 -39323299.81 -39323299.73 0.1741 0.1204

Jupiter -112375-10-09 07:55 J -39323264.31 -39323264.17 -39323264.03 0.0496 0.0294

Earth -112373-05-15 18:58 J -39322679.80 -39322679.71 -39322679.61 0.2761 0.1129

Moon -112373-05-15 19:26 J -39322679.80 -39322679.69 -39322679.59 0.2754 0.1088 *

Saturn -112372-07-20 18:00 J -39322248.80 -39322248.75 -39322248.69 0.0278 0.0258

Saturn -112372-10-17 07:41 J -39322160.29 -39322160.18 -39322160.07 0.0279 0.0176

Saturn -112371-01-13 21:07 J -39322071.75 -39322071.62 -39322071.48 0.0280 0.0093

Saturn -112371-04-12 10:34 J -39321983.20 -39321983.06 -39321982.92 0.0281 0.0011

Venus -112371-07-07 22:34 J -39321896.65 -39321896.56 -39321896.47 0.3657 0.2178

Saturn -112371-07-09 23:46 J -39321894.65 -39321894.51 -39321894.37 0.0282 0.0072

Saturn -112371-10-06 12:58 J -39321806.08 -39321805.96 -39321805.85 0.0283 0.0154

Saturn -112370-01-03 01:41 J -39321717.50 -39321717.43 -39321717.35 0.0284 0.0236

Earth -112370-11-07 20:38 J -39321408.77 -39321408.64 -39321408.51 0.2582 0.1392

Moon -112370-11-07 21:22 J -39321408.74 -39321408.61 -39321408.48 0.2576 0.1454 *

Jupiter -112369-06-12 12:58 J -39321190.98 -39321190.96 -39321190.94 0.0528 0.0521

Jupiter -112369-09-10 00:00 J -39321101.63 -39321101.50 -39321101.36 0.0530 0.0016

Jupiter -112369-12-08 10:05 J -39321012.12 -39321012.08 -39321012.04 0.0531 0.0500

Mars -112368-04-07 00:58 J -39320892.53 -39320892.46 -39320892.40 0.1747 0.1551

Mars -112367-02-18 11:17 J -39320575.13 -39320575.03 -39320574.93 0.1764 0.1043

Mars -112366-03-14 19:12 J -39320185.82 -39320185.70 -39320185.57 0.1767 0.1027

Earth -112366-05-09 16:19 J -39320129.91 -39320129.82 -39320129.73 0.2750 0.1531

Moon -112366-05-09 17:02 J -39320129.89 -39320129.79 -39320129.70 0.2755 0.1480 *

Venus -112365-01-21 16:48 J -39319872.81 -39319872.80 -39319872.80 0.3662 0.3653

Mars -112365-01-25 01:26 J -39319869.55 -39319869.44 -39319869.33 0.1746 0.0792

Jupiter -112363-04-29 05:46 J -39319044.36 -39319044.26 -39319044.15 0.0497 0.0388

Jupiter -112363-07-28 06:14 J -39318954.41 -39318954.24 -39318954.08 0.0496 0.0148

Moon -112360-05-18 12:58 J -39317929.03 -39317928.96 -39317928.88 0.2758 0.2065

Earth -112360-05-18 13:26 J -39317929.01 -39317928.94 -39317928.87 0.2764 0.2059 *

Saturn -112358-02-18 12:14 J -39317288.09 -39317287.99 -39317287.89 0.0283 0.0224

Saturn -112358-05-18 06:43 J -39317199.36 -39317199.22 -39317199.06 0.0282 0.0128

Mars -112358-07-11 19:12 J -39317144.76 -39317144.70 -39317144.64 0.1769 0.1522

Saturn -112358-08-15 01:55 J -39317110.59 -39317110.42 -39317110.25 0.0281 0.0030

Saturn -112358-11-11 20:53 J -39317021.79 -39317021.63 -39317021.46 0.0280 0.0069

Saturn -112357-02-08 16:19 J -39316932.96 -39316932.82 -39316932.68 0.0279 0.0167

Venus -112357-05-01 06:00 J -39316850.29 -39316850.25 -39316850.20 0.3740 0.3511

Saturn -112357-05-07 11:46 J -39316844.05 -39316844.01 -39316843.95 0.0278 0.0266

Jupiter -112357-06-29 03:22 J -39316791.49 -39316791.36 -39316791.22 0.0530 0.0126

Mars -112357-08-03 20:10 J -39316755.81 -39316755.66 -39316755.51 0.1762 0.0364

Jupiter -112357-09-26 13:41 J -39316702.02 -39316701.93 -39316701.84 0.0531 0.0382

Mars -112356-06-16 10:19 J -39316439.20 -39316439.07 -39316438.95 0.1750 0.0367

Earth -112353-05-11 11:02 J -39315379.15 -39315379.04 -39315378.94 0.2754 0.0586

Moon -112353-05-11 11:46 J -39315379.12 -39315379.01 -39315378.90 0.2755 0.0477 *

Venus -112352-11-15 06:00 J -39314826.38 -39314826.25 -39314826.13 0.3734 0.1130

Jupiter -112351-05-16 05:17 J -39314644.45 -39314644.28 -39314644.11 0.0496 0.0012

Earth -112350-11-02 15:36 J -39314108.98 -39314108.85 -39314108.72 0.2589 0.1439

Moon -112350-11-02 17:17 J -39314108.92 -39314108.78 -39314108.64 0.2590 0.1218 *

Mars -112348-12-24 21:36 J -39313325.75 -39313325.60 -39313325.45 0.1757 0.0278

Mars -112347-11-06 18:58 J -39313008.84 -39313008.71 -39313008.59 0.1755 0.0098

Venus -112346-06-01 06:14 J -39312802.37 -39312802.24 -39312802.12 0.3728 0.1359

Jupiter -112345-04-17 06:29 J -39312481.35 -39312481.23 -39312481.11 0.0529 0.0252

Jupiter -112345-07-15 16:48 J -39312391.91 -39312391.80 -39312391.68 0.0530 0.0259

Mars -112345-10-12 07:26 J -39312303.23 -39312303.19 -39312303.16 0.1736 0.1646

Saturn -112342-03-06 09:36 J -39311428.20 -39311428.10 -39311428.00 0.0279 0.0199

Saturn -112342-06-02 23:02 J -39311339.67 -39311339.54 -39311339.41 0.0280 0.0117

Saturn -112342-08-30 12:29 J -39311251.12 -39311250.98 -39311250.84 0.0281 0.0035

Saturn -112342-11-27 01:41 J -39311162.57 -39311162.43 -39311162.29 0.0282 0.0048

Saturn -112341-02-23 14:53 J -39311074.01 -39311073.88 -39311073.76 0.0283 0.0130

Saturn -112341-05-22 03:36 J -39310985.43 -39310985.35 -39310985.25 0.0284 0.0213

Earth -112340-05-14 05:31 J -39310628.38 -39310628.27 -39310628.16 0.2758 0.0368

Moon -112340-05-14 06:00 J -39310628.36 -39310628.25 -39310628.14 0.2752 0.0357 *

Jupiter -112339-03-04 04:34 J -39310334.48 -39310334.31 -39310334.15 0.0497 0.0125

Jupiter -112339-06-02 05:46 J -39310244.35 -39310244.26 -39310244.17 0.0496 0.0421

Mars -112338-05-16 23:02 J -39309895.67 -39309895.54 -39309895.41 0.1752 0.0900

Mars -112337-03-29 03:07 J -39309578.49 -39309578.37 -39309578.25 0.1760 0.0533

Earth -112337-11-04 21:22 J -39309357.77 -39309357.61 -39309357.45 0.2585 0.0129

Moon -112337-11-04 22:34 J -39309357.72 -39309357.56 -39309357.40 0.2581 0.0131 *

Venus -112337-12-13 18:58 J -39309318.74 -39309318.71 -39309318.69 0.3638 0.3524

Uranus -112335-01-08 22:34 J -39308927.60 -39308927.56 -39308927.48 0.0147 0.0138

Mars -112335-03-04 16:34 J -39308872.89 -39308872.81 -39308872.73 0.1741 0.1245

Uranus -112335-04-07 06:00 J -39308839.35 -39308839.25 -39308839.13 0.0147 0.0111

Uranus -112335-07-04 13:26 J -39308751.08 -39308750.94 -39308750.79 0.0147 0.0084

Uranus -112335-09-30 20:53 J -39308662.79 -39308662.63 -39308662.46 0.0147 0.0056

Uranus -112335-12-28 04:19 J -39308574.49 -39308574.32 -39308574.14 0.0147 0.0029

Uranus -112334-03-26 12:00 J -39308486.18 -39308486.00 -39308485.83 0.0148 0.0004

Uranus -112334-06-22 19:26 J -39308397.86 -39308397.69 -39308397.51 0.0148 0.0028

Uranus -112334-09-19 02:53 J -39308309.54 -39308309.38 -39308309.20 0.0148 0.0057

Uranus -112334-12-16 10:48 J -39308221.20 -39308221.05 -39308220.90 0.0148 0.0085

Jupiter -112333-02-04 08:53 J -39308171.22 -39308171.13 -39308171.03 0.0529 0.0385

Uranus -112333-03-13 18:29 J -39308132.84 -39308132.73 -39308132.61 0.0148 0.0114

Jupiter -112333-05-03 19:41 J -39308081.81 -39308081.68 -39308081.55 0.0530 0.0131

Moon -112333-05-07 02:38 J -39308078.45 -39308078.39 -39308078.32 0.2754 0.2253

Earth -112333-05-07 02:38 J -39308078.45 -39308078.39 -39308078.33 0.2747 0.2293 *

Uranus -112333-06-10 02:24 J -39308044.44 -39308044.40 -39308044.36 0.0148 0.0143

Venus -112331-06-29 13:41 J -39307295.03 -39307294.93 -39307294.83 0.3643 0.1903

Saturn -112329-07-07 13:12 J -39306556.02 -39306555.95 -39306555.87 0.0283 0.0248

Saturn -112329-10-04 07:55 J -39306467.31 -39306467.17 -39306467.03 0.0282 0.0152

Mars -112329-10-06 01:26 J -39306465.52 -39306465.44 -39306465.37 0.1747 0.1490

Saturn -112328-01-01 02:38 J -39306378.55 -39306378.39 -39306378.22 0.0281 0.0055

Saturn -112328-03-30 21:50 J -39306289.76 -39306289.59 -39306289.42 0.0280 0.0044

Saturn -112328-06-27 17:17 J -39306200.93 -39306200.78 -39306200.64 0.0279 0.0142

Mars -112328-08-19 11:17 J -39306148.13 -39306148.03 -39306147.92 0.1765 0.0998

Saturn -112328-09-24 12:29 J -39306112.05 -39306111.98 -39306111.88 0.0278 0.0241

Jupiter -112328-12-21 04:19 J -39306024.46 -39306024.32 -39306024.17 0.0497 0.0255

Jupiter -112327-03-21 05:02 J -39305934.42 -39305934.29 -39305934.14 0.0496 0.0287

Moon -112327-05-17 00:00 J -39305877.60 -39305877.50 -39305877.41 0.2754 0.1364

Earth -112327-05-17 00:00 J -39305877.60 -39305877.50 -39305877.40 0.2761 0.1308 *

Mars -112327-09-12 19:55 J -39305758.79 -39305758.67 -39305758.55 0.1767 0.1097

Mars -112326-07-26 01:26 J -39305442.54 -39305442.44 -39305442.33 0.1745 0.0833

Venus -112325-01-13 08:10 J -39305271.27 -39305271.16 -39305271.04 0.3648 0.0337

Earth -112324-11-08 03:22 J -39304606.48 -39304606.36 -39304606.25 0.2582 0.1709

Moon -112324-11-08 03:36 J -39304606.47 -39304606.35 -39304606.23 0.2576 0.1747 *

Jupiter -112322-11-23 10:48 J -39303861.05 -39303861.05 -39303861.03 0.0528 0.0526

Jupiter -112321-02-20 22:05 J -39303771.72 -39303771.58 -39303771.44 0.0529 0.0008

Jupiter -112321-05-20 07:55 J -39303682.21 -39303682.17 -39303682.12 0.0530 0.0494

Earth -112320-05-09 21:22 J -39303327.71 -39303327.61 -39303327.52 0.2751 0.1344

Moon -112320-05-09 22:05 J -39303327.68 -39303327.58 -39303327.49 0.2755 0.1320 *

Venus -112320-07-29 02:38 J -39303247.50 -39303247.39 -39303247.28 0.3653 0.1215

Neptune -112319-08-19 23:31 J -39302860.54 -39302860.52 -39302860.47 0.0089 0.0086

Neptune -112319-11-16 02:24 J -39302772.46 -39302772.40 -39302772.33 0.0089 0.0081

Mars -112318-01-09 19:26 J -39302717.76 -39302717.69 -39302717.62 0.1770 0.1472

Neptune -112318-02-12 05:02 J -39302684.37 -39302684.29 -39302684.19 0.0089 0.0076

Neptune -112318-05-11 07:41 J -39302596.27 -39302596.18 -39302596.07 0.0089 0.0071

Neptune -112318-08-07 10:19 J -39302508.17 -39302508.07 -39302507.94 0.0089 0.0066

Neptune -112318-11-03 13:12 J -39302420.07 -39302419.95 -39302419.82 0.0089 0.0061

Neptune -112317-01-30 15:50 J -39302331.96 -39302331.84 -39302331.69 0.0089 0.0056

Mars -112317-02-02 20:38 J -39302328.79 -39302328.64 -39302328.49 0.1762 0.0425

Neptune -112317-04-27 18:43 J -39302243.85 -39302243.72 -39302243.57 0.0089 0.0051

Neptune -112317-07-24 21:36 J -39302155.74 -39302155.60 -39302155.45 0.0089 0.0045

Neptune -112317-10-21 00:29 J -39302067.63 -39302067.48 -39302067.32 0.0089 0.0040

Moon -112317-10-30 18:00 J -39302057.78 -39302057.75 -39302057.71 0.2595 0.2516

Mars -112317-12-15 10:19 J -39302012.19 -39302012.07 -39302011.95 0.1750 0.0407

Neptune -112316-01-17 03:07 J -39301979.52 -39301979.37 -39301979.20 0.0089 0.0035

Neptune -112316-04-15 06:00 J -39301891.41 -39301891.25 -39301891.08 0.0089 0.0030

Neptune -112316-07-12 08:38 J -39301803.29 -39301803.14 -39301802.96 0.0089 0.0025

Neptune -112316-10-08 11:46 J -39301715.18 -39301715.01 -39301714.84 0.0089 0.0019

Jupiter -112316-10-09 04:05 J -39301714.43 -39301714.33 -39301714.22 0.0497 0.0385

Neptune -112315-01-04 14:38 J -39301627.06 -39301626.89 -39301626.72 0.0089 0.0014

Jupiter -112315-01-07 04:19 J -39301624.48 -39301624.32 -39301624.15 0.0496 0.0152

Neptune -112315-04-02 17:31 J -39301538.95 -39301538.77 -39301538.60 0.0089 0.0009

Neptune -112315-06-29 20:24 J -39301450.83 -39301450.65 -39301450.48 0.0089 0.0003

Neptune -112315-09-25 23:17 J -39301362.71 -39301362.53 -39301362.35 0.0089 0.0002

Neptune -112315-12-23 02:10 J -39301274.59 -39301274.41 -39301274.23 0.0089 0.0008

Venus -112314-02-11 20:53 J -39301223.71 -39301223.63 -39301223.56 0.3658 0.2719

Neptune -112314-03-21 05:02 J -39301186.46 -39301186.29 -39301186.11 0.0089 0.0013

Moon -112314-05-19 18:00 J -39301126.82 -39301126.75 -39301126.69 0.2759 0.2132

Earth -112314-05-19 18:29 J -39301126.79 -39301126.73 -39301126.67 0.2764 0.2247 *

Neptune -112314-06-17 07:55 J -39301098.34 -39301098.17 -39301097.99 0.0089 0.0018

Neptune -112314-09-13 10:48 J -39301010.22 -39301010.05 -39301009.87 0.0089 0.0024

Neptune -112314-12-10 13:55 J -39300922.09 -39300921.92 -39300921.75 0.0089 0.0029

Neptune -112313-03-07 16:34 J -39300833.96 -39300833.81 -39300833.64 0.0089 0.0035

Neptune -112313-06-03 19:41 J -39300745.83 -39300745.68 -39300745.52 0.0089 0.0040

Saturn -112313-07-23 12:14 J -39300696.08 -39300695.99 -39300695.90 0.0279 0.0217

Neptune -112313-08-30 22:34 J -39300657.70 -39300657.56 -39300657.40 0.0089 0.0046

Saturn -112313-10-20 01:55 J -39300607.55 -39300607.42 -39300607.30 0.0280 0.0135

Neptune -112313-11-27 01:41 J -39300569.57 -39300569.43 -39300569.28 0.0089 0.0051

Saturn -112312-01-16 15:22 J -39300519.00 -39300518.86 -39300518.72 0.0281 0.0053

Neptune -112312-02-23 04:19 J -39300481.44 -39300481.32 -39300481.17 0.0089 0.0057

Saturn -112312-04-15 04:34 J -39300430.45 -39300430.31 -39300430.17 0.0282 0.0030

Neptune -112312-05-22 07:41 J -39300393.30 -39300393.18 -39300393.05 0.0089 0.0062

Saturn -112312-07-12 17:46 J -39300341.89 -39300341.76 -39300341.63 0.0283 0.0112

Neptune -112312-08-18 10:34 J -39300305.16 -39300305.06 -39300304.94 0.0089 0.0068

Saturn -112312-10-09 06:43 J -39300253.32 -39300253.22 -39300253.12 0.0284 0.0194

Neptune -112312-11-14 13:41 J -39300217.02 -39300216.93 -39300216.82 0.0089 0.0073

Saturn -112311-01-05 19:41 J -39300164.71 -39300164.68 -39300164.64 0.0285 0.0275

Neptune -112311-02-10 16:34 J -39300128.88 -39300128.81 -39300128.72 0.0089 0.0079

Neptune -112311-05-09 19:26 J -39300040.72 -39300040.69 -39300040.62 0.0089 0.0085

Jupiter -112310-12-10 00:58 J -39299461.59 -39299461.46 -39299461.32 0.0529 0.0136

Jupiter -112309-03-08 11:17 J -39299372.12 -39299372.03 -39299371.93 0.0530 0.0371

Mars -112308-06-24 21:50 J -39298898.74 -39298898.59 -39298898.44 0.1757 0.0223

Mars -112307-05-07 18:58 J -39298581.83 -39298581.71 -39298581.59 0.1755 0.0034

Earth -112307-05-12 15:50 J -39298576.95 -39298576.84 -39298576.73 0.2754 0.0399

Moon -112307-05-12 16:34 J -39298576.92 -39298576.81 -39298576.70 0.2753 0.0341 *

Mars -112305-04-12 07:26 J -39297876.21 -39297876.19 -39297876.17 0.1736 0.1687

Jupiter -112304-10-26 02:53 J -39297314.55 -39297314.38 -39297314.21 0.0496 0.0007

Earth -112304-11-02 22:05 J -39297306.72 -39297306.58 -39297306.44 0.2589 0.1132

Moon -112304-11-02 23:46 J -39297306.66 -39297306.51 -39297306.37 0.2587 0.1116 *

Venus -112301-12-06 05:46 J -39296177.35 -39296177.26 -39296177.17 0.3738 0.2686

Saturn -112300-11-24 14:53 J -39295823.93 -39295823.88 -39295823.83 0.0283 0.0268

Saturn -112299-02-21 09:22 J -39295735.24 -39295735.11 -39295734.97 0.0282 0.0172

Saturn -112299-05-21 04:19 J -39295646.49 -39295646.32 -39295646.16 0.0281 0.0075

Saturn -112299-08-17 23:17 J -39295557.70 -39295557.53 -39295557.36 0.0280 0.0023

Saturn -112299-11-14 18:29 J -39295468.88 -39295468.73 -39295468.57 0.0279 0.0121

Mars -112299-11-14 23:46 J -39295468.64 -39295468.51 -39295468.38 0.1752 0.0834 *

Saturn -112298-02-11 13:55 J -39295380.02 -39295379.92 -39295379.81 0.0278 0.0220

Mars -112298-09-28 03:22 J -39295151.48 -39295151.36 -39295151.24 0.1760 0.0484

Jupiter -112298-09-28 04:19 J -39295151.44 -39295151.32 -39295151.20 0.0529 0.0259 *

Jupiter -112298-12-26 14:53 J -39295062.00 -39295061.88 -39295061.76 0.0530 0.0253

Mars -112296-09-02 16:34 J -39294445.89 -39294445.81 -39294445.73 0.1741 0.1291

Uranus -112296-11-27 13:26 J -39294359.96 -39294359.94 -39294359.89 0.0132 0.0127

Uranus -112295-02-23 17:17 J -39294271.86 -39294271.78 -39294271.70 0.0132 0.0110

Uranus -112295-05-22 20:38 J -39294183.73 -39294183.64 -39294183.54 0.0132 0.0094

Venus -112295-06-22 05:31 J -39294153.40 -39294153.27 -39294153.14 0.3732 0.0290

Uranus -112295-08-19 00:14 J -39294095.60 -39294095.49 -39294095.38 0.0132 0.0078

Uranus -112295-11-15 03:36 J -39294007.47 -39294007.35 -39294007.22 0.0132 0.0062

Uranus -112294-02-11 06:58 J -39293919.34 -39293919.21 -39293919.07 0.0132 0.0046

Uranus -112294-05-10 10:19 J -39293831.20 -39293831.07 -39293830.93 0.0132 0.0031

Earth -112294-05-15 10:19 J -39293826.17 -39293826.07 -39293825.96 0.2758 0.0552

Moon -112294-05-15 10:48 J -39293826.16 -39293826.05 -39293825.94 0.2752 0.0634 *

Uranus -112294-08-06 13:41 J -39293743.06 -39293742.93 -39293742.78 0.0132 0.0015

Uranus -112294-11-02 17:02 J -39293654.93 -39293654.79 -39293654.64 0.0131 0.0004

Uranus -112293-01-29 20:24 J -39293566.79 -39293566.65 -39293566.51 0.0131 0.0017

Uranus -112293-04-26 23:46 J -39293478.65 -39293478.51 -39293478.37 0.0131 0.0032

Uranus -112293-07-24 02:53 J -39293390.50 -39293390.38 -39293390.24 0.0131 0.0048

Uranus -112293-10-20 06:14 J -39293302.36 -39293302.24 -39293302.12 0.0131 0.0062

Uranus -112292-01-16 09:36 J -39293214.21 -39293214.10 -39293213.99 0.0131 0.0077

Uranus -112292-04-14 12:43 J -39293126.07 -39293125.97 -39293125.87 0.0131 0.0092

Uranus -112292-07-11 15:50 J -39293037.91 -39293037.84 -39293037.76 0.0131 0.0107

Jupiter -112292-08-14 02:10 J -39293004.57 -39293004.41 -39293004.24 0.0496 0.0128

Uranus -112292-10-07 18:58 J -39292949.75 -39292949.71 -39292949.65 0.0131 0.0122

Jupiter -112292-11-12 03:22 J -39292914.45 -39292914.36 -39292914.27 0.0496 0.0417

Earth -112291-11-06 03:50 J -39292555.50 -39292555.34 -39292555.18 0.2585 0.0433

Moon -112291-11-06 04:48 J -39292555.45 -39292555.30 -39292555.14 0.2579 0.0605 *

Venus -112289-01-06 06:00 J -39292129.35 -39292129.25 -39292129.15 0.3726 0.2235

Mars -112289-04-06 01:41 J -39292038.51 -39292038.43 -39292038.34 0.1747 0.1433

Mars -112288-02-17 11:31 J -39291721.13 -39291721.02 -39291720.92 0.1765 0.0949

Mars -112287-03-13 20:38 J -39291331.76 -39291331.64 -39291331.53 0.1767 0.1163

Earth -112287-05-08 07:41 J -39291276.25 -39291276.18 -39291276.11 0.2747 0.2109

Moon -112287-05-08 07:55 J -39291276.24 -39291276.17 -39291276.10 0.2753 0.2147 *

Mars -112286-01-24 01:41 J -39291015.54 -39291015.43 -39291015.33 0.1746 0.0878

Jupiter -112286-07-17 07:12 J -39290841.29 -39290841.20 -39290841.11 0.0529 0.0386

Jupiter -112286-10-14 18:00 J -39290751.88 -39290751.75 -39290751.61 0.0530 0.0130

Saturn -112284-12-10 13:41 J -39289964.00 -39289963.93 -39289963.86 0.0278 0.0242

Saturn -112283-03-09 03:22 J -39289875.48 -39289875.36 -39289875.24 0.0279 0.0160

Saturn -112283-06-05 16:48 J -39289786.94 -39289786.80 -39289786.66 0.0280 0.0078

Saturn -112283-09-02 06:00 J -39289698.39 -39289698.25 -39289698.10 0.0281 0.0010

Saturn -112283-11-29 19:12 J -39289609.83 -39289609.70 -39289609.56 0.0282 0.0087

Saturn -112282-02-26 08:24 J -39289521.26 -39289521.15 -39289521.04 0.0284 0.0168

Saturn -112282-05-25 21:22 J -39289432.67 -39289432.61 -39289432.55 0.0285 0.0250

Moon   -112281-05-17 04:34 J -39289075.40 -39289075.31 -39289075.21 0.2755 0.1412

Earth   -112281-05-17 04:48 J -39289075.39 -39289075.30 -39289075.21 0.2761 0.1495 *

Jupiter -112280-06-02 01:41 J -39288694.57 -39288694.43 -39288694.29 0.0497 0.0261

Venus   -112280-07-20 17:17 J -39288645.85 -39288645.78 -39288645.71 0.3640 0.2929

Jupiter -112280-08-31 02:24 J -39288604.54 -39288604.40 -39288604.26 0.0496 0.0279

Mars   -112279-07-10 19:26 J -39288290.76 -39288290.69 -39288290.62 0.1770 0.1425

Mars   -112278-08-03 21:07 J -39287901.76 -39287901.62 -39287901.47 0.1762 0.0490

Moon   -112278-11-09 09:36 J -39287804.21 -39287804.10 -39287804.00 0.2575 0.1927

Earth   -112278-11-09 09:50 J -39287804.19 -39287804.09 -39287804.00 0.2581 0.2016 *

Mars   -112277-06-15 10:19 J -39287585.18 -39287585.07 -39287584.95 0.1750 0.0456

Venus   -112274-02-03 12:00 J -39286622.11 -39286622.00 -39286621.90 0.3644 0.1328

Jupiter -112274-05-05 09:50 J -39286531.11 -39286531.09 -39286531.07 0.0528 0.0518

Earth   -112274-05-11 02:10 J -39286525.51 -39286525.41 -39286525.31 0.2751 0.1160

Moon   -112274-05-11 02:53 J -39286525.48 -39286525.38 -39286525.28 0.2755 0.1056 *

Jupiter -112274-08-02 21:07 J -39286441.76 -39286441.62 -39286441.49 0.0529 0.0018

Jupiter -112274-10-31 06:58 J -39286352.25 -39286352.21 -39286352.17 0.0530 0.0502

Earth   -112271-10-31 23:02 J -39285255.60 -39285255.54 -39285255.48 0.2592 0.2377

Moon   -112271-11-01 00:43 J -39285255.54 -39285255.47 -39285255.40 0.2594 0.2306 *

Saturn -112270-07-11 09:50 J -39285003.21 -39285003.09 -39285002.97 0.0282 0.0199

Saturn -112270-10-08 04:34 J -39284914.46 -39284914.31 -39284914.15 0.0281 0.0103

Saturn -112269-01-04 23:31 J -39284825.69 -39284825.52 -39284825.35 0.0280 0.0009

Saturn -112269-04-02 18:43 J -39284736.88 -39284736.72 -39284736.55 0.0279 0.0094

Saturn -112269-06-30 14:10 J -39284648.03 -39284647.91 -39284647.78 0.0278 0.0192

Venus -112269-08-19 06:29 J -39284598.35 -39284598.23 -39284598.12 0.3649 0.0251

Mars -112269-12-23 22:34 J -39284471.71 -39284471.56 -39284471.41 0.1757 0.0157

Jupiter -112268-03-21 01:41 J -39284384.54 -39284384.43 -39284384.33 0.0497 0.0390

Moon -112268-05-19 22:48 J -39284324.60 -39284324.55 -39284324.50 0.2761 0.2439

Earth -112268-05-19 23:17 J -39284324.58 -39284324.53 -39284324.48 0.2765 0.2432 *

Jupiter -112268-06-19 01:55 J -39284294.59 -39284294.42 -39284294.26 0.0496 0.0146

Mars -112268-11-05 18:58 J -39284154.83 -39284154.71 -39284154.59 0.1755 0.0024

Mars -112266-10-12 07:26 J -39283449.20 -39283449.19 -39283449.18 0.1736 0.1728

Venus -112263-03-05 00:43 J -39282574.57 -39282574.47 -39282574.37 0.3654 0.1767

Jupiter -112262-05-21 23:17 J -39282131.66 -39282131.53 -39282131.40 0.0529 0.0137

Jupiter -112262-08-19 09:36 J -39282042.20 -39282042.10 -39282042.01 0.0530 0.0370

Earth -112261-05-12 20:53 J -39281774.74 -39281774.63 -39281774.52 0.2755 0.0227

Moon -112261-05-12 21:22 J -39281774.72 -39281774.61 -39281774.50 0.2751 0.0192 *

Mars -112259-05-16 00:00 J -39281041.64 -39281041.50 -39281041.37 0.1752 0.0785

Mars -112258-03-29 03:22 J -39280724.48 -39280724.36 -39280724.24 0.1760 0.0439

Venus -112258-09-18 18:58 J -39280550.76 -39280550.71 -39280550.66 0.3659 0.3257

Earth -112258-11-04 04:34 J -39280504.46 -39280504.31 -39280504.16 0.2588 0.0833

Moon -112258-11-04 06:00 J -39280504.41 -39280504.25 -39280504.10 0.2584 0.0658 *

Mars -112256-03-03 16:34 J -39280018.88 -39280018.81 -39280018.73 0.1741 0.1329

Jupiter -112256-04-07 01:26 J -39279984.61 -39279984.44 -39279984.27 0.0497 0.0017

Saturn -112254-04-29 16:05 J -39279231.87 -39279231.83 -39279231.78 0.0278 0.0262

Saturn -112254-07-27 05:46 J -39279143.37 -39279143.26 -39279143.15 0.0279 0.0180

Saturn -112254-10-23 19:26 J -39279054.83 -39279054.69 -39279054.56 0.0280 0.0098

Saturn -112253-01-20 08:38 J -39278966.28 -39278966.14 -39278965.99 0.0281 0.0016

Saturn -112253-04-17 21:50 J -39278877.72 -39278877.59 -39278877.45 0.0282 0.0068

Saturn -112253-07-15 11:02 J -39278789.16 -39278789.04 -39278788.92 0.0283 0.0149

Saturn -112253-10-12 00:00 J -39278700.57 -39278700.50 -39278700.42 0.0284 0.0231

Uranus -112251-01-29 05:46 J -39278226.32 -39278226.26 -39278226.17 0.0147 0.0133

Uranus -112251-04-27 13:12 J -39278138.06 -39278137.95 -39278137.82 0.0147 0.0105

Uranus -112251-07-24 20:24 J -39278049.79 -39278049.65 -39278049.49 0.0147 0.0079

Uranus -112251-10-21 04:05 J -39277961.50 -39277961.33 -39277961.16 0.0147 0.0050

Uranus -112250-01-17 11:31 J -39277873.20 -39277873.02 -39277872.84 0.0147 0.0023

Jupiter -112250-03-10 02:10 J -39277821.53 -39277821.41 -39277821.29 0.0529 0.0266

Uranus -112250-04-15 18:58 J -39277784.89 -39277784.71 -39277784.53 0.0147 0.0006

Jupiter -112250-06-07 12:43 J -39277732.09 -39277731.97 -39277731.85 0.0530 0.0246

Uranus -112250-07-13 02:38 J -39277696.57 -39277696.39 -39277696.22 0.0148 0.0034

Mars -112250-10-06 02:24 J -39277611.49 -39277611.40 -39277611.31 0.1747 0.1370

Uranus -112250-10-09 10:05 J -39277608.24 -39277608.08 -39277607.91 0.0148 0.0062

Uranus -112249-01-05 17:46 J -39277519.90 -39277519.76 -39277519.61 0.0148 0.0091

Uranus -112249-04-03 01:26 J -39277431.54 -39277431.44 -39277431.33 0.0148 0.0120

Mars -112249-08-18 11:46 J -39277294.12 -39277294.01 -39277293.91 0.1764 0.0899

Earth -112248-05-15 15:22 J -39277023.97 -39277023.86 -39277023.76 0.2758 0.0739

Moon -112248-05-15 15:36 J -39277023.96 -39277023.85 -39277023.75 0.2752 0.0737 *

Mars -112248-09-11 20:53 J -39276904.74 -39276904.63 -39276904.52 0.1767 0.1220

Mars -112247-07-25 01:41 J -39276588.53 -39276588.43 -39276588.32 0.1745 0.0926

Earth -112245-11-06 10:19 J -39275753.22 -39275753.07 -39275752.92 0.2584 0.0742

Moon -112245-11-06 11:02 J -39275753.19 -39275753.04 -39275752.88 0.2579 0.0704 *

Jupiter -112244-01-24 00:00 J -39275674.66 -39275674.50 -39275674.33 0.0496 0.0129

Jupiter -112244-04-24 00:58 J -39275584.54 -39275584.46 -39275584.36 0.0496 0.0416

Venus -112244-07-13 05:02 J -39275504.40 -39275504.29 -39275504.17 0.3736 0.1884

Pluto -112244-11-08 12:29 J -39275386.05 -39275385.98 -39275385.91 0.0060 0.0055

Pluto -112243-02-04 13:26 J -39275298.03 -39275297.94 -39275297.80 0.0060 0.0048

Pluto -112243-05-03 15:07 J -39275210.00 -39275209.87 -39275209.72 0.0060 0.0040

Pluto -112243-07-30 16:19 J -39275121.97 -39275121.82 -39275121.64 0.0060 0.0033

Pluto -112243-10-26 17:46 J -39275033.92 -39275033.76 -39275033.57 0.0060 0.0026

Pluto -112242-01-22 19:26 J -39274945.87 -39274945.69 -39274945.50 0.0060 0.0018

Pluto -112242-04-20 20:38 J -39274857.82 -39274857.64 -39274857.44 0.0060 0.0011

Pluto -112242-07-17 22:19 J -39274769.76 -39274769.57 -39274769.38 0.0060 0.0002

Pluto -112242-10-13 23:46 J -39274681.70 -39274681.51 -39274681.32 0.0060 0.0005

Pluto -112241-01-10 00:58 J -39274593.64 -39274593.46 -39274593.26 0.0060 0.0013

Pluto -112241-04-07 02:24 J -39274505.58 -39274505.40 -39274505.21 0.0060 0.0021

Earth -112241-05-08 12:29 J -39274474.06 -39274473.98 -39274473.90 0.2748 0.1926

Moon -112241-05-08 12:58 J -39274474.04 -39274473.96 -39274473.88 0.2753 0.1817 *

Pluto -112241-07-04 03:36 J -39274417.50 -39274417.35 -39274417.16 0.0061 0.0029

Pluto -112241-09-30 05:02 J -39274329.43 -39274329.29 -39274329.12 0.0061 0.0037

Saturn -112241-11-27 11:02 J -39274271.13 -39274271.04 -39274270.93 0.0283 0.0221

Pluto -112241-12-27 06:43 J -39274241.35 -39274241.22 -39274241.08 0.0061 0.0044

Saturn -112240-02-24 06:00 J -39274182.40 -39274182.25 -39274182.10 0.0282 0.0124

Pluto -112240-03-25 07:55 J -39274153.25 -39274153.17 -39274153.06 0.0061 0.0052

Saturn -112240-05-24 00:43 J -39274093.63 -39274093.47 -39274093.30 0.0281 0.0028

Pluto -112240-06-21 09:07 J -39274065.13 -39274065.12 -39274065.07 0.0061 0.0060

Saturn -112240-08-20 19:55 J -39274004.83 -39274004.67 -39274004.50 0.0280 0.0072

Saturn -112240-11-17 15:22 J -39273916.00 -39273915.86 -39273915.72 0.0279 0.0170

Mars -112239-01-08 19:41 J -39273863.76 -39273863.68 -39273863.61 0.1770 0.1377

Saturn -112239-02-14 11:02 J -39273827.08 -39273827.04 -39273827.00 0.0278 0.0268

Jupiter -112239-12-27 05:17 J -39273511.37 -39273511.28 -39273511.19 0.0529 0.0391

Venus -112238-01-27 05:17 J -39273480.41 -39273480.28 -39273480.15 0.3730 0.0564

Mars -112238-02-01 21:50 J -39273474.73 -39273474.59 -39273474.44 0.1762 0.0556

Jupiter -112238-03-26 16:19 J -39273421.95 -39273421.82 -39273421.69 0.0530 0.0126

Neptune -112238-12-12 03:22 J -39273161.38 -39273161.36 -39273161.33 0.0088 0.0087

Mars -112238-12-15 10:34 J -39273158.18 -39273158.06 -39273157.95 0.1750 0.0498

Neptune -112237-03-09 05:02 J -39273073.33 -39273073.29 -39273073.23 0.0088 0.0082

Neptune -112237-06-05 06:58 J -39272985.27 -39272985.21 -39272985.14 0.0088 0.0078

Neptune -112237-09-01 08:38 J -39272897.21 -39272897.14 -39272897.05 0.0088 0.0073

Neptune -112237-11-28 10:19 J -39272809.15 -39272809.07 -39272808.97 0.0088 0.0069

Neptune -112236-02-24 12:14 J -39272721.08 -39272720.99 -39272720.89 0.0088 0.0065

Neptune -112236-05-23 13:55 J -39272633.02 -39272632.92 -39272632.81 0.0088 0.0060

Neptune -112236-08-19 15:50 J -39272544.95 -39272544.84 -39272544.73 0.0088 0.0056

Neptune -112236-11-15 17:17 J -39272456.88 -39272456.78 -39272456.65 0.0088 0.0052

Neptune -112235-02-11 19:26 J -39272368.82 -39272368.69 -39272368.57 0.0088 0.0047

Neptune -112235-05-10 20:53 J -39272280.75 -39272280.63 -39272280.49 0.0088 0.0043

Moon -112235-05-18 09:22 J -39272273.19 -39272273.11 -39272273.02 0.2755 0.1689

Earth -112235-05-18 09:50 J -39272273.18 -39272273.09 -39272273.01 0.2762 0.1679 *

Neptune -112235-08-06 22:34 J -39272192.68 -39272192.56 -39272192.42 0.0088 0.0038

Neptune -112235-11-03 00:29 J -39272104.61 -39272104.48 -39272104.34 0.0088 0.0034

Neptune -112234-01-30 02:10 J -39272016.54 -39272016.41 -39272016.27 0.0088 0.0029

Neptune -112234-04-28 03:50 J -39271928.48 -39271928.34 -39271928.20 0.0088 0.0025

Neptune -112234-07-25 05:31 J -39271840.41 -39271840.27 -39271840.13 0.0088 0.0021

Neptune -112234-10-21 07:12 J -39271752.34 -39271752.20 -39271752.05 0.0088 0.0016

Neptune -112233-01-17 08:53 J -39271664.27 -39271664.13 -39271663.98 0.0088 0.0012

Neptune -112233-04-14 10:34 J -39271576.20 -39271576.06 -39271575.91 0.0088 0.0008

Neptune -112233-07-11 12:14 J -39271488.13 -39271487.99 -39271487.84 0.0088 0.0004

Venus -112233-08-12 05:46 J -39271456.33 -39271456.26 -39271456.19 0.3724 0.3101

Neptune -112233-10-07 13:55 J -39271400.06 -39271399.92 -39271399.77 0.0088 0.0001

Jupiter -112233-11-11 23:46 J -39271364.65 -39271364.51 -39271364.37 0.0497 0.0260

Neptune -112232-01-03 15:36 J -39271311.99 -39271311.85 -39271311.71 0.0088 0.0005

Jupiter -112232-02-10 00:14 J -39271274.63 -39271274.49 -39271274.34 0.0496 0.0279

Neptune -112232-04-01 17:17 J -39271223.92 -39271223.78 -39271223.64 0.0088 0.0010

Neptune -112232-06-28 18:43 J -39271135.85 -39271135.72 -39271135.57 0.0088 0.0014

Neptune -112232-09-24 20:24 J -39271047.79 -39271047.65 -39271047.51 0.0088 0.0018

Moon -112232-11-09 15:36 J -39271001.91 -39271001.85 -39271001.78 0.2575 0.2366

Earth -112232-11-09 16:19 J -39271001.88 -39271001.82 -39271001.75 0.2581 0.2329 *

Neptune -112232-12-21 22:05 J -39270959.72 -39270959.58 -39270959.44 0.0088 0.0022

Neptune -112231-03-19 23:46 J -39270871.65 -39270871.51 -39270871.37 0.0088 0.0026

Neptune -112231-06-16 01:26 J -39270783.58 -39270783.44 -39270783.31 0.0088 0.0031

Neptune -112231-09-12 02:38 J -39270695.51 -39270695.39 -39270695.25 0.0088 0.0036

Neptune -112231-12-09 04:19 J -39270607.44 -39270607.32 -39270607.18 0.0088 0.0039

Neptune -112230-03-07 06:00 J -39270519.37 -39270519.25 -39270519.12 0.0088 0.0043

Neptune -112230-06-03 07:41 J -39270431.30 -39270431.18 -39270431.06 0.0088 0.0047

Neptune -112230-08-30 09:07 J -39270343.22 -39270343.12 -39270343.00 0.0088 0.0052

Neptune -112230-11-26 10:48 J -39270255.15 -39270255.05 -39270254.94 0.0088 0.0056

Neptune -112229-02-22 12:29 J -39270167.08 -39270166.98 -39270166.88 0.0088 0.0060

Neptune -112229-05-20 13:55 J -39270079.01 -39270078.92 -39270078.82 0.0088 0.0064

Mars -112229-06-23 23:02 J -39270044.70 -39270044.54 -39270044.39 0.1757 0.0108

Neptune -112229-08-16 15:36 J -39269990.94 -39269990.85 -39269990.76 0.0088 0.0068

Neptune -112229-11-12 16:48 J -39269902.86 -39269902.80 -39269902.70 0.0088 0.0073

Neptune -112228-02-08 18:29 J -39269814.79 -39269814.73 -39269814.65 0.0088 0.0076

Mars -112228-05-06 19:12 J -39269727.83 -39269727.70 -39269727.58 0.1755 0.0082

Neptune -112228-05-07 19:55 J -39269726.71 -39269726.67 -39269726.60 0.0088 0.0080

Earth -112228-05-11 07:12 J -39269723.30 -39269723.20 -39269723.10 0.2751 0.0972

Moon -112228-05-11 07:55 J -39269723.27 -39269723.17 -39269723.07 0.2752 0.0967 *

Neptune -112228-08-03 21:36 J -39269638.63 -39269638.60 -39269638.55 0.0088 0.0084

Neptune -112228-10-30 23:17 J -39269550.53 -39269550.53 -39269550.52 0.0088 0.0088

Jupiter -112227-10-15 08:10 J -39269201.18 -39269201.16 -39269201.13 0.0529 0.0517

Jupiter -112226-01-12 19:26 J -39269111.82 -39269111.69 -39269111.55 0.0530 0.0007

Jupiter -112226-04-12 05:31 J -39269022.31 -39269022.27 -39269022.23 0.0531 0.0505

Earth -112225-11-01 05:31 J -39268453.36 -39268453.27 -39268453.18 0.2592 0.2075

Moon -112225-11-01 07:12 J -39268453.30 -39268453.20 -39268453.10 0.2592 0.1959 *

Saturn -112225-12-13 06:58 J -39268411.30 -39268411.21 -39268411.11 0.0278 0.0207

Saturn -112224-03-11 20:24 J -39268322.77 -39268322.65 -39268322.52 0.0279 0.0125

Saturn -112224-06-08 09:50 J -39268234.23 -39268234.09 -39268233.95 0.0281 0.0043

Saturn -112224-09-04 23:17 J -39268145.67 -39268145.53 -39268145.39 0.0282 0.0040

Saturn -112224-12-02 12:14 J -39268057.11 -39268056.99 -39268056.86 0.0283 0.0121

Venus -112223-02-24 15:36 J -39267972.94 -39267972.85 -39267972.76 0.3641 0.2336

Saturn -112223-03-01 01:12 J -39267968.54 -39267968.45 -39267968.35 0.0284 0.0203

Saturn -112223-05-28 14:10 J -39267879.91 -39267879.91 -39267879.90 0.0285 0.0284

Moon -112222-05-21 03:36 J -39267522.40 -39267522.35 -39267522.31 0.2764 0.2491

Earth -112222-05-21 04:19 J -39267522.36 -39267522.32 -39267522.29 0.2765 0.2618 *

Jupiter -112221-08-30 23:17 J -39267054.63 -39267054.53 -39267054.43 0.0497 0.0392

Jupiter -112221-11-28 23:31 J -39266964.69 -39266964.52 -39266964.36 0.0496 0.0143

Mars -112220-11-14 00:43 J -39266614.61 -39266614.47 -39266614.33 0.1752 0.0716

Mars -112219-09-27 03:36 J -39266297.47 -39266297.35 -39266297.23 0.1760 0.0392

Venus -112218-09-10 10:05 J -39265949.19 -39265949.08 -39265948.96 0.3646 0.0762

Mars -112217-09-01 16:48 J -39265591.87 -39265591.80 -39265591.73 0.1741 0.1374

Earth -112215-05-14 01:41 J -39264972.54 -39264972.43 -39264972.32 0.2755 0.0026

Moon -112215-05-14 02:24 J -39264972.51 -39264972.40 -39264972.29 0.2751 0.0108 *

Jupiter -112215-10-31 22:19 J -39264801.70 -39264801.57 -39264801.43 0.0529 0.0126

Jupiter -112214-01-29 08:38 J -39264712.23 -39264712.14 -39264712.05 0.0530 0.0381

Venus -112212-03-26 04:34 J -39263925.42 -39263925.31 -39263925.20 0.3651 0.0805

Earth -112212-11-04 11:02 J -39263702.19 -39263702.04 -39263701.88 0.2588 0.0526

Moon -112212-11-04 12:29 J -39263702.14 -39263701.98 -39263701.82 0.2583 0.0481 *

Uranus -112212-12-17 20:53 J -39263658.67 -39263658.63 -39263658.57 0.0132 0.0122

Uranus -112211-03-16 00:14 J -39263570.56 -39263570.49 -39263570.39 0.0132 0.0106

Saturn -112211-04-16 10:48 J -39263539.12 -39263539.05 -39263538.98 0.0283 0.0253

Uranus -112211-06-12 03:50 J -39263482.43 -39263482.34 -39263482.23 0.0132 0.0090

Saturn -112211-07-14 05:17 J -39263450.41 -39263450.28 -39263450.14 0.0282 0.0156

Uranus -112211-09-08 07:12 J -39263394.30 -39263394.20 -39263394.07 0.0132 0.0074

Saturn -112211-10-11 00:14 J -39263361.65 -39263361.49 -39263361.32 0.0281 0.0059

Uranus -112211-12-05 10:48 J -39263306.17 -39263306.05 -39263305.92 0.0132 0.0058

Saturn -112210-01-07 19:26 J -39263272.86 -39263272.69 -39263272.52 0.0280 0.0039

Uranus -112210-03-03 14:24 J -39263218.04 -39263217.90 -39263217.77 0.0132 0.0042

Mars -112210-04-06 02:38 J -39263184.48 -39263184.39 -39263184.29 0.1747 0.1316

Saturn -112210-04-06 14:38 J -39263184.03 -39263183.89 -39263183.74 0.0279 0.0138

Uranus -112210-05-30 17:46 J -39263129.90 -39263129.76 -39263129.62 0.0132 0.0026

Saturn -112210-07-04 10:19 J -39263095.16 -39263095.07 -39263094.98 0.0278 0.0236

Uranus -112210-08-26 21:07 J -39263041.76 -39263041.62 -39263041.48 0.0132 0.0010

Uranus -112210-11-23 00:29 J -39262953.62 -39262953.48 -39262953.34 0.0132 0.0006

Mars -112209-02-17 11:46 J -39262867.12 -39262867.01 -39262866.90 0.1765 0.0855

Uranus -112209-02-19 03:50 J -39262865.48 -39262865.34 -39262865.20 0.0132 0.0021

Uranus -112209-05-17 06:58 J -39262777.34 -39262777.21 -39262777.07 0.0131 0.0037

Uranus -112209-08-13 10:19 J -39262689.20 -39262689.07 -39262688.94 0.0131 0.0052

Jupiter -112209-09-16 23:02 J -39262654.71 -39262654.54 -39262654.37 0.0497 0.0014

Uranus -112209-11-09 13:26 J -39262601.05 -39262600.94 -39262600.81 0.0131 0.0067

Uranus -112208-02-05 16:48 J -39262512.90 -39262512.80 -39262512.69 0.0131 0.0082

Mars -112208-03-12 21:36 J -39262477.70 -39262477.60 -39262477.49 0.1767 0.1289

Uranus -112208-05-04 19:55 J -39262424.75 -39262424.67 -39262424.57 0.0131 0.0097

Moon -112208-05-06 22:48 J -39262422.57 -39262422.55 -39262422.52 0.2751 0.2658

Earth -112208-05-06 22:48 J -39262422.57 -39262422.55 -39262422.53 0.2744 0.2690 *

Uranus -112208-07-31 23:02 J -39262336.60 -39262336.54 -39262336.46 0.0131 0.0112

Uranus -112208-10-28 02:10 J -39262248.43 -39262248.41 -39262248.36 0.0131 0.0127

Mars -112207-01-23 01:41 J -39262161.53 -39262161.43 -39262161.33 0.1746 0.0963

Venus -112207-10-09 23:02 J -39261901.63 -39261901.54 -39261901.46 0.3656 0.2319

Jupiter -112203-08-20 00:43 J -39260491.59 -39260491.47 -39260491.35 0.0529 0.0262

Jupiter -112203-11-17 11:17 J -39260402.15 -39260402.03 -39260401.91 0.0530 0.0249

Moon -112202-05-16 20:10 J -39260221.76 -39260221.66 -39260221.55 0.2752 0.0912

Earth -112202-05-16 20:10 J -39260221.76 -39260221.66 -39260221.56 0.2759 0.0925 *

Mars -112200-07-09 19:55 J -39259436.76 -39259436.67 -39259436.59 0.1769 0.1324

Mars -112199-08-02 22:19 J -39259047.72 -39259047.57 -39259047.43 0.1762 0.0611

Earth -112199-11-07 16:48 J -39258950.94 -39258950.80 -39258950.65 0.2584 0.1052

Moon -112199-11-07 17:02 J -39258950.93 -39258950.79 -39258950.64 0.2578 0.1145 *

Mars -112198-06-15 10:34 J -39258731.18 -39258731.06 -39258730.94 0.1750 0.0540

Jupiter -112197-07-05 22:48 J -39258344.72 -39258344.55 -39258344.39 0.0497 0.0121

Jupiter -112197-10-04 00:00 J -39258254.59 -39258254.50 -39258254.42 0.0496 0.0425

Saturn -112195-05-02 08:53 J -39257679.21 -39257679.13 -39257679.04 0.0278 0.0229

Earth -112195-05-09 17:31 J -39257671.86 -39257671.77 -39257671.69 0.2748 0.1738

Moon -112195-05-09 18:00 J -39257671.83 -39257671.75 -39257671.67 0.2754 0.1759 *

Saturn -112195-07-29 22:34 J -39257590.68 -39257590.56 -39257590.44 0.0279 0.0147

Saturn -112195-10-26 12:00 J -39257502.14 -39257502.00 -39257501.86 0.0280 0.0065

Saturn -112194-01-23 01:12 J -39257413.59 -39257413.45 -39257413.30 0.0281 0.0019

Saturn -112194-04-21 14:24 J -39257325.03 -39257324.90 -39257324.76 0.0283 0.0100

Saturn -112194-07-19 03:36 J -39257236.46 -39257236.35 -39257236.24 0.0284 0.0181

Saturn -112194-10-15 16:34 J -39257147.86 -39257147.81 -39257147.76 0.0285 0.0262

Venus -112193-08-03 05:02 J -39256855.34 -39256855.29 -39256855.24 0.3740 0.3398

Jupiter -112191-06-08 03:36 J -39256181.44 -39256181.35 -39256181.26 0.0529 0.0392

Jupiter -112191-09-05 14:24 J -39256092.03 -39256091.90 -39256091.77 0.0530 0.0124

Mars -112190-12-23 23:31 J -39255617.68 -39255617.52 -39255617.37 0.1757 0.0051

Moon -112189-05-18 14:10 J -39255470.99 -39255470.91 -39255470.82 0.2756 0.1792

Earth -112189-05-18 14:38 J -39255470.97 -39255470.89 -39255470.81 0.2762 0.1865 *

Mars -112189-11-04 19:12 J -39255300.82 -39255300.70 -39255300.57 0.1755 0.0119

Venus -112187-02-17 04:48 J -39254831.42 -39254831.30 -39254831.18 0.3735 0.1044

Moon -112186-11-10 22:05 J -39254199.62 -39254199.58 -39254199.54 0.2574 0.2476

Jupiter -112185-04-23 21:50 J -39254034.73 -39254034.59 -39254034.45 0.0497 0.0258

Jupiter -112185-07-22 22:19 J -39253944.71 -39253944.57 -39253944.43 0.0496 0.0281

Earth -112182-05-12 12:00 J -39252921.10 -39252921.00 -39252920.89 0.2752 0.0791

Moon -112182-05-12 12:43 J -39252921.08 -39252920.97 -39252920.86 0.2750 0.0654 *

Venus -112182-09-03 05:02 J -39252807.41 -39252807.29 -39252807.17 0.3728 0.1431

Saturn -112182-09-03 11:46 J -39252807.04 -39252807.01 -39252806.97 0.0284 0.0276

Saturn -112182-12-01 06:29 J -39252718.36 -39252718.23 -39252718.11 0.0283 0.0180

Saturn -112181-02-28 01:12 J -39252629.61 -39252629.45 -39252629.29 0.0282 0.0083

Saturn -112181-05-26 20:10 J -39252540.83 -39252540.66 -39252540.49 0.0281 0.0016

Saturn -112181-08-23 15:22 J -39252452.01 -39252451.86 -39252451.70 0.0280 0.0114

Saturn -112181-11-20 10:48 J -39252363.15 -39252363.05 -39252362.93 0.0278 0.0212

Mars -112180-05-15 01:12 J -39252187.59 -39252187.45 -39252187.31 0.1752 0.0656

Jupiter -112179-03-27 06:29 J -39251871.25 -39251871.23 -39251871.21 0.0529 0.0518

Mars -112179-03-28 03:36 J -39251870.47 -39251870.35 -39251870.23 0.1760 0.0345

Jupiter -112179-06-24 17:46 J -39251781.90 -39251781.76 -39251781.62 0.0530 0.0003

Jupiter -112179-09-22 03:50 J -39251692.38 -39251692.34 -39251692.30 0.0531 0.0505

Earth -112179-11-02 12:00 J -39251651.11 -39251651.00 -39251650.89 0.2591 0.1775

Moon -112179-11-02 13:41 J -39251651.06 -39251650.93 -39251650.81 0.2589 0.1618 *

Mars -112177-03-02 16:48 J -39251164.87 -39251164.80 -39251164.73 0.1741 0.1416

Jupiter -112173-02-10 21:36 J -39249724.70 -39249724.60 -39249724.49 0.0497 0.0386

Jupiter -112173-05-10 21:50 J -39249634.75 -39249634.59 -39249634.43 0.0496 0.0148

Venus -112172-03-17 18:58 J -39249323.75 -39249323.71 -39249323.67 0.3637 0.3367

Mars -112171-10-05 03:22 J -39248757.47 -39248757.36 -39248757.26 0.1747 0.1253

Mars -112170-08-18 12:00 J -39248440.11 -39248440.00 -39248439.89 0.1765 0.0805

Earth -112169-05-14 06:29 J -39248170.34 -39248170.23 -39248170.12 0.2756 0.0189

Moon -112169-05-14 07:12 J -39248170.32 -39248170.20 -39248170.09 0.2751 0.0197 *

Mars -112169-09-10 22:19 J -39248050.67 -39248050.57 -39248050.47 0.1767 0.1354

Mars -112168-07-24 01:55 J -39247734.52 -39247734.42 -39247734.32 0.1745 0.1008

Uranus -112167-02-18 13:55 J -39247525.01 -39247524.92 -39247524.82 0.0147 0.0123

Jupiter -112167-04-12 21:07 J -39247471.75 -39247471.62 -39247471.49 0.0530 0.0121

Uranus -112167-05-17 21:07 J -39247436.75 -39247436.62 -39247436.48 0.0147 0.0096

Jupiter -112167-07-11 07:26 J -39247382.28 -39247382.19 -39247382.10 0.0531 0.0387

Uranus -112167-08-14 04:34 J -39247348.47 -39247348.31 -39247348.15 0.0147 0.0069

Venus -112167-10-01 13:55 J -39247300.02 -39247299.92 -39247299.82 0.3642 0.1746

Uranus -112167-11-10 11:46 J -39247260.17 -39247260.01 -39247259.83 0.0147 0.0042

Uranus -112166-02-06 19:26 J -39247171.87 -39247171.69 -39247171.52 0.0147 0.0014

Uranus -112166-05-06 02:53 J -39247083.56 -39247083.38 -39247083.20 0.0147 0.0014

Uranus -112166-08-02 10:19 J -39246995.24 -39246995.07 -39246994.90 0.0147 0.0042

Saturn -112166-09-19 09:50 J -39246947.14 -39246947.09 -39246947.04 0.0277 0.0258

Uranus -112166-10-29 17:46 J -39246906.91 -39246906.76 -39246906.59 0.0147 0.0071

Earth -112166-11-05 17:31 J -39246899.92 -39246899.77 -39246899.61 0.2587 0.0229

Moon -112166-11-05 18:43 J -39246899.88 -39246899.72 -39246899.56 0.2583 0.0106 *

Saturn -112166-12-16 23:17 J -39246858.63 -39246858.53 -39246858.41 0.0279 0.0177

Uranus -112165-01-26 01:26 J -39246818.56 -39246818.44 -39246818.30 0.0148 0.0099

Saturn -112165-03-14 12:58 J -39246770.10 -39246769.96 -39246769.83 0.0280 0.0095

Uranus -112165-04-23 09:22 J -39246730.19 -39246730.11 -39246730.02 0.0148 0.0128

Saturn -112165-06-11 02:10 J -39246681.55 -39246681.41 -39246681.26 0.0281 0.0015

Saturn -112165-09-07 15:22 J -39246592.99 -39246592.86 -39246592.72 0.0282 0.0070

Saturn -112165-12-05 04:34 J -39246504.43 -39246504.31 -39246504.19 0.0283 0.0151

Saturn -112164-03-03 17:31 J -39246415.85 -39246415.77 -39246415.69 0.0284 0.0232

Earth -112162-05-08 03:50 J -39245620.39 -39245620.34 -39245620.30 0.2745 0.2504

Moon -112162-05-08 04:05 J -39245620.37 -39245620.33 -39245620.29 0.2752 0.2501 *

Jupiter -112161-02-27 21:07 J -39245324.79 -39245324.62 -39245324.45 0.0496 0.0015

Venus -112161-04-16 08:24 J -39245276.26 -39245276.15 -39245276.03 0.3647 0.0187

Mars -112160-01-07 19:41 J -39245009.76 -39245009.68 -39245009.59 0.1770 0.1284

Mars -112159-01-31 22:48 J -39244620.69 -39244620.55 -39244620.41 0.1762 0.0676

Mars -112159-12-14 10:34 J -39244304.17 -39244304.06 -39244303.94 0.1750 0.0588

Moon -112156-05-17 00:58 J -39243419.56 -39243419.46 -39243419.36 0.2752 0.1124

Earth -112156-05-17 01:12 J -39243419.55 -39243419.45 -39243419.35 0.2759 0.1113 *

Venus -112156-10-31 02:53 J -39243252.49 -39243252.38 -39243252.27 0.3652 0.1361

Jupiter -112155-01-30 00:00 J -39243161.62 -39243161.50 -39243161.38 0.0529 0.0249

Jupiter -112155-04-29 10:34 J -39243072.17 -39243072.06 -39243071.94 0.0530 0.0263

Neptune -112154-05-16 21:36 J -39242689.63 -39242689.60 -39242689.53 0.0089 0.0085

Neptune -112154-08-13 00:14 J -39242601.55 -39242601.49 -39242601.40 0.0089 0.0080

Neptune -112154-11-09 02:53 J -39242513.45 -39242513.38 -39242513.27 0.0089 0.0075

Neptune -112153-02-05 05:31 J -39242425.35 -39242425.27 -39242425.14 0.0089 0.0070

Neptune -112153-05-03 08:53 J -39242337.25 -39242337.13 -39242337.02 0.0089 0.0064

Neptune -112153-07-30 11:31 J -39242249.15 -39242249.02 -39242248.89 0.0089 0.0059

Neptune -112153-10-26 14:10 J -39242161.04 -39242160.91 -39242160.77 0.0089 0.0054

Moon -112153-11-07 23:17 J -39242148.67 -39242148.53 -39242148.39 0.2577 0.1277

Earth -112153-11-07 23:31 J -39242148.66 -39242148.52 -39242148.39 0.2583 0.1365 *

Neptune -112152-01-22 16:48 J -39242072.94 -39242072.80 -39242072.65 0.0089 0.0049

Saturn -112152-04-19 05:02 J -39241986.39 -39241986.29 -39241986.18 0.0283 0.0215

Neptune -112152-04-20 19:26 J -39241984.83 -39241984.69 -39241984.53 0.0089 0.0044

Saturn -112152-07-17 00:00 J -39241897.65 -39241897.50 -39241897.35 0.0282 0.0118

Neptune -112152-07-17 22:19 J -39241896.72 -39241896.57 -39241896.40 0.0089 0.0039

Saturn -112152-10-13 18:58 J -39241808.88 -39241808.71 -39241808.54 0.0281 0.0020

Neptune -112152-10-14 00:58 J -39241808.61 -39241808.46 -39241808.28 0.0089 0.0034 *

Neptune -112151-01-10 04:05 J -39241720.49 -39241720.33 -39241720.16 0.0089 0.0028

Saturn -112151-01-10 14:10 J -39241720.07 -39241719.91 -39241719.75 0.0280 0.0078

Neptune -112151-04-08 06:58 J -39241632.38 -39241632.21 -39241632.04 0.0089 0.0023

Saturn -112151-04-09 09:22 J -39241631.23 -39241631.11 -39241630.97 0.0279 0.0177

Mars   -112151-05-31 03:36 J -39241579.36 -39241579.35 -39241579.34 0.1775 0.1768

Neptune -112151-07-05 09:36 J -39241544.26 -39241544.10 -39241543.92 0.0089 0.0018

Saturn -112151-07-07 05:17 J -39241542.30 -39241542.28 -39241542.26 0.0278 0.0275

Neptune -112151-10-01 12:29 J -39241456.15 -39241455.98 -39241455.80 0.0089 0.0013

Neptune -112151-12-28 15:36 J -39241368.03 -39241367.85 -39241367.68 0.0089 0.0007

Neptune -112150-03-26 18:14 J -39241279.91 -39241279.74 -39241279.56 0.0089 0.0003

Venus   -112150-05-16 21:07 J -39241228.69 -39241228.62 -39241228.55 0.3657 0.2862

Neptune -112150-06-22 21:07 J -39241191.79 -39241191.62 -39241191.44 0.0089 0.0004

Mars   -112150-06-24 00:00 J -39241190.65 -39241190.50 -39241190.35 0.1757 0.0025

Pluto   -112150-08-28 00:14 J -39241125.54 -39241125.49 -39241125.41 0.0084 0.0075

Neptune -112150-09-19 00:14 J -39241103.67 -39241103.49 -39241103.32 0.0089 0.0009

Pluto   -112150-11-24 01:41 J -39241037.51 -39241037.43 -39241037.33 0.0084 0.0060

Neptune -112150-12-16 02:53 J -39241015.55 -39241015.38 -39241015.20 0.0089 0.0015

Jupiter -112150-12-16 20:53 J -39241014.79 -39241014.63 -39241014.46 0.0497 0.0118

Pluto   -112149-02-20 02:53 J -39240949.48 -39240949.38 -39240949.25 0.0084 0.0046

Neptune -112149-03-13 05:46 J -39240927.42 -39240927.26 -39240927.08 0.0089 0.0020

Jupiter -112149-03-15 22:05 J -39240924.67 -39240924.58 -39240924.49 0.0496 0.0428

Mars   -112149-05-05 19:12 J -39240873.82 -39240873.70 -39240873.57 0.1755 0.0150

Earth   -112149-05-09 22:19 J -39240869.66 -39240869.57 -39240869.48 0.2749 0.1553

Moon   -112149-05-09 23:02 J -39240869.63 -39240869.54 -39240869.45 0.2752 0.1447 *

Pluto   -112149-05-18 04:34 J -39240861.44 -39240861.31 -39240861.19 0.0084 0.0030

Neptune -112149-06-09 08:53 J -39240839.30 -39240839.13 -39240838.96 0.0089 0.0025

Pluto   -112149-08-14 05:46 J -39240773.39 -39240773.26 -39240773.13 0.0084 0.0016

Neptune -112149-09-05 11:31 J -39240751.17 -39240751.02 -39240750.84 0.0089 0.0031

Pluto   -112149-11-10 06:58 J -39240685.34 -39240685.21 -39240685.07 0.0084 0.0002

Neptune -112149-12-02 14:38 J -39240663.05 -39240662.89 -39240662.72 0.0089 0.0036

Pluto -112148-02-06 08:10 J -39240597.29 -39240597.16 -39240597.02 0.0084 0.0013

Neptune -112148-02-28 17:31 J -39240574.92 -39240574.77 -39240574.60 0.0089 0.0042

Pluto -112148-05-05 09:36 J -39240509.23 -39240509.10 -39240508.98 0.0084 0.0027

Neptune -112148-05-27 20:38 J -39240486.79 -39240486.64 -39240486.49 0.0089 0.0047

Pluto -112148-08-01 10:48 J -39240421.17 -39240421.05 -39240420.94 0.0083 0.0041

Neptune -112148-08-23 23:17 J -39240398.66 -39240398.53 -39240398.37 0.0089 0.0053

Pluto -112148-10-28 11:46 J -39240333.10 -39240333.01 -39240332.90 0.0083 0.0055

Neptune -112148-11-20 02:38 J -39240310.52 -39240310.39 -39240310.25 0.0089 0.0058

Pluto -112147-01-24 12:58 J -39240245.02 -39240244.96 -39240244.87 0.0083 0.0069

Neptune -112147-02-16 05:17 J -39240222.38 -39240222.28 -39240222.14 0.0089 0.0064

Pluto -112147-04-22 14:24 J -39240156.90 -39240156.90 -39240156.89 0.0083 0.0083

Neptune -112147-05-15 08:38 J -39240134.25 -39240134.14 -39240134.02 0.0089 0.0069

Neptune -112147-08-11 11:31 J -39240046.10 -39240046.02 -39240045.91 0.0089 0.0075

Neptune -112147-11-07 14:53 J -39239957.96 -39239957.88 -39239957.81 0.0089 0.0080

Neptune -112146-02-03 17:31 J -39239869.80 -39239869.77 -39239869.71 0.0089 0.0086

Jupiter -112144-11-18 02:24 J -39238851.49 -39238851.40 -39238851.31 0.0528 0.0384

Jupiter -112143-02-15 13:12 J -39238762.08 -39238761.95 -39238761.81 0.0530 0.0132

Moon -112143-05-19 18:58 J -39238668.78 -39238668.71 -39238668.64 0.2759 0.1988

Earth -112143-05-19 19:26 J -39238668.76 -39238668.69 -39238668.61 0.2763 0.2053 *

Mars -112141-11-13 01:41 J -39237760.58 -39237760.43 -39237760.29 0.1752 0.0602

Mars -112140-09-26 03:50 J -39237443.46 -39237443.34 -39237443.22 0.1760 0.0294

Mars -112138-09-01 16:48 J -39236737.86 -39236737.80 -39236737.73 0.1741 0.1458

Jupiter -112138-10-04 20:53 J -39236704.78 -39236704.63 -39236704.49 0.0497 0.0247

Jupiter -112137-01-02 21:22 J -39236614.74 -39236614.61 -39236614.47 0.0496 0.0294

Venus -112136-03-10 04:34 J -39236182.40 -39236182.31 -39236182.22 0.3739 0.2586

Saturn -112136-05-05 00:58 J -39236126.55 -39236126.46 -39236126.36 0.0278 0.0201

Earth -112136-05-12 17:02 J -39236118.90 -39236118.79 -39236118.69 0.2753 0.0607

Moon -112136-05-12 17:46 J -39236118.87 -39236118.76 -39236118.65 0.2750 0.0606 *

Saturn -112136-08-01 14:38 J -39236038.02 -39236037.89 -39236037.76 0.0280 0.0119

Saturn -112136-10-29 03:50 J -39235949.48 -39235949.34 -39235949.19 0.0281 0.0038

Saturn -112135-01-25 17:17 J -39235860.92 -39235860.78 -39235860.64 0.0282 0.0045

Saturn -112135-04-24 06:14 J -39235772.36 -39235772.24 -39235772.11 0.0283 0.0127

Saturn -112135-07-21 19:26 J -39235683.79 -39235683.69 -39235683.60 0.0284 0.0208

Earth -112133-11-02 18:29 J -39234848.85 -39234848.73 -39234848.60 0.2591 0.1470

Moon -112133-11-02 20:10 J -39234848.79 -39234848.66 -39234848.53 0.2587 0.1430 *

Jupiter -112132-09-06 05:02 J -39234541.31 -39234541.29 -39234541.26 0.0528 0.0514

Jupiter -112132-12-04 16:19 J -39234451.95 -39234451.82 -39234451.68 0.0530 0.0015

Jupiter -112131-03-04 02:24 J -39234362.43 -39234362.40 -39234362.36 0.0531 0.0507

Mars -112131-04-05 03:36 J -39234330.46 -39234330.35 -39234330.24 0.1747 0.1198

Venus -112131-09-24 04:34 J -39234158.44 -39234158.31 -39234158.18 0.3733 0.0197

Mars -112130-02-16 12:00 J -39234013.11 -39234013.00 -39234012.89 0.1765 0.0759

Mars -112129-03-11 22:34 J -39233623.65 -39233623.56 -39233623.47 0.1767 0.1408

Mars -112128-01-22 01:55 J -39233307.51 -39233307.42 -39233307.32 0.1745 0.1052

Uranus -112127-01-07 03:50 J -39232957.39 -39232957.34 -39232957.26 0.0132 0.0119

Uranus -112127-04-05 07:41 J -39232869.27 -39232869.18 -39232869.09 0.0132 0.0101

Uranus -112127-07-02 11:02 J -39232781.14 -39232781.04 -39232780.92 0.0132 0.0086

Uranus -112127-09-28 14:38 J -39232693.01 -39232692.89 -39232692.77 0.0132 0.0069

Uranus -112127-12-25 18:00 J -39232604.87 -39232604.75 -39232604.62 0.0132 0.0053

Uranus -112126-03-23 21:36 J -39232516.74 -39232516.60 -39232516.47 0.0132 0.0037

Uranus -112126-06-20 00:58 J -39232428.60 -39232428.46 -39232428.32 0.0132 0.0021

Jupiter -112126-07-23 20:10 J -39232394.76 -39232394.66 -39232394.55 0.0497 0.0380

Uranus -112126-09-16 04:19 J -39232340.46 -39232340.32 -39232340.18 0.0132 0.0006

Jupiter -112126-10-21 20:10 J -39232304.82 -39232304.66 -39232304.49 0.0496 0.0154

Uranus -112126-12-13 07:41 J -39232252.32 -39232252.18 -39232252.04 0.0132 0.0010

Uranus -112125-03-10 11:02 J -39232164.18 -39232164.04 -39232163.91 0.0132 0.0025

Venus -112125-04-09 04:48 J -39232134.40 -39232134.30 -39232134.20 0.3727 0.2302

Uranus -112125-06-06 14:24 J -39232076.04 -39232075.90 -39232075.77 0.0132 0.0041

Uranus -112125-09-02 17:31 J -39231987.89 -39231987.77 -39231987.64 0.0131 0.0056

Uranus -112125-11-29 20:38 J -39231899.75 -39231899.64 -39231899.52 0.0131 0.0072

Uranus -112124-02-26 00:00 J -39231811.60 -39231811.50 -39231811.39 0.0131 0.0086

Uranus -112124-05-25 03:07 J -39231723.45 -39231723.37 -39231723.28 0.0131 0.0102

Uranus -112124-08-21 06:29 J -39231635.29 -39231635.23 -39231635.17 0.0131 0.0116

Uranus -112124-11-17 09:36 J -39231547.10 -39231547.10 -39231547.09 0.0131 0.0131

Earth -112123-05-15 11:31 J -39231368.13 -39231368.02 -39231367.91 0.2756 0.0348

Moon -112123-05-15 11:46 J -39231368.12 -39231368.01 -39231367.90 0.2750 0.0430 *

Saturn -112123-09-06 05:31 J -39231254.35 -39231254.27 -39231254.18 0.0284 0.0242

Saturn -112123-12-04 00:14 J -39231165.63 -39231165.49 -39231165.34 0.0283 0.0145

Saturn -112122-03-02 19:12 J -39231076.87 -39231076.70 -39231076.53 0.0281 0.0048

Saturn -112122-05-30 14:24 J -39230988.07 -39230987.90 -39230987.73 0.0280 0.0051

Saturn -112122-08-27 09:36 J -39230899.24 -39230899.10 -39230898.95 0.0279 0.0150

Saturn -112122-11-24 05:02 J -39230810.35 -39230810.29 -39230810.20 0.0278 0.0249

Mars -112121-07-08 19:55 J -39230582.76 -39230582.67 -39230582.58 0.1770 0.1231

Mars -112120-08-01 23:31 J -39230193.66 -39230193.52 -39230193.38 0.1762 0.0741

Jupiter -112120-09-22 19:26 J -39230141.82 -39230141.69 -39230141.55 0.0530 0.0120

Earth -112120-11-06 00:14 J -39230097.65 -39230097.49 -39230097.33 0.2587 0.0098

Moon -112120-11-06 00:58 J -39230097.62 -39230097.46 -39230097.30 0.2581 0.0164 *

Jupiter -112120-12-21 06:00 J -39230052.34 -39230052.25 -39230052.16 0.0531 0.0390

Mars -112119-06-14 10:48 J -39229877.17 -39229877.05 -39229876.94 0.1750 0.0630

Earth -112116-05-08 08:38 J -39228818.20 -39228818.14 -39228818.08 0.2745 0.2320

Moon -112116-05-08 09:07 J -39228818.18 -39228818.12 -39228818.06 0.2752 0.2296 *

Venus -112116-10-22 17:31 J -39228650.85 -39228650.77 -39228650.70 0.3639 0.2764

Jupiter -112114-08-09 19:55 J -39227994.84 -39227994.67 -39227994.50 0.0496 0.0024

Mars -112112-11-29 03:50 J -39227152.37 -39227152.34 -39227152.32 0.1774 0.1719

Mars -112111-12-23 00:43 J -39226763.63 -39226763.47 -39226763.32 0.1757 0.0102

Venus -112110-05-08 12:14 J -39226627.10 -39226626.99 -39226626.88 0.3644 0.1164

Moon -112110-05-18 05:46 J -39226617.36 -39226617.26 -39226617.16 0.2753 0.1220

Earth -112110-05-18 06:00 J -39226617.35 -39226617.25 -39226617.16 0.2760 0.1292 *

Mars -112110-11-04 19:26 J -39226446.81 -39226446.69 -39226446.57 0.1755 0.0198

Jupiter -112108-07-11 22:48 J -39225831.67 -39225831.55 -39225831.43 0.0529 0.0241

Jupiter -112108-10-09 09:36 J -39225742.22 -39225742.10 -39225741.99 0.0531 0.0272

Saturn -112107-09-22 01:41 J -39225394.51 -39225394.43 -39225394.35 0.0277 0.0231

Moon -112107-11-09 05:31 J -39225346.39 -39225346.27 -39225346.15 0.2577 0.1680

Earth -112107-11-09 06:00 J -39225346.37 -39225346.25 -39225346.13 0.2583 0.1671 *

Saturn -112107-12-19 15:07 J -39225305.99 -39225305.87 -39225305.74 0.0279 0.0150

Saturn -112106-03-18 04:34 J -39225217.45 -39225217.31 -39225217.17 0.0280 0.0068

Saturn -112106-06-14 18:00 J -39225128.90 -39225128.75 -39225128.61 0.0281 0.0016

Saturn -112106-09-11 06:58 J -39225040.34 -39225040.21 -39225040.07 0.0282 0.0095

Saturn -112106-12-08 19:55 J -39224951.77 -39224951.67 -39224951.56 0.0283 0.0176

Saturn -112105-03-06 08:53 J -39224863.18 -39224863.13 -39224863.07 0.0284 0.0257

Venus -112105-11-21 06:43 J -39224603.33 -39224603.22 -39224603.11 0.3649 0.0393

Earth -112103-05-11 03:22 J -39224067.46 -39224067.36 -39224067.27 0.2749 0.1367

Moon -112103-05-11 04:05 J -39224067.43 -39224067.33 -39224067.24 0.2750 0.1319 *

Jupiter -112102-05-28 19:26 J -39223684.85 -39223684.69 -39223684.52 0.0496 0.0111

Jupiter -112102-08-26 20:24 J -39223594.73 -39223594.65 -39223594.56 0.0496 0.0434

Mars -112101-05-14 02:10 J -39223333.56 -39223333.41 -39223333.27 0.1752 0.0542

Mars -112100-03-27 03:50 J -39223016.46 -39223016.34 -39223016.22 0.1760 0.0255

Venus -112099-06-07 01:12 J -39222579.55 -39222579.45 -39222579.36 0.3654 0.1921

Mars -112098-03-02 17:02 J -39222310.85 -39222310.79 -39222310.73 0.1741 0.1499

Moon -112097-05-19 23:46 J -39221866.58 -39221866.51 -39221866.45 0.2761 0.2200

Earth -112097-05-20 00:29 J -39221866.54 -39221866.48 -39221866.42 0.2763 0.2235 *

Jupiter -112096-04-30 01:41 J -39221521.52 -39221521.43 -39221521.33 0.0529 0.0369

Jupiter -112096-07-28 12:43 J -39221432.10 -39221431.97 -39221431.84 0.0530 0.0148

Venus -112094-12-21 19:12 J -39220555.74 -39220555.70 -39220555.66 0.3659 0.3395

Saturn -112093-01-24 03:50 J -39220522.36 -39220522.34 -39220522.32 0.0284 0.0280

Saturn -112093-04-21 22:19 J -39220433.69 -39220433.57 -39220433.44 0.0283 0.0184

Saturn -112093-07-19 17:17 J -39220344.94 -39220344.78 -39220344.62 0.0282 0.0086

Saturn -112093-10-16 12:14 J -39220256.15 -39220255.99 -39220255.82 0.0281 0.0014

Saturn -112092-01-13 07:41 J -39220167.34 -39220167.18 -39220167.02 0.0280 0.0110

Saturn -112092-04-12 03:07 J -39220078.48 -39220078.37 -39220078.25 0.0279 0.0209

Mars -112092-10-04 04:05 J -39219903.44 -39219903.33 -39219903.21 0.1747 0.1139

Mars -112091-08-17 12:00 J -39219586.11 -39219586.00 -39219585.88 0.1765 0.0713

Jupiter -112090-03-16 19:12 J -39219374.84 -39219374.70 -39219374.55 0.0497 0.0240

Earth -112090-05-13 21:50 J -39219316.70 -39219316.59 -39219316.48 0.2753 0.0415

Moon -112090-05-13 22:34 J -39219316.67 -39219316.56 -39219316.45 0.2750 0.0299 *

Jupiter -112090-06-14 19:55 J -39219284.80 -39219284.67 -39219284.53 0.0496 0.0301

Mars -112090-09-10 23:17 J -39219196.61 -39219196.53 -39219196.44 0.1767 0.1479

Mars -112089-07-23 01:55 J -39218880.51 -39218880.42 -39218880.32 0.1746 0.1092

Earth -112087-11-04 00:58 J -39218046.60 -39218046.46 -39218046.32 0.2590 0.1170

Moon -112087-11-04 02:24 J -39218046.55 -39218046.40 -39218046.25 0.2586 0.0983 *

Jupiter -112084-02-16 04:05 J -39217211.36 -39217211.33 -39217211.28 0.0528 0.0503

Jupiter -112084-05-16 15:22 J -39217121.99 -39217121.86 -39217121.72 0.0529 0.0024

Jupiter -112084-08-14 01:26 J -39217032.46 -39217032.44 -39217032.41 0.0530 0.0518

Uranus -112084-12-12 14:53 J -39216911.92 -39216911.88 -39216911.82 0.0147 0.0140

Uranus -112083-03-10 22:19 J -39216823.68 -39216823.57 -39216823.46 0.0147 0.0113

Uranus -112083-06-07 05:31 J -39216735.41 -39216735.27 -39216735.12 0.0147 0.0086

Uranus -112083-09-03 12:43 J -39216647.12 -39216646.97 -39216646.80 0.0147 0.0060

Uranus -112083-11-30 20:10 J -39216558.83 -39216558.66 -39216558.48 0.0147 0.0032

Mars -112082-02-24 06:29 J -39216473.25 -39216473.23 -39216473.21 0.1742 0.1715

Uranus -112082-02-27 03:50 J -39216470.52 -39216470.34 -39216470.17 0.0147 0.0005

Uranus -112082-05-26 11:17 J -39216382.21 -39216382.03 -39216381.85 0.0147 0.0024

Uranus -112082-08-22 18:43 J -39216293.88 -39216293.72 -39216293.55 0.0147 0.0053

Uranus -112082-11-19 02:24 J -39216205.55 -39216205.40 -39216205.25 0.0147 0.0081

Mars -112081-01-07 20:10 J -39216155.75 -39216155.66 -39216155.57 0.1770 0.1180

Uranus -112081-02-15 10:05 J -39216117.20 -39216117.08 -39216116.96 0.0148 0.0110

Uranus -112081-05-13 17:46 J -39216028.81 -39216028.76 -39216028.69 0.0148 0.0139

Mars -112080-01-31 00:00 J -39215766.64 -39215766.50 -39215766.37 0.1762 0.0800

Venus -112080-10-15 04:19 J -39215509.44 -39215509.32 -39215509.21 0.3737 0.1763

Mars -112080-12-13 10:48 J -39215450.16 -39215450.05 -39215449.93 0.1750 0.0676

Jupiter -112078-01-02 19:12 J -39215064.80 -39215064.70 -39215064.58 0.0497 0.0368

Jupiter -112078-04-02 19:26 J -39214974.85 -39214974.69 -39214974.52 0.0496 0.0169

Saturn -112077-02-09 02:53 J -39214662.43 -39214662.38 -39214662.33 0.0277 0.0257

Saturn -112077-05-07 16:19 J -39214573.93 -39214573.82 -39214573.70 0.0279 0.0176

Moon -112077-05-15 16:34 J -39214565.92 -39214565.81 -39214565.71 0.2749 0.0485

Earth -112077-05-15 16:19 J -39214565.92 -39214565.82 -39214565.71 0.2757 0.0539 *

Saturn -112077-08-04 06:00 J -39214485.39 -39214485.25 -39214485.12 0.0280 0.0095

Saturn -112077-10-31 19:12 J -39214396.84 -39214396.70 -39214396.56 0.0281 0.0013

Saturn -112076-01-28 08:24 J -39214308.29 -39214308.15 -39214308.01 0.0282 0.0069

Saturn -112076-04-26 21:36 J -39214219.72 -39214219.60 -39214219.48 0.0283 0.0150

Saturn -112076-07-24 10:19 J -39214131.14 -39214131.07 -39214130.98 0.0284 0.0231

Venus -112074-05-01 04:19 J -39213485.45 -39213485.32 -39213485.19 0.3731 0.0662

Moon -112074-11-07 06:43 J -39213295.38 -39213295.22 -39213295.06 0.2580 0.0356

Earth -112074-11-07 06:43 J -39213295.38 -39213295.22 -39213295.07 0.2586 0.0402 *

Neptune -112073-09-07 02:10 J -39212990.43 -39212990.41 -39212990.36 0.0088 0.0086

Neptune -112073-12-04 04:05 J -39212902.38 -39212902.33 -39212902.26 0.0088 0.0081

Neptune -112072-03-02 05:46 J -39212814.32 -39212814.26 -39212814.17 0.0088 0.0077

Jupiter -112072-03-04 18:29 J -39212811.86 -39212811.73 -39212811.60 0.0529 0.0110

Neptune -112072-05-29 07:55 J -39212726.25 -39212726.17 -39212726.09 0.0088 0.0072

Mars -112072-05-30 03:50 J -39212725.38 -39212725.34 -39212725.30 0.1774 0.1670

Jupiter -112072-06-02 04:48 J -39212722.39 -39212722.30 -39212722.21 0.0530 0.0396

Neptune -112072-08-25 09:22 J -39212638.19 -39212638.11 -39212638.00 0.0088 0.0068

Neptune -112072-11-21 11:31 J -39212550.12 -39212550.02 -39212549.92 0.0088 0.0063

Neptune -112071-02-17 12:58 J -39212462.06 -39212461.96 -39212461.84 0.0088 0.0059

Neptune -112071-05-16 14:38 J -39212373.99 -39212373.89 -39212373.76 0.0088 0.0055

Mars -112071-06-23 00:58 J -39212336.62 -39212336.46 -39212336.31 0.1757 0.0146

Neptune -112071-08-12 16:34 J -39212285.92 -39212285.81 -39212285.68 0.0088 0.0050

Neptune -112071-11-08 18:14 J -39212197.85 -39212197.74 -39212197.60 0.0088 0.0046

Neptune -112070-02-04 20:10 J -39212109.78 -39212109.66 -39212109.53 0.0088 0.0041

Neptune -112070-05-03 21:50 J -39212021.72 -39212021.59 -39212021.45 0.0088 0.0036

Mars -112070-05-05 19:26 J -39212019.81 -39212019.69 -39212019.56 0.1755 0.0247

Earth -112070-05-09 13:41 J -39212016.00 -39212015.93 -39212015.87 0.2746 0.2138

Moon -112070-05-09 14:10 J -39212015.98 -39212015.91 -39212015.84 0.2751 0.2069 *

Neptune -112070-07-30 23:31 J -39211933.65 -39211933.52 -39211933.38 0.0088 0.0032

Neptune -112070-10-27 01:26 J -39211845.58 -39211845.44 -39211845.30 0.0088 0.0027

Neptune -112069-01-23 03:07 J -39211757.51 -39211757.37 -39211757.23 0.0088 0.0023

Neptune -112069-04-20 04:48 J -39211669.44 -39211669.30 -39211669.16 0.0088 0.0019

Neptune -112069-07-17 06:29 J -39211581.37 -39211581.23 -39211581.09 0.0088 0.0014

Neptune -112069-10-13 08:10 J -39211493.30 -39211493.16 -39211493.01 0.0088 0.0010

Venus -112069-11-14 04:34 J -39211461.37 -39211461.31 -39211461.24 0.3725 0.3175

Neptune -112068-01-09 09:50 J -39211405.23 -39211405.09 -39211404.94 0.0088 0.0006

Neptune -112068-04-07 11:31 J -39211317.16 -39211317.02 -39211316.88 0.0088 0.0002

Neptune -112068-07-04 13:12 J -39211229.09 -39211228.95 -39211228.81 0.0088 0.0003

Neptune -112068-09-30 14:53 J -39211141.02 -39211140.88 -39211140.74 0.0088 0.0007

Neptune -112068-12-27 16:34 J -39211052.95 -39211052.81 -39211052.67 0.0088 0.0011

Neptune -112067-03-25 18:14 J -39210964.89 -39210964.74 -39210964.60 0.0088 0.0016

Neptune -112067-06-21 19:41 J -39210876.82 -39210876.68 -39210876.54 0.0088 0.0020

Neptune -112067-09-17 21:07 J -39210788.75 -39210788.62 -39210788.47 0.0088 0.0025

Jupiter -112067-10-21 19:12 J -39210754.71 -39210754.70 -39210754.69 0.0497 0.0495

Neptune -112067-12-14 22:48 J -39210700.68 -39210700.55 -39210700.41 0.0088 0.0029

Jupiter -112066-01-19 18:43 J -39210664.89 -39210664.72 -39210664.55 0.0496 0.0032

Neptune -112066-03-13 00:29 J -39210612.61 -39210612.48 -39210612.34 0.0088 0.0033

Neptune -112066-06-09 02:10 J -39210524.54 -39210524.41 -39210524.28 0.0088 0.0037

Neptune -112066-09-05 03:50 J -39210436.47 -39210436.34 -39210436.21 0.0088 0.0041

Neptune -112066-12-02 05:17 J -39210348.40 -39210348.28 -39210348.15 0.0088 0.0045

Neptune -112065-02-28 06:43 J -39210260.32 -39210260.22 -39210260.09 0.0088 0.0050

Neptune -112065-05-26 08:24 J -39210172.25 -39210172.15 -39210172.03 0.0088 0.0053

Neptune -112065-08-22 10:05 J -39210084.18 -39210084.08 -39210083.97 0.0088 0.0057

Neptune -112065-11-18 11:31 J -39209996.11 -39209996.02 -39209995.91 0.0088 0.0062

Neptune -112064-02-14 13:12 J -39209908.04 -39209907.95 -39209907.85 0.0088 0.0065

Neptune -112064-05-13 14:38 J -39209819.96 -39209819.89 -39209819.79 0.0088 0.0070

Moon -112064-05-18 10:19 J -39209815.16 -39209815.07 -39209814.97 0.2755 0.1498

Earth -112064-05-18 10:48 J -39209815.14 -39209815.05 -39209814.95 0.2760 0.1481 *

Neptune -112064-08-09 16:19 J -39209731.89 -39209731.82 -39209731.74 0.0088 0.0074

Saturn -112064-09-08 22:19 J -39209701.67 -39209701.57 -39209701.46 0.0284 0.0213

Neptune -112064-11-05 17:46 J -39209643.81 -39209643.76 -39209643.68 0.0088 0.0078

Saturn -112064-12-06 17:17 J -39209612.93 -39209612.78 -39209612.63 0.0282 0.0116

Neptune -112063-02-01 19:26 J -39209555.74 -39209555.69 -39209555.63 0.0088 0.0082

Saturn -112063-03-05 12:14 J -39209524.16 -39209523.99 -39209523.82 0.0281 0.0018

Neptune -112063-04-30 20:53 J -39209467.65 -39209467.63 -39209467.59 0.0088 0.0086

Saturn -112063-06-02 07:26 J -39209435.35 -39209435.19 -39209435.02 0.0280 0.0081

Saturn -112063-08-30 02:53 J -39209346.51 -39209346.38 -39209346.24 0.0279 0.0180

Mars -112062-11-13 02:38 J -39208906.53 -39208906.39 -39208906.24 0.1752 0.0476

Mars -112061-09-25 03:50 J -39208589.46 -39208589.34 -39208589.21 0.1760 0.0215

Moon -112061-11-09 11:46 J -39208544.11 -39208544.01 -39208543.90 0.2577 0.1917

Earth -112061-11-09 12:29 J -39208544.08 -39208543.98 -39208543.88 0.2583 0.1990 *

Jupiter -112061-12-21 21:22 J -39208501.73 -39208501.61 -39208501.48 0.0530 0.0238

Jupiter -112060-03-21 08:10 J -39208412.27 -39208412.16 -39208412.05 0.0531 0.0276

Venus -112059-05-29 15:50 J -39207977.93 -39207977.84 -39207977.75 0.3640 0.2171

Mars -112059-08-31 17:02 J -39207883.84 -39207883.79 -39207883.74 0.1741 0.1542

Earth -112057-05-11 08:10 J -39207265.26 -39207265.16 -39207265.06 0.2750 0.1181

Moon -112057-05-11 08:53 J -39207265.23 -39207265.13 -39207265.02 0.2749 0.1115 *

Jupiter -112055-11-07 18:43 J -39206354.89 -39206354.72 -39206354.56 0.0496 0.0097

Jupiter -112054-02-05 19:26 J -39206264.76 -39206264.69 -39206264.61 0.0495 0.0447

Earth -112054-11-02 01:55 J -39205995.47 -39205995.42 -39205995.36 0.2594 0.2415

Moon -112054-11-02 03:36 J -39205995.43 -39205995.35 -39205995.27 0.2591 0.2209 *

Venus -112054-12-13 10:19 J -39205954.18 -39205954.07 -39205953.95 0.3645 0.0606

Mars -112052-04-04 04:34 J -39205476.43 -39205476.31 -39205476.19 0.1747 0.1079

Mars -112051-02-15 12:14 J -39205159.11 -39205158.99 -39205158.88 0.1765 0.0664

Moon -112051-05-21 04:34 J -39205064.37 -39205064.31 -39205064.25 0.2762 0.2302

Earth -112051-05-21 05:17 J -39205064.33 -39205064.28 -39205064.23 0.2763 0.2419 *

Mars -112050-03-12 00:00 J -39204769.58 -39204769.50 -39204769.43 0.1767 0.1544

Mars -112049-01-22 02:10 J -39204453.51 -39204453.41 -39204453.32 0.1746 0.1137

Jupiter -112049-10-10 00:43 J -39204191.57 -39204191.47 -39204191.37 0.0529 0.0359

Jupiter -112048-01-07 11:46 J -39204102.14 -39204102.01 -39204101.88 0.0531 0.0157

Venus -112048-06-28 05:02 J -39203930.41 -39203930.29 -39203930.18 0.3650 0.0963

Saturn -112048-09-24 17:02 J -39203841.88 -39203841.79 -39203841.69 0.0277 0.0207

Saturn -112048-12-22 06:29 J -39203753.36 -39203753.23 -39203753.10 0.0278 0.0126

Saturn -112047-03-20 19:55 J -39203664.81 -39203664.67 -39203664.53 0.0280 0.0045

Saturn -112047-06-17 09:07 J -39203576.26 -39203576.12 -39203575.98 0.0281 0.0037

Saturn -112047-09-13 22:05 J -39203487.70 -39203487.58 -39203487.45 0.0282 0.0118

Saturn -112047-12-11 11:17 J -39203399.13 -39203399.03 -39203398.94 0.0283 0.0198

Saturn -112046-03-10 00:00 J -39203310.52 -39203310.50 -39203310.47 0.0284 0.0278

Earth -112044-05-14 02:53 J -39202514.49 -39202514.38 -39202514.27 0.2753 0.0247

Moon -112044-05-14 03:07 J -39202514.48 -39202514.37 -39202514.26 0.2748 0.0243 *

Uranus -112044-10-31 07:55 J -39202344.19 -39202344.17 -39202344.13 0.0132 0.0129

Uranus -112043-01-27 11:31 J -39202256.09 -39202256.02 -39202255.94 0.0132 0.0113

Uranus -112043-04-25 15:07 J -39202167.96 -39202167.87 -39202167.77 0.0132 0.0096

Uranus -112043-07-22 18:29 J -39202079.83 -39202079.73 -39202079.61 0.0132 0.0080

Mars -112043-08-25 07:12 J -39202046.25 -39202046.20 -39202046.16 0.1742 0.1654

Jupiter -112043-08-26 18:14 J -39202044.89 -39202044.74 -39202044.59 0.0497 0.0228

Uranus -112043-10-18 22:05 J -39201991.70 -39201991.58 -39201991.45 0.0132 0.0064

Jupiter -112043-11-24 18:43 J -39201954.85 -39201954.72 -39201954.58 0.0496 0.0311

Venus -112042-01-11 23:17 J -39201906.62 -39201906.53 -39201906.45 0.3655 0.2454

Uranus -112042-01-15 01:26 J -39201903.57 -39201903.44 -39201903.30 0.0132 0.0048

Uranus -112042-04-13 05:02 J -39201815.43 -39201815.29 -39201815.16 0.0132 0.0032

Mars -112042-07-08 20:10 J -39201728.75 -39201728.66 -39201728.56 0.1770 0.1136

Uranus -112042-07-10 08:24 J -39201727.29 -39201727.15 -39201727.01 0.0132 0.0016

Uranus -112042-10-06 11:46 J -39201639.15 -39201639.01 -39201638.87 0.0132 0.0001

Uranus -112041-01-02 15:07 J -39201551.01 -39201550.87 -39201550.73 0.0132 0.0015

Uranus -112041-03-30 18:29 J -39201462.87 -39201462.73 -39201462.60 0.0132 0.0030

Uranus -112041-06-26 21:50 J -39201374.73 -39201374.59 -39201374.46 0.0132 0.0046

Mars -112041-08-01 00:29 J -39201339.62 -39201339.48 -39201339.35 0.1762 0.0862

Uranus -112041-09-23 00:58 J -39201286.58 -39201286.46 -39201286.33 0.0131 0.0061

Earth -112041-11-04 07:26 J -39201244.33 -39201244.19 -39201244.04 0.2590 0.0861

Moon -112041-11-04 08:38 J -39201244.29 -39201244.14 -39201243.99 0.2585 0.0880 *

Uranus -112041-12-20 04:05 J -39201198.43 -39201198.33 -39201198.21 0.0131 0.0077

Uranus -112040-03-18 07:26 J -39201110.28 -39201110.19 -39201110.09 0.0131 0.0091

Mars -112040-06-13 10:48 J -39201023.16 -39201023.05 -39201022.93 0.1750 0.0720

Uranus -112040-06-14 10:34 J -39201022.13 -39201022.06 -39201021.97 0.0131 0.0107

Uranus -112040-09-10 13:55 J -39200933.97 -39200933.92 -39200933.87 0.0131 0.0121

Jupiter -112037-07-29 03:36 J -39199881.40 -39199881.35 -39199881.29 0.0529 0.0486

Jupiter -112037-10-26 14:53 J -39199792.01 -39199791.88 -39199791.74 0.0530 0.0038

Saturn -112034-01-26 19:55 J -39198969.74 -39198969.67 -39198969.59 0.0284 0.0254

Saturn -112034-04-25 14:38 J -39198881.02 -39198880.89 -39198880.75 0.0283 0.0157

Saturn -112034-07-23 09:36 J -39198792.26 -39198792.10 -39198791.93 0.0282 0.0060

Saturn -112034-10-20 04:48 J -39198703.47 -39198703.30 -39198703.13 0.0281 0.0039

Saturn -112033-01-17 00:14 J -39198614.64 -39198614.49 -39198614.34 0.0280 0.0138

Saturn -112033-04-14 19:41 J -39198525.76 -39198525.68 -39198525.58 0.0279 0.0237

Mars -112033-11-28 04:05 J -39198298.38 -39198298.33 -39198298.28 0.1775 0.1621

Mars -112032-12-22 01:41 J -39197909.59 -39197909.43 -39197909.28 0.1757 0.0214

Moon -112031-05-16 21:22 J -39197763.72 -39197763.61 -39197763.51 0.2750 0.0782

Earth -112031-05-16 21:22 J -39197763.72 -39197763.61 -39197763.51 0.2757 0.0725 *

Jupiter -112031-06-14 18:14 J -39197734.85 -39197734.74 -39197734.62 0.0497 0.0356

Jupiter -112031-09-12 18:14 J -39197644.89 -39197644.74 -39197644.57 0.0496 0.0179

Mars -112031-11-03 19:41 J -39197592.81 -39197592.68 -39197592.56 0.1755 0.0291

Venus -112029-11-05 04:19 J -39196860.38 -39196860.32 -39196860.26 0.3741 0.3270

Moon -112028-11-07 13:12 J -39196493.11 -39196492.95 -39196492.80 0.2579 0.0781

Earth -112028-11-07 13:12 J -39196493.10 -39196492.95 -39196492.80 0.2586 0.0710 *

Jupiter -112025-08-14 17:46 J -39195481.89 -39195481.76 -39195481.63 0.0529 0.0097

Jupiter -112025-11-12 04:05 J -39195392.41 -39195392.33 -39195392.25 0.0530 0.0410

Earth -112024-05-09 18:29 J -39195213.81 -39195213.73 -39195213.65 0.2746 0.1947

Moon -112024-05-09 19:12 J -39195213.78 -39195213.70 -39195213.62 0.2749 0.1944 *

Venus -112023-05-22 03:50 J -39194836.46 -39194836.34 -39194836.21 0.3736 0.0936

Mars -112022-05-14 02:53 J -39194479.53 -39194479.38 -39194479.23 0.1752 0.0425

Mars -112021-03-26 04:05 J -39194162.45 -39194162.33 -39194162.21 0.1760 0.0158

Mars -112019-03-01 17:02 J -39193456.84 -39193456.79 -39193456.74 0.1741 0.1581

Jupiter -112019-04-02 18:29 J -39193424.77 -39193424.73 -39193424.69 0.0498 0.0481

Jupiter -112019-07-01 18:00 J -39193334.92 -39193334.75 -39193334.58 0.0496 0.0049

Saturn -112018-02-11 18:00 J -39193109.83 -39193109.75 -39193109.67 0.0277 0.0235

Saturn -112018-05-11 07:26 J -39193021.31 -39193021.19 -39193021.07 0.0279 0.0154

Moon -112018-05-19 15:07 J -39193012.96 -39193012.87 -39193012.78 0.2757 0.1541

Earth -112018-05-19 15:50 J -39193012.93 -39193012.84 -39193012.76 0.2760 0.1670 *

Saturn -112018-08-07 20:53 J -39192932.77 -39192932.63 -39192932.49 0.0280 0.0073

Saturn -112018-11-04 10:05 J -39192844.22 -39192844.08 -39192843.93 0.0281 0.0011

Venus -112018-12-06 04:05 J -39192812.45 -39192812.33 -39192812.21 0.3729 0.1511

Saturn -112017-01-31 23:17 J -39192755.66 -39192755.53 -39192755.39 0.0282 0.0090

Saturn -112017-04-29 12:14 J -39192667.10 -39192666.99 -39192666.87 0.0283 0.0171

Saturn -112017-07-27 01:12 J -39192578.51 -39192578.45 -39192578.38 0.0284 0.0251

Moon -112015-11-10 17:46 J -39191741.84 -39191741.76 -39191741.67 0.2578 0.2158

Earth -112015-11-10 19:12 J -39191741.77 -39191741.70 -39191741.64 0.2582 0.2303 *

Jupiter -112013-06-02 20:38 J -39191171.76 -39191171.64 -39191171.51 0.0529 0.0224

Jupiter -112013-08-31 07:26 J -39191082.31 -39191082.19 -39191082.08 0.0530 0.0287

Mars -112013-10-03 05:17 J -39191049.41 -39191049.28 -39191049.16 0.1747 0.1018

Mars -112012-08-16 12:29 J -39190732.10 -39190731.98 -39190731.87 0.1765 0.0616

Earth -112011-05-12 13:12 J -39190463.06 -39190462.95 -39190462.85 0.2750 0.0999

Moon -112011-05-12 13:55 J -39190463.03 -39190462.92 -39190462.82 0.2749 0.0913 *

Mars -112011-09-10 00:14 J -39190342.55 -39190342.49 -39190342.42 0.1767 0.1601

Mars -112010-07-23 02:10 J -39190026.49 -39190026.41 -39190026.32 0.1745 0.1183

Venus -112008-06-19 19:12 J -39189328.75 -39189328.70 -39189328.65 0.3637 0.3201

Earth -112008-11-02 08:24 J -39189193.23 -39189193.15 -39189193.06 0.2593 0.2112

Moon -112008-11-02 10:05 J -39189193.17 -39189193.08 -39189192.99 0.2590 0.2068 *

Jupiter -112007-04-19 17:31 J -39189024.93 -39189024.77 -39189024.60 0.0496 0.0085

Jupiter -112007-07-18 18:29 J -39188934.79 -39188934.73 -39188934.66 0.0495 0.0459

Moon -112005-05-21 09:36 J -39188262.14 -39188262.10 -39188262.07 0.2764 0.2602

Earth -112005-05-21 10:05 J -39188262.11 -39188262.08 -39188262.04 0.2764 0.2608 *

Saturn -112005-09-11 14:24 J -39188149.02 -39188148.90 -39188148.78 0.0284 0.0189

Saturn -112005-12-09 09:07 J -39188060.27 -39188060.12 -39188059.96 0.0282 0.0091

Saturn -112004-03-08 04:19 J -39187971.49 -39187971.32 -39187971.15 0.0281 0.0009

Saturn -112004-06-04 23:46 J -39187882.67 -39187882.51 -39187882.35 0.0280 0.0107

Saturn -112004-09-01 19:12 J -39187793.81 -39187793.70 -39187793.58 0.0279 0.0206

Mars -112003-02-23 07:26 J -39187619.24 -39187619.19 -39187619.13 0.1742 0.1597

Venus -112002-01-03 13:55 J -39187305.02 -39187304.92 -39187304.81 0.3642 0.1602

Mars -112002-01-06 20:24 J -39187301.75 -39187301.65 -39187301.55 0.1770 0.1089

Mars -112001-01-31 01:12 J -39186912.58 -39186912.45 -39186912.32 0.1762 0.0930

Jupiter -112001-03-21 23:17 J -39186861.63 -39186861.53 -39186861.42 0.0530 0.0355

Jupiter -112001-06-19 10:34 J -39186772.19 -39186772.06 -39186771.94 0.0531 0.0164

Mars -112001-12-12 11:02 J -39186596.15 -39186596.04 -39186595.93 0.1750 0.0761

112TH MILLENNIUM BCE

This is a list of transits of Mercury in the 112th millennium BCE.

FROM MAX-TRANSIT TIME C START MAX END SUNRAD DEPTH S

Uranus -111999-01-01 23:17 J -39186210.60 -39186210.53 -39186210.44 0.0147 0.0130

Uranus -111999-03-31 06:43 J -39186122.34 -39186122.22 -39186122.09 0.0147 0.0103

Uranus -111999-06-27 13:55 J -39186034.06 -39186033.92 -39186033.76 0.0147 0.0076

Uranus -111999-09-23 21:07 J -39185945.78 -39185945.62 -39185945.44 0.0147 0.0049

Uranus -111999-12-21 04:48 J -39185857.48 -39185857.30 -39185857.12 0.0147 0.0021

Uranus -111998-03-19 12:14 J -39185769.17 -39185768.99 -39185768.81 0.0147 0.0007

Earth -111998-05-15 07:41 J -39185712.29 -39185712.18 -39185712.07 0.2754 0.0041

Moon -111998-05-15 07:55 J -39185712.28 -39185712.17 -39185712.06 0.2747 0.0016 *

Uranus -111998-06-15 19:41 J -39185680.85 -39185680.68 -39185680.50 0.0147 0.0035

Uranus -111998-09-12 03:07 J -39185592.52 -39185592.37 -39185592.20 0.0147 0.0064

Uranus -111998-12-09 11:02 J -39185504.18 -39185504.04 -39185503.90 0.0147 0.0092

Uranus -111997-03-06 18:29 J -39185415.82 -39185415.73 -39185415.62 0.0147 0.0121

Venus -111997-07-19 08:38 J -39185281.25 -39185281.14 -39185281.02 0.3647 0.0032

Jupiter -111995-02-05 17:46 J -39184714.91 -39184714.76 -39184714.61 0.0496 0.0211

Pluto -111995-03-02 18:43 J -39184689.79 -39184689.72 -39184689.62 0.0060 0.0054

Jupiter -111995-05-06 18:00 J -39184624.87 -39184624.75 -39184624.61 0.0495 0.0327

Pluto -111995-05-29 20:24 J -39184601.77 -39184601.65 -39184601.53 0.0060 0.0046

Pluto -111995-08-25 21:22 J -39184513.74 -39184513.61 -39184513.44 0.0060 0.0039

Earth -111995-11-05 13:55 J -39184442.07 -39184441.92 -39184441.76 0.2589 0.0560

Moon -111995-11-05 14:24 J -39184442.06 -39184441.90 -39184441.74 0.2583 0.0437 *

Pluto -111995-11-21 23:02 J -39184425.70 -39184425.54 -39184425.37 0.0060 0.0031

Pluto -111994-02-18 00:14 J -39184337.65 -39184337.49 -39184337.29 0.0060 0.0024

Pluto -111994-05-17 01:55 J -39184249.60 -39184249.42 -39184249.23 0.0060 0.0016

Pluto -111994-08-13 03:22 J -39184161.55 -39184161.36 -39184161.16 0.0060 0.0009

Pluto -111994-11-09 04:48 J -39184073.49 -39184073.30 -39184073.10 0.0060 0.0001

Pluto -111993-02-05 06:14 J -39183985.43 -39183985.24 -39183985.04 0.0060 0.0007

Pluto -111993-05-03 07:26 J -39183897.37 -39183897.19 -39183896.99 0.0060 0.0015

Mars -111993-05-29 04:05 J -39183871.38 -39183871.33 -39183871.27 0.1774 0.1574

Pluto -111993-07-30 08:53 J -39183809.30 -39183809.13 -39183808.94 0.0061 0.0022

Pluto -111993-10-26 10:34 J -39183721.23 -39183721.06 -39183720.89 0.0061 0.0030

Pluto -111992-01-22 11:46 J -39183633.15 -39183633.01 -39183632.85 0.0061 0.0038

Pluto -111992-04-20 12:58 J -39183545.07 -39183544.96 -39183544.81 0.0061 0.0046

Mars -111992-06-22 01:55 J -39183482.57 -39183482.42 -39183482.26 0.1757 0.0275

Pluto -111992-07-17 14:10 J -39183456.97 -39183456.91 -39183456.79 0.0061 0.0054

Venus -111991-02-02 03:07 J -39183257.48 -39183257.37 -39183257.27 0.3651 0.1500

Mars -111991-05-04 19:41 J -39183165.80 -39183165.68 -39183165.56 0.1755 0.0329

Earth -111991-05-08 04:48 J -39183162.31 -39183162.30 -39183162.29 0.2743 0.2717

Neptune -111990-11-14 17:46 J -39182606.78 -39182606.76 -39182606.73 0.0089 0.0087

Jupiter -111989-01-09 02:38 J -39182551.45 -39182551.39 -39182551.33 0.0529 0.0477

Neptune -111989-02-10 20:24 J -39182518.71 -39182518.65 -39182518.59 0.0089 0.0082

Jupiter -111989-04-07 13:55 J -39182462.05 -39182461.92 -39182461.78 0.0530 0.0045

Neptune -111989-05-08 22:34 J -39182430.62 -39182430.56 -39182430.45 0.0089 0.0078

Saturn -111989-06-30 18:29 J -39182377.76 -39182377.73 -39182377.69 0.0276 0.0265

Neptune -111989-08-05 01:26 J -39182342.52 -39182342.44 -39182342.33 0.0089 0.0073

Saturn -111989-09-27 08:10 J -39182289.27 -39182289.16 -39182289.06 0.0277 0.0185

Neptune -111989-11-01 04:34 J -39182254.42 -39182254.31 -39182254.20 0.0089 0.0067

Saturn -111989-12-24 21:22 J -39182200.74 -39182200.61 -39182200.47 0.0278 0.0105

Neptune -111988-01-28 07:12 J -39182166.32 -39182166.20 -39182166.08 0.0089 0.0062

Saturn -111988-03-23 10:48 J -39182112.19 -39182112.05 -39182111.91 0.0279 0.0023

Neptune -111988-04-26 09:50 J -39182078.22 -39182078.09 -39182077.96 0.0089 0.0057

Saturn -111988-06-20 00:00 J -39182023.64 -39182023.50 -39182023.36 0.0281 0.0058

Neptune -111988-07-23 12:29 J -39181990.11 -39181989.98 -39181989.83 0.0089 0.0052

Saturn -111988-09-16 12:58 J -39181935.08 -39181934.96 -39181934.84 0.0282 0.0138

Neptune -111988-10-19 15:07 J -39181902.01 -39181901.87 -39181901.71 0.0089 0.0047

Saturn -111988-12-14 01:55 J -39181846.51 -39181846.42 -39181846.33 0.0283 0.0218

Neptune -111987-01-15 18:00 J -39181813.90 -39181813.75 -39181813.59 0.0089 0.0042

Neptune -111987-04-13 20:38 J -39181725.79 -39181725.64 -39181725.47 0.0089 0.0037

Neptune -111987-07-10 23:31 J -39181637.68 -39181637.52 -39181637.35 0.0089 0.0032

Neptune -111987-10-07 02:24 J -39181549.56 -39181549.40 -39181549.23 0.0089 0.0026

Neptune -111986-01-03 05:17 J -39181461.45 -39181461.28 -39181461.11 0.0089 0.0021

Neptune -111986-04-01 07:55 J -39181373.33 -39181373.17 -39181372.99 0.0089 0.0016

Neptune -111986-06-28 10:48 J -39181285.22 -39181285.05 -39181284.87 0.0089 0.0011

Venus -111986-08-18 21:22 J -39181233.67 -39181233.61 -39181233.55 0.3657 0.2989

Neptune -111986-09-24 13:41 J -39181197.10 -39181196.93 -39181196.75 0.0089 0.0005

Neptune -111986-12-21 16:34 J -39181108.98 -39181108.81 -39181108.63 0.0089 0.0001

Neptune -111985-03-18 19:26 J -39181020.86 -39181020.69 -39181020.51 0.0089 0.0006

Moon -111985-05-17 01:55 J -39180961.52 -39180961.42 -39180961.31 0.2751 0.0850

Earth -111985-05-17 02:10 J -39180961.51 -39180961.41 -39180961.30 0.2757 0.0914 *

Neptune -111985-06-14 22:19 J -39180932.74 -39180932.57 -39180932.39 0.0089 0.0011

Neptune -111985-09-11 01:12 J -39180844.62 -39180844.45 -39180844.27 0.0089 0.0016

Neptune -111985-12-08 04:05 J -39180756.50 -39180756.33 -39180756.15 0.0089 0.0022

Neptune -111984-03-06 06:58 J -39180668.37 -39180668.21 -39180668.04 0.0089 0.0027

Neptune -111984-06-02 09:50 J -39180580.25 -39180580.09 -39180579.92 0.0089 0.0033

Neptune -111984-08-29 12:43 J -39180492.12 -39180491.97 -39180491.80 0.0089 0.0038

Jupiter -111984-11-24 17:17 J -39180404.89 -39180404.78 -39180404.65 0.0497 0.0342

Neptune -111984-11-25 15:36 J -39180403.99 -39180403.85 -39180403.68 0.0089 0.0044

Neptune -111983-02-21 18:43 J -39180315.86 -39180315.72 -39180315.56 0.0089 0.0049

Jupiter -111983-02-22 17:31 J -39180314.93 -39180314.77 -39180314.61 0.0496 0.0192

Neptune -111983-05-20 21:36 J -39180227.73 -39180227.60 -39180227.45 0.0089 0.0055

Neptune -111983-08-17 00:43 J -39180139.59 -39180139.47 -39180139.33 0.0089 0.0060

Mars -111983-11-12 03:36 J -39180052.50 -39180052.35 -39180052.20 0.1752 0.0357

Neptune -111983-11-13 03:22 J -39180051.46 -39180051.36 -39180051.22 0.0089 0.0066

Neptune -111982-02-09 06:43 J -39179963.32 -39179963.22 -39179963.11 0.0089 0.0071

Neptune -111982-05-08 09:36 J -39179875.17 -39179875.10 -39179875.00 0.0089 0.0077

Neptune -111982-08-04 12:43 J -39179787.03 -39179786.97 -39179786.89 0.0089 0.0082

Mars -111982-09-25 04:05 J -39179735.45 -39179735.33 -39179735.20 0.1760 0.0126

Neptune -111982-10-31 15:36 J -39179698.86 -39179698.85 -39179698.81 0.0089 0.0088

Moon -111982-11-08 19:26 J -39179690.85 -39179690.69 -39179690.54 0.2579 0.0903

Earth -111982-11-08 19:41 J -39179690.82 -39179690.68 -39179690.53 0.2585 0.1028 *

Mars -111980-08-30 17:17 J -39179029.82 -39179029.78 -39179029.74 0.1741 0.1626

Earth -111978-05-10 23:31 J -39178411.61 -39178411.52 -39178411.44 0.2747 0.1764

Moon -111978-05-11 00:14 J -39178411.58 -39178411.49 -39178411.40 0.2748 0.1622 *

Jupiter -111977-01-25 17:17 J -39178151.92 -39178151.78 -39178151.65 0.0530 0.0079

Jupiter -111977-04-24 03:36 J -39178062.43 -39178062.35 -39178062.27 0.0531 0.0428

Saturn -111975-01-29 11:46 J -39177417.10 -39177417.01 -39177416.91 0.0284 0.0231

Saturn -111975-04-28 06:29 J -39177328.37 -39177328.23 -39177328.08 0.0283 0.0133

Saturn -111975-07-26 01:26 J -39177239.60 -39177239.44 -39177239.27 0.0282 0.0036

Saturn -111975-10-22 20:53 J -39177150.80 -39177150.63 -39177150.47 0.0281 0.0064

Saturn -111974-01-19 16:05 J -39177061.96 -39177061.83 -39177061.68 0.0280 0.0163

Saturn -111974-04-18 11:46 J -39176973.06 -39176973.01 -39176972.94 0.0279 0.0262

Mars -111973-04-03 05:31 J -39176622.40 -39176622.27 -39176622.14 0.1747 0.0964

Mars -111972-02-14 12:29 J -39176305.10 -39176304.98 -39176304.87 0.1765 0.0573

Moon -111972-05-19 19:55 J -39176210.75 -39176210.67 -39176210.59 0.2758 0.1850

Earth -111972-05-19 20:38 J -39176210.72 -39176210.64 -39176210.56 0.2761 0.1855 *

Venus -111972-06-12 03:36 J -39176187.44 -39176187.35 -39176187.25 0.3740 0.2477

Jupiter -111972-09-12 17:31 J -39176094.82 -39176094.77 -39176094.71 0.0497 0.0468

Jupiter -111972-12-11 17:02 J -39176004.96 -39176004.79 -39176004.62 0.0496 0.0062

Mars -111971-03-11 00:58 J -39175915.51 -39175915.46 -39175915.41 0.1767 0.1668

Mars -111970-01-21 02:10 J -39175599.50 -39175599.41 -39175599.32 0.1746 0.1219

Moon -111969-11-11 00:00 J -39174939.50 -39174939.50 -39174939.49 0.2579 0.2577

Venus -111967-12-27 03:36 J -39174163.48 -39174163.35 -39174163.22 0.3734 0.0131

Jupiter -111966-11-13 19:55 J -39173841.79 -39173841.67 -39173841.54 0.0529 0.0210

Jupiter -111965-02-11 06:43 J -39173752.33 -39173752.22 -39173752.11 0.0530 0.0302

Earth -111965-05-12 18:00 J -39173660.85 -39173660.75 -39173660.64 0.2751 0.0807

Moon -111965-05-12 18:43 J -39173660.83 -39173660.72 -39173660.62 0.2747 0.0798 *

Mars -111964-08-24 07:55 J -39173192.24 -39173192.17 -39173192.11 0.1742 0.1544

Mars -111963-07-07 20:38 J -39172874.74 -39172874.64 -39172874.54 0.1769 0.1036

Mars -111962-08-01 01:26 J -39172485.57 -39172485.44 -39172485.31 0.1762 0.0982

Earth -111962-11-03 14:53 J -39172390.99 -39172390.88 -39172390.77 0.2593 0.1813

Moon -111962-11-03 16:05 J -39172390.95 -39172390.83 -39172390.71 0.2589 0.1688 *

Mars -111961-06-12 11:02 J -39172169.15 -39172169.04 -39172168.93 0.1750 0.0805

Venus -111961-07-12 03:36 J -39172139.45 -39172139.35 -39172139.25 0.3728 0.2349

Jupiter -111960-09-29 17:02 J -39171694.96 -39171694.79 -39171694.62 0.0497 0.0069

Uranus -111960-11-20 15:07 J -39171642.90 -39171642.87 -39171642.81 0.0132 0.0125

Jupiter -111960-12-28 18:00 J -39171604.79 -39171604.75 -39171604.70 0.0496 0.0476

Saturn -111959-02-14 08:53 J -39171557.22 -39171557.13 -39171557.04 0.0277 0.0213

Uranus -111959-02-16 18:43 J -39171554.79 -39171554.72 -39171554.63 0.0132 0.0108

Saturn -111959-05-13 22:19 J -39171468.69 -39171468.57 -39171468.44 0.0278 0.0133

Uranus -111959-05-15 22:19 J -39171466.67 -39171466.57 -39171466.46 0.0132 0.0092

Moon -111959-05-22 14:24 J -39171459.92 -39171459.90 -39171459.87 0.2768 0.2681

Saturn -111959-08-10 11:46 J -39171380.15 -39171380.01 -39171379.87 0.0280 0.0052

Uranus -111959-08-12 01:55 J -39171378.53 -39171378.42 -39171378.30 0.0132 0.0075

Saturn -111959-11-07 00:58 J -39171291.60 -39171291.46 -39171291.32 0.0281 0.0029

Uranus -111959-11-08 05:17 J -39171290.40 -39171290.28 -39171290.15 0.0132 0.0060

Saturn -111958-02-03 13:55 J -39171203.04 -39171202.92 -39171202.79 0.0282 0.0110

Uranus -111958-02-04 08:38 J -39171202.26 -39171202.14 -39171202.00 0.0132 0.0044

Saturn -111958-05-03 02:53 J -39171114.48 -39171114.38 -39171114.27 0.0283 0.0191

Uranus -111958-05-03 12:14 J -39171114.13 -39171113.99 -39171113.85 0.0132 0.0028

Uranus -111958-07-30 15:36 J -39171025.99 -39171025.85 -39171025.71 0.0132 0.0012

Saturn -111958-07-30 15:50 J -39171025.88 -39171025.84 -39171025.80 0.0284 0.0270 *

Uranus -111958-10-26 18:58 J -39170937.85 -39170937.71 -39170937.57 0.0132 0.0005

Uranus -111957-01-22 22:19 J -39170849.71 -39170849.57 -39170849.43 0.0132 0.0020

Uranus -111957-04-20 01:41 J -39170761.56 -39170761.43 -39170761.29 0.0132 0.0035

Uranus -111957-07-17 05:02 J -39170673.42 -39170673.29 -39170673.16 0.0131 0.0050

Uranus -111957-10-13 08:10 J -39170585.27 -39170585.16 -39170585.03 0.0131 0.0066

Uranus -111956-01-09 11:17 J -39170497.12 -39170497.03 -39170496.91 0.0131 0.0082

Uranus -111956-04-07 14:38 J -39170408.97 -39170408.89 -39170408.79 0.0131 0.0096

Uranus -111956-07-04 17:46 J -39170320.82 -39170320.76 -39170320.67 0.0131 0.0112

Uranus -111956-09-30 21:07 J -39170232.65 -39170232.62 -39170232.58 0.0131 0.0126

Jupiter -111954-09-01 22:48 J -39169531.65 -39169531.55 -39169531.44 0.0529 0.0338

Mars -111954-11-28 04:19 J -39169444.38 -39169444.32 -39169444.26 0.1775 0.1524

Jupiter -111954-11-30 09:50 J -39169442.22 -39169442.09 -39169441.96 0.0530 0.0177

Mars -111953-12-21 02:38 J -39169055.54 -39169055.39 -39169055.24 0.1757 0.0333

Moon -111952-05-15 12:43 J -39168910.08 -39168909.97 -39168909.86 0.2747 0.0175

Earth -111952-05-15 12:29 J -39168910.08 -39168909.98 -39168909.87 0.2754 0.0190 *

Mars -111952-11-02 19:55 J -39168738.79 -39168738.67 -39168738.55 0.1755 0.0380

Venus -111951-01-24 17:31 J -39168655.85 -39168655.77 -39168655.69 0.3638 0.2612

Moon -111949-11-05 20:38 J -39167639.80 -39167639.64 -39167639.48 0.2582 0.0313

Earth -111949-11-05 20:38 J -39167639.80 -39167639.64 -39167639.49 0.2589 0.0257 *

Jupiter -111948-07-18 16:48 J -39167384.96 -39167384.80 -39167384.65 0.0496 0.0198

Jupiter -111948-10-16 17:17 J -39167294.90 -39167294.78 -39167294.66 0.0495 0.0341

Saturn -111946-06-18 11:17 J -39166685.09 -39166685.03 -39166684.97 0.0285 0.0263

Venus -111946-08-10 12:14 J -39166632.10 -39166631.99 -39166631.88 0.3643 0.1025

Saturn -111946-09-15 06:00 J -39166596.39 -39166596.25 -39166596.12 0.0284 0.0166

Saturn -111946-12-13 00:58 J -39166507.63 -39166507.46 -39166507.30 0.0282 0.0068

Saturn -111945-03-10 20:10 J -39166418.83 -39166418.66 -39166418.49 0.0281 0.0031

Earth -111945-05-08 09:36 J -39166360.14 -39166360.10 -39166360.06 0.2743 0.2535

Moon -111945-05-08 10:19 J -39166360.12 -39166360.07 -39166360.02 0.2747 0.2437 *

Saturn -111945-06-07 15:22 J -39166330.00 -39166329.86 -39166329.70 0.0280 0.0130

Saturn -111945-09-04 11:02 J -39166241.13 -39166241.04 -39166240.94 0.0279 0.0229

Mars -111943-05-13 04:05 J -39165625.48 -39165625.33 -39165625.18 0.1752 0.0298

Mars -111942-03-26 04:19 J -39165308.45 -39165308.32 -39165308.20 0.1760 0.0085

Jupiter -111942-06-21 01:12 J -39165221.50 -39165221.45 -39165221.38 0.0529 0.0472

Jupiter -111942-09-18 12:43 J -39165132.11 -39165131.97 -39165131.83 0.0531 0.0050

Venus -111940-02-23 06:58 J -39164608.33 -39164608.21 -39164608.10 0.3648 0.0541

Mars -111940-02-28 17:17 J -39164602.82 -39164602.78 -39164602.75 0.1741 0.1666

Moon -111939-05-18 06:29 J -39164159.33 -39164159.23 -39164159.12 0.2753 0.1051

Earth -111939-05-18 07:12 J -39164159.30 -39164159.20 -39164159.10 0.2758 0.1099 *

Jupiter -111936-05-06 17:02 J -39163074.92 -39163074.79 -39163074.66 0.0496 0.0323

Jupiter -111936-08-04 17:02 J -39162984.95 -39162984.79 -39162984.64 0.0495 0.0210

Moon -111936-11-09 01:12 J -39162888.59 -39162888.45 -39162888.31 0.2580 0.1344

Earth -111936-11-09 02:10 J -39162888.54 -39162888.41 -39162888.27 0.2585 0.1333 *

Venus -111935-09-09 01:12 J -39162584.54 -39162584.45 -39162584.35 0.3653 0.2050

Mars -111934-10-03 06:00 J -39162195.38 -39162195.25 -39162195.12 0.1747 0.0902

Mars -111933-08-15 12:29 J -39161878.09 -39161877.98 -39161877.86 0.1765 0.0526

Earth -111932-05-11 04:19 J -39161609.41 -39161609.32 -39161609.23 0.2747 0.1576

Moon -111932-05-11 05:02 J -39161609.38 -39161609.29 -39161609.20 0.2747 0.1579 *

Mars -111932-09-09 01:41 J -39161488.46 -39161488.43 -39161488.41 0.1767 0.1733

Mars -111931-07-22 02:24 J -39161172.49 -39161172.40 -39161172.32 0.1745 0.1265

Saturn -111930-07-04 09:36 J -39160825.16 -39160825.10 -39160825.03 0.0276 0.0242

Jupiter -111930-07-07 16:05 J -39160821.96 -39160821.83 -39160821.69 0.0530 0.0072

Saturn -111930-09-30 23:02 J -39160736.65 -39160736.54 -39160736.42 0.0277 0.0163

Jupiter -111930-10-05 02:38 J -39160732.46 -39160732.39 -39160732.32 0.0531 0.0438

Saturn -111930-12-28 12:29 J -39160648.11 -39160647.98 -39160647.84 0.0278 0.0082

Venus -111929-03-24 19:26 J -39160560.71 -39160560.69 -39160560.66 0.3658 0.3525

Saturn -111929-03-26 01:41 J -39160559.57 -39160559.43 -39160559.28 0.0279 0.0007

Saturn -111929-06-22 14:53 J -39160471.02 -39160470.88 -39160470.75 0.0280 0.0079

Saturn -111929-09-19 03:50 J -39160382.45 -39160382.34 -39160382.22 0.0282 0.0159

Saturn -111929-12-16 16:48 J -39160293.87 -39160293.80 -39160293.73 0.0283 0.0239

Moon -111926-05-21 00:58 J -39159408.54 -39159408.46 -39159408.39 0.2760 0.1928

Earth -111926-05-21 01:41 J -39159408.51 -39159408.43 -39159408.36 0.2761 0.2044 *

Mars -111924-02-22 08:24 J -39158765.23 -39158765.15 -39158765.07 0.1742 0.1483

Jupiter -111924-02-22 16:48 J -39158764.86 -39158764.80 -39158764.73 0.0497 0.0452

Jupiter -111924-05-23 16:19 J -39158674.99 -39158674.82 -39158674.65 0.0496 0.0076

Mars -111923-01-05 20:38 J -39158447.75 -39158447.64 -39158447.54 0.1770 0.0996

Mars -111922-01-30 02:10 J -39158058.54 -39158058.41 -39158058.29 0.1762 0.1051

Mars -111922-12-12 11:17 J -39157742.14 -39157742.03 -39157741.93 0.1750 0.0850

Earth -111919-05-13 23:02 J -39156858.65 -39156858.54 -39156858.44 0.2751 0.0628

Moon -111919-05-13 23:17 J -39156858.64 -39156858.53 -39156858.42 0.2745 0.0521 *

Jupiter -111918-04-25 19:26 J -39156511.82 -39156511.69 -39156511.56 0.0530 0.0193

Jupiter -111918-07-24 06:00 J -39156422.35 -39156422.25 -39156422.14 0.0531 0.0319

Saturn -111916-02-01 03:07 J -39155864.48 -39155864.37 -39155864.26 0.0284 0.0208

Saturn -111916-04-30 22:05 J -39155775.74 -39155775.58 -39155775.43 0.0283 0.0111

Saturn -111916-07-28 17:02 J -39155686.96 -39155686.79 -39155686.62 0.0282 0.0014

Saturn -111916-10-25 12:29 J -39155598.14 -39155597.98 -39155597.82 0.0281 0.0087

Earth -111916-11-03 21:22 J -39155588.73 -39155588.61 -39155588.48 0.2592 0.1511

Moon -111916-11-03 22:05 J -39155588.71 -39155588.58 -39155588.45 0.2586 0.1435 *

Venus -111915-01-17 03:22 J -39155514.48 -39155514.36 -39155514.25 0.3738 0.1662

Saturn -111915-01-22 07:55 J -39155509.29 -39155509.17 -39155509.04 0.0280 0.0186

Uranus -111915-01-22 07:12 J -39155509.28 -39155509.20 -39155509.09 0.0147 0.0122 *

Uranus -111915-04-20 14:24 J -39155421.02 -39155420.90 -39155420.75 0.0147 0.0095

Uranus -111915-07-17 21:50 J -39155332.74 -39155332.59 -39155332.43 0.0147 0.0068

Uranus -111915-10-14 05:17 J -39155244.45 -39155244.28 -39155244.11 0.0147 0.0040

Uranus -111914-01-10 12:43 J -39155156.15 -39155155.97 -39155155.79 0.0147 0.0013

Uranus -111914-04-08 20:10 J -39155067.84 -39155067.66 -39155067.48 0.0147 0.0015

Mars -111914-05-29 04:34 J -39155017.38 -39155017.31 -39155017.25 0.1775 0.1475

Uranus -111914-07-06 03:36 J -39154979.52 -39154979.35 -39154979.17 0.0147 0.0043

Uranus -111914-10-02 11:17 J -39154891.19 -39154891.03 -39154890.87 0.0147 0.0072

Uranus -111914-12-29 18:43 J -39154802.84 -39154802.72 -39154802.58 0.0147 0.0101

Uranus -111913-03-27 02:24 J -39154714.47 -39154714.40 -39154714.30 0.0147 0.0129

Mars -111913-06-21 03:07 J -39154628.52 -39154628.37 -39154628.22 0.1757 0.0392

Jupiter -111912-03-11 16:05 J -39154365.00 -39154364.83 -39154364.66 0.0496 0.0055

Mars -111912-05-03 19:55 J -39154311.79 -39154311.67 -39154311.55 0.1755 0.0421

Jupiter -111912-06-09 17:02 J -39154274.81 -39154274.79 -39154274.76 0.0495 0.0489

Venus -111910-08-03 03:07 J -39153490.50 -39153490.37 -39153490.24 0.3732 0.0726

Neptune -111908-03-07 23:46 J -39152907.52 -39152907.51 -39152907.49 0.0088 0.0088

Neptune -111908-06-04 01:26 J -39152819.47 -39152819.44 -39152819.38 0.0088 0.0084

Neptune -111908-08-31 03:36 J -39152731.42 -39152731.35 -39152731.29 0.0088 0.0079

Neptune -111908-11-27 05:02 J -39152643.35 -39152643.29 -39152643.20 0.0088 0.0075

Neptune -111907-02-23 07:12 J -39152555.29 -39152555.20 -39152555.11 0.0088 0.0070

Neptune -111907-05-22 08:38 J -39152467.23 -39152467.14 -39152467.03 0.0088 0.0066

Neptune -111907-08-18 10:19 J -39152379.16 -39152379.07 -39152378.95 0.0088 0.0062

Neptune -111907-11-14 12:14 J -39152291.09 -39152290.99 -39152290.87 0.0088 0.0057

Neptune -111906-02-10 13:55 J -39152203.02 -39152202.92 -39152202.79 0.0088 0.0053

Jupiter -111906-02-11 22:05 J -39152201.69 -39152201.58 -39152201.47 0.0529 0.0324

Neptune -111906-05-09 15:50 J -39152114.95 -39152114.84 -39152114.71 0.0088 0.0048

Jupiter -111906-05-12 09:07 J -39152112.25 -39152112.12 -39152112.00 0.0530 0.0191

Moon -111906-05-16 17:31 J -39152107.88 -39152107.77 -39152107.66 0.2748 0.0302

Earth -111906-05-16 17:31 J -39152107.88 -39152107.77 -39152107.66 0.2755 0.0335 *

Neptune -111906-08-05 17:31 J -39152026.89 -39152026.77 -39152026.63 0.0088 0.0044

Neptune -111906-11-01 19:26 J -39151938.82 -39151938.69 -39151938.56 0.0088 0.0039

Neptune -111905-01-28 21:07 J -39151850.75 -39151850.62 -39151850.48 0.0088 0.0035

Neptune -111905-04-25 22:48 J -39151762.68 -39151762.55 -39151762.40 0.0088 0.0030

Neptune -111905-07-23 00:43 J -39151674.61 -39151674.47 -39151674.33 0.0088 0.0026

Neptune -111905-10-19 02:24 J -39151586.54 -39151586.40 -39151586.26 0.0088 0.0021

Neptune -111904-01-15 04:05 J -39151498.47 -39151498.33 -39151498.19 0.0088 0.0017

Venus -111904-02-16 03:22 J -39151466.42 -39151466.36 -39151466.29 0.3726 0.3217

Neptune -111904-04-13 05:46 J -39151410.40 -39151410.26 -39151410.11 0.0088 0.0013

Neptune -111904-07-10 07:26 J -39151322.33 -39151322.19 -39151322.04 0.0088 0.0008

Neptune -111904-10-06 09:07 J -39151234.26 -39151234.12 -39151233.97 0.0088 0.0004

Mars -111904-11-11 04:34 J -39151198.46 -39151198.31 -39151198.16 0.1752 0.0244

Neptune -111903-01-02 10:48 J -39151146.19 -39151146.05 -39151145.90 0.0088 0.0002

Neptune -111903-03-31 12:29 J -39151058.12 -39151057.98 -39151057.83 0.0088 0.0005

Neptune -111903-06-27 14:10 J -39150970.05 -39150969.91 -39150969.76 0.0088 0.0009

Neptune -111903-09-23 15:50 J -39150881.98 -39150881.84 -39150881.70 0.0088 0.0013

Mars -111903-09-24 04:34 J -39150881.44 -39150881.31 -39150881.19 0.1760 0.0069

Moon -111903-11-07 02:53 J -39150837.54 -39150837.38 -39150837.22 0.2582 0.0107

Earth -111903-11-07 02:53 J -39150837.53 -39150837.38 -39150837.22 0.2588 0.0070 *

Neptune -111903-12-20 17:31 J -39150793.91 -39150793.77 -39150793.63 0.0088 0.0018

Neptune -111902-03-18 19:12 J -39150705.84 -39150705.70 -39150705.56 0.0088 0.0022

Neptune -111902-06-14 20:38 J -39150617.77 -39150617.64 -39150617.50 0.0088 0.0026

Neptune -111902-09-10 22:19 J -39150529.70 -39150529.57 -39150529.43 0.0088 0.0030

Neptune -111902-12-08 00:00 J -39150441.63 -39150441.50 -39150441.37 0.0088 0.0034

Pluto -111902-12-20 08:24 J -39150429.20 -39150429.15 -39150429.06 0.0084 0.0072

Neptune -111901-03-05 01:41 J -39150353.56 -39150353.43 -39150353.30 0.0088 0.0039

Pluto -111901-03-17 09:50 J -39150341.18 -39150341.09 -39150340.98 0.0084 0.0057

Neptune -111901-06-01 03:07 J -39150265.49 -39150265.37 -39150265.24 0.0088 0.0043

Pluto -111901-06-13 11:02 J -39150253.14 -39150253.04 -39150252.91 0.0084 0.0043

Neptune -111901-08-28 04:34 J -39150177.42 -39150177.31 -39150177.18 0.0088 0.0047

Mars -111901-08-29 17:17 J -39150175.80 -39150175.78 -39150175.76 0.1741 0.1706

Pluto -111901-09-09 12:43 J -39150165.10 -39150164.97 -39150164.85 0.0084 0.0028

Saturn -111901-11-20 10:19 J -39150093.09 -39150093.07 -39150093.04 0.0276 0.0271

Neptune -111901-11-24 06:14 J -39150089.35 -39150089.24 -39150089.12 0.0088 0.0051

Pluto -111901-12-06 13:55 J -39150077.05 -39150076.92 -39150076.79 0.0084 0.0013

Jupiter -111901-12-28 16:05 J -39150054.99 -39150054.83 -39150054.68 0.0497 0.0184

Saturn -111900-02-16 23:46 J -39150004.60 -39150004.51 -39150004.40 0.0277 0.0192

Neptune -111900-02-20 07:41 J -39150001.28 -39150001.18 -39150001.06 0.0088 0.0056

Pluto -111900-03-04 15:07 J -39149989.00 -39149988.87 -39149988.73 0.0084 0.0001

Jupiter -111900-03-28 16:34 J -39149964.93 -39149964.81 -39149964.69 0.0496 0.0356

Saturn -111900-05-16 13:26 J -39149916.07 -39149915.94 -39149915.81 0.0278 0.0111

Neptune -111900-05-19 09:22 J -39149913.20 -39149913.11 -39149913.00 0.0088 0.0059

Pluto -111900-05-31 16:19 J -39149900.95 -39149900.82 -39149900.68 0.0084 0.0016

Saturn -111900-08-13 02:38 J -39149827.53 -39149827.39 -39149827.25 0.0280 0.0030

Neptune -111900-08-15 11:02 J -39149825.13 -39149825.04 -39149824.94 0.0088 0.0063

Pluto -111900-08-27 17:31 J -39149812.89 -39149812.77 -39149812.64 0.0084 0.0030

Saturn -111900-11-09 15:50 J -39149738.98 -39149738.84 -39149738.70 0.0281 0.0051

Neptune -111900-11-11 12:29 J -39149737.06 -39149736.98 -39149736.88 0.0088 0.0068

Pluto -111900-11-23 18:43 J -39149724.83 -39149724.72 -39149724.60 0.0083 0.0044

Saturn -111899-02-06 04:48 J -39149650.42 -39149650.30 -39149650.17 0.0282 0.0131

Neptune -111899-02-07 14:10 J -39149648.98 -39149648.91 -39149648.82 0.0088 0.0071

Pluto -111899-02-19 20:10 J -39149636.76 -39149636.66 -39149636.56 0.0083 0.0058

Saturn -111899-05-05 17:46 J -39149561.85 -39149561.76 -39149561.67 0.0283 0.0211

Neptune -111899-05-06 15:36 J -39149560.91 -39149560.85 -39149560.77 0.0088 0.0076

Earth -111899-05-09 14:38 J -39149557.95 -39149557.89 -39149557.84 0.2744 0.2347

Moon -111899-05-09 15:22 J -39149557.92 -39149557.86 -39149557.80 0.2746 0.2315 *

Pluto -111899-05-18 21:22 J -39149548.67 -39149548.61 -39149548.54 0.0083 0.0071

Neptune -111899-08-02 17:17 J -39149472.83 -39149472.78 -39149472.71 0.0088 0.0080

Neptune -111899-10-29 18:43 J -39149384.75 -39149384.72 -39149384.66 0.0088 0.0084

Neptune -111898-01-25 20:24 J -39149296.66 -39149296.65 -39149296.63 0.0088 0.0087

Venus -111895-08-31 15:50 J -39147982.93 -39147982.84 -39147982.74 0.3639 0.2024

Jupiter -111895-12-01 00:43 J -39147891.53 -39147891.47 -39147891.39 0.0529 0.0454

Jupiter -111894-02-28 12:14 J -39147802.13 -39147801.99 -39147801.86 0.0530 0.0066

Mars -111894-04-03 06:29 J -39147768.36 -39147768.23 -39147768.10 0.1747 0.0845

Mars -111893-02-14 12:43 J -39147451.09 -39147450.97 -39147450.85 0.1765 0.0480

Moon -111893-05-18 11:17 J -39147357.12 -39147357.03 -39147356.93 0.2754 0.1241

Earth -111893-05-18 12:00 J -39147357.10 -39147357.00 -39147356.90 0.2758 0.1282 *

Mars -111891-01-20 02:24 J -39146745.48 -39146745.40 -39146745.32 0.1745 0.1308

Moon -111890-11-10 07:26 J -39146086.32 -39146086.19 -39146086.06 0.2581 0.1457

Earth -111890-11-10 08:53 J -39146086.25 -39146086.13 -39146086.01 0.2584 0.1648 *

Venus -111889-03-16 10:34 J -39145959.17 -39145959.06 -39145958.94 0.3644 0.0450

Jupiter -111889-10-16 16:05 J -39145744.96 -39145744.83 -39145744.70 0.0496 0.0309

Jupiter -111888-01-14 16:05 J -39145654.98 -39145654.83 -39145654.68 0.0495 0.0224

Saturn -111887-06-21 02:38 J -39145132.47 -39145132.39 -39145132.30 0.0285 0.0241

Saturn -111887-09-17 21:22 J -39145043.75 -39145043.61 -39145043.46 0.0284 0.0144

Saturn -111887-12-15 16:34 J -39144954.98 -39144954.81 -39144954.64 0.0282 0.0045

Saturn -111886-03-14 11:46 J -39144866.17 -39144866.01 -39144865.84 0.0281 0.0054

Earth -111886-05-12 09:22 J -39144807.21 -39144807.11 -39144807.02 0.2748 0.1394

Moon -111886-05-12 09:50 J -39144807.18 -39144807.09 -39144806.99 0.2746 0.1268 *

Saturn -111886-06-11 07:12 J -39144777.34 -39144777.20 -39144777.05 0.0280 0.0154

Saturn -111886-09-08 03:07 J -39144688.44 -39144688.37 -39144688.30 0.0279 0.0253

Mars -111885-08-23 08:53 J -39144338.21 -39144338.13 -39144338.04 0.1742 0.1423

Mars -111884-07-06 20:53 J -39144020.74 -39144020.63 -39144020.53 0.1770 0.0945

Venus -111884-09-30 05:02 J -39143935.39 -39143935.29 -39143935.18 0.3649 0.1108

Mars -111883-07-31 02:38 J -39143631.51 -39143631.39 -39143631.27 0.1762 0.1115

Moon -111883-11-02 00:00 J -39143537.52 -39143537.50 -39143537.48 0.2593 0.2566

Jupiter -111883-12-17 14:53 J -39143492.02 -39143491.88 -39143491.75 0.0530 0.0066

Jupiter -111882-03-17 01:12 J -39143402.52 -39143402.45 -39143402.37 0.0532 0.0444

Mars -111882-06-12 11:17 J -39143315.14 -39143315.03 -39143314.93 0.1750 0.0891

Moon -111880-05-21 05:46 J -39142606.33 -39142606.26 -39142606.20 0.2763 0.2181

Earth -111880-05-21 06:29 J -39142606.29 -39142606.23 -39142606.17 0.2762 0.2225 *

Venus -111878-04-15 23:31 J -39141911.60 -39141911.52 -39141911.44 0.3654 0.2593

Jupiter -111877-08-04 16:34 J -39141434.89 -39141434.81 -39141434.73 0.0497 0.0433

Jupiter -111877-11-02 16:05 J -39141345.00 -39141344.83 -39141344.67 0.0495 0.0095

Uranus -111876-12-10 22:34 J -39140941.61 -39140941.56 -39140941.49 0.0132 0.0120

Uranus -111875-03-09 02:10 J -39140853.49 -39140853.41 -39140853.31 0.0132 0.0103

Uranus -111875-06-05 05:46 J -39140765.36 -39140765.26 -39140765.15 0.0132 0.0087

Uranus -111875-09-01 09:22 J -39140677.23 -39140677.11 -39140676.99 0.0132 0.0070

Mars -111875-11-27 04:34 J -39140590.38 -39140590.31 -39140590.24 0.1775 0.1427

Uranus -111875-11-28 12:43 J -39140589.09 -39140588.97 -39140588.84 0.0132 0.0055

Uranus -111874-02-24 16:05 J -39140500.96 -39140500.83 -39140500.69 0.0132 0.0039

Uranus -111874-05-23 19:41 J -39140412.82 -39140412.68 -39140412.54 0.0132 0.0023

Uranus -111874-08-19 23:02 J -39140324.68 -39140324.54 -39140324.40 0.0132 0.0007

Uranus -111874-11-16 02:24 J -39140236.54 -39140236.40 -39140236.26 0.0132 0.0009

Mars -111874-12-21 03:36 J -39140201.50 -39140201.35 -39140201.20 0.1757 0.0458

Uranus -111873-02-12 05:46 J -39140148.40 -39140148.26 -39140148.12 0.0132 0.0024

Uranus -111873-05-10 09:07 J -39140060.25 -39140060.12 -39140059.99 0.0131 0.0040

Earth -111873-05-14 03:50 J -39140056.45 -39140056.34 -39140056.23 0.2752 0.0433

Moon -111873-05-14 04:05 J -39140056.44 -39140056.33 -39140056.22 0.2745 0.0481 *

Uranus -111873-08-06 12:14 J -39139972.11 -39139971.99 -39139971.86 0.0131 0.0056

Mars -111873-11-01 19:55 J -39139884.79 -39139884.67 -39139884.55 0.1755 0.0466

Uranus -111873-11-02 15:36 J -39139883.96 -39139883.85 -39139883.73 0.0131 0.0071

Uranus -111872-01-29 18:58 J -39139795.81 -39139795.71 -39139795.60 0.0131 0.0086

Uranus -111872-04-27 22:19 J -39139707.66 -39139707.57 -39139707.48 0.0131 0.0101

Uranus -111872-07-25 01:26 J -39139619.50 -39139619.44 -39139619.37 0.0131 0.0116

Uranus -111872-10-21 04:34 J -39139531.31 -39139531.31 -39139531.29 0.0131 0.0131

Saturn -111871-07-07 00:58 J -39139272.54 -39139272.46 -39139272.36 0.0276 0.0219

Saturn -111871-10-03 14:38 J -39139184.02 -39139183.89 -39139183.77 0.0277 0.0138

Jupiter -111871-10-05 18:14 J -39139181.87 -39139181.74 -39139181.61 0.0530 0.0187

Saturn -111871-12-31 03:50 J -39139095.48 -39139095.34 -39139095.20 0.0278 0.0058

Jupiter -111870-01-03 05:02 J -39139092.40 -39139092.29 -39139092.19 0.0531 0.0327

Saturn -111870-03-29 17:02 J -39139006.93 -39139006.79 -39139006.65 0.0279 0.0022

Saturn -111870-06-26 06:00 J -39138918.38 -39138918.25 -39138918.12 0.0280 0.0102

Saturn -111870-09-22 18:58 J -39138829.81 -39138829.71 -39138829.60 0.0282 0.0181

Earth -111870-11-05 03:50 J -39138786.47 -39138786.34 -39138786.20 0.2592 0.1202

Moon -111870-11-05 04:19 J -39138786.46 -39138786.32 -39138786.18 0.2585 0.1213 *

Saturn -111870-12-20 07:41 J -39138741.23 -39138741.18 -39138741.12 0.0283 0.0261

Jupiter -111865-08-21 15:22 J -39137035.03 -39137034.86 -39137034.69 0.0496 0.0040

Venus -111864-02-07 03:22 J -39136865.43 -39136865.36 -39136865.30 0.3742 0.3159

Mars -111864-05-12 05:02 J -39136771.44 -39136771.29 -39136771.14 0.1752 0.0181

Mars -111863-03-25 04:19 J -39136454.44 -39136454.32 -39136454.19 0.1760 0.0049

Moon -111860-05-16 22:05 J -39135305.69 -39135305.58 -39135305.47 0.2749 0.0546

Earth -111860-05-16 22:19 J -39135305.67 -39135305.57 -39135305.46 0.2755 0.0526 *

Jupiter -111859-07-24 21:22 J -39134871.72 -39134871.61 -39134871.50 0.0530 0.0310

Venus -111859-08-24 02:53 J -39134841.50 -39134841.38 -39134841.25 0.3736 0.0839

Jupiter -111859-10-22 08:24 J -39134782.27 -39134782.15 -39134782.03 0.0531 0.0206

Saturn -111858-11-08 00:14 J -39134400.51 -39134400.49 -39134400.46 0.0285 0.0281

Saturn -111857-02-04 18:58 J -39134311.83 -39134311.71 -39134311.58 0.0284 0.0184

Saturn -111857-05-03 13:41 J -39134223.08 -39134222.93 -39134222.76 0.0283 0.0088

Saturn -111857-07-31 09:07 J -39134134.29 -39134134.12 -39134133.95 0.0282 0.0014

Saturn -111857-10-28 04:19 J -39134045.47 -39134045.32 -39134045.16 0.0281 0.0111

Moon -111857-11-07 08:53 J -39134035.29 -39134035.13 -39134034.97 0.2582 0.0320

Earth -111857-11-07 09:36 J -39134035.26 -39134035.10 -39134034.95 0.2588 0.0375 *

Saturn -111856-01-25 00:00 J -39133956.61 -39133956.50 -39133956.38 0.0280 0.0210

Mars -111855-10-02 06:58 J -39133341.34 -39133341.21 -39133341.07 0.1747 0.0786

Mars -111854-08-15 12:43 J -39133024.09 -39133023.97 -39133023.85 0.1765 0.0432

Venus -111853-03-09 02:53 J -39132817.50 -39132817.38 -39132817.26 0.3730 0.1569

Earth -111853-05-09 19:26 J -39132755.75 -39132755.69 -39132755.62 0.2744 0.2162

Moon -111853-05-09 20:24 J -39132755.72 -39132755.65 -39132755.58 0.2746 0.2076 *

Jupiter -111853-06-09 15:07 J -39132725.03 -39132724.87 -39132724.71 0.0496 0.0170

Jupiter -111853-09-07 15:36 J -39132634.96 -39132634.85 -39132634.73 0.0495 0.0369

Mars -111852-07-21 02:24 J -39132318.47 -39132318.40 -39132318.32 0.1746 0.1347

Jupiter -111847-05-13 00:00 J -39130561.57 -39130561.50 -39130561.42 0.0529 0.0441

Moon -111847-05-19 16:19 J -39130554.92 -39130554.82 -39130554.73 0.2755 0.1378

Earth -111847-05-19 16:48 J -39130554.89 -39130554.80 -39130554.70 0.2759 0.1474 *

Jupiter -111847-08-10 11:17 J -39130472.16 -39130472.03 -39130471.89 0.0530 0.0079

Mars -111845-02-22 09:07 J -39129911.21 -39129911.12 -39129911.03 0.1742 0.1372

Mars -111844-01-04 20:53 J -39129593.74 -39129593.63 -39129593.52 0.1770 0.0895

Venus -111844-09-21 19:26 J -39129333.75 -39129333.69 -39129333.63 0.3636 0.3038

Moon -111844-11-10 13:41 J -39129284.03 -39129283.93 -39129283.82 0.2581 0.1914

Earth -111844-11-10 15:22 J -39129283.96 -39129283.86 -39129283.76 0.2584 0.1957 *

Mars -111843-01-29 03:07 J -39129204.48 -39129204.37 -39129204.25 0.1762 0.1171

Mars -111843-12-11 11:17 J -39128888.13 -39128888.03 -39128887.92 0.1750 0.0937

Saturn -111842-11-24 01:55 J -39128540.48 -39128540.42 -39128540.35 0.0277 0.0246

Saturn -111841-02-20 15:36 J -39128451.97 -39128451.85 -39128451.74 0.0278 0.0166

Jupiter -111841-03-28 15:07 J -39128415.00 -39128414.87 -39128414.74 0.0497 0.0298

Saturn -111841-05-19 04:48 J -39128363.43 -39128363.30 -39128363.16 0.0279 0.0086

Jupiter -111841-06-26 15:07 J -39128325.02 -39128324.87 -39128324.72 0.0496 0.0236

Saturn -111841-08-15 18:14 J -39128274.89 -39128274.74 -39128274.60 0.0280 0.0011

Saturn -111841-11-12 07:12 J -39128186.34 -39128186.20 -39128186.06 0.0281 0.0075

Saturn -111840-02-08 20:10 J -39128097.78 -39128097.66 -39128097.54 0.0282 0.0155

Saturn -111840-05-08 09:07 J -39128009.20 -39128009.12 -39128009.05 0.0283 0.0234

Earth -111840-05-12 14:10 J -39128005.01 -39128004.91 -39128004.81 0.2748 0.1201

Moon -111840-05-12 14:38 J -39128004.99 -39128004.89 -39128004.79 0.2744 0.1190 *

Venus -111838-04-07 14:10 J -39127310.01 -39127309.91 -39127309.80 0.3641 0.1444

Earth -111837-11-02 05:02 J -39126735.34 -39126735.29 -39126735.24 0.2595 0.2446

Moon -111837-11-02 06:00 J -39126735.29 -39126735.25 -39126735.20 0.2590 0.2460 *

Mars -111835-05-28 04:34 J -39126163.38 -39126163.31 -39126163.23 0.1775 0.1381

Jupiter -111835-05-29 14:10 J -39126162.04 -39126161.91 -39126161.77 0.0530 0.0053

Jupiter -111835-08-27 00:43 J -39126072.54 -39126072.47 -39126072.41 0.0531 0.0457

Moon -111834-05-22 10:34 J -39125804.11 -39125804.06 -39125804.00 0.2766 0.2373

Earth -111834-05-22 11:17 J -39125804.08 -39125804.03 -39125803.98 0.2762 0.2412 *

Mars -111834-06-21 04:05 J -39125774.48 -39125774.33 -39125774.19 0.1757 0.0512

Mars -111833-05-02 20:10 J -39125457.78 -39125457.66 -39125457.55 0.1755 0.0512

Venus -111833-10-21 08:53 J -39125286.24 -39125286.13 -39125286.01 0.3646 0.0141

Uranus -111832-11-15 07:12 J -39124896.23 -39124896.20 -39124896.15 0.0147 0.0143

Uranus -111831-02-11 14:24 J -39124808.00 -39124807.90 -39124807.79 0.0147 0.0116

Uranus -111831-05-10 21:50 J -39124719.73 -39124719.59 -39124719.45 0.0147 0.0089

Uranus -111831-08-07 05:02 J -39124631.45 -39124631.29 -39124631.13 0.0147 0.0062

Uranus -111831-11-03 12:14 J -39124543.16 -39124542.99 -39124542.81 0.0147 0.0035

Uranus -111830-01-30 19:41 J -39124454.85 -39124454.68 -39124454.50 0.0147 0.0008

Uranus -111830-04-29 03:07 J -39124366.54 -39124366.37 -39124366.19 0.0147 0.0021

Uranus -111830-07-26 10:34 J -39124278.22 -39124278.06 -39124277.88 0.0147 0.0050

Uranus -111830-10-22 18:14 J -39124189.89 -39124189.74 -39124189.58 0.0147 0.0077

Jupiter -111829-01-15 15:22 J -39124104.94 -39124104.86 -39124104.77 0.0497 0.0422

Uranus -111829-01-19 01:41 J -39124101.54 -39124101.43 -39124101.29 0.0147 0.0107

Jupiter -111829-04-14 14:53 J -39124015.05 -39124014.88 -39124014.71 0.0496 0.0107

Uranus -111829-04-16 09:36 J -39124013.16 -39124013.10 -39124013.02 0.0147 0.0135

Saturn -111828-06-23 18:29 J -39123579.83 -39123579.73 -39123579.62 0.0284 0.0216

Saturn -111828-09-20 13:26 J -39123491.09 -39123490.94 -39123490.79 0.0283 0.0119

Saturn -111828-12-18 08:24 J -39123402.31 -39123402.15 -39123401.98 0.0282 0.0022

Saturn -111827-03-17 03:50 J -39123313.50 -39123313.34 -39123313.18 0.0281 0.0079

Venus -111827-05-07 03:22 J -39123262.46 -39123262.36 -39123262.26 0.3651 0.1651

Earth -111827-05-15 08:38 J -39123254.25 -39123254.14 -39123254.03 0.2752 0.0270

Moon -111827-05-15 08:53 J -39123254.24 -39123254.13 -39123254.02 0.2745 0.0173 *

Saturn -111827-06-13 23:31 J -39123224.65 -39123224.52 -39123224.39 0.0280 0.0179

Saturn -111827-09-10 18:58 J -39123135.71 -39123135.71 -39123135.68 0.0279 0.0279

Neptune -111825-08-10 16:19 J -39122435.86 -39122435.82 -39122435.76 0.0089 0.0085

Neptune -111825-11-06 18:58 J -39122347.77 -39122347.71 -39122347.63 0.0089 0.0080

Mars -111825-11-10 05:46 J -39122344.41 -39122344.26 -39122344.11 0.1752 0.0116

Neptune -111824-02-02 21:36 J -39122259.68 -39122259.60 -39122259.50 0.0089 0.0075

Neptune -111824-05-02 00:14 J -39122171.58 -39122171.49 -39122171.37 0.0089 0.0070

Neptune -111824-07-29 02:53 J -39122083.48 -39122083.38 -39122083.25 0.0089 0.0065

Mars -111824-09-23 04:34 J -39122027.43 -39122027.31 -39122027.19 0.1760 0.0069

Neptune -111824-10-25 05:46 J -39121995.38 -39121995.26 -39121995.13 0.0089 0.0060

Moon -111824-11-05 10:34 J -39121984.21 -39121984.06 -39121983.91 0.2585 0.0810

Earth -111824-11-05 10:19 J -39121984.21 -39121984.07 -39121983.92 0.2591 0.0900 *

Neptune -111823-01-21 08:24 J -39121907.27 -39121907.15 -39121907.00 0.0089 0.0055

Jupiter -111823-03-17 16:34 J -39121851.93 -39121851.81 -39121851.68 0.0530 0.0185

Neptune -111823-04-19 11:02 J -39121819.17 -39121819.04 -39121818.88 0.0089 0.0050

Jupiter -111823-06-15 03:22 J -39121762.46 -39121762.36 -39121762.25 0.0531 0.0330

Neptune -111823-07-16 13:41 J -39121731.06 -39121730.93 -39121730.76 0.0089 0.0045

Neptune -111823-10-12 16:48 J -39121642.95 -39121642.80 -39121642.64 0.0089 0.0039

Neptune -111822-01-08 19:26 J -39121554.84 -39121554.69 -39121554.52 0.0089 0.0034

Neptune -111822-04-06 22:19 J -39121466.73 -39121466.57 -39121466.40 0.0089 0.0029

Neptune -111822-07-04 00:58 J -39121378.62 -39121378.46 -39121378.28 0.0089 0.0024

Neptune -111822-09-30 03:50 J -39121290.51 -39121290.34 -39121290.17 0.0089 0.0019

Venus -111822-11-20 21:36 J -39121238.65 -39121238.60 -39121238.54 0.3656 0.3134

Neptune -111822-12-27 06:43 J -39121202.39 -39121202.22 -39121202.05 0.0089 0.0013

Neptune -111821-03-24 09:36 J -39121114.27 -39121114.10 -39121113.93 0.0089 0.0008

Neptune -111821-06-20 12:29 J -39121026.16 -39121025.98 -39121025.81 0.0089 0.0003

Neptune -111821-09-16 15:22 J -39120938.04 -39120937.86 -39120937.69 0.0089 0.0003

Neptune -111821-12-13 18:00 J -39120849.92 -39120849.75 -39120849.57 0.0089 0.0008

Neptune -111820-03-11 20:53 J -39120761.80 -39120761.63 -39120761.45 0.0089 0.0014

Neptune -111820-06-07 23:46 J -39120673.68 -39120673.51 -39120673.33 0.0089 0.0019

Neptune -111820-09-04 02:38 J -39120585.55 -39120585.39 -39120585.21 0.0089 0.0024

Neptune -111820-12-01 05:31 J -39120497.43 -39120497.27 -39120497.10 0.0089 0.0030

Neptune -111819-02-27 08:24 J -39120409.30 -39120409.15 -39120408.98 0.0089 0.0035

Neptune -111819-05-26 11:31 J -39120321.18 -39120321.02 -39120320.86 0.0089 0.0040

Neptune -111819-08-22 14:10 J -39120233.05 -39120232.91 -39120232.74 0.0089 0.0046

Neptune -111819-11-18 17:31 J -39120144.92 -39120144.77 -39120144.63 0.0089 0.0051

Neptune -111818-02-14 20:10 J -39120056.78 -39120056.66 -39120056.51 0.0089 0.0057

Neptune -111818-05-13 23:17 J -39119968.65 -39119968.53 -39119968.40 0.0089 0.0062

Neptune -111818-08-10 02:10 J -39119880.51 -39119880.41 -39119880.28 0.0089 0.0068

Neptune -111818-11-06 05:31 J -39119792.37 -39119792.27 -39119792.17 0.0089 0.0073

Jupiter -111817-02-01 14:53 J -39119705.05 -39119704.88 -39119704.71 0.0496 0.0022

Neptune -111817-02-02 08:10 J -39119704.23 -39119704.16 -39119704.07 0.0089 0.0079

Neptune -111817-04-30 11:02 J -39119616.07 -39119616.04 -39119615.97 0.0089 0.0085

Mars -111815-04-02 07:26 J -39118914.33 -39118914.19 -39118914.05 0.1747 0.0727

Mars -111814-02-13 12:58 J -39118597.08 -39118596.96 -39118596.84 0.1765 0.0387

Moon -111814-05-18 02:53 J -39118503.49 -39118503.38 -39118503.27 0.2750 0.0596

Earth -111814-05-18 03:22 J -39118503.47 -39118503.36 -39118503.26 0.2756 0.0711 *

Mars -111812-01-19 02:24 J -39117891.47 -39117891.40 -39117891.32 0.1745 0.1391

Saturn -111812-04-12 03:22 J -39117808.38 -39117808.36 -39117808.33 0.0275 0.0271

Saturn -111812-07-09 17:02 J -39117719.89 -39117719.79 -39117719.69 0.0276 0.0191

Saturn -111812-10-06 06:14 J -39117631.37 -39117631.24 -39117631.10 0.0277 0.0112

Saturn -111811-01-02 19:41 J -39117542.83 -39117542.68 -39117542.54 0.0278 0.0033

Jupiter -111811-01-03 19:55 J -39117541.78 -39117541.67 -39117541.56 0.0530 0.0308

Saturn -111811-04-01 08:38 J -39117454.28 -39117454.14 -39117454.00 0.0279 0.0048

Jupiter -111811-04-03 06:58 J -39117452.33 -39117452.21 -39117452.09 0.0531 0.0210

Saturn -111811-06-28 21:36 J -39117365.72 -39117365.60 -39117365.47 0.0281 0.0128

Saturn -111811-09-25 10:34 J -39117277.15 -39117277.06 -39117276.97 0.0282 0.0206

Moon -111811-11-08 14:53 J -39117233.03 -39117232.88 -39117232.72 0.2583 0.0558

Earth -111811-11-08 16:05 J -39117232.98 -39117232.83 -39117232.68 0.2587 0.0683 *

Venus -111808-09-14 02:53 J -39116192.48 -39116192.38 -39116192.28 0.3740 0.2356

Earth -111807-05-11 00:29 J -39115953.56 -39115953.48 -39115953.40 0.2745 0.1971

Moon -111807-05-11 01:12 J -39115953.53 -39115953.45 -39115953.37 0.2745 0.1898 *

Mars -111806-08-23 09:50 J -39115484.19 -39115484.09 -39115484.00 0.1742 0.1313

Jupiter -111806-11-20 14:10 J -39115395.06 -39115394.91 -39115394.74 0.0496 0.0157

Jupiter -111805-02-18 14:38 J -39115304.99 -39115304.89 -39115304.78 0.0495 0.0382

Mars -111805-07-05 20:53 J -39115166.74 -39115166.63 -39115166.52 0.1770 0.0852

Mars -111804-07-30 03:36 J -39114777.46 -39114777.35 -39114777.24 0.1762 0.1233

Mars -111803-06-11 11:17 J -39114461.13 -39114461.03 -39114460.93 0.1750 0.0977

Venus -111802-03-31 02:38 J -39114168.52 -39114168.39 -39114168.27 0.3734 0.0126

Moon -111801-05-19 21:07 J -39113752.71 -39113752.62 -39113752.54 0.2758 0.1647

Earth -111801-05-19 21:50 J -39113752.68 -39113752.59 -39113752.51 0.2759 0.1656 *

Jupiter -111800-10-22 23:02 J -39113231.62 -39113231.54 -39113231.46 0.0529 0.0431

Jupiter -111799-01-20 10:19 J -39113142.20 -39113142.07 -39113141.93 0.0531 0.0090

Saturn -111799-11-10 16:34 J -39112847.88 -39112847.81 -39112847.74 0.0285 0.0255

Saturn -111798-02-07 11:17 J -39112759.17 -39112759.03 -39112758.89 0.0284 0.0157

Saturn -111798-05-07 06:14 J -39112670.40 -39112670.24 -39112670.07 0.0283 0.0060

Saturn -111798-08-04 01:26 J -39112581.60 -39112581.44 -39112581.27 0.0282 0.0040

Saturn -111798-10-31 20:53 J -39112492.77 -39112492.63 -39112492.48 0.0281 0.0139

Moon -111798-11-11 20:24 J -39112481.74 -39112481.65 -39112481.56 0.2582 0.2128

Earth -111798-11-11 21:50 J -39112481.66 -39112481.59 -39112481.51 0.2583 0.2280 *

Saturn -111797-01-28 16:34 J -39112403.89 -39112403.81 -39112403.71 0.0280 0.0238

Venus -111797-10-14 02:38 J -39112144.49 -39112144.39 -39112144.29 0.3728 0.2422

Mars -111796-11-26 04:48 J -39111736.38 -39111736.30 -39111736.22 0.1775 0.1330

Mars -111795-12-20 04:48 J -39111347.45 -39111347.30 -39111347.16 0.1757 0.0579

Earth -111794-05-13 19:12 J -39111202.81 -39111202.70 -39111202.60 0.2749 0.1017

Moon -111794-05-13 19:41 J -39111202.79 -39111202.68 -39111202.58 0.2743 0.0945 *

Jupiter -111794-09-08 14:10 J -39111085.05 -39111084.91 -39111084.78 0.0496 0.0287

Mars -111794-11-01 20:10 J -39111030.78 -39111030.66 -39111030.55 0.1755 0.0552

Jupiter -111794-12-07 14:10 J -39110995.06 -39110994.91 -39110994.76 0.0495 0.0247

Uranus -111792-10-04 02:24 J -39110328.41 -39110328.40 -39110328.39 0.0132 0.0132

Uranus -111792-12-31 05:46 J -39110240.32 -39110240.26 -39110240.18 0.0132 0.0115

Uranus -111791-03-29 09:22 J -39110152.20 -39110152.11 -39110152.01 0.0132 0.0099

Uranus -111791-06-25 12:43 J -39110064.07 -39110063.97 -39110063.85 0.0132 0.0083

Uranus -111791-09-21 16:19 J -39109975.94 -39109975.82 -39109975.69 0.0132 0.0067

Earth -111791-11-03 11:31 J -39109933.11 -39109933.02 -39109932.94 0.2595 0.2151

Moon -111791-11-03 12:14 J -39109933.09 -39109932.99 -39109932.89 0.2588 0.1990 *

Uranus -111791-12-18 19:55 J -39109887.80 -39109887.67 -39109887.54 0.0132 0.0051

Uranus -111790-03-16 23:17 J -39109799.66 -39109799.53 -39109799.39 0.0132 0.0035

Uranus -111790-06-13 02:53 J -39109711.52 -39109711.38 -39109711.24 0.0132 0.0019

Uranus -111790-09-09 06:14 J -39109623.38 -39109623.24 -39109623.10 0.0132 0.0004

Uranus -111790-12-06 09:36 J -39109535.24 -39109535.10 -39109534.96 0.0132 0.0013

Uranus -111789-03-03 12:43 J -39109447.10 -39109446.97 -39109446.83 0.0132 0.0029

Uranus -111789-05-30 16:19 J -39109358.96 -39109358.82 -39109358.69 0.0131 0.0044

Uranus -111789-08-26 19:26 J -39109270.81 -39109270.69 -39109270.56 0.0131 0.0059

Uranus -111789-11-22 22:48 J -39109182.66 -39109182.55 -39109182.43 0.0131 0.0074

Uranus -111788-02-19 01:55 J -39109094.51 -39109094.42 -39109094.31 0.0131 0.0090

Uranus -111788-05-18 05:17 J -39109006.36 -39109006.28 -39109006.19 0.0131 0.0104

Moon -111788-05-22 15:36 J -39109001.89 -39109001.85 -39109001.81 0.2767 0.2525

Earth -111788-05-22 16:19 J -39109001.86 -39109001.82 -39109001.79 0.2762 0.2602 *

Uranus -111788-08-14 08:24 J -39108918.20 -39108918.15 -39108918.09 0.0131 0.0120

Jupiter -111788-11-08 13:12 J -39108832.08 -39108831.95 -39108831.81 0.0530 0.0041

Jupiter -111787-02-05 23:46 J -39108742.57 -39108742.51 -39108742.45 0.0531 0.0467

Venus -111787-04-28 17:46 J -39108660.85 -39108660.76 -39108660.68 0.3637 0.2449

Mars -111785-05-11 06:00 J -39107917.41 -39107917.25 -39107917.10 0.1752 0.0074

Mars -111784-03-24 04:48 J -39107600.43 -39107600.30 -39107600.18 0.1760 0.0125

Saturn -111783-11-26 18:14 J -39106987.83 -39106987.74 -39106987.65 0.0277 0.0218

Saturn -111782-02-23 07:26 J -39106899.31 -39106899.19 -39106899.06 0.0278 0.0139

Saturn -111782-05-22 20:53 J -39106810.77 -39106810.63 -39106810.49 0.0279 0.0058

Jupiter -111782-06-27 14:10 J -39106775.00 -39106774.91 -39106774.82 0.0497 0.0414

Saturn -111782-08-19 10:05 J -39106722.22 -39106722.08 -39106721.94 0.0280 0.0022

Jupiter -111782-09-25 13:41 J -39106685.10 -39106684.93 -39106684.77 0.0496 0.0115

Venus -111782-11-12 12:29 J -39106637.09 -39106636.98 -39106636.87 0.3642 0.0868

Saturn -111782-11-15 23:02 J -39106633.67 -39106633.54 -39106633.41 0.0281 0.0102

Saturn -111781-02-12 12:00 J -39106545.10 -39106545.00 -39106544.89 0.0282 0.0181

Saturn -111781-05-11 00:43 J -39106456.52 -39106456.47 -39106456.41 0.0283 0.0260

Moon -111781-05-15 13:41 J -39106452.04 -39106451.93 -39106451.82 0.2746 0.0135

Earth -111781-05-15 13:41 J -39106452.04 -39106451.93 -39106451.82 0.2753 0.0058 *

Moon -111778-11-06 16:34 J -39105181.96 -39105181.81 -39105181.65 0.2585 0.0692

Earth -111778-11-06 17:02 J -39105181.95 -39105181.79 -39105181.64 0.2591 0.0588 *

Venus -111776-05-28 07:12 J -39104613.31 -39104613.20 -39104613.09 0.3647 0.0687

Jupiter -111776-08-27 16:05 J -39104521.96 -39104521.83 -39104521.70 0.0530 0.0169

Mars -111776-10-01 07:55 J -39104487.31 -39104487.17 -39104487.03 0.1747 0.0668

Jupiter -111776-11-25 02:38 J -39104432.49 -39104432.39 -39104432.28 0.0531 0.0343

Mars -111775-08-14 12:58 J -39104170.08 -39104169.96 -39104169.84 0.1765 0.0338

Moon -111774-05-09 11:31 J -39103902.05 -39103902.02 -39103902.00 0.2745 0.2627

Mars -111773-07-20 02:38 J -39103464.46 -39103464.39 -39103464.32 0.1745 0.1434

Venus -111771-12-12 01:26 J -39102589.53 -39102589.44 -39102589.34 0.3652 0.2194

Jupiter -111770-07-14 13:41 J -39102375.10 -39102374.93 -39102374.76 0.0496 0.0017

Saturn -111769-03-29 16:19 J -39102115.82 -39102115.82 -39102115.80 0.0285 0.0285

Saturn -111769-06-26 11:17 J -39102027.15 -39102027.03 -39102026.91 0.0284 0.0187

Saturn -111769-09-23 06:00 J -39101938.40 -39101938.25 -39101938.08 0.0283 0.0091

Saturn -111769-12-21 01:26 J -39101849.61 -39101849.44 -39101849.27 0.0282 0.0011

Saturn -111768-03-19 20:38 J -39101760.79 -39101760.64 -39101760.48 0.0281 0.0109

Moon -111768-05-18 07:41 J -39101701.29 -39101701.18 -39101701.08 0.2751 0.0911

Earth -111768-05-18 08:10 J -39101701.26 -39101701.16 -39101701.05 0.2756 0.0896 *

Saturn -111768-06-16 16:19 J -39101671.93 -39101671.82 -39101671.70 0.0280 0.0208

Mars -111766-02-21 10:19 J -39101057.18 -39101057.07 -39101056.97 0.1742 0.1255

Mars -111765-01-04 21:07 J -39100739.73 -39100739.62 -39100739.51 0.1770 0.0805

Moon -111765-11-08 21:22 J -39100430.76 -39100430.61 -39100430.46 0.2582 0.0961

Earth -111765-11-08 22:34 J -39100430.70 -39100430.56 -39100430.41 0.2587 0.0997 *

Mars -111764-01-28 04:19 J -39100350.42 -39100350.32 -39100350.21 0.1762 0.1302

Jupiter -111764-06-15 18:14 J -39100211.85 -39100211.74 -39100211.63 0.0530 0.0307

Jupiter -111764-09-13 05:17 J -39100122.40 -39100122.28 -39100122.15 0.0531 0.0210

Mars -111764-12-10 11:31 J -39100034.12 -39100034.02 -39100033.92 0.1750 0.1020

Earth -111761-05-11 05:31 J -39099151.36 -39099151.27 -39099151.19 0.2745 0.1787

Moon -111761-05-11 06:00 J -39099151.33 -39099151.25 -39099151.16 0.2743 0.1762 *

Jupiter -111758-05-02 13:41 J -39098065.10 -39098064.93 -39098064.77 0.0496 0.0141

Jupiter -111758-07-31 13:55 J -39097975.02 -39097974.92 -39097974.82 0.0495 0.0397

Mars -111756-05-27 04:48 J -39097309.38 -39097309.30 -39097309.21 0.1775 0.1285

Moon -111755-05-21 01:55 J -39096950.50 -39096950.42 -39096950.33 0.2762 0.1711

Earth -111755-05-21 02:38 J -39096950.47 -39096950.39 -39096950.31 0.2760 0.1845 *

Mars -111755-06-20 05:02 J -39096920.43 -39096920.29 -39096920.14 0.1757 0.0638

Mars -111754-05-02 20:10 J -39096603.77 -39096603.66 -39096603.54 0.1755 0.0595

Saturn -111753-04-14 20:10 J -39096255.73 -39096255.66 -39096255.59 0.0276 0.0240

Saturn -111753-07-12 09:36 J -39096167.21 -39096167.10 -39096166.98 0.0277 0.0160

Saturn -111753-10-08 23:02 J -39096078.68 -39096078.54 -39096078.41 0.0278 0.0081

Saturn -111752-01-05 12:14 J -39095990.14 -39095989.99 -39095989.85 0.0279 0.0007

Jupiter -111752-04-03 21:07 J -39095901.69 -39095901.62 -39095901.54 0.0530 0.0434

Saturn -111752-04-04 01:12 J -39095901.58 -39095901.45 -39095901.31 0.0280 0.0078 *

Saturn -111752-07-01 14:10 J -39095813.03 -39095812.91 -39095812.79 0.0281 0.0158

Jupiter -111752-07-02 08:38 J -39095812.27 -39095812.14 -39095812.00 0.0531 0.0089

Saturn -111752-09-28 02:53 J -39095724.45 -39095724.38 -39095724.30 0.0282 0.0236

Moon -111752-11-12 02:53 J -39095679.43 -39095679.38 -39095679.34 0.2584 0.2461

Venus -111751-04-21 02:24 J -39095519.52 -39095519.40 -39095519.29 0.3739 0.1555

Earth -111748-05-14 00:00 J -39094400.60 -39094400.50 -39094400.39 0.2749 0.0824

Moon -111748-05-14 00:29 J -39094400.59 -39094400.48 -39094400.38 0.2743 0.0789 *

Uranus -111748-12-05 13:26 J -39094194.98 -39094194.94 -39094194.87 0.0147 0.0140

Uranus -111747-03-03 20:53 J -39094106.74 -39094106.63 -39094106.52 0.0147 0.0113

Uranus -111747-05-31 04:05 J -39094018.47 -39094018.33 -39094018.19 0.0147 0.0086

Pluto -111747-06-25 00:58 J -39093993.53 -39093993.46 -39093993.34 0.0060 0.0053

Uranus -111747-08-27 11:17 J -39093930.19 -39093930.03 -39093929.86 0.0147 0.0059

Pluto -111747-09-21 02:38 J -39093905.50 -39093905.39 -39093905.25 0.0060 0.0045

Mars -111747-10-17 12:29 J -39093878.98 -39093878.98 -39093878.97 0.1780 0.1776

Uranus -111747-11-23 18:43 J -39093841.89 -39093841.72 -39093841.55 0.0147 0.0032

Pluto -111747-12-18 04:19 J -39093817.47 -39093817.32 -39093817.17 0.0060 0.0037

Jupiter -111746-02-18 12:58 J -39093755.10 -39093754.96 -39093754.82 0.0496 0.0276

Uranus -111746-02-20 02:10 J -39093753.59 -39093753.41 -39093753.24 0.0147 0.0005

Pluto -111746-03-16 05:17 J -39093729.43 -39093729.28 -39093729.09 0.0060 0.0030

Uranus -111746-05-19 09:36 J -39093665.28 -39093665.10 -39093664.93 0.0147 0.0024

Jupiter -111746-05-19 12:58 J -39093665.11 -39093664.96 -39093664.82 0.0495 0.0258 *

Pluto -111746-06-12 06:58 J -39093641.38 -39093641.21 -39093641.02 0.0060 0.0022

Uranus -111746-08-15 17:02 J -39093576.96 -39093576.79 -39093576.62 0.0147 0.0052

Pluto -111746-09-08 08:10 J -39093553.33 -39093553.16 -39093552.96 0.0060 0.0016

Venus -111746-11-05 02:10 J -39093495.54 -39093495.41 -39093495.28 0.3733 0.0810

Mars -111746-11-10 06:43 J -39093490.38 -39093490.22 -39093490.07 0.1752 0.0038

Uranus -111746-11-12 00:29 J -39093488.62 -39093488.48 -39093488.32 0.0147 0.0080

Pluto -111746-12-05 09:50 J -39093465.28 -39093465.09 -39093464.89 0.0060 0.0007

Uranus -111745-02-08 08:10 J -39093400.27 -39093400.16 -39093400.03 0.0147 0.0109

Pluto -111745-03-02 11:17 J -39093377.22 -39093377.03 -39093376.83 0.0060 0.0001

Uranus -111745-05-06 15:50 J -39093311.90 -39093311.84 -39093311.77 0.0147 0.0137

Pluto -111745-05-29 12:43 J -39093289.16 -39093288.97 -39093288.77 0.0060 0.0008

Pluto -111745-08-25 14:10 J -39093201.10 -39093200.91 -39093200.72 0.0060 0.0016

Mars -111745-09-22 04:48 J -39093173.43 -39093173.30 -39093173.18 0.1760 0.0161

Earth -111745-11-03 18:00 J -39093130.86 -39093130.75 -39093130.65 0.2594 0.1846

Moon -111745-11-03 18:29 J -39093130.84 -39093130.73 -39093130.62 0.2588 0.1878 *

Pluto -111745-11-21 15:22 J -39093113.03 -39093112.86 -39093112.67 0.0061 0.0024

Pluto -111744-02-17 16:34 J -39093024.95 -39093024.81 -39093024.62 0.0061 0.0032

Pluto -111744-05-16 18:00 J -39092936.88 -39092936.75 -39092936.58 0.0061 0.0040

Pluto -111744-08-12 19:41 J -39092848.79 -39092848.68 -39092848.55 0.0061 0.0047

Pluto -111744-11-08 20:53 J -39092760.69 -39092760.63 -39092760.53 0.0061 0.0055

Neptune -111744-12-02 23:02 J -39092736.56 -39092736.54 -39092736.49 0.0088 0.0086

Neptune -111743-03-01 01:12 J -39092648.50 -39092648.45 -39092648.39 0.0088 0.0081

Neptune -111743-05-28 02:53 J -39092560.44 -39092560.38 -39092560.30 0.0088 0.0076

Neptune -111743-08-24 04:48 J -39092472.38 -39092472.30 -39092472.21 0.0088 0.0072

Neptune -111743-11-20 06:29 J -39092384.32 -39092384.23 -39092384.13 0.0088 0.0068

Neptune -111742-02-16 08:10 J -39092296.25 -39092296.16 -39092296.04 0.0088 0.0063

Neptune -111742-05-15 10:05 J -39092208.18 -39092208.08 -39092207.96 0.0088 0.0059

Neptune -111742-08-11 11:46 J -39092120.11 -39092120.01 -39092119.88 0.0088 0.0054

Neptune -111742-11-07 13:41 J -39092032.05 -39092031.93 -39092031.80 0.0088 0.0050

Neptune -111741-02-03 15:22 J -39091943.98 -39091943.86 -39091943.73 0.0088 0.0045

Neptune -111741-05-01 17:17 J -39091855.91 -39091855.78 -39091855.65 0.0088 0.0041

Neptune -111741-07-28 18:58 J -39091767.84 -39091767.71 -39091767.57 0.0088 0.0036

Neptune -111741-10-24 20:38 J -39091679.77 -39091679.64 -39091679.50 0.0088 0.0032

Neptune -111740-01-20 22:34 J -39091591.70 -39091591.56 -39091591.42 0.0088 0.0028

Neptune -111740-04-19 00:14 J -39091503.63 -39091503.49 -39091503.35 0.0088 0.0023

Jupiter -111740-04-20 12:00 J -39091502.14 -39091502.00 -39091501.86 0.0530 0.0034

Venus -111740-05-21 02:24 J -39091471.46 -39091471.40 -39091471.34 0.3727 0.3278

Neptune -111740-07-16 01:55 J -39091415.56 -39091415.42 -39091415.28 0.0088 0.0019

Jupiter -111740-07-18 22:34 J -39091412.62 -39091412.56 -39091412.51 0.0531 0.0475

Neptune -111740-10-12 03:36 J -39091327.49 -39091327.35 -39091327.20 0.0088 0.0015

Saturn -111740-11-13 09:36 J -39091295.19 -39091295.10 -39091294.99 0.0285 0.0223

Neptune -111739-01-08 05:17 J -39091239.42 -39091239.28 -39091239.13 0.0088 0.0010

Saturn -111739-02-10 04:34 J -39091206.46 -39091206.31 -39091206.16 0.0284 0.0126

Neptune -111739-04-06 06:58 J -39091151.35 -39091151.21 -39091151.06 0.0088 0.0006

Saturn -111739-05-09 23:31 J -39091117.68 -39091117.52 -39091117.35 0.0283 0.0029

Neptune -111739-07-03 08:38 J -39091063.28 -39091063.14 -39091062.99 0.0088 0.0003

Saturn -111739-08-06 18:58 J -39091028.88 -39091028.71 -39091028.55 0.0282 0.0072

Neptune -111739-09-29 10:19 J -39090975.21 -39090975.07 -39090974.92 0.0088 0.0004

Saturn -111739-11-03 14:24 J -39090940.03 -39090939.90 -39090939.76 0.0281 0.0171

Neptune -111739-12-26 12:00 J -39090887.14 -39090887.00 -39090886.85 0.0088 0.0008

Saturn -111738-01-31 10:19 J -39090851.11 -39090851.07 -39090851.03 0.0280 0.0270

Neptune -111738-03-24 13:41 J -39090799.07 -39090798.93 -39090798.78 0.0088 0.0012

Neptune -111738-06-20 15:22 J -39090711.00 -39090710.86 -39090710.72 0.0088 0.0016

Neptune -111738-09-16 17:02 J -39090622.93 -39090622.79 -39090622.65 0.0088 0.0020

Neptune -111738-12-13 18:43 J -39090534.86 -39090534.72 -39090534.58 0.0088 0.0024

Neptune -111737-03-10 20:10 J -39090446.79 -39090446.66 -39090446.52 0.0088 0.0029

Neptune -111737-06-06 21:50 J -39090358.72 -39090358.59 -39090358.45 0.0088 0.0033

Neptune -111737-09-02 23:17 J -39090270.64 -39090270.53 -39090270.39 0.0088 0.0038

Neptune -111737-11-30 00:58 J -39090182.57 -39090182.46 -39090182.32 0.0088 0.0042

Neptune -111736-02-26 02:38 J -39090094.50 -39090094.39 -39090094.26 0.0088 0.0045

Mars -111736-04-01 08:24 J -39090060.30 -39090060.15 -39090060.01 0.1747 0.0616

Venus -111736-05-19 21:07 J -39090011.65 -39090011.62 -39090011.59 0.3634 0.3474

Neptune -111736-05-25 04:19 J -39090006.43 -39090006.32 -39090006.20 0.0088 0.0049

Neptune -111736-08-21 05:46 J -39089918.36 -39089918.26 -39089918.14 0.0088 0.0054

Neptune -111736-11-17 07:26 J -39089830.29 -39089830.19 -39089830.07 0.0088 0.0058

Mars -111735-02-12 12:58 J -39089743.08 -39089742.96 -39089742.83 0.1765 0.0300

Neptune -111735-02-13 09:07 J -39089742.22 -39089742.12 -39089742.01 0.0088 0.0062

Neptune -111735-05-12 10:48 J -39089654.14 -39089654.05 -39089653.96 0.0088 0.0066

Moon -111735-05-16 18:14 J -39089649.85 -39089649.74 -39089649.63 0.2746 0.0135

Earth -111735-05-16 18:43 J -39089649.83 -39089649.72 -39089649.61 0.2753 0.0170 *

Neptune -111735-08-08 12:14 J -39089566.07 -39089565.99 -39089565.90 0.0088 0.0070

Neptune -111735-11-04 13:55 J -39089477.99 -39089477.92 -39089477.84 0.0088 0.0074

Jupiter -111735-12-07 12:43 J -39089445.06 -39089444.97 -39089444.87 0.0497 0.0405

Neptune -111734-01-31 15:22 J -39089389.92 -39089389.86 -39089389.79 0.0088 0.0078

Jupiter -111734-03-07 12:14 J -39089355.15 -39089354.99 -39089354.82 0.0496 0.0123

Neptune -111734-04-29 17:02 J -39089301.84 -39089301.79 -39089301.74 0.0088 0.0082

Neptune -111734-07-26 18:29 J -39089213.75 -39089213.73 -39089213.69 0.0088 0.0086

Mars -111733-01-19 02:38 J -39089037.46 -39089037.39 -39089037.33 0.1746 0.1471

Moon -111732-11-06 22:34 J -39088379.72 -39088379.56 -39088379.40 0.2585 0.0246

Earth -111732-11-06 23:17 J -39088379.68 -39088379.53 -39088379.37 0.2590 0.0289 *

Venus -111731-12-03 16:05 J -39087987.93 -39087987.83 -39087987.73 0.3639 0.1870

Jupiter -111728-02-06 14:53 J -39087192.01 -39087191.88 -39087191.75 0.0530 0.0163

Jupiter -111728-05-07 01:26 J -39087102.54 -39087102.44 -39087102.34 0.0531 0.0349

Earth -111728-05-09 15:36 J -39087099.89 -39087099.85 -39087099.81 0.2742 0.2557

Moon -111728-05-09 16:19 J -39087099.85 -39087099.82 -39087099.78 0.2744 0.2564 *

Mars -111727-08-22 10:34 J -39086630.17 -39086630.06 -39086629.95 0.1742 0.1200

Mars -111726-07-05 21:22 J -39086312.73 -39086312.61 -39086312.50 0.1770 0.0754

Venus -111725-06-18 10:48 J -39085964.16 -39085964.05 -39085963.93 0.3644 0.0297

Mars -111725-07-29 04:34 J -39085923.40 -39085923.31 -39085923.21 0.1762 0.1354

Mars -111724-06-10 11:31 J -39085607.11 -39085607.02 -39085606.92 0.1750 0.1064

Saturn -111724-09-01 21:36 J -39085523.64 -39085523.60 -39085523.57 0.0276 0.0265

Saturn -111724-11-29 11:02 J -39085435.15 -39085435.04 -39085434.93 0.0277 0.0186

Saturn -111723-02-26 00:29 J -39085346.62 -39085346.48 -39085346.35 0.0278 0.0106

Saturn -111723-05-25 13:41 J -39085258.07 -39085257.93 -39085257.79 0.0279 0.0026

Saturn -111723-08-22 02:38 J -39085169.52 -39085169.39 -39085169.25 0.0280 0.0054

Saturn -111723-11-18 15:36 J -39085080.97 -39085080.85 -39085080.72 0.0281 0.0133

Jupiter -111723-12-24 11:45 J -39085045.18 -39085045.01 -39085044.84 0.0496 0.0016

Saturn -111722-02-15 04:33 J -39084992.40 -39084992.31 -39084992.22 0.0282 0.0212

Moon -111722-05-19 12:29 J -39084899.08 -39084898.98 -39084898.88 0.2754 0.0974

Earth -111722-05-19 13:12 J -39084899.05 -39084898.95 -39084898.85 0.2757 0.1090 *

Venus -111719-01-02 05:17 J -39083940.39 -39083940.28 -39083940.17 0.3649 0.1233

Moon -111719-11-10 03:50 J -39083628.49 -39083628.34 -39083628.20 0.2583 0.1126

Earth -111719-11-10 05:02 J -39083628.42 -39083628.29 -39083628.15 0.2586 0.1313 *

Mars -111717-11-25 05:02 J -39082882.38 -39082882.29 -39082882.20 0.1775 0.1234

Jupiter -111717-11-25 17:31 J -39082881.89 -39082881.77 -39082881.66 0.0529 0.0295

Jupiter -111716-02-23 04:33 J -39082792.44 -39082792.31 -39082792.19 0.0531 0.0222

Mars -111716-12-19 05:45 J -39082493.40 -39082493.26 -39082493.12 0.1757 0.0700

Earth -111715-05-12 10:19 J -39082349.16 -39082349.07 -39082348.98 0.2746 0.1596

Moon -111715-05-12 11:02 J -39082349.14 -39082349.04 -39082348.95 0.2741 0.1476 *

Mars -111715-10-31 20:24 J -39082176.77 -39082176.65 -39082176.54 0.1755 0.0643

Venus -111714-07-18 23:45 J -39081916.58 -39081916.51 -39081916.44 0.3654 0.2729

Jupiter -111711-10-12 12:00 J -39080735.16 -39080735.00 -39080734.84 0.0496 0.0136

Jupiter -111710-01-10 12:14 J -39080645.08 -39080644.99 -39080644.89 0.0495 0.0403

Saturn -111710-04-02 10:05 J -39080563.15 -39080563.08 -39080563.00 0.0285 0.0251

Saturn -111710-06-30 04:48 J -39080474.44 -39080474.30 -39080474.16 0.0284 0.0154

Saturn -111710-09-26 23:45 J -39080385.67 -39080385.51 -39080385.34 0.0283 0.0056

Saturn -111710-12-24 19:12 J -39080296.87 -39080296.70 -39080296.54 0.0282 0.0043

Saturn -111709-03-22 14:38 J -39080208.04 -39080207.89 -39080207.74 0.0281 0.0142

Moon -111709-05-21 06:57 J -39080148.29 -39080148.21 -39080148.14 0.2763 0.2044

Earth -111709-05-21 07:41 J -39080148.26 -39080148.18 -39080148.11 0.2760 0.2034 *

Saturn -111709-06-19 10:19 J -39080119.15 -39080119.07 -39080118.98 0.0280 0.0241

Uranus -111708-10-24 09:07 J -39079627.14 -39079627.12 -39079627.08 0.0132 0.0129

Uranus -111707-01-20 12:43 J -39079539.04 -39079538.97 -39079538.89 0.0132 0.0112

Mars -111707-04-17 12:43 J -39079452.00 -39079451.97 -39079451.95 0.1780 0.1728

Uranus -111707-04-18 16:05 J -39079450.91 -39079450.83 -39079450.72 0.0132 0.0096

Uranus -111707-07-15 19:55 J -39079362.78 -39079362.67 -39079362.56 0.0132 0.0079

Uranus -111707-10-11 23:31 J -39079274.65 -39079274.52 -39079274.40 0.0132 0.0063

Uranus -111706-01-08 02:53 J -39079186.51 -39079186.38 -39079186.25 0.0132 0.0047

Uranus -111706-04-06 06:14 J -39079098.37 -39079098.24 -39079098.10 0.0132 0.0031

Mars -111706-05-11 06:57 J -39079063.36 -39079063.21 -39079063.05 0.1752 0.0079

Uranus -111706-07-03 09:50 J -39079010.23 -39079010.09 -39079009.95 0.0132 0.0016

Uranus -111706-09-29 13:12 J -39078922.09 -39078921.95 -39078921.81 0.0132 0.0001

Uranus -111706-12-26 16:33 J -39078833.95 -39078833.81 -39078833.67 0.0132 0.0016

Mars -111705-03-23 04:48 J -39078746.42 -39078746.30 -39078746.18 0.1760 0.0201

Uranus -111705-03-23 19:55 J -39078745.81 -39078745.67 -39078745.53 0.0132 0.0032

Uranus -111705-06-19 23:02 J -39078657.66 -39078657.54 -39078657.40 0.0132 0.0048

Jupiter -111705-09-13 19:12 J -39078571.77 -39078571.70 -39078571.62 0.0529 0.0436

Uranus -111705-09-16 02:24 J -39078569.52 -39078569.40 -39078569.27 0.0131 0.0063

Jupiter -111705-12-12 06:43 J -39078482.35 -39078482.22 -39078482.08 0.0531 0.0086

Uranus -111705-12-13 05:45 J -39078481.37 -39078481.26 -39078481.14 0.0131 0.0078

Uranus -111704-03-11 09:07 J -39078393.22 -39078393.12 -39078393.02 0.0131 0.0093

Uranus -111704-06-07 12:14 J -39078305.06 -39078304.99 -39078304.91 0.0131 0.0108

Uranus -111704-09-03 15:36 J -39078216.89 -39078216.85 -39078216.80 0.0131 0.0123

Moon -111702-05-15 05:02 J -39077598.40 -39077598.29 -39077598.18 0.2743 0.0649

Earth -111702-05-15 05:02 J -39077598.40 -39077598.29 -39077598.19 0.2750 0.0639 *

Venus -111700-05-12 02:24 J -39076870.47 -39076870.40 -39076870.33 0.3743 0.3037

Jupiter -111699-07-31 12:00 J -39076425.14 -39076425.00 -39076424.86 0.0496 0.0263

Jupiter -111699-10-29 12:00 J -39076335.15 -39076335.00 -39076334.86 0.0495 0.0270

Moon -111699-11-05 00:29 J -39076328.61 -39076328.48 -39076328.35 0.2588 0.1474

Earth -111699-11-05 00:29 J -39076328.61 -39076328.48 -39076328.36 0.2594 0.1540 *

Mars -111697-09-30 08:53 J -39075633.27 -39075633.13 -39075632.98 0.1747 0.0551

Mars -111696-08-13 13:12 J -39075316.07 -39075315.95 -39075315.83 0.1765 0.0246

Venus -111695-11-26 01:55 J -39074846.54 -39074846.42 -39074846.29 0.3737 0.0742

Saturn -111694-04-18 13:26 J -39074703.03 -39074702.94 -39074702.84 0.0276 0.0205

Saturn -111694-07-16 02:53 J -39074614.51 -39074614.38 -39074614.25 0.0277 0.0126

Mars -111694-07-20 02:38 J -39074610.45 -39074610.39 -39074610.33 0.1745 0.1515

Saturn -111694-10-12 16:05 J -39074525.97 -39074525.83 -39074525.69 0.0278 0.0046

Saturn -111693-01-09 05:17 J -39074437.42 -39074437.28 -39074437.14 0.0279 0.0033

Saturn -111693-04-06 18:14 J -39074348.87 -39074348.74 -39074348.61 0.0280 0.0113

Saturn -111693-07-04 07:12 J -39074260.30 -39074260.20 -39074260.10 0.0281 0.0191

Jupiter -111693-09-30 09:50 J -39074172.22 -39074172.09 -39074171.95 0.0531 0.0043

Saturn -111693-09-30 19:55 J -39074171.71 -39074171.67 -39074171.63 0.0282 0.0270

Jupiter -111693-12-28 20:24 J -39074082.71 -39074082.65 -39074082.59 0.0532 0.0471

Moon -111689-05-16 23:02 J -39072847.65 -39072847.54 -39072847.43 0.2747 0.0287

Earth -111689-05-16 23:31 J -39072847.63 -39072847.52 -39072847.41 0.2753 0.0321 *

Venus -111689-06-11 01:55 J -39072822.54 -39072822.42 -39072822.31 0.3731 0.1649

Mars -111687-02-20 11:02 J -39072203.15 -39072203.04 -39072202.92 0.1742 0.1141

Jupiter -111687-05-19 11:17 J -39072115.12 -39072115.03 -39072114.93 0.0497 0.0398

Jupiter -111687-08-17 10:48 J -39072025.21 -39072025.05 -39072024.88 0.0495 0.0130

Mars -111686-01-03 21:21 J -39071885.73 -39071885.61 -39071885.50 0.1770 0.0713

Moon -111686-11-08 04:48 J -39071577.46 -39071577.30 -39071577.14 0.2584 0.0147

Earth -111686-11-08 06:00 J -39071577.41 -39071577.25 -39071577.10 0.2589 0.0065 *

Mars -111685-01-28 05:17 J -39071496.37 -39071496.28 -39071496.19 0.1762 0.1424

Mars -111685-12-09 11:45 J -39071180.11 -39071180.01 -39071179.92 0.1750 0.1107

Earth -111682-05-10 20:38 J -39070297.70 -39070297.64 -39070297.59 0.2742 0.2372

Moon -111682-05-10 21:21 J -39070297.67 -39070297.61 -39070297.55 0.2742 0.2241 *

Jupiter -111681-07-19 13:12 J -39069862.08 -39069861.95 -39069861.82 0.0530 0.0162

Saturn -111681-08-19 09:21 J -39069831.13 -39069831.11 -39069831.08 0.0286 0.0282

Jupiter -111681-10-17 00:00 J -39069772.60 -39069772.50 -39069772.40 0.0531 0.0351

Saturn -111681-11-16 04:05 J -39069742.45 -39069742.33 -39069742.20 0.0285 0.0186

Saturn -111680-02-12 23:02 J -39069653.70 -39069653.54 -39069653.38 0.0284 0.0088

Saturn -111680-05-12 18:14 J -39069564.91 -39069564.74 -39069564.58 0.0282 0.0013

Saturn -111680-08-09 13:26 J -39069476.09 -39069475.94 -39069475.78 0.0281 0.0109

Saturn -111680-11-06 09:07 J -39069387.23 -39069387.12 -39069387.01 0.0280 0.0208

Venus -111680-12-24 19:26 J -39069338.76 -39069338.69 -39069338.62 0.3636 0.2889

Mars -111678-07-13 13:41 J -39068772.96 -39068772.93 -39068772.91 0.1737 0.1708

Mars -111677-05-26 05:17 J -39068455.37 -39068455.28 -39068455.19 0.1775 0.1187

Moon -111676-05-19 17:17 J -39068096.88 -39068096.78 -39068096.68 0.2757 0.1233

Earth -111676-05-19 18:00 J -39068096.85 -39068096.75 -39068096.65 0.2757 0.1274 *

Mars -111676-06-19 06:14 J -39068066.38 -39068066.24 -39068066.11 0.1757 0.0757

Mars -111675-05-01 20:24 J -39067749.77 -39067749.65 -39067749.54 0.1755 0.0683

Jupiter -111675-06-05 10:19 J -39067715.24 -39067715.07 -39067714.90 0.0496 0.0010

Venus -111674-07-10 14:24 J -39067315.01 -39067314.90 -39067314.79 0.3640 0.1290

Moon -111673-11-10 10:05 J -39066826.21 -39066826.08 -39066825.96 0.2585 0.1603

Earth -111673-11-10 11:31 J -39066826.14 -39066826.02 -39066825.89 0.2586 0.1623 *

Jupiter -111669-05-07 15:50 J -39065551.95 -39065551.84 -39065551.72 0.0529 0.0292

Earth -111669-05-12 15:21 J -39065546.96 -39065546.86 -39065546.77 0.2746 0.1411

Moon -111669-05-12 15:50 J -39065546.94 -39065546.84 -39065546.75 0.2741 0.1415 *

Jupiter -111669-08-05 02:53 J -39065462.50 -39065462.38 -39065462.25 0.0531 0.0226

Venus -111668-01-23 09:07 J -39065291.24 -39065291.12 -39065291.01 0.3645 0.0272

Mars -111668-10-16 12:57 J -39065025.00 -39065024.96 -39065024.92 0.1779 0.1677

Mars -111667-11-09 07:26 J -39064636.34 -39064636.19 -39064636.04 0.1752 0.0117

Mars -111666-09-22 05:02 J -39064319.41 -39064319.29 -39064319.17 0.1760 0.0251

Saturn -111665-09-04 15:07 J -39063970.95 -39063970.87 -39063970.79 0.0276 0.0229

Saturn -111665-12-02 04:33 J -39063882.43 -39063882.31 -39063882.19 0.0277 0.0149

Saturn -111664-02-28 18:00 J -39063793.89 -39063793.75 -39063793.61 0.0278 0.0070

Saturn -111664-05-28 07:12 J -39063705.35 -39063705.20 -39063705.06 0.0279 0.0012

Saturn -111664-08-24 20:09 J -39063616.79 -39063616.66 -39063616.53 0.0280 0.0090

Saturn -111664-11-21 09:07 J -39063528.23 -39063528.12 -39063528.01 0.0281 0.0169

Uranus -111664-12-25 20:24 J -39063493.71 -39063493.65 -39063493.58 0.0147 0.0135

Saturn -111663-02-17 21:50 J -39063439.65 -39063439.59 -39063439.52 0.0283 0.0248

Uranus -111663-03-24 03:21 J -39063405.46 -39063405.36 -39063405.23 0.0147 0.0109

Jupiter -111663-03-24 09:50 J -39063405.25 -39063405.09 -39063404.93 0.0496 0.0137 *

Moon -111663-05-22 11:45 J -39063346.07 -39063346.01 -39063345.94 0.2764 0.2111

Earth -111663-05-22 12:29 J -39063346.04 -39063345.98 -39063345.92 0.2760 0.2221 *

Uranus -111663-06-20 10:48 J -39063317.19 -39063317.05 -39063316.90 0.0147 0.0082

Jupiter -111663-06-22 10:05 J -39063315.17 -39063315.08 -39063314.97 0.0495 0.0402

Venus -111663-08-09 03:36 J -39063267.45 -39063267.35 -39063267.25 0.3650 0.1781

Uranus -111663-09-16 18:00 J -39063228.91 -39063228.75 -39063228.58 0.0147 0.0055

Uranus -111663-12-14 01:26 J -39063140.61 -39063140.44 -39063140.27 0.0147 0.0027

Uranus -111662-03-12 08:53 J -39063052.31 -39063052.13 -39063051.95 0.0147 0.0002

Uranus -111662-06-08 16:19 J -39062964.00 -39062963.82 -39062963.65 0.0147 0.0028

Uranus -111662-09-04 23:45 J -39062875.67 -39062875.51 -39062875.34 0.0147 0.0056

Uranus -111662-12-02 07:12 J -39062787.34 -39062787.20 -39062787.05 0.0147 0.0084

Uranus -111661-02-28 14:38 J -39062698.99 -39062698.89 -39062698.76 0.0147 0.0113

Uranus -111661-05-26 22:33 J -39062610.60 -39062610.56 -39062610.51 0.0147 0.0142

Neptune -111660-02-08 12:43 J -39062352.99 -39062352.97 -39062352.93 0.0089 0.0087

Neptune -111660-05-07 15:21 J -39062264.91 -39062264.86 -39062264.79 0.0089 0.0082

Neptune -111660-08-03 18:00 J -39062176.82 -39062176.75 -39062176.66 0.0089 0.0077

Neptune -111660-10-30 20:38 J -39062088.73 -39062088.64 -39062088.53 0.0089 0.0072

Neptune -111659-01-26 23:17 J -39062000.63 -39062000.53 -39062000.41 0.0089 0.0067

Neptune -111659-04-25 01:55 J -39061912.53 -39061912.42 -39061912.29 0.0089 0.0062

Neptune -111659-07-22 04:33 J -39061824.43 -39061824.31 -39061824.17 0.0089 0.0057

Neptune -111659-10-18 07:26 J -39061736.32 -39061736.19 -39061736.05 0.0089 0.0052

Neptune -111658-01-14 10:05 J -39061648.22 -39061648.08 -39061647.93 0.0089 0.0047

Neptune -111658-04-12 12:43 J -39061560.11 -39061559.97 -39061559.81 0.0089 0.0042

Neptune -111658-07-09 15:36 J -39061472.00 -39061471.85 -39061471.69 0.0089 0.0037

Neptune -111658-10-05 18:29 J -39061383.89 -39061383.73 -39061383.57 0.0089 0.0031

Neptune -111657-01-01 21:07 J -39061295.78 -39061295.62 -39061295.45 0.0089 0.0026

Venus   -111657-02-22 21:50 J -39061243.64 -39061243.59 -39061243.54 0.3655 0.3264

Jupiter -111657-02-24 18:29 J -39061241.81 -39061241.73 -39061241.65 0.0529 0.0426

Neptune -111657-03-30 00:00 J -39061207.67 -39061207.50 -39061207.33 0.0089 0.0021

Mars   -111657-03-31 09:21 J -39061206.25 -39061206.11 -39061205.96 0.1747 0.0492

Jupiter -111657-05-24 05:45 J -39061152.39 -39061152.26 -39061152.13 0.0530 0.0095

Neptune -111657-06-26 02:38 J -39061119.55 -39061119.39 -39061119.21 0.0089 0.0016

Neptune -111657-09-22 05:31 J -39061031.44 -39061031.27 -39061031.09 0.0089 0.0011

Neptune -111657-12-19 08:24 J -39060943.32 -39060943.15 -39060942.97 0.0089 0.0005

Mars   -111656-02-11 13:12 J -39060889.07 -39060888.95 -39060888.82 0.1765 0.0206

Neptune -111656-03-17 11:17 J -39060855.21 -39060855.03 -39060854.86 0.0089 0.0000

Moon   -111656-05-15 09:50 J -39060796.20 -39060796.09 -39060795.98 0.2743 0.0417

Earth   -111656-05-15 09:50 J -39060796.20 -39060796.09 -39060795.98 0.2750 0.0449 *

Neptune -111656-06-13 14:09 J -39060767.09 -39060766.91 -39060766.74 0.0089 0.0005

Neptune -111656-09-09 16:48 J -39060678.97 -39060678.80 -39060678.62 0.0089 0.0011

Neptune -111656-12-06 19:41 J -39060590.85 -39060590.68 -39060590.50 0.0089 0.0016

Neptune -111655-03-04 22:33 J -39060502.73 -39060502.56 -39060502.38 0.0089 0.0022

Neptune -111655-06-01 01:26 J -39060414.60 -39060414.44 -39060414.27 0.0089 0.0027

Neptune -111655-08-28 04:19 J -39060326.48 -39060326.32 -39060326.15 0.0089 0.0032

Neptune -111655-11-24 07:12 J -39060238.35 -39060238.20 -39060238.03 0.0089 0.0038

Mars -111654-01-18 02:53 J -39060183.43 -39060183.38 -39060183.33 0.1745 0.1559

Neptune -111654-02-20 10:05 J -39060150.22 -39060150.08 -39060149.92 0.0089 0.0043

Neptune -111654-05-19 12:57 J -39060062.10 -39060061.96 -39060061.80 0.0089 0.0049

Neptune -111654-08-15 15:50 J -39059973.97 -39059973.84 -39059973.68 0.0089 0.0055

Neptune -111654-11-11 19:12 J -39059885.83 -39059885.70 -39059885.57 0.0089 0.0059

Pluto -111653-01-15 15:36 J -39059820.87 -39059820.85 -39059820.81 0.0085 0.0082

Neptune -111653-02-07 21:50 J -39059797.70 -39059797.59 -39059797.46 0.0089 0.0065

Pluto -111653-04-12 16:48 J -39059732.87 -39059732.80 -39059732.71 0.0084 0.0068

Neptune -111653-05-06 01:12 J -39059709.56 -39059709.45 -39059709.34 0.0089 0.0071

Pluto -111653-07-09 18:29 J -39059644.84 -39059644.73 -39059644.63 0.0084 0.0053

Neptune -111653-08-02 03:50 J -39059621.42 -39059621.34 -39059621.24 0.0089 0.0076

Pluto -111653-10-05 19:26 J -39059556.80 -39059556.69 -39059556.56 0.0084 0.0039

Neptune -111653-10-29 06:43 J -39059533.27 -39059533.22 -39059533.13 0.0089 0.0082

Moon -111653-11-05 06:14 J -39059526.37 -39059526.24 -39059526.10 0.2587 0.1274

Earth -111653-11-05 06:43 J -39059526.35 -39059526.22 -39059526.08 0.2593 0.1239 *

Pluto -111652-01-01 20:53 J -39059468.76 -39059468.63 -39059468.50 0.0084 0.0024

Neptune -111652-01-25 09:50 J -39059445.11 -39059445.09 -39059445.04 0.0089 0.0087

Pluto -111652-03-30 22:05 J -39059380.71 -39059380.58 -39059380.44 0.0084 0.0010

Pluto -111652-06-26 23:31 J -39059292.66 -39059292.52 -39059292.39 0.0084 0.0005

Pluto -111652-09-23 00:43 J -39059204.60 -39059204.47 -39059204.34 0.0084 0.0019

Pluto -111652-12-20 01:55 J -39059116.54 -39059116.42 -39059116.30 0.0084 0.0033

Jupiter -111651-01-10 10:05 J -39059095.22 -39059095.08 -39059094.94 0.0496 0.0263

Pluto -111651-03-18 02:53 J -39059028.47 -39059028.38 -39059028.26 0.0083 0.0048

Saturn -111651-04-05 04:48 J -39059010.41 -39059010.30 -39059010.19 0.0284 0.0212

Jupiter -111651-04-10 09:50 J -39059005.23 -39059005.09 -39059004.94 0.0495 0.0272

Pluto -111651-06-14 04:05 J -39058940.40 -39058940.33 -39058940.22 0.0083 0.0062

Saturn -111651-07-02 23:31 J -39058921.67 -39058921.52 -39058921.36 0.0283 0.0115

Pluto -111651-09-10 05:17 J -39058852.32 -39058852.28 -39058852.21 0.0083 0.0075

Saturn -111651-09-29 18:43 J -39058832.89 -39058832.72 -39058832.55 0.0282 0.0016

Saturn -111651-12-27 14:09 J -39058744.08 -39058743.91 -39058743.75 0.0281 0.0083

Saturn -111650-03-26 09:36 J -39058655.23 -39058655.10 -39058654.97 0.0280 0.0182

Mars -111648-08-21 11:31 J -39057776.13 -39057776.02 -39057775.90 0.1742 0.1082

Mars -111647-07-04 21:21 J -39057458.72 -39057458.61 -39057458.49 0.1770 0.0664

Mars -111646-07-29 06:00 J -39057069.33 -39057069.25 -39057069.17 0.1762 0.1485

Jupiter -111645-03-12 07:55 J -39056842.31 -39056842.17 -39056842.04 0.0530 0.0045

Mars -111645-06-09 11:45 J -39056753.10 -39056753.01 -39056752.92 0.1750 0.1148

Jupiter -111645-06-09 18:29 J -39056752.79 -39056752.73 -39056752.67 0.0532 0.0464

Venus -111644-12-17 01:55 J -39056197.52 -39056197.42 -39056197.32 0.3741 0.2245

Moon -111643-05-18 03:50 J -39056045.45 -39056045.34 -39056045.23 0.2749 0.0440

Earth -111643-05-18 04:19 J -39056045.42 -39056045.32 -39056045.21 0.2754 0.0517 *

Jupiter -111640-10-29 10:05 J -39054785.18 -39054785.08 -39054784.98 0.0497 0.0389

Moon -111640-11-08 11:17 J -39054775.19 -39054775.03 -39054774.88 0.2585 0.0333

Earth -111640-11-08 12:29 J -39054775.14 -39054774.98 -39054774.83 0.2589 0.0346 *

Jupiter -111639-01-27 09:36 J -39054695.27 -39054695.10 -39054694.94 0.0495 0.0139

Mars -111638-01-11 14:09 J -39054345.95 -39054345.91 -39054345.86 0.1737 0.1647

Venus -111638-07-03 01:26 J -39054173.57 -39054173.44 -39054173.31 0.3735 0.0093

Mars -111638-11-25 05:17 J -39054028.37 -39054028.28 -39054028.18 0.1775 0.1141

Mars -111637-12-18 06:43 J -39053639.35 -39053639.22 -39053639.08 0.1757 0.0821

Earth -111636-05-11 01:26 J -39053495.50 -39053495.44 -39053495.37 0.2743 0.2183

Moon -111636-05-11 02:09 J -39053495.47 -39053495.41 -39053495.34 0.2740 0.2166 *

Mars -111636-10-30 20:24 J -39053322.76 -39053322.65 -39053322.54 0.1755 0.0728

Saturn -111635-01-22 18:00 J -39053238.81 -39053238.75 -39053238.69 0.0276 0.0246

Saturn -111635-04-21 07:26 J -39053150.30 -39053150.19 -39053150.07 0.0277 0.0167

Saturn -111635-07-18 20:53 J -39053061.77 -39053061.63 -39053061.50 0.0278 0.0087

Saturn -111635-10-15 10:05 J -39052973.22 -39052973.08 -39052972.94 0.0279 0.0008

Saturn -111634-01-11 23:02 J -39052884.67 -39052884.54 -39052884.40 0.0280 0.0072

Saturn -111634-04-10 12:00 J -39052796.11 -39052796.00 -39052795.88 0.0281 0.0151

Saturn -111634-07-08 00:43 J -39052707.54 -39052707.47 -39052707.38 0.0282 0.0230

Jupiter -111634-12-30 10:48 J -39052532.18 -39052532.05 -39052531.92 0.0530 0.0172

Jupiter -111633-03-28 21:50 J -39052442.70 -39052442.59 -39052442.49 0.0531 0.0343

Venus -111632-01-16 01:41 J -39052149.53 -39052149.43 -39052149.34 0.3730 0.2493

Moon -111630-05-20 22:05 J -39051294.67 -39051294.58 -39051294.48 0.2758 0.1382

Earth -111630-05-20 22:48 J -39051294.64 -39051294.55 -39051294.45 0.2757 0.1464 *

Mars -111628-04-16 12:57 J -39050598.01 -39050597.96 -39050597.92 0.1780 0.1633

Jupiter -111628-11-15 08:24 J -39050385.32 -39050385.15 -39050384.98 0.0496 0.0003

Mars -111627-05-10 07:55 J -39050209.32 -39050209.17 -39050209.01 0.1752 0.0185

Moon -111627-11-11 16:33 J -39050023.93 -39050023.81 -39050023.70 0.2586 0.1716

Earth -111627-11-11 18:14 J -39050023.84 -39050023.74 -39050023.64 0.2585 0.1943 *

Mars -111626-03-23 05:02 J -39049892.41 -39049892.29 -39049892.17 0.1760 0.0293

Uranus -111624-11-13 15:36 J -39048925.88 -39048925.85 -39048925.80 0.0132 0.0127

Uranus -111623-02-09 19:26 J -39048837.76 -39048837.69 -39048837.61 0.0132 0.0110

Uranus -111623-05-08 23:02 J -39048749.64 -39048749.54 -39048749.44 0.0132 0.0093

Earth -111623-05-13 20:09 J -39048744.76 -39048744.66 -39048744.56 0.2747 0.1221

Moon -111623-05-13 20:38 J -39048744.75 -39048744.64 -39048744.54 0.2741 0.1127 *

Venus -111623-07-31 17:45 J -39048665.85 -39048665.76 -39048665.67 0.3637 0.2302

Uranus -111623-08-05 02:24 J -39048661.51 -39048661.40 -39048661.28 0.0132 0.0077

Uranus -111623-11-01 06:00 J -39048573.37 -39048573.25 -39048573.12 0.0132 0.0061

Uranus -111622-01-28 09:36 J -39048485.23 -39048485.10 -39048484.97 0.0132 0.0045

Uranus -111622-04-26 12:57 J -39048397.09 -39048396.96 -39048396.82 0.0132 0.0029

Uranus -111622-07-23 16:19 J -39048308.95 -39048308.82 -39048308.67 0.0132 0.0014

Saturn -111622-08-23 04:33 J -39048278.39 -39048278.31 -39048278.21 0.0285 0.0240

Jupiter -111622-10-18 13:55 J -39048222.03 -39048221.92 -39048221.80 0.0530 0.0296

Uranus -111622-10-19 19:55 J -39048220.81 -39048220.67 -39048220.53 0.0132 0.0003

Saturn -111622-11-19 23:31 J -39048189.66 -39048189.52 -39048189.38 0.0284 0.0143

Uranus -111621-01-15 23:17 J -39048132.67 -39048132.53 -39048132.39 0.0132 0.0018

Jupiter -111621-01-16 01:12 J -39048132.57 -39048132.45 -39048132.33 0.0531 0.0222 *

Saturn -111621-02-16 18:29 J -39048100.90 -39048100.73 -39048100.56 0.0283 0.0045

Uranus -111621-04-13 02:38 J -39048044.53 -39048044.39 -39048044.25 0.0132 0.0034

Saturn -111621-05-15 13:41 J -39048012.10 -39048011.93 -39048011.76 0.0282 0.0053

Uranus -111621-07-10 06:00 J -39047956.38 -39047956.25 -39047956.12 0.0132 0.0050

Saturn -111621-08-12 09:07 J -39047923.26 -39047923.12 -39047922.97 0.0281 0.0152

Uranus -111621-10-06 09:21 J -39047868.23 -39047868.11 -39047867.99 0.0132 0.0065

Saturn -111621-11-09 04:48 J -39047834.37 -39047834.30 -39047834.22 0.0280 0.0251

Uranus -111620-01-02 12:29 J -39047780.08 -39047779.98 -39047779.86 0.0132 0.0080

Uranus -111620-03-31 15:50 J -39047691.93 -39047691.84 -39047691.74 0.0131 0.0095

Uranus -111620-06-27 18:57 J -39047603.77 -39047603.71 -39047603.63 0.0131 0.0111

Uranus -111620-09-23 22:19 J -39047515.60 -39047515.57 -39047515.53 0.0131 0.0125

Earth -111620-11-03 07:55 J -39047475.21 -39047475.17 -39047475.13 0.2597 0.2491

Moon -111620-11-03 08:24 J -39047475.21 -39047475.15 -39047475.09 0.2591 0.2387 *

Mars -111618-09-30 09:50 J -39046779.24 -39046779.09 -39046778.94 0.1747 0.0436

Venus -111617-02-14 12:43 J -39046642.08 -39046641.97 -39046641.86 0.3642 0.0716

Moon -111617-05-22 17:02 J -39046543.84 -39046543.79 -39046543.74 0.2766 0.2417

Earth -111617-05-22 17:17 J -39046543.83 -39046543.78 -39046543.73 0.2761 0.2408 *

Mars -111617-08-12 13:26 J -39046462.06 -39046461.94 -39046461.82 0.1765 0.0154

Jupiter -111616-09-03 07:55 J -39046075.33 -39046075.17 -39046075.01 0.0496 0.0136

Jupiter -111616-12-02 08:09 J -39045985.26 -39045985.16 -39045985.06 0.0495 0.0402

Mars -111615-07-19 02:53 J -39045756.43 -39045756.38 -39045756.34 0.1746 0.1597

Venus -111612-08-30 07:26 J -39044618.31 -39044618.19 -39044618.08 0.3647 0.0833

Moon -111610-05-16 14:38 J -39043994.00 -39043993.89 -39043993.78 0.2743 0.0351

Earth -111610-05-16 14:53 J -39043993.99 -39043993.88 -39043993.77 0.2751 0.0280 *

Jupiter -111610-08-06 16:33 J -39043911.89 -39043911.81 -39043911.72 0.0529 0.0426

Jupiter -111610-11-04 04:05 J -39043822.46 -39043822.33 -39043822.20 0.0530 0.0095

Mars -111608-02-19 12:00 J -39043349.13 -39043349.00 -39043348.88 0.1742 0.1030

Mars -111607-01-02 21:36 J -39043031.72 -39043031.60 -39043031.48 0.1770 0.0615

Moon -111607-11-06 12:29 J -39042724.12 -39042723.98 -39042723.83 0.2586 0.1003

Earth -111607-11-06 13:12 J -39042724.09 -39042723.95 -39042723.80 0.2593 0.0932 *

Mars -111606-01-27 06:14 J -39042642.31 -39042642.24 -39042642.16 0.1762 0.1541

Venus -111606-03-16 01:55 J -39042594.51 -39042594.42 -39042594.34 0.3652 0.2331

Saturn -111606-06-11 19:41 J -39042506.71 -39042506.68 -39042506.65 0.0276 0.0269

Saturn -111606-09-08 09:21 J -39042418.22 -39042418.11 -39042418.01 0.0277 0.0189

Saturn -111606-12-05 22:33 J -39042329.69 -39042329.56 -39042329.42 0.0278 0.0110

Mars -111606-12-09 11:45 J -39042326.10 -39042326.01 -39042325.92 0.1750 0.1192

Saturn -111605-03-03 12:00 J -39042241.14 -39042241.00 -39042240.86 0.0279 0.0030

Saturn -111605-05-31 01:12 J -39042152.59 -39042152.45 -39042152.31 0.0280 0.0050

Saturn -111605-08-27 14:09 J -39042064.04 -39042063.91 -39042063.79 0.0281 0.0129

Saturn -111605-11-24 02:53 J -39041975.47 -39041975.38 -39041975.28 0.0282 0.0208

Jupiter -111604-06-22 07:26 J -39041765.33 -39041765.19 -39041765.05 0.0497 0.0268

Jupiter -111604-09-20 07:12 J -39041675.34 -39041675.20 -39041675.05 0.0495 0.0267

Mars -111599-07-12 14:38 J -39039918.95 -39039918.89 -39039918.83 0.1737 0.1592

Mars -111598-05-26 05:17 J -39039601.37 -39039601.28 -39039601.18 0.1775 0.1096

Jupiter -111598-08-23 06:43 J -39039512.35 -39039512.22 -39039512.08 0.0530 0.0038

Jupiter -111598-11-20 17:17 J -39039422.84 -39039422.78 -39039422.72 0.0531 0.0470

Moon -111597-05-18 08:38 J -39039243.25 -39039243.14 -39039243.03 0.2752 0.0686

Earth -111597-05-18 09:21 J -39039243.22 -39039243.11 -39039243.01 0.2754 0.0700 *

Mars -111597-06-18 07:12 J -39039212.33 -39039212.20 -39039212.07 0.1757 0.0878

Mars -111596-04-30 20:24 J -39038895.75 -39038895.65 -39038895.54 0.1755 0.0772

Moon -111594-11-09 17:31 J -39037972.93 -39037972.77 -39037972.62 0.2586 0.0518

Earth -111594-11-09 18:57 J -39037972.86 -39037972.71 -39037972.56 0.2588 0.0655 *

Venus -111592-01-07 02:09 J -39037548.43 -39037548.41 -39037548.39 0.3745 0.3698

Saturn -111592-01-09 06:00 J -39037546.31 -39037546.25 -39037546.19 0.0285 0.0263

Saturn -111592-04-08 00:29 J -39037457.61 -39037457.48 -39037457.34 0.0284 0.0167

Jupiter -111592-04-10 07:41 J -39037455.28 -39037455.18 -39037455.08 0.0497 0.0393

Saturn -111592-07-05 19:26 J -39037368.85 -39037368.69 -39037368.52 0.0283 0.0070

Jupiter -111592-07-09 07:12 J -39037365.36 -39037365.20 -39037365.04 0.0496 0.0136

Saturn -111592-10-02 14:38 J -39037280.06 -39037279.89 -39037279.72 0.0282 0.0029

Saturn -111592-12-30 10:05 J -39037191.23 -39037191.08 -39037190.93 0.0281 0.0127

Saturn -111591-03-29 05:45 J -39037102.36 -39037102.26 -39037102.16 0.0280 0.0226

Earth -111590-05-12 06:29 J -39036693.31 -39036693.23 -39036693.16 0.2743 0.1995

Moon -111590-05-12 07:12 J -39036693.28 -39036693.20 -39036693.12 0.2740 0.1885 *

Mars -111589-10-15 13:12 J -39036171.01 -39036170.95 -39036170.90 0.1780 0.1580

Mars -111588-11-08 08:38 J -39035782.29 -39035782.14 -39035781.99 0.1752 0.0245

Venus -111587-07-24 01:26 J -39035524.56 -39035524.44 -39035524.33 0.3740 0.1463

Mars -111587-09-21 05:02 J -39035465.41 -39035465.29 -39035465.16 0.1760 0.0345

Jupiter -111586-06-11 08:38 J -39035202.27 -39035202.14 -39035202.01 0.0530 0.0179

Jupiter -111586-09-08 19:26 J -39035112.79 -39035112.69 -39035112.58 0.0531 0.0335

Moon -111584-05-21 03:07 J -39034492.46 -39034492.37 -39034492.28 0.2759 0.1578

Earth -111584-05-21 03:50 J -39034492.43 -39034492.34 -39034492.26 0.2758 0.1649 *

Venus -111581-02-07 01:12 J -39033500.58 -39033500.45 -39033500.33 0.3734 0.0890

Moon -111581-11-11 23:02 J -39033221.62 -39033221.54 -39033221.47 0.2586 0.2225

Earth -111581-11-12 00:43 J -39033221.55 -39033221.47 -39033221.40 0.2585 0.2252 *

Jupiter -111580-04-27 06:57 J -39033055.38 -39033055.21 -39033055.04 0.0496 0.0014

Uranus -111579-01-15 03:36 J -39032792.42 -39032792.35 -39032792.26 0.0147 0.0129

Uranus -111579-04-13 10:48 J -39032704.17 -39032704.05 -39032703.92 0.0147 0.0102

Neptune -111579-06-02 20:53 J -39032653.64 -39032653.63 -39032653.59 0.0088 0.0088

Uranus -111579-07-10 18:14 J -39032615.89 -39032615.74 -39032615.59 0.0147 0.0075

Neptune -111579-08-29 23:02 J -39032565.59 -39032565.54 -39032565.49 0.0088 0.0083

Uranus -111579-10-07 01:26 J -39032527.61 -39032527.44 -39032527.27 0.0147 0.0048

Neptune -111579-11-26 00:29 J -39032477.53 -39032477.48 -39032477.40 0.0088 0.0079

Uranus -111578-01-03 08:38 J -39032439.31 -39032439.14 -39032438.96 0.0147 0.0021

Neptune -111578-02-22 02:38 J -39032389.47 -39032389.39 -39032389.31 0.0088 0.0074

Mars -111578-03-31 10:19 J -39032352.22 -39032352.07 -39032351.92 0.1747 0.0379

Uranus -111578-04-01 16:05 J -39032351.01 -39032350.83 -39032350.65 0.0147 0.0007

Neptune -111578-05-21 04:19 J -39032301.40 -39032301.32 -39032301.22 0.0088 0.0069

Uranus -111578-06-28 23:31 J -39032262.69 -39032262.52 -39032262.35 0.0147 0.0034

Neptune -111578-08-17 06:14 J -39032213.34 -39032213.24 -39032213.14 0.0088 0.0065

Uranus -111578-09-25 06:57 J -39032174.37 -39032174.21 -39032174.04 0.0147 0.0062

Neptune -111578-11-13 07:55 J -39032125.27 -39032125.17 -39032125.06 0.0088 0.0060

Uranus -111578-12-22 14:38 J -39032086.03 -39032085.89 -39032085.75 0.0147 0.0091

Neptune -111577-02-09 09:50 J -39032037.20 -39032037.09 -39032036.97 0.0088 0.0056

Mars -111577-02-11 13:26 J -39032035.06 -39032034.94 -39032034.82 0.1765 0.0112

Uranus -111577-03-19 22:05 J -39031997.68 -39031997.58 -39031997.47 0.0147 0.0119

Neptune -111577-05-07 11:31 J -39031949.13 -39031949.02 -39031948.89 0.0088 0.0052

Earth -111577-05-14 01:12 J -39031942.56 -39031942.45 -39031942.35 0.2747 0.1036

Moon -111577-05-14 01:12 J -39031942.55 -39031942.45 -39031942.35 0.2740 0.1068 *

Neptune -111577-08-03 13:12 J -39031861.06 -39031860.95 -39031860.82 0.0088 0.0047

Neptune -111577-10-30 15:07 J -39031772.99 -39031772.87 -39031772.74 0.0088 0.0043

Saturn -111576-01-25 12:29 J -39031686.08 -39031685.98 -39031685.88 0.0276 0.0205

Neptune -111576-01-26 16:48 J -39031684.93 -39031684.80 -39031684.66 0.0088 0.0038

Saturn -111576-04-24 01:55 J -39031597.55 -39031597.42 -39031597.29 0.0277 0.0125

Neptune -111576-04-24 18:43 J -39031596.86 -39031596.72 -39031596.59 0.0088 0.0034

Saturn -111576-07-21 15:07 J -39031509.01 -39031508.87 -39031508.73 0.0278 0.0046

Neptune -111576-07-21 20:24 J -39031508.79 -39031508.65 -39031508.51 0.0088 0.0029 *

Venus -111576-08-23 01:12 J -39031476.50 -39031476.45 -39031476.39 0.3728 0.3337

Neptune -111576-10-17 22:05 J -39031420.72 -39031420.58 -39031420.44 0.0088 0.0025

Saturn -111576-10-18 04:19 J -39031420.46 -39031420.32 -39031420.18 0.0279 0.0034 *

Neptune -111575-01-14 00:00 J -39031332.65 -39031332.50 -39031332.36 0.0088 0.0021

Saturn -111575-01-14 17:17 J -39031331.90 -39031331.78 -39031331.65 0.0280 0.0113

Mars -111575-01-17 02:53 J -39031329.42 -39031329.38 -39031329.34 0.1745 0.1638

Neptune -111575-04-12 01:26 J -39031244.58 -39031244.44 -39031244.29 0.0088 0.0017

Saturn -111575-04-13 06:14 J -39031243.34 -39031243.24 -39031243.14 0.0281 0.0192

Neptune -111575-07-09 03:21 J -39031156.50 -39031156.36 -39031156.22 0.0088 0.0012

Saturn -111575-07-10 18:57 J -39031154.74 -39031154.71 -39031154.67 0.0282 0.0270

Neptune -111575-10-05 05:02 J -39031068.43 -39031068.29 -39031068.15 0.0088 0.0008

Neptune -111574-01-01 06:43 J -39030980.36 -39030980.22 -39030980.07 0.0088 0.0003

Neptune -111574-03-30 08:24 J -39030892.29 -39030892.15 -39030892.00 0.0088 0.0001

Jupiter -111574-03-30 11:31 J -39030892.13 -39030892.02 -39030891.91 0.0530 0.0308 *

Neptune -111574-06-26 10:05 J -39030804.22 -39030804.08 -39030803.93 0.0088 0.0006

Jupiter -111574-06-27 22:33 J -39030802.68 -39030802.56 -39030802.43 0.0531 0.0211

Neptune -111574-09-22 11:45 J -39030716.15 -39030716.01 -39030715.86 0.0088 0.0010

Moon -111574-11-04 14:24 J -39030672.98 -39030672.90 -39030672.83 0.2590 0.2264

Earth -111574-11-04 14:24 J -39030672.98 -39030672.90 -39030672.82 0.2596 0.2181 *

Neptune -111574-12-19 13:26 J -39030628.08 -39030627.94 -39030627.80 0.0088 0.0014

Neptune -111573-03-16 15:07 J -39030540.01 -39030539.87 -39030539.73 0.0088 0.0018

Neptune -111573-06-12 16:48 J -39030451.94 -39030451.80 -39030451.66 0.0088 0.0023

Neptune -111573-09-08 18:29 J -39030363.87 -39030363.73 -39030363.59 0.0088 0.0027

Neptune -111573-12-05 19:55 J -39030275.80 -39030275.67 -39030275.53 0.0088 0.0031

Neptune -111572-03-03 21:36 J -39030187.72 -39030187.60 -39030187.46 0.0088 0.0035

Neptune -111572-05-30 23:17 J -39030099.65 -39030099.53 -39030099.40 0.0088 0.0039

Venus -111572-08-21 21:07 J -39030016.66 -39030016.62 -39030016.57 0.3633 0.3327

Neptune -111572-08-27 00:57 J -39030011.58 -39030011.46 -39030011.33 0.0088 0.0044

Neptune -111572-11-23 02:38 J -39029923.51 -39029923.39 -39029923.27 0.0088 0.0048

Neptune -111571-02-19 04:05 J -39029835.44 -39029835.33 -39029835.21 0.0088 0.0052

Neptune -111571-05-18 05:31 J -39029747.36 -39029747.27 -39029747.15 0.0088 0.0057

Moon -111571-05-23 22:05 J -39029741.62 -39029741.58 -39029741.55 0.2768 0.2570

Earth -111571-05-23 22:19 J -39029741.61 -39029741.57 -39029741.54 0.2761 0.2595 *

Neptune -111571-08-14 07:12 J -39029659.29 -39029659.20 -39029659.09 0.0088 0.0060

Neptune -111571-11-10 08:53 J -39029571.22 -39029571.13 -39029571.03 0.0088 0.0064

Neptune -111570-02-06 10:19 J -39029483.15 -39029483.07 -39029482.97 0.0088 0.0069

Neptune -111570-05-05 12:00 J -39029395.07 -39029395.00 -39029394.91 0.0088 0.0072

Neptune -111570-08-01 13:26 J -39029306.99 -39029306.94 -39029306.86 0.0088 0.0077

Neptune -111570-10-28 15:07 J -39029218.92 -39029218.87 -39029218.81 0.0088 0.0081

Neptune -111569-01-24 16:33 J -39029130.83 -39029130.81 -39029130.76 0.0088 0.0085

Mars -111569-08-20 12:29 J -39028922.11 -39028921.98 -39028921.86 0.1742 0.0970

Jupiter -111568-02-13 05:45 J -39028745.42 -39028745.26 -39028745.10 0.0496 0.0137

Jupiter -111568-05-14 06:00 J -39028655.35 -39028655.25 -39028655.15 0.0495 0.0401

Mars -111568-07-03 21:36 J -39028604.72 -39028604.60 -39028604.48 0.1770 0.0572

Mars -111567-07-28 06:57 J -39028215.28 -39028215.21 -39028215.15 0.1762 0.1604

Venus -111566-03-07 16:19 J -39027992.93 -39027992.82 -39027992.72 0.3638 0.1723

Mars -111566-06-09 11:45 J -39027899.09 -39027899.01 -39027898.92 0.1750 0.1230

Moon -111564-05-16 19:26 J -39027191.81 -39027191.69 -39027191.58 0.2745 0.0124

Earth -111564-05-16 19:41 J -39027191.79 -39027191.68 -39027191.57 0.2751 0.0071 *

Saturn -111563-08-26 01:12 J -39026725.57 -39026725.45 -39026725.33 0.0284 0.0192

Saturn -111563-11-22 20:09 J -39026636.82 -39026636.66 -39026636.50 0.0283 0.0095

Jupiter -111562-01-16 14:24 J -39026581.97 -39026581.90 -39026581.82 0.0529 0.0434

Saturn -111562-02-19 15:07 J -39026548.04 -39026547.87 -39026547.70 0.0282 0.0005

Jupiter -111562-04-16 01:55 J -39026492.55 -39026492.42 -39026492.28 0.0531 0.0090

Saturn -111562-05-19 10:19 J -39026459.22 -39026459.07 -39026458.90 0.0281 0.0103

Saturn -111562-08-16 06:00 J -39026370.37 -39026370.25 -39026370.13 0.0280 0.0201

Venus -111561-09-20 11:02 J -39025969.16 -39025969.04 -39025968.93 0.3643 0.0152

Moon -111561-11-06 18:43 J -39025921.87 -39025921.72 -39025921.56 0.2587 0.0645

Earth -111561-11-06 19:41 J -39025921.83 -39025921.68 -39025921.53 0.2592 0.0625 *

Mars -111559-01-10 14:53 J -39025491.94 -39025491.88 -39025491.81 0.1737 0.1540

Mars -111559-11-24 05:31 J -39025174.37 -39025174.27 -39025174.16 0.1775 0.1044

Mars -111558-12-18 07:41 J -39024785.30 -39024785.18 -39024785.04 0.1757 0.0943

Moon -111557-05-09 17:31 J -39024641.78 -39024641.77 -39024641.77 0.2739 0.2729

Mars -111557-10-29 20:38 J -39024468.75 -39024468.64 -39024468.53 0.1755 0.0813

Jupiter -111557-12-02 05:17 J -39024435.42 -39024435.28 -39024435.14 0.0496 0.0270

Jupiter -111556-03-02 05:02 J -39024345.43 -39024345.29 -39024345.14 0.0495 0.0263

Venus -111555-04-06 05:31 J -39023945.37 -39023945.27 -39023945.16 0.3648 0.1374

Moon -111551-05-19 13:26 J -39022441.05 -39022440.94 -39022440.83 0.2754 0.0749

Earth -111551-05-19 14:09 J -39022441.01 -39022440.91 -39022440.80 0.2755 0.0887 *

Jupiter -111550-02-02 04:48 J -39022182.43 -39022182.30 -39022182.16 0.0530 0.0042

Jupiter -111550-05-02 15:21 J -39022092.92 -39022092.86 -39022092.80 0.0531 0.0468

Venus -111550-10-21 00:00 J -39021921.57 -39021921.50 -39021921.43 0.3653 0.2865

Mars -111549-04-15 13:12 J -39021744.01 -39021743.95 -39021743.89 0.1779 0.1533

Mars -111548-05-09 08:53 J -39021355.28 -39021355.13 -39021354.98 0.1752 0.0293

Moon -111548-11-09 23:45 J -39021170.66 -39021170.51 -39021170.36 0.2588 0.0835

Earth -111548-11-10 01:26 J -39021170.59 -39021170.44 -39021170.30 0.2588 0.0967 *

Mars -111547-03-22 05:17 J -39021038.40 -39021038.28 -39021038.16 0.1760 0.0383

Saturn -111547-06-14 14:24 J -39020953.98 -39020953.90 -39020953.82 0.0277 0.0227

Saturn -111547-09-11 03:50 J -39020865.46 -39020865.34 -39020865.22 0.0277 0.0147

Saturn -111547-12-08 17:17 J -39020776.92 -39020776.78 -39020776.64 0.0278 0.0068

Saturn -111546-03-07 06:29 J -39020688.38 -39020688.23 -39020688.09 0.0279 0.0013

Saturn -111546-06-03 19:26 J -39020599.82 -39020599.69 -39020599.55 0.0281 0.0092

Saturn -111546-08-31 08:24 J -39020511.26 -39020511.15 -39020511.04 0.0282 0.0171

Saturn -111546-11-27 21:07 J -39020422.67 -39020422.62 -39020422.55 0.0283 0.0250

Jupiter -111545-09-20 05:02 J -39020125.39 -39020125.29 -39020125.19 0.0497 0.0401

Jupiter -111545-12-19 04:19 J -39020035.48 -39020035.32 -39020035.15 0.0496 0.0127

Earth -111544-05-12 11:17 J -39019891.11 -39019891.03 -39019890.94 0.2744 0.1805

Moon -111544-05-12 12:00 J -39019891.09 -39019891.00 -39019890.92 0.2740 0.1766 *

Uranus -111540-12-03 22:33 J -39018224.60 -39018224.56 -39018224.50 0.0132 0.0123

Uranus -111539-03-02 02:24 J -39018136.48 -39018136.40 -39018136.32 0.0132 0.0107

Uranus -111539-05-29 05:45 J -39018048.35 -39018048.26 -39018048.15 0.0132 0.0091

Uranus -111539-08-25 09:21 J -39017960.22 -39017960.11 -39017959.99 0.0132 0.0074

Mars -111539-09-29 10:48 J -39017925.20 -39017925.05 -39017924.90 0.1747 0.0317

Jupiter -111539-11-21 07:26 J -39017872.32 -39017872.19 -39017872.06 0.0530 0.0173

Uranus -111539-11-21 12:57 J -39017872.09 -39017871.96 -39017871.83 0.0132 0.0058 *

Uranus -111538-02-17 16:19 J -39017783.95 -39017783.82 -39017783.68 0.0132 0.0042

Jupiter -111538-02-18 18:14 J -39017782.84 -39017782.74 -39017782.64 0.0531 0.0339

Uranus -111538-05-16 19:55 J -39017695.81 -39017695.67 -39017695.53 0.0132 0.0026

Moon -111538-05-22 08:09 J -39017690.24 -39017690.16 -39017690.08 0.2762 0.1824

Earth -111538-05-22 08:38 J -39017690.22 -39017690.14 -39017690.06 0.2758 0.1839 *

Mars -111538-08-12 13:41 J -39017608.06 -39017607.93 -39017607.81 0.1765 0.0079

Uranus -111538-08-12 23:17 J -39017607.67 -39017607.53 -39017607.38 0.0132 0.0011

Uranus -111538-11-09 02:53 J -39017519.52 -39017519.38 -39017519.24 0.0132 0.0006

Uranus -111537-02-05 06:14 J -39017431.38 -39017431.24 -39017431.10 0.0132 0.0022

Uranus -111537-05-03 09:36 J -39017343.24 -39017343.10 -39017342.97 0.0132 0.0037

Uranus -111537-07-30 12:57 J -39017255.09 -39017254.96 -39017254.83 0.0132 0.0053

Uranus -111537-10-26 16:19 J -39017166.94 -39017166.82 -39017166.70 0.0132 0.0068

Uranus -111536-01-22 19:26 J -39017078.79 -39017078.69 -39017078.58 0.0132 0.0083

Uranus -111536-04-20 22:48 J -39016990.64 -39016990.55 -39016990.46 0.0132 0.0099

Uranus -111536-07-18 01:55 J -39016902.48 -39016902.42 -39016902.34 0.0131 0.0114

Mars -111536-07-18 02:53 J -39016902.40 -39016902.38 -39016902.35 0.1745 0.1682 *

Venus -111536-08-14 01:26 J -39016875.51 -39016875.44 -39016875.36 0.3744 0.2930

Uranus -111536-10-14 05:17 J -39016814.30 -39016814.28 -39016814.25 0.0131 0.0129

Moon -111535-11-13 05:45 J -39016419.31 -39016419.26 -39016419.20 0.2587 0.2406

Earth -111535-11-13 07:12 J -39016419.21 -39016419.20 -39016419.19 0.2584 0.2575 *

Saturn -111533-01-13 02:24 J -39015993.50 -39015993.40 -39015993.29 0.0284 0.0215

Saturn -111533-04-10 21:07 J -39015904.76 -39015904.62 -39015904.46 0.0283 0.0118

Saturn -111533-07-08 16:19 J -39015815.99 -39015815.82 -39015815.65 0.0282 0.0020

Saturn -111533-10-05 11:31 J -39015727.18 -39015727.02 -39015726.85 0.0281 0.0078

Jupiter -111533-10-07 04:19 J -39015725.49 -39015725.32 -39015725.15 0.0496 0.0012

Saturn -111532-01-02 06:57 J -39015638.34 -39015638.21 -39015638.07 0.0280 0.0177

Saturn -111532-04-01 02:38 J -39015549.41 -39015549.39 -39015549.36 0.0279 0.0275

Moon -111531-05-15 06:00 J -39015140.36 -39015140.25 -39015140.14 0.2740 0.0797

Earth -111531-05-15 06:00 J -39015140.35 -39015140.25 -39015140.14 0.2748 0.0840 *

Venus -111530-02-28 00:57 J -39014851.59 -39014851.46 -39014851.34 0.3738 0.0663

Mars -111529-02-19 12:57 J -39014495.09 -39014494.96 -39014494.83 0.1742 0.0911

Mars -111528-01-01 21:50 J -39014177.71 -39014177.59 -39014177.48 0.1770 0.0528

Moon -111528-11-04 20:24 J -39013870.76 -39013870.65 -39013870.53 0.2589 0.1798

Earth -111528-11-04 20:53 J -39013870.73 -39013870.63 -39013870.52 0.2596 0.1875 *

Mars -111527-01-26 07:41 J -39013788.23 -39013788.18 -39013788.14 0.1763 0.1673

Jupiter -111527-09-09 09:07 J -39013562.23 -39013562.12 -39013562.01 0.0529 0.0317

Jupiter -111527-12-07 20:24 J -39013472.77 -39013472.65 -39013472.52 0.0531 0.0201

Mars -111527-12-08 12:00 J -39013472.09 -39013472.00 -39013471.92 0.1750 0.1275

Venus -111525-09-13 00:43 J -39012827.58 -39012827.47 -39012827.35 0.3732 0.1716

Jupiter -111521-07-26 03:50 J -39011415.50 -39011415.34 -39011415.17 0.0496 0.0135

Jupiter -111521-10-24 04:19 J -39011325.42 -39011325.32 -39011325.23 0.0495 0.0405

Mars -111520-07-11 15:21 J -39011064.93 -39011064.86 -39011064.78 0.1737 0.1482

Mars -111519-05-25 05:45 J -39010747.37 -39010747.26 -39010747.16 0.1775 0.1001

Moon -111518-05-18 00:00 J -39010389.61 -39010389.50 -39010389.39 0.2747 0.0034

Earth -111518-05-18 00:29 J -39010389.59 -39010389.48 -39010389.37 0.2752 0.0165 *

Mars -111518-06-18 08:09 J -39010358.28 -39010358.16 -39010358.03 0.1757 0.1001

Saturn -111518-11-01 17:31 J -39010221.84 -39010221.77 -39010221.70 0.0276 0.0242

Saturn -111517-01-29 06:57 J -39010133.32 -39010133.21 -39010133.09 0.0277 0.0163

Saturn -111517-04-26 20:24 J -39010044.78 -39010044.65 -39010044.51 0.0278 0.0083

Mars -111517-04-29 20:38 J -39010041.74 -39010041.64 -39010041.53 0.1755 0.0855

Saturn -111517-07-24 09:50 J -39009956.24 -39009956.09 -39009955.95 0.0279 0.0008

Saturn -111517-10-20 22:48 J -39009867.68 -39009867.55 -39009867.41 0.0280 0.0077

Saturn -111516-01-17 11:45 J -39009779.12 -39009779.01 -39009778.89 0.0281 0.0156

Saturn -111516-04-16 00:43 J -39009690.54 -39009690.47 -39009690.39 0.0282 0.0234

Venus -111515-03-28 19:41 J -39009343.76 -39009343.68 -39009343.61 0.3635 0.2740

Jupiter -111515-06-28 11:45 J -39009252.08 -39009252.01 -39009251.94 0.0529 0.0448

Jupiter -111515-09-25 23:17 J -39009162.66 -39009162.53 -39009162.39 0.0531 0.0077

Moon -111515-11-08 01:12 J -39009119.61 -39009119.45 -39009119.30 0.2588 0.0479

Earth -111515-11-08 02:24 J -39009119.56 -39009119.40 -39009119.25 0.2592 0.0304 *

Earth -111511-05-10 21:36 J -39007839.63 -39007839.60 -39007839.56 0.2740 0.2581

Moon -111511-05-10 22:19 J -39007839.61 -39007839.57 -39007839.52 0.2739 0.2463 *

Venus -111510-10-12 14:38 J -39007320.00 -39007319.89 -39007319.78 0.3640 0.1144

Mars -111510-10-15 13:26 J -39007317.01 -39007316.94 -39007316.88 0.1780 0.1487

Jupiter -111509-05-14 02:53 J -39007105.52 -39007105.38 -39007105.24 0.0496 0.0273

Jupiter -111509-08-12 02:38 J -39007015.53 -39007015.39 -39007015.24 0.0495 0.0259

Mars -111509-11-07 09:36 J -39006928.25 -39006928.10 -39006927.95 0.1752 0.0359

Mars -111508-09-20 05:17 J -39006611.40 -39006611.28 -39006611.16 0.1760 0.0424

Moon -111505-05-19 18:14 J -39005638.84 -39005638.74 -39005638.63 0.2755 0.1080

Earth -111505-05-19 19:12 J -39005638.80 -39005638.70 -39005638.60 0.2755 0.1078 *

Venus -111504-04-27 09:21 J -39005296.23 -39005296.11 -39005296.00 0.3644 0.0420

Saturn -111504-06-01 03:50 J -39005261.43 -39005261.34 -39005261.25 0.0285 0.0236

Saturn -111504-08-28 22:33 J -39005172.71 -39005172.56 -39005172.42 0.0284 0.0140

Saturn -111504-11-25 17:17 J -39005083.94 -39005083.78 -39005083.61 0.0283 0.0043

Saturn -111503-02-22 12:29 J -39004995.14 -39004994.98 -39004994.81 0.0282 0.0056

Saturn -111503-05-22 07:55 J -39004906.31 -39004906.17 -39004906.02 0.0281 0.0154

Jupiter -111503-07-15 02:38 J -39004852.53 -39004852.39 -39004852.25 0.0530 0.0049

Saturn -111503-08-19 03:36 J -39004817.42 -39004817.35 -39004817.28 0.0280 0.0252

Jupiter -111503-10-12 13:12 J -39004763.01 -39004762.95 -39004762.88 0.0531 0.0461

Moon -111502-11-11 06:14 J -39004368.38 -39004368.24 -39004368.10 0.2588 0.1184

Earth -111502-11-11 07:55 J -39004368.31 -39004368.17 -39004368.03 0.2588 0.1283 *

Mars -111499-03-30 11:02 J -39003498.19 -39003498.04 -39003497.89 0.1747 0.0269

Pluto -111499-07-21 07:12 J -39003385.25 -39003385.20 -39003385.10 0.0060 0.0055

Pluto -111499-10-17 08:53 J -39003297.24 -39003297.13 -39003297.00 0.0060 0.0047

Venus -111499-11-11 03:50 J -39003272.44 -39003272.34 -39003272.24 0.3649 0.1921

Pluto -111498-01-13 10:05 J -39003209.21 -39003209.08 -39003208.92 0.0060 0.0040

Mars -111498-02-10 13:41 J -39003181.05 -39003180.93 -39003180.81 0.1765 0.0022

Pluto -111498-04-11 11:45 J -39003121.17 -39003121.01 -39003120.84 0.0060 0.0032

Earth -111498-05-13 16:19 J -39003088.91 -39003088.82 -39003088.73 0.2744 0.1612

Moon -111498-05-13 16:33 J -39003088.90 -39003088.81 -39003088.72 0.2738 0.1597 *

Pluto -111498-07-08 12:57 J -39003033.12 -39003032.96 -39003032.77 0.0060 0.0025

Pluto -111498-10-04 14:24 J -39002945.07 -39002944.90 -39002944.70 0.0060 0.0018

Pluto -111498-12-31 16:05 J -39002857.02 -39002856.83 -39002856.64 0.0060 0.0010

Jupiter -111497-03-02 02:38 J -39002795.48 -39002795.39 -39002795.29 0.0497 0.0404

Pluto -111497-03-28 17:31 J -39002768.96 -39002768.77 -39002768.57 0.0060 0.0002

Jupiter -111497-05-31 01:55 J -39002705.58 -39002705.42 -39002705.25 0.0496 0.0123

Pluto -111497-06-24 18:57 J -39002680.90 -39002680.71 -39002680.52 0.0060 0.0006

Pluto -111497-09-20 20:09 J -39002592.84 -39002592.66 -39002592.46 0.0060 0.0014

Pluto -111497-12-17 21:21 J -39002504.77 -39002504.61 -39002504.41 0.0061 0.0022

Mars -111496-01-16 02:53 J -39002475.39 -39002475.38 -39002475.36 0.1746 0.1718

Pluto -111496-03-15 23:02 J -39002416.70 -39002416.54 -39002416.36 0.0061 0.0029

Pluto -111496-06-12 00:14 J -39002328.63 -39002328.49 -39002328.32 0.0061 0.0037

Neptune -111496-08-09 09:21 J -39002270.11 -39002270.11 -39002270.09 0.0089 0.0089

Pluto -111496-09-08 01:41 J -39002240.54 -39002240.43 -39002240.28 0.0061 0.0045

Neptune -111496-11-05 11:45 J -39002182.05 -39002182.01 -39002181.94 0.0089 0.0084

Uranus -111496-11-08 04:33 J -39002179.31 -39002179.31 -39002179.30 0.0146 0.0146

Pluto -111496-12-05 02:53 J -39002152.45 -39002152.38 -39002152.26 0.0061 0.0053

Neptune -111495-02-01 14:24 J -39002093.96 -39002093.90 -39002093.81 0.0089 0.0079

Uranus -111495-02-04 11:31 J -39002091.11 -39002091.02 -39002090.92 0.0147 0.0120

Pluto -111495-03-03 04:48 J -39002064.32 -39002064.30 -39002064.27 0.0061 0.0060

Neptune -111495-04-30 17:02 J -39002005.86 -39002005.79 -39002005.68 0.0089 0.0074

Uranus -111495-05-03 18:43 J -39002002.85 -39002002.72 -39002002.58 0.0147 0.0094

Neptune -111495-07-27 19:55 J -39001917.77 -39001917.67 -39001917.56 0.0089 0.0069

Uranus -111495-07-31 01:55 J -39001914.57 -39001914.42 -39001914.26 0.0147 0.0067

Neptune -111495-10-23 22:33 J -39001829.67 -39001829.56 -39001829.43 0.0089 0.0064

Uranus -111495-10-27 09:07 J -39001826.28 -39001826.12 -39001825.95 0.0147 0.0040

Neptune -111494-01-20 01:12 J -39001741.57 -39001741.45 -39001741.31 0.0089 0.0059

Uranus -111494-01-23 16:33 J -39001737.99 -39001737.81 -39001737.63 0.0147 0.0013

Neptune -111494-04-18 03:50 J -39001653.46 -39001653.34 -39001653.19 0.0089 0.0054

Uranus -111494-04-22 00:00 J -39001649.68 -39001649.50 -39001649.33 0.0147 0.0015

Neptune -111494-07-15 06:29 J -39001565.36 -39001565.23 -39001565.07 0.0089 0.0049

Uranus -111494-07-19 07:12 J -39001561.36 -39001561.20 -39001561.02 0.0147 0.0043

Neptune -111494-10-11 09:21 J -39001477.25 -39001477.11 -39001476.95 0.0089 0.0044

Uranus -111494-10-15 14:38 J -39001473.04 -39001472.89 -39001472.72 0.0147 0.0071

Neptune -111493-01-07 12:14 J -39001389.14 -39001388.99 -39001388.83 0.0089 0.0038

Uranus -111493-01-11 22:05 J -39001384.70 -39001384.58 -39001384.43 0.0147 0.0099

Neptune -111493-04-04 14:53 J -39001301.03 -39001300.88 -39001300.71 0.0089 0.0033

Uranus -111493-04-09 05:45 J -39001296.34 -39001296.26 -39001296.16 0.0147 0.0128

Venus -111493-05-26 22:19 J -39001248.61 -39001248.57 -39001248.54 0.3654 0.3399

Neptune -111493-07-01 17:45 J -39001212.92 -39001212.76 -39001212.59 0.0089 0.0028

Neptune -111493-09-27 20:24 J -39001124.81 -39001124.65 -39001124.48 0.0089 0.0023

Neptune -111493-12-24 23:17 J -39001036.70 -39001036.53 -39001036.36 0.0089 0.0018

Neptune -111492-03-23 02:09 J -39000948.58 -39000948.41 -39000948.24 0.0089 0.0012

Moon -111492-05-22 13:12 J -39000888.03 -39000887.95 -39000887.87 0.2765 0.1934

Earth -111492-05-22 13:41 J -39000888.01 -39000887.93 -39000887.86 0.2758 0.2028 *

Neptune -111492-06-19 04:48 J -39000860.47 -39000860.30 -39000860.12 0.0089 0.0007

Neptune -111492-09-15 07:41 J -39000772.35 -39000772.18 -39000772.00 0.0089 0.0002

Neptune -111492-12-12 10:33 J -39000684.24 -39000684.06 -39000683.89 0.0089 0.0003

Neptune -111491-03-10 13:12 J -39000596.12 -39000595.95 -39000595.77 0.0089 0.0009

Jupiter -111491-05-03 05:31 J -39000542.40 -39000542.27 -39000542.14 0.0530 0.0178

Neptune -111491-06-06 16:05 J -39000508.00 -39000507.83 -39000507.65 0.0089 0.0014

Jupiter -111491-07-31 16:19 J -39000452.92 -39000452.82 -39000452.72 0.0531 0.0336

Neptune -111491-09-02 18:57 J -39000419.88 -39000419.71 -39000419.54 0.0089 0.0019

Neptune -111491-11-29 21:36 J -39000331.76 -39000331.60 -39000331.42 0.0089 0.0025

Neptune -111490-02-26 00:43 J -39000243.63 -39000243.47 -39000243.30 0.0089 0.0030

Neptune -111490-05-25 03:36 J -39000155.51 -39000155.35 -39000155.19 0.0089 0.0036

Mars -111490-08-20 13:12 J -39000068.08 -39000067.95 -39000067.81 0.1742 0.0858

Neptune -111490-08-21 06:14 J -39000067.38 -39000067.24 -39000067.07 0.0089 0.0041

Neptune -111490-11-17 09:21 J -38999979.26 -38999979.11 -38999978.95 0.0089 0.0046

Neptune -111489-02-13 12:00 J -38999891.13 -38999891.00 -38999890.84 0.0089 0.0052

Neptune -111489-05-11 15:07 J -38999803.00 -38999802.87 -38999802.73 0.0089 0.0057

Mars -111489-07-02 21:50 J -38999750.71 -38999750.59 -38999750.47 0.1770 0.0478

Neptune -111489-08-07 18:00 J -38999714.86 -38999714.75 -38999714.61 0.0089 0.0063

Neptune -111489-11-03 21:07 J -38999626.73 -38999626.62 -38999626.50 0.0089 0.0068

Neptune -111488-01-30 23:45 J -38999538.59 -38999538.51 -38999538.39 0.0089 0.0074

Saturn -111488-03-20 19:26 J -38999489.73 -38999489.69 -38999489.65 0.0276 0.0264

Neptune -111488-04-29 03:07 J -38999450.44 -38999450.37 -38999450.29 0.0089 0.0079

Saturn -111488-06-17 08:53 J -38999401.23 -38999401.13 -38999401.02 0.0277 0.0185

Neptune -111488-07-26 05:45 J -38999362.29 -38999362.26 -38999362.19 0.0089 0.0085

Mars -111488-07-27 07:55 J -38999361.20 -38999361.17 -38999361.14 0.1762 0.1723

Saturn -111488-09-13 22:19 J -38999312.70 -38999312.57 -38999312.43 0.0278 0.0105

Saturn -111488-12-11 11:45 J -38999224.15 -38999224.01 -38999223.87 0.0279 0.0026

Saturn -111487-03-10 00:57 J -38999135.60 -38999135.46 -38999135.32 0.0280 0.0055

Saturn -111487-06-06 13:55 J -38999047.04 -38999046.92 -38999046.80 0.0281 0.0134

Mars -111487-06-08 12:00 J -38999045.08 -38999045.00 -38999044.92 0.1750 0.1317

Saturn -111487-09-03 02:53 J -38998958.47 -38998958.38 -38998958.29 0.0282 0.0212

Jupiter -111485-03-19 01:12 J -38998395.62 -38998395.45 -38998395.28 0.0496 0.0013

Moon -111485-05-15 10:48 J -38998338.16 -38998338.05 -38998337.94 0.2741 0.0682

Earth -111485-05-15 11:02 J -38998338.15 -38998338.04 -38998337.94 0.2748 0.0658 *

Moon -111482-11-06 02:53 J -38997068.50 -38997068.38 -38997068.27 0.2589 0.1701

Earth -111482-11-06 03:21 J -38997068.48 -38997068.36 -38997068.24 0.2595 0.1568 *

Mars -111480-01-09 16:05 J -38996637.92 -38996637.83 -38996637.75 0.1737 0.1423

Mars -111480-11-23 05:45 J -38996320.36 -38996320.26 -38996320.15 0.1775 0.0951

Jupiter -111479-02-19 07:55 J -38996232.28 -38996232.17 -38996232.06 0.0529 0.0312

Venus -111479-03-21 00:57 J -38996202.56 -38996202.46 -38996202.36 0.3742 0.2149

Jupiter -111479-05-19 18:57 J -38996142.83 -38996142.71 -38996142.58 0.0531 0.0207

Mars -111479-12-17 08:53 J -38995931.25 -38995931.13 -38995931.01 0.1757 0.1063

Mars -111478-10-29 20:53 J -38995614.74 -38995614.63 -38995614.53 0.1755 0.0902

Saturn -111475-10-19 05:02 J -38994529.35 -38994529.29 -38994529.22 0.0285 0.0259

Saturn -111474-01-15 23:45 J -38994440.65 -38994440.51 -38994440.37 0.0284 0.0163

Saturn -111474-04-14 18:43 J -38994351.89 -38994351.72 -38994351.56 0.0283 0.0066

Saturn -111474-07-12 13:41 J -38994263.10 -38994262.93 -38994262.76 0.0282 0.0032

Venus -111474-10-05 00:29 J -38994178.61 -38994178.48 -38994178.35 0.3736 0.0166

Saturn -111474-10-09 09:07 J -38994174.27 -38994174.12 -38994173.97 0.0281 0.0130

Jupiter -111473-01-06 01:12 J -38994085.61 -38994085.45 -38994085.29 0.0496 0.0142

Saturn -111473-01-06 04:33 J -38994085.40 -38994085.31 -38994085.21 0.0280 0.0229 *

Jupiter -111473-04-05 01:26 J -38993995.54 -38993995.44 -38993995.34 0.0495 0.0397

Moon -111472-05-18 04:48 J -38993587.41 -38993587.30 -38993587.19 0.2749 0.0288

Earth -111472-05-18 05:31 J -38993587.38 -38993587.27 -38993587.16 0.2752 0.0310 *

Mars -111470-04-15 13:26 J -38992890.01 -38992889.94 -38992889.87 0.1780 0.1440

Mars -111469-05-08 10:05 J -38992501.23 -38992501.08 -38992500.93 0.1752 0.0418

Moon -111469-11-08 07:12 J -38992317.36 -38992317.20 -38992317.04 0.2589 0.0021

Earth -111469-11-08 08:53 J -38992317.29 -38992317.13 -38992316.98 0.2591 0.0033 *

Mars -111468-03-21 05:17 J -38992184.40 -38992184.28 -38992184.16 0.1760 0.0468

Venus -111468-04-20 00:29 J -38992154.57 -38992154.48 -38992154.38 0.3730 0.2552

Jupiter -111468-12-08 09:36 J -38991922.17 -38991922.10 -38991922.03 0.0529 0.0455

Jupiter -111467-03-07 21:07 J -38991832.75 -38991832.62 -38991832.48 0.0530 0.0067

Earth -111465-05-11 02:38 J -38991037.45 -38991037.39 -38991037.34 0.2741 0.2390

Moon -111465-05-11 03:21 J -38991037.42 -38991037.36 -38991037.31 0.2738 0.2378 *

Jupiter -111462-10-25 00:57 J -38989775.59 -38989775.46 -38989775.32 0.0497 0.0272

Jupiter -111461-01-23 00:43 J -38989685.61 -38989685.47 -38989685.32 0.0496 0.0262

Mars -111460-09-28 11:45 J -38989071.16 -38989071.01 -38989070.86 0.1747 0.0200

Moon -111459-05-20 23:17 J -38988836.63 -38988836.53 -38988836.43 0.2757 0.1141

Earth -111459-05-21 00:00 J -38988836.60 -38988836.50 -38988836.40 0.2756 0.1266 *

Mars -111459-08-11 13:55 J -38988754.05 -38988753.92 -38988753.80 0.1765 0.0067

Venus -111459-11-02 18:00 J -38988670.84 -38988670.75 -38988670.66 0.3636 0.2147

Saturn -111459-11-04 12:00 J -38988669.09 -38988669.00 -38988668.89 0.0277 0.0200

Saturn -111458-02-01 01:41 J -38988580.56 -38988580.43 -38988580.30 0.0278 0.0120

Saturn -111458-04-30 15:07 J -38988492.02 -38988491.87 -38988491.73 0.0279 0.0041

Saturn -111458-07-28 04:19 J -38988403.47 -38988403.32 -38988403.18 0.0280 0.0040

Saturn -111458-10-24 17:17 J -38988314.91 -38988314.78 -38988314.65 0.0281 0.0119

Saturn -111457-01-21 06:14 J -38988226.34 -38988226.24 -38988226.14 0.0282 0.0197

Saturn -111457-04-18 18:57 J -38988137.73 -38988137.71 -38988137.68 0.0283 0.0276

Moon -111456-11-11 12:57 J -38987566.09 -38987565.96 -38987565.83 0.2588 0.1437

Earth -111456-11-11 14:38 J -38987566.02 -38987565.89 -38987565.77 0.2587 0.1607 *

Uranus -111456-12-24 05:31 J -38987523.32 -38987523.27 -38987523.21 0.0132 0.0120

Jupiter -111456-12-25 00:00 J -38987522.64 -38987522.50 -38987522.36 0.0530 0.0063

Uranus -111455-03-22 09:07 J -38987435.20 -38987435.12 -38987435.03 0.0132 0.0104

Jupiter -111455-03-24 10:33 J -38987433.13 -38987433.06 -38987432.99 0.0531 0.0447

Uranus -111455-06-18 12:43 J -38987347.07 -38987346.97 -38987346.86 0.0132 0.0087

Uranus -111455-09-14 16:19 J -38987258.94 -38987258.82 -38987258.70 0.0132 0.0071

Uranus -111455-12-11 19:41 J -38987170.80 -38987170.68 -38987170.54 0.0132 0.0055

Uranus -111454-03-09 23:17 J -38987082.66 -38987082.53 -38987082.39 0.0132 0.0039

Uranus -111454-06-06 02:53 J -38986994.52 -38986994.38 -38986994.24 0.0132 0.0023

Uranus -111454-09-02 06:14 J -38986906.38 -38986906.24 -38986906.10 0.0132 0.0007

Uranus -111454-11-29 09:36 J -38986818.24 -38986818.10 -38986817.96 0.0132 0.0010

Uranus -111453-02-25 12:57 J -38986730.09 -38986729.96 -38986729.82 0.0132 0.0025

Venus -111453-05-18 12:57 J -38986647.08 -38986646.96 -38986646.85 0.3641 0.0568

Uranus -111453-05-23 16:19 J -38986641.95 -38986641.82 -38986641.68 0.0132 0.0040

Uranus -111453-08-19 19:41 J -38986553.80 -38986553.68 -38986553.55 0.0132 0.0056

Uranus -111453-11-15 23:02 J -38986465.65 -38986465.54 -38986465.42 0.0132 0.0071

Uranus -111452-02-12 02:09 J -38986377.50 -38986377.41 -38986377.29 0.0132 0.0087

Uranus -111452-05-11 05:31 J -38986289.35 -38986289.27 -38986289.17 0.0132 0.0102

Earth -111452-05-13 21:21 J -38986286.71 -38986286.61 -38986286.52 0.2745 0.1429

Moon -111452-05-13 21:21 J -38986286.70 -38986286.61 -38986286.51 0.2737 0.1363 *

Uranus -111452-08-07 08:53 J -38986201.19 -38986201.13 -38986201.06 0.0132 0.0116

Uranus -111452-11-03 12:14 J -38986112.99 -38986112.99 -38986112.99 0.0131 0.0131

Mars -111450-02-18 13:55 J -38985641.06 -38985640.92 -38985640.79 0.1742 0.0799

Jupiter -111450-08-13 00:14 J -38985465.58 -38985465.49 -38985465.40 0.0497 0.0409

Jupiter -111450-11-10 23:17 J -38985375.69 -38985375.53 -38985375.36 0.0496 0.0118

Mars -111449-01-01 21:50 J -38985323.71 -38985323.59 -38985323.47 0.1770 0.0437

Venus -111448-12-02 07:26 J -38984623.30 -38984623.19 -38984623.07 0.3646 0.0976

Mars -111448-12-07 12:00 J -38984618.07 -38984618.00 -38984617.92 0.1750 0.1357

Moon -111446-05-23 18:00 J -38984085.81 -38984085.75 -38984085.68 0.2766 0.2259

Earth -111446-05-23 18:29 J -38984085.79 -38984085.73 -38984085.67 0.2759 0.2212 *

Saturn -111445-03-07 06:43 J -38983797.25 -38983797.22 -38983797.19 0.0285 0.0279

Saturn -111445-06-04 01:12 J -38983708.57 -38983708.45 -38983708.32 0.0284 0.0183

Saturn -111445-08-31 19:55 J -38983619.82 -38983619.67 -38983619.51 0.0283 0.0087

Saturn -111445-11-28 15:07 J -38983531.04 -38983530.87 -38983530.70 0.0282 0.0012

Saturn -111444-02-25 10:19 J -38983442.23 -38983442.07 -38983441.91 0.0281 0.0109

Saturn -111444-05-25 05:45 J -38983353.37 -38983353.26 -38983353.14 0.0280 0.0207

Jupiter -111444-10-13 03:07 J -38983212.50 -38983212.37 -38983212.24 0.0530 0.0187

Jupiter -111443-01-10 14:09 J -38983123.02 -38983122.91 -38983122.81 0.0531 0.0328

Venus -111442-06-18 02:09 J -38982599.50 -38982599.41 -38982599.33 0.3651 0.2465

Mars -111441-07-10 16:05 J -38982210.92 -38982210.83 -38982210.74 0.1737 0.1376

Mars -111440-05-24 06:00 J -38981893.36 -38981893.25 -38981893.14 0.1775 0.0904

Moon -111439-05-16 15:36 J -38981535.96 -38981535.85 -38981535.75 0.2743 0.0519

Earth -111439-05-16 15:50 J -38981535.95 -38981535.84 -38981535.73 0.2749 0.0461 *

Mars -111439-06-17 09:07 J -38981504.23 -38981504.12 -38981504.00 0.1757 0.1118

Mars -111438-04-29 20:53 J -38981187.74 -38981187.63 -38981187.53 0.1755 0.0941

Jupiter -111438-08-29 22:48 J -38981065.72 -38981065.55 -38981065.38 0.0496 0.0018

Moon -111436-11-06 08:53 J -38980266.27 -38980266.13 -38980266.00 0.2590 0.1263

Earth -111436-11-06 09:50 J -38980266.23 -38980266.09 -38980265.96 0.2595 0.1265 *

Jupiter -111432-08-01 06:00 J -38978902.36 -38978902.25 -38978902.14 0.0529 0.0316

Jupiter -111432-10-29 17:17 J -38978812.91 -38978812.78 -38978812.66 0.0531 0.0203

Mars -111431-10-14 13:41 J -38978463.01 -38978462.93 -38978462.86 0.1780 0.1389

Mars -111430-11-07 10:33 J -38978074.21 -38978074.06 -38978073.92 0.1752 0.0477

Saturn -111429-03-23 13:55 J -38977937.00 -38977936.92 -38977936.84 0.0277 0.0223

Saturn -111429-06-20 03:21 J -38977848.48 -38977848.36 -38977848.23 0.0278 0.0144

Saturn -111429-09-16 16:48 J -38977759.94 -38977759.80 -38977759.66 0.0279 0.0064

Mars -111429-09-19 05:31 J -38977757.39 -38977757.27 -38977757.15 0.1760 0.0517

Saturn -111429-12-14 06:00 J -38977671.39 -38977671.25 -38977671.11 0.0280 0.0016

Saturn -111428-03-12 19:12 J -38977582.83 -38977582.70 -38977582.57 0.0281 0.0095

Venus -111428-04-11 01:26 J -38977553.48 -38977553.44 -38977553.41 0.3746 0.3577

Saturn -111428-06-09 08:09 J -38977494.27 -38977494.16 -38977494.05 0.0282 0.0174

Saturn -111428-09-05 21:07 J -38977405.68 -38977405.62 -38977405.56 0.0283 0.0253

Moon -111426-05-19 09:36 J -38976785.21 -38976785.10 -38976784.99 0.2750 0.0408

Earth -111426-05-19 10:19 J -38976785.17 -38976785.07 -38976784.96 0.2752 0.0508 *

Jupiter -111426-06-17 22:19 J -38976755.73 -38976755.57 -38976755.41 0.0496 0.0151

Jupiter -111426-09-15 22:19 J -38976665.67 -38976665.57 -38976665.46 0.0495 0.0386

Venus -111423-10-26 00:29 J -38975529.60 -38975529.48 -38975529.36 0.3740 0.1355

Moon -111423-11-09 13:41 J -38975515.09 -38975514.93 -38975514.77 0.2589 0.0091

Earth -111423-11-09 15:21 J -38975515.02 -38975514.86 -38975514.70 0.2590 0.0321 *

Mars -111420-03-29 12:14 J -38974644.14 -38974643.99 -38974643.84 0.1747 0.0142

Jupiter -111420-05-20 08:24 J -38974592.22 -38974592.15 -38974592.08 0.0529 0.0450

Jupiter -111420-08-17 19:55 J -38974502.81 -38974502.67 -38974502.54 0.0530 0.0072

Mars -111419-02-09 13:55 J -38974327.05 -38974326.92 -38974326.80 0.1765 0.0076

Earth -111419-05-12 07:26 J -38974235.25 -38974235.19 -38974235.12 0.2741 0.2202

Moon -111419-05-12 07:55 J -38974235.24 -38974235.17 -38974235.09 0.2736 0.2085 *

Venus -111417-05-11 00:14 J -38973505.62 -38973505.49 -38973505.37 0.3735 0.0972

Saturn -111416-10-22 02:09 J -38972976.52 -38972976.41 -38972976.30 0.0284 0.0208

Saturn -111415-01-18 20:53 J -38972887.78 -38972887.63 -38972887.47 0.0283 0.0111

Saturn -111415-04-17 15:50 J -38972799.00 -38972798.84 -38972798.67 0.0282 0.0016

Saturn -111415-07-15 11:17 J -38972710.20 -38972710.03 -38972709.87 0.0281 0.0084

Saturn -111415-10-12 06:43 J -38972621.35 -38972621.22 -38972621.09 0.0280 0.0182

Neptune -111414-02-27 20:38 J -38972482.67 -38972482.64 -38972482.58 0.0088 0.0085

Jupiter -111414-04-05 22:19 J -38972445.71 -38972445.57 -38972445.43 0.0497 0.0279

Neptune -111414-05-26 22:48 J -38972394.61 -38972394.55 -38972394.48 0.0088 0.0080

Jupiter -111414-07-04 22:05 J -38972355.73 -38972355.58 -38972355.44 0.0496 0.0254

Neptune -111414-08-23 00:29 J -38972306.55 -38972306.48 -38972306.39 0.0088 0.0075

Neptune -111414-11-19 02:24 J -38972218.48 -38972218.40 -38972218.31 0.0088 0.0071

Neptune -111413-02-15 04:05 J -38972130.42 -38972130.33 -38972130.22 0.0088 0.0066

Neptune -111413-05-13 06:00 J -38972042.35 -38972042.25 -38972042.14 0.0088 0.0062

Moon -111413-05-21 04:19 J -38972034.41 -38972034.32 -38972034.23 0.2761 0.1452

Earth -111413-05-21 04:48 J -38972034.39 -38972034.30 -38972034.20 0.2756 0.1456 *

Neptune -111413-08-09 07:41 J -38971954.28 -38971954.18 -38971954.06 0.0088 0.0058

Neptune -111413-11-05 09:21 J -38971866.21 -38971866.11 -38971865.98 0.0088 0.0054

Neptune -111412-02-01 11:17 J -38971778.14 -38971778.03 -38971777.90 0.0088 0.0049

Neptune -111412-04-30 12:57 J -38971690.08 -38971689.96 -38971689.82 0.0088 0.0045

Neptune -111412-07-27 14:53 J -38971602.01 -38971601.88 -38971601.74 0.0088 0.0040

Neptune -111412-10-23 16:33 J -38971513.94 -38971513.81 -38971513.67 0.0088 0.0036

Venus -111412-11-25 00:14 J -38971481.54 -38971481.49 -38971481.44 0.3729 0.3393

Uranus -111412-11-28 12:00 J -38971478.04 -38971478.00 -38971477.94 0.0146 0.0139

Neptune -111411-01-19 18:29 J -38971425.87 -38971425.73 -38971425.59 0.0088 0.0031

Uranus -111411-02-24 18:57 J -38971389.80 -38971389.71 -38971389.59 0.0147 0.0114

Neptune -111411-04-17 20:09 J -38971337.80 -38971337.66 -38971337.52 0.0088 0.0027

Uranus -111411-05-24 02:09 J -38971301.54 -38971301.41 -38971301.26 0.0147 0.0087

Neptune -111411-07-14 21:50 J -38971249.73 -38971249.59 -38971249.44 0.0088 0.0022

Mars -111411-08-19 14:09 J -38971214.04 -38971213.91 -38971213.77 0.1742 0.0743

Uranus -111411-08-20 09:36 J -38971213.26 -38971213.10 -38971212.94 0.0147 0.0060

Neptune -111411-10-10 23:45 J -38971161.66 -38971161.51 -38971161.37 0.0088 0.0018

Uranus -111411-11-16 16:48 J -38971124.97 -38971124.80 -38971124.63 0.0147 0.0033

Neptune -111410-01-07 01:26 J -38971073.58 -38971073.44 -38971073.30 0.0088 0.0013

Uranus -111410-02-13 00:14 J -38971036.67 -38971036.49 -38971036.32 0.0147 0.0006

Neptune -111410-04-05 03:07 J -38970985.51 -38970985.37 -38970985.22 0.0088 0.0009

Uranus -111410-05-12 07:26 J -38970948.36 -38970948.19 -38970948.01 0.0147 0.0022

Neptune -111410-07-02 04:48 J -38970897.44 -38970897.30 -38970897.15 0.0088 0.0005

Mars -111410-07-02 22:05 J -38970896.70 -38970896.58 -38970896.46 0.1770 0.0386

Uranus -111410-08-08 14:53 J -38970860.04 -38970859.88 -38970859.71 0.0147 0.0050

Neptune -111410-09-28 06:29 J -38970809.37 -38970809.23 -38970809.08 0.0088 0.0001

Uranus -111410-11-04 22:19 J -38970771.72 -38970771.57 -38970771.41 0.0147 0.0078

Moon -111410-11-12 19:41 J -38970763.79 -38970763.68 -38970763.58 0.2590 0.1908

Earth -111410-11-12 20:53 J -38970763.73 -38970763.63 -38970763.52 0.2586 0.1917 *

Neptune -111410-12-25 08:09 J -38970721.30 -38970721.16 -38970721.01 0.0088 0.0004

Uranus -111409-02-01 05:45 J -38970683.37 -38970683.26 -38970683.13 0.0147 0.0107

Neptune -111409-03-22 09:50 J -38970633.23 -38970633.09 -38970632.94 0.0088 0.0008

Uranus -111409-04-29 13:41 J -38970595.00 -38970594.93 -38970594.86 0.0147 0.0135

Neptune -111409-06-18 11:31 J -38970545.16 -38970545.02 -38970544.87 0.0088 0.0013

Neptune -111409-09-14 13:12 J -38970457.09 -38970456.95 -38970456.81 0.0088 0.0017

Neptune -111409-12-11 14:53 J -38970369.02 -38970368.88 -38970368.74 0.0088 0.0021

Neptune -111408-03-09 16:33 J -38970280.95 -38970280.81 -38970280.67 0.0088 0.0025

Neptune -111408-06-05 18:14 J -38970192.87 -38970192.74 -38970192.60 0.0088 0.0030

Jupiter -111408-06-05 21:50 J -38970192.72 -38970192.59 -38970192.45 0.0530 0.0071 *

Mars -111408-06-07 12:00 J -38970191.07 -38970191.00 -38970190.93 0.1750 0.1398

Neptune -111408-09-01 19:55 J -38970104.80 -38970104.67 -38970104.54 0.0088 0.0034

Jupiter -111408-09-03 08:38 J -38970103.21 -38970103.14 -38970103.07 0.0531 0.0441

Venus -111408-11-23 21:21 J -38970021.67 -38970021.61 -38970021.56 0.3633 0.3166

Neptune -111408-11-28 21:21 J -38970016.73 -38970016.61 -38970016.47 0.0088 0.0038

Neptune -111407-02-24 23:02 J -38969928.66 -38969928.54 -38969928.41 0.0088 0.0042

Neptune -111407-05-24 00:43 J -38969840.59 -38969840.47 -38969840.34 0.0088 0.0046

Neptune -111407-08-20 02:24 J -38969752.51 -38969752.40 -38969752.28 0.0088 0.0050

Neptune -111407-11-16 04:05 J -38969664.44 -38969664.33 -38969664.22 0.0088 0.0055

Neptune -111406-02-12 05:45 J -38969576.37 -38969576.26 -38969576.16 0.0088 0.0059

Neptune -111406-05-11 06:57 J -38969488.30 -38969488.21 -38969488.10 0.0088 0.0063

Earth -111406-05-15 02:09 J -38969484.51 -38969484.41 -38969484.31 0.2745 0.1235

Moon -111406-05-15 02:09 J -38969484.50 -38969484.41 -38969484.31 0.2738 0.1277 *

Neptune -111406-08-07 08:38 J -38969400.22 -38969400.14 -38969400.04 0.0088 0.0067

Neptune -111406-11-03 10:05 J -38969312.15 -38969312.08 -38969311.98 0.0088 0.0072

Neptune -111405-01-30 11:45 J -38969224.07 -38969224.01 -38969223.93 0.0088 0.0075

Neptune -111405-04-27 13:12 J -38969135.99 -38969135.95 -38969135.87 0.0088 0.0080

Pluto -111405-05-09 00:43 J -38969124.53 -38969124.47 -38969124.39 0.0084 0.0072

Neptune -111405-07-24 14:53 J -38969047.91 -38969047.88 -38969047.82 0.0088 0.0083

Pluto -111405-08-05 01:55 J -38969036.50 -38969036.42 -38969036.31 0.0084 0.0058

Neptune -111405-10-20 16:33 J -38968959.82 -38968959.81 -38968959.78 0.0088 0.0087

Pluto -111405-11-01 03:36 J -38968948.47 -38968948.35 -38968948.24 0.0084 0.0042

Pluto -111404-01-28 04:48 J -38968860.42 -38968860.30 -38968860.17 0.0084 0.0028

Pluto -111404-04-26 06:00 J -38968772.38 -38968772.25 -38968772.11 0.0084 0.0014

Pluto -111404-07-23 07:26 J -38968684.33 -38968684.19 -38968684.06 0.0084 0.0002

Pluto -111404-10-19 08:38 J -38968596.27 -38968596.14 -38968596.01 0.0084 0.0015

Pluto -111403-01-15 09:50 J -38968508.21 -38968508.09 -38968507.96 0.0084 0.0029

Pluto -111403-04-13 11:02 J -38968420.15 -38968420.04 -38968419.92 0.0083 0.0043

Pluto -111403-07-10 12:14 J -38968332.08 -38968331.99 -38968331.89 0.0083 0.0057

Pluto -111403-10-06 13:26 J -38968244.00 -38968243.94 -38968243.86 0.0083 0.0070

Moon -111403-11-04 10:48 J -38968215.09 -38968215.05 -38968215.02 0.2592 0.2524

Earth -111403-11-04 11:02 J -38968215.08 -38968215.04 -38968215.01 0.2598 0.2517 *

Jupiter -111402-01-22 22:19 J -38968135.66 -38968135.57 -38968135.48 0.0497 0.0408

Jupiter -111402-04-22 21:36 J -38968045.77 -38968045.60 -38968045.44 0.0496 0.0120

Venus -111402-06-09 16:19 J -38967997.92 -38967997.82 -38967997.71 0.3638 0.1566

Mars -111401-01-09 16:48 J -38967783.90 -38967783.80 -38967783.70 0.1737 0.1313

Mars -111401-11-22 06:00 J -38967466.36 -38967466.25 -38967466.14 0.1775 0.0859

Moon -111400-05-23 23:17 J -38967283.59 -38967283.53 -38967283.48 0.2766 0.2333

Earth -111400-05-23 23:17 J -38967283.58 -38967283.53 -38967283.47 0.2759 0.2405 *

Saturn -111400-08-10 16:48 J -38967204.87 -38967204.80 -38967204.73 0.0277 0.0240

Saturn -111400-11-07 06:14 J -38967116.35 -38967116.24 -38967116.12 0.0277 0.0160

Mars -111400-12-16 09:50 J -38967077.20 -38967077.09 -38967076.97 0.1757 0.1185

Saturn -111399-02-03 19:41 J -38967027.81 -38967027.68 -38967027.54 0.0278 0.0081

Saturn -111399-05-03 09:07 J -38966939.26 -38966939.12 -38966938.98 0.0279 0.0002

Saturn -111399-07-30 22:19 J -38966850.71 -38966850.57 -38966850.44 0.0280 0.0079

Saturn -111399-10-27 11:17 J -38966762.15 -38966762.03 -38966761.91 0.0281 0.0158

Mars -111399-10-28 20:53 J -38966760.73 -38966760.63 -38966760.53 0.1755 0.0985

Saturn -111398-01-24 00:00 J -38966673.56 -38966673.50 -38966673.42 0.0282 0.0238

Venus -111397-12-23 11:17 J -38965974.15 -38965974.03 -38965973.92 0.3643 0.0125

Jupiter -111396-03-25 00:43 J -38965882.60 -38965882.47 -38965882.34 0.0530 0.0199

Jupiter -111396-06-22 11:45 J -38965793.12 -38965793.01 -38965792.91 0.0531 0.0316

Moon -111393-05-16 20:09 J -38964733.77 -38964733.66 -38964733.55 0.2744 0.0285

Earth -111393-05-16 20:53 J -38964733.74 -38964733.63 -38964733.52 0.2749 0.0295 *

Mars -111391-04-14 13:41 J -38964036.01 -38964035.93 -38964035.85 0.1780 0.1344

Venus -111391-07-09 05:45 J -38963950.36 -38963950.26 -38963950.15 0.3647 0.1518

Jupiter -111390-02-08 20:24 J -38963735.82 -38963735.65 -38963735.48 0.0496 0.0022

Mars -111390-05-08 11:02 J -38963647.19 -38963647.04 -38963646.89 0.1752 0.0536

Moon -111390-11-07 14:53 J -38963464.02 -38963463.88 -38963463.74 0.2591 0.1094

Earth -111390-11-07 16:19 J -38963463.97 -38963463.82 -38963463.68 0.2594 0.0960 *

Mars -111389-03-20 05:31 J -38963330.39 -38963330.27 -38963330.15 0.1760 0.0554

Saturn -111386-03-11 04:05 J -38962244.43 -38962244.33 -38962244.24 0.0285 0.0227

Saturn -111386-06-07 22:33 J -38962155.70 -38962155.56 -38962155.41 0.0284 0.0131

Saturn -111386-09-04 17:31 J -38962066.94 -38962066.77 -38962066.60 0.0283 0.0034

Saturn -111386-12-02 12:43 J -38961978.14 -38961977.97 -38961977.81 0.0282 0.0064

Venus -111385-01-23 00:14 J -38961926.55 -38961926.49 -38961926.43 0.3652 0.2991

Saturn -111385-02-29 08:09 J -38961889.30 -38961889.16 -38961889.02 0.0281 0.0162

Saturn -111385-05-28 03:36 J -38961800.41 -38961800.35 -38961800.28 0.0280 0.0260

Jupiter -111384-01-11 03:36 J -38961572.46 -38961572.35 -38961572.24 0.0530 0.0325

Jupiter -111384-04-10 14:53 J -38961483.00 -38961482.88 -38961482.75 0.0531 0.0196

Mars -111381-09-27 12:43 J -38960217.13 -38960216.97 -38960216.82 0.1747 0.0102

Moon -111380-05-19 14:38 J -38959983.00 -38959982.89 -38959982.79 0.2752 0.0629

Earth -111380-05-19 15:21 J -38959982.97 -38959982.86 -38959982.76 0.2753 0.0689 *

Mars -111380-08-10 13:55 J -38959900.04 -38959899.92 -38959899.79 0.1765 0.0126

Jupiter -111379-11-27 19:55 J -38959425.82 -38959425.67 -38959425.51 0.0496 0.0154

Jupiter -111378-02-25 20:09 J -38959335.77 -38959335.66 -38959335.56 0.0495 0.0383

Moon -111377-11-09 20:09 J -38958712.81 -38958712.66 -38958712.51 0.2590 0.0604

Earth -111377-11-09 21:50 J -38958712.75 -38958712.59 -38958712.44 0.2590 0.0629 *

Earth -111373-05-12 12:29 J -38957433.06 -38957432.98 -38957432.91 0.2742 0.2013

Moon -111373-05-12 12:43 J -38957433.04 -38957432.97 -38957432.89 0.2735 0.2036 *

Jupiter -111373-10-30 06:29 J -38957262.30 -38957262.23 -38957262.16 0.0529 0.0453

Jupiter -111372-01-27 18:00 J -38957172.88 -38957172.75 -38957172.61 0.0530 0.0072

Venus -111372-11-16 00:43 J -38956880.55 -38956880.47 -38956880.39 0.3744 0.2807

Uranus -111371-01-13 12:29 J -38956822.03 -38956821.98 -38956821.90 0.0132 0.0117

Mars -111371-02-17 14:38 J -38956787.03 -38956786.89 -38956786.75 0.1742 0.0686

Uranus -111371-04-11 16:05 J -38956733.91 -38956733.83 -38956733.73 0.0132 0.0100

Uranus -111371-07-08 19:55 J -38956645.78 -38956645.67 -38956645.56 0.0132 0.0084

Uranus -111371-10-04 23:17 J -38956557.65 -38956557.53 -38956557.40 0.0132 0.0068

Saturn -111371-12-28 18:14 J -38956472.78 -38956472.74 -38956472.70 0.0276 0.0264

Mars -111371-12-31 22:05 J -38956469.70 -38956469.58 -38956469.45 0.1770 0.0347

Uranus -111370-01-01 02:53 J -38956469.51 -38956469.38 -38956469.25 0.0132 0.0051 *

Saturn -111370-03-27 07:55 J -38956384.28 -38956384.17 -38956384.06 0.0277 0.0184

Uranus -111370-03-30 06:29 J -38956381.37 -38956381.23 -38956381.10 0.0132 0.0035

Saturn -111370-06-23 21:21 J -38956295.74 -38956295.61 -38956295.48 0.0278 0.0105

Uranus -111370-06-26 09:50 J -38956293.23 -38956293.09 -38956292.95 0.0132 0.0019

Saturn -111370-09-20 10:48 J -38956207.20 -38956207.05 -38956206.91 0.0279 0.0026

Uranus -111370-09-22 13:12 J -38956205.09 -38956204.95 -38956204.80 0.0132 0.0005

Saturn -111370-12-18 00:00 J -38956118.64 -38956118.50 -38956118.36 0.0280 0.0055

Uranus -111370-12-19 16:48 J -38956116.94 -38956116.80 -38956116.66 0.0132 0.0013

Saturn -111369-03-15 12:57 J -38956030.08 -38956029.96 -38956029.84 0.0281 0.0134

Uranus -111369-03-16 20:09 J -38956028.80 -38956028.66 -38956028.53 0.0132 0.0028

Saturn -111369-06-12 01:55 J -38955941.51 -38955941.42 -38955941.33 0.0282 0.0212

Uranus -111369-06-12 23:17 J -38955940.65 -38955940.53 -38955940.39 0.0132 0.0044

Uranus -111369-09-09 02:53 J -38955852.51 -38955852.38 -38955852.26 0.0132 0.0059

Uranus -111369-12-06 06:00 J -38955764.36 -38955764.25 -38955764.13 0.0132 0.0074

Mars -111369-12-06 12:14 J -38955764.06 -38955763.99 -38955763.92 0.1750 0.1443

Uranus -111368-03-04 09:21 J -38955676.21 -38955676.11 -38955676.01 0.0132 0.0089

Uranus -111368-05-31 12:29 J -38955588.05 -38955587.98 -38955587.89 0.0132 0.0105

Uranus -111368-08-27 15:50 J -38955499.89 -38955499.84 -38955499.78 0.0131 0.0120

Moon -111367-05-22 09:21 J -38955232.20 -38955232.11 -38955232.02 0.2762 0.1566

Earth -111367-05-22 09:50 J -38955232.18 -38955232.09 -38955232.00 0.2756 0.1644 *

Jupiter -111367-09-15 19:26 J -38955115.82 -38955115.69 -38955115.55 0.0497 0.0287

Jupiter -111367-12-14 19:12 J -38955025.85 -38955025.70 -38955025.55 0.0496 0.0246

Venus -111366-06-02 00:00 J -38954856.62 -38954856.50 -38954856.37 0.3739 0.0565

Moon -111364-11-13 02:24 J -38953961.49 -38953961.40 -38953961.31 0.2591 0.2053

Earth -111364-11-13 03:36 J -38953961.43 -38953961.35 -38953961.28 0.2586 0.2236 *

Mars -111362-07-10 17:17 J -38953356.88 -38953356.78 -38953356.68 0.1737 0.1257

Mars -111361-05-23 06:14 J -38953039.36 -38953039.24 -38953039.13 0.1775 0.0814

Jupiter -111361-11-15 20:53 J -38952862.77 -38952862.63 -38952862.50 0.0530 0.0063

Venus -111361-12-15 23:45 J -38952832.62 -38952832.51 -38952832.39 0.3733 0.1792

Jupiter -111360-02-13 07:26 J -38952773.26 -38952773.19 -38952773.12 0.0531 0.0448

Moon -111360-05-15 06:57 J -38952682.31 -38952682.21 -38952682.11 0.2739 0.0994

Earth -111360-05-15 06:57 J -38952682.31 -38952682.21 -38952682.10 0.2746 0.1052 *

Mars -111360-06-16 10:19 J -38952650.18 -38952650.07 -38952649.96 0.1757 0.1243

Mars -111359-04-28 20:53 J -38952333.72 -38952333.63 -38952333.53 0.1755 0.1028

Saturn -111357-07-28 04:19 J -38951512.39 -38951512.32 -38951512.24 0.0285 0.0254

Saturn -111357-10-24 23:02 J -38951423.68 -38951423.54 -38951423.40 0.0284 0.0158

Moon -111357-11-04 16:48 J -38951412.88 -38951412.80 -38951412.72 0.2592 0.2215

Earth -111357-11-04 17:17 J -38951412.85 -38951412.78 -38951412.70 0.2598 0.2216 *

Saturn -111356-01-21 17:45 J -38951334.92 -38951334.76 -38951334.59 0.0283 0.0062

Saturn -111356-04-20 12:57 J -38951246.13 -38951245.96 -38951245.79 0.0282 0.0037

Saturn -111356-07-18 08:09 J -38951157.30 -38951157.16 -38951157.00 0.0281 0.0135

Saturn -111356-10-15 03:50 J -38951068.43 -38951068.34 -38951068.24 0.0280 0.0233

Jupiter -111355-07-04 19:41 J -38950805.77 -38950805.68 -38950805.59 0.0497 0.0413

Jupiter -111355-10-02 18:57 J -38950715.88 -38950715.71 -38950715.55 0.0496 0.0114

Earth -111354-05-25 04:19 J -38950481.36 -38950481.32 -38950481.29 0.2760 0.2591

Moon -111354-05-25 04:19 J -38950481.35 -38950481.32 -38950481.29 0.2767 0.2656 *

Mars -111352-10-13 13:55 J -38949609.01 -38949608.92 -38949608.84 0.1780 0.1293

Venus -111351-06-30 19:41 J -38949348.76 -38949348.68 -38949348.60 0.3634 0.2579

Mars -111351-11-06 11:31 J -38949220.16 -38949220.02 -38949219.87 0.1752 0.0602

Mars -111350-09-19 05:45 J -38948903.38 -38948903.26 -38948903.15 0.1760 0.0604

Jupiter -111349-09-03 22:48 J -38948552.67 -38948552.55 -38948552.42 0.0529 0.0201

Jupiter -111349-12-02 09:50 J -38948463.20 -38948463.09 -38948462.98 0.0531 0.0313

Moon -111347-05-18 00:57 J -38947931.57 -38947931.46 -38947931.35 0.2745 0.0207

Earth -111347-05-18 01:41 J -38947931.54 -38947931.43 -38947931.32 0.2750 0.0081 *

Venus -111345-01-14 14:38 J -38947325.00 -38947324.89 -38947324.78 0.3639 0.0999

Moon -111344-11-07 21:07 J -38946661.77 -38946661.62 -38946661.47 0.2591 0.0745

Earth -111344-11-07 22:48 J -38946661.70 -38946661.55 -38946661.40 0.2593 0.0644 *

Jupiter -111343-07-21 18:43 J -38946405.89 -38946405.72 -38946405.55 0.0496 0.0021

Mars -111341-03-28 13:12 J -38945790.11 -38945789.95 -38945789.80 0.1747 0.0057

Saturn -111341-08-13 10:33 J -38945652.16 -38945652.06 -38945651.96 0.0277 0.0202

Saturn -111341-11-10 00:00 J -38945563.63 -38945563.50 -38945563.37 0.0278 0.0123

Saturn -111340-02-06 13:26 J -38945475.08 -38945474.94 -38945474.80 0.0279 0.0043

Mars -111340-02-08 13:55 J -38945473.04 -38945472.92 -38945472.79 0.1765 0.0168

Saturn -111340-05-06 02:38 J -38945386.53 -38945386.39 -38945386.25 0.0280 0.0037

Venus -111340-07-30 09:21 J -38945301.22 -38945301.11 -38945300.99 0.3644 0.0570

Saturn -111340-08-02 15:50 J -38945297.97 -38945297.84 -38945297.71 0.0281 0.0116

Saturn -111340-10-30 04:48 J -38945209.40 -38945209.30 -38945209.20 0.0282 0.0195

Saturn -111339-01-26 17:45 J -38945120.80 -38945120.76 -38945120.73 0.0283 0.0273

Jupiter -111337-06-23 01:26 J -38944242.54 -38944242.44 -38944242.33 0.0529 0.0332

Jupiter -111337-09-20 12:43 J -38944153.09 -38944152.97 -38944152.84 0.0530 0.0187

Venus -111334-02-13 04:05 J -38943277.42 -38943277.33 -38943277.24 0.3649 0.2057

Moon -111334-05-20 19:26 J -38943180.79 -38943180.69 -38943180.58 0.2756 0.0849

Earth -111334-05-20 20:09 J -38943180.76 -38943180.66 -38943180.55 0.2753 0.0880 *

Mars -111332-08-18 15:07 J -38942360.01 -38942359.87 -38942359.73 0.1742 0.0628

Neptune -111331-05-06 08:24 J -38942099.17 -38942099.15 -38942099.09 0.0089 0.0086

Jupiter -111331-05-09 17:45 J -38942095.92 -38942095.76 -38942095.60 0.0496 0.0156

Mars -111331-07-01 22:19 J -38942042.70 -38942042.57 -38942042.45 0.1770 0.0299

Neptune -111331-08-02 11:02 J -38942011.09 -38942011.04 -38942010.95 0.0089 0.0081

Jupiter -111331-08-07 17:31 J -38942005.87 -38942005.77 -38942005.65 0.0495 0.0380

Neptune -111331-10-29 13:41 J -38941923.00 -38941922.93 -38941922.82 0.0089 0.0076

Moon -111331-11-11 02:53 J -38941910.53 -38941910.38 -38941910.23 0.2591 0.0770

Earth -111331-11-11 04:19 J -38941910.47 -38941910.32 -38941910.18 0.2589 0.0945 *

Neptune -111330-01-25 16:19 J -38941834.90 -38941834.82 -38941834.70 0.0089 0.0071

Neptune -111330-04-23 18:57 J -38941746.80 -38941746.71 -38941746.58 0.0089 0.0066

Neptune -111330-07-20 21:50 J -38941658.70 -38941658.59 -38941658.45 0.0089 0.0061

Neptune -111330-10-17 00:29 J -38941570.60 -38941570.48 -38941570.33 0.0089 0.0056

Neptune -111329-01-13 03:36 J -38941482.49 -38941482.35 -38941482.21 0.0089 0.0050

Neptune -111329-04-10 06:14 J -38941394.39 -38941394.24 -38941394.09 0.0089 0.0045

Mars -111329-06-06 12:14 J -38941337.05 -38941336.99 -38941336.93 0.1750 0.1481

Neptune -111329-07-07 08:53 J -38941306.28 -38941306.13 -38941305.98 0.0089 0.0040

Venus -111329-08-28 22:19 J -38941253.59 -38941253.57 -38941253.54 0.3654 0.3519

Neptune -111329-10-03 11:31 J -38941218.17 -38941218.02 -38941217.86 0.0089 0.0035

Neptune -111329-12-30 14:09 J -38941130.06 -38941129.91 -38941129.74 0.0089 0.0030

Neptune -111328-03-28 17:02 J -38941041.95 -38941041.79 -38941041.62 0.0089 0.0025

Neptune -111328-06-24 19:55 J -38940953.84 -38940953.67 -38940953.50 0.0089 0.0019

Neptune -111328-09-20 22:33 J -38940865.73 -38940865.56 -38940865.38 0.0089 0.0014

Saturn -111328-12-15 06:00 J -38940780.29 -38940780.25 -38940780.21 0.0285 0.0275

Neptune -111328-12-18 01:26 J -38940777.61 -38940777.44 -38940777.27 0.0089 0.0009

Uranus -111328-12-18 19:12 J -38940776.76 -38940776.70 -38940776.62 0.0146 0.0134

Saturn -111327-03-14 00:29 J -38940691.60 -38940691.48 -38940691.35 0.0284 0.0179

Neptune -111327-03-16 04:19 J -38940689.50 -38940689.32 -38940689.15 0.0089 0.0004

Uranus -111327-03-17 02:09 J -38940688.51 -38940688.41 -38940688.28 0.0147 0.0108

Earth -111327-05-13 17:17 J -38940630.86 -38940630.78 -38940630.70 0.2742 0.1826

Moon -111327-05-13 17:45 J -38940630.85 -38940630.76 -38940630.68 0.2735 0.1733 *

Saturn -111327-06-10 19:26 J -38940602.85 -38940602.69 -38940602.53 0.0283 0.0083

Neptune -111327-06-12 06:57 J -38940601.38 -38940601.21 -38940601.03 0.0089 0.0003

Uranus -111327-06-13 09:36 J -38940600.25 -38940600.10 -38940599.96 0.0147 0.0081

Saturn -111327-09-07 14:24 J -38940514.07 -38940513.90 -38940513.73 0.0282 0.0015

Neptune -111327-09-08 09:50 J -38940513.26 -38940513.09 -38940512.91 0.0089 0.0007

Uranus -111327-09-09 16:33 J -38940511.97 -38940511.81 -38940511.64 0.0147 0.0055

Saturn -111327-12-05 09:36 J -38940425.25 -38940425.10 -38940424.94 0.0281 0.0113

Neptune -111327-12-05 12:43 J -38940425.14 -38940424.97 -38940424.80 0.0089 0.0012 *

Uranus -111327-12-07 00:00 J -38940423.67 -38940423.50 -38940423.33 0.0147 0.0027

Neptune -111326-03-03 15:21 J -38940337.02 -38940336.86 -38940336.68 0.0089 0.0018

Saturn -111326-03-04 05:02 J -38940336.40 -38940336.29 -38940336.17 0.0280 0.0211

Uranus -111326-03-05 07:12 J -38940335.37 -38940335.20 -38940335.02 0.0147 0.0003

Neptune -111326-05-30 18:14 J -38940248.90 -38940248.74 -38940248.56 0.0089 0.0023

Uranus -111326-06-01 14:38 J -38940247.06 -38940246.89 -38940246.71 0.0147 0.0028

Neptune -111326-08-26 21:07 J -38940160.78 -38940160.62 -38940160.45 0.0089 0.0028

Uranus -111326-08-28 21:50 J -38940158.74 -38940158.59 -38940158.41 0.0147 0.0056

Neptune -111326-11-22 23:45 J -38940072.66 -38940072.51 -38940072.33 0.0089 0.0034

Uranus -111326-11-25 05:17 J -38940070.41 -38940070.28 -38940070.12 0.0147 0.0084

Neptune -111325-02-19 02:53 J -38939984.53 -38939984.38 -38939984.22 0.0089 0.0039

Uranus -111325-02-21 12:57 J -38939982.07 -38939981.96 -38939981.84 0.0147 0.0112

Jupiter -111325-04-11 04:19 J -38939932.39 -38939932.32 -38939932.25 0.0529 0.0460

Neptune -111325-05-17 06:00 J -38939896.41 -38939896.25 -38939896.10 0.0089 0.0044

Uranus -111325-05-19 20:38 J -38939893.69 -38939893.64 -38939893.58 0.0147 0.0140

Jupiter -111325-07-09 16:05 J -38939842.97 -38939842.83 -38939842.70 0.0531 0.0064

Neptune -111325-08-13 08:38 J -38939808.28 -38939808.14 -38939807.99 0.0089 0.0050

Neptune -111325-11-09 11:31 J -38939720.15 -38939720.02 -38939719.87 0.0089 0.0056

Neptune -111324-02-05 14:24 J -38939632.02 -38939631.90 -38939631.76 0.0089 0.0061

Neptune -111324-05-04 17:31 J -38939543.88 -38939543.77 -38939543.65 0.0089 0.0066

Neptune -111324-07-31 20:09 J -38939455.75 -38939455.66 -38939455.54 0.0089 0.0072

Neptune -111324-10-27 23:17 J -38939367.60 -38939367.53 -38939367.43 0.0089 0.0077

Neptune -111323-01-24 02:09 J -38939279.46 -38939279.41 -38939279.33 0.0089 0.0083

Neptune -111323-04-22 05:17 J -38939191.29 -38939191.28 -38939191.25 0.0089 0.0088

Mars   -111322-01-08 17:31 J -38938929.87 -38938929.77 -38938929.66 0.1737 0.1205

Mars   -111322-11-22 06:14 J -38938612.35 -38938612.24 -38938612.12 0.1775 0.0764

Moon   -111321-05-22 14:24 J -38938429.99 -38938429.90 -38938429.82 0.2763 0.1820

Earth   -111321-05-22 14:38 J -38938429.97 -38938429.89 -38938429.81 0.2757 0.1834 *

Mars   -111321-12-15 11:02 J -38938223.15 -38938223.04 -38938222.94 0.1757 0.1305

Mars   -111320-10-27 21:07 J -38937906.72 -38937906.62 -38937906.53 0.1755 0.1070

Jupiter -111319-02-25 17:31 J -38937785.90 -38937785.77 -38937785.63 0.0496 0.0286

Jupiter -111319-05-26 17:02 J -38937695.93 -38937695.79 -38937695.64 0.0495 0.0245

Moon   -111318-11-14 08:53 J -38937159.14 -38937159.13 -38937159.12 0.2591 0.2582

Earth   -111318-11-14 10:05 J -38937159.11 -38937159.08 -38937159.06 0.2585 0.2548

Venus   -111315-06-23 00:14 J -38936207.60 -38936207.49 -38936207.39 0.3743 0.2042

Moon   -111314-05-16 11:31 J -38935880.12 -38935880.02 -38935879.91 0.2740 0.0954

Earth   -111314-05-16 12:00 J -38935880.11 -38935880.00 -38935879.90 0.2746 0.0855 *

Jupiter -111313-04-27 19:12 J -38935532.84 -38935532.70 -38935532.57 0.0530 0.0063

Jupiter -111313-07-26 05:45 J -38935443.33 -38935443.26 -38935443.19 0.0531 0.0449

Mars -111312-04-13 13:55 J -38935182.01 -38935181.92 -38935181.83 0.1780 0.1249

Saturn -111312-12-31 11:31 J -38934920.09 -38934920.02 -38934919.93 0.0276 0.0229

Saturn -111311-03-30 01:12 J -38934831.57 -38934831.45 -38934831.32 0.0277 0.0150

Mars -111311-05-07 11:45 J -38934793.15 -38934793.01 -38934792.86 0.1752 0.0650

Saturn -111311-06-26 14:38 J -38934743.03 -38934742.89 -38934742.75 0.0278 0.0070

Saturn -111311-09-23 03:50 J -38934654.48 -38934654.34 -38934654.19 0.0279 0.0013

Moon -111311-11-05 22:48 J -38934610.65 -38934610.55 -38934610.46 0.2593 0.2058

Earth -111311-11-05 23:45 J -38934610.61 -38934610.51 -38934610.40 0.2597 0.1908 *

Saturn -111311-12-20 17:02 J -38934565.92 -38934565.79 -38934565.65 0.0280 0.0089

Saturn -111310-03-19 06:00 J -38934477.36 -38934477.25 -38934477.13 0.0281 0.0168

Mars -111310-03-20 05:45 J -38934476.37 -38934476.26 -38934476.15 0.1760 0.0644

Saturn -111310-06-15 18:57 J -38934388.77 -38934388.71 -38934388.64 0.0282 0.0246

Venus -111309-01-06 23:31 J -38934183.64 -38934183.52 -38934183.39 0.3737 0.0273

Jupiter -111308-12-14 17:17 J -38933475.86 -38933475.78 -38933475.68 0.0497 0.0416

Jupiter -111307-03-14 16:33 J -38933385.98 -38933385.81 -38933385.65 0.0496 0.0110

Venus -111304-07-22 23:31 J -38932159.62 -38932159.52 -38932159.43 0.3731 0.2602

Mars -111303-09-03 21:36 J -38931751.63 -38931751.60 -38931751.58 0.1785 0.1742

Mars -111302-09-27 13:41 J -38931363.08 -38931362.93 -38931362.77 0.1747 0.0042

Jupiter -111301-02-14 21:50 J -38931222.72 -38931222.59 -38931222.46 0.0530 0.0191

Jupiter -111301-05-14 08:53 J -38931133.24 -38931133.13 -38931133.03 0.0531 0.0323

Moon -111301-05-18 06:00 J -38931129.36 -38931129.25 -38931129.14 0.2747 0.0149

Earth -111301-05-18 06:29 J -38931129.34 -38931129.23 -38931129.12 0.2750 0.0147 *

Mars -111301-08-09 14:09 J -38931046.03 -38931045.91 -38931045.79 0.1765 0.0204

Venus -111300-07-21 23:02 J -38930699.55 -38930699.54 -38930699.53 0.3631 0.3612

Saturn -111298-08-01 00:29 J -38929959.59 -38929959.48 -38929959.37 0.0285 0.0209

Saturn -111298-10-28 19:12 J -38929870.85 -38929870.70 -38929870.55 0.0283 0.0113

Moon -111298-11-09 03:36 J -38929859.50 -38929859.35 -38929859.20 0.2591 0.0444

Earth -111298-11-09 05:17 J -38929859.44 -38929859.28 -38929859.13 0.2593 0.0344 *

Saturn -111297-01-25 14:09 J -38929782.08 -38929781.91 -38929781.74 0.0282 0.0015

Saturn -111297-04-23 09:21 J -38929693.27 -38929693.11 -38929692.95 0.0281 0.0083

Saturn -111297-07-21 04:48 J -38929604.43 -38929604.30 -38929604.17 0.0280 0.0181

Saturn -111297-10-18 00:29 J -38929515.48 -38929515.48 -38929515.47 0.0279 0.0279

Jupiter -111296-12-31 16:19 J -38929075.99 -38929075.82 -38929075.65 0.0496 0.0020

Venus -111294-02-04 18:00 J -38928675.84 -38928675.75 -38928675.65 0.3636 0.2004

Earth -111294-05-12 03:36 J -38928579.38 -38928579.35 -38928579.32 0.2739 0.2600

Moon -111294-05-12 04:05 J -38928579.36 -38928579.33 -38928579.29 0.2734 0.2544 *

Mars -111292-02-16 15:36 J -38927932.99 -38927932.85 -38927932.70 0.1742 0.0569

Mars -111292-12-30 22:19 J -38927615.69 -38927615.57 -38927615.44 0.1770 0.0254

Jupiter -111290-12-04 00:00 J -38926912.61 -38926912.50 -38926912.39 0.0529 0.0330

Mars -111290-12-06 12:14 J -38926910.04 -38926909.99 -38926909.93 0.1750 0.1525

Jupiter -111289-03-02 11:17 J -38926823.16 -38926823.03 -38926822.90 0.0530 0.0188

Venus -111289-08-20 12:57 J -38926652.07 -38926651.96 -38926651.84 0.3640 0.0436

Moon -111288-05-21 00:29 J -38926378.58 -38926378.48 -38926378.38 0.2758 0.0962

Earth -111288-05-21 01:12 J -38926378.55 -38926378.45 -38926378.35 0.2754 0.1071 *

Uranus -111288-11-06 16:05 J -38926208.86 -38926208.83 -38926208.81 0.0132 0.0130

Uranus -111287-02-02 19:26 J -38926120.75 -38926120.69 -38926120.61 0.0132 0.0114

Uranus -111287-05-01 23:02 J -38926032.63 -38926032.54 -38926032.44 0.0132 0.0097

Uranus -111287-07-29 02:38 J -38925944.50 -38925944.39 -38925944.27 0.0132 0.0081

Uranus -111287-10-25 06:14 J -38925856.36 -38925856.24 -38925856.11 0.0132 0.0064

Uranus -111286-01-21 09:50 J -38925768.22 -38925768.09 -38925767.96 0.0132 0.0048

Uranus -111286-04-19 13:12 J -38925680.08 -38925679.95 -38925679.81 0.0132 0.0032

Uranus -111286-07-16 16:48 J -38925591.94 -38925591.80 -38925591.66 0.0132 0.0017

Uranus -111286-10-12 20:09 J -38925503.80 -38925503.66 -38925503.52 0.0132 0.0001

Uranus -111285-01-08 23:31 J -38925415.66 -38925415.52 -38925415.38 0.0132 0.0015

Uranus -111285-04-06 02:53 J -38925327.52 -38925327.38 -38925327.24 0.0132 0.0031

Uranus -111285-07-03 06:14 J -38925239.37 -38925239.24 -38925239.11 0.0132 0.0046

Uranus -111285-09-29 09:36 J -38925151.22 -38925151.10 -38925150.98 0.0132 0.0061

Moon -111285-11-11 09:21 J -38925108.24 -38925108.11 -38925107.97 0.2593 0.1197

Earth -111285-11-11 10:48 J -38925108.19 -38925108.05 -38925107.91 0.2589 0.1261 *

Uranus -111285-12-26 12:57 J -38925063.07 -38925062.96 -38925062.85 0.0132 0.0077

Uranus -111284-03-24 16:19 J -38924974.92 -38924974.82 -38924974.73 0.0132 0.0092

Uranus -111284-06-20 19:12 J -38924886.77 -38924886.70 -38924886.61 0.0131 0.0108

Uranus -111284-09-16 22:48 J -38924798.60 -38924798.55 -38924798.50 0.0131 0.0122

Jupiter -111284-10-19 16:19 J -38924765.98 -38924765.82 -38924765.66 0.0497 0.0151

Jupiter -111283-01-17 16:19 J -38924675.93 -38924675.82 -38924675.72 0.0496 0.0387

Venus -111283-03-06 07:41 J -38924628.29 -38924628.18 -38924628.07 0.3645 0.1103

Mars -111283-07-09 18:00 J -38924502.86 -38924502.75 -38924502.64 0.1737 0.1148

Saturn -111282-05-20 13:55 J -38924187.98 -38924187.92 -38924187.86 0.0276 0.0249

Mars -111282-05-23 06:14 J -38924185.35 -38924185.24 -38924185.12 0.1775 0.0722

Saturn -111282-08-17 03:36 J -38924099.47 -38924099.35 -38924099.24 0.0277 0.0169

Saturn -111282-11-13 17:02 J -38924010.93 -38924010.79 -38924010.65 0.0278 0.0090

Saturn -111281-02-10 06:14 J -38923922.38 -38923922.24 -38923922.09 0.0279 0.0013

Saturn -111281-05-08 19:26 J -38923833.82 -38923833.69 -38923833.55 0.0280 0.0069

Earth -111281-05-13 22:19 J -38923828.66 -38923828.57 -38923828.48 0.2743 0.1631

Moon -111281-05-13 22:19 J -38923828.65 -38923828.57 -38923828.48 0.2736 0.1652 *

Mars -111281-06-15 11:17 J -38923796.12 -38923796.03 -38923795.93 0.1757 0.1362

Saturn -111281-08-05 08:38 J -38923745.26 -38923745.14 -38923745.02 0.0281 0.0148

Saturn -111281-11-01 21:36 J -38923656.68 -38923656.60 -38923656.52 0.0282 0.0227

Mars -111280-04-27 21:07 J -38923479.71 -38923479.62 -38923479.53 0.1755 0.1110

Venus -111278-09-20 02:09 J -38922604.48 -38922604.41 -38922604.33 0.3650 0.2595

Jupiter -111278-09-22 02:24 J -38922602.46 -38922602.40 -38922602.33 0.0529 0.0462

Jupiter -111278-12-20 14:09 J -38922513.04 -38922512.91 -38922512.77 0.0530 0.0061

Moon -111275-05-23 19:26 J -38921627.76 -38921627.69 -38921627.62 0.2764 0.2024

Earth -111275-05-23 19:41 J -38921627.76 -38921627.68 -38921627.61 0.2757 0.2022 *

Mars -111274-11-29 20:53 J -38921072.65 -38921072.63 -38921072.60 0.1732 0.1699

Mars -111273-10-12 14:09 J -38920755.00 -38920754.91 -38920754.82 0.1780 0.1200

Jupiter -111272-08-07 15:36 J -38920455.99 -38920455.85 -38920455.71 0.0496 0.0285

Mars -111272-11-05 12:29 J -38920366.12 -38920365.98 -38920365.84 0.1752 0.0718

Jupiter -111272-11-05 15:07 J -38920366.02 -38920365.87 -38920365.72 0.0495 0.0246 *

Mars -111271-09-18 05:45 J -38920049.37 -38920049.26 -38920049.15 0.1760 0.0685

Saturn -111269-12-18 01:41 J -38919227.52 -38919227.43 -38919227.33 0.0285 0.0231

Saturn -111268-03-16 20:24 J -38919138.80 -38919138.65 -38919138.50 0.0284 0.0135

Moon -111268-05-16 16:19 J -38919077.92 -38919077.82 -38919077.71 0.2741 0.0657

Earth -111268-05-16 16:48 J -38919077.90 -38919077.80 -38919077.69 0.2747 0.0676 *

Saturn -111268-06-13 15:21 J -38919050.03 -38919049.86 -38919049.70 0.0283 0.0038

Saturn -111268-09-10 10:33 J -38918961.23 -38918961.06 -38918960.90 0.0282 0.0060

Saturn -111268-12-08 05:45 J -38918872.40 -38918872.26 -38918872.11 0.0281 0.0158

Saturn -111267-03-07 01:26 J -38918783.50 -38918783.44 -38918783.37 0.0280 0.0256

Jupiter -111266-10-08 17:17 J -38918202.92 -38918202.78 -38918202.65 0.0530 0.0064

Jupiter -111265-01-06 04:05 J -38918113.40 -38918113.33 -38918113.26 0.0532 0.0447

Moon -111265-11-06 04:48 J -38917808.42 -38917808.30 -38917808.17 0.2593 0.1603

Earth -111265-11-06 06:14 J -38917808.36 -38917808.24 -38917808.12 0.2597 0.1603 *

Venus -111264-07-14 00:29 J -38917558.53 -38917558.48 -38917558.44 0.3747 0.3476

Mars -111263-03-04 21:36 J -38917324.63 -38917324.60 -38917324.56 0.1785 0.1693

Mars -111262-03-28 13:55 J -38916936.07 -38916935.92 -38916935.76 0.1747 0.0093

Mars -111261-02-08 14:09 J -38916619.03 -38916618.91 -38916618.78 0.1765 0.0256

Jupiter -111260-05-26 15:50 J -38916145.93 -38916145.84 -38916145.75 0.0497 0.0411

Jupiter -111260-08-24 14:38 J -38916056.05 -38916055.89 -38916055.72 0.0496 0.0115

Venus -111258-01-27 23:31 J -38915534.64 -38915534.52 -38915534.40 0.3741 0.1267

Moon -111255-05-19 10:48 J -38914327.16 -38914327.05 -38914326.94 0.2751 0.0167

Earth -111255-05-19 11:31 J -38914327.13 -38914327.02 -38914326.91 0.2750 0.0300 *

Jupiter -111254-07-27 20:24 J -38913892.78 -38913892.65 -38913892.52 0.0530 0.0189

Jupiter -111254-10-25 07:26 J -38913803.30 -38913803.19 -38913803.09 0.0531 0.0327

Venus -111253-08-12 23:02 J -38913510.66 -38913510.54 -38913510.41 0.3735 0.1034

Mars -111253-08-17 16:05 J -38913505.97 -38913505.83 -38913505.69 0.1742 0.0514

Saturn -111252-01-03 04:33 J -38913367.41 -38913367.31 -38913367.21 0.0276 0.0197

Saturn -111252-04-01 18:00 J -38913278.88 -38913278.75 -38913278.61 0.0277 0.0118

Saturn -111252-06-29 07:26 J -38913190.33 -38913190.19 -38913190.05 0.0278 0.0038

Mars -111252-06-30 22:33 J -38913188.68 -38913188.56 -38913188.44 0.1770 0.0203

Saturn -111252-09-25 20:38 J -38913101.78 -38913101.64 -38913101.50 0.0279 0.0041

Moon -111252-11-09 10:05 J -38913057.23 -38913057.08 -38913056.92 0.2593 0.0195

Earth -111252-11-09 11:45 J -38913057.17 -38913057.01 -38913056.85 0.2592 0.0033 *

Saturn -111252-12-23 09:36 J -38913013.22 -38913013.10 -38913012.97 0.0281 0.0120

Saturn -111251-03-21 22:33 J -38912924.65 -38912924.56 -38912924.46 0.0282 0.0199

Saturn -111251-06-18 11:31 J -38912836.04 -38912836.02 -38912835.99 0.0283 0.0276

Pluto -111251-08-16 13:26 J -38912776.98 -38912776.94 -38912776.86 0.0060 0.0057

Pluto -111251-11-12 14:38 J -38912688.97 -38912688.89 -38912688.75 0.0060 0.0050

Pluto -111250-02-08 16:19 J -38912600.94 -38912600.82 -38912600.66 0.0060 0.0042

Pluto -111250-05-07 18:00 J -38912512.90 -38912512.75 -38912512.59 0.0060 0.0035

Mars -111250-06-06 12:29 J -38912483.04 -38912482.98 -38912482.93 0.1750 0.1566

Pluto -111250-08-03 19:12 J -38912424.86 -38912424.70 -38912424.51 0.0060 0.0027

Neptune -111250-08-28 18:57 J -38912399.74 -38912399.71 -38912399.67 0.0088 0.0085

Pluto -111250-10-30 20:53 J -38912336.81 -38912336.63 -38912336.44 0.0060 0.0019

Neptune -111250-11-24 21:07 J -38912311.68 -38912311.62 -38912311.57 0.0088 0.0081

Pluto -111249-01-26 22:05 J -38912248.76 -38912248.58 -38912248.38 0.0060 0.0012

Neptune -111249-02-20 22:33 J -38912223.62 -38912223.56 -38912223.48 0.0088 0.0077

Pluto -111249-04-23 23:45 J -38912160.70 -38912160.51 -38912160.32 0.0060 0.0004

Neptune -111249-05-19 00:43 J -38912135.56 -38912135.47 -38912135.39 0.0088 0.0072

Pluto -111249-07-21 01:12 J -38912072.65 -38912072.45 -38912072.26 0.0060 0.0003

Neptune -111249-08-15 02:09 J -38912047.49 -38912047.41 -38912047.30 0.0088 0.0068

Pluto -111249-10-17 02:24 J -38911984.58 -38911984.40 -38911984.20 0.0060 0.0011

Neptune -111249-11-11 03:50 J -38911959.42 -38911959.34 -38911959.22 0.0088 0.0064

Pluto -111248-01-13 03:50 J -38911896.52 -38911896.34 -38911896.15 0.0061 0.0019

Neptune -111248-02-07 06:00 J -38911871.36 -38911871.25 -38911871.14 0.0088 0.0059

Pluto -111248-04-11 05:17 J -38911808.45 -38911808.28 -38911808.10 0.0061 0.0027

Neptune -111248-05-06 07:41 J -38911783.29 -38911783.18 -38911783.06 0.0088 0.0054

Earth -111248-05-12 08:38 J -38911777.19 -38911777.14 -38911777.09 0.2739 0.2410

Moon -111248-05-12 09:07 J -38911777.18 -38911777.12 -38911777.07 0.2733 0.2335 *

Jupiter -111248-06-12 14:24 J -38911746.07 -38911745.90 -38911745.74 0.0496 0.0023

Pluto -111248-07-08 06:29 J -38911720.37 -38911720.23 -38911720.05 0.0061 0.0035

Neptune -111248-08-02 09:36 J -38911695.22 -38911695.10 -38911694.98 0.0088 0.0050

Pluto -111248-10-04 08:09 J -38911632.29 -38911632.16 -38911632.01 0.0061 0.0042

Neptune -111248-10-29 11:17 J -38911607.15 -38911607.03 -38911606.90 0.0088 0.0045

Pluto -111248-12-31 09:21 J -38911544.20 -38911544.11 -38911543.98 0.0061 0.0050

Neptune -111247-01-25 13:12 J -38911519.08 -38911518.95 -38911518.82 0.0088 0.0041

Venus -111247-02-26 23:02 J -38911486.59 -38911486.54 -38911486.49 0.3729 0.3425

Pluto -111247-03-29 10:48 J -38911456.09 -38911456.05 -38911455.98 0.0061 0.0058

Neptune -111247-04-23 14:53 J -38911431.01 -38911430.88 -38911430.74 0.0088 0.0036

Neptune -111247-07-20 16:33 J -38911342.94 -38911342.81 -38911342.67 0.0088 0.0032

Neptune -111247-10-16 18:29 J -38911254.87 -38911254.73 -38911254.59 0.0088 0.0028

Neptune -111246-01-12 20:09 J -38911166.80 -38911166.66 -38911166.52 0.0088 0.0023

Neptune -111246-04-10 21:50 J -38911078.73 -38911078.59 -38911078.44 0.0088 0.0019

Neptune -111246-07-07 23:45 J -38910990.66 -38910990.51 -38910990.37 0.0088 0.0015

Neptune -111246-10-04 01:26 J -38910902.59 -38910902.44 -38910902.30 0.0088 0.0010

Neptune -111246-12-31 03:07 J -38910814.52 -38910814.37 -38910814.23 0.0088 0.0006

Neptune -111245-03-28 04:48 J -38910726.44 -38910726.30 -38910726.15 0.0088 0.0002

Neptune -111245-06-24 06:29 J -38910638.37 -38910638.23 -38910638.08 0.0088 0.0003

Neptune -111245-09-20 08:09 J -38910550.30 -38910550.16 -38910550.01 0.0088 0.0007

Neptune -111245-12-17 09:50 J -38910462.23 -38910462.09 -38910461.94 0.0088 0.0011

Neptune -111244-03-15 11:31 J -38910374.16 -38910374.02 -38910373.88 0.0088 0.0016

Neptune -111244-06-11 13:12 J -38910286.09 -38910285.95 -38910285.81 0.0088 0.0020

Neptune -111244-09-07 14:53 J -38910198.02 -38910197.88 -38910197.74 0.0088 0.0024

Neptune -111244-12-04 16:33 J -38910109.95 -38910109.81 -38910109.67 0.0088 0.0028

Mars -111243-01-07 18:29 J -38910075.84 -38910075.73 -38910075.61 0.1737 0.1090

Uranus -111243-01-08 01:26 J -38910075.51 -38910075.44 -38910075.36 0.0147 0.0132

Venus -111243-02-25 21:21 J -38910026.67 -38910026.61 -38910026.55 0.3632 0.3018

Neptune -111243-03-02 18:14 J -38910021.87 -38910021.74 -38910021.61 0.0088 0.0033

Uranus -111243-04-06 08:24 J -38909987.26 -38909987.15 -38909987.02 0.0147 0.0106

Neptune -111243-05-29 19:55 J -38909933.80 -38909933.67 -38909933.54 0.0088 0.0037

Uranus -111243-07-03 15:36 J -38909898.99 -38909898.85 -38909898.70 0.0147 0.0079

Neptune -111243-08-25 21:21 J -38909845.73 -38909845.61 -38909845.48 0.0088 0.0041

Uranus -111243-09-29 22:48 J -38909810.71 -38909810.55 -38909810.38 0.0147 0.0052

Mars -111243-11-21 06:29 J -38909758.35 -38909758.23 -38909758.11 0.1775 0.0672

Neptune -111243-11-21 23:02 J -38909757.66 -38909757.54 -38909757.41 0.0088 0.0045

Uranus -111243-12-27 06:00 J -38909722.42 -38909722.25 -38909722.07 0.0147 0.0025

Neptune -111242-02-18 00:43 J -38909669.58 -38909669.47 -38909669.35 0.0088 0.0049

Uranus -111242-03-25 13:26 J -38909634.12 -38909633.94 -38909633.76 0.0147 0.0003

Jupiter -111242-05-15 23:02 J -38909582.65 -38909582.54 -38909582.43 0.0529 0.0318

Neptune -111242-05-17 02:24 J -38909581.51 -38909581.40 -38909581.29 0.0088 0.0053

Moon -111242-05-22 05:31 J -38909576.37 -38909576.27 -38909576.18 0.2758 0.1266

Earth -111242-05-22 06:00 J -38909576.35 -38909576.25 -38909576.15 0.2754 0.1257 *

Uranus -111242-06-21 20:38 J -38909545.81 -38909545.64 -38909545.46 0.0147 0.0030

Neptune -111242-08-13 04:05 J -38909493.44 -38909493.33 -38909493.23 0.0088 0.0058

Jupiter -111242-08-13 10:19 J -38909493.19 -38909493.07 -38909492.94 0.0531 0.0202

Uranus -111242-09-18 04:05 J -38909457.49 -38909457.33 -38909457.16 0.0147 0.0058

Neptune -111242-11-09 05:45 J -38909405.36 -38909405.26 -38909405.16 0.0088 0.0062

Uranus -111242-12-15 11:31 J -38909369.16 -38909369.02 -38909368.87 0.0147 0.0086

Mars -111242-12-15 12:00 J -38909369.09 -38909369.00 -38909368.91 0.1758 0.1427 *

Neptune -111241-02-05 06:57 J -38909317.29 -38909317.21 -38909317.10 0.0088 0.0066

Uranus -111241-03-12 18:57 J -38909280.81 -38909280.71 -38909280.59 0.0147 0.0114

Neptune -111241-05-03 08:38 J -38909229.22 -38909229.14 -38909229.05 0.0088 0.0070

Uranus -111241-06-09 02:38 J -38909192.42 -38909192.39 -38909192.34 0.0147 0.0143

Neptune -111241-07-30 10:05 J -38909141.14 -38909141.08 -38909140.99 0.0088 0.0075

Neptune -111241-10-26 11:45 J -38909053.06 -38909053.01 -38909052.93 0.0088 0.0078

Mars -111241-10-26 21:07 J -38909052.71 -38909052.62 -38909052.53 0.1755 0.1155

Neptune -111240-01-22 13:12 J -38908964.98 -38908964.95 -38908964.88 0.0088 0.0083

Neptune -111240-04-20 14:53 J -38908876.89 -38908876.88 -38908876.84 0.0088 0.0086

Saturn -111239-05-07 00:43 J -38908495.52 -38908495.47 -38908495.41 0.0285 0.0265

Saturn -111239-08-03 19:26 J -38908406.82 -38908406.69 -38908406.56 0.0284 0.0169

Saturn -111239-10-31 14:09 J -38908318.07 -38908317.91 -38908317.74 0.0283 0.0073

Moon -111239-11-12 16:05 J -38908305.96 -38908305.83 -38908305.71 0.2593 0.1470

Earth -111239-11-12 17:17 J -38908305.90 -38908305.78 -38908305.66 0.2588 0.1575 *

Saturn -111238-01-28 09:21 J -38908229.28 -38908229.11 -38908228.94 0.0282 0.0025

Saturn -111238-04-27 04:33 J -38908140.46 -38908140.31 -38908140.15 0.0281 0.0124

Saturn -111238-07-25 00:00 J -38908051.59 -38908051.50 -38908051.39 0.0280 0.0222

Venus -111238-09-11 16:33 J -38908002.92 -38908002.81 -38908002.71 0.3637 0.1429

Jupiter -111236-03-31 14:09 J -38907436.06 -38907435.91 -38907435.74 0.0497 0.0150

Jupiter -111236-06-29 14:09 J -38907346.01 -38907345.91 -38907345.80 0.0495 0.0388

Moon -111235-05-15 03:07 J -38907026.47 -38907026.37 -38907026.28 0.2737 0.1447

Earth -111235-05-15 03:07 J -38907026.46 -38907026.37 -38907026.27 0.2743 0.1444 *

Mars -111234-05-30 21:21 J -38906645.65 -38906645.61 -38906645.57 0.1732 0.1644

Mars -111233-04-12 14:09 J -38906328.00 -38906327.91 -38906327.81 0.1780 0.1155

Venus -111232-03-27 11:17 J -38905979.14 -38905979.03 -38905978.91 0.3642 0.0146

Mars -111232-05-06 12:57 J -38905939.09 -38905938.96 -38905938.82 0.1752 0.0776

Mars -111231-03-19 05:45 J -38905622.37 -38905622.26 -38905622.14 0.1760 0.0731

Jupiter -111230-03-04 01:12 J -38905272.52 -38905272.45 -38905272.38 0.0529 0.0455

Jupiter -111230-06-01 12:57 J -38905183.10 -38905182.96 -38905182.83 0.0530 0.0067

Moon -111229-05-24 00:29 J -38904825.54 -38904825.48 -38904825.41 0.2765 0.2184

Earth -111229-05-24 00:29 J -38904825.54 -38904825.48 -38904825.42 0.2758 0.2212 *

Venus -111227-10-11 06:00 J -38903955.35 -38903955.25 -38903955.15 0.3647 0.1652

Jupiter -111224-01-17 14:24 J -38903126.04 -38903125.90 -38903125.76 0.0497 0.0277

Jupiter -111224-04-17 13:55 J -38903036.07 -38903035.92 -38903035.78 0.0496 0.0255

Mars -111224-09-02 21:50 J -38902897.64 -38902897.59 -38902897.55 0.1785 0.1648

Saturn -111223-05-23 06:14 J -38902635.32 -38902635.24 -38902635.15 0.0276 0.0220

Saturn -111223-08-19 19:55 J -38902546.79 -38902546.67 -38902546.55 0.0277 0.0140

Mars -111223-09-26 14:38 J -38902509.04 -38902508.89 -38902508.74 0.1747 0.0149

Saturn -111223-11-16 09:21 J -38902458.25 -38902458.11 -38902457.97 0.0278 0.0061

Saturn -111222-02-12 22:33 J -38902369.70 -38902369.56 -38902369.42 0.0279 0.0018

Saturn -111222-05-12 11:31 J -38902281.15 -38902281.02 -38902280.88 0.0280 0.0098

Moon -111222-05-17 21:21 J -38902275.72 -38902275.61 -38902275.50 0.2742 0.0575

Earth -111222-05-17 21:50 J -38902275.70 -38902275.59 -38902275.48 0.2747 0.0473 *

Saturn -111222-08-09 00:29 J -38902192.58 -38902192.48 -38902192.36 0.0281 0.0177

Mars -111222-08-09 14:24 J -38902192.02 -38902191.90 -38902191.78 0.1765 0.0294

Saturn -111222-11-05 13:26 J -38902103.99 -38902103.94 -38902103.88 0.0283 0.0254

Venus -111221-04-26 00:29 J -38901931.54 -38901931.48 -38901931.42 0.3652 0.3121

Moon -111219-11-07 11:17 J -38901006.15 -38901006.03 -38901005.90 0.2593 0.1495

Earth -111219-11-07 12:43 J -38901006.10 -38901005.97 -38901005.83 0.2596 0.1291 *

Jupiter -111218-03-20 15:50 J -38900872.98 -38900872.84 -38900872.71 0.0530 0.0063

Jupiter -111218-06-18 02:24 J -38900783.47 -38900783.40 -38900783.33 0.0531 0.0448

Mars -111213-02-16 16:33 J -38899078.96 -38899078.81 -38899078.66 0.1742 0.0457

Jupiter -111213-11-05 13:55 J -38898816.01 -38898815.92 -38898815.82 0.0497 0.0407

Mars -111213-12-29 22:33 J -38898761.68 -38898761.56 -38898761.44 0.1770 0.0163

Jupiter -111212-02-03 12:57 J -38898726.12 -38898725.96 -38898725.79 0.0496 0.0118

Mars -111211-12-05 12:29 J -38898056.03 -38898055.98 -38898055.94 0.1750 0.1605

Saturn -111210-12-21 20:24 J -38897674.77 -38897674.65 -38897674.53 0.0285 0.0194

Saturn -111209-03-19 15:07 J -38897586.03 -38897585.87 -38897585.72 0.0284 0.0097

Moon -111209-05-19 15:36 J -38897524.96 -38897524.85 -38897524.74 0.2753 0.0487

Earth -111209-05-19 16:19 J -38897524.92 -38897524.82 -38897524.71 0.2751 0.0496 *

Saturn -111209-06-16 10:05 J -38897497.25 -38897497.08 -38897496.91 0.0283 0.0002

Saturn -111209-09-13 05:17 J -38897408.43 -38897408.28 -38897408.12 0.0282 0.0099

Saturn -111209-12-11 00:43 J -38897319.58 -38897319.47 -38897319.34 0.0281 0.0197

Venus -111207-02-17 23:45 J -38896885.59 -38896885.51 -38896885.42 0.3745 0.2711

Jupiter -111206-01-06 18:43 J -38896562.85 -38896562.72 -38896562.60 0.0530 0.0190

Jupiter -111206-04-06 05:45 J -38896473.37 -38896473.26 -38896473.15 0.0531 0.0327

Moon -111206-11-10 16:33 J -38896254.96 -38896254.81 -38896254.65 0.2595 0.0263

Earth -111206-11-10 18:14 J -38896254.90 -38896254.74 -38896254.59 0.2592 0.0295 *

Mars -111204-07-08 18:43 J -38895648.84 -38895648.72 -38895648.60 0.1737 0.1041

Uranus -111204-11-26 22:33 J -38895507.58 -38895507.56 -38895507.51 0.0132 0.0128

Uranus -111203-02-23 02:24 J -38895419.47 -38895419.40 -38895419.32 0.0132 0.0111

Uranus -111203-05-22 06:00 J -38895331.35 -38895331.25 -38895331.15 0.0132 0.0094

Mars -111203-05-22 06:43 J -38895331.34 -38895331.22 -38895331.11 0.1775 0.0626 *

Uranus -111203-08-18 09:21 J -38895243.21 -38895243.11 -38895242.99 0.0132 0.0078

Uranus -111203-11-14 12:57 J -38895155.08 -38895154.96 -38895154.83 0.0132 0.0062

Uranus -111202-02-10 16:33 J -38895066.94 -38895066.81 -38895066.67 0.0132 0.0046

Uranus -111202-05-09 19:55 J -38894978.80 -38894978.67 -38894978.53 0.0132 0.0030

Earth -111202-05-13 13:26 J -38894975.00 -38894974.94 -38894974.88 0.2740 0.2221

Moon -111202-05-13 13:55 J -38894974.99 -38894974.92 -38894974.86 0.2734 0.2217 *

Mars -111202-06-15 12:29 J -38894942.07 -38894941.98 -38894941.90 0.1757 0.1481

Uranus -111202-08-05 23:31 J -38894890.66 -38894890.52 -38894890.38 0.0132 0.0014

Venus -111202-09-03 23:02 J -38894861.66 -38894861.54 -38894861.41 0.3740 0.0493

Uranus -111202-11-02 02:53 J -38894802.52 -38894802.38 -38894802.24 0.0132 0.0004

Uranus -111201-01-29 06:14 J -38894714.37 -38894714.24 -38894714.10 0.0132 0.0018

Uranus -111201-04-26 09:36 J -38894626.23 -38894626.10 -38894625.96 0.0132 0.0034

Mars -111201-04-26 21:07 J -38894625.70 -38894625.62 -38894625.53 0.1755 0.1195

Uranus -111201-07-23 12:57 J -38894538.08 -38894537.96 -38894537.82 0.0132 0.0049

Uranus -111201-10-19 16:19 J -38894449.94 -38894449.82 -38894449.69 0.0132 0.0064

Jupiter -111201-11-22 12:57 J -38894416.13 -38894415.96 -38894415.79 0.0496 0.0012

Uranus -111200-01-15 19:41 J -38894361.79 -38894361.68 -38894361.57 0.0132 0.0079

Uranus -111200-04-13 22:48 J -38894273.64 -38894273.55 -38894273.44 0.0132 0.0095

Uranus -111200-07-11 02:09 J -38894185.48 -38894185.41 -38894185.33 0.0131 0.0110

Uranus -111200-10-07 05:31 J -38894097.31 -38894097.27 -38894097.23 0.0131 0.0124

Venus -111196-03-19 22:48 J -38892837.66 -38892837.55 -38892837.44 0.3734 0.1846

Moon -111196-05-22 10:33 J -38892774.16 -38892774.06 -38892773.97 0.2760 0.1353

Earth -111196-05-22 10:48 J -38892774.14 -38892774.05 -38892773.95 0.2754 0.1452 *

Jupiter -111195-10-25 21:36 J -38892252.71 -38892252.60 -38892252.48 0.0530 0.0313

Mars -111195-11-28 21:50 J -38892218.64 -38892218.59 -38892218.53 0.1732 0.1585

Jupiter -111194-01-23 09:07 J -38892163.24 -38892163.12 -38892162.99 0.0531 0.0207

Saturn -111194-10-10 07:12 J -38891903.26 -38891903.20 -38891903.14 0.0275 0.0248

Mars -111194-10-12 14:24 J -38891901.00 -38891900.90 -38891900.80 0.1780 0.1104

Saturn -111193-01-06 20:38 J -38891814.75 -38891814.64 -38891814.52 0.0276 0.0169

Saturn -111193-04-04 10:05 J -38891726.21 -38891726.08 -38891725.94 0.0277 0.0090

Saturn -111193-07-01 23:31 J -38891637.67 -38891637.52 -38891637.38 0.0278 0.0012

Saturn -111193-09-28 12:29 J -38891549.11 -38891548.98 -38891548.84 0.0279 0.0069

Mars -111193-11-04 13:26 J -38891512.07 -38891511.94 -38891511.80 0.1752 0.0833

Moon -111193-11-12 22:48 J -38891503.66 -38891503.55 -38891503.44 0.2593 0.1807

Earth -111193-11-12 23:45 J -38891503.61 -38891503.51 -38891503.40 0.2588 0.1892 *

Saturn -111193-12-26 01:41 J -38891460.55 -38891460.43 -38891460.31 0.0281 0.0146

Saturn -111192-03-24 14:24 J -38891371.98 -38891371.90 -38891371.81 0.0282 0.0225

Mars -111192-09-17 06:00 J -38891195.36 -38891195.25 -38891195.14 0.1760 0.0778

Moon -111189-05-15 07:55 J -38890224.27 -38890224.17 -38890224.08 0.2737 0.1260

Earth -111189-05-15 08:09 J -38890224.26 -38890224.16 -38890224.06 0.2744 0.1249 *

Jupiter -111189-09-10 12:43 J -38890106.13 -38890105.97 -38890105.81 0.0496 0.0143

Jupiter -111189-12-09 12:29 J -38890016.08 -38890015.98 -38890015.87 0.0495 0.0393

Venus -111187-10-02 19:55 J -38889353.76 -38889353.67 -38889353.59 0.3634 0.2428

Earth -111186-11-05 13:55 J -38888954.95 -38888954.92 -38888954.89 0.2600 0.2545

Mars -111184-03-03 21:50 J -38888470.64 -38888470.59 -38888470.53 0.1785 0.1600

Mars -111183-03-27 15:07 J -38888082.02 -38888081.87 -38888081.72 0.1747 0.0207

Earth -111183-05-25 05:17 J -38888023.33 -38888023.28 -38888023.22 0.2758 0.2401

Moon -111183-05-25 05:31 J -38888023.31 -38888023.27 -38888023.22 0.2766 0.2480 *

Jupiter -111183-08-14 00:29 J -38887942.55 -38887942.48 -38887942.41 0.0529 0.0441

Jupiter -111183-11-11 12:14 J -38887853.13 -38887852.99 -38887852.86 0.0530 0.0082

Mars -111182-02-07 14:24 J -38887765.02 -38887764.90 -38887764.78 0.1765 0.0335

Venus -111181-04-17 14:53 J -38887329.99 -38887329.88 -38887329.77 0.3638 0.0850

Saturn -111180-05-09 18:29 J -38886942.82 -38886942.73 -38886942.63 0.0285 0.0231

Saturn -111180-08-06 13:26 J -38886854.09 -38886853.94 -38886853.80 0.0284 0.0135

Saturn -111180-11-03 08:24 J -38886765.32 -38886765.15 -38886764.98 0.0283 0.0037

Saturn -111179-01-31 03:36 J -38886676.52 -38886676.35 -38886676.19 0.0282 0.0061

Saturn -111179-04-29 23:02 J -38886587.68 -38886587.54 -38886587.40 0.0281 0.0159

Saturn -111179-07-27 18:43 J -38886498.79 -38886498.72 -38886498.66 0.0280 0.0257

Jupiter -111177-06-29 12:43 J -38885796.11 -38885795.97 -38885795.83 0.0497 0.0271

Jupiter -111177-09-27 12:14 J -38885706.13 -38885705.99 -38885705.84 0.0496 0.0261

Moon -111176-05-18 02:09 J -38885473.52 -38885473.41 -38885473.30 0.2746 0.0341

Earth -111176-05-18 02:53 J -38885473.49 -38885473.38 -38885473.27 0.2748 0.0303 *

Venus -111176-11-01 09:36 J -38885306.21 -38885306.10 -38885305.98 0.3643 0.0702

Mars -111174-08-17 17:02 J -38884651.94 -38884651.79 -38884651.64 0.1742 0.0399

Mars -111173-06-29 22:48 J -38884334.68 -38884334.55 -38884334.43 0.1770 0.0128

Moon -111173-11-07 17:45 J -38884203.91 -38884203.76 -38884203.62 0.2594 0.0999

Earth -111173-11-07 19:12 J -38884203.84 -38884203.70 -38884203.55 0.2595 0.0981 *

Mars -111171-06-05 12:29 J -38883629.02 -38883628.98 -38883628.94 0.1750 0.1645

Jupiter -111171-08-30 14:38 J -38883543.02 -38883542.89 -38883542.75 0.0530 0.0054

Jupiter -111171-11-28 01:26 J -38883453.50 -38883453.44 -38883453.37 0.0531 0.0457

Venus -111170-05-18 04:19 J -38883282.41 -38883282.32 -38883282.23 0.3648 0.2196

Neptune -111167-11-04 05:31 J -38882016.29 -38882016.27 -38882016.22 0.0089 0.0087

Neptune -111166-01-31 08:09 J -38881928.21 -38881928.16 -38881928.08 0.0089 0.0082

Neptune -111166-04-29 10:48 J -38881840.12 -38881840.05 -38881839.95 0.0089 0.0077

Neptune -111166-07-26 13:26 J -38881752.03 -38881751.94 -38881751.83 0.0089 0.0072

Neptune -111166-10-22 16:05 J -38881663.93 -38881663.83 -38881663.71 0.0089 0.0067

Neptune -111165-01-18 18:43 J -38881575.83 -38881575.72 -38881575.59 0.0089 0.0062

Neptune -111165-04-15 21:21 J -38881487.73 -38881487.61 -38881487.47 0.0089 0.0057

Jupiter -111165-04-17 12:57 J -38881486.05 -38881485.96 -38881485.86 0.0497 0.0397

Neptune -111165-07-13 00:00 J -38881399.62 -38881399.50 -38881399.35 0.0089 0.0052

Jupiter -111165-07-16 12:00 J -38881396.16 -38881396.00 -38881395.83 0.0496 0.0130

Neptune -111165-10-09 02:53 J -38881311.52 -38881311.38 -38881311.23 0.0089 0.0047

Venus -111165-11-30 22:48 J -38881258.55 -38881258.55 -38881258.55 0.3653 0.3651

Neptune -111164-01-05 05:31 J -38881223.41 -38881223.27 -38881223.11 0.0089 0.0042

Mars -111164-01-06 19:26 J -38881221.81 -38881221.69 -38881221.56 0.1737 0.0977

Saturn -111164-02-26 08:38 J -38881171.16 -38881171.14 -38881171.12 0.0276 0.0272

Neptune -111164-04-03 08:09 J -38881135.30 -38881135.16 -38881134.99 0.0089 0.0037

Saturn -111164-05-25 22:19 J -38881082.67 -38881082.57 -38881082.47 0.0276 0.0193

Neptune -111164-06-30 11:02 J -38881047.19 -38881047.04 -38881046.87 0.0089 0.0031

Saturn -111164-08-22 11:45 J -38880994.14 -38880994.01 -38880993.88 0.0277 0.0114

Neptune -111164-09-26 13:55 J -38880959.08 -38880958.92 -38880958.76 0.0089 0.0026

Saturn -111164-11-19 00:57 J -38880905.60 -38880905.46 -38880905.31 0.0278 0.0036

Mars   -111164-11-20 06:43 J -38880904.34 -38880904.22 -38880904.10 0.1775 0.0581

Neptune -111164-12-23 16:33 J -38880870.97 -38880870.81 -38880870.64 0.0089 0.0021

Saturn -111163-02-15 14:09 J -38880817.05 -38880816.91 -38880816.76 0.0280 0.0045

Neptune -111163-03-21 19:12 J -38880782.86 -38880782.70 -38880782.52 0.0089 0.0016

Saturn -111163-05-15 03:21 J -38880728.49 -38880728.36 -38880728.23 0.0281 0.0123

Moon   -111163-05-20 20:38 J -38880722.75 -38880722.64 -38880722.53 0.2754 0.0562

Earth   -111163-05-20 21:21 J -38880722.72 -38880722.61 -38880722.50 0.2751 0.0682 *

Neptune -111163-06-17 22:05 J -38880694.75 -38880694.58 -38880694.40 0.0089 0.0011

Saturn -111163-08-11 16:19 J -38880639.92 -38880639.82 -38880639.72 0.0282 0.0201

Neptune -111163-09-14 00:57 J -38880606.63 -38880606.46 -38880606.29 0.0089 0.0005

Saturn -111163-11-08 05:02 J -38880551.31 -38880551.29 -38880551.27 0.0283 0.0279

Neptune -111163-12-11 03:50 J -38880518.52 -38880518.34 -38880518.17 0.0089 0.0002

Mars   -111163-12-14 12:57 J -38880515.03 -38880514.96 -38880514.88 0.1757 0.1549

Neptune -111162-03-09 06:29 J -38880430.40 -38880430.23 -38880430.05 0.0089 0.0006

Neptune -111162-06-05 09:21 J -38880342.28 -38880342.11 -38880341.94 0.0089 0.0011

Neptune -111162-09-01 12:14 J -38880254.16 -38880253.99 -38880253.82 0.0089 0.0016

Mars   -111162-10-26 21:21 J -38880198.69 -38880198.61 -38880198.52 0.1755 0.1239

Neptune -111162-11-28 15:07 J -38880166.04 -38880165.87 -38880165.70 0.0089 0.0021

Neptune -111161-02-24 17:45 J -38880077.92 -38880077.76 -38880077.59 0.0089 0.0027

Neptune -111161-05-22 20:38 J -38879989.80 -38879989.64 -38879989.47 0.0089 0.0032

Neptune -111161-08-18 23:31 J -38879901.67 -38879901.52 -38879901.36 0.0089 0.0037

Neptune -111161-11-15 02:09 J -38879813.55 -38879813.41 -38879813.24 0.0089 0.0043

Neptune -111160-02-11 05:17 J -38879725.42 -38879725.28 -38879725.13 0.0089 0.0048

Neptune -111160-05-10 07:55 J -38879637.29 -38879637.17 -38879637.01 0.0089 0.0054

Neptune -111160-08-06 11:02 J -38879549.16 -38879549.04 -38879548.90 0.0089 0.0059

Neptune -111160-11-02 14:09 J -38879461.03 -38879460.91 -38879460.79 0.0089 0.0065

Moon -111160-11-10 23:17 J -38879452.69 -38879452.53 -38879452.38 0.2595 0.0401

Earth -111160-11-11 00:43 J -38879452.62 -38879452.47 -38879452.32 0.2591 0.0608 *

Uranus -111159-01-28 07:12 J -38879374.27 -38879374.20 -38879374.12 0.0147 0.0130

Neptune -111159-01-29 16:48 J -38879372.89 -38879372.80 -38879372.68 0.0089 0.0070

Uranus -111159-04-26 14:09 J -38879286.02 -38879285.91 -38879285.78 0.0147 0.0105

Neptune -111159-04-27 19:55 J -38879284.76 -38879284.67 -38879284.57 0.0089 0.0075

Jupiter -111159-06-18 17:31 J -38879232.90 -38879232.77 -38879232.64 0.0530 0.0181

Uranus -111159-07-23 21:21 J -38879197.75 -38879197.61 -38879197.46 0.0147 0.0078

Neptune -111159-07-24 22:33 J -38879196.61 -38879196.56 -38879196.47 0.0089 0.0081

Jupiter -111159-09-16 04:33 J -38879143.41 -38879143.31 -38879143.20 0.0531 0.0333

Uranus -111159-10-20 04:33 J -38879109.47 -38879109.31 -38879109.14 0.0147 0.0051

Neptune -111159-10-21 01:55 J -38879108.46 -38879108.42 -38879108.38 0.0089 0.0086

Uranus -111158-01-16 11:45 J -38879021.18 -38879021.01 -38879020.83 0.0147 0.0024

Uranus -111158-04-14 19:12 J -38878932.88 -38878932.70 -38878932.53 0.0147 0.0004

Uranus -111158-07-12 02:24 J -38878844.57 -38878844.40 -38878844.22 0.0147 0.0031

Uranus -111158-10-08 09:50 J -38878756.25 -38878756.09 -38878755.92 0.0147 0.0059

Uranus -111157-01-04 17:17 J -38878667.92 -38878667.78 -38878667.63 0.0147 0.0087

Uranus -111157-04-02 00:29 J -38878579.57 -38878579.48 -38878579.35 0.0147 0.0116

Pluto -111157-06-04 09:07 J -38878516.18 -38878516.12 -38878516.06 0.0084 0.0074

Uranus -111157-06-29 08:09 J -38878491.18 -38878491.16 -38878491.11 0.0147 0.0144

Pluto -111157-08-31 10:19 J -38878428.16 -38878428.07 -38878427.97 0.0084 0.0059

Pluto -111157-11-27 11:31 J -38878340.12 -38878340.02 -38878339.90 0.0084 0.0045

Pluto -111156-02-23 12:57 J -38878252.08 -38878251.96 -38878251.83 0.0084 0.0031

Moon -111156-05-13 18:29 J -38878172.81 -38878172.73 -38878172.65 0.2733 0.1961

Earth -111156-05-13 18:29 J -38878172.81 -38878172.73 -38878172.66 0.2740 0.2033 *

Pluto -111156-05-22 14:09 J -38878164.04 -38878163.91 -38878163.77 0.0084 0.0016

Pluto -111156-08-18 15:36 J -38878075.99 -38878075.85 -38878075.72 0.0084 0.0003

Pluto -111156-11-14 16:48 J -38877987.93 -38877987.80 -38877987.67 0.0084 0.0012

Pluto -111155-02-10 18:00 J -38877899.87 -38877899.75 -38877899.62 0.0084 0.0026

Pluto -111155-05-09 19:12 J -38877811.81 -38877811.70 -38877811.58 0.0083 0.0040

Mars -111155-05-29 22:05 J -38877791.64 -38877791.58 -38877791.51 0.1732 0.1538

Pluto -111155-08-05 20:24 J -38877723.74 -38877723.65 -38877723.54 0.0083 0.0054

Pluto -111155-11-01 21:36 J -38877635.67 -38877635.60 -38877635.52 0.0083 0.0068

Pluto -111154-01-28 22:33 J -38877547.56 -38877547.56 -38877547.52 0.0083 0.0082

Mars -111154-04-12 14:24 J -38877474.00 -38877473.90 -38877473.80 0.1780 0.1061

Jupiter -111153-05-04 11:31 J -38877086.19 -38877086.02 -38877085.85 0.0496 0.0006

Mars -111153-05-05 13:55 J -38877085.05 -38877084.92 -38877084.78 0.1752 0.0893

Mars -111152-03-18 06:00 J -38876768.36 -38876768.25 -38876768.14 0.1760 0.0813

Venus -111151-09-24 23:17 J -38876212.63 -38876212.53 -38876212.42 0.3744 0.1933

Saturn -111151-09-26 18:57 J -38876210.77 -38876210.71 -38876210.64 0.0286 0.0259

Saturn -111151-12-24 13:41 J -38876122.06 -38876121.93 -38876121.79 0.0285 0.0162

Saturn -111150-03-23 08:38 J -38876033.30 -38876033.14 -38876032.98 0.0284 0.0065

Moon -111150-05-23 15:36 J -38875971.93 -38875971.85 -38875971.76 0.2762 0.1688

Earth -111150-05-23 15:50 J -38875971.93 -38875971.84 -38875971.75 0.2755 0.1636 *

Saturn -111150-06-20 03:50 J -38875944.51 -38875944.34 -38875944.17 0.0283 0.0033

Saturn -111150-09-16 23:02 J -38875855.68 -38875855.54 -38875855.38 0.0282 0.0132

Saturn -111150-12-14 18:43 J -38875766.81 -38875766.72 -38875766.62 0.0281 0.0230

Jupiter -111147-04-06 20:09 J -38874922.77 -38874922.66 -38874922.55 0.0530 0.0311

Jupiter -111147-07-05 07:41 J -38874833.31 -38874833.18 -38874833.06 0.0531 0.0210

Moon -111147-11-14 05:45 J -38874701.33 -38874701.26 -38874701.18 0.2593 0.2248

Earth -111147-11-14 06:14 J -38874701.32 -38874701.24 -38874701.16 0.2587 0.2209 *

Venus -111145-04-09 22:48 J -38874188.68 -38874188.55 -38874188.43 0.3738 0.0337

Mars -111145-09-01 22:05 J -38874043.64 -38874043.58 -38874043.52 0.1785 0.1547

Mars -111144-09-25 15:21 J -38873655.01 -38873654.86 -38873654.70 0.1747 0.0264

Moon -111143-05-16 12:43 J -38873422.07 -38873421.97 -38873421.87 0.2738 0.1132

Earth -111143-05-16 12:57 J -38873422.06 -38873421.96 -38873421.85 0.2744 0.1064 *

Mars -111143-08-08 14:38 J -38873338.01 -38873337.89 -38873337.77 0.1765 0.0384

Jupiter -111141-02-21 11:45 J -38872776.17 -38872776.01 -38872775.85 0.0496 0.0130

Jupiter -111141-05-21 11:31 J -38872686.11 -38872686.02 -38872685.92 0.0495 0.0404

Venus -111140-10-24 22:33 J -38872164.65 -38872164.56 -38872164.47 0.3732 0.2669

Moon -111140-11-05 19:12 J -38872152.77 -38872152.70 -38872152.63 0.2595 0.2291

Earth -111140-11-05 20:24 J -38872152.73 -38872152.65 -38872152.57 0.2599 0.2241 *

Earth -111137-05-25 10:19 J -38871221.11 -38871221.07 -38871221.04 0.2758 0.2588

Moon -111137-05-25 10:33 J -38871221.10 -38871221.06 -38871221.02 0.2765 0.2561 *

Venus -111136-10-23 23:02 J -38870704.57 -38870704.54 -38870704.50 0.3630 0.3452

Jupiter -111135-01-23 23:17 J -38870612.61 -38870612.53 -38870612.45 0.0530 0.0435

Jupiter -111135-04-23 11:02 J -38870523.17 -38870523.04 -38870522.90 0.0531 0.0089

Saturn -111135-10-12 23:02 J -38870350.62 -38870350.54 -38870350.46 0.0275 0.0222

Saturn -111134-01-09 12:29 J -38870262.10 -38870261.98 -38870261.86 0.0276 0.0144

Mars -111134-02-15 17:31 J -38870224.92 -38870224.77 -38870224.62 0.1742 0.0341

Saturn -111134-04-08 01:55 J -38870173.56 -38870173.42 -38870173.28 0.0277 0.0065

Saturn -111134-07-05 15:07 J -38870085.02 -38870084.87 -38870084.73 0.0278 0.0015

Saturn -111134-10-02 04:05 J -38869996.46 -38869996.33 -38869996.20 0.0279 0.0092

Saturn -111134-12-29 17:02 J -38869907.90 -38869907.79 -38869907.68 0.0280 0.0170

Mars -111134-12-29 22:48 J -38869907.67 -38869907.55 -38869907.43 0.1770 0.0068

Saturn -111133-03-27 05:45 J -38869819.32 -38869819.26 -38869819.19 0.0282 0.0248

Mars -111132-12-04 12:43 J -38869202.00 -38869201.97 -38869201.95 0.1750 0.1691

Venus -111130-05-09 18:14 J -38868680.84 -38868680.74 -38868680.64 0.3635 0.1844

Moon -111130-05-19 06:57 J -38868671.32 -38868671.21 -38868671.10 0.2748 0.0158

Earth -111130-05-19 07:41 J -38868671.29 -38868671.18 -38868671.07 0.2748 0.0093 *

Jupiter -111130-12-10 11:31 J -38868466.16 -38868466.02 -38868465.87 0.0496 0.0260

Jupiter -111129-03-09 11:02 J -38868376.18 -38868376.04 -38868375.90 0.0495 0.0270

Moon -111127-11-09 00:00 J -38867401.64 -38867401.50 -38867401.35 0.2596 0.0863

Earth -111127-11-09 01:41 J -38867401.58 -38867401.43 -38867401.28 0.2595 0.0675 *

Mars -111125-07-07 19:55 J -38866794.80 -38866794.67 -38866794.54 0.1737 0.0922

Venus -111125-11-22 13:12 J -38866657.07 -38866656.95 -38866656.83 0.3640 0.0284

Mars -111124-05-21 06:43 J -38866477.33 -38866477.22 -38866477.10 0.1775 0.0537

Jupiter -111123-02-09 14:09 J -38866213.05 -38866212.91 -38866212.77 0.0530 0.0036

Jupiter -111123-05-10 00:57 J -38866123.52 -38866123.46 -38866123.40 0.0531 0.0474

Moon -111123-05-12 05:02 J -38866121.30 -38866121.29 -38866121.27 0.2732 0.2692

Mars -111123-06-14 13:26 J -38866088.00 -38866087.94 -38866087.87 0.1758 0.1607

Mars -111122-04-26 21:21 J -38865771.69 -38865771.61 -38865771.53 0.1755 0.1279

Saturn -111121-05-12 11:31 J -38865390.14 -38865390.02 -38865389.91 0.0285 0.0202

Saturn -111121-08-09 06:14 J -38865301.39 -38865301.24 -38865301.08 0.0284 0.0106

Saturn -111121-11-06 01:26 J -38865212.61 -38865212.44 -38865212.27 0.0283 0.0009

Saturn -111120-02-02 20:38 J -38865123.80 -38865123.64 -38865123.48 0.0282 0.0091

Saturn -111120-05-02 16:05 J -38865034.95 -38865034.83 -38865034.70 0.0281 0.0189

Uranus -111120-12-17 05:17 J -38864806.32 -38864806.28 -38864806.24 0.0132 0.0126

Uranus -111119-03-15 08:38 J -38864718.21 -38864718.14 -38864718.05 0.0132 0.0110

Venus -111119-06-08 07:55 J -38864633.27 -38864633.17 -38864633.06 0.3645 0.1249

Uranus -111119-06-11 12:14 J -38864630.08 -38864629.99 -38864629.88 0.0132 0.0093

Uranus -111119-09-07 16:05 J -38864541.95 -38864541.83 -38864541.72 0.0132 0.0077

Uranus -111119-12-04 19:26 J -38864453.81 -38864453.69 -38864453.56 0.0132 0.0061

Uranus -111118-03-02 23:02 J -38864365.67 -38864365.54 -38864365.41 0.0132 0.0044

Uranus -111118-05-30 02:24 J -38864277.53 -38864277.40 -38864277.26 0.0132 0.0029

Uranus -111118-08-26 06:00 J -38864189.39 -38864189.25 -38864189.11 0.0132 0.0012

Jupiter -111118-09-28 11:45 J -38864156.11 -38864156.01 -38864155.90 0.0497 0.0386

Uranus -111118-11-22 09:21 J -38864101.25 -38864101.11 -38864100.97 0.0132 0.0004

Jupiter -111118-12-27 10:48 J -38864066.21 -38864066.05 -38864065.89 0.0496 0.0139

Uranus -111117-02-18 12:43 J -38864013.11 -38864012.97 -38864012.83 0.0132 0.0019

Uranus -111117-05-16 16:05 J -38863924.96 -38863924.83 -38863924.69 0.0132 0.0035

Moon -111117-05-21 01:41 J -38863920.54 -38863920.43 -38863920.33 0.2756 0.0852

Earth -111117-05-21 02:09 J -38863920.51 -38863920.41 -38863920.30 0.2752 0.0875 *

Uranus -111117-08-12 19:26 J -38863836.81 -38863836.69 -38863836.56 0.0132 0.0050

Uranus -111117-11-08 22:48 J -38863748.67 -38863748.55 -38863748.42 0.0132 0.0066

Uranus -111116-02-05 02:09 J -38863660.52 -38863660.41 -38863660.30 0.0132 0.0081

Uranus -111116-05-04 05:31 J -38863572.36 -38863572.27 -38863572.17 0.0132 0.0096

Uranus -111116-07-31 08:53 J -38863484.20 -38863484.13 -38863484.06 0.0132 0.0111

Uranus -111116-10-27 12:00 J -38863396.03 -38863396.00 -38863395.96 0.0131 0.0126

Mars -111116-11-27 22:33 J -38863364.63 -38863364.56 -38863364.48 0.1732 0.1479

Mars -111115-10-11 14:38 J -38863046.99 -38863046.89 -38863046.79 0.1780 0.1011

Mars -111114-11-04 14:38 J -38862658.02 -38862657.89 -38862657.76 0.1752 0.0955

Moon -111114-11-12 06:00 J -38862650.40 -38862650.25 -38862650.11 0.2595 0.0929

Earth -111114-11-12 07:12 J -38862650.35 -38862650.20 -38862650.05 0.2591 0.0921 *

Venus -111114-12-23 02:38 J -38862609.47 -38862609.39 -38862609.32 0.3650 0.2727

Mars -111113-09-16 06:14 J -38862341.35 -38862341.24 -38862341.14 0.1760 0.0861

Jupiter -111112-11-28 16:48 J -38861902.94 -38861902.80 -38861902.67 0.0530 0.0169

Jupiter -111111-02-26 03:50 J -38861813.45 -38861813.34 -38861813.24 0.0531 0.0346

Moon -111110-05-14 23:17 J -38861370.61 -38861370.53 -38861370.45 0.2733 0.1911

Earth -111110-05-14 23:17 J -38861370.61 -38861370.53 -38861370.45 0.2741 0.1838 *

Jupiter -111106-10-15 10:48 J -38859756.22 -38859756.05 -38859755.88 0.0496 0.0013

Saturn -111105-03-01 00:00 J -38859618.55 -38859618.50 -38859618.43 0.0275 0.0249

Mars -111105-03-02 22:05 J -38859616.64 -38859616.58 -38859616.51 0.1785 0.1507

Saturn -111105-05-28 13:41 J -38859530.04 -38859529.93 -38859529.81 0.0276 0.0170

Saturn -111105-08-25 03:07 J -38859441.51 -38859441.37 -38859441.23 0.0277 0.0091

Saturn -111105-11-21 16:19 J -38859352.96 -38859352.82 -38859352.68 0.0278 0.0012

Saturn -111104-02-18 05:31 J -38859264.41 -38859264.27 -38859264.13 0.0279 0.0066

Mars -111104-03-26 16:05 J -38859227.98 -38859227.83 -38859227.68 0.1747 0.0323

Saturn -111104-05-17 18:29 J -38859175.85 -38859175.73 -38859175.61 0.0281 0.0144

Moon -111104-05-23 20:38 J -38859169.72 -38859169.64 -38859169.56 0.2763 0.1780

Earth -111104-05-23 20:38 J -38859169.72 -38859169.64 -38859169.56 0.2755 0.1830 *

Saturn -111104-08-14 07:12 J -38859087.28 -38859087.20 -38859087.11 0.0282 0.0223

Mars -111103-02-06 14:38 J -38858911.01 -38858910.89 -38858910.77 0.1765 0.0425

Moon -111101-11-14 12:57 J -38857899.01 -38857898.96 -38857898.92 0.2594 0.2454

Earth -111101-11-14 12:57 J -38857898.99 -38857898.96 -38857898.93 0.2587 0.2537 *

Jupiter -111100-09-16 19:26 J -38857592.81 -38857592.69 -38857592.58 0.0529 0.0298

Venus -111100-10-15 23:45 J -38857563.57 -38857563.51 -38857563.46 0.3748 0.3348

Jupiter -111100-12-15 06:43 J -38857503.34 -38857503.22 -38857503.09 0.0531 0.0221

Moon -111097-05-16 17:31 J -38856619.88 -38856619.77 -38856619.67 0.2740 0.0873

Earth -111097-05-16 18:00 J -38856619.86 -38856619.75 -38856619.65 0.2745 0.0870 *

Mars -111095-08-16 18:00 J -38855797.90 -38855797.75 -38855797.60 0.1742 0.0285

Venus -111094-05-01 22:48 J -38855539.67 -38855539.55 -38855539.43 0.3742 0.1158

Mars -111094-06-29 22:48 J -38855480.67 -38855480.55 -38855480.42 0.1770 0.0059

Jupiter -111094-08-03 10:33 J -38855446.22 -38855446.06 -38855445.90 0.0496 0.0119

Jupiter -111094-11-01 10:19 J -38855356.16 -38855356.07 -38855355.98 0.0495 0.0415

Moon -111094-11-07 01:26 J -38855350.54 -38855350.44 -38855350.35 0.2596 0.2033

Earth -111094-11-07 02:53 J -38855350.49 -38855350.38 -38855350.28 0.2599 0.1940 *

Mars -111092-06-04 12:29 J -38854774.99 -38854774.98 -38854774.96 0.1750 0.1727

Saturn -111092-09-29 11:31 J -38854658.11 -38854658.02 -38854657.92 0.0286 0.0232

Saturn -111092-12-27 06:14 J -38854569.38 -38854569.24 -38854569.09 0.0285 0.0135

Saturn -111091-03-26 01:12 J -38854480.61 -38854480.45 -38854480.28 0.0284 0.0038

Saturn -111091-06-22 20:38 J -38854391.81 -38854391.64 -38854391.48 0.0283 0.0061

Saturn -111091-09-19 15:50 J -38854302.97 -38854302.84 -38854302.69 0.0282 0.0160

Saturn -111091-12-17 11:31 J -38854214.07 -38854214.02 -38854213.95 0.0281 0.0258

Venus -111089-11-14 22:19 J -38853515.69 -38853515.57 -38853515.45 0.3736 0.1119

Jupiter -111088-07-05 21:50 J -38853282.67 -38853282.59 -38853282.51 0.0530 0.0431

Jupiter -111088-10-03 09:36 J -38853193.23 -38853193.10 -38853192.96 0.0531 0.0094

Mars -111085-01-06 20:09 J -38852367.79 -38852367.66 -38852367.53 0.1737 0.0871

Neptune -111085-02-26 17:02 J -38852316.81 -38852316.79 -38852316.76 0.0088 0.0087

Neptune -111085-05-24 18:43 J -38852228.76 -38852228.72 -38852228.65 0.0088 0.0083

Neptune -111085-08-20 20:53 J -38852140.70 -38852140.63 -38852140.56 0.0088 0.0078

Neptune -111085-11-16 22:33 J -38852052.63 -38852052.56 -38852052.47 0.0088 0.0073

Mars -111085-11-19 06:57 J -38852050.33 -38852050.21 -38852050.09 0.1775 0.0485

Neptune -111084-02-13 00:29 J -38851964.57 -38851964.48 -38851964.38 0.0088 0.0069

Neptune -111084-05-12 02:09 J -38851876.50 -38851876.41 -38851876.30 0.0088 0.0065

Moon -111084-05-19 11:45 J -38851869.12 -38851869.01 -38851868.90 0.2749 0.0070

Earth -111084-05-19 12:43 J -38851869.09 -38851868.97 -38851868.86 0.2749 0.0150 *

Neptune -111084-08-08 04:05 J -38851788.43 -38851788.33 -38851788.21 0.0088 0.0060

Neptune -111084-11-04 05:45 J -38851700.36 -38851700.26 -38851700.13 0.0088 0.0056

Mars -111084-12-13 13:55 J -38851660.96 -38851660.92 -38851660.87 0.1757 0.1665

Neptune -111083-01-31 07:55 J -38851612.29 -38851612.17 -38851612.05 0.0088 0.0051

Neptune -111083-04-29 09:21 J -38851524.22 -38851524.11 -38851523.97 0.0088 0.0047

Venus -111083-05-31 22:05 J -38851491.62 -38851491.58 -38851491.53 0.3731 0.3490

Neptune -111083-07-26 11:02 J -38851436.15 -38851436.04 -38851435.90 0.0088 0.0043

Neptune -111083-10-22 12:57 J -38851348.08 -38851347.96 -38851347.82 0.0088 0.0038

Mars -111083-10-25 21:36 J -38851344.68 -38851344.60 -38851344.53 0.1755 0.1323

Neptune -111082-01-18 14:38 J -38851260.01 -38851259.89 -38851259.74 0.0088 0.0034

Neptune -111082-04-16 16:33 J -38851171.94 -38851171.81 -38851171.67 0.0088 0.0029

Jupiter -111082-05-22 11:02 J -38851136.19 -38851136.04 -38851135.90 0.0496 0.0244

Neptune -111082-07-13 18:14 J -38851083.87 -38851083.74 -38851083.59 0.0088 0.0025

Jupiter -111082-08-20 10:19 J -38851046.21 -38851046.07 -38851045.93 0.0495 0.0285

Neptune -111082-10-09 20:09 J -38850995.80 -38850995.66 -38850995.52 0.0088 0.0020

Neptune -111081-01-05 21:50 J -38850907.73 -38850907.59 -38850907.44 0.0088 0.0016

Neptune -111081-04-02 23:31 J -38850819.66 -38850819.52 -38850819.37 0.0088 0.0012

Neptune -111081-06-30 01:26 J -38850731.59 -38850731.44 -38850731.30 0.0088 0.0007

Neptune -111081-09-26 03:07 J -38850643.52 -38850643.37 -38850643.23 0.0088 0.0003

Moon -111081-11-09 06:29 J -38850599.38 -38850599.23 -38850599.08 0.2597 0.0431

Earth -111081-11-09 08:09 J -38850599.32 -38850599.16 -38850599.01 0.2594 0.0362 *

Neptune -111081-12-23 04:48 J -38850555.45 -38850555.30 -38850555.16 0.0088 0.0002

Neptune -111080-03-21 06:29 J -38850467.37 -38850467.23 -38850467.09 0.0088 0.0006

Neptune -111080-06-17 08:09 J -38850379.30 -38850379.16 -38850379.02 0.0088 0.0010

Neptune -111080-09-13 09:50 J -38850291.23 -38850291.09 -38850290.95 0.0088 0.0015

Neptune -111080-12-10 11:31 J -38850203.16 -38850203.02 -38850202.88 0.0088 0.0019

Neptune -111079-03-08 13:12 J -38850115.09 -38850114.95 -38850114.81 0.0088 0.0023

Venus -111079-05-30 21:36 J -38850031.67 -38850031.60 -38850031.53 0.3632 0.2862

Neptune -111079-06-04 14:53 J -38850027.02 -38850026.88 -38850026.74 0.0088 0.0027

Neptune -111079-08-31 16:33 J -38849938.94 -38849938.81 -38849938.68 0.0088 0.0031

Neptune -111079-11-27 18:14 J -38849850.87 -38849850.74 -38849850.61 0.0088 0.0036

Neptune -111078-02-23 19:41 J -38849762.80 -38849762.68 -38849762.55 0.0088 0.0040

Neptune -111078-05-22 21:21 J -38849674.73 -38849674.61 -38849674.48 0.0088 0.0044

Neptune -111078-08-18 23:02 J -38849586.66 -38849586.54 -38849586.42 0.0088 0.0048

Neptune -111078-11-15 00:43 J -38849498.58 -38849498.47 -38849498.35 0.0088 0.0052

Neptune -111077-02-11 02:24 J -38849410.51 -38849410.40 -38849410.29 0.0088 0.0057

Neptune -111077-05-09 03:50 J -38849322.44 -38849322.34 -38849322.23 0.0088 0.0061

Earth -111077-05-12 09:36 J -38849319.13 -38849319.10 -38849319.07 0.2737 0.2620

Moon -111077-05-12 09:50 J -38849319.12 -38849319.09 -38849319.06 0.2731 0.2627 *

Neptune -111077-08-05 05:31 J -38849234.36 -38849234.27 -38849234.17 0.0088 0.0065

Neptune -111077-11-01 06:57 J -38849146.29 -38849146.21 -38849146.11 0.0088 0.0069

Neptune -111076-01-28 08:24 J -38849058.21 -38849058.15 -38849058.05 0.0088 0.0074

Neptune -111076-04-26 10:05 J -38848970.13 -38848970.08 -38848970.00 0.0088 0.0077

Mars -111076-05-28 23:02 J -38848937.62 -38848937.54 -38848937.45 0.1732 0.1425

Jupiter -111076-07-22 12:57 J -38848883.10 -38848882.96 -38848882.82 0.0531 0.0028

Neptune -111076-07-23 11:45 J -38848882.05 -38848882.01 -38848881.95 0.0088 0.0081

Saturn -111076-10-15 14:24 J -38848798.00 -38848797.90 -38848797.80 0.0275 0.0199

Neptune -111076-10-19 13:12 J -38848793.97 -38848793.95 -38848793.90 0.0088 0.0086

Jupiter -111076-10-19 23:45 J -38848793.56 -38848793.51 -38848793.45 0.0532 0.0484

Saturn -111075-01-12 03:50 J -38848709.47 -38848709.34 -38848709.21 0.0276 0.0120

Uranus -111075-02-17 13:26 J -38848673.02 -38848672.94 -38848672.85 0.0146 0.0128

Saturn -111075-04-10 17:02 J -38848620.93 -38848620.79 -38848620.64 0.0277 0.0043

Mars -111075-04-11 14:38 J -38848619.99 -38848619.89 -38848619.78 0.1780 0.0967

Uranus -111075-05-16 20:24 J -38848584.77 -38848584.65 -38848584.52 0.0147 0.0102

Saturn -111075-07-08 06:14 J -38848532.38 -38848532.24 -38848532.10 0.0278 0.0037

Uranus -111075-08-13 03:21 J -38848496.50 -38848496.36 -38848496.20 0.0147 0.0076

Saturn -111075-10-04 19:12 J -38848443.82 -38848443.70 -38848443.57 0.0279 0.0114

Uranus -111075-11-09 10:48 J -38848408.21 -38848408.05 -38848407.88 0.0147 0.0048

Saturn -111074-01-01 08:09 J -38848355.26 -38848355.16 -38848355.06 0.0280 0.0192

Uranus -111074-02-05 18:00 J -38848319.92 -38848319.75 -38848319.57 0.0147 0.0022

Saturn -111074-03-30 21:07 J -38848266.66 -38848266.62 -38848266.59 0.0281 0.0269

Uranus -111074-05-05 01:12 J -38848231.62 -38848231.45 -38848231.27 0.0147 0.0007

Mars -111074-05-05 14:53 J -38848231.00 -38848230.88 -38848230.75 0.1752 0.1007

Uranus -111074-08-01 08:38 J -38848143.31 -38848143.14 -38848142.97 0.0147 0.0033

Uranus -111074-10-28 15:50 J -38848054.99 -38848054.84 -38848054.67 0.0147 0.0061

Venus -111074-12-14 16:33 J -38848007.92 -38848007.81 -38848007.70 0.3637 0.1278

Uranus -111073-01-24 23:17 J -38847966.66 -38847966.53 -38847966.38 0.0147 0.0089

Mars -111073-03-17 06:14 J -38847914.35 -38847914.24 -38847914.14 0.1760 0.0903

Uranus -111073-04-22 06:43 J -38847878.31 -38847878.22 -38847878.10 0.0147 0.0117

Uranus -111073-07-19 14:24 J -38847789.91 -38847789.90 -38847789.87 0.0147 0.0146

Moon -111071-05-22 06:43 J -38847118.32 -38847118.22 -38847118.12 0.2758 0.1036

Earth -111071-05-22 07:12 J -38847118.30 -38847118.20 -38847118.10 0.2752 0.1064 *

Jupiter -111070-03-10 11:02 J -38846826.15 -38846826.04 -38846825.93 0.0497 0.0373

Jupiter -111070-06-08 09:50 J -38846736.25 -38846736.09 -38846735.93 0.0495 0.0152

Venus -111068-06-29 11:31 J -38845984.13 -38845984.02 -38845983.90 0.3641 0.0276

Moon -111068-11-12 12:57 J -38845848.10 -38845847.96 -38845847.82 0.2596 0.1103

Earth -111068-11-12 13:41 J -38845848.07 -38845847.93 -38845847.79 0.2590 0.1239 *

Mars -111066-09-01 22:19 J -38845189.64 -38845189.57 -38845189.50 0.1785 0.1453

Mars -111065-09-24 16:33 J -38844800.96 -38844800.81 -38844800.66 0.1747 0.0389

Jupiter -111064-05-10 16:05 J -38844572.96 -38844572.83 -38844572.70 0.0530 0.0152

Moon -111064-05-15 04:05 J -38844568.42 -38844568.33 -38844568.24 0.2734 0.1598

Earth -111064-05-15 04:19 J -38844568.41 -38844568.32 -38844568.23 0.2741 0.1649 *

Mars -111064-08-07 14:38 J -38844484.01 -38844483.89 -38844483.77 0.1765 0.0471

Jupiter -111064-08-08 03:07 J -38844483.46 -38844483.37 -38844483.27 0.0531 0.0363

Venus -111062-01-13 06:14 J -38843960.34 -38843960.24 -38843960.14 0.3646 0.1778

Saturn -111062-02-16 08:53 J -38843926.17 -38843926.13 -38843926.08 0.0286 0.0273

Saturn -111062-05-16 03:36 J -38843837.48 -38843837.35 -38843837.22 0.0285 0.0177

Saturn -111062-08-12 22:33 J -38843748.72 -38843748.56 -38843748.40 0.0284 0.0080

Saturn -111062-11-09 17:45 J -38843659.93 -38843659.76 -38843659.59 0.0283 0.0019

Saturn -111061-02-06 12:57 J -38843571.11 -38843570.96 -38843570.80 0.0282 0.0117

Saturn -111061-05-05 08:38 J -38843482.25 -38843482.14 -38843482.03 0.0281 0.0216

Jupiter -111058-03-27 09:50 J -38842426.26 -38842426.09 -38842425.92 0.0496 0.0025

Earth -111058-05-25 01:41 J -38842367.51 -38842367.43 -38842367.36 0.2756 0.2020

Moon -111058-05-25 01:41 J -38842367.50 -38842367.43 -38842367.36 0.2763 0.2071 *

Venus -111057-07-29 00:43 J -38841936.52 -38841936.47 -38841936.42 0.3651 0.3248

Mars -111055-02-14 18:29 J -38841370.88 -38841370.73 -38841370.58 0.1742 0.0226

Mars -111055-12-28 23:02 J -38841053.67 -38841053.54 -38841053.42 0.1770 0.0030

Jupiter -111052-02-26 18:29 J -38840262.84 -38840262.73 -38840262.61 0.0529 0.0285

Jupiter -111052-05-27 06:00 J -38840173.37 -38840173.25 -38840173.13 0.0531 0.0235

Moon -111051-05-17 22:19 J -38839817.68 -38839817.57 -38839817.47 0.2743 0.0817

Earth -111051-05-17 23:02 J -38839817.65 -38839817.54 -38839817.44 0.2745 0.0684 *

Moon -111048-11-07 07:41 J -38838548.29 -38838548.18 -38838548.07 0.2598 0.1803

Earth -111048-11-07 09:21 J -38838548.23 -38838548.11 -38838547.99 0.2598 0.1631 *

Jupiter -111046-01-13 09:50 J -38838116.26 -38838116.09 -38838115.93 0.0496 0.0106

Saturn -111046-03-04 15:21 J -38838065.94 -38838065.86 -38838065.77 0.0275 0.0226

Jupiter -111046-04-13 09:36 J -38838026.18 -38838026.10 -38838026.01 0.0495 0.0431

Saturn -111046-06-01 04:48 J -38837977.42 -38837977.30 -38837977.17 0.0276 0.0148

Mars -111046-07-07 20:38 J -38837940.77 -38837940.64 -38837940.50 0.1737 0.0813

Saturn -111046-08-28 18:14 J -38837888.88 -38837888.74 -38837888.60 0.0277 0.0069

Saturn -111046-11-25 07:26 J -38837800.33 -38837800.19 -38837800.05 0.0278 0.0009

Saturn -111045-02-21 20:24 J -38837711.78 -38837711.65 -38837711.51 0.0279 0.0088

Mars -111045-05-20 06:57 J -38837623.33 -38837623.21 -38837623.09 0.1775 0.0445

Saturn -111045-05-20 09:21 J -38837623.22 -38837623.11 -38837622.99 0.0280 0.0165 *

Saturn -111045-08-16 22:19 J -38837534.64 -38837534.57 -38837534.50 0.0281 0.0242

Mars -111044-06-13 14:38 J -38837233.92 -38837233.89 -38837233.87 0.1757 0.1725

Mars -111043-04-25 21:36 J -38836917.68 -38836917.60 -38836917.53 0.1755 0.1362

Venus -111043-05-22 23:02 J -38836890.63 -38836890.54 -38836890.45 0.3746 0.2591

Jupiter -111041-12-15 21:07 J -38835952.70 -38835952.62 -38835952.53 0.0529 0.0415

Jupiter -111040-03-15 08:53 J -38835863.26 -38835863.13 -38835862.99 0.0531 0.0110

Moon -111038-05-20 16:48 J -38835066.91 -38835066.80 -38835066.69 0.2751 0.0273

Earth -111038-05-20 17:31 J -38835066.88 -38835066.77 -38835066.66 0.2749 0.0291 *

Venus -111038-12-06 22:19 J -38834866.70 -38834866.57 -38834866.44 0.3740 0.0387

Mars -111037-11-26 23:31 J -38834510.61 -38834510.52 -38834510.43 0.1732 0.1371

Mars -111036-10-10 14:53 J -38834192.99 -38834192.88 -38834192.77 0.1780 0.0917

Uranus -111035-01-06 11:31 J -38834105.06 -38834105.02 -38834104.96 0.0133 0.0124

Uranus -111035-04-04 15:21 J -38834016.94 -38834016.86 -38834016.78 0.0132 0.0108

Uranus -111035-07-01 18:43 J -38833928.81 -38833928.72 -38833928.61 0.0132 0.0092

Uranus -111035-09-27 22:19 J -38833840.68 -38833840.57 -38833840.45 0.0132 0.0075

Jupiter -111035-11-01 09:50 J -38833806.23 -38833806.09 -38833805.94 0.0496 0.0232

Mars -111035-11-03 15:36 J -38833803.97 -38833803.85 -38833803.73 0.1752 0.1075

Moon -111035-11-10 13:12 J -38833797.11 -38833796.95 -38833796.80 0.2597 0.0200

Earth -111035-11-10 14:38 J -38833797.05 -38833796.89 -38833796.74 0.2594 0.0075 *

Uranus -111035-12-25 01:55 J -38833752.54 -38833752.42 -38833752.29 0.0132 0.0059

Jupiter -111034-01-30 09:21 J -38833716.25 -38833716.11 -38833715.98 0.0495 0.0298

Uranus -111034-03-23 05:31 J -38833664.40 -38833664.27 -38833664.13 0.0132 0.0043

Uranus -111034-06-19 08:53 J -38833576.26 -38833576.13 -38833575.98 0.0132 0.0027

Uranus -111034-09-15 12:29 J -38833488.12 -38833487.98 -38833487.84 0.0132 0.0011

Mars -111034-09-16 06:14 J -38833487.34 -38833487.24 -38833487.14 0.1760 0.0944

Uranus -111034-12-12 15:50 J -38833399.98 -38833399.84 -38833399.70 0.0132 0.0006

Uranus -111033-03-09 19:12 J -38833311.83 -38833311.70 -38833311.55 0.0132 0.0021

Uranus -111033-06-05 22:33 J -38833223.69 -38833223.56 -38833223.42 0.0132 0.0037

Uranus -111033-09-02 02:09 J -38833135.54 -38833135.41 -38833135.28 0.0132 0.0052

Saturn -111033-10-02 03:21 J -38833105.48 -38833105.36 -38833105.25 0.0286 0.0209

Uranus -111033-11-29 05:31 J -38833047.39 -38833047.27 -38833047.15 0.0132 0.0067

Saturn -111033-12-29 22:05 J -38833016.73 -38833016.58 -38833016.43 0.0285 0.0112

Uranus -111032-02-25 08:38 J -38832959.24 -38832959.14 -38832959.03 0.0132 0.0083

Saturn -111032-03-28 17:17 J -38832927.95 -38832927.78 -38832927.62 0.0284 0.0016

Uranus -111032-05-24 12:00 J -38832871.09 -38832871.00 -38832870.90 0.0132 0.0098

Venus -111032-06-21 21:50 J -38832842.70 -38832842.59 -38832842.48 0.3735 0.1911

Saturn -111032-06-25 12:29 J -38832839.14 -38832838.98 -38832838.82 0.0283 0.0085

Uranus -111032-08-20 15:21 J -38832782.93 -38832782.86 -38832782.79 0.0132 0.0113

Saturn -111032-09-22 07:55 J -38832750.29 -38832750.17 -38832750.03 0.0282 0.0184

Uranus -111032-11-16 18:29 J -38832694.75 -38832694.73 -38832694.69 0.0132 0.0128

Moon -111031-05-13 14:38 J -38832516.95 -38832516.89 -38832516.84 0.2730 0.2398

Earth -111031-05-13 14:24 J -38832516.95 -38832516.90 -38832516.85 0.2738 0.2433 *

Jupiter -111028-01-01 11:45 J -38831553.15 -38831553.01 -38831552.88 0.0531 0.0028

Jupiter -111028-03-31 22:33 J -38831463.61 -38831463.56 -38831463.51 0.0532 0.0489

Mars -111026-03-02 22:33 J -38830762.64 -38830762.56 -38830762.49 0.1785 0.1405

Mars -111025-03-25 16:48 J -38830373.94 -38830373.80 -38830373.65 0.1747 0.0438

Moon -111025-05-22 11:45 J -38830316.11 -38830316.01 -38830315.91 0.2760 0.1208

Earth -111025-05-22 12:00 J -38830316.10 -38830316.00 -38830315.90 0.2753 0.1253 *

Mars -111024-02-05 14:53 J -38830057.00 -38830056.88 -38830056.76 0.1765 0.0514

Jupiter -111023-08-20 10:33 J -38829496.18 -38829496.06 -38829495.95 0.0496 0.0354

Jupiter -111023-11-18 09:21 J -38829406.27 -38829406.11 -38829405.95 0.0495 0.0170

Venus -111022-01-04 19:55 J -38829358.76 -38829358.67 -38829358.58 0.3633 0.2291

Moon -111022-11-13 19:41 J -38829045.80 -38829045.68 -38829045.56 0.2596 0.1596

Earth -111022-11-13 20:09 J -38829045.79 -38829045.66 -38829045.54 0.2590 0.1553 *

Moon -111018-05-16 08:53 J -38827766.23 -38827766.13 -38827766.04 0.2736 0.1540

Earth -111018-05-16 09:07 J -38827766.21 -38827766.12 -38827766.02 0.2742 0.1456 *

Venus -111017-07-20 14:53 J -38827334.99 -38827334.88 -38827334.76 0.3638 0.0719

Saturn -111017-07-21 16:19 J -38827333.87 -38827333.82 -38827333.76 0.0274 0.0253

Saturn -111017-10-18 05:45 J -38827245.37 -38827245.26 -38827245.14 0.0275 0.0176

Jupiter -111017-10-20 14:53 J -38827243.01 -38827242.88 -38827242.75 0.0531 0.0144

Saturn -111016-01-14 19:12 J -38827156.84 -38827156.70 -38827156.56 0.0276 0.0098

Jupiter -111016-01-18 02:09 J -38827153.51 -38827153.41 -38827153.32 0.0532 0.0372

Saturn -111016-04-13 08:24 J -38827068.29 -38827068.15 -38827068.01 0.0277 0.0020

Saturn -111016-07-10 21:21 J -38826979.75 -38826979.61 -38826979.47 0.0278 0.0058

Mars -111016-08-15 18:57 J -38826943.87 -38826943.71 -38826943.56 0.1742 0.0176

Saturn -111016-10-07 10:19 J -38826891.19 -38826891.07 -38826890.94 0.0279 0.0135

Saturn -111015-01-03 23:17 J -38826802.62 -38826802.53 -38826802.44 0.0280 0.0212

Mars -111015-06-28 23:02 J -38826626.66 -38826626.54 -38826626.41 0.1770 0.0080

Earth -111012-05-25 06:29 J -38825565.29 -38825565.23 -38825565.16 0.2756 0.2210

Moon -111012-05-25 06:57 J -38825565.27 -38825565.21 -38825565.15 0.2762 0.2249 *

Venus -111011-02-03 09:50 J -38825311.20 -38825311.09 -38825310.98 0.3643 0.0822

Jupiter -111011-06-08 10:33 J -38825186.09 -38825186.06 -38825186.02 0.0497 0.0482

Jupiter -111011-09-06 08:53 J -38825096.29 -38825096.13 -38825095.96 0.0495 0.0040

Mars -111006-01-05 21:21 J -38823513.75 -38823513.61 -38823513.48 0.1737 0.0752

Venus -111006-08-20 04:33 J -38823287.40 -38823287.31 -38823287.23 0.3648 0.2317

Mars -111006-11-19 07:12 J -38823196.32 -38823196.20 -38823196.08 0.1775 0.0396

Moon -111005-05-18 03:07 J -38823015.48 -38823015.37 -38823015.26 0.2744 0.0487

Earth -111005-05-18 03:50 J -38823015.45 -38823015.34 -38823015.23 0.2746 0.0483 *

Jupiter -111005-08-08 18:00 J -38822932.87 -38822932.75 -38822932.63 0.0530 0.0269

Jupiter -111005-11-06 05:31 J -38822843.39 -38822843.27 -38822843.15 0.0531 0.0251

Mars -111004-10-24 21:36 J -38822490.67 -38822490.60 -38822490.53 0.1755 0.1405

Saturn -111003-02-19 00:29 J -38822373.55 -38822373.48 -38822373.40 0.0286 0.0251

Saturn -111003-05-18 19:12 J -38822284.83 -38822284.70 -38822284.56 0.0285 0.0155

Saturn -111003-08-15 14:09 J -38822196.07 -38822195.91 -38822195.74 0.0284 0.0057

Pluto -111003-09-11 20:38 J -38822168.69 -38822168.64 -38822168.55 0.0060 0.0056

Saturn -111003-11-12 09:21 J -38822107.27 -38822107.11 -38822106.94 0.0283 0.0042

Pluto -111003-12-08 22:19 J -38822080.68 -38822080.57 -38822080.45 0.0060 0.0048

Saturn -111002-02-09 04:48 J -38822018.44 -38822018.30 -38822018.15 0.0282 0.0141

Pluto -111002-03-06 23:31 J -38821992.65 -38821992.52 -38821992.36 0.0060 0.0041

Neptune -111002-05-05 02:38 J -38821933.40 -38821933.39 -38821933.35 0.0089 0.0088

Saturn -111002-05-09 00:29 J -38821929.56 -38821929.48 -38821929.38 0.0281 0.0240

Pluto -111002-06-03 01:12 J -38821904.61 -38821904.45 -38821904.29 0.0060 0.0033

Neptune -111002-08-01 05:17 J -38821845.33 -38821845.28 -38821845.21 0.0089 0.0083

Pluto -111002-08-30 02:09 J -38821816.57 -38821816.41 -38821816.21 0.0060 0.0027

Neptune -111002-10-28 07:55 J -38821757.24 -38821757.17 -38821757.08 0.0089 0.0078

Moon -111002-11-08 13:55 J -38821746.05 -38821745.92 -38821745.78 0.2599 0.1365

Earth -111002-11-08 15:36 J -38821745.98 -38821745.85 -38821745.71 0.2598 0.1323 *

Pluto -111002-11-26 03:50 J -38821728.52 -38821728.34 -38821728.15 0.0060 0.0019

Neptune -111001-01-24 10:33 J -38821669.15 -38821669.06 -38821668.96 0.0089 0.0073

Pluto -111001-02-22 05:31 J -38821640.46 -38821640.27 -38821640.08 0.0060 0.0011

Neptune -111001-04-21 13:12 J -38821581.05 -38821580.95 -38821580.84 0.0089 0.0068

Pluto -111001-05-20 06:43 J -38821552.41 -38821552.22 -38821552.02 0.0060 0.0004

Neptune -111001-07-18 15:50 J -38821492.95 -38821492.84 -38821492.71 0.0089 0.0063

Pluto -111001-08-16 08:09 J -38821464.35 -38821464.16 -38821463.96 0.0060 0.0005

Neptune -111001-10-14 18:29 J -38821404.85 -38821404.73 -38821404.59 0.0089 0.0058

Pluto -111001-11-12 09:36 J -38821376.29 -38821376.10 -38821375.90 0.0060 0.0012

111TH MILLENNIUM BCE

This is a list of transits of Mercury in the 111th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Neptune -111000-01-10 21:07 J -38821316.75 -38821316.62 -38821316.48 0.0089 0.0053

Pluto -111000-02-08 11:02 J -38821288.22 -38821288.04 -38821287.85 0.0061 0.0020

Neptune -111000-04-08 23:45 J -38821228.64 -38821228.51 -38821228.36 0.0089 0.0048

Pluto -111000-05-07 12:14 J -38821200.15 -38821199.99 -38821199.80 0.0061 0.0028

Neptune -111000-07-06 02:24 J -38821140.54 -38821140.40 -38821140.24 0.0089 0.0043

Pluto -111000-08-03 13:41 J -38821112.07 -38821111.93 -38821111.76 0.0061 0.0036

Neptune -111000-10-02 05:17 J -38821052.43 -38821052.28 -38821052.12 0.0089 0.0038

Pluto -111000-10-30 15:21 J -38821023.99 -38821023.86 -38821023.72 0.0061 0.0043

Neptune -111000-12-29 07:55 J -38820964.32 -38820964.17 -38820964.00 0.0089 0.0033

Pluto -110999-01-26 16:33 J -38820935.90 -38820935.81 -38820935.69 0.0061 0.0051

Neptune -110999-03-27 10:33 J -38820876.21 -38820876.06 -38820875.89 0.0089 0.0028

Pluto -110999-04-24 17:45 J -38820847.78 -38820847.76 -38820847.69 0.0061 0.0059

Neptune -110999-06-23 13:26 J -38820788.10 -38820787.94 -38820787.77 0.0089 0.0022

Jupiter -110999-06-25 08:53 J -38820786.29 -38820786.13 -38820785.96 0.0496 0.0093

Neptune -110999-09-19 16:19 J -38820699.99 -38820699.82 -38820699.65 0.0089 0.0017

Jupiter -110999-09-23 08:38 J -38820696.21 -38820696.14 -38820696.06 0.0495 0.0444

Neptune -110999-12-16 18:57 J -38820611.88 -38820611.71 -38820611.54 0.0089 0.0012

Neptune -110998-03-14 21:50 J -38820523.76 -38820523.59 -38820523.42 0.0089 0.0007

Neptune -110998-06-11 00:29 J -38820435.65 -38820435.48 -38820435.30 0.0089 0.0003

Neptune -110998-09-07 03:21 J -38820347.53 -38820347.36 -38820347.19 0.0089 0.0004

Neptune -110998-12-04 06:14 J -38820259.42 -38820259.24 -38820259.07 0.0089 0.0009

Neptune -110997-03-01 08:53 J -38820171.30 -38820171.13 -38820170.95 0.0089 0.0015

Mars -110997-05-28 00:00 J -38820083.60 -38820083.50 -38820083.41 0.1732 0.1316

Neptune -110997-05-28 11:45 J -38820083.18 -38820083.01 -38820082.84 0.0089 0.0020

Neptune -110997-08-24 14:38 J -38819995.06 -38819994.89 -38819994.72 0.0089 0.0025

Neptune -110997-11-20 17:17 J -38819906.93 -38819906.78 -38819906.60 0.0089 0.0031

Neptune -110996-02-16 20:09 J -38819818.81 -38819818.66 -38819818.49 0.0089 0.0036

Mars -110996-04-10 14:53 J -38819765.99 -38819765.88 -38819765.77 0.1780 0.0874

Neptune -110996-05-15 23:17 J -38819730.69 -38819730.53 -38819730.38 0.0089 0.0041

Neptune -110996-08-12 01:55 J -38819642.56 -38819642.42 -38819642.26 0.0089 0.0047

Neptune -110996-11-08 04:48 J -38819554.43 -38819554.30 -38819554.15 0.0089 0.0052

Neptune -110995-02-04 07:41 J -38819466.30 -38819466.18 -38819466.03 0.0089 0.0058

Neptune -110995-05-03 10:33 J -38819378.17 -38819378.06 -38819377.92 0.0089 0.0063

Mars -110995-05-04 16:05 J -38819376.94 -38819376.83 -38819376.71 0.1752 0.1132

Neptune -110995-07-30 13:55 J -38819290.04 -38819289.92 -38819289.81 0.0089 0.0069

Neptune -110995-10-26 16:33 J -38819201.90 -38819201.81 -38819201.70 0.0089 0.0074

Neptune -110994-01-22 19:41 J -38819113.76 -38819113.68 -38819113.60 0.0089 0.0079

Mars -110994-03-17 06:29 J -38819060.34 -38819060.23 -38819060.13 0.1760 0.0989

Neptune -110994-04-20 22:19 J -38819025.60 -38819025.57 -38819025.50 0.0089 0.0085

Jupiter -110993-05-27 20:38 J -38818622.73 -38818622.64 -38818622.55 0.0529 0.0400

Jupiter -110993-08-25 08:24 J -38818533.29 -38818533.15 -38818533.02 0.0531 0.0123

Moon -110992-05-20 21:50 J -38818264.70 -38818264.59 -38818264.48 0.2754 0.0375

Earth -110992-05-20 22:19 J -38818264.67 -38818264.57 -38818264.46 0.2749 0.0494 *

Uranus -110991-03-09 20:24 J -38817971.74 -38817971.65 -38817971.55 0.0146 0.0123

Uranus -110991-06-06 03:21 J -38817883.48 -38817883.36 -38817883.22 0.0146 0.0097

Uranus -110991-09-02 10:19 J -38817795.21 -38817795.07 -38817794.91 0.0147 0.0071

Uranus -110991-11-29 17:31 J -38817706.93 -38817706.77 -38817706.59 0.0147 0.0044

Uranus -110990-02-26 00:57 J -38817618.64 -38817618.46 -38817618.29 0.0147 0.0016

Uranus -110990-05-25 08:09 J -38817530.33 -38817530.16 -38817529.98 0.0147 0.0011

Uranus -110990-08-21 15:21 J -38817442.02 -38817441.86 -38817441.68 0.0147 0.0039

Uranus -110990-11-17 22:48 J -38817353.70 -38817353.55 -38817353.38 0.0147 0.0066

Uranus -110989-02-14 06:14 J -38817265.37 -38817265.24 -38817265.10 0.0147 0.0094

Uranus -110989-05-12 13:41 J -38817177.02 -38817176.93 -38817176.82 0.0147 0.0123

Moon -110989-11-10 19:55 J -38816994.82 -38816994.67 -38816994.51 0.2598 0.0178

Earth -110989-11-10 21:07 J -38816994.78 -38816994.62 -38816994.47 0.2593 0.0268 *

Saturn -110987-03-07 06:43 J -38816513.32 -38816513.22 -38816513.12 0.0275 0.0203

Jupiter -110987-04-13 09:07 J -38816476.27 -38816476.12 -38816475.97 0.0496 0.0219

Saturn -110987-06-03 20:09 J -38816424.79 -38816424.66 -38816424.53 0.0276 0.0125

Jupiter -110987-07-12 08:24 J -38816386.28 -38816386.15 -38816386.01 0.0495 0.0313

Saturn -110987-08-31 09:21 J -38816336.25 -38816336.11 -38816335.97 0.0277 0.0047

Mars -110987-08-31 22:33 J -38816335.64 -38816335.56 -38816335.48 0.1785 0.1361

Saturn -110987-11-27 22:33 J -38816247.70 -38816247.56 -38816247.42 0.0278 0.0031

Venus -110987-12-27 22:33 J -38816217.67 -38816217.56 -38816217.45 0.3745 0.1835

Saturn -110986-02-24 11:31 J -38816159.15 -38816159.02 -38816158.89 0.0279 0.0108

Saturn -110986-05-24 00:29 J -38816070.59 -38816070.48 -38816070.38 0.0280 0.0186

Saturn -110986-08-20 13:12 J -38815982.00 -38815981.95 -38815981.90 0.0281 0.0263

Mars -110986-09-24 17:31 J -38815946.92 -38815946.77 -38815946.62 0.1747 0.0499

Moon -110985-05-13 19:26 J -38815714.76 -38815714.69 -38815714.63 0.2731 0.2235

Earth -110985-05-13 19:26 J -38815714.75 -38815714.69 -38815714.63 0.2738 0.2240 *

Mars -110985-08-06 14:53 J -38815630.00 -38815629.88 -38815629.76 0.1765 0.0555

Jupiter -110981-06-13 11:02 J -38814223.17 -38814223.04 -38814222.90 0.0530 0.0018

Venus -110981-07-12 21:36 J -38814193.72 -38814193.60 -38814193.47 0.3739 0.0406

Jupiter -110981-09-10 21:50 J -38814133.62 -38814133.59 -38814133.54 0.0532 0.0504

Moon -110979-05-23 16:48 J -38813513.89 -38813513.80 -38813513.71 0.2760 0.1481

Earth -110979-05-23 17:02 J -38813513.89 -38813513.79 -38813513.70 0.2753 0.1448 *

Mars -110976-02-13 19:26 J -38812516.85 -38812516.69 -38812516.54 0.1742 0.0119

Moon -110976-11-14 02:24 J -38812243.51 -38812243.40 -38812243.29 0.2596 0.1823

Earth -110976-11-14 02:38 J -38812243.50 -38812243.39 -38812243.28 0.2589 0.1871 *

Mars -110976-12-27 23:02 J -38812199.66 -38812199.54 -38812199.41 0.1770 0.0127

Venus -110975-01-26 21:21 J -38812169.69 -38812169.61 -38812169.52 0.3733 0.2722

Jupiter -110975-01-30 09:21 J -38812166.22 -38812166.11 -38812165.98 0.0496 0.0343

Jupiter -110975-04-30 08:24 J -38812076.31 -38812076.15 -38812075.99 0.0495 0.0183

Saturn -110974-07-09 00:00 J -38811641.52 -38811641.50 -38811641.47 0.0287 0.0283

Saturn -110974-10-05 18:43 J -38811552.84 -38811552.72 -38811552.59 0.0286 0.0187

Saturn -110973-01-02 13:41 J -38811464.09 -38811463.93 -38811463.77 0.0285 0.0089

Saturn -110973-03-31 08:53 J -38811375.30 -38811375.13 -38811374.96 0.0284 0.0009

Saturn -110973-06-28 04:19 J -38811286.48 -38811286.32 -38811286.16 0.0283 0.0108

Saturn -110973-09-25 00:00 J -38811197.62 -38811197.50 -38811197.39 0.0282 0.0207

Moon -110972-05-16 13:26 J -38810964.04 -38810963.94 -38810963.84 0.2738 0.1300

Earth -110972-05-16 14:09 J -38810964.01 -38810963.91 -38810963.81 0.2742 0.1266 *

Venus -110971-01-25 23:02 J -38810709.58 -38810709.54 -38810709.49 0.3630 0.3312

Jupiter -110969-04-01 13:26 J -38809913.07 -38809912.94 -38809912.80 0.0531 0.0140

Jupiter -110969-06-30 00:43 J -38809823.56 -38809823.47 -38809823.37 0.0532 0.0377

Moon -110969-11-05 15:21 J -38809694.86 -38809694.86 -38809694.85 0.2600 0.2593

Earth -110969-11-05 17:02 J -38809694.81 -38809694.79 -38809694.77 0.2601 0.2576

Mars -110967-07-06 21:36 J -38809086.74 -38809086.60 -38809086.47 0.1737 0.0705

Mars -110966-05-20 07:26 J -38808769.32 -38808769.19 -38808769.07 0.1775 0.0352

Earth -110966-05-26 11:31 J -38808763.08 -38808763.02 -38808762.97 0.2757 0.2401

Moon -110966-05-26 12:00 J -38808763.05 -38808763.00 -38808762.95 0.2762 0.2428 *

Venus -110966-08-11 18:14 J -38808685.84 -38808685.74 -38808685.63 0.3634 0.1713

Mars -110964-04-24 21:36 J -38808063.66 -38808063.60 -38808063.53 0.1755 0.1447

Jupiter -110964-11-18 10:19 J -38807856.13 -38807856.07 -38807856.02 0.0497 0.0463

Jupiter -110963-02-16 08:38 J -38807766.31 -38807766.14 -38807765.97 0.0495 0.0057

Venus   -110960-02-24 13:26 J -38806662.06 -38806661.94 -38806661.83 0.3639 0.0192

Moon   -110959-05-19 07:55 J -38806213.28 -38806213.17 -38806213.06 0.2746 0.0431

Earth   -110959-05-19 08:38 J -38806213.25 -38806213.14 -38806213.03 0.2746 0.0309 *

Saturn -110958-07-25 07:55 J -38805781.25 -38805781.17 -38805781.09 0.0274 0.0229

Saturn -110958-10-21 21:07 J -38805692.73 -38805692.62 -38805692.49 0.0275 0.0153

Mars   -110958-11-27 00:29 J -38805656.58 -38805656.48 -38805656.38 0.1732 0.1256

Saturn -110957-01-18 10:33 J -38805604.20 -38805604.06 -38805603.92 0.0276 0.0074

Jupiter -110957-01-19 16:48 J -38805602.92 -38805602.80 -38805602.68 0.0530 0.0264

Saturn -110957-04-15 23:45 J -38805515.65 -38805515.51 -38805515.37 0.0277 0.0004

Jupiter -110957-04-18 04:05 J -38805513.44 -38805513.33 -38805513.21 0.0532 0.0259

Saturn -110957-07-13 12:43 J -38805427.11 -38805426.97 -38805426.83 0.0278 0.0081

Mars   -110957-10-09 15:07 J -38805338.98 -38805338.87 -38805338.76 0.1780 0.0823

Saturn -110957-10-10 01:41 J -38805338.55 -38805338.43 -38805338.32 0.0279 0.0158

Saturn -110956-01-06 14:24 J -38805249.97 -38805249.90 -38805249.82 0.0280 0.0234

Mars   -110956-11-02 16:33 J -38804949.92 -38804949.81 -38804949.70 0.1752 0.1190

Moon   -110956-11-08 20:24 J -38804943.78 -38804943.65 -38804943.51 0.2599 0.1225

Earth   -110956-11-08 22:05 J -38804943.72 -38804943.58 -38804943.44 0.2597 0.1013 *

Venus   -110955-09-10 08:09 J -38804638.27 -38804638.16 -38804638.05 0.3644 0.1370

Mars   -110955-09-15 06:29 J -38804633.33 -38804633.23 -38804633.13 0.1760 0.1033

Jupiter -110952-12-05 08:09 J -38803456.32 -38803456.16 -38803455.99 0.0496 0.0077

Uranus -110951-01-26 18:00 J -38803403.79 -38803403.75 -38803403.69 0.0133 0.0123

Jupiter -110951-03-05 07:55 J -38803366.23 -38803366.17 -38803366.10 0.0495 0.0459

Uranus -110951-04-24 21:36 J -38803315.67 -38803315.60 -38803315.51 0.0132 0.0106

Uranus -110951-07-22 01:26 J -38803227.54 -38803227.44 -38803227.34 0.0132 0.0090

Uranus -110951-10-18 04:48 J -38803139.41 -38803139.30 -38803139.17 0.0132 0.0074

Uranus -110950-01-14 08:24 J -38803051.27 -38803051.15 -38803051.02 0.0132 0.0057

Uranus -110950-04-12 12:00 J -38802963.13 -38802963.00 -38802962.86 0.0132 0.0041

Uranus -110950-07-09 15:36 J -38802874.99 -38802874.85 -38802874.71 0.0132 0.0025

Uranus -110950-10-05 18:57 J -38802786.85 -38802786.71 -38802786.57 0.0132 0.0009

Uranus -110949-01-01 22:33 J -38802698.71 -38802698.56 -38802698.42 0.0132 0.0008

Venus -110949-03-26 02:38 J -38802614.46 -38802614.39 -38802614.32 0.3649 0.2851

Uranus -110949-03-30 01:55 J -38802610.56 -38802610.42 -38802610.28 0.0132 0.0022

Uranus -110949-06-26 05:17 J -38802522.41 -38802522.28 -38802522.14 0.0132 0.0038

Uranus -110949-09-22 08:38 J -38802434.27 -38802434.14 -38802434.01 0.0132 0.0054

Uranus -110949-12-19 12:00 J -38802346.12 -38802346.00 -38802345.88 0.0132 0.0069

Uranus -110948-03-17 15:07 J -38802257.97 -38802257.87 -38802257.75 0.0132 0.0085

Uranus -110948-06-13 18:29 J -38802169.81 -38802169.73 -38802169.63 0.0132 0.0100

Uranus -110948-09-09 21:50 J -38802081.65 -38802081.59 -38802081.52 0.0132 0.0115

Uranus -110948-12-07 01:12 J -38801993.47 -38801993.45 -38801993.43 0.0132 0.0130

Mars -110947-03-01 22:48 J -38801908.64 -38801908.55 -38801908.47 0.1785 0.1314

Mars -110946-03-25 18:00 J -38801519.89 -38801519.75 -38801519.60 0.1747 0.0559

Moon -110946-05-22 02:53 J -38801462.49 -38801462.38 -38801462.27 0.2756 0.0707

Earth -110946-05-22 03:21 J -38801462.47 -38801462.36 -38801462.26 0.2750 0.0675 *

Jupiter -110946-11-07 19:41 J -38801292.77 -38801292.68 -38801292.58 0.0530 0.0388

Jupiter -110945-02-05 07:41 J -38801203.32 -38801203.18 -38801203.05 0.0531 0.0138

Mars -110945-02-05 14:53 J -38801202.99 -38801202.88 -38801202.76 0.1765 0.0598

Saturn -110944-02-21 16:05 J -38800820.93 -38800820.83 -38800820.73 0.0286 0.0228

Saturn -110944-05-21 10:48 J -38800732.19 -38800732.05 -38800731.90 0.0285 0.0132

Saturn -110944-08-18 06:00 J -38800643.42 -38800643.25 -38800643.09 0.0284 0.0034

Saturn -110944-11-15 01:12 J -38800554.61 -38800554.45 -38800554.28 0.0283 0.0065

Saturn -110943-02-11 20:38 J -38800465.77 -38800465.64 -38800465.50 0.0282 0.0164

Saturn -110943-05-11 16:33 J -38800376.87 -38800376.81 -38800376.75 0.0281 0.0263

Moon -110943-11-12 02:53 J -38800192.53 -38800192.38 -38800192.23 0.2599 0.0592

Earth -110943-11-12 03:36 J -38800192.51 -38800192.35 -38800192.20 0.2593 0.0580 *

Jupiter -110940-09-23 08:24 J -38799146.30 -38799146.15 -38799146.00 0.0496 0.0205

Jupiter -110940-12-22 07:41 J -38799056.31 -38799056.18 -38799056.05 0.0495 0.0326

Moon -110939-05-15 00:14 J -38798912.56 -38798912.49 -38798912.42 0.2732 0.2078

Earth -110939-05-15 00:14 J -38798912.56 -38798912.49 -38798912.41 0.2739 0.2047 *

Mars -110937-08-14 19:55 J -38798089.83 -38798089.67 -38798089.52 0.1742 0.0062

Mars -110936-06-27 23:17 J -38797772.65 -38797772.53 -38797772.40 0.1770 0.0157

Venus -110935-01-17 23:02 J -38797568.60 -38797568.54 -38797568.48 0.3749 0.3230

Jupiter -110934-08-26 22:19 J -38796982.60 -38796982.57 -38796982.55 0.0529 0.0519

Jupiter -110934-11-24 10:19 J -38796893.21 -38796893.07 -38796892.93 0.0530 0.0009

Jupiter -110933-02-21 21:07 J -38796803.65 -38796803.62 -38796803.59 0.0532 0.0517

Earth -110933-05-23 21:50 J -38796711.68 -38796711.59 -38796711.50 0.2754 0.1636

Moon -110933-05-23 21:50 J -38796711.67 -38796711.59 -38796711.50 0.2760 0.1601 *

Venus -110930-08-03 21:50 J -38795544.71 -38795544.59 -38795544.47 0.3743 0.1077

Earth -110930-11-15 09:07 J -38795441.20 -38795441.12 -38795441.04 0.2589 0.2194

Moon -110930-11-15 09:21 J -38795441.19 -38795441.11 -38795441.03 0.2595 0.2223 *

Saturn -110929-12-11 08:38 J -38795049.18 -38795049.14 -38795049.09 0.0275 0.0257

Saturn -110928-03-09 22:05 J -38794960.68 -38794960.58 -38794960.46 0.0275 0.0180

Saturn -110928-06-06 11:31 J -38794872.15 -38794872.02 -38794871.88 0.0276 0.0102

Jupiter -110928-07-12 08:24 J -38794836.27 -38794836.15 -38794836.02 0.0497 0.0331

Saturn -110928-09-03 00:43 J -38794783.61 -38794783.47 -38794783.33 0.0277 0.0024

Jupiter -110928-10-10 07:26 J -38794746.35 -38794746.19 -38794746.03 0.0495 0.0195

Saturn -110928-11-30 13:41 J -38794695.06 -38794694.93 -38794694.78 0.0278 0.0055

Mars -110927-01-04 22:05 J -38794659.72 -38794659.58 -38794659.44 0.1737 0.0642

Saturn -110927-02-27 02:38 J -38794606.51 -38794606.39 -38794606.26 0.0279 0.0131

Saturn -110927-05-26 15:36 J -38794517.94 -38794517.85 -38794517.76 0.0280 0.0208

Mars -110927-11-18 07:26 J -38794342.32 -38794342.19 -38794342.07 0.1775 0.0307

Moon -110926-05-17 18:14 J -38794161.84 -38794161.74 -38794161.64 0.2740 0.1143

Earth -110926-05-17 18:57 J -38794161.81 -38794161.71 -38794161.60 0.2743 0.1075 *

Mars -110925-10-23 21:50 J -38793636.65 -38793636.59 -38793636.53 0.1755 0.1488

Venus -110924-02-16 21:21 J -38793520.73 -38793520.61 -38793520.49 0.3737 0.1185

Moon -110923-11-06 21:36 J -38792892.64 -38792892.60 -38792892.55 0.2601 0.2476

Earth -110923-11-06 23:17 J -38792892.60 -38792892.53 -38792892.45 0.2601 0.2273 *

Jupiter -110922-09-12 13:12 J -38792583.09 -38792582.95 -38792582.82 0.0530 0.0124

Jupiter -110922-12-11 00:14 J -38792493.58 -38792493.49 -38792493.40 0.0531 0.0392

Neptune -110921-08-26 15:21 J -38792233.87 -38792233.86 -38792233.84 0.0088 0.0088

Neptune -110921-11-22 17:02 J -38792145.83 -38792145.79 -38792145.73 0.0088 0.0083

Neptune -110920-02-18 18:57 J -38792057.77 -38792057.71 -38792057.64 0.0088 0.0079

Neptune -110920-05-17 20:38 J -38791969.70 -38791969.64 -38791969.55 0.0088 0.0075

Earth -110920-05-26 16:19 J -38791960.86 -38791960.82 -38791960.79 0.2757 0.2588

Moon -110920-05-26 16:48 J -38791960.82 -38791960.80 -38791960.78 0.2762 0.2697 *

Neptune -110920-08-13 22:48 J -38791881.64 -38791881.55 -38791881.46 0.0088 0.0070

Neptune -110920-11-10 00:29 J -38791793.57 -38791793.48 -38791793.37 0.0088 0.0065

Neptune -110919-02-06 02:24 J -38791705.50 -38791705.40 -38791705.29 0.0088 0.0061

Neptune -110919-05-05 04:05 J -38791617.43 -38791617.33 -38791617.21 0.0088 0.0057

Neptune -110919-08-01 06:00 J -38791529.36 -38791529.25 -38791529.13 0.0088 0.0052

Venus -110919-09-02 21:07 J -38791496.66 -38791496.62 -38791496.58 0.3731 0.3535

Neptune -110919-10-28 07:41 J -38791441.29 -38791441.18 -38791441.05 0.0088 0.0048

Neptune -110918-01-24 09:21 J -38791353.22 -38791353.11 -38791352.97 0.0088 0.0044

Neptune -110918-04-22 11:17 J -38791265.15 -38791265.03 -38791264.89 0.0088 0.0039

Mars -110918-05-28 00:43 J -38791229.58 -38791229.47 -38791229.37 0.1732 0.1210

Neptune -110918-07-19 12:57 J -38791177.08 -38791176.96 -38791176.81 0.0088 0.0035

Neptune -110918-10-15 14:53 J -38791089.01 -38791088.88 -38791088.74 0.0088 0.0030

Neptune -110917-01-11 16:33 J -38791000.94 -38791000.81 -38791000.66 0.0088 0.0026

Neptune -110917-04-08 18:29 J -38790912.87 -38790912.73 -38790912.59 0.0088 0.0021

Mars -110917-04-09 15:07 J -38790911.98 -38790911.87 -38790911.75 0.1780 0.0781

Neptune -110917-07-05 20:09 J -38790824.80 -38790824.66 -38790824.51 0.0088 0.0017

Neptune -110917-10-01 21:50 J -38790736.73 -38790736.59 -38790736.44 0.0088 0.0013

Neptune -110917-12-28 23:45 J -38790648.66 -38790648.51 -38790648.37 0.0088 0.0008

Neptune -110916-03-27 01:26 J -38790560.58 -38790560.44 -38790560.29 0.0088 0.0004

Jupiter -110916-04-30 09:07 J -38790526.18 -38790526.12 -38790526.05 0.0497 0.0452

Mars -110916-05-03 17:02 J -38790522.89 -38790522.79 -38790522.68 0.1752 0.1249

Neptune -110916-06-23 03:07 J -38790472.51 -38790472.37 -38790472.22 0.0088 0.0001

Jupiter -110916-07-29 07:26 J -38790436.35 -38790436.19 -38790436.02 0.0495 0.0069

Neptune -110916-09-19 04:48 J -38790384.44 -38790384.30 -38790384.15 0.0088 0.0005

Neptune -110916-12-16 06:29 J -38790296.37 -38790296.23 -38790296.08 0.0088 0.0010

Neptune -110915-03-14 08:09 J -38790208.30 -38790208.16 -38790208.01 0.0088 0.0014

Mars   -110915-03-16 06:29 J -38790206.33 -38790206.23 -38790206.13 0.1760 0.1069

Neptune -110915-06-10 09:50 J -38790120.23 -38790120.09 -38790119.94 0.0088 0.0018

Saturn -110915-07-11 15:36 J -38790088.91 -38790088.85 -38790088.78 0.0287 0.0260

Venus   -110915-09-01 21:36 J -38790036.68 -38790036.60 -38790036.52 0.3631 0.2722

Neptune -110915-09-06 11:31 J -38790032.16 -38790032.02 -38790031.88 0.0088 0.0022

Saturn -110915-10-08 10:19 J -38790000.20 -38790000.07 -38789999.93 0.0286 0.0164

Neptune -110915-12-03 13:12 J -38789944.08 -38789943.95 -38789943.81 0.0088 0.0027

Saturn -110914-01-05 05:17 J -38789911.44 -38789911.28 -38789911.11 0.0285 0.0067

Neptune -110914-03-01 14:53 J -38789856.01 -38789855.88 -38789855.74 0.0088 0.0031

Saturn -110914-04-04 00:43 J -38789822.64 -38789822.47 -38789822.30 0.0284 0.0033

Neptune -110914-05-28 16:33 J -38789767.94 -38789767.81 -38789767.67 0.0088 0.0035

Saturn -110914-07-01 20:09 J -38789733.81 -38789733.66 -38789733.51 0.0283 0.0131

Neptune -110914-08-24 18:00 J -38789679.87 -38789679.75 -38789679.61 0.0088 0.0040

Saturn -110914-09-28 15:50 J -38789644.93 -38789644.84 -38789644.74 0.0281 0.0231

Neptune -110914-11-20 19:41 J -38789591.79 -38789591.68 -38789591.55 0.0088 0.0044

Neptune -110913-02-16 21:21 J -38789503.72 -38789503.61 -38789503.48 0.0088 0.0048

Neptune -110913-05-14 23:02 J -38789415.65 -38789415.54 -38789415.42 0.0088 0.0052

Moon   -110913-05-19 12:57 J -38789411.07 -38789410.96 -38789410.85 0.2749 0.0132

Earth   -110913-05-19 13:41 J -38789411.04 -38789410.93 -38789410.82 0.2747 0.0105 *

Neptune -110913-08-11 00:43 J -38789327.57 -38789327.47 -38789327.36 0.0088 0.0056

Neptune -110913-11-07 02:24 J -38789239.50 -38789239.40 -38789239.29 0.0088 0.0060

Neptune -110912-02-03 03:50 J -38789151.43 -38789151.34 -38789151.23 0.0088 0.0064

Neptune -110912-05-02 05:17 J -38789063.35 -38789063.28 -38789063.17 0.0088 0.0069

Neptune -110912-07-29 06:57 J -38788975.28 -38788975.21 -38788975.12 0.0088 0.0072

Neptune -110912-10-25 08:38 J -38788887.20 -38788887.14 -38788887.06 0.0088 0.0076

Neptune -110911-01-21 10:05 J -38788799.12 -38788799.08 -38788799.01 0.0088 0.0081

Neptune -110911-04-19 11:45 J -38788711.04 -38788711.01 -38788710.96 0.0088 0.0085

Neptune -110911-07-16 13:41 J -38788622.93 -38788622.93 -38788622.93 0.0088 0.0088

Jupiter -110910-07-01 15:07 J -38788272.99 -38788272.87 -38788272.75 0.0530 0.0260

Jupiter -110910-09-29 02:38 J -38788183.50 -38788183.39 -38788183.27 0.0532 0.0262

Moon -110910-11-10 03:21 J -38788141.51 -38788141.36 -38788141.22 0.2600 0.0709

Earth -110910-11-10 04:33 J -38788141.46 -38788141.31 -38788141.16 0.2597 0.0702 *

Venus -110909-03-17 16:48 J -38788012.91 -38788012.80 -38788012.69 0.3636 0.1135

Pluto -110909-06-30 17:45 J -38787907.82 -38787907.76 -38787907.68 0.0084 0.0072

Pluto -110909-09-26 18:57 J -38787819.79 -38787819.71 -38787819.60 0.0084 0.0057

Pluto -110909-12-23 20:24 J -38787731.76 -38787731.65 -38787731.53 0.0084 0.0043

Pluto -110908-03-21 21:50 J -38787643.72 -38787643.59 -38787643.46 0.0084 0.0028

Pluto -110908-06-17 23:02 J -38787555.67 -38787555.54 -38787555.41 0.0084 0.0014

Mars -110908-08-30 23:02 J -38787481.63 -38787481.54 -38787481.46 0.1785 0.1262

Pluto -110908-09-14 00:29 J -38787467.62 -38787467.48 -38787467.35 0.0084 0.0003

Pluto -110908-12-11 01:41 J -38787379.56 -38787379.43 -38787379.30 0.0084 0.0014

Uranus -110908-12-31 20:38 J -38787358.67 -38787358.64 -38787358.59 0.0146 0.0142

Pluto -110907-03-09 02:38 J -38787291.51 -38787291.39 -38787291.25 0.0084 0.0029

Uranus -110907-03-30 03:36 J -38787270.44 -38787270.35 -38787270.24 0.0146 0.0117

Pluto -110907-06-05 03:50 J -38787203.44 -38787203.34 -38787203.21 0.0083 0.0043

Uranus -110907-06-26 10:33 J -38787182.18 -38787182.06 -38787181.91 0.0146 0.0091

Pluto -110907-09-01 05:17 J -38787115.37 -38787115.28 -38787115.18 0.0083 0.0056

Uranus -110907-09-22 17:45 J -38787093.91 -38787093.76 -38787093.59 0.0147 0.0064

Mars -110907-09-23 18:29 J -38787092.88 -38787092.73 -38787092.59 0.1747 0.0612

Pluto -110907-11-28 06:14 J -38787027.29 -38787027.24 -38787027.15 0.0083 0.0071

Uranus -110907-12-20 01:12 J -38787005.62 -38787005.45 -38787005.28 0.0147 0.0037

Uranus -110906-03-18 08:24 J -38786917.33 -38786917.15 -38786916.98 0.0147 0.0010

Uranus -110906-06-14 15:36 J -38786829.03 -38786828.85 -38786828.67 0.0147 0.0018

Mars -110906-08-06 15:07 J -38786775.98 -38786775.87 -38786775.76 0.1765 0.0645

Uranus -110906-09-10 22:48 J -38786740.71 -38786740.55 -38786740.37 0.0147 0.0045

Uranus -110906-12-08 06:14 J -38786652.39 -38786652.24 -38786652.08 0.0147 0.0073

Uranus -110905-03-05 13:41 J -38786564.05 -38786563.93 -38786563.79 0.0147 0.0101

Uranus -110905-06-01 21:07 J -38786475.69 -38786475.62 -38786475.53 0.0147 0.0129

Jupiter -110904-05-17 07:55 J -38786126.34 -38786126.17 -38786126.01 0.0495 0.0059

Jupiter -110904-08-15 07:26 J -38786036.23 -38786036.19 -38786036.14 0.0494 0.0476

Venus   -110904-10-01 11:45 J -38785989.13 -38785989.01 -38785988.90 0.3641 0.0417

Moon   -110900-05-22 07:55 J -38784660.28 -38784660.17 -38784660.07 0.2757 0.0774

Earth   -110900-05-22 08:09 J -38784660.26 -38784660.16 -38784660.05 0.2750 0.0864 *

Saturn -110899-07-27 23:45 J -38784228.61 -38784228.51 -38784228.42 0.0274 0.0204

Saturn -110899-10-24 12:57 J -38784140.08 -38784139.96 -38784139.83 0.0275 0.0127

Saturn -110898-01-21 02:09 J -38784051.55 -38784051.41 -38784051.26 0.0276 0.0050

Mars   -110898-01-21 06:14 J -38784051.26 -38784051.24 -38784051.22 0.1790 0.1766 *

Venus   -110898-04-17 06:29 J -38783965.33 -38783965.23 -38783965.13 0.3645 0.1912

Saturn -110898-04-19 15:21 J -38783963.00 -38783962.86 -38783962.72 0.0277 0.0028

Jupiter -110898-04-19 18:14 J -38783962.84 -38783962.74 -38783962.65 0.0530 0.0385 *

Saturn -110898-07-17 04:19 J -38783874.45 -38783874.32 -38783874.19 0.0278 0.0105

Jupiter -110898-07-18 06:00 J -38783873.38 -38783873.25 -38783873.11 0.0531 0.0141

Saturn -110898-10-13 17:17 J -38783785.89 -38783785.78 -38783785.68 0.0279 0.0182

Saturn -110897-01-10 06:00 J -38783697.31 -38783697.25 -38783697.20 0.0280 0.0258

Mars   -110897-02-13 20:24 J -38783662.80 -38783662.65 -38783662.50 0.1742 0.0010

Moon   -110897-11-12 09:36 J -38783390.25 -38783390.10 -38783389.96 0.2599 0.0782

Earth   -110897-11-12 10:05 J -38783390.23 -38783390.08 -38783389.94 0.2592 0.0898 *

Mars   -110897-12-26 23:31 J -38783345.65 -38783345.52 -38783345.40 0.1770 0.0206

Moon   -110893-05-15 04:48 J -38782110.38 -38782110.30 -38782110.22 0.2734 0.1841

Earth   -110893-05-15 05:17 J -38782110.36 -38782110.28 -38782110.20 0.2739 0.1854 *

Venus   -110893-10-31 00:57 J -38781941.50 -38781941.46 -38781941.42 0.3650 0.3379

Jupiter -110892-03-05 07:26 J -38781816.34 -38781816.19 -38781816.03 0.0496 0.0191

Jupiter -110892-06-03 06:43 J -38781726.34 -38781726.22 -38781726.09 0.0495 0.0340

Mars   -110888-07-05 22:33 J -38780232.70 -38780232.56 -38780232.42 0.1737 0.0586

Mars   -110887-05-19 07:26 J -38779915.31 -38779915.19 -38779915.07 0.1775 0.0260

Earth   -110887-05-25 02:38 J -38779909.47 -38779909.39 -38779909.31 0.2754 0.1824

Moon   -110887-05-25 03:07 J -38779909.45 -38779909.37 -38779909.30 0.2760 0.1929 *

Jupiter -110886-02-05 21:07 J -38779652.65 -38779652.62 -38779652.58 0.0529 0.0510

Jupiter -110886-05-06 09:21 J -38779563.25 -38779563.11 -38779562.97 0.0531 0.0019

Jupiter -110886-08-03 20:09 J -38779473.67 -38779473.66 -38779473.64 0.0532 0.0529

Saturn -110885-02-25 08:09 J -38779268.27 -38779268.16 -38779268.04 0.0286 0.0203

Mars   -110885-04-23 21:50 J -38779209.65 -38779209.59 -38779209.53 0.1755 0.1527

Saturn -110885-05-24 02:53 J -38779179.53 -38779179.38 -38779179.22 0.0285 0.0107

Saturn -110885-08-20 22:05 J -38779090.75 -38779090.58 -38779090.41 0.0284 0.0008

Saturn -110885-11-17 17:31 J -38779001.93 -38779001.77 -38779001.61 0.0283 0.0091

Saturn -110884-02-14 13:12 J -38778913.08 -38778912.95 -38778912.83 0.0282 0.0190

Earth   -110884-11-15 15:36 J -38778638.88 -38778638.85 -38778638.81 0.2588 0.2508

Jupiter -110881-12-22 07:41 J -38777506.31 -38777506.18 -38777506.05 0.0496 0.0318

Jupiter -110880-03-22 06:29 J -38777416.38 -38777416.23 -38777416.08 0.0495 0.0207

Moon   -110880-05-17 23:17 J -38777359.64 -38777359.53 -38777359.43 0.2741 0.0960

Earth   -110880-05-18 00:00 J -38777359.61 -38777359.50 -38777359.40 0.2743 0.0878 *

Venus   -110879-08-24 22:19 J -38776895.66 -38776895.57 -38776895.48 0.3747 0.2482

Mars   -110879-11-26 01:12 J -38776802.56 -38776802.45 -38776802.34 0.1732 0.1150

Mars   -110878-10-09 15:21 J -38776484.97 -38776484.86 -38776484.75 0.1780 0.0731

Mars   -110877-11-01 17:45 J -38776095.86 -38776095.76 -38776095.66 0.1752 0.1313

Moon   -110877-11-07 04:05 J -38776090.42 -38776090.33 -38776090.23 0.2600 0.2022

Earth   -110877-11-07 05:45 J -38776090.36 -38776090.26 -38776090.16 0.2600 0.1966 *

Mars   -110876-09-14 06:43 J -38775779.32 -38775779.22 -38775779.13 0.1760 0.1116

Jupiter -110874-02-22 12:14 J -38775253.13 -38775252.99 -38775252.86 0.0530 0.0112

Jupiter -110874-05-22 23:17 J -38775163.62 -38775163.53 -38775163.44 0.0531 0.0403

Venus   -110873-03-09 21:21 J -38774871.74 -38774871.61 -38774871.48 0.3741 0.0307

Saturn -110870-12-15 00:43 J -38773496.55 -38773496.47 -38773496.39 0.0275 0.0231

Saturn -110869-03-12 13:55 J -38773408.03 -38773407.92 -38773407.79 0.0276 0.0154

Mars   -110869-04-17 04:19 J -38773372.34 -38773372.32 -38773372.29 0.1727 0.1691

Saturn -110869-06-09 03:21 J -38773319.50 -38773319.36 -38773319.22 0.0277 0.0076

Saturn -110869-09-05 16:33 J -38773230.95 -38773230.81 -38773230.67 0.0278 0.0002

Jupiter -110869-10-10 07:55 J -38773196.24 -38773196.17 -38773196.10 0.0497 0.0444

Saturn -110869-12-03 05:31 J -38773142.40 -38773142.27 -38773142.13 0.0279 0.0079

Jupiter -110868-01-08 06:14 J -38773106.40 -38773106.24 -38773106.07 0.0496 0.0077

Mars -110868-02-28 23:02 J -38773054.63 -38773054.54 -38773054.45 0.1785 0.1221

Saturn -110868-03-01 18:29 J -38773053.85 -38773053.73 -38773053.61 0.0280 0.0156

Saturn -110868-05-29 07:12 J -38772965.27 -38772965.20 -38772965.12 0.0281 0.0233

Venus -110868-09-23 20:53 J -38772847.74 -38772847.63 -38772847.52 0.3735 0.1980

Uranus -110867-02-16 00:57 J -38772702.52 -38772702.46 -38772702.40 0.0132 0.0120

Mars -110867-03-24 18:57 J -38772665.85 -38772665.71 -38772665.57 0.1747 0.0675

Uranus -110867-05-15 04:33 J -38772614.40 -38772614.31 -38772614.22 0.0132 0.0103

Moon -110867-05-20 18:00 J -38772608.86 -38772608.75 -38772608.64 0.2752 0.0034

Earth -110867-05-20 18:29 J -38772608.84 -38772608.73 -38772608.62 0.2747 0.0135 *

Uranus -110867-08-11 07:55 J -38772526.27 -38772526.17 -38772526.05 0.0132 0.0088

Uranus -110867-11-07 11:45 J -38772438.13 -38772438.01 -38772437.89 0.0132 0.0071

Uranus -110866-02-03 15:21 J -38772349.99 -38772349.86 -38772349.73 0.0132 0.0055

Mars -110866-02-04 15:07 J -38772348.98 -38772348.87 -38772348.76 0.1765 0.0685

Uranus -110866-05-02 18:43 J -38772261.85 -38772261.72 -38772261.58 0.0132 0.0039

Uranus -110866-07-29 22:19 J -38772173.71 -38772173.57 -38772173.43 0.0132 0.0022

Uranus -110866-10-26 01:41 J -38772085.57 -38772085.43 -38772085.28 0.0132 0.0008

Uranus -110865-01-22 05:17 J -38771997.42 -38771997.28 -38771997.14 0.0132 0.0009

Uranus -110865-04-19 08:38 J -38771909.28 -38771909.14 -38771909.00 0.0132 0.0025

Uranus -110865-07-16 12:00 J -38771821.13 -38771821.00 -38771820.86 0.0132 0.0041

Uranus -110865-10-12 15:21 J -38771732.98 -38771732.86 -38771732.73 0.0132 0.0056

Uranus -110864-01-08 18:43 J -38771644.83 -38771644.72 -38771644.60 0.0132 0.0072

Uranus -110864-04-06 22:05 J -38771556.68 -38771556.58 -38771556.47 0.0132 0.0087

Uranus -110864-07-04 01:26 J -38771468.52 -38771468.44 -38771468.35 0.0132 0.0102

Uranus -110864-09-30 04:33 J -38771380.36 -38771380.31 -38771380.24 0.0132 0.0118

Moon -110864-11-10 10:05 J -38771339.23 -38771339.08 -38771338.93 0.2601 0.0551

Earth -110864-11-10 11:02 J -38771339.19 -38771339.04 -38771338.89 0.2596 0.0388 *

Jupiter -110863-12-11 14:38 J -38770943.01 -38770942.89 -38770942.76 0.0530 0.0243

Jupiter -110862-03-11 02:09 J -38770853.52 -38770853.41 -38770853.29 0.0531 0.0276

Moon -110860-05-13 15:36 J -38770058.89 -38770058.85 -38770058.82 0.2728 0.2567

Earth -110860-05-13 15:21 J -38770058.88 -38770058.86 -38770058.83 0.2735 0.2644 *

Mars -110859-07-22 06:29 J -38769624.26 -38769624.23 -38769624.20 0.1790 0.1712

Venus -110858-04-08 19:55 J -38769363.76 -38769363.67 -38769363.57 0.3632 0.2144

Mars -110858-08-14 20:53 J -38769235.79 -38769235.63 -38769235.48 0.1742 0.0073

Mars -110857-06-26 23:31 J -38768918.64 -38768918.52 -38768918.40 0.1770 0.0244

Jupiter -110857-10-27 06:29 J -38768796.39 -38768796.23 -38768796.06 0.0496 0.0050

Jupiter -110856-01-25 06:14 J -38768706.26 -38768706.24 -38768706.21 0.0494 0.0486

Saturn -110856-07-14 07:41 J -38768536.26 -38768536.18 -38768536.08 0.0286 0.0235

Saturn -110856-10-11 02:38 J -38768447.53 -38768447.39 -38768447.24 0.0285 0.0137

Saturn -110855-01-07 21:36 J -38768358.76 -38768358.60 -38768358.43 0.0284 0.0041

Saturn -110855-04-06 17:02 J -38768269.96 -38768269.79 -38768269.62 0.0283 0.0059

Saturn -110855-07-04 12:29 J -38768181.12 -38768180.98 -38768180.83 0.0282 0.0158

Saturn -110855-10-01 08:09 J -38768092.22 -38768092.16 -38768092.08 0.0281 0.0257

Moon -110854-05-23 12:57 J -38767858.06 -38767857.96 -38767857.86 0.2758 0.1090

Earth -110854-05-23 13:12 J -38767858.06 -38767857.95 -38767857.85 0.2751 0.1058 *

Venus -110853-10-22 15:07 J -38767339.98 -38767339.87 -38767339.75 0.3637 0.0567

Jupiter -110851-09-29 16:33 J -38766632.90 -38766632.81 -38766632.71 0.0530 0.0384

Moon -110851-11-13 16:19 J -38766587.95 -38766587.82 -38766587.69 0.2598 0.1293

Earth -110851-11-13 16:33 J -38766587.95 -38766587.81 -38766587.67 0.2592 0.1213 *

Jupiter -110851-12-28 04:33 J -38766543.44 -38766543.31 -38766543.18 0.0531 0.0142

Mars -110848-01-03 22:48 J -38765805.69 -38765805.55 -38765805.40 0.1737 0.0536

Mars -110848-11-17 07:41 J -38765488.30 -38765488.18 -38765488.06 0.1775 0.0210

Venus -110847-05-08 10:05 J -38765316.19 -38765316.08 -38765315.97 0.3642 0.0965

Moon -110847-05-16 09:36 J -38765308.18 -38765308.10 -38765308.02 0.2735 0.1782

Earth -110847-05-16 10:19 J -38765308.16 -38765308.07 -38765307.99 0.2739 0.1663 *

Mars -110846-10-23 21:50 J -38764782.64 -38764782.59 -38764782.53 0.1755 0.1572

Jupiter -110845-08-15 06:57 J -38764486.37 -38764486.21 -38764486.06 0.0496 0.0174

Jupiter -110845-11-13 06:14 J -38764396.36 -38764396.24 -38764396.12 0.0495 0.0356

Venus -110842-11-22 04:48 J -38763292.39 -38763292.30 -38763292.22 0.3647 0.2450

Earth -110841-05-25 07:41 J -38763107.26 -38763107.18 -38763107.11 0.2754 0.2016

Moon -110841-05-25 08:09 J -38763107.24 -38763107.16 -38763107.09 0.2761 0.2002 *

Saturn -110840-05-03 02:24 J -38762764.45 -38762764.40 -38762764.34 0.0274 0.0253

Saturn -110840-07-30 15:50 J -38762675.94 -38762675.84 -38762675.72 0.0275 0.0176

Saturn -110840-10-27 05:17 J -38762587.41 -38762587.28 -38762587.14 0.0276 0.0098

Saturn -110839-01-23 18:29 J -38762498.87 -38762498.73 -38762498.58 0.0277 0.0021

Saturn -110839-04-22 07:26 J -38762410.32 -38762410.19 -38762410.05 0.0278 0.0057

Mars -110839-05-27 01:41 J -38762375.54 -38762375.43 -38762375.31 0.1732 0.1094

Jupiter -110839-07-18 19:26 J -38762322.72 -38762322.69 -38762322.66 0.0530 0.0511

Saturn -110839-07-19 20:24 J -38762321.77 -38762321.65 -38762321.52 0.0278 0.0133

Jupiter -110839-10-16 07:41 J -38762233.32 -38762233.18 -38762233.04 0.0531 0.0018

Saturn -110839-10-16 09:21 J -38762233.21 -38762233.11 -38762233.02 0.0279 0.0209 *

Jupiter -110838-01-13 18:43 J -38762143.73 -38762143.72 -38762143.71 0.0532 0.0529

Mars -110838-04-09 15:21 J -38762057.97 -38762057.86 -38762057.74 0.1780 0.0688

Neptune -110838-11-03 00:00 J -38761850.50 -38761850.50 -38761850.50 0.0089 0.0089

Neptune -110837-01-30 02:24 J -38761762.44 -38761762.40 -38761762.34 0.0089 0.0084

Neptune -110837-04-27 05:02 J -38761674.36 -38761674.29 -38761674.21 0.0089 0.0079

Mars -110837-05-02 18:00 J -38761668.84 -38761668.75 -38761668.65 0.1752 0.1368

Neptune -110837-07-24 07:41 J -38761586.27 -38761586.18 -38761586.08 0.0089 0.0074

Neptune -110837-10-20 10:19 J -38761498.17 -38761498.07 -38761497.96 0.0089 0.0069

Neptune -110836-01-16 12:57 J -38761410.07 -38761409.96 -38761409.84 0.0089 0.0064

Mars -110836-03-15 06:43 J -38761352.31 -38761352.22 -38761352.13 0.1760 0.1159

Neptune -110836-04-14 15:36 J -38761321.97 -38761321.85 -38761321.72 0.0089 0.0059

Neptune -110836-07-11 18:14 J -38761233.87 -38761233.74 -38761233.60 0.0089 0.0054

Neptune -110836-10-07 20:53 J -38761145.77 -38761145.63 -38761145.49 0.0089 0.0049

Neptune -110835-01-03 23:31 J -38761057.66 -38761057.52 -38761057.37 0.0089 0.0044

Neptune -110835-04-02 02:09 J -38760969.56 -38760969.41 -38760969.25 0.0089 0.0039

Neptune -110835-06-29 04:48 J -38760881.45 -38760881.30 -38760881.14 0.0089 0.0034

Neptune -110835-09-25 07:26 J -38760793.34 -38760793.19 -38760793.02 0.0089 0.0029

Neptune -110835-12-22 10:19 J -38760705.23 -38760705.07 -38760704.90 0.0089 0.0024

Neptune -110834-03-20 12:57 J -38760617.12 -38760616.96 -38760616.79 0.0089 0.0019

Moon -110834-05-19 04:05 J -38760557.43 -38760557.33 -38760557.22 0.2744 0.0720

Earth -110834-05-19 04:48 J -38760557.40 -38760557.30 -38760557.19 0.2743 0.0695 *

Neptune -110834-06-16 15:50 J -38760529.01 -38760528.84 -38760528.67 0.0089 0.0013

Neptune -110834-09-12 18:29 J -38760440.90 -38760440.73 -38760440.55 0.0089 0.0009

Neptune -110834-12-09 21:21 J -38760352.78 -38760352.61 -38760352.44 0.0089 0.0003

Neptune -110833-03-07 00:14 J -38760264.67 -38760264.49 -38760264.32 0.0089 0.0003

Neptune -110833-06-03 02:53 J -38760176.55 -38760176.38 -38760176.20 0.0089 0.0008

Jupiter -110833-06-03 06:29 J -38760176.35 -38760176.23 -38760176.09 0.0496 0.0307 *

Neptune -110833-08-30 05:45 J -38760088.43 -38760088.26 -38760088.09 0.0089 0.0013

Jupiter -110833-09-01 05:31 J -38760086.42 -38760086.27 -38760086.12 0.0495 0.0219

Neptune -110833-11-26 08:24 J -38760000.31 -38760000.15 -38759999.97 0.0089 0.0018

Neptune -110832-02-22 11:17 J -38759912.19 -38759912.03 -38759911.86 0.0089 0.0024

Neptune -110832-05-21 14:09 J -38759824.07 -38759823.91 -38759823.74 0.0089 0.0029

Neptune -110832-08-17 17:02 J -38759735.95 -38759735.79 -38759735.63 0.0089 0.0034

Neptune -110832-11-13 19:41 J -38759647.83 -38759647.68 -38759647.51 0.0089 0.0040

Neptune -110831-02-09 22:33 J -38759559.70 -38759559.56 -38759559.40 0.0089 0.0045

Neptune -110831-05-09 01:41 J -38759471.57 -38759471.43 -38759471.28 0.0089 0.0050

Neptune -110831-08-05 04:19 J -38759383.44 -38759383.32 -38759383.17 0.0089 0.0056

Neptune -110831-11-01 07:26 J -38759295.31 -38759295.19 -38759295.06 0.0089 0.0061

Moon -110831-11-08 10:48 J -38759288.16 -38759288.05 -38759287.94 0.2602 0.1795

Earth -110831-11-08 12:14 J -38759288.11 -38759287.99 -38759287.87 0.2600 0.1655 *

Neptune -110830-01-28 10:05 J -38759207.18 -38759207.08 -38759206.95 0.0089 0.0067

Neptune -110830-04-26 13:12 J -38759119.04 -38759118.95 -38759118.84 0.0089 0.0072

Neptune -110830-07-23 15:50 J -38759030.90 -38759030.84 -38759030.74 0.0089 0.0078

Mars -110830-10-17 04:48 J -38758945.34 -38758945.30 -38758945.25 0.1727 0.1634

Neptune -110830-10-19 18:57 J -38758942.76 -38758942.71 -38758942.64 0.0089 0.0083

Neptune -110829-01-15 22:05 J -38758854.58 -38758854.58 -38758854.56 0.0089 0.0089

Mars -110829-08-29 23:17 J -38758627.63 -38758627.53 -38758627.44 0.1785 0.1168

Mars -110828-09-22 19:41 J -38758238.82 -38758238.68 -38758238.54 0.1747 0.0737

Jupiter -110827-08-04 10:48 J -38757923.18 -38757923.05 -38757922.91 0.0531 0.0106

Mars -110827-08-05 15:21 J -38757921.98 -38757921.86 -38757921.75 0.1765 0.0733

Jupiter -110827-11-01 22:05 J -38757833.66 -38757833.58 -38757833.49 0.0532 0.0411

Saturn -110827-12-01 06:14 J -38757804.29 -38757804.24 -38757804.19 0.0287 0.0270

Saturn -110826-02-28 00:57 J -38757715.59 -38757715.46 -38757715.33 0.0286 0.0174

Saturn -110826-05-27 19:41 J -38757626.84 -38757626.68 -38757626.51 0.0285 0.0078

Saturn -110826-08-24 14:53 J -38757538.04 -38757537.88 -38757537.71 0.0284 0.0022

Saturn -110826-11-21 10:19 J -38757449.22 -38757449.07 -38757448.91 0.0283 0.0120

Saturn -110825-02-18 06:00 J -38757360.35 -38757360.25 -38757360.14 0.0282 0.0219

Uranus -110823-01-21 03:50 J -38756657.39 -38756657.34 -38756657.27 0.0146 0.0137

Uranus -110823-04-19 10:48 J -38756569.15 -38756569.05 -38756568.92 0.0146 0.0111

Uranus -110823-07-16 18:14 J -38756480.89 -38756480.74 -38756480.60 0.0147 0.0084

Uranus -110823-10-13 01:12 J -38756392.61 -38756392.45 -38756392.29 0.0147 0.0057

Uranus -110822-01-09 08:24 J -38756304.32 -38756304.15 -38756303.98 0.0147 0.0031

Venus -110822-03-31 21:36 J -38756222.71 -38756222.60 -38756222.49 0.3745 0.1738

Uranus -110822-04-07 15:36 J -38756216.02 -38756215.85 -38756215.67 0.0147 0.0004

Uranus -110822-07-04 23:02 J -38756127.72 -38756127.54 -38756127.37 0.0147 0.0024

Uranus -110822-10-01 06:14 J -38756039.40 -38756039.24 -38756039.07 0.0147 0.0051

Uranus -110822-12-28 13:41 J -38755951.08 -38755950.93 -38755950.78 0.0147 0.0079

Jupiter -110821-03-22 06:43 J -38755866.29 -38755866.22 -38755866.14 0.0497 0.0433

Uranus -110821-03-25 21:07 J -38755862.74 -38755862.62 -38755862.49 0.0147 0.0107

Moon -110821-05-20 23:02 J -38755806.65 -38755806.54 -38755806.43 0.2753 0.0234

Earth -110821-05-20 23:31 J -38755806.63 -38755806.52 -38755806.41 0.2747 0.0285 *

Jupiter -110821-06-20 05:02 J -38755776.45 -38755776.29 -38755776.12 0.0495 0.0088

Uranus -110821-06-22 04:48 J -38755774.37 -38755774.30 -38755774.23 0.0147 0.0135

Mars -110819-01-20 06:29 J -38755197.27 -38755197.23 -38755197.19 0.1790 0.1671

Mars -110818-02-12 21:21 J -38754808.77 -38754808.61 -38754808.46 0.1742 0.0122

Moon -110818-11-11 16:48 J -38754536.96 -38754536.80 -38754536.65 0.2601 0.0063

Earth -110818-11-11 17:31 J -38754536.92 -38754536.77 -38754536.61 0.2595 0.0076 *

Mars -110818-12-26 23:31 J -38754491.64 -38754491.52 -38754491.39 0.1770 0.0292

Venus -110817-10-14 20:53 J -38754198.76 -38754198.63 -38754198.50 0.3740 0.0474

Jupiter -110815-05-23 13:26 J -38753613.06 -38753612.94 -38753612.81 0.0530 0.0236

Jupiter -110815-08-21 00:57 J -38753523.57 -38753523.46 -38753523.34 0.0531 0.0284

Moon -110814-05-14 20:09 J -38753256.70 -38753256.66 -38753256.62 0.2730 0.2513

Earth -110814-05-14 20:24 J -38753256.70 -38753256.65 -38753256.60 0.2736 0.2446 *

Venus -110811-04-30 20:38 J -38752174.73 -38752174.64 -38752174.56 0.3734 0.2782

Saturn -110811-12-17 17:02 J -38751943.88 -38751943.79 -38751943.69 0.0275 0.0202

Saturn -110810-03-16 06:29 J -38751855.36 -38751855.23 -38751855.10 0.0276 0.0124

Saturn -110810-06-12 19:41 J -38751766.82 -38751766.68 -38751766.53 0.0277 0.0047

Saturn -110810-09-09 08:53 J -38751678.27 -38751678.13 -38751677.99 0.0278 0.0031

Saturn -110810-12-06 21:50 J -38751589.72 -38751589.59 -38751589.46 0.0279 0.0108

Saturn -110809-03-04 10:48 J -38751501.16 -38751501.05 -38751500.95 0.0280 0.0184

Jupiter -110809-04-08 05:02 J -38751466.46 -38751466.29 -38751466.13 0.0496 0.0044

Saturn -110809-05-31 23:31 J -38751412.57 -38751412.52 -38751412.47 0.0281 0.0260

Mars -110809-07-04 23:31 J -38751378.67 -38751378.52 -38751378.38 0.1737 0.0475

Jupiter -110809-07-07 04:48 J -38751376.31 -38751376.30 -38751376.29 0.0495 0.0492

Mars -110808-05-18 07:41 J -38751061.31 -38751061.18 -38751061.06 0.1775 0.0172

Earth -110808-05-23 18:00 J -38751055.85 -38751055.75 -38751055.65 0.2751 0.1251

Moon -110808-05-23 18:14 J -38751055.84 -38751055.74 -38751055.64 0.2758 0.1258 *

Venus -110807-04-29 23:17 J -38750714.59 -38750714.53 -38750714.48 0.3629 0.3160

Mars -110806-04-23 22:05 J -38750355.63 -38750355.58 -38750355.54 0.1755 0.1611

Earth -110805-11-13 23:02 J -38749785.67 -38749785.54 -38749785.41 0.2591 0.1536

Moon -110805-11-13 23:31 J -38749785.65 -38749785.52 -38749785.40 0.2597 0.1485 *

Jupiter -110803-03-11 16:05 J -38749302.93 -38749302.83 -38749302.74 0.0530 0.0369

Jupiter -110803-06-09 03:50 J -38749213.47 -38749213.34 -38749213.21 0.0531 0.0155

Venus -110802-11-13 18:29 J -38748690.84 -38748690.73 -38748690.62 0.3634 0.1563

Moon -110801-05-16 14:24 J -38748505.99 -38748505.90 -38748505.80 0.2736 0.1461

Earth -110801-05-16 15:07 J -38748505.96 -38748505.87 -38748505.77 0.2740 0.1470 *

Mars -110800-11-25 02:09 J -38747948.53 -38747948.41 -38747948.29 0.1732 0.1041

Mars -110799-10-08 15:36 J -38747630.96 -38747630.85 -38747630.73 0.1780 0.0638

Mars -110798-11-01 18:43 J -38747241.80 -38747241.72 -38747241.63 0.1752 0.1433

Jupiter -110797-01-26 05:17 J -38747156.43 -38747156.28 -38747156.12 0.0496 0.0168

Jupiter -110797-04-25 04:33 J -38747066.42 -38747066.31 -38747066.19 0.0495 0.0363

Saturn -110797-07-17 00:57 J -38746983.57 -38746983.46 -38746983.34 0.0286 0.0203

Mars   -110797-09-13 06:43 J -38746925.31 -38746925.22 -38746925.13 0.1760 0.1200

Saturn -110797-10-13 19:55 J -38746894.82 -38746894.67 -38746894.52 0.0285 0.0106

Saturn -110796-01-10 15:07 J -38746806.04 -38746805.87 -38746805.70 0.0284 0.0009

Saturn -110796-04-09 10:19 J -38746717.23 -38746717.07 -38746716.90 0.0283 0.0091

Venus   -110796-05-29 13:26 J -38746667.05 -38746666.94 -38746666.82 0.3639 0.0100

Saturn -110796-07-07 06:00 J -38746628.37 -38746628.25 -38746628.12 0.0282 0.0189

Earth   -110795-05-26 12:29 J -38746305.04 -38746304.98 -38746304.91 0.2755 0.2207

Moon   -110795-05-26 12:57 J -38746305.01 -38746304.96 -38746304.90 0.2760 0.2320 *

Jupiter -110792-12-28 17:31 J -38744992.80 -38744992.77 -38744992.73 0.0529 0.0513

Jupiter -110791-03-28 06:00 J -38744903.39 -38744903.25 -38744903.12 0.0531 0.0024

Jupiter -110791-06-25 16:48 J -38744813.81 -38744813.80 -38744813.78 0.0532 0.0528

Venus   -110791-12-13 08:24 J -38744643.26 -38744643.15 -38744643.05 0.3644 0.1506

Mars   -110790-04-17 05:02 J -38744518.34 -38744518.29 -38744518.23 0.1727 0.1586

Mars   -110789-02-28 23:17 J -38744200.63 -38744200.53 -38744200.43 0.1785 0.1121

Mars   -110788-03-23 19:55 J -38743811.81 -38743811.67 -38743811.53 0.1747 0.0785

Moon   -110788-05-19 09:07 J -38743755.23 -38743755.12 -38743755.01 0.2747 0.0623

Earth   -110788-05-19 09:50 J -38743755.20 -38743755.09 -38743754.98 0.2744 0.0495 *

Mars   -110787-02-03 15:21 J -38743494.97 -38743494.86 -38743494.75 0.1765 0.0774

Jupiter -110786-11-14 05:45 J -38742846.39 -38742846.26 -38742846.13 0.0496 0.0293

Jupiter -110785-02-12 04:33 J -38742756.46 -38742756.31 -38742756.16 0.0495 0.0233

Venus   -110785-06-28 02:53 J -38742619.44 -38742619.38 -38742619.31 0.3648 0.2977

Moon   -110785-11-08 17:31 J -38742485.90 -38742485.77 -38742485.65 0.2603 0.1464

Earth   -110785-11-08 18:43 J -38742485.85 -38742485.72 -38742485.59 0.2599 0.1348 *

Uranus -110783-03-08 07:26 J -38742001.24 -38742001.19 -38742001.11 0.0132 0.0118

Uranus -110783-06-04 11:17 J -38741913.12 -38741913.03 -38741912.93 0.0132 0.0101

Uranus -110783-08-31 14:53 J -38741824.98 -38741824.88 -38741824.77 0.0132 0.0084

Uranus -110783-11-27 18:29 J -38741736.85 -38741736.73 -38741736.60 0.0132 0.0068

Uranus -110782-02-23 22:05 J -38741648.71 -38741648.58 -38741648.45 0.0132 0.0052

Uranus -110782-05-23 01:26 J -38741560.57 -38741560.44 -38741560.29 0.0132 0.0036

Uranus -110782-08-19 05:02 J -38741472.43 -38741472.29 -38741472.15 0.0132 0.0020

Uranus -110782-11-15 08:38 J -38741384.28 -38741384.14 -38741384.00 0.0132 0.0004

Uranus -110781-02-11 12:00 J -38741296.14 -38741296.00 -38741295.86 0.0132 0.0012

Saturn -110781-05-05 19:26 J -38741211.77 -38741211.69 -38741211.60 0.0274 0.0221

Uranus -110781-05-09 15:21 J -38741207.99 -38741207.86 -38741207.72 0.0132 0.0028

Saturn -110781-08-02 08:53 J -38741123.25 -38741123.13 -38741123.00 0.0275 0.0144

Uranus -110781-08-05 18:43 J -38741119.85 -38741119.72 -38741119.58 0.0132 0.0044

Saturn -110781-10-29 22:05 J -38741034.72 -38741034.58 -38741034.43 0.0276 0.0067

Uranus -110781-11-01 22:05 J -38741031.70 -38741031.58 -38741031.45 0.0132 0.0059

Saturn -110780-01-26 11:17 J -38740946.17 -38740946.03 -38740945.88 0.0277 0.0011

Uranus -110780-01-29 01:41 J -38740943.55 -38740943.43 -38740943.32 0.0132 0.0074

Saturn -110780-04-25 00:14 J -38740857.62 -38740857.49 -38740857.35 0.0278 0.0088

Uranus -110780-04-27 04:48 J -38740855.39 -38740855.30 -38740855.19 0.0132 0.0090

Mars -110780-07-21 06:43 J -38740770.27 -38740770.22 -38740770.17 0.1790 0.1619

Saturn -110780-07-22 13:12 J -38740769.06 -38740768.95 -38740768.84 0.0279 0.0164

Uranus -110780-07-24 08:09 J -38740767.24 -38740767.16 -38740767.07 0.0132 0.0105

Saturn -110780-10-19 01:55 J -38740680.49 -38740680.42 -38740680.35 0.0280 0.0240

Uranus -110780-10-20 11:31 J -38740679.07 -38740679.02 -38740678.96 0.0131 0.0120

Jupiter -110779-01-14 08:53 J -38740593.26 -38740593.13 -38740592.99 0.0531 0.0109

Jupiter -110779-04-13 20:09 J -38740503.74 -38740503.66 -38740503.57 0.0532 0.0407

Mars -110779-08-13 21:50 J -38740381.74 -38740381.59 -38740381.44 0.1742 0.0178

Mars -110778-06-26 23:45 J -38740064.63 -38740064.51 -38740064.39 0.1770 0.0334

Moon -110775-05-22 04:05 J -38739004.44 -38739004.33 -38739004.22 0.2754 0.0474

Earth -110775-05-22 04:19 J -38739004.42 -38739004.32 -38739004.21 0.2748 0.0485 *

Jupiter -110774-09-02 05:31 J -38738536.35 -38738536.27 -38738536.19 0.0496 0.0424

Jupiter -110774-12-01 03:50 J -38738446.51 -38738446.34 -38738446.17 0.0495 0.0095

Moon -110772-11-11 23:31 J -38737734.68 -38737734.52 -38737734.37 0.2601 0.0165

Earth -110772-11-12 00:00 J -38737734.66 -38737734.50 -38737734.35 0.2595 0.0244 *

Venus -110771-04-21 22:19 J -38737573.64 -38737573.57 -38737573.51 0.3749 0.3118

Mars -110769-01-04 00:00 J -38736951.64 -38736951.50 -38736951.35 0.1737 0.0414

Mars -110769-11-16 07:55 J -38736634.30 -38736634.17 -38736634.05 0.1775 0.0124

Moon -110768-05-15 00:57 J -38736454.52 -38736454.46 -38736454.40 0.2731 0.2253

Earth -110768-05-15 01:26 J -38736454.50 -38736454.44 -38736454.38 0.2736 0.2253 *

Jupiter -110768-11-02 12:00 J -38736283.12 -38736283.00 -38736282.88 0.0530 0.0233

Saturn -110768-12-04 00:00 J -38736251.59 -38736251.50 -38736251.41 0.0287 0.0236

Jupiter -110767-01-30 23:31 J -38736193.63 -38736193.52 -38736193.40 0.0532 0.0287

Saturn -110767-03-02 18:43 J -38736162.86 -38736162.72 -38736162.57 0.0286 0.0140

Saturn -110767-05-30 13:41 J -38736074.09 -38736073.93 -38736073.76 0.0285 0.0043

Saturn -110767-08-27 08:53 J -38735985.29 -38735985.13 -38735984.96 0.0284 0.0057

Mars -110767-10-22 22:05 J -38735928.62 -38735928.58 -38735928.54 0.1755 0.1654

Saturn -110767-11-24 04:33 J -38735896.45 -38735896.31 -38735896.17 0.0283 0.0155

Saturn -110766-02-21 00:14 J -38735807.56 -38735807.49 -38735807.42 0.0282 0.0254

Venus -110766-11-05 21:07 J -38735549.74 -38735549.62 -38735549.50 0.3744 0.0984

Earth -110762-05-24 23:02 J -38734253.64 -38734253.54 -38734253.45 0.2752 0.1445

Moon -110762-05-24 23:17 J -38734253.62 -38734253.53 -38734253.44 0.2759 0.1470 *

Jupiter -110762-09-19 03:36 J -38734136.52 -38734136.35 -38734136.18 0.0496 0.0037

Venus -110760-05-21 20:24 J -38733525.77 -38733525.65 -38733525.53 0.3738 0.1256

Mars -110760-05-26 02:38 J -38733521.52 -38733521.39 -38733521.27 0.1732 0.0986

Mars -110759-04-08 15:36 J -38733203.96 -38733203.85 -38733203.73 0.1780 0.0597

Earth -110759-11-15 05:31 J -38732983.38 -38732983.27 -38732983.16 0.2591 0.1858

Moon -110759-11-15 06:29 J -38732983.33 -38732983.23 -38732983.14 0.2597 0.2012 *

Mars -110758-05-02 19:12 J -38732814.78 -38732814.70 -38732814.62 0.1752 0.1489

Mars -110757-03-14 06:43 J -38732498.30 -38732498.22 -38732498.13 0.1760 0.1243

Neptune -110756-05-23 15:07 J -38732062.90 -38732062.87 -38732062.82 0.0088 0.0085

Neptune -110756-08-19 16:48 J -38731974.84 -38731974.80 -38731974.72 0.0088 0.0081

Jupiter -110756-08-21 14:38 J -38731972.99 -38731972.89 -38731972.79 0.0530 0.0364

Neptune -110756-11-15 18:57 J -38731886.78 -38731886.71 -38731886.63 0.0088 0.0076

Jupiter -110756-11-19 02:24 J -38731883.53 -38731883.40 -38731883.27 0.0531 0.0160

Neptune -110755-02-11 20:38 J -38731798.71 -38731798.64 -38731798.54 0.0088 0.0071

Neptune -110755-05-10 22:33 J -38731710.65 -38731710.56 -38731710.45 0.0088 0.0067

Moon   -110755-05-17 19:26 J -38731703.79 -38731703.69 -38731703.60 0.2739 0.1401

Earth -110755-05-17 20:09 J -38731703.76 -38731703.66 -38731703.56 0.2740 0.1274 *

Neptune -110755-08-07 00:14 J -38731622.58 -38731622.49 -38731622.37 0.0088 0.0063

Pluto -110755-10-08 03:36 J -38731560.40 -38731560.35 -38731560.25 0.0060 0.0055

Neptune -110755-11-03 02:24 J -38731534.51 -38731534.40 -38731534.29 0.0088 0.0057

Venus -110755-12-05 20:09 J -38731501.69 -38731501.66 -38731501.63 0.3732 0.3580

Pluto -110754-01-04 05:31 J -38731472.39 -38731472.27 -38731472.15 0.0060 0.0047

Neptune -110754-01-30 04:05 J -38731446.44 -38731446.33 -38731446.20 0.0088 0.0053

Pluto -110754-04-02 06:29 J -38731384.35 -38731384.23 -38731384.06 0.0060 0.0040

Neptune -110754-04-28 06:00 J -38731358.37 -38731358.25 -38731358.12 0.0088 0.0049

Pluto -110754-06-29 08:09 J -38731296.31 -38731296.16 -38731295.99 0.0060 0.0033

Neptune -110754-07-25 07:41 J -38731270.30 -38731270.18 -38731270.04 0.0088 0.0044

Pluto -110754-09-25 09:21 J -38731208.27 -38731208.11 -38731207.92 0.0060 0.0026

Neptune -110754-10-21 09:36 J -38731182.23 -38731182.10 -38731181.96 0.0088 0.0040

Pluto -110754-12-22 11:02 J -38731120.22 -38731120.04 -38731119.85 0.0060 0.0018

Neptune -110753-01-17 11:17 J -38731094.16 -38731094.03 -38731093.89 0.0088 0.0036

Pluto -110753-03-19 12:29 J -38731032.17 -38731031.98 -38731031.78 0.0060 0.0010

Neptune -110753-04-14 13:12 J -38731006.08 -38731005.95 -38731005.81 0.0088 0.0031

Pluto -110753-06-15 13:55 J -38730944.11 -38730943.92 -38730943.72 0.0060 0.0003

Neptune -110753-07-11 14:53 J -38730918.01 -38730917.88 -38730917.73 0.0088 0.0027

Pluto -110753-09-11 15:21 J -38730856.05 -38730855.86 -38730855.66 0.0060 0.0006

Neptune -110753-10-07 16:33 J -38730829.94 -38730829.81 -38730829.66 0.0088 0.0023

Pluto -110753-12-08 16:33 J -38730767.99 -38730767.81 -38730767.61 0.0061 0.0014

Neptune -110752-01-03 18:29 J -38730741.87 -38730741.73 -38730741.58 0.0088 0.0018

Pluto -110752-03-06 18:14 J -38730679.92 -38730679.74 -38730679.56 0.0061 0.0021

Neptune -110752-04-01 20:09 J -38730653.80 -38730653.66 -38730653.51 0.0088 0.0014

Pluto -110752-06-02 19:26 J -38730591.85 -38730591.69 -38730591.51 0.0061 0.0029

Neptune -110752-06-28 22:05 J -38730565.73 -38730565.58 -38730565.44 0.0088 0.0009

Pluto -110752-08-29 20:38 J -38730503.77 -38730503.64 -38730503.46 0.0061 0.0037

Saturn -110752-09-22 20:53 J -38730479.69 -38730479.63 -38730479.56 0.0274 0.0245

Neptune -110752-09-24 23:45 J -38730477.65 -38730477.51 -38730477.36 0.0088 0.0005

Pluto -110752-11-25 22:19 J -38730415.69 -38730415.57 -38730415.43 0.0061 0.0044

Saturn -110752-12-20 10:19 J -38730391.18 -38730391.07 -38730390.95 0.0275 0.0168

Neptune -110752-12-22 01:26 J -38730389.58 -38730389.44 -38730389.29 0.0088 0.0002

Pluto -110751-02-21 23:31 J -38730327.60 -38730327.52 -38730327.40 0.0061 0.0052

Saturn -110751-03-18 23:45 J -38730302.65 -38730302.51 -38730302.37 0.0276 0.0091

Neptune -110751-03-20 03:07 J -38730301.51 -38730301.37 -38730301.22 0.0088 0.0005

Pluto -110751-05-21 00:57 J -38730239.47 -38730239.46 -38730239.40 0.0061 0.0060

Saturn -110751-06-15 12:57 J -38730214.11 -38730213.96 -38730213.82 0.0277 0.0014

Neptune -110751-06-16 05:02 J -38730213.44 -38730213.29 -38730213.15 0.0088 0.0009

Saturn -110751-09-12 01:55 J -38730125.56 -38730125.42 -38730125.28 0.0278 0.0064

Neptune -110751-09-12 06:43 J -38730125.37 -38730125.22 -38730125.08 0.0088 0.0013 *

Mars -110751-10-16 05:45 J -38730091.33 -38730091.26 -38730091.20 0.1727 0.1529

Venus -110751-12-04 21:36 J -38730041.68 -38730041.60 -38730041.52 0.3631 0.2576

Neptune -110751-12-09 08:09 J -38730037.29 -38730037.16 -38730037.01 0.0088 0.0018

Saturn -110751-12-09 14:53 J -38730037.00 -38730036.88 -38730036.76 0.0279 0.0140

Neptune -110750-03-07 09:50 J -38729949.22 -38729949.09 -38729948.94 0.0088 0.0022

Saturn -110750-03-08 03:36 J -38729948.43 -38729948.35 -38729948.26 0.0280 0.0217

Neptune -110750-06-03 11:45 J -38729861.15 -38729861.01 -38729860.87 0.0088 0.0026

Jupiter -110750-07-08 03:21 J -38729826.51 -38729826.36 -38729826.20 0.0496 0.0168

Mars -110750-08-29 23:17 J -38729773.62 -38729773.53 -38729773.43 0.1785 0.1078

Neptune -110750-08-30 13:26 J -38729773.08 -38729772.94 -38729772.81 0.0088 0.0030

Jupiter -110750-10-06 02:38 J -38729736.50 -38729736.39 -38729736.27 0.0495 0.0363

Neptune -110750-11-26 14:53 J -38729685.01 -38729684.88 -38729684.74 0.0088 0.0034

Neptune -110749-02-22 16:33 J -38729596.93 -38729596.81 -38729596.67 0.0088 0.0038

Neptune -110749-05-20 18:14 J -38729508.86 -38729508.74 -38729508.61 0.0088 0.0042

Earth -110749-05-26 17:31 J -38729502.83 -38729502.77 -38729502.72 0.2756 0.2402

Moon -110749-05-26 18:00 J -38729502.79 -38729502.75 -38729502.70 0.2758 0.2446 *

Neptune -110749-08-16 19:55 J -38729420.79 -38729420.67 -38729420.54 0.0088 0.0047

Mars -110749-09-21 20:38 J -38729384.78 -38729384.64 -38729384.51 0.1747 0.0851

Neptune -110749-11-12 21:36 J -38729332.71 -38729332.60 -38729332.48 0.0088 0.0051

Neptune -110748-02-08 23:17 J -38729244.64 -38729244.53 -38729244.42 0.0088 0.0055

Neptune -110748-05-08 00:43 J -38729156.57 -38729156.47 -38729156.36 0.0088 0.0059

Neptune -110748-08-04 02:09 J -38729068.49 -38729068.41 -38729068.29 0.0088 0.0064

Mars -110748-08-04 15:21 J -38729067.97 -38729067.86 -38729067.75 0.1765 0.0817

Neptune -110748-10-31 03:50 J -38728980.42 -38728980.34 -38728980.23 0.0088 0.0068

Neptune -110747-01-27 05:31 J -38728892.34 -38728892.27 -38728892.18 0.0088 0.0071

Neptune -110747-04-25 07:12 J -38728804.26 -38728804.20 -38728804.12 0.0088 0.0075

Neptune -110747-07-22 08:38 J -38728716.18 -38728716.14 -38728716.07 0.0088 0.0080

Neptune -110747-10-18 10:19 J -38728628.10 -38728628.07 -38728628.01 0.0088 0.0084

Neptune -110746-01-14 12:00 J -38728540.01 -38728540.00 -38728539.98 0.0088 0.0087

Venus -110745-06-19 16:48 J -38728017.91 -38728017.80 -38728017.68 0.3635 0.0997

Jupiter -110744-06-09 16:48 J -38727662.84 -38727662.80 -38727662.75 0.0529 0.0499

Jupiter -110744-09-07 05:02 J -38727573.43 -38727573.29 -38727573.15 0.0531 0.0028

Moon -110742-05-20 14:09 J -38726953.02 -38726952.91 -38726952.80 0.2749 0.0302

Earth -110742-05-20 14:38 J -38726953.00 -38726952.89 -38726952.78 0.2744 0.0318 *

Mars -110740-01-19 06:57 J -38726343.27 -38726343.21 -38726343.15 0.1790 0.1570

Venus -110739-01-03 11:45 J -38725994.12 -38725994.01 -38725993.89 0.3640 0.0545

Uranus -110739-02-10 11:02 J -38725956.11 -38725956.04 -38725955.97 0.0146 0.0132

Mars -110739-02-11 22:19 J -38725954.72 -38725954.57 -38725954.42 0.1742 0.0233

Uranus -110739-05-09 18:00 J -38725867.87 -38725867.75 -38725867.63 0.0146 0.0106

Uranus -110739-08-06 00:57 J -38725779.60 -38725779.46 -38725779.31 0.0147 0.0079

Uranus -110739-11-02 08:09 J -38725691.32 -38725691.16 -38725691.00 0.0147 0.0053

Moon -110739-11-10 00:00 J -38725683.64 -38725683.50 -38725683.36 0.2604 0.1070

Earth -110739-11-10 00:57 J -38725683.60 -38725683.46 -38725683.31 0.2599 0.1043 *

Mars -110739-12-25 23:45 J -38725637.63 -38725637.51 -38725637.39 0.1770 0.0377

Uranus -110738-01-29 15:21 J -38725603.04 -38725602.86 -38725602.69 0.0147 0.0026

Saturn -110738-04-23 00:29 J -38725519.54 -38725519.48 -38725519.41 0.0287 0.0262

Jupiter -110738-04-26 03:50 J -38725516.47 -38725516.34 -38725516.20 0.0496 0.0291

Uranus -110738-04-27 22:33 J -38725514.74 -38725514.56 -38725514.38 0.0147 0.0001

Saturn -110738-07-20 19:12 J -38725430.83 -38725430.70 -38725430.56 0.0286 0.0167

Jupiter -110738-07-25 02:38 J -38725426.54 -38725426.39 -38725426.24 0.0495 0.0235

Uranus -110738-07-25 05:45 J -38725426.43 -38725426.26 -38725426.08 0.0147 0.0029 *

Saturn -110738-10-17 14:09 J -38725342.07 -38725341.91 -38725341.75 0.0285 0.0070

Uranus -110738-10-21 13:12 J -38725338.11 -38725337.95 -38725337.79 0.0147 0.0056

Saturn -110737-01-14 09:21 J -38725253.28 -38725253.11 -38725252.94 0.0284 0.0029

Uranus -110737-01-17 20:24 J -38725249.79 -38725249.65 -38725249.50 0.0147 0.0084

Saturn -110737-04-12 04:48 J -38725164.45 -38725164.30 -38725164.15 0.0283 0.0127

Uranus -110737-04-15 03:50 J -38725161.44 -38725161.34 -38725161.21 0.0147 0.0112

Saturn -110737-07-10 00:29 J -38725075.58 -38725075.48 -38725075.38 0.0282 0.0226

Uranus -110737-07-12 11:31 J -38725073.06 -38725073.02 -38725072.96 0.0147 0.0140

Venus -110734-07-20 06:43 J -38723970.32 -38723970.22 -38723970.13 0.3645 0.2045

Jupiter -110732-06-26 06:57 J -38723263.35 -38723263.21 -38723263.08 0.0531 0.0114

Jupiter -110732-09-23 18:14 J -38723173.83 -38723173.74 -38723173.66 0.0532 0.0403

Mars -110730-07-05 00:14 J -38722524.64 -38722524.49 -38722524.34 0.1737 0.0366

Mars -110729-05-17 07:55 J -38722207.29 -38722207.17 -38722207.04 0.1775 0.0094

Moon -110729-05-22 09:21 J -38722202.22 -38722202.11 -38722202.01 0.2755 0.0621

Earth -110729-05-22 09:21 J -38722202.22 -38722202.11 -38722202.00 0.2748 0.0669 *

Venus -110728-02-02 01:12 J -38721946.48 -38721946.45 -38721946.42 0.3650 0.3493

Mars -110727-04-22 22:05 J -38721501.61 -38721501.58 -38721501.55 0.1755 0.1694

Jupiter -110726-02-12 04:19 J -38721206.41 -38721206.32 -38721206.23 0.0497 0.0415

Jupiter -110726-05-13 02:38 J -38721116.55 -38721116.39 -38721116.22 0.0495 0.0105

Moon -110726-11-13 06:29 J -38720932.38 -38720932.23 -38720932.08 0.2600 0.0568

Earth -110726-11-13 06:29 J -38720932.38 -38720932.23 -38720932.08 0.2594 0.0559 *

Saturn -110722-02-09 23:31 J -38719747.56 -38719747.52 -38719747.48 0.0274 0.0263

Saturn -110722-05-09 12:57 J -38719659.06 -38719658.96 -38719658.85 0.0275 0.0186

Moon -110722-05-16 05:45 J -38719652.33 -38719652.26 -38719652.19 0.2731 0.2129

Earth -110722-05-16 06:14 J -38719652.31 -38719652.24 -38719652.16 0.2737 0.2063 *

Saturn -110722-08-06 02:24 J -38719570.53 -38719570.40 -38719570.27 0.0276 0.0108

Saturn -110722-11-02 15:36 J -38719481.99 -38719481.85 -38719481.70 0.0277 0.0032

Saturn -110721-01-30 04:48 J -38719393.44 -38719393.30 -38719393.16 0.0277 0.0046

Saturn -110721-04-27 17:45 J -38719304.89 -38719304.76 -38719304.64 0.0278 0.0122

Saturn -110721-07-25 06:29 J -38719216.33 -38719216.23 -38719216.13 0.0279 0.0198

Saturn -110721-10-21 19:12 J -38719127.72 -38719127.70 -38719127.67 0.0280 0.0274

Mars -110721-11-24 03:07 J -38719094.50 -38719094.37 -38719094.24 0.1732 0.0926

Jupiter -110720-04-14 09:36 J -38718953.22 -38718953.10 -38718952.97 0.0530 0.0243

Jupiter -110720-07-12 21:21 J -38718863.73 -38718863.61 -38718863.50 0.0532 0.0279

Mars -110720-10-07 15:50 J -38718776.96 -38718776.84 -38718776.72 0.1780 0.0545

Mars -110719-10-31 19:41 J -38718387.75 -38718387.68 -38718387.61 0.1753 0.1550

Mars -110718-09-13 06:57 J -38718071.29 -38718071.21 -38718071.13 0.1760 0.1286

Earth -110716-05-25 03:50 J -38717451.43 -38717451.34 -38717451.25 0.2752 0.1630

Moon -110716-05-25 04:19 J -38717451.41 -38717451.32 -38717451.24 0.2758 0.1701 *

Venus -110715-11-26 21:36 J -38716900.70 -38716900.60 -38716900.51 0.3747 0.2377

Jupiter -110714-03-01 01:55 J -38716806.59 -38716806.42 -38716806.25 0.0495 0.0032

Earth -110713-11-15 12:00 J -38716181.08 -38716181.00 -38716180.92 0.2590 0.2174

Moon -110713-11-15 12:57 J -38716181.04 -38716180.96 -38716180.88 0.2596 0.2188 *

Mars -110711-04-16 06:00 J -38715664.32 -38715664.25 -38715664.17 0.1727 0.1475

Mars -110710-02-27 23:31 J -38715346.62 -38715346.52 -38715346.42 0.1785 0.1028

Mars -110709-03-22 21:07 J -38714957.75 -38714957.62 -38714957.49 0.1747 0.0912

Moon -110709-05-18 00:14 J -38714901.59 -38714901.49 -38714901.39 0.2742 0.1109

Earth -110709-05-18 00:57 J -38714901.56 -38714901.46 -38714901.36 0.2741 0.1085 *

Venus -110709-06-11 20:38 J -38714876.77 -38714876.64 -38714876.52 0.3742 0.0246

Saturn -110709-12-06 18:57 J -38714698.82 -38714698.71 -38714698.59 0.0286 0.0196

Jupiter -110708-01-31 12:43 J -38714643.07 -38714642.97 -38714642.87 0.0530 0.0367

Mars -110708-02-02 15:36 J -38714640.96 -38714640.85 -38714640.75 0.1765 0.0861

Saturn -110708-03-05 13:55 J -38714610.08 -38714609.92 -38714609.77 0.0285 0.0099

Jupiter -110708-05-01 00:43 J -38714553.60 -38714553.47 -38714553.34 0.0531 0.0158

Saturn -110708-06-02 08:53 J -38714521.29 -38714521.13 -38714520.96 0.0284 0.0007

Saturn -110708-08-30 04:19 J -38714432.48 -38714432.32 -38714432.16 0.0283 0.0097

Saturn -110708-11-26 23:45 J -38714343.63 -38714343.51 -38714343.38 0.0282 0.0196

Moon -110706-11-08 00:57 J -38713632.53 -38713632.46 -38713632.39 0.2605 0.2312

Earth -110706-11-08 02:24 J -38713632.47 -38713632.40 -38713632.33 0.2602 0.2303 *

Venus -110704-12-26 19:55 J -38712852.77 -38712852.67 -38712852.56 0.3736 0.2044

Earth -110703-05-27 22:19 J -38712700.60 -38712700.57 -38712700.54 0.2756 0.2591

Moon -110703-05-27 23:02 J -38712700.56 -38712700.54 -38712700.51 0.2756 0.2656 *

Jupiter -110703-12-18 01:41 J -38712496.59 -38712496.43 -38712496.27 0.0496 0.0164

Jupiter -110702-03-18 00:57 J -38712406.57 -38712406.46 -38712406.35 0.0495 0.0366

Mars -110701-07-20 06:57 J -38711916.27 -38711916.21 -38711916.14 0.1790 0.1523

Mars -110700-08-12 22:48 J -38711527.70 -38711527.55 -38711527.40 0.1742 0.0292

Venus -110700-12-26 00:43 J -38711392.48 -38711392.47 -38711392.46 0.3627 0.3605

Uranus -110700-12-30 10:48 J -38711388.06 -38711388.05 -38711388.02 0.0132 0.0131

Uranus -110699-03-28 14:24 J -38711299.96 -38711299.90 -38711299.82 0.0132 0.0114

Uranus -110699-06-24 18:14 J -38711211.83 -38711211.74 -38711211.64 0.0132 0.0097

Mars -110699-06-26 00:00 J -38711210.62 -38711210.50 -38711210.38 0.1770 0.0422

Uranus -110699-09-20 21:50 J -38711123.70 -38711123.59 -38711123.47 0.0132 0.0081

Uranus -110699-12-18 01:26 J -38711035.56 -38711035.44 -38711035.31 0.0132 0.0065

Uranus -110698-03-16 04:48 J -38710947.42 -38710947.30 -38710947.16 0.0132 0.0049

Uranus -110698-06-12 08:24 J -38710859.28 -38710859.15 -38710859.00 0.0132 0.0033

Uranus -110698-09-08 12:00 J -38710771.14 -38710771.00 -38710770.86 0.0132 0.0017

Uranus -110698-12-05 15:36 J -38710682.99 -38710682.85 -38710682.71 0.0132 0.0002

Uranus -110697-03-02 18:57 J -38710594.85 -38710594.71 -38710594.57 0.0132 0.0015

Uranus -110697-05-29 22:19 J -38710506.70 -38710506.57 -38710506.43 0.0132 0.0031

Uranus -110697-08-26 01:41 J -38710418.56 -38710418.43 -38710418.29 0.0132 0.0047

Jupiter -110697-11-19 15:07 J -38710332.91 -38710332.87 -38710332.82 0.0529 0.0499

Uranus -110697-11-22 05:02 J -38710330.41 -38710330.29 -38710330.16 0.0132 0.0062

Jupiter -110696-02-17 03:21 J -38710243.49 -38710243.36 -38710243.22 0.0531 0.0031

Uranus -110696-02-18 08:24 J -38710242.26 -38710242.15 -38710242.03 0.0132 0.0077

Uranus -110696-05-17 11:45 J -38710154.10 -38710154.01 -38710153.91 0.0131 0.0092

Moon -110696-05-20 19:12 J -38710150.81 -38710150.70 -38710150.59 0.2750 0.0237

Earth -110696-05-20 19:41 J -38710150.79 -38710150.68 -38710150.57 0.2745 0.0111 *

Uranus -110696-08-13 15:07 J -38710065.94 -38710065.87 -38710065.79 0.0131 0.0107

Uranus -110696-11-09 18:29 J -38709977.77 -38709977.73 -38709977.68 0.0131 0.0122

Venus -110694-07-11 20:09 J -38709368.76 -38709368.66 -38709368.56 0.3632 0.1993

Saturn -110693-09-25 14:38 J -38708926.98 -38708926.89 -38708926.79 0.0275 0.0209

Moon -110693-11-10 06:43 J -38708881.37 -38708881.22 -38708881.08 0.2603 0.0868

Earth -110693-11-10 07:26 J -38708881.34 -38708881.19 -38708881.04 0.2598 0.0730 *

Saturn -110693-12-23 04:05 J -38708838.45 -38708838.33 -38708838.20 0.0276 0.0132

Saturn -110692-03-21 17:31 J -38708749.92 -38708749.77 -38708749.63 0.0277 0.0055

Saturn -110692-06-18 06:29 J -38708661.37 -38708661.23 -38708661.08 0.0278 0.0024

Saturn -110692-09-14 19:26 J -38708572.82 -38708572.69 -38708572.55 0.0279 0.0100

Saturn -110692-12-12 08:24 J -38708484.26 -38708484.15 -38708484.04 0.0280 0.0176

Saturn -110691-03-10 21:07 J -38708395.67 -38708395.62 -38708395.56 0.0281 0.0252

Jupiter -110691-10-06 01:26 J -38708186.57 -38708186.44 -38708186.30 0.0496 0.0295

Mars -110690-01-03 00:57 J -38708097.61 -38708097.46 -38708097.31 0.1737 0.0303

Jupiter -110690-01-04 00:14 J -38708096.64 -38708096.49 -38708096.34 0.0495 0.0232

Mars -110690-11-16 07:55 J -38707780.29 -38707780.17 -38707780.04 0.1775 0.0069

Venus -110688-01-24 15:07 J -38707344.98 -38707344.87 -38707344.75 0.3637 0.0459

Mars -110688-10-21 22:19 J -38707074.59 -38707074.57 -38707074.56 0.1755 0.1735

Jupiter -110685-12-06 06:00 J -38705933.39 -38705933.25 -38705933.12 0.0530 0.0105

Jupiter -110684-03-05 17:02 J -38705843.87 -38705843.79 -38705843.70 0.0532 0.0411

Moon -110683-05-23 14:24 J -38705400.01 -38705399.90 -38705399.80 0.2756 0.0943

Earth -110683-05-23 14:09 J -38705400.01 -38705399.91 -38705399.80 0.2749 0.0860 *

Venus -110683-08-10 10:05 J -38705321.19 -38705321.08 -38705320.96 0.3641 0.1099

Mars -110681-05-25 03:21 J -38704667.49 -38704667.36 -38704667.23 0.1732 0.0879

Mars -110680-04-07 16:05 J -38704349.95 -38704349.83 -38704349.71 0.1780 0.0503

Earth -110680-11-13 12:43 J -38704130.11 -38704129.97 -38704129.82 0.2594 0.0873

Moon -110680-11-13 13:26 J -38704130.09 -38704129.94 -38704129.80 0.2600 0.0951 *

Saturn -110679-04-25 19:55 J -38703966.77 -38703966.67 -38703966.56 0.0286 0.0220

Mars -110679-05-01 20:24 J -38703960.71 -38703960.65 -38703960.59 0.1752 0.1608

Saturn -110679-07-23 14:53 J -38703878.03 -38703877.88 -38703877.73 0.0285 0.0124

Jupiter -110679-07-25 02:09 J -38703876.50 -38703876.41 -38703876.32 0.0497 0.0417

Saturn -110679-10-20 09:50 J -38703789.26 -38703789.09 -38703788.92 0.0284 0.0026

Jupiter -110679-10-23 00:29 J -38703786.65 -38703786.48 -38703786.32 0.0495 0.0104

Saturn -110678-01-17 05:02 J -38703700.45 -38703700.29 -38703700.12 0.0283 0.0072

Mars -110678-03-14 06:57 J -38703644.29 -38703644.21 -38703644.13 0.1760 0.1323

Saturn -110678-04-16 00:29 J -38703611.61 -38703611.48 -38703611.34 0.0282 0.0171

Saturn -110678-07-13 20:09 J -38703522.70 -38703522.66 -38703522.60 0.0281 0.0269

Venus -110677-02-24 04:48 J -38703297.38 -38703297.30 -38703297.21 0.3646 0.2578

Moon -110676-05-16 10:33 J -38702850.14 -38702850.06 -38702849.98 0.2734 0.1927

Earth -110676-05-16 11:17 J -38702850.11 -38702850.03 -38702849.95 0.2737 0.1871 *

Neptune -110673-07-29 23:31 J -38701679.55 -38701679.52 -38701679.46 0.0089 0.0085

Jupiter -110673-09-24 07:26 J -38701623.31 -38701623.19 -38701623.06 0.0530 0.0249

Neptune -110673-10-26 02:09 J -38701591.47 -38701591.41 -38701591.33 0.0089 0.0080

Jupiter -110673-12-22 19:12 J -38701533.82 -38701533.70 -38701533.58 0.0531 0.0272

Neptune -110672-01-22 04:48 J -38701503.38 -38701503.30 -38701503.20 0.0089 0.0075

Neptune -110672-04-20 07:26 J -38701415.29 -38701415.19 -38701415.08 0.0089 0.0070

Neptune -110672-07-17 10:05 J -38701327.19 -38701327.08 -38701326.96 0.0089 0.0065

Neptune -110672-10-13 12:29 J -38701239.09 -38701238.98 -38701238.84 0.0089 0.0061

Mars -110672-10-15 06:29 J -38701237.31 -38701237.23 -38701237.15 0.1727 0.1420

Neptune -110671-01-09 15:07 J -38701150.99 -38701150.87 -38701150.73 0.0089 0.0056

Neptune -110671-04-07 18:00 J -38701062.89 -38701062.75 -38701062.61 0.0089 0.0050

Neptune -110671-07-04 20:38 J -38700974.78 -38700974.64 -38700974.49 0.0089 0.0045

Mars -110671-08-28 23:45 J -38700919.61 -38700919.51 -38700919.40 0.1785 0.0976

Neptune -110671-09-30 23:17 J -38700886.68 -38700886.53 -38700886.38 0.0089 0.0040

Neptune -110671-12-28 01:55 J -38700798.57 -38700798.42 -38700798.26 0.0089 0.0035

Neptune -110670-03-26 04:33 J -38700710.47 -38700710.31 -38700710.14 0.0089 0.0030

Earth -110670-05-26 08:38 J -38700649.22 -38700649.14 -38700649.05 0.2753 0.1825

Moon -110670-05-26 09:21 J -38700649.19 -38700649.11 -38700649.03 0.2757 0.1830 *

Neptune -110670-06-22 07:12 J -38700622.36 -38700622.20 -38700622.03 0.0089 0.0025

Neptune -110670-09-18 09:50 J -38700534.25 -38700534.09 -38700533.91 0.0089 0.0020

Mars -110670-09-21 21:36 J -38700530.73 -38700530.60 -38700530.48 0.1747 0.0966

Neptune -110670-12-15 12:43 J -38700446.14 -38700445.97 -38700445.80 0.0089 0.0015

Neptune -110669-03-12 15:21 J -38700358.02 -38700357.86 -38700357.68 0.0089 0.0010

Neptune -110669-06-08 18:14 J -38700269.91 -38700269.74 -38700269.57 0.0089 0.0004

Mars -110669-08-03 15:50 J -38700213.95 -38700213.84 -38700213.74 0.1765 0.0908

Neptune -110669-09-04 21:07 J -38700181.80 -38700181.62 -38700181.45 0.0089 0.0002

Neptune -110669-12-01 23:45 J -38700093.68 -38700093.51 -38700093.34 0.0089 0.0006

Neptune -110668-02-28 02:24 J -38700005.56 -38700005.40 -38700005.22 0.0089 0.0012

Neptune -110668-05-27 05:17 J -38699917.45 -38699917.28 -38699917.10 0.0089 0.0017

Neptune -110668-08-23 08:09 J -38699829.33 -38699829.16 -38699828.99 0.0089 0.0022

Neptune -110668-11-19 11:02 J -38699741.21 -38699741.04 -38699740.87 0.0089 0.0027

Neptune -110667-02-15 13:41 J -38699653.08 -38699652.93 -38699652.76 0.0089 0.0033

Neptune -110667-05-14 16:33 J -38699564.96 -38699564.81 -38699564.65 0.0089 0.0038

Neptune -110667-08-10 19:12 J -38699476.84 -38699476.70 -38699476.53 0.0089 0.0044

Jupiter -110667-08-11 00:29 J -38699476.65 -38699476.48 -38699476.31 0.0496 0.0026 *

Neptune -110667-11-06 22:05 J -38699388.71 -38699388.58 -38699388.42 0.0089 0.0050

Earth -110667-11-16 18:29 J -38699378.77 -38699378.73 -38699378.69 0.2590 0.2495

Neptune -110666-02-03 01:12 J -38699300.58 -38699300.45 -38699300.31 0.0089 0.0054

Neptune -110666-05-02 03:50 J -38699212.45 -38699212.34 -38699212.19 0.0089 0.0060

Neptune -110666-07-29 06:57 J -38699124.32 -38699124.21 -38699124.08 0.0089 0.0065

Neptune -110666-10-25 09:36 J -38699036.19 -38699036.10 -38699035.97 0.0089 0.0071

Neptune -110665-01-21 12:43 J -38698948.05 -38698947.97 -38698947.87 0.0089 0.0076

Neptune -110665-04-18 15:21 J -38698859.90 -38698859.86 -38698859.77 0.0089 0.0082

Neptune -110665-07-15 18:29 J -38698771.75 -38698771.73 -38698771.68 0.0089 0.0087

Venus -110664-12-17 22:19 J -38698251.58 -38698251.57 -38698251.56 0.3751 0.3728

Saturn -110663-02-12 17:45 J -38698194.84 -38698194.76 -38698194.68 0.0275 0.0224

Saturn -110663-05-12 07:12 J -38698106.32 -38698106.20 -38698106.07 0.0275 0.0147

Moon -110663-05-19 05:17 J -38698099.39 -38698099.28 -38698099.18 0.2744 0.0993

Earth -110663-05-19 06:00 J -38698099.36 -38698099.25 -38698099.15 0.2741 0.0892 *

Saturn -110663-08-08 20:24 J -38698017.78 -38698017.65 -38698017.50 0.0276 0.0071

Saturn -110663-11-05 09:50 J -38697929.24 -38697929.09 -38697928.95 0.0277 0.0011

Saturn -110662-02-01 22:48 J -38697840.69 -38697840.55 -38697840.42 0.0278 0.0084

Saturn -110662-05-01 11:31 J -38697752.13 -38697752.02 -38697751.90 0.0279 0.0161

Saturn -110662-07-29 00:14 J -38697663.55 -38697663.49 -38697663.41 0.0280 0.0237

Mars -110661-01-19 07:12 J -38697489.27 -38697489.20 -38697489.13 0.1790 0.1477

Pluto -110661-04-30 01:41 J -38697387.46 -38697387.43 -38697387.40 0.0085 0.0082

Jupiter -110661-07-13 10:05 J -38697313.17 -38697313.08 -38697312.98 0.0530 0.0380

Pluto -110661-07-27 02:38 J -38697299.45 -38697299.39 -38697299.30 0.0084 0.0068

Jupiter -110661-10-10 22:05 J -38697223.71 -38697223.58 -38697223.45 0.0531 0.0147

Pluto -110661-10-23 04:05 J -38697211.42 -38697211.33 -38697211.22 0.0084 0.0053

Pluto -110660-01-19 05:31 J -38697123.39 -38697123.27 -38697123.15 0.0084 0.0038

Mars -110660-02-10 23:17 J -38697100.68 -38697100.53 -38697100.38 0.1742 0.0352

Pluto -110660-04-17 06:43 J -38697035.34 -38697035.22 -38697035.09 0.0084 0.0024

Pluto -110660-07-14 08:09 J -38696947.29 -38696947.16 -38696947.03 0.0084 0.0010

Pluto -110660-10-10 09:21 J -38696859.24 -38696859.11 -38696858.98 0.0084 0.0004

Moon -110660-11-08 07:26 J -38696830.27 -38696830.19 -38696830.11 0.2606 0.2194

Earth -110660-11-08 08:38 J -38696830.23 -38696830.14 -38696830.04 0.2602 0.1996 *

Mars -110660-12-25 00:00 J -38696783.62 -38696783.50 -38696783.38 0.1770 0.0466

Pluto -110659-01-06 10:33 J -38696771.19 -38696771.06 -38696770.93 0.0084 0.0018

Pluto -110659-04-04 11:45 J -38696683.13 -38696683.01 -38696682.88 0.0084 0.0032

Pluto -110659-07-01 12:57 J -38696595.06 -38696594.96 -38696594.84 0.0083 0.0046

Pluto -110659-09-27 14:09 J -38696506.99 -38696506.91 -38696506.81 0.0083 0.0060

Pluto -110659-12-24 15:36 J -38696418.91 -38696418.85 -38696418.79 0.0083 0.0074

Venus -110658-07-03 20:53 J -38696227.74 -38696227.63 -38696227.52 0.3746 0.1640

Uranus -110655-03-02 17:02 J -38695254.86 -38695254.79 -38695254.71 0.0146 0.0130

Jupiter -110655-05-29 23:45 J -38695166.67 -38695166.51 -38695166.35 0.0496 0.0163

Uranus -110655-05-30 00:00 J -38695166.62 -38695166.50 -38695166.38 0.0147 0.0104 *

Uranus -110655-08-26 06:57 J -38695078.35 -38695078.21 -38695078.06 0.0147 0.0078

Jupiter -110655-08-27 22:48 J -38695076.66 -38695076.55 -38695076.43 0.0495 0.0366

Uranus -110655-11-22 14:09 J -38694990.07 -38694989.91 -38694989.74 0.0147 0.0051

Uranus -110654-02-18 21:21 J -38694901.78 -38694901.61 -38694901.44 0.0147 0.0024

Uranus -110654-05-18 04:33 J -38694813.48 -38694813.31 -38694813.13 0.0147 0.0003

Uranus -110654-08-14 11:45 J -38694725.18 -38694725.01 -38694724.83 0.0147 0.0031

Uranus -110654-11-10 19:12 J -38694636.86 -38694636.70 -38694636.53 0.0147 0.0058

Uranus -110653-02-07 02:24 J -38694548.53 -38694548.40 -38694548.24 0.0147 0.0086

Uranus -110653-05-05 09:50 J -38694460.19 -38694460.09 -38694459.97 0.0147 0.0114

Uranus -110653-08-01 17:31 J -38694371.80 -38694371.77 -38694371.72 0.0147 0.0142

Venus -110652-01-16 20:09 J -38694203.79 -38694203.66 -38694203.54 0.3740 0.0571

Mars -110651-07-04 01:26 J -38693670.59 -38693670.44 -38693670.29 0.1737 0.0251

Mars -110650-05-17 08:09 J -38693353.28 -38693353.16 -38693353.04 0.1775 0.0013

Moon -110650-05-22 00:14 J -38693348.60 -38693348.49 -38693348.38 0.2752 0.0106

Earth -110650-05-22 00:29 J -38693348.59 -38693348.48 -38693348.37 0.2745 0.0113 *

Saturn -110650-09-12 20:38 J -38693234.72 -38693234.64 -38693234.56 0.0287 0.0245

Saturn -110650-12-10 15:07 J -38693146.00 -38693145.87 -38693145.72 0.0286 0.0149

Saturn -110649-03-08 10:05 J -38693057.24 -38693057.08 -38693056.91 0.0285 0.0053

Jupiter -110649-05-01 12:57 J -38693002.99 -38693002.96 -38693002.92 0.0529 0.0506

Saturn -110649-06-05 05:17 J -38692968.44 -38692968.28 -38692968.11 0.0284 0.0046

Jupiter -110649-07-30 01:26 J -38692913.58 -38692913.44 -38692913.31 0.0531 0.0025

Saturn -110649-09-02 00:43 J -38692879.61 -38692879.47 -38692879.32 0.0283 0.0144

Saturn -110649-11-29 20:24 J -38692790.73 -38692790.65 -38692790.56 0.0282 0.0242

Venus -110647-08-02 19:26 J -38692179.77 -38692179.69 -38692179.61 0.3735 0.2822

Moon -110647-11-11 13:41 J -38692079.09 -38692078.93 -38692078.78 0.2603 0.0366

Earth -110647-11-11 13:55 J -38692079.07 -38692078.92 -38692078.76 0.2597 0.0414 *

Jupiter -110643-03-17 23:31 J -38690856.65 -38690856.52 -38690856.38 0.0496 0.0294

Earth -110643-05-14 21:21 J -38690798.63 -38690798.61 -38690798.58 0.2734 0.2656

Jupiter -110643-06-15 22:19 J -38690766.72 -38690766.57 -38690766.42 0.0495 0.0231

Venus -110643-08-01 23:17 J -38690719.60 -38690719.53 -38690719.47 0.3629 0.3016

Mars -110642-11-24 04:05 J -38690240.47 -38690240.33 -38690240.20 0.1732 0.0817

Mars -110641-10-06 16:05 J -38689922.95 -38689922.83 -38689922.71 0.1780 0.0454

Mars -110640-10-30 20:53 J -38689533.67 -38689533.63 -38689533.58 0.1752 0.1673

Mars -110639-09-12 07:12 J -38689217.28 -38689217.20 -38689217.13 0.1760 0.1369

Venus -110637-02-15 18:29 J -38688695.84 -38688695.73 -38688695.62 0.3633 0.1424

Jupiter -110637-05-18 04:05 J -38688603.47 -38688603.33 -38688603.19 0.0530 0.0106

Moon -110637-05-23 19:26 J -38688597.80 -38688597.69 -38688597.59 0.2757 0.1015

Earth -110637-05-23 19:12 J -38688597.80 -38688597.70 -38688597.60 0.2749 0.1057 *

Jupiter -110637-08-15 15:21 J -38688513.94 -38688513.86 -38688513.77 0.0532 0.0409

Saturn -110634-07-02 19:12 J -38687462.75 -38687462.70 -38687462.63 0.0274 0.0248

Saturn -110634-09-29 08:53 J -38687374.24 -38687374.13 -38687374.01 0.0275 0.0170

Earth -110634-11-14 19:26 J -38687327.83 -38687327.69 -38687327.55 0.2593 0.1193

Moon -110634-11-14 20:09 J -38687327.80 -38687327.66 -38687327.53 0.2599 0.1191 *

Saturn -110634-12-26 22:19 J -38687285.70 -38687285.57 -38687285.43 0.0276 0.0092

Saturn -110633-03-24 11:31 J -38687197.16 -38687197.02 -38687196.87 0.0277 0.0016

Saturn -110633-06-21 00:43 J -38687108.61 -38687108.47 -38687108.33 0.0278 0.0062

Saturn -110633-09-17 13:26 J -38687020.06 -38687019.94 -38687019.81 0.0279 0.0139

Saturn -110633-12-15 02:24 J -38686931.49 -38686931.40 -38686931.31 0.0280 0.0215

Mars -110632-04-15 06:57 J -38686810.30 -38686810.21 -38686810.12 0.1727 0.1367

Venus -110632-08-31 13:41 J -38686672.05 -38686671.93 -38686671.82 0.3638 0.0154

Jupiter -110631-01-03 23:31 J -38686546.60 -38686546.52 -38686546.43 0.0497 0.0423

Mars -110631-02-26 23:45 J -38686492.61 -38686492.51 -38686492.40 0.1785 0.0936

Jupiter -110631-04-03 21:50 J -38686456.76 -38686456.59 -38686456.43 0.0495 0.0097

Mars -110630-03-22 22:05 J -38686103.70 -38686103.58 -38686103.45 0.1747 0.1028

Moon -110630-05-17 15:21 J -38686047.94 -38686047.86 -38686047.77 0.2737 0.1708

Earth -110630-05-17 16:05 J -38686047.91 -38686047.83 -38686047.74 0.2738 0.1679 *

Mars -110629-02-02 15:36 J -38685786.95 -38685786.85 -38685786.74 0.1765 0.0945

Venus -110626-03-17 08:24 J -38684648.25 -38684648.15 -38684648.04 0.3643 0.1638

Jupiter -110625-03-06 06:29 J -38684293.36 -38684293.23 -38684293.11 0.0530 0.0241

Jupiter -110625-06-03 18:00 J -38684203.86 -38684203.75 -38684203.63 0.0531 0.0279

Earth -110624-05-26 13:41 J -38683847.01 -38683846.93 -38683846.86 0.2753 0.2016

Moon -110624-05-26 14:24 J -38683846.97 -38683846.90 -38683846.84 0.2755 0.2152 *

Mars -110622-07-20 07:26 J -38683062.27 -38683062.19 -38683062.12 0.1790 0.1424

Mars -110621-08-11 23:45 J -38682673.66 -38682673.51 -38682673.36 0.1742 0.0405

Venus -110621-09-30 03:07 J -38682624.43 -38682624.37 -38682624.31 0.3648 0.3102

Saturn -110620-01-29 21:50 J -38682502.64 -38682502.59 -38682502.53 0.0287 0.0268

Saturn -110620-04-28 16:19 J -38682413.94 -38682413.82 -38682413.68 0.0286 0.0173

Mars -110620-06-25 00:00 J -38682356.61 -38682356.50 -38682356.38 0.1770 0.0512

Saturn -110620-07-26 11:17 J -38682325.19 -38682325.03 -38682324.87 0.0285 0.0076

Saturn -110620-10-23 06:29 J -38682236.40 -38682236.23 -38682236.06 0.0284 0.0022

Saturn -110619-01-20 01:55 J -38682147.58 -38682147.42 -38682147.27 0.0283 0.0120

Jupiter -110619-01-20 21:50 J -38682146.75 -38682146.59 -38682146.42 0.0496 0.0033

Saturn -110619-04-18 21:21 J -38682058.71 -38682058.61 -38682058.50 0.0282 0.0218

Moon -110617-05-19 10:05 J -38681297.18 -38681297.08 -38681296.97 0.2745 0.0755

Earth -110617-05-19 10:48 J -38681297.15 -38681297.05 -38681296.94 0.2742 0.0700 *

Uranus -110615-01-19 17:45 J -38680686.79 -38680686.76 -38680686.72 0.0132 0.0128

Uranus -110615-04-17 21:21 J -38680598.68 -38680598.61 -38680598.53 0.0132 0.0111

Uranus -110615-07-15 00:57 J -38680510.55 -38680510.46 -38680510.36 0.0132 0.0095

Uranus -110615-10-11 04:33 J -38680422.42 -38680422.31 -38680422.19 0.0132 0.0079

Uranus -110614-01-07 08:09 J -38680334.28 -38680334.16 -38680334.03 0.0132 0.0062

Uranus -110614-04-05 11:45 J -38680246.14 -38680246.01 -38680245.87 0.0132 0.0046

Uranus -110614-07-02 15:21 J -38680158.00 -38680157.86 -38680157.72 0.0132 0.0030

Uranus -110614-09-28 18:43 J -38680069.86 -38680069.72 -38680069.57 0.0132 0.0015

Moon -110614-11-09 14:09 J -38680028.03 -38680027.91 -38680027.80 0.2606 0.1691

Earth -110614-11-09 15:07 J -38680027.98 -38680027.87 -38680027.75 0.2601 0.1686 *

Jupiter -110614-12-24 07:55 J -38679983.26 -38679983.17 -38679983.07 0.0529 0.0387

Uranus -110614-12-25 22:19 J -38679981.71 -38679981.57 -38679981.43 0.0132 0.0002

Jupiter -110613-03-22 19:55 J -38679893.80 -38679893.67 -38679893.54 0.0531 0.0139

Uranus -110613-03-23 01:41 J -38679893.57 -38679893.43 -38679893.29 0.0132 0.0018 *

Uranus -110613-06-19 05:02 J -38679805.42 -38679805.29 -38679805.15 0.0132 0.0033

Uranus -110613-09-15 08:24 J -38679717.27 -38679717.15 -38679717.01 0.0132 0.0049

Uranus -110613-12-12 12:00 J -38679629.12 -38679629.00 -38679628.88 0.0132 0.0064

Uranus -110612-03-10 15:07 J -38679540.97 -38679540.87 -38679540.75 0.0132 0.0080

Uranus -110612-06-06 18:29 J -38679452.82 -38679452.73 -38679452.63 0.0132 0.0095

Uranus -110612-09-02 21:50 J -38679364.66 -38679364.59 -38679364.51 0.0131 0.0110

Uranus -110612-11-30 01:12 J -38679276.49 -38679276.45 -38679276.41 0.0131 0.0125

Mars -110611-01-02 01:41 J -38679243.58 -38679243.43 -38679243.27 0.1737 0.0199

Mars -110611-11-15 08:24 J -38678926.28 -38678926.15 -38678926.03 0.1775 0.0063

Jupiter -110608-11-08 22:05 J -38677836.74 -38677836.58 -38677836.43 0.0496 0.0160

Jupiter -110607-02-06 21:07 J -38677746.73 -38677746.62 -38677746.51 0.0495 0.0370

Venus -110607-07-24 21:21 J -38677578.68 -38677578.61 -38677578.54 0.3750 0.3018

Saturn -110605-11-18 22:33 J -38676730.60 -38676730.56 -38676730.51 0.0274 0.0262

Saturn -110604-02-15 12:14 J -38676642.10 -38676641.99 -38676641.88 0.0275 0.0184

Saturn -110604-05-15 01:41 J -38676553.56 -38676553.43 -38676553.30 0.0276 0.0107

Moon -110604-05-22 05:17 J -38676546.39 -38676546.28 -38676546.17 0.2753 0.0254

Earth -110604-05-22 05:31 J -38676546.38 -38676546.27 -38676546.16 0.2746 0.0282 *

Saturn -110604-08-11 14:53 J -38676465.02 -38676464.88 -38676464.73 0.0277 0.0030

Saturn -110604-11-08 04:05 J -38676376.47 -38676376.33 -38676376.19 0.0278 0.0048

Saturn -110603-02-04 17:02 J -38676287.92 -38676287.79 -38676287.66 0.0279 0.0124

Saturn -110603-05-04 05:45 J -38676199.35 -38676199.26 -38676199.16 0.0280 0.0201

Saturn -110603-07-31 18:29 J -38676110.74 -38676110.73 -38676110.70 0.0281 0.0277

Mars -110602-05-25 04:33 J -38675813.45 -38675813.31 -38675813.18 0.1732 0.0762

Jupiter -110602-10-12 10:19 J -38675673.09 -38675673.07 -38675673.05 0.0529 0.0520

Jupiter -110601-01-09 22:48 J -38675583.69 -38675583.55 -38675583.41 0.0531 0.0012

Venus -110601-02-07 20:09 J -38675554.78 -38675554.66 -38675554.53 0.3744 0.0901

Mars -110601-04-06 16:19 J -38675495.95 -38675495.82 -38675495.70 0.1780 0.0412

Jupiter -110601-04-08 09:50 J -38675494.11 -38675494.09 -38675494.07 0.0532 0.0521

Earth -110601-11-11 20:24 J -38675276.81 -38675276.65 -38675276.50 0.2597 0.0101

Moon -110601-11-11 20:38 J -38675276.80 -38675276.64 -38675276.49 0.2603 0.0200 *

Mars -110600-04-30 21:21 J -38675106.63 -38675106.61 -38675106.59 0.1753 0.1728

Mars -110599-03-13 07:12 J -38674790.27 -38674790.20 -38674790.13 0.1760 0.1411

Moon -110597-05-15 01:55 J -38673996.47 -38673996.42 -38673996.37 0.2729 0.2435

Earth -110597-05-15 02:24 J -38673996.45 -38673996.40 -38673996.35 0.2734 0.2462 *

Venus -110596-08-23 19:26 J -38673530.81 -38673530.69 -38673530.57 0.3739 0.1320

Jupiter -110596-08-27 21:21 J -38673526.74 -38673526.61 -38673526.48 0.0496 0.0296

Jupiter -110596-11-25 19:55 J -38673436.82 -38673436.67 -38673436.52 0.0495 0.0228

Mars -110593-10-14 07:26 J -38672383.29 -38672383.19 -38672383.10 0.1727 0.1311

Mars -110592-08-28 00:00 J -38672065.61 -38672065.50 -38672065.39 0.1785 0.0885

Neptune -110592-11-21 13:26 J -38671979.97 -38671979.94 -38671979.91 0.0088 0.0086

Neptune -110591-02-17 14:53 J -38671891.92 -38671891.88 -38671891.81 0.0088 0.0082

Neptune -110591-05-16 17:02 J -38671803.86 -38671803.79 -38671803.71 0.0088 0.0077

Earth -110591-05-25 00:00 J -38671795.60 -38671795.50 -38671795.40 0.2750 0.1245

Moon -110591-05-25 00:29 J -38671795.58 -38671795.48 -38671795.39 0.2755 0.1341 *

Neptune -110591-08-12 18:43 J -38671715.79 -38671715.72 -38671715.62 0.0088 0.0073

Saturn -110591-09-15 17:31 J -38671681.88 -38671681.77 -38671681.65 0.0286 0.0195

Mars -110591-09-20 22:48 J -38671676.67 -38671676.55 -38671676.43 0.1747 0.1089

Neptune -110591-11-08 20:53 J -38671627.72 -38671627.63 -38671627.54 0.0088 0.0068

Saturn -110591-12-13 12:14 J -38671593.14 -38671592.99 -38671592.83 0.0285 0.0099

Neptune -110590-02-04 22:33 J -38671539.66 -38671539.56 -38671539.45 0.0088 0.0063

Venus -110590-03-09 19:12 J -38671506.73 -38671506.70 -38671506.68 0.3733 0.3616

Saturn -110590-03-12 07:26 J -38671504.36 -38671504.19 -38671504.02 0.0284 0.0002

Neptune -110590-05-04 00:29 J -38671451.59 -38671451.48 -38671451.36 0.0088 0.0059

Saturn -110590-06-09 02:38 J -38671415.55 -38671415.39 -38671415.23 0.0283 0.0097

Neptune -110590-07-31 02:09 J -38671363.52 -38671363.41 -38671363.28 0.0088 0.0055

Mars -110590-08-03 15:50 J -38671359.94 -38671359.84 -38671359.74 0.1765 0.0989

Saturn -110590-09-05 22:05 J -38671326.70 -38671326.58 -38671326.45 0.0282 0.0195

Neptune -110590-10-27 04:05 J -38671275.45 -38671275.33 -38671275.20 0.0088 0.0050

Jupiter -110590-10-29 01:41 J -38671273.56 -38671273.43 -38671273.29 0.0531 0.0117

Neptune -110589-01-23 05:45 J -38671187.37 -38671187.26 -38671187.12 0.0088 0.0046

Jupiter -110589-01-26 13:12 J -38671184.04 -38671183.95 -38671183.86 0.0532 0.0402

Neptune -110589-04-20 07:55 J -38671099.30 -38671099.17 -38671099.04 0.0088 0.0041

Neptune -110589-07-17 09:36 J -38671011.23 -38671011.10 -38671010.96 0.0088 0.0036

Neptune -110589-10-13 11:17 J -38670923.16 -38670923.03 -38670922.88 0.0088 0.0032

Neptune -110588-01-09 13:12 J -38670835.09 -38670834.95 -38670834.81 0.0088 0.0028

Neptune -110588-04-07 14:53 J -38670747.02 -38670746.88 -38670746.73 0.0088 0.0023

Neptune -110588-07-04 16:48 J -38670658.94 -38670658.80 -38670658.66 0.0088 0.0019

Neptune -110588-09-30 18:29 J -38670570.87 -38670570.73 -38670570.58 0.0088 0.0014

Earth -110588-11-15 01:55 J -38670525.55 -38670525.42 -38670525.30 0.2593 0.1513

Moon -110588-11-15 02:53 J -38670525.50 -38670525.38 -38670525.27 0.2598 0.1670 *

Neptune -110588-12-27 20:09 J -38670482.80 -38670482.66 -38670482.51 0.0088 0.0011

Neptune -110587-03-25 22:05 J -38670394.73 -38670394.58 -38670394.43 0.0088 0.0006

Neptune -110587-06-21 23:45 J -38670306.65 -38670306.51 -38670306.36 0.0088 0.0002

Neptune -110587-09-18 01:26 J -38670218.58 -38670218.44 -38670218.29 0.0088 0.0004

Neptune -110587-12-15 03:21 J -38670130.51 -38670130.36 -38670130.22 0.0088 0.0008

Venus -110586-03-08 21:36 J -38670046.68 -38670046.60 -38670046.51 0.3630 0.2436

Neptune -110586-03-13 05:02 J -38670042.44 -38670042.29 -38670042.15 0.0088 0.0012

Neptune -110586-06-09 06:29 J -38669954.36 -38669954.23 -38669954.08 0.0088 0.0017

Neptune -110586-09-05 08:24 J -38669866.29 -38669866.15 -38669866.01 0.0088 0.0020

Neptune -110586-12-02 10:05 J -38669778.22 -38669778.08 -38669777.94 0.0088 0.0025

Neptune -110585-02-28 11:45 J -38669690.15 -38669690.01 -38669689.87 0.0088 0.0029

Neptune -110585-05-26 13:12 J -38669602.07 -38669601.95 -38669601.81 0.0088 0.0033

Neptune -110585-08-22 14:53 J -38669514.00 -38669513.88 -38669513.74 0.0088 0.0038

Neptune -110585-11-18 16:33 J -38669425.93 -38669425.81 -38669425.68 0.0088 0.0042

Neptune -110584-02-14 18:14 J -38669337.86 -38669337.74 -38669337.61 0.0088 0.0046

Neptune -110584-05-13 19:55 J -38669249.78 -38669249.67 -38669249.55 0.0088 0.0050

Moon -110584-05-17 20:24 J -38669245.74 -38669245.65 -38669245.56 0.2739 0.1609

Earth -110584-05-17 21:07 J -38669245.71 -38669245.62 -38669245.53 0.2738 0.1478 *

Jupiter -110584-06-15 21:21 J -38669216.69 -38669216.61 -38669216.52 0.0497 0.0425

Neptune -110584-08-09 21:21 J -38669161.71 -38669161.61 -38669161.48 0.0088 0.0054

Jupiter -110584-09-13 19:26 J -38669126.85 -38669126.69 -38669126.52 0.0495 0.0095

Neptune -110584-11-05 23:02 J -38669073.63 -38669073.54 -38669073.42 0.0088 0.0058

Neptune -110583-02-02 00:43 J -38668985.56 -38668985.47 -38668985.36 0.0088 0.0062

Neptune -110583-05-01 02:24 J -38668897.49 -38668897.40 -38668897.30 0.0088 0.0066

Neptune -110583-07-28 03:50 J -38668809.41 -38668809.34 -38668809.24 0.0088 0.0071

Neptune -110583-10-24 05:31 J -38668721.33 -38668721.27 -38668721.18 0.0088 0.0075

Mars -110582-01-18 07:26 J -38668635.27 -38668635.19 -38668635.11 0.1790 0.1383

Neptune -110582-01-20 07:12 J -38668633.25 -38668633.20 -38668633.13 0.0088 0.0079

Neptune -110582-04-18 08:53 J -38668545.17 -38668545.13 -38668545.08 0.0088 0.0082

Neptune -110582-07-15 10:19 J -38668457.08 -38668457.07 -38668457.03 0.0088 0.0087

Mars -110581-02-11 00:14 J -38668246.64 -38668246.49 -38668246.34 0.1742 0.0466

Venus -110581-09-21 17:02 J -38668022.91 -38668022.79 -38668022.68 0.3634 0.0862

Mars -110581-12-24 00:14 J -38667929.61 -38667929.49 -38667929.37 0.1770 0.0553

Earth -110578-05-27 18:29 J -38667044.79 -38667044.73 -38667044.66 0.2754 0.2210

Moon -110578-05-27 19:12 J -38667044.76 -38667044.70 -38667044.63 0.2755 0.2211 *

Jupiter -110578-08-17 04:33 J -38666963.44 -38666963.31 -38666963.19 0.0530 0.0245

Jupiter -110578-11-14 16:05 J -38666873.94 -38666873.83 -38666873.71 0.0531 0.0276

Venus -110575-04-07 12:00 J -38665999.12 -38665999.00 -38665998.89 0.3639 0.0673

Saturn -110575-07-05 14:09 J -38665910.01 -38665909.91 -38665909.82 0.0275 0.0206

Saturn -110575-10-02 03:36 J -38665821.48 -38665821.35 -38665821.22 0.0276 0.0129

Saturn -110575-12-29 16:48 J -38665732.94 -38665732.80 -38665732.65 0.0277 0.0052

Saturn -110574-03-28 06:00 J -38665644.39 -38665644.25 -38665644.11 0.0278 0.0026

Saturn -110574-06-24 18:57 J -38665555.84 -38665555.71 -38665555.57 0.0279 0.0103

Saturn -110574-09-21 07:55 J -38665467.27 -38665467.17 -38665467.06 0.0280 0.0179

Saturn -110574-12-18 20:53 J -38665378.69 -38665378.63 -38665378.58 0.0281 0.0255

Jupiter -110572-07-02 19:12 J -38664816.87 -38664816.70 -38664816.54 0.0496 0.0042

Mars -110572-07-03 02:24 J -38664816.55 -38664816.40 -38664816.25 0.1737 0.0138 *

Jupiter -110572-09-30 18:43 J -38664726.73 -38664726.72 -38664726.72 0.0495 0.0494

Uranus -110571-03-22 22:48 J -38664553.62 -38664553.55 -38664553.45 0.0146 0.0129

Mars -110571-05-16 08:24 J -38664499.28 -38664499.15 -38664499.03 0.1775 0.0105

Moon -110571-05-20 15:21 J -38664494.97 -38664494.86 -38664494.76 0.2747 0.0540

Earth -110571-05-20 15:50 J -38664494.95 -38664494.84 -38664494.73 0.2742 0.0504 *

Uranus -110571-06-19 05:45 J -38664465.37 -38664465.26 -38664465.12 0.0147 0.0103

Uranus -110571-09-15 12:57 J -38664377.10 -38664376.96 -38664376.81 0.0147 0.0076

Uranus -110571-12-12 19:55 J -38664288.82 -38664288.67 -38664288.49 0.0147 0.0050

Uranus -110570-03-11 03:21 J -38664200.53 -38664200.36 -38664200.19 0.0147 0.0022

Uranus -110570-06-07 10:33 J -38664112.24 -38664112.06 -38664111.88 0.0147 0.0005

Uranus -110570-09-03 17:45 J -38664023.93 -38664023.76 -38664023.58 0.0147 0.0032

Venus -110570-10-22 06:43 J -38663975.31 -38663975.22 -38663975.12 0.3644 0.2173

Uranus -110570-12-01 00:57 J -38663935.61 -38663935.46 -38663935.29 0.0147 0.0060

Uranus -110569-02-27 08:38 J -38663847.28 -38663847.14 -38663847.00 0.0147 0.0087

Uranus -110569-05-25 16:05 J -38663758.94 -38663758.83 -38663758.72 0.0147 0.0115

Uranus -110569-08-21 23:31 J -38663670.55 -38663670.52 -38663670.48 0.0147 0.0144

Moon -110568-11-09 20:53 J -38663225.75 -38663225.63 -38663225.51 0.2606 0.1488

Earth -110568-11-09 21:36 J -38663225.73 -38663225.60 -38663225.47 0.2601 0.1373 *

Jupiter -110566-06-05 06:43 J -38662653.32 -38662653.22 -38662653.12 0.0529 0.0380

Jupiter -110566-09-02 18:43 J -38662563.85 -38662563.72 -38662563.59 0.0531 0.0144

Venus -110564-05-07 01:26 J -38661951.45 -38661951.44 -38661951.43 0.3649 0.3617

Mars -110563-11-23 04:48 J -38661386.44 -38661386.30 -38661386.16 0.1732 0.0710

Mars -110562-10-06 16:19 J -38661068.94 -38661068.82 -38661068.69 0.1780 0.0365

Saturn -110561-02-02 18:43 J -38660949.82 -38660949.72 -38660949.61 0.0286 0.0218

Saturn -110561-05-01 13:26 J -38660861.08 -38660860.94 -38660860.78 0.0285 0.0122

Saturn -110561-07-29 08:38 J -38660772.31 -38660772.14 -38660771.98 0.0284 0.0026

Saturn -110561-10-26 03:50 J -38660683.51 -38660683.34 -38660683.18 0.0283 0.0073

Saturn -110560-01-22 23:17 J -38660594.67 -38660594.53 -38660594.40 0.0282 0.0171

Jupiter -110560-04-20 19:12 J -38660506.85 -38660506.70 -38660506.54 0.0496 0.0168

Saturn -110560-04-21 18:57 J -38660505.75 -38660505.71 -38660505.66 0.0281 0.0269

Jupiter -110560-07-19 18:29 J -38660416.85 -38660416.73 -38660416.62 0.0495 0.0363

Mars -110560-09-11 07:12 J -38660363.26 -38660363.20 -38660363.13 0.1760 0.1451

Earth -110558-05-23 10:19 J -38659744.18 -38659744.07 -38659743.96 0.2746 0.0476

Moon -110558-05-23 10:19 J -38659744.17 -38659744.07 -38659743.96 0.2754 0.0494 *

Earth -110555-11-13 02:53 J -38658474.53 -38658474.38 -38658474.22 0.2596 0.0225

Moon -110555-11-13 03:21 J -38658474.52 -38658474.36 -38658474.21 0.2603 0.0347 *

Jupiter -110554-03-24 08:09 J -38658343.17 -38658343.16 -38658343.15 0.0529 0.0526

Jupiter -110554-06-21 20:38 J -38658253.78 -38658253.64 -38658253.51 0.0530 0.0014

Jupiter -110554-09-19 07:26 J -38658164.21 -38658164.19 -38658164.15 0.0532 0.0514

Mars -110553-04-14 07:41 J -38657956.28 -38657956.18 -38657956.08 0.1727 0.1260

Mars -110552-02-26 00:00 J -38657638.61 -38657638.50 -38657638.38 0.1785 0.0841

Mars -110551-03-21 23:02 J -38657249.66 -38657249.54 -38657249.43 0.1747 0.1139

Moon -110551-05-16 06:43 J -38657194.27 -38657194.22 -38657194.17 0.2732 0.2386

Earth -110551-05-16 07:26 J -38657194.25 -38657194.19 -38657194.13 0.2735 0.2267 *

Mars -110550-02-01 15:50 J -38656932.93 -38656932.84 -38656932.74 0.1765 0.1035

Venus -110550-02-28 20:38 J -38656905.73 -38656905.64 -38656905.54 0.3748 0.2289

Jupiter -110548-02-06 19:26 J -38656196.82 -38656196.69 -38656196.56 0.0497 0.0295

Jupiter -110548-05-07 18:00 J -38656106.89 -38656106.75 -38656106.60 0.0495 0.0231

Saturn -110546-11-22 17:17 J -38655177.86 -38655177.78 -38655177.69 0.0275 0.0221

Saturn -110545-02-19 06:43 J -38655089.34 -38655089.22 -38655089.09 0.0276 0.0143

Saturn -110545-05-17 20:09 J -38655000.80 -38655000.66 -38655000.52 0.0277 0.0066

Earth -110545-05-25 04:48 J -38654993.39 -38654993.30 -38654993.20 0.2750 0.1441

Moon -110545-05-25 05:31 J -38654993.36 -38654993.27 -38654993.18 0.2754 0.1463 *

Saturn -110545-08-14 09:21 J -38654912.25 -38654912.11 -38654911.96 0.0278 0.0012

Venus -110545-09-13 19:41 J -38654881.81 -38654881.68 -38654881.55 0.3743 0.0142

Saturn -110545-11-10 22:33 J -38654823.70 -38654823.56 -38654823.43 0.0278 0.0089

Saturn -110544-02-07 11:17 J -38654735.14 -38654735.03 -38654734.91 0.0279 0.0165

Saturn -110544-05-07 00:14 J -38654646.56 -38654646.49 -38654646.42 0.0280 0.0241

Mars -110543-07-19 07:41 J -38654208.27 -38654208.18 -38654208.10 0.1790 0.1331

Jupiter -110542-04-09 23:17 J -38653943.67 -38653943.53 -38653943.40 0.0530 0.0130

Jupiter -110542-07-08 10:33 J -38653854.15 -38653854.06 -38653853.97 0.0532 0.0388

Mars -110542-08-12 00:43 J -38653819.61 -38653819.47 -38653819.32 0.1742 0.0526

Earth -110542-11-16 08:24 J -38653723.26 -38653723.15 -38653723.04 0.2592 0.1837

Moon -110542-11-16 09:50 J -38653723.20 -38653723.09 -38653722.99 0.2595 0.1848 *

Mars -110541-06-24 00:14 J -38653502.60 -38653502.49 -38653502.37 0.1770 0.0600

Venus -110539-03-30 18:57 J -38652857.81 -38652857.71 -38652857.60 0.3737 0.2092

Moon -110538-05-19 01:12 J -38652443.54 -38652443.45 -38652443.35 0.2740 0.1299

Earth -110538-05-19 02:09 J -38652443.51 -38652443.41 -38652443.32 0.2739 0.1289 *

Jupiter -110537-11-25 18:57 J -38651886.79 -38651886.71 -38651886.63 0.0497 0.0429

Jupiter -110536-02-23 17:02 J -38651796.95 -38651796.79 -38651796.62 0.0495 0.0090

Venus -110535-03-30 00:43 J -38651397.50 -38651397.47 -38651397.44 0.3627 0.3464

Mars -110532-01-01 02:53 J -38650389.53 -38650389.38 -38650389.23 0.1737 0.0075

Earth -110532-05-27 23:31 J -38650242.58 -38650242.52 -38650242.47 0.2754 0.2401

Moon -110532-05-28 00:14 J -38650242.53 -38650242.49 -38650242.45 0.2754 0.2535 *

Saturn -110532-06-21 20:09 J -38650217.74 -38650217.66 -38650217.56 0.0286 0.0239

Saturn -110532-09-18 15:07 J -38650129.02 -38650128.87 -38650128.73 0.0285 0.0143

Mars -110532-11-14 08:38 J -38650072.27 -38650072.14 -38650072.02 0.1775 0.0157

Saturn -110532-12-16 09:50 J -38650040.25 -38650040.09 -38650039.92 0.0284 0.0047

Uranus -110531-02-09 00:14 J -38649985.52 -38649985.49 -38649985.44 0.0132 0.0126

Saturn -110531-03-15 05:02 J -38649951.45 -38649951.29 -38649951.12 0.0283 0.0052

Uranus -110531-05-08 03:50 J -38649897.41 -38649897.34 -38649897.25 0.0132 0.0109

Saturn -110531-06-12 00:29 J -38649862.62 -38649862.48 -38649862.34 0.0283 0.0149

Uranus -110531-08-04 07:41 J -38649809.28 -38649809.18 -38649809.08 0.0132 0.0093

Saturn -110531-09-08 19:55 J -38649773.74 -38649773.67 -38649773.58 0.0282 0.0248

Uranus -110531-10-31 11:17 J -38649721.14 -38649721.03 -38649720.91 0.0132 0.0076

Jupiter -110530-01-27 02:09 J -38649633.53 -38649633.41 -38649633.29 0.0530 0.0255

Uranus -110530-01-27 14:53 J -38649633.01 -38649632.88 -38649632.75 0.0132 0.0060

Uranus -110530-04-25 18:29 J -38649544.87 -38649544.73 -38649544.60 0.0132 0.0044

Jupiter -110530-04-26 13:55 J -38649544.04 -38649543.92 -38649543.81 0.0532 0.0267

Uranus -110530-07-22 21:50 J -38649456.72 -38649456.59 -38649456.44 0.0132 0.0028

Venus -110530-10-13 20:09 J -38649373.76 -38649373.66 -38649373.56 0.3631 0.1854

Uranus -110530-10-19 01:26 J -38649368.58 -38649368.44 -38649368.30 0.0132 0.0012

Uranus -110529-01-15 05:02 J -38649280.43 -38649280.29 -38649280.15 0.0132 0.0005

Uranus -110529-04-12 08:24 J -38649192.29 -38649192.15 -38649192.01 0.0132 0.0020

Uranus -110529-07-09 11:45 J -38649104.14 -38649104.01 -38649103.87 0.0132 0.0036

Uranus -110529-10-05 15:21 J -38649015.99 -38649015.86 -38649015.73 0.0132 0.0051

Uranus -110528-01-01 18:29 J -38648927.84 -38648927.73 -38648927.60 0.0132 0.0067

Uranus -110528-03-30 21:50 J -38648839.69 -38648839.59 -38648839.47 0.0132 0.0082

Uranus -110528-06-27 01:26 J -38648751.53 -38648751.44 -38648751.35 0.0132 0.0097

Uranus -110528-09-23 04:19 J -38648663.37 -38648663.32 -38648663.23 0.0132 0.0113

Uranus -110528-12-20 07:41 J -38648575.20 -38648575.18 -38648575.13 0.0131 0.0128

Moon -110525-05-20 20:24 J -38647692.76 -38647692.65 -38647692.54 0.2750 0.0384

Earth -110525-05-20 20:38 J -38647692.75 -38647692.64 -38647692.53 0.2743 0.0318 *

Jupiter -110525-12-12 16:48 J -38647486.97 -38647486.80 -38647486.63 0.0496 0.0043

Jupiter -110524-03-12 16:19 J -38647396.84 -38647396.82 -38647396.80 0.0494 0.0490

Venus -110524-04-28 15:21 J -38647349.98 -38647349.86 -38647349.74 0.3636 0.0298

Mars -110523-05-24 05:17 J -38646959.42 -38646959.28 -38646959.14 0.1732 0.0654

Mars -110522-04-06 16:33 J -38646641.94 -38646641.81 -38646641.69 0.1780 0.0324

Moon -110522-11-11 03:50 J -38646423.48 -38646423.34 -38646423.20 0.2606 0.1074

Earth -110522-11-11 04:05 J -38646423.47 -38646423.33 -38646423.19 0.2600 0.1062 *

Mars -110520-03-12 07:26 J -38645936.26 -38645936.19 -38645936.13 0.1760 0.1493

Venus -110519-11-12 10:19 J -38645326.18 -38645326.07 -38645325.96 0.3641 0.1222

Jupiter -110519-11-15 04:33 J -38645323.40 -38645323.31 -38645323.21 0.0529 0.0385

Jupiter -110518-02-12 16:48 J -38645233.93 -38645233.80 -38645233.67 0.0531 0.0141

Saturn -110516-04-10 18:57 J -38644445.77 -38644445.71 -38644445.64 0.0275 0.0243

Saturn -110516-07-08 08:38 J -38644357.26 -38644357.14 -38644357.02 0.0275 0.0166

Saturn -110516-10-04 22:05 J -38644268.72 -38644268.58 -38644268.45 0.0276 0.0089

Saturn -110515-01-01 11:17 J -38644180.17 -38644180.03 -38644179.89 0.0277 0.0011

Saturn -110515-03-31 00:14 J -38644091.62 -38644091.49 -38644091.35 0.0278 0.0067

Saturn -110515-06-27 13:26 J -38644003.06 -38644002.94 -38644002.82 0.0279 0.0143

Saturn -110515-09-24 02:09 J -38643914.49 -38643914.41 -38643914.32 0.0280 0.0219

Mars -110514-10-14 08:09 J -38643529.26 -38643529.16 -38643529.05 0.1727 0.1204

Venus -110513-05-28 05:02 J -38643302.36 -38643302.29 -38643302.21 0.3646 0.2703

Mars -110513-08-27 00:14 J -38643211.60 -38643211.49 -38643211.38 0.1785 0.0793

Jupiter -110513-09-30 16:33 J -38643176.97 -38643176.81 -38643176.66 0.0496 0.0176

Jupiter -110513-12-29 15:36 J -38643086.97 -38643086.85 -38643086.74 0.0495 0.0353

Earth -110512-05-23 15:21 J -38642941.97 -38642941.86 -38642941.75 0.2747 0.0667

Moon -110512-05-23 15:36 J -38642941.96 -38642941.85 -38642941.75 0.2754 0.0703 *

Mars -110512-09-19 23:45 J -38642822.62 -38642822.51 -38642822.40 0.1747 0.1206

Mars -110511-08-02 16:05 J -38642505.93 -38642505.83 -38642505.74 0.1765 0.1075

Earth -110509-11-13 09:21 J -38641672.26 -38641672.11 -38641671.96 0.2596 0.0537

Moon -110509-11-13 09:50 J -38641672.24 -38641672.09 -38641671.93 0.2602 0.0518 *

Neptune -110508-01-27 20:53 J -38641596.66 -38641596.63 -38641596.59 0.0089 0.0086

Neptune -110508-04-25 23:31 J -38641508.59 -38641508.52 -38641508.46 0.0089 0.0081

Neptune -110508-07-23 01:41 J -38641420.50 -38641420.43 -38641420.33 0.0089 0.0077

Neptune -110508-10-19 04:19 J -38641332.41 -38641332.32 -38641332.21 0.0089 0.0072

Neptune -110507-01-15 06:43 J -38641244.31 -38641244.22 -38641244.09 0.0089 0.0067

Neptune -110507-04-13 09:21 J -38641156.21 -38641156.11 -38641155.97 0.0089 0.0062

Neptune -110507-07-10 12:00 J -38641068.11 -38641068.00 -38641067.85 0.0089 0.0057

Pluto -110507-08-07 10:05 J -38641040.09 -38641040.08 -38641040.03 0.0060 0.0059

Jupiter -110507-09-03 06:43 J -38641013.23 -38641013.22 -38641013.19 0.0529 0.0521

Neptune -110507-10-06 14:38 J -38640980.01 -38640979.89 -38640979.74 0.0089 0.0052

Pluto -110507-11-03 11:17 J -38640952.10 -38640952.03 -38640951.91 0.0060 0.0052

Jupiter -110507-12-01 19:12 J -38640923.83 -38640923.70 -38640923.56 0.0530 0.0018

Neptune -110506-01-02 17:17 J -38640891.91 -38640891.78 -38640891.62 0.0089 0.0047

Pluto -110506-01-30 12:57 J -38640864.08 -38640863.96 -38640863.82 0.0060 0.0044

Jupiter -110506-03-01 06:14 J -38640834.26 -38640834.24 -38640834.21 0.0532 0.0520

Neptune -110506-03-31 19:55 J -38640803.81 -38640803.67 -38640803.51 0.0089 0.0042

Pluto -110506-04-28 14:09 J -38640776.04 -38640775.91 -38640775.73 0.0060 0.0037

Neptune -110506-06-27 22:33 J -38640715.70 -38640715.56 -38640715.39 0.0089 0.0037

Pluto -110506-07-25 15:50 J -38640688.00 -38640687.84 -38640687.66 0.0060 0.0029

Neptune -110506-09-24 01:12 J -38640627.59 -38640627.45 -38640627.28 0.0089 0.0032

Pluto -110506-10-21 17:31 J -38640599.95 -38640599.77 -38640599.59 0.0060 0.0022

Neptune -110506-12-21 04:05 J -38640539.49 -38640539.33 -38640539.16 0.0089 0.0027

Pluto -110505-01-17 18:43 J -38640511.90 -38640511.72 -38640511.52 0.0060 0.0014

Neptune -110505-03-18 06:57 J -38640451.38 -38640451.21 -38640451.05 0.0089 0.0021

Pluto -110505-04-14 20:24 J -38640423.85 -38640423.65 -38640423.46 0.0060 0.0007

Moon -110505-05-16 11:31 J -38640392.09 -38640392.02 -38640391.95 0.2734 0.2089

Earth -110505-05-16 12:14 J -38640392.06 -38640391.99 -38640391.92 0.2735 0.2076 *

Neptune -110505-06-14 09:36 J -38640363.27 -38640363.10 -38640362.93 0.0089 0.0016

Pluto -110505-07-11 21:50 J -38640335.79 -38640335.59 -38640335.40 0.0060 0.0002

Neptune -110505-09-10 12:14 J -38640275.16 -38640274.99 -38640274.82 0.0089 0.0011

Pluto -110505-10-07 23:02 J -38640247.73 -38640247.54 -38640247.34 0.0060 0.0009

Neptune -110505-12-07 15:07 J -38640187.05 -38640186.87 -38640186.70 0.0089 0.0006

Pluto -110504-01-04 00:29 J -38640159.66 -38640159.48 -38640159.29 0.0061 0.0016

Neptune -110504-03-05 17:45 J -38640098.93 -38640098.76 -38640098.59 0.0089 0.0001

Pluto -110504-04-02 01:41 J -38640071.59 -38640071.43 -38640071.24 0.0061 0.0025

Neptune -110504-06-01 20:24 J -38640010.82 -38640010.65 -38640010.47 0.0089 0.0005

Pluto -110504-06-29 03:07 J -38639983.52 -38639983.37 -38639983.19 0.0061 0.0032

Neptune -110504-08-28 23:17 J -38639922.70 -38639922.53 -38639922.36 0.0089 0.0010

Pluto -110504-09-25 04:33 J -38639895.44 -38639895.31 -38639895.15 0.0061 0.0040

Neptune -110504-11-25 01:55 J -38639834.58 -38639834.42 -38639834.24 0.0089 0.0015

Pluto -110504-12-22 05:45 J -38639807.36 -38639807.26 -38639807.12 0.0061 0.0048

Mars -110503-01-17 07:55 J -38639781.26 -38639781.17 -38639781.09 0.1790 0.1282

Neptune -110503-02-21 04:48 J -38639746.47 -38639746.30 -38639746.13 0.0089 0.0020

Pluto -110503-03-20 07:41 J -38639719.25 -38639719.18 -38639719.10 0.0061 0.0055

Neptune -110503-05-20 07:26 J -38639658.35 -38639658.19 -38639658.01 0.0089 0.0026

Neptune -110503-08-16 10:19 J -38639570.23 -38639570.07 -38639569.90 0.0089 0.0031

Saturn -110503-11-08 21:21 J -38639485.67 -38639485.61 -38639485.54 0.0286 0.0262

Neptune -110503-11-12 13:12 J -38639482.10 -38639481.95 -38639481.79 0.0089 0.0036

Saturn -110502-02-05 16:05 J -38639396.96 -38639396.83 -38639396.70 0.0285 0.0167

Neptune -110502-02-08 15:50 J -38639393.98 -38639393.84 -38639393.67 0.0089 0.0042

Mars -110502-02-10 01:12 J -38639392.59 -38639392.45 -38639392.30 0.1742 0.0581

Saturn -110502-05-05 10:48 J -38639308.21 -38639308.05 -38639307.88 0.0284 0.0071

Neptune -110502-05-07 18:57 J -38639305.86 -38639305.71 -38639305.56 0.0089 0.0047

Saturn -110502-08-02 06:00 J -38639219.42 -38639219.25 -38639219.08 0.0283 0.0027

Neptune -110502-08-03 21:36 J -38639217.73 -38639217.60 -38639217.45 0.0089 0.0053

Saturn -110502-10-30 01:26 J -38639130.59 -38639130.44 -38639130.29 0.0282 0.0125

Neptune -110502-10-31 00:29 J -38639129.60 -38639129.48 -38639129.33 0.0089 0.0058

Mars -110502-12-24 00:29 J -38639075.60 -38639075.48 -38639075.37 0.1770 0.0641

Saturn -110501-01-26 20:53 J -38639041.73 -38639041.63 -38639041.52 0.0281 0.0223

Neptune -110501-01-27 03:36 J -38639041.47 -38639041.35 -38639041.22 0.0089 0.0063

Neptune -110501-04-24 06:14 J -38638953.34 -38638953.24 -38638953.12 0.0089 0.0069

Jupiter -110501-07-19 16:48 J -38638866.93 -38638866.80 -38638866.67 0.0497 0.0302

Neptune -110501-07-21 09:21 J -38638865.20 -38638865.11 -38638865.01 0.0089 0.0074

Neptune -110501-10-17 12:00 J -38638777.06 -38638777.00 -38638776.91 0.0089 0.0080

Jupiter -110501-10-17 15:21 J -38638777.01 -38638776.86 -38638776.71 0.0495 0.0223 *

Neptune -110500-01-13 15:07 J -38638688.91 -38638688.87 -38638688.81 0.0089 0.0085

Venus -110499-03-21 21:21 J -38638256.64 -38638256.61 -38638256.58 0.3752 0.3624

Earth -110499-05-26 09:50 J -38638191.18 -38638191.09 -38638191.00 0.2751 0.1630

Moon -110499-05-26 10:33 J -38638191.15 -38638191.06 -38638190.98 0.2754 0.1716 *

Earth -110496-11-16 14:53 J -38636920.97 -38636920.88 -38636920.80 0.2592 0.2156

Moon -110496-11-16 16:19 J -38636920.87 -38636920.82 -38636920.76 0.2594 0.2384 *

Jupiter -110495-09-19 21:07 J -38636613.75 -38636613.62 -38636613.49 0.0530 0.0134

Jupiter -110495-12-18 08:24 J -38636524.24 -38636524.15 -38636524.05 0.0531 0.0383

Mars -110494-06-09 14:53 J -38636350.88 -38636350.88 -38636350.87 0.1795 0.1791

Venus -110494-10-05 20:09 J -38636232.78 -38636232.66 -38636232.55 0.3747 0.1547

Mars -110493-07-02 03:07 J -38635962.52 -38635962.37 -38635962.22 0.1737 0.0026

Mars -110492-05-15 08:38 J -38635645.26 -38635645.14 -38635645.02 0.1775 0.0195

Moon -110492-05-19 06:14 J -38635641.33 -38635641.24 -38635641.14 0.2742 0.1224

Earth -110492-05-19 06:57 J -38635641.31 -38635641.21 -38635641.11 0.2739 0.1092 *

Jupiter -110489-05-07 17:02 J -38634556.87 -38634556.79 -38634556.71 0.0497 0.0429

Jupiter -110489-08-05 15:07 J -38634467.03 -38634466.87 -38634466.70 0.0496 0.0091

Moon -110489-11-08 04:19 J -38634372.37 -38634372.32 -38634372.28 0.2608 0.2472

Earth -110489-11-08 05:17 J -38634372.34 -38634372.28 -38634372.21 0.2604 0.2329 *

Venus -110488-04-20 19:12 J -38634208.83 -38634208.70 -38634208.57 0.3741 0.0629

Uranus -110487-04-12 05:31 J -38633852.35 -38633852.27 -38633852.18 0.0146 0.0125

Uranus -110487-07-09 12:29 J -38633764.10 -38633763.98 -38633763.85 0.0146 0.0099

Saturn -110487-08-28 22:05 J -38633713.62 -38633713.58 -38633713.53 0.0275 0.0258

Uranus -110487-10-05 19:26 J -38633675.84 -38633675.69 -38633675.53 0.0147 0.0072

Saturn -110487-11-25 11:45 J -38633625.12 -38633625.01 -38633624.90 0.0275 0.0181

Uranus -110486-01-02 02:38 J -38633587.56 -38633587.39 -38633587.22 0.0147 0.0046

Saturn -110486-02-22 01:12 J -38633536.59 -38633536.45 -38633536.32 0.0276 0.0103

Uranus -110486-03-31 09:50 J -38633499.27 -38633499.09 -38633498.92 0.0147 0.0019

Saturn -110486-05-21 14:24 J -38633448.04 -38633447.90 -38633447.75 0.0277 0.0027

Earth -110486-05-29 04:19 J -38633440.35 -38633440.32 -38633440.29 0.2755 0.2592

Moon -110486-05-29 05:02 J -38633440.32 -38633440.29 -38633440.26 0.2752 0.2604 *

Uranus -110486-06-27 17:02 J -38633410.97 -38633410.79 -38633410.62 0.0147 0.0008

Saturn -110486-08-18 03:36 J -38633359.49 -38633359.35 -38633359.21 0.0278 0.0051

Uranus -110486-09-24 00:14 J -38633322.66 -38633322.49 -38633322.32 0.0147 0.0035

Saturn -110486-11-14 16:33 J -38633270.93 -38633270.81 -38633270.68 0.0279 0.0128

Uranus -110486-12-21 07:26 J -38633234.34 -38633234.19 -38633234.03 0.0147 0.0063

Saturn -110485-02-11 05:31 J -38633182.36 -38633182.27 -38633182.17 0.0280 0.0204

Uranus -110485-03-18 14:38 J -38633146.02 -38633145.89 -38633145.74 0.0147 0.0091

Saturn -110485-05-09 18:14 J -38633093.74 -38633093.74 -38633093.73 0.0281 0.0280

Uranus -110485-06-14 22:05 J -38633057.67 -38633057.58 -38633057.46 0.0147 0.0119

Uranus -110485-09-11 05:45 J -38632969.26 -38632969.26 -38632969.24 0.0147 0.0147

Mars -110484-11-22 06:00 J -38632532.40 -38632532.25 -38632532.11 0.1732 0.0593

Jupiter -110483-07-08 23:31 J -38632303.64 -38632303.52 -38632303.40 0.0530 0.0267

Mars -110483-10-05 16:33 J -38632214.93 -38632214.81 -38632214.68 0.1780 0.0272

Jupiter -110483-10-06 11:17 J -38632214.15 -38632214.03 -38632213.91 0.0531 0.0255

Venus -110483-11-04 18:29 J -38632184.81 -38632184.73 -38632184.65 0.3735 0.2881

Mars -110481-09-10 07:26 J -38631509.24 -38631509.19 -38631509.13 0.1760 0.1537

Moon -110479-05-22 01:26 J -38630890.55 -38630890.44 -38630890.33 0.2751 0.0075

Earth -110479-05-22 01:41 J -38630890.54 -38630890.43 -38630890.32 0.2743 0.0121 *

Venus -110479-11-03 23:17 J -38630724.60 -38630724.53 -38630724.46 0.3628 0.2869

Jupiter -110477-05-24 14:24 J -38630157.07 -38630156.90 -38630156.74 0.0496 0.0048

Jupiter -110477-08-22 13:41 J -38630066.96 -38630066.93 -38630066.90 0.0495 0.0485

Moon -110476-11-11 10:33 J -38629621.21 -38629621.06 -38629620.91 0.2606 0.0729

Earth -110476-11-11 10:33 J -38629621.21 -38629621.06 -38629620.91 0.2600 0.0748 *

Mars -110474-04-14 08:38 J -38629102.25 -38629102.14 -38629102.03 0.1727 0.1149

Mars -110473-02-26 00:29 J -38628784.60 -38628784.48 -38628784.37 0.1785 0.0747

Saturn -110473-03-27 23:17 J -38628753.55 -38628753.53 -38628753.50 0.0287 0.0281

Venus -110473-05-19 18:43 J -38628700.83 -38628700.72 -38628700.61 0.3633 0.1279

Saturn -110473-06-24 17:45 J -38628664.88 -38628664.76 -38628664.63 0.0286 0.0186

Saturn -110473-09-21 12:43 J -38628576.13 -38628575.97 -38628575.82 0.0285 0.0090

Saturn -110473-12-19 07:41 J -38628487.35 -38628487.18 -38628487.01 0.0284 0.0008

Saturn -110472-03-18 02:53 J -38628398.54 -38628398.38 -38628398.22 0.0283 0.0105

Mars -110472-03-21 00:14 J -38628395.59 -38628395.49 -38628395.38 0.1747 0.1267

Saturn -110472-06-14 22:19 J -38628309.68 -38628309.57 -38628309.45 0.0282 0.0203

Mars -110471-01-31 16:05 J -38628078.92 -38628078.83 -38628078.74 0.1765 0.1117

Jupiter -110471-04-27 02:24 J -38627993.49 -38627993.40 -38627993.31 0.0530 0.0395

Jupiter -110471-07-25 14:24 J -38627904.03 -38627903.90 -38627903.76 0.0531 0.0132

Venus -110468-12-03 13:41 J -38626677.04 -38626676.93 -38626676.81 0.3637 0.0285

Earth -110466-05-24 20:09 J -38626139.76 -38626139.66 -38626139.55 0.2747 0.0860

Moon -110466-05-24 20:38 J -38626139.74 -38626139.64 -38626139.54 0.2753 0.0859 *

Jupiter -110465-03-12 14:09 J -38625847.06 -38625846.91 -38625846.75 0.0496 0.0178

Jupiter -110465-06-10 13:12 J -38625757.07 -38625756.95 -38625756.83 0.0495 0.0350

Mars -110465-09-03 12:00 J -38625672.03 -38625672.00 -38625671.97 0.1722 0.1679

Mars -110464-07-18 07:55 J -38625354.26 -38625354.17 -38625354.08 0.1790 0.1237

Mars -110463-08-11 01:41 J -38624965.57 -38624965.43 -38624965.29 0.1742 0.0638

Earth -110463-11-14 15:50 J -38624869.99 -38624869.84 -38624869.69 0.2595 0.0856

Moon -110463-11-14 16:48 J -38624869.94 -38624869.80 -38624869.65 0.2600 0.0972 *

Venus -110462-06-19 08:38 J -38624653.24 -38624653.14 -38624653.04 0.3642 0.1765

Mars -110462-06-24 00:29 J -38624648.59 -38624648.48 -38624648.36 0.1770 0.0684

Jupiter -110459-02-13 04:48 J -38623683.31 -38623683.30 -38623683.28 0.0529 0.0525

Jupiter -110459-05-13 17:17 J -38623593.91 -38623593.78 -38623593.64 0.0531 0.0018

Moon -110459-05-17 16:19 J -38623589.89 -38623589.82 -38623589.74 0.2735 0.2003

Earth -110459-05-17 17:17 J -38623589.86 -38623589.78 -38623589.70 0.2736 0.1881 *

Jupiter -110459-08-11 04:33 J -38623504.34 -38623504.31 -38623504.28 0.0532 0.0517

Saturn -110457-04-13 13:12 J -38622893.04 -38622892.95 -38622892.85 0.0275 0.0205

Saturn -110457-07-11 02:53 J -38622804.51 -38622804.38 -38622804.25 0.0276 0.0127

Saturn -110457-10-07 16:05 J -38622715.97 -38622715.83 -38622715.68 0.0277 0.0050

Venus -110456-01-02 03:21 J -38622629.41 -38622629.36 -38622629.31 0.3647 0.3219

Saturn -110456-01-04 05:17 J -38622627.42 -38622627.28 -38622627.13 0.0278 0.0028

Saturn -110456-04-02 18:14 J -38622538.86 -38622538.74 -38622538.60 0.0279 0.0105

Saturn -110456-06-30 07:12 J -38622450.30 -38622450.20 -38622450.09 0.0280 0.0181

Saturn -110456-09-26 19:55 J -38622361.71 -38622361.67 -38622361.61 0.0281 0.0257

Mars -110455-12-08 15:07 J -38621923.90 -38621923.87 -38621923.84 0.1795 0.1742

Jupiter -110454-12-30 14:09 J -38621537.04 -38621536.91 -38621536.78 0.0497 0.0309

Mars -110453-01-01 03:50 J -38621535.49 -38621535.34 -38621535.19 0.1737 0.0039

Jupiter -110453-03-29 12:29 J -38621447.13 -38621446.98 -38621446.82 0.0495 0.0215

Earth -110453-05-26 14:38 J -38621388.97 -38621388.89 -38621388.80 0.2751 0.1828

Moon -110453-05-26 15:21 J -38621388.93 -38621388.86 -38621388.78 0.2754 0.1896 *

Mars -110453-11-13 08:38 J -38621218.26 -38621218.14 -38621218.01 0.1775 0.0240

Earth -110450-11-17 21:21 J -38620118.65 -38620118.61 -38620118.57 0.2591 0.2477

Moon -110450-11-17 23:02 J -38620118.58 -38620118.54 -38620118.51 0.2593 0.2510 *

Uranus -110447-03-01 06:57 J -38619284.26 -38619284.21 -38619284.16 0.0132 0.0124

Jupiter -110447-03-01 19:55 J -38619283.81 -38619283.67 -38619283.54 0.0530 0.0127

Uranus -110447-05-28 10:19 J -38619196.14 -38619196.07 -38619195.97 0.0132 0.0108

Jupiter -110447-05-30 07:12 J -38619194.29 -38619194.20 -38619194.10 0.0531 0.0390

Uranus -110447-08-24 14:09 J -38619108.01 -38619107.91 -38619107.80 0.0132 0.0091

Uranus -110447-11-20 17:45 J -38619019.87 -38619019.76 -38619019.63 0.0132 0.0074

Uranus -110446-02-16 21:21 J -38618931.73 -38618931.61 -38618931.47 0.0132 0.0058

Uranus -110446-05-16 00:57 J -38618843.59 -38618843.46 -38618843.32 0.0132 0.0042

Moon -110446-05-20 11:31 J -38618839.13 -38618839.02 -38618838.92 0.2745 0.0896

Earth -110446-05-20 12:00 J -38618839.11 -38618839.00 -38618838.90 0.2740 0.0905 *

Uranus -110446-08-12 04:33 J -38618755.45 -38618755.31 -38618755.17 0.0132 0.0026

Uranus -110446-11-08 08:09 J -38618667.30 -38618667.16 -38618667.02 0.0132 0.0010

Uranus -110445-02-04 11:31 J -38618579.16 -38618579.02 -38618578.87 0.0132 0.0007

Uranus -110445-05-02 15:07 J -38618491.01 -38618490.87 -38618490.73 0.0132 0.0022

Uranus -110445-07-29 18:29 J -38618402.86 -38618402.73 -38618402.59 0.0132 0.0038

Uranus -110445-10-25 21:50 J -38618314.72 -38618314.59 -38618314.46 0.0132 0.0053

Uranus -110444-01-22 01:12 J -38618226.57 -38618226.45 -38618226.33 0.0132 0.0069

Uranus -110444-04-20 04:33 J -38618138.41 -38618138.31 -38618138.20 0.0132 0.0084

Mars -110444-05-23 06:14 J -38618105.39 -38618105.24 -38618105.10 0.1732 0.0547

Uranus -110444-07-17 07:55 J -38618050.26 -38618050.17 -38618050.08 0.0132 0.0099

Uranus -110444-10-13 11:02 J -38617962.09 -38617962.04 -38617961.96 0.0132 0.0115

Saturn -110444-11-11 18:14 J -38617932.84 -38617932.74 -38617932.63 0.0286 0.0213

Uranus -110443-01-09 14:24 J -38617873.91 -38617873.90 -38617873.87 0.0132 0.0129

Saturn -110443-02-08 12:57 J -38617844.11 -38617843.96 -38617843.81 0.0285 0.0117

Mars -110443-04-05 16:48 J -38617787.92 -38617787.80 -38617787.68 0.1780 0.0223

Saturn -110443-05-08 07:55 J -38617755.34 -38617755.17 -38617755.00 0.0284 0.0021

Saturn -110443-08-05 03:07 J -38617666.53 -38617666.37 -38617666.20 0.0283 0.0077

Venus -110443-10-26 20:38 J -38617583.71 -38617583.64 -38617583.56 0.3750 0.2904

Saturn -110443-11-01 22:33 J -38617577.69 -38617577.56 -38617577.42 0.0282 0.0175

Moon -110443-11-09 11:17 J -38617570.13 -38617570.03 -38617569.94 0.2609 0.1988

Earth -110443-11-09 11:45 J -38617570.10 -38617570.01 -38617569.91 0.2603 0.2022 *

Saturn -110442-01-29 18:14 J -38617488.77 -38617488.74 -38617488.70 0.0281 0.0273

Jupiter -110442-10-18 14:24 J -38617226.97 -38617226.90 -38617226.82 0.0497 0.0434

Jupiter -110441-01-16 12:29 J -38617137.14 -38617136.98 -38617136.81 0.0496 0.0085

Mars -110441-03-11 07:26 J -38617082.24 -38617082.19 -38617082.14 0.1760 0.1575

Venus -110437-05-11 19:41 J -38615559.81 -38615559.68 -38615559.56 0.3745 0.0804

Jupiter -110436-12-18 21:36 J -38614973.71 -38614973.60 -38614973.48 0.0529 0.0269

Jupiter -110435-03-18 09:21 J -38614884.22 -38614884.11 -38614883.99 0.0531 0.0252

Mars -110435-10-13 09:07 J -38614675.23 -38614675.12 -38614675.00 0.1727 0.1093

Mars -110434-08-27 00:29 J -38614357.59 -38614357.48 -38614357.36 0.1785 0.0699

Moon -110433-05-22 06:29 J -38614088.34 -38614088.23 -38614088.12 0.2751 0.0009

Earth -110433-05-22 06:29 J -38614088.34 -38614088.23 -38614088.12 0.2744 0.0093 *

Mars -110433-09-19 00:43 J -38613968.57 -38613968.47 -38613968.37 0.1747 0.1319

Mars -110432-08-01 16:19 J -38613651.91 -38613651.82 -38613651.73 0.1765 0.1163

Venus -110432-11-25 18:43 J -38613535.84 -38613535.72 -38613535.60 0.3739 0.1396

Jupiter -110430-11-04 12:29 J -38612827.15 -38612826.98 -38612826.81 0.0496 0.0046

Earth -110430-11-12 16:48 J -38612818.95 -38612818.80 -38612818.64 0.2599 0.0440

Moon -110430-11-12 17:02 J -38612818.94 -38612818.79 -38612818.64 0.2606 0.0468 *

Jupiter -110429-02-02 11:45 J -38612737.03 -38612737.01 -38612736.98 0.0495 0.0488

Saturn -110428-08-31 16:05 J -38612160.91 -38612160.83 -38612160.74 0.0275 0.0221

Saturn -110428-11-28 05:45 J -38612072.39 -38612072.26 -38612072.14 0.0276 0.0144

Saturn -110427-02-24 18:57 J -38611983.85 -38611983.71 -38611983.57 0.0277 0.0067

Neptune -110427-05-22 11:02 J -38611897.04 -38611897.04 -38611897.00 0.0088 0.0088

Saturn -110427-05-24 08:24 J -38611895.30 -38611895.15 -38611895.01 0.0278 0.0013

Neptune -110427-08-18 13:12 J -38611809.00 -38611808.95 -38611808.89 0.0088 0.0083

Saturn -110427-08-20 21:21 J -38611806.74 -38611806.61 -38611806.47 0.0279 0.0088

Neptune -110427-11-14 14:53 J -38611720.93 -38611720.88 -38611720.80 0.0088 0.0078

Saturn -110427-11-17 10:19 J -38611718.18 -38611718.07 -38611717.95 0.0280 0.0164

Neptune -110426-02-10 16:48 J -38611632.87 -38611632.80 -38611632.71 0.0088 0.0074

Saturn -110426-02-13 23:02 J -38611629.60 -38611629.54 -38611629.46 0.0281 0.0241

Neptune -110426-05-09 18:43 J -38611544.80 -38611544.72 -38611544.62 0.0088 0.0069

Moon -110426-05-16 02:38 J -38611538.40 -38611538.39 -38611538.38 0.2729 0.2708

Earth -110426-05-16 03:21 J -38611538.38 -38611538.36 -38611538.34 0.2732 0.2673 *

Venus -110426-06-11 18:14 J -38611511.76 -38611511.74 -38611511.72 0.3734 0.3673

Neptune -110426-08-05 20:38 J -38611456.73 -38611456.64 -38611456.53 0.0088 0.0065

Neptune -110426-11-01 22:19 J -38611368.66 -38611368.57 -38611368.45 0.0088 0.0061

Neptune -110425-01-29 00:14 J -38611280.59 -38611280.49 -38611280.36 0.0088 0.0056

Mars -110425-03-04 12:29 J -38611245.03 -38611244.98 -38611244.94 0.1722 0.1627

Neptune -110425-04-26 02:09 J -38611192.52 -38611192.41 -38611192.28 0.0088 0.0051

Neptune -110425-07-23 04:05 J -38611104.45 -38611104.33 -38611104.20 0.0088 0.0047

Neptune -110425-10-19 05:45 J -38611016.38 -38611016.26 -38611016.12 0.0088 0.0042

Neptune -110424-01-15 07:41 J -38610928.31 -38610928.18 -38610928.04 0.0088 0.0038

Mars -110424-01-16 07:55 J -38610927.26 -38610927.17 -38610927.07 0.1790 0.1190

Neptune -110424-04-13 09:21 J -38610840.24 -38610840.11 -38610839.96 0.0088 0.0034

Neptune -110424-07-10 11:17 J -38610752.16 -38610752.03 -38610751.89 0.0088 0.0029

Neptune -110424-10-06 13:12 J -38610664.09 -38610663.95 -38610663.81 0.0088 0.0024

Jupiter -110424-10-07 00:00 J -38610663.59 -38610663.50 -38610663.41 0.0529 0.0403

Neptune -110423-01-02 14:53 J -38610576.02 -38610575.88 -38610575.73 0.0088 0.0020

Jupiter -110423-01-04 12:14 J -38610574.12 -38610573.99 -38610573.86 0.0531 0.0123

Mars -110423-02-09 02:24 J -38610538.54 -38610538.40 -38610538.26 0.1742 0.0700

Neptune -110423-03-31 16:48 J -38610487.95 -38610487.80 -38610487.66 0.0088 0.0016

Neptune -110423-06-27 18:29 J -38610399.87 -38610399.73 -38610399.58 0.0088 0.0011

Neptune -110423-09-23 20:09 J -38610311.80 -38610311.66 -38610311.51 0.0088 0.0007

Neptune -110423-12-20 22:05 J -38610223.73 -38610223.58 -38610223.44 0.0088 0.0003

Mars -110423-12-23 00:43 J -38610221.59 -38610221.47 -38610221.36 0.1770 0.0730

Neptune -110422-03-18 23:45 J -38610135.66 -38610135.51 -38610135.36 0.0088 0.0002

Venus -110422-06-10 21:50 J -38610051.68 -38610051.59 -38610051.50 0.3629 0.2284

Neptune -110422-06-15 01:26 J -38610047.58 -38610047.44 -38610047.29 0.0088 0.0007

Neptune -110422-09-11 03:07 J -38609959.51 -38609959.37 -38609959.22 0.0088 0.0011

Neptune -110422-12-08 04:48 J -38609871.44 -38609871.30 -38609871.15 0.0088 0.0016

Neptune -110421-03-05 06:29 J -38609783.36 -38609783.23 -38609783.08 0.0088 0.0020

Neptune -110421-06-01 08:24 J -38609695.29 -38609695.15 -38609695.01 0.0088 0.0023

Neptune -110421-08-28 10:05 J -38609607.22 -38609607.08 -38609606.94 0.0088 0.0028

Neptune -110421-11-24 11:31 J -38609519.14 -38609519.02 -38609518.87 0.0088 0.0033

Neptune -110420-02-20 13:12 J -38609431.07 -38609430.95 -38609430.81 0.0088 0.0037

Neptune -110420-05-19 14:53 J -38609343.00 -38609342.88 -38609342.74 0.0088 0.0041

Earth -110420-05-25 01:12 J -38609337.56 -38609337.45 -38609337.35 0.2748 0.1052

Moon -110420-05-25 01:41 J -38609337.53 -38609337.43 -38609337.33 0.2753 0.1168 *

Neptune -110420-08-15 16:48 J -38609254.92 -38609254.80 -38609254.68 0.0088 0.0045

Neptune -110420-11-11 18:29 J -38609166.85 -38609166.73 -38609166.61 0.0088 0.0049

Neptune -110419-02-07 19:55 J -38609078.78 -38609078.67 -38609078.55 0.0088 0.0053

Neptune -110419-05-06 21:21 J -38608990.70 -38608990.61 -38608990.49 0.0088 0.0058

Neptune -110419-08-02 23:02 J -38608902.63 -38608902.54 -38608902.42 0.0088 0.0062

Neptune -110419-10-30 00:43 J -38608814.55 -38608814.47 -38608814.36 0.0088 0.0066

Neptune -110418-01-26 02:24 J -38608726.48 -38608726.40 -38608726.30 0.0088 0.0070

Neptune -110418-04-24 04:05 J -38608638.40 -38608638.33 -38608638.25 0.0088 0.0074

Neptune -110418-07-21 05:45 J -38608550.32 -38608550.26 -38608550.19 0.0088 0.0077

Jupiter -110418-08-23 12:00 J -38608517.16 -38608517.00 -38608516.85 0.0496 0.0181

Neptune -110418-10-17 07:12 J -38608462.24 -38608462.20 -38608462.14 0.0088 0.0082

Jupiter -110418-11-21 10:48 J -38608427.17 -38608427.05 -38608426.93 0.0495 0.0347

Neptune -110417-01-13 08:53 J -38608374.15 -38608374.13 -38608374.09 0.0088 0.0086

Earth -110417-11-14 22:19 J -38608067.71 -38608067.57 -38608067.43 0.2595 0.1173

Moon -110417-11-14 23:45 J -38608067.65 -38608067.51 -38608067.38 0.2598 0.1290 *

Venus -110417-12-24 17:02 J -38608027.90 -38608027.79 -38608027.67 0.3634 0.0722

Mars -110415-06-08 15:21 J -38607496.90 -38607496.86 -38607496.82 0.1795 0.1694

Saturn -110414-03-31 19:55 J -38607200.76 -38607200.67 -38607200.57 0.0286 0.0233

Saturn -110414-06-28 14:38 J -38607112.03 -38607111.89 -38607111.74 0.0285 0.0138

Mars -110414-07-02 04:19 J -38607108.47 -38607108.32 -38607108.17 0.1737 0.0096

Saturn -110414-09-25 09:36 J -38607023.27 -38607023.10 -38607022.93 0.0284 0.0041

Saturn -110414-12-23 04:48 J -38606934.47 -38606934.30 -38606934.14 0.0283 0.0056

Saturn -110413-03-21 00:00 J -38606845.64 -38606845.50 -38606845.35 0.0282 0.0154

Mars -110413-05-14 08:53 J -38606791.25 -38606791.13 -38606791.01 0.1775 0.0283

Moon -110413-05-17 21:21 J -38606787.69 -38606787.61 -38606787.52 0.2737 0.1730

Earth -110413-05-17 22:05 J -38606787.66 -38606787.58 -38606787.49 0.2736 0.1688 *

Pluto -110413-05-26 11:02 J -38606779.09 -38606779.04 -38606778.98 0.0085 0.0076

Saturn -110413-06-17 19:41 J -38606756.75 -38606756.68 -38606756.60 0.0281 0.0252

Pluto -110413-08-22 12:14 J -38606691.07 -38606690.99 -38606690.89 0.0084 0.0061

Pluto -110413-11-18 13:26 J -38606603.04 -38606602.94 -38606602.82 0.0084 0.0047

Pluto -110412-02-14 14:53 J -38606515.00 -38606514.88 -38606514.76 0.0084 0.0033

Pluto -110412-05-13 16:05 J -38606426.96 -38606426.83 -38606426.70 0.0084 0.0019

Pluto -110412-08-09 17:31 J -38606338.91 -38606338.77 -38606338.64 0.0084 0.0005

Jupiter -110412-10-23 15:07 J -38606264.00 -38606263.87 -38606263.73 0.0531 0.0011

Pluto -110412-11-05 18:43 J -38606250.85 -38606250.72 -38606250.59 0.0084 0.0010

Jupiter -110411-01-21 02:24 J -38606174.43 -38606174.40 -38606174.36 0.0532 0.0511

Pluto -110411-02-01 19:55 J -38606162.80 -38606162.67 -38606162.54 0.0084 0.0024

Pluto -110411-04-30 21:07 J -38606074.73 -38606074.62 -38606074.50 0.0083 0.0038

Venus -110411-07-10 12:14 J -38606004.11 -38606003.99 -38606003.88 0.3639 0.0815

Pluto -110411-07-27 22:19 J -38605986.67 -38605986.57 -38605986.46 0.0083 0.0052

Pluto -110411-10-23 23:31 J -38605898.59 -38605898.52 -38605898.43 0.0083 0.0066

Pluto -110410-01-20 00:43 J -38605810.50 -38605810.47 -38605810.42 0.0083 0.0079

Earth -110407-05-27 19:41 J -38604586.75 -38604586.68 -38604586.61 0.2752 0.2018

Moon -110407-05-27 20:24 J -38604586.72 -38604586.65 -38604586.58 0.2751 0.2054 *

Jupiter -110406-06-11 12:00 J -38604207.12 -38604207.00 -38604206.87 0.0496 0.0309

Jupiter -110406-09-09 10:33 J -38604117.21 -38604117.06 -38604116.91 0.0495 0.0214

Venus -110405-01-24 06:57 J -38603980.30 -38603980.21 -38603980.12 0.3644 0.2288

Mars -110405-11-21 06:43 J -38603678.36 -38603678.22 -38603678.07 0.1732 0.0483

Mars -110404-10-04 16:48 J -38603360.92 -38603360.80 -38603360.67 0.1780 0.0188

Uranus -110403-02-03 05:45 J -38603239.28 -38603239.26 -38603239.23 0.0146 0.0144

Uranus -110403-05-02 12:43 J -38603151.07 -38603150.97 -38603150.87 0.0146 0.0119

Uranus -110403-07-29 19:41 J -38603062.81 -38603062.68 -38603062.54 0.0147 0.0093

Uranus -110403-10-26 02:38 J -38602974.54 -38602974.39 -38602974.23 0.0147 0.0067

Uranus -110402-01-22 09:50 J -38602886.26 -38602886.09 -38602885.92 0.0147 0.0040

Uranus -110402-04-20 16:48 J -38602797.97 -38602797.80 -38602797.62 0.0147 0.0014

Uranus -110402-07-18 00:00 J -38602709.67 -38602709.50 -38602709.32 0.0147 0.0015

Mars -110402-09-10 07:41 J -38602655.23 -38602655.18 -38602655.14 0.1760 0.1619

Uranus -110402-10-14 07:26 J -38602621.36 -38602621.19 -38602621.02 0.0147 0.0041

Uranus -110401-01-10 14:38 J -38602533.04 -38602532.89 -38602532.73 0.0147 0.0069

Uranus -110401-04-07 21:50 J -38602444.71 -38602444.59 -38602444.45 0.0147 0.0097

Uranus -110401-07-05 05:17 J -38602356.36 -38602356.28 -38602356.18 0.0147 0.0125

Moon -110400-05-20 16:19 J -38602036.92 -38602036.82 -38602036.71 0.2747 0.0802

Earth -110400-05-20 16:48 J -38602036.91 -38602036.80 -38602036.69 0.2740 0.0705 *

Jupiter -110400-08-11 18:00 J -38601953.88 -38601953.75 -38601953.61 0.0530 0.0129

Jupiter -110400-11-09 05:31 J -38601864.36 -38601864.27 -38601864.18 0.0532 0.0389

Saturn -110398-01-18 17:17 J -38601428.83 -38601428.78 -38601428.71 0.0274 0.0247

Saturn -110398-04-17 06:57 J -38601340.32 -38601340.21 -38601340.09 0.0275 0.0169

Saturn -110398-07-14 20:24 J -38601251.78 -38601251.65 -38601251.51 0.0276 0.0092

Saturn -110398-10-11 09:50 J -38601163.24 -38601163.09 -38601162.95 0.0277 0.0017

Saturn -110397-01-07 22:48 J -38601074.69 -38601074.55 -38601074.41 0.0278 0.0063

Saturn -110397-04-05 11:45 J -38600986.13 -38600986.01 -38600985.88 0.0279 0.0139

Saturn -110397-07-03 00:43 J -38600897.56 -38600897.47 -38600897.38 0.0280 0.0215

Moon -110397-11-09 17:45 J -38600767.86 -38600767.76 -38600767.65 0.2610 0.1846

Earth -110397-11-09 18:00 J -38600767.86 -38600767.75 -38600767.63 0.2603 0.1716 *

Mars -110395-04-13 09:36 J -38600248.22 -38600248.10 -38600247.98 0.1727 0.1043

Mars -110394-02-25 00:29 J -38599930.59 -38599930.48 -38599930.36 0.1785 0.0658

Jupiter -110394-03-30 12:00 J -38599897.07 -38599897.00 -38599896.92 0.0497 0.0438

Jupiter -110394-06-28 10:05 J -38599807.25 -38599807.08 -38599806.91 0.0496 0.0080

Mars -110393-03-20 01:12 J -38599541.54 -38599541.45 -38599541.35 0.1747 0.1382

Mars -110392-01-30 16:19 J -38599224.91 -38599224.82 -38599224.73 0.1765 0.1201

Jupiter -110388-05-30 20:38 J -38597643.76 -38597643.64 -38597643.52 0.0530 0.0261

Jupiter -110388-08-28 08:24 J -38597554.27 -38597554.15 -38597554.03 0.0531 0.0261

Earth -110387-05-23 11:31 J -38597286.13 -38597286.02 -38597285.91 0.2744 0.0277

Moon -110387-05-23 11:45 J -38597286.12 -38597286.01 -38597285.90 0.2751 0.0360 *

Venus -110386-06-02 20:09 J -38596910.77 -38596910.66 -38596910.56 0.3749 0.2178

Mars -110386-09-03 12:43 J -38596818.03 -38596817.97 -38596817.91 0.1722 0.1577

Mars -110385-07-17 08:24 J -38596500.25 -38596500.15 -38596500.06 0.1790 0.1138

Saturn -110385-08-17 19:55 J -38596468.73 -38596468.67 -38596468.60 0.0287 0.0263

Saturn -110385-11-14 14:24 J -38596380.03 -38596379.90 -38596379.76 0.0286 0.0168

Saturn -110384-02-11 09:21 J -38596291.27 -38596291.11 -38596290.95 0.0285 0.0071

Saturn -110384-05-11 04:33 J -38596202.48 -38596202.31 -38596202.15 0.0284 0.0027

Saturn -110384-08-07 23:45 J -38596113.66 -38596113.51 -38596113.35 0.0283 0.0124

Mars -110384-08-10 02:38 J -38596111.53 -38596111.39 -38596111.25 0.1742 0.0752

Saturn -110384-11-04 19:26 J -38596024.79 -38596024.69 -38596024.59 0.0282 0.0222

Earth -110384-11-12 23:17 J -38596016.68 -38596016.53 -38596016.37 0.2599 0.0127

Moon -110384-11-13 00:00 J -38596016.65 -38596016.50 -38596016.34 0.2604 0.0034 *

Mars -110383-06-23 00:43 J -38595794.58 -38595794.47 -38595794.36 0.1770 0.0771

Jupiter -110382-04-16 10:05 J -38595497.24 -38595497.08 -38595496.91 0.0496 0.0049

Jupiter -110382-07-15 09:36 J -38595407.13 -38595407.10 -38595407.07 0.0495 0.0484

Venus -110381-12-16 18:57 J -38594886.84 -38594886.71 -38594886.58 0.3744 0.0053

Moon -110380-05-16 07:41 J -38594736.22 -38594736.18 -38594736.15 0.2730 0.2584

Earth -110380-05-16 08:24 J -38594736.20 -38594736.15 -38594736.11 0.2733 0.2477 *

Jupiter -110376-03-18 22:33 J -38593333.65 -38593333.56 -38593333.47 0.0529 0.0401

Jupiter -110376-06-16 10:33 J -38593244.19 -38593244.06 -38593243.92 0.0530 0.0124

Mars -110376-12-07 15:21 J -38593069.90 -38593069.86 -38593069.81 0.1795 0.1645

Venus -110375-07-02 18:00 J -38592862.85 -38592862.75 -38592862.64 0.3738 0.2155

Mars -110375-12-31 04:48 J -38592681.45 -38592681.30 -38592681.15 0.1737 0.0153

Earth -110374-05-26 06:00 J -38592535.35 -38592535.25 -38592535.15 0.2748 0.1243

Moon -110374-05-26 06:43 J -38592535.32 -38592535.22 -38592535.13 0.2753 0.1239 *

Mars -110374-11-13 09:07 J -38592364.24 -38592364.12 -38592364.00 0.1775 0.0332

Venus -110371-07-02 00:43 J -38591402.51 -38591402.47 -38591402.42 0.3626 0.3315

Earth -110371-11-16 04:48 J -38591265.43 -38591265.30 -38591265.18 0.2594 0.1494

Moon -110371-11-16 06:14 J -38591265.36 -38591265.24 -38591265.12 0.2597 0.1586 *

Jupiter -110370-02-02 10:19 J -38591187.23 -38591187.07 -38591186.92 0.0497 0.0178

Jupiter -110370-05-03 09:07 J -38591097.24 -38591097.12 -38591097.00 0.0495 0.0351

Saturn -110369-06-06 19:55 J -38590696.70 -38590696.67 -38590696.63 0.0274 0.0265

Saturn -110369-09-03 09:36 J -38590608.21 -38590608.10 -38590608.00 0.0275 0.0188

Saturn -110369-11-30 23:02 J -38590519.68 -38590519.54 -38590519.41 0.0276 0.0110

Saturn -110368-02-27 12:14 J -38590431.13 -38590430.99 -38590430.84 0.0277 0.0033

Saturn -110368-05-27 01:26 J -38590342.58 -38590342.44 -38590342.30 0.0278 0.0044

Saturn -110368-08-23 14:24 J -38590254.02 -38590253.90 -38590253.77 0.0279 0.0121

Saturn -110368-11-20 03:21 J -38590165.46 -38590165.36 -38590165.26 0.0280 0.0197

Saturn -110367-02-16 16:05 J -38590076.85 -38590076.83 -38590076.79 0.0281 0.0273

Moon -110367-05-19 02:24 J -38589985.49 -38589985.40 -38589985.31 0.2740 0.1547

Earth -110367-05-19 03:07 J -38589985.46 -38589985.37 -38589985.28 0.2737 0.1494 *

Venus -110365-01-15 20:09 J -38589378.76 -38589378.66 -38589378.55 0.3631 0.1723

Mars -110365-05-22 07:12 J -38589251.34 -38589251.20 -38589251.05 0.1732 0.0428

Jupiter -110364-04-04 13:12 J -38588934.09 -38588933.95 -38588933.81 0.0530 0.0010

Mars -110364-04-04 17:02 J -38588933.92 -38588933.79 -38588933.67 0.1780 0.0142 *

Jupiter -110364-07-03 00:29 J -38588844.52 -38588844.48 -38588844.44 0.0532 0.0505

Uranus -110363-03-21 13:41 J -38588582.98 -38588582.93 -38588582.86 0.0132 0.0121

Uranus -110363-06-17 17:17 J -38588494.86 -38588494.78 -38588494.68 0.0132 0.0104

Uranus -110363-09-13 21:07 J -38588406.72 -38588406.62 -38588406.51 0.0132 0.0087

Uranus -110363-12-11 00:43 J -38588318.59 -38588318.47 -38588318.34 0.0132 0.0071

Uranus -110362-03-09 04:19 J -38588230.45 -38588230.32 -38588230.19 0.0132 0.0055

Mars -110362-03-11 07:41 J -38588228.22 -38588228.18 -38588228.14 0.1760 0.1659

Uranus -110362-06-05 07:55 J -38588142.31 -38588142.17 -38588142.03 0.0132 0.0039

Uranus -110362-09-01 11:31 J -38588054.16 -38588054.02 -38588053.88 0.0132 0.0023

Uranus -110362-11-28 14:53 J -38587966.02 -38587965.88 -38587965.73 0.0132 0.0008

Uranus -110361-02-24 18:29 J -38587877.87 -38587877.73 -38587877.59 0.0132 0.0009

Uranus -110361-05-22 21:50 J -38587789.73 -38587789.59 -38587789.45 0.0132 0.0025

Earth -110361-05-28 00:29 J -38587784.54 -38587784.48 -38587784.41 0.2752 0.2210

Moon -110361-05-28 01:12 J -38587784.51 -38587784.45 -38587784.39 0.2749 0.2326 *

Uranus -110361-08-19 01:12 J -38587701.58 -38587701.45 -38587701.31 0.0132 0.0041

Uranus -110361-11-15 04:48 J -38587613.43 -38587613.30 -38587613.17 0.0132 0.0056

Uranus -110360-02-11 07:55 J -38587525.28 -38587525.17 -38587525.04 0.0132 0.0072

Uranus -110360-05-10 11:31 J -38587437.12 -38587437.02 -38587436.91 0.0132 0.0087

Venus -110360-07-31 15:21 J -38587354.97 -38587354.86 -38587354.74 0.3636 0.0213

Uranus -110360-08-06 14:53 J -38587348.97 -38587348.88 -38587348.79 0.0132 0.0102

Uranus -110360-11-02 18:14 J -38587260.80 -38587260.74 -38587260.68 0.0132 0.0117

Jupiter -110359-11-21 09:50 J -38586877.21 -38586877.09 -38586876.96 0.0496 0.0309

Jupiter -110358-02-19 08:24 J -38586787.30 -38586787.15 -38586787.00 0.0495 0.0213

Mars -110356-10-12 10:05 J -38585821.20 -38585821.08 -38585820.96 0.1727 0.0985

Saturn -110355-01-04 21:21 J -38585736.62 -38585736.61 -38585736.59 0.0287 0.0284

Saturn -110355-04-03 15:50 J -38585647.96 -38585647.84 -38585647.71 0.0286 0.0190

Saturn -110355-07-01 10:33 J -38585559.21 -38585559.06 -38585558.90 0.0285 0.0094

Mars -110355-08-26 00:43 J -38585503.58 -38585503.47 -38585503.35 0.1785 0.0608

Saturn -110355-09-28 05:45 J -38585470.43 -38585470.26 -38585470.09 0.0284 0.0004

Saturn -110355-12-26 00:57 J -38585381.62 -38585381.46 -38585381.30 0.0283 0.0101

Venus -110354-02-14 10:33 J -38585331.17 -38585331.06 -38585330.96 0.3640 0.1350

Saturn -110354-03-24 20:24 J -38585292.76 -38585292.65 -38585292.53 0.0282 0.0199

Moon -110354-05-21 21:21 J -38585234.71 -38585234.61 -38585234.50 0.2747 0.0520

Earth -110354-05-21 21:50 J -38585234.70 -38585234.59 -38585234.48 0.2741 0.0516 *

Mars -110354-09-19 01:55 J -38585114.51 -38585114.42 -38585114.34 0.1747 0.1443

Mars -110353-07-31 16:19 J -38584797.90 -38584797.82 -38584797.73 0.1765 0.1245

Jupiter -110352-01-21 16:05 J -38584623.97 -38584623.83 -38584623.70 0.0531 0.0134

Jupiter -110352-04-21 03:36 J -38584534.44 -38584534.35 -38584534.26 0.0532 0.0385

Moon -110351-11-11 00:29 J -38583965.61 -38583965.48 -38583965.35 0.2609 0.1321

Earth -110351-11-11 00:29 J -38583965.61 -38583965.48 -38583965.35 0.2602 0.1404 *

Venus -110349-08-30 05:17 J -38583307.35 -38583307.28 -38583307.21 0.3645 0.2812

Jupiter -110347-09-09 10:19 J -38582567.14 -38582567.07 -38582566.99 0.0497 0.0433

Jupiter -110347-12-08 08:24 J -38582477.32 -38582477.15 -38582476.99 0.0495 0.0084

Mars -110346-03-04 13:12 J -38582391.01 -38582390.95 -38582390.88 0.1722 0.1520

Mars -110345-01-16 08:09 J -38582073.25 -38582073.16 -38582073.06 0.1790 0.1098

Mars -110344-02-08 03:21 J -38581684.50 -38581684.36 -38581684.23 0.1742 0.0815

Neptune -110344-07-28 18:00 J -38581513.78 -38581513.75 -38581513.72 0.0089 0.0087

Neptune -110344-10-24 20:09 J -38581425.70 -38581425.66 -38581425.58 0.0089 0.0083

Mars -110344-12-22 00:57 J -38581367.57 -38581367.46 -38581367.36 0.1770 0.0818

Neptune -110343-01-20 22:48 J -38581337.62 -38581337.55 -38581337.46 0.0089 0.0078

Neptune -110343-04-19 01:26 J -38581249.53 -38581249.44 -38581249.34 0.0089 0.0073

Neptune -110343-07-16 03:50 J -38581161.43 -38581161.34 -38581161.22 0.0089 0.0068

Neptune -110343-10-12 06:29 J -38581073.33 -38581073.23 -38581073.10 0.0089 0.0063

Neptune -110342-01-08 09:07 J -38580985.24 -38580985.12 -38580984.98 0.0089 0.0058

Neptune -110342-04-06 11:45 J -38580897.14 -38580897.01 -38580896.87 0.0089 0.0053

Neptune -110342-07-03 14:24 J -38580809.03 -38580808.90 -38580808.75 0.0089 0.0048

Neptune -110342-09-29 17:02 J -38580720.93 -38580720.79 -38580720.64 0.0089 0.0043

Neptune -110342-12-26 19:41 J -38580632.83 -38580632.68 -38580632.52 0.0089 0.0038

Neptune -110341-03-23 22:19 J -38580544.72 -38580544.57 -38580544.41 0.0089 0.0033

Earth -110341-05-23 16:19 J -38580483.93 -38580483.82 -38580483.71 0.2745 0.0471

Moon -110341-05-23 16:48 J -38580483.91 -38580483.80 -38580483.69 0.2751 0.0461 *

Neptune -110341-06-20 00:57 J -38580456.62 -38580456.46 -38580456.29 0.0089 0.0028

Neptune -110341-09-16 03:36 J -38580368.51 -38580368.35 -38580368.18 0.0089 0.0023

Jupiter -110341-11-09 18:57 J -38580313.83 -38580313.71 -38580313.59 0.0530 0.0260

Neptune -110341-12-13 06:14 J -38580280.40 -38580280.24 -38580280.06 0.0089 0.0018

Jupiter -110340-02-07 06:43 J -38580224.33 -38580224.22 -38580224.10 0.0531 0.0263

Neptune -110340-03-11 09:07 J -38580192.29 -38580192.12 -38580191.95 0.0089 0.0013

Neptune -110340-06-07 11:45 J -38580104.18 -38580104.01 -38580103.84 0.0089 0.0008

Neptune -110340-09-03 14:38 J -38580016.07 -38580015.89 -38580015.72 0.0089 0.0003

Neptune -110340-11-30 17:17 J -38579927.95 -38579927.78 -38579927.61 0.0089 0.0003

Saturn -110339-01-21 10:33 J -38579876.15 -38579876.06 -38579875.97 0.0274 0.0214

Neptune -110339-02-26 19:55 J -38579839.84 -38579839.67 -38579839.49 0.0089 0.0008

Saturn -110339-04-20 00:00 J -38579787.62 -38579787.50 -38579787.37 0.0275 0.0137

Neptune -110339-05-25 22:48 J -38579751.72 -38579751.55 -38579751.38 0.0089 0.0013

Saturn -110339-07-17 13:26 J -38579699.08 -38579698.94 -38579698.80 0.0276 0.0060

Neptune -110339-08-22 01:26 J -38579663.61 -38579663.44 -38579663.27 0.0089 0.0019

Saturn -110339-10-14 02:38 J -38579610.53 -38579610.39 -38579610.25 0.0277 0.0017

Neptune -110339-11-18 04:05 J -38579575.49 -38579575.33 -38579575.15 0.0089 0.0024

Saturn -110338-01-10 15:36 J -38579521.98 -38579521.85 -38579521.71 0.0278 0.0094

Neptune -110338-02-14 06:57 J -38579487.37 -38579487.21 -38579487.04 0.0089 0.0029

Saturn -110338-04-09 04:33 J -38579433.42 -38579433.31 -38579433.19 0.0279 0.0170

Neptune -110338-05-13 09:36 J -38579399.25 -38579399.10 -38579398.93 0.0089 0.0035

Saturn -110338-07-06 17:31 J -38579344.84 -38579344.77 -38579344.71 0.0280 0.0245

Neptune -110338-08-09 12:29 J -38579311.13 -38579310.98 -38579310.81 0.0089 0.0040

Neptune -110338-11-05 15:21 J -38579223.00 -38579222.86 -38579222.70 0.0089 0.0045

Earth -110338-11-14 05:45 J -38579214.42 -38579214.26 -38579214.11 0.2598 0.0194

Moon -110338-11-14 06:57 J -38579214.36 -38579214.21 -38579214.06 0.2602 0.0186 *

Neptune -110337-02-01 18:00 J -38579134.88 -38579134.75 -38579134.59 0.0089 0.0051

Neptune -110337-04-29 20:53 J -38579046.75 -38579046.63 -38579046.48 0.0089 0.0056

Neptune -110337-07-27 00:00 J -38578958.62 -38578958.50 -38578958.37 0.0089 0.0061

Neptune -110337-10-23 02:38 J -38578870.49 -38578870.39 -38578870.26 0.0089 0.0067

Neptune -110336-01-19 05:45 J -38578782.35 -38578782.26 -38578782.15 0.0089 0.0072

Neptune -110336-04-17 08:24 J -38578694.22 -38578694.15 -38578694.05 0.0089 0.0078

Mars -110336-06-07 15:36 J -38578642.90 -38578642.85 -38578642.79 0.1795 0.1596

Neptune -110336-07-14 11:31 J -38578606.07 -38578606.02 -38578605.95 0.0089 0.0083

Neptune -110336-10-10 14:38 J -38578517.90 -38578517.89 -38578517.87 0.0089 0.0088

Venus -110335-06-23 20:38 J -38578261.68 -38578261.64 -38578261.59 0.3753 0.3515

Mars -110335-07-01 05:17 J -38578254.43 -38578254.28 -38578254.13 0.1737 0.0208

Jupiter -110335-09-26 08:09 J -38578167.33 -38578167.16 -38578167.00 0.0496 0.0050

Jupiter -110335-12-25 07:26 J -38578077.23 -38578077.19 -38578077.16 0.0495 0.0483

Mars -110334-05-14 09:07 J -38577937.25 -38577937.12 -38577937.00 0.1775 0.0373

Moon -110334-05-17 12:29 J -38577934.04 -38577933.98 -38577933.92 0.2732 0.2297

Earth -110334-05-17 13:12 J -38577934.01 -38577933.95 -38577933.89 0.2733 0.2284 *

Venus -110329-01-07 19:26 J -38576237.81 -38576237.69 -38576237.58 0.3748 0.1450

Jupiter -110329-08-28 21:21 J -38576003.70 -38576003.61 -38576003.51 0.0529 0.0391

Jupiter -110329-11-26 09:36 J -38575914.23 -38575914.10 -38575913.97 0.0531 0.0135

Earth -110328-05-26 11:02 J -38575733.14 -38575733.04 -38575732.95 0.2749 0.1442

Moon -110328-05-26 11:31 J -38575733.11 -38575733.02 -38575732.93 0.2751 0.1572 *

Saturn -110326-08-21 15:07 J -38574915.97 -38574915.87 -38574915.77 0.0287 0.0223

Saturn -110326-11-18 09:50 J -38574827.24 -38574827.09 -38574826.94 0.0286 0.0127

Mars -110326-11-21 07:41 J -38574824.33 -38574824.18 -38574824.04 0.1732 0.0380

Saturn -110325-02-15 04:48 J -38574738.47 -38574738.30 -38574738.14 0.0284 0.0030

Saturn -110325-05-14 00:00 J -38574649.67 -38574649.50 -38574649.34 0.0283 0.0068

Saturn -110325-08-10 19:26 J -38574560.83 -38574560.69 -38574560.55 0.0282 0.0165

Mars -110325-10-03 17:17 J -38574506.91 -38574506.78 -38574506.66 0.1780 0.0097

Saturn -110325-11-07 15:07 J -38574471.93 -38574471.87 -38574471.81 0.0281 0.0263

Earth -110325-11-16 11:02 J -38574463.15 -38574463.04 -38574462.92 0.2594 0.1813

Moon -110325-11-16 12:43 J -38574463.07 -38574462.97 -38574462.87 0.2595 0.1987 *

Venus -110324-07-23 18:14 J -38574213.86 -38574213.74 -38574213.61 0.3742 0.0686

Jupiter -110323-07-15 08:09 J -38573857.31 -38573857.16 -38573857.00 0.0496 0.0177

Mars -110323-09-09 07:41 J -38573801.21 -38573801.18 -38573801.15 0.1760 0.1700

Jupiter -110323-10-13 06:57 J -38573767.32 -38573767.21 -38573767.09 0.0495 0.0352

Moon -110321-05-19 07:26 J -38573183.28 -38573183.19 -38573183.09 0.2743 0.1388

Earth -110321-05-19 07:55 J -38573183.26 -38573183.17 -38573183.07 0.2737 0.1300 *

Uranus -110319-02-23 13:12 J -38572538.00 -38572537.95 -38572537.89 0.0146 0.0138

Uranus -110319-05-22 20:24 J -38572449.76 -38572449.65 -38572449.54 0.0146 0.0112

Uranus -110319-08-19 03:07 J -38572361.51 -38572361.37 -38572361.23 0.0147 0.0086

Uranus -110319-11-15 10:05 J -38572273.23 -38572273.08 -38572272.91 0.0147 0.0060

Venus -110318-02-06 17:45 J -38572189.84 -38572189.76 -38572189.69 0.3736 0.2929

Uranus -110318-02-11 17:17 J -38572184.95 -38572184.78 -38572184.61 0.0147 0.0033

Uranus -110318-05-11 00:29 J -38572096.66 -38572096.48 -38572096.31 0.0147 0.0006

Uranus -110318-08-07 07:41 J -38572008.36 -38572008.18 -38572008.01 0.0147 0.0021

Uranus -110318-11-03 14:53 J -38571920.05 -38571919.88 -38571919.71 0.0147 0.0048

Uranus -110317-01-30 22:05 J -38571831.72 -38571831.58 -38571831.42 0.0147 0.0076

Uranus -110317-04-28 05:17 J -38571743.39 -38571743.28 -38571743.14 0.0147 0.0104

Uranus -110317-07-25 12:57 J -38571655.03 -38571654.96 -38571654.88 0.0147 0.0132

Jupiter -110317-09-14 12:00 J -38571604.14 -38571604.00 -38571603.87 0.0530 0.0015

Jupiter -110317-12-12 23:02 J -38571514.57 -38571514.54 -38571514.50 0.0531 0.0510

Mars -110316-04-12 10:19 J -38571394.19 -38571394.07 -38571393.94 0.1727 0.0934

Mars -110315-02-24 00:57 J -38571076.58 -38571076.46 -38571076.34 0.1785 0.0560

Earth -110315-05-29 05:31 J -38570982.32 -38570982.27 -38570982.22 0.2753 0.2406

Moon -110315-05-29 06:00 J -38570982.30 -38570982.25 -38570982.19 0.2749 0.2398 *

Venus -110314-02-05 23:17 J -38570729.61 -38570729.53 -38570729.45 0.3627 0.2734

Mars -110314-03-20 02:09 J -38570687.49 -38570687.41 -38570687.33 0.1747 0.1496

Mars -110313-01-30 16:33 J -38570370.89 -38570370.81 -38570370.73 0.1765 0.1289

Jupiter -110311-05-03 08:24 J -38569547.27 -38569547.15 -38569547.02 0.0497 0.0304

Jupiter -110311-08-01 06:57 J -38569457.36 -38569457.21 -38569457.06 0.0496 0.0220

Saturn -110310-06-10 12:29 J -38569144.05 -38569143.98 -38569143.90 0.0275 0.0235

Saturn -110310-09-07 01:55 J -38569055.53 -38569055.42 -38569055.29 0.0275 0.0159

Saturn -110310-12-04 15:36 J -38568966.99 -38568966.85 -38568966.71 0.0276 0.0081

Saturn -110309-03-02 04:48 J -38568878.44 -38568878.30 -38568878.16 0.0277 0.0004

Saturn -110309-05-29 17:45 J -38568789.89 -38568789.76 -38568789.62 0.0278 0.0074

Venus -110309-08-21 18:43 J -38568705.83 -38568705.72 -38568705.61 0.3632 0.1160

Saturn -110309-08-26 06:43 J -38568701.33 -38568701.22 -38568701.09 0.0279 0.0150

Saturn -110309-11-22 19:41 J -38568612.76 -38568612.68 -38568612.60 0.0280 0.0225

Moon -110308-05-22 02:38 J -38568432.50 -38568432.39 -38568432.28 0.2748 0.0322

Earth -110308-05-22 02:38 J -38568432.50 -38568432.39 -38568432.28 0.2741 0.0321 *

Mars -110307-09-02 13:41 J -38567964.00 -38567963.93 -38567963.85 0.1722 0.1465

Mars -110306-07-17 08:38 J -38567646.25 -38567646.14 -38567646.04 0.1790 0.1045

Jupiter -110305-07-03 14:24 J -38567294.03 -38567293.90 -38567293.76 0.0530 0.0133

Mars -110305-08-09 03:50 J -38567257.47 -38567257.34 -38567257.21 0.1742 0.0873

Jupiter -110305-10-01 01:55 J -38567204.51 -38567204.42 -38567204.32 0.0531 0.0385

Earth -110305-11-11 06:57 J -38567163.35 -38567163.21 -38567163.07 0.2602 0.1085

Moon -110305-11-11 07:26 J -38567163.33 -38567163.19 -38567163.05 0.2608 0.1130 *

Mars -110304-06-22 00:57 J -38566940.57 -38566940.46 -38566940.35 0.1770 0.0858

Venus -110303-03-07 13:55 J -38566682.04 -38566681.92 -38566681.81 0.3637 0.0391

Jupiter -110299-02-19 08:24 J -38565237.22 -38565237.15 -38565237.06 0.0497 0.0431

Jupiter -110299-05-20 06:29 J -38565147.40 -38565147.23 -38565147.07 0.0495 0.0086

Venus -110298-09-21 08:53 J -38564658.23 -38564658.13 -38564658.03 0.3641 0.1881

Mars -110297-12-06 15:50 J -38564215.91 -38564215.84 -38564215.78 0.1795 0.1549

Saturn -110296-01-07 16:19 J -38564183.90 -38564183.82 -38564183.74 0.0287 0.0246

Saturn -110296-04-06 10:48 J -38564095.19 -38564095.05 -38564094.91 0.0286 0.0151

Saturn -110296-07-04 05:45 J -38564006.42 -38564006.26 -38564006.10 0.0285 0.0054

Saturn -110296-10-01 00:57 J -38563917.63 -38563917.46 -38563917.30 0.0284 0.0043

Saturn -110296-12-28 20:09 J -38563828.80 -38563828.66 -38563828.51 0.0283 0.0141

Mars -110296-12-30 05:45 J -38563827.41 -38563827.26 -38563827.11 0.1737 0.0268

Saturn -110295-03-27 15:50 J -38563739.92 -38563739.84 -38563739.75 0.0282 0.0239

Earth -110295-05-24 21:21 J -38563681.72 -38563681.61 -38563681.51 0.2745 0.0663

Moon -110295-05-24 21:50 J -38563681.70 -38563681.59 -38563681.49 0.2751 0.0747 *

Mars -110295-11-12 09:07 J -38563510.24 -38563510.12 -38563510.00 0.1775 0.0419

Jupiter -110293-04-21 17:02 J -38562983.91 -38562983.79 -38562983.67 0.0530 0.0262

Jupiter -110293-07-20 05:02 J -38562894.41 -38562894.29 -38562894.17 0.0532 0.0261

Venus -110292-04-06 03:36 J -38562634.40 -38562634.35 -38562634.31 0.3646 0.3332

Earth -110292-11-14 12:14 J -38562412.14 -38562411.99 -38562411.84 0.2597 0.0514

Moon -110292-11-14 13:41 J -38562412.08 -38562411.93 -38562411.79 0.2601 0.0727 *

Moon -110288-05-17 17:31 J -38561131.83 -38561131.77 -38561131.71 0.2735 0.2221

Earth -110288-05-17 18:14 J -38561131.81 -38561131.74 -38561131.67 0.2733 0.2085 *

Jupiter -110287-03-08 06:43 J -38560837.39 -38560837.22 -38560837.06 0.0496 0.0041

Jupiter -110287-06-06 05:45 J -38560747.27 -38560747.26 -38560747.24 0.0494 0.0490

Mars -110286-05-22 08:09 J -38560397.31 -38560397.16 -38560397.01 0.1732 0.0320

Mars -110285-04-03 17:17 J -38560079.91 -38560079.78 -38560079.66 0.1780 0.0071

Mars -110283-03-10 07:55 J -38559374.19 -38559374.17 -38559374.16 0.1760 0.1740

Earth -110282-05-27 15:50 J -38558930.93 -38558930.84 -38558930.75 0.2749 0.1634

Moon -110282-05-27 16:33 J -38558930.90 -38558930.81 -38558930.72 0.2748 0.1647 *

Jupiter -110281-02-08 19:55 J -38558673.76 -38558673.67 -38558673.58 0.0530 0.0388

Jupiter -110281-05-08 08:09 J -38558584.29 -38558584.16 -38558584.03 0.0531 0.0139

Saturn -110281-10-27 13:26 J -38558411.97 -38558411.94 -38558411.89 0.0274 0.0262

Saturn -110280-01-24 03:07 J -38558323.48 -38558323.37 -38558323.26 0.0274 0.0185

Saturn -110280-04-22 16:33 J -38558234.94 -38558234.81 -38558234.68 0.0275 0.0108

Saturn -110280-07-20 05:45 J -38558146.40 -38558146.26 -38558146.11 0.0276 0.0032

Saturn -110280-10-16 18:57 J -38558057.85 -38558057.71 -38558057.57 0.0277 0.0045

Saturn -110279-01-13 07:55 J -38557969.30 -38557969.17 -38557969.04 0.0278 0.0121

Uranus -110279-04-10 20:53 J -38557881.69 -38557881.63 -38557881.56 0.0132 0.0117

Saturn -110279-04-11 20:53 J -38557880.73 -38557880.63 -38557880.53 0.0279 0.0197

Uranus -110279-07-08 00:29 J -38557793.57 -38557793.48 -38557793.38 0.0132 0.0100

Saturn -110279-07-09 09:21 J -38557792.13 -38557792.11 -38557792.07 0.0280 0.0273

Uranus -110279-10-04 04:05 J -38557705.44 -38557705.33 -38557705.22 0.0132 0.0084

Earth -110279-11-17 17:31 J -38557660.85 -38557660.77 -38557660.68 0.2593 0.2138

Moon -110279-11-17 19:12 J -38557660.78 -38557660.70 -38557660.61 0.2592 0.2164 *

Uranus -110279-12-31 07:41 J -38557617.30 -38557617.18 -38557617.05 0.0132 0.0068

Venus -110278-01-28 19:55 J -38557588.75 -38557588.67 -38557588.59 0.3751 0.2801

Uranus -110278-03-29 11:17 J -38557529.16 -38557529.03 -38557528.89 0.0132 0.0052

Uranus -110278-06-25 14:53 J -38557441.02 -38557440.88 -38557440.74 0.0132 0.0035

Uranus -110278-09-21 18:29 J -38557352.87 -38557352.73 -38557352.59 0.0132 0.0019

Uranus -110278-12-18 21:50 J -38557264.73 -38557264.59 -38557264.44 0.0132 0.0005

Uranus -110277-03-16 01:26 J -38557176.58 -38557176.44 -38557176.30 0.0132 0.0012

Uranus -110277-06-12 04:48 J -38557088.44 -38557088.30 -38557088.16 0.0132 0.0028

Uranus -110277-09-08 08:09 J -38557000.29 -38557000.16 -38557000.02 0.0132 0.0044

Mars -110277-10-11 11:02 J -38556967.17 -38556967.04 -38556966.91 0.1727 0.0877

Uranus -110277-12-05 11:45 J -38556912.14 -38556912.01 -38556911.89 0.0132 0.0059

Uranus -110276-03-03 14:53 J -38556823.99 -38556823.88 -38556823.76 0.0132 0.0075

Uranus -110276-05-30 18:14 J -38556735.83 -38556735.74 -38556735.63 0.0132 0.0090

Mars -110276-08-25 00:57 J -38556649.57 -38556649.46 -38556649.34 0.1785 0.0516

Uranus -110276-08-26 21:36 J -38556647.68 -38556647.60 -38556647.51 0.0132 0.0105

Uranus -110276-11-23 00:57 J -38556559.51 -38556559.46 -38556559.40 0.0132 0.0120

Jupiter -110276-12-25 06:29 J -38556527.38 -38556527.23 -38556527.07 0.0496 0.0172

Jupiter -110275-03-25 05:17 J -38556437.39 -38556437.28 -38556437.16 0.0495 0.0356

Moon -110275-05-20 12:29 J -38556381.08 -38556380.98 -38556380.88 0.2744 0.1102

Earth -110275-05-20 12:57 J -38556381.06 -38556380.96 -38556380.86 0.2738 0.1101 *

Mars -110275-09-18 02:53 J -38556260.44 -38556260.38 -38556260.31 0.1747 0.1561

Mars -110274-07-31 16:33 J -38555943.89 -38555943.81 -38555943.73 0.1765 0.1329

Venus -110273-08-13 18:43 J -38555564.85 -38555564.72 -38555564.60 0.3746 0.0726

Moon -110272-11-09 08:09 J -38555112.22 -38555112.16 -38555112.11 0.2612 0.2392

Earth -110272-11-09 08:24 J -38555112.21 -38555112.15 -38555112.08 0.2606 0.2350 *

Jupiter -110270-11-27 22:33 J -38554363.59 -38554363.56 -38554363.54 0.0529 0.0518

Jupiter -110269-02-25 11:02 J -38554274.18 -38554274.04 -38554273.90 0.0531 0.0015

Jupiter -110269-05-24 22:19 J -38554184.59 -38554184.57 -38554184.55 0.0532 0.0524

Earth -110269-05-29 10:19 J -38554180.10 -38554180.07 -38554180.04 0.2753 0.2598

Moon -110269-05-29 10:48 J -38554180.06 -38554180.05 -38554180.03 0.2748 0.2708 *

Venus -110267-02-27 17:45 J -38553540.88 -38553540.76 -38553540.64 0.3740 0.1443

Mars -110267-03-03 13:55 J -38553537.00 -38553536.92 -38553536.84 0.1722 0.1418

Saturn -110267-05-27 14:38 J -38553451.91 -38553451.89 -38553451.86 0.0287 0.0283

Saturn -110267-08-24 09:07 J -38553363.24 -38553363.12 -38553362.99 0.0286 0.0188

Saturn -110267-11-21 04:05 J -38553274.49 -38553274.33 -38553274.18 0.0285 0.0092

Mars -110266-01-15 08:38 J -38553219.24 -38553219.14 -38553219.03 0.1790 0.0996

Saturn -110266-02-17 23:02 J -38553185.71 -38553185.54 -38553185.37 0.0284 0.0006

Saturn -110266-05-17 18:29 J -38553096.89 -38553096.73 -38553096.58 0.0283 0.0104

Saturn -110266-08-14 13:55 J -38553008.04 -38553007.92 -38553007.80 0.0282 0.0202

Mars -110265-02-08 04:19 J -38552830.45 -38552830.32 -38552830.19 0.1742 0.0927

Mars -110265-12-21 00:57 J -38552513.56 -38552513.46 -38552513.35 0.1770 0.0903

Jupiter -110264-10-13 06:57 J -38552217.34 -38552217.21 -38552217.08 0.0497 0.0298

Jupiter -110263-01-11 05:17 J -38552127.43 -38552127.28 -38552127.13 0.0495 0.0225

Neptune -110262-02-16 10:48 J -38551726.08 -38551726.05 -38551725.99 0.0088 0.0085

Neptune -110262-05-15 12:57 J -38551638.02 -38551637.96 -38551637.89 0.0088 0.0080

Earth -110262-05-23 07:41 J -38551630.29 -38551630.18 -38551630.07 0.2742 0.0145

Moon -110262-05-23 07:55 J -38551630.28 -38551630.17 -38551630.06 0.2749 0.0157 *

Neptune -110262-08-11 14:38 J -38551549.95 -38551549.89 -38551549.80 0.0088 0.0076

Venus -110262-09-13 17:17 J -38551516.79 -38551516.78 -38551516.77 0.3734 0.3708

Neptune -110262-11-07 16:48 J -38551461.89 -38551461.80 -38551461.71 0.0088 0.0071

Neptune -110261-02-03 18:29 J -38551373.82 -38551373.73 -38551373.62 0.0088 0.0066

Neptune -110261-05-01 20:24 J -38551285.75 -38551285.65 -38551285.54 0.0088 0.0062

Neptune -110261-07-28 22:05 J -38551197.68 -38551197.58 -38551197.45 0.0088 0.0058

Neptune -110261-10-25 00:14 J -38551109.61 -38551109.49 -38551109.37 0.0088 0.0053

Neptune -110260-01-21 01:55 J -38551021.54 -38551021.42 -38551021.29 0.0088 0.0048

Neptune -110260-04-19 03:50 J -38550933.47 -38550933.34 -38550933.21 0.0088 0.0044

Neptune -110260-07-16 05:31 J -38550845.39 -38550845.27 -38550845.13 0.0088 0.0040

Neptune -110260-10-12 07:12 J -38550757.32 -38550757.20 -38550757.05 0.0088 0.0036

Neptune -110259-01-08 09:21 J -38550669.25 -38550669.11 -38550668.97 0.0088 0.0030

Neptune -110259-04-06 11:02 J -38550581.18 -38550581.04 -38550580.89 0.0088 0.0026

Neptune -110259-07-03 12:57 J -38550493.10 -38550492.96 -38550492.82 0.0088 0.0022

Pluto -110259-09-02 17:31 J -38550431.82 -38550431.77 -38550431.67 0.0060 0.0056

Neptune -110259-09-29 14:38 J -38550405.03 -38550404.89 -38550404.74 0.0088 0.0017

Earth -110259-11-12 13:26 J -38550361.09 -38550360.94 -38550360.79 0.2601 0.0773

Moon -110259-11-12 14:24 J -38550361.05 -38550360.90 -38550360.76 0.2606 0.0673 *

Pluto -110259-11-29 19:12 J -38550343.80 -38550343.70 -38550343.57 0.0060 0.0048

Neptune -110259-12-26 16:33 J -38550316.96 -38550316.81 -38550316.67 0.0088 0.0013

Pluto -110258-02-25 20:24 J -38550255.77 -38550255.65 -38550255.48 0.0060 0.0041

Neptune -110258-03-24 18:14 J -38550228.88 -38550228.74 -38550228.59 0.0088 0.0008

Pluto -110258-05-24 22:05 J -38550167.73 -38550167.58 -38550167.41 0.0060 0.0033

Neptune -110258-06-20 19:55 J -38550140.81 -38550140.67 -38550140.52 0.0088 0.0005

Pluto -110258-08-20 23:17 J -38550079.69 -38550079.53 -38550079.33 0.0060 0.0026

Venus -110258-09-12 21:50 J -38550056.69 -38550056.59 -38550056.50 0.3629 0.2156

Neptune -110258-09-16 21:50 J -38550052.74 -38550052.59 -38550052.45 0.0088 0.0001

Pluto -110258-11-17 00:57 J -38549991.64 -38549991.46 -38549991.26 0.0060 0.0018

Neptune -110258-12-13 23:31 J -38549964.66 -38549964.52 -38549964.37 0.0088 0.0005

Jupiter -110258-12-14 13:26 J -38549964.08 -38549963.94 -38549963.81 0.0530 0.0123

Pluto -110257-02-13 02:38 J -38549903.58 -38549903.39 -38549903.20 0.0060 0.0011

Neptune -110257-03-11 01:12 J -38549876.59 -38549876.45 -38549876.30 0.0088 0.0009

Jupiter -110257-03-13 00:57 J -38549874.55 -38549874.46 -38549874.37 0.0531 0.0393

Pluto -110257-05-11 04:05 J -38549815.53 -38549815.33 -38549815.14 0.0060 0.0003

Mars -110257-06-06 15:50 J -38549788.90 -38549788.84 -38549788.77 0.1795 0.1501

Neptune -110257-06-07 02:53 J -38549788.52 -38549788.38 -38549788.23 0.0088 0.0014

Pluto -110257-08-07 05:31 J -38549727.47 -38549727.27 -38549727.08 0.0060 0.0005

Neptune -110257-09-03 04:48 J -38549700.44 -38549700.30 -38549700.16 0.0088 0.0018

Pluto -110257-11-03 06:43 J -38549639.40 -38549639.22 -38549639.02 0.0060 0.0012

Neptune -110257-11-30 06:14 J -38549612.37 -38549612.24 -38549612.09 0.0088 0.0023

Pluto -110256-01-30 08:09 J -38549551.34 -38549551.16 -38549550.97 0.0061 0.0020

Neptune -110256-02-26 08:09 J -38549524.30 -38549524.16 -38549524.02 0.0088 0.0026

Pluto -110256-04-28 09:21 J -38549463.27 -38549463.11 -38549462.92 0.0061 0.0028

Neptune -110256-05-25 09:50 J -38549436.22 -38549436.09 -38549435.95 0.0088 0.0031

Mars -110256-06-30 06:00 J -38549400.40 -38549400.25 -38549400.10 0.1737 0.0322

Pluto -110256-07-25 10:48 J -38549375.19 -38549375.05 -38549374.87 0.0061 0.0036

Neptune -110256-08-21 11:31 J -38549348.15 -38549348.02 -38549347.88 0.0088 0.0035

Pluto -110256-10-21 12:29 J -38549287.11 -38549286.98 -38549286.84 0.0061 0.0043

Neptune -110256-11-17 12:57 J -38549260.08 -38549259.96 -38549259.82 0.0088 0.0040

Pluto -110255-01-17 13:41 J -38549199.02 -38549198.93 -38549198.81 0.0061 0.0051

Neptune -110255-02-13 14:38 J -38549172.00 -38549171.89 -38549171.75 0.0088 0.0044

Pluto -110255-04-15 14:53 J -38549110.90 -38549110.88 -38549110.80 0.0061 0.0059

Neptune -110255-05-12 16:33 J -38549083.93 -38549083.81 -38549083.69 0.0088 0.0047

Mars -110255-05-13 09:21 J -38549083.23 -38549083.11 -38549082.99 0.1775 0.0461

Neptune -110255-08-08 18:14 J -38548995.85 -38548995.74 -38548995.62 0.0088 0.0052

Neptune -110255-11-04 19:55 J -38548907.78 -38548907.67 -38548907.56 0.0088 0.0056

Neptune -110254-01-31 21:36 J -38548819.70 -38548819.60 -38548819.50 0.0088 0.0060

Neptune -110254-04-29 23:02 J -38548731.63 -38548731.54 -38548731.43 0.0088 0.0064

Neptune -110254-07-27 00:29 J -38548643.55 -38548643.48 -38548643.37 0.0088 0.0069

Neptune -110254-10-23 02:09 J -38548555.48 -38548555.41 -38548555.32 0.0088 0.0073

Neptune -110253-01-19 03:50 J -38548467.40 -38548467.34 -38548467.26 0.0088 0.0077

Neptune -110253-04-16 05:31 J -38548379.32 -38548379.27 -38548379.20 0.0088 0.0080

Neptune -110253-07-13 07:12 J -38548291.23 -38548291.20 -38548291.15 0.0088 0.0084

Neptune -110253-10-09 08:53 J -38548203.13 -38548203.13 -38548203.13 0.0088 0.0088

Venus -110252-03-28 17:02 J -38548032.90 -38548032.79 -38548032.67 0.3633 0.0604

Jupiter -110252-08-01 07:26 J -38547907.28 -38547907.19 -38547907.11 0.0497 0.0423

Jupiter -110252-10-30 05:17 J -38547817.45 -38547817.28 -38547817.12 0.0496 0.0095

Saturn -110251-06-13 04:33 J -38547591.40 -38547591.31 -38547591.21 0.0275 0.0209

Saturn -110251-09-09 18:14 J -38547502.87 -38547502.74 -38547502.61 0.0276 0.0132

Saturn -110251-12-07 07:26 J -38547414.33 -38547414.19 -38547414.04 0.0276 0.0055

Saturn -110250-03-05 20:38 J -38547325.78 -38547325.64 -38547325.49 0.0277 0.0022

Saturn -110250-06-02 09:36 J -38547237.23 -38547237.10 -38547236.96 0.0278 0.0099

Saturn -110250-08-29 22:33 J -38547148.66 -38547148.56 -38547148.45 0.0279 0.0174

Saturn -110250-11-26 11:31 J -38547060.08 -38547060.02 -38547059.96 0.0280 0.0250

Earth -110249-05-25 02:09 J -38546879.51 -38546879.41 -38546879.30 0.2746 0.0856

Moon -110249-05-25 02:53 J -38546879.49 -38546879.38 -38546879.28 0.2750 0.0905 *

Venus -110247-10-12 12:14 J -38546009.10 -38546008.99 -38546008.87 0.3638 0.0939

Mars -110247-11-20 08:38 J -38545970.29 -38545970.14 -38545969.99 0.1732 0.0261

Jupiter -110246-10-02 15:50 J -38545653.96 -38545653.84 -38545653.72 0.0530 0.0255

Mars -110246-10-03 17:17 J -38545652.90 -38545652.78 -38545652.65 0.1780 0.0064

Earth -110246-11-15 18:43 J -38545609.87 -38545609.72 -38545609.57 0.2597 0.0835

Moon -110246-11-15 20:09 J -38545609.81 -38545609.66 -38545609.52 0.2600 0.0851 *

Jupiter -110246-12-31 03:50 J -38545564.46 -38545564.34 -38545564.22 0.0531 0.0267

Moon -110242-05-18 22:33 J -38544329.64 -38544329.56 -38544329.48 0.2738 0.1892

Earth -110242-05-18 23:17 J -38544329.61 -38544329.53 -38544329.45 0.2734 0.1895 *

Venus -110241-04-27 07:12 J -38543985.29 -38543985.20 -38543985.12 0.3643 0.2411

Jupiter -110240-08-18 05:02 J -38543507.45 -38543507.29 -38543507.12 0.0496 0.0036

Saturn -110237-01-11 09:36 J -38542631.20 -38542631.10 -38542630.98 0.0287 0.0215

Saturn -110237-04-09 04:33 J -38542542.46 -38542542.31 -38542542.16 0.0286 0.0118

Mars -110237-04-11 11:17 J -38542540.16 -38542540.03 -38542539.90 0.1727 0.0823

Saturn -110237-07-06 23:31 J -38542453.68 -38542453.52 -38542453.35 0.0285 0.0021

Saturn -110237-10-03 18:43 J -38542364.88 -38542364.72 -38542364.55 0.0284 0.0077

Saturn -110237-12-31 14:09 J -38542276.04 -38542275.91 -38542275.77 0.0283 0.0175

Mars -110236-02-23 01:12 J -38542222.57 -38542222.45 -38542222.33 0.1785 0.0467

Saturn -110236-03-30 10:05 J -38542187.12 -38542187.08 -38542187.04 0.0282 0.0273

Earth -110236-05-27 20:38 J -38542128.72 -38542128.64 -38542128.55 0.2750 0.1827

Moon -110236-05-27 21:36 J -38542128.68 -38542128.60 -38542128.53 0.2748 0.1937 *

Uranus -110235-03-15 20:38 J -38541836.71 -38541836.64 -38541836.56 0.0146 0.0131

Mars -110235-03-19 03:21 J -38541833.41 -38541833.36 -38541833.30 0.1747 0.1621

Uranus -110235-06-12 03:36 J -38541748.46 -38541748.35 -38541748.23 0.0147 0.0105

Uranus -110235-09-08 10:33 J -38541660.20 -38541660.06 -38541659.91 0.0147 0.0079

Uranus -110235-12-05 17:31 J -38541571.93 -38541571.77 -38541571.60 0.0147 0.0053

Mars -110234-01-29 16:33 J -38541516.88 -38541516.81 -38541516.73 0.1765 0.1371

Uranus -110234-03-04 00:43 J -38541483.64 -38541483.47 -38541483.30 0.0147 0.0026

Uranus -110234-05-31 07:55 J -38541395.35 -38541395.17 -38541394.99 0.0147 0.0001

Jupiter -110234-07-21 18:14 J -38541343.83 -38541343.74 -38541343.64 0.0530 0.0388

Uranus -110234-08-27 15:07 J -38541307.04 -38541306.87 -38541306.70 0.0147 0.0028

Jupiter -110234-10-19 06:29 J -38541254.36 -38541254.23 -38541254.09 0.0531 0.0141

Uranus -110234-11-23 22:19 J -38541218.73 -38541218.57 -38541218.40 0.0147 0.0055

Uranus -110233-02-20 05:31 J -38541130.41 -38541130.27 -38541130.12 0.0147 0.0083

Uranus -110233-05-18 12:43 J -38541042.07 -38541041.97 -38541041.84 0.0147 0.0111

Uranus -110233-08-14 20:38 J -38540953.70 -38540953.64 -38540953.59 0.0147 0.0139

Earth -110233-11-18 00:14 J -38540858.54 -38540858.49 -38540858.45 0.2593 0.2463

Moon -110229-05-20 17:31 J -38539578.87 -38539578.77 -38539578.66 0.2744 0.0997

Earth -110229-05-20 18:00 J -38539578.86 -38539578.75 -38539578.65 0.2738 0.0912 *

Jupiter -110228-06-06 05:31 J -38539197.42 -38539197.27 -38539197.11 0.0496 0.0160

Mars -110228-09-01 14:24 J -38539109.98 -38539109.90 -38539109.81 0.1722 0.1362

Jupiter -110228-09-04 04:19 J -38539107.43 -38539107.32 -38539107.21 0.0495 0.0366

Mars -110227-07-16 08:38 J -38538792.24 -38538792.14 -38538792.03 0.1790 0.0955

Mars -110226-08-09 04:48 J -38538403.43 -38538403.30 -38538403.18 0.1742 0.0986

Earth -110226-11-10 14:53 J -38538309.98 -38538309.88 -38538309.79 0.2605 0.2047

Moon -110226-11-10 14:38 J -38538309.97 -38538309.89 -38538309.80 0.2611 0.2093 *

Mars -110225-06-21 01:12 J -38538086.56 -38538086.45 -38538086.35 0.1770 0.0944

Jupiter -110222-05-09 21:07 J -38537033.65 -38537033.62 -38537033.59 0.0529 0.0514

Jupiter -110222-08-07 09:50 J -38536944.23 -38536944.09 -38536943.96 0.0531 0.0021

Venus -110222-09-04 19:26 J -38536915.80 -38536915.69 -38536915.59 0.3750 0.2080

Saturn -110222-10-31 05:17 J -38536859.34 -38536859.28 -38536859.20 0.0273 0.0237

Jupiter -110222-11-04 20:53 J -38536854.63 -38536854.63 -38536854.62 0.0532 0.0532

Saturn -110221-01-27 18:57 J -38536770.83 -38536770.71 -38536770.59 0.0274 0.0160

Saturn -110221-04-25 08:24 J -38536682.29 -38536682.15 -38536682.01 0.0275 0.0084

Saturn -110221-07-22 21:36 J -38536593.75 -38536593.60 -38536593.46 0.0276 0.0009

Saturn -110221-10-19 10:33 J -38536505.20 -38536505.06 -38536504.92 0.0277 0.0069

Saturn -110220-01-15 23:31 J -38536416.64 -38536416.52 -38536416.40 0.0278 0.0145

Saturn -110220-04-14 12:14 J -38536328.07 -38536327.99 -38536327.90 0.0279 0.0220

Mars -110218-12-06 16:05 J -38535361.90 -38535361.83 -38535361.76 0.1795 0.1451

Mars -110217-12-29 06:43 J -38534973.37 -38534973.22 -38534973.07 0.1737 0.0383

Venus -110216-03-20 18:00 J -38534891.87 -38534891.75 -38534891.62 0.3744 0.0083

Jupiter -110216-03-25 05:45 J -38534887.40 -38534887.26 -38534887.13 0.0496 0.0288

Earth -110216-05-23 12:29 J -38534828.09 -38534827.98 -38534827.87 0.2742 0.0088

Moon -110216-05-23 12:57 J -38534828.07 -38534827.96 -38534827.85 0.2749 0.0180 *

Jupiter -110216-06-23 03:50 J -38534797.48 -38534797.34 -38534797.19 0.0495 0.0234

Mars -110216-11-11 09:21 J -38534656.23 -38534656.11 -38534655.99 0.1775 0.0503

Earth -110213-11-12 19:55 J -38533558.83 -38533558.67 -38533558.52 0.2601 0.0462

Moon -110213-11-12 20:53 J -38533558.78 -38533558.63 -38533558.47 0.2606 0.0395 *

Venus -110211-10-04 17:17 J -38532867.88 -38532867.78 -38532867.68 0.3739 0.2214

Jupiter -110210-05-26 12:43 J -38532634.11 -38532633.97 -38532633.84 0.0530 0.0109

Jupiter -110210-08-24 00:14 J -38532544.57 -38532544.49 -38532544.40 0.0532 0.0409

Moon -110209-05-16 08:38 J -38532278.15 -38532278.14 -38532278.14 0.2730 0.2722

Earth -110209-05-16 09:21 J -38532278.13 -38532278.11 -38532278.10 0.2730 0.2685

Saturn -110208-05-30 07:41 J -38531899.25 -38531899.18 -38531899.10 0.0287 0.0253

Saturn -110208-08-27 02:24 J -38531810.54 -38531810.40 -38531810.26 0.0286 0.0158

Saturn -110208-11-23 21:21 J -38531721.77 -38531721.61 -38531721.45 0.0285 0.0061

Saturn -110207-02-20 16:33 J -38531632.98 -38531632.81 -38531632.65 0.0284 0.0037

Saturn -110207-05-20 11:45 J -38531544.15 -38531544.01 -38531543.85 0.0283 0.0135

Mars -110207-05-21 08:53 J -38531543.28 -38531543.13 -38531542.98 0.1732 0.0212

Saturn -110207-08-17 07:26 J -38531455.28 -38531455.19 -38531455.09 0.0282 0.0233

Venus -110207-10-04 00:57 J -38531407.52 -38531407.46 -38531407.41 0.3626 0.3170

Mars -110206-04-03 17:31 J -38531225.89 -38531225.77 -38531225.64 0.1780 0.0052

Jupiter -110204-01-11 06:00 J -38530577.33 -38530577.25 -38530577.16 0.0497 0.0413

Jupiter -110204-04-11 04:05 J -38530487.50 -38530487.33 -38530487.17 0.0496 0.0105

Earth -110203-05-26 07:12 J -38530077.31 -38530077.20 -38530077.10 0.2746 0.1055

Moon -110203-05-26 07:55 J -38530077.27 -38530077.17 -38530077.07 0.2748 0.1097 *

Venus -110201-04-18 20:24 J -38529383.76 -38529383.65 -38529383.55 0.3630 0.1584

Earth -110200-11-16 01:12 J -38528807.59 -38528807.45 -38528807.31 0.2596 0.1155

Moon -110200-11-16 02:38 J -38528807.52 -38528807.39 -38528807.25 0.2597 0.1337 *

Jupiter -110198-03-14 14:53 J -38528324.00 -38528323.88 -38528323.75 0.0530 0.0244

Jupiter -110198-06-12 02:53 J -38528234.50 -38528234.38 -38528234.26 0.0531 0.0279

Mars -110198-10-11 11:45 J -38528113.14 -38528113.01 -38528112.87 0.1727 0.0767

Mars -110197-08-24 01:26 J -38527795.57 -38527795.44 -38527795.32 0.1785 0.0423

Moon -110196-05-19 03:21 J -38527527.44 -38527527.36 -38527527.27 0.2739 0.1827

Earth -110196-05-19 04:05 J -38527527.42 -38527527.33 -38527527.24 0.2735 0.1697 *

Mars -110196-09-17 03:50 J -38527406.38 -38527406.34 -38527406.30 0.1747 0.1672

Venus -110196-11-02 15:36 J -38527359.97 -38527359.85 -38527359.73 0.3635 0.0057

Uranus -110195-02-02 00:14 J -38527268.51 -38527268.49 -38527268.45 0.0132 0.0129

Uranus -110195-05-01 04:05 J -38527180.40 -38527180.33 -38527180.25 0.0132 0.0113

Uranus -110195-07-28 07:41 J -38527092.27 -38527092.18 -38527092.08 0.0132 0.0096

Mars -110195-07-30 16:48 J -38527089.87 -38527089.80 -38527089.73 0.1765 0.1415

Uranus -110195-10-24 11:17 J -38527004.14 -38527004.03 -38527003.91 0.0132 0.0080

Uranus -110194-01-20 14:53 J -38526916.00 -38526915.88 -38526915.75 0.0132 0.0064

Uranus -110194-04-18 18:29 J -38526827.86 -38526827.73 -38526827.59 0.0132 0.0047

Uranus -110194-07-15 22:05 J -38526739.72 -38526739.58 -38526739.44 0.0132 0.0031

Uranus -110194-10-12 01:26 J -38526651.58 -38526651.44 -38526651.29 0.0132 0.0016

Uranus -110193-01-08 05:02 J -38526563.43 -38526563.29 -38526563.15 0.0132 0.0001

Uranus -110193-04-05 08:24 J -38526475.29 -38526475.15 -38526475.00 0.0132 0.0017

Uranus -110193-07-02 12:00 J -38526387.14 -38526387.00 -38526386.86 0.0132 0.0032

Uranus -110193-09-28 15:21 J -38526298.99 -38526298.86 -38526298.73 0.0132 0.0047

Uranus -110193-12-25 18:43 J -38526210.84 -38526210.72 -38526210.59 0.0132 0.0063

Jupiter -110192-01-28 04:05 J -38526177.50 -38526177.33 -38526177.16 0.0496 0.0024

Saturn -110192-03-19 06:29 J -38526127.26 -38526127.23 -38526127.18 0.0274 0.0262

Uranus -110192-03-23 22:05 J -38526122.69 -38526122.58 -38526122.46 0.0132 0.0078

Saturn -110192-06-15 20:24 J -38526038.76 -38526038.65 -38526038.55 0.0275 0.0185

Uranus -110192-06-20 01:26 J -38526034.53 -38526034.44 -38526034.34 0.0132 0.0093

Saturn -110192-09-12 09:36 J -38525950.23 -38525950.10 -38525949.96 0.0276 0.0109

Uranus -110192-09-16 04:48 J -38525946.37 -38525946.30 -38525946.22 0.0131 0.0108

Saturn -110192-12-09 23:02 J -38525861.69 -38525861.54 -38525861.40 0.0277 0.0032

Uranus -110192-12-13 07:55 J -38525858.20 -38525858.17 -38525858.11 0.0131 0.0124

Saturn -110191-03-08 12:00 J -38525773.14 -38525773.00 -38525772.86 0.0277 0.0045

Saturn -110191-06-05 00:57 J -38525684.58 -38525684.46 -38525684.33 0.0278 0.0121

Saturn -110191-09-01 13:55 J -38525596.02 -38525595.92 -38525595.82 0.0279 0.0196

Saturn -110191-11-29 02:38 J -38525507.42 -38525507.39 -38525507.35 0.0280 0.0271

Venus -110190-05-19 10:48 J -38525336.16 -38525336.05 -38525335.95 0.3640 0.1485

Earth -110190-05-29 01:41 J -38525326.51 -38525326.43 -38525326.36 0.2750 0.2019

Moon -110190-05-29 02:24 J -38525326.48 -38525326.40 -38525326.33 0.2748 0.2054 *

Mars -110188-03-02 14:53 J -38524682.97 -38524682.88 -38524682.78 0.1722 0.1308

Mars -110187-01-14 08:53 J -38524365.24 -38524365.13 -38524365.02 0.1790 0.0905

Jupiter -110187-12-31 17:31 J -38524013.87 -38524013.77 -38524013.68 0.0529 0.0375

Mars -110186-02-07 05:31 J -38523976.39 -38523976.27 -38523976.15 0.1742 0.1050

Jupiter -110186-03-31 05:45 J -38523924.39 -38523924.26 -38523924.13 0.0531 0.0151

Mars -110186-12-21 01:12 J -38523659.55 -38523659.45 -38523659.35 0.1770 0.0987

Venus -110185-12-02 05:31 J -38523312.34 -38523312.27 -38523312.20 0.3644 0.2939

Moon -110183-05-21 22:48 J -38522776.66 -38522776.55 -38522776.44 0.2746 0.0651

Earth -110183-05-21 22:48 J -38522776.66 -38522776.55 -38522776.44 0.2739 0.0713 *

Jupiter -110181-11-16 04:19 J -38521867.48 -38521867.32 -38521867.16 0.0496 0.0151

Jupiter -110180-02-14 02:53 J -38521777.48 -38521777.38 -38521777.27 0.0495 0.0376

Earth -110180-11-10 21:07 J -38521507.73 -38521507.62 -38521507.50 0.2604 0.1738

Moon -110180-11-10 21:36 J -38521507.71 -38521507.60 -38521507.48 0.2610 0.1630 *

Neptune -110179-04-24 17:17 J -38521342.83 -38521342.78 -38521342.73 0.0089 0.0084

Neptune -110179-07-21 19:26 J -38521254.74 -38521254.69 -38521254.60 0.0089 0.0080

Saturn -110179-10-17 07:55 J -38521167.19 -38521167.17 -38521167.13 0.0288 0.0282

Neptune -110179-10-17 22:05 J -38521166.65 -38521166.58 -38521166.48 0.0089 0.0075

Neptune -110178-01-14 00:43 J -38521078.56 -38521078.47 -38521078.36 0.0089 0.0070

Saturn -110178-01-14 02:24 J -38521078.51 -38521078.40 -38521078.27 0.0287 0.0187 *

Neptune -110178-04-12 03:07 J -38520990.47 -38520990.37 -38520990.24 0.0089 0.0065

Saturn -110178-04-12 21:21 J -38520989.76 -38520989.61 -38520989.45 0.0286 0.0090

Mars -110178-06-06 16:19 J -38520934.90 -38520934.82 -38520934.75 0.1795 0.1405

Neptune -110178-07-09 05:45 J -38520902.37 -38520902.26 -38520902.12 0.0089 0.0060

Saturn -110178-07-10 16:33 J -38520900.98 -38520900.81 -38520900.64 0.0285 0.0008

Neptune -110178-10-05 08:24 J -38520814.27 -38520814.15 -38520814.01 0.0089 0.0055

Saturn -110178-10-07 11:45 J -38520812.16 -38520812.01 -38520811.85 0.0284 0.0106

Neptune -110177-01-01 11:02 J -38520726.17 -38520726.04 -38520725.89 0.0089 0.0050

Saturn -110177-01-04 07:26 J -38520723.30 -38520723.19 -38520723.07 0.0283 0.0204

Neptune -110177-03-29 13:41 J -38520638.07 -38520637.93 -38520637.77 0.0089 0.0045

Neptune -110177-06-25 16:19 J -38520549.96 -38520549.82 -38520549.66 0.0089 0.0040

Mars -110177-06-29 07:12 J -38520546.35 -38520546.20 -38520546.05 0.1737 0.0437

Neptune -110177-09-21 18:57 J -38520461.86 -38520461.71 -38520461.55 0.0089 0.0035

Neptune -110177-12-18 21:36 J -38520373.75 -38520373.60 -38520373.43 0.0089 0.0030

Neptune -110176-03-17 00:14 J -38520285.64 -38520285.49 -38520285.32 0.0089 0.0025

Mars -110176-05-12 09:36 J -38520229.22 -38520229.10 -38520228.99 0.1775 0.0549

Neptune -110176-06-13 02:53 J -38520197.54 -38520197.38 -38520197.20 0.0089 0.0020

Neptune -110176-09-09 05:45 J -38520109.43 -38520109.26 -38520109.09 0.0089 0.0014

Neptune -110176-12-06 08:24 J -38520021.32 -38520021.15 -38520020.98 0.0089 0.0009

Neptune -110175-03-04 11:02 J -38519933.21 -38519933.04 -38519932.86 0.0089 0.0005

Neptune -110175-05-31 13:55 J -38519845.09 -38519844.92 -38519844.75 0.0089 0.0001

Neptune -110175-08-27 16:33 J -38519756.98 -38519756.81 -38519756.64 0.0089 0.0006

Jupiter -110175-10-19 19:26 J -38519703.72 -38519703.69 -38519703.65 0.0530 0.0512

Neptune -110175-11-23 19:12 J -38519668.87 -38519668.70 -38519668.52 0.0089 0.0012

Jupiter -110174-01-17 08:09 J -38519614.29 -38519614.16 -38519614.02 0.0531 0.0025

Neptune -110174-02-19 21:50 J -38519580.75 -38519580.59 -38519580.41 0.0089 0.0017

Neptune -110174-05-19 00:43 J -38519492.63 -38519492.47 -38519492.30 0.0089 0.0022

Neptune -110174-08-15 03:36 J -38519404.51 -38519404.35 -38519404.18 0.0089 0.0027

Neptune -110174-11-11 06:14 J -38519316.40 -38519316.24 -38519316.07 0.0089 0.0033

Neptune -110173-02-07 08:53 J -38519228.27 -38519228.13 -38519227.96 0.0089 0.0038

Neptune -110173-05-05 11:45 J -38519140.15 -38519140.01 -38519139.85 0.0089 0.0043

Neptune -110173-08-01 14:53 J -38519052.03 -38519051.88 -38519051.74 0.0089 0.0048

Neptune -110173-10-28 17:17 J -38518963.90 -38518963.78 -38518963.63 0.0089 0.0054

Neptune -110172-01-24 20:24 J -38518875.78 -38518875.65 -38518875.52 0.0089 0.0059

Neptune -110172-04-22 23:02 J -38518787.65 -38518787.54 -38518787.41 0.0089 0.0065

Neptune -110172-07-20 01:55 J -38518699.51 -38518699.42 -38518699.30 0.0089 0.0070

Neptune -110172-10-16 05:02 J -38518611.38 -38518611.29 -38518611.19 0.0089 0.0075

Neptune -110171-01-12 07:41 J -38518523.24 -38518523.18 -38518523.09 0.0089 0.0081

Neptune -110171-04-10 10:48 J -38518435.08 -38518435.05 -38518435.00 0.0089 0.0086

Venus   -110171-09-25 20:09 J -38518266.71 -38518266.66 -38518266.61 0.3753 0.3391

Earth   -110170-05-24 17:31 J -38518025.88 -38518025.77 -38518025.66 0.2743 0.0281

Moon   -110170-05-24 18:00 J -38518025.86 -38518025.75 -38518025.64 0.2749 0.0274 *

Jupiter -110169-09-04 05:02 J -38517557.43 -38517557.29 -38517557.16 0.0496 0.0273

Jupiter -110169-12-03 03:07 J -38517467.51 -38517467.37 -38517467.22 0.0495 0.0248

Mars   -110168-11-19 09:36 J -38517116.25 -38517116.10 -38517115.95 0.1732 0.0148

Mars   -110167-10-02 17:31 J -38516798.89 -38516798.77 -38516798.64 0.1780 0.0103

Earth   -110167-11-14 02:09 J -38516756.56 -38516756.41 -38516756.25 0.2600 0.0152

Moon   -110167-11-14 03:21 J -38516756.51 -38516756.36 -38516756.20 0.2604 0.0103 *

Pluto   -110165-03-25 19:12 J -38516258.72 -38516258.70 -38516258.67 0.0085 0.0083

Venus   -110165-04-10 18:43 J -38516242.84 -38516242.72 -38516242.60 0.3748 0.1349

Pluto   -110165-06-21 20:24 J -38516170.72 -38516170.65 -38516170.56 0.0085 0.0068

Pluto   -110165-09-17 21:50 J -38516082.69 -38516082.59 -38516082.49 0.0084 0.0054

Pluto   -110165-12-14 23:02 J -38515994.65 -38515994.54 -38515994.42 0.0084 0.0040

Pluto -110164-03-13 00:14 J -38515906.61 -38515906.49 -38515906.36 0.0084 0.0026

Pluto -110164-06-09 01:41 J -38515818.56 -38515818.43 -38515818.30 0.0084 0.0011

Pluto -110164-09-05 02:53 J -38515730.51 -38515730.38 -38515730.24 0.0084 0.0003

Pluto -110164-12-02 04:05 J -38515642.46 -38515642.33 -38515642.20 0.0084 0.0017

Pluto -110163-02-28 05:17 J -38515554.40 -38515554.28 -38515554.15 0.0084 0.0031

Moon -110163-05-17 13:26 J -38515475.97 -38515475.94 -38515475.90 0.2733 0.2566

Earth -110163-05-17 14:09 J -38515475.95 -38515475.91 -38515475.86 0.2731 0.2493 *

Pluto -110163-05-27 06:43 J -38515466.33 -38515466.22 -38515466.11 0.0083 0.0045

Pluto -110163-08-23 07:55 J -38515378.26 -38515378.17 -38515378.08 0.0083 0.0059

Saturn -110163-11-02 21:07 J -38515306.71 -38515306.62 -38515306.53 0.0273 0.0212

Jupiter -110163-11-05 11:17 J -38515304.16 -38515304.03 -38515303.89 0.0531 0.0104

Pluto -110163-11-19 09:07 J -38515290.18 -38515290.12 -38515290.06 0.0083 0.0072

Saturn -110162-01-30 10:33 J -38515218.19 -38515218.06 -38515217.93 0.0274 0.0136

Jupiter -110162-02-02 23:02 J -38515214.62 -38515214.54 -38515214.46 0.0532 0.0417

Saturn -110162-04-28 23:45 J -38515129.65 -38515129.51 -38515129.36 0.0275 0.0061

Saturn -110162-07-26 12:57 J -38515041.10 -38515040.96 -38515040.81 0.0276 0.0016

Saturn -110162-10-23 01:55 J -38514952.55 -38514952.42 -38514952.28 0.0277 0.0092

Saturn -110161-01-19 14:53 J -38514863.99 -38514863.88 -38514863.77 0.0278 0.0167

Saturn -110161-04-17 03:36 J -38514775.42 -38514775.35 -38514775.28 0.0279 0.0242

Venus -110160-10-25 17:31 J -38514218.89 -38514218.77 -38514218.65 0.3743 0.0769

Mars -110158-04-11 12:14 J -38513686.13 -38513685.99 -38513685.86 0.1727 0.0717

Mars -110157-02-23 01:26 J -38513368.56 -38513368.44 -38513368.32 0.1785 0.0378

Earth -110157-05-26 12:00 J -38513275.10 -38513275.00 -38513274.90 0.2747 0.1244

Moon -110157-05-26 12:43 J -38513275.06 -38513274.97 -38513274.87 0.2747 0.1365 *

Jupiter -110157-06-23 05:17 J -38513247.38 -38513247.28 -38513247.19 0.0497 0.0400

Jupiter -110157-09-21 02:53 J -38513157.54 -38513157.38 -38513157.21 0.0495 0.0117

Mars -110156-03-18 04:33 J -38512979.33 -38512979.31 -38512979.30 0.1747 0.1736

Mars -110155-01-28 16:48 J -38512662.87 -38512662.80 -38512662.73 0.1765 0.1452

Venus -110154-05-11 16:48 J -38512194.87 -38512194.80 -38512194.72 0.3737 0.2989

Earth -110154-11-17 07:26 J -38512005.31 -38512005.19 -38512005.06 0.2596 0.1475

Moon -110154-11-17 09:07 J -38512005.24 -38512005.12 -38512004.99 0.2594 0.1567 *

Uranus -110151-04-05 03:36 J -38511135.43 -38511135.35 -38511135.26 0.0147 0.0127

Uranus -110151-07-02 10:33 J -38511047.18 -38511047.06 -38511046.93 0.0147 0.0101

Jupiter -110151-08-24 14:24 J -38510994.03 -38510993.90 -38510993.78 0.0530 0.0229

Uranus -110151-09-28 17:31 J -38510958.92 -38510958.77 -38510958.62 0.0147 0.0075

Jupiter -110151-11-22 02:09 J -38510904.52 -38510904.41 -38510904.29 0.0532 0.0295

Uranus -110151-12-26 00:29 J -38510870.64 -38510870.48 -38510870.31 0.0147 0.0048

Uranus -110150-03-24 07:41 J -38510782.35 -38510782.18 -38510782.01 0.0147 0.0022

Venus -110150-05-10 23:31 J -38510734.61 -38510734.52 -38510734.44 0.3627 0.2589

Moon -110150-05-20 08:38 J -38510725.24 -38510725.14 -38510725.05 0.2740 0.1510

Earth -110150-05-20 09:07 J -38510725.22 -38510725.12 -38510725.03 0.2735 0.1504 *

Uranus -110150-06-20 14:53 J -38510694.06 -38510693.88 -38510693.71 0.0147 0.0006

Uranus -110150-09-16 21:50 J -38510605.75 -38510605.59 -38510605.41 0.0147 0.0033

Uranus -110150-12-14 05:02 J -38510517.44 -38510517.29 -38510517.12 0.0147 0.0061

Uranus -110149-03-11 12:14 J -38510429.12 -38510428.99 -38510428.83 0.0147 0.0089

Saturn -110149-06-02 00:00 J -38510346.59 -38510346.50 -38510346.40 0.0287 0.0228

Uranus -110149-06-07 19:55 J -38510340.77 -38510340.67 -38510340.56 0.0147 0.0116

Saturn -110149-08-29 18:43 J -38510257.86 -38510257.72 -38510257.57 0.0286 0.0132

Mars -110149-08-31 15:21 J -38510255.96 -38510255.86 -38510255.76 0.1722 0.1257

Uranus -110149-09-04 03:21 J -38510252.39 -38510252.36 -38510252.32 0.0147 0.0144

Saturn -110149-11-26 13:41 J -38510169.09 -38510168.93 -38510168.76 0.0285 0.0035

Saturn -110148-02-23 08:53 J -38510080.29 -38510080.13 -38510079.96 0.0284 0.0064

Saturn -110148-05-23 04:19 J -38509991.45 -38509991.32 -38509991.17 0.0283 0.0162

Mars -110148-07-15 09:07 J -38509938.23 -38509938.12 -38509938.01 0.1790 0.0853

Saturn -110148-08-20 00:14 J -38509902.55 -38509902.49 -38509902.42 0.0282 0.0260

Mars -110147-08-08 05:45 J -38509549.38 -38509549.26 -38509549.14 0.1742 0.1099

Mars -110146-06-21 01:26 J -38509232.54 -38509232.44 -38509232.35 0.1770 0.1032

Jupiter -110145-07-10 03:07 J -38508847.54 -38508847.37 -38508847.20 0.0496 0.0012

Venus -110145-11-23 18:43 J -38508710.83 -38508710.72 -38508710.60 0.3632 0.1020

Earth -110144-05-29 06:29 J -38508524.29 -38508524.23 -38508524.16 0.2751 0.2217

Moon -110144-05-29 06:57 J -38508524.27 -38508524.21 -38508524.14 0.2746 0.2255 *

Venus -110139-06-09 14:09 J -38506687.03 -38506686.91 -38506686.80 0.3636 0.0540

Jupiter -110139-06-12 16:33 J -38506683.91 -38506683.81 -38506683.70 0.0529 0.0362

Jupiter -110139-09-10 04:48 J -38506594.43 -38506594.30 -38506594.16 0.0531 0.0166

Mars -110139-12-05 16:19 J -38506507.90 -38506507.82 -38506507.74 0.1795 0.1357

Mars -110138-12-29 07:41 J -38506119.33 -38506119.18 -38506119.03 0.1737 0.0494

Moon -110137-05-22 03:50 J -38505974.45 -38505974.34 -38505974.23 0.2747 0.0567

Earth -110137-05-22 03:50 J -38505974.45 -38505974.34 -38505974.23 0.2739 0.0524 *

Mars -110137-11-10 09:36 J -38505802.21 -38505802.10 -38505801.98 0.1775 0.0597

Earth -110134-11-12 03:36 J -38504705.48 -38504705.35 -38504705.22 0.2604 0.1424

Moon -110134-11-12 04:33 J -38504705.44 -38504705.31 -38504705.19 0.2610 0.1462 *

Venus -110134-12-24 08:53 J -38504663.22 -38504663.13 -38504663.03 0.3641 0.2010

Saturn -110133-03-21 22:05 J -38504574.65 -38504574.58 -38504574.51 0.0274 0.0239

Jupiter -110133-04-28 03:21 J -38504537.52 -38504537.36 -38504537.20 0.0496 0.0139

Saturn -110133-06-18 11:31 J -38504486.14 -38504486.02 -38504485.90 0.0275 0.0163

Jupiter -110133-07-27 02:09 J -38504447.51 -38504447.41 -38504447.31 0.0495 0.0389

Saturn -110133-09-15 00:57 J -38504397.60 -38504397.46 -38504397.32 0.0276 0.0087

Saturn -110133-12-12 14:09 J -38504309.06 -38504308.91 -38504308.77 0.0276 0.0012

Saturn -110132-03-11 03:07 J -38504220.51 -38504220.37 -38504220.23 0.0277 0.0065

Saturn -110132-06-07 16:05 J -38504131.95 -38504131.83 -38504131.71 0.0278 0.0141

Saturn -110132-09-04 04:48 J -38504043.38 -38504043.30 -38504043.21 0.0279 0.0216

Mars -110128-05-20 10:05 J -38502689.23 -38502689.08 -38502688.93 0.1732 0.0098

Venus -110128-07-09 03:50 J -38502639.37 -38502639.34 -38502639.31 0.3646 0.3454

Jupiter -110127-03-31 18:57 J -38502373.75 -38502373.71 -38502373.66 0.0529 0.0495

Mars -110127-04-02 17:45 J -38502371.89 -38502371.76 -38502371.64 0.1780 0.0145

Jupiter -110127-06-29 07:41 J -38502284.32 -38502284.18 -38502284.04 0.0531 0.0036

Earth -110124-05-24 22:19 J -38501223.68 -38501223.57 -38501223.46 0.2743 0.0465

Moon -110124-05-24 23:02 J -38501223.65 -38501223.54 -38501223.43 0.2747 0.0590 *

Jupiter -110121-02-15 03:50 J -38500227.48 -38500227.34 -38500227.20 0.0496 0.0262

Jupiter -110121-05-15 02:09 J -38500137.56 -38500137.41 -38500137.27 0.0495 0.0260

Earth -110121-11-14 08:38 J -38499954.29 -38499954.14 -38499953.98 0.2600 0.0181

Moon -110121-11-14 10:05 J -38499954.23 -38499954.08 -38499953.92 0.2601 0.0350 *

Saturn -110120-10-20 00:00 J -38499614.57 -38499614.50 -38499614.43 0.0288 0.0257

Saturn -110119-01-16 18:43 J -38499525.86 -38499525.72 -38499525.59 0.0287 0.0162

Saturn -110119-04-15 13:41 J -38499437.09 -38499436.93 -38499436.77 0.0286 0.0065

Saturn -110119-07-13 08:53 J -38499348.30 -38499348.13 -38499347.97 0.0285 0.0033

Saturn -110119-10-10 04:05 J -38499259.47 -38499259.33 -38499259.17 0.0284 0.0132

Mars -110119-10-10 12:43 J -38499259.11 -38499258.97 -38499258.83 0.1727 0.0657

Saturn -110118-01-07 00:00 J -38499170.60 -38499170.50 -38499170.40 0.0283 0.0230

Mars -110118-08-24 01:41 J -38498941.56 -38498941.43 -38498941.31 0.1785 0.0331

Moon -110117-05-17 18:29 J -38498673.78 -38498673.73 -38498673.68 0.2734 0.2386

Earth -110117-05-17 19:12 J -38498673.76 -38498673.70 -38498673.64 0.2731 0.2296 *

Mars -110116-07-29 16:48 J -38498235.86 -38498235.80 -38498235.73 0.1765 0.1498

Jupiter -110115-04-17 10:05 J -38497974.22 -38497974.08 -38497973.95 0.0531 0.0099

Jupiter -110115-07-15 21:36 J -38497884.68 -38497884.60 -38497884.52 0.0532 0.0421

Venus -110114-05-02 19:26 J -38497593.78 -38497593.69 -38497593.61 0.3752 0.2689

Uranus -110111-02-22 07:12 J -38496567.23 -38496567.20 -38496567.14 0.0132 0.0126

Uranus -110111-05-21 11:02 J -38496479.11 -38496479.04 -38496478.95 0.0132 0.0109

Earth -110111-05-27 17:02 J -38496472.89 -38496472.79 -38496472.70 0.2747 0.1445

Moon -110111-05-27 17:45 J -38496472.86 -38496472.76 -38496472.67 0.2747 0.1457 *

Uranus -110111-08-17 14:38 J -38496390.98 -38496390.89 -38496390.78 0.0132 0.0093

Uranus -110111-11-13 18:14 J -38496302.85 -38496302.74 -38496302.61 0.0132 0.0076

Uranus -110110-02-09 22:05 J -38496214.71 -38496214.58 -38496214.45 0.0132 0.0060

Uranus -110110-05-09 01:41 J -38496126.57 -38496126.43 -38496126.30 0.0132 0.0043

Uranus -110110-08-05 05:02 J -38496038.42 -38496038.29 -38496038.14 0.0132 0.0028

Uranus -110110-11-01 08:38 J -38495950.28 -38495950.14 -38495950.00 0.0132 0.0012

Jupiter -110110-12-04 04:33 J -38495917.41 -38495917.31 -38495917.20 0.0496 0.0383

Uranus -110109-01-28 12:14 J -38495862.13 -38495861.99 -38495861.85 0.0132 0.0005

Mars -110109-03-01 15:50 J -38495828.95 -38495828.84 -38495828.73 0.1722 0.1201

Jupiter -110109-03-03 02:24 J -38495827.56 -38495827.40 -38495827.24 0.0495 0.0134

Uranus -110109-04-25 15:36 J -38495773.99 -38495773.85 -38495773.71 0.0132 0.0020

Uranus -110109-07-22 18:57 J -38495685.84 -38495685.71 -38495685.57 0.0132 0.0036

Uranus -110109-10-18 22:33 J -38495597.69 -38495597.56 -38495597.43 0.0132 0.0051

Venus -110109-11-15 18:00 J -38495569.88 -38495569.75 -38495569.63 0.3746 0.0631

Mars -110108-01-13 09:07 J -38495511.23 -38495511.12 -38495511.01 0.1790 0.0813

Uranus -110108-01-15 01:41 J -38495509.54 -38495509.43 -38495509.30 0.0132 0.0067

Uranus -110108-04-13 05:17 J -38495421.39 -38495421.28 -38495421.17 0.0132 0.0082

Uranus -110108-07-10 08:38 J -38495333.23 -38495333.14 -38495333.05 0.0131 0.0097

Uranus -110108-10-06 12:00 J -38495245.07 -38495245.00 -38495244.93 0.0131 0.0112

Earth -110108-11-17 14:09 J -38495203.03 -38495202.91 -38495202.80 0.2595 0.1800

Moon -110108-11-17 15:36 J -38495202.95 -38495202.85 -38495202.74 0.2593 0.1930 *

Uranus -110107-01-02 15:21 J -38495156.90 -38495156.86 -38495156.83 0.0131 0.0127

Mars -110107-02-06 06:29 J -38495122.35 -38495122.23 -38495122.12 0.1742 0.1164

Mars -110107-12-20 01:26 J -38494805.54 -38494805.44 -38494805.34 0.1770 0.1073

Moon -110104-05-20 13:41 J -38493923.02 -38493922.93 -38493922.83 0.2742 0.1345

Earth -110104-05-20 13:55 J -38493923.01 -38493922.92 -38493922.82 0.2735 0.1306 *

Saturn -110104-08-08 23:02 J -38493842.57 -38493842.54 -38493842.51 0.0273 0.0265

Saturn -110104-11-05 12:29 J -38493754.08 -38493753.98 -38493753.87 0.0273 0.0190

Saturn -110103-02-02 01:55 J -38493665.55 -38493665.42 -38493665.29 0.0274 0.0114

Jupiter -110103-02-03 12:57 J -38493664.08 -38493663.96 -38493663.83 0.0531 0.0222

Saturn -110103-05-01 15:07 J -38493577.01 -38493576.87 -38493576.73 0.0275 0.0038

Jupiter -110103-05-04 00:57 J -38493574.57 -38493574.46 -38493574.34 0.0532 0.0302

Venus -110103-06-01 17:02 J -38493545.91 -38493545.79 -38493545.68 0.3741 0.1519

Saturn -110103-07-29 04:19 J -38493488.47 -38493488.32 -38493488.18 0.0276 0.0038

Saturn -110103-10-25 17:02 J -38493399.92 -38493399.79 -38493399.66 0.0277 0.0113

Saturn -110102-01-22 06:00 J -38493311.35 -38493311.25 -38493311.15 0.0278 0.0188

Saturn -110102-04-20 18:29 J -38493222.77 -38493222.73 -38493222.68 0.0279 0.0262

Venus -110099-06-01 02:24 J -38492085.41 -38492085.40 -38492085.40 0.3624 0.3618

Mars -110099-06-05 16:33 J -38492080.90 -38492080.81 -38492080.72 0.1795 0.1308

Earth -110098-05-30 11:31 J -38491722.07 -38491722.02 -38491721.97 0.2751 0.2411

Moon -110098-05-30 11:45 J -38491722.05 -38491722.01 -38491721.96 0.2744 0.2468 *

Mars -110098-06-29 08:09 J -38491692.31 -38491692.16 -38491692.02 0.1737 0.0548

Neptune -110098-08-17 08:38 J -38491643.16 -38491643.14 -38491643.09 0.0088 0.0086

Neptune -110098-11-13 10:33 J -38491555.10 -38491555.06 -38491554.99 0.0088 0.0082

Jupiter -110098-12-21 02:24 J -38491517.57 -38491517.40 -38491517.23 0.0495 0.0006

Neptune -110097-02-09 12:43 J -38491467.04 -38491466.97 -38491466.90 0.0088 0.0077

Neptune -110097-05-07 14:24 J -38491378.97 -38491378.90 -38491378.80 0.0088 0.0073

Mars -110097-05-11 09:36 J -38491375.21 -38491375.10 -38491374.98 0.1775 0.0633

Neptune -110097-08-03 16:33 J -38491290.91 -38491290.81 -38491290.72 0.0088 0.0068

Neptune -110097-10-30 18:14 J -38491202.84 -38491202.74 -38491202.63 0.0088 0.0063

Neptune -110096-01-26 20:09 J -38491114.77 -38491114.66 -38491114.54 0.0088 0.0059

Neptune -110096-04-24 21:50 J -38491026.70 -38491026.59 -38491026.46 0.0088 0.0055

Neptune -110096-07-22 00:00 J -38490938.62 -38490938.50 -38490938.38 0.0088 0.0050

Neptune -110096-10-18 01:41 J -38490850.55 -38490850.43 -38490850.30 0.0088 0.0045

Neptune -110095-01-14 03:21 J -38490762.48 -38490762.36 -38490762.22 0.0088 0.0041

Neptune -110095-04-12 05:17 J -38490674.41 -38490674.28 -38490674.14 0.0088 0.0037

Neptune -110095-07-09 06:57 J -38490586.33 -38490586.21 -38490586.06 0.0088 0.0033

Neptune -110095-10-05 09:07 J -38490498.26 -38490498.12 -38490497.98 0.0088 0.0028

Neptune -110094-01-01 10:48 J -38490410.19 -38490410.05 -38490409.90 0.0088 0.0023

Neptune -110094-03-30 12:43 J -38490322.12 -38490321.97 -38490321.83 0.0088 0.0019

Neptune -110094-06-26 14:24 J -38490234.04 -38490233.90 -38490233.75 0.0088 0.0014

Neptune -110094-09-22 16:05 J -38490145.97 -38490145.83 -38490145.68 0.0088 0.0011

Venus -110094-12-15 21:50 J -38490061.69 -38490061.59 -38490061.49 0.3628 0.2019

Neptune -110094-12-19 18:00 J -38490057.90 -38490057.75 -38490057.60 0.0088 0.0006

Neptune -110093-03-16 19:41 J -38489969.82 -38489969.68 -38489969.53 0.0088 0.0002

Neptune -110093-06-12 21:36 J -38489881.75 -38489881.60 -38489881.46 0.0088 0.0004

Neptune -110093-09-08 23:17 J -38489793.68 -38489793.53 -38489793.38 0.0088 0.0007

Neptune -110093-12-06 00:57 J -38489705.60 -38489705.46 -38489705.31 0.0088 0.0012

Neptune -110092-03-04 02:38 J -38489617.53 -38489617.39 -38489617.24 0.0088 0.0016

Neptune -110092-05-31 04:19 J -38489529.46 -38489529.32 -38489529.17 0.0088 0.0021

Neptune -110092-08-27 06:14 J -38489441.38 -38489441.24 -38489441.10 0.0088 0.0025

Jupiter -110092-11-22 15:50 J -38489353.94 -38489353.84 -38489353.73 0.0530 0.0348

Neptune -110092-11-23 07:41 J -38489353.31 -38489353.18 -38489353.03 0.0088 0.0029

Neptune -110091-02-19 09:21 J -38489265.23 -38489265.11 -38489264.97 0.0088 0.0034

Jupiter -110091-02-20 04:19 J -38489264.45 -38489264.32 -38489264.19 0.0531 0.0180

Neptune -110091-05-18 11:17 J -38489177.16 -38489177.03 -38489176.90 0.0088 0.0037

Earth -110091-05-23 08:38 J -38489172.25 -38489172.14 -38489172.03 0.2740 0.0321

Moon -110091-05-23 08:53 J -38489172.24 -38489172.13 -38489172.02 0.2747 0.0252 *

Neptune -110091-08-14 12:57 J -38489089.09 -38489088.96 -38489088.83 0.0088 0.0042

Neptune -110091-11-10 14:38 J -38489001.01 -38489000.89 -38489000.77 0.0088 0.0046

Neptune -110090-02-06 16:05 J -38488912.94 -38488912.83 -38488912.70 0.0088 0.0050

Neptune -110090-05-05 17:45 J -38488824.86 -38488824.76 -38488824.64 0.0088 0.0055

Saturn -110090-06-05 15:50 J -38488793.95 -38488793.84 -38488793.72 0.0287 0.0204

Neptune -110090-08-01 19:26 J -38488736.79 -38488736.69 -38488736.57 0.0088 0.0059

Saturn -110090-09-02 10:48 J -38488705.20 -38488705.05 -38488704.90 0.0286 0.0107

Neptune -110090-10-28 21:07 J -38488648.71 -38488648.62 -38488648.51 0.0088 0.0063

Saturn -110090-11-30 05:45 J -38488616.42 -38488616.26 -38488616.09 0.0285 0.0011

Neptune -110089-01-24 22:48 J -38488560.63 -38488560.55 -38488560.45 0.0088 0.0067

Saturn -110089-02-27 01:12 J -38488527.61 -38488527.45 -38488527.29 0.0284 0.0088

Neptune -110089-04-22 00:29 J -38488472.56 -38488472.48 -38488472.39 0.0088 0.0071

Saturn -110089-05-25 20:38 J -38488438.76 -38488438.64 -38488438.51 0.0283 0.0187

Neptune -110089-07-19 02:09 J -38488384.48 -38488384.41 -38488384.33 0.0088 0.0075

Neptune -110089-10-15 03:36 J -38488296.40 -38488296.35 -38488296.27 0.0088 0.0079

Mars -110089-11-18 10:19 J -38488262.22 -38488262.07 -38488261.91 0.1732 0.0055

Neptune -110088-01-11 05:02 J -38488208.31 -38488208.29 -38488208.22 0.0088 0.0084

Neptune -110088-04-09 06:43 J -38488120.22 -38488120.22 -38488120.18 0.0088 0.0088

Venus -110088-06-30 17:17 J -38488037.90 -38488037.78 -38488037.66 0.3633 0.0457

Mars -110088-10-01 18:00 J -38487944.88 -38487944.75 -38487944.63 0.1780 0.0193

Earth -110088-11-12 10:05 J -38487903.22 -38487903.08 -38487902.95 0.2603 0.1116

Moon -110088-11-12 11:02 J -38487903.19 -38487903.04 -38487902.90 0.2609 0.0942 *

Jupiter -110086-10-09 02:38 J -38487207.55 -38487207.39 -38487207.23 0.0496 0.0125

Jupiter -110085-01-07 01:12 J -38487117.54 -38487117.45 -38487117.35 0.0495 0.0403

Venus -110082-01-14 12:14 J -38486014.10 -38486013.99 -38486013.87 0.3638 0.1062

Jupiter -110080-09-10 18:14 J -38485043.79 -38485043.74 -38485043.68 0.0529 0.0480

Jupiter -110080-12-09 06:57 J -38484954.35 -38484954.21 -38484954.07 0.0531 0.0050

Mars -110079-04-10 13:12 J -38484832.09 -38484831.95 -38484831.81 0.1727 0.0603

Mars -110078-02-22 01:41 J -38484514.55 -38484514.43 -38484514.31 0.1785 0.0283

Earth -110078-05-26 03:21 J -38484421.47 -38484421.36 -38484421.26 0.2744 0.0667

Moon -110078-05-26 04:05 J -38484421.44 -38484421.33 -38484421.22 0.2745 0.0670 *

Venus -110077-07-30 07:12 J -38483990.28 -38483990.20 -38483990.11 0.3642 0.2534

Mars -110076-01-27 17:02 J -38483808.85 -38483808.79 -38483808.73 0.1765 0.1540

Earth -110075-11-15 15:07 J -38483152.02 -38483151.87 -38483151.72 0.2599 0.0493

Moon -110075-11-15 16:48 J -38483151.95 -38483151.80 -38483151.65 0.2599 0.0527 *

Saturn -110074-03-25 13:26 J -38483022.03 -38483021.94 -38483021.85 0.0274 0.0217

Saturn -110074-06-22 02:53 J -38482933.50 -38482933.38 -38482933.25 0.0275 0.0141

Jupiter -110074-07-28 02:53 J -38482897.52 -38482897.38 -38482897.24 0.0496 0.0250

Saturn -110074-09-18 16:05 J -38482844.97 -38482844.83 -38482844.69 0.0276 0.0065

Jupiter -110074-10-26 01:12 J -38482807.59 -38482807.45 -38482807.31 0.0495 0.0273

Saturn -110074-12-16 05:17 J -38482756.42 -38482756.28 -38482756.14 0.0276 0.0011

Saturn -110073-03-13 18:14 J -38482667.87 -38482667.74 -38482667.60 0.0277 0.0087

Saturn -110073-06-10 07:12 J -38482579.32 -38482579.20 -38482579.09 0.0278 0.0162

Saturn -110073-09-06 19:55 J -38482490.74 -38482490.67 -38482490.60 0.0279 0.0236

Moon -110071-05-18 23:31 J -38481871.59 -38481871.52 -38481871.45 0.2735 0.2130

Earth -110071-05-19 00:14 J -38481871.56 -38481871.49 -38481871.42 0.2732 0.2099 *

Mars -110070-08-31 16:19 J -38481401.93 -38481401.82 -38481401.71 0.1722 0.1146

Mars -110069-07-14 09:21 J -38481084.22 -38481084.11 -38481084.00 0.1790 0.0763

Mars -110068-08-07 06:57 J -38480695.32 -38480695.21 -38480695.10 0.1742 0.1220

Jupiter -110068-09-27 09:36 J -38480644.24 -38480644.10 -38480643.97 0.0530 0.0081

Jupiter -110068-12-25 21:07 J -38480554.69 -38480554.62 -38480554.54 0.0532 0.0436

Uranus -110067-04-25 09:36 J -38480434.17 -38480434.10 -38480434.00 0.0147 0.0125

Mars -110067-06-20 01:26 J -38480378.53 -38480378.44 -38480378.34 0.1770 0.1114

Uranus -110067-07-22 16:33 J -38480345.93 -38480345.81 -38480345.67 0.0147 0.0099

Uranus -110067-10-18 23:45 J -38480257.66 -38480257.51 -38480257.36 0.0147 0.0072

Uranus -110066-01-15 06:43 J -38480169.38 -38480169.22 -38480169.05 0.0147 0.0046

Uranus -110066-04-13 13:55 J -38480081.09 -38480080.92 -38480080.75 0.0147 0.0019

Uranus -110066-07-10 21:07 J -38479992.80 -38479992.62 -38479992.45 0.0147 0.0008

Uranus -110066-10-07 04:19 J -38479904.49 -38479904.32 -38479904.15 0.0147 0.0035

Uranus -110065-01-03 11:17 J -38479816.18 -38479816.03 -38479815.86 0.0147 0.0063

Uranus -110065-03-31 18:43 J -38479727.85 -38479727.72 -38479727.57 0.0147 0.0091

Earth -110065-05-27 21:50 J -38479670.68 -38479670.59 -38479670.50 0.2748 0.1636

Moon -110065-05-27 22:33 J -38479670.65 -38479670.56 -38479670.48 0.2745 0.1757 *

Uranus -110065-06-28 02:09 J -38479639.51 -38479639.41 -38479639.30 0.0147 0.0118

Uranus -110065-09-24 09:36 J -38479551.11 -38479551.10 -38479551.08 0.0147 0.0147

Jupiter -110062-05-16 03:36 J -38478587.45 -38478587.35 -38478587.24 0.0496 0.0371

Jupiter -110062-08-14 01:26 J -38478497.60 -38478497.44 -38478497.28 0.0495 0.0146

Earth -110062-11-18 20:38 J -38478400.73 -38478400.64 -38478400.56 0.2595 0.2127

Moon -110062-11-18 21:50 J -38478400.66 -38478400.59 -38478400.51 0.2592 0.2250 *

Saturn -110061-10-22 15:36 J -38478061.94 -38478061.85 -38478061.75 0.0288 0.0235

Saturn -110060-01-19 10:19 J -38477973.21 -38477973.07 -38477972.92 0.0287 0.0139

Mars -110060-01-20 19:41 J -38477971.71 -38477971.68 -38477971.65 0.1718 0.1669

Saturn -110060-04-18 05:17 J -38477884.44 -38477884.28 -38477884.11 0.0286 0.0042

Saturn -110060-07-16 00:43 J -38477795.64 -38477795.47 -38477795.31 0.0285 0.0056

Saturn -110060-10-12 20:09 J -38477706.80 -38477706.66 -38477706.52 0.0284 0.0155

Mars -110060-12-04 16:33 J -38477653.89 -38477653.81 -38477653.72 0.1795 0.1264

Saturn -110059-01-09 15:50 J -38477617.91 -38477617.84 -38477617.76 0.0283 0.0254

Mars -110059-12-28 08:38 J -38477265.28 -38477265.14 -38477264.99 0.1737 0.0611

Moon -110058-05-21 18:57 J -38477120.81 -38477120.71 -38477120.61 0.2744 0.1135

Earth -110058-05-21 18:57 J -38477120.81 -38477120.71 -38477120.61 0.2736 0.1110 *

Mars -110058-11-10 09:50 J -38476948.20 -38476948.09 -38476947.98 0.1775 0.0679

Venus -110058-12-07 18:43 J -38476920.83 -38476920.72 -38476920.62 0.3750 0.1980

Jupiter -110056-07-16 11:31 J -38476334.14 -38476334.02 -38476333.89 0.0531 0.0218

Jupiter -110056-10-13 23:31 J -38476244.62 -38476244.52 -38476244.40 0.0532 0.0307

Earth -110055-11-10 11:17 J -38475852.08 -38475852.03 -38475851.97 0.2607 0.2384

Moon -110055-11-10 12:00 J -38475852.07 -38475852.00 -38475851.93 0.2614 0.2299 *

Earth -110052-05-30 16:19 J -38474919.85 -38474919.82 -38474919.79 0.2752 0.2604

Moon -110052-05-30 16:33 J -38474919.85 -38474919.81 -38474919.77 0.2744 0.2561 *

Venus -110052-06-22 17:17 J -38474896.91 -38474896.78 -38474896.65 0.3745 0.0094

Jupiter -110050-03-04 04:33 J -38474277.33 -38474277.31 -38474277.28 0.0497 0.0489

Mars -110050-04-26 23:45 J -38474223.53 -38474223.51 -38474223.50 0.1800 0.1776

Jupiter -110050-06-02 01:55 J -38474187.59 -38474187.42 -38474187.25 0.0495 0.0022

Mars -110049-05-19 11:02 J -38473835.20 -38473835.04 -38473834.89 0.1732 0.0051

Mars -110048-04-01 18:00 J -38473517.88 -38473517.75 -38473517.63 0.1780 0.0234

Venus -110046-01-06 16:19 J -38472872.92 -38472872.82 -38472872.72 0.3740 0.2272

Earth -110045-05-23 13:41 J -38472370.05 -38472369.93 -38472369.82 0.2740 0.0160

Moon -110045-05-23 14:09 J -38472370.02 -38472369.91 -38472369.80 0.2745 0.0129 *

Saturn -110045-08-11 14:38 J -38472289.96 -38472289.89 -38472289.83 0.0273 0.0242

Saturn -110045-11-08 04:05 J -38472201.45 -38472201.33 -38472201.22 0.0273 0.0167

Saturn -110044-02-04 17:17 J -38472112.91 -38472112.78 -38472112.64 0.0274 0.0091

Saturn -110044-05-04 06:29 J -38472024.37 -38472024.23 -38472024.09 0.0275 0.0016

Jupiter -110044-05-04 14:38 J -38472024.00 -38472023.89 -38472023.79 0.0530 0.0343

Saturn -110044-07-31 19:26 J -38471935.83 -38471935.69 -38471935.55 0.0276 0.0060

Jupiter -110044-08-02 02:53 J -38471934.50 -38471934.38 -38471934.25 0.0532 0.0186

Saturn -110044-10-28 08:24 J -38471847.28 -38471847.15 -38471847.03 0.0277 0.0134

Saturn -110043-01-24 20:53 J -38471758.71 -38471758.63 -38471758.53 0.0278 0.0210

Venus -110042-01-06 00:43 J -38471412.53 -38471412.47 -38471412.40 0.3625 0.3042

Earth -110042-11-13 16:19 J -38471100.97 -38471100.82 -38471100.67 0.2603 0.0799

Moon -110042-11-13 17:45 J -38471100.91 -38471100.76 -38471100.62 0.2606 0.0793 *

Mars -110040-10-09 13:41 J -38470405.08 -38470404.93 -38470404.79 0.1727 0.0551

Mars -110039-08-23 01:55 J -38470087.55 -38470087.42 -38470087.30 0.1785 0.0240

Jupiter -110038-03-21 01:55 J -38469877.58 -38469877.42 -38469877.26 0.0496 0.0108

Jupiter -110038-06-19 00:29 J -38469787.56 -38469787.48 -38469787.39 0.0494 0.0418

Venus -110037-07-21 20:24 J -38469388.76 -38469388.65 -38469388.54 0.3630 0.1452

Mars -110037-07-28 17:02 J -38469381.84 -38469381.79 -38469381.74 0.1765 0.1578

Jupiter -110032-02-20 17:17 J -38467713.84 -38467713.78 -38467713.71 0.0530 0.0469

Jupiter -110032-05-21 06:14 J -38467624.38 -38467624.24 -38467624.11 0.0531 0.0065

Earth -110032-05-26 08:09 J -38467619.26 -38467619.16 -38467619.05 0.2744 0.0857

Moon -110032-05-26 08:53 J -38467619.23 -38467619.13 -38467619.02 0.2745 0.0990 *

Venus -110031-02-04 15:36 J -38467364.97 -38467364.85 -38467364.73 0.3634 0.0110

Saturn -110031-03-11 12:57 J -38467330.00 -38467329.96 -38467329.91 0.0288 0.0276

Saturn -110031-06-08 07:41 J -38467241.31 -38467241.18 -38467241.05 0.0287 0.0181

Saturn -110031-09-05 02:24 J -38467152.55 -38467152.40 -38467152.24 0.0286 0.0085

Saturn -110031-12-02 21:36 J -38467063.76 -38467063.60 -38467063.43 0.0285 0.0015

Saturn -110030-03-01 17:02 J -38466974.94 -38466974.79 -38466974.63 0.0284 0.0112

Mars -110030-03-01 16:33 J -38466974.93 -38466974.81 -38466974.70 0.1722 0.1099 *

Saturn -110030-05-29 12:43 J -38466886.08 -38466885.97 -38466885.85 0.0283 0.0211

Mars -110029-01-13 09:36 J -38466657.22 -38466657.10 -38466656.99 0.1790 0.0717

Earth -110029-11-15 21:36 J -38466349.75 -38466349.60 -38466349.45 0.2599 0.0813

Moon -110029-11-15 23:17 J -38466349.67 -38466349.53 -38466349.39 0.2598 0.1042 *

Mars -110028-02-05 07:12 J -38466268.30 -38466268.20 -38466268.09 0.1742 0.1275

Mars -110028-12-19 01:41 J -38465951.52 -38465951.43 -38465951.34 0.1770 0.1159

Uranus -110027-03-14 14:24 J -38465865.94 -38465865.90 -38465865.83 0.0132 0.0121

Uranus -110027-06-10 18:14 J -38465777.82 -38465777.74 -38465777.65 0.0132 0.0105

Uranus -110027-09-06 21:50 J -38465689.69 -38465689.59 -38465689.48 0.0132 0.0088

Uranus -110027-12-04 01:26 J -38465601.55 -38465601.44 -38465601.31 0.0132 0.0072

Jupiter -110026-01-07 02:09 J -38465567.55 -38465567.41 -38465567.26 0.0496 0.0235

Uranus -110026-03-02 05:02 J -38465513.41 -38465513.29 -38465513.15 0.0132 0.0056

Jupiter -110026-04-07 00:29 J -38465477.62 -38465477.48 -38465477.34 0.0495 0.0287

Uranus -110026-05-29 08:38 J -38465425.27 -38465425.14 -38465425.00 0.0132 0.0040

Venus -110026-08-21 10:48 J -38465341.16 -38465341.05 -38465340.95 0.3639 0.1591

Uranus -110026-08-25 12:14 J -38465337.13 -38465336.99 -38465336.85 0.0132 0.0024

Uranus -110026-11-21 15:50 J -38465248.99 -38465248.84 -38465248.70 0.0132 0.0008

Uranus -110025-02-17 19:12 J -38465160.84 -38465160.70 -38465160.55 0.0132 0.0009

Uranus -110025-05-15 22:48 J -38465072.69 -38465072.55 -38465072.41 0.0132 0.0024

Moon -110025-05-19 04:48 J -38465069.38 -38465069.30 -38465069.23 0.2738 0.2002

Earth -110025-05-19 05:02 J -38465069.37 -38465069.29 -38465069.21 0.2732 0.1902 *

Uranus -110025-08-12 02:09 J -38464984.54 -38464984.41 -38464984.27 0.0132 0.0039

Uranus -110025-11-08 05:31 J -38464896.40 -38464896.27 -38464896.14 0.0132 0.0055

Uranus -110024-02-04 08:53 J -38464808.24 -38464808.13 -38464808.01 0.0132 0.0070

Uranus -110024-05-03 12:14 J -38464720.09 -38464719.99 -38464719.88 0.0132 0.0085

Uranus -110024-07-30 15:36 J -38464631.93 -38464631.85 -38464631.76 0.0131 0.0101

Uranus -110024-10-26 18:57 J -38464543.77 -38464543.71 -38464543.64 0.0131 0.0116

Uranus -110023-01-22 22:05 J -38464455.58 -38464455.58 -38464455.56 0.0131 0.0131

Mars -110021-07-21 20:09 J -38463544.71 -38463544.66 -38463544.61 0.1718 0.1616

Venus -110020-03-06 05:45 J -38463317.33 -38463317.26 -38463317.20 0.3644 0.3054

Jupiter -110020-03-09 08:53 J -38463314.27 -38463314.13 -38463314.00 0.0531 0.0068

Mars -110020-06-04 16:48 J -38463226.89 -38463226.80 -38463226.71 0.1795 0.1214

Jupiter -110020-06-06 20:24 J -38463224.72 -38463224.65 -38463224.58 0.0532 0.0450

Earth -110019-05-29 02:38 J -38462868.47 -38462868.39 -38462868.30 0.2748 0.1833

Moon -110019-05-29 03:07 J -38462868.45 -38462868.37 -38462868.28 0.2743 0.1810 *

Mars -110019-06-28 09:07 J -38462838.26 -38462838.12 -38462837.98 0.1737 0.0662

Mars -110018-05-11 09:50 J -38462521.20 -38462521.09 -38462520.97 0.1775 0.0725

Earth -110016-11-19 03:07 J -38461598.42 -38461598.37 -38461598.33 0.2594 0.2450

Moon -110016-11-19 03:50 J -38461598.38 -38461598.34 -38461598.29 0.2589 0.2447 *

Saturn -110016-12-29 15:21 J -38461557.88 -38461557.86 -38461557.84 0.0273 0.0269

Saturn -110015-03-28 04:48 J -38461469.40 -38461469.30 -38461469.19 0.0274 0.0194

Saturn -110015-06-24 18:14 J -38461380.87 -38461380.74 -38461380.61 0.0275 0.0118

Saturn -110015-09-21 07:26 J -38461292.33 -38461292.19 -38461292.05 0.0276 0.0042

Neptune -110015-10-23 13:55 J -38461259.95 -38461259.92 -38461259.88 0.0089 0.0086

Jupiter -110015-10-26 02:38 J -38461257.50 -38461257.39 -38461257.28 0.0497 0.0360

Saturn -110015-12-18 20:38 J -38461203.79 -38461203.64 -38461203.50 0.0276 0.0034

Neptune -110014-01-19 16:33 J -38461171.87 -38461171.81 -38461171.75 0.0089 0.0081

Jupiter -110014-01-24 00:28 J -38461167.64 -38461167.48 -38461167.32 0.0495 0.0158

Saturn -110014-03-17 09:21 J -38461115.23 -38461115.11 -38461114.97 0.0277 0.0109

Neptune -110014-04-17 18:43 J -38461083.79 -38461083.72 -38461083.62 0.0089 0.0077

Saturn -110014-06-13 22:19 J -38461026.67 -38461026.57 -38461026.46 0.0278 0.0183

Neptune -110014-07-14 21:07 J -38460995.70 -38460995.62 -38460995.50 0.0089 0.0072

Saturn -110014-09-10 10:48 J -38460938.09 -38460938.05 -38460937.99 0.0279 0.0258

Neptune -110014-10-10 23:45 J -38460907.60 -38460907.51 -38460907.39 0.0089 0.0067

Neptune -110013-01-07 02:24 J -38460819.51 -38460819.40 -38460819.27 0.0089 0.0062

Neptune -110013-04-04 05:02 J -38460731.41 -38460731.29 -38460731.15 0.0089 0.0057

Neptune -110013-07-01 07:40 J -38460643.31 -38460643.18 -38460643.04 0.0089 0.0052

Neptune -110013-09-27 10:19 J -38460555.21 -38460555.07 -38460554.92 0.0089 0.0047

Neptune -110013-12-24 12:57 J -38460467.11 -38460466.96 -38460466.81 0.0089 0.0042

Neptune -110012-03-22 15:36 J -38460379.00 -38460378.85 -38460378.69 0.0089 0.0037

Moon -110012-05-22 00:00 J -38460318.61 -38460318.50 -38460318.40 0.2744 0.0885

Earth -110012-05-21 23:45 J -38460318.61 -38460318.51 -38460318.40 0.2737 0.0918 *

Neptune -110012-06-18 18:00 J -38460290.90 -38460290.75 -38460290.58 0.0089 0.0032

Neptune -110012-09-14 20:38 J -38460202.79 -38460202.64 -38460202.47 0.0089 0.0027

Neptune -110012-12-11 23:16 J -38460114.68 -38460114.53 -38460114.35 0.0089 0.0022

Neptune -110011-03-10 02:09 J -38460026.58 -38460026.41 -38460026.24 0.0089 0.0017

Neptune -110011-06-06 04:48 J -38459938.47 -38459938.30 -38459938.13 0.0089 0.0012

Pluto -110011-07-03 00:28 J -38459911.51 -38459911.48 -38459911.38 0.0060 0.0057

Neptune -110011-09-02 07:26 J -38459850.36 -38459850.19 -38459850.01 0.0089 0.0007

Pluto -110011-09-29 02:24 J -38459823.50 -38459823.40 -38459823.28 0.0060 0.0049

Mars -110011-10-26 00:00 J -38459796.53 -38459796.50 -38459796.47 0.1800 0.1722

Neptune -110011-11-29 10:19 J -38459762.24 -38459762.07 -38459761.90 0.0089 0.0002

Pluto -110011-12-26 03:36 J -38459735.47 -38459735.35 -38459735.19 0.0060 0.0042

Neptune -110010-02-25 12:57 J -38459674.13 -38459673.96 -38459673.79 0.0089 0.0004

Pluto -110010-03-24 05:16 J -38459647.43 -38459647.28 -38459647.11 0.0060 0.0034

Neptune -110010-05-24 15:36 J -38459586.02 -38459585.85 -38459585.68 0.0089 0.0009

Pluto -110010-06-20 06:28 J -38459559.39 -38459559.23 -38459559.04 0.0060 0.0027

Neptune -110010-08-20 18:28 J -38459497.90 -38459497.73 -38459497.56 0.0089 0.0014

Pluto -110010-09-16 08:09 J -38459471.34 -38459471.16 -38459470.97 0.0060 0.0019

Neptune -110010-11-16 20:52 J -38459409.79 -38459409.63 -38459409.45 0.0089 0.0020

Mars -110010-11-18 11:31 J -38459408.17 -38459408.02 -38459407.87 0.1732 0.0078

Pluto -110010-12-13 09:50 J -38459383.28 -38459383.09 -38459382.90 0.0060 0.0012

Neptune -110009-02-12 23:45 J -38459321.67 -38459321.51 -38459321.34 0.0089 0.0025

Pluto -110009-03-10 11:02 J -38459295.23 -38459295.04 -38459294.84 0.0060 0.0005

Neptune -110009-05-11 02:38 J -38459233.55 -38459233.39 -38459233.23 0.0089 0.0030

Pluto -110009-06-06 12:43 J -38459207.17 -38459206.97 -38459206.78 0.0060 0.0004

Neptune -110009-08-07 05:31 J -38459145.43 -38459145.27 -38459145.11 0.0089 0.0035

Pluto -110009-09-02 13:55 J -38459119.10 -38459118.92 -38459118.72 0.0060 0.0011

Mars -110009-09-30 18:00 J -38459090.87 -38459090.75 -38459090.62 0.1780 0.0280

Neptune -110009-11-03 07:55 J -38459057.31 -38459057.17 -38459057.00 0.0089 0.0041

Earth -110009-11-10 17:45 J -38459049.85 -38459049.76 -38459049.66 0.2607 0.2068

Moon -110009-11-10 18:28 J -38459049.82 -38459049.73 -38459049.63 0.2613 0.2049 *

Pluto -110009-11-29 15:21 J -38459031.04 -38459030.86 -38459030.67 0.0061 0.0019

Jupiter -110009-12-26 11:16 J -38459004.16 -38459004.03 -38459003.90 0.0530 0.0198

Neptune -110008-01-30 10:48 J -38458969.19 -38458969.05 -38458968.89 0.0089 0.0046

Pluto -110008-02-25 16:33 J -38458942.97 -38458942.81 -38458942.62 0.0061 0.0027

Jupiter -110008-03-25 23:16 J -38458914.64 -38458914.53 -38458914.42 0.0532 0.0324

Neptune -110008-04-28 13:40 J -38458881.07 -38458880.93 -38458880.78 0.0089 0.0051

Pluto -110008-05-24 18:28 J -38458854.89 -38458854.73 -38458854.57 0.0061 0.0034

Neptune -110008-07-25 16:19 J -38458792.94 -38458792.82 -38458792.67 0.0089 0.0057

Pluto -110008-08-20 19:26 J -38458766.81 -38458766.69 -38458766.53 0.0061 0.0042

Neptune -110008-10-21 19:12 J -38458704.81 -38458704.70 -38458704.56 0.0089 0.0062

Pluto -110008-11-16 20:52 J -38458678.72 -38458678.63 -38458678.50 0.0061 0.0050

Neptune -110007-01-17 22:19 J -38458616.68 -38458616.57 -38458616.46 0.0089 0.0067

Pluto -110007-02-12 22:04 J -38458590.61 -38458590.58 -38458590.49 0.0061 0.0058

Neptune -110007-04-16 00:43 J -38458528.55 -38458528.47 -38458528.35 0.0089 0.0073

Neptune -110007-07-13 03:50 J -38458440.41 -38458440.34 -38458440.25 0.0089 0.0078

Neptune -110007-10-09 06:28 J -38458352.27 -38458352.23 -38458352.15 0.0089 0.0084

Venus -110007-12-28 19:26 J -38458271.75 -38458271.69 -38458271.63 0.3754 0.3286

Neptune -110006-01-05 09:50 J -38458264.09 -38458264.09 -38458264.09 0.0089 0.0089

Jupiter -110003-08-14 03:36 J -38456947.39 -38456947.35 -38456947.31 0.0497 0.0478

Jupiter -110003-11-12 00:57 J -38456857.63 -38456857.46 -38456857.30 0.0495 0.0035

Saturn -110002-10-26 07:26 J -38456509.30 -38456509.19 -38456509.08 0.0287 0.0212

Saturn -110001-01-23 02:09 J -38456420.56 -38456420.41 -38456420.26 0.0286 0.0116

Saturn -110001-04-20 21:21 J -38456331.78 -38456331.61 -38456331.45 0.0286 0.0019

Venus -110001-07-13 17:45 J -38456247.87 -38456247.76 -38456247.64 0.3749 0.1280

Saturn -110001-07-18 16:33 J -38456242.97 -38456242.81 -38456242.65 0.0285 0.0080

Saturn -110001-10-15 12:14 J -38456154.12 -38456153.99 -38456153.86 0.0284 0.0179

110TH MILLENNIUM BCE

This is a list of transits of Mercury in the 110th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Saturn -110000-01-12 07:55 J -38456065.19 -38456065.17 -38456065.13 0.0283 0.0278

Mars -110000-04-09 13:55 J -38455978.06 -38455977.92 -38455977.77 0.1727 0.0498

Mars -109999-02-21 01:55 J -38455660.54 -38455660.42 -38455660.30 0.1785 0.0194

Earth -109999-05-24 18:28 J -38455567.84 -38455567.73 -38455567.62 0.2741 0.0074

Moon -109999-05-24 19:12 J -38455567.81 -38455567.70 -38455567.59 0.2744 0.0124 *

Mars -109997-01-27 17:02 J -38454954.83 -38454954.79 -38454954.74 0.1765 0.1620

Jupiter -109997-10-14 12:57 J -38454694.06 -38454693.96 -38454693.85 0.0530 0.0340

Jupiter -109996-01-12 01:26 J -38454604.56 -38454604.44 -38454604.31 0.0532 0.0190

Earth -109996-11-13 22:48 J -38454298.70 -38454298.55 -38454298.40 0.2602 0.0486

Moon -109996-11-14 00:14 J -38454298.64 -38454298.49 -38454298.33 0.2603 0.0307 *

Venus -109995-01-27 16:48 J -38454223.93 -38454223.80 -38454223.68 0.3743 0.0844

Earth -109992-05-17 15:21 J -38453017.88 -38453017.86 -38453017.85 0.2729 0.2698

Mars -109991-08-30 17:02 J -38452547.91 -38452547.79 -38452547.67 0.1722 0.1042

Jupiter -109991-08-31 01:26 J -38452547.60 -38452547.44 -38452547.27 0.0495 0.0090

Jupiter -109991-11-29 00:00 J -38452457.57 -38452457.50 -38452457.42 0.0494 0.0436

Mars -109990-07-14 09:36 J -38452230.22 -38452230.10 -38452229.99 0.1790 0.0673

Venus -109990-08-13 15:50 J -38452199.91 -38452199.84 -38452199.77 0.3738 0.3017

Mars -109989-08-06 07:55 J -38451841.27 -38451841.17 -38451841.07 0.1742 0.1334

Mars -109988-06-19 01:40 J -38451524.52 -38451524.43 -38451524.34 0.1770 0.1198

Earth -109986-05-27 13:12 J -38450817.06 -38450816.95 -38450816.85 0.2745 0.1055

Moon -109986-05-27 13:55 J -38450817.03 -38450816.92 -38450816.82 0.2744 0.1086 *

Venus -109986-08-12 23:16 J -38450739.61 -38450739.53 -38450739.44 0.3626 0.2461

Saturn -109986-08-15 06:28 J -38450737.32 -38450737.23 -38450737.14 0.0273 0.0217

Saturn -109986-11-11 19:55 J -38450648.80 -38450648.67 -38450648.55 0.0274 0.0142

Saturn -109985-02-08 09:07 J -38450560.26 -38450560.12 -38450559.98 0.0274 0.0066

Saturn -109985-05-06 22:04 J -38450471.72 -38450471.58 -38450471.43 0.0275 0.0012

Jupiter -109985-08-02 15:50 J -38450383.90 -38450383.84 -38450383.77 0.0530 0.0466

Saturn -109985-08-03 11:02 J -38450383.17 -38450383.04 -38450382.90 0.0276 0.0084

Saturn -109985-10-31 00:00 J -38450294.62 -38450294.50 -38450294.39 0.0277 0.0158

Jupiter -109985-10-31 04:33 J -38450294.44 -38450294.31 -38450294.17 0.0532 0.0069 *

Saturn -109984-01-27 12:28 J -38450206.05 -38450205.98 -38450205.90 0.0278 0.0232

Uranus -109983-05-15 16:04 J -38449732.92 -38449732.83 -38449732.73 0.0147 0.0122

Uranus -109983-08-11 23:02 J -38449644.67 -38449644.54 -38449644.41 0.0147 0.0096

Uranus -109983-11-08 06:00 J -38449556.40 -38449556.25 -38449556.09 0.0147 0.0069

Earth -109983-11-17 03:50 J -38449547.48 -38449547.34 -38449547.20 0.2598 0.1135

Moon -109983-11-17 05:31 J -38449547.41 -38449547.27 -38449547.13 0.2596 0.1148 *

Uranus -109982-02-04 12:57 J -38449468.12 -38449467.96 -38449467.79 0.0147 0.0043

Uranus -109982-05-03 20:09 J -38449379.83 -38449379.66 -38449379.48 0.0147 0.0016

Uranus -109982-07-31 03:21 J -38449291.54 -38449291.36 -38449291.19 0.0147 0.0011

Uranus -109982-10-27 10:33 J -38449203.23 -38449203.06 -38449202.89 0.0147 0.0038

Mars -109981-01-20 20:24 J -38449117.70 -38449117.65 -38449117.59 0.1717 0.1568

Uranus -109981-01-23 17:45 J -38449114.91 -38449114.76 -38449114.60 0.0147 0.0066

Uranus -109981-04-21 00:57 J -38449026.59 -38449026.46 -38449026.31 0.0147 0.0093

Uranus -109981-07-18 08:24 J -38448938.24 -38448938.15 -38448938.04 0.0147 0.0121

Mars -109981-12-03 17:02 J -38448799.88 -38448799.79 -38448799.69 0.1795 0.1164

Venus -109980-02-25 18:57 J -38448715.83 -38448715.71 -38448715.60 0.3631 0.0894

Mars -109980-12-27 09:50 J -38448411.23 -38448411.09 -38448410.96 0.1737 0.0724

Moon -109979-05-20 09:50 J -38448267.18 -38448267.09 -38448267.00 0.2740 0.1667

Earth -109979-05-20 10:04 J -38448267.17 -38448267.08 -38448266.99 0.2733 0.1706 *

Jupiter -109979-06-19 01:26 J -38448237.58 -38448237.44 -38448237.29 0.0496 0.0220

Jupiter -109979-09-16 23:45 J -38448147.64 -38448147.51 -38448147.38 0.0495 0.0302

Mars -109979-11-09 10:04 J -38448094.19 -38448094.08 -38448093.97 0.1775 0.0766

Venus -109975-09-11 14:09 J -38446692.03 -38446691.91 -38446691.80 0.3635 0.0645

Earth -109973-05-29 07:40 J -38446066.25 -38446066.18 -38446066.11 0.2749 0.2024

Moon -109973-05-29 07:55 J -38446066.23 -38446066.17 -38446066.10 0.2742 0.2113 *

Jupiter -109973-08-19 07:55 J -38445984.31 -38445984.17 -38445984.04 0.0531 0.0059

Jupiter -109973-11-16 19:26 J -38445894.75 -38445894.69 -38445894.62 0.0532 0.0462

Saturn -109972-03-14 05:02 J -38445777.37 -38445777.29 -38445777.21 0.0288 0.0251

Saturn -109972-06-10 23:31 J -38445688.65 -38445688.52 -38445688.37 0.0287 0.0156

Saturn -109972-09-07 18:43 J -38445599.89 -38445599.72 -38445599.56 0.0286 0.0059

Saturn -109972-12-05 13:55 J -38445511.09 -38445510.92 -38445510.76 0.0285 0.0039

Saturn -109971-03-04 09:21 J -38445422.26 -38445422.11 -38445421.96 0.0284 0.0138

Mars -109971-04-26 00:00 J -38445369.54 -38445369.50 -38445369.45 0.1800 0.1676

Saturn -109971-06-01 05:02 J -38445333.38 -38445333.29 -38445333.19 0.0283 0.0236

Mars -109970-05-19 11:45 J -38444981.16 -38444981.01 -38444980.86 0.1732 0.0125

Venus -109969-03-27 09:07 J -38444668.21 -38444668.12 -38444668.02 0.3640 0.2125

Mars -109969-03-31 18:14 J -38444663.86 -38444663.74 -38444663.62 0.1780 0.0319

Jupiter -109967-04-07 01:55 J -38443927.54 -38443927.42 -38443927.30 0.0496 0.0346

Jupiter -109967-07-05 23:31 J -38443837.67 -38443837.52 -38443837.36 0.0495 0.0172

Earth -109966-05-23 04:48 J -38443516.41 -38443516.30 -38443516.19 0.2737 0.0715

Moon -109966-05-23 05:02 J -38443516.40 -38443516.29 -38443516.18 0.2743 0.0741 *

Venus -109964-10-11 04:04 J -38442644.35 -38442644.33 -38442644.31 0.3645 0.3571

Earth -109963-11-12 00:14 J -38442247.60 -38442247.49 -38442247.38 0.2606 0.1759

Moon -109963-11-12 01:12 J -38442247.56 -38442247.45 -38442247.33 0.2611 0.1698 *

Jupiter -109961-06-07 10:19 J -38441674.20 -38441674.07 -38441673.94 0.0530 0.0187

Jupiter -109961-09-04 22:19 J -38441584.67 -38441584.57 -38441584.46 0.0532 0.0335

Mars -109961-10-08 14:38 J -38441551.04 -38441550.89 -38441550.75 0.1727 0.0440

Mars -109960-08-22 02:09 J -38441233.54 -38441233.41 -38441233.29 0.1785 0.0153

Mars -109958-07-28 17:16 J -38440527.82 -38440527.78 -38440527.74 0.1765 0.1663

Saturn -109956-01-01 07:12 J -38440005.26 -38440005.20 -38440005.13 0.0273 0.0244

Saturn -109956-03-30 20:38 J -38439916.75 -38439916.64 -38439916.52 0.0274 0.0169

Saturn -109956-06-27 10:04 J -38439828.22 -38439828.08 -38439827.94 0.0275 0.0093

Saturn -109956-09-23 23:16 J -38439739.68 -38439739.53 -38439739.39 0.0276 0.0018

Saturn -109956-12-21 12:14 J -38439651.13 -38439650.99 -38439650.85 0.0277 0.0057

Jupiter -109955-01-24 02:24 J -38439617.45 -38439617.40 -38439617.35 0.0497 0.0470

Saturn -109955-03-20 01:12 J -38439562.58 -38439562.45 -38439562.33 0.0277 0.0132

Jupiter -109955-04-23 23:45 J -38439527.68 -38439527.51 -38439527.35 0.0496 0.0043

Saturn -109955-06-16 13:55 J -38439474.01 -38439473.92 -38439473.83 0.0278 0.0206

Earth -109953-05-24 23:31 J -38438765.63 -38438765.52 -38438765.41 0.2741 0.0283

Moon -109953-05-25 00:14 J -38438765.60 -38438765.49 -38438765.38 0.2744 0.0374 *

Mars -109951-02-28 17:31 J -38438120.89 -38438120.77 -38438120.65 0.1722 0.0987

Mars -109950-01-12 09:50 J -38437803.21 -38437803.09 -38437802.98 0.1790 0.0627

Venus -109950-08-04 18:43 J -38437598.81 -38437598.72 -38437598.63 0.3753 0.2595

Earth -109950-11-15 05:16 J -38437496.44 -38437496.28 -38437496.13 0.2602 0.0162

Moon -109950-11-15 06:57 J -38437496.37 -38437496.21 -38437496.06 0.2602 0.0081 *

Mars -109949-02-05 08:38 J -38437414.23 -38437414.14 -38437414.05 0.1742 0.1398

Jupiter -109949-03-26 12:43 J -38437364.08 -38437363.97 -38437363.86 0.0530 0.0320

Jupiter -109949-06-24 00:57 J -38437274.58 -38437274.46 -38437274.33 0.0531 0.0207

Mars -109949-12-18 01:40 J -38437097.51 -38437097.43 -38437097.34 0.1770 0.1243

Moon -109946-05-18 19:40 J -38436215.72 -38436215.68 -38436215.64 0.2733 0.2515

Earth -109946-05-18 20:09 J -38436215.70 -38436215.66 -38436215.62 0.2729 0.2503 *

Venus -109944-02-17 17:16 J -38435574.91 -38435574.78 -38435574.66 0.3747 0.0558

Jupiter -109943-02-10 00:14 J -38435217.65 -38435217.49 -38435217.32 0.0496 0.0081

Uranus -109943-04-03 21:36 J -38435164.67 -38435164.60 -38435164.54 0.0132 0.0118

Jupiter -109943-05-10 22:48 J -38435127.61 -38435127.55 -38435127.47 0.0494 0.0447

Uranus -109943-07-01 00:57 J -38435076.54 -38435076.46 -38435076.36 0.0132 0.0102

Saturn -109943-08-01 04:33 J -38435045.33 -38435045.31 -38435045.27 0.0288 0.0283

Uranus -109943-09-27 04:33 J -38434988.41 -38434988.31 -38434988.19 0.0132 0.0086

Saturn -109943-10-28 23:16 J -38434956.65 -38434956.53 -38434956.40 0.0287 0.0187

Uranus -109943-12-24 08:09 J -38434900.27 -38434900.16 -38434900.02 0.0132 0.0070

Saturn -109942-01-25 18:14 J -38434867.90 -38434867.74 -38434867.58 0.0286 0.0090

Uranus -109942-03-22 12:00 J -38434812.13 -38434812.00 -38434811.87 0.0132 0.0052

Saturn -109942-04-24 13:26 J -38434779.11 -38434778.94 -38434778.77 0.0285 0.0007

Uranus -109942-06-18 15:36 J -38434723.99 -38434723.85 -38434723.71 0.0132 0.0036

Mars -109942-07-21 20:52 J -38434690.70 -38434690.63 -38434690.56 0.1717 0.1514

Saturn -109942-07-22 08:52 J -38434690.29 -38434690.13 -38434689.97 0.0284 0.0106

Uranus -109942-09-14 19:12 J -38434635.84 -38434635.70 -38434635.56 0.0132 0.0020

Saturn -109942-10-19 04:33 J -38434601.43 -38434601.31 -38434601.19 0.0283 0.0205

Uranus -109942-12-11 22:33 J -38434547.70 -38434547.56 -38434547.41 0.0132 0.0006

Uranus -109941-03-09 02:09 J -38434459.55 -38434459.41 -38434459.27 0.0132 0.0011

Mars -109941-06-03 17:02 J -38434372.88 -38434372.79 -38434372.69 0.1795 0.1121

Uranus -109941-06-05 05:31 J -38434371.40 -38434371.27 -38434371.13 0.0132 0.0027

Uranus -109941-09-01 09:07 J -38434283.26 -38434283.12 -38434282.99 0.0132 0.0043

Uranus -109941-11-28 12:28 J -38434195.11 -38434194.98 -38434194.85 0.0132 0.0058

Uranus -109940-02-24 15:50 J -38434106.95 -38434106.84 -38434106.72 0.0132 0.0073

Uranus -109940-05-23 19:12 J -38434018.80 -38434018.70 -38434018.59 0.0132 0.0089

Earth -109940-05-27 18:00 J -38434014.85 -38434014.75 -38434014.65 0.2745 0.1246

Moon -109940-05-27 18:43 J -38434014.82 -38434014.72 -38434014.63 0.2742 0.1304 *

Mars -109940-06-27 10:04 J -38433984.21 -38433984.08 -38433983.94 0.1737 0.0777

Uranus -109940-08-19 22:33 J -38433930.64 -38433930.56 -38433930.47 0.0131 0.0104

Uranus -109940-11-16 01:55 J -38433842.47 -38433842.42 -38433842.36 0.0131 0.0119

Mars -109939-05-10 10:04 J -38433667.19 -38433667.08 -38433666.97 0.1775 0.0807

Venus -109939-09-03 16:04 J -38433550.94 -38433550.83 -38433550.71 0.3742 0.1583

Jupiter -109937-01-13 14:24 J -38433053.97 -38433053.90 -38433053.84 0.0530 0.0463

Jupiter -109937-04-12 03:07 J -38432964.51 -38432964.37 -38432964.23 0.0532 0.0069

Earth -109937-11-17 10:33 J -38432745.19 -38432745.06 -38432744.94 0.2598 0.1459

Moon -109937-11-17 11:45 J -38432745.14 -38432745.01 -38432744.89 0.2594 0.1630 *

Venus -109935-09-03 02:09 J -38432090.44 -38432090.41 -38432090.38 0.3623 0.3485

Neptune -109933-02-15 06:14 J -38431560.24 -38431560.24 -38431560.22 0.0088 0.0088

Neptune -109933-05-13 08:09 J -38431472.20 -38431472.16 -38431472.10 0.0088 0.0084

Moon -109933-05-20 14:52 J -38431464.97 -38431464.88 -38431464.79 0.2741 0.1595

Earth -109933-05-20 15:07 J -38431464.97 -38431464.87 -38431464.78 0.2733 0.1512 *

Neptune -109933-08-09 09:50 J -38431384.14 -38431384.09 -38431384.01 0.0088 0.0080

Neptune -109933-11-05 12:00 J -38431296.07 -38431296.00 -38431295.91 0.0088 0.0075

Neptune -109932-02-01 13:40 J -38431208.00 -38431207.93 -38431207.82 0.0088 0.0071

Neptune -109932-04-30 15:50 J -38431119.93 -38431119.84 -38431119.74 0.0088 0.0066

Neptune -109932-07-27 17:31 J -38431031.86 -38431031.77 -38431031.65 0.0088 0.0061

Neptune -109932-10-23 19:26 J -38430943.79 -38430943.69 -38430943.56 0.0088 0.0057

Mars -109932-10-25 00:14 J -38430942.54 -38430942.49 -38430942.44 0.1800 0.1630

Jupiter -109932-11-29 00:57 J -38430907.61 -38430907.46 -38430907.31 0.0496 0.0203

Neptune -109931-01-19 21:21 J -38430855.72 -38430855.61 -38430855.48 0.0088 0.0052

Jupiter -109931-02-26 23:02 J -38430817.66 -38430817.54 -38430817.41 0.0494 0.0319

Neptune -109931-04-17 23:16 J -38430767.65 -38430767.53 -38430767.40 0.0088 0.0048

Neptune -109931-07-15 00:57 J -38430679.58 -38430679.46 -38430679.32 0.0088 0.0044

Neptune -109931-10-11 02:52 J -38430591.50 -38430591.38 -38430591.24 0.0088 0.0039

Mars -109931-11-17 12:28 J -38430554.14 -38430553.98 -38430553.83 0.1732 0.0191

Neptune -109930-01-07 04:48 J -38430503.43 -38430503.30 -38430503.16 0.0088 0.0034

Neptune -109930-04-05 06:43 J -38430415.36 -38430415.22 -38430415.08 0.0088 0.0030

Neptune -109930-07-02 08:24 J -38430327.29 -38430327.15 -38430327.00 0.0088 0.0025

Neptune -109930-09-28 10:19 J -38430239.21 -38430239.07 -38430238.93 0.0088 0.0021

Mars -109930-09-30 18:14 J -38430236.86 -38430236.74 -38430236.62 0.1780 0.0360

Neptune -109930-12-25 12:00 J -38430151.14 -38430151.00 -38430150.85 0.0088 0.0017

Venus -109929-03-18 21:50 J -38430066.69 -38430066.59 -38430066.49 0.3628 0.1885

Neptune -109929-03-22 13:55 J -38430063.07 -38430062.92 -38430062.77 0.0088 0.0012

Neptune -109929-06-18 15:36 J -38429974.99 -38429974.85 -38429974.70 0.0088 0.0008

Neptune -109929-09-14 17:31 J -38429886.92 -38429886.77 -38429886.62 0.0088 0.0003

Neptune -109929-12-11 19:12 J -38429798.84 -38429798.70 -38429798.55 0.0088 0.0002

Neptune -109928-03-09 20:52 J -38429710.77 -38429710.63 -38429710.48 0.0088 0.0006

Neptune -109928-06-05 22:48 J -38429622.70 -38429622.55 -38429622.41 0.0088 0.0010

Neptune -109928-09-02 00:28 J -38429534.62 -38429534.48 -38429534.34 0.0088 0.0014

Neptune -109928-11-29 02:09 J -38429446.55 -38429446.41 -38429446.26 0.0088 0.0018

Neptune -109927-02-25 03:50 J -38429358.48 -38429358.34 -38429358.19 0.0088 0.0023

Saturn -109927-05-21 09:07 J -38429273.15 -38429273.12 -38429273.09 0.0272 0.0265

Neptune -109927-05-24 05:31 J -38429270.40 -38429270.27 -38429270.13 0.0088 0.0027

Earth -109927-05-30 12:28 J -38429264.04 -38429263.98 -38429263.91 0.2749 0.2220

Moon -109927-05-30 12:43 J -38429264.03 -38429263.97 -38429263.90 0.2743 0.2199 *

Saturn -109927-08-17 22:33 J -38429184.66 -38429184.56 -38429184.45 0.0273 0.0190

Neptune -109927-08-20 07:12 J -38429182.33 -38429182.20 -38429182.06 0.0088 0.0032

Saturn -109927-11-14 12:00 J -38429096.13 -38429096.00 -38429095.87 0.0274 0.0115

Neptune -109927-11-16 08:52 J -38429094.25 -38429094.13 -38429093.99 0.0088 0.0036

Saturn -109926-02-11 01:12 J -38429007.59 -38429007.45 -38429007.31 0.0275 0.0040

Neptune -109926-02-12 10:48 J -38429006.18 -38429006.05 -38429005.92 0.0088 0.0040

Saturn -109926-05-10 14:09 J -38428919.05 -38428918.91 -38428918.76 0.0276 0.0036

Neptune -109926-05-11 12:14 J -38428918.10 -38428917.99 -38428917.85 0.0088 0.0044

Saturn -109926-08-07 03:07 J -38428830.50 -38428830.37 -38428830.24 0.0276 0.0110

Neptune -109926-08-07 13:55 J -38428830.03 -38428829.92 -38428829.79 0.0088 0.0049

Neptune -109926-11-03 15:36 J -38428741.95 -38428741.85 -38428741.72 0.0088 0.0053

Saturn -109926-11-03 15:50 J -38428741.94 -38428741.84 -38428741.73 0.0277 0.0184 *

Jupiter -109925-01-30 06:00 J -38428654.38 -38428654.25 -38428654.11 0.0531 0.0059

Neptune -109925-01-30 17:31 J -38428653.88 -38428653.77 -38428653.66 0.0088 0.0056

Saturn -109925-01-31 04:33 J -38428653.36 -38428653.31 -38428653.26 0.0278 0.0257

Neptune -109925-04-27 19:12 J -38428565.80 -38428565.70 -38428565.60 0.0088 0.0061

Jupiter -109925-04-28 17:45 J -38428564.82 -38428564.76 -38428564.69 0.0533 0.0463

Neptune -109925-07-24 20:52 J -38428477.73 -38428477.63 -38428477.53 0.0088 0.0065

Neptune -109925-10-20 22:04 J -38428389.65 -38428389.58 -38428389.47 0.0088 0.0070

Neptune -109924-01-16 23:45 J -38428301.57 -38428301.51 -38428301.41 0.0088 0.0074

Neptune -109924-04-15 01:26 J -38428213.49 -38428213.44 -38428213.36 0.0088 0.0078

Neptune -109924-07-12 03:07 J -38428125.41 -38428125.37 -38428125.30 0.0088 0.0082

Venus -109924-10-02 17:16 J -38428042.89 -38428042.78 -38428042.66 0.3632 0.0340

Neptune -109924-10-08 04:48 J -38428037.32 -38428037.30 -38428037.25 0.0088 0.0086

Mars -109921-04-08 14:52 J -38427124.03 -38427123.88 -38427123.73 0.1727 0.0389

Mars -109920-02-20 02:09 J -38426806.53 -38426806.41 -38426806.29 0.1785 0.0103

Earth -109920-05-23 09:36 J -38426714.21 -38426714.10 -38426713.99 0.2738 0.0530

Moon -109920-05-23 10:19 J -38426714.18 -38426714.07 -38426713.96 0.2743 0.0416 *

Jupiter -109920-09-17 00:57 J -38426597.58 -38426597.46 -38426597.34 0.0496 0.0332

Jupiter -109920-12-15 22:48 J -38426507.71 -38426507.55 -38426507.40 0.0495 0.0185

Mars -109918-01-26 17:16 J -38426100.81 -38426100.78 -38426100.75 0.1765 0.1700

Venus -109918-04-18 12:28 J -38426019.09 -38426018.98 -38426018.87 0.3637 0.1180

Pluto -109917-04-21 05:02 J -38425650.35 -38425650.29 -38425650.21 0.0085 0.0073

Pluto -109917-07-18 06:14 J -38425562.32 -38425562.24 -38425562.13 0.0084 0.0059

Pluto -109917-10-14 07:40 J -38425474.29 -38425474.18 -38425474.06 0.0084 0.0044

Earth -109917-11-12 06:28 J -38425445.35 -38425445.23 -38425445.10 0.2606 0.1449

Moon -109917-11-12 07:55 J -38425445.30 -38425445.17 -38425445.03 0.2608 0.1283 *

Pluto -109916-01-10 09:07 J -38425386.25 -38425386.12 -38425386.00 0.0084 0.0030

Pluto -109916-04-08 10:19 J -38425298.20 -38425298.07 -38425297.94 0.0084 0.0015

Pluto -109916-07-05 11:31 J -38425210.15 -38425210.02 -38425209.88 0.0084 0.0002

Pluto -109916-10-01 12:43 J -38425122.10 -38425121.97 -38425121.83 0.0084 0.0013

Pluto -109916-12-28 13:55 J -38425034.04 -38425033.92 -38425033.79 0.0084 0.0027

Pluto -109915-03-26 15:07 J -38424945.98 -38424945.87 -38424945.74 0.0084 0.0041

Pluto -109915-06-22 16:19 J -38424857.91 -38424857.82 -38424857.71 0.0083 0.0055

Pluto -109915-09-18 17:31 J -38424769.83 -38424769.77 -38424769.68 0.0083 0.0068

Pluto -109915-12-15 18:43 J -38424681.73 -38424681.72 -38424681.69 0.0083 0.0082

Jupiter -109914-11-18 09:07 J -38424344.25 -38424344.12 -38424343.99 0.0531 0.0180

Jupiter -109913-02-15 21:07 J -38424254.72 -38424254.62 -38424254.51 0.0532 0.0343

Saturn -109913-03-16 21:36 J -38424224.70 -38424224.60 -38424224.50 0.0288 0.0224

Saturn -109913-06-13 16:19 J -38424135.97 -38424135.82 -38424135.67 0.0287 0.0128

Saturn -109913-09-10 11:16 J -38424047.20 -38424047.03 -38424046.86 0.0286 0.0031

Venus -109913-11-01 07:26 J -38423995.26 -38423995.19 -38423995.11 0.3642 0.2654

Saturn -109913-12-08 06:28 J -38423958.39 -38423958.23 -38423958.06 0.0285 0.0067

Saturn -109912-03-07 02:09 J -38423869.55 -38423869.41 -38423869.27 0.0284 0.0166

Saturn -109912-06-03 21:50 J -38423780.64 -38423780.59 -38423780.53 0.0283 0.0264

Mars -109912-08-29 17:45 J -38423693.88 -38423693.76 -38423693.63 0.1722 0.0939

Mars -109911-07-13 10:04 J -38423376.20 -38423376.08 -38423375.97 0.1790 0.0577

Mars -109910-08-06 08:52 J -38422987.22 -38422987.13 -38422987.05 0.1742 0.1446

Mars -109909-06-18 01:55 J -38422670.50 -38422670.42 -38422670.34 0.1770 0.1284

Jupiter -109908-07-06 01:26 J -38422287.50 -38422287.44 -38422287.38 0.0497 0.0457

Jupiter -109908-10-03 22:48 J -38422197.72 -38422197.55 -38422197.39 0.0495 0.0055

Earth -109907-05-26 04:19 J -38421963.43 -38421963.32 -38421963.21 0.2742 0.0466

Moon -109907-05-26 05:02 J -38421963.40 -38421963.29 -38421963.18 0.2743 0.0491 *

Earth -109904-11-15 11:31 J -38420694.17 -38420694.02 -38420693.86 0.2601 0.0170

Moon -109904-11-15 13:12 J -38420694.10 -38420693.95 -38420693.79 0.2601 0.0300 *

Mars -109902-01-19 21:21 J -38420263.68 -38420263.61 -38420263.53 0.1718 0.1460

Jupiter -109902-09-06 11:45 J -38420034.13 -38420034.01 -38420033.90 0.0530 0.0311

Mars -109902-12-03 17:16 J -38419945.88 -38419945.78 -38419945.68 0.1795 0.1073

Jupiter -109902-12-05 00:00 J -38419944.63 -38419944.50 -38419944.38 0.0531 0.0216

Mars -109901-12-26 10:33 J -38419557.19 -38419557.06 -38419556.92 0.1737 0.0836

Moon -109900-05-19 00:43 J -38419413.52 -38419413.47 -38419413.42 0.2736 0.2377

Earth -109900-05-19 01:12 J -38419413.51 -38419413.45 -38419413.39 0.2730 0.2304 *

Mars -109900-11-08 10:19 J -38419240.18 -38419240.07 -38419239.96 0.1775 0.0854

Uranus -109899-03-08 16:19 J -38419119.86 -38419119.82 -38419119.78 0.0147 0.0142

Uranus -109899-06-04 22:48 J -38419031.64 -38419031.55 -38419031.43 0.0147 0.0117

Uranus -109899-09-01 05:45 J -38418943.38 -38418943.26 -38418943.11 0.0147 0.0091

Uranus -109899-11-28 12:57 J -38418855.11 -38418854.96 -38418854.80 0.0147 0.0064

Uranus -109898-02-24 19:55 J -38418766.83 -38418766.67 -38418766.50 0.0147 0.0038

Uranus -109898-05-24 03:07 J -38418678.54 -38418678.37 -38418678.20 0.0147 0.0011

Uranus -109898-08-20 10:19 J -38418590.25 -38418590.07 -38418589.90 0.0147 0.0016

Uranus -109898-11-16 17:31 J -38418501.94 -38418501.77 -38418501.60 0.0147 0.0043

Saturn -109897-01-04 23:31 J -38418452.60 -38418452.52 -38418452.42 0.0273 0.0217

Uranus -109897-02-13 00:28 J -38418413.62 -38418413.48 -38418413.31 0.0147 0.0072

Saturn -109897-04-02 13:12 J -38418364.08 -38418363.95 -38418363.83 0.0274 0.0140

Uranus -109897-05-11 08:09 J -38418325.29 -38418325.16 -38418325.03 0.0147 0.0099

Saturn -109897-06-30 02:24 J -38418275.54 -38418275.40 -38418275.26 0.0275 0.0065

Uranus -109897-08-07 15:21 J -38418236.94 -38418236.86 -38418236.76 0.0147 0.0127

Saturn -109897-09-26 15:36 J -38418187.00 -38418186.85 -38418186.71 0.0276 0.0012

Saturn -109897-12-24 04:33 J -38418098.45 -38418098.31 -38418098.18 0.0277 0.0085

Saturn -109896-03-22 17:16 J -38418009.89 -38418009.78 -38418009.66 0.0278 0.0159

Saturn -109896-06-19 06:00 J -38417921.32 -38417921.25 -38417921.17 0.0279 0.0233

Jupiter -109896-07-22 22:48 J -38417887.71 -38417887.55 -38417887.39 0.0496 0.0075

Jupiter -109896-10-20 21:36 J -38417797.67 -38417797.60 -38417797.54 0.0495 0.0453

Earth -109894-05-28 23:02 J -38417212.64 -38417212.54 -38417212.45 0.2746 0.1447

Moon -109894-05-28 23:31 J -38417212.61 -38417212.52 -38417212.43 0.2741 0.1515 *

Venus -109893-03-10 18:00 J -38416925.86 -38416925.75 -38416925.65 0.3751 0.1892

Mars -109892-04-25 00:28 J -38416515.54 -38416515.48 -38416515.43 0.1800 0.1582

Mars -109891-05-18 12:43 J -38416127.12 -38416126.97 -38416126.81 0.1732 0.0247

Earth -109891-11-18 17:02 J -38415942.90 -38415942.79 -38415942.68 0.2597 0.1789

Moon -109891-11-18 18:00 J -38415942.86 -38415942.75 -38415942.64 0.2591 0.1795 *

Mars -109890-03-31 18:14 J -38415809.86 -38415809.74 -38415809.62 0.1780 0.0407

Jupiter -109890-06-25 13:55 J -38415723.99 -38415723.92 -38415723.85 0.0529 0.0446

Jupiter -109890-09-23 02:38 J -38415634.53 -38415634.39 -38415634.26 0.0531 0.0085

Venus -109888-09-24 16:33 J -38414901.94 -38414901.81 -38414901.68 0.3746 0.0175

Earth -109887-05-21 19:55 J -38414662.77 -38414662.67 -38414662.57 0.2734 0.1312

Moon -109887-05-21 19:55 J -38414662.76 -38414662.67 -38414662.57 0.2741 0.1261 *

Jupiter -109884-05-10 23:31 J -38413577.67 -38413577.52 -38413577.37 0.0496 0.0196

Saturn -109884-08-03 21:36 J -38413492.67 -38413492.60 -38413492.52 0.0288 0.0253

Jupiter -109884-08-08 21:36 J -38413487.72 -38413487.60 -38413487.47 0.0495 0.0326

Saturn -109884-10-31 16:04 J -38413403.96 -38413403.83 -38413403.68 0.0287 0.0158

Moon -109884-11-10 08:52 J -38413394.15 -38413394.13 -38413394.11 0.2615 0.2577

Saturn -109883-01-28 11:16 J -38413315.19 -38413315.03 -38413314.87 0.0286 0.0061

Saturn -109883-04-27 06:28 J -38413226.40 -38413226.23 -38413226.06 0.0285 0.0037

Saturn -109883-07-25 01:55 J -38413137.57 -38413137.42 -38413137.27 0.0284 0.0135

Saturn -109883-10-21 21:36 J -38413048.69 -38413048.60 -38413048.50 0.0283 0.0234

Venus -109882-04-10 15:36 J -38412877.95 -38412877.85 -38412877.75 0.3740 0.2320

Mars -109882-10-08 15:21 J -38412697.00 -38412696.86 -38412696.71 0.1727 0.0332

Moon -109881-05-30 17:31 J -38412461.82 -38412461.77 -38412461.72 0.2743 0.2416

Earth -109881-05-30 17:31 J -38412461.82 -38412461.77 -38412461.72 0.2750 0.2415 *

Mars -109881-08-21 02:24 J -38412379.53 -38412379.40 -38412379.28 0.1785 0.0063

Mars -109879-07-27 17:16 J -38411673.79 -38411673.78 -38411673.76 0.1765 0.1745

Venus -109878-04-10 00:43 J -38411417.54 -38411417.47 -38411417.40 0.3624 0.2905

Jupiter -109878-07-12 04:19 J -38411324.46 -38411324.32 -38411324.18 0.0531 0.0057

Jupiter -109878-10-09 16:04 J -38411234.89 -38411234.83 -38411234.76 0.0533 0.0462

Earth -109874-05-24 14:38 J -38409912.00 -38409911.89 -38409911.78 0.2738 0.0322

Moon -109874-05-24 15:21 J -38409911.97 -38409911.86 -38409911.75 0.2743 0.0342 *

Venus -109873-10-23 20:24 J -38409393.76 -38409393.65 -38409393.54 0.3629 0.1316

Jupiter -109872-02-27 00:14 J -38409267.61 -38409267.49 -38409267.37 0.0496 0.0319

Mars -109872-02-27 18:28 J -38409266.86 -38409266.73 -38409266.61 0.1722 0.0884

Jupiter -109872-05-27 21:50 J -38409177.74 -38409177.59 -38409177.43 0.0495 0.0199

Mars -109871-01-11 09:50 J -38408949.21 -38408949.09 -38408948.97 0.1790 0.0538

Earth -109871-11-13 12:57 J -38408643.10 -38408642.96 -38408642.82 0.2605 0.1134

Moon -109871-11-13 14:38 J -38408643.03 -38408642.89 -38408642.75 0.2607 0.1098 *

Mars -109870-02-04 09:21 J -38408560.18 -38408560.11 -38408560.03 0.1742 0.1510

Mars -109870-12-18 01:55 J -38408243.50 -38408243.42 -38408243.34 0.1770 0.1325

Saturn -109868-05-24 02:09 J -38407720.49 -38407720.41 -38407720.34 0.0272 0.0235

Saturn -109868-08-20 15:36 J -38407631.97 -38407631.85 -38407631.74 0.0273 0.0160

Saturn -109868-11-17 04:48 J -38407543.44 -38407543.30 -38407543.16 0.0274 0.0085

Saturn -109867-02-13 18:00 J -38407454.90 -38407454.75 -38407454.61 0.0275 0.0012

Venus -109867-05-09 15:50 J -38407369.96 -38407369.84 -38407369.72 0.3634 0.0231

Saturn -109867-05-13 06:57 J -38407366.35 -38407366.21 -38407366.07 0.0276 0.0065

Saturn -109867-08-09 19:40 J -38407277.80 -38407277.68 -38407277.55 0.0277 0.0139

Saturn -109867-11-06 08:24 J -38407189.23 -38407189.15 -38407189.06 0.0278 0.0213

Jupiter -109866-04-30 07:12 J -38407014.33 -38407014.20 -38407014.07 0.0531 0.0184

Jupiter -109866-07-28 19:12 J -38406924.80 -38406924.70 -38406924.59 0.0532 0.0340

Mars -109863-07-20 21:36 J -38405836.68 -38405836.60 -38405836.52 0.1717 0.1415

Mars -109862-06-03 17:31 J -38405518.88 -38405518.77 -38405518.67 0.1795 0.1026

Venus -109862-11-23 10:48 J -38405346.15 -38405346.05 -38405345.94 0.3638 0.1721

Earth -109861-05-26 09:21 J -38405161.22 -38405161.11 -38405161.01 0.2742 0.0665

Moon -109861-05-26 10:04 J -38405161.19 -38405161.08 -38405160.98 0.2741 0.0795 *

Mars -109861-06-26 11:02 J -38405130.17 -38405130.04 -38405129.91 0.1737 0.0888

Jupiter -109861-12-16 00:14 J -38404957.55 -38404957.49 -38404957.42 0.0497 0.0447

Jupiter -109860-03-15 21:36 J -38404867.77 -38404867.60 -38404867.44 0.0495 0.0064

Mars -109860-05-09 10:19 J -38404813.18 -38404813.07 -38404812.97 0.1775 0.0892

Uranus -109859-01-26 00:43 J -38404551.48 -38404551.47 -38404551.44 0.0132 0.0131

Uranus -109859-04-24 04:19 J -38404463.38 -38404463.32 -38404463.24 0.0132 0.0114

Uranus -109859-07-21 08:09 J -38404375.25 -38404375.16 -38404375.06 0.0132 0.0098

Uranus -109859-10-17 11:45 J -38404287.12 -38404287.01 -38404286.89 0.0132 0.0081

Uranus -109858-01-13 15:21 J -38404198.98 -38404198.86 -38404198.73 0.0132 0.0065

Uranus -109858-04-11 18:57 J -38404110.84 -38404110.71 -38404110.57 0.0132 0.0049

Uranus -109858-07-08 22:33 J -38404022.69 -38404022.56 -38404022.41 0.0132 0.0033

Uranus -109858-10-05 02:09 J -38403934.55 -38403934.41 -38403934.26 0.0132 0.0017

Earth -109858-11-16 18:00 J -38403891.90 -38403891.75 -38403891.59 0.2601 0.0485

Moon -109858-11-16 19:26 J -38403891.84 -38403891.69 -38403891.53 0.2598 0.0613 *

Uranus -109857-01-01 05:45 J -38403846.40 -38403846.26 -38403846.12 0.0132 0.0001

Uranus -109857-03-29 09:07 J -38403758.26 -38403758.12 -38403757.97 0.0132 0.0016

Uranus -109857-06-25 12:43 J -38403670.11 -38403669.97 -38403669.83 0.0132 0.0031

Uranus -109857-09-21 16:04 J -38403581.96 -38403581.83 -38403581.69 0.0132 0.0047

Uranus -109857-12-18 19:40 J -38403493.81 -38403493.68 -38403493.56 0.0132 0.0062

Uranus -109856-03-16 22:48 J -38403405.65 -38403405.55 -38403405.43 0.0132 0.0078

Venus -109856-06-08 05:45 J -38403322.31 -38403322.26 -38403322.20 0.3643 0.3171

Uranus -109856-06-13 02:09 J -38403317.50 -38403317.41 -38403317.30 0.0132 0.0093

Uranus -109856-09-09 05:45 J -38403229.34 -38403229.26 -38403229.18 0.0131 0.0108

Uranus -109856-12-06 09:07 J -38403141.17 -38403141.12 -38403141.07 0.0131 0.0123

Saturn -109855-12-21 20:09 J -38402760.66 -38402760.66 -38402760.64 0.0289 0.0288

Jupiter -109854-02-16 10:04 J -38402704.19 -38402704.08 -38402703.96 0.0530 0.0309

Saturn -109854-03-20 14:52 J -38402672.00 -38402671.88 -38402671.76 0.0288 0.0192

Jupiter -109854-05-16 22:33 J -38402614.69 -38402614.56 -38402614.44 0.0532 0.0219

Moon -109854-05-20 05:45 J -38402611.33 -38402611.26 -38402611.19 0.2737 0.2138

Earth -109854-05-20 06:14 J -38402611.31 -38402611.24 -38402611.17 0.2730 0.2107 *

Saturn -109854-06-17 09:36 J -38402583.25 -38402583.10 -38402582.94 0.0287 0.0097

Saturn -109854-09-14 04:48 J -38402494.47 -38402494.30 -38402494.13 0.0286 0.0001

Saturn -109854-12-12 00:00 J -38402405.65 -38402405.50 -38402405.33 0.0285 0.0100

Saturn -109853-03-09 19:40 J -38402316.79 -38402316.68 -38402316.55 0.0284 0.0198

Mars -109853-10-24 00:28 J -38402088.54 -38402088.48 -38402088.41 0.1800 0.1531

Mars -109852-11-16 13:12 J -38401700.10 -38401699.95 -38401699.80 0.1732 0.0294

Mars -109851-09-29 18:28 J -38401382.85 -38401382.73 -38401382.61 0.1780 0.0457

Neptune -109850-04-23 10:33 J -38401177.07 -38401177.06 -38401177.05 0.0089 0.0088

Neptune -109850-07-20 12:43 J -38401089.01 -38401088.97 -38401088.90 0.0089 0.0084

Neptune -109850-10-16 15:07 J -38401000.93 -38401000.87 -38401000.78 0.0089 0.0079

Neptune -109849-01-12 17:45 J -38400912.84 -38400912.76 -38400912.66 0.0089 0.0074

Neptune -109849-04-09 20:24 J -38400824.75 -38400824.65 -38400824.54 0.0089 0.0069

Neptune -109849-07-06 23:02 J -38400736.65 -38400736.54 -38400736.42 0.0089 0.0064

Neptune -109849-10-03 01:40 J -38400648.55 -38400648.43 -38400648.31 0.0089 0.0059

Neptune -109849-12-30 04:19 J -38400560.46 -38400560.32 -38400560.19 0.0089 0.0054

Jupiter -109848-01-01 21:36 J -38400557.76 -38400557.60 -38400557.44 0.0495 0.0066

Neptune -109848-03-28 06:43 J -38400472.36 -38400472.22 -38400472.08 0.0089 0.0049

Jupiter -109848-04-01 20:09 J -38400467.72 -38400467.66 -38400467.60 0.0494 0.0461

Earth -109848-05-29 03:50 J -38400410.43 -38400410.34 -38400410.25 0.2746 0.1640

Moon -109848-05-29 04:19 J -38400410.41 -38400410.32 -38400410.23 0.2741 0.1642 *

Neptune -109848-06-24 09:21 J -38400384.25 -38400384.11 -38400383.96 0.0089 0.0044

Neptune -109848-09-20 12:00 J -38400296.15 -38400296.00 -38400295.85 0.0089 0.0039

Neptune -109848-12-17 14:38 J -38400208.05 -38400207.89 -38400207.74 0.0089 0.0034

Neptune -109847-03-15 17:16 J -38400119.94 -38400119.78 -38400119.62 0.0089 0.0029

Neptune -109847-06-11 19:55 J -38400031.84 -38400031.67 -38400031.51 0.0089 0.0024

Neptune -109847-09-07 22:33 J -38399943.73 -38399943.56 -38399943.40 0.0089 0.0019

Neptune -109847-12-05 01:12 J -38399855.62 -38399855.45 -38399855.28 0.0089 0.0014

Neptune -109846-03-03 03:50 J -38399767.51 -38399767.34 -38399767.17 0.0089 0.0009

Neptune -109846-05-30 06:28 J -38399679.40 -38399679.23 -38399679.06 0.0089 0.0004

Neptune -109846-08-26 09:07 J -38399591.29 -38399591.12 -38399590.95 0.0089 0.0002

Neptune -109846-11-22 11:45 J -38399503.18 -38399503.01 -38399502.83 0.0089 0.0007

Neptune -109845-02-18 14:38 J -38399415.06 -38399414.89 -38399414.72 0.0089 0.0012

Neptune -109845-05-16 17:16 J -38399326.95 -38399326.78 -38399326.61 0.0089 0.0017

Neptune -109845-08-12 20:09 J -38399238.83 -38399238.66 -38399238.50 0.0089 0.0022

Neptune -109845-11-08 22:33 J -38399150.71 -38399150.56 -38399150.38 0.0089 0.0028

Earth -109845-11-18 23:31 J -38399140.61 -38399140.52 -38399140.43 0.2596 0.2114

Moon -109845-11-19 00:14 J -38399140.57 -38399140.49 -38399140.41 0.2590 0.2203 *

Neptune -109844-02-05 01:26 J -38399062.59 -38399062.44 -38399062.27 0.0089 0.0033

Neptune -109844-05-04 04:19 J -38398974.47 -38398974.32 -38398974.16 0.0089 0.0038

Neptune -109844-07-31 07:12 J -38398886.35 -38398886.20 -38398886.05 0.0089 0.0043

Neptune -109844-10-27 09:36 J -38398798.23 -38398798.10 -38398797.94 0.0089 0.0049

Neptune -109843-01-23 12:28 J -38398710.11 -38398709.98 -38398709.83 0.0089 0.0054

Neptune -109843-04-21 15:36 J -38398621.98 -38398621.85 -38398621.72 0.0089 0.0059

Neptune -109843-07-18 18:00 J -38398533.85 -38398533.75 -38398533.61 0.0089 0.0065

Neptune -109843-10-14 20:52 J -38398445.72 -38398445.63 -38398445.51 0.0089 0.0070

Jupiter -109843-12-05 12:28 J -38398394.05 -38398393.98 -38398393.90 0.0530 0.0440

Neptune -109842-01-11 00:00 J -38398357.59 -38398357.50 -38398357.40 0.0089 0.0075

Jupiter -109842-03-05 01:12 J -38398304.58 -38398304.45 -38398304.31 0.0531 0.0092

Venus -109842-04-01 18:43 J -38398276.78 -38398276.72 -38398276.65 0.3755 0.3185

Mars -109842-04-08 15:50 J -38398269.99 -38398269.84 -38398269.69 0.1727 0.0277

Neptune -109842-04-09 02:38 J -38398269.45 -38398269.39 -38398269.31 0.0089 0.0081

Neptune -109842-07-06 05:31 J -38398181.30 -38398181.27 -38398181.22 0.0089 0.0086

Mars -109841-02-20 02:24 J -38397952.53 -38397952.40 -38397952.28 0.1785 0.0014

Earth -109841-05-22 00:57 J -38397860.56 -38397860.46 -38397860.36 0.2734 0.1115

Moon -109841-05-22 01:12 J -38397860.55 -38397860.45 -38397860.35 0.2741 0.1111 *

Saturn -109839-10-11 03:07 J -38396988.41 -38396988.37 -38396988.32 0.0273 0.0260

Saturn -109838-01-07 16:48 J -38396899.91 -38396899.80 -38396899.69 0.0273 0.0185

Saturn -109838-04-06 06:00 J -38396811.38 -38396811.25 -38396811.11 0.0274 0.0110

Saturn -109838-07-03 19:12 J -38396722.84 -38396722.70 -38396722.55 0.0275 0.0035

Saturn -109838-09-30 08:24 J -38396634.29 -38396634.15 -38396634.01 0.0276 0.0041

Earth -109838-11-11 14:38 J -38396591.95 -38396591.89 -38396591.84 0.2609 0.2401

Moon -109838-11-11 15:50 J -38396591.90 -38396591.84 -38396591.79 0.2613 0.2402 *

Saturn -109838-12-27 21:07 J -38396545.74 -38396545.62 -38396545.49 0.0277 0.0116

Saturn -109837-03-25 10:04 J -38396457.18 -38396457.08 -38396456.98 0.0278 0.0189

Saturn -109837-06-21 22:33 J -38396368.60 -38396368.56 -38396368.51 0.0279 0.0263

Venus -109837-10-15 17:16 J -38396252.90 -38396252.78 -38396252.67 0.3749 0.1190

Jupiter -109837-10-20 21:36 J -38396247.75 -38396247.60 -38396247.44 0.0496 0.0195

Jupiter -109836-01-18 19:55 J -38396157.80 -38396157.67 -38396157.55 0.0495 0.0328

Moon -109835-05-31 22:04 J -38395659.61 -38395659.58 -38395659.55 0.2743 0.2602

Earth -109835-05-31 22:19 J -38395659.60 -38395659.57 -38395659.54 0.2750 0.2613 *

Mars -109833-08-28 18:43 J -38394839.85 -38394839.72 -38394839.59 0.1722 0.0829

Mars -109832-07-12 10:04 J -38394522.20 -38394522.08 -38394521.96 0.1790 0.0488

Venus -109831-05-01 16:04 J -38394228.96 -38394228.83 -38394228.71 0.3744 0.0916

Mars -109831-08-05 09:50 J -38394133.15 -38394133.09 -38394133.02 0.1742 0.1568

Jupiter -109831-12-22 03:36 J -38393994.48 -38393994.35 -38393994.21 0.0531 0.0045

Jupiter -109830-03-21 15:21 J -38393904.92 -38393904.86 -38393904.80 0.0532 0.0475

Mars -109830-06-18 01:55 J -38393816.49 -38393816.42 -38393816.34 0.1770 0.1366

Earth -109828-05-24 19:40 J -38393109.80 -38393109.68 -38393109.57 0.2739 0.0157

Moon -109828-05-24 20:09 J -38393109.77 -38393109.66 -38393109.55 0.2742 0.0092 *

Venus -109826-11-15 15:07 J -38392204.94 -38392204.87 -38392204.80 0.3738 0.3067

Saturn -109825-08-06 15:07 J -38391939.96 -38391939.87 -38391939.76 0.0288 0.0220

Jupiter -109825-08-08 22:19 J -38391937.69 -38391937.57 -38391937.44 0.0496 0.0316

Saturn -109825-11-03 10:04 J -38391851.23 -38391851.08 -38391850.93 0.0287 0.0124

Jupiter -109825-11-06 20:09 J -38391847.81 -38391847.66 -38391847.51 0.0495 0.0202

Earth -109825-11-13 19:26 J -38391840.84 -38391840.69 -38391840.55 0.2605 0.0820

Moon -109825-11-13 20:52 J -38391840.78 -38391840.63 -38391840.48 0.2606 0.0607 *

Saturn -109824-01-31 05:02 J -38391762.45 -38391762.29 -38391762.12 0.0286 0.0027

Saturn -109824-04-30 00:14 J -38391673.65 -38391673.49 -38391673.32 0.0285 0.0072

Saturn -109824-07-27 19:55 J -38391584.80 -38391584.67 -38391584.53 0.0284 0.0170

Saturn -109824-10-24 15:50 J -38391495.89 -38391495.84 -38391495.79 0.0283 0.0268

Mars -109823-01-18 22:04 J -38391409.67 -38391409.58 -38391409.49 0.1718 0.1357

Mars -109823-12-02 17:31 J -38391091.87 -38391091.77 -38391091.66 0.1795 0.0980

Venus -109822-11-14 23:16 J -38390744.62 -38390744.53 -38390744.43 0.3626 0.2328

Mars -109822-12-26 11:45 J -38390703.14 -38390703.01 -38390702.88 0.1737 0.0951

Mars -109821-11-07 10:33 J -38390386.17 -38390386.06 -38390385.96 0.1775 0.0940

Jupiter -109819-10-10 05:16 J -38389684.41 -38389684.28 -38389684.15 0.0530 0.0186

Jupiter -109818-01-07 17:16 J -38389594.88 -38389594.78 -38389594.67 0.0532 0.0337

Venus -109816-05-30 18:57 J -38388720.83 -38388720.71 -38388720.59 0.3630 0.0753

Uranus -109815-03-28 23:45 J -38388418.56 -38388418.51 -38388418.43 0.0147 0.0135

Earth -109815-05-27 14:09 J -38388359.01 -38388358.91 -38388358.80 0.2743 0.0861

Moon -109815-05-27 14:52 J -38388358.99 -38388358.88 -38388358.77 0.2739 0.0850 *

Uranus -109815-06-25 06:43 J -38388330.33 -38388330.22 -38388330.10 0.0147 0.0109

Uranus -109815-09-21 13:40 J -38388242.07 -38388241.93 -38388241.78 0.0147 0.0083

Uranus -109815-12-18 20:38 J -38388153.79 -38388153.64 -38388153.47 0.0147 0.0057

Uranus -109814-03-17 03:50 J -38388065.51 -38388065.34 -38388065.17 0.0147 0.0030

Uranus -109814-06-13 10:48 J -38387977.22 -38387977.05 -38387976.87 0.0147 0.0004

Uranus -109814-09-09 18:00 J -38387888.92 -38387888.75 -38387888.58 0.0147 0.0024

Uranus -109814-12-07 01:12 J -38387800.61 -38387800.45 -38387800.28 0.0147 0.0051

Uranus -109813-03-04 08:24 J -38387712.29 -38387712.15 -38387711.99 0.0147 0.0079

Mars -109813-04-24 00:43 J -38387661.54 -38387661.47 -38387661.40 0.1800 0.1488

Jupiter -109813-05-27 23:02 J -38387627.61 -38387627.54 -38387627.46 0.0497 0.0438

Uranus -109813-05-31 15:50 J -38387623.96 -38387623.84 -38387623.72 0.0147 0.0107

Jupiter -109813-08-25 20:24 J -38387537.81 -38387537.65 -38387537.48 0.0495 0.0075

Uranus -109813-08-27 23:16 J -38387535.60 -38387535.53 -38387535.46 0.0147 0.0134

Mars -109812-05-17 13:40 J -38387273.08 -38387272.93 -38387272.78 0.1732 0.0353

Earth -109812-11-17 00:28 J -38387089.63 -38387089.48 -38387089.33 0.2600 0.0799

Moon -109812-11-17 01:40 J -38387089.58 -38387089.43 -38387089.28 0.2595 0.0818 *

Mars -109811-03-30 18:28 J -38386955.85 -38386955.73 -38386955.61 0.1780 0.0491

Venus -109811-12-14 14:09 J -38386697.02 -38386696.91 -38386696.79 0.3635 0.0762

Saturn -109809-05-26 19:26 J -38386167.79 -38386167.69 -38386167.59 0.0273 0.0202

Saturn -109809-08-23 08:38 J -38386079.26 -38386079.14 -38386079.00 0.0274 0.0127

Saturn -109809-11-19 22:04 J -38385990.72 -38385990.58 -38385990.44 0.0275 0.0052

Saturn -109808-02-16 11:02 J -38385902.18 -38385902.04 -38385901.89 0.0275 0.0024

Saturn -109808-05-16 00:00 J -38385813.63 -38385813.50 -38385813.36 0.0276 0.0098

Moon -109808-05-20 10:48 J -38385809.12 -38385809.05 -38385808.97 0.2737 0.1921

Earth -109808-05-20 11:02 J -38385809.12 -38385809.04 -38385808.96 0.2731 0.1911 *

Saturn -109808-08-12 12:43 J -38385725.07 -38385724.97 -38385724.85 0.0277 0.0172

Saturn -109808-11-09 01:26 J -38385636.50 -38385636.44 -38385636.37 0.0278 0.0245

Jupiter -109807-07-29 07:55 J -38385374.28 -38385374.17 -38385374.06 0.0530 0.0317

Jupiter -109807-10-26 20:24 J -38385284.78 -38385284.65 -38385284.53 0.0532 0.0212

Venus -109805-06-29 09:21 J -38384673.20 -38384673.11 -38384673.02 0.3640 0.2243

Mars -109803-10-07 16:19 J -38383842.97 -38383842.82 -38383842.67 0.1727 0.0228

Earth -109802-05-30 08:52 J -38383608.22 -38383608.13 -38383608.05 0.2747 0.1839

Moon -109802-05-30 09:07 J -38383608.20 -38383608.12 -38383608.05 0.2741 0.1908 *

Mars -109802-08-21 02:38 J -38383525.52 -38383525.39 -38383525.27 0.1785 0.0059

Jupiter -109801-06-13 20:09 J -38383227.83 -38383227.66 -38383227.50 0.0495 0.0060

Jupiter -109801-09-11 18:43 J -38383137.77 -38383137.72 -38383137.67 0.0494 0.0466

Earth -109799-11-20 06:00 J -38382338.30 -38382338.25 -38382338.20 0.2596 0.2439

Moon -109799-11-20 06:14 J -38382338.28 -38382338.24 -38382338.19 0.2590 0.2458 *

Saturn -109796-12-24 14:52 J -38381207.96 -38381207.88 -38381207.80 0.0288 0.0250

Saturn -109795-03-23 09:36 J -38381119.24 -38381119.10 -38381118.97 0.0287 0.0154

Jupiter -109795-05-17 10:33 J -38381064.13 -38381064.06 -38381063.98 0.0530 0.0444

Earth -109795-05-23 05:45 J -38381058.36 -38381058.26 -38381058.15 0.2735 0.0916

Moon -109795-05-23 06:14 J -38381058.34 -38381058.24 -38381058.13 0.2741 0.0867 *

Saturn -109795-06-20 04:19 J -38381030.48 -38381030.32 -38381030.15 0.0286 0.0058

Jupiter -109795-08-14 23:31 J -38380974.66 -38380974.52 -38380974.39 0.0532 0.0089

Saturn -109795-09-16 23:31 J -38380941.68 -38380941.52 -38380941.35 0.0285 0.0040

Saturn -109795-12-14 18:57 J -38380852.85 -38380852.71 -38380852.56 0.0284 0.0138

Saturn -109794-03-13 14:38 J -38380763.98 -38380763.89 -38380763.79 0.0283 0.0236

Mars -109793-02-27 19:12 J -38380412.84 -38380412.70 -38380412.57 0.1722 0.0779

Mars -109792-01-10 10:19 J -38380095.19 -38380095.07 -38380094.95 0.1790 0.0440

Earth -109792-11-11 20:52 J -38379789.72 -38379789.63 -38379789.54 0.2609 0.2097

Moon -109792-11-11 22:19 J -38379789.67 -38379789.57 -38379789.47 0.2611 0.1913 *

Mars -109791-02-03 10:19 J -38379706.12 -38379706.07 -38379706.01 0.1742 0.1621

Mars -109791-12-17 02:09 J -38379389.48 -38379389.41 -38379389.34 0.1770 0.1410

Jupiter -109789-04-01 20:09 J -38378917.81 -38378917.66 -38378917.51 0.0496 0.0189

Moon -109789-06-01 02:52 J -38378857.38 -38378857.38 -38378857.37 0.2744 0.2729

Jupiter -109789-06-30 18:14 J -38378827.86 -38378827.74 -38378827.61 0.0494 0.0333

Venus -109786-11-06 18:00 J -38377603.84 -38377603.75 -38377603.66 0.3753 0.2489

Mars -109784-07-19 22:33 J -38376982.65 -38376982.56 -38376982.46 0.1718 0.1305

Mars -109783-06-02 17:45 J -38376664.87 -38376664.76 -38376664.66 0.1795 0.0934

Jupiter -109783-06-03 02:09 J -38376664.55 -38376664.41 -38376664.27 0.0531 0.0040

Jupiter -109783-08-31 13:55 J -38376574.98 -38376574.92 -38376574.86 0.0532 0.0477

Earth -109782-05-26 00:28 J -38376307.59 -38376307.48 -38376307.37 0.2739 0.0079

Moon -109782-05-26 01:12 J -38376307.56 -38376307.45 -38376307.34 0.2740 0.0110 *

Mars -109782-06-26 12:00 J -38376276.12 -38376276.00 -38376275.87 0.1737 0.1005

Mars -109781-05-08 10:33 J -38375959.16 -38375959.06 -38375958.96 0.1775 0.0980

Venus -109780-05-22 16:33 J -38375579.94 -38375579.81 -38375579.69 0.3748 0.0472

Saturn -109780-10-13 20:38 J -38375435.71 -38375435.64 -38375435.55 0.0273 0.0226

Saturn -109779-01-10 10:19 J -38375347.19 -38375347.07 -38375346.95 0.0274 0.0150

Saturn -109779-04-08 23:31 J -38375258.66 -38375258.52 -38375258.38 0.0275 0.0075

Saturn -109779-07-06 12:43 J -38375170.11 -38375169.97 -38375169.83 0.0276 0.0001

Saturn -109779-10-03 01:40 J -38375081.57 -38375081.43 -38375081.29 0.0277 0.0075

Earth -109779-11-15 01:55 J -38375038.58 -38375038.42 -38375038.27 0.2604 0.0502

Moon -109779-11-15 03:21 J -38375038.51 -38375038.36 -38375038.21 0.2603 0.0479 *

Saturn -109779-12-30 14:24 J -38374993.01 -38374992.90 -38374992.77 0.0277 0.0150

Saturn -109778-03-29 03:07 J -38374904.44 -38374904.37 -38374904.28 0.0278 0.0224

Jupiter -109777-01-19 20:24 J -38374607.78 -38374607.65 -38374607.53 0.0496 0.0317

Jupiter -109777-04-18 18:00 J -38374517.90 -38374517.75 -38374517.60 0.0495 0.0200

Uranus -109775-02-15 07:55 J -38373850.20 -38373850.17 -38373850.12 0.0132 0.0126

Uranus -109775-05-14 11:45 J -38373762.09 -38373762.01 -38373761.93 0.0132 0.0109

Moon -109775-05-18 20:38 J -38373757.65 -38373757.64 -38373757.63 0.2733 0.2700

Earth -109775-05-18 21:07 J -38373757.62 -38373757.62 -38373757.61 0.2727 0.2711

Uranus -109775-08-10 15:21 J -38373673.96 -38373673.86 -38373673.75 0.0132 0.0093

Uranus -109775-11-06 19:12 J -38373585.82 -38373585.70 -38373585.58 0.0132 0.0077

Venus -109775-12-06 15:21 J -38373555.97 -38373555.86 -38373555.75 0.3742 0.1640

Uranus -109774-02-02 22:48 J -38373497.68 -38373497.55 -38373497.42 0.0132 0.0060

Uranus -109774-05-02 02:24 J -38373409.54 -38373409.40 -38373409.27 0.0132 0.0044

Uranus -109774-07-29 06:00 J -38373321.39 -38373321.25 -38373321.11 0.0132 0.0028

Mars -109774-10-24 00:57 J -38373234.54 -38373234.46 -38373234.39 0.1800 0.1436

Uranus -109774-10-25 09:21 J -38373233.25 -38373233.11 -38373232.96 0.0132 0.0013

Uranus -109773-01-21 12:57 J -38373145.10 -38373144.96 -38373144.81 0.0132 0.0004

Uranus -109773-04-18 16:33 J -38373056.95 -38373056.81 -38373056.67 0.0132 0.0020

Uranus -109773-07-15 19:55 J -38372968.80 -38372968.67 -38372968.53 0.0132 0.0035

Uranus -109773-10-11 23:16 J -38372880.65 -38372880.53 -38372880.39 0.0132 0.0051

Mars -109773-11-15 14:24 J -38372846.05 -38372845.90 -38372845.76 0.1732 0.0412

Uranus -109772-01-08 02:38 J -38372792.50 -38372792.39 -38372792.26 0.0132 0.0067

Uranus -109772-04-06 06:14 J -38372704.35 -38372704.24 -38372704.13 0.0132 0.0082

Uranus -109772-07-03 09:36 J -38372616.19 -38372616.10 -38372616.00 0.0131 0.0097

Mars -109772-09-28 18:43 J -38372528.84 -38372528.72 -38372528.60 0.1780 0.0537

Uranus -109772-09-29 12:57 J -38372528.03 -38372527.96 -38372527.89 0.0131 0.0112

Uranus -109772-12-26 16:19 J -38372439.85 -38372439.82 -38372439.79 0.0131 0.0127

Jupiter -109771-03-22 04:33 J -38372354.45 -38372354.31 -38372354.18 0.0530 0.0175

Jupiter -109771-06-19 16:33 J -38372264.91 -38372264.81 -38372264.71 0.0532 0.0348

Venus -109771-12-06 02:09 J -38372095.45 -38372095.41 -38372095.36 0.3623 0.3347

Earth -109769-05-27 19:12 J -38371556.81 -38371556.70 -38371556.60 0.2743 0.1057

Moon -109769-05-27 19:40 J -38371556.78 -38371556.68 -38371556.58 0.2739 0.1177 *

Neptune -109769-11-11 05:16 J -38371389.29 -38371389.28 -38371389.23 0.0088 0.0087

Neptune -109768-02-07 07:26 J -38371301.24 -38371301.19 -38371301.12 0.0088 0.0082

Neptune -109768-05-06 09:36 J -38371213.17 -38371213.10 -38371213.03 0.0088 0.0077

Neptune -109768-08-02 11:16 J -38371125.11 -38371125.03 -38371124.94 0.0088 0.0073

Neptune -109768-10-29 13:26 J -38371037.04 -38371036.94 -38371036.85 0.0088 0.0068

Neptune -109767-01-25 15:07 J -38370948.97 -38370948.87 -38370948.76 0.0088 0.0063

Neptune -109767-04-23 17:02 J -38370860.90 -38370860.79 -38370860.68 0.0088 0.0059

Neptune -109767-07-20 18:43 J -38370772.83 -38370772.72 -38370772.59 0.0088 0.0055

Neptune -109767-10-16 20:52 J -38370684.75 -38370684.63 -38370684.51 0.0088 0.0050

Neptune -109766-01-12 22:33 J -38370596.68 -38370596.56 -38370596.43 0.0088 0.0046

Neptune -109766-04-11 00:28 J -38370508.61 -38370508.48 -38370508.35 0.0088 0.0041

Saturn -109766-05-13 15:36 J -38370475.89 -38370475.85 -38370475.80 0.0288 0.0275

Neptune -109766-07-08 02:09 J -38370420.54 -38370420.41 -38370420.26 0.0088 0.0037

Saturn -109766-08-10 10:04 J -38370387.20 -38370387.08 -38370386.95 0.0287 0.0180

Neptune -109766-10-04 04:04 J -38370332.46 -38370332.33 -38370332.19 0.0088 0.0032

Saturn -109766-11-07 05:02 J -38370298.45 -38370298.29 -38370298.13 0.0286 0.0084

Jupiter -109766-11-07 21:07 J -38370297.69 -38370297.62 -38370297.54 0.0497 0.0438

Earth -109766-11-18 06:57 J -38370287.35 -38370287.21 -38370287.07 0.2600 0.1122

Moon -109766-11-18 07:55 J -38370287.30 -38370287.17 -38370287.03 0.2594 0.1286 *

Neptune -109766-12-31 06:00 J -38370244.39 -38370244.25 -38370244.11 0.0088 0.0028

Saturn -109765-02-04 00:00 J -38370209.66 -38370209.50 -38370209.33 0.0285 0.0014

Jupiter -109765-02-05 18:28 J -38370207.90 -38370207.73 -38370207.57 0.0495 0.0075

Neptune -109765-03-28 07:40 J -38370156.32 -38370156.18 -38370156.03 0.0088 0.0024

Saturn -109765-05-02 19:26 J -38370120.84 -38370120.69 -38370120.53 0.0284 0.0111

Venus -109765-06-20 21:50 J -38370071.69 -38370071.59 -38370071.48 0.3627 0.1756

Neptune -109765-06-24 09:36 J -38370068.24 -38370068.10 -38370067.95 0.0088 0.0019

Saturn -109765-07-30 14:52 J -38370031.98 -38370031.88 -38370031.76 0.0283 0.0210

Neptune -109765-09-20 11:16 J -38369980.17 -38369980.03 -38369979.88 0.0088 0.0015

Neptune -109765-12-17 13:12 J -38369892.09 -38369891.95 -38369891.80 0.0088 0.0010

Neptune -109764-03-15 14:52 J -38369804.02 -38369803.88 -38369803.73 0.0088 0.0007

Neptune -109764-06-11 16:48 J -38369715.95 -38369715.80 -38369715.65 0.0088 0.0001

Neptune -109764-09-07 18:28 J -38369627.87 -38369627.73 -38369627.58 0.0088 0.0004

Neptune -109764-12-04 20:24 J -38369539.80 -38369539.65 -38369539.51 0.0088 0.0008

Neptune -109763-03-02 22:04 J -38369451.73 -38369451.58 -38369451.44 0.0088 0.0012

Mars -109763-04-07 16:48 J -38369415.95 -38369415.80 -38369415.65 0.1727 0.0176

Pluto -109763-05-02 09:07 J -38369391.19 -38369391.12 -38369391.04 0.0060 0.0054

Neptune -109763-05-29 23:45 J -38369363.65 -38369363.51 -38369363.36 0.0088 0.0016

Pluto -109763-07-29 10:19 J -38369303.18 -38369303.07 -38369302.94 0.0060 0.0047

Neptune -109763-08-26 01:26 J -38369275.58 -38369275.44 -38369275.29 0.0088 0.0021

Pluto -109763-10-25 11:31 J -38369215.14 -38369215.02 -38369214.85 0.0060 0.0040

Neptune -109763-11-22 03:21 J -38369187.50 -38369187.36 -38369187.22 0.0088 0.0025

Pluto -109762-01-21 13:12 J -38369127.10 -38369126.95 -38369126.77 0.0060 0.0032

Neptune -109762-02-18 04:48 J -38369099.43 -38369099.30 -38369099.15 0.0088 0.0029

Mars -109762-02-19 02:38 J -38369098.52 -38369098.39 -38369098.27 0.1785 0.0077

Pluto -109762-04-19 14:52 J -38369039.06 -38369038.88 -38369038.70 0.0060 0.0025

Neptune -109762-05-17 06:28 J -38369011.35 -38369011.23 -38369011.09 0.0088 0.0034

Earth -109762-05-21 16:04 J -38369006.92 -38369006.83 -38369006.75 0.2731 0.1715

Moon -109762-05-21 16:04 J -38369006.91 -38369006.83 -38369006.74 0.2738 0.1754 *

Pluto -109762-07-16 16:04 J -38368951.01 -38368950.83 -38368950.63 0.0060 0.0017

Neptune -109762-08-13 08:24 J -38368923.28 -38368923.15 -38368923.02 0.0088 0.0037

Pluto -109762-10-12 17:45 J -38368862.95 -38368862.76 -38368862.57 0.0060 0.0010

Neptune -109762-11-09 10:04 J -38368835.21 -38368835.08 -38368834.95 0.0088 0.0042

Pluto -109761-01-08 19:12 J -38368774.89 -38368774.70 -38368774.50 0.0060 0.0002

Neptune -109761-02-05 11:45 J -38368747.13 -38368747.01 -38368746.88 0.0088 0.0046

Pluto -109761-04-05 20:38 J -38368686.83 -38368686.64 -38368686.44 0.0060 0.0006

Neptune -109761-05-03 13:12 J -38368659.06 -38368658.95 -38368658.82 0.0088 0.0051

Pluto -109761-07-02 21:50 J -38368598.77 -38368598.59 -38368598.39 0.0060 0.0014

Neptune -109761-07-30 14:52 J -38368570.98 -38368570.88 -38368570.75 0.0088 0.0055

Pluto -109761-09-28 23:31 J -38368510.70 -38368510.52 -38368510.34 0.0061 0.0021

Neptune -109761-10-26 16:33 J -38368482.90 -38368482.81 -38368482.69 0.0088 0.0059

Pluto -109761-12-26 00:43 J -38368422.63 -38368422.47 -38368422.29 0.0061 0.0029

Neptune -109760-01-22 18:28 J -38368394.83 -38368394.73 -38368394.63 0.0088 0.0062

Pluto -109760-03-24 01:55 J -38368334.55 -38368334.42 -38368334.24 0.0061 0.0037

Neptune -109760-04-20 20:09 J -38368306.75 -38368306.66 -38368306.56 0.0088 0.0067

Pluto -109760-06-20 03:36 J -38368246.47 -38368246.35 -38368246.20 0.0061 0.0044

Neptune -109760-07-17 21:50 J -38368218.67 -38368218.59 -38368218.50 0.0088 0.0071

Pluto -109760-09-16 04:48 J -38368158.38 -38368158.30 -38368158.18 0.0061 0.0052

Neptune -109760-10-13 23:31 J -38368130.59 -38368130.52 -38368130.45 0.0088 0.0075

Pluto -109760-12-13 06:14 J -38368070.25 -38368070.24 -38368070.18 0.0061 0.0060

Venus -109759-01-04 17:16 J -38368047.89 -38368047.78 -38368047.66 0.3632 0.0235

Jupiter -109759-01-08 05:45 J -38368044.37 -38368044.26 -38368044.14 0.0530 0.0321

Neptune -109759-01-10 00:43 J -38368042.51 -38368042.47 -38368042.39 0.0088 0.0080

Jupiter -109759-04-07 18:14 J -38367954.86 -38367954.74 -38367954.61 0.0532 0.0207

Neptune -109759-04-08 02:24 J -38367954.43 -38367954.40 -38367954.34 0.0088 0.0084

Neptune -109759-07-05 04:04 J -38367866.33 -38367866.33 -38367866.29 0.0088 0.0088

Moon -109756-05-30 13:40 J -38366806.01 -38366805.93 -38366805.85 0.2740 0.1960

Earth -109756-05-30 13:40 J -38366806.00 -38366805.93 -38366805.86 0.2747 0.2033 *

Venus -109754-07-21 12:43 J -38366024.08 -38366023.97 -38366023.86 0.3637 0.1307

Mars -109754-08-28 19:40 J -38365985.82 -38365985.68 -38365985.54 0.1722 0.0722

Jupiter -109754-11-24 18:43 J -38365897.89 -38365897.72 -38365897.56 0.0496 0.0053

Jupiter -109753-02-22 17:16 J -38365807.82 -38365807.78 -38365807.73 0.0494 0.0474

Mars -109753-07-11 10:19 J -38365668.19 -38365668.07 -38365667.95 0.1790 0.0397

Mars -109752-08-04 11:02 J -38365279.08 -38365279.04 -38365279.01 0.1742 0.1681

Mars -109751-06-17 02:09 J -38364962.48 -38364962.41 -38364962.34 0.1770 0.1449

Saturn -109750-03-02 23:45 J -38364703.58 -38364703.51 -38364703.44 0.0273 0.0241

Saturn -109750-05-30 13:12 J -38364615.06 -38364614.95 -38364614.83 0.0274 0.0166

Saturn -109750-08-27 02:38 J -38364526.53 -38364526.39 -38364526.25 0.0274 0.0091

Saturn -109750-11-23 15:50 J -38364437.99 -38364437.84 -38364437.70 0.0275 0.0016

Saturn -109749-02-20 04:48 J -38364349.44 -38364349.30 -38364349.16 0.0276 0.0059

Saturn -109749-05-18 17:45 J -38364260.88 -38364260.76 -38364260.64 0.0277 0.0134

Earth -109749-05-23 10:48 J -38364256.16 -38364256.05 -38364255.94 0.2735 0.0723

Moon -109749-05-23 11:16 J -38364256.14 -38364256.03 -38364255.92 0.2741 0.0660 *

Saturn -109749-08-15 06:28 J -38364172.32 -38364172.23 -38364172.14 0.0278 0.0207

Venus -109748-02-03 07:40 J -38364000.26 -38364000.18 -38364000.11 0.3641 0.2759

Jupiter -109748-10-27 08:09 J -38363734.23 -38363734.16 -38363734.09 0.0530 0.0454

Jupiter -109747-01-24 21:07 J -38363644.76 -38363644.62 -38363644.48 0.0531 0.0079

Earth -109746-11-13 03:07 J -38362987.48 -38362987.37 -38362987.25 0.2608 0.1783

Moon -109746-11-13 04:48 J -38362987.42 -38362987.30 -38362987.19 0.2610 0.1730 *

Mars -109744-01-17 22:48 J -38362555.65 -38362555.55 -38362555.45 0.1717 0.1258

Mars -109744-12-01 18:00 J -38362237.86 -38362237.75 -38362237.64 0.1795 0.0884

Mars -109743-12-25 12:43 J -38361849.09 -38361848.97 -38361848.85 0.1737 0.1062

Jupiter -109742-09-12 18:14 J -38361587.89 -38361587.74 -38361587.58 0.0496 0.0187

Mars -109742-11-07 10:33 J -38361532.16 -38361532.06 -38361531.96 0.1775 0.1022

Jupiter -109742-12-11 16:19 J -38361497.94 -38361497.82 -38361497.69 0.0494 0.0335

Saturn -109737-12-27 10:19 J -38359655.18 -38359655.07 -38359654.95 0.0288 0.0207

Saturn -109736-03-26 05:02 J -38359566.44 -38359566.29 -38359566.13 0.0287 0.0112

Earth -109736-05-26 05:16 J -38359505.39 -38359505.28 -38359505.16 0.2740 0.0292

Moon -109736-05-26 06:14 J -38359505.35 -38359505.24 -38359505.13 0.2738 0.0361 *

Saturn -109736-06-23 00:14 J -38359477.66 -38359477.49 -38359477.33 0.0286 0.0016

Saturn -109736-09-19 19:26 J -38359388.85 -38359388.69 -38359388.53 0.0285 0.0083

Jupiter -109736-11-13 00:00 J -38359334.63 -38359334.50 -38359334.36 0.0531 0.0049

Saturn -109736-12-17 14:52 J -38359300.01 -38359299.88 -38359299.75 0.0284 0.0181

Jupiter -109735-02-10 11:45 J -38359245.06 -38359245.01 -38359244.94 0.0533 0.0474

Saturn -109735-03-16 10:48 J -38359211.08 -38359211.05 -38359211.03 0.0283 0.0279

Venus -109735-11-27 19:12 J -38358954.71 -38358954.70 -38358954.70 0.3757 0.3747

Mars -109734-04-24 00:57 J -38358807.54 -38358807.46 -38358807.38 0.1800 0.1391

Mars -109733-05-16 14:24 J -38358419.04 -38358418.90 -38358418.75 0.1732 0.0458

Earth -109733-11-15 08:09 J -38358236.32 -38358236.16 -38358236.01 0.2604 0.0187

Moon -109733-11-15 09:36 J -38358236.26 -38358236.10 -38358235.95 0.2600 0.0076 *

Mars -109732-03-29 18:43 J -38358101.83 -38358101.72 -38358101.60 0.1780 0.0583

Uranus -109731-04-18 07:40 J -38357717.25 -38357717.18 -38357717.08 0.0147 0.0127

Uranus -109731-07-15 14:38 J -38357629.01 -38357628.89 -38357628.76 0.0147 0.0101

Uranus -109731-10-11 21:36 J -38357540.74 -38357540.60 -38357540.45 0.0147 0.0075

Uranus -109730-01-08 04:48 J -38357452.47 -38357452.30 -38357452.14 0.0147 0.0048

Uranus -109730-04-06 11:45 J -38357364.18 -38357364.01 -38357363.84 0.0147 0.0022

Jupiter -109730-07-01 18:28 J -38357277.85 -38357277.73 -38357277.60 0.0496 0.0315

Uranus -109730-07-03 18:43 J -38357275.89 -38357275.72 -38357275.54 0.0147 0.0007

Jupiter -109730-09-29 16:04 J -38357187.98 -38357187.83 -38357187.67 0.0495 0.0202

Uranus -109730-09-30 01:55 J -38357187.59 -38357187.42 -38357187.24 0.0147 0.0033

Uranus -109730-12-27 09:07 J -38357099.27 -38357099.12 -38357098.95 0.0147 0.0060

Uranus -109729-03-24 16:33 J -38357010.95 -38357010.81 -38357010.67 0.0147 0.0088

Moon -109729-05-19 01:40 J -38356955.45 -38356955.43 -38356955.40 0.2733 0.2623

Earth -109729-05-19 02:09 J -38356955.45 -38356955.41 -38356955.37 0.2727 0.2510 *

Venus -109729-06-12 17:16 J -38356930.89 -38356930.78 -38356930.67 0.3752 0.1792

Uranus -109729-06-20 23:45 J -38356922.61 -38356922.51 -38356922.39 0.0147 0.0116

Uranus -109729-09-17 07:12 J -38356834.23 -38356834.20 -38356834.16 0.0147 0.0144

Jupiter -109724-09-01 02:38 J -38355024.52 -38355024.39 -38355024.26 0.0530 0.0176

Mars -109724-10-06 17:16 J -38354988.93 -38354988.78 -38354988.63 0.1727 0.0111

Jupiter -109724-11-29 14:38 J -38354934.99 -38354934.89 -38354934.78 0.0532 0.0348

Venus -109724-12-27 15:50 J -38354906.96 -38354906.84 -38354906.71 0.3747 0.0251

Earth -109723-05-29 00:00 J -38354754.60 -38354754.50 -38354754.40 0.2744 0.1253

Moon -109723-05-29 00:28 J -38354754.58 -38354754.48 -38354754.38 0.2739 0.1243 *

Mars -109723-08-20 02:52 J -38354671.51 -38354671.38 -38354671.26 0.1785 0.0139

Saturn -109721-07-20 01:12 J -38353971.48 -38353971.45 -38353971.41 0.0273 0.0265

Saturn -109721-10-16 14:52 J -38353882.99 -38353882.88 -38353882.78 0.0274 0.0189

Saturn -109720-01-13 04:19 J -38353794.46 -38353794.32 -38353794.19 0.0274 0.0114

Saturn -109720-04-11 17:31 J -38353705.91 -38353705.77 -38353705.63 0.0275 0.0038

Saturn -109720-07-09 06:28 J -38353617.37 -38353617.23 -38353617.08 0.0276 0.0038

Saturn -109720-10-05 19:26 J -38353528.82 -38353528.69 -38353528.56 0.0277 0.0112

Earth -109720-11-18 13:26 J -38353485.07 -38353484.94 -38353484.81 0.2599 0.1446

Moon -109720-11-18 14:09 J -38353485.04 -38353484.91 -38353484.78 0.2594 0.1408 *

Saturn -109719-01-02 08:24 J -38353440.26 -38353440.15 -38353440.05 0.0278 0.0185

Saturn -109719-03-31 20:52 J -38353351.67 -38353351.63 -38353351.57 0.0279 0.0259

Jupiter -109718-04-19 18:43 J -38352967.79 -38352967.72 -38352967.65 0.0497 0.0443

Venus -109718-07-13 14:38 J -38352882.98 -38352882.89 -38352882.79 0.3741 0.2367

Jupiter -109718-07-18 15:50 J -38352878.00 -38352877.84 -38352877.67 0.0495 0.0070

Earth -109716-05-21 20:52 J -38352204.72 -38352204.63 -38352204.53 0.2732 0.1516

Moon -109716-05-21 21:21 J -38352204.71 -38352204.61 -38352204.52 0.2739 0.1429 *

Mars -109714-02-26 20:09 J -38351558.80 -38351558.66 -38351558.52 0.1722 0.0669

Venus -109714-07-13 00:43 J -38351422.54 -38351422.47 -38351422.39 0.3624 0.2767

Mars -109713-01-10 10:33 J -38351241.18 -38351241.06 -38351240.94 0.1790 0.0350

Jupiter -109712-06-20 04:48 J -38350714.41 -38350714.30 -38350714.19 0.0530 0.0312

Jupiter -109712-09-17 17:16 J -38350624.91 -38350624.78 -38350624.66 0.0531 0.0215

Mars -109712-12-16 02:09 J -38350535.47 -38350535.41 -38350535.34 0.1770 0.1493

Moon -109710-05-31 18:28 J -38350003.79 -38350003.73 -38350003.67 0.2740 0.2270

Earth -109710-05-31 18:28 J -38350003.79 -38350003.73 -38350003.66 0.2748 0.2229 *

Venus -109708-01-25 20:24 J -38349398.76 -38349398.65 -38349398.54 0.3628 0.1192

Saturn -109707-05-16 11:31 J -38348923.11 -38348923.02 -38348922.92 0.0288 0.0230

Saturn -109707-08-13 06:00 J -38348834.39 -38348834.25 -38348834.10 0.0287 0.0136

Saturn -109707-11-10 00:57 J -38348745.62 -38348745.46 -38348745.29 0.0286 0.0040

Saturn -109706-02-06 20:09 J -38348656.82 -38348656.66 -38348656.49 0.0285 0.0059

Jupiter -109706-05-06 16:19 J -38348567.99 -38348567.82 -38348567.66 0.0496 0.0057

Saturn -109706-05-06 15:36 J -38348567.98 -38348567.85 -38348567.70 0.0284 0.0157 *

Saturn -109706-08-03 11:16 J -38348479.09 -38348479.03 -38348478.95 0.0283 0.0255

Jupiter -109706-08-04 14:52 J -38348477.93 -38348477.88 -38348477.83 0.0494 0.0470

Mars -109705-07-18 23:16 J -38348128.63 -38348128.53 -38348128.42 0.1717 0.1204

Mars -109704-06-01 18:00 J -38347810.87 -38347810.75 -38347810.64 0.1795 0.0845

Earth -109703-05-24 15:36 J -38347453.96 -38347453.85 -38347453.74 0.2736 0.0527

Moon -109703-05-24 16:19 J -38347453.93 -38347453.82 -38347453.71 0.2739 0.0501 *

Mars -109703-06-25 12:57 J -38347422.07 -38347421.96 -38347421.84 0.1737 0.1116

Venus -109703-08-11 15:50 J -38347374.96 -38347374.84 -38347374.72 0.3633 0.0343

Mars -109702-05-08 10:33 J -38347105.15 -38347105.06 -38347104.96 0.1775 0.1064

Jupiter -109700-04-08 06:00 J -38346404.31 -38346404.25 -38346404.18 0.0529 0.0460

Jupiter -109700-07-06 18:57 J -38346314.85 -38346314.71 -38346314.57 0.0531 0.0072

Earth -109700-11-13 09:36 J -38346185.23 -38346185.10 -38346184.98 0.2608 0.1471

Moon -109700-11-13 11:02 J -38346185.17 -38346185.04 -38346184.91 0.2608 0.1335 *

Venus -109697-02-25 11:02 J -38345351.14 -38345351.04 -38345350.94 0.3638 0.1834

Mars -109695-10-23 01:12 J -38344380.54 -38344380.45 -38344380.37 0.1801 0.1344

Jupiter -109694-02-22 16:33 J -38344257.96 -38344257.81 -38344257.65 0.0496 0.0184

Jupiter -109694-05-23 14:38 J -38344168.01 -38344167.89 -38344167.76 0.0495 0.0339

Mars -109694-11-15 15:07 J -38343992.01 -38343991.87 -38343991.72 0.1732 0.0522

Mars -109693-09-27 18:57 J -38343674.83 -38343674.71 -38343674.60 0.1780 0.0625

Venus -109692-09-10 06:00 J -38343327.30 -38343327.25 -38343327.20 0.3642 0.3273

Saturn -109691-03-05 18:00 J -38343150.84 -38343150.75 -38343150.65 0.0273 0.0203

Uranus -109691-03-07 15:36 J -38343148.90 -38343148.85 -38343148.79 0.0132 0.0120

Saturn -109691-06-02 07:26 J -38343062.32 -38343062.19 -38343062.06 0.0274 0.0128

Uranus -109691-06-03 19:12 J -38343060.78 -38343060.70 -38343060.60 0.0132 0.0104

Saturn -109691-08-29 20:52 J -38342973.78 -38342973.63 -38342973.49 0.0275 0.0053

Uranus -109691-08-30 23:02 J -38342972.65 -38342972.54 -38342972.43 0.0132 0.0087

Saturn -109691-11-26 09:50 J -38342885.23 -38342885.09 -38342884.94 0.0276 0.0023

Uranus -109691-11-27 02:38 J -38342884.51 -38342884.39 -38342884.27 0.0132 0.0071

Saturn -109690-02-22 22:48 J -38342796.68 -38342796.55 -38342796.41 0.0277 0.0098

Uranus -109690-02-23 06:14 J -38342796.37 -38342796.24 -38342796.11 0.0132 0.0055

Uranus -109690-05-22 09:50 J -38342708.22 -38342708.09 -38342707.95 0.0132 0.0039

Saturn -109690-05-22 11:45 J -38342708.12 -38342708.01 -38342707.90 0.0278 0.0171 *

Earth -109690-05-27 10:19 J -38342703.18 -38342703.07 -38342702.96 0.2740 0.0464

Moon -109690-05-27 11:02 J -38342703.15 -38342703.04 -38342702.93 0.2738 0.0537 *

Uranus -109690-08-18 13:26 J -38342620.08 -38342619.94 -38342619.80 0.0132 0.0023

Saturn -109690-08-19 00:28 J -38342619.54 -38342619.48 -38342619.41 0.0278 0.0245

Uranus -109690-11-14 17:02 J -38342531.93 -38342531.79 -38342531.65 0.0132 0.0007

Uranus -109689-02-10 20:38 J -38342443.79 -38342443.64 -38342443.50 0.0132 0.0010

Uranus -109689-05-09 00:00 J -38342355.64 -38342355.50 -38342355.36 0.0132 0.0025

Uranus -109689-08-05 03:21 J -38342267.49 -38342267.36 -38342267.22 0.0132 0.0041

Uranus -109689-11-01 06:57 J -38342179.34 -38342179.21 -38342179.08 0.0132 0.0056

Uranus -109688-01-28 10:19 J -38342091.19 -38342091.07 -38342090.95 0.0132 0.0071

Jupiter -109688-04-24 21:36 J -38342004.74 -38342004.60 -38342004.47 0.0531 0.0060

Uranus -109688-04-26 13:40 J -38342003.03 -38342002.93 -38342002.82 0.0131 0.0087

Jupiter -109688-07-23 09:21 J -38341915.18 -38341915.11 -38341915.04 0.0532 0.0460

Uranus -109688-07-23 16:48 J -38341914.87 -38341914.80 -38341914.70 0.0131 0.0103

Uranus -109688-10-19 20:09 J -38341826.71 -38341826.66 -38341826.58 0.0131 0.0118

Earth -109687-11-16 14:38 J -38341434.05 -38341433.89 -38341433.74 0.2603 0.0142

Moon -109687-11-16 15:50 J -38341433.99 -38341433.84 -38341433.68 0.2599 0.0166 *

Neptune -109685-01-18 09:07 J -38341006.15 -38341006.12 -38341006.08 0.0089 0.0086

Neptune -109685-04-15 11:16 J -38340918.07 -38340918.03 -38340917.95 0.0089 0.0082

Neptune -109685-07-12 13:55 J -38340829.99 -38340829.92 -38340829.82 0.0089 0.0077

Neptune -109685-10-08 16:19 J -38340741.90 -38340741.82 -38340741.71 0.0089 0.0072

Neptune -109684-01-04 18:57 J -38340653.81 -38340653.71 -38340653.59 0.0089 0.0067

Neptune -109684-04-02 21:36 J -38340565.71 -38340565.60 -38340565.47 0.0089 0.0062

Mars -109684-04-06 17:31 J -38340561.92 -38340561.77 -38340561.62 0.1727 0.0065

Neptune -109684-06-30 00:14 J -38340477.61 -38340477.49 -38340477.36 0.0089 0.0057

Neptune -109684-09-26 02:52 J -38340389.51 -38340389.38 -38340389.24 0.0089 0.0052

Neptune -109684-12-23 05:16 J -38340301.41 -38340301.28 -38340301.13 0.0089 0.0047

Mars -109683-02-18 02:52 J -38340244.50 -38340244.38 -38340244.26 0.1785 0.0166

Neptune -109683-03-21 07:55 J -38340213.31 -38340213.17 -38340213.02 0.0089 0.0042

Moon -109683-05-20 06:57 J -38340153.27 -38340153.21 -38340153.15 0.2734 0.2276

Earth -109683-05-20 07:12 J -38340153.26 -38340153.20 -38340153.15 0.2728 0.2313 *

Neptune -109683-06-17 10:33 J -38340125.21 -38340125.06 -38340124.91 0.0089 0.0037

Neptune -109683-09-13 13:12 J -38340037.11 -38340036.95 -38340036.79 0.0089 0.0032

Neptune -109683-12-10 15:50 J -38339949.00 -38339948.84 -38339948.68 0.0089 0.0027

Jupiter -109683-12-11 16:19 J -38339947.94 -38339947.82 -38339947.69 0.0496 0.0316

Neptune -109682-03-08 18:28 J -38339860.90 -38339860.73 -38339860.57 0.0089 0.0022

Jupiter -109682-03-11 13:55 J -38339858.07 -38339857.92 -38339857.76 0.0495 0.0201

Neptune -109682-06-04 21:07 J -38339772.79 -38339772.62 -38339772.45 0.0089 0.0017

Neptune -109682-08-31 23:45 J -38339684.68 -38339684.51 -38339684.34 0.0089 0.0012

Neptune -109682-11-28 02:24 J -38339596.57 -38339596.40 -38339596.23 0.0089 0.0007

Neptune -109681-02-24 05:02 J -38339508.46 -38339508.29 -38339508.12 0.0089 0.0002

Neptune -109681-05-22 07:40 J -38339420.35 -38339420.18 -38339420.00 0.0089 0.0004

Neptune -109681-08-18 10:19 J -38339332.23 -38339332.07 -38339331.89 0.0089 0.0009

Neptune -109681-11-14 13:12 J -38339244.12 -38339243.95 -38339243.78 0.0089 0.0014

Neptune -109680-02-10 15:50 J -38339156.01 -38339155.84 -38339155.67 0.0089 0.0019

Neptune -109680-05-09 18:28 J -38339067.89 -38339067.73 -38339067.56 0.0089 0.0025

Neptune -109680-08-05 21:07 J -38338979.77 -38338979.62 -38338979.45 0.0089 0.0030

Neptune -109680-11-02 00:00 J -38338891.65 -38338891.50 -38338891.34 0.0089 0.0035

Neptune -109679-01-29 02:52 J -38338803.53 -38338803.38 -38338803.22 0.0089 0.0040

Neptune -109679-04-27 05:16 J -38338715.41 -38338715.28 -38338715.11 0.0089 0.0046

Neptune -109679-07-24 08:09 J -38338627.29 -38338627.16 -38338627.00 0.0089 0.0051

Neptune -109679-10-20 11:02 J -38338539.16 -38338539.04 -38338538.90 0.0089 0.0056

Neptune -109678-01-16 13:40 J -38338451.04 -38338450.93 -38338450.79 0.0089 0.0062

Neptune -109678-04-14 16:33 J -38338362.91 -38338362.81 -38338362.68 0.0089 0.0067

Venus -109678-07-04 18:14 J -38338281.81 -38338281.74 -38338281.67 0.3756 0.3075

Neptune -109678-07-11 19:40 J -38338274.78 -38338274.68 -38338274.58 0.0089 0.0072

Saturn -109678-10-03 12:14 J -38338191.05 -38338190.99 -38338190.91 0.0288 0.0254

Neptune -109678-10-07 22:04 J -38338186.64 -38338186.58 -38338186.47 0.0089 0.0078

Saturn -109678-12-31 06:57 J -38338102.34 -38338102.21 -38338102.07 0.0287 0.0159

Neptune -109677-01-04 01:12 J -38338098.50 -38338098.45 -38338098.38 0.0089 0.0083

Saturn -109677-03-29 01:55 J -38338013.59 -38338013.42 -38338013.26 0.0286 0.0064

Neptune -109677-04-01 04:04 J -38338010.34 -38338010.33 -38338010.30 0.0089 0.0088

Earth -109677-05-29 04:48 J -38337952.39 -38337952.30 -38337952.20 0.2744 0.1452

Moon -109677-05-29 05:02 J -38337952.38 -38337952.29 -38337952.19 0.2738 0.1483 *

Saturn -109677-06-25 20:52 J -38337924.79 -38337924.63 -38337924.46 0.0285 0.0034

Saturn -109677-09-22 16:19 J -38337835.97 -38337835.82 -38337835.67 0.0284 0.0131

Saturn -109677-12-20 11:45 J -38337747.10 -38337747.01 -38337746.90 0.0283 0.0230

Jupiter -109676-02-11 00:14 J -38337694.62 -38337694.49 -38337694.35 0.0531 0.0186

Jupiter -109676-05-11 12:28 J -38337605.08 -38337604.98 -38337604.87 0.0532 0.0339

Mars -109675-08-27 20:24 J -38337131.79 -38337131.65 -38337131.51 0.1722 0.0619

Mars -109674-07-11 10:48 J -38336814.18 -38336814.05 -38336813.93 0.1790 0.0309

Earth -109674-11-19 19:55 J -38336682.79 -38336682.67 -38336682.56 0.2599 0.1769

Moon -109674-11-19 19:55 J -38336682.78 -38336682.67 -38336682.56 0.2593 0.1861 *

Venus -109672-01-17 16:33 J -38336257.93 -38336257.81 -38336257.69 0.3750 0.1091

Mars -109672-06-16 02:24 J -38336108.46 -38336108.40 -38336108.34 0.1770 0.1533

Jupiter -109671-09-29 16:48 J -38335637.87 -38335637.80 -38335637.73 0.0497 0.0443

Jupiter -109671-12-28 13:55 J -38335548.09 -38335547.92 -38335547.76 0.0495 0.0069

Earth -109670-05-23 01:55 J -38335402.52 -38335402.42 -38335402.32 0.2732 0.1314

Moon -109670-05-23 02:24 J -38335402.50 -38335402.40 -38335402.31 0.2739 0.1351 *

Pluto -109670-11-23 13:40 J -38335217.95 -38335217.93 -38335217.90 0.0085 0.0083

Pluto -109669-02-19 14:52 J -38335129.95 -38335129.88 -38335129.79 0.0085 0.0068

Pluto -109669-05-17 16:19 J -38335041.92 -38335041.82 -38335041.71 0.0084 0.0054

Pluto -109669-08-13 17:31 J -38334953.88 -38334953.77 -38334953.65 0.0084 0.0040

Pluto -109669-11-09 18:57 J -38334865.84 -38334865.71 -38334865.58 0.0084 0.0025

Pluto -109668-02-05 20:09 J -38334777.79 -38334777.66 -38334777.53 0.0084 0.0011

Pluto -109668-05-04 21:21 J -38334689.74 -38334689.61 -38334689.47 0.0084 0.0004

Pluto -109668-07-31 22:33 J -38334601.68 -38334601.56 -38334601.42 0.0084 0.0017

Pluto -109668-10-27 23:45 J -38334513.63 -38334513.51 -38334513.38 0.0084 0.0031

Pluto -109667-01-24 00:57 J -38334425.56 -38334425.46 -38334425.34 0.0084 0.0045

Pluto -109667-04-22 02:09 J -38334337.49 -38334337.41 -38334337.31 0.0083 0.0059

Pluto -109667-07-19 03:21 J -38334249.41 -38334249.36 -38334249.28 0.0083 0.0072

Venus -109667-08-03 15:07 J -38334233.99 -38334233.87 -38334233.75 0.3745 0.0964

Mars -109665-01-17 23:45 J -38333701.62 -38333701.51 -38333701.40 0.1718 0.1149

Jupiter -109665-11-30 02:52 J -38333384.49 -38333384.38 -38333384.27 0.0530 0.0315

Mars -109665-11-30 18:00 J -38333383.86 -38333383.75 -38333383.63 0.1795 0.0795

Jupiter -109664-02-27 15:21 J -38333294.99 -38333294.86 -38333294.73 0.0532 0.0212

Moon -109664-05-31 23:16 J -38333201.59 -38333201.53 -38333201.48 0.2741 0.2340

Earth -109664-05-31 23:31 J -38333201.57 -38333201.52 -38333201.47 0.2748 0.2426 *

Mars -109664-12-24 13:40 J -38332995.04 -38332994.93 -38332994.82 0.1737 0.1177

Mars -109663-11-06 10:48 J -38332678.15 -38332678.05 -38332677.96 0.1775 0.1108

Saturn -109662-07-23 19:40 J -38332418.76 -38332418.68 -38332418.60 0.0273 0.0226

Saturn -109662-10-20 09:07 J -38332330.24 -38332330.12 -38332329.99 0.0274 0.0151

Saturn -109661-01-16 22:33 J -38332241.70 -38332241.56 -38332241.42 0.0275 0.0075

Venus -109661-02-17 14:09 J -38332209.98 -38332209.91 -38332209.84 0.3739 0.3109

Saturn -109661-04-14 11:45 J -38332153.16 -38332153.01 -38332152.87 0.0276 0.0001

Saturn -109661-07-12 00:43 J -38332064.61 -38332064.47 -38332064.33 0.0277 0.0075

Saturn -109661-10-08 13:40 J -38331976.05 -38331975.93 -38331975.81 0.0278 0.0149

Saturn -109660-01-05 02:24 J -38331887.48 -38331887.40 -38331887.32 0.0279 0.0223

Jupiter -109659-10-16 13:40 J -38331238.10 -38331237.93 -38331237.77 0.0496 0.0064

Jupiter -109658-01-14 12:00 J -38331148.05 -38331148.00 -38331147.94 0.0494 0.0462

Venus -109657-02-16 23:16 J -38330749.62 -38330749.53 -38330749.43 0.3625 0.2196

Earth -109657-05-24 20:38 J -38330651.75 -38330651.64 -38330651.53 0.2737 0.0324

Moon -109657-05-24 21:21 J -38330651.72 -38330651.61 -38330651.50 0.2737 0.0190 *

Mars -109656-06-09 03:21 J -38330271.39 -38330271.36 -38330271.33 0.1713 0.1663

Mars -109655-04-23 01:12 J -38329953.53 -38329953.45 -38329953.36 0.1800 0.1297

Mars -109654-05-16 15:36 J -38329564.99 -38329564.85 -38329564.70 0.1732 0.0575

Earth -109654-11-14 16:04 J -38329382.97 -38329382.83 -38329382.69 0.2607 0.1151

Moon -109654-11-14 17:31 J -38329382.91 -38329382.77 -38329382.63 0.2605 0.1006 *

Mars -109653-03-28 18:57 J -38329247.82 -38329247.71 -38329247.60 0.1780 0.0666

Jupiter -109653-09-18 04:48 J -38329074.37 -38329074.30 -38329074.22 0.0529 0.0453

Jupiter -109653-12-16 17:45 J -38328984.90 -38328984.76 -38328984.62 0.0531 0.0079

Venus -109652-09-01 18:57 J -38328725.83 -38328725.71 -38328725.59 0.3630 0.0638

Saturn -109648-02-19 13:26 J -38327458.97 -38327458.94 -38327458.89 0.0288 0.0277

Saturn -109648-05-19 07:55 J -38327370.29 -38327370.17 -38327370.04 0.0287 0.0183

Saturn -109648-08-16 02:52 J -38327281.54 -38327281.38 -38327281.22 0.0286 0.0087

Saturn -109648-11-12 21:50 J -38327192.75 -38327192.59 -38327192.42 0.0285 0.0011

Uranus -109647-02-09 08:52 J -38327104.15 -38327104.13 -38327104.09 0.0147 0.0144

Saturn -109647-02-09 17:16 J -38327103.94 -38327103.78 -38327103.63 0.0284 0.0107

Uranus -109647-05-08 15:50 J -38327015.93 -38327015.84 -38327015.73 0.0147 0.0118

Saturn -109647-05-09 12:43 J -38327015.08 -38327014.97 -38327014.85 0.0283 0.0205

Jupiter -109647-08-04 14:09 J -38326928.06 -38326927.91 -38326927.76 0.0496 0.0190

Uranus -109647-08-04 22:48 J -38326927.68 -38326927.55 -38326927.42 0.0147 0.0092

Uranus -109647-11-01 05:45 J -38326839.41 -38326839.26 -38326839.11 0.0147 0.0066

Jupiter -109647-11-02 12:14 J -38326838.12 -38326837.99 -38326837.87 0.0495 0.0333

Uranus -109646-01-28 12:43 J -38326751.14 -38326750.97 -38326750.80 0.0147 0.0040

Venus -109646-03-18 14:24 J -38326702.02 -38326701.90 -38326701.79 0.3634 0.0893

Uranus -109646-04-26 19:55 J -38326662.85 -38326662.67 -38326662.50 0.0147 0.0013

Uranus -109646-07-24 02:52 J -38326574.55 -38326574.38 -38326574.20 0.0147 0.0014

Uranus -109646-10-20 10:04 J -38326486.25 -38326486.08 -38326485.91 0.0147 0.0041

Uranus -109645-01-16 17:16 J -38326397.93 -38326397.78 -38326397.62 0.0147 0.0069

Uranus -109645-04-14 00:28 J -38326309.60 -38326309.48 -38326309.34 0.0147 0.0097

Uranus -109645-07-11 07:55 J -38326221.26 -38326221.17 -38326221.07 0.0147 0.0124

Mars -109645-10-05 18:14 J -38326134.90 -38326134.74 -38326134.59 0.1727 0.0052

Earth -109644-05-27 15:21 J -38325900.97 -38325900.86 -38325900.76 0.2741 0.0672

Moon -109644-05-27 15:50 J -38325900.95 -38325900.84 -38325900.73 0.2737 0.0700 *

Mars -109644-08-19 02:52 J -38325817.50 -38325817.38 -38325817.25 0.1785 0.0221

Venus -109641-10-01 09:21 J -38324678.20 -38324678.11 -38324678.02 0.3639 0.2357

Jupiter -109641-10-04 19:26 J -38324674.83 -38324674.69 -38324674.56 0.0530 0.0066

Earth -109641-11-16 21:07 J -38324631.78 -38324631.62 -38324631.47 0.2602 0.0463

Moon -109641-11-16 22:04 J -38324631.73 -38324631.58 -38324631.43 0.2598 0.0587 *

Jupiter -109640-01-02 07:12 J -38324585.27 -38324585.20 -38324585.13 0.0532 0.0453

Earth -109637-05-20 12:00 J -38323351.07 -38323351.00 -38323350.93 0.2728 0.2115

Moon -109637-05-20 12:14 J -38323351.06 -38323350.99 -38323350.93 0.2736 0.2153 *

Mars -109635-02-25 20:52 J -38322704.77 -38322704.63 -38322704.49 0.1722 0.0564

Jupiter -109635-05-23 14:24 J -38322618.02 -38322617.90 -38322617.77 0.0497 0.0316

Jupiter -109635-08-21 12:00 J -38322528.15 -38322528.00 -38322527.84 0.0495 0.0203

Mars -109634-01-09 10:33 J -38322387.18 -38322387.06 -38322386.93 0.1790 0.0271

Saturn -109633-12-09 22:48 J -38321686.61 -38321686.55 -38321686.48 0.0273 0.0240

Mars -109633-12-15 02:24 J -38321681.45 -38321681.40 -38321681.35 0.1770 0.1572

Saturn -109632-03-08 12:14 J -38321598.10 -38321597.99 -38321597.87 0.0274 0.0165

Saturn -109632-06-05 01:40 J -38321509.56 -38321509.43 -38321509.29 0.0275 0.0090

Saturn -109632-09-01 15:07 J -38321421.02 -38321420.87 -38321420.73 0.0276 0.0016

Saturn -109632-11-29 04:04 J -38321332.47 -38321332.33 -38321332.19 0.0277 0.0061

Saturn -109631-02-25 17:02 J -38321243.91 -38321243.79 -38321243.66 0.0277 0.0135

Saturn -109631-05-25 05:45 J -38321155.35 -38321155.26 -38321155.16 0.0278 0.0210

Moon -109631-05-30 09:50 J -38321150.18 -38321150.09 -38321150.00 0.2737 0.1645

Earth -109631-05-30 09:50 J -38321150.18 -38321150.09 -38321150.00 0.2745 0.1644 *

Jupiter -109629-07-23 21:50 J -38320364.72 -38320364.59 -38320364.46 0.0530 0.0198

Jupiter -109629-10-21 09:50 J -38320275.19 -38320275.09 -38320274.98 0.0532 0.0326

Moon -109628-11-20 01:55 J -38319880.52 -38319880.42 -38319880.32 0.2592 0.1991

Earth -109628-11-20 02:24 J -38319880.49 -38319880.40 -38319880.31 0.2598 0.2099 *

Mars -109626-07-19 00:00 J -38319274.61 -38319274.50 -38319274.39 0.1717 0.1104

Mars -109625-05-31 18:14 J -38318956.85 -38318956.74 -38318956.62 0.1795 0.0745

Earth -109624-05-23 06:57 J -38318600.32 -38318600.21 -38318600.11 0.2733 0.1122

Moon -109624-05-23 07:26 J -38318600.29 -38318600.19 -38318600.09 0.2737 0.1006 *

Mars -109624-06-24 13:55 J -38318568.02 -38318567.92 -38318567.81 0.1737 0.1229

Jupiter -109623-03-11 14:24 J -38318307.97 -38318307.90 -38318307.83 0.0497 0.0446

Mars -109623-05-07 10:48 J -38318251.14 -38318251.05 -38318250.96 0.1775 0.1147

Jupiter -109623-06-09 11:31 J -38318218.19 -38318218.02 -38318217.86 0.0495 0.0065

Venus -109621-02-08 17:16 J -38317608.87 -38317608.78 -38317608.68 0.3754 0.2399

Earth -109621-11-11 17:31 J -38317331.82 -38317331.77 -38317331.71 0.2611 0.2425

Moon -109621-11-11 18:57 J -38317331.79 -38317331.71 -38317331.63 0.2613 0.2232 *

Saturn -109619-10-06 09:36 J -38316638.21 -38316638.10 -38316637.98 0.0287 0.0203

Saturn -109618-01-03 04:19 J -38316549.47 -38316549.32 -38316549.17 0.0286 0.0108

Saturn -109618-04-01 23:16 J -38316460.69 -38316460.53 -38316460.36 0.0286 0.0012

Moon -109618-06-02 03:50 J -38316399.37 -38316399.34 -38316399.30 0.2744 0.2592

Earth -109618-06-02 04:19 J -38316399.35 -38316399.32 -38316399.29 0.2749 0.2623 *

Saturn -109618-06-29 18:28 J -38316371.89 -38316371.73 -38316371.57 0.0285 0.0086

Saturn -109618-09-26 13:55 J -38316283.04 -38316282.92 -38316282.79 0.0284 0.0184

Saturn -109618-12-24 09:36 J -38316194.11 -38316194.10 -38316194.08 0.0283 0.0282

Jupiter -109617-05-12 00:28 J -38316054.59 -38316054.48 -38316054.37 0.0530 0.0326

Jupiter -109617-08-09 12:57 J -38315965.08 -38315964.96 -38315964.83 0.0532 0.0203

Mars -109617-12-08 03:50 J -38315844.38 -38315844.34 -38315844.29 0.1713 0.1609

Venus -109616-08-24 15:50 J -38315584.97 -38315584.84 -38315584.72 0.3749 0.0421

Mars -109616-10-22 01:26 J -38315526.53 -38315526.44 -38315526.35 0.1800 0.1247

Mars -109615-11-14 16:04 J -38315137.97 -38315137.83 -38315137.69 0.1732 0.0627

Mars -109614-09-27 19:12 J -38314820.81 -38314820.70 -38314820.59 0.1780 0.0713

Jupiter -109611-03-28 11:31 J -38313908.19 -38313908.02 -38313907.86 0.0496 0.0066

Earth -109611-05-26 01:40 J -38313849.55 -38313849.43 -38313849.32 0.2737 0.0164

Moon -109611-05-26 02:24 J -38313849.51 -38313849.40 -38313849.29 0.2736 0.0124 *

Jupiter -109611-06-26 09:50 J -38313818.15 -38313818.09 -38313818.03 0.0494 0.0459

Venus -109610-03-10 14:24 J -38313561.01 -38313560.90 -38313560.78 0.3743 0.1685

Earth -109608-11-14 22:33 J -38312580.71 -38312580.56 -38312580.42 0.2606 0.0831

Moon -109608-11-15 00:00 J -38312580.65 -38312580.50 -38312580.35 0.2603 0.0775 *

Uranus -109608-12-29 19:12 J -38312535.70 -38312535.70 -38312535.67 0.0132 0.0132

Uranus -109607-03-27 23:16 J -38312447.60 -38312447.53 -38312447.46 0.0132 0.0114

Uranus -109607-06-24 02:52 J -38312359.47 -38312359.38 -38312359.28 0.0132 0.0098

Uranus -109607-09-20 06:43 J -38312271.33 -38312271.22 -38312271.11 0.0132 0.0081

Uranus -109607-12-17 10:19 J -38312183.19 -38312183.07 -38312182.94 0.0132 0.0065

Venus -109606-03-10 02:09 J -38312100.46 -38312100.41 -38312100.36 0.3622 0.3215

Mars -109606-03-14 08:24 J -38312096.17 -38312096.15 -38312096.13 0.1805 0.1766

Uranus -109606-03-15 13:55 J -38312095.05 -38312094.92 -38312094.79 0.0132 0.0049

Uranus -109606-06-11 17:31 J -38312006.91 -38312006.77 -38312006.63 0.0132 0.0033

Uranus -109606-09-07 21:07 J -38311918.76 -38311918.62 -38311918.48 0.0132 0.0017

Uranus -109606-12-05 00:43 J -38311830.62 -38311830.47 -38311830.33 0.0132 0.0003

Jupiter -109605-02-29 02:52 J -38311744.45 -38311744.38 -38311744.31 0.0529 0.0457

Uranus -109605-03-02 04:04 J -38311742.47 -38311742.33 -38311742.18 0.0132 0.0015

Mars -109605-04-05 18:28 J -38311707.88 -38311707.73 -38311707.58 0.1727 0.0060

Jupiter -109605-05-28 15:50 J -38311654.98 -38311654.84 -38311654.71 0.0531 0.0076

Uranus -109605-05-29 07:40 J -38311654.32 -38311654.18 -38311654.04 0.0132 0.0031

Uranus -109605-08-25 11:02 J -38311566.17 -38311566.04 -38311565.90 0.0132 0.0046

Uranus -109605-11-21 14:24 J -38311478.02 -38311477.90 -38311477.77 0.0131 0.0062

Mars -109604-02-17 03:07 J -38311390.50 -38311390.37 -38311390.25 0.1785 0.0258

Uranus -109604-02-17 18:00 J -38311389.86 -38311389.75 -38311389.64 0.0131 0.0077

Uranus -109604-05-16 21:07 J -38311301.71 -38311301.62 -38311301.51 0.0131 0.0093

Neptune -109604-08-08 04:19 J -38311218.35 -38311218.32 -38311218.26 0.0088 0.0085

Uranus -109604-08-13 00:28 J -38311213.55 -38311213.48 -38311213.39 0.0131 0.0108

Neptune -109604-11-04 06:14 J -38311130.29 -38311130.24 -38311130.16 0.0088 0.0080

Uranus -109604-11-09 03:50 J -38311125.38 -38311125.34 -38311125.28 0.0131 0.0123

Neptune -109603-01-31 08:09 J -38311042.22 -38311042.16 -38311042.07 0.0088 0.0076

Saturn -109603-04-29 00:28 J -38310954.51 -38310954.48 -38310954.44 0.0273 0.0263

Neptune -109603-04-29 10:19 J -38310954.15 -38310954.07 -38310953.98 0.0088 0.0071

Neptune -109603-07-26 12:00 J -38310866.08 -38310866.00 -38310865.89 0.0088 0.0067

Saturn -109603-07-26 13:55 J -38310866.02 -38310865.92 -38310865.80 0.0274 0.0188 *

Neptune -109603-10-22 14:09 J -38310778.01 -38310777.91 -38310777.80 0.0088 0.0062

Saturn -109603-10-23 03:36 J -38310777.48 -38310777.35 -38310777.22 0.0275 0.0112

Neptune -109602-01-18 15:50 J -38310689.94 -38310689.84 -38310689.71 0.0088 0.0058

Saturn -109602-01-19 16:48 J -38310688.94 -38310688.80 -38310688.65 0.0275 0.0037

Neptune -109602-04-16 18:00 J -38310601.87 -38310601.75 -38310601.63 0.0088 0.0053

Saturn -109602-04-18 06:00 J -38310600.39 -38310600.25 -38310600.11 0.0276 0.0039

Neptune -109602-07-13 19:40 J -38310513.80 -38310513.68 -38310513.55 0.0088 0.0048

Saturn -109602-07-15 18:57 J -38310511.84 -38310511.71 -38310511.58 0.0277 0.0113

Neptune -109602-10-09 21:36 J -38310425.72 -38310425.60 -38310425.46 0.0088 0.0044

Saturn -109602-10-12 07:40 J -38310423.28 -38310423.18 -38310423.07 0.0278 0.0188

Neptune -109601-01-05 23:31 J -38310337.65 -38310337.52 -38310337.38 0.0088 0.0039

Saturn -109601-01-08 20:24 J -38310334.69 -38310334.65 -38310334.60 0.0279 0.0262

Neptune -109601-04-03 01:26 J -38310249.58 -38310249.44 -38310249.30 0.0088 0.0035

Neptune -109601-06-30 03:07 J -38310161.50 -38310161.37 -38310161.22 0.0088 0.0031

Venus   -109601-09-22 21:50 J -38310076.69 -38310076.59 -38310076.48 0.3627 0.1630

Neptune -109601-09-26 05:02 J -38310073.43 -38310073.29 -38310073.14 0.0088 0.0026

Neptune -109601-12-23 06:57 J -38309985.35 -38309985.21 -38309985.07 0.0088 0.0021

Neptune -109600-03-21 08:38 J -38309897.28 -38309897.14 -38309896.99 0.0088 0.0017

Neptune -109600-06-17 10:33 J -38309809.21 -38309809.06 -38309808.91 0.0088 0.0013

Neptune -109600-09-13 12:14 J -38309721.13 -38309720.99 -38309720.84 0.0088 0.0009

Neptune -109600-12-10 14:09 J -38309633.06 -38309632.91 -38309632.76 0.0088 0.0004

Jupiter -109599-01-14 11:16 J -38309598.18 -38309598.03 -38309597.88 0.0496 0.0198

Neptune -109599-03-08 15:50 J -38309544.98 -38309544.84 -38309544.69 0.0088 0.0002

Jupiter -109599-04-14 09:21 J -38309508.24 -38309508.11 -38309507.98 0.0495 0.0324

Neptune -109599-06-04 17:45 J -38309456.91 -38309456.76 -38309456.62 0.0088 0.0005

Neptune -109599-08-31 19:26 J -38309368.84 -38309368.69 -38309368.54 0.0088 0.0009

Neptune -109599-11-27 21:07 J -38309280.76 -38309280.62 -38309280.47 0.0088 0.0014

Neptune -109598-02-23 22:48 J -38309192.69 -38309192.55 -38309192.40 0.0088 0.0018

Neptune -109598-05-23 00:28 J -38309104.61 -38309104.48 -38309104.33 0.0088 0.0023

Earth -109598-05-28 20:09 J -38309098.76 -38309098.66 -38309098.55 0.2741 0.0863

Moon -109598-05-28 20:38 J -38309098.75 -38309098.64 -38309098.54 0.2736 0.0949 *

Neptune -109598-08-19 02:24 J -38309016.54 -38309016.40 -38309016.26 0.0088 0.0026

Neptune -109598-11-15 04:04 J -38308928.46 -38308928.33 -38308928.19 0.0088 0.0031

Neptune -109597-02-11 05:31 J -38308840.39 -38308840.27 -38308840.12 0.0088 0.0036

Neptune -109597-05-09 07:26 J -38308752.31 -38308752.19 -38308752.05 0.0088 0.0039

Neptune -109597-08-05 09:07 J -38308664.24 -38308664.12 -38308663.99 0.0088 0.0044

Neptune -109597-11-01 10:48 J -38308576.16 -38308576.05 -38308575.92 0.0088 0.0048

Neptune -109596-01-28 12:43 J -38308488.09 -38308487.97 -38308487.86 0.0088 0.0052

Neptune -109596-04-26 14:24 J -38308400.01 -38308399.90 -38308399.79 0.0088 0.0056

Neptune -109596-07-23 15:50 J -38308311.94 -38308311.84 -38308311.73 0.0088 0.0060

Mars -109596-08-26 21:21 J -38308277.75 -38308277.61 -38308277.47 0.1722 0.0509

Neptune -109596-10-19 17:31 J -38308223.86 -38308223.77 -38308223.66 0.0088 0.0064

Neptune -109595-01-15 19:12 J -38308135.78 -38308135.70 -38308135.60 0.0088 0.0068

Venus -109595-04-08 17:31 J -38308052.89 -38308052.77 -38308052.66 0.3631 0.0148

Neptune -109595-04-13 20:52 J -38308047.70 -38308047.63 -38308047.54 0.0088 0.0073

Mars -109595-07-10 10:48 J -38307960.17 -38307960.05 -38307959.92 0.1790 0.0220

Neptune -109595-07-10 22:33 J -38307959.62 -38307959.56 -38307959.48 0.0088 0.0077

Neptune -109595-10-07 00:14 J -38307871.54 -38307871.49 -38307871.43 0.0088 0.0081

Earth -109595-11-18 03:36 J -38307829.50 -38307829.35 -38307829.20 0.2602 0.0791

Moon -109595-11-18 04:04 J -38307829.48 -38307829.33 -38307829.18 0.2596 0.0827 *

Neptune -109594-01-03 01:55 J -38307783.45 -38307783.42 -38307783.38 0.0088 0.0085

Jupiter -109593-03-16 18:00 J -38307344.88 -38307344.75 -38307344.61 0.0530 0.0061

Jupiter -109593-06-14 05:45 J -38307255.32 -38307255.26 -38307255.19 0.0532 0.0460

Mars -109593-06-15 02:24 J -38307254.44 -38307254.40 -38307254.35 0.1770 0.1614

Earth -109591-05-21 17:02 J -38306548.87 -38306548.79 -38306548.71 0.2729 0.1916

Moon -109591-05-21 17:16 J -38306548.86 -38306548.78 -38306548.70 0.2736 0.1875 *

Venus -109590-10-23 12:43 J -38306029.08 -38306028.97 -38306028.86 0.3636 0.1420

Saturn -109589-02-23 10:33 J -38305906.15 -38305906.06 -38305905.96 0.0287 0.0228

Saturn -109589-05-22 05:16 J -38305817.42 -38305817.28 -38305817.13 0.0287 0.0132

Saturn -109589-08-19 00:14 J -38305728.66 -38305728.49 -38305728.33 0.0286 0.0037

Saturn -109589-11-15 19:12 J -38305639.86 -38305639.70 -38305639.53 0.0285 0.0062

Saturn -109588-02-12 14:38 J -38305551.02 -38305550.89 -38305550.74 0.0284 0.0159

Saturn -109588-05-12 10:19 J -38305462.13 -38305462.07 -38305461.99 0.0283 0.0257

Jupiter -109588-11-02 11:45 J -38305288.13 -38305288.01 -38305287.88 0.0497 0.0323

Jupiter -109587-01-31 09:21 J -38305198.26 -38305198.11 -38305197.95 0.0495 0.0195

Mars -109586-01-17 00:43 J -38304847.59 -38304847.47 -38304847.36 0.1717 0.1046

Mars -109586-11-30 18:14 J -38304529.85 -38304529.74 -38304529.62 0.1795 0.0704

Moon -109585-05-30 14:38 J -38304347.97 -38304347.89 -38304347.80 0.2738 0.1811

Earth -109585-05-30 14:52 J -38304347.96 -38304347.88 -38304347.80 0.2745 0.1848 *

Mars -109585-12-23 14:38 J -38304140.99 -38304140.89 -38304140.79 0.1737 0.1290

Venus -109584-05-08 07:40 J -38304005.25 -38304005.18 -38304005.11 0.3640 0.2874

Mars -109584-11-05 11:02 J -38303824.13 -38303824.04 -38303823.95 0.1775 0.1192

Moon -109582-11-21 08:24 J -38303078.20 -38303078.15 -38303078.10 0.2591 0.2441

Earth -109582-11-21 08:52 J -38303078.19 -38303078.13 -38303078.08 0.2598 0.2427 *

Jupiter -109581-01-03 19:40 J -38303034.81 -38303034.68 -38303034.55 0.0530 0.0203

Jupiter -109581-04-02 07:55 J -38302945.28 -38302945.17 -38302945.06 0.0531 0.0320

Earth -109578-05-24 11:45 J -38301798.11 -38301798.01 -38301797.90 0.2733 0.0919

Moon -109578-05-24 12:28 J -38301798.08 -38301797.98 -38301797.87 0.2735 0.0898 *

Mars -109577-06-08 04:04 J -38301417.38 -38301417.33 -38301417.27 0.1713 0.1564

Mars -109576-04-22 01:26 J -38301099.53 -38301099.44 -38301099.34 0.1801 0.1206

Jupiter -109576-08-21 12:14 J -38300978.05 -38300977.99 -38300977.91 0.0497 0.0447

Jupiter -109576-11-19 09:21 J -38300888.27 -38300888.11 -38300887.94 0.0496 0.0066

Mars -109575-05-15 16:33 J -38300710.95 -38300710.81 -38300710.67 0.1732 0.0683

Earth -109575-11-13 00:00 J -38300529.59 -38300529.50 -38300529.41 0.2610 0.2108

Moon -109575-11-13 01:26 J -38300529.53 -38300529.44 -38300529.35 0.2609 0.2090 *

Mars -109574-03-28 19:12 J -38300393.82 -38300393.70 -38300393.59 0.1780 0.0752

Saturn -109574-12-13 17:16 J -38300133.88 -38300133.78 -38300133.68 0.0274 0.0202

Saturn -109573-03-11 06:43 J -38300045.35 -38300045.22 -38300045.09 0.0275 0.0126

Saturn -109573-06-07 20:09 J -38299956.80 -38299956.66 -38299956.52 0.0275 0.0051

Saturn -109573-09-04 09:21 J -38299868.26 -38299868.11 -38299867.97 0.0276 0.0025

Saturn -109573-12-01 22:19 J -38299779.70 -38299779.57 -38299779.43 0.0277 0.0099

Saturn -109572-02-28 11:16 J -38299691.14 -38299691.03 -38299690.92 0.0278 0.0174

Saturn -109572-05-28 00:00 J -38299602.56 -38299602.50 -38299602.44 0.0279 0.0247

Venus -109570-03-01 18:28 J -38298959.76 -38298959.73 -38298959.70 0.3758 0.3650

Jupiter -109570-10-22 21:50 J -38298724.70 -38298724.59 -38298724.48 0.0530 0.0338

Jupiter -109569-01-20 10:33 J -38298635.19 -38298635.06 -38298634.94 0.0531 0.0191

Mars -109567-09-12 08:38 J -38297669.17 -38297669.14 -38297669.10 0.1805 0.1712

Mars -109566-10-05 18:57 J -38297280.86 -38297280.71 -38297280.56 0.1727 0.0102

Earth -109565-05-26 06:28 J -38297047.34 -38297047.23 -38297047.12 0.2738 0.0072

Moon -109565-05-26 07:12 J -38297047.31 -38297047.20 -38297047.09 0.2736 0.0209 *

Mars -109565-08-18 03:07 J -38296963.49 -38296963.37 -38296963.24 0.1785 0.0307

Venus -109565-09-14 16:33 J -38296935.92 -38296935.81 -38296935.70 0.3752 0.1706

Jupiter -109564-09-07 08:52 J -38296578.29 -38296578.13 -38296577.96 0.0496 0.0072

Jupiter -109564-12-06 07:12 J -38296488.26 -38296488.20 -38296488.13 0.0494 0.0455

Uranus -109563-03-01 16:19 J -38296402.87 -38296402.82 -38296402.76 0.0147 0.0138

Uranus -109563-05-28 22:48 J -38296314.64 -38296314.55 -38296314.43 0.0147 0.0113

Uranus -109563-08-25 05:45 J -38296226.39 -38296226.26 -38296226.11 0.0147 0.0087

Uranus -109563-11-21 12:57 J -38296138.12 -38296137.96 -38296137.80 0.0147 0.0060

Uranus -109562-02-17 19:55 J -38296049.84 -38296049.67 -38296049.50 0.0147 0.0034

Uranus -109562-05-17 03:07 J -38295961.55 -38295961.37 -38295961.20 0.0147 0.0007

Uranus -109562-08-13 10:04 J -38295873.25 -38295873.08 -38295872.90 0.0147 0.0021

Uranus -109562-11-09 17:16 J -38295784.94 -38295784.78 -38295784.61 0.0147 0.0048

Earth -109562-11-16 04:48 J -38295778.45 -38295778.30 -38295778.15 0.2606 0.0516

Moon -109562-11-16 06:00 J -38295778.40 -38295778.25 -38295778.09 0.2602 0.0351 *

Uranus -109561-02-06 00:28 J -38295696.62 -38295696.48 -38295696.32 0.0147 0.0075

Uranus -109561-05-04 07:55 J -38295608.29 -38295608.17 -38295608.04 0.0147 0.0103

Uranus -109561-07-31 15:21 J -38295519.94 -38295519.86 -38295519.78 0.0147 0.0131

Saturn -109560-07-12 12:28 J -38295174.06 -38295173.98 -38295173.89 0.0288 0.0247

Saturn -109560-10-09 06:57 J -38295085.34 -38295085.21 -38295085.07 0.0287 0.0152

Saturn -109559-01-06 01:55 J -38294996.58 -38294996.42 -38294996.26 0.0286 0.0056

Venus -109559-03-31 15:07 J -38294912.00 -38294911.87 -38294911.75 0.3747 0.0322

Saturn -109559-04-04 20:52 J -38294907.79 -38294907.63 -38294907.46 0.0285 0.0041

Saturn -109559-07-02 16:19 J -38294818.97 -38294818.82 -38294818.67 0.0284 0.0138

Saturn -109559-09-29 11:45 J -38294730.09 -38294730.01 -38294729.91 0.0283 0.0236

Earth -109558-05-20 03:07 J -38294497.37 -38294497.37 -38294497.36 0.2725 0.2716

Jupiter -109558-08-11 00:14 J -38294414.55 -38294414.49 -38294414.42 0.0530 0.0469

Jupiter -109558-11-08 13:26 J -38294325.08 -38294324.94 -38294324.81 0.0531 0.0066

Mars -109556-02-24 21:50 J -38293850.74 -38293850.59 -38293850.45 0.1722 0.0459

Mars -109555-01-08 11:02 J -38293533.17 -38293533.04 -38293532.92 0.1790 0.0168

Venus -109554-10-15 13:55 J -38292888.02 -38292887.92 -38292887.82 0.3742 0.2415

Mars -109554-12-15 02:38 J -38292827.43 -38292827.39 -38292827.35 0.1770 0.1658

Earth -109552-05-29 01:12 J -38292296.56 -38292296.45 -38292296.35 0.2742 0.1067

Moon -109552-05-29 01:26 J -38292296.55 -38292296.44 -38292296.34 0.2735 0.1019 *

Jupiter -109552-06-26 09:07 J -38292268.27 -38292268.12 -38292267.97 0.0496 0.0199

Jupiter -109552-09-24 06:57 J -38292178.33 -38292178.21 -38292178.08 0.0495 0.0322

Venus -109550-10-15 00:43 J -38291427.55 -38291427.47 -38291427.38 0.3623 0.2635

Moon -109549-11-18 10:04 J -38291027.23 -38291027.08 -38291026.94 0.2595 0.1070

Earth -109549-11-18 09:50 J -38291027.23 -38291027.09 -38291026.95 0.2601 0.1111 *

Mars -109547-07-18 00:57 J -38290420.58 -38290420.46 -38290420.34 0.1717 0.0994

Mars -109546-05-31 18:28 J -38290102.85 -38290102.73 -38290102.61 0.1795 0.0656

Jupiter -109546-08-27 16:04 J -38290014.97 -38290014.83 -38290014.69 0.0531 0.0063

Jupiter -109546-11-25 04:04 J -38289925.40 -38289925.33 -38289925.26 0.0532 0.0456

Earth -109545-05-21 22:04 J -38289746.67 -38289746.58 -38289746.50 0.2729 0.1717

Moon -109545-05-21 22:19 J -38289746.66 -38289746.57 -38289746.48 0.2736 0.1686 *

Mars -109545-06-23 15:07 J -38289713.97 -38289713.87 -38289713.78 0.1737 0.1344

Venus -109544-04-29 20:24 J -38289403.76 -38289403.65 -38289403.53 0.3628 0.1068

Saturn -109544-05-01 18:43 J -38289401.80 -38289401.72 -38289401.63 0.0273 0.0225

Mars -109544-05-06 11:02 J -38289397.13 -38289397.04 -38289396.95 0.1775 0.1232

Saturn -109544-07-29 08:24 J -38289313.27 -38289313.15 -38289313.03 0.0274 0.0150

Saturn -109544-10-25 21:36 J -38289224.73 -38289224.60 -38289224.45 0.0275 0.0075

Saturn -109543-01-22 11:02 J -38289136.19 -38289136.04 -38289135.90 0.0276 0.0005

Saturn -109543-04-21 00:00 J -38289047.64 -38289047.50 -38289047.36 0.0277 0.0076

Saturn -109543-07-18 12:57 J -38288959.08 -38288958.96 -38288958.84 0.0278 0.0150

Saturn -109543-10-15 01:40 J -38288870.51 -38288870.43 -38288870.34 0.0279 0.0224

Jupiter -109540-04-14 09:07 J -38287958.23 -38287958.12 -38287957.99 0.0497 0.0329

Jupiter -109540-07-13 06:43 J -38287868.38 -38287868.22 -38287868.07 0.0495 0.0187

Moon -109539-05-31 19:26 J -38287545.76 -38287545.69 -38287545.62 0.2740 0.2054

Earth -109539-05-31 19:40 J -38287545.75 -38287545.68 -38287545.61 0.2746 0.2043 *

Venus -109539-11-13 15:50 J -38287379.95 -38287379.84 -38287379.72 0.3633 0.0481

Mars -109538-12-08 04:33 J -38286990.37 -38286990.31 -38286990.24 0.1713 0.1510

Mars -109537-10-21 01:40 J -38286672.52 -38286672.43 -38286672.33 0.1800 0.1155

Mars -109536-11-13 17:02 J -38286283.92 -38286283.79 -38286283.65 0.1732 0.0743

Mars -109535-09-26 19:12 J -38285966.81 -38285966.70 -38285966.59 0.1780 0.0798

Jupiter -109534-06-15 18:28 J -38285704.86 -38285704.73 -38285704.60 0.0530 0.0197

Jupiter -109534-09-13 06:43 J -38285615.33 -38285615.22 -38285615.12 0.0532 0.0327

Venus -109533-05-29 11:16 J -38285356.13 -38285356.03 -38285355.94 0.3637 0.1955

Earth -109532-05-24 16:48 J -38284995.91 -38284995.80 -38284995.70 0.2734 0.0724

Moon -109532-05-24 17:31 J -38284995.88 -38284995.77 -38284995.66 0.2735 0.0615 *

Saturn -109531-11-29 13:12 J -38284442.00 -38284441.95 -38284441.90 0.0288 0.0272

Saturn -109530-02-26 07:40 J -38284353.31 -38284353.18 -38284353.05 0.0287 0.0178

Saturn -109530-05-26 02:24 J -38284264.56 -38284264.40 -38284264.24 0.0286 0.0083

Saturn -109530-08-22 21:36 J -38284175.77 -38284175.60 -38284175.44 0.0285 0.0016

Saturn -109530-11-19 16:48 J -38284086.95 -38284086.80 -38284086.64 0.0284 0.0112

Saturn -109529-02-16 12:28 J -38283998.10 -38283997.98 -38283997.87 0.0283 0.0210

Earth -109529-11-13 06:14 J -38283727.35 -38283727.24 -38283727.13 0.2610 0.1803

Moon -109529-11-13 07:55 J -38283727.30 -38283727.17 -38283727.05 0.2608 0.1588 *

Jupiter -109528-01-31 09:50 J -38283648.15 -38283648.09 -38283648.02 0.0497 0.0453

Jupiter -109528-05-01 06:57 J -38283558.38 -38283558.21 -38283558.05 0.0496 0.0060

Venus -109528-12-13 06:14 J -38283332.28 -38283332.24 -38283332.20 0.3642 0.3387

Mars -109527-03-13 08:38 J -38283242.19 -38283242.14 -38283242.10 0.1805 0.1673

Mars -109526-04-05 19:26 J -38282853.84 -38282853.69 -38282853.54 0.1727 0.0158

Mars -109525-02-17 03:21 J -38282536.49 -38282536.36 -38282536.24 0.1785 0.0345

Uranus -109523-01-19 03:21 J -38281834.40 -38281834.36 -38281834.31 0.0132 0.0125

Uranus -109523-04-17 06:57 J -38281746.29 -38281746.21 -38281746.12 0.0132 0.0108

Uranus -109523-07-14 10:48 J -38281658.15 -38281658.05 -38281657.95 0.0132 0.0091

Uranus -109523-10-10 14:24 J -38281570.02 -38281569.90 -38281569.78 0.0132 0.0075

Uranus -109522-01-06 18:00 J -38281481.87 -38281481.75 -38281481.62 0.0132 0.0059

Jupiter -109522-04-03 19:55 J -38281394.77 -38281394.67 -38281394.56 0.0529 0.0340

Uranus -109522-04-04 21:36 J -38281393.73 -38281393.60 -38281393.46 0.0132 0.0043

Uranus -109522-07-02 01:12 J -38281305.59 -38281305.45 -38281305.31 0.0132 0.0027

Jupiter -109522-07-02 08:38 J -38281305.27 -38281305.14 -38281305.01 0.0531 0.0188

Uranus -109522-09-28 04:48 J -38281217.44 -38281217.30 -38281217.15 0.0132 0.0011

Uranus -109522-12-25 08:24 J -38281129.29 -38281129.15 -38281129.01 0.0132 0.0005

Uranus -109521-03-22 11:45 J -38281041.14 -38281041.01 -38281040.86 0.0132 0.0022

Uranus -109521-06-18 15:21 J -38280953.00 -38280952.86 -38280952.72 0.0132 0.0037

Neptune -109521-07-18 05:31 J -38280923.27 -38280923.27 -38280923.27 0.0089 0.0089

Uranus -109521-09-14 18:43 J -38280864.85 -38280864.72 -38280864.58 0.0131 0.0052

Neptune -109521-10-14 07:40 J -38280835.22 -38280835.18 -38280835.12 0.0089 0.0084

Uranus -109521-12-11 22:04 J -38280776.69 -38280776.58 -38280776.45 0.0131 0.0068

Neptune -109520-01-10 10:19 J -38280747.14 -38280747.07 -38280746.99 0.0089 0.0079

Uranus -109520-03-10 01:40 J -38280688.54 -38280688.43 -38280688.32 0.0131 0.0083

Neptune -109520-04-08 12:28 J -38280659.05 -38280658.98 -38280658.88 0.0089 0.0075

Uranus -109520-06-06 04:48 J -38280600.38 -38280600.30 -38280600.20 0.0131 0.0098

Neptune -109520-07-05 15:07 J -38280570.96 -38280570.87 -38280570.76 0.0089 0.0070

Uranus -109520-09-02 08:09 J -38280512.22 -38280512.16 -38280512.08 0.0131 0.0113

Neptune -109520-10-01 17:31 J -38280482.87 -38280482.77 -38280482.64 0.0089 0.0065

Uranus -109520-11-29 11:31 J -38280424.04 -38280424.02 -38280423.98 0.0131 0.0128

Neptune -109520-12-28 20:09 J -38280394.77 -38280394.66 -38280394.53 0.0089 0.0060

Neptune -109519-03-26 22:48 J -38280306.68 -38280306.55 -38280306.42 0.0089 0.0055

Earth -109519-05-27 11:31 J -38280245.14 -38280245.02 -38280244.91 0.2738 0.0294

Moon -109519-05-27 12:00 J -38280245.11 -38280245.00 -38280244.89 0.2734 0.0271 *

Neptune -109519-06-23 01:26 J -38280218.58 -38280218.44 -38280218.30 0.0089 0.0050

Neptune -109519-09-19 03:50 J -38280130.48 -38280130.34 -38280130.19 0.0089 0.0045

Neptune -109519-12-16 06:28 J -38280042.38 -38280042.23 -38280042.08 0.0089 0.0040

Neptune -109518-03-14 09:07 J -38279954.27 -38279954.12 -38279953.96 0.0089 0.0035

Neptune -109518-06-10 11:45 J -38279866.17 -38279866.01 -38279865.85 0.0089 0.0030

Neptune -109518-09-06 14:24 J -38279778.07 -38279777.90 -38279777.74 0.0089 0.0025

Neptune -109518-12-03 17:02 J -38279689.96 -38279689.79 -38279689.63 0.0089 0.0020

Neptune -109517-02-29 19:40 J -38279601.85 -38279601.68 -38279601.52 0.0089 0.0015

Neptune -109517-05-27 22:19 J -38279513.74 -38279513.57 -38279513.40 0.0089 0.0010

Neptune -109517-08-24 00:57 J -38279425.63 -38279425.46 -38279425.29 0.0089 0.0005

Mars -109517-08-25 22:19 J -38279423.72 -38279423.57 -38279423.43 0.1722 0.0404

Neptune -109517-11-20 03:36 J -38279337.52 -38279337.35 -38279337.18 0.0089 0.0001

Neptune -109516-02-16 06:14 J -38279249.41 -38279249.24 -38279249.07 0.0089 0.0005

Jupiter -109516-02-17 06:57 J -38279248.37 -38279248.21 -38279248.04 0.0496 0.0071

Neptune -109516-05-15 08:52 J -38279161.30 -38279161.13 -38279160.96 0.0089 0.0011

Jupiter -109516-05-18 05:16 J -38279158.34 -38279158.28 -38279158.21 0.0495 0.0456

Mars -109516-07-09 11:02 J -38279106.16 -38279106.04 -38279105.91 0.1791 0.0128

Neptune -109516-08-11 11:31 J -38279073.19 -38279073.02 -38279072.85 0.0089 0.0016

Neptune -109516-11-07 14:09 J -38278985.07 -38278984.91 -38278984.74 0.0089 0.0021

Earth -109516-11-16 11:16 J -38278976.19 -38278976.03 -38278975.88 0.2605 0.0204

Moon -109516-11-16 12:00 J -38278976.15 -38278976.00 -38278975.84 0.2600 0.0224 *

Pluto -109516-12-03 17:16 J -38278958.85 -38278958.78 -38278958.68 0.0060 0.0054

Neptune -109515-02-03 17:02 J -38278896.95 -38278896.79 -38278896.63 0.0089 0.0026

Pluto -109515-03-01 18:28 J -38278870.83 -38278870.73 -38278870.59 0.0060 0.0047

Neptune -109515-05-02 19:26 J -38278808.84 -38278808.69 -38278808.51 0.0089 0.0032

Pluto -109515-05-28 20:09 J -38278782.79 -38278782.66 -38278782.50 0.0060 0.0039

Neptune -109515-07-29 22:19 J -38278720.72 -38278720.57 -38278720.40 0.0089 0.0037

Pluto -109515-08-24 21:21 J -38278694.75 -38278694.61 -38278694.42 0.0060 0.0032

Saturn -109515-09-18 21:50 J -38278669.66 -38278669.59 -38278669.52 0.0273 0.0241

Neptune -109515-10-26 01:12 J -38278632.60 -38278632.45 -38278632.29 0.0089 0.0042

Pluto -109515-11-20 23:02 J -38278606.71 -38278606.54 -38278606.35 0.0060 0.0025

Saturn -109515-12-16 11:16 J -38278581.14 -38278581.03 -38278580.91 0.0274 0.0165

Neptune -109514-01-22 04:04 J -38278544.48 -38278544.33 -38278544.18 0.0089 0.0047

Pluto -109514-02-17 00:28 J -38278518.66 -38278518.48 -38278518.28 0.0060 0.0017

Saturn -109514-03-15 00:43 J -38278492.60 -38278492.47 -38278492.33 0.0275 0.0090

Neptune -109514-04-20 06:28 J -38278456.35 -38278456.23 -38278456.08 0.0089 0.0053

Pluto -109514-05-16 01:55 J -38278430.60 -38278430.42 -38278430.22 0.0060 0.0010

Saturn -109514-06-11 14:09 J -38278404.06 -38278403.91 -38278403.77 0.0276 0.0016

Mars -109514-06-15 02:38 J -38278400.42 -38278400.39 -38278400.36 0.1770 0.1694

Neptune -109514-07-17 09:21 J -38278368.23 -38278368.11 -38278367.97 0.0089 0.0058

Pluto -109514-08-12 03:36 J -38278342.54 -38278342.35 -38278342.15 0.0060 0.0002

Saturn -109514-09-08 03:07 J -38278315.51 -38278315.37 -38278315.23 0.0277 0.0061

Venus -109514-10-06 17:45 J -38278286.84 -38278286.76 -38278286.69 0.3756 0.2971

Neptune -109514-10-13 12:14 J -38278280.10 -38278279.99 -38278279.86 0.0089 0.0063

Pluto -109514-11-08 04:48 J -38278254.48 -38278254.30 -38278254.09 0.0060 0.0007

Saturn -109514-12-05 16:04 J -38278226.95 -38278226.83 -38278226.70 0.0278 0.0136

Neptune -109513-01-09 14:52 J -38278191.97 -38278191.88 -38278191.75 0.0089 0.0069

Pluto -109513-02-04 06:14 J -38278166.42 -38278166.24 -38278166.04 0.0061 0.0014

Saturn -109513-03-03 05:02 J -38278138.38 -38278138.29 -38278138.20 0.0279 0.0209

Neptune -109513-04-06 17:45 J -38278103.84 -38278103.76 -38278103.65 0.0089 0.0074

Pluto -109513-05-02 07:40 J -38278078.35 -38278078.18 -38278077.99 0.0061 0.0022

Neptune -109513-07-03 20:52 J -38278015.70 -38278015.63 -38278015.55 0.0089 0.0079

Pluto -109513-07-29 09:07 J -38277990.28 -38277990.12 -38277989.94 0.0061 0.0029

Neptune -109513-09-29 23:16 J -38277927.56 -38277927.53 -38277927.46 0.0089 0.0085

Pluto -109513-10-25 10:33 J -38277902.20 -38277902.06 -38277901.89 0.0061 0.0037

Pluto -109512-01-21 11:45 J -38277814.12 -38277814.01 -38277813.85 0.0061 0.0045

Pluto -109512-04-19 13:26 J -38277726.02 -38277725.94 -38277725.83 0.0061 0.0052

Moon -109512-05-20 08:09 J -38277695.21 -38277695.16 -38277695.12 0.2733 0.2473

Earth -109512-05-20 08:09 J -38277695.20 -38277695.16 -38277695.12 0.2725 0.2520 *

Pluto -109512-07-16 14:38 J -38277637.90 -38277637.89 -38277637.83 0.0061 0.0060

Jupiter -109510-01-20 22:04 J -38277084.64 -38277084.58 -38277084.52 0.0529 0.0476

Jupiter -109510-04-20 11:02 J -38276995.18 -38276995.04 -38276994.90 0.0531 0.0056

Venus -109508-04-21 15:50 J -38276262.96 -38276262.84 -38276262.72 0.3751 0.1008

Mars -109507-01-16 01:12 J -38275993.57 -38275993.45 -38275993.32 0.1717 0.0948

Mars -109507-11-29 18:43 J -38275675.84 -38275675.72 -38275675.60 0.1795 0.0607

Earth -109506-05-30 06:00 J -38275494.35 -38275494.25 -38275494.15 0.2742 0.1258

Moon -109506-05-30 06:14 J -38275494.34 -38275494.24 -38275494.15 0.2735 0.1335 *

Mars -109506-12-23 15:36 J -38275286.94 -38275286.85 -38275286.76 0.1737 0.1400

Mars -109505-11-04 11:02 J -38274970.12 -38274970.04 -38274969.95 0.1775 0.1275

Jupiter -109505-12-06 06:43 J -38274938.37 -38274938.22 -38274938.07 0.0496 0.0203

Jupiter -109504-03-06 04:33 J -38274848.44 -38274848.31 -38274848.18 0.0495 0.0317

Venus -109503-11-05 14:24 J -38274239.02 -38274238.90 -38274238.78 0.3745 0.1034

Moon -109503-11-19 16:19 J -38274224.95 -38274224.82 -38274224.70 0.2594 0.1483

Earth -109503-11-19 16:19 J -38274224.95 -38274224.82 -38274224.69 0.2601 0.1433 *

Saturn -109501-07-15 09:36 J -38273621.21 -38273621.10 -38273620.98 0.0287 0.0197

Saturn -109501-10-12 04:19 J -38273532.47 -38273532.32 -38273532.16 0.0286 0.0102

Saturn -109500-01-08 23:16 J -38273443.70 -38273443.53 -38273443.36 0.0285 0.0006

Saturn -109500-04-07 18:28 J -38273354.89 -38273354.73 -38273354.57 0.0285 0.0092

Saturn -109500-07-05 13:55 J -38273266.04 -38273265.92 -38273265.79 0.0284 0.0189

Earth -109499-05-23 02:52 J -38272944.47 -38272944.38 -38272944.29 0.2730 0.1518

Moon -109499-05-23 03:36 J -38272944.45 -38272944.35 -38272944.26 0.2734 0.1500 *

Jupiter -109498-02-06 13:40 J -38272685.06 -38272684.93 -38272684.79 0.0531 0.0073

Jupiter -109498-05-07 01:40 J -38272595.50 -38272595.43 -38272595.35 0.0532 0.0449

Mars -109498-06-08 05:02 J -38272563.37 -38272563.29 -38272563.22 0.1713 0.1459

Mars -109497-04-21 01:55 J -38272245.52 -38272245.42 -38272245.33 0.1800 0.1111

Venus -109497-05-21 13:26 J -38272215.01 -38272214.94 -38272214.87 0.3740 0.3157

Mars -109496-05-14 17:16 J -38271856.91 -38271856.78 -38271856.64 0.1732 0.0792

Mars -109495-03-27 19:26 J -38271539.80 -38271539.69 -38271539.58 0.1780 0.0840

Venus -109493-05-20 23:31 J -38270754.62 -38270754.52 -38270754.43 0.3625 0.2059

Moon -109493-06-01 00:00 J -38270743.57 -38270743.50 -38270743.43 0.2741 0.2121

Earth -109493-06-01 00:28 J -38270743.54 -38270743.48 -38270743.41 0.2746 0.2242 *

Jupiter -109493-09-24 07:12 J -38270628.32 -38270628.20 -38270628.07 0.0496 0.0328

Jupiter -109493-12-23 04:33 J -38270538.46 -38270538.31 -38270538.15 0.0495 0.0187

Mars -109488-09-11 08:52 J -38268815.18 -38268815.13 -38268815.07 0.1805 0.1619

Venus -109488-12-04 18:57 J -38268730.83 -38268730.71 -38268730.59 0.3629 0.0511

Mars -109487-10-04 19:55 J -38268426.82 -38268426.67 -38268426.52 0.1727 0.0222

Jupiter -109487-11-25 16:33 J -38268374.94 -38268374.81 -38268374.68 0.0530 0.0200

Jupiter -109486-02-23 04:48 J -38268285.41 -38268285.30 -38268285.19 0.0532 0.0325

Earth -109486-05-25 21:36 J -38268193.71 -38268193.60 -38268193.49 0.2734 0.0524

Moon -109486-05-25 22:19 J -38268193.68 -38268193.57 -38268193.46 0.2735 0.0477 *

Mars -109486-08-18 03:21 J -38268109.48 -38268109.36 -38268109.24 0.1785 0.0390

Saturn -109485-02-05 23:02 J -38267937.56 -38267937.54 -38267937.50 0.0273 0.0265

Saturn -109485-05-04 12:43 J -38267849.07 -38267848.97 -38267848.86 0.0273 0.0189

Saturn -109485-08-01 02:24 J -38267760.54 -38267760.40 -38267760.27 0.0274 0.0114

Saturn -109485-10-28 15:36 J -38267671.99 -38267671.85 -38267671.71 0.0275 0.0038

Saturn -109484-01-25 04:48 J -38267583.44 -38267583.30 -38267583.16 0.0276 0.0037

Saturn -109484-04-23 17:45 J -38267494.89 -38267494.76 -38267494.63 0.0277 0.0111

Saturn -109484-07-21 06:43 J -38267406.33 -38267406.22 -38267406.12 0.0278 0.0185

Saturn -109484-10-17 19:26 J -38267317.74 -38267317.69 -38267317.64 0.0279 0.0259

Earth -109483-11-14 12:43 J -38266925.10 -38266924.97 -38266924.85 0.2609 0.1485

Moon -109483-11-14 14:09 J -38266925.04 -38266924.91 -38266924.78 0.2607 0.1454 *

Venus -109482-06-20 14:24 J -38266707.01 -38266706.90 -38266706.79 0.3634 0.1007

Jupiter -109481-07-13 07:26 J -38266318.25 -38266318.19 -38266318.13 0.0497 0.0456

Jupiter -109481-10-11 04:19 J -38266228.48 -38266228.32 -38266228.15 0.0495 0.0054

Uranus -109479-03-21 23:16 J -38265701.59 -38265701.53 -38265701.45 0.0147 0.0133

Uranus -109479-06-18 06:14 J -38265613.35 -38265613.24 -38265613.12 0.0147 0.0107

Uranus -109479-09-14 12:57 J -38265525.10 -38265524.96 -38265524.81 0.0147 0.0081

Uranus -109479-12-11 19:55 J -38265436.82 -38265436.67 -38265436.50 0.0147 0.0055

Uranus -109478-03-10 03:07 J -38265348.54 -38265348.37 -38265348.20 0.0147 0.0028

Uranus -109478-06-06 10:04 J -38265260.25 -38265260.08 -38265259.90 0.0147 0.0003

Uranus -109478-09-02 17:16 J -38265171.95 -38265171.78 -38265171.61 0.0147 0.0025

Uranus -109478-11-30 00:28 J -38265083.64 -38265083.48 -38265083.32 0.0147 0.0053

Mars -109477-02-24 22:33 J -38264996.70 -38264996.56 -38264996.41 0.1722 0.0352

Uranus -109477-02-26 07:40 J -38264995.33 -38264995.18 -38264995.03 0.0147 0.0080

Uranus -109477-05-24 14:52 J -38264906.99 -38264906.88 -38264906.75 0.0147 0.0108

Uranus -109477-08-20 22:04 J -38264818.63 -38264818.58 -38264818.50 0.0148 0.0137

Venus -109476-01-03 09:36 J -38264683.19 -38264683.10 -38264683.02 0.3639 0.2469

Mars -109476-01-07 11:16 J -38264679.16 -38264679.03 -38264678.91 0.1790 0.0092

Jupiter -109475-09-13 18:43 J -38264064.83 -38264064.72 -38264064.61 0.0530 0.0333

Jupiter -109475-12-12 07:26 J -38263975.32 -38263975.19 -38263975.06 0.0531 0.0195

Mars -109475-12-14 02:38 J -38263973.41 -38263973.39 -38263973.37 0.1770 0.1737

Earth -109473-05-27 16:19 J -38263442.93 -38263442.82 -38263442.71 0.2739 0.0471

Moon -109473-05-27 16:48 J -38263442.91 -38263442.80 -38263442.69 0.2733 0.0546 *

Saturn -109472-12-02 09:36 J -38262889.19 -38262889.10 -38262889.00 0.0288 0.0226

Saturn -109471-03-01 04:19 J -38262800.46 -38262800.32 -38262800.17 0.0287 0.0131

Saturn -109471-05-28 23:16 J -38262711.70 -38262711.53 -38262711.37 0.0286 0.0035

Saturn -109471-08-25 18:14 J -38262622.90 -38262622.74 -38262622.57 0.0285 0.0063

Saturn -109471-11-22 13:55 J -38262534.06 -38262533.92 -38262533.78 0.0284 0.0160

Saturn -109470-02-19 09:21 J -38262445.17 -38262445.11 -38262445.03 0.0283 0.0258

Earth -109470-11-17 17:31 J -38262173.92 -38262173.77 -38262173.61 0.2605 0.0122

Moon -109470-11-17 18:00 J -38262173.91 -38262173.75 -38262173.60 0.2598 0.0245 *

Jupiter -109469-07-30 04:33 J -38261918.47 -38261918.31 -38261918.14 0.0496 0.0075

Jupiter -109469-10-28 02:52 J -38261828.44 -38261828.38 -38261828.31 0.0495 0.0451

Mars -109468-07-17 01:40 J -38261566.55 -38261566.43 -38261566.30 0.1717 0.0893

Mars -109467-05-30 18:43 J -38261248.84 -38261248.72 -38261248.60 0.1795 0.0568

Earth -109466-05-21 12:57 J -38260893.01 -38260892.96 -38260892.90 0.2726 0.2322

Moon -109466-05-21 13:12 J -38260893.00 -38260892.95 -38260892.90 0.2733 0.2377 *

Mars -109466-06-23 16:04 J -38260859.91 -38260859.83 -38260859.75 0.1737 0.1456

Mars -109465-05-05 11:02 J -38260543.12 -38260543.04 -38260542.95 0.1775 0.1316

Jupiter -109463-07-02 20:24 J -38259754.71 -38259754.65 -38259754.59 0.0529 0.0475

Jupiter -109463-09-30 09:21 J -38259665.25 -38259665.11 -38259664.97 0.0531 0.0056

Moon -109460-05-30 10:48 J -38258692.14 -38258692.05 -38258691.95 0.2736 0.1392

Earth -109460-05-30 11:02 J -38258692.14 -38258692.04 -38258691.95 0.2743 0.1459 *

Mars -109459-12-07 05:31 J -38258136.36 -38258136.27 -38258136.19 0.1713 0.1408

Mars -109458-10-21 01:55 J -38257818.52 -38257818.42 -38257818.31 0.1801 0.1063

Venus -109457-05-12 16:48 J -38257613.89 -38257613.80 -38257613.70 0.3755 0.2291

Jupiter -109457-05-18 05:02 J -38257608.44 -38257608.29 -38257608.14 0.0497 0.0201

Jupiter -109457-08-16 02:52 J -38257518.51 -38257518.38 -38257518.25 0.0495 0.0320

Mars -109457-11-12 18:00 J -38257429.88 -38257429.75 -38257429.61 0.1732 0.0855

Moon -109457-11-19 22:19 J -38257422.69 -38257422.57 -38257422.45 0.2594 0.1634

Earth -109457-11-19 22:48 J -38257422.67 -38257422.55 -38257422.44 0.2600 0.1757 *

Saturn -109456-09-21 15:21 J -38257116.95 -38257116.86 -38257116.76 0.0274 0.0207

Mars -109456-09-25 19:26 J -38257112.80 -38257112.69 -38257112.58 0.1780 0.0880

Saturn -109456-12-19 04:48 J -38257028.42 -38257028.30 -38257028.16 0.0274 0.0132

Saturn -109455-03-17 18:14 J -38256939.88 -38256939.74 -38256939.60 0.0275 0.0056

Saturn -109455-06-14 07:26 J -38256851.33 -38256851.19 -38256851.04 0.0276 0.0020

Saturn -109455-09-10 20:38 J -38256762.78 -38256762.64 -38256762.51 0.0277 0.0094

Saturn -109455-12-08 09:21 J -38256674.22 -38256674.11 -38256673.99 0.0278 0.0169

Saturn -109454-03-06 22:19 J -38256585.64 -38256585.57 -38256585.50 0.0279 0.0242

Earth -109453-05-23 07:55 J -38256142.27 -38256142.17 -38256142.08 0.2731 0.1325

Moon -109453-05-23 08:38 J -38256142.24 -38256142.14 -38256142.04 0.2734 0.1203 *

Venus -109452-11-26 15:07 J -38255589.99 -38255589.87 -38255589.74 0.3749 0.0312

Jupiter -109451-07-19 11:45 J -38255355.15 -38255355.01 -38255354.87 0.0530 0.0077

Jupiter -109451-10-16 23:45 J -38255265.59 -38255265.51 -38255265.44 0.0532 0.0442

Mars -109448-03-12 09:07 J -38254388.18 -38254388.12 -38254388.06 0.1805 0.1571

Mars -109447-04-04 20:09 J -38253999.81 -38253999.66 -38253999.51 0.1727 0.0265

Moon -109447-06-02 04:48 J -38253941.34 -38253941.30 -38253941.25 0.2742 0.2443

Earth -109447-06-02 05:31 J -38253941.32 -38253941.27 -38253941.22 0.2747 0.2434 *

Mars -109446-02-16 03:36 J -38253682.47 -38253682.35 -38253682.23 0.1786 0.0433

Venus -109446-06-12 13:55 J -38253566.04 -38253565.92 -38253565.81 0.3744 0.1755

Jupiter -109445-03-06 05:02 J -38253298.41 -38253298.29 -38253298.17 0.0497 0.0330

Jupiter -109445-06-04 02:24 J -38253208.56 -38253208.40 -38253208.25 0.0495 0.0185

Saturn -109442-04-21 11:31 J -38252157.10 -38252157.02 -38252156.94 0.0288 0.0246

Venus -109442-06-12 02:09 J -38252105.47 -38252105.41 -38252105.35 0.3622 0.3077

Saturn -109442-07-19 06:00 J -38252068.38 -38252068.25 -38252068.11 0.0287 0.0152

Saturn -109442-10-16 00:57 J -38251979.62 -38251979.46 -38251979.30 0.0286 0.0056

Saturn -109441-01-12 19:55 J -38251890.83 -38251890.67 -38251890.50 0.0285 0.0042

Saturn -109441-04-10 15:21 J -38251802.01 -38251801.86 -38251801.71 0.0284 0.0139

Saturn -109441-07-08 11:02 J -38251713.13 -38251713.04 -38251712.95 0.0283 0.0237

Earth -109440-05-26 02:38 J -38251391.50 -38251391.39 -38251391.28 0.2735 0.0327

Moon -109440-05-26 03:21 J -38251391.47 -38251391.36 -38251391.25 0.2733 0.0280 *

Neptune -109439-02-06 01:12 J -38251135.45 -38251135.45 -38251135.43 0.0088 0.0088

Uranus -109439-02-08 11:02 J -38251133.10 -38251133.04 -38251132.98 0.0132 0.0119

Neptune -109439-05-05 03:07 J -38251047.41 -38251047.37 -38251047.31 0.0088 0.0084

Jupiter -109439-05-07 14:09 J -38251045.04 -38251044.91 -38251044.78 0.0530 0.0207

Uranus -109439-05-07 14:38 J -38251044.98 -38251044.89 -38251044.80 0.0132 0.0102 *

Neptune -109439-08-01 05:16 J -38250959.35 -38250959.28 -38250959.21 0.0088 0.0079

Uranus -109439-08-03 18:14 J -38250956.84 -38250956.74 -38250956.62 0.0132 0.0086

Jupiter -109439-08-05 02:38 J -38250955.50 -38250955.39 -38250955.28 0.0532 0.0319

Neptune -109439-10-28 06:57 J -38250871.28 -38250871.21 -38250871.12 0.0088 0.0074

Uranus -109439-10-30 22:04 J -38250868.70 -38250868.58 -38250868.46 0.0132 0.0069

Neptune -109438-01-24 09:07 J -38250783.21 -38250783.12 -38250783.03 0.0088 0.0070

Uranus -109438-01-27 01:40 J -38250780.56 -38250780.43 -38250780.30 0.0132 0.0053

Neptune -109438-04-22 10:48 J -38250695.14 -38250695.05 -38250694.94 0.0088 0.0065

Uranus -109438-04-25 05:16 J -38250692.42 -38250692.28 -38250692.14 0.0132 0.0037

Neptune -109438-07-19 12:43 J -38250607.07 -38250606.97 -38250606.85 0.0088 0.0061

Uranus -109438-07-22 08:52 J -38250604.27 -38250604.13 -38250603.99 0.0132 0.0021

Mars -109438-08-25 23:02 J -38250569.69 -38250569.54 -38250569.39 0.1722 0.0298

Neptune -109438-10-15 14:38 J -38250519.00 -38250518.89 -38250518.76 0.0088 0.0056

Uranus -109438-10-18 12:28 J -38250516.13 -38250515.98 -38250515.84 0.0132 0.0005

Neptune -109437-01-11 16:33 J -38250430.92 -38250430.81 -38250430.68 0.0088 0.0052

Uranus -109437-01-14 15:50 J -38250427.98 -38250427.84 -38250427.69 0.0132 0.0012

Neptune -109437-04-08 18:28 J -38250342.85 -38250342.73 -38250342.60 0.0088 0.0047

Uranus -109437-04-11 19:26 J -38250339.83 -38250339.69 -38250339.55 0.0132 0.0027

Neptune -109437-07-05 20:24 J -38250254.77 -38250254.65 -38250254.51 0.0088 0.0043

Mars -109437-07-08 11:16 J -38250252.15 -38250252.03 -38250251.90 0.1790 0.0060

Uranus -109437-07-08 22:48 J -38250251.68 -38250251.55 -38250251.41 0.0132 0.0043

Neptune -109437-10-01 22:04 J -38250166.70 -38250166.58 -38250166.43 0.0088 0.0039

Uranus -109437-10-05 02:24 J -38250163.53 -38250163.40 -38250163.27 0.0132 0.0058

Earth -109437-11-14 18:57 J -38250122.84 -38250122.71 -38250122.57 0.2609 0.1173

Moon -109437-11-14 20:09 J -38250122.80 -38250122.66 -38250122.52 0.2605 0.1029 *

Venus -109437-12-25 21:50 J -38250081.69 -38250081.59 -38250081.48 0.3626 0.1505

Neptune -109437-12-29 00:14 J -38250078.63 -38250078.49 -38250078.35 0.0088 0.0034

Uranus -109436-01-01 05:31 J -38250075.37 -38250075.27 -38250075.14 0.0131 0.0074

Neptune -109436-03-27 01:55 J -38249990.55 -38249990.42 -38249990.27 0.0088 0.0029

Uranus -109436-03-30 09:07 J -38249987.22 -38249987.12 -38249987.01 0.0131 0.0088

Neptune -109436-06-23 03:50 J -38249902.48 -38249902.34 -38249902.19 0.0088 0.0025

Uranus -109436-06-26 12:28 J -38249899.06 -38249898.98 -38249898.89 0.0131 0.0103

Neptune -109436-09-19 05:45 J -38249814.40 -38249814.26 -38249814.12 0.0088 0.0020

Uranus -109436-09-22 15:50 J -38249810.89 -38249810.84 -38249810.78 0.0131 0.0118

Neptune -109436-12-16 07:26 J -38249726.33 -38249726.19 -38249726.04 0.0088 0.0016

Neptune -109435-03-14 09:21 J -38249638.26 -38249638.11 -38249637.96 0.0088 0.0011

Neptune -109435-06-10 11:02 J -38249550.18 -38249550.04 -38249549.89 0.0088 0.0008

Neptune -109435-09-06 12:57 J -38249462.11 -38249461.96 -38249461.81 0.0088 0.0003

Neptune -109435-12-03 14:38 J -38249374.03 -38249373.89 -38249373.74 0.0088 0.0003

Neptune -109434-03-01 16:33 J -38249285.96 -38249285.81 -38249285.67 0.0088 0.0006

Neptune -109434-05-28 18:14 J -38249197.88 -38249197.74 -38249197.59 0.0088 0.0010

Neptune -109434-08-24 19:55 J -38249109.81 -38249109.67 -38249109.52 0.0088 0.0015

Neptune -109434-11-20 21:36 J -38249021.73 -38249021.60 -38249021.45 0.0088 0.0020

Jupiter -109434-12-24 05:45 J -38248988.32 -38248988.26 -38248988.20 0.0497 0.0452

Neptune -109433-02-16 23:31 J -38248933.66 -38248933.52 -38248933.38 0.0088 0.0023

Jupiter -109433-03-23 02:38 J -38248898.56 -38248898.39 -38248898.23 0.0495 0.0057

Neptune -109433-05-15 01:12 J -38248845.59 -38248845.45 -38248845.31 0.0088 0.0028

Neptune -109433-08-11 02:52 J -38248757.51 -38248757.38 -38248757.24 0.0088 0.0032

Neptune -109433-11-07 04:33 J -38248669.44 -38248669.31 -38248669.17 0.0088 0.0036

Neptune -109432-02-03 06:14 J -38248581.36 -38248581.24 -38248581.10 0.0088 0.0041

Neptune -109432-05-02 07:55 J -38248493.29 -38248493.17 -38248493.04 0.0088 0.0045

Neptune -109432-07-29 09:50 J -38248405.21 -38248405.09 -38248404.97 0.0088 0.0049

Neptune -109432-10-25 11:16 J -38248317.13 -38248317.03 -38248316.90 0.0088 0.0053

Neptune -109431-01-21 12:57 J -38248229.06 -38248228.96 -38248228.84 0.0088 0.0058

Neptune -109431-04-19 14:38 J -38248140.98 -38248140.89 -38248140.77 0.0088 0.0062

Venus -109431-07-11 17:31 J -38248057.89 -38248057.77 -38248057.65 0.3631 0.0045

Neptune -109431-07-16 16:19 J -38248052.90 -38248052.82 -38248052.71 0.0088 0.0066

Neptune -109431-10-12 18:00 J -38247964.83 -38247964.75 -38247964.65 0.0088 0.0070

Neptune -109430-01-08 19:55 J -38247876.75 -38247876.67 -38247876.59 0.0088 0.0074

Neptune -109430-04-06 21:36 J -38247788.67 -38247788.60 -38247788.53 0.0088 0.0078

Neptune -109430-07-03 23:16 J -38247700.58 -38247700.53 -38247700.48 0.0088 0.0082

Neptune -109430-09-30 00:57 J -38247612.49 -38247612.46 -38247612.43 0.0088 0.0086

Mars -109428-01-15 02:24 J -38247139.53 -38247139.40 -38247139.27 0.1717 0.0835

Mars -109428-11-28 18:57 J -38246821.83 -38246821.71 -38246821.59 0.1796 0.0520

Jupiter -109427-02-23 16:48 J -38246734.90 -38246734.80 -38246734.69 0.0530 0.0335

Jupiter -109427-05-24 05:45 J -38246645.39 -38246645.26 -38246645.14 0.0532 0.0196

Earth -109427-05-28 21:21 J -38246640.72 -38246640.61 -38246640.51 0.2739 0.0678

Moon -109427-05-28 21:36 J -38246640.71 -38246640.60 -38246640.49 0.2732 0.0682 *

Mars -109427-12-22 16:33 J -38246432.88 -38246432.81 -38246432.73 0.1737 0.1519

Saturn -109426-02-08 16:33 J -38246384.88 -38246384.81 -38246384.72 0.0273 0.0232

Saturn -109426-05-08 06:14 J -38246296.36 -38246296.24 -38246296.12 0.0274 0.0156

Saturn -109426-08-04 19:40 J -38246207.82 -38246207.68 -38246207.54 0.0274 0.0081

Saturn -109426-11-01 08:52 J -38246119.27 -38246119.13 -38246118.99 0.0275 0.0006

Mars -109426-11-04 11:16 J -38246116.11 -38246116.03 -38246115.95 0.1775 0.1359

Venus -109425-01-25 12:43 J -38246034.07 -38246033.97 -38246033.86 0.3635 0.1535

Saturn -109425-01-28 21:50 J -38246030.72 -38246030.59 -38246030.45 0.0276 0.0069

Saturn -109425-04-26 10:48 J -38245942.17 -38245942.05 -38245941.92 0.0277 0.0143

Saturn -109425-07-23 23:45 J -38245853.60 -38245853.51 -38245853.42 0.0278 0.0217

Earth -109424-11-18 00:00 J -38245371.65 -38245371.50 -38245371.35 0.2604 0.0448

Moon -109424-11-18 00:14 J -38245371.65 -38245371.49 -38245371.33 0.2597 0.0373 *

Pluto -109422-06-26 23:16 J -38244785.53 -38244785.53 -38244785.49 0.0085 0.0084

Pluto -109422-09-23 00:57 J -38244697.53 -38244697.46 -38244697.38 0.0085 0.0069

Pluto -109422-12-20 02:09 J -38244609.50 -38244609.41 -38244609.30 0.0084 0.0055

Jupiter -109421-01-10 02:24 J -38244588.56 -38244588.40 -38244588.23 0.0496 0.0076

Pluto -109421-03-17 03:21 J -38244521.47 -38244521.36 -38244521.24 0.0084 0.0041

Jupiter -109421-04-09 00:43 J -38244498.54 -38244498.47 -38244498.40 0.0494 0.0449

Pluto -109421-06-13 04:48 J -38244433.43 -38244433.30 -38244433.17 0.0084 0.0026

Pluto -109421-09-09 06:00 J -38244345.38 -38244345.25 -38244345.11 0.0084 0.0012

Pluto -109421-12-06 07:26 J -38244257.33 -38244257.19 -38244257.06 0.0084 0.0003

Pluto -109420-03-04 08:38 J -38244169.27 -38244169.14 -38244169.01 0.0084 0.0016

Earth -109420-05-21 18:00 J -38244090.82 -38244090.75 -38244090.68 0.2727 0.2121

Moon -109420-05-21 18:28 J -38244090.81 -38244090.73 -38244090.66 0.2732 0.2027 *

Pluto -109420-05-31 09:50 J -38244081.21 -38244081.09 -38244080.97 0.0084 0.0030

Venus -109420-08-10 07:55 J -38244010.24 -38244010.17 -38244010.11 0.3640 0.2981

Pluto -109420-08-27 11:02 J -38243993.15 -38243993.04 -38243992.93 0.0084 0.0044

Pluto -109420-11-23 12:00 J -38243905.08 -38243905.00 -38243904.89 0.0083 0.0058

Pluto -109419-02-19 13:12 J -38243817.00 -38243816.95 -38243816.87 0.0083 0.0071

Mars -109419-06-07 05:45 J -38243709.35 -38243709.26 -38243709.17 0.1713 0.1358

Mars -109418-04-21 02:09 J -38243391.51 -38243391.41 -38243391.31 0.1800 0.1016

Mars -109417-05-13 18:28 J -38243002.86 -38243002.73 -38243002.60 0.1732 0.0907

Mars -109416-03-26 19:26 J -38242685.79 -38242685.69 -38242685.58 0.1780 0.0924

Jupiter -109416-12-12 19:12 J -38242424.76 -38242424.70 -38242424.63 0.0529 0.0467

Jupiter -109415-03-12 08:24 J -38242335.29 -38242335.15 -38242335.02 0.0531 0.0068

Moon -109414-05-31 15:36 J -38241889.94 -38241889.85 -38241889.76 0.2737 0.1654

Earth -109414-05-31 15:50 J -38241889.93 -38241889.84 -38241889.75 0.2743 0.1657 *

Saturn -109413-09-07 11:02 J -38241425.08 -38241425.04 -38241425.00 0.0288 0.0278

Saturn -109413-12-05 05:16 J -38241336.40 -38241336.28 -38241336.15 0.0287 0.0184

Saturn -109412-03-04 00:00 J -38241247.65 -38241247.50 -38241247.34 0.0287 0.0089

Saturn -109412-05-31 19:12 J -38241158.87 -38241158.70 -38241158.53 0.0286 0.0009

Saturn -109412-08-28 14:24 J -38241070.05 -38241069.90 -38241069.74 0.0285 0.0106

Saturn -109412-11-25 10:04 J -38240981.20 -38240981.08 -38240980.96 0.0284 0.0204

Moon -109411-11-21 04:04 J -38240620.42 -38240620.33 -38240620.23 0.2595 0.2095

Earth -109411-11-21 05:16 J -38240620.37 -38240620.28 -38240620.19 0.2600 0.2085 *

Jupiter -109410-10-29 02:52 J -38240278.53 -38240278.38 -38240278.23 0.0496 0.0201

Jupiter -109409-01-27 00:43 J -38240188.60 -38240188.47 -38240188.34 0.0495 0.0319

Mars -109409-09-10 09:07 J -38239961.18 -38239961.12 -38239961.05 0.1806 0.1528

Mars -109408-10-03 20:52 J -38239572.78 -38239572.63 -38239572.48 0.1727 0.0324

Earth -109407-05-24 12:43 J -38239340.07 -38239339.97 -38239339.86 0.2731 0.1123

Moon -109407-05-24 13:40 J -38239340.04 -38239339.93 -38239339.83 0.2734 0.1120 *

Mars -109407-08-17 03:36 J -38239255.47 -38239255.35 -38239255.23 0.1785 0.0473

Venus -109406-06-03 18:00 J -38238964.79 -38238964.75 -38238964.71 0.3758 0.3531

Earth -109404-11-12 20:38 J -38238071.69 -38238071.64 -38238071.58 0.2613 0.2440

Moon -109404-11-12 22:19 J -38238071.63 -38238071.57 -38238071.51 0.2611 0.2356 *

Jupiter -109404-12-29 10:19 J -38238025.21 -38238025.07 -38238024.93 0.0530 0.0072

Jupiter -109403-03-28 22:19 J -38237935.64 -38237935.57 -38237935.50 0.0532 0.0447

Moon -109401-06-02 09:50 J -38237139.14 -38237139.09 -38237139.05 0.2744 0.2503

Earth -109401-06-02 10:19 J -38237139.09 -38237139.07 -38237139.04 0.2747 0.2636 *

Venus -109401-12-17 16:04 J -38236940.94 -38236940.83 -38236940.72 0.3753 0.1613

Mars -109398-02-23 23:31 J -38236142.67 -38236142.52 -38236142.37 0.1722 0.0243

Jupiter -109398-08-17 03:21 J -38235968.48 -38235968.36 -38235968.24 0.0497 0.0326

Jupiter -109398-11-15 00:43 J -38235878.62 -38235878.47 -38235878.32 0.0496 0.0189

Mars -109397-01-07 11:16 J -38235825.15 -38235825.03 -38235824.90 0.1791 0.0052

Saturn -109397-06-27 18:57 J -38235652.76 -38235652.71 -38235652.65 0.0273 0.0251

Saturn -109397-09-24 08:24 J -38235564.25 -38235564.15 -38235564.03 0.0274 0.0176

Saturn -109397-12-21 21:50 J -38235475.72 -38235475.59 -38235475.45 0.0275 0.0101

Saturn -109396-03-20 11:16 J -38235387.17 -38235387.03 -38235386.89 0.0276 0.0025

Saturn -109396-06-17 00:28 J -38235298.62 -38235298.48 -38235298.34 0.0276 0.0050

Saturn -109396-09-13 13:26 J -38235210.07 -38235209.94 -38235209.82 0.0277 0.0124

Saturn -109396-12-11 02:09 J -38235121.50 -38235121.41 -38235121.31 0.0278 0.0198

Saturn -109395-03-09 14:52 J -38235032.90 -38235032.88 -38235032.85 0.0279 0.0272

Uranus -109395-04-11 06:14 J -38235000.32 -38235000.24 -38235000.15 0.0147 0.0128

Venus -109395-07-03 14:24 J -38234917.03 -38234916.90 -38234916.78 0.3748 0.0387

Uranus -109395-07-08 13:12 J -38234912.07 -38234911.95 -38234911.83 0.0147 0.0102

Uranus -109395-10-04 19:55 J -38234823.81 -38234823.67 -38234823.52 0.0147 0.0076

Uranus -109394-01-01 02:52 J -38234735.54 -38234735.38 -38234735.21 0.0147 0.0050

Uranus -109394-03-30 09:50 J -38234647.26 -38234647.09 -38234646.91 0.0147 0.0024

Earth -109394-05-27 07:26 J -38234589.30 -38234589.19 -38234589.08 0.2736 0.0142

Moon -109394-05-27 08:09 J -38234589.27 -38234589.16 -38234589.05 0.2731 0.0067 *

Uranus -109394-06-26 17:02 J -38234558.97 -38234558.79 -38234558.62 0.0147 0.0003

Uranus -109394-09-23 00:00 J -38234470.67 -38234470.50 -38234470.32 0.0147 0.0031

Uranus -109394-12-20 07:12 J -38234382.36 -38234382.20 -38234382.03 0.0147 0.0058

Uranus -109393-03-17 14:24 J -38234294.04 -38234293.90 -38234293.75 0.0147 0.0085

Uranus -109393-06-13 21:50 J -38234205.70 -38234205.59 -38234205.48 0.0147 0.0113

Uranus -109393-09-10 05:02 J -38234117.33 -38234117.29 -38234117.23 0.0148 0.0141

Jupiter -109392-10-17 12:43 J -38233715.10 -38233714.97 -38233714.84 0.0530 0.0206

Jupiter -109391-01-15 00:57 J -38233625.57 -38233625.46 -38233625.35 0.0531 0.0318

Earth -109391-11-16 01:26 J -38233320.59 -38233320.44 -38233320.29 0.2608 0.0851

Moon -109391-11-16 02:09 J -38233320.56 -38233320.41 -38233320.26 0.2602 0.0795 *

Venus -109389-01-17 13:12 J -38232893.05 -38232892.95 -38232892.86 0.3743 0.2467

Mars -109389-07-16 02:24 J -38232712.53 -38232712.40 -38232712.26 0.1717 0.0792

Mars -109388-05-29 18:57 J -38232394.83 -38232394.71 -38232394.58 0.1796 0.0473

Mars -109387-06-22 17:02 J -38232005.86 -38232005.79 -38232005.73 0.1737 0.1568

Mars -109386-05-05 11:16 J -38231689.10 -38231689.03 -38231688.95 0.1775 0.1398

Jupiter -109386-06-05 03:50 J -38231658.41 -38231658.34 -38231658.28 0.0497 0.0451

Jupiter -109386-09-03 00:28 J -38231568.64 -38231568.48 -38231568.31 0.0495 0.0059

Venus -109385-01-17 00:43 J -38231432.56 -38231432.47 -38231432.38 0.3623 0.2514

Saturn -109383-04-24 06:57 J -38230604.33 -38230604.21 -38230604.10 0.0288 0.0206

Saturn -109383-07-22 01:26 J -38230515.59 -38230515.44 -38230515.28 0.0287 0.0111

Saturn -109383-10-18 20:24 J -38230426.81 -38230426.65 -38230426.48 0.0286 0.0016

Saturn -109382-01-15 15:36 J -38230338.01 -38230337.85 -38230337.68 0.0285 0.0083

Saturn -109382-04-14 11:02 J -38230249.16 -38230249.04 -38230248.90 0.0284 0.0181

Saturn -109382-07-12 06:43 J -38230160.23 -38230160.22 -38230160.18 0.0283 0.0279

Moon -109381-05-29 02:24 J -38229838.51 -38229838.40 -38229838.30 0.2733 0.0879

Earth -109381-05-29 02:09 J -38229838.51 -38229838.41 -38229838.30 0.2740 0.0869 *

Venus -109380-08-01 20:24 J -38229408.76 -38229408.65 -38229408.53 0.3628 0.0947

Jupiter -109380-08-05 14:52 J -38229404.99 -38229404.88 -38229404.77 0.0530 0.0339

Jupiter -109380-11-03 03:36 J -38229315.47 -38229315.35 -38229315.22 0.0532 0.0192

Mars -109380-12-06 06:14 J -38229282.33 -38229282.24 -38229282.14 0.1713 0.1304

Mars -109379-10-20 02:24 J -38228964.51 -38228964.40 -38228964.30 0.1800 0.0969

Mars -109378-11-12 18:57 J -38228575.84 -38228575.71 -38228575.59 0.1732 0.0961

Moon -109378-11-19 06:14 J -38228569.39 -38228569.24 -38228569.09 0.2597 0.0822

Earth -109378-11-19 06:28 J -38228569.38 -38228569.23 -38228569.09 0.2604 0.0769 *

Mars -109377-09-24 19:40 J -38228258.78 -38228258.68 -38228258.58 0.1780 0.0969

Venus -109374-02-15 15:50 J -38227384.95 -38227384.84 -38227384.72 0.3632 0.0595

Earth -109374-05-22 23:02 J -38227288.62 -38227288.54 -38227288.46 0.2727 0.1918

Moon -109374-05-22 23:31 J -38227288.59 -38227288.52 -38227288.44 0.2732 0.1923 *

Jupiter -109374-06-22 00:57 J -38227258.62 -38227258.46 -38227258.29 0.0496 0.0069

Jupiter -109374-09-19 23:02 J -38227168.60 -38227168.54 -38227168.47 0.0494 0.0455

Mars -109369-03-11 09:21 J -38225534.18 -38225534.11 -38225534.04 0.1805 0.1480

Venus -109369-08-31 11:16 J -38225361.13 -38225361.03 -38225360.94 0.3637 0.2054

Mars -109368-04-03 21:21 J -38225145.76 -38225145.61 -38225145.46 0.1727 0.0379

Jupiter -109368-05-24 17:31 J -38225094.83 -38225094.77 -38225094.70 0.0530 0.0467

Moon -109368-05-31 20:24 J -38225087.74 -38225087.65 -38225087.57 0.2738 0.1788

Earth -109368-05-31 20:52 J -38225087.71 -38225087.63 -38225087.55 0.2744 0.1858 *

Jupiter -109368-08-22 06:43 J -38225005.36 -38225005.22 -38225005.08 0.0531 0.0068

Saturn -109367-02-11 09:50 J -38224832.19 -38224832.09 -38224832.00 0.0273 0.0201

Mars -109367-02-15 03:36 J -38224828.47 -38224828.35 -38224828.23 0.1785 0.0517

Saturn -109367-05-10 23:02 J -38224743.66 -38224743.54 -38224743.40 0.0274 0.0127

Saturn -109367-08-07 12:28 J -38224655.12 -38224654.98 -38224654.84 0.0274 0.0051

Saturn -109367-11-04 01:40 J -38224566.58 -38224566.43 -38224566.29 0.0275 0.0024

Saturn -109366-01-31 14:38 J -38224478.03 -38224477.89 -38224477.76 0.0276 0.0098

Saturn -109366-04-30 03:21 J -38224389.47 -38224389.36 -38224389.24 0.0277 0.0172

Saturn -109366-07-27 16:19 J -38224300.89 -38224300.82 -38224300.76 0.0278 0.0245

Moon -109365-11-21 10:19 J -38223818.15 -38223818.07 -38223817.99 0.2595 0.2215

Earth -109365-11-21 11:45 J -38223818.07 -38223818.01 -38223817.96 0.2599 0.2419 *

Venus -109363-03-17 06:14 J -38223337.27 -38223337.24 -38223337.21 0.3641 0.3488

Jupiter -109362-04-10 01:12 J -38222948.60 -38222948.45 -38222948.30 0.0496 0.0197

Jupiter -109362-07-08 22:48 J -38222858.67 -38222858.55 -38222858.42 0.0495 0.0322

Earth -109361-05-24 17:45 J -38222537.87 -38222537.76 -38222537.65 0.2732 0.0918

Moon -109361-05-24 18:28 J -38222537.84 -38222537.73 -38222537.62 0.2732 0.0782 *

Mars -109359-08-25 00:00 J -38221715.65 -38221715.50 -38221715.35 0.1722 0.0189

Mars -109358-07-08 11:31 J -38221398.14 -38221398.02 -38221397.89 0.1790 0.0069

Earth -109358-11-14 03:07 J -38221269.46 -38221269.37 -38221269.29 0.2612 0.2130

Moon -109358-11-14 04:19 J -38221269.42 -38221269.32 -38221269.21 0.2610 0.1960 *

Neptune -109356-04-14 03:36 J -38220752.37 -38220752.35 -38220752.31 0.0089 0.0087

Jupiter -109356-06-10 09:21 J -38220695.25 -38220695.11 -38220694.97 0.0531 0.0061

Neptune -109356-07-11 05:45 J -38220664.30 -38220664.26 -38220664.18 0.0089 0.0083

Jupiter -109356-09-07 21:21 J -38220605.67 -38220605.61 -38220605.54 0.0532 0.0458

Neptune -109356-10-07 08:24 J -38220576.21 -38220576.15 -38220576.06 0.0089 0.0078

Uranus -109356-12-02 14:38 J -38220519.91 -38220519.89 -38220519.86 0.0132 0.0130

Neptune -109355-01-03 11:02 J -38220488.13 -38220488.04 -38220487.94 0.0089 0.0073

Uranus -109355-02-28 18:14 J -38220431.80 -38220431.74 -38220431.65 0.0132 0.0114

Neptune -109355-04-01 13:26 J -38220400.03 -38220399.94 -38220399.82 0.0089 0.0068

Uranus -109355-05-27 22:04 J -38220343.67 -38220343.58 -38220343.47 0.0132 0.0097

Neptune -109355-06-28 16:04 J -38220311.94 -38220311.83 -38220311.71 0.0089 0.0063

Uranus -109355-08-24 01:55 J -38220255.53 -38220255.42 -38220255.30 0.0132 0.0080

Neptune -109355-09-24 18:14 J -38220223.85 -38220223.74 -38220223.60 0.0089 0.0059

Uranus -109355-11-20 05:31 J -38220167.39 -38220167.27 -38220167.14 0.0132 0.0064

Neptune -109355-12-21 20:52 J -38220135.75 -38220135.63 -38220135.48 0.0089 0.0054

Uranus -109354-02-16 09:21 J -38220079.25 -38220079.11 -38220078.98 0.0132 0.0047

Neptune -109354-03-19 23:31 J -38220047.65 -38220047.52 -38220047.37 0.0089 0.0049

Uranus -109354-05-15 12:57 J -38219991.10 -38219990.96 -38219990.82 0.0132 0.0031

Neptune -109354-06-16 01:55 J -38219959.55 -38219959.42 -38219959.26 0.0089 0.0044

Uranus -109354-08-11 16:19 J -38219902.96 -38219902.82 -38219902.67 0.0132 0.0016

Saturn -109354-09-11 05:16 J -38219872.36 -38219872.28 -38219872.19 0.0288 0.0242

Neptune -109354-09-12 04:33 J -38219871.45 -38219871.31 -38219871.15 0.0089 0.0039

Uranus -109354-11-07 19:55 J -38219814.81 -38219814.67 -38219814.52 0.0132 0.0003

Saturn -109354-12-09 00:00 J -38219783.64 -38219783.50 -38219783.36 0.0287 0.0147

Neptune -109354-12-09 07:12 J -38219783.35 -38219783.20 -38219783.04 0.0089 0.0034

Uranus -109353-02-03 23:31 J -38219726.66 -38219726.52 -38219726.38 0.0132 0.0016

Neptune -109353-03-06 09:50 J -38219695.24 -38219695.09 -38219694.93 0.0089 0.0029

Saturn -109353-03-06 18:57 J -38219694.88 -38219694.71 -38219694.55 0.0286 0.0051

Uranus -109353-05-02 02:52 J -38219638.51 -38219638.38 -38219638.24 0.0132 0.0033

Neptune -109353-06-02 12:28 J -38219607.14 -38219606.98 -38219606.81 0.0089 0.0024

Saturn -109353-06-03 13:55 J -38219606.08 -38219605.92 -38219605.75 0.0285 0.0047

Uranus -109353-07-29 06:28 J -38219550.36 -38219550.23 -38219550.10 0.0132 0.0048

Neptune -109353-08-29 15:07 J -38219519.03 -38219518.87 -38219518.70 0.0089 0.0019

Saturn -109353-08-31 09:21 J -38219517.25 -38219517.11 -38219516.96 0.0284 0.0144

Uranus -109353-10-25 09:50 J -38219462.21 -38219462.09 -38219461.96 0.0132 0.0063

Neptune -109353-11-25 17:45 J -38219430.93 -38219430.76 -38219430.59 0.0089 0.0014

Saturn -109353-11-28 05:02 J -38219428.37 -38219428.29 -38219428.20 0.0283 0.0242

Uranus -109352-01-21 13:12 J -38219374.06 -38219373.95 -38219373.83 0.0132 0.0079

Neptune -109352-02-21 20:24 J -38219342.82 -38219342.65 -38219342.48 0.0089 0.0009

Uranus -109352-04-19 16:48 J -38219285.90 -38219285.80 -38219285.70 0.0131 0.0094

Neptune -109352-05-20 23:02 J -38219254.71 -38219254.54 -38219254.37 0.0089 0.0003

Uranus -109352-07-16 20:09 J -38219197.74 -38219197.66 -38219197.58 0.0131 0.0109

Neptune -109352-08-17 01:40 J -38219166.60 -38219166.43 -38219166.26 0.0089 0.0002

Uranus -109352-10-12 23:31 J -38219109.56 -38219109.52 -38219109.48 0.0131 0.0124

Neptune -109352-11-13 04:19 J -38219078.49 -38219078.32 -38219078.15 0.0089 0.0007

Neptune -109351-02-09 06:57 J -38218990.38 -38218990.21 -38218990.04 0.0089 0.0012

Neptune -109351-05-08 09:50 J -38218902.26 -38218902.09 -38218901.93 0.0089 0.0017

Neptune -109351-08-04 12:14 J -38218814.15 -38218813.99 -38218813.81 0.0089 0.0023

Neptune -109351-10-31 15:07 J -38218726.03 -38218725.87 -38218725.70 0.0089 0.0028

Jupiter -109350-01-27 01:40 J -38218638.55 -38218638.43 -38218638.30 0.0497 0.0322

Neptune -109350-01-27 17:45 J -38218637.91 -38218637.76 -38218637.59 0.0089 0.0033

Neptune -109350-04-25 20:38 J -38218549.80 -38218549.64 -38218549.48 0.0089 0.0038

Jupiter -109350-04-26 23:02 J -38218548.70 -38218548.54 -38218548.39 0.0495 0.0193

Neptune -109350-07-22 23:02 J -38218461.68 -38218461.54 -38218461.37 0.0089 0.0044

Neptune -109350-10-19 01:55 J -38218373.55 -38218373.42 -38218373.27 0.0089 0.0049

Venus -109349-01-08 17:02 J -38218291.87 -38218291.79 -38218291.71 0.3757 0.2873

Mars -109349-01-15 03:07 J -38218285.51 -38218285.37 -38218285.24 0.1717 0.0732

Neptune -109349-01-15 04:48 J -38218285.43 -38218285.30 -38218285.16 0.0089 0.0054 *

Neptune -109349-04-12 07:40 J -38218197.31 -38218197.18 -38218197.05 0.0089 0.0059

Neptune -109349-07-09 10:04 J -38218109.18 -38218109.08 -38218108.94 0.0089 0.0065

Neptune -109349-10-05 13:12 J -38218021.05 -38218020.95 -38218020.84 0.0089 0.0070

Mars -109349-11-27 18:57 J -38217967.83 -38217967.71 -38217967.58 0.1796 0.0433

Neptune -109348-01-01 16:04 J -38217932.92 -38217932.83 -38217932.74 0.0089 0.0075

Neptune -109348-03-30 18:43 J -38217844.78 -38217844.72 -38217844.64 0.0089 0.0081

Earth -109348-05-27 12:28 J -38217787.09 -38217786.98 -38217786.87 0.2736 0.0080

Moon -109348-05-27 12:57 J -38217787.07 -38217786.96 -38217786.85 0.2730 0.0073 *

Neptune -109348-06-26 21:36 J -38217756.63 -38217756.60 -38217756.55 0.0089 0.0086

Mars -109348-12-21 17:31 J -38217578.82 -38217578.77 -38217578.72 0.1737 0.1629

Mars -109347-11-03 11:31 J -38217262.09 -38217262.02 -38217261.95 0.1775 0.1441

Earth -109345-11-16 07:55 J -38216518.32 -38216518.17 -38216518.02 0.2608 0.0533

Moon -109345-11-16 08:24 J -38216518.30 -38216518.15 -38216518.00 0.2601 0.0515 *

Jupiter -109344-03-29 11:31 J -38216385.15 -38216385.02 -38216384.89 0.0530 0.0198

Jupiter -109344-06-26 23:45 J -38216295.62 -38216295.51 -38216295.40 0.0531 0.0326

Venus -109344-07-24 15:07 J -38216267.99 -38216267.87 -38216267.75 0.3752 0.0942

Moon -109341-05-20 09:21 J -38215237.11 -38215237.11 -38215237.11 0.2730 0.2727

Mars -109340-06-06 06:28 J -38214855.33 -38214855.23 -38214855.13 0.1712 0.1259

Mars -109339-04-20 02:24 J -38214537.51 -38214537.40 -38214537.29 0.1801 0.0925

Jupiter -109339-11-15 02:24 J -38214328.47 -38214328.40 -38214328.33 0.0497 0.0446

Venus -109338-02-07 13:40 J -38214244.05 -38214243.93 -38214243.81 0.3746 0.1086

Jupiter -109338-02-12 23:16 J -38214238.70 -38214238.53 -38214238.37 0.0496 0.0065

Mars -109338-05-13 19:26 J -38214148.82 -38214148.69 -38214148.57 0.1732 0.1017

Saturn -109338-07-01 11:31 J -38214100.10 -38214100.02 -38214099.94 0.0273 0.0223

Saturn -109338-09-28 00:57 J -38214011.58 -38214011.46 -38214011.33 0.0274 0.0148

Saturn -109338-12-25 14:24 J -38213923.04 -38213922.90 -38213922.76 0.0275 0.0073

Saturn -109337-03-23 03:36 J -38213834.50 -38213834.35 -38213834.21 0.0276 0.0004

Mars -109337-03-25 19:40 J -38213831.78 -38213831.68 -38213831.58 0.1780 0.1005

Saturn -109337-06-19 16:33 J -38213745.95 -38213745.81 -38213745.67 0.0277 0.0076

Saturn -109337-09-16 05:31 J -38213657.39 -38213657.27 -38213657.15 0.0277 0.0150

Saturn -109337-12-13 18:14 J -38213568.82 -38213568.74 -38213568.65 0.0278 0.0224

Moon -109335-05-30 06:57 J -38213036.31 -38213036.21 -38213036.11 0.2733 0.1091

Earth -109335-05-30 07:12 J -38213036.30 -38213036.20 -38213036.10 0.2740 0.1070 *

Venus -109334-02-07 03:21 J -38212783.38 -38212783.36 -38212783.34 0.3620 0.3539

Venus -109333-08-23 12:28 J -38212220.04 -38212219.98 -38212219.91 0.3741 0.3183

Jupiter -109332-01-15 13:40 J -38212075.04 -38212074.93 -38212074.82 0.0529 0.0332

Jupiter -109332-04-15 02:24 J -38211985.53 -38211985.40 -38211985.27 0.0531 0.0197

Moon -109332-11-19 12:14 J -38211767.13 -38211766.99 -38211766.84 0.2598 0.1023

Earth -109332-11-19 12:57 J -38211767.10 -38211766.96 -38211766.82 0.2603 0.1099 *

Mars -109330-09-10 09:36 J -38211107.18 -38211107.10 -38211107.02 0.1805 0.1426

Venus -109329-08-22 23:16 J -38210759.63 -38210759.53 -38210759.43 0.3624 0.1945

Mars -109329-10-02 21:36 J -38210718.74 -38210718.60 -38210718.45 0.1727 0.0430

Earth -109328-05-23 03:50 J -38210486.42 -38210486.34 -38210486.25 0.2728 0.1722

Moon -109328-05-23 04:33 J -38210486.40 -38210486.31 -38210486.22 0.2732 0.1611 *

Mars -109328-08-16 03:50 J -38210401.46 -38210401.34 -38210401.22 0.1785 0.0564

Jupiter -109327-12-01 23:16 J -38209928.69 -38209928.53 -38209928.36 0.0496 0.0064

Jupiter -109326-03-01 21:21 J -38209838.66 -38209838.61 -38209838.55 0.0494 0.0460

Saturn -109324-01-28 06:14 J -38209140.29 -38209140.24 -38209140.17 0.0289 0.0267

Saturn -109324-04-27 00:57 J -38209051.59 -38209051.46 -38209051.33 0.0288 0.0172

Saturn -109324-07-24 19:55 J -38208962.83 -38208962.67 -38208962.51 0.0287 0.0076

Saturn -109324-10-21 14:52 J -38208874.05 -38208873.88 -38208873.71 0.0286 0.0021

Saturn -109323-01-18 10:19 J -38208785.23 -38208785.07 -38208784.92 0.0285 0.0119

Venus -109323-03-08 18:57 J -38208735.83 -38208735.71 -38208735.59 0.3629 0.0395

Saturn -109323-04-17 05:45 J -38208696.36 -38208696.26 -38208696.15 0.0284 0.0217

Moon -109322-06-02 01:12 J -38208285.53 -38208285.45 -38208285.38 0.2739 0.1994

Earth -109322-06-02 01:40 J -38208285.50 -38208285.43 -38208285.36 0.2744 0.2050 *

Jupiter -109321-11-03 15:36 J -38207764.91 -38207764.85 -38207764.78 0.0530 0.0468

Jupiter -109320-02-01 04:48 J -38207675.43 -38207675.30 -38207675.16 0.0531 0.0068

Mars -109319-02-23 00:28 J -38207288.63 -38207288.48 -38207288.33 0.1722 0.0141

Mars -109318-01-06 11:45 J -38206971.14 -38206971.01 -38206970.89 0.1790 0.0105

Venus -109318-09-22 14:24 J -38206712.01 -38206711.90 -38206711.79 0.3633 0.1114

Earth -109315-05-25 22:48 J -38205735.66 -38205735.55 -38205735.45 0.2732 0.0723

Moon -109315-05-25 23:31 J -38205735.63 -38205735.52 -38205735.42 0.2730 0.0721 *

Jupiter -109315-09-20 00:00 J -38205618.65 -38205618.50 -38205618.34 0.0496 0.0186

Jupiter -109315-12-18 21:36 J -38205528.72 -38205528.60 -38205528.47 0.0494 0.0332

Venus -109312-04-07 09:36 J -38204688.18 -38204688.10 -38204688.02 0.3638 0.2572

Earth -109312-11-14 09:21 J -38204467.21 -38204467.11 -38204467.00 0.2611 0.1812

Moon -109312-11-14 10:33 J -38204467.17 -38204467.06 -38204466.95 0.2607 0.1818 *

Uranus -109311-02-02 07:26 J -38204387.20 -38204387.19 -38204387.16 0.0147 0.0145

Uranus -109311-05-01 14:24 J -38204299.00 -38204298.90 -38204298.80 0.0147 0.0119

Uranus -109311-07-28 20:52 J -38204210.75 -38204210.63 -38204210.49 0.0147 0.0094

Uranus -109311-10-25 03:50 J -38204122.48 -38204122.34 -38204122.18 0.0147 0.0068

Uranus -109310-01-21 11:02 J -38204034.21 -38204034.04 -38204033.88 0.0147 0.0041

Uranus -109310-04-19 18:00 J -38203945.92 -38203945.75 -38203945.58 0.0147 0.0015

Mars -109310-07-16 03:21 J -38203858.49 -38203858.36 -38203858.22 0.1717 0.0684

Uranus -109310-07-17 00:57 J -38203857.63 -38203857.46 -38203857.28 0.0147 0.0012

Uranus -109310-10-13 07:55 J -38203769.33 -38203769.17 -38203768.99 0.0147 0.0040

Uranus -109309-01-09 15:07 J -38203681.02 -38203680.87 -38203680.71 0.0147 0.0067

Uranus -109309-04-06 22:33 J -38203592.69 -38203592.56 -38203592.43 0.0147 0.0094

Mars -109309-05-28 19:12 J -38203540.82 -38203540.70 -38203540.58 0.1796 0.0383

Uranus -109309-07-04 05:45 J -38203504.35 -38203504.26 -38203504.16 0.0147 0.0122

Saturn -109309-11-17 12:28 J -38203368.03 -38203367.98 -38203367.92 0.0272 0.0249

Jupiter -109309-11-20 07:55 J -38203365.31 -38203365.17 -38203365.03 0.0531 0.0058

Saturn -109308-02-14 02:09 J -38203279.53 -38203279.41 -38203279.30 0.0273 0.0174

Jupiter -109308-02-17 19:55 J -38203275.73 -38203275.67 -38203275.60 0.0533 0.0463

Saturn -109308-05-13 15:21 J -38203190.99 -38203190.86 -38203190.72 0.0274 0.0100

Mars -109308-06-21 18:00 J -38203151.78 -38203151.75 -38203151.71 0.1737 0.1684

Saturn -109308-08-10 04:33 J -38203102.45 -38203102.31 -38203102.16 0.0274 0.0026

Saturn -109308-11-06 17:45 J -38203013.90 -38203013.76 -38203013.62 0.0275 0.0049

Saturn -109307-02-03 06:28 J -38202925.35 -38202925.23 -38202925.10 0.0276 0.0124

Saturn -109307-05-02 19:26 J -38202836.79 -38202836.69 -38202836.59 0.0277 0.0196

Mars -109307-05-04 11:31 J -38202835.09 -38202835.02 -38202834.96 0.1775 0.1480

Saturn -109307-07-30 07:55 J -38202748.19 -38202748.17 -38202748.13 0.0278 0.0270

Jupiter -109303-07-09 00:28 J -38201308.61 -38201308.48 -38201308.36 0.0496 0.0313

Jupiter -109303-10-06 21:36 J -38201218.75 -38201218.60 -38201218.45 0.0495 0.0200

Earth -109302-05-28 17:31 J -38200984.89 -38200984.77 -38200984.66 0.2737 0.0300

Moon -109302-05-28 17:45 J -38200984.87 -38200984.76 -38200984.65 0.2731 0.0379 *

Mars -109301-12-05 06:57 J -38200428.31 -38200428.21 -38200428.10 0.1713 0.1203

Mars -109300-10-19 02:38 J -38200110.50 -38200110.39 -38200110.28 0.1800 0.0874

Mars -109299-11-11 19:55 J -38199721.79 -38199721.67 -38199721.55 0.1732 0.1078

Earth -109299-11-17 14:09 J -38199716.06 -38199715.91 -38199715.75 0.2607 0.0218

Moon -109299-11-17 14:24 J -38199716.05 -38199715.90 -38199715.74 0.2600 0.0158 *

Mars -109298-09-24 19:55 J -38199404.77 -38199404.67 -38199404.57 0.1780 0.1053

Jupiter -109297-09-08 10:33 J -38199055.19 -38199055.06 -38199054.93 0.0530 0.0186

Jupiter -109297-12-06 23:02 J -38198965.65 -38198965.54 -38198965.44 0.0532 0.0339

Earth -109295-05-21 13:55 J -38198434.95 -38198434.92 -38198434.88 0.2724 0.2527

Moon -109295-05-21 14:24 J -38198434.94 -38198434.90 -38198434.85 0.2730 0.2513 *

Saturn -109295-09-13 23:02 J -38198319.65 -38198319.54 -38198319.43 0.0288 0.0210

Saturn -109295-12-11 17:45 J -38198230.91 -38198230.76 -38198230.61 0.0287 0.0115

Saturn -109294-03-10 12:43 J -38198142.14 -38198141.97 -38198141.81 0.0286 0.0018

Saturn -109294-06-07 07:55 J -38198053.33 -38198053.17 -38198053.01 0.0285 0.0079

Saturn -109294-09-04 03:21 J -38197964.49 -38197964.36 -38197964.22 0.0284 0.0178

Saturn -109294-12-01 23:16 J -38197875.57 -38197875.53 -38197875.49 0.0283 0.0276

Venus -109293-08-14 16:04 J -38197618.93 -38197618.83 -38197618.73 0.3755 0.2210

Jupiter -109291-04-27 00:57 J -38196998.53 -38196998.46 -38196998.38 0.0497 0.0437

Mars -109291-04-27 10:48 J -38196998.05 -38196998.05 -38196998.04 0.1708 0.1706

Jupiter -109291-07-25 21:50 J -38196908.75 -38196908.59 -38196908.43 0.0495 0.0072

Mars -109290-03-11 09:36 J -38196680.18 -38196680.10 -38196680.02 0.1806 0.1388

Mars -109289-04-02 22:04 J -38196291.72 -38196291.58 -38196291.43 0.1727 0.0488

Moon -109289-05-30 11:45 J -38196234.11 -38196234.01 -38196233.91 0.2734 0.1177

Earth -109289-05-30 12:00 J -38196234.10 -38196234.00 -38196233.90 0.2741 0.1269 *

Mars -109288-02-14 03:50 J -38195974.45 -38195974.34 -38195974.22 0.1785 0.0604

Venus -109287-02-28 14:24 J -38195595.02 -38195594.90 -38195594.78 0.3750 0.0245

Moon -109286-11-20 18:14 J -38194964.88 -38194964.74 -38194964.61 0.2598 0.1316

Earth -109286-11-20 19:12 J -38194964.83 -38194964.70 -38194964.57 0.2602 0.1423 *

Jupiter -109285-06-27 12:43 J -38194745.08 -38194744.97 -38194744.86 0.0529 0.0321

Jupiter -109285-09-25 01:26 J -38194655.57 -38194655.44 -38194655.31 0.0531 0.0208

Earth -109282-05-24 08:52 J -38193684.22 -38193684.13 -38193684.04 0.2728 0.1521

Moon -109282-05-24 09:36 J -38193684.19 -38193684.10 -38193684.01 0.2731 0.1483 *

Venus -109282-09-14 12:57 J -38193571.07 -38193570.96 -38193570.85 0.3745 0.1803

Mars -109280-08-24 00:43 J -38192861.62 -38192861.47 -38192861.32 0.1722 0.0095

Jupiter -109279-05-13 22:04 J -38192598.74 -38192598.58 -38192598.41 0.0496 0.0056

Saturn -109279-07-04 03:21 J -38192547.45 -38192547.36 -38192547.25 0.0273 0.0198

Mars -109279-07-07 11:45 J -38192544.14 -38192544.01 -38192543.89 0.1791 0.0142

Jupiter -109279-08-11 20:24 J -38192508.70 -38192508.65 -38192508.60 0.0495 0.0470

Saturn -109279-09-30 17:02 J -38192458.92 -38192458.79 -38192458.66 0.0274 0.0123

Saturn -109279-12-28 06:14 J -38192370.38 -38192370.24 -38192370.10 0.0275 0.0048

Saturn -109278-03-26 19:26 J -38192281.84 -38192281.69 -38192281.55 0.0276 0.0027

Saturn -109278-06-23 08:09 J -38192193.29 -38192193.16 -38192193.02 0.0277 0.0101

Venus -109278-09-14 02:09 J -38192110.48 -38192110.41 -38192110.35 0.3621 0.2959

Saturn -109278-09-19 21:07 J -38192104.73 -38192104.62 -38192104.51 0.0277 0.0174

Saturn -109278-12-17 09:50 J -38192016.15 -38192016.09 -38192016.02 0.0278 0.0247

Moon -109276-06-02 06:00 J -38191483.32 -38191483.25 -38191483.19 0.2742 0.2215

Earth -109276-06-02 06:28 J -38191483.29 -38191483.23 -38191483.16 0.2745 0.2251 *

Neptune -109275-11-02 23:31 J -38190964.53 -38190964.52 -38190964.48 0.0088 0.0088

Neptune -109274-01-30 01:40 J -38190876.47 -38190876.43 -38190876.37 0.0088 0.0083

Neptune -109274-04-28 03:21 J -38190788.41 -38190788.36 -38190788.27 0.0088 0.0079

Neptune -109274-07-25 05:31 J -38190700.34 -38190700.27 -38190700.18 0.0088 0.0074

Neptune -109274-10-21 07:40 J -38190612.27 -38190612.18 -38190612.09 0.0088 0.0069

Neptune -109273-01-17 09:21 J -38190524.20 -38190524.11 -38190524.00 0.0088 0.0064

Neptune -109273-04-14 11:31 J -38190436.13 -38190436.02 -38190435.91 0.0088 0.0060

Jupiter -109273-04-15 14:52 J -38190434.95 -38190434.88 -38190434.81 0.0529 0.0456

Neptune -109273-07-11 13:12 J -38190348.06 -38190347.95 -38190347.82 0.0088 0.0055

Jupiter -109273-07-14 04:04 J -38190345.47 -38190345.33 -38190345.20 0.0531 0.0079

Neptune -109273-10-07 15:07 J -38190259.98 -38190259.87 -38190259.74 0.0088 0.0051

Neptune -109272-01-03 17:02 J -38190171.91 -38190171.79 -38190171.65 0.0088 0.0046

Venus -109272-03-29 21:50 J -38190086.70 -38190086.59 -38190086.47 0.3626 0.1383

Neptune -109272-04-01 18:57 J -38190083.84 -38190083.71 -38190083.57 0.0088 0.0042

Neptune -109272-06-28 20:52 J -38189995.76 -38189995.63 -38189995.49 0.0088 0.0037

Neptune -109272-09-24 22:48 J -38189907.69 -38189907.55 -38189907.41 0.0088 0.0033

Neptune -109272-12-22 00:28 J -38189819.61 -38189819.48 -38189819.33 0.0088 0.0029

Uranus -109272-12-22 22:19 J -38189818.61 -38189818.57 -38189818.51 0.0132 0.0124

Neptune -109271-03-20 02:24 J -38189731.54 -38189731.40 -38189731.25 0.0088 0.0024

Uranus -109271-03-21 01:55 J -38189730.49 -38189730.42 -38189730.32 0.0132 0.0108

Neptune -109271-06-16 04:19 J -38189643.46 -38189643.32 -38189643.17 0.0088 0.0019

Uranus -109271-06-17 05:45 J -38189642.36 -38189642.26 -38189642.15 0.0132 0.0091

Neptune -109271-09-12 06:14 J -38189555.39 -38189555.24 -38189555.09 0.0088 0.0015

Uranus -109271-09-13 09:21 J -38189554.22 -38189554.11 -38189553.98 0.0132 0.0075

Neptune -109271-12-09 07:55 J -38189467.31 -38189467.17 -38189467.02 0.0088 0.0011

Uranus -109271-12-10 13:12 J -38189466.08 -38189465.95 -38189465.82 0.0132 0.0058

Mars -109270-01-14 03:50 J -38189431.48 -38189431.34 -38189431.20 0.1717 0.0633

Neptune -109270-03-07 09:50 J -38189379.24 -38189379.09 -38189378.94 0.0088 0.0006

Uranus -109270-03-08 16:48 J -38189377.93 -38189377.80 -38189377.66 0.0132 0.0042

Neptune -109270-06-03 11:31 J -38189291.16 -38189291.02 -38189290.87 0.0088 0.0003

Uranus -109270-06-04 20:24 J -38189289.79 -38189289.65 -38189289.50 0.0132 0.0026

Neptune -109270-08-30 13:26 J -38189203.09 -38189202.94 -38189202.79 0.0088 0.0003

Uranus -109270-09-01 00:00 J -38189201.64 -38189201.50 -38189201.35 0.0132 0.0010

Neptune -109270-11-26 15:07 J -38189115.01 -38189114.87 -38189114.72 0.0088 0.0007

Mars -109270-11-27 19:26 J -38189113.81 -38189113.69 -38189113.57 0.1796 0.0332

Uranus -109270-11-28 03:36 J -38189113.49 -38189113.35 -38189113.21 0.0132 0.0007

Neptune -109269-02-22 17:02 J -38189026.94 -38189026.79 -38189026.65 0.0088 0.0012

Uranus -109269-02-24 07:12 J -38189025.34 -38189025.20 -38189025.06 0.0132 0.0022

Neptune -109269-05-20 18:43 J -38188938.86 -38188938.72 -38188938.57 0.0088 0.0016

Uranus -109269-05-22 10:33 J -38188937.19 -38188937.06 -38188936.92 0.0132 0.0038

Earth -109269-05-26 03:36 J -38188933.46 -38188933.35 -38188933.24 0.2733 0.0520

Moon -109269-05-26 04:19 J -38188933.43 -38188933.32 -38188933.21 0.2728 0.0406 *

Neptune -109269-08-16 20:24 J -38188850.79 -38188850.65 -38188850.50 0.0088 0.0020

Uranus -109269-08-18 13:55 J -38188849.04 -38188848.92 -38188848.78 0.0132 0.0054

Neptune -109269-11-12 22:04 J -38188762.71 -38188762.58 -38188762.43 0.0088 0.0025

Uranus -109269-11-14 17:31 J -38188760.89 -38188760.77 -38188760.65 0.0132 0.0069

Neptune -109268-02-09 00:00 J -38188674.64 -38188674.50 -38188674.36 0.0088 0.0029

Uranus -109268-02-10 20:52 J -38188672.73 -38188672.63 -38188672.52 0.0132 0.0084

Pluto -109268-04-10 01:40 J -38188614.49 -38188614.43 -38188614.36 0.0060 0.0056

Neptune -109268-05-08 01:26 J -38188586.56 -38188586.44 -38188586.29 0.0088 0.0034

Uranus -109268-05-10 00:14 J -38188584.57 -38188584.49 -38188584.39 0.0132 0.0099

Pluto -109268-07-07 02:52 J -38188526.47 -38188526.38 -38188526.25 0.0060 0.0049

Neptune -109268-08-04 03:21 J -38188498.49 -38188498.36 -38188498.22 0.0088 0.0037

Uranus -109268-08-06 03:36 J -38188496.41 -38188496.35 -38188496.28 0.0131 0.0115

Pluto -109268-10-03 04:33 J -38188438.44 -38188438.31 -38188438.16 0.0060 0.0042

Neptune -109268-10-31 05:02 J -38188410.41 -38188410.29 -38188410.16 0.0088 0.0041

Uranus -109268-11-02 06:57 J -38188408.22 -38188408.21 -38188408.18 0.0131 0.0129

Mars -109268-11-02 11:31 J -38188408.08 -38188408.02 -38188407.96 0.1775 0.1524

Pluto -109268-12-30 05:45 J -38188350.40 -38188350.26 -38188350.08 0.0060 0.0034

Neptune -109267-01-27 06:43 J -38188322.34 -38188322.22 -38188322.09 0.0088 0.0046

Jupiter -109267-03-01 22:33 J -38188288.71 -38188288.56 -38188288.40 0.0496 0.0179

Pluto -109267-03-28 07:26 J -38188262.36 -38188262.19 -38188262.01 0.0060 0.0027

Neptune -109267-04-25 08:38 J -38188234.26 -38188234.14 -38188234.02 0.0088 0.0050

Jupiter -109267-05-30 20:09 J -38188198.78 -38188198.66 -38188198.53 0.0495 0.0340

Pluto -109267-06-24 08:38 J -38188174.31 -38188174.14 -38188173.94 0.0060 0.0020

Neptune -109267-07-22 10:04 J -38188146.18 -38188146.08 -38188145.96 0.0088 0.0054

Pluto -109267-09-20 10:19 J -38188086.26 -38188086.07 -38188085.87 0.0060 0.0012

Venus -109267-10-13 17:31 J -38188062.89 -38188062.77 -38188062.65 0.3630 0.0176

Neptune -109267-10-18 11:45 J -38188058.11 -38188058.01 -38188057.89 0.0088 0.0058

Pluto -109267-12-17 11:45 J -38187998.20 -38187998.01 -38187997.81 0.0060 0.0004

Neptune -109266-01-14 13:26 J -38187970.03 -38187969.94 -38187969.83 0.0088 0.0063

Pluto -109266-03-15 13:26 J -38187910.14 -38187909.94 -38187909.75 0.0060 0.0004

Neptune -109266-04-12 15:07 J -38187881.95 -38187881.87 -38187881.77 0.0088 0.0067

Pluto -109266-06-11 14:38 J -38187822.08 -38187821.89 -38187821.69 0.0061 0.0011

Neptune -109266-07-09 16:48 J -38187793.87 -38187793.80 -38187793.70 0.0088 0.0071

Pluto -109266-09-07 16:04 J -38187734.01 -38187733.83 -38187733.64 0.0061 0.0019

Neptune -109266-10-05 18:28 J -38187705.80 -38187705.73 -38187705.65 0.0088 0.0075

Earth -109266-11-15 15:50 J -38187664.97 -38187664.84 -38187664.72 0.2611 0.1506

Moon -109266-11-15 16:33 J -38187664.94 -38187664.81 -38187664.68 0.2605 0.1338 *

Pluto -109266-12-04 17:16 J -38187645.94 -38187645.78 -38187645.59 0.0061 0.0027

Neptune -109265-01-01 20:09 J -38187617.71 -38187617.66 -38187617.59 0.0088 0.0079

Saturn -109265-01-31 23:16 J -38187587.61 -38187587.53 -38187587.43 0.0288 0.0238

Pluto -109265-03-01 18:43 J -38187557.86 -38187557.72 -38187557.54 0.0061 0.0035

Neptune -109265-03-29 21:50 J -38187529.63 -38187529.59 -38187529.53 0.0088 0.0083

Saturn -109265-04-29 18:00 J -38187498.89 -38187498.75 -38187498.61 0.0288 0.0143

Pluto -109265-05-28 20:24 J -38187469.78 -38187469.65 -38187469.50 0.0061 0.0042

Neptune -109265-06-25 23:31 J -38187441.54 -38187441.52 -38187441.49 0.0088 0.0087

Saturn -109265-07-27 12:57 J -38187410.12 -38187409.96 -38187409.80 0.0287 0.0046

Pluto -109265-08-24 21:36 J -38187381.69 -38187381.60 -38187381.47 0.0061 0.0050

Saturn -109265-10-24 08:09 J -38187321.33 -38187321.16 -38187321.00 0.0286 0.0051

Pluto -109265-11-20 23:02 J -38187293.58 -38187293.54 -38187293.46 0.0061 0.0058

Saturn -109264-01-21 03:36 J -38187232.49 -38187232.35 -38187232.21 0.0285 0.0149

Saturn -109264-04-19 23:02 J -38187143.61 -38187143.54 -38187143.45 0.0284 0.0248

Venus -109261-04-28 12:57 J -38186039.07 -38186038.96 -38186038.86 0.3635 0.1646

Jupiter -109261-05-02 06:14 J -38186035.38 -38186035.24 -38186035.10 0.0531 0.0056

Mars -109261-06-05 07:26 J -38186001.30 -38186001.19 -38186001.08 0.1713 0.1152

Jupiter -109261-07-30 18:14 J -38185945.80 -38185945.74 -38185945.67 0.0533 0.0466

Mars -109260-04-19 02:38 J -38185683.50 -38185683.39 -38185683.28 0.1801 0.0830

Mars -109259-05-12 20:09 J -38185294.77 -38185294.66 -38185294.54 0.1732 0.1128

Mars -109258-03-25 19:55 J -38184977.76 -38184977.67 -38184977.57 0.1780 0.1096

Earth -109256-05-28 22:19 J -38184182.68 -38184182.57 -38184182.46 0.2737 0.0479

Moon -109256-05-28 22:33 J -38184182.67 -38184182.56 -38184182.45 0.2730 0.0439 *

Venus -109256-11-12 08:09 J -38184015.22 -38184015.16 -38184015.10 0.3639 0.3092

Jupiter -109256-12-18 23:31 J -38183978.65 -38183978.52 -38183978.39 0.0496 0.0299

Jupiter -109255-03-18 20:38 J -38183888.79 -38183888.64 -38183888.49 0.0495 0.0215

Moon -109253-11-17 20:24 J -38182913.81 -38182913.65 -38182913.49 0.2600 0.0018

Earth -109253-11-17 20:38 J -38182913.79 -38182913.64 -38182913.49 0.2606 0.0114 *

Mars -109252-10-26 11:16 J -38182571.06 -38182571.03 -38182570.99 0.1708 0.1653

Mars -109251-09-09 09:50 J -38182253.17 -38182253.09 -38182253.01 0.1805 0.1334

Mars -109250-10-02 22:48 J -38181864.70 -38181864.55 -38181864.41 0.1727 0.0545

Saturn -109250-11-21 04:19 J -38181815.39 -38181815.32 -38181815.23 0.0272 0.0224

Saturn -109249-02-17 18:00 J -38181726.87 -38181726.75 -38181726.63 0.0273 0.0149

Jupiter -109249-02-19 09:07 J -38181725.25 -38181725.12 -38181724.99 0.0531 0.0181

Saturn -109249-05-16 07:12 J -38181638.34 -38181638.20 -38181638.06 0.0274 0.0075

Jupiter -109249-05-18 21:36 J -38181635.70 -38181635.60 -38181635.49 0.0532 0.0345

Earth -109249-05-21 18:57 J -38181632.77 -38181632.71 -38181632.65 0.2724 0.2325

Moon -109249-05-21 19:26 J -38181632.75 -38181632.69 -38181632.62 0.2730 0.2242 *

Saturn -109249-08-12 20:24 J -38181549.80 -38181549.65 -38181549.51 0.0274 0.0002

Mars -109249-08-15 04:04 J -38181547.45 -38181547.33 -38181547.22 0.1785 0.0649

Saturn -109249-11-09 09:21 J -38181461.25 -38181461.11 -38181460.97 0.0275 0.0073

Saturn -109248-02-05 22:04 J -38181372.69 -38181372.58 -38181372.45 0.0276 0.0147

Saturn -109248-05-05 10:48 J -38181284.13 -38181284.05 -38181283.96 0.0277 0.0219

Jupiter -109244-10-07 00:00 J -38179668.58 -38179668.50 -38179668.41 0.0497 0.0425

Jupiter -109243-01-04 20:38 J -38179578.80 -38179578.64 -38179578.47 0.0495 0.0086

Moon -109243-05-31 16:33 J -38179431.90 -38179431.81 -38179431.72 0.2735 0.1490

Earth -109243-05-31 17:02 J -38179431.89 -38179431.79 -38179431.70 0.2741 0.1468 *

Venus -109242-09-05 17:31 J -38178969.82 -38178969.77 -38178969.73 0.3759 0.3426

Mars -109240-02-22 01:12 J -38178434.60 -38178434.45 -38178434.30 0.1722 0.0042

Moon -109240-11-21 00:28 J -38178162.60 -38178162.48 -38178162.36 0.2597 0.1690

Earth -109240-11-21 01:40 J -38178162.54 -38178162.43 -38178162.31 0.2602 0.1751 *

Mars -109239-01-05 12:00 J -38178117.13 -38178117.00 -38178116.88 0.1790 0.0197

Jupiter -109238-12-08 11:45 J -38177415.12 -38177415.01 -38177414.89 0.0530 0.0309

Jupiter -109237-03-07 00:43 J -38177325.60 -38177325.47 -38177325.35 0.0532 0.0222

Venus -109236-03-21 15:21 J -38176945.97 -38176945.86 -38176945.75 0.3754 0.1531

Earth -109236-05-24 13:55 J -38176882.02 -38176881.92 -38176881.83 0.2729 0.1325

Moon -109236-05-24 14:38 J -38176881.99 -38176881.89 -38176881.79 0.2728 0.1262 *

Saturn -109236-06-19 20:52 J -38176855.66 -38176855.63 -38176855.58 0.0289 0.0278

Saturn -109236-09-16 15:36 J -38176766.98 -38176766.85 -38176766.73 0.0288 0.0184

Saturn -109236-12-14 10:19 J -38176678.23 -38176678.07 -38176677.91 0.0287 0.0088

Saturn -109235-03-13 05:31 J -38176589.44 -38176589.27 -38176589.11 0.0286 0.0012

Saturn -109235-06-10 00:43 J -38176500.62 -38176500.47 -38176500.31 0.0285 0.0107

Saturn -109235-09-06 20:24 J -38176411.77 -38176411.65 -38176411.53 0.0284 0.0205

Jupiter -109232-10-23 21:07 J -38175268.78 -38175268.62 -38175268.45 0.0496 0.0043

Jupiter -109231-01-21 19:12 J -38175178.73 -38175178.70 -38175178.66 0.0494 0.0480

Mars -109231-07-15 04:19 J -38175004.46 -38175004.32 -38175004.18 0.1717 0.0577

Venus -109231-10-05 13:40 J -38174922.05 -38174921.93 -38174921.80 0.3748 0.0457

Mars -109230-05-28 19:26 J -38174686.81 -38174686.69 -38174686.57 0.1796 0.0293

Moon -109230-06-03 10:48 J -38174681.11 -38174681.05 -38174680.99 0.2745 0.2321

Earth -109230-06-03 11:31 J -38174681.07 -38174681.02 -38174680.97 0.2745 0.2449 *

Mars -109228-05-03 11:45 J -38173981.07 -38173981.01 -38173980.96 0.1775 0.1564

Uranus -109227-02-22 15:36 J -38173685.90 -38173685.85 -38173685.78 0.0147 0.0136

Uranus -109227-05-21 22:19 J -38173597.67 -38173597.57 -38173597.45 0.0147 0.0111

Uranus -109227-08-18 05:02 J -38173509.42 -38173509.29 -38173509.14 0.0147 0.0085

Uranus -109227-11-14 12:00 J -38173421.15 -38173421.00 -38173420.84 0.0147 0.0059

Uranus -109226-02-10 18:57 J -38173332.87 -38173332.71 -38173332.54 0.0147 0.0033

Uranus -109226-05-10 02:09 J -38173244.59 -38173244.41 -38173244.24 0.0147 0.0007

Uranus -109226-08-06 09:07 J -38173156.29 -38173156.12 -38173155.95 0.0147 0.0021

Jupiter -109226-09-26 14:09 J -38173104.99 -38173104.91 -38173104.84 0.0529 0.0443

Uranus -109226-11-02 16:04 J -38173067.99 -38173067.83 -38173067.66 0.0147 0.0048

Jupiter -109226-12-25 03:07 J -38173015.51 -38173015.37 -38173015.23 0.0531 0.0091

Uranus -109225-01-29 23:16 J -38172979.67 -38172979.53 -38172979.37 0.0147 0.0076

Venus -109225-04-20 12:28 J -38172898.07 -38172897.98 -38172897.89 0.3743 0.2517

Uranus -109225-04-27 06:28 J -38172891.35 -38172891.23 -38172891.10 0.0147 0.0103

Uranus -109225-07-24 13:55 J -38172802.99 -38172802.92 -38172802.84 0.0148 0.0131

Earth -109223-05-27 08:38 J -38172131.25 -38172131.14 -38172131.03 0.2733 0.0329

Moon -109223-05-27 09:07 J -38172131.23 -38172131.12 -38172131.01 0.2729 0.0302 *

Mars -109222-12-05 07:40 J -38171574.29 -38171574.18 -38171574.06 0.1713 0.1104

Venus -109221-04-20 00:43 J -38171437.56 -38171437.47 -38171437.38 0.3622 0.2382

Mars -109221-10-18 02:52 J -38171256.49 -38171256.38 -38171256.27 0.1801 0.0781

Saturn -109220-04-09 05:31 J -38171083.33 -38171083.27 -38171083.21 0.0272 0.0250

Saturn -109220-07-06 18:57 J -38170994.82 -38170994.71 -38170994.59 0.0273 0.0175

Jupiter -109220-08-11 21:36 J -38170958.75 -38170958.60 -38170958.44 0.0496 0.0168

Saturn -109220-10-03 08:24 J -38170906.29 -38170906.15 -38170906.01 0.0274 0.0101

Jupiter -109220-11-09 19:12 J -38170868.81 -38170868.70 -38170868.58 0.0495 0.0352

Mars -109220-11-10 20:52 J -38170867.74 -38170867.63 -38170867.52 0.1732 0.1189

Earth -109220-11-15 22:04 J -38170862.72 -38170862.58 -38170862.44 0.2610 0.1185

Moon -109220-11-15 22:48 J -38170862.69 -38170862.55 -38170862.42 0.2604 0.1226 *

Saturn -109220-12-30 21:36 J -38170817.74 -38170817.60 -38170817.45 0.0275 0.0026

Saturn -109219-03-29 10:33 J -38170729.20 -38170729.06 -38170728.91 0.0276 0.0049

Saturn -109219-06-25 23:31 J -38170640.64 -38170640.52 -38170640.39 0.0277 0.0122

Saturn -109219-09-22 12:28 J -38170552.08 -38170551.98 -38170551.88 0.0277 0.0195

Mars -109219-09-23 19:55 J -38170550.76 -38170550.67 -38170550.57 0.1780 0.1136

Saturn -109219-12-20 00:57 J -38170463.49 -38170463.46 -38170463.42 0.0278 0.0267

Venus -109216-11-03 20:38 J -38169413.76 -38169413.64 -38169413.53 0.3627 0.0820

Jupiter -109214-10-13 05:31 J -38168705.40 -38168705.27 -38168705.13 0.0531 0.0044

Jupiter -109213-01-10 17:45 J -38168615.82 -38168615.76 -38168615.71 0.0532 0.0478

Mars -109212-04-26 11:31 J -38168144.07 -38168144.02 -38168143.97 0.1708 0.1610

Mars -109211-03-10 10:04 J -38167826.17 -38167826.08 -38167826.00 0.1805 0.1289

Mars -109210-04-02 23:02 J -38167437.69 -38167437.54 -38167437.40 0.1727 0.0591

Venus -109210-05-20 16:04 J -38167389.95 -38167389.83 -38167389.71 0.3631 0.0706

Moon -109210-05-30 03:07 J -38167380.48 -38167380.37 -38167380.26 0.2730 0.0711

Earth -109210-05-30 03:21 J -38167380.47 -38167380.36 -38167380.26 0.2738 0.0683 *

Mars -109209-02-14 04:04 J -38167120.44 -38167120.33 -38167120.21 0.1786 0.0693

Jupiter -109208-05-30 22:19 J -38166648.70 -38166648.57 -38166648.44 0.0496 0.0290

Jupiter -109208-08-28 19:26 J -38166558.83 -38166558.69 -38166558.54 0.0495 0.0224

Moon -109207-11-19 02:09 J -38166111.56 -38166111.41 -38166111.26 0.2600 0.0463

Earth -109207-11-19 02:52 J -38166111.53 -38166111.38 -38166111.22 0.2606 0.0432 *

Saturn -109206-02-03 15:36 J -38166034.96 -38166034.85 -38166034.74 0.0288 0.0213

Saturn -109206-05-03 10:19 J -38165946.22 -38165946.07 -38165945.92 0.0287 0.0117

Saturn -109206-07-31 05:16 J -38165857.44 -38165857.28 -38165857.11 0.0287 0.0021

Saturn -109206-10-28 00:43 J -38165768.63 -38165768.47 -38165768.31 0.0286 0.0077

Saturn -109205-01-24 20:09 J -38165679.79 -38165679.66 -38165679.52 0.0285 0.0176

Saturn -109205-04-22 16:04 J -38165590.87 -38165590.83 -38165590.79 0.0284 0.0274

Venus -109205-12-03 11:16 J -38165366.12 -38165366.03 -38165365.93 0.3636 0.2175

Earth -109203-05-23 00:00 J -38164830.57 -38164830.50 -38164830.43 0.2725 0.2125

Moon -109203-05-23 00:28 J -38164830.54 -38164830.48 -38164830.41 0.2729 0.2126 *

Jupiter -109202-08-01 07:40 J -38164395.31 -38164395.18 -38164395.05 0.0531 0.0178

Jupiter -109202-10-29 20:09 J -38164305.76 -38164305.66 -38164305.56 0.0532 0.0349

Mars -109201-08-23 01:40 J -38164007.58 -38164007.43 -38164007.28 0.1722 0.0030

Mars -109200-07-06 12:00 J -38163690.12 -38163690.00 -38163689.88 0.1790 0.0233

Venus -109199-06-19 06:28 J -38163342.24 -38163342.23 -38163342.22 0.3641 0.3600

Moon -109197-05-31 21:21 J -38162629.70 -38162629.61 -38162629.52 0.2737 0.1549

Earth -109197-05-31 21:50 J -38162629.67 -38162629.59 -38162629.50 0.2742 0.1668 *

Jupiter -109196-03-18 23:31 J -38162338.61 -38162338.52 -38162338.43 0.0497 0.0408

Jupiter -109196-06-16 20:09 J -38162248.82 -38162248.66 -38162248.50 0.0495 0.0101

Moon -109194-11-22 06:43 J -38161360.32 -38161360.22 -38161360.11 0.2598 0.1903

Earth -109194-11-22 08:09 J -38161360.25 -38161360.16 -38161360.07 0.2601 0.2080 *

Neptune -109191-01-09 01:40 J -38160581.45 -38160581.43 -38160581.37 0.0089 0.0086

Mars -109191-01-13 04:48 J -38160577.44 -38160577.30 -38160577.15 0.1717 0.0521

Neptune -109191-04-07 04:19 J -38160493.38 -38160493.32 -38160493.24 0.0089 0.0081

Neptune -109191-07-04 06:57 J -38160405.29 -38160405.21 -38160405.13 0.0089 0.0076

Neptune -109191-09-30 09:07 J -38160317.20 -38160317.12 -38160317.01 0.0089 0.0072

Saturn -109191-11-23 19:55 J -38160262.76 -38160262.67 -38160262.56 0.0272 0.0201

Mars -109191-11-26 19:40 J -38160259.81 -38160259.68 -38160259.56 0.1796 0.0244

Neptune -109191-12-27 11:31 J -38160229.11 -38160229.02 -38160228.90 0.0089 0.0067

Saturn -109190-02-20 09:21 J -38160174.23 -38160174.11 -38160173.97 0.0273 0.0127

Neptune -109190-03-25 14:09 J -38160141.02 -38160140.91 -38160140.78 0.0089 0.0062

Saturn -109190-05-19 22:48 J -38160085.69 -38160085.55 -38160085.41 0.0274 0.0053

Jupiter -109190-05-20 10:33 J -38160085.18 -38160085.06 -38160084.95 0.0530 0.0304

Earth -109190-05-25 18:43 J -38160079.82 -38160079.72 -38160079.62 0.2729 0.1119

Moon -109190-05-25 19:26 J -38160079.79 -38160079.69 -38160079.58 0.2727 0.1012 *

Neptune -109190-06-21 16:33 J -38160052.92 -38160052.81 -38160052.67 0.0089 0.0057

Saturn -109190-08-16 11:45 J -38159997.15 -38159997.01 -38159996.86 0.0274 0.0022

Jupiter -109190-08-17 23:16 J -38159995.65 -38159995.53 -38159995.40 0.0532 0.0228

Neptune -109190-09-17 19:12 J -38159964.83 -38159964.70 -38159964.56 0.0089 0.0052

Saturn -109190-11-13 00:43 J -38159908.60 -38159908.47 -38159908.33 0.0275 0.0095

Neptune -109190-12-14 21:50 J -38159876.73 -38159876.59 -38159876.45 0.0089 0.0047

Saturn -109189-02-09 13:40 J -38159820.05 -38159819.93 -38159819.82 0.0276 0.0168

Neptune -109189-03-12 00:28 J -38159788.63 -38159788.48 -38159788.34 0.0089 0.0042

Saturn -109189-05-08 02:09 J -38159731.47 -38159731.41 -38159731.34 0.0277 0.0240

Neptune -109189-06-08 02:38 J -38159700.53 -38159700.39 -38159700.23 0.0089 0.0038

Neptune -109189-09-04 05:16 J -38159612.43 -38159612.28 -38159612.11 0.0089 0.0033

Mars -109189-11-01 11:45 J -38159554.06 -38159554.01 -38159553.96 0.1775 0.1607

Neptune -109189-12-01 07:55 J -38159524.32 -38159524.17 -38159524.00 0.0089 0.0028

Neptune -109188-02-27 10:19 J -38159436.22 -38159436.07 -38159435.89 0.0089 0.0023

Neptune -109188-05-26 12:57 J -38159348.12 -38159347.96 -38159347.78 0.0089 0.0018

Neptune -109188-08-22 15:36 J -38159260.01 -38159259.85 -38159259.67 0.0089 0.0013

Neptune -109188-11-18 18:14 J -38159171.90 -38159171.74 -38159171.56 0.0089 0.0008

Uranus -109187-01-12 06:14 J -38159117.30 -38159117.24 -38159117.16 0.0132 0.0117

Neptune -109187-02-14 21:07 J -38159083.79 -38159083.62 -38159083.45 0.0089 0.0003

Uranus -109187-04-10 09:50 J -38159029.17 -38159029.09 -38159028.98 0.0132 0.0101

Neptune -109187-05-13 23:45 J -38158995.68 -38158995.51 -38158995.34 0.0089 0.0003

Uranus -109187-07-07 13:40 J -38158941.03 -38158940.93 -38158940.81 0.0132 0.0084

Neptune -109187-08-10 02:24 J -38158907.57 -38158907.40 -38158907.23 0.0089 0.0008

Uranus -109187-10-03 17:31 J -38158852.89 -38158852.77 -38158852.64 0.0132 0.0067

Neptune -109187-11-06 05:02 J -38158819.46 -38158819.29 -38158819.12 0.0089 0.0013

Earth -109187-11-13 23:45 J -38158811.56 -38158811.51 -38158811.46 0.2614 0.2465

Moon -109187-11-14 00:43 J -38158811.53 -38158811.47 -38158811.41 0.2609 0.2392 *

Uranus -109187-12-30 21:07 J -38158764.75 -38158764.62 -38158764.48 0.0132 0.0051

Neptune -109186-02-02 07:40 J -38158731.35 -38158731.18 -38158731.01 0.0089 0.0018

Uranus -109186-03-29 00:43 J -38158676.61 -38158676.47 -38158676.33 0.0132 0.0035

Neptune -109186-05-01 10:04 J -38158643.23 -38158643.08 -38158642.90 0.0089 0.0024

Uranus -109186-06-25 04:19 J -38158588.46 -38158588.32 -38158588.17 0.0132 0.0019

Neptune -109186-07-28 12:57 J -38158555.12 -38158554.96 -38158554.79 0.0089 0.0029

Uranus -109186-09-21 07:55 J -38158500.31 -38158500.17 -38158500.02 0.0132 0.0003

Neptune -109186-10-24 15:36 J -38158467.00 -38158466.85 -38158466.68 0.0089 0.0034

Uranus -109186-12-18 11:31 J -38158412.16 -38158412.02 -38158411.88 0.0132 0.0013

Neptune -109185-01-20 18:28 J -38158378.88 -38158378.73 -38158378.57 0.0089 0.0039

Uranus -109185-03-15 15:07 J -38158324.01 -38158323.87 -38158323.73 0.0132 0.0029

Venus -109185-04-11 16:33 J -38158296.89 -38158296.81 -38158296.73 0.3757 0.2770

Neptune -109185-04-17 20:52 J -38158290.76 -38158290.63 -38158290.47 0.0089 0.0045

Uranus -109185-06-11 18:28 J -38158235.86 -38158235.73 -38158235.59 0.0132 0.0045

Neptune -109185-07-14 23:45 J -38158202.64 -38158202.51 -38158202.36 0.0089 0.0050

Uranus -109185-09-07 21:50 J -38158147.71 -38158147.59 -38158147.46 0.0132 0.0060

Neptune -109185-10-11 02:38 J -38158114.52 -38158114.39 -38158114.25 0.0089 0.0055

Uranus -109185-12-05 01:12 J -38158059.56 -38158059.45 -38158059.33 0.0132 0.0076

Neptune -109184-01-07 05:31 J -38158026.40 -38158026.27 -38158026.14 0.0089 0.0060

Uranus -109184-03-03 04:48 J -38157971.40 -38157971.30 -38157971.20 0.0132 0.0091

Jupiter -109184-04-04 20:24 J -38157938.82 -38157938.65 -38157938.49 0.0495 0.0029

Neptune -109184-04-05 07:55 J -38157938.27 -38157938.17 -38157938.04 0.0089 0.0066

Uranus -109184-05-30 08:09 J -38157883.24 -38157883.16 -38157883.08 0.0131 0.0106

Moon -109184-06-03 15:36 J -38157878.87 -38157878.85 -38157878.82 0.2746 0.2643

Earth -109184-06-03 16:19 J -38157878.84 -38157878.82 -38157878.79 0.2746 0.2648 *

Neptune -109184-07-02 10:48 J -38157850.14 -38157850.05 -38157849.93 0.0089 0.0071

Jupiter -109184-07-03 18:28 J -38157848.73 -38157848.73 -38157848.73 0.0494 0.0494

Uranus -109184-08-26 11:31 J -38157795.07 -38157795.02 -38157794.96 0.0131 0.0121

Neptune -109184-09-28 13:55 J -38157762.01 -38157761.92 -38157761.83 0.0089 0.0076

Neptune -109184-12-25 16:19 J -38157673.87 -38157673.82 -38157673.73 0.0089 0.0082

Neptune -109183-03-23 19:26 J -38157585.71 -38157585.69 -38157585.65 0.0089 0.0087

Mars -109182-06-05 08:09 J -38157147.28 -38157147.16 -38157147.04 0.1713 0.1052

Mars -109181-04-18 02:52 J -38156829.49 -38156829.38 -38156829.26 0.1801 0.0739

Mars -109180-05-11 21:21 J -38156440.72 -38156440.61 -38156440.51 0.1732 0.1241

Venus -109180-10-26 14:38 J -38156273.01 -38156272.89 -38156272.77 0.3752 0.0851

Mars -109179-03-24 20:09 J -38156123.75 -38156123.66 -38156123.57 0.1780 0.1177

Jupiter -109178-03-08 13:12 J -38155775.03 -38155774.95 -38155774.87 0.0530 0.0431

Jupiter -109178-06-06 02:24 J -38155685.54 -38155685.40 -38155685.26 0.0532 0.0104

Earth -109177-05-27 13:26 J -38155329.05 -38155328.94 -38155328.83 0.2734 0.0135

Moon -109177-05-27 13:55 J -38155329.03 -38155328.92 -38155328.81 0.2728 0.0099 *

Saturn -109177-06-22 12:57 J -38155303.04 -38155302.96 -38155302.89 0.0289 0.0255

Saturn -109177-09-19 07:26 J -38155214.32 -38155214.19 -38155214.05 0.0288 0.0160

Saturn -109177-12-17 02:24 J -38155125.56 -38155125.40 -38155125.24 0.0287 0.0063

Saturn -109176-03-15 21:36 J -38155036.77 -38155036.60 -38155036.44 0.0286 0.0034

Saturn -109176-06-12 16:48 J -38154947.94 -38154947.80 -38154947.64 0.0285 0.0132

Saturn -109176-09-09 12:28 J -38154859.07 -38154858.98 -38154858.87 0.0284 0.0231

Pluto -109175-11-01 10:04 J -38154441.08 -38154441.08 -38154441.06 0.0085 0.0085

Pluto -109174-01-28 11:31 J -38154353.09 -38154353.02 -38154352.94 0.0085 0.0070

Pluto -109174-04-26 12:43 J -38154265.06 -38154264.97 -38154264.86 0.0084 0.0056

Venus -109174-05-12 12:57 J -38154249.08 -38154248.96 -38154248.84 0.3747 0.1160

Pluto -109174-07-23 14:09 J -38154177.02 -38154176.91 -38154176.79 0.0084 0.0041

Pluto -109174-10-19 15:21 J -38154088.98 -38154088.86 -38154088.73 0.0084 0.0027

Moon -109174-11-17 04:33 J -38154060.46 -38154060.31 -38154060.16 0.2604 0.0797

Earth -109174-11-17 04:19 J -38154060.46 -38154060.32 -38154060.17 0.2610 0.0875 *

Pluto -109173-01-15 16:48 J -38154000.94 -38154000.80 -38154000.67 0.0084 0.0013

Pluto -109173-04-12 18:00 J -38153912.88 -38153912.75 -38153912.62 0.0084 0.0001

Pluto -109173-07-09 19:12 J -38153824.83 -38153824.70 -38153824.57 0.0084 0.0015

Pluto -109173-10-05 20:24 J -38153736.77 -38153736.65 -38153736.52 0.0084 0.0029

Mars -109173-10-25 12:00 J -38153717.06 -38153717.00 -38153716.94 0.1708 0.1555

Pluto -109172-01-01 21:36 J -38153648.71 -38153648.60 -38153648.48 0.0084 0.0042

Jupiter -109172-01-21 20:52 J -38153628.79 -38153628.63 -38153628.48 0.0496 0.0154

Pluto -109172-03-30 22:33 J -38153560.64 -38153560.56 -38153560.45 0.0083 0.0057

Jupiter -109172-04-21 18:28 J -38153538.84 -38153538.73 -38153538.62 0.0495 0.0364

Pluto -109172-06-27 00:00 J -38153472.56 -38153472.50 -38153472.42 0.0083 0.0070

Mars -109172-09-08 10:04 J -38153399.17 -38153399.08 -38153398.99 0.1806 0.1244

Pluto -109172-09-23 01:26 J -38153384.44 -38153384.44 -38153384.44 0.0083 0.0083

Mars -109171-10-01 23:31 J -38153010.66 -38153010.52 -38153010.38 0.1727 0.0653

Venus -109170-05-12 03:21 J -38152788.40 -38152788.36 -38152788.32 0.3619 0.3402

Mars -109170-08-15 04:19 J -38152693.44 -38152693.32 -38152693.21 0.1785 0.0736

Venus -109169-11-25 11:45 J -38152225.07 -38152225.01 -38152224.95 0.3741 0.3235

Jupiter -109166-03-25 04:48 J -38151375.44 -38151375.30 -38151375.16 0.0531 0.0030

Jupiter -109166-06-22 16:48 J -38151285.84 -38151285.80 -38151285.74 0.0532 0.0493

Venus -109165-11-24 23:16 J -38150764.63 -38150764.53 -38150764.42 0.3624 0.1816

Moon -109164-05-30 07:55 J -38150578.27 -38150578.17 -38150578.06 0.2731 0.0820

Earth -109164-05-30 08:09 J -38150578.26 -38150578.16 -38150578.05 0.2738 0.0878 *

Mars -109162-01-29 17:02 J -38149968.82 -38149968.79 -38149968.77 0.1811 0.1762

Mars -109161-02-22 02:09 J -38149580.56 -38149580.41 -38149580.26 0.1722 0.0081

Saturn -109161-04-11 20:52 J -38149530.71 -38149530.63 -38149530.55 0.0272 0.0227

Saturn -109161-07-09 10:19 J -38149442.19 -38149442.07 -38149441.94 0.0273 0.0153

Saturn -109161-10-05 23:45 J -38149353.65 -38149353.51 -38149353.37 0.0274 0.0079

Jupiter -109161-11-09 21:21 J -38149318.74 -38149318.61 -38149318.47 0.0497 0.0279

Moon -109161-11-19 08:24 J -38149309.30 -38149309.15 -38149309.00 0.2600 0.0582

Earth -109161-11-19 09:21 J -38149309.25 -38149309.11 -38149308.96 0.2605 0.0762 *

Saturn -109160-01-02 12:57 J -38149265.11 -38149264.96 -38149264.82 0.0275 0.0009

Mars -109160-01-04 12:00 J -38149263.12 -38149263.00 -38149262.87 0.1791 0.0279

Jupiter -109160-02-07 18:28 J -38149228.87 -38149228.73 -38149228.58 0.0495 0.0237

Saturn -109160-04-01 01:55 J -38149176.56 -38149176.42 -38149176.28 0.0276 0.0069

Saturn -109160-06-28 14:38 J -38149088.01 -38149087.89 -38149087.76 0.0276 0.0142

Saturn -109160-09-25 03:21 J -38148999.44 -38148999.36 -38148999.27 0.0277 0.0215

Venus -109159-06-10 19:12 J -38148740.82 -38148740.70 -38148740.59 0.3628 0.0296

Earth -109157-05-23 04:48 J -38148028.37 -38148028.30 -38148028.22 0.2726 0.1927

Moon -109157-05-23 05:31 J -38148028.35 -38148028.27 -38148028.18 0.2727 0.1794 *

Jupiter -109154-01-11 07:12 J -38147065.33 -38147065.20 -38147065.06 0.0530 0.0160

Jupiter -109154-04-10 19:40 J -38146975.78 -38146975.68 -38146975.58 0.0532 0.0365

Venus -109154-12-25 14:24 J -38146717.01 -38146716.90 -38146716.78 0.3633 0.1237

Mars -109152-07-14 05:02 J -38146150.43 -38146150.29 -38146150.15 0.1717 0.0477

Mars -109151-05-27 19:55 J -38145832.80 -38145832.67 -38145832.55 0.1796 0.0208

Moon -109151-06-02 02:09 J -38145827.49 -38145827.41 -38145827.33 0.2740 0.1848

Earth -109151-06-02 02:52 J -38145827.46 -38145827.38 -38145827.30 0.2742 0.1865 *

Mars -109149-05-02 11:45 J -38145127.05 -38145127.01 -38145126.97 0.1775 0.1645

Jupiter -109149-08-28 22:19 J -38145008.66 -38145008.57 -38145008.47 0.0497 0.0397

Jupiter -109149-11-26 19:12 J -38144918.87 -38144918.70 -38144918.54 0.0495 0.0112

Venus -109148-07-10 09:50 J -38144693.17 -38144693.09 -38144693.01 0.3638 0.2684

Saturn -109148-11-09 12:43 J -38144570.99 -38144570.97 -38144570.94 0.0289 0.0285

Moon -109148-11-22 12:57 J -38144558.02 -38144557.96 -38144557.90 0.2600 0.2381

Earth -109148-11-22 14:38 J -38144557.95 -38144557.89 -38144557.83 0.2601 0.2408 *

Saturn -109147-02-06 07:12 J -38144482.32 -38144482.20 -38144482.07 0.0288 0.0191

Saturn -109147-05-06 02:09 J -38144393.57 -38144393.41 -38144393.26 0.0287 0.0095

Saturn -109147-08-02 21:07 J -38144304.78 -38144304.62 -38144304.45 0.0286 0.0004

Saturn -109147-10-30 16:33 J -38144215.97 -38144215.81 -38144215.65 0.0286 0.0101

Saturn -109146-01-27 12:14 J -38144127.11 -38144126.99 -38144126.87 0.0285 0.0199

Earth -109144-05-25 23:45 J -38143277.62 -38143277.51 -38143277.41 0.2730 0.0919

Moon -109144-05-26 00:28 J -38143277.59 -38143277.48 -38143277.38 0.2727 0.0898 *

Uranus -109143-03-15 00:28 J -38142984.56 -38142984.48 -38142984.39 0.0147 0.0125

Uranus -109143-06-11 07:12 J -38142896.32 -38142896.20 -38142896.07 0.0147 0.0099

Uranus -109143-09-07 14:09 J -38142808.06 -38142807.91 -38142807.76 0.0147 0.0073

Jupiter -109143-10-30 09:07 J -38142755.24 -38142755.12 -38142755.01 0.0530 0.0300

Mars -109143-12-04 08:38 J -38142720.26 -38142720.14 -38142720.02 0.1713 0.0997

Uranus -109143-12-04 21:07 J -38142719.79 -38142719.62 -38142719.46 0.0147 0.0047

Jupiter -109142-01-27 21:50 J -38142665.71 -38142665.59 -38142665.46 0.0532 0.0232

Uranus -109142-03-03 03:50 J -38142631.51 -38142631.34 -38142631.16 0.0147 0.0021

Uranus -109142-05-30 11:02 J -38142543.22 -38142543.04 -38142542.87 0.0147 0.0006

Uranus -109142-08-26 18:00 J -38142454.92 -38142454.75 -38142454.58 0.0147 0.0033

Mars -109142-10-18 03:07 J -38142402.49 -38142402.37 -38142402.25 0.1801 0.0690

Uranus -109142-11-23 00:57 J -38142366.61 -38142366.46 -38142366.29 0.0147 0.0061

Uranus -109141-02-19 08:09 J -38142278.29 -38142278.16 -38142278.01 0.0147 0.0088

Uranus -109141-05-17 15:21 J -38142189.95 -38142189.86 -38142189.74 0.0147 0.0116

Uranus -109141-08-13 23:02 J -38142101.58 -38142101.54 -38142101.50 0.0148 0.0143

Mars -109141-11-09 21:50 J -38142013.69 -38142013.59 -38142013.49 0.1732 0.1297

Earth -109141-11-14 06:14 J -38142009.33 -38142009.24 -38142009.16 0.2614 0.2148

Moon -109141-11-14 06:57 J -38142009.30 -38142009.21 -38142009.11 0.2608 0.2081 *

Mars -109140-09-22 20:09 J -38141696.74 -38141696.66 -38141696.57 0.1780 0.1225

Moon -109138-06-04 20:38 J -38141076.65 -38141076.64 -38141076.63 0.2748 0.2714

Jupiter -109137-09-14 19:55 J -38140608.84 -38140608.67 -38140608.51 0.0495 0.0011

Mars -109133-04-25 12:28 J -38139290.05 -38139289.98 -38139289.91 0.1708 0.1505

Mars -109132-03-09 10:19 J -38138972.17 -38138972.07 -38138971.98 0.1806 0.1197

Saturn -109132-08-29 22:04 J -38138798.63 -38138798.58 -38138798.52 0.0271 0.0252

Saturn -109132-11-26 11:31 J -38138710.13 -38138710.02 -38138709.90 0.0272 0.0178

Saturn -109131-02-23 00:57 J -38138621.60 -38138621.46 -38138621.32 0.0273 0.0104

Mars -109131-04-02 00:14 J -38138583.63 -38138583.49 -38138583.36 0.1727 0.0710

Saturn -109131-05-22 14:09 J -38138533.06 -38138532.91 -38138532.77 0.0274 0.0031

Moon -109131-05-28 18:28 J -38138526.84 -38138526.73 -38138526.61 0.2727 0.0146

Earth -109131-05-28 18:28 J -38138526.84 -38138526.73 -38138526.62 0.2734 0.0086 *

Jupiter -109131-08-18 11:45 J -38138445.09 -38138445.01 -38138444.93 0.0530 0.0426

Saturn -109131-08-19 03:07 J -38138444.51 -38138444.37 -38138444.23 0.0274 0.0043

Saturn -109131-11-15 15:50 J -38138355.96 -38138355.84 -38138355.70 0.0275 0.0117

Jupiter -109131-11-16 00:57 J -38138355.59 -38138355.46 -38138355.32 0.0532 0.0110

Saturn -109130-02-12 04:48 J -38138267.40 -38138267.30 -38138267.20 0.0276 0.0188

Mars -109130-02-13 04:19 J -38138266.43 -38138266.32 -38138266.21 0.1785 0.0777

Saturn -109130-05-11 17:16 J -38138178.82 -38138178.78 -38138178.73 0.0277 0.0260

Venus -109129-11-16 15:36 J -38137623.95 -38137623.85 -38137623.75 0.3756 0.2112

Moon -109128-11-17 10:19 J -38137258.22 -38137258.07 -38137257.92 0.2603 0.0609

Earth -109128-11-17 10:48 J -38137258.20 -38137258.05 -38137257.90 0.2609 0.0549 *

Jupiter -109125-07-03 20:09 J -38136298.82 -38136298.66 -38136298.50 0.0496 0.0139

Jupiter -109125-10-01 17:45 J -38136208.87 -38136208.76 -38136208.65 0.0494 0.0380

Moon -109124-05-21 15:36 J -38135976.88 -38135976.85 -38135976.83 0.2727 0.2638

Venus -109123-06-02 13:40 J -38135600.05 -38135599.93 -38135599.80 0.3751 0.0199

Mars -109123-07-30 17:02 J -38135541.82 -38135541.79 -38135541.75 0.1810 0.1716

Mars -109122-08-23 02:38 J -38135153.54 -38135153.39 -38135153.24 0.1722 0.0133

Mars -109121-07-05 12:14 J -38134836.11 -38134835.99 -38134835.87 0.1790 0.0321

Jupiter -109119-09-04 04:04 J -38134045.47 -38134045.33 -38134045.19 0.0531 0.0016

Jupiter -109119-12-02 16:04 J -38133955.86 -38133955.83 -38133955.79 0.0533 0.0506

Moon -109118-05-31 12:43 J -38133776.07 -38133775.97 -38133775.87 0.2733 0.1050

Earth -109118-05-31 13:12 J -38133776.05 -38133775.95 -38133775.85 0.2739 0.1081 *

Saturn -109118-06-26 04:33 J -38133750.40 -38133750.31 -38133750.21 0.0289 0.0232

Saturn -109118-09-22 23:16 J -38133661.67 -38133661.53 -38133661.39 0.0288 0.0136

Venus -109118-12-17 12:14 J -38133576.10 -38133575.99 -38133575.88 0.3745 0.1852

Saturn -109118-12-20 18:14 J -38133572.90 -38133572.74 -38133572.58 0.0287 0.0040

Saturn -109117-03-18 13:26 J -38133484.10 -38133483.94 -38133483.78 0.0286 0.0058

Saturn -109117-06-15 08:52 J -38133395.27 -38133395.13 -38133394.99 0.0285 0.0156

Saturn -109117-09-12 04:33 J -38133306.38 -38133306.31 -38133306.23 0.0284 0.0255

Moon -109115-11-20 14:38 J -38132507.03 -38132506.89 -38132506.75 0.2600 0.1070

Earth -109115-11-20 15:50 J -38132506.98 -38132506.84 -38132506.70 0.2605 0.1081 *

Venus -109114-12-17 01:55 J -38132115.49 -38132115.42 -38132115.34 0.3621 0.2834

Jupiter -109113-04-21 20:38 J -38131988.77 -38131988.64 -38131988.50 0.0496 0.0264

Jupiter -109113-07-20 17:45 J -38131898.90 -38131898.76 -38131898.61 0.0495 0.0251

Mars -109112-01-12 05:31 J -38131723.41 -38131723.27 -38131723.12 0.1717 0.0421

Mars -109112-11-25 19:55 J -38131405.80 -38131405.67 -38131405.55 0.1796 0.0166

Earth -109111-05-24 09:50 J -38131226.18 -38131226.09 -38131226.00 0.2726 0.1722

Moon -109111-05-24 10:33 J -38131226.14 -38131226.06 -38131225.97 0.2725 0.1719 *

Neptune -109110-07-30 22:04 J -38130793.60 -38130793.58 -38130793.55 0.0088 0.0087

Neptune -109110-10-26 23:45 J -38130705.55 -38130705.51 -38130705.44 0.0088 0.0083

Mars -109110-11-01 12:00 J -38130700.04 -38130700.00 -38130699.97 0.1775 0.1688

Neptune -109109-01-23 01:55 J -38130617.49 -38130617.42 -38130617.35 0.0088 0.0078

Neptune -109109-04-20 03:36 J -38130529.42 -38130529.35 -38130529.25 0.0088 0.0074

Neptune -109109-07-17 05:45 J -38130441.35 -38130441.26 -38130441.16 0.0088 0.0069

Neptune -109109-10-13 07:55 J -38130353.28 -38130353.17 -38130353.07 0.0088 0.0064

Neptune -109108-01-09 09:36 J -38130265.20 -38130265.10 -38130264.98 0.0088 0.0059

Neptune -109108-04-07 11:31 J -38130177.13 -38130177.02 -38130176.90 0.0088 0.0055

Venus -109108-07-01 21:50 J -38130091.70 -38130091.59 -38130091.47 0.3625 0.1261

Neptune -109108-07-04 13:26 J -38130089.06 -38130088.94 -38130088.81 0.0088 0.0050

Neptune -109108-09-30 15:21 J -38130000.98 -38130000.86 -38130000.73 0.0088 0.0046

Neptune -109108-12-27 17:16 J -38129912.91 -38129912.78 -38129912.64 0.0088 0.0041

Neptune -109107-03-25 19:12 J -38129824.83 -38129824.70 -38129824.56 0.0088 0.0037

Neptune -109107-06-21 20:52 J -38129736.76 -38129736.63 -38129736.48 0.0088 0.0033

Jupiter -109107-06-23 06:28 J -38129735.36 -38129735.23 -38129735.09 0.0530 0.0145

Neptune -109107-09-17 23:02 J -38129648.68 -38129648.54 -38129648.40 0.0088 0.0028

Jupiter -109107-09-20 18:57 J -38129645.81 -38129645.71 -38129645.62 0.0532 0.0379

Neptune -109107-12-15 00:43 J -38129560.61 -38129560.47 -38129560.32 0.0088 0.0023

Neptune -109106-03-13 02:38 J -38129472.53 -38129472.39 -38129472.24 0.0088 0.0019

Neptune -109106-06-09 04:33 J -38129384.46 -38129384.31 -38129384.16 0.0088 0.0014

Neptune -109106-09-05 06:14 J -38129296.38 -38129296.24 -38129296.09 0.0088 0.0010

Neptune -109106-12-02 08:09 J -38129208.31 -38129208.16 -38129208.01 0.0088 0.0006

Neptune -109105-02-28 10:04 J -38129120.23 -38129120.08 -38129119.94 0.0088 0.0002

Neptune -109105-05-26 11:45 J -38129032.16 -38129032.01 -38129031.86 0.0088 0.0003

Moon -109105-06-02 06:57 J -38129025.29 -38129025.21 -38129025.13 0.2742 0.1950

Earth -109105-06-02 07:40 J -38129025.25 -38129025.18 -38129025.11 0.2743 0.2064 *

Neptune -109105-08-22 13:40 J -38128944.08 -38128943.93 -38128943.79 0.0088 0.0008

Neptune -109105-11-18 15:21 J -38128856.01 -38128855.86 -38128855.71 0.0088 0.0012

Neptune -109104-02-14 17:02 J -38128767.93 -38128767.79 -38128767.64 0.0088 0.0017

Neptune -109104-05-13 18:57 J -38128679.85 -38128679.71 -38128679.57 0.0088 0.0021

Neptune -109104-08-09 20:38 J -38128591.78 -38128591.64 -38128591.50 0.0088 0.0025

Uranus -109104-11-05 10:33 J -38128504.10 -38128504.06 -38128504.01 0.0132 0.0126

Neptune -109104-11-05 22:19 J -38128503.70 -38128503.57 -38128503.43 0.0088 0.0029

Uranus -109103-02-01 14:09 J -38128415.98 -38128415.91 -38128415.82 0.0132 0.0110

Neptune -109103-02-02 00:00 J -38128415.63 -38128415.50 -38128415.36 0.0088 0.0034

Uranus -109103-04-30 18:14 J -38128327.84 -38128327.74 -38128327.64 0.0132 0.0092

Neptune -109103-05-01 01:55 J -38128327.55 -38128327.42 -38128327.29 0.0088 0.0038

Mars -109103-06-04 08:52 J -38128293.25 -38128293.13 -38128293.00 0.1712 0.0951

Uranus -109103-07-27 21:50 J -38128239.71 -38128239.59 -38128239.47 0.0132 0.0076

Neptune -109103-07-28 03:21 J -38128239.47 -38128239.36 -38128239.22 0.0088 0.0043 *

Uranus -109103-10-24 01:26 J -38128151.56 -38128151.44 -38128151.31 0.0132 0.0060

Neptune -109103-10-24 05:16 J -38128151.40 -38128151.28 -38128151.15 0.0088 0.0046 *

Venus -109102-01-15 17:31 J -38128067.89 -38128067.77 -38128067.65 0.3630 0.0267

Uranus -109102-01-20 05:02 J -38128063.42 -38128063.29 -38128063.15 0.0132 0.0044

Neptune -109102-01-20 06:57 J -38128063.32 -38128063.21 -38128063.09 0.0088 0.0051 *

Saturn -109102-04-15 12:14 J -38127978.08 -38127977.99 -38127977.89 0.0272 0.0205

Mars -109102-04-18 03:07 J -38127975.48 -38127975.37 -38127975.25 0.1801 0.0649

Uranus -109102-04-18 08:38 J -38127975.27 -38127975.14 -38127974.99 0.0132 0.0028 *

Neptune -109102-04-18 08:38 J -38127975.25 -38127975.14 -38127975.02 0.0088 0.0055 *

Saturn -109102-07-13 01:40 J -38127889.55 -38127889.43 -38127889.30 0.0273 0.0131

Neptune -109102-07-15 10:33 J -38127887.17 -38127887.06 -38127886.95 0.0088 0.0059

Uranus -109102-07-15 12:28 J -38127887.13 -38127886.98 -38127886.84 0.0132 0.0012 *

Saturn -109102-10-09 15:07 J -38127801.02 -38127800.87 -38127800.73 0.0274 0.0057

Neptune -109102-10-11 12:14 J -38127799.09 -38127798.99 -38127798.89 0.0088 0.0063

Uranus -109102-10-11 15:50 J -38127798.98 -38127798.84 -38127798.69 0.0132 0.0006 *

Moon -109102-11-23 19:26 J -38127755.73 -38127755.69 -38127755.65 0.2601 0.2506

Saturn -109101-01-06 04:04 J -38127712.47 -38127712.33 -38127712.18 0.0275 0.0017

Neptune -109101-01-07 13:40 J -38127711.01 -38127710.93 -38127710.83 0.0088 0.0067

Uranus -109101-01-07 19:26 J -38127710.83 -38127710.69 -38127710.55 0.0132 0.0020 *

Jupiter -109101-02-08 21:21 J -38127678.71 -38127678.61 -38127678.51 0.0497 0.0387

Saturn -109101-04-03 17:02 J -38127623.92 -38127623.79 -38127623.65 0.0276 0.0090

Neptune -109101-04-04 15:21 J -38127622.93 -38127622.86 -38127622.77 0.0088 0.0071

Uranus -109101-04-04 23:02 J -38127622.68 -38127622.54 -38127622.40 0.0132 0.0036

Jupiter -109101-05-08 18:00 J -38127588.91 -38127588.75 -38127588.58 0.0495 0.0124

Mars -109101-05-10 22:19 J -38127586.66 -38127586.57 -38127586.47 0.1732 0.1354

Saturn -109101-07-01 05:45 J -38127535.37 -38127535.26 -38127535.14 0.0276 0.0163

Neptune -109101-07-01 17:02 J -38127534.85 -38127534.79 -38127534.71 0.0088 0.0075

Uranus -109101-07-02 02:24 J -38127534.53 -38127534.40 -38127534.27 0.0132 0.0051

Saturn -109101-09-27 18:28 J -38127446.80 -38127446.73 -38127446.65 0.0277 0.0235

Neptune -109101-09-27 18:43 J -38127446.77 -38127446.72 -38127446.65 0.0088 0.0079 *

Uranus -109101-09-28 06:00 J -38127446.37 -38127446.25 -38127446.13 0.0132 0.0067

Neptune -109101-12-24 20:24 J -38127358.69 -38127358.65 -38127358.60 0.0088 0.0083

Uranus -109101-12-25 09:07 J -38127358.22 -38127358.12 -38127358.00 0.0132 0.0083

Neptune -109100-03-22 22:04 J -38127270.59 -38127270.58 -38127270.56 0.0088 0.0087

Uranus -109100-03-23 12:28 J -38127270.06 -38127269.98 -38127269.87 0.0131 0.0098

Mars -109100-03-23 20:09 J -38127269.74 -38127269.66 -38127269.57 0.1780 0.1260

Uranus -109100-06-19 16:04 J -38127181.90 -38127181.83 -38127181.76 0.0131 0.0112

Uranus -109100-09-15 19:26 J -38127093.72 -38127093.69 -38127093.66 0.0131 0.0127

Earth -109098-05-27 04:33 J -38126475.41 -38126475.31 -38126475.20 0.2731 0.0724

Moon -109098-05-27 05:16 J -38126475.39 -38126475.28 -38126475.17 0.2726 0.0612 *

Venus -109097-07-31 12:57 J -38126044.06 -38126043.96 -38126043.86 0.3634 0.1753

Jupiter -109095-04-11 08:52 J -38125425.25 -38125425.13 -38125425.01 0.0530 0.0279

Jupiter -109095-07-09 21:36 J -38125335.72 -38125335.60 -38125335.48 0.0532 0.0250

Earth -109095-11-15 12:28 J -38125207.09 -38125206.98 -38125206.87 0.2613 0.1835

Moon -109095-11-15 12:57 J -38125207.07 -38125206.96 -38125206.85 0.2608 0.1749 *

Mars -109094-10-25 12:43 J -38124863.04 -38124862.97 -38124862.89 0.1708 0.1456

Mars -109093-09-07 10:33 J -38124545.16 -38124545.06 -38124544.96 0.1805 0.1143

Mars -109092-10-01 00:28 J -38124156.62 -38124156.48 -38124156.34 0.1727 0.0758

Venus -109091-02-14 08:09 J -38124020.22 -38124020.16 -38124020.11 0.3639 0.3187

Mars -109091-08-14 04:33 J -38123839.42 -38123839.31 -38123839.20 0.1786 0.0824

Jupiter -109089-02-25 18:43 J -38123278.88 -38123278.72 -38123278.55 0.0495 0.0011

Saturn -109089-11-12 04:04 J -38123018.39 -38123018.33 -38123018.26 0.0289 0.0263

Saturn -109088-02-08 22:48 J -38122929.68 -38122929.55 -38122929.42 0.0288 0.0168

Saturn -109088-05-08 17:45 J -38122840.92 -38122840.76 -38122840.60 0.0287 0.0072

Saturn -109088-08-05 12:57 J -38122752.13 -38122751.96 -38122751.80 0.0286 0.0026

Saturn -109088-11-02 08:24 J -38122663.30 -38122663.15 -38122663.00 0.0285 0.0124

Saturn -109087-01-30 03:50 J -38122574.44 -38122574.34 -38122574.23 0.0285 0.0223

Moon -109085-05-28 23:16 J -38121724.64 -38121724.53 -38121724.41 0.2727 0.0256

Earth -109085-05-28 23:31 J -38121724.64 -38121724.52 -38121724.41 0.2735 0.0307 *

Jupiter -109083-01-28 10:19 J -38121115.15 -38121115.07 -38121114.99 0.0530 0.0422

Mars -109083-01-28 17:16 J -38121114.83 -38121114.78 -38121114.74 0.1811 0.1669

Jupiter -109083-04-27 23:31 J -38121025.65 -38121025.52 -38121025.38 0.0532 0.0114

Mars -109082-02-21 03:07 J -38120726.52 -38120726.37 -38120726.22 0.1722 0.0189

Moon -109082-11-18 16:33 J -38120455.97 -38120455.81 -38120455.66 0.2603 0.0279

Earth -109082-11-18 17:16 J -38120455.93 -38120455.78 -38120455.63 0.2609 0.0224 *

Mars -109081-01-04 12:14 J -38120409.11 -38120408.99 -38120408.86 0.1790 0.0369

Earth -109078-05-22 19:55 J -38119174.71 -38119174.67 -38119174.63 0.2722 0.2528

Moon -109078-05-22 20:38 J -38119174.68 -38119174.64 -38119174.60 0.2726 0.2500 *

Venus -109078-12-08 16:48 J -38118974.85 -38118974.80 -38118974.74 0.3759 0.3328

Jupiter -109078-12-14 19:40 J -38118968.84 -38118968.68 -38118968.52 0.0496 0.0121

Jupiter -109077-03-13 17:16 J -38118878.88 -38118878.78 -38118878.68 0.0494 0.0398

Mars -109073-07-13 06:00 J -38117296.39 -38117296.25 -38117296.10 0.1717 0.0367

Saturn -109073-09-01 13:40 J -38117246.00 -38117245.93 -38117245.84 0.0271 0.0229

Saturn -109073-11-29 03:21 J -38117157.48 -38117157.36 -38117157.24 0.0272 0.0154

Saturn -109072-02-25 16:33 J -38117068.95 -38117068.81 -38117068.67 0.0273 0.0081

Saturn -109072-05-25 05:45 J -38116980.41 -38116980.26 -38116980.12 0.0274 0.0009

Mars -109072-05-26 19:55 J -38116978.79 -38116978.67 -38116978.54 0.1796 0.0114

Moon -109072-05-31 17:31 J -38116973.87 -38116973.77 -38116973.67 0.2735 0.1247

Earth -109072-05-31 18:00 J -38116973.85 -38116973.75 -38116973.65 0.2739 0.1278 *

Venus -109072-06-23 14:38 J -38116951.00 -38116950.89 -38116950.77 0.3754 0.1453

Saturn -109072-08-21 18:43 J -38116891.86 -38116891.72 -38116891.58 0.0274 0.0066

Saturn -109072-11-18 07:26 J -38116803.31 -38116803.19 -38116803.07 0.0275 0.0138

Jupiter -109071-02-14 02:38 J -38116715.53 -38116715.39 -38116715.26 0.0532 0.0021

Saturn -109071-02-14 20:09 J -38116714.75 -38116714.66 -38116714.57 0.0276 0.0210

Jupiter -109071-05-14 14:38 J -38116625.92 -38116625.89 -38116625.85 0.0533 0.0510

Mars -109070-05-02 12:00 J -38116273.03 -38116273.00 -38116272.98 0.1775 0.1727

Moon -109069-11-20 20:52 J -38115704.77 -38115704.63 -38115704.50 0.2602 0.1253

Earth -109069-11-20 22:19 J -38115704.70 -38115704.57 -38115704.44 0.2604 0.1413 *

Venus -109066-01-07 12:57 J -38114927.08 -38114926.96 -38114926.83 0.3749 0.0520

Jupiter -109066-10-02 19:55 J -38114658.80 -38114658.67 -38114658.52 0.0496 0.0248

Jupiter -109066-12-31 17:02 J -38114568.92 -38114568.79 -38114568.64 0.0494 0.0267

Earth -109065-05-24 14:52 J -38114423.97 -38114423.88 -38114423.79 0.2727 0.1521

Moon -109065-05-24 15:36 J -38114423.95 -38114423.85 -38114423.75 0.2725 0.1381 *

Mars -109064-12-03 09:36 J -38113866.23 -38113866.10 -38113865.98 0.1713 0.0895

Mars -109063-10-17 03:21 J -38113548.47 -38113548.36 -38113548.24 0.1801 0.0598

Mars -109062-11-09 23:02 J -38113159.63 -38113159.54 -38113159.46 0.1732 0.1415

Venus -109061-07-23 11:31 J -38112903.11 -38112903.02 -38112902.93 0.3744 0.2549

Mars -109061-09-21 20:24 J -38112842.73 -38112842.65 -38112842.57 0.1780 0.1306

Jupiter -109060-12-03 05:31 J -38112405.41 -38112405.27 -38112405.14 0.0531 0.0136

Uranus -109059-01-06 01:40 J -38112371.46 -38112371.43 -38112371.38 0.0147 0.0142

Jupiter -109059-03-02 18:00 J -38112315.84 -38112315.75 -38112315.66 0.0533 0.0390

Uranus -109059-04-04 08:38 J -38112283.24 -38112283.14 -38112283.04 0.0147 0.0116

Moon -109059-06-03 11:45 J -38112223.07 -38112223.01 -38112222.94 0.2743 0.2219

Earth -109059-06-03 12:43 J -38112223.03 -38112222.97 -38112222.91 0.2743 0.2266 *

Saturn -109059-06-28 20:09 J -38112197.76 -38112197.66 -38112197.54 0.0289 0.0209

Uranus -109059-07-01 15:07 J -38112194.99 -38112194.87 -38112194.72 0.0147 0.0091

Saturn -109059-09-25 15:07 J -38112109.02 -38112108.87 -38112108.72 0.0288 0.0113

Uranus -109059-09-27 22:04 J -38112106.73 -38112106.58 -38112106.42 0.0147 0.0065

Saturn -109059-12-23 10:04 J -38112020.25 -38112020.08 -38112019.91 0.0287 0.0016

Uranus -109059-12-25 05:02 J -38112018.45 -38112018.29 -38112018.12 0.0147 0.0039

Saturn -109058-03-22 05:16 J -38111931.44 -38111931.28 -38111931.12 0.0286 0.0082

Uranus -109058-03-23 12:00 J -38111930.17 -38111930.00 -38111929.82 0.0147 0.0012

Saturn -109058-06-19 00:43 J -38111842.59 -38111842.47 -38111842.33 0.0285 0.0181

Uranus -109058-06-19 19:12 J -38111841.88 -38111841.70 -38111841.53 0.0147 0.0015

Saturn -109058-09-15 20:38 J -38111753.66 -38111753.64 -38111753.60 0.0284 0.0279

Uranus -109058-09-16 02:09 J -38111753.57 -38111753.41 -38111753.24 0.0147 0.0042

Uranus -109058-12-13 09:07 J -38111665.26 -38111665.12 -38111664.95 0.0147 0.0070

Uranus -109057-03-10 16:33 J -38111576.94 -38111576.81 -38111576.68 0.0147 0.0097

Uranus -109057-06-06 23:45 J -38111488.60 -38111488.51 -38111488.41 0.0147 0.0125

Venus -109057-07-23 00:43 J -38111442.57 -38111442.47 -38111442.38 0.3622 0.2259

Mars -109054-04-25 13:12 J -38110436.03 -38110435.95 -38110435.87 0.1708 0.1406

Jupiter -109054-07-21 20:38 J -38110348.74 -38110348.64 -38110348.53 0.0497 0.0372

Jupiter -109054-10-19 17:16 J -38110258.93 -38110258.78 -38110258.62 0.0495 0.0138

Mars -109053-03-08 10:33 J -38110118.16 -38110118.06 -38110117.96 0.1806 0.1106

Mars -109052-04-01 00:57 J -38109729.59 -38109729.46 -38109729.33 0.1727 0.0815

Earth -109052-05-27 09:36 J -38109673.21 -38109673.10 -38109672.99 0.2731 0.0514

Moon -109052-05-27 09:50 J -38109673.20 -38109673.09 -38109672.98 0.2725 0.0555 *

Venus -109051-02-05 20:24 J -38109418.76 -38109418.65 -38109418.53 0.3626 0.0713

Mars -109051-02-12 04:33 J -38109412.42 -38109412.31 -38109412.21 0.1785 0.0863

Moon -109049-11-15 18:43 J -38108404.84 -38108404.72 -38108404.59 0.2606 0.1594

Earth -109049-11-15 18:57 J -38108404.84 -38108404.71 -38108404.59 0.2613 0.1514 *

Jupiter -109048-09-21 07:55 J -38108095.29 -38108095.17 -38108095.05 0.0530 0.0266

Jupiter -109048-12-19 20:38 J -38108005.76 -38108005.64 -38108005.52 0.0532 0.0263

Venus -109046-08-22 16:04 J -38107394.95 -38107394.83 -38107394.71 0.3631 0.0806

Mars -109044-07-29 17:31 J -38106687.82 -38106687.77 -38106687.71 0.1811 0.1616

Saturn -109043-01-19 14:24 J -38106513.94 -38106513.90 -38106513.85 0.0271 0.0256

Saturn -109043-04-18 04:04 J -38106425.44 -38106425.33 -38106425.22 0.0272 0.0182

Saturn -109043-07-15 17:16 J -38106336.91 -38106336.78 -38106336.64 0.0273 0.0108

Mars -109043-08-22 03:36 J -38106299.50 -38106299.35 -38106299.20 0.1722 0.0244

Saturn -109043-10-12 06:28 J -38106248.37 -38106248.23 -38106248.08 0.0274 0.0035

Saturn -109042-01-08 19:40 J -38106159.83 -38106159.68 -38106159.54 0.0275 0.0040

Saturn -109042-04-07 08:24 J -38106071.28 -38106071.15 -38106071.02 0.0276 0.0112

Jupiter -109042-05-09 21:21 J -38106038.62 -38106038.61 -38106038.59 0.0497 0.0494

Saturn -109042-07-04 21:07 J -38105982.72 -38105982.62 -38105982.51 0.0277 0.0185

Mars -109042-07-05 12:28 J -38105982.10 -38105981.98 -38105981.86 0.1791 0.0408

Jupiter -109042-08-07 17:45 J -38105948.93 -38105948.76 -38105948.60 0.0496 0.0014

Saturn -109042-10-01 09:50 J -38105894.14 -38105894.09 -38105894.04 0.0277 0.0256

Venus -109040-03-07 11:31 J -38105371.11 -38105371.02 -38105370.93 0.3635 0.2277

Moon -109039-05-30 04:04 J -38104922.44 -38104922.33 -38104922.22 0.2729 0.0522

Earth -109039-05-30 04:19 J -38104922.43 -38104922.32 -38104922.21 0.2735 0.0481 *

Jupiter -109036-07-10 10:04 J -38103785.17 -38103785.08 -38103784.99 0.0530 0.0401

Jupiter -109036-10-07 23:16 J -38103695.67 -38103695.53 -38103695.40 0.0531 0.0132

Moon -109036-11-18 22:48 J -38103653.71 -38103653.55 -38103653.40 0.2603 0.0088

Earth -109036-11-18 23:31 J -38103653.67 -38103653.52 -38103653.36 0.2608 0.0114 *

Mars -109033-01-12 06:28 J -38102869.38 -38102869.23 -38102869.08 0.1717 0.0316

Mars -109033-11-24 20:09 J -38102551.78 -38102551.66 -38102551.53 0.1796 0.0074

Earth -109032-05-23 00:57 J -38102372.52 -38102372.46 -38102372.40 0.2723 0.2328

Moon -109032-05-23 01:40 J -38102372.49 -38102372.43 -38102372.37 0.2724 0.2258 *

Mars -109031-10-31 12:14 J -38101846.00 -38101845.99 -38101845.99 0.1775 0.1772

Jupiter -109030-05-26 18:28 J -38101638.89 -38101638.73 -38101638.57 0.0496 0.0111

Jupiter -109030-08-24 16:04 J -38101548.92 -38101548.83 -38101548.73 0.0494 0.0408

Saturn -109030-11-15 19:55 J -38101465.75 -38101465.67 -38101465.57 0.0289 0.0239

Saturn -109029-02-12 14:38 J -38101377.02 -38101376.89 -38101376.74 0.0288 0.0144

Saturn -109029-05-11 09:50 J -38101288.26 -38101288.09 -38101287.93 0.0287 0.0048

Saturn -109029-08-08 05:02 J -38101199.46 -38101199.29 -38101199.13 0.0286 0.0050

Saturn -109029-11-05 00:28 J -38101110.62 -38101110.48 -38101110.34 0.0285 0.0149

Saturn -109028-02-01 20:09 J -38101021.74 -38101021.66 -38101021.57 0.0284 0.0247

Neptune -109027-10-05 23:45 J -38100410.54 -38100410.51 -38100410.44 0.0089 0.0085

Neptune -109026-01-02 02:09 J -38100322.46 -38100322.41 -38100322.32 0.0089 0.0080

Neptune -109026-03-31 04:48 J -38100234.38 -38100234.30 -38100234.20 0.0089 0.0075

Moon -109026-06-01 22:19 J -38100171.67 -38100171.57 -38100171.48 0.2737 0.1361

Earth -109026-06-01 23:02 J -38100171.64 -38100171.54 -38100171.45 0.2740 0.1479 *

Neptune -109026-06-27 07:26 J -38100146.29 -38100146.19 -38100146.09 0.0089 0.0070

Neptune -109026-09-23 09:36 J -38100058.20 -38100058.10 -38100057.97 0.0089 0.0066

Neptune -109026-12-20 12:00 J -38099970.10 -38099970.00 -38099969.86 0.0089 0.0061

Neptune -109025-03-17 14:38 J -38099882.01 -38099881.89 -38099881.75 0.0089 0.0056

Neptune -109025-06-13 17:16 J -38099793.91 -38099793.78 -38099793.64 0.0089 0.0051

Neptune -109025-09-09 19:40 J -38099705.81 -38099705.68 -38099705.53 0.0089 0.0046

Neptune -109025-12-06 22:19 J -38099617.71 -38099617.57 -38099617.42 0.0089 0.0041

Neptune -109024-03-05 00:57 J -38099529.61 -38099529.46 -38099529.31 0.0089 0.0036

Neptune -109024-06-01 03:36 J -38099441.51 -38099441.35 -38099441.20 0.0089 0.0031

Mars -109024-06-03 09:50 J -38099439.22 -38099439.09 -38099438.96 0.1713 0.0843

Jupiter -109024-07-27 00:57 J -38099385.60 -38099385.46 -38099385.32 0.0531 0.0013

Neptune -109024-08-28 06:00 J -38099353.41 -38099353.25 -38099353.09 0.0089 0.0026

Jupiter -109024-10-24 13:12 J -38099295.98 -38099295.95 -38099295.91 0.0533 0.0512

Neptune -109024-11-24 08:38 J -38099265.30 -38099265.14 -38099264.98 0.0089 0.0021

Neptune -109023-02-20 11:16 J -38099177.20 -38099177.03 -38099176.87 0.0089 0.0016

Mars -109023-04-17 03:36 J -38099121.47 -38099121.35 -38099121.23 0.1801 0.0555

Neptune -109023-05-19 13:40 J -38099089.09 -38099088.93 -38099088.76 0.0089 0.0011

Neptune -109023-08-15 16:19 J -38099000.99 -38099000.82 -38099000.65 0.0089 0.0006

Neptune -109023-11-11 18:57 J -38098912.88 -38098912.71 -38098912.54 0.0089 0.0001

Moon -109023-11-22 02:52 J -38098902.50 -38098902.38 -38098902.25 0.2603 0.1623

Earth -109023-11-22 04:33 J -38098902.42 -38098902.31 -38098902.19 0.2604 0.1739 *

Neptune -109022-02-07 21:36 J -38098824.77 -38098824.60 -38098824.43 0.0089 0.0004

Neptune -109022-05-07 00:14 J -38098736.66 -38098736.49 -38098736.32 0.0089 0.0009

Mars -109022-05-10 23:16 J -38098732.61 -38098732.53 -38098732.45 0.1732 0.1464

Neptune -109022-08-03 02:52 J -38098648.55 -38098648.38 -38098648.21 0.0089 0.0014

Neptune -109022-10-30 05:16 J -38098560.44 -38098560.28 -38098560.10 0.0089 0.0020

Neptune -109021-01-26 07:55 J -38098472.32 -38098472.17 -38098471.99 0.0089 0.0025

Mars -109021-03-22 20:24 J -38098415.72 -38098415.65 -38098415.57 0.1780 0.1349

Neptune -109021-04-23 10:48 J -38098384.21 -38098384.05 -38098383.88 0.0089 0.0030

Venus -109021-07-14 15:50 J -38098301.92 -38098301.84 -38098301.75 0.3758 0.2683

Neptune -109021-07-20 13:26 J -38098296.09 -38098295.94 -38098295.77 0.0089 0.0035

Pluto -109021-08-15 11:31 J -38098270.09 -38098270.02 -38098269.91 0.0060 0.0053

Neptune -109021-10-16 16:19 J -38098207.97 -38098207.82 -38098207.67 0.0089 0.0040

Pluto -109021-11-11 13:12 J -38098182.07 -38098181.95 -38098181.81 0.0060 0.0046

Neptune -109020-01-12 18:43 J -38098119.85 -38098119.72 -38098119.56 0.0089 0.0046

Pluto -109020-02-07 14:24 J -38098094.03 -38098093.90 -38098093.73 0.0060 0.0038

Neptune -109020-04-10 21:36 J -38098031.73 -38098031.60 -38098031.45 0.0089 0.0051

Pluto -109020-05-06 16:04 J -38098005.99 -38098005.83 -38098005.65 0.0060 0.0031

Neptune -109020-07-08 00:14 J -38097943.61 -38097943.49 -38097943.34 0.0089 0.0056

Pluto -109020-08-02 17:16 J -38097917.94 -38097917.78 -38097917.58 0.0060 0.0024

Neptune -109020-10-04 03:07 J -38097855.49 -38097855.37 -38097855.24 0.0089 0.0061

Pluto -109020-10-29 18:57 J -38097829.89 -38097829.71 -38097829.51 0.0060 0.0016

Uranus -109020-11-25 18:57 J -38097802.77 -38097802.71 -38097802.65 0.0132 0.0118

Neptune -109020-12-31 05:45 J -38097767.36 -38097767.26 -38097767.13 0.0089 0.0067

Pluto -109019-01-25 20:24 J -38097741.84 -38097741.65 -38097741.45 0.0060 0.0008

Uranus -109019-02-21 22:33 J -38097714.65 -38097714.56 -38097714.46 0.0132 0.0101

Neptune -109019-03-29 08:38 J -38097679.23 -38097679.14 -38097679.03 0.0089 0.0072

Pluto -109019-04-23 22:04 J -38097653.78 -38097653.58 -38097653.39 0.0060 0.0001

Uranus -109019-05-21 02:24 J -38097626.51 -38097626.40 -38097626.29 0.0132 0.0085

Earth -109019-05-25 19:40 J -38097621.77 -38097621.68 -38097621.58 0.2727 0.1320

Moon -109019-05-25 20:24 J -38097621.75 -38097621.65 -38097621.55 0.2725 0.1297 *

Neptune -109019-06-25 11:31 J -38097591.10 -38097591.02 -38097590.93 0.0089 0.0077

Pluto -109019-07-20 23:16 J -38097565.72 -38097565.53 -38097565.33 0.0061 0.0007

Uranus -109019-08-17 06:00 J -38097538.37 -38097538.25 -38097538.12 0.0132 0.0068

Neptune -109019-09-21 14:09 J -38097502.96 -38097502.91 -38097502.83 0.0089 0.0083

Pluto -109019-10-17 00:43 J -38097477.65 -38097477.47 -38097477.27 0.0061 0.0015

Uranus -109019-11-13 09:36 J -38097450.23 -38097450.10 -38097449.96 0.0132 0.0052

Neptune -109019-12-18 17:02 J -38097414.80 -38097414.79 -38097414.75 0.0089 0.0088

Pluto -109018-01-13 01:55 J -38097389.58 -38097389.42 -38097389.22 0.0061 0.0023

Uranus -109018-02-09 13:12 J -38097362.08 -38097361.95 -38097361.80 0.0132 0.0036

Jupiter -109018-03-14 19:26 J -38097328.83 -38097328.69 -38097328.54 0.0496 0.0231

Pluto -109018-04-11 03:50 J -38097301.51 -38097301.34 -38097301.17 0.0061 0.0030

Uranus -109018-05-08 17:02 J -38097273.94 -38097273.79 -38097273.65 0.0132 0.0020

Jupiter -109018-06-12 16:33 J -38097238.94 -38097238.81 -38097238.67 0.0494 0.0283

Pluto -109018-07-08 05:02 J -38097213.43 -38097213.29 -38097213.13 0.0061 0.0038

Uranus -109018-08-04 20:38 J -38097185.79 -38097185.64 -38097185.50 0.0132 0.0005

Pluto -109018-10-04 06:14 J -38097125.35 -38097125.24 -38097125.09 0.0061 0.0046

Uranus -109018-11-01 00:00 J -38097097.64 -38097097.50 -38097097.35 0.0132 0.0013

Pluto -109018-12-31 08:09 J -38097037.25 -38097037.16 -38097037.06 0.0061 0.0053

Uranus -109017-01-28 03:36 J -38097009.49 -38097009.35 -38097009.21 0.0132 0.0028

Uranus -109017-04-25 06:57 J -38096921.34 -38096921.21 -38096921.07 0.0132 0.0044

Uranus -109017-07-22 10:33 J -38096833.19 -38096833.06 -38096832.93 0.0132 0.0059

Uranus -109017-10-18 13:55 J -38096745.03 -38096744.92 -38096744.80 0.0132 0.0074

Uranus -109016-01-14 17:16 J -38096656.87 -38096656.78 -38096656.67 0.0131 0.0090

Uranus -109016-04-12 20:38 J -38096568.71 -38096568.64 -38096568.55 0.0131 0.0105

Uranus -109016-07-10 00:14 J -38096480.55 -38096480.49 -38096480.43 0.0131 0.0120

Venus -109015-01-28 13:55 J -38096278.04 -38096277.92 -38096277.80 0.3753 0.0771

Mars -109015-10-24 13:40 J -38096009.02 -38096008.93 -38096008.84 0.1708 0.1353

Saturn -109014-09-05 06:00 J -38095693.35 -38095693.25 -38095693.16 0.0271 0.0203

Mars -109014-09-07 10:48 J -38095691.15 -38095691.05 -38095690.95 0.1806 0.1053

Saturn -109014-12-02 19:12 J -38095604.83 -38095604.70 -38095604.57 0.0272 0.0129

Saturn -109013-02-29 08:24 J -38095516.29 -38095516.15 -38095516.00 0.0273 0.0056

Saturn -109013-05-27 21:36 J -38095427.75 -38095427.60 -38095427.46 0.0274 0.0018

Moon -109013-06-03 16:48 J -38095420.85 -38095420.80 -38095420.75 0.2746 0.2409

Earth -109013-06-03 17:31 J -38095420.82 -38095420.77 -38095420.72 0.2743 0.2460 *

Saturn -109013-08-24 10:19 J -38095339.20 -38095339.07 -38095338.93 0.0275 0.0091

Mars -109013-09-30 01:26 J -38095302.57 -38095302.44 -38095302.30 0.1727 0.0876

Saturn -109013-11-20 23:16 J -38095250.65 -38095250.53 -38095250.42 0.0276 0.0163

Saturn -109012-02-17 11:45 J -38095162.08 -38095162.01 -38095161.93 0.0276 0.0234

Jupiter -109012-05-15 03:50 J -38095075.48 -38095075.34 -38095075.21 0.0531 0.0135

Jupiter -109012-08-12 16:19 J -38094985.91 -38094985.82 -38094985.73 0.0533 0.0391

Mars -109012-08-13 04:33 J -38094985.41 -38094985.31 -38094985.20 0.1785 0.0909

Venus -109010-08-14 12:14 J -38094254.11 -38094253.99 -38094253.87 0.3748 0.1201

Jupiter -109007-12-31 19:55 J -38093018.78 -38093018.67 -38093018.56 0.0496 0.0358

Jupiter -109006-03-31 16:33 J -38092928.97 -38092928.81 -38092928.65 0.0495 0.0151

Moon -109006-05-28 14:38 J -38092871.00 -38092870.89 -38092870.77 0.2724 0.0247

Earth -109006-05-28 14:38 J -38092871.00 -38092870.89 -38092870.78 0.2732 0.0325 *

Venus -109006-08-14 03:21 J -38092793.41 -38092793.36 -38092793.32 0.3619 0.3285

Mars -109004-01-27 17:31 J -38092260.83 -38092260.77 -38092260.71 0.1811 0.1574

Venus -109004-02-27 11:02 J -38092230.10 -38092230.04 -38092229.98 0.3742 0.3263

Mars -109003-02-20 04:04 J -38091872.48 -38091872.33 -38091872.18 0.1722 0.0298

Moon -109003-11-17 00:43 J -38091602.61 -38091602.47 -38091602.33 0.2606 0.1133

Earth -109003-11-17 01:12 J -38091602.59 -38091602.45 -38091602.32 0.2612 0.1204 *

Mars -109002-01-03 12:28 J -38091555.10 -38091554.98 -38091554.86 0.1791 0.0456

109TH MILLENNIUM BCE

This is a list of transits of Mercury in the 109th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Venus	-109000-02-26 23:16	J	-38090769.63	-38090769.53	-38090769.42	0.3623	0.1692	
Jupiter	-109000-03-03 06:43	J	-38090765.34	-38090765.22	-38090765.10	0.0531	0.0260	
Saturn	-109000-04-03 18:00	J	-38090733.79	-38090733.75	-38090733.70	0.0290	0.0277	
Jupiter	-109000-05-31 19:40	J	-38090675.80	-38090675.68	-38090675.57	0.0532	0.0271	
Saturn	-109000-07-01 12:43	J	-38090645.10	-38090644.97	-38090644.85	0.0289	0.0182	
Saturn	-109000-09-28 07:26	J	-38090556.34	-38090556.19	-38090556.03	0.0288	0.0086	
Saturn	-109000-12-26 02:38	J	-38090467.56	-38090467.39	-38090467.23	0.0287	0.0012	
Saturn	-108999-03-24 21:50	J	-38090378.74	-38090378.59	-38090378.43	0.0286	0.0109	
Saturn	-108999-06-21 17:31	J	-38090289.88	-38090289.77	-38090289.65	0.0285	0.0207	
Venus	-108995-09-12 18:57	J	-38088745.83	-38088745.71	-38088745.59	0.3628	0.0190	
Jupiter	-108995-10-19 20:38	J	-38088708.68	-38088708.64	-38088708.60	0.0497	0.0481	
Jupiter	-108994-01-17 16:48	J	-38088618.96	-38088618.80	-38088618.63	0.0495	0.0025	
Mars	-108994-07-13 06:57	J	-38088442.36	-38088442.21	-38088442.06	0.1717	0.0260	
Mars	-108993-05-25 20:09	J	-38088124.78	-38088124.66	-38088124.53	0.1796	0.0033	
Moon	-108993-05-30 08:52	J	-38088120.24	-38088120.13	-38088120.02	0.2731	0.0583	
Earth	-108993-05-30 09:21	J	-38088120.22	-38088120.11	-38088120.01	0.2736	0.0694	*
Moon	-108990-11-20 04:48	J	-38086851.46	-38086851.30	-38086851.15	0.2604	0.0255	
Earth	-108990-11-20 06:00	J	-38086851.40	-38086851.25	-38086851.10	0.2608	0.0425	*
Venus	-108989-03-28 14:38	J	-38086722.00	-38086721.89	-38086721.78	0.3632	0.1340	
Jupiter	-108989-12-20 09:07	J	-38086455.22	-38086455.12	-38086455.03	0.0530	0.0391	
Jupiter	-108988-03-19 22:19	J	-38086365.71	-38086365.57	-38086365.44	0.0531	0.0143	
Earth	-108986-05-24 06:00	J	-38085570.32	-38085570.25	-38085570.19	0.2723	0.2130	

Moon -108986-05-24 06:43 J -38085570.29 -38085570.22 -38085570.15 0.2724 0.2033 *

Mars -108985-12-02 10:19 J -38085012.20 -38085012.07 -38085011.94 0.1712 0.0795

Saturn -108984-01-22 06:43 J -38084961.30 -38084961.22 -38084961.14 0.0272 0.0229

Saturn -108984-04-20 20:09 J -38084872.78 -38084872.66 -38084872.54 0.0272 0.0155

Saturn -108984-07-18 09:21 J -38084784.24 -38084784.11 -38084783.97 0.0273 0.0082

Venus -108984-10-12 09:50 J -38084698.16 -38084698.09 -38084698.01 0.3637 0.2793

Saturn -108984-10-14 22:33 J -38084695.70 -38084695.56 -38084695.41 0.0274 0.0009

Mars -108984-10-16 03:36 J -38084694.47 -38084694.35 -38084694.22 0.1801 0.0509

Saturn -108983-01-11 11:31 J -38084607.16 -38084607.02 -38084606.88 0.0275 0.0065

Saturn -108983-04-10 00:14 J -38084518.61 -38084518.49 -38084518.36 0.0276 0.0138

Saturn -108983-07-07 12:57 J -38084430.04 -38084429.96 -38084429.86 0.0277 0.0210

Jupiter -108983-11-05 17:02 J -38084308.94 -38084308.79 -38084308.62 0.0496 0.0105

Mars -108983-11-09 00:00 J -38084305.57 -38084305.50 -38084305.43 0.1732 0.1525

Jupiter -108982-02-03 14:52 J -38084218.97 -38084218.88 -38084218.79 0.0494 0.0416

Mars -108982-09-21 20:38 J -38083988.72 -38083988.64 -38083988.57 0.1780 0.1388

Moon -108980-06-02 03:07 J -38083369.46 -38083369.37 -38083369.28 0.2738 0.1660

Earth -108980-06-02 03:50 J -38083369.43 -38083369.34 -38083369.25 0.2740 0.1673 *

Jupiter -108977-10-08 11:02 J -38082145.05 -38082145.04 -38082145.03 0.0529 0.0528

Moon -108977-11-22 09:21 J -38082100.21 -38082100.11 -38082100.00 0.2603 0.1950

Earth -108977-11-22 11:02 J -38082100.13 -38082100.04 -38082099.94 0.2603 0.2072 *

Jupiter -108976-01-06 00:43 J -38082055.61 -38082055.47 -38082055.33 0.0531 0.0015

Jupiter -108976-04-05 12:43 J -38081965.98 -38081965.97 -38081965.96 0.0533 0.0529

Uranus -108975-01-26 09:50 J -38081670.15 -38081670.09 -38081670.01 0.0147 0.0133

Mars -108975-04-24 13:55 J -38081582.01 -38081581.92 -38081581.83 0.1708 0.1307

Uranus -108975-04-24 16:33 J -38081581.92 -38081581.81 -38081581.69 0.0147 0.0108 *

Uranus -108975-07-21 23:16 J -38081493.66 -38081493.53 -38081493.38 0.0147 0.0082

Uranus -108975-10-18 06:14 J -38081405.39 -38081405.24 -38081405.08 0.0147 0.0056

Uranus -108974-01-14 13:12 J -38081317.12 -38081316.95 -38081316.78 0.0147 0.0030

Mars -108974-03-08 10:48 J -38081264.15 -38081264.05 -38081263.94 0.1806 0.1007

Uranus -108974-04-12 20:09 J -38081228.83 -38081228.66 -38081228.48 0.0147 0.0005

Uranus -108974-07-10 03:21 J -38081140.53 -38081140.36 -38081140.19 0.0147 0.0024

Uranus -108974-10-06 10:19 J -38081052.23 -38081052.07 -38081051.90 0.0147 0.0051

Uranus -108973-01-02 17:31 J -38080963.91 -38080963.77 -38080963.62 0.0147 0.0078

Uranus -108973-03-31 00:28 J -38080875.58 -38080875.48 -38080875.34 0.0147 0.0107

Mars -108973-03-31 01:55 J -38080875.55 -38080875.42 -38080875.30 0.1727 0.0922 *

Earth -108973-05-26 00:43 J -38080819.57 -38080819.47 -38080819.37 0.2728 0.1117

Moon -108973-05-26 01:12 J -38080819.55 -38080819.45 -38080819.34 0.2723 0.1055 *

Uranus -108973-06-27 08:09 J -38080787.23 -38080787.16 -38080787.09 0.0148 0.0134

Mars -108972-02-11 04:48 J -38080558.40 -38080558.30 -38080558.20 0.1786 0.0951

Jupiter -108971-08-24 18:00 J -38079998.89 -38079998.75 -38079998.60 0.0496 0.0225

Saturn -108971-11-18 12:28 J -38079913.08 -38079912.98 -38079912.86 0.0289 0.0212

Jupiter -108971-11-22 15:07 J -38079909.00 -38079908.87 -38079908.73 0.0495 0.0292

Saturn -108970-02-15 07:12 J -38079824.34 -38079824.20 -38079824.04 0.0288 0.0117

Saturn -108970-05-15 02:24 J -38079735.57 -38079735.40 -38079735.24 0.0287 0.0020

Saturn -108970-08-11 21:36 J -38079646.76 -38079646.60 -38079646.44 0.0286 0.0078

Saturn -108970-11-08 17:16 J -38079557.91 -38079557.78 -38079557.65 0.0285 0.0176

Moon -108970-11-15 03:07 J -38079551.43 -38079551.37 -38079551.31 0.2610 0.2384

Earth -108970-11-15 02:52 J -38079551.42 -38079551.38 -38079551.33 0.2616 0.2478 *

Saturn -108969-02-05 12:57 J -38079468.99 -38079468.96 -38079468.91 0.0284 0.0275

Moon -108967-06-04 21:50 J -38078618.63 -38078618.59 -38078618.55 0.2749 0.2571

Earth -108967-06-04 22:19 J -38078618.59 -38078618.57 -38078618.54 0.2744 0.2659 *

Mars -108965-07-28 17:45 J -38077833.82 -38077833.76 -38077833.69 0.1811 0.1522

Jupiter -108965-10-25 02:09 J -38077745.55 -38077745.41 -38077745.27 0.0531 0.0134

Jupiter -108964-01-22 14:38 J -38077655.98 -38077655.89 -38077655.79 0.0533 0.0392

Venus -108964-02-18 15:07 J -38077628.98 -38077628.87 -38077628.77 0.3756 0.2027

Mars -108964-08-21 04:33 J -38077445.46 -38077445.31 -38077445.17 0.1722 0.0353

Mars -108963-07-04 12:43 J -38077128.09 -38077127.97 -38077127.85 0.1790 0.0498

Moon -108960-05-28 19:26 J -38076068.80 -38076068.69 -38076068.57 0.2725 0.0188

Earth -108960-05-28 19:26 J -38076068.80 -38076068.69 -38076068.58 0.2732 0.0126 *

Jupiter -108959-06-12 19:12 J -38075688.82 -38075688.70 -38075688.58 0.0497 0.0344

Venus -108959-09-04 13:12 J -38075605.08 -38075604.95 -38075604.83 0.3751 0.0123

Jupiter -108959-09-10 15:50 J -38075599.00 -38075598.84 -38075598.68 0.0495 0.0166

Moon -108957-11-17 06:57 J -38074800.35 -38074800.21 -38074800.07 0.2605 0.1019

Earth -108957-11-17 07:26 J -38074800.33 -38074800.19 -38074800.04 0.2611 0.0883 *

Saturn -108955-06-11 08:38 J -38074229.19 -38074229.14 -38074229.07 0.0271 0.0249

Saturn -108955-09-07 22:19 J -38074140.68 -38074140.57 -38074140.46 0.0272 0.0175

Saturn -108955-12-05 11:45 J -38074052.15 -38074052.01 -38074051.88 0.0273 0.0102

Mars -108954-01-11 07:26 J -38074015.34 -38074015.19 -38074015.04 0.1717 0.0204

Saturn -108954-03-04 00:43 J -38073963.61 -38073963.47 -38073963.32 0.0273 0.0030

Saturn -108954-05-31 13:55 J -38073875.07 -38073874.92 -38073874.78 0.0274 0.0045

Saturn -108954-08-28 02:38 J -38073786.52 -38073786.39 -38073786.26 0.0275 0.0117

Saturn -108954-11-24 15:21 J -38073697.96 -38073697.86 -38073697.76 0.0276 0.0189

Mars -108954-11-24 20:24 J -38073697.77 -38073697.65 -38073697.52 0.1796 0.0028 *

Saturn -108953-02-21 03:50 J -38073609.38 -38073609.34 -38073609.29 0.0277 0.0261

Venus -108953-03-20 11:31 J -38073581.13 -38073581.02 -38073580.91 0.3746 0.1897

Jupiter -108953-08-13 04:48 J -38073435.42 -38073435.30 -38073435.18 0.0531 0.0263

Jupiter -108953-11-10 17:45 J -38073345.88 -38073345.76 -38073345.64 0.0532 0.0268

Venus -108949-03-20 01:55 J -38072120.50 -38072120.42 -38072120.34 0.3620 0.2706

Jupiter -108947-03-31 19:26 J -38071378.73 -38071378.69 -38071378.63 0.0497 0.0470

Moon -108947-05-31 13:26 J -38071318.04 -38071317.94 -38071317.83 0.2732 0.0895

Earth -108947-05-31 14:09 J -38071318.01 -38071317.91 -38071317.80 0.2736 0.0887 *

Jupiter -108947-06-29 15:50 J -38071289.01 -38071288.84 -38071288.68 0.0495 0.0035

Neptune -108945-04-25 19:55 J -38070622.68 -38070622.67 -38070622.63 0.0088 0.0087

Mars -108945-06-02 10:33 J -38070585.19 -38070585.06 -38070584.92 0.1713 0.0743

Neptune -108945-07-22 22:04 J -38070534.63 -38070534.58 -38070534.52 0.0088 0.0082

Neptune -108945-10-18 23:45 J -38070446.56 -38070446.51 -38070446.42 0.0088 0.0078

Neptune -108944-01-15 01:55 J -38070358.49 -38070358.42 -38070358.33 0.0088 0.0073

Neptune -108944-04-13 03:50 J -38070270.42 -38070270.34 -38070270.23 0.0088 0.0068

Mars -108944-04-16 03:50 J -38070267.46 -38070267.34 -38070267.22 0.1801 0.0463

Neptune -108944-07-10 05:45 J -38070182.35 -38070182.26 -38070182.14 0.0088 0.0064

Venus -108944-10-03 21:50 J -38070096.70 -38070096.59 -38070096.47 0.3624 0.1140

Neptune -108944-10-06 07:40 J -38070094.28 -38070094.18 -38070094.06 0.0088 0.0059

Moon -108944-11-20 10:48 J -38070049.20 -38070049.05 -38070048.90 0.2605 0.0719

Earth -108944-11-20 12:28 J -38070049.13 -38070048.98 -38070048.84 0.2607 0.0746 *

Neptune -108943-01-02 09:36 J -38070006.21 -38070006.10 -38070005.97 0.0088 0.0055

Neptune -108943-03-31 11:31 J -38069918.13 -38069918.02 -38069917.88 0.0088 0.0050

Mars -108943-05-10 00:14 J -38069878.55 -38069878.49 -38069878.43 0.1732 0.1580

Neptune -108943-06-27 13:26 J -38069830.06 -38069829.94 -38069829.80 0.0088 0.0046

Neptune -108943-09-23 15:36 J -38069741.98 -38069741.85 -38069741.72 0.0088 0.0041

Neptune -108943-12-20 17:16 J -38069653.91 -38069653.78 -38069653.64 0.0088 0.0037

Neptune -108942-03-18 19:12 J -38069565.83 -38069565.70 -38069565.55 0.0088 0.0032

Mars -108942-03-22 20:38 J -38069561.71 -38069561.64 -38069561.57 0.1780 0.1429

Neptune -108942-06-14 21:07 J -38069477.76 -38069477.62 -38069477.47 0.0088 0.0028

Neptune -108942-09-10 22:48 J -38069389.68 -38069389.55 -38069389.39 0.0088 0.0024

Neptune -108942-12-08 00:57 J -38069301.61 -38069301.46 -38069301.32 0.0088 0.0019

Neptune -108941-03-05 02:38 J -38069213.53 -38069213.39 -38069213.24 0.0088 0.0014

Saturn -108941-04-06 11:16 J -38069181.11 -38069181.03 -38069180.95 0.0289 0.0246

Neptune -108941-06-01 04:33 J -38069125.46 -38069125.31 -38069125.16 0.0088 0.0010

Jupiter -108941-06-01 07:26 J -38069125.28 -38069125.19 -38069125.09 0.0530 0.0390 *

Saturn -108941-07-04 05:45 J -38069092.39 -38069092.26 -38069092.12 0.0288 0.0152

Neptune -108941-08-28 06:28 J -38069037.38 -38069037.23 -38069037.08 0.0088 0.0005

Jupiter -108941-08-29 20:52 J -38069035.77 -38069035.63 -38069035.50 0.0532 0.0146

Saturn -108941-10-01 00:43 J -38069003.63 -38069003.47 -38069003.31 0.0288 0.0055

Neptune -108941-11-24 08:09 J -38068949.30 -38068949.16 -38068949.01 0.0088 0.0002

Saturn -108941-12-28 19:55 J -38068914.84 -38068914.67 -38068914.51 0.0287 0.0042

Neptune -108940-02-20 10:04 J -38068861.23 -38068861.08 -38068860.93 0.0088 0.0004

Saturn -108940-03-27 15:21 J -38068826.01 -38068825.86 -38068825.71 0.0286 0.0140

Neptune -108940-05-19 11:45 J -38068773.15 -38068773.01 -38068772.86 0.0088 0.0008

Earth -108940-05-24 10:48 J -38068768.13 -38068768.05 -38068767.97 0.2724 0.1924

Moon -108940-05-24 11:31 J -38068768.10 -38068768.02 -38068767.94 0.2723 0.1887 *

Saturn -108940-06-24 11:02 J -38068737.13 -38068737.04 -38068736.95 0.0285 0.0238

Neptune -108940-08-15 13:40 J -38068685.08 -38068684.93 -38068684.78 0.0088 0.0012

Neptune -108940-11-11 15:21 J -38068597.00 -38068596.86 -38068596.71 0.0088 0.0017

Neptune -108939-02-07 17:02 J -38068508.92 -38068508.79 -38068508.64 0.0088 0.0021

Neptune -108939-05-06 18:57 J -38068420.85 -38068420.71 -38068420.57 0.0088 0.0025

Neptune -108939-08-02 20:38 J -38068332.77 -38068332.64 -38068332.50 0.0088 0.0030

Neptune -108939-10-29 22:33 J -38068244.70 -38068244.56 -38068244.43 0.0088 0.0034

Neptune -108938-01-26 00:00 J -38068156.62 -38068156.50 -38068156.36 0.0088 0.0039

Venus -108938-04-19 17:31 J -38068072.88 -38068072.77 -38068072.65 0.3629 0.0400

Neptune -108938-04-24 01:55 J -38068068.54 -38068068.42 -38068068.29 0.0088 0.0042

Neptune -108938-07-21 03:36 J -38067980.47 -38067980.35 -38067980.22 0.0088 0.0047

Neptune -108938-10-17 05:31 J -38067892.39 -38067892.27 -38067892.15 0.0088 0.0051

Neptune -108937-01-13 06:57 J -38067804.31 -38067804.21 -38067804.09 0.0088 0.0055

Neptune -108937-04-10 08:38 J -38067716.24 -38067716.14 -38067716.02 0.0088 0.0059

Neptune -108937-07-07 10:19 J -38067628.16 -38067628.07 -38067627.96 0.0088 0.0064

Neptune -108937-10-03 12:00 J -38067540.08 -38067540.00 -38067539.90 0.0088 0.0068

Neptune -108937-12-30 13:55 J -38067452.00 -38067451.92 -38067451.83 0.0088 0.0072

Neptune -108936-03-28 15:36 J -38067363.92 -38067363.85 -38067363.78 0.0088 0.0076

Neptune -108936-06-24 17:16 J -38067275.84 -38067275.78 -38067275.72 0.0088 0.0080

Uranus -108936-09-18 23:16 J -38067189.57 -38067189.53 -38067189.49 0.0132 0.0127

Neptune -108936-09-20 18:57 J -38067187.75 -38067187.71 -38067187.67 0.0088 0.0084

Mars -108936-10-23 14:24 J -38067155.00 -38067154.90 -38067154.80 0.1708 0.1252

Uranus -108936-12-16 02:52 J -38067101.45 -38067101.38 -38067101.29 0.0132 0.0110

Neptune -108936-12-17 20:38 J -38067099.65 -38067099.64 -38067099.63 0.0088 0.0088

Uranus -108935-03-14 06:43 J -38067013.32 -38067013.22 -38067013.11 0.0132 0.0094

Jupiter -108935-04-17 16:04 J -38066978.99 -38066978.83 -38066978.67 0.0496 0.0094

Uranus -108935-06-10 10:19 J -38066925.18 -38066925.07 -38066924.94 0.0132 0.0077

Jupiter -108935-07-16 13:40 J -38066889.01 -38066888.93 -38066888.85 0.0494 0.0425

Mars -108935-09-06 11:02 J -38066837.15 -38066837.04 -38066836.94 0.1806 0.0961

Uranus -108935-09-06 13:55 J -38066837.04 -38066836.92 -38066836.78 0.0132 0.0061 *

Uranus -108935-12-03 17:45 J -38066748.89 -38066748.76 -38066748.62 0.0132 0.0045

Uranus -108934-03-01 21:21 J -38066660.75 -38066660.61 -38066660.46 0.0132 0.0029

Uranus -108934-05-29 00:57 J -38066572.60 -38066572.46 -38066572.31 0.0132 0.0013

Moon -108934-06-03 08:09 J -38066567.25 -38066567.16 -38066567.08 0.2741 0.1746

Earth -108934-06-03 08:52 J -38066567.21 -38066567.13 -38066567.05 0.2741 0.1879 *

Uranus -108934-08-25 04:33 J -38066484.45 -38066484.31 -38066484.16 0.0132 0.0004

Mars -108934-09-30 02:24 J -38066448.52 -38066448.40 -38066448.27 0.1727 0.0985

Uranus -108934-11-21 08:09 J -38066396.30 -38066396.16 -38066396.02 0.0132 0.0019

Uranus -108933-02-17 11:45 J -38066308.15 -38066308.01 -38066307.88 0.0132 0.0035

Uranus -108933-05-15 15:07 J -38066220.00 -38066219.87 -38066219.74 0.0132 0.0051

Uranus -108933-08-11 18:28 J -38066131.85 -38066131.73 -38066131.60 0.0132 0.0066

Mars -108933-08-12 04:48 J -38066131.40 -38066131.30 -38066131.20 0.1785 0.0994

Venus -108933-11-02 13:12 J -38066049.06 -38066048.95 -38066048.85 0.3634 0.1869

Uranus -108933-11-07 21:50 J -38066043.69 -38066043.59 -38066043.47 0.0131 0.0082

Uranus -108932-02-04 01:26 J -38065955.53 -38065955.44 -38065955.34 0.0131 0.0097

Uranus -108932-05-03 04:48 J -38065867.37 -38065867.30 -38065867.22 0.0131 0.0112

Uranus -108932-07-30 08:09 J -38065779.19 -38065779.16 -38065779.12 0.0131 0.0127

Moon -108931-11-23 16:04 J -38065297.91 -38065297.83 -38065297.76 0.2604 0.2245

Earth -108931-11-23 17:31 J -38065297.83 -38065297.77 -38065297.71 0.2602 0.2400 *

Jupiter -108929-03-20 09:50 J -38064815.11 -38064815.09 -38064815.07 0.0529 0.0521

Jupiter -108929-06-17 23:16 J -38064725.66 -38064725.53 -38064725.39 0.0531 0.0025

Pluto -108927-03-08 21:36 J -38064096.63 -38064096.60 -38064096.53 0.0085 0.0078

Venus -108927-05-19 08:24 J -38064025.20 -38064025.15 -38064025.11 0.3638 0.3298

Earth -108927-05-27 05:45 J -38064017.37 -38064017.26 -38064017.16 0.2728 0.0918

Moon -108927-05-27 06:00 J -38064017.36 -38064017.25 -38064017.14 0.2722 0.0865 *

Pluto -108927-06-04 23:16 J -38064008.62 -38064008.53 -38064008.44 0.0085 0.0063

Pluto -108927-09-01 00:28 J -38063920.58 -38063920.48 -38063920.37 0.0084 0.0049

Pluto -108927-11-28 01:55 J -38063832.54 -38063832.42 -38063832.30 0.0084 0.0035

Pluto -108926-02-24 03:07 J -38063744.50 -38063744.37 -38063744.24 0.0084 0.0020

Pluto -108926-05-23 04:19 J -38063656.45 -38063656.32 -38063656.18 0.0084 0.0007

Pluto -108926-08-19 05:31 J -38063568.40 -38063568.27 -38063568.13 0.0084 0.0008

Pluto -108926-11-15 06:43 J -38063480.34 -38063480.22 -38063480.08 0.0084 0.0022

Saturn -108925-01-25 23:31 J -38063408.62 -38063408.52 -38063408.42 0.0272 0.0200

Mars -108925-01-27 18:00 J -38063406.82 -38063406.75 -38063406.68 0.1811 0.1473

Pluto -108925-02-11 08:09 J -38063392.28 -38063392.16 -38063392.04 0.0084 0.0035

Saturn -108925-04-23 12:43 J -38063320.10 -38063319.97 -38063319.84 0.0273 0.0127

Pluto -108925-05-09 09:21 J -38063304.22 -38063304.11 -38063304.00 0.0083 0.0049

Saturn -108925-07-21 01:55 J -38063231.56 -38063231.42 -38063231.27 0.0274 0.0054

Pluto -108925-08-05 10:19 J -38063216.14 -38063216.07 -38063215.97 0.0083 0.0063

Saturn -108925-10-17 15:07 J -38063143.01 -38063142.87 -38063142.73 0.0274 0.0020

Pluto -108925-11-01 11:31 J -38063128.06 -38063128.02 -38063127.95 0.0083 0.0076

Saturn -108924-01-14 04:04 J -38063054.47 -38063054.33 -38063054.20 0.0275 0.0093

Mars -108924-02-19 05:02 J -38063018.44 -38063018.29 -38063018.15 0.1722 0.0406

Saturn -108924-04-12 16:48 J -38062965.91 -38062965.80 -38062965.69 0.0276 0.0165

Saturn -108924-07-10 05:31 J -38062877.34 -38062877.27 -38062877.20 0.0277 0.0237

Moon -108924-11-15 09:07 J -38062749.20 -38062749.12 -38062749.04 0.2609 0.2203

Earth -108924-11-15 09:07 J -38062749.20 -38062749.12 -38062749.03 0.2616 0.2168 *

Mars -108923-01-02 12:43 J -38062701.09 -38062700.97 -38062700.85 0.1791 0.0541

Jupiter -108923-02-03 16:33 J -38062668.96 -38062668.81 -38062668.67 0.0496 0.0220

Jupiter -108923-05-04 13:40 J -38062579.07 -38062578.93 -38062578.80 0.0495 0.0295

Jupiter -108917-04-06 01:40 J -38060415.57 -38060415.43 -38060415.29 0.0531 0.0118

Jupiter -108917-07-04 14:09 J -38060326.00 -38060325.91 -38060325.82 0.0532 0.0407

Mars -108915-07-12 07:40 J -38059588.33 -38059588.18 -38059588.03 0.1717 0.0160

Mars -108914-05-25 20:38 J -38059270.77 -38059270.64 -38059270.52 0.1796 0.0085

Moon -108914-05-30 00:14 J -38059266.60 -38059266.49 -38059266.38 0.2726 0.0087

Earth -108914-05-30 00:28 J -38059266.59 -38059266.48 -38059266.37 0.2733 0.0095 *

Venus -108913-03-11 16:19 J -38058979.88 -38058979.82 -38058979.76 0.3760 0.3232

Saturn -108912-08-24 11:31 J -38058449.06 -38058449.02 -38058448.97 0.0289 0.0274

Saturn -108912-11-21 06:00 J -38058360.37 -38058360.25 -38058360.12 0.0288 0.0180

Jupiter -108912-11-22 17:31 J -38058358.89 -38058358.77 -38058358.65 0.0497 0.0340

Saturn -108911-02-18 00:57 J -38058271.62 -38058271.46 -38058271.30 0.0287 0.0084

Jupiter -108911-02-20 14:09 J -38058269.06 -38058268.91 -38058268.75 0.0495 0.0171

Saturn -108911-05-17 19:55 J -38058182.83 -38058182.67 -38058182.50 0.0287 0.0015

Saturn -108911-08-14 15:21 J -38058094.01 -38058093.86 -38058093.70 0.0286 0.0111

Saturn -108911-11-11 11:02 J -38058005.15 -38058005.04 -38058004.93 0.0285 0.0209

Moon -108911-11-18 12:57 J -38057998.11 -38057997.96 -38057997.81 0.2607 0.0561

Earth -108911-11-18 13:55 J -38057998.07 -38057997.92 -38057997.77 0.2611 0.0560 *

Venus -108908-09-25 14:09 J -38056956.02 -38056955.91 -38056955.79 0.3755 0.1361

Mars -108906-12-02 11:16 J -38056158.17 -38056158.03 -38056157.89 0.1713 0.0684

Jupiter -108905-01-24 02:52 J -38056105.50 -38056105.38 -38056105.25 0.0530 0.0264

Jupiter -108905-04-22 15:50 J -38056015.96 -38056015.84 -38056015.72 0.0532 0.0267

Mars -108905-10-15 04:04 J -38055840.46 -38055840.33 -38055840.21 0.1801 0.0417

Mars -108904-11-08 00:57 J -38055451.51 -38055451.46 -38055451.42 0.1732 0.1638

Mars -108903-09-20 20:52 J -38055134.70 -38055134.63 -38055134.56 0.1780 0.1475

Venus -108902-04-11 12:14 J -38054932.11 -38054931.99 -38054931.86 0.3750 0.0587

Moon -108901-05-31 18:28 J -38054515.84 -38054515.73 -38054515.63 0.2733 0.0968

Earth -108901-05-31 19:12 J -38054515.81 -38054515.70 -38054515.60 0.2737 0.1091 *

Jupiter -108900-09-10 18:28 J -38054048.78 -38054048.73 -38054048.67 0.0497 0.0459

Jupiter -108900-12-09 14:52 J -38053959.05 -38053958.88 -38053958.72 0.0495 0.0047

Moon -108898-11-21 17:16 J -38053246.93 -38053246.78 -38053246.64 0.2605 0.0846

Earth -108898-11-21 18:57 J -38053246.85 -38053246.71 -38053246.57 0.2606 0.1081 *

Venus -108897-10-25 10:48 J -38052908.14 -38052908.05 -38052907.96 0.3745 0.2598

Mars -108896-04-23 14:52 J -38052727.99 -38052727.88 -38052727.78 0.1708 0.1202

Saturn -108896-06-14 01:55 J -38052676.50 -38052676.42 -38052676.33 0.0271 0.0218

Saturn -108896-09-10 15:21 J -38052587.98 -38052587.86 -38052587.73 0.0272 0.0144

Saturn -108896-12-08 04:48 J -38052499.44 -38052499.30 -38052499.16 0.0273 0.0070

Saturn -108895-03-06 17:45 J -38052410.90 -38052410.76 -38052410.61 0.0274 0.0007

Mars -108895-03-07 11:16 J -38052410.14 -38052410.03 -38052409.93 0.1806 0.0914

Saturn -108895-06-03 06:43 J -38052322.35 -38052322.22 -38052322.08 0.0275 0.0076

Saturn -108895-08-30 19:26 J -38052233.80 -38052233.69 -38052233.56 0.0275 0.0149

Saturn -108895-11-27 08:09 J -38052145.24 -38052145.16 -38052145.07 0.0276 0.0220

Mars -108894-03-31 03:07 J -38052021.50 -38052021.37 -38052021.25 0.1727 0.1041

Earth -108894-05-25 15:50 J -38051965.93 -38051965.84 -38051965.75 0.2724 0.1722

Moon -108894-05-25 16:33 J -38051965.90 -38051965.81 -38051965.72 0.2721 0.1604 *

Jupiter -108894-11-12 05:16 J -38051795.37 -38051795.28 -38051795.18 0.0530 0.0396

Jupiter -108893-02-09 18:43 J -38051705.85 -38051705.72 -38051705.59 0.0532 0.0140

Mars -108893-02-11 05:02 J -38051704.39 -38051704.29 -38051704.19 0.1786 0.1037

Venus -108893-10-25 00:43 J -38051447.57 -38051447.47 -38051447.38 0.3621 0.2137

Uranus -108891-02-15 16:48 J -38050968.87 -38050968.80 -38050968.70 0.0147 0.0128

Uranus -108891-05-14 23:45 J -38050880.63 -38050880.51 -38050880.38 0.0147 0.0102

Uranus -108891-08-11 06:43 J -38050792.37 -38050792.22 -38050792.08 0.0147 0.0076

Uranus -108891-11-07 13:26 J -38050704.10 -38050703.94 -38050703.78 0.0147 0.0050

Uranus -108890-02-03 20:24 J -38050615.82 -38050615.65 -38050615.48 0.0147 0.0024

Uranus -108890-05-03 03:21 J -38050527.53 -38050527.36 -38050527.18 0.0147 0.0003

Uranus -108890-07-30 10:19 J -38050439.23 -38050439.07 -38050438.89 0.0147 0.0030

Uranus -108890-10-26 17:31 J -38050350.93 -38050350.77 -38050350.61 0.0147 0.0057

Uranus -108889-01-23 00:28 J -38050262.61 -38050262.48 -38050262.33 0.0147 0.0085

Uranus -108889-04-20 07:55 J -38050174.28 -38050174.17 -38050174.05 0.0147 0.0112

Uranus -108889-07-17 15:07 J -38050085.92 -38050085.87 -38050085.81 0.0148 0.0140

Moon -108888-06-03 12:57 J -38049765.03 -38049764.96 -38049764.89 0.2744 0.2085

Earth -108888-06-03 13:40 J -38049765.00 -38049764.93 -38049764.86 0.2741 0.2079 *

Jupiter -108888-09-27 14:52 J -38049649.04 -38049648.88 -38049648.72 0.0496 0.0086

Jupiter -108888-12-26 12:14 J -38049559.06 -38049558.99 -38049558.91 0.0494 0.0433

Venus -108887-05-10 20:24 J -38049423.76 -38049423.65 -38049423.53 0.3626 0.0599

Mars -108887-09-13 18:57 J -38049297.72 -38049297.71 -38049297.70 0.1703 0.1695

Mars -108886-07-28 18:00 J -38048979.82 -38048979.75 -38048979.67 0.1811 0.1429

Mars -108885-08-20 05:16 J -38048591.42 -38048591.28 -38048591.13 0.1722 0.0458

Mars -108884-07-03 12:57 J -38048274.08 -38048273.96 -38048273.84 0.1791 0.0584

Saturn -108882-04-10 05:16 J -38047628.38 -38047628.28 -38047628.16 0.0289 0.0211

Saturn -108882-07-08 00:00 J -38047539.65 -38047539.50 -38047539.35 0.0288 0.0116

Jupiter -108882-08-31 07:55 J -38047485.19 -38047485.17 -38047485.15 0.0529 0.0523

Saturn -108882-10-04 18:57 J -38047450.87 -38047450.71 -38047450.54 0.0287 0.0020

Venus -108882-11-24 16:04 J -38047399.94 -38047399.83 -38047399.71 0.3630 0.0922

Jupiter -108882-11-28 21:36 J -38047395.74 -38047395.60 -38047395.46 0.0531 0.0018

Saturn -108881-01-01 14:09 J -38047362.07 -38047361.91 -38047361.74 0.0286 0.0079

Saturn -108881-03-30 09:36 J -38047273.22 -38047273.10 -38047272.96 0.0285 0.0177

Earth -108881-05-27 10:33 J -38047215.16 -38047215.06 -38047214.95 0.2729 0.0715

Moon -108881-05-27 10:48 J -38047215.15 -38047215.05 -38047214.94 0.2722 0.0721 *

Saturn -108881-06-27 05:31 J -38047184.31 -38047184.27 -38047184.22 0.0284 0.0274

Moon -108878-11-16 15:21 J -38045946.97 -38045946.86 -38045946.75 0.2608 0.1848

Earth -108878-11-16 15:36 J -38045946.96 -38045946.85 -38045946.74 0.2615 0.1849 *

Venus -108876-06-09 11:31 J -38045376.11 -38045376.02 -38045375.93 0.3635 0.2382

Jupiter -108876-07-16 15:07 J -38045339.01 -38045338.87 -38045338.72 0.0496 0.0213

Jupiter -108876-10-14 12:14 J -38045249.12 -38045248.99 -38045248.86 0.0494 0.0302

Mars -108875-01-10 08:24 J -38045161.30 -38045161.15 -38045161.00 0.1717 0.0105

Mars -108875-11-23 20:38 J -38044843.77 -38044843.64 -38044843.52 0.1796 0.0117

Jupiter -108870-09-17 00:14 J -38043085.63 -38043085.49 -38043085.36 0.0531 0.0114

Jupiter -108870-12-15 12:43 J -38042996.06 -38042995.97 -38042995.88 0.0532 0.0411

Moon -108868-05-30 04:48 J -38042464.41 -38042464.30 -38042464.18 0.2727 0.0275

Earth -108868-05-30 05:16 J -38042464.39 -38042464.28 -38042464.17 0.2733 0.0301 *

Saturn -108867-11-01 03:07 J -38041944.43 -38041944.37 -38041944.30 0.0272 0.0242

Saturn -108866-01-28 16:33 J -38041855.92 -38041855.81 -38041855.69 0.0272 0.0169

Saturn -108866-04-27 06:00 J -38041767.39 -38041767.25 -38041767.11 0.0273 0.0095

Mars -108866-06-02 11:31 J -38041731.16 -38041731.02 -38041730.88 0.1712 0.0640

Saturn -108866-07-24 19:12 J -38041678.84 -38041678.70 -38041678.55 0.0274 0.0021

Saturn -108866-10-21 08:09 J -38041590.30 -38041590.16 -38041590.01 0.0275 0.0052

Saturn -108865-01-17 21:07 J -38041501.75 -38041501.62 -38041501.49 0.0276 0.0124

Mars -108865-04-15 04:04 J -38041413.45 -38041413.33 -38041413.21 0.1801 0.0368

Saturn -108865-04-15 09:50 J -38041413.19 -38041413.09 -38041412.99 0.0276 0.0197

Saturn -108865-07-12 22:19 J -38041324.60 -38041324.57 -38041324.53 0.0277 0.0268

Moon -108865-11-18 18:57 J -38041195.87 -38041195.71 -38041195.56 0.2607 0.0397

Earth -108865-11-18 20:24 J -38041195.81 -38041195.65 -38041195.50 0.2610 0.0248 *

Jupiter -108864-05-04 15:36 J -38041028.97 -38041028.85 -38041028.73 0.0497 0.0339

Mars -108864-05-09 01:26 J -38041024.47 -38041024.44 -38041024.41 0.1732 0.1693

Jupiter -108864-08-02 12:14 J -38040939.15 -38040938.99 -38040938.84 0.0495 0.0171

Mars -108863-03-21 20:52 J -38040707.69 -38040707.63 -38040707.57 0.1781 0.1512

Neptune -108862-04-05 19:40 J -38040327.69 -38040327.68 -38040327.67 0.0089 0.0088

Neptune -108862-07-02 21:36 J -38040239.63 -38040239.60 -38040239.53 0.0089 0.0084

Neptune -108862-09-29 00:14 J -38040151.55 -38040151.49 -38040151.41 0.0089 0.0079

Neptune -108862-12-26 02:38 J -38040063.47 -38040063.39 -38040063.29 0.0089 0.0074

Neptune -108861-03-23 05:16 J -38039975.38 -38039975.28 -38039975.17 0.0089 0.0069

Earth -108861-05-23 01:55 J -38039914.46 -38039914.42 -38039914.38 0.2720 0.2535

Moon -108861-05-23 02:38 J -38039914.44 -38039914.39 -38039914.34 0.2722 0.2394 *

Neptune -108861-06-19 07:26 J -38039887.29 -38039887.19 -38039887.06 0.0089 0.0065

Neptune -108861-09-15 10:04 J -38039799.19 -38039799.08 -38039798.95 0.0089 0.0060

Neptune -108861-12-12 12:28 J -38039711.10 -38039710.98 -38039710.84 0.0089 0.0055

Neptune -108860-03-10 15:07 J -38039623.00 -38039622.87 -38039622.73 0.0089 0.0050

Neptune -108860-06-06 17:45 J -38039534.90 -38039534.76 -38039534.62 0.0089 0.0045

Neptune -108860-09-02 20:09 J -38039446.80 -38039446.66 -38039446.51 0.0089 0.0040

Neptune -108860-11-29 22:48 J -38039358.70 -38039358.55 -38039358.40 0.0089 0.0035

Neptune -108859-02-26 00:57 J -38039270.60 -38039270.46 -38039270.29 0.0089 0.0031

Neptune -108859-05-25 03:36 J -38039182.50 -38039182.35 -38039182.18 0.0089 0.0026

Neptune -108859-08-21 06:14 J -38039094.40 -38039094.24 -38039094.07 0.0089 0.0021

Neptune -108859-11-17 08:52 J -38039006.29 -38039006.13 -38039005.96 0.0089 0.0015

Neptune -108858-02-13 11:31 J -38038918.19 -38038918.02 -38038917.85 0.0089 0.0010

Neptune -108858-05-12 14:09 J -38038830.08 -38038829.91 -38038829.74 0.0089 0.0005

Jupiter -108858-07-06 02:09 J -38038775.53 -38038775.41 -38038775.28 0.0530 0.0251

Neptune -108858-08-08 16:48 J -38038741.97 -38038741.80 -38038741.63 0.0089 0.0002

Jupiter -108858-10-03 15:07 J -38038685.98 -38038685.87 -38038685.75 0.0532 0.0280

Neptune -108858-11-04 19:12 J -38038653.86 -38038653.70 -38038653.53 0.0089 0.0005

Neptune -108857-01-31 21:50 J -38038565.76 -38038565.59 -38038565.42 0.0089 0.0010

Neptune -108857-04-29 00:28 J -38038477.64 -38038477.48 -38038477.31 0.0089 0.0015

Neptune -108857-07-26 03:07 J -38038389.53 -38038389.37 -38038389.20 0.0089 0.0020

Venus -108857-10-16 15:21 J -38038306.95 -38038306.86 -38038306.77 0.3758 0.2588

Neptune -108857-10-22 05:45 J -38038301.42 -38038301.26 -38038301.09 0.0089 0.0025

Mars -108857-10-22 15:07 J -38038300.97 -38038300.87 -38038300.76 0.1708 0.1153

Neptune -108856-01-18 08:24 J -38038213.30 -38038213.15 -38038212.98 0.0089 0.0031

Neptune -108856-04-16 11:02 J -38038125.19 -38038125.04 -38038124.87 0.0089 0.0036

Neptune -108856-07-13 13:40 J -38038037.07 -38038036.93 -38038036.77 0.0089 0.0041

Mars -108856-09-05 11:31 J -38037983.14 -38037983.02 -38037982.91 0.1806 0.0864

Neptune -108856-10-09 16:33 J -38037948.95 -38037948.81 -38037948.66 0.0089 0.0046

Neptune -108855-01-05 19:26 J -38037860.83 -38037860.69 -38037860.55 0.0089 0.0051

Neptune -108855-04-03 21:50 J -38037772.71 -38037772.59 -38037772.45 0.0089 0.0057

Moon -108855-06-01 23:16 J -38037713.63 -38037713.53 -38037713.43 0.2735 0.1253

Earth -108855-06-02 00:00 J -38037713.60 -38037713.50 -38037713.40 0.2737 0.1288 *

Neptune -108855-07-01 00:28 J -38037684.59 -38037684.48 -38037684.34 0.0089 0.0062

Neptune -108855-09-27 03:21 J -38037596.46 -38037596.36 -38037596.24 0.0089 0.0067

Mars -108855-09-29 03:21 J -38037594.48 -38037594.36 -38037594.24 0.1727 0.1089

Neptune -108855-12-24 06:28 J -38037508.33 -38037508.23 -38037508.13 0.0089 0.0072

Neptune -108854-03-22 08:52 J -38037420.20 -38037420.13 -38037420.03 0.0089 0.0078

Neptune -108854-06-18 11:45 J -38037332.06 -38037332.01 -38037331.94 0.0089 0.0083

Mars -108854-08-12 05:02 J -38037277.38 -38037277.29 -38037277.19 0.1786 0.1084

Neptune -108854-09-14 14:52 J -38037243.90 -38037243.88 -38037243.87 0.0089 0.0088

Saturn -108853-08-27 06:00 J -38036896.34 -38036896.25 -38036896.16 0.0289 0.0237

Saturn -108853-11-24 00:43 J -38036807.62 -38036807.47 -38036807.33 0.0288 0.0142

Jupiter -108852-02-20 16:33 J -38036718.86 -38036718.81 -38036718.75 0.0497 0.0459

Saturn -108852-02-20 19:26 J -38036718.85 -38036718.69 -38036718.52 0.0287 0.0047 *

Saturn -108852-05-20 14:38 J -38036630.05 -38036629.89 -38036629.72 0.0286 0.0051

Jupiter -108852-05-21 12:57 J -38036629.13 -38036628.96 -38036628.80 0.0495 0.0048

Saturn -108852-08-17 10:04 J -38036541.22 -38036541.08 -38036540.93 0.0285 0.0149

Uranus -108852-10-09 07:12 J -38036488.26 -38036488.20 -38036488.14 0.0133 0.0120

Saturn -108852-11-14 05:45 J -38036452.34 -38036452.26 -38036452.17 0.0284 0.0247

Moon -108852-11-21 23:31 J -38036444.65 -38036444.52 -38036444.39 0.2606 0.1377

Earth -108852-11-22 01:12 J -38036444.58 -38036444.45 -38036444.32 0.2606 0.1400 *

Uranus -108851-01-05 10:48 J -38036400.13 -38036400.05 -38036399.95 0.0132 0.0103

Uranus -108851-04-03 14:38 J -38036312.00 -38036311.89 -38036311.78 0.0132 0.0087

Venus -108851-05-02 13:26 J -38036283.06 -38036282.94 -38036282.82 0.3753 0.0705

Uranus -108851-06-30 18:14 J -38036223.85 -38036223.74 -38036223.61 0.0132 0.0070

Uranus -108851-09-26 22:04 J -38036135.71 -38036135.58 -38036135.45 0.0132 0.0054

Uranus -108851-12-24 01:40 J -38036047.57 -38036047.43 -38036047.29 0.0132 0.0038

Uranus -108850-03-22 05:16 J -38035959.42 -38035959.28 -38035959.13 0.0132 0.0022

Uranus -108850-06-18 08:52 J -38035871.27 -38035871.13 -38035870.98 0.0132 0.0006

Uranus -108850-09-14 12:28 J -38035783.12 -38035782.98 -38035782.83 0.0132 0.0011

Uranus -108850-12-11 16:04 J -38035694.97 -38035694.83 -38035694.69 0.0132 0.0026

Uranus -108849-03-08 19:40 J -38035606.82 -38035606.68 -38035606.55 0.0132 0.0042

Uranus -108849-06-04 23:02 J -38035518.67 -38035518.54 -38035518.41 0.0132 0.0058

Uranus -108849-09-01 02:38 J -38035430.51 -38035430.39 -38035430.27 0.0132 0.0073

Uranus -108849-11-28 05:45 J -38035342.35 -38035342.26 -38035342.15 0.0132 0.0089

Uranus -108848-02-24 09:21 J -38035254.19 -38035254.11 -38035254.02 0.0131 0.0103

Uranus -108848-05-23 12:43 J -38035166.02 -38035165.97 -38035165.91 0.0131 0.0118

Earth -108848-05-25 20:52 J -38035163.73 -38035163.63 -38035163.54 0.2725 0.1520

Moon -108848-05-25 21:21 J -38035163.70 -38035163.61 -38035163.52 0.2719 0.1533 *

Mars -108847-03-14 19:12 J -38034870.73 -38034870.70 -38034870.66 0.1703 0.1646

Mars -108846-01-26 18:14 J -38034552.82 -38034552.74 -38034552.66 0.1811 0.1382

Jupiter -108846-04-24 03:21 J -38034465.45 -38034465.36 -38034465.26 0.0530 0.0398

Jupiter -108846-07-22 16:48 J -38034375.94 -38034375.80 -38034375.67 0.0532 0.0137

Venus -108846-11-16 11:31 J -38034259.13 -38034259.02 -38034258.90 0.3748 0.1262

Mars -108845-02-19 05:45 J -38034164.40 -38034164.26 -38034164.11 0.1722 0.0518

Mars -108844-01-01 12:57 J -38033847.07 -38033846.96 -38033846.84 0.1790 0.0629

Moon -108842-06-04 18:00 J -38032962.81 -38032962.75 -38032962.68 0.2746 0.2166

Earth -108842-06-04 18:43 J -38032962.78 -38032962.72 -38032962.66 0.2741 0.2279 *

Venus -108842-11-16 03:07 J -38032798.42 -38032798.37 -38032798.31 0.3618 0.3160

Jupiter -108840-03-09 13:26 J -38032319.10 -38032318.94 -38032318.78 0.0496 0.0078

Venus -108840-06-01 10:19 J -38032235.13 -38032235.07 -38032235.02 0.3743 0.3299

Jupiter -108840-06-07 11:02 J -38032229.11 -38032229.04 -38032228.97 0.0494 0.0441

Saturn -108837-03-20 06:00 J -38031212.29 -38031212.25 -38031212.20 0.0271 0.0258

Saturn -108837-06-16 19:26 J -38031123.79 -38031123.69 -38031123.57 0.0272 0.0184

Saturn -108837-09-13 08:52 J -38031035.26 -38031035.13 -38031034.99 0.0273 0.0111

Saturn -108837-12-10 22:19 J -38030946.72 -38030946.57 -38030946.43 0.0274 0.0037

Saturn -108836-03-09 11:16 J -38030858.17 -38030858.03 -38030857.89 0.0274 0.0037

Venus -108836-05-31 23:16 J -38030774.64 -38030774.53 -38030774.42 0.3623 0.1572

Saturn -108836-06-06 00:14 J -38030769.62 -38030769.49 -38030769.36 0.0275 0.0109

Mars -108836-07-11 08:38 J -38030734.29 -38030734.14 -38030733.98 0.1717 0.0068

Saturn -108836-09-02 12:57 J -38030681.06 -38030680.96 -38030680.85 0.0276 0.0181

Saturn -108836-11-30 01:26 J -38030592.49 -38030592.44 -38030592.38 0.0277 0.0253

Mars -108835-05-24 20:52 J -38030416.76 -38030416.63 -38030416.51 0.1796 0.0174

Moon -108835-05-28 15:36 J -38030412.96 -38030412.85 -38030412.74 0.2723 0.0458

Earth -108835-05-28 15:36 J -38030412.96 -38030412.85 -38030412.74 0.2729 0.0510 *

Jupiter -108834-05-10 19:12 J -38030065.84 -38030065.70 -38030065.56 0.0531 0.0017

Jupiter -108834-08-08 07:40 J -38029976.20 -38029976.18 -38029976.17 0.0533 0.0527

Moon -108832-11-16 21:07 J -38029144.74 -38029144.62 -38029144.49 0.2609 0.1559

Earth -108832-11-16 21:50 J -38029144.71 -38029144.59 -38029144.47 0.2614 0.1537 *

Venus -108831-12-15 18:57 J -38028750.83 -38028750.71 -38028750.59 0.3627 0.0132

Jupiter -108829-12-26 13:26 J -38028009.08 -38028008.94 -38028008.79 0.0496 0.0209

Jupiter -108828-03-26 10:33 J -38027919.19 -38027919.06 -38027918.93 0.0494 0.0305

Mars -108827-12-01 12:00 J -38027304.14 -38027304.00 -38027303.86 0.1713 0.0582

Mars -108826-10-15 04:19 J -38026986.44 -38026986.32 -38026986.20 0.1801 0.0321

Venus -108825-06-30 14:38 J -38026727.00 -38026726.89 -38026726.78 0.3632 0.1447

Mars -108824-09-19 20:52 J -38026280.68 -38026280.63 -38026280.57 0.1780 0.1559

Saturn -108823-01-14 06:00 J -38026164.30 -38026164.25 -38026164.18 0.0289 0.0265

Saturn -108823-04-13 00:43 J -38026075.60 -38026075.47 -38026075.34 0.0289 0.0170

Saturn -108823-07-10 19:26 J -38025986.85 -38025986.69 -38025986.53 0.0288 0.0074

Saturn -108823-10-07 14:24 J -38025898.06 -38025897.90 -38025897.73 0.0287 0.0024

Saturn -108822-01-04 09:50 J -38025809.24 -38025809.09 -38025808.94 0.0286 0.0120

Jupiter -108822-02-26 22:04 J -38025755.71 -38025755.58 -38025755.44 0.0531 0.0120

Saturn -108822-04-03 05:16 J -38025720.38 -38025720.28 -38025720.16 0.0285 0.0218

Jupiter -108822-05-27 10:48 J -38025666.14 -38025666.05 -38025665.96 0.0533 0.0407

Moon -108822-05-31 09:50 J -38025662.21 -38025662.09 -38025661.98 0.2728 0.0421

Earth -108822-05-31 10:19 J -38025662.18 -38025662.07 -38025661.96 0.2734 0.0494 *

Venus -108819-01-14 09:50 J -38024703.16 -38024703.09 -38024703.02 0.3636 0.2890

Moon -108819-11-20 01:12 J -38024393.61 -38024393.45 -38024393.30 0.2607 0.0077

Earth -108819-11-20 02:38 J -38024393.54 -38024393.39 -38024393.24 0.2610 0.0083 *

Mars -108817-04-22 15:36 J -38023873.96 -38023873.85 -38023873.74 0.1708 0.1103

Jupiter -108817-10-14 13:55 J -38023699.03 -38023698.92 -38023698.80 0.0496 0.0335

Jupiter -108816-01-12 10:33 J -38023609.21 -38023609.06 -38023608.90 0.0495 0.0174

Mars -108816-03-06 11:16 J -38023556.14 -38023556.03 -38023555.91 0.1806 0.0825

Mars -108815-03-30 03:50 J -38023167.45 -38023167.34 -38023167.23 0.1727 0.1148

Earth -108815-05-24 06:57 J -38023112.27 -38023112.21 -38023112.16 0.2721 0.2331

Moon -108815-05-24 07:40 J -38023112.24 -38023112.18 -38023112.13 0.2720 0.2309 *

Mars -108814-02-10 05:02 J -38022850.38 -38022850.29 -38022850.19 0.1786 0.1120

Jupiter -108811-12-16 00:28 J -38021445.60 -38021445.48 -38021445.35 0.0530 0.0250

Jupiter -108810-03-15 13:26 J -38021356.05 -38021355.94 -38021355.82 0.0532 0.0280

Moon -108809-06-02 04:19 J -38020911.42 -38020911.32 -38020911.23 0.2739 0.1427

Earth -108809-06-02 05:02 J -38020911.39 -38020911.29 -38020911.20 0.2738 0.1491 *

Mars -108808-09-12 19:40 J -38020443.73 -38020443.68 -38020443.64 0.1703 0.1599

Saturn -108808-11-03 21:07 J -38020391.71 -38020391.62 -38020391.53 0.0272 0.0207

Uranus -108808-12-09 18:28 J -38020355.75 -38020355.73 -38020355.70 0.0146 0.0144

Saturn -108807-01-31 10:33 J -38020303.19 -38020303.06 -38020302.93 0.0273 0.0133

Uranus -108807-03-08 00:57 J -38020267.55 -38020267.46 -38020267.35 0.0147 0.0119

Saturn -108807-04-29 23:45 J -38020214.65 -38020214.51 -38020214.36 0.0274 0.0060

Uranus -108807-06-04 07:55 J -38020179.30 -38020179.17 -38020179.04 0.0147 0.0093

Saturn -108807-07-27 12:57 J -38020126.11 -38020125.96 -38020125.82 0.0274 0.0014

Mars -108807-07-27 18:28 J -38020125.81 -38020125.73 -38020125.64 0.1811 0.1329

Uranus -108807-08-31 14:38 J -38020091.04 -38020090.89 -38020090.73 0.0147 0.0068

Saturn -108807-10-24 01:55 J -38020037.56 -38020037.42 -38020037.28 0.0275 0.0087

Uranus -108807-11-27 21:36 J -38020002.76 -38020002.60 -38020002.43 0.0147 0.0041

Saturn -108806-01-20 14:38 J -38019949.00 -38019948.89 -38019948.77 0.0276 0.0159

Uranus -108806-02-24 04:33 J -38019914.48 -38019914.31 -38019914.14 0.0147 0.0015

Saturn -108806-04-19 03:21 J -38019860.43 -38019860.36 -38019860.28 0.0277 0.0231

Uranus -108806-05-23 11:31 J -38019826.19 -38019826.02 -38019825.85 0.0147 0.0012

Uranus -108806-08-19 18:28 J -38019737.89 -38019737.73 -38019737.56 0.0147 0.0039

Mars -108806-08-20 06:14 J -38019737.38 -38019737.24 -38019737.09 0.1722 0.0566

Uranus -108806-11-16 01:40 J -38019649.59 -38019649.43 -38019649.27 0.0147 0.0066

Moon -108806-11-23 06:14 J -38019642.36 -38019642.24 -38019642.12 0.2608 0.1550

Earth -108806-11-23 07:40 J -38019642.30 -38019642.18 -38019642.07 0.2605 0.1731 *

Uranus -108805-02-12 08:38 J -38019561.27 -38019561.14 -38019561.00 0.0147 0.0093

Uranus -108805-05-10 16:04 J -38019472.93 -38019472.83 -38019472.73 0.0147 0.0121

Mars -108805-07-02 13:12 J -38019420.07 -38019419.95 -38019419.84 0.1791 0.0672

Jupiter -108805-08-02 14:24 J -38019388.96 -38019388.90 -38019388.84 0.0497 0.0461

Jupiter -108805-10-31 10:33 J -38019299.22 -38019299.06 -38019298.89 0.0495 0.0043

Earth -108802-05-27 01:40 J -38018361.53 -38018361.43 -38018361.33 0.2726 0.1319

Moon -108802-05-27 02:09 J -38018361.51 -38018361.41 -38018361.31 0.2720 0.1202 *

Venus -108800-05-23 14:38 J -38017634.00 -38017633.89 -38017633.79 0.3757 0.1934

Jupiter -108799-10-04 02:24 J -38017135.49 -38017135.40 -38017135.30 0.0530 0.0387

Jupiter -108798-01-01 15:50 J -38017045.97 -38017045.84 -38017045.71 0.0531 0.0147

Mars -108796-01-09 09:07 J -38016307.27 -38016307.12 -38016306.97 0.1717 0.0006

Moon -108796-06-04 23:02 J -38016160.59 -38016160.54 -38016160.50 0.2747 0.2472

Earth -108796-06-04 23:31 J -38016160.56 -38016160.52 -38016160.47 0.2742 0.2474 *

Mars -108796-11-22 21:07 J -38015989.75 -38015989.62 -38015989.50 0.1796 0.0217

Venus -108795-12-07 12:28 J -38015610.10 -38015609.98 -38015609.85 0.3752 0.0089

Saturn -108794-06-03 06:57 J -38015432.21 -38015432.21 -38015432.19 0.0289 0.0289

Saturn -108794-08-31 01:26 J -38015343.55 -38015343.44 -38015343.32 0.0288 0.0195

Saturn -108794-11-27 20:09 J -38015254.81 -38015254.66 -38015254.50 0.0288 0.0100

Saturn -108793-02-24 15:21 J -38015166.03 -38015165.86 -38015165.70 0.0287 0.0009

Saturn -108793-05-23 10:33 J -38015077.22 -38015077.06 -38015076.90 0.0286 0.0094

Jupiter -108793-08-19 11:16 J -38014989.19 -38014989.03 -38014988.87 0.0496 0.0081

Saturn -108793-08-20 06:00 J -38014988.37 -38014988.25 -38014988.12 0.0285 0.0192

Jupiter -108793-11-17 08:52 J -38014899.21 -38014899.13 -38014899.06 0.0494 0.0439

Moon -108789-05-28 20:09 J -38013610.77 -38013610.66 -38013610.54 0.2723 0.0407

Earth -108789-05-28 20:24 J -38013610.76 -38013610.65 -38013610.53 0.2730 0.0327 *

Venus -108789-06-22 10:48 J -38013586.15 -38013586.05 -38013585.94 0.3747 0.1955

Mars -108787-06-01 12:28 J -38012877.12 -38012876.98 -38012876.84 0.1713 0.0532

Jupiter -108787-10-20 17:16 J -38012735.92 -38012735.78 -38012735.64 0.0531 0.0002

Jupiter -108786-01-18 05:31 J -38012646.29 -38012646.27 -38012646.25 0.0533 0.0522

Mars -108786-04-15 04:19 J -38012559.44 -38012559.32 -38012559.20 0.1801 0.0278

Moon -108786-11-18 03:07 J -38012342.50 -38012342.37 -38012342.24 0.2610 0.1369

Earth -108786-11-18 04:19 J -38012342.46 -38012342.32 -38012342.19 0.2614 0.1214 *

Venus -108785-06-22 01:55 J -38012125.50 -38012125.42 -38012125.33 0.3620 0.2580

Mars -108784-03-20 21:07 J -38011853.67 -38011853.62 -38011853.57 0.1780 0.1598

Jupiter -108781-06-07 11:45 J -38010679.15 -38010679.01 -38010678.86 0.0496 0.0206

Jupiter -108781-09-05 08:52 J -38010589.26 -38010589.13 -38010589.00 0.0495 0.0310

Neptune -108780-01-20 18:00 J -38010451.77 -38010451.75 -38010451.71 0.0088 0.0087

Neptune -108780-04-18 20:09 J -38010363.71 -38010363.66 -38010363.60 0.0088 0.0082

Neptune -108780-07-15 21:50 J -38010275.65 -38010275.59 -38010275.50 0.0088 0.0078

Neptune -108780-10-12 00:00 J -38010187.58 -38010187.50 -38010187.41 0.0088 0.0073

Venus -108779-01-05 21:50 J -38010101.70 -38010101.59 -38010101.47 0.3624 0.1024

Neptune -108779-01-08 01:40 J -38010099.51 -38010099.43 -38010099.31 0.0088 0.0069

Neptune -108779-04-06 03:50 J -38010011.43 -38010011.34 -38010011.23 0.0088 0.0064

Neptune -108779-07-03 06:00 J -38009923.36 -38009923.25 -38009923.14 0.0088 0.0059

Neptune -108779-09-29 07:40 J -38009835.29 -38009835.18 -38009835.05 0.0088 0.0055

Neptune -108779-12-26 09:50 J -38009747.21 -38009747.09 -38009746.96 0.0088 0.0050

Saturn -108778-03-24 00:00 J -38009659.57 -38009659.50 -38009659.40 0.0272 0.0222

Neptune -108778-03-24 11:31 J -38009659.14 -38009659.02 -38009658.88 0.0088 0.0046

Neptune -108778-06-20 13:40 J -38009571.06 -38009570.93 -38009570.80 0.0088 0.0041

Saturn -108778-06-20 13:40 J -38009571.05 -38009570.93 -38009570.80 0.0273 0.0148 *

Neptune -108778-09-16 15:21 J -38009482.99 -38009482.86 -38009482.71 0.0088 0.0037

Saturn -108778-09-17 03:07 J -38009482.51 -38009482.37 -38009482.23 0.0273 0.0074

Mars -108778-10-22 16:04 J -38009446.94 -38009446.83 -38009446.71 0.1708 0.1048

Neptune -108778-12-13 17:31 J -38009394.91 -38009394.77 -38009394.63 0.0088 0.0032

Saturn -108778-12-14 16:19 J -38009393.97 -38009393.82 -38009393.68 0.0274 0.0006

Neptune -108777-03-10 19:12 J -38009306.84 -38009306.70 -38009306.55 0.0088 0.0027

Saturn -108777-03-12 05:16 J -38009305.42 -38009305.28 -38009305.14 0.0275 0.0073

Neptune -108777-06-06 21:07 J -38009218.76 -38009218.62 -38009218.47 0.0088 0.0023

Saturn -108777-06-08 18:00 J -38009216.87 -38009216.75 -38009216.62 0.0276 0.0145

Neptune -108777-09-02 23:02 J -38009130.69 -38009130.54 -38009130.39 0.0088 0.0018

Mars -108777-09-04 11:45 J -38009129.13 -38009129.01 -38009128.90 0.1806 0.0772

Saturn -108777-09-05 06:57 J -38009128.30 -38009128.21 -38009128.13 0.0277 0.0217

Neptune -108777-11-30 00:43 J -38009042.61 -38009042.47 -38009042.31 0.0088 0.0015

Neptune -108776-02-26 02:38 J -38008954.53 -38008954.39 -38008954.24 0.0088 0.0010

Neptune -108776-05-25 04:33 J -38008866.46 -38008866.31 -38008866.16 0.0088 0.0005

Moon -108776-05-31 14:38 J -38008860.00 -38008859.89 -38008859.78 0.2730 0.0682

Earth -108776-05-31 15:07 J -38008859.97 -38008859.87 -38008859.76 0.2734 0.0700 *

Neptune -108776-08-21 06:28 J -38008778.38 -38008778.23 -38008778.08 0.0088 0.0002

Mars -108776-09-28 04:33 J -38008740.42 -38008740.31 -38008740.20 0.1727 0.1208

Neptune -108776-11-17 08:09 J -38008690.30 -38008690.16 -38008690.01 0.0088 0.0004

Neptune -108775-02-13 10:04 J -38008602.23 -38008602.08 -38008601.93 0.0088 0.0008

Neptune -108775-05-12 11:45 J -38008514.15 -38008514.01 -38008513.86 0.0088 0.0013

Neptune -108775-08-08 13:40 J -38008426.08 -38008425.93 -38008425.79 0.0088 0.0017

Jupiter -108775-08-08 19:40 J -38008425.82 -38008425.68 -38008425.55 0.0531 0.0131 *

Mars -108775-08-11 05:16 J -38008423.37 -38008423.28 -38008423.19 0.1785 0.1165

Neptune -108775-11-04 15:21 J -38008338.00 -38008337.86 -38008337.71 0.0088 0.0021

Jupiter -108775-11-06 08:09 J -38008336.25 -38008336.16 -38008336.06 0.0532 0.0395

Neptune -108774-01-31 17:16 J -38008249.92 -38008249.78 -38008249.64 0.0088 0.0025

Neptune -108774-04-29 18:57 J -38008161.85 -38008161.71 -38008161.57 0.0088 0.0030

Venus   -108774-07-22 17:45 J -38008077.88 -38008077.76 -38008077.65 0.3629 0.0515

Neptune -108774-07-26 20:38 J -38008073.77 -38008073.64 -38008073.50 0.0088 0.0034

Pluto   -108774-09-24 21:21 J -38008013.68 -38008013.61 -38008013.50 0.0060 0.0053

Neptune -108774-10-22 22:19 J -38007985.69 -38007985.57 -38007985.43 0.0088 0.0039

Pluto   -108774-12-21 23:16 J -38007925.66 -38007925.53 -38007925.41 0.0060 0.0046

Neptune -108773-01-19 00:14 J -38007897.61 -38007897.49 -38007897.36 0.0088 0.0043

Pluto   -108773-03-19 00:14 J -38007837.62 -38007837.49 -38007837.32 0.0060 0.0038

Neptune -108773-04-16 01:40 J -38007809.54 -38007809.43 -38007809.29 0.0088 0.0048

Pluto   -108773-06-15 01:26 J -38007749.58 -38007749.44 -38007749.25 0.0060 0.0032

Neptune -108773-07-13 03:36 J -38007721.46 -38007721.35 -38007721.22 0.0088 0.0051

Pluto   -108773-09-11 03:07 J -38007661.54 -38007661.37 -38007661.17 0.0060 0.0024

Neptune -108773-10-09 05:16 J -38007633.38 -38007633.28 -38007633.16 0.0088 0.0056

Moon   -108773-11-20 07:26 J -38007591.34 -38007591.19 -38007591.04 0.2608 0.0280

Earth   -108773-11-20 08:52 J -38007591.28 -38007591.13 -38007590.97 0.2609 0.0410 *

Pluto   -108773-12-08 04:48 J -38007573.48 -38007573.30 -38007573.11 0.0060 0.0016

Neptune -108772-01-05 06:57 J -38007545.30 -38007545.21 -38007545.09 0.0088 0.0060

Pluto   -108772-03-06 06:14 J -38007485.43 -38007485.24 -38007485.04 0.0060 0.0008

Neptune -108772-04-03 08:52 J -38007457.23 -38007457.13 -38007457.03 0.0088 0.0064

Pluto   -108772-06-02 07:40 J -38007397.37 -38007397.18 -38007396.98 0.0061 0.0002

Neptune -108772-06-30 10:33 J -38007369.15 -38007369.06 -38007368.96 0.0088 0.0068

Pluto   -108772-08-29 09:07 J -38007309.31 -38007309.12 -38007308.92 0.0061 0.0007

Neptune -108772-09-26 12:00 J -38007281.07 -38007281.00 -38007280.90 0.0088 0.0072

Pluto   -108772-11-25 10:33 J -38007221.25 -38007221.06 -38007220.87 0.0061 0.0015

Neptune -108772-12-23 13:40 J -38007192.99 -38007192.93 -38007192.84 0.0088 0.0076

Pluto   -108771-02-21 11:45 J -38007133.18 -38007133.01 -38007132.81 0.0061 0.0023

Neptune -108771-03-21 15:21 J -38007104.90 -38007104.86 -38007104.79 0.0088 0.0081

Pluto -108771-05-20 13:26 J -38007045.10 -38007044.94 -38007044.76 0.0061 0.0030

Neptune -108771-06-17 17:02 J -38007016.82 -38007016.79 -38007016.73 0.0088 0.0085

Pluto -108771-08-16 14:38 J -38006957.03 -38006956.89 -38006956.72 0.0061 0.0038

Neptune -108771-09-13 18:57 J -38006928.71 -38006928.71 -38006928.70 0.0088 0.0088

Pluto -108771-11-12 15:50 J -38006868.94 -38006868.84 -38006868.68 0.0061 0.0046

Pluto -108770-02-08 17:45 J -38006780.84 -38006780.76 -38006780.66 0.0061 0.0053

Jupiter -108769-03-26 12:00 J -38006369.12 -38006369.00 -38006368.88 0.0497 0.0335

Earth -108769-05-24 11:45 J -38006310.08 -38006310.01 -38006309.94 0.2722 0.2128

Moon -108769-05-24 12:28 J -38006310.05 -38006309.98 -38006309.91 0.2718 0.2035 *

Jupiter -108769-06-24 08:24 J -38006279.30 -38006279.15 -38006278.99 0.0495 0.0175

Venus -108768-02-04 13:12 J -38006054.05 -38006053.95 -38006053.85 0.3633 0.1967

Mars -108768-03-13 20:09 J -38006016.72 -38006016.66 -38006016.60 0.1703 0.1546

Uranus -108768-08-02 11:02 J -38005875.06 -38005875.04 -38005875.00 0.0133 0.0130

Uranus -108768-10-29 15:07 J -38005786.95 -38005786.87 -38005786.80 0.0133 0.0113

Mars -108767-01-25 18:28 J -38005698.81 -38005698.73 -38005698.64 0.1811 0.1288

Uranus -108767-01-25 18:43 J -38005698.81 -38005698.72 -38005698.62 0.0132 0.0096 *

Uranus -108767-04-23 22:33 J -38005610.68 -38005610.56 -38005610.44 0.0132 0.0080

Uranus -108767-07-21 02:09 J -38005522.53 -38005522.41 -38005522.28 0.0132 0.0063

Uranus -108767-10-17 05:45 J -38005434.39 -38005434.26 -38005434.12 0.0132 0.0048

Uranus -108766-01-13 09:36 J -38005346.24 -38005346.10 -38005345.96 0.0132 0.0031

Mars -108766-02-18 06:43 J -38005310.36 -38005310.22 -38005310.07 0.1722 0.0626

Uranus -108766-04-11 13:12 J -38005258.09 -38005257.95 -38005257.81 0.0132 0.0015

Uranus -108766-07-08 16:48 J -38005169.94 -38005169.80 -38005169.66 0.0132 0.0001

Uranus -108766-10-04 20:24 J -38005081.79 -38005081.65 -38005081.51 0.0132 0.0017

Uranus -108765-01-01 00:00 J -38004993.64 -38004993.50 -38004993.36 0.0132 0.0033

Mars -108765-01-01 13:12 J -38004993.06 -38004992.95 -38004992.83 0.1791 0.0719

Uranus -108765-03-29 03:21 J -38004905.49 -38004905.36 -38004905.22 0.0132 0.0049

Uranus -108765-06-25 06:57 J -38004817.34 -38004817.21 -38004817.09 0.0132 0.0064

Uranus -108765-09-21 10:19 J -38004729.18 -38004729.07 -38004728.95 0.0132 0.0080

Uranus -108765-12-18 13:40 J -38004641.02 -38004640.93 -38004640.83 0.0132 0.0095

Saturn -108764-01-17 02:09 J -38004611.51 -38004611.41 -38004611.30 0.0289 0.0220

Uranus -108764-03-16 17:16 J -38004552.86 -38004552.78 -38004552.70 0.0131 0.0110

Saturn -108764-04-15 20:52 J -38004522.78 -38004522.63 -38004522.48 0.0288 0.0125

Uranus -108764-06-12 20:38 J -38004464.68 -38004464.64 -38004464.60 0.0131 0.0125

Saturn -108764-07-13 15:50 J -38004434.01 -38004433.84 -38004433.68 0.0287 0.0029

Saturn -108764-10-10 11:02 J -38004345.21 -38004345.04 -38004344.88 0.0286 0.0069

Saturn -108763-01-07 06:14 J -38004256.37 -38004256.24 -38004256.10 0.0285 0.0166

Saturn -108763-04-06 02:09 J -38004167.47 -38004167.41 -38004167.35 0.0284 0.0264

Jupiter -108763-05-27 22:19 J -38004115.70 -38004115.57 -38004115.45 0.0530 0.0259

Moon -108763-06-03 09:07 J -38004109.21 -38004109.12 -38004109.03 0.2741 0.1595

Earth -108763-06-03 09:50 J -38004109.18 -38004109.09 -38004109.00 0.2738 0.1689 *

Venus -108763-08-21 08:24 J -38004030.19 -38004030.15 -38004030.11 0.3638 0.3391

Jupiter -108763-08-25 11:16 J -38004026.15 -38004026.03 -38004025.91 0.0532 0.0272

Moon -108760-11-23 12:43 J -38002840.07 -38002839.97 -38002839.88 0.2609 0.2004

Earth -108760-11-23 13:55 J -38002840.01 -38002839.92 -38002839.83 0.2605 0.2052 *

Mars -108758-06-18 01:12 J -38002268.45 -38002268.45 -38002268.44 0.1816 0.1814

Jupiter -108757-01-13 12:28 J -38002059.03 -38002058.98 -38002058.91 0.0497 0.0459

Jupiter -108757-04-12 08:38 J -38001969.30 -38001969.14 -38001968.97 0.0495 0.0045

Mars -108757-07-10 09:36 J -38001880.25 -38001880.10 -38001879.95 0.1717 0.0060

Mars -108756-05-23 20:52 J -38001562.75 -38001562.63 -38001562.50 0.1796 0.0251

Earth -108756-05-27 06:43 J -38001559.32 -38001559.22 -38001559.12 0.2726 0.1115

Moon -108756-05-27 06:57 J -38001559.31 -38001559.21 -38001559.11 0.2720 0.1139 *

Earth -108753-11-15 06:00 J -38000291.29 -38000291.25 -38000291.20 0.2618 0.2493

Moon -108753-11-15 05:45 J -38000291.27 -38000291.26 -38000291.25 0.2612 0.2597 *

Jupiter -108751-03-16 00:28 J -37999805.57 -37999805.48 -37999805.38 0.0530 0.0390

Jupiter -108751-06-13 13:55 J -37999716.05 -37999715.92 -37999715.79 0.0532 0.0145

Moon -108750-06-06 04:04 J -37999358.35 -37999358.33 -37999358.30 0.2748 0.2643

Earth -108750-06-06 04:33 J -37999358.34 -37999358.31 -37999358.29 0.2742 0.2677 *

Venus -108749-06-13 15:50 J -37998984.90 -37998984.84 -37998984.77 0.3761 0.3126

Saturn -108749-08-10 01:40 J -37998927.49 -37998927.43 -37998927.36 0.0272 0.0244

Saturn -108749-11-06 15:21 J -37998838.98 -37998838.86 -37998838.75 0.0272 0.0170

Saturn -108748-02-03 04:33 J -37998750.44 -37998750.31 -37998750.17 0.0273 0.0097

Saturn -108748-05-02 18:00 J -37998661.90 -37998661.75 -37998661.61 0.0274 0.0024

Saturn -108748-07-30 06:57 J -37998573.35 -37998573.21 -37998573.07 0.0275 0.0050

Saturn -108748-10-26 19:55 J -37998484.80 -37998484.67 -37998484.54 0.0276 0.0123

Mars -108748-11-30 12:43 J -37998450.11 -37998449.97 -37998449.82 0.1712 0.0483

Saturn -108747-01-23 08:38 J -37998396.24 -37998396.14 -37998396.04 0.0276 0.0195

Saturn -108747-04-21 21:21 J -37998307.65 -37998307.61 -37998307.57 0.0277 0.0266

Mars -108747-10-14 04:33 J -37998132.43 -37998132.31 -37998132.18 0.1801 0.0228

Jupiter -108745-01-30 08:38 J -37997659.30 -37997659.14 -37997658.97 0.0496 0.0087

Jupiter -108745-04-29 06:00 J -37997569.32 -37997569.25 -37997569.16 0.0494 0.0433

Mars -108745-09-18 21:07 J -37997426.66 -37997426.62 -37997426.57 0.1780 0.1638

Venus -108744-12-28 13:40 J -37996961.05 -37996960.93 -37996960.82 0.3756 0.1276

Moon -108743-05-30 00:57 J -37996808.57 -37996808.46 -37996808.34 0.2724 0.0105

Earth -108743-05-30 01:26 J -37996808.55 -37996808.44 -37996808.33 0.2731 0.0107 *

Moon -108740-11-18 09:07 J -37995540.26 -37995540.12 -37995539.97 0.2610 0.0913

Earth -108740-11-18 10:33 J -37995540.20 -37995540.06 -37995539.91 0.2613 0.0896 *

Jupiter -108739-01-02 02:24 J -37995495.40 -37995495.40 -37995495.39 0.0529 0.0528

Jupiter -108739-04-01 16:04 J -37995405.97 -37995405.83 -37995405.69 0.0531 0.0017

Jupiter -108739-06-30 04:19 J -37995316.32 -37995316.32 -37995316.30 0.0533 0.0530

Mars -108738-04-22 16:33 J -37995019.93 -37995019.81 -37995019.69 0.1708 0.1000

Venus -108738-07-14 11:45 J -37994937.14 -37994937.01 -37994936.89 0.3751 0.0641

Mars -108737-03-05 11:45 J -37994702.12 -37994702.01 -37994701.89 0.1806 0.0725

Mars -108736-03-29 04:48 J -37994313.40 -37994313.30 -37994313.20 0.1727 0.1256

Mars -108735-02-09 05:31 J -37993996.36 -37993996.27 -37993996.18 0.1786 0.1210

Saturn -108735-06-06 03:21 J -37993879.44 -37993879.36 -37993879.27 0.0289 0.0243

Saturn -108735-09-02 21:50 J -37993790.73 -37993790.59 -37993790.45 0.0288 0.0149

Saturn -108735-11-30 16:33 J -37993701.97 -37993701.81 -37993701.64 0.0287 0.0054

Saturn -108734-02-27 11:45 J -37993613.17 -37993613.01 -37993612.84 0.0286 0.0044

Saturn -108734-05-27 07:12 J -37993524.35 -37993524.20 -37993524.05 0.0285 0.0141

Venus -108734-07-14 04:19 J -37993476.32 -37993476.32 -37993476.32 0.3617 0.3613

Saturn -108734-08-24 02:52 J -37993435.47 -37993435.38 -37993435.29 0.0284 0.0239

Jupiter -108734-11-18 09:21 J -37993349.25 -37993349.11 -37993348.96 0.0496 0.0210

Jupiter -108733-02-16 06:28 J -37993259.36 -37993259.23 -37993259.10 0.0495 0.0305

Venus -108732-01-27 10:19 J -37992913.16 -37992913.07 -37992912.99 0.3745 0.2644

Moon -108730-06-01 19:26 J -37992057.80 -37992057.69 -37992057.58 0.2734 0.0761

Earth -108730-06-01 20:09 J -37992057.77 -37992057.66 -37992057.56 0.2735 0.0895 *

Mars -108729-09-11 20:38 J -37991589.71 -37991589.64 -37991589.58 0.1703 0.1494

Venus -108728-01-27 00:28 J -37991452.58 -37991452.48 -37991452.38 0.3621 0.2024

Mars -108728-07-26 18:43 J -37991271.81 -37991271.72 -37991271.62 0.1811 0.1237

Jupiter -108727-01-18 17:31 J -37991095.90 -37991095.77 -37991095.63 0.0530 0.0136

Jupiter -108727-04-18 06:00 J -37991006.33 -37991006.25 -37991006.15 0.0532 0.0390

Mars -108727-08-19 07:12 J -37990883.34 -37990883.20 -37990883.06 0.1722 0.0680

Moon -108727-11-21 13:55 J -37990789.07 -37990788.92 -37990788.77 0.2610 0.0576

Earth -108727-11-21 15:21 J -37990789.00 -37990788.86 -37990788.71 0.2609 0.0739 *

Mars -108726-07-02 13:26 J -37990566.05 -37990565.94 -37990565.83 0.1791 0.0760

Uranus -108724-12-30 02:38 J -37989654.45 -37989654.39 -37989654.32 0.0146 0.0135

Uranus -108723-03-28 09:07 J -37989566.22 -37989566.12 -37989566.00 0.0147 0.0110

Earth -108723-05-25 16:48 J -37989507.88 -37989507.80 -37989507.72 0.2722 0.1924

Moon -108723-05-25 17:31 J -37989507.86 -37989507.77 -37989507.69 0.2717 0.1870 *

Uranus -108723-06-24 15:50 J -37989477.97 -37989477.84 -37989477.69 0.0147 0.0084

Venus -108723-08-12 20:24 J -37989428.77 -37989428.65 -37989428.53 0.3625 0.0484

Uranus -108723-09-20 22:48 J -37989389.70 -37989389.55 -37989389.39 0.0147 0.0058

Uranus -108723-12-18 05:31 J -37989301.43 -37989301.27 -37989301.09 0.0147 0.0033

Uranus -108722-03-16 12:43 J -37989213.15 -37989212.97 -37989212.80 0.0147 0.0007

Uranus -108722-06-12 19:40 J -37989124.85 -37989124.68 -37989124.51 0.0147 0.0021

Jupiter -108722-09-06 10:04 J -37989039.20 -37989039.08 -37989038.96 0.0497 0.0334

Uranus -108722-09-09 02:38 J -37989036.55 -37989036.39 -37989036.22 0.0147 0.0048

Jupiter -108722-12-05 06:43 J -37988949.38 -37988949.22 -37988949.07 0.0495 0.0176

Uranus -108722-12-06 09:36 J -37988948.24 -37988948.10 -37988947.94 0.0147 0.0075

Uranus -108721-03-03 16:48 J -37988859.92 -37988859.80 -37988859.67 0.0147 0.0102

Uranus -108721-05-31 00:14 J -37988771.57 -37988771.49 -37988771.41 0.0147 0.0130

Saturn -108720-12-28 04:48 J -37988195.34 -37988195.30 -37988195.25 0.0272 0.0259

Saturn -108719-03-26 18:28 J -37988106.83 -37988106.73 -37988106.62 0.0272 0.0184

Saturn -108719-06-23 07:55 J -37988018.30 -37988018.17 -37988018.03 0.0273 0.0111

Saturn -108719-09-19 21:21 J -37987929.76 -37987929.61 -37987929.47 0.0274 0.0037

Mars -108719-12-17 01:26 J -37987841.47 -37987841.44 -37987841.41 0.1816 0.1765

Saturn -108719-12-17 10:19 J -37987841.21 -37987841.07 -37987840.92 0.0275 0.0037

Saturn -108718-03-15 23:16 J -37987752.66 -37987752.53 -37987752.39 0.0276 0.0110

Saturn -108718-06-12 12:00 J -37987664.10 -37987664.00 -37987663.89 0.0276 0.0183

Saturn -108718-09-09 00:57 J -37987575.52 -37987575.46 -37987575.41 0.0277 0.0254

Mars -108717-01-09 10:04 J -37987453.23 -37987453.08 -37987452.93 0.1717 0.0120

Venus -108717-02-26 16:04 J -37987404.94 -37987404.83 -37987404.71 0.3630 0.1034

Moon -108717-06-03 14:09 J -37987306.99 -37987306.91 -37987306.83 0.2742 0.1868

Earth -108717-06-03 14:52 J -37987306.96 -37987306.88 -37987306.80 0.2739 0.1891 *

Mars -108717-11-21 21:07 J -37987135.74 -37987135.62 -37987135.49 0.1796 0.0299

Jupiter -108716-11-06 19:40 J -37986785.80 -37986785.68 -37986785.56 0.0530 0.0271

Jupiter -108715-02-04 08:38 J -37986696.26 -37986696.14 -37986696.02 0.0532 0.0260

Moon -108714-11-24 19:12 J -37986037.77 -37986037.70 -37986037.63 0.2609 0.2279

Earth -108714-11-24 20:24 J -37986037.71 -37986037.65 -37986037.59 0.2604 0.2386 *

Venus -108712-09-11 11:31 J -37985381.10 -37985381.02 -37985380.93 0.3634 0.2479

Moon -108710-05-28 11:31 J -37984757.12 -37984757.02 -37984756.91 0.2720 0.0886

Earth -108710-05-28 11:31 J -37984757.12 -37984757.02 -37984756.91 0.2727 0.0918 *

Jupiter -108710-06-25 10:19 J -37984729.12 -37984729.07 -37984729.01 0.0497 0.0462

Jupiter -108710-09-23 06:28 J -37984639.40 -37984639.23 -37984639.07 0.0495 0.0043

Mars -108708-05-31 13:12 J -37984023.09 -37984022.95 -37984022.80 0.1712 0.0429

Mars -108707-04-14 04:33 J -37983705.43 -37983705.31 -37983705.18 0.1801 0.0189

Moon -108707-11-16 11:31 J -37983489.10 -37983489.02 -37983488.93 0.2613 0.2162

Earth -108707-11-16 12:28 J -37983489.06 -37983488.98 -37983488.90 0.2617 0.2179 *

Saturn -108706-10-24 04:48 J -37983147.36 -37983147.30 -37983147.23 0.0289 0.0264

Saturn -108705-01-20 23:16 J -37983058.66 -37983058.53 -37983058.40 0.0288 0.0170

Mars -108705-03-19 21:21 J -37982999.65 -37982999.61 -37982999.58 0.1780 0.1681

Saturn -108705-04-18 18:00 J -37982969.91 -37982969.75 -37982969.59 0.0287 0.0075

Saturn -108705-07-16 12:57 J -37982881.12 -37982880.96 -37982880.79 0.0287 0.0021

Saturn -108705-10-13 08:09 J -37982792.31 -37982792.16 -37982792.00 0.0286 0.0119

Saturn -108704-01-10 03:50 J -37982703.45 -37982703.34 -37982703.23 0.0285 0.0216

Jupiter -108704-08-25 22:04 J -37982475.67 -37982475.58 -37982475.49 0.0530 0.0401

Jupiter -108704-11-23 11:31 J -37982386.15 -37982386.02 -37982385.88 0.0532 0.0135

Mars -108699-10-21 17:02 J -37980592.92 -37980592.79 -37980592.67 0.1708 0.0946

Jupiter -108698-07-12 06:43 J -37980329.38 -37980329.22 -37980329.06 0.0496 0.0087

Mars -108698-09-04 12:00 J -37980275.12 -37980275.00 -37980274.89 0.1806 0.0679

Jupiter -108698-10-10 03:50 J -37980239.41 -37980239.34 -37980239.25 0.0494 0.0432

Neptune -108698-12-31 17:02 J -37980156.79 -37980156.79 -37980156.74 0.0089 0.0088

Neptune -108697-03-28 19:40 J -37980068.73 -37980068.68 -37980068.61 0.0089 0.0083

Moon -108697-05-30 06:00 J -37980006.37 -37980006.25 -37980006.14 0.2726 0.0098

Earth -108697-05-30 06:28 J -37980006.35 -37980006.23 -37980006.12 0.2731 0.0135 *

Neptune -108697-06-24 22:04 J -37979980.64 -37979980.58 -37979980.49 0.0089 0.0078

Neptune -108697-09-21 00:43 J -37979892.56 -37979892.47 -37979892.38 0.0089 0.0073

Mars -108697-09-27 05:31 J -37979886.37 -37979886.27 -37979886.18 0.1727 0.1319

Neptune -108697-12-18 02:52 J -37979804.47 -37979804.38 -37979804.26 0.0089 0.0069

Neptune -108696-03-16 05:16 J -37979716.38 -37979716.28 -37979716.15 0.0089 0.0064

Neptune -108696-06-12 07:55 J -37979628.28 -37979628.17 -37979628.04 0.0089 0.0059

Mars -108696-08-10 05:31 J -37979569.36 -37979569.27 -37979569.18 0.1785 0.1250

Neptune -108696-09-08 10:33 J -37979540.19 -37979540.06 -37979539.93 0.0089 0.0054

Neptune -108696-12-05 12:57 J -37979452.09 -37979451.96 -37979451.82 0.0089 0.0049

Neptune -108695-03-03 15:36 J -37979364.00 -37979363.85 -37979363.71 0.0089 0.0044

Neptune -108695-05-30 17:45 J -37979275.90 -37979275.76 -37979275.60 0.0089 0.0040

Neptune -108695-08-26 20:24 J -37979187.80 -37979187.65 -37979187.49 0.0089 0.0035

Neptune -108695-11-22 22:48 J -37979099.69 -37979099.55 -37979099.38 0.0089 0.0030

Neptune -108694-02-19 01:26 J -37979011.59 -37979011.44 -37979011.27 0.0089 0.0025

Neptune -108694-05-18 04:04 J -37978923.49 -37978923.33 -37978923.16 0.0089 0.0020

Neptune -108694-08-14 06:43 J -37978835.39 -37978835.22 -37978835.05 0.0089 0.0015

Neptune -108694-11-10 09:21 J -37978747.28 -37978747.11 -37978746.94 0.0089 0.0010

Moon   -108694-11-19 15:36 J -37978738.00 -37978737.85 -37978737.70 0.2610 0.0778

Earth   -108694-11-19 17:02 J -37978737.94 -37978737.79 -37978737.64 0.2613 0.0569 *

Neptune -108693-02-06 11:45 J -37978659.17 -37978659.01 -37978658.84 0.0089 0.0005

Neptune -108693-05-04 14:24 J -37978571.07 -37978570.90 -37978570.73 0.0089 0.0002

Neptune -108693-07-31 17:02 J -37978482.96 -37978482.79 -37978482.62 0.0089 0.0006

Neptune -108693-10-27 19:40 J -37978394.85 -37978394.68 -37978394.51 0.0089 0.0011

Venus   -108692-01-18 14:52 J -37978311.97 -37978311.88 -37978311.79 0.3759 0.2491

Neptune -108692-01-23 22:19 J -37978306.74 -37978306.57 -37978306.40 0.0089 0.0016

Neptune -108692-04-22 00:57 J -37978218.63 -37978218.46 -37978218.29 0.0089 0.0021

Neptune -108692-07-19 03:36 J -37978130.51 -37978130.35 -37978130.19 0.0089 0.0026

Jupiter -108692-09-11 14:09 J -37978076.05 -37978075.91 -37978075.77 0.0531 0.0007

Neptune -108692-10-15 06:14 J -37978042.40 -37978042.24 -37978042.08 0.0089 0.0031

Jupiter -108692-12-10 02:24 J -37977986.41 -37977986.40 -37977986.38 0.0533 0.0527

Neptune -108691-01-11 08:52 J -37977954.28 -37977954.13 -37977953.97 0.0089 0.0036

Neptune -108691-04-09 11:16 J -37977866.17 -37977866.03 -37977865.86 0.0089 0.0042

Neptune -108691-07-06 14:09 J -37977778.05 -37977777.91 -37977777.76 0.0089 0.0047

Neptune -108691-10-02 16:48 J -37977689.93 -37977689.80 -37977689.65 0.0089 0.0052

Neptune -108691-12-29 19:40 J -37977601.81 -37977601.68 -37977601.55 0.0089 0.0057

Neptune -108690-03-27 22:04 J -37977513.69 -37977513.58 -37977513.44 0.0089 0.0063

Moon   -108690-05-24 03:36 J -37977456.38 -37977456.35 -37977456.32 0.2716 0.2607

Neptune -108690-06-24 00:57 J -37977425.56 -37977425.46 -37977425.34 0.0089 0.0068

Saturn -108690-08-13 20:09 J -37977374.75 -37977374.66 -37977374.56 0.0272 0.0207

Neptune -108690-09-20 03:36 J -37977337.43 -37977337.35 -37977337.24 0.0089 0.0073

Saturn -108690-11-10 09:36 J -37977286.22 -37977286.10 -37977285.97 0.0273 0.0133

Neptune -108690-12-17 06:43 J -37977249.30 -37977249.22 -37977249.14 0.0089 0.0078

Saturn -108689-02-06 23:02 J -37977197.68 -37977197.54 -37977197.40 0.0274 0.0059

Mars   -108689-03-12 20:38 J -37977162.71 -37977162.64 -37977162.56 0.1703 0.1452

Neptune -108689-03-14 09:07 J -37977161.16 -37977161.12 -37977161.05 0.0089 0.0084

Saturn -108689-05-05 12:14 J -37977109.14 -37977108.99 -37977108.85 0.0274 0.0015

Neptune -108689-06-10 12:14 J -37977072.99 -37977072.99 -37977072.99 0.0089 0.0089

Saturn -108689-08-02 01:12 J -37977020.59 -37977020.45 -37977020.31 0.0275 0.0088

Saturn -108689-10-29 13:55 J -37976932.03 -37976931.92 -37976931.80 0.0276 0.0160

Mars -108688-01-24 18:57 J -37976844.80 -37976844.71 -37976844.61 0.1811 0.1187

Saturn -108688-01-26 02:38 J -37976843.46 -37976843.39 -37976843.31 0.0277 0.0232

Mars -108687-02-17 07:40 J -37976456.32 -37976456.18 -37976456.04 0.1722 0.0730

Venus -108687-08-04 12:43 J -37976288.09 -37976287.97 -37976287.85 0.3754 0.0634

Mars -108687-12-31 13:26 J -37976139.05 -37976138.94 -37976138.83 0.1791 0.0803

Jupiter -108686-04-30 06:57 J -37976019.36 -37976019.21 -37976019.07 0.0496 0.0217

Jupiter -108686-07-29 03:50 J -37975929.47 -37975929.34 -37975929.21 0.0495 0.0297

Moon -108684-06-02 00:14 J -37975255.59 -37975255.49 -37975255.39 0.2736 0.1096

Earth -108684-06-02 01:12 J -37975255.56 -37975255.45 -37975255.35 0.2735 0.1103 *

Uranus -108684-08-22 18:57 J -37975173.76 -37975173.71 -37975173.65 0.0133 0.0123

Uranus -108684-11-18 22:33 J -37975085.63 -37975085.56 -37975085.46 0.0133 0.0107

Uranus -108683-02-15 02:38 J -37974997.49 -37974997.39 -37974997.28 0.0133 0.0090

Uranus -108683-05-14 06:14 J -37974909.35 -37974909.24 -37974909.11 0.0132 0.0073

Uranus -108683-08-10 10:04 J -37974821.21 -37974821.08 -37974820.95 0.0132 0.0057

Uranus -108683-11-06 13:40 J -37974733.06 -37974732.93 -37974732.79 0.0132 0.0041

Uranus -108682-02-02 17:31 J -37974644.91 -37974644.77 -37974644.63 0.0132 0.0024

Uranus -108682-05-01 21:07 J -37974556.76 -37974556.62 -37974556.48 0.0132 0.0008

Uranus -108682-07-29 00:43 J -37974468.61 -37974468.47 -37974468.33 0.0132 0.0008

Uranus -108682-10-25 04:19 J -37974380.46 -37974380.32 -37974380.18 0.0132 0.0024

Uranus -108681-01-21 07:40 J -37974292.31 -37974292.18 -37974292.04 0.0132 0.0040

Venus -108681-02-18 11:02 J -37974264.16 -37974264.04 -37974263.93 0.3749 0.1318

Uranus -108681-04-18 11:16 J -37974204.16 -37974204.03 -37974203.90 0.0132 0.0055

Uranus -108681-07-15 14:52 J -37974116.00 -37974115.88 -37974115.76 0.0132 0.0071

Uranus -108681-10-11 18:00 J -37974027.84 -37974027.75 -37974027.63 0.0132 0.0087

Moon -108681-11-21 20:24 J -37973986.79 -37973986.65 -37973986.51 0.2611 0.1034

Earth -108681-11-21 21:50 J -37973986.73 -37973986.59 -37973986.45 0.2608 0.1061 *

Uranus -108680-01-07 21:36 J -37973939.68 -37973939.60 -37973939.50 0.0132 0.0102

Uranus -108680-04-06 01:12 J -37973851.51 -37973851.45 -37973851.39 0.0132 0.0117

Pluto -108680-04-17 09:50 J -37973840.14 -37973840.09 -37973840.02 0.0085 0.0074

Jupiter -108680-06-30 16:19 J -37973765.96 -37973765.82 -37973765.68 0.0530 0.0129

Pluto -108680-07-14 11:02 J -37973752.12 -37973752.04 -37973751.93 0.0085 0.0060

Jupiter -108680-09-28 05:02 J -37973676.38 -37973676.29 -37973676.20 0.0532 0.0396

Pluto -108680-10-10 12:28 J -37973664.09 -37973663.98 -37973663.86 0.0084 0.0045

Pluto -108679-01-06 13:40 J -37973576.05 -37973575.93 -37973575.80 0.0084 0.0031

Pluto -108679-04-04 15:07 J -37973488.00 -37973487.87 -37973487.74 0.0084 0.0017

Mars -108679-06-17 01:40 J -37973414.47 -37973414.43 -37973414.39 0.1816 0.1716

Pluto -108679-07-01 16:19 J -37973399.95 -37973399.82 -37973399.68 0.0084 0.0004

Pluto -108679-09-27 17:31 J -37973311.90 -37973311.77 -37973311.63 0.0084 0.0012

Pluto -108679-12-24 18:57 J -37973223.84 -37973223.71 -37973223.59 0.0084 0.0025

Pluto -108678-03-22 19:55 J -37973135.78 -37973135.67 -37973135.54 0.0084 0.0039

Pluto -108678-06-18 21:07 J -37973047.71 -37973047.62 -37973047.51 0.0083 0.0053

Mars -108678-07-10 10:19 J -37973026.22 -37973026.07 -37973025.92 0.1717 0.0169

Pluto -108678-09-14 22:19 J -37972959.64 -37972959.57 -37972959.48 0.0083 0.0066

Pluto -108678-12-11 23:45 J -37972871.54 -37972871.51 -37972871.47 0.0083 0.0079

Venus -108677-02-18 03:07 J -37972803.44 -37972803.37 -37972803.31 0.3618 0.3039

Mars -108677-05-22 21:21 J -37972708.73 -37972708.61 -37972708.49 0.1796 0.0343

Earth -108677-05-25 21:50 J -37972705.68 -37972705.59 -37972705.51 0.2723 0.1720

Moon -108677-05-25 22:19 J -37972705.66 -37972705.57 -37972705.48 0.2717 0.1684 *

Saturn -108676-03-12 05:31 J -37972415.27 -37972415.27 -37972415.26 0.0289 0.0289

Saturn -108676-06-09 00:00 J -37972326.62 -37972326.50 -37972326.38 0.0288 0.0196

Venus -108676-09-03 09:36 J -37972240.16 -37972240.10 -37972240.05 0.3744 0.3328

Saturn -108676-09-05 18:43 J -37972237.87 -37972237.72 -37972237.57 0.0288 0.0101

Saturn -108676-12-03 13:40 J -37972149.10 -37972148.93 -37972148.76 0.0287 0.0005

Saturn -108675-03-02 08:52 J -37972060.29 -37972060.13 -37972059.97 0.0286 0.0093

Saturn -108675-05-30 04:19 J -37971971.44 -37971971.32 -37971971.19 0.0285 0.0190

Jupiter -108674-02-16 07:40 J -37971709.30 -37971709.18 -37971709.07 0.0497 0.0340

Jupiter -108674-05-17 04:04 J -37971619.49 -37971619.33 -37971619.17 0.0495 0.0169

Venus -108672-09-02 23:16 J -37970779.64 -37970779.53 -37970779.42 0.3622 0.1474

Moon -108671-06-04 19:12 J -37970504.77 -37970504.70 -37970504.63 0.2744 0.1994

Earth -108671-06-04 19:40 J -37970504.75 -37970504.68 -37970504.61 0.2739 0.2091 *

Mars -108669-11-29 13:55 J -37969596.07 -37969595.92 -37969595.78 0.1713 0.0370

Jupiter -108668-04-18 17:31 J -37969455.89 -37969455.77 -37969455.64 0.0530 0.0275

Jupiter -108668-07-17 06:43 J -37969366.34 -37969366.22 -37969366.10 0.0531 0.0255

Mars -108668-10-13 04:48 J -37969278.42 -37969278.30 -37969278.17 0.1801 0.0139

Venus -108666-03-19 18:57 J -37968755.83 -37968755.71 -37968755.59 0.3627 0.0145

Mars -108666-09-18 21:21 J -37968572.63 -37968572.61 -37968572.58 0.1780 0.1726

Moon -108664-05-28 16:19 J -37967954.93 -37967954.82 -37967954.71 0.2720 0.0732

Earth -108664-05-28 16:33 J -37967954.92 -37967954.81 -37967954.70 0.2727 0.0707 *

Jupiter -108663-12-05 08:24 J -37967399.21 -37967399.15 -37967399.10 0.0498 0.0463

Jupiter -108662-03-05 04:19 J -37967309.48 -37967309.32 -37967309.15 0.0496 0.0043

Venus -108661-10-02 14:38 J -37966732.00 -37966731.89 -37966731.78 0.3631 0.1549

Moon -108661-11-16 17:31 J -37966686.87 -37966686.77 -37966686.67 0.2612 0.2012

Earth -108661-11-16 18:43 J -37966686.83 -37966686.72 -37966686.61 0.2617 0.1863 *

Saturn -108661-12-30 23:16 J -37966642.61 -37966642.53 -37966642.44 0.0272 0.0221

Saturn -108660-03-29 12:57 J -37966554.08 -37966553.96 -37966553.84 0.0273 0.0147

Saturn -108660-06-26 02:24 J -37966465.54 -37966465.40 -37966465.26 0.0274 0.0073

Saturn -108660-09-22 15:36 J -37966377.00 -37966376.85 -37966376.71 0.0274 0.0005

Saturn -108660-12-20 04:33 J -37966288.45 -37966288.31 -37966288.17 0.0275 0.0074

Saturn -108659-03-18 17:31 J -37966199.89 -37966199.77 -37966199.65 0.0276 0.0147

Mars -108659-04-21 17:16 J -37966165.90 -37966165.78 -37966165.65 0.1708 0.0896

Saturn -108659-06-15 06:14 J -37966111.32 -37966111.24 -37966111.15 0.0277 0.0219

Mars -108658-03-05 12:00 J -37965848.11 -37965848.00 -37965847.88 0.1806 0.0635

Mars -108657-03-28 06:00 J -37965459.34 -37965459.25 -37965459.16 0.1727 0.1374

Jupiter -108656-02-04 19:26 J -37965145.77 -37965145.69 -37965145.60 0.0529 0.0412

Mars -108656-02-08 05:31 J -37965142.35 -37965142.27 -37965142.18 0.1786 0.1292

Jupiter -108656-05-05 09:07 J -37965056.26 -37965056.12 -37965055.99 0.0531 0.0124

Venus -108655-04-18 10:04 J -37964708.15 -37964708.08 -37964708.02 0.3636 0.2984

Moon -108651-05-31 10:48 J -37963204.17 -37963204.05 -37963203.94 0.2728 0.0294

Earth -108651-05-31 11:16 J -37963204.14 -37963204.03 -37963203.92 0.2731 0.0307 *

Jupiter -108651-12-22 04:19 J -37962999.48 -37962999.32 -37962999.16 0.0496 0.0091

Jupiter -108650-03-22 01:40 J -37962909.52 -37962909.43 -37962909.35 0.0494 0.0426

Mars -108650-09-11 21:21 J -37962735.70 -37962735.61 -37962735.53 0.1703 0.1397

Mars -108649-07-25 19:12 J -37962417.80 -37962417.70 -37962417.61 0.1811 0.1144

Mars -108648-08-18 08:09 J -37962029.29 -37962029.16 -37962029.02 0.1722 0.0786

Moon -108648-11-19 21:50 J -37961935.74 -37961935.59 -37961935.44 0.2612 0.0276

Earth -108648-11-19 23:16 J -37961935.68 -37961935.53 -37961935.38 0.2612 0.0254 *

Mars -108647-07-01 13:40 J -37961712.04 -37961711.93 -37961711.82 0.1791 0.0847

Saturn -108647-10-27 01:55 J -37961594.52 -37961594.42 -37961594.31 0.0289 0.0215

Saturn -108646-01-23 20:24 J -37961505.79 -37961505.65 -37961505.50 0.0288 0.0121

Saturn -108646-04-22 15:21 J -37961417.02 -37961416.86 -37961416.69 0.0287 0.0025

Saturn -108646-07-20 10:33 J -37961328.22 -37961328.06 -37961327.90 0.0286 0.0072

Saturn -108646-10-17 06:00 J -37961239.39 -37961239.25 -37961239.12 0.0285 0.0169

Saturn -108645-01-14 01:26 J -37961150.49 -37961150.44 -37961150.38 0.0284 0.0267

Jupiter -108644-02-21 11:45 J -37960746.15 -37960746.01 -37960745.87 0.0531 0.0011

Jupiter -108644-05-22 00:00 J -37960656.52 -37960656.50 -37960656.47 0.0533 0.0517

Earth -108644-05-24 07:55 J -37960654.21 -37960654.17 -37960654.14 0.2719 0.2533

Moon -108644-05-24 08:38 J -37960654.18 -37960654.14 -37960654.10 0.2715 0.2527 *

Venus -108641-02-09 16:19 J -37959662.84 -37959662.82 -37959662.80 0.3762 0.3664

Mars -108640-12-16 01:55 J -37958987.47 -37958987.42 -37958987.38 0.1816 0.1668

Uranus -108639-01-19 11:45 J -37958953.10 -37958953.01 -37958952.92 0.0146 0.0123

Uranus -108639-04-17 18:14 J -37958864.86 -37958864.74 -37958864.61 0.0147 0.0098

Uranus -108639-07-15 01:12 J -37958776.60 -37958776.45 -37958776.30 0.0147 0.0072

Jupiter -108639-10-10 04:48 J -37958689.45 -37958689.30 -37958689.15 0.0496 0.0217

Uranus -108639-10-11 07:55 J -37958688.33 -37958688.17 -37958688.01 0.0147 0.0046

Uranus -108638-01-07 14:52 J -37958600.05 -37958599.88 -37958599.71 0.0147 0.0020

Jupiter -108638-01-08 01:40 J -37958599.57 -37958599.43 -37958599.30 0.0495 0.0296

Mars -108638-01-08 11:02 J -37958599.19 -37958599.04 -37958598.89 0.1717 0.0226

Uranus -108638-04-05 21:50 J -37958511.77 -37958511.59 -37958511.42 0.0147 0.0007

Moon -108638-06-03 05:16 J -37958453.38 -37958453.28 -37958453.18 0.2737 0.1164

Earth -108638-06-03 06:00 J -37958453.35 -37958453.25 -37958453.15 0.2736 0.1303 *

Uranus -108638-07-03 04:48 J -37958423.47 -37958423.30 -37958423.13 0.0147 0.0033

Uranus -108638-09-29 11:45 J -37958335.17 -37958335.01 -37958334.85 0.0147 0.0060

Mars -108638-11-21 21:21 J -37958281.73 -37958281.61 -37958281.49 0.1796 0.0386

Uranus -108638-12-26 18:57 J -37958246.85 -37958246.71 -37958246.57 0.0147 0.0087

Uranus -108637-03-24 01:55 J -37958158.52 -37958158.42 -37958158.30 0.0147 0.0115

Uranus -108637-06-20 09:21 J -37958070.15 -37958070.11 -37958070.06 0.0147 0.0142

Venus -108636-08-25 13:55 J -37957639.03 -37957638.92 -37957638.81 0.3758 0.1855

Moon -108635-11-23 02:52 J -37957184.51 -37957184.38 -37957184.24 0.2611 0.1198

Earth -108635-11-23 04:19 J -37957184.45 -37957184.32 -37957184.19 0.2607 0.1396 *

Jupiter -108633-12-10 14:09 J -37956436.04 -37956435.91 -37956435.77 0.0531 0.0134

Jupiter -108632-03-10 02:52 J -37956346.47 -37956346.38 -37956346.28 0.0532 0.0393

Saturn -108631-05-20 00:57 J -37955910.52 -37955910.46 -37955910.40 0.0272 0.0244

Earth -108631-05-27 02:38 J -37955903.48 -37955903.39 -37955903.29 0.2723 0.1518

Moon -108631-05-27 02:52 J -37955903.47 -37955903.38 -37955903.28 0.2717 0.1449 *

Saturn -108631-08-16 14:38 J -37955822.01 -37955821.89 -37955821.78 0.0272 0.0170

Saturn -108631-11-13 03:50 J -37955733.47 -37955733.34 -37955733.20 0.0273 0.0096

Saturn -108630-02-09 17:16 J -37955644.93 -37955644.78 -37955644.64 0.0274 0.0023

Venus -108630-03-11 11:45 J -37955615.13 -37955615.01 -37955614.88 0.3753 0.0090

Saturn -108630-05-09 06:14 J -37955556.38 -37955556.24 -37955556.10 0.0275 0.0051

Saturn -108630-08-05 19:12 J -37955467.83 -37955467.70 -37955467.57 0.0276 0.0124

Saturn -108630-11-02 07:55 J -37955379.26 -37955379.17 -37955379.07 0.0277 0.0196

Saturn -108629-01-29 20:38 J -37955290.67 -37955290.64 -37955290.60 0.0277 0.0268

Mars -108629-05-30 14:09 J -37955169.06 -37955168.91 -37955168.77 0.1712 0.0328

Mars -108628-04-13 05:02 J -37954851.42 -37954851.29 -37954851.17 0.1801 0.0097

Jupiter -108627-07-29 05:02 J -37954379.40 -37954379.29 -37954379.17 0.0497 0.0345

Jupiter -108627-10-27 01:26 J -37954289.60 -37954289.44 -37954289.28 0.0495 0.0163

Mars -108626-03-19 21:21 J -37954145.62 -37954145.61 -37954145.60 0.1781 0.1762

Moon -108625-06-05 00:14 J -37953702.54 -37953702.49 -37953702.43 0.2747 0.2340

Earth -108625-06-05 00:43 J -37953702.53 -37953702.47 -37953702.42 0.2740 0.2292 *

Venus -108625-09-24 10:19 J -37953591.18 -37953591.07 -37953590.97 0.3747 0.1997

Venus -108621-09-24 01:40 J -37952130.51 -37952130.43 -37952130.34 0.3619 0.2473

Jupiter -108621-09-28 16:19 J -37952125.94 -37952125.82 -37952125.70 0.0530 0.0269

Jupiter -108621-12-27 05:31 J -37952036.39 -37952036.27 -37952036.15 0.0532 0.0262

Mars -108620-10-20 17:45 J -37951738.89 -37951738.76 -37951738.63 0.1708 0.0843

Mars -108619-09-03 12:14 J -37951421.11 -37951420.99 -37951420.87 0.1806 0.0584

Moon -108618-05-29 21:07 J -37951152.73 -37951152.62 -37951152.51 0.2721 0.0554

Earth -108618-05-29 21:36 J -37951152.71 -37951152.60 -37951152.49 0.2728 0.0507 *

Mars -108618-09-27 06:14 J -37951032.32 -37951032.24 -37951032.15 0.1727 0.1424

Saturn -108617-03-15 02:24 J -37950862.48 -37950862.40 -37950862.31 0.0289 0.0241

Saturn -108617-06-11 20:52 J -37950773.76 -37950773.63 -37950773.48 0.0288 0.0147

Mars -108617-08-09 05:45 J -37950715.34 -37950715.26 -37950715.18 0.1786 0.1338

Saturn -108617-09-08 15:50 J -37950685.00 -37950684.84 -37950684.68 0.0287 0.0051

Saturn -108617-12-06 10:48 J -37950596.21 -37950596.05 -37950595.88 0.0286 0.0046

Saturn -108616-03-05 06:14 J -37950507.38 -37950507.24 -37950507.09 0.0285 0.0143

Saturn -108616-06-02 01:55 J -37950418.51 -37950418.42 -37950418.33 0.0284 0.0240

Neptune -108616-10-17 16:04 J -37950280.85 -37950280.83 -37950280.79 0.0088 0.0086

Neptune -108615-01-13 18:14 J -37950192.79 -37950192.74 -37950192.68 0.0088 0.0082

Venus -108615-04-09 21:50 J -37950106.71 -37950106.59 -37950106.47 0.3624 0.0915

Neptune -108615-04-11 19:55 J -37950104.73 -37950104.67 -37950104.58 0.0088 0.0078

Jupiter -108615-05-17 05:45 J -37950069.31 -37950069.26 -37950069.20 0.0498 0.0469

Neptune -108615-07-08 22:04 J -37950016.66 -37950016.58 -37950016.49 0.0088 0.0073

Jupiter -108615-08-15 01:55 J -37949979.59 -37949979.42 -37949979.26 0.0496 0.0036

Neptune -108615-10-05 00:14 J -37949928.59 -37949928.49 -37949928.39 0.0088 0.0068

Moon -108615-11-17 23:45 J -37949884.63 -37949884.51 -37949884.39 0.2612 0.1597

Earth -108615-11-18 00:57 J -37949884.58 -37949884.46 -37949884.33 0.2616 0.1546 *

Neptune -108614-01-01 01:55 J -37949840.51 -37949840.42 -37949840.30 0.0088 0.0064

Neptune -108614-03-30 04:04 J -37949752.44 -37949752.33 -37949752.22 0.0088 0.0059

Neptune -108614-06-26 05:45 J -37949664.37 -37949664.26 -37949664.13 0.0088 0.0055

Neptune -108614-09-22 07:55 J -37949576.29 -37949576.17 -37949576.04 0.0088 0.0050

Neptune -108614-12-19 09:36 J -37949488.22 -37949488.10 -37949487.96 0.0088 0.0046

Neptune -108613-03-16 11:45 J -37949400.14 -37949400.01 -37949399.87 0.0088 0.0041

Neptune -108613-06-12 13:26 J -37949312.07 -37949311.94 -37949311.79 0.0088 0.0037

Neptune -108613-09-08 15:36 J -37949223.99 -37949223.85 -37949223.71 0.0088 0.0032

Neptune -108613-12-05 17:16 J -37949135.92 -37949135.78 -37949135.63 0.0088 0.0028

Neptune -108612-03-03 19:26 J -37949047.84 -37949047.69 -37949047.55 0.0088 0.0023

Neptune -108612-05-30 21:07 J -37948959.76 -37948959.62 -37948959.47 0.0088 0.0018

Neptune -108612-08-26 23:02 J -37948871.69 -37948871.54 -37948871.39 0.0088 0.0014

Neptune -108612-11-23 00:57 J -37948783.61 -37948783.46 -37948783.31 0.0088 0.0009

Neptune -108611-02-19 02:38 J -37948695.53 -37948695.39 -37948695.24 0.0088 0.0006

Neptune -108611-05-18 04:33 J -37948607.46 -37948607.31 -37948607.16 0.0088 0.0001

Neptune -108611-08-14 06:28 J -37948519.38 -37948519.23 -37948519.09 0.0088 0.0004

Neptune -108611-11-10 08:09 J -37948431.31 -37948431.16 -37948431.01 0.0088 0.0008

Neptune -108610-02-06 10:04 J -37948343.23 -37948343.08 -37948342.94 0.0088 0.0013

Mars -108610-03-12 21:36 J -37948308.68 -37948308.60 -37948308.51 0.1703 0.1346

Neptune -108610-05-05 11:45 J -37948255.15 -37948255.01 -37948254.86 0.0088 0.0017

Neptune -108610-08-01 13:26 J -37948167.08 -37948166.94 -37948166.79 0.0088 0.0022

Venus -108610-10-24 17:45 J -37948082.88 -37948082.76 -37948082.65 0.3628 0.0619

Neptune -108610-10-28 15:21 J -37948079.00 -37948078.86 -37948078.72 0.0088 0.0026

Neptune -108609-01-24 17:02 J -37947990.92 -37947990.79 -37947990.65 0.0088 0.0030

Mars -108609-01-24 19:12 J -37947990.80 -37947990.70 -37947990.60 0.1811 0.1095 *

Neptune -108609-04-21 18:43 J -37947902.84 -37947902.72 -37947902.57 0.0088 0.0035

Jupiter -108609-07-17 17:45 J -37947815.85 -37947815.76 -37947815.68 0.0529 0.0414

Neptune -108609-07-18 20:38 J -37947814.77 -37947814.64 -37947814.50 0.0088 0.0039

Neptune -108609-10-14 22:33 J -37947726.69 -37947726.56 -37947726.44 0.0088 0.0043

Jupiter -108609-10-15 07:12 J -37947726.34 -37947726.20 -37947726.07 0.0531 0.0121

Neptune -108608-01-11 00:00 J -37947638.61 -37947638.50 -37947638.37 0.0088 0.0047

Mars -108608-02-16 08:52 J -37947602.26 -37947602.13 -37947602.00 0.1722 0.0846

Neptune -108608-04-09 01:40 J -37947550.54 -37947550.43 -37947550.30 0.0088 0.0052

Neptune -108608-07-06 03:36 J -37947462.46 -37947462.35 -37947462.23 0.0088 0.0055

Neptune -108608-10-02 05:16 J -37947374.38 -37947374.28 -37947374.17 0.0088 0.0060

Neptune -108608-12-29 07:12 J -37947286.30 -37947286.20 -37947286.10 0.0088 0.0064

Mars -108608-12-30 13:40 J -37947285.03 -37947284.93 -37947284.82 0.1791 0.0891

Neptune -108607-03-27 08:38 J -37947198.22 -37947198.14 -37947198.04 0.0088 0.0068

Neptune -108607-06-23 10:19 J -37947110.14 -37947110.07 -37947109.98 0.0088 0.0072

Neptune -108607-09-19 12:00 J -37947022.06 -37947022.00 -37947021.92 0.0088 0.0076

Neptune -108607-12-16 13:40 J -37946933.97 -37946933.93 -37946933.86 0.0088 0.0081

Neptune -108606-03-14 15:21 J -37946845.89 -37946845.86 -37946845.81 0.0088 0.0085

Moon -108605-05-31 15:36 J -37946401.96 -37946401.85 -37946401.74 0.2731 0.0431

Earth -108605-05-31 16:19 J -37946401.93 -37946401.82 -37946401.71 0.2732 0.0505 *

Venus -108604-05-09 13:12 J -37946059.05 -37946058.95 -37946058.85 0.3632 0.2067

Jupiter -108603-06-03 02:09 J -37945669.57 -37945669.41 -37945669.25 0.0496 0.0092

Jupiter -108603-08-31 23:31 J -37945579.60 -37945579.52 -37945579.43 0.0495 0.0427

Saturn -108602-10-07 03:50 J -37945178.38 -37945178.34 -37945178.29 0.0272 0.0259

Moon -108602-11-21 04:04 J -37945133.48 -37945133.33 -37945133.17 0.2614 0.0138

Earth -108602-11-21 05:45 J -37945133.42 -37945133.26 -37945133.11 0.2611 0.0094 *

Saturn -108601-01-03 17:31 J -37945089.87 -37945089.77 -37945089.66 0.0273 0.0185

Saturn -108601-04-01 06:57 J -37945001.34 -37945001.21 -37945001.07 0.0273 0.0111

Saturn -108601-06-28 20:24 J -37944912.80 -37944912.65 -37944912.51 0.0274 0.0037

Saturn -108601-09-25 09:36 J -37944824.25 -37944824.10 -37944823.96 0.0275 0.0037

Saturn -108601-12-22 22:33 J -37944735.69 -37944735.56 -37944735.43 0.0276 0.0110

Saturn -108600-03-21 11:16 J -37944647.13 -37944647.03 -37944646.92 0.0277 0.0182

Uranus -108600-06-15 23:16 J -37944560.53 -37944560.53 -37944560.52 0.0133 0.0132

Mars -108600-06-16 01:55 J -37944560.47 -37944560.42 -37944560.36 0.1816 0.1620

Saturn -108600-06-18 00:00 J -37944558.55 -37944558.50 -37944558.44 0.0277 0.0254

Uranus -108600-09-12 02:52 J -37944472.44 -37944472.38 -37944472.30 0.0133 0.0116

Uranus -108600-12-09 06:57 J -37944384.31 -37944384.21 -37944384.11 0.0133 0.0099

Uranus -108599-03-07 10:33 J -37944296.17 -37944296.06 -37944295.94 0.0132 0.0082

Uranus -108599-06-03 14:24 J -37944208.02 -37944207.90 -37944207.77 0.0132 0.0066

Mars -108599-07-09 11:31 J -37944172.17 -37944172.02 -37944171.87 0.1717 0.0277

Uranus -108599-08-30 18:00 J -37944119.88 -37944119.75 -37944119.61 0.0132 0.0050

Venus -108599-11-23 08:24 J -37944035.18 -37944035.15 -37944035.12 0.3637 0.3490

Uranus -108599-11-26 21:50 J -37944031.73 -37944031.59 -37944031.45 0.0132 0.0033

Uranus -108598-02-23 01:26 J -37943943.58 -37943943.44 -37943943.29 0.0132 0.0017

Uranus -108598-05-22 05:16 J -37943855.43 -37943855.28 -37943855.14 0.0132 0.0004

Mars -108598-05-22 21:36 J -37943854.72 -37943854.60 -37943854.48 0.1796 0.0431

Earth -108598-05-25 12:43 J -37943852.02 -37943851.97 -37943851.91 0.2719 0.2332

Moon -108598-05-25 13:26 J -37943852.01 -37943851.94 -37943851.88 0.2715 0.2198 *

Uranus -108598-08-18 08:38 J -37943767.28 -37943767.14 -37943766.99 0.0132 0.0016

Uranus -108598-11-14 12:14 J -37943679.13 -37943678.99 -37943678.85 0.0132 0.0031

Uranus -108597-02-10 15:50 J -37943590.97 -37943590.84 -37943590.70 0.0132 0.0047

Uranus -108597-05-08 19:12 J -37943502.82 -37943502.70 -37943502.57 0.0132 0.0063

Jupiter -108597-08-03 09:21 J -37943416.25 -37943416.11 -37943415.97 0.0531 0.0014

Uranus -108597-08-04 22:48 J -37943414.66 -37943414.55 -37943414.43 0.0132 0.0078

Jupiter -108597-10-31 21:36 J -37943326.63 -37943326.60 -37943326.55 0.0532 0.0507

Uranus -108597-11-01 02:09 J -37943326.50 -37943326.41 -37943326.30 0.0132 0.0094

Uranus -108596-01-28 05:45 J -37943238.34 -37943238.26 -37943238.18 0.0132 0.0109

Uranus -108596-04-26 09:07 J -37943150.16 -37943150.12 -37943150.07 0.0131 0.0124

Moon -108592-06-03 10:19 J -37941651.16 -37941651.07 -37941650.98 0.2739 0.1493

Earth -108592-06-03 11:02 J -37941651.14 -37941651.04 -37941650.95 0.2736 0.1504 *

Jupiter -108591-03-22 02:24 J -37941359.55 -37941359.40 -37941359.26 0.0496 0.0221

Jupiter -108591-06-19 23:02 J -37941269.67 -37941269.54 -37941269.40 0.0495 0.0291

Mars -108590-11-29 14:38 J -37940742.04 -37940741.89 -37940741.74 0.1713 0.0267

Mars -108589-10-12 05:02 J -37940424.41 -37940424.29 -37940424.16 0.1801 0.0054

Moon -108589-11-23 09:21 J -37940382.22 -37940382.11 -37940381.99 0.2611 0.1733

Earth -108589-11-23 10:33 J -37940382.18 -37940382.06 -37940381.95 0.2607 0.1716 *

Saturn -108588-08-02 04:33 J -37940130.38 -37940130.31 -37940130.24 0.0289 0.0260

Saturn -108588-10-29 23:02 J -37940041.67 -37940041.54 -37940041.41 0.0288 0.0166

Saturn -108587-01-26 17:45 J -37939952.92 -37939952.76 -37939952.60 0.0287 0.0071

Saturn -108587-04-25 12:43 J -37939864.14 -37939863.97 -37939863.81 0.0286 0.0025

Saturn -108587-07-23 07:55 J -37939775.32 -37939775.17 -37939775.02 0.0286 0.0122

Saturn -108587-10-20 03:21 J -37939686.46 -37939686.36 -37939686.25 0.0285 0.0220

Jupiter -108585-05-22 11:45 J -37939106.14 -37939106.01 -37939105.87 0.0531 0.0144

Moon -108585-05-27 07:40 J -37939101.28 -37939101.18 -37939101.08 0.2716 0.1373

Earth -108585-05-27 07:40 J -37939101.28 -37939101.18 -37939101.08 0.2724 0.1313 *

Jupiter -108585-08-20 00:28 J -37939016.57 -37939016.48 -37939016.38 0.0532 0.0384

Venus -108585-09-15 15:21 J -37938989.93 -37938989.86 -37938989.79 0.3761 0.3034

Mars -108580-04-20 18:14 J -37937311.88 -37937311.74 -37937311.61 0.1708 0.0796

Jupiter -108579-01-08 03:07 J -37937049.49 -37937049.37 -37937049.26 0.0497 0.0345

Mars -108579-03-04 12:14 J -37936994.11 -37936993.99 -37936993.87 0.1806 0.0545

Venus -108579-04-01 12:57 J -37936966.07 -37936965.96 -37936965.84 0.3756 0.1211

Jupiter -108579-04-07 23:16 J -37936959.68 -37936959.53 -37936959.37 0.0495 0.0163

Moon -108579-06-06 05:16 J -37936900.32 -37936900.28 -37936900.23 0.2748 0.2427

Earth -108579-06-06 05:31 J -37936900.31 -37936900.27 -37936900.23 0.2740 0.2493 *

Mars -108578-03-28 06:57 J -37936605.29 -37936605.21 -37936605.14 0.1727 0.1485

Mars -108577-02-08 05:45 J -37936288.34 -37936288.26 -37936288.18 0.1786 0.1376

Venus -108574-10-16 11:02 J -37934942.16 -37934942.04 -37934941.92 0.3751 0.0699

Jupiter -108573-03-10 14:09 J -37934796.03 -37934795.91 -37934795.78 0.0530 0.0274

Jupiter -108573-06-08 03:21 J -37934706.48 -37934706.36 -37934706.24 0.0532 0.0258

Saturn -108572-05-22 18:57 J -37934357.80 -37934357.71 -37934357.61 0.0272 0.0208

Moon -108572-05-30 01:55 J -37934350.53 -37934350.42 -37934350.31 0.2723 0.0309

Earth -108572-05-30 02:24 J -37934350.51 -37934350.40 -37934350.29 0.2728 0.0309 *

Saturn -108572-08-19 08:24 J -37934269.27 -37934269.15 -37934269.01 0.0273 0.0135

Saturn -108572-11-15 21:50 J -37934180.73 -37934180.59 -37934180.44 0.0273 0.0061

Saturn -108571-02-12 11:02 J -37934092.18 -37934092.04 -37934091.89 0.0274 0.0014

Saturn -108571-05-12 00:00 J -37934003.63 -37934003.50 -37934003.36 0.0275 0.0087

Saturn -108571-08-08 12:57 J -37933915.07 -37933914.96 -37933914.84 0.0276 0.0158

Mars -108571-09-10 22:04 J -37933881.68 -37933881.58 -37933881.49 0.1703 0.1299

Saturn -108571-11-05 01:40 J -37933826.50 -37933826.43 -37933826.35 0.0277 0.0230

Mars -108570-07-25 19:40 J -37933563.79 -37933563.68 -37933563.58 0.1811 0.1042

Venus -108570-10-16 04:19 J -37933481.35 -37933481.32 -37933481.29 0.3616 0.3490

Mars -108569-08-17 09:07 J -37933175.25 -37933175.12 -37933174.99 0.1722 0.0895

Moon -108569-11-18 06:00 J -37933082.38 -37933082.25 -37933082.12 0.2614 0.1339

Earth -108569-11-18 07:26 J -37933082.33 -37933082.19 -37933082.06 0.2616 0.1231 *

Venus -108568-05-01 09:36 J -37932918.19 -37932918.10 -37932918.02 0.3746 0.2679

Mars -108568-06-30 13:55 J -37932858.03 -37932857.92 -37932857.82 0.1791 0.0935

Jupiter -108568-10-27 03:36 J -37932739.40 -37932739.35 -37932739.31 0.0497 0.0472

Jupiter -108567-01-24 23:16 J -37932649.69 -37932649.53 -37932649.36 0.0496 0.0033

Venus -108564-05-01 00:28 J -37931457.58 -37931457.48 -37931457.38 0.3620 0.1906

Jupiter -108562-12-28 16:19 J -37930485.91 -37930485.82 -37930485.73 0.0529 0.0408

Jupiter -108561-03-27 05:45 J -37930396.39 -37930396.26 -37930396.12 0.0531 0.0128

Mars -108561-12-15 02:09 J -37930133.47 -37930133.41 -37930133.35 0.1816 0.1571

Mars -108559-01-07 12:00 J -37929745.15 -37929745.00 -37929744.86 0.1717 0.0333

Moon -108559-06-01 20:24 J -37929599.76 -37929599.65 -37929599.54 0.2732 0.0622

Earth -108559-06-01 21:07 J -37929599.72 -37929599.62 -37929599.51 0.2732 0.0713 *

Venus -108559-11-14 20:24 J -37929433.77 -37929433.65 -37929433.53 0.3625 0.0381

Mars -108559-11-20 21:50 J -37929427.71 -37929427.59 -37929427.47 0.1796 0.0481

Saturn -108559-12-20 04:33 J -37929398.31 -37929398.31 -37929398.29 0.0289 0.0288

Saturn -108558-03-18 23:02 J -37929309.66 -37929309.54 -37929309.42 0.0289 0.0195

Saturn -108558-06-15 17:31 J -37929220.92 -37929220.77 -37929220.61 0.0288 0.0101

Saturn -108558-09-12 12:28 J -37929132.14 -37929131.98 -37929131.81 0.0287 0.0009

Saturn -108558-12-10 07:55 J -37929043.33 -37929043.17 -37929043.02 0.0286 0.0093

Saturn -108557-03-08 03:07 J -37928954.49 -37928954.37 -37928954.24 0.0285 0.0191

Uranus -108556-11-12 13:26 J -37928339.98 -37928339.94 -37928339.87 0.0146 0.0138

Jupiter -108556-11-12 23:45 J -37928339.67 -37928339.51 -37928339.35 0.0496 0.0097

Moon -108556-11-21 10:33 J -37928331.21 -37928331.06 -37928330.91 0.2614 0.0340

Earth -108556-11-21 12:00 J -37928331.15 -37928331.00 -37928330.85 0.2611 0.0398 *

Uranus -108555-02-08 20:09 J -37928251.76 -37928251.66 -37928251.55 0.0146 0.0112

Jupiter -108555-02-10 21:07 J -37928249.70 -37928249.62 -37928249.53 0.0495 0.0422

Uranus -108555-05-08 02:38 J -37928163.51 -37928163.39 -37928163.24 0.0146 0.0088

Uranus -108555-08-04 09:36 J -37928075.25 -37928075.10 -37928074.94 0.0147 0.0062

Uranus -108555-10-31 16:33 J -37927986.98 -37927986.81 -37927986.64 0.0147 0.0035

Uranus -108554-01-27 23:31 J -37927898.69 -37927898.52 -37927898.35 0.0147 0.0009

Uranus -108554-04-26 06:14 J -37927810.40 -37927810.24 -37927810.06 0.0147 0.0018

Uranus -108554-07-23 13:26 J -37927722.11 -37927721.94 -37927721.77 0.0147 0.0044

Uranus -108554-10-19 20:24 J -37927633.80 -37927633.65 -37927633.49 0.0147 0.0071

Uranus -108553-01-16 03:36 J -37927545.48 -37927545.35 -37927545.22 0.0147 0.0098

Uranus -108553-04-13 10:33 J -37927457.14 -37927457.06 -37927456.96 0.0147 0.0126

Venus -108553-05-30 16:19 J -37927409.94 -37927409.82 -37927409.71 0.3629 0.1142

Earth -108552-05-25 17:45 J -37927049.83 -37927049.76 -37927049.69 0.2720 0.2128

Moon -108552-05-25 18:14 J -37927049.81 -37927049.74 -37927049.68 0.2714 0.2141 *

Mars -108550-05-30 15:07 J -37926315.02 -37926314.87 -37926314.72 0.1713 0.0216

Jupiter -108549-01-14 07:40 J -37926086.32 -37926086.18 -37926086.04 0.0530 0.0017

Mars -108549-04-12 05:16 J -37925997.41 -37925997.28 -37925997.16 0.1801 0.0057

Jupiter -108549-04-12 19:55 J -37925996.70 -37925996.67 -37925996.63 0.0532 0.0507

Venus -108548-12-14 11:45 J -37925386.09 -37925386.01 -37925385.93 0.3634 0.2584

Moon -108546-06-04 15:21 J -37924848.95 -37924848.86 -37924848.77 0.2742 0.1646

Earth -108546-06-04 15:50 J -37924848.92 -37924848.84 -37924848.75 0.2737 0.1703 *

Jupiter -108544-09-01 00:28 J -37924029.63 -37924029.48 -37924029.34 0.0497 0.0222

Jupiter -108544-11-29 21:07 J -37923939.75 -37923939.62 -37923939.48 0.0495 0.0292

Saturn -108543-10-09 21:36 J -37923625.68 -37923625.60 -37923625.51 0.0272 0.0225

Moon -108543-11-24 16:19 J -37923579.92 -37923579.82 -37923579.71 0.2612 0.1932

Earth -108543-11-24 17:02 J -37923579.89 -37923579.79 -37923579.70 0.2606 0.2051 *

Saturn -108542-01-06 11:16 J -37923537.15 -37923537.03 -37923536.91 0.0273 0.0151

Saturn -108542-04-05 00:43 J -37923448.61 -37923448.47 -37923448.33 0.0274 0.0077

Saturn -108542-07-02 13:55 J -37923360.07 -37923359.92 -37923359.77 0.0275 0.0004

Saturn -108542-09-29 02:52 J -37923271.51 -37923271.38 -37923271.24 0.0275 0.0070

Saturn -108542-12-26 16:04 J -37923182.96 -37923182.83 -37923182.71 0.0276 0.0143

Saturn -108541-03-24 04:48 J -37923094.39 -37923094.30 -37923094.21 0.0277 0.0214

Mars -108541-10-19 18:43 J -37922884.86 -37922884.72 -37922884.59 0.1708 0.0739

Mars -108540-09-02 12:43 J -37922567.10 -37922566.97 -37922566.85 0.1806 0.0493

Moon -108539-05-28 12:28 J -37922299.08 -37922298.98 -37922298.88 0.2717 0.1052

Earth -108539-05-28 12:43 J -37922299.08 -37922298.97 -37922298.87 0.2724 0.1117 *

Mars -108539-09-26 07:26 J -37922178.25 -37922178.19 -37922178.12 0.1727 0.1545

Mars -108538-08-09 06:00 J -37921861.32 -37921861.25 -37921861.18 0.1786 0.1422

Jupiter -108538-11-02 09:36 J -37921776.23 -37921776.10 -37921775.96 0.0530 0.0150

Jupiter -108537-01-30 22:33 J -37921686.66 -37921686.56 -37921686.47 0.0532 0.0377

Moon -108536-11-16 08:09 J -37921031.20 -37921031.16 -37921031.12 0.2615 0.2507

Earth -108536-11-16 09:07 J -37921031.16 -37921031.12 -37921031.08 0.2620 0.2513 *

Earth -108533-06-06 10:33 J -37920098.08 -37920098.06 -37920098.05 0.2741 0.2695

Neptune -108533-09-26 14:52 J -37919985.89 -37919985.88 -37919985.83 0.0089 0.0087

Neptune -108533-12-23 17:31 J -37919897.82 -37919897.77 -37919897.70 0.0089 0.0082

Neptune -108532-03-21 19:40 J -37919809.74 -37919809.68 -37919809.59 0.0089 0.0078

Neptune -108532-06-17 22:04 J -37919721.65 -37919721.58 -37919721.47 0.0089 0.0073

Jupiter -108532-06-20 00:43 J -37919719.58 -37919719.47 -37919719.35 0.0497 0.0348

Neptune -108532-09-14 00:43 J -37919633.57 -37919633.47 -37919633.36 0.0089 0.0068

Jupiter -108532-09-17 21:07 J -37919629.78 -37919629.62 -37919629.47 0.0495 0.0160

Neptune -108532-12-11 03:21 J -37919545.47 -37919545.36 -37919545.24 0.0089 0.0063

Neptune -108531-03-09 05:31 J -37919457.38 -37919457.27 -37919457.13 0.0089 0.0059

Mars -108531-03-11 22:33 J -37919454.66 -37919454.56 -37919454.46 0.1703 0.1246

Neptune -108531-06-05 07:55 J -37919369.29 -37919369.17 -37919369.02 0.0089 0.0054

Neptune -108531-09-01 10:33 J -37919281.19 -37919281.06 -37919280.91 0.0089 0.0049

Neptune -108531-11-28 12:57 J -37919193.09 -37919192.96 -37919192.80 0.0089 0.0044

Mars -108530-01-23 19:40 J -37919136.79 -37919136.68 -37919136.58 0.1811 0.1003

Neptune -108530-02-24 15:36 J -37919104.99 -37919104.85 -37919104.69 0.0089 0.0039

Neptune -108530-05-23 18:14 J -37919016.89 -37919016.74 -37919016.59 0.0089 0.0034

Neptune -108530-08-19 20:38 J -37918928.79 -37918928.64 -37918928.48 0.0089 0.0029

Neptune -108530-11-15 23:16 J -37918840.69 -37918840.53 -37918840.37 0.0089 0.0024

Neptune -108529-02-12 01:55 J -37918752.59 -37918752.42 -37918752.26 0.0089 0.0019

Mars -108529-02-16 09:50 J -37918748.22 -37918748.09 -37918747.97 0.1722 0.0955

Neptune -108529-05-10 04:19 J -37918664.48 -37918664.32 -37918664.15 0.0089 0.0014

Saturn -108529-08-05 00:57 J -37918577.56 -37918577.46 -37918577.35 0.0289 0.0214

Neptune -108529-08-06 06:57 J -37918576.38 -37918576.21 -37918576.04 0.0089 0.0009

Saturn -108529-11-01 19:40 J -37918488.83 -37918488.68 -37918488.53 0.0288 0.0120

Neptune -108529-11-02 09:36 J -37918488.27 -37918488.10 -37918487.93 0.0089 0.0004

Mars -108529-12-29 13:55 J -37918431.02 -37918430.92 -37918430.81 0.1791 0.0978

Neptune -108528-01-29 12:00 J -37918400.16 -37918400.00 -37918399.83 0.0089 0.0003

Saturn -108528-01-29 14:24 J -37918400.06 -37918399.90 -37918399.73 0.0287 0.0025 *

Venus -108528-04-22 14:24 J -37918316.99 -37918316.90 -37918316.80 0.3760 0.2396

Neptune -108528-04-27 14:38 J -37918312.06 -37918311.89 -37918311.72 0.0089 0.0006

Saturn -108528-04-28 09:36 J -37918311.26 -37918311.10 -37918310.94 0.0286 0.0073

Neptune -108528-07-24 17:16 J -37918223.95 -37918223.78 -37918223.61 0.0089 0.0011

Saturn -108528-07-26 05:02 J -37918222.42 -37918222.29 -37918222.16 0.0285 0.0170

Neptune -108528-10-20 19:40 J -37918135.84 -37918135.68 -37918135.50 0.0089 0.0017

Saturn -108528-10-23 00:43 J -37918133.52 -37918133.47 -37918133.41 0.0284 0.0268

Neptune -108527-01-16 22:19 J -37918047.72 -37918047.57 -37918047.39 0.0089 0.0022

Neptune -108527-04-15 00:57 J -37917959.61 -37917959.46 -37917959.29 0.0089 0.0027

Neptune -108527-07-12 03:50 J -37917871.50 -37917871.34 -37917871.18 0.0089 0.0032

Pluto -108527-08-07 06:43 J -37917845.26 -37917845.22 -37917845.12 0.0060 0.0056

Neptune -108527-10-08 06:28 J -37917783.38 -37917783.23 -37917783.07 0.0089 0.0037

Pluto -108527-11-03 08:38 J -37917757.25 -37917757.14 -37917757.02 0.0060 0.0048

Neptune -108526-01-04 09:07 J -37917695.27 -37917695.12 -37917694.96 0.0089 0.0042

Pluto -108526-01-30 09:50 J -37917669.21 -37917669.09 -37917668.93 0.0060 0.0041

Neptune -108526-04-02 12:00 J -37917607.15 -37917607.00 -37917606.86 0.0089 0.0047

Pluto -108526-04-28 11:31 J -37917581.17 -37917581.02 -37917580.85 0.0060 0.0034

Moon -108526-05-31 06:43 J -37917548.33 -37917548.22 -37917548.11 0.2726 0.0225

Earth -108526-05-31 07:26 J -37917548.30 -37917548.19 -37917548.08 0.2729 0.0100 *

Neptune -108526-06-29 14:24 J -37917519.03 -37917518.90 -37917518.75 0.0089 0.0053

Pluto -108526-07-25 12:43 J -37917493.13 -37917492.97 -37917492.77 0.0060 0.0027

Jupiter -108526-08-21 12:00 J -37917466.12 -37917466.00 -37917465.88 0.0530 0.0282

Neptune -108526-09-25 17:02 J -37917430.91 -37917430.79 -37917430.65 0.0089 0.0058

Pluto -108526-10-21 14:24 J -37917405.08 -37917404.90 -37917404.70 0.0060 0.0019

Jupiter -108526-11-19 01:12 J -37917376.57 -37917376.45 -37917376.33 0.0532 0.0251

Neptune -108526-12-22 19:55 J -37917342.78 -37917342.67 -37917342.54 0.0089 0.0063

Pluto -108525-01-17 15:50 J -37917317.02 -37917316.84 -37917316.64 0.0060 0.0011

Neptune -108525-03-19 22:48 J -37917254.66 -37917254.55 -37917254.44 0.0089 0.0068

Pluto -108525-04-14 17:31 J -37917228.97 -37917228.77 -37917228.57 0.0060 0.0004

Neptune -108525-06-16 01:12 J -37917166.53 -37917166.45 -37917166.34 0.0089 0.0074

Pluto -108525-07-11 18:57 J -37917140.90 -37917140.71 -37917140.51 0.0061 0.0004

Neptune -108525-09-12 04:04 J -37917078.40 -37917078.33 -37917078.24 0.0089 0.0079

Pluto -108525-10-07 20:24 J -37917052.84 -37917052.65 -37917052.46 0.0061 0.0012

Neptune -108525-12-09 06:57 J -37916990.26 -37916990.21 -37916990.15 0.0089 0.0084

Pluto -108524-01-03 21:36 J -37916964.77 -37916964.60 -37916964.40 0.0061 0.0020

Pluto -108524-04-01 23:02 J -37916876.70 -37916876.54 -37916876.35 0.0061 0.0027

Pluto -108524-06-29 00:28 J -37916788.63 -37916788.48 -37916788.31 0.0061 0.0035

Pluto -108524-09-25 01:40 J -37916700.54 -37916700.43 -37916700.27 0.0061 0.0043

Pluto -108524-12-22 03:21 J -37916612.45 -37916612.36 -37916612.23 0.0061 0.0050

Pluto -108523-03-20 04:48 J -37916524.34 -37916524.30 -37916524.22 0.0061 0.0058

Venus -108523-11-06 12:14 J -37916293.11 -37916292.99 -37916292.87 0.3755 0.0554

Moon -108523-11-19 12:14 J -37916280.13 -37916279.99 -37916279.86 0.2616 0.1081

Earth -108523-11-19 13:40 J -37916280.07 -37916279.93 -37916279.79 0.2615 0.0910 *

Mars -108521-06-15 02:24 J -37915706.47 -37915706.40 -37915706.33 0.1816 0.1523

Jupiter -108520-04-08 01:40 J -37915409.48 -37915409.43 -37915409.38 0.0497 0.0469

Jupiter -108520-07-06 21:36 J -37915319.77 -37915319.60 -37915319.44 0.0495 0.0034

Mars -108520-07-08 12:14 J -37915318.13 -37915317.99 -37915317.84 0.1717 0.0385

Mars -108519-05-21 21:36 J -37915000.71 -37915000.60 -37915000.48 0.1796 0.0519

Venus -108517-05-22 10:19 J -37914269.18 -37914269.07 -37914268.95 0.3750 0.1377

Uranus -108516-07-06 07:12 J -37913859.24 -37913859.20 -37913859.14 0.0133 0.0125

Uranus -108516-10-02 11:16 J -37913771.11 -37913771.03 -37913770.94 0.0133 0.0108

Uranus -108516-12-29 15:07 J -37913682.98 -37913682.87 -37913682.77 0.0133 0.0091

Uranus -108515-03-27 18:43 J -37913594.83 -37913594.72 -37913594.59 0.0132 0.0074

Uranus -108515-06-23 22:33 J -37913506.69 -37913506.56 -37913506.43 0.0132 0.0058

Uranus -108515-09-20 02:24 J -37913418.54 -37913418.40 -37913418.27 0.0132 0.0041

Uranus -108515-12-17 06:00 J -37913330.39 -37913330.25 -37913330.11 0.0132 0.0025

Uranus -108514-03-15 09:36 J -37913242.24 -37913242.10 -37913241.95 0.0132 0.0009

Jupiter -108514-06-09 14:24 J -37913155.99 -37913155.90 -37913155.81 0.0530 0.0411

Uranus -108514-06-11 13:12 J -37913154.09 -37913153.95 -37913153.80 0.0132 0.0007

Jupiter -108514-09-07 04:04 J -37913066.47 -37913066.33 -37913066.20 0.0532 0.0126

Uranus -108514-09-07 16:48 J -37913065.94 -37913065.80 -37913065.66 0.0132 0.0023

Uranus -108514-12-04 20:24 J -37912977.79 -37912977.65 -37912977.51 0.0132 0.0039

Saturn -108513-02-26 23:02 J -37912893.59 -37912893.54 -37912893.48 0.0271 0.0249

Uranus -108513-03-01 23:45 J -37912889.63 -37912889.51 -37912889.37 0.0132 0.0055

Venus -108513-05-22 03:07 J -37912808.44 -37912808.37 -37912808.30 0.3617 0.2912

Saturn -108513-05-25 12:43 J -37912805.08 -37912804.97 -37912804.86 0.0272 0.0175

Uranus -108513-05-29 03:21 J -37912801.48 -37912801.36 -37912801.23 0.0132 0.0070

Moon -108513-06-02 01:26 J -37912797.55 -37912797.44 -37912797.34 0.2734 0.0865

Earth -108513-06-02 02:09 J -37912797.52 -37912797.41 -37912797.31 0.2733 0.0908 *

Saturn -108513-08-22 02:09 J -37912716.55 -37912716.41 -37912716.28 0.0273 0.0101

Uranus -108513-08-25 06:43 J -37912713.32 -37912713.22 -37912713.10 0.0132 0.0086

Saturn -108513-11-18 15:21 J -37912628.00 -37912627.86 -37912627.71 0.0274 0.0028

Uranus -108513-11-21 10:19 J -37912625.15 -37912625.07 -37912624.97 0.0132 0.0101

Saturn -108512-02-15 04:33 J -37912539.46 -37912539.31 -37912539.17 0.0275 0.0046

Uranus -108512-02-17 13:55 J -37912536.99 -37912536.92 -37912536.86 0.0132 0.0116

Saturn -108512-05-14 17:16 J -37912450.90 -37912450.78 -37912450.64 0.0275 0.0119

Uranus -108512-05-16 17:16 J -37912448.79 -37912448.78 -37912448.77 0.0131 0.0131

Saturn -108512-08-11 06:14 J -37912362.34 -37912362.24 -37912362.14 0.0276 0.0190

Saturn -108512-11-07 18:57 J -37912273.75 -37912273.71 -37912273.67 0.0277 0.0261

Venus -108512-12-06 08:52 J -37912245.18 -37912245.13 -37912245.08 0.3744 0.3366

Mars -108511-11-28 15:21 J -37911888.00 -37911887.86 -37911887.71 0.1712 0.0173

Mars -108510-10-12 05:31 J -37911570.40 -37911570.27 -37911570.15 0.1801 0.0061

Moon -108510-11-22 17:02 J -37911528.94 -37911528.79 -37911528.64 0.2614 0.0579

Earth -108510-11-22 18:14 J -37911528.88 -37911528.74 -37911528.59 0.2610 0.0721 *

Jupiter -108508-04-24 21:36 J -37911009.75 -37911009.60 -37911009.43 0.0496 0.0098

Jupiter -108508-07-23 18:57 J -37910919.80 -37910919.71 -37910919.63 0.0494 0.0420

Venus -108508-12-05 23:16 J -37910784.65 -37910784.53 -37910784.42 0.3622 0.1352

Earth -108506-05-26 22:48 J -37910247.63 -37910247.55 -37910247.48 0.2721 0.1927

Moon -108506-05-26 22:48 J -37910247.63 -37910247.55 -37910247.46 0.2714 0.1858 *

Venus -108502-06-21 19:12 J -37908760.82 -37908760.70 -37908760.58 0.3626 0.0206

Jupiter -108502-06-26 06:28 J -37908756.37 -37908756.23 -37908756.09 0.0531 0.0011

Jupiter -108502-09-23 18:43 J -37908666.74 -37908666.72 -37908666.68 0.0532 0.0516

Mars -108501-04-19 18:57 J -37908457.84 -37908457.71 -37908457.57 0.1708 0.0690

Mars -108500-03-03 12:43 J -37908140.09 -37908139.97 -37908139.85 0.1806 0.0445

Moon -108500-06-04 20:24 J -37908046.73 -37908046.65 -37908046.57 0.2744 0.1875

Earth -108500-06-04 20:52 J -37908046.71 -37908046.63 -37908046.56 0.2737 0.1907 *

Saturn -108500-12-23 00:14 J -37907845.56 -37907845.49 -37907845.40 0.0289 0.0246

Saturn -108499-03-21 18:57 J -37907756.85 -37907756.71 -37907756.57 0.0288 0.0152

Mars -108499-03-27 07:40 J -37907751.23 -37907751.18 -37907751.12 0.1727 0.1594

Saturn -108499-06-18 13:40 J -37907668.09 -37907667.93 -37907667.77 0.0287 0.0056

Saturn -108499-09-15 08:52 J -37907579.30 -37907579.13 -37907578.97 0.0286 0.0041

Saturn -108499-12-13 04:04 J -37907490.47 -37907490.33 -37907490.18 0.0286 0.0138

Mars -108498-02-07 06:00 J -37907434.31 -37907434.25 -37907434.18 0.1786 0.1466

Saturn -108498-03-11 23:31 J -37907401.60 -37907401.52 -37907401.42 0.0285 0.0236

Moon -108497-11-24 23:02 J -37906777.59 -37906777.54 -37906777.49 0.2612 0.2440

Earth -108497-11-24 23:16 J -37906777.59 -37906777.53 -37906777.47 0.2606 0.2378 *

Venus -108496-01-04 14:38 J -37906736.99 -37906736.89 -37906736.78 0.3631 0.1655

Jupiter -108496-02-10 22:19 J -37906699.71 -37906699.57 -37906699.42 0.0497 0.0222

Jupiter -108496-05-11 18:57 J -37906609.84 -37906609.71 -37906609.57 0.0495 0.0291

Moon -108493-05-28 17:16 J -37905496.88 -37905496.78 -37905496.67 0.2719 0.0989

Earth -108493-05-28 17:31 J -37905496.87 -37905496.77 -37905496.66 0.2725 0.0907 *

Mars -108492-09-09 23:02 J -37905027.65 -37905027.54 -37905027.44 0.1703 0.1195

Venus -108491-07-21 10:04 J -37904713.14 -37904713.08 -37904713.02 0.3635 0.3090

Mars -108491-07-24 19:40 J -37904709.78 -37904709.68 -37904709.57 0.1811 0.0953

Jupiter -108490-04-14 08:09 J -37904446.29 -37904446.16 -37904446.02 0.0530 0.0145

Jupiter -108490-07-12 20:52 J -37904356.72 -37904356.63 -37904356.53 0.0532 0.0381

Mars -108490-08-17 10:04 J -37904321.20 -37904321.08 -37904320.95 0.1722 0.1009

Moon -108490-11-17 14:24 J -37904228.96 -37904228.90 -37904228.84 0.2616 0.2374

Earth -108490-11-17 15:36 J -37904228.93 -37904228.85 -37904228.77 0.2619 0.2196 *

Mars -108489-06-29 14:09 J -37904004.02 -37904003.91 -37904003.81 0.1791 0.1021

Jupiter -108485-11-29 23:02 J -37902389.66 -37902389.54 -37902389.43 0.0497 0.0346

Jupiter -108484-02-27 19:12 J -37902299.85 -37902299.70 -37902299.54 0.0496 0.0162

Saturn -108484-07-16 01:12 J -37902161.46 -37902161.45 -37902161.42 0.0272 0.0268

Saturn -108484-10-12 15:07 J -37902072.98 -37902072.87 -37902072.77 0.0272 0.0194

Saturn -108483-01-09 04:33 J -37901984.44 -37901984.31 -37901984.18 0.0273 0.0120

Saturn -108483-04-07 17:45 J -37901895.90 -37901895.76 -37901895.61 0.0274 0.0047

Saturn -108483-07-05 06:57 J -37901807.35 -37901807.21 -37901807.06 0.0275 0.0027

Saturn -108483-10-01 19:55 J -37901718.80 -37901718.67 -37901718.53 0.0276 0.0100

Saturn -108483-12-29 08:52 J -37901630.24 -37901630.13 -37901630.02 0.0276 0.0172

Mars -108482-01-31 03:07 J -37901597.39 -37901597.37 -37901597.35 0.1699 0.1681

Saturn -108482-03-27 21:36 J -37901541.66 -37901541.60 -37901541.53 0.0277 0.0244

Mars -108482-12-15 02:38 J -37901279.47 -37901279.39 -37901279.32 0.1816 0.1476

Mars -108480-01-06 12:57 J -37900891.11 -37900890.96 -37900890.81 0.1717 0.0441

Moon -108480-05-31 11:31 J -37900746.13 -37900746.02 -37900745.90 0.2727 0.0123

Earth -108480-05-31 12:14 J -37900746.10 -37900745.99 -37900745.87 0.2729 0.0152 *

Mars -108480-11-19 21:50 J -37900573.70 -37900573.59 -37900573.47 0.1796 0.0568

Jupiter -108478-01-31 10:19 J -37900136.19 -37900136.07 -37900135.95 0.0529 0.0281

Jupiter -108478-04-30 23:31 J -37900046.64 -37900046.52 -37900046.40 0.0531 0.0250

Venus -108477-05-13 16:04 J -37899667.87 -37899667.83 -37899667.80 0.3763 0.3558

Moon -108477-11-19 18:14 J -37899477.88 -37899477.74 -37899477.59 0.2616 0.0654

Earth -108477-11-19 19:55 J -37899477.82 -37899477.67 -37899477.52 0.2614 0.0594 *

Moon -108473-05-24 09:21 J -37898196.12 -37898196.11 -37898196.09 0.2713 0.2673

Jupiter -108473-09-17 23:31 J -37898079.56 -37898079.52 -37898079.46 0.0497 0.0469

Jupiter -108473-12-16 19:26 J -37897989.85 -37897989.69 -37897989.53 0.0496 0.0033

Venus -108472-11-27 13:26 J -37897644.05 -37897643.94 -37897643.83 0.3758 0.1765

Uranus -108472-12-02 22:04 J -37897638.65 -37897638.58 -37897638.48 0.0146 0.0127

Uranus -108471-03-01 05:02 J -37897550.41 -37897550.29 -37897550.17 0.0146 0.0102

Uranus -108471-05-28 11:31 J -37897462.16 -37897462.02 -37897461.87 0.0147 0.0077

Mars -108471-05-29 15:50 J -37897460.99 -37897460.84 -37897460.69 0.1712 0.0121

Uranus -108471-08-24 18:28 J -37897373.89 -37897373.73 -37897373.57 0.0147 0.0051

Uranus -108471-11-21 01:12 J -37897285.61 -37897285.45 -37897285.27 0.0147 0.0025

Uranus -108470-02-17 08:09 J -37897197.33 -37897197.16 -37897196.98 0.0147 0.0003

Mars -108470-04-12 05:31 J -37897143.40 -37897143.27 -37897143.15 0.1801 0.0093

Saturn -108470-05-12 02:09 J -37897113.47 -37897113.41 -37897113.35 0.0289 0.0267

Uranus -108470-05-16 15:07 J -37897109.04 -37897108.87 -37897108.70 0.0147 0.0028

Saturn -108470-08-08 20:24 J -37897024.77 -37897024.65 -37897024.51 0.0288 0.0174

Uranus -108470-08-12 22:04 J -37897020.74 -37897020.58 -37897020.41 0.0147 0.0055

Saturn -108470-11-05 15:21 J -37896936.02 -37896935.86 -37896935.70 0.0288 0.0078

Uranus -108470-11-09 05:16 J -37896932.42 -37896932.28 -37896932.13 0.0147 0.0082

Saturn -108469-02-02 10:19 J -37896847.24 -37896847.07 -37896846.90 0.0287 0.0018

Uranus -108469-02-05 12:28 J -37896844.10 -37896843.98 -37896843.86 0.0147 0.0110

Saturn -108469-05-01 05:31 J -37896758.42 -37896758.27 -37896758.11 0.0286 0.0116

Uranus -108469-05-03 19:26 J -37896755.74 -37896755.69 -37896755.62 0.0147 0.0137

Saturn -108469-07-29 01:12 J -37896669.56 -37896669.45 -37896669.34 0.0285 0.0213

Moon -108467-06-03 06:28 J -37895995.34 -37895995.23 -37895995.13 0.2737 0.1002

Earth -108467-06-03 06:57 J -37895995.31 -37895995.21 -37895995.10 0.2733 0.1117 *

Jupiter -108467-11-19 12:14 J -37895826.08 -37895825.99 -37895825.91 0.0530 0.0417

Jupiter -108466-02-17 01:55 J -37895736.56 -37895736.42 -37895736.29 0.0532 0.0120

Venus -108466-06-13 11:16 J -37895620.15 -37895620.03 -37895619.91 0.3753 0.0112

Moon -108464-11-22 23:45 J -37894726.65 -37894726.51 -37894726.37 0.2614 0.0967

Earth -108464-11-23 00:43 J -37894726.61 -37894726.47 -37894726.33 0.2610 0.1048 *

Mars -108462-10-19 19:26 J -37894030.83 -37894030.69 -37894030.55 0.1708 0.0638

Mars -108461-09-01 12:57 J -37893713.09 -37893712.96 -37893712.84 0.1806 0.0404

Jupiter -108461-10-04 20:09 J -37893679.82 -37893679.66 -37893679.50 0.0496 0.0091

Venus -108461-12-27 09:36 J -37893596.20 -37893596.10 -37893596.00 0.3748 0.2041

Jupiter -108460-01-02 17:16 J -37893589.86 -37893589.78 -37893589.70 0.0494 0.0424

Moon -108460-05-27 03:50 J -37893445.43 -37893445.34 -37893445.25 0.2714 0.1725

Earth -108460-05-27 03:36 J -37893445.43 -37893445.35 -37893445.26 0.2721 0.1718 *

Mars -108460-09-25 08:24 J -37893324.19 -37893324.15 -37893324.11 0.1727 0.1654

Mars -108459-08-08 06:00 J -37893007.31 -37893007.25 -37893007.18 0.1786 0.1504

Venus -108457-12-27 01:40 J -37892135.52 -37892135.43 -37892135.34 0.3619 0.2354

Jupiter -108455-12-06 04:33 J -37891426.45 -37891426.31 -37891426.17 0.0531 0.0013

Saturn -108454-03-01 16:04 J -37891340.91 -37891340.83 -37891340.74 0.0271 0.0219

Jupiter -108454-03-05 17:16 J -37891336.81 -37891336.78 -37891336.75 0.0533 0.0516

Saturn -108454-05-29 05:45 J -37891252.39 -37891252.26 -37891252.14 0.0272 0.0145

Moon -108454-06-06 01:26 J -37891244.51 -37891244.44 -37891244.37 0.2744 0.2101

Earth -108454-06-06 01:40 J -37891244.50 -37891244.43 -37891244.36 0.2738 0.2106 *

Saturn -108454-08-25 18:57 J -37891163.85 -37891163.71 -37891163.56 0.0273 0.0072

Saturn -108454-11-22 08:09 J -37891075.30 -37891075.16 -37891075.01 0.0274 0.0008

Saturn -108453-02-18 21:21 J -37890986.75 -37890986.61 -37890986.47 0.0275 0.0075

Saturn -108453-05-17 10:04 J -37890898.20 -37890898.08 -37890897.96 0.0275 0.0147

Saturn -108453-08-13 22:48 J -37890809.63 -37890809.55 -37890809.46 0.0276 0.0219

Mars -108452-03-10 23:02 J -37890600.64 -37890600.54 -37890600.43 0.1703 0.1151

Mars -108451-01-22 19:55 J -37890282.78 -37890282.67 -37890282.56 0.1811 0.0904

Venus -108451-07-12 21:50 J -37890111.71 -37890111.59 -37890111.47 0.3623 0.0796

Neptune -108451-07-14 14:24 J -37890109.93 -37890109.90 -37890109.86 0.0088 0.0086

Neptune -108451-10-10 16:19 J -37890021.87 -37890021.82 -37890021.75 0.0088 0.0081

Neptune -108450-01-06 18:14 J -37889933.80 -37889933.74 -37889933.65 0.0088 0.0077

Mars -108450-02-15 10:33 J -37889894.18 -37889894.06 -37889893.94 0.1722 0.1061

Neptune -108450-04-04 20:09 J -37889845.73 -37889845.66 -37889845.56 0.0088 0.0072

Neptune -108450-07-01 22:19 J -37889757.66 -37889757.57 -37889757.47 0.0088 0.0068

Neptune -108450-09-28 00:28 J -37889669.59 -37889669.48 -37889669.38 0.0088 0.0063

Neptune -108450-12-25 02:09 J -37889581.51 -37889581.41 -37889581.29 0.0088 0.0059

Mars -108450-12-29 14:09 J -37889577.01 -37889576.91 -37889576.81 0.1791 0.1064

Neptune -108449-03-22 04:19 J -37889493.44 -37889493.32 -37889493.20 0.0088 0.0054

Neptune -108449-06-18 06:00 J -37889405.36 -37889405.25 -37889405.11 0.0088 0.0050

Jupiter -108449-07-23 20:24 J -37889369.79 -37889369.65 -37889369.50 0.0496 0.0219

Neptune -108449-09-14 08:09 J -37889317.29 -37889317.16 -37889317.03 0.0088 0.0045

Jupiter -108449-10-21 17:02 J -37889279.92 -37889279.79 -37889279.65 0.0495 0.0293

Neptune -108449-12-11 09:50 J -37889229.21 -37889229.09 -37889228.95 0.0088 0.0041

Neptune -108448-03-09 12:00 J -37889141.14 -37889141.00 -37889140.86 0.0088 0.0036

Neptune -108448-06-05 13:40 J -37889053.06 -37889052.93 -37889052.78 0.0088 0.0032

Neptune -108448-09-01 15:50 J -37888964.99 -37888964.84 -37888964.70 0.0088 0.0027

Neptune -108448-11-28 17:31 J -37888876.91 -37888876.77 -37888876.62 0.0088 0.0022

Neptune -108447-02-24 19:26 J -37888788.83 -37888788.69 -37888788.54 0.0088 0.0018

Neptune -108447-05-23 21:21 J -37888700.76 -37888700.61 -37888700.46 0.0088 0.0013

Moon -108447-05-29 22:04 J -37888694.69 -37888694.58 -37888694.47 0.2721 0.0704

Earth -108447-05-29 22:33 J -37888694.67 -37888694.56 -37888694.45 0.2726 0.0702 *

Neptune -108447-08-19 23:16 J -37888612.68 -37888612.53 -37888612.38 0.0088 0.0009

Neptune -108447-11-16 00:57 J -37888524.60 -37888524.46 -37888524.31 0.0088 0.0005

Neptune -108446-02-12 02:52 J -37888436.53 -37888436.38 -37888436.23 0.0088 0.0000

Neptune -108446-05-11 04:48 J -37888348.45 -37888348.30 -37888348.15 0.0088 0.0004

Neptune -108446-08-07 06:28 J -37888260.37 -37888260.23 -37888260.08 0.0088 0.0009

Neptune -108446-11-03 08:24 J -37888172.30 -37888172.15 -37888172.00 0.0088 0.0013

Venus -108445-01-26 17:31 J -37888087.88 -37888087.77 -37888087.65 0.3627 0.0712

Neptune -108445-01-30 10:04 J -37888084.22 -37888084.08 -37888083.93 0.0088 0.0017

Neptune -108445-04-27 12:00 J -37887996.14 -37887996.00 -37887995.86 0.0088 0.0022

Neptune -108445-07-24 13:40 J -37887908.07 -37887907.93 -37887907.78 0.0088 0.0026

Neptune -108445-10-20 15:21 J -37887819.99 -37887819.86 -37887819.71 0.0088 0.0031

Neptune -108444-01-16 17:16 J -37887731.91 -37887731.78 -37887731.64 0.0088 0.0035

Neptune -108444-04-14 18:43 J -37887643.84 -37887643.72 -37887643.57 0.0088 0.0040

Neptune -108444-07-11 20:38 J -37887555.76 -37887555.64 -37887555.50 0.0088 0.0043

Neptune -108444-10-07 22:33 J -37887467.68 -37887467.56 -37887467.43 0.0088 0.0047

Moon -108444-11-17 20:24 J -37887426.75 -37887426.65 -37887426.54 0.2617 0.1891

Earth -108444-11-17 21:50 J -37887426.69 -37887426.59 -37887426.48 0.2619 0.1875 *

Neptune -108443-01-04 00:14 J -37887379.60 -37887379.49 -37887379.37 0.0088 0.0052

Neptune -108443-04-02 02:09 J -37887291.52 -37887291.41 -37887291.30 0.0088 0.0056

Neptune -108443-06-29 03:36 J -37887203.45 -37887203.35 -37887203.23 0.0088 0.0060

Mars -108443-08-01 03:36 J -37887170.39 -37887170.35 -37887170.31 0.1699 0.1631

Jupiter -108443-09-24 07:12 J -37887116.34 -37887116.20 -37887116.07 0.0530 0.0137

Neptune -108443-09-25 05:16 J -37887115.37 -37887115.28 -37887115.17 0.0088 0.0064

Neptune -108443-12-22 06:57 J -37887027.29 -37887027.21 -37887027.11 0.0088 0.0069

Jupiter -108443-12-22 19:55 J -37887026.76 -37887026.67 -37887026.57 0.0532 0.0390

Neptune -108442-03-20 08:52 J -37886939.21 -37886939.13 -37886939.04 0.0088 0.0072

Mars -108442-06-15 02:38 J -37886852.46 -37886852.39 -37886852.31 0.1816 0.1427

Neptune -108442-06-16 10:33 J -37886851.12 -37886851.06 -37886850.98 0.0088 0.0077

Neptune -108442-09-12 12:14 J -37886763.04 -37886762.99 -37886762.93 0.0088 0.0081

Neptune -108442-12-09 13:55 J -37886674.95 -37886674.92 -37886674.87 0.0088 0.0085

Mars -108441-07-07 13:12 J -37886464.09 -37886463.95 -37886463.80 0.1717 0.0490

Saturn -108441-12-25 19:26 J -37886292.80 -37886292.69 -37886292.58 0.0289 0.0207

Saturn -108440-03-24 13:55 J -37886204.06 -37886203.92 -37886203.76 0.0288 0.0113

Mars -108440-05-20 22:04 J -37886146.70 -37886146.58 -37886146.46 0.1796 0.0609

Saturn -108440-06-21 08:52 J -37886115.29 -37886115.13 -37886114.96 0.0287 0.0018

Venus -108440-08-11 13:12 J -37886064.04 -37886063.95 -37886063.85 0.3632 0.2166

Saturn -108440-09-18 04:04 J -37886026.49 -37886026.33 -37886026.17 0.0286 0.0081

Saturn -108440-12-15 23:31 J -37885937.64 -37885937.52 -37885937.38 0.0285 0.0178

Saturn -108439-03-14 19:26 J -37885848.73 -37885848.69 -37885848.65 0.0284 0.0276

Jupiter -108437-05-11 21:07 J -37885059.73 -37885059.62 -37885059.50 0.0497 0.0343

Jupiter -108437-08-09 17:31 J -37884969.93 -37884969.77 -37884969.62 0.0495 0.0165

Venus -108434-02-25 08:38 J -37884040.16 -37884040.14 -37884040.13 0.3636 0.3579

Moon -108434-06-01 16:33 J -37883943.92 -37883943.81 -37883943.70 0.2728 0.0171

Earth -108434-06-01 17:16 J -37883943.89 -37883943.78 -37883943.67 0.2730 0.0313 *

Pluto -108433-02-28 21:21 J -37883671.65 -37883671.61 -37883671.56 0.0085 0.0079

Pluto -108433-05-26 22:48 J -37883583.63 -37883583.55 -37883583.46 0.0085 0.0065

Pluto -108433-08-23 00:00 J -37883495.60 -37883495.50 -37883495.39 0.0084 0.0051

Pluto -108433-11-19 01:12 J -37883407.56 -37883407.45 -37883407.32 0.0084 0.0037

Pluto -108432-02-15 02:38 J -37883319.52 -37883319.39 -37883319.26 0.0084 0.0022

Pluto -108432-05-14 03:50 J -37883231.47 -37883231.34 -37883231.21 0.0084 0.0008

Uranus -108432-07-26 15:36 J -37883157.91 -37883157.85 -37883157.78 0.0133 0.0117

Pluto -108432-08-10 05:02 J -37883143.42 -37883143.29 -37883143.15 0.0084 0.0006

Uranus -108432-10-22 19:26 J -37883069.78 -37883069.69 -37883069.59 0.0133 0.0100

Pluto -108432-11-06 06:14 J -37883055.36 -37883055.24 -37883055.11 0.0084 0.0020

Mars -108432-11-27 16:33 J -37883033.96 -37883033.81 -37883033.66 0.1713 0.0055

Uranus -108431-01-18 23:16 J -37882981.64 -37882981.53 -37882981.41 0.0132 0.0083

Pluto -108431-02-02 07:40 J -37882967.30 -37882967.18 -37882967.06 0.0084 0.0033

Uranus -108431-04-17 02:52 J -37882893.50 -37882893.38 -37882893.25 0.0132 0.0067

Pluto -108431-05-01 08:38 J -37882879.24 -37882879.14 -37882879.02 0.0084 0.0047

Jupiter -108431-07-13 08:52 J -37882806.25 -37882806.13 -37882806.01 0.0529 0.0274

Uranus -108431-07-14 06:43 J -37882805.35 -37882805.22 -37882805.08 0.0132 0.0050

Pluto -108431-07-28 09:50 J -37882791.17 -37882791.09 -37882790.99 0.0083 0.0061

Uranus -108431-10-10 10:33 J -37882717.20 -37882717.06 -37882716.92 0.0132 0.0034

Jupiter -108431-10-10 22:04 J -37882716.70 -37882716.58 -37882716.46 0.0531 0.0257

Mars -108431-10-11 05:45 J -37882716.39 -37882716.26 -37882716.14 0.1801 0.0146

Pluto -108431-10-24 11:02 J -37882703.09 -37882703.04 -37882702.97 0.0083 0.0074

Moon -108431-11-21 00:57 J -37882675.61 -37882675.46 -37882675.32 0.2615 0.0468

Earth -108431-11-21 02:24 J -37882675.55 -37882675.40 -37882675.25 0.2614 0.0264 *

Uranus -108430-01-06 14:09 J -37882629.05 -37882628.91 -37882628.77 0.0132 0.0017

Uranus -108430-04-04 17:45 J -37882540.90 -37882540.76 -37882540.61 0.0132 0.0002

Uranus -108430-07-01 21:21 J -37882452.75 -37882452.61 -37882452.46 0.0132 0.0015

Uranus -108430-09-28 00:57 J -37882364.60 -37882364.46 -37882364.32 0.0132 0.0031

Uranus -108430-12-25 04:33 J -37882276.44 -37882276.31 -37882276.17 0.0132 0.0046

Uranus -108429-03-22 08:09 J -37882188.29 -37882188.16 -37882188.04 0.0132 0.0062

Uranus -108429-06-18 11:31 J -37882100.13 -37882100.02 -37882099.90 0.0132 0.0077

Uranus -108429-09-14 14:52 J -37882011.97 -37882011.88 -37882011.77 0.0132 0.0093

Uranus -108429-12-11 18:28 J -37881923.81 -37881923.73 -37881923.65 0.0132 0.0108

Uranus -108428-03-09 22:04 J -37881835.63 -37881835.58 -37881835.54 0.0132 0.0123

Earth -108427-05-25 13:40 J -37881393.97 -37881393.93 -37881393.89 0.2717 0.2536

Moon -108427-05-25 14:09 J -37881393.95 -37881393.91 -37881393.86 0.2711 0.2451 *

Jupiter -108425-02-28 21:50 J -37880749.64 -37880749.59 -37880749.53 0.0498 0.0466

Jupiter -108425-05-28 17:45 J -37880659.92 -37880659.76 -37880659.59 0.0496 0.0040

Saturn -108425-07-18 18:00 J -37880608.81 -37880608.75 -37880608.67 0.0272 0.0240

Saturn -108425-10-15 07:40 J -37880520.29 -37880520.18 -37880520.06 0.0272 0.0166

Saturn -108424-01-11 21:07 J -37880431.76 -37880431.62 -37880431.48 0.0273 0.0092

Saturn -108424-04-10 10:19 J -37880343.21 -37880343.07 -37880342.92 0.0274 0.0019

Saturn -108424-07-07 23:31 J -37880254.66 -37880254.52 -37880254.38 0.0275 0.0055

Saturn -108424-10-04 12:28 J -37880166.11 -37880165.98 -37880165.86 0.0276 0.0127

Saturn -108423-01-01 01:12 J -37880077.55 -37880077.45 -37880077.35 0.0277 0.0199

Saturn -108423-03-30 13:40 J -37879988.95 -37879988.93 -37879988.89 0.0277 0.0271

Mars -108422-04-19 19:55 J -37879603.81 -37879603.67 -37879603.53 0.1708 0.0588

Mars -108421-03-02 12:57 J -37879286.08 -37879285.96 -37879285.84 0.1806 0.0355

Moon -108421-06-03 11:31 J -37879193.12 -37879193.02 -37879192.93 0.2739 0.1332

Earth -108421-06-03 12:00 J -37879193.10 -37879193.00 -37879192.90 0.2734 0.1312 *

Venus -108421-12-18 14:52 J -37878994.95 -37878994.88 -37878994.80 0.3762 0.2938

Mars -108420-03-26 08:52 J -37878897.14 -37878897.13 -37878897.11 0.1727 0.1711

Mars -108419-02-06 06:14 J -37878580.30 -37878580.24 -37878580.18 0.1786 0.1546

Jupiter -108419-05-01 10:48 J -37878496.13 -37878496.05 -37878495.96 0.0529 0.0411

Jupiter -108419-07-30 00:28 J -37878406.61 -37878406.48 -37878406.34 0.0531 0.0124

Moon -108418-11-24 06:28 J -37877924.36 -37877924.23 -37877924.10 0.2615 0.1372

Earth -108418-11-24 07:12 J -37877924.33 -37877924.20 -37877924.07 0.2609 0.1377 *

Venus -108415-07-04 12:28 J -37876971.10 -37876970.98 -37876970.86 0.3757 0.1135

Moon -108414-05-28 08:38 J -37876643.23 -37876643.14 -37876643.04 0.2715 0.1494

Earth -108414-05-28 08:38 J -37876643.23 -37876643.14 -37876643.05 0.2722 0.1513 *

Jupiter -108413-03-16 18:14 J -37876349.90 -37876349.74 -37876349.58 0.0496 0.0089

Jupiter -108413-06-14 15:21 J -37876259.94 -37876259.86 -37876259.78 0.0494 0.0427

Mars -108413-09-08 23:45 J -37876173.62 -37876173.51 -37876173.40 0.1703 0.1094

Mars -108412-07-23 20:09 J -37875855.77 -37875855.66 -37875855.55 0.1811 0.0859

Saturn -108411-05-14 20:38 J -37875560.73 -37875560.64 -37875560.54 0.0289 0.0231

Saturn -108411-08-11 15:21 J -37875472.00 -37875471.86 -37875471.72 0.0288 0.0136

Mars -108411-08-16 11:02 J -37875467.15 -37875467.04 -37875466.92 0.1722 0.1119

Saturn -108411-11-08 10:04 J -37875383.24 -37875383.08 -37875382.91 0.0287 0.0041

Saturn -108410-02-05 05:16 J -37875294.44 -37875294.28 -37875294.12 0.0287 0.0056

Saturn -108410-05-05 00:43 J -37875205.61 -37875205.47 -37875205.33 0.0286 0.0154

Mars -108410-06-29 14:24 J -37875150.00 -37875149.90 -37875149.81 0.1791 0.1108

Saturn -108410-08-01 20:09 J -37875116.73 -37875116.66 -37875116.57 0.0285 0.0252

Venus -108409-01-18 10:33 J -37874947.18 -37874947.06 -37874946.94 0.3752 0.0760

Moon -108408-06-06 06:28 J -37874442.29 -37874442.23 -37874442.17 0.2745 0.2270

Earth -108408-06-06 06:43 J -37874442.28 -37874442.22 -37874442.17 0.2738 0.2310 *

Jupiter -108407-05-18 02:38 J -37874096.53 -37874096.39 -37874096.25 0.0531 0.0014

Jupiter -108407-08-15 15:21 J -37874006.89 -37874006.86 -37874006.83 0.0533 0.0514

Venus -108405-01-18 04:04 J -37873486.37 -37873486.33 -37873486.29 0.3616 0.3384

Venus -108404-08-03 08:38 J -37872923.22 -37872923.14 -37872923.05 0.3747 0.2701

Mars -108403-01-30 03:50 J -37872743.39 -37872743.34 -37872743.29 0.1699 0.1585

Mars -108403-12-14 02:52 J -37872425.46 -37872425.38 -37872425.30 0.1816 0.1377

Jupiter -108401-01-03 19:12 J -37872039.84 -37872039.70 -37872039.55 0.0496 0.0210

Mars -108401-01-06 13:55 J -37872037.07 -37872036.92 -37872036.78 0.1717 0.0549

Jupiter -108401-04-02 15:50 J -37871949.97 -37871949.84 -37871949.71 0.0495 0.0302

Moon -108401-05-30 02:52 J -37871892.49 -37871892.38 -37871892.27 0.2721 0.0586

Earth -108401-05-30 03:36 J -37871892.46 -37871892.35 -37871892.24 0.2726 0.0502 *

Mars -108401-11-18 22:04 J -37871719.69 -37871719.58 -37871719.46 0.1796 0.0653

Venus -108400-08-03 00:28 J -37871462.59 -37871462.48 -37871462.38 0.3620 0.1802

Moon -108398-11-19 02:38 J -37870624.50 -37870624.39 -37870624.28 0.2617 0.1775

Earth -108398-11-19 04:04 J -37870624.45 -37870624.33 -37870624.21 0.2618 0.1559 *

Saturn -108396-12-05 19:12 J -37869876.72 -37869876.70 -37869876.66 0.0271 0.0264

Saturn -108395-03-04 08:52 J -37869788.23 -37869788.13 -37869788.02 0.0271 0.0190

Jupiter -108395-03-06 05:31 J -37869786.41 -37869786.27 -37869786.14 0.0531 0.0136

Saturn -108395-05-31 22:19 J -37869699.70 -37869699.57 -37869699.44 0.0272 0.0117

Jupiter -108395-06-03 18:14 J -37869696.82 -37869696.74 -37869696.64 0.0533 0.0394

Saturn -108395-08-28 11:31 J -37869611.16 -37869611.02 -37869610.87 0.0273 0.0045

Saturn -108395-11-25 00:43 J -37869522.61 -37869522.47 -37869522.33 0.0274 0.0029

Venus -108394-02-16 20:24 J -37869438.77 -37869438.65 -37869438.53 0.3624 0.0260

Saturn -108394-02-21 13:40 J -37869434.06 -37869433.93 -37869433.80 0.0275 0.0101

Saturn -108394-05-21 02:24 J -37869345.51 -37869345.40 -37869345.29 0.0275 0.0173

Saturn -108394-08-17 15:07 J -37869256.93 -37869256.87 -37869256.80 0.0276 0.0244

Mars -108392-05-28 16:48 J -37868606.96 -37868606.80 -37868606.65 0.1712 0.0050

Mars -108391-04-11 05:45 J -37868289.38 -37868289.26 -37868289.13 0.1801 0.0182

Jupiter -108390-10-22 19:55 J -37867729.79 -37867729.67 -37867729.55 0.0497 0.0335

Jupiter -108389-01-20 16:04 J -37867639.99 -37867639.83 -37867639.68 0.0495 0.0171

Venus -108389-09-01 16:04 J -37867414.94 -37867414.83 -37867414.71 0.3629 0.1228

Moon -108388-06-01 21:36 J -37867141.71 -37867141.60 -37867141.49 0.2731 0.0510

Earth -108388-06-01 22:19 J -37867141.68 -37867141.57 -37867141.46 0.2730 0.0517 *

Uranus -108388-09-25 23:16 J -37867025.54 -37867025.53 -37867025.50 0.0146 0.0145

Uranus -108388-12-23 06:00 J -37866937.34 -37866937.25 -37866937.15 0.0146 0.0120

Uranus -108387-03-21 12:28 J -37866849.10 -37866848.98 -37866848.84 0.0146 0.0095

Uranus -108387-06-17 19:12 J -37866760.84 -37866760.70 -37866760.54 0.0147 0.0069

Uranus -108387-09-14 01:55 J -37866672.58 -37866672.42 -37866672.25 0.0147 0.0044

Uranus -108387-12-11 08:52 J -37866584.30 -37866584.13 -37866583.96 0.0147 0.0018

Uranus -108386-03-09 15:50 J -37866496.01 -37866495.84 -37866495.67 0.0147 0.0009

Uranus -108386-06-05 22:33 J -37866407.72 -37866407.56 -37866407.38 0.0147 0.0036

Uranus -108386-09-02 05:45 J -37866319.41 -37866319.26 -37866319.10 0.0147 0.0062

Uranus -108386-11-29 12:43 J -37866231.10 -37866230.97 -37866230.82 0.0147 0.0090

Uranus -108385-02-25 20:09 J -37866142.77 -37866142.66 -37866142.56 0.0147 0.0117

Uranus -108385-05-24 03:07 J -37866054.40 -37866054.37 -37866054.33 0.0147 0.0144

Moon -108385-11-21 07:26 J -37865873.34 -37865873.19 -37865873.04 0.2616 0.0053

Earth -108385-11-21 08:52 J -37865873.29 -37865873.13 -37865872.98 0.2613 0.0096 *

Jupiter -108384-12-23 07:55 J -37865476.29 -37865476.17 -37865476.05 0.0530 0.0265

Venus -108383-03-18 11:45 J -37865391.09 -37865391.01 -37865390.93 0.3633 0.2674

Jupiter -108383-03-22 21:07 J -37865386.73 -37865386.62 -37865386.50 0.0532 0.0268

Mars -108383-10-18 20:24 J -37865176.79 -37865176.65 -37865176.51 0.1708 0.0532

Mars -108382-09-01 13:12 J -37864859.07 -37864858.95 -37864858.83 0.1806 0.0305

Saturn -108382-10-01 18:57 J -37864828.76 -37864828.71 -37864828.65 0.0290 0.0268

Saturn -108382-12-29 13:26 J -37864740.07 -37864739.94 -37864739.81 0.0289 0.0174

Saturn -108381-03-27 08:09 J -37864651.32 -37864651.16 -37864651.00 0.0288 0.0079

Earth -108381-05-25 18:43 J -37864591.78 -37864591.72 -37864591.66 0.2717 0.2328

Moon -108381-05-25 19:12 J -37864591.76 -37864591.70 -37864591.65 0.2711 0.2330 *

Saturn -108381-06-24 03:07 J -37864562.53 -37864562.37 -37864562.20 0.0287 0.0018

Saturn -108381-09-20 22:33 J -37864473.72 -37864473.56 -37864473.41 0.0286 0.0115

Saturn -108381-12-18 18:00 J -37864384.86 -37864384.75 -37864384.63 0.0285 0.0213

Mars -108380-08-07 06:28 J -37864153.29 -37864153.23 -37864153.18 0.1785 0.1592

Jupiter -108378-08-10 20:38 J -37863419.70 -37863419.64 -37863419.58 0.0497 0.0457

Jupiter -108378-11-08 16:33 J -37863329.98 -37863329.81 -37863329.65 0.0496 0.0045

Moon -108375-06-04 16:19 J -37862390.91 -37862390.82 -37862390.72 0.2740 0.1402

Earth -108375-06-04 17:02 J -37862390.89 -37862390.79 -37862390.70 0.2735 0.1520 *

Mars -108373-03-10 00:14 J -37861746.61 -37861746.49 -37861746.38 0.1703 0.1044

Mars -108372-01-21 20:09 J -37861428.77 -37861428.66 -37861428.54 0.1811 0.0812

Jupiter -108372-10-11 09:50 J -37861166.18 -37861166.09 -37861166.00 0.0529 0.0401

Moon -108372-11-24 12:57 J -37861122.08 -37861121.96 -37861121.84 0.2615 0.1612

Earth -108372-11-24 13:40 J -37861122.05 -37861121.93 -37861121.82 0.2609 0.1716 *

Jupiter -108371-01-08 23:31 J -37861076.66 -37861076.52 -37861076.39 0.0531 0.0134

Mars -108371-02-14 11:45 J -37861040.12 -37861040.01 -37861039.90 0.1722 0.1177

Mars -108371-12-28 14:24 J -37860722.99 -37860722.90 -37860722.80 0.1791 0.1151

Moon -108368-05-28 13:26 J -37859841.04 -37859840.94 -37859840.84 0.2716 0.1306

Earth -108368-05-28 13:40 J -37859841.03 -37859840.93 -37859840.83 0.2722 0.1309 *

Neptune -108368-06-23 12:57 J -37859814.99 -37859814.96 -37859814.92 0.0089 0.0086

Neptune -108368-09-19 15:07 J -37859726.92 -37859726.87 -37859726.79 0.0089 0.0082

Neptune -108368-12-16 17:31 J -37859638.83 -37859638.77 -37859638.67 0.0089 0.0077

Neptune -108367-03-14 20:09 J -37859550.75 -37859550.66 -37859550.56 0.0089 0.0072

Neptune -108367-06-10 22:48 J -37859462.66 -37859462.55 -37859462.45 0.0089 0.0067

Neptune -108367-09-07 00:43 J -37859374.57 -37859374.47 -37859374.33 0.0089 0.0063

Neptune -108367-12-04 03:21 J -37859286.47 -37859286.36 -37859286.22 0.0089 0.0058

Neptune -108366-03-02 05:45 J -37859198.38 -37859198.26 -37859198.11 0.0089 0.0053

Neptune -108366-05-29 08:24 J -37859110.28 -37859110.15 -37859110.00 0.0089 0.0048

Saturn -108366-07-22 10:19 J -37859056.16 -37859056.07 -37859055.97 0.0272 0.0214

Neptune -108366-08-25 11:02 J -37859022.19 -37859022.04 -37859021.90 0.0089 0.0043

Jupiter -108366-08-27 17:02 J -37859019.95 -37859019.79 -37859019.63 0.0496 0.0082

Saturn -108366-10-18 23:45 J -37858967.63 -37858967.51 -37858967.38 0.0272 0.0140

Neptune -108366-11-21 13:26 J -37858934.09 -37858933.94 -37858933.79 0.0089 0.0038

Jupiter -108366-11-25 13:55 J -37858929.99 -37858929.92 -37858929.84 0.0495 0.0436

Saturn -108365-01-15 13:12 J -37858879.09 -37858878.95 -37858878.81 0.0273 0.0067

Neptune -108365-02-17 16:04 J -37858845.99 -37858845.83 -37858845.68 0.0089 0.0033

Saturn -108365-04-13 02:24 J -37858790.55 -37858790.40 -37858790.25 0.0274 0.0006

Neptune -108365-05-15 18:14 J -37858757.89 -37858757.74 -37858757.57 0.0089 0.0029

Saturn -108365-07-10 15:21 J -37858702.00 -37858701.86 -37858701.72 0.0275 0.0079

Neptune -108365-08-11 20:52 J -37858669.78 -37858669.63 -37858669.46 0.0089 0.0024

Saturn -108365-10-07 04:19 J -37858613.44 -37858613.32 -37858613.20 0.0276 0.0151

Neptune -108365-11-07 23:31 J -37858581.68 -37858581.52 -37858581.35 0.0089 0.0018

Saturn -108364-01-03 16:48 J -37858524.87 -37858524.80 -37858524.71 0.0277 0.0223

Neptune -108364-02-04 01:55 J -37858493.58 -37858493.42 -37858493.25 0.0089 0.0014

Neptune -108364-05-03 04:33 J -37858405.47 -37858405.31 -37858405.14 0.0089 0.0009

Venus -108364-07-25 13:55 J -37858322.02 -37858321.92 -37858321.83 0.3760 0.2325

Neptune -108364-07-30 07:12 J -37858317.37 -37858317.20 -37858317.03 0.0089 0.0004

Mars -108364-07-31 04:19 J -37858316.38 -37858316.32 -37858316.26 0.1699 0.1535

Neptune -108364-10-26 09:50 J -37858229.26 -37858229.09 -37858228.92 0.0089 0.0002

Neptune -108363-01-22 12:28 J -37858141.15 -37858140.98 -37858140.81 0.0089 0.0007

Neptune -108363-04-20 14:52 J -37858053.04 -37858052.88 -37858052.71 0.0089 0.0012

Mars -108363-06-14 03:07 J -37857998.46 -37857998.37 -37857998.29 0.1816 0.1331

Neptune -108363-07-17 17:31 J -37857964.93 -37857964.77 -37857964.60 0.0089 0.0017

Neptune -108363-10-13 20:09 J -37857876.82 -37857876.66 -37857876.49 0.0089 0.0022

Neptune -108362-01-09 22:48 J -37857788.71 -37857788.55 -37857788.38 0.0089 0.0027

Neptune -108362-04-08 01:12 J -37857700.59 -37857700.45 -37857700.28 0.0089 0.0033

Earth -108362-06-07 11:31 J -37857640.06 -37857640.02 -37857639.98 0.2739 0.2509

Moon -108362-06-07 11:45 J -37857640.05 -37857640.01 -37857639.98 0.2746 0.2589 *

Neptune -108362-07-05 03:50 J -37857612.48 -37857612.34 -37857612.17 0.0089 0.0038

Mars -108362-07-07 14:09 J -37857610.05 -37857609.91 -37857609.76 0.1717 0.0601

Neptune -108362-10-01 06:43 J -37857524.36 -37857524.22 -37857524.06 0.0089 0.0043

Neptune -108362-12-28 09:21 J -37857436.25 -37857436.11 -37857435.96 0.0089 0.0048

Neptune -108361-03-25 12:14 J -37857348.13 -37857347.99 -37857347.85 0.0089 0.0053

Mars -108361-05-19 22:19 J -37857292.69 -37857292.57 -37857292.46 0.1796 0.0695

Neptune -108361-06-21 14:52 J -37857260.01 -37857259.88 -37857259.75 0.0089 0.0058

Neptune -108361-09-17 17:16 J -37857171.88 -37857171.78 -37857171.64 0.0089 0.0064

Neptune -108361-12-14 20:09 J -37857083.76 -37857083.66 -37857083.54 0.0089 0.0069

Neptune -108360-03-12 23:02 J -37856995.63 -37856995.54 -37856995.44 0.0089 0.0074

Neptune -108360-06-09 01:55 J -37856907.50 -37856907.42 -37856907.35 0.0089 0.0079

Neptune -108360-09-05 04:19 J -37856819.36 -37856819.32 -37856819.26 0.0089 0.0085

Jupiter -108360-10-28 01:40 J -37856766.57 -37856766.43 -37856766.29 0.0531 0.0010

Jupiter -108359-01-25 14:09 J -37856676.93 -37856676.91 -37856676.88 0.0532 0.0523

Venus -108358-02-08 11:31 J -37856298.14 -37856298.02 -37856297.90 0.3755 0.0497

Moon -108355-05-31 07:55 J -37855090.29 -37855090.17 -37855090.06 0.2722 0.0344

Earth -108355-05-31 08:24 J -37855090.26 -37855090.15 -37855090.04 0.2727 0.0297 *

Jupiter -108354-06-15 17:45 J -37854709.91 -37854709.76 -37854709.61 0.0496 0.0204

Jupiter -108354-09-13 14:09 J -37854620.03 -37854619.91 -37854619.77 0.0495 0.0308

Venus   -108353-08-24 09:36 J -37854274.21 -37854274.10 -37854273.98 0.3750 0.1407

Mars   -108353-11-26 17:16 J -37854179.93 -37854179.78 -37854179.63 0.1713 0.0058

Saturn -108352-05-17 14:09 J -37854008.02 -37854007.91 -37854007.79 0.0289 0.0200

Saturn -108352-08-14 08:52 J -37853919.28 -37853919.13 -37853918.97 0.0288 0.0105

Mars   -108352-10-10 06:00 J -37853862.38 -37853862.25 -37853862.13 0.1801 0.0231

Saturn -108352-11-11 03:50 J -37853830.50 -37853830.34 -37853830.17 0.0287 0.0009

Moon   -108352-11-19 08:52 J -37853822.26 -37853822.13 -37853822.00 0.2617 0.1279

Earth   -108352-11-19 10:33 J -37853822.20 -37853822.06 -37853821.93 0.2617 0.1241 *

Saturn -108351-02-07 23:02 J -37853741.69 -37853741.54 -37853741.38 0.0286 0.0089

Saturn -108351-05-07 18:43 J -37853652.85 -37853652.72 -37853652.59 0.0286 0.0187

Venus   -108349-08-24 02:52 J -37852813.46 -37852813.38 -37852813.31 0.3617 0.2813

Uranus -108348-05-19 19:26 J -37852544.72 -37852544.69 -37852544.63 0.0133 0.0127

Uranus -108348-08-15 23:16 J -37852456.60 -37852456.53 -37852456.43 0.0133 0.0110

Jupiter -108348-08-16 03:36 J -37852456.48 -37852456.35 -37852456.21 0.0531 0.0136 *

Uranus -108348-11-12 03:21 J -37852368.46 -37852368.36 -37852368.25 0.0133 0.0093

Jupiter -108348-11-13 16:33 J -37852366.90 -37852366.81 -37852366.71 0.0533 0.0394

Uranus -108347-02-08 07:12 J -37852280.32 -37852280.20 -37852280.08 0.0133 0.0076

Venus   -108347-03-10 08:09 J -37852250.22 -37852250.16 -37852250.11 0.3745 0.3382

Uranus -108347-05-07 10:48 J -37852192.17 -37852192.05 -37852191.91 0.0132 0.0060

Uranus -108347-08-03 14:38 J -37852104.02 -37852103.89 -37852103.75 0.0132 0.0043

Uranus -108347-10-30 18:14 J -37852015.88 -37852015.74 -37852015.59 0.0132 0.0027

Uranus -108346-01-26 22:04 J -37851927.72 -37851927.58 -37851927.44 0.0132 0.0010

Uranus -108346-04-25 01:40 J -37851839.57 -37851839.43 -37851839.28 0.0132 0.0006

Uranus -108346-07-22 05:16 J -37851751.42 -37851751.28 -37851751.14 0.0132 0.0022

Uranus -108346-10-18 08:52 J -37851663.27 -37851663.13 -37851662.99 0.0132 0.0037

Uranus -108345-01-14 12:28 J -37851575.11 -37851574.98 -37851574.85 0.0132 0.0053

Uranus -108345-04-11 15:50 J -37851486.95 -37851486.84 -37851486.71 0.0132 0.0069

Uranus -108345-07-08 19:26 J -37851398.80 -37851398.69 -37851398.58 0.0132 0.0084

Uranus -108345-10-04 22:48 J -37851310.63 -37851310.55 -37851310.45 0.0132 0.0100

Uranus -108344-01-01 02:09 J -37851222.47 -37851222.41 -37851222.33 0.0132 0.0115

Uranus -108344-03-30 05:45 J -37851134.28 -37851134.26 -37851134.24 0.0132 0.0130

Venus -108343-03-09 23:02 J -37850789.65 -37850789.54 -37850789.42 0.3621 0.1240

Mars -108343-04-18 20:38 J -37850749.78 -37850749.64 -37850749.49 0.1708 0.0485

Mars -108342-03-02 13:12 J -37850432.07 -37850431.95 -37850431.82 0.1806 0.0266

Jupiter -108342-04-03 18:57 J -37850399.83 -37850399.71 -37850399.59 0.0497 0.0322

Moon -108342-06-03 02:24 J -37850339.51 -37850339.40 -37850339.29 0.2734 0.0612

Earth -108342-06-03 03:07 J -37850339.47 -37850339.37 -37850339.26 0.2731 0.0722 *

Jupiter -108342-07-02 15:07 J -37850310.03 -37850309.87 -37850309.72 0.0495 0.0184

Mars -108340-02-05 06:28 J -37849726.28 -37849726.23 -37849726.19 0.1786 0.1630

Moon -108339-11-22 13:55 J -37849071.07 -37849070.92 -37849070.76 0.2618 0.0219

Earth -108339-11-22 15:07 J -37849071.02 -37849070.87 -37849070.72 0.2613 0.0390 *

Venus -108338-09-23 18:57 J -37848765.83 -37848765.71 -37848765.59 0.3625 0.0283

Saturn -108337-12-08 11:31 J -37848324.09 -37848324.02 -37848323.95 0.0271 0.0238

Saturn -108336-03-07 01:12 J -37848235.57 -37848235.45 -37848235.34 0.0271 0.0165

Saturn -108336-06-03 14:24 J -37848147.04 -37848146.90 -37848146.76 0.0272 0.0092

Jupiter -108336-06-04 06:14 J -37848146.36 -37848146.24 -37848146.11 0.0530 0.0263

Saturn -108336-08-31 03:36 J -37848058.49 -37848058.35 -37848058.20 0.0273 0.0019

Jupiter -108336-09-01 19:40 J -37848056.80 -37848056.68 -37848056.56 0.0532 0.0271

Saturn -108336-11-27 16:33 J -37847969.95 -37847969.81 -37847969.66 0.0274 0.0054

Saturn -108335-02-24 05:31 J -37847881.40 -37847881.27 -37847881.14 0.0275 0.0125

Saturn -108335-05-23 18:14 J -37847792.84 -37847792.74 -37847792.64 0.0275 0.0196

Earth -108335-05-26 23:45 J -37847789.58 -37847789.51 -37847789.44 0.2718 0.2127

Moon -108335-05-27 00:00 J -37847789.57 -37847789.50 -37847789.43 0.2712 0.2032 *

Saturn -108335-08-20 06:43 J -37847704.24 -37847704.22 -37847704.18 0.0276 0.0267

Mars -108334-09-09 00:28 J -37847319.60 -37847319.48 -37847319.36 0.1703 0.0996

Mars -108333-07-22 20:38 J -37847001.76 -37847001.64 -37847001.53 0.1811 0.0759

Venus -108332-04-08 14:38 J -37846741.99 -37846741.89 -37846741.78 0.3630 0.1754

Mars -108332-08-15 12:00 J -37846613.10 -37846613.00 -37846612.89 0.1722 0.1224

Mars -108331-06-28 14:38 J -37846295.99 -37846295.89 -37846295.80 0.1791 0.1195

Jupiter -108330-01-20 19:40 J -37846089.75 -37846089.68 -37846089.61 0.0497 0.0446

Jupiter -108330-04-20 15:21 J -37846000.02 -37845999.86 -37845999.70 0.0495 0.0055

Moon -108329-06-04 21:21 J -37845588.69 -37845588.61 -37845588.52 0.2741 0.1751

Earth -108329-06-04 21:50 J -37845588.67 -37845588.59 -37845588.50 0.2735 0.1719 *

Venus -108327-10-23 10:19 J -37844718.13 -37844718.07 -37844718.02 0.3635 0.3182

Moon -108326-11-25 19:26 J -37844319.77 -37844319.69 -37844319.60 0.2614 0.2099

Earth -108326-11-25 19:55 J -37844319.76 -37844319.67 -37844319.58 0.2608 0.2042 *

Mars -108324-01-29 04:48 J -37843889.37 -37843889.30 -37843889.23 0.1699 0.1484

Jupiter -108324-03-23 08:52 J -37843836.22 -37843836.13 -37843836.04 0.0530 0.0391

Jupiter -108324-06-20 22:33 J -37843746.69 -37843746.56 -37843746.43 0.0532 0.0146

Mars -108324-12-13 03:07 J -37843571.46 -37843571.37 -37843571.28 0.1816 0.1284

Saturn -108323-10-04 12:00 J -37843276.08 -37843276.00 -37843275.91 0.0290 0.0239

Saturn -108322-01-01 06:28 J -37843187.36 -37843187.23 -37843187.08 0.0289 0.0145

Mars -108322-01-05 14:38 J -37843183.03 -37843182.89 -37843182.75 0.1718 0.0654

Saturn -108322-03-31 01:26 J -37843098.60 -37843098.44 -37843098.28 0.0288 0.0049

Moon -108322-05-29 18:14 J -37843038.84 -37843038.74 -37843038.64 0.2716 0.1180

Earth -108322-05-29 18:28 J -37843038.83 -37843038.73 -37843038.62 0.2723 0.1105 *

Saturn -108322-06-27 20:38 J -37843009.81 -37843009.64 -37843009.48 0.0287 0.0049

Saturn -108322-09-24 15:50 J -37842920.98 -37842920.84 -37842920.69 0.0286 0.0146

Mars -108322-11-18 22:33 J -37842865.68 -37842865.56 -37842865.45 0.1796 0.0744

Saturn -108322-12-22 11:31 J -37842832.10 -37842832.02 -37842831.93 0.0285 0.0244

Earth -108319-11-17 12:28 J -37841771.02 -37841770.98 -37841770.95 0.2622 0.2526

Jupiter -108318-02-06 15:50 J -37841690.00 -37841689.84 -37841689.67 0.0496 0.0072

Jupiter -108318-05-07 12:57 J -37841600.03 -37841599.96 -37841599.89 0.0494 0.0445

Earth -108316-06-07 16:33 J -37840837.83 -37840837.81 -37840837.80 0.2739 0.2713

Moon -108316-06-07 16:48 J -37840837.83 -37840837.80 -37840837.78 0.2747 0.2678 *

Mars -108314-05-05 09:50 J -37840141.10 -37840141.09 -37840141.09 0.1821 0.1818

Mars -108313-05-27 17:45 J -37839752.91 -37839752.76 -37839752.61 0.1713 0.0105

Venus -108313-08-15 15:21 J -37839672.90 -37839672.86 -37839672.81 0.3763 0.3468

Jupiter -108312-01-09 10:48 J -37839526.06 -37839526.05 -37839526.04 0.0529 0.0525

Jupiter -108312-04-09 00:57 J -37839436.61 -37839436.46 -37839436.32 0.0531 0.0022

Mars -108312-04-10 06:00 J -37839435.37 -37839435.25 -37839435.13 0.1801 0.0269

Moon -108309-05-31 12:43 J -37838288.08 -37838287.97 -37838287.86 0.2725 0.0151

Earth -108309-05-31 13:26 J -37838288.05 -37838287.94 -37838287.83 0.2727 0.0097 *

Venus -108307-03-01 12:57 J -37837649.07 -37837648.96 -37837648.85 0.3759 0.1692

Saturn -108307-04-27 12:43 J -37837592.00 -37837591.97 -37837591.93 0.0271 0.0262

Saturn -108307-07-25 02:09 J -37837503.51 -37837503.41 -37837503.30 0.0272 0.0190

Saturn -108307-10-21 15:36 J -37837414.98 -37837414.85 -37837414.71 0.0272 0.0117

Jupiter -108307-11-25 16:33 J -37837379.96 -37837379.81 -37837379.66 0.0497 0.0195

Saturn -108306-01-18 05:02 J -37837326.44 -37837326.29 -37837326.15 0.0273 0.0043

Jupiter -108306-02-23 13:12 J -37837290.08 -37837289.95 -37837289.82 0.0495 0.0317

Saturn -108306-04-16 18:00 J -37837237.89 -37837237.75 -37837237.60 0.0274 0.0030

Saturn -108306-07-14 06:57 J -37837149.34 -37837149.21 -37837149.07 0.0275 0.0102

Saturn -108306-10-10 19:40 J -37837060.78 -37837060.68 -37837060.56 0.0276 0.0174

Moon -108306-11-20 15:21 J -37837020.00 -37837019.86 -37837019.73 0.2618 0.1100

Earth -108306-11-20 16:48 J -37837019.95 -37837019.80 -37837019.66 0.2617 0.0926 *

Saturn -108305-01-07 08:24 J -37836972.21 -37836972.15 -37836972.08 0.0277 0.0244

Uranus -108304-10-16 06:57 J -37836324.26 -37836324.21 -37836324.15 0.0146 0.0138

Mars -108304-10-17 21:07 J -37836322.76 -37836322.62 -37836322.47 0.1708 0.0431

Uranus -108303-01-12 13:40 J -37836236.04 -37836235.93 -37836235.83 0.0146 0.0113

Uranus -108303-04-10 20:09 J -37836147.79 -37836147.66 -37836147.52 0.0146 0.0088

Uranus -108303-07-08 02:52 J -37836059.53 -37836059.38 -37836059.22 0.0147 0.0062

Mars -108303-08-31 13:26 J -37836005.06 -37836004.94 -37836004.81 0.1806 0.0218

Uranus -108303-10-04 09:35 J -37835971.26 -37835971.10 -37835970.93 0.0147 0.0037

Uranus -108303-12-31 16:33 J -37835882.98 -37835882.81 -37835882.64 0.0147 0.0011

Uranus -108302-03-29 23:16 J -37835794.70 -37835794.53 -37835794.35 0.0147 0.0016

Uranus -108302-06-26 06:14 J -37835706.40 -37835706.24 -37835706.07 0.0147 0.0043

Venus -108302-09-15 10:48 J -37835625.17 -37835625.05 -37835624.93 0.3754 0.0165

Uranus -108302-09-22 13:11 J -37835618.10 -37835617.95 -37835617.79 0.0147 0.0069

Uranus -108302-12-19 20:24 J -37835529.78 -37835529.65 -37835529.52 0.0147 0.0096

Uranus -108301-03-17 03:35 J -37835441.44 -37835441.35 -37835441.26 0.0147 0.0124

Mars -108301-08-06 06:28 J -37835299.27 -37835299.23 -37835299.19 0.1786 0.1674

Jupiter -108300-01-26 03:07 J -37835126.51 -37835126.37 -37835126.24 0.0530 0.0120

Jupiter -108300-04-25 16:04 J -37835036.92 -37835036.83 -37835036.75 0.0532 0.0407

Venus -108296-03-31 08:52 J -37833601.23 -37833601.13 -37833601.03 0.3749 0.2076

Moon -108296-06-03 07:26 J -37833537.30 -37833537.19 -37833537.09 0.2735 0.0888

Earth -108296-06-03 08:09 J -37833537.27 -37833537.16 -37833537.06 0.2731 0.0921 *

Jupiter -108295-09-13 17:31 J -37833069.89 -37833069.77 -37833069.64 0.0497 0.0315

Jupiter -108295-12-12 13:40 J -37832980.08 -37832979.93 -37832979.78 0.0495 0.0192

Mars -108294-03-10 00:57 J -37832892.59 -37832892.46 -37832892.34 0.1703 0.0944

Mars -108293-01-21 20:24 J -37832574.76 -37832574.65 -37832574.53 0.1811 0.0722

Saturn -108293-02-21 12:14 J -37832544.04 -37832543.99 -37832543.92 0.0290 0.0267

Saturn -108293-05-20 06:57 J -37832455.34 -37832455.21 -37832455.08 0.0289 0.0173

Saturn -108293-08-17 01:40 J -37832366.59 -37832366.43 -37832366.27 0.0288 0.0077

Saturn -108293-11-13 20:38 J -37832277.80 -37832277.64 -37832277.47 0.0287 0.0022

Moon -108293-11-22 20:24 J -37832268.80 -37832268.65 -37832268.50 0.2618 0.0730

Earth -108293-11-22 21:21 J -37832268.76 -37832268.61 -37832268.46 0.2612 0.0711 *

Saturn -108292-02-10 16:04 J -37832188.98 -37832188.83 -37832188.68 0.0286 0.0117

Mars -108292-02-13 12:43 J -37832186.07 -37832185.97 -37832185.87 0.1722 0.1285

Venus -108292-03-31 01:40 J -37832140.53 -37832140.43 -37832140.34 0.3618 0.2243

Saturn -108292-05-10 11:45 J -37832100.12 -37832100.01 -37832099.90 0.0286 0.0215

Mars -108292-12-27 14:38 J -37831868.98 -37831868.89 -37831868.80 0.1791 0.1235

Earth -108289-05-27 04:33 J -37830987.39 -37830987.31 -37830987.23 0.2719 0.1919

Moon -108289-05-27 04:48 J -37830987.38 -37830987.30 -37830987.23 0.2712 0.1962 *

Jupiter -108289-11-14 04:48 J -37830816.42 -37830816.30 -37830816.18 0.0530 0.0260

Jupiter -108288-02-11 18:00 J -37830726.86 -37830726.75 -37830726.63 0.0532 0.0275

Venus -108287-10-14 21:50 J -37830116.71 -37830116.59 -37830116.47 0.3622 0.0686

Neptune -108286-04-10 12:28 J -37829939.00 -37829938.98 -37829938.93 0.0088 0.0086

Neptune -108286-07-07 14:38 J -37829850.94 -37829850.89 -37829850.82 0.0088 0.0081

Neptune -108286-10-03 16:33 J -37829762.87 -37829762.81 -37829762.72 0.0088 0.0076

Neptune -108286-12-30 18:28 J -37829674.80 -37829674.73 -37829674.63 0.0088 0.0072

Neptune -108285-03-27 20:52 J -37829586.73 -37829586.63 -37829586.53 0.0088 0.0067

Neptune -108285-06-23 22:33 J -37829498.66 -37829498.56 -37829498.44 0.0088 0.0062

Mars   -108285-07-30 05:02 J -37829462.37 -37829462.29 -37829462.22 0.1699 0.1440

Neptune -108285-09-20 00:43 J -37829410.58 -37829410.47 -37829410.36 0.0088 0.0058

Neptune -108285-12-17 02:24 J -37829322.51 -37829322.40 -37829322.27 0.0088 0.0054

Neptune -108284-03-15 04:33 J -37829234.43 -37829234.31 -37829234.18 0.0088 0.0049

Neptune -108284-06-11 06:14 J -37829146.36 -37829146.24 -37829146.10 0.0088 0.0045

Mars   -108284-06-13 03:21 J -37829144.45 -37829144.36 -37829144.26 0.1816 0.1235

Neptune -108284-09-07 08:24 J -37829058.28 -37829058.15 -37829058.01 0.0088 0.0040

Neptune -108284-12-04 10:04 J -37828970.21 -37828970.08 -37828969.93 0.0088 0.0036

Neptune -108283-03-02 12:14 J -37828882.13 -37828881.99 -37828881.85 0.0088 0.0031

Neptune -108283-05-29 13:55 J -37828794.05 -37828793.92 -37828793.77 0.0088 0.0027

Moon   -108283-06-06 02:38 J -37828786.47 -37828786.39 -37828786.31 0.2742 0.1863

Earth   -108283-06-06 02:52 J -37828786.46 -37828786.38 -37828786.31 0.2736 0.1925 *

Jupiter -108283-07-02 18:57 J -37828759.79 -37828759.71 -37828759.63 0.0497 0.0431

Mars   -108283-07-06 15:07 J -37828756.01 -37828755.87 -37828755.73 0.1717 0.0708

Neptune -108283-08-25 16:04 J -37828705.98 -37828705.83 -37828705.69 0.0088 0.0022

Jupiter -108283-09-30 14:38 J -37828670.05 -37828669.89 -37828669.73 0.0495 0.0070

Neptune -108283-11-21 17:45 J -37828617.90 -37828617.76 -37828617.61 0.0088 0.0017

Neptune -108282-02-17 19:40 J -37828529.83 -37828529.68 -37828529.53 0.0088 0.0013

Neptune -108282-05-16 21:35 J -37828441.75 -37828441.60 -37828441.45 0.0088 0.0008

Mars   -108282-05-19 22:33 J -37828438.68 -37828438.56 -37828438.45 0.1796 0.0783

Neptune -108282-08-12 23:31 J -37828353.67 -37828353.52 -37828353.37 0.0088 0.0004

Neptune -108282-11-09 01:11 J -37828265.59 -37828265.45 -37828265.30 0.0088 0.0003

Neptune -108281-02-05 03:07 J -37828177.52 -37828177.37 -37828177.22 0.0088 0.0005

Venus   -108281-04-29 17:45 J -37828092.88 -37828092.76 -37828092.65 0.3627 0.0822

Neptune -108281-05-03 05:02 J -37828089.44 -37828089.29 -37828089.15 0.0088 0.0009

Neptune -108281-07-30 06:43 J -37828001.36 -37828001.22 -37828001.07 0.0088 0.0014

Neptune -108281-10-26 08:24 J -37827913.29 -37827913.15 -37827913.00 0.0088 0.0019

Neptune -108280-01-22 10:19 J -37827825.21 -37827825.07 -37827824.92 0.0088 0.0022

Neptune -108280-04-20 12:14 J -37827737.13 -37827736.99 -37827736.85 0.0088 0.0027

Pluto -108280-06-19 17:16 J -37827676.83 -37827676.78 -37827676.69 0.0060 0.0056

Neptune -108280-07-17 13:55 J -37827649.06 -37827648.92 -37827648.78 0.0088 0.0031

Pluto -108280-09-15 18:57 J -37827588.81 -37827588.71 -37827588.58 0.0060 0.0049

Neptune -108280-10-13 15:35 J -37827560.98 -37827560.85 -37827560.71 0.0088 0.0035

Moon -108280-11-26 02:24 J -37827517.46 -37827517.40 -37827517.33 0.2613 0.2308

Earth -108280-11-26 02:24 J -37827517.46 -37827517.40 -37827517.34 0.2607 0.2376 *

Pluto -108280-12-12 20:09 J -37827500.78 -37827500.66 -37827500.49 0.0060 0.0042

Neptune -108279-01-09 17:31 J -37827472.90 -37827472.77 -37827472.64 0.0088 0.0039

Pluto -108279-03-10 22:04 J -37827412.74 -37827412.58 -37827412.41 0.0060 0.0034

Neptune -108279-04-07 19:11 J -37827384.82 -37827384.70 -37827384.57 0.0088 0.0044

Pluto -108279-06-06 23:16 J -37827324.69 -37827324.53 -37827324.34 0.0060 0.0027

Neptune -108279-07-04 20:52 J -37827296.74 -37827296.63 -37827296.50 0.0088 0.0048

Pluto -108279-09-03 00:57 J -37827236.64 -37827236.46 -37827236.27 0.0060 0.0019

Neptune -108279-09-30 22:33 J -37827208.67 -37827208.56 -37827208.43 0.0088 0.0052

Pluto -108279-11-30 02:24 J -37827148.59 -37827148.40 -37827148.20 0.0060 0.0011

Neptune -108279-12-28 00:14 J -37827120.59 -37827120.49 -37827120.36 0.0088 0.0057

Pluto -108278-02-26 04:04 J -37827060.53 -37827060.33 -37827060.14 0.0061 0.0004

Neptune -108278-03-26 02:09 J -37827032.51 -37827032.41 -37827032.30 0.0088 0.0061

Pluto -108278-05-25 05:31 J -37826972.47 -37826972.27 -37826972.08 0.0061 0.0004

Neptune -108278-06-22 03:50 J -37826944.43 -37826944.34 -37826944.23 0.0088 0.0065

Pluto -108278-08-21 06:43 J -37826884.40 -37826884.22 -37826884.02 0.0061 0.0012

Neptune -108278-09-18 05:45 J -37826856.35 -37826856.26 -37826856.17 0.0088 0.0069

Pluto -108278-11-17 08:09 J -37826796.33 -37826796.16 -37826795.96 0.0061 0.0020

Saturn -108278-12-12 03:21 J -37826771.44 -37826771.36 -37826771.26 0.0271 0.0214

Neptune -108278-12-15 07:11 J -37826768.27 -37826768.20 -37826768.11 0.0088 0.0073

Pluto -108277-02-13 09:35 J -37826708.26 -37826708.10 -37826707.91 0.0061 0.0027

Saturn -108277-03-09 17:02 J -37826682.92 -37826682.79 -37826682.67 0.0271 0.0141

Neptune -108277-03-12 08:52 J -37826680.19 -37826680.13 -37826680.05 0.0088 0.0077

Pluto -108277-05-11 11:02 J -37826620.19 -37826620.04 -37826619.87 0.0061 0.0035

Saturn -108277-06-06 06:14 J -37826594.38 -37826594.24 -37826594.10 0.0272 0.0068

Neptune -108277-06-08 10:33 J -37826592.10 -37826592.06 -37826591.99 0.0088 0.0082

Pluto -108277-08-07 12:43 J -37826532.10 -37826531.97 -37826531.82 0.0061 0.0042

Jupiter -108277-09-02 07:11 J -37826506.29 -37826506.20 -37826506.10 0.0530 0.0388

Saturn -108277-09-02 19:26 J -37826505.84 -37826505.69 -37826505.55 0.0273 0.0008

Neptune -108277-09-04 12:14 J -37826504.01 -37826503.99 -37826503.94 0.0088 0.0086

Pluto -108277-11-03 13:55 J -37826444.01 -37826443.92 -37826443.79 0.0061 0.0050

Saturn -108277-11-30 08:09 J -37826417.29 -37826417.16 -37826417.02 0.0274 0.0077

Jupiter -108277-11-30 21:07 J -37826416.75 -37826416.62 -37826416.49 0.0532 0.0150

Pluto -108276-01-30 15:21 J -37826355.90 -37826355.86 -37826355.78 0.0061 0.0058

Saturn -108276-02-26 21:07 J -37826328.74 -37826328.62 -37826328.50 0.0274 0.0147

Saturn -108276-05-26 09:50 J -37826240.17 -37826240.09 -37826240.01 0.0275 0.0218

Moon -108276-05-29 23:02 J -37826236.65 -37826236.54 -37826236.43 0.2717 0.0884

Earth -108276-05-29 23:31 J -37826236.63 -37826236.52 -37826236.41 0.2723 0.0897 *

Venus -108276-11-13 13:26 J -37826069.04 -37826068.94 -37826068.85 0.3631 0.2273

Mars -108275-11-03 10:04 J -37825714.11 -37825714.08 -37825714.05 0.1821 0.1764

Mars -108274-11-26 18:14 J -37825325.89 -37825325.74 -37825325.59 0.1712 0.0158

Mars -108273-10-09 06:14 J -37825008.36 -37825008.24 -37825008.11 0.1801 0.0321

Moon -108273-11-17 17:16 J -37824968.85 -37824968.78 -37824968.71 0.2619 0.2289

Earth -108273-11-17 18:43 J -37824968.80 -37824968.72 -37824968.64 0.2621 0.2208 *

Jupiter -108271-07-19 15:07 J -37824360.03 -37824359.87 -37824359.71 0.0496 0.0057

Jupiter -108271-10-17 12:00 J -37824270.06 -37824270.00 -37824269.94 0.0494 0.0458

Jupiter -108265-06-21 09:50 J -37822196.12 -37822196.09 -37822196.06 0.0529 0.0516

Jupiter -108265-09-19 00:00 J -37822106.64 -37822106.50 -37822106.36 0.0531 0.0026

Mars -108264-04-17 21:35 J -37821895.75 -37821895.60 -37821895.45 0.1708 0.0379

Uranus -108264-06-09 03:21 J -37821843.41 -37821843.36 -37821843.29 0.0133 0.0120

Uranus -108264-09-05 07:26 J -37821755.28 -37821755.19 -37821755.10 0.0133 0.0103

Saturn -108264-10-07 04:19 J -37821723.43 -37821723.32 -37821723.21 0.0290 0.0214

Uranus -108264-12-02 11:02 J -37821667.14 -37821667.04 -37821666.92 0.0133 0.0087

Saturn -108263-01-03 23:02 J -37821634.69 -37821634.54 -37821634.40 0.0289 0.0119

Uranus -108263-02-28 14:52 J -37821579.00 -37821578.88 -37821578.75 0.0133 0.0070

Mars -108263-03-01 13:40 J -37821578.06 -37821577.93 -37821577.81 0.1806 0.0183

Saturn -108263-04-02 17:45 J -37821545.92 -37821545.76 -37821545.59 0.0288 0.0024

Uranus -108263-05-27 18:28 J -37821490.85 -37821490.73 -37821490.59 0.0132 0.0054

Moon -108263-06-01 17:31 J -37821485.88 -37821485.77 -37821485.66 0.2728 0.0057

Earth -108263-06-01 18:14 J -37821485.85 -37821485.74 -37821485.62 0.2728 0.0152 *

Saturn -108263-06-30 12:57 J -37821457.12 -37821456.96 -37821456.79 0.0287 0.0075

Uranus -108263-08-23 22:33 J -37821402.70 -37821402.56 -37821402.42 0.0132 0.0037

Saturn -108263-09-27 08:38 J -37821368.27 -37821368.14 -37821368.01 0.0286 0.0173

Uranus -108263-11-20 02:09 J -37821314.55 -37821314.41 -37821314.27 0.0132 0.0020

Saturn -108263-12-25 04:04 J -37821279.37 -37821279.33 -37821279.27 0.0285 0.0272

Uranus -108262-02-16 05:45 J -37821226.40 -37821226.26 -37821226.11 0.0132 0.0005

Uranus -108262-05-15 09:21 J -37821138.25 -37821138.11 -37821137.96 0.0132 0.0012

Uranus -108262-08-11 12:57 J -37821050.10 -37821049.96 -37821049.82 0.0132 0.0028

Uranus -108262-11-07 16:33 J -37820961.94 -37820961.81 -37820961.67 0.0132 0.0044

Uranus -108261-02-03 20:09 J -37820873.79 -37820873.66 -37820873.53 0.0132 0.0059

Mars -108261-02-05 06:43 J -37820872.25 -37820872.22 -37820872.19 0.1785 0.1716

Uranus -108261-05-01 23:31 J -37820785.63 -37820785.52 -37820785.40 0.0132 0.0075

Uranus -108261-07-29 03:07 J -37820697.47 -37820697.37 -37820697.26 0.0132 0.0090

Uranus -108261-10-25 06:28 J -37820609.31 -37820609.23 -37820609.14 0.0132 0.0106

Uranus -108260-01-21 09:50 J -37820521.13 -37820521.09 -37820521.02 0.0132 0.0121

Moon -108260-11-20 21:50 J -37820217.74 -37820217.59 -37820217.45 0.2619 0.0697

Earth -108260-11-20 23:02 J -37820217.69 -37820217.54 -37820217.39 0.2616 0.0602 *

Jupiter -108259-05-07 15:50 J -37820049.99 -37820049.84 -37820049.69 0.0496 0.0182

Jupiter -108259-08-05 12:14 J -37819960.11 -37819959.99 -37819959.86 0.0495 0.0330

Venus -108256-03-22 14:24 J -37818999.97 -37818999.90 -37818999.82 0.3762 0.2848

Mars -108255-09-08 01:26 J -37818465.57 -37818465.44 -37818465.32 0.1703 0.0893

Mars -108254-07-22 20:52 J -37818147.75 -37818147.63 -37818147.52 0.1811 0.0671

Jupiter -108253-07-08 02:24 J -37817796.54 -37817796.40 -37817796.27 0.0530 0.0108

Mars -108253-08-14 13:11 J -37817759.05 -37817758.95 -37817758.86 0.1722 0.1340

Jupiter -108253-10-05 15:07 J -37817706.95 -37817706.87 -37817706.78 0.0532 0.0420

Mars -108252-06-27 14:38 J -37817441.97 -37817441.89 -37817441.80 0.1791 0.1278

Venus -108251-10-06 12:00 J -37816976.12 -37816976.00 -37816975.88 0.3757 0.1054

Moon -108250-06-04 12:28 J -37816735.08 -37816734.98 -37816734.88 0.2736 0.1053

Earth -108250-06-04 12:57 J -37816735.06 -37816734.96 -37816734.85 0.2732 0.1129 *

Saturn -108248-04-30 04:19 J -37816039.38 -37816039.32 -37816039.25 0.0271 0.0240

Saturn -108248-07-27 17:45 J -37815950.87 -37815950.76 -37815950.64 0.0272 0.0167

Saturn -108248-10-24 07:11 J -37815862.33 -37815862.20 -37815862.06 0.0272 0.0094

Saturn -108247-01-20 20:24 J -37815773.79 -37815773.65 -37815773.50 0.0273 0.0022

Jupiter -108247-02-23 16:33 J -37815739.94 -37815739.81 -37815739.68 0.0497 0.0305

Saturn -108247-04-19 09:35 J -37815685.25 -37815685.10 -37815684.96 0.0274 0.0052

Jupiter -108247-05-24 12:43 J -37815650.12 -37815649.97 -37815649.82 0.0495 0.0203

Saturn -108247-07-16 22:19 J -37815596.69 -37815596.57 -37815596.44 0.0275 0.0123

Saturn -108247-10-13 11:02 J -37815508.14 -37815508.04 -37815507.94 0.0276 0.0194

Moon -108247-11-24 02:52 J -37815466.52 -37815466.38 -37815466.24 0.2617 0.0899

Earth -108247-11-24 03:50 J -37815466.49 -37815466.34 -37815466.20 0.2611 0.1041 *

Saturn -108246-01-09 23:45 J -37815419.55 -37815419.51 -37815419.47 0.0277 0.0264

Mars -108245-01-29 05:31 J -37815035.35 -37815035.27 -37815035.19 0.1699 0.1385

Venus -108245-04-21 09:50 J -37814952.21 -37814952.09 -37814951.97 0.3752 0.0818

Mars -108245-12-12 03:35 J -37814717.45 -37814717.35 -37814717.26 0.1816 0.1187

Mars -108243-01-04 15:50 J -37814328.98 -37814328.84 -37814328.71 0.1717 0.0767

Moon -108243-05-28 09:21 J -37814185.20 -37814185.11 -37814185.02 0.2712 0.1663

Earth -108243-05-28 09:35 J -37814185.19 -37814185.10 -37814185.01 0.2719 0.1716 *

Mars -108243-11-17 22:48 J -37814011.66 -37814011.55 -37814011.44 0.1796 0.0831

Venus -108241-04-21 03:50 J -37813491.39 -37813491.34 -37813491.28 0.3615 0.3267

Jupiter -108241-04-26 04:19 J -37813486.44 -37813486.32 -37813486.19 0.0530 0.0241

Jupiter -108241-07-24 17:45 J -37813396.88 -37813396.76 -37813396.65 0.0532 0.0290

Venus -108240-11-05 08:09 J -37812928.24 -37812928.16 -37812928.08 0.3747 0.2745

Moon -108237-06-06 07:40 J -37811984.25 -37811984.18 -37811984.11 0.2743 0.2165

Earth -108237-06-06 07:40 J -37811984.25 -37811984.18 -37811984.11 0.2736 0.2122 *

Venus -108236-11-05 00:14 J -37811467.59 -37811467.49 -37811467.38 0.3620 0.1684

Jupiter -108236-12-12 17:45 J -37811429.84 -37811429.76 -37811429.68 0.0497 0.0422

Jupiter -108235-03-12 13:26 J -37811340.10 -37811339.94 -37811339.78 0.0495 0.0080

Mars -108235-05-04 10:04 J -37811287.12 -37811287.08 -37811287.04 0.1821 0.1724

Saturn -108234-02-24 04:19 J -37810991.40 -37810991.32 -37810991.23 0.0290 0.0243

Saturn -108234-05-23 22:48 J -37810902.68 -37810902.55 -37810902.40 0.0289 0.0149

Mars -108234-05-27 18:43 J -37810898.87 -37810898.72 -37810898.57 0.1712 0.0211

Saturn -108234-08-20 17:45 J -37810813.92 -37810813.76 -37810813.60 0.0288 0.0053

Saturn -108234-11-17 12:57 J -37810725.12 -37810724.96 -37810724.80 0.0287 0.0045

Saturn -108233-02-14 08:24 J -37810636.29 -37810636.15 -37810636.00 0.0286 0.0142

Mars -108233-04-09 06:14 J -37810581.36 -37810581.24 -37810581.12 0.1801 0.0357

Saturn -108233-05-13 04:04 J -37810547.42 -37810547.33 -37810547.24 0.0285 0.0241

Venus -108230-05-21 20:24 J -37809443.77 -37809443.65 -37809443.53 0.3624 0.0150

Moon -108230-05-31 03:50 J -37809434.44 -37809434.34 -37809434.23 0.2719 0.0809

Earth -108230-05-31 04:33 J -37809434.42 -37809434.31 -37809434.20 0.2724 0.0696 *

Jupiter -108229-02-13 05:45 J -37809176.35 -37809176.26 -37809176.16 0.0530 0.0384

Jupiter -108229-05-12 19:40 J -37809086.82 -37809086.68 -37809086.55 0.0532 0.0154

Moon -108227-11-18 23:31 J -37808166.61 -37808166.52 -37808166.43 0.2619 0.2066

Earth -108227-11-19 00:57 J -37808166.56 -37808166.46 -37808166.36 0.2620 0.1896 *

Mars -108225-10-16 22:04 J -37807468.73 -37807468.58 -37807468.44 0.1708 0.0330

Venus -108225-12-04 16:19 J -37807419.93 -37807419.82 -37807419.71 0.3628 0.1339

Mars -108224-08-30 13:40 J -37807151.05 -37807150.93 -37807150.80 0.1806 0.0129

Jupiter -108224-12-29 14:24 J -37807030.06 -37807029.90 -37807029.73 0.0496 0.0043

Jupiter -108223-03-29 11:31 J -37806940.06 -37806940.02 -37806939.98 0.0494 0.0475

Mars -108222-08-06 06:43 J -37806445.24 -37806445.22 -37806445.20 0.1786 0.1754

Uranus -108220-11-05 14:24 J -37805622.96 -37805622.90 -37805622.81 0.0146 0.0131

Uranus -108219-02-01 21:07 J -37805534.73 -37805534.62 -37805534.50 0.0146 0.0105

Uranus -108219-05-01 03:35 J -37805446.48 -37805446.35 -37805446.20 0.0146 0.0081

Venus -108219-06-20 11:45 J -37805396.08 -37805396.01 -37805395.93 0.3633 0.2776

Uranus -108219-07-28 10:33 J -37805358.22 -37805358.06 -37805357.90 0.0146 0.0055

Saturn -108219-09-17 05:45 J -37805307.29 -37805307.26 -37805307.23 0.0270 0.0262

Uranus -108219-10-24 17:16 J -37805269.95 -37805269.78 -37805269.61 0.0147 0.0029

Saturn -108219-12-14 19:11 J -37805218.80 -37805218.70 -37805218.59 0.0271 0.0190

Uranus -108218-01-21 00:00 J -37805181.67 -37805181.50 -37805181.33 0.0147 0.0004

Saturn -108218-03-13 08:38 J -37805130.27 -37805130.14 -37805130.00 0.0271 0.0117

Uranus -108218-04-19 06:57 J -37805093.38 -37805093.21 -37805093.04 0.0147 0.0023

Saturn -108218-06-09 21:50 J -37805041.73 -37805041.59 -37805041.44 0.0272 0.0045

Uranus -108218-07-16 13:40 J -37805005.09 -37805004.93 -37805004.76 0.0147 0.0050

Saturn -108218-09-06 11:02 J -37804953.19 -37804953.04 -37804952.90 0.0273 0.0028

Uranus -108218-10-12 20:52 J -37804916.78 -37804916.63 -37804916.48 0.0147 0.0076

Jupiter -108218-12-02 08:24 J -37804866.19 -37804866.15 -37804866.12 0.0530 0.0513

Saturn -108218-12-03 23:45 J -37804864.64 -37804864.51 -37804864.37 0.0274 0.0099

Uranus -108217-01-09 03:50 J -37804828.46 -37804828.34 -37804828.21 0.0147 0.0103

Jupiter -108217-02-29 22:33 J -37804776.70 -37804776.56 -37804776.42 0.0532 0.0031

Saturn -108217-03-01 12:28 J -37804776.08 -37804775.98 -37804775.86 0.0274 0.0170

Uranus -108217-04-06 11:02 J -37804740.12 -37804740.04 -37804739.96 0.0147 0.0130

Saturn -108217-05-29 01:11 J -37804687.51 -37804687.45 -37804687.38 0.0275 0.0240

Moon -108217-06-01 22:33 J -37804683.67 -37804683.56 -37804683.45 0.2729 0.0309

Earth -108217-06-01 23:16 J -37804683.64 -37804683.53 -37804683.42 0.2728 0.0324 *

Mars -108215-03-09 01:40 J -37804038.56 -37804038.43 -37804038.30 0.1703 0.0845

Mars -108214-01-20 20:52 J -37803720.75 -37803720.63 -37803720.51 0.1811 0.0622

Moon -108214-11-22 04:04 J -37803415.48 -37803415.33 -37803415.18 0.2620 0.0368

Earth -108214-11-22 05:31 J -37803415.43 -37803415.27 -37803415.12 0.2616 0.0284 *

Mars -108213-02-13 13:40 J -37803332.02 -37803331.93 -37803331.85 0.1722 0.1393

Mars -108213-12-26 14:52 J -37803014.96 -37803014.88 -37803014.80 0.1791 0.1323

Jupiter -108212-10-17 15:07 J -37802720.02 -37802719.87 -37802719.72 0.0496 0.0166

Jupiter -108211-01-15 11:31 J -37802630.13 -37802630.02 -37802629.90 0.0494 0.0345

Earth -108210-05-26 19:40 J -37802133.72 -37802133.68 -37802133.64 0.2715 0.2533

Moon -108210-05-26 19:55 J -37802133.71 -37802133.67 -37802133.62 0.2710 0.2452 *

Mars -108206-07-30 05:45 J -37800608.34 -37800608.26 -37800608.17 0.1699 0.1337

Jupiter -108206-12-19 01:11 J -37800466.58 -37800466.45 -37800466.31 0.0531 0.0097

Jupiter -108205-03-17 14:24 J -37800376.98 -37800376.90 -37800376.82 0.0533 0.0432

Mars -108205-06-12 03:50 J -37800290.44 -37800290.34 -37800290.25 0.1816 0.1141

Saturn -108205-07-13 01:40 J -37800259.45 -37800259.43 -37800259.39 0.0291 0.0284

Saturn -108205-10-09 20:09 J -37800170.78 -37800170.66 -37800170.53 0.0290 0.0190

Saturn -108204-01-06 14:52 J -37800082.03 -37800081.88 -37800081.72 0.0289 0.0095

Saturn -108204-04-05 10:04 J -37799993.25 -37799993.08 -37799992.92 0.0288 0.0007

Moon -108204-06-04 17:31 J -37799932.87 -37799932.77 -37799932.67 0.2738 0.1277

Earth -108204-06-04 18:00 J -37799932.85 -37799932.75 -37799932.65 0.2732 0.1329 *

Saturn -108204-07-03 05:16 J -37799904.44 -37799904.28 -37799904.12 0.0287 0.0099

Mars -108204-07-05 16:04 J -37799901.96 -37799901.83 -37799901.70 0.1717 0.0815

Saturn -108204-09-30 00:57 J -37799815.58 -37799815.46 -37799815.34 0.0286 0.0198

Neptune -108203-03-20 11:02 J -37799644.08 -37799644.04 -37799643.99 0.0089 0.0085

Mars -108203-05-18 22:48 J -37799584.66 -37799584.55 -37799584.44 0.1796 0.0872

Neptune -108203-06-16 13:11 J -37799556.00 -37799555.95 -37799555.87 0.0089 0.0081

Neptune -108203-09-12 15:35 J -37799467.92 -37799467.85 -37799467.76 0.0089 0.0076

Neptune -108203-12-09 18:14 J -37799379.83 -37799379.74 -37799379.64 0.0089 0.0071

Neptune -108202-03-07 20:24 J -37799291.75 -37799291.65 -37799291.53 0.0089 0.0067

Neptune -108202-06-03 22:48 J -37799203.65 -37799203.55 -37799203.42 0.0089 0.0062

Neptune -108202-08-31 01:26 J -37799115.56 -37799115.44 -37799115.31 0.0089 0.0057

Neptune -108202-11-27 03:50 J -37799027.47 -37799027.34 -37799027.20 0.0089 0.0052

Neptune -108201-02-23 06:28 J -37798939.37 -37798939.23 -37798939.09 0.0089 0.0047

Neptune -108201-05-21 08:52 J -37798851.27 -37798851.13 -37798850.98 0.0089 0.0042

Neptune -108201-08-17 11:02 J -37798763.17 -37798763.04 -37798762.87 0.0089 0.0038

Neptune -108201-11-13 13:40 J -37798675.08 -37798674.93 -37798674.77 0.0089 0.0033

Moon -108201-11-24 09:50 J -37798664.22 -37798664.09 -37798663.97 0.2617 0.1394

Earth -108201-11-24 10:04 J -37798664.21 -37798664.08 -37798663.95 0.2611 0.1374 *

Neptune -108200-02-09 16:19 J -37798586.97 -37798586.82 -37798586.66 0.0089 0.0028

Neptune -108200-05-08 18:43 J -37798498.87 -37798498.72 -37798498.55 0.0089 0.0023

Neptune -108200-08-04 21:21 J -37798410.77 -37798410.61 -37798410.44 0.0089 0.0018

Jupiter -108200-08-05 15:50 J -37798409.97 -37798409.84 -37798409.71 0.0497 0.0289

Venus -108200-10-27 13:26 J -37798327.04 -37798326.94 -37798326.84 0.3761 0.2232

Neptune -108200-11-01 00:00 J -37798322.67 -37798322.50 -37798322.33 0.0089 0.0013

Jupiter -108200-11-03 12:00 J -37798320.15 -37798320.00 -37798319.85 0.0495 0.0217

Neptune -108199-01-28 02:24 J -37798234.56 -37798234.40 -37798234.23 0.0089 0.0008

Neptune -108199-04-26 05:02 J -37798146.46 -37798146.29 -37798146.12 0.0089 0.0003

Neptune -108199-07-23 07:40 J -37798058.35 -37798058.18 -37798058.01 0.0089 0.0002

Neptune -108199-10-19 10:19 J -37797970.24 -37797970.07 -37797969.90 0.0089 0.0008

Neptune -108198-01-15 12:43 J -37797882.13 -37797881.97 -37797881.80 0.0089 0.0013

Neptune -108198-04-13 15:21 J -37797794.02 -37797793.86 -37797793.69 0.0089 0.0018

Neptune -108198-07-10 18:00 J -37797705.91 -37797705.75 -37797705.58 0.0089 0.0023

Neptune -108198-10-06 20:38 J -37797617.80 -37797617.64 -37797617.48 0.0089 0.0028

Neptune -108197-01-02 23:16 J -37797529.68 -37797529.53 -37797529.37 0.0089 0.0033

Neptune -108197-03-31 01:40 J -37797441.57 -37797441.43 -37797441.26 0.0089 0.0039

Moon -108197-05-28 14:24 J -37797382.99 -37797382.90 -37797382.81 0.2713 0.1583

Earth -108197-05-28 14:38 J -37797382.99 -37797382.89 -37797382.80 0.2720 0.1509 *

Neptune -108197-06-27 04:19 J -37797353.45 -37797353.32 -37797353.16 0.0089 0.0044

Neptune -108197-09-23 07:11 J -37797265.33 -37797265.20 -37797265.05 0.0089 0.0049

Neptune -108197-12-20 09:50 J -37797177.22 -37797177.09 -37797176.94 0.0089 0.0054

Neptune -108196-03-18 12:43 J -37797089.09 -37797088.97 -37797088.84 0.0089 0.0059

Neptune -108196-06-14 15:07 J -37797000.97 -37797000.87 -37797000.74 0.0089 0.0065

Neptune -108196-09-10 17:45 J -37796912.85 -37796912.76 -37796912.64 0.0089 0.0070

Mars -108196-11-02 10:19 J -37796860.12 -37796860.07 -37796860.02 0.1821 0.1671

Neptune -108196-12-07 20:38 J -37796824.72 -37796824.64 -37796824.54 0.0089 0.0075

Neptune -108195-03-05 23:31 J -37796736.58 -37796736.52 -37796736.44 0.0089 0.0080

Neptune -108195-06-02 01:55 J -37796648.44 -37796648.42 -37796648.35 0.0089 0.0086

Mars -108195-11-25 19:11 J -37796471.85 -37796471.70 -37796471.55 0.1713 0.0264

Venus -108194-05-13 11:02 J -37796303.16 -37796303.04 -37796302.91 0.3756 0.0430

Jupiter -108194-10-07 03:35 J -37796156.48 -37796156.35 -37796156.22 0.0530 0.0227

Mars -108194-10-09 06:28 J -37796154.35 -37796154.23 -37796154.11 0.1801 0.0406

Jupiter -108193-01-04 16:48 J -37796066.91 -37796066.80 -37796066.68 0.0532 0.0304

Moon -108191-06-07 12:43 J -37795182.03 -37795181.97 -37795181.92 0.2744 0.2319

Earth -108191-06-07 12:43 J -37795182.03 -37795181.97 -37795181.92 0.2737 0.2329 *

Saturn -108189-05-02 20:09 J -37794486.75 -37794486.66 -37794486.57 0.0271 0.0216

Saturn -108189-07-30 09:35 J -37794398.23 -37794398.10 -37794397.98 0.0272 0.0144

Saturn -108189-10-26 22:48 J -37794309.69 -37794309.55 -37794309.41 0.0272 0.0071

Venus -108189-11-26 09:07 J -37794279.24 -37794279.12 -37794279.01 0.3751 0.1463

Saturn -108188-01-23 12:00 J -37794221.15 -37794221.00 -37794220.86 0.0273 0.0003

Saturn -108188-04-22 00:57 J -37794132.60 -37794132.46 -37794132.32 0.0274 0.0073

Jupiter -108188-05-24 16:33 J -37794099.89 -37794099.81 -37794099.72 0.0497 0.0412

Saturn -108188-07-19 13:40 J -37794044.05 -37794043.93 -37794043.81 0.0275 0.0144

Jupiter -108188-08-22 12:28 J -37794010.14 -37794009.98 -37794009.82 0.0496 0.0091

Saturn -108188-10-16 02:24 J -37793955.49 -37793955.40 -37793955.31 0.0276 0.0215

Pluto -108186-01-11 10:04 J -37793503.13 -37793503.08 -37793503.02 0.0085 0.0076

Pluto -108186-04-09 11:16 J -37793415.11 -37793415.03 -37793414.93 0.0085 0.0062

Pluto -108186-07-06 12:43 J -37793327.08 -37793326.97 -37793326.86 0.0084 0.0047

Pluto -108186-10-02 13:55 J -37793239.04 -37793238.92 -37793238.79 0.0084 0.0033

Pluto -108186-12-29 15:21 J -37793150.99 -37793150.86 -37793150.73 0.0084 0.0019

Pluto -108185-03-26 16:33 J -37793062.94 -37793062.81 -37793062.68 0.0084 0.0005

Mars -108185-04-16 22:19 J -37793041.71 -37793041.57 -37793041.42 0.1708 0.0280

Pluto -108185-06-22 17:45 J -37792974.89 -37792974.76 -37792974.63 0.0084 0.0009

Pluto -108185-09-18 18:57 J -37792886.83 -37792886.71 -37792886.58 0.0084 0.0022

Venus -108185-11-26 02:38 J -37792818.47 -37792818.39 -37792818.31 0.3617 0.2697

Pluto -108185-12-15 20:09 J -37792798.77 -37792798.66 -37792798.53 0.0084 0.0036

Mars -108184-02-28 13:55 J -37792724.05 -37792723.92 -37792723.80 0.1806 0.0086

Pluto -108184-03-13 21:21 J -37792710.71 -37792710.61 -37792710.50 0.0084 0.0050

Moon -108184-05-31 08:38 J -37792632.25 -37792632.14 -37792632.02 0.2722 0.0500

Earth -108184-05-31 09:21 J -37792632.22 -37792632.11 -37792632.00 0.2724 0.0497 *

Pluto -108184-06-09 22:33 J -37792622.64 -37792622.56 -37792622.47 0.0083 0.0063

Pluto -108184-09-06 00:00 J -37792534.55 -37792534.50 -37792534.45 0.0083 0.0077

Venus -108183-06-12 07:26 J -37792255.24 -37792255.19 -37792255.14 0.3746 0.3416

Jupiter -108182-07-26 05:31 J -37791846.37 -37791846.27 -37791846.16 0.0530 0.0363

Jupiter -108182-10-23 19:11 J -37791756.83 -37791756.70 -37791756.56 0.0531 0.0174

Moon -108181-11-19 05:45 J -37791364.38 -37791364.26 -37791364.14 0.2621 0.1604

Earth -108181-11-19 07:11 J -37791364.32 -37791364.20 -37791364.08 0.2620 0.1575 *

Uranus -108180-04-02 06:43 J -37791230.22 -37791230.22 -37791230.19 0.0133 0.0132

Uranus -108180-06-29 10:48 J -37791142.12 -37791142.05 -37791141.97 0.0133 0.0115

Uranus -108180-09-25 14:38 J -37791053.98 -37791053.89 -37791053.79 0.0133 0.0098

Uranus -108180-12-22 18:28 J -37790965.84 -37790965.73 -37790965.61 0.0133 0.0081

Uranus -108179-03-20 22:19 J -37790877.69 -37790877.57 -37790877.44 0.0133 0.0064

Venus -108179-06-11 23:02 J -37790794.66 -37790794.54 -37790794.42 0.3621 0.1127

Uranus -108179-06-17 02:09 J -37790789.55 -37790789.41 -37790789.27 0.0133 0.0048

Uranus -108179-09-13 05:45 J -37790701.40 -37790701.26 -37790701.11 0.0133 0.0032

Uranus -108179-12-10 09:35 J -37790613.25 -37790613.10 -37790612.96 0.0132 0.0015

Uranus -108178-03-08 13:11 J -37790525.09 -37790524.95 -37790524.80 0.0132 0.0001

Uranus -108178-06-04 16:48 J -37790436.94 -37790436.80 -37790436.65 0.0132 0.0017

Uranus -108178-08-31 20:24 J -37790348.79 -37790348.65 -37790348.51 0.0132 0.0033

Uranus -108178-11-28 00:00 J -37790260.63 -37790260.50 -37790260.37 0.0132 0.0049

Uranus -108177-02-24 03:35 J -37790172.47 -37790172.35 -37790172.23 0.0132 0.0064

Uranus -108177-05-22 06:57 J -37790084.32 -37790084.21 -37790084.09 0.0132 0.0080

Uranus -108177-08-18 10:33 J -37789996.16 -37789996.06 -37789995.96 0.0132 0.0095

Uranus -108177-11-14 13:55 J -37789907.99 -37789907.92 -37789907.84 0.0132 0.0111

Uranus -108176-02-10 17:16 J -37789819.81 -37789819.78 -37789819.73 0.0132 0.0126

Jupiter -108176-06-10 13:26 J -37789700.11 -37789699.94 -37789699.78 0.0496 0.0031

Mars -108176-09-07 02:09 J -37789611.54 -37789611.41 -37789611.28 0.1703 0.0791

Jupiter -108176-09-08 10:19 J -37789610.09 -37789610.07 -37789610.04 0.0494 0.0486

Saturn -108175-02-26 19:55 J -37789438.77 -37789438.67 -37789438.56 0.0290 0.0221

Saturn -108175-05-26 14:38 J -37789350.04 -37789349.89 -37789349.74 0.0289 0.0126

Mars -108175-07-21 21:07 J -37789293.74 -37789293.62 -37789293.50 0.1811 0.0580

Saturn -108175-08-23 09:35 J -37789261.27 -37789261.10 -37789260.94 0.0288 0.0030

Saturn -108175-11-20 04:48 J -37789172.46 -37789172.30 -37789172.14 0.0287 0.0068

Saturn -108174-02-17 00:14 J -37789083.62 -37789083.49 -37789083.35 0.0286 0.0166

Saturn -108174-05-16 19:55 J -37788994.72 -37788994.67 -37788994.60 0.0285 0.0265

Mars -108174-08-14 14:09 J -37788904.99 -37788904.91 -37788904.83 0.1722 0.1449

Venus -108174-12-26 18:57 J -37788770.83 -37788770.71 -37788770.59 0.3625 0.0380

Mars -108173-06-26 14:52 J -37788587.96 -37788587.88 -37788587.80 0.1791 0.1363

Moon -108171-06-03 03:21 J -37787881.47 -37787881.36 -37787881.25 0.2730 0.0408

Earth -108171-06-03 04:19 J -37787881.43 -37787881.32 -37787881.21 0.2729 0.0538 *

Jupiter -108170-05-14 06:57 J -37787536.25 -37787536.21 -37787536.18 0.0529 0.0509

Jupiter -108170-08-11 21:07 J -37787446.76 -37787446.62 -37787446.48 0.0531 0.0036

Venus -108168-07-11 14:52 J -37786746.99 -37786746.88 -37786746.78 0.3630 0.1853

Moon -108168-11-22 10:33 J -37786613.21 -37786613.06 -37786612.91 0.2619 0.0074

Earth -108168-11-22 11:45 J -37786613.16 -37786613.01 -37786612.86 0.2615 0.0049 *

Mars -108166-01-28 06:14 J -37786181.34 -37786181.24 -37786181.15 0.1699 0.1292

Mars -108166-12-12 03:50 J -37785863.44 -37785863.34 -37785863.23 0.1816 0.1093

Mars -108164-01-03 16:33 J -37785474.94 -37785474.81 -37785474.68 0.1717 0.0872

Jupiter -108164-03-29 14:38 J -37785390.05 -37785389.89 -37785389.74 0.0496 0.0149

Earth -108164-05-27 00:43 J -37785331.53 -37785331.47 -37785331.42 0.2716 0.2327

Moon -108164-05-27 00:43 J -37785331.52 -37785331.47 -37785331.41 0.2709 0.2310 *

Jupiter -108164-06-27 11:02 J -37785300.15 -37785300.04 -37785299.92 0.0494 0.0362

Mars -108164-11-16 22:48 J -37785157.65 -37785157.55 -37785157.44 0.1796 0.0913

Venus -108162-01-25 10:19 J -37784723.12 -37784723.07 -37784723.02 0.3634 0.3263

Saturn -108160-09-19 21:35 J -37783754.66 -37783754.60 -37783754.53 0.0270 0.0238

Saturn -108160-12-17 11:02 J -37783666.15 -37783666.04 -37783665.92 0.0271 0.0166

Saturn -108159-03-16 00:28 J -37783577.62 -37783577.48 -37783577.34 0.0271 0.0094

Saturn -108159-06-12 13:40 J -37783489.08 -37783488.93 -37783488.79 0.0272 0.0023

Saturn -108159-09-09 02:38 J -37783400.53 -37783400.39 -37783400.25 0.0273 0.0050

Saturn -108159-12-06 15:21 J -37783311.99 -37783311.86 -37783311.73 0.0274 0.0121

Saturn -108158-03-05 04:04 J -37783223.43 -37783223.33 -37783223.23 0.0275 0.0191

Jupiter -108158-05-30 23:45 J -37783136.65 -37783136.51 -37783136.37 0.0531 0.0093

Saturn -108158-06-01 16:33 J -37783134.85 -37783134.81 -37783134.76 0.0275 0.0261

Moon -108158-06-05 22:33 J -37783130.65 -37783130.56 -37783130.47 0.2740 0.1554

Earth -108158-06-05 22:48 J -37783130.64 -37783130.55 -37783130.45 0.2733 0.1537 *

Jupiter -108158-08-28 12:43 J -37783047.04 -37783046.97 -37783046.89 0.0533 0.0435

Mars -108156-05-03 10:33 J -37782433.12 -37782433.06 -37782433.01 0.1821 0.1624

Mars -108155-05-26 19:26 J -37782044.84 -37782044.69 -37782044.54 0.1712 0.0309

Moon -108155-11-25 16:33 J -37781861.93 -37781861.81 -37781861.70 0.2617 0.1701

Earth -108155-11-25 16:33 J -37781861.93 -37781861.81 -37781861.70 0.2610 0.1701 *

Mars -108154-04-09 06:28 J -37781727.35 -37781727.23 -37781727.10 0.1801 0.0455

Jupiter -108152-01-15 15:07 J -37781080.00 -37781079.87 -37781079.73 0.0496 0.0274

Jupiter -108152-04-15 11:16 J -37780990.17 -37780990.03 -37780989.88 0.0495 0.0232

Moon -108151-05-29 19:11 J -37780580.80 -37780580.70 -37780580.60 0.2714 0.1280

Earth -108151-05-29 19:40 J -37780580.78 -37780580.68 -37780580.59 0.2720 0.1302 *

Venus -108149-11-17 15:07 J -37779677.92 -37779677.87 -37779677.82 0.3764 0.3366

Jupiter -108146-03-19 02:24 J -37778826.52 -37778826.40 -37778826.27 0.0531 0.0220

Jupiter -108146-06-16 15:50 J -37778736.95 -37778736.84 -37778736.73 0.0532 0.0314

Saturn -108146-07-16 17:31 J -37778706.83 -37778706.77 -37778706.70 0.0290 0.0261

Saturn -108146-10-13 12:00 J -37778618.13 -37778618.00 -37778617.86 0.0290 0.0167

Mars -108146-10-16 23:02 J -37778614.69 -37778614.54 -37778614.39 0.1708 0.0222

Saturn -108145-01-10 06:57 J -37778529.37 -37778529.21 -37778529.05 0.0289 0.0071

Saturn -108145-04-08 01:55 J -37778440.58 -37778440.42 -37778440.25 0.0288 0.0026

Earth -108145-06-07 17:31 J -37778379.81 -37778379.77 -37778379.73 0.2737 0.2531

Moon -108145-06-07 17:45 J -37778379.80 -37778379.76 -37778379.72 0.2744 0.2557 *

Saturn -108145-07-05 21:07 J -37778351.76 -37778351.62 -37778351.46 0.0287 0.0124

Mars -108145-08-29 14:09 J -37778297.04 -37778296.91 -37778296.79 0.1806 0.0071

Saturn -108145-10-02 16:48 J -37778262.90 -37778262.80 -37778262.69 0.0286 0.0222

Venus -108143-06-03 12:28 J -37777654.09 -37777653.98 -37777653.87 0.3759 0.1612

Jupiter -108141-11-03 16:04 J -37776769.92 -37776769.83 -37776769.73 0.0497 0.0396

Jupiter -108140-02-01 11:45 J -37776680.17 -37776680.01 -37776679.85 0.0495 0.0106

Moon -108138-06-01 13:40 J -37775830.04 -37775829.93 -37775829.82 0.2723 0.0420

Earth -108138-06-01 14:24 J -37775830.01 -37775829.90 -37775829.79 0.2725 0.0279 *

Venus -108138-12-18 10:19 J -37775630.20 -37775630.07 -37775629.95 0.3754 0.0264

Mars -108136-03-08 02:38 J -37775184.53 -37775184.39 -37775184.26 0.1703 0.0741

Uranus -108136-08-29 16:33 J -37775009.82 -37775009.81 -37775009.80 0.0146 0.0145

Uranus -108136-11-25 22:48 J -37774921.64 -37774921.55 -37774921.45 0.0146 0.0121

Mars -108135-01-19 21:07 J -37774866.74 -37774866.62 -37774866.50 0.1811 0.0532

Uranus -108135-02-22 05:16 J -37774833.40 -37774833.28 -37774833.14 0.0146 0.0096

Uranus -108135-05-21 12:00 J -37774745.14 -37774745.00 -37774744.85 0.0146 0.0071

Uranus -108135-08-17 18:43 J -37774656.88 -37774656.72 -37774656.56 0.0146 0.0046

Uranus -108135-11-14 01:26 J -37774568.61 -37774568.44 -37774568.27 0.0147 0.0020

Moon -108135-11-20 12:14 J -37774562.12 -37774561.99 -37774561.87 0.2622 0.1474

Earth -108135-11-20 13:40 J -37774562.07 -37774561.93 -37774561.80 0.2619 0.1253 *

Jupiter -108134-01-05 04:48 J -37774516.41 -37774516.30 -37774516.19 0.0530 0.0350

Uranus -108134-02-10 08:24 J -37774480.33 -37774480.15 -37774479.98 0.0147 0.0007

Mars -108134-02-12 14:38 J -37774477.96 -37774477.89 -37774477.82 0.1722 0.1508

Jupiter -108134-04-04 18:28 J -37774426.86 -37774426.73 -37774426.60 0.0532 0.0186

Uranus -108134-05-09 15:07 J -37774392.04 -37774391.87 -37774391.70 0.0147 0.0032

Uranus -108134-08-05 22:04 J -37774303.74 -37774303.58 -37774303.42 0.0147 0.0059

Uranus -108134-11-02 04:48 J -37774215.43 -37774215.30 -37774215.15 0.0147 0.0086

Mars -108134-12-26 15:07 J -37774160.95 -37774160.87 -37774160.80 0.1791 0.1406

Uranus -108133-01-29 12:00 J -37774127.10 -37774127.00 -37774126.88 0.0147 0.0113

Uranus -108133-04-26 18:57 J -37774038.75 -37774038.71 -37774038.64 0.0147 0.0140

Venus -108132-07-03 08:09 J -37773606.26 -37773606.16 -37773606.06 0.3750 0.2114

Saturn -108130-02-06 22:19 J -37773022.59 -37773022.57 -37773022.55 0.0270 0.0266

Saturn -108130-05-06 11:45 J -37772934.11 -37772934.01 -37772933.90 0.0271 0.0193

Saturn -108130-08-03 01:11 J -37772845.58 -37772845.45 -37772845.32 0.0272 0.0120

Saturn -108130-10-30 14:24 J -37772757.04 -37772756.90 -37772756.75 0.0272 0.0048

Saturn -108129-01-27 03:35 J -37772668.50 -37772668.35 -37772668.21 0.0273 0.0024

Saturn -108129-04-24 16:19 J -37772579.95 -37772579.82 -37772579.68 0.0274 0.0096

Saturn -108129-07-22 05:16 J -37772491.40 -37772491.28 -37772491.17 0.0275 0.0166

Saturn -108129-10-18 17:45 J -37772402.83 -37772402.76 -37772402.69 0.0276 0.0237

Jupiter -108129-11-20 12:14 J -37772370.15 -37772369.99 -37772369.83 0.0496 0.0021

Venus -108128-07-03 01:26 J -37772145.54 -37772145.44 -37772145.34 0.3618 0.2133

Mars -108127-07-29 06:28 J -37771754.33 -37771754.23 -37771754.13 0.1699 0.1241

Mars -108126-06-12 04:04 J -37771436.44 -37771436.33 -37771436.23 0.1816 0.1047

Moon -108125-06-03 08:24 J -37771079.25 -37771079.15 -37771079.04 0.2732 0.0739

Earth -108125-06-03 09:07 J -37771079.23 -37771079.12 -37771079.01 0.2729 0.0730 *

Mars -108125-07-04 17:02 J -37771047.92 -37771047.79 -37771047.66 0.1717 0.0924

Mars -108124-05-17 23:02 J -37770730.65 -37770730.54 -37770730.44 0.1796 0.0957

Jupiter -108123-10-24 06:43 J -37770206.27 -37770206.22 -37770206.17 0.0529 0.0487

Venus -108122-01-16 21:35 J -37770121.72 -37770121.60 -37770121.48 0.3622 0.0594

Jupiter -108122-01-21 20:52 J -37770116.77 -37770116.63 -37770116.49 0.0531 0.0055

Moon -108122-11-23 17:16 J -37769810.93 -37769810.78 -37769810.63 0.2620 0.0366

Earth -108122-11-23 18:00 J -37769810.90 -37769810.75 -37769810.59 0.2614 0.0381 *

Neptune -108121-01-05 11:02 J -37769768.07 -37769768.04 -37769767.98 0.0088 0.0085

Neptune -108121-04-02 13:11 J -37769680.01 -37769679.95 -37769679.88 0.0088 0.0080

Neptune -108121-06-29 15:07 J -37769591.94 -37769591.87 -37769591.78 0.0088 0.0075

Neptune -108121-09-25 17:16 J -37769503.86 -37769503.78 -37769503.68 0.0088 0.0071

Neptune -108121-12-22 19:26 J -37769415.79 -37769415.69 -37769415.59 0.0088 0.0066

Neptune -108120-03-20 21:07 J -37769327.72 -37769327.62 -37769327.50 0.0088 0.0062

Neptune -108120-06-16 23:16 J -37769239.64 -37769239.53 -37769239.41 0.0088 0.0057

Neptune -108120-09-13 00:57 J -37769151.57 -37769151.46 -37769151.32 0.0088 0.0053

Neptune -108120-12-10 03:07 J -37769063.49 -37769063.37 -37769063.24 0.0088 0.0048

Neptune -108119-03-08 04:48 J -37768975.42 -37768975.30 -37768975.15 0.0088 0.0044

Neptune -108119-06-04 06:57 J -37768887.34 -37768887.21 -37768887.07 0.0088 0.0039

Neptune -108119-08-31 08:52 J -37768799.26 -37768799.13 -37768798.99 0.0088 0.0034

Neptune -108119-11-27 10:48 J -37768711.19 -37768711.05 -37768710.90 0.0088 0.0030

Neptune -108118-02-23 12:43 J -37768623.11 -37768622.97 -37768622.82 0.0088 0.0025

Neptune -108118-05-22 14:38 J -37768535.04 -37768534.89 -37768534.74 0.0088 0.0021

Earth -108118-05-28 05:31 J -37768529.34 -37768529.27 -37768529.20 0.2716 0.2119

Moon -108118-05-28 05:45 J -37768529.33 -37768529.26 -37768529.19 0.2709 0.2120 *

Neptune -108118-08-18 16:33 J -37768446.96 -37768446.81 -37768446.66 0.0088 0.0016

Neptune -108118-11-14 18:28 J -37768358.88 -37768358.73 -37768358.58 0.0088 0.0012

Neptune -108117-02-10 20:24 J -37768270.80 -37768270.65 -37768270.51 0.0088 0.0008

Neptune -108117-05-08 22:04 J -37768182.73 -37768182.58 -37768182.43 0.0088 0.0003

Venus -108117-08-01 17:31 J -37768097.88 -37768097.77 -37768097.65 0.3627 0.0911

Neptune -108117-08-05 00:00 J -37768094.65 -37768094.50 -37768094.35 0.0088 0.0002

Jupiter -108117-09-08 13:26 J -37768060.10 -37768059.94 -37768059.79 0.0496 0.0140

Neptune -108117-11-01 01:40 J -37768006.57 -37768006.43 -37768006.28 0.0088 0.0007

Mars -108117-11-01 10:33 J -37768006.12 -37768006.06 -37768005.99 0.1821 0.1578

Saturn -108117-12-02 17:31 J -37767974.77 -37767974.77 -37767974.77 0.0290 0.0290

Jupiter -108117-12-07 09:50 J -37767970.19 -37767970.09 -37767969.98 0.0494 0.0372

Neptune -108116-01-28 03:35 J -37767918.50 -37767918.35 -37767918.20 0.0088 0.0010

Saturn -108116-03-01 11:45 J -37767886.12 -37767886.01 -37767885.89 0.0290 0.0197

Neptune -108116-04-26 05:31 J -37767830.42 -37767830.27 -37767830.13 0.0088 0.0015

Saturn -108116-05-29 06:28 J -37767797.38 -37767797.23 -37767797.07 0.0289 0.0102

Neptune -108116-07-23 07:11 J -37767742.34 -37767742.20 -37767742.05 0.0088 0.0019

Saturn -108116-08-26 01:26 J -37767708.60 -37767708.44 -37767708.27 0.0288 0.0009

Neptune -108116-10-19 08:52 J -37767654.26 -37767654.13 -37767653.98 0.0088 0.0024

Saturn -108116-11-22 20:52 J -37767619.79 -37767619.63 -37767619.47 0.0287 0.0092

Mars -108116-11-24 20:09 J -37767617.81 -37767617.66 -37767617.52 0.1713 0.0372

Neptune -108115-01-15 10:48 J -37767566.19 -37767566.05 -37767565.91 0.0088 0.0028

Saturn -108115-02-19 16:19 J -37767530.94 -37767530.82 -37767530.69 0.0286 0.0190

Neptune -108115-04-13 12:43 J -37767478.11 -37767477.97 -37767477.83 0.0088 0.0032

Neptune -108115-07-10 14:09 J -37767390.03 -37767389.91 -37767389.76 0.0088 0.0037

Neptune -108115-10-06 16:04 J -37767301.95 -37767301.83 -37767301.69 0.0088 0.0040

Mars -108115-10-08 06:43 J -37767300.34 -37767300.22 -37767300.10 0.1801 0.0494

Neptune -108114-01-02 18:00 J -37767213.88 -37767213.75 -37767213.62 0.0088 0.0045

Neptune -108114-03-31 19:40 J -37767125.80 -37767125.68 -37767125.56 0.0088 0.0049

Neptune -108114-06-27 21:07 J -37767037.72 -37767037.62 -37767037.49 0.0088 0.0054

Neptune -108114-09-23 23:02 J -37766949.64 -37766949.54 -37766949.42 0.0088 0.0057

Neptune -108114-12-21 00:43 J -37766861.56 -37766861.47 -37766861.35 0.0088 0.0062

Neptune -108113-03-18 02:38 J -37766773.48 -37766773.39 -37766773.29 0.0088 0.0066

Neptune -108113-06-14 04:19 J -37766685.40 -37766685.32 -37766685.23 0.0088 0.0070

Neptune -108113-09-10 06:14 J -37766597.32 -37766597.24 -37766597.16 0.0088 0.0074

Neptune -108113-12-07 07:26 J -37766509.24 -37766509.19 -37766509.11 0.0088 0.0079

Neptune -108112-03-05 09:07 J -37766421.15 -37766421.12 -37766421.05 0.0088 0.0083

Neptune -108112-06-01 11:02 J -37766333.06 -37766333.04 -37766333.00 0.0088 0.0086

Moon   -108112-06-06 03:35 J -37766328.44 -37766328.35 -37766328.26 0.2741 0.1669

Earth   -108112-06-06 03:50 J -37766328.42 -37766328.34 -37766328.25 0.2733 0.1736 *

Venus   -108111-02-15 13:11 J -37766074.04 -37766073.95 -37766073.86 0.3631 0.2354

Jupiter -108111-11-09 22:19 J -37765806.71 -37765806.57 -37765806.43 0.0531 0.0090

Jupiter -108110-02-07 11:16 J -37765717.10 -37765717.03 -37765716.95 0.0533 0.0438

Earth   -108109-11-25 22:48 J -37765059.64 -37765059.55 -37765059.45 0.2610 0.2036

Moon   -108109-11-25 23:02 J -37765059.63 -37765059.54 -37765059.45 0.2617 0.2048 *

Mars   -108106-04-16 23:16 J -37764187.68 -37764187.53 -37764187.38 0.1708 0.0174

Mars   -108105-02-28 14:09 J -37763870.04 -37763869.91 -37763869.79 0.1806 0.0018

Moon   -108105-05-30 00:00 J -37763778.60 -37763778.50 -37763778.40 0.2716 0.1154

Earth   -108105-05-30 00:28 J -37763778.58 -37763778.48 -37763778.37 0.2721 0.1093 *

Jupiter -108105-06-27 14:38 J -37763750.03 -37763749.89 -37763749.75 0.0496 0.0258

Jupiter -108105-09-25 10:48 J -37763660.19 -37763660.05 -37763659.91 0.0495 0.0249

Earth   -108102-11-18 15:35 J -37762510.88 -37762510.85 -37762510.81 0.2624 0.2530

Saturn -108101-09-22 13:40 J -37762202.02 -37762201.93 -37762201.84 0.0270 0.0213

Saturn -108101-12-20 03:07 J -37762113.49 -37762113.37 -37762113.24 0.0271 0.0141

Saturn -108100-03-18 16:19 J -37762024.96 -37762024.82 -37762024.67 0.0272 0.0069

Saturn -108100-06-15 05:31 J -37761936.42 -37761936.27 -37761936.13 0.0272 0.0003

Saturn -108100-09-11 18:28 J -37761847.87 -37761847.73 -37761847.59 0.0273 0.0074

Saturn -108100-12-09 07:11 J -37761759.32 -37761759.20 -37761759.08 0.0274 0.0145

Saturn -108099-03-07 19:55 J -37761670.76 -37761670.67 -37761670.59 0.0275 0.0215

Earth -108099-06-08 22:19 J -37761577.57 -37761577.57 -37761577.56 0.2738 0.2733

Jupiter -108099-08-29 00:43 J -37761496.59 -37761496.47 -37761496.34 0.0531 0.0219

Jupiter -108099-11-26 14:09 J -37761407.02 -37761406.91 -37761406.79 0.0533 0.0315

Mars -108097-09-06 02:52 J -37760757.52 -37760757.38 -37760757.25 0.1703 0.0694

Uranus -108096-04-22 14:24 J -37760528.93 -37760528.90 -37760528.84 0.0133 0.0126

Uranus -108096-07-19 18:28 J -37760440.81 -37760440.73 -37760440.65 0.0133 0.0109

Mars -108096-07-20 21:21 J -37760439.73 -37760439.61 -37760439.49 0.1811 0.0481

Uranus -108096-10-15 22:19 J -37760352.67 -37760352.57 -37760352.46 0.0133 0.0092

Uranus -108095-01-12 01:55 J -37760264.53 -37760264.42 -37760264.29 0.0133 0.0076

Uranus -108095-04-10 06:00 J -37760176.38 -37760176.25 -37760176.12 0.0133 0.0059

Uranus -108095-07-07 09:35 J -37760088.23 -37760088.10 -37760087.96 0.0133 0.0042

Mars -108095-08-13 14:52 J -37760050.94 -37760050.88 -37760050.82 0.1722 0.1553

Uranus -108095-10-03 13:26 J -37760000.08 -37759999.94 -37759999.80 0.0133 0.0026

Uranus -108095-12-30 17:02 J -37759911.93 -37759911.79 -37759911.64 0.0132 0.0010

Uranus -108094-03-28 20:52 J -37759823.78 -37759823.63 -37759823.49 0.0132 0.0007

Uranus -108094-06-25 00:28 J -37759735.62 -37759735.48 -37759735.34 0.0132 0.0023

Mars -108094-06-26 15:07 J -37759733.94 -37759733.87 -37759733.80 0.1791 0.1448

Uranus -108094-09-21 04:04 J -37759647.47 -37759647.33 -37759647.19 0.0132 0.0039

Uranus -108094-12-18 07:26 J -37759559.31 -37759559.19 -37759559.05 0.0132 0.0055

Uranus -108093-03-15 11:02 J -37759471.16 -37759471.04 -37759470.91 0.0132 0.0070

Jupiter -108093-04-15 15:21 J -37759439.96 -37759439.86 -37759439.76 0.0497 0.0382

Uranus -108093-06-11 14:38 J -37759383.00 -37759382.89 -37759382.78 0.0132 0.0085

Jupiter -108093-07-14 11:02 J -37759350.20 -37759350.04 -37759349.88 0.0495 0.0120

Uranus -108093-09-07 18:00 J -37759294.83 -37759294.75 -37759294.65 0.0132 0.0101

Uranus -108093-12-04 21:35 J -37759206.66 -37759206.60 -37759206.53 0.0132 0.0116

Uranus -108092-03-03 00:57 J -37759118.47 -37759118.46 -37759118.44 0.0132 0.0131

Moon -108092-06-01 18:28 J -37759027.84 -37759027.73 -37759027.61 0.2724 0.0120

Earth -108092-06-01 19:26 J -37759027.81 -37759027.69 -37759027.58 0.2725 0.0108 *

Venus -108092-06-24 13:55 J -37759005.00 -37759004.92 -37759004.84 0.3763 0.2762

Moon -108089-11-20 18:28 J -37757759.87 -37757759.73 -37757759.59 0.2621 0.0943

Earth -108089-11-20 19:55 J -37757759.81 -37757759.67 -37757759.53 0.2619 0.0929 *

Mars -108087-01-27 06:57 J -37757327.31 -37757327.21 -37757327.10 0.1699 0.1189

Jupiter -108087-06-17 03:21 J -37757186.46 -37757186.36 -37757186.25 0.0530 0.0345

Saturn -108087-07-19 09:35 J -37757154.19 -37757154.10 -37757154.01 0.0290 0.0236

Jupiter -108087-09-14 17:16 J -37757096.91 -37757096.78 -37757096.65 0.0532 0.0193

Saturn -108087-10-16 04:04 J -37757065.47 -37757065.33 -37757065.18 0.0289 0.0142

Mars -108087-12-11 04:19 J -37757009.43 -37757009.32 -37757009.22 0.1816 0.1000

Venus -108086-01-08 11:31 J -37756981.14 -37756981.02 -37756980.90 0.3758 0.0985

Saturn -108086-01-12 23:02 J -37756976.70 -37756976.54 -37756976.38 0.0289 0.0046

Saturn -108086-04-11 18:14 J -37756887.91 -37756887.74 -37756887.58 0.0288 0.0051

Saturn -108086-07-09 13:40 J -37756799.08 -37756798.93 -37756798.79 0.0287 0.0149

Saturn -108086-10-06 09:21 J -37756710.19 -37756710.11 -37756710.03 0.0286 0.0247

Mars -108085-01-03 17:31 J -37756620.89 -37756620.77 -37756620.64 0.1718 0.0981

Mars -108085-11-15 23:02 J -37756303.64 -37756303.54 -37756303.43 0.1796 0.1005

Jupiter -108081-05-02 11:31 J -37755040.18 -37755040.02 -37755039.86 0.0495 0.0008

Venus -108081-07-24 09:21 J -37754957.23 -37754957.11 -37754956.99 0.3753 0.0860

Moon -108079-06-04 13:40 J -37754277.04 -37754276.93 -37754276.83 0.2735 0.0832

Earth -108079-06-04 14:09 J -37754277.02 -37754276.91 -37754276.81 0.2730 0.0940 *

Mars -108078-06-19 11:16 J -37753897.05 -37753897.03 -37753897.00 0.1694 0.1669

Mars -108077-05-02 10:48 J -37753579.11 -37753579.05 -37753578.98 0.1821 0.1528

Venus -108077-07-24 03:50 J -37753496.40 -37753496.34 -37753496.28 0.3615 0.3151

Mars -108076-05-25 20:24 J -37753190.79 -37753190.65 -37753190.50 0.1712 0.0423

Moon -108076-11-24 00:00 J -37753008.65 -37753008.50 -37753008.35 0.2620 0.0588

Earth -108076-11-24 00:28 J -37753008.63 -37753008.48 -37753008.33 0.2614 0.0705 *

Venus -108075-02-07 07:26 J -37752933.27 -37752933.19 -37752933.11 0.3748 0.2779

Jupiter -108075-04-05 05:45 J -37752876.32 -37752876.26 -37752876.20 0.0529 0.0476

Mars -108075-04-08 06:43 J -37752873.34 -37752873.22 -37752873.10 0.1801 0.0539

Jupiter -108075-07-03 19:55 J -37752786.81 -37752786.67 -37752786.54 0.0531 0.0066

Moon -108072-05-28 10:33 J -37751727.14 -37751727.06 -37751726.98 0.2710 0.1883

Earth -108072-05-28 10:33 J -37751727.14 -37751727.06 -37751726.98 0.2717 0.1914 *

Venus -108071-02-07 00:14 J -37751472.60 -37751472.49 -37751472.38 0.3619 0.1580

Saturn -108071-02-09 14:24 J -37751469.96 -37751469.90 -37751469.83 0.0270 0.0240

Saturn -108071-05-09 03:50 J -37751381.45 -37751381.34 -37751381.22 0.0271 0.0168

Saturn -108071-08-05 17:16 J -37751292.92 -37751292.78 -37751292.64 0.0272 0.0095

Saturn -108071-11-02 06:28 J -37751204.38 -37751204.23 -37751204.09 0.0273 0.0024

Saturn -108070-01-29 19:26 J -37751115.83 -37751115.69 -37751115.55 0.0273 0.0048

Saturn -108070-04-28 08:09 J -37751027.28 -37751027.16 -37751027.03 0.0274 0.0120

Saturn -108070-07-25 20:52 J -37750938.73 -37750938.63 -37750938.52 0.0275 0.0190

Saturn -108070-10-22 09:35 J -37750850.14 -37750850.10 -37750850.06 0.0276 0.0260

Jupiter -108069-02-19 12:00 J -37750730.15 -37750730.00 -37750729.84 0.0496 0.0133

Jupiter -108069-05-19 08:38 J -37750640.24 -37750640.14 -37750640.04 0.0495 0.0380

Mars -108067-10-15 23:45 J -37749760.66 -37749760.51 -37749760.36 0.1708 0.0119

Moon -108066-06-07 08:38 J -37749526.21 -37749526.14 -37749526.06 0.2741 0.1993

Earth -108066-06-07 08:38 J -37749526.21 -37749526.14 -37749526.06 0.2734 0.1940 *

Venus -108066-08-23 20:24 J -37749448.77 -37749448.65 -37749448.53 0.3623 0.0108

Mars -108066-08-29 14:24 J -37749443.03 -37749442.90 -37749442.78 0.1806 0.0079

Jupiter -108063-04-21 22:04 J -37748476.72 -37748476.58 -37748476.44 0.0531 0.0071

Jupiter -108063-07-20 10:48 J -37748387.11 -37748387.05 -37748386.97 0.0533 0.0457

Earth -108063-11-27 05:16 J -37748257.34 -37748257.28 -37748257.22 0.2609 0.2366

Moon -108063-11-27 05:31 J -37748257.32 -37748257.27 -37748257.21 0.2615 0.2442 *

Venus -108060-03-08 16:19 J -37747424.93 -37747424.82 -37747424.71 0.3628 0.1436

Moon -108059-05-31 04:48 J -37746976.41 -37746976.30 -37746976.19 0.2718 0.0960

Earth -108059-05-31 05:31 J -37746976.38 -37746976.27 -37746976.17 0.2721 0.0889 *

Saturn -108058-12-06 09:35 J -37746422.16 -37746422.10 -37746422.03 0.0290 0.0265

Jupiter -108058-12-08 13:11 J -37746420.08 -37746419.95 -37746419.81 0.0497 0.0251

Saturn -108057-03-04 04:04 J -37746333.46 -37746333.33 -37746333.20 0.0289 0.0171

Mars -108057-03-07 03:21 J -37746330.50 -37746330.36 -37746330.22 0.1703 0.0641

Jupiter -108057-03-07 09:21 J -37746330.25 -37746330.11 -37746329.97 0.0495 0.0257 *

Saturn -108057-05-31 22:48 J -37746244.71 -37746244.55 -37746244.39 0.0289 0.0076

Saturn -108057-08-28 18:00 J -37746155.92 -37746155.75 -37746155.59 0.0288 0.0022

Saturn -108057-11-25 13:11 J -37746067.10 -37746066.95 -37746066.79 0.0287 0.0119

Mars -108056-01-18 21:21 J -37746012.73 -37746012.61 -37746012.49 0.1811 0.0442

Saturn -108056-02-22 08:52 J -37745978.24 -37745978.13 -37745978.02 0.0286 0.0217

Moon -108056-11-18 20:24 J -37745708.72 -37745708.65 -37745708.58 0.2624 0.2304

Earth -108056-11-18 21:50 J -37745708.67 -37745708.59 -37745708.51 0.2623 0.2222 *

Mars -108055-02-11 15:35 J -37745623.90 -37745623.85 -37745623.80 0.1722 0.1616

Venus -108055-09-22 11:45 J -37745401.08 -37745401.01 -37745400.94 0.3632 0.2858

Mars -108055-12-25 15:07 J -37745306.93 -37745306.87 -37745306.80 0.1791 0.1491

Uranus -108052-09-19 00:28 J -37744308.53 -37744308.48 -37744308.41 0.0146 0.0136

Uranus -108052-12-16 07:11 J -37744220.31 -37744220.20 -37744220.09 0.0146 0.0111

Jupiter -108051-02-07 23:16 J -37744166.66 -37744166.53 -37744166.40 0.0530 0.0216

Uranus -108051-03-14 13:40 J -37744132.06 -37744131.93 -37744131.79 0.0146 0.0086

Jupiter -108051-05-08 12:43 J -37744077.08 -37744076.97 -37744076.86 0.0532 0.0317

Uranus -108051-06-10 20:24 J -37744043.80 -37744043.65 -37744043.49 0.0146 0.0061

Uranus -108051-09-07 03:07 J -37743955.54 -37743955.37 -37743955.21 0.0146 0.0036

Uranus -108051-12-04 09:50 J -37743867.26 -37743867.09 -37743866.92 0.0146 0.0010

Uranus -108050-03-02 16:33 J -37743778.98 -37743778.81 -37743778.64 0.0147 0.0016

Uranus -108050-05-29 23:31 J -37743690.69 -37743690.52 -37743690.35 0.0147 0.0042

Uranus -108050-08-26 06:28 J -37743602.38 -37743602.23 -37743602.08 0.0147 0.0069

Uranus -108050-11-22 13:11 J -37743514.07 -37743513.95 -37743513.81 0.0147 0.0096

Uranus -108049-02-18 20:24 J -37743425.74 -37743425.65 -37743425.55 0.0147 0.0123

Mars -108048-07-28 07:11 J -37742900.30 -37742900.20 -37742900.09 0.1699 0.1145

Mars -108047-06-11 04:19 J -37742582.42 -37742582.32 -37742582.21 0.1816 0.0952

Moon -108046-06-02 23:31 J -37742225.63 -37742225.52 -37742225.41 0.2726 0.0039

Earth -108046-06-03 00:14 J -37742225.60 -37742225.49 -37742225.38 0.2726 0.0143 *

Mars -108046-07-04 18:00 J -37742193.87 -37742193.75 -37742193.63 0.1717 0.1032

Jupiter -108046-09-26 14:38 J -37742110.00 -37742109.89 -37742109.78 0.0497 0.0368

Jupiter -108046-12-25 10:19 J -37742020.23 -37742020.07 -37742019.91 0.0495 0.0135

Mars -108045-05-16 23:02 J -37741876.64 -37741876.54 -37741876.44 0.1796 0.1043

Moon -108043-11-22 00:57 J -37740957.60 -37740957.46 -37740957.32 0.2622 0.0796

Earth -108043-11-22 02:09 J -37740957.56 -37740957.41 -37740957.26 0.2618 0.0609 *

Saturn -108042-06-29 16:33 J -37740737.85 -37740737.81 -37740737.77 0.0270 0.0259

Saturn -108042-09-26 06:00 J -37740649.35 -37740649.25 -37740649.14 0.0271 0.0187

Saturn -108042-12-23 19:26 J -37740560.82 -37740560.69 -37740560.56 0.0271 0.0115

Saturn -108041-03-21 08:38 J -37740472.28 -37740472.14 -37740471.99 0.0272 0.0043

Saturn -108041-06-17 21:35 J -37740383.74 -37740383.60 -37740383.45 0.0273 0.0030

Saturn -108041-09-14 10:33 J -37740295.19 -37740295.06 -37740294.93 0.0273 0.0100

Saturn -108041-12-11 23:16 J -37740206.64 -37740206.53 -37740206.42 0.0274 0.0171

Saturn -108040-03-10 11:45 J -37740118.07 -37740118.01 -37740117.94 0.0275 0.0241

Jupiter -108040-11-27 01:40 J -37739856.54 -37739856.43 -37739856.33 0.0530 0.0347

Jupiter -108039-02-24 15:21 J -37739766.99 -37739766.86 -37739766.73 0.0532 0.0191

Moon -108039-05-26 20:52 J -37739675.65 -37739675.63 -37739675.61 0.2706 0.2629

Neptune -108039-09-18 06:57 J -37739561.21 -37739561.21 -37739561.21 0.0089 0.0089

Neptune -108039-12-15 09:07 J -37739473.16 -37739473.12 -37739473.06 0.0089 0.0084

Mars -108039-12-18 11:45 J -37739470.05 -37739470.01 -37739469.97 0.1695 0.1619

Neptune -108038-03-13 11:16 J -37739385.09 -37739385.03 -37739384.95 0.0089 0.0080

Neptune -108038-06-09 13:40 J -37739297.00 -37739296.93 -37739296.83 0.0089 0.0075

Neptune -108038-09-05 16:19 J -37739208.92 -37739208.82 -37739208.72 0.0089 0.0070

Mars -108038-11-01 11:02 J -37739152.11 -37739152.04 -37739151.96 0.1821 0.1477

Neptune -108038-12-02 18:28 J -37739120.83 -37739120.73 -37739120.61 0.0089 0.0066

Neptune -108037-02-28 20:52 J -37739032.74 -37739032.63 -37739032.50 0.0089 0.0061

Neptune -108037-05-26 23:16 J -37738944.64 -37738944.53 -37738944.39 0.0089 0.0056

Neptune -108037-08-23 01:55 J -37738856.55 -37738856.42 -37738856.28 0.0089 0.0051

Neptune -108037-11-19 04:19 J -37738768.45 -37738768.32 -37738768.17 0.0089 0.0046

Mars -108037-11-23 20:52 J -37738763.78 -37738763.63 -37738763.49 0.1712 0.0471

Neptune -108036-02-15 06:57 J -37738680.36 -37738680.21 -37738680.06 0.0089 0.0041

Neptune -108036-05-14 09:07 J -37738592.26 -37738592.12 -37738591.96 0.0089 0.0037

Neptune -108036-08-10 11:45 J -37738504.16 -37738504.01 -37738503.85 0.0089 0.0032

Mars -108036-10-07 06:57 J -37738446.32 -37738446.21 -37738446.09 0.1801 0.0588

Neptune -108036-11-06 14:09 J -37738416.06 -37738415.91 -37738415.74 0.0089 0.0027

Venus -108035-01-29 12:57 J -37738332.06 -37738331.96 -37738331.86 0.3761 0.2147

Neptune -108035-02-02 16:48 J -37738327.96 -37738327.80 -37738327.63 0.0089 0.0022

Neptune -108035-05-01 19:11 J -37738239.86 -37738239.70 -37738239.53 0.0089 0.0017

Neptune -108035-07-28 21:50 J -37738151.75 -37738151.59 -37738151.42 0.0089 0.0012

Neptune -108035-10-25 00:28 J -37738063.65 -37738063.48 -37738063.31 0.0089 0.0007

Neptune -108034-01-21 03:07 J -37737975.54 -37737975.37 -37737975.21 0.0089 0.0002

Neptune -108034-04-19 05:31 J -37737887.43 -37737887.27 -37737887.10 0.0089 0.0004

Jupiter -108034-07-15 15:21 J -37737799.88 -37737799.86 -37737799.84 0.0497 0.0491

Neptune -108034-07-16 08:09 J -37737799.33 -37737799.16 -37737798.99 0.0089 0.0008

Neptune -108034-10-12 10:33 J -37737711.22 -37737711.06 -37737710.88 0.0089 0.0014

Jupiter -108034-10-13 10:33 J -37737710.22 -37737710.06 -37737709.90 0.0495 0.0006

Neptune -108033-01-08 13:11 J -37737623.11 -37737622.95 -37737622.78 0.0089 0.0019

Pluto -108033-02-04 03:35 J -37737596.36 -37737596.35 -37737596.30 0.0060 0.0059

Neptune -108033-04-05 15:50 J -37737535.00 -37737534.84 -37737534.67 0.0089 0.0024

Pluto -108033-05-02 04:48 J -37737508.37 -37737508.30 -37737508.17 0.0060 0.0053

Moon -108033-06-04 18:28 J -37737474.83 -37737474.73 -37737474.63 0.2736 0.1165

Earth -108033-06-04 18:57 J -37737474.81 -37737474.71 -37737474.61 0.2730 0.1143 *

Neptune -108033-07-02 18:28 J -37737446.88 -37737446.73 -37737446.56 0.0089 0.0029

Pluto -108033-07-29 06:43 J -37737420.34 -37737420.22 -37737420.08 0.0060 0.0044

Neptune -108033-09-28 21:07 J -37737358.77 -37737358.62 -37737358.46 0.0089 0.0034

Pluto -108033-10-25 07:55 J -37737332.30 -37737332.17 -37737331.99 0.0060 0.0037

Neptune -108033-12-25 23:45 J -37737270.66 -37737270.51 -37737270.35 0.0089 0.0039

Pluto -108032-01-21 09:35 J -37737244.26 -37737244.10 -37737243.92 0.0060 0.0030

Neptune -108032-03-24 02:09 J -37737182.54 -37737182.41 -37737182.25 0.0089 0.0045

Pluto -108032-04-19 11:02 J -37737156.21 -37737156.04 -37737155.84 0.0060 0.0022

Neptune -108032-06-20 05:02 J -37737094.42 -37737094.29 -37737094.14 0.0089 0.0050

Pluto -108032-07-16 12:43 J -37737068.16 -37737067.97 -37737067.78 0.0060 0.0014

Neptune -108032-09-16 07:40 J -37737006.30 -37737006.18 -37737006.04 0.0089 0.0055

Pluto -108032-10-12 14:09 J -37736980.10 -37736979.91 -37736979.71 0.0061 0.0007

Neptune -108032-12-13 10:33 J -37736918.18 -37736918.06 -37736917.93 0.0089 0.0060

Pluto -108031-01-08 15:35 J -37736892.04 -37736891.85 -37736891.65 0.0061 0.0002

Neptune -108031-03-11 13:11 J -37736830.06 -37736829.95 -37736829.83 0.0089 0.0065

Pluto -108031-04-06 17:02 J -37736803.98 -37736803.79 -37736803.59 0.0061 0.0009

Neptune -108031-06-07 15:35 J -37736741.93 -37736741.85 -37736741.73 0.0089 0.0071

Pluto -108031-07-03 18:28 J -37736715.91 -37736715.73 -37736715.53 0.0061 0.0016

Neptune -108031-09-03 18:28 J -37736653.80 -37736653.73 -37736653.63 0.0089 0.0076

Pluto -108031-09-29 19:55 J -37736627.84 -37736627.67 -37736627.48 0.0061 0.0024

Neptune -108031-11-30 21:21 J -37736565.67 -37736565.61 -37736565.53 0.0089 0.0081

Pluto -108031-12-26 21:35 J -37736539.77 -37736539.60 -37736539.43 0.0061 0.0031

Neptune -108030-02-27 00:14 J -37736477.52 -37736477.49 -37736477.45 0.0089 0.0086

Pluto -108030-03-24 22:48 J -37736451.69 -37736451.55 -37736451.39 0.0061 0.0039

Pluto -108030-06-21 00:00 J -37736363.60 -37736363.50 -37736363.35 0.0061 0.0047

Venus -108030-08-15 10:33 J -37736308.18 -37736308.06 -37736307.94 0.3756 0.0358

Pluto -108030-09-17 01:55 J -37736275.50 -37736275.42 -37736275.33 0.0061 0.0055

Moon -108030-11-25 06:28 J -37736206.36 -37736206.23 -37736206.09 0.2620 0.1123

Earth -108030-11-25 06:57 J -37736206.36 -37736206.21 -37736206.07 0.2613 0.1039 *

Saturn -108028-07-22 02:24 J -37735601.51 -37735601.40 -37735601.28 0.0290 0.0207

Jupiter -108028-09-15 04:04 J -37735546.39 -37735546.33 -37735546.27 0.0530 0.0474

Saturn -108028-10-18 21:07 J -37735512.77 -37735512.62 -37735512.47 0.0289 0.0112

Jupiter -108028-12-13 18:14 J -37735456.87 -37735456.74 -37735456.60 0.0532 0.0069

Saturn -108027-01-15 16:04 J -37735424.00 -37735423.83 -37735423.67 0.0288 0.0016

Saturn -108027-04-14 11:16 J -37735335.19 -37735335.03 -37735334.87 0.0287 0.0081

Mars -108027-04-16 00:14 J -37735333.64 -37735333.49 -37735333.34 0.1708 0.0081

Saturn -108027-07-12 06:43 J -37735246.35 -37735246.22 -37735246.09 0.0287 0.0179

Saturn -108027-10-09 02:38 J -37735157.43 -37735157.39 -37735157.35 0.0286 0.0277

Mars -108026-02-27 14:24 J -37735016.03 -37735015.90 -37735015.78 0.1806 0.0104

Moon -108026-05-29 15:21 J -37734924.95 -37734924.86 -37734924.78 0.2711 0.1771

Earth -108026-05-29 15:35 J -37734924.94 -37734924.85 -37734924.77 0.2717 0.1706 *

Venus -108024-02-28 08:24 J -37734284.26 -37734284.15 -37734284.03 0.3752 0.1508

Jupiter -108022-08-01 11:16 J -37733400.19 -37733400.03 -37733399.88 0.0496 0.0120

Jupiter -108022-10-30 07:40 J -37733310.28 -37733310.18 -37733310.08 0.0494 0.0391

Venus -108020-02-28 02:38 J -37732823.48 -37732823.39 -37732823.31 0.3616 0.2583

Earth -108020-06-07 13:40 J -37732724.00 -37732723.93 -37732723.86 0.2735 0.2143

Moon -108020-06-07 13:55 J -37732723.99 -37732723.92 -37732723.85 0.2741 0.2106 *

Venus -108019-09-14 06:43 J -37732260.26 -37732260.22 -37732260.17 0.3746 0.3443

Mars -108018-09-06 03:50 J -37731903.48 -37731903.34 -37731903.20 0.1703 0.0588

Mars -108017-07-19 21:35 J -37731585.72 -37731585.60 -37731585.47 0.1811 0.0391

Mars -108016-08-12 16:04 J -37731196.86 -37731196.83 -37731196.80 0.1722 0.1671

Jupiter -108016-10-01 20:52 J -37731146.77 -37731146.63 -37731146.49 0.0531 0.0064

Jupiter -108016-12-30 09:50 J -37731057.16 -37731057.09 -37731057.03 0.0533 0.0464

Mars -108015-06-25 15:21 J -37730879.92 -37730879.86 -37730879.80 0.1791 0.1532

Venus -108015-09-13 22:48 J -37730799.66 -37730799.55 -37730799.43 0.3620 0.1037

Moon -108013-05-31 09:35 J -37730174.20 -37730174.10 -37730173.99 0.2718 0.0736

Earth -108013-05-31 10:33 J -37730174.17 -37730174.06 -37730173.96 0.2722 0.0691 *

Saturn -108012-02-12 06:57 J -37729917.30 -37729917.21 -37729917.12 0.0271 0.0213

Saturn -108012-05-11 20:24 J -37729828.78 -37729828.65 -37729828.52 0.0271 0.0140

Uranus -108012-05-12 22:04 J -37729827.64 -37729827.58 -37729827.52 0.0133 0.0121

Saturn -108012-08-08 09:35 J -37729740.24 -37729740.10 -37729739.95 0.0272 0.0068

Uranus -108012-08-09 01:40 J -37729739.51 -37729739.43 -37729739.33 0.0133 0.0104

Saturn -108012-11-04 22:48 J -37729651.70 -37729651.55 -37729651.41 0.0273 0.0004

Uranus -108012-11-05 05:45 J -37729651.37 -37729651.26 -37729651.15 0.0133 0.0087

Uranus -108011-02-01 09:35 J -37729563.22 -37729563.10 -37729562.97 0.0133 0.0070

Saturn -108011-02-01 11:45 J -37729563.15 -37729563.01 -37729562.87 0.0274 0.0075 *

Uranus -108011-04-30 13:11 J -37729475.07 -37729474.95 -37729474.81 0.0133 0.0054

Saturn -108011-05-01 00:28 J -37729474.60 -37729474.48 -37729474.36 0.0274 0.0146

Uranus -108011-07-27 17:16 J -37729386.92 -37729386.78 -37729386.64 0.0133 0.0037

Saturn -108011-07-28 13:11 J -37729386.03 -37729385.95 -37729385.86 0.0275 0.0216

Uranus -108011-10-23 20:52 J -37729298.77 -37729298.63 -37729298.49 0.0133 0.0021

Uranus -108010-01-20 00:28 J -37729210.62 -37729210.48 -37729210.33 0.0132 0.0005

Uranus -108010-04-18 04:19 J -37729122.47 -37729122.32 -37729122.18 0.0132 0.0012

Jupiter -108010-05-20 11:45 J -37729090.15 -37729090.01 -37729089.87 0.0497 0.0246

Uranus -108010-07-15 07:40 J -37729034.31 -37729034.18 -37729034.03 0.0132 0.0029

Jupiter -108010-08-18 07:55 J -37729000.31 -37729000.17 -37729000.03 0.0495 0.0262

Uranus -108010-10-11 11:31 J -37728946.16 -37728946.02 -37728945.89 0.0132 0.0044

Moon -108010-11-20 02:38 J -37728906.48 -37728906.39 -37728906.30 0.2623 0.2055

Earth -108010-11-20 04:04 J -37728906.43 -37728906.33 -37728906.22 0.2622 0.1904 *

Uranus -108009-01-07 15:07 J -37728858.00 -37728857.87 -37728857.74 0.0132 0.0059

Venus -108009-03-29 18:57 J -37728775.83 -37728775.71 -37728775.59 0.3625 0.0481

Uranus -108009-04-04 18:28 J -37728769.84 -37728769.73 -37728769.61 0.0132 0.0075

Uranus -108009-07-01 22:04 J -37728681.68 -37728681.58 -37728681.47 0.0132 0.0091

Uranus -108009-09-28 01:26 J -37728593.51 -37728593.44 -37728593.35 0.0132 0.0106

Uranus -108009-12-25 05:02 J -37728505.34 -37728505.29 -37728505.23 0.0132 0.0121

Mars -108008-01-26 07:40 J -37728473.29 -37728473.18 -37728473.06 0.1699 0.1091

Mars -108008-12-10 04:33 J -37728155.42 -37728155.31 -37728155.20 0.1816 0.0904

Mars -108006-01-02 18:28 J -37727766.84 -37727766.73 -37727766.61 0.1717 0.1090

Mars -108006-11-15 23:16 J -37727449.62 -37727449.53 -37727449.43 0.1796 0.1090

Jupiter -108004-07-20 22:48 J -37726836.68 -37726836.55 -37726836.42 0.0530 0.0198

Venus -108004-10-13 14:52 J -37726751.98 -37726751.88 -37726751.78 0.3629 0.1948

Jupiter -108004-10-18 12:14 J -37726747.10 -37726746.99 -37726746.88 0.0532 0.0334

108TH MILLENNIUM BCE

This is a list of transits of Mercury in the 108th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Moon	**-108000-06-03 04:33**	**J**	**-37725423.42**	**-37725423.31**	**-37725423.20**	**0.2729**	**0.0278**	
Earth	**-108000-06-03 05:16**	**J**	**-37725423.39**	**-37725423.28**	**-37725423.17**	**0.2726**	**0.0338**	*****
Mars	**-107999-06-18 12:00**	**J**	**-37725043.05**	**-37725043.00**	**-37725042.95**	**0.1694**	**0.1575**	
Saturn	**-107999-12-09 02:38**	**J**	**-37724869.48**	**-37724869.39**	**-37724869.30**	**0.0290**	**0.0235**	
Saturn	**-107998-03-07 21:07**	**J**	**-37724780.76**	**-37724780.62**	**-37724780.48**	**0.0289**	**0.0141**	
Jupiter	**-107998-03-08 12:57**	**J**	**-37724780.06**	**-37724779.96**	**-37724779.85**	**0.0497**	**0.0364**	
Venus	**-107998-04-29 10:19**	**J**	**-37724728.11**	**-37724728.07**	**-37724728.03**	**0.3634**	**0.3354**	
Mars	**-107998-05-02 11:02**	**J**	**-37724725.11**	**-37724725.04**	**-37724724.96**	**0.1821**	**0.1436**	
Saturn	**-107998-06-04 16:04**	**J**	**-37724692.00**	**-37724691.83**	**-37724691.67**	**0.0288**	**0.0046**	
Jupiter	**-107998-06-06 08:38**	**J**	**-37724690.29**	**-37724690.14**	**-37724689.98**	**0.0495**	**0.0140**	
Saturn	**-107998-09-01 11:02**	**J**	**-37724603.20**	**-37724603.04**	**-37724602.87**	**0.0287**	**0.0052**	
Saturn	**-107998-11-29 06:28**	**J**	**-37724514.37**	**-37724514.23**	**-37724514.08**	**0.0287**	**0.0149**	
Saturn	**-107997-02-26 02:09**	**J**	**-37724425.49**	**-37724425.41**	**-37724425.32**	**0.0286**	**0.0247**	
Mars	**-107997-05-24 21:21**	**J**	**-37724336.76**	**-37724336.61**	**-37724336.47**	**0.1712**	**0.0526**	
Moon	**-107997-11-22 07:40**	**J**	**-37724155.33**	**-37724155.18**	**-37724155.03**	**0.2623**	**0.0290**	
Earth	**-107997-11-22 08:38**	**J**	**-37724155.30**	**-37724155.14**	**-37724154.99**	**0.2617**	**0.0297**	*****
Mars	**-107996-04-07 06:57**	**J**	**-37724019.33**	**-37724019.21**	**-37724019.09**	**0.1801**	**0.0622**	
Earth	**-107993-05-27 01:26**	**J**	**-37722873.47**	**-37722873.44**	**-37722873.40**	**0.2713**	**0.2531**	
Moon	**-107993-05-27 01:40**	**J**	**-37722873.46**	**-37722873.43**	**-37722873.39**	**0.2706**	**0.2567**	*****
Jupiter	**-107992-05-08 23:45**	**J**	**-37722526.61**	**-37722526.51**	**-37722526.40**	**0.0530**	**0.0347**	
Jupiter	**-107992-08-06 13:40**	**J**	**-37722437.06**	**-37722436.93**	**-37722436.80**	**0.0532**	**0.0191**	
Mars	**-107988-10-15 00:28**	**J**	**-37720906.63**	**-37720906.48**	**-37720906.33**	**0.1708**	**0.0044**	
Moon	**-107987-06-05 23:31**	**J**	**-37720672.61**	**-37720672.52**	**-37720672.42**	**0.2737**	**0.1270**	
Earth	**-107987-06-06 00:00**	**J**	**-37720672.60**	**-37720672.50**	**-37720672.40**	**0.2731**	**0.1347**	*****
Mars	**-107987-08-28 14:38**	**J**	**-37720589.02**	**-37720588.89**	**-37720588.77**	**0.1806**	**0.0155**	
Jupiter	**-107987-12-25 14:24**	**J**	**-37720469.94**	**-37720469.90**	**-37720469.86**	**0.0498**	**0.0481**	
Jupiter	**-107986-03-25 09:35**	**J**	**-37720380.26**	**-37720380.10**	**-37720379.94**	**0.0496**	**0.0018**	

Venus -107984-02-19 14:38 J -37719682.95 -37719682.89 -37719682.83 0.3765 0.3275

Moon -107984-11-25 12:57 J -37719404.09 -37719403.96 -37719403.82 0.2619 0.1269

Earth -107984-11-25 13:11 J -37719404.08 -37719403.95 -37719403.82 0.2613 0.1365 *

Saturn -107983-07-02 09:21 J -37719185.18 -37719185.11 -37719185.03 0.0270 0.0230

Saturn -107983-09-28 22:48 J -37719096.66 -37719096.55 -37719096.43 0.0271 0.0158

Saturn -107983-12-26 12:14 J -37719008.13 -37719007.99 -37719007.85 0.0272 0.0085

Saturn -107982-03-25 01:26 J -37718919.59 -37718919.44 -37718919.30 0.0272 0.0014

Saturn -107982-06-21 14:24 J -37718831.04 -37718830.90 -37718830.76 0.0273 0.0058

Saturn -107982-09-18 03:07 J -37718742.49 -37718742.37 -37718742.24 0.0274 0.0129

Saturn -107982-12-15 15:50 J -37718653.93 -37718653.84 -37718653.74 0.0275 0.0199

Saturn -107981-03-13 04:33 J -37718565.34 -37718565.31 -37718565.28 0.0275 0.0269

Jupiter -107980-02-25 01:55 J -37718216.47 -37718216.42 -37718216.36 0.0529 0.0480

Jupiter -107980-05-25 16:19 J -37718126.96 -37718126.82 -37718126.68 0.0532 0.0062

Moon -107980-05-29 20:09 J -37718122.76 -37718122.66 -37718122.57 0.2712 0.1478

Earth -107980-05-29 20:38 J -37718122.74 -37718122.64 -37718122.55 0.2718 0.1501 *

Venus -107979-09-05 12:00 J -37717659.11 -37717659.00 -37717658.89 0.3760 0.1538

Mars -107978-03-07 04:04 J -37717476.47 -37717476.33 -37717476.19 0.1703 0.0541

Mars -107977-01-18 21:50 J -37717158.71 -37717158.59 -37717158.47 0.1811 0.0342

Mars -107976-12-24 15:35 J -37716452.91 -37716452.85 -37716452.80 0.1791 0.1577

Jupiter -107974-01-11 10:04 J -37716070.24 -37716070.08 -37716069.93 0.0496 0.0112

Jupiter -107974-04-11 06:28 J -37715980.33 -37715980.23 -37715980.14 0.0494 0.0400

Earth -107974-06-08 18:43 J -37715921.78 -37715921.72 -37715921.67 0.2735 0.2350

Moon -107974-06-08 18:57 J -37715921.76 -37715921.71 -37715921.66 0.2742 0.2450 *

Venus -107973-03-21 09:35 J -37715635.22 -37715635.10 -37715634.98 0.3755 0.0270

Saturn -107969-04-27 01:40 J -37714137.48 -37714137.43 -37714137.36 0.0290 0.0268

Saturn -107969-07-24 20:09 J -37714048.79 -37714048.66 -37714048.53 0.0290 0.0174

Mars -107969-07-27 08:09 J -37714046.27 -37714046.16 -37714046.04 0.1699 0.1041

Saturn -107969-10-21 14:52 J -37713960.04 -37713959.88 -37713959.72 0.0289 0.0079

Saturn -107968-01-18 09:50 J -37713871.25 -37713871.09 -37713870.92 0.0288 0.0018

Jupiter -107968-03-13 18:57 J -37713816.85 -37713816.71 -37713816.57 0.0531 0.0065

Saturn -107968-04-17 05:02 J -37713782.44 -37713782.29 -37713782.13 0.0287 0.0115

Mars -107968-06-10 04:33 J -37713728.42 -37713728.31 -37713728.19 0.1816 0.0860

Jupiter -107968-06-11 08:09 J -37713727.23 -37713727.16 -37713727.10 0.0533 0.0464

Saturn -107968-07-15 00:43 J -37713693.58 -37713693.47 -37713693.35 0.0286 0.0213

Venus -107968-10-05 07:40 J -37713611.28 -37713611.18 -37713611.08 0.3750 0.2155

Uranus -107968-10-09 08:52 J -37713607.20 -37713607.13 -37713607.04 0.0146 0.0127

Uranus -107967-01-05 15:21 J -37713518.97 -37713518.86 -37713518.73 0.0146 0.0102

Uranus -107967-04-03 22:04 J -37713430.72 -37713430.58 -37713430.43 0.0146 0.0077

Moon -107967-06-01 14:38 J -37713372.00 -37713371.89 -37713371.78 0.2720 0.0580

Earth -107967-06-01 15:21 J -37713371.97 -37713371.86 -37713371.75 0.2722 0.0474 *

Uranus -107967-07-01 04:33 J -37713342.46 -37713342.31 -37713342.14 0.0146 0.0052

Mars -107967-07-03 18:57 J -37713339.83 -37713339.71 -37713339.60 0.1717 0.1141

Uranus -107967-09-27 11:31 J -37713254.19 -37713254.02 -37713253.85 0.0146 0.0026

Uranus -107967-12-24 18:14 J -37713165.91 -37713165.74 -37713165.57 0.0146 0.0001

Uranus -107966-03-23 00:57 J -37713077.63 -37713077.46 -37713077.29 0.0147 0.0026

Mars -107966-05-16 23:16 J -37713022.62 -37713022.53 -37713022.43 0.1796 0.1131

Uranus -107966-06-19 07:55 J -37712989.33 -37712989.17 -37712989.01 0.0147 0.0052

Uranus -107966-09-15 14:38 J -37712901.03 -37712900.89 -37712900.73 0.0147 0.0079

Uranus -107966-12-12 21:35 J -37712812.71 -37712812.60 -37712812.47 0.0147 0.0106

Uranus -107965-03-10 04:48 J -37712724.36 -37712724.30 -37712724.22 0.0147 0.0133

Venus -107964-10-05 01:26 J -37712150.54 -37712150.44 -37712150.34 0.3617 0.2027

Moon -107964-11-20 08:52 J -37712104.24 -37712104.13 -37712104.01 0.2624 0.1703

Earth -107964-11-20 10:19 J -37712104.19 -37712104.07 -37712103.95 0.2622 0.1588 *

Jupiter -107963-10-30 10:33 J -37711760.20 -37711760.06 -37711759.91 0.0496 0.0236

Jupiter -107962-01-28 06:43 J -37711670.36 -37711670.22 -37711670.08 0.0495 0.0271

Mars -107960-12-17 12:28 J -37710616.04 -37710615.98 -37710615.92 0.1694 0.1523

Mars -107959-10-31 11:16 J -37710298.11 -37710298.03 -37710297.94 0.1821 0.1385

Venus -107958-04-20 21:35 J -37710126.72 -37710126.60 -37710126.48 0.3622 0.0490

Mars -107958-11-23 21:50 J -37709909.73 -37709909.59 -37709909.45 0.1713 0.0582

Neptune -107957-07-05 07:55 J -37709685.18 -37709685.17 -37709685.15 0.0088 0.0088

Neptune -107957-10-01 09:35 J -37709597.13 -37709597.10 -37709597.03 0.0088 0.0084

Mars -107957-10-06 07:11 J -37709592.32 -37709592.20 -37709592.09 0.1801 0.0671

Neptune -107957-12-28 11:45 J -37709509.06 -37709509.01 -37709508.93 0.0088 0.0079

Jupiter -107957-12-30 21:21 J -37709506.74 -37709506.61 -37709506.48 0.0530 0.0194

Neptune -107956-03-26 13:40 J -37709420.99 -37709420.93 -37709420.83 0.0088 0.0074

Jupiter -107956-03-30 10:48 J -37709417.16 -37709417.05 -37709416.94 0.0532 0.0338

Neptune -107956-06-22 15:50 J -37709332.92 -37709332.84 -37709332.74 0.0088 0.0070

Neptune -107956-09-18 18:00 J -37709244.85 -37709244.75 -37709244.64 0.0088 0.0065

Neptune -107956-12-15 19:40 J -37709156.77 -37709156.68 -37709156.55 0.0088 0.0061

Neptune -107955-03-13 21:50 J -37709068.70 -37709068.59 -37709068.46 0.0088 0.0056

Neptune -107955-06-09 23:45 J -37708980.62 -37708980.51 -37708980.38 0.0088 0.0051

Neptune -107955-09-06 01:40 J -37708892.55 -37708892.43 -37708892.29 0.0088 0.0047

Neptune -107955-12-03 03:50 J -37708804.47 -37708804.34 -37708804.20 0.0088 0.0042

Neptune -107954-03-01 05:45 J -37708716.39 -37708716.26 -37708716.12 0.0088 0.0037

Neptune -107954-05-28 07:40 J -37708628.32 -37708628.18 -37708628.04 0.0088 0.0033

Moon -107954-06-04 09:35 J -37708621.21 -37708621.10 -37708620.99 0.2731 0.0500

Earth -107954-06-04 10:04 J -37708621.19 -37708621.08 -37708620.97 0.2727 0.0551 *

Neptune -107954-08-24 09:35 J -37708540.24 -37708540.10 -37708539.95 0.0088 0.0028

Saturn -107954-11-19 10:19 J -37708453.11 -37708453.07 -37708453.02 0.0270 0.0256

Neptune -107954-11-20 11:31 J -37708452.16 -37708452.02 -37708451.87 0.0088 0.0024

Saturn -107953-02-15 23:45 J -37708364.61 -37708364.51 -37708364.39 0.0271 0.0183

Neptune -107953-02-16 13:26 J -37708364.08 -37708363.94 -37708363.79 0.0088 0.0019

Saturn -107953-05-14 13:11 J -37708276.08 -37708275.95 -37708275.81 0.0272 0.0111

Neptune -107953-05-14 15:21 J -37708276.01 -37708275.86 -37708275.71 0.0088 0.0015 *

Neptune -107953-08-10 17:16 J -37708187.93 -37708187.78 -37708187.63 0.0088 0.0010

Saturn -107953-08-11 02:38 J -37708187.54 -37708187.39 -37708187.25 0.0272 0.0039

Venus -107953-11-03 17:31 J -37708102.88 -37708102.77 -37708102.65 0.3626 0.1015

Neptune -107953-11-06 19:11 J -37708099.85 -37708099.70 -37708099.55 0.0088 0.0006

Saturn -107953-11-07 15:35 J -37708098.99 -37708098.85 -37708098.71 0.0273 0.0033

Neptune -107952-02-02 20:52 J -37708011.77 -37708011.63 -37708011.48 0.0088 0.0003

Saturn -107952-02-04 04:33 J -37708010.44 -37708010.31 -37708010.18 0.0274 0.0105

Neptune -107952-05-01 22:48 J -37707923.70 -37707923.55 -37707923.40 0.0088 0.0003

Saturn -107952-05-03 17:16 J -37707921.89 -37707921.78 -37707921.67 0.0275 0.0175

Neptune -107952-07-29 00:43 J -37707835.62 -37707835.47 -37707835.32 0.0088 0.0007

Saturn -107952-07-31 05:45 J -37707833.31 -37707833.26 -37707833.19 0.0276 0.0246

Neptune -107952-10-25 02:24 J -37707747.54 -37707747.40 -37707747.25 0.0088 0.0012

Neptune -107951-01-21 04:19 J -37707659.46 -37707659.32 -37707659.17 0.0088 0.0016

Neptune -107951-04-19 06:00 J -37707571.39 -37707571.25 -37707571.10 0.0088 0.0021

Neptune -107951-07-16 07:55 J -37707483.31 -37707483.17 -37707483.02 0.0088 0.0025

Jupiter -107951-08-18 11:16 J -37707450.14 -37707450.03 -37707449.92 0.0497 0.0362

Neptune -107951-10-12 09:35 J -37707395.23 -37707395.10 -37707394.95 0.0088 0.0029

Jupiter -107951-11-16 06:57 J -37707360.37 -37707360.21 -37707360.06 0.0495 0.0141

Moon -107951-11-23 14:09 J -37707353.06 -37707352.91 -37707352.76 0.2623 0.0061

Earth -107951-11-23 14:52 J -37707353.03 -37707352.88 -37707352.73 0.2617 0.0058 *

Neptune -107950-01-08 11:31 J -37707307.15 -37707307.02 -37707306.88 0.0088 0.0033

Neptune -107950-04-06 13:11 J -37707219.08 -37707218.95 -37707218.81 0.0088 0.0038

Neptune -107950-07-03 15:07 J -37707131.00 -37707130.87 -37707130.74 0.0088 0.0042

Neptune -107950-09-29 16:33 J -37707042.92 -37707042.81 -37707042.67 0.0088 0.0047

Neptune -107950-12-26 18:28 J -37706954.84 -37706954.73 -37706954.60 0.0088 0.0050

Neptune -107949-03-23 20:09 J -37706866.76 -37706866.66 -37706866.53 0.0088 0.0055

Neptune -107949-06-19 22:04 J -37706778.68 -37706778.58 -37706778.47 0.0088 0.0059

Neptune -107949-09-16 00:00 J -37706690.60 -37706690.50 -37706690.40 0.0088 0.0063

Neptune -107949-12-13 01:26 J -37706602.52 -37706602.44 -37706602.34 0.0088 0.0067

Neptune -107948-03-11 03:07 J -37706514.44 -37706514.37 -37706514.27 0.0088 0.0071

Mars -107948-04-15 00:57 J -37706479.61 -37706479.46 -37706479.31 0.1708 0.0039

Neptune -107948-06-07 04:48 J -37706426.36 -37706426.30 -37706426.21 0.0088 0.0076

Neptune -107948-09-03 06:28 J -37706338.28 -37706338.23 -37706338.15 0.0088 0.0080

Neptune -107948-11-30 08:24 J -37706250.19 -37706250.15 -37706250.10 0.0088 0.0083

Neptune -107947-02-26 10:04 J -37706162.09 -37706162.08 -37706162.06 0.0088 0.0087

Mars -107947-02-26 14:38 J -37706162.01 -37706161.89 -37706161.76 0.1806 0.0193

Venus -107947-05-20 13:26 J -37706079.03 -37706078.94 -37706078.86 0.3630 0.2452

Moon -107947-05-28 06:28 J -37706071.29 -37706071.23 -37706071.16 0.2707 0.2257

Earth -107947-05-28 06:28 J -37706071.28 -37706071.23 -37706071.17 0.2714 0.2324 *

Jupiter -107945-10-18 23:16 J -37705196.64 -37705196.53 -37705196.42 0.0530 0.0330

Jupiter -107944-01-16 12:57 J -37705107.08 -37705106.96 -37705106.83 0.0532 0.0207

Moon -107941-06-06 04:48 J -37703870.39 -37703870.30 -37703870.21 0.2738 0.1565

Earth -107941-06-06 04:48 J -37703870.39 -37703870.30 -37703870.20 0.2731 0.1555 *

Pluto -107940-08-27 22:19 J -37703422.60 -37703422.57 -37703422.54 0.0085 0.0082

Pluto -107940-11-23 23:31 J -37703334.59 -37703334.52 -37703334.44 0.0085 0.0068

Saturn -107940-12-11 20:38 J -37703316.75 -37703316.64 -37703316.52 0.0289 0.0201

Pluto -107939-02-20 00:43 J -37703246.56 -37703246.47 -37703246.36 0.0084 0.0054

Saturn -107939-03-10 15:21 J -37703228.01 -37703227.86 -37703227.71 0.0289 0.0106

Pluto -107939-05-19 02:09 J -37703158.52 -37703158.41 -37703158.29 0.0084 0.0040

Jupiter -107939-06-06 12:28 J -37703140.02 -37703139.98 -37703139.94 0.0498 0.0479

Saturn -107939-06-07 10:19 J -37703139.24 -37703139.07 -37703138.91 0.0288 0.0012

Pluto -107939-08-15 03:21 J -37703070.48 -37703070.36 -37703070.23 0.0084 0.0026

Saturn -107939-09-04 05:31 J -37703050.43 -37703050.27 -37703050.11 0.0287 0.0087

Jupiter -107939-09-04 07:40 J -37703050.34 -37703050.18 -37703050.01 0.0496 0.0023 *

Mars -107939-09-05 04:33 J -37703049.45 -37703049.31 -37703049.17 0.1703 0.0488

Pluto -107939-11-11 04:33 J -37702982.43 -37702982.31 -37702982.17 0.0084 0.0012

Saturn -107939-12-02 00:43 J -37702961.59 -37702961.47 -37702961.33 0.0286 0.0186

Pluto -107938-02-07 06:00 J -37702894.38 -37702894.25 -37702894.12 0.0084 0.0002

Saturn -107938-02-28 20:38 J -37702872.65 -37702872.64 -37702872.62 0.0285 0.0283

Pluto -107938-05-06 07:11 J -37702806.33 -37702806.20 -37702806.07 0.0084 0.0016

Mars -107938-07-19 21:50 J -37702731.71 -37702731.59 -37702731.46 0.1811 0.0301

Pluto -107938-08-02 08:24 J -37702718.27 -37702718.15 -37702718.02 0.0084 0.0030

Pluto -107938-10-29 09:21 J -37702630.21 -37702630.11 -37702629.98 0.0084 0.0044

Earth -107938-11-26 19:26 J -37702601.80 -37702601.69 -37702601.57 0.2612 0.1699

Moon -107938-11-26 19:55 J -37702601.78 -37702601.67 -37702601.56 0.2618 0.1813 *

Pluto -107937-01-25 10:48 J -37702542.14 -37702542.05 -37702541.95 0.0083 0.0057

Pluto -107937-04-22 11:45 J -37702454.06 -37702454.01 -37702453.92 0.0083 0.0071

Mars -107936-06-24 15:21 J -37702025.91 -37702025.86 -37702025.80 0.1791 0.1615

Moon -107934-05-31 00:57 J -37701320.56 -37701320.46 -37701320.37 0.2713 0.1414

Earth -107934-05-31 01:26 J -37701320.54 -37701320.44 -37701320.34 0.2718 0.1291 *

Jupiter -107933-08-07 00:14 J -37700886.55 -37700886.49 -37700886.43 0.0529 0.0480

Jupiter -107933-11-04 14:24 J -37700797.04 -37700796.90 -37700796.76 0.0531 0.0060

Mars -107929-01-26 08:24 J -37699619.27 -37699619.15 -37699619.03 0.1699 0.0996

Mars -107929-12-09 04:48 J -37699301.41 -37699301.30 -37699301.18 0.1816 0.0811

Uranus -107928-03-06 01:55 J -37699214.44 -37699214.42 -37699214.40 0.0133 0.0131

Uranus -107928-06-02 05:45 J -37699126.33 -37699126.26 -37699126.18 0.0133 0.0114

Earth -107928-06-08 23:31 J -37699119.56 -37699119.52 -37699119.48 0.2735 0.2551

Moon -107928-06-09 00:00 J -37699119.54 -37699119.50 -37699119.46 0.2742 0.2548 *

Uranus -107928-08-29 09:21 J -37699038.19 -37699038.11 -37699038.00 0.0133 0.0098

Venus -107928-09-26 13:40 J -37699010.02 -37699009.93 -37699009.85 0.3763 0.2676

Uranus -107928-11-25 13:26 J -37698950.05 -37698949.94 -37698949.82 0.0133 0.0081

Mars -107927-01-01 19:26 J -37698912.80 -37698912.69 -37698912.58 0.1717 0.1196

Uranus -107927-02-21 17:16 J -37698861.91 -37698861.78 -37698861.65 0.0133 0.0064

Uranus -107927-05-20 20:52 J -37698773.76 -37698773.63 -37698773.48 0.0133 0.0048

Jupiter -107927-06-23 08:38 J -37698740.30 -37698740.14 -37698739.98 0.0496 0.0104

Uranus -107927-08-17 00:43 J -37698685.61 -37698685.47 -37698685.32 0.0133 0.0031

Jupiter -107927-09-21 05:16 J -37698650.37 -37698650.28 -37698650.19 0.0494 0.0409

Uranus -107927-11-13 04:33 J -37698597.45 -37698597.31 -37698597.16 0.0133 0.0015

Mars -107927-11-14 23:31 J -37698595.61 -37698595.52 -37698595.43 0.1796 0.1172

Uranus -107926-02-09 08:09 J -37698509.30 -37698509.16 -37698509.01 0.0132 0.0004

Uranus -107926-05-08 11:45 J -37698421.15 -37698421.01 -37698420.86 0.0132 0.0018

Uranus -107926-08-04 15:35 J -37698332.99 -37698332.85 -37698332.71 0.0132 0.0034

Uranus -107926-10-31 19:11 J -37698244.84 -37698244.70 -37698244.57 0.0132 0.0049

Uranus -107925-01-27 22:33 J -37698156.68 -37698156.56 -37698156.43 0.0132 0.0065

Uranus -107925-04-25 02:09 J -37698068.52 -37698068.41 -37698068.29 0.0132 0.0081

Uranus -107925-07-22 05:45 J -37697980.36 -37697980.26 -37697980.16 0.0132 0.0096

Uranus -107925-10-18 09:07 J -37697892.19 -37697892.12 -37697892.04 0.0132 0.0112

Uranus -107924-01-14 12:28 J -37697804.00 -37697803.98 -37697803.93 0.0132 0.0127

Saturn -107924-07-05 02:38 J -37697632.48 -37697632.39 -37697632.28 0.0271 0.0199

Saturn -107924-10-01 16:04 J -37697543.96 -37697543.83 -37697543.69 0.0271 0.0127

Saturn -107924-12-29 05:31 J -37697455.42 -37697455.27 -37697455.13 0.0272 0.0054

Saturn -107923-03-27 18:28 J -37697366.87 -37697366.73 -37697366.58 0.0273 0.0020

Saturn -107923-06-24 07:26 J -37697278.32 -37697278.19 -37697278.05 0.0274 0.0090

Saturn -107923-09-20 20:09 J -37697189.77 -37697189.66 -37697189.54 0.0274 0.0161

Saturn -107923-12-18 08:52 J -37697101.20 -37697101.13 -37697101.05 0.0275 0.0230

Venus -107922-04-12 11:02 J -37696986.16 -37696986.04 -37696985.92 0.3758 0.0922

Moon -107921-06-01 19:40 J -37696569.79 -37696569.68 -37696569.57 0.2724 0.0285

Earth -107921-06-01 20:24 J -37696569.76 -37696569.65 -37696569.54 0.2723 0.0270 *

Jupiter -107921-08-23 16:48 J -37696486.94 -37696486.80 -37696486.66 0.0531 0.0071

Jupiter -107921-11-21 05:45 J -37696397.32 -37696397.26 -37696397.19 0.0533 0.0457

Mars -107920-06-17 12:57 J -37696189.03 -37696188.96 -37696188.89 0.1694 0.1477

Mars -107919-05-01 11:31 J -37695871.11 -37695871.02 -37695870.93 0.1821 0.1337

Mars -107918-05-24 22:04 J -37695482.72 -37695482.58 -37695482.44 0.1712 0.0627

Moon -107918-11-21 15:35 J -37695301.98 -37695301.85 -37695301.72 0.2625 0.1306

Earth -107918-11-21 16:48 J -37695301.93 -37695301.80 -37695301.67 0.2621 0.1262 *

Mars -107917-04-06 07:26 J -37695165.31 -37695165.19 -37695165.08 0.1801 0.0718

Venus -107917-10-26 08:38 J -37694962.26 -37694962.14 -37694962.02 0.3754 0.0912

Jupiter -107915-04-11 09:07 J -37694430.26 -37694430.12 -37694429.98 0.0496 0.0231

Jupiter -107915-07-10 05:02 J -37694340.42 -37694340.29 -37694340.15 0.0495 0.0275

Venus -107913-10-26 03:35 J -37693501.41 -37693501.35 -37693501.28 0.3614 0.3042

Venus -107911-05-12 06:57 J -37692938.29 -37692938.21 -37692938.13 0.3749 0.2810

Saturn -107910-04-30 20:38 J -37692584.74 -37692584.64 -37692584.54 0.0290 0.0229

Saturn -107910-07-28 15:07 J -37692496.01 -37692495.87 -37692495.73 0.0289 0.0135

Saturn -107910-10-25 09:50 J -37692407.25 -37692407.09 -37692406.93 0.0288 0.0040

Saturn -107909-01-22 04:48 J -37692318.46 -37692318.30 -37692318.13 0.0288 0.0058

Saturn -107909-04-20 00:14 J -37692229.63 -37692229.49 -37692229.34 0.0287 0.0154

Jupiter -107909-06-11 19:26 J -37692176.82 -37692176.69 -37692176.56 0.0530 0.0199

Saturn -107909-07-17 19:55 J -37692140.74 -37692140.67 -37692140.59 0.0286 0.0252

Jupiter -107909-09-09 08:52 J -37692087.24 -37692087.13 -37692087.02 0.0532 0.0334

Mars -107909-10-14 01:26 J -37692052.59 -37692052.44 -37692052.29 0.1708 0.0098

Moon -107908-06-04 14:38 J -37691819.00 -37691818.89 -37691818.78 0.2732 0.0671

Earth -107908-06-04 15:07 J -37691818.98 -37691818.87 -37691818.76 0.2727 0.0751 *

Mars -107908-08-27 14:52 J -37691735.01 -37691734.88 -37691734.76 0.1806 0.0242

Venus -107907-05-12 00:00 J -37691477.61 -37691477.50 -37691477.38 0.3618 0.1477

Moon -107905-11-23 20:38 J -37690550.78 -37690550.64 -37690550.49 0.2623 0.0362

Earth -107905-11-23 21:07 J -37690550.77 -37690550.62 -37690550.47 0.2616 0.0370 *

Jupiter -107903-01-28 09:50 J -37690120.20 -37690120.09 -37690119.98 0.0497 0.0355

Jupiter -107903-04-28 05:31 J -37690030.43 -37690030.27 -37690030.12 0.0495 0.0147

Venus -107902-11-25 20:09 J -37689453.78 -37689453.66 -37689453.53 0.3623 0.0144

Moon -107901-05-28 11:16 J -37689269.10 -37689269.03 -37689268.96 0.2708 0.2165

Earth -107901-05-28 11:31 J -37689269.09 -37689269.02 -37689268.95 0.2715 0.2113 *

Mars -107899-03-06 05:02 J -37688622.44 -37688622.29 -37688622.15 0.1703 0.0439

Mars -107898-01-17 22:04 J -37688304.71 -37688304.58 -37688304.46 0.1811 0.0256

Jupiter -107897-03-30 21:35 J -37687866.71 -37687866.60 -37687866.49 0.0530 0.0330

Jupiter -107897-06-28 11:31 J -37687777.15 -37687777.02 -37687776.89 0.0532 0.0207

Mars -107897-12-23 15:35 J -37687598.89 -37687598.85 -37687598.81 0.1791 0.1657

Venus -107896-06-10 16:19 J -37687429.93 -37687429.82 -37687429.71 0.3627 0.1531

Moon -107895-06-07 10:04 J -37687068.17 -37687068.08 -37687068.00 0.2739 0.1791

Earth -107895-06-07 09:50 J -37687068.17 -37687068.09 -37687068.01 0.2732 0.1756 *

Saturn -107895-11-22 03:50 J -37686900.42 -37686900.34 -37686900.25 0.0271 0.0223

Saturn -107894-02-18 17:31 J -37686811.89 -37686811.77 -37686811.65 0.0271 0.0150

Saturn -107894-05-18 06:43 J -37686723.36 -37686723.22 -37686723.07 0.0272 0.0078

Saturn -107894-08-14 19:55 J -37686634.81 -37686634.67 -37686634.52 0.0273 0.0009

Saturn -107894-11-11 08:52 J -37686546.26 -37686546.13 -37686545.98 0.0274 0.0067

Saturn -107893-02-07 21:50 J -37686457.71 -37686457.59 -37686457.46 0.0274 0.0137

Saturn -107893-05-06 10:33 J -37686369.15 -37686369.06 -37686368.97 0.0275 0.0207

Jupiter -107892-11-16 10:33 J -37685810.10 -37685810.06 -37685810.02 0.0498 0.0480

Earth -107892-11-27 01:55 J -37685799.52 -37685799.42 -37685799.33 0.2611 0.2028

Moon -107892-11-27 02:52 J -37685799.48 -37685799.38 -37685799.29 0.2617 0.2060 *

Jupiter -107891-02-14 05:45 J -37685720.43 -37685720.26 -37685720.10 0.0496 0.0021

Venus -107891-12-25 11:45 J -37685406.07 -37685406.01 -37685405.94 0.3632 0.2948

Mars -107890-07-27 08:52 J -37685192.25 -37685192.13 -37685192.01 0.1699 0.0943

Mars -107889-06-09 05:02 J -37684874.41 -37684874.29 -37684874.18 0.1816 0.0767

Moon -107888-05-31 05:45 J -37684518.36 -37684518.26 -37684518.15 0.2715 0.1081

Earth -107888-05-31 06:28 J -37684518.33 -37684518.23 -37684518.13 0.2719 0.1087 *

Mars -107888-07-02 19:55 J -37684485.78 -37684485.67 -37684485.57 0.1717 0.1250

Mars -107887-05-15 23:31 J -37684168.61 -37684168.52 -37684168.43 0.1796 0.1215

Jupiter -107885-01-17 23:16 J -37683556.59 -37683556.53 -37683556.46 0.0529 0.0468

Jupiter -107885-04-16 13:40 J -37683467.07 -37683466.93 -37683466.79 0.0531 0.0073

Moon -107885-11-18 17:16 J -37683250.81 -37683250.78 -37683250.75 0.2626 0.2568

Earth -107885-11-18 18:43 J -37683250.75 -37683250.72 -37683250.68 0.2625 0.2548 *

Uranus -107884-08-02 10:19 J -37682994.09 -37682994.07 -37682994.03 0.0146 0.0143

Uranus -107884-10-29 16:48 J -37682905.89 -37682905.80 -37682905.70 0.0146 0.0119

Uranus -107883-01-25 23:16 J -37682817.65 -37682817.53 -37682817.40 0.0146 0.0094

Uranus -107883-04-24 05:45 J -37682729.40 -37682729.26 -37682729.10 0.0146 0.0070

Uranus -107883-07-21 12:28 J -37682641.14 -37682640.98 -37682640.81 0.0146 0.0044

Uranus -107883-10-17 19:11 J -37682552.86 -37682552.70 -37682552.53 0.0146 0.0019

Uranus -107882-01-14 02:09 J -37682464.58 -37682464.41 -37682464.24 0.0146 0.0008

Uranus -107882-04-12 08:52 J -37682376.30 -37682376.13 -37682375.96 0.0146 0.0034

Uranus -107882-07-09 15:35 J -37682288.00 -37682287.85 -37682287.68 0.0147 0.0061

Uranus -107882-10-05 22:48 J -37682199.69 -37682199.55 -37682199.41 0.0147 0.0087

Uranus -107881-01-02 05:45 J -37682111.36 -37682111.26 -37682111.15 0.0147 0.0114

Uranus -107881-03-30 12:43 J -37682023.01 -37682022.97 -37682022.91 0.0147 0.0141

Saturn -107881-09-16 21:07 J -37681852.68 -37681852.62 -37681852.54 0.0290 0.0255

Saturn -107881-12-14 15:35 J -37681763.98 -37681763.85 -37681763.71 0.0289 0.0161

Mars -107881-12-16 13:11 J -37681762.02 -37681761.95 -37681761.87 0.1694 0.1427

Saturn -107880-03-13 10:19 J -37681675.22 -37681675.07 -37681674.90 0.0288 0.0067

Saturn -107880-06-10 05:31 J -37681586.44 -37681586.27 -37681586.11 0.0287 0.0031

Saturn -107880-09-07 00:43 J -37681497.62 -37681497.47 -37681497.32 0.0287 0.0128

Mars -107880-10-30 11:45 J -37681444.10 -37681444.01 -37681443.92 0.1821 0.1290

Jupiter -107880-12-03 06:28 J -37681410.38 -37681410.23 -37681410.07 0.0496 0.0106

Saturn -107880-12-04 20:09 J -37681408.75 -37681408.66 -37681408.55 0.0286 0.0226

Jupiter -107879-03-03 03:07 J -37681320.46 -37681320.37 -37681320.28 0.0495 0.0407

Mars -107879-11-22 22:48 J -37681055.69 -37681055.55 -37681055.41 0.1713 0.0688

Mars -107878-10-06 07:26 J -37680738.30 -37680738.19 -37680738.08 0.1801 0.0758

Moon -107875-06-03 00:28 J -37679767.59 -37679767.48 -37679767.36 0.2726 0.0224

Earth -107875-06-03 01:11 J -37679767.56 -37679767.45 -37679767.33 0.2723 0.0118 *

Neptune -107874-06-15 05:16 J -37679390.30 -37679390.28 -37679390.25 0.0089 0.0087

Neptune -107874-09-11 07:26 J -37679302.23 -37679302.19 -37679302.12 0.0089 0.0083

Neptune -107874-12-08 09:50 J -37679214.15 -37679214.09 -37679214.00 0.0089 0.0078

Jupiter -107873-02-03 14:52 J -37679157.02 -37679156.88 -37679156.74 0.0530 0.0074

Neptune -107873-03-05 12:28 J -37679126.07 -37679125.98 -37679125.89 0.0089 0.0073

Jupiter -107873-05-03 03:50 J -37679067.41 -37679067.34 -37679067.27 0.0532 0.0453

Neptune -107873-06-01 14:24 J -37679037.98 -37679037.90 -37679037.78 0.0089 0.0069

Neptune -107873-08-28 17:02 J -37678949.90 -37678949.79 -37678949.67 0.0089 0.0064

Neptune -107873-11-24 19:26 J -37678861.80 -37678861.69 -37678861.56 0.0089 0.0059

Neptune -107872-02-20 22:04 J -37678773.71 -37678773.58 -37678773.45 0.0089 0.0054

Neptune -107872-05-20 00:14 J -37678685.62 -37678685.49 -37678685.35 0.0089 0.0050

Neptune -107872-08-16 02:38 J -37678597.52 -37678597.39 -37678597.24 0.0089 0.0045

Neptune -107872-11-12 05:02 J -37678509.43 -37678509.29 -37678509.13 0.0089 0.0040

Moon -107872-11-21 22:04 J -37678499.71 -37678499.58 -37678499.44 0.2626 0.1097

Earth -107872-11-21 23:02 J -37678499.68 -37678499.54 -37678499.40 0.2620 0.0943 *

Neptune -107871-02-08 07:40 J -37678421.33 -37678421.18 -37678421.02 0.0089 0.0035

Venus -107871-05-03 12:28 J -37678337.08 -37678336.98 -37678336.88 0.3762 0.2069

Neptune -107871-05-07 10:04 J -37678333.23 -37678333.08 -37678332.92 0.0089 0.0030

Neptune -107871-08-03 12:43 J -37678245.13 -37678244.97 -37678244.81 0.0089 0.0025

Neptune -107871-10-30 15:07 J -37678157.03 -37678156.87 -37678156.70 0.0089 0.0020

Neptune -107870-01-26 17:45 J -37678068.93 -37678068.76 -37678068.60 0.0089 0.0015

Neptune -107870-04-24 20:09 J -37677980.82 -37677980.66 -37677980.49 0.0089 0.0010

Neptune -107870-07-21 22:48 J -37677892.72 -37677892.55 -37677892.38 0.0089 0.0005

Neptune -107870-10-18 01:11 J -37677804.61 -37677804.45 -37677804.28 0.0089 0.0002

Neptune -107869-01-14 03:50 J -37677716.51 -37677716.34 -37677716.17 0.0089 0.0005

Neptune -107869-04-11 06:28 J -37677628.40 -37677628.23 -37677628.06 0.0089 0.0010

Mars -107869-04-14 01:40 J -37677625.58 -37677625.43 -37677625.28 0.1708 0.0139

Neptune -107869-07-08 08:52 J -37677540.29 -37677540.13 -37677539.96 0.0089 0.0015

Neptune -107869-10-04 11:31 J -37677452.18 -37677452.02 -37677451.85 0.0089 0.0020

Neptune -107869-12-31 14:09 J -37677364.07 -37677363.91 -37677363.74 0.0089 0.0025

Mars -107868-02-25 14:52 J -37677308.00 -37677307.88 -37677307.76 0.1807 0.0282

Neptune -107868-03-29 16:48 J -37677275.96 -37677275.80 -37677275.64 0.0089 0.0030

Neptune -107868-06-25 19:11 J -37677187.84 -37677187.70 -37677187.53 0.0089 0.0036

Jupiter -107868-09-21 07:26 J -37677100.33 -37677100.19 -37677100.04 0.0497 0.0228

Neptune -107868-09-21 21:50 J -37677099.73 -37677099.59 -37677099.43 0.0089 0.0041

Neptune -107868-12-19 00:28 J -37677011.61 -37677011.48 -37677011.32 0.0089 0.0046

Jupiter -107868-12-20 03:35 J -37677010.49 -37677010.35 -37677010.22 0.0495 0.0281

Neptune -107867-03-17 03:21 J -37676923.50 -37676923.36 -37676923.22 0.0089 0.0051

Neptune -107867-06-13 06:00 J -37676835.38 -37676835.25 -37676835.11 0.0089 0.0056

Neptune -107867-09-09 08:52 J -37676747.25 -37676747.13 -37676747.01 0.0089 0.0061

Neptune -107867-12-06 11:16 J -37676659.13 -37676659.03 -37676658.91 0.0089 0.0067

Neptune -107866-03-04 13:55 J -37676571.01 -37676570.92 -37676570.81 0.0089 0.0072

Neptune -107866-05-31 16:48 J -37676482.88 -37676482.80 -37676482.71 0.0089 0.0077

Neptune -107866-08-27 19:11 J -37676394.74 -37676394.70 -37676394.62 0.0089 0.0083

Venus -107866-11-17 10:04 J -37676313.20 -37676313.08 -37676312.96 0.3757 0.0296

Neptune -107866-11-23 22:04 J -37676306.59 -37676306.58 -37676306.54 0.0089 0.0088

Saturn -107865-04-10 06:57 J -37676168.28 -37676168.21 -37676168.14 0.0271 0.0238

Saturn -107865-07-07 20:24 J -37676079.76 -37676079.65 -37676079.53 0.0271 0.0165

Saturn -107865-10-04 09:50 J -37675991.23 -37675991.09 -37675990.95 0.0272 0.0093

Saturn -107865-12-31 23:02 J -37675902.68 -37675902.54 -37675902.39 0.0273 0.0022

Saturn -107864-03-30 12:14 J -37675814.13 -37675813.99 -37675813.85 0.0273 0.0052

Saturn -107864-06-27 00:57 J -37675725.58 -37675725.46 -37675725.33 0.0274 0.0123

Saturn -107864-09-23 13:55 J -37675637.02 -37675636.92 -37675636.82 0.0275 0.0193

Saturn -107864-12-21 02:24 J -37675548.44 -37675548.40 -37675548.36 0.0276 0.0263

Moon -107862-06-05 19:40 J -37675016.78 -37675016.68 -37675016.57 0.2734 0.0978

Earth -107862-06-05 20:09 J -37675016.77 -37675016.66 -37675016.56 0.2728 0.0957 *

Jupiter -107862-11-22 16:48 J -37674846.92 -37674846.80 -37674846.66 0.0530 0.0209

Jupiter -107861-02-20 06:28 J -37674757.34 -37674757.23 -37674757.12 0.0532 0.0324

Venus -107860-06-02 07:55 J -37674289.28 -37674289.17 -37674289.06 0.3752 0.1550

Mars -107860-09-04 05:16 J -37674195.42 -37674195.28 -37674195.13 0.1703 0.0389

Mars -107859-07-18 22:19 J -37673877.70 -37673877.57 -37673877.45 0.1811 0.0207

Moon -107859-11-25 03:35 J -37673748.50 -37673748.35 -37673748.21 0.2622 0.0730

Earth -107859-11-25 03:35 J -37673748.50 -37673748.35 -37673748.21 0.2616 0.0700 *

Mars -107857-06-23 15:50 J -37673171.88 -37673171.84 -37673171.81 0.1791 0.1700

Venus -107856-06-02 02:24 J -37672828.49 -37672828.40 -37672828.31 0.3616 0.2475

Jupiter -107856-07-10 07:55 J -37672790.28 -37672790.17 -37672790.06 0.0497 0.0354

Jupiter -107856-10-08 03:35 J -37672700.51 -37672700.35 -37672700.20 0.0495 0.0148

Moon -107855-05-29 16:04 J -37672466.91 -37672466.83 -37672466.75 0.2709 0.1926

Earth -107855-05-29 16:33 J -37672466.89 -37672466.81 -37672466.73 0.2715 0.1904 *

Venus -107855-12-17 06:14 J -37672265.29 -37672265.24 -37672265.20 0.3747 0.3467

Saturn -107851-02-03 22:04 J -37671120.62 -37671120.58 -37671120.53 0.0290 0.0279

Saturn -107851-05-03 16:33 J -37671031.94 -37671031.81 -37671031.69 0.0289 0.0186

Saturn -107851-07-31 11:02 J -37670943.19 -37670943.04 -37670942.88 0.0289 0.0091

Saturn -107851-10-28 06:00 J -37670854.42 -37670854.25 -37670854.09 0.0288 0.0005

Venus -107851-12-16 22:48 J -37670804.67 -37670804.55 -37670804.43 0.3620 0.0926

Saturn -107850-01-25 01:11 J -37670765.61 -37670765.45 -37670765.29 0.0287 0.0101

Mars -107850-01-25 09:21 J -37670765.23 -37670765.11 -37670764.98 0.1699 0.0890

Saturn -107850-04-23 20:38 J -37670676.76 -37670676.64 -37670676.52 0.0286 0.0199

Jupiter -107850-09-10 19:26 J -37670536.80 -37670536.69 -37670536.58 0.0530 0.0338

Mars -107850-12-09 05:02 J -37670447.40 -37670447.29 -37670447.17 0.1816 0.0720

Jupiter -107850-12-09 09:21 J -37670447.24 -37670447.11 -37670446.99 0.0532 0.0200 *

Earth -107849-06-07 14:52 J -37670265.96 -37670265.88 -37670265.81 0.2732 0.1964

Moon -107849-06-07 15:07 J -37670265.95 -37670265.87 -37670265.80 0.2739 0.1965 *

Mars -107849-12-31 20:24 J -37670058.75 -37670058.65 -37670058.55 0.1718 0.1307

Mars -107848-11-13 23:45 J -37669741.60 -37669741.51 -37669741.42 0.1796 0.1260

Earth -107846-11-28 08:09 J -37668997.22 -37668997.16 -37668997.09 0.2611 0.2363

Moon -107846-11-28 09:21 J -37668997.15 -37668997.11 -37668997.07 0.2616 0.2491 *

Venus -107845-07-01 18:57 J -37668780.83 -37668780.71 -37668780.59 0.3624 0.0580

Uranus -107844-03-26 09:07 J -37668513.15 -37668513.12 -37668513.06 0.0133 0.0127

Jupiter -107844-04-28 08:52 J -37668480.17 -37668480.13 -37668480.09 0.0497 0.0476

Uranus -107844-06-22 13:11 J -37668425.03 -37668424.95 -37668424.86 0.0133 0.0109

Jupiter -107844-07-27 03:50 J -37668390.50 -37668390.34 -37668390.17 0.0496 0.0024

Uranus -107844-09-18 17:02 J -37668336.89 -37668336.79 -37668336.68 0.0133 0.0092

Uranus -107844-12-15 20:52 J -37668248.75 -37668248.63 -37668248.50 0.0133 0.0075

Uranus -107843-03-14 00:43 J -37668160.60 -37668160.47 -37668160.34 0.0133 0.0059

Uranus -107843-06-10 04:33 J -37668072.45 -37668072.31 -37668072.17 0.0133 0.0042

Uranus -107843-09-06 08:24 J -37667984.30 -37667984.15 -37667984.01 0.0133 0.0026

Uranus -107843-12-03 12:00 J -37667896.14 -37667896.00 -37667895.85 0.0133 0.0009

Uranus -107842-03-01 15:35 J -37667807.99 -37667807.85 -37667807.70 0.0132 0.0008

Uranus -107842-05-28 19:11 J -37667719.84 -37667719.70 -37667719.55 0.0132 0.0023

Moon -107842-06-01 10:33 J -37667716.16 -37667716.06 -37667715.95 0.2719 0.0997

Earth -107842-06-01 11:31 J -37667716.13 -37667716.02 -37667715.92 0.2720 0.0883 *

Uranus -107842-08-24 22:48 J -37667631.68 -37667631.55 -37667631.41 0.0132 0.0039

Uranus -107842-11-21 02:38 J -37667543.52 -37667543.39 -37667543.26 0.0132 0.0055

Uranus -107841-02-17 06:00 J -37667455.36 -37667455.25 -37667455.12 0.0132 0.0070

Uranus -107841-05-15 09:35 J -37667367.20 -37667367.10 -37667366.99 0.0132 0.0086

Mars -107841-06-16 13:40 J -37667335.02 -37667334.93 -37667334.85 0.1694 0.1381

Uranus -107841-08-11 13:11 J -37667279.04 -37667278.95 -37667278.86 0.0132 0.0101

Uranus -107841-11-07 16:33 J -37667190.87 -37667190.81 -37667190.74 0.0132 0.0117

Uranus -107840-02-03 20:09 J -37667102.66 -37667102.66 -37667102.65 0.0132 0.0132

Mars -107840-04-30 11:45 J -37667017.10 -37667017.01 -37667016.91 0.1821 0.1244

Venus -107839-01-15 14:38 J -37666756.98 -37666756.89 -37666756.79 0.3629 0.2036

Mars -107839-05-23 23:02 J -37666628.67 -37666628.54 -37666628.40 0.1712 0.0739

Moon -107839-11-19 23:45 J -37666448.56 -37666448.51 -37666448.45 0.2628 0.2423

Earth -107839-11-20 01:11 J -37666448.53 -37666448.45 -37666448.38 0.2625 0.2228 *

Mars -107838-04-06 07:26 J -37666311.30 -37666311.19 -37666311.08 0.1801 0.0800

Jupiter -107838-06-29 21:21 J -37666226.67 -37666226.61 -37666226.54 0.0529 0.0470

Jupiter -107838-09-27 11:45 J -37666137.15 -37666137.01 -37666136.87 0.0531 0.0071

Saturn -107836-08-28 08:09 J -37665436.19 -37665436.16 -37665436.12 0.0270 0.0261

Saturn -107836-11-24 21:50 J -37665347.69 -37665347.59 -37665347.48 0.0271 0.0188

Saturn -107835-02-21 11:16 J -37665259.16 -37665259.03 -37665258.89 0.0272 0.0116

Saturn -107835-05-21 00:43 J -37665170.62 -37665170.47 -37665170.33 0.0273 0.0043

Saturn -107835-08-17 13:40 J -37665082.07 -37665081.93 -37665081.78 0.0273 0.0030

Saturn -107835-11-14 02:38 J -37664993.52 -37664993.39 -37664993.25 0.0274 0.0101

Saturn -107834-02-10 15:35 J -37664904.96 -37664904.85 -37664904.74 0.0275 0.0171

Saturn -107834-05-10 04:04 J -37664816.39 -37664816.33 -37664816.26 0.0276 0.0242

Venus -107834-08-01 10:19 J -37664733.10 -37664733.07 -37664733.03 0.3633 0.3445

Jupiter -107832-05-15 04:19 J -37664080.48 -37664080.32 -37664080.17 0.0496 0.0109

Jupiter -107832-08-13 00:28 J -37663990.57 -37663990.48 -37663990.38 0.0495 0.0403

Mars -107831-09-20 18:14 J -37663586.76 -37663586.74 -37663586.72 0.1826 0.1784

Mars -107830-10-14 02:09 J -37663198.55 -37663198.41 -37663198.26 0.1708 0.0200

Moon -107829-06-03 05:31 J -37662965.38 -37662965.27 -37662965.16 0.2728 0.0151

Earth -107829-06-03 06:14 J -37662965.35 -37662965.24 -37662965.13 0.2724 0.0143 *

Mars -107829-08-26 15:07 J -37662881.00 -37662880.87 -37662880.75 0.1806 0.0329

Jupiter -107826-07-16 13:40 J -37661827.07 -37661826.93 -37661826.79 0.0531 0.0067

Jupiter -107826-10-14 02:52 J -37661737.44 -37661737.38 -37661737.31 0.0532 0.0462

Moon -107826-11-23 04:33 J -37661697.45 -37661697.31 -37661697.16 0.2626 0.0586

Earth -107826-11-23 05:16 J -37661697.42 -37661697.28 -37661697.13 0.2620 0.0619 *

Saturn -107822-09-20 17:16 J -37660299.89 -37660299.78 -37660299.67 0.0289 0.0210

Saturn -107822-12-18 11:45 J -37660211.15 -37660211.01 -37660210.86 0.0289 0.0117

Saturn -107821-03-16 06:43 J -37660122.38 -37660122.22 -37660122.06 0.0288 0.0021

Saturn -107821-06-13 01:55 J -37660033.58 -37660033.42 -37660033.26 0.0287 0.0076

Saturn -107821-09-09 21:21 J -37659944.75 -37659944.61 -37659944.48 0.0286 0.0173

Saturn -107821-12-07 16:48 J -37659855.84 -37659855.80 -37659855.74 0.0285 0.0272

Jupiter -107820-03-03 05:02 J -37659770.43 -37659770.29 -37659770.14 0.0497 0.0232

Mars -107820-03-05 05:45 J -37659768.40 -37659768.26 -37659768.11 0.1703 0.0337

Venus -107820-05-24 14:24 J -37659687.97 -37659687.90 -37659687.84 0.3765 0.3181

Jupiter -107820-06-01 01:11 J -37659680.59 -37659680.45 -37659680.31 0.0495 0.0276

Mars -107819-01-16 22:19 J -37659450.70 -37659450.57 -37659450.45 0.1812 0.0171

Mars -107818-12-23 15:50 J -37658744.87 -37658744.84 -37658744.82 0.1791 0.1740

Moon -107816-06-06 00:57 J -37658214.56 -37658214.46 -37658214.36 0.2735 0.1092

Earth -107816-06-06 00:57 J -37658214.56 -37658214.46 -37658214.36 0.2728 0.1157 *

Venus -107815-12-08 11:31 J -37657664.13 -37657664.02 -37657663.91 0.3760 0.1458

Jupiter -107814-05-04 14:52 J -37657517.01 -37657516.88 -37657516.75 0.0530 0.0212

Jupiter -107814-08-02 04:19 J -37657427.43 -37657427.32 -37657427.21 0.0532 0.0320

Earth -107813-11-25 09:50 J -37656946.23 -37656946.09 -37656945.95 0.2615 0.1024

Moon -107813-11-25 10:19 J -37656946.20 -37656946.07 -37656945.93 0.2621 0.1010 *

Mars -107811-07-26 09:35 J -37656338.23 -37656338.10 -37656337.97 0.1698 0.0848

Mars -107810-06-09 05:16 J -37656020.39 -37656020.28 -37656020.16 0.1817 0.0671

Moon -107809-05-29 20:52 J -37655664.71 -37655664.63 -37655664.54 0.2710 0.1740

Earth -107809-05-29 21:35 J -37655664.69 -37655664.60 -37655664.52 0.2716 0.1700 *

Venus -107809-06-23 09:07 J -37655640.24 -37655640.12 -37655640.00 0.3756 0.0332

Mars -107809-07-01 20:38 J -37655631.73 -37655631.64 -37655631.54 0.1717 0.1357

Jupiter -107809-12-20 06:00 J -37655460.36 -37655460.25 -37655460.13 0.0498 0.0354

Jupiter -107808-03-20 01:40 J -37655370.59 -37655370.43 -37655370.27 0.0496 0.0150

Mars -107808-05-14 23:45 J -37655314.59 -37655314.51 -37655314.43 0.1796 0.1298

Saturn -107806-04-14 01:11 J -37654615.55 -37654615.45 -37654615.35 0.0271 0.0202

Saturn -107806-07-11 14:38 J -37654527.02 -37654526.89 -37654526.76 0.0272 0.0129

Saturn -107806-10-08 04:04 J -37654438.47 -37654438.33 -37654438.19 0.0273 0.0057

Saturn -107805-01-04 17:16 J -37654349.93 -37654349.78 -37654349.64 0.0273 0.0016

Saturn -107805-04-02 06:14 J -37654261.38 -37654261.24 -37654261.10 0.0274 0.0087

Venus -107805-06-23 04:48 J -37654179.33 -37654179.30 -37654179.28 0.3613 0.3502

Saturn -107805-06-29 18:57 J -37654172.82 -37654172.71 -37654172.59 0.0275 0.0158

Saturn -107805-09-26 07:40 J -37654084.25 -37654084.18 -37654084.10 0.0275 0.0229

Venus -107803-01-07 07:11 J -37653616.30 -37653616.20 -37653616.10 0.3751 0.2199

Earth -107803-06-08 19:40 J -37653463.75 -37653463.68 -37653463.61 0.2733 0.2164

Moon -107803-06-08 20:09 J -37653463.72 -37653463.66 -37653463.60 0.2739 0.2259 *

Jupiter -107802-02-20 16:48 J -37653206.91 -37653206.80 -37653206.69 0.0529 0.0349

Jupiter -107802-05-21 06:43 J -37653117.35 -37653117.22 -37653117.09 0.0531 0.0188

Mars -107802-12-16 13:55 J -37652908.01 -37652907.92 -37652907.83 0.1694 0.1331

Mars -107801-10-29 12:00 J -37652590.09 -37652590.00 -37652589.90 0.1821 0.1193

Uranus -107800-08-22 17:31 J -37652292.81 -37652292.77 -37652292.71 0.0146 0.0138

Uranus -107800-11-19 00:00 J -37652204.60 -37652204.50 -37652204.39 0.0146 0.0113

Mars -107800-11-21 23:31 J -37652201.66 -37652201.52 -37652201.39 0.1712 0.0788

Venus -107799-01-07 01:11 J -37652155.55 -37652155.45 -37652155.35 0.3617 0.1921

Uranus -107799-02-15 06:28 J -37652116.36 -37652116.23 -37652116.09 0.0146 0.0089

Uranus -107799-05-14 13:11 J -37652028.10 -37652027.95 -37652027.80 0.0146 0.0063

Uranus -107799-08-10 19:40 J -37651939.84 -37651939.68 -37651939.51 0.0146 0.0039

Mars -107799-10-05 07:40 J -37651884.29 -37651884.18 -37651884.07 0.1801 0.0848

Uranus -107799-11-07 02:24 J -37651851.56 -37651851.40 -37651851.22 0.0146 0.0014

Uranus -107798-02-03 09:21 J -37651763.28 -37651763.11 -37651762.94 0.0146 0.0013

Uranus -107798-05-02 16:04 J -37651674.99 -37651674.83 -37651674.66 0.0146 0.0040

Uranus -107798-07-29 23:02 J -37651586.69 -37651586.54 -37651586.38 0.0147 0.0066

Uranus -107798-10-26 06:00 J -37651498.38 -37651498.25 -37651498.11 0.0147 0.0093

Uranus -107797-01-22 12:43 J -37651410.05 -37651409.97 -37651409.86 0.0147 0.0120

Uranus -107797-04-19 20:09 J -37651321.66 -37651321.66 -37651321.65 0.0147 0.0147

Jupiter -107797-10-08 06:43 J -37651150.26 -37651150.22 -37651150.18 0.0498 0.0478

Jupiter -107796-01-06 01:40 J -37651060.59 -37651060.43 -37651060.26 0.0496 0.0020

Moon -107796-06-01 15:35 J -37650913.96 -37650913.85 -37650913.74 0.2721 0.0724

Earth -107796-06-01 16:19 J -37650913.93 -37650913.82 -37650913.71 0.2720 0.0671 *

Venus -107794-07-23 21:35 J -37650131.72 -37650131.60 -37650131.48 0.3621 0.0387

Moon -107793-11-20 06:14 J -37649646.34 -37649646.24 -37649646.14 0.2629 0.1933

Earth -107793-11-20 07:26 J -37649646.30 -37649646.19 -37649646.09 0.2624 0.1915 *

Saturn -107792-02-06 18:43 J -37649567.81 -37649567.72 -37649567.62 0.0290 0.0232

Neptune -107792-04-01 06:43 J -37649514.24 -37649514.22 -37649514.18 0.0088 0.0086

Saturn -107792-05-06 13:11 J -37649479.09 -37649478.95 -37649478.81 0.0289 0.0139

Neptune -107792-06-28 08:52 J -37649426.18 -37649426.13 -37649426.07 0.0088 0.0082

Saturn -107792-08-03 07:55 J -37649390.33 -37649390.17 -37649390.01 0.0288 0.0043

Neptune -107792-09-24 10:33 J -37649338.11 -37649338.06 -37649337.97 0.0088 0.0078

Saturn -107792-10-31 02:52 J -37649301.54 -37649301.38 -37649301.21 0.0287 0.0053

Neptune -107792-12-21 12:43 J -37649250.04 -37649249.97 -37649249.87 0.0088 0.0073

Saturn -107791-01-27 22:19 J -37649212.71 -37649212.57 -37649212.43 0.0287 0.0150

Neptune -107791-03-19 14:52 J -37649161.97 -37649161.88 -37649161.78 0.0088 0.0068

Mars -107791-03-21 18:28 J -37649159.77 -37649159.73 -37649159.70 0.1826 0.1736

Saturn -107791-04-26 17:45 J -37649123.84 -37649123.76 -37649123.67 0.0286 0.0248

Neptune -107791-06-15 16:48 J -37649073.90 -37649073.80 -37649073.68 0.0088 0.0063

Neptune -107791-09-11 18:43 J -37648985.82 -37648985.72 -37648985.59 0.0088 0.0059

Neptune -107791-12-08 20:38 J -37648897.75 -37648897.64 -37648897.50 0.0088 0.0055

Jupiter -107791-12-09 18:57 J -37648896.77 -37648896.71 -37648896.65 0.0529 0.0481

Neptune -107790-03-06 22:48 J -37648809.67 -37648809.55 -37648809.42 0.0088 0.0049

Jupiter -107790-03-09 09:21 J -37648807.25 -37648807.11 -37648806.97 0.0531 0.0061

Mars -107790-04-14 02:38 J -37648771.53 -37648771.39 -37648771.24 0.1708 0.0250

Neptune -107790-06-03 00:57 J -37648721.59 -37648721.46 -37648721.33 0.0088 0.0045

Neptune -107790-08-30 02:38 J -37648633.51 -37648633.39 -37648633.24 0.0088 0.0041

Neptune -107790-11-26 04:48 J -37648545.44 -37648545.30 -37648545.16 0.0088 0.0036

Neptune -107789-02-22 06:28 J -37648457.36 -37648457.23 -37648457.08 0.0088 0.0032

Mars -107789-02-25 15:07 J -37648453.99 -37648453.87 -37648453.75 0.1806 0.0370

Neptune -107789-05-20 08:38 J -37648369.28 -37648369.14 -37648368.99 0.0088 0.0027

Neptune -107789-08-16 10:33 J -37648281.20 -37648281.06 -37648280.91 0.0088 0.0022

Neptune -107789-11-12 12:28 J -37648193.13 -37648192.98 -37648192.83 0.0088 0.0018

Venus -107788-02-05 17:31 J -37648107.88 -37648107.77 -37648107.65 0.3625 0.1098

Neptune -107788-02-08 14:24 J -37648105.05 -37648104.90 -37648104.75 0.0088 0.0013

Neptune -107788-05-07 16:19 J -37648016.97 -37648016.82 -37648016.67 0.0088 0.0009

Neptune -107788-08-03 18:14 J -37647928.89 -37647928.74 -37647928.59 0.0088 0.0004

Neptune -107788-10-30 20:09 J -37647840.81 -37647840.66 -37647840.51 0.0088 0.0002

Neptune -107787-01-26 21:50 J -37647752.74 -37647752.59 -37647752.44 0.0088 0.0005

Neptune -107787-04-24 23:45 J -37647664.66 -37647664.51 -37647664.36 0.0088 0.0009

Neptune -107787-07-22 01:26 J -37647576.58 -37647576.44 -37647576.29 0.0088 0.0014

Pluto -107787-09-20 14:52 J -37647515.88 -37647515.88 -37647515.86 0.0060 0.0060

Neptune -107787-10-18 03:21 J -37647488.50 -37647488.36 -37647488.21 0.0088 0.0018

Pluto -107787-12-17 16:19 J -37647427.90 -37647427.82 -37647427.72 0.0060 0.0053

Neptune -107786-01-14 05:02 J -37647400.42 -37647400.29 -37647400.14 0.0088 0.0023

Pluto -107786-03-15 17:31 J -37647339.88 -37647339.77 -37647339.62 0.0060 0.0045

Neptune -107786-04-12 06:57 J -37647312.35 -37647312.21 -37647312.06 0.0088 0.0026

Pluto -107786-06-11 19:26 J -37647251.84 -37647251.69 -37647251.54 0.0060 0.0038

Neptune -107786-07-09 08:52 J -37647224.27 -37647224.13 -37647223.99 0.0088 0.0031

Pluto -107786-09-07 20:24 J -37647163.80 -37647163.65 -37647163.46 0.0060 0.0031

Neptune -107786-10-05 10:33 J -37647136.19 -37647136.06 -37647135.92 0.0088 0.0035

Pluto -107786-12-04 22:19 J -37647075.75 -37647075.57 -37647075.39 0.0060 0.0023

Neptune -107785-01-01 12:14 J -37647048.11 -37647047.99 -37647047.85 0.0088 0.0039

Pluto -107785-03-01 23:31 J -37646987.70 -37646987.52 -37646987.32 0.0060 0.0016

Neptune -107785-03-29 14:09 J -37646960.03 -37646959.91 -37646959.78 0.0088 0.0043

Pluto -107785-05-29 01:11 J -37646899.64 -37646899.45 -37646899.25 0.0061 0.0008

Neptune -107785-06-25 15:50 J -37646871.96 -37646871.84 -37646871.71 0.0088 0.0048

Pluto -107785-08-25 02:38 J -37646811.58 -37646811.39 -37646811.19 0.0061 0.0001

Neptune -107785-09-21 17:45 J -37646783.88 -37646783.76 -37646783.64 0.0088 0.0052

Jupiter -107785-10-25 02:24 J -37646750.56 -37646750.40 -37646750.24 0.0496 0.0108

Pluto -107785-11-21 04:04 J -37646723.52 -37646723.33 -37646723.13 0.0061 0.0008

Neptune -107785-12-18 19:11 J -37646695.80 -37646695.70 -37646695.57 0.0088 0.0057

Jupiter -107784-01-22 22:33 J -37646660.65 -37646660.56 -37646660.46 0.0494 0.0403

Pluto -107784-02-17 05:31 J -37646635.45 -37646635.27 -37646635.07 0.0061 0.0015

Neptune -107784-03-16 21:07 J -37646607.72 -37646607.62 -37646607.51 0.0088 0.0060

Pluto -107784-05-16 06:57 J -37646547.38 -37646547.21 -37646547.02 0.0061 0.0023

Neptune -107784-06-12 22:48 J -37646519.64 -37646519.55 -37646519.44 0.0088 0.0065

Pluto -107784-08-12 08:09 J -37646459.31 -37646459.16 -37646458.97 0.0061 0.0031

Neptune -107784-09-09 00:43 J -37646431.56 -37646431.47 -37646431.38 0.0088 0.0069

Pluto -107784-11-08 09:50 J -37646371.23 -37646371.09 -37646370.93 0.0061 0.0038

Neptune -107784-12-06 02:24 J -37646343.48 -37646343.40 -37646343.31 0.0088 0.0073

Pluto -107783-02-04 11:02 J -37646283.14 -37646283.04 -37646282.89 0.0061 0.0046

Neptune -107783-03-04 04:19 J -37646255.39 -37646255.32 -37646255.25 0.0088 0.0077

Pluto -107783-05-03 12:28 J -37646195.05 -37646194.98 -37646194.86 0.0061 0.0054

Neptune -107783-05-31 05:31 J -37646167.31 -37646167.27 -37646167.20 0.0088 0.0082

Moon -107783-06-04 10:33 J -37646163.17 -37646163.06 -37646162.94 0.2729 0.0274

Earth -107783-06-04 11:16 J -37646163.14 -37646163.03 -37646162.92 0.2725 0.0360 *

Venus -107783-08-22 13:26 J -37646084.03 -37646083.94 -37646083.86 0.3630 0.2538

Neptune -107783-08-27 07:11 J -37646079.22 -37646079.20 -37646079.14 0.0088 0.0086

Mars -107781-09-03 06:14 J -37645341.39 -37645341.24 -37645341.09 0.1703 0.0283

Mars -107780-07-17 22:33 J -37645023.69 -37645023.56 -37645023.44 0.1811 0.0119

Moon -107780-11-23 11:16 J -37644895.18 -37644895.03 -37644894.88 0.2625 0.0410

Earth -107780-11-23 11:31 J -37644895.17 -37644895.02 -37644894.87 0.2619 0.0300 *

Jupiter -107779-12-26 11:45 J -37644497.15 -37644497.01 -37644496.87 0.0531 0.0069

Jupiter -107778-03-26 00:57 J -37644407.53 -37644407.46 -37644407.39 0.0533 0.0459

Mars -107778-06-23 15:50 J -37644317.85 -37644317.84 -37644317.83 0.1791 0.1781

Saturn -107777-08-31 02:38 J -37643883.47 -37643883.39 -37643883.31 0.0271 0.0225

Saturn -107777-11-27 16:04 J -37643794.95 -37643794.83 -37643794.70 0.0271 0.0152

Saturn -107776-02-24 05:31 J -37643706.41 -37643706.27 -37643706.13 0.0272 0.0080

Saturn -107776-05-23 18:43 J -37643617.86 -37643617.72 -37643617.57 0.0273 0.0010

Moon -107776-05-28 07:11 J -37643613.24 -37643613.20 -37643613.16 0.2705 0.2480

Earth -107776-05-28 07:26 J -37643613.23 -37643613.19 -37643613.15 0.2712 0.2525 *

Saturn -107776-08-20 07:55 J -37643529.31 -37643529.17 -37643529.03 0.0274 0.0065

Saturn -107776-11-16 20:52 J -37643440.76 -37643440.63 -37643440.51 0.0274 0.0136

Saturn -107775-02-13 09:21 J -37643352.20 -37643352.11 -37643352.01 0.0275 0.0207

Saturn -107775-05-12 22:04 J -37643263.58 -37643263.58 -37643263.58 0.0276 0.0276

Jupiter -107773-08-13 02:38 J -37642440.53 -37642440.39 -37642440.25 0.0497 0.0237

Jupiter -107773-11-10 22:33 J -37642350.69 -37642350.56 -37642350.42 0.0495 0.0270

Mars -107771-01-24 10:04 J -37641911.21 -37641911.08 -37641910.95 0.1699 0.0794

Mars -107771-12-08 05:31 J -37641593.39 -37641593.27 -37641593.16 0.1816 0.0628

Earth -107770-06-07 06:00 J -37641412.35 -37641412.25 -37641412.16 0.2729 0.1363

Moon -107770-06-07 06:00 J -37641412.34 -37641412.25 -37641412.16 0.2737 0.1443 *

Mars -107770-12-31 21:21 J -37641204.70 -37641204.61 -37641204.53 0.1717 0.1414

Mars -107769-11-13 00:00 J -37640887.58 -37640887.50 -37640887.42 0.1796 0.1344

Jupiter -107767-10-14 13:40 J -37640187.06 -37640186.93 -37640186.80 0.0530 0.0205

Earth -107767-11-26 16:04 J -37640143.96 -37640143.83 -37640143.70 0.2614 0.1359

Moon -107767-11-26 17:02 J -37640143.91 -37640143.79 -37640143.67 0.2620 0.1522 *

Jupiter -107766-01-12 03:07 J -37640097.47 -37640097.37 -37640097.26 0.0532 0.0328

Venus -107764-12-29 13:11 J -37639015.03 -37639014.95 -37639014.86 0.3764 0.2584

Moon -107763-05-31 01:55 J -37638862.52 -37638862.42 -37638862.33 0.2713 0.1585

Earth -107763-05-31 02:24 J -37638862.49 -37638862.40 -37638862.30 0.2716 0.1489 *

Saturn -107763-06-26 19:26 J -37638835.75 -37638835.69 -37638835.61 0.0290 0.0257

Saturn -107763-09-23 13:55 J -37638747.05 -37638746.92 -37638746.79 0.0289 0.0164

Saturn -107763-12-21 08:38 J -37638658.30 -37638658.14 -37638657.98 0.0288 0.0069

Saturn -107762-03-20 03:35 J -37638569.51 -37638569.35 -37638569.18 0.0287 0.0027

Mars -107762-06-16 14:09 J -37638481.00 -37638480.91 -37638480.81 0.1694 0.1287

Saturn -107762-06-16 22:48 J -37638480.70 -37638480.55 -37638480.40 0.0287 0.0125

Saturn -107762-09-13 18:28 J -37638391.83 -37638391.73 -37638391.63 0.0286 0.0222

Mars -107761-04-29 12:00 J -37638163.09 -37638163.00 -37638162.90 0.1822 0.1152

Jupiter -107761-06-01 03:35 J -37638130.46 -37638130.35 -37638130.24 0.0497 0.0359

Jupiter -107761-08-29 23:02 J -37638040.69 -37638040.54 -37638040.38 0.0496 0.0145

Uranus -107760-04-15 16:33 J -37637811.86 -37637811.81 -37637811.74 0.0133 0.0121

Mars -107760-05-23 00:00 J -37637774.63 -37637774.50 -37637774.37 0.1712 0.0844

Uranus -107760-07-12 20:38 J -37637723.73 -37637723.64 -37637723.55 0.0133 0.0104

Uranus -107760-10-09 00:28 J -37637635.59 -37637635.48 -37637635.37 0.0133 0.0087

Uranus -107759-01-05 04:19 J -37637547.44 -37637547.32 -37637547.19 0.0133 0.0070

Uranus -107759-04-03 08:09 J -37637459.29 -37637459.16 -37637459.02 0.0133 0.0054

Mars -107759-04-05 07:40 J -37637457.29 -37637457.18 -37637457.07 0.1801 0.0885

Uranus -107759-06-30 12:00 J -37637371.14 -37637371.00 -37637370.86 0.0133 0.0037

Uranus -107759-09-26 15:50 J -37637282.99 -37637282.84 -37637282.70 0.0133 0.0021

Uranus -107759-12-23 19:26 J -37637194.84 -37637194.69 -37637194.54 0.0133 0.0004

Uranus -107758-03-21 23:02 J -37637106.68 -37637106.54 -37637106.39 0.0132 0.0012

Uranus -107758-06-18 02:38 J -37637018.53 -37637018.39 -37637018.24 0.0132 0.0028

Venus -107758-07-15 10:33 J -37636991.18 -37636991.06 -37636990.94 0.3759 0.0852

Uranus -107758-09-14 06:14 J -37636930.37 -37636930.24 -37636930.10 0.0132 0.0044

Uranus -107758-12-11 10:04 J -37636842.21 -37636842.08 -37636841.95 0.0132 0.0060

Uranus -107757-03-08 13:26 J -37636754.05 -37636753.94 -37636753.82 0.0132 0.0075

Uranus -107757-06-04 17:02 J -37636665.89 -37636665.79 -37636665.68 0.0132 0.0091

Earth -107757-06-09 00:28 J -37636661.53 -37636661.48 -37636661.42 0.2733 0.2369

Moon -107757-06-09 01:11 J -37636661.50 -37636661.45 -37636661.40 0.2737 0.2365 *

Uranus -107757-08-31 20:38 J -37636577.72 -37636577.64 -37636577.56 0.0132 0.0106

Uranus -107757-11-27 23:45 J -37636489.55 -37636489.51 -37636489.44 0.0132 0.0122

Jupiter -107755-08-02 14:52 J -37635876.99 -37635876.88 -37635876.78 0.0529 0.0352

Jupiter -107755-10-31 04:48 J -37635787.43 -37635787.30 -37635787.17 0.0531 0.0184

Venus -107752-01-28 08:09 J -37634967.28 -37634967.16 -37634967.04 0.3754 0.0962

Mars -107752-09-19 18:43 J -37634732.77 -37634732.72 -37634732.67 0.1826 0.1680

Mars -107751-10-13 03:07 J -37634344.52 -37634344.37 -37634344.22 0.1708 0.0295

Moon -107750-06-02 20:38 J -37634111.75 -37634111.64 -37634111.53 0.2723 0.0545

Earth -107750-06-02 21:21 J -37634111.72 -37634111.61 -37634111.50 0.2721 0.0461 *

Mars -107750-08-26 15:21 J -37634026.98 -37634026.86 -37634026.74 0.1807 0.0419

Jupiter -107749-03-20 04:33 J -37633820.34 -37633820.31 -37633820.27 0.0498 0.0480

Jupiter -107749-06-17 23:45 J -37633730.67 -37633730.51 -37633730.35 0.0496 0.0018

Venus -107748-01-28 03:21 J -37633506.43 -37633506.36 -37633506.29 0.3614 0.2943

Saturn -107747-01-18 05:45 J -37633151.32 -37633151.26 -37633151.19 0.0271 0.0239

Saturn -107747-04-16 19:26 J -37633062.80 -37633062.69 -37633062.57 0.0272 0.0166

Saturn -107747-07-14 08:52 J -37632974.27 -37632974.13 -37632973.99 0.0272 0.0093

Venus -107747-08-14 06:14 J -37632943.32 -37632943.24 -37632943.16 0.3749 0.2829

Saturn -107747-10-10 22:19 J -37632885.72 -37632885.57 -37632885.43 0.0273 0.0022

Moon -107747-11-21 12:43 J -37632844.08 -37632843.97 -37632843.86 0.2629 0.1728

Earth -107747-11-21 13:40 J -37632844.05 -37632843.93 -37632843.81 0.2623 0.1588 *

Saturn -107746-01-07 11:16 J -37632797.17 -37632797.03 -37632796.89 0.0274 0.0051

Saturn -107746-04-06 00:14 J -37632708.62 -37632708.49 -37632708.36 0.0275 0.0123

Saturn -107746-07-03 12:57 J -37632620.06 -37632619.96 -37632619.86 0.0275 0.0194

Saturn -107746-09-30 01:40 J -37632531.47 -37632531.43 -37632531.39 0.0276 0.0263

Jupiter -107743-05-21 16:33 J -37631566.86 -37631566.81 -37631566.76 0.0529 0.0490

Venus -107743-08-14 00:00 J -37631482.61 -37631482.50 -37631482.39 0.3618 0.1374

Jupiter -107743-08-19 06:57 J -37631477.35 -37631477.21 -37631477.07 0.0531 0.0052

Mars -107741-03-04 06:28 J -37630914.37 -37630914.23 -37630914.08 0.1703 0.0239

Mars -107740-01-15 22:33 J -37630596.68 -37630596.56 -37630596.43 0.1811 0.0081

Venus -107737-02-27 20:09 J -37629458.78 -37629458.66 -37629458.54 0.3622 0.0149

Jupiter -107737-04-06 00:00 J -37629420.66 -37629420.50 -37629420.34 0.0496 0.0112

Moon -107737-06-04 15:50 J -37629360.95 -37629360.84 -37629360.73 0.2732 0.0565

Earth -107737-06-04 16:04 J -37629360.94 -37629360.83 -37629360.72 0.2725 0.0568 *

Jupiter -107737-07-04 20:09 J -37629330.75 -37629330.66 -37629330.56 0.0495 0.0399

Saturn -107734-11-13 21:35 J -37628103.64 -37628103.60 -37628103.55 0.0290 0.0276

Earth -107734-11-24 18:00 J -37628092.90 -37628092.75 -37628092.60 0.2618 0.0046

Moon -107734-11-24 18:14 J -37628092.89 -37628092.74 -37628092.59 0.2625 0.0139 *

Saturn -107733-02-10 15:50 J -37628014.96 -37628014.84 -37628014.71 0.0289 0.0183

Saturn -107733-05-09 10:33 J -37627926.22 -37627926.06 -37627925.91 0.0288 0.0089

Saturn -107733-08-06 05:16 J -37627837.44 -37627837.28 -37627837.11 0.0288 0.0009

Saturn -107733-11-03 00:28 J -37627748.63 -37627748.48 -37627748.32 0.0287 0.0104

Saturn -107732-01-30 19:55 J -37627659.78 -37627659.67 -37627659.55 0.0286 0.0201

Mars -107732-07-25 10:33 J -37627484.20 -37627484.06 -37627483.93 0.1699 0.0745

Venus -107732-09-12 16:04 J -37627434.94 -37627434.83 -37627434.72 0.3627 0.1610

Jupiter -107731-06-07 09:21 J -37627167.25 -37627167.11 -37627166.97 0.0531 0.0081

Mars -107731-06-08 05:31 J -37627166.39 -37627166.27 -37627166.15 0.1817 0.0580

Jupiter -107731-09-04 22:33 J -37627077.63 -37627077.56 -37627077.49 0.0533 0.0449

Moon -107730-05-29 12:14 J -37626811.04 -37626810.99 -37626810.94 0.2705 0.2407

Earth -107730-05-29 12:28 J -37626811.04 -37626810.98 -37626810.92 0.2712 0.2313 *

Mars -107730-07-01 21:35 J -37626777.67 -37626777.60 -37626777.52 0.1717 0.1466

Mars -107729-05-14 00:00 J -37626460.58 -37626460.50 -37626460.42 0.1796 0.1384

Venus -107726-03-29 11:45 J -37625411.07 -37625411.01 -37625410.94 0.3631 0.3036

Jupiter -107725-01-24 00:43 J -37625110.61 -37625110.47 -37625110.33 0.0497 0.0236

Jupiter -107725-04-22 20:24 J -37625020.78 -37625020.65 -37625020.51 0.0495 0.0270

Earth -107724-06-07 10:48 J -37624610.14 -37624610.05 -37624609.96 0.2729 0.1576

Moon -107724-06-07 11:02 J -37624610.13 -37624610.04 -37624609.95 0.2736 0.1540 *

Mars -107723-12-15 14:52 J -37624053.98 -37624053.88 -37624053.78 0.1694 0.1233

Mars -107722-10-29 12:28 J -37623736.09 -37623735.98 -37623735.88 0.1821 0.1100

Mars -107721-11-21 00:28 J -37623347.60 -37623347.48 -37623347.35 0.1712 0.0902

Earth -107721-11-26 22:33 J -37623341.68 -37623341.56 -37623341.45 0.2614 0.1691

Moon -107721-11-26 23:31 J -37623341.63 -37623341.52 -37623341.40 0.2619 0.1682 *

Mars -107720-10-04 07:55 J -37623030.28 -37623030.17 -37623030.07 0.1801 0.0934

Jupiter -107719-03-26 11:31 J -37622857.15 -37622857.02 -37622856.89 0.0530 0.0210

Jupiter -107719-06-24 01:11 J -37622767.56 -37622767.45 -37622767.34 0.0532 0.0323

Saturn -107718-06-07 07:11 J -37622419.23 -37622419.20 -37622419.16 0.0270 0.0262

Saturn -107718-09-03 21:07 J -37622330.73 -37622330.62 -37622330.52 0.0271 0.0188

Saturn -107718-12-01 10:33 J -37622242.19 -37622242.06 -37622241.93 0.0272 0.0115

Saturn -107717-02-27 23:45 J -37622153.65 -37622153.51 -37622153.36 0.0273 0.0044

Saturn -107717-05-26 12:57 J -37622065.10 -37622064.96 -37622064.81 0.0273 0.0030

Moon -107717-05-31 06:43 J -37622060.32 -37622060.22 -37622060.12 0.2716 0.1298

Earth -107717-05-31 07:26 J -37622060.29 -37622060.19 -37622060.09 0.2717 0.1282 *

Saturn -107717-08-23 01:55 J -37621976.55 -37621976.42 -37621976.28 0.0274 0.0101

Saturn -107717-11-19 14:52 J -37621887.99 -37621887.88 -37621887.77 0.0275 0.0171

Saturn -107716-02-16 03:35 J -37621799.42 -37621799.35 -37621799.29 0.0276 0.0242

Uranus -107716-09-12 00:28 J -37621591.53 -37621591.48 -37621591.40 0.0146 0.0133

Uranus -107716-12-09 06:57 J -37621503.31 -37621503.21 -37621503.09 0.0146 0.0108

Uranus -107715-03-07 13:40 J -37621415.07 -37621414.93 -37621414.79 0.0146 0.0083

Uranus -107715-06-03 20:09 J -37621326.81 -37621326.66 -37621326.50 0.0146 0.0058

Uranus -107715-08-31 02:52 J -37621238.54 -37621238.38 -37621238.21 0.0146 0.0033

Uranus -107715-11-27 09:35 J -37621150.27 -37621150.10 -37621149.93 0.0146 0.0007

Uranus -107714-02-23 16:19 J -37621061.99 -37621061.82 -37621061.65 0.0146 0.0019

Uranus -107714-05-22 23:02 J -37620973.70 -37620973.54 -37620973.37 0.0146 0.0045

Uranus -107714-08-19 06:00 J -37620885.40 -37620885.25 -37620885.09 0.0146 0.0071

Jupiter -107714-11-12 01:11 J -37620800.56 -37620800.45 -37620800.34 0.0497 0.0363

Uranus -107714-11-15 12:57 J -37620797.08 -37620796.96 -37620796.83 0.0147 0.0098

Jupiter -107713-02-09 20:38 J -37620710.80 -37620710.64 -37620710.48 0.0495 0.0138

Uranus -107713-02-11 19:55 J -37620708.75 -37620708.67 -37620708.57 0.0147 0.0125

Venus -107712-01-19 15:07 J -37620365.90 -37620365.87 -37620365.85 0.3767 0.3683

Mars -107712-03-20 18:43 J -37620305.77 -37620305.72 -37620305.67 0.1826 0.1642

Mars -107711-04-13 03:35 J -37619917.50 -37619917.35 -37619917.21 0.1708 0.0349

Earth -107711-06-10 05:31 J -37619859.30 -37619859.27 -37619859.23 0.2734 0.2572

Moon -107711-06-10 06:14 J -37619859.25 -37619859.24 -37619859.23 0.2736 0.2715 *

Mars -107710-02-24 15:21 J -37619599.98 -37619599.86 -37619599.74 0.1806 0.0460

Neptune -107709-03-11 03:35 J -37619219.37 -37619219.35 -37619219.29 0.0089 0.0086

Neptune -107709-06-07 06:00 J -37619131.30 -37619131.25 -37619131.17 0.0089 0.0081

Neptune -107709-09-03 08:38 J -37619043.22 -37619043.14 -37619043.06 0.0089 0.0076

Neptune -107709-11-30 10:33 J -37618955.13 -37618955.06 -37618954.94 0.0089 0.0072

Neptune -107708-02-26 13:11 J -37618867.05 -37618866.95 -37618866.83 0.0089 0.0067

Neptune -107708-05-25 15:35 J -37618778.96 -37618778.85 -37618778.73 0.0089 0.0062

Neptune -107708-08-21 18:14 J -37618690.87 -37618690.74 -37618690.62 0.0089 0.0057

Neptune -107708-11-17 20:09 J -37618602.77 -37618602.66 -37618602.51 0.0089 0.0053

Jupiter -107707-01-12 13:26 J -37618547.05 -37618546.94 -37618546.83 0.0529 0.0346

Neptune -107707-02-13 22:48 J -37618514.68 -37618514.55 -37618514.40 0.0089 0.0048

Jupiter -107707-04-12 03:21 J -37618457.49 -37618457.36 -37618457.23 0.0531 0.0191

Neptune -107707-05-13 01:11 J -37618426.58 -37618426.45 -37618426.30 0.0089 0.0043

Venus -107707-08-05 12:00 J -37618342.10 -37618342.00 -37618341.90 0.3762 0.2001

Neptune -107707-08-09 03:50 J -37618338.49 -37618338.34 -37618338.19 0.0089 0.0038

Neptune -107707-11-05 06:14 J -37618250.39 -37618250.24 -37618250.08 0.0089 0.0033

Neptune -107706-02-01 08:38 J -37618162.29 -37618162.14 -37618161.98 0.0089 0.0028

Neptune -107706-04-30 11:02 J -37618074.19 -37618074.04 -37618073.87 0.0089 0.0024

Neptune -107706-07-27 13:40 J -37617986.09 -37617985.93 -37617985.77 0.0089 0.0019

Neptune -107706-10-23 16:04 J -37617897.99 -37617897.83 -37617897.66 0.0089 0.0014

Neptune -107705-01-19 18:43 J -37617809.89 -37617809.72 -37617809.55 0.0089 0.0009

Neptune -107705-04-16 21:07 J -37617721.78 -37617721.62 -37617721.45 0.0089 0.0004

Neptune -107705-07-13 23:45 J -37617633.68 -37617633.51 -37617633.34 0.0089 0.0001

Neptune -107705-10-10 02:24 J -37617545.57 -37617545.40 -37617545.24 0.0089 0.0007

Neptune -107704-01-06 04:48 J -37617457.46 -37617457.30 -37617457.13 0.0089 0.0012

Neptune -107704-04-04 07:26 J -37617369.35 -37617369.19 -37617369.02 0.0089 0.0017

Moon -107704-06-03 01:40 J -37617309.54 -37617309.43 -37617309.32 0.2724 0.0337

Earth -107704-06-03 02:24 J -37617309.52 -37617309.40 -37617309.29 0.2721 0.0263 *

Saturn -107704-06-29 16:19 J -37617282.92 -37617282.82 -37617282.70 0.0290 0.0209

Neptune -107704-07-01 09:50 J -37617281.24 -37617281.09 -37617280.92 0.0089 0.0022

Saturn -107704-09-26 10:48 J -37617194.19 -37617194.05 -37617193.89 0.0289 0.0116

Neptune -107704-09-27 12:28 J -37617193.13 -37617192.98 -37617192.81 0.0089 0.0027

Saturn -107704-12-24 05:45 J -37617105.42 -37617105.26 -37617105.09 0.0288 0.0020

Neptune -107704-12-24 15:07 J -37617105.02 -37617104.87 -37617104.71 0.0089 0.0032

Neptune -107703-03-22 17:45 J -37617016.91 -37617016.76 -37617016.60 0.0089 0.0037

Saturn -107703-03-23 00:57 J -37617016.62 -37617016.46 -37617016.30 0.0287 0.0077 *

Neptune -107703-06-18 20:24 J -37616928.79 -37616928.65 -37616928.50 0.0089 0.0042

Saturn -107703-06-19 20:09 J -37616927.79 -37616927.66 -37616927.52 0.0286 0.0175

Neptune -107703-09-14 22:48 J -37616840.68 -37616840.55 -37616840.39 0.0089 0.0048

Saturn -107703-09-16 15:50 J -37616838.88 -37616838.84 -37616838.78 0.0285 0.0272

Neptune -107703-12-12 01:26 J -37616752.56 -37616752.44 -37616752.29 0.0089 0.0053

Neptune -107702-03-10 04:19 J -37616664.44 -37616664.32 -37616664.18 0.0089 0.0058

Neptune -107702-06-06 06:57 J -37616576.32 -37616576.21 -37616576.08 0.0089 0.0063

Jupiter -107702-08-31 02:09 J -37616490.44 -37616490.41 -37616490.37 0.0498 0.0485

Neptune -107702-09-02 09:50 J -37616488.20 -37616488.09 -37616487.98 0.0089 0.0068

Mars -107702-09-03 06:57 J -37616487.36 -37616487.21 -37616487.06 0.1703 0.0185

Jupiter -107702-11-28 21:21 J -37616400.78 -37616400.61 -37616400.45 0.0496 0.0019

Neptune -107702-11-29 12:14 J -37616400.07 -37616399.99 -37616399.88 0.0089 0.0074

Venus -107701-02-19 09:35 J -37616318.22 -37616318.10 -37616317.98 0.3758 0.0254

Neptune -107701-02-25 14:52 J -37616311.94 -37616311.88 -37616311.78 0.0089 0.0079

Neptune -107701-05-23 17:45 J -37616223.80 -37616223.76 -37616223.69 0.0089 0.0084

Mars -107701-07-16 22:33 J -37616169.68 -37616169.56 -37616169.43 0.1812 0.0063

Moon -107701-11-21 19:11 J -37616041.83 -37616041.70 -37616041.57 0.2629 0.1308

Earth -107701-11-21 19:55 J -37616041.80 -37616041.67 -37616041.54 0.2623 0.1273 *

Venus -107696-09-04 07:11 J -37614294.31 -37614294.20 -37614294.09 0.3753 0.1587

Jupiter -107696-10-31 14:38 J -37614236.94 -37614236.89 -37614236.84 0.0528 0.0492

Jupiter -107695-01-29 05:02 J -37614147.43 -37614147.29 -37614147.15 0.0530 0.0051

Pluto -107693-04-13 11:16 J -37613342.06 -37613342.03 -37613341.99 0.0085 0.0081

Pluto -107693-07-10 12:28 J -37613254.05 -37613253.98 -37613253.89 0.0085 0.0067

Pluto -107693-10-06 13:55 J -37613166.02 -37613165.92 -37613165.81 0.0085 0.0053

Pluto -107692-01-02 15:21 J -37613077.98 -37613077.86 -37613077.75 0.0084 0.0039

Mars -107692-01-23 10:48 J -37613057.19 -37613057.05 -37613056.92 0.1699 0.0698

Pluto -107692-03-31 16:33 J -37612989.94 -37612989.81 -37612989.68 0.0084 0.0025

Pluto -107692-06-27 17:45 J -37612901.89 -37612901.76 -37612901.63 0.0084 0.0011

Venus -107692-09-04 02:09 J -37612833.50 -37612833.41 -37612833.32 0.3615 0.2384

Pluto -107692-09-23 18:57 J -37612813.84 -37612813.71 -37612813.57 0.0084 0.0004

Mars -107692-12-07 05:45 J -37612739.38 -37612739.26 -37612739.14 0.1817 0.0530

Pluto -107692-12-20 20:09 J -37612725.78 -37612725.66 -37612725.52 0.0084 0.0017

Pluto -107691-03-18 21:21 J -37612637.73 -37612637.61 -37612637.48 0.0084 0.0031

Moon -107691-06-05 20:52 J -37612558.73 -37612558.63 -37612558.52 0.2733 0.0758

Earth -107691-06-05 21:07 J -37612558.73 -37612558.62 -37612558.51 0.2726 0.0769 *

Pluto -107691-06-14 22:48 J -37612549.66 -37612549.55 -37612549.44 0.0084 0.0044

Pluto -107691-09-10 23:45 J -37612461.59 -37612461.51 -37612461.40 0.0083 0.0058

Pluto -107691-12-08 00:57 J -37612373.52 -37612373.46 -37612373.38 0.0083 0.0071

Mars -107691-12-30 22:19 J -37612350.64 -37612350.57 -37612350.50 0.1717 0.1522

Venus -107690-03-21 05:31 J -37612270.32 -37612270.27 -37612270.23 0.3748 0.3475

Jupiter -107690-09-16 21:50 J -37612090.75 -37612090.59 -37612090.43 0.0497 0.0114

Mars -107690-11-13 00:00 J -37612033.57 -37612033.50 -37612033.42 0.1796 0.1429

Jupiter -107690-12-15 18:00 J -37612000.84 -37612000.75 -37612000.64 0.0495 0.0398

Saturn -107688-01-21 00:00 J -37611598.59 -37611598.50 -37611598.39 0.0271 0.0204

Saturn -107688-04-19 13:40 J -37611510.06 -37611509.93 -37611509.80 0.0272 0.0130

Saturn -107688-07-17 03:07 J -37611421.51 -37611421.37 -37611421.23 0.0273 0.0057

Saturn -107688-10-13 16:19 J -37611332.97 -37611332.82 -37611332.68 0.0273 0.0015

Earth -107688-11-25 00:14 J -37611290.64 -37611290.49 -37611290.34 0.2618 0.0367

Moon -107688-11-25 00:57 J -37611290.61 -37611290.46 -37611290.32 0.2624 0.0354 *

Saturn -107687-01-10 05:16 J -37611244.41 -37611244.28 -37611244.14 0.0274 0.0087

Saturn -107687-04-08 18:14 J -37611155.86 -37611155.74 -37611155.62 0.0275 0.0158

Saturn -107687-07-06 06:57 J -37611067.29 -37611067.21 -37611067.13 0.0276 0.0228

Venus -107686-03-20 22:48 J -37610809.67 -37610809.55 -37610809.44 0.3619 0.0841

Moon -107684-05-29 17:02 J -37610008.87 -37610008.79 -37610008.72 0.2707 0.2084

Earth -107684-05-29 17:31 J -37610008.84 -37610008.77 -37610008.70 0.2713 0.2105 *

Jupiter -107684-11-17 06:57 J -37609837.35 -37609837.21 -37609837.07 0.0530 0.0089

Jupiter -107683-02-14 20:09 J -37609747.74 -37609747.66 -37609747.58 0.0532 0.0439

Mars -107683-06-15 15:07 J -37609626.97 -37609626.87 -37609626.77 0.1694 0.1186

Mars -107682-04-29 12:28 J -37609309.08 -37609308.98 -37609308.88 0.1821 0.1053

Mars -107681-05-22 00:43 J -37608920.59 -37608920.47 -37608920.34 0.1712 0.0946

Venus -107681-10-03 18:57 J -37608785.83 -37608785.71 -37608785.60 0.3624 0.0682

Mars -107680-04-04 07:55 J -37608603.27 -37608603.17 -37608603.06 0.1801 0.0979

Earth -107678-06-08 15:50 J -37607807.92 -37607807.84 -37607807.76 0.2730 0.1778

Moon -107678-06-08 16:19 J -37607807.90 -37607807.82 -37607807.74 0.2736 0.1858 *

Jupiter -107678-07-05 22:19 J -37607780.71 -37607780.57 -37607780.43 0.0497 0.0241

Jupiter -107678-10-03 18:00 J -37607690.88 -37607690.75 -37607690.61 0.0495 0.0265

Uranus -107676-05-05 23:45 J -37607110.58 -37607110.51 -37607110.44 0.0133 0.0118

Uranus -107676-08-02 03:35 J -37607022.44 -37607022.35 -37607022.25 0.0133 0.0101

Uranus -107676-10-29 07:11 J -37606934.30 -37606934.20 -37606934.07 0.0133 0.0084

Uranus -107675-01-25 11:16 J -37606846.15 -37606846.03 -37606845.90 0.0133 0.0067

Venus -107675-04-19 14:38 J -37606761.98 -37606761.89 -37606761.79 0.3628 0.2118

Uranus -107675-04-23 15:07 J -37606758.00 -37606757.87 -37606757.73 0.0133 0.0050

Uranus -107675-07-20 18:57 J -37606669.85 -37606669.71 -37606669.57 0.0133 0.0034

Uranus -107675-10-16 22:33 J -37606581.70 -37606581.56 -37606581.41 0.0133 0.0018

Saturn -107675-11-16 18:43 J -37606550.82 -37606550.72 -37606550.63 0.0290 0.0228

Earth -107675-11-28 05:02 J -37606539.39 -37606539.29 -37606539.20 0.2613 0.2029

Moon -107675-11-28 06:14 J -37606539.32 -37606539.24 -37606539.16 0.2616 0.2228 *

Uranus -107674-01-13 02:24 J -37606493.55 -37606493.40 -37606493.25 0.0133 0.0001

Saturn -107674-02-13 12:57 J -37606462.10 -37606461.96 -37606461.81 0.0289 0.0134

Uranus -107674-04-11 06:00 J -37606405.39 -37606405.25 -37606405.10 0.0133 0.0016

Saturn -107674-05-13 07:40 J -37606373.34 -37606373.18 -37606373.01 0.0288 0.0040

Uranus -107674-07-08 09:50 J -37606317.23 -37606317.09 -37606316.95 0.0132 0.0032

Saturn -107674-08-10 02:52 J -37606284.55 -37606284.38 -37606284.22 0.0287 0.0057

Uranus -107674-10-04 13:26 J -37606229.08 -37606228.94 -37606228.81 0.0132 0.0047

Mars -107674-11-05 19:40 J -37606196.70 -37606196.68 -37606196.65 0.1690 0.1656

Saturn -107674-11-06 22:04 J -37606195.72 -37606195.58 -37606195.44 0.0286 0.0154

Uranus -107674-12-31 16:48 J -37606140.92 -37606140.80 -37606140.67 0.0132 0.0064

Saturn -107673-02-03 17:45 J -37606106.84 -37606106.76 -37606106.68 0.0286 0.0252

Uranus -107673-03-28 20:24 J -37606052.76 -37606052.65 -37606052.53 0.0132 0.0079

Uranus -107673-06-25 00:14 J -37605964.59 -37605964.49 -37605964.40 0.0132 0.0095

Mars -107673-09-18 18:57 J -37605878.77 -37605878.71 -37605878.65 0.1826 0.1589

Uranus -107673-09-21 03:35 J -37605876.42 -37605876.35 -37605876.27 0.0132 0.0110

Uranus -107673-12-18 07:11 J -37605788.24 -37605788.20 -37605788.16 0.0132 0.0125

Jupiter -107672-09-05 09:07 J -37605527.25 -37605527.12 -37605526.99 0.0530 0.0221

Mars -107672-10-12 04:04 J -37605490.48 -37605490.33 -37605490.18 0.1708 0.0403

Jupiter -107672-12-03 22:48 J -37605437.66 -37605437.55 -37605437.44 0.0532 0.0313

Moon -107671-06-01 11:31 J -37605258.12 -37605258.02 -37605257.92 0.2717 0.1220

Earth -107671-06-01 12:28 J -37605258.09 -37605257.98 -37605257.88 0.2717 0.1073 *

Mars -107671-08-25 15:35 J -37605172.97 -37605172.85 -37605172.73 0.1806 0.0508

Venus -107670-11-03 10:19 J -37604738.09 -37604738.07 -37604738.04 0.3632 0.3528

Earth -107668-11-19 22:04 J -37603990.61 -37603990.58 -37603990.55 0.2627 0.2555

Jupiter -107666-04-23 23:16 J -37603470.64 -37603470.53 -37603470.42 0.0497 0.0363

Jupiter -107666-07-22 18:28 J -37603380.88 -37603380.73 -37603380.57 0.0495 0.0139

Mars -107662-03-04 07:26 J -37602060.34 -37602060.19 -37602060.04 0.1703 0.0132

Mars -107661-01-15 22:48 J -37601742.67 -37601742.55 -37601742.42 0.1811 0.0032

Jupiter -107660-06-24 11:16 J -37601217.13 -37601217.03 -37601216.92 0.0530 0.0352

Jupiter -107660-09-22 01:26 J -37601127.57 -37601127.44 -37601127.31 0.0532 0.0186

Saturn -107659-06-10 01:40 J -37600866.51 -37600866.43 -37600866.35 0.0271 0.0225

Saturn -107659-09-06 15:21 J -37600777.98 -37600777.86 -37600777.74 0.0271 0.0153

Saturn -107659-12-04 04:48 J -37600689.44 -37600689.30 -37600689.16 0.0272 0.0081

Saturn -107658-03-02 18:00 J -37600600.90 -37600600.75 -37600600.61 0.0273 0.0009

Saturn -107658-05-30 06:57 J -37600512.35 -37600512.21 -37600512.07 0.0274 0.0064

Moon -107658-06-04 06:43 J -37600507.33 -37600507.22 -37600507.11 0.2727 0.0079

Earth -107658-06-04 07:11 J -37600507.31 -37600507.20 -37600507.08 0.2722 0.0100 *

Saturn -107658-08-26 19:55 J -37600423.79 -37600423.67 -37600423.54 0.0274 0.0135

Saturn -107658-11-23 08:38 J -37600335.23 -37600335.14 -37600335.04 0.0275 0.0206

Saturn -107657-02-19 21:21 J -37600246.62 -37600246.61 -37600246.60 0.0276 0.0275

Venus -107656-08-26 13:55 J -37599692.99 -37599692.92 -37599692.86 0.3765 0.3104

Moon -107655-11-23 01:55 J -37599239.55 -37599239.42 -37599239.28 0.2628 0.0948

Earth -107655-11-23 02:09 J -37599239.55 -37599239.41 -37599239.27 0.2622 0.0949 *

Jupiter -107654-02-09 23:45 J -37599160.53 -37599160.51 -37599160.47 0.0498 0.0488

Jupiter -107654-05-10 18:43 J -37599070.88 -37599070.72 -37599070.55 0.0496 0.0016

Mars -107653-07-24 11:16 J -37598630.17 -37598630.03 -37598629.89 0.1699 0.0645

Mars -107652-06-07 05:45 J -37598312.38 -37598312.26 -37598312.13 0.1817 0.0490

Mars -107651-06-30 22:33 J -37597923.61 -37597923.56 -37597923.50 0.1717 0.1575

Venus -107650-03-12 11:02 J -37597669.15 -37597669.04 -37597668.93 0.3761 0.1396

Mars -107650-05-14 00:14 J -37597606.56 -37597606.49 -37597606.42 0.1796 0.1469

Jupiter -107648-04-12 13:11 J -37596907.00 -37596906.95 -37596906.90 0.0529 0.0487

Jupiter -107648-07-11 03:35 J -37596817.49 -37596817.35 -37596817.21 0.0531 0.0054

Saturn -107645-04-04 18:43 J -37595818.79 -37595818.72 -37595818.64 0.0290 0.0256

Moon -107645-06-06 01:55 J -37595756.52 -37595756.42 -37595756.31 0.2733 0.0965

Earth -107645-06-06 02:09 J -37595756.52 -37595756.41 -37595756.31 0.2726 0.0978 *

Saturn -107645-07-02 13:11 J -37595730.08 -37595729.95 -37595729.82 0.0289 0.0163

Venus -107645-09-25 08:38 J -37595645.26 -37595645.14 -37595645.02 0.3756 0.0384

Saturn -107645-09-29 07:40 J -37595641.33 -37595641.18 -37595641.02 0.0288 0.0068

Saturn -107645-12-27 02:38 J -37595552.55 -37595552.39 -37595552.22 0.0288 0.0030

Saturn -107644-03-25 21:50 J -37595463.73 -37595463.59 -37595463.43 0.0287 0.0126

Saturn -107644-06-22 17:31 J -37595374.87 -37595374.77 -37595374.66 0.0286 0.0223

Mars -107644-12-14 15:21 J -37595199.96 -37595199.86 -37595199.75 0.1694 0.1139

Mars -107643-10-28 12:43 J -37594882.08 -37594881.97 -37594881.87 0.1822 0.1007

Jupiter -107642-02-26 19:26 J -37594760.84 -37594760.69 -37594760.53 0.0497 0.0118

Jupiter -107642-05-27 15:35 J -37594670.94 -37594670.85 -37594670.74 0.0495 0.0393

Mars -107642-11-21 01:26 J -37594493.56 -37594493.44 -37594493.32 0.1712 0.1006

Earth -107642-11-26 06:28 J -37594488.37 -37594488.23 -37594488.08 0.2617 0.0692

Moon -107642-11-26 07:11 J -37594488.34 -37594488.20 -37594488.05 0.2623 0.0795 *

Venus -107641-09-25 04:19 J -37594184.36 -37594184.32 -37594184.28 0.3612 0.3405

Mars -107641-10-03 07:55 J -37594176.27 -37594176.17 -37594176.06 0.1801 0.1018

Venus -107639-04-11 06:28 J -37593621.33 -37593621.23 -37593621.13 0.3751 0.2222

Moon -107638-05-30 21:50 J -37593206.67 -37593206.59 -37593206.52 0.2710 0.2014

Earth -107638-05-30 22:19 J -37593206.65 -37593206.57 -37593206.49 0.2713 0.1900 *

Jupiter -107636-04-29 05:02 J -37592507.43 -37592507.29 -37592507.15 0.0530 0.0089

Jupiter -107636-07-27 18:14 J -37592417.81 -37592417.74 -37592417.66 0.0532 0.0439

Venus -107635-04-11 00:57 J -37592160.56 -37592160.46 -37592160.35 0.3616 0.1827

Mars -107634-05-06 19:55 J -37591769.71 -37591769.67 -37591769.63 0.1690 0.1615

Mars -107633-03-19 19:11 J -37591451.77 -37591451.70 -37591451.63 0.1826 0.1541

Mars -107632-04-12 04:19 J -37591063.47 -37591063.32 -37591063.18 0.1708 0.0448

Earth -107632-06-08 20:38 J -37591005.71 -37591005.64 -37591005.56 0.2730 0.1988

Moon -107632-06-08 21:21 J -37591005.68 -37591005.61 -37591005.54 0.2735 0.2039 *

Uranus -107632-10-02 07:40 J -37590890.24 -37590890.18 -37590890.08 0.0146 0.0127

Uranus -107632-12-29 14:24 J -37590802.01 -37590801.90 -37590801.78 0.0146 0.0102

Mars -107631-02-23 15:35 J -37590745.97 -37590745.85 -37590745.73 0.1807 0.0549

Uranus -107631-03-27 20:52 J -37590713.77 -37590713.63 -37590713.48 0.0146 0.0077

Uranus -107631-06-24 03:35 J -37590625.51 -37590625.35 -37590625.19 0.0146 0.0052

Uranus -107631-09-20 10:04 J -37590537.24 -37590537.08 -37590536.91 0.0146 0.0027

Jupiter -107631-12-15 20:09 J -37590450.80 -37590450.66 -37590450.52 0.0497 0.0243

Uranus -107631-12-17 16:48 J -37590448.97 -37590448.80 -37590448.62 0.0146 0.0004

Jupiter -107630-03-15 16:04 J -37590360.97 -37590360.83 -37590360.69 0.0495 0.0264

Uranus -107630-03-15 23:31 J -37590360.68 -37590360.52 -37590360.34 0.0146 0.0025

Uranus -107630-06-12 06:14 J -37590272.39 -37590272.24 -37590272.07 0.0146 0.0052

Uranus -107630-09-08 13:11 J -37590184.09 -37590183.95 -37590183.80 0.0146 0.0078

Venus -107630-10-25 21:21 J -37590136.73 -37590136.61 -37590136.48 0.3621 0.0306

Saturn -107630-10-28 04:19 J -37590134.38 -37590134.32 -37590134.24 0.0271 0.0242

Uranus -107630-12-05 20:24 J -37590095.77 -37590095.65 -37590095.53 0.0147 0.0104

Saturn -107629-01-24 18:14 J -37590045.86 -37590045.74 -37590045.63 0.0272 0.0169

Uranus -107629-03-03 03:07 J -37590007.44 -37590007.37 -37590007.28 0.0147 0.0131

Saturn -107629-04-22 07:40 J -37589957.32 -37589957.18 -37589957.04 0.0272 0.0096

Saturn -107629-07-19 20:52 J -37589868.77 -37589868.63 -37589868.48 0.0273 0.0024

Saturn -107629-10-16 10:04 J -37589780.22 -37589780.08 -37589779.94 0.0274 0.0049

Earth -107629-11-28 11:16 J -37589737.09 -37589737.03 -37589736.97 0.2613 0.2360

Moon -107629-11-28 12:43 J -37589737.02 -37589736.97 -37589736.91 0.2614 0.2411 *

Saturn -107628-01-12 23:02 J -37589691.67 -37589691.54 -37589691.41 0.0275 0.0120

Saturn -107628-04-11 11:45 J -37589603.11 -37589603.01 -37589602.90 0.0275 0.0191

Saturn -107628-07-09 00:28 J -37589514.52 -37589514.48 -37589514.43 0.0276 0.0261

Neptune -107628-12-27 05:45 J -37589343.29 -37589343.26 -37589343.20 0.0088 0.0085

Neptune -107627-03-25 07:55 J -37589255.22 -37589255.17 -37589255.09 0.0088 0.0080

Neptune -107627-06-21 09:50 J -37589167.15 -37589167.09 -37589167.00 0.0088 0.0075

Neptune -107627-09-17 12:00 J -37589079.08 -37589079.00 -37589078.90 0.0088 0.0070

Neptune -107627-12-14 14:09 J -37588991.01 -37588990.91 -37588990.81 0.0088 0.0066

Neptune -107626-03-12 15:50 J -37588902.93 -37588902.84 -37588902.71 0.0088 0.0062

Neptune -107626-06-08 18:00 J -37588814.86 -37588814.75 -37588814.62 0.0088 0.0057

Neptune -107626-09-04 20:09 J -37588726.78 -37588726.66 -37588726.53 0.0088 0.0052

Neptune -107626-12-01 22:04 J -37588638.70 -37588638.58 -37588638.45 0.0088 0.0047

Neptune -107625-02-28 00:00 J -37588550.63 -37588550.50 -37588550.36 0.0088 0.0043

Neptune -107625-05-26 01:55 J -37588462.55 -37588462.42 -37588462.28 0.0088 0.0038

Moon -107625-06-01 16:33 J -37588455.92 -37588455.81 -37588455.70 0.2718 0.0868

Earth -107625-06-01 17:16 J -37588455.88 -37588455.78 -37588455.67 0.2718 0.0868 *

Neptune -107625-08-22 04:04 J -37588374.47 -37588374.33 -37588374.19 0.0088 0.0034

Neptune -107625-11-18 05:45 J -37588286.39 -37588286.26 -37588286.11 0.0088 0.0030

Neptune -107624-02-14 07:55 J -37588198.31 -37588198.17 -37588198.02 0.0088 0.0025

Jupiter -107624-02-15 06:57 J -37588197.34 -37588197.21 -37588197.08 0.0529 0.0225

Venus -107624-05-10 17:31 J -37588112.88 -37588112.77 -37588112.66 0.3625 0.1188

Neptune -107624-05-13 09:50 J -37588110.24 -37588110.09 -37588109.94 0.0088 0.0020

Jupiter -107624-05-15 20:38 J -37588107.75 -37588107.64 -37588107.53 0.0532 0.0307

Neptune -107624-08-09 11:45 J -37588022.16 -37588022.01 -37588021.86 0.0088 0.0016

Neptune -107624-11-05 13:40 J -37587934.08 -37587933.93 -37587933.78 0.0088 0.0011

Neptune -107623-02-01 15:35 J -37587846.00 -37587845.85 -37587845.70 0.0088 0.0007

Neptune -107623-04-30 17:31 J -37587757.92 -37587757.77 -37587757.62 0.0088 0.0003

Neptune -107623-07-27 19:26 J -37587669.84 -37587669.69 -37587669.54 0.0088 0.0003

Mars -107623-09-02 07:55 J -37587633.32 -37587633.17 -37587633.02 0.1703 0.0094

Neptune -107623-10-23 21:07 J -37587581.77 -37587581.62 -37587581.47 0.0088 0.0007

Neptune -107622-01-19 23:02 J -37587493.69 -37587493.54 -37587493.39 0.0088 0.0011

Neptune -107622-04-18 00:57 J -37587405.61 -37587405.46 -37587405.31 0.0088 0.0015

Neptune -107622-07-15 02:38 J -37587317.53 -37587317.39 -37587317.24 0.0088 0.0020

Mars -107622-07-16 23:02 J -37587315.67 -37587315.54 -37587315.41 0.1811 0.0067

Neptune -107622-10-11 04:33 J -37587229.45 -37587229.31 -37587229.17 0.0088 0.0024

Moon -107622-11-21 03:21 J -37587188.44 -37587188.36 -37587188.29 0.2631 0.2251

Earth -107622-11-21 04:19 J -37587188.40 -37587188.32 -37587188.25 0.2627 0.2243 *

Neptune -107621-01-07 06:14 J -37587141.37 -37587141.24 -37587141.09 0.0088 0.0029

Neptune -107621-04-04 08:09 J -37587053.29 -37587053.16 -37587053.02 0.0088 0.0033

Neptune -107621-07-01 09:50 J -37586965.22 -37586965.09 -37586964.95 0.0088 0.0037

Neptune -107621-09-27 11:45 J -37586877.14 -37586877.01 -37586876.88 0.0088 0.0041

Neptune -107621-12-24 13:26 J -37586789.06 -37586788.94 -37586788.81 0.0088 0.0046

Neptune -107620-03-22 15:21 J -37586700.98 -37586700.86 -37586700.74 0.0088 0.0050

Neptune -107620-06-18 16:48 J -37586612.90 -37586612.80 -37586612.67 0.0088 0.0055

Neptune -107620-09-14 18:43 J -37586524.82 -37586524.72 -37586524.60 0.0088 0.0058

Neptune -107620-12-11 20:24 J -37586436.74 -37586436.65 -37586436.54 0.0088 0.0063

Neptune -107619-03-09 22:19 J -37586348.66 -37586348.57 -37586348.47 0.0088 0.0067

Neptune -107619-06-06 00:00 J -37586260.58 -37586260.50 -37586260.41 0.0088 0.0071

Neptune -107619-09-02 01:55 J -37586172.50 -37586172.42 -37586172.34 0.0088 0.0075

Jupiter -107619-10-03 20:52 J -37586140.73 -37586140.63 -37586140.52 0.0497 0.0366

Venus -107619-11-24 13:26 J -37586089.02 -37586088.94 -37586088.86 0.3629 0.2624

Neptune -107619-11-29 03:21 J -37586084.41 -37586084.36 -37586084.29 0.0088 0.0079

Jupiter -107618-01-01 16:19 J -37586050.98 -37586050.82 -37586050.67 0.0496 0.0135

Neptune -107618-02-25 05:02 J -37585996.32 -37585996.29 -37585996.23 0.0088 0.0083

Neptune -107618-05-24 06:43 J -37585908.23 -37585908.22 -37585908.18 0.0088 0.0088

Saturn -107616-08-22 20:52 J -37585086.67 -37585086.63 -37585086.57 0.0290 0.0274

Saturn -107616-11-19 15:21 J -37584997.99 -37584997.86 -37584997.74 0.0289 0.0181

Saturn -107615-02-16 09:50 J -37584909.24 -37584909.09 -37584908.93 0.0289 0.0087

Saturn -107615-05-16 04:48 J -37584820.47 -37584820.30 -37584820.14 0.0288 0.0009

Saturn -107615-08-12 23:45 J -37584731.66 -37584731.51 -37584731.35 0.0287 0.0106

Saturn -107615-11-09 19:11 J -37584642.81 -37584642.70 -37584642.57 0.0286 0.0203

Mars -107613-01-23 11:45 J -37584203.15 -37584203.01 -37584202.87 0.1699 0.0592

Jupiter -107613-12-04 08:52 J -37583887.23 -37583887.13 -37583887.03 0.0530 0.0361

Mars -107613-12-06 06:00 J -37583885.37 -37583885.25 -37583885.13 0.1817 0.0439

Jupiter -107612-03-03 23:02 J -37583797.67 -37583797.54 -37583797.41 0.0532 0.0177

Moon -107612-06-04 12:00 J -37583705.12 -37583705.00 -37583704.89 0.2729 0.0132

Earth -107612-06-04 12:14 J -37583705.10 -37583704.99 -37583704.88 0.2722 0.0164 *

Mars -107612-12-29 23:16 J -37583496.58 -37583496.53 -37583496.49 0.1718 0.1633

Mars -107611-11-12 00:14 J -37583179.55 -37583179.49 -37583179.42 0.1796 0.1513

Earth -107609-11-23 08:24 J -37582437.30 -37582437.15 -37582437.00 0.2622 0.0630

Moon -107609-11-23 08:38 J -37582437.28 -37582437.14 -37582437.00 0.2628 0.0674 *

Jupiter -107607-07-22 22:04 J -37581830.61 -37581830.58 -37581830.55 0.0498 0.0485

Jupiter -107607-10-20 17:02 J -37581740.96 -37581740.79 -37581740.63 0.0496 0.0012

Mars -107604-06-14 15:50 J -37580772.95 -37580772.84 -37580772.73 0.1694 0.1090

Mars -107603-04-28 12:43 J -37580455.08 -37580454.97 -37580454.86 0.1821 0.0962

Mars -107602-05-22 01:40 J -37580066.54 -37580066.43 -37580066.31 0.1712 0.1058

Mars -107601-04-03 08:09 J -37579749.26 -37579749.16 -37579749.06 0.1801 0.1060

Jupiter -107601-09-22 11:02 J -37579577.09 -37579577.04 -37579576.99 0.0529 0.0492

Jupiter -107601-12-21 01:40 J -37579487.57 -37579487.43 -37579487.29 0.0531 0.0052

Saturn -107600-03-16 06:00 J -37579402.28 -37579402.25 -37579402.22 0.0270 0.0264

Saturn -107600-06-12 19:40 J -37579313.78 -37579313.68 -37579313.58 0.0271 0.0191

Saturn -107600-09-09 09:07 J -37579225.25 -37579225.12 -37579224.99 0.0271 0.0119

Saturn -107600-12-06 22:33 J -37579136.71 -37579136.56 -37579136.42 0.0272 0.0047

Saturn -107599-03-05 11:31 J -37579048.16 -37579048.02 -37579047.87 0.0273 0.0027

Venus -107599-04-02 12:43 J -37579020.06 -37579019.97 -37579019.88 0.3764 0.2510

Saturn -107599-06-02 00:43 J -37578959.61 -37578959.47 -37578959.34 0.0274 0.0097

Earth -107599-06-07 06:57 J -37578954.31 -37578954.21 -37578954.11 0.2727 0.1179

Moon -107599-06-07 07:11 J -37578954.30 -37578954.20 -37578954.10 0.2733 0.1238 *

Saturn -107599-08-29 13:26 J -37578871.05 -37578870.94 -37578870.83 0.0275 0.0167

Saturn -107599-11-26 02:09 J -37578782.48 -37578782.41 -37578782.34 0.0275 0.0237

Earth -107596-11-26 12:57 J -37577686.10 -37577685.96 -37577685.82 0.2617 0.1020

Moon -107596-11-26 13:55 J -37577686.06 -37577685.92 -37577685.78 0.2621 0.1103 *

Jupiter -107595-08-08 17:16 J -37577430.93 -37577430.78 -37577430.62 0.0496 0.0120

Mars -107595-11-04 20:24 J -37577342.70 -37577342.65 -37577342.60 0.1690 0.1562

Jupiter -107595-11-06 13:26 J -37577341.04 -37577340.94 -37577340.84 0.0495 0.0390

Mars -107594-09-18 19:11 J -37577024.77 -37577024.70 -37577024.63 0.1826 0.1496

Venus -107594-10-17 10:04 J -37576996.20 -37576996.08 -37576995.96 0.3760 0.0785

Mars -107593-10-11 04:48 J -37576636.44 -37576636.30 -37576636.15 0.1708 0.0507

Uranus -107592-02-27 02:24 J -37576497.41 -37576497.40 -37576497.36 0.0133 0.0132

Uranus -107592-05-26 06:28 J -37576409.29 -37576409.23 -37576409.15 0.0133 0.0114

Moon -107592-05-31 02:38 J -37576404.48 -37576404.39 -37576404.30 0.2712 0.1723

Earth -107592-05-31 03:21 J -37576404.45 -37576404.36 -37576404.27 0.2714 0.1689 *

Uranus -107592-08-22 10:19 J -37576321.16 -37576321.07 -37576320.96 0.0133 0.0097

Mars -107592-08-24 15:50 J -37576318.96 -37576318.84 -37576318.73 0.1806 0.0595

Uranus -107592-11-18 14:24 J -37576233.01 -37576232.90 -37576232.78 0.0133 0.0080

Uranus -107591-02-14 18:14 J -37576144.86 -37576144.74 -37576144.61 0.0133 0.0063

Uranus -107591-05-13 22:04 J -37576056.71 -37576056.58 -37576056.44 0.0133 0.0046

Uranus -107591-08-10 01:55 J -37575968.56 -37575968.42 -37575968.28 0.0133 0.0030

Uranus -107591-11-06 05:45 J -37575880.41 -37575880.26 -37575880.12 0.0133 0.0013

Uranus -107590-02-02 09:21 J -37575792.25 -37575792.11 -37575791.96 0.0133 0.0005

Uranus -107590-05-01 13:11 J -37575704.09 -37575703.95 -37575703.81 0.0133 0.0019

Uranus -107590-07-28 16:48 J -37575615.94 -37575615.80 -37575615.66 0.0132 0.0035

Uranus -107590-10-24 20:24 J -37575527.78 -37575527.65 -37575527.51 0.0132 0.0051

Uranus -107589-01-21 00:00 J -37575439.62 -37575439.50 -37575439.37 0.0132 0.0067

Uranus -107589-04-18 03:35 J -37575351.46 -37575351.35 -37575351.23 0.0132 0.0083

Uranus -107589-07-15 07:11 J -37575263.29 -37575263.20 -37575263.10 0.0132 0.0098

Jupiter -107589-10-09 03:50 J -37575177.48 -37575177.34 -37575177.20 0.0530 0.0082

Uranus -107589-10-11 10:33 J -37575175.12 -37575175.06 -37575174.98 0.0132 0.0114

Jupiter -107588-01-06 17:02 J -37575087.86 -37575087.79 -37575087.71 0.0532 0.0446

Uranus -107588-01-07 14:09 J -37575086.93 -37575086.91 -37575086.88 0.0132 0.0129

Venus -107588-05-02 07:40 J -37574972.30 -37574972.18 -37574972.06 0.3755 0.1007

Saturn -107586-04-08 14:38 J -37574265.99 -37574265.89 -37574265.78 0.0290 0.0213

Earth -107586-06-10 01:40 J -37574203.49 -37574203.43 -37574203.36 0.2731 0.2187

Moon -107586-06-10 02:24 J -37574203.46 -37574203.40 -37574203.34 0.2735 0.2251 *

Saturn -107586-07-06 09:07 J -37574177.26 -37574177.12 -37574176.97 0.0289 0.0119

Saturn -107586-10-03 04:04 J -37574088.50 -37574088.33 -37574088.17 0.0288 0.0024

Saturn -107586-12-30 23:02 J -37573999.70 -37573999.54 -37573999.38 0.0287 0.0074

Saturn -107585-03-28 18:28 J -37573910.86 -37573910.73 -37573910.59 0.0286 0.0171

Saturn -107585-06-25 14:09 J -37573821.96 -37573821.91 -37573821.85 0.0286 0.0268

Venus -107584-05-02 03:21 J -37573511.44 -37573511.36 -37573511.29 0.3613 0.2837

Mars -107583-03-03 08:09 J -37573206.31 -37573206.16 -37573206.01 0.1703 0.0060

Jupiter -107583-05-27 18:14 J -37573120.88 -37573120.74 -37573120.60 0.0497 0.0243

Jupiter -107583-08-25 13:55 J -37573031.06 -37573030.92 -37573030.78 0.0495 0.0262

Venus -107583-11-16 05:45 J -37572948.34 -37572948.26 -37572948.19 0.3750 0.2865

Mars -107582-01-14 23:02 J -37572888.66 -37572888.54 -37572888.41 0.1812 0.0107

Moon -107579-06-02 21:35 J -37571653.70 -37571653.60 -37571653.49 0.2721 0.0784

Earth -107579-06-02 22:19 J -37571653.68 -37571653.57 -37571653.46 0.2718 0.0656 *

Venus -107579-11-15 23:45 J -37571487.62 -37571487.51 -37571487.39 0.3618 0.1277

Jupiter -107577-07-28 05:31 J -37570867.40 -37570867.27 -37570867.14 0.0529 0.0223

Jupiter -107577-10-25 18:57 J -37570777.82 -37570777.71 -37570777.59 0.0531 0.0310

Moon -107576-11-21 10:04 J -37570386.17 -37570386.08 -37570385.99 0.2632 0.2061

Earth -107576-11-21 10:33 J -37570386.16 -37570386.06 -37570385.96 0.2626 0.1920 *

Mars -107574-07-24 12:00 J -37569776.15 -37569776.00 -37569775.86 0.1698 0.0553

Venus -107573-05-31 20:09 J -37569463.78 -37569463.66 -37569463.54 0.3622 0.0250

Mars -107573-06-06 06:14 J -37569458.36 -37569458.24 -37569458.12 0.1817 0.0392

Mars -107572-06-29 23:31 J -37569069.55 -37569069.52 -37569069.49 0.1717 0.1680

Jupiter -107571-03-15 18:57 J -37568810.82 -37568810.71 -37568810.60 0.0498 0.0366

Mars -107571-05-13 00:14 J -37568752.55 -37568752.49 -37568752.43 0.1796 0.1552

Jupiter -107571-06-13 14:24 J -37568721.06 -37568720.90 -37568720.75 0.0496 0.0135

Saturn -107571-10-30 22:04 J -37568581.67 -37568581.58 -37568581.48 0.0271 0.0210

Saturn -107570-01-27 11:45 J -37568493.14 -37568493.01 -37568492.88 0.0272 0.0137

Saturn -107570-04-26 00:57 J -37568404.60 -37568404.46 -37568404.31 0.0273 0.0065

Saturn -107570-07-23 14:24 J -37568316.05 -37568315.90 -37568315.76 0.0273 0.0012

Saturn -107570-10-20 03:21 J -37568227.50 -37568227.36 -37568227.22 0.0274 0.0080

Saturn -107569-01-16 16:04 J -37568138.94 -37568138.83 -37568138.70 0.0275 0.0151

Saturn -107569-04-14 05:02 J -37568050.37 -37568050.29 -37568050.21 0.0276 0.0221

Venus -107568-12-15 16:04 J -37567439.93 -37567439.83 -37567439.72 0.3626 0.1709

Moon -107566-06-05 16:48 J -37566902.91 -37566902.80 -37566902.69 0.2730 0.0423

Earth -107566-06-05 17:16 J -37566902.90 -37566902.78 -37566902.67 0.2723 0.0382 *

Jupiter -107565-05-16 07:11 J -37566557.31 -37566557.20 -37566557.10 0.0529 0.0360

Jupiter -107565-08-13 21:07 J -37566467.75 -37566467.62 -37566467.48 0.0531 0.0177

Mars -107565-12-13 16:19 J -37566345.94 -37566345.82 -37566345.71 0.1694 0.1038

Mars -107564-10-27 12:57 J -37566028.07 -37566027.96 -37566027.85 0.1821 0.0911

Mars -107563-11-20 02:09 J -37565639.52 -37565639.41 -37565639.29 0.1713 0.1108

Earth -107563-11-24 14:38 J -37565635.04 -37565634.89 -37565634.74 0.2621 0.0309

Moon -107563-11-24 15:07 J -37565635.02 -37565634.87 -37565634.72 0.2628 0.0205 *

Venus -107562-07-01 12:00 J -37565416.06 -37565416.00 -37565415.94 0.3631 0.3122

Mars -107562-10-03 08:24 J -37565322.25 -37565322.15 -37565322.06 0.1801 0.1108

Jupiter -107559-01-01 19:55 J -37564500.70 -37564500.67 -37564500.64 0.0498 0.0487

Jupiter -107559-04-01 14:52 J -37564411.05 -37564410.88 -37564410.72 0.0496 0.0015

Moon -107559-05-29 12:43 J -37564353.00 -37564352.97 -37564352.93 0.2705 0.2586

Earth -107559-05-29 13:26 J -37564352.98 -37564352.94 -37564352.90 0.2710 0.2517 *

Saturn -107557-08-25 16:33 J -37563533.89 -37563533.81 -37563533.71 0.0290 0.0233

Saturn -107557-11-22 11:02 J -37563445.18 -37563445.04 -37563444.89 0.0289 0.0139

Saturn -107556-02-19 06:00 J -37563356.42 -37563356.25 -37563356.09 0.0288 0.0044

Saturn -107556-05-19 00:57 J -37563267.62 -37563267.46 -37563267.30 0.0287 0.0052

Saturn -107556-08-15 20:09 J -37563178.80 -37563178.66 -37563178.51 0.0287 0.0150

Saturn -107556-11-12 15:50 J -37563089.92 -37563089.84 -37563089.75 0.0286 0.0247

Mars -107555-05-05 20:52 J -37562915.70 -37562915.63 -37562915.57 0.1690 0.1515

Mars -107554-03-19 19:26 J -37562597.77 -37562597.69 -37562597.61 0.1826 0.1447

Jupiter -107553-03-04 08:38 J -37562247.18 -37562247.14 -37562247.09 0.0529 0.0500

Mars -107553-04-11 05:16 J -37562209.42 -37562209.28 -37562209.14 0.1708 0.0559

Jupiter -107553-06-01 23:16 J -37562157.67 -37562157.53 -37562157.39 0.0531 0.0044

Earth -107553-06-07 12:00 J -37562152.10 -37562152.00 -37562151.91 0.2727 0.1390

Moon -107553-06-07 12:28 J -37562152.08 -37562151.98 -37562151.89 0.2733 0.1379 *

Mars -107552-02-22 15:50 J -37561891.96 -37561891.84 -37561891.72 0.1806 0.0636

Earth -107550-11-27 19:11 J -37560883.83 -37560883.70 -37560883.57 0.2616 0.1347

Moon -107550-11-27 20:38 J -37560883.77 -37560883.64 -37560883.52 0.2619 0.1419 *

Venus -107548-04-23 14:38 J -37560370.92 -37560370.89 -37560370.85 0.3767 0.3584

Uranus -107548-07-26 09:21 J -37560277.13 -37560277.11 -37560277.08 0.0145 0.0143

Uranus -107548-10-22 15:35 J -37560188.93 -37560188.85 -37560188.74 0.0146 0.0119

Jupiter -107547-01-18 15:50 J -37560101.00 -37560100.84 -37560100.69 0.0496 0.0114

Uranus -107547-01-18 22:19 J -37560100.70 -37560100.57 -37560100.44 0.0146 0.0094 *

Uranus -107547-04-17 04:33 J -37560012.45 -37560012.31 -37560012.15 0.0146 0.0070

Jupiter -107547-04-18 11:45 J -37560011.10 -37560011.01 -37560010.91 0.0494 0.0395

Uranus -107547-07-14 11:16 J -37559924.19 -37559924.03 -37559923.86 0.0146 0.0044

Uranus -107547-10-10 18:00 J -37559835.92 -37559835.75 -37559835.58 0.0146 0.0019

Uranus -107546-01-07 00:43 J -37559747.64 -37559747.47 -37559747.30 0.0146 0.0007

Uranus -107546-04-05 07:26 J -37559659.36 -37559659.19 -37559659.02 0.0146 0.0033

Moon -107546-06-01 07:40 J -37559602.28 -37559602.18 -37559602.09 0.2713 0.1581

Earth -107546-06-01 08:24 J -37559602.25 -37559602.15 -37559602.06 0.2714 0.1479 *

Uranus -107546-07-02 14:09 J -37559571.06 -37559570.91 -37559570.75 0.0146 0.0059

Uranus -107546-09-28 20:52 J -37559482.76 -37559482.63 -37559482.48 0.0146 0.0086

Uranus -107546-12-26 04:04 J -37559394.44 -37559394.33 -37559394.22 0.0146 0.0112

Uranus -107545-03-23 10:48 J -37559306.09 -37559306.05 -37559305.98 0.0147 0.0139

Neptune -107545-09-09 00:14 J -37559136.49 -37559136.49 -37559136.45 0.0089 0.0088

Neptune -107545-12-06 02:52 J -37559048.43 -37559048.38 -37559048.32 0.0089 0.0083

Neptune -107544-03-04 04:48 J -37558960.35 -37558960.30 -37558960.21 0.0089 0.0079

Neptune -107544-05-31 07:26 J -37558872.27 -37558872.19 -37558872.09 0.0089 0.0074

Neptune -107544-08-27 09:50 J -37558784.18 -37558784.09 -37558783.98 0.0089 0.0069

Mars -107544-09-01 08:38 J -37558779.29 -37558779.14 -37558778.99 0.1703 0.0030

Neptune -107544-11-23 12:00 J -37558696.10 -37558696.00 -37558695.87 0.0089 0.0065

Neptune -107543-02-19 14:24 J -37558608.01 -37558607.90 -37558607.77 0.0089 0.0060

Neptune -107543-05-18 16:48 J -37558519.91 -37558519.80 -37558519.66 0.0089 0.0055

Mars -107543-07-15 23:16 J -37558461.66 -37558461.53 -37558461.41 0.1812 0.0155

Neptune -107543-08-14 19:26 J -37558431.82 -37558431.69 -37558431.55 0.0089 0.0050

Venus -107543-11-07 11:45 J -37558347.11 -37558347.01 -37558346.91 0.3763 0.1912

Neptune -107543-11-10 21:50 J -37558343.73 -37558343.59 -37558343.45 0.0089 0.0045

Neptune -107542-02-07 00:00 J -37558255.63 -37558255.50 -37558255.34 0.0089 0.0041

Neptune -107542-05-06 02:38 J -37558167.54 -37558167.39 -37558167.23 0.0089 0.0036

Neptune -107542-08-02 05:02 J -37558079.44 -37558079.29 -37558079.13 0.0089 0.0031

Neptune -107542-10-29 07:26 J -37557991.34 -37557991.19 -37557991.02 0.0089 0.0026

Neptune -107541-01-25 10:04 J -37557903.24 -37557903.08 -37557902.92 0.0089 0.0021

Saturn -107541-03-18 23:31 J -37557849.59 -37557849.52 -37557849.45 0.0270 0.0233

Jupiter -107541-03-21 01:55 J -37557847.56 -37557847.42 -37557847.28 0.0531 0.0084

Neptune -107541-04-22 12:28 J -37557815.14 -37557814.98 -37557814.81 0.0089 0.0016

Saturn -107541-06-15 12:57 J -37557761.07 -37557760.96 -37557760.84 0.0271 0.0160

Jupiter -107541-06-18 15:21 J -37557757.94 -37557757.86 -37557757.79 0.0533 0.0445

Neptune -107541-07-19 15:07 J -37557727.04 -37557726.87 -37557726.71 0.0089 0.0011

Saturn -107541-09-12 02:24 J -37557672.54 -37557672.40 -37557672.26 0.0272 0.0088

Neptune -107541-10-15 17:31 J -37557638.93 -37557638.77 -37557638.60 0.0089 0.0006

Saturn -107541-12-09 15:35 J -37557583.99 -37557583.85 -37557583.70 0.0272 0.0019

Neptune -107540-01-11 20:09 J -37557550.83 -37557550.66 -37557550.50 0.0089 0.0002

Saturn -107540-03-08 04:48 J -37557495.44 -37557495.30 -37557495.16 0.0273 0.0056

Neptune -107540-04-09 22:33 J -37557462.73 -37557462.56 -37557462.39 0.0089 0.0004

Pluto -107540-05-07 03:07 J -37557435.42 -37557435.37 -37557435.28 0.0060 0.0056

Saturn -107540-06-04 17:45 J -37557406.89 -37557406.76 -37557406.63 0.0274 0.0127

Earth -107540-06-10 06:43 J -37557401.28 -37557401.22 -37557401.17 0.2732 0.2395

Moon -107540-06-10 07:11 J -37557401.24 -37557401.20 -37557401.15 0.2734 0.2492 *

Neptune -107540-07-07 00:57 J -37557374.62 -37557374.46 -37557374.29 0.0089 0.0009

Pluto -107540-08-03 04:19 J -37557347.40 -37557347.32 -37557347.18 0.0060 0.0050

Saturn -107540-09-01 06:28 J -37557318.33 -37557318.23 -37557318.13 0.0275 0.0197

Neptune -107540-10-03 03:35 J -37557286.51 -37557286.35 -37557286.18 0.0089 0.0014

Pluto -107540-10-30 06:14 J -37557259.37 -37557259.24 -37557259.09 0.0060 0.0041

Saturn -107540-11-28 18:57 J -37557229.73 -37557229.71 -37557229.67 0.0275 0.0267

Neptune -107540-12-30 06:00 J -37557198.40 -37557198.25 -37557198.08 0.0089 0.0019

Pluto -107539-01-26 07:26 J -37557171.33 -37557171.19 -37557171.01 0.0060 0.0035

Neptune -107539-03-28 08:38 J -37557110.30 -37557110.14 -37557109.97 0.0089 0.0024

Pluto -107539-04-24 09:07 J -37557083.29 -37557083.12 -37557082.93 0.0060 0.0027

Neptune -107539-06-24 11:16 J -37557022.19 -37557022.03 -37557021.87 0.0089 0.0029

Pluto -107539-07-21 10:33 J -37556995.24 -37556995.06 -37556994.86 0.0060 0.0019

Neptune -107539-09-20 13:55 J -37556934.07 -37556933.92 -37556933.76 0.0089 0.0034

Pluto -107539-10-17 12:14 J -37556907.18 -37556906.99 -37556906.80 0.0061 0.0012

Neptune -107539-12-17 16:33 J -37556845.96 -37556845.81 -37556845.66 0.0089 0.0039

Pluto -107538-01-13 13:40 J -37556819.12 -37556818.93 -37556818.73 0.0061 0.0004

Neptune -107538-03-15 19:11 J -37556757.85 -37556757.70 -37556757.55 0.0089 0.0044

Pluto -107538-04-11 15:07 J -37556731.06 -37556730.87 -37556730.67 0.0061 0.0004

Neptune -107538-06-11 21:35 J -37556669.73 -37556669.60 -37556669.45 0.0089 0.0050

Pluto -107538-07-08 16:33 J -37556643.00 -37556642.81 -37556642.61 0.0061 0.0011

Neptune -107538-09-08 00:14 J -37556581.61 -37556581.49 -37556581.35 0.0089 0.0055

Pluto -107538-10-04 17:45 J -37556554.93 -37556554.76 -37556554.56 0.0061 0.0019

Neptune -107538-12-05 02:52 J -37556493.49 -37556493.38 -37556493.24 0.0089 0.0060

Pluto -107538-12-31 19:11 J -37556466.86 -37556466.70 -37556466.51 0.0061 0.0027

Neptune -107537-03-02 05:45 J -37556405.37 -37556405.26 -37556405.14 0.0089 0.0065

Pluto -107537-03-28 20:52 J -37556378.78 -37556378.63 -37556378.46 0.0061 0.0034

Venus -107537-05-23 09:07 J -37556323.24 -37556323.12 -37556323.00 0.3758 0.0174

Neptune -107537-05-29 08:24 J -37556317.25 -37556317.15 -37556317.04 0.0089 0.0070

Pluto -107537-06-24 22:04 J -37556290.70 -37556290.58 -37556290.42 0.0061 0.0042

Neptune -107537-08-25 10:48 J -37556229.12 -37556229.05 -37556228.94 0.0089 0.0076

Pluto -107537-09-20 23:16 J -37556202.61 -37556202.53 -37556202.39 0.0061 0.0050

Neptune -107537-11-21 13:40 J -37556140.99 -37556140.93 -37556140.85 0.0089 0.0081

Pluto -107537-12-18 01:11 J -37556114.50 -37556114.45 -37556114.37 0.0061 0.0057

Neptune -107536-02-17 16:19 J -37556052.85 -37556052.82 -37556052.77 0.0089 0.0086

Jupiter -107536-11-06 16:19 J -37555790.96 -37555790.82 -37555790.68 0.0497 0.0240

Jupiter -107535-02-04 12:00 J -37555701.14 -37555701.00 -37555700.86 0.0495 0.0264

Mars -107534-01-22 12:28 J -37555349.12 -37555348.98 -37555348.84 0.1699 0.0495

Mars -107534-12-06 06:14 J -37555031.36 -37555031.24 -37555031.11 0.1817 0.0350

Moon -107533-06-03 02:38 J -37554851.50 -37554851.39 -37554851.27 0.2724 0.0469

Earth -107533-06-03 03:21 J -37554851.47 -37554851.36 -37554851.25 0.2719 0.0453 *

Mars -107532-11-11 00:28 J -37554325.53 -37554325.48 -37554325.43 0.1796 0.1596

Venus -107532-12-07 06:57 J -37554299.32 -37554299.21 -37554299.10 0.3753 0.1642

Moon -107530-11-22 16:33 J -37553583.93 -37553583.81 -37553583.69 0.2632 0.1535

Earth -107530-11-22 16:48 J -37553583.92 -37553583.80 -37553583.68 0.2625 0.1604 *

Jupiter -107529-01-08 04:04 J -37553537.46 -37553537.33 -37553537.20 0.0530 0.0216

Jupiter -107529-04-06 18:00 J -37553447.86 -37553447.75 -37553447.64 0.0532 0.0318

Venus -107528-12-07 02:09 J -37552838.51 -37552838.41 -37552838.32 0.3615 0.2271

Saturn -107527-01-12 15:35 J -37552801.90 -37552801.85 -37552801.78 0.0290 0.0267

Saturn -107527-04-11 09:50 J -37552713.21 -37552713.09 -37552712.95 0.0290 0.0174

Saturn -107527-07-09 04:33 J -37552624.46 -37552624.31 -37552624.15 0.0289 0.0079

Saturn -107527-10-05 23:31 J -37552535.68 -37552535.52 -37552535.35 0.0288 0.0018

Saturn -107526-01-02 18:43 J -37552446.87 -37552446.72 -37552446.56 0.0287 0.0115

Saturn -107526-04-01 14:09 J -37552358.01 -37552357.91 -37552357.79 0.0286 0.0213

Venus -107526-06-23 04:48 J -37552275.34 -37552275.30 -37552275.26 0.3748 0.3505

Mars -107525-06-13 16:33 J -37551918.93 -37551918.81 -37551918.69 0.1694 0.0993

Mars -107524-04-27 12:57 J -37551601.07 -37551600.96 -37551600.85 0.1822 0.0869

Jupiter -107524-08-25 17:16 J -37551480.89 -37551480.78 -37551480.67 0.0498 0.0363

Jupiter -107524-11-23 12:28 J -37551391.13 -37551390.98 -37551390.82 0.0496 0.0137

Mars -107523-05-21 02:38 J -37551212.50 -37551212.39 -37551212.28 0.1712 0.1165

Mars -107522-04-03 08:09 J -37550895.25 -37550895.16 -37550895.06 0.1801 0.1146

Venus -107522-06-22 22:33 J -37550814.68 -37550814.56 -37550814.44 0.3619 0.0734

Moon -107520-06-05 22:04 J -37550100.69 -37550100.58 -37550100.47 0.2730 0.0513

Earth -107520-06-05 22:04 J -37550100.69 -37550100.58 -37550100.47 0.2723 0.0579 *

Jupiter -107518-10-27 05:45 J -37549227.36 -37549227.26 -37549227.15 0.0529 0.0354

Jupiter -107517-01-24 19:55 J -37549137.80 -37549137.67 -37549137.54 0.0531 0.0182

Earth -107517-11-24 21:07 J -37548832.78 -37548832.62 -37548832.47 0.2620 0.0065

Moon -107517-11-24 21:50 J -37548832.74 -37548832.59 -37548832.44 0.2626 0.0072 *

Venus -107516-01-05 18:43 J -37548790.84 -37548790.72 -37548790.60 0.3623 0.0767

Mars -107516-11-03 21:07 J -37548488.69 -37548488.62 -37548488.55 0.1690 0.1469

Mars -107515-09-17 19:40 J -37548170.76 -37548170.68 -37548170.59 0.1826 0.1394

Mars -107514-10-11 05:45 J -37547782.40 -37547782.26 -37547782.12 0.1708 0.0608

Moon -107513-05-29 17:45 J -37547550.82 -37547550.76 -37547550.71 0.2706 0.2321

Earth -107513-05-29 18:28 J -37547550.79 -37547550.73 -37547550.68 0.2710 0.2307 *

Mars -107513-08-23 16:04 J -37547464.95 -37547464.83 -37547464.72 0.1807 0.0684

Jupiter -107512-06-13 18:14 J -37547170.77 -37547170.74 -37547170.71 0.0498 0.0485

Saturn -107512-08-06 01:26 J -37547117.49 -37547117.44 -37547117.39 0.0271 0.0253

Jupiter -107512-09-11 12:57 J -37547081.12 -37547080.96 -37547080.79 0.0496 0.0018

Saturn -107512-11-02 15:07 J -37547028.98 -37547028.87 -37547028.76 0.0271 0.0180

Saturn -107511-01-30 04:33 J -37546940.44 -37546940.31 -37546940.17 0.0272 0.0108

Saturn -107511-04-28 18:00 J -37546851.90 -37546851.75 -37546851.61 0.0273 0.0036

Venus -107511-07-22 14:52 J -37546766.98 -37546766.88 -37546766.79 0.3628 0.2212

Saturn -107511-07-26 06:57 J -37546763.35 -37546763.21 -37546763.06 0.0273 0.0037

Saturn -107511-10-22 19:55 J -37546674.80 -37546674.67 -37546674.53 0.0274 0.0108

Saturn -107510-01-19 08:52 J -37546586.24 -37546586.13 -37546586.02 0.0275 0.0178

Saturn -107510-04-17 21:35 J -37546497.66 -37546497.60 -37546497.54 0.0276 0.0248

Uranus -107508-03-19 09:35 J -37545796.14 -37545796.10 -37545796.06 0.0133 0.0128

Uranus -107508-06-15 13:26 J -37545708.01 -37545707.94 -37545707.85 0.0133 0.0111

Uranus -107508-09-11 17:31 J -37545619.88 -37545619.77 -37545619.67 0.0133 0.0094

Uranus -107508-12-08 21:07 J -37545531.73 -37545531.62 -37545531.49 0.0133 0.0077

Uranus -107507-03-07 01:11 J -37545443.58 -37545443.45 -37545443.32 0.0133 0.0060

Uranus -107507-06-03 05:02 J -37545355.43 -37545355.29 -37545355.15 0.0133 0.0043

Earth -107507-06-08 16:48 J -37545349.89 -37545349.80 -37545349.71 0.2728 0.1593

Moon -107507-06-08 17:31 J -37545349.86 -37545349.77 -37545349.69 0.2733 0.1721 *

Uranus -107507-08-30 08:52 J -37545267.27 -37545267.13 -37545266.99 0.0133 0.0026

Uranus -107507-11-26 12:43 J -37545179.12 -37545178.97 -37545178.83 0.0133 0.0011

Uranus -107506-02-22 16:19 J -37545090.96 -37545090.82 -37545090.67 0.0133 0.0007

Uranus -107506-05-21 20:09 J -37545002.81 -37545002.66 -37545002.52 0.0133 0.0023

Jupiter -107506-08-15 07:26 J -37544917.24 -37544917.19 -37544917.14 0.0528 0.0493

Uranus -107506-08-17 23:45 J -37544914.65 -37544914.51 -37544914.37 0.0132 0.0039

Jupiter -107506-11-12 22:04 J -37544827.73 -37544827.58 -37544827.44 0.0531 0.0051

Uranus -107506-11-14 03:21 J -37544826.49 -37544826.36 -37544826.23 0.0132 0.0055

Venus -107505-02-05 10:19 J -37544743.08 -37544743.07 -37544743.05 0.3632 0.3602

Uranus -107505-02-10 06:57 J -37544738.33 -37544738.21 -37544738.09 0.0132 0.0070

Uranus -107505-05-08 10:33 J -37544650.16 -37544650.06 -37544649.95 0.0132 0.0086

Uranus -107505-08-04 14:09 J -37544562.00 -37544561.91 -37544561.82 0.0132 0.0102

Uranus -107505-10-31 17:31 J -37544473.82 -37544473.77 -37544473.70 0.0132 0.0117

Mars -107504-03-02 09:07 J -37544352.27 -37544352.12 -37544351.97 0.1703 0.0082

Earth -107504-11-28 01:26 J -37544081.55 -37544081.44 -37544081.32 0.2616 0.1688

Moon -107504-11-28 03:07 J -37544081.47 -37544081.37 -37544081.27 0.2618 0.1881 *

Mars -107503-01-13 23:16 J -37544034.65 -37544034.53 -37544034.40 0.1811 0.0208

Moon -107500-06-01 12:43 J -37542800.07 -37542799.97 -37542799.88 0.2716 0.1347

Earth -107500-06-01 13:26 J -37542800.04 -37542799.94 -37542799.84 0.2715 0.1269 *

Jupiter -107500-06-30 13:55 J -37542771.08 -37542770.92 -37542770.77 0.0496 0.0114

Jupiter -107500-09-28 09:50 J -37542681.18 -37542681.09 -37542680.99 0.0495 0.0396

Saturn -107498-06-01 17:02 J -37542069.79 -37542069.79 -37542069.77 0.0290 0.0289

Saturn -107498-08-29 11:31 J -37541981.14 -37541981.02 -37541980.90 0.0290 0.0196

Saturn -107498-11-26 06:00 J -37541892.40 -37541892.25 -37541892.10 0.0289 0.0102

Saturn -107497-02-23 00:57 J -37541803.63 -37541803.46 -37541803.30 0.0288 0.0007

Saturn -107497-05-21 19:55 J -37541714.82 -37541714.67 -37541714.51 0.0287 0.0092

Saturn -107497-08-18 15:21 J -37541625.98 -37541625.86 -37541625.73 0.0286 0.0189

Mars -107495-07-23 12:57 J -37540922.11 -37540921.96 -37540921.82 0.1698 0.0446

Mars -107494-06-06 06:28 J -37540604.36 -37540604.23 -37540604.11 0.1817 0.0305

Earth -107494-06-11 11:31 J -37540599.05 -37540599.02 -37540598.99 0.2732 0.2602

Moon -107494-06-11 12:14 J -37540599.02 -37540598.99 -37540598.96 0.2732 0.2616 *

Jupiter -107494-08-31 23:45 J -37540517.65 -37540517.51 -37540517.37 0.0531 0.0089

Jupiter -107494-11-29 13:11 J -37540428.02 -37540427.95 -37540427.87 0.0533 0.0442

Mars -107492-05-12 00:28 J -37539898.53 -37539898.48 -37539898.43 0.1796 0.1636

Venus -107492-11-28 13:26 J -37539698.01 -37539697.94 -37539697.87 0.3766 0.3010

Jupiter -107488-04-18 14:52 J -37538461.01 -37538460.88 -37538460.73 0.0497 0.0233

Jupiter -107488-07-17 10:33 J -37538371.19 -37538371.06 -37538370.92 0.0495 0.0272

Moon -107487-06-04 07:55 J -37538049.29 -37538049.17 -37538049.06 0.2726 0.0330

Earth -107487-06-04 08:09 J -37538049.27 -37538049.16 -37538049.04 0.2719 0.0263 *

Venus -107486-06-14 10:33 J -37537674.17 -37537674.06 -37537673.94 0.3762 0.1326

Mars -107486-12-13 17:02 J -37537491.91 -37537491.79 -37537491.67 0.1694 0.0940

Mars -107485-10-26 13:11 J -37537174.06 -37537173.95 -37537173.83 0.1821 0.0819

Mars -107484-11-19 03:21 J -37536785.47 -37536785.36 -37536785.26 0.1712 0.1222

Earth -107484-11-22 23:02 J -37536781.67 -37536781.54 -37536781.41 0.2625 0.1278

Moon -107484-11-22 23:16 J -37536781.66 -37536781.53 -37536781.41 0.2632 0.1362 *

Mars -107483-10-02 08:24 J -37536468.24 -37536468.15 -37536468.05 0.1801 0.1194

Saturn -107482-03-22 16:19 J -37536296.91 -37536296.82 -37536296.72 0.0270 0.0204

Saturn -107482-06-19 06:00 J -37536208.38 -37536208.25 -37536208.12 0.0271 0.0131

Jupiter -107482-06-20 02:24 J -37536207.53 -37536207.40 -37536207.27 0.0530 0.0217

Saturn -107482-09-15 19:11 J -37536119.84 -37536119.70 -37536119.55 0.0272 0.0060

Jupiter -107482-09-17 16:04 J -37536117.94 -37536117.83 -37536117.71 0.0532 0.0319

Saturn -107482-12-13 08:24 J -37536031.29 -37536031.15 -37536031.00 0.0272 0.0012

Saturn -107481-03-10 21:21 J -37535942.74 -37535942.61 -37535942.47 0.0273 0.0083

Saturn -107481-06-07 10:04 J -37535854.19 -37535854.08 -37535853.95 0.0274 0.0154

Saturn -107481-09-03 22:48 J -37535765.62 -37535765.55 -37535765.46 0.0275 0.0224

Venus -107481-12-28 08:09 J -37535650.28 -37535650.16 -37535650.04 0.3757 0.0437

Venus -107477-12-28 04:04 J -37534189.37 -37534189.33 -37534189.28 0.3612 0.3303

Jupiter -107476-02-04 15:50 J -37534150.95 -37534150.84 -37534150.73 0.0497 0.0356

Mars -107476-05-04 21:21 J -37534061.68 -37534061.61 -37534061.53 0.1690 0.1422

Jupiter -107476-05-05 11:02 J -37534061.20 -37534061.04 -37534060.89 0.0495 0.0143

Mars -107475-03-18 19:40 J -37533743.76 -37533743.68 -37533743.60 0.1827 0.1356

Venus -107475-07-14 05:45 J -37533626.35 -37533626.26 -37533626.16 0.3752 0.2256

Mars -107474-04-11 06:00 J -37533355.39 -37533355.25 -37533355.11 0.1708 0.0662

Earth -107474-06-07 03:07 J -37533298.48 -37533298.37 -37533298.26 0.2724 0.0786

Moon -107474-06-07 03:21 J -37533298.47 -37533298.36 -37533298.26 0.2731 0.0856 *

Mars -107473-02-22 16:04 J -37533037.95 -37533037.83 -37533037.72 0.1806 0.0723

Venus -107471-07-14 00:57 J -37532165.57 -37532165.46 -37532165.35 0.3616 0.1723

Earth -107471-11-26 03:21 J -37532030.51 -37532030.36 -37532030.21 0.2620 0.0357

Moon -107471-11-26 04:33 J -37532030.46 -37532030.31 -37532030.16 0.2624 0.0543 *

Jupiter -107470-04-08 04:33 J -37531897.41 -37531897.31 -37531897.20 0.0529 0.0347

Jupiter -107470-07-06 18:43 J -37531807.85 -37531807.72 -37531807.59 0.0532 0.0192

Saturn -107468-01-15 09:50 J -37531249.18 -37531249.09 -37531249.00 0.0290 0.0233

Saturn -107468-04-14 04:19 J -37531160.46 -37531160.32 -37531160.18 0.0290 0.0139

Saturn -107468-07-11 23:02 J -37531071.70 -37531071.54 -37531071.38 0.0289 0.0044

Saturn -107468-10-08 18:00 J -37530982.91 -37530982.75 -37530982.59 0.0288 0.0053

Saturn -107467-01-05 13:26 J -37530894.08 -37530893.94 -37530893.80 0.0287 0.0150

Saturn -107467-04-04 08:52 J -37530805.20 -37530805.13 -37530805.04 0.0286 0.0249

Moon -107467-05-30 22:33 J -37530748.62 -37530748.56 -37530748.49 0.2707 0.2220

Earth -107467-05-30 23:16 J -37530748.60 -37530748.53 -37530748.46 0.2711 0.2097 *

Venus -107465-01-27 21:21 J -37530141.74 -37530141.61 -37530141.49 0.3620 0.0229

Mars -107465-08-31 09:35 J -37529925.25 -37529925.10 -37529924.95 0.1703 0.0132

Jupiter -107465-11-23 16:48 J -37529840.84 -37529840.80 -37529840.75 0.0498 0.0478

Jupiter -107464-02-21 11:31 J -37529751.18 -37529751.02 -37529750.85 0.0496 0.0023

Mars -107464-07-14 23:31 J -37529607.65 -37529607.52 -37529607.40 0.1812 0.0246

Uranus -107464-08-15 17:02 J -37529575.84 -37529575.79 -37529575.72 0.0145 0.0135

Uranus -107464-11-11 23:45 J -37529487.62 -37529487.51 -37529487.41 0.0146 0.0111

Uranus -107463-02-08 06:00 J -37529399.38 -37529399.25 -37529399.11 0.0146 0.0087

Uranus -107463-05-07 12:28 J -37529311.13 -37529310.98 -37529310.82 0.0146 0.0062

Neptune -107463-06-27 03:07 J -37529260.39 -37529260.37 -37529260.33 0.0088 0.0087

Uranus -107463-08-03 19:11 J -37529222.86 -37529222.70 -37529222.54 0.0146 0.0037

Neptune -107463-09-23 05:16 J -37529172.33 -37529172.28 -37529172.22 0.0088 0.0082

Uranus -107463-10-31 01:40 J -37529134.59 -37529134.43 -37529134.25 0.0146 0.0012

Neptune -107463-12-20 07:11 J -37529084.26 -37529084.20 -37529084.11 0.0088 0.0078

Uranus -107462-01-27 08:24 J -37529046.32 -37529046.15 -37529045.97 0.0146 0.0015

Neptune -107462-03-18 09:21 J -37528996.19 -37528996.11 -37528996.02 0.0088 0.0073

Uranus -107462-04-25 15:21 J -37528958.03 -37528957.86 -37528957.70 0.0146 0.0040

Neptune -107462-06-14 11:16 J -37528908.12 -37528908.03 -37528907.92 0.0088 0.0068

Uranus -107462-07-22 22:04 J -37528869.73 -37528869.58 -37528869.43 0.0146 0.0066

Neptune -107462-09-10 13:11 J -37528820.04 -37528819.95 -37528819.83 0.0088 0.0064

Uranus -107462-10-19 04:48 J -37528781.42 -37528781.30 -37528781.16 0.0146 0.0093

Neptune -107462-12-07 15:35 J -37528731.96 -37528731.85 -37528731.74 0.0088 0.0059

Uranus -107461-01-15 11:45 J -37528693.10 -37528693.01 -37528692.90 0.0146 0.0120

Neptune -107461-03-04 17:16 J -37528643.89 -37528643.78 -37528643.65 0.0088 0.0055

Uranus -107461-04-12 18:57 J -37528604.71 -37528604.71 -37528604.70 0.0147 0.0146

Neptune -107461-05-31 19:26 J -37528555.81 -37528555.69 -37528555.56 0.0088 0.0050

Earth -107461-06-08 21:50 J -37528547.67 -37528547.59 -37528547.51 0.2728 0.1800

Moon -107461-06-08 22:19 J -37528547.65 -37528547.57 -37528547.48 0.2733 0.1796 *

Neptune -107461-08-27 21:21 J -37528467.73 -37528467.61 -37528467.47 0.0088 0.0045

Neptune -107461-11-23 23:16 J -37528379.66 -37528379.53 -37528379.39 0.0088 0.0041

Neptune -107460-02-20 01:26 J -37528291.58 -37528291.44 -37528291.30 0.0088 0.0036

Neptune -107460-05-19 03:21 J -37528203.50 -37528203.36 -37528203.22 0.0088 0.0031

Venus -107460-08-12 17:31 J -37528117.89 -37528117.77 -37528117.66 0.3625 0.1279

Neptune -107460-08-15 05:16 J -37528115.42 -37528115.28 -37528115.13 0.0088 0.0027

Neptune -107460-11-11 07:11 J -37528027.34 -37528027.20 -37528027.05 0.0088 0.0022

Neptune -107459-02-07 09:07 J -37527939.26 -37527939.12 -37527938.97 0.0088 0.0018

Neptune -107459-05-06 11:02 J -37527851.19 -37527851.04 -37527850.89 0.0088 0.0014

Neptune -107459-08-02 12:57 J -37527763.11 -37527762.96 -37527762.81 0.0088 0.0009

Neptune -107459-10-29 14:52 J -37527675.03 -37527674.88 -37527674.73 0.0088 0.0005

Jupiter -107458-01-25 06:14 J -37527587.29 -37527587.24 -37527587.18 0.0528 0.0484

Neptune -107458-01-25 16:48 J -37527586.95 -37527586.80 -37527586.65 0.0088 0.0001

Neptune -107458-04-23 18:43 J -37527498.87 -37527498.72 -37527498.57 0.0088 0.0004

Jupiter -107458-04-24 20:52 J -37527497.77 -37527497.63 -37527497.49 0.0531 0.0057

Neptune -107458-07-20 20:38 J -37527410.79 -37527410.64 -37527410.49 0.0088 0.0009

Neptune -107458-10-16 22:19 J -37527322.71 -37527322.57 -37527322.42 0.0088 0.0014

Earth -107458-11-29 07:55 J -37527279.27 -37527279.17 -37527279.08 0.2615 0.2022

Moon -107458-11-29 09:21 J -37527279.20 -37527279.11 -37527279.01 0.2617 0.2070 *

Neptune -107457-01-13 00:14 J -37527234.63 -37527234.49 -37527234.34 0.0088 0.0018

Neptune -107457-04-10 01:55 J -37527146.55 -37527146.42 -37527146.27 0.0088 0.0023

Neptune -107457-07-07 03:50 J -37527058.47 -37527058.34 -37527058.19 0.0088 0.0027

Neptune -107457-10-03 05:45 J -37526970.40 -37526970.26 -37526970.12 0.0088 0.0031

Neptune -107457-12-30 07:26 J -37526882.32 -37526882.19 -37526882.04 0.0088 0.0035

Neptune -107456-03-28 09:21 J -37526794.24 -37526794.11 -37526793.97 0.0088 0.0039

Neptune -107456-06-24 11:16 J -37526706.16 -37526706.03 -37526705.90 0.0088 0.0044

Neptune -107456-09-20 12:43 J -37526618.08 -37526617.97 -37526617.83 0.0088 0.0049

Neptune -107456-12-17 14:38 J -37526530.00 -37526529.89 -37526529.76 0.0088 0.0052

Mars -107455-01-21 13:11 J -37526495.10 -37526494.95 -37526494.81 0.1698 0.0397

Neptune -107455-03-15 16:33 J -37526441.92 -37526441.81 -37526441.69 0.0088 0.0056

Neptune -107455-06-11 18:14 J -37526353.84 -37526353.74 -37526353.63 0.0088 0.0061

Neptune -107455-09-07 20:09 J -37526265.76 -37526265.66 -37526265.56 0.0088 0.0065

Neptune -107455-12-04 21:35 J -37526177.68 -37526177.60 -37526177.49 0.0088 0.0069

Mars -107455-12-05 06:43 J -37526177.35 -37526177.22 -37526177.10 0.1817 0.0251

Venus -107454-02-26 13:11 J -37526094.02 -37526093.95 -37526093.87 0.3629 0.2703

Neptune -107454-03-02 23:16 J -37526089.59 -37526089.53 -37526089.43 0.0088 0.0074

Neptune -107454-05-30 01:11 J -37526001.51 -37526001.45 -37526001.37 0.0088 0.0077

Moon -107454-06-02 17:45 J -37525997.87 -37525997.76 -37525997.66 0.2719 0.1087

Earth -107454-06-02 18:28 J -37525997.84 -37525997.73 -37525997.63 0.2715 0.1061 *

Neptune -107454-08-26 02:52 J -37525913.42 -37525913.38 -37525913.31 0.0088 0.0082

Neptune -107454-11-22 04:33 J -37525825.33 -37525825.31 -37525825.26 0.0088 0.0086

Saturn -107453-08-08 18:00 J -37525564.83 -37525564.75 -37525564.67 0.0271 0.0226

Saturn -107453-11-05 07:26 J -37525476.30 -37525476.19 -37525476.06 0.0271 0.0154

Mars -107453-11-10 00:43 J -37525471.51 -37525471.47 -37525471.43 0.1796 0.1681

Jupiter -107453-12-10 12:14 J -37525441.14 -37525440.99 -37525440.83 0.0497 0.0108

Saturn -107452-02-01 20:52 J -37525387.77 -37525387.63 -37525387.48 0.0272 0.0082

Jupiter -107452-03-10 08:24 J -37525351.24 -37525351.15 -37525351.05 0.0495 0.0402

Saturn -107452-05-01 10:19 J -37525299.22 -37525299.07 -37525298.93 0.0273 0.0013

Saturn -107452-07-28 23:16 J -37525210.67 -37525210.53 -37525210.39 0.0273 0.0062

Saturn -107452-10-25 12:14 J -37525122.12 -37525121.99 -37525121.87 0.0274 0.0133

Saturn -107451-01-22 00:43 J -37525033.56 -37525033.47 -37525033.37 0.0275 0.0203

Saturn -107451-04-20 13:26 J -37524944.95 -37524944.94 -37524944.92 0.0276 0.0272

Moon -107451-11-21 00:43 J -37524730.48 -37524730.47 -37524730.45 0.2635 0.2603

Earth -107451-11-21 01:11 J -37524730.47 -37524730.45 -37524730.42 0.2629 0.2565 *

Pluto -107447-11-29 00:57 J -37523261.50 -37523261.46 -37523261.38 0.0085 0.0075

Jupiter -107446-02-10 22:48 J -37523187.69 -37523187.55 -37523187.41 0.0530 0.0078

Pluto -107446-02-25 02:24 J -37523173.48 -37523173.40 -37523173.30 0.0085 0.0060

Jupiter -107446-05-11 12:14 J -37523098.06 -37523097.99 -37523097.92 0.0532 0.0449

Pluto -107446-05-24 03:35 J -37523085.45 -37523085.35 -37523085.23 0.0084 0.0047

Mars -107446-06-13 17:16 J -37523064.90 -37523064.78 -37523064.65 0.1694 0.0894

Pluto -107446-08-20 05:02 J -37522997.41 -37522997.29 -37522997.16 0.0084 0.0032

Pluto -107446-11-16 06:28 J -37522909.36 -37522909.23 -37522909.10 0.0084 0.0018

Pluto -107445-02-12 07:40 J -37522821.31 -37522821.18 -37522821.05 0.0084 0.0004

Mars -107445-04-26 13:26 J -37522747.06 -37522746.94 -37522746.83 0.1822 0.0774

Pluto -107445-05-10 08:52 J -37522733.26 -37522733.13 -37522732.99 0.0084 0.0010

Pluto -107445-08-06 10:04 J -37522645.20 -37522645.08 -37522644.95 0.0084 0.0023

Pluto -107445-11-02 11:16 J -37522557.14 -37522557.03 -37522556.90 0.0084 0.0037

Pluto -107444-01-29 12:28 J -37522469.08 -37522468.98 -37522468.87 0.0084 0.0051

Pluto -107444-04-27 13:55 J -37522381.00 -37522380.92 -37522380.84 0.0083 0.0064

Mars -107444-05-20 03:21 J -37522358.46 -37522358.36 -37522358.25 0.1712 0.1268

Pluto -107444-07-24 14:52 J -37522292.92 -37522292.88 -37522292.82 0.0083 0.0077

Mars -107443-04-02 08:38 J -37522041.23 -37522041.14 -37522041.05 0.1801 0.1234

Moon -107441-06-04 12:57 J -37521247.07 -37521246.96 -37521246.85 0.2726 0.0056

Earth -107441-06-04 13:11 J -37521247.06 -37521246.95 -37521246.84 0.2720 0.0053 *

Jupiter -107441-09-28 13:11 J -37521131.09 -37521130.95 -37521130.80 0.0497 0.0229

Jupiter -107441-12-27 08:52 J -37521041.26 -37521041.13 -37521040.99 0.0495 0.0276

Saturn -107439-06-04 11:02 J -37520517.12 -37520517.04 -37520516.97 0.0290 0.0257

Saturn -107439-09-01 05:16 J -37520428.41 -37520428.28 -37520428.15 0.0290 0.0163

Saturn -107439-11-29 00:00 J -37520339.66 -37520339.50 -37520339.34 0.0289 0.0068

Saturn -107438-02-25 18:57 J -37520250.87 -37520250.71 -37520250.54 0.0288 0.0028

Saturn -107438-05-25 14:09 J -37520162.06 -37520161.91 -37520161.76 0.0287 0.0125

Saturn -107438-08-22 09:35 J -37520073.19 -37520073.10 -37520072.99 0.0286 0.0224

Earth -107438-11-24 05:16 J -37519979.42 -37519979.28 -37519979.14 0.2624 0.0959

Moon -107438-11-24 05:45 J -37519979.40 -37519979.26 -37519979.12 0.2630 0.0887 *

Mars -107437-11-02 21:50 J -37519634.67 -37519634.59 -37519634.50 0.1690 0.1371

Mars -107436-09-16 19:55 J -37519316.75 -37519316.67 -37519316.58 0.1826 0.1303

Venus -107435-07-05 12:28 J -37519025.07 -37519024.98 -37519024.89 0.3765 0.2436

Mars -107435-10-10 06:43 J -37518928.36 -37518928.22 -37518928.09 0.1708 0.0718

Jupiter -107435-11-30 00:28 J -37518877.61 -37518877.48 -37518877.35 0.0530 0.0218

Jupiter -107434-02-27 14:24 J -37518788.01 -37518787.90 -37518787.79 0.0532 0.0317

Mars -107434-08-23 16:19 J -37518610.94 -37518610.82 -37518610.71 0.1806 0.0772

Venus -107429-01-19 09:35 J -37517001.22 -37517001.10 -37517000.98 0.3760 0.0725

Jupiter -107429-07-17 14:38 J -37516821.00 -37516820.89 -37516820.77 0.0497 0.0346

Jupiter -107429-10-15 09:50 J -37516731.24 -37516731.09 -37516730.93 0.0495 0.0155

Earth -107428-06-07 07:55 J -37516496.27 -37516496.17 -37516496.06 0.2724 0.1001

Moon -107428-06-07 08:24 J -37516496.25 -37516496.15 -37516496.05 0.2731 0.1004 *

Mars -107425-03-01 10:04 J -37515498.23 -37515498.08 -37515497.94 0.1703 0.0184

Earth -107425-11-26 09:35 J -37515228.24 -37515228.10 -37515227.95 0.2619 0.0691

Moon -107425-11-26 11:02 J -37515228.18 -37515228.04 -37515227.89 0.2623 0.0713 *

Mars -107424-01-12 23:31 J -37515180.64 -37515180.52 -37515180.39 0.1812 0.0297

Uranus -107424-04-08 16:48 J -37515094.85 -37515094.80 -37515094.75 0.0133 0.0124

Uranus -107424-07-05 20:38 J -37515006.72 -37515006.64 -37515006.55 0.0133 0.0106

Venus -107424-08-04 07:11 J -37514977.32 -37514977.20 -37514977.09 0.3755 0.1044

Uranus -107424-10-02 00:28 J -37514918.58 -37514918.48 -37514918.36 0.0133 0.0090

Saturn -107424-12-26 19:11 J -37514832.75 -37514832.70 -37514832.64 0.0270 0.0250

Uranus -107424-12-29 04:33 J -37514830.43 -37514830.31 -37514830.19 0.0133 0.0072

Saturn -107423-03-25 08:52 J -37514744.24 -37514744.13 -37514744.02 0.0270 0.0177

Uranus -107423-03-27 08:09 J -37514742.28 -37514742.16 -37514742.02 0.0133 0.0056

Saturn -107423-06-21 22:19 J -37514655.71 -37514655.57 -37514655.43 0.0271 0.0105

Uranus -107423-06-23 12:14 J -37514654.13 -37514653.99 -37514653.85 0.0133 0.0039

Jupiter -107423-09-18 02:52 J -37514567.49 -37514567.38 -37514567.27 0.0530 0.0346

Saturn -107423-09-18 11:31 J -37514567.16 -37514567.02 -37514566.87 0.0272 0.0034

Uranus -107423-09-19 16:04 J -37514565.98 -37514565.83 -37514565.69 0.0133 0.0022

Saturn -107423-12-16 00:28 J -37514478.62 -37514478.48 -37514478.33 0.0272 0.0039

Jupiter -107423-12-16 17:02 J -37514477.92 -37514477.79 -37514477.65 0.0532 0.0194

Uranus -107423-12-16 19:55 J -37514477.82 -37514477.67 -37514477.53 0.0133 0.0007 *

Saturn -107422-03-14 13:26 J -37514390.07 -37514389.94 -37514389.80 0.0273 0.0108

Uranus -107422-03-14 23:31 J -37514389.66 -37514389.52 -37514389.37 0.0133 0.0011

Saturn -107422-06-11 02:09 J -37514301.51 -37514301.41 -37514301.30 0.0274 0.0178

Uranus -107422-06-11 03:21 J -37514301.51 -37514301.36 -37514301.22 0.0133 0.0027 *

Uranus -107422-09-07 06:57 J -37514213.35 -37514213.21 -37514213.07 0.0132 0.0043

Saturn -107422-09-07 14:52 J -37514212.94 -37514212.88 -37514212.82 0.0275 0.0247

Uranus -107422-12-04 10:33 J -37514125.19 -37514125.06 -37514124.93 0.0132 0.0059

Uranus -107421-03-01 14:09 J -37514037.02 -37514036.91 -37514036.79 0.0132 0.0074

Uranus -107421-05-28 17:45 J -37513948.86 -37513948.76 -37513948.65 0.0132 0.0090

Moon -107421-05-31 03:35 J -37513946.43 -37513946.35 -37513946.27 0.2710 0.1889

Earth -107421-05-31 04:19 J -37513946.40 -37513946.32 -37513946.24 0.2711 0.1885 *

Uranus -107421-08-24 21:21 J -37513860.69 -37513860.61 -37513860.52 0.0132 0.0106

Uranus -107421-11-21 00:43 J -37513772.51 -37513772.47 -37513772.41 0.0132 0.0121

Venus -107420-08-04 03:07 J -37513516.45 -37513516.37 -37513516.29 0.3613 0.2738

Venus -107418-02-18 05:02 J -37512953.37 -37512953.29 -37512953.21 0.3751 0.2881

Jupiter -107417-05-05 15:35 J -37512510.89 -37512510.85 -37512510.79 0.0498 0.0468

Jupiter -107417-08-03 10:33 J -37512421.23 -37512421.06 -37512420.90 0.0496 0.0030

Mars -107416-07-22 13:40 J -37512068.08 -37512067.93 -37512067.79 0.1698 0.0346

Mars -107415-06-05 06:43 J -37511750.35 -37511750.22 -37511750.10 0.1817 0.0213

Earth -107415-06-10 02:38 J -37511745.46 -37511745.39 -37511745.31 0.2729 0.2010

Moon -107415-06-10 03:21 J -37511745.42 -37511745.36 -37511745.29 0.2731 0.2132 *

Venus -107414-02-17 23:45 J -37511492.63 -37511492.51 -37511492.40 0.3617 0.1190

Mars -107413-05-11 00:43 J -37511044.50 -37511044.47 -37511044.44 0.1796 0.1720

Earth -107412-11-29 14:24 J -37510476.96 -37510476.90 -37510476.84 0.2614 0.2362

Moon -107412-11-29 15:50 J -37510476.86 -37510476.84 -37510476.82 0.2614 0.2575 *

Jupiter -107411-07-07 05:16 J -37510257.34 -37510257.28 -37510257.22 0.0529 0.0476

Jupiter -107411-10-04 19:55 J -37510167.81 -37510167.67 -37510167.53 0.0531 0.0069

Saturn -107409-01-19 02:52 J -37509696.49 -37509696.38 -37509696.26 0.0290 0.0203

Saturn -107409-04-16 21:35 J -37509607.75 -37509607.60 -37509607.45 0.0289 0.0108

Saturn -107409-07-14 16:19 J -37509518.98 -37509518.82 -37509518.65 0.0289 0.0015

Venus -107409-09-02 19:55 J -37509468.79 -37509468.67 -37509468.55 0.3621 0.0333

Saturn -107409-10-11 11:31 J -37509430.18 -37509430.02 -37509429.86 0.0288 0.0084

Saturn -107408-01-08 06:57 J -37509341.33 -37509341.21 -37509341.08 0.0287 0.0182

Saturn -107408-04-07 02:38 J -37509252.41 -37509252.39 -37509252.35 0.0286 0.0280

Moon -107408-06-02 22:48 J -37509195.66 -37509195.55 -37509195.45 0.2721 0.0968

Earth -107408-06-02 23:16 J -37509195.63 -37509195.53 -37509195.42 0.2716 0.0848 *

Mars -107407-12-12 17:45 J -37508637.89 -37508637.76 -37508637.63 0.1694 0.0846

Mars -107406-10-26 13:40 J -37508320.05 -37508319.93 -37508319.82 0.1822 0.0728

Jupiter -107405-05-22 11:16 J -37508111.19 -37508111.03 -37508110.87 0.0496 0.0097

Jupiter -107405-08-20 07:11 J -37508021.29 -37508021.20 -37508021.11 0.0495 0.0411

Mars -107405-11-18 04:04 J -37507931.42 -37507931.33 -37507931.23 0.1712 0.1327

Moon -107405-11-21 07:11 J -37507928.26 -37507928.20 -37507928.13 0.2635 0.2319

Earth -107405-11-21 07:40 J -37507928.26 -37507928.18 -37507928.11 0.2628 0.2246 *

Mars -107404-10-01 08:38 J -37507614.23 -37507614.14 -37507614.05 0.1801 0.1274

Venus -107403-03-19 16:04 J -37507444.93 -37507444.83 -37507444.72 0.3626 0.1785

Jupiter -107399-07-23 21:50 J -37505857.73 -37505857.59 -37505857.45 0.0530 0.0067

Jupiter -107399-10-21 11:16 J -37505768.10 -37505768.03 -37505767.96 0.0532 0.0461

Venus -107398-10-03 12:00 J -37505421.06 -37505421.00 -37505420.95 0.3630 0.3194

Mars -107397-05-03 22:04 J -37505207.67 -37505207.58 -37505207.49 0.1690 0.1327

Mars -107396-03-17 20:09 J -37504889.75 -37504889.66 -37504889.57 0.1826 0.1254

Mars -107395-04-10 06:57 J -37504501.35 -37504501.21 -37504501.08 0.1708 0.0763

Moon -107395-06-05 18:14 J -37504444.85 -37504444.74 -37504444.63 0.2727 0.0217

Earth -107395-06-05 18:14 J -37504444.85 -37504444.74 -37504444.63 0.2720 0.0185 *

Mars -107394-02-21 16:19 J -37504183.93 -37504183.82 -37504183.71 0.1807 0.0814

Saturn -107394-08-12 10:04 J -37504012.18 -37504012.08 -37504011.98 0.0271 0.0202

Saturn -107394-11-08 23:31 J -37503923.65 -37503923.52 -37503923.39 0.0271 0.0130

Saturn -107393-02-05 12:57 J -37503835.11 -37503834.96 -37503834.82 0.0272 0.0058

Jupiter -107393-03-10 12:00 J -37503801.14 -37503801.00 -37503800.85 0.0497 0.0221

Saturn -107393-05-04 02:09 J -37503746.56 -37503746.41 -37503746.27 0.0273 0.0016

Jupiter -107393-06-08 07:40 J -37503711.31 -37503711.18 -37503711.05 0.0495 0.0284

Saturn -107393-07-31 14:52 J -37503658.01 -37503657.88 -37503657.74 0.0273 0.0086

Saturn -107393-10-28 03:50 J -37503569.46 -37503569.34 -37503569.22 0.0274 0.0155

Saturn -107392-01-24 16:33 J -37503480.89 -37503480.81 -37503480.73 0.0275 0.0225

Earth -107392-11-24 11:31 J -37503177.16 -37503177.02 -37503176.87 0.2623 0.0636

Moon -107392-11-24 12:28 J -37503177.13 -37503176.98 -37503176.84 0.2628 0.0572 *

Jupiter -107387-05-11 23:45 J -37501547.64 -37501547.51 -37501547.37 0.0530 0.0203

Mars -107387-08-08 02:24 J -37501459.42 -37501459.40 -37501459.38 0.1831 0.1801

Jupiter -107387-08-09 13:40 J -37501458.04 -37501457.93 -37501457.82 0.0532 0.0331

Mars -107386-08-31 10:19 J -37501071.22 -37501071.07 -37501070.92 0.1703 0.0228

Mars -107385-07-13 23:45 J -37500753.63 -37500753.51 -37500753.38 0.1811 0.0338

Venus -107384-07-26 14:24 J -37500375.95 -37500375.90 -37500375.86 0.3768 0.3507

Earth -107382-06-08 12:57 J -37499694.06 -37499693.96 -37499693.86 0.2725 0.1204

Moon -107382-06-08 13:26 J -37499694.04 -37499693.94 -37499693.84 0.2731 0.1265 *

Jupiter -107382-12-28 13:11 J -37499491.06 -37499490.95 -37499490.83 0.0497 0.0339

Jupiter -107381-03-27 08:24 J -37499401.30 -37499401.15 -37499400.99 0.0495 0.0161

Neptune -107380-06-05 23:45 J -37498965.55 -37498965.51 -37498965.47 0.0089 0.0085

Saturn -107380-06-07 03:35 J -37498964.44 -37498964.35 -37498964.25 0.0290 0.0229

Neptune -107380-09-02 01:40 J -37498877.48 -37498877.43 -37498877.35 0.0089 0.0081

Saturn -107380-09-03 22:04 J -37498875.72 -37498875.58 -37498875.44 0.0290 0.0136

Uranus -107380-09-05 00:57 J -37498874.53 -37498874.46 -37498874.38 0.0145 0.0128

Neptune -107380-11-29 04:04 J -37498789.40 -37498789.33 -37498789.23 0.0089 0.0076

Saturn -107380-12-01 16:48 J -37498786.96 -37498786.80 -37498786.63 0.0289 0.0041

Uranus -107380-12-02 07:11 J -37498786.31 -37498786.20 -37498786.07 0.0146 0.0104

Neptune -107379-02-25 06:43 J -37498701.31 -37498701.22 -37498701.12 0.0089 0.0071

Saturn -107379-02-28 12:00 J -37498698.16 -37498698.00 -37498697.84 0.0288 0.0057

Uranus -107379-02-28 13:55 J -37498698.06 -37498697.92 -37498697.78 0.0146 0.0079 *

Neptune -107379-05-24 08:52 J -37498613.23 -37498613.13 -37498613.01 0.0089 0.0067

Uranus -107379-05-27 20:24 J -37498609.81 -37498609.65 -37498609.49 0.0146 0.0054

Saturn -107379-05-28 07:11 J -37498609.33 -37498609.20 -37498609.05 0.0287 0.0155

Neptune -107379-08-20 11:16 J -37498525.14 -37498525.03 -37498524.91 0.0089 0.0062

Uranus -107379-08-24 02:52 J -37498521.54 -37498521.38 -37498521.21 0.0146 0.0029

Saturn -107379-08-25 02:52 J -37498520.45 -37498520.38 -37498520.29 0.0286 0.0252

Neptune -107379-11-16 13:40 J -37498437.05 -37498436.93 -37498436.80 0.0089 0.0057

Uranus -107379-11-20 09:35 J -37498433.27 -37498433.10 -37498432.93 0.0146 0.0004

Earth -107379-11-27 16:04 J -37498425.97 -37498425.83 -37498425.69 0.2619 0.1017

Moon -107379-11-27 17:16 J -37498425.91 -37498425.78 -37498425.64 0.2621 0.1214 *

Venus -107378-02-09 11:16 J -37498352.13 -37498352.03 -37498351.92 0.3763 0.1842

Neptune -107378-02-12 16:19 J -37498348.95 -37498348.82 -37498348.69 0.0089 0.0052

Uranus -107378-02-16 16:19 J -37498344.99 -37498344.82 -37498344.65 0.0146 0.0022

Neptune -107378-05-11 18:14 J -37498260.86 -37498260.74 -37498260.59 0.0089 0.0048

Uranus -107378-05-15 23:02 J -37498256.70 -37498256.54 -37498256.38 0.0146 0.0048

Neptune -107378-08-07 20:52 J -37498172.77 -37498172.63 -37498172.48 0.0089 0.0043

Uranus -107378-08-12 05:45 J -37498168.40 -37498168.26 -37498168.11 0.0146 0.0074

Neptune -107378-11-03 23:16 J -37498084.67 -37498084.53 -37498084.37 0.0089 0.0038

Uranus -107378-11-08 12:43 J -37498080.09 -37498079.97 -37498079.84 0.0146 0.0101

Neptune -107377-01-31 01:40 J -37497996.57 -37497996.43 -37497996.27 0.0089 0.0033

Uranus -107377-02-04 19:26 J -37497991.76 -37497991.69 -37497991.59 0.0146 0.0128

Neptune -107377-04-28 04:19 J -37497908.48 -37497908.32 -37497908.16 0.0089 0.0028

Neptune -107377-07-25 06:43 J -37497820.38 -37497820.22 -37497820.06 0.0089 0.0023

Neptune -107377-10-21 09:07 J -37497732.28 -37497732.12 -37497731.95 0.0089 0.0019

Neptune -107376-01-17 11:31 J -37497644.18 -37497644.02 -37497643.85 0.0089 0.0014

Mars   -107376-01-20 14:09 J -37497641.06 -37497640.91 -37497640.77 0.1698 0.0293

Neptune -107376-04-15 14:09 J -37497556.07 -37497555.91 -37497555.74 0.0089 0.0009

Neptune -107376-07-12 16:33 J -37497467.97 -37497467.81 -37497467.64 0.0089 0.0004

Neptune -107376-10-08 19:11 J -37497379.87 -37497379.70 -37497379.53 0.0089 0.0001

Mars   -107376-12-04 06:57 J -37497323.34 -37497323.21 -37497323.09 0.1817 0.0172

Neptune -107375-01-04 21:35 J -37497291.76 -37497291.60 -37497291.43 0.0089 0.0007

Jupiter -107375-02-28 01:11 J -37497237.56 -37497237.45 -37497237.34 0.0530 0.0345

Neptune -107375-04-03 00:14 J -37497203.66 -37497203.49 -37497203.32 0.0089 0.0011

Jupiter -107375-05-28 15:35 J -37497147.98 -37497147.85 -37497147.72 0.0532 0.0195

Moon   -107375-06-01 08:38 J -37497144.23 -37497144.14 -37497144.06 0.2714 0.1814

Earth   -107375-06-01 09:21 J -37497144.20 -37497144.11 -37497144.02 0.2712 0.1673 *

Neptune -107375-06-30 02:38 J -37497115.55 -37497115.39 -37497115.22 0.0089 0.0017

Neptune -107375-09-26 05:02 J -37497027.44 -37497027.29 -37497027.12 0.0089 0.0022

Neptune -107375-12-23 07:40 J -37496939.33 -37496939.18 -37496939.01 0.0089 0.0027

Neptune -107374-03-21 10:19 J -37496851.22 -37496851.07 -37496850.91 0.0089 0.0032

Neptune -107374-06-17 12:43 J -37496763.11 -37496762.97 -37496762.80 0.0089 0.0037

Neptune -107374-09-13 15:21 J -37496675.00 -37496674.86 -37496674.70 0.0089 0.0042

Mars   -107374-11-10 00:57 J -37496617.48 -37496617.46 -37496617.44 0.1796 0.1764

Neptune -107374-12-10 18:00 J -37496586.88 -37496586.75 -37496586.60 0.0089 0.0047

Neptune -107373-03-07 20:38 J -37496498.77 -37496498.64 -37496498.49 0.0089 0.0052

Neptune -107373-06-03 23:31 J -37496410.65 -37496410.52 -37496410.39 0.0089 0.0057

Venus   -107373-08-25 08:38 J -37496328.26 -37496328.14 -37496328.02 0.3759 0.0160

Neptune -107373-08-31 01:40 J -37496322.53 -37496322.43 -37496322.29 0.0089 0.0063

Neptune -107373-11-27 04:33 J -37496234.41 -37496234.31 -37496234.19 0.0089 0.0068

Neptune -107372-02-23 07:11 J -37496146.28 -37496146.20 -37496146.09 0.0089 0.0073

Neptune -107372-05-22 10:04 J -37496058.15 -37496058.08 -37496058.00 0.0089 0.0078

Neptune -107372-08-18 12:57 J -37495970.02 -37495969.96 -37495969.91 0.0089 0.0083

Neptune -107372-11-14 15:21 J -37495881.86 -37495881.86 -37495881.84 0.0089 0.0089

Jupiter -107370-10-16 14:52 J -37495180.94 -37495180.88 -37495180.81 0.0498 0.0454

Jupiter -107369-01-14 09:35 J -37495091.26 -37495091.10 -37495090.94 0.0496 0.0042

Earth -107369-06-10 07:40 J -37494943.24 -37494943.18 -37494943.12 0.2729 0.2214

Moon   -107369-06-10 08:24 J -37494943.21 -37494943.15 -37494943.09 0.2729 0.2253 *

Venus -107367-03-11 06:14 J -37494304.35 -37494304.24 -37494304.13 0.3754 0.1662

Mars   -107367-06-12 18:00 J -37494210.88 -37494210.75 -37494210.62 0.1694 0.0797

Mars   -107366-04-26 13:40 J -37493893.05 -37493892.93 -37493892.81 0.1822 0.0680

Mars   -107365-05-19 04:33 J -37493504.40 -37493504.31 -37493504.22 0.1712 0.1379

Saturn -107365-12-29 11:16 J -37493280.11 -37493280.03 -37493279.95 0.0270 0.0225

Saturn -107364-03-28 00:43 J -37493191.59 -37493191.47 -37493191.34 0.0270 0.0154

Mars   -107364-04-01 08:38 J -37493187.22 -37493187.14 -37493187.05 0.1801 0.1320

Saturn -107364-06-24 14:09 J -37493103.05 -37493102.91 -37493102.77 0.0271 0.0082

Saturn -107364-09-21 03:21 J -37493014.51 -37493014.36 -37493014.21 0.0272 0.0011

Jupiter -107364-12-17 03:35 J -37492927.41 -37492927.35 -37492927.29 0.0529 0.0475

Saturn -107364-12-18 16:19 J -37492925.96 -37492925.82 -37492925.68 0.0272 0.0060

Venus -107363-03-11 01:55 J -37492843.52 -37492843.42 -37492843.32 0.3614 0.2176

Jupiter -107363-03-16 18:14 J -37492837.88 -37492837.74 -37492837.60 0.0532 0.0069

Saturn -107363-03-17 05:02 J -37492837.41 -37492837.29 -37492837.16 0.0273 0.0131

Saturn -107363-06-13 18:00 J -37492748.85 -37492748.75 -37492748.66 0.0274 0.0200

Saturn -107363-09-10 06:28 J -37492660.25 -37492660.23 -37492660.20 0.0275 0.0269

Moon   -107362-06-04 03:50 J -37492393.45 -37492393.34 -37492393.23 0.2722 0.0641

Earth -107362-06-04 04:19 J -37492393.43 -37492393.32 -37492393.21 0.2717 0.0641 *

Venus -107362-09-25 04:19 J -37492280.36 -37492280.32 -37492280.28 0.3749 0.3518

Moon   -107359-11-22 13:40 J -37491126.03 -37491125.93 -37491125.83 0.2634 0.1887

Earth -107359-11-22 13:40 J -37491126.03 -37491125.93 -37491125.83 0.2628 0.1933 *

Venus -107358-09-24 22:19 J -37490819.69 -37490819.57 -37490819.44 0.3618 0.0656

Jupiter -107358-11-02 10:19 J -37490781.23 -37490781.07 -37490780.91 0.0496 0.0085

Mars   -107358-11-02 22:33 J -37490780.65 -37490780.56 -37490780.46 0.1690 0.1275

Jupiter -107357-01-31 06:14 J -37490691.32 -37490691.24 -37490691.15 0.0494 0.0424

Mars   -107357-09-15 20:24 J -37490462.75 -37490462.65 -37490462.56 0.1827 0.1210

Mars -107356-10-09 07:26 J -37490074.32 -37490074.19 -37490074.05 0.1708 0.0823

Mars -107355-08-22 16:33 J -37489756.92 -37489756.81 -37489756.70 0.1806 0.0859

Venus -107352-04-09 18:43 J -37488795.84 -37488795.72 -37488795.60 0.3623 0.0848

Jupiter -107351-01-02 20:52 J -37488527.77 -37488527.63 -37488527.49 0.0531 0.0057

Jupiter -107351-04-02 10:19 J -37488438.13 -37488438.07 -37488438.01 0.0533 0.0472

Saturn -107351-10-25 01:11 J -37488232.50 -37488232.45 -37488232.39 0.0291 0.0269

Saturn -107350-01-21 19:26 J -37488143.81 -37488143.69 -37488143.56 0.0290 0.0177

Saturn -107350-04-20 14:09 J -37488055.06 -37488054.91 -37488054.75 0.0289 0.0082

Saturn -107350-07-18 09:07 J -37487966.28 -37487966.12 -37487965.95 0.0289 0.0016

Saturn -107350-10-15 04:19 J -37487877.47 -37487877.32 -37487877.16 0.0288 0.0112

Saturn -107349-01-12 00:00 J -37487788.61 -37487788.50 -37487788.39 0.0287 0.0210

Earth -107349-06-05 23:02 J -37487642.65 -37487642.54 -37487642.42 0.2721 0.0402

Moon -107349-06-05 23:16 J -37487642.64 -37487642.53 -37487642.42 0.2728 0.0359 *

Mars -107347-02-06 02:38 J -37487032.42 -37487032.39 -37487032.36 0.1831 0.1754

Venus -107347-10-24 14:38 J -37486771.98 -37486771.89 -37486771.79 0.3627 0.2297

Mars -107346-03-01 10:48 J -37486644.20 -37486644.05 -37486643.90 0.1703 0.0278

Jupiter -107346-08-21 11:16 J -37486471.18 -37486471.03 -37486470.88 0.0497 0.0207

Jupiter -107346-11-19 06:43 J -37486381.35 -37486381.22 -37486381.08 0.0495 0.0297

Earth -107346-11-25 17:45 J -37486374.91 -37486374.76 -37486374.61 0.2623 0.0317

Moon -107346-11-25 18:57 J -37486374.86 -37486374.71 -37486374.56 0.2627 0.0248 *

Mars -107345-01-12 23:45 J -37486326.63 -37486326.51 -37486326.39 0.1812 0.0378

Moon -107342-05-30 18:28 J -37485092.75 -37485092.73 -37485092.70 0.2704 0.2607

Earth -107342-05-30 19:11 J -37485092.74 -37485092.70 -37485092.66 0.2708 0.2508 *

Uranus -107340-04-28 23:45 J -37484393.57 -37484393.51 -37484393.44 0.0133 0.0120

Uranus -107340-07-26 03:50 J -37484305.43 -37484305.34 -37484305.25 0.0133 0.0103

Jupiter -107340-10-21 23:02 J -37484217.67 -37484217.54 -37484217.41 0.0530 0.0190

Uranus -107340-10-22 07:40 J -37484217.29 -37484217.18 -37484217.06 0.0133 0.0086

Uranus -107339-01-18 11:31 J -37484129.14 -37484129.02 -37484128.89 0.0133 0.0069

Jupiter -107339-01-19 12:43 J -37484128.07 -37484127.97 -37484127.86 0.0532 0.0344

Uranus -107339-04-16 15:21 J -37484040.99 -37484040.86 -37484040.72 0.0133 0.0052

Uranus -107339-07-13 19:11 J -37483952.84 -37483952.70 -37483952.55 0.0133 0.0035

Uranus -107339-10-09 23:02 J -37483864.68 -37483864.54 -37483864.39 0.0133 0.0019

Uranus -107338-01-06 02:52 J -37483776.53 -37483776.38 -37483776.23 0.0133 0.0002

Uranus -107338-04-04 06:43 J -37483688.37 -37483688.22 -37483688.08 0.0133 0.0015

Uranus -107338-07-01 10:19 J -37483600.21 -37483600.07 -37483599.93 0.0133 0.0030

Uranus -107338-09-27 13:55 J -37483512.05 -37483511.92 -37483511.78 0.0132 0.0046

Uranus -107338-12-24 17:31 J -37483423.89 -37483423.77 -37483423.64 0.0132 0.0062

Uranus -107337-03-21 21:07 J -37483335.73 -37483335.62 -37483335.50 0.0132 0.0078

Uranus -107337-06-18 00:57 J -37483247.56 -37483247.46 -37483247.36 0.0132 0.0094

Mars -107337-07-21 14:24 J -37483214.05 -37483213.90 -37483213.76 0.1698 0.0255

Uranus -107337-09-14 04:19 J -37483159.39 -37483159.32 -37483159.24 0.0132 0.0109

Uranus -107337-12-11 07:55 J -37483071.21 -37483071.17 -37483071.12 0.0132 0.0124

Mars -107336-06-04 06:57 J -37482896.33 -37482896.21 -37482896.08 0.1817 0.0132

Earth -107336-06-08 18:00 J -37482891.85 -37482891.75 -37482891.66 0.2725 0.1411

Moon -107336-06-08 18:28 J -37482891.82 -37482891.73 -37482891.64 0.2729 0.1487 *

Saturn -107335-05-18 12:14 J -37482548.04 -37482547.99 -37482547.94 0.0270 0.0251

Saturn -107335-08-15 01:40 J -37482459.53 -37482459.43 -37482459.31 0.0271 0.0179

Saturn -107335-11-11 15:07 J -37482371.00 -37482370.87 -37482370.73 0.0271 0.0107

Saturn -107334-02-08 04:33 J -37482282.46 -37482282.31 -37482282.17 0.0272 0.0036

Saturn -107334-05-07 17:31 J -37482193.91 -37482193.77 -37482193.62 0.0273 0.0036

Jupiter -107334-06-09 12:14 J -37482161.11 -37482160.99 -37482160.87 0.0498 0.0330

Saturn -107334-08-04 06:28 J -37482105.36 -37482105.23 -37482105.10 0.0273 0.0106

Jupiter -107334-09-07 07:26 J -37482071.35 -37482071.19 -37482071.04 0.0496 0.0171

Saturn -107334-10-31 19:11 J -37482016.81 -37482016.70 -37482016.59 0.0274 0.0176

Saturn -107333-01-28 07:55 J -37481928.23 -37481928.17 -37481928.11 0.0275 0.0245

Earth -107333-11-27 22:19 J -37481623.70 -37481623.57 -37481623.44 0.2618 0.1352

Moon -107333-11-27 23:45 J -37481623.63 -37481623.51 -37481623.38 0.2619 0.1432 *

Moon -107329-06-01 13:26 J -37480342.03 -37480341.94 -37480341.84 0.2715 0.1484

Earth -107329-06-01 14:24 J -37480342.00 -37480341.90 -37480341.81 0.2712 0.1468 *

Jupiter -107328-08-10 00:43 J -37479907.58 -37479907.47 -37479907.35 0.0529 0.0326

Jupiter -107328-11-07 15:07 J -37479818.00 -37479817.87 -37479817.74 0.0531 0.0212

Mars -107328-12-11 18:43 J -37479783.86 -37479783.72 -37479783.59 0.1694 0.0743

Venus -107327-03-02 13:11 J -37479703.02 -37479702.95 -37479702.88 0.3766 0.2929

Mars -107327-10-25 13:55 J -37479466.04 -37479465.92 -37479465.80 0.1822 0.0630

Mars -107326-11-18 05:02 J -37479077.37 -37479077.29 -37479077.21 0.1713 0.1433

Mars -107325-09-30 08:52 J -37478760.20 -37478760.13 -37478760.05 0.1801 0.1368

Earth -107323-06-11 12:43 J -37478141.02 -37478140.97 -37478140.93 0.2730 0.2422

Moon -107323-06-11 13:26 J -37478140.98 -37478140.94 -37478140.90 0.2729 0.2515 *

Jupiter -107322-03-28 13:40 J -37477851.00 -37477850.93 -37477850.86 0.0498 0.0445

Jupiter -107322-06-26 08:24 J -37477761.31 -37477761.15 -37477760.99 0.0496 0.0050

Venus -107322-09-16 10:19 J -37477679.19 -37477679.07 -37477678.96 0.3762 0.1256

Saturn -107321-06-09 19:40 J -37477411.79 -37477411.68 -37477411.56 0.0290 0.0205

Saturn -107321-09-06 14:24 J -37477323.05 -37477322.90 -37477322.75 0.0289 0.0110

Saturn -107321-12-04 09:07 J -37477234.28 -37477234.12 -37477233.95 0.0289 0.0016

Saturn -107320-03-03 04:19 J -37477145.48 -37477145.32 -37477145.16 0.0288 0.0083

Saturn -107320-05-30 23:45 J -37477056.63 -37477056.51 -37477056.38 0.0287 0.0180

Saturn -107320-08-27 19:40 J -37476967.72 -37476967.68 -37476967.64 0.0286 0.0278

Mars -107318-05-03 23:02 J -37476353.64 -37476353.54 -37476353.44 0.1690 0.1228

Mars -107317-03-16 20:24 J -37476035.74 -37476035.65 -37476035.55 0.1827 0.1162

Venus -107316-04-01 07:40 J -37475655.30 -37475655.18 -37475655.06 0.3757 0.0486

Mars -107316-04-09 07:55 J -37475647.30 -37475647.17 -37475647.04 0.1708 0.0875

Jupiter -107316-05-29 01:55 J -37475597.48 -37475597.42 -37475597.35 0.0529 0.0471

Moon -107316-06-04 08:52 J -37475591.24 -37475591.13 -37475591.02 0.2723 0.0526

Earth -107316-06-04 09:07 J -37475591.23 -37475591.12 -37475591.00 0.2717 0.0444 *

Jupiter -107316-08-26 16:48 J -37475507.94 -37475507.80 -37475507.66 0.0531 0.0074

Mars -107315-02-20 16:33 J -37475329.92 -37475329.81 -37475329.70 0.1807 0.0900

Earth -107313-11-22 19:55 J -37474323.78 -37474323.67 -37474323.55 0.2627 0.1613

Moon -107313-11-22 20:24 J -37474323.76 -37474323.65 -37474323.54 0.2633 0.1665 *

Venus -107312-04-01 04:04 J -37474194.39 -37474194.33 -37474194.28 0.3611 0.3199

Venus -107311-10-16 05:31 J -37473631.37 -37473631.27 -37473631.18 0.3752 0.2291

Jupiter -107310-04-14 09:35 J -37473451.25 -37473451.10 -37473450.94 0.0496 0.0070

Jupiter -107310-07-13 05:45 J -37473361.33 -37473361.26 -37473361.19 0.0494 0.0439

Mars   -107308-08-07 02:38 J -37472605.43 -37472605.39 -37472605.34 0.1831 0.1708

Mars   -107307-08-30 11:16 J -37472217.18 -37472217.03 -37472216.89 0.1703 0.0334

Venus   -107307-10-16 00:43 J -37472170.58 -37472170.47 -37472170.36 0.3615 0.1623

Mars   -107306-07-14 00:00 J -37471899.62 -37471899.50 -37471899.38 0.1812 0.0424

Saturn -107305-01-02 03:07 J -37471727.46 -37471727.37 -37471727.27 0.0270 0.0202

Saturn -107305-03-30 16:33 J -37471638.93 -37471638.81 -37471638.67 0.0270 0.0130

Saturn -107305-06-27 06:00 J -37471550.40 -37471550.25 -37471550.11 0.0271 0.0059

Saturn -107305-09-23 18:57 J -37471461.85 -37471461.71 -37471461.56 0.0272 0.0014

Saturn -107305-12-21 07:55 J -37471373.31 -37471373.17 -37471373.03 0.0272 0.0083

Saturn -107304-03-19 20:38 J -37471284.75 -37471284.64 -37471284.52 0.0273 0.0153

Jupiter -107304-06-14 19:11 J -37471197.84 -37471197.70 -37471197.55 0.0531 0.0057

Saturn -107304-06-16 09:21 J -37471196.19 -37471196.11 -37471196.03 0.0274 0.0222

Jupiter -107304-09-12 08:52 J -37471108.19 -37471108.13 -37471108.07 0.0533 0.0476

Earth   -107303-06-07 04:04 J -37470840.44 -37470840.33 -37470840.22 0.2722 0.0597

Moon   -107303-06-07 04:19 J -37470840.43 -37470840.32 -37470840.21 0.2729 0.0684 *

Venus   -107301-04-30 21:07 J -37470146.74 -37470146.62 -37470146.49 0.3620 0.0163

Earth   -107300-11-26 00:14 J -37469572.64 -37469572.49 -37469572.34 0.2622 0.0056

Moon   -107300-11-26 01:26 J -37469572.59 -37469572.44 -37469572.29 0.2626 0.0169 *

Neptune -107299-12-26 00:57 J -37469177.46 -37469177.46 -37469177.45 0.0088 0.0088

Jupiter -107298-01-31 10:33 J -37469141.21 -37469141.06 -37469140.91 0.0497 0.0193

Neptune -107298-03-24 02:52 J -37469089.42 -37469089.38 -37469089.33 0.0088 0.0084

Jupiter -107298-05-01 06:00 J -37469051.37 -37469051.25 -37469051.12 0.0495 0.0311

Neptune -107298-06-20 04:33 J -37469001.36 -37469001.31 -37469001.22 0.0088 0.0080

Neptune -107298-09-16 06:43 J -37468913.29 -37468913.22 -37468913.12 0.0088 0.0075

Neptune -107298-12-13 09:07 J -37468825.21 -37468825.12 -37468825.03 0.0088 0.0070

Mars   -107297-01-20 14:52 J -37468787.03 -37468786.88 -37468786.73 0.1698 0.0191

Neptune -107297-03-10 10:48 J -37468737.14 -37468737.05 -37468736.93 0.0088 0.0066

Neptune -107297-06-06 12:57 J -37468649.06 -37468648.96 -37468648.84 0.0088 0.0061

Neptune -107297-09-02 14:52 J -37468560.99 -37468560.88 -37468560.75 0.0088 0.0056

Neptune -107297-11-29 17:02 J -37468472.91 -37468472.79 -37468472.66 0.0088 0.0051

Mars -107297-12-03 07:11 J -37468469.33 -37468469.20 -37468469.08 0.1817 0.0087

Neptune -107296-02-25 19:11 J -37468384.83 -37468384.70 -37468384.57 0.0088 0.0047

Neptune -107296-05-24 20:52 J -37468296.75 -37468296.63 -37468296.48 0.0088 0.0043

Moon -107296-05-30 23:31 J -37468290.57 -37468290.52 -37468290.47 0.2708 0.2367

Earth -107296-05-31 00:14 J -37468290.55 -37468290.49 -37468290.43 0.2708 0.2297 *

Neptune -107296-08-20 23:02 J -37468208.67 -37468208.54 -37468208.40 0.0088 0.0038

Uranus -107296-09-25 08:09 J -37468173.24 -37468173.16 -37468173.07 0.0146 0.0123

Venus -107296-11-14 17:31 J -37468122.88 -37468122.77 -37468122.66 0.3624 0.1369

Neptune -107296-11-17 00:57 J -37468120.60 -37468120.46 -37468120.31 0.0088 0.0033

Uranus -107296-12-22 14:24 J -37468085.01 -37468084.90 -37468084.77 0.0146 0.0099

Neptune -107295-02-13 02:52 J -37468032.52 -37468032.38 -37468032.23 0.0088 0.0029

Uranus -107295-03-20 20:52 J -37467996.77 -37467996.63 -37467996.48 0.0146 0.0074

Neptune -107295-05-12 04:48 J -37467944.44 -37467944.30 -37467944.15 0.0088 0.0024

Uranus -107295-06-17 03:35 J -37467908.51 -37467908.35 -37467908.19 0.0146 0.0049

Neptune -107295-08-08 06:57 J -37467856.36 -37467856.21 -37467856.06 0.0088 0.0020

Uranus -107295-09-13 10:04 J -37467820.25 -37467820.08 -37467819.91 0.0146 0.0024

Neptune -107295-11-04 08:38 J -37467768.28 -37467768.14 -37467767.98 0.0088 0.0016

Uranus -107295-12-10 16:48 J -37467731.97 -37467731.80 -37467731.63 0.0146 0.0002

Neptune -107294-01-31 10:48 J -37467680.20 -37467680.05 -37467679.90 0.0088 0.0011

Uranus -107294-03-08 23:31 J -37467643.69 -37467643.52 -37467643.35 0.0146 0.0027

Neptune -107294-04-29 12:43 J -37467592.12 -37467591.97 -37467591.82 0.0088 0.0006

Uranus -107294-06-05 06:14 J -37467555.40 -37467555.24 -37467555.08 0.0146 0.0053

Neptune -107294-07-26 14:38 J -37467504.04 -37467503.89 -37467503.74 0.0088 0.0002

Uranus -107294-09-01 12:57 J -37467467.10 -37467466.96 -37467466.81 0.0146 0.0080

Pluto -107294-09-25 14:52 J -37467442.93 -37467442.88 -37467442.82 0.0060 0.0058

Neptune -107294-10-22 16:33 J -37467415.96 -37467415.81 -37467415.66 0.0088 0.0004

Uranus -107294-11-28 19:55 J -37467378.79 -37467378.67 -37467378.55 0.0146 0.0106

Pluto -107294-12-22 16:04 J -37467354.92 -37467354.83 -37467354.71 0.0060 0.0050

Neptune -107293-01-18 18:14 J -37467327.89 -37467327.74 -37467327.59 0.0088 0.0008

Uranus -107293-02-25 02:38 J -37467290.45 -37467290.39 -37467290.31 0.0147 0.0133

Pluto -107293-03-19 17:16 J -37467266.89 -37467266.78 -37467266.62 0.0060 0.0044

Neptune -107293-04-15 20:09 J -37467239.81 -37467239.66 -37467239.51 0.0088 0.0012

Pluto -107293-06-15 19:11 J -37467178.85 -37467178.70 -37467178.53 0.0060 0.0036

Neptune -107293-07-12 22:04 J -37467151.73 -37467151.58 -37467151.43 0.0088 0.0016

Pluto -107293-09-11 20:24 J -37467090.80 -37467090.65 -37467090.46 0.0060 0.0029

Neptune -107293-10-08 23:45 J -37467063.65 -37467063.51 -37467063.36 0.0088 0.0021

Pluto -107293-12-08 22:04 J -37467002.75 -37467002.58 -37467002.39 0.0060 0.0021

Neptune -107292-01-05 01:40 J -37466975.57 -37466975.43 -37466975.28 0.0088 0.0025

Pluto -107292-03-06 23:31 J -37466914.70 -37466914.52 -37466914.32 0.0061 0.0013

Jupiter -107292-04-02 21:50 J -37466887.72 -37466887.59 -37466887.45 0.0530 0.0181

Neptune -107292-04-03 03:21 J -37466887.49 -37466887.36 -37466887.21 0.0088 0.0030 *

Pluto -107292-06-03 01:11 J -37466826.64 -37466826.45 -37466826.25 0.0061 0.0006

Neptune -107292-06-30 05:16 J -37466799.41 -37466799.28 -37466799.13 0.0088 0.0034

Jupiter -107292-07-01 11:45 J -37466798.11 -37466798.01 -37466797.90 0.0532 0.0354

Pluto -107292-08-30 02:38 J -37466738.58 -37466738.39 -37466738.19 0.0061 0.0002

Neptune -107292-09-26 07:11 J -37466711.33 -37466711.20 -37466711.06 0.0088 0.0038

Saturn -107292-10-27 17:02 J -37466679.87 -37466679.79 -37466679.70 0.0291 0.0246

Pluto -107292-11-26 04:04 J -37466650.52 -37466650.33 -37466650.13 0.0061 0.0010

Neptune -107292-12-23 08:52 J -37466623.25 -37466623.13 -37466622.99 0.0088 0.0042

Saturn -107291-01-24 11:31 J -37466591.15 -37466591.02 -37466590.88 0.0290 0.0152

Pluto -107291-02-22 05:31 J -37466562.45 -37466562.27 -37466562.08 0.0061 0.0017

Neptune -107291-03-21 10:48 J -37466535.17 -37466535.05 -37466534.92 0.0088 0.0046

Saturn -107291-04-23 06:14 J -37466502.40 -37466502.24 -37466502.08 0.0289 0.0057

Pluto -107291-05-21 06:57 J -37466474.38 -37466474.21 -37466474.02 0.0061 0.0025

Neptune -107291-06-17 12:43 J -37466447.09 -37466446.97 -37466446.85 0.0088 0.0050

Saturn -107291-07-21 01:11 J -37466413.61 -37466413.45 -37466413.28 0.0289 0.0041

Pluto -107291-08-17 08:09 J -37466386.31 -37466386.16 -37466385.98 0.0061 0.0033

Neptune -107291-09-13 14:24 J -37466359.01 -37466358.90 -37466358.78 0.0088 0.0055

Saturn -107291-10-17 20:38 J -37466324.78 -37466324.64 -37466324.49 0.0288 0.0137

Pluto -107291-11-13 09:50 J -37466298.22 -37466298.09 -37466297.93 0.0061 0.0040

Neptune -107291-12-10 16:04 J -37466270.93 -37466270.83 -37466270.71 0.0088 0.0059

Saturn -107290-01-14 16:19 J -37466235.91 -37466235.82 -37466235.72 0.0287 0.0235

Pluto -107290-02-09 11:02 J -37466210.14 -37466210.04 -37466209.90 0.0061 0.0048

Neptune -107290-03-08 17:45 J -37466182.85 -37466182.76 -37466182.64 0.0088 0.0064

Pluto -107290-05-08 12:28 J -37466122.03 -37466121.98 -37466121.88 0.0061 0.0056

Venus -107290-05-31 13:26 J -37466099.02 -37466098.94 -37466098.87 0.3628 0.2790

Neptune -107290-06-04 19:40 J -37466094.77 -37466094.68 -37466094.58 0.0088 0.0067

Earth -107290-06-09 22:48 J -37466089.64 -37466089.55 -37466089.46 0.2726 0.1617

Moon -107290-06-09 23:31 J -37466089.61 -37466089.52 -37466089.43 0.2728 0.1642 *

Neptune -107290-08-31 21:21 J -37466006.68 -37466006.61 -37466006.51 0.0088 0.0072

Neptune -107290-11-27 23:16 J -37465918.60 -37465918.53 -37465918.45 0.0088 0.0076

Neptune -107289-02-24 01:11 J -37465830.51 -37465830.45 -37465830.39 0.0088 0.0080

Neptune -107289-05-22 02:24 J -37465742.42 -37465742.40 -37465742.34 0.0088 0.0085

Neptune -107289-08-18 04:19 J -37465654.32 -37465654.32 -37465654.30 0.0088 0.0088

Mars -107288-06-11 18:43 J -37465356.85 -37465356.72 -37465356.58 0.1694 0.0701

Mars -107287-04-25 13:55 J -37465039.04 -37465038.92 -37465038.80 0.1822 0.0588

Jupiter -107287-11-19 11:31 J -37464831.14 -37464831.02 -37464830.89 0.0497 0.0315

Earth -107287-11-29 04:33 J -37464821.42 -37464821.31 -37464821.19 0.2617 0.1681

Moon -107287-11-29 06:00 J -37464821.36 -37464821.25 -37464821.14 0.2616 0.1797 *

Jupiter -107286-02-17 06:43 J -37464741.37 -37464741.22 -37464741.07 0.0495 0.0185

Mars -107286-05-19 05:31 J -37464650.35 -37464650.27 -37464650.20 0.1712 0.1487

Mars -107285-03-31 08:52 J -37464333.20 -37464333.13 -37464333.05 0.1802 0.1402

Moon -107283-06-02 18:28 J -37463539.82 -37463539.73 -37463539.63 0.2717 0.1378

Earth -107283-06-02 19:11 J -37463539.80 -37463539.70 -37463539.60 0.2713 0.1258 *

Jupiter -107280-01-20 00:00 J -37462577.61 -37462577.50 -37462577.38 0.0529 0.0313

Jupiter -107280-04-19 14:09 J -37462488.03 -37462487.91 -37462487.78 0.0532 0.0226

Mars -107279-11-01 23:16 J -37461926.63 -37461926.53 -37461926.43 0.1690 0.1181

Mars -107278-09-15 20:38 J -37461608.74 -37461608.64 -37461608.54 0.1826 0.1110

Earth -107277-06-11 17:31 J -37461338.80 -37461338.77 -37461338.74 0.2730 0.2627

Moon -107277-06-11 18:14 J -37461338.75 -37461338.74 -37461338.72 0.2728 0.2688 *

Mars -107277-10-08 08:09 J -37461220.28 -37461220.16 -37461220.03 0.1708 0.0923

Saturn -107276-05-21 03:35 J -37460995.42 -37460995.35 -37460995.26 0.0270 0.0229

Saturn -107276-08-17 17:16 J -37460906.90 -37460906.78 -37460906.66 0.0271 0.0157

Mars -107276-08-21 16:48 J -37460902.91 -37460902.80 -37460902.70 0.1807 0.0948

Saturn -107276-11-14 06:43 J -37460818.36 -37460818.22 -37460818.08 0.0271 0.0085

Saturn -107275-02-10 19:55 J -37460729.82 -37460729.67 -37460729.52 0.0272 0.0014

Saturn -107275-05-10 08:52 J -37460641.27 -37460641.13 -37460640.99 0.0273 0.0057

Saturn -107275-08-06 21:35 J -37460552.72 -37460552.60 -37460552.47 0.0273 0.0128

Jupiter -107275-09-07 12:28 J -37460521.05 -37460520.98 -37460520.90 0.0498 0.0436

Saturn -107275-11-03 10:19 J -37460464.16 -37460464.07 -37460463.97 0.0274 0.0197

Jupiter -107275-12-06 07:11 J -37460431.36 -37460431.20 -37460431.03 0.0496 0.0061

Saturn -107274-01-30 23:02 J -37460375.57 -37460375.54 -37460375.51 0.0275 0.0265

Venus -107271-10-07 12:00 J -37459030.09 -37459030.00 -37459029.90 0.3765 0.2350

Moon -107270-06-05 14:09 J -37458789.02 -37458788.91 -37458788.80 0.2725 0.0169

Earth -107270-06-05 14:09 J -37458789.02 -37458788.91 -37458788.80 0.2718 0.0225 *

Mars -107269-03-24 04:04 J -37458496.36 -37458496.33 -37458496.30 0.1686 0.1645

Jupiter -107269-11-08 01:40 J -37458267.50 -37458267.43 -37458267.35 0.0529 0.0450

Mars -107268-02-05 02:52 J -37458178.43 -37458178.38 -37458178.33 0.1831 0.1659

Jupiter -107268-02-05 16:33 J -37458177.95 -37458177.81 -37458177.67 0.0531 0.0094

Mars -107267-02-28 11:31 J -37457790.16 -37457790.02 -37457789.87 0.1703 0.0387

Earth -107267-11-24 02:09 J -37457521.54 -37457521.41 -37457521.28 0.2627 0.1295

Moon -107267-11-24 03:07 J -37457521.51 -37457521.37 -37457521.24 0.2632 0.1134 *

Mars -107266-01-12 00:14 J -37457472.61 -37457472.49 -37457472.37 0.1812 0.0472

Venus -107265-04-22 09:07 J -37457006.24 -37457006.12 -37457006.00 0.3760 0.0670

Jupiter -107263-09-24 08:38 J -37456121.30 -37456121.14 -37456120.98 0.0496 0.0060

Jupiter -107263-12-23 04:33 J -37456031.38 -37456031.31 -37456031.24 0.0494 0.0449

Saturn -107262-03-16 17:02 J -37455947.83 -37455947.79 -37455947.73 0.0291 0.0275

Saturn -107262-06-13 11:31 J -37455859.14 -37455859.02 -37455858.89 0.0290 0.0182

Saturn -107262-09-10 06:14 J -37455770.40 -37455770.24 -37455770.09 0.0289 0.0087

Saturn -107262-12-08 01:11 J -37455681.62 -37455681.45 -37455681.29 0.0289 0.0010

Saturn -107261-03-05 20:24 J -37455592.80 -37455592.65 -37455592.49 0.0288 0.0107

Saturn -107261-06-02 15:50 J -37455503.95 -37455503.84 -37455503.72 0.0287 0.0205

Venus -107260-11-06 06:43 J -37454982.34 -37454982.22 -37454982.11 0.3756 0.1091

Mars -107258-07-21 15:21 J -37454360.01 -37454359.86 -37454359.71 0.1698 0.0144

Mars -107257-06-03 07:11 J -37454042.32 -37454042.20 -37454042.07 0.1817 0.0055

Earth -107257-06-07 09:07 J -37454038.23 -37454038.12 -37454038.02 0.2722 0.0811

Moon -107257-06-07 09:21 J -37454038.21 -37454038.11 -37454038.00 0.2728 0.0793 *

Jupiter -107257-11-24 17:45 J -37453867.90 -37453867.76 -37453867.61 0.0531 0.0052

Uranus -107256-02-20 03:07 J -37453780.38 -37453780.37 -37453780.36 0.0133 0.0133

Jupiter -107256-02-22 07:26 J -37453778.25 -37453778.19 -37453778.13 0.0533 0.0479

Uranus -107256-05-19 06:57 J -37453692.28 -37453692.21 -37453692.13 0.0133 0.0115

Uranus -107256-08-15 10:48 J -37453604.14 -37453604.05 -37453603.94 0.0133 0.0099

Venus -107256-11-06 02:52 J -37453521.46 -37453521.38 -37453521.30 0.3613 0.2633

Uranus -107256-11-11 14:52 J -37453515.99 -37453515.88 -37453515.76 0.0133 0.0081

Uranus -107255-02-07 18:43 J -37453427.84 -37453427.72 -37453427.59 0.0133 0.0064

Uranus -107255-05-06 22:33 J -37453339.69 -37453339.56 -37453339.42 0.0133 0.0048

Uranus -107255-08-03 02:24 J -37453251.54 -37453251.40 -37453251.25 0.0133 0.0031

Uranus -107255-10-30 06:14 J -37453163.38 -37453163.24 -37453163.09 0.0133 0.0015

Uranus -107254-01-26 10:04 J -37453075.23 -37453075.08 -37453074.93 0.0133 0.0002

Uranus -107254-04-24 13:40 J -37452987.07 -37452986.93 -37452986.78 0.0133 0.0019

Venus -107254-05-23 04:33 J -37452958.39 -37452958.31 -37452958.24 0.3751 0.2910

Uranus -107254-07-21 17:31 J -37452898.91 -37452898.77 -37452898.63 0.0133 0.0034

Uranus -107254-10-17 21:07 J -37452810.75 -37452810.62 -37452810.48 0.0132 0.0050

Earth -107254-11-27 06:28 J -37452770.38 -37452770.23 -37452770.08 0.2622 0.0350

Moon -107254-11-27 07:40 J -37452770.32 -37452770.18 -37452770.03 0.2624 0.0394 *

Uranus -107253-01-14 00:43 J -37452722.59 -37452722.47 -37452722.34 0.0132 0.0066

Uranus -107253-04-11 04:19 J -37452634.43 -37452634.32 -37452634.20 0.0132 0.0082

Uranus -107253-07-08 07:55 J -37452546.26 -37452546.17 -37452546.07 0.0132 0.0098

Uranus -107253-10-04 11:16 J -37452458.09 -37452458.03 -37452457.95 0.0132 0.0113

Uranus -107253-12-31 14:52 J -37452369.90 -37452369.88 -37452369.84 0.0132 0.0128

Jupiter -107251-07-13 10:04 J -37451811.23 -37451811.08 -37451810.93 0.0497 0.0177

Jupiter -107251-10-11 05:31 J -37451721.39 -37451721.27 -37451721.15 0.0495 0.0328

Venus -107250-05-22 23:31 J -37451497.64 -37451497.52 -37451497.40 0.3617 0.1084

Moon -107250-06-01 04:33 J -37451488.38 -37451488.31 -37451488.25 0.2710 0.2142

Earth -107250-06-01 05:16 J -37451488.35 -37451488.28 -37451488.21 0.2709 0.2083 *

Mars -107249-12-10 19:26 J -37450929.83 -37450929.69 -37450929.56 0.1694 0.0646

Mars -107248-10-24 14:09 J -37450612.03 -37450611.91 -37450611.79 0.1822 0.0537

Saturn -107247-10-08 05:16 J -37450263.33 -37450263.28 -37450263.22 0.0269 0.0250

Mars -107247-11-17 06:00 J -37450223.31 -37450223.25 -37450223.19 0.1712 0.1543

Saturn -107246-01-04 18:57 J -37450174.82 -37450174.71 -37450174.60 0.0270 0.0178

Saturn -107246-04-03 08:24 J -37450086.29 -37450086.15 -37450086.01 0.0270 0.0107

Saturn -107246-06-30 21:35 J -37449997.75 -37449997.60 -37449997.45 0.0271 0.0036

Saturn -107246-09-27 10:33 J -37449909.20 -37449909.06 -37449908.91 0.0272 0.0035

Mars -107246-09-30 09:07 J -37449906.19 -37449906.12 -37449906.05 0.1801 0.1448

Saturn -107246-12-24 23:31 J -37449820.65 -37449820.52 -37449820.39 0.0272 0.0105

Saturn -107245-03-22 12:14 J -37449732.10 -37449731.99 -37449731.88 0.0273 0.0174

Saturn -107245-06-19 00:43 J -37449643.53 -37449643.47 -37449643.40 0.0274 0.0243

Jupiter -107245-09-12 20:24 J -37449557.79 -37449557.65 -37449557.52 0.0531 0.0179

Venus -107245-12-05 19:55 J -37449473.79 -37449473.67 -37449473.55 0.3621 0.0418

Jupiter -107245-12-11 10:19 J -37449468.17 -37449468.07 -37449467.97 0.0533 0.0357

Earth -107244-06-10 03:50 J -37449287.42 -37449287.34 -37449287.26 0.2727 0.1825

Moon -107244-06-10 04:33 J -37449287.38 -37449287.31 -37449287.23 0.2728 0.1962 *

Earth -107241-11-29 11:02 J -37448019.14 -37448019.04 -37448018.95 0.2617 0.2020

Moon -107241-11-29 12:28 J -37448019.06 -37448018.98 -37448018.90 0.2614 0.2172 *

Jupiter -107239-05-01 10:48 J -37447501.17 -37447501.05 -37447500.92 0.0497 0.0300

Mars -107239-05-02 23:31 J -37447499.62 -37447499.52 -37447499.41 0.1690 0.1135

Venus -107239-06-21 16:04 J -37447449.93 -37447449.83 -37447449.73 0.3625 0.1872

Jupiter -107239-07-30 06:00 J -37447411.40 -37447411.25 -37447411.10 0.0495 0.0200

Mars -107238-03-16 20:38 J -37447181.74 -37447181.64 -37447181.53 0.1827 0.1070

Mars -107237-04-08 08:52 J -37446793.26 -37446793.13 -37446793.01 0.1708 0.0979

Moon -107237-06-02 23:45 J -37446737.61 -37446737.51 -37446737.41 0.2718 0.1072

Earth -107237-06-03 00:14 J -37446737.59 -37446737.49 -37446737.38 0.2714 0.1043 *

Mars -107236-02-19 16:48 J -37446475.91 -37446475.80 -37446475.70 0.1807 0.0987

Moon -107234-11-22 04:33 J -37445470.35 -37445470.31 -37445470.27 0.2637 0.2523

Earth -107234-11-22 04:33 J -37445470.34 -37445470.31 -37445470.28 0.2631 0.2570 *

Venus -107233-01-05 12:00 J -37445426.05 -37445426.00 -37445425.96 0.3630 0.3273

Jupiter -107233-07-01 22:48 J -37445247.66 -37445247.55 -37445247.43 0.0530 0.0306

Jupiter -107233-09-29 13:11 J -37445158.07 -37445157.95 -37445157.82 0.0532 0.0234

Saturn -107233-10-30 09:07 J -37445127.22 -37445127.12 -37445127.02 0.0291 0.0222

Saturn -107232-01-27 03:35 J -37445038.50 -37445038.35 -37445038.21 0.0290 0.0128

Saturn -107232-04-25 22:19 J -37444949.73 -37444949.57 -37444949.40 0.0289 0.0033

Saturn -107232-07-23 17:31 J -37444860.93 -37444860.77 -37444860.61 0.0288 0.0064

Saturn -107232-10-20 12:57 J -37444772.10 -37444771.96 -37444771.82 0.0288 0.0162

Saturn -107231-01-17 08:38 J -37444683.21 -37444683.14 -37444683.07 0.0287 0.0260

Mars -107230-09-23 04:19 J -37444069.36 -37444069.32 -37444069.28 0.1686 0.1600

Mars -107229-08-06 03:07 J -37443751.42 -37443751.37 -37443751.31 0.1831 0.1607

Mars -107228-08-29 12:00 J -37443363.14 -37443363.00 -37443362.85 0.1703 0.0435

Jupiter -107227-02-17 12:00 J -37443191.08 -37443191.00 -37443190.91 0.0498 0.0420

Jupiter -107227-05-18 06:43 J -37443101.38 -37443101.22 -37443101.06 0.0496 0.0075

Mars -107227-07-13 00:14 J -37443045.61 -37443045.49 -37443045.37 0.1812 0.0513

Moon -107224-06-05 19:11 J -37441986.81 -37441986.70 -37441986.59 0.2726 0.0062

Earth -107224-06-05 19:11 J -37441986.81 -37441986.70 -37441986.59 0.2718 0.0024 *

Jupiter -107221-04-20 00:57 J -37440937.54 -37440937.46 -37440937.38 0.0529 0.0437

Jupiter -107221-07-18 15:35 J -37440847.99 -37440847.85 -37440847.71 0.0531 0.0106

Earth -107221-11-24 08:38 J -37440719.28 -37440719.14 -37440719.00 0.2626 0.0961

Moon -107221-11-24 09:35 J -37440719.24 -37440719.10 -37440718.96 0.2631 0.0978 *

Venus -107220-10-28 13:55 J -37440380.96 -37440380.92 -37440380.87 0.3768 0.3416

Mars -107218-01-19 15:35 J -37439933.00 -37439932.85 -37439932.70 0.1698 0.0094

Mars -107218-12-03 07:26 J -37439615.31 -37439615.19 -37439615.06 0.1817 0.0070

Saturn -107217-05-23 19:40 J -37439442.78 -37439442.68 -37439442.59 0.0270 0.0205

Saturn -107217-08-20 09:07 J -37439354.25 -37439354.12 -37439353.99 0.0271 0.0134

Saturn -107217-11-16 22:19 J -37439265.71 -37439265.57 -37439265.42 0.0271 0.0062

Saturn -107216-02-13 11:31 J -37439177.17 -37439177.02 -37439176.87 0.0272 0.0009

Saturn -107216-05-13 00:28 J -37439088.62 -37439088.48 -37439088.34 0.0273 0.0079

Saturn -107216-08-09 13:11 J -37439000.07 -37438999.95 -37438999.83 0.0273 0.0149

Saturn -107216-11-06 01:55 J -37438911.50 -37438911.42 -37438911.34 0.0274 0.0218

Neptune -107216-12-04 20:38 J -37438882.66 -37438882.64 -37438882.60 0.0089 0.0087

Neptune -107215-03-02 22:33 J -37438794.59 -37438794.56 -37438794.48 0.0089 0.0083

Jupiter -107215-03-06 07:26 J -37438791.35 -37438791.19 -37438791.03 0.0496 0.0050

Neptune -107215-05-30 01:11 J -37438706.52 -37438706.45 -37438706.37 0.0089 0.0078

Jupiter -107215-06-04 03:21 J -37438701.41 -37438701.36 -37438701.30 0.0495 0.0459

Neptune -107215-08-26 03:35 J -37438618.43 -37438618.35 -37438618.25 0.0089 0.0073

Neptune -107215-11-22 05:45 J -37438530.35 -37438530.26 -37438530.15 0.0089 0.0069

Neptune -107214-02-18 08:09 J -37438442.26 -37438442.16 -37438442.04 0.0089 0.0064

Venus -107214-05-14 11:02 J -37438357.15 -37438357.04 -37438356.94 0.3764 0.1774

Neptune -107214-05-17 10:33 J -37438354.17 -37438354.06 -37438353.93 0.0089 0.0059

Neptune -107214-08-13 13:11 J -37438266.08 -37438265.95 -37438265.82 0.0089 0.0054

Neptune -107214-11-09 15:07 J -37438177.99 -37438177.87 -37438177.72 0.0089 0.0050

Neptune -107213-02-05 17:45 J -37438089.89 -37438089.76 -37438089.61 0.0089 0.0045

Neptune -107213-05-03 20:09 J -37438001.80 -37438001.66 -37438001.51 0.0089 0.0040

Neptune -107213-07-30 22:33 J -37437913.70 -37437913.56 -37437913.40 0.0089 0.0035

Neptune -107213-10-27 01:11 J -37437825.61 -37437825.45 -37437825.30 0.0089 0.0030

Neptune -107212-01-23 03:35 J -37437737.51 -37437737.35 -37437737.19 0.0089 0.0025

Neptune -107212-04-21 06:00 J -37437649.41 -37437649.25 -37437649.09 0.0089 0.0020

Neptune -107212-07-18 08:24 J -37437561.31 -37437561.15 -37437560.98 0.0089 0.0016

Uranus -107212-07-19 08:09 J -37437560.17 -37437560.16 -37437560.12 0.0145 0.0144

Neptune -107212-10-14 10:48 J -37437473.21 -37437473.05 -37437472.88 0.0089 0.0011

Uranus -107212-10-15 14:52 J -37437471.97 -37437471.88 -37437471.78 0.0146 0.0119

Neptune -107211-01-10 13:26 J -37437385.11 -37437384.94 -37437384.77 0.0089 0.0006

Uranus -107211-01-11 21:07 J -37437383.74 -37437383.62 -37437383.49 0.0146 0.0095

Neptune -107211-04-08 15:50 J -37437297.00 -37437296.84 -37437296.67 0.0089 0.0002

Uranus -107211-04-10 03:21 J -37437295.49 -37437295.36 -37437295.20 0.0146 0.0071

Earth -107211-06-08 13:55 J -37437236.02 -37437235.92 -37437235.81 0.2723 0.1019

Moon -107211-06-08 14:38 J -37437235.99 -37437235.89 -37437235.79 0.2726 0.1138 *

Neptune -107211-07-05 18:28 J -37437208.90 -37437208.73 -37437208.57 0.0089 0.0004

Uranus -107211-07-07 10:04 J -37437207.24 -37437207.08 -37437206.91 0.0146 0.0046

Neptune -107211-10-01 20:52 J -37437120.79 -37437120.63 -37437120.46 0.0089 0.0009

Uranus -107211-10-03 16:48 J -37437118.97 -37437118.80 -37437118.63 0.0146 0.0020

Neptune -107211-12-28 23:31 J -37437032.69 -37437032.52 -37437032.36 0.0089 0.0014

Uranus -107211-12-30 23:16 J -37437030.70 -37437030.53 -37437030.36 0.0146 0.0006

Neptune -107210-03-27 01:55 J -37436944.58 -37436944.42 -37436944.25 0.0089 0.0019

Uranus -107210-03-29 06:00 J -37436942.41 -37436942.25 -37436942.08 0.0146 0.0031

Neptune -107210-06-23 04:33 J -37436856.47 -37436856.31 -37436856.15 0.0089 0.0024

Uranus -107210-06-25 12:43 J -37436854.12 -37436853.97 -37436853.81 0.0146 0.0057

Neptune -107210-09-19 06:57 J -37436768.36 -37436768.21 -37436768.04 0.0089 0.0030

Uranus -107210-09-21 19:26 J -37436765.82 -37436765.69 -37436765.54 0.0146 0.0083

Neptune -107210-12-16 09:21 J -37436680.25 -37436680.11 -37436679.94 0.0089 0.0035

Uranus -107210-12-19 02:09 J -37436677.51 -37436677.41 -37436677.28 0.0146 0.0110

Neptune -107209-03-13 12:00 J -37436592.14 -37436592.00 -37436591.84 0.0089 0.0040

Uranus -107209-03-16 09:21 J -37436589.17 -37436589.11 -37436589.04 0.0147 0.0136

Jupiter -107209-05-06 17:45 J -37436537.90 -37436537.76 -37436537.62 0.0531 0.0030

Neptune -107209-06-09 14:38 J -37436504.03 -37436503.89 -37436503.74 0.0089 0.0045

Mars -107209-06-10 19:40 J -37436502.82 -37436502.68 -37436502.54 0.1694 0.0597

Jupiter -107209-08-04 07:11 J -37436448.25 -37436448.20 -37436448.16 0.0533 0.0499

Neptune -107209-09-05 17:16 J -37436415.91 -37436415.78 -37436415.63 0.0089 0.0050

Venus -107209-11-27 08:09 J -37436333.28 -37436333.16 -37436333.04 0.3759 0.0070

Neptune -107209-12-02 19:55 J -37436327.80 -37436327.67 -37436327.53 0.0089 0.0055

Neptune -107208-02-28 22:33 J -37436239.68 -37436239.56 -37436239.43 0.0089 0.0060

Mars -107208-04-24 14:09 J -37436185.03 -37436184.91 -37436184.78 0.1822 0.0498

Neptune -107208-05-28 01:26 J -37436151.56 -37436151.44 -37436151.33 0.0089 0.0065

Neptune -107208-08-24 03:35 J -37436063.44 -37436063.35 -37436063.23 0.0089 0.0071

Neptune -107208-11-20 06:14 J -37435975.31 -37435975.24 -37435975.13 0.0089 0.0076

Earth -107208-11-27 12:43 J -37435968.11 -37435967.97 -37435967.82 0.2621 0.0679

Moon -107208-11-27 14:09 J -37435968.05 -37435967.91 -37435967.76 0.2621 0.0899 *

Neptune -107207-02-16 09:07 J -37435887.18 -37435887.12 -37435887.04 0.0089 0.0081

Neptune -107207-05-15 11:45 J -37435799.04 -37435799.01 -37435798.96 0.0089 0.0086

Mars -107207-05-18 06:14 J -37435796.29 -37435796.24 -37435796.18 0.1713 0.1591

Mars -107206-03-31 09:07 J -37435479.18 -37435479.12 -37435479.05 0.1801 0.1492

Moon -107204-06-01 09:35 J -37434686.18 -37434686.10 -37434686.03 0.2711 0.1987

Earth -107204-06-01 10:19 J -37434686.15 -37434686.07 -37434685.99 0.2710 0.1870 *

Jupiter -107204-12-23 08:52 J -37434481.28 -37434481.13 -37434480.98 0.0497 0.0168

Saturn -107203-03-19 08:52 J -37434395.20 -37434395.13 -37434395.05 0.0291 0.0252

Jupiter -107203-03-23 04:19 J -37434391.44 -37434391.32 -37434391.20 0.0495 0.0338

Venus -107203-06-13 05:45 J -37434309.37 -37434309.26 -37434309.15 0.3755 0.1699

Saturn -107203-06-16 03:21 J -37434306.49 -37434306.36 -37434306.22 0.0290 0.0158

Saturn -107203-09-12 22:04 J -37434217.74 -37434217.58 -37434217.42 0.0289 0.0063

Saturn -107203-12-10 17:02 J -37434128.95 -37434128.79 -37434128.62 0.0288 0.0034

Saturn -107202-03-09 12:28 J -37434040.13 -37434039.98 -37434039.83 0.0288 0.0131

Saturn -107202-06-06 07:55 J -37433951.26 -37433951.17 -37433951.06 0.0287 0.0229

Pluto -107200-04-18 14:52 J -37433268.93 -37433268.88 -37433268.81 0.0085 0.0075

Pluto -107200-07-15 16:19 J -37433180.91 -37433180.82 -37433180.73 0.0085 0.0061

Pluto -107200-10-11 17:31 J -37433092.88 -37433092.77 -37433092.66 0.0084 0.0047

Mars -107200-11-01 00:14 J -37433072.61 -37433072.49 -37433072.38 0.1690 0.1082

Pluto -107199-01-07 18:43 J -37433004.84 -37433004.72 -37433004.59 0.0084 0.0033

Pluto -107199-04-05 19:55 J -37432916.79 -37432916.67 -37432916.53 0.0084 0.0020

Venus -107199-06-13 01:40 J -37432848.53 -37432848.43 -37432848.33 0.3614 0.2081

Pluto -107199-07-02 21:21 J -37432828.74 -37432828.61 -37432828.48 0.0084 0.0005

Mars -107199-09-14 21:07 J -37432754.73 -37432754.62 -37432754.52 0.1827 0.1016

Pluto -107199-09-28 22:33 J -37432740.69 -37432740.56 -37432740.43 0.0084 0.0009

Pluto -107199-12-25 23:45 J -37432652.63 -37432652.51 -37432652.38 0.0084 0.0022

Pluto -107198-03-24 00:57 J -37432564.57 -37432564.46 -37432564.33 0.0084 0.0036

Earth -107198-06-11 08:38 J -37432485.21 -37432485.14 -37432485.06 0.2727 0.2036

Moon -107198-06-11 09:35 J -37432485.18 -37432485.10 -37432485.03 0.2727 0.2043 *

Pluto -107198-06-20 02:09 J -37432476.51 -37432476.41 -37432476.30 0.0084 0.0050

Pluto -107198-09-16 03:35 J -37432388.44 -37432388.35 -37432388.27 0.0083 0.0063

Mars -107198-10-08 09:21 J -37432366.23 -37432366.11 -37432365.99 0.1708 0.1036

Pluto -107198-12-13 04:33 J -37432300.35 -37432300.31 -37432300.25 0.0083 0.0076

Venus -107198-12-28 03:35 J -37432285.39 -37432285.35 -37432285.31 0.3750 0.3533

Jupiter -107197-02-23 18:57 J -37432227.85 -37432227.71 -37432227.58 0.0530 0.0175

Jupiter -107197-05-23 08:52 J -37432138.23 -37432138.13 -37432138.03 0.0532 0.0360

Mars -107197-08-20 17:02 J -37432048.90 -37432048.79 -37432048.69 0.1807 0.1036

Earth -107195-11-30 17:16 J -37431216.84 -37431216.78 -37431216.72 0.2616 0.2354

Moon -107195-11-30 18:43 J -37431216.78 -37431216.72 -37431216.67 0.2613 0.2413 *

Venus -107194-12-27 22:19 J -37430824.69 -37430824.57 -37430824.45 0.3618 0.0554

Jupiter -107192-10-11 10:19 J -37430171.20 -37430171.07 -37430170.94 0.0497 0.0284

Jupiter -107191-01-09 05:31 J -37430081.42 -37430081.27 -37430081.13 0.0495 0.0217

Moon -107191-06-04 05:02 J -37429935.40 -37429935.29 -37429935.19 0.2721 0.0856

Earth -107191-06-04 05:16 J -37429935.39 -37429935.28 -37429935.17 0.2714 0.0832 *

Mars -107190-03-24 04:48 J -37429642.35 -37429642.30 -37429642.25 0.1686 0.1550

Mars -107189-02-05 03:21 J -37429324.43 -37429324.36 -37429324.30 0.1831 0.1563

Mars -107188-02-27 12:28 J -37428936.12 -37428935.98 -37428935.83 0.1703 0.0489

Venus -107188-07-12 18:43 J -37428800.84 -37428800.72 -37428800.61 0.3622 0.0938

Saturn -107188-10-10 21:21 J -37428710.69 -37428710.61 -37428710.53 0.0269 0.0226

Earth -107188-11-22 10:48 J -37428668.12 -37428668.05 -37428667.97 0.2630 0.2252

Moon -107188-11-22 11:16 J -37428668.10 -37428668.03 -37428667.95 0.2636 0.2240 *

Saturn -107187-01-07 10:48 J -37428622.17 -37428622.05 -37428621.92 0.0270 0.0155

Mars -107187-01-11 00:28 J -37428618.60 -37428618.48 -37428618.36 0.1812 0.0560

Saturn -107187-04-06 00:14 J -37428533.63 -37428533.49 -37428533.35 0.0270 0.0083

Saturn -107187-07-03 13:26 J -37428445.09 -37428444.94 -37428444.80 0.0271 0.0013

Saturn -107187-09-30 02:24 J -37428356.54 -37428356.40 -37428356.26 0.0272 0.0058

Saturn -107187-12-27 15:07 J -37428267.99 -37428267.87 -37428267.74 0.0273 0.0128

Saturn -107186-03-26 03:50 J -37428179.44 -37428179.34 -37428179.24 0.0273 0.0197

Saturn -107186-06-22 16:19 J -37428090.85 -37428090.82 -37428090.78 0.0274 0.0265

Jupiter -107186-12-12 21:07 J -37427917.73 -37427917.62 -37427917.50 0.0530 0.0305

Jupiter -107185-03-11 11:31 J -37427828.14 -37427828.02 -37427827.89 0.0532 0.0235

Venus -107182-01-26 14:38 J -37426776.98 -37426776.89 -37426776.80 0.3627 0.2363

Jupiter -107180-07-30 11:16 J -37425861.12 -37425861.03 -37425860.94 0.0497 0.0405

Jupiter -107180-10-28 06:00 J -37425771.41 -37425771.25 -37425771.09 0.0495 0.0090

Mars -107179-07-20 16:04 J -37425505.98 -37425505.83 -37425505.68 0.1698 0.0044

Mars -107178-06-03 07:26 J -37425188.31 -37425188.19 -37425188.06 0.1817 0.0067

Earth -107178-06-07 00:14 J -37425184.61 -37425184.49 -37425184.38 0.2719 0.0221

Moon -107178-06-07 00:14 J -37425184.60 -37425184.49 -37425184.37 0.2725 0.0268 *

Earth -107175-11-25 14:52 J -37423917.03 -37423916.88 -37423916.74 0.2625 0.0640

Moon -107175-11-25 15:50 J -37423916.98 -37423916.84 -37423916.69 0.2629 0.0474 *

Saturn -107174-08-06 06:43 J -37423663.22 -37423663.22 -37423663.20 0.0291 0.0291

Jupiter -107174-09-30 23:31 J -37423607.60 -37423607.52 -37423607.43 0.0529 0.0432

Saturn -107174-11-03 00:57 J -37423574.57 -37423574.46 -37423574.33 0.0291 0.0198

Jupiter -107174-12-29 14:24 J -37423518.04 -37423517.90 -37423517.76 0.0532 0.0112

Saturn -107173-01-30 19:40 J -37423485.83 -37423485.68 -37423485.53 0.0290 0.0103

Saturn -107173-04-28 14:38 J -37423397.06 -37423396.89 -37423396.73 0.0289 0.0008

Saturn -107173-07-26 09:50 J -37423308.25 -37423308.09 -37423307.93 0.0288 0.0090

Saturn -107173-10-23 05:16 J -37423219.41 -37423219.28 -37423219.15 0.0288 0.0188

Saturn -107172-01-20 00:57 J -37423130.46 -37423130.46 -37423130.45 0.0287 0.0286

Uranus -107172-03-12 09:50 J -37423079.12 -37423079.09 -37423079.06 0.0133 0.0130

Uranus -107172-06-08 13:40 J -37422991.00 -37422990.93 -37422990.84 0.0133 0.0113

Uranus -107172-09-04 17:45 J -37422902.86 -37422902.76 -37422902.65 0.0133 0.0095

Uranus -107172-12-01 21:35 J -37422814.71 -37422814.60 -37422814.47 0.0133 0.0079

Uranus -107171-02-28 01:40 J -37422726.56 -37422726.43 -37422726.30 0.0133 0.0061

Uranus -107171-05-27 05:16 J -37422638.41 -37422638.28 -37422638.13 0.0133 0.0045

Uranus -107171-08-23 09:21 J -37422550.25 -37422550.11 -37422549.97 0.0133 0.0028

Uranus -107171-11-19 13:11 J -37422462.10 -37422461.95 -37422461.81 0.0133 0.0012

Uranus -107170-02-15 16:48 J -37422373.94 -37422373.80 -37422373.65 0.0133 0.0005

Uranus -107170-05-14 20:38 J -37422285.79 -37422285.64 -37422285.50 0.0133 0.0021

Uranus -107170-08-11 00:14 J -37422197.63 -37422197.49 -37422197.35 0.0133 0.0037

Uranus -107170-11-07 03:50 J -37422109.47 -37422109.34 -37422109.20 0.0132 0.0053

Mars -107170-12-10 20:09 J -37422075.80 -37422075.66 -37422075.52 0.1694 0.0549

Uranus -107169-02-03 07:26 J -37422021.31 -37422021.19 -37422021.06 0.0132 0.0069

Uranus -107169-05-01 11:02 J -37421933.14 -37421933.04 -37421932.92 0.0132 0.0085

Uranus -107169-07-28 14:38 J -37421844.98 -37421844.89 -37421844.79 0.0132 0.0100

Mars -107169-10-23 14:38 J -37421758.02 -37421757.89 -37421757.77 0.1822 0.0447

Uranus -107169-10-24 18:14 J -37421756.80 -37421756.74 -37421756.67 0.0132 0.0116

Uranus -107168-01-20 21:35 J -37421668.60 -37421668.60 -37421668.57 0.0132 0.0131

Jupiter -107168-08-16 06:43 J -37421461.38 -37421461.22 -37421461.05 0.0496 0.0037

Jupiter -107168-11-14 02:52 J -37421371.43 -37421371.38 -37421371.34 0.0494 0.0474

Mars -107168-11-16 06:57 J -37421369.25 -37421369.21 -37421369.17 0.1712 0.1652

Mars -107167-09-29 09:21 J -37421052.18 -37421052.11 -37421052.05 0.1802 0.1533

Earth -107165-06-08 18:57 J -37420433.81 -37420433.71 -37420433.61 0.2723 0.1224

Moon -107165-06-08 19:40 J -37420433.78 -37420433.68 -37420433.58 0.2726 0.1244 *

Venus -107163-06-04 12:57 J -37419708.04 -37419707.96 -37419707.89 0.3767 0.2848

Jupiter -107162-10-17 16:48 J -37419207.94 -37419207.80 -37419207.66 0.0531 0.0019

Earth -107162-11-28 19:11 J -37419165.84 -37419165.70 -37419165.56 0.2621 0.1020

Moon -107162-11-28 20:38 J -37419165.78 -37419165.64 -37419165.50 0.2619 0.1047 *

Jupiter -107161-01-15 06:14 J -37419118.28 -37419118.24 -37419118.20 0.0533 0.0510

Mars -107160-05-02 00:28 J -37418645.60 -37418645.48 -37418645.37 0.1690 0.1036

Mars -107159-03-15 21:07 J -37418327.72 -37418327.62 -37418327.51 0.1827 0.0969

Saturn -107158-02-27 21:50 J -37417978.63 -37417978.59 -37417978.53 0.0269 0.0253

Mars -107158-04-08 09:35 J -37417939.22 -37417939.10 -37417938.98 0.1708 0.1082

Saturn -107158-05-27 11:31 J -37417890.13 -37417890.02 -37417889.91 0.0270 0.0181

Moon -107158-06-02 14:38 J -37417883.98 -37417883.89 -37417883.80 0.2713 0.1679

Earth -107158-06-02 15:21 J -37417883.95 -37417883.86 -37417883.77 0.2710 0.1663 *

Saturn -107158-08-24 00:57 J -37417801.59 -37417801.46 -37417801.32 0.0271 0.0110

Saturn -107158-11-20 14:09 J -37417713.05 -37417712.91 -37417712.76 0.0271 0.0039

Venus -107158-12-19 09:50 J -37417684.20 -37417684.09 -37417683.98 0.3762 0.1191

Saturn -107157-02-17 03:21 J -37417624.51 -37417624.36 -37417624.22 0.0272 0.0033

Mars -107157-02-19 17:02 J -37417621.89 -37417621.79 -37417621.69 0.1807 0.1079

Saturn -107157-05-15 16:04 J -37417535.96 -37417535.83 -37417535.69 0.0273 0.0103

Saturn -107157-08-12 04:48 J -37417447.41 -37417447.30 -37417447.18 0.0274 0.0172

Saturn -107157-11-08 17:31 J -37417358.84 -37417358.77 -37417358.70 0.0274 0.0241

Jupiter -107156-06-04 07:26 J -37417151.34 -37417151.19 -37417151.03 0.0497 0.0160

Jupiter -107156-09-02 03:07 J -37417061.49 -37417061.37 -37417061.25 0.0495 0.0346

Earth -107152-06-11 13:40 J -37415682.99 -37415682.93 -37415682.87 0.2728 0.2237

Moon -107152-06-11 14:24 J -37415682.96 -37415682.90 -37415682.85 0.2725 0.2364 *

Venus -107152-07-04 07:11 J -37415660.32 -37415660.20 -37415660.08 0.3758 0.0530

Mars -107151-09-22 05:16 J -37415215.35 -37415215.28 -37415215.22 0.1686 0.1502

Jupiter -107150-08-05 18:43 J -37414897.86 -37414897.72 -37414897.58 0.0530 0.0153

Mars -107150-08-06 03:35 J -37414897.42 -37414897.35 -37414897.28 0.1831 0.1511

Jupiter -107150-11-03 08:38 J -37414808.24 -37414808.14 -37414808.05 0.0532 0.0380

Mars -107149-08-28 12:57 J -37414509.10 -37414508.96 -37414508.82 0.1703 0.0539

Venus -107148-07-04 03:50 J -37414199.40 -37414199.34 -37414199.28 0.3611 0.3100

Mars -107148-07-12 00:28 J -37414191.60 -37414191.48 -37414191.36 0.1812 0.0605

Venus -107146-01-18 04:48 J -37413636.39 -37413636.30 -37413636.20 0.3753 0.2314

Moon -107145-06-04 10:04 J -37413133.19 -37413133.08 -37413132.97 0.2722 0.0673

Earth -107145-06-04 10:19 J -37413133.18 -37413133.07 -37413132.96 0.2715 0.0627 *

Saturn -107144-03-22 00:57 J -37412842.55 -37412842.46 -37412842.35 0.0291 0.0227

Jupiter -107144-03-23 09:07 J -37412841.26 -37412841.12 -37412840.99 0.0497 0.0276

Saturn -107144-06-18 19:26 J -37412753.83 -37412753.69 -37412753.54 0.0290 0.0133

Jupiter -107144-06-21 04:04 J -37412751.47 -37412751.33 -37412751.18 0.0495 0.0225

Saturn -107144-09-15 14:24 J -37412665.06 -37412664.90 -37412664.74 0.0289 0.0037

Saturn -107144-12-13 09:21 J -37412576.27 -37412576.11 -37412575.94 0.0288 0.0060

Saturn -107143-03-12 04:48 J -37412487.44 -37412487.30 -37412487.16 0.0287 0.0157

Saturn -107143-06-09 00:28 J -37412398.55 -37412398.48 -37412398.40 0.0287 0.0255

Venus -107142-01-18 00:28 J -37412175.59 -37412175.48 -37412175.37 0.3615 0.1541

Earth -107142-11-23 17:02 J -37411865.89 -37411865.79 -37411865.69 0.2630 0.1937

Moon -107142-11-23 17:45 J -37411865.86 -37411865.76 -37411865.66 0.2636 0.1891 *

Mars -107139-01-18 16:33 J -37411078.96 -37411078.81 -37411078.66 0.1698 0.0016

Mars -107139-12-02 07:40 J -37410761.30 -37410761.18 -37410761.05 0.1817 0.0117

Jupiter -107138-05-24 19:40 J -37410587.80 -37410587.68 -37410587.56 0.0530 0.0301

Jupiter -107138-08-22 10:04 J -37410498.21 -37410498.08 -37410497.96 0.0532 0.0238

Venus -107137-08-02 21:07 J -37410151.74 -37410151.62 -37410151.50 0.3619 0.0043

Neptune -107134-09-22 00:14 J -37409006.51 -37409006.49 -37409006.44 0.0088 0.0086

Neptune -107134-12-19 02:24 J -37408918.45 -37408918.40 -37408918.33 0.0088 0.0081

Neptune -107133-03-16 04:19 J -37408830.38 -37408830.32 -37408830.23 0.0088 0.0077

Neptune -107133-06-12 06:28 J -37408742.31 -37408742.23 -37408742.13 0.0088 0.0072

Neptune -107133-09-08 08:38 J -37408654.23 -37408654.14 -37408654.03 0.0088 0.0067

Neptune -107133-12-05 10:33 J -37408566.16 -37408566.06 -37408565.94 0.0088 0.0063

Jupiter -107132-01-09 10:33 J -37408531.15 -37408531.06 -37408530.96 0.0498 0.0392

Neptune -107132-03-03 12:43 J -37408478.08 -37408477.97 -37408477.85 0.0088 0.0058

Jupiter -107132-04-09 05:16 J -37408441.44 -37408441.28 -37408441.12 0.0496 0.0104

Neptune -107132-05-30 14:38 J -37408390.00 -37408389.89 -37408389.76 0.0088 0.0053

Earth -107132-06-07 05:02 J -37408382.40 -37408382.29 -37408382.18 0.2719 0.0414

Moon -107132-06-07 05:31 J -37408382.38 -37408382.27 -37408382.16 0.2725 0.0463 *

Neptune -107132-08-26 16:48 J -37408301.92 -37408301.80 -37408301.67 0.0088 0.0048

Neptune -107132-11-22 18:57 J -37408213.85 -37408213.71 -37408213.58 0.0088 0.0044

Venus -107131-02-16 17:16 J -37408127.89 -37408127.78 -37408127.67 0.3623 0.1440

Neptune -107131-02-18 20:38 J -37408125.77 -37408125.64 -37408125.49 0.0088 0.0040

Neptune -107131-05-17 22:48 J -37408037.69 -37408037.55 -37408037.41 0.0088 0.0035

Neptune -107131-08-14 00:43 J -37407949.61 -37407949.47 -37407949.32 0.0088 0.0030

Neptune -107131-11-10 02:38 J -37407861.53 -37407861.39 -37407861.24 0.0088 0.0026

Neptune -107130-02-06 04:33 J -37407773.45 -37407773.31 -37407773.16 0.0088 0.0021

Neptune -107130-05-05 06:43 J -37407685.37 -37407685.22 -37407685.08 0.0088 0.0017

Mars -107130-06-10 20:24 J -37407648.79 -37407648.65 -37407648.50 0.1694 0.0498

Neptune -107130-08-01 08:24 J -37407597.29 -37407597.15 -37407596.99 0.0088 0.0013

Neptune -107130-10-28 10:19 J -37407509.21 -37407509.07 -37407508.91 0.0088 0.0009

Neptune -107129-01-24 12:14 J -37407421.14 -37407420.99 -37407420.83 0.0088 0.0005

Neptune -107129-04-21 14:09 J -37407333.06 -37407332.91 -37407332.75 0.0088 0.0003

Mars -107129-04-23 14:38 J -37407331.01 -37407330.89 -37407330.77 0.1822 0.0399

Neptune -107129-07-18 16:04 J -37407244.98 -37407244.83 -37407244.68 0.0088 0.0006

Saturn -107129-10-13 13:40 J -37407158.03 -37407157.93 -37407157.83 0.0270 0.0200

Neptune -107129-10-14 18:00 J -37407156.90 -37407156.75 -37407156.60 0.0088 0.0010

Earth -107129-11-25 21:07 J -37407114.77 -37407114.62 -37407114.47 0.2625 0.0309

Moon -107129-11-25 22:33 J -37407114.71 -37407114.56 -37407114.41 0.2626 0.0237 *

Saturn -107128-01-10 03:07 J -37407069.50 -37407069.37 -37407069.24 0.0270 0.0129

Neptune -107128-01-10 19:55 J -37407068.82 -37407068.67 -37407068.52 0.0088 0.0014

Saturn -107128-04-08 16:19 J -37406980.96 -37406980.82 -37406980.67 0.0271 0.0058

Neptune -107128-04-08 21:50 J -37406980.74 -37406980.59 -37406980.44 0.0088 0.0019 *

Mars -107128-05-17 07:26 J -37406942.20 -37406942.19 -37406942.18 0.1712 0.1706

Neptune -107128-07-05 23:31 J -37406892.66 -37406892.52 -37406892.37 0.0088 0.0023

Saturn -107128-07-06 05:31 J -37406892.41 -37406892.27 -37406892.12 0.0271 0.0014 *

Uranus -107128-08-08 14:38 J -37406858.91 -37406858.89 -37406858.83 0.0145 0.0141

Neptune -107128-10-02 01:26 J -37406804.58 -37406804.44 -37406804.29 0.0088 0.0028

Saturn -107128-10-02 18:28 J -37406803.87 -37406803.73 -37406803.59 0.0272 0.0084

Uranus -107128-11-04 21:21 J -37406770.71 -37406770.61 -37406770.51 0.0146 0.0116

Neptune -107128-12-29 03:07 J -37406716.50 -37406716.37 -37406716.22 0.0088 0.0032

Saturn -107128-12-30 07:11 J -37406715.31 -37406715.20 -37406715.08 0.0273 0.0153

Uranus -107127-02-01 03:35 J -37406682.47 -37406682.35 -37406682.22 0.0146 0.0092

Neptune -107127-03-27 05:02 J -37406628.42 -37406628.29 -37406628.15 0.0088 0.0036

Saturn -107127-03-28 19:55 J -37406626.75 -37406626.67 -37406626.59 0.0273 0.0222

Mars -107127-03-30 09:21 J -37406625.16 -37406625.11 -37406625.05 0.1801 0.1576

Uranus -107127-04-30 09:50 J -37406594.23 -37406594.09 -37406593.93 0.0146 0.0068

Neptune -107127-06-23 06:57 J -37406540.34 -37406540.21 -37406540.07 0.0088 0.0041

Uranus -107127-07-27 16:33 J -37406505.97 -37406505.81 -37406505.65 0.0146 0.0043

Neptune -107127-09-19 08:52 J -37406452.26 -37406452.13 -37406452.00 0.0088 0.0045

Uranus -107127-10-23 23:02 J -37406417.70 -37406417.54 -37406417.37 0.0146 0.0018

Neptune -107127-12-16 10:33 J -37406364.18 -37406364.06 -37406363.93 0.0088 0.0049

Uranus -107126-01-20 05:45 J -37406329.43 -37406329.26 -37406329.09 0.0146 0.0008

Jupiter -107126-03-12 21:50 J -37406277.67 -37406277.59 -37406277.51 0.0529 0.0433

Neptune -107126-03-14 12:14 J -37406276.10 -37406275.99 -37406275.86 0.0088 0.0054

Uranus -107126-04-18 12:14 J -37406241.15 -37406240.99 -37406240.82 0.0146 0.0034

Jupiter -107126-06-10 12:28 J -37406188.11 -37406187.98 -37406187.84 0.0532 0.0111

Neptune -107126-06-10 14:09 J -37406188.01 -37406187.91 -37406187.79 0.0088 0.0058 *

Uranus -107126-07-15 19:11 J -37406152.86 -37406152.70 -37406152.55 0.0146 0.0059

Venus -107126-09-02 13:11 J -37406104.02 -37406103.95 -37406103.87 0.3628 0.2858

Neptune -107126-09-06 16:04 J -37406099.93 -37406099.83 -37406099.73 0.0088 0.0062

Uranus -107126-10-12 01:55 J -37406064.56 -37406064.42 -37406064.28 0.0146 0.0086

Neptune -107126-12-03 17:31 J -37406011.85 -37406011.77 -37406011.66 0.0088 0.0067

Uranus -107125-01-08 08:52 J -37405976.24 -37405976.13 -37405976.02 0.0146 0.0112

Neptune -107125-02-29 19:26 J -37405923.77 -37405923.69 -37405923.59 0.0088 0.0070

Uranus -107125-04-05 15:35 J -37405887.90 -37405887.85 -37405887.79 0.0146 0.0139

Neptune -107125-05-27 21:07 J -37405835.68 -37405835.62 -37405835.53 0.0088 0.0075

Moon -107125-05-31 00:14 J -37405832.53 -37405832.49 -37405832.44 0.2706 0.2506

Earth -107125-05-31 01:11 J -37405832.49 -37405832.45 -37405832.41 0.2706 0.2496 *

Neptune -107125-08-23 23:02 J -37405747.60 -37405747.54 -37405747.47 0.0088 0.0079

Neptune -107125-11-20 00:43 J -37405659.51 -37405659.47 -37405659.41 0.0088 0.0083

Neptune -107124-02-16 02:38 J -37405571.41 -37405571.39 -37405571.36 0.0088 0.0087

Mars -107121-10-31 00:57 J -37404218.58 -37404218.46 -37404218.34 0.1690 0.0985

Jupiter -107120-01-26 06:00 J -37404131.41 -37404131.25 -37404131.09 0.0496 0.0024

Jupiter -107120-04-26 01:40 J -37404041.45 -37404041.43 -37404041.39 0.0494 0.0487

Mars -107120-09-13 21:21 J -37403900.72 -37403900.61 -37403900.50 0.1827 0.0922

Earth -107119-06-09 23:45 J -37403631.60 -37403631.51 -37403631.41 0.2724 0.1436

Moon -107119-06-10 00:43 J -37403631.57 -37403631.47 -37403631.38 0.2726 0.1550 *

Mars -107119-10-07 10:19 J -37403512.19 -37403512.07 -37403511.96 0.1708 0.1141

Mars -107118-08-20 17:02 J -37403194.88 -37403194.79 -37403194.69 0.1807 0.1123

Earth -107116-11-29 01:26 J -37402363.57 -37402363.44 -37402363.31 0.2620 0.1347

Moon -107116-11-29 02:52 J -37402363.50 -37402363.38 -37402363.26 0.2618 0.1566 *

Saturn -107115-08-08 23:16 J -37402110.58 -37402110.53 -37402110.45 0.0291 0.0263

Saturn -107115-11-05 17:45 J -37402021.89 -37402021.76 -37402021.63 0.0290 0.0170

Saturn -107114-02-02 12:28 J -37401933.14 -37401932.98 -37401932.82 0.0290 0.0075

Jupiter -107114-03-29 15:21 J -37401878.00 -37401877.86 -37401877.72 0.0531 0.0017

Saturn -107114-05-02 07:26 J -37401844.36 -37401844.19 -37401844.03 0.0289 0.0021

Jupiter -107114-06-27 04:48 J -37401788.33 -37401788.30 -37401788.26 0.0533 0.0514

Saturn -107114-07-30 02:38 J -37401755.54 -37401755.39 -37401755.24 0.0288 0.0119

Saturn -107114-10-26 22:04 J -37401666.68 -37401666.58 -37401666.46 0.0287 0.0217

Moon -107112-06-02 19:40 J -37401081.77 -37401081.68 -37401081.59 0.2716 0.1569

Earth -107112-06-02 20:09 J -37401081.75 -37401081.66 -37401081.56 0.2711 0.1452 *

Mars -107111-03-23 05:16 J -37400788.35 -37400788.28 -37400788.21 0.1685 0.1461

Mars -107110-02-04 03:50 J -37400470.42 -37400470.34 -37400470.27 0.1832 0.1464

Mars -107109-02-27 13:26 J -37400082.09 -37400081.94 -37400081.80 0.1703 0.0592

Jupiter -107109-11-14 06:43 J -37399821.37 -37399821.22 -37399821.06 0.0496 0.0146

Mars -107108-01-10 00:43 J -37399764.59 -37399764.47 -37399764.36 0.1812 0.0649

Jupiter -107108-02-12 02:24 J -37399731.51 -37399731.40 -37399731.29 0.0495 0.0359

Venus -107106-01-09 11:45 J -37399035.11 -37399035.01 -37399034.92 0.3766 0.2272

Earth -107106-06-12 18:28 J -37398880.77 -37398880.73 -37398880.68 0.2728 0.2450

Moon -107106-06-12 19:11 J -37398880.75 -37398880.70 -37398880.65 0.2724 0.2440 *

Jupiter -107102-01-15 17:31 J -37397567.90 -37397567.77 -37397567.63 0.0530 0.0145

Jupiter -107102-04-15 07:26 J -37397478.28 -37397478.19 -37397478.09 0.0532 0.0389

Venus -107101-07-25 08:38 J -37397011.25 -37397011.14 -37397011.02 0.3761 0.0624

Mars -107100-07-19 16:48 J -37396651.95 -37396651.80 -37396651.65 0.1698 0.0059

Saturn -107099-03-02 14:24 J -37396425.98 -37396425.90 -37396425.82 0.0270 0.0226

Saturn -107099-05-30 03:50 J -37396337.46 -37396337.34 -37396337.21 0.0270 0.0155

Mars -107099-06-02 07:55 J -37396334.29 -37396334.17 -37396334.04 0.1817 0.0160

Moon -107099-06-05 15:07 J -37396330.98 -37396330.87 -37396330.76 0.2722 0.0372

Earth -107099-06-05 15:07 J -37396330.98 -37396330.87 -37396330.75 0.2715 0.0417 *

Saturn -107099-08-26 17:16 J -37396248.92 -37396248.78 -37396248.64 0.0271 0.0083

Saturn -107099-11-23 06:28 J -37396160.38 -37396160.23 -37396160.08 0.0272 0.0012

Saturn -107098-02-19 19:26 J -37396071.83 -37396071.69 -37396071.55 0.0272 0.0058

Saturn -107098-05-19 08:24 J -37395983.28 -37395983.15 -37395983.03 0.0273 0.0128

Saturn -107098-08-15 21:07 J -37395894.72 -37395894.62 -37395894.53 0.0274 0.0197

Saturn -107098-11-12 09:35 J -37395806.13 -37395806.10 -37395806.07 0.0274 0.0265

Jupiter -107097-09-02 07:40 J -37395511.32 -37395511.18 -37395511.05 0.0497 0.0270

Jupiter -107097-12-01 02:38 J -37395421.53 -37395421.39 -37395421.24 0.0495 0.0231

Earth -107096-11-23 23:16 J -37395063.65 -37395063.53 -37395063.42 0.2629 0.1621

Moon -107096-11-24 00:00 J -37395063.62 -37395063.50 -37395063.38 0.2634 0.1524 *

Venus -107095-02-08 06:14 J -37394987.36 -37394987.24 -37394987.13 0.3757 0.1132

Venus -107091-02-08 02:38 J -37393526.48 -37393526.39 -37393526.30 0.3612 0.2545

Jupiter -107091-11-03 19:26 J -37393257.81 -37393257.69 -37393257.57 0.0530 0.0281

Mars -107091-12-09 20:52 J -37393221.77 -37393221.63 -37393221.48 0.1694 0.0446

Jupiter -107090-02-01 09:35 J -37393168.22 -37393168.10 -37393167.97 0.0532 0.0257

Venus -107090-08-25 03:50 J -37392963.41 -37392963.34 -37392963.26 0.3752 0.2923

Mars -107090-10-23 14:52 J -37392904.01 -37392903.88 -37392903.76 0.1822 0.0349

Uranus -107088-04-01 16:19 J -37392377.85 -37392377.82 -37392377.77 0.0133 0.0128

Uranus -107088-06-28 20:24 J -37392289.73 -37392289.65 -37392289.56 0.0133 0.0110

Uranus -107088-09-25 00:14 J -37392201.58 -37392201.49 -37392201.37 0.0133 0.0093

Mars -107088-09-28 09:35 J -37392198.15 -37392198.10 -37392198.05 0.1801 0.1622

Uranus -107088-12-22 04:19 J -37392113.44 -37392113.32 -37392113.19 0.0133 0.0076

Uranus -107087-03-20 08:09 J -37392025.28 -37392025.16 -37392025.02 0.0133 0.0059

Uranus -107087-06-16 12:14 J -37391937.13 -37391936.99 -37391936.85 0.0133 0.0042

Uranus -107087-09-12 15:50 J -37391848.98 -37391848.84 -37391848.69 0.0133 0.0026

Uranus -107087-12-09 19:40 J -37391760.82 -37391760.68 -37391760.53 0.0133 0.0010

Uranus -107086-03-07 23:31 J -37391672.66 -37391672.52 -37391672.37 0.0133 0.0007

Uranus -107086-06-04 03:21 J -37391584.51 -37391584.36 -37391584.22 0.0133 0.0024

Earth -107086-06-08 10:04 J -37391580.19 -37391580.08 -37391579.97 0.2720 0.0620

Moon -107086-06-08 10:33 J -37391580.16 -37391580.06 -37391579.95 0.2724 0.0659 *

Venus -107086-08-24 23:16 J -37391502.65 -37391502.53 -37391502.41 0.3616 0.1002

Uranus -107086-08-31 06:57 J -37391496.35 -37391496.21 -37391496.07 0.0133 0.0040

Uranus -107086-11-27 10:33 J -37391408.19 -37391408.06 -37391407.92 0.0133 0.0056

Saturn -107086-12-26 23:45 J -37391378.51 -37391378.51 -37391378.51 0.0291 0.0291

Uranus -107085-02-23 14:09 J -37391320.02 -37391319.91 -37391319.78 0.0132 0.0072

Saturn -107085-03-24 17:45 J -37391289.87 -37391289.76 -37391289.64 0.0290 0.0199

Uranus -107085-05-21 17:45 J -37391231.86 -37391231.76 -37391231.65 0.0132 0.0087

Jupiter -107085-06-21 09:07 J -37391201.22 -37391201.12 -37391201.02 0.0498 0.0387

Saturn -107085-06-21 12:14 J -37391201.13 -37391200.99 -37391200.83 0.0290 0.0105 *

Uranus -107085-08-17 21:21 J -37391143.69 -37391143.61 -37391143.51 0.0132 0.0103

Saturn -107085-09-18 07:11 J -37391112.36 -37391112.20 -37391112.03 0.0289 0.0009

Jupiter -107085-09-19 03:50 J -37391111.50 -37391111.34 -37391111.18 0.0496 0.0110

Uranus -107085-11-14 00:43 J -37391055.52 -37391055.47 -37391055.39 0.0132 0.0119

Saturn -107085-12-16 02:24 J -37391023.56 -37391023.40 -37391023.24 0.0288 0.0088

Saturn -107084-03-14 21:50 J -37390934.71 -37390934.59 -37390934.46 0.0287 0.0186

Saturn -107084-06-11 17:31 J -37390845.78 -37390845.77 -37390845.74 0.0286 0.0285

Earth -107083-11-27 03:21 J -37390312.51 -37390312.36 -37390312.21 0.2624 0.0055

Moon -107083-11-27 04:48 J -37390312.45 -37390312.30 -37390312.15 0.2624 0.0158 *

Mars -107081-05-01 01:11 J -37389791.57 -37389791.45 -37389791.33 0.1690 0.0937

Venus -107080-03-09 19:55 J -37389478.79 -37389478.67 -37389478.55 0.3620 0.0513

Mars -107080-03-14 21:21 J -37389473.72 -37389473.61 -37389473.49 0.1827 0.0878

Mars -107079-04-07 10:33 J -37389085.16 -37389085.06 -37389084.95 0.1708 0.1195

Moon -107079-06-01 05:16 J -37389030.32 -37389030.28 -37389030.23 0.2707 0.2422

Earth -107079-06-01 06:14 J -37389030.30 -37389030.24 -37389030.18 0.2707 0.2285 *

Jupiter -107079-08-22 20:09 J -37388947.74 -37388947.66 -37388947.57 0.0529 0.0431

Jupiter -107079-11-20 11:02 J -37388858.18 -37388858.04 -37388857.91 0.0531 0.0113

Mars -107078-02-18 17:16 J -37388767.88 -37388767.78 -37388767.69 0.1807 0.1163

Venus -107075-09-23 16:04 J -37387454.94 -37387454.83 -37387454.73 0.3625 0.1949

Earth -107073-06-10 04:48 J -37386829.39 -37386829.30 -37386829.21 0.2724 0.1642

Moon -107073-06-10 05:31 J -37386829.35 -37386829.27 -37386829.18 0.2724 0.1700 *

Jupiter -107073-07-08 05:02 J -37386801.45 -37386801.29 -37386801.13 0.0496 0.0011

Mars -107072-09-21 06:00 J -37386361.33 -37386361.25 -37386361.18 0.1686 0.1408

Mars -107071-08-05 03:50 J -37386043.42 -37386043.34 -37386043.26 0.1831 0.1416

Saturn -107070-07-20 16:48 J -37385693.86 -37385693.80 -37385693.74 0.0269 0.0244

Mars -107070-08-28 13:55 J -37385655.06 -37385654.92 -37385654.78 0.1703 0.0646

Saturn -107070-10-17 06:28 J -37385605.34 -37385605.23 -37385605.12 0.0270 0.0172

Earth -107070-11-30 07:40 J -37385561.29 -37385561.18 -37385561.06 0.2619 0.1683

Moon -107070-11-30 09:07 J -37385561.24 -37385561.12 -37385561.01 0.2616 0.1713 *

Saturn -107069-01-13 19:55 J -37385516.81 -37385516.67 -37385516.54 0.0270 0.0101

Venus -107069-04-08 12:00 J -37385431.05 -37385431.00 -37385430.96 0.3629 0.3347

Saturn -107069-04-11 09:07 J -37385428.27 -37385428.12 -37385427.98 0.0271 0.0030

Saturn -107069-07-08 22:04 J -37385339.72 -37385339.58 -37385339.43 0.0272 0.0041

Mars -107069-07-11 00:43 J -37385337.58 -37385337.47 -37385337.35 0.1812 0.0694

Saturn -107069-10-05 11:02 J -37385251.17 -37385251.04 -37385250.91 0.0272 0.0111

Saturn -107068-01-01 23:45 J -37385162.62 -37385162.51 -37385162.40 0.0273 0.0180

Saturn -107068-03-31 12:14 J -37385074.04 -37385073.99 -37385073.93 0.0274 0.0249

Jupiter -107067-09-08 13:11 J -37384548.09 -37384547.95 -37384547.81 0.0531 0.0021

Jupiter -107067-12-07 02:52 J -37384458.42 -37384458.38 -37384458.34 0.0533 0.0510

Moon -107066-06-04 00:43 J -37384279.57 -37384279.47 -37384279.37 0.2718 0.1214

Earth -107066-06-04 01:11 J -37384279.55 -37384279.45 -37384279.35 0.2711 0.1238 *

Jupiter -107061-04-26 05:45 J -37382491.42 -37382491.26 -37382491.11 0.0496 0.0137

Jupiter -107061-07-25 01:11 J -37382401.56 -37382401.45 -37382401.34 0.0495 0.0368

Mars -107060-01-17 17:31 J -37382224.92 -37382224.77 -37382224.62 0.1698 0.0124

Earth -107060-06-12 23:31 J -37382078.54 -37382078.52 -37382078.50 0.2729 0.2654

Mars -107060-12-01 07:55 J -37381907.29 -37381907.17 -37381907.04 0.1817 0.0207

Saturn -107056-08-11 16:48 J -37380557.89 -37380557.80 -37380557.70 0.0291 0.0232

Saturn -107056-11-08 11:16 J -37380469.17 -37380469.03 -37380468.89 0.0290 0.0138

Venus -107055-01-30 13:40 J -37380385.98 -37380385.93 -37380385.87 0.3769 0.3325

Saturn -107055-02-05 06:00 J -37380380.41 -37380380.25 -37380380.09 0.0289 0.0043

Saturn -107055-05-05 00:57 J -37380291.62 -37380291.46 -37380291.29 0.0289 0.0054

Jupiter -107055-06-27 15:50 J -37380237.98 -37380237.84 -37380237.70 0.0530 0.0145

Saturn -107055-08-01 20:24 J -37380202.79 -37380202.65 -37380202.51 0.0288 0.0151

Jupiter -107055-09-25 05:45 J -37380148.35 -37380148.26 -37380148.16 0.0533 0.0389

Saturn -107055-10-29 15:50 J -37380113.91 -37380113.84 -37380113.75 0.0287 0.0249

Earth -107053-06-05 20:09 J -37379528.77 -37379528.66 -37379528.55 0.2716 0.0201

Moon -107053-06-05 20:24 J -37379528.76 -37379528.65 -37379528.54 0.2722 0.0242 *

Neptune -107051-06-04 17:45 J -37378799.76 -37378799.76 -37378799.74 0.0089 0.0089

Mars -107051-06-09 21:07 J -37378794.76 -37378794.62 -37378794.47 0.1694 0.0403

Neptune -107051-08-31 20:09 J -37378711.70 -37378711.66 -37378711.60 0.0089 0.0084

Neptune -107051-11-27 22:33 J -37378623.63 -37378623.56 -37378623.49 0.0089 0.0079

Neptune -107050-02-24 00:28 J -37378535.55 -37378535.48 -37378535.37 0.0089 0.0075

Mars -107050-04-23 14:52 J -37378477.00 -37378476.88 -37378476.75 0.1822 0.0308

Neptune -107050-05-23 03:07 J -37378447.46 -37378447.37 -37378447.27 0.0089 0.0070

Venus -107050-08-16 10:33 J -37378362.17 -37378362.06 -37378361.95 0.3764 0.1708

Neptune -107050-08-19 05:31 J -37378359.37 -37378359.27 -37378359.16 0.0089 0.0065

Neptune -107050-11-15 07:40 J -37378271.29 -37378271.18 -37378271.05 0.0089 0.0061

Earth -107050-11-25 05:31 J -37378261.40 -37378261.27 -37378261.14 0.2628 0.1292

Moon -107050-11-25 06:43 J -37378261.35 -37378261.22 -37378261.09 0.2632 0.1266 *

Neptune -107049-02-11 10:04 J -37378183.20 -37378183.08 -37378182.94 0.0089 0.0056

Jupiter -107049-02-13 06:43 J -37378181.36 -37378181.22 -37378181.09 0.0497 0.0259

Neptune -107049-05-09 12:28 J -37378095.10 -37378094.98 -37378094.84 0.0089 0.0051

Jupiter -107049-05-13 01:40 J -37378091.57 -37378091.43 -37378091.29 0.0495 0.0241

Neptune -107049-08-05 15:07 J -37378007.01 -37378006.87 -37378006.73 0.0089 0.0046

Neptune -107049-11-01 17:16 J -37377918.92 -37377918.78 -37377918.63 0.0089 0.0042

Neptune -107048-01-28 19:40 J -37377830.82 -37377830.68 -37377830.52 0.0089 0.0037

Mars -107048-03-29 09:35 J -37377771.15 -37377771.10 -37377771.06 0.1802 0.1658

Neptune -107048-04-26 22:04 J -37377742.73 -37377742.58 -37377742.42 0.0089 0.0032

Neptune -107048-07-24 00:28 J -37377654.63 -37377654.48 -37377654.31 0.0089 0.0027

Neptune -107048-10-20 03:07 J -37377566.53 -37377566.37 -37377566.21 0.0089 0.0022

Neptune -107047-01-16 05:31 J -37377478.43 -37377478.27 -37377478.11 0.0089 0.0017

Pluto   -107047-02-13 03:07 J -37377450.42 -37377450.37 -37377450.26 0.0060 0.0055

Neptune -107047-04-14 07:55 J -37377390.33 -37377390.17 -37377390.00 0.0089 0.0012

Pluto   -107047-05-12 05:02 J -37377362.40 -37377362.29 -37377362.16 0.0060 0.0048

Neptune -107047-07-11 10:33 J -37377302.23 -37377302.06 -37377301.90 0.0089 0.0007

Pluto   -107047-08-08 06:14 J -37377274.36 -37377274.24 -37377274.07 0.0060 0.0041

Neptune -107047-10-07 12:57 J -37377214.13 -37377213.96 -37377213.79 0.0089 0.0002

Pluto   -107047-11-04 07:55 J -37377186.32 -37377186.17 -37377185.99 0.0060 0.0033

Neptune -107046-01-03 15:21 J -37377126.02 -37377125.86 -37377125.69 0.0089 0.0004

Pluto   -107046-01-31 09:21 J -37377098.27 -37377098.11 -37377097.92 0.0060 0.0026

Neptune -107046-04-01 18:00 J -37377037.92 -37377037.75 -37377037.59 0.0089 0.0008

Pluto   -107046-04-29 11:02 J -37377010.22 -37377010.04 -37377009.85 0.0060 0.0018

Neptune -107046-06-28 20:24 J -37376949.81 -37376949.65 -37376949.48 0.0089 0.0013

Pluto   -107046-07-26 12:28 J -37376922.17 -37376921.98 -37376921.78 0.0061 0.0010

Neptune -107046-09-24 22:48 J -37376861.71 -37376861.55 -37376861.38 0.0089 0.0018

Pluto   -107046-10-22 14:09 J -37376834.11 -37376833.91 -37376833.72 0.0061 0.0003

Neptune -107046-12-22 01:26 J -37376773.60 -37376773.44 -37376773.27 0.0089 0.0023

Pluto   -107045-01-18 15:35 J -37376746.05 -37376745.85 -37376745.65 0.0061 0.0005

Neptune -107045-03-19 03:50 J -37376685.49 -37376685.34 -37376685.17 0.0089 0.0028

Pluto   -107045-04-15 16:48 J -37376657.98 -37376657.80 -37376657.60 0.0061 0.0013

Neptune -107045-06-15 06:28 J -37376597.38 -37376597.23 -37376597.07 0.0089 0.0033

Pluto   -107045-07-12 18:28 J -37376569.91 -37376569.73 -37376569.54 0.0061 0.0020

Neptune -107045-09-11 09:07 J -37376509.27 -37376509.12 -37376508.96 0.0089 0.0038

Pluto   -107045-10-08 19:40 J -37376481.84 -37376481.68 -37376481.49 0.0061 0.0028

Neptune -107045-12-08 11:31 J -37376421.16 -37376421.02 -37376420.86 0.0089 0.0043

Pluto   -107044-01-04 21:35 J -37376393.76 -37376393.60 -37376393.44 0.0061 0.0035

Venus   -107044-03-01 07:40 J -37376338.30 -37376338.18 -37376338.06 0.3760 0.0090

Neptune -107044-03-06 14:09 J -37376333.04 -37376332.91 -37376332.76 0.0089 0.0048

Pluto -107044-04-02 22:48 J -37376305.68 -37376305.55 -37376305.40 0.0061 0.0043

Neptune -107044-06-02 16:48 J -37376244.93 -37376244.80 -37376244.66 0.0089 0.0054

Pluto -107044-06-30 00:00 J -37376217.58 -37376217.50 -37376217.37 0.0061 0.0051

Uranus -107044-08-28 21:50 J -37376157.64 -37376157.59 -37376157.53 0.0145 0.0136

Neptune -107044-08-29 19:11 J -37376156.81 -37376156.70 -37376156.56 0.0089 0.0059

Pluto -107044-09-26 01:55 J -37376129.47 -37376129.42 -37376129.36 0.0061 0.0059

Uranus -107044-11-25 04:04 J -37376069.43 -37376069.33 -37376069.22 0.0145 0.0112

Neptune -107044-11-25 21:50 J -37376068.69 -37376068.59 -37376068.46 0.0089 0.0064

Uranus -107043-02-21 10:19 J -37375981.19 -37375981.07 -37375980.93 0.0146 0.0088

Neptune -107043-02-22 00:28 J -37375980.57 -37375980.48 -37375980.36 0.0089 0.0069

Jupiter -107043-04-15 18:00 J -37375927.87 -37375927.75 -37375927.63 0.0530 0.0276

Uranus -107043-05-20 16:48 J -37375892.95 -37375892.80 -37375892.64 0.0146 0.0063

Neptune -107043-05-21 03:07 J -37375892.45 -37375892.37 -37375892.26 0.0089 0.0074

Jupiter -107043-07-14 08:24 J -37375838.27 -37375838.15 -37375838.03 0.0532 0.0262

Uranus -107043-08-16 23:16 J -37375804.69 -37375804.53 -37375804.36 0.0146 0.0038

Neptune -107043-08-17 06:00 J -37375804.32 -37375804.25 -37375804.17 0.0089 0.0079

Uranus -107043-11-13 05:45 J -37375716.42 -37375716.26 -37375716.08 0.0146 0.0014

Neptune -107043-11-13 08:52 J -37375716.18 -37375716.13 -37375716.08 0.0089 0.0084 *

Uranus -107042-02-09 12:28 J -37375628.15 -37375627.98 -37375627.81 0.0146 0.0012

Uranus -107042-05-08 18:57 J -37375539.87 -37375539.71 -37375539.54 0.0146 0.0038

Uranus -107042-08-05 01:55 J -37375451.58 -37375451.42 -37375451.27 0.0146 0.0064

Mars -107042-10-31 01:40 J -37375364.56 -37375364.43 -37375364.31 0.1690 0.0889

Uranus -107042-11-01 08:38 J -37375363.27 -37375363.14 -37375363.00 0.0146 0.0090

Uranus -107041-01-28 15:21 J -37375274.96 -37375274.86 -37375274.75 0.0146 0.0116

Uranus -107041-04-25 22:19 J -37375186.60 -37375186.57 -37375186.53 0.0146 0.0143

Mars -107041-09-12 21:50 J -37375046.71 -37375046.59 -37375046.48 0.1827 0.0824

Venus -107040-03-01 04:33 J -37374877.32 -37374877.31 -37374877.29 0.3609 0.3568

Saturn -107040-03-05 07:11 J -37374873.30 -37374873.20 -37374873.09 0.0270 0.0198

Saturn -107040-06-01 20:52 J -37374784.76 -37374784.63 -37374784.50 0.0271 0.0126

Earth -107040-06-08 15:07 J -37374777.98 -37374777.87 -37374777.77 0.2720 0.0835

Moon -107040-06-08 15:35 J -37374777.95 -37374777.85 -37374777.74 0.2725 0.0941 *

Saturn -107040-08-29 10:04 J -37374696.22 -37374696.08 -37374695.93 0.0271 0.0055

Mars -107040-10-06 11:02 J -37374658.14 -37374658.04 -37374657.94 0.1708 0.1243

Saturn -107040-11-25 23:16 J -37374607.68 -37374607.53 -37374607.39 0.0272 0.0016

Saturn -107039-02-22 12:14 J -37374519.13 -37374518.99 -37374518.85 0.0273 0.0087

Saturn -107039-05-22 00:57 J -37374430.58 -37374430.46 -37374430.34 0.0273 0.0156

Saturn -107039-08-18 13:26 J -37374342.01 -37374341.94 -37374341.85 0.0274 0.0225

Mars -107039-08-19 17:31 J -37374340.86 -37374340.77 -37374340.68 0.1807 0.1211

Venus -107039-09-15 05:16 J -37374314.39 -37374314.28 -37374314.17 0.3755 0.1731

Jupiter -107038-12-02 07:26 J -37373871.29 -37373871.19 -37373871.09 0.0498 0.0383

Jupiter -107037-03-01 02:09 J -37373781.57 -37373781.41 -37373781.25 0.0496 0.0113

Earth -107037-11-27 09:35 J -37373510.25 -37373510.10 -37373509.95 0.2624 0.0345

Moon -107037-11-27 11:16 J -37373510.18 -37373510.03 -37373509.89 0.2623 0.0486 *

Venus -107035-09-15 01:26 J -37372853.54 -37372853.44 -37372853.34 0.3613 0.1996

Venus -107033-03-31 03:07 J -37372290.41 -37372290.37 -37372290.33 0.3750 0.3543

Moon -107033-06-01 10:33 J -37372228.13 -37372228.06 -37372227.99 0.2710 0.2110

Earth -107033-06-01 11:16 J -37372228.11 -37372228.03 -37372227.96 0.2707 0.2077 *

Mars -107032-03-22 06:14 J -37371934.32 -37371934.24 -37371934.15 0.1686 0.1359

Jupiter -107031-02-01 19:40 J -37371617.77 -37371617.68 -37371617.59 0.0529 0.0413

Mars -107031-02-03 04:04 J -37371616.41 -37371616.33 -37371616.25 0.1832 0.1367

Jupiter -107031-05-02 10:19 J -37371528.20 -37371528.07 -37371527.93 0.0531 0.0130

Mars -107030-02-26 14:24 J -37371228.04 -37371227.90 -37371227.77 0.1703 0.0700

Mars -107029-01-10 00:57 J -37370910.57 -37370910.46 -37370910.35 0.1812 0.0739

Venus -107029-03-30 22:04 J -37370829.70 -37370829.58 -37370829.45 0.3618 0.0478

Earth -107027-06-11 09:50 J -37370027.17 -37370027.09 -37370027.01 0.2725 0.1853

Moon -107027-06-11 10:33 J -37370027.14 -37370027.06 -37370026.98 0.2722 0.1897 *

Saturn -107027-12-29 17:02 J -37369825.85 -37369825.79 -37369825.71 0.0291 0.0259

Saturn -107026-03-28 11:31 J -37369737.15 -37369737.02 -37369736.89 0.0290 0.0166

Saturn -107026-06-25 06:14 J -37369648.40 -37369648.24 -37369648.08 0.0289 0.0071

Saturn -107026-09-22 01:11 J -37369559.62 -37369559.45 -37369559.29 0.0288 0.0025

Jupiter -107026-12-19 03:21 J -37369471.53 -37369471.36 -37369471.20 0.0496 0.0014

Saturn -107026-12-19 20:24 J -37369470.80 -37369470.65 -37369470.50 0.0288 0.0122

Saturn -107025-03-17 15:50 J -37369381.94 -37369381.84 -37369381.73 0.0287 0.0220

Venus -107024-10-14 18:28 J -37368805.84 -37368805.73 -37368805.61 0.3622 0.1020

Earth -107024-11-30 13:55 J -37368759.01 -37368758.92 -37368758.82 0.2619 0.2015

Moon -107024-11-30 14:52 J -37368758.97 -37368758.88 -37368758.79 0.2613 0.2119 *

Mars -107021-07-18 17:45 J -37367797.91 -37367797.76 -37367797.61 0.1698 0.0167

Mars -107020-06-01 08:09 J -37367480.29 -37367480.16 -37367480.04 0.1817 0.0249

Moon -107020-06-04 06:00 J -37367477.36 -37367477.25 -37367477.15 0.2718 0.1126

Earth -107020-06-04 06:14 J -37367477.35 -37367477.24 -37367477.14 0.2712 0.1029 *

Jupiter -107019-02-18 11:31 J -37367218.16 -37367218.02 -37367217.88 0.0531 0.0018

Jupiter -107019-05-19 00:57 J -37367128.49 -37367128.46 -37367128.42 0.0533 0.0510

Venus -107018-04-30 14:38 J -37366781.98 -37366781.89 -37366781.80 0.3626 0.2441

Earth -107017-11-22 07:55 J -37366210.20 -37366210.17 -37366210.15 0.2633 0.2581

Jupiter -107014-10-07 04:19 J -37365161.47 -37365161.32 -37365161.16 0.0497 0.0129

Jupiter -107013-01-05 00:00 J -37365071.60 -37365071.50 -37365071.39 0.0495 0.0377

Mars -107012-12-08 21:50 J -37364367.74 -37364367.59 -37364367.45 0.1694 0.0347

Saturn -107011-07-23 10:04 J -37364141.17 -37364141.08 -37364140.99 0.0270 0.0214

Saturn -107011-10-19 23:31 J -37364052.64 -37364052.52 -37364052.39 0.0270 0.0142

Mars -107011-10-22 15:07 J -37364049.99 -37364049.87 -37364049.74 0.1822 0.0257

Saturn -107010-01-16 12:57 J -37363964.10 -37363963.96 -37363963.82 0.0271 0.0070

Saturn -107010-04-15 02:09 J -37363875.56 -37363875.41 -37363875.26 0.0272 0.0002

Saturn -107010-07-12 15:07 J -37363787.01 -37363786.87 -37363786.73 0.0272 0.0071

Saturn -107010-10-09 03:50 J -37363698.46 -37363698.34 -37363698.21 0.0273 0.0141

Saturn -107009-01-05 16:33 J -37363609.90 -37363609.81 -37363609.72 0.0274 0.0210

Mars -107009-09-27 09:50 J -37363344.13 -37363344.09 -37363344.06 0.1801 0.1705

Jupiter -107008-12-07 13:40 J -37362908.07 -37362907.93 -37362907.79 0.0530 0.0152

Jupiter -107007-03-07 03:35 J -37362818.44 -37362818.35 -37362818.25 0.0532 0.0382

Earth -107007-06-07 01:11 J -37362726.57 -37362726.45 -37362726.34 0.2716 0.0083

Moon -107007-06-07 01:26 J -37362726.55 -37362726.44 -37362726.32 0.2722 0.0159 *

Uranus -107004-04-21 22:48 J -37361676.59 -37361676.55 -37361676.49 0.0133 0.0126

Uranus -107004-07-19 02:52 J -37361588.46 -37361588.38 -37361588.29 0.0133 0.0108

Uranus -107004-10-15 06:43 J -37361500.32 -37361500.22 -37361500.10 0.0133 0.0092

Earth -107004-11-25 11:45 J -37361459.15 -37361459.01 -37361458.87 0.2628 0.0975

Moon -107004-11-25 13:11 J -37361459.10 -37361458.95 -37361458.81 0.2630 0.0762 *

Uranus -107003-01-11 10:48 J -37361412.17 -37361412.05 -37361411.92 0.0133 0.0074

Uranus -107003-04-09 14:38 J -37361324.02 -37361323.89 -37361323.75 0.0133 0.0058

Uranus -107003-07-06 18:28 J -37361235.86 -37361235.73 -37361235.58 0.0133 0.0041

Uranus -107003-10-02 22:19 J -37361147.71 -37361147.57 -37361147.42 0.0133 0.0024

Uranus -107003-12-30 02:09 J -37361059.55 -37361059.41 -37361059.26 0.0133 0.0008

Uranus -107002-03-28 06:00 J -37360971.40 -37360971.25 -37360971.10 0.0133 0.0009

Mars -107002-05-01 01:55 J -37360937.54 -37360937.42 -37360937.29 0.1690 0.0840

Uranus -107002-06-24 09:35 J -37360883.24 -37360883.10 -37360882.95 0.0133 0.0026

Jupiter -107002-07-26 05:16 J -37360851.42 -37360851.28 -37360851.15 0.0497 0.0253

Uranus -107002-09-20 13:26 J -37360795.08 -37360794.94 -37360794.80 0.0133 0.0041

Jupiter -107002-10-24 00:14 J -37360761.63 -37360761.49 -37360761.35 0.0495 0.0247

Uranus -107002-12-17 17:02 J -37360706.92 -37360706.79 -37360706.66 0.0133 0.0057

Mars -107001-03-13 21:50 J -37360619.71 -37360619.59 -37360619.48 0.1827 0.0783

Uranus -107001-03-14 20:38 J -37360618.75 -37360618.64 -37360618.51 0.0133 0.0073

Uranus -107001-06-11 00:28 J -37360530.59 -37360530.48 -37360530.38 0.0132 0.0089

Uranus -107001-09-07 03:50 J -37360442.42 -37360442.34 -37360442.25 0.0132 0.0105

Uranus -107001-12-04 07:40 J -37360354.24 -37360354.18 -37360354.13 0.0132 0.0120

107TH MILLENNIUM BCE

This is a list of transits of Mercury in the 107th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Mars	-107000-04-06 11:31 J		-37360231.11	-37360231.02	-37360230.92	0.1708	0.1302	
Mars	-106999-02-17 17:31 J		-37359913.86	-37359913.77	-37359913.68	0.1807	0.1250	
Venus	-106999-09-06 12:28 J		-37359713.06	-37359712.98	-37359712.90	0.3767	0.2769	
Saturn	-106997-05-17 17:02 J		-37359093.81	-37359093.79	-37359093.77	0.0291	0.0288	
Saturn	-106997-08-14 11:16 J		-37359005.15	-37359005.03	-37359004.91	0.0290	0.0196	
Saturn	-106997-11-11 05:45 J		-37358916.41	-37358916.26	-37358916.11	0.0290	0.0102	
Saturn	-106996-02-08 00:28 J		-37358827.64	-37358827.48	-37358827.31	0.0289	0.0007	
Saturn	-106996-05-07 19:40 J		-37358738.84	-37358738.68	-37358738.52	0.0288	0.0090	
Saturn	-106996-08-04 15:07 J		-37358650.00	-37358649.87	-37358649.74	0.0287	0.0188	
Jupiter	-106996-09-25 16:04 J		-37358597.95	-37358597.83	-37358597.71	0.0530	0.0280	
Saturn	-106996-11-01 10:48 J		-37358561.06	-37358561.05	-37358561.04	0.0287	0.0286	
Jupiter	-106996-12-24 06:28 J		-37358508.35	-37358508.23	-37358508.11	0.0532	0.0259	
Earth	-106994-06-09 19:55 J		-37357975.77	-37357975.67	-37357975.56	0.2721	0.1042	
Moon	-106994-06-09 20:38 J		-37357975.74	-37357975.64	-37357975.53	0.2723	0.1053	*
Venus	-106993-03-22 09:21 J		-37357689.22	-37357689.11	-37357688.99	0.3763	0.1137	
Mars	-106993-09-20 06:28 J		-37357507.32	-37357507.23	-37357507.14	0.1685	0.1315	
Mars	-106992-08-04 04:19 J		-37357189.40	-37357189.32	-37357189.23	0.1832	0.1313	
Mars	-106991-08-27 14:38 J		-37356801.02	-37356800.89	-37356800.75	0.1703	0.0748	
Earth	-106991-11-28 15:50 J		-37356707.98	-37356707.84	-37356707.69	0.2623	0.0682	
Moon	-106991-11-28 17:16 J		-37356707.92	-37356707.78	-37356707.63	0.2621	0.0761	*
Jupiter	-106990-05-14 06:14 J		-37356541.34	-37356541.24	-37356541.14	0.0498	0.0375	
Mars	-106990-07-11 00:57 J		-37356483.57	-37356483.46	-37356483.34	0.1812	0.0783	

Jupiter -106990-08-12 00:43 J -37356451.62 -37356451.47 -37356451.31 0.0496 0.0122

Venus -106988-10-06 06:43 J -37355665.34 -37355665.22 -37355665.10 0.3758 0.0572

Moon -106987-06-02 15:35 J -37355425.93 -37355425.85 -37355425.77 0.2713 0.1928

Earth -106987-06-02 16:04 J -37355425.91 -37355425.83 -37355425.74 0.2708 0.1861 *

Jupiter -106984-07-14 18:00 J -37354287.83 -37354287.75 -37354287.66 0.0529 0.0412

Venus -106984-10-06 03:21 J -37354204.42 -37354204.36 -37354204.29 0.3610 0.3012

Jupiter -106984-10-12 08:52 J -37354198.27 -37354198.13 -37354197.99 0.0531 0.0131

Venus -106982-04-22 04:19 J -37353641.42 -37353641.32 -37353641.23 0.3753 0.2334

Saturn -106982-12-10 11:02 J -37353409.11 -37353409.04 -37353408.97 0.0270 0.0238

Mars -106981-01-17 18:14 J -37353370.89 -37353370.74 -37353370.60 0.1698 0.0220

Saturn -106981-03-08 00:43 J -37353320.59 -37353320.47 -37353320.35 0.0270 0.0166

Saturn -106981-06-04 14:09 J -37353232.05 -37353231.91 -37353231.77 0.0271 0.0095

Earth -106981-06-11 14:38 J -37353224.96 -37353224.89 -37353224.81 0.2726 0.2061

Moon -106981-06-11 15:21 J -37353224.92 -37353224.86 -37353224.79 0.2722 0.2159 *

Saturn -106981-09-01 03:21 J -37353143.51 -37353143.36 -37353143.21 0.0272 0.0024

Saturn -106981-11-28 16:19 J -37353054.96 -37353054.82 -37353054.67 0.0272 0.0048

Mars -106981-11-30 08:24 J -37353053.27 -37353053.15 -37353053.03 0.1817 0.0298

Saturn -106980-02-25 05:16 J -37352966.41 -37352966.28 -37352966.15 0.0273 0.0117

Saturn -106980-05-24 18:00 J -37352877.85 -37352877.75 -37352877.64 0.0274 0.0187

Saturn -106980-08-21 06:28 J -37352789.27 -37352789.23 -37352789.17 0.0274 0.0256

Venus -106978-04-22 00:14 J -37352180.60 -37352180.49 -37352180.37 0.3615 0.1456

Jupiter -106978-05-31 01:26 J -37352141.61 -37352141.44 -37352141.28 0.0496 0.0016

Earth -106978-12-01 20:24 J -37351956.71 -37351956.65 -37351956.59 0.2618 0.2358

Moon -106978-12-01 21:07 J -37351956.67 -37351956.62 -37351956.56 0.2612 0.2406 *

Moon -106974-06-05 11:02 J -37350675.14 -37350675.04 -37350674.93 0.2719 0.0789

Earth -106974-06-05 11:16 J -37350675.14 -37350675.03 -37350674.93 0.2712 0.0825 *

Venus -106973-11-04 20:52 J -37350156.75 -37350156.63 -37350156.50 0.3619 0.0120

Mars -106972-06-08 22:04 J -37349940.72 -37349940.58 -37349940.43 0.1694 0.0297

Jupiter -106972-07-31 10:48 J -37349888.19 -37349888.05 -37349887.91 0.0531 0.0007

Jupiter -106972-10-29 00:28 J -37349798.51 -37349798.48 -37349798.46 0.0533 0.0523

Mars -106971-04-22 15:07 J -37349622.99 -37349622.87 -37349622.74 0.1822 0.0223

Earth -106971-11-23 13:55 J -37349407.99 -37349407.92 -37349407.84 0.2632 0.2267

Moon -106971-11-23 14:52 J -37349407.96 -37349407.88 -37349407.79 0.2637 0.2122 *

Neptune -106969-03-21 22:19 J -37348923.59 -37348923.57 -37348923.54 0.0088 0.0087

Mars -106969-03-28 09:50 J -37348917.11 -37348917.09 -37348917.06 0.1801 0.1747

Neptune -106969-06-18 00:00 J -37348835.54 -37348835.50 -37348835.43 0.0088 0.0083

Neptune -106969-09-14 02:09 J -37348747.47 -37348747.41 -37348747.32 0.0088 0.0078

Neptune -106969-12-11 04:33 J -37348659.39 -37348659.31 -37348659.22 0.0088 0.0073

Neptune -106968-03-09 06:14 J -37348571.32 -37348571.24 -37348571.13 0.0088 0.0069

Neptune -106968-06-05 08:24 J -37348483.24 -37348483.15 -37348483.03 0.0088 0.0064

Neptune -106968-09-01 10:48 J -37348395.17 -37348395.05 -37348394.94 0.0088 0.0059

Neptune -106968-11-28 12:28 J -37348307.09 -37348306.98 -37348306.85 0.0088 0.0055

Saturn -106967-01-01 11:45 J -37348273.11 -37348273.01 -37348272.91 0.0290 0.0222

Neptune -106967-02-24 14:38 J -37348219.01 -37348218.89 -37348218.76 0.0088 0.0050

Saturn -106967-03-31 06:14 J -37348184.39 -37348184.24 -37348184.10 0.0290 0.0128

Venus -106967-05-21 17:16 J -37348132.89 -37348132.78 -37348132.67 0.3623 0.1523

Neptune -106967-05-23 16:33 J -37348130.93 -37348130.81 -37348130.67 0.0088 0.0045

Saturn -106967-06-28 00:57 J -37348095.62 -37348095.46 -37348095.30 0.0289 0.0033

Neptune -106967-08-19 18:43 J -37348042.86 -37348042.72 -37348042.58 0.0088 0.0041

Saturn -106967-09-24 19:55 J -37348006.83 -37348006.67 -37348006.50 0.0288 0.0064

Neptune -106967-11-15 20:24 J -37347954.78 -37347954.65 -37347954.50 0.0088 0.0037

Saturn -106967-12-22 15:21 J -37347918.00 -37347917.86 -37347917.72 0.0287 0.0161

Neptune -106966-02-11 22:33 J -37347866.70 -37347866.56 -37347866.41 0.0088 0.0032

Jupiter -106966-03-19 02:24 J -37347831.55 -37347831.40 -37347831.24 0.0497 0.0129

Saturn -106966-03-21 10:48 J -37347829.11 -37347829.05 -37347828.97 0.0287 0.0259

Neptune -106966-05-11 00:28 J -37347778.62 -37347778.48 -37347778.33 0.0088 0.0027

Jupiter -106966-06-16 21:50 J -37347741.69 -37347741.59 -37347741.48 0.0495 0.0377

Neptune -106966-08-07 02:24 J -37347690.54 -37347690.40 -37347690.24 0.0088 0.0023

Neptune -106966-11-03 04:19 J -37347602.46 -37347602.32 -37347602.16 0.0088 0.0019

Neptune -106965-01-30 06:28 J -37347514.38 -37347514.23 -37347514.08 0.0088 0.0013

Neptune -106965-04-27 08:24 J -37347426.30 -37347426.15 -37347426.00 0.0088 0.0009

Neptune -106965-07-24 10:19 J -37347338.22 -37347338.07 -37347337.92 0.0088 0.0005

Neptune -106965-10-20 12:14 J -37347250.14 -37347249.99 -37347249.84 0.0088 0.0000

Neptune -106964-01-16 14:09 J -37347162.06 -37347161.91 -37347161.76 0.0088 0.0004

Neptune -106964-04-14 16:04 J -37347073.98 -37347073.83 -37347073.68 0.0088 0.0009

Neptune -106964-07-11 17:45 J -37346985.90 -37346985.76 -37346985.60 0.0088 0.0014

Neptune -106964-10-07 19:40 J -37346897.82 -37346897.68 -37346897.53 0.0088 0.0018

Neptune -106963-01-03 21:35 J -37346809.74 -37346809.60 -37346809.45 0.0088 0.0022

Neptune -106963-04-01 23:31 J -37346721.66 -37346721.52 -37346721.38 0.0088 0.0026

Neptune -106963-06-29 01:26 J -37346633.58 -37346633.44 -37346633.30 0.0088 0.0031

Neptune -106963-09-25 02:52 J -37346545.50 -37346545.38 -37346545.23 0.0088 0.0036

Mars -106963-10-30 02:24 J -37346510.53 -37346510.40 -37346510.27 0.1690 0.0787

Neptune -106963-12-22 04:48 J -37346457.42 -37346457.30 -37346457.16 0.0088 0.0040

Neptune -106962-03-20 06:43 J -37346369.34 -37346369.22 -37346369.08 0.0088 0.0044

Neptune -106962-06-16 08:38 J -37346281.26 -37346281.14 -37346281.01 0.0088 0.0048

Neptune -106962-09-12 10:19 J -37346193.18 -37346193.07 -37346192.94 0.0088 0.0052

Mars -106962-09-12 22:04 J -37346192.70 -37346192.58 -37346192.46 0.1827 0.0728

Venus -106962-12-05 13:11 J -37346109.02 -37346108.95 -37346108.88 0.3627 0.2933

Neptune -106962-12-09 12:14 J -37346105.10 -37346104.99 -37346104.87 0.0088 0.0056

Neptune -106961-03-06 13:55 J -37346017.02 -37346016.92 -37346016.80 0.0088 0.0061

Neptune -106961-06-02 15:50 J -37345928.93 -37345928.84 -37345928.74 0.0088 0.0065

Earth -106961-06-07 06:00 J -37345924.36 -37345924.25 -37345924.13 0.2717 0.0239

Moon -106961-06-07 06:43 J -37345924.34 -37345924.22 -37345924.11 0.2723 0.0226 *

Neptune -106961-08-29 17:16 J -37345840.85 -37345840.78 -37345840.67 0.0088 0.0070

Mars -106961-10-05 12:14 J -37345804.08 -37345803.99 -37345803.90 0.1708 0.1359

Neptune -106961-11-25 19:11 J -37345752.77 -37345752.70 -37345752.61 0.0088 0.0073

Neptune -106960-02-21 20:52 J -37345664.68 -37345664.63 -37345664.55 0.0088 0.0078

Jupiter -106960-05-19 11:45 J -37345578.15 -37345578.01 -37345577.87 0.0530 0.0153

Neptune -106960-05-20 22:48 J -37345576.59 -37345576.55 -37345576.49 0.0088 0.0082

Jupiter -106960-08-17 01:40 J -37345488.52 -37345488.43 -37345488.33 0.0532 0.0381

Neptune -106960-08-17 00:28 J -37345488.50 -37345488.48 -37345488.43 0.0088 0.0086 *

Mars -106960-08-18 17:45 J -37345486.85 -37345486.76 -37345486.68 0.1807 0.1298

Uranus -106960-09-18 04:48 J -37345456.36 -37345456.30 -37345456.22 0.0145 0.0131

Uranus -106960-12-15 11:02 J -37345368.14 -37345368.04 -37345367.92 0.0145 0.0107

Uranus -106959-03-13 17:31 J -37345279.91 -37345279.77 -37345279.63 0.0146 0.0082

Uranus -106959-06-10 00:00 J -37345191.66 -37345191.50 -37345191.35 0.0146 0.0058

Uranus -106959-09-06 06:28 J -37345103.40 -37345103.23 -37345103.07 0.0146 0.0033

Uranus -106959-12-03 12:57 J -37345015.13 -37345014.96 -37345014.79 0.0146 0.0008

Uranus -106958-03-01 19:26 J -37344926.85 -37344926.69 -37344926.52 0.0146 0.0018

Uranus -106958-05-29 02:09 J -37344838.57 -37344838.41 -37344838.24 0.0146 0.0043

Uranus -106958-08-25 08:52 J -37344750.28 -37344750.13 -37344749.98 0.0146 0.0069

Uranus -106958-11-21 15:35 J -37344661.97 -37344661.85 -37344661.71 0.0146 0.0095

Earth -106958-11-26 18:00 J -37344656.90 -37344656.75 -37344656.61 0.2627 0.0643

Moon -106958-11-26 19:26 J -37344656.83 -37344656.69 -37344656.54 0.2629 0.0625 *

Uranus -106957-02-17 22:19 J -37344573.65 -37344573.57 -37344573.46 0.0146 0.0122

Jupiter -106954-01-05 03:35 J -37343521.49 -37343521.35 -37343521.21 0.0498 0.0249

Jupiter -106954-04-04 22:48 J -37343431.69 -37343431.55 -37343431.41 0.0495 0.0253

Earth -106954-06-01 02:09 J -37343374.42 -37343374.41 -37343374.41 0.2704 0.2696

Pluto -106954-06-11 04:04 J -37343364.34 -37343364.33 -37343364.30 0.0085 0.0084

Pluto -106954-09-07 05:16 J -37343276.34 -37343276.28 -37343276.19 0.0085 0.0070

Pluto -106954-12-04 06:43 J -37343188.31 -37343188.22 -37343188.11 0.0085 0.0055

Pluto -106953-03-01 07:55 J -37343100.28 -37343100.17 -37343100.05 0.0084 0.0042

Mars -106953-03-21 06:57 J -37343080.30 -37343080.21 -37343080.11 0.1685 0.1265

Pluto -106953-05-28 09:21 J -37343012.23 -37343012.11 -37343011.98 0.0084 0.0027

Pluto -106953-08-24 10:33 J -37342924.19 -37342924.06 -37342923.93 0.0084 0.0014

Pluto -106953-11-20 11:45 J -37342836.14 -37342836.01 -37342835.87 0.0084 0.0003

Mars -106952-02-02 04:19 J -37342762.41 -37342762.32 -37342762.23 0.1832 0.1273

Pluto -106952-02-16 13:11 J -37342748.08 -37342747.95 -37342747.82 0.0084 0.0014

Saturn -106952-04-28 13:55 J -37342676.96 -37342676.92 -37342676.87 0.0270 0.0254

Pluto -106952-05-15 14:09 J -37342660.03 -37342659.91 -37342659.78 0.0084 0.0028

Saturn -106952-07-26 03:35 J -37342588.45 -37342588.35 -37342588.24 0.0270 0.0181

Pluto -106952-08-11 15:35 J -37342571.97 -37342571.85 -37342571.73 0.0084 0.0041

Saturn -106952-10-22 17:02 J -37342499.92 -37342499.79 -37342499.65 0.0271 0.0110

Pluto -106952-11-07 16:33 J -37342483.90 -37342483.81 -37342483.70 0.0084 0.0055

Saturn -106951-01-19 06:28 J -37342411.38 -37342411.23 -37342411.08 0.0271 0.0038

Pluto -106951-02-03 18:00 J -37342395.82 -37342395.75 -37342395.67 0.0083 0.0068

Mars -106951-02-25 15:07 J -37342374.00 -37342373.87 -37342373.73 0.1703 0.0804

Saturn -106951-04-17 19:40 J -37342322.83 -37342322.68 -37342322.54 0.0272 0.0033

Pluto -106951-05-02 18:57 J -37342307.72 -37342307.71 -37342307.67 0.0083 0.0081

Saturn -106951-07-15 08:38 J -37342234.28 -37342234.14 -37342234.01 0.0273 0.0103

Saturn -106951-10-11 21:21 J -37342145.72 -37342145.61 -37342145.50 0.0273 0.0172

Saturn -106950-01-08 09:50 J -37342057.15 -37342057.09 -37342057.02 0.0274 0.0242

Mars -106950-01-09 01:11 J -37342056.56 -37342056.45 -37342056.34 0.1812 0.0827

Jupiter -106948-03-07 13:40 J -37341268.05 -37341267.93 -37341267.81 0.0529 0.0288

Jupiter -106948-06-05 04:04 J -37341178.45 -37341178.33 -37341178.21 0.0532 0.0250

Earth -106948-06-10 00:57 J -37341173.56 -37341173.46 -37341173.36 0.2722 0.1250

Moon -106948-06-10 01:40 J -37341173.53 -37341173.43 -37341173.34 0.2721 0.1389 *

Earth -106945-11-28 22:04 J -37339905.72 -37339905.58 -37339905.44 0.2622 0.1010

Moon -106945-11-28 23:16 J -37339905.66 -37339905.53 -37339905.39 0.2618 0.1183 *

Mars -106943-06-25 10:33 J -37339332.07 -37339332.06 -37339332.05 0.1837 0.1826

Jupiter -106943-10-24 04:19 J -37339211.42 -37339211.32 -37339211.21 0.0498 0.0373

Jupiter -106942-01-21 23:02 J -37339121.70 -37339121.54 -37339121.38 0.0496 0.0123

Venus -106942-04-13 11:16 J -37339040.12 -37339040.03 -37339039.93 0.3766 0.2208

Mars -106942-07-18 18:43 J -37338943.87 -37338943.72 -37338943.58 0.1698 0.0272

Mars -106941-05-31 08:24 J -37338626.28 -37338626.15 -37338626.03 0.1817 0.0338

Moon -106941-06-02 20:38 J -37338623.73 -37338623.64 -37338623.55 0.2714 0.1709

Earth -106941-06-02 21:07 J -37338623.71 -37338623.62 -37338623.53 0.2708 0.1647 *

Saturn -106938-05-21 12:14 J -37337541.06 -37337540.99 -37337540.90 0.0291 0.0248

Saturn -106938-08-18 06:43 J -37337452.36 -37337452.22 -37337452.08 0.0290 0.0155

Saturn -106938-11-15 01:11 J -37337363.60 -37337363.45 -37337363.29 0.0289 0.0061

Saturn -106937-02-11 20:09 J -37337274.82 -37337274.66 -37337274.49 0.0289 0.0036

Saturn -106937-05-10 15:21 J -37337186.00 -37337185.86 -37337185.71 0.0288 0.0133

Saturn -106937-08-07 11:02 J -37337097.14 -37337097.04 -37337096.94 0.0287 0.0230

Venus -106937-10-27 08:24 J -37337016.27 -37337016.15 -37337016.03 0.3762 0.0557

Jupiter -106937-12-24 15:50 J -37336957.93 -37336957.84 -37336957.75 0.0529 0.0419

Jupiter -106936-03-24 06:43 J -37336868.36 -37336868.22 -37336868.09 0.0531 0.0124

Earth -106935-06-12 19:40 J -37336422.74 -37336422.68 -37336422.62 0.2726 0.2271

Moon -106935-06-12 20:09 J -37336422.71 -37336422.66 -37336422.60 0.2722 0.2277 *

Mars -106933-12-07 22:33 J -37335513.71 -37335513.56 -37335513.41 0.1694 0.0246

Mars -106932-10-21 15:35 J -37335195.98 -37335195.85 -37335195.73 0.1822 0.0165

Venus -106931-05-13 05:45 J -37334992.38 -37334992.26 -37334992.15 0.3757 0.1165

Jupiter -106931-08-12 05:31 J -37334901.28 -37334901.27 -37334901.25 0.0498 0.0493

Jupiter -106931-11-09 23:45 J -37334811.67 -37334811.51 -37334811.35 0.0496 0.0003

Mars -106930-09-27 09:50 J -37334490.10 -37334490.09 -37334490.08 0.1802 0.1790

Earth -106928-06-05 16:04 J -37333872.94 -37333872.83 -37333872.72 0.2713 0.0607

Moon -106928-06-05 16:19 J -37333872.93 -37333872.82 -37333872.71 0.2720 0.0600 *

Venus -106927-05-13 02:24 J -37333531.49 -37333531.40 -37333531.31 0.3612 0.2454

Venus -106926-11-27 03:21 J -37332968.43 -37332968.36 -37332968.28 0.3752 0.2946

Earth -106925-11-23 20:24 J -37332605.75 -37332605.65 -37332605.56 0.2632 0.1943

Moon -106925-11-23 21:35 J -37332605.70 -37332605.60 -37332605.50 0.2635 0.1896 *

Jupiter -106924-01-10 08:52 J -37332558.27 -37332558.13 -37332557.98 0.0531 0.0018

Jupiter -106924-04-09 22:33 J -37332468.58 -37332468.56 -37332468.53 0.0533 0.0523

Mars -106923-04-30 02:38 J -37332083.52 -37332083.39 -37332083.25 0.1690 0.0742

Saturn -106923-12-13 04:48 J -37331856.39 -37331856.30 -37331856.20 0.0270 0.0205

Saturn -106922-03-11 18:28 J -37331767.86 -37331767.73 -37331767.60 0.0271 0.0133

Mars -106922-03-13 22:19 J -37331765.69 -37331765.57 -37331765.46 0.1827 0.0684

Saturn -106922-06-08 07:55 J -37331679.32 -37331679.17 -37331679.03 0.0271 0.0062

Saturn -106922-09-04 21:07 J -37331590.77 -37331590.62 -37331590.48 0.0272 0.0011

Venus -106922-11-26 23:16 J -37331507.65 -37331507.53 -37331507.41 0.3616 0.0912

Saturn -106922-12-02 10:04 J -37331502.22 -37331502.08 -37331501.94 0.0273 0.0080

Saturn -106921-02-28 22:48 J -37331413.66 -37331413.55 -37331413.42 0.0273 0.0150

Mars -106921-04-05 12:28 J -37331377.07 -37331376.98 -37331376.90 0.1708 0.1404

Saturn -106921-05-27 11:31 J -37331325.10 -37331325.02 -37331324.93 0.0274 0.0219

Mars -106920-02-16 17:45 J -37331059.84 -37331059.76 -37331059.68 0.1807 0.1341

Uranus -106920-05-12 05:16 J -37330975.32 -37330975.28 -37330975.21 0.0133 0.0124

Uranus -106920-08-08 09:21 J -37330887.19 -37330887.11 -37330887.01 0.0133 0.0107

Uranus -106920-11-04 13:26 J -37330799.04 -37330798.94 -37330798.82 0.0133 0.0089

Uranus -106919-01-31 17:16 J -37330710.89 -37330710.78 -37330710.65 0.0133 0.0072

Uranus -106919-04-29 21:21 J -37330622.74 -37330622.61 -37330622.47 0.0133 0.0055

Uranus -106919-07-27 01:11 J -37330534.59 -37330534.45 -37330534.31 0.0133 0.0038

Jupiter -106919-08-29 00:14 J -37330501.64 -37330501.49 -37330501.33 0.0497 0.0131

Uranus -106919-10-23 05:02 J -37330446.43 -37330446.29 -37330446.14 0.0133 0.0022

Jupiter -106919-11-26 19:40 J -37330411.78 -37330411.68 -37330411.57 0.0495 0.0374

Uranus -106918-01-19 08:52 J -37330358.28 -37330358.13 -37330357.98 0.0133 0.0005

Uranus -106918-04-17 12:43 J -37330270.12 -37330269.97 -37330269.83 0.0133 0.0011

Uranus -106918-07-14 16:19 J -37330181.96 -37330181.82 -37330181.67 0.0133 0.0028

Uranus -106918-10-10 20:09 J -37330093.80 -37330093.66 -37330093.52 0.0133 0.0044

Uranus -106917-01-06 23:45 J -37330005.64 -37330005.51 -37330005.38 0.0133 0.0060

Uranus -106917-04-04 03:21 J -37329917.47 -37329917.36 -37329917.24 0.0133 0.0075

Uranus -106917-07-01 06:57 J -37329829.31 -37329829.21 -37329829.10 0.0132 0.0091

Uranus -106917-09-27 10:33 J -37329741.14 -37329741.06 -37329740.97 0.0132 0.0107

Uranus -106917-12-24 14:09 J -37329652.96 -37329652.91 -37329652.85 0.0132 0.0122

Venus -106916-06-11 19:40 J -37329483.80 -37329483.68 -37329483.56 0.3620 0.0593

Earth -106915-06-08 11:02 J -37329122.15 -37329122.04 -37329121.93 0.2717 0.0430

Moon -106915-06-08 11:31 J -37329122.13 -37329122.02 -37329121.91 0.2722 0.0551 *

Mars -106914-09-20 07:26 J -37328653.29 -37328653.19 -37328653.09 0.1685 0.1215

Mars -106913-08-03 04:33 J -37328335.40 -37328335.31 -37328335.21 0.1832 0.1221

Jupiter -106913-10-29 10:48 J -37328248.19 -37328248.05 -37328247.91 0.0530 0.0142

Jupiter -106912-01-27 00:43 J -37328158.56 -37328158.47 -37328158.37 0.0532 0.0392

Mars -106912-08-26 15:35 J -37327946.98 -37327946.85 -37327946.72 0.1703 0.0856

Earth -106912-11-27 00:14 J -37327854.64 -37327854.49 -37327854.34 0.2627 0.0322

Moon -106912-11-27 01:40 J -37327854.58 -37327854.43 -37327854.28 0.2627 0.0104 *

Mars -106911-07-10 01:11 J -37327629.55 -37327629.45 -37327629.34 0.1812 0.0873

Venus -106911-12-26 15:50 J -37327459.94 -37327459.84 -37327459.74 0.3624 0.2028

Saturn -106909-10-07 12:57 J -37326809.01 -37326808.96 -37326808.90 0.0291 0.0273

Saturn -106908-01-04 07:11 J -37326720.32 -37326720.20 -37326720.07 0.0290 0.0181

Saturn -106908-04-03 01:40 J -37326631.58 -37326631.43 -37326631.27 0.0289 0.0087

Moon -106908-06-01 06:14 J -37326572.26 -37326572.24 -37326572.21 0.2708 0.2626

Earth -106908-06-01 06:57 J -37326572.25 -37326572.21 -37326572.16 0.2704 0.2486 *

Saturn -106908-06-30 20:38 J -37326542.80 -37326542.64 -37326542.47 0.0289 0.0009

Saturn -106908-09-27 15:50 J -37326453.99 -37326453.84 -37326453.69 0.0288 0.0106

Saturn -106908-12-25 11:16 J -37326365.15 -37326365.03 -37326364.91 0.0287 0.0203

Jupiter -106907-06-17 01:26 J -37326191.58 -37326191.44 -37326191.30 0.0497 0.0252

Jupiter -106907-09-14 20:24 J -37326101.79 -37326101.65 -37326101.51 0.0495 0.0250

Venus -106905-07-11 12:00 J -37325436.04 -37325436.00 -37325435.97 0.3629 0.3419

Mars -106904-02-09 12:14 J -37325223.00 -37325222.99 -37325222.98 0.1681 0.1674

Mars -106904-12-24 10:48 J -37324905.08 -37324905.05 -37324905.02 0.1836 0.1776

Mars -106902-01-16 19:11 J -37324516.85 -37324516.70 -37324516.55 0.1698 0.0324

Earth -106902-06-11 05:45 J -37324371.35 -37324371.26 -37324371.16 0.2722 0.1460

Moon -106902-06-11 06:43 J -37324371.32 -37324371.22 -37324371.13 0.2720 0.1464 *

Mars -106902-11-30 08:38 J -37324199.26 -37324199.14 -37324199.02 0.1817 0.0388

Jupiter -106901-08-17 11:45 J -37323938.13 -37323938.01 -37323937.89 0.0529 0.0290

Jupiter -106901-11-15 02:09 J -37323848.54 -37323848.41 -37323848.29 0.0531 0.0247

Earth -106899-11-30 04:19 J -37323103.44 -37323103.32 -37323103.19 0.2622 0.1344

Moon -106899-11-30 05:31 J -37323103.40 -37323103.27 -37323103.14 0.2617 0.1329 *

Jupiter -106895-04-05 02:38 J -37321881.49 -37321881.39 -37321881.29 0.0498 0.0372

Moon -106895-06-04 01:40 J -37321821.52 -37321821.43 -37321821.33 0.2715 0.1447

Earth -106895-06-04 02:09 J -37321821.51 -37321821.41 -37321821.31 0.2709 0.1433 *

Jupiter -106895-07-03 21:21 J -37321791.77 -37321791.61 -37321791.46 0.0496 0.0125

Saturn -106893-05-01 08:09 J -37321124.25 -37321124.16 -37321124.08 0.0270 0.0219

Mars -106893-06-07 23:02 J -37321086.69 -37321086.54 -37321086.40 0.1694 0.0197

Saturn -106893-07-28 21:35 J -37321035.72 -37321035.60 -37321035.47 0.0271 0.0147

Saturn -106893-10-25 11:02 J -37320947.18 -37320947.04 -37320946.89 0.0271 0.0076

Saturn -106892-01-22 00:14 J -37320858.63 -37320858.49 -37320858.34 0.0272 0.0010

Saturn -106892-04-20 13:26 J -37320770.08 -37320769.94 -37320769.80 0.0273 0.0067

Mars -106892-04-21 15:35 J -37320768.98 -37320768.85 -37320768.72 0.1822 0.0118

Saturn -106892-07-18 02:09 J -37320681.53 -37320681.41 -37320681.28 0.0273 0.0137

Saturn -106892-10-14 15:07 J -37320592.96 -37320592.87 -37320592.78 0.0274 0.0206

Saturn -106891-01-11 03:35 J -37320504.35 -37320504.35 -37320504.34 0.0275 0.0274

Venus -106891-05-04 13:26 J -37320391.00 -37320390.94 -37320390.88 0.3769 0.3240

Jupiter -106889-06-05 13:26 J -37319628.02 -37319627.94 -37319627.86 0.0528 0.0428

Earth -106889-06-13 00:43 J -37319620.52 -37319620.47 -37319620.43 0.2727 0.2479

Moon -106889-06-13 00:57 J -37319620.49 -37319620.46 -37319620.42 0.2721 0.2565 *

Jupiter -106889-09-03 04:19 J -37319538.46 -37319538.32 -37319538.19 0.0531 0.0115

Neptune -106886-03-01 17:31 J -37318628.81 -37318628.77 -37318628.72 0.0089 0.0085

Neptune -106886-05-28 19:26 J -37318540.73 -37318540.69 -37318540.60 0.0089 0.0081

Neptune -106886-08-24 22:04 J -37318452.65 -37318452.58 -37318452.49 0.0089 0.0076

Venus -106886-11-18 10:19 J -37318367.18 -37318367.07 -37318366.97 0.3765 0.1641

Neptune -106886-11-21 00:28 J -37318364.57 -37318364.48 -37318364.38 0.0089 0.0071

Neptune -106885-02-17 02:38 J -37318276.49 -37318276.39 -37318276.28 0.0089 0.0067

Neptune -106885-05-15 05:02 J -37318188.40 -37318188.29 -37318188.17 0.0089 0.0062

Neptune -106885-08-11 07:26 J -37318100.31 -37318100.19 -37318100.06 0.0089 0.0057

Neptune -106885-11-07 09:35 J -37318012.22 -37318012.10 -37318011.96 0.0089 0.0053

Neptune -106884-02-03 12:00 J -37317924.13 -37317924.00 -37317923.85 0.0089 0.0048

Neptune -106884-05-02 14:24 J -37317836.03 -37317835.90 -37317835.75 0.0089 0.0043

Neptune -106884-07-29 17:02 J -37317747.94 -37317747.79 -37317747.64 0.0089 0.0038

Neptune -106884-10-25 19:26 J -37317659.84 -37317659.69 -37317659.54 0.0089 0.0033

Mars -106884-10-29 03:07 J -37317656.50 -37317656.37 -37317656.23 0.1690 0.0691

Neptune -106883-01-21 21:35 J -37317571.75 -37317571.60 -37317571.44 0.0089 0.0029

Jupiter -106883-01-22 03:21 J -37317571.37 -37317571.36 -37317571.34 0.0498 0.0495

Neptune -106883-04-20 00:00 J -37317483.65 -37317483.50 -37317483.33 0.0089 0.0024

Jupiter -106883-04-21 21:35 J -37317481.76 -37317481.60 -37317481.44 0.0496 0.0010

Neptune -106883-07-17 02:38 J -37317395.55 -37317395.39 -37317395.23 0.0089 0.0019

Mars -106883-09-11 22:19 J -37317338.69 -37317338.57 -37317338.45 0.1827 0.0637

Neptune -106883-10-13 05:02 J -37317307.45 -37317307.29 -37317307.12 0.0089 0.0014

Neptune -106882-01-09 07:26 J -37317219.35 -37317219.19 -37317219.02 0.0089 0.0009

Neptune -106882-04-07 10:04 J -37317131.25 -37317131.08 -37317130.92 0.0089 0.0004

Earth -106882-06-06 21:07 J -37317070.73 -37317070.62 -37317070.51 0.2714 0.0392

Moon -106882-06-06 21:21 J -37317070.72 -37317070.61 -37317070.49 0.2720 0.0377 *

Neptune -106882-07-04 12:28 J -37317043.14 -37317042.98 -37317042.81 0.0089 0.0001

Neptune -106882-09-30 14:52 J -37316955.04 -37316954.88 -37316954.71 0.0089 0.0007

Mars -106882-10-05 12:57 J -37316950.03 -37316949.96 -37316949.88 0.1708 0.1464

Neptune -106882-12-27 17:31 J -37316866.94 -37316866.77 -37316866.61 0.0089 0.0011

Neptune -106881-03-24 19:55 J -37316778.83 -37316778.67 -37316778.50 0.0089 0.0016

Neptune -106881-06-20 22:33 J -37316690.72 -37316690.56 -37316690.40 0.0089 0.0021

Mars -106881-08-17 17:45 J -37316632.83 -37316632.76 -37316632.68 0.1807 0.1383

Neptune -106881-09-17 00:57 J -37316602.62 -37316602.46 -37316602.30 0.0089 0.0026

Neptune -106881-12-14 03:35 J -37316514.51 -37316514.35 -37316514.19 0.0089 0.0031

Neptune -106880-03-12 06:14 J -37316426.40 -37316426.24 -37316426.09 0.0089 0.0036

Venus -106880-06-03 07:26 J -37316343.31 -37316343.19 -37316343.07 0.3760 0.0098

Neptune -106880-06-08 08:38 J -37316338.28 -37316338.14 -37316337.99 0.0089 0.0041

Neptune -106880-09-04 11:02 J -37316250.17 -37316250.04 -37316249.88 0.0089 0.0047

Neptune -106880-12-01 13:40 J -37316162.06 -37316161.93 -37316161.78 0.0089 0.0052

Neptune -106879-02-27 16:19 J -37316073.94 -37316073.82 -37316073.68 0.0089 0.0057

Saturn -106879-05-24 08:38 J -37315988.25 -37315988.14 -37315988.03 0.0290 0.0203

Neptune -106879-05-26 18:57 J -37315985.82 -37315985.71 -37315985.58 0.0089 0.0062

Saturn -106879-08-21 02:52 J -37315899.52 -37315899.38 -37315899.22 0.0289 0.0110

Neptune -106879-08-22 21:35 J -37315897.70 -37315897.60 -37315897.48 0.0089 0.0067

Saturn -106879-11-17 21:35 J -37315810.76 -37315810.60 -37315810.43 0.0289 0.0017

Neptune -106879-11-19 00:14 J -37315809.58 -37315809.49 -37315809.39 0.0089 0.0072

Earth -106879-11-25 02:38 J -37315803.51 -37315803.39 -37315803.28 0.2631 0.1620

Moon -106879-11-25 03:50 J -37315803.46 -37315803.34 -37315803.21 0.2634 0.1472 *

Saturn -106878-02-14 16:48 J -37315721.96 -37315721.80 -37315721.64 0.0288 0.0082

Neptune -106878-02-15 03:07 J -37315721.45 -37315721.37 -37315721.29 0.0089 0.0077

Neptune -106878-05-14 05:16 J -37315633.32 -37315633.28 -37315633.20 0.0089 0.0083

Saturn -106878-05-14 12:00 J -37315633.12 -37315633.00 -37315632.86 0.0287 0.0179

Neptune -106878-08-10 08:09 J -37315545.17 -37315545.16 -37315545.13 0.0089 0.0088

Saturn -106878-08-11 07:40 J -37315544.21 -37315544.18 -37315544.13 0.0287 0.0277

Jupiter -106877-06-22 06:28 J -37315228.37 -37315228.23 -37315228.08 0.0531 0.0021

Jupiter -106877-09-19 20:24 J -37315138.69 -37315138.65 -37315138.62 0.0533 0.0514

Venus -106876-06-03 04:19 J -37314882.35 -37314882.32 -37314882.29 0.3609 0.3469

Uranus -106876-10-08 12:00 J -37314755.07 -37314755.00 -37314754.91 0.0145 0.0125

Uranus -106875-01-04 18:14 J -37314666.85 -37314666.74 -37314666.61 0.0145 0.0101

Uranus -106875-04-03 00:43 J -37314578.61 -37314578.47 -37314578.33 0.0146 0.0077

Uranus -106875-06-30 06:57 J -37314490.36 -37314490.21 -37314490.04 0.0146 0.0053

Uranus -106875-09-26 13:40 J -37314402.10 -37314401.93 -37314401.76 0.0146 0.0028

Venus -106875-12-18 04:48 J -37314319.41 -37314319.30 -37314319.19 0.3756 0.1766

Uranus -106875-12-23 20:09 J -37314313.83 -37314313.66 -37314313.49 0.0146 0.0003

Mars -106874-03-21 07:40 J -37314226.29 -37314226.18 -37314226.08 0.1685 0.1173

Uranus -106874-03-22 02:52 J -37314225.55 -37314225.38 -37314225.21 0.0146 0.0023

Uranus -106874-06-18 09:21 J -37314137.27 -37314137.11 -37314136.94 0.0146 0.0049

Uranus -106874-09-14 16:04 J -37314048.97 -37314048.83 -37314048.68 0.0146 0.0075

Uranus -106874-12-11 22:48 J -37313960.66 -37313960.55 -37313960.42 0.0146 0.0101

Mars -106873-02-02 04:48 J -37313908.39 -37313908.30 -37313908.20 0.1832 0.1171

Uranus -106873-03-09 05:45 J -37313872.34 -37313872.26 -37313872.17 0.0146 0.0127

Mars -106872-02-24 16:04 J -37313519.96 -37313519.83 -37313519.70 0.1703 0.0908

Mars -106871-01-08 01:26 J -37313202.55 -37313202.44 -37313202.33 0.1812 0.0916

Jupiter -106871-02-07 22:33 J -37313171.72 -37313171.56 -37313171.41 0.0497 0.0128

Jupiter -106871-05-08 17:45 J -37313081.86 -37313081.76 -37313081.65 0.0495 0.0376

Venus -106871-12-18 01:11 J -37312858.55 -37312858.45 -37312858.34 0.3613 0.1905

Earth -106869-06-08 16:04 J -37312319.94 -37312319.83 -37312319.72 0.2718 0.0647

Moon -106869-06-08 16:48 J -37312319.91 -37312319.80 -37312319.69 0.2720 0.0692 *

Venus -106869-07-03 02:38 J -37312295.43 -37312295.39 -37312295.36 0.3751 0.3561

Earth -106866-11-28 06:28 J -37311052.38 -37311052.23 -37311052.08 0.2626 0.0026

Moon -106866-11-28 07:55 J -37311052.32 -37311052.17 -37311052.02 0.2624 0.0052 *

Jupiter -106865-04-10 08:52 J -37310918.27 -37310918.13 -37310918.00 0.0530 0.0146

Venus -106865-07-02 22:04 J -37310834.70 -37310834.58 -37310834.46 0.3617 0.0375

Jupiter -106865-07-08 22:48 J -37310828.64 -37310828.55 -37310828.45 0.0532 0.0388

Mars -106865-08-10 12:43 J -37310796.00 -37310795.97 -37310795.94 0.1682 0.1626

Mars -106864-06-24 11:02 J -37310478.08 -37310478.04 -37310478.00 0.1836 0.1725

Saturn -106864-09-18 09:07 J -37310392.17 -37310392.12 -37310392.05 0.0270 0.0243

Saturn -106864-12-15 23:02 J -37310303.65 -37310303.54 -37310303.42 0.0270 0.0170

Saturn -106863-03-14 12:28 J -37310215.12 -37310214.98 -37310214.84 0.0271 0.0099

Saturn -106863-06-11 01:55 J -37310126.57 -37310126.42 -37310126.28 0.0272 0.0028

Mars -106863-07-17 19:26 J -37310089.84 -37310089.69 -37310089.54 0.1698 0.0370

Saturn -106863-09-07 14:52 J -37310038.02 -37310037.88 -37310037.73 0.0272 0.0044

Saturn -106863-12-05 03:50 J -37309949.47 -37309949.34 -37309949.21 0.0273 0.0114

Saturn -106862-03-03 16:33 J -37309860.91 -37309860.81 -37309860.70 0.0274 0.0184

Saturn -106862-05-31 05:16 J -37309772.33 -37309772.28 -37309772.22 0.0274 0.0253

Mars -106862-05-31 08:52 J -37309772.25 -37309772.13 -37309772.01 0.1817 0.0437 *

Moon -106862-06-02 11:16 J -37309770.09 -37309770.03 -37309769.97 0.2709 0.2276

Earth -106862-06-02 12:00 J -37309770.06 -37309770.00 -37309769.94 0.2705 0.2274 *

Jupiter -106860-11-26 23:02 J -37308861.67 -37308861.54 -37308861.40 0.0497 0.0255

Venus -106859-01-16 18:28 J -37308810.85 -37308810.73 -37308810.62 0.3621 0.1095

Jupiter -106859-02-24 18:00 J -37308771.89 -37308771.75 -37308771.60 0.0495 0.0245

Earth -106856-06-11 10:48 J -37307569.14 -37307569.05 -37307568.96 0.2723 0.1667

Moon -106856-06-11 11:31 J -37307569.10 -37307569.02 -37307568.94 0.2720 0.1797 *

Venus -106854-08-02 14:38 J -37306786.98 -37306786.89 -37306786.81 0.3626 0.2521

Mars -106854-12-07 23:31 J -37306659.67 -37306659.52 -37306659.37 0.1694 0.0141

Jupiter -106853-01-28 10:33 J -37306608.18 -37306608.06 -37306607.94 0.0529 0.0282

Jupiter -106853-04-27 00:57 J -37306518.58 -37306518.46 -37306518.33 0.0531 0.0255

Mars -106853-10-20 15:50 J -37306341.97 -37306341.84 -37306341.72 0.1822 0.0077

Earth -106853-11-30 10:48 J -37306301.17 -37306301.05 -37306300.94 0.2621 0.1674

Moon -106853-11-30 11:45 J -37306301.12 -37306301.01 -37306300.91 0.2616 0.1843 *

Saturn -106850-10-11 09:07 J -37305256.21 -37305256.12 -37305256.01 0.0290 0.0229

Saturn -106849-01-08 03:35 J -37305167.49 -37305167.35 -37305167.21 0.0290 0.0135

Saturn -106849-04-05 22:19 J -37305078.73 -37305078.57 -37305078.41 0.0289 0.0040

Moon -106849-06-04 06:57 J -37305019.30 -37305019.21 -37305019.11 0.2716 0.1291

Earth -106849-06-04 07:11 J -37305019.30 -37305019.20 -37305019.10 0.2709 0.1225 *

Saturn -106849-07-03 17:16 J -37304989.94 -37304989.78 -37304989.62 0.0288 0.0056

Saturn -106849-09-30 12:28 J -37304901.12 -37304900.98 -37304900.83 0.0287 0.0153

Saturn -106849-12-28 08:09 J -37304812.24 -37304812.16 -37304812.08 0.0287 0.0250

Jupiter -106848-09-15 00:14 J -37304551.59 -37304551.49 -37304551.38 0.0498 0.0376

Jupiter -106848-12-13 18:57 J -37304461.87 -37304461.71 -37304461.56 0.0496 0.0120

Mars -106844-04-29 03:35 J -37303229.49 -37303229.35 -37303229.22 0.1690 0.0641

Mars -106843-03-12 22:33 J -37302911.68 -37302911.56 -37302911.44 0.1827 0.0589

Moon -106843-06-14 05:45 J -37302818.29 -37302818.26 -37302818.24 0.2720 0.2626

Earth -106843-06-14 05:31 J -37302818.29 -37302818.27 -37302818.25 0.2727 0.2684 *

Mars -106842-04-05 13:26 J -37302523.00 -37302522.94 -37302522.87 0.1708 0.1519

Jupiter -106842-11-16 11:31 J -37302298.11 -37302298.02 -37302297.94 0.0528 0.0430

Jupiter -106841-02-14 02:09 J -37302208.54 -37302208.41 -37302208.27 0.0531 0.0112

Mars -106841-02-16 18:00 J -37302205.82 -37302205.75 -37302205.68 0.1807 0.1426

Uranus -106836-06-01 12:14 J -37300274.05 -37300273.99 -37300273.93 0.0133 0.0121

Earth -106836-06-07 02:09 J -37300268.53 -37300268.41 -37300268.30 0.2714 0.0199

Moon -106836-06-07 02:24 J -37300268.51 -37300268.40 -37300268.28 0.2720 0.0144 *

Jupiter -106836-07-04 01:26 J -37300241.45 -37300241.44 -37300241.43 0.0499 0.0496

Uranus -106836-08-28 16:19 J -37300185.91 -37300185.82 -37300185.73 0.0133 0.0104

Jupiter -106836-10-01 19:40 J -37300151.84 -37300151.68 -37300151.52 0.0497 0.0005

Uranus -106836-11-24 20:09 J -37300097.77 -37300097.66 -37300097.54 0.0133 0.0087

Uranus -106835-02-21 00:14 J -37300009.62 -37300009.49 -37300009.37 0.0133 0.0070

Uranus -106835-05-20 03:50 J -37299921.47 -37299921.34 -37299921.20 0.0133 0.0053

Uranus -106835-08-16 07:55 J -37299833.31 -37299833.17 -37299833.03 0.0133 0.0036

Mars -106835-09-19 08:09 J -37299799.27 -37299799.16 -37299799.05 0.1685 0.1118

Uranus -106835-11-12 11:45 J -37299745.16 -37299745.01 -37299744.86 0.0133 0.0019

Venus -106835-12-09 12:14 J -37299718.07 -37299717.99 -37299717.91 0.3768 0.2686

Saturn -106834-02-05 12:28 J -37299660.02 -37299659.98 -37299659.93 0.0270 0.0257

Uranus -106834-02-08 15:35 J -37299657.00 -37299656.85 -37299656.70 0.0133 0.0003

Saturn -106834-05-05 02:09 J -37299571.51 -37299571.41 -37299571.30 0.0271 0.0185

Uranus -106834-05-07 19:11 J -37299568.84 -37299568.70 -37299568.55 0.0133 0.0014

Saturn -106834-08-01 15:50 J -37299482.98 -37299482.84 -37299482.71 0.0271 0.0112

Mars -106834-08-03 05:02 J -37299481.39 -37299481.29 -37299481.19 0.1832 0.1124

Uranus -106834-08-03 23:02 J -37299480.68 -37299480.54 -37299480.40 0.0133 0.0030

Saturn -106834-10-29 05:16 J -37299394.43 -37299394.28 -37299394.14 0.0272 0.0041

Uranus -106834-10-31 02:38 J -37299392.52 -37299392.39 -37299392.25 0.0133 0.0046

Saturn -106833-01-25 18:14 J -37299305.88 -37299305.74 -37299305.59 0.0273 0.0032

Uranus -106833-01-27 06:28 J -37299304.36 -37299304.23 -37299304.10 0.0133 0.0062

Saturn -106833-04-23 07:26 J -37299217.33 -37299217.19 -37299217.06 0.0273 0.0101

Uranus -106833-04-24 10:04 J -37299216.19 -37299216.08 -37299215.96 0.0132 0.0078

Saturn -106833-07-20 20:09 J -37299128.77 -37299128.66 -37299128.55 0.0274 0.0171

Uranus -106833-07-21 13:40 J -37299128.03 -37299127.93 -37299127.83 0.0132 0.0093

Mars -106833-08-25 16:33 J -37299092.93 -37299092.81 -37299092.69 0.1703 0.0963

Saturn -106833-10-17 08:52 J -37299040.20 -37299040.13 -37299040.06 0.0275 0.0240

Uranus -106833-10-17 17:16 J -37299039.86 -37299039.78 -37299039.70 0.0132 0.0109

Earth -106833-11-25 08:38 J -37299001.27 -37299001.14 -37299001.01 0.2630 0.1301

Moon -106833-11-25 10:04 J -37299001.21 -37299001.08 -37299000.95 0.2632 0.1201 *

Uranus -106832-01-13 20:52 J -37298951.67 -37298951.63 -37298951.58 0.0132 0.0124

Mars -106832-07-09 01:40 J -37298775.54 -37298775.43 -37298775.33 0.1812 0.0963

Jupiter -106830-12-03 04:04 J -37297898.47 -37297898.33 -37297898.19 0.0530 0.0026

Jupiter -106829-03-01 17:45 J -37297808.80 -37297808.76 -37297808.71 0.0532 0.0503

Venus -106829-06-24 09:07 J -37297694.24 -37297694.12 -37297694.01 0.3764 0.1069

Mars -106825-02-09 12:57 J -37296369.00 -37296368.96 -37296368.91 0.1681 0.1582

Mars -106825-12-23 11:16 J -37296051.08 -37296051.03 -37296050.98 0.1837 0.1678

Jupiter -106824-07-20 20:09 J -37295841.81 -37295841.66 -37295841.50 0.0497 0.0132

Jupiter -106824-10-18 15:35 J -37295751.96 -37295751.85 -37295751.74 0.0495 0.0372

Venus -106823-01-08 06:14 J -37295670.36 -37295670.24 -37295670.12 0.3759 0.0629

Mars -106823-01-15 19:55 J -37295662.81 -37295662.67 -37295662.52 0.1698 0.0430

Earth -106823-06-09 20:52 J -37295517.73 -37295517.63 -37295517.52 0.2719 0.0857

Moon -106823-06-09 21:50 J -37295517.70 -37295517.59 -37295517.49 0.2719 0.0934 *

Mars -106823-11-29 08:52 J -37295345.25 -37295345.13 -37295345.01 0.1817 0.0477

Saturn -106820-02-27 11:02 J -37294524.11 -37294524.04 -37294523.95 0.0290 0.0249

Saturn -106820-05-27 05:16 J -37294435.41 -37294435.28 -37294435.14 0.0290 0.0156

Saturn -106820-08-24 00:00 J -37294346.66 -37294346.50 -37294346.34 0.0289 0.0061

Saturn -106820-11-20 18:43 J -37294257.88 -37294257.72 -37294257.55 0.0288 0.0036

Earth -106820-11-28 12:43 J -37294250.12 -37294249.97 -37294249.82 0.2625 0.0343

Moon -106820-11-28 14:09 J -37294250.06 -37294249.91 -37294249.77 0.2622 0.0506 *

Venus -106819-01-08 03:07 J -37294209.44 -37294209.37 -37294209.29 0.3610 0.2921

Saturn -106819-02-17 13:55 J -37294169.06 -37294168.92 -37294168.77 0.0288 0.0131

Saturn -106819-05-17 09:21 J -37294080.20 -37294080.11 -37294080.00 0.0287 0.0229

Venus -106818-07-25 03:50 J -37293646.44 -37293646.34 -37293646.25 0.3754 0.2359

Jupiter -106818-09-21 06:14 J -37293588.38 -37293588.24 -37293588.10 0.0530 0.0156

Jupiter -106818-12-19 20:24 J -37293498.75 -37293498.65 -37293498.55 0.0532 0.0378

Moon -106816-06-02 16:33 J -37292967.88 -37292967.81 -37292967.75 0.2710 0.2185

Earth -106816-06-02 17:02 J -37292967.86 -37292967.79 -37292967.72 0.2705 0.2057 *

Mars -106814-06-07 23:45 J -37292232.66 -37292232.51 -37292232.36 0.1694 0.0104

Venus -106814-07-25 00:14 J -37292185.61 -37292185.49 -37292185.38 0.3614 0.1357

Mars -106813-04-20 15:50 J -37291914.96 -37291914.84 -37291914.71 0.1822 0.0061

Jupiter -106812-05-08 21:07 J -37291531.75 -37291531.62 -37291531.48 0.0497 0.0255

Jupiter -106812-08-06 16:04 J -37291441.97 -37291441.83 -37291441.69 0.0495 0.0245

Earth -106810-06-12 15:50 J -37290766.92 -37290766.84 -37290766.76 0.2723 0.1880

Moon -106810-06-12 16:19 J -37290766.90 -37290766.82 -37290766.74 0.2720 0.1890 *

Venus -106808-02-06 20:52 J -37290161.76 -37290161.63 -37290161.51 0.3618 0.0179

Earth -106807-12-01 17:02 J -37289498.88 -37289498.79 -37289498.69 0.2621 0.2021

Moon -106807-12-01 17:45 J -37289498.86 -37289498.76 -37289498.66 0.2615 0.1974 *

Jupiter -106806-07-10 08:24 J -37289278.27 -37289278.15 -37289278.03 0.0529 0.0288

Jupiter -106806-10-07 22:48 J -37289188.67 -37289188.55 -37289188.42 0.0532 0.0251

Neptune -106805-09-19 19:55 J -37288840.67 -37288840.67 -37288840.65 0.0088 0.0088

Saturn -106805-09-21 03:35 J -37288839.44 -37288839.35 -37288839.25 0.0270 0.0207

Mars -106805-10-28 04:04 J -37288802.47 -37288802.33 -37288802.19 0.1690 0.0589

Neptune -106805-12-16 22:04 J -37288752.62 -37288752.58 -37288752.52 0.0088 0.0084

Saturn -106805-12-18 17:16 J -37288750.91 -37288750.78 -37288750.65 0.0271 0.0135

Neptune -106804-03-15 00:14 J -37288664.55 -37288664.49 -37288664.42 0.0088 0.0079

Saturn -106804-03-17 06:43 J -37288662.36 -37288662.22 -37288662.08 0.0271 0.0063

Neptune -106804-06-11 02:09 J -37288576.48 -37288576.41 -37288576.32 0.0088 0.0074

Saturn -106804-06-13 19:55 J -37288573.81 -37288573.67 -37288573.52 0.0272 0.0009

Neptune -106804-09-07 04:19 J -37288488.41 -37288488.32 -37288488.22 0.0088 0.0070

Saturn -106804-09-10 09:07 J -37288485.26 -37288485.12 -37288484.99 0.0273 0.0079

Mars -106804-09-10 22:48 J -37288484.67 -37288484.55 -37288484.43 0.1827 0.0537

Neptune -106804-12-04 06:28 J -37288400.33 -37288400.23 -37288400.12 0.0088 0.0065

Saturn -106804-12-07 21:50 J -37288396.71 -37288396.59 -37288396.47 0.0273 0.0149

Neptune -106803-03-02 08:24 J -37288312.25 -37288312.15 -37288312.03 0.0088 0.0060

Saturn -106803-03-06 10:33 J -37288308.14 -37288308.06 -37288307.97 0.0274 0.0218

Neptune -106803-05-29 10:33 J -37288224.18 -37288224.06 -37288223.94 0.0088 0.0056

Moon -106803-06-05 12:14 J -37288217.10 -37288216.99 -37288216.89 0.2717 0.0940

Earth -106803-06-05 12:00 J -37288217.10 -37288217.00 -37288216.89 0.2710 0.1017 *

Venus -106803-08-23 17:02 J -37288137.89 -37288137.79 -37288137.68 0.3623 0.1605

Neptune -106803-08-25 12:14 J -37288136.10 -37288135.99 -37288135.85 0.0088 0.0052

Mars -106803-10-04 13:55 J -37288095.98 -37288095.92 -37288095.86 0.1708 0.1569

Neptune -106803-11-21 14:24 J -37288048.02 -37288047.90 -37288047.76 0.0088 0.0047

Neptune -106802-02-17 16:33 J -37287959.94 -37287959.81 -37287959.67 0.0088 0.0042

Neptune -106802-05-16 18:28 J -37287871.86 -37287871.73 -37287871.58 0.0088 0.0038

Neptune -106802-08-12 20:38 J -37287783.78 -37287783.64 -37287783.50 0.0088 0.0033

Mars -106802-08-17 18:14 J -37287778.81 -37287778.74 -37287778.67 0.1807 0.1474

Neptune -106802-11-08 22:33 J -37287695.70 -37287695.56 -37287695.41 0.0088 0.0028

Neptune -106801-02-05 00:28 J -37287607.62 -37287607.48 -37287607.33 0.0088 0.0024

Pluto -106801-04-06 15:07 J -37287545.90 -37287545.87 -37287545.81 0.0060 0.0059

Neptune -106801-05-03 02:24 J -37287519.54 -37287519.40 -37287519.24 0.0088 0.0019

Pluto -106801-07-03 16:19 J -37287457.90 -37287457.82 -37287457.69 0.0060 0.0052

Neptune -106801-07-30 04:33 J -37287431.46 -37287431.31 -37287431.16 0.0088 0.0015

Pluto -106801-09-29 18:14 J -37287369.87 -37287369.74 -37287369.60 0.0060 0.0044

Neptune -106801-10-26 06:28 J -37287343.38 -37287343.23 -37287343.08 0.0088 0.0010

Pluto -106801-12-26 19:26 J -37287281.83 -37287281.69 -37287281.52 0.0060 0.0037

Neptune -106800-01-22 08:24 J -37287255.30 -37287255.15 -37287255.00 0.0088 0.0006

Jupiter -106800-02-24 21:50 J -37287221.68 -37287221.59 -37287221.48 0.0498 0.0380

Pluto -106800-03-24 20:52 J -37287193.79 -37287193.63 -37287193.44 0.0060 0.0029

Neptune -106800-04-20 10:19 J -37287167.22 -37287167.07 -37287166.92 0.0088 0.0001

Jupiter -106800-05-25 16:19 J -37287131.97 -37287131.82 -37287131.66 0.0496 0.0116

Pluto -106800-06-20 22:33 J -37287105.74 -37287105.56 -37287105.37 0.0060 0.0022

Neptune -106800-07-17 12:14 J -37287079.14 -37287078.99 -37287078.84 0.0088 0.0003

Pluto -106800-09-17 00:14 J -37287017.68 -37287017.49 -37287017.30 0.0061 0.0014

Neptune -106800-10-13 14:09 J -37286991.06 -37286990.91 -37286990.76 0.0088 0.0008

Earth -106800-11-23 11:02 J -37286950.06 -37286950.04 -37286950.01 0.2635 0.2592

Moon -106800-11-23 12:14 J -37286950.04 -37286949.99 -37286949.93 0.2639 0.2420 *

Pluto -106800-12-14 01:40 J -37286929.63 -37286929.43 -37286929.23 0.0061 0.0006

Neptune -106799-01-09 15:50 J -37286902.98 -37286902.84 -37286902.68 0.0088 0.0013

Pluto -106799-03-12 03:07 J -37286841.56 -37286841.37 -37286841.17 0.0061 0.0001

Neptune -106799-04-07 17:45 J -37286814.90 -37286814.76 -37286814.61 0.0088 0.0017

Pluto -106799-06-08 04:33 J -37286753.50 -37286753.31 -37286753.11 0.0061 0.0009

Neptune -106799-07-04 19:40 J -37286726.82 -37286726.68 -37286726.53 0.0088 0.0021

Pluto -106799-09-04 06:14 J -37286665.43 -37286665.24 -37286665.05 0.0061 0.0016

Neptune -106799-09-30 21:35 J -37286638.74 -37286638.60 -37286638.45 0.0088 0.0025

Pluto -106799-12-01 07:26 J -37286577.36 -37286577.19 -37286577.00 0.0061 0.0024

Neptune -106799-12-27 23:31 J -37286550.66 -37286550.52 -37286550.38 0.0088 0.0030

Pluto -106798-02-27 08:38 J -37286489.29 -37286489.14 -37286488.95 0.0061 0.0032

Neptune -106798-03-26 01:11 J -37286462.58 -37286462.45 -37286462.31 0.0088 0.0034

Pluto -106798-05-26 10:19 J -37286401.21 -37286401.07 -37286400.91 0.0061 0.0039

Neptune -106798-06-22 03:07 J -37286374.50 -37286374.37 -37286374.23 0.0088 0.0038

Pluto -106798-08-22 11:45 J -37286313.12 -37286313.01 -37286312.87 0.0061 0.0047

Neptune -106798-09-18 05:02 J -37286286.42 -37286286.29 -37286286.16 0.0088 0.0043

Pluto -106798-11-18 12:57 J -37286225.02 -37286224.96 -37286224.85 0.0061 0.0055

Neptune -106798-12-15 06:57 J -37286198.34 -37286198.21 -37286198.09 0.0088 0.0047

Venus -106797-03-08 13:11 J -37286114.01 -37286113.95 -37286113.88 0.3627 0.3004

Neptune -106797-03-12 08:24 J -37286110.26 -37286110.15 -37286110.02 0.0088 0.0052

Neptune -106797-06-08 10:19 J -37286022.18 -37286022.07 -37286021.95 0.0088 0.0056

Neptune -106797-09-04 12:14 J -37285934.09 -37285933.99 -37285933.88 0.0088 0.0060

Neptune -106797-12-01 14:09 J -37285846.01 -37285845.91 -37285845.81 0.0088 0.0064

Neptune -106796-02-27 15:35 J -37285757.93 -37285757.85 -37285757.74 0.0088 0.0068

Neptune -106796-05-26 17:31 J -37285669.84 -37285669.77 -37285669.68 0.0088 0.0072

Neptune -106796-08-22 19:11 J -37285581.76 -37285581.70 -37285581.62 0.0088 0.0077

Neptune -106796-11-18 21:07 J -37285493.67 -37285493.62 -37285493.56 0.0088 0.0080

Neptune -106795-02-14 22:48 J -37285405.58 -37285405.55 -37285405.50 0.0088 0.0085

Mars -106795-03-20 08:38 J -37285372.26 -37285372.14 -37285372.03 0.1685 0.1071

Mars -106794-02-01 05:16 J -37285054.39 -37285054.28 -37285054.18 0.1832 0.1076

Jupiter -106794-04-28 10:04 J -37284968.16 -37284968.08 -37284968.00 0.0529 0.0425

Jupiter -106794-07-27 00:57 J -37284878.60 -37284878.46 -37284878.32 0.0531 0.0117

Mars -106793-02-24 17:02 J -37284665.91 -37284665.79 -37284665.67 0.1703 0.1019

Mars -106792-01-07 01:40 J -37284348.53 -37284348.43 -37284348.33 0.1812 0.1007

Uranus -106792-08-01 12:43 J -37284141.97 -37284141.97 -37284141.94 0.0145 0.0144

Uranus -106792-10-28 18:57 J -37284053.79 -37284053.71 -37284053.61 0.0145 0.0121

Uranus -106791-01-25 01:26 J -37283965.56 -37283965.44 -37283965.31 0.0145 0.0096

Uranus -106791-04-23 07:55 J -37283877.32 -37283877.17 -37283877.03 0.0146 0.0072

Saturn -106791-07-17 11:31 J -37283792.06 -37283792.02 -37283791.96 0.0291 0.0275

Uranus -106791-07-20 14:09 J -37283789.06 -37283788.91 -37283788.74 0.0146 0.0048

Saturn -106791-10-14 05:45 J -37283703.38 -37283703.26 -37283703.13 0.0290 0.0182

Uranus -106791-10-16 20:38 J -37283700.80 -37283700.64 -37283700.47 0.0146 0.0023

Saturn -106790-01-11 00:14 J -37283614.64 -37283614.49 -37283614.33 0.0289 0.0089

Uranus -106790-01-13 03:21 J -37283612.53 -37283612.36 -37283612.19 0.0146 0.0003

Saturn -106790-04-09 19:11 J -37283525.87 -37283525.70 -37283525.54 0.0289 0.0007

Uranus -106790-04-11 09:50 J -37283524.25 -37283524.09 -37283523.92 0.0146 0.0029

Earth -106790-06-08 06:57 J -37283466.32 -37283466.21 -37283466.09 0.2715 0.0100

Moon -106790-06-08 07:40 J -37283466.29 -37283466.18 -37283466.07 0.2719 0.0046 *

Saturn -106790-07-07 14:09 J -37283437.06 -37283436.91 -37283436.75 0.0288 0.0104

Uranus -106790-07-08 16:33 J -37283435.96 -37283435.81 -37283435.65 0.0146 0.0054

Saturn -106790-10-04 09:35 J -37283348.21 -37283348.10 -37283347.98 0.0287 0.0201

Uranus -106790-10-04 23:16 J -37283347.67 -37283347.53 -37283347.38 0.0146 0.0080

Uranus -106789-01-01 06:00 J -37283259.36 -37283259.25 -37283259.12 0.0146 0.0106

Uranus -106789-03-29 12:57 J -37283171.02 -37283170.96 -37283170.88 0.0146 0.0133

Jupiter -106788-03-13 17:16 J -37282821.94 -37282821.78 -37282821.62 0.0497 0.0011

Earth -106787-11-26 14:52 J -37282199.02 -37282198.88 -37282198.74 0.2630 0.0976

Moon -106787-11-26 16:19 J -37282198.96 -37282198.82 -37282198.68 0.2629 0.0891 *

Mars -106786-08-10 13:26 J -37281942.00 -37281941.94 -37281941.89 0.1681 0.1534

Mars -106785-06-23 11:16 J -37281624.08 -37281624.03 -37281623.97 0.1836 0.1629

Mars -106784-07-16 20:24 J -37281235.79 -37281235.65 -37281235.51 0.1698 0.0477

Venus -106784-12-30 14:24 J -37281068.92 -37281068.90 -37281068.88 0.3771 0.3705

Mars -106783-05-30 08:52 J -37280918.24 -37280918.13 -37280918.01 0.1817 0.0526

Jupiter -106782-05-15 02:09 J -37280568.55 -37280568.41 -37280568.26 0.0530 0.0028

Jupiter -106782-08-12 15:50 J -37280478.88 -37280478.84 -37280478.79 0.0532 0.0501

Venus -106778-07-16 11:02 J -37279045.14 -37279045.04 -37279044.94 0.3767 0.2138

Earth -106777-06-10 01:55 J -37278715.52 -37278715.42 -37278715.32 0.2719 0.1064

Moon -106777-06-10 02:38 J -37278715.49 -37278715.39 -37278715.29 0.2719 0.1157 *

Jupiter -106777-12-30 18:00 J -37278511.90 -37278511.75 -37278511.59 0.0497 0.0134

Jupiter -106776-03-30 13:26 J -37278422.05 -37278421.94 -37278421.83 0.0495 0.0371

Saturn -106775-02-08 06:43 J -37278107.30 -37278107.22 -37278107.13 0.0270 0.0222

Saturn -106775-05-07 20:24 J -37278018.77 -37278018.65 -37278018.52 0.0271 0.0150

Saturn -106775-08-04 09:50 J -37277930.23 -37277930.09 -37277929.95 0.0272 0.0078

Saturn -106775-10-31 23:16 J -37277841.68 -37277841.53 -37277841.39 0.0272 0.0009

Mars -106775-12-07 00:14 J -37277805.64 -37277805.49 -37277805.34 0.1694 0.0046

Saturn -106774-01-28 12:14 J -37277753.13 -37277752.99 -37277752.85 0.0273 0.0065

Saturn -106774-04-27 01:11 J -37277664.57 -37277664.45 -37277664.32 0.0274 0.0135

Saturn -106774-07-24 13:55 J -37277576.01 -37277575.92 -37277575.82 0.0274 0.0205

Mars -106774-10-20 16:04 J -37277487.96 -37277487.83 -37277487.70 0.1822 0.0027

Saturn -106774-10-21 02:38 J -37277487.40 -37277487.39 -37277487.38 0.0275 0.0273

Earth -106774-11-29 18:57 J -37277447.85 -37277447.71 -37277447.56 0.2625 0.0676

Moon -106774-11-29 20:24 J -37277447.80 -37277447.65 -37277447.51 0.2620 0.0743 *

Venus -106772-01-29 07:55 J -37277021.29 -37277021.17 -37277021.05 0.3762 0.0507

Jupiter -106770-03-03 03:50 J -37276258.47 -37276258.34 -37276258.20 0.0529 0.0165

Jupiter -106770-05-31 18:00 J -37276168.85 -37276168.75 -37276168.65 0.0532 0.0369

Moon -106770-06-03 21:50 J -37276165.68 -37276165.59 -37276165.51 0.2712 0.1834

Earth -106770-06-03 22:04 J -37276165.66 -37276165.58 -37276165.50 0.2706 0.1846 *

Venus -106767-08-15 05:16 J -37274997.40 -37274997.28 -37274997.17 0.3758 0.1196

Mars -106765-04-28 04:19 J -37274375.46 -37274375.32 -37274375.18 0.1689 0.0542

Jupiter -106765-10-18 18:43 J -37274201.85 -37274201.72 -37274201.58 0.0498 0.0259

Jupiter -106764-01-16 13:40 J -37274112.07 -37274111.93 -37274111.79 0.0496 0.0240

Mars -106764-03-11 22:48 J -37274057.67 -37274057.55 -37274057.43 0.1827 0.0495

Earth -106764-06-12 20:38 J -37273964.71 -37273964.64 -37273964.57 0.2724 0.2091

Moon -106764-06-12 21:07 J -37273964.69 -37273964.62 -37273964.55 0.2718 0.2134 *

Mars -106763-04-04 14:24 J -37273668.94 -37273668.90 -37273668.85 0.1708 0.1628

Venus -106763-08-15 02:09 J -37273536.50 -37273536.41 -37273536.32 0.3612 0.2368

Mars -106762-02-15 18:14 J -37273351.81 -37273351.74 -37273351.68 0.1807 0.1512

Venus -106761-02-29 02:52 J -37272973.45 -37272973.38 -37272973.31 0.3753 0.2959

Saturn -106761-03-02 08:09 J -37272971.27 -37272971.16 -37272971.04 0.0290 0.0200

Saturn -106761-05-30 02:38 J -37272882.54 -37272882.39 -37272882.24 0.0289 0.0107

Saturn -106761-08-26 21:21 J -37272793.78 -37272793.61 -37272793.45 0.0289 0.0012

Saturn -106761-11-23 16:19 J -37272704.98 -37272704.82 -37272704.66 0.0288 0.0085

Earth -106761-12-01 23:16 J -37272696.59 -37272696.53 -37272696.46 0.2620 0.2355

Moon -106761-12-01 23:31 J -37272696.58 -37272696.52 -37272696.47 0.2614 0.2413 *

Saturn -106760-02-20 11:31 J -37272616.14 -37272616.02 -37272615.89 0.0287 0.0182

Saturn -106760-05-20 07:11 J -37272527.23 -37272527.20 -37272527.16 0.0286 0.0279

Jupiter -106759-12-20 05:45 J -37271948.38 -37271948.26 -37271948.14 0.0529 0.0299

Jupiter -106758-03-19 20:24 J -37271858.78 -37271858.65 -37271858.53 0.0532 0.0240

Venus -106757-02-28 23:02 J -37271512.66 -37271512.54 -37271512.42 0.3615 0.0830

Earth -106757-06-05 17:02 J -37271414.90 -37271414.79 -37271414.68 0.2711 0.0797

Moon -106757-06-05 17:16 J -37271414.89 -37271414.78 -37271414.67 0.2718 0.0848 *

Mars -106756-09-18 08:52 J -37270945.25 -37270945.13 -37270945.02 0.1685 0.1026

Mars -106755-08-02 05:31 J -37270627.38 -37270627.27 -37270627.17 0.1832 0.1022

Mars -106754-08-25 17:16 J -37270238.89 -37270238.78 -37270238.66 0.1703 0.1066

Earth -106754-11-24 17:16 J -37270147.85 -37270147.78 -37270147.70 0.2634 0.2269

Moon -106754-11-24 18:28 J -37270147.80 -37270147.73 -37270147.65 0.2638 0.2266 *

Mars -106753-07-08 01:55 J -37269921.52 -37269921.42 -37269921.32 0.1812 0.1051

Jupiter -106753-08-06 19:55 J -37269891.77 -37269891.67 -37269891.56 0.0498 0.0379

Jupiter -106753-11-04 14:24 J -37269802.05 -37269801.90 -37269801.74 0.0496 0.0116

Uranus -106752-06-21 19:11 J -37269572.77 -37269572.70 -37269572.63 0.0133 0.0118

Venus -106752-09-13 19:26 J -37269488.81 -37269488.69 -37269488.57 0.3620 0.0660

Uranus -106752-09-17 23:02 J -37269484.63 -37269484.54 -37269484.44 0.0133 0.0101

Uranus -106752-12-15 03:07 J -37269396.48 -37269396.37 -37269396.25 0.0133 0.0084

Uranus -106751-03-13 06:57 J -37269308.33 -37269308.21 -37269308.08 0.0133 0.0067

Uranus -106751-06-09 10:48 J -37269220.18 -37269220.05 -37269219.91 0.0133 0.0050

Uranus -106751-09-05 14:52 J -37269132.03 -37269131.88 -37269131.74 0.0133 0.0033

Uranus -106751-12-02 18:43 J -37269043.87 -37269043.72 -37269043.58 0.0133 0.0017

Uranus -106750-02-28 22:33 J -37268955.71 -37268955.56 -37268955.42 0.0133 0.0004

Uranus -106750-05-28 02:09 J -37268867.55 -37268867.41 -37268867.26 0.0133 0.0017

Uranus -106750-08-24 06:00 J -37268779.39 -37268779.25 -37268779.11 0.0133 0.0033

Uranus -106750-11-20 09:35 J -37268691.23 -37268691.10 -37268690.96 0.0133 0.0049

Uranus -106749-02-16 13:11 J -37268603.07 -37268602.95 -37268602.82 0.0132 0.0065

Uranus -106749-05-14 16:48 J -37268514.90 -37268514.80 -37268514.68 0.0132 0.0081

Uranus -106749-08-10 20:24 J -37268426.74 -37268426.65 -37268426.54 0.0132 0.0097

Uranus -106749-11-07 00:14 J -37268338.56 -37268338.49 -37268338.41 0.0132 0.0112

Uranus -106748-02-03 03:35 J -37268250.38 -37268250.35 -37268250.30 0.0132 0.0127

Jupiter -106747-10-08 07:40 J -37267638.26 -37267638.18 -37267638.09 0.0529 0.0432

Jupiter -106746-01-05 22:48 J -37267548.69 -37267548.55 -37267548.41 0.0531 0.0112

Mars -106746-02-08 13:40 J -37267514.99 -37267514.93 -37267514.86 0.1681 0.1486

Venus -106746-03-30 15:50 J -37267464.94 -37267464.84 -37267464.74 0.3624 0.2096

Saturn -106746-06-28 08:09 J -37267375.22 -37267375.16 -37267375.09 0.0270 0.0244

Saturn -106746-09-24 21:50 J -37267286.70 -37267286.59 -37267286.47 0.0270 0.0172

Saturn -106746-12-22 11:31 J -37267198.16 -37267198.02 -37267197.88 0.0271 0.0100

Mars -106746-12-23 11:31 J -37267197.08 -37267197.02 -37267196.96 0.1836 0.1579

Saturn -106745-03-20 00:43 J -37267109.61 -37267109.47 -37267109.32 0.0272 0.0029

Saturn -106745-06-16 13:55 J -37267021.06 -37267020.92 -37267020.77 0.0272 0.0043

Saturn -106745-09-13 02:52 J -37266932.51 -37266932.38 -37266932.25 0.0273 0.0113

Saturn -106745-12-10 15:35 J -37266843.95 -37266843.85 -37266843.74 0.0274 0.0183

Mars -106744-01-14 20:52 J -37266808.78 -37266808.63 -37266808.49 0.1698 0.0530

Saturn -106744-03-09 04:19 J -37266755.37 -37266755.32 -37266755.26 0.0274 0.0251

Earth -106744-06-08 12:00 J -37266664.11 -37266664.00 -37266663.89 0.2715 0.0245

Moon -106744-06-08 12:43 J -37266664.08 -37266663.97 -37266663.86 0.2718 0.0385 *

Mars -106744-11-28 09:21 J -37266491.23 -37266491.11 -37266491.00 0.1817 0.0576

Jupiter -106741-08-23 14:52 J -37265492.04 -37265491.88 -37265491.72 0.0496 0.0014

Venus -106741-10-13 11:45 J -37265441.04 -37265441.01 -37265440.98 0.3628 0.3482

Jupiter -106741-11-21 10:33 J -37265402.07 -37265402.06 -37265402.05 0.0495 0.0493

Earth -106741-11-26 21:07 J -37265396.76 -37265396.62 -37265396.47 0.2629 0.0653

Moon -106741-11-26 22:33 J -37265396.71 -37265396.56 -37265396.41 0.2627 0.0465 *

Earth -106737-06-01 07:55 J -37264114.18 -37264114.17 -37264114.16 0.2702 0.2689

Mars -106735-06-07 00:43 J -37263378.62 -37263378.47 -37263378.32 0.1694 0.0013

Jupiter -106735-10-25 00:57 J -37263238.61 -37263238.46 -37263238.32 0.0530 0.0026

Jupiter -106734-01-22 14:38 J -37263148.93 -37263148.89 -37263148.85 0.0532 0.0507

Mars -106734-04-20 16:19 J -37263060.95 -37263060.82 -37263060.70 0.1822 0.0093

Saturn -106732-07-20 08:09 J -37262239.25 -37262239.16 -37262239.06 0.0290 0.0229

Saturn -106732-10-17 02:38 J -37262150.53 -37262150.39 -37262150.25 0.0290 0.0135

Saturn -106731-01-13 21:21 J -37262061.78 -37262061.61 -37262061.45 0.0289 0.0041

Saturn -106731-04-12 16:04 J -37261972.99 -37261972.83 -37261972.66 0.0288 0.0056

Earth -106731-06-11 06:57 J -37261913.31 -37261913.21 -37261913.11 0.2720 0.1278

Moon -106731-06-11 07:40 J -37261913.28 -37261913.18 -37261913.08 0.2718 0.1314 *

Saturn -106731-07-10 11:31 J -37261884.16 -37261884.02 -37261883.88 0.0287 0.0152

Saturn -106731-10-07 06:57 J -37261795.29 -37261795.21 -37261795.13 0.0287 0.0250

Jupiter -106729-06-11 15:50 J -37261182.00 -37261181.84 -37261181.69 0.0497 0.0138

Jupiter -106729-09-09 11:02 J -37261092.15 -37261092.04 -37261091.93 0.0495 0.0366

Earth -106728-11-30 01:11 J -37260645.59 -37260645.45 -37260645.31 0.2624 0.1007

Moon -106728-11-30 02:09 J -37260645.55 -37260645.41 -37260645.27 0.2619 0.1087 *

Venus -106727-08-06 12:57 J -37260396.02 -37260395.96 -37260395.89 0.3770 0.3175

Mars -106726-10-28 04:48 J -37259948.44 -37259948.30 -37259948.16 0.1689 0.0489

Mars -106725-09-09 23:02 J -37259630.66 -37259630.54 -37259630.41 0.1827 0.0445

Moon -106724-06-04 02:52 J -37259363.47 -37259363.38 -37259363.29 0.2714 0.1689

Earth -106724-06-04 03:07 J -37259363.46 -37259363.37 -37259363.28 0.2706 0.1632 *

Mars -106724-10-03 15:07 J -37259241.90 -37259241.87 -37259241.85 0.1708 0.1684

Jupiter -106723-08-13 02:09 J -37258928.55 -37258928.41 -37258928.27 0.0529 0.0164

Mars -106723-08-16 18:28 J -37258924.79 -37258924.73 -37258924.67 0.1807 0.1559

Jupiter -106723-11-10 16:19 J -37258838.92 -37258838.82 -37258838.72 0.0531 0.0368

Neptune -106722-08-30 15:07 J -37258545.90 -37258545.87 -37258545.83 0.0089 0.0086

Neptune -106722-11-26 17:02 J -37258457.83 -37258457.79 -37258457.71 0.0089 0.0082

Venus -106721-02-20 09:50 J -37258372.20 -37258372.09 -37258371.98 0.3765 0.1580

Neptune -106721-02-22 19:40 J -37258369.75 -37258369.68 -37258369.60 0.0089 0.0077

Neptune -106721-05-20 21:35 J -37258281.67 -37258281.60 -37258281.49 0.0089 0.0073

Neptune -106721-08-17 00:00 J -37258193.59 -37258193.50 -37258193.38 0.0089 0.0068

Neptune -106721-11-13 02:24 J -37258105.50 -37258105.40 -37258105.28 0.0089 0.0063

Neptune -106720-02-09 04:33 J -37258017.41 -37258017.31 -37258017.17 0.0089 0.0059

Neptune -106720-05-08 06:57 J -37257929.32 -37257929.21 -37257929.07 0.0089 0.0054

Neptune -106720-08-04 09:21 J -37257841.23 -37257841.11 -37257840.96 0.0089 0.0049

Neptune -106720-10-31 12:00 J -37257753.14 -37257753.00 -37257752.86 0.0089 0.0044

Neptune -106719-01-27 14:09 J -37257665.05 -37257664.91 -37257664.76 0.0089 0.0040

Neptune -106719-04-25 16:33 J -37257576.95 -37257576.81 -37257576.65 0.0089 0.0035

Neptune -106719-07-22 18:57 J -37257488.86 -37257488.71 -37257488.55 0.0089 0.0030

Neptune -106719-10-18 21:21 J -37257400.76 -37257400.61 -37257400.45 0.0089 0.0025

Neptune -106718-01-15 00:00 J -37257312.66 -37257312.50 -37257312.34 0.0089 0.0020

Neptune -106718-04-13 02:24 J -37257224.56 -37257224.40 -37257224.24 0.0089 0.0015

Earth -106718-06-14 01:40 J -37257162.49 -37257162.43 -37257162.37 0.2724 0.2300

Moon -106718-06-14 01:55 J -37257162.47 -37257162.42 -37257162.36 0.2717 0.2332 *

Neptune -106718-07-10 04:48 J -37257136.46 -37257136.30 -37257136.13 0.0089 0.0010

Neptune -106718-10-06 07:11 J -37257048.36 -37257048.20 -37257048.03 0.0089 0.0006

Neptune -106717-01-02 09:50 J -37256960.26 -37256960.09 -37256959.93 0.0089 0.0002

Neptune -106717-03-30 12:14 J -37256872.16 -37256871.99 -37256871.83 0.0089 0.0005

Jupiter -106717-03-30 16:33 J -37256871.94 -37256871.81 -37256871.67 0.0498 0.0262 *

Neptune -106717-06-26 14:38 J -37256784.05 -37256783.89 -37256783.72 0.0089 0.0010

Jupiter -106717-06-28 11:31 J -37256782.16 -37256782.02 -37256781.88 0.0496 0.0239

Neptune -106717-09-22 17:02 J -37256695.95 -37256695.79 -37256695.62 0.0089 0.0015

Saturn -106717-11-14 11:02 J -37256643.07 -37256643.04 -37256643.00 0.0270 0.0260

Neptune -106717-12-19 19:26 J -37256607.84 -37256607.69 -37256607.52 0.0089 0.0020

Saturn -106716-02-11 00:43 J -37256554.57 -37256554.47 -37256554.35 0.0271 0.0188

Neptune -106716-03-17 22:04 J -37256519.73 -37256519.58 -37256519.41 0.0089 0.0025

Mars -106716-03-19 09:21 J -37256518.23 -37256518.11 -37256517.99 0.1685 0.0975

Saturn -106716-05-10 14:24 J -37256466.03 -37256465.90 -37256465.76 0.0271 0.0116

Neptune -106716-06-14 00:28 J -37256431.63 -37256431.48 -37256431.31 0.0089 0.0030

Saturn -106716-08-07 03:50 J -37256377.48 -37256377.34 -37256377.19 0.0272 0.0044

Venus -106716-09-05 06:57 J -37256348.33 -37256348.21 -37256348.09 0.3761 0.0146

Neptune -106716-09-10 03:07 J -37256343.52 -37256343.37 -37256343.21 0.0089 0.0035

Saturn -106716-11-03 17:02 J -37256288.93 -37256288.79 -37256288.64 0.0273 0.0028

Neptune -106716-12-07 05:31 J -37256255.41 -37256255.27 -37256255.11 0.0089 0.0040

Mars -106715-01-31 05:31 J -37256200.38 -37256200.27 -37256200.16 0.1832 0.0982

Saturn -106715-01-31 06:00 J -37256200.38 -37256200.25 -37256200.11 0.0273 0.0099 *

Neptune -106715-03-05 08:09 J -37256167.29 -37256167.16 -37256167.00 0.0089 0.0045

Saturn -106715-04-29 18:57 J -37256111.82 -37256111.71 -37256111.60 0.0274 0.0168

Neptune -106715-06-01 10:48 J -37256079.18 -37256079.05 -37256078.90 0.0089 0.0050

Saturn -106715-07-27 07:40 J -37256023.25 -37256023.18 -37256023.11 0.0275 0.0237

Neptune -106715-08-28 13:26 J -37255991.07 -37255990.94 -37255990.80 0.0089 0.0055

Neptune -106715-11-24 16:04 J -37255902.95 -37255902.83 -37255902.70 0.0089 0.0060

Neptune -106714-02-20 18:28 J -37255814.83 -37255814.73 -37255814.60 0.0089 0.0066

Mars -106714-02-23 18:00 J -37255811.87 -37255811.75 -37255811.64 0.1703 0.1124

Neptune -106714-05-19 21:07 J -37255726.71 -37255726.62 -37255726.51 0.0089 0.0071

Neptune -106714-08-15 23:45 J -37255638.58 -37255638.51 -37255638.41 0.0089 0.0076

Neptune -106714-11-12 02:24 J -37255550.45 -37255550.40 -37255550.32 0.0089 0.0081

Mars -106713-01-07 01:55 J -37255494.52 -37255494.42 -37255494.32 0.1812 0.1095

Neptune -106713-02-08 05:16 J -37255462.31 -37255462.28 -37255462.24 0.0089 0.0086

Venus -106712-09-05 03:50 J -37254887.38 -37254887.34 -37254887.30 0.3609 0.3398

Jupiter -106711-06-01 03:35 J -37254618.46 -37254618.35 -37254618.23 0.0529 0.0304

Earth -106711-06-06 22:04 J -37254612.69 -37254612.58 -37254612.47 0.2711 0.0582

Moon -106711-06-06 22:33 J -37254612.68 -37254612.56 -37254612.45 0.2717 0.0500 *

Jupiter -106711-08-29 18:14 J -37254528.87 -37254528.74 -37254528.61 0.0531 0.0234

Venus -106710-03-22 04:19 J -37254324.43 -37254324.32 -37254324.22 0.3756 0.1785

Uranus -106708-08-21 19:40 J -37253440.72 -37253440.68 -37253440.64 0.0145 0.0141

Pluto -106708-10-29 19:11 J -37253371.75 -37253371.70 -37253371.63 0.0085 0.0074

Uranus -106708-11-18 01:40 J -37253352.52 -37253352.43 -37253352.32 0.0145 0.0117

Earth -106708-11-24 23:31 J -37253345.62 -37253345.52 -37253345.42 0.2634 0.1950

Moon -106708-11-25 00:57 J -37253345.57 -37253345.46 -37253345.35 0.2635 0.1748 *

Pluto -106707-01-25 20:24 J -37253283.73 -37253283.65 -37253283.54 0.0085 0.0060

Uranus -106707-02-14 08:09 J -37253264.29 -37253264.16 -37253264.03 0.0146 0.0093

Pluto -106707-04-23 21:50 J -37253195.69 -37253195.59 -37253195.47 0.0084 0.0046

Uranus -106707-05-13 14:24 J -37253176.04 -37253175.90 -37253175.75 0.0146 0.0069

Pluto -106707-07-20 23:16 J -37253107.65 -37253107.53 -37253107.41 0.0084 0.0032

Mars -106707-08-09 14:09 J -37253087.99 -37253087.91 -37253087.84 0.1681 0.1442

Uranus -106707-08-09 20:52 J -37253087.79 -37253087.63 -37253087.47 0.0146 0.0044

Pluto -106707-10-17 00:28 J -37253019.61 -37253019.48 -37253019.35 0.0084 0.0018

Uranus -106707-11-06 03:21 J -37252999.52 -37252999.36 -37252999.19 0.0146 0.0019

Pluto -106706-01-13 01:40 J -37252931.56 -37252931.43 -37252931.29 0.0084 0.0005

Uranus -106706-02-02 10:04 J -37252911.25 -37252911.08 -37252910.91 0.0146 0.0007

Venus -106706-03-22 00:57 J -37252863.56 -37252863.46 -37252863.35 0.3613 0.1822

Pluto -106706-04-11 03:07 J -37252843.51 -37252843.37 -37252843.24 0.0084 0.0010

Uranus -106706-05-01 16:33 J -37252822.97 -37252822.81 -37252822.64 0.0146 0.0032

Mars -106706-06-23 11:45 J -37252770.08 -37252770.01 -37252769.94 0.1837 0.1528

Pluto -106706-07-08 04:19 J -37252755.45 -37252755.32 -37252755.19 0.0084 0.0023

Uranus -106706-07-28 23:02 J -37252734.68 -37252734.54 -37252734.37 0.0146 0.0058

Pluto -106706-10-04 05:31 J -37252667.39 -37252667.27 -37252667.15 0.0084 0.0037

Uranus -106706-10-25 06:00 J -37252646.39 -37252646.25 -37252646.11 0.0146 0.0084

Pluto -106706-12-31 06:28 J -37252579.32 -37252579.23 -37252579.11 0.0084 0.0051

Jupiter -106705-01-17 17:45 J -37252561.86 -37252561.76 -37252561.67 0.0498 0.0384

Uranus -106705-01-21 12:28 J -37252558.08 -37252557.98 -37252557.85 0.0146 0.0111

Pluto -106705-03-28 07:55 J -37252491.25 -37252491.17 -37252491.08 0.0083 0.0064

Jupiter -106705-04-16 12:00 J -37252472.16 -37252472.00 -37252471.84 0.0496 0.0111

Uranus -106705-04-18 19:26 J -37252469.74 -37252469.69 -37252469.62 0.0146 0.0137

Pluto -106705-06-24 08:52 J -37252403.17 -37252403.13 -37252403.07 0.0083 0.0077

Mars -106705-07-15 21:21 J -37252381.75 -37252381.61 -37252381.47 0.1698 0.0583

Venus -106705-10-05 01:55 J -37252300.45 -37252300.42 -37252300.38 0.3751 0.3563

Mars -106704-05-29 09:07 J -37252064.23 -37252064.12 -37252064.00 0.1817 0.0615

Saturn -106703-12-07 10:33 J -37251507.13 -37251507.06 -37251506.97 0.0290 0.0246

Saturn -106702-03-06 04:48 J -37251418.43 -37251418.30 -37251418.16 0.0290 0.0154

Saturn -106702-06-02 23:31 J -37251329.68 -37251329.52 -37251329.36 0.0289 0.0059

Saturn -106702-08-30 18:14 J -37251240.90 -37251240.74 -37251240.57 0.0288 0.0038

Saturn -106702-11-27 13:26 J -37251152.08 -37251151.94 -37251151.79 0.0288 0.0133

Saturn -106701-02-24 08:52 J -37251063.22 -37251063.13 -37251063.02 0.0287 0.0231

Venus -106701-10-04 21:50 J -37250839.71 -37250839.59 -37250839.47 0.3617 0.0306

Jupiter -106699-03-20 05:16 J -37250308.36 -37250308.28 -37250308.20 0.0529 0.0442

Jupiter -106699-06-17 20:24 J -37250218.79 -37250218.65 -37250218.51 0.0531 0.0103

Earth -106698-06-09 17:02 J -37249861.90 -37249861.79 -37249861.68 0.2716 0.0460

Moon -106698-06-09 17:45 J -37249861.87 -37249861.76 -37249861.65 0.2718 0.0462 *

Mars -106696-12-06 00:57 J -37248951.61 -37248951.46 -37248951.31 0.1694 0.0072

Venus -106695-04-20 18:14 J -37248815.85 -37248815.74 -37248815.62 0.3621 0.1166

Mars -106695-10-19 16:33 J -37248633.94 -37248633.81 -37248633.69 0.1822 0.0124

Earth -106695-11-28 03:21 J -37248594.51 -37248594.36 -37248594.21 0.2629 0.0323

Moon -106695-11-28 04:48 J -37248594.45 -37248594.30 -37248594.15 0.2626 0.0291 *

Jupiter -106693-02-03 12:57 J -37248162.12 -37248161.96 -37248161.80 0.0496 0.0015

Jupiter -106693-05-03 08:38 J -37248072.14 -37248072.14 -37248072.14 0.0494 0.0494

Moon -106691-06-02 12:14 J -37247312.02 -37247311.99 -37247311.95 0.2707 0.2525

Earth -106691-06-02 12:57 J -37247312.00 -37247311.96 -37247311.92 0.2702 0.2474 *

Venus -106690-11-04 14:38 J -37246791.98 -37246791.89 -37246791.81 0.3625 0.2592

Jupiter -106687-04-05 22:48 J -37245908.70 -37245908.55 -37245908.41 0.0531 0.0032

Saturn -106687-07-01 02:24 J -37245822.49 -37245822.40 -37245822.31 0.0270 0.0210

Jupiter -106687-07-04 12:28 J -37245819.02 -37245818.98 -37245818.93 0.0533 0.0503

Saturn -106687-09-27 15:50 J -37245733.96 -37245733.84 -37245733.71 0.0270 0.0138

Saturn -106687-12-25 05:16 J -37245645.42 -37245645.28 -37245645.13 0.0271 0.0067

Saturn -106686-03-23 18:28 J -37245556.87 -37245556.73 -37245556.58 0.0272 0.0009

Mars -106686-04-28 05:16 J -37245521.43 -37245521.28 -37245521.14 0.1690 0.0445

Saturn -106686-06-20 07:40 J -37245468.32 -37245468.18 -37245468.04 0.0272 0.0075

Saturn -106686-09-16 20:38 J -37245379.76 -37245379.64 -37245379.52 0.0273 0.0145

Saturn -106686-12-14 09:21 J -37245291.20 -37245291.11 -37245291.02 0.0274 0.0214

Mars -106685-03-10 23:16 J -37245203.66 -37245203.53 -37245203.41 0.1827 0.0401

Earth -106685-06-11 11:45 J -37245111.10 -37245111.01 -37245110.91 0.2720 0.1490

Moon -106685-06-11 12:28 J -37245111.07 -37245110.98 -37245110.89 0.2716 0.1599 *

Mars -106683-02-14 18:28 J -37244497.78 -37244497.73 -37244497.67 0.1807 0.1603

Jupiter -106682-11-22 13:40 J -37243852.08 -37243851.93 -37243851.78 0.0497 0.0139

Earth -106682-12-01 07:40 J -37243843.31 -37243843.18 -37243843.05 0.2624 0.1341

Moon -106682-12-01 08:09 J -37243843.29 -37243843.16 -37243843.04 0.2618 0.1417 *

Jupiter -106681-02-20 08:52 J -37243762.24 -37243762.13 -37243762.02 0.0495 0.0363

Moon -106678-06-05 07:55 J -37242561.26 -37242561.17 -37242561.07 0.2714 0.1411

Earth -106678-06-05 08:09 J -37242561.26 -37242561.16 -37242561.07 0.2707 0.1424 *

Mars -106677-09-17 09:50 J -37242091.22 -37242091.09 -37242090.97 0.1685 0.0925

Mars -106676-08-01 05:45 J -37241773.37 -37241773.26 -37241773.15 0.1832 0.0928

Jupiter -106675-01-23 00:43 J -37241598.61 -37241598.47 -37241598.33 0.0530 0.0160

Jupiter -106675-04-22 14:52 J -37241508.98 -37241508.88 -37241508.78 0.0532 0.0374

Mars -106675-08-24 18:28 J -37241384.84 -37241384.73 -37241384.62 0.1703 0.1178

Mars -106674-07-08 02:09 J -37241067.51 -37241067.41 -37241067.32 0.1812 0.1140

Saturn -106673-04-25 10:19 J -37240775.11 -37240775.07 -37240775.02 0.0291 0.0276

Saturn -106673-07-23 04:33 J -37240686.43 -37240686.31 -37240686.18 0.0290 0.0184

Saturn -106673-10-19 23:02 J -37240597.69 -37240597.54 -37240597.38 0.0289 0.0090

Saturn -106672-01-16 17:45 J -37240508.92 -37240508.76 -37240508.59 0.0289 0.0010

Saturn -106672-04-15 12:57 J -37240420.11 -37240419.96 -37240419.80 0.0288 0.0102

Earth -106672-06-14 06:28 J -37240360.27 -37240360.23 -37240360.18 0.2725 0.2511

Moon -106672-06-14 06:43 J -37240360.26 -37240360.22 -37240360.17 0.2718 0.2497 *

Saturn -106672-07-13 08:24 J -37240331.27 -37240331.15 -37240331.03 0.0287 0.0199

Venus -106670-03-13 11:45 J -37239723.09 -37239723.01 -37239722.92 0.3768 0.2629

Jupiter -106670-09-10 14:38 J -37239542.02 -37239541.89 -37239541.76 0.0498 0.0262

Jupiter -106670-12-09 09:21 J -37239452.25 -37239452.11 -37239451.97 0.0496 0.0237

Uranus -106668-04-14 21:35 J -37238959.60 -37238959.60 -37238959.57 0.0133 0.0133

Uranus -106668-07-12 01:40 J -37238871.49 -37238871.43 -37238871.35 0.0133 0.0115

Uranus -106668-10-08 05:45 J -37238783.35 -37238783.26 -37238783.15 0.0133 0.0098

Uranus -106667-01-04 09:35 J -37238695.21 -37238695.10 -37238694.97 0.0133 0.0081

Mars -106667-02-07 14:38 J -37238660.97 -37238660.89 -37238660.81 0.1681 0.1391

Uranus -106667-04-02 13:40 J -37238607.05 -37238606.93 -37238606.80 0.0133 0.0064

Uranus -106667-06-29 17:45 J -37238518.90 -37238518.76 -37238518.62 0.0133 0.0047

Uranus -106667-09-25 21:35 J -37238430.74 -37238430.60 -37238430.46 0.0133 0.0030

Mars -106667-12-22 12:00 J -37238343.08 -37238343.00 -37238342.93 0.1836 0.1479

Uranus -106667-12-23 01:26 J -37238342.59 -37238342.44 -37238342.30 0.0133 0.0014

Uranus -106666-03-21 05:16 J -37238254.43 -37238254.28 -37238254.14 0.0133 0.0004

Uranus -106666-06-17 08:52 J -37238166.27 -37238166.13 -37238165.98 0.0133 0.0019

Uranus -106666-09-13 12:43 J -37238078.11 -37238077.97 -37238077.83 0.0133 0.0035

Uranus -106666-12-10 16:19 J -37237989.95 -37237989.82 -37237989.68 0.0133 0.0051

Mars -106665-01-14 21:50 J -37237954.73 -37237954.59 -37237954.45 0.1698 0.0638

Uranus -106665-03-07 19:55 J -37237901.79 -37237901.67 -37237901.54 0.0132 0.0068

Uranus -106665-06-03 23:31 J -37237813.62 -37237813.52 -37237813.40 0.0132 0.0083

Earth -106665-06-07 03:07 J -37237810.49 -37237810.37 -37237810.26 0.2712 0.0385

Moon -106665-06-07 03:35 J -37237810.46 -37237810.35 -37237810.24 0.2716 0.0356 *

Uranus -106665-08-31 03:21 J -37237725.45 -37237725.36 -37237725.26 0.0132 0.0099

Venus -106665-09-26 08:38 J -37237699.25 -37237699.14 -37237699.02 0.3764 0.1021

Uranus -106665-11-27 06:43 J -37237637.28 -37237637.22 -37237637.14 0.0132 0.0115

Mars -106665-11-27 09:35 J -37237637.22 -37237637.10 -37237636.99 0.1817 0.0664 *

Uranus -106664-02-23 10:33 J -37237549.08 -37237549.06 -37237549.03 0.0132 0.0129

Jupiter -106664-11-11 01:55 J -37237288.53 -37237288.42 -37237288.30 0.0529 0.0302

Jupiter -106663-02-08 16:33 J -37237198.93 -37237198.81 -37237198.68 0.0531 0.0237

Earth -106662-11-26 05:45 J -37236543.38 -37236543.26 -37236543.15 0.2633 0.1631

Moon -106662-11-26 07:11 J -37236543.32 -37236543.20 -37236543.08 0.2632 0.1595 *

Venus -106659-04-12 05:45 J -37235675.38 -37235675.26 -37235675.14 0.3759 0.0658

Jupiter -106658-06-29 15:35 J -37235231.95 -37235231.85 -37235231.75 0.0499 0.0385

Jupiter -106658-09-27 10:04 J -37235142.24 -37235142.08 -37235141.93 0.0496 0.0110

Saturn -106658-11-18 04:48 J -37235090.37 -37235090.30 -37235090.22 0.0270 0.0228

Saturn -106657-02-14 18:28 J -37235001.85 -37235001.73 -37235001.60 0.0271 0.0156

Saturn -106657-05-13 08:09 J -37234913.30 -37234913.16 -37234913.02 0.0272 0.0084

Saturn -106657-08-09 21:21 J -37234824.76 -37234824.61 -37234824.46 0.0272 0.0012

Saturn -106657-11-06 10:33 J -37234736.21 -37234736.06 -37234735.92 0.0273 0.0059

Saturn -106656-02-02 23:16 J -37234647.65 -37234647.53 -37234647.40 0.0274 0.0130

Saturn -106656-05-02 12:14 J -37234559.09 -37234558.99 -37234558.89 0.0274 0.0199

Mars -106656-06-06 01:26 J -37234524.59 -37234524.44 -37234524.29 0.1694 0.0115

Saturn -106656-07-30 00:57 J -37234470.49 -37234470.46 -37234470.43 0.0275 0.0267

Venus -106655-04-12 02:52 J -37234214.45 -37234214.38 -37234214.30 0.3610 0.2834

Mars -106655-04-19 16:33 J -37234206.94 -37234206.81 -37234206.69 0.1822 0.0166

Venus -106654-10-27 03:21 J -37233651.45 -37233651.36 -37233651.27 0.3755 0.2383

Earth -106652-06-09 21:50 J -37233059.70 -37233059.59 -37233059.48 0.2716 0.0675

Moon -106652-06-09 22:48 J -37233059.66 -37233059.55 -37233059.45 0.2717 0.0815 *

Jupiter -106652-08-30 03:35 J -37232978.43 -37232978.35 -37232978.27 0.0528 0.0441

Jupiter -106652-11-27 18:28 J -37232888.87 -37232888.73 -37232888.59 0.0530 0.0101

Venus -106650-10-27 00:00 J -37232190.62 -37232190.50 -37232190.38 0.3614 0.1272

Earth -106649-11-28 09:35 J -37231792.25 -37231792.10 -37231791.95 0.2628 0.0005

Moon -106649-11-28 10:48 J -37231792.20 -37231792.05 -37231791.90 0.2625 0.0196 *

Mars -106647-10-27 05:31 J -37231094.41 -37231094.27 -37231094.12 0.1689 0.0393

Jupiter -106646-07-16 10:48 J -37230832.21 -37230832.05 -37230831.89 0.0497 0.0016

Mars -106646-09-09 23:16 J -37230776.65 -37230776.53 -37230776.40 0.1827 0.0355

Jupiter -106646-10-14 06:14 J -37230742.25 -37230742.24 -37230742.22 0.0495 0.0492

Moon -106645-06-02 17:31 J -37230509.82 -37230509.77 -37230509.71 0.2709 0.2345

Earth -106645-06-02 18:00 J -37230509.81 -37230509.75 -37230509.69 0.2703 0.2256 *

Venus -106644-05-11 20:38 J -37230166.76 -37230166.64 -37230166.52 0.3618 0.0222

Mars -106644-08-15 18:28 J -37230070.77 -37230070.73 -37230070.68 0.1807 0.1644

Saturn -106644-12-10 06:43 J -37229954.33 -37229954.22 -37229954.10 0.0290 0.0203

Saturn -106643-03-09 01:11 J -37229865.60 -37229865.45 -37229865.30 0.0289 0.0109

Saturn -106643-06-05 19:55 J -37229776.83 -37229776.67 -37229776.51 0.0289 0.0014

Saturn -106643-09-02 14:52 J -37229688.03 -37229687.88 -37229687.72 0.0288 0.0082

Saturn -106643-11-30 10:19 J -37229599.20 -37229599.07 -37229598.94 0.0287 0.0179

Saturn -106642-02-27 06:00 J -37229510.29 -37229510.25 -37229510.21 0.0286 0.0277

Neptune -106640-06-16 19:26 J -37228669.71 -37228669.69 -37228669.63 0.0088 0.0086

Neptune -106640-09-12 21:50 J -37228581.64 -37228581.59 -37228581.52 0.0088 0.0080

Jupiter -106640-09-15 20:24 J -37228578.80 -37228578.65 -37228578.51 0.0530 0.0036

Neptune -106640-12-10 00:00 J -37228493.57 -37228493.50 -37228493.41 0.0088 0.0076

Jupiter -106640-12-14 10:19 J -37228489.12 -37228489.07 -37228489.02 0.0533 0.0496

Neptune -106639-03-08 02:24 J -37228405.50 -37228405.40 -37228405.31 0.0088 0.0071

Neptune -106639-06-04 04:04 J -37228317.42 -37228317.33 -37228317.22 0.0088 0.0067

Earth -106639-06-12 16:48 J -37228308.89 -37228308.80 -37228308.71 0.2721 0.1699

Moon -106639-06-12 17:16 J -37228308.87 -37228308.78 -37228308.69 0.2715 0.1675 *

Neptune -106639-08-31 06:14 J -37228229.34 -37228229.24 -37228229.12 0.0088 0.0062

Venus -106639-11-25 17:02 J -37228142.90 -37228142.79 -37228142.68 0.3622 0.1677

Neptune -106639-11-27 08:09 J -37228141.26 -37228141.16 -37228141.03 0.0088 0.0057

Neptune -106638-02-23 10:19 J -37228053.19 -37228053.07 -37228052.94 0.0088 0.0052

Neptune -106638-05-22 12:28 J -37227965.11 -37227964.98 -37227964.85 0.0088 0.0048

Neptune -106638-08-18 14:24 J -37227877.03 -37227876.90 -37227876.76 0.0088 0.0043

Neptune -106638-11-14 16:33 J -37227788.95 -37227788.81 -37227788.67 0.0088 0.0038

Neptune -106637-02-10 18:14 J -37227700.87 -37227700.74 -37227700.58 0.0088 0.0035

Mars -106637-03-18 10:04 J -37227664.21 -37227664.08 -37227663.96 0.1685 0.0880

Neptune -106637-05-08 20:24 J -37227612.79 -37227612.65 -37227612.50 0.0088 0.0030

Neptune -106637-08-04 22:33 J -37227524.71 -37227524.56 -37227524.41 0.0088 0.0025

Neptune -106637-11-01 00:28 J -37227436.63 -37227436.48 -37227436.33 0.0088 0.0020

Neptune -106636-01-28 02:24 J -37227348.55 -37227348.40 -37227348.25 0.0088 0.0016

Mars -106636-01-30 06:00 J -37227346.36 -37227346.25 -37227346.14 0.1832 0.0878

Neptune -106636-04-26 04:19 J -37227260.47 -37227260.32 -37227260.16 0.0088 0.0012

Neptune -106636-07-23 06:14 J -37227172.38 -37227172.24 -37227172.08 0.0088 0.0008

Neptune -106636-10-19 08:24 J -37227084.30 -37227084.15 -37227084.00 0.0088 0.0003

Earth -106636-12-01 13:55 J -37227041.04 -37227040.92 -37227040.81 0.2623 0.1679

Moon -106636-12-01 14:09 J -37227041.03 -37227040.91 -37227040.79 0.2616 0.1616 *

Neptune -106635-01-15 10:19 J -37226996.22 -37226996.07 -37226995.92 0.0088 0.0003

Mars -106635-02-22 18:43 J -37226957.82 -37226957.72 -37226957.61 0.1703 0.1230

Neptune -106635-04-13 12:14 J -37226908.14 -37226907.99 -37226907.84 0.0088 0.0007

Neptune -106635-07-10 13:55 J -37226820.06 -37226819.92 -37226819.76 0.0088 0.0012

Neptune -106635-10-06 15:50 J -37226731.98 -37226731.84 -37226731.69 0.0088 0.0016

Neptune -106634-01-02 17:45 J -37226643.90 -37226643.76 -37226643.61 0.0088 0.0020

Mars -106634-01-06 02:09 J -37226640.50 -37226640.41 -37226640.31 0.1812 0.1186

Neptune -106634-03-31 19:40 J -37226555.82 -37226555.68 -37226555.53 0.0088 0.0024

Jupiter -106634-05-04 12:00 J -37226522.15 -37226522.00 -37226521.85 0.0497 0.0135

Neptune -106634-06-27 21:35 J -37226467.74 -37226467.60 -37226467.46 0.0088 0.0029

Jupiter -106634-08-02 06:57 J -37226432.31 -37226432.21 -37226432.10 0.0495 0.0367

Neptune -106634-09-23 23:31 J -37226379.66 -37226379.52 -37226379.38 0.0088 0.0033

Neptune -106634-12-21 01:11 J -37226291.58 -37226291.45 -37226291.31 0.0088 0.0037

Neptune -106633-03-18 03:07 J -37226203.50 -37226203.37 -37226203.24 0.0088 0.0041

Venus -106633-06-10 13:11 J -37226119.01 -37226118.95 -37226118.89 0.3626 0.3078

Neptune -106633-06-14 05:02 J -37226115.42 -37226115.29 -37226115.16 0.0088 0.0046

Neptune -106633-09-10 06:28 J -37226027.34 -37226027.23 -37226027.09 0.0088 0.0051

Neptune -106633-12-07 08:24 J -37225939.25 -37225939.15 -37225939.02 0.0088 0.0055

Neptune -106632-03-05 10:19 J -37225851.17 -37225851.07 -37225850.95 0.0088 0.0059

Neptune -106632-06-01 12:14 J -37225763.09 -37225762.99 -37225762.88 0.0088 0.0063

Earth -106632-06-05 12:57 J -37225759.06 -37225758.96 -37225758.86 0.2708 0.1207

Moon -106632-06-05 13:11 J -37225759.05 -37225758.95 -37225758.85 0.2714 0.1197 *

Neptune -106632-08-28 13:40 J -37225675.01 -37225674.93 -37225674.82 0.0088 0.0068

Neptune -106632-11-24 15:35 J -37225586.92 -37225586.85 -37225586.75 0.0088 0.0071

Neptune -106631-02-20 17:31 J -37225498.84 -37225498.77 -37225498.69 0.0088 0.0075

Neptune -106631-05-19 19:11 J -37225410.75 -37225410.70 -37225410.63 0.0088 0.0080

Neptune -106631-08-15 21:07 J -37225322.66 -37225322.62 -37225322.57 0.0088 0.0084

Neptune -106631-11-11 22:48 J -37225234.56 -37225234.55 -37225234.53 0.0088 0.0088

Saturn -106628-04-06 06:28 J -37224358.29 -37224358.23 -37224358.18 0.0269 0.0250

Saturn -106628-07-03 19:55 J -37224269.77 -37224269.67 -37224269.55 0.0270 0.0178

Jupiter -106628-07-04 22:33 J -37224268.69 -37224268.56 -37224268.42 0.0530 0.0164

Mars -106628-08-08 14:52 J -37224233.97 -37224233.88 -37224233.79 0.1681 0.1342

Saturn -106628-09-30 09:35 J -37224181.24 -37224181.10 -37224180.96 0.0271 0.0106

Jupiter -106628-10-02 12:57 J -37224179.06 -37224178.96 -37224178.86 0.0532 0.0371

Saturn -106628-12-27 23:02 J -37224092.69 -37224092.54 -37224092.40 0.0271 0.0036

Saturn -106627-03-26 12:00 J -37224004.14 -37224004.00 -37224003.85 0.0272 0.0037

Mars -106627-06-22 12:14 J -37223916.07 -37223915.99 -37223915.91 0.1837 0.1431

Saturn -106627-06-23 00:57 J -37223915.59 -37223915.46 -37223915.32 0.0273 0.0107

Saturn -106627-09-19 13:55 J -37223827.03 -37223826.92 -37223826.81 0.0273 0.0176

Saturn -106627-12-17 02:38 J -37223738.45 -37223738.39 -37223738.33 0.0274 0.0244

Earth -106626-06-15 11:31 J -37223558.02 -37223558.02 -37223558.01 0.2725 0.2716

Mars -106626-07-15 22:04 J -37223527.72 -37223527.58 -37223527.44 0.1698 0.0685

Mars -106625-05-28 09:35 J -37223210.21 -37223210.10 -37223209.98 0.1817 0.0707

Uranus -106624-09-11 01:40 J -37222739.47 -37222739.43 -37222739.37 0.0145 0.0139

Uranus -106624-12-08 08:09 J -37222651.26 -37222651.16 -37222651.06 0.0145 0.0115

Uranus -106623-03-06 14:24 J -37222563.03 -37222562.90 -37222562.77 0.0146 0.0091

Uranus -106623-06-02 20:38 J -37222474.78 -37222474.64 -37222474.48 0.0146 0.0067

Uranus -106623-08-30 03:07 J -37222386.53 -37222386.37 -37222386.20 0.0146 0.0042

Uranus -106623-11-26 09:35 J -37222298.26 -37222298.10 -37222297.93 0.0146 0.0017

Jupiter -106622-02-20 12:43 J -37222212.10 -37222211.97 -37222211.83 0.0497 0.0260

Uranus -106622-02-22 16:19 J -37222209.99 -37222209.82 -37222209.65 0.0146 0.0009

Jupiter -106622-05-21 07:26 J -37222122.33 -37222122.19 -37222122.05 0.0495 0.0238

Uranus -106622-05-21 22:48 J -37222121.71 -37222121.55 -37222121.38 0.0146 0.0034

Uranus -106622-08-18 05:16 J -37222033.42 -37222033.28 -37222033.11 0.0146 0.0060

Uranus -106622-11-14 12:00 J -37221945.13 -37221945.00 -37221944.85 0.0146 0.0086

Uranus -106621-02-10 18:43 J -37221856.81 -37221856.72 -37221856.59 0.0146 0.0113

Uranus -106621-05-09 01:40 J -37221768.47 -37221768.43 -37221768.36 0.0146 0.0139

Venus -106619-04-03 14:09 J -37221073.94 -37221073.91 -37221073.88 0.3771 0.3624

Earth -106619-06-08 07:55 J -37221008.28 -37221008.17 -37221008.05 0.2712 0.0176

Moon -106619-06-08 08:38 J -37221008.25 -37221008.14 -37221008.02 0.2716 0.0086 *

Mars -106617-12-05 01:55 J -37220097.56 -37220097.42 -37220097.27 0.1694 0.0173

Jupiter -106616-04-23 00:43 J -37219958.59 -37219958.47 -37219958.35 0.0529 0.0297

Jupiter -106616-07-21 15:21 J -37219868.99 -37219868.86 -37219868.73 0.0531 0.0243

Mars -106616-10-18 16:48 J -37219779.93 -37219779.80 -37219779.68 0.1822 0.0215

Earth -106616-11-26 12:00 J -37219741.13 -37219741.00 -37219740.87 0.2632 0.1310

Moon -106616-11-26 13:26 J -37219741.08 -37219740.94 -37219740.80 0.2631 0.1106 *

Saturn -106614-04-29 05:45 J -37219222.34 -37219222.26 -37219222.16 0.0291 0.0236

Saturn -106614-07-27 00:14 J -37219133.63 -37219133.49 -37219133.35 0.0290 0.0143

Venus -106614-10-18 10:48 J -37219050.15 -37219050.05 -37219049.95 0.3767 0.2067

Saturn -106614-10-23 18:43 J -37219044.88 -37219044.72 -37219044.56 0.0289 0.0049

Saturn -106613-01-20 13:40 J -37218956.09 -37218955.93 -37218955.77 0.0289 0.0048

Saturn -106613-04-18 08:52 J -37218867.27 -37218867.13 -37218866.98 0.0288 0.0145

Saturn -106613-07-16 04:19 J -37218778.40 -37218778.32 -37218778.22 0.0287 0.0243

Jupiter -106611-12-09 13:55 J -37217902.02 -37217901.92 -37217901.82 0.0498 0.0382

Jupiter -106610-03-09 08:09 J -37217812.32 -37217812.16 -37217812.00 0.0496 0.0112

Venus -106608-05-03 07:40 J -37217026.30 -37217026.18 -37217026.06 0.3763 0.0443

Mars -106607-04-27 06:00 J -37216667.39 -37216667.25 -37216667.10 0.1689 0.0340

Mars -106606-03-10 23:31 J -37216349.64 -37216349.52 -37216349.39 0.1827 0.0304

Earth -106606-06-11 02:52 J -37216257.49 -37216257.38 -37216257.27 0.2717 0.0877

Moon -106606-06-11 03:35 J -37216257.46 -37216257.35 -37216257.24 0.2715 0.0894 *

Jupiter -106604-02-09 02:09 J -37215648.49 -37215648.41 -37215648.33 0.0528 0.0436

Mars -106604-02-13 18:43 J -37215643.76 -37215643.72 -37215643.68 0.1807 0.1688

Jupiter -106604-05-09 17:02 J -37215558.93 -37215558.79 -37215558.65 0.0530 0.0107

Venus -106603-11-17 04:48 J -37215002.41 -37215002.30 -37215002.18 0.3758 0.1236

Earth -106603-11-29 15:50 J -37214989.99 -37214989.84 -37214989.69 0.2627 0.0338

Moon -106603-11-29 16:48 J -37214989.95 -37214989.80 -37214989.65 0.2622 0.0318 *

Moon -106599-06-03 22:33 J -37213707.63 -37213707.56 -37213707.48 0.2710 0.2026

Earth -106599-06-03 23:02 J -37213707.62 -37213707.54 -37213707.47 0.2703 0.2046 *

Saturn -106599-08-24 08:24 J -37213626.15 -37213626.15 -37213626.14 0.0270 0.0270

Venus -106599-11-17 01:55 J -37213541.51 -37213541.42 -37213541.32 0.3611 0.2275

Saturn -106599-11-20 22:04 J -37213537.67 -37213537.58 -37213537.47 0.0270 0.0198

Jupiter -106599-12-26 08:52 J -37213502.29 -37213502.13 -37213501.97 0.0497 0.0014

Saturn -106598-02-17 11:45 J -37213449.14 -37213449.01 -37213448.87 0.0271 0.0126

Jupiter -106598-03-26 04:33 J -37213412.32 -37213412.31 -37213412.30 0.0495 0.0494

Saturn -106598-05-17 01:11 J -37213360.59 -37213360.45 -37213360.30 0.0272 0.0054

Saturn -106598-08-13 14:24 J -37213272.04 -37213271.90 -37213271.75 0.0272 0.0017

Mars -106598-09-17 10:33 J -37213237.19 -37213237.06 -37213236.93 0.1685 0.0826

Saturn -106598-11-10 03:21 J -37213183.49 -37213183.36 -37213183.22 0.0273 0.0088

Saturn -106597-02-06 16:19 J -37213094.94 -37213094.82 -37213094.70 0.0274 0.0158

Saturn -106597-05-05 05:02 J -37213006.37 -37213006.29 -37213006.21 0.0274 0.0227

Venus -106597-06-02 02:24 J -37212978.47 -37212978.40 -37212978.33 0.3753 0.2982

Mars -106597-07-31 06:00 J -37212919.36 -37212919.25 -37212919.13 0.1832 0.0836

Mars -106596-08-23 19:11 J -37212530.79 -37212530.70 -37212530.60 0.1703 0.1284

Mars -106595-07-07 02:24 J -37212213.49 -37212213.40 -37212213.31 0.1812 0.1228

Venus -106593-06-01 22:47 J -37211517.67 -37211517.55 -37211517.43 0.3615 0.0743

Earth -106593-06-12 21:35 J -37211506.67 -37211506.60 -37211506.52 0.2721 0.1909

Moon -106593-06-12 22:04 J -37211506.65 -37211506.58 -37211506.50 0.2716 0.2011 *

Jupiter -106592-02-25 18:57 J -37211248.85 -37211248.71 -37211248.57 0.0530 0.0031

Jupiter -106592-05-26 08:38 J -37211159.18 -37211159.14 -37211159.09 0.0532 0.0498

Earth -106590-12-02 20:09 J -37210238.76 -37210238.66 -37210238.57 0.2622 0.2009

Moon -106590-12-02 20:09 J -37210238.75 -37210238.66 -37210238.57 0.2616 0.2087 *

Mars -106588-02-06 15:07 J -37209806.96 -37209806.87 -37209806.78 0.1681 0.1299

Venus -106588-12-16 19:26 J -37209493.81 -37209493.69 -37209493.57 0.3619 0.0740

Mars -106588-12-21 12:14 J -37209489.07 -37209488.99 -37209488.90 0.1837 0.1383

Jupiter -106587-10-14 09:50 J -37209192.24 -37209192.09 -37209191.93 0.0497 0.0136

Jupiter -106586-01-12 05:02 J -37209102.40 -37209102.29 -37209102.18 0.0495 0.0367

Mars -106586-01-13 22:33 J -37209100.69 -37209100.56 -37209100.42 0.1698 0.0743

Earth -106586-06-06 17:59 J -37208956.86 -37208956.75 -37208956.64 0.2708 0.0990

Moon -106586-06-06 18:28 J -37208956.84 -37208956.73 -37208956.63 0.2714 0.0993 *

Mars -106586-11-27 09:35 J -37208783.21 -37208783.10 -37208782.98 0.1817 0.0751

Saturn -106585-09-15 07:40 J -37208490.25 -37208490.18 -37208490.10 0.0291 0.0257

Saturn -106585-12-13 01:55 J -37208401.55 -37208401.42 -37208401.28 0.0290 0.0164

Saturn -106584-03-11 20:38 J -37208312.80 -37208312.64 -37208312.49 0.0289 0.0070

Uranus -106584-05-05 04:33 J -37208258.34 -37208258.31 -37208258.28 0.0133 0.0130

Saturn -106584-06-08 15:21 J -37208224.02 -37208223.86 -37208223.69 0.0289 0.0027

Uranus -106584-08-01 08:23 J -37208170.22 -37208170.15 -37208170.06 0.0133 0.0113

Saturn -106584-09-05 10:33 J -37208135.21 -37208135.06 -37208134.91 0.0288 0.0123

Uranus -106584-10-28 12:28 J -37208082.08 -37208081.98 -37208081.87 0.0133 0.0095

Saturn -106584-12-03 05:59 J -37208046.35 -37208046.25 -37208046.14 0.0287 0.0221

Uranus -106583-01-24 16:33 J -37207993.93 -37207993.81 -37207993.69 0.0133 0.0078

Uranus -106583-04-22 20:23 J -37207905.78 -37207905.65 -37207905.52 0.0133 0.0061

Uranus -106583-07-20 00:14 J -37207817.62 -37207817.49 -37207817.35 0.0133 0.0045

Uranus -106583-10-16 04:19 J -37207729.47 -37207729.32 -37207729.18 0.0133 0.0028

Earth -106583-11-24 14:23 J -37207689.92 -37207689.90 -37207689.87 0.2637 0.2593

Moon -106583-11-24 15:50 J -37207689.88 -37207689.84 -37207689.79 0.2638 0.2504 *

Uranus -106582-01-12 08:09 J -37207641.31 -37207641.16 -37207641.02 0.0133 0.0011

Uranus -106582-04-10 11:59 J -37207553.15 -37207553.00 -37207552.86 0.0133 0.0006

Venus -106582-07-02 15:50 J -37207469.94 -37207469.84 -37207469.74 0.3623 0.2174

Uranus -106582-07-07 15:35 J -37207464.99 -37207464.85 -37207464.70 0.0133 0.0022

Uranus -106582-10-03 19:26 J -37207376.83 -37207376.69 -37207376.55 0.0133 0.0038

Uranus -106582-12-30 23:02 J -37207288.67 -37207288.54 -37207288.40 0.0133 0.0054

Uranus -106581-03-28 02:52 J -37207200.50 -37207200.38 -37207200.26 0.0132 0.0070

Uranus -106581-06-24 06:28 J -37207112.34 -37207112.23 -37207112.12 0.0132 0.0085

Uranus -106581-09-20 10:04 J -37207024.17 -37207024.08 -37207023.98 0.0132 0.0101

Jupiter -106581-12-14 20:23 J -37206938.78 -37206938.65 -37206938.51 0.0530 0.0170

Uranus -106581-12-17 13:40 J -37206935.99 -37206935.93 -37206935.86 0.0132 0.0117

Jupiter -106580-03-14 10:47 J -37206849.15 -37206849.05 -37206848.95 0.0532 0.0366

Uranus -106580-03-15 17:16 J -37206847.78 -37206847.78 -37206847.77 0.0132 0.0132

Mars -106577-06-05 02:09 J -37205670.55 -37205670.41 -37205670.26 0.1694 0.0216

Venus -106576-01-15 11:45 J -37205446.03 -37205446.01 -37205445.99 0.3628 0.3550

Mars -106576-04-18 16:47 J -37205352.92 -37205352.80 -37205352.67 0.1822 0.0264

Jupiter -106575-08-02 11:16 J -37204882.16 -37204882.03 -37204881.89 0.0497 0.0254

Jupiter -106575-10-31 05:59 J -37204792.39 -37204792.25 -37204792.11 0.0495 0.0244

Earth   -106573-06-08 12:57 J -37204206.07 -37204205.96 -37204205.85 0.2713 0.0058

Moon   -106573-06-08 13:40 J -37204206.04 -37204205.93 -37204205.82 0.2716 0.0116 *

Earth   -106570-11-27 18:14 J -37202938.88 -37202938.74 -37202938.61 0.2632 0.0983

Moon   -106570-11-27 19:40 J -37202938.82 -37202938.68 -37202938.54 0.2630 0.0922 *

Saturn -106569-04-08 23:45 J -37202805.60 -37202805.51 -37202805.42 0.0269 0.0219

Saturn -106569-07-06 13:11 J -37202717.07 -37202716.95 -37202716.82 0.0270 0.0148

Jupiter -106569-10-02 22:33 J -37202628.67 -37202628.56 -37202628.44 0.0529 0.0300

Saturn -106569-10-03 02:38 J -37202628.53 -37202628.39 -37202628.24 0.0271 0.0077 *

Saturn -106569-12-30 15:50 J -37202539.98 -37202539.84 -37202539.69 0.0271 0.0010

Jupiter -106569-12-31 13:26 J -37202539.07 -37202538.94 -37202538.81 0.0532 0.0241

Saturn -106568-03-29 05:02 J -37202451.43 -37202451.29 -37202451.15 0.0272 0.0065

Saturn -106568-06-25 17:45 J -37202362.88 -37202362.76 -37202362.63 0.0273 0.0135

Saturn -106568-09-22 06:28 J -37202274.32 -37202274.23 -37202274.13 0.0273 0.0204

Mars   -106568-10-26 06:28 J -37202240.38 -37202240.23 -37202240.08 0.1690 0.0287

Saturn -106568-12-19 19:11 J -37202185.71 -37202185.70 -37202185.68 0.0274 0.0271

Mars   -106567-09-08 23:45 J -37201922.63 -37201922.51 -37201922.38 0.1827 0.0253

Mars   -106565-08-14 18:57 J -37201216.74 -37201216.71 -37201216.68 0.1807 0.1735

Jupiter -106563-05-21 12:14 J -37200572.09 -37200571.99 -37200571.88 0.0498 0.0377

Jupiter -106563-08-19 06:28 J -37200482.38 -37200482.23 -37200482.07 0.0496 0.0117

Venus   -106563-11-08 12:57 J -37200401.03 -37200400.96 -37200400.90 0.3770 0.3088

Earth   -106560-06-11 07:55 J -37199455.28 -37199455.17 -37199455.07 0.2718 0.1090

Moon   -106560-06-11 08:38 J -37199455.25 -37199455.14 -37199455.04 0.2714 0.1188 *

Mars   -106558-03-18 10:47 J -37198810.18 -37198810.05 -37198809.92 0.1685 0.0778

Mars   -106557-01-30 06:14 J -37198492.35 -37198492.24 -37198492.12 0.1832 0.0785

Neptune -106557-02-28 12:43 J -37198462.99 -37198462.97 -37198462.94 0.0089 0.0087

Venus   -106557-05-24 09:35 J -37198377.21 -37198377.10 -37198376.99 0.3766 0.1510

Neptune -106557-05-26 14:38 J -37198374.93 -37198374.89 -37198374.82 0.0089 0.0083

Jupiter -106557-07-22 00:43 J -37198318.55 -37198318.47 -37198318.39 0.0529 0.0431

Neptune -106557-08-22 17:02 J -37198286.85 -37198286.79 -37198286.71 0.0089 0.0078

Jupiter -106557-10-19 15:50 J -37198228.98 -37198228.84 -37198228.70 0.0531 0.0113

Neptune -106557-11-18 19:11 J -37198198.77 -37198198.70 -37198198.60 0.0089 0.0074

Earth -106557-11-29 22:04 J -37198187.72 -37198187.58 -37198187.43 0.2627 0.0669

Moon -106557-11-29 22:47 J -37198187.70 -37198187.55 -37198187.41 0.2620 0.0797 *

Neptune -106556-02-14 21:35 J -37198110.69 -37198110.60 -37198110.49 0.0089 0.0069

Mars -106556-02-21 19:55 J -37198103.77 -37198103.67 -37198103.58 0.1703 0.1340

Neptune -106556-05-13 23:59 J -37198022.60 -37198022.50 -37198022.38 0.0089 0.0064

Neptune -106556-08-10 02:09 J -37197934.52 -37197934.41 -37197934.28 0.0089 0.0060

Neptune -106556-11-06 04:33 J -37197846.43 -37197846.31 -37197846.18 0.0089 0.0055

Mars -106555-01-05 02:23 J -37197786.49 -37197786.40 -37197786.31 0.1812 0.1272

Neptune -106555-02-02 06:57 J -37197758.34 -37197758.21 -37197758.07 0.0089 0.0050

Neptune -106555-05-01 09:07 J -37197670.25 -37197670.12 -37197669.97 0.0089 0.0046

Saturn -106555-05-02 00:28 J -37197669.59 -37197669.48 -37197669.36 0.0291 0.0200

Pluto -106555-05-30 03:21 J -37197641.37 -37197641.36 -37197641.30 0.0060 0.0060

Neptune -106555-07-28 11:31 J -37197582.15 -37197582.02 -37197581.87 0.0089 0.0041

Saturn -106555-07-29 18:57 J -37197580.86 -37197580.71 -37197580.56 0.0290 0.0106

Pluto -106555-08-26 04:47 J -37197553.37 -37197553.30 -37197553.17 0.0060 0.0052

Neptune -106555-10-24 13:55 J -37197494.06 -37197493.92 -37197493.76 0.0089 0.0036

Saturn -106555-10-26 13:40 J -37197492.09 -37197491.93 -37197491.76 0.0289 0.0011

Pluto -106555-11-22 06:28 J -37197465.34 -37197465.23 -37197465.08 0.0060 0.0045

Neptune -106554-01-20 16:19 J -37197405.97 -37197405.82 -37197405.66 0.0089 0.0031

Saturn -106554-01-23 08:38 J -37197403.29 -37197403.14 -37197402.98 0.0288 0.0087

Pluto -106554-02-18 07:55 J -37197377.31 -37197377.17 -37197377.00 0.0060 0.0037

Neptune -106554-04-18 18:57 J -37197317.87 -37197317.71 -37197317.56 0.0089 0.0026

Saturn -106554-04-22 04:04 J -37197314.45 -37197314.33 -37197314.20 0.0288 0.0184

Pluto -106554-05-17 09:35 J -37197289.26 -37197289.10 -37197288.92 0.0060 0.0030

Neptune -106554-07-15 21:07 J -37197229.77 -37197229.62 -37197229.45 0.0089 0.0022

Saturn -106554-07-19 23:45 J -37197225.53 -37197225.51 -37197225.48 0.0287 0.0281

Pluto -106554-08-13 11:02 J -37197201.21 -37197201.04 -37197200.85 0.0060 0.0022

Neptune -106554-10-11 23:31 J -37197141.67 -37197141.52 -37197141.35 0.0089 0.0017

Pluto -106554-11-09 12:43 J -37197113.16 -37197112.97 -37197112.78 0.0061 0.0015

Neptune -106553-01-08 01:55 J -37197053.58 -37197053.42 -37197053.25 0.0089 0.0012

Pluto -106553-02-05 14:09 J -37197025.10 -37197024.91 -37197024.71 0.0061 0.0007

Neptune -106553-04-05 04:33 J -37196965.48 -37196965.31 -37196965.15 0.0089 0.0007

Pluto -106553-05-03 15:35 J -37196937.04 -37196936.85 -37196936.65 0.0061 0.0001

Moon -106553-06-04 03:50 J -37196905.42 -37196905.34 -37196905.26 0.2711 0.1913

Earth -106553-06-04 03:50 J -37196905.42 -37196905.34 -37196905.25 0.2704 0.1832 *

Neptune -106553-07-02 06:57 J -37196877.37 -37196877.21 -37196877.04 0.0089 0.0002

Pluto -106553-07-30 17:02 J -37196848.98 -37196848.79 -37196848.59 0.0061 0.0008

Neptune -106553-09-28 09:21 J -37196789.27 -37196789.11 -37196788.94 0.0089 0.0004

Pluto -106553-10-26 18:28 J -37196760.91 -37196760.73 -37196760.53 0.0061 0.0016

Neptune -106553-12-25 11:59 J -37196701.17 -37196701.00 -37196700.84 0.0089 0.0008

Pluto -106552-01-22 19:55 J -37196672.84 -37196672.67 -37196672.48 0.0061 0.0023

Neptune -106552-03-23 14:23 J -37196613.06 -37196612.90 -37196612.74 0.0089 0.0013

Pluto -106552-04-20 21:21 J -37196584.77 -37196584.61 -37196584.43 0.0061 0.0031

Neptune -106552-06-19 16:47 J -37196524.96 -37196524.80 -37196524.63 0.0089 0.0018

Pluto -106552-07-17 22:33 J -37196496.69 -37196496.56 -37196496.38 0.0061 0.0039

Neptune -106552-09-15 19:26 J -37196436.85 -37196436.69 -37196436.53 0.0089 0.0023

Pluto -106552-10-14 00:14 J -37196408.60 -37196408.49 -37196408.35 0.0061 0.0047

Venus -106552-12-08 06:28 J -37196353.35 -37196353.23 -37196353.11 0.3761 0.0161

Neptune -106552-12-12 21:50 J -37196348.74 -37196348.59 -37196348.43 0.0089 0.0028

Pluto -106551-01-10 01:40 J -37196320.50 -37196320.43 -37196320.32 0.0061 0.0054

Jupiter -106551-03-09 13:26 J -37196261.94 -37196261.94 -37196261.92 0.0499 0.0497

Neptune -106551-03-11 00:28 J -37196260.64 -37196260.48 -37196260.33 0.0089 0.0033

Neptune -106551-06-07 02:52 J -37196172.53 -37196172.38 -37196172.22 0.0089 0.0038

Jupiter -106551-06-07 07:26 J -37196172.35 -37196172.19 -37196172.03 0.0497 0.0008 *

Neptune -106551-09-03 05:31 J -37196084.41 -37196084.27 -37196084.12 0.0089 0.0043

Neptune -106551-11-30 07:40 J -37195996.30 -37195996.18 -37195996.02 0.0089 0.0049

Neptune -106550-02-26 10:19 J -37195908.19 -37195908.07 -37195907.92 0.0089 0.0054

Neptune -106550-05-25 12:57 J -37195820.07 -37195819.96 -37195819.82 0.0089 0.0059

Neptune -106550-08-21 15:35 J -37195731.95 -37195731.85 -37195731.72 0.0089 0.0064

Neptune -106550-11-17 18:14 J -37195643.83 -37195643.74 -37195643.62 0.0089 0.0069

Neptune -106549-02-13 20:52 J -37195555.71 -37195555.63 -37195555.53 0.0089 0.0074

Neptune -106549-05-11 23:45 J -37195467.58 -37195467.51 -37195467.44 0.0089 0.0079

Mars -106549-08-07 15:35 J -37195379.95 -37195379.85 -37195379.75 0.1681 0.1249

Neptune -106549-08-08 01:55 J -37195379.45 -37195379.42 -37195379.35 0.0089 0.0085

Mars -106548-06-21 12:28 J -37195062.06 -37195061.98 -37195061.89 0.1837 0.1334

Venus -106548-12-08 03:35 J -37194892.39 -37194892.35 -37194892.30 0.3608 0.3302

Earth -106547-06-14 02:38 J -37194704.46 -37194704.39 -37194704.32 0.2722 0.2117

Moon -106547-06-14 02:52 J -37194704.45 -37194704.38 -37194704.31 0.2716 0.2079 *

Mars -106547-07-14 23:02 J -37194673.67 -37194673.54 -37194673.41 0.1698 0.0793

Mars -106546-05-28 09:50 J -37194356.20 -37194356.09 -37194355.98 0.1817 0.0795

Venus -106546-06-24 03:50 J -37194329.44 -37194329.34 -37194329.23 0.3757 0.1819

Jupiter -106545-08-07 17:45 J -37193918.91 -37193918.76 -37193918.62 0.0530 0.0024

Jupiter -106545-11-05 07:26 J -37193829.22 -37193829.19 -37193829.14 0.0532 0.0506

Moon -106544-12-03 02:09 J -37193436.49 -37193436.41 -37193436.33 0.2616 0.2232

Earth -106544-12-03 02:23 J -37193436.46 -37193436.40 -37193436.33 0.2622 0.2355 *

Venus -106542-06-24 00:57 J -37192868.57 -37192868.46 -37192868.35 0.3612 0.1731

Venus -106540-01-07 01:26 J -37192305.47 -37192305.44 -37192305.40 0.3752 0.3576

Earth -106540-06-06 23:02 J -37192154.65 -37192154.54 -37192154.43 0.2709 0.0776

Moon -106540-06-06 23:31 J -37192154.63 -37192154.52 -37192154.41 0.2714 0.0673 *

Saturn -106540-08-27 01:26 J -37192073.50 -37192073.44 -37192073.37 0.0270 0.0241

Uranus -106540-10-01 07:55 J -37192038.21 -37192038.17 -37192038.10 0.0145 0.0136

Saturn -106540-11-23 15:07 J -37191984.99 -37191984.87 -37191984.75 0.0270 0.0169

Uranus -106540-12-28 14:09 J -37191950.00 -37191949.91 -37191949.79 0.0145 0.0113

Saturn -106539-02-20 04:33 J -37191896.45 -37191896.31 -37191896.17 0.0271 0.0098

Jupiter -106539-03-26 08:09 J -37191862.31 -37191862.16 -37191862.00 0.0497 0.0133

Uranus -106539-03-26 20:38 J -37191861.77 -37191861.64 -37191861.50 0.0145 0.0088

Saturn -106539-05-19 17:59 J -37191807.90 -37191807.75 -37191807.61 0.0272 0.0027

Uranus -106539-06-23 03:07 J -37191773.52 -37191773.37 -37191773.22 0.0146 0.0064

Jupiter -106539-06-24 03:21 J -37191772.46 -37191772.36 -37191772.25 0.0495 0.0371

Saturn -106539-08-16 06:57 J -37191719.35 -37191719.21 -37191719.06 0.0272 0.0045

Uranus -106539-09-19 09:21 J -37191685.27 -37191685.11 -37191684.94 0.0146 0.0040

Saturn -106539-11-12 19:55 J -37191630.80 -37191630.67 -37191630.54 0.0273 0.0114

Uranus -106539-12-16 15:50 J -37191597.00 -37191596.84 -37191596.67 0.0146 0.0015

Saturn -106538-02-09 08:38 J -37191542.24 -37191542.14 -37191542.03 0.0274 0.0184

Uranus -106538-03-14 22:33 J -37191508.73 -37191508.56 -37191508.39 0.0146 0.0011

Saturn -106538-05-08 21:21 J -37191453.66 -37191453.61 -37191453.55 0.0274 0.0252

Uranus -106538-06-11 05:02 J -37191420.45 -37191420.29 -37191420.12 0.0146 0.0036

Uranus -106538-09-07 11:45 J -37191332.16 -37191332.01 -37191331.85 0.0146 0.0062

Uranus -106538-12-04 18:14 J -37191243.86 -37191243.74 -37191243.59 0.0146 0.0088

Mars -106538-12-05 02:52 J -37191243.53 -37191243.38 -37191243.23 0.1694 0.0271

Uranus -106537-03-02 00:57 J -37191155.55 -37191155.46 -37191155.34 0.0146 0.0115

Uranus -106537-05-29 07:55 J -37191067.20 -37191067.17 -37191067.11 0.0146 0.0141

Mars -106537-10-17 17:02 J -37190925.91 -37190925.79 -37190925.67 0.1822 0.0303

Earth -106537-11-24 20:38 J -37190887.71 -37190887.64 -37190887.57 0.2636 0.2275

Moon -106537-11-24 22:04 J -37190887.66 -37190887.58 -37190887.49 0.2637 0.2105 *

Venus -106536-01-06 21:35 J -37190844.72 -37190844.60 -37190844.47 0.3616 0.0228

Jupiter -106533-05-26 19:26 J -37189608.83 -37189608.69 -37189608.55 0.0529 0.0160

Jupiter -106533-08-24 09:35 J -37189519.19 -37189519.10 -37189519.00 0.0532 0.0375

Venus -106531-07-23 18:14 J -37188820.86 -37188820.74 -37188820.63 0.3620 0.1245

Mars -106528-04-26 06:43 J -37187813.36 -37187813.22 -37187813.07 0.1689 0.0244

Jupiter -106527-01-12 09:35 J -37187552.24 -37187552.10 -37187551.97 0.0498 0.0252

Mars -106527-03-09 23:45 J -37187495.63 -37187495.51 -37187495.38 0.1827 0.0215

Jupiter -106527-04-12 04:19 J -37187462.46 -37187462.32 -37187462.18 0.0496 0.0247

Earth -106527-06-09 17:59 J -37187403.86 -37187403.75 -37187403.64 0.2714 0.0271

Moon -106527-06-09 18:43 J -37187403.83 -37187403.72 -37187403.61 0.2715 0.0323 *

Saturn -106526-09-19 01:55 J -37186937.52 -37186937.42 -37186937.32 0.0291 0.0222

Saturn -106526-12-16 20:09 J -37186848.80 -37186848.66 -37186848.51 0.0290 0.0129

Venus -106525-02-06 14:23 J -37186796.98 -37186796.90 -37186796.82 0.3625 0.2650

Mars -106525-02-13 18:57 J -37186789.73 -37186789.71 -37186789.69 0.1807 0.1772

Saturn -106525-03-14 14:52 J -37186760.04 -37186759.88 -37186759.71 0.0289 0.0035

Saturn -106525-06-11 10:04 J -37186671.25 -37186671.08 -37186670.92 0.0288 0.0063

Saturn -106525-09-08 05:16 J -37186582.42 -37186582.28 -37186582.14 0.0288 0.0160

Saturn -106525-12-06 00:57 J -37186493.53 -37186493.46 -37186493.39 0.0287 0.0257

Earth -106524-11-28 00:28 J -37186136.63 -37186136.48 -37186136.34 0.2631 0.0651

Moon -106524-11-28 01:40 J -37186136.58 -37186136.43 -37186136.28 0.2628 0.0530 *

Jupiter -106521-03-14 20:38 J -37185298.76 -37185298.64 -37185298.52 0.0529 0.0302

Jupiter -106521-06-12 11:31 J -37185209.15 -37185209.02 -37185208.90 0.0532 0.0239

Earth -106520-06-02 13:40 J -37184853.94 -37184853.93 -37184853.91 0.2700 0.2675

Mars -106519-09-16 11:02 J -37184383.17 -37184383.04 -37184382.90 0.1685 0.0734

Mars -106518-07-31 06:28 J -37184065.34 -37184065.23 -37184065.11 0.1832 0.0735

Mars -106517-08-22 20:09 J -37183676.75 -37183676.66 -37183676.57 0.1703 0.1386

Mars -106516-07-06 02:38 J -37183359.48 -37183359.39 -37183359.31 0.1812 0.1316

Jupiter -106516-10-31 11:02 J -37183242.14 -37183242.04 -37183241.93 0.0498 0.0367

Jupiter -106515-01-29 05:31 J -37183152.43 -37183152.27 -37183152.12 0.0496 0.0127

Earth -106514-06-12 12:57 J -37182653.06 -37182652.96 -37182652.87 0.2718 0.1310

Moon -106514-06-12 13:26 J -37182653.03 -37182652.94 -37182652.84 0.2714 0.1346 *

Earth -106511-12-01 04:33 J -37181385.45 -37181385.31 -37181385.17 0.2626 0.1010

Moon -106511-12-01 05:02 J -37181385.43 -37181385.29 -37181385.15 0.2620 0.0974 *

Saturn -106510-01-14 02:52 J -37181341.41 -37181341.38 -37181341.35 0.0269 0.0263

Saturn -106510-04-12 16:33 J -37181252.91 -37181252.81 -37181252.70 0.0269 0.0191

Saturn -106510-07-10 05:59 J -37181164.38 -37181164.25 -37181164.11 0.0270 0.0120

Saturn -106510-10-06 19:26 J -37181075.84 -37181075.69 -37181075.55 0.0270 0.0049

Jupiter -106509-01-01 22:47 J -37180988.63 -37180988.55 -37180988.47 0.0529 0.0433

Saturn -106509-01-03 08:38 J -37180987.29 -37180987.14 -37180987.00 0.0271 0.0022

Mars -106509-02-06 16:04 J -37180952.93 -37180952.83 -37180952.73 0.1681 0.1198

Jupiter -106509-03-31 14:09 J -37180899.05 -37180898.91 -37180898.78 0.0531 0.0114

Saturn -106509-03-31 21:35 J -37180898.74 -37180898.60 -37180898.47 0.0272 0.0091

Saturn -106509-06-28 10:19 J -37180810.18 -37180810.07 -37180809.95 0.0273 0.0160

Saturn -106509-09-24 23:02 J -37180721.62 -37180721.54 -37180721.47 0.0273 0.0229

Mars -106509-12-20 12:43 J -37180635.06 -37180634.97 -37180634.88 0.1837 0.1283

Mars -106507-01-12 23:31 J -37180246.65 -37180246.52 -37180246.39 0.1698 0.0847

Moon -106507-06-05 09:07 J -37180103.22 -37180103.12 -37180103.03 0.2711 0.1557

Earth -106507-06-05 08:52 J -37180103.22 -37180103.13 -37180103.04 0.2705 0.1617 *

Mars -106507-11-26 10:04 J -37179929.19 -37179929.08 -37179928.97 0.1817 0.0846

Venus -106506-06-15 11:31 J -37179728.10 -37179728.02 -37179727.93 0.3769 0.2551

Jupiter -106504-08-19 12:14 J -37178932.01 -37178931.99 -37178931.95 0.0499 0.0488

Jupiter -106504-11-17 06:14 J -37178842.40 -37178842.24 -37178842.08 0.0496 0.0006

Earth -106501-06-14 07:40 J -37177902.24 -37177902.18 -37177902.13 0.2723 0.2329

Moon -106501-06-14 07:40 J -37177902.23 -37177902.18 -37177902.13 0.2716 0.2365 *

Venus -106501-12-29 08:23 J -37177704.27 -37177704.15 -37177704.03 0.3764 0.0956

Uranus -106500-05-25 10:47 J -37177557.08 -37177557.05 -37177557.01 0.0133 0.0128

Mars -106500-06-28 21:07 J -37177522.64 -37177522.62 -37177522.60 0.1677 0.1654

Uranus -106500-08-21 14:38 J -37177468.96 -37177468.89 -37177468.79 0.0133 0.0112

Uranus -106500-11-17 18:57 J -37177380.81 -37177380.71 -37177380.60 0.0133 0.0094

Uranus -106499-02-13 23:02 J -37177292.66 -37177292.54 -37177292.42 0.0133 0.0077

Uranus -106499-05-13 02:38 J -37177204.51 -37177204.39 -37177204.25 0.0133 0.0060

Uranus -106499-08-09 06:43 J -37177116.36 -37177116.22 -37177116.08 0.0133 0.0043

Uranus -106499-11-05 10:47 J -37177028.20 -37177028.05 -37177027.91 0.0133 0.0026

Uranus -106498-02-01 14:38 J -37176940.04 -37176939.89 -37176939.75 0.0133 0.0010

Uranus -106498-04-30 18:28 J -37176851.88 -37176851.73 -37176851.59 0.0133 0.0008

Mars -106498-06-05 03:21 J -37176816.51 -37176816.36 -37176816.22 0.1694 0.0324

Uranus -106498-07-27 22:04 J -37176763.72 -37176763.58 -37176763.43 0.0133 0.0024

Uranus -106498-10-24 01:55 J -37176675.56 -37176675.42 -37176675.28 0.0133 0.0039

Jupiter -106497-01-18 16:33 J -37176588.96 -37176588.81 -37176588.67 0.0531 0.0018

Uranus -106497-01-20 05:31 J -37176587.40 -37176587.27 -37176587.13 0.0133 0.0056

Jupiter -106497-04-17 06:28 J -37176499.26 -37176499.23 -37176499.20 0.0533 0.0515

Uranus -106497-04-17 09:21 J -37176499.23 -37176499.11 -37176498.99 0.0132 0.0071 *

Mars -106497-04-17 17:02 J -37176498.91 -37176498.79 -37176498.66 0.1822 0.0354

Uranus -106497-07-14 12:57 J -37176411.06 -37176410.96 -37176410.85 0.0132 0.0087

Uranus -106497-10-10 16:33 J -37176322.89 -37176322.81 -37176322.72 0.0132 0.0103

Uranus -106496-01-06 20:09 J -37176234.71 -37176234.66 -37176234.59 0.0132 0.0119

Saturn -106496-02-04 23:59 J -37176205.57 -37176205.50 -37176205.43 0.0291 0.0261

Saturn -106496-05-04 18:14 J -37176116.87 -37176116.74 -37176116.61 0.0291 0.0168

Saturn -106496-08-01 12:43 J -37176028.13 -37176027.97 -37176027.81 0.0290 0.0074

Saturn -106496-10-29 07:40 J -37175939.35 -37175939.18 -37175939.02 0.0289 0.0023

Saturn -106495-01-26 02:38 J -37175850.54 -37175850.39 -37175850.23 0.0288 0.0120

Saturn -106495-04-24 22:19 J -37175761.68 -37175761.57 -37175761.46 0.0288 0.0217

Venus -106495-07-15 05:31 J -37175680.39 -37175680.27 -37175680.16 0.3760 0.0699

Earth -106494-06-08 04:04 J -37175352.45 -37175352.33 -37175352.22 0.2709 0.0570

Moon -106494-06-08 04:33 J -37175352.42 -37175352.31 -37175352.20 0.2715 0.0573 *

Jupiter -106492-09-05 07:11 J -37174532.35 -37174532.20 -37174532.05 0.0497 0.0123

Jupiter -106492-12-04 02:09 J -37174442.51 -37174442.41 -37174442.30 0.0495 0.0379

Venus -106491-07-15 02:38 J -37174219.47 -37174219.39 -37174219.31 0.3610 0.2747

Earth -106491-11-26 02:52 J -37174085.48 -37174085.38 -37174085.28 0.2635 0.1954

Moon -106491-11-26 04:19 J -37174085.42 -37174085.32 -37174085.22 0.2636 0.1890 *

Venus -106489-01-29 02:52 J -37173656.47 -37173656.38 -37173656.29 0.3755 0.2402

Mars -106489-10-25 07:11 J -37173386.34 -37173386.20 -37173386.05 0.1689 0.0191

Mars -106488-09-07 23:59 J -37173068.62 -37173068.50 -37173068.37 0.1827 0.0166

Jupiter -106486-11-06 18:28 J -37172278.87 -37172278.73 -37172278.60 0.0529 0.0150

Venus -106485-01-28 23:45 J -37172195.63 -37172195.51 -37172195.40 0.3613 0.1208

Jupiter -106485-02-04 08:38 J -37172189.23 -37172189.14 -37172189.04 0.0532 0.0385

Earth -106481-06-09 23:02 J -37170601.66 -37170601.54 -37170601.43 0.2714 0.0491

Moon -106481-06-09 23:45 J -37170601.62 -37170601.51 -37170601.40 0.2713 0.0602 *

Saturn -106481-08-29 17:45 J -37170520.84 -37170520.76 -37170520.67 0.0270 0.0215

Saturn -106481-11-26 07:26 J -37170432.31 -37170432.19 -37170432.06 0.0270 0.0144

Saturn -106480-02-22 20:52 J -37170343.77 -37170343.63 -37170343.49 0.0271 0.0072

Saturn -106480-05-22 10:04 J -37170255.23 -37170255.08 -37170254.93 0.0272 0.0002

Jupiter -106480-06-24 08:09 J -37170222.30 -37170222.16 -37170222.02 0.0498 0.0246

Venus -106480-08-13 20:23 J -37170171.77 -37170171.65 -37170171.53 0.3618 0.0299

Saturn -106480-08-18 23:02 J -37170166.68 -37170166.54 -37170166.40 0.0272 0.0069

Jupiter -106480-09-22 02:52 J -37170132.52 -37170132.38 -37170132.24 0.0496 0.0253

Saturn -106480-11-15 11:59 J -37170078.12 -37170078.00 -37170077.88 0.0273 0.0138

Saturn -106479-02-12 00:43 J -37169989.56 -37169989.47 -37169989.38 0.0274 0.0207

Mars -106479-03-17 11:45 J -37169956.15 -37169956.01 -37169955.88 0.1685 0.0681

Mars -106478-01-29 06:28 J -37169638.34 -37169638.23 -37169638.11 0.1832 0.0694

Earth -106478-11-29 06:43 J -37169334.37 -37169334.22 -37169334.08 0.2630 0.0336

Moon -106478-11-29 07:40 J -37169334.33 -37169334.18 -37169334.03 0.2625 0.0226 *

Mars -106477-02-21 20:38 J -37169249.71 -37169249.64 -37169249.56 0.1703 0.1448

Mars -106476-01-04 02:38 J -37168932.47 -37168932.39 -37168932.31 0.1812 0.1361

Neptune -106476-12-15 17:31 J -37168586.79 -37168586.77 -37168586.73 0.0088 0.0087

Neptune -106475-03-13 19:40 J -37168498.73 -37168498.68 -37168498.61 0.0088 0.0082

Neptune -106475-06-09 22:04 J -37168410.66 -37168410.58 -37168410.51 0.0088 0.0077

Neptune -106475-09-05 23:45 J -37168322.58 -37168322.51 -37168322.41 0.0088 0.0073

Neptune -106475-12-03 01:55 J -37168234.51 -37168234.42 -37168234.31 0.0088 0.0068

Venus -106474-02-27 16:47 J -37168147.90 -37168147.80 -37168147.69 0.3622 0.1741

Neptune -106474-03-01 04:19 J -37168146.43 -37168146.32 -37168146.21 0.0088 0.0063

Neptune -106474-05-28 05:59 J -37168058.35 -37168058.25 -37168058.12 0.0088 0.0059

Moon -106474-06-03 18:14 J -37168051.78 -37168051.74 -37168051.69 0.2706 0.2463

Earth -106474-06-03 18:43 J -37168051.76 -37168051.72 -37168051.67 0.2700 0.2459 *

Neptune -106474-08-24 08:09 J -37167970.27 -37167970.16 -37167970.03 0.0088 0.0054

Jupiter -106474-08-25 20:09 J -37167968.78 -37167968.66 -37167968.54 0.0529 0.0287

Neptune -106474-11-20 10:33 J -37167882.19 -37167882.06 -37167881.93 0.0088 0.0049

Jupiter -106474-11-23 10:47 J -37167879.18 -37167879.05 -37167878.93 0.0531 0.0252

Neptune -106473-02-16 12:14 J -37167794.11 -37167793.99 -37167793.85 0.0088 0.0045

Neptune -106473-05-14 14:23 J -37167706.03 -37167705.90 -37167705.76 0.0088 0.0040

Neptune -106473-08-10 16:19 J -37167617.95 -37167617.82 -37167617.67 0.0088 0.0036

Neptune -106473-11-06 18:28 J -37167529.87 -37167529.73 -37167529.58 0.0088 0.0031

Neptune -106472-02-02 20:23 J -37167441.79 -37167441.65 -37167441.50 0.0088 0.0026

Neptune -106472-05-01 22:33 J -37167353.71 -37167353.56 -37167353.41 0.0088 0.0021

Neptune -106472-07-29 00:28 J -37167265.63 -37167265.48 -37167265.33 0.0088 0.0017

Neptune -106472-10-25 02:23 J -37167177.55 -37167177.40 -37167177.24 0.0088 0.0013

Neptune -106471-01-21 04:19 J -37167089.47 -37167089.32 -37167089.16 0.0088 0.0009

Neptune -106471-04-19 06:28 J -37167001.38 -37167001.23 -37167001.08 0.0088 0.0004

Neptune -106471-07-16 08:23 J -37166913.30 -37166913.15 -37166913.00 0.0088 0.0001

Neptune -106471-10-12 10:19 J -37166825.22 -37166825.07 -37166824.92 0.0088 0.0006

Neptune -106470-01-08 12:14 J -37166737.14 -37166736.99 -37166736.84 0.0088 0.0010

Neptune -106470-04-06 14:09 J -37166649.06 -37166648.91 -37166648.76 0.0088 0.0014

Neptune -106470-07-03 16:04 J -37166560.98 -37166560.83 -37166560.68 0.0088 0.0019

Mars -106470-08-07 16:19 J -37166525.93 -37166525.82 -37166525.72 0.1681 0.1155

Neptune -106470-09-29 17:45 J -37166472.90 -37166472.76 -37166472.61 0.0088 0.0024

Neptune -106470-12-26 19:40 J -37166384.82 -37166384.68 -37166384.53 0.0088 0.0028

Neptune -106469-03-23 21:21 J -37166296.74 -37166296.61 -37166296.46 0.0088 0.0033

Neptune -106469-06-19 23:16 J -37166208.66 -37166208.53 -37166208.38 0.0088 0.0037

Mars -106469-06-20 12:57 J -37166208.05 -37166207.96 -37166207.87 0.1837 0.1233

Venus -106469-09-12 12:57 J -37166124.01 -37166123.96 -37166123.90 0.3626 0.3131

Neptune -106469-09-16 01:11 J -37166120.57 -37166120.45 -37166120.31 0.0088 0.0041

Neptune -106469-12-13 02:52 J -37166032.49 -37166032.38 -37166032.24 0.0088 0.0046

Neptune -106468-03-11 04:47 J -37165944.41 -37165944.30 -37165944.16 0.0088 0.0050

Jupiter -106468-04-12 09:35 J -37165912.20 -37165912.10 -37165911.99 0.0498 0.0362

Neptune -106468-06-07 06:43 J -37165856.33 -37165856.22 -37165856.09 0.0088 0.0054

Earth -106468-06-12 17:45 J -37165850.85 -37165850.76 -37165850.67 0.2719 0.1519

Moon -106468-06-12 18:28 J -37165850.83 -37165850.73 -37165850.64 0.2714 0.1579 *

Jupiter -106468-07-11 03:50 J -37165822.49 -37165822.34 -37165822.18 0.0496 0.0131

Mars -106468-07-13 23:59 J -37165819.63 -37165819.50 -37165819.37 0.1698 0.0898

Neptune -106468-09-03 08:38 J -37165768.25 -37165768.14 -37165768.02 0.0088 0.0058

Neptune -106468-11-30 10:33 J -37165680.17 -37165680.06 -37165679.96 0.0088 0.0062

Neptune -106467-02-26 11:59 J -37165592.08 -37165592.00 -37165591.89 0.0088 0.0067

Neptune -106467-05-25 13:55 J -37165504.00 -37165503.92 -37165503.82 0.0088 0.0071

Mars -106467-05-27 10:04 J -37165502.19 -37165502.08 -37165501.97 0.1817 0.0884

Saturn -106467-06-25 00:57 J -37165473.49 -37165473.46 -37165473.43 0.0291 0.0285

Neptune -106467-08-21 15:50 J -37165415.91 -37165415.84 -37165415.76 0.0088 0.0074

Saturn -106467-09-21 18:57 J -37165384.82 -37165384.71 -37165384.59 0.0291 0.0193

Neptune -106467-11-17 17:31 J -37165327.83 -37165327.77 -37165327.70 0.0088 0.0079

Saturn -106467-12-19 13:26 J -37165296.09 -37165295.94 -37165295.78 0.0290 0.0099

Neptune -106466-02-13 19:26 J -37165239.74 -37165239.69 -37165239.64 0.0088 0.0083

Saturn -106466-03-18 08:23 J -37165207.32 -37165207.15 -37165206.99 0.0289 0.0005

Neptune -106466-05-12 21:21 J -37165151.64 -37165151.61 -37165151.59 0.0088 0.0087

Saturn -106466-06-15 03:21 J -37165118.51 -37165118.36 -37165118.20 0.0288 0.0093

Saturn -106466-09-11 22:47 J -37165029.67 -37165029.55 -37165029.42 0.0288 0.0191

Earth -106465-12-01 10:47 J -37164583.18 -37164583.05 -37164582.92 0.2625 0.1345

Moon -106465-12-01 11:02 J -37164583.17 -37164583.04 -37164582.91 0.2619 0.1416 *

Jupiter -106462-06-13 21:07 J -37163658.70 -37163658.62 -37163658.54 0.0529 0.0432

Jupiter -106462-09-11 12:14 J -37163569.13 -37163568.99 -37163568.85 0.0531 0.0113

Pluto -106462-12-22 09:35 J -37163467.15 -37163467.10 -37163467.03 0.0085 0.0074

Pluto -106461-03-19 11:02 J -37163379.13 -37163379.04 -37163378.95 0.0085 0.0060

Earth -106461-06-05 13:55 J -37163301.02 -37163300.92 -37163300.82 0.2705 0.1397

Moon -106461-06-05 14:09 J -37163301.00 -37163300.91 -37163300.81 0.2712 0.1441 *

Pluto -106461-06-15 11:59 J -37163291.10 -37163291.00 -37163290.88 0.0084 0.0047

Pluto -106461-09-11 13:26 J -37163203.06 -37163202.94 -37163202.81 0.0084 0.0032

Pluto -106461-12-08 14:52 J -37163115.01 -37163114.88 -37163114.75 0.0084 0.0018

Mars -106461-12-27 21:21 J -37163095.65 -37163095.61 -37163095.57 0.1677 0.1607

Pluto -106460-03-06 16:04 J -37163026.96 -37163026.83 -37163026.70 0.0084 0.0005

Pluto -106460-06-02 17:16 J -37162938.91 -37162938.78 -37162938.65 0.0084 0.0009

Pluto -106460-08-29 18:28 J -37162850.85 -37162850.73 -37162850.60 0.0084 0.0023

Mars -106460-11-10 18:57 J -37162777.73 -37162777.71 -37162777.68 0.1841 0.1794

Pluto -106460-11-25 19:55 J -37162762.79 -37162762.67 -37162762.55 0.0084 0.0036

Pluto -106459-02-21 20:52 J -37162674.73 -37162674.63 -37162674.52 0.0084 0.0050

Pluto -106459-05-20 22:19 J -37162586.66 -37162586.57 -37162586.49 0.0083 0.0063

Pluto -106459-08-16 23:16 J -37162498.57 -37162498.53 -37162498.47 0.0083 0.0076

Mars -106459-12-04 03:35 J -37162389.50 -37162389.35 -37162389.20 0.1694 0.0368

Mars -106458-10-17 17:31 J -37162071.90 -37162071.77 -37162071.65 0.1822 0.0404

Jupiter -106456-01-29 11:31 J -37161602.06 -37161602.02 -37161601.98 0.0499 0.0475

Jupiter -106456-04-29 05:16 J -37161512.44 -37161512.28 -37161512.12 0.0496 0.0013

Uranus -106456-10-21 14:38 J -37161336.94 -37161336.89 -37161336.81 0.0145 0.0133

Uranus -106455-01-17 21:07 J -37161248.73 -37161248.62 -37161248.51 0.0145 0.0108

Uranus -106455-04-16 03:21 J -37161160.49 -37161160.36 -37161160.22 0.0145 0.0084

Moon -106455-06-15 12:28 J -37161100.02 -37161099.98 -37161099.94 0.2716 0.2497

Earth -106455-06-15 12:28 J -37161100.01 -37161099.98 -37161099.94 0.2723 0.2542 *

Venus -106455-07-06 13:55 J -37161078.96 -37161078.92 -37161078.89 0.3772 0.3550

Uranus -106455-07-13 09:50 J -37161072.24 -37161072.09 -37161071.94 0.0146 0.0060

Uranus -106455-10-09 16:04 J -37160983.99 -37160983.83 -37160983.66 0.0146 0.0036

Uranus -106454-01-05 22:33 J -37160895.72 -37160895.56 -37160895.39 0.0146 0.0011

Uranus -106454-04-04 05:16 J -37160807.45 -37160807.28 -37160807.12 0.0146 0.0015

Uranus -106454-07-01 11:45 J -37160719.17 -37160719.01 -37160718.85 0.0146 0.0040

Uranus -106454-09-27 18:14 J -37160630.88 -37160630.74 -37160630.58 0.0146 0.0066

Uranus -106454-12-25 00:57 J -37160542.58 -37160542.46 -37160542.32 0.0146 0.0092

Uranus -106453-03-22 07:40 J -37160454.27 -37160454.18 -37160454.07 0.0146 0.0118

Uranus -106453-06-18 14:38 J -37160365.91 -37160365.89 -37160365.86 0.0146 0.0144

Saturn -106451-01-16 19:11 J -37159788.76 -37159788.70 -37159788.62 0.0269 0.0237

Saturn -106451-04-15 08:52 J -37159700.24 -37159700.13 -37159700.01 0.0269 0.0166

Saturn -106451-07-12 22:19 J -37159611.71 -37159611.57 -37159611.43 0.0270 0.0095

Saturn -106451-10-09 11:31 J -37159523.16 -37159523.02 -37159522.87 0.0271 0.0025

Saturn -106450-01-06 00:43 J -37159434.61 -37159434.47 -37159434.33 0.0271 0.0046

Saturn -106450-04-04 13:26 J -37159346.06 -37159345.94 -37159345.80 0.0272 0.0116

Jupiter -106450-06-30 14:52 J -37159259.03 -37159258.88 -37159258.74 0.0531 0.0022

Saturn -106450-07-02 02:09 J -37159257.51 -37159257.41 -37159257.30 0.0273 0.0185

Jupiter -106450-09-28 04:47 J -37159169.33 -37159169.30 -37159169.27 0.0533 0.0516

Saturn -106450-09-28 14:52 J -37159168.93 -37159168.88 -37159168.83 0.0273 0.0252

Venus -106449-01-20 10:19 J -37159055.17 -37159055.07 -37159054.97 0.3768 0.2008

Mars -106449-04-25 07:40 J -37158959.33 -37158959.18 -37158959.03 0.1690 0.0139

Mars -106448-03-09 00:14 J -37158641.62 -37158641.49 -37158641.37 0.1827 0.0120

Earth -106448-06-08 08:52 J -37158550.24 -37158550.13 -37158550.01 0.2710 0.0359

Moon -106448-06-08 09:35 J -37158550.21 -37158550.10 -37158549.99 0.2714 0.0227 *

Earth -106445-11-26 08:52 J -37157283.24 -37157283.13 -37157283.01 0.2635 0.1638

Moon -106445-11-26 10:19 J -37157283.19 -37157283.07 -37157282.94 0.2634 0.1445 *

Jupiter -106444-02-15 06:14 J -37157202.40 -37157202.24 -37157202.09 0.0497 0.0111

Jupiter -106444-05-16 01:11 J -37157112.55 -37157112.45 -37157112.35 0.0495 0.0390

Venus -106444-08-05 07:11 J -37157031.32 -37157031.20 -37157031.08 0.3763 0.0408

Mars -106440-09-15 11:59 J -37155529.13 -37155529.00 -37155528.86 0.1685 0.0630

Mars -106439-07-30 06:57 J -37155211.33 -37155211.21 -37155211.09 0.1832 0.0639

Venus -106438-02-19 04:19 J -37155007.43 -37155007.32 -37155007.20 0.3759 0.1263

Jupiter -106438-04-18 17:16 J -37154948.92 -37154948.78 -37154948.64 0.0530 0.0142

Jupiter -106438-07-17 07:40 J -37154859.28 -37154859.18 -37154859.09 0.0532 0.0394

Mars -106438-08-22 21:07 J -37154822.68 -37154822.62 -37154822.55 0.1703 0.1502

Saturn -106437-02-08 16:33 J -37154652.89 -37154652.81 -37154652.71 0.0291 0.0234

Saturn -106437-05-07 11:02 J -37154564.18 -37154564.04 -37154563.90 0.0291 0.0140

Mars -106437-07-05 02:52 J -37154505.46 -37154505.38 -37154505.31 0.1812 0.1404

Saturn -106437-08-04 05:45 J -37154475.42 -37154475.26 -37154475.10 0.0290 0.0045

Saturn -106437-11-01 00:43 J -37154386.63 -37154386.47 -37154386.31 0.0289 0.0052

Saturn -106436-01-28 19:55 J -37154297.81 -37154297.67 -37154297.53 0.0288 0.0149

Saturn -106436-04-27 15:35 J -37154208.93 -37154208.85 -37154208.77 0.0288 0.0247

Earth -106435-06-11 03:50 J -37153799.45 -37153799.34 -37153799.23 0.2715 0.0699

Moon -106435-06-11 04:47 J -37153799.41 -37153799.30 -37153799.19 0.2713 0.0720 *

Venus -106434-02-19 01:40 J -37153546.53 -37153546.43 -37153546.34 0.3611 0.2204

Venus -106433-09-04 01:55 J -37152983.50 -37152983.42 -37152983.35 0.3754 0.2982

Jupiter -106433-12-04 07:11 J -37152892.33 -37152892.20 -37152892.05 0.0497 0.0233

Jupiter -106432-03-04 01:55 J -37152802.56 -37152802.42 -37152802.28 0.0495 0.0265

Earth -106432-11-29 12:57 J -37152532.11 -37152531.96 -37152531.81 0.2630 0.0067

Moon -106432-11-29 13:55 J -37152532.07 -37152531.92 -37152531.77 0.2624 0.0061 *

Mars -106430-02-05 16:47 J -37152098.91 -37152098.80 -37152098.69 0.1681 0.1104

Mars -106430-12-20 13:11 J -37151781.05 -37151780.95 -37151780.86 0.1837 0.1187

Venus -106429-09-03 22:33 J -37151522.68 -37151522.56 -37151522.44 0.3615 0.0674

Mars -106428-01-12 00:28 J -37151392.60 -37151392.48 -37151392.35 0.1698 0.0954

Moon -106428-06-03 23:31 J -37151249.58 -37151249.52 -37151249.46 0.2707 0.2310

Earth -106428-06-03 23:45 J -37151249.57 -37151249.51 -37151249.45 0.2701 0.2243 *

Mars -106428-11-25 10:19 J -37151075.18 -37151075.07 -37151074.96 0.1817 0.0933

Jupiter -106426-02-04 19:11 J -37150638.83 -37150638.70 -37150638.58 0.0529 0.0275

Jupiter -106426-05-05 09:50 J -37150549.21 -37150549.09 -37150548.97 0.0531 0.0264

Venus -106423-03-20 19:11 J -37149498.82 -37149498.70 -37149498.58 0.3619 0.0817

Saturn -106422-06-05 20:09 J -37149056.69 -37149056.66 -37149056.63 0.0269 0.0262

Earth -106422-06-13 22:47 J -37149048.64 -37149048.55 -37149048.47 0.2719 0.1727

Moon -106422-06-13 23:02 J -37149048.62 -37149048.54 -37149048.45 0.2714 0.1782 *

Saturn -106422-09-02 09:50 J -37148968.19 -37148968.09 -37148967.98 0.0270 0.0191

Saturn -106422-11-29 23:31 J -37148879.66 -37148879.52 -37148879.39 0.0270 0.0120

Saturn -106421-02-26 12:43 J -37148791.11 -37148790.97 -37148790.82 0.0271 0.0049

Saturn -106421-05-25 01:55 J -37148702.57 -37148702.42 -37148702.27 0.0272 0.0022

Mars -106421-06-27 21:35 J -37148668.65 -37148668.60 -37148668.55 0.1677 0.1563

Saturn -106421-08-21 14:52 J -37148614.02 -37148613.88 -37148613.74 0.0272 0.0092

Jupiter -106421-09-22 08:23 J -37148582.26 -37148582.15 -37148582.04 0.0498 0.0354

Saturn -106421-11-18 03:35 J -37148525.46 -37148525.35 -37148525.23 0.0273 0.0161

Jupiter -106421-12-21 02:38 J -37148492.55 -37148492.39 -37148492.24 0.0496 0.0139

Saturn -106420-02-14 16:19 J -37148436.89 -37148436.82 -37148436.74 0.0274 0.0229

Mars -106420-05-11 18:57 J -37148350.75 -37148350.71 -37148350.67 0.1842 0.1753

Mars -106419-06-04 04:04 J -37147962.48 -37147962.33 -37147962.19 0.1694 0.0422

Moon -106419-12-02 16:47 J -37147780.91 -37147780.80 -37147780.68 0.2619 0.1650

Earth -106419-12-02 17:02 J -37147780.91 -37147780.79 -37147780.68 0.2625 0.1677 *

Mars -106418-04-17 17:16 J -37147644.90 -37147644.78 -37147644.65 0.1822 0.0442

Venus -106418-10-04 15:35 J -37147474.94 -37147474.85 -37147474.75 0.3623 0.2232

Uranus -106416-06-14 17:16 J -37146855.82 -37146855.78 -37146855.73 0.0133 0.0126

Uranus -106416-09-10 21:07 J -37146767.69 -37146767.62 -37146767.52 0.0133 0.0110

Uranus -106416-12-08 01:26 J -37146679.54 -37146679.44 -37146679.33 0.0133 0.0092

Uranus -106415-03-06 05:31 J -37146591.39 -37146591.27 -37146591.15 0.0133 0.0075

Uranus -106415-06-02 09:21 J -37146503.24 -37146503.11 -37146502.97 0.0133 0.0058

Earth -106415-06-06 18:57 J -37146498.81 -37146498.71 -37146498.61 0.2706 0.1185

Moon -106415-06-06 19:11 J -37146498.80 -37146498.70 -37146498.60 0.2713 0.1106 *

Uranus -106415-08-29 13:11 J -37146415.08 -37146414.95 -37146414.80 0.0133 0.0041

Jupiter -106415-11-23 20:38 J -37146328.73 -37146328.64 -37146328.55 0.0528 0.0413

Uranus -106415-11-25 17:16 J -37146326.92 -37146326.78 -37146326.63 0.0133 0.0024

Jupiter -106414-02-21 11:45 J -37146239.14 -37146239.01 -37146238.87 0.0531 0.0131

Uranus -106414-02-21 21:07 J -37146238.77 -37146238.62 -37146238.47 0.0133 0.0007

Uranus -106414-05-21 00:57 J -37146150.61 -37146150.46 -37146150.31 0.0133 0.0009

Uranus -106414-08-17 04:47 J -37146062.44 -37146062.30 -37146062.16 0.0133 0.0025

Uranus -106414-11-13 08:23 J -37145974.28 -37145974.15 -37145974.01 0.0133 0.0042

Uranus -106413-02-09 12:14 J -37145886.12 -37145885.99 -37145885.86 0.0133 0.0058

Uranus -106413-05-07 15:50 J -37145797.95 -37145797.84 -37145797.71 0.0132 0.0074

Uranus -106413-08-03 19:26 J -37145709.78 -37145709.69 -37145709.57 0.0132 0.0090

Uranus -106413-10-30 23:02 J -37145621.61 -37145621.54 -37145621.44 0.0132 0.0106

Uranus -106412-01-27 02:52 J -37145533.43 -37145533.38 -37145533.32 0.0132 0.0121

Venus -106412-04-19 11:45 J -37145451.02 -37145451.01 -37145451.00 0.3627 0.3609

Mars -106410-10-25 08:09 J -37144532.31 -37144532.16 -37144532.01 0.1689 0.0092

Jupiter -106409-07-11 10:04 J -37144272.13 -37144272.08 -37144272.03 0.0499 0.0469

Mars -106409-09-07 00:28 J -37144214.61 -37144214.48 -37144214.36 0.1827 0.0088

Jupiter -106409-10-09 03:50 J -37144182.50 -37144182.34 -37144182.18 0.0496 0.0021

Saturn -106408-06-27 17:02 J -37143920.85 -37143920.79 -37143920.71 0.0291 0.0260

Saturn -106408-09-24 11:16 J -37143832.15 -37143832.03 -37143831.89 0.0290 0.0168

Saturn -106408-12-22 05:59 J -37143743.41 -37143743.25 -37143743.09 0.0290 0.0073

Saturn -106407-03-21 00:57 J -37143654.63 -37143654.46 -37143654.30 0.0289 0.0024

Saturn -106407-06-17 19:55 J -37143565.81 -37143565.67 -37143565.51 0.0288 0.0121

Saturn -106407-09-14 15:35 J -37143476.96 -37143476.85 -37143476.74 0.0288 0.0218

Jupiter -106403-12-10 13:11 J -37141929.09 -37141928.95 -37141928.81 0.0531 0.0013

Jupiter -106402-03-10 03:07 J -37141839.39 -37141839.37 -37141839.34 0.0533 0.0519

Earth -106402-06-09 13:55 J -37141748.03 -37141747.92 -37141747.81 0.2710 0.0134

Moon -106402-06-09 14:38 J -37141748.00 -37141747.89 -37141747.77 0.2713 0.0136 *

Mars -106400-03-16 12:14 J -37141102.13 -37141101.99 -37141101.85 0.1685 0.0585

Mars -106399-01-28 07:11 J -37140784.32 -37140784.20 -37140784.08 0.1832 0.0592

Earth -106399-11-27 15:07 J -37140481.00 -37140480.87 -37140480.74 0.2634 0.1313

Moon -106399-11-27 16:33 J -37140480.94 -37140480.81 -37140480.68 0.2631 0.1296 *

Venus -106398-02-10 12:43 J -37140406.04 -37140405.97 -37140405.91 0.3771 0.3016

Mars -106398-02-20 21:35 J -37140395.66 -37140395.60 -37140395.54 0.1703 0.1551

Mars -106397-01-04 02:52 J -37140078.45 -37140078.38 -37140078.30 0.1812 0.1452

Jupiter -106397-07-28 05:31 J -37139872.43 -37139872.27 -37139872.12 0.0497 0.0097

Jupiter -106397-10-26 00:28 J -37139782.57 -37139782.48 -37139782.39 0.0495 0.0405

Venus -106393-08-26 09:07 J -37138382.23 -37138382.12 -37138382.01 0.3766 0.1461

Neptune -106393-08-28 10:19 J -37138380.08 -37138380.07 -37138380.05 0.0089 0.0088

Neptune -106393-11-24 12:14 J -37138292.02 -37138291.99 -37138291.92 0.0089 0.0084

Saturn -106392-01-19 11:16 J -37138236.11 -37138236.03 -37138235.93 0.0269 0.0213

Neptune -106392-02-20 14:38 J -37138203.95 -37138203.89 -37138203.81 0.0089 0.0079

Saturn -106392-04-18 00:57 J -37138147.58 -37138147.46 -37138147.33 0.0269 0.0141

Neptune -106392-05-19 16:47 J -37138115.87 -37138115.80 -37138115.70 0.0089 0.0075

Saturn -106392-07-15 14:23 J -37138059.04 -37138058.90 -37138058.76 0.0270 0.0071

Neptune -106392-08-15 19:11 J -37138027.79 -37138027.70 -37138027.60 0.0089 0.0070

Saturn -106392-10-12 03:35 J -37137970.50 -37137970.35 -37137970.21 0.0271 0.0005

Neptune -106392-11-11 21:35 J -37137939.71 -37137939.60 -37137939.49 0.0089 0.0065

Saturn -106391-01-08 16:33 J -37137881.95 -37137881.81 -37137881.67 0.0271 0.0069

Neptune -106391-02-07 23:45 J -37137851.62 -37137851.51 -37137851.39 0.0089 0.0061

Saturn -106391-04-07 05:16 J -37137793.40 -37137793.28 -37137793.15 0.0272 0.0139

Neptune -106391-05-07 02:09 J -37137763.53 -37137763.41 -37137763.28 0.0089 0.0056

Saturn -106391-07-04 17:59 J -37137704.84 -37137704.75 -37137704.66 0.0272 0.0207

Neptune -106391-08-03 04:33 J -37137675.44 -37137675.31 -37137675.18 0.0089 0.0051

Mars -106391-08-06 17:02 J -37137671.90 -37137671.79 -37137671.67 0.1681 0.1057

Jupiter -106391-09-28 15:35 J -37137618.99 -37137618.85 -37137618.71 0.0530 0.0141

Neptune -106391-10-30 06:28 J -37137587.35 -37137587.23 -37137587.08 0.0089 0.0047

Jupiter -106391-12-27 05:59 J -37137529.34 -37137529.25 -37137529.16 0.0533 0.0396

Neptune -106390-01-26 09:07 J -37137499.26 -37137499.12 -37137498.97 0.0089 0.0042

Neptune -106390-04-24 11:31 J -37137411.17 -37137411.02 -37137410.87 0.0089 0.0037

Mars -106390-06-20 13:11 J -37137354.05 -37137353.95 -37137353.85 0.1837 0.1139

Neptune -106390-07-21 13:55 J -37137323.07 -37137322.92 -37137322.77 0.0089 0.0032

Neptune -106390-10-17 16:04 J -37137234.98 -37137234.83 -37137234.67 0.0089 0.0028

Neptune -106389-01-13 18:28 J -37137146.88 -37137146.73 -37137146.57 0.0089 0.0023

Neptune -106389-04-10 20:52 J -37137058.79 -37137058.63 -37137058.47 0.0089 0.0018

Earth -106389-06-11 08:52 J -37136997.24 -37136997.13 -37136997.02 0.2715 0.0906

Moon -106389-06-11 09:35 J -37136997.20 -37136997.10 -37136996.99 0.2714 0.1037 *

Neptune -106389-07-07 23:16 J -37136970.69 -37136970.53 -37136970.36 0.0089 0.0013

Mars -106389-07-13 00:43 J -37136965.59 -37136965.47 -37136965.35 0.1698 0.1002

Neptune -106389-10-04 01:40 J -37136882.59 -37136882.43 -37136882.26 0.0089 0.0009

Neptune -106389-12-31 04:19 J -37136794.49 -37136794.32 -37136794.16 0.0089 0.0004

Neptune -106388-03-29 06:43 J -37136706.39 -37136706.22 -37136706.06 0.0089 0.0002

Mars -106388-05-26 10:19 J -37136648.17 -37136648.07 -37136647.96 0.1817 0.0979

Neptune -106388-06-25 09:07 J -37136618.29 -37136618.12 -37136617.96 0.0089 0.0007

Neptune -106388-09-21 11:31 J -37136530.18 -37136530.02 -37136529.85 0.0089 0.0012

Neptune -106388-12-18 13:55 J -37136442.08 -37136441.92 -37136441.75 0.0089 0.0017

Venus -106387-03-12 06:14 J -37136358.36 -37136358.24 -37136358.12 0.3762 0.0200

Neptune -106387-03-16 16:19 J -37136353.97 -37136353.82 -37136353.65 0.0089 0.0022

Neptune -106387-06-12 18:43 J -37136265.87 -37136265.72 -37136265.55 0.0089 0.0027

Neptune -106387-09-08 21:21 J -37136177.76 -37136177.61 -37136177.45 0.0089 0.0032

Neptune -106387-12-05 23:45 J -37136089.65 -37136089.51 -37136089.35 0.0089 0.0037

Neptune -106386-03-04 02:23 J -37136001.54 -37136001.40 -37136001.24 0.0089 0.0042

Neptune -106386-05-31 04:47 J -37135913.43 -37135913.30 -37135913.14 0.0089 0.0047

Neptune -106386-08-27 07:26 J -37135825.31 -37135825.19 -37135825.04 0.0089 0.0052

Neptune -106386-11-23 10:04 J -37135737.20 -37135737.08 -37135736.94 0.0089 0.0057

Earth -106386-11-30 18:57 J -37135729.86 -37135729.71 -37135729.56 0.2629 0.0336

Moon -106386-11-30 19:55 J -37135729.82 -37135729.67 -37135729.52 0.2624 0.0452 *

Neptune -106385-02-19 12:43 J -37135649.08 -37135648.97 -37135648.84 0.0089 0.0062

Jupiter -106385-05-16 06:28 J -37135562.37 -37135562.23 -37135562.09 0.0497 0.0219

Neptune -106385-05-17 15:21 J -37135560.96 -37135560.86 -37135560.75 0.0089 0.0067

Neptune -106385-08-13 17:45 J -37135472.84 -37135472.76 -37135472.65 0.0089 0.0073

Jupiter -106385-08-14 01:11 J -37135472.59 -37135472.45 -37135472.32 0.0495 0.0278

Neptune -106385-11-09 20:23 J -37135384.72 -37135384.65 -37135384.56 0.0089 0.0078

Neptune -106384-02-05 23:02 J -37135296.59 -37135296.54 -37135296.47 0.0089 0.0083

Neptune -106384-05-05 01:40 J -37135208.44 -37135208.43 -37135208.40 0.0089 0.0088

Venus -106383-03-12 03:21 J -37134897.41 -37134897.36 -37134897.30 0.3608 0.3216

Moon -106382-06-05 04:47 J -37134447.38 -37134447.30 -37134447.23 0.2709 0.2051

Earth -106382-06-05 04:47 J -37134447.37 -37134447.30 -37134447.23 0.2702 0.2030 *

Venus -106382-09-26 03:21 J -37134334.46 -37134334.36 -37134334.25 0.3757 0.1844

Mars -106382-12-27 22:04 J -37134241.64 -37134241.58 -37134241.52 0.1677 0.1513

Mars -106381-11-09 19:26 J -37133923.74 -37133923.69 -37133923.65 0.1841 0.1697

Mars -106380-12-03 04:33 J -37133535.45 -37133535.31 -37133535.16 0.1694 0.0479

Jupiter -106379-07-17 17:59 J -37133308.88 -37133308.75 -37133308.63 0.0530 0.0268

Jupiter -106379-10-15 08:38 J -37133219.26 -37133219.14 -37133219.01 0.0532 0.0273

Mars -106379-10-16 17:31 J -37133217.89 -37133217.77 -37133217.64 0.1822 0.0492

Saturn -106378-02-11 08:52 J -37133100.24 -37133100.13 -37133100.02 0.0291 0.0208

Saturn -106378-05-11 03:21 J -37133011.51 -37133011.36 -37133011.21 0.0290 0.0114

Saturn -106378-08-07 22:04 J -37132922.74 -37132922.58 -37132922.42 0.0290 0.0019

Venus -106378-09-26 00:28 J -37132873.59 -37132873.48 -37132873.37 0.3612 0.1660

Saturn -106378-11-04 17:02 J -37132833.95 -37132833.79 -37132833.63 0.0289 0.0078

Saturn -106377-02-01 12:28 J -37132745.11 -37132744.98 -37132744.85 0.0288 0.0175

Saturn -106377-04-30 07:55 J -37132656.21 -37132656.17 -37132656.11 0.0287 0.0274

Venus -106376-04-11 00:57 J -37132310.49 -37132310.46 -37132310.43 0.3752 0.3574

Earth -106376-06-14 03:35 J -37132246.42 -37132246.35 -37132246.27 0.2720 0.1939

Moon -106376-06-14 04:04 J -37132246.41 -37132246.33 -37132246.26 0.2713 0.1916 *

Jupiter -106373-03-04 07:40 J -37131252.29 -37131252.18 -37131252.06 0.0498 0.0340

Jupiter -106373-06-02 01:55 J -37131162.57 -37131162.42 -37131162.26 0.0496 0.0154

Moon -106373-12-02 22:47 J -37130978.65 -37130978.55 -37130978.45 0.2618 0.1959

Earth -106373-12-02 23:16 J -37130978.63 -37130978.53 -37130978.43 0.2624 0.2014 *

Venus -106372-04-10 21:21 J -37130849.73 -37130849.61 -37130849.48 0.3616 0.0195

Uranus -106372-11-10 21:50 J -37130635.66 -37130635.59 -37130635.51 0.0145 0.0128

Uranus -106371-02-07 04:04 J -37130547.44 -37130547.33 -37130547.21 0.0145 0.0104

Uranus -106371-05-06 10:19 J -37130459.20 -37130459.07 -37130458.93 0.0145 0.0080

Uranus -106371-08-02 16:33 J -37130370.95 -37130370.81 -37130370.65 0.0146 0.0056

Uranus -106371-10-29 23:02 J -37130282.70 -37130282.54 -37130282.37 0.0146 0.0031

Uranus -106370-01-26 05:45 J -37130194.43 -37130194.26 -37130194.10 0.0146 0.0007

Uranus -106370-04-24 12:14 J -37130106.16 -37130105.99 -37130105.82 0.0146 0.0020

Mars -106370-04-25 08:23 J -37130105.30 -37130105.15 -37130105.00 0.1689 0.0049

Uranus -106370-07-21 18:43 J -37130017.88 -37130017.72 -37130017.56 0.0146 0.0045

Uranus -106370-10-18 01:11 J -37129929.59 -37129929.45 -37129929.29 0.0146 0.0071

Uranus -106369-01-14 08:09 J -37129841.29 -37129841.16 -37129841.03 0.0146 0.0097

Mars -106369-03-08 00:28 J -37129787.60 -37129787.48 -37129787.35 0.1827 0.0034

Uranus -106369-04-11 14:52 J -37129752.97 -37129752.88 -37129752.79 0.0146 0.0123

Earth -106369-06-06 23:59 J -37129696.61 -37129696.50 -37129696.40 0.2706 0.0974

Moon -106369-06-07 00:14 J -37129696.59 -37129696.49 -37129696.38 0.2713 0.0982 *

Jupiter -106367-05-05 19:55 J -37128998.77 -37128998.67 -37128998.58 0.0529 0.0400

Jupiter -106367-08-03 11:02 J -37128909.18 -37128909.04 -37128908.90 0.0531 0.0143

Venus -106367-10-25 17:59 J -37128825.86 -37128825.75 -37128825.63 0.3620 0.1323

Earth -106366-11-25 17:45 J -37128429.78 -37128429.76 -37128429.74 0.2639 0.2601

Moon -106366-11-25 19:11 J -37128429.73 -37128429.70 -37128429.67 0.2641 0.2576

Saturn -106363-06-08 11:59 J -37127504.06 -37127504.00 -37127503.93 0.0269 0.0239

Saturn -106363-09-05 01:40 J -37127415.54 -37127415.43 -37127415.31 0.0270 0.0168

Saturn -106363-12-02 15:07 J -37127327.01 -37127326.87 -37127326.73 0.0270 0.0097

Saturn -106362-03-01 04:19 J -37127238.46 -37127238.32 -37127238.17 0.0271 0.0027

Saturn -106362-05-28 17:31 J -37127149.92 -37127149.77 -37127149.63 0.0272 0.0044

Saturn -106362-08-25 06:28 J -37127061.36 -37127061.23 -37127061.10 0.0272 0.0113

Saturn -106362-11-21 19:11 J -37126972.81 -37126972.70 -37126972.60 0.0273 0.0182

Jupiter -106362-12-22 08:52 J -37126942.18 -37126942.13 -37126942.07 0.0499 0.0460

Saturn -106361-02-18 07:40 J -37126884.23 -37126884.18 -37126884.12 0.0274 0.0250

Jupiter -106361-03-21 02:38 J -37126852.55 -37126852.39 -37126852.22 0.0497 0.0033

Venus -106361-05-10 14:23 J -37126801.98 -37126801.90 -37126801.82 0.3624 0.2719

Mars -106361-09-14 12:43 J -37126675.11 -37126674.97 -37126674.83 0.1685 0.0534

Mars -106360-07-29 07:11 J -37126357.32 -37126357.20 -37126357.08 0.1832 0.0549

Mars -106359-08-21 22:04 J -37125968.63 -37125968.58 -37125968.53 0.1703 0.1605

Mars -106358-07-05 03:07 J -37125651.44 -37125651.37 -37125651.31 0.1812 0.1491

Earth -106356-06-09 18:57 J -37124945.83 -37124945.71 -37124945.60 0.2711 0.0087

Moon -106356-06-09 19:40 J -37124945.79 -37124945.68 -37124945.57 0.2712 0.0223 *

Jupiter -106355-05-22 12:57 J -37124599.10 -37124598.96 -37124598.82 0.0530 0.0009

Earth -106353-11-27 21:21 J -37123678.75 -37123678.61 -37123678.47 0.2634 0.0987

Moon -106353-11-27 22:47 J -37123678.70 -37123678.55 -37123678.41 0.2630 0.0777 *

Mars -106351-02-04 17:16 J -37123244.89 -37123244.78 -37123244.66 0.1681 0.1013

Mars -106351-12-19 13:26 J -37122927.04 -37122926.94 -37122926.83 0.1837 0.1089

Jupiter -106349-01-08 04:04 J -37122542.48 -37122542.33 -37122542.17 0.0497 0.0090

Mars -106349-01-12 01:26 J -37122538.56 -37122538.44 -37122538.33 0.1698 0.1059

Jupiter -106349-04-06 23:16 J -37122452.62 -37122452.53 -37122452.44 0.0495 0.0414

Saturn -106349-06-30 09:07 J -37122368.21 -37122368.12 -37122368.03 0.0291 0.0236

Saturn -106349-09-27 03:21 J -37122279.50 -37122279.36 -37122279.22 0.0290 0.0143

Mars -106349-11-24 10:33 J -37122221.16 -37122221.06 -37122220.96 0.1817 0.1021

Saturn -106349-12-24 22:04 J -37122190.74 -37122190.58 -37122190.42 0.0290 0.0048

Saturn -106348-03-23 17:02 J -37122101.95 -37122101.79 -37122101.63 0.0289 0.0048

Saturn -106348-06-20 12:14 J -37122013.13 -37122012.99 -37122012.84 0.0288 0.0145

Saturn -106348-09-17 07:40 J -37121924.26 -37121924.18 -37121924.08 0.0288 0.0244

Jupiter -106343-03-10 13:55 J -37120289.05 -37120288.92 -37120288.78 0.0530 0.0138

Jupiter -106343-06-08 04:33 J -37120199.40 -37120199.31 -37120199.22 0.0532 0.0399

Earth -106343-06-12 13:55 J -37120195.03 -37120194.92 -37120194.82 0.2716 0.1125

Moon -106343-06-12 14:23 J -37120195.00 -37120194.90 -37120194.79 0.2713 0.1120 *

Mars -106342-06-27 22:19 J -37119814.63 -37119814.57 -37119814.50 0.1677 0.1469

Venus -106342-09-17 11:16 J -37119733.11 -37119733.03 -37119732.94 0.3769 0.2481

Mars -106341-05-10 19:26 J -37119496.74 -37119496.69 -37119496.63 0.1841 0.1648

Mars -106340-06-03 04:47 J -37119108.44 -37119108.30 -37119108.16 0.1694 0.0522

Earth -106340-12-01 01:26 J -37118927.59 -37118927.44 -37118927.30 0.2629 0.0673

Moon -106340-12-01 01:55 J -37118927.57 -37118927.42 -37118927.27 0.2623 0.0640 *

Mars -106339-04-16 17:45 J -37118790.88 -37118790.76 -37118790.64 0.1822 0.0536

Jupiter -106338-10-27 05:45 J -37118232.40 -37118232.26 -37118232.11 0.0497 0.0205

Jupiter -106337-01-25 00:28 J -37118142.61 -37118142.48 -37118142.35 0.0495 0.0294

Venus -106336-04-02 08:09 J -37117709.28 -37117709.16 -37117709.05 0.3765 0.0920

Moon -106336-06-05 09:50 J -37117645.18 -37117645.09 -37117645.01 0.2710 0.1811

Earth -106336-06-05 09:50 J -37117645.17 -37117645.09 -37117645.01 0.2702 0.1812 *

Saturn -106334-10-26 13:26 J -37116771.96 -37116771.94 -37116771.89 0.0268 0.0261

Saturn -106333-01-23 03:21 J -37116683.46 -37116683.36 -37116683.25 0.0269 0.0189

Saturn -106333-04-20 16:47 J -37116594.93 -37116594.80 -37116594.66 0.0269 0.0118

Saturn -106333-07-18 06:14 J -37116506.39 -37116506.24 -37116506.10 0.0270 0.0047

Saturn -106333-10-14 19:11 J -37116417.84 -37116417.70 -37116417.55 0.0271 0.0024

Saturn -106332-01-11 08:09 J -37116329.29 -37116329.16 -37116329.02 0.0271 0.0092

Saturn -106332-04-09 20:52 J -37116240.74 -37116240.63 -37116240.51 0.0272 0.0161

Uranus -106332-07-04 23:59 J -37116154.55 -37116154.50 -37116154.44 0.0133 0.0124

Saturn -106332-07-07 09:35 J -37116152.17 -37116152.10 -37116152.02 0.0273 0.0229

Uranus -106332-10-01 04:04 J -37116066.41 -37116066.33 -37116066.24 0.0133 0.0107

Jupiter -106332-12-27 16:19 J -37115978.95 -37115978.82 -37115978.70 0.0530 0.0267

Uranus -106332-12-28 08:09 J -37115978.27 -37115978.16 -37115978.05 0.0133 0.0089

Uranus -106331-03-26 11:59 J -37115890.12 -37115890.00 -37115889.87 0.0133 0.0072

Jupiter -106331-03-27 07:11 J -37115889.32 -37115889.20 -37115889.08 0.0532 0.0274

Uranus -106331-06-22 16:04 J -37115801.96 -37115801.83 -37115801.69 0.0133 0.0055

Uranus -106331-09-18 19:55 J -37115713.81 -37115713.67 -37115713.52 0.0133 0.0039

Venus -106331-10-17 05:02 J -37115685.41 -37115685.29 -37115685.17 0.3760 0.0729

Mars -106331-10-24 08:52 J -37115678.28 -37115678.13 -37115677.98 0.1690 0.0039

Uranus -106331-12-15 23:59 J -37115625.65 -37115625.50 -37115625.36 0.0133 0.0022

Uranus -106330-03-14 03:50 J -37115537.49 -37115537.34 -37115537.19 0.0133 0.0005

Uranus -106330-06-10 07:40 J -37115449.33 -37115449.18 -37115449.04 0.0133 0.0012

Earth -106330-06-15 08:38 J -37115444.21 -37115444.14 -37115444.07 0.2720 0.2150

Moon -106330-06-15 08:52 J -37115444.19 -37115444.13 -37115444.07 0.2713 0.2217 *

Uranus -106330-09-06 11:16 J -37115361.17 -37115361.03 -37115360.88 0.0133 0.0028

Mars -106330-09-07 00:43 J -37115360.60 -37115360.47 -37115360.34 0.1827 0.0030

Uranus -106330-12-03 15:07 J -37115273.00 -37115272.87 -37115272.73 0.0133 0.0044

Uranus -106329-02-29 18:57 J -37115184.84 -37115184.71 -37115184.58 0.0133 0.0060

Uranus -106329-05-27 22:33 J -37115096.67 -37115096.56 -37115096.44 0.0132 0.0076

Uranus -106329-08-24 02:09 J -37115008.51 -37115008.41 -37115008.30 0.0132 0.0092

Uranus -106329-11-20 05:45 J -37114920.33 -37114920.26 -37114920.17 0.0132 0.0107

Uranus -106328-02-16 09:35 J -37114832.15 -37114832.10 -37114832.05 0.0132 0.0123

Venus -106327-10-17 02:23 J -37114224.48 -37114224.40 -37114224.32 0.3609 0.2660

Moon -106327-12-04 05:02 J -37114176.35 -37114176.29 -37114176.22 0.2617 0.2336

Earth -106327-12-04 05:31 J -37114176.33 -37114176.27 -37114176.20 0.2624 0.2351 *

Jupiter -106326-08-15 06:57 J -37113922.32 -37113922.21 -37113922.09 0.0498 0.0325

Jupiter -106326-11-13 01:11 J -37113832.60 -37113832.45 -37113832.30 0.0496 0.0169

Venus -106325-05-02 02:23 J -37113661.49 -37113661.40 -37113661.31 0.3756 0.2420

Earth -106323-06-08 04:47 J -37112894.41 -37112894.30 -37112894.19 0.2707 0.0763

Moon -106323-06-08 05:31 J -37112894.38 -37112894.27 -37112894.16 0.2712 0.0698 *

Mars -106321-03-15 13:11 J -37112248.09 -37112247.95 -37112247.81 0.1685 0.0483

Venus -106321-05-01 23:31 J -37112200.64 -37112200.52 -37112200.40 0.3613 0.1123

Mars -106320-01-27 07:26 J -37111930.32 -37111930.19 -37111930.07 0.1832 0.0502

Jupiter -106320-10-15 18:28 J -37111668.82 -37111668.73 -37111668.63 0.0529 0.0395

Saturn -106320-11-17 06:43 J -37111636.27 -37111636.22 -37111636.17 0.0292 0.0277

Earth -106320-11-25 23:59 J -37111627.57 -37111627.50 -37111627.43 0.2638 0.2279

Moon -106320-11-26 01:26 J -37111627.53 -37111627.44 -37111627.36 0.2638 0.2111 *

Jupiter -106319-01-13 09:50 J -37111579.23 -37111579.09 -37111578.95 0.0531 0.0150

Saturn -106319-02-14 00:43 J -37111547.59 -37111547.47 -37111547.34 0.0291 0.0185

Mars -106319-02-19 22:33 J -37111541.58 -37111541.56 -37111541.53 0.1703 0.1664

Saturn -106319-05-13 19:11 J -37111458.85 -37111458.70 -37111458.54 0.0290 0.0091

Saturn -106319-08-10 14:09 J -37111370.08 -37111369.91 -37111369.75 0.0290 0.0008

Saturn -106319-11-07 09:07 J -37111281.27 -37111281.12 -37111280.96 0.0289 0.0103

Mars -106318-01-03 03:07 J -37111224.43 -37111224.37 -37111224.30 0.1812 0.1536

Saturn -106318-02-04 04:33 J -37111192.42 -37111192.31 -37111192.19 0.0288 0.0200

Venus -106316-11-15 20:23 J -37110176.77 -37110176.65 -37110176.53 0.3617 0.0378

Jupiter -106314-06-03 08:23 J -37109612.21 -37109612.15 -37109612.08 0.0498 0.0444

Jupiter -106314-09-01 02:09 J -37109522.57 -37109522.41 -37109522.25 0.0496 0.0046

Mars -106312-08-05 17:45 J -37108817.88 -37108817.76 -37108817.64 0.1681 0.0961

Neptune -106311-06-15 15:21 J -37108503.87 -37108503.86 -37108503.84 0.0088 0.0088

Mars -106311-06-19 13:40 J -37108500.04 -37108499.93 -37108499.83 0.1837 0.1041

Neptune -106311-09-11 17:16 J -37108415.82 -37108415.78 -37108415.71 0.0088 0.0084

Neptune -106311-12-08 19:26 J -37108327.75 -37108327.69 -37108327.61 0.0088 0.0079

Neptune -106310-03-06 21:50 J -37108239.67 -37108239.59 -37108239.50 0.0088 0.0074

Venus -106310-06-01 16:47 J -37108152.90 -37108152.80 -37108152.69 0.3621 0.1814

Neptune -106310-06-02 23:31 J -37108151.60 -37108151.52 -37108151.41 0.0088 0.0070

Earth -106310-06-10 23:59 J -37108143.62 -37108143.50 -37108143.39 0.2712 0.0313

Moon -106310-06-11 00:43 J -37108143.58 -37108143.47 -37108143.36 0.2713 0.0312 *

Mars -106310-07-13 01:40 J -37108111.54 -37108111.43 -37108111.31 0.1698 0.1111

Neptune -106310-08-30 01:40 J -37108063.52 -37108063.43 -37108063.31 0.0088 0.0065

Neptune -106310-11-26 04:04 J -37107975.44 -37107975.33 -37107975.21 0.0088 0.0060

Neptune -106309-02-22 05:59 J -37107887.36 -37107887.25 -37107887.12 0.0088 0.0055

Neptune -106309-05-20 08:09 J -37107799.28 -37107799.16 -37107799.03 0.0088 0.0050

Mars -106309-05-25 10:33 J -37107794.16 -37107794.06 -37107793.96 0.1817 0.1068

Neptune -106309-08-16 10:19 J -37107711.20 -37107711.07 -37107710.94 0.0088 0.0046

Pluto -106309-10-17 17:16 J -37107648.85 -37107648.78 -37107648.67 0.0060 0.0053

Neptune -106309-11-12 11:59 J -37107623.12 -37107623.00 -37107622.85 0.0088 0.0042

Pluto -106308-01-13 18:28 J -37107560.83 -37107560.73 -37107560.57 0.0060 0.0047

Neptune -106308-02-08 14:09 J -37107535.04 -37107534.91 -37107534.76 0.0088 0.0037

Pluto -106308-04-11 20:23 J -37107472.79 -37107472.65 -37107472.49 0.0060 0.0039

Neptune -106308-05-07 16:04 J -37107446.96 -37107446.83 -37107446.67 0.0088 0.0033

Pluto -106308-07-08 21:35 J -37107384.75 -37107384.60 -37107384.41 0.0060 0.0032

Neptune -106308-08-03 18:14 J -37107358.88 -37107358.74 -37107358.59 0.0088 0.0028

Jupiter -106308-08-03 20:23 J -37107358.65 -37107358.65 -37107358.64 0.0528 0.0527 *

Pluto -106308-10-04 23:31 J -37107296.70 -37107296.52 -37107296.34 0.0060 0.0024

Neptune -106308-10-30 20:23 J -37107270.80 -37107270.65 -37107270.50 0.0088 0.0023

Jupiter -106308-11-01 11:59 J -37107269.14 -37107269.00 -37107268.85 0.0530 0.0025

Pluto -106307-01-01 00:43 J -37107208.65 -37107208.47 -37107208.27 0.0061 0.0017

Neptune -106307-01-26 22:19 J -37107182.72 -37107182.57 -37107182.42 0.0088 0.0018

Pluto -106307-03-30 02:23 J -37107120.59 -37107120.40 -37107120.20 0.0061 0.0009

Neptune -106307-04-25 00:28 J -37107094.63 -37107094.48 -37107094.33 0.0088 0.0014

Pluto -106307-06-26 04:04 J -37107032.53 -37107032.33 -37107032.14 0.0061 0.0002

Neptune -106307-07-22 02:23 J -37107006.55 -37107006.40 -37107006.25 0.0088 0.0009

Pluto -106307-09-22 05:16 J -37106944.47 -37106944.28 -37106944.08 0.0061 0.0007

Neptune -106307-10-18 04:19 J -37106918.47 -37106918.32 -37106918.17 0.0088 0.0005

Earth -106307-11-29 03:35 J -37106876.50 -37106876.35 -37106876.21 0.2633 0.0658

Moon -106307-11-29 04:47 J -37106876.44 -37106876.30 -37106876.15 0.2629 0.0650 *

Pluto -106307-12-19 06:43 J -37106856.40 -37106856.22 -37106856.02 0.0061 0.0014

Neptune -106306-01-14 06:14 J -37106830.39 -37106830.24 -37106830.08 0.0088 0.0002

Pluto -106306-03-17 08:09 J -37106768.33 -37106768.16 -37106767.96 0.0061 0.0022

Neptune -106306-04-12 08:09 J -37106742.31 -37106742.16 -37106742.00 0.0088 0.0005

Pluto -106306-06-13 09:35 J -37106680.26 -37106680.10 -37106679.91 0.0061 0.0029

Neptune -106306-07-09 10:04 J -37106654.23 -37106654.08 -37106653.92 0.0088 0.0009

Pluto -106306-09-09 11:02 J -37106592.18 -37106592.04 -37106591.87 0.0061 0.0037

Neptune -106306-10-05 11:59 J -37106566.14 -37106566.00 -37106565.84 0.0088 0.0014

Pluto -106306-12-06 12:43 J -37106504.09 -37106503.97 -37106503.83 0.0061 0.0044

Neptune -106305-01-01 14:09 J -37106478.06 -37106477.91 -37106477.77 0.0088 0.0018

Pluto -106305-03-03 13:55 J -37106416.00 -37106415.92 -37106415.80 0.0061 0.0053

Neptune -106305-03-29 15:50 J -37106389.98 -37106389.84 -37106389.69 0.0088 0.0022

Pluto -106305-05-30 15:21 J -37106327.87 -37106327.86 -37106327.80 0.0061 0.0060

Neptune -106305-06-25 17:45 J -37106301.90 -37106301.76 -37106301.61 0.0088 0.0027

Neptune -106305-09-21 19:40 J -37106213.82 -37106213.68 -37106213.54 0.0088 0.0031

Venus -106305-12-15 12:57 J -37106129.01 -37106128.96 -37106128.90 0.3625 0.3203

Neptune -106305-12-18 21:21 J -37106125.74 -37106125.61 -37106125.46 0.0088 0.0036

Neptune -106304-03-16 23:31 J -37106037.65 -37106037.52 -37106037.39 0.0088 0.0040

Saturn -106304-06-11 03:50 J -37105951.42 -37105951.34 -37105951.25 0.0269 0.0216

Neptune -106304-06-13 01:26 J -37105949.57 -37105949.44 -37105949.31 0.0088 0.0044

Saturn -106304-09-07 17:31 J -37105862.90 -37105862.77 -37105862.65 0.0270 0.0145

Neptune -106304-09-09 02:52 J -37105861.49 -37105861.38 -37105861.24 0.0088 0.0049

Saturn -106304-12-05 06:43 J -37105774.36 -37105774.22 -37105774.07 0.0270 0.0075

Neptune -106304-12-06 04:47 J -37105773.41 -37105773.30 -37105773.17 0.0088 0.0053

Saturn -106303-03-03 20:09 J -37105685.81 -37105685.66 -37105685.52 0.0271 0.0009

Neptune -106303-03-04 06:43 J -37105685.33 -37105685.22 -37105685.10 0.0088 0.0057

Saturn -106303-05-31 09:07 J -37105597.26 -37105597.12 -37105596.98 0.0272 0.0066

Neptune -106303-05-31 08:23 J -37105597.24 -37105597.15 -37105597.03 0.0088 0.0061 *

Moon -106303-06-03 19:11 J -37105593.72 -37105593.70 -37105593.68 0.2704 0.2652

Earth -106303-06-03 19:40 J -37105593.70 -37105593.68 -37105593.66 0.2698 0.2657 *

Neptune -106303-08-27 10:19 J -37105509.16 -37105509.07 -37105508.96 0.0088 0.0065

Saturn -106303-08-27 21:50 J -37105508.71 -37105508.59 -37105508.46 0.0272 0.0135

Neptune -106303-11-23 11:59 J -37105421.08 -37105421.00 -37105420.89 0.0088 0.0070

Saturn -106303-11-24 10:33 J -37105420.15 -37105420.06 -37105419.96 0.0273 0.0204

Mars -106303-12-26 22:47 J -37105387.62 -37105387.55 -37105387.47 0.1677 0.1419

Neptune -106302-02-19 13:55 J -37105332.99 -37105332.92 -37105332.83 0.0088 0.0074

Saturn -106302-02-20 23:16 J -37105331.55 -37105331.53 -37105331.52 0.0274 0.0271

Neptune -106302-05-18 15:50 J -37105244.90 -37105244.84 -37105244.77 0.0088 0.0078

Jupiter -106302-06-20 03:07 J -37105212.53 -37105212.37 -37105212.21 0.0497 0.0079

Neptune -106302-08-14 17:45 J -37105156.81 -37105156.76 -37105156.71 0.0088 0.0082

Jupiter -106302-09-17 22:04 J -37105122.66 -37105122.58 -37105122.49 0.0495 0.0423

Mars -106302-11-09 19:40 J -37105069.74 -37105069.68 -37105069.62 0.1842 0.1601

Neptune -106302-11-10 19:11 J -37105068.72 -37105068.70 -37105068.66 0.0088 0.0086

Mars -106301-12-02 05:31 J -37104681.41 -37104681.27 -37104681.13 0.1694 0.0582

Mars -106300-10-15 17:59 J -37104363.87 -37104363.75 -37104363.64 0.1822 0.0582

Earth -106297-06-12 18:43 J -37103392.82 -37103392.72 -37103392.62 0.2716 0.1333

Moon -106297-06-12 19:26 J -37103392.79 -37103392.69 -37103392.60 0.2711 0.1450 *

Jupiter -106296-08-20 13:55 J -37102959.06 -37102958.92 -37102958.78 0.0530 0.0114

Jupiter -106296-11-18 04:19 J -37102869.41 -37102869.32 -37102869.24 0.0532 0.0419

Earth -106294-12-02 07:40 J -37102125.32 -37102125.18 -37102125.04 0.2628 0.1004

Moon -106294-12-02 07:40 J -37102125.31 -37102125.18 -37102125.04 0.2621 0.1106 *

Mars -106291-04-24 09:07 J -37101251.27 -37101251.12 -37101250.97 0.1689 0.0072

Venus -106291-10-08 13:40 J -37101083.97 -37101083.93 -37101083.89 0.3772 0.3468

Mars -106290-03-08 00:43 J -37100933.59 -37100933.47 -37100933.34 0.1828 0.0077

Jupiter -106290-04-08 04:33 J -37100902.45 -37100902.31 -37100902.16 0.0498 0.0196

Moon -106290-06-06 14:52 J -37100842.97 -37100842.88 -37100842.79 0.2710 0.1624

Earth -106290-06-06 14:52 J -37100842.97 -37100842.88 -37100842.79 0.2703 0.1592 *

Saturn -106290-07-04 00:43 J -37100815.57 -37100815.47 -37100815.36 0.0291 0.0214

Jupiter -106290-07-06 23:16 J -37100812.66 -37100812.53 -37100812.40 0.0495 0.0303

Saturn -106290-09-30 19:11 J -37100726.85 -37100726.70 -37100726.56 0.0290 0.0120

Saturn -106290-12-28 13:55 J -37100638.09 -37100637.92 -37100637.76 0.0290 0.0025

Saturn -106289-03-26 08:52 J -37100549.29 -37100549.13 -37100548.97 0.0289 0.0072

Saturn -106289-06-23 04:04 J -37100460.46 -37100460.33 -37100460.19 0.0288 0.0170

Saturn -106289-09-19 23:45 J -37100371.56 -37100371.51 -37100371.44 0.0287 0.0268

Uranus -106288-12-01 05:02 J -37099934.37 -37099934.29 -37099934.20 0.0145 0.0122

Uranus -106287-02-27 11:16 J -37099846.15 -37099846.03 -37099845.90 0.0145 0.0098

Uranus -106287-05-26 17:31 J -37099757.91 -37099757.77 -37099757.62 0.0146 0.0074

Uranus -106287-08-22 23:59 J -37099669.66 -37099669.50 -37099669.34 0.0146 0.0050

Uranus -106287-11-19 06:28 J -37099581.40 -37099581.23 -37099581.07 0.0146 0.0025

Uranus -106286-02-15 12:57 J -37099493.13 -37099492.96 -37099492.79 0.0146 0.0003

Uranus -106286-05-14 19:26 J -37099404.86 -37099404.69 -37099404.52 0.0146 0.0025

Uranus -106286-08-11 01:55 J -37099316.58 -37099316.42 -37099316.26 0.0146 0.0051

Uranus -106286-11-07 08:38 J -37099228.28 -37099228.14 -37099227.99 0.0146 0.0076

Uranus -106285-02-03 15:07 J -37099139.98 -37099139.87 -37099139.74 0.0146 0.0103

Venus -106285-04-23 10:04 J -37099060.18 -37099060.08 -37099059.98 0.3768 0.1941

Uranus -106285-05-01 21:50 J -37099051.66 -37099051.59 -37099051.50 0.0146 0.0129

Jupiter -106284-06-08 14:52 J -37098649.01 -37098648.88 -37098648.76 0.0529 0.0262

Moon -106284-06-15 13:40 J -37098641.99 -37098641.93 -37098641.87 0.2714 0.2309

Earth -106284-06-15 13:40 J -37098641.99 -37098641.93 -37098641.88 0.2721 0.2365 *

Jupiter -106284-09-06 05:45 J -37098559.38 -37098559.26 -37098559.14 0.0532 0.0278

Mars -106282-09-14 13:26 J -37097821.08 -37097820.94 -37097820.79 0.1685 0.0437

Mars -106281-07-28 07:40 J -37097503.31 -37097503.18 -37097503.06 0.1832 0.0446

Moon -106281-12-04 11:16 J -37097374.05 -37097374.03 -37097374.01 0.2617 0.2581

Venus -106280-11-07 06:57 J -37097036.33 -37097036.21 -37097036.09 0.3764 0.0361

Mars -106279-07-04 03:21 J -37096797.42 -37096797.36 -37096797.30 0.1812 0.1580

Jupiter -106278-01-25 06:28 J -37096592.35 -37096592.23 -37096592.11 0.0498 0.0310

Jupiter -106278-04-25 00:43 J -37096502.62 -37096502.47 -37096502.32 0.0496 0.0184

Earth -106277-06-08 09:50 J -37096092.20 -37096092.09 -37096091.98 0.2708 0.0542

Moon -106277-06-08 10:33 J -37096092.17 -37096092.06 -37096091.95 0.2712 0.0468 *

Saturn -106275-10-29 05:31 J -37095219.33 -37095219.27 -37095219.19 0.0269 0.0237

Saturn -106274-01-25 19:11 J -37095130.81 -37095130.70 -37095130.58 0.0269 0.0165

Saturn -106274-04-24 08:38 J -37095042.27 -37095042.14 -37095042.00 0.0270 0.0094

Venus -106274-05-24 04:04 J -37095012.44 -37095012.33 -37095012.22 0.3759 0.1296

Saturn -106274-07-21 22:04 J -37094953.73 -37094953.58 -37094953.44 0.0270 0.0025

Saturn -106274-10-18 11:02 J -37094865.19 -37094865.04 -37094864.90 0.0271 0.0046

Earth -106274-11-27 06:14 J -37094825.34 -37094825.24 -37094825.15 0.2638 0.1958

Moon -106274-11-27 07:40 J -37094825.29 -37094825.18 -37094825.08 0.2636 0.1863 *

Saturn -106273-01-14 23:45 J -37094776.64 -37094776.51 -37094776.37 0.0271 0.0115

Saturn -106273-04-12 12:28 J -37094688.08 -37094687.98 -37094687.87 0.0272 0.0183

Saturn -106273-07-10 01:11 J -37094599.50 -37094599.45 -37094599.40 0.0273 0.0251

Mars -106272-02-03 18:14 J -37094390.86 -37094390.74 -37094390.62 0.1681 0.0910

Jupiter -106272-03-27 16:47 J -37094338.89 -37094338.80 -37094338.70 0.0529 0.0394

Jupiter -106272-06-25 08:09 J -37094249.30 -37094249.16 -37094249.02 0.0531 0.0151

Mars -106272-12-18 13:55 J -37094073.03 -37094072.92 -37094072.82 0.1837 0.0992

Mars -106270-01-11 02:09 J -37093684.52 -37093684.41 -37093684.30 0.1698 0.1165

Venus -106270-05-24 01:26 J -37093551.54 -37093551.44 -37093551.34 0.3610 0.2118

Mars -106270-11-24 10:47 J -37093367.14 -37093367.05 -37093366.95 0.1817 0.1115

Venus -106269-12-07 01:26 J -37092988.51 -37092988.44 -37092988.37 0.3754 0.2997

Jupiter -106267-11-13 07:40 J -37092282.25 -37092282.18 -37092282.10 0.0498 0.0430

Jupiter -106266-02-11 01:26 J -37092192.60 -37092192.44 -37092192.28 0.0496 0.0060

Venus -106265-12-06 22:19 J -37091527.69 -37091527.57 -37091527.44 0.3614 0.0601

Earth -106264-06-11 04:47 J -37091341.41 -37091341.30 -37091341.19 0.2712 0.0512

Moon -106264-06-11 05:31 J -37091341.38 -37091341.27 -37091341.15 0.2712 0.0628 *

Mars -106263-06-26 23:02 J -37090960.62 -37090960.54 -37090960.45 0.1677 0.1375

Mars -106262-05-10 19:55 J -37090642.74 -37090642.67 -37090642.60 0.1842 0.1552

Mars -106261-06-02 05:45 J -37090254.40 -37090254.26 -37090254.12 0.1694 0.0630

Saturn -106261-11-19 22:33 J -37090083.63 -37090083.56 -37090083.48 0.0292 0.0253

Earth -106261-11-29 09:50 J -37090074.24 -37090074.09 -37090073.94 0.2632 0.0328

Moon -106261-11-29 10:47 J -37090074.20 -37090074.05 -37090073.89 0.2628 0.0179 *

Jupiter -106260-01-13 18:57 J -37090028.72 -37090028.71 -37090028.68 0.0528 0.0523

Saturn -106260-02-16 16:47 J -37089994.93 -37089994.80 -37089994.66 0.0291 0.0160

Jupiter -106260-04-13 10:47 J -37089939.19 -37089939.05 -37089938.91 0.0531 0.0027

Mars -106260-04-15 17:59 J -37089936.87 -37089936.75 -37089936.63 0.1822 0.0623

Saturn -106260-05-16 11:31 J -37089906.18 -37089906.02 -37089905.86 0.0290 0.0065

Saturn -106260-08-13 06:14 J -37089817.40 -37089817.24 -37089817.07 0.0290 0.0031

Saturn -106260-11-10 01:26 J -37089728.58 -37089728.44 -37089728.29 0.0289 0.0128

Saturn -106259-02-06 20:52 J -37089639.72 -37089639.63 -37089639.52 0.0288 0.0226

Venus -106259-06-22 19:11 J -37089503.82 -37089503.70 -37089503.58 0.3618 0.0883

Moon -106257-06-04 00:14 J -37088791.52 -37088791.49 -37088791.45 0.2705 0.2554

Earth -106257-06-04 00:43 J -37088791.52 -37088791.47 -37088791.42 0.2699 0.2439 *

Jupiter -106255-11-30 02:38 J -37087882.55 -37087882.39 -37087882.24 0.0497 0.0064

Jupiter -106254-02-27 21:35 J -37087792.67 -37087792.60 -37087792.53 0.0495 0.0438

Venus -106253-01-06 15:35 J -37087479.95 -37087479.85 -37087479.76 0.3623 0.2298

Mars -106252-10-23 09:50 J -37086824.24 -37086824.09 -37086823.95 0.1689 0.0125

Earth -106251-06-13 23:45 J -37086590.60 -37086590.51 -37086590.42 0.2717 0.1544

Moon -106251-06-14 00:14 J -37086590.58 -37086590.49 -37086590.40 0.2711 0.1526 *

Mars -106251-09-06 00:57 J -37086506.58 -37086506.46 -37086506.33 0.1827 0.0127

Jupiter -106248-01-30 12:57 J -37085629.10 -37085628.96 -37085628.82 0.0530 0.0103

Jupiter -106248-04-30 03:21 J -37085539.44 -37085539.36 -37085539.28 0.0532 0.0431

Uranus -106248-07-25 06:57 J -37085453.27 -37085453.21 -37085453.15 0.0133 0.0121

Uranus -106248-10-21 10:47 J -37085365.13 -37085365.05 -37085364.95 0.0133 0.0104

Moon -106248-12-02 13:55 J -37085323.05 -37085322.92 -37085322.78 0.2620 0.1246

Earth -106248-12-02 13:55 J -37085323.05 -37085322.92 -37085322.79 0.2627 0.1343 *

Uranus -106247-01-17 14:52 J -37085276.98 -37085276.88 -37085276.76 0.0133 0.0086

Uranus -106247-04-15 18:57 J -37085188.83 -37085188.71 -37085188.58 0.0133 0.0069

Uranus -106247-07-12 23:02 J -37085100.68 -37085100.54 -37085100.40 0.0133 0.0052

Uranus -106247-10-09 02:52 J -37085012.52 -37085012.38 -37085012.23 0.0133 0.0035

Uranus -106246-01-05 06:43 J -37084924.36 -37084924.22 -37084924.07 0.0133 0.0019

Uranus -106246-04-03 10:47 J -37084836.20 -37084836.05 -37084835.91 0.0133 0.0003

Uranus -106246-06-30 14:38 J -37084748.04 -37084747.89 -37084747.75 0.0133 0.0015

Uranus -106246-09-26 18:14 J -37084659.88 -37084659.74 -37084659.59 0.0133 0.0031

Uranus -106246-12-23 22:04 J -37084571.72 -37084571.58 -37084571.44 0.0133 0.0047

Saturn -106245-03-17 05:59 J -37084487.27 -37084487.25 -37084487.22 0.0269 0.0264

Uranus -106245-03-21 01:40 J -37084483.55 -37084483.43 -37084483.30 0.0133 0.0063

Saturn -106245-06-13 19:40 J -37084398.78 -37084398.68 -37084398.57 0.0269 0.0193

Uranus -106245-06-17 05:31 J -37084395.39 -37084395.27 -37084395.15 0.0132 0.0079

Saturn -106245-09-10 09:21 J -37084310.24 -37084310.11 -37084309.98 0.0270 0.0121

Uranus -106245-09-13 09:07 J -37084307.22 -37084307.12 -37084307.02 0.0132 0.0094

Saturn -106245-12-07 22:33 J -37084221.70 -37084221.56 -37084221.41 0.0270 0.0051

Uranus -106245-12-10 12:28 J -37084219.04 -37084218.98 -37084218.89 0.0132 0.0111

Saturn -106244-03-06 11:45 J -37084133.16 -37084133.01 -37084132.86 0.0271 0.0020

Uranus -106244-03-08 16:19 J -37084130.86 -37084130.82 -37084130.77 0.0132 0.0125

Saturn -106244-06-03 00:43 J -37084044.61 -37084044.47 -37084044.33 0.0272 0.0089

Earth -106244-06-06 19:55 J -37084040.77 -37084040.67 -37084040.57 0.2703 0.1379

Moon -106244-06-06 20:09 J -37084040.76 -37084040.66 -37084040.57 0.2710 0.1319 *

Saturn -106244-08-30 13:26 J -37083956.05 -37083955.94 -37083955.82 0.0272 0.0158

Saturn -106244-11-27 02:09 J -37083867.49 -37083867.41 -37083867.33 0.0273 0.0226

Jupiter -106243-09-18 03:21 J -37083572.50 -37083572.36 -37083572.21 0.0497 0.0188

Jupiter -106243-12-16 22:04 J -37083482.70 -37083482.58 -37083482.45 0.0495 0.0311

Mars -106242-03-15 13:55 J -37083394.06 -37083393.92 -37083393.77 0.1685 0.0385

Mars -106241-01-27 07:40 J -37083076.31 -37083076.18 -37083076.06 0.1832 0.0407

Mars -106239-01-02 03:21 J -37082370.41 -37082370.36 -37082370.30 0.1812 0.1624

Moon -106238-06-16 18:28 J -37081839.76 -37081839.73 -37081839.71 0.2715 0.2614

Earth -106238-06-16 18:28 J -37081839.76 -37081839.73 -37081839.69 0.2721 0.2574 *

Jupiter -106237-11-18 14:38 J -37081319.01 -37081318.89 -37081318.76 0.0529 0.0240

Jupiter -106236-02-16 05:31 J -37081229.39 -37081229.27 -37081229.15 0.0532 0.0299

Venus -106234-05-15 12:28 J -37080411.06 -37080410.98 -37080410.91 0.3771 0.2944

Mars -106233-08-04 18:28 J -37079963.86 -37079963.73 -37079963.61 0.1681 0.0868

Mars -106232-06-18 14:09 J -37079646.02 -37079645.91 -37079645.80 0.1837 0.0943

Saturn -106231-04-08 22:33 J -37079351.59 -37079351.56 -37079351.52 0.0291 0.0281

Earth -106231-06-09 14:52 J -37079289.99 -37079289.88 -37079289.77 0.2708 0.0322

Moon -106231-06-09 15:35 J -37079289.96 -37079289.85 -37079289.74 0.2712 0.0271 *

Saturn -106231-07-06 16:33 J -37079262.92 -37079262.81 -37079262.68 0.0291 0.0190

Jupiter -106231-07-07 05:02 J -37079262.41 -37079262.29 -37079262.16 0.0498 0.0303

Mars -106231-07-12 02:38 J -37079257.49 -37079257.39 -37079257.29 0.1698 0.1214

Saturn -106231-10-03 11:02 J -37079174.19 -37079174.04 -37079173.88 0.0290 0.0096

Jupiter -106231-10-04 23:16 J -37079172.68 -37079172.53 -37079172.38 0.0496 0.0192

Saturn -106231-12-31 05:59 J -37079085.41 -37079085.25 -37079085.09 0.0289 0.0002

Saturn -106230-03-30 00:57 J -37078996.61 -37078996.46 -37078996.30 0.0289 0.0097

Mars -106230-05-25 10:47 J -37078940.14 -37078940.05 -37078939.95 0.1818 0.1152

Saturn -106230-06-26 20:23 J -37078907.77 -37078907.65 -37078907.52 0.0288 0.0195

Venus -106229-11-28 08:52 J -37078387.24 -37078387.13 -37078387.02 0.3767 0.1400

Neptune -106228-05-25 09:50 J -37078209.12 -37078209.09 -37078209.03 0.0089 0.0085

Neptune -106228-08-21 12:14 J -37078121.05 -37078120.99 -37078120.92 0.0089 0.0080

Neptune -106228-11-17 14:23 J -37078032.97 -37078032.90 -37078032.81 0.0089 0.0076

Earth -106228-11-27 12:14 J -37078023.10 -37078022.99 -37078022.87 0.2637 0.1636

Moon -106228-11-27 13:55 J -37078023.05 -37078022.92 -37078022.80 0.2635 0.1495 *

Neptune -106227-02-13 16:47 J -37077944.89 -37077944.80 -37077944.70 0.0089 0.0071

Neptune -106227-05-12 18:43 J -37077856.81 -37077856.72 -37077856.60 0.0089 0.0067

Neptune -106227-08-08 21:07 J -37077768.72 -37077768.62 -37077768.49 0.0089 0.0062

Neptune -106227-11-04 23:31 J -37077680.63 -37077680.52 -37077680.39 0.0089 0.0057

Neptune -106226-02-01 01:40 J -37077592.55 -37077592.43 -37077592.29 0.0089 0.0053

Neptune -106226-04-30 04:04 J -37077504.46 -37077504.33 -37077504.18 0.0089 0.0048

Neptune -106226-07-27 06:28 J -37077416.36 -37077416.23 -37077416.08 0.0089 0.0043

Neptune -106226-10-23 08:38 J -37077328.27 -37077328.14 -37077327.98 0.0089 0.0039

Neptune -106225-01-19 11:02 J -37077240.18 -37077240.04 -37077239.88 0.0089 0.0034

Neptune -106225-04-16 13:26 J -37077152.08 -37077151.94 -37077151.78 0.0089 0.0029

Neptune -106225-07-13 15:50 J -37077063.99 -37077063.84 -37077063.68 0.0089 0.0024

Jupiter -106225-09-06 15:21 J -37077008.95 -37077008.86 -37077008.76 0.0529 0.0389

Neptune -106225-10-09 18:28 J -37076975.89 -37076975.73 -37076975.58 0.0089 0.0019

Jupiter -106225-12-05 06:43 J -37076919.36 -37076919.22 -37076919.09 0.0531 0.0155

Neptune -106224-01-05 20:38 J -37076887.80 -37076887.64 -37076887.47 0.0089 0.0015

Neptune -106224-04-03 23:02 J -37076799.70 -37076799.54 -37076799.37 0.0089 0.0010

Neptune -106224-07-01 01:26 J -37076711.60 -37076711.44 -37076711.27 0.0089 0.0005

Neptune -106224-09-27 03:50 J -37076623.50 -37076623.34 -37076623.17 0.0089 0.0003

Neptune -106224-12-24 06:14 J -37076535.40 -37076535.24 -37076535.07 0.0089 0.0006

Mars -106224-12-25 23:31 J -37076533.61 -37076533.52 -37076533.43 0.1677 0.1326

Neptune -106223-03-22 08:52 J -37076447.30 -37076447.13 -37076446.97 0.0089 0.0010

Venus -106223-06-14 05:45 J -37076363.38 -37076363.26 -37076363.14 0.3762 0.0203

Neptune -106223-06-18 11:16 J -37076359.19 -37076359.03 -37076358.87 0.0089 0.0015

Neptune -106223-09-14 13:40 J -37076271.09 -37076270.93 -37076270.77 0.0089 0.0020

Mars -106223-11-08 20:09 J -37076215.73 -37076215.66 -37076215.59 0.1841 0.1499

Neptune -106223-12-11 16:04 J -37076182.98 -37076182.83 -37076182.66 0.0089 0.0025

Neptune -106222-03-09 18:28 J -37076094.88 -37076094.73 -37076094.56 0.0089 0.0030

Neptune -106222-06-05 21:07 J -37076006.77 -37076006.62 -37076006.46 0.0089 0.0035

Neptune -106222-09-01 23:31 J -37075918.66 -37075918.52 -37075918.36 0.0089 0.0040

Neptune -106222-11-29 02:09 J -37075830.55 -37075830.41 -37075830.26 0.0089 0.0045

Mars -106222-12-02 05:59 J -37075827.38 -37075827.25 -37075827.11 0.1694 0.0680

Neptune -106221-02-25 04:47 J -37075742.44 -37075742.30 -37075742.16 0.0089 0.0050

Neptune -106221-05-23 07:26 J -37075654.32 -37075654.19 -37075654.06 0.0089 0.0055

Neptune -106221-08-19 09:35 J -37075566.21 -37075566.10 -37075565.96 0.0089 0.0061

Mars -106221-10-14 18:14 J -37075509.85 -37075509.74 -37075509.62 0.1822 0.0674

Neptune -106221-11-15 12:14 J -37075478.09 -37075477.99 -37075477.87 0.0089 0.0066

Neptune -106220-02-11 14:52 J -37075389.97 -37075389.88 -37075389.77 0.0089 0.0071

Neptune -106220-05-10 17:31 J -37075301.85 -37075301.77 -37075301.68 0.0089 0.0076

Neptune -106220-08-06 20:09 J -37075213.72 -37075213.66 -37075213.59 0.0089 0.0081

Neptune -106220-11-02 22:47 J -37075125.58 -37075125.55 -37075125.50 0.0089 0.0086

Jupiter -106219-04-25 06:57 J -37074952.29 -37074952.21 -37074952.13 0.0499 0.0417

Venus -106219-06-14 03:07 J -37074902.43 -37074902.37 -37074902.31 0.3607 0.3134

Jupiter -106219-07-24 00:43 J -37074862.63 -37074862.47 -37074862.31 0.0496 0.0074

Earth -106218-06-12 09:50 J -37074539.20 -37074539.09 -37074538.98 0.2713 0.0724

Moon -106218-06-12 10:33 J -37074539.17 -37074539.06 -37074538.95 0.2710 0.0781 *

Venus -106218-12-29 02:52 J -37074339.48 -37074339.38 -37074339.27 0.3758 0.1866

Saturn -106216-10-31 21:50 J -37073666.68 -37073666.59 -37073666.50 0.0269 0.0211

Saturn -106215-01-28 11:16 J -37073578.15 -37073578.03 -37073577.89 0.0269 0.0141

Pluto -106215-02-12 23:45 J -37073562.56 -37073562.51 -37073562.44 0.0085 0.0076

Saturn -106215-04-27 00:43 J -37073489.61 -37073489.47 -37073489.32 0.0270 0.0070

Pluto -106215-05-12 01:11 J -37073474.54 -37073474.45 -37073474.36 0.0085 0.0062

Saturn -106215-07-24 13:55 J -37073401.06 -37073400.92 -37073400.77 0.0270 0.0007

Pluto -106215-08-08 02:23 J -37073386.50 -37073386.40 -37073386.29 0.0085 0.0048

Saturn -106215-10-21 02:52 J -37073312.52 -37073312.38 -37073312.23 0.0271 0.0071

Pluto -106215-11-04 03:35 J -37073298.46 -37073298.35 -37073298.22 0.0084 0.0034

Earth -106215-11-30 16:04 J -37073271.98 -37073271.83 -37073271.68 0.2632 0.0017

Moon -106215-11-30 16:47 J -37073271.95 -37073271.80 -37073271.65 0.2626 0.0014 *

Saturn -106214-01-17 15:50 J -37073223.96 -37073223.84 -37073223.72 0.0272 0.0139

Pluto -106214-01-31 05:02 J -37073210.42 -37073210.29 -37073210.16 0.0084 0.0020

Saturn -106214-04-16 04:19 J -37073135.40 -37073135.32 -37073135.22 0.0272 0.0208

Pluto -106214-04-29 06:14 J -37073122.37 -37073122.24 -37073122.11 0.0084 0.0007

Pluto -106214-07-26 07:26 J -37073034.32 -37073034.19 -37073034.05 0.0084 0.0007

Pluto -106214-10-22 08:38 J -37072946.26 -37072946.14 -37072946.01 0.0084 0.0021

Venus -106214-12-29 00:14 J -37072878.60 -37072878.49 -37072878.38 0.3611 0.1583

Pluto -106213-01-18 09:50 J -37072858.20 -37072858.09 -37072857.96 0.0084 0.0034

Pluto -106213-04-15 11:02 J -37072770.14 -37072770.04 -37072769.92 0.0084 0.0048

Jupiter -106213-06-25 17:16 J -37072698.79 -37072698.78 -37072698.76 0.0528 0.0523

Pluto -106213-07-12 12:14 J -37072682.07 -37072681.99 -37072681.89 0.0084 0.0061

Jupiter -106213-09-23 08:52 J -37072609.27 -37072609.13 -37072608.98 0.0531 0.0030

Pluto -106213-10-08 13:26 J -37072593.99 -37072593.94 -37072593.87 0.0083 0.0075

Mars -106212-04-23 10:04 J -37072397.23 -37072397.08 -37072396.93 0.1689 0.0170

Venus -106212-07-14 00:28 J -37072315.52 -37072315.48 -37072315.45 0.3753 0.3575

Mars -106211-03-07 01:11 J -37072079.58 -37072079.45 -37072079.33 0.1827 0.0176

Moon -106211-06-05 05:16 J -37071989.34 -37071989.28 -37071989.21 0.2706 0.2197

Earth -106211-06-05 05:45 J -37071989.33 -37071989.26 -37071989.20 0.2699 0.2226 *

Venus -106208-07-13 21:21 J -37070854.74 -37070854.61 -37070854.49 0.3615 0.0126

Jupiter -106207-05-12 01:40 J -37070552.59 -37070552.43 -37070552.27 0.0497 0.0051

Jupiter -106207-08-09 20:38 J -37070462.70 -37070462.64 -37070462.57 0.0495 0.0451

Earth -106205-06-14 04:47 J -37069788.39 -37069788.30 -37069788.22 0.2718 0.1760

Moon -106205-06-14 05:02 J -37069788.37 -37069788.29 -37069788.20 0.2712 0.1848 *

Uranus -106204-09-24 05:45 J -37069321.28 -37069321.26 -37069321.21 0.0145 0.0142

Uranus -106204-12-21 11:59 J -37069233.09 -37069233.00 -37069232.90 0.0145 0.0118

Uranus -106203-03-19 18:14 J -37069144.86 -37069144.74 -37069144.61 0.0146 0.0094

Uranus -106203-06-16 00:28 J -37069056.62 -37069056.48 -37069056.33 0.0146 0.0070

Uranus -106203-09-12 06:57 J -37068968.37 -37068968.21 -37068968.05 0.0146 0.0045

Mars -106203-09-13 14:23 J -37068967.05 -37068966.90 -37068966.75 0.1685 0.0333

Uranus -106203-12-09 13:26 J -37068880.11 -37068879.94 -37068879.77 0.0146 0.0021

Venus -106202-01-27 17:45 J -37068830.87 -37068830.76 -37068830.64 0.3619 0.1380

Uranus -106202-03-07 19:55 J -37068791.84 -37068791.67 -37068791.50 0.0146 0.0005

Uranus -106202-06-04 02:23 J -37068703.56 -37068703.40 -37068703.23 0.0146 0.0030

Mars -106202-07-28 07:55 J -37068649.30 -37068649.17 -37068649.05 0.1832 0.0352

Uranus -106202-08-31 08:52 J -37068615.28 -37068615.13 -37068614.97 0.0146 0.0055

Saturn -106202-11-23 14:52 J -37068530.97 -37068530.88 -37068530.77 0.0291 0.0227

Uranus -106202-11-27 15:21 J -37068526.99 -37068526.86 -37068526.71 0.0146 0.0082

Moon -106202-12-03 20:09 J -37068520.78 -37068520.66 -37068520.55 0.2620 0.1757

Earth -106202-12-03 20:09 J -37068520.77 -37068520.66 -37068520.54 0.2627 0.1679 *

Saturn -106201-02-20 09:07 J -37068442.25 -37068442.12 -37068441.97 0.0291 0.0134

Uranus -106201-02-23 22:04 J -37068438.68 -37068438.58 -37068438.45 0.0146 0.0107

Saturn -106201-05-19 03:50 J -37068353.50 -37068353.34 -37068353.17 0.0290 0.0039

Uranus -106201-05-22 04:47 J -37068350.35 -37068350.30 -37068350.22 0.0146 0.0134

Jupiter -106201-07-12 11:31 J -37068299.16 -37068299.02 -37068298.88 0.0530 0.0101

Saturn -106201-08-15 22:47 J -37068264.71 -37068264.55 -37068264.39 0.0289 0.0058

Jupiter -106201-10-10 01:55 J -37068209.50 -37068209.42 -37068209.34 0.0533 0.0435

Saturn -106201-11-12 17:59 J -37068175.88 -37068175.75 -37068175.60 0.0289 0.0156

Saturn -106200-02-09 13:40 J -37068087.00 -37068086.93 -37068086.85 0.0288 0.0253

Mars -106200-07-03 03:35 J -37067943.40 -37067943.35 -37067943.31 0.1812 0.1666

Earth -106198-06-08 00:57 J -37067238.57 -37067238.46 -37067238.36 0.2704 0.1165

Moon -106198-06-08 01:11 J -37067238.55 -37067238.45 -37067238.35 0.2710 0.1189 *

Venus -106197-08-12 14:09 J -37066806.98 -37066806.91 -37066806.83 0.3624 0.2784

Jupiter -106195-02-28 02:52 J -37066242.53 -37066242.38 -37066242.23 0.0497 0.0172

Jupiter -106195-05-28 21:21 J -37066152.73 -37066152.61 -37066152.49 0.0495 0.0325

Mars -106193-02-03 18:57 J -37065536.84 -37065536.71 -37065536.58 0.1681 0.0816

Mars -106193-12-17 14:09 J -37065219.02 -37065218.91 -37065218.80 0.1837 0.0897

Moon -106192-06-16 23:16 J -37065037.54 -37065037.53 -37065037.52 0.2715 0.2687

Mars -106191-01-10 03:07 J -37064830.47 -37064830.37 -37064830.27 0.1698 0.1270

Mars -106191-11-23 11:02 J -37064513.13 -37064513.04 -37064512.95 0.1817 0.1201

Jupiter -106189-04-30 13:40 J -37063989.06 -37063988.93 -37063988.80 0.0529 0.0231

Jupiter -106189-07-29 04:19 J -37063899.43 -37063899.32 -37063899.20 0.0532 0.0309

Saturn -106186-03-20 22:04 J -37062934.64 -37062934.58 -37062934.50 0.0269 0.0239

Saturn -106186-06-17 11:59 J -37062846.12 -37062846.00 -37062845.88 0.0269 0.0167

Saturn -106186-09-14 01:26 J -37062757.58 -37062757.44 -37062757.30 0.0270 0.0096

Saturn -106186-12-11 14:38 J -37062669.03 -37062668.89 -37062668.74 0.0271 0.0026

Saturn -106185-03-09 03:50 J -37062580.49 -37062580.34 -37062580.20 0.0271 0.0044

Saturn -106185-06-05 16:33 J -37062491.94 -37062491.81 -37062491.67 0.0272 0.0114

Earth -106185-06-09 19:55 J -37062487.79 -37062487.67 -37062487.56 0.2709 0.0112

Moon -106185-06-09 20:38 J -37062487.76 -37062487.64 -37062487.53 0.2712 0.0046 *

Saturn -106185-09-02 05:31 J -37062403.38 -37062403.27 -37062403.17 0.0272 0.0182

Saturn -106185-11-29 17:59 J -37062314.80 -37062314.75 -37062314.69 0.0273 0.0249

Mars -106184-06-25 23:45 J -37062106.60 -37062106.51 -37062106.41 0.1677 0.1281

Jupiter -106184-12-17 03:50 J -37061932.47 -37061932.34 -37061932.21 0.0498 0.0296

Jupiter -106183-03-16 22:04 J -37061842.73 -37061842.58 -37061842.44 0.0496 0.0199

Mars -106183-05-09 20:09 J -37061788.74 -37061788.66 -37061788.58 0.1842 0.1456

Mars -106182-06-02 06:43 J -37061400.36 -37061400.22 -37061400.09 0.1694 0.0735

Earth -106182-11-28 18:28 J -37061220.86 -37061220.73 -37061220.60 0.2636 0.1309

Moon -106182-11-28 19:55 J -37061220.80 -37061220.67 -37061220.54 0.2634 0.1189 *

Mars -106181-04-14 18:14 J -37061082.86 -37061082.74 -37061082.63 0.1822 0.0712

Venus -106178-12-20 11:02 J -37059738.13 -37059738.04 -37059737.95 0.3770 0.2414

Jupiter -106177-02-17 15:07 J -37059678.97 -37059678.87 -37059678.76 0.0529 0.0369

Jupiter -106177-05-17 06:28 J -37059589.37 -37059589.23 -37059589.10 0.0531 0.0175

Mars -106173-10-22 10:33 J -37057970.21 -37057970.06 -37057969.91 0.1689 0.0216

Saturn -106172-04-11 15:07 J -37057798.94 -37057798.87 -37057798.79 0.0291 0.0254

Earth -106172-06-12 14:52 J -37057736.99 -37057736.88 -37057736.78 0.2713 0.0939

Moon -106172-06-12 15:35 J -37057736.96 -37057736.85 -37057736.75 0.2710 0.1000 *

Venus -106172-07-05 07:40 J -37057714.29 -37057714.18 -37057714.06 0.3766 0.0861

Saturn -106172-07-09 09:21 J -37057710.24 -37057710.11 -37057709.98 0.0291 0.0162

Mars -106172-09-05 01:11 J -37057652.57 -37057652.45 -37057652.32 0.1828 0.0226

Jupiter -106172-10-05 05:31 J -37057622.36 -37057622.27 -37057622.18 0.0499 0.0411

Saturn -106172-10-06 03:50 J -37057621.50 -37057621.34 -37057621.18 0.0290 0.0068

Saturn -106171-01-02 22:47 J -37057532.72 -37057532.55 -37057532.39 0.0289 0.0029

Jupiter -106171-01-02 23:16 J -37057532.69 -37057532.53 -37057532.37 0.0496 0.0079 *

Saturn -106171-04-01 17:45 J -37057443.90 -37057443.76 -37057443.60 0.0288 0.0126

Saturn -106171-06-29 13:26 J -37057355.04 -37057354.94 -37057354.84 0.0288 0.0223

Earth -106169-11-30 22:19 J -37056469.72 -37056469.57 -37056469.42 0.2631 0.0339

Moon -106169-11-30 23:02 J -37056469.69 -37056469.54 -37056469.40 0.2625 0.0428 *

Venus -106166-01-19 04:47 J -37055690.42 -37055690.30 -37055690.19 0.3761 0.0768

Jupiter -106166-12-06 15:50 J -37055368.86 -37055368.84 -37055368.82 0.0528 0.0519

Jupiter -106165-03-05 07:26 J -37055279.33 -37055279.19 -37055279.05 0.0530 0.0028

Moon -106165-06-05 10:33 J -37055187.13 -37055187.06 -37055186.99 0.2706 0.2090

Earth -106165-06-05 10:47 J -37055187.13 -37055187.05 -37055186.98 0.2700 0.2008 *

Uranus -106164-08-14 13:40 J -37054751.99 -37054751.93 -37054751.85 0.0133 0.0118

Uranus -106164-11-10 17:59 J -37054663.85 -37054663.75 -37054663.65 0.0133 0.0100

Uranus -106163-02-06 22:04 J -37054575.70 -37054575.58 -37054575.46 0.0133 0.0083

Mars -106163-03-14 14:38 J -37054540.04 -37054539.89 -37054539.74 0.1685 0.0288

Uranus -106163-05-06 02:09 J -37054487.54 -37054487.41 -37054487.28 0.0133 0.0066

Uranus -106163-08-02 05:59 J -37054399.39 -37054399.25 -37054399.11 0.0133 0.0049

Uranus -106163-10-29 09:50 J -37054311.23 -37054311.09 -37054310.94 0.0133 0.0032

Venus -106162-01-19 02:09 J -37054229.50 -37054229.41 -37054229.33 0.3609 0.2591

Uranus -106162-01-25 13:40 J -37054223.07 -37054222.93 -37054222.78 0.0133 0.0016

Mars -106162-01-26 08:09 J -37054222.29 -37054222.16 -37054222.04 0.1832 0.0312

Uranus -106162-04-23 17:45 J -37054134.91 -37054134.76 -37054134.62 0.0133 0.0004

Uranus -106162-07-20 21:21 J -37054046.75 -37054046.61 -37054046.46 0.0133 0.0018

Uranus -106162-10-17 01:11 J -37053958.59 -37053958.45 -37053958.31 0.0133 0.0034

Uranus -106161-01-13 05:02 J -37053870.43 -37053870.29 -37053870.16 0.0133 0.0050

Uranus -106161-04-10 08:38 J -37053782.26 -37053782.14 -37053782.01 0.0132 0.0066

Uranus -106161-07-07 12:28 J -37053694.10 -37053693.98 -37053693.87 0.0132 0.0082

Venus -106161-08-04 01:55 J -37053666.51 -37053666.42 -37053666.33 0.3756 0.2428

Uranus -106161-10-03 15:50 J -37053605.93 -37053605.84 -37053605.73 0.0132 0.0098

Uranus -106161-12-30 19:26 J -37053517.75 -37053517.69 -37053517.61 0.0132 0.0113

Mars -106160-01-01 03:35 J -37053516.38 -37053516.35 -37053516.31 0.1812 0.1712

Uranus -106160-03-28 23:02 J -37053429.56 -37053429.54 -37053429.50 0.0132 0.0129

Jupiter -106160-10-22 00:43 J -37053222.63 -37053222.47 -37053222.31 0.0497 0.0040

Jupiter -106159-01-19 19:40 J -37053132.73 -37053132.68 -37053132.62 0.0495 0.0464

Earth -106159-06-15 09:35 J -37052986.17 -37052986.10 -37052986.02 0.2718 0.1975

Moon -106159-06-15 09:50 J -37052986.16 -37052986.09 -37052986.01 0.2712 0.1964 *

Venus -106157-08-03 23:16 J -37052205.65 -37052205.53 -37052205.41 0.3613 0.1045

Saturn -106157-08-07 00:28 J -37052202.51 -37052202.48 -37052202.43 0.0269 0.0257

Saturn -106157-11-03 14:09 J -37052114.01 -37052113.91 -37052113.79 0.0269 0.0186

Saturn -106156-01-31 03:50 J -37052025.47 -37052025.34 -37052025.20 0.0270 0.0114

Saturn -106156-04-29 17:16 J -37051936.93 -37051936.78 -37051936.64 0.0270 0.0044

Saturn -106156-07-27 06:14 J -37051848.38 -37051848.24 -37051848.09 0.0271 0.0028

Saturn -106156-10-23 19:11 J -37051759.83 -37051759.70 -37051759.56 0.0271 0.0096

Moon -106156-12-04 01:55 J -37051718.52 -37051718.42 -37051718.31 0.2620 0.1900

Earth -106156-12-04 02:23 J -37051718.49 -37051718.40 -37051718.30 0.2626 0.2016 *

Saturn -106155-01-20 07:55 J -37051671.28 -37051671.17 -37051671.05 0.0272 0.0165

Saturn -106155-04-18 20:38 J -37051582.71 -37051582.64 -37051582.56 0.0273 0.0232

Mars -106154-08-04 19:11 J -37051109.83 -37051109.70 -37051109.56 0.1681 0.0769

Jupiter -106154-12-23 09:35 J -37050969.24 -37050969.10 -37050968.96 0.0530 0.0104

Jupiter -106153-03-21 23:59 J -37050879.58 -37050879.50 -37050879.42 0.0532 0.0431

Mars -106153-06-17 14:23 J -37050792.02 -37050791.90 -37050791.79 0.1837 0.0849

Earth -106152-06-08 05:45 J -37050436.36 -37050436.26 -37050436.15 0.2705 0.0950

Moon -106152-06-08 06:14 J -37050436.34 -37050436.24 -37050436.13 0.2711 0.0836 *

Mars -106152-07-11 03:35 J -37050403.45 -37050403.35 -37050403.26 0.1698 0.1321

Venus -106151-02-17 20:09 J -37050181.78 -37050181.66 -37050181.54 0.3617 0.0441

Mars -106151-05-24 11:02 J -37050086.12 -37050086.04 -37050085.95 0.1817 0.1246

Earth -106149-11-25 21:07 J -37049169.64 -37049169.62 -37049169.60 0.2641 0.2603

Moon -106149-11-25 22:33 J -37049169.62 -37049169.56 -37049169.50 0.2641 0.2392 *

Jupiter -106148-08-10 01:40 J -37048912.58 -37048912.43 -37048912.28 0.0497 0.0163

Jupiter -106148-11-07 20:09 J -37048822.77 -37048822.66 -37048822.53 0.0495 0.0336

Neptune -106146-03-12 15:07 J -37048332.90 -37048332.87 -37048332.82 0.0088 0.0085

Neptune -106146-06-08 17:31 J -37048244.84 -37048244.77 -37048244.71 0.0088 0.0080

Venus -106146-09-03 16:33 J -37048157.91 -37048157.81 -37048157.70 0.3621 0.1875

Neptune -106146-09-04 19:11 J -37048156.76 -37048156.70 -37048156.60 0.0088 0.0076

Neptune -106146-12-01 21:21 J -37048068.69 -37048068.61 -37048068.50 0.0088 0.0071

Neptune -106145-02-27 23:45 J -37047980.61 -37047980.51 -37047980.40 0.0088 0.0066

Neptune -106145-05-26 01:40 J -37047892.53 -37047892.43 -37047892.31 0.0088 0.0061

Neptune -106145-08-22 03:50 J -37047804.45 -37047804.34 -37047804.22 0.0088 0.0057

Neptune -106145-11-18 05:59 J -37047716.37 -37047716.25 -37047716.12 0.0088 0.0052

Mars -106145-12-25 00:14 J -37047679.59 -37047679.49 -37047679.39 0.1677 0.1230

Neptune -106144-02-14 07:55 J -37047628.29 -37047628.17 -37047628.03 0.0088 0.0047

Neptune -106144-05-13 10:04 J -37047540.21 -37047540.08 -37047539.94 0.0088 0.0043

Neptune -106144-08-09 11:59 J -37047452.13 -37047452.00 -37047451.85 0.0088 0.0038

Neptune -106144-11-05 14:09 J -37047364.05 -37047363.91 -37047363.77 0.0088 0.0033

Mars -106144-11-07 20:23 J -37047361.73 -37047361.65 -37047361.56 0.1842 0.1402

Neptune -106143-02-01 16:19 J -37047275.97 -37047275.82 -37047275.68 0.0088 0.0029

Neptune -106143-04-30 17:59 J -37047187.89 -37047187.75 -37047187.59 0.0088 0.0025

Neptune -106143-07-27 20:09 J -37047099.81 -37047099.66 -37047099.51 0.0088 0.0020

Saturn -106143-08-29 14:09 J -37047066.93 -37047066.91 -37047066.89 0.0292 0.0288

Neptune -106143-10-23 22:04 J -37047011.72 -37047011.58 -37047011.42 0.0088 0.0016

Saturn -106143-11-26 08:09 J -37046978.27 -37046978.16 -37046978.04 0.0291 0.0196

Mars -106143-12-01 07:11 J -37046973.33 -37046973.20 -37046973.07 0.1694 0.0790

Neptune -106142-01-20 00:14 J -37046923.64 -37046923.49 -37046923.34 0.0088 0.0011

Saturn -106142-02-23 02:23 J -37046889.54 -37046889.40 -37046889.24 0.0290 0.0104

Neptune -106142-04-18 02:09 J -37046835.56 -37046835.41 -37046835.25 0.0088 0.0006

Saturn -106142-05-22 21:21 J -37046800.78 -37046800.61 -37046800.45 0.0290 0.0009

Neptune -106142-07-15 04:04 J -37046747.48 -37046747.33 -37046747.17 0.0088 0.0003

Saturn -106142-08-19 16:19 J -37046711.98 -37046711.82 -37046711.66 0.0289 0.0089

Neptune -106142-10-11 06:14 J -37046659.40 -37046659.24 -37046659.09 0.0088 0.0004

Jupiter -106142-10-11 11:45 J -37046659.14 -37046659.01 -37046658.87 0.0530 0.0232 *

Mars -106142-10-14 18:28 J -37046655.84 -37046655.73 -37046655.62 0.1823 0.0763

Saturn -106142-11-16 11:31 J -37046623.14 -37046623.02 -37046622.89 0.0288 0.0187

Neptune -106141-01-07 08:09 J -37046571.31 -37046571.16 -37046571.01 0.0088 0.0008

Jupiter -106141-01-09 02:38 J -37046569.50 -37046569.39 -37046569.27 0.0532 0.0309

Saturn -106141-02-13 07:11 J -37046534.21 -37046534.20 -37046534.17 0.0288 0.0285

Neptune -106141-04-04 09:50 J -37046483.23 -37046483.09 -37046482.93 0.0088 0.0013

Neptune -106141-07-01 11:59 J -37046395.15 -37046395.00 -37046394.85 0.0088 0.0016

Neptune -106141-09-27 13:55 J -37046307.07 -37046306.92 -37046306.77 0.0088 0.0021

Neptune -106141-12-24 15:35 J -37046218.99 -37046218.85 -37046218.70 0.0088 0.0026

Venus -106140-03-19 12:57 J -37046134.01 -37046133.96 -37046133.91 0.3625 0.3259

Neptune -106140-03-22 17:45 J -37046130.90 -37046130.76 -37046130.62 0.0088 0.0030

Neptune -106140-06-18 19:26 J -37046042.82 -37046042.69 -37046042.54 0.0088 0.0034

Neptune -106140-09-14 21:21 J -37045954.74 -37045954.61 -37045954.47 0.0088 0.0038

Neptune -106140-12-11 23:16 J -37045866.66 -37045866.53 -37045866.39 0.0088 0.0043

Neptune -106139-03-10 00:57 J -37045778.57 -37045778.46 -37045778.32 0.0088 0.0047

Neptune -106139-06-06 02:52 J -37045690.49 -37045690.38 -37045690.25 0.0088 0.0052

Earth -106139-06-11 00:43 J -37045685.58 -37045685.47 -37045685.35 0.2709 0.0152

Moon -106139-06-11 01:40 J -37045685.55 -37045685.43 -37045685.32 0.2710 0.0144 *

Neptune -106139-09-02 04:47 J -37045602.41 -37045602.30 -37045602.18 0.0088 0.0056

Neptune -106139-11-29 06:43 J -37045514.32 -37045514.22 -37045514.11 0.0088 0.0060

Neptune -106138-02-25 08:23 J -37045426.24 -37045426.15 -37045426.04 0.0088 0.0064

Neptune -106138-05-24 10:04 J -37045338.16 -37045338.08 -37045337.97 0.0088 0.0069

Neptune -106138-08-20 11:59 J -37045250.07 -37045250.00 -37045249.91 0.0088 0.0073

Neptune -106138-11-16 13:55 J -37045161.98 -37045161.92 -37045161.84 0.0088 0.0077

Neptune -106137-02-12 15:50 J -37045073.90 -37045073.84 -37045073.78 0.0088 0.0081

Neptune -106137-05-10 17:45 J -37044985.80 -37044985.76 -37044985.73 0.0088 0.0085

Jupiter -106136-05-29 02:52 J -37044602.50 -37044602.38 -37044602.25 0.0498 0.0284

Jupiter -106136-08-26 21:07 J -37044512.77 -37044512.62 -37044512.47 0.0496 0.0210

Earth -106136-11-29 00:43 J -37044418.61 -37044418.47 -37044418.33 0.2636 0.0988

Moon -106136-11-29 01:40 J -37044418.56 -37044418.43 -37044418.28 0.2631 0.0943 *

Mars -106133-04-22 10:47 J -37043543.19 -37043543.05 -37043542.90 0.1689 0.0270

Mars -106132-03-06 01:26 J -37043225.57 -37043225.44 -37043225.32 0.1827 0.0259

Jupiter -106130-07-30 13:55 J -37042349.02 -37042348.92 -37042348.82 0.0529 0.0362

Jupiter -106130-10-28 05:02 J -37042259.42 -37042259.29 -37042259.15 0.0531 0.0182

Saturn -106127-03-23 14:52 J -37041381.96 -37041381.88 -37041381.78 0.0269 0.0211

Saturn -106127-06-20 04:33 J -37041293.43 -37041293.31 -37041293.18 0.0270 0.0140

Saturn -106127-09-16 17:59 J -37041204.89 -37041204.75 -37041204.61 0.0270 0.0069

Saturn -106127-12-14 07:11 J -37041116.35 -37041116.20 -37041116.05 0.0271 0.0004

Venus -106126-01-10 13:26 J -37041088.99 -37041088.94 -37041088.89 0.3773 0.3390

Saturn -106126-03-12 20:09 J -37041027.80 -37041027.66 -37041027.51 0.0271 0.0072

Saturn -106126-06-09 09:07 J -37040939.24 -37040939.12 -37040939.00 0.0272 0.0140

Earth -106126-06-13 19:40 J -37040934.78 -37040934.68 -37040934.57 0.2714 0.1154

Moon -106126-06-13 20:23 J -37040934.75 -37040934.65 -37040934.55 0.2710 0.1232 *

Saturn -106126-09-05 21:50 J -37040850.68 -37040850.59 -37040850.50 0.0273 0.0208

Jupiter -106124-03-17 04:04 J -37040292.42 -37040292.33 -37040292.24 0.0499 0.0406

Jupiter -106124-06-14 21:50 J -37040202.75 -37040202.59 -37040202.43 0.0496 0.0084

Mars -106124-09-12 15:07 J -37040113.02 -37040112.87 -37040112.72 0.1685 0.0235

Mars -106123-07-27 08:09 J -37039795.29 -37039795.16 -37039795.04 0.1832 0.0264

Earth -106123-12-02 04:33 J -37039667.46 -37039667.31 -37039667.17 0.2631 0.0668

Moon -106123-12-02 05:02 J -37039667.44 -37039667.29 -37039667.14 0.2624 0.0689 *

Mars -106121-07-02 03:35 J -37039089.37 -37039089.35 -37039089.32 0.1812 0.1752

Venus -106121-07-26 09:50 J -37039065.19 -37039065.09 -37039064.99 0.3768 0.1881

Uranus -106120-10-14 12:14 J -37038620.02 -37038619.99 -37038619.92 0.0145 0.0139

Uranus -106119-01-10 18:28 J -37038531.82 -37038531.73 -37038531.62 0.0146 0.0115

Uranus -106119-04-09 00:43 J -37038443.59 -37038443.47 -37038443.33 0.0146 0.0091

Moon -106119-06-06 15:50 J -37038384.93 -37038384.84 -37038384.76 0.2707 0.1744

Earth -106119-06-06 15:50 J -37038384.93 -37038384.84 -37038384.76 0.2700 0.1794 *

Uranus -106119-07-06 07:11 J -37038355.34 -37038355.20 -37038355.05 0.0146 0.0066

Uranus -106119-10-02 13:40 J -37038267.09 -37038266.93 -37038266.77 0.0146 0.0042

Uranus -106119-12-29 19:55 J -37038178.83 -37038178.67 -37038178.50 0.0146 0.0018

Uranus -106118-03-28 02:23 J -37038090.56 -37038090.40 -37038090.23 0.0146 0.0009

Jupiter -106118-05-18 15:21 J -37038038.90 -37038038.86 -37038038.81 0.0528 0.0500

Uranus -106118-06-24 08:52 J -37038002.29 -37038002.13 -37038001.96 0.0146 0.0034

Jupiter -106118-08-16 06:57 J -37037949.35 -37037949.21 -37037949.06 0.0530 0.0048

Uranus -106118-09-20 15:21 J -37037914.00 -37037913.86 -37037913.69 0.0146 0.0059

Uranus -106118-12-17 22:04 J -37037825.71 -37037825.58 -37037825.43 0.0146 0.0085

Uranus -106117-03-15 04:47 J -37037737.40 -37037737.30 -37037737.18 0.0146 0.0111

Uranus -106117-06-11 11:31 J -37037649.07 -37037649.02 -37037648.95 0.0146 0.0137

Venus -106115-02-09 06:28 J -37037041.34 -37037041.23 -37037041.11 0.3764 0.0338

Mars -106114-02-02 19:40 J -37036682.81 -37036682.68 -37036682.55 0.1681 0.0722

Mars -106114-12-17 14:38 J -37036365.01 -37036364.89 -37036364.78 0.1837 0.0796

Saturn -106113-04-14 08:23 J -37036246.25 -37036246.15 -37036246.05 0.0291 0.0224

Earth -106113-06-15 14:38 J -37036183.96 -37036183.89 -37036183.83 0.2719 0.2185

Moon -106113-06-15 14:38 J -37036183.95 -37036183.89 -37036183.82 0.2711 0.2189 *

Saturn -106113-07-12 02:38 J -37036157.53 -37036157.39 -37036157.24 0.0290 0.0131

Saturn -106113-10-08 21:21 J -37036068.77 -37036068.61 -37036068.45 0.0290 0.0036

Saturn -106112-01-05 16:19 J -37035979.98 -37035979.82 -37035979.66 0.0289 0.0060

Mars -106112-01-09 04:04 J -37035976.42 -37035976.33 -37035976.24 0.1698 0.1377

Jupiter -106112-04-02 23:02 J -37035892.70 -37035892.54 -37035892.38 0.0497 0.0037

Saturn -106112-04-04 11:31 J -37035891.16 -37035891.02 -37035890.88 0.0288 0.0157

Jupiter -106112-07-01 17:59 J -37035802.79 -37035802.75 -37035802.69 0.0495 0.0467

Saturn -106112-07-02 06:57 J -37035802.28 -37035802.21 -37035802.13 0.0287 0.0255

Mars -106112-11-22 11:16 J -37035659.12 -37035659.03 -37035658.94 0.1818 0.1288

Venus -106110-08-26 03:35 J -37035017.46 -37035017.35 -37035017.24 0.3760 0.1315

Moon -106110-12-05 07:55 J -37034916.24 -37034916.17 -37034916.10 0.2620 0.2333

Earth -106110-12-05 08:38 J -37034916.20 -37034916.14 -37034916.07 0.2625 0.2357 *

Jupiter -106106-06-04 07:55 J -37033639.31 -37033639.17 -37033639.03 0.0530 0.0102

Earth -106106-06-09 10:47 J -37033634.16 -37033634.05 -37033633.94 0.2705 0.0730

Moon -106106-06-09 11:16 J -37033634.14 -37033634.03 -37033633.92 0.2711 0.0753 *

Venus -106106-08-26 00:57 J -37033556.56 -37033556.46 -37033556.35 0.3610 0.2048

Jupiter -106106-09-01 22:19 J -37033549.65 -37033549.57 -37033549.49 0.0532 0.0432

Mars -106105-06-25 00:28 J -37033252.58 -37033252.48 -37033252.38 0.1677 0.1186

Venus -106104-03-11 00:57 J -37032993.53 -37032993.46 -37032993.39 0.3755 0.3003

Mars -106104-05-08 20:38 J -37032934.73 -37032934.64 -37032934.55 0.1842 0.1354

Mars -106103-06-01 07:26 J -37032546.32 -37032546.19 -37032546.06 0.1694 0.0833

Earth -106103-11-27 03:21 J -37032367.44 -37032367.36 -37032367.29 0.2640 0.2286

Moon -106103-11-27 04:47 J -37032367.38 -37032367.30 -37032367.23 0.2640 0.2261 *

Mars -106102-04-14 18:43 J -37032228.84 -37032228.72 -37032228.61 0.1823 0.0810

Jupiter -106100-01-20 00:28 J -37031582.63 -37031582.48 -37031582.33 0.0498 0.0154

Venus -106100-03-10 22:04 J -37031532.70 -37031532.58 -37031532.45 0.3614 0.0531

Jupiter -106100-04-19 19:11 J -37031492.82 -37031492.70 -37031492.59 0.0495 0.0345

Saturn -106098-08-10 17:31 J -37030649.84 -37030649.77 -37030649.69 0.0269 0.0228

Saturn -106098-11-07 07:11 J -37030561.32 -37030561.20 -37030561.07 0.0270 0.0157

Saturn -106097-02-03 20:38 J -37030472.78 -37030472.64 -37030472.49 0.0270 0.0086

Saturn -106097-05-02 10:04 J -37030384.23 -37030384.08 -37030383.94 0.0271 0.0016

Saturn -106097-07-29 23:02 J -37030295.68 -37030295.54 -37030295.40 0.0271 0.0055

Saturn -106097-10-26 11:59 J -37030207.13 -37030207.00 -37030206.87 0.0272 0.0124

Saturn -106096-01-23 00:43 J -37030118.57 -37030118.47 -37030118.37 0.0272 0.0192

Saturn -106096-04-21 13:11 J -37030029.98 -37030029.95 -37030029.90 0.0273 0.0260

Mars -106096-11-15 05:45 J -37029822.28 -37029822.26 -37029822.23 0.1673 0.1633

Venus -106095-09-24 18:57 J -37029508.83 -37029508.71 -37029508.59 0.3618 0.0942

Jupiter -106094-03-23 09:50 J -37029329.22 -37029329.09 -37029328.96 0.0529 0.0236

Jupiter -106094-06-21 00:43 J -37029239.59 -37029239.47 -37029239.36 0.0532 0.0303

Mars -106094-10-22 11:16 J -37029116.17 -37029116.03 -37029115.88 0.1689 0.0323

Earth -106093-06-11 05:45 J -37028883.37 -37028883.26 -37028883.14 0.2710 0.0325

Moon -106093-06-11 06:43 J -37028883.34 -37028883.22 -37028883.11 0.2709 0.0476 *

Mars -106093-09-04 01:40 J -37028798.56 -37028798.43 -37028798.31 0.1827 0.0313

Earth -106090-11-30 06:57 J -37027616.36 -37027616.21 -37027616.07 0.2635 0.0660

Moon -106090-11-30 07:55 J -37027616.32 -37027616.17 -37027616.02 0.2630 0.0499 *

Venus -106089-04-09 15:21 J -37027484.95 -37027484.86 -37027484.76 0.3622 0.2363

Jupiter -106089-11-08 01:40 J -37027272.56 -37027272.43 -37027272.30 0.0498 0.0277

Jupiter -106088-02-05 19:40 J -37027182.82 -37027182.68 -37027182.53 0.0496 0.0218

Moon -106086-06-05 00:57 J -37026333.47 -37026333.46 -37026333.45 0.2701 0.2685

Earth -106086-06-05 01:26 J -37026333.46 -37026333.44 -37026333.42 0.2696 0.2643 *

Mars -106084-03-13 15:35 J -37025686.00 -37025685.85 -37025685.70 0.1685 0.0186

Saturn -106084-09-01 08:09 J -37025514.23 -37025514.16 -37025514.08 0.0291 0.0254

Saturn -106084-11-29 02:23 J -37025425.53 -37025425.40 -37025425.27 0.0291 0.0162

Mars -106083-01-25 08:23 J -37025368.28 -37025368.15 -37025368.03 0.1832 0.0219

Saturn -106083-02-25 20:52 J -37025336.79 -37025336.63 -37025336.48 0.0290 0.0068

Saturn -106083-05-25 15:35 J -37025248.01 -37025247.85 -37025247.69 0.0289 0.0028

Saturn -106083-08-22 10:47 J -37025159.20 -37025159.05 -37025158.90 0.0289 0.0125

Saturn -106083-11-19 05:59 J -37025070.35 -37025070.25 -37025070.14 0.0288 0.0223

Jupiter -106082-01-09 11:59 J -37025019.11 -37025019.00 -37025018.90 0.0529 0.0366

Jupiter -106082-04-09 03:07 J -37024929.50 -37024929.37 -37024929.23 0.0531 0.0179

Mars -106081-01-01 03:50 J -37024662.35 -37024662.34 -37024662.33 0.1812 0.1796

Uranus -106080-06-07 16:47 J -37024138.82 -37024138.80 -37024138.76 0.0133 0.0131

Earth -106080-06-14 00:43 J -37024132.57 -37024132.47 -37024132.37 0.2715 0.1364

Moon -106080-06-14 01:11 J -37024132.54 -37024132.45 -37024132.35 0.2710 0.1384 *

Uranus -106080-09-03 20:52 J -37024050.70 -37024050.63 -37024050.54 0.0133 0.0113

Uranus -106080-12-01 00:57 J -37023962.56 -37023962.46 -37023962.35 0.0133 0.0096

Uranus -106079-02-27 04:47 J -37023874.41 -37023874.30 -37023874.17 0.0133 0.0080

Uranus -106079-05-26 08:52 J -37023786.25 -37023786.13 -37023785.99 0.0133 0.0062

Uranus -106079-08-22 12:57 J -37023698.10 -37023697.96 -37023697.82 0.0133 0.0045

Uranus -106079-11-18 17:02 J -37023609.94 -37023609.79 -37023609.65 0.0133 0.0028

Uranus -106078-02-14 20:52 J -37023521.78 -37023521.63 -37023521.49 0.0133 0.0012

Uranus -106078-05-14 00:43 J -37023433.62 -37023433.47 -37023433.33 0.0133 0.0005

Uranus -106078-08-10 04:19 J -37023345.46 -37023345.32 -37023345.17 0.0133 0.0022

Uranus -106078-11-06 08:09 J -37023257.30 -37023257.16 -37023257.02 0.0133 0.0037

Uranus -106077-02-02 11:59 J -37023169.13 -37023169.00 -37023168.87 0.0133 0.0053

Uranus -106077-04-30 15:35 J -37023080.97 -37023080.85 -37023080.72 0.0132 0.0069

Uranus -106077-07-27 19:11 J -37022992.80 -37022992.70 -37022992.58 0.0132 0.0085

Jupiter -106077-08-27 02:52 J -37022962.47 -37022962.38 -37022962.28 0.0498 0.0396

Uranus -106077-10-23 23:02 J -37022904.63 -37022904.54 -37022904.45 0.0132 0.0101

Jupiter -106077-11-24 20:38 J -37022872.80 -37022872.64 -37022872.48 0.0496 0.0093

Earth -106077-12-02 10:47 J -37022865.19 -37022865.05 -37022864.91 0.2630 0.1003

Moon -106077-12-02 11:02 J -37022865.18 -37022865.04 -37022864.90 0.2624 0.1003 *

Uranus -106076-01-20 02:23 J -37022816.45 -37022816.40 -37022816.32 0.0132 0.0117

Uranus -106076-04-18 06:14 J -37022728.25 -37022728.24 -37022728.23 0.0132 0.0132

Mars -106075-08-03 19:55 J -37022255.80 -37022255.67 -37022255.53 0.1681 0.0673

Mars -106074-06-17 14:38 J -37021938.00 -37021937.89 -37021937.77 0.1837 0.0753

Earth -106073-06-06 20:38 J -37021582.73 -37021582.64 -37021582.54 0.2701 0.1577

Moon -106073-06-06 20:52 J -37021582.72 -37021582.63 -37021582.54 0.2708 0.1599 *

Mars -106073-07-10 04:19 J -37021549.40 -37021549.32 -37021549.24 0.1698 0.1429

Mars -106072-05-23 11:16 J -37021232.11 -37021232.03 -37021231.94 0.1817 0.1334

Jupiter -106071-10-28 13:40 J -37020708.97 -37020708.93 -37020708.88 0.0528 0.0498

Jupiter -106070-01-26 05:31 J -37020619.41 -37020619.27 -37020619.13 0.0531 0.0050

Venus -106070-08-17 11:59 J -37020416.07 -37020416.00 -37020415.92 0.3771 0.2881

Saturn -106069-12-27 18:28 J -37019917.78 -37019917.73 -37019917.68 0.0269 0.0253

Saturn -106068-03-26 08:09 J -37019829.27 -37019829.16 -37019829.05 0.0269 0.0182

Saturn -106068-06-22 21:35 J -37019740.73 -37019740.60 -37019740.46 0.0270 0.0111

Saturn -106068-09-19 11:02 J -37019652.19 -37019652.04 -37019651.89 0.0271 0.0040

Saturn -106068-12-17 00:14 J -37019563.64 -37019563.49 -37019563.35 0.0271 0.0031

Saturn -106067-03-15 13:11 J -37019475.09 -37019474.95 -37019474.82 0.0272 0.0100

Saturn -106067-06-12 01:55 J -37019386.53 -37019386.42 -37019386.30 0.0272 0.0169

Moon -106067-06-16 19:40 J -37019381.73 -37019381.68 -37019381.63 0.2712 0.2399

Earth -106067-06-16 19:40 J -37019381.73 -37019381.68 -37019381.63 0.2719 0.2399 *

Saturn -106067-09-08 14:23 J -37019297.96 -37019297.90 -37019297.82 0.0273 0.0237

Mars -106066-12-25 00:57 J -37018825.57 -37018825.46 -37018825.35 0.1677 0.1138

Jupiter -106065-09-12 21:21 J -37018562.77 -37018562.61 -37018562.45 0.0497 0.0034

Mars -106065-11-06 20:52 J -37018507.72 -37018507.63 -37018507.54 0.1842 0.1308

Jupiter -106065-12-11 16:19 J -37018472.87 -37018472.82 -37018472.77 0.0495 0.0468

Venus -106064-03-02 08:38 J -37018392.25 -37018392.14 -37018392.03 0.3767 0.1349

Neptune -106064-11-23 07:26 J -37018126.22 -37018126.19 -37018126.15 0.0089 0.0086

Mars -106064-11-30 07:55 J -37018119.30 -37018119.17 -37018119.04 0.1694 0.0891

Moon -106064-12-05 13:55 J -37018113.94 -37018113.92 -37018113.89 0.2619 0.2572

Neptune -106063-02-19 09:21 J -37018038.15 -37018038.11 -37018038.03 0.0089 0.0082

Neptune -106063-05-18 11:45 J -37017950.08 -37017950.01 -37017949.92 0.0089 0.0077

Neptune -106063-08-14 13:55 J -37017862.00 -37017861.92 -37017861.82 0.0089 0.0073

Pluto -106063-09-13 04:47 J -37017832.31 -37017832.30 -37017832.26 0.0060 0.0060

Mars -106063-10-13 18:43 J -37017801.83 -37017801.72 -37017801.61 0.1823 0.0851

Neptune -106063-11-10 16:19 J -37017773.92 -37017773.82 -37017773.71 0.0089 0.0068

Pluto -106063-12-10 05:59 J -37017744.32 -37017744.25 -37017744.13 0.0060 0.0053

Neptune -106062-02-06 18:14 J -37017685.83 -37017685.74 -37017685.61 0.0089 0.0064

Pluto -106062-03-08 08:09 J -37017656.29 -37017656.16 -37017656.03 0.0060 0.0045

Neptune -106062-05-05 20:38 J -37017597.74 -37017597.64 -37017597.51 0.0089 0.0059

Pluto -106062-06-04 09:07 J -37017568.26 -37017568.12 -37017567.95 0.0060 0.0038

Neptune -106062-08-01 23:02 J -37017509.66 -37017509.54 -37017509.40 0.0089 0.0054

Pluto -106062-08-31 10:33 J -37017480.21 -37017480.06 -37017479.87 0.0060 0.0031

Neptune -106062-10-29 01:11 J -37017421.57 -37017421.45 -37017421.30 0.0089 0.0050

Pluto -106062-11-27 12:14 J -37017392.16 -37017391.99 -37017391.80 0.0060 0.0023

Neptune -106061-01-25 03:35 J -37017333.48 -37017333.35 -37017333.20 0.0089 0.0045

Pluto -106061-02-23 13:40 J -37017304.11 -37017303.93 -37017303.73 0.0061 0.0016

Neptune -106061-04-22 05:59 J -37017245.39 -37017245.25 -37017245.10 0.0089 0.0040

Pluto -106061-05-21 15:21 J -37017216.05 -37017215.86 -37017215.66 0.0061 0.0008

Neptune -106061-07-19 08:23 J -37017157.29 -37017157.15 -37017157.00 0.0089 0.0035

Pluto -106061-08-17 16:47 J -37017127.99 -37017127.80 -37017127.60 0.0061 0.0002

Neptune -106061-10-15 10:33 J -37017069.20 -37017069.06 -37017068.90 0.0089 0.0031

Pluto -106061-11-13 18:14 J -37017039.93 -37017039.74 -37017039.54 0.0061 0.0008

Neptune -106060-01-11 12:57 J -37016981.11 -37016980.96 -37016980.79 0.0089 0.0026

Pluto -106060-02-09 19:40 J -37016951.86 -37016951.68 -37016951.48 0.0061 0.0015

Neptune -106060-04-09 15:21 J -37016893.01 -37016892.86 -37016892.69 0.0089 0.0021

Pluto -106060-05-08 21:07 J -37016863.79 -37016863.62 -37016863.43 0.0061 0.0023

Earth -106060-06-09 15:50 J -37016831.95 -37016831.84 -37016831.73 0.2706 0.0515

Moon -106060-06-09 16:33 J -37016831.93 -37016831.81 -37016831.70 0.2709 0.0409 *

Neptune -106060-07-06 17:59 J -37016804.91 -37016804.75 -37016804.59 0.0089 0.0016

Pluto -106060-08-04 22:47 J -37016775.72 -37016775.55 -37016775.37 0.0061 0.0030

Neptune -106060-10-02 20:23 J -37016716.82 -37016716.65 -37016716.49 0.0089 0.0011

Pluto -106060-10-31 23:59 J -37016687.64 -37016687.50 -37016687.33 0.0061 0.0038

Neptune -106060-12-29 22:33 J -37016628.72 -37016628.56 -37016628.39 0.0089 0.0007

Pluto -106059-01-28 01:40 J -37016599.55 -37016599.43 -37016599.29 0.0061 0.0046

Neptune -106059-03-28 00:57 J -37016540.62 -37016540.46 -37016540.29 0.0089 0.0003

Pluto -106059-04-26 02:52 J -37016511.45 -37016511.38 -37016511.26 0.0061 0.0054

Neptune -106059-06-24 03:35 J -37016452.52 -37016452.35 -37016452.19 0.0089 0.0004

Pluto -106059-07-23 04:33 J -37016423.31 -37016423.31 -37016423.28 0.0061 0.0061

Venus -106059-09-16 05:31 J -37016368.39 -37016368.27 -37016368.15 0.3763 0.0262

Neptune -106059-09-20 05:45 J -37016364.42 -37016364.26 -37016364.09 0.0089 0.0009

Jupiter -106059-11-14 07:11 J -37016309.34 -37016309.20 -37016309.05 0.0530 0.0087

Neptune -106059-12-17 08:23 J -37016276.31 -37016276.15 -37016275.99 0.0089 0.0013

Jupiter -106058-02-11 21:50 J -37016219.67 -37016219.59 -37016219.52 0.0532 0.0447

Neptune -106058-03-15 10:47 J -37016188.21 -37016188.05 -37016187.89 0.0089 0.0018

Neptune -106058-06-11 13:11 J -37016100.11 -37016099.95 -37016099.79 0.0089 0.0023

Neptune -106058-09-07 15:35 J -37016012.00 -37016011.85 -37016011.69 0.0089 0.0028

Neptune -106058-12-04 18:14 J -37015923.89 -37015923.74 -37015923.59 0.0089 0.0033

Neptune -106057-03-01 20:38 J -37015835.79 -37015835.64 -37015835.49 0.0089 0.0038

Neptune -106057-05-28 23:16 J -37015747.68 -37015747.53 -37015747.39 0.0089 0.0043

Neptune -106057-08-25 01:40 J -37015659.57 -37015659.43 -37015659.29 0.0089 0.0048

Neptune -106057-11-21 04:19 J -37015571.45 -37015571.32 -37015571.19 0.0089 0.0053

Earth -106057-11-27 09:21 J -37015565.20 -37015565.11 -37015565.01 0.2639 0.1964

Moon -106057-11-27 10:47 J -37015565.16 -37015565.05 -37015564.94 0.2638 0.1757 *

Neptune -106056-02-17 06:28 J -37015483.34 -37015483.23 -37015483.09 0.0089 0.0059

Mars -106056-05-16 05:59 J -37015395.29 -37015395.25 -37015395.21 0.1673 0.1592

Neptune -106056-05-16 09:07 J -37015395.23 -37015395.12 -37015394.99 0.0089 0.0064 *

Neptune -106056-08-12 11:31 J -37015307.11 -37015307.02 -37015306.90 0.0089 0.0069

Neptune -106056-11-08 14:09 J -37015218.99 -37015218.91 -37015218.80 0.0089 0.0074

Neptune -106055-02-04 16:47 J -37015130.86 -37015130.80 -37015130.71 0.0089 0.0079

Neptune -106055-05-03 19:26 J -37015042.73 -37015042.69 -37015042.63 0.0089 0.0084

Venus -106055-09-16 02:38 J -37014907.45 -37014907.39 -37014907.32 0.3607 0.3066

Saturn -106054-01-19 08:38 J -37014782.18 -37014782.14 -37014782.10 0.0291 0.0280

Saturn -106054-04-18 02:38 J -37014693.51 -37014693.39 -37014693.27 0.0291 0.0189

Mars -106054-04-22 11:45 J -37014689.16 -37014689.01 -37014688.87 0.1689 0.0368

Saturn -106054-07-15 21:07 J -37014604.77 -37014604.62 -37014604.47 0.0290 0.0095

Saturn -106054-10-12 15:50 J -37014516.00 -37014515.84 -37014515.68 0.0289 0.0002

Saturn -106053-01-09 10:47 J -37014427.20 -37014427.05 -37014426.89 0.0289 0.0097

Mars -106053-03-05 01:40 J -37014371.55 -37014371.43 -37014371.31 0.1828 0.0350

Venus -106053-04-01 02:38 J -37014344.50 -37014344.39 -37014344.29 0.3758 0.1880

Saturn -106053-04-07 06:14 J -37014338.36 -37014338.24 -37014338.12 0.0288 0.0194

Jupiter -106053-07-01 22:33 J -37014252.71 -37014252.56 -37014252.40 0.0498 0.0154

Jupiter -106053-09-29 17:16 J -37014162.90 -37014162.78 -37014162.67 0.0496 0.0345

Venus -106049-03-31 23:59 J -37012883.61 -37012883.50 -37012883.38 0.3611 0.1509

Venus -106048-10-15 23:59 J -37012320.53 -37012320.50 -37012320.47 0.3754 0.3580

Earth -106047-06-12 10:47 J -37012081.16 -37012081.05 -37012080.94 0.2710 0.0540

Moon -106047-06-12 11:31 J -37012081.13 -37012081.02 -37012080.90 0.2710 0.0555 *

Jupiter -106047-09-02 07:55 J -37011999.30 -37011999.17 -37011999.04 0.0529 0.0236

Jupiter -106047-11-30 22:47 J -37011909.66 -37011909.55 -37011909.43 0.0531 0.0303

Mars -106045-09-11 15:50 J -37011258.99 -37011258.84 -37011258.69 0.1685 0.0137

Mars -106044-07-26 08:38 J -37010941.27 -37010941.14 -37010941.02 0.1832 0.0166

Venus -106044-10-15 21:07 J -37010859.75 -37010859.62 -37010859.50 0.3615 0.0084

Earth -106044-11-30 12:57 J -37010814.10 -37010813.96 -37010813.81 0.2634 0.0341

Moon -106044-11-30 14:09 J -37010814.06 -37010813.91 -37010813.76 0.2629 0.0335 *

Jupiter -106041-04-19 23:59 J -37009942.63 -37009942.50 -37009942.36 0.0498 0.0272

Jupiter -106041-07-18 18:14 J -37009852.88 -37009852.74 -37009852.59 0.0496 0.0223

Moon -106040-06-05 06:14 J -37009531.29 -37009531.24 -37009531.19 0.2703 0.2446

Earth -106040-06-05 06:28 J -37009531.27 -37009531.23 -37009531.18 0.2697 0.2424 *

Saturn -106039-05-16 21:21 J -37009185.61 -37009185.61 -37009185.61 0.0269 0.0269

Saturn -106039-08-13 11:02 J -37009097.14 -37009097.04 -37009096.93 0.0270 0.0197

Saturn -106039-11-10 00:43 J -37009008.60 -37009008.47 -37009008.34 0.0270 0.0125

Saturn -106038-02-06 14:09 J -37008920.06 -37008919.91 -37008919.77 0.0271 0.0055

Venus -106038-05-01 17:45 J -37008835.87 -37008835.76 -37008835.65 0.3619 0.1438

Saturn -106038-05-06 03:21 J -37008831.51 -37008831.36 -37008831.22 0.0271 0.0016

Saturn -106038-08-02 16:19 J -37008742.96 -37008742.82 -37008742.68 0.0272 0.0086

Saturn -106038-10-30 05:16 J -37008654.40 -37008654.28 -37008654.16 0.0272 0.0155

Saturn -106037-01-26 17:45 J -37008565.83 -37008565.76 -37008565.67 0.0273 0.0223

Uranus -106036-11-03 18:57 J -37007918.76 -37007918.71 -37007918.65 0.0145 0.0136

Uranus -106035-01-31 01:11 J -37007830.56 -37007830.45 -37007830.35 0.0146 0.0112

Mars -106035-02-01 20:23 J -37007828.78 -37007828.65 -37007828.51 0.1681 0.0621

Uranus -106035-04-29 07:11 J -37007742.32 -37007742.20 -37007742.06 0.0146 0.0088

Jupiter -106035-06-21 09:35 J -37007689.20 -37007689.10 -37007689.00 0.0528 0.0372

Uranus -106035-07-26 13:26 J -37007654.08 -37007653.94 -37007653.78 0.0146 0.0064

Jupiter -106035-09-19 00:57 J -37007599.60 -37007599.46 -37007599.33 0.0531 0.0171

Uranus -106035-10-22 19:55 J -37007565.83 -37007565.67 -37007565.51 0.0146 0.0040

Mars -106035-12-16 14:52 J -37007511.00 -37007510.88 -37007510.76 0.1837 0.0703

Uranus -106034-01-19 02:23 J -37007477.57 -37007477.40 -37007477.24 0.0146 0.0015

Uranus -106034-04-17 08:38 J -37007389.30 -37007389.14 -37007388.97 0.0146 0.0011

Earth -106034-06-15 05:45 J -37007330.35 -37007330.26 -37007330.17 0.2715 0.1580

Moon -106034-06-15 05:59 J -37007330.33 -37007330.25 -37007330.16 0.2709 0.1670 *

Uranus -106034-07-14 15:21 J -37007301.03 -37007300.86 -37007300.70 0.0146 0.0036

Uranus -106034-10-10 21:50 J -37007212.74 -37007212.59 -37007212.43 0.0146 0.0061

Uranus -106033-01-07 04:33 J -37007124.45 -37007124.31 -37007124.17 0.0146 0.0087

Mars -106033-01-09 04:47 J -37007122.37 -37007122.30 -37007122.22 0.1698 0.1484

Uranus -106033-04-04 11:16 J -37007036.14 -37007036.03 -37007035.92 0.0146 0.0113

Uranus -106033-07-01 17:59 J -37006947.80 -37006947.75 -37006947.70 0.0146 0.0139

Venus -106033-11-14 14:09 J -37006811.98 -37006811.91 -37006811.83 0.3623 0.2843

Mars -106033-11-21 11:31 J -37006805.10 -37006805.02 -37006804.94 0.1817 0.1379

Moon -106031-12-03 16:47 J -37006062.93 -37006062.80 -37006062.67 0.2623 0.1363

Earth -106031-12-03 17:02 J -37006062.92 -37006062.79 -37006062.66 0.2629 0.1338 *

Jupiter -106029-02-07 01:11 J -37005632.54 -37005632.45 -37005632.35 0.0499 0.0393

Jupiter -106029-05-06 18:57 J -37005542.87 -37005542.71 -37005542.55 0.0496 0.0096

Earth -106027-06-08 01:40 J -37004780.53 -37004780.43 -37004780.33 0.2702 0.1357

Moon -106027-06-08 01:55 J -37004780.52 -37004780.42 -37004780.32 0.2709 0.1315 *

Mars -106026-06-25 01:11 J -37004398.56 -37004398.45 -37004398.34 0.1677 0.1092

Mars -106025-05-07 20:52 J -37004080.72 -37004080.63 -37004080.53 0.1842 0.1260

Saturn -106025-09-04 03:07 J -37003961.47 -37003961.37 -37003961.26 0.0291 0.0215

Saturn -106025-12-01 21:21 J -37003872.75 -37003872.61 -37003872.46 0.0290 0.0122

Saturn -106024-02-28 16:04 J -37003783.99 -37003783.83 -37003783.67 0.0290 0.0028

Saturn -106024-05-28 10:47 J -37003695.20 -37003695.05 -37003694.88 0.0289 0.0069

Mars -106024-05-31 08:23 J -37003692.28 -37003692.15 -37003692.03 0.1694 0.0942

Saturn -106024-08-25 06:14 J -37003606.38 -37003606.24 -37003606.11 0.0288 0.0166

Saturn -106024-11-22 01:26 J -37003517.49 -37003517.44 -37003517.36 0.0288 0.0264

Jupiter -106023-04-09 11:31 J -37003379.06 -37003379.02 -37003378.98 0.0528 0.0505

Mars -106023-04-13 18:43 J -37003374.83 -37003374.72 -37003374.61 0.1823 0.0895

Jupiter -106023-07-08 03:21 J -37003289.51 -37003289.36 -37003289.22 0.0531 0.0044

Moon -106021-06-17 00:28 J -37002579.51 -37002579.48 -37002579.45 0.2713 0.2572

Earth -106021-06-17 00:28 J -37002579.50 -37002579.48 -37002579.45 0.2720 0.2612 *

Jupiter -106017-02-23 19:55 J -37001232.83 -37001232.67 -37001232.51 0.0497 0.0028

Jupiter -106017-05-23 14:52 J -37001142.92 -37001142.88 -37001142.84 0.0495 0.0474

Mars -106017-11-14 06:28 J -37000968.28 -37000968.23 -37000968.17 0.1673 0.1540

Mars -106016-09-28 02:52 J -37000650.40 -37000650.38 -37000650.37 0.1846 0.1829

Mars -106015-10-21 12:14 J -37000262.14 -37000261.99 -37000261.85 0.1689 0.0422

Earth -106014-06-10 20:52 J -37000029.75 -37000029.63 -37000029.52 0.2706 0.0305

Moon -106014-06-10 21:35 J -37000029.71 -37000029.60 -37000029.49 0.2709 0.0270 *

Mars -106014-09-04 01:55 J -36999944.54 -36999944.42 -36999944.30 0.1827 0.0400

Venus -106013-03-23 10:47 J -36999743.14 -36999743.05 -36999742.96 0.3770 0.2354

Jupiter -106011-04-26 05:31 J -36998979.41 -36998979.27 -36998979.13 0.0530 0.0087

Jupiter -106011-07-24 19:55 J -36998889.74 -36998889.67 -36998889.59 0.0532 0.0448

Earth -106011-11-28 15:35 J -36998762.96 -36998762.85 -36998762.73 0.2639 0.1634

Moon -106011-11-28 17:02 J -36998762.91 -36998762.79 -36998762.67 0.2636 0.1607 *

Saturn -106010-12-31 11:59 J -36998365.08 -36998365.00 -36998364.91 0.0269 0.0222

Saturn -106009-03-29 01:40 J -36998276.55 -36998276.43 -36998276.30 0.0270 0.0150

Saturn -106009-06-25 15:07 J -36998188.01 -36998187.87 -36998187.72 0.0270 0.0079

Saturn -106009-09-22 04:33 J -36998099.46 -36998099.31 -36998099.16 0.0271 0.0008

Saturn -106009-12-19 17:31 J -36998010.91 -36998010.77 -36998010.62 0.0271 0.0063

Saturn -106008-03-18 06:28 J -36997922.35 -36997922.23 -36997922.10 0.0272 0.0131

Saturn -106008-06-14 19:11 J -36997833.79 -36997833.70 -36997833.60 0.0273 0.0200

Saturn -106008-09-11 07:55 J -36997745.20 -36997745.17 -36997745.14 0.0273 0.0267

Venus -106008-10-07 07:26 J -36997719.31 -36997719.19 -36997719.07 0.3766 0.0812

Jupiter -106006-12-12 20:38 J -36996922.79 -36996922.64 -36996922.49 0.0498 0.0154

Jupiter -106005-03-11 15:07 J -36996832.98 -36996832.87 -36996832.75 0.0495 0.0345

Mars -106005-03-12 16:19 J -36996831.97 -36996831.82 -36996831.67 0.1685 0.0086

Mars -106004-01-24 08:38 J -36996514.27 -36996514.14 -36996514.02 0.1833 0.0132

Venus -106002-04-23 04:19 J -36995695.44 -36995695.32 -36995695.20 0.3761 0.0788

Earth -106001-06-12 15:50 J -36995278.95 -36995278.84 -36995278.73 0.2711 0.0753

Moon -106001-06-12 16:33 J -36995278.92 -36995278.81 -36995278.70 0.2710 0.0891 *

106TH MILLENNIUM BCE

This is a list of transits of Mercury in the 106th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Jupiter	**-105999-02-12 07:11 J**		**-36994669.33**	**-36994669.20**	**-36994669.07**	**0.0529**	**0.0224**	
Jupiter	**-105999-05-12 22:04 J**		**-36994579.69**	**-36994579.58**	**-36994579.47**	**0.0531**	**0.0315**	
Venus	**-105998-04-23 01:40 J**		**-36994234.52**	**-36994234.43**	**-36994234.34**	**0.3608**	**0.2517**	
Earth	**-105998-12-01 19:26 J**		**-36994011.84**	**-36994011.69**	**-36994011.55**	**0.2634**	**0.0076**	
Moon	**-105998-12-01 20:09 J**		**-36994011.81**	**-36994011.66**	**-36994011.51**	**0.2628**	**0.0159**	*
Venus	**-105997-11-06 01:26 J**		**-36993671.53**	**-36993671.44**	**-36993671.35**	**0.3757**	**0.2443**	
Uranus	**-105996-06-27 23:31 J**		**-36993437.55**	**-36993437.52**	**-36993437.47**	**0.0133**	**0.0128**	
Mars	**-105996-08-02 20:38 J**		**-36993401.78**	**-36993401.64**	**-36993401.50**	**0.1681**	**0.0579**	
Uranus	**-105996-09-24 03:35 J**		**-36993349.42**	**-36993349.35**	**-36993349.25**	**0.0133**	**0.0110**	
Uranus	**-105996-12-21 07:55 J**		**-36993261.28**	**-36993261.17**	**-36993261.06**	**0.0133**	**0.0093**	
Saturn	**-105995-01-22 03:35 J**		**-36993229.43**	**-36993229.35**	**-36993229.26**	**0.0291**	**0.0242**	
Uranus	**-105995-03-19 11:59 J**		**-36993173.12**	**-36993173.00**	**-36993172.88**	**0.0133**	**0.0076**	
Saturn	**-105995-04-20 21:50 J**		**-36993140.72**	**-36993140.59**	**-36993140.45**	**0.0290**	**0.0149**	
Uranus	**-105995-06-15 15:50 J**		**-36993084.97**	**-36993084.84**	**-36993084.70**	**0.0133**	**0.0059**	
Mars	**-105995-06-16 15:07 J**		**-36993083.99**	**-36993083.87**	**-36993083.75**	**0.1837**	**0.0655**	
Saturn	**-105995-07-18 16:19 J**		**-36993051.98**	**-36993051.82**	**-36993051.66**	**0.0290**	**0.0055**	
Uranus	**-105995-09-11 19:40 J**		**-36992996.81**	**-36992996.68**	**-36992996.53**	**0.0133**	**0.0042**	
Saturn	**-105995-10-15 11:16 J**		**-36992963.19**	**-36992963.03**	**-36992962.87**	**0.0289**	**0.0041**	

Uranus -105995-12-08 23:45 J -36992908.66 -36992908.51 -36992908.36 0.0133 0.0025

Saturn -105994-01-12 06:28 J -36992874.38 -36992874.23 -36992874.09 0.0288 0.0138

Uranus -105994-03-07 03:35 J -36992820.50 -36992820.35 -36992820.20 0.0133 0.0009

Saturn -105994-04-11 01:55 J -36992785.51 -36992785.42 -36992785.33 0.0288 0.0236

Uranus -105994-06-03 07:26 J -36992732.34 -36992732.19 -36992732.04 0.0133 0.0008

Moon -105994-06-06 11:31 J -36992729.08 -36992729.02 -36992728.96 0.2704 0.2265

Earth -105994-06-06 11:31 J -36992729.08 -36992729.02 -36992728.95 0.2697 0.2204 *

Mars -105994-07-10 05:16 J -36992695.34 -36992695.28 -36992695.22 0.1698 0.1531

Uranus -105994-08-30 11:16 J -36992644.18 -36992644.03 -36992643.89 0.0133 0.0024

Jupiter -105994-09-30 22:04 J -36992612.71 -36992612.58 -36992612.45 0.0498 0.0274

Uranus -105994-11-26 14:52 J -36992556.01 -36992555.88 -36992555.73 0.0133 0.0041

Jupiter -105994-12-29 16:04 J -36992522.97 -36992522.83 -36992522.68 0.0496 0.0221

Uranus -105993-02-22 18:43 J -36992467.85 -36992467.72 -36992467.58 0.0133 0.0056

Uranus -105993-05-20 22:19 J -36992379.68 -36992379.57 -36992379.44 0.0132 0.0073

Mars -105993-05-22 11:31 J -36992378.10 -36992378.02 -36992377.94 0.1818 0.1417

Uranus -105993-08-17 01:55 J -36992291.52 -36992291.42 -36992291.30 0.0132 0.0089

Venus -105993-11-05 23:02 J -36992210.66 -36992210.54 -36992210.42 0.3612 0.0977

Uranus -105993-11-13 05:45 J -36992203.34 -36992203.26 -36992203.17 0.0132 0.0104

Uranus -105992-02-09 09:21 J -36992115.16 -36992115.11 -36992115.04 0.0132 0.0119

Earth -105988-06-15 10:47 J -36990528.14 -36990528.05 -36990527.97 0.2716 0.1799

Moon -105988-06-15 11:02 J -36990528.13 -36990528.04 -36990527.95 0.2709 0.1755 *

Jupiter -105988-12-01 07:40 J -36990359.28 -36990359.18 -36990359.07 0.0528 0.0373

Jupiter -105987-02-28 23:02 J -36990269.67 -36990269.54 -36990269.40 0.0531 0.0170

Venus -105987-05-22 19:55 J -36990186.79 -36990186.67 -36990186.55 0.3616 0.0503

Mars -105987-12-24 01:40 J -36989971.54 -36989971.43 -36989971.32 0.1677 0.1042

Mars -105986-11-06 21:07 J -36989653.71 -36989653.62 -36989653.52 0.1842 0.1208

Mars -105985-11-29 08:38 J -36989265.26 -36989265.14 -36989265.02 0.1694 0.0992

Moon -105985-12-03 22:47 J -36989260.67 -36989260.55 -36989260.42 0.2622 0.1570

Earth -105985-12-03 23:16 J -36989260.64 -36989260.53 -36989260.42 0.2629 0.1677 *

Mars -105984-10-12 18:57 J -36988947.81 -36988947.71 -36988947.60 0.1823 0.0947

Jupiter -105982-07-19 23:16 J -36988302.62 -36988302.53 -36988302.43 0.0499 0.0393

Neptune -105982-09-10 12:28 J -36988249.99 -36988249.98 -36988249.93 0.0088 0.0087

Jupiter -105982-10-17 17:16 J -36988212.94 -36988212.78 -36988212.63 0.0497 0.0099

Venus -105982-12-06 16:33 J -36988162.91 -36988162.81 -36988162.71 0.3620 0.1932

Neptune -105982-12-07 14:52 J -36988161.93 -36988161.88 -36988161.82 0.0088 0.0082

Neptune -105981-03-04 17:02 J -36988073.86 -36988073.79 -36988073.71 0.0088 0.0077

Neptune -105981-05-31 18:57 J -36987985.78 -36987985.71 -36987985.61 0.0088 0.0073

Earth -105981-06-08 06:43 J -36987978.32 -36987978.22 -36987978.11 0.2702 0.1138

Moon -105981-06-08 07:11 J -36987978.31 -36987978.20 -36987978.10 0.2708 0.1112 *

Neptune -105981-08-27 21:07 J -36987897.71 -36987897.62 -36987897.51 0.0088 0.0068

Neptune -105981-11-23 23:31 J -36987809.63 -36987809.52 -36987809.41 0.0088 0.0063

Neptune -105980-02-20 01:11 J -36987721.55 -36987721.45 -36987721.32 0.0088 0.0059

Neptune -105980-05-19 03:35 J -36987633.47 -36987633.35 -36987633.22 0.0088 0.0054

Saturn -105980-05-19 15:07 J -36987632.94 -36987632.87 -36987632.79 0.0269 0.0236

Neptune -105980-08-15 05:45 J -36987545.39 -36987545.26 -36987545.13 0.0088 0.0049

Saturn -105980-08-16 05:02 J -36987544.41 -36987544.29 -36987544.17 0.0270 0.0164

Neptune -105980-11-11 07:40 J -36987457.31 -36987457.18 -36987457.04 0.0088 0.0044

Saturn -105980-11-12 18:28 J -36987455.87 -36987455.73 -36987455.59 0.0270 0.0093

Neptune -105979-02-07 09:50 J -36987369.23 -36987369.09 -36987368.95 0.0088 0.0040

Saturn -105979-02-09 07:40 J -36987367.32 -36987367.18 -36987367.03 0.0271 0.0024

Neptune -105979-05-06 11:45 J -36987281.15 -36987281.01 -36987280.86 0.0088 0.0035

Saturn -105979-05-08 20:52 J -36987278.77 -36987278.63 -36987278.48 0.0272 0.0049

Neptune -105979-08-02 13:55 J -36987193.06 -36987192.92 -36987192.77 0.0088 0.0030

Saturn -105979-08-05 09:50 J -36987190.22 -36987190.09 -36987189.96 0.0272 0.0118

Neptune -105979-10-29 15:50 J -36987104.98 -36987104.84 -36987104.69 0.0088 0.0026

Saturn -105979-11-01 22:33 J -36987101.66 -36987101.56 -36987101.45 0.0273 0.0187

Neptune -105978-01-25 17:45 J -36987016.90 -36987016.76 -36987016.60 0.0088 0.0022

Saturn -105978-01-29 11:16 J -36987013.07 -36987013.03 -36987012.98 0.0273 0.0255

Neptune -105978-04-23 19:55 J -36986928.82 -36986928.67 -36986928.52 0.0088 0.0017

Neptune -105978-07-20 21:50 J -36986840.74 -36986840.59 -36986840.43 0.0088 0.0013

Neptune -105978-10-16 23:59 J -36986752.65 -36986752.50 -36986752.35 0.0088 0.0008

Neptune -105977-01-13 01:55 J -36986664.57 -36986664.42 -36986664.27 0.0088 0.0003

Neptune -105977-04-10 03:50 J -36986576.49 -36986576.34 -36986576.18 0.0088 0.0002

Mars -105977-05-15 06:43 J -36986541.28 -36986541.22 -36986541.15 0.1673 0.1496

Neptune -105977-07-07 05:45 J -36986488.41 -36986488.26 -36986488.10 0.0088 0.0007

Neptune -105977-10-03 07:55 J -36986400.32 -36986400.17 -36986400.02 0.0088 0.0010

Neptune -105977-12-30 09:50 J -36986312.24 -36986312.09 -36986311.94 0.0088 0.0015

Neptune -105976-03-28 11:31 J -36986224.16 -36986224.02 -36986223.86 0.0088 0.0020

Mars -105976-03-29 02:52 J -36986223.41 -36986223.38 -36986223.34 0.1846 0.1781

Venus -105976-06-21 12:57 J -36986139.01 -36986138.96 -36986138.92 0.3624 0.3316

Neptune -105976-06-24 13:40 J -36986136.08 -36986135.93 -36986135.79 0.0088 0.0024

Jupiter -105976-09-19 09:07 J -36986049.15 -36986049.12 -36986049.08 0.0527 0.0512

Neptune -105976-09-20 15:21 J -36986047.99 -36986047.86 -36986047.71 0.0088 0.0029

Neptune -105976-12-17 17:16 J -36985959.91 -36985959.78 -36985959.63 0.0088 0.0033

Jupiter -105976-12-18 00:57 J -36985959.60 -36985959.46 -36985959.32 0.0530 0.0035

Neptune -105975-03-15 19:26 J -36985871.83 -36985871.69 -36985871.55 0.0088 0.0037

Mars -105975-04-21 12:28 J -36985835.12 -36985834.98 -36985834.83 0.1689 0.0475

Neptune -105975-06-11 21:07 J -36985783.75 -36985783.62 -36985783.48 0.0088 0.0041

Neptune -105975-09-07 23:02 J -36985695.66 -36985695.54 -36985695.41 0.0088 0.0046

Neptune -105975-12-05 00:57 J -36985607.58 -36985607.46 -36985607.33 0.0088 0.0050

Neptune -105974-03-03 02:38 J -36985519.50 -36985519.39 -36985519.26 0.0088 0.0055

Mars -105974-03-05 01:55 J -36985517.54 -36985517.42 -36985517.30 0.1828 0.0444

Neptune -105974-05-30 04:33 J -36985431.41 -36985431.31 -36985431.19 0.0088 0.0059

Neptune -105974-08-26 06:28 J -36985343.33 -36985343.23 -36985343.12 0.0088 0.0063

Neptune -105974-11-22 08:09 J -36985255.24 -36985255.16 -36985255.05 0.0088 0.0067

Neptune -105973-02-18 10:04 J -36985167.16 -36985167.08 -36985166.98 0.0088 0.0071

Neptune -105973-05-16 11:45 J -36985079.07 -36985079.01 -36985078.92 0.0088 0.0076

Neptune -105973-08-12 13:40 J -36984990.98 -36984990.93 -36984990.86 0.0088 0.0080

Neptune -105973-11-08 15:35 J -36984902.89 -36984902.85 -36984902.80 0.0088 0.0084

Neptune -105972-02-04 17:31 J -36984814.78 -36984814.77 -36984814.76 0.0088 0.0088

Jupiter -105970-08-05 17:59 J -36983902.91 -36983902.75 -36983902.59 0.0497 0.0029

Jupiter -105970-11-03 12:43 J -36983813.01 -36983812.97 -36983812.92 0.0495 0.0474

Pluto -105969-04-06 14:09 J -36983657.95 -36983657.91 -36983657.84 0.0085 0.0076

Pluto -105969-07-03 15:35 J -36983569.93 -36983569.85 -36983569.75 0.0085 0.0062

Pluto -105969-09-29 17:02 J -36983481.90 -36983481.79 -36983481.68 0.0085 0.0048

Pluto -105969-12-26 18:14 J -36983393.86 -36983393.74 -36983393.62 0.0084 0.0034

Pluto -105968-03-24 19:26 J -36983305.81 -36983305.69 -36983305.56 0.0084 0.0020

Earth -105968-06-11 01:40 J -36983227.54 -36983227.43 -36983227.31 0.2707 0.0126

Moon -105968-06-11 02:38 J -36983227.51 -36983227.39 -36983227.28 0.2709 0.0068 *

Pluto -105968-06-20 20:52 J -36983217.76 -36983217.63 -36983217.50 0.0084 0.0006

Pluto -105968-09-16 22:04 J -36983129.71 -36983129.58 -36983129.45 0.0084 0.0007

Pluto -105968-12-13 23:16 J -36983041.66 -36983041.53 -36983041.40 0.0084 0.0021

Pluto -105967-03-12 00:14 J -36982953.60 -36982953.49 -36982953.36 0.0084 0.0035

Pluto -105967-06-08 01:40 J -36982865.54 -36982865.43 -36982865.32 0.0084 0.0048

Pluto -105967-09-04 02:38 J -36982777.46 -36982777.39 -36982777.29 0.0084 0.0062

Pluto -105967-12-01 03:50 J -36982689.38 -36982689.34 -36982689.27 0.0083 0.0075

Saturn -105966-06-11 05:02 J -36982497.35 -36982497.29 -36982497.22 0.0291 0.0264

Saturn -105966-09-07 23:02 J -36982408.66 -36982408.54 -36982408.41 0.0290 0.0172

Mars -105966-09-11 16:47 J -36982404.95 -36982404.80 -36982404.66 0.1685 0.0063

Saturn -105966-12-05 17:31 J -36982319.92 -36982319.77 -36982319.61 0.0290 0.0078

Saturn -105965-03-03 12:14 J -36982231.15 -36982230.99 -36982230.83 0.0289 0.0017

Saturn -105965-05-31 07:11 J -36982142.35 -36982142.20 -36982142.04 0.0289 0.0113

Mars -105965-07-25 08:52 J -36982087.26 -36982087.13 -36982087.01 0.1832 0.0091

Saturn -105965-08-28 02:38 J -36982053.50 -36982053.39 -36982053.28 0.0288 0.0211

Earth -105965-11-28 21:50 J -36981960.72 -36981960.59 -36981960.46 0.2638 0.1310

Moon -105965-11-28 23:16 J -36981960.67 -36981960.53 -36981960.40 0.2635 0.1118 *

Jupiter -105964-10-06 03:07 J -36981649.51 -36981649.37 -36981649.23 0.0530 0.0096

Jupiter -105963-01-03 17:45 J -36981559.84 -36981559.76 -36981559.69 0.0532 0.0439

Venus -105962-04-14 13:11 J -36981094.00 -36981093.95 -36981093.90 0.3773 0.3323

Jupiter -105958-05-24 18:57 J -36979592.86 -36979592.71 -36979592.55 0.0497 0.0151

Jupiter -105958-08-22 13:26 J -36979503.05 -36979502.94 -36979502.82 0.0495 0.0348

Venus -105957-10-28 09:35 J -36979070.20 -36979070.10 -36979070.00 0.3769 0.1824

Mars -105956-01-31 21:07 J -36978974.76 -36978974.62 -36978974.48 0.1681 0.0525

Mars -105956-12-15 15:07 J -36978656.99 -36978656.87 -36978656.75 0.1837 0.0610

Earth -105955-06-13 20:38 J -36978476.74 -36978476.64 -36978476.53 0.2712 0.0975

Moon -105955-06-13 21:21 J -36978476.71 -36978476.61 -36978476.50 0.2708 0.0973 *

Mars -105954-01-08 05:45 J -36978268.31 -36978268.26 -36978268.21 0.1698 0.1590

Mars -105954-11-21 11:45 J -36977951.08 -36977951.01 -36977950.94 0.1817 0.1466

Jupiter -105952-07-25 05:02 J -36977339.42 -36977339.29 -36977339.16 0.0529 0.0227

Jupiter -105952-10-22 20:09 J -36977249.78 -36977249.66 -36977249.55 0.0532 0.0313

Uranus -105952-11-24 01:11 J -36977217.50 -36977217.45 -36977217.37 0.0145 0.0133

Earth -105952-12-02 01:26 J -36977209.58 -36977209.44 -36977209.29 0.2633 0.0343

Moon -105952-12-02 01:55 J -36977209.57 -36977209.42 -36977209.27 0.2627 0.0282 *

Uranus -105951-02-20 07:40 J -36977129.29 -36977129.18 -36977129.07 0.0146 0.0109

Venus -105951-05-14 06:14 J -36977046.36 -36977046.24 -36977046.12 0.3765 0.0273

Uranus -105951-05-19 13:40 J -36977041.06 -36977040.93 -36977040.79 0.0146 0.0085

Uranus -105951-08-15 19:55 J -36976952.81 -36976952.67 -36976952.51 0.0146 0.0061

Saturn -105951-10-06 16:19 J -36976900.85 -36976900.82 -36976900.78 0.0269 0.0259

Uranus -105951-11-12 02:23 J -36976864.56 -36976864.40 -36976864.24 0.0146 0.0036

Saturn -105950-01-03 06:14 J -36976812.35 -36976812.24 -36976812.13 0.0270 0.0188

Uranus -105950-02-08 08:52 J -36976776.30 -36976776.13 -36976775.97 0.0146 0.0012

Saturn -105950-04-01 19:40 J -36976723.81 -36976723.68 -36976723.54 0.0270 0.0116

Uranus -105950-05-07 15:21 J -36976688.03 -36976687.86 -36976687.70 0.0146 0.0014

Saturn -105950-06-29 09:07 J -36976635.26 -36976635.12 -36976634.97 0.0271 0.0045

Uranus -105950-08-03 21:35 J -36976599.75 -36976599.60 -36976599.43 0.0146 0.0039

Saturn -105950-09-25 22:19 J -36976546.71 -36976546.57 -36976546.42 0.0271 0.0026

Uranus -105950-10-31 04:19 J -36976511.47 -36976511.32 -36976511.17 0.0146 0.0064

Saturn -105950-12-23 11:16 J -36976458.16 -36976458.03 -36976457.89 0.0272 0.0096

Uranus -105949-01-27 10:47 J -36976423.17 -36976423.05 -36976422.91 0.0146 0.0090

Saturn -105949-03-21 00:14 J -36976369.60 -36976369.49 -36976369.37 0.0272 0.0164

Uranus -105949-04-24 17:31 J -36976334.86 -36976334.77 -36976334.66 0.0146 0.0116

Saturn -105949-06-17 12:57 J -36976281.03 -36976280.96 -36976280.88 0.0273 0.0232

Uranus -105949-07-22 00:14 J -36976246.51 -36976246.49 -36976246.44 0.0146 0.0143

Moon -105948-06-06 16:33 J -36975926.89 -36975926.81 -36975926.73 0.2705 0.1956

Earth -105948-06-06 16:33 J -36975926.88 -36975926.81 -36975926.73 0.2698 0.1986 *

Venus -105947-05-14 03:21 J -36975585.38 -36975585.36 -36975585.34 0.3606 0.3542

Mars -105947-06-24 01:55 J -36975544.53 -36975544.42 -36975544.30 0.1677 0.0997

Jupiter -105946-03-12 19:55 J -36975282.80 -36975282.67 -36975282.54 0.0498 0.0276

Mars -105946-05-07 21:21 J -36975226.71 -36975226.61 -36975226.51 0.1842 0.1163

Jupiter -105946-06-10 13:55 J -36975193.06 -36975192.92 -36975192.78 0.0496 0.0218

Venus -105946-11-28 03:07 J -36975022.48 -36975022.37 -36975022.25 0.3760 0.1349

Mars -105945-05-30 09:07 J -36974838.24 -36974838.12 -36974838.00 0.1694 0.1046

Mars -105944-04-12 18:57 J -36974520.81 -36974520.71 -36974520.60 0.1823 0.0984

Earth -105942-06-16 15:35 J -36973725.92 -36973725.85 -36973725.77 0.2716 0.2006

Moon -105942-06-16 15:50 J -36973725.91 -36973725.84 -36973725.77 0.2710 0.2094 *

Venus -105942-11-28 00:43 J -36973561.57 -36973561.47 -36973561.36 0.3609 0.1971

Jupiter -105940-05-13 06:43 J -36973029.33 -36973029.22 -36973029.12 0.0528 0.0364

Venus -105940-06-13 00:28 J -36972998.55 -36972998.48 -36972998.41 0.3756 0.3015

Jupiter -105940-08-10 22:04 J -36972939.72 -36972939.58 -36972939.45 0.0531 0.0179

Moon -105939-12-05 05:02 J -36972458.38 -36972458.29 -36972458.19 0.2622 0.2054

Earth -105939-12-05 05:31 J -36972458.36 -36972458.27 -36972458.17 0.2628 0.2018 *

Mars -105938-11-14 06:57 J -36972114.27 -36972114.21 -36972114.13 0.1673 0.1452

Mars -105937-09-27 03:21 J -36971796.40 -36971796.36 -36971796.32 0.1846 0.1724

Saturn -105937-10-28 05:45 J -36971765.27 -36971765.26 -36971765.25 0.0291 0.0290

Saturn -105936-01-24 23:31 J -36971676.63 -36971676.52 -36971676.40 0.0291 0.0199

Saturn -105936-04-23 17:59 J -36971587.90 -36971587.75 -36971587.60 0.0290 0.0105

Venus -105936-06-12 22:04 J -36971537.71 -36971537.58 -36971537.46 0.3613 0.0465

Saturn -105936-07-21 12:43 J -36971499.14 -36971498.97 -36971498.81 0.0289 0.0012

Saturn -105936-10-18 07:26 J -36971410.34 -36971410.19 -36971410.03 0.0289 0.0087

Mars -105936-10-20 12:57 J -36971408.10 -36971407.96 -36971407.82 0.1689 0.0520

Saturn -105935-01-15 02:38 J -36971321.51 -36971321.39 -36971321.25 0.0288 0.0184

Saturn -105935-04-13 22:19 J -36971232.59 -36971232.57 -36971232.53 0.0287 0.0282

Earth -105935-06-09 11:45 J -36971176.12 -36971176.01 -36971175.90 0.2703 0.0920

Moon -105935-06-09 12:14 J -36971176.10 -36971175.99 -36971175.88 0.2708 0.0898 *

Mars -105935-09-03 02:09 J -36971090.53 -36971090.41 -36971090.29 0.1828 0.0491

Jupiter -105935-12-29 21:07 J -36970972.71 -36970972.62 -36970972.52 0.0499 0.0396

Jupiter -105934-03-29 14:52 J -36970883.04 -36970882.88 -36970882.72 0.0497 0.0095

Earth -105932-11-27 00:28 J -36969909.50 -36969909.48 -36969909.46 0.2643 0.2603

Moon -105932-11-27 01:55 J -36969909.46 -36969909.42 -36969909.37 0.2642 0.2496 *

Venus -105931-12-27 18:43 J -36969513.84 -36969513.72 -36969513.60 0.3617 0.1011

Jupiter -105928-03-01 07:26 J -36968719.23 -36968719.19 -36968719.16 0.0527 0.0512

Jupiter -105928-05-29 23:02 J -36968629.68 -36968629.54 -36968629.40 0.0530 0.0034

Mars -105926-03-12 17:02 J -36967977.94 -36967977.79 -36967977.64 0.1685 0.0026

Mars -105925-01-24 08:52 J -36967660.25 -36967660.13 -36967660.00 0.1832 0.0051

Venus -105925-07-12 15:21 J -36967489.95 -36967489.86 -36967489.77 0.3622 0.2422

Jupiter -105922-01-15 15:50 J -36966573.00 -36966572.84 -36966572.68 0.0498 0.0031

Jupiter -105922-04-15 10:47 J -36966483.09 -36966483.05 -36966483.00 0.0495 0.0474

Earth -105922-06-12 06:43 J -36966425.33 -36966425.22 -36966425.10 0.2708 0.0145

Moon -105922-06-12 07:26 J -36966425.30 -36966425.19 -36966425.07 0.2709 0.0214 *

Saturn -105921-05-22 09:21 J -36966080.21 -36966080.11 -36966080.01 0.0270 0.0202

Saturn -105921-08-18 23:02 J -36965991.67 -36965991.54 -36965991.41 0.0270 0.0130

Saturn -105921-11-15 12:28 J -36965903.12 -36965902.98 -36965902.83 0.0271 0.0059

Saturn -105920-02-12 01:40 J -36965814.57 -36965814.43 -36965814.28 0.0271 0.0014

Saturn -105920-05-11 14:52 J -36965726.02 -36965725.88 -36965725.74 0.0272 0.0082

Saturn -105920-08-08 03:35 J -36965637.46 -36965637.35 -36965637.22 0.0273 0.0152

Saturn -105920-11-04 16:19 J -36965548.89 -36965548.82 -36965548.73 0.0273 0.0220

Earth -105919-11-30 04:04 J -36965158.47 -36965158.33 -36965158.20 0.2638 0.0985

Moon -105919-11-30 05:16 J -36965158.42 -36965158.28 -36965158.14 0.2634 0.0946 *

Mars -105917-08-01 21:35 J -36964547.74 -36964547.60 -36964547.46 0.1681 0.0476

Jupiter -105916-03-18 00:43 J -36964319.61 -36964319.47 -36964319.33 0.0529 0.0104

Mars -105916-06-15 15:21 J -36964229.98 -36964229.86 -36964229.74 0.1837 0.0560

Jupiter -105916-06-15 15:21 J -36964229.94 -36964229.86 -36964229.78 0.0532 0.0430 *

Mars -105915-07-09 06:14 J -36963841.28 -36963841.24 -36963841.21 0.1698 0.1641

Mars -105914-05-22 11:45 J -36963524.07 -36963524.01 -36963523.94 0.1817 0.1509

Uranus -105912-07-18 06:28 J -36962736.28 -36962736.23 -36962736.17 0.0133 0.0124

Uranus -105912-10-14 10:19 J -36962648.14 -36962648.07 -36962647.97 0.0133 0.0108

Uranus -105911-01-10 14:23 J -36962560.00 -36962559.90 -36962559.78 0.0133 0.0091

Uranus -105911-04-08 18:43 J -36962471.84 -36962471.72 -36962471.59 0.0133 0.0073

Uranus -105911-07-05 22:33 J -36962383.69 -36962383.56 -36962383.42 0.0133 0.0056

Uranus -105911-10-02 02:38 J -36962295.53 -36962295.39 -36962295.25 0.0133 0.0039

Jupiter -105911-11-03 16:47 J -36962262.95 -36962262.80 -36962262.65 0.0498 0.0153

Uranus -105911-12-29 06:28 J -36962207.37 -36962207.23 -36962207.08 0.0133 0.0022

Jupiter -105910-02-01 11:16 J -36962173.15 -36962173.03 -36962172.92 0.0496 0.0345

Uranus -105910-03-27 10:19 J -36962119.21 -36962119.07 -36962118.92 0.0133 0.0007

Uranus -105910-06-23 14:09 J -36962031.05 -36962030.91 -36962030.76 0.0133 0.0012

Uranus -105910-09-19 17:59 J -36961942.89 -36961942.75 -36961942.60 0.0133 0.0027

Uranus -105910-12-16 21:50 J -36961854.73 -36961854.59 -36961854.45 0.0133 0.0043

Uranus -105909-03-14 01:26 J -36961766.56 -36961766.44 -36961766.30 0.0133 0.0060

Uranus -105909-06-10 05:16 J -36961678.40 -36961678.28 -36961678.16 0.0132 0.0075

Earth -105909-06-14 01:40 J -36961674.53 -36961674.43 -36961674.33 0.2712 0.1184

Moon -105909-06-14 02:23 J -36961674.50 -36961674.40 -36961674.30 0.2707 0.1285 *

Uranus -105909-09-06 09:07 J -36961590.23 -36961590.12 -36961590.02 0.0132 0.0091

Uranus -105909-12-03 12:43 J -36961502.05 -36961501.97 -36961501.89 0.0132 0.0106

Uranus -105908-03-01 16:04 J -36961413.87 -36961413.83 -36961413.77 0.0132 0.0122

Mars -105908-12-23 02:23 J -36961117.52 -36961117.40 -36961117.28 0.1677 0.0947

Saturn -105907-06-14 01:26 J -36960944.54 -36960944.44 -36960944.33 0.0291 0.0219

Saturn -105907-09-10 19:40 J -36960855.82 -36960855.68 -36960855.53 0.0290 0.0126

Mars -105907-11-05 21:35 J -36960799.70 -36960799.60 -36960799.50 0.1842 0.1109

Saturn -105907-12-08 14:09 J -36960767.07 -36960766.91 -36960766.74 0.0289 0.0032

Saturn -105906-03-07 09:07 J -36960678.28 -36960678.12 -36960677.96 0.0289 0.0064

Saturn -105906-06-04 04:19 J -36960589.46 -36960589.32 -36960589.18 0.0288 0.0161

Saturn -105906-08-31 23:45 J -36960500.58 -36960500.51 -36960500.44 0.0287 0.0259

Venus -105906-11-19 11:59 J -36960421.08 -36960421.00 -36960420.92 0.3772 0.2802

Mars -105906-11-29 09:35 J -36960411.21 -36960411.10 -36960410.98 0.1694 0.1102

Earth -105906-12-03 07:40 J -36960407.32 -36960407.18 -36960407.03 0.2632 0.0675

Moon -105906-12-03 07:55 J -36960407.31 -36960407.17 -36960407.02 0.2626 0.0771 *

Mars -105905-10-11 19:11 J -36960093.80 -36960093.70 -36960093.60 0.1823 0.1033

Jupiter -105904-01-04 02:23 J -36960009.52 -36960009.40 -36960009.26 0.0529 0.0238

Jupiter -105904-04-03 17:31 J -36959919.88 -36959919.77 -36959919.65 0.0532 0.0303

Earth -105902-06-07 21:35 J -36959124.69 -36959124.60 -36959124.51 0.2699 0.1768

Moon -105902-06-07 21:35 J -36959124.68 -36959124.60 -36959124.52 0.2705 0.1832 *

Venus -105900-06-04 08:23 J -36958397.26 -36958397.15 -36958397.04 0.3768 0.1290

Neptune -105899-05-24 04:33 J -36958043.32 -36958043.31 -36958043.28 0.0089 0.0088

Neptune -105899-08-20 06:57 J -36957955.26 -36957955.21 -36957955.15 0.0089 0.0083

Jupiter -105899-08-22 17:59 J -36957952.88 -36957952.75 -36957952.62 0.0498 0.0274

Neptune -105899-11-16 08:52 J -36957867.18 -36957867.13 -36957867.04 0.0089 0.0079

Jupiter -105899-11-20 11:59 J -36957863.14 -36957863.00 -36957862.85 0.0496 0.0220

Neptune -105898-02-12 11:31 J -36957779.11 -36957779.02 -36957778.93 0.0089 0.0074

Neptune -105898-05-11 13:26 J -36957691.02 -36957690.94 -36957690.83 0.0089 0.0070

Mars -105898-05-15 07:26 J -36957687.27 -36957687.19 -36957687.11 0.1673 0.1404

Neptune -105898-08-07 15:50 J -36957602.94 -36957602.84 -36957602.72 0.0089 0.0065

Neptune -105898-11-03 17:59 J -36957514.85 -36957514.75 -36957514.62 0.0089 0.0061

Neptune -105897-01-30 20:09 J -36957426.77 -36957426.66 -36957426.52 0.0089 0.0056

Mars -105897-03-28 03:21 J -36957369.41 -36957369.36 -36957369.31 0.1847 0.1686

Neptune -105897-04-27 22:47 J -36957338.68 -36957338.55 -36957338.42 0.0089 0.0051

Neptune -105897-07-25 00:43 J -36957250.59 -36957250.47 -36957250.32 0.0089 0.0047

Neptune -105897-10-21 03:07 J -36957162.50 -36957162.37 -36957162.22 0.0089 0.0042

Neptune -105896-01-17 05:31 J -36957074.41 -36957074.27 -36957074.11 0.0089 0.0037

Neptune -105896-04-15 07:55 J -36956986.32 -36956986.17 -36956986.01 0.0089 0.0032

Mars -105896-04-20 13:11 J -36956981.09 -36956980.95 -36956980.80 0.1689 0.0574

Earth -105896-06-16 20:38 J -36956923.71 -36956923.64 -36956923.58 0.2717 0.2220

Moon -105896-06-16 20:38 J -36956923.70 -36956923.64 -36956923.57 0.2710 0.2165 *

Neptune -105896-07-12 10:19 J -36956898.22 -36956898.07 -36956897.91 0.0089 0.0027

Neptune -105896-10-08 12:28 J -36956810.13 -36956809.98 -36956809.81 0.0089 0.0023

Neptune -105895-01-04 14:52 J -36956722.03 -36956721.88 -36956721.71 0.0089 0.0018

Mars -105895-03-04 02:09 J -36956663.53 -36956663.41 -36956663.29 0.1828 0.0534

Neptune -105895-04-02 17:16 J -36956633.94 -36956633.78 -36956633.61 0.0089 0.0013

Neptune -105895-06-29 19:40 J -36956545.84 -36956545.68 -36956545.51 0.0089 0.0009

Neptune -105895-09-25 22:04 J -36956457.74 -36956457.58 -36956457.41 0.0089 0.0004

Venus -105895-12-19 05:16 J -36956373.40 -36956373.28 -36956373.17 0.3763 0.0309

Neptune -105895-12-23 00:28 J -36956369.64 -36956369.48 -36956369.31 0.0089 0.0003

Neptune -105894-03-21 02:52 J -36956281.54 -36956281.38 -36956281.21 0.0089 0.0007

Neptune -105894-06-17 05:16 J -36956193.44 -36956193.28 -36956193.11 0.0089 0.0012

Neptune -105894-09-13 07:40 J -36956105.34 -36956105.18 -36956105.01 0.0089 0.0017

Neptune -105894-12-10 10:19 J -36956017.23 -36956017.07 -36956016.91 0.0089 0.0021

Neptune -105893-03-07 12:43 J -36955929.13 -36955928.97 -36955928.81 0.0089 0.0026

Neptune -105893-06-03 15:07 J -36955841.02 -36955840.87 -36955840.71 0.0089 0.0031

Neptune -105893-08-30 17:45 J -36955752.91 -36955752.76 -36955752.61 0.0089 0.0036

Jupiter -105893-10-23 04:19 J -36955699.42 -36955699.32 -36955699.21 0.0528 0.0370

Neptune -105893-11-26 20:09 J -36955664.81 -36955664.66 -36955664.51 0.0089 0.0041

Moon -105893-12-05 11:02 J -36955656.12 -36955656.04 -36955655.96 0.2622 0.2206

Earth -105893-12-05 11:45 J -36955656.07 -36955656.01 -36955655.94 0.2627 0.2359 *

Jupiter -105892-01-20 19:55 J -36955609.80 -36955609.67 -36955609.54 0.0531 0.0174

Neptune -105892-02-22 22:19 J -36955576.70 -36955576.57 -36955576.41 0.0089 0.0047

Neptune -105892-05-22 01:11 J -36955488.59 -36955488.45 -36955488.32 0.0089 0.0051

Neptune -105892-08-18 03:21 J -36955400.47 -36955400.36 -36955400.22 0.0089 0.0057

Saturn -105892-10-09 10:47 J -36955348.13 -36955348.05 -36955347.97 0.0269 0.0224

Neptune -105892-11-14 05:45 J -36955312.36 -36955312.26 -36955312.12 0.0089 0.0062

Saturn -105891-01-06 00:28 J -36955259.60 -36955259.48 -36955259.36 0.0270 0.0153

Neptune -105891-02-10 08:23 J -36955224.24 -36955224.15 -36955224.02 0.0089 0.0067

Saturn -105891-04-04 13:55 J -36955171.06 -36955170.92 -36955170.77 0.0270 0.0082

Neptune -105891-05-09 11:02 J -36955136.12 -36955136.04 -36955135.93 0.0089 0.0072

Saturn -105891-07-02 03:21 J -36955082.51 -36955082.36 -36955082.21 0.0271 0.0011

Neptune -105891-08-05 13:40 J -36955048.00 -36955047.93 -36955047.84 0.0089 0.0077

Saturn -105891-09-28 16:19 J -36954993.96 -36954993.82 -36954993.67 0.0272 0.0060

Neptune -105891-11-01 16:19 J -36954959.88 -36954959.82 -36954959.75 0.0089 0.0082

Venus -105891-12-19 02:23 J -36954912.47 -36954912.40 -36954912.33 0.3607 0.2982

Saturn -105891-12-26 05:16 J -36954905.40 -36954905.28 -36954905.15 0.0272 0.0130

Neptune -105890-01-28 18:57 J -36954871.73 -36954871.71 -36954871.67 0.0089 0.0087

Saturn -105890-03-24 18:14 J -36954816.84 -36954816.74 -36954816.64 0.0273 0.0198

Saturn -105890-06-21 06:43 J -36954728.24 -36954728.22 -36954728.18 0.0273 0.0266

Earth -105889-06-09 16:47 J -36954373.91 -36954373.80 -36954373.69 0.2703 0.0708

Moon -105889-06-09 17:16 J -36954373.89 -36954373.78 -36954373.67 0.2708 0.0609 *

Venus -105889-07-04 02:09 J -36954349.51 -36954349.41 -36954349.31 0.3759 0.1900

Jupiter -105887-06-10 18:57 J -36953642.80 -36953642.71 -36953642.61 0.0499 0.0398

Jupiter -105887-09-08 12:43 J -36953553.13 -36953552.97 -36953552.82 0.0497 0.0092

Mars -105887-09-10 17:31 J -36953550.92 -36953550.77 -36953550.62 0.1685 0.0067

Mars -105886-07-25 09:07 J -36953233.25 -36953233.12 -36953233.00 0.1833 0.0064

Earth -105886-11-28 06:43 J -36953107.29 -36953107.22 -36953107.15 0.2642 0.2283

Moon -105886-11-28 08:09 J -36953107.24 -36953107.16 -36953107.07 0.2641 0.2128 *

Venus -105885-07-03 23:45 J -36952888.62 -36952888.51 -36952888.39 0.3611 0.1433

Venus -105883-01-17 23:31 J -36952325.55 -36952325.52 -36952325.48 0.3754 0.3587

Jupiter -105881-08-11 05:59 J -36951389.29 -36951389.25 -36951389.21 0.0527 0.0507

Jupiter -105881-11-08 21:50 J -36951299.74 -36951299.59 -36951299.45 0.0530 0.0041

Venus -105879-01-17 20:52 J -36950864.76 -36950864.63 -36950864.51 0.3615 0.0086

Saturn -105878-11-01 01:55 J -36950212.50 -36950212.42 -36950212.33 0.0291 0.0245

Saturn -105877-01-28 19:55 J -36950123.80 -36950123.67 -36950123.53 0.0290 0.0154

Mars -105877-01-31 21:50 J -36950120.73 -36950120.59 -36950120.45 0.1681 0.0430

Saturn -105877-04-26 14:23 J -36950035.05 -36950034.90 -36950034.74 0.0290 0.0060

Saturn -105877-07-24 09:21 J -36949946.27 -36949946.11 -36949945.95 0.0289 0.0037

Saturn -105877-10-21 04:33 J -36949857.46 -36949857.31 -36949857.17 0.0288 0.0134

Mars -105877-12-14 15:35 J -36949802.97 -36949802.85 -36949802.73 0.1838 0.0508

Saturn -105876-01-17 23:59 J -36949768.60 -36949768.50 -36949768.41 0.0288 0.0231

Earth -105876-06-12 11:45 J -36949623.12 -36949623.01 -36949622.90 0.2708 0.0354

Moon -105876-06-12 12:28 J -36949623.09 -36949622.98 -36949622.87 0.2708 0.0428 *

Mars -105875-01-07 06:43 J -36949414.22 -36949414.22 -36949414.22 0.1698 0.1695

Jupiter -105875-06-27 13:40 J -36949243.09 -36949242.93 -36949242.77 0.0497 0.0033

Jupiter -105875-09-25 08:23 J -36949153.19 -36949153.15 -36949153.10 0.0495 0.0469

Mars -105875-11-20 11:59 J -36949097.06 -36949097.00 -36949096.94 0.1818 0.1553

Venus -105874-08-03 17:31 J -36948840.88 -36948840.77 -36948840.65 0.3619 0.1510

Earth -105873-11-30 10:04 J -36948356.22 -36948356.08 -36948355.93 0.2637 0.0664

Moon -105873-11-30 11:02 J -36948356.18 -36948356.04 -36948355.89 0.2632 0.0551 *

Earth -105869-06-05 07:26 J -36947073.21 -36947073.19 -36947073.17 0.2694 0.2622

Jupiter -105869-08-27 22:47 J -36946989.69 -36946989.55 -36946989.41 0.0529 0.0105

Jupiter -105869-11-25 13:26 J -36946900.02 -36946899.94 -36946899.86 0.0531 0.0428

Venus -105868-02-16 14:09 J -36946816.99 -36946816.91 -36946816.84 0.3623 0.2896

Mars -105868-06-23 02:38 J -36946690.51 -36946690.39 -36946690.27 0.1677 0.0902

Uranus -105868-12-14 08:23 J -36946516.22 -36946516.15 -36946516.07 0.0145 0.0128

Uranus -105867-03-12 14:23 J -36946428.01 -36946427.90 -36946427.78 0.0146 0.0104

Mars -105867-05-06 21:35 J -36946372.70 -36946372.60 -36946372.49 0.1842 0.1065

Uranus -105867-06-08 20:38 J -36946339.77 -36946339.64 -36946339.50 0.0146 0.0080

Uranus -105867-09-05 03:07 J -36946251.53 -36946251.37 -36946251.22 0.0146 0.0056

Uranus -105867-12-02 09:21 J -36946163.27 -36946163.11 -36946162.95 0.0146 0.0032

Uranus -105866-02-28 15:50 J -36946075.01 -36946074.84 -36946074.68 0.0146 0.0007

Uranus -105866-05-27 22:04 J -36945986.74 -36945986.58 -36945986.41 0.0146 0.0019

Mars -105866-05-30 09:50 J -36945984.20 -36945984.09 -36945983.98 0.1693 0.1144

Uranus -105866-08-24 04:47 J -36945898.46 -36945898.30 -36945898.14 0.0146 0.0044

Uranus -105866-11-20 11:16 J -36945810.18 -36945810.03 -36945809.88 0.0146 0.0069

Uranus -105865-02-16 17:45 J -36945721.88 -36945721.76 -36945721.62 0.0146 0.0095

Mars -105865-04-11 19:26 J -36945666.79 -36945666.69 -36945666.59 0.1823 0.1079

Uranus -105865-05-15 00:43 J -36945633.57 -36945633.47 -36945633.38 0.0146 0.0121

Jupiter -105863-04-15 14:38 J -36944933.04 -36944932.89 -36944932.74 0.0498 0.0156

Earth -105863-06-15 06:43 J -36944872.32 -36944872.22 -36944872.12 0.2713 0.1400

Moon -105863-06-15 07:11 J -36944872.29 -36944872.20 -36944872.10 0.2708 0.1417 *

Jupiter -105863-07-14 09:07 J -36944843.23 -36944843.12 -36944843.00 0.0496 0.0343

Saturn -105862-02-26 13:40 J -36944615.99 -36944615.93 -36944615.85 0.0270 0.0240

Saturn -105862-05-26 03:35 J -36944527.47 -36944527.35 -36944527.23 0.0270 0.0167

Saturn -105862-08-22 17:16 J -36944438.92 -36944438.78 -36944438.64 0.0271 0.0096

Saturn -105862-11-19 06:28 J -36944350.37 -36944350.23 -36944350.08 0.0271 0.0026

Saturn -105861-02-15 19:40 J -36944261.82 -36944261.68 -36944261.53 0.0272 0.0047

Saturn -105861-05-14 08:52 J -36944173.26 -36944173.13 -36944173.00 0.0272 0.0116

Saturn -105861-08-10 21:35 J -36944084.70 -36944084.60 -36944084.49 0.0273 0.0185

Saturn -105861-11-07 10:19 J -36943996.12 -36943996.07 -36943996.02 0.0274 0.0253

Earth -105860-12-03 13:55 J -36943605.06 -36943604.92 -36943604.78 0.2632 0.1005

Moon -105860-12-03 14:09 J -36943605.05 -36943604.91 -36943604.77 0.2625 0.0931 *

Mars -105859-11-13 07:55 J -36943260.26 -36943260.17 -36943260.09 0.1673 0.1355

Mars -105858-09-27 03:35 J -36942942.41 -36942942.35 -36942942.29 0.1846 0.1629

Jupiter -105857-06-16 00:14 J -36942679.62 -36942679.49 -36942679.36 0.0528 0.0244

Jupiter -105857-09-13 15:21 J -36942589.98 -36942589.86 -36942589.74 0.0531 0.0294

Mars -105857-10-19 13:55 J -36942554.06 -36942553.92 -36942553.78 0.1689 0.0628

Moon -105856-06-08 02:52 J -36942322.48 -36942322.38 -36942322.29 0.2705 0.1476

Earth -105856-06-08 02:38 J -36942322.48 -36942322.39 -36942322.30 0.2699 0.1552 *

Mars -105856-09-02 02:23 J -36942236.52 -36942236.40 -36942236.28 0.1828 0.0582

Venus -105855-12-10 14:23 J -36941771.91 -36941771.90 -36941771.89 0.3774 0.3753

Jupiter -105851-02-01 15:35 J -36940622.97 -36940622.85 -36940622.72 0.0498 0.0279

Jupiter -105851-05-02 09:35 J -36940533.24 -36940533.10 -36940532.95 0.0496 0.0215

Moon -105850-06-18 01:26 J -36940121.48 -36940121.44 -36940121.39 0.2711 0.2466

Earth -105850-06-18 01:40 J -36940121.48 -36940121.43 -36940121.39 0.2717 0.2437 *

Venus -105849-06-25 10:33 J -36939748.15 -36939748.06 -36939747.96 0.3771 0.2289

Saturn -105848-03-20 04:19 J -36939480.38 -36939480.32 -36939480.25 0.0291 0.0263

Saturn -105848-06-16 22:19 J -36939391.69 -36939391.57 -36939391.44 0.0290 0.0172

Saturn -105848-09-13 16:47 J -36939302.96 -36939302.80 -36939302.65 0.0290 0.0078

Saturn -105848-12-11 11:31 J -36939214.19 -36939214.02 -36939213.86 0.0289 0.0018

Saturn -105847-03-10 06:28 J -36939125.38 -36939125.23 -36939125.08 0.0288 0.0114

Mars -105847-03-11 17:45 J -36939123.90 -36939123.76 -36939123.61 0.1685 0.0127

Saturn -105847-06-07 01:40 J -36939036.54 -36939036.43 -36939036.31 0.0288 0.0211

Mars -105846-01-23 09:07 J -36938806.24 -36938806.12 -36938805.99 0.1833 0.0091

Jupiter -105845-04-04 01:40 J -36938369.52 -36938369.43 -36938369.32 0.0528 0.0382

Jupiter -105845-07-02 17:16 J -36938279.91 -36938279.78 -36938279.64 0.0531 0.0164

Venus -105843-01-09 07:11 J -36937724.32 -36937724.20 -36937724.09 0.3766 0.0762

Earth -105843-06-10 21:50 J -36937571.71 -36937571.59 -36937571.48 0.2704 0.0496

Moon -105843-06-10 22:19 J -36937571.68 -36937571.57 -36937571.46 0.2708 0.0478 *

Jupiter -105840-11-20 17:02 J -36936312.88 -36936312.79 -36936312.69 0.0499 0.0397

Earth -105840-11-28 12:43 J -36936305.06 -36936304.97 -36936304.87 0.2641 0.1963

Moon -105840-11-28 14:23 J -36936305.01 -36936304.90 -36936304.80 0.2640 0.1881 *

Jupiter -105839-02-18 10:47 J -36936223.21 -36936223.05 -36936222.90 0.0497 0.0092

Venus -105838-07-26 04:04 J -36935700.45 -36935700.33 -36935700.22 0.3762 0.0828

Mars -105838-08-01 22:19 J -36935693.72 -36935693.57 -36935693.43 0.1681 0.0382

Mars -105837-06-14 15:35 J -36935375.97 -36935375.85 -36935375.73 0.1837 0.0467

Mars -105835-05-21 11:59 J -36934670.06 -36934670.00 -36934669.94 0.1818 0.1594

Venus -105834-07-26 01:26 J -36934239.53 -36934239.44 -36934239.35 0.3608 0.2437

Jupiter -105833-01-22 03:35 J -36934059.38 -36934059.35 -36934059.32 0.0528 0.0514

Jupiter -105833-04-20 19:40 J -36933969.83 -36933969.68 -36933969.54 0.0530 0.0038

Saturn -105833-07-15 15:21 J -36933883.89 -36933883.86 -36933883.83 0.0269 0.0261

Saturn -105833-10-12 05:02 J -36933795.39 -36933795.29 -36933795.18 0.0269 0.0189

Saturn -105832-01-08 18:43 J -36933706.85 -36933706.72 -36933706.58 0.0270 0.0118

Venus -105832-02-08 01:11 J -36933676.54 -36933676.45 -36933676.36 0.3758 0.2458

Saturn -105832-04-07 08:09 J -36933618.30 -36933618.16 -36933618.01 0.0271 0.0047

Saturn -105832-07-04 21:21 J -36933529.75 -36933529.61 -36933529.46 0.0271 0.0024

Saturn -105832-10-01 10:33 J -36933441.20 -36933441.06 -36933440.93 0.0272 0.0094

Saturn -105832-12-28 23:16 J -36933352.64 -36933352.53 -36933352.41 0.0272 0.0163

Saturn -105831-03-27 11:59 J -36933264.07 -36933264.00 -36933263.92 0.0273 0.0231

Earth -105830-06-13 16:47 J -36932820.91 -36932820.80 -36932820.69 0.2709 0.0570

Moon -105830-06-13 17:31 J -36932820.88 -36932820.77 -36932820.66 0.2706 0.0670 *

Mars -105829-12-22 03:07 J -36932263.50 -36932263.37 -36932263.25 0.1677 0.0855

Venus -105828-02-07 22:47 J -36932215.68 -36932215.55 -36932215.43 0.3612 0.0923

Uranus -105828-08-07 13:11 J -36932035.00 -36932034.95 -36932034.88 0.0133 0.0121

Uranus -105828-11-03 17:31 J -36931946.86 -36931946.77 -36931946.68 0.0133 0.0104

Mars -105828-11-04 21:50 J -36931945.69 -36931945.59 -36931945.48 0.1842 0.1015

Jupiter -105828-12-07 11:16 J -36931913.18 -36931913.03 -36931912.87 0.0497 0.0037

Uranus -105827-01-30 21:35 J -36931858.72 -36931858.60 -36931858.49 0.0133 0.0087

Jupiter -105827-03-07 05:59 J -36931823.30 -36931823.25 -36931823.19 0.0495 0.0465

Uranus -105827-04-29 01:26 J -36931770.56 -36931770.44 -36931770.31 0.0133 0.0070

Uranus -105827-07-26 05:16 J -36931682.41 -36931682.28 -36931682.13 0.0133 0.0053

Uranus -105827-10-22 09:21 J -36931594.25 -36931594.11 -36931593.96 0.0133 0.0036

Mars -105827-11-28 10:33 J -36931557.17 -36931557.06 -36931556.96 0.1694 0.1204

Earth -105827-12-01 16:19 J -36931553.96 -36931553.82 -36931553.67 0.2636 0.0331

Moon -105827-12-01 17:02 J -36931553.94 -36931553.79 -36931553.64 0.2630 0.0267 *

Uranus -105826-01-18 13:26 J -36931506.09 -36931505.94 -36931505.80 0.0133 0.0019

Uranus -105826-04-16 17:16 J -36931417.93 -36931417.78 -36931417.63 0.0133 0.0003

Uranus -105826-07-13 21:07 J -36931329.77 -36931329.62 -36931329.47 0.0133 0.0014

Uranus -105826-10-10 00:57 J -36931241.60 -36931241.46 -36931241.32 0.0133 0.0030

Mars -105826-10-11 19:26 J -36931239.79 -36931239.69 -36931239.59 0.1823 0.1120

Uranus -105825-01-06 04:33 J -36931153.44 -36931153.31 -36931153.17 0.0133 0.0047

Uranus -105825-04-03 08:23 J -36931065.28 -36931065.15 -36931065.02 0.0133 0.0062

Uranus -105825-06-30 11:59 J -36930977.11 -36930977.00 -36930976.88 0.0132 0.0078

Uranus -105825-09-26 15:35 J -36930888.94 -36930888.85 -36930888.74 0.0132 0.0095

Uranus -105825-12-23 19:26 J -36930800.76 -36930800.69 -36930800.60 0.0132 0.0110

Uranus -105824-03-21 23:02 J -36930712.58 -36930712.54 -36930712.49 0.0132 0.0125

Moon -105823-06-06 11:59 J -36930271.05 -36930271.00 -36930270.95 0.2701 0.2391

Earth -105823-06-06 12:28 J -36930271.03 -36930270.98 -36930270.93 0.2695 0.2405 *

Venus -105823-08-24 19:40 J -36930191.80 -36930191.68 -36930191.56 0.3616 0.0565

Jupiter -105821-02-07 21:21 J -36929659.75 -36929659.61 -36929659.47 0.0529 0.0101

Jupiter -105821-05-07 11:59 J -36929570.08 -36929570.00 -36929569.92 0.0532 0.0434

Mars -105819-05-14 08:09 J -36928833.25 -36928833.16 -36928833.08 0.1673 0.1314

Saturn -105819-11-03 22:19 J -36928659.68 -36928659.57 -36928659.45 0.0291 0.0200

Saturn -105818-01-31 16:33 J -36928570.95 -36928570.81 -36928570.66 0.0290 0.0107

Mars -105818-03-28 03:50 J -36928515.40 -36928515.34 -36928515.27 0.1846 0.1579

Saturn -105818-04-30 11:16 J -36928482.19 -36928482.03 -36928481.87 0.0289 0.0012

Saturn -105818-07-28 06:14 J -36928393.40 -36928393.24 -36928393.08 0.0289 0.0084

Saturn -105818-10-25 01:26 J -36928304.57 -36928304.44 -36928304.31 0.0288 0.0181

Saturn -105817-01-21 20:52 J -36928215.66 -36928215.63 -36928215.59 0.0287 0.0279

Venus -105817-03-09 16:19 J -36928167.92 -36928167.82 -36928167.72 0.3620 0.1991

Neptune -105817-03-10 10:04 J -36928167.08 -36928167.08 -36928167.07 0.0089 0.0088

Mars -105817-04-19 14:09 J -36928127.05 -36928126.91 -36928126.77 0.1689 0.0672

Neptune -105817-06-06 12:14 J -36928079.03 -36928078.99 -36928078.93 0.0089 0.0084

Earth -105817-06-15 11:45 J -36928070.10 -36928070.01 -36928069.92 0.2713 0.1617

Moon -105817-06-15 12:14 J -36928070.08 -36928069.99 -36928069.90 0.2708 0.1679 *

Neptune -105817-09-02 14:23 J -36927990.96 -36927990.90 -36927990.82 0.0089 0.0079

Pluto -105817-11-04 17:31 J -36927927.79 -36927927.77 -36927927.69 0.0060 0.0058

Neptune -105817-11-29 16:19 J -36927902.89 -36927902.82 -36927902.72 0.0089 0.0075

Pluto -105816-01-31 19:26 J -36927839.79 -36927839.69 -36927839.57 0.0060 0.0050

Neptune -105816-02-25 18:28 J -36927814.81 -36927814.73 -36927814.62 0.0088 0.0070

Mars -105816-03-03 02:38 J -36927809.51 -36927809.39 -36927809.28 0.1828 0.0631

Pluto -105816-04-29 20:38 J -36927751.76 -36927751.64 -36927751.48 0.0060 0.0044

Neptune -105816-05-24 20:52 J -36927726.73 -36927726.63 -36927726.52 0.0088 0.0065

Pluto -105816-07-26 22:33 J -36927663.72 -36927663.56 -36927663.40 0.0060 0.0036

Neptune -105816-08-20 22:47 J -36927638.65 -36927638.55 -36927638.43 0.0088 0.0060

Jupiter -105816-09-25 12:28 J -36927603.13 -36927602.98 -36927602.83 0.0498 0.0159

Pluto -105816-10-22 23:45 J -36927575.67 -36927575.51 -36927575.32 0.0060 0.0029

Neptune -105816-11-17 00:57 J -36927550.57 -36927550.46 -36927550.33 0.0088 0.0056

Jupiter -105816-12-24 06:43 J -36927513.33 -36927513.22 -36927513.10 0.0496 0.0339

Pluto   -105815-01-19 01:11 J -36927487.62 -36927487.45 -36927487.25 0.0060 0.0021

Neptune -105815-02-13 03:07 J -36927462.49 -36927462.37 -36927462.24 0.0088 0.0051

Pluto   -105815-04-17 02:52 J -36927399.57 -36927399.38 -36927399.18 0.0061 0.0014

Neptune -105815-05-12 05:02 J -36927374.41 -36927374.29 -36927374.15 0.0088 0.0046

Pluto   -105815-07-14 04:33 J -36927311.51 -36927311.31 -36927311.12 0.0061 0.0006

Neptune -105815-08-08 07:11 J -36927286.33 -36927286.20 -36927286.06 0.0088 0.0042

Pluto   -105815-10-10 05:59 J -36927223.45 -36927223.25 -36927223.05 0.0061 0.0001

Neptune -105815-11-04 09:21 J -36927198.25 -36927198.11 -36927197.97 0.0088 0.0037

Pluto   -105814-01-06 07:26 J -36927135.38 -36927135.19 -36927134.99 0.0061 0.0009

Neptune -105814-01-31 11:16 J -36927110.17 -36927110.03 -36927109.88 0.0088 0.0033

Pluto   -105814-04-04 08:38 J -36927047.31 -36927047.14 -36927046.94 0.0061 0.0017

Neptune -105814-04-29 13:26 J -36927022.09 -36927021.94 -36927021.79 0.0088 0.0028

Pluto   -105814-07-01 10:19 J -36926959.24 -36926959.07 -36926958.88 0.0061 0.0024

Neptune -105814-07-26 15:21 J -36926934.00 -36926933.86 -36926933.71 0.0088 0.0023

Pluto   -105814-09-27 11:31 J -36926871.17 -36926871.02 -36926870.83 0.0061 0.0032

Neptune -105814-10-22 17:31 J -36926845.92 -36926845.77 -36926845.62 0.0088 0.0019

Moon   -105814-12-04 20:09 J -36926802.79 -36926802.66 -36926802.53 0.2625 0.1386

Earth   -105814-12-04 20:09 J -36926802.79 -36926802.66 -36926802.53 0.2631 0.1343 *

Pluto   -105814-12-24 13:26 J -36926783.09 -36926782.94 -36926782.79 0.0061 0.0039

Neptune -105813-01-18 19:26 J -36926757.84 -36926757.69 -36926757.53 0.0088 0.0014

Pluto   -105813-03-21 14:38 J -36926695.00 -36926694.89 -36926694.75 0.0061 0.0047

Neptune -105813-04-15 21:35 J -36926669.76 -36926669.60 -36926669.45 0.0088 0.0010

Pluto   -105813-06-17 15:50 J -36926606.90 -36926606.84 -36926606.73 0.0061 0.0055

Neptune -105813-07-12 23:31 J -36926581.67 -36926581.52 -36926581.37 0.0088 0.0005

Neptune -105813-10-09 01:26 J -36926493.59 -36926493.44 -36926493.28 0.0088 0.0001

Neptune -105812-01-05 03:35 J -36926405.51 -36926405.35 -36926405.20 0.0088 0.0005

Neptune -105812-04-03 05:31 J -36926317.42 -36926317.27 -36926317.12 0.0088 0.0009

Neptune -105812-06-30 07:11 J -36926229.34 -36926229.20 -36926229.04 0.0088 0.0014

Venus -105812-09-23 12:43 J -36926144.01 -36926143.97 -36926143.93 0.3624 0.3359

Neptune -105812-09-26 09:21 J -36926141.26 -36926141.11 -36926140.96 0.0088 0.0017

Neptune -105812-12-23 11:16 J -36926053.18 -36926053.03 -36926052.88 0.0088 0.0022

Neptune -105811-03-21 13:11 J -36925965.09 -36925964.95 -36925964.80 0.0088 0.0026

Neptune -105811-06-17 15:07 J -36925877.01 -36925876.87 -36925876.73 0.0088 0.0031

Neptune -105811-09-13 16:47 J -36925788.93 -36925788.80 -36925788.65 0.0088 0.0035

Neptune -105811-12-10 18:43 J -36925700.85 -36925700.72 -36925700.58 0.0088 0.0040

Neptune -105810-03-08 20:52 J -36925612.76 -36925612.63 -36925612.50 0.0088 0.0044

Neptune -105810-06-04 22:33 J -36925524.68 -36925524.56 -36925524.43 0.0088 0.0048

Earth -105810-06-09 07:40 J -36925520.28 -36925520.18 -36925520.08 0.2700 0.1332

Moon -105810-06-09 07:55 J -36925520.26 -36925520.17 -36925520.07 0.2706 0.1369 *

Neptune -105810-09-01 00:28 J -36925436.59 -36925436.48 -36925436.35 0.0088 0.0052

Jupiter -105810-11-26 22:33 J -36925349.69 -36925349.56 -36925349.43 0.0528 0.0244

Neptune -105810-11-28 02:23 J -36925348.51 -36925348.40 -36925348.28 0.0088 0.0057

Neptune -105809-02-24 04:04 J -36925260.43 -36925260.33 -36925260.21 0.0088 0.0061

Jupiter -105809-02-24 13:26 J -36925260.05 -36925259.94 -36925259.82 0.0531 0.0294

Neptune -105809-05-22 05:59 J -36925172.34 -36925172.25 -36925172.14 0.0088 0.0065

Neptune -105809-08-18 07:55 J -36925084.26 -36925084.17 -36925084.07 0.0088 0.0069

Neptune -105809-11-14 09:50 J -36924996.17 -36924996.09 -36924996.01 0.0088 0.0074

Neptune -105808-02-10 11:45 J -36924908.08 -36924908.01 -36924907.94 0.0088 0.0078

Neptune -105808-05-09 13:11 J -36924819.99 -36924819.95 -36924819.88 0.0088 0.0082

Neptune -105808-08-05 15:07 J -36924731.89 -36924731.87 -36924731.83 0.0088 0.0086

Mars -105808-09-09 18:14 J -36924696.89 -36924696.74 -36924696.59 0.1685 0.0164

Mars -105807-07-24 09:21 J -36924379.23 -36924379.11 -36924378.98 0.1832 0.0126

Moon -105804-06-18 06:14 J -36923319.27 -36923319.24 -36923319.20 0.2711 0.2583

Earth -105804-06-18 06:28 J -36923319.25 -36923319.23 -36923319.21 0.2718 0.2652 *

Jupiter -105804-07-14 13:26 J -36923293.07 -36923292.94 -36923292.81 0.0499 0.0282

Jupiter -105804-10-12 07:26 J -36923203.33 -36923203.19 -36923203.04 0.0497 0.0213

Saturn -105803-03-01 07:55 J -36923063.26 -36923063.17 -36923063.07 0.0270 0.0205

Saturn -105803-05-28 21:35 J -36922974.72 -36922974.60 -36922974.46 0.0271 0.0134

Saturn -105803-08-25 11:16 J -36922886.18 -36922886.03 -36922885.89 0.0271 0.0062

Saturn -105803-11-22 00:28 J -36922797.62 -36922797.48 -36922797.33 0.0272 0.0010

Saturn -105802-02-18 13:40 J -36922709.07 -36922708.93 -36922708.79 0.0272 0.0079

Saturn -105802-05-18 02:38 J -36922620.51 -36922620.39 -36922620.27 0.0273 0.0149

Saturn -105802-08-14 15:21 J -36922531.94 -36922531.86 -36922531.77 0.0273 0.0217

Mars -105798-01-30 22:33 J -36921266.70 -36921266.56 -36921266.41 0.1681 0.0333

Venus -105798-07-17 12:57 J -36921099.01 -36921098.96 -36921098.90 0.3773 0.3256

Jupiter -105798-09-14 23:45 J -36921039.61 -36921039.51 -36921039.41 0.0528 0.0384

Jupiter -105798-12-13 15:07 J -36920950.00 -36920949.87 -36920949.73 0.0530 0.0160

Mars -105798-12-14 15:50 J -36920948.96 -36920948.84 -36920948.72 0.1838 0.0417

Earth -105797-06-11 02:38 J -36920769.50 -36920769.39 -36920769.27 0.2705 0.0280

Moon -105797-06-11 03:21 J -36920769.47 -36920769.36 -36920769.24 0.2708 0.0149 *

Mars -105796-11-19 12:14 J -36920243.04 -36920242.99 -36920242.94 0.1817 0.1641

Earth -105794-11-29 18:57 J -36919502.82 -36919502.71 -36919502.59 0.2641 0.1639

Moon -105794-11-29 20:23 J -36919502.78 -36919502.65 -36919502.53 0.2638 0.1467 *

Venus -105792-01-30 09:21 J -36919075.21 -36919075.11 -36919075.01 0.3769 0.1769

Jupiter -105792-05-02 14:38 J -36918982.98 -36918982.89 -36918982.79 0.0499 0.0402

Jupiter -105792-07-31 08:09 J -36918893.31 -36918893.16 -36918893.00 0.0497 0.0088

Saturn -105789-03-23 00:57 J -36917927.56 -36917927.46 -36917927.36 0.0291 0.0218

Saturn -105789-06-19 18:57 J -36917838.85 -36917838.71 -36917838.56 0.0290 0.0125

Mars -105789-06-22 03:21 J -36917836.49 -36917836.36 -36917836.23 0.1677 0.0806

Saturn -105789-09-16 13:40 J -36917750.09 -36917749.93 -36917749.77 0.0289 0.0031

Saturn -105789-12-14 08:23 J -36917661.31 -36917661.15 -36917660.99 0.0289 0.0066

Saturn -105788-03-13 03:35 J -36917572.48 -36917572.35 -36917572.21 0.0288 0.0162

Mars -105788-05-05 22:04 J -36917518.69 -36917518.58 -36917518.47 0.1842 0.0968

Saturn -105788-06-09 23:02 J -36917483.60 -36917483.54 -36917483.47 0.0287 0.0260

Mars -105787-05-29 10:47 J -36917130.15 -36917130.05 -36917129.95 0.1693 0.1257

Venus -105787-08-16 05:59 J -36917051.37 -36917051.25 -36917051.14 0.3765 0.0264

Mars -105786-04-11 19:26 J -36916812.78 -36916812.69 -36916812.59 0.1823 0.1166

Jupiter -105786-07-04 00:57 J -36916729.47 -36916729.46 -36916729.44 0.0527 0.0525

Jupiter -105786-10-01 17:02 J -36916639.93 -36916639.79 -36916639.65 0.0530 0.0024

Earth -105784-06-13 21:50 J -36916018.70 -36916018.59 -36916018.49 0.2709 0.0793

Moon -105784-06-13 22:33 J -36916018.67 -36916018.56 -36916018.45 0.2707 0.0820 *

Uranus -105783-01-03 15:21 J -36915814.93 -36915814.86 -36915814.76 0.0145 0.0123

Uranus -105783-04-01 21:35 J -36915726.71 -36915726.60 -36915726.47 0.0146 0.0099

Uranus -105783-06-29 03:50 J -36915638.47 -36915638.34 -36915638.19 0.0146 0.0075

Venus -105783-08-16 02:52 J -36915590.41 -36915590.38 -36915590.35 0.3605 0.3470

Uranus -105783-09-25 10:04 J -36915550.23 -36915550.08 -36915549.91 0.0146 0.0051

Uranus -105783-12-22 16:33 J -36915461.97 -36915461.81 -36915461.64 0.0146 0.0026

Uranus -105782-03-20 23:02 J -36915373.71 -36915373.54 -36915373.37 0.0146 0.0002

Uranus -105782-06-17 05:31 J -36915285.44 -36915285.27 -36915285.10 0.0146 0.0024

Uranus -105782-09-13 11:59 J -36915197.16 -36915197.00 -36915196.84 0.0146 0.0050

Uranus -105782-12-10 18:28 J -36915108.87 -36915108.73 -36915108.58 0.0146 0.0076

Venus -105781-03-01 02:52 J -36915027.49 -36915027.38 -36915027.27 0.3761 0.1360

Uranus -105781-03-08 01:11 J -36915020.57 -36915020.45 -36915020.32 0.0146 0.0101

Uranus -105781-06-04 07:40 J -36914932.25 -36914932.18 -36914932.08 0.0146 0.0128

Earth -105781-12-01 22:33 J -36914751.71 -36914751.56 -36914751.41 0.2636 0.0003

Moon -105781-12-01 23:16 J -36914751.68 -36914751.53 -36914751.38 0.2629 0.0051 *

Jupiter -105780-05-19 09:35 J -36914583.26 -36914583.10 -36914582.95 0.0497 0.0036

Jupiter -105780-08-17 04:04 J -36914493.38 -36914493.33 -36914493.27 0.0495 0.0466

Mars -105780-11-12 08:38 J -36914406.24 -36914406.14 -36914406.05 0.1673 0.1262

Mars -105779-09-26 03:50 J -36914088.41 -36914088.34 -36914088.27 0.1847 0.1534

Mars -105778-10-19 14:38 J -36913700.03 -36913699.89 -36913699.76 0.1689 0.0728

Venus -105777-03-01 00:28 J -36913566.59 -36913566.48 -36913566.38 0.3609 0.1908

Moon -105777-06-06 17:16 J -36913468.84 -36913468.78 -36913468.72 0.2702 0.2248

Earth -105777-06-06 17:31 J -36913468.84 -36913468.77 -36913468.71 0.2696 0.2184 *

Mars -105777-09-01 02:38 J -36913382.50 -36913382.39 -36913382.27 0.1828 0.0675

Venus -105776-09-14 23:59 J -36913003.57 -36913003.50 -36913003.43 0.3756 0.3010

Saturn -105774-07-19 09:21 J -36912331.18 -36912331.11 -36912331.02 0.0269 0.0227

Jupiter -105774-07-20 19:11 J -36912329.84 -36912329.70 -36912329.56 0.0530 0.0107

Saturn -105774-10-15 23:16 J -36912242.65 -36912242.53 -36912242.41 0.0270 0.0155

Jupiter -105774-10-18 09:50 J -36912240.17 -36912240.09 -36912240.01 0.0532 0.0429

Saturn -105773-01-12 12:43 J -36912154.11 -36912153.97 -36912153.83 0.0270 0.0084

Saturn -105773-04-10 02:09 J -36912065.56 -36912065.41 -36912065.26 0.0271 0.0013

Saturn -105773-07-07 15:21 J -36911977.01 -36911976.86 -36911976.72 0.0271 0.0057

Saturn -105773-10-04 04:04 J -36911888.45 -36911888.33 -36911888.19 0.0272 0.0127

Saturn -105773-12-31 17:02 J -36911799.89 -36911799.79 -36911799.69 0.0273 0.0195

Saturn -105772-03-30 05:31 J -36911711.30 -36911711.27 -36911711.22 0.0273 0.0263

Venus -105772-09-14 21:35 J -36911542.72 -36911542.60 -36911542.48 0.3613 0.0398

Earth -105771-06-16 16:33 J -36911267.89 -36911267.81 -36911267.72 0.2714 0.1834

Moon -105771-06-16 17:02 J -36911267.88 -36911267.79 -36911267.71 0.2708 0.1861 *

Jupiter -105768-03-07 10:19 J -36910273.22 -36910273.07 -36910272.92 0.0498 0.0160

Mars -105768-03-10 18:43 J -36910269.87 -36910269.72 -36910269.58 0.1685 0.0220

Jupiter -105768-06-05 04:33 J -36910183.42 -36910183.31 -36910183.19 0.0496 0.0336

Moon -105768-12-05 01:55 J -36910000.53 -36910000.42 -36910000.30 0.2625 0.1615

Earth -105768-12-05 02:23 J -36910000.51 -36910000.40 -36910000.28 0.2631 0.1687 *

Mars -105767-01-22 09:21 J -36909952.23 -36909952.11 -36909951.98 0.1833 0.0160

Venus -105766-03-31 18:28 J -36909518.84 -36909518.73 -36909518.61 0.3617 0.1068

Earth -105764-06-09 12:43 J -36908718.08 -36908717.97 -36908717.87 0.2700 0.1116

Moon -105764-06-09 12:57 J -36908718.06 -36908717.96 -36908717.85 0.2707 0.1015 *

Jupiter -105762-05-08 20:52 J -36908019.75 -36908019.63 -36908019.50 0.0529 0.0241

Jupiter -105762-08-06 11:59 J -36907930.11 -36907930.00 -36907929.88 0.0531 0.0299

Venus -105761-10-14 15:07 J -36907494.96 -36907494.87 -36907494.78 0.3621 0.2470

Saturn -105760-08-10 00:28 J -36907195.55 -36907195.48 -36907195.39 0.0291 0.0248

Saturn -105760-11-06 18:43 J -36907106.85 -36907106.72 -36907106.58 0.0290 0.0155

Saturn -105759-02-03 13:11 J -36907018.11 -36907017.95 -36907017.79 0.0290 0.0061

Saturn -105759-05-03 07:55 J -36906929.33 -36906929.17 -36906929.01 0.0289 0.0034

Saturn -105759-07-31 02:52 J -36906840.52 -36906840.38 -36906840.23 0.0288 0.0131

Mars -105759-07-31 22:47 J -36906839.69 -36906839.55 -36906839.40 0.1681 0.0288

Saturn -105759-10-27 22:19 J -36906751.67 -36906751.57 -36906751.47 0.0288 0.0228

Mars -105758-06-14 16:04 J -36906521.96 -36906521.83 -36906521.71 0.1838 0.0368

Jupiter -105757-12-24 11:31 J -36905963.15 -36905963.02 -36905962.89 0.0499 0.0282

Jupiter -105756-03-24 05:16 J -36905873.42 -36905873.28 -36905873.13 0.0496 0.0211

Mars -105756-05-20 12:14 J -36905816.04 -36905815.99 -36905815.95 0.1818 0.1681

Earth -105751-06-12 07:40 J -36903967.29 -36903967.18 -36903967.06 0.2705 0.0065

Moon -105751-06-12 08:23 J -36903967.26 -36903967.15 -36903967.03 0.2706 0.0109 *

Jupiter -105750-02-24 22:04 J -36903709.68 -36903709.58 -36903709.48 0.0528 0.0382

Jupiter -105750-05-25 13:40 J -36903620.07 -36903619.93 -36903619.80 0.0530 0.0161

Mars -105750-12-22 03:50 J -36903409.47 -36903409.34 -36903409.21 0.1677 0.0755

Mars -105749-11-03 22:19 J -36903091.68 -36903091.57 -36903091.46 0.1842 0.0916

Mars -105748-11-27 11:16 J -36902703.13 -36902703.03 -36902702.94 0.1694 0.1306

Earth -105748-11-30 01:11 J -36902700.58 -36902700.45 -36902700.33 0.2640 0.1314

Moon -105748-11-30 02:09 J -36902700.53 -36902700.41 -36902700.28 0.2636 0.1308 *

Mars -105747-10-10 19:40 J -36902385.77 -36902385.68 -36902385.58 0.1823 0.1217

Jupiter -105745-10-12 12:28 J -36901653.06 -36901652.98 -36901652.88 0.0500 0.0405

Saturn -105745-12-05 11:59 J -36901599.05 -36901599.00 -36901598.93 0.0270 0.0245

Jupiter -105744-01-10 06:14 J -36901563.40 -36901563.24 -36901563.09 0.0497 0.0085

Saturn -105744-03-04 01:55 J -36901510.53 -36901510.42 -36901510.30 0.0270 0.0172

Saturn -105744-05-31 15:35 J -36901421.99 -36901421.85 -36901421.71 0.0271 0.0101

Uranus -105744-08-27 20:09 J -36901333.71 -36901333.66 -36901333.58 0.0133 0.0118

Saturn -105744-08-28 05:02 J -36901333.44 -36901333.29 -36901333.15 0.0271 0.0031

Uranus -105744-11-24 00:14 J -36901245.57 -36901245.49 -36901245.38 0.0133 0.0101

Saturn -105744-11-24 18:14 J -36901244.89 -36901244.74 -36901244.60 0.0272 0.0041

Uranus -105743-02-20 04:19 J -36901157.42 -36901157.32 -36901157.19 0.0133 0.0084

Saturn -105743-02-21 07:11 J -36901156.33 -36901156.20 -36901156.07 0.0272 0.0111

Uranus -105743-05-19 08:23 J -36901069.27 -36901069.15 -36901069.01 0.0133 0.0066

Saturn -105743-05-20 19:55 J -36901067.77 -36901067.67 -36901067.56 0.0273 0.0180

Uranus -105743-08-15 12:28 J -36900981.11 -36900980.98 -36900980.84 0.0133 0.0049

Saturn -105743-08-17 08:38 J -36900979.19 -36900979.14 -36900979.08 0.0274 0.0248

Uranus -105743-11-11 16:33 J -36900892.95 -36900892.81 -36900892.67 0.0133 0.0032

Uranus -105742-02-07 20:23 J -36900804.79 -36900804.65 -36900804.50 0.0133 0.0016

Uranus -105742-05-07 00:14 J -36900716.63 -36900716.49 -36900716.34 0.0133 0.0004

Uranus -105742-08-03 04:04 J -36900628.47 -36900628.33 -36900628.18 0.0133 0.0018

Uranus -105742-10-30 07:55 J -36900540.31 -36900540.17 -36900540.02 0.0133 0.0034

Uranus -105741-01-26 11:45 J -36900452.14 -36900452.01 -36900451.87 0.0133 0.0050

Venus -105741-02-21 11:45 J -36900426.09 -36900426.01 -36900425.93 0.3772 0.2744

Uranus -105741-04-23 15:21 J -36900363.98 -36900363.86 -36900363.72 0.0132 0.0066

Uranus -105741-07-20 18:57 J -36900275.81 -36900275.71 -36900275.58 0.0132 0.0083

Uranus -105741-10-16 23:02 J -36900187.64 -36900187.54 -36900187.45 0.0132 0.0098

Uranus -105740-01-13 02:23 J -36900099.46 -36900099.40 -36900099.32 0.0132 0.0114

Uranus -105740-04-11 06:14 J -36900011.27 -36900011.24 -36900011.21 0.0132 0.0129

Mars -105740-05-13 08:52 J -36899979.23 -36899979.13 -36899979.03 0.1673 0.1217

Mars -105739-03-27 04:04 J -36899661.40 -36899661.33 -36899661.25 0.1847 0.1484

Jupiter -105739-12-13 23:16 J -36899399.54 -36899399.53 -36899399.52 0.0527 0.0523

Jupiter -105738-03-13 15:07 J -36899310.01 -36899309.87 -36899309.72 0.0530 0.0028

Mars -105738-04-19 15:07 J -36899273.01 -36899272.87 -36899272.74 0.1689 0.0780

Earth -105738-06-15 02:38 J -36899216.49 -36899216.39 -36899216.28 0.2710 0.1007

Moon -105738-06-15 03:21 J -36899216.46 -36899216.36 -36899216.25 0.2707 0.1122 *

Mars -105737-03-02 02:38 J -36898955.50 -36898955.39 -36898955.27 0.1828 0.0719

Venus -105736-09-06 08:09 J -36898402.28 -36898402.16 -36898402.05 0.3768 0.1259

Earth -105735-12-03 04:47 J -36897949.45 -36897949.30 -36897949.15 0.2635 0.0337

Moon -105735-12-03 05:16 J -36897949.43 -36897949.28 -36897949.13 0.2629 0.0417 *

Neptune -105734-02-18 04:04 J -36897872.37 -36897872.33 -36897872.29 0.0089 0.0085

Neptune -105734-05-17 05:59 J -36897784.30 -36897784.25 -36897784.17 0.0089 0.0081

Neptune -105734-08-13 08:23 J -36897696.22 -36897696.15 -36897696.06 0.0089 0.0076

Neptune -105734-11-09 10:33 J -36897608.14 -36897608.06 -36897607.96 0.0089 0.0072

Neptune -105733-02-05 12:57 J -36897520.06 -36897519.96 -36897519.85 0.0089 0.0067

Neptune -105733-05-03 14:52 J -36897431.98 -36897431.88 -36897431.75 0.0089 0.0063

Neptune -105733-07-30 17:16 J -36897343.89 -36897343.78 -36897343.65 0.0089 0.0058

Neptune -105733-10-26 19:40 J -36897255.80 -36897255.68 -36897255.55 0.0089 0.0053

Jupiter -105733-10-29 07:11 J -36897253.36 -36897253.20 -36897253.04 0.0497 0.0038

Neptune -105732-01-22 21:50 J -36897167.71 -36897167.59 -36897167.45 0.0089 0.0049

Jupiter -105732-01-27 01:40 J -36897163.48 -36897163.43 -36897163.37 0.0495 0.0463

Neptune -105732-04-21 00:14 J -36897079.62 -36897079.49 -36897079.34 0.0089 0.0044

Neptune -105732-07-18 02:38 J -36896991.53 -36896991.39 -36896991.24 0.0089 0.0039

Neptune -105732-10-14 05:02 J -36896903.44 -36896903.29 -36896903.14 0.0089 0.0034

Neptune -105731-01-10 07:11 J -36896815.35 -36896815.20 -36896815.04 0.0089 0.0030

Neptune -105731-04-08 09:35 J -36896727.25 -36896727.10 -36896726.94 0.0089 0.0025

Moon -105731-06-07 22:33 J -36896666.64 -36896666.56 -36896666.48 0.2703 0.1953

Earth -105731-06-07 22:33 J -36896666.64 -36896666.56 -36896666.49 0.2696 0.1964 *

Neptune -105731-07-05 11:59 J -36896639.16 -36896639.00 -36896638.84 0.0089 0.0020

Neptune -105731-10-01 14:23 J -36896551.06 -36896550.90 -36896550.74 0.0089 0.0015

Mars -105731-10-03 14:09 J -36896548.92 -36896548.91 -36896548.90 0.1669 0.1659

Saturn -105731-12-28 02:52 J -36896463.43 -36896463.38 -36896463.31 0.0291 0.0266

Neptune -105731-12-28 16:33 J -36896462.97 -36896462.81 -36896462.64 0.0089 0.0011

Venus -105730-03-23 04:47 J -36896378.42 -36896378.30 -36896378.18 0.3764 0.0306

Neptune -105730-03-26 18:57 J -36896374.87 -36896374.71 -36896374.54 0.0089 0.0006

Saturn -105730-03-26 20:52 J -36896374.75 -36896374.63 -36896374.50 0.0290 0.0174 *

Neptune -105730-06-22 21:21 J -36896286.77 -36896286.61 -36896286.44 0.0089 0.0002

Saturn -105730-06-23 15:21 J -36896286.01 -36896285.86 -36896285.70 0.0290 0.0080

Neptune -105730-09-18 23:45 J -36896198.67 -36896198.51 -36896198.34 0.0089 0.0005

Saturn -105730-09-20 10:04 J -36896197.24 -36896197.08 -36896196.92 0.0289 0.0015

Neptune -105730-12-16 02:09 J -36896110.57 -36896110.41 -36896110.24 0.0089 0.0009

Saturn -105730-12-18 05:02 J -36896108.44 -36896108.29 -36896108.14 0.0288 0.0111

Neptune -105729-03-13 04:33 J -36896022.47 -36896022.31 -36896022.14 0.0089 0.0014

Saturn -105729-03-16 00:14 J -36896019.60 -36896019.49 -36896019.37 0.0288 0.0209

Neptune -105729-06-09 07:11 J -36895934.36 -36895934.20 -36895934.04 0.0089 0.0019

Neptune -105729-09-05 09:35 J -36895846.26 -36895846.10 -36895845.94 0.0089 0.0024

Mars -105729-09-08 18:57 J -36895842.86 -36895842.71 -36895842.56 0.1685 0.0266

Neptune -105729-12-02 11:59 J -36895758.16 -36895758.00 -36895757.84 0.0089 0.0029

Neptune -105728-02-28 14:23 J -36895670.05 -36895669.90 -36895669.74 0.0089 0.0034

Neptune -105728-05-27 16:47 J -36895581.94 -36895581.80 -36895581.65 0.0089 0.0039

Mars -105728-07-23 09:35 J -36895525.22 -36895525.10 -36895524.97 0.1833 0.0212

Neptune -105728-08-23 19:11 J -36895493.83 -36895493.70 -36895493.55 0.0089 0.0044

Neptune -105728-11-19 21:50 J -36895405.72 -36895405.59 -36895405.45 0.0089 0.0049

Neptune -105727-02-16 00:14 J -36895317.61 -36895317.49 -36895317.35 0.0089 0.0054

Neptune -105727-05-15 02:52 J -36895229.50 -36895229.38 -36895229.25 0.0089 0.0059

Neptune -105727-08-11 05:31 J -36895141.39 -36895141.27 -36895141.16 0.0089 0.0064

Neptune -105727-11-07 07:40 J -36895053.27 -36895053.18 -36895053.06 0.0089 0.0070

Jupiter -105727-12-30 16:47 J -36894999.95 -36894999.80 -36894999.66 0.0529 0.0116

Neptune -105726-02-03 10:04 J -36894965.15 -36894965.08 -36894964.97 0.0089 0.0075

Venus -105726-03-23 01:55 J -36894917.49 -36894917.42 -36894917.34 0.3606 0.2917

Jupiter -105726-03-30 07:26 J -36894910.27 -36894910.19 -36894910.10 0.0532 0.0421

Neptune -105726-05-02 12:43 J -36894877.02 -36894876.97 -36894876.88 0.0089 0.0080

Neptune -105726-07-29 15:21 J -36894788.89 -36894788.86 -36894788.80 0.0089 0.0085

Moon -105725-06-16 21:50 J -36894465.67 -36894465.59 -36894465.52 0.2707 0.2022

Earth -105725-06-16 21:35 J -36894465.67 -36894465.60 -36894465.53 0.2715 0.2045 *

Venus -105725-10-06 01:40 J -36894354.53 -36894354.43 -36894354.32 0.3759 0.1913

Pluto -105723-05-30 05:02 J -36893753.34 -36893753.29 -36893753.22 0.0085 0.0074

Pluto -105723-08-26 06:14 J -36893665.32 -36893665.24 -36893665.13 0.0085 0.0060

Pluto -105723-11-22 07:40 J -36893577.28 -36893577.18 -36893577.06 0.0085 0.0046

Pluto -105722-02-18 09:07 J -36893489.24 -36893489.12 -36893489.00 0.0084 0.0032

Pluto -105722-05-17 10:19 J -36893401.20 -36893401.07 -36893400.94 0.0084 0.0018

Pluto -105722-08-13 11:31 J -36893313.15 -36893313.02 -36893312.88 0.0084 0.0005

Pluto -105722-11-09 12:43 J -36893225.10 -36893224.97 -36893224.83 0.0084 0.0010

Moon -105722-12-06 07:55 J -36893198.27 -36893198.17 -36893198.07 0.2624 0.1950

Earth -105722-12-06 08:38 J -36893198.23 -36893198.14 -36893198.04 0.2630 0.2022 *

Pluto -105721-02-05 13:55 J -36893137.04 -36893136.92 -36893136.79 0.0084 0.0023

Pluto -105721-05-03 15:21 J -36893048.98 -36893048.86 -36893048.74 0.0084 0.0036

Pluto -105721-07-30 16:19 J -36892960.92 -36892960.82 -36892960.71 0.0084 0.0050

Jupiter -105721-08-17 08:38 J -36892943.29 -36892943.14 -36892942.99 0.0498 0.0157

Venus -105721-10-05 23:31 J -36892893.64 -36892893.52 -36892893.41 0.3610 0.1380

Pluto -105721-10-26 17:45 J -36892872.85 -36892872.76 -36892872.67 0.0084 0.0063

Jupiter -105721-11-15 02:52 J -36892853.50 -36892853.38 -36892853.26 0.0496 0.0339

Pluto -105720-01-22 18:43 J -36892784.76 -36892784.72 -36892784.66 0.0083 0.0076

Mars -105719-01-29 23:31 J -36892412.67 -36892412.52 -36892412.38 0.1681 0.0232

Venus -105719-04-21 23:02 J -36892330.57 -36892330.54 -36892330.51 0.3755 0.3572

Mars -105719-12-13 16:04 J -36892094.95 -36892094.83 -36892094.70 0.1838 0.0324

Earth -105718-06-10 17:31 J -36891915.87 -36891915.77 -36891915.66 0.2701 0.0902

Moon -105718-06-10 17:59 J -36891915.85 -36891915.75 -36891915.64 0.2707 0.0912 *

Mars -105717-11-18 12:28 J -36891389.02 -36891388.98 -36891388.95 0.1818 0.1729

Venus -105715-04-21 20:38 J -36890869.77 -36890869.64 -36890869.52 0.3614 0.0148

Saturn -105715-04-24 13:26 J -36890866.95 -36890866.94 -36890866.91 0.0269 0.0266

Saturn -105715-07-22 03:21 J -36890778.46 -36890778.36 -36890778.25 0.0269 0.0194

Saturn -105715-10-18 17:02 J -36890689.92 -36890689.79 -36890689.65 0.0270 0.0123

Jupiter -105715-10-18 18:43 J -36890689.85 -36890689.72 -36890689.59 0.0529 0.0246 *

Earth -105715-11-28 04:04 J -36890649.36 -36890649.33 -36890649.31 0.2645 0.2598

Moon -105715-11-28 05:31 J -36890649.30 -36890649.27 -36890649.24 0.2645 0.2573

Saturn -105714-01-15 06:28 J -36890601.37 -36890601.23 -36890601.08 0.0270 0.0052

Jupiter -105714-01-16 10:04 J -36890600.20 -36890600.08 -36890599.97 0.0531 0.0295

Saturn -105714-04-13 19:40 J -36890512.82 -36890512.68 -36890512.53 0.0271 0.0020

Saturn -105714-07-11 08:52 J -36890424.27 -36890424.13 -36890423.99 0.0271 0.0089

Saturn -105714-10-07 21:35 J -36890335.71 -36890335.60 -36890335.48 0.0272 0.0158

Saturn -105713-01-04 10:19 J -36890247.14 -36890247.07 -36890246.99 0.0273 0.0226

Mars -105710-06-22 04:04 J -36888982.46 -36888982.33 -36888982.20 0.1676 0.0712

Venus -105710-11-05 17:31 J -36888845.88 -36888845.77 -36888845.66 0.3618 0.1566

Mars -105709-05-04 22:19 J -36888664.68 -36888664.57 -36888664.46 0.1842 0.0872

Jupiter -105709-06-05 09:35 J -36888633.23 -36888633.10 -36888632.97 0.0498 0.0281

Jupiter -105709-09-03 03:21 J -36888543.50 -36888543.36 -36888543.21 0.0496 0.0211

Mars -105708-05-28 11:45 J -36888276.10 -36888276.01 -36888275.92 0.1693 0.1360

Mars -105707-04-10 19:40 J -36887958.77 -36887958.68 -36887958.59 0.1823 0.1252

Earth -105705-06-12 12:43 J -36887165.08 -36887164.97 -36887164.86 0.2706 0.0167

Moon -105705-06-12 13:26 J -36887165.05 -36887164.94 -36887164.82 0.2706 0.0332 *

Venus -105704-05-21 13:55 J -36886821.99 -36886821.92 -36886821.85 0.3622 0.2946

Jupiter -105703-08-06 20:38 J -36886379.74 -36886379.64 -36886379.54 0.0528 0.0379

Jupiter -105703-11-04 12:14 J -36886290.13 -36886289.99 -36886289.86 0.0531 0.0165

Earth -105702-12-01 07:11 J -36885898.33 -36885898.20 -36885898.06 0.2639 0.0992

Moon -105702-12-01 08:23 J -36885898.29 -36885898.15 -36885898.01 0.2634 0.0797 *

Saturn -105701-08-12 20:09 J -36885642.77 -36885642.66 -36885642.55 0.0291 0.0207

Saturn -105701-11-09 14:23 J -36885554.05 -36885553.90 -36885553.75 0.0290 0.0114

Mars -105701-11-11 09:07 J -36885552.22 -36885552.12 -36885552.02 0.1673 0.1172

Saturn -105700-02-06 09:07 J -36885465.29 -36885465.12 -36885464.96 0.0290 0.0021

Saturn -105700-05-06 03:50 J -36885376.50 -36885376.34 -36885376.18 0.0289 0.0077

Saturn -105700-08-02 23:02 J -36885287.67 -36885287.54 -36885287.40 0.0288 0.0174

Mars -105700-09-25 04:33 J -36885234.39 -36885234.31 -36885234.23 0.1847 0.1431

Uranus -105700-10-27 17:02 J -36885201.83 -36885201.79 -36885201.74 0.0145 0.0139

Saturn -105700-10-30 18:43 J -36885198.77 -36885198.72 -36885198.67 0.0287 0.0272

Uranus -105699-01-23 22:47 J -36885113.63 -36885113.55 -36885113.43 0.0145 0.0117

Uranus -105699-04-22 05:02 J -36885025.40 -36885025.29 -36885025.15 0.0146 0.0093

Uranus -105699-07-19 11:16 J -36884937.16 -36884937.03 -36884936.87 0.0146 0.0069

Uranus -105699-10-15 17:45 J -36884848.91 -36884848.76 -36884848.60 0.0146 0.0044

Mars -105699-10-18 15:21 J -36884845.99 -36884845.86 -36884845.73 0.1689 0.0827

Uranus -105698-01-12 00:14 J -36884760.66 -36884760.49 -36884760.32 0.0146 0.0019

Uranus -105698-04-10 06:43 J -36884672.39 -36884672.22 -36884672.05 0.0146 0.0006

Uranus -105698-07-07 12:57 J -36884584.12 -36884583.96 -36884583.79 0.0146 0.0032

Mars -105698-09-01 02:52 J -36884528.49 -36884528.38 -36884528.26 0.1828 0.0768

Uranus -105698-10-03 19:40 J -36884495.84 -36884495.68 -36884495.52 0.0146 0.0056

Uranus -105698-12-31 02:09 J -36884407.54 -36884407.41 -36884407.26 0.0146 0.0082

Jupiter -105697-03-24 10:47 J -36884323.13 -36884323.05 -36884322.95 0.0499 0.0402

Uranus -105697-03-28 08:38 J -36884319.24 -36884319.14 -36884319.01 0.0146 0.0108

Jupiter -105697-06-22 04:19 J -36884233.47 -36884233.32 -36884233.16 0.0497 0.0087

Uranus -105697-06-24 15:21 J -36884230.91 -36884230.86 -36884230.78 0.0146 0.0135

Earth -105692-06-15 07:40 J -36882414.28 -36882414.18 -36882414.08 0.2710 0.1219

Moon -105692-06-15 08:09 J -36882414.26 -36882414.16 -36882414.05 0.2706 0.1219 *

Mars -105691-04-03 14:38 J -36882121.93 -36882121.89 -36882121.86 0.1669 0.1613

Jupiter -105691-05-25 21:50 J -36882069.61 -36882069.59 -36882069.57 0.0527 0.0519

Jupiter -105691-08-23 13:40 J -36881980.07 -36881979.93 -36881979.78 0.0529 0.0028

Venus -105690-03-14 14:09 J -36881776.93 -36881776.91 -36881776.89 0.3775 0.3688

Mars -105689-03-09 19:26 J -36881415.84 -36881415.69 -36881415.55 0.1685 0.0316

Earth -105689-12-03 11:02 J -36881147.19 -36881147.04 -36881146.90 0.2634 0.0670

Moon -105689-12-03 11:02 J -36881147.18 -36881147.04 -36881146.89 0.2628 0.0618 *

Mars -105688-01-21 09:50 J -36881098.22 -36881098.09 -36881097.97 0.1833 0.0258

Saturn -105686-12-09 05:31 J -36880046.36 -36880046.27 -36880046.18 0.0270 0.0214

Saturn -105685-03-06 19:11 J -36879957.82 -36879957.70 -36879957.57 0.0270 0.0142

Jupiter -105685-04-10 05:16 J -36879923.44 -36879923.28 -36879923.12 0.0498 0.0039

Saturn -105685-06-03 08:52 J -36879869.28 -36879869.13 -36879868.99 0.0271 0.0071

Moon -105685-06-08 03:35 J -36879864.44 -36879864.35 -36879864.27 0.2704 0.1746

Earth -105685-06-08 03:21 J -36879864.44 -36879864.36 -36879864.27 0.2697 0.1748 *

Jupiter -105685-07-08 23:59 J -36879833.56 -36879833.50 -36879833.45 0.0496 0.0463

Saturn -105685-08-30 22:04 J -36879780.73 -36879780.58 -36879780.43 0.0271 0.0004

Venus -105685-09-27 10:19 J -36879753.16 -36879753.07 -36879752.97 0.3771 0.2235

Saturn -105685-11-27 11:16 J -36879692.17 -36879692.03 -36879691.89 0.0272 0.0070

Saturn -105684-02-24 00:14 J -36879603.61 -36879603.49 -36879603.37 0.0273 0.0140

Saturn -105684-05-23 12:57 J -36879515.05 -36879514.96 -36879514.87 0.0273 0.0208

Mars -105680-07-30 23:45 J -36877985.66 -36877985.51 -36877985.36 0.1681 0.0182

Venus -105679-04-13 06:57 J -36877729.33 -36877729.21 -36877729.10 0.3767 0.0733

Jupiter -105679-06-11 15:21 J -36877670.01 -36877669.86 -36877669.72 0.0529 0.0111

Mars -105679-06-13 16:19 J -36877667.95 -36877667.82 -36877667.69 0.1838 0.0274

Moon -105679-06-18 02:38 J -36877663.45 -36877663.39 -36877663.33 0.2708 0.2301

Earth -105679-06-18 02:38 J -36877663.45 -36877663.39 -36877663.33 0.2715 0.2259 *

Jupiter -105679-09-09 05:59 J -36877580.33 -36877580.25 -36877580.17 0.0531 0.0423

Mars -105677-05-19 12:28 J -36876962.00 -36876961.98 -36876961.96 0.1818 0.1770

Moon -105676-12-06 14:09 J -36876395.98 -36876395.91 -36876395.84 0.2623 0.2302

Earth -105676-12-06 14:52 J -36876395.94 -36876395.88 -36876395.81 0.2629 0.2361 *

Venus -105674-10-28 03:35 J -36875705.46 -36875705.35 -36875705.23 0.3762 0.0849

Jupiter -105673-01-28 06:28 J -36875613.38 -36875613.23 -36875613.08 0.0498 0.0159

Jupiter -105673-04-27 00:43 J -36875523.59 -36875523.47 -36875523.35 0.0496 0.0337

Earth -105672-06-10 22:33 J -36875113.67 -36875113.56 -36875113.45 0.2702 0.0679

Moon -105672-06-10 23:16 J -36875113.64 -36875113.53 -36875113.42 0.2705 0.0586 *

Saturn -105672-12-30 22:19 J -36874910.67 -36874910.57 -36874910.47 0.0291 0.0226

Saturn -105671-03-29 16:33 J -36874821.95 -36874821.81 -36874821.67 0.0290 0.0133

Saturn -105671-06-26 11:02 J -36874733.20 -36874733.04 -36874732.88 0.0290 0.0039

Saturn -105671-09-23 05:45 J -36874644.42 -36874644.26 -36874644.10 0.0289 0.0057

Saturn -105671-12-21 00:57 J -36874555.60 -36874555.46 -36874555.32 0.0288 0.0154

Mars -105671-12-21 04:33 J -36874555.45 -36874555.31 -36874555.18 0.1677 0.0661 *

Saturn -105670-03-19 20:23 J -36874466.72 -36874466.65 -36874466.57 0.0288 0.0251

Venus -105670-10-28 01:11 J -36874244.55 -36874244.45 -36874244.36 0.3607 0.2367

Mars -105670-11-03 22:33 J -36874237.67 -36874237.56 -36874237.44 0.1842 0.0820

Mars -105669-11-26 12:14 J -36873849.07 -36873848.99 -36873848.91 0.1693 0.1415

Earth -105669-11-28 10:04 J -36873847.15 -36873847.08 -36873847.01 0.2644 0.2283

Moon -105669-11-28 11:31 J -36873847.11 -36873847.02 -36873846.94 0.2642 0.2103 *

Venus -105668-05-13 00:43 J -36873681.56 -36873681.47 -36873681.38 0.3758 0.2470

Mars -105668-10-09 19:55 J -36873531.76 -36873531.67 -36873531.58 0.1823 0.1301

Jupiter -105667-03-30 16:33 J -36873359.94 -36873359.81 -36873359.69 0.0529 0.0253

Jupiter -105667-06-28 07:40 J -36873270.30 -36873270.18 -36873270.06 0.0531 0.0289

Venus -105664-05-12 22:33 J -36872220.69 -36872220.56 -36872220.44 0.3611 0.0853

Jupiter -105662-11-16 08:09 J -36871303.29 -36871303.16 -36871303.03 0.0498 0.0275

Jupiter -105661-02-14 01:55 J -36871213.56 -36871213.42 -36871213.28 0.0496 0.0217

Mars -105661-05-12 09:21 J -36871125.21 -36871125.11 -36871125.00 0.1673 0.1126

Mars -105660-03-26 04:19 J -36870807.40 -36870807.32 -36870807.23 0.1847 0.1391

Uranus -105660-06-20 23:16 J -36870720.54 -36870720.53 -36870720.48 0.0133 0.0131

Uranus -105660-09-17 03:35 J -36870632.42 -36870632.35 -36870632.26 0.0133 0.0113

Uranus -105660-12-14 07:40 J -36870544.28 -36870544.18 -36870544.07 0.0133 0.0095

Uranus -105659-03-12 11:45 J -36870456.12 -36870456.01 -36870455.88 0.0133 0.0078

Mars -105659-04-18 15:50 J -36870418.97 -36870418.84 -36870418.71 0.1689 0.0881

Uranus -105659-06-08 15:50 J -36870367.97 -36870367.84 -36870367.70 0.0133 0.0061

Earth -105659-06-13 17:45 J -36870362.88 -36870362.76 -36870362.65 0.2706 0.0388

Moon -105659-06-13 18:28 J -36870362.84 -36870362.73 -36870362.62 0.2707 0.0398 *

Uranus -105659-09-04 19:55 J -36870279.81 -36870279.67 -36870279.53 0.0133 0.0044

Venus -105659-11-26 19:26 J -36870196.81 -36870196.69 -36870196.56 0.3615 0.0642

Uranus -105659-12-01 23:45 J -36870191.65 -36870191.51 -36870191.36 0.0133 0.0028

Uranus -105658-02-28 03:35 J -36870103.49 -36870103.35 -36870103.20 0.0133 0.0012

Mars -105658-03-02 03:07 J -36870101.49 -36870101.37 -36870101.26 0.1828 0.0811

Uranus -105658-05-27 07:40 J -36870015.33 -36870015.18 -36870015.04 0.0133 0.0006

Uranus -105658-08-23 11:16 J -36869927.17 -36869927.03 -36869926.88 0.0133 0.0023

Uranus -105658-11-19 15:07 J -36869839.00 -36869838.87 -36869838.72 0.0133 0.0039

Uranus -105657-02-15 18:57 J -36869750.84 -36869750.71 -36869750.57 0.0132 0.0054

Uranus -105657-05-13 22:47 J -36869662.67 -36869662.55 -36869662.43 0.0132 0.0070

Uranus -105657-08-10 02:23 J -36869574.50 -36869574.40 -36869574.28 0.0132 0.0086

Uranus -105657-11-06 05:59 J -36869486.33 -36869486.25 -36869486.15 0.0132 0.0102

Uranus -105656-02-02 09:50 J -36869398.15 -36869398.09 -36869398.02 0.0132 0.0117

Saturn -105656-04-27 07:11 J -36869314.27 -36869314.20 -36869314.13 0.0269 0.0235

Saturn -105656-07-24 20:52 J -36869225.75 -36869225.63 -36869225.51 0.0269 0.0163

Saturn -105656-10-21 10:19 J -36869137.21 -36869137.07 -36869136.93 0.0270 0.0093

Earth -105656-12-01 13:26 J -36869096.08 -36869095.94 -36869095.79 0.2639 0.0656

Moon -105656-12-01 14:38 J -36869096.04 -36869095.89 -36869095.75 0.2634 0.0660 *

Jupiter -105655-01-16 18:28 J -36869049.83 -36869049.73 -36869049.63 0.0528 0.0384

Saturn -105655-01-17 23:45 J -36869048.66 -36869048.51 -36869048.36 0.0270 0.0022

Jupiter -105655-04-16 10:04 J -36868960.21 -36868960.08 -36868959.94 0.0531 0.0162

Saturn -105655-04-16 12:57 J -36868960.11 -36868959.96 -36868959.82 0.0271 0.0049 *

Saturn -105655-07-14 01:55 J -36868871.55 -36868871.42 -36868871.29 0.0272 0.0118

Saturn -105655-10-10 14:38 J -36868782.99 -36868782.89 -36868782.78 0.0272 0.0186

Saturn -105654-01-07 03:07 J -36868694.41 -36868694.37 -36868694.31 0.0273 0.0254

Venus -105653-06-11 16:19 J -36868172.92 -36868172.82 -36868172.72 0.3619 0.2053

Neptune -105653-12-05 09:35 J -36867996.13 -36867996.10 -36867996.06 0.0088 0.0086

Neptune -105652-03-03 11:31 J -36867908.07 -36867908.02 -36867907.95 0.0088 0.0081

Neptune -105652-05-30 13:40 J -36867820.00 -36867819.93 -36867819.84 0.0088 0.0077

Moon -105652-06-06 12:57 J -36867812.99 -36867812.96 -36867812.94 0.2698 0.2599

Earth -105652-06-06 13:11 J -36867812.97 -36867812.95 -36867812.92 0.2692 0.2603 *

Neptune -105652-08-26 15:50 J -36867731.92 -36867731.84 -36867731.74 0.0088 0.0072

Mars -105652-10-02 14:52 J -36867694.93 -36867694.88 -36867694.83 0.1669 0.1570

Neptune -105652-11-22 18:14 J -36867643.84 -36867643.74 -36867643.64 0.0088 0.0067

Neptune -105651-02-18 20:09 J -36867555.76 -36867555.66 -36867555.54 0.0088 0.0062

Neptune -105651-05-17 22:19 J -36867467.68 -36867467.57 -36867467.45 0.0088 0.0058

Neptune -105651-08-14 00:28 J -36867379.60 -36867379.48 -36867379.35 0.0088 0.0053

Neptune -105651-11-10 02:23 J -36867291.52 -36867291.40 -36867291.26 0.0088 0.0049

Neptune -105650-02-06 04:33 J -36867203.44 -36867203.31 -36867203.17 0.0088 0.0044

Neptune -105650-05-05 06:28 J -36867115.36 -36867115.23 -36867115.08 0.0088 0.0040

Neptune -105650-08-01 08:38 J -36867027.28 -36867027.14 -36867026.99 0.0088 0.0035

Jupiter -105650-09-04 09:21 J -36866993.20 -36866993.11 -36866993.02 0.0499 0.0397

Mars -105650-09-08 19:55 J -36866988.82 -36866988.67 -36866988.53 0.1685 0.0369

Neptune -105650-10-28 10:47 J -36866939.19 -36866939.05 -36866938.90 0.0088 0.0030

Jupiter -105650-12-03 02:38 J -36866903.54 -36866903.39 -36866903.23 0.0497 0.0091

Neptune -105649-01-24 12:43 J -36866851.11 -36866850.97 -36866850.81 0.0088 0.0026

Neptune -105649-04-21 14:52 J -36866763.03 -36866762.88 -36866762.73 0.0088 0.0021

Neptune -105649-07-18 16:47 J -36866674.94 -36866674.80 -36866674.64 0.0088 0.0017

Mars -105649-07-22 09:50 J -36866671.21 -36866671.09 -36866670.96 0.1833 0.0303

Neptune -105649-10-14 18:57 J -36866586.86 -36866586.71 -36866586.56 0.0088 0.0012

Neptune -105648-01-10 20:52 J -36866498.78 -36866498.63 -36866498.47 0.0088 0.0007

Neptune -105648-04-08 23:02 J -36866410.70 -36866410.54 -36866410.39 0.0088 0.0003

Neptune -105648-07-06 00:57 J -36866322.61 -36866322.46 -36866322.31 0.0088 0.0002

Neptune -105648-10-02 02:52 J -36866234.53 -36866234.38 -36866234.23 0.0088 0.0007

Venus -105648-12-26 12:43 J -36866149.01 -36866148.97 -36866148.93 0.3624 0.3416

Neptune -105648-12-29 04:47 J -36866146.45 -36866146.30 -36866146.14 0.0088 0.0011

Neptune -105647-03-27 06:43 J -36866058.36 -36866058.22 -36866058.06 0.0088 0.0016

Neptune -105647-06-23 08:52 J -36865970.28 -36865970.13 -36865969.98 0.0088 0.0020

Neptune -105647-09-19 10:33 J -36865882.20 -36865882.06 -36865881.91 0.0088 0.0025

Neptune -105647-12-16 12:43 J -36865794.12 -36865793.97 -36865793.83 0.0088 0.0029

Neptune -105646-03-14 14:23 J -36865706.03 -36865705.90 -36865705.75 0.0088 0.0033

Neptune -105646-06-10 16:19 J -36865617.95 -36865617.82 -36865617.68 0.0088 0.0038

Earth -105646-06-16 12:43 J -36865612.07 -36865611.97 -36865611.88 0.2711 0.1433

Moon -105646-06-16 13:11 J -36865612.05 -36865611.95 -36865611.86 0.2705 0.1542 *

Neptune -105646-09-06 18:28 J -36865529.86 -36865529.73 -36865529.60 0.0088 0.0042

Neptune -105646-12-03 20:09 J -36865441.78 -36865441.66 -36865441.53 0.0088 0.0046

Neptune -105645-02-29 22:04 J -36865353.70 -36865353.58 -36865353.45 0.0088 0.0050

Neptune -105645-05-27 23:59 J -36865265.61 -36865265.50 -36865265.38 0.0088 0.0055

Neptune -105645-08-24 01:40 J -36865177.53 -36865177.43 -36865177.31 0.0088 0.0059

Neptune -105645-11-20 03:35 J -36865089.44 -36865089.35 -36865089.24 0.0088 0.0063

Neptune -105644-02-16 05:31 J -36865001.36 -36865001.27 -36865001.17 0.0088 0.0068

Neptune -105644-05-15 07:26 J -36864913.27 -36864913.19 -36864913.10 0.0088 0.0072

Neptune -105644-08-11 08:52 J -36864825.18 -36864825.13 -36864825.04 0.0088 0.0077

Jupiter -105644-11-04 20:09 J -36864739.68 -36864739.66 -36864739.63 0.0527 0.0517

Neptune -105644-11-07 10:47 J -36864737.09 -36864737.05 -36864736.97 0.0088 0.0081

Jupiter -105643-02-02 12:14 J -36864650.13 -36864649.99 -36864649.84 0.0530 0.0035

Neptune -105643-02-03 12:43 J -36864649.00 -36864648.97 -36864648.92 0.0088 0.0085

Moon -105643-12-04 17:02 J -36864344.93 -36864344.79 -36864344.65 0.2627 0.1075

Earth -105643-12-04 17:16 J -36864344.92 -36864344.78 -36864344.64 0.2634 0.1007 *

Saturn -105642-05-19 20:52 J -36864178.69 -36864178.63 -36864178.56 0.0291 0.0261

Saturn -105642-08-16 14:52 J -36864090.00 -36864089.88 -36864089.74 0.0291 0.0170

Saturn -105642-11-13 09:21 J -36864001.26 -36864001.11 -36864000.95 0.0290 0.0076

Saturn -105641-02-10 04:04 J -36863912.49 -36863912.33 -36863912.17 0.0289 0.0020

Saturn -105641-05-08 23:02 J -36863823.69 -36863823.54 -36863823.38 0.0289 0.0117

Saturn -105641-08-05 18:28 J -36863734.84 -36863734.73 -36863734.62 0.0288 0.0214

Mars -105640-01-28 23:59 J -36863558.64 -36863558.50 -36863558.35 0.1680 0.0139

Mars -105640-12-12 16:33 J -36863240.94 -36863240.81 -36863240.68 0.1838 0.0223

Earth -105639-06-09 08:23 J -36863062.24 -36863062.15 -36863062.05 0.2697 0.1528

Moon -105639-06-09 08:38 J -36863062.23 -36863062.14 -36863062.05 0.2704 0.1529 *

Jupiter -105638-09-21 03:50 J -36862593.50 -36862593.34 -36862593.18 0.0497 0.0034

Mars -105638-11-18 12:28 J -36862534.98 -36862534.98 -36862534.97 0.1818 0.1815

Jupiter -105638-12-19 22:19 J -36862503.62 -36862503.57 -36862503.52 0.0495 0.0467

Venus -105634-10-19 12:57 J -36861104.02 -36861103.96 -36861103.90 0.3774 0.3179

Moon -105633-06-18 07:26 J -36860861.24 -36860861.19 -36860861.14 0.2709 0.2417

Earth -105633-06-18 07:26 J -36860861.23 -36860861.19 -36860861.14 0.2716 0.2474 *

Jupiter -105632-11-21 13:55 J -36860340.06 -36860339.92 -36860339.78 0.0529 0.0104

Jupiter -105631-02-19 04:47 J -36860250.38 -36860250.30 -36860250.22 0.0531 0.0430

Mars -105631-06-21 04:47 J -36860128.44 -36860128.30 -36860128.16 0.1677 0.0613

Mars -105630-05-04 22:47 J -36859810.67 -36859810.55 -36859810.44 0.1842 0.0777

Moon -105630-12-07 20:23 J -36859593.68 -36859593.65 -36859593.63 0.2624 0.2576

Mars -105629-05-27 12:28 J -36859422.05 -36859421.98 -36859421.91 0.1693 0.1461

Mars -105628-04-09 20:09 J -36859104.75 -36859104.66 -36859104.58 0.1823 0.1347

Venus -105628-05-04 09:07 J -36859080.22 -36859080.12 -36859080.01 0.3770 0.1713

Saturn -105627-09-14 08:52 J -36858582.17 -36858582.13 -36858582.09 0.0269 0.0257

Saturn -105627-12-11 22:33 J -36858493.66 -36858493.56 -36858493.45 0.0270 0.0185

Saturn -105626-03-10 12:14 J -36858405.12 -36858404.99 -36858404.85 0.0270 0.0113

Saturn -105626-06-07 01:40 J -36858316.58 -36858316.43 -36858316.28 0.0271 0.0042

Earth -105626-06-12 03:35 J -36858311.46 -36858311.35 -36858311.23 0.2702 0.0458

Moon -105626-06-12 04:19 J -36858311.43 -36858311.32 -36858311.20 0.2705 0.0403 *

Jupiter -105626-07-10 04:47 J -36858283.45 -36858283.30 -36858283.15 0.0498 0.0157

Saturn -105626-09-03 14:52 J -36858228.02 -36858227.88 -36858227.73 0.0271 0.0028

Jupiter -105626-10-07 23:02 J -36858193.66 -36858193.54 -36858193.43 0.0496 0.0340

Saturn -105626-12-01 03:50 J -36858139.47 -36858139.34 -36858139.20 0.0272 0.0098

Saturn -105625-02-27 16:47 J -36858050.91 -36858050.80 -36858050.68 0.0273 0.0167

Saturn -105625-05-26 05:31 J -36857962.34 -36857962.27 -36857962.20 0.0273 0.0235

Venus -105623-11-18 05:45 J -36857056.38 -36857056.26 -36857056.14 0.3765 0.0205

Earth -105623-11-29 16:19 J -36857044.92 -36857044.82 -36857044.73 0.2643 0.1960

Moon -105623-11-29 17:31 J -36857044.87 -36857044.77 -36857044.66 0.2640 0.1892 *

Mars -105622-11-11 09:50 J -36856698.20 -36856698.09 -36856697.97 0.1673 0.1075

Mars -105621-09-24 04:47 J -36856380.39 -36856380.30 -36856380.21 0.1847 0.1332

Jupiter -105620-09-09 15:21 J -36856029.99 -36856029.86 -36856029.73 0.0528 0.0243

Mars -105620-10-17 16:19 J -36855991.94 -36855991.82 -36855991.69 0.1689 0.0937

Jupiter -105620-12-08 06:28 J -36855940.34 -36855940.23 -36855940.11 0.0531 0.0297

Mars -105619-08-31 03:07 J -36855674.48 -36855674.37 -36855674.26 0.1828 0.0859

Venus -105619-11-18 02:38 J -36855595.43 -36855595.39 -36855595.35 0.3605 0.3391

Venus -105617-06-03 02:38 J -36855032.50 -36855032.39 -36855032.28 0.3761 0.1391

Uranus -105616-11-16 23:59 J -36854500.54 -36854500.50 -36854500.42 0.0145 0.0135

Uranus -105615-02-13 06:14 J -36854412.33 -36854412.24 -36854412.12 0.0146 0.0111

Uranus -105615-05-12 12:28 J -36854324.10 -36854323.98 -36854323.84 0.0146 0.0087

Uranus -105615-08-08 18:43 J -36854235.86 -36854235.72 -36854235.56 0.0146 0.0063

Uranus -105615-11-05 01:11 J -36854147.61 -36854147.45 -36854147.29 0.0146 0.0038

Uranus -105614-02-01 07:26 J -36854059.35 -36854059.19 -36854059.02 0.0146 0.0014

Jupiter -105614-04-28 06:14 J -36853973.37 -36853973.24 -36853973.11 0.0499 0.0275

Uranus -105614-04-30 13:55 J -36853971.08 -36853970.92 -36853970.75 0.0146 0.0012

Jupiter -105614-07-26 23:59 J -36853883.64 -36853883.50 -36853883.36 0.0496 0.0217

Uranus -105614-07-27 20:23 J -36853882.81 -36853882.65 -36853882.48 0.0146 0.0037

Uranus -105614-10-24 03:07 J -36853794.52 -36853794.37 -36853794.22 0.0146 0.0062

Uranus -105613-01-20 09:35 J -36853706.23 -36853706.10 -36853705.96 0.0146 0.0088

Uranus -105613-04-17 16:04 J -36853617.92 -36853617.83 -36853617.71 0.0146 0.0115

Venus -105613-06-03 00:14 J -36853571.60 -36853571.49 -36853571.38 0.3609 0.1832

Earth -105613-06-13 22:47 J -36853560.67 -36853560.55 -36853560.44 0.2707 0.0612

Moon -105613-06-13 23:31 J -36853560.63 -36853560.52 -36853560.41 0.2706 0.0732 *

Uranus -105613-07-14 22:47 J -36853529.58 -36853529.55 -36853529.49 0.0147 0.0141

Saturn -105613-10-05 22:33 J -36853446.59 -36853446.56 -36853446.52 0.0291 0.0283

Saturn -105612-01-02 16:33 J -36853357.92 -36853357.81 -36853357.69 0.0291 0.0191

Saturn -105612-04-01 10:47 J -36853269.19 -36853269.05 -36853268.89 0.0290 0.0098

Mars -105612-04-02 15:07 J -36853267.92 -36853267.87 -36853267.81 0.1669 0.1523

Saturn -105612-06-29 05:31 J -36853180.43 -36853180.27 -36853180.10 0.0289 0.0006

Saturn -105612-09-26 00:28 J -36853091.63 -36853091.48 -36853091.32 0.0289 0.0094

Venus -105612-12-17 23:45 J -36853008.58 -36853008.51 -36853008.44 0.3757 0.3022

Saturn -105612-12-23 19:55 J -36853002.80 -36853002.67 -36853002.55 0.0288 0.0191

Mars -105610-03-09 20:09 J -36852561.80 -36852561.66 -36852561.51 0.1685 0.0418

Earth -105610-12-02 19:40 J -36852293.83 -36852293.68 -36852293.53 0.2638 0.0327

Moon -105610-12-02 20:23 J -36852293.80 -36852293.65 -36852293.50 0.2633 0.0181 *

Mars -105609-01-21 10:04 J -36852244.20 -36852244.08 -36852243.96 0.1833 0.0349

Jupiter -105608-06-28 16:19 J -36851719.92 -36851719.82 -36851719.72 0.0528 0.0388

Jupiter -105608-09-26 08:09 J -36851630.30 -36851630.16 -36851630.03 0.0531 0.0158

Venus -105608-12-17 21:21 J -36851547.73 -36851547.61 -36851547.48 0.3613 0.0337

Moon -105606-06-07 17:59 J -36851010.79 -36851010.75 -36851010.71 0.2700 0.2478

Earth -105606-06-07 18:14 J -36851010.79 -36851010.74 -36851010.69 0.2693 0.2381 *

Jupiter -105602-02-14 08:09 J -36849663.26 -36849663.16 -36849663.07 0.0499 0.0389

Jupiter -105602-05-15 01:26 J -36849573.60 -36849573.44 -36849573.28 0.0497 0.0099

Venus -105602-07-03 18:28 J -36849523.85 -36849523.73 -36849523.61 0.3617 0.1130

Mars -105601-07-30 00:28 J -36849131.63 -36849131.48 -36849131.33 0.1680 0.0085

Mars -105600-06-12 16:33 J -36848813.94 -36848813.81 -36848813.68 0.1838 0.0183

Earth -105600-06-16 17:31 J -36848809.85 -36848809.77 -36848809.68 0.2712 0.1655

Moon -105600-06-16 17:59 J -36848809.84 -36848809.75 -36848809.66 0.2705 0.1621 *

Saturn -105597-04-29 23:59 J -36847761.59 -36847761.50 -36847761.40 0.0269 0.0207

Saturn -105597-07-27 13:40 J -36847673.05 -36847672.93 -36847672.80 0.0269 0.0135

Saturn -105597-10-24 03:07 J -36847584.51 -36847584.37 -36847584.22 0.0270 0.0065

Moon -105597-12-04 23:16 J -36847542.66 -36847542.53 -36847542.40 0.2626 0.1230

Earth -105597-12-04 23:31 J -36847542.65 -36847542.52 -36847542.39 0.2633 0.1350 *

Venus -105596-01-16 15:07 J -36847499.96 -36847499.87 -36847499.79 0.3621 0.2526

Saturn -105596-01-20 16:33 J -36847495.96 -36847495.81 -36847495.67 0.0270 0.0008

Jupiter -105596-04-16 18:14 J -36847409.76 -36847409.74 -36847409.72 0.0528 0.0520

Saturn -105596-04-19 05:31 J -36847407.41 -36847407.27 -36847407.13 0.0271 0.0075

Jupiter -105596-07-15 10:19 J -36847320.21 -36847320.07 -36847319.92 0.0530 0.0032

Saturn -105596-07-16 18:14 J -36847318.85 -36847318.74 -36847318.61 0.0272 0.0145

Saturn -105596-10-13 07:11 J -36847230.29 -36847230.20 -36847230.11 0.0272 0.0212

Earth -105593-06-09 13:26 J -36846260.04 -36846259.94 -36846259.84 0.2698 0.1307

Moon -105593-06-09 13:55 J -36846260.02 -36846259.92 -36846259.82 0.2704 0.1248 *

Mars -105592-12-20 05:16 J -36845701.42 -36845701.28 -36845701.14 0.1676 0.0566

Mars -105591-11-02 23:02 J -36845383.66 -36845383.54 -36845383.43 0.1843 0.0724

Jupiter -105590-03-03 02:23 J -36845263.56 -36845263.40 -36845263.24 0.0497 0.0026

Jupiter -105590-05-31 20:52 J -36845173.67 -36845173.63 -36845173.58 0.0495 0.0473

Mars -105590-11-26 13:11 J -36844995.02 -36844994.95 -36844994.89 0.1693 0.1522

Mars -105589-10-08 20:09 J -36844677.74 -36844677.66 -36844677.58 0.1823 0.1389

Earth -105587-06-19 12:28 J -36844058.99 -36844058.98 -36844058.97 0.2716 0.2685

Jupiter -105584-05-03 12:28 J -36843010.12 -36843009.98 -36843009.83 0.0530 0.0101

Jupiter -105584-08-01 03:21 J -36842920.43 -36842920.36 -36842920.28 0.0532 0.0437

Saturn -105583-05-22 14:52 J -36842625.97 -36842625.88 -36842625.78 0.0291 0.0228

Saturn -105583-08-19 09:07 J -36842537.26 -36842537.12 -36842536.98 0.0291 0.0135

Saturn -105583-11-16 03:35 J -36842448.51 -36842448.35 -36842448.19 0.0290 0.0041

Saturn -105582-02-12 22:19 J -36842359.73 -36842359.57 -36842359.40 0.0289 0.0056

Mars -105582-05-12 10:04 J -36842271.19 -36842271.08 -36842270.96 0.1673 0.1032

Saturn -105582-05-12 17:31 J -36842270.91 -36842270.77 -36842270.63 0.0289 0.0152

Saturn -105582-08-09 12:57 J -36842182.04 -36842181.96 -36842181.87 0.0288 0.0250

Mars -105581-03-25 05:02 J -36841953.38 -36841953.29 -36841953.20 0.1847 0.1284

Mars -105580-04-17 16:33 J -36841564.93 -36841564.81 -36841564.69 0.1689 0.0981

Earth -105580-06-12 08:38 J -36841509.25 -36841509.14 -36841509.02 0.2703 0.0238

Moon -105580-06-12 09:21 J -36841509.22 -36841509.11 -36841508.99 0.2706 0.0169 *

Mars -105579-03-01 03:21 J -36841247.47 -36841247.36 -36841247.25 0.1828 0.0902

Jupiter -105579-12-20 03:35 J -36840953.50 -36840953.35 -36840953.20 0.0498 0.0148

Jupiter -105578-03-19 21:50 J -36840863.71 -36840863.59 -36840863.48 0.0496 0.0348

Venus -105577-05-25 11:31 J -36840431.10 -36840431.02 -36840430.94 0.3772 0.2677

Earth -105577-11-29 22:19 J -36840242.68 -36840242.57 -36840242.45 0.2643 0.1639

Moon -105577-11-29 23:45 J -36840242.63 -36840242.51 -36840242.39 0.2640 0.1484 *

Uranus -105576-07-11 06:57 J -36840019.25 -36840019.21 -36840019.15 0.0133 0.0125

Uranus -105576-10-07 11:02 J -36839931.12 -36839931.04 -36839930.94 0.0133 0.0107

Uranus -105575-01-03 15:07 J -36839842.97 -36839842.87 -36839842.75 0.0133 0.0090

Uranus -105575-04-01 19:11 J -36839754.82 -36839754.70 -36839754.57 0.0133 0.0073

Uranus -105575-06-28 23:16 J -36839666.66 -36839666.53 -36839666.39 0.0133 0.0056

Uranus -105575-09-25 03:21 J -36839578.50 -36839578.36 -36839578.22 0.0133 0.0039

Uranus -105575-12-22 07:11 J -36839490.34 -36839490.20 -36839490.05 0.0133 0.0022

Uranus -105574-03-20 11:16 J -36839402.18 -36839402.03 -36839401.89 0.0133 0.0006

Uranus -105574-06-16 15:07 J -36839314.02 -36839313.87 -36839313.72 0.0133 0.0011

Uranus -105574-09-12 18:57 J -36839225.86 -36839225.71 -36839225.57 0.0133 0.0027

Uranus -105574-12-09 22:33 J -36839137.69 -36839137.56 -36839137.41 0.0132 0.0044

Uranus -105573-03-07 02:23 J -36839049.53 -36839049.40 -36839049.26 0.0132 0.0060

Uranus -105573-06-03 06:14 J -36838961.36 -36838961.24 -36838961.12 0.0132 0.0075

Uranus -105573-08-30 09:50 J -36838873.19 -36838873.09 -36838872.98 0.0132 0.0091

Mars -105573-10-01 15:35 J -36838840.92 -36838840.85 -36838840.78 0.1669 0.1475

Uranus -105573-11-26 13:26 J -36838785.01 -36838784.94 -36838784.84 0.0132 0.0107

Jupiter -105572-02-19 14:09 J -36838700.03 -36838699.91 -36838699.77 0.0528 0.0234

Uranus -105572-02-22 17:16 J -36838696.83 -36838696.78 -36838696.72 0.0132 0.0122

Jupiter -105572-05-20 05:31 J -36838610.39 -36838610.27 -36838610.15 0.0531 0.0306

Venus -105572-12-09 07:55 J -36838407.28 -36838407.17 -36838407.06 0.3768 0.1199

Mars -105571-09-07 20:38 J -36838134.79 -36838134.64 -36838134.50 0.1685 0.0468

Pluto -105571-10-01 07:26 J -36838111.23 -36838111.19 -36838111.14 0.0060 0.0059

Pluto -105571-12-28 08:38 J -36838023.23 -36838023.14 -36838023.02 0.0060 0.0052

Pluto -105570-03-26 09:50 J -36837935.20 -36837935.09 -36837934.93 0.0060 0.0045

Pluto -105570-06-22 11:45 J -36837847.16 -36837847.01 -36837846.85 0.0060 0.0037

Mars -105570-07-22 10:19 J -36837817.20 -36837817.07 -36837816.95 0.1833 0.0400

Neptune -105570-08-19 01:11 J -36837789.48 -36837789.45 -36837789.42 0.0089 0.0087

Pluto -105570-09-18 12:57 J -36837759.11 -36837758.96 -36837758.77 0.0060 0.0030

Neptune -105570-11-15 03:07 J -36837701.41 -36837701.37 -36837701.31 0.0089 0.0083

Pluto -105570-12-15 14:52 J -36837671.06 -36837670.88 -36837670.70 0.0061 0.0022

Neptune -105569-02-11 05:31 J -36837613.34 -36837613.27 -36837613.20 0.0089 0.0078

Pluto -105569-03-12 16:04 J -36837583.01 -36837582.83 -36837582.63 0.0061 0.0015

Neptune -105569-05-09 07:26 J -36837525.26 -36837525.19 -36837525.09 0.0089 0.0074

Pluto -105569-06-08 17:45 J -36837494.95 -36837494.76 -36837494.56 0.0061 0.0007

Neptune -105569-08-05 09:50 J -36837437.18 -36837437.09 -36837436.99 0.0089 0.0069

Pluto -105569-09-04 19:11 J -36837406.89 -36837406.70 -36837406.50 0.0061 0.0001

Neptune -105569-11-01 11:59 J -36837349.10 -36837349.00 -36837348.88 0.0089 0.0065

Pluto -105569-12-01 20:38 J -36837318.83 -36837318.64 -36837318.44 0.0061 0.0008

Neptune -105568-01-28 14:09 J -36837261.01 -36837260.91 -36837260.78 0.0089 0.0060

Pluto -105568-02-27 22:04 J -36837230.76 -36837230.58 -36837230.38 0.0061 0.0016

Neptune -105568-04-26 16:19 J -36837172.93 -36837172.82 -36837172.68 0.0089 0.0056

Pluto -105568-05-26 23:31 J -36837142.69 -36837142.52 -36837142.33 0.0061 0.0023

Neptune -105568-07-23 18:43 J -36837084.84 -36837084.72 -36837084.58 0.0089 0.0051

Pluto -105568-08-23 00:57 J -36837054.62 -36837054.46 -36837054.28 0.0061 0.0031

Saturn -105568-09-17 01:26 J -36837029.51 -36837029.44 -36837029.36 0.0269 0.0230

Neptune -105568-10-19 21:07 J -36836996.75 -36836996.62 -36836996.48 0.0089 0.0046

Pluto -105568-11-19 02:38 J -36836966.54 -36836966.39 -36836966.23 0.0061 0.0038

Saturn -105568-12-14 15:07 J -36836940.99 -36836940.87 -36836940.75 0.0270 0.0158

Neptune -105567-01-15 23:31 J -36836908.66 -36836908.52 -36836908.38 0.0089 0.0041

Pluto -105567-02-15 03:50 J -36836878.45 -36836878.34 -36836878.19 0.0061 0.0046

Saturn -105567-03-13 04:47 J -36836852.44 -36836852.30 -36836852.16 0.0270 0.0087

Neptune -105567-04-14 01:40 J -36836820.57 -36836820.43 -36836820.28 0.0089 0.0037

Pluto -105567-05-14 05:02 J -36836790.35 -36836790.29 -36836790.17 0.0061 0.0055

Saturn -105567-06-09 17:59 J -36836763.90 -36836763.75 -36836763.60 0.0271 0.0017

Earth -105567-06-15 03:35 J -36836758.45 -36836758.35 -36836758.24 0.2707 0.0826

Moon -105567-06-15 04:19 J -36836758.43 -36836758.32 -36836758.21 0.2704 0.0859 *

Neptune -105567-07-11 03:50 J -36836732.48 -36836732.34 -36836732.18 0.0089 0.0032

Saturn -105567-09-06 07:11 J -36836675.34 -36836675.20 -36836675.06 0.0271 0.0053

Neptune -105567-10-07 06:14 J -36836644.39 -36836644.24 -36836644.08 0.0089 0.0027

Jupiter -105567-10-08 04:33 J -36836643.43 -36836643.31 -36836643.17 0.0499 0.0271

Saturn -105567-12-03 20:09 J -36836586.79 -36836586.66 -36836586.53 0.0272 0.0123

Neptune -105566-01-03 08:38 J -36836556.29 -36836556.14 -36836555.98 0.0089 0.0022

Jupiter -105566-01-05 22:33 J -36836553.71 -36836553.56 -36836553.42 0.0497 0.0222

Saturn -105566-03-02 08:52 J -36836498.23 -36836498.13 -36836498.02 0.0273 0.0191

Neptune -105566-04-01 11:02 J -36836468.20 -36836468.04 -36836467.88 0.0089 0.0018

Saturn -105566-05-29 21:35 J -36836409.64 -36836409.60 -36836409.56 0.0273 0.0259

Venus -105566-06-25 04:33 J -36836383.43 -36836383.31 -36836383.19 0.3764 0.0347

Neptune -105566-06-28 13:26 J -36836380.10 -36836379.94 -36836379.78 0.0089 0.0013

Neptune -105566-09-24 15:50 J -36836292.01 -36836291.84 -36836291.68 0.0089 0.0008

Neptune -105566-12-21 17:59 J -36836203.91 -36836203.75 -36836203.58 0.0089 0.0004

Neptune -105565-03-18 20:23 J -36836115.81 -36836115.65 -36836115.48 0.0089 0.0003

Neptune -105565-06-14 22:47 J -36836027.71 -36836027.55 -36836027.38 0.0089 0.0007

Neptune -105565-09-11 01:11 J -36835939.61 -36835939.45 -36835939.28 0.0089 0.0012

Neptune -105565-12-08 03:35 J -36835851.51 -36835851.35 -36835851.18 0.0089 0.0017

Neptune -105564-03-06 05:59 J -36835763.40 -36835763.25 -36835763.09 0.0089 0.0022

Neptune -105564-06-02 08:23 J -36835675.30 -36835675.15 -36835674.99 0.0089 0.0027

Neptune -105564-08-29 10:47 J -36835587.20 -36835587.05 -36835586.89 0.0089 0.0032

Neptune -105564-11-25 13:11 J -36835499.09 -36835498.95 -36835498.79 0.0089 0.0037

Earth -105564-12-03 01:55 J -36835491.57 -36835491.42 -36835491.27 0.2637 0.0009

Moon -105564-12-03 02:23 J -36835491.55 -36835491.40 -36835491.25 0.2631 0.0031 *

Neptune -105563-02-21 15:35 J -36835410.98 -36835410.85 -36835410.69 0.0089 0.0042

Neptune -105563-05-20 17:59 J -36835322.87 -36835322.75 -36835322.59 0.0089 0.0047

Neptune -105563-08-16 20:38 J -36835234.76 -36835234.64 -36835234.49 0.0089 0.0052

Neptune -105563-11-12 23:02 J -36835146.65 -36835146.54 -36835146.40 0.0089 0.0057

Neptune -105562-02-09 01:40 J -36835058.54 -36835058.43 -36835058.30 0.0089 0.0062

Neptune -105562-05-08 04:04 J -36834970.42 -36834970.33 -36834970.21 0.0089 0.0067

Venus -105562-06-25 01:40 J -36834922.51 -36834922.43 -36834922.35 0.3606 0.2843

Neptune -105562-08-04 06:43 J -36834882.31 -36834882.22 -36834882.11 0.0089 0.0072

Neptune -105562-10-31 09:07 J -36834794.18 -36834794.12 -36834794.02 0.0089 0.0077

Neptune -105561-01-27 11:45 J -36834706.06 -36834706.01 -36834705.93 0.0089 0.0082

Mars -105561-01-29 00:57 J -36834704.61 -36834704.46 -36834704.31 0.1681 0.0033

Neptune -105561-04-24 14:23 J -36834617.92 -36834617.90 -36834617.86 0.0089 0.0087

Jupiter -105561-12-08 15:35 J -36834389.95 -36834389.85 -36834389.74 0.0528 0.0373

Mars -105561-12-11 16:47 J -36834386.93 -36834386.80 -36834386.67 0.1838 0.0130

Venus -105560-01-08 01:26 J -36834359.54 -36834359.44 -36834359.34 0.3760 0.1927

Jupiter -105560-03-08 07:11 J -36834300.33 -36834300.20 -36834300.06 0.0530 0.0172

Moon -105560-06-07 23:02 J -36834208.61 -36834208.54 -36834208.47 0.2701 0.2123

Earth -105560-06-07 23:16 J -36834208.60 -36834208.53 -36834208.46 0.2694 0.2159 *

Venus -105556-01-07 23:02 J -36832898.65 -36832898.54 -36832898.42 0.3610 0.1314

Venus -105555-07-24 22:33 J -36832335.59 -36832335.56 -36832335.52 0.3755 0.3566

Jupiter -105555-07-27 06:14 J -36832333.33 -36832333.24 -36832333.14 0.0499 0.0387

Jupiter -105555-10-24 23:45 J -36832243.67 -36832243.51 -36832243.35 0.0497 0.0102

Earth -105554-06-17 22:33 J -36832007.64 -36832007.56 -36832007.48 0.2712 0.1867

Moon -105554-06-17 23:02 J -36832007.62 -36832007.54 -36832007.47 0.2706 0.1958 *

Saturn -105554-10-09 15:50 J -36831893.90 -36831893.84 -36831893.75 0.0291 0.0253

Saturn -105553-01-06 10:04 J -36831805.21 -36831805.08 -36831804.94 0.0291 0.0160

Saturn -105553-04-04 04:33 J -36831716.47 -36831716.31 -36831716.15 0.0290 0.0066

Saturn -105553-07-01 23:16 J -36831627.69 -36831627.53 -36831627.36 0.0289 0.0031

Saturn -105553-09-28 18:28 J -36831538.88 -36831538.73 -36831538.58 0.0289 0.0127

Saturn -105553-12-26 13:40 J -36831450.02 -36831449.93 -36831449.82 0.0288 0.0225

Mars -105552-06-20 05:31 J -36831274.41 -36831274.27 -36831274.13 0.1676 0.0517

Mars -105551-05-03 23:02 J -36830956.66 -36830956.54 -36830956.42 0.1842 0.0677

Venus -105551-07-24 20:23 J -36830874.78 -36830874.65 -36830874.53 0.3614 0.0189

Moon -105551-12-06 05:16 J -36830740.39 -36830740.28 -36830740.16 0.2626 0.1745

Earth -105551-12-06 05:45 J -36830740.37 -36830740.26 -36830740.15 0.2632 0.1687 *

Mars -105550-05-27 13:26 J -36830567.99 -36830567.94 -36830567.88 0.1693 0.1573

Mars -105549-04-08 20:09 J -36830250.73 -36830250.66 -36830250.58 0.1823 0.1435

Jupiter -105549-09-26 16:19 J -36830079.84 -36830079.82 -36830079.80 0.0527 0.0520

Jupiter -105549-12-25 08:38 J -36829990.29 -36829990.14 -36829990.00 0.0530 0.0033

Earth -105547-06-10 18:28 J -36829457.83 -36829457.73 -36829457.62 0.2699 0.1085

Moon -105547-06-10 18:57 J -36829457.81 -36829457.71 -36829457.60 0.2704 0.1096 *

Venus -105545-02-07 17:16 J -36828850.89 -36828850.78 -36828850.67 0.3618 0.1612

Jupiter -105543-05-15 08:23 J -36828023.16 -36828023.15 -36828023.14 0.0500 0.0498

Jupiter -105543-08-13 01:26 J -36827933.60 -36827933.44 -36827933.28 0.0497 0.0015

Mars -105543-11-10 10:33 J -36827844.18 -36827844.06 -36827843.94 0.1673 0.0981

Jupiter -105543-11-10 19:55 J -36827843.70 -36827843.67 -36827843.64 0.0495 0.0484

Mars -105542-09-24 05:02 J -36827526.38 -36827526.29 -36827526.19 0.1847 0.1238

Mars -105541-10-16 17:02 J -36827137.90 -36827137.79 -36827137.67 0.1689 0.1039

Venus -105540-08-23 13:40 J -36826826.99 -36826826.93 -36826826.86 0.3622 0.2996

Mars -105540-08-30 03:21 J -36826820.46 -36826820.36 -36826820.25 0.1828 0.0948

Saturn -105538-02-04 02:52 J -36826297.42 -36826297.38 -36826297.32 0.0268 0.0251

Saturn -105538-05-03 16:47 J -36826208.91 -36826208.80 -36826208.69 0.0269 0.0179

Saturn -105538-07-31 06:14 J -36826120.37 -36826120.24 -36826120.10 0.0269 0.0109

Saturn -105538-10-27 19:40 J -36826031.83 -36826031.68 -36826031.53 0.0270 0.0038

Saturn -105537-01-24 08:52 J -36825943.28 -36825943.13 -36825942.98 0.0270 0.0032

Saturn -105537-04-21 21:50 J -36825854.72 -36825854.59 -36825854.45 0.0271 0.0101

Saturn -105537-07-19 10:33 J -36825766.17 -36825766.06 -36825765.94 0.0272 0.0169

Jupiter -105537-10-13 10:47 J -36825680.19 -36825680.05 -36825679.91 0.0530 0.0100

Saturn -105537-10-15 23:16 J -36825677.60 -36825677.53 -36825677.46 0.0272 0.0236

Jupiter -105536-01-11 01:40 J -36825590.51 -36825590.43 -36825590.35 0.0532 0.0437

Earth -105534-06-13 13:40 J -36824707.04 -36824706.93 -36824706.82 0.2703 0.0017

Moon -105534-06-13 14:23 J -36824707.01 -36824706.90 -36824706.78 0.2706 0.0071 *

Mars -105533-04-01 15:50 J -36824413.92 -36824413.84 -36824413.77 0.1669 0.1435

Mars -105532-02-13 10:47 J -36824096.07 -36824096.05 -36824096.03 0.1851 0.1816

Uranus -105532-12-07 07:11 J -36823799.26 -36823799.20 -36823799.11 0.0145 0.0130

Uranus -105531-03-05 13:26 J -36823711.04 -36823710.94 -36823710.82 0.0146 0.0106

Mars -105531-03-08 20:52 J -36823707.77 -36823707.63 -36823707.48 0.1685 0.0520

Jupiter -105531-06-01 02:38 J -36823623.54 -36823623.39 -36823623.24 0.0498 0.0138

Uranus -105531-06-01 19:40 J -36823622.81 -36823622.68 -36823622.54 0.0146 0.0082

Uranus -105531-08-29 01:55 J -36823534.57 -36823534.42 -36823534.26 0.0146 0.0058

Jupiter -105531-08-29 20:38 J -36823533.75 -36823533.64 -36823533.53 0.0496 0.0358

Uranus -105531-11-25 08:23 J -36823446.32 -36823446.15 -36823445.99 0.0146 0.0033

Earth -105531-12-01 04:33 J -36823440.44 -36823440.31 -36823440.18 0.2642 0.1311

Moon -105531-12-01 05:45 J -36823440.39 -36823440.26 -36823440.13 0.2639 0.1221 *

Mars -105530-01-20 10:19 J -36823390.19 -36823390.07 -36823389.95 0.1833 0.0440

Uranus -105530-02-21 14:38 J -36823358.05 -36823357.89 -36823357.72 0.0146 0.0008

Uranus -105530-05-20 21:07 J -36823269.79 -36823269.62 -36823269.45 0.0146 0.0017

Uranus -105530-08-17 03:35 J -36823181.51 -36823181.35 -36823181.19 0.0146 0.0042

Uranus -105530-11-13 10:04 J -36823093.23 -36823093.08 -36823092.93 0.0146 0.0068

Uranus -105529-02-09 16:33 J -36823004.93 -36823004.81 -36823004.67 0.0146 0.0094

Uranus -105529-05-07 23:16 J -36822916.62 -36822916.53 -36822916.42 0.0147 0.0120

Uranus -105529-08-04 05:59 J -36822828.26 -36822828.25 -36822828.22 0.0147 0.0146

Venus -105526-06-16 14:09 J -36821781.94 -36821781.91 -36821781.88 0.3775 0.3614

Jupiter -105525-08-01 12:57 J -36821370.09 -36821369.96 -36821369.83 0.0529 0.0228

Jupiter -105525-10-30 04:19 J -36821280.44 -36821280.32 -36821280.21 0.0532 0.0313

Saturn -105524-02-25 14:09 J -36821161.92 -36821161.91 -36821161.90 0.0292 0.0290

Saturn -105524-05-25 07:55 J -36821073.28 -36821073.17 -36821073.05 0.0291 0.0199

Saturn -105524-08-22 02:09 J -36820984.55 -36820984.41 -36820984.25 0.0291 0.0106

Saturn -105524-11-18 20:52 J -36820895.79 -36820895.63 -36820895.47 0.0290 0.0011

Saturn -105523-02-15 15:50 J -36820807.00 -36820806.84 -36820806.68 0.0289 0.0086

Saturn -105523-05-15 11:02 J -36820718.16 -36820718.04 -36820717.91 0.0289 0.0183

Saturn -105523-08-12 06:43 J -36820629.25 -36820629.22 -36820629.19 0.0288 0.0281

Mars -105522-07-30 01:11 J -36820277.60 -36820277.45 -36820277.30 0.1680 0.0015

Mars -105521-06-11 17:02 J -36819959.92 -36819959.79 -36819959.66 0.1838 0.0082

Earth -105521-06-15 08:38 J -36819956.24 -36819956.14 -36819956.03 0.2708 0.1039

Moon -105521-06-15 09:21 J -36819956.21 -36819956.11 -36819956.01 0.2704 0.1118 *

Venus -105521-12-30 10:19 J -36819758.17 -36819758.07 -36819757.98 0.3771 0.2178

Jupiter -105519-03-20 03:50 J -36819313.47 -36819313.34 -36819313.20 0.0498 0.0258

Jupiter -105519-06-17 21:35 J -36819223.74 -36819223.60 -36819223.46 0.0496 0.0234

Earth -105518-12-04 08:09 J -36818689.31 -36818689.16 -36818689.02 0.2637 0.0344

Moon -105518-12-04 08:23 J -36818689.30 -36818689.15 -36818689.00 0.2630 0.0419 *

Venus -105515-07-16 06:28 J -36817734.34 -36817734.23 -36817734.11 0.3767 0.0699

Moon -105514-06-09 04:19 J -36817406.40 -36817406.32 -36817406.25 0.2701 0.2019

Earth -105514-06-09 04:19 J -36817406.40 -36817406.32 -36817406.24 0.2694 0.1939 *

Jupiter -105513-05-20 14:38 J -36817059.99 -36817059.89 -36817059.78 0.0528 0.0362

Jupiter -105513-08-18 06:14 J -36816970.37 -36816970.24 -36816970.10 0.0530 0.0183

Mars -105513-12-19 05:59 J -36816847.39 -36816847.25 -36816847.11 0.1677 0.0465

Mars -105512-11-01 23:16 J -36816529.65 -36816529.53 -36816529.41 0.1842 0.0625

Mars -105511-11-25 13:55 J -36816140.96 -36816140.92 -36816140.88 0.1694 0.1624

Mars -105510-10-08 20:23 J -36815823.72 -36815823.65 -36815823.58 0.1823 0.1483

Venus -105509-01-30 03:21 J -36815710.48 -36815710.36 -36815710.25 0.3763 0.0868

Saturn -105509-09-19 17:31 J -36815476.86 -36815476.77 -36815476.67 0.0269 0.0205

Saturn -105509-12-17 07:11 J -36815388.32 -36815388.20 -36815388.06 0.0270 0.0134

Saturn -105508-03-15 20:52 J -36815299.78 -36815299.63 -36815299.49 0.0270 0.0063

Saturn -105508-06-12 10:04 J -36815211.23 -36815211.08 -36815210.93 0.0271 0.0008

Moon -105508-06-18 03:50 J -36815205.42 -36815205.34 -36815205.27 0.2706 0.2052

Earth -105508-06-18 03:35 J -36815205.42 -36815205.35 -36815205.28 0.2713 0.2084 *

Saturn -105508-09-08 23:02 J -36815122.68 -36815122.54 -36815122.40 0.0271 0.0077

Saturn -105508-12-06 11:59 J -36815034.12 -36815034.00 -36815033.88 0.0272 0.0146

Jupiter -105507-01-06 05:02 J -36815003.39 -36815003.29 -36815003.19 0.0499 0.0379

Saturn -105507-03-05 00:43 J -36814945.56 -36814945.47 -36814945.38 0.0273 0.0214

Jupiter -105507-04-05 22:19 J -36814913.72 -36814913.57 -36814913.41 0.0497 0.0110

Venus -105505-01-30 00:43 J -36814249.57 -36814249.47 -36814249.38 0.3607 0.2315

Moon -105505-12-06 11:16 J -36813938.13 -36813938.03 -36813937.93 0.2626 0.1883

Earth -105505-12-06 11:59 J -36813938.10 -36813938.00 -36813937.91 0.2632 0.2028 *

Venus -105504-08-15 00:14 J -36813686.58 -36813686.49 -36813686.40 0.3758 0.2465

Mars -105503-05-11 10:47 J -36813417.17 -36813417.05 -36813416.93 0.1673 0.0936

Mars -105502-03-25 05:16 J -36813099.38 -36813099.28 -36813099.18 0.1847 0.1189

Jupiter -105501-03-08 16:04 J -36812749.87 -36812749.83 -36812749.79 0.0527 0.0501

Mars -105501-04-16 17:31 J -36812710.88 -36812710.77 -36812710.66 0.1689 0.1090

Jupiter -105501-06-06 08:09 J -36812660.31 -36812660.16 -36812660.02 0.0530 0.0048

Earth -105501-06-10 23:31 J -36812655.63 -36812655.52 -36812655.41 0.2699 0.0864

Moon -105501-06-10 23:59 J -36812655.61 -36812655.50 -36812655.39 0.2705 0.0755 *

Mars -105500-02-28 03:35 J -36812393.46 -36812393.35 -36812393.25 0.1828 0.0992

Venus -105500-08-14 22:04 J -36812225.70 -36812225.58 -36812225.45 0.3611 0.0789

Earth -105498-11-29 07:26 J -36811389.21 -36811389.19 -36811389.17 0.2647 0.2606

Moon -105498-11-29 08:52 J -36811389.19 -36811389.13 -36811389.07 0.2646 0.2406 *

Jupiter -105496-10-25 06:57 J -36810693.23 -36810693.21 -36810693.19 0.0500 0.0493

Jupiter -105495-01-22 23:59 J -36810603.66 -36810603.50 -36810603.34 0.0497 0.0013

Jupiter -105495-04-22 18:28 J -36810513.75 -36810513.73 -36810513.71 0.0495 0.0490

Saturn -105495-10-12 08:38 J -36810341.23 -36810341.14 -36810341.04 0.0291 0.0225

Saturn -105494-01-09 02:52 J -36810252.52 -36810252.38 -36810252.24 0.0291 0.0132

Venus -105494-02-28 19:11 J -36810201.82 -36810201.70 -36810201.58 0.3615 0.0677

Saturn -105494-04-07 21:21 J -36810163.77 -36810163.61 -36810163.44 0.0290 0.0038

Saturn -105494-07-05 16:19 J -36810074.98 -36810074.82 -36810074.66 0.0289 0.0059

Mars -105494-10-01 16:19 J -36809986.90 -36809986.82 -36809986.74 0.1669 0.1383

Saturn -105494-10-02 11:31 J -36809986.16 -36809986.02 -36809985.88 0.0289 0.0156

Saturn -105494-12-30 06:57 J -36809897.28 -36809897.21 -36809897.13 0.0288 0.0254

Mars -105493-08-14 11:02 J -36809669.08 -36809669.04 -36809669.01 0.1851 0.1766

Uranus -105492-07-31 14:23 J -36809317.96 -36809317.90 -36809317.82 0.0133 0.0119

Mars -105492-09-06 21:21 J -36809280.75 -36809280.61 -36809280.47 0.1685 0.0572

Uranus -105492-10-27 18:43 J -36809229.82 -36809229.72 -36809229.62 0.0133 0.0102

Uranus -105491-01-23 22:47 J -36809141.66 -36809141.55 -36809141.43 0.0133 0.0084

Uranus -105491-04-22 02:52 J -36809053.51 -36809053.38 -36809053.25 0.0133 0.0067

Uranus -105491-07-19 06:43 J -36808965.35 -36808965.22 -36808965.08 0.0133 0.0051

Mars -105491-07-21 10:33 J -36808963.18 -36808963.06 -36808962.94 0.1833 0.0490

Uranus -105491-10-15 10:47 J -36808877.19 -36808877.05 -36808876.91 0.0133 0.0034

Uranus -105490-01-11 14:38 J -36808789.03 -36808788.89 -36808788.74 0.0133 0.0017

Uranus -105490-04-09 18:43 J -36808700.87 -36808700.72 -36808700.57 0.0133 0.0003

Uranus -105490-07-06 22:33 J -36808612.71 -36808612.56 -36808612.42 0.0133 0.0016

Uranus -105490-10-03 02:23 J -36808524.54 -36808524.40 -36808524.26 0.0133 0.0032

Uranus -105490-12-30 06:14 J -36808436.38 -36808436.24 -36808436.11 0.0132 0.0049

Jupiter -105489-03-25 09:07 J -36808350.26 -36808350.12 -36808349.98 0.0530 0.0098

Uranus -105489-03-27 09:50 J -36808348.21 -36808348.09 -36808347.96 0.0132 0.0065

Jupiter -105489-06-22 23:59 J -36808260.58 -36808260.50 -36808260.42 0.0532 0.0438

Uranus -105489-06-23 13:40 J -36808260.04 -36808259.93 -36808259.81 0.0132 0.0080

Venus -105489-09-13 16:04 J -36808177.93 -36808177.83 -36808177.73 0.3619 0.2093

Uranus -105489-09-19 17:16 J -36808171.87 -36808171.78 -36808171.68 0.0132 0.0096

Uranus -105489-12-16 20:52 J -36808083.69 -36808083.63 -36808083.54 0.0132 0.0112

Uranus -105488-03-15 00:43 J -36807995.50 -36807995.47 -36807995.43 0.0132 0.0127

Earth -105488-06-13 18:43 J -36807904.84 -36807904.72 -36807904.61 0.2704 0.0211

Moon -105488-06-13 19:26 J -36807904.80 -36807904.69 -36807904.58 0.2704 0.0237 *

Neptune -105488-09-01 08:09 J -36807825.19 -36807825.16 -36807825.09 0.0088 0.0085

Neptune -105488-11-28 10:33 J -36807737.12 -36807737.06 -36807736.98 0.0088 0.0079

Neptune -105487-02-24 12:43 J -36807649.04 -36807648.97 -36807648.88 0.0088 0.0075

Neptune -105487-05-23 15:07 J -36807560.96 -36807560.87 -36807560.77 0.0088 0.0070

Neptune -105487-08-19 16:47 J -36807472.89 -36807472.80 -36807472.68 0.0088 0.0066

Neptune -105487-11-15 19:11 J -36807384.81 -36807384.70 -36807384.58 0.0088 0.0061

Neptune -105486-02-11 21:21 J -36807296.72 -36807296.61 -36807296.48 0.0088 0.0056

Neptune -105486-05-10 23:16 J -36807208.64 -36807208.53 -36807208.39 0.0088 0.0052

Neptune -105486-08-07 01:26 J -36807120.56 -36807120.44 -36807120.30 0.0088 0.0047

Neptune -105486-11-03 03:35 J -36807032.48 -36807032.35 -36807032.20 0.0088 0.0042

Neptune -105485-01-30 05:31 J -36806944.40 -36806944.27 -36806944.11 0.0088 0.0038

Neptune -105485-04-27 07:40 J -36806856.31 -36806856.18 -36806856.02 0.0088 0.0033

Neptune -105485-07-24 10:04 J -36806768.23 -36806768.08 -36806767.94 0.0088 0.0028

Neptune -105485-10-20 11:59 J -36806680.15 -36806680.00 -36806679.85 0.0088 0.0023

Earth -105485-12-01 10:47 J -36806638.19 -36806638.05 -36806637.92 0.2641 0.0983

Moon -105485-12-01 11:45 J -36806638.15 -36806638.01 -36806637.87 0.2637 0.0924 *

Neptune -105484-01-16 14:09 J -36806592.06 -36806591.91 -36806591.76 0.0088 0.0019

Neptune -105484-04-14 16:04 J -36806503.98 -36806503.83 -36806503.68 0.0088 0.0014

Neptune -105484-07-11 18:14 J -36806415.90 -36806415.74 -36806415.59 0.0088 0.0010

Neptune -105484-10-07 20:09 J -36806327.81 -36806327.66 -36806327.51 0.0088 0.0005

Jupiter -105484-11-11 01:40 J -36806293.58 -36806293.43 -36806293.28 0.0498 0.0125

Neptune -105483-01-03 22:04 J -36806239.73 -36806239.58 -36806239.42 0.0088 0.0001

Jupiter -105483-02-08 19:40 J -36806203.78 -36806203.68 -36806203.57 0.0496 0.0372

Venus -105483-03-30 12:28 J -36806154.01 -36806153.98 -36806153.94 0.3623 0.3459

Neptune -105483-04-01 23:59 J -36806151.65 -36806151.50 -36806151.34 0.0088 0.0005

Neptune -105483-06-29 02:09 J -36806063.57 -36806063.41 -36806063.26 0.0088 0.0009

Neptune -105483-09-25 04:04 J -36805975.48 -36805975.33 -36805975.18 0.0088 0.0013

Neptune -105483-12-22 05:59 J -36805887.40 -36805887.25 -36805887.10 0.0088 0.0017

Mars -105482-01-28 01:40 J -36805850.58 -36805850.43 -36805850.28 0.1680 0.0073

Neptune -105482-03-20 07:55 J -36805799.32 -36805799.17 -36805799.02 0.0088 0.0022

Neptune -105482-06-16 09:50 J -36805711.23 -36805711.09 -36805710.94 0.0088 0.0026

Neptune -105482-09-12 11:45 J -36805623.15 -36805623.01 -36805622.86 0.0088 0.0031

Neptune -105482-12-09 13:26 J -36805535.06 -36805534.94 -36805534.79 0.0088 0.0036

Mars -105482-12-11 17:02 J -36805532.92 -36805532.79 -36805532.66 0.1838 0.0045

Neptune -105481-03-06 15:35 J -36805446.98 -36805446.85 -36805446.71 0.0088 0.0039

Neptune -105481-06-02 17:31 J -36805358.90 -36805358.77 -36805358.64 0.0088 0.0044

Neptune -105481-08-29 19:11 J -36805270.81 -36805270.70 -36805270.56 0.0088 0.0049

Neptune -105481-11-25 21:07 J -36805182.73 -36805182.62 -36805182.49 0.0088 0.0053

Neptune -105480-02-21 23:16 J -36805094.64 -36805094.53 -36805094.42 0.0088 0.0057

Neptune -105480-05-21 00:43 J -36805006.56 -36805006.47 -36805006.34 0.0088 0.0062

Neptune -105480-08-17 02:38 J -36804918.47 -36804918.39 -36804918.27 0.0088 0.0066

Neptune -105480-11-13 04:33 J -36804830.39 -36804830.31 -36804830.21 0.0088 0.0070

Saturn -105479-02-06 19:26 J -36804744.77 -36804744.69 -36804744.61 0.0268 0.0226

Neptune -105479-02-09 06:43 J -36804742.30 -36804742.22 -36804742.14 0.0088 0.0074

Saturn -105479-05-06 08:52 J -36804656.25 -36804656.13 -36804656.00 0.0269 0.0155

Neptune -105479-05-08 08:38 J -36804654.21 -36804654.14 -36804654.07 0.0088 0.0078

Saturn -105479-08-02 22:33 J -36804567.70 -36804567.56 -36804567.42 0.0269 0.0084

Neptune -105479-08-04 10:04 J -36804566.12 -36804566.08 -36804566.01 0.0088 0.0082

Saturn -105479-10-30 11:45 J -36804479.16 -36804479.01 -36804478.86 0.0270 0.0014

Neptune -105479-10-31 11:59 J -36804478.02 -36804478.00 -36804477.96 0.0088 0.0086

Saturn -105478-01-27 00:57 J -36804390.61 -36804390.46 -36804390.32 0.0270 0.0056

Saturn -105478-04-25 13:40 J -36804302.05 -36804301.93 -36804301.80 0.0271 0.0125

Saturn -105478-07-23 02:23 J -36804213.49 -36804213.40 -36804213.29 0.0272 0.0192

Saturn -105478-10-19 15:07 J -36804124.91 -36804124.87 -36804124.83 0.0272 0.0259

Jupiter -105477-01-12 11:16 J -36804040.16 -36804040.03 -36804039.90 0.0529 0.0229

Jupiter -105477-04-11 02:38 J -36803950.51 -36803950.39 -36803950.28 0.0532 0.0313

Pluto -105477-04-24 20:09 J -36803936.72 -36803936.66 -36803936.60 0.0085 0.0075

Pluto -105477-07-21 21:21 J -36803848.70 -36803848.61 -36803848.51 0.0085 0.0061

Pluto -105477-10-17 22:33 J -36803760.66 -36803760.56 -36803760.44 0.0085 0.0047

Pluto -105476-01-13 23:59 J -36803672.62 -36803672.50 -36803672.38 0.0084 0.0033

Pluto -105476-04-12 01:11 J -36803584.58 -36803584.45 -36803584.32 0.0084 0.0020

Pluto -105476-07-09 02:23 J -36803496.53 -36803496.40 -36803496.26 0.0084 0.0007

Pluto -105476-10-05 03:35 J -36803408.48 -36803408.35 -36803408.21 0.0084 0.0008

Pluto -105475-01-01 05:02 J -36803320.42 -36803320.29 -36803320.16 0.0084 0.0021

Pluto -105475-03-30 05:59 J -36803232.36 -36803232.25 -36803232.12 0.0084 0.0035

Earth -105475-06-16 13:40 J -36803154.03 -36803153.93 -36803153.83 0.2709 0.1255

Moon -105475-06-16 14:23 J -36803154.00 -36803153.90 -36803153.80 0.2705 0.1312 *

Pluto -105475-06-26 07:26 J -36803144.30 -36803144.19 -36803144.08 0.0084 0.0048

Pluto -105475-09-22 08:23 J -36803056.23 -36803056.15 -36803056.05 0.0083 0.0061

Pluto -105475-12-19 09:35 J -36802968.14 -36802968.10 -36802968.03 0.0083 0.0075

Mars -105473-06-19 06:14 J -36802420.38 -36802420.24 -36802420.10 0.1676 0.0423

Mars -105472-05-02 23:16 J -36802102.65 -36802102.53 -36802102.40 0.1843 0.0584

Jupiter -105472-08-30 03:07 J -36801983.51 -36801983.37 -36801983.24 0.0498 0.0245

Jupiter -105472-11-27 20:38 J -36801893.77 -36801893.64 -36801893.50 0.0496 0.0247

Earth -105472-12-04 14:23 J -36801887.05 -36801886.90 -36801886.76 0.2636 0.0681

Moon -105472-12-04 14:38 J -36801887.04 -36801886.89 -36801886.75 0.2630 0.0659 *

Mars -105471-05-26 14:23 J -36801713.92 -36801713.90 -36801713.89 0.1693 0.1677

Mars -105470-04-08 20:23 J -36801396.72 -36801396.65 -36801396.58 0.1823 0.1519

Venus -105469-01-21 12:43 J -36801109.03 -36801108.97 -36801108.91 0.3774 0.3116

Earth -105468-06-09 09:21 J -36800604.20 -36800604.11 -36800604.02 0.2695 0.1721

Moon -105468-06-09 09:35 J -36800604.19 -36800604.10 -36800604.01 0.2701 0.1659 *

Jupiter -105466-10-31 13:26 J -36799730.05 -36799729.94 -36799729.84 0.0528 0.0357

Jupiter -105465-01-29 05:02 J -36799640.42 -36799640.29 -36799640.15 0.0531 0.0189

Saturn -105465-02-29 06:28 J -36799609.29 -36799609.23 -36799609.16 0.0292 0.0264

Saturn -105465-05-28 00:28 J -36799520.60 -36799520.48 -36799520.35 0.0291 0.0172

Saturn -105465-08-24 18:57 J -36799431.87 -36799431.71 -36799431.56 0.0291 0.0078

Saturn -105465-11-21 13:40 J -36799343.10 -36799342.93 -36799342.77 0.0290 0.0018

Saturn -105464-02-18 08:38 J -36799254.29 -36799254.14 -36799253.99 0.0289 0.0114

Saturn -105464-05-18 03:50 J -36799165.44 -36799165.34 -36799165.22 0.0289 0.0212

Venus -105464-08-06 08:52 J -36799085.24 -36799085.13 -36799085.03 0.3770 0.1672

Mars -105464-11-09 11:16 J -36798990.16 -36798990.03 -36798989.91 0.1673 0.0888

Mars -105463-09-23 05:31 J -36798672.37 -36798672.27 -36798672.17 0.1847 0.1134

Moon -105462-06-19 08:38 J -36798403.20 -36798403.14 -36798403.09 0.2706 0.2318

Earth -105462-06-19 08:38 J -36798403.20 -36798403.14 -36798403.09 0.2713 0.2301 *

Mars -105462-10-16 17:45 J -36798283.87 -36798283.76 -36798283.64 0.1689 0.1140

Mars -105461-08-29 03:50 J -36797966.44 -36797966.34 -36797966.24 0.1828 0.1042

Jupiter -105460-06-18 04:33 J -36797673.42 -36797673.31 -36797673.21 0.0499 0.0364

Jupiter -105460-09-15 21:50 J -36797583.75 -36797583.59 -36797583.44 0.0497 0.0123

Moon -105459-12-07 17:16 J -36797135.85 -36797135.78 -36797135.72 0.2626 0.2344

Earth -105459-12-07 18:14 J -36797135.81 -36797135.74 -36797135.68 0.2631 0.2365 *

Venus -105458-02-20 05:16 J -36797061.39 -36797061.28 -36797061.16 0.3766 0.0207

Earth -105455-06-12 04:33 J -36795853.42 -36795853.31 -36795853.20 0.2700 0.0645

Moon -105455-06-12 05:02 J -36795853.40 -36795853.29 -36795853.18 0.2705 0.0665 *

Venus -105454-02-20 02:09 J -36795600.46 -36795600.41 -36795600.37 0.3604 0.3333

Mars -105454-04-01 16:33 J -36795559.89 -36795559.81 -36795559.72 0.1669 0.1337

Jupiter -105454-08-19 15:07 J -36795419.92 -36795419.87 -36795419.82 0.0527 0.0489

Jupiter -105454-11-17 07:11 J -36795330.34 -36795330.20 -36795330.06 0.0530 0.0059

Mars -105453-02-13 11:02 J -36795242.08 -36795242.04 -36795241.99 0.1851 0.1718

Venus -105453-09-05 02:09 J -36795037.52 -36795037.41 -36795037.30 0.3762 0.1395

Mars -105452-03-07 21:50 J -36794853.73 -36794853.59 -36794853.45 0.1685 0.0622

Earth -105452-11-29 13:26 J -36794587.01 -36794586.94 -36794586.87 0.2646 0.2283

Moon -105452-11-29 14:52 J -36794586.95 -36794586.88 -36794586.80 0.2645 0.2245 *

Mars -105451-01-19 10:33 J -36794536.18 -36794536.06 -36794535.94 0.1833 0.0540

Saturn -105450-06-26 19:55 J -36794012.72 -36794012.67 -36794012.62 0.0269 0.0252

Saturn -105450-09-23 09:35 J -36793924.20 -36793924.10 -36793923.98 0.0269 0.0181

Saturn -105450-12-20 23:16 J -36793835.66 -36793835.53 -36793835.39 0.0270 0.0110

Saturn -105449-03-18 12:43 J -36793747.12 -36793746.97 -36793746.82 0.0270 0.0039

Saturn -105449-06-15 01:55 J -36793658.57 -36793658.42 -36793658.28 0.0271 0.0031

Venus -105449-09-04 23:45 J -36793576.62 -36793576.51 -36793576.40 0.3608 0.1779

Saturn -105449-09-11 14:52 J -36793570.02 -36793569.88 -36793569.75 0.0271 0.0100

Saturn -105449-12-09 03:35 J -36793481.46 -36793481.35 -36793481.23 0.0272 0.0168

Saturn -105448-03-07 16:19 J -36793392.89 -36793392.82 -36793392.75 0.0273 0.0235

Jupiter -105448-04-06 05:45 J -36793363.29 -36793363.26 -36793363.22 0.0500 0.0484

Jupiter -105448-07-04 22:47 J -36793273.71 -36793273.55 -36793273.39 0.0497 0.0008

Uranus -105448-12-27 13:55 J -36793097.99 -36793097.92 -36793097.82 0.0146 0.0126

Venus -105447-03-21 23:16 J -36793013.60 -36793013.53 -36793013.46 0.3757 0.3012

Uranus -105447-03-25 20:09 J -36793009.77 -36793009.66 -36793009.53 0.0146 0.0102

Uranus -105447-06-22 02:23 J -36792921.53 -36792921.40 -36792921.25 0.0146 0.0078

Uranus -105447-09-18 08:38 J -36792833.29 -36792833.14 -36792832.98 0.0146 0.0054

Uranus -105447-12-15 15:07 J -36792745.04 -36792744.87 -36792744.71 0.0146 0.0029

Uranus -105446-03-13 21:21 J -36792656.77 -36792656.61 -36792656.44 0.0146 0.0005

Uranus -105446-06-10 03:50 J -36792568.50 -36792568.34 -36792568.17 0.0146 0.0021

Uranus -105446-09-06 10:19 J -36792480.23 -36792480.07 -36792479.91 0.0146 0.0046

Uranus -105446-12-03 16:47 J -36792391.94 -36792391.80 -36792391.65 0.0146 0.0072

Uranus -105445-02-29 23:16 J -36792303.65 -36792303.53 -36792303.39 0.0146 0.0098

Uranus -105445-05-28 05:59 J -36792215.33 -36792215.25 -36792215.15 0.0147 0.0124

Venus -105443-03-21 21:07 J -36791552.74 -36791552.62 -36791552.49 0.3612 0.0271

Mars -105443-07-29 02:09 J -36791423.56 -36791423.41 -36791423.27 0.1680 0.0122

Mars -105442-06-11 17:16 J -36791105.91 -36791105.78 -36791105.66 0.1838 0.0029

Earth -105442-06-14 23:31 J -36791102.63 -36791102.52 -36791102.40 0.2704 0.0426

Moon -105442-06-15 00:28 J -36791102.59 -36791102.48 -36791102.37 0.2703 0.0556 *

Jupiter -105442-09-05 08:52 J -36791020.27 -36791020.13 -36791019.99 0.0529 0.0077

Jupiter -105442-12-03 23:45 J -36790930.58 -36790930.51 -36790930.44 0.0532 0.0457

Earth -105439-12-02 16:47 J -36789835.94 -36789835.80 -36789835.66 0.2641 0.0659

Moon -105439-12-02 17:31 J -36789835.91 -36789835.77 -36789835.62 0.2635 0.0539 *

Venus -105438-10-05 18:14 J -36789528.86 -36789528.74 -36789528.63 0.3616 0.1181

Jupiter -105436-04-23 00:28 J -36788963.64 -36788963.48 -36788963.33 0.0498 0.0118

Saturn -105436-07-18 06:57 J -36788877.21 -36788877.21 -36788877.21 0.0292 0.0291

Jupiter -105436-07-21 18:28 J -36788873.83 -36788873.73 -36788873.63 0.0496 0.0379

Saturn -105436-10-15 00:43 J -36788788.58 -36788788.47 -36788788.35 0.0291 0.0200

Saturn -105435-01-11 19:11 J -36788699.85 -36788699.70 -36788699.55 0.0291 0.0107

Saturn -105435-04-10 13:40 J -36788611.09 -36788610.93 -36788610.77 0.0290 0.0012

Moon -105435-06-07 18:43 J -36788552.75 -36788552.72 -36788552.70 0.2696 0.2599

Earth -105435-06-07 19:11 J -36788552.73 -36788552.70 -36788552.67 0.2691 0.2581 *

Saturn -105435-07-08 08:38 J -36788522.29 -36788522.14 -36788521.98 0.0289 0.0085

Saturn -105435-10-05 03:50 J -36788433.46 -36788433.34 -36788433.21 0.0289 0.0183

Saturn -105434-01-01 23:31 J -36788344.55 -36788344.52 -36788344.48 0.0288 0.0281

Mars -105434-12-19 06:43 J -36787993.36 -36787993.22 -36787993.08 0.1676 0.0368

Mars -105433-10-31 23:31 J -36787675.64 -36787675.52 -36787675.39 0.1842 0.0533

Venus -105432-04-20 14:52 J -36787504.97 -36787504.88 -36787504.79 0.3620 0.2572

Mars -105431-10-07 20:38 J -36786969.70 -36786969.64 -36786969.58 0.1823 0.1569

Jupiter -105430-06-24 09:35 J -36786710.23 -36786710.10 -36786709.97 0.0529 0.0225

Jupiter -105430-09-22 00:57 J -36786620.57 -36786620.46 -36786620.34 0.0531 0.0316

Earth -105429-06-16 18:28 J -36786351.82 -36786351.73 -36786351.63 0.2709 0.1477

Moon -105429-06-16 19:11 J -36786351.80 -36786351.70 -36786351.61 0.2705 0.1508 *

Moon -105426-12-05 20:23 J -36785084.79 -36785084.65 -36785084.51 0.2629 0.1011

Earth -105426-12-05 20:23 J -36785084.78 -36785084.65 -36785084.51 0.2636 0.1011 *

Jupiter -105424-02-09 02:23 J -36784653.54 -36784653.40 -36784653.27 0.0498 0.0232

Jupiter -105424-05-09 19:55 J -36784563.80 -36784563.67 -36784563.53 0.0496 0.0261

Mars -105424-05-10 11:31 J -36784563.14 -36784563.02 -36784562.89 0.1673 0.0840

Mars -105423-03-24 05:31 J -36784245.37 -36784245.27 -36784245.17 0.1847 0.1093

Mars -105422-04-16 18:28 J -36783856.84 -36783856.73 -36783856.63 0.1689 0.1196

Earth -105422-06-10 14:23 J -36783802.00 -36783801.90 -36783801.80 0.2696 0.1497

Moon -105422-06-10 14:38 J -36783801.98 -36783801.89 -36783801.80 0.2703 0.1531 *

Mars -105421-02-28 03:50 J -36783539.44 -36783539.34 -36783539.24 0.1828 0.1083

Saturn -105420-02-09 11:16 J -36783192.12 -36783192.03 -36783191.92 0.0268 0.0202

Saturn -105420-05-09 00:57 J -36783103.58 -36783103.46 -36783103.32 0.0269 0.0131

Saturn -105420-08-05 14:23 J -36783015.04 -36783014.90 -36783014.75 0.0269 0.0060

Saturn -105420-11-02 03:35 J -36782926.49 -36782926.35 -36782926.20 0.0270 0.0013

Saturn -105419-01-29 16:47 J -36782837.94 -36782837.80 -36782837.66 0.0270 0.0079

Saturn -105419-04-28 05:31 J -36782749.39 -36782749.27 -36782749.15 0.0271 0.0147

Saturn -105419-07-25 18:14 J -36782660.82 -36782660.74 -36782660.65 0.0272 0.0215

Jupiter -105418-04-12 11:31 J -36782400.12 -36782400.02 -36782399.91 0.0528 0.0357

Jupiter -105418-07-11 03:21 J -36782310.49 -36782310.36 -36782310.22 0.0531 0.0190

Moon -105416-06-19 13:26 J -36781600.98 -36781600.94 -36781600.90 0.2706 0.2485

Earth -105416-06-19 13:26 J -36781600.98 -36781600.94 -36781600.90 0.2714 0.2515 *

Mars -105415-09-30 16:47 J -36781132.89 -36781132.80 -36781132.71 0.1669 0.1294

Mars -105414-08-14 11:31 J -36780815.07 -36780815.02 -36780814.97 0.1852 0.1661

Venus -105413-08-27 11:16 J -36780436.11 -36780436.03 -36780435.95 0.3773 0.2624

Mars -105413-09-05 22:19 J -36780426.71 -36780426.57 -36780426.44 0.1685 0.0673

Jupiter -105413-11-28 03:50 J -36780343.45 -36780343.34 -36780343.23 0.0499 0.0350

Moon -105413-12-07 23:31 J -36780333.56 -36780333.52 -36780333.49 0.2625 0.2552

Jupiter -105412-02-25 21:07 J -36780253.78 -36780253.62 -36780253.47 0.0496 0.0138

Mars -105412-07-20 10:47 J -36780109.17 -36780109.05 -36780108.93 0.1833 0.0582

Earth -105409-06-12 09:35 J -36779051.22 -36779051.10 -36779050.99 0.2700 0.0431

Moon -105409-06-12 10:19 J -36779051.19 -36779051.07 -36779050.96 0.2704 0.0320 *

Uranus -105408-05-24 17:45 J -36778704.78 -36778704.76 -36778704.73 0.0133 0.0131

Uranus -105408-08-20 22:04 J -36778616.66 -36778616.58 -36778616.50 0.0133 0.0114

Uranus -105408-11-17 02:09 J -36778528.51 -36778528.41 -36778528.31 0.0133 0.0096

Uranus -105407-02-13 05:59 J -36778440.36 -36778440.25 -36778440.12 0.0133 0.0080

Venus -105407-03-13 07:40 J -36778412.29 -36778412.18 -36778412.07 0.3769 0.1157

Uranus -105407-05-12 10:04 J -36778352.20 -36778352.08 -36778351.94 0.0133 0.0062

Uranus -105407-08-08 14:09 J -36778264.05 -36778263.91 -36778263.77 0.0133 0.0045

Uranus -105407-11-04 18:14 J -36778175.89 -36778175.74 -36778175.59 0.0133 0.0028

Jupiter -105406-01-29 13:40 J -36778089.98 -36778089.93 -36778089.87 0.0528 0.0485

Uranus -105406-01-31 22:04 J -36778087.72 -36778087.58 -36778087.43 0.0133 0.0012

Saturn -105406-03-03 22:33 J -36778056.65 -36778056.56 -36778056.47 0.0292 0.0240

Jupiter -105406-04-29 05:59 J -36778000.40 -36778000.25 -36778000.11 0.0530 0.0066

Uranus -105406-04-30 02:09 J -36777999.56 -36777999.41 -36777999.27 0.0133 0.0006

Saturn -105406-05-31 16:33 J -36777967.94 -36777967.81 -36777967.67 0.0291 0.0148

Uranus -105406-07-27 05:59 J -36777911.40 -36777911.25 -36777911.11 0.0133 0.0021

Saturn -105406-08-28 11:02 J -36777879.20 -36777879.04 -36777878.88 0.0291 0.0053

Uranus -105406-10-23 09:50 J -36777823.23 -36777823.09 -36777822.95 0.0133 0.0038

Saturn -105406-11-25 05:59 J -36777790.42 -36777790.25 -36777790.09 0.0290 0.0043

Earth -105406-11-30 19:40 J -36777784.78 -36777784.68 -36777784.59 0.2645 0.1965

Moon -105406-11-30 20:52 J -36777784.74 -36777784.63 -36777784.52 0.2643 0.1764 *

Uranus -105405-01-19 13:26 J -36777735.07 -36777734.94 -36777734.80 0.0132 0.0054

Saturn -105405-02-22 00:57 J -36777701.60 -36777701.46 -36777701.31 0.0289 0.0140

Uranus -105405-04-16 17:16 J -36777646.90 -36777646.78 -36777646.65 0.0132 0.0070

Neptune -105405-05-14 23:59 J -36777618.53 -36777618.50 -36777618.45 0.0089 0.0085

Saturn -105405-05-20 20:23 J -36777612.74 -36777612.65 -36777612.55 0.0289 0.0238

Uranus -105405-07-13 21:07 J -36777558.73 -36777558.62 -36777558.51 0.0132 0.0085

Neptune -105405-08-11 02:09 J -36777530.46 -36777530.41 -36777530.34 0.0089 0.0081

Uranus -105405-10-10 00:43 J -36777470.56 -36777470.47 -36777470.37 0.0132 0.0101

Neptune -105405-11-07 04:33 J -36777442.39 -36777442.31 -36777442.23 0.0089 0.0076

Uranus -105404-01-06 04:33 J -36777382.38 -36777382.31 -36777382.24 0.0132 0.0117

Neptune -105404-02-03 06:28 J -36777354.31 -36777354.23 -36777354.13 0.0089 0.0072

Uranus -105404-04-04 08:09 J -36777294.16 -36777294.16 -36777294.16 0.0132 0.0132

Neptune -105404-05-02 08:52 J -36777266.23 -36777266.13 -36777266.02 0.0089 0.0067

Neptune -105404-07-29 10:47 J -36777178.15 -36777178.05 -36777177.92 0.0089 0.0063

Neptune -105404-10-25 13:11 J -36777090.06 -36777089.95 -36777089.82 0.0089 0.0058

Neptune -105403-01-21 15:35 J -36777001.98 -36777001.85 -36777001.72 0.0089 0.0053

Mars -105403-01-27 02:23 J -36776996.55 -36776996.40 -36776996.25 0.1680 0.0164

Neptune -105403-04-19 17:45 J -36776913.89 -36776913.76 -36776913.62 0.0089 0.0049

Neptune -105403-07-16 19:55 J -36776825.80 -36776825.67 -36776825.52 0.0089 0.0044

Neptune -105403-10-12 22:19 J -36776737.71 -36776737.57 -36776737.42 0.0089 0.0039

Mars -105403-12-10 17:31 J -36776678.90 -36776678.77 -36776678.64 0.1838 0.0063

Neptune -105402-01-09 00:28 J -36776649.62 -36776649.48 -36776649.32 0.0089 0.0035

Neptune -105402-04-07 02:52 J -36776561.53 -36776561.38 -36776561.22 0.0089 0.0030

Neptune -105402-07-04 05:16 J -36776473.43 -36776473.28 -36776473.12 0.0089 0.0025

Venus -105402-09-27 04:19 J -36776388.44 -36776388.32 -36776388.21 0.3765 0.0387

Neptune -105402-09-30 07:40 J -36776385.34 -36776385.18 -36776385.02 0.0089 0.0020

Neptune -105402-12-27 09:50 J -36776297.24 -36776297.09 -36776296.93 0.0089 0.0016

Neptune -105401-03-24 12:14 J -36776209.15 -36776208.99 -36776208.83 0.0089 0.0011

Neptune -105401-06-20 14:38 J -36776121.05 -36776120.89 -36776120.73 0.0089 0.0006

Jupiter -105401-09-16 05:16 J -36776033.33 -36776033.28 -36776033.23 0.0500 0.0468

Neptune -105401-09-16 17:02 J -36776032.95 -36776032.79 -36776032.63 0.0089 0.0001

Neptune -105401-12-13 19:26 J -36775944.86 -36775944.69 -36775944.53 0.0089 0.0004

Jupiter -105401-12-14 22:19 J -36775943.73 -36775943.57 -36775943.42 0.0497 0.0019

Neptune -105400-03-11 21:50 J -36775856.76 -36775856.59 -36775856.43 0.0089 0.0009

Neptune -105400-06-07 23:59 J -36775768.65 -36775768.50 -36775768.33 0.0089 0.0014

Neptune -105400-09-04 02:23 J -36775680.55 -36775680.40 -36775680.23 0.0089 0.0019

Neptune -105400-12-01 04:47 J -36775592.45 -36775592.30 -36775592.13 0.0089 0.0024

Neptune -105399-02-27 07:11 J -36775504.35 -36775504.20 -36775504.03 0.0089 0.0029

Neptune -105399-05-26 09:35 J -36775416.24 -36775416.10 -36775415.94 0.0089 0.0034

Neptune -105399-08-22 11:59 J -36775328.14 -36775328.00 -36775327.84 0.0089 0.0039

Neptune -105399-11-18 14:23 J -36775240.03 -36775239.90 -36775239.74 0.0089 0.0044

Neptune -105398-02-14 17:02 J -36775151.92 -36775151.79 -36775151.64 0.0089 0.0049

Neptune -105398-05-13 19:26 J -36775063.81 -36775063.69 -36775063.55 0.0089 0.0054

Neptune -105398-08-09 21:50 J -36774975.70 -36774975.59 -36774975.45 0.0089 0.0059

Venus -105398-09-27 01:11 J -36774927.53 -36774927.45 -36774927.37 0.3605 0.2786

Neptune -105398-11-06 00:28 J -36774887.58 -36774887.48 -36774887.35 0.0089 0.0064

Neptune -105397-02-02 02:52 J -36774799.47 -36774799.38 -36774799.26 0.0089 0.0069

Neptune -105397-04-30 05:31 J -36774711.35 -36774711.27 -36774711.17 0.0089 0.0074

Neptune -105397-07-27 08:09 J -36774623.23 -36774623.16 -36774623.08 0.0089 0.0079

Neptune -105397-10-23 10:33 J -36774535.10 -36774535.06 -36774534.99 0.0089 0.0084

Venus -105396-04-12 00:57 J -36774364.56 -36774364.46 -36774364.35 0.3760 0.1941

Earth -105396-06-15 04:33 J -36774300.42 -36774300.31 -36774300.20 0.2705 0.0635

Moon -105396-06-15 05:31 J -36774300.39 -36774300.27 -36774300.16 0.2704 0.0657 *

Jupiter -105394-02-15 07:55 J -36773690.31 -36773690.17 -36773690.02 0.0529 0.0066

Jupiter -105394-05-15 22:47 J -36773600.61 -36773600.55 -36773600.48 0.0532 0.0469

Mars -105394-06-19 07:11 J -36773566.35 -36773566.20 -36773566.06 0.1676 0.0323

Mars -105393-05-01 23:45 J -36773248.63 -36773248.51 -36773248.39 0.1843 0.0483

Earth -105393-12-02 23:02 J -36773033.69 -36773033.54 -36773033.40 0.2640 0.0328

Moon -105393-12-02 23:45 J -36773033.66 -36773033.51 -36773033.36 0.2634 0.0322 *

Venus -105392-04-11 22:47 J -36772903.67 -36772903.55 -36772903.43 0.3609 0.1248

Mars -105391-04-07 20:52 J -36772542.69 -36772542.63 -36772542.58 0.1823 0.1615

Saturn -105391-06-29 11:45 J -36772460.08 -36772460.01 -36772459.92 0.0269 0.0229

Saturn -105391-09-26 01:40 J -36772371.55 -36772371.43 -36772371.31 0.0269 0.0157

Venus -105391-10-26 22:19 J -36772340.61 -36772340.57 -36772340.54 0.3756 0.3565

Saturn -105391-12-23 15:07 J -36772283.01 -36772282.87 -36772282.73 0.0270 0.0087

Saturn -105390-03-22 04:19 J -36772194.46 -36772194.32 -36772194.17 0.0270 0.0018

Saturn -105390-06-18 17:31 J -36772105.91 -36772105.77 -36772105.63 0.0271 0.0053

Saturn -105390-09-15 06:28 J -36772017.36 -36772017.23 -36772017.10 0.0271 0.0122

Saturn -105390-12-12 19:11 J -36771928.80 -36771928.70 -36771928.60 0.0272 0.0190

Saturn -105389-03-10 07:55 J -36771840.22 -36771840.17 -36771840.13 0.0273 0.0257

Moon -105389-06-07 23:45 J -36771750.55 -36771750.51 -36771750.45 0.2697 0.2400

Earth -105389-06-08 00:14 J -36771750.55 -36771750.49 -36771750.44 0.2691 0.2357 *

Jupiter -105389-10-02 23:16 J -36771633.68 -36771633.53 -36771633.38 0.0498 0.0108

Jupiter -105389-12-31 17:16 J -36771543.87 -36771543.78 -36771543.68 0.0496 0.0388

Venus -105387-10-26 20:09 J -36770879.79 -36770879.66 -36770879.54 0.3613 0.0244

Mars -105385-11-08 11:59 J -36770136.13 -36770136.00 -36770135.87 0.1673 0.0789

Mars -105384-09-22 05:59 J -36769818.36 -36769818.25 -36769818.15 0.1847 0.1037

Earth -105383-06-17 23:31 J -36769549.61 -36769549.52 -36769549.43 0.2710 0.1687

Moon -105383-06-17 23:59 J -36769549.59 -36769549.50 -36769549.42 0.2704 0.1756 *

Mars -105383-10-15 18:57 J -36769429.81 -36769429.71 -36769429.61 0.1689 0.1251

Jupiter -105383-12-04 09:35 J -36769380.23 -36769380.10 -36769379.97 0.0529 0.0202

Jupiter -105382-03-04 00:57 J -36769290.57 -36769290.46 -36769290.35 0.0531 0.0337

Mars -105382-08-29 04:04 J -36769112.43 -36769112.33 -36769112.24 0.1828 0.1133

Venus -105381-05-11 17:02 J -36768855.90 -36768855.79 -36768855.68 0.3617 0.1664

Moon -105380-12-06 02:09 J -36768282.54 -36768282.41 -36768282.28 0.2629 0.1336

Earth -105380-12-06 02:38 J -36768282.52 -36768282.39 -36768282.26 0.2635 0.1346 *

Saturn -105377-07-20 22:47 J -36767324.61 -36767324.55 -36767324.49 0.0292 0.0268

Jupiter -105377-07-22 00:57 J -36767323.60 -36767323.46 -36767323.32 0.0499 0.0224

Saturn -105377-10-17 16:47 J -36767235.93 -36767235.80 -36767235.68 0.0291 0.0176

Jupiter -105377-10-19 18:43 J -36767233.85 -36767233.72 -36767233.58 0.0496 0.0269

Saturn -105376-01-14 11:02 J -36767147.19 -36767147.04 -36767146.88 0.0290 0.0083

Saturn -105376-04-13 05:45 J -36767058.42 -36767058.26 -36767058.10 0.0290 0.0013

Earth -105376-06-10 19:26 J -36766999.79 -36766999.69 -36766999.59 0.2696 0.1277

Moon -105376-06-10 19:40 J -36766999.78 -36766999.68 -36766999.58 0.2703 0.1209 *

Saturn -105376-07-11 00:43 J -36766969.62 -36766969.47 -36766969.31 0.0289 0.0110

Saturn -105376-10-07 20:09 J -36766880.77 -36766880.66 -36766880.54 0.0289 0.0208

Venus -105376-11-25 13:40 J -36766831.99 -36766831.93 -36766831.86 0.3621 0.3045

Mars -105375-03-31 17:16 J -36766705.88 -36766705.78 -36766705.69 0.1669 0.1245

Mars -105374-02-12 11:31 J -36766388.08 -36766388.02 -36766387.96 0.1851 0.1619

Mars -105373-03-06 22:33 J -36765999.69 -36765999.56 -36765999.42 0.1685 0.0725

Mars -105372-01-18 10:47 J -36765682.16 -36765682.05 -36765681.93 0.1833 0.0631

Jupiter -105371-09-22 10:04 J -36765070.18 -36765070.08 -36765069.97 0.0528 0.0352

Jupiter -105371-12-21 01:55 J -36764980.55 -36764980.42 -36764980.28 0.0531 0.0194

Jupiter -105365-05-10 02:52 J -36763013.49 -36763013.38 -36763013.26 0.0499 0.0337

Jupiter -105365-08-07 20:23 J -36762923.80 -36762923.65 -36762923.50 0.0497 0.0152

Mars -105364-07-28 02:52 J -36762569.53 -36762569.38 -36762569.23 0.1680 0.0217

Uranus -105364-10-20 15:35 J -36762484.88 -36762484.85 -36762484.83 0.0145 0.0143

Uranus -105363-01-16 21:21 J -36762396.69 -36762396.61 -36762396.51 0.0146 0.0120

Uranus -105363-04-15 03:35 J -36762308.47 -36762308.35 -36762308.22 0.0146 0.0096

Mars -105363-06-10 17:31 J -36762251.90 -36762251.77 -36762251.64 0.1838 0.0104

Earth -105363-06-13 14:38 J -36762249.01 -36762248.89 -36762248.78 0.2701 0.0219

Moon -105363-06-13 15:21 J -36762248.98 -36762248.86 -36762248.75 0.2703 0.0192 *

Uranus -105363-07-12 09:50 J -36762220.23 -36762220.09 -36762219.95 0.0146 0.0072

Uranus -105363-10-08 16:04 J -36762131.99 -36762131.83 -36762131.67 0.0146 0.0048

Uranus -105362-01-04 22:19 J -36762043.73 -36762043.57 -36762043.40 0.0146 0.0023

Uranus -105362-04-03 04:47 J -36761955.47 -36761955.30 -36761955.14 0.0146 0.0004

Uranus -105362-06-30 11:02 J -36761867.20 -36761867.04 -36761866.87 0.0146 0.0027

Venus -105362-09-18 13:55 J -36761786.95 -36761786.92 -36761786.88 0.3775 0.3544

Uranus -105362-09-26 17:31 J -36761778.92 -36761778.77 -36761778.61 0.0146 0.0052

Saturn -105362-11-16 13:40 J -36761727.98 -36761727.93 -36761727.87 0.0268 0.0248

Uranus -105362-12-23 23:59 J -36761690.64 -36761690.50 -36761690.35 0.0146 0.0077

Saturn -105361-02-13 03:35 J -36761639.46 -36761639.35 -36761639.24 0.0269 0.0177

Uranus -105361-03-21 06:28 J -36761602.34 -36761602.23 -36761602.10 0.0146 0.0104

Saturn -105361-05-11 17:02 J -36761550.92 -36761550.79 -36761550.65 0.0269 0.0106

Uranus -105361-06-17 13:26 J -36761514.02 -36761513.94 -36761513.86 0.0147 0.0129

Saturn -105361-08-08 06:28 J -36761462.38 -36761462.23 -36761462.08 0.0269 0.0036

Saturn -105361-11-04 19:40 J -36761373.83 -36761373.68 -36761373.54 0.0270 0.0034

Saturn -105360-02-01 08:38 J -36761285.28 -36761285.14 -36761285.01 0.0271 0.0102

Saturn -105360-04-30 21:21 J -36761196.72 -36761196.61 -36761196.50 0.0271 0.0170

Saturn -105360-07-28 09:50 J -36761108.15 -36761108.09 -36761108.02 0.0272 0.0238

Earth -105360-12-01 01:55 J -36760982.54 -36760982.42 -36760982.31 0.2645 0.1634

Moon -105360-12-01 03:07 J -36760982.49 -36760982.37 -36760982.26 0.2641 0.1624 *

Jupiter -105359-07-11 11:59 J -36760760.06 -36760760.00 -36760759.95 0.0528 0.0485

Jupiter -105359-10-09 04:04 J -36760670.47 -36760670.33 -36760670.18 0.0530 0.0067

Venus -105356-04-03 10:04 J -36759763.18 -36759763.08 -36759762.99 0.3772 0.2126

Mars -105355-12-18 07:26 J -36759139.34 -36759139.19 -36759139.04 0.1676 0.0272

Mars -105354-10-31 23:59 J -36758821.62 -36758821.50 -36758821.38 0.1843 0.0430

Jupiter -105353-02-27 04:33 J -36758703.37 -36758703.31 -36758703.25 0.0500 0.0454

Jupiter -105353-05-26 21:35 J -36758613.76 -36758613.60 -36758613.45 0.0497 0.0033

Mars -105352-10-06 20:52 J -36758115.68 -36758115.63 -36758115.58 0.1823 0.1657

Venus -105351-10-18 06:28 J -36757739.35 -36757739.23 -36757739.12 0.3768 0.0651

Earth -105350-06-16 09:35 J -36757498.21 -36757498.10 -36757497.99 0.2706 0.0853

Moon -105350-06-16 10:19 J -36757498.18 -36757498.07 -36757497.96 0.2704 0.0990 *

Saturn -105347-03-06 14:38 J -36756503.99 -36756503.89 -36756503.78 0.0292 0.0215

Saturn -105347-06-03 08:38 J -36756415.28 -36756415.14 -36756414.99 0.0291 0.0123

Jupiter -105347-07-28 06:43 J -36756360.37 -36756360.22 -36756360.08 0.0530 0.0063

Saturn -105347-08-31 03:21 J -36756326.52 -36756326.36 -36756326.20 0.0290 0.0028

Jupiter -105347-10-25 21:35 J -36756270.66 -36756270.60 -36756270.54 0.0532 0.0475

Saturn -105347-11-27 22:04 J -36756237.73 -36756237.58 -36756237.42 0.0290 0.0069

Earth -105347-12-04 05:16 J -36756231.43 -36756231.28 -36756231.14 0.2639 0.0073

Moon -105347-12-04 05:45 J -36756231.41 -36756231.26 -36756231.11 0.2634 0.0131 *

Saturn -105346-02-24 17:16 J -36756148.91 -36756148.78 -36756148.64 0.0289 0.0166

Saturn -105346-05-24 12:43 J -36756060.02 -36756059.97 -36756059.90 0.0288 0.0265

Venus -105345-05-03 03:07 J -36755715.49 -36755715.37 -36755715.26 0.3763 0.0899

Mars -105345-05-09 12:14 J -36755709.12 -36755708.99 -36755708.86 0.1673 0.0745

Mars -105344-03-23 05:59 J -36755391.36 -36755391.25 -36755391.14 0.1847 0.0989

Mars -105343-04-15 19:11 J -36755002.80 -36755002.70 -36755002.61 0.1689 0.1295

Moon -105343-06-09 05:02 J -36754948.35 -36754948.29 -36754948.22 0.2699 0.2170

Earth -105343-06-09 05:16 J -36754948.35 -36754948.28 -36754948.22 0.2692 0.2137 *

Mars -105342-02-27 04:04 J -36754685.42 -36754685.33 -36754685.23 0.1828 0.1177

Jupiter -105341-03-14 22:47 J -36754303.71 -36754303.55 -36754303.40 0.0498 0.0092

Venus -105341-05-03 00:14 J -36754254.58 -36754254.49 -36754254.39 0.3607 0.2252

Jupiter -105341-06-12 16:47 J -36754213.89 -36754213.80 -36754213.71 0.0495 0.0403

Venus -105340-11-16 23:59 J -36753691.59 -36753691.50 -36753691.41 0.3759 0.2475

Earth -105337-06-18 04:33 J -36752747.39 -36752747.31 -36752747.23 0.2710 0.1904

Moon -105337-06-18 04:47 J -36752747.38 -36752747.30 -36752747.22 0.2703 0.1870 *

Mars -105336-09-29 17:31 J -36752278.87 -36752278.77 -36752278.67 0.1669 0.1197

Venus -105336-11-16 21:50 J -36752230.71 -36752230.59 -36752230.46 0.3610 0.0727

Jupiter -105335-05-16 08:38 J -36752050.28 -36752050.14 -36752050.00 0.0529 0.0191

Mars -105335-08-13 11:45 J -36751961.07 -36751961.01 -36751960.94 0.1852 0.1564

Jupiter -105335-08-13 23:59 J -36751960.61 -36751960.50 -36751960.39 0.0531 0.0348

Mars -105334-09-05 23:02 J -36751572.67 -36751572.54 -36751572.41 0.1685 0.0776

Moon -105334-12-07 08:23 J -36751480.27 -36751480.15 -36751480.03 0.2628 0.1584

Earth -105334-12-07 08:52 J -36751480.24 -36751480.13 -36751480.02 0.2634 0.1686 *

Mars -105333-07-19 11:02 J -36751255.15 -36751255.04 -36751254.92 0.1833 0.0677

Saturn -105332-07-02 03:50 J -36750907.43 -36750907.34 -36750907.24 0.0269 0.0205

Saturn -105332-09-28 17:31 J -36750818.89 -36750818.77 -36750818.63 0.0269 0.0134

Saturn -105332-12-26 06:57 J -36750730.35 -36750730.21 -36750730.06 0.0270 0.0063

Saturn -105331-03-24 20:23 J -36750641.80 -36750641.65 -36750641.51 0.0270 0.0010

Saturn -105331-06-21 09:21 J -36750553.25 -36750553.11 -36750552.97 0.0271 0.0076

Saturn -105331-09-17 22:19 J -36750464.70 -36750464.57 -36750464.45 0.0271 0.0145

Saturn -105331-12-15 11:02 J -36750376.13 -36750376.04 -36750375.96 0.0272 0.0212

Venus -105330-06-02 18:57 J -36750206.83 -36750206.71 -36750206.58 0.3614 0.0741

Earth -105330-06-12 00:28 J -36750197.59 -36750197.48 -36750197.38 0.2697 0.1054

Moon -105330-06-12 00:43 J -36750197.57 -36750197.47 -36750197.36 0.2703 0.1049 *

Jupiter -105329-01-01 23:45 J -36749993.65 -36749993.51 -36749993.36 0.0498 0.0216

Jupiter -105329-03-31 17:31 J -36749903.90 -36749903.77 -36749903.64 0.0496 0.0278

Mars -105326-02-19 23:02 J -36748848.56 -36748848.54 -36748848.51 0.1665 0.1636

Pluto -105325-08-26 20:09 J -36748294.67 -36748294.66 -36748294.59 0.0060 0.0060

Pluto -105325-11-22 22:04 J -36748206.67 -36748206.58 -36748206.47 0.0060 0.0052

Venus -105325-12-16 15:50 J -36748182.94 -36748182.84 -36748182.74 0.3619 0.2146

Mars -105324-01-26 03:21 J -36748142.51 -36748142.36 -36748142.21 0.1680 0.0271

Pluto -105324-02-18 23:31 J -36748118.64 -36748118.52 -36748118.37 0.0060 0.0044

Pluto -105324-05-18 00:43 J -36748030.60 -36748030.47 -36748030.29 0.0060 0.0038

Uranus -105324-06-14 00:57 J -36748003.49 -36748003.46 -36748003.40 0.0133 0.0127

Pluto -105324-08-14 02:38 J -36747942.56 -36747942.39 -36747942.21 0.0060 0.0030

Uranus -105324-09-10 05:16 J -36747915.36 -36747915.28 -36747915.19 0.0133 0.0109

Pluto -105324-11-10 03:50 J -36747854.51 -36747854.34 -36747854.14 0.0061 0.0023

Uranus -105324-12-07 09:21 J -36747827.21 -36747827.11 -36747827.00 0.0133 0.0092

Mars -105324-12-09 17:45 J -36747824.88 -36747824.76 -36747824.63 0.1838 0.0159

Pluto -105323-02-06 05:45 J -36747766.45 -36747766.26 -36747766.07 0.0061 0.0015

Neptune -105323-03-02 04:47 J -36747742.30 -36747742.30 -36747742.26 0.0088 0.0088

Jupiter -105323-03-04 10:04 J -36747740.19 -36747740.08 -36747739.96 0.0528 0.0328

Uranus -105323-03-05 13:26 J -36747739.06 -36747738.94 -36747738.81 0.0133 0.0074

Pluto -105323-05-05 06:57 J -36747678.39 -36747678.21 -36747678.00 0.0061 0.0008

Neptune -105323-05-29 07:11 J -36747654.24 -36747654.20 -36747654.13 0.0088 0.0083

Uranus -105323-06-01 17:31 J -36747650.90 -36747650.77 -36747650.63 0.0133 0.0057

Jupiter -105323-06-02 01:55 J -36747650.55 -36747650.42 -36747650.29 0.0531 0.0216

Pluto -105323-08-01 08:38 J -36747590.33 -36747590.14 -36747589.94 0.0061 0.0001

Neptune -105323-08-25 09:21 J -36747566.17 -36747566.11 -36747566.02 0.0088 0.0078

Uranus -105323-08-28 21:35 J -36747562.74 -36747562.60 -36747562.46 0.0133 0.0040

Pluto -105323-10-28 10:04 J -36747502.27 -36747502.08 -36747501.88 0.0061 0.0008

Neptune -105323-11-21 11:45 J -36747478.10 -36747478.01 -36747477.92 0.0088 0.0073

Uranus -105323-11-25 01:26 J -36747474.58 -36747474.44 -36747474.29 0.0133 0.0024

Pluto -105322-01-24 11:31 J -36747414.20 -36747414.02 -36747413.82 0.0061 0.0015

Neptune -105322-02-17 13:40 J -36747390.02 -36747389.93 -36747389.82 0.0088 0.0068

Uranus -105322-02-21 05:31 J -36747386.42 -36747386.27 -36747386.12 0.0133 0.0007

Pluto -105322-04-22 12:57 J -36747326.13 -36747325.96 -36747325.77 0.0061 0.0023

Neptune -105322-05-16 15:50 J -36747301.94 -36747301.84 -36747301.72 0.0088 0.0064

Uranus -105322-05-20 09:21 J -36747298.26 -36747298.11 -36747297.96 0.0133 0.0010

Pluto -105322-07-19 14:38 J -36747238.06 -36747237.89 -36747237.72 0.0061 0.0030

Neptune -105322-08-12 18:14 J -36747213.86 -36747213.74 -36747213.62 0.0088 0.0059

Uranus -105322-08-16 13:11 J -36747210.09 -36747209.95 -36747209.80 0.0133 0.0026

Pluto -105322-10-15 15:50 J -36747149.98 -36747149.84 -36747149.67 0.0061 0.0038

Neptune -105322-11-08 20:09 J -36747125.77 -36747125.66 -36747125.53 0.0088 0.0054

Uranus -105322-11-12 17:02 J -36747121.93 -36747121.79 -36747121.65 0.0133 0.0042

Pluto -105321-01-11 17:45 J -36747061.89 -36747061.76 -36747061.63 0.0061 0.0046

Neptune -105321-02-04 22:19 J -36747037.69 -36747037.57 -36747037.43 0.0088 0.0050

Uranus -105321-02-08 20:52 J -36747033.76 -36747033.63 -36747033.50 0.0132 0.0058

Pluto -105321-04-08 18:43 J -36746973.79 -36746973.72 -36746973.60 0.0061 0.0054

Neptune -105321-05-03 00:28 J -36746949.61 -36746949.48 -36746949.34 0.0088 0.0045

Uranus -105321-05-07 00:43 J -36746945.59 -36746945.47 -36746945.35 0.0132 0.0074

Pluto -105321-07-05 20:23 J -36746885.65 -36746885.65 -36746885.62 0.0061 0.0061

Neptune -105321-07-30 02:23 J -36746861.53 -36746861.40 -36746861.25 0.0088 0.0041

Uranus -105321-08-03 04:19 J -36746857.42 -36746857.32 -36746857.21 0.0132 0.0090

Neptune -105321-10-26 04:33 J -36746773.44 -36746773.31 -36746773.16 0.0088 0.0036

Uranus -105321-10-30 07:55 J -36746769.24 -36746769.17 -36746769.07 0.0132 0.0106

Neptune -105320-01-22 06:43 J -36746685.36 -36746685.22 -36746685.07 0.0088 0.0031

Uranus -105320-01-26 11:45 J -36746681.06 -36746681.01 -36746680.95 0.0132 0.0121

Neptune -105320-04-20 08:52 J -36746597.28 -36746597.13 -36746596.98 0.0088 0.0026

Neptune -105320-07-17 10:47 J -36746509.19 -36746509.05 -36746508.89 0.0088 0.0022

Neptune -105320-10-13 12:57 J -36746421.11 -36746420.96 -36746420.80 0.0088 0.0017

Neptune -105319-01-09 15:07 J -36746333.02 -36746332.87 -36746332.72 0.0088 0.0012

Neptune -105319-04-07 17:02 J -36746244.94 -36746244.79 -36746244.63 0.0088 0.0008

Venus -105319-07-02 12:28 J -36746159.01 -36746158.98 -36746158.95 0.3623 0.3506

Neptune -105319-07-04 18:57 J -36746156.86 -36746156.71 -36746156.55 0.0088 0.0005

Neptune -105319-09-30 21:07 J -36746068.77 -36746068.62 -36746068.47 0.0088 0.0001

Neptune -105319-12-27 23:02 J -36745980.69 -36745980.54 -36745980.38 0.0088 0.0006

Neptune -105318-03-26 00:57 J -36745892.61 -36745892.46 -36745892.30 0.0088 0.0011

Neptune -105318-06-22 03:07 J -36745804.52 -36745804.37 -36745804.22 0.0088 0.0015

Saturn -105318-07-24 14:38 J -36745771.98 -36745771.89 -36745771.81 0.0291 0.0245

Neptune -105318-09-18 04:47 J -36745716.44 -36745716.30 -36745716.14 0.0088 0.0020

Jupiter -105318-10-21 01:40 J -36745683.54 -36745683.43 -36745683.31 0.0499 0.0330

Saturn -105318-10-21 08:38 J -36745683.27 -36745683.14 -36745683.00 0.0291 0.0152

Neptune -105318-12-15 06:57 J -36745628.36 -36745628.21 -36745628.06 0.0088 0.0024

Saturn -105317-01-18 03:07 J -36745594.53 -36745594.37 -36745594.21 0.0290 0.0058

Jupiter -105317-01-18 18:57 J -36745593.86 -36745593.71 -36745593.56 0.0497 0.0159

Neptune -105317-03-12 08:38 J -36745540.27 -36745540.14 -36745539.98 0.0088 0.0029

Saturn -105317-04-15 21:50 J -36745505.75 -36745505.59 -36745505.43 0.0290 0.0038

Neptune -105317-06-08 10:47 J -36745452.19 -36745452.05 -36745451.91 0.0088 0.0032

Earth -105317-06-13 19:40 J -36745446.80 -36745446.68 -36745446.57 0.2702 0.0113

Moon -105317-06-13 20:23 J -36745446.77 -36745446.65 -36745446.54 0.2703 0.0154 *

Saturn -105317-07-13 16:47 J -36745416.94 -36745416.80 -36745416.65 0.0289 0.0135

Neptune -105317-09-04 12:43 J -36745364.11 -36745363.97 -36745363.83 0.0088 0.0037

Saturn -105317-10-10 12:28 J -36745328.08 -36745327.98 -36745327.89 0.0288 0.0233

Neptune -105317-12-01 14:23 J -36745276.02 -36745275.90 -36745275.75 0.0088 0.0042

Neptune -105316-02-27 16:19 J -36745187.94 -36745187.82 -36745187.68 0.0088 0.0046

Neptune -105316-05-26 18:28 J -36745099.85 -36745099.73 -36745099.60 0.0088 0.0050

Neptune -105316-08-22 20:09 J -36745011.77 -36745011.66 -36745011.53 0.0088 0.0054

Neptune -105316-11-18 22:04 J -36744923.68 -36744923.58 -36744923.46 0.0088 0.0059

Neptune -105315-02-14 23:59 J -36744835.60 -36744835.50 -36744835.39 0.0088 0.0063

Neptune -105315-05-14 01:55 J -36744747.51 -36744747.42 -36744747.32 0.0088 0.0067

Mars -105315-06-18 07:55 J -36744712.32 -36744712.17 -36744712.03 0.1676 0.0227

Neptune -105315-08-10 03:35 J -36744659.42 -36744659.35 -36744659.25 0.0088 0.0071

Neptune -105315-11-06 05:31 J -36744571.34 -36744571.27 -36744571.18 0.0088 0.0075

Neptune -105314-02-02 07:26 J -36744483.25 -36744483.19 -36744483.12 0.0088 0.0080

Neptune -105314-05-01 09:21 J -36744395.15 -36744395.11 -36744395.06 0.0088 0.0084

Mars -105314-05-01 23:59 J -36744394.62 -36744394.50 -36744394.37 0.1843 0.0390

Neptune -105314-07-28 11:16 J -36744307.04 -36744307.03 -36744307.02 0.0088 0.0088

Earth -105314-12-02 07:55 J -36744180.30 -36744180.17 -36744180.04 0.2644 0.1307

Moon -105314-12-02 09:07 J -36744180.25 -36744180.12 -36744179.98 0.2640 0.1109 *

Mars -105312-04-06 20:52 J -36743688.67 -36743688.63 -36743688.59 0.1823 0.1702

Jupiter -105312-12-21 10:33 J -36743430.12 -36743430.06 -36743430.00 0.0527 0.0479

Jupiter -105311-03-21 02:38 J -36743340.53 -36743340.39 -36743340.24 0.0530 0.0071

Jupiter -105306-08-09 03:50 J -36741373.41 -36741373.34 -36741373.27 0.0500 0.0442

Jupiter -105306-11-06 20:38 J -36741283.80 -36741283.64 -36741283.48 0.0497 0.0043

Mars -105306-11-08 12:43 J -36741282.10 -36741281.97 -36741281.84 0.1672 0.0694

Venus -105305-04-24 12:28 J -36741114.04 -36741113.98 -36741113.91 0.3774 0.3058

Mars -105305-09-21 06:14 J -36740964.35 -36740964.24 -36740964.13 0.1847 0.0943

Earth -105304-06-16 14:38 J -36740696.00 -36740695.89 -36740695.79 0.2706 0.1076

Moon -105304-06-16 15:07 J -36740695.97 -36740695.87 -36740695.76 0.2703 0.1073 *

Mars -105304-10-14 19:40 J -36740575.77 -36740575.68 -36740575.59 0.1689 0.1354

Mars -105303-08-28 04:19 J -36740258.42 -36740258.32 -36740258.23 0.1828 0.1222

Saturn -105303-11-19 05:59 J -36740175.33 -36740175.25 -36740175.16 0.0268 0.0223

Saturn -105302-02-15 19:40 J -36740086.80 -36740086.68 -36740086.55 0.0269 0.0152

Saturn -105302-05-15 09:21 J -36739998.26 -36739998.11 -36739997.97 0.0269 0.0082

Saturn -105302-08-11 22:33 J -36739909.71 -36739909.56 -36739909.41 0.0270 0.0011

Saturn -105302-11-08 11:45 J -36739821.16 -36739821.01 -36739820.87 0.0270 0.0058

Saturn -105301-02-05 00:28 J -36739732.60 -36739732.48 -36739732.35 0.0271 0.0127

Saturn -105301-05-03 13:11 J -36739644.05 -36739643.95 -36739643.85 0.0271 0.0194

Saturn -105301-07-31 01:40 J -36739555.46 -36739555.43 -36739555.38 0.0272 0.0261

Earth -105301-12-04 11:31 J -36739429.17 -36739429.02 -36739428.88 0.2639 0.0354

Moon -105301-12-04 11:45 J -36739429.16 -36739429.01 -36739428.86 0.2633 0.0287 *

Venus -105300-11-08 08:38 J -36739090.24 -36739090.14 -36739090.03 0.3770 0.1622

Jupiter -105299-01-07 04:47 J -36739030.44 -36739030.30 -36739030.16 0.0530 0.0062

Jupiter -105299-04-06 19:40 J -36738940.74 -36738940.68 -36738940.61 0.0532 0.0474

Moon -105297-06-09 10:04 J -36738146.16 -36738146.08 -36738146.00 0.2700 0.1900

Earth -105297-06-09 10:19 J -36738146.15 -36738146.07 -36738145.99 0.2692 0.1915 *

Mars -105296-03-30 17:45 J -36737851.86 -36737851.76 -36737851.65 0.1669 0.1155

Mars -105295-02-11 11:59 J -36737534.07 -36737534.00 -36737533.92 0.1852 0.1513

Mars -105294-03-06 23:31 J -36737145.65 -36737145.52 -36737145.39 0.1684 0.0827

Venus -105294-05-25 05:02 J -36737066.40 -36737066.29 -36737066.17 0.3766 0.0190

Jupiter -105294-08-25 21:50 J -36736973.74 -36736973.59 -36736973.43 0.0498 0.0080

Jupiter -105294-11-23 15:50 J -36736883.92 -36736883.84 -36736883.75 0.0495 0.0416

Mars -105293-01-18 11:16 J -36736828.15 -36736828.03 -36736827.92 0.1833 0.0724

Earth -105291-06-19 09:35 J -36735945.17 -36735945.10 -36735945.03 0.2711 0.2123

Moon -105291-06-19 09:50 J -36735945.16 -36735945.09 -36735945.03 0.2704 0.2198 *

Venus -105290-05-25 01:40 J -36735605.48 -36735605.43 -36735605.38 0.3604 0.3266

Venus -105289-12-08 01:55 J -36735042.53 -36735042.42 -36735042.31 0.3762 0.1418

Saturn -105289-12-10 12:57 J -36735039.99 -36735039.96 -36735039.92 0.0292 0.0281

Saturn -105288-03-09 06:57 J -36734951.33 -36734951.21 -36734951.09 0.0291 0.0190

Saturn -105288-06-06 01:11 J -36734862.60 -36734862.45 -36734862.30 0.0291 0.0096

Saturn -105288-09-02 19:40 J -36734773.84 -36734773.68 -36734773.51 0.0290 0.0008

Jupiter -105288-10-26 06:57 J -36734720.34 -36734720.21 -36734720.07 0.0529 0.0189

Saturn -105288-11-30 14:38 J -36734685.04 -36734684.89 -36734684.73 0.0290 0.0096

Moon -105288-12-07 14:38 J -36734677.99 -36734677.89 -36734677.80 0.2627 0.2033

Earth -105288-12-07 15:07 J -36734677.96 -36734677.87 -36734677.78 0.2634 0.2029 *

Jupiter -105287-01-23 22:33 J -36734630.67 -36734630.56 -36734630.46 0.0532 0.0352

Saturn -105287-02-27 10:04 J -36734596.20 -36734596.08 -36734595.96 0.0289 0.0193

Mars -105287-08-20 23:31 J -36734421.56 -36734421.52 -36734421.48 0.1665 0.1590

Mars -105285-07-27 03:35 J -36733715.50 -36733715.35 -36733715.21 0.1680 0.0316

Venus -105285-12-07 23:31 J -36733581.63 -36733581.52 -36733581.41 0.3608 0.1717

Mars -105284-06-09 17:59 J -36733397.88 -36733397.75 -36733397.62 0.1838 0.0205

Earth -105284-06-12 05:31 J -36733395.38 -36733395.27 -36733395.16 0.2697 0.0837

Moon -105284-06-12 05:59 J -36733395.36 -36733395.25 -36733395.14 0.2702 0.0785 *

Venus -105283-06-23 22:47 J -36733018.62 -36733018.55 -36733018.48 0.3758 0.3015

Jupiter -105282-06-13 23:16 J -36732663.67 -36732663.53 -36732663.39 0.0498 0.0200

Jupiter -105282-09-11 17:02 J -36732573.92 -36732573.79 -36732573.66 0.0496 0.0292

Earth -105281-11-29 10:47 J -36732129.07 -36732129.05 -36732129.02 0.2648 0.2601

Moon -105281-11-29 12:14 J -36732129.04 -36732128.99 -36732128.94 0.2647 0.2465 *

Uranus -105280-11-09 22:47 J -36731783.60 -36731783.55 -36731783.49 0.0145 0.0137

Uranus -105279-02-06 04:47 J -36731695.40 -36731695.30 -36731695.19 0.0146 0.0114

Uranus -105279-05-05 11:02 J -36731607.17 -36731607.04 -36731606.91 0.0146 0.0090

Venus -105279-06-23 20:52 J -36731557.76 -36731557.63 -36731557.50 0.3612 0.0213

Uranus -105279-08-01 17:02 J -36731518.93 -36731518.79 -36731518.64 0.0146 0.0066

Uranus -105279-10-28 23:16 J -36731430.68 -36731430.53 -36731430.36 0.0146 0.0042

Uranus -105278-01-25 05:45 J -36731342.43 -36731342.26 -36731342.10 0.0146 0.0017

Uranus -105278-04-23 11:59 J -36731254.16 -36731254.00 -36731253.83 0.0146 0.0008

Uranus -105278-07-20 18:28 J -36731165.89 -36731165.73 -36731165.57 0.0146 0.0033

Uranus -105278-10-17 00:43 J -36731077.61 -36731077.47 -36731077.30 0.0146 0.0059

Uranus -105277-01-13 07:26 J -36730989.32 -36730989.19 -36730989.05 0.0146 0.0084

Uranus -105277-04-10 13:55 J -36730901.02 -36730900.92 -36730900.80 0.0147 0.0110

Uranus -105277-07-07 20:38 J -36730812.70 -36730812.64 -36730812.57 0.0147 0.0136

Jupiter -105276-08-14 08:52 J -36730410.24 -36730410.13 -36730410.01 0.0528 0.0320

Jupiter -105276-11-12 00:43 J -36730320.60 -36730320.47 -36730320.34 0.0531 0.0225

Mars -105276-12-17 08:09 J -36730285.30 -36730285.16 -36730285.01 0.1676 0.0178

Mars -105275-10-31 00:14 J -36729967.61 -36729967.49 -36729967.36 0.1843 0.0336

Venus -105273-01-07 17:59 J -36729533.87 -36729533.75 -36729533.64 0.3616 0.1230

Saturn -105273-04-07 06:28 J -36729443.28 -36729443.23 -36729443.18 0.0268 0.0251

Saturn -105273-07-04 20:09 J -36729354.77 -36729354.66 -36729354.55 0.0269 0.0179

Saturn -105273-10-01 09:50 J -36729266.23 -36729266.09 -36729265.95 0.0269 0.0108

Mars -105273-10-05 21:07 J -36729261.65 -36729261.62 -36729261.59 0.1823 0.1750

Saturn -105273-12-28 23:02 J -36729177.68 -36729177.54 -36729177.39 0.0270 0.0039

Saturn -105272-03-27 12:14 J -36729089.13 -36729088.99 -36729088.84 0.0270 0.0032

Saturn -105272-06-24 01:11 J -36729000.58 -36729000.45 -36729000.31 0.0271 0.0101

Saturn -105272-09-20 14:09 J -36728912.02 -36728911.91 -36728911.80 0.0271 0.0169

Saturn -105272-12-18 02:38 J -36728823.45 -36728823.39 -36728823.31 0.0272 0.0236

Earth -105271-06-15 00:28 J -36728644.59 -36728644.48 -36728644.36 0.2702 0.0241

Moon -105271-06-15 01:26 J -36728644.56 -36728644.44 -36728644.33 0.2704 0.0278 *

Jupiter -105270-04-02 00:28 J -36728353.60 -36728353.48 -36728353.36 0.0499 0.0322

Jupiter -105270-06-30 17:45 J -36728263.91 -36728263.76 -36728263.61 0.0497 0.0166

Venus -105268-07-23 14:38 J -36727509.97 -36727509.89 -36727509.80 0.3620 0.2620

Earth -105268-12-02 14:09 J -36727378.05 -36727377.91 -36727377.78 0.2643 0.0981

Moon -105268-12-02 15:07 J -36727378.01 -36727377.87 -36727377.73 0.2639 0.0966 *

Mars -105266-05-09 12:57 J -36726855.09 -36726854.96 -36726854.82 0.1672 0.0649

Mars -105265-03-22 06:28 J -36726537.34 -36726537.23 -36726537.12 0.1847 0.0892

Mars -105264-04-14 20:09 J -36726148.74 -36726148.66 -36726148.58 0.1689 0.1408

Jupiter -105264-06-02 10:19 J -36726100.14 -36726100.07 -36726099.99 0.0527 0.0458

Jupiter -105264-08-31 02:38 J -36726010.53 -36726010.39 -36726010.25 0.0530 0.0091

Mars -105263-02-26 04:19 J -36725831.41 -36725831.32 -36725831.23 0.1828 0.1267

Saturn -105259-07-27 06:57 J -36724219.31 -36724219.21 -36724219.11 0.0291 0.0218

Saturn -105259-10-24 01:11 J -36724130.60 -36724130.45 -36724130.31 0.0291 0.0126

Jupiter -105258-01-19 02:09 J -36724043.47 -36724043.41 -36724043.33 0.0500 0.0437

Saturn -105258-01-20 19:40 J -36724041.84 -36724041.68 -36724041.52 0.0290 0.0031

Jupiter -105258-04-18 19:11 J -36723953.85 -36723953.70 -36723953.54 0.0497 0.0049

Saturn -105258-04-19 14:23 J -36723953.06 -36723952.90 -36723952.74 0.0289 0.0066

Earth -105258-06-17 19:40 J -36723893.78 -36723893.68 -36723893.58 0.2707 0.1297

Moon -105258-06-17 20:09 J -36723893.76 -36723893.66 -36723893.56 0.2702 0.1406 *

Saturn -105258-07-17 09:35 J -36723864.23 -36723864.10 -36723863.96 0.0289 0.0163

Saturn -105258-10-14 05:16 J -36723775.35 -36723775.28 -36723775.21 0.0288 0.0261

Mars -105257-09-28 18:14 J -36723424.84 -36723424.74 -36723424.63 0.1669 0.1102

Mars -105256-08-12 12:14 J -36723107.07 -36723106.99 -36723106.91 0.1852 0.1464

Mars -105255-09-04 23:59 J -36722718.63 -36722718.50 -36722718.38 0.1684 0.0881

Moon -105255-12-05 17:31 J -36722626.91 -36722626.77 -36722626.63 0.2631 0.0769

Earth -105255-12-05 17:31 J -36722626.91 -36722626.77 -36722626.62 0.2638 0.0678 *

Mars -105254-07-19 11:16 J -36722401.14 -36722401.03 -36722400.91 0.1833 0.0773

Jupiter -105252-06-19 03:21 J -36721700.51 -36721700.36 -36721700.22 0.0529 0.0058

Jupiter -105252-09-16 18:14 J -36721610.80 -36721610.74 -36721610.68 0.0532 0.0477

Moon -105251-06-10 15:21 J -36721343.95 -36721343.86 -36721343.78 0.2700 0.1733

Earth -105251-06-10 15:21 J -36721343.95 -36721343.86 -36721343.77 0.2693 0.1690 *

Venus -105249-11-29 11:16 J -36720441.12 -36720441.03 -36720440.95 0.3773 0.2565

Mars -105247-02-18 23:45 J -36719994.56 -36719994.51 -36719994.46 0.1665 0.1546

Jupiter -105246-02-04 20:52 J -36719643.78 -36719643.63 -36719643.47 0.0498 0.0069

Jupiter -105246-05-05 15:07 J -36719553.95 -36719553.87 -36719553.79 0.0496 0.0428

Mars -105245-01-26 04:04 J -36719288.47 -36719288.33 -36719288.18 0.1680 0.0372

Moon -105245-06-19 14:38 J -36719142.95 -36719142.89 -36719142.83 0.2705 0.2282

Earth -105245-06-19 14:23 J -36719142.95 -36719142.90 -36719142.84 0.2712 0.2345 *

Mars -105245-12-08 17:59 J -36718970.87 -36718970.75 -36718970.62 0.1838 0.0249

Saturn -105244-11-21 22:33 J -36718622.66 -36718622.56 -36718622.46 0.0269 0.0197

Saturn -105243-02-18 12:14 J -36718534.12 -36718533.99 -36718533.86 0.0269 0.0126

Saturn -105243-05-18 01:40 J -36718445.58 -36718445.43 -36718445.29 0.0270 0.0055

Venus -105243-06-15 07:26 J -36718417.30 -36718417.19 -36718417.08 0.3769 0.1111

Saturn -105243-08-14 14:52 J -36718357.03 -36718356.88 -36718356.73 0.0270 0.0014

Saturn -105243-11-11 03:50 J -36718268.48 -36718268.34 -36718268.20 0.0271 0.0084

Saturn -105242-02-07 16:47 J -36718179.92 -36718179.80 -36718179.68 0.0271 0.0152

Saturn -105242-05-07 05:16 J -36718091.35 -36718091.28 -36718091.19 0.0272 0.0220

Moon -105242-12-08 20:38 J -36717875.72 -36717875.64 -36717875.56 0.2628 0.2219

Earth -105242-12-08 21:21 J -36717875.67 -36717875.61 -36717875.55 0.2633 0.2377 *

Neptune -105241-11-12 20:38 J -36717535.65 -36717535.64 -36717535.61 0.0089 0.0088

Neptune -105240-02-08 23:02 J -36717447.59 -36717447.54 -36717447.49 0.0089 0.0083

Jupiter -105240-04-07 05:02 J -36717390.42 -36717390.29 -36717390.15 0.0529 0.0192

Neptune -105240-05-08 00:57 J -36717359.52 -36717359.46 -36717359.38 0.0089 0.0079

Uranus -105240-07-04 08:38 J -36717302.20 -36717302.14 -36717302.07 0.0133 0.0121

Jupiter -105240-07-05 20:38 J -36717300.75 -36717300.64 -36717300.54 0.0531 0.0349

Neptune -105240-08-04 03:21 J -36717271.44 -36717271.36 -36717271.27 0.0089 0.0074

Uranus -105240-09-30 12:43 J -36717214.05 -36717213.97 -36717213.87 0.0133 0.0103

Neptune -105240-10-31 05:16 J -36717183.36 -36717183.28 -36717183.17 0.0089 0.0070

Uranus -105240-12-27 16:47 J -36717125.90 -36717125.80 -36717125.68 0.0133 0.0086

Neptune -105239-01-27 07:40 J -36717095.28 -36717095.18 -36717095.07 0.0089 0.0065

Uranus -105239-03-25 20:52 J -36717037.75 -36717037.63 -36717037.49 0.0133 0.0069

Neptune -105239-04-25 09:35 J -36717007.20 -36717007.10 -36717006.97 0.0089 0.0061

Uranus -105239-06-22 00:57 J -36716949.59 -36716949.46 -36716949.31 0.0133 0.0052

Neptune -105239-07-22 11:59 J -36716919.12 -36716919.00 -36716918.87 0.0089 0.0056

Uranus -105239-09-18 05:02 J -36716861.43 -36716861.29 -36716861.14 0.0133 0.0035

Neptune -105239-10-18 14:09 J -36716831.03 -36716830.91 -36716830.77 0.0089 0.0052

Uranus -105239-12-15 09:07 J -36716773.27 -36716773.12 -36716772.97 0.0133 0.0018

Neptune -105238-01-14 16:19 J -36716742.94 -36716742.82 -36716742.67 0.0089 0.0047

Uranus -105238-03-13 12:57 J -36716685.10 -36716684.96 -36716684.81 0.0133 0.0004

Neptune -105238-04-12 18:43 J -36716654.85 -36716654.72 -36716654.57 0.0089 0.0042

Uranus -105238-06-09 16:47 J -36716596.94 -36716596.80 -36716596.65 0.0133 0.0016

Earth -105238-06-13 10:33 J -36716593.18 -36716593.06 -36716592.95 0.2698 0.0623

Moon -105238-06-13 11:02 J -36716593.15 -36716593.04 -36716592.92 0.2702 0.0535 *

Neptune -105238-07-09 20:52 J -36716566.77 -36716566.63 -36716566.48 0.0089 0.0038

Uranus -105238-09-05 20:52 J -36716508.78 -36716508.63 -36716508.49 0.0133 0.0032

Neptune -105238-10-05 23:16 J -36716478.67 -36716478.53 -36716478.38 0.0089 0.0033

Uranus -105238-12-03 00:43 J -36716420.61 -36716420.47 -36716420.34 0.0133 0.0048

Venus -105238-12-30 03:50 J -36716393.45 -36716393.34 -36716393.22 0.3765 0.0409

Neptune -105237-01-02 01:40 J -36716390.58 -36716390.43 -36716390.28 0.0089 0.0028

Uranus -105237-02-29 04:19 J -36716332.44 -36716332.32 -36716332.19 0.0132 0.0064

Neptune -105237-03-30 03:50 J -36716302.49 -36716302.34 -36716302.18 0.0089 0.0023

Uranus -105237-05-27 08:09 J -36716244.27 -36716244.16 -36716244.04 0.0132 0.0080

Neptune -105237-06-26 06:14 J -36716214.40 -36716214.24 -36716214.08 0.0089 0.0019

Uranus -105237-08-23 11:45 J -36716156.10 -36716156.01 -36716155.90 0.0132 0.0096

Neptune -105237-09-22 08:23 J -36716126.30 -36716126.15 -36716125.98 0.0089 0.0014

Uranus -105237-11-19 15:21 J -36716067.92 -36716067.86 -36716067.77 0.0132 0.0112

Neptune -105237-12-19 10:47 J -36716038.21 -36716038.05 -36716037.88 0.0089 0.0009

Uranus -105236-02-15 19:11 J -36715979.73 -36715979.70 -36715979.65 0.0132 0.0127

Neptune -105236-03-17 13:11 J -36715950.11 -36715949.95 -36715949.79 0.0089 0.0004

Neptune -105236-06-13 15:35 J -36715862.01 -36715861.85 -36715861.69 0.0089 0.0001

Mars -105236-06-17 08:23 J -36715858.29 -36715858.15 -36715858.00 0.1676 0.0133

Neptune -105236-09-09 17:59 J -36715773.91 -36715773.75 -36715773.59 0.0089 0.0006

Neptune -105236-12-06 20:09 J -36715685.81 -36715685.66 -36715685.49 0.0089 0.0011

Neptune -105235-03-04 22:33 J -36715597.71 -36715597.56 -36715597.39 0.0089 0.0016

Mars -105235-05-01 00:28 J -36715540.61 -36715540.48 -36715540.35 0.1843 0.0287

Neptune -105235-06-01 01:11 J -36715509.61 -36715509.45 -36715509.29 0.0089 0.0020

Neptune -105235-08-28 03:35 J -36715421.51 -36715421.35 -36715421.19 0.0089 0.0025

Jupiter -105235-11-23 22:19 J -36715333.72 -36715333.57 -36715333.43 0.0498 0.0190

Neptune -105235-11-24 05:59 J -36715333.41 -36715333.25 -36715333.10 0.0089 0.0030

Earth -105235-11-30 17:02 J -36715326.87 -36715326.79 -36715326.72 0.2648 0.2284

Moon -105235-11-30 18:28 J -36715326.82 -36715326.73 -36715326.65 0.2646 0.2160 *

Neptune -105234-02-20 08:23 J -36715245.30 -36715245.15 -36715245.00 0.0089 0.0035

Jupiter -105234-02-21 15:50 J -36715243.96 -36715243.84 -36715243.71 0.0496 0.0303

Neptune -105234-05-19 10:47 J -36715157.19 -36715157.05 -36715156.90 0.0089 0.0040

Neptune -105234-08-15 13:11 J -36715069.09 -36715068.95 -36715068.80 0.0089 0.0045

Neptune -105234-11-11 15:35 J -36714980.98 -36714980.85 -36714980.71 0.0089 0.0050

Venus -105234-12-30 00:43 J -36714932.55 -36714932.47 -36714932.38 0.3605 0.2727

Neptune -105233-02-07 18:14 J -36714892.87 -36714892.74 -36714892.61 0.0089 0.0055

Mars -105233-04-05 21:07 J -36714834.64 -36714834.62 -36714834.60 0.1823 0.1789

Neptune -105233-05-05 20:38 J -36714804.76 -36714804.64 -36714804.51 0.0089 0.0060

Neptune -105233-08-01 23:16 J -36714716.64 -36714716.53 -36714716.42 0.0089 0.0065

Neptune -105233-10-29 01:40 J -36714628.53 -36714628.43 -36714628.33 0.0089 0.0070

Neptune -105232-01-25 04:19 J -36714540.41 -36714540.32 -36714540.24 0.0089 0.0075

Neptune -105232-04-23 06:28 J -36714452.28 -36714452.23 -36714452.15 0.0089 0.0081

Venus -105232-07-15 00:43 J -36714369.57 -36714369.47 -36714369.37 0.3761 0.1944

Neptune -105232-07-20 08:52 J -36714364.15 -36714364.13 -36714364.07 0.0089 0.0086

Pluto -105231-03-21 11:16 J -36714120.08 -36714120.03 -36714119.96 0.0085 0.0075

Pluto -105231-06-17 12:43 J -36714032.05 -36714031.97 -36714031.87 0.0085 0.0061

Pluto -105231-09-13 13:55 J -36713944.02 -36713943.92 -36713943.80 0.0085 0.0047

Pluto -105231-12-10 15:21 J -36713855.98 -36713855.86 -36713855.74 0.0084 0.0033

Pluto -105230-03-08 16:33 J -36713767.94 -36713767.81 -36713767.68 0.0084 0.0019

Pluto -105230-06-04 17:45 J -36713679.89 -36713679.76 -36713679.62 0.0084 0.0006

Pluto -105230-08-31 19:11 J -36713591.83 -36713591.70 -36713591.57 0.0084 0.0008

Pluto -105230-11-27 20:09 J -36713503.78 -36713503.66 -36713503.52 0.0084 0.0022

Saturn -105230-12-14 05:45 J -36713487.33 -36713487.26 -36713487.18 0.0292 0.0253

Pluto -105229-02-23 21:35 J -36713415.72 -36713415.60 -36713415.48 0.0084 0.0035

Saturn -105229-03-11 23:45 J -36713398.64 -36713398.51 -36713398.37 0.0291 0.0161

Pluto -105229-05-21 22:33 J -36713327.66 -36713327.56 -36713327.44 0.0084 0.0049

Saturn -105229-06-08 18:14 J -36713309.90 -36713309.74 -36713309.59 0.0291 0.0067

Pluto -105229-08-17 23:45 J -36713239.59 -36713239.51 -36713239.41 0.0084 0.0062

Saturn -105229-09-05 12:57 J -36713221.13 -36713220.96 -36713220.80 0.0290 0.0029

Pluto -105229-11-14 01:11 J -36713151.50 -36713151.45 -36713151.39 0.0083 0.0075

Saturn -105229-12-03 07:55 J -36713132.32 -36713132.17 -36713132.02 0.0289 0.0125

Jupiter -105228-01-24 07:11 J -36713080.31 -36713080.20 -36713080.08 0.0528 0.0320

Saturn -105228-03-02 03:07 J -36713043.47 -36713043.37 -36713043.26 0.0289 0.0223

Jupiter -105228-04-23 23:02 J -36712990.67 -36712990.54 -36712990.41 0.0531 0.0226

Venus -105228-07-14 22:33 J -36712908.68 -36712908.56 -36712908.44 0.3609 0.1189

Mars -105227-11-07 13:26 J -36712428.08 -36712427.94 -36712427.80 0.1673 0.0597

Venus -105226-01-28 21:50 J -36712345.63 -36712345.59 -36712345.55 0.3756 0.3554

Mars -105226-09-21 06:43 J -36712110.33 -36712110.22 -36712110.11 0.1847 0.0836

Earth -105225-06-15 05:31 J -36711842.38 -36711842.27 -36711842.16 0.2703 0.0452

Moon -105225-06-15 06:14 J -36711842.35 -36711842.24 -36711842.13 0.2702 0.0551 *

Mars -105225-10-13 20:23 J -36711721.72 -36711721.65 -36711721.57 0.1689 0.1457

Mars -105224-08-27 04:33 J -36711404.39 -36711404.31 -36711404.22 0.1828 0.1318

Jupiter -105223-09-11 23:45 J -36711023.63 -36711023.51 -36711023.39 0.0499 0.0308

Jupiter -105223-12-10 17:02 J -36710933.94 -36710933.79 -36710933.64 0.0496 0.0180

Venus -105222-01-28 19:40 J -36710884.80 -36710884.68 -36710884.55 0.3613 0.0301

Earth -105222-12-03 20:09 J -36710575.80 -36710575.66 -36710575.52 0.2643 0.0655

Moon -105222-12-03 20:52 J -36710575.77 -36710575.63 -36710575.48 0.2638 0.0536 *

Moon -105218-06-09 00:28 J -36709292.49 -36709292.48 -36709292.47 0.2695 0.2675

Earth -105218-06-09 00:57 J -36709292.49 -36709292.46 -36709292.43 0.2689 0.2554 *

Mars -105217-03-29 18:43 J -36708997.83 -36708997.72 -36708997.61 0.1669 0.1055

Venus -105217-08-13 16:47 J -36708860.91 -36708860.80 -36708860.69 0.3617 0.1713

Jupiter -105217-11-12 09:07 J -36708770.19 -36708770.12 -36708770.05 0.0527 0.0451

Jupiter -105216-02-10 01:26 J -36708680.59 -36708680.44 -36708680.30 0.0530 0.0098

Mars -105216-02-10 12:28 J -36708680.06 -36708679.98 -36708679.90 0.1852 0.1415

Mars -105215-03-06 00:28 J -36708291.61 -36708291.48 -36708291.36 0.1685 0.0935

Mars -105214-01-17 11:31 J -36707974.13 -36707974.02 -36707973.91 0.1833 0.0816

Saturn -105214-04-10 23:02 J -36707890.62 -36707890.54 -36707890.46 0.0269 0.0224

Saturn -105214-07-08 12:43 J -36707802.09 -36707801.97 -36707801.84 0.0269 0.0153

Saturn -105214-10-05 02:09 J -36707713.55 -36707713.41 -36707713.26 0.0270 0.0082

Saturn -105213-01-01 15:35 J -36707625.00 -36707624.85 -36707624.70 0.0270 0.0012

Saturn -105213-03-30 04:47 J -36707536.45 -36707536.30 -36707536.16 0.0271 0.0058

Saturn -105213-06-26 17:45 J -36707447.89 -36707447.76 -36707447.63 0.0271 0.0127

Saturn -105213-09-23 06:14 J -36707359.33 -36707359.24 -36707359.13 0.0272 0.0195

Saturn -105213-12-20 18:57 J -36707270.74 -36707270.71 -36707270.67 0.0272 0.0261

Earth -105212-06-18 00:28 J -36707091.57 -36707091.48 -36707091.38 0.2707 0.1513

Moon -105212-06-18 01:11 J -36707091.55 -36707091.45 -36707091.36 0.2702 0.1506 *

Venus -105211-02-27 13:26 J -36706837.00 -36706836.94 -36706836.88 0.3621 0.3081

Jupiter -105211-07-01 00:57 J -36706713.54 -36706713.46 -36706713.38 0.0500 0.0430

Jupiter -105211-09-28 17:45 J -36706623.91 -36706623.76 -36706623.60 0.0497 0.0055

Moon -105209-12-05 23:45 J -36705824.65 -36705824.51 -36705824.37 0.2631 0.0916

Earth -105209-12-05 23:45 J -36705824.65 -36705824.51 -36705824.37 0.2637 0.1015 *

Mars -105208-08-19 23:59 J -36705567.56 -36705567.50 -36705567.44 0.1665 0.1500

Mars -105206-07-27 04:33 J -36704861.46 -36704861.31 -36704861.17 0.1680 0.0423

Mars -105205-06-08 18:14 J -36704543.87 -36704543.74 -36704543.62 0.1838 0.0298

Earth -105205-06-10 20:09 J -36704541.75 -36704541.66 -36704541.56 0.2694 0.1473

Moon -105205-06-10 20:23 J -36704541.74 -36704541.65 -36704541.55 0.2700 0.1399 *

Jupiter -105205-11-29 03:07 J -36704370.52 -36704370.37 -36704370.23 0.0529 0.0041

Jupiter -105204-02-26 17:59 J -36704280.80 -36704280.75 -36704280.70 0.0532 0.0495

Saturn -105200-05-02 05:59 J -36702755.29 -36702755.25 -36702755.21 0.0292 0.0281

Saturn -105200-07-29 23:59 J -36702666.62 -36702666.50 -36702666.38 0.0291 0.0189

Saturn -105200-10-26 18:14 J -36702577.89 -36702577.74 -36702577.59 0.0290 0.0096

Saturn -105199-01-23 12:43 J -36702489.13 -36702488.97 -36702488.80 0.0290 0.0005

Saturn -105199-04-22 07:40 J -36702400.33 -36702400.18 -36702400.02 0.0289 0.0096

Moon -105199-06-20 19:26 J -36702340.72 -36702340.69 -36702340.67 0.2705 0.2596

Earth -105199-06-20 19:26 J -36702340.72 -36702340.69 -36702340.65 0.2712 0.2555 *

Jupiter -105199-07-17 19:26 J -36702313.85 -36702313.69 -36702313.54 0.0498 0.0065

Saturn -105199-07-20 02:52 J -36702311.50 -36702311.38 -36702311.25 0.0289 0.0193

Jupiter -105199-10-15 13:26 J -36702224.01 -36702223.94 -36702223.86 0.0496 0.0432

Venus -105198-12-21 13:55 J -36701791.96 -36701791.92 -36701791.88 0.3776 0.3476

Mars -105197-12-16 09:07 J -36701431.27 -36701431.12 -36701430.97 0.1676 0.0075

Mars -105196-10-30 00:43 J -36701113.60 -36701113.47 -36701113.35 0.1843 0.0238

Uranus -105196-11-30 06:57 J -36701082.29 -36701082.21 -36701082.14 0.0145 0.0129

Uranus -105195-02-26 12:43 J -36700994.07 -36700993.97 -36700993.85 0.0146 0.0106

Uranus -105195-05-25 18:57 J -36700905.84 -36700905.71 -36700905.57 0.0146 0.0082

Uranus -105195-08-22 01:11 J -36700817.60 -36700817.45 -36700817.30 0.0146 0.0058

Uranus -105195-11-18 07:26 J -36700729.35 -36700729.19 -36700729.03 0.0146 0.0033

Uranus -105194-02-14 13:40 J -36700641.09 -36700640.93 -36700640.76 0.0146 0.0010

Uranus -105194-05-13 20:09 J -36700552.83 -36700552.66 -36700552.49 0.0146 0.0016

Uranus -105194-08-10 02:23 J -36700464.55 -36700464.40 -36700464.23 0.0146 0.0041

Uranus -105194-11-06 08:52 J -36700376.27 -36700376.13 -36700375.97 0.0146 0.0067

Uranus -105193-02-02 15:21 J -36700287.98 -36700287.86 -36700287.72 0.0146 0.0092

Uranus -105193-04-30 22:04 J -36700199.67 -36700199.58 -36700199.47 0.0147 0.0118

Uranus -105193-07-28 04:47 J -36700111.32 -36700111.30 -36700111.27 0.0147 0.0144

Jupiter -105193-09-17 03:35 J -36700060.49 -36700060.35 -36700060.21 0.0528 0.0187

Jupiter -105193-12-15 18:57 J -36699970.81 -36699970.71 -36699970.60 0.0531 0.0352

Earth -105192-06-13 15:21 J -36699790.97 -36699790.86 -36699790.74 0.2698 0.0401

Moon -105192-06-13 16:04 J -36699790.94 -36699790.83 -36699790.71 0.2703 0.0361 *

Venus -105192-07-06 09:50 J -36699768.19 -36699768.09 -36699767.99 0.3772 0.2070

Earth -105189-11-30 23:02 J -36698524.64 -36698524.54 -36698524.44 0.2647 0.1958

Moon -105189-12-01 00:28 J -36698524.58 -36698524.48 -36698524.38 0.2645 0.1851 *

Jupiter -105187-05-05 21:07 J -36698003.77 -36698003.62 -36698003.48 0.0499 0.0182

Mars -105187-05-08 13:55 J -36698001.06 -36698000.92 -36698000.79 0.1672 0.0551

Jupiter -105187-08-03 14:38 J -36697914.01 -36697913.89 -36697913.76 0.0496 0.0312

Venus -105186-01-20 06:14 J -36697744.36 -36697744.24 -36697744.13 0.3768 0.0612

Mars -105186-03-22 06:43 J -36697683.34 -36697683.22 -36697683.10 0.1848 0.0795

Mars -105185-04-13 21:07 J -36697294.69 -36697294.62 -36697294.56 0.1689 0.1514

Saturn -105185-08-28 01:40 J -36697158.50 -36697158.43 -36697158.37 0.0269 0.0241

Saturn -105185-11-24 15:21 J -36697069.98 -36697069.86 -36697069.74 0.0269 0.0169

Saturn -105184-02-21 05:02 J -36696981.43 -36696981.29 -36696981.15 0.0269 0.0099

Mars -105184-02-25 04:33 J -36696977.39 -36696977.31 -36696977.23 0.1828 0.1357

Saturn -105184-05-20 18:14 J -36696892.88 -36696892.74 -36696892.59 0.0270 0.0029

Saturn -105184-08-17 07:26 J -36696804.33 -36696804.19 -36696804.04 0.0270 0.0042

Saturn -105184-11-13 20:23 J -36696715.78 -36696715.65 -36696715.51 0.0271 0.0111

Saturn -105183-02-10 09:21 J -36696627.22 -36696627.11 -36696627.00 0.0271 0.0179

Saturn -105183-05-09 21:50 J -36696538.64 -36696538.59 -36696538.52 0.0272 0.0246

Jupiter -105181-07-06 05:16 J -36695750.40 -36695750.28 -36695750.17 0.0528 0.0323

Venus -105181-08-05 02:38 J -36695720.50 -36695720.39 -36695720.27 0.3764 0.0909

Jupiter -105181-10-03 21:07 J -36695660.75 -36695660.62 -36695660.49 0.0531 0.0221

Earth -105179-06-16 10:33 J -36695040.17 -36695040.06 -36695039.95 0.2703 0.0674

Moon -105179-06-16 11:16 J -36695040.14 -36695040.03 -36695039.92 0.2701 0.0749 *

Mars -105178-09-28 18:57 J -36694570.83 -36694570.71 -36694570.60 0.1669 0.1012

Venus -105177-08-04 23:59 J -36694259.60 -36694259.50 -36694259.40 0.3606 0.2183

Mars -105177-08-11 12:43 J -36694253.06 -36694252.97 -36694252.88 0.1852 0.1359

Mars -105176-09-04 00:43 J -36693864.59 -36693864.47 -36693864.35 0.1684 0.0982

Earth -105176-12-04 02:23 J -36693773.55 -36693773.40 -36693773.26 0.2642 0.0331

Moon -105176-12-04 02:52 J -36693773.53 -36693773.38 -36693773.23 0.2636 0.0303 *

Venus -105175-02-18 23:31 J -36693696.60 -36693696.52 -36693696.43 0.3760 0.2483

Jupiter -105175-02-21 22:19 J -36693693.69 -36693693.57 -36693693.44 0.0499 0.0302

Jupiter -105175-05-22 15:35 J -36693603.99 -36693603.85 -36693603.70 0.0497 0.0187

Mars -105175-07-18 11:31 J -36693547.13 -36693547.02 -36693546.91 0.1833 0.0863

Moon -105172-06-09 05:31 J -36692490.32 -36692490.27 -36692490.21 0.2696 0.2313

Earth -105172-06-09 05:59 J -36692490.31 -36692490.25 -36692490.20 0.2689 0.2336 *

Venus -105171-02-18 21:35 J -36692235.73 -36692235.60 -36692235.48 0.3610 0.0682

Saturn -105171-12-16 23:31 J -36691934.62 -36691934.52 -36691934.41 0.0291 0.0220

Saturn -105170-03-15 17:45 J -36691845.91 -36691845.76 -36691845.62 0.0291 0.0128

Saturn -105170-06-12 11:59 J -36691757.16 -36691757.00 -36691756.83 0.0290 0.0034

Saturn -105170-09-09 06:57 J -36691668.37 -36691668.21 -36691668.05 0.0290 0.0063

Saturn -105170-12-07 01:55 J -36691579.55 -36691579.42 -36691579.28 0.0289 0.0160

Saturn -105169-03-04 21:21 J -36691490.68 -36691490.61 -36691490.53 0.0288 0.0258

Jupiter -105169-04-24 06:57 J -36691440.28 -36691440.21 -36691440.13 0.0527 0.0455

Jupiter -105169-07-22 23:16 J -36691350.67 -36691350.53 -36691350.38 0.0530 0.0096

Mars -105168-02-18 00:28 J -36691140.55 -36691140.48 -36691140.41 0.1665 0.1452

Mars -105166-01-25 04:47 J -36690434.44 -36690434.30 -36690434.16 0.1680 0.0471

Earth -105166-06-19 05:31 J -36690289.36 -36690289.27 -36690289.18 0.2708 0.1727

Moon -105166-06-19 05:59 J -36690289.33 -36690289.25 -36690289.17 0.2703 0.1807 *

Venus -105166-09-04 18:43 J -36690211.84 -36690211.72 -36690211.60 0.3614 0.0784

Mars -105166-12-08 18:28 J -36690116.85 -36690116.73 -36690116.60 0.1838 0.0351

Jupiter -105164-12-10 23:59 J -36689383.58 -36689383.50 -36689383.42 0.0500 0.0419

Jupiter -105163-03-10 16:47 J -36689293.96 -36689293.80 -36689293.64 0.0497 0.0065

Moon -105163-12-07 05:31 J -36689022.39 -36689022.27 -36689022.14 0.2631 0.1394

Earth -105163-12-07 05:45 J -36689022.38 -36689022.26 -36689022.13 0.2637 0.1348 *

Venus -105160-03-20 15:35 J -36688187.94 -36688187.85 -36688187.75 0.3618 0.2193

Earth -105159-06-12 01:11 J -36687739.55 -36687739.45 -36687739.35 0.2694 0.1251

Moon -105159-06-12 01:40 J -36687739.53 -36687739.43 -36687739.33 0.2700 0.1283 *

Neptune -105159-11-27 03:21 J -36687571.38 -36687571.36 -36687571.31 0.0088 0.0087

Neptune -105158-02-23 05:31 J -36687483.31 -36687483.27 -36687483.19 0.0088 0.0082

Neptune -105158-05-22 07:55 J -36687395.24 -36687395.17 -36687395.09 0.0088 0.0077

Neptune -105158-08-18 10:19 J -36687307.16 -36687307.07 -36687306.98 0.0088 0.0072

Neptune -105158-11-14 11:59 J -36687219.08 -36687219.00 -36687218.88 0.0088 0.0068

Neptune -105157-02-10 14:23 J -36687131.00 -36687130.90 -36687130.78 0.0088 0.0063

Neptune -105157-05-08 16:33 J -36687042.92 -36687042.81 -36687042.68 0.0088 0.0058

Jupiter -105157-05-11 01:26 J -36687040.58 -36687040.44 -36687040.29 0.0530 0.0035

Mars -105157-06-16 09:21 J -36687004.26 -36687004.11 -36687003.96 0.1676 0.0035

Neptune -105157-08-04 18:57 J -36686954.84 -36686954.71 -36686954.59 0.0088 0.0053

Jupiter -105157-08-08 16:33 J -36686950.86 -36686950.81 -36686950.77 0.0532 0.0499

Neptune -105157-10-31 20:52 J -36686866.75 -36686866.63 -36686866.49 0.0088 0.0048

Neptune -105156-01-27 23:02 J -36686778.67 -36686778.54 -36686778.40 0.0088 0.0044

Neptune -105156-04-26 01:11 J -36686690.59 -36686690.45 -36686690.31 0.0088 0.0039

Uranus -105156-04-27 11:59 J -36686689.01 -36686689.00 -36686688.97 0.0133 0.0132

Mars -105156-04-30 00:43 J -36686686.59 -36686686.47 -36686686.34 0.1843 0.0194

Neptune -105156-07-23 03:07 J -36686602.50 -36686602.37 -36686602.22 0.0088 0.0035

Uranus -105156-07-24 16:19 J -36686600.89 -36686600.82 -36686600.74 0.0133 0.0115

Neptune -105156-10-19 05:16 J -36686514.42 -36686514.28 -36686514.13 0.0088 0.0030

Uranus -105156-10-20 20:23 J -36686512.74 -36686512.65 -36686512.54 0.0133 0.0097

Saturn -105155-01-15 01:55 J -36686426.42 -36686426.42 -36686426.40 0.0268 0.0268

Neptune -105155-01-15 07:26 J -36686426.33 -36686426.19 -36686426.04 0.0088 0.0025

Uranus -105155-01-17 00:28 J -36686424.59 -36686424.48 -36686424.35 0.0133 0.0080

Neptune -105155-04-13 09:35 J -36686338.25 -36686338.10 -36686337.95 0.0088 0.0020

Saturn -105155-04-13 15:50 J -36686337.93 -36686337.84 -36686337.73 0.0269 0.0196

Uranus -105155-04-15 04:33 J -36686336.43 -36686336.31 -36686336.17 0.0133 0.0063

Neptune -105155-07-10 11:45 J -36686250.17 -36686250.01 -36686249.86 0.0088 0.0016

Saturn -105155-07-11 05:45 J -36686249.39 -36686249.26 -36686249.13 0.0269 0.0124

Uranus -105155-07-12 08:38 J -36686248.27 -36686248.14 -36686247.99 0.0133 0.0046

Venus -105155-10-04 12:14 J -36686164.01 -36686163.99 -36686163.97 0.3622 0.3540

Neptune -105155-10-06 13:40 J -36686162.08 -36686161.93 -36686161.77 0.0088 0.0011

Saturn -105155-10-07 19:11 J -36686160.85 -36686160.70 -36686160.56 0.0270 0.0054

Uranus -105155-10-08 12:43 J -36686160.11 -36686159.97 -36686159.82 0.0133 0.0029

Neptune -105154-01-02 15:50 J -36686074.00 -36686073.84 -36686073.69 0.0088 0.0007

Saturn -105154-01-04 08:23 J -36686072.30 -36686072.15 -36686072.00 0.0270 0.0017

Uranus -105154-01-04 16:47 J -36686071.95 -36686071.80 -36686071.65 0.0133 0.0012

Neptune -105154-03-31 17:45 J -36685985.91 -36685985.76 -36685985.60 0.0088 0.0002

Uranus -105154-04-02 20:38 J -36685983.79 -36685983.64 -36685983.49 0.0133 0.0005

Saturn -105154-04-02 21:35 J -36685983.74 -36685983.60 -36685983.46 0.0271 0.0086 *

Neptune -105154-06-27 19:40 J -36685897.83 -36685897.68 -36685897.52 0.0088 0.0004

Uranus -105154-06-30 00:28 J -36685895.62 -36685895.48 -36685895.33 0.0133 0.0021

Saturn -105154-06-30 10:19 J -36685895.18 -36685895.07 -36685894.95 0.0271 0.0155

Neptune -105154-09-23 21:50 J -36685809.74 -36685809.59 -36685809.44 0.0088 0.0007

Uranus -105154-09-26 04:19 J -36685807.46 -36685807.32 -36685807.17 0.0133 0.0037

Saturn -105154-09-26 23:02 J -36685806.62 -36685806.54 -36685806.45 0.0272 0.0222

Neptune -105154-12-20 23:45 J -36685721.66 -36685721.51 -36685721.36 0.0088 0.0012

Uranus -105154-12-23 08:09 J -36685719.29 -36685719.16 -36685719.02 0.0132 0.0053

Neptune -105153-03-18 01:40 J -36685633.58 -36685633.43 -36685633.28 0.0088 0.0016

Uranus -105153-03-20 11:59 J -36685631.12 -36685631.00 -36685630.87 0.0132 0.0069

Neptune -105153-06-14 03:35 J -36685545.49 -36685545.35 -36685545.19 0.0088 0.0021

Uranus -105153-06-16 15:35 J -36685542.95 -36685542.85 -36685542.73 0.0132 0.0086

Moon -105153-06-21 00:14 J -36685538.50 -36685538.49 -36685538.48 0.2705 0.2682

Neptune -105153-09-10 05:45 J -36685457.41 -36685457.26 -36685457.12 0.0088 0.0025

Uranus -105153-09-12 19:11 J -36685454.78 -36685454.70 -36685454.59 0.0132 0.0102

Neptune -105153-12-07 07:26 J -36685369.32 -36685369.19 -36685369.04 0.0088 0.0030

Uranus -105153-12-09 23:02 J -36685366.60 -36685366.54 -36685366.46 0.0132 0.0117

Neptune -105152-03-05 09:35 J -36685281.24 -36685281.10 -36685280.96 0.0088 0.0034

Uranus -105152-03-08 02:52 J -36685278.38 -36685278.38 -36685278.37 0.0132 0.0132

Neptune -105152-06-01 11:16 J -36685193.16 -36685193.03 -36685192.88 0.0088 0.0039

Neptune -105152-08-28 13:11 J -36685105.07 -36685104.95 -36685104.81 0.0088 0.0043

Neptune -105152-11-24 15:21 J -36685016.99 -36685016.86 -36685016.73 0.0088 0.0047

Jupiter -105152-12-27 17:45 J -36684983.92 -36684983.76 -36684983.60 0.0498 0.0061

Neptune -105151-02-20 17:02 J -36684928.90 -36684928.79 -36684928.66 0.0088 0.0051

Jupiter -105151-03-27 11:45 J -36684894.08 -36684894.01 -36684893.93 0.0496 0.0435

Neptune -105151-05-19 18:57 J -36684840.82 -36684840.71 -36684840.58 0.0088 0.0056

Neptune -105151-08-15 20:52 J -36684752.73 -36684752.63 -36684752.51 0.0088 0.0060

Neptune -105151-11-11 22:33 J -36684664.64 -36684664.56 -36684664.44 0.0088 0.0065

Neptune -105150-02-08 00:28 J -36684576.56 -36684576.48 -36684576.37 0.0088 0.0069

Neptune -105150-05-07 02:23 J -36684488.47 -36684488.40 -36684488.30 0.0088 0.0073

Neptune -105150-08-03 04:33 J -36684400.38 -36684400.31 -36684400.24 0.0088 0.0077

Neptune -105150-10-30 06:28 J -36684312.29 -36684312.23 -36684312.17 0.0088 0.0081

Neptune -105149-01-26 07:55 J -36684224.19 -36684224.17 -36684224.12 0.0088 0.0085

Mars -105148-11-06 14:09 J -36683574.05 -36683573.91 -36683573.77 0.1672 0.0500

Mars -105147-09-20 06:57 J -36683256.32 -36683256.21 -36683256.09 0.1847 0.0741

Earth -105146-06-14 20:23 J -36682988.76 -36682988.65 -36682988.53 0.2699 0.0177

Moon -105146-06-14 21:07 J -36682988.73 -36682988.62 -36682988.50 0.2702 0.0063 *

Mars -105146-10-13 21:35 J -36682867.66 -36682867.60 -36682867.55 0.1689 0.1569

Jupiter -105145-02-28 03:07 J -36682730.51 -36682730.37 -36682730.23 0.0529 0.0171

Jupiter -105145-05-27 18:28 J -36682640.83 -36682640.73 -36682640.63 0.0531 0.0368

Mars -105145-08-26 04:47 J -36682550.38 -36682550.30 -36682550.22 0.1828 0.1406

Earth -105143-12-02 05:02 J -36681722.40 -36681722.29 -36681722.17 0.2647 0.1639

Moon -105143-12-02 06:14 J -36681722.36 -36681722.24 -36681722.11 0.2644 0.1495 *

Saturn -105141-05-04 23:45 J -36681202.59 -36681202.51 -36681202.43 0.0291 0.0248

Venus -105141-07-27 12:28 J -36681119.05 -36681118.98 -36681118.91 0.3775 0.2999

Saturn -105141-08-01 17:45 J -36681113.89 -36681113.76 -36681113.62 0.0291 0.0156

Saturn -105141-10-29 12:14 J -36681025.15 -36681024.99 -36681024.84 0.0290 0.0062

Saturn -105140-01-26 06:43 J -36680936.38 -36680936.22 -36680936.05 0.0290 0.0035

Saturn -105140-04-25 01:55 J -36680847.57 -36680847.42 -36680847.28 0.0289 0.0130

Saturn -105140-07-22 21:07 J -36680758.71 -36680758.62 -36680758.51 0.0288 0.0228

Jupiter -105140-10-15 19:11 J -36680673.84 -36680673.70 -36680673.55 0.0499 0.0180

Jupiter -105139-01-13 12:57 J -36680584.08 -36680583.96 -36680583.84 0.0496 0.0313

Mars -105138-03-29 19:11 J -36680143.81 -36680143.70 -36680143.58 0.1669 0.0963

Mars -105137-02-10 12:43 J -36679826.06 -36679825.97 -36679825.88 0.1852 0.1317

Mars -105136-03-05 01:11 J -36679437.57 -36679437.45 -36679437.33 0.1684 0.1038

Mars -105135-01-16 11:45 J -36679120.12 -36679120.01 -36679119.90 0.1833 0.0909

Venus -105135-02-10 08:38 J -36679095.25 -36679095.14 -36679095.04 0.3771 0.1575

Jupiter -105134-12-17 03:35 J -36678420.47 -36678420.35 -36678420.23 0.0528 0.0321

Jupiter -105133-03-15 19:26 J -36678330.82 -36678330.69 -36678330.56 0.0530 0.0222

Earth -105133-06-16 15:35 J -36678237.96 -36678237.85 -36678237.75 0.2704 0.0895

Moon -105133-06-16 16:19 J -36678237.93 -36678237.82 -36678237.71 0.2701 0.0948 *

Venus -105130-08-27 04:47 J -36677071.42 -36677071.30 -36677071.18 0.3767 0.0118

Earth -105130-12-05 08:23 J -36676971.29 -36676971.15 -36676971.00 0.2641 0.0072

Moon -105130-12-05 09:07 J -36676971.27 -36676971.12 -36676970.98 0.2635 0.0103 *

Mars -105129-08-19 00:43 J -36676713.54 -36676713.47 -36676713.39 0.1665 0.1407

Jupiter -105128-08-03 20:52 J -36676363.75 -36676363.63 -36676363.50 0.0500 0.0297

Jupiter -105128-11-01 14:09 J -36676274.05 -36676273.91 -36676273.76 0.0497 0.0193

Mars -105127-07-26 05:16 J -36676007.42 -36676007.28 -36676007.14 0.1680 0.0524

Mars -105126-06-08 18:28 J -36675689.85 -36675689.73 -36675689.61 0.1838 0.0391

Moon -105126-06-10 10:47 J -36675688.11 -36675688.05 -36675687.98 0.2696 0.2188

Earth -105126-06-10 11:02 J -36675688.11 -36675688.04 -36675687.97 0.2690 0.2109 *

Venus -105126-08-27 01:11 J -36675610.50 -36675610.45 -36675610.39 0.3604 0.3210

Saturn -105126-08-31 18:57 J -36675605.80 -36675605.71 -36675605.62 0.0269 0.0211

Saturn -105126-11-28 08:38 J -36675517.27 -36675517.14 -36675517.01 0.0269 0.0140

Saturn -105125-02-24 22:04 J -36675428.72 -36675428.58 -36675428.43 0.0270 0.0069

Saturn -105125-05-23 11:31 J -36675340.17 -36675340.02 -36675339.87 0.0270 0.0005

Saturn -105125-08-20 00:28 J -36675251.62 -36675251.48 -36675251.33 0.0271 0.0071

Saturn -105125-11-16 13:26 J -36675163.06 -36675162.94 -36675162.81 0.0271 0.0140

Saturn -105124-02-13 02:09 J -36675074.50 -36675074.41 -36675074.31 0.0272 0.0208

Venus -105124-03-12 01:26 J -36675047.55 -36675047.44 -36675047.33 0.3763 0.1433

Jupiter -105122-10-05 04:47 J -36674110.36 -36674110.30 -36674110.22 0.0527 0.0459

Jupiter -105121-01-02 21:07 J -36674020.76 -36674020.62 -36674020.47 0.0530 0.0090

Venus -105120-03-11 23:02 J -36673586.65 -36673586.54 -36673586.43 0.3607 0.1658

Earth -105120-06-19 10:33 J -36673487.14 -36673487.06 -36673486.98 0.2709 0.1948

Moon -105120-06-19 10:47 J -36673487.13 -36673487.05 -36673486.97 0.2702 0.1950 *

Venus -105119-09-25 22:33 J -36673023.63 -36673023.56 -36673023.49 0.3758 0.3007

Mars -105118-12-16 09:50 J -36672577.24 -36672577.09 -36672576.95 0.1676 0.0050

Mars -105117-10-29 01:11 J -36672259.58 -36672259.45 -36672259.33 0.1843 0.0151

Moon -105117-12-07 11:31 J -36672220.14 -36672220.02 -36672219.90 0.2631 0.1584

Earth -105117-12-07 11:59 J -36672220.11 -36672220.00 -36672219.88 0.2636 0.1692 *

Jupiter -105116-05-22 22:19 J -36672053.65 -36672053.57 -36672053.48 0.0500 0.0416

Jupiter -105116-08-20 15:07 J -36671964.02 -36671963.87 -36671963.71 0.0497 0.0069

Venus -105115-09-25 20:23 J -36671562.77 -36671562.65 -36671562.52 0.3611 0.0207

Earth -105113-06-12 06:14 J -36670937.34 -36670937.24 -36670937.13 0.2695 0.1030

Moon -105113-06-12 06:43 J -36670937.33 -36670937.22 -36670937.11 0.2701 0.0919 *

Saturn -105112-09-22 00:14 J -36670470.53 -36670470.49 -36670470.44 0.0291 0.0275

Uranus -105112-09-23 08:23 J -36670469.15 -36670469.15 -36670469.13 0.0145 0.0145

Saturn -105112-12-19 17:59 J -36670381.86 -36670381.75 -36670381.62 0.0291 0.0184

Uranus -105112-12-20 14:38 J -36670380.98 -36670380.89 -36670380.80 0.0146 0.0122

Saturn -105111-03-18 12:28 J -36670293.14 -36670292.98 -36670292.83 0.0290 0.0091

Uranus -105111-03-18 20:23 J -36670292.76 -36670292.65 -36670292.52 0.0146 0.0099

Uranus -105111-06-15 02:38 J -36670204.52 -36670204.39 -36670204.24 0.0146 0.0075

Saturn -105111-06-15 06:57 J -36670204.37 -36670204.21 -36670204.05 0.0290 0.0005 *

Uranus -105111-09-11 08:52 J -36670116.28 -36670116.13 -36670115.97 0.0146 0.0051

Saturn -105111-09-12 01:40 J -36670115.58 -36670115.43 -36670115.27 0.0289 0.0101

Uranus -105111-12-08 15:07 J -36670028.03 -36670027.87 -36670027.70 0.0146 0.0027

Saturn -105111-12-09 20:52 J -36670026.74 -36670026.63 -36670026.50 0.0289 0.0198

Uranus -105110-03-06 21:35 J -36669939.77 -36669939.60 -36669939.44 0.0146 0.0003

Uranus -105110-06-03 03:50 J -36669851.50 -36669851.34 -36669851.17 0.0146 0.0023

Uranus -105110-08-30 10:19 J -36669763.23 -36669763.07 -36669762.91 0.0146 0.0049

Jupiter -105110-10-21 23:16 J -36669710.67 -36669710.53 -36669710.38 0.0530 0.0041

Uranus -105110-11-26 16:33 J -36669674.94 -36669674.81 -36669674.65 0.0146 0.0075

Jupiter -105109-01-19 14:23 J -36669620.95 -36669620.90 -36669620.85 0.0532 0.0494

Uranus -105109-02-22 23:16 J -36669586.65 -36669586.53 -36669586.40 0.0147 0.0100

Venus -105109-04-10 17:45 J -36669538.88 -36669538.76 -36669538.65 0.3615 0.1276

Uranus -105109-05-21 05:45 J -36669498.33 -36669498.26 -36669498.16 0.0147 0.0126

Mars -105108-05-07 14:23 J -36669147.04 -36669146.90 -36669146.75 0.1672 0.0455

Mars -105107-03-21 07:11 J -36668829.32 -36668829.20 -36668829.08 0.1847 0.0692

Mars -105106-04-13 21:50 J -36668440.63 -36668440.59 -36668440.55 0.1689 0.1615

Mars -105105-02-25 05:02 J -36668123.37 -36668123.29 -36668123.22 0.1828 0.1453

Jupiter -105104-06-08 16:33 J -36667653.97 -36667653.81 -36667653.66 0.0498 0.0054

Jupiter -105104-09-06 10:19 J -36667564.13 -36667564.07 -36667563.99 0.0496 0.0443

Venus -105104-10-25 14:23 J -36667514.98 -36667514.90 -36667514.81 0.3619 0.2664

Earth -105100-06-15 01:26 J -36666186.56 -36666186.44 -36666186.33 0.2700 0.0046

Moon -105100-06-15 02:09 J -36666186.52 -36666186.41 -36666186.29 0.2700 0.0083 *

Mars -105099-09-27 19:40 J -36665716.80 -36665716.68 -36665716.55 0.1669 0.0912

Jupiter -105098-08-10 01:11 J -36665400.58 -36665400.45 -36665400.31 0.0529 0.0172

Mars -105098-08-11 12:57 J -36665399.05 -36665398.96 -36665398.86 0.1852 0.1262

Jupiter -105098-11-07 16:47 J -36665310.90 -36665310.80 -36665310.70 0.0531 0.0368

Mars -105097-09-03 01:40 J -36665010.54 -36665010.43 -36665010.32 0.1685 0.1091

Earth -105097-12-02 11:16 J -36664920.16 -36664920.03 -36664919.90 0.2646 0.1308

Moon -105097-12-02 12:14 J -36664920.12 -36664919.99 -36664919.86 0.2641 0.1292 *

Saturn -105096-01-17 19:26 J -36664873.75 -36664873.69 -36664873.61 0.0269 0.0237

Saturn -105096-04-16 09:21 J -36664785.23 -36664785.11 -36664784.99 0.0269 0.0165

Saturn -105096-07-13 23:02 J -36664696.68 -36664696.54 -36664696.40 0.0270 0.0094

Mars -105096-07-17 11:59 J -36664693.11 -36664693.00 -36664692.90 0.1833 0.0957

Saturn -105096-10-10 12:28 J -36664608.13 -36664607.98 -36664607.83 0.0270 0.0024

Saturn -105095-01-07 01:40 J -36664519.58 -36664519.43 -36664519.29 0.0271 0.0047

Saturn -105095-04-05 14:38 J -36664431.02 -36664430.89 -36664430.76 0.0271 0.0116

Saturn -105095-07-03 03:21 J -36664342.46 -36664342.36 -36664342.25 0.0272 0.0184

Saturn -105095-09-29 16:04 J -36664253.88 -36664253.83 -36664253.77 0.0272 0.0251

Jupiter -105092-03-27 17:31 J -36663343.92 -36663343.77 -36663343.63 0.0499 0.0179

Jupiter -105092-06-25 11:02 J -36663254.16 -36663254.04 -36663253.91 0.0496 0.0314

Mars -105089-02-18 01:11 J -36662286.53 -36662286.45 -36662286.37 0.1665 0.1359

Mars -105089-12-31 18:28 J -36661968.73 -36661968.73 -36661968.72 0.1856 0.1852

Mars -105087-01-24 05:45 J -36661580.40 -36661580.26 -36661580.12 0.1680 0.0578

Earth -105087-06-17 20:23 J -36661435.75 -36661435.65 -36661435.54 0.2704 0.1117

Moon -105087-06-17 21:07 J -36661435.72 -36661435.62 -36661435.51 0.2701 0.1210 *

Mars -105087-12-07 18:43 J -36661262.84 -36661262.72 -36661262.59 0.1838 0.0446

Jupiter -105086-05-29 02:38 J -36661090.50 -36661090.39 -36661090.27 0.0528 0.0309

Jupiter -105086-08-26 18:28 J -36661000.85 -36661000.73 -36661000.60 0.0531 0.0236

Venus -105084-03-03 11:02 J -36660446.13 -36660446.04 -36660445.96 0.3774 0.2514

Earth -105084-12-05 14:38 J -36660169.04 -36660168.89 -36660168.74 0.2641 0.0340

Moon -105084-12-05 14:52 J -36660169.02 -36660168.88 -36660168.73 0.2634 0.0388 *

Saturn -105082-05-08 18:28 J -36659649.83 -36659649.73 -36659649.62 0.0291 0.0210

Saturn -105082-08-05 12:43 J -36659561.12 -36659560.97 -36659560.82 0.0290 0.0117

Saturn -105082-11-02 07:11 J -36659472.36 -36659472.20 -36659472.04 0.0290 0.0023

Saturn -105081-01-30 01:55 J -36659383.58 -36659383.42 -36659383.26 0.0289 0.0073

Saturn -105081-04-27 21:07 J -36659294.75 -36659294.62 -36659294.49 0.0289 0.0170

Saturn -105081-07-25 16:33 J -36659205.86 -36659205.81 -36659205.75 0.0288 0.0268

Jupiter -105080-01-13 18:57 J -36659033.83 -36659033.71 -36659033.58 0.0499 0.0297

Jupiter -105080-04-13 12:14 J -36658944.14 -36658943.99 -36658943.84 0.0497 0.0192

Moon -105080-06-10 16:04 J -36658885.91 -36658885.83 -36658885.75 0.2698 0.1849

Earth -105080-06-10 16:04 J -36658885.91 -36658885.83 -36658885.75 0.2691 0.1885 *

Pluto -105079-07-23 11:02 J -36658478.10 -36658478.04 -36658477.96 0.0060 0.0056

Venus -105079-09-17 07:11 J -36658422.31 -36658422.20 -36658422.09 0.3770 0.1078

Pluto -105079-10-19 12:14 J -36658390.08 -36658389.99 -36658389.85 0.0060 0.0049

Pluto -105078-01-15 13:40 J -36658302.05 -36658301.93 -36658301.76 0.0060 0.0042

Pluto -105078-04-13 15:35 J -36658214.01 -36658213.85 -36658213.68 0.0060 0.0034

Mars -105078-06-16 10:04 J -36658150.23 -36658150.08 -36658149.93 0.1676 0.0082

Pluto -105078-07-10 16:47 J -36658125.96 -36658125.80 -36658125.61 0.0060 0.0027

Pluto -105078-10-06 18:43 J -36658037.91 -36658037.72 -36658037.53 0.0061 0.0019

Pluto -105077-01-02 19:55 J -36657949.85 -36657949.67 -36657949.47 0.0061 0.0012

Pluto -105077-03-30 21:35 J -36657861.79 -36657861.60 -36657861.40 0.0061 0.0004

Mars -105077-04-29 01:11 J -36657832.58 -36657832.45 -36657832.33 0.1843 0.0108

Pluto -105077-06-26 23:02 J -36657773.73 -36657773.54 -36657773.34 0.0061 0.0004

Pluto -105077-09-23 00:28 J -36657685.66 -36657685.48 -36657685.28 0.0061 0.0011

Pluto -105077-12-20 01:55 J -36657597.60 -36657597.42 -36657597.22 0.0061 0.0019

Pluto -105076-03-18 03:35 J -36657509.52 -36657509.35 -36657509.17 0.0061 0.0026

Pluto -105076-06-14 04:47 J -36657421.45 -36657421.30 -36657421.12 0.0061 0.0034

Neptune -105076-08-09 19:26 J -36657364.72 -36657364.69 -36657364.65 0.0089 0.0086

Pluto -105076-09-10 06:28 J -36657333.36 -36657333.23 -36657333.07 0.0061 0.0041

Neptune -105076-11-05 21:21 J -36657276.65 -36657276.61 -36657276.53 0.0089 0.0082

Pluto -105076-12-07 07:40 J -36657245.27 -36657245.18 -36657245.04 0.0061 0.0050

Neptune -105075-02-01 23:45 J -36657188.58 -36657188.51 -36657188.43 0.0089 0.0077

Pluto -105075-03-05 09:50 J -36657157.16 -36657157.09 -36657157.02 0.0061 0.0057

Neptune -105075-05-01 01:40 J -36657100.50 -36657100.43 -36657100.32 0.0089 0.0073

Neptune -105075-07-28 04:04 J -36657012.42 -36657012.33 -36657012.22 0.0089 0.0068

Neptune -105075-10-24 06:14 J -36656924.34 -36656924.24 -36656924.12 0.0089 0.0064

Neptune -105074-01-20 08:23 J -36656836.26 -36656836.15 -36656836.02 0.0089 0.0059

Jupiter -105074-03-17 03:07 J -36656780.44 -36656780.37 -36656780.29 0.0527 0.0457

Neptune -105074-04-18 10:33 J -36656748.17 -36656748.06 -36656747.92 0.0089 0.0055

Jupiter -105074-06-14 19:26 J -36656690.83 -36656690.69 -36656690.55 0.0529 0.0089

Moon -105074-06-20 15:35 J -36656684.92 -36656684.85 -36656684.78 0.2702 0.2164

Earth -105074-06-20 15:35 J -36656684.92 -36656684.85 -36656684.79 0.2709 0.2168 *

Neptune -105074-07-15 12:57 J -36656660.09 -36656659.96 -36656659.82 0.0089 0.0050

Neptune -105074-10-11 15:07 J -36656572.00 -36656571.87 -36656571.73 0.0089 0.0045

Neptune -105073-01-07 17:16 J -36656483.91 -36656483.78 -36656483.63 0.0089 0.0041

Venus -105073-04-02 03:35 J -36656398.47 -36656398.35 -36656398.23 0.3766 0.0406

Neptune -105073-04-04 19:40 J -36656395.82 -36656395.68 -36656395.53 0.0089 0.0036

Neptune -105073-07-01 22:04 J -36656307.73 -36656307.58 -36656307.43 0.0089 0.0031

Neptune -105073-09-27 23:59 J -36656219.64 -36656219.50 -36656219.34 0.0089 0.0027

Neptune -105073-12-25 02:23 J -36656131.55 -36656131.40 -36656131.24 0.0089 0.0022

Neptune -105072-03-23 04:47 J -36656043.46 -36656043.30 -36656043.14 0.0089 0.0017

Uranus -105072-05-17 20:23 J -36655987.70 -36655987.65 -36655987.60 0.0133 0.0125

Neptune -105072-06-19 07:11 J -36655955.36 -36655955.20 -36655955.04 0.0089 0.0012

Uranus -105072-08-14 00:14 J -36655899.57 -36655899.49 -36655899.39 0.0133 0.0108

Neptune -105072-09-15 09:21 J -36655867.27 -36655867.11 -36655866.94 0.0089 0.0008

Uranus -105072-11-10 04:19 J -36655811.42 -36655811.32 -36655811.20 0.0133 0.0091

Neptune -105072-12-12 11:45 J -36655779.17 -36655779.01 -36655778.85 0.0089 0.0003

Uranus -105071-02-06 08:23 J -36655723.26 -36655723.15 -36655723.01 0.0133 0.0074

Neptune -105071-03-10 14:09 J -36655691.07 -36655690.91 -36655690.75 0.0089 0.0002

Uranus -105071-05-05 12:43 J -36655635.10 -36655634.97 -36655634.83 0.0133 0.0056

Neptune -105071-06-06 16:33 J -36655602.98 -36655602.81 -36655602.65 0.0089 0.0007

Uranus -105071-08-01 16:47 J -36655546.94 -36655546.80 -36655546.66 0.0133 0.0039

Neptune -105071-09-02 18:43 J -36655514.88 -36655514.72 -36655514.55 0.0089 0.0012

Uranus -105071-10-28 20:38 J -36655458.78 -36655458.64 -36655458.49 0.0133 0.0022

Neptune -105071-11-29 21:07 J -36655426.78 -36655426.62 -36655426.46 0.0089 0.0017

Moon -105071-12-08 17:31 J -36655417.87 -36655417.77 -36655417.67 0.2630 0.1978

Earth -105071-12-08 18:14 J -36655417.83 -36655417.74 -36655417.64 0.2636 0.2034 *

Uranus -105070-01-25 00:43 J -36655370.62 -36655370.47 -36655370.32 0.0133 0.0006

Neptune -105070-02-25 23:31 J -36655338.68 -36655338.52 -36655338.36 0.0089 0.0022

Uranus -105070-04-23 04:33 J -36655282.46 -36655282.31 -36655282.16 0.0133 0.0011

Neptune -105070-05-25 01:55 J -36655250.57 -36655250.42 -36655250.26 0.0089 0.0027

Uranus -105070-07-20 08:23 J -36655194.29 -36655194.15 -36655194.00 0.0133 0.0028

Neptune -105070-08-21 04:19 J -36655162.47 -36655162.32 -36655162.16 0.0089 0.0032

Uranus -105070-10-16 12:14 J -36655106.13 -36655105.99 -36655105.85 0.0133 0.0044

Neptune -105070-11-17 06:43 J -36655074.36 -36655074.22 -36655074.07 0.0089 0.0037

Uranus -105069-01-12 16:04 J -36655017.96 -36655017.83 -36655017.70 0.0132 0.0060

Neptune -105069-02-13 08:52 J -36654986.26 -36654986.13 -36654985.97 0.0089 0.0042

Venus -105069-04-02 00:28 J -36654937.57 -36654937.48 -36654937.40 0.3605 0.2669

Uranus -105069-04-09 19:55 J -36654929.79 -36654929.67 -36654929.55 0.0132 0.0076

Neptune -105069-05-11 11:31 J -36654898.15 -36654898.02 -36654897.87 0.0089 0.0047

Uranus -105069-07-06 23:31 J -36654841.62 -36654841.52 -36654841.41 0.0132 0.0092

Neptune -105069-08-07 13:55 J -36654810.04 -36654809.92 -36654809.77 0.0089 0.0052

Uranus -105069-10-03 03:07 J -36654753.44 -36654753.37 -36654753.27 0.0132 0.0108

Jupiter -105069-11-01 20:23 J -36654723.73 -36654723.65 -36654723.56 0.0500 0.0416

Neptune -105069-11-03 16:19 J -36654721.93 -36654721.82 -36654721.68 0.0089 0.0057

Mars -105069-11-05 15:07 J -36654720.02 -36654719.87 -36654719.73 0.1672 0.0404

Uranus -105069-12-30 06:57 J -36654665.26 -36654665.21 -36654665.15 0.0132 0.0123

Jupiter -105068-01-30 13:26 J -36654634.10 -36654633.94 -36654633.78 0.0498 0.0070

Neptune -105068-01-30 18:43 J -36654633.82 -36654633.72 -36654633.58 0.0089 0.0062 *

Neptune -105068-04-28 21:21 J -36654545.71 -36654545.61 -36654545.49 0.0089 0.0067

Neptune -105068-07-25 23:45 J -36654457.59 -36654457.51 -36654457.40 0.0089 0.0072

Mars -105068-09-19 07:26 J -36654402.31 -36654402.19 -36654402.07 0.1848 0.0645

Venus -105068-10-17 00:28 J -36654374.59 -36654374.48 -36654374.38 0.3761 0.1952

Neptune -105068-10-22 02:23 J -36654369.47 -36654369.40 -36654369.31 0.0089 0.0077

Neptune -105067-01-18 04:47 J -36654281.35 -36654281.30 -36654281.22 0.0089 0.0082

Neptune -105067-04-16 07:26 J -36654193.21 -36654193.19 -36654193.15 0.0089 0.0087

Saturn -105067-06-06 22:33 J -36654141.61 -36654141.56 -36654141.51 0.0269 0.0252

Earth -105067-06-13 11:16 J -36654135.14 -36654135.03 -36654134.92 0.2695 0.0802

Moon -105067-06-13 11:45 J -36654135.12 -36654135.01 -36654134.90 0.2701 0.0823 *

Saturn -105067-09-03 12:14 J -36654053.09 -36654052.99 -36654052.87 0.0269 0.0181

Mars -105067-10-12 22:19 J -36654013.58 -36654013.57 -36654013.55 0.1689 0.1677

Saturn -105067-12-01 02:09 J -36653964.55 -36653964.41 -36653964.27 0.0270 0.0109

Saturn -105066-02-27 15:35 J -36653876.00 -36653875.85 -36653875.70 0.0270 0.0038

Saturn -105066-05-27 04:47 J -36653787.44 -36653787.30 -36653787.15 0.0271 0.0033

Saturn -105066-08-23 17:59 J -36653698.89 -36653698.75 -36653698.62 0.0271 0.0102

Mars -105066-08-26 05:02 J -36653696.36 -36653696.29 -36653696.22 0.1828 0.1496

Saturn -105066-11-20 06:43 J -36653610.33 -36653610.22 -36653610.10 0.0272 0.0171

Saturn -105065-02-16 19:26 J -36653521.75 -36653521.69 -36653521.62 0.0272 0.0238

Venus -105064-10-16 22:04 J -36652913.70 -36652913.58 -36652913.46 0.3608 0.1141

Earth -105064-11-30 14:23 J -36652868.93 -36652868.90 -36652868.88 0.2650 0.2597

Moon -105064-11-30 15:50 J -36652868.87 -36652868.84 -36652868.81 0.2650 0.2576

Jupiter -105062-04-02 21:07 J -36652380.77 -36652380.62 -36652380.48 0.0529 0.0048

Venus -105062-05-02 21:21 J -36652350.64 -36652350.61 -36652350.57 0.3757 0.3540

Jupiter -105062-07-01 11:59 J -36652291.05 -36652291.00 -36652290.94 0.0532 0.0487

Mars -105059-03-28 19:55 J -36651289.79 -36651289.67 -36651289.54 0.1669 0.0869

Mars -105058-02-09 13:26 J -36650972.04 -36650971.94 -36650971.85 0.1852 0.1209

Venus -105058-05-02 19:26 J -36650889.81 -36650889.69 -36650889.56 0.3612 0.0337

Mars -105057-03-04 02:09 J -36650583.52 -36650583.41 -36650583.30 0.1684 0.1143

Jupiter -105057-11-18 14:38 J -36650324.05 -36650323.89 -36650323.74 0.0498 0.0054

Mars -105056-01-15 11:59 J -36650266.10 -36650266.00 -36650265.89 0.1834 0.1005

Jupiter -105056-02-16 08:23 J -36650234.21 -36650234.15 -36650234.07 0.0496 0.0443

Earth -105054-06-16 06:28 J -36649384.35 -36649384.23 -36649384.12 0.2700 0.0268

Moon -105054-06-16 07:11 J -36649384.31 -36649384.20 -36649384.08 0.2700 0.0426 *

Saturn -105053-09-24 19:40 J -36648917.77 -36648917.68 -36648917.58 0.0291 0.0234

Venus -105053-11-15 16:33 J -36648865.92 -36648865.81 -36648865.70 0.3616 0.1758

Saturn -105053-12-22 13:55 J -36648829.06 -36648828.92 -36648828.79 0.0290 0.0142

Saturn -105052-03-21 08:09 J -36648740.32 -36648740.16 -36648740.00 0.0290 0.0048

Saturn -105052-06-18 02:38 J -36648651.54 -36648651.39 -36648651.22 0.0289 0.0049

Saturn -105052-09-14 21:50 J -36648562.73 -36648562.59 -36648562.45 0.0289 0.0144

Saturn -105052-12-12 17:02 J -36648473.87 -36648473.79 -36648473.70 0.0288 0.0242

Earth -105051-12-03 17:31 J -36648117.91 -36648117.77 -36648117.64 0.2645 0.0983

Moon -105051-12-03 18:28 J -36648117.88 -36648117.73 -36648117.59 0.2640 0.0811 *

Jupiter -105050-01-19 22:47 J -36648070.68 -36648070.55 -36648070.41 0.0529 0.0180

Jupiter -105050-04-19 14:23 J -36647981.00 -36647980.90 -36647980.80 0.0531 0.0361

Mars -105050-08-19 01:26 J -36647859.53 -36647859.44 -36647859.35 0.1665 0.1312

Mars -105049-07-01 18:43 J -36647541.75 -36647541.72 -36647541.69 0.1856 0.1800

Mars -105048-07-25 05:59 J -36647153.39 -36647153.25 -36647153.11 0.1680 0.0623

Venus -105047-06-01 13:26 J -36646842.00 -36646841.94 -36646841.88 0.3620 0.3125

Mars -105047-06-07 18:57 J -36646835.83 -36646835.71 -36646835.59 0.1838 0.0492

Jupiter -105045-09-06 15:50 J -36646013.98 -36646013.84 -36646013.69 0.0499 0.0174

Jupiter -105045-12-05 09:35 J -36645924.23 -36645924.10 -36645923.98 0.0496 0.0318

Earth -105041-06-18 01:26 J -36644633.54 -36644633.44 -36644633.34 0.2705 0.1332

Moon -105041-06-18 02:09 J -36644633.51 -36644633.41 -36644633.31 0.2701 0.1340 *

Jupiter -105039-11-08 00:43 J -36643760.59 -36643760.47 -36643760.35 0.0528 0.0311

Mars -105039-12-15 10:33 J -36643723.20 -36643723.06 -36643722.91 0.1676 0.0141

Jupiter -105038-02-05 16:33 J -36643670.93 -36643670.81 -36643670.68 0.0531 0.0233

Mars -105038-10-29 01:26 J -36643405.57 -36643405.44 -36643405.32 0.1843 0.0056

Moon -105038-12-06 20:52 J -36643366.78 -36643366.63 -36643366.48 0.2634 0.0636

Earth -105038-12-06 20:52 J -36643366.77 -36643366.63 -36643366.49 0.2640 0.0681 *

Saturn -105037-01-21 13:26 J -36643321.03 -36643320.94 -36643320.84 0.0269 0.0204

Saturn -105037-04-19 03:07 J -36643232.49 -36643232.37 -36643232.23 0.0269 0.0133

Saturn -105037-07-16 16:47 J -36643143.94 -36643143.80 -36643143.65 0.0270 0.0061

Saturn -105037-10-13 06:14 J -36643055.39 -36643055.24 -36643055.10 0.0270 0.0011

Saturn -105036-01-09 19:11 J -36642966.84 -36642966.70 -36642966.56 0.0271 0.0079

Saturn -105036-04-08 08:09 J -36642878.28 -36642878.16 -36642878.03 0.0272 0.0148

Saturn -105036-07-05 21:07 J -36642789.71 -36642789.62 -36642789.54 0.0272 0.0215

Earth -105034-06-11 21:07 J -36642083.71 -36642083.62 -36642083.53 0.2691 0.1662

Moon -105034-06-11 21:07 J -36642083.70 -36642083.62 -36642083.53 0.2699 0.1687 *

Venus -105033-03-24 13:40 J -36641796.98 -36641796.93 -36641796.88 0.3776 0.3422

Jupiter -105033-06-25 17:02 J -36641703.92 -36641703.79 -36641703.67 0.0499 0.0298

Jupiter -105033-09-23 10:04 J -36641614.22 -36641614.08 -36641613.93 0.0497 0.0190

Mars -105029-05-06 15:21 J -36640293.00 -36640292.86 -36640292.72 0.1672 0.0351

Mars -105028-03-20 07:40 J -36639975.31 -36639975.18 -36639975.06 0.1847 0.0594

Earth -105028-06-20 20:23 J -36639882.70 -36639882.65 -36639882.60 0.2710 0.2380

Moon -105028-06-20 20:38 J -36639882.69 -36639882.64 -36639882.59 0.2702 0.2398 *

Venus -105028-10-08 09:35 J -36639773.19 -36639773.10 -36639773.00 0.3772 0.2026

Uranus -105028-10-13 16:19 J -36639767.86 -36639767.82 -36639767.76 0.0146 0.0138

Uranus -105027-01-09 22:19 J -36639679.66 -36639679.57 -36639679.46 0.0146 0.0115

Uranus -105027-04-08 04:33 J -36639591.43 -36639591.31 -36639591.18 0.0146 0.0091

Uranus -105027-07-05 10:33 J -36639503.20 -36639503.06 -36639502.90 0.0146 0.0067

Jupiter -105027-08-27 02:09 J -36639450.49 -36639450.41 -36639450.34 0.0527 0.0448

Uranus -105027-10-01 16:47 J -36639414.95 -36639414.80 -36639414.63 0.0146 0.0043

Jupiter -105027-11-24 18:28 J -36639360.87 -36639360.73 -36639360.59 0.0530 0.0099

Uranus -105027-12-28 23:16 J -36639326.70 -36639326.53 -36639326.37 0.0146 0.0018

Mars -105026-02-24 05:16 J -36639269.35 -36639269.28 -36639269.22 0.1828 0.1544

Uranus -105026-03-27 05:31 J -36639238.43 -36639238.27 -36639238.10 0.0146 0.0007

Uranus -105026-06-23 11:59 J -36639150.17 -36639150.00 -36639149.84 0.0146 0.0032

Uranus -105026-09-19 18:14 J -36639061.89 -36639061.74 -36639061.58 0.0146 0.0057

Uranus -105026-12-17 00:43 J -36638973.60 -36638973.47 -36638973.32 0.0146 0.0083

Uranus -105025-03-14 07:26 J -36638885.30 -36638885.19 -36638885.08 0.0147 0.0108

Uranus -105025-06-10 14:09 J -36638796.98 -36638796.91 -36638796.84 0.0147 0.0134

Moon -105025-12-08 23:31 J -36638615.59 -36638615.52 -36638615.44 0.2629 0.2274

Earth -105025-12-09 00:28 J -36638615.54 -36638615.48 -36638615.42 0.2635 0.2372 *

Saturn -105023-02-11 20:09 J -36638185.72 -36638185.66 -36638185.59 0.0291 0.0260

Saturn -105023-05-11 14:09 J -36638097.04 -36638096.91 -36638096.78 0.0291 0.0169

Saturn -105023-08-08 08:23 J -36638008.31 -36638008.15 -36638007.99 0.0290 0.0075

Saturn -105023-11-05 02:52 J -36637919.54 -36637919.38 -36637919.21 0.0290 0.0021

Saturn -105022-02-01 21:50 J -36637830.74 -36637830.59 -36637830.44 0.0289 0.0116

Venus -105022-04-24 05:59 J -36637749.37 -36637749.25 -36637749.14 0.3768 0.0596

Saturn -105022-05-01 17:02 J -36637741.89 -36637741.79 -36637741.67 0.0288 0.0214

Jupiter -105021-04-13 18:28 J -36637393.81 -36637393.73 -36637393.64 0.0500 0.0417

Earth -105021-06-13 16:19 J -36637332.93 -36637332.82 -36637332.71 0.2696 0.0582

Moon -105021-06-13 17:02 J -36637332.91 -36637332.79 -36637332.68 0.2700 0.0477 *

Jupiter -105021-07-12 11:16 J -36637304.18 -36637304.03 -36637303.87 0.0498 0.0068

Mars -105020-09-26 20:23 J -36636862.77 -36636862.65 -36636862.52 0.1669 0.0816

Mars -105019-08-10 13:26 J -36636545.04 -36636544.94 -36636544.84 0.1852 0.1162

Mars -105018-09-03 02:23 J -36636156.50 -36636156.40 -36636156.29 0.1684 0.1196

Earth -105018-12-01 20:23 J -36636066.72 -36636066.65 -36636066.57 0.2650 0.2276

Moon -105018-12-01 21:50 J -36636066.68 -36636066.59 -36636066.51 0.2647 0.2082 *

Mars -105017-07-16 12:14 J -36635839.09 -36635838.99 -36635838.89 0.1833 0.1050

Venus -105017-11-07 02:23 J -36635725.51 -36635725.40 -36635725.28 0.3764 0.0927

Jupiter -105015-09-12 19:11 J -36635050.84 -36635050.70 -36635050.55 0.0529 0.0047

Jupiter -105015-12-11 10:19 J -36634961.13 -36634961.07 -36634961.02 0.0531 0.0486

Venus -105013-11-06 23:31 J -36634264.62 -36634264.52 -36634264.41 0.3606 0.2131

Venus -105011-05-23 23:16 J -36633701.62 -36633701.53 -36633701.44 0.3760 0.2477

Mars -105010-02-17 01:40 J -36633432.52 -36633432.43 -36633432.33 0.1665 0.1269

Mars -105010-12-31 18:57 J -36633114.75 -36633114.71 -36633114.67 0.1856 0.1751

Jupiter -105009-04-30 12:28 J -36632994.13 -36632993.98 -36632993.82 0.0499 0.0055

Jupiter -105009-07-29 06:28 J -36632904.29 -36632904.23 -36632904.15 0.0496 0.0443

Mars -105008-01-23 06:43 J -36632726.36 -36632726.22 -36632726.09 0.1680 0.0683

Saturn -105008-06-09 16:33 J -36632588.90 -36632588.81 -36632588.72 0.0269 0.0219

Earth -105008-06-16 11:31 J -36632582.13 -36632582.02 -36632581.91 0.2701 0.0495

Moon -105008-06-16 12:14 J -36632582.10 -36632581.99 -36632581.87 0.2701 0.0504 *

Saturn -105008-09-06 06:14 J -36632500.36 -36632500.24 -36632500.11 0.0270 0.0148

Saturn -105008-12-03 19:55 J -36632411.81 -36632411.67 -36632411.52 0.0270 0.0076

Mars -105008-12-06 18:57 J -36632408.83 -36632408.71 -36632408.59 0.1838 0.0537

Saturn -105007-03-02 09:21 J -36632323.26 -36632323.11 -36632322.96 0.0271 0.0005

Venus -105007-05-23 21:07 J -36632240.74 -36632240.62 -36632240.49 0.3610 0.0631

Saturn -105007-05-29 22:33 J -36632234.70 -36632234.56 -36632234.42 0.0271 0.0065

Saturn -105007-08-26 11:31 J -36632146.14 -36632146.02 -36632145.89 0.0272 0.0134

Saturn -105007-11-23 00:14 J -36632057.58 -36632057.49 -36632057.39 0.0272 0.0203

Saturn -105006-02-19 12:57 J -36631968.97 -36631968.96 -36631968.94 0.0273 0.0270

Earth -105005-12-03 23:31 J -36631315.66 -36631315.52 -36631315.38 0.2645 0.0650

Moon -105005-12-04 00:28 J -36631315.62 -36631315.48 -36631315.34 0.2639 0.0660 *

Jupiter -105003-07-01 20:38 J -36630740.78 -36630740.64 -36630740.50 0.0528 0.0185

Jupiter -105003-09-29 11:59 J -36630651.10 -36630651.00 -36630650.89 0.0531 0.0353

Venus -105002-12-07 18:28 J -36630216.85 -36630216.73 -36630216.61 0.3614 0.0834

Moon -105001-06-09 06:28 J -36630032.27 -36630032.23 -36630032.20 0.2693 0.2546

Earth -105001-06-09 06:43 J -36630032.25 -36630032.22 -36630032.18 0.2687 0.2532 *

105TH MILLENNIUM BCE

This is a list of transits of Mercury in the 105th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Mars	**-104999-06-15 10:47 J**		**-36629296.19**	**-36629296.05**	**-36629295.90**	**0.1676**	**0.0182**	
Mars	**-104998-04-29 01:40 J**		**-36628978.56**	**-36628978.43**	**-36628978.31**	**0.1843**	**0.0070**	
Jupiter	**-104997-02-17 13:40 J**		**-36628684.07**	**-36628683.93**	**-36628683.78**	**0.0499**	**0.0176**	
Jupiter	**-104997-05-17 07:11 J**		**-36628594.32**	**-36628594.20**	**-36628594.07**	**0.0496**	**0.0316**	
Venus	**-104996-06-22 15:35 J**		**-36628192.95**	**-36628192.85**	**-36628192.76**	**0.3618**	**0.2237**	
Earth	**-104995-06-19 06:28 J**		**-36627831.32**	**-36627831.23**	**-36627831.14**	**0.2706**	**0.1549**	
Moon	**-104995-06-19 06:57 J**		**-36627831.30**	**-36627831.21**	**-36627831.12**	**0.2700**	**0.1650**	*
Saturn	**-104994-07-01 22:04 J**		**-36627453.61**	**-36627453.58**	**-36627453.53**	**0.0291**	**0.0280**	
Neptune	**-104994-08-24 01:40 J**		**-36627400.46**	**-36627400.43**	**-36627400.38**	**0.0089**	**0.0086**	
Saturn	**-104994-09-28 16:04 J**		**-36627364.95**	**-36627364.83**	**-36627364.71**	**0.0291**	**0.0189**	
Neptune	**-104994-11-20 04:04 J**		**-36627312.39**	**-36627312.33**	**-36627312.26**	**0.0088**	**0.0081**	
Saturn	**-104994-12-26 10:19 J**		**-36627276.22**	**-36627276.07**	**-36627275.92**	**0.0290**	**0.0096**	
Neptune	**-104993-02-16 06:14 J**		**-36627224.31**	**-36627224.24**	**-36627224.15**	**0.0088**	**0.0076**	
Saturn	**-104993-03-24 04:47 J**		**-36627187.47**	**-36627187.30**	**-36627187.14**	**0.0290**	**0.0007**	
Neptune	**-104993-05-14 08:09 J**		**-36627136.23**	**-36627136.16**	**-36627136.05**	**0.0088**	**0.0072**	
Saturn	**-104993-06-20 23:31 J**		**-36627098.68**	**-36627098.52**	**-36627098.37**	**0.0289**	**0.0094**	
Neptune	**-104993-08-10 10:33 J**		**-36627048.16**	**-36627048.06**	**-36627047.95**	**0.0088**	**0.0066**	
Saturn	**-104993-09-17 18:28 J**		**-36627009.85**	**-36627009.73**	**-36627009.60**	**0.0288**	**0.0192**	

Neptune -104993-11-06 12:43 J -36626960.07 -36626959.97 -36626959.85 0.0088 0.0062

Neptune -104992-02-02 15:07 J -36626871.99 -36626871.87 -36626871.75 0.0088 0.0057

Neptune -104992-05-01 17:02 J -36626783.91 -36626783.79 -36626783.66 0.0088 0.0052

Neptune -104992-07-28 19:11 J -36626695.83 -36626695.70 -36626695.56 0.0088 0.0048

Neptune -104992-10-24 21:21 J -36626607.74 -36626607.61 -36626607.47 0.0088 0.0043

Moon -104992-12-07 02:38 J -36626564.53 -36626564.39 -36626564.25 0.2633 0.1056

Earth -104992-12-07 03:07 J -36626564.51 -36626564.37 -36626564.24 0.2639 0.1018 *

Neptune -104991-01-20 23:16 J -36626519.66 -36626519.53 -36626519.38 0.0088 0.0039

Neptune -104991-04-19 01:40 J -36626431.57 -36626431.43 -36626431.28 0.0088 0.0033

Jupiter -104991-04-19 22:04 J -36626430.69 -36626430.58 -36626430.46 0.0528 0.0321

Neptune -104991-07-16 03:50 J -36626343.49 -36626343.34 -36626343.19 0.0088 0.0029

Jupiter -104991-07-18 14:09 J -36626341.04 -36626340.91 -36626340.78 0.0531 0.0223

Neptune -104991-10-12 05:45 J -36626255.40 -36626255.26 -36626255.10 0.0088 0.0024

Venus -104990-01-06 12:14 J -36626169.01 -36626168.99 -36626168.98 0.3622 0.3581

Neptune -104990-01-08 07:55 J -36626167.32 -36626167.17 -36626167.02 0.0088 0.0020

Neptune -104990-04-06 09:50 J -36626079.23 -36626079.09 -36626078.93 0.0088 0.0016

Neptune -104990-07-03 11:59 J -36625991.15 -36625991.00 -36625990.84 0.0088 0.0011

Neptune -104990-09-29 14:09 J -36625903.07 -36625902.91 -36625902.76 0.0088 0.0006

Mars -104990-11-05 15:50 J -36625865.99 -36625865.84 -36625865.70 0.1672 0.0303

Neptune -104990-12-26 16:04 J -36625814.98 -36625814.83 -36625814.67 0.0088 0.0003

Neptune -104989-03-23 18:14 J -36625726.90 -36625726.74 -36625726.59 0.0088 0.0003

Neptune -104989-06-19 20:09 J -36625638.81 -36625638.66 -36625638.50 0.0088 0.0008

Neptune -104989-09-15 22:04 J -36625550.73 -36625550.58 -36625550.42 0.0088 0.0013

Mars -104989-09-18 07:55 J -36625548.30 -36625548.17 -36625548.05 0.1847 0.0540

Neptune -104989-12-13 00:14 J -36625462.64 -36625462.49 -36625462.34 0.0088 0.0017

Neptune -104988-03-11 02:09 J -36625374.56 -36625374.41 -36625374.26 0.0088 0.0021

Neptune -104988-06-07 04:04 J -36625286.47 -36625286.33 -36625286.18 0.0088 0.0026

Uranus -104988-06-07 04:04 J -36625286.39 -36625286.33 -36625286.25 0.0133 0.0118 *

Earth -104988-06-12 02:09 J -36625281.51 -36625281.41 -36625281.32 0.2692 0.1444

Moon -104988-06-12 02:09 J -36625281.50 -36625281.41 -36625281.31 0.2699 0.1422 *

Neptune -104988-09-03 05:59 J -36625198.39 -36625198.25 -36625198.10 0.0088 0.0030

Uranus -104988-09-03 08:23 J -36625198.24 -36625198.15 -36625198.05 0.0133 0.0100 *

Neptune -104988-11-30 07:55 J -36625110.30 -36625110.17 -36625110.02 0.0088 0.0035

Uranus -104988-11-30 12:28 J -36625110.09 -36625109.98 -36625109.86 0.0133 0.0083 *

Neptune -104987-02-26 09:50 J -36625022.22 -36625022.09 -36625021.95 0.0088 0.0039

Uranus -104987-02-26 16:33 J -36625021.93 -36625021.81 -36625021.67 0.0133 0.0066

Neptune -104987-05-25 11:45 J -36624934.13 -36624934.01 -36624933.87 0.0088 0.0044

Uranus -104987-05-25 20:38 J -36624933.78 -36624933.64 -36624933.50 0.0133 0.0049

Neptune -104987-08-21 13:55 J -36624846.05 -36624845.92 -36624845.79 0.0088 0.0048

Uranus -104987-08-22 00:43 J -36624845.61 -36624845.47 -36624845.32 0.0133 0.0032

Mars -104987-08-25 05:31 J -36624842.33 -36624842.27 -36624842.21 0.1828 0.1593

Neptune -104987-11-17 15:35 J -36624757.96 -36624757.85 -36624757.72 0.0088 0.0052

Uranus -104987-11-18 04:33 J -36624757.45 -36624757.31 -36624757.16 0.0133 0.0016

Neptune -104986-02-13 17:31 J -36624669.88 -36624669.77 -36624669.65 0.0088 0.0057

Uranus -104986-02-14 08:38 J -36624669.29 -36624669.14 -36624668.99 0.0133 0.0002

Neptune -104986-05-12 19:26 J -36624581.79 -36624581.69 -36624581.57 0.0088 0.0061

Uranus -104986-05-13 12:28 J -36624581.12 -36624580.98 -36624580.83 0.0133 0.0018

Neptune -104986-08-08 21:35 J -36624493.70 -36624493.60 -36624493.50 0.0088 0.0065

Uranus -104986-08-09 16:19 J -36624492.96 -36624492.82 -36624492.67 0.0133 0.0034

Neptune -104986-11-04 23:02 J -36624405.62 -36624405.54 -36624405.43 0.0088 0.0070

Uranus -104986-11-05 20:09 J -36624404.79 -36624404.66 -36624404.52 0.0133 0.0051

Pluto -104986-11-19 02:23 J -36624391.42 -36624391.40 -36624391.35 0.0085 0.0081

Jupiter -104986-12-06 15:07 J -36624373.99 -36624373.87 -36624373.74 0.0499 0.0296

Neptune -104985-02-01 00:57 J -36624317.53 -36624317.46 -36624317.36 0.0088 0.0074

Uranus -104985-02-01 23:59 J -36624316.62 -36624316.50 -36624316.37 0.0132 0.0066

Pluto -104985-02-15 03:50 J -36624303.41 -36624303.34 -36624303.25 0.0085 0.0067

Jupiter -104985-03-05 08:23 J -36624284.30 -36624284.15 -36624284.00 0.0497 0.0193

Neptune -104985-04-29 02:52 J -36624229.44 -36624229.38 -36624229.30 0.0088 0.0078

Uranus -104985-04-30 03:35 J -36624228.45 -36624228.35 -36624228.23 0.0132 0.0083

Pluto -104985-05-13 05:02 J -36624215.38 -36624215.29 -36624215.18 0.0085 0.0053

Neptune -104985-07-26 04:47 J -36624141.35 -36624141.30 -36624141.24 0.0088 0.0082

Uranus -104985-07-27 07:26 J -36624140.28 -36624140.19 -36624140.09 0.0132 0.0098

Pluto -104985-08-09 06:14 J -36624127.35 -36624127.24 -36624127.11 0.0084 0.0040

Neptune -104985-10-22 06:28 J -36624053.25 -36624053.23 -36624053.18 0.0088 0.0086

Uranus -104985-10-23 11:16 J -36624052.10 -36624052.03 -36624051.96 0.0132 0.0114

Pluto -104985-11-05 07:40 J -36624039.30 -36624039.18 -36624039.05 0.0084 0.0025

Uranus -104984-01-19 14:38 J -36623963.90 -36623963.89 -36623963.85 0.0132 0.0130

Pluto -104984-02-01 08:52 J -36623951.26 -36623951.13 -36623950.99 0.0084 0.0012

Pluto -104984-04-30 10:19 J -36623863.21 -36623863.07 -36623862.94 0.0084 0.0003

Pluto -104984-07-27 11:31 J -36623775.15 -36623775.02 -36623774.89 0.0084 0.0015

Pluto -104984-10-23 12:28 J -36623687.09 -36623686.98 -36623686.85 0.0084 0.0029

Pluto -104983-01-19 13:55 J -36623599.03 -36623598.92 -36623598.81 0.0084 0.0042

Pluto -104983-04-17 14:52 J -36623510.97 -36623510.88 -36623510.77 0.0084 0.0056

Pluto -104983-07-14 16:04 J -36623422.89 -36623422.83 -36623422.74 0.0083 0.0069

Pluto -104983-10-10 17:16 J -36623334.79 -36623334.78 -36623334.74 0.0083 0.0082

Moon -104982-06-22 01:26 J -36623080.48 -36623080.44 -36623080.41 0.2703 0.2554

Earth -104982-06-22 01:26 J -36623080.47 -36623080.44 -36623080.41 0.2710 0.2597 *

Mars -104980-03-27 20:52 J -36622435.76 -36622435.63 -36622435.50 0.1669 0.0769

Jupiter -104979-02-05 23:45 J -36622120.58 -36622120.51 -36622120.43 0.0527 0.0454

Mars -104979-02-08 13:40 J -36622118.03 -36622117.93 -36622117.83 0.1852 0.1112

Jupiter -104979-05-06 16:19 J -36622030.96 -36622030.82 -36622030.68 0.0530 0.0095

Saturn -104979-10-27 17:45 J -36621856.82 -36621856.76 -36621856.69 0.0269 0.0242

Moon -104979-12-10 05:45 J -36621813.28 -36621813.26 -36621813.25 0.2630 0.2608

Saturn -104978-01-24 07:40 J -36621768.30 -36621768.18 -36621768.06 0.0269 0.0170

Mars -104978-03-04 02:52 J -36621729.48 -36621729.38 -36621729.28 0.1685 0.1251

Saturn -104978-04-22 21:21 J -36621679.75 -36621679.61 -36621679.47 0.0270 0.0099

Saturn -104978-07-20 10:47 J -36621591.20 -36621591.05 -36621590.90 0.0270 0.0028

Saturn -104978-10-16 23:59 J -36621502.64 -36621502.50 -36621502.35 0.0271 0.0042

Saturn -104977-01-13 12:57 J -36621414.09 -36621413.96 -36621413.82 0.0271 0.0112

Mars -104977-01-15 12:28 J -36621412.08 -36621411.98 -36621411.88 0.1833 0.1098

Saturn -104977-04-11 01:55 J -36621325.52 -36621325.42 -36621325.31 0.0272 0.0180

Saturn -104977-07-08 14:38 J -36621236.94 -36621236.89 -36621236.83 0.0272 0.0248

Venus -104977-10-29 12:14 J -36621124.06 -36621123.99 -36621123.92 0.3775 0.2940

Earth -104975-06-14 21:21 J -36620530.72 -36620530.61 -36620530.50 0.2697 0.0359

Moon -104975-06-14 22:04 J -36620530.69 -36620530.58 -36620530.46 0.2699 0.0323 *

Jupiter -104974-09-24 16:19 J -36620063.90 -36620063.82 -36620063.73 0.0500 0.0418

Jupiter -104974-12-23 09:07 J -36619974.27 -36619974.12 -36619973.96 0.0498 0.0066

Earth -104972-12-02 02:23 J -36619264.49 -36619264.40 -36619264.30 0.2649 0.1958

Moon -104972-12-02 03:50 J -36619264.44 -36619264.34 -36619264.24 0.2646 0.1918 *

Venus -104971-05-15 08:23 J -36619100.26 -36619100.15 -36619100.04 0.3771 0.1527

Mars -104971-08-18 02:09 J -36619005.51 -36619005.41 -36619005.31 0.1665 0.1219

Mars -104970-07-01 19:11 J -36618687.75 -36618687.70 -36618687.65 0.1856 0.1697

Mars -104969-07-24 06:57 J -36618299.34 -36618299.21 -36618299.07 0.1680 0.0732

Mars -104968-06-06 19:11 J -36617981.82 -36617981.70 -36617981.58 0.1838 0.0586

Jupiter -104967-02-22 17:59 J -36617720.90 -36617720.75 -36617720.61 0.0529 0.0041

Jupiter -104967-05-23 09:07 J -36617631.17 -36617631.12 -36617631.07 0.0532 0.0493

Venus -104966-11-29 04:33 J -36617076.42 -36617076.31 -36617076.19 0.3767 0.0129

Saturn -104964-02-14 16:19 J -36616632.92 -36616632.82 -36616632.71 0.0291 0.0217

Saturn -104964-05-14 10:19 J -36616544.21 -36616544.07 -36616543.92 0.0290 0.0124

Saturn -104964-08-11 04:47 J -36616455.46 -36616455.30 -36616455.14 0.0290 0.0030

Saturn -104964-11-07 23:31 J -36616366.68 -36616366.52 -36616366.36 0.0289 0.0066

Saturn -104963-02-04 18:43 J -36616277.86 -36616277.72 -36616277.59 0.0289 0.0163

Saturn -104963-05-04 13:55 J -36616188.98 -36616188.92 -36616188.84 0.0288 0.0261

Earth -104962-06-17 16:33 J -36615779.92 -36615779.81 -36615779.70 0.2701 0.0716

Moon -104962-06-17 17:16 J -36615779.89 -36615779.78 -36615779.67 0.2700 0.0850 *

Jupiter -104962-10-11 10:19 J -36615664.22 -36615664.07 -36615663.91 0.0498 0.0058

Venus -104962-11-29 00:57 J -36615615.52 -36615615.46 -36615615.40 0.3603 0.3149

Mars -104961-01-08 07:55 J -36615575.18 -36615575.17 -36615575.16 0.1662 0.1651

Jupiter -104961-01-09 04:19 J -36615574.39 -36615574.32 -36615574.25 0.0496 0.0439

Venus -104960-06-14 01:11 J -36615052.56 -36615052.45 -36615052.34 0.3763 0.1447

Mars -104960-12-14 11:31 J -36614869.17 -36614869.02 -36614868.88 0.1676 0.0236

Mars -104959-10-28 01:40 J -36614551.55 -36614551.43 -36614551.30 0.1843 0.0068

Earth -104959-12-05 05:45 J -36614513.41 -36614513.26 -36614513.12 0.2644 0.0321

Moon -104959-12-05 06:14 J -36614513.39 -36614513.24 -36614513.09 0.2638 0.0189 *

Venus -104956-06-13 22:47 J -36613591.66 -36613591.55 -36613591.44 0.3607 0.1599

Jupiter -104956-12-11 18:43 J -36613410.85 -36613410.72 -36613410.58 0.0528 0.0186

Jupiter -104955-03-11 10:19 J -36613321.18 -36613321.07 -36613320.97 0.0530 0.0352

Moon -104955-06-10 11:31 J -36613230.07 -36613230.02 -36613229.97 0.2695 0.2385

Earth -104955-06-10 11:45 J -36613230.07 -36613230.01 -36613229.95 0.2688 0.2307 *

Venus -104955-12-28 22:04 J -36613028.65 -36613028.58 -36613028.50 0.3759 0.3009

Venus -104951-12-28 20:09 J -36611567.78 -36611567.66 -36611567.53 0.3611 0.0152

Mars -104950-05-06 16:04 J -36611438.98 -36611438.83 -36611438.68 0.1672 0.0254

Jupiter -104950-07-30 11:31 J -36611354.16 -36611354.02 -36611353.87 0.0499 0.0180

Jupiter -104950-10-28 05:02 J -36611264.41 -36611264.29 -36611264.16 0.0497 0.0314

Saturn -104949-03-15 20:52 J -36611124.67 -36611124.63 -36611124.59 0.0269 0.0257

Mars -104949-03-19 07:55 J -36611121.30 -36611121.17 -36611121.05 0.1848 0.0498

Saturn -104949-06-12 10:47 J -36611036.16 -36611036.05 -36611035.94 0.0270 0.0185

Earth -104949-06-19 11:31 J -36611029.11 -36611029.02 -36611028.94 0.2706 0.1771

Moon -104949-06-19 11:59 J -36611029.09 -36611029.00 -36611028.92 0.2700 0.1738 *

Saturn -104949-09-09 00:28 J -36610947.61 -36610947.48 -36610947.34 0.0270 0.0113

Saturn -104949-12-06 13:55 J -36610859.06 -36610858.92 -36610858.77 0.0271 0.0043

Saturn -104948-03-05 03:21 J -36610770.51 -36610770.36 -36610770.21 0.0271 0.0028

Saturn -104948-06-01 16:19 J -36610681.95 -36610681.82 -36610681.68 0.0272 0.0099

Saturn -104948-08-29 05:16 J -36610593.39 -36610593.28 -36610593.16 0.0272 0.0167

Saturn -104948-11-25 18:14 J -36610504.81 -36610504.74 -36610504.67 0.0273 0.0235

Mars -104947-02-23 05:16 J -36610415.33 -36610415.28 -36610415.22 0.1828 0.1632

Moon -104946-12-08 08:52 J -36609762.26 -36609762.13 -36609762.00 0.2632 0.1233

Earth -104946-12-08 09:07 J -36609762.24 -36609762.12 -36609761.99 0.2639 0.1359 *

Venus -104945-07-13 17:31 J -36609543.89 -36609543.77 -36609543.65 0.3615 0.1323

Jupiter -104944-09-29 19:55 J -36609100.78 -36609100.67 -36609100.55 0.0527 0.0326

Uranus -104944-11-02 23:31 J -36609066.57 -36609066.52 -36609066.44 0.0146 0.0133

Jupiter -104944-12-28 11:59 J -36609011.13 -36609011.00 -36609010.87 0.0530 0.0217

Uranus -104943-01-30 05:45 J -36608978.36 -36608978.26 -36608978.15 0.0146 0.0109

Uranus -104943-04-28 11:31 J -36608890.14 -36608890.02 -36608889.87 0.0146 0.0086

Uranus -104943-07-25 17:59 J -36608801.90 -36608801.75 -36608801.60 0.0146 0.0061

Uranus -104943-10-22 00:14 J -36608713.65 -36608713.49 -36608713.33 0.0146 0.0037

Uranus -104942-01-18 06:28 J -36608625.40 -36608625.23 -36608625.07 0.0146 0.0013

Uranus -104942-04-16 12:43 J -36608537.13 -36608536.97 -36608536.80 0.0146 0.0012

Earth -104942-06-13 07:11 J -36608479.31 -36608479.20 -36608479.10 0.2692 0.1221

Moon -104942-06-13 07:26 J -36608479.29 -36608479.19 -36608479.09 0.2698 0.1179 *

Uranus -104942-07-13 18:57 J -36608448.86 -36608448.71 -36608448.54 0.0146 0.0038

Uranus -104942-10-10 01:26 J -36608360.58 -36608360.44 -36608360.28 0.0146 0.0063

Uranus -104941-01-06 08:09 J -36608272.30 -36608272.16 -36608272.03 0.0147 0.0088

Uranus -104941-04-03 14:38 J -36608183.99 -36608183.89 -36608183.78 0.0147 0.0114

Uranus -104941-06-30 21:07 J -36608095.66 -36608095.62 -36608095.56 0.0147 0.0140

Mars -104941-09-25 21:07 J -36608008.75 -36608008.62 -36608008.49 0.1668 0.0724

Mars -104940-08-09 13:55 J -36607691.02 -36607690.92 -36607690.81 0.1852 0.1056

Venus -104939-01-27 14:23 J -36607519.98 -36607519.90 -36607519.82 0.3619 0.2699

Mars -104939-09-02 03:21 J -36607302.46 -36607302.36 -36607302.27 0.1684 0.1299

Jupiter -104938-05-18 12:57 J -36607044.09 -36607043.96 -36607043.84 0.0500 0.0300

Mars -104938-07-16 12:28 J -36606985.07 -36606984.98 -36606984.88 0.1834 0.1144

Jupiter -104938-08-16 05:59 J -36606954.40 -36606954.25 -36606954.10 0.0497 0.0188

Saturn -104935-07-04 18:43 J -36605900.81 -36605900.72 -36605900.62 0.0291 0.0234

Saturn -104935-10-01 12:43 J -36605812.11 -36605811.97 -36605811.83 0.0290 0.0143

Saturn -104935-12-29 06:57 J -36605723.36 -36605723.21 -36605723.05 0.0290 0.0049

Saturn -104934-03-28 01:40 J -36605634.59 -36605634.43 -36605634.27 0.0289 0.0047

Saturn -104934-06-24 20:38 J -36605545.78 -36605545.64 -36605545.50 0.0289 0.0143

Saturn -104934-09-21 15:50 J -36605456.92 -36605456.84 -36605456.74 0.0288 0.0241

Jupiter -104932-07-18 21:07 J -36604790.68 -36604790.62 -36604790.55 0.0527 0.0465

Jupiter -104932-10-16 13:40 J -36604701.07 -36604700.93 -36604700.79 0.0530 0.0084

Mars -104931-02-16 02:38 J -36604578.49 -36604578.39 -36604578.29 0.1665 0.1169

Mars -104931-12-30 19:26 J -36604260.75 -36604260.69 -36604260.63 0.1856 0.1646

Mars -104929-01-23 07:26 J -36603872.32 -36603872.19 -36603872.06 0.1680 0.0783

Earth -104929-06-15 02:23 J -36603728.52 -36603728.40 -36603728.29 0.2697 0.0150

Moon -104929-06-15 03:07 J -36603728.48 -36603728.37 -36603728.26 0.2700 0.0036 *

Mars -104929-12-05 19:26 J -36603554.81 -36603554.69 -36603554.57 0.1838 0.0640

Jupiter -104926-03-06 14:38 J -36602733.97 -36602733.89 -36602733.81 0.0500 0.0417

Jupiter -104926-06-04 07:11 J -36602644.35 -36602644.20 -36602644.04 0.0498 0.0068

Earth -104926-12-03 08:38 J -36602462.26 -36602462.14 -36602462.03 0.2648 0.1636

Moon -104926-12-03 09:50 J -36602462.21 -36602462.09 -36602461.97 0.2645 0.1462 *

Mars -104922-07-09 08:09 J -36601148.19 -36601148.16 -36601148.13 0.1661 0.1607

Venus -104920-06-05 11:02 J -36600451.13 -36600451.04 -36600450.96 0.3774 0.2456

Mars -104920-06-14 11:45 J -36600442.15 -36600442.01 -36600441.86 0.1676 0.0285

Jupiter -104920-08-04 15:35 J -36600390.99 -36600390.85 -36600390.70 0.0529 0.0048

Saturn -104920-10-30 12:14 J -36600304.09 -36600303.99 -36600303.90 0.0269 0.0207

Jupiter -104920-11-02 06:57 J -36600301.27 -36600301.21 -36600301.16 0.0532 0.0488

Saturn -104919-01-27 01:55 J -36600215.55 -36600215.42 -36600215.29 0.0269 0.0136

Saturn -104919-04-25 15:21 J -36600127.00 -36600126.86 -36600126.71 0.0270 0.0065

Mars -104919-04-28 01:55 J -36600124.55 -36600124.42 -36600124.30 0.1843 0.0113

Saturn -104919-07-23 04:47 J -36600038.44 -36600038.30 -36600038.15 0.0270 0.0008

Saturn -104919-10-19 17:59 J -36599949.89 -36599949.75 -36599949.61 0.0271 0.0076

Saturn -104918-01-16 06:57 J -36599861.33 -36599861.21 -36599861.08 0.0271 0.0145

Saturn -104918-04-14 19:40 J -36599772.76 -36599772.68 -36599772.58 0.0272 0.0213

Earth -104916-06-17 21:21 J -36598977.71 -36598977.61 -36598977.50 0.2702 0.0934

Moon -104916-06-17 22:04 J -36598977.69 -36598977.58 -36598977.47 0.2699 0.0945 *

Venus -104915-12-20 06:57 J -36598427.32 -36598427.21 -36598427.09 0.3770 0.1042

Jupiter -104914-03-23 08:09 J -36598334.31 -36598334.16 -36598334.00 0.0498 0.0060

Jupiter -104914-06-21 02:09 J -36598244.49 -36598244.41 -36598244.34 0.0496 0.0435

Earth -104913-12-05 11:45 J -36597711.16 -36597711.01 -36597710.86 0.2643 0.0024

Moon -104913-12-05 11:59 J -36597711.15 -36597711.00 -36597710.85 0.2637 0.0071 *

Neptune -104911-05-06 17:45 J -36597193.79 -36597193.76 -36597193.70 0.0089 0.0085

Neptune -104911-08-02 19:40 J -36597105.72 -36597105.68 -36597105.59 0.0089 0.0081

Neptune -104911-10-29 22:04 J -36597017.65 -36597017.58 -36597017.49 0.0089 0.0076

Mars -104911-11-04 16:33 J -36597011.96 -36597011.81 -36597011.66 0.1672 0.0202

Neptune -104910-01-26 00:14 J -36596929.57 -36596929.49 -36596929.39 0.0089 0.0072

Neptune -104910-04-24 02:23 J -36596841.49 -36596841.40 -36596841.29 0.0089 0.0067

Neptune -104910-07-21 04:33 J -36596753.41 -36596753.31 -36596753.19 0.0089 0.0063

Mars -104910-09-18 08:09 J -36596694.28 -36596694.16 -36596694.03 0.1848 0.0441

Neptune -104910-10-17 06:43 J -36596665.33 -36596665.22 -36596665.09 0.0089 0.0058

Neptune -104909-01-13 09:07 J -36596577.24 -36596577.12 -36596576.99 0.0089 0.0053

Neptune -104909-04-10 11:16 J -36596489.16 -36596489.03 -36596488.89 0.0089 0.0049

Moon -104909-06-10 16:33 J -36596427.88 -36596427.81 -36596427.73 0.2695 0.2058

Earth -104909-06-10 16:47 J -36596427.87 -36596427.80 -36596427.73 0.2688 0.2085 *

Venus -104909-07-05 03:21 J -36596403.47 -36596403.36 -36596403.24 0.3766 0.0445

Neptune -104909-07-07 13:26 J -36596401.07 -36596400.94 -36596400.79 0.0089 0.0044

Neptune -104909-10-03 15:35 J -36596312.98 -36596312.85 -36596312.70 0.0089 0.0040

Neptune -104909-12-30 17:59 J -36596224.89 -36596224.75 -36596224.60 0.0089 0.0035

Neptune -104908-03-28 20:23 J -36596136.80 -36596136.65 -36596136.50 0.0089 0.0030

Jupiter -104908-05-23 17:16 J -36596080.92 -36596080.78 -36596080.64 0.0528 0.0182

Neptune -104908-06-24 22:19 J -36596048.71 -36596048.57 -36596048.40 0.0089 0.0026

Jupiter -104908-08-21 08:52 J -36595991.23 -36595991.13 -36595991.02 0.0531 0.0357

Mars -104908-08-24 05:31 J -36595988.31 -36595988.27 -36595988.22 0.1828 0.1682

Neptune -104908-09-21 00:43 J -36595960.62 -36595960.47 -36595960.31 0.0089 0.0021

Neptune -104908-12-18 03:07 J -36595872.53 -36595872.37 -36595872.21 0.0089 0.0016

Neptune -104907-03-16 05:31 J -36595784.43 -36595784.27 -36595784.11 0.0089 0.0011

Neptune -104907-06-12 07:40 J -36595696.34 -36595696.18 -36595696.01 0.0089 0.0007

Neptune -104907-09-08 10:04 J -36595608.24 -36595608.08 -36595607.92 0.0089 0.0002

Neptune -104907-12-05 12:28 J -36595520.14 -36595519.98 -36595519.82 0.0089 0.0004

Neptune -104906-03-03 14:38 J -36595432.05 -36595431.89 -36595431.72 0.0089 0.0008

Neptune -104906-05-30 17:02 J -36595343.95 -36595343.79 -36595343.63 0.0089 0.0013

Neptune -104906-08-26 19:26 J -36595255.85 -36595255.69 -36595255.53 0.0089 0.0018

Saturn -104906-11-21 18:57 J -36595168.77 -36595168.71 -36595168.64 0.0291 0.0263

Neptune -104906-11-22 21:50 J -36595167.75 -36595167.59 -36595167.43 0.0089 0.0023

Saturn -104905-02-18 12:43 J -36595080.09 -36595079.97 -36595079.84 0.0291 0.0171

Neptune -104905-02-18 23:59 J -36595079.65 -36595079.50 -36595079.34 0.0089 0.0028

Neptune -104905-05-17 02:23 J -36594991.54 -36594991.40 -36594991.24 0.0089 0.0033

Saturn -104905-05-17 06:57 J -36594991.36 -36594991.21 -36594991.05 0.0290 0.0078 *

Venus -104905-07-04 23:59 J -36594942.58 -36594942.50 -36594942.41 0.3605 0.2607

Neptune -104905-08-13 04:47 J -36594903.44 -36594903.30 -36594903.14 0.0089 0.0038

Saturn -104905-08-14 01:40 J -36594902.60 -36594902.43 -36594902.27 0.0290 0.0018

Neptune -104905-11-09 07:11 J -36594815.33 -36594815.20 -36594815.04 0.0089 0.0043

Saturn -104905-11-10 20:23 J -36594813.80 -36594813.65 -36594813.50 0.0289 0.0114

Neptune -104904-02-05 09:35 J -36594727.23 -36594727.10 -36594726.95 0.0089 0.0048

Saturn -104904-02-07 15:35 J -36594724.96 -36594724.85 -36594724.73 0.0288 0.0211

Uranus -104904-03-31 08:09 J -36594673.20 -36594673.16 -36594673.12 0.0134 0.0128

Neptune -104904-05-04 11:59 J -36594639.12 -36594639.00 -36594638.85 0.0089 0.0053

Uranus -104904-06-27 12:14 J -36594585.07 -36594584.99 -36594584.90 0.0133 0.0110

Neptune -104904-07-31 14:23 J -36594551.01 -36594550.90 -36594550.76 0.0089 0.0058

Uranus -104904-09-23 16:33 J -36594496.92 -36594496.81 -36594496.70 0.0133 0.0093

Neptune -104904-10-27 17:02 J -36594462.90 -36594462.79 -36594462.66 0.0089 0.0063

Uranus -104904-12-20 20:38 J -36594408.76 -36594408.64 -36594408.52 0.0133 0.0075

Venus -104903-01-19 00:14 J -36594379.60 -36594379.49 -36594379.39 0.3762 0.1963

Neptune -104903-01-23 19:26 J -36594374.78 -36594374.69 -36594374.57 0.0089 0.0068

Uranus -104903-03-19 00:43 J -36594320.61 -36594320.47 -36594320.34 0.0133 0.0058

Neptune -104903-04-21 21:50 J -36594286.67 -36594286.59 -36594286.48 0.0089 0.0073

Uranus -104903-06-15 04:47 J -36594232.45 -36594232.30 -36594232.16 0.0133 0.0042

Earth -104903-06-20 16:33 J -36594226.89 -36594226.81 -36594226.74 0.2707 0.1991

Moon -104903-06-20 16:47 J -36594226.87 -36594226.80 -36594226.73 0.2701 0.2080 *

Neptune -104903-07-19 00:28 J -36594198.55 -36594198.48 -36594198.39 0.0089 0.0078

Uranus -104903-09-11 08:38 J -36594144.28 -36594144.14 -36594143.99 0.0133 0.0025

Neptune -104903-10-15 02:52 J -36594110.42 -36594110.38 -36594110.31 0.0089 0.0083

Uranus -104903-12-08 12:43 J -36594056.12 -36594055.97 -36594055.82 0.0133 0.0008

Jupiter -104902-01-09 09:21 J -36594024.25 -36594024.11 -36594023.96 0.0499 0.0182

Neptune -104902-01-11 05:31 J -36594022.28 -36594022.27 -36594022.24 0.0089 0.0088

Uranus -104902-03-06 16:33 J -36593967.96 -36593967.81 -36593967.66 0.0133 0.0009

Jupiter -104902-04-09 02:52 J -36593934.50 -36593934.38 -36593934.25 0.0497 0.0310

Uranus -104902-06-02 20:23 J -36593879.79 -36593879.65 -36593879.50 0.0133 0.0025

Uranus -104902-08-30 00:14 J -36593791.63 -36593791.49 -36593791.34 0.0133 0.0041

Uranus -104902-11-26 04:04 J -36593703.46 -36593703.33 -36593703.19 0.0133 0.0057

Uranus -104901-02-22 07:55 J -36593615.29 -36593615.17 -36593615.04 0.0132 0.0073

Mars -104901-03-26 21:35 J -36593581.73 -36593581.60 -36593581.47 0.1668 0.0671

Uranus -104901-05-20 11:31 J -36593527.12 -36593527.02 -36593526.90 0.0132 0.0090

Uranus -104901-08-16 15:35 J -36593438.94 -36593438.85 -36593438.77 0.0132 0.0105

Uranus -104901-11-12 18:57 J -36593350.76 -36593350.71 -36593350.64 0.0132 0.0121

Mars -104900-02-07 13:55 J -36593264.02 -36593263.92 -36593263.81 0.1852 0.1014

Moon -104900-12-08 14:52 J -36592959.99 -36592959.88 -36592959.77 0.2632 0.1732

Earth -104900-12-08 15:21 J -36592959.97 -36592959.86 -36592959.75 0.2638 0.1693 *

Venus -104899-01-18 21:50 J -36592918.71 -36592918.59 -36592918.47 0.3608 0.1091

Mars -104899-03-03 03:50 J -36592875.43 -36592875.34 -36592875.25 0.1684 0.1358

Mars -104898-01-14 12:43 J -36592558.06 -36592557.97 -36592557.88 0.1833 0.1191

Venus -104898-08-04 21:07 J -36592355.66 -36592355.62 -36592355.58 0.3757 0.3528

Jupiter -104896-03-11 18:14 J -36591770.86 -36591770.74 -36591770.63 0.0527 0.0325

Jupiter -104896-06-09 10:04 J -36591681.21 -36591681.08 -36591680.95 0.0530 0.0217

Earth -104896-06-13 12:14 J -36591677.10 -36591676.99 -36591676.89 0.2693 0.0996

Moon -104896-06-13 12:43 J -36591677.08 -36591676.97 -36591676.86 0.2698 0.0982 *

Venus -104894-08-04 19:11 J -36590894.82 -36590894.70 -36590894.57 0.3612 0.0395

Mars -104892-08-17 02:52 J -36590151.49 -36590151.38 -36590151.28 0.1665 0.1126

Mars -104891-06-30 19:40 J -36589833.74 -36589833.68 -36589833.62 0.1857 0.1594

Jupiter -104891-10-28 10:33 J -36589714.18 -36589714.06 -36589713.93 0.0500 0.0304

Jupiter -104890-01-26 03:50 J -36589624.49 -36589624.34 -36589624.19 0.0498 0.0185

Saturn -104890-03-19 14:52 J -36589571.95 -36589571.88 -36589571.79 0.0270 0.0224

Saturn -104890-06-16 05:02 J -36589483.42 -36589483.29 -36589483.17 0.0270 0.0151

Mars -104890-07-24 07:55 J -36589445.30 -36589445.17 -36589445.04 0.1680 0.0836

Saturn -104890-09-12 18:28 J -36589394.87 -36589394.73 -36589394.58 0.0270 0.0080

Saturn -104890-12-10 07:55 J -36589306.31 -36589306.17 -36589306.02 0.0271 0.0011

Saturn -104889-03-07 21:07 J -36589217.76 -36589217.62 -36589217.47 0.0271 0.0062

Saturn -104889-06-04 10:19 J -36589129.20 -36589129.07 -36589128.94 0.0272 0.0131

Mars -104889-06-05 19:26 J -36589127.81 -36589127.69 -36589127.57 0.1838 0.0678

Saturn -104889-08-31 23:02 J -36589040.63 -36589040.54 -36589040.44 0.0273 0.0200

Saturn -104889-11-28 11:45 J -36588952.03 -36588952.01 -36588951.98 0.0273 0.0267

Venus -104888-02-17 16:19 J -36588870.93 -36588870.82 -36588870.71 0.3616 0.1793

Jupiter -104885-12-28 19:11 J -36587460.76 -36587460.70 -36587460.63 0.0526 0.0467

Jupiter -104884-03-28 11:31 J -36587371.16 -36587371.02 -36587370.87 0.0529 0.0081

Earth -104883-06-16 07:26 J -36586926.31 -36586926.19 -36586926.08 0.2698 0.0116

Moon -104883-06-16 08:09 J -36586926.28 -36586926.16 -36586926.05 0.2700 0.0149 *

Venus -104883-09-03 13:11 J -36586847.01 -36586846.95 -36586846.89 0.3620 0.3159

Mars -104882-01-07 08:23 J -36586721.19 -36586721.15 -36586721.10 0.1662 0.1563

Mars -104881-12-13 12:14 J -36586015.14 -36586014.99 -36586014.85 0.1676 0.0334

Mars -104880-10-27 02:09 J -36585697.54 -36585697.41 -36585697.28 0.1843 0.0157

Earth -104880-12-03 14:38 J -36585660.02 -36585659.89 -36585659.76 0.2648 0.1310

Moon -104880-12-03 15:50 J -36585659.97 -36585659.84 -36585659.71 0.2644 0.1253 *

Jupiter -104879-08-16 11:59 J -36585404.07 -36585404.00 -36585403.91 0.0500 0.0423

Jupiter -104879-11-14 04:47 J -36585314.45 -36585314.30 -36585314.14 0.0498 0.0062

Saturn -104876-04-09 21:35 J -36584436.64 -36584436.60 -36584436.55 0.0291 0.0279

Saturn -104876-07-07 15:21 J -36584347.97 -36584347.86 -36584347.73 0.0291 0.0188

Saturn -104876-10-04 09:35 J -36584259.25 -36584259.10 -36584258.95 0.0290 0.0095

Saturn -104875-01-01 04:04 J -36584170.49 -36584170.33 -36584170.17 0.0290 0.0001

Saturn -104875-03-30 22:47 J -36584081.70 -36584081.55 -36584081.39 0.0289 0.0095

Saturn -104875-06-27 17:59 J -36583992.87 -36583992.75 -36583992.63 0.0288 0.0192

Jupiter -104872-01-14 12:57 J -36583061.10 -36583060.96 -36583060.81 0.0529 0.0060

Jupiter -104872-04-14 04:18 J -36582971.38 -36582971.32 -36582971.26 0.0532 0.0478

Mars -104871-05-05 16:47 J -36582584.94 -36582584.80 -36582584.65 0.1672 0.0158

Mars -104870-03-19 08:23 J -36582267.28 -36582267.15 -36582267.03 0.1848 0.0395

Earth -104870-06-19 02:23 J -36582175.50 -36582175.40 -36582175.30 0.2703 0.1150

Moon -104870-06-19 03:06 J -36582175.47 -36582175.37 -36582175.27 0.2698 0.1250 *

Venus -104869-06-26 13:40 J -36581801.98 -36581801.93 -36581801.88 0.3777 0.3357

Mars -104868-02-22 05:45 J -36581561.30 -36581561.26 -36581561.22 0.1828 0.1728

Jupiter -104867-09-02 06:14 J -36581004.39 -36581004.24 -36581004.08 0.0498 0.0060

Jupiter -104867-12-01 00:14 J -36580914.57 -36580914.49 -36580914.42 0.0496 0.0436

Earth -104867-12-06 17:59 J -36580908.90 -36580908.75 -36580908.60 0.2643 0.0345

Moon -104867-12-06 17:59 J -36580908.89 -36580908.75 -36580908.60 0.2636 0.0437 *

Venus -104863-01-10 09:35 J -36579778.20 -36579778.10 -36579778.00 0.3773 0.1973

Moon -104863-06-11 21:50 J -36579625.67 -36579625.59 -36579625.51 0.2695 0.1930

Earth -104863-06-11 21:50 J -36579625.67 -36579625.59 -36579625.51 0.2689 0.1859 *

Mars -104862-09-25 22:04 J -36579154.72 -36579154.58 -36579154.45 0.1668 0.0622

Saturn -104861-08-05 16:33 J -36578839.87 -36578839.81 -36578839.75 0.0269 0.0245

Mars -104861-08-08 14:23 J -36578837.01 -36578836.90 -36578836.79 0.1852 0.0956

Saturn -104861-11-02 06:28 J -36578751.34 -36578751.23 -36578751.11 0.0269 0.0173

Jupiter -104861-11-02 14:52 J -36578751.01 -36578750.88 -36578750.74 0.0528 0.0189

Saturn -104860-01-29 20:09 J -36578662.80 -36578662.66 -36578662.52 0.0270 0.0101

Jupiter -104860-01-31 06:42 J -36578661.33 -36578661.22 -36578661.12 0.0531 0.0351

Saturn -104860-04-28 09:35 J -36578574.24 -36578574.10 -36578573.95 0.0270 0.0031

Saturn -104860-07-25 22:47 J -36578485.69 -36578485.55 -36578485.40 0.0271 0.0041

Mars -104860-09-01 04:18 J -36578448.40 -36578448.32 -36578448.24 0.1685 0.1411

Saturn -104860-10-22 11:59 J -36578397.13 -36578397.00 -36578396.87 0.0271 0.0109

Uranus -104860-11-23 07:11 J -36578365.27 -36578365.20 -36578365.11 0.0146 0.0126

Saturn -104859-01-19 00:57 J -36578308.57 -36578308.46 -36578308.35 0.0272 0.0178

Uranus -104859-02-19 13:26 J -36578277.05 -36578276.94 -36578276.82 0.0146 0.0102

Saturn -104859-04-17 13:40 J -36578219.99 -36578219.93 -36578219.87 0.0272 0.0245

Uranus -104859-05-18 19:26 J -36578188.82 -36578188.69 -36578188.55 0.0146 0.0078

Mars -104859-07-15 12:42 J -36578131.06 -36578130.97 -36578130.87 0.1833 0.1240

Uranus -104859-08-15 01:40 J -36578100.58 -36578100.43 -36578100.28 0.0146 0.0054

Uranus -104859-11-11 07:54 J -36578012.33 -36578012.17 -36578012.01 0.0146 0.0030

Uranus -104858-02-07 14:09 J -36577924.08 -36577923.91 -36577923.74 0.0146 0.0006

Uranus -104858-05-06 20:23 J -36577835.81 -36577835.65 -36577835.48 0.0146 0.0020

Venus -104858-07-27 05:45 J -36577754.38 -36577754.26 -36577754.15 0.3769 0.0561

Uranus -104858-08-03 02:52 J -36577747.54 -36577747.38 -36577747.22 0.0146 0.0044

Uranus -104858-10-30 09:21 J -36577659.26 -36577659.11 -36577658.96 0.0146 0.0070

Uranus -104857-01-26 15:35 J -36577570.97 -36577570.85 -36577570.71 0.0147 0.0096

Uranus -104857-04-23 22:04 J -36577482.66 -36577482.58 -36577482.47 0.0147 0.0122

Moon -104857-06-20 21:35 J -36577424.67 -36577424.60 -36577424.53 0.2701 0.2158

Earth -104857-06-20 21:21 J -36577424.67 -36577424.61 -36577424.54 0.2707 0.2207 *

Jupiter -104855-06-21 07:26 J -36576694.34 -36576694.19 -36576694.05 0.0499 0.0183

Jupiter -104855-09-19 00:42 J -36576604.59 -36576604.47 -36576604.34 0.0496 0.0308

Moon -104854-12-09 20:52 J -36576157.74 -36576157.63 -36576157.53 0.2632 0.1873

Earth -104854-12-09 21:35 J -36576157.69 -36576157.60 -36576157.51 0.2637 0.2036 *

Venus -104852-02-09 02:09 J -36575730.52 -36575730.41 -36575730.29 0.3765 0.0941

Mars -104852-02-15 03:06 J -36575724.47 -36575724.37 -36575724.26 0.1665 0.1078

Mars -104852-12-29 19:54 J -36575406.74 -36575406.67 -36575406.60 0.1856 0.1544

Mars -104850-01-22 08:23 J -36575018.28 -36575018.15 -36575018.03 0.1680 0.0891

Earth -104850-06-14 17:16 J -36574874.89 -36574874.78 -36574874.67 0.2694 0.0778

Moon -104850-06-14 17:45 J -36574874.87 -36574874.76 -36574874.65 0.2699 0.0667 *

Mars -104850-12-05 19:40 J -36574700.79 -36574700.68 -36574700.56 0.1838 0.0732

Jupiter -104849-08-21 16:33 J -36574440.92 -36574440.81 -36574440.69 0.0527 0.0324

Jupiter -104849-11-19 08:38 J -36574351.27 -36574351.14 -36574351.01 0.0530 0.0220

Venus -104848-02-08 23:02 J -36574269.64 -36574269.54 -36574269.43 0.3606 0.2089

Venus -104847-08-25 22:47 J -36573706.64 -36573706.55 -36573706.46 0.3760 0.2469

Saturn -104847-11-24 15:06 J -36573615.97 -36573615.87 -36573615.76 0.0291 0.0218

Earth -104847-12-01 17:45 J -36573608.78 -36573608.76 -36573608.73 0.2652 0.2600

Moon -104847-12-01 19:11 J -36573608.75 -36573608.70 -36573608.64 0.2651 0.2424 *

Saturn -104846-02-21 09:06 J -36573527.26 -36573527.12 -36573526.97 0.0291 0.0126

Saturn -104846-05-21 03:35 J -36573438.51 -36573438.35 -36573438.19 0.0290 0.0032

Saturn -104846-08-17 22:18 J -36573349.73 -36573349.57 -36573349.41 0.0289 0.0064

Saturn -104846-11-14 17:16 J -36573260.91 -36573260.78 -36573260.64 0.0289 0.0161

Saturn -104845-02-11 12:28 J -36573172.04 -36573171.98 -36573171.90 0.0288 0.0259

Jupiter -104843-04-09 08:38 J -36572384.26 -36572384.14 -36572384.01 0.0500 0.0304

Jupiter -104843-07-08 01:40 J -36572294.57 -36572294.43 -36572294.28 0.0497 0.0184

Mars -104843-07-08 08:52 J -36572294.19 -36572294.13 -36572294.08 0.1661 0.1516

Venus -104843-08-25 20:52 J -36572245.76 -36572245.63 -36572245.51 0.3609 0.0583

Mars -104841-06-13 12:28 J -36571588.12 -36571587.98 -36571587.83 0.1676 0.0388

Mars -104840-04-27 02:09 J -36571270.54 -36571270.41 -36571270.28 0.1843 0.0199

Venus -104837-03-10 18:14 J -36570221.86 -36570221.74 -36570221.62 0.3613 0.0873

Jupiter -104837-06-09 17:30 J -36570130.84 -36570130.77 -36570130.70 0.0526 0.0465

Earth -104837-06-16 12:28 J -36570124.10 -36570123.98 -36570123.87 0.2698 0.0323

Moon -104837-06-16 13:11 J -36570124.07 -36570123.95 -36570123.84 0.2698 0.0369 *

Jupiter -104837-09-07 09:50 J -36570041.23 -36570041.09 -36570040.94 0.0529 0.0083

Earth -104834-12-04 20:52 J -36568857.77 -36568857.63 -36568857.50 0.2647 0.0982

Moon -104834-12-04 21:35 J -36568857.74 -36568857.60 -36568857.46 0.2642 0.0907 *

Pluto -104833-06-18 01:11 J -36568661.53 -36568661.45 -36568661.35 0.0060 0.0054

Pluto -104833-09-14 02:23 J -36568573.50 -36568573.40 -36568573.25 0.0060 0.0047

Pluto -104833-12-11 04:18 J -36568485.46 -36568485.32 -36568485.16 0.0060 0.0039

Pluto -104832-03-09 05:30 J -36568397.42 -36568397.27 -36568397.09 0.0060 0.0032

Pluto -104832-06-05 06:57 J -36568309.37 -36568309.21 -36568309.01 0.0061 0.0025

Pluto -104832-09-01 08:38 J -36568221.32 -36568221.14 -36568220.94 0.0061 0.0017

Venus -104832-09-24 15:06 J -36568197.96 -36568197.87 -36568197.77 0.3617 0.2263

Mars -104832-11-03 17:16 J -36568157.92 -36568157.78 -36568157.63 0.1672 0.0106

Pluto -104832-11-28 10:04 J -36568133.26 -36568133.08 -36568132.87 0.0061 0.0010

Saturn -104832-12-23 19:11 J -36568107.73 -36568107.70 -36568107.67 0.0269 0.0262

Jupiter -104831-01-26 10:04 J -36568074.16 -36568074.08 -36568074.00 0.0501 0.0426

Pluto -104831-02-24 11:45 J -36568045.20 -36568045.01 -36568044.81 0.0061 0.0002

Saturn -104831-03-22 09:06 J -36568019.22 -36568019.12 -36568019.01 0.0270 0.0190

Jupiter -104831-04-26 02:38 J -36567984.54 -36567984.39 -36567984.23 0.0498 0.0059

Pluto -104831-05-23 13:11 J -36567957.14 -36567956.95 -36567956.75 0.0061 0.0006

Saturn -104831-06-18 22:47 J -36567930.68 -36567930.55 -36567930.41 0.0270 0.0119

Pluto -104831-08-19 14:52 J -36567869.07 -36567868.88 -36567868.69 0.0061 0.0013

Saturn -104831-09-15 12:28 J -36567842.13 -36567841.98 -36567841.83 0.0271 0.0047

Mars -104831-09-17 08:38 J -36567840.27 -36567840.14 -36567840.02 0.1848 0.0349

Pluto -104831-11-15 16:04 J -36567781.00 -36567780.83 -36567780.63 0.0061 0.0021

Saturn -104831-12-13 01:40 J -36567753.57 -36567753.43 -36567753.28 0.0271 0.0025

Pluto -104830-02-11 17:45 J -36567692.93 -36567692.76 -36567692.58 0.0061 0.0028

Saturn -104830-03-11 14:52 J -36567665.01 -36567664.88 -36567664.74 0.0272 0.0094

Pluto -104830-05-10 18:57 J -36567604.85 -36567604.71 -36567604.53 0.0061 0.0036

Saturn -104830-06-08 03:50 J -36567576.45 -36567576.34 -36567576.22 0.0272 0.0163

Pluto -104830-08-06 20:23 J -36567516.76 -36567516.65 -36567516.49 0.0061 0.0044

Saturn -104830-09-04 16:33 J -36567487.88 -36567487.81 -36567487.73 0.0273 0.0231

Pluto -104830-11-02 22:04 J -36567428.67 -36567428.58 -36567428.46 0.0061 0.0052

Pluto -104829-01-29 23:16 J -36567340.55 -36567340.53 -36567340.45 0.0061 0.0060

Neptune -104829-05-19 23:59 J -36567229.54 -36567229.50 -36567229.46 0.0088 0.0085

Neptune -104829-08-16 01:54 J -36567141.47 -36567141.42 -36567141.34 0.0088 0.0081

Mars -104829-08-23 05:45 J -36567134.28 -36567134.26 -36567134.23 0.1828 0.1772

Neptune -104829-11-12 04:04 J -36567053.39 -36567053.33 -36567053.23 0.0088 0.0076

Neptune -104828-02-08 06:28 J -36566965.32 -36566965.23 -36566965.13 0.0088 0.0071

Neptune -104828-05-07 08:52 J -36566877.23 -36566877.13 -36566877.03 0.0088 0.0066

Neptune -104828-08-03 10:47 J -36566789.15 -36566789.05 -36566788.93 0.0088 0.0061

Neptune -104828-10-30 12:57 J -36566701.07 -36566700.96 -36566700.83 0.0088 0.0057

Neptune -104827-01-26 15:21 J -36566612.99 -36566612.86 -36566612.73 0.0088 0.0052

Neptune -104827-04-24 17:16 J -36566524.90 -36566524.78 -36566524.64 0.0088 0.0047

Neptune -104827-07-21 19:26 J -36566436.82 -36566436.69 -36566436.54 0.0088 0.0043

Neptune -104827-10-17 21:35 J -36566348.73 -36566348.60 -36566348.45 0.0088 0.0038

Neptune -104826-01-13 23:45 J -36566260.65 -36566260.51 -36566260.36 0.0088 0.0033

Venus -104826-04-10 11:59 J -36566174.01 -36566174.00 -36566174.00 0.3621 0.3610

Neptune -104826-04-12 01:54 J -36566172.57 -36566172.42 -36566172.27 0.0088 0.0028

Neptune -104826-07-09 04:04 J -36566084.48 -36566084.33 -36566084.18 0.0088 0.0024

Neptune -104826-10-05 05:59 J -36565996.39 -36565996.25 -36565996.09 0.0088 0.0019

Neptune -104825-01-01 08:09 J -36565908.31 -36565908.16 -36565908.00 0.0088 0.0015

Neptune -104825-03-29 10:18 J -36565820.22 -36565820.07 -36565819.92 0.0088 0.0010

Neptune -104825-06-25 12:14 J -36565732.14 -36565731.99 -36565731.83 0.0088 0.0006

Jupiter -104825-06-26 11:16 J -36565731.17 -36565731.03 -36565730.88 0.0528 0.0058

Neptune -104825-09-21 14:23 J -36565644.05 -36565643.90 -36565643.74 0.0088 0.0001

Jupiter -104825-09-24 02:23 J -36565641.46 -36565641.40 -36565641.34 0.0531 0.0476

Neptune -104825-12-18 16:33 J -36565555.97 -36565555.81 -36565555.66 0.0088 0.0005

Neptune -104824-03-16 18:28 J -36565467.88 -36565467.73 -36565467.58 0.0088 0.0008

Neptune -104824-06-12 20:23 J -36565379.80 -36565379.65 -36565379.49 0.0088 0.0013

Earth -104824-06-19 07:26 J -36565373.29 -36565373.19 -36565373.09 0.2703 0.1374

Moon -104824-06-19 08:09 J -36565373.26 -36565373.16 -36565373.07 0.2699 0.1404 *

Neptune -104824-09-08 22:18 J -36565291.71 -36565291.57 -36565291.41 0.0088 0.0018

Neptune -104824-12-06 00:28 J -36565203.63 -36565203.48 -36565203.33 0.0088 0.0022

Neptune -104823-03-04 02:23 J -36565115.54 -36565115.40 -36565115.25 0.0088 0.0026

Neptune -104823-05-31 04:33 J -36565027.46 -36565027.31 -36565027.17 0.0088 0.0031

Neptune -104823-08-27 06:14 J -36564939.37 -36564939.24 -36564939.09 0.0088 0.0035

Neptune -104823-11-23 08:23 J -36564851.29 -36564851.15 -36564851.01 0.0088 0.0040

Neptune -104822-02-19 10:04 J -36564763.20 -36564763.08 -36564762.94 0.0088 0.0044

Mars -104822-03-26 22:04 J -36564727.71 -36564727.58 -36564727.44 0.1668 0.0580

Neptune -104822-05-18 11:59 J -36564675.11 -36564675.00 -36564674.86 0.0088 0.0049

Neptune -104822-08-14 14:09 J -36564587.03 -36564586.91 -36564586.79 0.0088 0.0053

Neptune -104822-11-10 15:50 J -36564498.94 -36564498.84 -36564498.71 0.0088 0.0057

Neptune -104821-02-06 17:45 J -36564410.86 -36564410.76 -36564410.64 0.0088 0.0062

Mars -104821-02-07 14:38 J -36564410.00 -36564409.89 -36564409.78 0.1852 0.0905

Neptune -104821-05-04 19:40 J -36564322.77 -36564322.68 -36564322.57 0.0088 0.0066

Neptune -104821-07-31 21:50 J -36564234.68 -36564234.59 -36564234.50 0.0088 0.0070

Neptune -104821-10-27 23:16 J -36564146.59 -36564146.53 -36564146.43 0.0088 0.0075

Moon -104821-12-07 00:14 J -36564106.64 -36564106.49 -36564106.35 0.2635 0.0624

Earth -104821-12-06 23:59 J -36564106.64 -36564106.50 -36564106.35 0.2642 0.0685 *

Neptune -104820-01-24 01:11 J -36564058.50 -36564058.45 -36564058.37 0.0088 0.0079

Mars -104820-03-02 04:47 J -36564021.38 -36564021.30 -36564021.23 0.1684 0.1461

Uranus -104820-04-20 16:04 J -36563971.89 -36563971.83 -36563971.77 0.0134 0.0121

Neptune -104820-04-22 03:06 J -36563970.41 -36563970.37 -36563970.31 0.0088 0.0083

Uranus -104820-07-17 20:09 J -36563883.75 -36563883.66 -36563883.56 0.0133 0.0103

Neptune -104820-07-19 05:02 J -36563882.30 -36563882.29 -36563882.25 0.0088 0.0087

Uranus -104820-10-14 00:14 J -36563795.60 -36563795.49 -36563795.37 0.0133 0.0086

Uranus -104819-01-10 04:18 J -36563707.44 -36563707.32 -36563707.19 0.0133 0.0069

Mars -104819-01-13 12:57 J -36563704.05 -36563703.96 -36563703.87 0.1834 0.1285

Jupiter -104819-02-12 03:50 J -36563674.49 -36563674.34 -36563674.18 0.0499 0.0065

Uranus -104819-04-08 08:23 J -36563619.28 -36563619.15 -36563619.01 0.0133 0.0052

Jupiter -104819-05-12 21:35 J -36563584.67 -36563584.60 -36563584.52 0.0496 0.0432

Uranus -104819-07-05 12:28 J -36563531.12 -36563530.98 -36563530.83 0.0133 0.0035

Uranus -104819-10-01 16:33 J -36563442.96 -36563442.81 -36563442.66 0.0133 0.0018

Uranus -104819-12-28 20:23 J -36563354.80 -36563354.65 -36563354.50 0.0133 0.0003

Uranus -104818-03-27 00:14 J -36563266.63 -36563266.49 -36563266.34 0.0133 0.0016

Uranus -104818-06-23 04:18 J -36563178.46 -36563178.32 -36563178.18 0.0133 0.0031

Uranus -104818-09-19 08:09 J -36563090.30 -36563090.16 -36563090.02 0.0133 0.0048

Uranus -104818-12-16 11:59 J -36563002.13 -36563002.00 -36563001.87 0.0133 0.0064

Uranus -104817-03-13 15:35 J -36562913.96 -36562913.85 -36562913.73 0.0132 0.0080

Saturn -104817-04-12 17:45 J -36562883.85 -36562883.76 -36562883.67 0.0291 0.0236

Uranus -104817-06-09 19:26 J -36562825.78 -36562825.69 -36562825.58 0.0132 0.0096

Earth -104817-06-12 02:52 J -36562823.47 -36562823.38 -36562823.29 0.2690 0.1637

Moon -104817-06-12 03:06 J -36562823.46 -36562823.37 -36562823.28 0.2696 0.1562 *

Saturn -104817-07-10 11:45 J -36562795.15 -36562795.01 -36562794.87 0.0290 0.0144

Uranus -104817-09-05 23:02 J -36562737.61 -36562737.54 -36562737.45 0.0132 0.0111

Saturn -104817-10-07 05:59 J -36562706.41 -36562706.25 -36562706.09 0.0290 0.0050

Uranus -104817-12-03 02:52 J -36562649.41 -36562649.38 -36562649.34 0.0132 0.0127

Saturn -104816-01-04 00:42 J -36562617.63 -36562617.47 -36562617.31 0.0289 0.0046

Saturn -104816-04-02 19:26 J -36562528.82 -36562528.69 -36562528.54 0.0289 0.0143

Saturn -104816-06-30 14:52 J -36562439.97 -36562439.88 -36562439.79 0.0288 0.0240

Jupiter -104813-04-14 12:28 J -36561421.12 -36561420.98 -36561420.85 0.0528 0.0198

Jupiter -104813-07-13 04:04 J -36561331.43 -36561331.33 -36561331.22 0.0531 0.0342

Mars -104813-08-16 03:35 J -36561297.46 -36561297.35 -36561297.24 0.1665 0.1029

Venus -104812-01-31 12:14 J -36561129.07 -36561128.99 -36561128.92 0.3776 0.2887

Mars -104812-06-29 20:09 J -36560979.74 -36560979.66 -36560979.59 0.1856 0.1494

Moon -104811-06-22 02:23 J -36560622.45 -36560622.40 -36560622.36 0.2701 0.2456

Earth -104811-06-22 02:23 J -36560622.45 -36560622.40 -36560622.35 0.2708 0.2424 *

Mars -104811-07-23 08:38 J -36560591.27 -36560591.14 -36560591.02 0.1680 0.0937

Mars -104810-06-05 19:54 J -36560273.78 -36560273.67 -36560273.56 0.1838 0.0779

Jupiter -104808-12-01 05:30 J -36559364.41 -36559364.27 -36559364.12 0.0499 0.0181

Moon -104808-12-10 02:38 J -36559355.45 -36559355.39 -36559355.33 0.2633 0.2360

Earth -104808-12-10 03:50 J -36559355.40 -36559355.34 -36559355.28 0.2637 0.2377 *

Jupiter -104807-02-28 23:02 J -36559274.66 -36559274.54 -36559274.42 0.0497 0.0310

Venus -104807-08-17 08:09 J -36559105.27 -36559105.16 -36559105.06 0.3772 0.1499

Earth -104804-06-14 22:18 J -36558072.69 -36558072.57 -36558072.46 0.2694 0.0558

Moon -104804-06-14 22:47 J -36558072.66 -36558072.55 -36558072.44 0.2699 0.0548 *

Mars -104803-01-06 09:21 J -36557867.18 -36557867.11 -36557867.05 0.1661 0.1467

Saturn -104802-08-09 10:47 J -36557287.14 -36557287.05 -36557286.96 0.0269 0.0211

Saturn -104802-11-06 00:28 J -36557198.60 -36557198.48 -36557198.35 0.0269 0.0139

Mars -104802-12-13 13:11 J -36557161.10 -36557160.95 -36557160.81 0.1676 0.0441

Jupiter -104801-02-01 14:09 J -36557111.02 -36557110.91 -36557110.79 0.0528 0.0331

Saturn -104801-02-02 14:09 J -36557110.05 -36557109.91 -36557109.77 0.0270 0.0068

Venus -104801-03-02 04:18 J -36557081.43 -36557081.32 -36557081.20 0.3768 0.0100

Saturn -104801-05-01 03:35 J -36557021.50 -36557021.35 -36557021.21 0.0270 0.0007

Jupiter -104801-05-01 06:14 J -36557021.37 -36557021.24 -36557021.10 0.0530 0.0216 *

Saturn -104801-07-28 16:33 J -36556932.95 -36556932.81 -36556932.66 0.0271 0.0073

Saturn -104801-10-25 05:30 J -36556844.39 -36556844.27 -36556844.14 0.0271 0.0141

Mars -104801-10-26 02:23 J -36556843.52 -36556843.40 -36556843.27 0.1843 0.0254

Earth -104801-12-01 23:45 J -36556806.58 -36556806.51 -36556806.43 0.2652 0.2279

Moon -104801-12-02 01:11 J -36556806.53 -36556806.45 -36556806.37 0.2650 0.2222 *

Saturn -104800-01-21 18:28 J -36556755.82 -36556755.73 -36556755.64 0.0272 0.0209

Venus -104797-03-02 00:14 J -36555620.55 -36555620.49 -36555620.42 0.3603 0.3103

Venus -104796-09-16 00:57 J -36555057.57 -36555057.46 -36555057.35 0.3763 0.1442

Jupiter -104796-09-19 06:42 J -36555054.34 -36555054.22 -36555054.09 0.0500 0.0304

Jupiter -104796-12-17 23:45 J -36554964.65 -36554964.51 -36554964.36 0.0497 0.0184

Mars -104792-05-04 17:45 J -36553730.91 -36553730.76 -36553730.62 0.1672 0.0064

Venus -104792-09-15 22:18 J -36553596.69 -36553596.57 -36553596.46 0.3607 0.1567

Mars -104791-03-18 08:38 J -36553413.26 -36553413.14 -36553413.01 0.1848 0.0298

Earth -104791-06-17 17:16 J -36553321.89 -36553321.78 -36553321.66 0.2699 0.0534

Moon -104791-06-17 18:14 J -36553321.85 -36553321.74 -36553321.63 0.2697 0.0647 *

Venus -104790-04-01 21:50 J -36553033.66 -36553033.59 -36553033.52 0.3759 0.2988

Jupiter -104790-11-20 15:50 J -36552800.91 -36552800.84 -36552800.77 0.0527 0.0464

Jupiter -104789-02-18 08:23 J -36552711.29 -36552711.15 -36552711.01 0.0530 0.0084

Mars -104789-02-22 05:59 J -36552707.26 -36552707.25 -36552707.24 0.1829 0.1818

Saturn -104788-08-30 17:02 J -36552151.84 -36552151.79 -36552151.72 0.0291 0.0268

Saturn -104788-11-27 11:02 J -36552063.17 -36552063.04 -36552062.91 0.0291 0.0176

Earth -104788-12-05 02:52 J -36552055.52 -36552055.38 -36552055.24 0.2647 0.0651

Moon -104788-12-05 03:35 J -36552055.50 -36552055.35 -36552055.21 0.2640 0.0562 *

Saturn -104787-02-24 05:02 J -36551974.44 -36551974.29 -36551974.13 0.0290 0.0084

Saturn -104787-05-23 23:45 J -36551885.67 -36551885.51 -36551885.35 0.0290 0.0012

Saturn -104787-08-20 18:28 J -36551796.88 -36551796.73 -36551796.57 0.0289 0.0109

Saturn -104787-11-17 13:40 J -36551708.04 -36551707.93 -36551707.81 0.0289 0.0206

Venus -104786-04-01 19:54 J -36551572.80 -36551572.67 -36551572.54 0.3610 0.0075

Moon -104784-06-10 12:14 J -36550772.03 -36550771.99 -36550771.95 0.2691 0.2502

Earth -104784-06-10 12:42 J -36550772.01 -36550771.97 -36550771.94 0.2685 0.2505 *

Jupiter -104784-07-08 08:23 J -36550744.23 -36550744.15 -36550744.07 0.0500 0.0423

Jupiter -104784-10-06 00:57 J -36550654.62 -36550654.46 -36550654.30 0.0498 0.0060

Mars -104783-09-24 22:33 J -36550300.69 -36550300.56 -36550300.42 0.1668 0.0527

Mars -104782-08-08 14:38 J -36549983.00 -36549982.89 -36549982.78 0.1852 0.0860

Mars -104781-08-31 05:02 J -36549594.35 -36549594.29 -36549594.22 0.1684 0.1516

Venus -104781-10-15 17:02 J -36549548.90 -36549548.79 -36549548.67 0.3614 0.1360

Mars -104780-07-14 13:11 J -36549277.04 -36549276.95 -36549276.87 0.1833 0.1330

Earth -104778-06-20 12:28 J -36548571.07 -36548570.98 -36548570.89 0.2704 0.1593

Moon -104778-06-20 12:57 J -36548571.05 -36548570.96 -36548570.87 0.2699 0.1648 *

Jupiter -104778-12-07 09:50 J -36548401.24 -36548401.09 -36548400.95 0.0528 0.0056

Jupiter -104777-03-06 00:57 J -36548311.52 -36548311.46 -36548311.40 0.0531 0.0479

Uranus -104776-09-16 09:06 J -36547752.16 -36547752.12 -36547752.09 0.0145 0.0142

Uranus -104776-12-13 14:52 J -36547663.97 -36547663.88 -36547663.78 0.0146 0.0119

Uranus -104775-03-11 20:52 J -36547575.75 -36547575.63 -36547575.50 0.0146 0.0095

Venus -104775-05-01 14:09 J -36547524.99 -36547524.91 -36547524.83 0.3618 0.2731

Uranus -104775-06-08 02:52 J -36547487.52 -36547487.38 -36547487.23 0.0146 0.0072

Uranus -104775-09-04 09:06 J -36547399.27 -36547399.12 -36547398.96 0.0146 0.0048

Uranus -104775-12-01 15:21 J -36547311.02 -36547310.86 -36547310.70 0.0146 0.0024

Moon -104775-12-08 05:59 J -36547304.38 -36547304.25 -36547304.11 0.2635 0.1029

Earth -104775-12-08 06:14 J -36547304.37 -36547304.24 -36547304.10 0.2641 0.1021 *

Uranus -104774-02-27 21:35 J -36547222.76 -36547222.60 -36547222.43 0.0146 0.0002

Uranus -104774-05-27 03:50 J -36547134.50 -36547134.34 -36547134.17 0.0146 0.0026

Uranus -104774-08-23 10:18 J -36547046.22 -36547046.07 -36547045.91 0.0146 0.0051

Uranus -104774-11-19 16:47 J -36546957.94 -36546957.80 -36546957.65 0.0146 0.0076

Mars -104773-02-15 03:50 J -36546870.45 -36546870.34 -36546870.22 0.1665 0.0984

Uranus -104773-02-15 23:02 J -36546869.65 -36546869.54 -36546869.41 0.0146 0.0103

Uranus -104773-05-14 05:45 J -36546781.33 -36546781.26 -36546781.17 0.0147 0.0128

Saturn -104773-12-26 12:57 J -36546555.03 -36546554.96 -36546554.88 0.0269 0.0230

Mars -104773-12-28 20:23 J -36546552.73 -36546552.65 -36546552.57 0.1857 0.1441

Saturn -104772-03-25 02:52 J -36546466.50 -36546466.38 -36546466.26 0.0270 0.0158

Saturn -104772-06-21 16:33 J -36546377.95 -36546377.81 -36546377.67 0.0270 0.0086

Jupiter -104772-07-25 01:54 J -36546344.58 -36546344.42 -36546344.26 0.0499 0.0065

Saturn -104772-09-18 05:59 J -36546289.40 -36546289.25 -36546289.10 0.0271 0.0016

Jupiter -104772-10-22 19:40 J -36546254.75 -36546254.68 -36546254.60 0.0496 0.0431

Saturn -104772-12-15 19:11 J -36546200.84 -36546200.70 -36546200.55 0.0271 0.0055

Mars -104771-01-21 09:06 J -36546164.24 -36546164.12 -36546164.00 0.1680 0.0996

Saturn -104771-03-14 08:23 J -36546112.28 -36546112.15 -36546112.02 0.0272 0.0124

Saturn -104771-06-10 21:06 J -36546023.72 -36546023.62 -36546023.52 0.0272 0.0192

Earth -104771-06-13 07:54 J -36546021.27 -36546021.17 -36546021.07 0.2690 0.1410

Moon -104771-06-13 08:23 J -36546021.25 -36546021.15 -36546021.06 0.2697 0.1454 *

Saturn -104771-09-07 09:50 J -36545935.13 -36545935.09 -36545935.05 0.0273 0.0260

Mars -104771-12-04 19:54 J -36545846.78 -36545846.67 -36545846.56 0.1839 0.0825

Jupiter -104766-09-25 11:02 J -36544091.18 -36544091.04 -36544090.90 0.0528 0.0194

Jupiter -104766-12-24 02:38 J -36544001.50 -36544001.39 -36544001.28 0.0530 0.0345

Moon -104765-06-22 07:11 J -36543820.22 -36543820.20 -36543820.17 0.2701 0.2591

Earth -104765-06-22 07:26 J -36543820.21 -36543820.19 -36543820.17 0.2708 0.2647 *

Mars -104764-07-07 09:21 J -36543440.18 -36543440.11 -36543440.03 0.1661 0.1425

Mars -104762-06-13 13:26 J -36542734.09 -36542733.94 -36542733.80 0.1676 0.0486

Moon -104762-12-11 08:52 J -36542553.17 -36542553.13 -36542553.09 0.2632 0.2530

Venus -104761-02-22 14:52 J -36542479.88 -36542479.88 -36542479.87 0.3778 0.3769

Mars -104761-04-26 02:38 J -36542416.51 -36542416.39 -36542416.26 0.1843 0.0302

Jupiter -104760-05-13 03:21 J -36542034.50 -36542034.36 -36542034.21 0.0499 0.0184

Jupiter -104760-08-10 20:38 J -36541944.76 -36541944.64 -36541944.51 0.0497 0.0308

Saturn -104758-01-17 19:26 J -36541419.71 -36541419.69 -36541419.66 0.0291 0.0285

Saturn -104758-04-16 13:11 J -36541331.06 -36541330.95 -36541330.83 0.0291 0.0195

Earth -104758-06-16 03:06 J -36541270.48 -36541270.37 -36541270.25 0.2695 0.0341

Moon -104758-06-16 03:50 J -36541270.45 -36541270.34 -36541270.22 0.2698 0.0205 *

Saturn -104758-07-14 07:26 J -36541242.34 -36541242.19 -36541242.04 0.0290 0.0102

Saturn -104758-10-11 01:54 J -36541153.58 -36541153.42 -36541153.26 0.0290 0.0007

Saturn -104757-01-07 20:38 J -36541064.79 -36541064.64 -36541064.48 0.0289 0.0089

Saturn -104757-04-05 15:35 J -36540975.97 -36540975.85 -36540975.72 0.0289 0.0187

Saturn -104757-07-03 11:16 J -36540887.05 -36540887.03 -36540887.01 0.0288 0.0284

Venus -104756-09-07 10:47 J -36540456.14 -36540456.05 -36540455.96 0.3774 0.2412

Earth -104755-12-03 05:59 J -36540004.35 -36540004.25 -36540004.15 0.2651 0.1953

Moon -104755-12-03 07:11 J -36540004.31 -36540004.20 -36540004.09 0.2648 0.1767 *

Jupiter -104754-07-14 11:45 J -36539781.12 -36539781.01 -36539780.89 0.0527 0.0338

Jupiter -104754-10-12 04:04 J -36539691.46 -36539691.33 -36539691.20 0.0530 0.0208

Mars -104753-11-02 17:59 J -36539303.89 -36539303.75 -36539303.60 0.1672 0.0053

Mars -104752-09-16 08:52 J -36538986.25 -36538986.13 -36538986.00 0.1848 0.0244

Venus -104750-03-24 06:42 J -36538432.33 -36538432.22 -36538432.10 0.3770 0.1014

Jupiter -104748-03-01 05:16 J -36537724.40 -36537724.28 -36537724.16 0.0500 0.0299

Jupiter -104748-05-29 22:18 J -36537634.72 -36537634.57 -36537634.43 0.0497 0.0188

Neptune -104747-11-04 14:09 J -36537110.92 -36537110.91 -36537110.89 0.0089 0.0088

Neptune -104746-01-31 16:04 J -36537022.86 -36537022.83 -36537022.77 0.0089 0.0084

Neptune -104746-04-29 18:28 J -36536934.79 -36536934.73 -36536934.66 0.0089 0.0079

Neptune -104746-07-26 20:23 J -36536846.72 -36536846.65 -36536846.55 0.0089 0.0075

Neptune -104746-10-22 22:33 J -36536758.64 -36536758.56 -36536758.45 0.0089 0.0071

Neptune -104745-01-19 00:42 J -36536670.56 -36536670.47 -36536670.35 0.0089 0.0066

Neptune -104745-04-16 03:06 J -36536582.48 -36536582.37 -36536582.25 0.0089 0.0061

Earth -104745-06-17 22:18 J -36536519.68 -36536519.57 -36536519.46 0.2700 0.0747

Moon -104745-06-17 23:02 J -36536519.65 -36536519.54 -36536519.43 0.2698 0.0784 *

Neptune -104745-07-13 05:02 J -36536494.40 -36536494.29 -36536494.16 0.0089 0.0057

Venus -104745-10-07 03:06 J -36536408.48 -36536408.37 -36536408.25 0.3766 0.0459

Neptune -104745-10-09 07:26 J -36536406.31 -36536406.19 -36536406.06 0.0089 0.0052

Neptune -104744-01-05 09:21 J -36536318.23 -36536318.11 -36536317.96 0.0089 0.0048

Neptune -104744-04-03 11:45 J -36536230.14 -36536230.01 -36536229.86 0.0089 0.0043

Neptune -104744-06-30 14:09 J -36536142.05 -36536141.91 -36536141.77 0.0089 0.0038

Neptune -104744-09-26 16:18 J -36536053.96 -36536053.82 -36536053.67 0.0089 0.0034

Neptune -104744-12-23 18:28 J -36535965.87 -36535965.73 -36535965.57 0.0089 0.0029

Neptune -104743-03-21 20:52 J -36535877.78 -36535877.63 -36535877.48 0.0089 0.0024

Mars -104743-03-25 23:02 J -36535873.68 -36535873.54 -36535873.40 0.1668 0.0476

Saturn -104743-05-15 14:38 J -36535822.94 -36535822.89 -36535822.83 0.0268 0.0250

Neptune -104743-06-17 23:02 J -36535789.69 -36535789.54 -36535789.38 0.0089 0.0020

Saturn -104743-08-12 04:33 J -36535734.42 -36535734.31 -36535734.20 0.0269 0.0178

Neptune -104743-09-14 01:26 J -36535701.60 -36535701.44 -36535701.28 0.0089 0.0015

Saturn -104743-11-08 18:14 J -36535645.88 -36535645.74 -36535645.60 0.0269 0.0107

Neptune -104743-12-11 03:35 J -36535613.51 -36535613.35 -36535613.19 0.0089 0.0010

Saturn -104742-02-05 07:40 J -36535557.32 -36535557.18 -36535557.03 0.0270 0.0037

Mars -104742-02-06 14:52 J -36535555.99 -36535555.88 -36535555.76 0.1852 0.0807

Neptune -104742-03-09 05:59 J -36535525.41 -36535525.25 -36535525.09 0.0089 0.0005

Jupiter -104742-05-02 13:26 J -36535471.00 -36535470.94 -36535470.87 0.0527 0.0471

Saturn -104742-05-04 21:06 J -36535468.77 -36535468.62 -36535468.48 0.0270 0.0035

Neptune -104742-06-05 08:09 J -36535437.32 -36535437.16 -36535436.99 0.0089 0.0003

Jupiter -104742-07-31 06:14 J -36535381.39 -36535381.24 -36535381.10 0.0530 0.0079

Saturn -104742-08-01 10:04 J -36535380.21 -36535380.08 -36535379.94 0.0271 0.0103

Neptune -104742-09-01 10:33 J -36535349.22 -36535349.06 -36535348.90 0.0089 0.0004

Saturn -104742-10-28 22:47 J -36535291.65 -36535291.55 -36535291.43 0.0271 0.0172

Neptune -104742-11-28 12:57 J -36535261.12 -36535260.96 -36535260.80 0.0089 0.0009

Earth -104742-12-06 09:06 J -36535253.27 -36535253.12 -36535252.98 0.2646 0.0322

Moon -104742-12-06 09:35 J -36535253.24 -36535253.10 -36535252.95 0.2640 0.0311 *

Saturn -104741-01-25 11:30 J -36535203.08 -36535203.02 -36535202.94 0.0272 0.0239

Neptune -104741-02-24 15:06 J -36535173.02 -36535172.87 -36535172.70 0.0089 0.0014

Mars -104741-03-01 05:45 J -36535167.31 -36535167.26 -36535167.21 0.1685 0.1573

Neptune -104741-05-22 17:30 J -36535084.93 -36535084.77 -36535084.61 0.0089 0.0019

Neptune -104741-08-18 19:54 J -36534996.83 -36534996.67 -36534996.51 0.0089 0.0024

Venus -104741-10-06 23:30 J -36534947.61 -36534947.52 -36534947.43 0.3604 0.2563

Neptune -104741-11-14 22:04 J -36534908.72 -36534908.58 -36534908.41 0.0089 0.0029

Mars -104740-01-12 13:11 J -36534850.03 -36534849.95 -36534849.87 0.1833 0.1378

Neptune -104740-02-11 00:28 J -36534820.62 -36534820.48 -36534820.32 0.0089 0.0034

Neptune -104740-05-10 02:52 J -36534732.52 -36534732.38 -36534732.22 0.0089 0.0039

Neptune -104740-08-06 05:30 J -36534644.41 -36534644.27 -36534644.13 0.0089 0.0043

Pluto -104740-10-14 18:42 J -36534574.78 -36534574.72 -36534574.67 0.0085 0.0075

Neptune -104740-11-02 07:54 J -36534556.31 -36534556.17 -36534556.03 0.0089 0.0048

Pluto -104739-01-10 19:40 J -36534486.76 -36534486.68 -36534486.58 0.0085 0.0062

Neptune -104739-01-29 10:18 J -36534468.20 -36534468.07 -36534467.94 0.0089 0.0053

Pluto -104739-04-08 21:06 J -36534398.73 -36534398.62 -36534398.51 0.0085 0.0048

Venus -104739-04-22 23:45 J -36534384.61 -36534384.51 -36534384.41 0.3762 0.1955

Neptune -104739-04-27 12:42 J -36534380.09 -36534379.97 -36534379.84 0.0089 0.0058

Pluto -104739-07-05 22:18 J -36534310.69 -36534310.57 -36534310.44 0.0084 0.0034

Neptune -104739-07-24 15:06 J -36534291.98 -36534291.87 -36534291.75 0.0089 0.0063

Pluto -104739-10-01 23:30 J -36534222.64 -36534222.52 -36534222.38 0.0084 0.0021

Neptune -104739-10-20 17:45 J -36534203.87 -36534203.76 -36534203.66 0.0089 0.0068

Pluto -104739-12-29 00:57 J -36534134.59 -36534134.46 -36534134.33 0.0084 0.0007

Neptune -104738-01-16 20:09 J -36534115.75 -36534115.66 -36534115.57 0.0089 0.0073

Pluto -104738-03-27 02:09 J -36534046.54 -36534046.41 -36534046.28 0.0084 0.0007

Neptune -104738-04-14 22:18 J -36534027.63 -36534027.57 -36534027.48 0.0089 0.0079

Moon -104738-06-11 17:30 J -36533969.83 -36533969.77 -36533969.72 0.2692 0.2341

Earth -104738-06-11 17:45 J -36533969.82 -36533969.76 -36533969.70 0.2686 0.2281 *

Pluto -104738-06-23 03:21 J -36533958.48 -36533958.36 -36533958.23 0.0084 0.0020

Neptune -104738-07-12 00:42 J -36533939.50 -36533939.47 -36533939.39 0.0089 0.0084

Pluto -104738-09-19 04:33 J -36533870.43 -36533870.31 -36533870.18 0.0084 0.0034

Neptune -104738-10-08 03:21 J -36533851.36 -36533851.36 -36533851.33 0.0089 0.0089

Pluto -104738-12-16 05:45 J -36533782.36 -36533782.26 -36533782.14 0.0084 0.0047

Pluto -104737-03-13 06:57 J -36533694.29 -36533694.21 -36533694.11 0.0084 0.0060

Pluto -104737-06-09 07:54 J -36533606.21 -36533606.17 -36533606.09 0.0083 0.0074

Jupiter -104737-12-18 06:42 J -36533414.30 -36533414.22 -36533414.14 0.0500 0.0419

Uranus -104736-02-11 19:26 J -36533358.70 -36533358.69 -36533358.66 0.0134 0.0132

Jupiter -104736-03-17 23:16 J -36533324.69 -36533324.53 -36533324.37 0.0498 0.0063

Uranus -104736-05-10 23:30 J -36533270.58 -36533270.52 -36533270.43 0.0134 0.0115

Uranus -104736-08-07 04:04 J -36533182.43 -36533182.33 -36533182.23 0.0133 0.0097

Uranus -104736-11-03 08:09 J -36533094.28 -36533094.16 -36533094.04 0.0133 0.0079

Uranus -104735-01-30 12:14 J -36533006.12 -36533005.99 -36533005.86 0.0133 0.0062

Venus -104735-04-22 21:21 J -36532923.73 -36532923.61 -36532923.49 0.3608 0.1046

Uranus -104735-04-28 16:18 J -36532917.96 -36532917.82 -36532917.68 0.0133 0.0045

Uranus -104735-07-25 20:23 J -36532829.80 -36532829.65 -36532829.51 0.0133 0.0028

Uranus -104735-10-22 00:14 J -36532741.63 -36532741.49 -36532741.34 0.0133 0.0012

Uranus -104734-01-18 04:18 J -36532653.47 -36532653.32 -36532653.17 0.0133 0.0005

Uranus -104734-04-16 08:09 J -36532565.30 -36532565.16 -36532565.01 0.0133 0.0022

Uranus -104734-07-13 12:14 J -36532477.14 -36532476.99 -36532476.85 0.0133 0.0038

Mars -104734-08-16 04:18 J -36532443.44 -36532443.32 -36532443.20 0.1665 0.0933

Uranus -104734-10-09 15:50 J -36532388.97 -36532388.84 -36532388.70 0.0133 0.0054

Venus -104734-11-06 20:38 J -36532360.67 -36532360.64 -36532360.60 0.3758 0.3517

Uranus -104733-01-05 19:40 J -36532300.80 -36532300.68 -36532300.55 0.0133 0.0070

Uranus -104733-04-02 23:30 J -36532212.63 -36532212.52 -36532212.40 0.0132 0.0086

Mars -104733-06-28 20:38 J -36532125.73 -36532125.64 -36532125.56 0.1857 0.1390

Uranus -104733-06-30 03:06 J -36532124.45 -36532124.37 -36532124.27 0.0132 0.0102

Uranus -104733-09-26 06:57 J -36532036.27 -36532036.21 -36532036.14 0.0132 0.0118

Earth -104732-06-20 17:16 J -36531768.86 -36531768.78 -36531768.69 0.2704 0.1813

Moon -104732-06-20 17:45 J -36531768.84 -36531768.76 -36531768.68 0.2698 0.1855 *

Mars -104732-07-22 09:35 J -36531737.22 -36531737.10 -36531736.99 0.1680 0.1047

Mars -104731-06-04 20:09 J -36531419.77 -36531419.66 -36531419.55 0.1838 0.0874

Jupiter -104730-05-19 08:09 J -36531071.30 -36531071.16 -36531071.01 0.0529 0.0052

Jupiter -104730-08-16 23:30 J -36530981.57 -36530981.52 -36530981.46 0.0532 0.0484

Venus -104730-11-06 18:57 J -36530899.83 -36530899.71 -36530899.58 0.3612 0.0428

Saturn -104729-09-02 11:59 J -36530599.09 -36530599.00 -36530598.90 0.0291 0.0230

Saturn -104729-11-30 05:59 J -36530510.39 -36530510.25 -36530510.11 0.0291 0.0138

Moon -104729-12-08 11:45 J -36530502.14 -36530502.01 -36530501.88 0.2635 0.1306

Earth -104729-12-08 12:28 J -36530502.11 -36530501.98 -36530501.86 0.2641 0.1356 *

Saturn -104728-02-27 00:28 J -36530421.64 -36530421.48 -36530421.32 0.0290 0.0044

Saturn -104728-05-26 18:57 J -36530332.87 -36530332.71 -36530332.55 0.0290 0.0053

Saturn -104728-08-23 13:54 J -36530244.05 -36530243.92 -36530243.77 0.0289 0.0150

Saturn -104728-11-20 09:06 J -36530155.19 -36530155.12 -36530155.02 0.0288 0.0248

Earth -104725-06-13 12:57 J -36529219.06 -36529218.96 -36529218.85 0.2691 0.1185

Moon -104725-06-13 13:26 J -36529219.05 -36529218.94 -36529218.84 0.2697 0.1098 *

Jupiter -104724-01-04 00:28 J -36529014.64 -36529014.48 -36529014.32 0.0498 0.0060

Mars -104724-01-05 09:50 J -36529013.17 -36529013.09 -36529013.01 0.1661 0.1375

Jupiter -104724-04-03 18:14 J -36528924.82 -36528924.74 -36528924.67 0.0496 0.0434

Venus -104724-05-22 16:04 J -36528875.94 -36528875.83 -36528875.72 0.3616 0.1833

Mars -104723-12-12 13:54 J -36528307.06 -36528306.92 -36528306.78 0.1676 0.0541

Mars -104722-10-26 02:38 J -36527989.51 -36527989.39 -36527989.26 0.1843 0.0355

Venus -104719-12-06 12:57 J -36526852.01 -36526851.96 -36526851.90 0.3620 0.3196

Jupiter -104718-03-07 09:35 J -36526761.24 -36526761.10 -36526760.96 0.0528 0.0188

Jupiter -104718-06-05 01:11 J -36526671.55 -36526671.45 -36526671.34 0.0530 0.0351

Saturn -104714-12-30 06:28 J -36525002.33 -36525002.23 -36525002.13 0.0269 0.0200

Saturn -104713-03-27 20:09 J -36524913.79 -36524913.66 -36524913.53 0.0270 0.0128

Mars -104713-05-03 18:28 J -36524876.88 -36524876.73 -36524876.58 0.1672 0.0054

Saturn -104713-06-24 09:35 J -36524825.24 -36524825.10 -36524824.95 0.0270 0.0058

Saturn -104713-09-20 23:02 J -36524736.69 -36524736.54 -36524736.39 0.0271 0.0014

Jupiter -104713-10-23 01:40 J -36524704.58 -36524704.43 -36524704.29 0.0499 0.0183

Saturn -104713-12-18 12:14 J -36524648.13 -36524647.99 -36524647.85 0.0271 0.0083

Jupiter -104712-01-20 18:57 J -36524614.83 -36524614.71 -36524614.59 0.0497 0.0308

Saturn -104712-03-17 01:11 J -36524559.57 -36524559.45 -36524559.33 0.0272 0.0152

Mars -104712-03-17 09:06 J -36524559.25 -36524559.12 -36524559.00 0.1848 0.0207

Saturn -104712-06-13 13:54 J -36524471.00 -36524470.92 -36524470.83 0.0272 0.0220

Earth -104712-06-16 08:09 J -36524468.27 -36524468.16 -36524468.04 0.2695 0.0120

Moon -104712-06-16 09:06 J -36524468.24 -36524468.12 -36524468.01 0.2697 0.0128 *

Earth -104709-12-03 11:59 J -36523202.11 -36523202.00 -36523201.88 0.2650 0.1631

Moon -104709-12-03 13:11 J -36523202.07 -36523201.95 -36523201.84 0.2646 0.1631 *

Jupiter -104707-12-24 10:47 J -36522451.16 -36522451.05 -36522450.93 0.0527 0.0328

Jupiter -104706-03-24 02:52 J -36522361.51 -36522361.38 -36522361.25 0.0530 0.0216

Venus -104705-09-28 13:26 J -36521806.99 -36521806.94 -36521806.88 0.3777 0.3301

Mars -104704-09-23 23:16 J -36521446.67 -36521446.53 -36521446.39 0.1668 0.0430

Mars -104703-08-07 15:06 J -36521128.98 -36521128.87 -36521128.75 0.1852 0.0753

Mars -104702-08-31 05:59 J -36520740.29 -36520740.25 -36520740.21 0.1684 0.1621

Mars -104701-07-13 13:26 J -36520423.02 -36520422.94 -36520422.86 0.1834 0.1425

Jupiter -104701-08-11 03:21 J -36520394.49 -36520394.36 -36520394.24 0.0500 0.0300

Jupiter -104701-11-08 20:09 J -36520304.80 -36520304.66 -36520304.51 0.0497 0.0187

Saturn -104699-01-20 14:09 J -36519866.99 -36519866.91 -36519866.83 0.0291 0.0249

Venus -104699-04-14 09:21 J -36519783.21 -36519783.11 -36519783.01 0.3773 0.1932

Saturn -104699-04-19 07:54 J -36519778.30 -36519778.17 -36519778.03 0.0291 0.0158

Earth -104699-06-19 03:21 J -36519717.47 -36519717.36 -36519717.25 0.2700 0.0969

Moon -104699-06-19 04:04 J -36519717.43 -36519717.33 -36519717.23 0.2698 0.1093 *

Saturn -104699-07-17 02:09 J -36519689.56 -36519689.41 -36519689.25 0.0290 0.0064

Saturn -104699-10-13 20:52 J -36519600.79 -36519600.63 -36519600.47 0.0290 0.0032

Saturn -104698-01-10 15:35 J -36519511.99 -36519511.85 -36519511.70 0.0289 0.0128

Saturn -104698-04-09 11:02 J -36519423.14 -36519423.04 -36519422.94 0.0288 0.0226

Earth -104696-12-06 15:06 J -36518451.01 -36518450.87 -36518450.72 0.2645 0.0060

Moon -104696-12-06 15:35 J -36518451.00 -36518450.85 -36518450.70 0.2639 0.0109 *

Jupiter -104695-10-12 11:30 J -36518141.09 -36518141.02 -36518140.96 0.0527 0.0475

Jupiter -104694-01-10 04:04 J -36518051.47 -36518051.33 -36518051.19 0.0530 0.0074

Mars -104694-02-14 04:47 J -36518016.43 -36518016.30 -36518016.18 0.1665 0.0884

Venus -104694-10-29 05:30 J -36517759.39 -36517759.27 -36517759.15 0.3769 0.0515

Mars -104694-12-28 20:38 J -36517698.72 -36517698.64 -36517698.55 0.1857 0.1339

Mars -104692-01-20 09:50 J -36517310.20 -36517310.09 -36517309.97 0.1680 0.1101

Moon -104692-06-11 22:33 J -36517167.63 -36517167.56 -36517167.48 0.2693 0.2061

Earth -104692-06-11 22:47 J -36517167.63 -36517167.55 -36517167.48 0.2686 0.2056 *

Uranus -104692-10-06 17:16 J -36517050.84 -36517050.78 -36517050.71 0.0145 0.0133

Mars -104692-12-03 20:23 J -36516992.76 -36516992.65 -36516992.54 0.1838 0.0925

Uranus -104691-01-02 23:16 J -36516962.63 -36516962.53 -36516962.42 0.0145 0.0109

Uranus -104691-04-01 05:16 J -36516874.41 -36516874.28 -36516874.14 0.0146 0.0086

Uranus -104691-06-28 11:30 J -36516786.17 -36516786.02 -36516785.87 0.0146 0.0062

Uranus -104691-09-24 17:30 J -36516697.92 -36516697.77 -36516697.61 0.0146 0.0038

Uranus -104691-12-21 23:45 J -36516609.67 -36516609.51 -36516609.34 0.0146 0.0014

Uranus -104690-03-20 06:14 J -36516521.41 -36516521.24 -36516521.08 0.0146 0.0011

Uranus -104690-06-16 12:28 J -36516433.14 -36516432.98 -36516432.82 0.0146 0.0036

Uranus -104690-09-12 18:42 J -36516344.86 -36516344.72 -36516344.56 0.0146 0.0061

Venus -104690-10-29 00:42 J -36516298.48 -36516298.47 -36516298.46 0.3602 0.3582

Uranus -104690-12-10 01:11 J -36516256.58 -36516256.45 -36516256.31 0.0146 0.0087

Uranus -104689-03-07 07:40 J -36516168.28 -36516168.18 -36516168.06 0.0146 0.0112

Jupiter -104689-05-30 05:16 J -36516084.36 -36516084.28 -36516084.19 0.0500 0.0413

Uranus -104689-06-03 14:23 J -36516079.95 -36516079.90 -36516079.84 0.0147 0.0138

Jupiter -104689-08-27 21:50 J -36515994.74 -36515994.59 -36515994.43 0.0498 0.0070

Venus -104688-05-14 01:54 J -36515735.53 -36515735.42 -36515735.30 0.3765 0.0957

Earth -104686-06-21 22:18 J -36514966.64 -36514966.57 -36514966.49 0.2705 0.2029

Moon -104686-06-21 22:33 J -36514966.63 -36514966.56 -36514966.48 0.2698 0.2007 *

Mars -104685-07-06 10:18 J -36514586.16 -36514586.07 -36514585.99 0.1661 0.1330

Venus -104684-05-13 22:47 J -36514274.66 -36514274.55 -36514274.45 0.3605 0.2032

Saturn -104684-05-18 07:54 J -36514270.25 -36514270.17 -36514270.08 0.0268 0.0220

Saturn -104684-08-14 21:50 J -36514181.71 -36514181.59 -36514181.46 0.0269 0.0149

Saturn -104684-11-11 11:16 J -36514093.17 -36514093.03 -36514092.88 0.0269 0.0079

Saturn -104683-02-08 00:42 J -36514004.61 -36514004.47 -36514004.32 0.0270 0.0010

Saturn -104683-05-07 13:54 J -36513916.06 -36513915.92 -36513915.77 0.0270 0.0062

Mars -104683-06-12 14:09 J -36513880.05 -36513879.91 -36513879.77 0.1676 0.0593

Saturn -104683-08-04 02:52 J -36513827.50 -36513827.38 -36513827.25 0.0271 0.0131

Jupiter -104683-10-29 05:59 J -36513741.39 -36513741.25 -36513741.10 0.0529 0.0057

Saturn -104683-10-31 15:50 J -36513738.94 -36513738.84 -36513738.74 0.0271 0.0199

Venus -104683-11-27 22:33 J -36513711.64 -36513711.56 -36513711.47 0.3761 0.2476

Moon -104683-12-09 17:59 J -36513699.87 -36513699.75 -36513699.63 0.2634 0.1606

Earth -104683-12-09 18:42 J -36513699.83 -36513699.72 -36513699.61 0.2640 0.1700 *

Jupiter -104682-01-26 21:35 J -36513651.66 -36513651.60 -36513651.54 0.0532 0.0481

Saturn -104682-01-28 04:18 J -36513650.34 -36513650.32 -36513650.29 0.0272 0.0266

Mars -104682-04-26 02:52 J -36513562.50 -36513562.38 -36513562.26 0.1843 0.0395

Earth -104679-06-14 17:59 J -36512416.86 -36512416.75 -36512416.64 0.2691 0.0962

Moon -104679-06-14 18:28 J -36512416.84 -36512416.73 -36512416.62 0.2697 0.0967 *

Venus -104679-11-27 20:38 J -36512250.77 -36512250.64 -36512250.52 0.3609 0.0532

Jupiter -104677-06-15 23:02 J -36511684.69 -36511684.54 -36511684.38 0.0498 0.0053

Jupiter -104677-09-13 16:47 J -36511594.87 -36511594.80 -36511594.73 0.0496 0.0440

Mars -104674-11-02 18:57 J -36510449.86 -36510449.71 -36510449.56 0.1672 0.0102

Venus -104673-06-12 17:59 J -36510226.87 -36510226.75 -36510226.63 0.3613 0.0919

Mars -104673-09-15 09:21 J -36510132.24 -36510132.11 -36510131.98 0.1848 0.0142

Jupiter -104671-08-17 08:09 J -36509431.30 -36509431.16 -36509431.03 0.0528 0.0185

Jupiter -104671-11-14 23:45 J -36509341.61 -36509341.51 -36509341.40 0.0531 0.0356

Saturn -104670-06-09 12:28 J -36509135.00 -36509134.98 -36509134.95 0.0292 0.0286

Saturn -104670-09-06 06:14 J -36509046.35 -36509046.24 -36509046.12 0.0291 0.0195

Saturn -104670-12-04 00:28 J -36508957.63 -36508957.48 -36508957.33 0.0291 0.0102

Saturn -104669-03-01 18:57 J -36508868.88 -36508868.71 -36508868.55 0.0290 0.0009

Saturn -104669-05-29 13:40 J -36508780.09 -36508779.93 -36508779.78 0.0290 0.0089

Saturn -104669-08-26 08:38 J -36508691.26 -36508691.14 -36508691.01 0.0289 0.0187

Saturn -104669-11-23 04:18 J -36508602.34 -36508602.32 -36508602.30 0.0288 0.0285

Venus -104668-12-27 15:06 J -36508202.97 -36508202.87 -36508202.78 0.3617 0.2308

Earth -104666-06-17 13:11 J -36507666.06 -36507665.95 -36507665.83 0.2696 0.0129

Moon -104666-06-17 14:09 J -36507666.03 -36507665.91 -36507665.80 0.2697 0.0282 *

Jupiter -104665-04-04 00:28 J -36507374.63 -36507374.48 -36507374.34 0.0499 0.0174

Jupiter -104665-07-02 17:45 J -36507284.88 -36507284.76 -36507284.64 0.0497 0.0316

Neptune -104664-02-13 21:50 J -36507058.63 -36507058.59 -36507058.54 0.0089 0.0085

Mars -104664-03-24 23:45 J -36507019.65 -36507019.51 -36507019.37 0.1668 0.0377

Neptune -104664-05-12 23:45 J -36506970.56 -36506970.51 -36506970.43 0.0088 0.0081

Neptune -104664-08-09 01:54 J -36506882.48 -36506882.42 -36506882.32 0.0088 0.0076

Neptune -104664-11-05 04:18 J -36506794.40 -36506794.32 -36506794.21 0.0088 0.0071

Neptune -104663-02-01 06:42 J -36506706.32 -36506706.22 -36506706.11 0.0088 0.0066

Mars -104663-02-05 15:06 J -36506701.98 -36506701.87 -36506701.75 0.1852 0.0711

Neptune -104663-04-30 08:38 J -36506618.24 -36506618.14 -36506618.01 0.0088 0.0061

Neptune -104663-07-27 10:47 J -36506530.16 -36506530.05 -36506529.92 0.0088 0.0057

Neptune -104663-10-23 13:11 J -36506442.07 -36506441.95 -36506441.82 0.0088 0.0052

Earth -104663-12-04 18:14 J -36506399.87 -36506399.74 -36506399.62 0.2650 0.1307

Moon -104663-12-04 19:11 J -36506399.83 -36506399.70 -36506399.57 0.2645 0.1113 *

Neptune -104662-01-19 15:21 J -36506353.99 -36506353.86 -36506353.72 0.0088 0.0047

Mars -104662-03-01 06:28 J -36506313.23 -36506313.23 -36506313.22 0.1684 0.1680

Neptune -104662-04-17 17:16 J -36506265.91 -36506265.78 -36506265.63 0.0088 0.0043

Neptune -104662-07-14 19:26 J -36506177.82 -36506177.69 -36506177.54 0.0088 0.0038

Neptune -104662-10-10 21:50 J -36506089.74 -36506089.59 -36506089.45 0.0088 0.0033

Neptune -104661-01-06 23:45 J -36506001.65 -36506001.51 -36506001.35 0.0088 0.0028

Mars -104661-01-12 13:40 J -36505996.01 -36505995.93 -36505995.86 0.1833 0.1472

Neptune -104661-04-04 01:54 J -36505913.57 -36505913.42 -36505913.26 0.0088 0.0024

Neptune -104661-07-01 04:04 J -36505825.48 -36505825.33 -36505825.18 0.0088 0.0019

Neptune -104661-09-27 06:14 J -36505737.40 -36505737.24 -36505737.09 0.0088 0.0014

Neptune -104661-12-24 08:09 J -36505649.31 -36505649.16 -36505649.00 0.0088 0.0010

Neptune -104660-03-22 10:18 J -36505561.22 -36505561.07 -36505560.91 0.0088 0.0005

Neptune -104660-06-18 12:28 J -36505473.14 -36505472.98 -36505472.83 0.0088 0.0002

Neptune -104660-09-14 14:23 J -36505385.05 -36505384.90 -36505384.74 0.0088 0.0004

Neptune -104660-12-11 16:33 J -36505296.97 -36505296.81 -36505296.66 0.0088 0.0009

Neptune -104659-03-09 18:28 J -36505208.88 -36505208.73 -36505208.58 0.0088 0.0013

Jupiter -104659-06-05 09:35 J -36505121.22 -36505121.10 -36505120.98 0.0527 0.0320

Neptune -104659-06-05 20:23 J -36505120.80 -36505120.65 -36505120.49 0.0088 0.0018

Neptune -104659-09-01 22:18 J -36505032.71 -36505032.57 -36505032.41 0.0088 0.0023

Jupiter -104659-09-03 01:40 J -36505031.56 -36505031.43 -36505031.30 0.0530 0.0224

Neptune -104659-11-29 00:28 J -36504944.62 -36504944.48 -36504944.33 0.0088 0.0027

Neptune -104658-02-25 02:23 J -36504856.54 -36504856.40 -36504856.25 0.0088 0.0031

Neptune -104658-05-24 04:18 J -36504768.45 -36504768.32 -36504768.17 0.0088 0.0036

Neptune -104658-08-20 06:28 J -36504680.37 -36504680.23 -36504680.09 0.0088 0.0040

Neptune -104658-11-16 08:09 J -36504592.28 -36504592.16 -36504592.02 0.0088 0.0045

Neptune -104657-02-12 10:18 J -36504504.19 -36504504.07 -36504503.94 0.0088 0.0049

Neptune -104657-05-10 11:59 J -36504416.11 -36504416.00 -36504415.86 0.0088 0.0054

Neptune -104657-08-06 14:09 J -36504328.02 -36504327.91 -36504327.79 0.0088 0.0057

Neptune -104657-11-02 16:04 J -36504239.93 -36504239.83 -36504239.72 0.0088 0.0062

Neptune -104656-01-29 17:45 J -36504151.84 -36504151.76 -36504151.65 0.0088 0.0066

Neptune -104656-04-27 19:40 J -36504063.76 -36504063.68 -36504063.58 0.0088 0.0071

Neptune -104656-07-24 21:35 J -36503975.67 -36503975.60 -36503975.51 0.0088 0.0075

Neptune -104656-10-20 23:45 J -36503887.57 -36503887.51 -36503887.44 0.0088 0.0079

Neptune -104655-01-17 01:40 J -36503799.48 -36503799.43 -36503799.38 0.0088 0.0083

Neptune -104655-04-15 03:06 J -36503711.37 -36503711.37 -36503711.33 0.0088 0.0088

Mars -104655-08-15 05:02 J -36503589.42 -36503589.29 -36503589.17 0.1665 0.0842

Saturn -104655-10-05 09:21 J -36503538.17 -36503538.11 -36503538.04 0.0269 0.0243

Saturn -104654-01-01 23:16 J -36503449.64 -36503449.53 -36503449.41 0.0269 0.0172

Saturn -104654-03-31 12:57 J -36503361.10 -36503360.96 -36503360.82 0.0270 0.0100

Saturn -104654-06-28 02:23 J -36503272.55 -36503272.40 -36503272.25 0.0270 0.0030

Mars -104654-06-28 20:52 J -36503271.72 -36503271.63 -36503271.53 0.1857 0.1288

Saturn -104654-09-24 15:35 J -36503183.99 -36503183.85 -36503183.70 0.0271 0.0041

Saturn -104654-12-22 04:33 J -36503095.44 -36503095.31 -36503095.17 0.0271 0.0111

Jupiter -104653-01-22 01:40 J -36503064.55 -36503064.43 -36503064.31 0.0500 0.0296

Saturn -104653-03-19 17:30 J -36503006.87 -36503006.77 -36503006.66 0.0272 0.0178

Jupiter -104653-04-20 18:28 J -36502974.87 -36502974.73 -36502974.58 0.0498 0.0191

Saturn -104653-06-16 06:14 J -36502918.29 -36502918.24 -36502918.18 0.0272 0.0245

Earth -104653-06-19 08:23 J -36502915.25 -36502915.15 -36502915.05 0.2701 0.1195

Moon -104653-06-19 08:52 J -36502915.23 -36502915.13 -36502915.02 0.2697 0.1191 *

Mars -104653-07-21 10:18 J -36502883.18 -36502883.07 -36502882.96 0.1680 0.1150

Uranus -104652-03-04 03:21 J -36502657.40 -36502657.36 -36502657.30 0.0134 0.0125

Uranus -104652-05-31 07:26 J -36502569.26 -36502569.19 -36502569.09 0.0134 0.0108

Mars -104652-06-03 20:23 J -36502565.76 -36502565.65 -36502565.55 0.1839 0.0964

Uranus -104652-08-27 11:59 J -36502481.11 -36502481.00 -36502480.89 0.0133 0.0090

Uranus -104652-11-23 16:04 J -36502392.96 -36502392.83 -36502392.70 0.0133 0.0073

Uranus -104651-02-19 20:09 J -36502304.80 -36502304.66 -36502304.52 0.0133 0.0055

Uranus -104651-05-19 00:14 J -36502216.63 -36502216.49 -36502216.35 0.0133 0.0038

Uranus -104651-08-15 04:04 J -36502128.47 -36502128.33 -36502128.17 0.0133 0.0022

Uranus -104651-11-11 08:09 J -36502040.31 -36502040.16 -36502040.01 0.0133 0.0006

Uranus -104650-02-07 12:14 J -36501952.14 -36501951.99 -36501951.84 0.0133 0.0012

Uranus -104650-05-06 16:04 J -36501863.97 -36501863.83 -36501863.68 0.0133 0.0028

Uranus -104650-08-02 19:54 J -36501775.80 -36501775.67 -36501775.53 0.0133 0.0045

Uranus -104650-10-29 23:45 J -36501687.63 -36501687.51 -36501687.37 0.0133 0.0061

Moon -104650-12-07 21:21 J -36501648.76 -36501648.61 -36501648.46 0.2638 0.0273

Earth -104650-12-07 21:21 J -36501648.76 -36501648.61 -36501648.47 0.2645 0.0351 *

Uranus -104649-01-26 03:50 J -36501599.46 -36501599.34 -36501599.22 0.0133 0.0077

Uranus -104649-04-23 07:26 J -36501511.29 -36501511.19 -36501511.08 0.0132 0.0093

Uranus -104649-07-20 11:16 J -36501423.11 -36501423.03 -36501422.95 0.0132 0.0108

Uranus -104649-10-16 14:52 J -36501334.92 -36501334.88 -36501334.83 0.0132 0.0124

Venus -104648-05-05 11:59 J -36501134.07 -36501134.00 -36501133.92 0.3776 0.2833

Jupiter -104647-03-24 10:33 J -36500811.12 -36500811.06 -36500810.98 0.0526 0.0461

Jupiter -104647-06-22 03:21 J -36500721.51 -36500721.36 -36500721.22 0.0529 0.0088

Moon -104646-06-13 03:50 J -36500365.43 -36500365.34 -36500365.26 0.2694 0.1834

Earth -104646-06-13 03:50 J -36500365.43 -36500365.34 -36500365.26 0.2687 0.1831 *

Mars -104645-01-05 10:33 J -36500159.15 -36500159.06 -36500158.97 0.1661 0.1282

Mars -104644-12-11 14:38 J -36499453.03 -36499452.89 -36499452.75 0.1676 0.0640

Mars -104643-10-25 03:06 J -36499135.49 -36499135.37 -36499135.24 0.1843 0.0453

Venus -104643-11-19 07:54 J -36499110.27 -36499110.17 -36499110.06 0.3772 0.1459

Jupiter -104642-11-10 03:35 J -36498754.44 -36498754.35 -36498754.27 0.0501 0.0411

Jupiter -104641-02-07 20:09 J -36498664.82 -36498664.66 -36498664.51 0.0498 0.0072

Saturn -104640-01-23 07:26 J -36498314.28 -36498314.19 -36498314.08 0.0291 0.0218

Saturn -104640-04-22 01:40 J -36498225.57 -36498225.43 -36498225.29 0.0291 0.0125

Earth -104640-06-22 03:21 J -36498164.42 -36498164.36 -36498164.30 0.2706 0.2250

Moon -104640-06-22 03:35 J -36498164.41 -36498164.35 -36498164.29 0.2699 0.2307 *

Saturn -104640-07-19 19:54 J -36498136.83 -36498136.67 -36498136.50 0.0290 0.0032

Saturn -104640-10-16 14:38 J -36498048.04 -36498047.89 -36498047.73 0.0290 0.0066

Saturn -104639-01-13 09:50 J -36497959.23 -36497959.09 -36497958.95 0.0289 0.0162

Saturn -104639-04-12 05:02 J -36497870.35 -36497870.29 -36497870.21 0.0288 0.0261

Venus -104637-06-04 04:18 J -36497086.44 -36497086.32 -36497086.21 0.3768 0.0080

Moon -104637-12-09 23:59 J -36496897.59 -36496897.50 -36496897.40 0.2634 0.2006

Earth -104637-12-10 00:42 J -36496897.56 -36496897.47 -36496897.37 0.2640 0.2042 *

Jupiter -104635-04-10 04:04 J -36496411.47 -36496411.33 -36496411.18 0.0529 0.0059

Jupiter -104635-07-08 19:40 J -36496321.74 -36496321.68 -36496321.62 0.0532 0.0479

Mars -104634-05-03 19:11 J -36496022.84 -36496022.70 -36496022.55 0.1672 0.0155

Mars -104633-03-16 09:21 J -36495705.23 -36495705.11 -36495704.98 0.1848 0.0106

Venus -104633-06-03 23:59 J -36495625.57 -36495625.50 -36495625.43 0.3603 0.3042

Earth -104633-06-14 23:02 J -36495614.65 -36495614.54 -36495614.43 0.2692 0.0738

Moon -104633-06-14 23:45 J -36495614.63 -36495614.51 -36495614.40 0.2696 0.0666 *

Venus -104632-12-19 00:42 J -36495062.58 -36495062.47 -36495062.36 0.3764 0.1455

Jupiter -104630-11-26 21:50 J -36494354.74 -36494354.59 -36494354.43 0.0498 0.0046

Earth -104630-12-02 21:21 J -36494348.64 -36494348.61 -36494348.59 0.2654 0.2599

Moon -104630-12-02 22:33 J -36494348.61 -36494348.56 -36494348.50 0.2652 0.2441 *

Jupiter -104629-02-24 15:35 J -36494264.91 -36494264.85 -36494264.78 0.0496 0.0450

Venus -104628-12-18 21:50 J -36493601.70 -36493601.59 -36493601.47 0.3606 0.1514

Venus -104626-07-04 21:35 J -36493038.67 -36493038.60 -36493038.53 0.3760 0.2987

Saturn -104625-02-22 10:47 J -36492806.06 -36492806.05 -36492806.01 0.0268 0.0264

Saturn -104625-05-21 00:57 J -36492717.56 -36492717.46 -36492717.35 0.0268 0.0192

Saturn -104625-08-17 14:38 J -36492629.02 -36492628.89 -36492628.75 0.0269 0.0121

Mars -104625-09-23 00:14 J -36492592.64 -36492592.49 -36492592.35 0.1668 0.0327

Saturn -104625-11-14 04:04 J -36492540.47 -36492540.33 -36492540.18 0.0269 0.0051

Saturn -104624-02-10 17:30 J -36492451.92 -36492451.77 -36492451.63 0.0270 0.0020

Saturn -104624-05-10 06:28 J -36492363.37 -36492363.23 -36492363.09 0.0270 0.0089

Mars -104624-08-06 15:35 J -36492274.97 -36492274.85 -36492274.73 0.1852 0.0654

Saturn -104624-08-06 19:26 J -36492274.81 -36492274.69 -36492274.57 0.0271 0.0157 *

Saturn -104624-11-03 08:09 J -36492186.24 -36492186.16 -36492186.08 0.0271 0.0224

Jupiter -104623-01-27 05:59 J -36492101.38 -36492101.25 -36492101.11 0.0528 0.0189

Jupiter -104623-04-26 21:50 J -36492011.69 -36492011.59 -36492011.48 0.0531 0.0354

Venus -104622-07-04 19:40 J -36491577.81 -36491577.68 -36491577.55 0.3610 0.0050

Mars -104622-07-13 13:40 J -36491569.00 -36491568.93 -36491568.86 0.1834 0.1516

Earth -104620-06-17 18:14 J -36490863.85 -36490863.74 -36490863.62 0.2697 0.0346

Moon -104620-06-17 18:57 J -36490863.82 -36490863.71 -36490863.59 0.2698 0.0378 *

Jupiter -104618-09-14 23:16 J -36490044.67 -36490044.53 -36490044.38 0.0499 0.0165

Jupiter -104618-12-13 16:33 J -36489954.93 -36489954.81 -36489954.69 0.0496 0.0325

Earth -104617-12-05 00:14 J -36489597.63 -36489597.49 -36489597.35 0.2649 0.0974

Moon -104617-12-05 01:11 J -36489597.59 -36489597.45 -36489597.31 0.2644 0.0978 *

Venus -104616-01-17 16:47 J -36489553.91 -36489553.80 -36489553.68 0.3614 0.1396

Mars -104615-02-13 05:16 J -36489162.40 -36489162.28 -36489162.15 0.1665 0.0791

Mars -104615-12-27 21:06 J -36488844.71 -36488844.62 -36488844.52 0.1857 0.1237

Mars -104613-01-20 10:47 J -36488456.15 -36488456.05 -36488455.94 0.1680 0.1207

Mars -104613-12-02 20:38 J -36488138.74 -36488138.64 -36488138.53 0.1839 0.1018

Jupiter -104612-11-15 08:09 J -36487791.28 -36487791.16 -36487791.04 0.0528 0.0317

Jupiter -104611-02-13 00:14 J -36487701.61 -36487701.49 -36487701.35 0.0530 0.0229

Saturn -104611-06-12 05:45 J -36487582.33 -36487582.26 -36487582.19 0.0292 0.0256

Venus -104611-08-03 13:54 J -36487530.00 -36487529.92 -36487529.84 0.3618 0.2768

Saturn -104611-09-08 23:30 J -36487493.65 -36487493.52 -36487493.38 0.0291 0.0165

Saturn -104611-12-06 17:45 J -36487404.91 -36487404.76 -36487404.60 0.0291 0.0071

Saturn -104610-03-05 12:28 J -36487316.15 -36487315.98 -36487315.82 0.0290 0.0025

Saturn -104610-06-02 07:11 J -36487227.34 -36487227.20 -36487227.05 0.0290 0.0122

Saturn -104610-08-30 02:23 J -36487138.50 -36487138.40 -36487138.29 0.0289 0.0219

Uranus -104608-10-27 01:11 J -36486349.52 -36486349.45 -36486349.35 0.0145 0.0125

Uranus -104607-01-23 07:26 J -36486261.30 -36486261.19 -36486261.07 0.0145 0.0101

Uranus -104607-04-21 13:26 J -36486173.07 -36486172.94 -36486172.80 0.0146 0.0077

Earth -104607-06-20 13:26 J -36486113.04 -36486112.94 -36486112.85 0.2701 0.1415

Moon -104607-06-20 13:54 J -36486113.02 -36486112.92 -36486112.83 0.2696 0.1529 *

Uranus -104607-07-18 19:26 J -36486084.83 -36486084.69 -36486084.53 0.0146 0.0054

Uranus -104607-10-15 01:40 J -36485996.59 -36485996.43 -36485996.26 0.0146 0.0030

Uranus -104606-01-11 08:09 J -36485908.33 -36485908.16 -36485908.00 0.0146 0.0006

Uranus -104606-04-09 14:23 J -36485820.07 -36485819.90 -36485819.74 0.0146 0.0020

Jupiter -104606-07-04 00:42 J -36485734.59 -36485734.47 -36485734.34 0.0500 0.0285

Mars -104606-07-06 10:47 J -36485732.14 -36485732.05 -36485731.95 0.1661 0.1237

Uranus -104606-07-06 20:38 J -36485731.80 -36485731.64 -36485731.48 0.0146 0.0045

Jupiter -104606-10-01 17:45 J -36485644.91 -36485644.76 -36485644.62 0.0497 0.0202

Uranus -104606-10-03 02:52 J -36485643.52 -36485643.38 -36485643.22 0.0146 0.0071

Uranus -104606-12-30 09:35 J -36485555.23 -36485555.10 -36485554.97 0.0146 0.0095

Uranus -104605-03-27 15:50 J -36485466.92 -36485466.84 -36485466.73 0.0146 0.0122

Mars -104605-05-19 02:23 J -36485414.41 -36485414.40 -36485414.38 0.1861 0.1839

Mars -104604-06-11 15:06 J -36485026.01 -36485025.87 -36485025.74 0.1676 0.0695

Moon -104604-12-08 03:21 J -36484846.51 -36484846.36 -36484846.22 0.2637 0.0763

Earth -104604-12-08 03:35 J -36484846.50 -36484846.35 -36484846.21 0.2644 0.0692 *

Mars -104603-04-25 03:06 J -36484708.49 -36484708.37 -36484708.25 0.1843 0.0494

Earth -104600-06-13 08:52 J -36483563.23 -36483563.13 -36483563.04 0.2687 0.1604

Moon -104600-06-13 08:52 J -36483563.22 -36483563.13 -36483563.04 0.2694 0.1621 *

Jupiter -104600-09-03 09:35 J -36483481.17 -36483481.10 -36483481.02 0.0526 0.0451

Jupiter -104600-12-02 02:09 J -36483391.55 -36483391.41 -36483391.26 0.0529 0.0098

Venus -104597-05-26 14:52 J -36482484.90 -36482484.88 -36482484.86 0.3778 0.3704

Saturn -104596-10-08 01:54 J -36481985.51 -36481985.42 -36481985.33 0.0269 0.0217

Saturn -104595-01-04 15:35 J -36481896.97 -36481896.85 -36481896.72 0.0269 0.0146

Saturn -104595-04-03 05:16 J -36481808.42 -36481808.28 -36481808.14 0.0270 0.0075

Saturn -104595-06-30 18:42 J -36481719.87 -36481719.72 -36481719.57 0.0270 0.0007

Saturn -104595-09-27 07:40 J -36481631.32 -36481631.18 -36481631.03 0.0271 0.0066

Mars -104595-11-01 19:40 J -36481595.83 -36481595.68 -36481595.53 0.1672 0.0200

Saturn -104595-12-24 20:38 J -36481542.76 -36481542.64 -36481542.51 0.0271 0.0134

Saturn -104594-03-23 09:35 J -36481454.19 -36481454.10 -36481454.00 0.0272 0.0202

Jupiter -104594-04-22 02:09 J -36481424.50 -36481424.41 -36481424.32 0.0501 0.0405

Saturn -104594-06-19 22:18 J -36481365.59 -36481365.57 -36481365.55 0.0272 0.0269

Moon -104594-06-23 08:23 J -36481362.20 -36481362.15 -36481362.10 0.2700 0.2417

Earth -104594-06-23 08:23 J -36481362.19 -36481362.15 -36481362.11 0.2706 0.2474 *

Jupiter -104594-07-20 18:42 J -36481334.88 -36481334.72 -36481334.57 0.0498 0.0077

Mars -104594-09-15 09:35 J -36481278.23 -36481278.10 -36481277.97 0.1848 0.0054

Venus -104592-12-10 10:33 J -36480461.14 -36480461.06 -36480460.97 0.3775 0.2365

Moon -104591-12-11 05:59 J -36480095.32 -36480095.25 -36480095.17 0.2634 0.2232

Earth -104591-12-11 06:57 J -36480095.27 -36480095.21 -36480095.15 0.2639 0.2387 *

Jupiter -104588-09-20 03:50 J -36479081.49 -36479081.34 -36479081.20 0.0529 0.0043

Jupiter -104588-12-18 19:11 J -36478991.75 -36478991.70 -36478991.66 0.0531 0.0495

Pluto -104587-02-15 14:23 J -36478932.94 -36478932.90 -36478932.80 0.0060 0.0056

Pluto -104587-05-14 16:18 J -36478844.93 -36478844.82 -36478844.70 0.0060 0.0049

Earth -104587-06-16 04:04 J -36478812.44 -36478812.33 -36478812.22 0.2692 0.0511

Moon -104587-06-16 04:47 J -36478812.41 -36478812.30 -36478812.19 0.2696 0.0447 *

Pluto -104587-08-10 17:30 J -36478756.89 -36478756.77 -36478756.61 0.0060 0.0042

Pluto -104587-11-06 18:57 J -36478668.85 -36478668.71 -36478668.53 0.0060 0.0035

Pluto -104586-02-02 20:38 J -36478580.80 -36478580.64 -36478580.45 0.0061 0.0027

Pluto -104586-05-01 22:04 J -36478492.75 -36478492.58 -36478492.38 0.0061 0.0020

Venus -104586-06-26 06:42 J -36478437.34 -36478437.22 -36478437.11 0.3771 0.0977

Pluto -104586-07-28 23:45 J -36478404.70 -36478404.51 -36478404.31 0.0061 0.0012

Pluto -104586-10-25 01:11 J -36478316.64 -36478316.45 -36478316.24 0.0061 0.0005

Pluto -104585-01-21 02:52 J -36478228.58 -36478228.38 -36478228.18 0.0061 0.0003

Mars -104585-03-24 00:28 J -36478165.63 -36478165.48 -36478165.34 0.1668 0.0285

Pluto -104585-04-18 04:04 J -36478140.51 -36478140.33 -36478140.12 0.0061 0.0011

Pluto -104585-07-15 05:45 J -36478052.44 -36478052.26 -36478052.07 0.0061 0.0018

Pluto -104585-10-11 06:57 J -36477964.37 -36477964.21 -36477964.01 0.0061 0.0026

Pluto -104584-01-07 08:38 J -36477876.29 -36477876.14 -36477875.96 0.0061 0.0033

Mars -104584-02-04 15:50 J -36477847.97 -36477847.84 -36477847.72 0.1852 0.0605

Pluto -104584-04-05 09:50 J -36477788.21 -36477788.09 -36477787.92 0.0061 0.0042

Pluto -104584-07-02 11:45 J -36477700.12 -36477700.01 -36477699.88 0.0061 0.0049

Pluto -104584-09-28 12:57 J -36477612.01 -36477611.96 -36477611.86 0.0061 0.0057

Earth -104584-12-03 03:21 J -36477546.43 -36477546.36 -36477546.29 0.2654 0.2274

Moon -104584-12-03 04:47 J -36477546.38 -36477546.30 -36477546.22 0.2651 0.2183 *

Mars -104582-01-11 13:54 J -36477141.98 -36477141.92 -36477141.86 0.1834 0.1565

Jupiter -104582-05-08 20:23 J -36477024.81 -36477024.65 -36477024.50 0.0499 0.0040

Neptune -104582-08-01 11:59 J -36476940.00 -36476940.00 -36476939.96 0.0089 0.0088

Jupiter -104582-08-06 13:54 J -36476934.98 -36476934.92 -36476934.85 0.0496 0.0454

Neptune -104582-10-28 14:23 J -36476851.94 -36476851.90 -36476851.84 0.0089 0.0083

Saturn -104582-10-30 06:28 J -36476850.26 -36476850.23 -36476850.18 0.0292 0.0281

Neptune -104581-01-24 16:18 J -36476763.87 -36476763.82 -36476763.73 0.0089 0.0079

Saturn -104581-01-27 00:28 J -36476761.60 -36476761.48 -36476761.36 0.0291 0.0189

Neptune -104581-04-21 18:42 J -36476675.80 -36476675.72 -36476675.63 0.0089 0.0074

Saturn -104581-04-24 18:42 J -36476672.87 -36476672.72 -36476672.57 0.0291 0.0096

Neptune -104581-07-18 20:38 J -36476587.72 -36476587.64 -36476587.53 0.0089 0.0070

Saturn -104581-07-22 13:11 J -36476584.11 -36476583.95 -36476583.79 0.0290 0.0005

Neptune -104581-10-14 23:02 J -36476499.64 -36476499.54 -36476499.43 0.0089 0.0065

Saturn -104581-10-19 07:54 J -36476495.32 -36476495.17 -36476495.01 0.0289 0.0096

Venus -104580-01-09 02:52 J -36476413.49 -36476413.38 -36476413.26 0.3767 0.0477

Neptune -104580-01-11 00:57 J -36476411.56 -36476411.46 -36476411.33 0.0089 0.0061

Saturn -104580-01-16 03:06 J -36476406.49 -36476406.37 -36476406.25 0.0289 0.0193

Neptune -104580-04-09 03:21 J -36476323.48 -36476323.36 -36476323.23 0.0089 0.0056

Neptune -104580-07-06 05:16 J -36476235.39 -36476235.28 -36476235.14 0.0089 0.0052

Neptune -104580-10-02 07:40 J -36476147.31 -36476147.18 -36476147.04 0.0089 0.0047

Neptune -104580-12-29 10:04 J -36476059.22 -36476059.08 -36476058.94 0.0089 0.0042

Neptune -104579-03-27 11:59 J -36475971.13 -36475971.00 -36475970.84 0.0089 0.0038

Neptune -104579-06-23 14:23 J -36475883.04 -36475882.90 -36475882.75 0.0089 0.0033

Neptune -104579-09-19 16:47 J -36475794.95 -36475794.80 -36475794.65 0.0089 0.0028

Neptune -104579-12-16 18:57 J -36475706.86 -36475706.71 -36475706.55 0.0089 0.0024

Neptune -104578-03-14 21:06 J -36475618.77 -36475618.62 -36475618.46 0.0089 0.0019

Neptune -104578-06-10 23:30 J -36475530.68 -36475530.52 -36475530.36 0.0089 0.0014

Neptune -104578-09-07 01:40 J -36475442.59 -36475442.43 -36475442.26 0.0089 0.0010

Neptune -104578-12-04 04:04 J -36475354.49 -36475354.33 -36475354.17 0.0089 0.0005

Neptune -104577-03-01 06:28 J -36475266.40 -36475266.23 -36475266.07 0.0089 0.0002

Neptune -104577-05-28 08:38 J -36475178.30 -36475178.14 -36475177.98 0.0089 0.0005

Neptune -104577-08-24 11:02 J -36475090.20 -36475090.04 -36475089.88 0.0089 0.0010

Neptune -104577-11-20 13:11 J -36475002.10 -36475001.95 -36475001.78 0.0089 0.0015

Venus   -104576-01-08 23:02 J -36474952.63 -36474952.54 -36474952.45 0.3604 0.2518

Neptune -104576-02-16 15:35 J -36474914.01 -36474913.85 -36474913.69 0.0089 0.0020

Neptune -104576-05-15 17:45 J -36474825.91 -36474825.76 -36474825.59 0.0089 0.0025

Jupiter -104576-07-09 04:18 J -36474771.45 -36474771.32 -36474771.18 0.0528 0.0187

Neptune -104576-08-11 20:23 J -36474737.80 -36474737.65 -36474737.50 0.0089 0.0029

Mars   -104576-08-14 05:45 J -36474735.39 -36474735.26 -36474735.13 0.1665 0.0741

Jupiter -104576-10-06 20:09 J -36474681.76 -36474681.66 -36474681.55 0.0531 0.0355

Neptune -104576-11-07 22:47 J -36474649.70 -36474649.55 -36474649.40 0.0089 0.0034

Neptune -104575-02-04 00:57 J -36474561.60 -36474561.46 -36474561.31 0.0089 0.0039

Neptune -104575-05-03 03:21 J -36474473.49 -36474473.36 -36474473.21 0.0089 0.0044

Mars   -104575-06-27 21:21 J -36474417.71 -36474417.61 -36474417.51 0.1857 0.1186

Venus   -104575-07-25 23:30 J -36474389.62 -36474389.52 -36474389.42 0.3763 0.1953

Neptune -104575-07-30 05:45 J -36474385.39 -36474385.26 -36474385.12 0.0089 0.0049

Neptune -104575-10-26 08:09 J -36474297.28 -36474297.16 -36474297.02 0.0089 0.0054

Neptune -104574-01-22 10:33 J -36474209.17 -36474209.06 -36474208.93 0.0089 0.0059

Neptune -104574-04-20 12:57 J -36474121.06 -36474120.96 -36474120.84 0.0089 0.0064

Earth   -104574-06-18 23:16 J -36474061.64 -36474061.53 -36474061.42 0.2697 0.0566

Moon   -104574-06-18 23:59 J -36474061.61 -36474061.50 -36474061.39 0.2697 0.0684 *

Neptune -104574-07-17 15:21 J -36474032.95 -36474032.86 -36474032.74 0.0089 0.0069

Mars   -104574-07-21 11:16 J -36474029.13 -36474029.03 -36474028.93 0.1680 0.1256

Neptune -104574-10-13 17:59 J -36473944.83 -36473944.75 -36473944.65 0.0089 0.0074

Neptune -104573-01-09 20:23 J -36473856.71 -36473856.65 -36473856.57 0.0089 0.0079

Neptune -104573-04-06 22:47 J -36473768.59 -36473768.55 -36473768.49 0.0089 0.0084

Mars   -104573-06-02 20:52 J -36473711.73 -36473711.63 -36473711.53 0.1838 0.1065

Venus   -104571-07-25 21:06 J -36472928.75 -36472928.62 -36472928.50 0.3608 0.1003

Earth -104571-12-06 06:14 J -36472795.38 -36472795.24 -36472795.09 0.2648 0.0651

Moon -104571-12-06 06:57 J -36472795.35 -36472795.21 -36472795.06 0.2643 0.0520 *

Jupiter -104570-02-24 22:18 J -36472714.72 -36472714.57 -36472714.42 0.0499 0.0154

Jupiter -104570-05-25 15:35 J -36472624.96 -36472624.85 -36472624.73 0.0497 0.0337

Venus -104569-02-08 20:23 J -36472365.69 -36472365.65 -36472365.61 0.3758 0.3496

Uranus -104568-03-24 11:30 J -36471956.08 -36471956.02 -36471955.94 0.0134 0.0117

Uranus -104568-06-20 15:50 J -36471867.94 -36471867.84 -36471867.74 0.0134 0.0100

Uranus -104568-09-16 19:54 J -36471779.78 -36471779.67 -36471779.55 0.0133 0.0082

Uranus -104568-12-13 23:59 J -36471691.62 -36471691.50 -36471691.36 0.0133 0.0065

Uranus -104567-03-12 04:04 J -36471603.46 -36471603.33 -36471603.18 0.0133 0.0048

Uranus -104567-06-08 08:09 J -36471515.30 -36471515.16 -36471515.01 0.0133 0.0032

Moon -104567-06-11 17:59 J -36471511.77 -36471511.75 -36471511.72 0.2690 0.2589

Earth -104567-06-11 18:28 J -36471511.77 -36471511.73 -36471511.69 0.2683 0.2477 *

Uranus -104567-09-04 12:14 J -36471427.13 -36471426.99 -36471426.84 0.0133 0.0015

Uranus -104567-12-01 16:18 J -36471338.97 -36471338.82 -36471338.67 0.0133 0.0003

Mars -104566-01-04 11:16 J -36471305.13 -36471305.03 -36471304.93 0.1661 0.1186

Saturn -104566-02-25 03:35 J -36471253.42 -36471253.35 -36471253.28 0.0268 0.0237

Uranus -104566-02-27 20:09 J -36471250.80 -36471250.66 -36471250.51 0.0133 0.0020

Saturn -104566-05-24 17:16 J -36471164.89 -36471164.78 -36471164.65 0.0268 0.0166

Uranus -104566-05-27 00:14 J -36471162.63 -36471162.49 -36471162.35 0.0133 0.0036

Saturn -104566-08-21 06:57 J -36471076.35 -36471076.21 -36471076.07 0.0269 0.0095

Uranus -104566-08-23 04:04 J -36471074.46 -36471074.33 -36471074.19 0.0133 0.0052

Saturn -104566-11-17 20:23 J -36470987.80 -36470987.65 -36470987.50 0.0269 0.0025

Mars -104566-11-18 02:52 J -36470987.42 -36470987.38 -36470987.35 0.1861 0.1780

Uranus -104566-11-19 07:40 J -36470986.29 -36470986.18 -36470986.04 0.0133 0.0069

Venus -104565-02-08 18:28 J -36470904.85 -36470904.73 -36470904.60 0.3611 0.0464

Saturn -104565-02-14 09:35 J -36470899.24 -36470899.10 -36470898.95 0.0270 0.0045

Uranus -104565-02-15 11:30 J -36470898.12 -36470898.02 -36470897.89 0.0132 0.0085

Saturn -104565-05-12 22:47 J -36470810.69 -36470810.55 -36470810.42 0.0270 0.0114

Uranus -104565-05-13 15:21 J -36470809.94 -36470809.86 -36470809.75 0.0132 0.0100

Saturn -104565-08-09 11:30 J -36470722.13 -36470722.02 -36470721.91 0.0271 0.0181

Uranus -104565-08-09 19:26 J -36470721.76 -36470721.69 -36470721.62 0.0132 0.0116

Uranus -104565-11-05 22:47 J -36470633.55 -36470633.55 -36470633.52 0.0132 0.0132

Saturn -104565-11-05 23:59 J -36470633.55 -36470633.50 -36470633.44 0.0271 0.0248 *

Mars -104565-12-10 15:35 J -36470598.98 -36470598.85 -36470598.72 0.1676 0.0750

Jupiter -104564-04-27 06:14 J -36470461.36 -36470461.24 -36470461.12 0.0528 0.0318

Jupiter -104564-07-25 22:33 J -36470371.69 -36470371.56 -36470371.43 0.0531 0.0228

Mars -104564-10-24 03:21 J -36470281.48 -36470281.36 -36470281.23 0.1843 0.0549

Earth -104561-06-20 18:14 J -36469310.83 -36469310.74 -36469310.65 0.2702 0.1639

Moon -104561-06-20 18:57 J -36469310.80 -36469310.71 -36469310.62 0.2696 0.1616 *

Venus -104560-08-24 15:50 J -36468880.95 -36468880.84 -36468880.73 0.3615 0.1866

Jupiter -104559-12-13 23:59 J -36468404.63 -36468404.50 -36468404.37 0.0500 0.0273

Jupiter -104558-03-13 16:47 J -36468314.94 -36468314.80 -36468314.66 0.0497 0.0213

Moon -104558-12-09 09:21 J -36468044.25 -36468044.11 -36468043.97 0.2636 0.0904

Earth -104558-12-09 09:35 J -36468044.24 -36468044.10 -36468043.96 0.2643 0.1025 *

Mars -104557-05-26 17:02 J -36467874.82 -36467874.79 -36467874.76 0.1658 0.1619

Mars -104555-05-02 19:54 J -36467168.81 -36467168.67 -36467168.52 0.1672 0.0253

Venus -104554-03-10 12:42 J -36466857.02 -36466856.97 -36466856.91 0.3619 0.3217

Mars -104554-03-16 09:50 J -36466851.22 -36466851.09 -36466850.97 0.1848 0.0034

Earth -104554-06-14 13:54 J -36466761.02 -36466760.92 -36466760.82 0.2688 0.1378

Moon -104554-06-14 14:09 J -36466761.01 -36466760.91 -36466760.81 0.2694 0.1312 *

Jupiter -104552-02-13 08:09 J -36466151.24 -36466151.16 -36466151.08 0.0527 0.0447

Jupiter -104552-05-14 00:57 J -36466061.61 -36466061.46 -36466061.32 0.0530 0.0103

Saturn -104552-06-14 22:18 J -36466029.66 -36466029.57 -36466029.47 0.0292 0.0229

Saturn -104552-09-11 16:18 J -36465940.96 -36465940.82 -36465940.68 0.0291 0.0137

Saturn -104552-12-09 10:33 J -36465852.22 -36465852.06 -36465851.90 0.0291 0.0043

Saturn -104551-03-08 05:16 J -36465763.44 -36465763.28 -36465763.12 0.0290 0.0053

Saturn -104551-06-05 00:14 J -36465674.63 -36465674.49 -36465674.35 0.0289 0.0150

Saturn -104551-09-01 19:26 J -36465585.77 -36465585.69 -36465585.60 0.0289 0.0249

Earth -104548-06-23 13:26 J -36464559.95 -36464559.94 -36464559.94 0.2707 0.2692

Jupiter -104547-10-02 01:40 J -36464094.53 -36464094.43 -36464094.34 0.0500 0.0390

Jupiter -104547-12-30 17:59 J -36464004.90 -36464004.75 -36464004.59 0.0498 0.0092

Mars -104546-09-23 00:57 J -36463738.61 -36463738.46 -36463738.32 0.1668 0.0230

Mars -104545-08-05 15:50 J -36463420.96 -36463420.84 -36463420.72 0.1853 0.0557

Mars -104543-07-12 13:54 J -36462714.98 -36462714.92 -36462714.86 0.1834 0.1609

Earth -104541-06-16 09:06 J -36462010.24 -36462010.12 -36462010.01 0.2693 0.0287

Moon -104541-06-16 09:50 J -36462010.21 -36462010.09 -36462009.98 0.2697 0.0224 *

Venus -104541-12-31 13:26 J -36461812.00 -36461811.94 -36461811.88 0.3777 0.3244

Jupiter -104540-03-02 02:38 J -36461751.53 -36461751.39 -36461751.24 0.0529 0.0033

Jupiter -104540-05-30 18:14 J -36461661.78 -36461661.74 -36461661.70 0.0531 0.0506

Earth -104538-12-04 09:21 J -36460744.20 -36460744.11 -36460744.01 0.2653 0.1956

Moon -104538-12-04 10:47 J -36460744.16 -36460744.05 -36460743.95 0.2650 0.1828 *

Saturn -104537-07-14 04:04 J -36460521.35 -36460521.33 -36460521.30 0.0268 0.0264

Saturn -104537-10-10 17:59 J -36460432.85 -36460432.75 -36460432.64 0.0269 0.0193

Saturn -104536-01-07 07:40 J -36460344.31 -36460344.18 -36460344.04 0.0269 0.0121

Mars -104536-02-12 05:59 J -36460308.38 -36460308.25 -36460308.12 0.1664 0.0696

Saturn -104536-04-05 21:21 J -36460255.76 -36460255.61 -36460255.47 0.0270 0.0051

Saturn -104536-07-03 10:33 J -36460167.21 -36460167.06 -36460166.91 0.0270 0.0019

Saturn -104536-09-29 23:45 J -36460078.65 -36460078.51 -36460078.37 0.0271 0.0089

Mars -104536-12-26 21:35 J -36459990.70 -36459990.60 -36459990.50 0.1857 0.1132

Saturn -104536-12-27 12:28 J -36459990.09 -36459989.98 -36459989.86 0.0271 0.0157

Saturn -104535-03-26 01:11 J -36459901.52 -36459901.45 -36459901.36 0.0272 0.0224

Venus -104535-07-17 09:06 J -36459788.22 -36459788.12 -36459788.02 0.3774 0.1900

Jupiter -104535-10-18 19:11 J -36459694.86 -36459694.70 -36459694.55 0.0499 0.0033

Jupiter -104534-01-16 12:42 J -36459605.02 -36459604.97 -36459604.91 0.0496 0.0462

Mars -104534-01-19 11:45 J -36459602.10 -36459602.01 -36459601.92 0.1680 0.1313

Mars -104534-12-02 20:52 J -36459284.73 -36459284.63 -36459284.53 0.1839 0.1110

Venus -104529-01-31 05:16 J -36457764.39 -36457764.28 -36457764.16 0.3770 0.0494

Jupiter -104529-12-19 04:04 J -36457441.46 -36457441.33 -36457441.19 0.0528 0.0166

Jupiter -104528-03-18 19:54 J -36457351.77 -36457351.67 -36457351.57 0.0531 0.0374

Earth -104528-06-19 04:18 J -36457259.43 -36457259.32 -36457259.21 0.2698 0.0792

Moon -104528-06-19 05:02 J -36457259.40 -36457259.29 -36457259.18 0.2695 0.0840 *

Mars -104527-07-05 11:30 J -36456878.12 -36456878.02 -36456877.92 0.1661 0.1143

Mars -104526-05-19 03:06 J -36456560.42 -36456560.37 -36456560.33 0.1861 0.1730

Venus -104525-01-30 23:59 J -36456303.51 -36456303.50 -36456303.48 0.3601 0.3547

Mars -104525-06-10 15:50 J -36456171.97 -36456171.84 -36456171.71 0.1676 0.0793

Earth -104525-12-06 12:28 J -36455993.13 -36455992.98 -36455992.84 0.2648 0.0317

Moon -104525-12-06 12:42 J -36455993.11 -36455992.97 -36455992.82 0.2641 0.0335 *

Mars -104524-04-24 03:35 J -36455854.47 -36455854.35 -36455854.23 0.1844 0.0593

Venus -104524-08-16 01:40 J -36455740.55 -36455740.43 -36455740.32 0.3766 0.0957

Uranus -104524-08-20 04:18 J -36455736.37 -36455736.32 -36455736.27 0.0145 0.0137

Uranus -104524-11-16 10:18 J -36455648.17 -36455648.07 -36455647.97 0.0145 0.0114

Uranus -104523-02-12 16:04 J -36455559.95 -36455559.83 -36455559.70 0.0145 0.0091

Uranus -104523-05-11 22:18 J -36455471.72 -36455471.57 -36455471.42 0.0146 0.0067

Jupiter -104523-08-06 20:52 J -36455384.78 -36455384.63 -36455384.48 0.0499 0.0148

Uranus -104523-08-08 04:18 J -36455383.47 -36455383.32 -36455383.16 0.0146 0.0043

Saturn -104523-11-01 22:47 J -36455297.62 -36455297.55 -36455297.47 0.0291 0.0255

Uranus -104523-11-04 10:33 J -36455295.22 -36455295.06 -36455294.89 0.0146 0.0019

Jupiter -104523-11-04 14:09 J -36455295.02 -36455294.91 -36455294.79 0.0497 0.0343 *

Saturn -104522-01-29 16:33 J -36455208.93 -36455208.81 -36455208.67 0.0291 0.0164

Uranus -104522-01-31 16:47 J -36455206.96 -36455206.80 -36455206.63 0.0146 0.0006

Saturn -104522-04-28 11:02 J -36455120.20 -36455120.04 -36455119.89 0.0290 0.0070

Uranus -104522-04-29 23:02 J -36455118.70 -36455118.54 -36455118.37 0.0146 0.0031

Saturn -104522-07-26 05:30 J -36455031.43 -36455031.27 -36455031.11 0.0290 0.0025

Uranus -104522-07-27 05:30 J -36455030.42 -36455030.27 -36455030.11 0.0146 0.0056

Saturn -104522-10-23 00:28 J -36454942.63 -36454942.48 -36454942.33 0.0289 0.0122

Uranus -104522-10-23 11:45 J -36454942.14 -36454942.01 -36454941.86 0.0146 0.0082

Uranus -104521-01-19 18:28 J -36454853.84 -36454853.73 -36454853.61 0.0146 0.0107

Saturn -104521-01-19 19:40 J -36454853.78 -36454853.68 -36454853.57 0.0289 0.0220 *

Uranus -104521-04-17 00:57 J -36454765.52 -36454765.46 -36454765.38 0.0146 0.0132

Moon -104521-06-11 23:16 J -36454709.60 -36454709.53 -36454709.47 0.2691 0.2222

Earth -104521-06-11 23:30 J -36454709.58 -36454709.52 -36454709.46 0.2684 0.2250 *

Venus -104520-08-15 22:18 J -36454279.68 -36454279.57 -36454279.46 0.3605 0.1989

Venus -104518-03-01 22:18 J -36453716.66 -36453716.57 -36453716.48 0.3762 0.2463

Mars -104518-11-25 17:30 J -36453447.82 -36453447.77 -36453447.73 0.1658 0.1572

Jupiter -104517-10-07 04:33 J -36453131.42 -36453131.31 -36453131.19 0.0527 0.0315

Jupiter -104516-01-04 20:52 J -36453041.76 -36453041.63 -36453041.50 0.0530 0.0231

Mars -104516-10-31 20:23 J -36452741.79 -36452741.65 -36452741.50 0.1672 0.0305

Earth -104515-06-21 23:16 J -36452508.61 -36452508.53 -36452508.45 0.2703 0.1855

Moon -104515-06-21 23:45 J -36452508.59 -36452508.51 -36452508.43 0.2697 0.1945 *

Mars -104515-09-14 10:04 J -36452424.21 -36452424.08 -36452423.96 0.1848 0.0069

Venus -104514-03-01 20:09 J -36452255.79 -36452255.66 -36452255.54 0.3608 0.0496

Moon -104512-12-09 15:21 J -36451241.99 -36451241.86 -36451241.73 0.2637 0.1404

Earth -104512-12-09 15:50 J -36451241.97 -36451241.84 -36451241.72 0.2643 0.1363 *

Jupiter -104511-05-25 23:02 J -36451074.67 -36451074.54 -36451074.41 0.0500 0.0260

Jupiter -104511-08-23 15:50 J -36450984.98 -36450984.84 -36450984.69 0.0497 0.0227

Venus -104509-09-14 17:30 J -36450231.89 -36450231.77 -36450231.65 0.3612 0.0946

Earth -104508-06-14 18:57 J -36449958.82 -36449958.71 -36449958.61 0.2689 0.1156

Moon -104508-06-14 19:11 J -36449958.80 -36449958.70 -36449958.59 0.2695 0.1177 *

Saturn -104507-02-27 19:40 J -36449700.76 -36449700.68 -36449700.58 0.0268 0.0213

Saturn -104507-05-27 09:35 J -36449612.23 -36449612.10 -36449611.97 0.0269 0.0141

Saturn -104507-08-23 23:02 J -36449523.68 -36449523.54 -36449523.39 0.0269 0.0071

Saturn -104507-11-20 12:28 J -36449435.13 -36449434.98 -36449434.83 0.0269 0.0004

Saturn -104506-02-17 01:26 J -36449346.58 -36449346.44 -36449346.29 0.0270 0.0069

Mars -104506-03-24 01:26 J -36449311.59 -36449311.44 -36449311.30 0.1668 0.0186

Saturn -104506-05-16 14:23 J -36449258.02 -36449257.90 -36449257.77 0.0270 0.0137

Saturn -104506-08-13 03:21 J -36449169.46 -36449169.36 -36449169.27 0.0271 0.0204

Saturn -104506-11-09 15:50 J -36449080.85 -36449080.84 -36449080.83 0.0271 0.0270

Mars -104505-02-04 16:04 J -36448993.95 -36448993.83 -36448993.71 0.1853 0.0504

Jupiter -104505-07-26 06:14 J -36448821.31 -36448821.24 -36448821.16 0.0527 0.0448

Jupiter -104505-10-23 23:02 J -36448731.68 -36448731.54 -36448731.40 0.0530 0.0102

Mars -104503-01-10 14:09 J -36448287.96 -36448287.91 -36448287.86 0.1834 0.1657

Venus -104503-03-31 14:52 J -36448207.98 -36448207.88 -36448207.79 0.3616 0.2338

Neptune -104500-11-10 19:40 J -36446887.72 -36446887.68 -36446887.63 0.0088 0.0085

Neptune -104499-02-06 22:04 J -36446799.65 -36446799.58 -36446799.51 0.0088 0.0080

Jupiter -104499-03-14 00:42 J -36446764.57 -36446764.47 -36446764.37 0.0500 0.0378

Neptune -104499-05-05 23:59 J -36446711.57 -36446711.50 -36446711.40 0.0088 0.0075

Jupiter -104499-06-11 17:16 J -36446674.94 -36446674.78 -36446674.63 0.0498 0.0105

Neptune -104499-08-02 02:09 J -36446623.49 -36446623.41 -36446623.30 0.0088 0.0071

Neptune -104499-10-29 04:33 J -36446535.41 -36446535.31 -36446535.20 0.0088 0.0066

Neptune -104498-01-25 06:42 J -36446447.33 -36446447.22 -36446447.10 0.0088 0.0061

Neptune -104498-04-23 08:38 J -36446359.24 -36446359.14 -36446359.00 0.0088 0.0057

Neptune -104498-07-20 11:02 J -36446271.16 -36446271.04 -36446270.90 0.0088 0.0052

Neptune -104498-10-16 13:11 J -36446183.08 -36446182.95 -36446182.81 0.0088 0.0047

Neptune -104497-01-12 15:21 J -36446094.99 -36446094.86 -36446094.71 0.0088 0.0042

Neptune -104497-04-09 17:30 J -36446006.91 -36446006.77 -36446006.62 0.0088 0.0037

Neptune -104497-07-06 19:40 J -36445918.82 -36445918.68 -36445918.53 0.0088 0.0033

Mars -104497-08-13 06:28 J -36445881.37 -36445881.23 -36445881.10 0.1664 0.0646

Neptune -104497-10-02 21:35 J -36445830.74 -36445830.60 -36445830.44 0.0088 0.0029

Neptune -104497-12-29 23:59 J -36445742.65 -36445742.50 -36445742.35 0.0088 0.0023

Neptune -104496-03-28 02:09 J -36445654.56 -36445654.41 -36445654.26 0.0088 0.0019

Neptune -104496-06-24 04:04 J -36445566.48 -36445566.33 -36445566.17 0.0088 0.0014

Mars -104496-06-26 21:50 J -36445563.70 -36445563.59 -36445563.49 0.1857 0.1084

Neptune -104496-09-20 06:14 J -36445478.39 -36445478.24 -36445478.08 0.0088 0.0010

Neptune -104496-12-17 08:23 J -36445390.31 -36445390.15 -36445390.00 0.0088 0.0005

Neptune -104495-03-15 10:18 J -36445302.22 -36445302.07 -36445301.91 0.0088 0.0002

Neptune -104495-06-11 12:28 J -36445214.14 -36445213.98 -36445213.83 0.0088 0.0004

Earth -104495-06-17 14:09 J -36445208.03 -36445207.91 -36445207.80 0.2694 0.0086

Moon -104495-06-17 14:52 J -36445208.00 -36445207.88 -36445207.77 0.2696 0.0052 *

Mars -104495-07-20 11:59 J -36445175.08 -36445175.00 -36445174.91 0.1680 0.1364

Neptune -104495-09-07 14:23 J -36445126.05 -36445125.90 -36445125.74 0.0088 0.0009

Neptune -104495-12-04 16:33 J -36445037.96 -36445037.81 -36445037.66 0.0088 0.0013

Neptune -104494-03-02 18:28 J -36444949.88 -36444949.73 -36444949.58 0.0088 0.0018

Neptune -104494-05-29 20:23 J -36444861.79 -36444861.65 -36444861.49 0.0088 0.0023

Mars -104494-06-02 21:06 J -36444857.72 -36444857.62 -36444857.53 0.1839 0.1158

Pluto -104494-06-14 09:50 J -36444846.12 -36444846.09 -36444846.03 0.0085 0.0079

Neptune -104494-08-25 22:33 J -36444773.71 -36444773.56 -36444773.41 0.0088 0.0027

Pluto -104494-09-10 11:16 J -36444758.11 -36444758.03 -36444757.94 0.0085 0.0065

Neptune -104494-11-22 00:28 J -36444685.62 -36444685.48 -36444685.33 0.0088 0.0031

Pluto -104494-12-07 12:28 J -36444670.08 -36444669.98 -36444669.87 0.0085 0.0051

Neptune -104493-02-18 02:23 J -36444597.53 -36444597.40 -36444597.25 0.0088 0.0036

Pluto -104493-03-04 13:54 J -36444582.04 -36444581.92 -36444581.80 0.0084 0.0038

Neptune -104493-05-16 04:18 J -36444509.45 -36444509.32 -36444509.18 0.0088 0.0040

Pluto -104493-05-31 15:06 J -36444493.99 -36444493.87 -36444493.74 0.0084 0.0024

Saturn -104493-06-17 14:23 J -36444477.00 -36444476.90 -36444476.78 0.0292 0.0204

Jupiter -104493-08-12 01:26 J -36444421.59 -36444421.44 -36444421.30 0.0529 0.0026

Neptune -104493-08-12 06:28 J -36444421.36 -36444421.23 -36444421.10 0.0088 0.0044 *

Pluto -104493-08-27 16:18 J -36444405.95 -36444405.82 -36444405.68 0.0084 0.0011

Saturn -104493-09-14 08:38 J -36444388.29 -36444388.14 -36444387.99 0.0291 0.0111

Neptune -104493-11-08 08:23 J -36444333.27 -36444333.15 -36444333.02 0.0088 0.0049

Jupiter -104493-11-09 16:47 J -36444331.83 -36444331.80 -36444331.76 0.0532 0.0512

Pluto -104493-11-23 17:45 J -36444317.90 -36444317.76 -36444317.63 0.0084 0.0004

Saturn -104493-12-12 03:06 J -36444299.54 -36444299.37 -36444299.21 0.0291 0.0017

Neptune -104492-02-04 10:04 J -36444245.19 -36444245.08 -36444244.95 0.0088 0.0054

Pluto -104492-02-19 18:42 J -36444229.84 -36444229.72 -36444229.58 0.0084 0.0017

Saturn -104492-03-10 21:50 J -36444210.75 -36444210.59 -36444210.44 0.0290 0.0080

Neptune -104492-05-03 12:14 J -36444157.10 -36444156.99 -36444156.87 0.0088 0.0058

Pluto -104492-05-18 19:54 J -36444141.78 -36444141.67 -36444141.54 0.0084 0.0030

Saturn -104492-06-07 16:47 J -36444121.93 -36444121.80 -36444121.67 0.0289 0.0178

Neptune -104492-07-30 14:23 J -36444069.01 -36444068.90 -36444068.80 0.0088 0.0062

Pluto -104492-08-14 21:21 J -36444053.72 -36444053.61 -36444053.50 0.0084 0.0043

Saturn -104492-09-04 12:14 J -36444033.03 -36444032.99 -36444032.94 0.0289 0.0276

Neptune -104492-10-26 15:50 J -36443980.92 -36443980.84 -36443980.72 0.0088 0.0067

Pluto -104492-11-10 22:18 J -36443965.66 -36443965.57 -36443965.46 0.0084 0.0057

Earth -104492-12-04 15:35 J -36443941.97 -36443941.85 -36443941.74 0.2652 0.1629

Moon -104492-12-04 16:33 J -36443941.93 -36443941.81 -36443941.69 0.2649 0.1515 *

Neptune -104491-01-22 17:59 J -36443892.83 -36443892.75 -36443892.65 0.0088 0.0070

Pluto -104491-02-06 23:30 J -36443877.58 -36443877.52 -36443877.44 0.0083 0.0070

Neptune -104491-04-20 19:54 J -36443804.74 -36443804.67 -36443804.59 0.0088 0.0075

Pluto -104491-05-06 00:42 J -36443789.47 -36443789.47 -36443789.44 0.0083 0.0083

Neptune -104491-07-17 21:35 J -36443716.65 -36443716.60 -36443716.52 0.0088 0.0079

Neptune -104491-10-13 23:30 J -36443628.55 -36443628.52 -36443628.46 0.0088 0.0083

Neptune -104490-01-10 01:26 J -36443540.45 -36443540.44 -36443540.41 0.0088 0.0088

Jupiter -104488-12-31 02:38 J -36442454.41 -36442454.39 -36442454.37 0.0501 0.0494

Mars -104487-01-03 11:59 J -36442451.11 -36442451.00 -36442450.89 0.1661 0.1095

Jupiter -104487-03-30 18:42 J -36442364.88 -36442364.72 -36442364.57 0.0498 0.0019

Jupiter -104487-06-28 12:14 J -36442275.03 -36442274.99 -36442274.95 0.0496 0.0477

Mars -104487-11-17 03:06 J -36442133.42 -36442133.37 -36442133.32 0.1861 0.1682

Mars -104486-12-10 16:18 J -36441744.95 -36441744.82 -36441744.69 0.1676 0.0852

Mars -104485-10-23 03:35 J -36441427.46 -36441427.35 -36441427.23 0.1843 0.0642

Uranus -104484-01-15 15:35 J -36441342.89 -36441342.85 -36441342.80 0.0134 0.0127

Uranus -104484-04-13 19:40 J -36441254.75 -36441254.68 -36441254.58 0.0134 0.0110

Uranus -104484-07-10 23:59 J -36441166.60 -36441166.50 -36441166.38 0.0133 0.0092

Venus -104484-08-07 11:59 J -36441139.08 -36441139.00 -36441138.92 0.3776 0.2784

Uranus -104484-10-07 04:04 J -36441078.44 -36441078.33 -36441078.19 0.0133 0.0075

Uranus -104483-01-03 08:23 J -36440990.28 -36440990.15 -36440990.01 0.0133 0.0057

Uranus -104483-04-01 12:28 J -36440902.12 -36440901.98 -36440901.83 0.0133 0.0040

Uranus -104483-06-28 16:33 J -36440813.96 -36440813.81 -36440813.66 0.0133 0.0023

Uranus -104483-09-24 20:38 J -36440725.79 -36440725.64 -36440725.49 0.0133 0.0006

Uranus -104483-12-22 00:28 J -36440637.62 -36440637.48 -36440637.33 0.0133 0.0011

Uranus -104482-03-20 04:33 J -36440549.46 -36440549.31 -36440549.17 0.0133 0.0027

Uranus -104482-06-16 08:23 J -36440461.29 -36440461.15 -36440461.01 0.0133 0.0043

Earth -104482-06-20 09:21 J -36440457.22 -36440457.11 -36440457.01 0.2698 0.1016

Moon -104482-06-20 10:04 J -36440457.19 -36440457.08 -36440456.98 0.2695 0.1092 *

Uranus -104482-09-12 12:14 J -36440373.12 -36440372.99 -36440372.85 0.0133 0.0060

Uranus -104482-12-09 16:04 J -36440284.94 -36440284.83 -36440284.70 0.0133 0.0076

Uranus -104481-03-06 19:54 J -36440196.77 -36440196.67 -36440196.56 0.0132 0.0092

Jupiter -104481-05-31 03:06 J -36440111.51 -36440111.37 -36440111.22 0.0528 0.0156

Uranus -104481-06-02 23:45 J -36440108.59 -36440108.51 -36440108.42 0.0132 0.0107

Jupiter -104481-08-28 19:11 J -36440021.80 -36440021.70 -36440021.61 0.0531 0.0385

Uranus -104481-08-30 03:21 J -36440020.40 -36440020.36 -36440020.30 0.0132 0.0123

Earth -104479-12-07 18:28 J -36439190.87 -36439190.73 -36439190.58 0.2647 0.0033

Moon -104479-12-07 18:42 J -36439190.86 -36439190.72 -36439190.57 0.2640 0.0101 *

Venus -104478-02-21 07:54 J -36439115.28 -36439115.17 -36439115.07 0.3772 0.1420

Mars -104478-05-26 17:30 J -36439020.82 -36439020.77 -36439020.71 0.1658 0.1532

Saturn -104478-07-17 20:09 J -36438968.73 -36438968.66 -36438968.60 0.0268 0.0240

Saturn -104478-10-14 09:50 J -36438880.20 -36438880.09 -36438879.97 0.0269 0.0169

Saturn -104477-01-10 23:30 J -36438791.65 -36438791.52 -36438791.38 0.0269 0.0098

Saturn -104477-04-08 12:57 J -36438703.10 -36438702.96 -36438702.81 0.0270 0.0029

Saturn -104477-07-06 02:09 J -36438614.55 -36438614.41 -36438614.26 0.0270 0.0043

Saturn -104477-10-02 15:21 J -36438525.99 -36438525.86 -36438525.73 0.0271 0.0111

Saturn -104477-12-30 04:04 J -36438437.43 -36438437.33 -36438437.22 0.0271 0.0179

Saturn -104476-03-28 16:47 J -36438348.85 -36438348.80 -36438348.74 0.0272 0.0246

Mars -104476-05-01 20:52 J -36438314.78 -36438314.63 -36438314.49 0.1672 0.0353

Jupiter -104475-01-16 19:54 J -36438054.82 -36438054.67 -36438054.52 0.0499 0.0140

Mars -104475-03-15 10:04 J -36437997.21 -36437997.08 -36437996.95 0.1848 0.0102

Jupiter -104475-04-16 12:57 J -36437965.07 -36437964.96 -36437964.84 0.0497 0.0352

Moon -104475-06-13 04:18 J -36437907.39 -36437907.32 -36437907.25 0.2691 0.2105

Earth -104475-06-13 04:33 J -36437907.39 -36437907.31 -36437907.24 0.2685 0.2022 *

Venus -104473-09-06 04:04 J -36437091.45 -36437091.33 -36437091.22 0.3768 0.0136

Jupiter -104469-03-19 04:33 J -36435801.43 -36435801.31 -36435801.18 0.0527 0.0292

Jupiter -104469-06-16 20:52 J -36435711.76 -36435711.63 -36435711.50 0.0530 0.0252

Earth   -104469-06-22 04:18 J -36435706.39 -36435706.32 -36435706.25 0.2703 0.2077

Moon   -104469-06-22 04:33 J -36435706.38 -36435706.31 -36435706.24 0.2697 0.2055 *

Venus   -104469-09-05 23:16 J -36435630.59 -36435630.53 -36435630.46 0.3602 0.3007

Venus   -104467-03-23 00:28 J -36435067.59 -36435067.48 -36435067.37 0.3764 0.1456

Mars   -104467-09-22 01:40 J -36434884.58 -36434884.43 -36434884.29 0.1668 0.0139

Mars   -104466-08-05 16:18 J -36434566.94 -36434566.82 -36434566.69 0.1853 0.0451

Moon   -104466-12-10 21:06 J -36434439.74 -36434439.62 -36434439.50 0.2637 0.1561

Earth   -104466-12-10 21:50 J -36434439.70 -36434439.59 -36434439.48 0.2642 0.1700 *

Mars   -104464-07-11 14:09 J -36433860.95 -36433860.91 -36433860.86 0.1834 0.1705

Saturn -104464-11-04 14:38 J -36433744.98 -36433744.89 -36433744.79 0.0291 0.0232

Jupiter -104464-11-04 21:50 J -36433744.73 -36433744.59 -36433744.46 0.0500 0.0254

Saturn -104463-02-01 08:38 J -36433656.28 -36433656.14 -36433656.00 0.0291 0.0139

Jupiter -104463-02-02 14:38 J -36433655.03 -36433654.89 -36433654.75 0.0497 0.0233

Venus   -104463-03-22 21:35 J -36433606.72 -36433606.60 -36433606.49 0.3606 0.1472

Saturn -104463-05-01 03:06 J -36433567.53 -36433567.37 -36433567.21 0.0290 0.0046

Saturn -104463-07-28 21:35 J -36433478.76 -36433478.60 -36433478.44 0.0290 0.0051

Saturn -104463-10-25 16:33 J -36433389.95 -36433389.81 -36433389.66 0.0289 0.0148

Saturn -104462-01-22 11:59 J -36433301.08 -36433301.00 -36433300.91 0.0289 0.0246

Earth   -104462-06-15 23:45 J -36433156.61 -36433156.51 -36433156.40 0.2689 0.0934

Moon   -104462-06-16 00:14 J -36433156.59 -36433156.49 -36433156.38 0.2696 0.0822 *

Venus   -104462-10-06 21:06 J -36433043.69 -36433043.62 -36433043.55 0.3760 0.2971

Venus   -104458-10-06 19:11 J -36431582.83 -36431582.70 -36431582.57 0.3610 0.0015

Jupiter -104457-01-06 04:47 J -36431491.37 -36431491.30 -36431491.22 0.0527 0.0443

Mars   -104457-02-12 06:57 J -36431454.35 -36431454.21 -36431454.08 0.1665 0.0597

Jupiter -104457-04-04 21:35 J -36431401.74 -36431401.60 -36431401.46 0.0530 0.0107

Mars   -104457-12-25 21:50 J -36431136.69 -36431136.59 -36431136.48 0.1857 0.1035

Mars   -104455-01-18 12:28 J -36430748.06 -36430747.98 -36430747.90 0.1680 0.1417

Mars   -104455-12-01 21:21 J -36430430.71 -36430430.61 -36430430.52 0.1838 0.1209

Venus -104452-04-21 16:33 J -36429558.92 -36429558.81 -36429558.69 0.3614 0.1430

Jupiter -104452-08-23 23:59 J -36429434.60 -36429434.50 -36429434.40 0.0500 0.0365

Jupiter -104452-11-21 16:18 J -36429344.97 -36429344.82 -36429344.66 0.0498 0.0119

Earth -104449-06-17 19:11 J -36428405.82 -36428405.70 -36428405.59 0.2694 0.0181

Moon -104449-06-17 19:54 J -36428405.79 -36428405.67 -36428405.56 0.2695 0.0186 *

Saturn -104449-12-03 21:50 J -36428236.61 -36428236.59 -36428236.55 0.0268 0.0260

Saturn -104448-03-02 11:45 J -36428148.11 -36428148.01 -36428147.89 0.0268 0.0189

Saturn -104448-05-30 01:40 J -36428059.57 -36428059.43 -36428059.30 0.0269 0.0117

Mars -104448-07-04 12:14 J -36428024.10 -36428023.99 -36428023.88 0.1661 0.1048

Saturn -104448-08-26 15:06 J -36427971.02 -36427970.87 -36427970.72 0.0269 0.0047

Saturn -104448-11-23 04:18 J -36427882.46 -36427882.32 -36427882.17 0.0270 0.0023

Saturn -104447-02-19 17:30 J -36427793.91 -36427793.77 -36427793.63 0.0270 0.0092

Mars -104447-05-18 03:21 J -36427706.42 -36427706.36 -36427706.30 0.1861 0.1629

Saturn -104447-05-19 06:14 J -36427705.35 -36427705.24 -36427705.12 0.0270 0.0160

Saturn -104447-08-15 18:57 J -36427616.78 -36427616.71 -36427616.63 0.0271 0.0227

Venus -104447-11-05 13:40 J -36427535.00 -36427534.93 -36427534.85 0.3617 0.2800

Mars -104446-06-10 16:47 J -36427317.93 -36427317.80 -36427317.68 0.1676 0.0903

Earth -104446-12-05 21:35 J -36427139.73 -36427139.60 -36427139.47 0.2652 0.1299

Moon -104446-12-05 22:33 J -36427139.69 -36427139.56 -36427139.44 0.2647 0.1274 *

Jupiter -104445-01-22 23:30 J -36427091.66 -36427091.52 -36427091.37 0.0529 0.0027

Jupiter -104445-04-21 15:06 J -36427001.90 -36427001.87 -36427001.83 0.0532 0.0511

Mars -104445-04-23 03:50 J -36427000.46 -36427000.34 -36427000.22 0.1844 0.0687

Jupiter -104440-06-12 01:40 J -36425124.46 -36425124.43 -36425124.39 0.0501 0.0481

Uranus -104440-09-09 11:59 J -36425035.06 -36425035.00 -36425034.91 0.0145 0.0129

Jupiter -104440-09-09 17:45 J -36425034.91 -36425034.76 -36425034.60 0.0498 0.0012 *

Uranus -104440-12-06 18:14 J -36424946.85 -36424946.74 -36424946.63 0.0145 0.0106

Jupiter -104440-12-08 11:30 J -36424945.04 -36424945.02 -36424945.00 0.0496 0.0490

Uranus -104439-03-04 23:59 J -36424858.62 -36424858.50 -36424858.36 0.0145 0.0083

Uranus -104439-06-01 06:14 J -36424770.39 -36424770.24 -36424770.09 0.0146 0.0059

Uranus -104439-08-28 12:28 J -36424682.14 -36424681.98 -36424681.82 0.0146 0.0035

Uranus -104439-11-24 18:42 J -36424593.89 -36424593.72 -36424593.56 0.0146 0.0011

Mars -104439-11-24 17:59 J -36424593.81 -36424593.75 -36424593.68 0.1658 0.1480 *

Uranus -104438-02-21 00:57 J -36424505.63 -36424505.46 -36424505.30 0.0146 0.0014

Uranus -104438-05-20 07:11 J -36424417.36 -36424417.20 -36424417.04 0.0146 0.0039

Uranus -104438-08-16 13:26 J -36424329.08 -36424328.94 -36424328.78 0.0146 0.0064

Uranus -104438-11-12 19:54 J -36424240.80 -36424240.67 -36424240.53 0.0146 0.0089

Uranus -104437-02-09 02:09 J -36424152.50 -36424152.41 -36424152.29 0.0146 0.0116

Uranus -104437-05-07 08:52 J -36424064.16 -36424064.13 -36424064.08 0.0147 0.0141

Mars -104437-10-30 21:21 J -36423887.76 -36423887.61 -36423887.47 0.1672 0.0407

Earth -104436-06-20 14:09 J -36423655.01 -36423654.91 -36423654.80 0.2699 0.1235

Moon -104436-06-20 14:52 J -36423654.98 -36423654.88 -36423654.78 0.2696 0.1303 *

Mars -104436-09-13 10:18 J -36423570.19 -36423570.07 -36423569.94 0.1848 0.0160

Saturn -104434-03-24 12:42 J -36423013.02 -36423012.97 -36423012.91 0.0292 0.0270

Saturn -104434-06-21 06:28 J -36422924.35 -36422924.23 -36422924.10 0.0291 0.0179

Saturn -104434-09-18 00:42 J -36422835.62 -36422835.47 -36422835.32 0.0291 0.0086

Jupiter -104434-11-11 01:40 J -36422781.57 -36422781.43 -36422781.28 0.0528 0.0152

Saturn -104434-12-15 19:11 J -36422746.86 -36422746.70 -36422746.54 0.0290 0.0010

Jupiter -104433-02-08 17:30 J -36422691.86 -36422691.77 -36422691.67 0.0531 0.0391

Saturn -104433-03-13 13:54 J -36422658.07 -36422657.92 -36422657.76 0.0290 0.0106

Saturn -104433-06-10 09:06 J -36422569.23 -36422569.12 -36422569.00 0.0289 0.0204

Venus -104433-08-28 14:52 J -36422489.91 -36422489.88 -36422489.86 0.3779 0.3649

Earth -104433-12-08 00:42 J -36422388.62 -36422388.47 -36422388.33 0.2647 0.0356

Moon -104433-12-08 00:57 J -36422388.61 -36422388.46 -36422388.32 0.2640 0.0361 *

Earth -104429-06-13 09:35 J -36421105.19 -36421105.10 -36421105.02 0.2685 0.1797

Moon -104429-06-13 09:35 J -36421105.18 -36421105.10 -36421105.01 0.2692 0.1741 *

Jupiter -104428-06-28 19:26 J -36420724.84 -36420724.69 -36420724.54 0.0499 0.0123

Jupiter -104428-09-26 12:28 J -36420635.08 -36420634.98 -36420634.87 0.0496 0.0368

Venus -104427-03-14 10:33 J -36420466.15 -36420466.06 -36420465.97 0.3775 0.2320

Mars -104427-03-23 01:54 J -36420457.56 -36420457.42 -36420457.27 0.1668 0.0094

Mars -104426-02-03 16:18 J -36420139.94 -36420139.82 -36420139.69 0.1853 0.0409

Mars -104424-01-09 14:23 J -36419433.94 -36419433.90 -36419433.87 0.1834 0.1748

Moon -104423-06-23 09:21 J -36418904.17 -36418904.11 -36418904.05 0.2697 0.2311

Earth -104423-06-23 09:21 J -36418904.17 -36418904.11 -36418904.05 0.2704 0.2297 *

Jupiter -104422-08-30 03:35 J -36418471.47 -36418471.35 -36418471.22 0.0527 0.0281

Venus -104422-09-28 06:28 J -36418442.34 -36418442.23 -36418442.12 0.3771 0.0944

Jupiter -104422-11-27 19:54 J -36418381.80 -36418381.67 -36418381.55 0.0530 0.0263

Moon -104420-12-11 03:06 J -36417637.47 -36417637.37 -36417637.28 0.2636 0.1998

Earth -104420-12-11 04:04 J -36417637.42 -36417637.33 -36417637.24 0.2641 0.2042 *

Saturn -104419-07-20 12:14 J -36417416.08 -36417415.99 -36417415.91 0.0268 0.0217

Saturn -104419-10-17 01:54 J -36417327.55 -36417327.42 -36417327.29 0.0269 0.0145

Saturn -104418-01-13 15:21 J -36417239.00 -36417238.86 -36417238.71 0.0269 0.0075

Saturn -104418-04-12 04:47 J -36417150.45 -36417150.30 -36417150.15 0.0270 0.0006

Saturn -104418-07-09 17:59 J -36417061.89 -36417061.75 -36417061.61 0.0270 0.0065

Mars -104418-08-13 06:57 J -36417027.34 -36417027.21 -36417027.07 0.1664 0.0554

Saturn -104418-10-06 06:57 J -36416973.33 -36416973.21 -36416973.08 0.0271 0.0133

Saturn -104417-01-02 19:40 J -36416884.77 -36416884.68 -36416884.58 0.0271 0.0201

Saturn -104417-03-31 08:23 J -36416796.17 -36416796.15 -36416796.13 0.0272 0.0267

Neptune -104417-04-27 10:18 J -36416769.09 -36416769.07 -36416769.03 0.0089 0.0087

Mars -104417-06-25 22:18 J -36416709.68 -36416709.57 -36416709.47 0.1857 0.0982

Neptune -104417-07-24 12:14 J -36416681.03 -36416680.99 -36416680.92 0.0089 0.0083

Neptune -104417-10-20 14:38 J -36416592.96 -36416592.89 -36416592.81 0.0089 0.0078

Neptune -104416-01-16 16:33 J -36416504.88 -36416504.81 -36416504.71 0.0089 0.0074

Venus -104416-04-13 02:38 J -36416418.50 -36416418.39 -36416418.27 0.3767 0.0489

Neptune -104416-04-14 18:57 J -36416416.80 -36416416.71 -36416416.61 0.0089 0.0069

Jupiter -104416-04-16 20:38 J -36416414.77 -36416414.64 -36416414.50 0.0500 0.0245

Earth -104416-06-16 04:47 J -36416354.41 -36416354.30 -36416354.18 0.2690 0.0707

Moon -104416-06-16 05:30 J -36416354.38 -36416354.27 -36416354.16 0.2695 0.0721 *

Neptune -104416-07-11 20:52 J -36416328.72 -36416328.63 -36416328.51 0.0089 0.0065

Jupiter -104416-07-15 13:26 J -36416325.08 -36416324.94 -36416324.80 0.0497 0.0242

Mars -104416-07-19 12:57 J -36416321.03 -36416320.96 -36416320.89 0.1680 0.1468

Neptune -104416-10-07 23:16 J -36416240.64 -36416240.53 -36416240.41 0.0089 0.0060

Neptune -104415-01-04 01:11 J -36416152.56 -36416152.45 -36416152.32 0.0089 0.0056

Neptune -104415-04-02 03:35 J -36416064.48 -36416064.35 -36416064.22 0.0089 0.0051

Mars   -104415-06-01 21:21 J -36416003.71 -36416003.61 -36416003.52 0.1839 0.1250

Neptune -104415-06-29 05:30 J -36415976.39 -36415976.27 -36415976.12 0.0089 0.0047

Neptune -104415-09-25 07:54 J -36415888.30 -36415888.17 -36415888.02 0.0089 0.0042

Neptune -104415-12-22 10:04 J -36415800.22 -36415800.08 -36415799.93 0.0089 0.0037

Neptune -104414-03-20 12:14 J -36415712.13 -36415711.99 -36415711.83 0.0089 0.0033

Neptune -104414-06-16 14:38 J -36415624.04 -36415623.89 -36415623.74 0.0089 0.0028

Neptune -104414-09-12 16:47 J -36415535.95 -36415535.80 -36415535.64 0.0089 0.0023

Neptune -104414-12-09 19:11 J -36415447.86 -36415447.70 -36415447.54 0.0089 0.0018

Neptune -104413-03-06 21:21 J -36415359.76 -36415359.61 -36415359.45 0.0089 0.0014

Neptune -104413-06-02 23:45 J -36415271.67 -36415271.51 -36415271.35 0.0089 0.0009

Neptune -104413-08-30 01:54 J -36415183.58 -36415183.42 -36415183.26 0.0089 0.0005

Neptune -104413-11-26 04:18 J -36415095.48 -36415095.32 -36415095.16 0.0089 0.0001

Earth   -104413-12-03 00:57 J -36415088.49 -36415088.46 -36415088.44 0.2656 0.2591

Moon   -104413-12-03 02:09 J -36415088.44 -36415088.41 -36415088.37 0.2655 0.2565 *

Neptune -104412-02-22 06:28 J -36415007.39 -36415007.23 -36415007.06 0.0089 0.0006

Venus   -104412-04-12 22:47 J -36414957.65 -36414957.55 -36414957.46 0.3603 0.2473

Neptune -104412-05-21 08:52 J -36414919.29 -36414919.13 -36414918.97 0.0089 0.0010

Neptune -104412-08-17 11:16 J -36414831.19 -36414831.03 -36414830.87 0.0089 0.0015

Neptune -104412-11-13 13:26 J -36414743.09 -36414742.94 -36414742.78 0.0089 0.0020

Neptune -104411-02-09 15:50 J -36414654.99 -36414654.84 -36414654.68 0.0089 0.0025

Neptune -104411-05-08 17:59 J -36414566.89 -36414566.75 -36414566.59 0.0089 0.0030

Neptune -104411-08-04 20:23 J -36414478.79 -36414478.65 -36414478.49 0.0089 0.0035

Venus   -104411-10-27 23:16 J -36414394.63 -36414394.53 -36414394.43 0.3763 0.1956

Neptune -104411-10-31 22:47 J -36414390.69 -36414390.55 -36414390.40 0.0089 0.0040

Neptune -104410-01-28 01:11 J -36414302.58 -36414302.45 -36414302.30 0.0089 0.0045

Neptune -104410-04-26 03:21 J -36414214.48 -36414214.36 -36414214.21 0.0089 0.0050

Jupiter -104410-06-18 04:47 J -36414161.38 -36414161.30 -36414161.21 0.0527 0.0419

Neptune -104410-07-23 05:45 J -36414126.37 -36414126.26 -36414126.11 0.0089 0.0055

Jupiter -104410-09-15 21:35 J -36414071.74 -36414071.60 -36414071.46 0.0529 0.0129

Neptune -104410-10-19 08:38 J -36414038.26 -36414038.14 -36414038.02 0.0089 0.0059

Neptune -104409-01-15 11:02 J -36413950.15 -36413950.04 -36413949.93 0.0089 0.0064

Neptune -104409-04-12 13:26 J -36413862.04 -36413861.94 -36413861.84 0.0089 0.0069

Neptune -104409-07-09 15:50 J -36413773.92 -36413773.84 -36413773.75 0.0089 0.0074

Neptune -104409-10-05 18:28 J -36413685.81 -36413685.73 -36413685.66 0.0089 0.0079

Neptune -104408-01-01 20:23 J -36413597.68 -36413597.65 -36413597.58 0.0089 0.0085

Mars -104408-01-02 12:42 J -36413597.09 -36413596.97 -36413596.86 0.1661 0.0999

Mars -104408-11-16 03:35 J -36413279.41 -36413279.35 -36413279.28 0.1861 0.1573

Venus -104407-10-27 20:38 J -36412933.76 -36412933.64 -36412933.52 0.3607 0.0956

Mars -104407-12-09 17:02 J -36412890.91 -36412890.79 -36412890.67 0.1676 0.0953

Mars -104406-10-23 04:04 J -36412573.44 -36412573.33 -36412573.21 0.1844 0.0744

Venus -104405-05-12 20:09 J -36412370.71 -36412370.66 -36412370.62 0.3759 0.3479

Saturn -104405-11-07 06:42 J -36412192.33 -36412192.22 -36412192.11 0.0291 0.0207

Jupiter -104404-02-02 22:33 J -36412104.66 -36412104.56 -36412104.45 0.0500 0.0359

Saturn -104404-02-04 00:42 J -36412103.62 -36412103.47 -36412103.32 0.0291 0.0115

Jupiter -104404-05-03 15:06 J -36412015.02 -36412014.87 -36412014.72 0.0498 0.0125

Saturn -104404-05-03 19:11 J -36412014.86 -36412014.70 -36412014.54 0.0290 0.0021 *

Saturn -104404-07-31 13:40 J -36411926.08 -36411925.93 -36411925.77 0.0290 0.0077

Saturn -104404-10-28 08:52 J -36411837.26 -36411837.13 -36411837.00 0.0289 0.0174

Saturn -104403-01-25 04:18 J -36411748.37 -36411748.32 -36411748.26 0.0289 0.0272

Earth -104403-06-19 00:14 J -36411603.61 -36411603.49 -36411603.38 0.2695 0.0396

Moon -104403-06-19 00:57 J -36411603.57 -36411603.46 -36411603.35 0.2694 0.0527 *

Venus -104401-05-12 18:14 J -36410909.86 -36410909.74 -36410909.61 0.3611 0.0496

Uranus -104400-02-04 23:45 J -36410641.57 -36410641.51 -36410641.43 0.0134 0.0119

Uranus -104400-05-04 04:04 J -36410553.42 -36410553.33 -36410553.22 0.0134 0.0101

Uranus -104400-07-31 08:09 J -36410465.27 -36410465.16 -36410465.03 0.0133 0.0084

Uranus -104400-10-27 12:28 J -36410377.11 -36410376.98 -36410376.84 0.0133 0.0066

Earth -104400-12-06 03:35 J -36410337.48 -36410337.35 -36410337.21 0.2651 0.0974

Moon -104400-12-06 04:33 J -36410337.45 -36410337.31 -36410337.17 0.2645 0.0827 *

Uranus -104399-01-23 16:33 J -36410288.94 -36410288.81 -36410288.66 0.0133 0.0049

Uranus -104399-04-21 20:38 J -36410200.78 -36410200.64 -36410200.49 0.0133 0.0032

Mars -104399-05-25 18:28 J -36410166.80 -36410166.73 -36410166.66 0.1658 0.1436

Uranus -104399-07-19 00:42 J -36410112.61 -36410112.47 -36410112.32 0.0133 0.0015

Uranus -104399-10-15 04:47 J -36410024.45 -36410024.30 -36410024.15 0.0133 0.0003

Uranus -104398-01-11 08:52 J -36409936.28 -36409936.13 -36409935.98 0.0133 0.0019

Uranus -104398-04-09 12:42 J -36409848.11 -36409847.97 -36409847.82 0.0133 0.0035

Jupiter -104398-07-04 22:18 J -36409761.72 -36409761.57 -36409761.43 0.0529 0.0025

Uranus -104398-07-06 16:33 J -36409759.94 -36409759.81 -36409759.67 0.0133 0.0052

Jupiter -104398-10-02 13:40 J -36409671.96 -36409671.93 -36409671.90 0.0532 0.0516

Uranus -104398-10-02 20:23 J -36409671.77 -36409671.65 -36409671.52 0.0133 0.0068

Uranus -104398-12-30 00:14 J -36409583.60 -36409583.49 -36409583.37 0.0133 0.0084

Uranus -104397-03-27 04:04 J -36409495.42 -36409495.33 -36409495.23 0.0132 0.0100

Mars -104397-04-30 21:35 J -36409460.74 -36409460.60 -36409460.46 0.1672 0.0455

Uranus -104397-06-23 07:54 J -36409407.23 -36409407.17 -36409407.09 0.0132 0.0115

Uranus -104397-09-19 11:45 J -36409319.03 -36409319.01 -36409318.99 0.0132 0.0131

Mars -104396-03-14 10:33 J -36409143.19 -36409143.06 -36409142.94 0.1848 0.0207

Earth -104396-06-11 19:11 J -36409053.70 -36409053.70 -36409053.70 0.2681 0.2674

Venus -104396-11-26 15:35 J -36408885.95 -36408885.85 -36408885.74 0.3615 0.1904

Jupiter -104393-11-22 00:42 J -36407794.51 -36407794.47 -36407794.41 0.0501 0.0470

Jupiter -104392-02-19 17:02 J -36407704.95 -36407704.79 -36407704.63 0.0499 0.0010

Venus -104390-06-12 12:42 J -36406862.03 -36406861.97 -36406861.92 0.3619 0.3253

Earth -104390-06-21 19:11 J -36406852.79 -36406852.70 -36406852.60 0.2700 0.1457

Moon -104390-06-21 19:54 J -36406852.77 -36406852.67 -36406852.58 0.2695 0.1485 *

Saturn -104390-12-07 14:09 J -36406683.98 -36406683.91 -36406683.84 0.0268 0.0236

Saturn -104389-03-05 04:04 J -36406595.45 -36406595.33 -36406595.21 0.0268 0.0164

Saturn -104389-06-01 17:45 J -36406506.90 -36406506.76 -36406506.62 0.0269 0.0093

Saturn -104389-08-29 07:11 J -36406418.35 -36406418.20 -36406418.06 0.0269 0.0024

Saturn -104389-11-25 20:23 J -36406329.80 -36406329.65 -36406329.51 0.0270 0.0047

Saturn -104388-02-22 09:21 J -36406241.24 -36406241.11 -36406240.98 0.0270 0.0115

Saturn -104388-05-21 22:04 J -36406152.68 -36406152.58 -36406152.47 0.0271 0.0183

Saturn -104388-08-18 10:33 J -36406064.10 -36406064.06 -36406063.99 0.0271 0.0251

Mars -104388-09-21 02:23 J -36406030.55 -36406030.40 -36406030.25 0.1668 0.0031

Mars -104387-08-04 16:33 J -36405712.93 -36405712.81 -36405712.68 0.1853 0.0356

Moon -104387-12-09 06:42 J -36405586.37 -36405586.22 -36405586.08 0.2640 0.0653

Earth -104387-12-09 06:42 J -36405586.36 -36405586.22 -36405586.07 0.2646 0.0696 *

Jupiter -104386-04-22 23:59 J -36405451.64 -36405451.50 -36405451.36 0.0528 0.0151

Jupiter -104386-07-21 15:50 J -36405361.93 -36405361.84 -36405361.74 0.0531 0.0389

Mars -104385-07-10 14:23 J -36405006.92 -36405006.90 -36405006.88 0.1834 0.1793

Earth -104383-06-14 14:38 J -36404302.98 -36404302.89 -36404302.80 0.2686 0.1568

Moon -104383-06-14 14:52 J -36404302.97 -36404302.88 -36404302.79 0.2693 0.1604 *

Jupiter -104381-12-08 18:28 J -36403394.88 -36403394.73 -36403394.58 0.0499 0.0110

Jupiter -104380-03-08 11:45 J -36403305.11 -36403305.01 -36403304.91 0.0496 0.0380

Mars -104378-02-11 07:26 J -36402600.32 -36402600.19 -36402600.05 0.1664 0.0501

Mars -104378-12-25 22:18 J -36402282.68 -36402282.57 -36402282.46 0.1857 0.0932

Moon -104377-06-23 14:23 J -36402101.94 -36402101.90 -36402101.86 0.2697 0.2506

Earth -104377-06-23 14:23 J -36402101.94 -36402101.90 -36402101.87 0.2704 0.2520 *

Mars -104376-01-17 13:26 J -36401894.00 -36401893.94 -36401893.88 0.1680 0.1526

Venus -104376-04-04 13:26 J -36401817.00 -36401816.94 -36401816.88 0.3778 0.3195

Mars -104376-11-30 21:35 J -36401576.69 -36401576.60 -36401576.52 0.1839 0.1302

Saturn -104375-03-27 05:02 J -36401460.37 -36401460.29 -36401460.20 0.0292 0.0245

Saturn -104375-06-23 22:47 J -36401371.68 -36401371.55 -36401371.41 0.0291 0.0153

Saturn -104375-09-20 17:02 J -36401282.94 -36401282.79 -36401282.63 0.0291 0.0060

Saturn -104375-12-18 11:45 J -36401194.17 -36401194.01 -36401193.85 0.0290 0.0037

Jupiter -104374-02-09 01:54 J -36401141.54 -36401141.42 -36401141.29 0.0528 0.0280

Saturn -104374-03-17 06:28 J -36401105.37 -36401105.23 -36401105.08 0.0290 0.0134

Jupiter -104374-05-09 18:14 J -36401051.86 -36401051.74 -36401051.61 0.0531 0.0267

Saturn -104374-06-14 01:54 J -36401016.52 -36401016.42 -36401016.32 0.0289 0.0231

Moon -104374-12-12 09:21 J -36400835.19 -36400835.11 -36400835.04 0.2636 0.2254

Earth -104374-12-12 10:18 J -36400835.13 -36400835.07 -36400835.01 0.2641 0.2391 *

Venus -104371-10-19 09:06 J -36399793.22 -36399793.12 -36399793.02 0.3774 0.1855

Earth -104370-06-17 09:50 J -36399552.20 -36399552.09 -36399551.97 0.2691 0.0485

Moon -104370-06-17 10:33 J -36399552.17 -36399552.06 -36399551.94 0.2694 0.0351 *

Mars -104369-07-03 12:57 J -36399170.08 -36399169.96 -36399169.84 0.1661 0.0954

Jupiter -104369-09-26 20:09 J -36399084.80 -36399084.66 -36399084.52 0.0499 0.0229

Jupiter -104369-12-25 12:57 J -36398995.09 -36398994.96 -36398994.82 0.0497 0.0258

Mars -104368-05-17 03:50 J -36398852.42 -36398852.34 -36398852.27 0.1861 0.1529

Mars -104367-06-09 17:30 J -36398463.89 -36398463.77 -36398463.65 0.1676 0.1007

Earth -104367-12-04 06:57 J -36398286.28 -36398286.21 -36398286.14 0.2656 0.2273

Moon -104367-12-04 08:09 J -36398286.25 -36398286.16 -36398286.07 0.2653 0.2077 *

Mars -104366-04-23 04:04 J -36398146.44 -36398146.33 -36398146.21 0.1844 0.0782

Venus -104365-05-04 05:02 J -36397769.40 -36397769.29 -36397769.17 0.3770 0.0487

Jupiter -104363-11-28 03:50 J -36396831.43 -36396831.34 -36396831.25 0.0527 0.0410

Jupiter -104362-02-25 20:23 J -36396741.79 -36396741.65 -36396741.50 0.0530 0.0139

Venus -104361-05-03 23:30 J -36396308.54 -36396308.52 -36396308.49 0.3601 0.3499

Saturn -104360-04-25 14:09 J -36395951.92 -36395951.91 -36395951.88 0.0268 0.0264

Saturn -104360-07-23 04:18 J -36395863.43 -36395863.32 -36395863.22 0.0269 0.0192

Saturn -104360-10-19 17:59 J -36395774.88 -36395774.75 -36395774.61 0.0269 0.0121

Venus -104360-11-18 01:26 J -36395745.55 -36395745.44 -36395745.33 0.3766 0.0969

Mars -104360-11-23 18:42 J -36395739.80 -36395739.72 -36395739.65 0.1658 0.1393

Saturn -104359-01-16 07:40 J -36395686.33 -36395686.18 -36395686.04 0.0269 0.0051

Saturn -104359-04-14 20:52 J -36395597.78 -36395597.63 -36395597.48 0.0270 0.0020

Saturn -104359-07-12 09:50 J -36395509.22 -36395509.09 -36395508.95 0.0270 0.0089

Saturn -104359-10-08 22:47 J -36395420.66 -36395420.55 -36395420.43 0.0271 0.0157

Saturn -104358-01-05 11:30 J -36395332.09 -36395332.02 -36395331.93 0.0271 0.0225

Mars -104358-10-30 22:04 J -36395033.73 -36395033.58 -36395033.44 0.1672 0.0506

Earth -104357-06-19 05:02 J -36394801.40 -36394801.29 -36394801.17 0.2695 0.0619

Moon -104357-06-19 05:59 J -36394801.36 -36394801.25 -36394801.14 0.2695 0.0622 *

Jupiter -104357-07-15 21:21 J -36394774.71 -36394774.61 -36394774.50 0.0500 0.0350

Mars -104357-09-12 10:33 J -36394716.18 -36394716.06 -36394715.93 0.1848 0.0257

Jupiter -104357-10-13 13:54 J -36394685.07 -36394684.92 -36394684.77 0.0498 0.0133

Uranus -104356-07-03 14:23 J -36394421.91 -36394421.90 -36394421.87 0.0145 0.0144

Uranus -104356-09-29 20:23 J -36394333.74 -36394333.65 -36394333.56 0.0145 0.0121

Venus -104356-11-17 21:50 J -36394284.69 -36394284.59 -36394284.48 0.3604 0.1947

Uranus -104356-12-27 02:09 J -36394245.52 -36394245.41 -36394245.28 0.0145 0.0098

Uranus -104355-03-25 08:23 J -36394157.29 -36394157.15 -36394157.01 0.0146 0.0074

Uranus -104355-06-21 14:23 J -36394069.05 -36394068.90 -36394068.74 0.0146 0.0050

Uranus -104355-09-17 20:23 J -36393980.81 -36393980.65 -36393980.48 0.0146 0.0027

Uranus -104355-12-15 02:38 J -36393892.55 -36393892.39 -36393892.22 0.0146 0.0004

Uranus -104354-03-13 08:52 J -36393804.29 -36393804.13 -36393803.96 0.0146 0.0023

Venus -104354-06-03 22:04 J -36393721.67 -36393721.58 -36393721.49 0.3762 0.2457

Uranus -104354-06-09 15:21 J -36393716.02 -36393715.86 -36393715.70 0.0146 0.0048

Uranus -104354-09-05 21:21 J -36393627.74 -36393627.61 -36393627.45 0.0146 0.0074

Uranus -104354-12-03 03:50 J -36393539.45 -36393539.34 -36393539.20 0.0146 0.0099

Earth -104354-12-07 09:50 J -36393535.23 -36393535.09 -36393534.95 0.2650 0.0641

Moon -104354-12-07 10:33 J -36393535.20 -36393535.06 -36393534.92 0.2645 0.0652 *

Uranus -104353-02-29 10:33 J -36393451.14 -36393451.06 -36393450.97 0.0146 0.0124

Jupiter -104351-12-14 22:04 J -36392431.72 -36392431.58 -36392431.43 0.0529 0.0008

Venus -104350-06-03 19:40 J -36392260.80 -36392260.68 -36392260.55 0.3608 0.0469

Moon -104350-06-12 23:59 J -36392251.54 -36392251.50 -36392251.46 0.2688 0.2477

Earth -104350-06-13 00:14 J -36392251.53 -36392251.49 -36392251.44 0.2682 0.2444 *

Mars -104348-03-22 02:38 J -36391603.54 -36391603.39 -36391603.24 0.1668 0.0024

Mars -104347-02-02 16:47 J -36391285.92 -36391285.80 -36391285.67 0.1853 0.0304

Saturn -104346-08-14 05:16 J -36390728.34 -36390728.28 -36390728.23 0.0292 0.0273

Saturn -104346-11-10 22:47 J -36390639.67 -36390639.55 -36390639.42 0.0291 0.0182

Saturn -104345-02-07 17:02 J -36390550.94 -36390550.79 -36390550.64 0.0291 0.0089

Jupiter -104345-05-03 23:30 J -36390464.57 -36390464.52 -36390464.46 0.0501 0.0464

Saturn -104345-05-06 11:30 J -36390462.18 -36390462.02 -36390461.86 0.0290 0.0006

Jupiter -104345-08-01 15:35 J -36390375.00 -36390374.85 -36390374.69 0.0499 0.0017

Saturn -104345-08-03 06:14 J -36390373.39 -36390373.24 -36390373.08 0.0290 0.0103

Saturn -104345-10-31 01:26 J -36390284.56 -36390284.44 -36390284.32 0.0289 0.0201

Venus -104345-12-17 17:16 J -36390236.90 -36390236.78 -36390236.66 0.3612 0.0981

Earth -104344-06-22 00:14 J -36390050.58 -36390050.49 -36390050.40 0.2700 0.1680

Moon -104344-06-22 00:42 J -36390050.56 -36390050.47 -36390050.39 0.2694 0.1764 *

Pluto -104342-10-16 03:50 J -36389204.36 -36389204.34 -36389204.30 0.0060 0.0059

Pluto -104341-01-12 05:02 J -36389116.36 -36389116.29 -36389116.17 0.0060 0.0053

Pluto -104341-04-09 06:28 J -36389028.34 -36389028.23 -36389028.08 0.0060 0.0045

Pluto -104341-07-06 08:23 J -36388940.30 -36388940.15 -36388939.99 0.0060 0.0038

Pluto -104341-10-02 09:35 J -36388852.25 -36388852.10 -36388851.91 0.0060 0.0031

Moon -104341-12-09 12:28 J -36388784.12 -36388783.98 -36388783.84 0.2639 0.1039

Earth -104341-12-09 12:57 J -36388784.09 -36388783.96 -36388783.82 0.2645 0.1033 *

Pluto -104341-12-29 11:30 J -36388764.20 -36388764.02 -36388763.84 0.0061 0.0023

Pluto -104340-03-27 12:42 J -36388676.15 -36388675.97 -36388675.77 0.0061 0.0016

Pluto -104340-06-23 14:23 J -36388588.09 -36388587.90 -36388587.70 0.0061 0.0008

Pluto -104340-09-19 16:04 J -36388500.03 -36388499.83 -36388499.64 0.0061 0.0001

Pluto -104340-12-16 17:30 J -36388411.97 -36388411.77 -36388411.57 0.0061 0.0007

Pluto -104339-03-14 18:57 J -36388323.90 -36388323.71 -36388323.52 0.0061 0.0014

Pluto -104339-06-10 20:09 J -36388235.83 -36388235.66 -36388235.46 0.0061 0.0022

Venus -104339-07-03 14:38 J -36388212.99 -36388212.89 -36388212.80 0.3616 0.2368

Mars -104339-08-12 07:54 J -36388173.31 -36388173.17 -36388173.03 0.1664 0.0450

Pluto -104339-09-06 21:50 J -36388147.75 -36388147.59 -36388147.41 0.0061 0.0029

Jupiter -104339-10-02 22:33 J -36388121.70 -36388121.56 -36388121.42 0.0528 0.0146

Pluto -104339-12-03 23:02 J -36388059.67 -36388059.54 -36388059.36 0.0061 0.0037

Jupiter -104339-12-31 14:23 J -36388031.99 -36388031.90 -36388031.80 0.0531 0.0394

Pluto -104338-03-02 00:57 J -36387971.59 -36387971.46 -36387971.32 0.0061 0.0044

Pluto -104338-05-29 02:09 J -36387883.49 -36387883.41 -36387883.29 0.0061 0.0052

Mars -104338-06-25 22:33 J -36387855.67 -36387855.56 -36387855.45 0.1857 0.0880

Pluto -104338-08-25 03:21 J -36387795.37 -36387795.36 -36387795.29 0.0061 0.0061

Earth -104337-06-14 19:40 J -36387500.78 -36387500.68 -36387500.58 0.2686 0.1341

Moon -104337-06-14 19:54 J -36387500.77 -36387500.67 -36387500.57 0.2693 0.1289 *

Mars -104337-07-18 13:40 J -36387466.97 -36387466.93 -36387466.88 0.1680 0.1577

Mars -104336-05-31 21:35 J -36387149.68 -36387149.60 -36387149.51 0.1839 0.1347

Neptune -104335-08-07 17:30 J -36386716.81 -36386716.77 -36386716.72 0.0088 0.0085

Neptune -104335-11-03 19:40 J -36386628.74 -36386628.68 -36386628.60 0.0088 0.0080

Neptune -104334-01-30 22:04 J -36386540.66 -36386540.58 -36386540.49 0.0088 0.0075

Neptune -104334-04-28 23:59 J -36386452.58 -36386452.50 -36386452.39 0.0088 0.0071

Neptune -104334-07-26 02:23 J -36386364.50 -36386364.40 -36386364.29 0.0088 0.0066

Neptune -104334-10-22 04:33 J -36386276.41 -36386276.31 -36386276.19 0.0088 0.0061

Neptune -104333-01-18 06:57 J -36386188.33 -36386188.21 -36386188.09 0.0088 0.0056

Neptune -104333-04-15 08:52 J -36386100.25 -36386100.13 -36386099.99 0.0088 0.0052

Jupiter -104333-05-20 17:30 J -36386064.92 -36386064.77 -36386064.62 0.0499 0.0100

Neptune -104333-07-12 11:02 J -36386012.16 -36386012.04 -36386011.89 0.0088 0.0047

Jupiter -104333-08-18 10:47 J -36385975.14 -36385975.05 -36385974.95 0.0497 0.0392

Neptune -104333-10-08 13:26 J -36385924.08 -36385923.94 -36385923.80 0.0088 0.0042

Neptune -104332-01-04 15:21 J -36385835.99 -36385835.86 -36385835.71 0.0088 0.0038

Neptune -104332-04-02 17:30 J -36385747.91 -36385747.77 -36385747.61 0.0088 0.0033

Neptune -104332-06-29 19:54 J -36385659.82 -36385659.67 -36385659.52 0.0088 0.0028

Neptune -104332-09-25 21:50 J -36385571.74 -36385571.59 -36385571.43 0.0088 0.0023

Neptune -104332-12-22 23:59 J -36385483.65 -36385483.50 -36385483.34 0.0088 0.0019

Neptune -104331-03-21 02:09 J -36385395.56 -36385395.41 -36385395.26 0.0088 0.0014

Neptune -104331-06-17 04:18 J -36385307.48 -36385307.32 -36385307.17 0.0088 0.0009

Neptune -104331-09-13 06:14 J -36385219.39 -36385219.24 -36385219.08 0.0088 0.0005

Saturn -104331-12-10 06:28 J -36385131.32 -36385131.23 -36385131.13 0.0268 0.0210

Neptune -104331-12-10 08:23 J -36385131.31 -36385131.15 -36385130.99 0.0088 0.0000 *

Neptune -104330-03-08 10:33 J -36385043.22 -36385043.06 -36385042.91 0.0088 0.0005

Saturn -104330-03-08 20:23 J -36385042.78 -36385042.65 -36385042.52 0.0269 0.0139

Neptune -104330-06-04 12:28 J -36384955.13 -36384954.98 -36384954.82 0.0088 0.0009

Saturn -104330-06-05 09:50 J -36384954.23 -36384954.09 -36384953.94 0.0269 0.0068

Neptune -104330-08-31 14:38 J -36384867.05 -36384866.89 -36384866.74 0.0088 0.0014

Saturn -104330-09-01 23:16 J -36384865.68 -36384865.53 -36384865.38 0.0270 0.0004

Neptune -104330-11-27 16:33 J -36384778.96 -36384778.81 -36384778.66 0.0088 0.0018

Saturn -104330-11-29 12:28 J -36384777.12 -36384776.98 -36384776.84 0.0270 0.0072

Mars -104329-01-02 13:11 J -36384743.07 -36384742.95 -36384742.82 0.1661 0.0906

Neptune -104329-02-23 18:28 J -36384690.87 -36384690.73 -36384690.58 0.0088 0.0023

Saturn -104329-02-26 01:26 J -36384688.56 -36384688.44 -36384688.31 0.0270 0.0140

Neptune -104329-05-21 20:23 J -36384602.79 -36384602.65 -36384602.49 0.0088 0.0027

Saturn -104329-05-24 14:09 J -36384600.00 -36384599.91 -36384599.81 0.0271 0.0207

Neptune -104329-08-17 22:33 J -36384514.70 -36384514.56 -36384514.41 0.0088 0.0031

Neptune -104329-11-14 00:42 J -36384426.61 -36384426.47 -36384426.33 0.0088 0.0036

Mars -104329-11-15 04:04 J -36384425.41 -36384425.33 -36384425.25 0.1861 0.1471

Neptune -104328-02-10 02:23 J -36384338.53 -36384338.40 -36384338.26 0.0088 0.0041

Neptune -104328-05-09 04:33 J -36384250.44 -36384250.31 -36384250.18 0.0088 0.0045

Neptune -104328-08-05 06:14 J -36384162.35 -36384162.24 -36384162.10 0.0088 0.0050

Neptune -104328-11-01 08:23 J -36384074.27 -36384074.15 -36384074.02 0.0088 0.0053

Mars -104328-12-08 17:59 J -36384036.86 -36384036.75 -36384036.63 0.1676 0.1061

Neptune -104327-01-28 10:18 J -36383986.18 -36383986.07 -36383985.95 0.0088 0.0058

Neptune -104327-04-26 11:59 J -36383898.09 -36383898.00 -36383897.88 0.0088 0.0063

Jupiter -104327-07-22 00:14 J -36383811.62 -36383811.49 -36383811.37 0.0527 0.0280

Neptune -104327-07-23 14:09 J -36383810.00 -36383809.91 -36383809.80 0.0088 0.0066

Jupiter -104327-10-19 16:33 J -36383721.94 -36383721.81 -36383721.69 0.0530 0.0264

Neptune -104327-10-19 16:04 J -36383721.91 -36383721.83 -36383721.73 0.0088 0.0071 *

Mars -104327-10-22 04:18 J -36383719.43 -36383719.32 -36383719.21 0.1844 0.0835

Neptune -104326-01-15 17:45 J -36383633.82 -36383633.76 -36383633.66 0.0088 0.0076

Neptune -104326-04-13 19:40 J -36383545.73 -36383545.68 -36383545.60 0.0088 0.0080

Neptune -104326-07-10 21:50 J -36383457.63 -36383457.59 -36383457.54 0.0088 0.0083

Neptune -104326-10-06 23:45 J -36383369.52 -36383369.51 -36383369.49 0.0088 0.0088

Earth -104324-06-17 14:52 J -36382749.99 -36382749.88 -36382749.76 0.2691 0.0265

Moon -104324-06-17 15:50 J -36382749.96 -36382749.84 -36382749.73 0.2694 0.0240 *

Jupiter -104321-03-08 18:57 J -36381754.84 -36381754.71 -36381754.57 0.0500 0.0219

Jupiter -104321-06-06 11:59 J -36381665.13 -36381665.00 -36381664.87 0.0497 0.0269

Earth -104321-12-04 12:57 J -36381484.06 -36381483.96 -36381483.86 0.2655 0.1943

Moon -104321-12-04 14:09 J -36381484.01 -36381483.91 -36381483.81 0.2651 0.1926 *

Mars -104320-05-24 18:57 J -36381312.79 -36381312.71 -36381312.63 0.1658 0.1345

Venus -104320-11-09 11:59 J -36381144.08 -36381144.00 -36381143.93 0.3776 0.2738

Mars -104318-04-30 22:18 J -36380606.71 -36380606.57 -36380606.43 0.1672 0.0555

Mars -104317-03-13 10:47 J -36380289.18 -36380289.05 -36380288.92 0.1848 0.0297

Uranus -104317-11-29 03:35 J -36380028.38 -36380028.35 -36380028.30 0.0134 0.0129

Uranus -104316-02-25 07:54 J -36379940.24 -36379940.17 -36379940.07 0.0134 0.0111

Saturn -104316-03-29 21:50 J -36379907.69 -36379907.59 -36379907.49 0.0291 0.0217

Uranus -104316-05-24 12:28 J -36379852.09 -36379851.98 -36379851.87 0.0134 0.0093

Saturn -104316-06-26 15:35 J -36379818.99 -36379818.85 -36379818.70 0.0291 0.0125

Uranus -104316-08-20 16:33 J -36379763.93 -36379763.81 -36379763.68 0.0133 0.0076

Saturn -104316-09-23 10:04 J -36379730.24 -36379730.08 -36379729.92 0.0291 0.0030

Uranus -104316-11-16 20:38 J -36379675.77 -36379675.64 -36379675.50 0.0133 0.0058

Saturn -104316-12-21 04:33 J -36379641.46 -36379641.31 -36379641.15 0.0290 0.0066

Uranus -104315-02-13 00:42 J -36379587.61 -36379587.47 -36379587.32 0.0133 0.0041

Saturn -104315-03-19 23:45 J -36379552.65 -36379552.51 -36379552.38 0.0290 0.0163

Jupiter -104315-05-10 01:54 J -36379501.51 -36379501.42 -36379501.32 0.0527 0.0410

Uranus -104315-05-12 05:02 J -36379499.44 -36379499.29 -36379499.15 0.0133 0.0024

Saturn -104315-06-16 18:57 J -36379463.77 -36379463.71 -36379463.64 0.0289 0.0261

Jupiter -104315-08-07 18:42 J -36379411.86 -36379411.72 -36379411.58 0.0530 0.0140

Uranus -104315-08-08 08:52 J -36379411.27 -36379411.13 -36379410.97 0.0133 0.0008

Uranus -104315-11-04 12:57 J -36379323.11 -36379322.96 -36379322.81 0.0133 0.0010

Uranus -104314-01-31 17:02 J -36379234.94 -36379234.79 -36379234.65 0.0133 0.0026

Uranus -104314-04-29 20:52 J -36379146.77 -36379146.63 -36379146.49 0.0133 0.0043

Venus -104314-05-26 07:40 J -36379120.29 -36379120.18 -36379120.07 0.3773 0.1388

Uranus -104314-07-27 00:42 J -36379058.60 -36379058.47 -36379058.33 0.0133 0.0059

Uranus -104314-10-23 04:47 J -36378970.42 -36378970.30 -36378970.18 0.0133 0.0075

Uranus -104313-01-19 08:38 J -36378882.25 -36378882.14 -36378882.04 0.0133 0.0091

Uranus -104313-04-16 12:14 J -36378794.07 -36378793.99 -36378793.90 0.0132 0.0107

Uranus -104313-07-13 16:04 J -36378705.88 -36378705.83 -36378705.77 0.0132 0.0122

Earth -104311-06-20 10:04 J -36377999.18 -36377999.08 -36377998.97 0.2696 0.0840

Moon -104311-06-20 11:02 J -36377999.15 -36377999.04 -36377998.94 0.2695 0.0977 *

Jupiter -104310-12-26 20:52 J -36377444.74 -36377444.63 -36377444.52 0.0500 0.0336

Jupiter -104309-03-25 13:11 J -36377355.10 -36377354.95 -36377354.80 0.0498 0.0147

Mars -104309-09-20 03:06 J -36377176.52 -36377176.37 -36377176.22 0.1668 0.0075

Venus -104309-12-09 03:50 J -36377096.46 -36377096.34 -36377096.22 0.3769 0.0034

Mars -104308-08-03 16:47 J -36376858.92 -36376858.80 -36376858.67 0.1853 0.0266

Earth -104308-12-07 15:50 J -36376732.98 -36376732.84 -36376732.69 0.2650 0.0311

Moon -104308-12-07 16:18 J -36376732.97 -36376732.82 -36376732.67 0.2644 0.0187 *

Venus -104305-12-08 23:02 J -36375635.62 -36375635.54 -36375635.47 0.3602 0.2961

Moon -104304-06-13 05:02 J -36375449.35 -36375449.29 -36375449.23 0.2689 0.2272

Earth -104304-06-13 05:16 J -36375449.34 -36375449.28 -36375449.21 0.2682 0.2218 *

Jupiter -104303-05-26 20:52 J -36375101.78 -36375101.63 -36375101.48 0.0529 0.0011

Venus -104303-06-25 00:14 J -36375072.60 -36375072.49 -36375072.38 0.3765 0.1459

Saturn -104301-04-28 06:42 J -36374399.28 -36374399.22 -36374399.15 0.0268 0.0238

Saturn -104301-07-25 20:38 J -36374310.75 -36374310.64 -36374310.52 0.0269 0.0166

Saturn -104301-10-22 10:18 J -36374222.21 -36374222.07 -36374221.92 0.0269 0.0095

Saturn -104300-01-18 23:59 J -36374133.65 -36374133.50 -36374133.36 0.0270 0.0026

Saturn -104300-04-17 13:11 J -36374045.10 -36374044.95 -36374044.81 0.0270 0.0045

Saturn -104300-07-15 02:09 J -36373956.54 -36373956.41 -36373956.28 0.0270 0.0114

Saturn -104300-10-11 15:06 J -36373867.98 -36373867.87 -36373867.76 0.0271 0.0182

Saturn -104299-01-08 03:50 J -36373779.40 -36373779.34 -36373779.29 0.0271 0.0249

Mars -104299-02-10 08:09 J -36373746.30 -36373746.16 -36373746.02 0.1664 0.0405

Venus -104299-06-24 21:06 J -36373611.74 -36373611.62 -36373611.50 0.3606 0.1427

Mars -104299-12-24 22:47 J -36373428.66 -36373428.55 -36373428.43 0.1857 0.0827

Earth -104298-06-23 05:16 J -36373248.36 -36373248.28 -36373248.20 0.2701 0.1905

Moon -104298-06-23 05:30 J -36373248.35 -36373248.27 -36373248.18 0.2694 0.1875 *

Jupiter -104298-10-14 22:18 J -36373134.63 -36373134.57 -36373134.51 0.0501 0.0456

Venus -104297-01-08 20:52 J -36373048.70 -36373048.63 -36373048.56 0.3761 0.2954

Jupiter -104297-01-12 14:23 J -36373045.06 -36373044.90 -36373044.75 0.0498 0.0025

Mars -104297-01-17 14:09 J -36373039.94 -36373039.91 -36373039.87 0.1680 0.1632

Mars -104297-11-29 21:50 J -36372722.67 -36372722.59 -36372722.51 0.1839 0.1394

Moon -104295-12-10 18:28 J -36371981.86 -36371981.73 -36371981.60 0.2638 0.1243

Earth -104295-12-10 19:11 J -36371981.83 -36371981.70 -36371981.58 0.2645 0.1370 *

Venus -104293-01-08 18:57 J -36371587.84 -36371587.71 -36371587.59 0.3609 0.0124

Jupiter -104291-03-14 22:18 J -36370791.71 -36370791.57 -36370791.43 0.0528 0.0126

Jupiter -104291-06-12 14:09 J -36370702.00 -36370701.91 -36370701.82 0.0531 0.0413

Earth -104291-06-16 00:42 J -36370698.58 -36370698.47 -36370698.37 0.2687 0.1116

Moon -104291-06-16 00:57 J -36370698.56 -36370698.46 -36370698.35 0.2693 0.1099 *

Mars -104290-07-03 13:26 J -36370316.06 -36370315.94 -36370315.81 0.1661 0.0862

Mars -104289-05-16 04:18 J -36369998.41 -36369998.32 -36369998.24 0.1861 0.1424

Mars -104288-06-08 18:14 J -36369609.85 -36369609.74 -36369609.63 0.1676 0.1105

Venus -104288-07-24 16:18 J -36369563.93 -36369563.82 -36369563.70 0.3613 0.1461

Mars -104287-04-22 04:33 J -36369292.42 -36369292.31 -36369292.20 0.1844 0.0881

Saturn -104287-08-16 21:50 J -36369175.67 -36369175.59 -36369175.50 0.0291 0.0245

Saturn -104287-11-13 15:35 J -36369086.98 -36369086.85 -36369086.71 0.0291 0.0154

Saturn -104286-02-10 10:04 J -36368998.24 -36368998.08 -36368997.93 0.0290 0.0060

Saturn -104286-05-10 04:33 J -36368909.47 -36368909.31 -36368909.15 0.0290 0.0036

Saturn -104286-08-06 23:16 J -36368820.67 -36368820.53 -36368820.38 0.0289 0.0133

Jupiter -104286-10-31 16:04 J -36368734.98 -36368734.83 -36368734.68 0.0499 0.0095

Saturn -104286-11-03 18:28 J -36368731.82 -36368731.73 -36368731.62 0.0289 0.0231

Jupiter -104285-01-29 09:21 J -36368645.21 -36368645.11 -36368645.02 0.0497 0.0396

Venus -104282-02-07 13:26 J -36367540.02 -36367539.94 -36367539.86 0.3617 0.2816

Mars -104281-11-22 19:26 J -36366885.78 -36366885.69 -36366885.60 0.1658 0.1296

Jupiter -104280-12-31 22:47 J -36366481.68 -36366481.55 -36366481.43 0.0527 0.0275

Jupiter -104279-03-31 15:06 J -36366392.00 -36366391.87 -36366391.75 0.0530 0.0268

Mars -104279-10-29 22:47 J -36366179.69 -36366179.55 -36366179.41 0.1672 0.0611

Earth -104278-06-18 19:54 J -36365947.78 -36365947.67 -36365947.55 0.2692 0.0073

Moon -104278-06-18 20:52 J -36365947.75 -36365947.63 -36365947.52 0.2694 0.0129 *

Mars -104278-09-12 11:02 J -36365862.17 -36365862.04 -36365861.92 0.1848 0.0350

Earth -104275-12-05 18:57 J -36364681.82 -36364681.71 -36364681.59 0.2654 0.1624

Moon -104275-12-05 20:09 J -36364681.78 -36364681.66 -36364681.54 0.2650 0.1441 *

Jupiter -104274-08-19 17:45 J -36364424.89 -36364424.76 -36364424.61 0.0500 0.0211

Jupiter -104274-11-17 10:47 J -36364335.18 -36364335.05 -36364334.92 0.0497 0.0278

Uranus -104272-07-23 22:04 J -36363720.63 -36363720.58 -36363720.52 0.0145 0.0136

Saturn -104272-09-15 09:21 J -36363667.15 -36363667.11 -36363667.06 0.0268 0.0255

Uranus -104272-10-20 04:04 J -36363632.43 -36363632.33 -36363632.23 0.0145 0.0113

Saturn -104272-12-12 23:16 J -36363578.64 -36363578.53 -36363578.42 0.0269 0.0183

Uranus -104271-01-16 09:50 J -36363544.21 -36363544.09 -36363543.96 0.0145 0.0091

Saturn -104271-03-11 12:57 J -36363490.09 -36363489.96 -36363489.82 0.0269 0.0112

Uranus -104271-04-14 16:04 J -36363455.98 -36363455.83 -36363455.69 0.0145 0.0067

Saturn -104271-06-08 02:38 J -36363401.54 -36363401.39 -36363401.24 0.0270 0.0041

Uranus -104271-07-11 21:50 J -36363367.74 -36363367.59 -36363367.42 0.0146 0.0044

Saturn -104271-09-04 15:50 J -36363312.98 -36363312.84 -36363312.69 0.0270 0.0030

Uranus -104271-10-08 04:04 J -36363279.49 -36363279.33 -36363279.16 0.0146 0.0020

Saturn -104271-12-02 05:02 J -36363224.43 -36363224.29 -36363224.15 0.0270 0.0098

Uranus -104270-01-04 10:18 J -36363191.23 -36363191.07 -36363190.90 0.0146 0.0006

Saturn -104270-02-28 17:45 J -36363135.87 -36363135.76 -36363135.64 0.0271 0.0167

Uranus -104270-04-02 16:33 J -36363102.97 -36363102.81 -36363102.64 0.0146 0.0030

Saturn -104270-05-28 06:42 J -36363047.29 -36363047.22 -36363047.15 0.0271 0.0233

Uranus -104270-06-29 22:47 J -36363014.70 -36363014.55 -36363014.39 0.0146 0.0055

Uranus -104270-09-26 05:16 J -36362926.42 -36362926.28 -36362926.14 0.0146 0.0080

Uranus -104270-12-23 11:30 J -36362838.13 -36362838.02 -36362837.89 0.0146 0.0105

Uranus -104269-03-20 17:59 J -36362749.81 -36362749.75 -36362749.67 0.0146 0.0131

Mars -104269-03-21 03:35 J -36362749.50 -36362749.35 -36362749.21 0.1668 0.0123

Venus -104269-11-30 14:52 J -36362494.91 -36362494.88 -36362494.85 0.3779 0.3589

Mars -104268-02-01 17:02 J -36362431.91 -36362431.79 -36362431.66 0.1853 0.0216

Jupiter -104268-10-19 23:59 J -36362171.59 -36362171.50 -36362171.40 0.0526 0.0412

Jupiter -104267-01-17 16:47 J -36362081.94 -36362081.80 -36362081.66 0.0529 0.0136

Earth -104265-06-20 15:06 J -36361196.97 -36361196.87 -36361196.76 0.2697 0.1059

Moon -104265-06-20 15:50 J -36361196.95 -36361196.84 -36361196.73 0.2693 0.1056 *

Venus -104263-06-16 10:33 J -36360471.15 -36360471.06 -36360470.97 0.3775 0.2277

Jupiter -104262-06-07 19:26 J -36360114.80 -36360114.69 -36360114.57 0.0500 0.0329

Jupiter -104262-09-05 11:59 J -36360025.15 -36360025.00 -36360024.85 0.0498 0.0155

Moon -104262-12-08 22:04 J -36359930.73 -36359930.58 -36359930.43 0.2643 0.0054

Earth -104262-12-08 22:04 J -36359930.73 -36359930.58 -36359930.44 0.2649 0.0068 *

Mars -104260-08-11 08:38 J -36359319.29 -36359319.14 -36359319.00 0.1664 0.0358

Mars -104259-06-24 22:47 J -36359001.66 -36359001.55 -36359001.43 0.1857 0.0784

Moon -104258-06-14 10:18 J -36358647.15 -36358647.07 -36358647.00 0.2690 0.1978

Earth -104258-06-14 10:18 J -36358647.15 -36358647.07 -36358646.99 0.2683 0.1992 *

Venus -104258-12-31 06:28 J -36358447.35 -36358447.23 -36358447.12 0.3772 0.0917

Saturn -104257-01-03 21:21 J -36358443.64 -36358443.61 -36358443.55 0.0292 0.0277

Saturn -104257-04-01 15:21 J -36358354.98 -36358354.86 -36358354.74 0.0291 0.0185

Mars -104257-05-30 21:50 J -36358295.67 -36358295.59 -36358295.51 0.1839 0.1438

Saturn -104257-06-29 09:21 J -36358266.26 -36358266.11 -36358265.96 0.0291 0.0092

Saturn -104257-09-26 03:50 J -36358177.51 -36358177.34 -36358177.18 0.0290 0.0008

Saturn -104257-12-23 22:33 J -36358088.72 -36358088.56 -36358088.41 0.0290 0.0099

Saturn -104256-03-22 17:30 J -36357999.89 -36357999.77 -36357999.65 0.0289 0.0196

Jupiter -104256-11-05 18:57 J -36357771.86 -36357771.71 -36357771.56 0.0529 0.0009

Neptune -104252-01-22 08:09 J -36356598.17 -36356598.16 -36356598.11 0.0089 0.0087

Neptune -104252-04-20 10:33 J -36356510.11 -36356510.06 -36356510.00 0.0089 0.0082

Earth -104252-06-23 10:18 J -36356446.14 -36356446.07 -36356446.00 0.2701 0.2124

Moon -104252-06-23 10:33 J -36356446.12 -36356446.06 -36356446.00 0.2695 0.2207 *

Venus -104252-07-16 02:23 J -36356423.51 -36356423.40 -36356423.28 0.3768 0.0515

Neptune -104252-07-17 12:28 J -36356422.04 -36356421.98 -36356421.89 0.0089 0.0078

Neptune -104252-10-13 14:52 J -36356333.96 -36356333.88 -36356333.79 0.0089 0.0073

Neptune -104251-01-09 16:47 J -36356245.89 -36356245.80 -36356245.69 0.0089 0.0069

Neptune -104251-04-07 19:11 J -36356157.81 -36356157.70 -36356157.59 0.0089 0.0064

Neptune -104251-07-04 21:06 J -36356069.72 -36356069.62 -36356069.49 0.0089 0.0060

Neptune -104251-09-30 23:30 J -36355981.64 -36355981.52 -36355981.40 0.0089 0.0055

Neptune -104251-12-28 01:26 J -36355893.56 -36355893.44 -36355893.30 0.0089 0.0051

Mars -104250-01-01 13:54 J -36355889.04 -36355888.92 -36355888.79 0.1661 0.0811

Neptune -104250-03-26 03:50 J -36355805.47 -36355805.34 -36355805.20 0.0089 0.0046

Jupiter -104250-03-26 21:21 J -36355804.68 -36355804.61 -36355804.54 0.0501 0.0444

Neptune -104250-06-22 05:59 J -36355717.39 -36355717.25 -36355717.11 0.0089 0.0041

Jupiter -104250-06-24 13:26 J -36355715.10 -36355714.94 -36355714.78 0.0498 0.0034

Neptune -104250-09-18 08:09 J -36355629.30 -36355629.16 -36355629.01 0.0089 0.0037

Mars -104250-11-15 04:18 J -36355571.40 -36355571.32 -36355571.23 0.1862 0.1374

Neptune -104250-12-15 10:18 J -36355541.21 -36355541.07 -36355540.91 0.0089 0.0032

Neptune -104249-03-12 12:42 J -36355453.12 -36355452.97 -36355452.82 0.0089 0.0027

Neptune -104249-06-08 14:52 J -36355365.03 -36355364.88 -36355364.72 0.0089 0.0023

Neptune -104249-09-04 17:02 J -36355276.94 -36355276.79 -36355276.63 0.0089 0.0018

Neptune -104249-12-01 19:26 J -36355188.85 -36355188.69 -36355188.53 0.0089 0.0013

Mars -104249-12-07 18:42 J -36355182.82 -36355182.72 -36355182.61 0.1676 0.1166

Moon -104249-12-11 00:28 J -36355179.59 -36355179.48 -36355179.36 0.2638 0.1724

Earth -104249-12-11 01:11 J -36355179.56 -36355179.45 -36355179.34 0.2644 0.1709 *

Neptune -104248-02-27 21:35 J -36355100.75 -36355100.60 -36355100.43 0.0089 0.0009

Pluto -104248-05-10 02:09 J -36355029.47 -36355029.41 -36355029.34 0.0085 0.0073

Neptune -104248-05-26 23:59 J -36355012.66 -36355012.50 -36355012.34 0.0089 0.0004

Venus -104248-07-15 22:18 J -36354962.67 -36354962.57 -36354962.48 0.3603 0.2428

Pluto -104248-08-06 03:35 J -36354941.45 -36354941.35 -36354941.26 0.0085 0.0059

Neptune -104248-08-23 02:09 J -36354924.57 -36354924.41 -36354924.24 0.0089 0.0003

Mars -104248-10-21 04:33 J -36354865.42 -36354865.31 -36354865.20 0.1844 0.0928

Pluto -104248-11-02 04:33 J -36354853.41 -36354853.31 -36354853.19 0.0085 0.0046

Neptune -104248-11-19 04:33 J -36354836.47 -36354836.31 -36354836.15 0.0089 0.0006

Pluto -104247-01-29 05:59 J -36354765.37 -36354765.25 -36354765.12 0.0084 0.0032

Neptune -104247-02-15 06:57 J -36354748.37 -36354748.21 -36354748.05 0.0089 0.0011

Pluto -104247-04-27 07:11 J -36354677.32 -36354677.20 -36354677.07 0.0084 0.0018

Neptune -104247-05-14 09:06 J -36354660.28 -36354660.12 -36354659.96 0.0089 0.0016

Pluto -104247-07-24 08:38 J -36354589.28 -36354589.14 -36354589.01 0.0084 0.0005

Neptune -104247-08-10 11:16 J -36354572.18 -36354572.03 -36354571.86 0.0089 0.0021

Pluto -104247-10-20 09:50 J -36354501.22 -36354501.09 -36354500.96 0.0084 0.0009

Neptune -104247-11-06 13:40 J -36354484.08 -36354483.93 -36354483.77 0.0089 0.0026

Pluto -104246-01-16 11:02 J -36354413.17 -36354413.04 -36354412.91 0.0084 0.0022

Venus -104246-01-29 23:02 J -36354399.64 -36354399.54 -36354399.44 0.3764 0.1954

Neptune -104246-02-02 16:04 J -36354395.98 -36354395.83 -36354395.67 0.0089 0.0030

Pluto -104246-04-14 11:59 J -36354325.11 -36354325.00 -36354324.87 0.0084 0.0036

Neptune -104246-05-01 18:28 J -36354307.88 -36354307.73 -36354307.58 0.0089 0.0035

Pluto -104246-07-11 13:11 J -36354237.05 -36354236.95 -36354236.83 0.0084 0.0049

Neptune -104246-07-28 20:52 J -36354219.77 -36354219.63 -36354219.48 0.0089 0.0040

Pluto -104246-10-07 14:23 J -36354148.98 -36354148.90 -36354148.80 0.0084 0.0062

Neptune -104246-10-24 23:16 J -36354131.67 -36354131.53 -36354131.39 0.0089 0.0045

Pluto -104245-01-03 15:50 J -36354060.89 -36354060.84 -36354060.78 0.0083 0.0075

Neptune -104245-01-21 01:26 J -36354043.56 -36354043.44 -36354043.29 0.0089 0.0050

Neptune -104245-04-18 03:50 J -36353955.46 -36353955.34 -36353955.20 0.0089 0.0055

Earth -104245-06-16 05:45 J -36353896.37 -36353896.26 -36353896.15 0.2688 0.0892

Moon -104245-06-16 06:14 J -36353896.35 -36353896.24 -36353896.13 0.2692 0.0855 *

Neptune -104245-07-15 06:14 J -36353867.35 -36353867.24 -36353867.11 0.0089 0.0060

Neptune -104245-10-11 08:38 J -36353779.24 -36353779.14 -36353779.02 0.0089 0.0065

Neptune -104244-01-07 11:02 J -36353691.13 -36353691.04 -36353690.93 0.0089 0.0070

Neptune -104244-04-05 13:26 J -36353603.01 -36353602.94 -36353602.84 0.0089 0.0075

Neptune -104244-07-02 16:04 J -36353514.89 -36353514.83 -36353514.75 0.0089 0.0080

Jupiter -104244-08-24 20:52 J -36353461.77 -36353461.63 -36353461.49 0.0528 0.0121

Neptune -104244-09-28 18:28 J -36353426.76 -36353426.73 -36353426.67 0.0089 0.0085

Jupiter -104244-11-22 12:42 J -36353372.05 -36353371.97 -36353371.88 0.0531 0.0418

Venus -104242-01-29 20:09 J -36352938.78 -36352938.66 -36352938.53 0.3607 0.0928

Saturn -104242-05-01 23:30 J -36352846.60 -36352846.52 -36352846.41 0.0269 0.0211

Saturn -104242-07-29 13:40 J -36352758.06 -36352757.93 -36352757.80 0.0269 0.0138

Saturn -104242-10-26 03:06 J -36352669.51 -36352669.37 -36352669.22 0.0269 0.0068

Saturn -104241-01-22 16:33 J -36352580.96 -36352580.81 -36352580.66 0.0270 0.0006

Saturn -104241-04-20 05:45 J -36352492.40 -36352492.26 -36352492.12 0.0270 0.0073

Mars -104241-05-23 19:26 J -36352458.78 -36352458.69 -36352458.59 0.1657 0.1256

Saturn -104241-07-17 18:42 J -36352403.84 -36352403.72 -36352403.59 0.0271 0.0141

Venus -104241-08-14 19:40 J -36352375.72 -36352375.68 -36352375.63 0.3759 0.3451

Saturn -104241-10-14 07:26 J -36352315.27 -36352315.19 -36352315.09 0.0271 0.0209

Mars -104239-04-29 23:02 J -36351752.67 -36351752.54 -36351752.40 0.1672 0.0657

Mars -104238-03-13 11:02 J -36351435.16 -36351435.04 -36351434.91 0.1849 0.0398

Jupiter -104238-04-12 14:38 J -36351405.05 -36351404.89 -36351404.74 0.0499 0.0091

Jupiter -104238-07-11 07:40 J -36351315.27 -36351315.18 -36351315.08 0.0497 0.0400

Venus -104237-08-14 17:59 J -36350914.88 -36350914.75 -36350914.63 0.3611 0.0533

Uranus -104233-12-19 11:30 J -36349327.07 -36349327.02 -36349326.95 0.0134 0.0122

Uranus -104232-03-17 15:50 J -36349238.93 -36349238.84 -36349238.74 0.0134 0.0104

Jupiter -104232-06-12 22:18 J -36349151.70 -36349151.57 -36349151.44 0.0527 0.0258

Uranus -104232-06-13 19:54 J -36349150.77 -36349150.67 -36349150.54 0.0134 0.0087

Earth -104232-06-19 00:57 J -36349145.57 -36349145.46 -36349145.34 0.2692 0.0207

Moon -104232-06-19 01:54 J -36349145.54 -36349145.42 -36349145.31 0.2694 0.0264 *

Uranus -104232-09-10 00:28 J -36349062.61 -36349062.48 -36349062.35 0.0134 0.0069

Jupiter -104232-09-10 14:38 J -36349062.01 -36349061.89 -36349061.77 0.0530 0.0285

Uranus -104232-12-07 04:33 J -36348974.45 -36348974.31 -36348974.17 0.0133 0.0051

Venus -104231-02-28 15:21 J -36348890.97 -36348890.86 -36348890.76 0.3614 0.1926

Uranus -104231-03-05 08:38 J -36348886.28 -36348886.14 -36348885.99 0.0133 0.0034

Uranus -104231-06-01 12:42 J -36348798.11 -36348797.97 -36348797.82 0.0133 0.0018

Uranus -104231-08-28 16:47 J -36348709.95 -36348709.80 -36348709.65 0.0133 0.0003

Uranus -104231-11-24 20:52 J -36348621.78 -36348621.63 -36348621.48 0.0133 0.0016

Uranus -104230-02-21 00:42 J -36348533.61 -36348533.47 -36348533.32 0.0133 0.0033

Uranus -104230-05-20 04:33 J -36348445.44 -36348445.31 -36348445.16 0.0133 0.0050

Uranus -104230-08-16 08:38 J -36348357.27 -36348357.14 -36348357.01 0.0133 0.0066

Mars -104230-09-20 03:50 J -36348322.49 -36348322.34 -36348322.19 0.1668 0.0167

Uranus -104230-11-12 12:28 J -36348269.09 -36348268.98 -36348268.86 0.0133 0.0082

Uranus -104229-02-08 16:18 J -36348180.91 -36348180.82 -36348180.72 0.0133 0.0098

Uranus -104229-05-06 19:54 J -36348092.73 -36348092.67 -36348092.58 0.0133 0.0114

Mars -104229-08-02 17:30 J -36348004.90 -36348004.77 -36348004.65 0.1853 0.0165

Uranus -104229-08-02 23:45 J -36348004.53 -36348004.51 -36348004.47 0.0132 0.0129

Earth -104229-12-06 00:57 J -36347879.58 -36347879.46 -36347879.33 0.2654 0.1299

Moon -104229-12-06 02:09 J -36347879.54 -36347879.41 -36347879.29 0.2649 0.1270 *

Saturn -104228-08-19 15:21 J -36347622.96 -36347622.86 -36347622.75 0.0291 0.0214

Saturn -104228-11-16 09:21 J -36347534.25 -36347534.11 -36347533.97 0.0291 0.0121

Saturn -104227-02-13 03:35 J -36347445.51 -36347445.35 -36347445.19 0.0290 0.0027

Saturn -104227-05-12 22:18 J -36347356.73 -36347356.57 -36347356.41 0.0290 0.0069

Saturn -104227-08-09 17:16 J -36347267.91 -36347267.78 -36347267.64 0.0289 0.0166

Saturn -104227-11-06 12:28 J -36347179.04 -36347178.98 -36347178.91 0.0289 0.0265

Jupiter -104226-01-29 16:18 J -36347094.96 -36347094.82 -36347094.68 0.0500 0.0208

Jupiter -104226-04-29 09:06 J -36347005.25 -36347005.12 -36347004.99 0.0497 0.0280

Venus -104226-09-14 12:14 J -36346867.04 -36346866.99 -36346866.94 0.3618 0.3269

Mars -104220-02-09 08:52 J -36344892.27 -36344892.13 -36344891.98 0.1664 0.0306

Jupiter -104220-03-31 22:33 J -36344841.65 -36344841.56 -36344841.47 0.0526 0.0407

Jupiter -104220-06-29 15:21 J -36344752.00 -36344751.86 -36344751.72 0.0529 0.0139

Mars -104220-12-23 23:02 J -36344574.65 -36344574.54 -36344574.42 0.1857 0.0731

Earth -104219-06-21 20:09 J -36344394.76 -36344394.66 -36344394.56 0.2697 0.1278

Moon -104219-06-21 20:52 J -36344394.73 -36344394.63 -36344394.54 0.2692 0.1395 *

Mars -104218-11-29 22:04 J -36343868.65 -36343868.58 -36343868.51 0.1839 0.1489

Moon -104216-12-09 04:04 J -36343128.48 -36343128.33 -36343128.19 0.2641 0.0442

Earth -104216-12-09 04:04 J -36343128.48 -36343128.33 -36343128.19 0.2648 0.0356 *

Jupiter -104215-11-17 17:59 J -36342784.86 -36342784.75 -36342784.63 0.0501 0.0324

Jupiter -104214-02-15 10:33 J -36342695.21 -36342695.06 -36342694.91 0.0498 0.0161

Saturn -104213-09-18 02:23 J -36342114.47 -36342114.40 -36342114.31 0.0269 0.0227

Saturn -104213-12-15 16:33 J -36342025.94 -36342025.81 -36342025.69 0.0269 0.0155

Saturn -104212-03-14 05:59 J -36341937.39 -36341937.25 -36341937.10 0.0269 0.0083

Saturn -104212-06-10 19:40 J -36341848.83 -36341848.68 -36341848.54 0.0270 0.0015

Earth -104212-06-14 15:21 J -36341844.95 -36341844.86 -36341844.77 0.2683 0.1764

Moon -104212-06-14 15:21 J -36341844.94 -36341844.86 -36341844.77 0.2690 0.1820 *

Venus -104212-07-07 13:26 J -36341822.01 -36341821.94 -36341821.88 0.3778 0.3144

Saturn -104212-09-07 08:52 J -36341760.28 -36341760.13 -36341759.99 0.0270 0.0058

Saturn -104212-12-04 21:50 J -36341671.72 -36341671.59 -36341671.46 0.0271 0.0126

Saturn -104211-03-03 10:47 J -36341583.15 -36341583.05 -36341582.95 0.0271 0.0194

Saturn -104211-05-30 23:30 J -36341494.56 -36341494.52 -36341494.49 0.0272 0.0261

Mars -104211-07-02 14:23 J -36341462.03 -36341461.90 -36341461.78 0.1661 0.0764

Mars -104210-05-16 04:33 J -36341144.40 -36341144.31 -36341144.22 0.1861 0.1321

Mars -104209-06-07 19:11 J -36340755.80 -36340755.70 -36340755.60 0.1676 0.1217

Jupiter -104208-04-17 16:47 J -36340441.94 -36340441.80 -36340441.65 0.0528 0.0012

Mars -104208-04-21 04:47 J -36340438.41 -36340438.30 -36340438.19 0.1844 0.0976

Venus -104206-01-21 09:06 J -36339798.22 -36339798.12 -36339798.02 0.3774 0.1818

Moon -104206-06-24 15:21 J -36339643.92 -36339643.86 -36339643.80 0.2695 0.2289

Earth -104206-06-24 15:06 J -36339643.92 -36339643.87 -36339643.81 0.2702 0.2350 *

Jupiter -104203-09-05 19:40 J -36338474.74 -36338474.68 -36338474.60 0.0501 0.0441

Jupiter -104203-12-04 11:45 J -36338385.16 -36338385.01 -36338384.85 0.0499 0.0041

Moon -104203-12-12 06:28 J -36338377.33 -36338377.23 -36338377.13 0.2639 0.1874

Earth -104203-12-12 07:26 J -36338377.28 -36338377.19 -36338377.10 0.2643 0.2051 *

Mars -104202-11-22 19:54 J -36338031.76 -36338031.67 -36338031.57 0.1657 0.1204

Venus -104201-08-06 05:02 J -36337774.41 -36337774.29 -36337774.18 0.3770 0.0455

Mars -104200-10-28 23:30 J -36337325.65 -36337325.52 -36337325.38 0.1672 0.0712

Earth -104199-06-17 10:47 J -36337094.16 -36337094.05 -36337093.94 0.2688 0.0665

Moon -104199-06-17 11:30 J -36337094.14 -36337094.02 -36337093.91 0.2693 0.0582 *

Mars -104199-09-11 11:16 J -36337008.15 -36337008.03 -36337007.90 0.1848 0.0447

Saturn -104198-01-06 15:50 J -36336890.92 -36336890.84 -36336890.75 0.0291 0.0241

Saturn -104198-04-05 09:35 J -36336802.23 -36336802.10 -36336801.96 0.0291 0.0150

Saturn -104198-07-03 03:50 J -36336713.50 -36336713.34 -36336713.18 0.0290 0.0056

Saturn -104198-09-29 22:18 J -36336624.73 -36336624.57 -36336624.41 0.0290 0.0039

Saturn -104198-12-27 17:02 J -36336535.93 -36336535.79 -36336535.64 0.0289 0.0136

Saturn -104197-03-25 12:14 J -36336447.08 -36336446.99 -36336446.89 0.0289 0.0234

Venus -104197-08-05 23:02 J -36336313.57 -36336313.54 -36336313.50 0.3601 0.3451

Jupiter -104196-02-03 18:42 J -36336131.86 -36336131.72 -36336131.58 0.0528 0.0126

Jupiter -104196-05-04 10:47 J -36336042.14 -36336042.05 -36336041.97 0.0531 0.0413

Earth -104196-12-04 04:18 J -36335828.35 -36335828.32 -36335828.29 0.2658 0.2591

Moon -104196-12-04 05:45 J -36335828.31 -36335828.26 -36335828.21 0.2656 0.2443 *

Venus -104195-02-20 01:11 J -36335750.56 -36335750.45 -36335750.33 0.3767 0.0978

Mars -104192-04-14 01:54 J -36334601.44 -36334601.42 -36334601.41 0.1654 0.1635

Venus -104191-02-19 21:21 J -36334289.72 -36334289.61 -36334289.50 0.3604 0.1913

Jupiter -104191-09-22 13:26 J -36334075.10 -36334074.94 -36334074.79 0.0499 0.0081

Jupiter -104191-12-21 06:28 J -36333985.31 -36333985.23 -36333985.14 0.0497 0.0409

Mars -104190-03-21 04:18 J -36333895.47 -36333895.32 -36333895.18 0.1668 0.0223

Venus -104190-09-05 21:50 J -36333726.68 -36333726.59 -36333726.50 0.3762 0.2443

Mars -104189-02-01 17:16 J -36333577.90 -36333577.78 -36333577.65 0.1853 0.0123

Uranus -104188-08-13 06:28 J -36333019.31 -36333019.23 -36333019.16 0.0145 0.0127

Uranus -104188-11-09 12:14 J -36332931.10 -36332930.99 -36332930.87 0.0145 0.0105

Uranus -104187-02-05 18:14 J -36332842.87 -36332842.74 -36332842.60 0.0145 0.0081

Uranus -104187-05-05 00:14 J -36332754.64 -36332754.49 -36332754.34 0.0145 0.0058

Uranus -104187-08-01 06:14 J -36332666.40 -36332666.24 -36332666.08 0.0146 0.0034

Uranus -104187-10-28 12:28 J -36332578.15 -36332577.98 -36332577.82 0.0146 0.0010

Uranus -104186-01-24 18:28 J -36332489.89 -36332489.73 -36332489.56 0.0146 0.0015

Uranus -104186-04-23 00:42 J -36332401.62 -36332401.47 -36332401.30 0.0146 0.0039

Earth -104186-06-20 05:59 J -36332343.36 -36332343.25 -36332343.13 0.2693 0.0425

Moon -104186-06-20 06:42 J -36332343.33 -36332343.22 -36332343.10 0.2693 0.0514 *

Uranus -104186-07-20 06:57 J -36332313.35 -36332313.21 -36332313.05 0.0146 0.0064

Venus -104186-09-05 19:26 J -36332265.82 -36332265.69 -36332265.57 0.3608 0.0430

Uranus -104186-10-16 13:11 J -36332225.07 -36332224.95 -36332224.80 0.0146 0.0090

Uranus -104185-01-12 19:40 J -36332136.77 -36332136.68 -36332136.56 0.0146 0.0115

Uranus -104185-04-10 02:23 J -36332048.44 -36332048.40 -36332048.35 0.0146 0.0140

Jupiter -104185-11-22 20:23 J -36331821.77 -36331821.65 -36331821.52 0.0527 0.0258

Jupiter -104184-02-20 12:57 J -36331732.08 -36331731.96 -36331731.84 0.0530 0.0287

Saturn -104183-02-05 03:06 J -36331382.42 -36331382.37 -36331382.32 0.0268 0.0252

Saturn -104183-05-04 17:02 J -36331293.90 -36331293.79 -36331293.67 0.0269 0.0180

Saturn -104183-08-01 06:42 J -36331205.35 -36331205.22 -36331205.08 0.0269 0.0109

Saturn -104183-10-28 20:23 J -36331116.80 -36331116.65 -36331116.50 0.0270 0.0038

Earth -104183-12-07 07:11 J -36331077.34 -36331077.20 -36331077.07 0.2653 0.0975

Moon -104183-12-07 07:40 J -36331077.32 -36331077.18 -36331077.04 0.2647 0.0888 *

Saturn -104182-01-25 09:50 J -36331028.24 -36331028.09 -36331027.95 0.0270 0.0033

Saturn -104182-04-23 22:47 J -36330939.68 -36330939.55 -36330939.41 0.0270 0.0102

Saturn -104182-07-21 11:45 J -36330851.12 -36330851.01 -36330850.89 0.0271 0.0170

Saturn -104182-10-18 00:28 J -36330762.54 -36330762.48 -36330762.41 0.0271 0.0238

Mars -104181-08-10 09:06 J -36330465.26 -36330465.12 -36330464.97 0.1664 0.0262

Venus -104180-03-21 17:02 J -36330241.91 -36330241.79 -36330241.67 0.3612 0.1012

Mars -104180-06-23 23:16 J -36330147.65 -36330147.53 -36330147.41 0.1858 0.0679

Earth -104179-06-13 00:57 J -36329793.47 -36329793.46 -36329793.44 0.2679 0.2642

Jupiter -104179-07-11 14:38 J -36329765.03 -36329764.89 -36329764.75 0.0500 0.0205

Jupiter -104179-10-09 07:26 J -36329675.32 -36329675.19 -36329675.06 0.0497 0.0282

Mars -104178-05-30 22:04 J -36329441.65 -36329441.58 -36329441.51 0.1839 0.1531

Venus -104175-10-05 14:09 J -36328218.00 -36328217.91 -36328217.81 0.3615 0.2386

Earth -104173-06-22 01:11 J -36327592.55 -36327592.45 -36327592.36 0.2698 0.1504

Moon -104173-06-22 01:40 J -36327592.52 -36327592.43 -36327592.33 0.2693 0.1513 *

Jupiter -104173-09-10 21:50 J -36327511.69 -36327511.59 -36327511.49 0.0526 0.0394

Jupiter -104173-12-09 14:38 J -36327422.03 -36327421.89 -36327421.75 0.0529 0.0153

Mars -104172-12-31 14:38 J -36327035.02 -36327034.89 -36327034.76 0.1661 0.0714

Mars -104171-11-14 04:47 J -36326717.39 -36326717.30 -36326717.20 0.1861 0.1267

Neptune -104170-05-04 15:21 J -36326545.89 -36326545.86 -36326545.80 0.0088 0.0085

Neptune -104170-07-31 17:45 J -36326457.82 -36326457.76 -36326457.68 0.0088 0.0080

Neptune -104170-10-27 19:54 J -36326369.74 -36326369.67 -36326369.57 0.0088 0.0075

Mars -104170-12-07 19:26 J -36326328.78 -36326328.69 -36326328.59 0.1676 0.1266

Moon -104170-12-10 10:04 J -36326326.22 -36326326.08 -36326325.94 0.2641 0.0605

Earth -104170-12-10 10:04 J -36326326.22 -36326326.08 -36326325.93 0.2648 0.0698 *

Neptune -104169-01-23 22:18 J -36326281.66 -36326281.57 -36326281.47 0.0088 0.0070

Neptune -104169-04-21 00:14 J -36326193.58 -36326193.49 -36326193.37 0.0088 0.0066

Saturn -104169-05-25 16:04 J -36326158.88 -36326158.83 -36326158.77 0.0291 0.0269

Neptune -104169-07-18 02:38 J -36326105.50 -36326105.39 -36326105.27 0.0088 0.0060

Saturn -104169-08-22 09:50 J -36326070.21 -36326070.09 -36326069.97 0.0291 0.0178

Neptune -104169-10-14 04:47 J -36326017.41 -36326017.30 -36326017.17 0.0088 0.0056

Mars -104169-10-20 05:02 J -36326011.39 -36326011.29 -36326011.18 0.1844 0.1029

Saturn -104169-11-19 03:50 J -36325981.49 -36325981.34 -36325981.18 0.0290 0.0085

Neptune -104168-01-10 07:11 J -36325929.33 -36325929.20 -36325929.07 0.0088 0.0051

Saturn -104168-02-15 22:18 J -36325892.73 -36325892.57 -36325892.41 0.0290 0.0010

Neptune -104168-04-08 09:06 J -36325841.24 -36325841.12 -36325840.97 0.0088 0.0046

Saturn -104168-05-15 17:02 J -36325803.94 -36325803.79 -36325803.64 0.0289 0.0107

Neptune -104168-07-05 11:16 J -36325753.16 -36325753.03 -36325752.88 0.0088 0.0042

Saturn -104168-08-12 12:14 J -36325715.11 -36325714.99 -36325714.88 0.0289 0.0204

Neptune -104168-10-01 13:40 J -36325665.07 -36325664.93 -36325664.79 0.0088 0.0037

Neptune -104168-12-28 15:35 J -36325576.99 -36325576.85 -36325576.69 0.0088 0.0032

Neptune -104167-03-26 17:45 J -36325488.90 -36325488.76 -36325488.60 0.0088 0.0028

Jupiter -104167-04-29 16:18 J -36325454.94 -36325454.82 -36325454.70 0.0501 0.0323

Neptune -104167-06-22 20:09 J -36325400.82 -36325400.66 -36325400.51 0.0088 0.0023

Jupiter -104167-07-28 08:38 J -36325365.29 -36325365.14 -36325364.99 0.0498 0.0161

Neptune -104167-09-18 22:04 J -36325312.73 -36325312.58 -36325312.42 0.0088 0.0018

Neptune -104167-12-16 00:14 J -36325224.64 -36325224.49 -36325224.33 0.0088 0.0014

Neptune -104166-03-14 02:23 J -36325136.56 -36325136.40 -36325136.25 0.0088 0.0009

Neptune -104166-06-10 04:18 J -36325048.47 -36325048.32 -36325048.16 0.0088 0.0005

Moon -104166-06-15 20:38 J -36325042.74 -36325042.64 -36325042.54 0.2690 0.1457

Earth -104166-06-15 20:23 J -36325042.74 -36325042.65 -36325042.55 0.2684 0.1535 *

Neptune -104166-09-06 06:28 J -36324960.38 -36324960.23 -36324960.07 0.0088 0.0001

Neptune -104166-12-03 08:38 J -36324872.30 -36324872.14 -36324871.99 0.0088 0.0005

Neptune -104165-02-29 10:33 J -36324784.21 -36324784.06 -36324783.90 0.0088 0.0009

Neptune -104165-05-27 12:42 J -36324696.13 -36324695.97 -36324695.82 0.0088 0.0014

Neptune -104165-08-23 14:38 J -36324608.04 -36324607.89 -36324607.74 0.0088 0.0018

Neptune -104165-11-19 16:47 J -36324519.95 -36324519.80 -36324519.65 0.0088 0.0023

Neptune -104164-02-15 18:42 J -36324431.86 -36324431.72 -36324431.57 0.0088 0.0027

Neptune -104164-05-14 20:38 J -36324343.78 -36324343.64 -36324343.49 0.0088 0.0032

Neptune -104164-08-10 22:33 J -36324255.69 -36324255.56 -36324255.41 0.0088 0.0036

Neptune -104164-11-07 00:42 J -36324167.61 -36324167.47 -36324167.33 0.0088 0.0041

Neptune -104163-02-03 02:23 J -36324079.52 -36324079.40 -36324079.26 0.0088 0.0046

Neptune -104163-05-02 04:33 J -36323991.43 -36323991.31 -36323991.18 0.0088 0.0049

Neptune -104163-07-29 06:28 J -36323903.34 -36323903.23 -36323903.10 0.0088 0.0054

Neptune -104163-10-25 08:23 J -36323815.25 -36323815.15 -36323815.03 0.0088 0.0058

Neptune -104162-01-21 10:18 J -36323727.17 -36323727.07 -36323726.95 0.0088 0.0063

Neptune -104162-04-19 12:28 J -36323639.08 -36323638.98 -36323638.88 0.0088 0.0067

Mars -104162-05-23 20:09 J -36323604.76 -36323604.66 -36323604.55 0.1657 0.1160

Neptune -104162-07-16 14:09 J -36323550.99 -36323550.91 -36323550.81 0.0088 0.0071

Neptune -104162-10-12 16:04 J -36323462.90 -36323462.83 -36323462.74 0.0088 0.0075

Neptune -104161-01-08 17:59 J -36323374.80 -36323374.75 -36323374.68 0.0088 0.0080

Neptune -104161-04-05 19:54 J -36323286.71 -36323286.67 -36323286.62 0.0088 0.0084

Neptune -104161-07-02 21:50 J -36323198.59 -36323198.59 -36323198.57 0.0088 0.0088

Jupiter -104161-09-27 15:06 J -36323112.01 -36323111.87 -36323111.72 0.0528 0.0016

Mars -104160-04-28 23:59 J -36322898.64 -36322898.50 -36322898.37 0.1672 0.0762

Moon -104160-06-24 20:09 J -36322841.69 -36322841.66 -36322841.64 0.2696 0.2607

Earth -104160-06-24 20:09 J -36322841.69 -36322841.66 -36322841.62 0.2702 0.2568 *

Mars -104159-03-12 11:16 J -36322581.15 -36322581.03 -36322580.90 0.1848 0.0494

Moon -104157-12-12 12:14 J -36321575.05 -36321574.99 -36321574.92 0.2639 0.2375

Earth -104157-12-12 13:40 J -36321574.99 -36321574.93 -36321574.87 0.2643 0.2394 *

Venus -104155-02-11 11:45 J -36321149.09 -36321149.01 -36321148.93 0.3777 0.2693

Jupiter -104155-02-15 17:59 J -36321144.82 -36321144.75 -36321144.68 0.0502 0.0440

Jupiter -104155-05-16 10:04 J -36321055.23 -36321055.08 -36321054.92 0.0499 0.0042

Saturn -104154-06-25 05:59 J -36320650.25 -36320650.25 -36320650.24 0.0269 0.0268

Saturn -104154-09-21 19:54 J -36320561.76 -36320561.67 -36320561.56 0.0269 0.0196

Saturn -104154-12-19 09:50 J -36320473.22 -36320473.09 -36320472.95 0.0270 0.0124

Saturn -104153-03-16 23:30 J -36320384.67 -36320384.52 -36320384.37 0.0270 0.0053

Saturn -104153-06-13 12:57 J -36320296.11 -36320295.96 -36320295.81 0.0270 0.0018

Earth -104153-06-17 15:50 J -36320291.96 -36320291.84 -36320291.73 0.2689 0.0437

Moon -104153-06-17 16:33 J -36320291.93 -36320291.81 -36320291.70 0.2694 0.0424 *

Saturn -104153-09-10 02:09 J -36320207.55 -36320207.41 -36320207.27 0.0271 0.0088

Mars -104153-10-13 02:09 J -36320174.44 -36320174.41 -36320174.37 0.1654 0.1586

Saturn -104153-12-07 15:06 J -36320118.99 -36320118.87 -36320118.75 0.0271 0.0156

Saturn -104152-03-06 03:50 J -36320030.41 -36320030.34 -36320030.26 0.0272 0.0224

Mars -104151-09-19 04:33 J -36319468.45 -36319468.31 -36319468.16 0.1668 0.0273

Mars -104150-08-02 17:45 J -36319150.89 -36319150.76 -36319150.64 0.1853 0.0066

Venus -104150-08-28 07:40 J -36319125.29 -36319125.18 -36319125.08 0.3773 0.1365

Earth -104150-12-05 10:33 J -36319026.14 -36319026.06 -36319025.99 0.2658 0.2261

Moon -104150-12-05 11:45 J -36319026.09 -36319026.01 -36319025.93 0.2656 0.2185 *

Jupiter -104149-07-16 16:33 J -36318801.95 -36318801.81 -36318801.67 0.0527 0.0131

Uranus -104149-10-12 15:06 J -36318713.88 -36318713.87 -36318713.84 0.0134 0.0133

Jupiter -104149-10-14 08:23 J -36318712.23 -36318712.15 -36318712.05 0.0530 0.0408

Uranus -104148-01-08 19:26 J -36318625.76 -36318625.69 -36318625.60 0.0134 0.0115

Uranus -104148-04-06 23:45 J -36318537.61 -36318537.51 -36318537.40 0.0134 0.0097

Uranus -104148-07-04 03:50 J -36318449.45 -36318449.34 -36318449.21 0.0134 0.0080

Uranus -104148-09-30 08:23 J -36318361.29 -36318361.15 -36318361.02 0.0134 0.0062

Uranus -104148-12-27 12:28 J -36318273.12 -36318272.98 -36318272.84 0.0133 0.0045

Uranus -104147-03-25 16:33 J -36318184.96 -36318184.81 -36318184.66 0.0133 0.0028

Uranus -104147-06-21 20:38 J -36318096.79 -36318096.64 -36318096.49 0.0133 0.0011

Uranus -104147-09-18 00:42 J -36318008.62 -36318008.47 -36318008.32 0.0133 0.0006

Uranus -104147-12-15 04:47 J -36317920.45 -36317920.30 -36317920.15 0.0133 0.0023

Uranus -104146-03-13 08:38 J -36317832.28 -36317832.14 -36317831.99 0.0133 0.0040

Uranus -104146-06-09 12:28 J -36317744.11 -36317743.98 -36317743.84 0.0133 0.0056

Uranus -104146-09-05 16:33 J -36317655.93 -36317655.81 -36317655.69 0.0133 0.0072

Uranus -104146-12-02 20:23 J -36317567.76 -36317567.65 -36317567.54 0.0133 0.0088

Uranus -104145-02-29 00:14 J -36317479.58 -36317479.49 -36317479.40 0.0133 0.0104

Uranus -104145-05-27 03:50 J -36317391.39 -36317391.34 -36317391.27 0.0133 0.0120

Venus -104144-03-13 03:35 J -36317101.47 -36317101.35 -36317101.23 0.3769 0.0048

Jupiter -104143-03-04 11:30 J -36316745.17 -36316745.02 -36316744.87 0.0499 0.0080

Jupiter -104143-06-02 04:33 J -36316655.39 -36316655.31 -36316655.22 0.0497 0.0411

Mars -104141-02-09 09:35 J -36316038.24 -36316038.10 -36316037.95 0.1664 0.0209

Mars -104141-12-22 23:30 J -36315720.64 -36315720.52 -36315720.40 0.1857 0.0628

Venus -104140-03-12 22:18 J -36315640.64 -36315640.57 -36315640.49 0.3602 0.2922

Earth -104140-06-20 11:02 J -36315541.15 -36315541.04 -36315540.93 0.2694 0.0651

Moon -104140-06-20 11:45 J -36315541.12 -36315541.01 -36315540.90 0.2692 0.0749 *

Saturn -104139-01-09 10:47 J -36315338.16 -36315338.05 -36315337.93 0.0291 0.0203

Saturn -104139-04-08 04:47 J -36315249.45 -36315249.30 -36315249.15 0.0290 0.0110

Saturn -104139-07-05 23:02 J -36315160.70 -36315160.54 -36315160.38 0.0290 0.0017

Venus -104139-09-26 23:59 J -36315077.61 -36315077.50 -36315077.39 0.3765 0.1457

Saturn -104139-10-02 17:45 J -36315071.92 -36315071.76 -36315071.60 0.0290 0.0080

Mars -104139-11-28 22:18 J -36315014.63 -36315014.57 -36315014.51 0.1839 0.1582

Saturn -104139-12-30 12:42 J -36314983.10 -36314982.97 -36314982.84 0.0289 0.0177

Saturn -104138-03-29 07:54 J -36314894.21 -36314894.17 -36314894.12 0.0288 0.0275

Jupiter -104137-05-04 18:14 J -36314491.87 -36314491.74 -36314491.62 0.0527 0.0264

Jupiter -104137-08-02 10:33 J -36314402.18 -36314402.06 -36314401.94 0.0530 0.0280

Earth -104137-12-07 13:11 J -36314275.09 -36314274.95 -36314274.81 0.2652 0.0636

Moon -104137-12-07 13:40 J -36314275.07 -36314274.93 -36314274.79 0.2646 0.0589 *

Venus -104135-09-26 20:38 J -36313616.76 -36313616.64 -36313616.52 0.3605 0.1402

Venus -104133-04-11 20:38 J -36313053.72 -36313053.64 -36313053.57 0.3761 0.2934

Moon -104133-06-13 05:45 J -36312991.31 -36312991.26 -36312991.21 0.2686 0.2400

Earth -104133-06-13 05:59 J -36312991.30 -36312991.25 -36312991.20 0.2680 0.2416 *

Mars -104132-07-01 14:52 J -36312608.01 -36312607.88 -36312607.75 0.1661 0.0670

Jupiter -104132-12-21 13:11 J -36312435.09 -36312434.95 -36312434.81 0.0500 0.0199

Jupiter -104131-03-21 05:45 J -36312345.38 -36312345.26 -36312345.13 0.0497 0.0289

Mars -104131-05-15 05:02 J -36312290.39 -36312290.29 -36312290.20 0.1862 0.1222

Mars -104130-06-07 19:54 J -36311901.76 -36311901.67 -36311901.58 0.1676 0.1320

Venus -104129-04-11 18:28 J -36311592.86 -36311592.73 -36311592.60 0.3609 0.0073

Mars -104129-04-20 05:02 J -36311584.39 -36311584.29 -36311584.19 0.1844 0.1068

Earth -104127-06-23 06:14 J -36310790.33 -36310790.24 -36310790.16 0.2698 0.1728

Moon -104127-06-23 06:42 J -36310790.31 -36310790.22 -36310790.14 0.2693 0.1801 *

Jupiter -104125-02-21 19:40 J -36310181.77 -36310181.68 -36310181.58 0.0526 0.0397

Jupiter -104125-05-21 12:42 J -36310092.11 -36310091.97 -36310091.83 0.0529 0.0152

Saturn -104124-02-07 20:52 J -36309829.71 -36309829.63 -36309829.54 0.0269 0.0220

Saturn -104124-05-07 10:47 J -36309741.17 -36309741.05 -36309740.92 0.0269 0.0148

Saturn -104124-08-04 00:28 J -36309652.62 -36309652.48 -36309652.33 0.0269 0.0077

Venus -104124-10-26 16:04 J -36309568.95 -36309568.83 -36309568.72 0.3613 0.1486

Saturn -104124-10-31 13:54 J -36309564.06 -36309563.92 -36309563.77 0.0270 0.0010

Moon -104124-12-10 15:50 J -36309523.97 -36309523.84 -36309523.70 0.2641 0.1042

Earth -104124-12-10 16:18 J -36309523.96 -36309523.82 -36309523.69 0.2647 0.1030 *

Saturn -104123-01-28 03:21 J -36309475.51 -36309475.36 -36309475.22 0.0270 0.0064

Saturn -104123-04-26 16:18 J -36309386.94 -36309386.82 -36309386.69 0.0271 0.0133

Saturn -104123-07-24 05:02 J -36309298.38 -36309298.29 -36309298.18 0.0271 0.0201

Saturn -104123-10-20 17:45 J -36309209.77 -36309209.76 -36309209.73 0.0272 0.0268

Mars -104123-11-21 20:38 J -36309177.75 -36309177.64 -36309177.54 0.1657 0.1116

Mars -104122-10-05 10:18 J -36308860.09 -36308860.07 -36308860.04 0.1865 0.1820

Mars -104121-10-28 00:14 J -36308471.62 -36308471.49 -36308471.36 0.1672 0.0811

Earth -104120-06-16 01:26 J -36308240.54 -36308240.44 -36308240.34 0.2685 0.1307

Moon -104120-06-16 01:54 J -36308240.52 -36308240.42 -36308240.32 0.2691 0.1345 *

Mars -104120-09-10 11:30 J -36308154.14 -36308154.02 -36308153.89 0.1849 0.0548

Jupiter -104120-10-09 14:23 J -36308125.01 -36308124.90 -36308124.78 0.0501 0.0322

Jupiter -104119-01-07 06:42 J -36308035.37 -36308035.22 -36308035.07 0.0498 0.0161

Venus -104118-05-12 13:11 J -36307545.03 -36307544.95 -36307544.87 0.3617 0.2838

Jupiter -104113-03-09 14:09 J -36305782.05 -36305781.91 -36305781.76 0.0528 0.0020

Mars -104113-04-13 02:38 J -36305747.44 -36305747.39 -36305747.34 0.1654 0.1540

Mars -104111-03-20 05:02 J -36305041.44 -36305041.29 -36305041.15 0.1668 0.0320

Moon -104111-12-13 18:28 J -36304772.77 -36304772.73 -36304772.69 0.2638 0.2525

Mars -104110-01-31 17:59 J -36304723.88 -36304723.75 -36304723.63 0.1853 0.0069

Saturn -104110-05-29 11:02 J -36304606.13 -36304606.04 -36304605.94 0.0291 0.0230

Saturn -104110-08-26 05:02 J -36304517.43 -36304517.29 -36304517.15 0.0291 0.0138

Saturn -104110-11-22 23:16 J -36304428.69 -36304428.53 -36304428.37 0.0290 0.0044

Saturn -104109-02-19 17:45 J -36304339.92 -36304339.76 -36304339.60 0.0290 0.0051

Saturn -104109-05-18 12:42 J -36304251.11 -36304250.97 -36304250.83 0.0289 0.0148

Saturn -104109-08-15 07:40 J -36304162.25 -36304162.18 -36304162.09 0.0289 0.0247

Jupiter -104108-07-28 16:04 J -36303814.90 -36303814.83 -36303814.76 0.0502 0.0440

Jupiter -104108-10-26 08:09 J -36303725.31 -36303725.16 -36303725.00 0.0499 0.0040

Earth -104107-06-18 20:52 J -36303489.75 -36303489.63 -36303489.52 0.2689 0.0209

Moon -104107-06-18 21:35 J -36303489.72 -36303489.60 -36303489.49 0.2692 0.0092 *

Venus -104104-03-04 14:52 J -36302499.92 -36302499.88 -36302499.85 0.3779 0.3544

Uranus -104104-06-06 08:23 J -36302406.16 -36302406.15 -36302406.10 0.0145 0.0142

Uranus -104104-09-02 14:23 J -36302317.98 -36302317.90 -36302317.80 0.0145 0.0119

Uranus -104104-11-29 20:09 J -36302229.77 -36302229.66 -36302229.53 0.0145 0.0097

Earth -104104-12-05 16:33 J -36302223.91 -36302223.81 -36302223.71 0.2657 0.1941

Moon -104104-12-05 17:30 J -36302223.87 -36302223.77 -36302223.66 0.2653 0.1778 *

Uranus -104103-02-26 02:23 J -36302141.54 -36302141.40 -36302141.26 0.0145 0.0073

Uranus -104103-05-25 08:23 J -36302053.30 -36302053.15 -36302053.00 0.0145 0.0049

Uranus -104103-08-21 14:23 J -36301965.06 -36301964.90 -36301964.74 0.0146 0.0026

Uranus -104103-11-17 20:38 J -36301876.81 -36301876.64 -36301876.48 0.0146 0.0003

Uranus -104102-02-14 02:38 J -36301788.55 -36301788.39 -36301788.22 0.0146 0.0023

Uranus -104102-05-13 08:52 J -36301700.28 -36301700.13 -36301699.97 0.0146 0.0048

Uranus -104102-08-09 15:21 J -36301612.01 -36301611.86 -36301611.72 0.0146 0.0072

Mars -104102-08-10 10:04 J -36301611.23 -36301611.08 -36301610.94 0.1664 0.0162

Uranus -104102-11-05 21:35 J -36301523.72 -36301523.60 -36301523.47 0.0146 0.0097

Jupiter -104102-12-27 14:52 J -36301472.02 -36301471.88 -36301471.74 0.0527 0.0129

Uranus -104101-02-02 03:50 J -36301435.42 -36301435.34 -36301435.24 0.0146 0.0123

Jupiter -104101-03-26 06:42 J -36301382.31 -36301382.22 -36301382.13 0.0530 0.0408

Mars -104101-06-22 23:45 J -36301293.64 -36301293.51 -36301293.39 0.1858 0.0580

Mars -104099-05-29 22:18 J -36300587.62 -36300587.57 -36300587.51 0.1839 0.1626

Venus -104099-09-18 10:18 J -36300476.16 -36300476.07 -36300475.98 0.3776 0.2242

Jupiter -104096-08-14 09:35 J -36299415.25 -36299415.10 -36299414.95 0.0500 0.0081

Pluto -104096-09-10 18:42 J -36299387.78 -36299387.72 -36299387.61 0.0060 0.0054

Jupiter -104096-11-12 02:52 J -36299325.47 -36299325.38 -36299325.30 0.0497 0.0411

Pluto -104096-12-07 20:38 J -36299299.76 -36299299.64 -36299299.51 0.0060 0.0047

Pluto -104095-03-05 21:50 J -36299211.72 -36299211.59 -36299211.42 0.0060 0.0040

Pluto -104095-06-01 23:45 J -36299123.68 -36299123.51 -36299123.34 0.0060 0.0032

Saturn -104095-06-27 23:45 J -36299097.57 -36299097.51 -36299097.43 0.0269 0.0237

Pluto -104095-08-29 00:57 J -36299035.63 -36299035.46 -36299035.27 0.0061 0.0025

Saturn -104095-09-24 13:54 J -36299009.04 -36299008.92 -36299008.80 0.0270 0.0164

Pluto -104095-11-25 02:23 J -36298947.57 -36298947.40 -36298947.20 0.0061 0.0018

Saturn -104095-12-22 03:35 J -36298920.49 -36298920.35 -36298920.20 0.0270 0.0092

Pluto -104094-02-21 04:18 J -36298859.52 -36298859.32 -36298859.13 0.0061 0.0010

Saturn -104094-03-20 17:16 J -36298831.93 -36298831.78 -36298831.63 0.0270 0.0021

Pluto -104094-05-20 05:45 J -36298771.46 -36298771.26 -36298771.06 0.0061 0.0002

Saturn -104094-06-17 06:28 J -36298743.37 -36298743.23 -36298743.08 0.0271 0.0050

Earth -104094-06-21 16:04 J -36298738.94 -36298738.83 -36298738.72 0.2694 0.0879

Moon -104094-06-21 16:47 J -36298738.90 -36298738.80 -36298738.69 0.2692 0.0931 *

Pluto -104094-08-16 07:11 J -36298683.39 -36298683.20 -36298683.00 0.0061 0.0005

Saturn -104094-09-13 19:40 J -36298654.81 -36298654.68 -36298654.55 0.0271 0.0119

Pluto -104094-11-12 08:38 J -36298595.33 -36298595.14 -36298594.94 0.0061 0.0013

Saturn -104094-12-11 08:38 J -36298566.24 -36298566.14 -36298566.04 0.0272 0.0188

Pluto -104093-02-08 10:04 J -36298507.26 -36298507.08 -36298506.88 0.0061 0.0020

Saturn -104093-03-08 21:21 J -36298477.66 -36298477.61 -36298477.56 0.0272 0.0255

Venus -104093-04-03 06:14 J -36298452.35 -36298452.24 -36298452.13 0.3772 0.0897

Pluto -104093-05-06 11:16 J -36298419.18 -36298419.03 -36298418.83 0.0061 0.0028

Pluto -104093-08-02 12:57 J -36298331.10 -36298330.96 -36298330.78 0.0061 0.0036

Pluto -104093-10-29 14:23 J -36298243.02 -36298242.90 -36298242.74 0.0061 0.0043

Mars -104093-12-30 15:21 J -36298181.00 -36298180.86 -36298180.73 0.1661 0.0619

Pluto -104092-01-25 16:04 J -36298154.93 -36298154.83 -36298154.71 0.0061 0.0051

Pluto -104092-04-23 17:16 J -36298066.81 -36298066.78 -36298066.69 0.0061 0.0059

Mars -104092-11-13 05:16 J -36297863.38 -36297863.28 -36297863.18 0.1862 0.1165

Mars -104091-12-06 20:23 J -36297474.73 -36297474.65 -36297474.56 0.1676 0.1375

Earth -104091-12-08 19:26 J -36297472.84 -36297472.69 -36297472.55 0.2652 0.0301

Moon -104091-12-08 19:54 J -36297472.82 -36297472.67 -36297472.53 0.2645 0.0286 *

Jupiter -104090-10-15 16:04 J -36297161.96 -36297161.83 -36297161.71 0.0526 0.0269

Mars -104090-10-20 05:16 J -36297157.38 -36297157.28 -36297157.18 0.1844 0.1121

Jupiter -104089-01-13 08:23 J -36297072.27 -36297072.15 -36297072.03 0.0529 0.0273

Venus -104088-10-18 02:23 J -36296428.52 -36296428.40 -36296428.29 0.3768 0.0511

Neptune -104088-10-19 06:28 J -36296427.26 -36296427.23 -36296427.18 0.0089 0.0086

Neptune -104087-01-15 08:23 J -36296339.19 -36296339.15 -36296339.07 0.0089 0.0082

Neptune -104087-04-13 10:47 J -36296251.12 -36296251.05 -36296250.97 0.0089 0.0077

Moon -104087-06-14 11:02 J -36296189.10 -36296189.04 -36296188.98 0.2687 0.2257

Earth -104087-06-14 11:02 J -36296189.10 -36296189.04 -36296188.97 0.2680 0.2185 *

Neptune -104087-07-10 12:42 J -36296163.05 -36296162.97 -36296162.87 0.0089 0.0073

Neptune -104087-10-06 15:06 J -36296074.97 -36296074.87 -36296074.77 0.0089 0.0068

Neptune -104086-01-02 17:02 J -36295986.89 -36295986.79 -36295986.67 0.0089 0.0064

Neptune -104086-03-31 19:26 J -36295898.81 -36295898.69 -36295898.58 0.0089 0.0059

Neptune -104086-06-27 21:21 J -36295810.73 -36295810.61 -36295810.48 0.0089 0.0055

Neptune -104086-09-23 23:30 J -36295722.64 -36295722.52 -36295722.38 0.0089 0.0050

Neptune -104086-12-21 01:40 J -36295634.56 -36295634.43 -36295634.29 0.0089 0.0046

Neptune -104085-03-18 03:50 J -36295546.47 -36295546.34 -36295546.19 0.0089 0.0041

Neptune -104085-06-14 06:14 J -36295458.38 -36295458.24 -36295458.09 0.0089 0.0036

Neptune -104085-09-10 08:23 J -36295370.29 -36295370.15 -36295370.00 0.0089 0.0032

Neptune -104085-12-07 10:33 J -36295282.21 -36295282.06 -36295281.90 0.0089 0.0027

Neptune -104084-03-05 12:57 J -36295194.12 -36295193.96 -36295193.81 0.0089 0.0022

Neptune -104084-06-01 15:06 J -36295106.03 -36295105.87 -36295105.71 0.0089 0.0017

Jupiter -104084-06-02 11:02 J -36295105.18 -36295105.04 -36295104.90 0.0500 0.0201

Neptune -104084-08-28 17:16 J -36295017.93 -36295017.78 -36295017.62 0.0089 0.0013

Jupiter -104084-08-31 03:50 J -36295015.47 -36295015.34 -36295015.21 0.0498 0.0286

Venus -104084-10-17 21:35 J -36294967.69 -36294967.60 -36294967.50 0.3603 0.2398

Neptune -104084-11-24 19:40 J -36294929.84 -36294929.68 -36294929.52 0.0089 0.0008

Neptune -104083-02-20 21:50 J -36294841.75 -36294841.59 -36294841.43 0.0089 0.0004

Neptune -104083-05-20 00:14 J -36294753.65 -36294753.49 -36294753.33 0.0089 0.0002

Mars -104083-05-22 20:52 J -36294750.74 -36294750.63 -36294750.52 0.1657 0.1065

Neptune -104083-08-16 02:23 J -36294665.56 -36294665.40 -36294665.24 0.0089 0.0007

Neptune -104083-11-12 04:47 J -36294577.46 -36294577.30 -36294577.14 0.0089 0.0011

Neptune -104082-02-08 07:11 J -36294489.36 -36294489.20 -36294489.04 0.0089 0.0016

Mars -104082-04-05 10:18 J -36294433.10 -36294433.07 -36294433.03 0.1866 0.1778

Venus -104082-05-03 22:47 J -36294404.65 -36294404.55 -36294404.45 0.3764 0.1945

Neptune -104082-05-07 09:21 J -36294401.26 -36294401.11 -36294400.95 0.0089 0.0021

Neptune -104082-08-03 11:30 J -36294313.17 -36294313.02 -36294312.85 0.0089 0.0026

Neptune -104082-10-30 13:54 J -36294225.06 -36294224.92 -36294224.76 0.0089 0.0031

Neptune -104081-01-26 16:18 J -36294136.96 -36294136.82 -36294136.67 0.0089 0.0036

Neptune -104081-04-23 18:28 J -36294048.86 -36294048.73 -36294048.57 0.0089 0.0041

Mars -104081-04-28 00:42 J -36294044.60 -36294044.47 -36294044.34 0.1672 0.0864

Earth -104081-06-23 11:16 J -36293988.11 -36293988.03 -36293987.96 0.2699 0.1952

Moon -104081-06-23 11:30 J -36293988.10 -36293988.02 -36293987.94 0.2693 0.1968 *

Neptune -104081-07-20 20:52 J -36293960.76 -36293960.63 -36293960.48 0.0089 0.0046

Saturn -104081-10-15 13:11 J -36293874.03 -36293873.95 -36293873.87 0.0291 0.0250

Neptune -104081-10-16 23:16 J -36293872.65 -36293872.53 -36293872.38 0.0089 0.0051

Saturn -104080-01-12 06:42 J -36293785.34 -36293785.22 -36293785.08 0.0291 0.0160

Neptune -104080-01-13 01:54 J -36293784.54 -36293784.42 -36293784.29 0.0089 0.0055

Mars -104080-03-11 11:45 J -36293727.13 -36293727.01 -36293726.89 0.1849 0.0590

Saturn -104080-04-11 00:57 J -36293696.62 -36293696.46 -36293696.30 0.0290 0.0066

Neptune -104080-04-11 04:18 J -36293696.44 -36293696.32 -36293696.20 0.0089 0.0060 *

Neptune -104080-07-08 06:42 J -36293608.33 -36293608.22 -36293608.11 0.0089 0.0065

Saturn -104080-07-08 19:26 J -36293607.85 -36293607.69 -36293607.53 0.0290 0.0030

Neptune -104080-10-04 09:06 J -36293520.21 -36293520.12 -36293520.02 0.0089 0.0070

Saturn -104080-10-05 14:09 J -36293519.06 -36293518.91 -36293518.76 0.0289 0.0125

Neptune -104080-12-31 11:30 J -36293432.10 -36293432.02 -36293431.93 0.0089 0.0075

Saturn -104079-01-02 09:06 J -36293430.22 -36293430.12 -36293430.01 0.0289 0.0223

Neptune -104079-03-29 14:09 J -36293343.98 -36293343.91 -36293343.84 0.0089 0.0080

Neptune -104079-06-25 16:33 J -36293255.85 -36293255.81 -36293255.76 0.0089 0.0085

Venus   -104078-05-03 19:40 J -36292943.80 -36292943.68 -36292943.55 0.3606 0.0903

Jupiter -104078-08-03 17:16 J -36292851.87 -36292851.78 -36292851.69 0.0526 0.0405

Jupiter -104078-11-01 10:04 J -36292762.22 -36292762.08 -36292761.94 0.0529 0.0143

Moon   -104078-12-11 21:50 J -36292721.72 -36292721.59 -36292721.46 0.2641 0.1292

Earth   -104078-12-11 22:33 J -36292721.69 -36292721.56 -36292721.44 0.2647 0.1380 *

Venus   -104077-11-16 19:26 J -36292380.74 -36292380.69 -36292380.65 0.3760 0.3429

Earth   -104074-06-17 06:28 J -36291438.33 -36291438.23 -36291438.12 0.2685 0.1082

Moon   -104074-06-17 06:57 J -36291438.32 -36291438.21 -36291438.10 0.2692 0.0975 *

Mars   -104074-10-13 02:52 J -36291320.44 -36291320.38 -36291320.32 0.1654 0.1496

Venus   -104073-11-16 17:30 J -36290919.89 -36290919.77 -36290919.64 0.3610 0.0568

Jupiter -104072-03-21 12:42 J -36290795.08 -36290794.97 -36290794.85 0.0501 0.0318

Jupiter -104072-06-19 05:02 J -36290705.43 -36290705.29 -36290705.14 0.0498 0.0165

Mars   -104072-09-18 05:16 J -36290614.42 -36290614.28 -36290614.13 0.1668 0.0373

Mars   -104071-08-01 17:59 J -36290296.88 -36290296.75 -36290296.62 0.1853 0.0052

Venus   -104067-06-02 15:06 J -36288895.98 -36288895.87 -36288895.77 0.3614 0.1953

Jupiter -104066-08-20 11:59 J -36288452.14 -36288452.00 -36288451.85 0.0529 0.0015

Saturn -104066-11-15 00:57 J -36288365.49 -36288365.46 -36288365.42 0.0269 0.0260

Saturn -104065-02-11 15:06 J -36288276.98 -36288276.87 -36288276.76 0.0269 0.0187

Saturn -104065-05-10 04:47 J -36288188.43 -36288188.30 -36288188.16 0.0269 0.0115

Saturn -104065-08-06 18:28 J -36288099.88 -36288099.73 -36288099.58 0.0270 0.0044

Uranus -104065-11-01 22:47 J -36288012.59 -36288012.55 -36288012.49 0.0134 0.0127

Saturn -104065-11-03 07:54 J -36288011.32 -36288011.17 -36288011.02 0.0270 0.0027

Uranus -104064-01-29 03:21 J -36287924.45 -36287924.36 -36287924.27 0.0134 0.0108

Saturn -104064-01-30 21:06 J -36287922.76 -36287922.62 -36287922.48 0.0271 0.0096

Uranus -104064-04-27 07:26 J -36287836.29 -36287836.19 -36287836.07 0.0134 0.0091

Saturn -104064-04-29 10:04 J -36287834.19 -36287834.08 -36287833.97 0.0271 0.0165

Uranus -104064-07-24 11:45 J -36287748.13 -36287748.01 -36287747.88 0.0134 0.0073

Saturn -104064-07-26 22:47 J -36287745.62 -36287745.55 -36287745.47 0.0272 0.0233

Uranus -104064-10-20 16:04 J -36287659.97 -36287659.83 -36287659.69 0.0134 0.0056

Uranus -104063-01-16 20:09 J -36287571.80 -36287571.66 -36287571.51 0.0134 0.0038

Uranus -104063-04-15 00:14 J -36287483.63 -36287483.49 -36287483.34 0.0133 0.0022

Uranus -104063-07-12 04:18 J -36287395.47 -36287395.32 -36287395.17 0.0133 0.0006

Uranus -104063-10-08 08:23 J -36287307.30 -36287307.15 -36287307.00 0.0133 0.0013

Uranus -104062-01-04 12:28 J -36287219.13 -36287218.98 -36287218.84 0.0133 0.0029

Mars -104062-02-08 10:18 J -36287184.22 -36287184.07 -36287183.93 0.1664 0.0116

Uranus -104062-04-02 16:18 J -36287130.95 -36287130.82 -36287130.68 0.0133 0.0046

Uranus -104062-06-29 20:23 J -36287042.78 -36287042.65 -36287042.52 0.0133 0.0062

Uranus -104062-09-26 00:14 J -36286954.61 -36286954.49 -36286954.37 0.0133 0.0078

Venus -104062-12-17 12:14 J -36286872.04 -36286871.99 -36286871.94 0.3618 0.3291

Mars -104062-12-22 23:59 J -36286866.63 -36286866.50 -36286866.38 0.1858 0.0525

Uranus -104062-12-23 04:04 J -36286866.43 -36286866.33 -36286866.23 0.0133 0.0094 *

Uranus -104061-03-20 07:54 J -36286778.25 -36286778.17 -36286778.09 0.0133 0.0110

Uranus -104061-06-16 11:30 J -36286690.05 -36286690.02 -36286689.97 0.0133 0.0126

Earth -104061-06-19 01:54 J -36286687.54 -36286687.42 -36286687.31 0.2690 0.0033

Moon -104061-06-19 02:38 J -36286687.50 -36286687.39 -36286687.27 0.2691 0.0064 *

Jupiter -104060-01-07 14:09 J -36286484.98 -36286484.91 -36286484.84 0.0501 0.0440

Jupiter -104060-04-07 06:14 J -36286395.40 -36286395.24 -36286395.09 0.0499 0.0041

Mars -104060-11-27 22:33 J -36286160.61 -36286160.56 -36286160.51 0.1839 0.1673

Earth -104058-12-06 22:33 J -36285421.67 -36285421.56 -36285421.45 0.2656 0.1613

Moon -104058-12-06 23:30 J -36285421.64 -36285421.52 -36285421.41 0.2651 0.1617 *

Jupiter -104054-06-08 13:40 J -36284142.08 -36284141.93 -36284141.79 0.0528 0.0124

Jupiter -104054-09-06 05:30 J -36284052.35 -36284052.27 -36284052.18 0.0531 0.0416

Mars -104053-06-30 15:35 J -36283753.99 -36283753.85 -36283753.71 0.1661 0.0572

Mars -104052-05-14 05:30 J -36283436.38 -36283436.27 -36283436.17 0.1862 0.1118

Saturn -104051-03-04 13:11 J -36283141.98 -36283141.95 -36283141.90 0.0291 0.0279

Saturn -104051-06-01 06:57 J -36283053.33 -36283053.21 -36283053.09 0.0291 0.0188

Mars -104051-06-06 20:38 J -36283047.72 -36283047.64 -36283047.56 0.1676 0.1421

Saturn -104051-08-29 00:57 J -36282964.61 -36282964.46 -36282964.31 0.0290 0.0095

Saturn -104051-11-25 19:11 J -36282875.86 -36282875.70 -36282875.54 0.0290 0.0005

Saturn -104050-02-22 13:54 J -36282787.07 -36282786.92 -36282786.77 0.0289 0.0096

Mars -104050-04-20 05:30 J -36282730.37 -36282730.27 -36282730.18 0.1844 0.1170

Saturn -104050-05-22 08:52 J -36282698.25 -36282698.13 -36282698.00 0.0289 0.0193

Jupiter -104048-01-24 07:26 J -36282085.34 -36282085.19 -36282085.03 0.0500 0.0084

Jupiter -104048-04-24 00:28 J -36281995.56 -36281995.48 -36281995.38 0.0497 0.0408

Earth -104048-06-21 21:06 J -36281936.73 -36281936.62 -36281936.52 0.2695 0.1103

Moon -104048-06-21 21:50 J -36281936.69 -36281936.59 -36281936.49 0.2692 0.1209 *

Venus -104048-10-09 13:11 J -36281827.01 -36281826.95 -36281826.88 0.3778 0.3098

Earth -104045-12-09 01:26 J -36280670.59 -36280670.44 -36280670.29 0.2651 0.0032

Moon -104045-12-09 01:40 J -36280670.58 -36280670.43 -36280670.28 0.2645 0.0091 *

Mars -104044-11-20 21:21 J -36280323.72 -36280323.61 -36280323.50 0.1657 0.1016

Mars -104043-10-04 10:47 J -36280006.10 -36280006.05 -36280006.00 0.1866 0.1718

Jupiter -104042-03-27 14:09 J -36279832.03 -36279831.91 -36279831.78 0.0526 0.0268

Venus -104042-04-25 08:52 J -36279803.23 -36279803.13 -36279803.03 0.3775 0.1786

Jupiter -104042-06-25 06:28 J -36279742.35 -36279742.23 -36279742.10 0.0529 0.0275

Mars -104042-10-28 01:11 J -36279617.57 -36279617.45 -36279617.33 0.1672 0.0919

Moon -104041-06-14 16:04 J -36279386.90 -36279386.83 -36279386.75 0.2688 0.1936

Earth -104041-06-14 16:04 J -36279386.90 -36279386.83 -36279386.75 0.2681 0.1958 *

Mars -104041-09-09 11:59 J -36279300.12 -36279300.00 -36279299.88 0.1849 0.0643

Venus -104037-11-08 04:47 J -36277779.41 -36277779.30 -36277779.18 0.3771 0.0433

Jupiter -104037-11-12 08:52 J -36277775.27 -36277775.13 -36277774.99 0.0501 0.0204

Jupiter -104036-02-10 01:40 J -36277685.56 -36277685.43 -36277685.30 0.0498 0.0284

Saturn -104036-06-30 17:59 J -36277544.85 -36277544.75 -36277544.65 0.0270 0.0203

Saturn -104036-09-27 07:54 J -36277456.30 -36277456.17 -36277456.04 0.0270 0.0130

Saturn -104036-12-24 21:35 J -36277367.74 -36277367.60 -36277367.45 0.0270 0.0059

Saturn -104035-03-23 11:02 J -36277279.19 -36277279.04 -36277278.89 0.0271 0.0013

Saturn -104035-06-20 00:14 J -36277190.63 -36277190.49 -36277190.35 0.0271 0.0083

Earth -104035-06-24 16:04 J -36277185.89 -36277185.83 -36277185.76 0.2700 0.2178

Moon -104035-06-24 16:18 J -36277185.88 -36277185.82 -36277185.75 0.2692 0.2168 *

Saturn -104035-09-16 13:26 J -36277102.06 -36277101.94 -36277101.82 0.0272 0.0151

Saturn -104035-12-14 02:09 J -36277013.49 -36277013.41 -36277013.32 0.0272 0.0220

Mars -104034-04-13 03:06 J -36276893.44 -36276893.37 -36276893.30 0.1654 0.1450

Venus -104033-11-07 22:33 J -36276318.60 -36276318.56 -36276318.52 0.3600 0.3411

Mars -104032-03-19 05:45 J -36276187.40 -36276187.26 -36276187.12 0.1668 0.0420

Moon -104032-12-12 03:35 J -36275919.46 -36275919.35 -36275919.23 0.2640 0.1634

Earth -104032-12-12 04:33 J -36275919.42 -36275919.31 -36275919.20 0.2646 0.1719 *

Mars -104031-01-30 18:14 J -36275869.87 -36275869.74 -36275869.62 0.1853 0.0108

Venus -104031-05-25 00:57 J -36275755.57 -36275755.46 -36275755.34 0.3767 0.0991

Jupiter -104030-01-13 15:06 J -36275521.96 -36275521.87 -36275521.78 0.0526 0.0409

Jupiter -104030-04-13 07:54 J -36275432.31 -36275432.17 -36275432.03 0.0529 0.0138

Earth -104028-06-17 11:30 J -36274636.13 -36274636.02 -36274635.91 0.2686 0.0853

Moon -104028-06-17 11:59 J -36274636.10 -36274636.00 -36274635.89 0.2691 0.0868 *

Venus -104027-05-24 20:52 J -36274294.74 -36274294.63 -36274294.52 0.3604 0.1877

Venus -104026-12-08 21:35 J -36273731.69 -36273731.60 -36273731.51 0.3763 0.2433

Jupiter -104025-08-31 10:18 J -36273465.18 -36273465.07 -36273464.95 0.0501 0.0323

Jupiter -104025-11-29 02:52 J -36273375.53 -36273375.38 -36273375.23 0.0498 0.0161

Mars -104023-08-09 10:33 J -36272757.20 -36272757.06 -36272756.91 0.1664 0.0075

Mars -104022-06-22 23:59 J -36272439.62 -36272439.50 -36272439.38 0.1858 0.0480

Saturn -104022-10-19 09:21 J -36272321.22 -36272321.11 -36272321.00 0.0291 0.0206

Venus -104022-12-08 18:57 J -36272270.83 -36272270.71 -36272270.58 0.3607 0.0396

Saturn -104021-01-16 03:21 J -36272232.51 -36272232.36 -36272232.22 0.0290 0.0114

Saturn -104021-04-13 21:35 J -36272143.76 -36272143.60 -36272143.44 0.0290 0.0021

Saturn -104021-07-11 16:04 J -36272054.99 -36272054.83 -36272054.67 0.0289 0.0076

Saturn -104021-10-08 11:02 J -36271966.17 -36271966.04 -36271965.91 0.0289 0.0173

Saturn -104020-01-05 05:59 J -36271877.29 -36271877.25 -36271877.19 0.0288 0.0271

Mars -104020-05-28 22:33 J -36271733.60 -36271733.56 -36271733.52 0.1839 0.1718

Uranus -104020-06-26 17:02 J -36271704.84 -36271704.79 -36271704.72 0.0145 0.0132

Uranus -104020-09-22 23:02 J -36271616.64 -36271616.54 -36271616.43 0.0145 0.0109

Uranus -104020-12-20 04:47 J -36271528.42 -36271528.30 -36271528.16 0.0145 0.0087

Uranus -104019-03-18 10:47 J -36271440.19 -36271440.05 -36271439.90 0.0145 0.0063

Uranus -104019-06-14 16:47 J -36271351.95 -36271351.80 -36271351.64 0.0145 0.0040

Uranus -104019-09-10 22:47 J -36271263.71 -36271263.55 -36271263.38 0.0146 0.0017

Uranus -104019-12-08 05:02 J -36271175.45 -36271175.29 -36271175.12 0.0146 0.0008

Jupiter -104018-01-30 09:21 J -36271122.25 -36271122.11 -36271121.96 0.0528 0.0016

Uranus -104018-03-06 11:16 J -36271087.19 -36271087.03 -36271086.87 0.0146 0.0033

Uranus -104018-06-02 17:30 J -36270998.92 -36270998.77 -36270998.62 0.0146 0.0057

Uranus -104018-08-29 23:45 J -36270910.64 -36270910.51 -36270910.37 0.0146 0.0082

Uranus -104018-11-26 06:14 J -36270822.35 -36270822.24 -36270822.13 0.0146 0.0107

Uranus -104017-02-22 12:14 J -36270734.04 -36270733.99 -36270733.90 0.0146 0.0134

Venus -104016-06-23 16:47 J -36270246.92 -36270246.80 -36270246.68 0.3611 0.1046

Earth -104015-06-20 06:57 J -36269885.33 -36269885.21 -36269885.10 0.2691 0.0249

Moon -104015-06-20 07:40 J -36269885.29 -36269885.18 -36269885.06 0.2691 0.0405 *

Mars -104014-12-30 16:04 J -36269326.97 -36269326.83 -36269326.69 0.1660 0.0524

Jupiter -104013-06-19 12:14 J -36269155.05 -36269154.99 -36269154.91 0.0502 0.0439

Jupiter -104013-09-17 04:18 J -36269065.48 -36269065.32 -36269065.16 0.0499 0.0040

Mars -104013-11-12 05:30 J -36269009.37 -36269009.27 -36269009.16 0.1862 0.1066

Mars -104012-12-05 21:21 J -36268620.68 -36268620.61 -36268620.55 0.1676 0.1482

Earth -104012-12-07 04:33 J -36268619.44 -36268619.31 -36268619.18 0.2656 0.1293

Moon -104012-12-07 05:30 J -36268619.41 -36268619.27 -36268619.14 0.2650 0.1118 *

Mars -104011-10-19 05:30 J -36268303.37 -36268303.27 -36268303.18 0.1844 0.1214

Venus -104010-01-07 13:54 J -36268223.01 -36268222.92 -36268222.82 0.3615 0.2412

Saturn -104007-11-17 19:26 J -36266812.78 -36266812.69 -36266812.61 0.0269 0.0225

Jupiter -104007-11-18 11:16 J -36266812.17 -36266812.03 -36266811.89 0.0528 0.0129

Saturn -104006-02-14 09:06 J -36266724.24 -36266724.12 -36266723.99 0.0269 0.0153

Jupiter -104006-02-16 03:21 J -36266722.45 -36266722.36 -36266722.27 0.0531 0.0410

Saturn -104006-05-13 23:02 J -36266635.68 -36266635.54 -36266635.40 0.0269 0.0081

Saturn -104006-08-10 12:28 J -36266547.13 -36266546.98 -36266546.83 0.0270 0.0011

Saturn -104006-11-07 01:54 J -36266458.57 -36266458.42 -36266458.28 0.0270 0.0060

Neptune -104005-01-29 13:40 J -36266374.97 -36266374.93 -36266374.88 0.0088 0.0084

Saturn -104005-02-03 14:52 J -36266370.00 -36266369.88 -36266369.75 0.0271 0.0129

Neptune -104005-04-26 16:04 J -36266286.90 -36266286.83 -36266286.76 0.0088 0.0079

Saturn -104005-05-02 03:50 J -36266281.44 -36266281.34 -36266281.24 0.0271 0.0197

Neptune -104005-07-23 17:59 J -36266198.82 -36266198.75 -36266198.65 0.0088 0.0074

Saturn -104005-07-29 16:33 J -36266192.84 -36266192.81 -36266192.78 0.0272 0.0265

Neptune -104005-10-19 20:09 J -36266110.74 -36266110.66 -36266110.54 0.0088 0.0070

Neptune -104004-01-15 22:33 J -36266022.66 -36266022.56 -36266022.44 0.0088 0.0065

Neptune -104004-04-14 00:57 J -36265934.57 -36265934.46 -36265934.34 0.0088 0.0060

Mars -104004-05-21 21:21 J -36265896.72 -36265896.61 -36265896.49 0.1657 0.0976

Neptune -104004-07-11 02:52 J -36265846.49 -36265846.38 -36265846.24 0.0088 0.0056

Neptune -104004-10-07 05:16 J -36265758.40 -36265758.28 -36265758.14 0.0088 0.0050

Neptune -104003-01-03 07:26 J -36265670.32 -36265670.19 -36265670.05 0.0088 0.0046

Neptune -104003-04-01 09:50 J -36265582.23 -36265582.09 -36265581.95 0.0088 0.0041

Mars -104003-04-04 11:02 J -36265579.10 -36265579.04 -36265578.99 0.1866 0.1667

Neptune -104003-06-28 11:45 J -36265494.15 -36265494.01 -36265493.86 0.0088 0.0036

Neptune -104003-09-24 13:54 J -36265406.06 -36265405.92 -36265405.77 0.0088 0.0032

Neptune -104003-12-21 16:18 J -36265317.97 -36265317.82 -36265317.67 0.0088 0.0027

Pluto -104002-01-07 17:45 J -36265300.81 -36265300.76 -36265300.69 0.0085 0.0075

Neptune -104002-03-19 18:14 J -36265229.89 -36265229.74 -36265229.58 0.0088 0.0022

Pluto -104002-04-05 19:11 J -36265212.79 -36265212.70 -36265212.60 0.0085 0.0061

Mars -104002-04-28 01:26 J -36265190.56 -36265190.44 -36265190.32 0.1671 0.0964

Neptune -104002-06-15 20:23 J -36265141.80 -36265141.65 -36265141.49 0.0088 0.0018

Earth -104002-06-23 02:09 J -36265134.51 -36265134.41 -36265134.31 0.2695 0.1329

Moon -104002-06-23 02:38 J -36265134.49 -36265134.39 -36265134.29 0.2691 0.1328 *

Pluto -104002-07-02 20:23 J -36265124.75 -36265124.65 -36265124.53 0.0085 0.0047

Neptune -104002-09-11 22:33 J -36265053.71 -36265053.56 -36265053.40 0.0088 0.0013

Pluto -104002-09-28 21:35 J -36265036.71 -36265036.60 -36265036.47 0.0084 0.0034

Neptune -104002-12-09 00:42 J -36264965.63 -36264965.47 -36264965.32 0.0088 0.0008

Pluto -104002-12-25 23:02 J -36264948.67 -36264948.54 -36264948.41 0.0084 0.0020

Neptune -104001-03-06 02:38 J -36264877.54 -36264877.39 -36264877.23 0.0088 0.0005

Mars -104001-03-10 11:59 J -36264873.12 -36264873.00 -36264872.88 0.1849 0.0688

Pluto -104001-03-23 00:14 J -36264860.62 -36264860.49 -36264860.35 0.0084 0.0007

Neptune -104001-06-02 04:47 J -36264789.45 -36264789.30 -36264789.14 0.0088 0.0001

Pluto -104001-06-19 01:26 J -36264772.57 -36264772.44 -36264772.30 0.0084 0.0008

Jupiter -104001-07-06 05:30 J -36264755.43 -36264755.27 -36264755.12 0.0499 0.0085

Neptune -104001-08-29 06:57 J -36264701.37 -36264701.21 -36264701.06 0.0088 0.0006

Pluto -104001-09-15 02:52 J -36264684.51 -36264684.38 -36264684.26 0.0084 0.0020

Jupiter -104001-10-03 22:33 J -36264665.65 -36264665.56 -36264665.47 0.0497 0.0405

Neptune -104001-11-25 08:52 J -36264613.28 -36264613.13 -36264612.97 0.0088 0.0010

Pluto -104001-12-12 03:50 J -36264596.45 -36264596.34 -36264596.21 0.0084 0.0034

104TH MILLENNIUM BCE

This is a list of transits of Mercury in the 104th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Neptune -104000-02-21 11:02 J -36264525.19 -36264525.04 -36264524.89 0.0088 0.0014

Pluto -104000-03-10 05:02 J -36264508.39 -36264508.29 -36264508.17 0.0084 0.0047

Neptune -104000-05-20 12:57 J -36264437.11 -36264436.96 -36264436.80 0.0088 0.0019

Pluto -104000-06-06 06:14 J -36264420.32 -36264420.24 -36264420.14 0.0084 0.0060

Neptune -104000-08-16 15:06 J -36264349.02 -36264348.87 -36264348.72 0.0088 0.0023

Pluto -104000-09-02 07:40 J -36264332.24 -36264332.18 -36264332.12 0.0083 0.0073

Neptune -104000-11-12 16:47 J -36264260.93 -36264260.80 -36264260.64 0.0088 0.0029

Neptune -103999-02-08 18:57 J -36264172.85 -36264172.71 -36264172.56 0.0088 0.0033

Neptune -103999-05-07 21:06 J -36264084.76 -36264084.62 -36264084.48 0.0088 0.0037

Neptune -103999-08-03 23:02 J -36263996.67 -36263996.54 -36263996.40 0.0088 0.0041

Neptune -103999-10-31 00:57 J -36263908.58 -36263908.46 -36263908.32 0.0088 0.0046

Moon -103999-12-10 07:26 J -36263868.34 -36263868.19 -36263868.05 0.2644 0.0291

Earth -103999-12-10 07:26 J -36263868.33 -36263868.19 -36263868.04 0.2650 0.0369 *

Neptune -103998-01-27 02:52 J -36263820.50 -36263820.38 -36263820.25 0.0088 0.0050

Neptune -103998-04-25 04:47 J -36263732.41 -36263732.30 -36263732.17 0.0088 0.0055

Neptune -103998-07-22 06:57 J -36263644.32 -36263644.21 -36263644.09 0.0088 0.0059

Neptune -103998-10-18 08:38 J -36263556.23 -36263556.14 -36263556.02 0.0088 0.0063

Neptune -103997-01-14 10:33 J -36263468.14 -36263468.06 -36263467.95 0.0088 0.0068

Neptune -103997-04-11 12:42 J -36263380.05 -36263379.97 -36263379.88 0.0088 0.0072

Neptune -103997-07-08 14:23 J -36263291.96 -36263291.90 -36263291.81 0.0088 0.0076

Neptune -103997-10-04 16:18 J -36263203.87 -36263203.82 -36263203.74 0.0088 0.0081

Neptune -103997-12-31 18:14 J -36263115.77 -36263115.74 -36263115.68 0.0088 0.0085

Moon -103995-06-15 21:21 J -36262584.70 -36262584.61 -36262584.52 0.2689 0.1743

Earth -103995-06-15 21:06 J -36262584.70 -36262584.62 -36262584.53 0.2681 0.1728 *

Jupiter -103995-09-06 12:42 J -36262502.10 -36262501.97 -36262501.84 0.0527 0.0264

Mars -103995-10-12 03:21 J -36262466.43 -36262466.36 -36262466.28 0.1654 0.1405

Jupiter -103995-12-05 05:16 J -36262412.41 -36262412.28 -36262412.16 0.0530 0.0279

Mars -103993-09-17 05:59 J -36261760.39 -36261760.25 -36261760.11 0.1668 0.0469

Saturn -103992-03-07 09:35 J -36261589.19 -36261589.10 -36261589.01 0.0291 0.0234

Saturn -103992-06-04 03:21 J -36261500.50 -36261500.36 -36261500.23 0.0291 0.0143

Mars -103992-07-31 18:28 J -36261442.86 -36261442.73 -36261442.61 0.1853 0.0157

Saturn -103992-08-31 21:21 J -36261411.77 -36261411.61 -36261411.45 0.0290 0.0049

Saturn -103992-11-28 15:50 J -36261323.00 -36261322.84 -36261322.68 0.0290 0.0046

Saturn -103991-02-25 10:33 J -36261234.20 -36261234.06 -36261233.91 0.0289 0.0143

Venus -103991-05-16 11:45 J -36261154.09 -36261154.01 -36261153.93 0.3777 0.2648

Saturn -103991-05-25 05:45 J -36261145.34 -36261145.26 -36261145.17 0.0289 0.0241

Jupiter -103989-04-24 06:57 J -36260445.35 -36260445.21 -36260445.07 0.0500 0.0206

Earth -103989-06-24 21:06 J -36260383.67 -36260383.62 -36260383.57 0.2700 0.2397

Moon -103989-06-24 21:21 J -36260383.66 -36260383.61 -36260383.56 0.2693 0.2429 *

Jupiter -103989-07-22 23:30 J -36260355.65 -36260355.52 -36260355.39 0.0498 0.0281

Venus -103986-11-30 07:26 J -36259130.29 -36259130.19 -36259130.08 0.3773 0.1329

Moon -103986-12-13 09:50 J -36259117.19 -36259117.09 -36259116.99 0.2640 0.1987

Earth -103986-12-13 10:47 J -36259117.14 -36259117.05 -36259116.96 0.2645 0.2060 *

Mars -103983-02-07 11:02 J -36258330.18 -36258330.04 -36258329.89 0.1664 0.0043

Jupiter -103983-06-25 13:26 J -36258192.03 -36258191.94 -36258191.85 0.0525 0.0408

Jupiter -103983-09-23 06:14 J -36258102.38 -36258102.24 -36258102.10 0.0528 0.0138

Mars -103983-12-22 00:14 J -36258012.61 -36258012.49 -36258012.37 0.1858 0.0425

Earth -103982-06-18 16:33 J -36257833.92 -36257833.81 -36257833.69 0.2686 0.0626

Moon -103982-06-18 17:16 J -36257833.89 -36257833.78 -36257833.67 0.2690 0.0520 *

Uranus -103981-11-22 06:57 J -36257311.27 -36257311.21 -36257311.14 0.0134 0.0119

Mars -103981-11-26 22:47 J -36257306.58 -36257306.55 -36257306.52 0.1839 0.1768

Uranus -103980-02-18 11:16 J -36257223.12 -36257223.03 -36257222.93 0.0134 0.0101

Uranus -103980-05-17 15:21 J -36257134.97 -36257134.86 -36257134.73 0.0134 0.0084

Venus -103980-06-15 03:35 J -36257106.47 -36257106.35 -36257106.24 0.3770 0.0110

Uranus -103980-08-13 19:54 J -36257046.80 -36257046.67 -36257046.54 0.0134 0.0066

Uranus -103980-11-09 23:59 J -36256958.64 -36256958.50 -36256958.36 0.0134 0.0049

Uranus -103979-02-06 04:04 J -36256870.47 -36256870.33 -36256870.18 0.0134 0.0032

Uranus -103979-05-05 08:09 J -36256782.30 -36256782.16 -36256782.00 0.0133 0.0015

Uranus -103979-08-01 12:14 J -36256694.14 -36256693.99 -36256693.83 0.0133 0.0005

Uranus -103979-10-28 16:18 J -36256605.97 -36256605.82 -36256605.67 0.0133 0.0019

Earth -103979-12-05 07:54 J -36256568.20 -36256568.17 -36256568.13 0.2660 0.2582

Moon -103979-12-05 09:06 J -36256568.17 -36256568.12 -36256568.06 0.2657 0.2410 *

Uranus -103978-01-24 20:09 J -36256517.80 -36256517.66 -36256517.51 0.0133 0.0037

Uranus -103978-04-23 00:14 J -36256429.62 -36256429.49 -36256429.35 0.0133 0.0052

Uranus -103978-07-20 04:04 J -36256341.45 -36256341.33 -36256341.20 0.0133 0.0069

Uranus -103978-10-16 07:54 J -36256253.27 -36256253.17 -36256253.05 0.0133 0.0085

Uranus -103977-01-12 11:45 J -36256165.09 -36256165.01 -36256164.91 0.0133 0.0101

Jupiter -103977-02-11 08:09 J -36256135.27 -36256135.16 -36256135.04 0.0501 0.0327

Saturn -103977-04-05 22:04 J -36256080.64 -36256080.58 -36256080.51 0.0269 0.0242

Uranus -103977-04-09 15:35 J -36256076.91 -36256076.85 -36256076.77 0.0133 0.0117

Jupiter -103977-05-11 00:28 J -36256045.62 -36256045.48 -36256045.33 0.0499 0.0158

Saturn -103977-07-03 12:14 J -36255992.11 -36255991.99 -36255991.87 0.0270 0.0169

Uranus -103977-07-06 19:40 J -36255988.69 -36255988.68 -36255988.67 0.0133 0.0132

Saturn -103977-09-30 01:54 J -36255903.56 -36255903.42 -36255903.28 0.0270 0.0097

Saturn -103977-12-27 15:35 J -36255815.00 -36255814.85 -36255814.70 0.0271 0.0025

Saturn -103976-03-26 05:02 J -36255726.44 -36255726.29 -36255726.15 0.0271 0.0045

Venus -103976-06-14 21:50 J -36255645.66 -36255645.59 -36255645.51 0.3601 0.2881

Saturn -103976-06-22 17:59 J -36255637.88 -36255637.75 -36255637.61 0.0271 0.0115

Saturn -103976-09-19 06:57 J -36255549.31 -36255549.21 -36255549.10 0.0272 0.0184

Saturn -103976-12-16 19:54 J -36255460.72 -36255460.67 -36255460.62 0.0272 0.0251

Venus -103975-12-29 23:45 J -36255082.62 -36255082.51 -36255082.40 0.3766 0.1461

Mars -103974-06-30 16:18 J -36254899.96 -36254899.82 -36254899.68 0.1660 0.0475

Mars -103973-05-13 05:45 J -36254582.37 -36254582.26 -36254582.15 0.1862 0.1014

Mars -103972-06-05 21:35 J -36254193.66 -36254193.60 -36254193.54 0.1676 0.1532

Mars -103971-04-19 05:30 J -36253876.36 -36253876.27 -36253876.18 0.1844 0.1263

Jupiter -103971-07-12 07:26 J -36253792.33 -36253792.19 -36253792.04 0.0528 0.0008

Venus -103971-12-29 20:09 J -36253621.78 -36253621.66 -36253621.54 0.3605 0.1363

Earth -103969-06-20 11:59 J -36253083.12 -36253083.00 -36253082.89 0.2691 0.0477

Moon -103969-06-20 12:42 J -36253083.08 -36253082.97 -36253082.85 0.2692 0.0483 *

Venus -103969-07-14 20:23 J -36253058.73 -36253058.65 -36253058.58 0.3762 0.2921

Jupiter -103966-11-30 10:04 J -36251825.15 -36251825.08 -36251825.01 0.0502 0.0444

Earth -103966-12-08 10:33 J -36251817.19 -36251817.06 -36251816.92 0.2655 0.0961

Moon -103966-12-08 11:30 J -36251817.16 -36251817.02 -36251816.89 0.2649 0.0980 *

Jupiter -103965-02-28 01:54 J -36251735.58 -36251735.42 -36251735.27 0.0499 0.0035

Venus -103965-07-14 18:14 J -36251597.87 -36251597.74 -36251597.62 0.3609 0.0125

Mars -103965-11-19 21:50 J -36251469.71 -36251469.59 -36251469.47 0.1657 0.0924

Mars -103964-10-03 11:02 J -36251152.10 -36251152.04 -36251151.98 0.1866 0.1620

Saturn -103963-07-25 11:59 J -36250857.07 -36250857.00 -36250856.91 0.0291 0.0251

Saturn -103963-10-22 05:45 J -36250768.39 -36250768.26 -36250768.12 0.0290 0.0160

Mars -103963-10-27 01:54 J -36250763.54 -36250763.42 -36250763.30 0.1672 0.1020

Saturn -103962-01-18 23:59 J -36250679.66 -36250679.50 -36250679.35 0.0290 0.0067

Saturn -103962-04-17 18:14 J -36250590.90 -36250590.74 -36250590.58 0.0290 0.0028

Moon -103962-06-14 06:28 J -36250533.26 -36250533.23 -36250533.21 0.2683 0.2620

Earth -103962-06-14 06:42 J -36250533.24 -36250533.22 -36250533.20 0.2677 0.2616 *

Saturn -103962-07-15 12:57 J -36250502.11 -36250501.96 -36250501.81 0.0289 0.0124

Mars -103962-09-09 12:14 J -36250446.11 -36250445.99 -36250445.88 0.1849 0.0737

Saturn -103962-10-12 08:09 J -36250413.27 -36250413.16 -36250413.06 0.0289 0.0222

Venus -103959-01-28 15:35 J -36249573.96 -36249573.85 -36249573.73 0.3612 0.1511

Jupiter -103959-04-30 08:38 J -36249482.28 -36249482.14 -36249482.00 0.0528 0.0139

Jupiter -103959-07-29 00:42 J -36249392.56 -36249392.47 -36249392.37 0.0530 0.0400

Earth -103956-06-23 07:11 J -36248332.30 -36248332.20 -36248332.11 0.2696 0.1554

Moon -103956-06-23 07:40 J -36248332.27 -36248332.18 -36248332.09 0.2690 0.1664 *

Mars -103955-04-12 03:35 J -36248039.43 -36248039.35 -36248039.27 0.1654 0.1362

Venus -103954-08-14 12:57 J -36247550.03 -36247549.96 -36247549.88 0.3616 0.2864

Jupiter -103954-12-17 03:35 J -36247425.50 -36247425.35 -36247425.20 0.0500 0.0083

Jupiter -103953-03-15 20:38 J -36247335.73 -36247335.64 -36247335.55 0.0497 0.0406

Mars -103953-03-18 06:28 J -36247333.37 -36247333.23 -36247333.09 0.1668 0.0522

Moon -103953-12-10 13:11 J -36247066.09 -36247065.95 -36247065.81 0.2643 0.0748

Earth -103953-12-10 13:40 J -36247066.07 -36247065.93 -36247065.79 0.2650 0.0702 *

Mars -103952-01-29 18:28 J -36247015.86 -36247015.73 -36247015.61 0.1854 0.0195

Earth -103949-06-16 02:23 J -36245782.50 -36245782.40 -36245782.31 0.2682 0.1503

Moon -103949-06-16 02:23 J -36245782.49 -36245782.40 -36245782.30 0.2689 0.1491 *

Saturn -103948-08-23 23:30 J -36245348.54 -36245348.52 -36245348.49 0.0269 0.0263

Saturn -103948-11-20 13:40 J -36245260.03 -36245259.93 -36245259.82 0.0269 0.0190

Jupiter -103947-02-16 10:18 J -36245172.20 -36245172.07 -36245171.94 0.0527 0.0272

Saturn -103947-02-17 03:35 J -36245171.49 -36245171.35 -36245171.22 0.0269 0.0118

Saturn -103947-05-16 17:02 J -36245082.93 -36245082.79 -36245082.64 0.0270 0.0048

Jupiter -103947-05-17 02:52 J -36245082.50 -36245082.38 -36245082.26 0.0530 0.0272

Saturn -103947-08-13 06:28 J -36244994.37 -36244994.23 -36244994.08 0.0270 0.0025

Saturn -103947-11-09 19:40 J -36244905.81 -36244905.68 -36244905.54 0.0271 0.0094

Saturn -103946-02-06 08:52 J -36244817.25 -36244817.13 -36244817.02 0.0271 0.0162

Saturn -103946-05-05 21:35 J -36244728.67 -36244728.60 -36244728.52 0.0271 0.0230

Mars -103944-08-08 11:16 J -36243903.18 -36243903.03 -36243902.88 0.1664 0.0036

Mars -103943-06-22 00:28 J -36243585.61 -36243585.48 -36243585.35 0.1858 0.0373

Moon -103943-06-26 02:09 J -36243581.44 -36243581.41 -36243581.38 0.2694 0.2568

Earth -103943-06-26 02:09 J -36243581.43 -36243581.41 -36243581.38 0.2701 0.2620 *

Jupiter -103942-10-05 04:47 J -36243115.44 -36243115.30 -36243115.16 0.0500 0.0207

Jupiter -103941-01-02 21:21 J -36243025.73 -36243025.61 -36243025.48 0.0498 0.0280

Mars -103941-05-27 22:47 J -36242879.57 -36242879.55 -36242879.53 0.1839 0.1811

Venus -103940-06-06 14:52 J -36242504.92 -36242504.88 -36242504.84 0.3780 0.3486

Moon -103940-12-13 15:50 J -36242314.92 -36242314.84 -36242314.77 0.2641 0.2253

Earth -103940-12-13 16:47 J -36242314.86 -36242314.80 -36242314.74 0.2645 0.2402 *

Earth -103936-06-18 21:35 J -36241031.71 -36241031.60 -36241031.48 0.2687 0.0399

Moon -103936-06-18 22:18 J -36241031.68 -36241031.57 -36241031.45 0.2690 0.0362 *

Uranus -103936-07-17 01:11 J -36241003.52 -36241003.45 -36241003.36 0.0145 0.0124

Uranus -103936-10-13 06:57 J -36240915.31 -36240915.21 -36240915.08 0.0145 0.0101

Jupiter -103936-12-05 11:45 J -36240862.11 -36240862.01 -36240861.92 0.0526 0.0407

Uranus -103935-01-09 12:57 J -36240827.09 -36240826.96 -36240826.82 0.0145 0.0078

Jupiter -103935-03-05 04:33 J -36240772.45 -36240772.31 -36240772.16 0.0529 0.0142

Uranus -103935-04-07 18:57 J -36240738.86 -36240738.71 -36240738.56 0.0145 0.0055

Uranus -103935-07-05 00:57 J -36240650.62 -36240650.46 -36240650.30 0.0145 0.0031

Uranus -103935-10-01 07:11 J -36240562.37 -36240562.20 -36240562.04 0.0146 0.0007

Venus -103935-12-21 10:18 J -36240481.16 -36240481.07 -36240480.98 0.3776 0.2200

Uranus -103935-12-28 13:11 J -36240474.11 -36240473.95 -36240473.78 0.0146 0.0017

Mars -103935-12-29 16:47 J -36240472.95 -36240472.80 -36240472.66 0.1661 0.0427

Uranus -103934-03-26 19:26 J -36240385.85 -36240385.69 -36240385.53 0.0146 0.0042

Uranus -103934-06-23 01:40 J -36240297.58 -36240297.43 -36240297.28 0.0146 0.0066

Uranus -103934-09-19 07:54 J -36240209.29 -36240209.17 -36240209.04 0.0146 0.0091

Mars -103934-11-12 05:59 J -36240155.36 -36240155.25 -36240155.14 0.1862 0.0961

Saturn -103934-12-12 11:59 J -36240125.04 -36240125.00 -36240124.96 0.0291 0.0281

Uranus -103934-12-16 14:23 J -36240121.00 -36240120.90 -36240120.80 0.0146 0.0116

Saturn -103933-03-10 05:30 J -36240036.38 -36240036.27 -36240036.15 0.0291 0.0190

Uranus -103933-03-13 20:38 J -36240032.67 -36240032.64 -36240032.59 0.0146 0.0142

Saturn -103933-06-06 23:30 J -36239947.67 -36239947.52 -36239947.37 0.0290 0.0098

Saturn -103933-09-03 17:45 J -36239858.92 -36239858.76 -36239858.60 0.0290 0.0004

Saturn -103933-12-01 12:28 J -36239770.14 -36239769.98 -36239769.83 0.0289 0.0093

Mars -103933-12-04 21:50 J -36239766.63 -36239766.59 -36239766.54 0.1676 0.1582

Earth -103933-12-05 13:54 J -36239765.99 -36239765.92 -36239765.84 0.2660 0.2263

Moon -103933-12-05 15:06 J -36239765.94 -36239765.87 -36239765.79 0.2656 0.2202 *

Saturn -103932-02-28 07:26 J -36239681.31 -36239681.19 -36239681.07 0.0289 0.0190

Saturn -103932-05-28 02:38 J -36239592.39 -36239592.39 -36239592.38 0.0288 0.0288

Mars -103932-10-18 05:45 J -36239449.34 -36239449.26 -36239449.17 0.1844 0.1314

Jupiter -103930-07-24 06:28 J -36238805.35 -36238805.23 -36238805.12 0.0501 0.0327

Jupiter -103930-10-21 22:33 J -36238715.71 -36238715.56 -36238715.41 0.0498 0.0156

Venus -103929-07-06 05:59 J -36238457.36 -36238457.25 -36238457.13 0.3772 0.0879

Mars -103925-05-20 22:18 J -36237042.70 -36237042.57 -36237042.45 0.1657 0.0880

Mars -103924-04-03 11:16 J -36236725.10 -36236725.03 -36236724.96 0.1866 0.1567

Jupiter -103924-12-22 05:45 J -36236462.41 -36236462.26 -36236462.11 0.0528 0.0002

Venus -103923-01-20 02:09 J -36236433.52 -36236433.41 -36236433.29 0.3769 0.0513

Mars -103923-04-27 02:09 J -36236336.52 -36236336.41 -36236336.29 0.1672 0.1074

Earth -103923-06-21 17:02 J -36236280.91 -36236280.79 -36236280.68 0.2692 0.0704

Moon -103923-06-21 17:45 J -36236280.87 -36236280.76 -36236280.65 0.2691 0.0833 *

Neptune -103923-07-16 04:47 J -36236256.33 -36236256.30 -36236256.25 0.0089 0.0085

Neptune -103923-10-12 06:42 J -36236168.27 -36236168.22 -36236168.14 0.0089 0.0081

Neptune -103922-01-08 08:52 J -36236080.19 -36236080.13 -36236080.04 0.0089 0.0077

Mars -103922-03-10 12:14 J -36236019.10 -36236018.99 -36236018.87 0.1849 0.0783

Neptune -103922-04-06 11:02 J -36235992.12 -36235992.04 -36235991.94 0.0089 0.0072

Neptune -103922-07-03 12:57 J -36235904.04 -36235903.96 -36235903.84 0.0089 0.0068

Neptune -103922-09-29 15:21 J -36235815.96 -36235815.86 -36235815.75 0.0089 0.0063

Neptune -103922-12-26 17:16 J -36235727.88 -36235727.78 -36235727.65 0.0089 0.0059

Neptune -103921-03-23 19:40 J -36235639.80 -36235639.68 -36235639.55 0.0089 0.0054

Neptune -103921-06-19 21:35 J -36235551.72 -36235551.60 -36235551.46 0.0089 0.0050

Neptune -103921-09-15 23:45 J -36235463.63 -36235463.51 -36235463.36 0.0089 0.0045

Neptune -103921-12-13 02:09 J -36235375.55 -36235375.41 -36235375.27 0.0089 0.0040

Neptune -103920-03-11 04:18 J -36235287.46 -36235287.32 -36235287.17 0.0089 0.0036

Neptune -103920-06-07 06:28 J -36235199.37 -36235199.23 -36235199.08 0.0089 0.0031

Neptune -103920-09-03 08:52 J -36235111.28 -36235111.13 -36235110.98 0.0089 0.0026

Neptune -103920-11-30 10:47 J -36235023.19 -36235023.05 -36235022.89 0.0089 0.0022

Earth -103920-12-08 16:47 J -36235014.94 -36235014.80 -36235014.66 0.2654 0.0633

Moon -103920-12-08 17:02 J -36235014.93 -36235014.79 -36235014.64 0.2648 0.0517 *

Venus -103919-01-19 21:06 J -36234972.71 -36234972.62 -36234972.52 0.3602 0.2365

Neptune -103919-02-26 13:11 J -36234935.10 -36234934.95 -36234934.79 0.0089 0.0017

Neptune -103919-05-25 15:35 J -36234847.01 -36234846.85 -36234846.70 0.0089 0.0012

Neptune -103919-08-21 17:45 J -36234758.92 -36234758.76 -36234758.60 0.0089 0.0007

Neptune -103919-11-17 19:54 J -36234670.83 -36234670.67 -36234670.51 0.0089 0.0003

Neptune -103918-02-13 22:18 J -36234582.73 -36234582.57 -36234582.41 0.0089 0.0002

Saturn -103918-04-09 16:04 J -36234527.92 -36234527.83 -36234527.73 0.0270 0.0209

Jupiter -103918-05-12 07:40 J -36234495.24 -36234495.18 -36234495.11 0.0502 0.0448

Neptune -103918-05-13 00:28 J -36234494.64 -36234494.48 -36234494.32 0.0089 0.0007

Saturn -103918-07-07 06:14 J -36234439.37 -36234439.24 -36234439.11 0.0270 0.0136

Venus -103918-08-05 22:33 J -36234409.66 -36234409.56 -36234409.46 0.3764 0.1933

Neptune -103918-08-09 02:52 J -36234406.54 -36234406.38 -36234406.22 0.0089 0.0012

Jupiter -103918-08-09 23:45 J -36234405.67 -36234405.51 -36234405.36 0.0499 0.0032

Saturn -103918-10-03 19:54 J -36234350.82 -36234350.67 -36234350.53 0.0270 0.0064

Neptune -103918-11-05 05:02 J -36234318.44 -36234318.29 -36234318.13 0.0089 0.0017

Saturn -103918-12-31 09:21 J -36234262.26 -36234262.11 -36234261.96 0.0271 0.0007

Neptune -103917-02-01 07:11 J -36234230.35 -36234230.20 -36234230.03 0.0089 0.0022

Saturn -103917-03-28 22:33 J -36234173.70 -36234173.56 -36234173.41 0.0271 0.0078

Neptune -103917-04-29 09:50 J -36234142.25 -36234142.09 -36234141.94 0.0089 0.0026

Saturn -103917-06-25 11:45 J -36234085.13 -36234085.01 -36234084.89 0.0272 0.0147

Neptune -103917-07-26 11:59 J -36234054.15 -36234054.00 -36234053.84 0.0089 0.0031

Saturn -103917-09-22 00:28 J -36233996.56 -36233996.48 -36233996.38 0.0272 0.0215

Neptune -103917-10-22 14:23 J -36233966.04 -36233965.90 -36233965.75 0.0089 0.0036

Neptune -103916-01-18 16:47 J -36233877.94 -36233877.80 -36233877.65 0.0089 0.0041

Neptune -103916-04-16 18:57 J -36233789.84 -36233789.71 -36233789.56 0.0089 0.0046

Moon -103916-06-14 11:30 J -36233731.06 -36233731.02 -36233730.97 0.2685 0.2473

Earth -103916-06-14 11:45 J -36233731.06 -36233731.01 -36233730.95 0.2678 0.2381 *

Neptune -103916-07-13 21:21 J -36233701.73 -36233701.61 -36233701.47 0.0089 0.0051

Neptune -103916-10-09 23:45 J -36233613.63 -36233613.51 -36233613.37 0.0089 0.0056

Mars -103916-10-11 04:04 J -36233612.41 -36233612.33 -36233612.24 0.1654 0.1311

Neptune -103915-01-06 02:09 J -36233525.52 -36233525.41 -36233525.28 0.0089 0.0061

Neptune -103915-04-04 04:33 J -36233437.41 -36233437.31 -36233437.19 0.0089 0.0066

Neptune -103915-07-01 06:57 J -36233349.30 -36233349.21 -36233349.10 0.0089 0.0071

Neptune -103915-09-27 09:21 J -36233261.18 -36233261.11 -36233261.01 0.0089 0.0076

Neptune -103915-12-24 11:45 J -36233173.06 -36233173.01 -36233172.93 0.0089 0.0081

Neptune -103914-03-22 14:09 J -36233084.93 -36233084.91 -36233084.85 0.0089 0.0086

Venus -103914-08-05 19:26 J -36232948.82 -36232948.69 -36232948.57 0.3606 0.0860

Mars -103914-09-17 06:57 J -36232906.35 -36232906.21 -36232906.07 0.1668 0.0575

Mars -103913-07-30 18:42 J -36232588.85 -36232588.72 -36232588.60 0.1853 0.0244

Venus -103912-02-18 19:11 J -36232385.75 -36232385.70 -36232385.65 0.3760 0.3408

Jupiter -103912-10-10 06:57 J -36232152.36 -36232152.21 -36232152.07 0.0527 0.0140

Jupiter -103911-01-07 22:47 J -36232062.64 -36232062.55 -36232062.45 0.0530 0.0399

Earth -103910-06-24 11:59 J -36231530.08 -36231530.00 -36231529.91 0.2697 0.1781

Moon -103910-06-24 12:28 J -36231530.06 -36231529.98 -36231529.89 0.2691 0.1749 *

Venus -103908-02-18 17:16 J -36230924.91 -36230924.78 -36230924.66 0.3610 0.0586

Moon -103907-12-11 19:11 J -36230263.83 -36230263.70 -36230263.56 0.2642 0.0911

Earth -103907-12-11 19:40 J -36230263.81 -36230263.68 -36230263.54 0.2649 0.1046 *

Jupiter -103906-05-29 01:11 J -36230095.60 -36230095.45 -36230095.30 0.0500 0.0089

Jupiter -103906-08-26 17:59 J -36230005.83 -36230005.75 -36230005.65 0.0497 0.0402

Mars -103904-02-06 11:45 J -36229476.16 -36229476.01 -36229475.86 0.1664 0.0092

Saturn -103904-07-28 08:23 J -36229304.26 -36229304.15 -36229304.04 0.0291 0.0206

Saturn -103904-10-25 02:09 J -36229215.55 -36229215.41 -36229215.26 0.0290 0.0115

Mars -103904-12-21 00:28 J -36229158.60 -36229158.48 -36229158.35 0.1858 0.0330

Saturn -103903-01-21 20:23 J -36229126.81 -36229126.65 -36229126.49 0.0290 0.0021

Saturn -103903-04-20 14:52 J -36229038.03 -36229037.88 -36229037.72 0.0289 0.0076

Earth -103903-06-17 07:26 J -36228980.30 -36228980.19 -36228980.09 0.2683 0.1272

Moon -103903-06-17 07:40 J -36228980.28 -36228980.18 -36228980.08 0.2689 0.1215 *

Saturn -103903-07-18 09:50 J -36228949.22 -36228949.09 -36228948.96 0.0289 0.0172

Venus -103903-09-04 14:38 J -36228900.99 -36228900.89 -36228900.78 0.3614 0.1970

Saturn -103903-10-15 05:02 J -36228860.34 -36228860.29 -36228860.23 0.0288 0.0270

Jupiter -103900-07-29 07:40 J -36227842.30 -36227842.18 -36227842.05 0.0527 0.0282

Jupiter -103900-10-27 00:14 J -36227752.61 -36227752.49 -36227752.36 0.0530 0.0263

Venus -103897-03-20 11:59 J -36226877.05 -36226877.00 -36226876.96 0.3617 0.3307

Uranus -103897-09-15 10:18 J -36226698.09 -36226698.07 -36226698.02 0.0134 0.0131

Uranus -103897-12-12 14:52 J -36226609.96 -36226609.88 -36226609.80 0.0134 0.0112

Uranus -103896-03-10 18:57 J -36226521.81 -36226521.71 -36226521.59 0.0134 0.0095

Uranus -103896-06-06 23:16 J -36226433.65 -36226433.53 -36226433.40 0.0134 0.0077

Uranus -103896-09-03 03:35 J -36226345.48 -36226345.35 -36226345.21 0.0134 0.0059

Uranus -103896-11-30 07:40 J -36226257.32 -36226257.18 -36226257.03 0.0134 0.0043

Uranus -103895-02-26 11:59 J -36226169.15 -36226169.00 -36226168.85 0.0134 0.0025

Uranus -103895-05-25 16:04 J -36226080.98 -36226080.83 -36226080.68 0.0133 0.0008

Mars -103895-06-29 16:47 J -36226045.94 -36226045.80 -36226045.65 0.1660 0.0385

Uranus -103895-08-21 20:09 J -36225992.81 -36225992.66 -36225992.51 0.0133 0.0009

Uranus -103895-11-17 23:59 J -36225904.64 -36225904.50 -36225904.35 0.0133 0.0026

Uranus -103894-02-14 04:04 J -36225816.47 -36225816.33 -36225816.19 0.0133 0.0042

Jupiter -103894-03-17 03:06 J -36225785.51 -36225785.37 -36225785.23 0.0500 0.0205

Mars -103894-05-13 05:59 J -36225728.36 -36225728.25 -36225728.13 0.1862 0.0917

Uranus -103894-05-13 07:54 J -36225728.30 -36225728.17 -36225728.03 0.0133 0.0059 *

Jupiter -103894-06-14 19:40 J -36225695.81 -36225695.68 -36225695.55 0.0498 0.0281

Uranus -103894-08-09 11:45 J -36225640.12 -36225640.01 -36225639.88 0.0133 0.0075

Uranus -103894-11-05 15:50 J -36225551.94 -36225551.84 -36225551.73 0.0133 0.0091

Uranus -103893-02-01 19:40 J -36225463.76 -36225463.68 -36225463.59 0.0133 0.0107

Uranus -103893-04-29 23:16 J -36225375.57 -36225375.53 -36225375.46 0.0133 0.0123

Mars -103893-06-04 22:18 J -36225339.60 -36225339.57 -36225339.54 0.1675 0.1637

Mars -103892-04-18 05:45 J -36225022.34 -36225022.26 -36225022.18 0.1844 0.1352

Earth -103890-06-20 02:38 J -36224229.50 -36224229.39 -36224229.27 0.2688 0.0179

Moon -103890-06-20 03:21 J -36224229.47 -36224229.36 -36224229.24 0.2691 0.0131 *

Saturn -103889-08-26 17:45 J -36223795.83 -36223795.76 -36223795.68 0.0269 0.0229

Saturn -103889-11-23 07:54 J -36223707.30 -36223707.17 -36223707.05 0.0269 0.0156

Saturn -103888-02-19 21:35 J -36223618.74 -36223618.60 -36223618.46 0.0269 0.0085

Jupiter -103888-05-17 09:06 J -36223532.21 -36223532.12 -36223532.02 0.0526 0.0415

Saturn -103888-05-19 11:02 J -36223530.19 -36223530.04 -36223529.89 0.0270 0.0015

Jupiter -103888-08-15 02:23 J -36223442.54 -36223442.40 -36223442.26 0.0529 0.0134

Saturn -103888-08-16 00:28 J -36223441.63 -36223441.48 -36223441.34 0.0270 0.0057

Saturn -103888-11-12 13:26 J -36223353.06 -36223352.94 -36223352.81 0.0271 0.0126

Saturn -103887-02-09 02:23 J -36223264.50 -36223264.40 -36223264.30 0.0271 0.0194

Saturn -103887-05-08 15:06 J -36223175.90 -36223175.87 -36223175.83 0.0272 0.0261

Earth -103887-12-06 20:09 J -36222963.76 -36222963.66 -36222963.57 0.2659 0.1937

Moon -103887-12-06 21:06 J -36222963.72 -36222963.62 -36222963.51 0.2655 0.1795 *

Mars -103886-11-19 22:33 J -36222615.69 -36222615.56 -36222615.44 0.1657 0.0831

Mars -103885-10-02 11:45 J -36222298.09 -36222298.01 -36222297.94 0.1866 0.1508

Mars -103884-10-26 02:38 J -36221909.50 -36221909.39 -36221909.28 0.1671 0.1122

Venus -103883-01-11 13:11 J -36221832.01 -36221831.95 -36221831.88 0.3779 0.3051

Mars -103883-09-08 12:28 J -36221592.09 -36221591.98 -36221591.87 0.1849 0.0837

Jupiter -103882-01-03 04:33 J -36221475.43 -36221475.31 -36221475.20 0.0501 0.0326

Jupiter -103882-04-02 20:38 J -36221385.79 -36221385.64 -36221385.49 0.0498 0.0156

Venus -103878-07-28 08:52 J -36219808.23 -36219808.13 -36219808.03 0.3775 0.1758

Earth -103877-06-21 21:50 J -36219478.69 -36219478.59 -36219478.48 0.2692 0.0931

Moon -103877-06-21 22:33 J -36219478.66 -36219478.56 -36219478.45 0.2689 0.0957 *

Mars -103876-04-11 04:18 J -36219185.41 -36219185.32 -36219185.23 0.1654 0.1266

Jupiter -103876-06-03 04:04 J -36219132.48 -36219132.33 -36219132.18 0.0528 0.0004

Saturn -103875-12-15 07:54 J -36218572.26 -36218572.17 -36218572.09 0.0291 0.0239

Saturn -103874-03-14 01:26 J -36218483.57 -36218483.44 -36218483.30 0.0291 0.0147

Mars -103874-03-18 07:11 J -36218479.34 -36218479.20 -36218479.06 0.1668 0.0623

Saturn -103874-06-10 19:40 J -36218394.84 -36218394.68 -36218394.53 0.0290 0.0054

Saturn -103874-09-07 13:54 J -36218306.08 -36218305.92 -36218305.75 0.0290 0.0043

Saturn -103874-12-05 08:52 J -36218217.28 -36218217.13 -36218216.99 0.0289 0.0138

Earth -103874-12-09 22:47 J -36218212.70 -36218212.55 -36218212.41 0.2654 0.0297

Moon -103874-12-09 23:02 J -36218212.69 -36218212.54 -36218212.40 0.2647 0.0356 *

Mars -103873-01-29 18:42 J -36218161.84 -36218161.72 -36218161.59 0.1853 0.0300

Saturn -103873-03-03 03:50 J -36218128.43 -36218128.34 -36218128.24 0.0289 0.0236

Venus -103872-02-10 04:47 J -36217784.42 -36217784.30 -36217784.19 0.3771 0.0432

Jupiter -103871-10-22 06:14 J -36217165.31 -36217165.24 -36217165.17 0.0502 0.0445

Jupiter -103870-01-19 22:04 J -36217075.74 -36217075.58 -36217075.43 0.0499 0.0035

Moon -103870-06-15 16:47 J -36216928.87 -36216928.80 -36216928.73 0.2685 0.2121

Earth -103870-06-15 17:02 J -36216928.86 -36216928.79 -36216928.73 0.2679 0.2151 *

Venus -103868-02-09 21:50 J -36216323.63 -36216323.59 -36216323.54 0.3600 0.3391

Venus -103867-08-27 00:42 J -36215760.58 -36215760.47 -36215760.35 0.3767 0.0980

Mars -103865-08-07 11:59 J -36215049.14 -36215049.00 -36215048.85 0.1664 0.0147

Jupiter -103864-03-22 05:16 J -36214822.42 -36214822.28 -36214822.14 0.0527 0.0136

Jupiter -103864-06-19 21:21 J -36214732.70 -36214732.61 -36214732.52 0.0530 0.0402

Mars -103864-06-21 00:42 J -36214731.60 -36214731.47 -36214731.34 0.1858 0.0277

Earth -103864-06-24 17:02 J -36214727.86 -36214727.79 -36214727.71 0.2697 0.2003

Moon -103864-06-24 17:30 J -36214727.84 -36214727.77 -36214727.70 0.2691 0.2094 *

Venus -103863-08-26 20:23 J -36214299.76 -36214299.65 -36214299.54 0.3604 0.1848

Venus -103861-03-11 21:06 J -36213736.70 -36213736.62 -36213736.53 0.3763 0.2416

Moon -103861-12-12 01:11 J -36213461.58 -36213461.45 -36213461.33 0.2643 0.1409

Earth -103861-12-12 01:54 J -36213461.55 -36213461.42 -36213461.30 0.2649 0.1382 *

Saturn -103859-01-13 19:54 J -36213063.72 -36213063.67 -36213063.61 0.0269 0.0248

Saturn -103859-04-12 10:04 J -36212975.19 -36212975.08 -36212974.96 0.0270 0.0175

Saturn -103859-07-09 23:59 J -36212886.64 -36212886.50 -36212886.36 0.0270 0.0103

Saturn -103859-10-06 13:40 J -36212798.08 -36212797.93 -36212797.79 0.0270 0.0033

Jupiter -103859-11-07 23:02 J -36212765.69 -36212765.54 -36212765.39 0.0500 0.0092

Saturn -103858-01-03 02:52 J -36212709.52 -36212709.38 -36212709.23 0.0271 0.0039

Jupiter -103858-02-05 16:04 J -36212675.92 -36212675.83 -36212675.74 0.0498 0.0399

Saturn -103858-04-01 16:04 J -36212620.96 -36212620.83 -36212620.69 0.0271 0.0109

Saturn -103858-06-29 05:02 J -36212532.39 -36212532.29 -36212532.17 0.0272 0.0178

Saturn -103858-09-25 17:59 J -36212443.81 -36212443.75 -36212443.69 0.0272 0.0245

Venus -103857-03-11 18:28 J -36212275.86 -36212275.73 -36212275.60 0.3607 0.0373

Earth -103857-06-17 12:28 J -36212178.09 -36212177.98 -36212177.87 0.2683 0.1037

Moon -103857-06-17 12:57 J -36212178.07 -36212177.96 -36212177.85 0.2689 0.1036 *

Mars -103856-12-28 17:16 J -36211618.92 -36211618.78 -36211618.63 0.1660 0.0331

Mars -103855-11-11 06:28 J -36211301.35 -36211301.23 -36211301.12 0.1862 0.0858

Mars -103853-10-17 05:59 J -36210595.33 -36210595.25 -36210595.17 0.1844 0.1407

Jupiter -103852-01-08 06:14 J -36210512.36 -36210512.24 -36210512.11 0.0526 0.0277

Jupiter -103852-04-07 22:47 J -36210422.67 -36210422.55 -36210422.42 0.0529 0.0266

Uranus -103852-05-10 03:21 J -36210390.40 -36210390.36 -36210390.31 0.0145 0.0139

Uranus -103852-08-06 09:06 J -36210302.21 -36210302.12 -36210302.02 0.0145 0.0116

Venus -103852-09-25 16:18 J -36210251.94 -36210251.82 -36210251.70 0.3611 0.1055

Uranus -103852-11-02 15:06 J -36210213.99 -36210213.87 -36210213.75 0.0145 0.0093

Uranus -103851-01-29 20:52 J -36210125.77 -36210125.63 -36210125.48 0.0145 0.0070

Uranus -103851-04-28 02:52 J -36210037.53 -36210037.38 -36210037.22 0.0145 0.0047

Uranus -103851-07-25 08:52 J -36209949.29 -36209949.13 -36209948.96 0.0145 0.0023

Uranus -103851-10-21 15:06 J -36209861.04 -36209860.87 -36209860.71 0.0146 0.0003

Uranus -103850-01-17 21:06 J -36209772.78 -36209772.62 -36209772.45 0.0146 0.0025

Uranus -103850-04-16 03:21 J -36209684.51 -36209684.36 -36209684.20 0.0146 0.0050

Pluto -103850-05-11 08:38 J -36209659.20 -36209659.14 -36209659.07 0.0060 0.0057

Uranus -103850-07-13 09:35 J -36209596.24 -36209596.10 -36209595.95 0.0146 0.0074

Pluto -103850-08-07 09:50 J -36209571.19 -36209571.09 -36209570.96 0.0060 0.0050

Uranus -103850-10-09 15:50 J -36209507.95 -36209507.84 -36209507.71 0.0146 0.0099

Pluto -103850-11-03 11:16 J -36209483.15 -36209483.03 -36209482.87 0.0060 0.0042

Uranus -103849-01-05 22:18 J -36209419.65 -36209419.57 -36209419.48 0.0146 0.0125

Pluto -103849-01-30 13:11 J -36209395.11 -36209394.95 -36209394.79 0.0060 0.0035

Pluto -103849-04-27 14:23 J -36209307.07 -36209306.90 -36209306.72 0.0061 0.0028

Pluto -103849-07-24 15:50 J -36209219.01 -36209218.84 -36209218.64 0.0061 0.0021

Pluto -103849-10-20 17:30 J -36209130.96 -36209130.77 -36209130.57 0.0061 0.0013

Pluto -103848-01-16 18:57 J -36209042.90 -36209042.71 -36209042.51 0.0061 0.0006

Pluto -103848-04-14 20:38 J -36208954.84 -36208954.64 -36208954.44 0.0061 0.0002

Pluto -103848-07-11 21:50 J -36208866.77 -36208866.59 -36208866.38 0.0061 0.0010

Pluto -103848-10-07 23:30 J -36208778.71 -36208778.52 -36208778.33 0.0061 0.0017

Pluto -103847-01-04 00:42 J -36208690.63 -36208690.47 -36208690.27 0.0061 0.0025

Pluto -103847-04-02 02:23 J -36208602.56 -36208602.40 -36208602.22 0.0061 0.0032

Pluto -103847-06-29 03:35 J -36208514.48 -36208514.35 -36208514.18 0.0061 0.0040

Jupiter -103847-08-27 00:42 J -36208455.61 -36208455.47 -36208455.33 0.0501 0.0210

Pluto -103847-09-25 05:16 J -36208426.39 -36208426.28 -36208426.14 0.0061 0.0048

Jupiter -103847-11-24 17:16 J -36208365.91 -36208365.78 -36208365.65 0.0498 0.0277

Pluto -103847-12-22 06:28 J -36208338.28 -36208338.23 -36208338.11 0.0061 0.0056

Venus -103846-04-11 13:40 J -36208228.02 -36208227.93 -36208227.84 0.3615 0.2424

Mars -103846-05-20 22:47 J -36208188.67 -36208188.55 -36208188.42 0.1657 0.0783

Mars -103845-04-02 11:30 J -36207871.09 -36207871.02 -36207870.94 0.1866 0.1468

Saturn -103845-05-03 10:18 J -36207840.14 -36207840.07 -36207840.00 0.0291 0.0256

Saturn -103845-07-31 04:04 J -36207751.46 -36207751.33 -36207751.20 0.0291 0.0165

Saturn -103845-10-27 22:04 J -36207662.74 -36207662.58 -36207662.43 0.0290 0.0072

Saturn -103844-01-24 16:18 J -36207573.98 -36207573.82 -36207573.66 0.0290 0.0024

Saturn -103844-04-23 11:02 J -36207485.19 -36207485.04 -36207484.89 0.0289 0.0120

Mars -103844-04-26 03:06 J -36207482.48 -36207482.37 -36207482.27 0.1671 0.1177

Earth -103844-06-20 07:40 J -36207427.29 -36207427.18 -36207427.06 0.2688 0.0089

Moon -103844-06-20 08:23 J -36207427.26 -36207427.15 -36207427.03 0.2690 0.0176 *

Saturn -103844-07-21 05:59 J -36207396.35 -36207396.25 -36207396.14 0.0289 0.0218

Mars -103843-03-09 12:28 J -36207165.09 -36207164.98 -36207164.86 0.1849 0.0883

Neptune -103841-07-29 09:35 J -36206292.11 -36206292.10 -36206292.08 0.0088 0.0088

Neptune -103841-10-25 11:30 J -36206204.05 -36206204.02 -36206203.94 0.0088 0.0084

Jupiter -103841-10-27 06:42 J -36206202.30 -36206202.22 -36206202.13 0.0526 0.0423

Earth -103841-12-07 02:09 J -36206161.53 -36206161.41 -36206161.30 0.2658 0.1609

Moon -103841-12-07 03:06 J -36206161.49 -36206161.37 -36206161.25 0.2654 0.1529 *

Neptune -103840-01-21 13:54 J -36206115.97 -36206115.92 -36206115.83 0.0088 0.0079

Jupiter -103840-01-24 23:59 J -36206112.64 -36206112.50 -36206112.36 0.0529 0.0126

Neptune -103840-04-19 16:18 J -36206027.90 -36206027.82 -36206027.72 0.0088 0.0074

Neptune -103840-07-16 18:42 J -36205939.81 -36205939.72 -36205939.61 0.0088 0.0069

Neptune -103840-10-12 21:06 J -36205851.73 -36205851.62 -36205851.51 0.0088 0.0064

Neptune -103839-01-08 23:02 J -36205763.65 -36205763.54 -36205763.41 0.0088 0.0059

Neptune -103839-04-07 01:11 J -36205675.56 -36205675.45 -36205675.31 0.0088 0.0055

Neptune -103839-07-04 03:35 J -36205587.47 -36205587.35 -36205587.21 0.0088 0.0050

Neptune -103839-09-30 05:59 J -36205499.39 -36205499.25 -36205499.12 0.0088 0.0045

Neptune -103839-12-27 07:54 J -36205411.30 -36205411.17 -36205411.02 0.0088 0.0040

Neptune -103838-03-25 10:04 J -36205323.22 -36205323.08 -36205322.93 0.0088 0.0036

Neptune -103838-06-21 12:28 J -36205235.13 -36205234.98 -36205234.83 0.0088 0.0031

Neptune -103838-09-17 14:23 J -36205147.04 -36205146.90 -36205146.74 0.0088 0.0026

Neptune -103838-12-14 16:33 J -36205058.95 -36205058.81 -36205058.65 0.0088 0.0022

Neptune -103837-03-11 18:57 J -36204970.87 -36204970.71 -36204970.56 0.0088 0.0017

Neptune -103837-06-07 20:52 J -36204882.78 -36204882.63 -36204882.47 0.0088 0.0012

Neptune -103837-09-03 23:02 J -36204794.69 -36204794.54 -36204794.38 0.0088 0.0008

Mars -103837-10-10 04:33 J -36204758.40 -36204758.31 -36204758.21 0.1654 0.1223

Neptune -103837-12-01 01:11 J -36204706.61 -36204706.45 -36204706.29 0.0088 0.0003

Neptune -103836-02-27 03:21 J -36204618.52 -36204618.36 -36204618.21 0.0088 0.0002

Neptune -103836-05-26 05:16 J -36204530.43 -36204530.28 -36204530.12 0.0088 0.0007

Neptune -103836-08-22 07:26 J -36204442.34 -36204442.19 -36204442.04 0.0088 0.0011

Neptune -103836-11-18 09:21 J -36204354.26 -36204354.11 -36204353.95 0.0088 0.0016

Neptune -103835-02-14 11:16 J -36204266.17 -36204266.03 -36204265.87 0.0088 0.0021

Neptune -103835-05-13 13:26 J -36204178.08 -36204177.94 -36204177.79 0.0088 0.0025

Jupiter -103835-06-15 02:52 J -36204145.50 -36204145.38 -36204145.26 0.0501 0.0323

Neptune -103835-08-09 15:35 J -36204090.00 -36204089.85 -36204089.70 0.0088 0.0029

Jupiter -103835-09-12 18:57 J -36204055.86 -36204055.71 -36204055.56 0.0498 0.0159

Mars -103835-09-16 07:40 J -36204052.32 -36204052.18 -36204052.05 0.1668 0.0675

Neptune -103835-11-05 17:30 J -36204001.91 -36204001.77 -36204001.62 0.0088 0.0033

Neptune -103834-02-01 19:40 J -36203913.82 -36203913.68 -36203913.54 0.0088 0.0038

Neptune -103834-04-30 21:21 J -36203825.73 -36203825.61 -36203825.46 0.0088 0.0043

Neptune -103834-07-27 23:30 J -36203737.65 -36203737.52 -36203737.39 0.0088 0.0047

Mars -103834-07-30 18:57 J -36203734.84 -36203734.71 -36203734.59 0.1854 0.0340

Neptune -103834-10-24 01:11 J -36203649.56 -36203649.45 -36203649.31 0.0088 0.0052

Neptune -103833-01-20 03:21 J -36203561.47 -36203561.36 -36203561.23 0.0088 0.0055

Neptune -103833-04-17 05:16 J -36203473.38 -36203473.28 -36203473.16 0.0088 0.0060

Neptune -103833-07-14 07:11 J -36203385.29 -36203385.20 -36203385.08 0.0088 0.0064

Neptune -103833-10-10 09:06 J -36203297.20 -36203297.12 -36203297.01 0.0088 0.0069

Neptune -103832-01-06 11:16 J -36203209.11 -36203209.03 -36203208.94 0.0088 0.0072

Neptune -103832-04-04 13:11 J -36203121.02 -36203120.95 -36203120.87 0.0088 0.0077

Neptune -103832-07-01 14:52 J -36203032.92 -36203032.88 -36203032.81 0.0088 0.0081

Neptune -103832-09-27 16:47 J -36202944.82 -36202944.80 -36202944.75 0.0088 0.0086

Earth -103831-06-23 02:52 J -36202676.48 -36202676.38 -36202676.27 0.2693 0.1152

Moon -103831-06-23 03:35 J -36202676.45 -36202676.35 -36202676.24 0.2689 0.1245 *

Saturn -103830-06-02 21:50 J -36202331.59 -36202331.59 -36202331.59 0.0268 0.0268

Saturn -103830-08-30 11:45 J -36202243.11 -36202243.01 -36202242.90 0.0269 0.0196

Saturn -103830-11-27 01:40 J -36202154.56 -36202154.43 -36202154.30 0.0269 0.0124

Saturn -103829-02-23 15:21 J -36202066.01 -36202065.86 -36202065.71 0.0269 0.0053

Saturn -103829-05-22 04:47 J -36201977.45 -36201977.30 -36201977.15 0.0270 0.0018

Saturn -103829-08-18 17:59 J -36201888.89 -36201888.75 -36201888.61 0.0270 0.0088

Jupiter -103829-11-13 01:40 J -36201802.57 -36201802.43 -36201802.28 0.0528 0.0017

Saturn -103829-11-15 06:57 J -36201800.33 -36201800.21 -36201800.09 0.0271 0.0156

Jupiter -103828-02-10 17:45 J -36201712.77 -36201712.76 -36201712.76 0.0531 0.0530

Saturn -103828-02-11 19:40 J -36201711.75 -36201711.68 -36201711.59 0.0271 0.0224

Moon -103828-12-10 04:47 J -36201410.44 -36201410.30 -36201410.15 0.2646 0.0122

Earth -103828-12-10 04:47 J -36201410.44 -36201410.30 -36201410.15 0.2653 0.0054 *

Mars -103827-03-02 10:47 J -36201328.06 -36201328.05 -36201328.04 0.1651 0.1645

Venus -103827-08-18 11:45 J -36201159.09 -36201159.01 -36201158.93 0.3777 0.2618

Mars -103825-02-06 12:28 J -36200622.13 -36200621.98 -36200621.84 0.1664 0.0189

Mars -103825-12-20 00:57 J -36200304.58 -36200304.46 -36200304.33 0.1858 0.0225

Moon -103824-06-15 22:04 J -36200126.66 -36200126.58 -36200126.51 0.2686 0.1994

Earth -103824-06-15 22:04 J -36200126.66 -36200126.58 -36200126.50 0.2679 0.1917 *

Jupiter -103823-04-03 04:33 J -36199835.38 -36199835.31 -36199835.24 0.0502 0.0442

Jupiter -103823-07-01 20:09 J -36199745.81 -36199745.66 -36199745.50 0.0499 0.0037

Venus -103821-03-03 07:26 J -36199135.30 -36199135.19 -36199135.08 0.3774 0.1307

Moon -103818-06-25 22:18 J -36197925.64 -36197925.57 -36197925.51 0.2691 0.2183

Earth -103818-06-25 22:04 J -36197925.64 -36197925.58 -36197925.52 0.2698 0.2225 *

Jupiter -103817-09-01 03:35 J -36197492.49 -36197492.35 -36197492.21 0.0527 0.0135

Jupiter -103817-11-29 19:40 J -36197402.77 -36197402.68 -36197402.58 0.0530 0.0405

Mars -103816-06-28 17:45 J -36197191.91 -36197191.76 -36197191.62 0.1660 0.0280

Venus -103816-09-17 03:21 J -36197111.48 -36197111.36 -36197111.25 0.3770 0.0118

Saturn -103816-09-20 09:21 J -36197108.12 -36197108.11 -36197108.09 0.0292 0.0289

Saturn -103816-12-18 02:52 J -36197019.49 -36197019.38 -36197019.26 0.0291 0.0199

Saturn -103815-03-16 20:52 J -36196930.78 -36196930.63 -36196930.48 0.0291 0.0106

Mars -103815-05-12 06:28 J -36196874.34 -36196874.23 -36196874.11 0.1862 0.0810

Saturn -103815-06-13 15:06 J -36196842.03 -36196841.87 -36196841.71 0.0290 0.0012

Saturn -103815-09-10 09:35 J -36196753.25 -36196753.10 -36196752.94 0.0290 0.0085

Saturn -103815-12-08 04:33 J -36196664.43 -36196664.31 -36196664.18 0.0289 0.0181

Moon -103815-12-13 06:57 J -36196659.33 -36196659.21 -36196659.09 0.2643 0.1560

Earth -103815-12-13 07:54 J -36196659.28 -36196659.17 -36196659.06 0.2648 0.1725 *

Saturn -103814-03-06 23:45 J -36196575.54 -36196575.51 -36196575.46 0.0289 0.0280

Mars -103813-04-17 06:14 J -36196168.32 -36196168.24 -36196168.17 0.1844 0.1454

Uranus -103813-10-05 18:14 J -36195996.79 -36195996.74 -36195996.67 0.0134 0.0124

Uranus -103812-01-01 22:47 J -36195908.64 -36195908.55 -36195908.45 0.0134 0.0105

Uranus -103812-03-31 02:52 J -36195820.48 -36195820.38 -36195820.25 0.0134 0.0088

Uranus -103812-06-27 07:11 J -36195732.32 -36195732.20 -36195732.06 0.0134 0.0070

Venus -103812-09-16 21:21 J -36195650.69 -36195650.61 -36195650.54 0.3601 0.2861

Uranus -103812-09-23 11:30 J -36195644.16 -36195644.02 -36195643.88 0.0134 0.0053

Uranus -103812-12-20 15:35 J -36195555.99 -36195555.85 -36195555.70 0.0134 0.0036

Uranus -103811-03-18 19:54 J -36195467.82 -36195467.67 -36195467.52 0.0134 0.0018

Jupiter -103811-04-19 21:35 J -36195435.75 -36195435.60 -36195435.44 0.0500 0.0087

Uranus -103811-06-14 23:59 J -36195379.65 -36195379.50 -36195379.35 0.0133 0.0003

Earth -103811-06-18 17:30 J -36195375.88 -36195375.77 -36195375.66 0.2684 0.0809

Moon -103811-06-18 17:59 J -36195375.86 -36195375.75 -36195375.64 0.2690 0.0696 *

Jupiter -103811-07-18 14:38 J -36195345.98 -36195345.89 -36195345.80 0.0497 0.0402

Uranus -103811-09-11 03:50 J -36195291.48 -36195291.34 -36195291.19 0.0133 0.0016

Uranus -103811-12-08 07:54 J -36195203.31 -36195203.17 -36195203.02 0.0133 0.0032

Uranus -103810-03-06 11:45 J -36195115.14 -36195115.01 -36195114.86 0.0133 0.0049

Venus -103810-04-02 23:30 J -36195087.63 -36195087.52 -36195087.41 0.3766 0.1445

Uranus -103810-06-02 15:50 J -36195026.97 -36195026.84 -36195026.71 0.0133 0.0065

Uranus -103810-08-29 19:40 J -36194938.79 -36194938.68 -36194938.56 0.0133 0.0081

Uranus -103810-11-25 23:45 J -36194850.61 -36194850.51 -36194850.41 0.0133 0.0097

Uranus -103809-02-22 03:35 J -36194762.43 -36194762.35 -36194762.28 0.0133 0.0113

Uranus -103809-05-20 07:11 J -36194674.22 -36194674.20 -36194674.16 0.0133 0.0129

Mars -103807-11-18 23:16 J -36193761.66 -36193761.53 -36193761.40 0.1657 0.0733

Venus -103806-04-02 19:40 J -36193626.80 -36193626.68 -36193626.56 0.3604 0.1338

Mars -103806-10-02 11:59 J -36193444.08 -36193444.00 -36193443.91 0.1866 0.1407

Jupiter -103805-06-20 04:47 J -36193182.43 -36193182.30 -36193182.17 0.0526 0.0272

Jupiter -103805-09-17 21:21 J -36193092.73 -36193092.61 -36193092.48 0.0529 0.0271

Venus -103805-10-16 20:09 J -36193063.74 -36193063.66 -36193063.59 0.3762 0.2897

Mars -103805-10-25 03:35 J -36193055.45 -36193055.35 -36193055.25 0.1672 0.1232

Mars -103804-09-07 12:42 J -36192738.08 -36192737.97 -36192737.86 0.1849 0.0932

Venus -103801-10-16 17:45 J -36191602.89 -36191602.76 -36191602.64 0.3608 0.0142

Saturn -103800-01-16 13:26 J -36191511.02 -36191510.94 -36191510.84 0.0269 0.0217

Saturn -103800-04-15 03:35 J -36191422.48 -36191422.35 -36191422.22 0.0270 0.0144

Saturn -103800-07-12 17:16 J -36191333.92 -36191333.78 -36191333.63 0.0270 0.0073

Saturn -103800-10-09 06:42 J -36191245.36 -36191245.22 -36191245.07 0.0270 0.0008

Saturn -103799-01-05 20:09 J -36191156.80 -36191156.66 -36191156.52 0.0271 0.0068

Jupiter -103799-02-05 22:47 J -36191125.69 -36191125.55 -36191125.41 0.0501 0.0210

Saturn -103799-04-04 09:06 J -36191068.24 -36191068.12 -36191067.99 0.0271 0.0138

Jupiter -103799-05-06 15:21 J -36191035.99 -36191035.86 -36191035.73 0.0498 0.0277

Saturn -103799-07-01 22:04 J -36190979.67 -36190979.58 -36190979.48 0.0272 0.0206

Earth -103798-06-21 12:42 J -36190625.08 -36190624.97 -36190624.85 0.2689 0.0296

Moon -103798-06-21 13:40 J -36190625.05 -36190624.93 -36190624.82 0.2689 0.0347 *

Mars -103797-04-10 05:02 J -36190331.39 -36190331.29 -36190331.19 0.1654 0.1175

Mars -103795-03-17 07:54 J -36189625.30 -36189625.17 -36189625.03 0.1668 0.0727

Venus -103795-05-02 15:21 J -36189578.97 -36189578.86 -36189578.75 0.3612 0.1524

Earth -103795-12-08 08:09 J -36189359.28 -36189359.16 -36189359.03 0.2658 0.1277

Moon -103795-12-08 08:52 J -36189359.26 -36189359.13 -36189359.00 0.2652 0.1245 *

Mars -103794-01-28 19:11 J -36189307.83 -36189307.70 -36189307.58 0.1853 0.0392

Jupiter -103793-04-08 05:30 J -36188872.35 -36188872.27 -36188872.17 0.0525 0.0414

Jupiter -103793-07-06 22:47 J -36188782.69 -36188782.55 -36188782.41 0.0528 0.0134

Venus -103790-11-16 12:42 J -36187555.04 -36187554.97 -36187554.90 0.3616 0.2880

Mars -103788-08-31 11:02 J -36186901.07 -36186901.04 -36186901.01 0.1651 0.1599

Jupiter -103788-11-25 00:42 J -36186815.58 -36186815.47 -36186815.35 0.0501 0.0326

Jupiter -103787-02-22 16:47 J -36186725.94 -36186725.80 -36186725.65 0.0499 0.0157

Saturn -103786-05-07 05:02 J -36186287.39 -36186287.29 -36186287.18 0.0291 0.0218

Saturn -103786-08-03 23:02 J -36186198.68 -36186198.54 -36186198.40 0.0290 0.0126

Mars -103786-08-07 12:57 J -36186195.11 -36186194.96 -36186194.82 0.1664 0.0245

Saturn -103786-10-31 17:16 J -36186109.94 -36186109.78 -36186109.62 0.0290 0.0032

Saturn -103785-01-28 11:45 J -36186021.17 -36186021.01 -36186020.85 0.0290 0.0064

Saturn -103785-04-26 06:28 J -36185932.36 -36185932.23 -36185932.09 0.0289 0.0161

Mars -103785-06-20 00:57 J -36185877.58 -36185877.46 -36185877.33 0.1858 0.0182

Earth -103785-06-23 07:54 J -36185874.26 -36185874.17 -36185874.07 0.2694 0.1379

Moon -103785-06-23 08:38 J -36185874.24 -36185874.14 -36185874.04 0.2690 0.1421 *

Saturn -103785-07-24 01:40 J -36185843.49 -36185843.43 -36185843.35 0.0289 0.0259

Moon -103782-12-11 11:02 J -36184608.19 -36184608.04 -36184607.90 0.2646 0.0346

Earth -103782-12-11 11:02 J -36184608.19 -36184608.04 -36184607.90 0.2652 0.0378 *

Jupiter -103781-04-24 23:30 J -36184472.66 -36184472.52 -36184472.37 0.0528 0.0013

Jupiter -103781-07-23 15:21 J -36184382.87 -36184382.86 -36184382.84 0.0531 0.0525

Moon -103778-06-17 03:06 J -36183324.46 -36183324.37 -36183324.27 0.2686 0.1620

Earth -103778-06-17 03:06 J -36183324.46 -36183324.37 -36183324.28 0.2680 0.1691 *

Mars -103777-12-27 17:59 J -36182764.89 -36182764.75 -36182764.60 0.1660 0.0232

Venus -103776-09-08 14:38 J -36182509.93 -36182509.89 -36182509.84 0.3780 0.3447

Jupiter -103776-09-13 03:06 J -36182505.44 -36182505.37 -36182505.30 0.0502 0.0437

Mars -103776-11-10 06:42 J -36182447.33 -36182447.22 -36182447.10 0.1862 0.0758

Jupiter -103776-12-11 18:42 J -36182415.87 -36182415.72 -36182415.56 0.0499 0.0041

Mars -103774-10-17 06:14 J -36181741.31 -36181741.24 -36181741.17 0.1844 0.1499

Earth -103772-06-26 03:06 J -36181123.42 -36181123.37 -36181123.33 0.2698 0.2446

Moon -103772-06-26 03:06 J -36181123.41 -36181123.37 -36181123.33 0.2691 0.2471 *

Saturn -103771-06-05 15:21 J -36180778.93 -36180778.86 -36180778.79 0.0268 0.0237

Saturn -103771-09-02 05:16 J -36180690.39 -36180690.28 -36180690.15 0.0269 0.0165

Saturn -103771-11-29 19:11 J -36180601.84 -36180601.70 -36180601.56 0.0269 0.0093

Saturn -103770-02-26 08:38 J -36180513.29 -36180513.14 -36180512.99 0.0269 0.0022

Venus -103770-03-25 10:18 J -36180486.17 -36180486.07 -36180485.98 0.3776 0.2172

Saturn -103770-05-25 22:04 J -36180424.73 -36180424.58 -36180424.44 0.0270 0.0048

Saturn -103770-08-22 11:02 J -36180336.17 -36180336.04 -36180335.90 0.0270 0.0118

Saturn -103770-11-18 23:59 J -36180247.60 -36180247.50 -36180247.39 0.0271 0.0186

Jupiter -103769-02-12 01:26 J -36180162.59 -36180162.44 -36180162.30 0.0528 0.0142

Saturn -103769-02-15 12:57 J -36180159.01 -36180158.96 -36180158.91 0.0271 0.0253

Jupiter -103769-05-11 17:45 J -36180072.86 -36180072.76 -36180072.67 0.0531 0.0399

Moon -103769-12-13 12:57 J -36179857.06 -36179856.96 -36179856.87 0.2643 0.2025

Earth -103769-12-13 14:09 J -36179857.00 -36179856.91 -36179856.82 0.2647 0.2066 *

Uranus -103768-05-30 11:02 J -36179689.10 -36179689.04 -36179688.98 0.0145 0.0132

Uranus -103768-08-26 16:33 J -36179600.90 -36179600.81 -36179600.70 0.0145 0.0110

Uranus -103768-11-22 22:33 J -36179512.69 -36179512.56 -36179512.43 0.0145 0.0087

Uranus -103767-02-19 04:18 J -36179424.46 -36179424.32 -36179424.17 0.0145 0.0064

Uranus -103767-05-18 10:18 J -36179336.22 -36179336.07 -36179335.91 0.0145 0.0041

Mars -103767-05-19 23:30 J -36179334.65 -36179334.52 -36179334.39 0.1657 0.0691

Uranus -103767-08-14 16:33 J -36179247.98 -36179247.81 -36179247.65 0.0145 0.0017

Uranus -103767-11-10 22:33 J -36179159.72 -36179159.56 -36179159.40 0.0145 0.0007

Uranus -103766-02-07 04:33 J -36179071.47 -36179071.31 -36179071.14 0.0146 0.0032

Mars -103766-04-02 12:14 J -36179017.08 -36179016.99 -36179016.90 0.1866 0.1357

Uranus -103766-05-06 10:47 J -36178983.20 -36178983.05 -36178982.89 0.0146 0.0056

Uranus -103766-08-02 17:02 J -36178894.92 -36178894.79 -36178894.65 0.0146 0.0081

Uranus -103766-10-29 23:16 J -36178806.63 -36178806.53 -36178806.41 0.0146 0.0106

Uranus -103765-01-26 05:45 J -36178718.32 -36178718.26 -36178718.18 0.0146 0.0131

Mars -103765-04-25 03:35 J -36178628.44 -36178628.35 -36178628.25 0.1671 0.1278

Earth -103765-06-18 22:33 J -36178573.68 -36178573.56 -36178573.45 0.2685 0.0583

Moon -103765-06-18 23:02 J -36178573.65 -36178573.54 -36178573.42 0.2689 0.0588 *

Venus -103765-10-08 05:59 J -36178462.36 -36178462.25 -36178462.14 0.3773 0.0850

Mars -103764-03-08 12:57 J -36178311.07 -36178310.96 -36178310.86 0.1849 0.0979

Jupiter -103764-09-29 20:09 J -36178105.81 -36178105.66 -36178105.51 0.0500 0.0081

Jupiter -103764-12-28 12:57 J -36178016.05 -36178015.96 -36178015.87 0.0497 0.0407

Earth -103762-12-06 11:30 J -36177308.05 -36177308.02 -36177307.98 0.2662 0.2575

Moon -103762-12-06 12:57 J -36177308.00 -36177307.96 -36177307.92 0.2660 0.2541 *

Venus -103759-04-24 01:54 J -36176438.53 -36176438.42 -36176438.30 0.3769 0.0524

Neptune -103758-01-14 01:11 J -36176173.45 -36176173.45 -36176173.44 0.0089 0.0089

Neptune -103758-04-12 03:21 J -36176085.40 -36176085.36 -36176085.31 0.0089 0.0084

Neptune -103758-07-09 05:16 J -36175997.34 -36175997.28 -36175997.21 0.0089 0.0080

Neptune -103758-10-05 07:11 J -36175909.26 -36175909.20 -36175909.10 0.0089 0.0076

Mars -103758-10-10 05:16 J -36175904.38 -36175904.28 -36175904.17 0.1654 0.1126

Jupiter -103758-12-01 03:06 J -36175852.50 -36175852.37 -36175852.24 0.0527 0.0272

Neptune -103757-01-01 09:21 J -36175821.19 -36175821.11 -36175821.01 0.0089 0.0071

Jupiter -103757-02-28 19:40 J -36175762.80 -36175762.68 -36175762.55 0.0530 0.0274

Neptune -103757-03-29 11:30 J -36175733.11 -36175733.02 -36175732.91 0.0089 0.0067

Neptune -103757-06-25 13:40 J -36175645.03 -36175644.93 -36175644.81 0.0089 0.0062

Pluto -103757-09-06 08:52 J -36175572.16 -36175572.13 -36175572.08 0.0085 0.0081

Neptune -103757-09-21 15:35 J -36175556.95 -36175556.85 -36175556.72 0.0089 0.0058

Saturn -103757-09-23 03:50 J -36175555.41 -36175555.34 -36175555.26 0.0291 0.0254

Pluto -103757-12-03 10:18 J -36175484.15 -36175484.07 -36175483.99 0.0085 0.0067

Neptune -103757-12-18 17:59 J -36175468.87 -36175468.75 -36175468.62 0.0089 0.0053

Saturn -103757-12-20 21:35 J -36175466.73 -36175466.60 -36175466.47 0.0291 0.0162

Pluto -103756-03-01 11:16 J -36175396.12 -36175396.03 -36175395.91 0.0085 0.0054

Neptune -103756-03-16 19:54 J -36175380.79 -36175380.67 -36175380.53 0.0089 0.0049

Saturn -103756-03-19 15:35 J -36175378.01 -36175377.85 -36175377.70 0.0291 0.0069

Pluto -103756-05-28 12:42 J -36175308.08 -36175307.97 -36175307.85 0.0084 0.0040

Neptune -103756-06-12 22:18 J -36175292.70 -36175292.57 -36175292.43 0.0089 0.0044

Saturn -103756-06-16 09:50 J -36175289.25 -36175289.09 -36175288.93 0.0290 0.0027

Pluto -103756-08-24 13:54 J -36175220.04 -36175219.92 -36175219.78 0.0084 0.0027

Neptune -103756-09-09 00:28 J -36175204.62 -36175204.48 -36175204.34 0.0089 0.0039

Saturn -103756-09-13 04:33 J -36175200.45 -36175200.31 -36175200.16 0.0290 0.0123

Mars -103756-09-15 08:23 J -36175198.28 -36175198.15 -36175198.02 0.1668 0.0778

Pluto -103756-11-20 15:21 J -36175131.99 -36175131.86 -36175131.73 0.0084 0.0013

Neptune -103756-12-06 02:38 J -36175116.53 -36175116.39 -36175116.24 0.0089 0.0035

Saturn -103756-12-10 23:45 J -36175111.62 -36175111.51 -36175111.41 0.0289 0.0220

Pluto -103755-02-16 16:33 J -36175043.94 -36175043.81 -36175043.67 0.0084 0.0002

Neptune -103755-03-04 04:47 J -36175028.44 -36175028.30 -36175028.15 0.0089 0.0030

Venus -103755-04-23 20:38 J -36174977.74 -36174977.64 -36174977.54 0.3602 0.2333

Pluto -103755-05-15 17:59 J -36174955.88 -36174955.75 -36174955.62 0.0084 0.0014

Neptune -103755-05-31 06:57 J -36174940.36 -36174940.21 -36174940.05 0.0089 0.0026

Mars -103755-07-29 19:26 J -36174880.82 -36174880.69 -36174880.57 0.1853 0.0446

Pluto -103755-08-11 18:57 J -36174867.83 -36174867.71 -36174867.58 0.0084 0.0028

Neptune -103755-08-27 09:06 J -36174852.27 -36174852.12 -36174851.96 0.0089 0.0021

Pluto -103755-11-07 20:09 J -36174779.77 -36174779.66 -36174779.54 0.0084 0.0041

Neptune -103755-11-23 11:30 J -36174764.18 -36174764.02 -36174763.86 0.0089 0.0016

Pluto -103754-02-03 21:21 J -36174691.70 -36174691.61 -36174691.50 0.0084 0.0054

Neptune -103754-02-19 13:40 J -36174676.09 -36174675.93 -36174675.77 0.0089 0.0011

Pluto -103754-05-02 22:33 J -36174603.63 -36174603.56 -36174603.47 0.0083 0.0067

Neptune -103754-05-18 15:50 J -36174587.99 -36174587.84 -36174587.67 0.0089 0.0007

Pluto -103754-07-29 23:59 J -36174515.53 -36174515.50 -36174515.46 0.0083 0.0080

Neptune -103754-08-14 18:14 J -36174499.90 -36174499.74 -36174499.58 0.0089 0.0002

Venus -103754-11-07 22:18 J -36174414.67 -36174414.57 -36174414.47 0.3765 0.1924

Neptune -103754-11-10 20:23 J -36174411.81 -36174411.65 -36174411.48 0.0089 0.0004

Neptune -103753-02-06 22:47 J -36174323.71 -36174323.55 -36174323.39 0.0089 0.0008

Neptune -103753-05-05 00:57 J -36174235.61 -36174235.46 -36174235.30 0.0089 0.0013

Neptune -103753-08-01 03:06 J -36174147.52 -36174147.37 -36174147.20 0.0089 0.0018

Neptune -103753-10-28 05:45 J -36174059.42 -36174059.26 -36174059.11 0.0089 0.0022

Neptune -103752-01-24 07:54 J -36173971.32 -36173971.17 -36173971.01 0.0089 0.0027

Neptune -103752-04-22 10:18 J -36173883.22 -36173883.07 -36173882.92 0.0089 0.0032

Earth -103752-06-21 17:45 J -36173822.87 -36173822.76 -36173822.64 0.2689 0.0520

Moon -103752-06-21 18:42 J -36173822.84 -36173822.72 -36173822.61 0.2688 0.0654 *

Jupiter -103752-07-18 21:50 J -36173795.73 -36173795.59 -36173795.45 0.0500 0.0201

Neptune -103752-07-19 12:28 J -36173795.12 -36173794.98 -36173794.82 0.0089 0.0037

Neptune -103752-10-15 14:52 J -36173707.02 -36173706.88 -36173706.73 0.0089 0.0042

Jupiter -103752-10-16 14:09 J -36173706.04 -36173705.91 -36173705.78 0.0498 0.0284

Neptune -103751-01-11 17:16 J -36173618.91 -36173618.78 -36173618.64 0.0089 0.0047

Neptune -103751-04-09 19:26 J -36173530.81 -36173530.69 -36173530.54 0.0089 0.0052

Neptune -103751-07-06 21:50 J -36173442.70 -36173442.59 -36173442.45 0.0089 0.0057

Neptune -103751-10-03 00:14 J -36173354.59 -36173354.49 -36173354.36 0.0089 0.0062

Neptune -103751-12-30 02:38 J -36173266.48 -36173266.39 -36173266.27 0.0089 0.0067

Neptune -103750-03-28 05:02 J -36173178.37 -36173178.29 -36173178.18 0.0089 0.0072

Neptune -103750-06-24 07:26 J -36173090.26 -36173090.19 -36173090.09 0.0089 0.0077

Neptune -103750-09-20 09:50 J -36173002.13 -36173002.09 -36173002.01 0.0089 0.0082

Venus -103750-11-07 18:57 J -36172953.83 -36172953.71 -36172953.58 0.3605 0.0832

Neptune -103750-12-17 12:14 J -36172914.00 -36172913.99 -36172913.94 0.0089 0.0087

Earth -103749-12-08 14:09 J -36172557.04 -36172556.91 -36172556.77 0.2657 0.0952

Moon -103749-12-08 14:38 J -36172557.02 -36172556.89 -36172556.75 0.2650 0.0848 *

Mars -103748-03-01 11:16 J -36172474.07 -36172474.03 -36172473.98 0.1651 0.1553

Venus -103748-05-23 18:57 J -36172390.76 -36172390.71 -36172390.66 0.3761 0.3383

Mars -103746-02-05 13:11 J -36171768.09 -36171767.95 -36171767.80 0.1664 0.0296

Jupiter -103746-09-19 04:18 J -36171542.41 -36171542.32 -36171542.22 0.0526 0.0407

Jupiter -103746-12-17 21:21 J -36171452.75 -36171452.61 -36171452.46 0.0529 0.0142

Mars -103746-12-20 01:11 J -36171450.57 -36171450.45 -36171450.32 0.1858 0.0138

Moon -103745-06-14 12:14 J -36171273.02 -36171272.99 -36171272.97 0.2681 0.2587

Earth -103745-06-14 12:28 J -36171273.00 -36171272.98 -36171272.95 0.2676 0.2577 *

Venus -103744-05-23 16:47 J -36170929.92 -36170929.80 -36170929.67 0.3609 0.0607

Saturn -103742-10-23 16:47 J -36170046.84 -36170046.80 -36170046.77 0.0269 0.0260

Saturn -103741-01-20 06:42 J -36169958.32 -36169958.22 -36169958.11 0.0269 0.0188

Saturn -103741-04-17 20:38 J -36169869.77 -36169869.64 -36169869.50 0.0269 0.0115

Saturn -103741-07-15 10:18 J -36169781.22 -36169781.07 -36169780.92 0.0270 0.0044

Saturn -103741-10-11 23:45 J -36169692.66 -36169692.51 -36169692.37 0.0270 0.0027

Saturn -103740-01-08 12:57 J -36169604.10 -36169603.96 -36169603.82 0.0271 0.0096

Saturn -103740-04-07 01:54 J -36169515.53 -36169515.42 -36169515.30 0.0271 0.0165

Jupiter -103740-05-06 23:02 J -36169485.65 -36169485.54 -36169485.42 0.0501 0.0324

Saturn -103740-07-04 14:38 J -36169426.96 -36169426.89 -36169426.81 0.0272 0.0232

Jupiter -103740-08-04 15:06 J -36169396.01 -36169395.87 -36169395.72 0.0499 0.0159

Earth -103739-06-24 12:57 J -36169072.05 -36169071.96 -36169071.87 0.2694 0.1603

Moon -103739-06-24 13:26 J -36169072.03 -36169071.94 -36169071.85 0.2689 0.1645 *

Venus -103739-12-07 14:23 J -36168906.00 -36168905.90 -36168905.79 0.3613 0.1992

Mars -103737-06-27 18:28 J -36168337.88 -36168337.73 -36168337.59 0.1660 0.0190

Mars -103736-05-11 06:57 J -36168020.33 -36168020.21 -36168020.09 0.1862 0.0708

Moon -103736-12-11 16:47 J -36167805.95 -36167805.80 -36167805.66 0.2646 0.0678

Earth -103736-12-11 17:02 J -36167805.93 -36167805.79 -36167805.65 0.2652 0.0717 *

Mars -103734-04-17 06:28 J -36167314.30 -36167314.23 -36167314.17 0.1844 0.1547

Jupiter -103734-10-05 22:47 J -36167142.70 -36167142.55 -36167142.40 0.0528 0.0004

Venus -103733-06-22 11:45 J -36166882.06 -36166882.01 -36166881.97 0.3617 0.3325

Earth -103732-06-17 08:09 J -36166522.26 -36166522.16 -36166522.06 0.2680 0.1458

Moon -103732-06-17 08:23 J -36166522.25 -36166522.15 -36166522.05 0.2687 0.1497 *

Uranus -103729-10-26 01:40 J -36165295.49 -36165295.43 -36165295.35 0.0134 0.0118

Uranus -103728-01-22 05:59 J -36165207.34 -36165207.25 -36165207.14 0.0134 0.0100

Jupiter -103728-02-23 00:57 J -36165175.52 -36165175.46 -36165175.38 0.0502 0.0438

Uranus -103728-04-20 10:33 J -36165119.18 -36165119.06 -36165118.94 0.0134 0.0082

Jupiter -103728-05-23 16:47 J -36165085.95 -36165085.80 -36165085.64 0.0499 0.0042

Uranus -103728-07-17 14:38 J -36165031.02 -36165030.89 -36165030.75 0.0134 0.0065

Uranus -103728-10-13 18:42 J -36164942.85 -36164942.72 -36164942.57 0.0134 0.0048

Mars -103728-11-17 23:59 J -36164907.64 -36164907.50 -36164907.37 0.1657 0.0640

Uranus -103727-01-09 23:02 J -36164854.68 -36164854.54 -36164854.39 0.0134 0.0030

Saturn -103727-02-10 05:30 J -36164823.32 -36164823.27 -36164823.22 0.0291 0.0274

Uranus -103727-04-08 03:06 J -36164766.52 -36164766.37 -36164766.21 0.0134 0.0014

Saturn -103727-05-09 23:02 J -36164734.66 -36164734.54 -36164734.41 0.0291 0.0184

Uranus -103727-07-05 07:26 J -36164678.34 -36164678.19 -36164678.04 0.0133 0.0005

Saturn -103727-08-06 17:02 J -36164645.94 -36164645.79 -36164645.64 0.0290 0.0091

Uranus -103727-10-01 11:16 J -36164590.17 -36164590.03 -36164589.88 0.0133 0.0021

Mars -103727-10-01 12:14 J -36164590.08 -36164589.99 -36164589.90 0.1866 0.1309 *

Saturn -103727-11-03 11:30 J -36164557.19 -36164557.02 -36164556.86 0.0290 0.0009

Uranus -103727-12-28 15:21 J -36164502.00 -36164501.86 -36164501.71 0.0133 0.0037

Saturn -103726-01-31 05:59 J -36164468.40 -36164468.25 -36164468.09 0.0290 0.0100

Uranus -103726-03-26 19:11 J -36164413.83 -36164413.70 -36164413.56 0.0133 0.0054

Saturn -103726-04-30 00:57 J -36164379.57 -36164379.46 -36164379.34 0.0289 0.0198

Uranus -103726-06-22 23:16 J -36164325.65 -36164325.53 -36164325.40 0.0133 0.0070

Moon -103726-06-27 08:09 J -36164321.18 -36164321.16 -36164321.14 0.2692 0.2633

Earth -103726-06-27 08:09 J -36164321.17 -36164321.16 -36164321.15 0.2699 0.2672 *

Uranus -103726-09-19 03:06 J -36164237.48 -36164237.37 -36164237.25 0.0133 0.0087

Mars -103726-10-25 04:18 J -36164201.41 -36164201.32 -36164201.23 0.1671 0.1335

Uranus -103726-12-16 06:57 J -36164149.29 -36164149.21 -36164149.11 0.0133 0.0103

Uranus -103725-03-13 10:47 J -36164061.11 -36164061.05 -36164060.98 0.0133 0.0119

Mars -103725-09-06 12:57 J -36163884.06 -36163883.96 -36163883.85 0.1849 0.1030

Moon -103723-12-14 19:11 J -36163054.78 -36163054.70 -36163054.63 0.2642 0.2245

Earth -103723-12-14 20:09 J -36163054.71 -36163054.66 -36163054.60 0.2647 0.2418 *

Jupiter -103722-07-24 23:16 J -36162832.67 -36162832.53 -36162832.38 0.0527 0.0144

Jupiter -103722-10-22 15:35 J -36162742.94 -36162742.85 -36162742.75 0.0530 0.0397

Venus -103719-04-15 13:11 J -36161837.02 -36161836.95 -36161836.88 0.3779 0.3009

Earth -103719-06-20 03:35 J -36161771.47 -36161771.35 -36161771.24 0.2685 0.0359

Moon -103719-06-20 04:18 J -36161771.44 -36161771.32 -36161771.21 0.2688 0.0234 *

Mars -103718-04-10 05:30 J -36161477.38 -36161477.27 -36161477.16 0.1654 0.1084

Jupiter -103716-03-11 18:57 J -36160775.86 -36160775.71 -36160775.56 0.0500 0.0074

Mars -103716-03-16 08:52 J -36160771.26 -36160771.13 -36160771.01 0.1667 0.0831

Jupiter -103716-06-09 11:45 J -36160686.09 -36160686.01 -36160685.92 0.0497 0.0415

Earth -103716-12-06 17:30 J -36160505.84 -36160505.77 -36160505.69 0.2662 0.2255

Moon -103716-12-06 18:42 J -36160505.81 -36160505.72 -36160505.63 0.2658 0.2066 *

Mars -103715-01-27 19:26 J -36160453.81 -36160453.69 -36160453.57 0.1854 0.0488

Venus -103714-10-30 08:52 J -36159813.24 -36159813.13 -36159813.03 0.3775 0.1726

Saturn -103712-06-08 08:23 J -36159226.23 -36159226.15 -36159226.04 0.0268 0.0208

Saturn -103712-09-04 22:33 J -36159137.69 -36159137.56 -36159137.43 0.0269 0.0135

Saturn -103712-12-02 12:14 J -36159049.14 -36159048.99 -36159048.85 0.0269 0.0064

Saturn -103711-03-01 01:40 J -36158960.58 -36158960.43 -36158960.28 0.0269 0.0007

Saturn -103711-05-28 14:52 J -36158872.02 -36158871.88 -36158871.74 0.0270 0.0076

Saturn -103711-08-25 03:50 J -36158783.46 -36158783.34 -36158783.22 0.0270 0.0145

Saturn -103711-11-21 16:33 J -36158694.89 -36158694.81 -36158694.71 0.0271 0.0213

Jupiter -103710-05-13 00:57 J -36158522.58 -36158522.46 -36158522.33 0.0527 0.0276

Jupiter -103710-08-10 17:45 J -36158432.88 -36158432.76 -36158432.63 0.0530 0.0270

Mars -103709-08-30 11:45 J -36158047.07 -36158047.01 -36158046.96 0.1651 0.1508

Venus -103708-05-15 04:33 J -36157789.42 -36157789.31 -36157789.19 0.3771 0.0398

Mars -103707-08-06 13:26 J -36157341.08 -36157340.94 -36157340.79 0.1664 0.0335

Mars -103706-06-20 01:26 J -36157023.56 -36157023.44 -36157023.31 0.1858 0.0088

Earth -103706-06-22 22:47 J -36157020.66 -36157020.55 -36157020.44 0.2690 0.0745

Moon -103706-06-22 23:45 J -36157020.62 -36157020.51 -36157020.40 0.2689 0.0772 *

Jupiter -103705-12-28 20:38 J -36156465.79 -36156465.64 -36156465.50 0.0500 0.0194

Jupiter -103704-03-28 12:57 J -36156376.09 -36156375.96 -36156375.83 0.0498 0.0292

Venus -103704-05-14 21:21 J -36156328.65 -36156328.61 -36156328.56 0.3600 0.3353

Venus -103703-11-29 00:42 J -36155765.58 -36155765.47 -36155765.36 0.3768 0.0982

Earth -103703-12-09 20:09 J -36155754.80 -36155754.66 -36155754.52 0.2656 0.0623

Moon -103703-12-09 20:38 J -36155754.78 -36155754.64 -36155754.49 0.2650 0.0643 *

Moon -103699-06-15 17:30 J -36154470.82 -36154470.77 -36154470.72 0.2682 0.2391

Earth -103699-06-15 17:45 J -36154470.82 -36154470.76 -36154470.71 0.2676 0.2346 *

Venus -103699-11-28 19:54 J -36154304.78 -36154304.67 -36154304.55 0.3603 0.1818

Jupiter -103698-03-01 02:38 J -36154212.48 -36154212.39 -36154212.29 0.0526 0.0406

Jupiter -103698-05-29 19:54 J -36154122.81 -36154122.67 -36154122.53 0.0529 0.0143

Saturn -103698-09-26 21:21 J -36154002.70 -36154002.61 -36154002.50 0.0291 0.0222

Saturn -103698-12-24 15:06 J -36153914.00 -36153913.87 -36153913.72 0.0291 0.0130

Mars -103698-12-27 18:42 J -36153910.86 -36153910.72 -36153910.57 0.1660 0.0134

Saturn -103697-03-22 09:21 J -36153825.27 -36153825.11 -36153824.95 0.0291 0.0036

Venus -103697-06-13 21:06 J -36153741.71 -36153741.62 -36153741.53 0.3764 0.2402

Saturn -103697-06-19 03:50 J -36153736.50 -36153736.34 -36153736.18 0.0290 0.0061

Saturn -103697-09-15 22:47 J -36153647.69 -36153647.55 -36153647.41 0.0290 0.0158

Mars -103697-11-09 07:11 J -36153593.32 -36153593.20 -36153593.08 0.1862 0.0655

Saturn -103697-12-13 17:45 J -36153558.83 -36153558.76 -36153558.68 0.0289 0.0256

Mars -103695-10-16 06:42 J -36152887.28 -36152887.22 -36152887.16 0.1844 0.1599

Venus -103693-06-13 18:14 J -36152280.87 -36152280.74 -36152280.61 0.3607 0.0344

Earth -103693-06-24 17:59 J -36152269.83 -36152269.75 -36152269.67 0.2695 0.1827

Moon -103693-06-24 18:14 J -36152269.82 -36152269.74 -36152269.65 0.2689 0.1890 *

Jupiter -103693-10-16 22:04 J -36152155.69 -36152155.58 -36152155.45 0.0501 0.0313

Jupiter -103692-01-14 14:09 J -36152066.05 -36152065.91 -36152065.76 0.0498 0.0170

Moon -103690-12-12 22:18 J -36151003.70 -36151003.57 -36151003.43 0.2645 0.1023

Earth -103690-12-12 23:02 J -36151003.67 -36151003.54 -36151003.40 0.2651 0.1054 *

Mars -103688-05-19 00:14 J -36150480.63 -36150480.49 -36150480.35 0.1657 0.0590

Venus -103688-12-28 16:04 J -36150256.96 -36150256.83 -36150256.71 0.3610 0.1086

Mars -103687-04-01 12:28 J -36150163.07 -36150162.98 -36150162.88 0.1866 0.1255

Jupiter -103686-03-17 21:35 J -36149812.75 -36149812.60 -36149812.45 0.0528 0.0012

Mars -103686-04-25 04:47 J -36149774.38 -36149774.30 -36149774.22 0.1671 0.1389

Earth -103686-06-18 13:11 J -36149720.05 -36149719.95 -36149719.85 0.2681 0.1226

Moon -103686-06-18 13:26 J -36149720.04 -36149719.94 -36149719.83 0.2688 0.1149 *

Mars -103685-03-07 13:11 J -36149457.05 -36149456.95 -36149456.85 0.1849 0.1076

Uranus -103684-06-19 18:28 J -36148987.80 -36148987.73 -36148987.65 0.0145 0.0126

Uranus -103684-09-16 00:14 J -36148899.60 -36148899.49 -36148899.37 0.0145 0.0103

Uranus -103684-12-13 06:14 J -36148811.38 -36148811.24 -36148811.11 0.0145 0.0080

Uranus -103683-03-11 11:59 J -36148723.15 -36148723.00 -36148722.85 0.0145 0.0057

Uranus -103683-06-07 17:59 J -36148634.91 -36148634.75 -36148634.59 0.0145 0.0034

Uranus -103683-09-03 23:59 J -36148546.66 -36148546.50 -36148546.33 0.0145 0.0010

Saturn -103683-10-26 09:35 J -36148494.17 -36148494.10 -36148494.02 0.0269 0.0232

Uranus -103683-12-01 05:59 J -36148458.41 -36148458.25 -36148458.08 0.0145 0.0015

Saturn -103682-01-22 23:30 J -36148405.64 -36148405.52 -36148405.39 0.0269 0.0160

Uranus -103682-02-27 12:14 J -36148370.15 -36148369.99 -36148369.83 0.0146 0.0038

Saturn -103682-04-21 13:11 J -36148317.09 -36148316.95 -36148316.80 0.0269 0.0089

Uranus -103682-05-26 18:28 J -36148281.88 -36148281.73 -36148281.58 0.0146 0.0063

Venus -103682-07-14 13:26 J -36148233.03 -36148232.94 -36148232.85 0.3614 0.2446

Saturn -103682-07-19 02:52 J -36148228.53 -36148228.38 -36148228.23 0.0270 0.0017

Uranus -103682-08-23 00:28 J -36148193.60 -36148193.48 -36148193.34 0.0146 0.0088

Saturn -103682-10-15 16:04 J -36148139.97 -36148139.83 -36148139.68 0.0270 0.0054

Uranus -103682-11-19 06:42 J -36148105.31 -36148105.22 -36148105.10 0.0146 0.0113

Saturn -103681-01-12 05:16 J -36148051.41 -36148051.28 -36148051.15 0.0271 0.0122

Uranus -103681-02-15 13:11 J -36148016.99 -36148016.95 -36148016.88 0.0146 0.0138

Saturn -103681-04-09 18:14 J -36147962.84 -36147962.74 -36147962.64 0.0271 0.0190

Saturn -103681-07-07 06:57 J -36147874.25 -36147874.21 -36147874.16 0.0272 0.0257

Jupiter -103681-08-04 23:30 J -36147845.59 -36147845.52 -36147845.44 0.0502 0.0433

Jupiter -103681-11-02 15:21 J -36147756.01 -36147755.86 -36147755.70 0.0499 0.0046

Mars -103679-10-09 05:59 J -36147050.36 -36147050.25 -36147050.14 0.1654 0.1032

Mars -103677-09-14 09:06 J -36146344.24 -36146344.12 -36146343.99 0.1667 0.0882

Neptune -103676-04-25 08:09 J -36146121.18 -36146121.16 -36146121.12 0.0088 0.0087

Neptune -103676-07-22 10:33 J -36146033.11 -36146033.06 -36146033.00 0.0088 0.0082

Mars -103676-07-28 19:40 J -36146026.80 -36146026.68 -36146026.56 0.1854 0.0540

Neptune -103676-10-18 12:57 J -36145945.04 -36145944.96 -36145944.88 0.0088 0.0077

Neptune -103675-01-14 14:52 J -36145856.96 -36145856.88 -36145856.77 0.0088 0.0072

Neptune -103675-04-12 17:16 J -36145768.87 -36145768.78 -36145768.67 0.0088 0.0067

Neptune -103675-07-09 19:26 J -36145680.79 -36145680.69 -36145680.57 0.0088 0.0063

Neptune -103675-10-05 21:50 J -36145592.71 -36145592.59 -36145592.46 0.0088 0.0058

Neptune -103674-01-01 23:45 J -36145504.62 -36145504.51 -36145504.37 0.0088 0.0054

Jupiter -103674-01-03 22:47 J -36145502.69 -36145502.55 -36145502.40 0.0527 0.0127

Neptune -103674-03-31 02:09 J -36145416.53 -36145416.41 -36145416.27 0.0088 0.0048

Jupiter -103674-04-03 15:06 J -36145412.96 -36145412.87 -36145412.78 0.0530 0.0412

Neptune -103674-06-27 04:18 J -36145328.45 -36145328.32 -36145328.17 0.0088 0.0044

Neptune -103674-09-23 06:42 J -36145240.36 -36145240.22 -36145240.07 0.0088 0.0039

Neptune -103674-12-20 08:38 J -36145152.27 -36145152.14 -36145151.98 0.0088 0.0035

Neptune -103673-03-17 11:02 J -36145064.18 -36145064.04 -36145063.89 0.0088 0.0029

Neptune -103673-06-13 13:11 J -36144976.10 -36144975.95 -36144975.79 0.0088 0.0025

Earth -103673-06-20 08:38 J -36144969.26 -36144969.14 -36144969.03 0.2686 0.0130

Moon -103673-06-20 09:21 J -36144969.22 -36144969.11 -36144968.99 0.2687 0.0113 *

Neptune -103673-09-09 15:21 J -36144888.01 -36144887.86 -36144887.70 0.0088 0.0020

Neptune -103673-12-06 17:30 J -36144799.92 -36144799.77 -36144799.61 0.0088 0.0015

Neptune -103672-03-04 19:40 J -36144711.83 -36144711.68 -36144711.52 0.0088 0.0011

Neptune -103672-05-31 21:50 J -36144623.75 -36144623.59 -36144623.43 0.0088 0.0006

Neptune -103672-08-27 23:59 J -36144535.66 -36144535.50 -36144535.35 0.0088 0.0002

Neptune -103672-11-24 02:09 J -36144447.57 -36144447.41 -36144447.26 0.0088 0.0004

Neptune -103671-02-20 04:04 J -36144359.48 -36144359.33 -36144359.17 0.0088 0.0008

Neptune -103671-05-19 06:14 J -36144271.40 -36144271.24 -36144271.09 0.0088 0.0012

Neptune -103671-08-15 08:09 J -36144183.31 -36144183.16 -36144183.00 0.0088 0.0017

Neptune -103671-11-11 10:18 J -36144095.22 -36144095.07 -36144094.92 0.0088 0.0021

Neptune -103670-02-07 12:14 J -36144007.13 -36144006.99 -36144006.84 0.0088 0.0026

Neptune -103670-05-06 14:09 J -36143919.04 -36143918.91 -36143918.75 0.0088 0.0031

Neptune -103670-08-02 16:18 J -36143830.96 -36143830.82 -36143830.67 0.0088 0.0035

Neptune -103670-10-29 18:14 J -36143742.87 -36143742.74 -36143742.59 0.0088 0.0039

Earth -103670-12-07 23:30 J -36143703.61 -36143703.52 -36143703.42 0.2661 0.1931

Moon -103670-12-08 00:42 J -36143703.57 -36143703.47 -36143703.38 0.2656 0.1932 *

Neptune -103669-01-25 20:23 J -36143654.78 -36143654.65 -36143654.52 0.0088 0.0044

Mars -103669-02-29 11:59 J -36143620.07 -36143620.00 -36143619.94 0.1651 0.1463

Neptune -103669-04-22 22:04 J -36143566.69 -36143566.58 -36143566.44 0.0088 0.0049

Neptune -103669-07-20 00:14 J -36143478.61 -36143478.49 -36143478.36 0.0088 0.0052

Jupiter -103669-08-21 17:16 J -36143445.94 -36143445.78 -36143445.63 0.0500 0.0072

Neptune -103669-10-16 02:23 J -36143390.52 -36143390.40 -36143390.28 0.0088 0.0057

Jupiter -103669-11-19 10:04 J -36143356.16 -36143356.08 -36143356.00 0.0497 0.0417

Neptune -103668-01-12 04:04 J -36143302.43 -36143302.33 -36143302.21 0.0088 0.0061

Saturn -103668-02-12 22:33 J -36143270.64 -36143270.56 -36143270.47 0.0291 0.0245

Neptune -103668-04-10 05:59 J -36143214.34 -36143214.25 -36143214.14 0.0088 0.0066

Saturn -103668-05-12 16:18 J -36143181.95 -36143181.82 -36143181.68 0.0291 0.0153

Neptune -103668-07-07 08:09 J -36143126.25 -36143126.16 -36143126.06 0.0088 0.0070

Saturn -103668-08-09 10:18 J -36143093.22 -36143093.07 -36143092.91 0.0290 0.0060

Neptune -103668-10-03 09:50 J -36143038.16 -36143038.09 -36143037.99 0.0088 0.0074

Saturn -103668-11-06 04:47 J -36143004.46 -36143004.30 -36143004.14 0.0290 0.0036

Neptune -103668-12-30 11:45 J -36142950.06 -36142950.01 -36142949.93 0.0088 0.0079

Saturn -103667-02-02 23:30 J -36142915.66 -36142915.52 -36142915.37 0.0289 0.0133

Mars -103667-02-04 13:54 J -36142914.06 -36142913.92 -36142913.77 0.1664 0.0392

Neptune -103667-03-28 13:40 J -36142861.97 -36142861.93 -36142861.86 0.0088 0.0083

Saturn -103667-05-02 18:42 J -36142826.81 -36142826.72 -36142826.62 0.0289 0.0231

Neptune -103667-06-24 15:50 J -36142773.86 -36142773.84 -36142773.81 0.0088 0.0087

Mars -103667-12-19 01:26 J -36142596.56 -36142596.44 -36142596.31 0.1858 0.0072

Jupiter -103663-10-22 23:16 J -36141192.66 -36141192.53 -36141192.41 0.0526 0.0275

Venus -103663-11-20 11:45 J -36141164.09 -36141164.01 -36141163.93 0.3778 0.2574

Jupiter -103662-01-20 16:04 J -36141102.96 -36141102.83 -36141102.71 0.0530 0.0270

Earth -103660-06-23 03:50 J -36140218.45 -36140218.34 -36140218.23 0.2691 0.0971

Moon -103660-06-23 04:33 J -36140218.41 -36140218.31 -36140218.20 0.2689 0.1104 *

Mars -103658-06-27 18:57 J -36139483.85 -36139483.71 -36139483.56 0.1660 0.0092

Mars -103657-05-10 07:11 J -36139166.32 -36139166.20 -36139166.07 0.1863 0.0608

Venus -103657-06-05 07:26 J -36139140.30 -36139140.19 -36139140.09 0.3774 0.1284

Jupiter -103657-06-09 19:26 J -36139135.83 -36139135.69 -36139135.55 0.0501 0.0184

Jupiter -103657-09-07 11:45 J -36139046.13 -36139046.01 -36139045.88 0.0498 0.0302

Earth -103657-12-10 02:09 J -36138952.55 -36138952.41 -36138952.26 0.2656 0.0302

Moon -103657-12-10 02:23 J -36138952.54 -36138952.40 -36138952.25 0.2650 0.0206 *

Mars -103655-04-16 06:28 J -36138460.28 -36138460.23 -36138460.17 0.1845 0.1640

Saturn -103653-03-14 11:30 J -36137762.07 -36137762.02 -36137761.97 0.0268 0.0251

Saturn -103653-06-11 01:26 J -36137673.55 -36137673.44 -36137673.32 0.0268 0.0179

Moon -103653-06-15 22:33 J -36137668.62 -36137668.56 -36137668.49 0.2684 0.2139

Earth -103653-06-15 22:47 J -36137668.62 -36137668.55 -36137668.48 0.2677 0.2115 *

Saturn -103653-09-07 15:06 J -36137585.00 -36137584.87 -36137584.72 0.0269 0.0108

Saturn -103653-12-05 04:47 J -36137496.45 -36137496.30 -36137496.15 0.0269 0.0037

Saturn -103652-03-03 18:14 J -36137407.89 -36137407.74 -36137407.59 0.0269 0.0034

Saturn -103652-05-31 07:11 J -36137319.33 -36137319.20 -36137319.06 0.0270 0.0103

Saturn -103652-08-27 20:09 J -36137230.77 -36137230.66 -36137230.54 0.0270 0.0171

Saturn -103652-11-24 08:52 J -36137142.19 -36137142.13 -36137142.06 0.0271 0.0238

Venus -103652-12-20 03:06 J -36137116.48 -36137116.37 -36137116.25 0.3770 0.0138

Jupiter -103651-08-11 00:42 J -36136882.56 -36136882.47 -36136882.38 0.0526 0.0408

Jupiter -103651-11-08 17:59 J -36136792.89 -36136792.75 -36136792.61 0.0529 0.0141

Mars -103649-11-17 00:28 J -36136053.61 -36136053.48 -36136053.34 0.1657 0.0543

Mars -103648-09-30 12:57 J -36135736.06 -36135735.96 -36135735.86 0.1866 0.1196

Venus -103648-12-19 20:52 J -36135655.71 -36135655.63 -36135655.55 0.3601 0.2824

Earth -103647-06-25 23:02 J -36135467.61 -36135467.54 -36135467.47 0.2695 0.2053

Moon -103647-06-25 23:16 J -36135467.60 -36135467.53 -36135467.45 0.2688 0.2025 *

Mars -103647-10-24 05:02 J -36135347.36 -36135347.29 -36135347.22 0.1671 0.1438

Venus -103646-07-05 23:16 J -36135092.63 -36135092.53 -36135092.42 0.3767 0.1446

Mars -103646-09-06 13:26 J -36135030.04 -36135029.94 -36135029.84 0.1849 0.1129

Jupiter -103645-03-28 21:06 J -36134825.74 -36134825.62 -36134825.49 0.0501 0.0302

Jupiter -103645-06-26 13:11 J -36134736.09 -36134735.95 -36134735.80 0.0498 0.0180

Uranus -103645-08-19 04:33 J -36134682.33 -36134682.31 -36134682.26 0.0134 0.0131

Uranus -103645-11-15 08:52 J -36134594.19 -36134594.13 -36134594.03 0.0134 0.0114

Uranus -103644-02-11 13:26 J -36134506.04 -36134505.94 -36134505.83 0.0134 0.0095

Uranus -103644-05-10 17:45 J -36134417.88 -36134417.76 -36134417.63 0.0134 0.0077

Uranus -103644-08-06 22:04 J -36134329.71 -36134329.58 -36134329.44 0.0134 0.0060

Uranus -103644-11-03 02:09 J -36134241.55 -36134241.41 -36134241.26 0.0134 0.0043

Moon -103644-12-13 04:33 J -36134201.44 -36134201.31 -36134201.18 0.2644 0.1267

Earth -103644-12-13 05:16 J -36134201.40 -36134201.28 -36134201.16 0.2650 0.1393 *

Uranus -103643-01-30 06:28 J -36134153.38 -36134153.23 -36134153.08 0.0134 0.0025

Uranus -103643-04-28 10:33 J -36134065.21 -36134065.06 -36134064.91 0.0134 0.0008

Uranus -103643-07-25 14:38 J -36133977.04 -36133976.89 -36133976.74 0.0134 0.0010

Uranus -103643-10-21 18:42 J -36133888.86 -36133888.72 -36133888.57 0.0133 0.0026

Uranus -103642-01-17 22:47 J -36133800.69 -36133800.55 -36133800.41 0.0133 0.0042

Uranus -103642-04-16 02:38 J -36133712.52 -36133712.39 -36133712.25 0.0133 0.0059

Venus -103642-07-05 19:11 J -36133631.82 -36133631.70 -36133631.58 0.3604 0.1313

Uranus -103642-07-13 06:42 J -36133624.34 -36133624.22 -36133624.10 0.0133 0.0075

Uranus -103642-10-09 10:18 J -36133536.16 -36133536.07 -36133535.95 0.0133 0.0092

Uranus -103641-01-05 14:23 J -36133447.98 -36133447.90 -36133447.81 0.0133 0.0108

Uranus -103641-04-02 18:14 J -36133359.78 -36133359.74 -36133359.68 0.0133 0.0124

Venus -103640-01-18 19:54 J -36133068.75 -36133068.67 -36133068.60 0.3762 0.2877

Earth -103640-06-18 18:14 J -36132917.85 -36132917.74 -36132917.63 0.2681 0.0995

Moon -103640-06-18 18:42 J -36132917.83 -36132917.72 -36132917.61 0.2687 0.0987 *

Mars -103639-04-09 06:14 J -36132623.35 -36132623.24 -36132623.12 0.1654 0.0987

Saturn -103639-07-02 20:38 J -36132538.67 -36132538.64 -36132538.60 0.0292 0.0284

Jupiter -103639-08-27 20:09 J -36132482.81 -36132482.66 -36132482.52 0.0528 0.0018

Saturn -103639-09-29 14:09 J -36132450.02 -36132449.91 -36132449.79 0.0291 0.0194

Saturn -103639-12-27 08:09 J -36132361.31 -36132361.16 -36132361.01 0.0291 0.0100

Mars -103638-02-20 17:45 J -36132305.78 -36132305.76 -36132305.73 0.1870 0.1822

Saturn -103638-03-26 02:23 J -36132272.56 -36132272.40 -36132272.24 0.0291 0.0009

Saturn -103638-06-22 21:06 J -36132183.78 -36132183.62 -36132183.47 0.0290 0.0091

Saturn -103638-09-19 16:04 J -36132094.95 -36132094.83 -36132094.71 0.0290 0.0188

Saturn -103638-12-17 11:16 J -36132006.04 -36132006.03 -36132006.01 0.0289 0.0287

Mars -103637-03-15 09:35 J -36131917.23 -36131917.10 -36131916.98 0.1668 0.0934

Venus -103636-01-18 17:16 J -36131607.91 -36131607.78 -36131607.65 0.3608 0.0142

Mars -103636-01-26 19:40 J -36131599.80 -36131599.68 -36131599.56 0.1854 0.0589

Jupiter -103633-01-15 23:02 J -36130515.62 -36130515.54 -36130515.46 0.0502 0.0418

Jupiter -103633-04-14 14:38 J -36130426.04 -36130425.89 -36130425.73 0.0499 0.0060

Venus -103631-08-04 15:06 J -36129583.99 -36129583.87 -36129583.76 0.3612 0.1546

Mars -103630-08-30 12:14 J -36129193.06 -36129192.99 -36129192.92 0.1651 0.1416

Mars -103628-08-05 14:23 J -36128487.05 -36128486.90 -36128486.76 0.1664 0.0443

Jupiter -103627-06-15 21:50 J -36128172.74 -36128172.59 -36128172.45 0.0527 0.0117

Mars -103627-06-19 01:40 J -36128169.55 -36128169.43 -36128169.30 0.1858 0.0064

Earth -103627-06-21 13:40 J -36128167.05 -36128166.93 -36128166.82 0.2686 0.0120

Moon -103627-06-21 14:23 J -36128167.01 -36128166.90 -36128166.78 0.2688 0.0260 *

Jupiter -103627-09-13 14:09 J -36128083.00 -36128082.91 -36128082.83 0.0530 0.0422

Venus -103625-02-18 12:28 J -36127560.06 -36127559.98 -36127559.91 0.3615 0.2886

Saturn -103624-10-29 01:54 J -36126941.51 -36126941.42 -36126941.31 0.0269 0.0206

Earth -103624-12-08 05:45 J -36126901.38 -36126901.26 -36126901.15 0.2660 0.1602

Moon -103624-12-08 06:42 J -36126901.34 -36126901.22 -36126901.10 0.2655 0.1423 *

Saturn -103623-01-25 15:50 J -36126852.96 -36126852.84 -36126852.70 0.0269 0.0134

Saturn -103623-04-24 05:45 J -36126764.41 -36126764.26 -36126764.12 0.0269 0.0063

Saturn -103623-07-21 19:11 J -36126675.85 -36126675.70 -36126675.55 0.0270 0.0011

Saturn -103623-10-18 08:23 J -36126587.29 -36126587.15 -36126587.01 0.0270 0.0078

Saturn -103622-01-14 21:21 J -36126498.73 -36126498.61 -36126498.49 0.0271 0.0146

Saturn -103622-04-13 10:04 J -36126410.16 -36126410.08 -36126409.99 0.0271 0.0214

Jupiter -103621-02-01 16:04 J -36126115.99 -36126115.83 -36126115.68 0.0500 0.0066

Jupiter -103621-05-01 08:52 J -36126026.21 -36126026.13 -36126026.05 0.0497 0.0424

Mars -103619-12-26 19:26 J -36125056.83 -36125056.69 -36125056.54 0.1660 0.0048

Mars -103618-11-09 07:40 J -36124739.31 -36124739.18 -36124739.06 0.1862 0.0552

Mars -103616-10-15 06:57 J -36124033.26 -36124033.21 -36124033.17 0.1844 0.1694

Jupiter -103615-04-03 23:02 J -36123862.67 -36123862.54 -36123862.41 0.0526 0.0255

Jupiter -103615-07-02 15:35 J -36123772.97 -36123772.85 -36123772.72 0.0529 0.0289

Earth -103614-06-24 08:52 J -36123416.23 -36123416.13 -36123416.03 0.2691 0.1202

Moon -103614-06-24 09:35 J -36123416.21 -36123416.10 -36123416.00 0.2687 0.1196 *

Venus -103612-12-11 14:52 J -36122514.93 -36122514.88 -36122514.84 0.3780 0.3400

Moon -103611-12-11 08:09 J -36122150.30 -36122150.16 -36122150.01 0.2648 0.0093

Earth -103611-12-11 08:23 J -36122150.30 -36122150.15 -36122150.01 0.2655 0.0051 *

Jupiter -103610-11-20 17:59 J -36121805.90 -36121805.75 -36121805.61 0.0501 0.0180

Saturn -103609-02-16 15:06 J -36121717.97 -36121717.87 -36121717.77 0.0291 0.0218

Jupiter -103609-02-18 10:18 J -36121716.19 -36121716.07 -36121715.94 0.0498 0.0306

Saturn -103609-05-15 08:52 J -36121629.27 -36121629.13 -36121628.98 0.0291 0.0126

Mars -103609-05-18 00:57 J -36121626.60 -36121626.46 -36121626.32 0.1657 0.0496

Saturn -103609-08-12 03:06 J -36121540.53 -36121540.37 -36121540.21 0.0290 0.0032

Saturn -103609-11-08 21:35 J -36121451.76 -36121451.60 -36121451.44 0.0290 0.0064

Saturn -103608-02-05 16:18 J -36121362.95 -36121362.82 -36121362.68 0.0289 0.0162

Mars -103608-03-31 12:57 J -36121309.06 -36121308.96 -36121308.86 0.1867 0.1155

Saturn -103608-05-05 11:30 J -36121274.08 -36121274.02 -36121273.94 0.0289 0.0260

Mars -103607-04-24 05:30 J -36120920.34 -36120920.27 -36120920.21 0.1671 0.1493

Moon -103607-06-17 03:50 J -36120866.43 -36120866.34 -36120866.26 0.2685 0.1878

Earth -103607-06-17 03:50 J -36120866.42 -36120866.34 -36120866.26 0.2677 0.1882 *

Mars -103606-03-07 13:26 J -36120603.04 -36120602.94 -36120602.84 0.1849 0.1171

Venus -103606-06-27 10:18 J -36120491.17 -36120491.07 -36120490.98 0.3777 0.2141

Pluto -103604-01-07 21:50 J -36119930.61 -36119930.59 -36119930.51 0.0060 0.0059

Pluto -103604-04-05 23:59 J -36119842.60 -36119842.50 -36119842.39 0.0060 0.0051

Pluto -103604-07-03 01:11 J -36119754.57 -36119754.45 -36119754.30 0.0060 0.0044

Pluto -103604-09-29 02:38 J -36119666.53 -36119666.39 -36119666.21 0.0060 0.0037

Pluto -103604-12-26 04:33 J -36119578.48 -36119578.31 -36119578.14 0.0061 0.0029

Jupiter -103603-01-20 23:02 J -36119552.63 -36119552.54 -36119552.44 0.0526 0.0405

Pluto -103603-03-24 05:45 J -36119490.43 -36119490.26 -36119490.06 0.0061 0.0022

Jupiter -103603-04-20 16:18 J -36119462.96 -36119462.82 -36119462.68 0.0529 0.0144

Pluto -103603-06-20 07:11 J -36119402.38 -36119402.20 -36119401.99 0.0061 0.0015

Pluto -103603-09-16 09:06 J -36119314.32 -36119314.12 -36119313.93 0.0061 0.0007

Pluto -103603-12-13 10:33 J -36119226.26 -36119226.06 -36119225.86 0.0061 0.0001

Pluto -103602-03-11 11:59 J -36119138.19 -36119138.00 -36119137.80 0.0061 0.0008

Pluto -103602-06-07 13:11 J -36119050.12 -36119049.95 -36119049.74 0.0061 0.0016

Pluto -103602-09-03 14:52 J -36118962.05 -36118961.88 -36118961.69 0.0061 0.0023

Pluto -103602-11-30 16:04 J -36118873.98 -36118873.83 -36118873.64 0.0061 0.0031

Pluto -103601-02-26 17:45 J -36118785.90 -36118785.76 -36118785.59 0.0061 0.0038

Pluto -103601-05-24 18:57 J -36118697.81 -36118697.71 -36118697.55 0.0061 0.0047

Earth -103601-06-26 04:04 J -36118665.39 -36118665.33 -36118665.27 0.2696 0.2278

Moon -103601-06-26 04:18 J -36118665.38 -36118665.32 -36118665.27 0.2689 0.2346 *

Pluto -103601-08-20 20:52 J -36118609.71 -36118609.63 -36118609.52 0.0061 0.0053

Pluto -103601-11-16 22:18 J -36118521.57 -36118521.57 -36118521.54 0.0061 0.0061

Venus -103600-01-10 05:59 J -36118467.37 -36118467.25 -36118467.14 0.3773 0.0843

Uranus -103600-04-12 20:23 J -36118374.67 -36118374.65 -36118374.61 0.0144 0.0141

Uranus -103600-07-10 02:09 J -36118286.49 -36118286.41 -36118286.31 0.0145 0.0119

Uranus -103600-10-06 07:54 J -36118198.28 -36118198.17 -36118198.04 0.0145 0.0096

Mars -103600-10-08 06:28 J -36118196.35 -36118196.23 -36118196.11 0.1654 0.0942

Uranus -103599-01-02 13:54 J -36118110.06 -36118109.92 -36118109.78 0.0145 0.0073

Uranus -103599-03-31 19:40 J -36118021.83 -36118021.68 -36118021.52 0.0145 0.0050

Uranus -103599-06-28 01:40 J -36117933.59 -36117933.43 -36117933.27 0.0145 0.0027

Mars -103599-08-21 18:14 J -36117878.78 -36117878.74 -36117878.70 0.1870 0.1764

Uranus -103599-09-24 07:40 J -36117845.34 -36117845.18 -36117845.01 0.0145 0.0004

Uranus -103599-12-21 13:54 J -36117757.09 -36117756.92 -36117756.76 0.0145 0.0021

Uranus -103598-03-19 19:54 J -36117668.82 -36117668.67 -36117668.51 0.0145 0.0046

Uranus -103598-06-16 01:54 J -36117580.55 -36117580.42 -36117580.26 0.0146 0.0071

Jupiter -103598-09-08 20:09 J -36117495.78 -36117495.66 -36117495.53 0.0501 0.0291

Uranus -103598-09-12 08:23 J -36117492.27 -36117492.15 -36117492.02 0.0146 0.0095

Mars -103598-09-14 09:50 J -36117490.21 -36117490.09 -36117489.97 0.1667 0.0985

Jupiter -103598-12-07 12:14 J -36117406.13 -36117405.99 -36117405.84 0.0498 0.0191

Uranus -103598-12-09 14:38 J -36117403.97 -36117403.89 -36117403.79 0.0146 0.0120

Moon -103598-12-14 10:33 J -36117399.17 -36117399.06 -36117398.95 0.2644 0.1716

Earth -103598-12-14 11:16 J -36117399.14 -36117399.03 -36117398.92 0.2650 0.1731 *

Uranus -103597-03-06 21:06 J -36117315.63 -36117315.62 -36117315.60 0.0146 0.0145

Mars -103597-07-27 19:54 J -36117172.79 -36117172.67 -36117172.55 0.1854 0.0636

Venus -103595-07-27 01:54 J -36116443.54 -36116443.42 -36116443.31 0.3769 0.0533

Saturn -103594-03-18 03:50 J -36116209.41 -36116209.34 -36116209.25 0.0268 0.0225

Saturn -103594-06-14 17:59 J -36116120.88 -36116120.75 -36116120.63 0.0268 0.0153

Earth -103594-06-19 23:16 J -36116115.64 -36116115.53 -36116115.42 0.2682 0.0769

Moon -103594-06-19 23:59 J -36116115.62 -36116115.50 -36116115.39 0.2687 0.0711 *

Saturn -103594-09-11 07:40 J -36116032.32 -36116032.18 -36116032.04 0.0269 0.0082

Neptune -103594-10-10 23:59 J -36116002.52 -36116002.50 -36116002.48 0.0089 0.0087

Saturn -103594-12-08 21:06 J -36115943.77 -36115943.62 -36115943.47 0.0269 0.0011

Neptune -103593-01-07 01:54 J -36115914.47 -36115914.42 -36115914.36 0.0089 0.0083

Saturn -103593-03-06 10:18 J -36115855.21 -36115855.07 -36115854.92 0.0269 0.0059

Neptune -103593-04-04 03:50 J -36115826.40 -36115826.34 -36115826.26 0.0089 0.0079

Saturn -103593-06-02 23:30 J -36115766.65 -36115766.52 -36115766.39 0.0270 0.0127

Neptune -103593-07-01 05:59 J -36115738.33 -36115738.25 -36115738.16 0.0089 0.0074

Saturn -103593-08-30 12:14 J -36115678.08 -36115677.99 -36115677.88 0.0270 0.0195

Neptune -103593-09-27 07:54 J -36115650.25 -36115650.17 -36115650.06 0.0089 0.0070

Saturn -103593-11-27 00:57 J -36115589.49 -36115589.46 -36115589.42 0.0271 0.0262

Neptune -103593-12-24 10:18 J -36115562.17 -36115562.07 -36115561.96 0.0089 0.0065

Neptune -103592-03-22 12:14 J -36115474.09 -36115473.99 -36115473.87 0.0089 0.0061

Neptune -103592-06-18 14:38 J -36115386.01 -36115385.89 -36115385.77 0.0089 0.0056

Neptune -103592-09-14 16:33 J -36115297.93 -36115297.81 -36115297.68 0.0089 0.0052

Neptune -103592-12-11 18:42 J -36115209.85 -36115209.72 -36115209.58 0.0089 0.0047

Jupiter -103591-02-06 18:14 J -36115152.89 -36115152.74 -36115152.59 0.0528 0.0013

Neptune -103591-03-09 20:38 J -36115121.76 -36115121.64 -36115121.49 0.0089 0.0043

Neptune -103591-06-05 23:02 J -36115033.68 -36115033.54 -36115033.40 0.0089 0.0038

Venus   -103591-07-26 20:09 J -36114982.76 -36114982.66 -36114982.56 0.3602 0.2305

Neptune -103591-09-02 00:57 J -36114945.59 -36114945.46 -36114945.30 0.0089 0.0034

Neptune -103591-11-29 03:21 J -36114857.51 -36114857.36 -36114857.21 0.0089 0.0029

Neptune -103590-02-25 05:30 J -36114769.42 -36114769.27 -36114769.11 0.0089 0.0024

Mars   -103590-02-28 12:42 J -36114766.05 -36114765.97 -36114765.90 0.1651 0.1370

Neptune -103590-05-24 07:40 J -36114681.33 -36114681.18 -36114681.02 0.0089 0.0020

Neptune -103590-08-20 09:50 J -36114593.24 -36114593.09 -36114592.93 0.0089 0.0015

Neptune -103590-11-16 12:14 J -36114505.15 -36114504.99 -36114504.83 0.0089 0.0010

Venus   -103589-02-09 22:04 J -36114419.68 -36114419.58 -36114419.48 0.3765 0.1909

Neptune -103589-02-12 14:23 J -36114417.06 -36114416.90 -36114416.74 0.0089 0.0005

Neptune -103589-05-10 16:33 J -36114328.97 -36114328.81 -36114328.65 0.0089 0.0003

Neptune -103589-08-06 18:57 J -36114240.87 -36114240.71 -36114240.55 0.0089 0.0004

Neptune -103589-11-02 21:06 J -36114152.78 -36114152.62 -36114152.46 0.0089 0.0009

Neptune -103588-01-29 23:16 J -36114064.68 -36114064.53 -36114064.36 0.0089 0.0014

Mars -103588-02-03 14:38 J -36114060.03 -36114059.89 -36114059.75 0.1664 0.0491

Neptune -103588-04-28 01:40 J -36113976.58 -36113976.43 -36113976.27 0.0089 0.0019

Neptune -103588-07-25 04:04 J -36113888.49 -36113888.33 -36113888.18 0.0089 0.0023

Neptune -103588-10-21 06:14 J -36113800.39 -36113800.24 -36113800.08 0.0089 0.0028

Mars -103588-12-18 02:09 J -36113742.54 -36113742.41 -36113742.28 0.1858 0.0090

Neptune -103587-01-17 08:38 J -36113712.29 -36113712.14 -36113711.99 0.0089 0.0033

Neptune -103587-04-15 10:47 J -36113624.19 -36113624.05 -36113623.89 0.0089 0.0038

Neptune -103587-07-12 13:11 J -36113536.09 -36113535.95 -36113535.80 0.0089 0.0043

Neptune -103587-10-08 15:35 J -36113447.98 -36113447.85 -36113447.71 0.0089 0.0048

Neptune -103586-01-04 17:45 J -36113359.88 -36113359.76 -36113359.62 0.0089 0.0053

Neptune -103586-04-02 20:09 J -36113271.77 -36113271.66 -36113271.52 0.0089 0.0058

Jupiter -103586-06-27 22:04 J -36113185.66 -36113185.58 -36113185.49 0.0502 0.0407

Neptune -103586-06-29 22:33 J -36113183.66 -36113183.56 -36113183.43 0.0089 0.0063

Jupiter -103586-09-25 13:54 J -36113096.08 -36113095.92 -36113095.77 0.0499 0.0072

Neptune -103586-09-26 00:57 J -36113095.55 -36113095.46 -36113095.34 0.0089 0.0068

Neptune -103586-12-23 03:21 J -36113007.44 -36113007.36 -36113007.25 0.0089 0.0073

Venus -103585-02-09 18:28 J -36112958.86 -36112958.73 -36112958.61 0.3605 0.0825

Neptune -103585-03-20 05:45 J -36112919.32 -36112919.26 -36112919.17 0.0089 0.0078

Neptune -103585-06-16 08:09 J -36112831.20 -36112831.16 -36112831.09 0.0089 0.0083

Neptune -103585-09-12 10:33 J -36112743.07 -36112743.06 -36112743.02 0.0089 0.0088

Venus -103584-08-25 18:28 J -36112395.78 -36112395.73 -36112395.68 0.3761 0.3343

Earth -103581-06-21 18:42 J -36111364.84 -36111364.72 -36111364.61 0.2687 0.0343

Moon -103581-06-21 19:26 J -36111364.80 -36111364.69 -36111364.57 0.2688 0.0362 *

Saturn -103580-07-05 13:11 J -36110986.02 -36110985.95 -36110985.88 0.0292 0.0257

Venus -103580-08-25 16:18 J -36110934.94 -36110934.82 -36110934.69 0.3609 0.0633

Saturn -103580-10-02 06:42 J -36110897.34 -36110897.22 -36110897.09 0.0291 0.0166

Jupiter -103580-11-25 20:09 J -36110842.80 -36110842.66 -36110842.51 0.0528 0.0115

Saturn -103580-12-30 00:42 J -36110808.62 -36110808.47 -36110808.31 0.0291 0.0073

Jupiter -103579-02-23 12:42 J -36110753.06 -36110752.97 -36110752.89 0.0531 0.0426

Saturn -103579-03-28 19:11 J -36110719.86 -36110719.70 -36110719.54 0.0290 0.0023

Saturn -103579-06-25 13:54 J -36110631.07 -36110630.92 -36110630.77 0.0290 0.0119

Mars -103579-06-26 19:54 J -36110629.82 -36110629.67 -36110629.53 0.1660 0.0045

Saturn -103579-09-22 08:52 J -36110542.24 -36110542.13 -36110542.02 0.0289 0.0217

Mars -103578-05-10 07:40 J -36110312.30 -36110312.18 -36110312.06 0.1862 0.0502

Earth -103578-12-09 11:45 J -36110099.14 -36110099.01 -36110098.89 0.2660 0.1277

Moon -103578-12-09 12:28 J -36110099.11 -36110098.98 -36110098.85 0.2655 0.1273 *

Mars -103576-04-15 06:57 J -36109606.25 -36109606.21 -36109606.17 0.1844 0.1740

Venus -103574-03-11 13:54 J -36108911.02 -36108910.92 -36108910.81 0.3613 0.2001

Jupiter -103574-07-14 15:21 J -36108786.01 -36108785.86 -36108785.70 0.0500 0.0050

Jupiter -103574-10-12 08:09 J -36108696.23 -36108696.16 -36108696.08 0.0497 0.0439

Mars -103570-11-17 01:11 J -36107199.59 -36107199.45 -36107199.31 0.1657 0.0445

Venus -103569-09-24 11:16 J -36106887.07 -36106887.03 -36106886.98 0.3617 0.3323

Mars -103569-09-29 13:11 J -36106882.05 -36106881.95 -36106881.84 0.1866 0.1095

Earth -103568-06-24 13:54 J -36106614.02 -36106613.92 -36106613.82 0.2692 0.1426

Moon -103568-06-24 14:23 J -36106613.99 -36106613.90 -36106613.80 0.2687 0.1547 *

Jupiter -103568-09-13 21:50 J -36106532.72 -36106532.59 -36106532.45 0.0527 0.0245

Mars -103568-10-23 05:59 J -36106493.31 -36106493.25 -36106493.20 0.1671 0.1549

Jupiter -103568-12-12 14:38 J -36106443.01 -36106442.89 -36106442.77 0.0530 0.0299

Mars -103567-09-05 13:40 J -36106176.02 -36106175.93 -36106175.84 0.1849 0.1223

Saturn -103565-08-04 04:18 J -36105477.37 -36105477.32 -36105477.27 0.0268 0.0253

Saturn -103565-10-31 18:14 J -36105388.85 -36105388.74 -36105388.62 0.0269 0.0181

Moon -103565-12-11 14:09 J -36105348.05 -36105347.91 -36105347.76 0.2647 0.0450

Earth -103565-12-11 14:23 J -36105348.04 -36105347.90 -36105347.75 0.2654 0.0384 *

Saturn -103564-01-28 08:09 J -36105300.30 -36105300.16 -36105300.02 0.0269 0.0109

Saturn -103564-04-26 21:50 J -36105211.74 -36105211.59 -36105211.45 0.0269 0.0038

Saturn -103564-07-24 11:02 J -36105123.18 -36105123.04 -36105122.89 0.0270 0.0033

Saturn -103564-10-21 00:14 J -36105034.62 -36105034.49 -36105034.35 0.0270 0.0102

Saturn -103563-01-17 13:11 J -36104946.06 -36104945.95 -36104945.83 0.0271 0.0170

Saturn -103563-04-16 01:54 J -36104857.48 -36104857.42 -36104857.35 0.0271 0.0237

Jupiter -103562-05-02 16:47 J -36104475.94 -36104475.80 -36104475.66 0.0501 0.0171

Jupiter -103562-07-31 09:06 J -36104386.24 -36104386.12 -36104385.99 0.0498 0.0314

Moon -103561-06-17 08:52 J -36104064.22 -36104064.13 -36104064.04 0.2685 0.1682

Earth -103561-06-17 08:52 J -36104064.22 -36104064.13 -36104064.04 0.2678 0.1647 *

Uranus -103561-09-08 11:30 J -36103981.05 -36103981.02 -36103980.96 0.0134 0.0128

Uranus -103561-12-05 16:04 J -36103892.91 -36103892.83 -36103892.73 0.0134 0.0109

Uranus -103560-03-03 20:23 J -36103804.75 -36103804.65 -36103804.53 0.0134 0.0091

Mars -103560-04-08 06:57 J -36103769.33 -36103769.21 -36103769.09 0.1654 0.0892

Uranus -103560-05-31 00:57 J -36103716.59 -36103716.46 -36103716.34 0.0134 0.0073

Uranus -103560-08-27 05:02 J -36103628.42 -36103628.29 -36103628.15 0.0134 0.0056

Uranus -103560-11-23 09:06 J -36103540.26 -36103540.12 -36103539.96 0.0134 0.0039

Uranus -103559-02-19 13:26 J -36103452.09 -36103451.94 -36103451.79 0.0134 0.0021

Mars -103559-02-19 18:14 J -36103451.79 -36103451.74 -36103451.69 0.1870 0.1717 *

Uranus -103559-05-18 17:45 J -36103363.91 -36103363.76 -36103363.61 0.0134 0.0005

Uranus -103559-08-14 21:50 J -36103275.74 -36103275.59 -36103275.44 0.0134 0.0013

Uranus -103559-11-11 01:40 J -36103187.57 -36103187.43 -36103187.28 0.0133 0.0030

Uranus -103558-02-07 05:45 J -36103099.39 -36103099.26 -36103099.11 0.0133 0.0047

Mars -103558-03-15 10:18 J -36103063.18 -36103063.07 -36103062.95 0.1667 0.1039

Uranus -103558-05-06 09:50 J -36103011.22 -36103011.09 -36103010.96 0.0133 0.0063

Uranus -103558-08-02 13:40 J -36102923.04 -36102922.93 -36102922.80 0.0133 0.0080

Uranus -103558-10-29 17:45 J -36102834.86 -36102834.76 -36102834.66 0.0133 0.0096

Uranus -103557-01-25 21:21 J -36102746.67 -36102746.61 -36102746.52 0.0133 0.0112

Mars -103557-01-26 20:09 J -36102745.78 -36102745.66 -36102745.55 0.1854 0.0688

Uranus -103557-04-23 01:11 J -36102658.47 -36102658.45 -36102658.40 0.0133 0.0128

Jupiter -103556-07-02 23:02 J -36102222.64 -36102222.54 -36102222.44 0.0526 0.0383

Jupiter -103556-09-30 16:18 J -36102132.96 -36102132.82 -36102132.68 0.0529 0.0165

Moon -103555-06-27 09:06 J -36101863.17 -36101863.12 -36101863.07 0.2690 0.2444

Earth -103555-06-27 09:06 J -36101863.16 -36101863.12 -36101863.08 0.2697 0.2505 *

Venus -103555-07-18 13:11 J -36101842.02 -36101841.95 -36101841.88 0.3779 0.2972

Moon -103552-12-14 16:18 J -36100596.92 -36100596.82 -36100596.71 0.2645 0.1898

Earth -103552-12-14 17:30 J -36100596.86 -36100596.77 -36100596.68 0.2649 0.2078 *

Mars -103551-08-29 12:57 J -36100339.05 -36100338.96 -36100338.88 0.1650 0.1324

Saturn -103551-11-22 13:26 J -36100253.96 -36100253.94 -36100253.90 0.0291 0.0284

Jupiter -103550-02-18 18:42 J -36100165.84 -36100165.72 -36100165.59 0.0501 0.0286

Saturn -103550-02-19 06:57 J -36100165.32 -36100165.21 -36100165.09 0.0291 0.0194

Saturn -103550-05-19 00:57 J -36100076.61 -36100076.46 -36100076.31 0.0291 0.0101

Jupiter -103550-05-19 10:47 J -36100076.19 -36100076.05 -36100075.90 0.0499 0.0197

Saturn -103550-08-15 19:11 J -36099987.86 -36099987.70 -36099987.54 0.0290 0.0007

Saturn -103550-11-12 13:54 J -36099899.08 -36099898.92 -36099898.77 0.0290 0.0090

Venus -103549-02-01 08:38 J -36099818.24 -36099818.14 -36099818.03 0.3776 0.1702

Saturn -103549-02-09 08:52 J -36099810.26 -36099810.13 -36099810.01 0.0289 0.0188

Saturn -103549-05-08 03:50 J -36099721.34 -36099721.34 -36099721.31 0.0289 0.0287

Mars -103549-08-04 15:06 J -36099633.01 -36099632.87 -36099632.73 0.1664 0.0545

Mars -103548-06-18 02:09 J -36099315.54 -36099315.41 -36099315.29 0.1858 0.0135

Earth -103548-06-20 04:18 J -36099313.43 -36099313.32 -36099313.21 0.2683 0.0538

Moon -103548-06-20 05:02 J -36099313.41 -36099313.29 -36099313.18 0.2687 0.0463 *

Earth -103545-12-06 15:21 J -36098047.90 -36098047.86 -36098047.83 0.2664 0.2565

Moon -103545-12-06 16:33 J -36098047.86 -36098047.81 -36098047.76 0.2661 0.2448 *

Jupiter -103544-07-19 16:47 J -36097822.95 -36097822.80 -36097822.65 0.0528 0.0018

Venus -103544-08-17 04:18 J -36097794.43 -36097794.32 -36097794.20 0.3772 0.0419

Venus -103540-08-16 20:52 J -36096333.68 -36096333.63 -36096333.58 0.3599 0.3323

Mars -103540-12-25 20:09 J -36096202.81 -36096202.66 -36096202.51 0.1660 0.0065

Mars -103539-11-08 07:54 J -36095885.29 -36095885.17 -36095885.04 0.1863 0.0447

Jupiter -103539-12-07 21:06 J -36095855.71 -36095855.62 -36095855.52 0.0502 0.0396

Venus -103538-03-03 00:28 J -36095770.59 -36095770.48 -36095770.37 0.3768 0.0974

Jupiter -103538-03-07 12:57 J -36095766.11 -36095765.96 -36095765.81 0.0499 0.0083

Mars -103537-10-14 06:57 J -36095179.23 -36095179.21 -36095179.18 0.1845 0.1785

Saturn -103535-03-20 20:23 J -36094656.75 -36094656.65 -36094656.55 0.0268 0.0199

Saturn -103535-06-17 10:18 J -36094568.21 -36094568.07 -36094567.94 0.0269 0.0128

Earth -103535-06-22 23:45 J -36094562.63 -36094562.51 -36094562.40 0.2688 0.0567

Moon -103535-06-23 00:28 J -36094562.59 -36094562.48 -36094562.37 0.2687 0.0669 *

Saturn -103535-09-13 23:45 J -36094479.65 -36094479.51 -36094479.36 0.0269 0.0057

Saturn -103535-12-11 13:11 J -36094391.10 -36094390.95 -36094390.80 0.0269 0.0015

Venus -103534-03-02 19:26 J -36094309.80 -36094309.69 -36094309.58 0.3603 0.1798

Saturn -103534-03-10 02:23 J -36094302.54 -36094302.40 -36094302.26 0.0270 0.0083

Saturn -103534-06-06 15:21 J -36094213.97 -36094213.86 -36094213.73 0.0270 0.0152

Saturn -103534-09-03 04:18 J -36094125.40 -36094125.32 -36094125.24 0.0270 0.0219

Venus -103533-09-15 20:52 J -36093746.72 -36093746.63 -36093746.54 0.3764 0.2378

Jupiter -103532-05-07 18:28 J -36093512.88 -36093512.73 -36093512.59 0.0527 0.0114

Jupiter -103532-08-05 10:47 J -36093423.13 -36093423.05 -36093422.96 0.0530 0.0426

Earth -103532-12-09 17:45 J -36093296.89 -36093296.76 -36093296.63 0.2659 0.0944

Moon -103532-12-09 18:14 J -36093296.88 -36093296.74 -36093296.60 0.2653 0.0852 *

Mars -103530-05-18 01:26 J -36092772.58 -36092772.44 -36092772.30 0.1657 0.0400

Mars -103529-03-30 13:26 J -36092455.05 -36092454.94 -36092454.83 0.1866 0.1043

Venus -103529-09-15 17:45 J -36092285.89 -36092285.76 -36092285.64 0.3606 0.0339

Mars -103528-04-23 06:14 J -36092066.28 -36092066.24 -36092066.20 0.1671 0.1596

Earth -103528-06-15 18:28 J -36092012.77 -36092012.73 -36092012.70 0.2674 0.2541

Moon -103528-06-15 17:59 J -36092012.76 -36092012.75 -36092012.74 0.2680 0.2660 *

Mars -103527-03-06 13:54 J -36091749.01 -36091748.92 -36091748.83 0.1849 0.1274

Jupiter -103527-12-24 14:38 J -36091456.05 -36091455.89 -36091455.74 0.0500 0.0037

Jupiter -103526-03-24 07:26 J -36091366.25 -36091366.19 -36091366.13 0.0497 0.0452

Venus -103523-04-01 15:35 J -36090261.97 -36090261.85 -36090261.73 0.3610 0.1093

Earth -103522-06-25 18:57 J -36089811.80 -36089811.71 -36089811.62 0.2692 0.1652

Moon -103522-06-25 19:26 J -36089811.78 -36089811.69 -36089811.60 0.2687 0.1639 *

Saturn -103521-07-08 05:16 J -36089433.37 -36089433.28 -36089433.19 0.0292 0.0232

Saturn -103521-10-04 23:02 J -36089344.68 -36089344.54 -36089344.40 0.0291 0.0140

Mars -103521-10-07 07:26 J -36089342.32 -36089342.19 -36089342.07 0.1654 0.0842

Saturn -103520-01-01 17:02 J -36089255.95 -36089255.79 -36089255.63 0.0291 0.0047

Jupiter -103520-02-23 20:23 J -36089202.78 -36089202.65 -36089202.52 0.0527 0.0242

Saturn -103520-03-31 11:30 J -36089167.18 -36089167.02 -36089166.86 0.0290 0.0049

Jupiter -103520-05-24 13:11 J -36089113.07 -36089112.95 -36089112.83 0.0530 0.0302

Saturn -103520-06-28 06:14 J -36089078.38 -36089078.24 -36089078.10 0.0290 0.0146

Mars -103520-08-20 18:28 J -36089024.78 -36089024.73 -36089024.67 0.1870 0.1659

Saturn -103520-09-25 01:26 J -36088989.53 -36088989.44 -36088989.35 0.0289 0.0244

Mars -103519-09-13 10:47 J -36088636.16 -36088636.05 -36088635.94 0.1667 0.1092

Moon -103519-12-12 20:09 J -36088545.80 -36088545.66 -36088545.52 0.2647 0.0600

Earth -103519-12-12 20:23 J -36088545.79 -36088545.65 -36088545.51 0.2654 0.0719 *

Mars -103518-07-27 20:09 J -36088318.77 -36088318.66 -36088318.54 0.1854 0.0742

Venus -103518-10-16 13:11 J -36088238.05 -36088237.95 -36088237.86 0.3614 0.2453

Uranus -103516-05-03 04:18 J -36087673.37 -36087673.32 -36087673.26 0.0144 0.0134

Uranus -103516-07-30 09:50 J -36087585.18 -36087585.09 -36087584.98 0.0145 0.0112

Uranus -103516-10-26 15:50 J -36087496.96 -36087496.84 -36087496.71 0.0145 0.0089

Uranus -103515-01-22 21:35 J -36087408.74 -36087408.60 -36087408.45 0.0145 0.0066

Uranus -103515-04-21 03:35 J -36087320.50 -36087320.35 -36087320.19 0.0145 0.0042

Earth -103515-06-18 13:54 J -36087262.02 -36087261.92 -36087261.82 0.2679 0.1418

Moon -103515-06-18 14:09 J -36087262.01 -36087261.91 -36087261.81 0.2685 0.1345 *

Uranus -103515-07-18 09:35 J -36087232.26 -36087232.10 -36087231.94 0.0145 0.0019

Jupiter -103515-10-12 16:18 J -36087145.97 -36087145.82 -36087145.67 0.0500 0.0155

Uranus -103515-10-14 15:35 J -36087144.01 -36087143.85 -36087143.68 0.0145 0.0005

Jupiter -103514-01-10 08:38 J -36087056.25 -36087056.14 -36087056.02 0.0498 0.0330

Uranus -103514-01-10 21:35 J -36087055.76 -36087055.60 -36087055.43 0.0145 0.0029

Uranus -103514-04-09 03:50 J -36086967.49 -36086967.34 -36086967.18 0.0145 0.0053

Uranus -103514-07-06 10:04 J -36086879.22 -36086879.08 -36086878.94 0.0145 0.0078

Uranus -103514-10-02 16:04 J -36086790.93 -36086790.83 -36086790.70 0.0146 0.0103

Uranus -103514-12-29 22:33 J -36086702.63 -36086702.56 -36086702.47 0.0146 0.0128

Neptune -103511-01-20 06:42 J -36085950.24 -36085950.22 -36085950.16 0.0088 0.0086

Mars -103511-02-27 13:11 J -36085912.04 -36085911.95 -36085911.86 0.1650 0.1277

Neptune -103511-04-18 09:06 J -36085862.17 -36085862.12 -36085862.04 0.0088 0.0080

Pluto -103511-05-07 00:42 J -36085843.49 -36085843.47 -36085843.43 0.0085 0.0082

Neptune -103511-07-15 11:16 J -36085774.10 -36085774.03 -36085773.93 0.0088 0.0076

Pluto -103511-08-03 02:09 J -36085755.48 -36085755.41 -36085755.33 0.0085 0.0068

Neptune -103511-10-11 13:40 J -36085686.01 -36085685.93 -36085685.82 0.0088 0.0071

Pluto -103511-10-30 03:06 J -36085667.45 -36085667.37 -36085667.25 0.0085 0.0055

Neptune -103510-01-07 16:04 J -36085597.93 -36085597.83 -36085597.72 0.0088 0.0066

Pluto -103510-01-26 04:33 J -36085579.42 -36085579.31 -36085579.19 0.0084 0.0041

Neptune -103510-04-05 17:59 J -36085509.85 -36085509.75 -36085509.62 0.0088 0.0062

Pluto -103510-04-24 05:45 J -36085491.38 -36085491.26 -36085491.12 0.0084 0.0028

Neptune -103510-07-02 20:23 J -36085421.76 -36085421.65 -36085421.51 0.0088 0.0057

Pluto -103510-07-21 07:11 J -36085403.33 -36085403.20 -36085403.07 0.0084 0.0014

Neptune -103510-09-28 22:47 J -36085333.67 -36085333.55 -36085333.41 0.0088 0.0051

Pluto -103510-10-17 08:23 J -36085315.28 -36085315.15 -36085315.01 0.0084 0.0002

Neptune -103510-12-26 00:57 J -36085245.59 -36085245.46 -36085245.32 0.0088 0.0047

Pluto -103509-01-13 09:35 J -36085227.23 -36085227.10 -36085226.96 0.0084 0.0014

Mars -103509-02-03 15:35 J -36085205.99 -36085205.85 -36085205.72 0.1664 0.0599

Neptune -103509-03-23 03:06 J -36085157.50 -36085157.37 -36085157.22 0.0088 0.0042

Pluto -103509-04-10 10:47 J -36085139.17 -36085139.05 -36085138.92 0.0084 0.0027

Neptune -103509-06-19 05:16 J -36085069.41 -36085069.28 -36085069.12 0.0088 0.0038

Pluto -103509-07-07 11:59 J -36085051.11 -36085051.00 -36085050.88 0.0084 0.0040

Neptune -103509-09-15 07:40 J -36084981.32 -36084981.18 -36084981.03 0.0088 0.0032

Pluto -103509-10-03 13:11 J -36084963.04 -36084962.95 -36084962.84 0.0084 0.0053

Neptune -103509-12-12 09:50 J -36084893.24 -36084893.09 -36084892.93 0.0088 0.0028

Jupiter -103509-12-12 22:04 J -36084892.69 -36084892.58 -36084892.48 0.0526 0.0373

Mars -103509-12-17 02:23 J -36084888.53 -36084888.40 -36084888.27 0.1858 0.0183

Pluto -103509-12-30 14:23 J -36084874.97 -36084874.90 -36084874.81 0.0083 0.0066

Neptune -103508-03-10 11:59 J -36084805.15 -36084805.00 -36084804.84 0.0088 0.0023

Jupiter -103508-03-12 15:06 J -36084803.00 -36084802.87 -36084802.73 0.0529 0.0176

Pluto -103508-03-28 15:35 J -36084786.88 -36084786.85 -36084786.80 0.0083 0.0079

Neptune -103508-06-06 14:09 J -36084717.06 -36084716.91 -36084716.75 0.0088 0.0019

Neptune -103508-09-02 16:18 J -36084628.97 -36084628.82 -36084628.66 0.0088 0.0014

Neptune -103508-11-29 18:28 J -36084540.88 -36084540.73 -36084540.57 0.0088 0.0009

Neptune -103507-02-25 20:38 J -36084452.79 -36084452.64 -36084452.48 0.0088 0.0005

Neptune -103507-05-24 22:47 J -36084364.71 -36084364.55 -36084364.39 0.0088 0.0001

Neptune -103507-08-21 00:57 J -36084276.62 -36084276.46 -36084276.30 0.0088 0.0005

Neptune -103507-11-17 03:06 J -36084188.53 -36084188.37 -36084188.22 0.0088 0.0010

Neptune -103506-02-13 05:02 J -36084100.44 -36084100.29 -36084100.13 0.0088 0.0014

Neptune -103506-05-12 07:11 J -36084012.35 -36084012.20 -36084012.05 0.0088 0.0018

Saturn -103506-08-07 20:23 J -36083924.72 -36083924.65 -36083924.57 0.0268 0.0228

Neptune -103506-08-08 09:06 J -36083924.26 -36083924.12 -36083923.96 0.0088 0.0023

Saturn -103506-11-04 10:18 J -36083836.19 -36083836.07 -36083835.94 0.0269 0.0156

Neptune -103506-11-04 11:16 J -36083836.18 -36083836.03 -36083835.88 0.0088 0.0027 *

Moon -103506-12-15 22:18 J -36083794.63 -36083794.57 -36083794.51 0.2646 0.2393

Earth -103506-12-15 23:30 J -36083794.58 -36083794.52 -36083794.46 0.2648 0.2416 *

Neptune -103505-01-31 13:11 J -36083748.09 -36083747.95 -36083747.80 0.0088 0.0032

Saturn -103505-02-01 00:14 J -36083747.64 -36083747.49 -36083747.35 0.0269 0.0085

Neptune -103505-04-28 15:21 J -36083660.00 -36083659.86 -36083659.72 0.0088 0.0036

Saturn -103505-04-29 13:40 J -36083659.08 -36083658.93 -36083658.78 0.0269 0.0014

Neptune -103505-07-25 17:02 J -36083571.91 -36083571.79 -36083571.64 0.0088 0.0042

Saturn -103505-07-27 02:52 J -36083570.52 -36083570.38 -36083570.23 0.0270 0.0057

Neptune -103505-10-21 19:11 J -36083483.82 -36083483.70 -36083483.56 0.0088 0.0046

Saturn -103505-10-23 16:04 J -36083481.96 -36083481.83 -36083481.70 0.0270 0.0125

Neptune -103504-01-17 21:21 J -36083395.73 -36083395.61 -36083395.48 0.0088 0.0050

Saturn -103504-01-20 05:02 J -36083393.39 -36083393.29 -36083393.19 0.0271 0.0193

Neptune -103504-04-15 23:02 J -36083307.64 -36083307.54 -36083307.40 0.0088 0.0055

Saturn -103504-04-18 17:45 J -36083304.80 -36083304.76 -36083304.72 0.0271 0.0260

Neptune -103504-07-13 01:11 J -36083219.56 -36083219.45 -36083219.33 0.0088 0.0059

Venus -103504-08-08 16:18 J -36083192.82 -36083192.82 -36083192.82 0.3781 0.3779

Neptune -103504-10-09 03:21 J -36083131.47 -36083131.36 -36083131.25 0.0088 0.0063

Neptune -103503-01-05 05:02 J -36083043.38 -36083043.29 -36083043.18 0.0088 0.0067

Neptune -103503-04-03 06:57 J -36082955.28 -36082955.21 -36082955.11 0.0088 0.0072

Neptune -103503-06-30 09:06 J -36082867.19 -36082867.12 -36082867.04 0.0088 0.0076

Jupiter -103503-07-31 17:45 J -36082835.89 -36082835.76 -36082835.63 0.0501 0.0276

Neptune -103503-09-26 10:47 J -36082779.10 -36082779.05 -36082778.97 0.0088 0.0080

Jupiter -103503-10-29 09:50 J -36082746.23 -36082746.09 -36082745.95 0.0498 0.0206

Neptune -103503-12-23 12:42 J -36082691.00 -36082690.97 -36082690.91 0.0088 0.0085

Neptune -103502-03-21 15:06 J -36082602.87 -36082602.87 -36082602.87 0.0088 0.0088

Earth -103502-06-21 09:21 J -36082511.22 -36082511.11 -36082510.99 0.2683 0.0305

Moon -103502-06-21 10:04 J -36082511.20 -36082511.08 -36082510.96 0.2688 0.0255 *

Mars -103500-06-25 20:23 J -36081775.79 -36081775.65 -36081775.50 0.1660 0.0126

Mars -103499-05-09 08:09 J -36081458.29 -36081458.16 -36081458.04 0.1863 0.0403

Earth -103499-12-07 21:21 J -36081245.69 -36081245.61 -36081245.54 0.2663 0.2244

Moon -103499-12-07 22:33 J -36081245.65 -36081245.56 -36081245.48 0.2660 0.2147 *

Venus -103498-02-22 11:45 J -36081169.10 -36081169.01 -36081168.93 0.3778 0.2539

Mars -103497-04-14 07:11 J -36080752.21 -36080752.20 -36080752.19 0.1845 0.1833

Jupiter -103497-09-30 23:02 J -36080582.57 -36080582.54 -36080582.51 0.0525 0.0511

Jupiter -103497-12-29 16:47 J -36080492.95 -36080492.80 -36080492.66 0.0528 0.0042

Venus -103493-09-07 07:11 J -36079145.31 -36079145.20 -36079145.09 0.3775 0.1262

Saturn -103492-11-25 05:16 J -36078701.34 -36078701.28 -36078701.20 0.0291 0.0261

Saturn -103491-02-21 23:02 J -36078612.66 -36078612.54 -36078612.41 0.0291 0.0169

Jupiter -103491-05-19 19:54 J -36078525.76 -36078525.67 -36078525.58 0.0502 0.0390

Saturn -103491-05-21 17:02 J -36078523.94 -36078523.79 -36078523.63 0.0291 0.0076

Jupiter -103491-08-17 11:30 J -36078436.17 -36078436.02 -36078435.86 0.0499 0.0090

Saturn -103491-08-18 11:30 J -36078435.18 -36078435.02 -36078434.86 0.0290 0.0020

Saturn -103491-11-15 05:59 J -36078346.39 -36078346.25 -36078346.10 0.0290 0.0117

Mars -103491-11-16 01:54 J -36078345.56 -36078345.42 -36078345.27 0.1657 0.0347

Saturn -103490-02-12 00:57 J -36078257.56 -36078257.46 -36078257.34 0.0289 0.0215

Mars -103490-09-29 13:40 J -36078028.04 -36078027.93 -36078027.82 0.1867 0.0994

Earth -103489-06-23 04:47 J -36077760.41 -36077760.30 -36077760.19 0.2688 0.0797

Moon -103489-06-23 05:30 J -36077760.38 -36077760.27 -36077760.16 0.2686 0.0860 *

Mars -103489-10-22 06:42 J -36077639.23 -36077639.22 -36077639.20 0.1671 0.1657

Mars -103488-09-04 13:54 J -36077322.00 -36077321.92 -36077321.83 0.1849 0.1321

Venus -103487-03-24 03:06 J -36077121.49 -36077121.37 -36077121.26 0.3771 0.0090

Earth -103486-12-10 23:45 J -36076494.65 -36076494.51 -36076494.37 0.2658 0.0613

Moon -103486-12-10 23:59 J -36076494.64 -36076494.50 -36076494.36 0.2651 0.0608 *

Jupiter -103485-10-17 17:02 J -36076182.93 -36076182.79 -36076182.64 0.0527 0.0109

Jupiter -103484-01-15 09:21 J -36076093.19 -36076093.11 -36076093.02 0.0530 0.0430

Venus -103483-03-23 20:09 J -36075660.74 -36075660.66 -36075660.57 0.3600 0.2800

Moon -103482-06-16 23:02 J -36075210.60 -36075210.54 -36075210.48 0.2681 0.2285

Earth -103482-06-16 23:30 J -36075210.58 -36075210.52 -36075210.47 0.2674 0.2311 *

Venus -103482-10-07 23:16 J -36075097.64 -36075097.53 -36075097.43 0.3767 0.1439

Mars -103481-04-07 07:26 J -36074915.31 -36074915.19 -36074915.06 0.1653 0.0800

Mars -103480-02-18 18:42 J -36074597.78 -36074597.72 -36074597.65 0.1871 0.1606

Jupiter -103479-03-07 22:18 J -36074215.58 -36074215.57 -36074215.56 0.0503 0.0500

Mars -103479-03-14 11:02 J -36074209.14 -36074209.04 -36074208.93 0.1667 0.1144

Jupiter -103479-06-05 13:40 J -36074126.08 -36074125.93 -36074125.78 0.0500 0.0025

Jupiter -103479-09-03 06:28 J -36074036.28 -36074036.23 -36074036.17 0.0497 0.0464

Mars -103478-01-25 20:23 J -36073891.77 -36073891.65 -36073891.54 0.1854 0.0786

Venus -103478-10-07 18:42 J -36073636.84 -36073636.72 -36073636.60 0.3604 0.1296

Uranus -103477-09-28 18:57 J -36073279.76 -36073279.71 -36073279.64 0.0134 0.0123

Saturn -103477-12-24 22:33 J -36073192.62 -36073192.56 -36073192.50 0.0268 0.0247

Uranus -103477-12-25 23:30 J -36073191.61 -36073191.52 -36073191.42 0.0134 0.0104

Saturn -103476-03-23 12:28 J -36073104.09 -36073103.98 -36073103.86 0.0268 0.0175

Uranus -103476-03-24 03:50 J -36073103.45 -36073103.34 -36073103.22 0.0134 0.0086

Venus -103476-04-22 19:26 J -36073073.76 -36073073.69 -36073073.61 0.3763 0.2851

Saturn -103476-06-20 02:23 J -36073015.54 -36073015.40 -36073015.26 0.0269 0.0103

Uranus -103476-06-20 07:54 J -36073015.29 -36073015.17 -36073015.03 0.0134 0.0069 *

Earth -103476-06-25 23:59 J -36073009.59 -36073009.50 -36073009.42 0.2693 0.1878

Moon -103476-06-26 00:14 J -36073009.56 -36073009.49 -36073009.41 0.2688 0.1967 *

Uranus -103476-09-16 12:28 J -36072927.12 -36072926.98 -36072926.84 0.0134 0.0051

Saturn -103476-09-16 16:04 J -36072926.98 -36072926.83 -36072926.69 0.0269 0.0033 *

Uranus -103476-12-13 16:33 J -36072838.95 -36072838.81 -36072838.66 0.0134 0.0034

Saturn -103476-12-14 05:16 J -36072838.42 -36072838.28 -36072838.13 0.0269 0.0038

Uranus -103475-03-11 20:52 J -36072750.78 -36072750.63 -36072750.48 0.0134 0.0016

Saturn -103475-03-12 18:28 J -36072749.86 -36072749.73 -36072749.59 0.0270 0.0107

Uranus -103475-06-08 00:57 J -36072662.61 -36072662.46 -36072662.31 0.0134 0.0001

Saturn -103475-06-09 07:26 J -36072661.30 -36072661.19 -36072661.08 0.0270 0.0175

Uranus -103475-09-04 05:02 J -36072574.44 -36072574.29 -36072574.14 0.0134 0.0018

Saturn -103475-09-05 20:09 J -36072572.72 -36072572.66 -36072572.60 0.0271 0.0242

Uranus -103475-12-01 09:06 J -36072486.26 -36072486.12 -36072485.97 0.0133 0.0035

Uranus -103474-02-27 13:11 J -36072398.09 -36072397.95 -36072397.81 0.0133 0.0051

Uranus -103474-05-26 17:16 J -36072309.91 -36072309.78 -36072309.65 0.0133 0.0068

Uranus -103474-08-22 21:06 J -36072221.73 -36072221.62 -36072221.50 0.0133 0.0084

Uranus -103474-11-19 00:57 J -36072133.55 -36072133.46 -36072133.36 0.0133 0.0100

Uranus -103473-02-15 04:47 J -36072045.36 -36072045.30 -36072045.22 0.0133 0.0116

Uranus -103473-05-13 08:38 J -36071957.14 -36071957.14 -36071957.12 0.0133 0.0132

Jupiter -103473-08-05 18:28 J -36071872.86 -36071872.73 -36071872.59 0.0526 0.0243

Jupiter -103473-11-03 11:30 J -36071783.14 -36071783.02 -36071782.90 0.0530 0.0302

Moon -103473-12-13 02:09 J -36071743.55 -36071743.41 -36071743.28 0.2647 0.1077

Earth -103473-12-13 02:38 J -36071743.53 -36071743.39 -36071743.26 0.2653 0.1058 *

Venus -103472-04-22 16:47 J -36071612.92 -36071612.80 -36071612.67 0.3607 0.0203

Mars -103472-08-28 13:26 J -36071485.03 -36071484.94 -36071484.84 0.1651 0.1232

Mars -103470-08-04 15:35 J -36070778.98 -36070778.85 -36070778.71 0.1663 0.0643

Mars -103469-06-17 02:38 J -36070461.52 -36070461.39 -36070461.27 0.1858 0.0237

Earth -103469-06-18 18:57 J -36070459.81 -36070459.71 -36070459.60 0.2679 0.1185

Moon -103469-06-18 19:26 J -36070459.79 -36070459.69 -36070459.59 0.2685 0.1214 *

Jupiter -103467-03-24 15:21 J -36069816.00 -36069815.86 -36069815.71 0.0500 0.0143

Jupiter -103467-06-22 07:40 J -36069726.29 -36069726.18 -36069726.06 0.0498 0.0343

Venus -103467-11-06 14:38 J -36069589.00 -36069588.89 -36069588.77 0.3611 0.1560

Saturn -103462-07-11 21:21 J -36067880.71 -36067880.61 -36067880.49 0.0291 0.0207

Saturn -103462-10-08 15:06 J -36067792.01 -36067791.87 -36067791.72 0.0291 0.0115

Saturn -103461-01-05 09:21 J -36067703.27 -36067703.11 -36067702.95 0.0291 0.0021

Saturn -103461-04-03 03:50 J -36067614.49 -36067614.34 -36067614.18 0.0290 0.0076

Venus -103461-05-22 11:59 J -36067565.07 -36067565.00 -36067564.92 0.3615 0.2898

Jupiter -103461-05-24 20:23 J -36067562.76 -36067562.65 -36067562.55 0.0526 0.0371

Saturn -103461-06-30 22:33 J -36067525.68 -36067525.56 -36067525.42 0.0290 0.0174

Jupiter -103461-08-22 13:40 J -36067473.07 -36067472.93 -36067472.79 0.0529 0.0177

Saturn -103461-09-27 17:59 J -36067436.80 -36067436.75 -36067436.69 0.0289 0.0272

Mars -103461-12-24 20:52 J -36067348.77 -36067348.63 -36067348.48 0.1660 0.0179

Mars -103460-11-07 08:23 J -36067031.28 -36067031.15 -36067031.03 0.1863 0.0346

Moon -103460-12-16 04:18 J -36066992.36 -36066992.32 -36066992.28 0.2645 0.2538

Earth -103456-06-21 14:23 J -36065709.02 -36065708.90 -36065708.78 0.2684 0.0082

Moon -103456-06-21 15:06 J -36065708.98 -36065708.87 -36065708.75 0.2687 0.0046 *

Jupiter -103455-01-10 17:16 J -36065505.91 -36065505.78 -36065505.65 0.0501 0.0260

Jupiter -103455-04-10 09:21 J -36065416.25 -36065416.11 -36065415.97 0.0498 0.0222

Earth -103453-12-08 03:21 J -36064443.46 -36064443.36 -36064443.26 0.2663 0.1918

Moon -103453-12-08 04:18 J -36064443.43 -36064443.32 -36064443.22 0.2659 0.1782 *

Mars -103451-05-17 02:23 J -36063918.55 -36063918.40 -36063918.26 0.1657 0.0301

Mars -103450-03-30 13:54 J -36063601.03 -36063600.92 -36063600.81 0.1867 0.0940

Jupiter -103449-03-12 21:50 J -36063252.63 -36063252.59 -36063252.54 0.0525 0.0502

Jupiter -103449-06-10 15:35 J -36063163.00 -36063162.85 -36063162.70 0.0528 0.0049

Mars -103448-03-05 14:09 J -36062895.00 -36062894.91 -36062894.83 0.1849 0.1370

Venus -103447-03-15 14:38 J -36062519.93 -36062519.89 -36062519.84 0.3780 0.3361

Saturn -103447-08-10 12:42 J -36062372.07 -36062371.97 -36062371.87 0.0268 0.0203

Saturn -103447-11-07 02:23 J -36062283.52 -36062283.40 -36062283.26 0.0269 0.0132

Saturn -103446-02-03 16:18 J -36062194.97 -36062194.82 -36062194.67 0.0269 0.0060

Saturn -103446-05-03 05:45 J -36062106.41 -36062106.26 -36062106.11 0.0269 0.0011

Saturn -103446-07-30 18:57 J -36062017.85 -36062017.71 -36062017.57 0.0270 0.0080

Saturn -103446-10-27 07:54 J -36061929.29 -36061929.17 -36061929.04 0.0270 0.0149

Saturn -103445-01-23 20:52 J -36061840.71 -36061840.63 -36061840.54 0.0271 0.0216

Jupiter -103444-10-29 18:42 J -36061195.81 -36061195.72 -36061195.62 0.0502 0.0381

Jupiter -103443-01-27 10:33 J -36061106.22 -36061106.06 -36061105.91 0.0499 0.0098

Earth -103443-06-24 09:50 J -36060958.20 -36060958.09 -36060957.99 0.2689 0.1026

Moon -103443-06-24 10:33 J -36060958.17 -36060958.06 -36060957.96 0.2686 0.1095 *

Venus -103442-09-29 10:04 J -36060496.17 -36060496.08 -36060495.98 0.3777 0.2111

Mars -103442-10-07 07:54 J -36060488.30 -36060488.17 -36060488.04 0.1653 0.0747

Mars -103441-08-19 18:57 J -36060170.78 -36060170.71 -36060170.64 0.1870 0.1555

Mars -103440-09-12 11:30 J -36059782.12 -36059782.02 -36059781.92 0.1667 0.1196

Earth -103440-12-11 05:45 J -36059692.40 -36059692.26 -36059692.11 0.2658 0.0285

Moon -103440-12-11 05:59 J -36059692.39 -36059692.25 -36059692.10 0.2651 0.0259 *

Mars -103439-07-26 20:38 J -36059464.75 -36059464.64 -36059464.53 0.1854 0.0838

Jupiter -103437-03-29 17:02 J -36058852.94 -36058852.79 -36058852.64 0.0527 0.0086

Jupiter -103437-06-27 09:21 J -36058763.18 -36058763.11 -36058763.03 0.0530 0.0452

Venus -103436-04-14 05:45 J -36058472.37 -36058472.26 -36058472.15 0.3773 0.0821

Moon -103436-06-17 04:18 J -36058408.39 -36058408.32 -36058408.25 0.2681 0.2157

Earth -103436-06-17 04:33 J -36058408.38 -36058408.31 -36058408.24 0.2675 0.2074 *

Saturn -103433-11-27 21:35 J -36057148.69 -36057148.60 -36057148.51 0.0291 0.0235

Saturn -103432-02-24 15:06 J -36057060.00 -36057059.87 -36057059.73 0.0291 0.0144

Mars -103432-02-26 13:54 J -36057058.02 -36057057.92 -36057057.82 0.1650 0.1186

Uranus -103432-05-23 11:59 J -36056972.06 -36056972.00 -36056971.91 0.0144 0.0126

Saturn -103432-05-24 09:21 J -36056971.27 -36056971.11 -36056970.95 0.0290 0.0050

Jupiter -103432-08-17 20:52 J -36056885.65 -36056885.63 -36056885.60 0.0503 0.0494

Uranus -103432-08-19 17:59 J -36056883.86 -36056883.75 -36056883.64 0.0145 0.0104

Saturn -103432-08-21 03:35 J -36056882.50 -36056882.35 -36056882.19 0.0290 0.0046

Jupiter -103432-11-15 12:14 J -36056796.14 -36056795.99 -36056795.83 0.0500 0.0022

Uranus -103432-11-15 23:45 J -36056795.64 -36056795.51 -36056795.37 0.0145 0.0081

Saturn -103432-11-17 22:33 J -36056793.70 -36056793.56 -36056793.42 0.0290 0.0143

Uranus -103431-02-12 05:30 J -36056707.41 -36056707.27 -36056707.11 0.0145 0.0058

Jupiter -103431-02-13 05:02 J -36056706.33 -36056706.29 -36056706.24 0.0497 0.0470

Saturn -103431-02-14 17:30 J -36056704.86 -36056704.77 -36056704.68 0.0289 0.0241

Uranus -103431-05-11 11:30 J -36056619.17 -36056619.02 -36056618.86 0.0145 0.0035

Uranus -103431-08-07 17:30 J -36056530.93 -36056530.77 -36056530.60 0.0145 0.0011

Venus -103431-10-29 01:40 J -36056448.54 -36056448.43 -36056448.31 0.3770 0.0517

Uranus -103431-11-03 23:30 J -36056442.68 -36056442.52 -36056442.35 0.0145 0.0013

Uranus -103430-01-31 05:30 J -36056354.42 -36056354.27 -36056354.10 0.0145 0.0037

Mars -103430-02-02 16:18 J -36056351.96 -36056351.82 -36056351.69 0.1664 0.0701

Uranus -103430-04-29 11:45 J -36056266.16 -36056266.01 -36056265.86 0.0145 0.0061

Earth -103430-06-27 05:02 J -36056207.36 -36056207.29 -36056207.22 0.2694 0.2109

Moon -103430-06-27 05:16 J -36056207.35 -36056207.28 -36056207.21 0.2687 0.2101 *

Uranus -103430-07-26 17:59 J -36056177.88 -36056177.75 -36056177.61 0.0145 0.0086

Uranus -103430-10-23 00:14 J -36056089.59 -36056089.49 -36056089.38 0.0146 0.0111

Mars -103430-12-17 02:38 J -36056034.52 -36056034.39 -36056034.26 0.1859 0.0280

Uranus -103429-01-19 06:28 J -36056001.28 -36056001.23 -36056001.16 0.0146 0.0136

Neptune -103429-07-06 22:33 J -36055831.58 -36055831.56 -36055831.51 0.0089 0.0086

Neptune -103429-10-03 00:57 J -36055743.52 -36055743.46 -36055743.40 0.0089 0.0081

Neptune -103429-12-30 02:38 J -36055655.45 -36055655.39 -36055655.30 0.0089 0.0077

Neptune -103428-03-28 04:47 J -36055567.38 -36055567.30 -36055567.20 0.0089 0.0073

Neptune -103428-06-24 06:57 J -36055479.30 -36055479.21 -36055479.10 0.0089 0.0068

Neptune -103428-09-20 08:52 J -36055391.22 -36055391.13 -36055391.01 0.0089 0.0064

Neptune -103428-12-17 11:16 J -36055303.14 -36055303.03 -36055302.91 0.0089 0.0059

Neptune -103427-03-15 13:11 J -36055215.06 -36055214.95 -36055214.82 0.0089 0.0055

Neptune -103427-06-11 15:21 J -36055126.98 -36055126.86 -36055126.72 0.0089 0.0050

Neptune -103427-09-07 17:16 J -36055038.90 -36055038.78 -36055038.63 0.0089 0.0046

Venus -103427-10-28 19:40 J -36054987.78 -36054987.68 -36054987.58 0.3601 0.2284

Neptune -103427-12-04 19:40 J -36054950.81 -36054950.68 -36054950.54 0.0089 0.0041

Moon -103427-12-14 07:54 J -36054941.30 -36054941.17 -36054941.05 0.2647 0.1278

Earth -103427-12-14 08:38 J -36054941.26 -36054941.14 -36054941.02 0.2652 0.1399 *

Neptune -103426-03-02 21:35 J -36054862.73 -36054862.60 -36054862.44 0.0089 0.0037

Neptune -103426-05-29 23:59 J -36054774.64 -36054774.50 -36054774.35 0.0089 0.0032

Neptune -103426-08-26 02:09 J -36054686.56 -36054686.41 -36054686.26 0.0089 0.0027

Neptune -103426-11-22 04:18 J -36054598.47 -36054598.32 -36054598.16 0.0089 0.0023

Jupiter -103425-01-16 17:16 J -36054542.91 -36054542.78 -36054542.65 0.0526 0.0236

Neptune -103425-02-18 06:28 J -36054510.38 -36054510.23 -36054510.07 0.0089 0.0018

Jupiter -103425-04-15 10:04 J -36054453.20 -36054453.08 -36054452.96 0.0529 0.0307

Venus -103425-05-13 21:50 J -36054424.69 -36054424.59 -36054424.49 0.3766 0.1894

Neptune -103425-05-16 08:52 J -36054422.29 -36054422.13 -36054421.98 0.0089 0.0013

Neptune -103425-08-12 11:02 J -36054334.20 -36054334.04 -36054333.88 0.0089 0.0008

Neptune -103425-11-08 13:11 J -36054246.11 -36054245.95 -36054245.79 0.0089 0.0004

Neptune -103424-02-04 15:21 J -36054158.02 -36054157.86 -36054157.70 0.0089 0.0002

Neptune -103424-05-03 17:45 J -36054069.92 -36054069.76 -36054069.60 0.0089 0.0006

Neptune -103424-07-30 19:54 J -36053981.83 -36053981.67 -36053981.51 0.0089 0.0011

Neptune -103424-10-26 22:04 J -36053893.73 -36053893.58 -36053893.42 0.0089 0.0016

Neptune -103423-01-23 00:28 J -36053805.64 -36053805.48 -36053805.32 0.0089 0.0020

Neptune -103423-04-21 02:38 J -36053717.54 -36053717.39 -36053717.23 0.0089 0.0025

Earth -103423-06-19 23:59 J -36053657.61 -36053657.50 -36053657.39 0.2680 0.0958

Moon -103423-06-20 00:28 J -36053657.59 -36053657.48 -36053657.37 0.2686 0.0847 *

Neptune -103423-07-18 05:02 J -36053629.44 -36053629.29 -36053629.14 0.0089 0.0030

Mars -103423-07-19 19:54 J -36053627.69 -36053627.67 -36053627.64 0.1647 0.1608

Neptune -103423-10-14 07:11 J -36053541.34 -36053541.20 -36053541.04 0.0089 0.0035

Neptune -103422-01-10 09:21 J -36053453.24 -36053453.11 -36053452.95 0.0089 0.0040

Neptune -103422-04-08 11:45 J -36053365.14 -36053365.01 -36053364.86 0.0089 0.0045

Neptune -103422-07-05 14:23 J -36053277.03 -36053276.90 -36053276.77 0.0089 0.0049

Neptune -103422-10-01 16:47 J -36053188.93 -36053188.80 -36053188.67 0.0089 0.0054

Neptune -103422-12-28 18:57 J -36053100.82 -36053100.71 -36053100.58 0.0089 0.0059

Neptune -103421-03-25 21:21 J -36053012.72 -36053012.61 -36053012.49 0.0089 0.0064

Venus -103421-05-13 17:59 J -36052963.88 -36052963.75 -36052963.62 0.3605 0.0800

Neptune -103421-06-21 23:45 J -36052924.61 -36052924.51 -36052924.40 0.0089 0.0069

Mars -103421-06-24 21:06 J -36052921.76 -36052921.62 -36052921.47 0.1660 0.0222

Neptune -103421-09-18 02:09 J -36052836.49 -36052836.41 -36052836.32 0.0089 0.0074

Neptune -103421-12-15 04:33 J -36052748.38 -36052748.31 -36052748.23 0.0089 0.0079

Neptune -103420-03-13 06:57 J -36052660.25 -36052660.21 -36052660.15 0.0089 0.0084

Mars -103420-05-08 08:23 J -36052604.27 -36052604.15 -36052604.02 0.1863 0.0300

Jupiter -103420-09-03 14:23 J -36052486.05 -36052485.90 -36052485.75 0.0501 0.0133

Venus -103420-11-27 18:14 J -36052400.79 -36052400.74 -36052400.68 0.3762 0.3319

Jupiter -103420-12-02 06:57 J -36052396.32 -36052396.21 -36052396.10 0.0498 0.0353

Saturn -103418-12-28 14:52 J -36051639.96 -36051639.88 -36051639.79 0.0268 0.0222

Saturn -103417-03-26 04:47 J -36051551.42 -36051551.30 -36051551.17 0.0269 0.0150

Saturn -103417-06-22 18:42 J -36051462.87 -36051462.72 -36051462.58 0.0269 0.0078

Saturn -103417-09-19 08:09 J -36051374.31 -36051374.16 -36051374.01 0.0269 0.0007

Saturn -103417-12-16 21:21 J -36051285.75 -36051285.61 -36051285.46 0.0270 0.0063

Saturn -103416-03-15 10:33 J -36051197.19 -36051197.06 -36051196.93 0.0270 0.0131

Saturn -103416-06-11 23:16 J -36051108.62 -36051108.53 -36051108.42 0.0270 0.0200

Saturn -103416-09-08 11:59 J -36051020.02 -36051020.00 -36051019.97 0.0271 0.0266

Venus -103416-11-27 16:04 J -36050939.96 -36050939.83 -36050939.70 0.3608 0.0638

Jupiter -103414-11-04 18:28 J -36050232.83 -36050232.73 -36050232.62 0.0526 0.0371

Jupiter -103413-02-02 11:45 J -36050143.15 -36050143.01 -36050142.87 0.0529 0.0176

Mars -103412-11-15 02:38 J -36049491.53 -36049491.39 -36049491.25 0.1657 0.0248

Mars -103411-09-28 14:09 J -36049174.02 -36049173.91 -36049173.80 0.1866 0.0882

Venus -103410-06-13 13:40 J -36048916.03 -36048915.93 -36048915.82 0.3612 0.2016

Earth -103410-06-22 19:26 J -36048906.80 -36048906.69 -36048906.57 0.2685 0.0159

Moon -103410-06-22 20:23 J -36048906.77 -36048906.65 -36048906.54 0.2685 0.0199 *

Mars -103409-09-03 14:23 J -36048467.98 -36048467.90 -36048467.82 0.1849 0.1423

Jupiter -103408-06-22 16:04 J -36048175.96 -36048175.83 -36048175.69 0.0501 0.0251

Jupiter -103408-09-20 08:09 J -36048086.29 -36048086.16 -36048086.02 0.0498 0.0233

Earth -103407-12-09 09:21 J -36047641.23 -36047641.11 -36047641.00 0.2662 0.1595

Moon -103407-12-09 10:04 J -36047641.20 -36047641.08 -36047640.97 0.2657 0.1590 *

Venus -103405-12-27 11:02 J -36046892.08 -36046892.04 -36046891.99 0.3616 0.3335

Saturn -103403-04-16 20:38 J -36046416.69 -36046416.64 -36046416.58 0.0291 0.0270

Saturn -103403-07-14 14:09 J -36046328.03 -36046327.91 -36046327.79 0.0291 0.0179

Saturn -103403-10-11 07:54 J -36046239.32 -36046239.17 -36046239.01 0.0291 0.0087

Saturn -103402-01-08 02:09 J -36046150.57 -36046150.41 -36046150.24 0.0290 0.0011

Saturn -103402-04-06 20:52 J -36046061.78 -36046061.63 -36046061.48 0.0290 0.0105

Mars -103402-04-07 08:09 J -36046061.29 -36046061.16 -36046061.02 0.1653 0.0702

Saturn -103402-07-04 15:50 J -36045972.96 -36045972.84 -36045972.72 0.0289 0.0203

Jupiter -103402-08-23 20:09 J -36045922.70 -36045922.66 -36045922.62 0.0525 0.0502

Jupiter -103402-11-21 13:54 J -36045833.07 -36045832.92 -36045832.77 0.0528 0.0050

Mars -103401-02-18 19:11 J -36045743.78 -36045743.70 -36045743.63 0.1871 0.1503

Mars -103400-03-13 11:59 J -36045355.10 -36045355.00 -36045354.90 0.1667 0.1251

Mars -103399-01-24 20:38 J -36045037.75 -36045037.64 -36045037.53 0.1854 0.0888

Earth -103397-06-24 14:52 J -36044155.99 -36044155.88 -36044155.78 0.2689 0.1255

Moon -103397-06-24 15:35 J -36044155.95 -36044155.85 -36044155.75 0.2687 0.1337 *

Jupiter -103396-04-10 18:14 J -36043865.84 -36043865.74 -36043865.64 0.0502 0.0366

Jupiter -103396-07-09 09:50 J -36043776.24 -36043776.09 -36043775.94 0.0499 0.0112

Moon -103394-12-12 11:59 J -36042890.15 -36042890.00 -36042889.85 0.2650 0.0079

Earth -103394-12-12 11:59 J -36042890.15 -36042890.00 -36042889.86 0.2657 0.0100 *

Mars -103393-08-27 14:09 J -36042631.01 -36042630.91 -36042630.80 0.1650 0.1136

Uranus -103393-10-19 02:09 J -36042578.47 -36042578.41 -36042578.33 0.0134 0.0118

Uranus -103392-01-15 06:28 J -36042490.32 -36042490.23 -36042490.12 0.0134 0.0100

Uranus -103392-04-13 10:47 J -36042402.16 -36042402.05 -36042401.92 0.0134 0.0083

Uranus -103392-07-10 15:21 J -36042313.99 -36042313.86 -36042313.73 0.0134 0.0064

Uranus -103392-10-06 19:26 J -36042225.83 -36042225.69 -36042225.54 0.0134 0.0047

Uranus -103391-01-02 23:45 J -36042137.66 -36042137.51 -36042137.36 0.0134 0.0030

Uranus -103391-04-01 04:04 J -36042049.48 -36042049.33 -36042049.18 0.0134 0.0013

Uranus -103391-06-28 08:09 J -36041961.31 -36041961.16 -36041961.01 0.0134 0.0005

Mars -103391-08-03 16:33 J -36041924.94 -36041924.81 -36041924.67 0.1663 0.0753

Uranus -103391-09-24 12:14 J -36041873.14 -36041872.99 -36041872.84 0.0134 0.0022

Venus -103391-10-20 13:11 J -36041847.02 -36041846.95 -36041846.88 0.3779 0.2934

Uranus -103391-12-21 16:18 J -36041784.96 -36041784.82 -36041784.68 0.0133 0.0039

Uranus -103390-03-19 20:09 J -36041696.79 -36041696.66 -36041696.52 0.0133 0.0056

Uranus -103390-06-16 00:14 J -36041608.61 -36041608.49 -36041608.36 0.0133 0.0072

Mars -103390-06-17 02:52 J -36041607.51 -36041607.38 -36041607.26 0.1859 0.0334

Moon -103390-06-18 09:35 J -36041606.18 -36041606.10 -36041606.01 0.2682 0.1795

Earth -103390-06-18 09:35 J -36041606.18 -36041606.10 -36041606.02 0.2675 0.1840 *

Jupiter -103390-09-09 15:50 J -36041522.99 -36041522.84 -36041522.70 0.0527 0.0080

Uranus -103390-09-12 04:18 J -36041520.43 -36041520.32 -36041520.21 0.0133 0.0088

Jupiter -103390-12-08 08:09 J -36041433.23 -36041433.16 -36041433.09 0.0530 0.0459

Uranus -103390-12-09 08:09 J -36041432.24 -36041432.16 -36041432.06 0.0133 0.0104

Uranus -103389-03-06 12:14 J -36041344.05 -36041343.99 -36041343.93 0.0133 0.0120

Saturn -103388-05-16 14:52 J -36040907.93 -36040907.88 -36040907.82 0.0268 0.0251

Saturn -103388-08-13 05:02 J -36040819.40 -36040819.29 -36040819.18 0.0269 0.0178

Saturn -103388-11-09 18:57 J -36040730.85 -36040730.71 -36040730.57 0.0269 0.0106

Saturn -103387-02-06 08:38 J -36040642.29 -36040642.14 -36040642.00 0.0269 0.0036

Saturn -103387-05-05 21:50 J -36040553.73 -36040553.59 -36040553.44 0.0270 0.0036

Saturn -103387-08-02 11:02 J -36040465.17 -36040465.04 -36040464.90 0.0270 0.0105

Saturn -103387-10-29 23:59 J -36040376.61 -36040376.50 -36040376.38 0.0270 0.0173

Saturn -103386-01-26 12:57 J -36040288.02 -36040287.96 -36040287.90 0.0271 0.0240

Venus   -103385-05-05 08:38 J -36039823.24 -36039823.14 -36039823.04 0.3776 0.1678

Jupiter -103384-01-27 19:40 J -36039555.71 -36039555.68 -36039555.64 0.0503 0.0486

Jupiter -103384-04-27 11:02 J -36039466.19 -36039466.04 -36039465.88 0.0500 0.0013

Earth   -103384-06-27 09:50 J -36039405.14 -36039405.09 -36039405.03 0.2694 0.2336

Moon   -103384-06-27 10:04 J -36039405.13 -36039405.08 -36039405.02 0.2687 0.2347 *

Jupiter -103384-07-26 03:50 J -36039376.38 -36039376.34 -36039376.30 0.0497 0.0477

Mars   -103383-01-17 20:23 J -36039200.69 -36039200.65 -36039200.61 0.1647 0.1558

Mars   -103382-12-24 21:35 J -36038494.74 -36038494.60 -36038494.45 0.1660 0.0276

Mars   -103381-11-06 08:38 J -36038177.26 -36038177.14 -36038177.01 0.1863 0.0250

Moon   -103381-12-14 13:40 J -36038139.04 -36038138.93 -36038138.81 0.2647 0.1678

Earth   -103381-12-14 14:52 J -36038138.99 -36038138.88 -36038138.77 0.2652 0.1745 *

Venus   -103380-11-19 04:18 J -36037799.43 -36037799.32 -36037799.20 0.3772 0.0383

Jupiter -103378-06-28 17:02 J -36037212.93 -36037212.79 -36037212.65 0.0526 0.0215

Jupiter -103378-09-26 09:50 J -36037123.20 -36037123.09 -36037122.98 0.0529 0.0327

Earth   -103377-06-20 05:02 J -36036855.40 -36036855.29 -36036855.17 0.2680 0.0726

Moon   -103377-06-20 05:30 J -36036855.38 -36036855.27 -36036855.15 0.2686 0.0749 *

Venus   -103376-11-18 20:23 J -36036338.70 -36036338.65 -36036338.60 0.3599 0.3298

Venus -103374-06-05 00:28 J -36035775.60 -36035775.48 -36035775.37 0.3768 0.0980

Saturn -103374-12-01 14:09 J -36035596.02 -36035595.91 -36035595.80 0.0291 0.0208

Saturn -103373-02-28 07:54 J -36035507.32 -36035507.17 -36035507.03 0.0291 0.0116

Saturn -103373-05-27 01:54 J -36035418.58 -36035418.42 -36035418.26 0.0290 0.0023

Saturn -103373-08-23 20:23 J -36035329.80 -36035329.65 -36035329.49 0.0290 0.0075

Saturn -103373-11-20 15:21 J -36035240.99 -36035240.86 -36035240.73 0.0289 0.0172

Jupiter -103372-02-13 12:57 J -36035156.11 -36035155.96 -36035155.81 0.0501 0.0128

Saturn -103372-02-17 10:33 J -36035152.11 -36035152.06 -36035152.00 0.0289 0.0270

Jupiter -103372-05-14 05:16 J -36035066.38 -36035066.28 -36035066.17 0.0498 0.0358

Mars -103372-05-16 02:52 J -36035064.52 -36035064.38 -36035064.23 0.1656 0.0203

Mars -103371-03-29 14:09 J -36034747.03 -36034746.91 -36034746.80 0.1867 0.0840

Venus -103370-06-04 18:57 J -36034314.82 -36034314.71 -36034314.60 0.3602 0.1776

Mars -103369-03-04 14:23 J -36034040.98 -36034040.90 -36034040.83 0.1849 0.1464

Venus -103369-12-18 20:38 J -36033751.73 -36033751.64 -36033751.55 0.3764 0.2359

Jupiter -103366-04-16 17:02 J -36032902.89 -36032902.79 -36032902.68 0.0525 0.0365

Jupiter -103366-07-15 10:18 J -36032813.20 -36032813.07 -36032812.93 0.0528 0.0182

Venus -103365-12-18 17:16 J -36032290.91 -36032290.78 -36032290.65 0.3606 0.0307

Earth -103364-06-23 00:28 J -36032104.59 -36032104.48 -36032104.36 0.2685 0.0384

Moon -103364-06-23 01:26 J -36032104.56 -36032104.44 -36032104.33 0.2685 0.0539 *

Mars -103363-10-06 08:38 J -36031634.28 -36031634.14 -36031634.01 0.1653 0.0655

Mars -103362-08-19 19:40 J -36031316.77 -36031316.68 -36031316.60 0.1871 0.1443

Mars -103361-09-11 12:14 J -36030928.08 -36030927.99 -36030927.89 0.1667 0.1303

Jupiter -103361-12-02 15:06 J -36030846.01 -36030845.87 -36030845.74 0.0502 0.0243

Earth -103361-12-09 15:21 J -36030838.99 -36030838.86 -36030838.74 0.2662 0.1266

Moon -103361-12-09 16:04 J -36030838.96 -36030838.83 -36030838.70 0.2655 0.1108 *

Jupiter -103360-03-02 07:11 J -36030756.34 -36030756.20 -36030756.07 0.0499 0.0241

Mars -103360-07-25 20:52 J -36030610.74 -36030610.63 -36030610.52 0.1854 0.0936

Venus -103359-07-04 15:06 J -36030266.99 -36030266.87 -36030266.74 0.3610 0.1113

Saturn -103359-10-03 17:30 J -36030175.77 -36030175.77 -36030175.77 0.0269 0.0268

Pluto -103359-12-04 12:42 J -36030114.03 -36030113.97 -36030113.86 0.0060 0.0054

Saturn -103359-12-31 07:26 J -36030087.29 -36030087.19 -36030087.08 0.0269 0.0196

Pluto -103358-03-02 14:38 J -36030026.01 -36030025.89 -36030025.76 0.0060 0.0047

Saturn -103358-03-29 21:35 J -36029998.74 -36029998.60 -36029998.47 0.0269 0.0123

Pluto -103358-05-29 15:50 J -36029937.97 -36029937.84 -36029937.68 0.0060 0.0040

Saturn -103358-06-26 11:02 J -36029910.18 -36029910.04 -36029909.89 0.0269 0.0053

Pluto -103358-08-25 17:16 J -36029849.93 -36029849.78 -36029849.60 0.0060 0.0033

Saturn -103358-09-23 00:42 J -36029821.62 -36029821.47 -36029821.33 0.0270 0.0020

Pluto -103358-11-21 19:11 J -36029761.88 -36029761.70 -36029761.52 0.0061 0.0025

Saturn -103358-12-20 13:54 J -36029733.06 -36029732.92 -36029732.78 0.0270 0.0089

Pluto -103357-02-17 20:23 J -36029673.83 -36029673.65 -36029673.45 0.0061 0.0018

Saturn -103357-03-18 02:52 J -36029644.50 -36029644.38 -36029644.26 0.0270 0.0157

Pluto -103357-05-15 22:04 J -36029585.77 -36029585.58 -36029585.38 0.0061 0.0010

Saturn -103357-06-14 15:35 J -36029555.92 -36029555.85 -36029555.76 0.0271 0.0225

Pluto -103357-08-11 23:45 J -36029497.71 -36029497.51 -36029497.31 0.0061 0.0003

Pluto -103357-11-08 01:11 J -36029409.65 -36029409.45 -36029409.25 0.0061 0.0005

Pluto -103356-02-04 02:38 J -36029321.58 -36029321.39 -36029321.19 0.0061 0.0012

Pluto -103356-05-03 03:50 J -36029233.51 -36029233.34 -36029233.14 0.0061 0.0020

Pluto -103356-07-30 05:30 J -36029145.44 -36029145.27 -36029145.08 0.0061 0.0027

Pluto -103356-10-26 07:11 J -36029057.36 -36029057.20 -36029057.03 0.0061 0.0034

Pluto -103355-01-22 08:23 J -36028969.27 -36028969.15 -36028968.99 0.0061 0.0042

Pluto -103355-04-20 10:18 J -36028881.18 -36028881.07 -36028880.95 0.0061 0.0050

Pluto -103355-07-17 11:30 J -36028793.07 -36028793.02 -36028792.94 0.0061 0.0057

Jupiter -103354-02-02 18:14 J -36028592.78 -36028592.74 -36028592.70 0.0525 0.0502

Jupiter -103354-05-03 11:59 J -36028503.15 -36028503.00 -36028502.85 0.0528 0.0048

Venus -103353-01-18 12:42 J -36028243.06 -36028242.97 -36028242.88 0.3614 0.2459

Mars -103353-02-26 14:38 J -36028204.00 -36028203.89 -36028203.79 0.1650 0.1088

Mars -103351-02-01 17:02 J -36027497.92 -36027497.79 -36027497.66 0.1663 0.0803

Earth -103351-06-25 19:40 J -36027353.77 -36027353.68 -36027353.58 0.2690 0.1480

Moon -103351-06-25 20:23 J -36027353.75 -36027353.65 -36027353.55 0.2686 0.1497 *

Mars -103351-12-16 03:06 J -36027180.49 -36027180.37 -36027180.24 0.1858 0.0392

Jupiter -103349-09-20 17:02 J -36026535.90 -36026535.79 -36026535.69 0.0502 0.0359

Jupiter -103349-12-19 08:38 J -36026446.29 -36026446.14 -36026445.99 0.0499 0.0120

Uranus -103348-03-16 14:09 J -36026358.93 -36026358.91 -36026358.87 0.0144 0.0142

Uranus -103348-06-12 19:54 J -36026270.75 -36026270.67 -36026270.58 0.0144 0.0119

Uranus -103348-09-09 01:40 J -36026182.55 -36026182.43 -36026182.31 0.0145 0.0097

Uranus -103348-12-06 07:26 J -36026094.32 -36026094.19 -36026094.05 0.0145 0.0074

Moon -103348-12-12 17:45 J -36026087.91 -36026087.76 -36026087.62 0.2650 0.0326

Earth -103348-12-12 17:59 J -36026087.90 -36026087.75 -36026087.61 0.2656 0.0395 *

Uranus -103347-03-04 13:26 J -36026006.09 -36026005.94 -36026005.79 0.0145 0.0051

Uranus -103347-05-31 19:11 J -36025917.86 -36025917.70 -36025917.54 0.0145 0.0028

Neptune -103347-07-21 03:50 J -36025867.35 -36025867.34 -36025867.32 0.0088 0.0088

Uranus -103347-08-28 01:11 J -36025829.61 -36025829.45 -36025829.28 0.0145 0.0005

Neptune -103347-10-17 05:45 J -36025779.30 -36025779.26 -36025779.19 0.0088 0.0083

Uranus -103347-11-24 07:11 J -36025741.36 -36025741.20 -36025741.03 0.0145 0.0020

Neptune -103346-01-13 08:09 J -36025691.22 -36025691.16 -36025691.07 0.0088 0.0078

Uranus -103346-02-20 13:26 J -36025653.10 -36025652.94 -36025652.78 0.0145 0.0044

Neptune -103346-04-11 10:33 J -36025603.14 -36025603.06 -36025602.96 0.0088 0.0073

Uranus -103346-05-19 19:26 J -36025564.83 -36025564.69 -36025564.54 0.0145 0.0068

Neptune -103346-07-08 12:42 J -36025515.06 -36025514.97 -36025514.86 0.0088 0.0069

Uranus -103346-08-16 01:40 J -36025476.55 -36025476.43 -36025476.30 0.0146 0.0093

Neptune -103346-10-04 15:06 J -36025426.97 -36025426.87 -36025426.75 0.0088 0.0064

Uranus -103346-11-12 07:54 J -36025388.26 -36025388.17 -36025388.07 0.0146 0.0117

Neptune -103346-12-31 17:16 J -36025338.89 -36025338.78 -36025338.65 0.0088 0.0059

Uranus -103345-02-08 14:09 J -36025299.93 -36025299.91 -36025299.87 0.0146 0.0143

Neptune -103345-03-28 19:26 J -36025250.80 -36025250.69 -36025250.55 0.0088 0.0055

Neptune -103345-06-24 21:50 J -36025162.71 -36025162.59 -36025162.45 0.0088 0.0050

Neptune -103345-09-21 00:14 J -36025074.63 -36025074.49 -36025074.35 0.0088 0.0045

Neptune -103345-12-18 02:23 J -36024986.54 -36024986.40 -36024986.26 0.0088 0.0040

Neptune -103344-03-16 04:33 J -36024898.45 -36024898.31 -36024898.16 0.0088 0.0035

Saturn -103344-04-19 13:40 J -36024864.01 -36024863.93 -36024863.84 0.0291 0.0240

Neptune -103344-06-12 06:42 J -36024810.36 -36024810.22 -36024810.07 0.0088 0.0031

Moon -103344-06-18 14:52 J -36024803.98 -36024803.88 -36024803.79 0.2683 0.1651

Earth -103344-06-18 14:38 J -36024803.98 -36024803.89 -36024803.80 0.2676 0.1610 *

Saturn -103344-07-17 07:26 J -36024775.33 -36024775.19 -36024775.06 0.0291 0.0149

Mars -103344-07-18 20:38 J -36024773.69 -36024773.64 -36024773.58 0.1647 0.1514

Neptune -103344-09-08 09:06 J -36024722.28 -36024722.12 -36024721.97 0.0088 0.0026

Saturn -103344-10-14 01:26 J -36024686.60 -36024686.44 -36024686.29 0.0290 0.0056

Neptune -103344-12-05 11:02 J -36024634.19 -36024634.04 -36024633.88 0.0088 0.0021

Saturn -103343-01-10 19:40 J -36024597.84 -36024597.68 -36024597.52 0.0290 0.0040

Neptune -103343-03-03 13:11 J -36024546.10 -36024545.95 -36024545.79 0.0088 0.0017

Saturn -103343-04-09 14:23 J -36024509.05 -36024508.90 -36024508.76 0.0290 0.0137

Neptune -103343-05-30 15:35 J -36024458.01 -36024457.85 -36024457.70 0.0088 0.0012

Saturn -103343-07-07 09:06 J -36024420.20 -36024420.12 -36024420.01 0.0289 0.0236

Neptune -103343-08-26 17:30 J -36024369.92 -36024369.77 -36024369.61 0.0088 0.0008

Neptune -103343-11-22 19:40 J -36024281.83 -36024281.68 -36024281.52 0.0088 0.0004

Neptune -103342-02-18 21:50 J -36024193.74 -36024193.59 -36024193.43 0.0088 0.0003

Jupiter -103342-02-19 13:54 J -36024193.07 -36024192.92 -36024192.78 0.0527 0.0082

Neptune -103342-05-17 23:59 J -36024105.65 -36024105.50 -36024105.34 0.0088 0.0007

Jupiter -103342-05-20 06:14 J -36024103.31 -36024103.24 -36024103.17 0.0530 0.0458

Mars -103342-06-24 22:04 J -36024067.73 -36024067.58 -36024067.44 0.1660 0.0321

Neptune -103342-08-14 02:09 J -36024017.57 -36024017.41 -36024017.26 0.0088 0.0011

Neptune -103342-11-10 04:04 J -36023929.48 -36023929.33 -36023929.17 0.0088 0.0016

Neptune -103341-02-06 06:14 J -36023841.39 -36023841.24 -36023841.09 0.0088 0.0021

Neptune -103341-05-04 08:09 J -36023753.30 -36023753.16 -36023753.00 0.0088 0.0025

Mars -103341-05-07 08:52 J -36023750.26 -36023750.13 -36023750.00 0.1863 0.0195

Neptune -103341-07-31 10:18 J -36023665.21 -36023665.07 -36023664.92 0.0088 0.0030

Neptune -103341-10-27 12:14 J -36023577.12 -36023576.99 -36023576.84 0.0088 0.0035

Neptune -103340-01-23 14:23 J -36023489.03 -36023488.90 -36023488.75 0.0088 0.0039

Neptune -103340-04-21 16:18 J -36023400.94 -36023400.82 -36023400.67 0.0088 0.0043

Neptune -103340-07-18 18:28 J -36023312.85 -36023312.73 -36023312.60 0.0088 0.0047

Neptune -103340-10-14 20:38 J -36023224.77 -36023224.64 -36023224.52 0.0088 0.0052

Venus -103340-11-10 16:18 J -36023197.83 -36023197.82 -36023197.80 0.3782 0.3733

Neptune -103339-01-10 22:18 J -36023136.68 -36023136.57 -36023136.44 0.0088 0.0056

Neptune -103339-04-09 00:28 J -36023048.59 -36023048.48 -36023048.36 0.0088 0.0060

Neptune -103339-07-06 02:38 J -36022960.50 -36022960.39 -36022960.29 0.0088 0.0065

Neptune -103339-10-02 04:18 J -36022872.40 -36022872.32 -36022872.22 0.0088 0.0069

Neptune -103339-12-29 06:14 J -36022784.31 -36022784.24 -36022784.15 0.0088 0.0074

Neptune -103338-03-27 08:23 J -36022696.22 -36022696.15 -36022696.08 0.0088 0.0078

Neptune -103338-06-23 10:04 J -36022608.12 -36022608.08 -36022608.01 0.0088 0.0082

Earth -103338-06-28 14:52 J -36022602.91 -36022602.88 -36022602.84 0.2695 0.2561

Moon -103338-06-28 15:06 J -36022602.90 -36022602.87 -36022602.84 0.2688 0.2565 *

Neptune -103338-09-19 11:59 J -36022520.02 -36022520.00 -36022519.96 0.0088 0.0086

Jupiter -103337-07-09 18:57 J -36022225.76 -36022225.71 -36022225.66 0.0503 0.0473

Jupiter -103337-10-07 10:18 J -36022136.23 -36022136.07 -36022135.92 0.0500 0.0007

Jupiter -103336-01-05 03:06 J -36022046.40 -36022046.37 -36022046.35 0.0497 0.0489

Moon -103335-12-15 19:54 J -36021336.77 -36021336.67 -36021336.58 0.2646 0.1973

Earth -103335-12-15 20:52 J -36021336.72 -36021336.63 -36021336.54 0.2651 0.2083 *

Venus -103334-05-27 11:45 J -36021174.10 -36021174.01 -36021173.93 0.3778 0.2508

Mars -103333-11-14 03:21 J -36020637.50 -36020637.36 -36020637.21 0.1657 0.0148

Mars -103332-09-27 14:38 J -36020320.01 -36020319.89 -36020319.78 0.1867 0.0780

Earth -103331-06-21 10:04 J -36020053.19 -36020053.08 -36020052.96 0.2681 0.0500

Moon -103331-06-21 10:47 J -36020053.16 -36020053.05 -36020052.93 0.2685 0.0372 *

Jupiter -103331-12-08 15:35 J -36019882.99 -36019882.85 -36019882.71 0.0527 0.0211

Jupiter -103330-03-08 08:23 J -36019793.26 -36019793.15 -36019793.04 0.0530 0.0332

Mars -103330-09-03 14:38 J -36019613.96 -36019613.89 -36019613.82 0.1849 0.1519

Saturn -103329-05-19 07:40 J -36019355.26 -36019355.18 -36019355.10 0.0268 0.0224

Saturn -103329-08-15 21:35 J -36019266.72 -36019266.60 -36019266.47 0.0269 0.0151

Saturn -103329-11-12 11:30 J -36019178.16 -36019178.02 -36019177.88 0.0269 0.0079

Venus -103329-12-10 07:11 J -36019150.31 -36019150.20 -36019150.09 0.3775 0.1242

Saturn -103328-02-09 00:57 J -36019089.60 -36019089.46 -36019089.31 0.0269 0.0012

Saturn -103328-05-08 14:23 J -36019001.04 -36019000.90 -36019000.76 0.0270 0.0062

Saturn -103328-08-05 03:21 J -36018912.48 -36018912.36 -36018912.22 0.0270 0.0132

Saturn -103328-11-01 16:33 J -36018823.91 -36018823.81 -36018823.72 0.0271 0.0199

Earth -103328-12-07 18:57 J -36018787.75 -36018787.71 -36018787.68 0.2666 0.2561

Moon -103328-12-07 20:09 J -36018787.73 -36018787.66 -36018787.60 0.2663 0.2375 *

Saturn -103327-01-29 05:02 J -36018735.30 -36018735.29 -36018735.26 0.0271 0.0266

Jupiter -103325-07-26 11:30 J -36017826.17 -36017826.02 -36017825.87 0.0501 0.0122

Jupiter -103325-10-24 03:50 J -36017736.44 -36017736.34 -36017736.23 0.0498 0.0364

Mars -103323-04-06 08:52 J -36017207.26 -36017207.13 -36017206.99 0.1653 0.0604

Venus -103323-06-26 02:52 J -36017126.49 -36017126.38 -36017126.26 0.3771 0.0131

Mars -103322-02-17 19:40 J -36016889.77 -36016889.68 -36016889.60 0.1871 0.1397

Mars -103321-03-12 12:42 J -36016501.05 -36016500.97 -36016500.88 0.1667 0.1359

Mars -103320-01-23 21:06 J -36016183.73 -36016183.62 -36016183.51 0.1854 0.0988

Venus -103319-06-25 19:40 J -36015665.76 -36015665.68 -36015665.60 0.3600 0.2774

Jupiter -103319-09-26 16:47 J -36015572.91 -36015572.80 -36015572.69 0.0526 0.0347

Jupiter -103319-12-25 10:04 J -36015483.22 -36015483.08 -36015482.95 0.0529 0.0199

Earth -103318-06-24 05:30 J -36015302.38 -36015302.27 -36015302.16 0.2686 0.0616

Moon -103318-06-24 06:28 J -36015302.35 -36015302.23 -36015302.12 0.2686 0.0632 *

Venus -103317-01-09 23:02 J -36015102.65 -36015102.54 -36015102.43 0.3767 0.1422

Saturn -103315-09-06 13:54 J -36014131.98 -36014131.92 -36014131.86 0.0291 0.0268

Saturn -103315-12-04 07:26 J -36014043.31 -36014043.19 -36014043.07 0.0291 0.0178

Earth -103315-12-10 21:21 J -36014036.75 -36014036.61 -36014036.48 0.2661 0.0942

Moon -103315-12-10 22:04 J -36014036.72 -36014036.58 -36014036.45 0.2655 0.0963 *

Saturn -103314-03-03 01:11 J -36013954.60 -36013954.45 -36013954.29 0.0290 0.0085

Saturn -103314-05-30 19:26 J -36013865.85 -36013865.69 -36013865.53 0.0290 0.0012

Saturn -103314-08-27 14:09 J -36013777.06 -36013776.91 -36013776.76 0.0290 0.0107

Mars -103314-08-27 14:52 J -36013776.99 -36013776.88 -36013776.77 0.1650 0.1044 *

Saturn -103314-11-24 09:06 J -36013688.24 -36013688.12 -36013688.01 0.0289 0.0205

Venus -103313-01-09 18:14 J -36013641.86 -36013641.74 -36013641.62 0.3604 0.1276

Jupiter -103313-05-14 13:26 J -36013516.07 -36013515.94 -36013515.80 0.0501 0.0239

Jupiter -103313-08-12 05:30 J -36013426.41 -36013426.27 -36013426.13 0.0499 0.0244

Venus -103312-07-25 19:26 J -36013078.77 -36013078.69 -36013078.62 0.3763 0.2822

Mars -103312-08-02 17:16 J -36013070.90 -36013070.78 -36013070.65 0.1663 0.0857

Mars -103311-06-16 03:06 J -36012753.49 -36012753.37 -36012753.25 0.1859 0.0431

Moon -103311-06-16 23:45 J -36012752.54 -36012752.51 -36012752.48 0.2678 0.2536

Earth -103311-06-16 23:59 J -36012752.53 -36012752.50 -36012752.46 0.2672 0.2509 *

Uranus -103309-08-12 05:02 J -36011965.31 -36011965.29 -36011965.24 0.0134 0.0131

Uranus -103309-11-08 09:50 J -36011877.17 -36011877.09 -36011877.01 0.0134 0.0113

Uranus -103308-02-04 13:54 J -36011789.02 -36011788.92 -36011788.80 0.0134 0.0095

Uranus -103308-05-03 18:14 J -36011700.85 -36011700.74 -36011700.60 0.0134 0.0077

Venus -103308-07-25 16:33 J -36011617.94 -36011617.81 -36011617.68 0.3607 0.0189

Uranus -103308-07-30 22:47 J -36011612.69 -36011612.55 -36011612.41 0.0134 0.0059

Uranus -103308-10-27 02:52 J -36011524.52 -36011524.38 -36011524.23 0.0134 0.0042

Uranus -103307-01-23 07:11 J -36011436.35 -36011436.20 -36011436.05 0.0134 0.0024

Uranus -103307-04-21 11:30 J -36011348.17 -36011348.02 -36011347.87 0.0134 0.0008

Jupiter -103307-07-15 16:47 J -36011262.84 -36011262.80 -36011262.75 0.0524 0.0496

Uranus -103307-07-18 15:35 J -36011260.00 -36011259.85 -36011259.70 0.0134 0.0010

Jupiter -103307-10-13 10:33 J -36011173.21 -36011173.06 -36011172.92 0.0527 0.0053

Uranus -103307-10-14 19:40 J -36011171.83 -36011171.68 -36011171.53 0.0133 0.0027

Uranus -103306-01-10 23:45 J -36011083.65 -36011083.51 -36011083.37 0.0133 0.0044

Uranus -103306-04-09 03:35 J -36010995.47 -36010995.35 -36010995.21 0.0133 0.0061

Uranus -103306-07-06 07:40 J -36010907.30 -36010907.18 -36010907.05 0.0133 0.0077

Uranus -103306-10-02 11:30 J -36010819.11 -36010819.02 -36010818.90 0.0133 0.0093

Uranus -103306-12-29 15:35 J -36010730.93 -36010730.85 -36010730.76 0.0133 0.0109

Uranus -103305-03-26 19:26 J -36010642.73 -36010642.69 -36010642.64 0.0133 0.0125

Earth -103305-06-26 00:42 J -36010551.56 -36010551.47 -36010551.38 0.2691 0.1705

Moon -103305-06-26 01:11 J -36010551.53 -36010551.45 -36010551.36 0.2685 0.1804 *

Mars -103304-01-16 20:52 J -36010346.69 -36010346.63 -36010346.57 0.1647 0.1470

Mars -103303-12-23 22:18 J -36009640.71 -36009640.57 -36009640.42 0.1660 0.0370

Venus -103302-02-08 14:09 J -36009594.02 -36009593.91 -36009593.79 0.3611 0.1566

Mars -103302-11-06 09:06 J -36009323.25 -36009323.12 -36009322.99 0.1863 0.0137

Moon -103302-12-13 23:30 J -36009285.66 -36009285.52 -36009285.38 0.2649 0.0751

Earth -103302-12-13 23:59 J -36009285.64 -36009285.50 -36009285.36 0.2656 0.0725 *

Jupiter -103301-03-02 15:21 J -36009205.96 -36009205.86 -36009205.75 0.0503 0.0354

Jupiter -103301-05-31 07:11 J -36009116.35 -36009116.20 -36009116.05 0.0500 0.0126

Saturn -103300-10-06 10:18 J -36008623.13 -36008623.07 -36008623.00 0.0269 0.0241

Saturn -103299-01-03 00:14 J -36008534.60 -36008534.49 -36008534.36 0.0269 0.0169

Saturn -103299-04-01 14:23 J -36008446.04 -36008445.90 -36008445.76 0.0269 0.0096

Saturn -103299-06-29 03:50 J -36008357.49 -36008357.34 -36008357.19 0.0270 0.0025

Saturn -103299-09-25 17:16 J -36008268.92 -36008268.78 -36008268.63 0.0270 0.0047

Saturn -103299-12-23 06:28 J -36008180.36 -36008180.23 -36008180.09 0.0270 0.0116

Saturn -103298-03-21 19:26 J -36008091.79 -36008091.69 -36008091.58 0.0271 0.0184

Saturn -103298-06-18 08:23 J -36008003.20 -36008003.15 -36008003.10 0.0271 0.0251

Earth -103298-06-19 19:40 J -36008001.78 -36008001.68 -36008001.58 0.2677 0.1379

Moon -103298-06-19 19:54 J -36008001.77 -36008001.67 -36008001.57 0.2684 0.1343 *

Venus -103297-08-24 11:45 J -36007570.08 -36007570.01 -36007569.93 0.3615 0.2904

Jupiter -103295-08-01 11:45 J -36006863.15 -36006863.01 -36006862.86 0.0527 0.0084

Jupiter -103295-10-30 04:18 J -36006773.39 -36006773.32 -36006773.25 0.0530 0.0454

Mars -103293-05-15 03:35 J -36006210.49 -36006210.35 -36006210.20 0.1657 0.0107

Mars -103292-03-28 14:38 J -36005893.01 -36005892.89 -36005892.77 0.1867 0.0728

Mars -103290-03-04 14:52 J -36005186.95 -36005186.88 -36005186.82 0.1850 0.1570

Jupiter -103290-12-20 17:16 J -36004895.82 -36004895.78 -36004895.72 0.0503 0.0469

Jupiter -103289-03-19 08:38 J -36004806.29 -36004806.14 -36004805.98 0.0500 0.0014

Jupiter -103289-06-17 01:26 J -36004716.45 -36004716.44 -36004716.42 0.0497 0.0495

Moon -103289-12-16 01:54 J -36004534.49 -36004534.42 -36004534.35 0.2647 0.2305

Earth -103289-12-16 02:52 J -36004534.43 -36004534.38 -36004534.32 0.2650 0.2427 *

Saturn -103285-04-22 07:40 J -36003311.28 -36003311.18 -36003311.06 0.0291 0.0206

Earth -103285-06-21 15:06 J -36003250.98 -36003250.87 -36003250.75 0.2682 0.0274

Moon -103285-06-21 16:04 J -36003250.95 -36003250.83 -36003250.72 0.2685 0.0255 *

Saturn -103285-07-20 01:26 J -36003222.58 -36003222.44 -36003222.29 0.0290 0.0114

Saturn -103285-10-16 19:26 J -36003133.84 -36003133.69 -36003133.52 0.0290 0.0022

Saturn -103284-01-13 13:54 J -36003045.07 -36003044.92 -36003044.76 0.0290 0.0076

Saturn -103284-04-12 08:38 J -36002956.26 -36002956.14 -36002956.00 0.0289 0.0173

Saturn -103284-07-10 03:50 J -36002867.39 -36002867.34 -36002867.28 0.0289 0.0271

Mars -103284-10-05 09:21 J -36002780.25 -36002780.11 -36002779.97 0.1653 0.0551

Jupiter -103283-05-20 13:26 J -36002553.08 -36002552.94 -36002552.80 0.0526 0.0214

Venus -103283-06-17 14:52 J -36002524.93 -36002524.88 -36002524.83 0.3781 0.3315

Jupiter -103283-08-18 06:14 J -36002463.35 -36002463.24 -36002463.12 0.0530 0.0329

Mars -103283-08-18 19:54 J -36002462.76 -36002462.67 -36002462.58 0.1871 0.1337

Mars -103282-09-11 13:11 J -36002074.03 -36002073.95 -36002073.87 0.1667 0.1411

Earth -103282-12-09 00:57 J -36001985.54 -36001985.46 -36001985.39 0.2666 0.2236

Moon -103282-12-09 02:09 J -36001985.49 -36001985.41 -36001985.34 0.2661 0.2204 *

Mars -103281-07-24 21:06 J -36001756.72 -36001756.62 -36001756.51 0.1854 0.1040

Venus -103277-01-01 10:04 J -36000501.17 -36000501.08 -36000500.98 0.3777 0.2083

Jupiter -103277-01-06 10:33 J -36000496.21 -36000496.06 -36000495.91 0.0501 0.0112

Jupiter -103277-04-05 02:52 J -36000406.48 -36000406.38 -36000406.28 0.0498 0.0373

Mars -103274-02-25 15:06 J -35999349.98 -35999349.87 -35999349.75 0.1650 0.0995

Mars -103272-01-31 17:45 J -35998643.88 -35998643.76 -35998643.63 0.1663 0.0911

Earth -103272-06-24 10:33 J -35998500.17 -35998500.06 -35998499.95 0.2686 0.0841

Moon -103272-06-24 11:16 J -35998500.14 -35998500.03 -35998499.92 0.2686 0.0986 *

Venus -103272-07-17 05:45 J -35998477.37 -35998477.26 -35998477.15 0.3774 0.0805

Mars -103272-12-15 03:21 J -35998326.48 -35998326.36 -35998326.23 0.1859 0.0490

Jupiter -103271-03-08 15:06 J -35998242.99 -35998242.87 -35998242.76 0.0526 0.0346

Jupiter -103271-06-06 08:23 J -35998153.29 -35998153.15 -35998153.02 0.0529 0.0201

Saturn -103270-02-23 10:33 J -35997891.06 -35997891.06 -35997891.05 0.0268 0.0268

Saturn -103270-05-23 00:42 J -35997802.57 -35997802.47 -35997802.36 0.0269 0.0195

Saturn -103270-08-19 14:52 J -35997714.01 -35997713.88 -35997713.75 0.0269 0.0122

Saturn -103270-11-16 04:33 J -35997625.46 -35997625.31 -35997625.16 0.0269 0.0050

Saturn -103269-02-12 17:59 J -35997536.90 -35997536.75 -35997536.60 0.0270 0.0021

Saturn -103269-05-11 07:26 J -35997448.33 -35997448.19 -35997448.05 0.0270 0.0091

Saturn -103269-08-07 20:23 J -35997359.77 -35997359.65 -35997359.53 0.0270 0.0159

Saturn -103269-11-04 09:21 J -35997271.19 -35997271.11 -35997271.03 0.0271 0.0227

Earth -103269-12-11 03:21 J -35997234.50 -35997234.36 -35997234.22 0.2660 0.0612

Moon -103269-12-11 03:35 J -35997234.49 -35997234.35 -35997234.20 0.2654 0.0491 *

Venus -103266-01-31 01:40 J -35996453.55 -35996453.43 -35996453.32 0.3770 0.0525

Jupiter -103266-10-25 11:45 J -35996186.14 -35996186.01 -35996185.87 0.0501 0.0236

Jupiter -103265-01-23 03:50 J -35996096.47 -35996096.34 -35996096.20 0.0499 0.0247

Pluto -103265-04-01 17:02 J -35996026.84 -35996026.79 -35996026.72 0.0085 0.0075

Moon -103265-06-17 05:02 J -35995950.35 -35995950.29 -35995950.24 0.2679 0.2344

Earth -103265-06-17 05:16 J -35995950.34 -35995950.28 -35995950.22 0.2673 0.2272 *

Pluto -103265-06-28 18:28 J -35995938.82 -35995938.73 -35995938.64 0.0085 0.0061

Mars -103265-07-17 21:21 J -35995919.68 -35995919.61 -35995919.54 0.1647 0.1421

Pluto -103265-09-24 19:40 J -35995850.79 -35995850.68 -35995850.57 0.0085 0.0048

Pluto -103265-12-21 20:52 J -35995762.75 -35995762.63 -35995762.50 0.0084 0.0034

Neptune -103264-01-04 19:40 J -35995748.69 -35995748.68 -35995748.66 0.0089 0.0088

Pluto -103264-03-19 22:18 J -35995674.70 -35995674.57 -35995674.44 0.0084 0.0021

Neptune -103264-04-02 21:35 J -35995660.64 -35995660.60 -35995660.54 0.0089 0.0084

Uranus -103264-04-05 21:50 J -35995657.65 -35995657.59 -35995657.54 0.0144 0.0136

Pluto -103264-06-15 23:30 J -35995586.65 -35995586.52 -35995586.39 0.0084 0.0007

Neptune -103264-06-29 23:30 J -35995572.57 -35995572.52 -35995572.44 0.0089 0.0080

Uranus -103264-07-03 03:21 J -35995569.46 -35995569.36 -35995569.26 0.0144 0.0114

Pluto -103264-09-12 00:42 J -35995498.60 -35995498.47 -35995498.34 0.0084 0.0006

Neptune -103264-09-26 01:40 J -35995484.50 -35995484.43 -35995484.34 0.0089 0.0075

Uranus -103264-09-29 08:52 J -35995481.24 -35995481.13 -35995481.00 0.0145 0.0092

Pluto -103264-12-09 01:54 J -35995410.55 -35995410.42 -35995410.29 0.0084 0.0019

Neptune -103264-12-23 03:50 J -35995396.42 -35995396.34 -35995396.24 0.0089 0.0071

Uranus -103264-12-26 14:38 J -35995393.02 -35995392.89 -35995392.74 0.0145 0.0069

Pluto -103263-03-07 03:06 J -35995322.49 -35995322.37 -35995322.25 0.0084 0.0032

Neptune -103263-03-21 05:59 J -35995308.35 -35995308.25 -35995308.14 0.0089 0.0066

Uranus -103263-03-24 20:38 J -35995304.79 -35995304.64 -35995304.48 0.0145 0.0046

Pluto -103263-06-03 04:18 J -35995234.43 -35995234.32 -35995234.21 0.0084 0.0046

Neptune -103263-06-17 07:54 J -35995220.27 -35995220.17 -35995220.05 0.0089 0.0062

Uranus -103263-06-21 02:38 J -35995216.55 -35995216.39 -35995216.23 0.0145 0.0022

Mars -103263-06-23 22:47 J -35995213.69 -35995213.55 -35995213.41 0.1660 0.0423

Pluto -103263-08-30 05:30 J -35995146.36 -35995146.27 -35995146.17 0.0084 0.0059

Neptune -103263-09-13 10:18 J -35995132.19 -35995132.07 -35995131.95 0.0089 0.0057

Uranus -103263-09-17 08:38 J -35995128.30 -35995128.14 -35995127.98 0.0145 0.0002

Pluto -103263-11-26 06:42 J -35995058.28 -35995058.22 -35995058.15 0.0083 0.0071

Neptune -103263-12-10 12:14 J -35995044.11 -35995043.99 -35995043.86 0.0089 0.0053

Uranus -103263-12-14 14:38 J -35995040.05 -35995039.89 -35995039.73 0.0145 0.0025

Venus -103262-01-30 18:57 J -35994992.81 -35994992.71 -35994992.61 0.3601 0.2271

Neptune -103262-03-08 14:23 J -35994956.03 -35994955.90 -35994955.76 0.0089 0.0048

Uranus -103262-03-12 20:38 J -35994951.79 -35994951.64 -35994951.48 0.0145 0.0050

Mars -103262-05-07 09:21 J -35994896.24 -35994896.11 -35994895.99 0.1863 0.0102

Neptune -103262-06-04 16:18 J -35994867.94 -35994867.82 -35994867.67 0.0089 0.0044

Uranus -103262-06-09 02:52 J -35994863.52 -35994863.38 -35994863.24 0.0145 0.0074

Neptune -103262-08-31 18:42 J -35994779.86 -35994779.72 -35994779.58 0.0089 0.0039

Uranus -103262-09-05 08:52 J -35994775.24 -35994775.13 -35994775.00 0.0146 0.0099

Neptune -103262-11-27 20:52 J -35994691.77 -35994691.63 -35994691.48 0.0089 0.0034

Uranus -103262-12-02 15:06 J -35994686.94 -35994686.87 -35994686.77 0.0146 0.0124

Neptune -103261-02-23 22:47 J -35994603.69 -35994603.55 -35994603.39 0.0089 0.0030

Neptune -103261-05-22 01:11 J -35994515.60 -35994515.45 -35994515.30 0.0089 0.0025

Venus -103261-08-15 21:35 J -35994429.70 -35994429.60 -35994429.50 0.3766 0.1877

Neptune -103261-08-18 03:21 J -35994427.51 -35994427.36 -35994427.20 0.0089 0.0021

Neptune -103261-11-14 05:30 J -35994339.42 -35994339.27 -35994339.11 0.0089 0.0016

Neptune -103260-02-10 07:40 J -35994251.33 -35994251.18 -35994251.02 0.0089 0.0011

Neptune -103260-05-09 09:50 J -35994163.24 -35994163.09 -35994162.93 0.0089 0.0007

Neptune -103260-08-05 12:14 J -35994075.15 -35994074.99 -35994074.83 0.0089 0.0002

Neptune -103260-11-01 14:23 J -35993987.06 -35993986.90 -35993986.74 0.0089 0.0003

Jupiter -103260-12-25 16:04 J -35993932.88 -35993932.83 -35993932.77 0.0525 0.0483

Neptune -103259-01-28 16:33 J -35993898.97 -35993898.81 -35993898.65 0.0089 0.0008

Jupiter -103259-03-25 09:50 J -35993843.24 -35993843.09 -35993842.94 0.0528 0.0067

Neptune -103259-04-26 18:42 J -35993810.87 -35993810.72 -35993810.55 0.0089 0.0013

Earth -103259-06-27 05:45 J -35993749.34 -35993749.26 -35993749.18 0.2691 0.1937

Moon -103259-06-27 06:14 J -35993749.32 -35993749.24 -35993749.16 0.2685 0.1910 *

Neptune -103259-07-23 21:06 J -35993722.78 -35993722.62 -35993722.46 0.0089 0.0017

Neptune -103259-10-19 23:16 J -35993634.68 -35993634.53 -35993634.37 0.0089 0.0022

Neptune -103258-01-16 01:40 J -35993546.58 -35993546.43 -35993546.28 0.0089 0.0027

Neptune -103258-04-14 03:50 J -35993458.48 -35993458.34 -35993458.18 0.0089 0.0032

Neptune -103258-07-11 05:59 J -35993370.39 -35993370.25 -35993370.09 0.0089 0.0037

Neptune -103258-10-07 08:23 J -35993282.28 -35993282.15 -35993282.00 0.0089 0.0042

Neptune -103257-01-03 10:33 J -35993194.18 -35993194.06 -35993193.91 0.0089 0.0047

Neptune -103257-03-31 13:11 J -35993106.08 -35993105.95 -35993105.82 0.0089 0.0051

Neptune -103257-06-27 15:21 J -35993017.98 -35993017.86 -35993017.73 0.0089 0.0056

Venus -103257-08-15 17:30 J -35992968.89 -35992968.77 -35992968.64 0.3605 0.0780

Neptune -103257-09-23 17:45 J -35992929.87 -35992929.76 -35992929.63 0.0089 0.0061

Neptune -103257-12-20 20:09 J -35992841.76 -35992841.66 -35992841.55 0.0089 0.0066

Neptune -103256-03-18 22:33 J -35992753.65 -35992753.56 -35992753.46 0.0089 0.0071

Neptune -103256-06-15 00:57 J -35992665.54 -35992665.46 -35992665.37 0.0089 0.0076

Saturn -103256-09-09 07:40 J -35992579.26 -35992579.18 -35992579.08 0.0291 0.0235

Neptune -103256-09-11 03:21 J -35992577.42 -35992577.36 -35992577.29 0.0089 0.0081

Saturn -103256-12-07 01:26 J -35992490.57 -35992490.44 -35992490.30 0.0291 0.0143

Neptune -103256-12-08 05:45 J -35992489.29 -35992489.26 -35992489.21 0.0089 0.0086

Moon -103256-12-14 05:30 J -35992483.41 -35992483.27 -35992483.13 0.2648 0.0929

Earth -103256-12-14 05:59 J -35992483.38 -35992483.25 -35992483.12 0.2655 0.1061 *

Venus -103255-03-01 17:59 J -35992405.80 -35992405.75 -35992405.69 0.3762 0.3287

Saturn -103255-03-05 19:26 J -35992401.85 -35992401.69 -35992401.53 0.0290 0.0050

Saturn -103255-06-02 13:40 J -35992313.08 -35992312.93 -35992312.76 0.0290 0.0047

Saturn -103255-08-30 08:23 J -35992224.29 -35992224.15 -35992224.00 0.0289 0.0143

Saturn -103255-11-27 03:35 J -35992135.44 -35992135.35 -35992135.26 0.0289 0.0241

Jupiter -103254-08-13 13:40 J -35991876.03 -35991875.93 -35991875.82 0.0502 0.0352

Jupiter -103254-11-11 05:30 J -35991786.42 -35991786.27 -35991786.12 0.0499 0.0127

Mars -103254-11-14 04:04 J -35991783.47 -35991783.33 -35991783.18 0.1656 0.0052

Mars -103253-09-26 14:52 J -35991466.00 -35991465.88 -35991465.76 0.1867 0.0676

Earth -103252-06-20 00:42 J -35991199.57 -35991199.47 -35991199.36 0.2677 0.1148

Moon -103252-06-20 01:11 J -35991199.56 -35991199.45 -35991199.35 0.2683 0.1124 *

Venus -103251-03-01 15:35 J -35990944.98 -35990944.85 -35990944.72 0.3608 0.0642

Mars -103251-09-02 14:52 J -35990759.94 -35990759.88 -35990759.82 0.1849 0.1615

Jupiter -103247-01-11 10:18 J -35989533.22 -35989533.07 -35989532.92 0.0526 0.0079

Jupiter -103247-04-11 02:38 J -35989443.46 -35989443.39 -35989443.32 0.0530 0.0457

Venus -103246-09-15 13:26 J -35988921.05 -35988920.94 -35988920.84 0.3612 0.2017

Mars -103244-04-05 09:35 J -35988353.24 -35988353.10 -35988352.96 0.1653 0.0509

Mars -103243-02-16 20:09 J -35988035.75 -35988035.66 -35988035.56 0.1871 0.1284

Mars -103242-03-12 13:40 J -35987647.00 -35987646.93 -35987646.87 0.1667 0.1463

Jupiter -103242-06-01 15:50 J -35987565.90 -35987565.84 -35987565.79 0.0503 0.0468

Jupiter -103242-08-30 06:57 J -35987476.36 -35987476.21 -35987476.05 0.0500 0.0017

Mars -103241-01-23 21:21 J -35987329.71 -35987329.61 -35987329.51 0.1854 0.1086

Saturn -103241-10-09 03:35 J -35987070.44 -35987070.35 -35987070.25 0.0269 0.0211

Saturn -103240-01-05 17:45 J -35986981.89 -35986981.76 -35986981.63 0.0269 0.0138

Venus -103240-03-31 10:47 J -35986897.09 -35986897.05 -35986897.00 0.3616 0.3336

Saturn -103240-04-04 07:26 J -35986893.33 -35986893.19 -35986893.04 0.0270 0.0066

Saturn -103240-07-01 21:06 J -35986804.77 -35986804.62 -35986804.47 0.0270 0.0006

Saturn -103240-09-28 10:18 J -35986716.21 -35986716.07 -35986715.92 0.0270 0.0076

Saturn -103240-12-25 23:30 J -35986627.64 -35986627.52 -35986627.39 0.0271 0.0145

Saturn -103239-03-24 12:28 J -35986539.07 -35986538.98 -35986538.89 0.0271 0.0213

Earth -103239-06-22 20:09 J -35986448.77 -35986448.66 -35986448.54 0.2682 0.0085

Moon -103239-06-22 21:06 J -35986448.74 -35986448.62 -35986448.51 0.2686 0.0128 *

Jupiter -103236-10-30 11:16 J -35985223.16 -35985223.03 -35985222.89 0.0526 0.0218

Earth -103236-12-09 06:57 J -35985183.31 -35985183.21 -35985183.12 0.2665 0.1915

Moon -103236-12-09 07:54 J -35985183.27 -35985183.17 -35985183.06 0.2661 0.1747 *

Jupiter -103235-01-28 04:18 J -35985133.43 -35985133.32 -35985133.21 0.0529 0.0324

Mars -103235-08-26 15:35 J -35984922.97 -35984922.85 -35984922.74 0.1650 0.0947

Mars -103233-08-01 17:59 J -35984216.87 -35984216.75 -35984216.63 0.1663 0.0959

Mars -103232-06-15 03:35 J -35983899.47 -35983899.35 -35983899.23 0.1859 0.0542

Jupiter -103230-06-18 08:38 J -35983166.29 -35983166.14 -35983165.99 0.0501 0.0111

Jupiter -103230-09-16 00:57 J -35983076.56 -35983076.46 -35983076.35 0.0498 0.0376

Venus -103226-01-22 13:11 J -35981852.02 -35981851.95 -35981851.88 0.3780 0.2896

Saturn -103226-01-27 09:06 J -35981847.19 -35981847.12 -35981847.05 0.0291 0.0258

Saturn -103226-04-26 02:38 J -35981758.52 -35981758.39 -35981758.26 0.0291 0.0168

Earth -103226-06-25 15:35 J -35981697.96 -35981697.85 -35981697.74 0.2687 0.1072

Moon -103226-06-25 16:18 J -35981697.93 -35981697.82 -35981697.71 0.2684 0.1080 *

Saturn -103226-07-23 20:23 J -35981669.80 -35981669.65 -35981669.49 0.0290 0.0075

Saturn -103226-10-20 14:38 J -35981581.05 -35981580.89 -35981580.73 0.0290 0.0020

Mars -103225-01-16 21:35 J -35981492.67 -35981492.60 -35981492.52 0.1647 0.1373

Saturn -103225-01-17 09:06 J -35981492.26 -35981492.12 -35981491.97 0.0289 0.0116

Saturn -103225-04-15 04:04 J -35981403.44 -35981403.33 -35981403.22 0.0289 0.0214

Uranus -103225-09-01 12:14 J -35981264.03 -35981263.99 -35981263.93 0.0134 0.0127

Uranus -103225-11-28 16:47 J -35981175.89 -35981175.80 -35981175.71 0.0134 0.0109

Uranus -103224-02-24 21:21 J -35981087.73 -35981087.61 -35981087.50 0.0134 0.0091

Uranus -103224-05-24 01:26 J -35980999.56 -35980999.44 -35980999.31 0.0134 0.0073

Jupiter -103224-08-18 12:42 J -35980913.08 -35980912.97 -35980912.86 0.0525 0.0352

Uranus -103224-08-20 05:45 J -35980911.39 -35980911.26 -35980911.12 0.0134 0.0055

Jupiter -103224-11-16 05:59 J -35980823.38 -35980823.25 -35980823.11 0.0529 0.0195

Uranus -103224-11-16 10:04 J -35980823.22 -35980823.08 -35980822.93 0.0134 0.0038 *

Mars -103224-12-22 23:16 J -35980786.67 -35980786.53 -35980786.39 0.1660 0.0479

Uranus -103223-02-12 14:23 J -35980735.05 -35980734.90 -35980734.75 0.0134 0.0020

Uranus -103223-05-11 18:28 J -35980646.88 -35980646.73 -35980646.58 0.0134 0.0004

Uranus -103223-08-07 22:33 J -35980558.70 -35980558.56 -35980558.40 0.0134 0.0015

Uranus -103223-11-04 02:38 J -35980470.53 -35980470.39 -35980470.24 0.0134 0.0031

Mars -103223-11-05 09:35 J -35980469.23 -35980469.10 -35980468.97 0.1863 0.0051

Earth -103223-12-12 09:21 J -35980432.26 -35980432.11 -35980431.97 0.2660 0.0277

Moon -103223-12-12 09:21 J -35980432.25 -35980432.11 -35980431.96 0.2653 0.0348 *

Uranus -103222-01-31 06:57 J -35980382.35 -35980382.21 -35980382.07 0.0133 0.0048

Uranus -103222-04-29 10:47 J -35980294.18 -35980294.05 -35980293.91 0.0133 0.0064

Uranus -103222-07-26 14:52 J -35980206.00 -35980205.88 -35980205.76 0.0133 0.0081

Uranus -103222-10-22 18:42 J -35980117.81 -35980117.72 -35980117.61 0.0133 0.0097

Uranus -103221-01-18 22:33 J -35980029.63 -35980029.56 -35980029.47 0.0133 0.0113

Uranus -103221-04-16 02:23 J -35979941.42 -35979941.40 -35979941.35 0.0133 0.0129

Venus -103221-08-07 08:38 J -35979828.24 -35979828.14 -35979828.04 0.3776 0.1660

Moon -103219-06-18 10:04 J -35979148.16 -35979148.08 -35979148.01 0.2680 0.2024

Earth -103219-06-18 10:18 J -35979148.15 -35979148.07 -35979148.00 0.2673 0.2035 *

Jupiter -103218-04-06 10:33 J -35978856.19 -35978856.06 -35978855.92 0.0501 0.0228

Jupiter -103218-07-05 02:38 J -35978766.53 -35978766.39 -35978766.26 0.0499 0.0254

Venus -103215-02-21 04:18 J -35977804.44 -35977804.32 -35977804.21 0.3773 0.0370

Mars -103214-05-15 04:33 J -35977356.46 -35977356.31 -35977356.17 0.1656 0.0051

Mars -103213-03-27 15:06 J -35977038.99 -35977038.87 -35977038.75 0.1867 0.0622

Earth -103213-06-27 10:47 J -35976947.12 -35976947.05 -35976946.98 0.2692 0.2158

Moon -103213-06-27 11:16 J -35976947.09 -35976947.03 -35976946.97 0.2686 0.2255 *

Jupiter -103212-06-06 14:09 J -35976602.97 -35976602.91 -35976602.86 0.0525 0.0485

Jupiter -103212-09-04 07:54 J -35976513.32 -35976513.17 -35976513.02 0.0528 0.0066

Venus -103211-02-20 19:40 J -35976343.73 -35976343.68 -35976343.63 0.3599 0.3285

Saturn -103211-02-26 04:18 J -35976338.39 -35976338.32 -35976338.25 0.0269 0.0237

Mars -103211-03-03 14:52 J -35976332.93 -35976332.88 -35976332.82 0.1850 0.1666

Saturn -103211-05-25 18:28 J -35976249.85 -35976249.73 -35976249.61 0.0269 0.0164

Saturn -103211-08-22 08:23 J -35976161.29 -35976161.15 -35976161.01 0.0269 0.0091

Saturn -103211-11-18 22:04 J -35976072.73 -35976072.58 -35976072.43 0.0270 0.0021

Saturn -103210-02-15 11:30 J -35975984.17 -35975984.02 -35975983.88 0.0270 0.0051

Saturn -103210-05-15 00:28 J -35975895.61 -35975895.48 -35975895.34 0.0270 0.0121

Saturn -103210-08-11 13:40 J -35975807.03 -35975806.93 -35975806.83 0.0271 0.0189

Venus -103210-09-07 00:14 J -35975780.61 -35975780.49 -35975780.38 0.3769 0.0962

Saturn -103210-11-08 02:23 J -35975718.44 -35975718.40 -35975718.35 0.0271 0.0256

Moon -103210-12-15 11:30 J -35975681.15 -35975681.02 -35975680.90 0.2649 0.1428

Earth -103210-12-15 11:59 J -35975681.12 -35975681.00 -35975680.87 0.2654 0.1404 *

Jupiter -103206-01-23 11:59 J -35974546.10 -35974546.00 -35974545.89 0.0502 0.0350

Jupiter -103206-04-23 03:35 J -35974456.50 -35974456.35 -35974456.20 0.0499 0.0129

Earth -103206-06-21 05:45 J -35974397.37 -35974397.26 -35974397.15 0.2678 0.0916

Moon -103206-06-21 06:28 J -35974397.34 -35974397.23 -35974397.12 0.2683 0.0893 *

Venus -103206-09-06 18:28 J -35974319.85 -35974319.73 -35974319.62 0.3602 0.1767

Mars -103205-10-04 10:04 J -35973926.22 -35973926.08 -35973925.94 0.1653 0.0455

Venus -103204-03-22 20:23 J -35973756.74 -35973756.65 -35973756.56 0.3765 0.2331

Mars -103204-08-17 20:23 J -35973608.75 -35973608.65 -35973608.56 0.1871 0.1234

Mars -103203-09-10 13:54 J -35973219.98 -35973219.92 -35973219.86 0.1667 0.1518

Mars -103202-07-24 21:35 J -35972902.70 -35972902.60 -35972902.50 0.1854 0.1138

Venus -103200-03-22 16:47 J -35972295.93 -35972295.80 -35972295.67 0.3605 0.0297

Jupiter -103200-06-23 09:21 J -35972203.26 -35972203.11 -35972202.96 0.0527 0.0069

Jupiter -103200-09-21 01:54 J -35972113.49 -35972113.42 -35972113.36 0.0530 0.0468

Venus -103199-10-06 16:47 J -35971732.80 -35971732.80 -35971732.79 0.3761 0.3746

Saturn -103197-06-15 09:21 J -35971115.13 -35971115.11 -35971115.08 0.0291 0.0286

Saturn -103197-09-12 02:38 J -35971026.50 -35971026.39 -35971026.27 0.0291 0.0197

Saturn -103197-12-09 20:23 J -35970937.79 -35970937.65 -35970937.50 0.0290 0.0104

Saturn -103196-03-08 14:38 J -35970849.05 -35970848.89 -35970848.73 0.0290 0.0010

Saturn -103196-06-05 09:06 J -35970760.28 -35970760.12 -35970759.97 0.0290 0.0087

Saturn -103196-09-02 03:50 J -35970671.46 -35970671.34 -35970671.21 0.0289 0.0184

Saturn -103196-11-29 23:02 J -35970582.57 -35970582.54 -35970582.51 0.0289 0.0282

Mars -103195-02-24 15:50 J -35970495.96 -35970495.84 -35970495.72 0.1650 0.0899

Venus -103195-10-06 14:38 J -35970272.01 -35970271.89 -35970271.76 0.3609 0.1111

Jupiter -103195-11-11 13:54 J -35970235.97 -35970235.92 -35970235.86 0.0503 0.0467

Mars -103194-01-08 01:11 J -35970178.46 -35970178.45 -35970178.44 0.1875 0.1863

Jupiter -103194-02-09 05:16 J -35970146.44 -35970146.28 -35970146.13 0.0500 0.0010

Jupiter -103194-05-09 22:04 J -35970056.58 -35970056.58 -35970056.58 0.0498 0.0497

Mars -103193-01-31 18:42 J -35969789.84 -35969789.72 -35969789.60 0.1663 0.1017

Earth -103193-06-23 01:11 J -35969646.56 -35969646.45 -35969646.33 0.2683 0.0221

Moon -103193-06-23 02:09 J -35969646.53 -35969646.41 -35969646.30 0.2685 0.0261 *

Mars -103193-12-14 03:50 J -35969472.46 -35969472.34 -35969472.22 0.1859 0.0591

Earth -103190-12-10 12:57 J -35968381.08 -35968380.96 -35968380.85 0.2664 0.1584

Moon -103190-12-10 13:54 J -35968381.04 -35968380.92 -35968380.81 0.2660 0.1537 *

Venus -103189-04-21 12:28 J -35968248.07 -35968247.98 -35968247.89 0.3613 0.2462

Jupiter -103188-04-11 09:50 J -35967893.23 -35967893.09 -35967892.96 0.0526 0.0214

Jupiter -103188-07-10 02:38 J -35967803.50 -35967803.39 -35967803.28 0.0529 0.0326

Mars -103186-07-17 21:50 J -35967065.67 -35967065.59 -35967065.51 0.1647 0.1330

Mars -103184-06-22 23:30 J -35966359.66 -35966359.52 -35966359.38 0.1660 0.0523

Mars -103183-05-06 09:50 J -35966042.22 -35966042.09 -35966041.97 0.1863 0.0068

Jupiter -103183-11-28 06:42 J -35965836.37 -35965836.22 -35965836.07 0.0501 0.0112

Jupiter -103182-02-25 23:02 J -35965746.63 -35965746.54 -35965746.43 0.0499 0.0376

Neptune -103182-04-17 02:52 J -35965696.41 -35965696.38 -35965696.33 0.0088 0.0086

Neptune -103182-07-14 05:16 J -35965608.34 -35965608.28 -35965608.21 0.0088 0.0081

Saturn -103182-07-16 07:11 J -35965606.25 -35965606.20 -35965606.15 0.0269 0.0253

Neptune -103182-10-10 07:40 J -35965520.26 -35965520.18 -35965520.10 0.0088 0.0076

Saturn -103182-10-12 21:21 J -35965517.72 -35965517.61 -35965517.49 0.0270 0.0180

Neptune -103181-01-06 09:35 J -35965432.18 -35965432.10 -35965431.99 0.0088 0.0071

Saturn -103181-01-09 11:16 J -35965429.16 -35965429.03 -35965428.89 0.0270 0.0107

Neptune -103181-04-03 11:59 J -35965344.09 -35965344.00 -35965343.88 0.0088 0.0066

Saturn -103181-04-07 01:11 J -35965340.60 -35965340.45 -35965340.30 0.0270 0.0035

Neptune -103181-06-30 14:23 J -35965256.01 -35965255.90 -35965255.78 0.0088 0.0061

Saturn -103181-07-04 14:38 J -35965252.04 -35965251.89 -35965251.74 0.0270 0.0036

Neptune -103181-09-26 16:33 J -35965167.92 -35965167.81 -35965167.68 0.0088 0.0057

Saturn -103181-10-01 03:50 J -35965163.47 -35965163.34 -35965163.20 0.0271 0.0106

Neptune -103181-12-23 18:57 J -35965079.84 -35965079.71 -35965079.58 0.0088 0.0052

Saturn -103181-12-28 17:02 J -35965074.90 -35965074.79 -35965074.68 0.0271 0.0175

Neptune -103180-03-21 20:52 J -35964991.75 -35964991.63 -35964991.48 0.0088 0.0048

Saturn -103180-03-27 05:45 J -35964986.32 -35964986.26 -35964986.19 0.0272 0.0243

Uranus -103180-04-26 04:33 J -35964956.37 -35964956.31 -35964956.24 0.0144 0.0131

Neptune -103180-06-17 23:16 J -35964903.66 -35964903.53 -35964903.38 0.0088 0.0043

Earth -103180-06-25 20:38 J -35964895.74 -35964895.64 -35964895.54 0.2688 0.1299

Moon -103180-06-25 21:21 J -35964895.71 -35964895.61 -35964895.51 0.2684 0.1419 *

Uranus -103180-07-23 10:04 J -35964868.17 -35964868.08 -35964867.96 0.0144 0.0110

Neptune -103180-09-14 01:40 J -35964815.57 -35964815.43 -35964815.28 0.0088 0.0038

Uranus -103180-10-19 16:04 J -35964779.96 -35964779.83 -35964779.70 0.0145 0.0087

Neptune -103180-12-11 03:50 J -35964727.48 -35964727.34 -35964727.19 0.0088 0.0033

Uranus -103179-01-15 21:50 J -35964691.73 -35964691.59 -35964691.44 0.0145 0.0064

Neptune -103179-03-09 05:59 J -35964639.39 -35964639.25 -35964639.09 0.0088 0.0028

Uranus -103179-04-14 03:35 J -35964603.50 -35964603.35 -35964603.19 0.0145 0.0041

Neptune -103179-06-05 08:09 J -35964551.31 -35964551.16 -35964551.00 0.0088 0.0024

Uranus -103179-07-11 09:35 J -35964515.26 -35964515.10 -35964514.94 0.0145 0.0018

Neptune -103179-09-01 10:33 J -35964463.22 -35964463.06 -35964462.91 0.0088 0.0019

Uranus -103179-10-07 15:35 J -35964427.01 -35964426.85 -35964426.69 0.0145 0.0006

Neptune -103179-11-28 12:28 J -35964375.13 -35964374.98 -35964374.81 0.0088 0.0015

Uranus -103178-01-03 21:35 J -35964338.76 -35964338.60 -35964338.44 0.0145 0.0030

Neptune -103178-02-24 14:52 J -35964287.04 -35964286.88 -35964286.72 0.0088 0.0009

Uranus -103178-04-02 03:35 J -35964250.50 -35964250.35 -35964250.19 0.0145 0.0054

Neptune -103178-05-23 17:02 J -35964198.95 -35964198.79 -35964198.63 0.0088 0.0005

Uranus -103178-06-29 09:35 J -35964162.23 -35964162.10 -35964161.95 0.0145 0.0079

Neptune -103178-08-19 19:11 J -35964110.86 -35964110.70 -35964110.55 0.0088 0.0002

Uranus -103178-09-25 16:04 J -35964073.95 -35964073.83 -35964073.71 0.0146 0.0103

Neptune -103178-11-15 21:06 J -35964022.77 -35964022.62 -35964022.46 0.0088 0.0006

Uranus -103178-12-22 22:04 J -35963985.65 -35963985.58 -35963985.49 0.0146 0.0128

Neptune -103177-02-11 23:16 J -35963934.68 -35963934.53 -35963934.37 0.0088 0.0009

Neptune -103177-05-10 01:26 J -35963846.59 -35963846.44 -35963846.28 0.0088 0.0014

Neptune -103177-08-06 03:35 J -35963758.50 -35963758.35 -35963758.20 0.0088 0.0018

Neptune -103177-11-02 05:30 J -35963670.41 -35963670.27 -35963670.11 0.0088 0.0023

Moon -103177-12-12 15:21 J -35963630.01 -35963629.86 -35963629.71 0.2652 0.0138

Earth -103177-12-12 15:21 J -35963630.00 -35963629.86 -35963629.71 0.2659 0.0064 *

Jupiter -103176-01-28 10:33 J -35963583.16 -35963583.06 -35963582.94 0.0525 0.0355

Neptune -103176-01-29 07:40 J -35963582.32 -35963582.18 -35963582.03 0.0088 0.0027

Neptune -103176-04-27 09:35 J -35963494.24 -35963494.10 -35963493.95 0.0088 0.0032

Jupiter -103176-04-28 04:04 J -35963493.47 -35963493.33 -35963493.20 0.0528 0.0191

Neptune -103176-07-24 11:45 J -35963406.15 -35963406.01 -35963405.86 0.0088 0.0036

Neptune -103176-10-20 13:54 J -35963318.06 -35963317.92 -35963317.78 0.0088 0.0041

Neptune -103175-01-16 15:50 J -35963229.97 -35963229.84 -35963229.70 0.0088 0.0045

Venus -103175-02-12 16:18 J -35963202.84 -35963202.82 -35963202.80 0.3782 0.3693

Neptune -103175-04-14 17:59 J -35963141.88 -35963141.75 -35963141.62 0.0088 0.0050

Neptune -103175-07-11 19:40 J -35963053.79 -35963053.68 -35963053.54 0.0088 0.0055

Neptune -103175-10-07 21:50 J -35962965.70 -35962965.59 -35962965.47 0.0088 0.0059

Mars -103175-11-13 04:47 J -35962929.45 -35962929.30 -35962929.15 0.1657 0.0054

Neptune -103174-01-03 23:45 J -35962877.60 -35962877.51 -35962877.39 0.0088 0.0063

Neptune -103174-04-02 01:40 J -35962789.51 -35962789.43 -35962789.32 0.0088 0.0068

Neptune -103174-06-29 03:50 J -35962701.42 -35962701.34 -35962701.24 0.0088 0.0072

Neptune -103174-09-25 05:59 J -35962613.33 -35962613.25 -35962613.17 0.0088 0.0076

Mars -103174-09-26 15:21 J -35962611.98 -35962611.86 -35962611.74 0.1867 0.0566

Neptune -103174-12-22 07:40 J -35962525.23 -35962525.18 -35962525.11 0.0088 0.0080

Neptune -103173-03-19 09:35 J -35962437.13 -35962437.10 -35962437.05 0.0088 0.0085

Moon -103173-06-18 15:21 J -35962345.95 -35962345.86 -35962345.78 0.2680 0.1873

Earth -103173-06-18 15:21 J -35962345.94 -35962345.86 -35962345.77 0.2674 0.1802 *

Mars -103172-09-01 15:21 J -35961905.91 -35961905.86 -35961905.82 0.1850 0.1718

Jupiter -103171-09-16 08:23 J -35961526.28 -35961526.15 -35961526.01 0.0502 0.0230

Jupiter -103171-12-15 00:28 J -35961436.61 -35961436.48 -35961436.35 0.0499 0.0253

Venus -103170-08-29 11:30 J -35961179.10 -35961179.02 -35961178.93 0.3779 0.2487

Saturn -103167-01-30 04:33 J -35960294.41 -35960294.31 -35960294.20 0.0291 0.0217

Saturn -103167-04-28 22:18 J -35960205.71 -35960205.57 -35960205.43 0.0290 0.0126

Earth -103167-06-28 15:49 J -35960144.89 -35960144.84 -35960144.79 0.2692 0.2387

Moon -103167-06-28 16:04 J -35960144.88 -35960144.83 -35960144.78 0.2686 0.2339 *

Saturn -103167-07-26 16:18 J -35960116.98 -35960116.82 -35960116.66 0.0290 0.0032

Saturn -103167-10-23 10:33 J -35960028.22 -35960028.06 -35960027.90 0.0290 0.0064

Saturn -103166-01-20 05:16 J -35959939.42 -35959939.28 -35959939.14 0.0289 0.0160

Saturn -103166-04-19 00:13 J -35959850.56 -35959850.49 -35959850.41 0.0289 0.0258

Mars -103165-04-04 10:18 J -35959499.21 -35959499.07 -35959498.93 0.1653 0.0407

Jupiter -103165-11-16 11:30 J -35959273.06 -35959273.02 -35959272.97 0.0524 0.0493

Jupiter -103164-02-14 05:30 J -35959183.42 -35959183.27 -35959183.13 0.0528 0.0058

Mars -103164-02-15 20:37 J -35959181.74 -35959181.64 -35959181.54 0.1871 0.1179

Venus -103164-03-14 07:11 J -35959155.31 -35959155.20 -35959155.10 0.3775 0.1237

Moon -103164-12-15 17:16 J -35958878.90 -35958878.78 -35958878.66 0.2649 0.1571

Earth -103164-12-15 18:13 J -35958878.85 -35958878.74 -35958878.64 0.2654 0.1748 *

Mars -103163-03-11 14:23 J -35958792.94 -35958792.90 -35958792.85 0.1667 0.1576

Mars -103162-01-22 21:35 J -35958475.69 -35958475.60 -35958475.50 0.1854 0.1190

Earth -103160-06-21 11:01 J -35957595.16 -35957595.04 -35957594.93 0.2679 0.0682

Moon -103160-06-21 11:30 J -35957595.13 -35957595.02 -35957594.91 0.2684 0.0588 *

Jupiter -103159-07-05 10:33 J -35957216.17 -35957216.06 -35957215.95 0.0502 0.0345

Venus -103159-09-28 02:52 J -35957131.50 -35957131.38 -35957131.27 0.3771 0.0105

Jupiter -103159-10-03 02:09 J -35957126.56 -35957126.41 -35957126.26 0.0499 0.0133

Mars -103156-08-25 16:18 J -35956068.95 -35956068.82 -35956068.70 0.1650 0.0850

Mars -103155-07-09 01:25 J -35955751.47 -35955751.44 -35955751.40 0.1874 0.1807

Venus -103155-09-27 18:57 J -35955670.79 -35955670.71 -35955670.63 0.3600 0.2771

Mars -103154-08-01 18:57 J -35955362.82 -35955362.71 -35955362.59 0.1663 0.1069

Venus -103153-04-12 22:47 J -35955107.66 -35955107.55 -35955107.44 0.3768 0.1404

Mars -103153-06-14 04:04 J -35955045.45 -35955045.33 -35955045.22 0.1859 0.0644

Jupiter -103153-12-03 07:11 J -35954873.35 -35954873.20 -35954873.05 0.0527 0.0073

Saturn -103152-02-28 22:18 J -35954785.66 -35954785.57 -35954785.47 0.0269 0.0204

Jupiter -103152-03-02 23:45 J -35954783.58 -35954783.51 -35954783.44 0.0530 0.0465

Saturn -103152-05-28 12:13 J -35954697.11 -35954696.99 -35954696.85 0.0269 0.0132

Saturn -103152-08-25 02:09 J -35954608.55 -35954608.41 -35954608.26 0.0269 0.0059

Saturn -103152-11-21 15:49 J -35954519.99 -35954519.84 -35954519.69 0.0270 0.0014

Saturn -103151-02-18 05:01 J -35954431.43 -35954431.29 -35954431.15 0.0270 0.0083

Saturn -103151-05-17 18:13 J -35954342.86 -35954342.74 -35954342.62 0.0271 0.0152

Saturn -103151-08-14 07:11 J -35954254.28 -35954254.20 -35954254.12 0.0271 0.0220

Venus -103149-04-12 17:45 J -35953646.88 -35953646.76 -35953646.64 0.3603 0.1264

Venus -103148-10-27 19:11 J -35953083.78 -35953083.70 -35953083.63 0.3764 0.2789

Jupiter -103147-04-23 11:59 J -35952906.05 -35952906.00 -35952905.94 0.0503 0.0466

Earth -103147-06-24 06:28 J -35952844.35 -35952844.23 -35952844.12 0.2683 0.0448

Moon -103147-06-24 07:11 J -35952844.32 -35952844.20 -35952844.09 0.2684 0.0512 *

Jupiter -103147-07-22 03:21 J -35952816.52 -35952816.36 -35952816.21 0.0500 0.0012

Jupiter -103147-10-19 19:54 J -35952726.67 -35952726.67 -35952726.66 0.0497 0.0496

Mars -103146-01-15 22:18 J -35952638.66 -35952638.57 -35952638.48 0.1647 0.1280

Mars -103145-12-21 23:59 J -35951932.64 -35951932.50 -35951932.36 0.1660 0.0580

Venus -103144-10-27 16:04 J -35951622.96 -35951622.83 -35951622.71 0.3607 0.0206

Mars -103144-11-04 09:49 J -35951615.21 -35951615.09 -35951614.96 0.1863 0.0083

Earth -103144-12-10 18:57 J -35951578.84 -35951578.71 -35951578.59 0.2663 0.1261

Moon -103144-12-10 19:25 J -35951578.82 -35951578.69 -35951578.56 0.2658 0.1197 *

Jupiter -103141-09-21 08:23 J -35950563.28 -35950563.15 -35950563.01 0.0526 0.0208

Uranus -103141-09-21 19:25 J -35950562.75 -35950562.69 -35950562.63 0.0134 0.0123

Uranus -103141-12-18 23:45 J -35950474.60 -35950474.51 -35950474.41 0.0134 0.0105

Jupiter -103141-12-20 01:25 J -35950473.55 -35950473.44 -35950473.33 0.0529 0.0334

Uranus -103140-03-17 04:18 J -35950386.44 -35950386.32 -35950386.20 0.0134 0.0087

Uranus -103140-06-13 08:23 J -35950298.27 -35950298.15 -35950298.01 0.0134 0.0069

Uranus -103140-09-09 12:57 J -35950210.10 -35950209.96 -35950209.82 0.0134 0.0051

Uranus -103140-12-06 17:01 J -35950121.93 -35950121.79 -35950121.63 0.0134 0.0034

Uranus -103139-03-04 21:21 J -35950033.76 -35950033.61 -35950033.45 0.0134 0.0017

Uranus -103139-06-01 01:40 J -35949945.58 -35949945.43 -35949945.28 0.0134 0.0002

Uranus -103139-08-28 05:45 J -35949857.41 -35949857.26 -35949857.11 0.0134 0.0018

Uranus -103139-11-24 09:49 J -35949769.23 -35949769.09 -35949768.94 0.0134 0.0035

Uranus -103138-02-20 13:54 J -35949681.06 -35949680.92 -35949680.78 0.0133 0.0052

Venus -103138-05-13 13:54 J -35949599.03 -35949598.92 -35949598.81 0.3610 0.1567

Uranus -103138-05-19 17:45 J -35949592.88 -35949592.76 -35949592.62 0.0133 0.0069

Saturn -103138-06-19 04:47 J -35949562.38 -35949562.30 -35949562.22 0.0291 0.0246

Uranus -103138-08-15 22:04 J -35949504.70 -35949504.58 -35949504.47 0.0133 0.0085

Saturn -103138-09-15 22:18 J -35949473.70 -35949473.57 -35949473.44 0.0291 0.0155

Uranus -103138-11-12 01:40 J -35949416.51 -35949416.43 -35949416.32 0.0133 0.0101

Saturn -103138-12-13 16:04 J -35949384.98 -35949384.83 -35949384.67 0.0290 0.0062

Uranus -103137-02-08 05:45 J -35949328.32 -35949328.26 -35949328.18 0.0133 0.0117

Saturn -103137-03-11 10:18 J -35949296.23 -35949296.07 -35949295.91 0.0290 0.0034

Uranus -103137-05-06 09:35 J -35949240.10 -35949240.10 -35949240.09 0.0133 0.0133

Saturn -103137-06-08 05:01 J -35949207.44 -35949207.29 -35949207.15 0.0289 0.0130

Saturn -103137-09-04 23:59 J -35949118.60 -35949118.50 -35949118.40 0.0289 0.0228

Jupiter -103135-05-10 04:47 J -35948506.45 -35948506.30 -35948506.15 0.0501 0.0113

Mars -103135-05-14 05:16 J -35948502.43 -35948502.28 -35948502.14 0.1656 0.0115

Jupiter -103135-08-07 21:06 J -35948416.72 -35948416.62 -35948416.51 0.0498 0.0374

Mars -103134-03-27 15:21 J -35948184.98 -35948184.86 -35948184.73 0.1867 0.0522

Earth -103134-06-27 01:40 J -35948093.52 -35948093.43 -35948093.34 0.2688 0.1531

Moon -103134-06-27 02:23 J -35948093.50 -35948093.40 -35948093.31 0.2684 0.1551 *

Venus -103133-11-26 11:30 J -35947575.09 -35947575.02 -35947574.95 0.3614 0.2904

Mars -103132-03-02 15:21 J -35947478.90 -35947478.86 -35947478.83 0.1850 0.1761

Moon -103131-12-13 21:21 J -35946827.76 -35946827.61 -35946827.47 0.2652 0.0329

Earth -103131-12-13 21:21 J -35946827.75 -35946827.61 -35946827.47 0.2658 0.0400 *

Jupiter -103129-07-10 08:52 J -35946253.24 -35946253.13 -35946253.02 0.0525 0.0352

Jupiter -103129-10-08 02:09 J -35946163.54 -35946163.41 -35946163.27 0.0528 0.0193

Moon -103127-06-19 20:37 J -35945543.74 -35945543.64 -35945543.55 0.2681 0.1499

Earth -103127-06-19 20:23 J -35945543.74 -35945543.65 -35945543.55 0.2674 0.1569 *

Mars -103126-10-04 10:33 J -35945072.20 -35945072.06 -35945071.91 0.1653 0.0362

Mars -103125-08-16 20:52 J -35944754.73 -35944754.63 -35944754.52 0.1871 0.1119

Mars -103124-09-09 14:52 J -35944365.91 -35944365.88 -35944365.85 0.1667 0.1626

Jupiter -103123-02-26 06:28 J -35944196.37 -35944196.23 -35944196.10 0.0502 0.0233

Jupiter -103123-05-26 22:18 J -35944106.70 -35944106.57 -35944106.43 0.0499 0.0251

Saturn -103123-07-19 01:25 J -35944053.53 -35944053.44 -35944053.36 0.0270 0.0220

Mars -103123-07-23 21:49 J -35944048.68 -35944048.59 -35944048.49 0.1855 0.1239

Saturn -103123-10-15 15:21 J -35943964.98 -35943964.86 -35943964.73 0.0270 0.0147

Saturn -103122-01-12 05:16 J -35943876.42 -35943876.28 -35943876.13 0.0270 0.0074

Saturn -103122-04-10 18:57 J -35943787.86 -35943787.71 -35943787.56 0.0270 0.0003

Saturn -103122-07-08 08:23 J -35943699.30 -35943699.15 -35943699.01 0.0271 0.0069

Saturn -103122-10-04 21:35 J -35943610.73 -35943610.60 -35943610.48 0.0271 0.0138

Saturn -103121-01-01 10:33 J -35943522.15 -35943522.06 -35943521.97 0.0271 0.0207

Earth -103121-06-28 20:52 J -35943342.65 -35943342.63 -35943342.61 0.2693 0.2613

Moon -103121-06-28 20:52 J -35943342.64 -35943342.63 -35943342.62 0.2686 0.2661 *

Venus -103119-09-19 14:52 J -35942529.94 -35942529.88 -35942529.83 0.3781 0.3285

Moon -103118-12-16 23:01 J -35942076.63 -35942076.54 -35942076.45 0.2649 0.2072

Earth -103118-12-17 00:13 J -35942076.57 -35942076.49 -35942076.40 0.2653 0.2094 *

Jupiter -103117-04-28 09:35 J -35941943.14 -35941943.10 -35941943.05 0.0524 0.0494

Jupiter -103117-07-27 03:21 J -35941853.50 -35941853.36 -35941853.21 0.0527 0.0056

Mars -103116-02-23 16:33 J -35941641.94 -35941641.81 -35941641.68 0.1650 0.0801

Mars -103115-01-07 01:40 J -35941324.47 -35941324.43 -35941324.38 0.1875 0.1753

Mars -103114-01-30 19:25 J -35940935.80 -35940935.69 -35940935.58 0.1663 0.1120

Earth -103114-06-22 16:04 J -35940792.95 -35940792.83 -35940792.72 0.2679 0.0450

Moon -103114-06-22 16:33 J -35940792.92 -35940792.81 -35940792.69 0.2684 0.0436 *

Mars -103114-12-14 04:18 J -35940618.44 -35940618.32 -35940618.20 0.1859 0.0698

Venus -103113-04-04 10:04 J -35940506.17 -35940506.08 -35940505.98 0.3778 0.2063

Pluto -103113-08-03 01:40 J -35940385.46 -35940385.43 -35940385.36 0.0060 0.0058

Pluto -103113-10-30 03:06 J -35940297.45 -35940297.37 -35940297.24 0.0060 0.0051

Pluto -103112-01-26 05:01 J -35940209.42 -35940209.29 -35940209.15 0.0060 0.0044

Pluto -103112-04-24 06:13 J -35940121.38 -35940121.24 -35940121.07 0.0060 0.0037

Pluto -103112-07-21 07:40 J -35940033.34 -35940033.18 -35940032.99 0.0061 0.0030

Pluto -103112-10-17 09:21 J -35939945.28 -35939945.11 -35939944.92 0.0061 0.0022

Jupiter -103112-12-15 08:09 J -35939886.26 -35939886.16 -35939886.05 0.0503 0.0350

Pluto -103111-01-13 10:47 J -35939857.23 -35939857.05 -35939856.85 0.0061 0.0015

Jupiter -103111-03-14 23:45 J -35939796.66 -35939796.51 -35939796.36 0.0500 0.0129

Pluto -103111-04-11 12:28 J -35939769.17 -35939768.98 -35939768.78 0.0061 0.0007

Pluto -103111-07-08 14:09 J -35939681.11 -35939680.91 -35939680.72 0.0061 0.0001

Pluto -103111-10-04 15:21 J -35939593.05 -35939592.86 -35939592.65 0.0061 0.0008

Earth -103111-12-08 22:33 J -35939527.60 -35939527.56 -35939527.52 0.2668 0.2549

Moon -103111-12-08 23:59 J -35939527.55 -35939527.50 -35939527.46 0.2666 0.2492 *

Pluto -103111-12-31 17:01 J -35939504.98 -35939504.79 -35939504.60 0.0061 0.0015

Pluto -103110-03-29 18:13 J -35939416.91 -35939416.74 -35939416.54 0.0061 0.0023

Pluto -103110-06-25 19:54 J -35939328.83 -35939328.67 -35939328.49 0.0061 0.0030

Pluto -103110-09-21 21:06 J -35939240.75 -35939240.62 -35939240.44 0.0061 0.0038

Pluto -103110-12-18 22:47 J -35939152.66 -35939152.55 -35939152.40 0.0061 0.0046

Pluto -103109-03-16 00:13 J -35939064.56 -35939064.49 -35939064.37 0.0061 0.0053

Pluto -103109-06-12 01:54 J -35938976.43 -35938976.42 -35938976.37 0.0061 0.0061

Saturn -103109-11-05 07:11 J -35938830.26 -35938830.20 -35938830.13 0.0291 0.0264

Saturn -103108-02-02 00:42 J -35938741.59 -35938741.47 -35938741.34 0.0290 0.0173

Saturn -103108-05-01 18:28 J -35938652.88 -35938652.73 -35938652.58 0.0290 0.0080

Saturn -103108-07-29 12:42 J -35938564.13 -35938563.97 -35938563.81 0.0290 0.0015

Venus -103108-10-19 05:45 J -35938482.38 -35938482.26 -35938482.15 0.3774 0.0806

Saturn -103108-10-26 07:11 J -35938475.35 -35938475.20 -35938475.05 0.0289 0.0110

Saturn -103107-01-23 01:54 J -35938386.53 -35938386.42 -35938386.30 0.0289 0.0208

Mars -103107-07-16 22:33 J -35938211.65 -35938211.56 -35938211.47 0.1647 0.1234

Jupiter -103105-05-15 04:33 J -35937543.45 -35937543.31 -35937543.16 0.0527 0.0082

Mars -103105-06-22 00:13 J -35937505.62 -35937505.49 -35937505.35 0.1660 0.0634

Jupiter -103105-08-12 21:06 J -35937453.69 -35937453.62 -35937453.54 0.0530 0.0456

Mars -103104-05-05 10:04 J -35937188.21 -35937188.08 -35937187.95 0.1863 0.0125

Venus -103102-05-05 01:25 J -35936458.56 -35936458.44 -35936458.33 0.3770 0.0507

Earth -103101-06-24 11:30 J -35936042.14 -35936042.02 -35936041.91 0.2684 0.0671

Moon -103101-06-24 12:13 J -35936042.10 -35936041.99 -35936041.88 0.2683 0.0769 *

Neptune -103100-10-01 18:57 J -35935577.74 -35935577.71 -35935577.66 0.0089 0.0086

Jupiter -103100-10-03 10:18 J -35935576.12 -35935576.07 -35935576.01 0.0503 0.0464

Neptune -103100-12-28 20:52 J -35935489.67 -35935489.63 -35935489.56 0.0089 0.0082

Jupiter -103099-01-01 01:25 J -35935486.59 -35935486.44 -35935486.28 0.0500 0.0019

Neptune -103099-03-26 23:01 J -35935401.60 -35935401.54 -35935401.46 0.0089 0.0077

Neptune -103099-06-23 00:57 J -35935313.53 -35935313.46 -35935313.36 0.0089 0.0073

Neptune -103099-09-19 03:21 J -35935225.46 -35935225.36 -35935225.26 0.0089 0.0068

Neptune -103099-12-16 05:16 J -35935137.38 -35935137.28 -35935137.17 0.0089 0.0064

Neptune -103098-03-14 07:25 J -35935049.30 -35935049.19 -35935049.07 0.0089 0.0059

Venus -103098-05-04 18:28 J -35934997.83 -35934997.73 -35934997.63 0.3601 0.2257

Neptune -103098-06-10 09:21 J -35934961.22 -35934961.11 -35934960.98 0.0089 0.0055

Neptune -103098-09-06 11:45 J -35934873.14 -35934873.01 -35934872.88 0.0089 0.0050

Neptune -103098-12-03 13:40 J -35934785.06 -35934784.93 -35934784.79 0.0089 0.0046

Earth -103098-12-12 00:57 J -35934776.60 -35934776.46 -35934776.33 0.2663 0.0930

Moon -103098-12-12 01:25 J -35934776.58 -35934776.44 -35934776.30 0.2656 0.0856 *

Neptune -103097-02-29 15:49 J -35934696.97 -35934696.84 -35934696.70 0.0089 0.0041

Neptune -103097-05-27 17:45 J -35934608.89 -35934608.76 -35934608.61 0.0089 0.0037

Neptune -103097-08-23 20:09 J -35934520.80 -35934520.66 -35934520.51 0.0089 0.0032

Venus -103097-11-17 21:35 J -35934434.70 -35934434.60 -35934434.50 0.3767 0.1859

Neptune -103097-11-19 22:18 J -35934432.72 -35934432.57 -35934432.42 0.0089 0.0027

Neptune -103096-02-16 00:28 J -35934344.63 -35934344.48 -35934344.33 0.0089 0.0023

Neptune -103096-05-15 02:37 J -35934256.54 -35934256.39 -35934256.23 0.0089 0.0018

Uranus -103096-05-16 11:45 J -35934255.08 -35934255.01 -35934254.93 0.0144 0.0126

Neptune -103096-08-11 04:47 J -35934168.45 -35934168.30 -35934168.14 0.0089 0.0013

Uranus -103096-08-12 17:16 J -35934166.88 -35934166.78 -35934166.66 0.0144 0.0105

Neptune -103096-11-07 06:57 J -35934080.36 -35934080.21 -35934080.05 0.0089 0.0009

Uranus -103096-11-08 23:16 J -35934078.66 -35934078.53 -35934078.40 0.0145 0.0082

Mars -103096-11-12 05:45 J -35934075.41 -35934075.26 -35934075.12 0.1656 0.0166

Neptune -103095-02-03 09:06 J -35933992.27 -35933992.12 -35933991.96 0.0089 0.0005

Uranus -103095-02-05 05:01 J -35933990.44 -35933990.29 -35933990.14 0.0145 0.0059

Neptune -103095-05-02 11:30 J -35933904.18 -35933904.02 -35933903.86 0.0089 0.0002

Uranus -103095-05-04 10:47 J -35933902.20 -35933902.05 -35933901.89 0.0145 0.0036

Neptune -103095-07-29 13:40 J -35933816.09 -35933815.93 -35933815.77 0.0089 0.0005

Uranus -103095-07-31 16:47 J -35933813.96 -35933813.80 -35933813.64 0.0145 0.0013

Mars -103095-09-25 15:49 J -35933757.97 -35933757.84 -35933757.72 0.1867 0.0459

Neptune -103095-10-25 15:49 J -35933728.00 -35933727.84 -35933727.68 0.0089 0.0010

Uranus -103095-10-27 22:47 J -35933725.72 -35933725.55 -35933725.39 0.0145 0.0011

Neptune -103094-01-21 17:59 J -35933639.90 -35933639.75 -35933639.59 0.0089 0.0015

Uranus -103094-01-24 04:33 J -35933637.46 -35933637.31 -35933637.14 0.0145 0.0035

Neptune -103094-04-19 20:23 J -35933551.81 -35933551.65 -35933551.49 0.0089 0.0020

Uranus -103094-04-22 10:47 J -35933549.20 -35933549.05 -35933548.90 0.0145 0.0059

Moon -103094-06-18 05:16 J -35933492.32 -35933492.28 -35933492.23 0.2675 0.2465

Earth -103094-06-18 05:59 J -35933492.30 -35933492.25 -35933492.21 0.2670 0.2470 *

Neptune -103094-07-16 22:33 J -35933463.71 -35933463.56 -35933463.40 0.0089 0.0025

Uranus -103094-07-19 16:47 J -35933460.93 -35933460.80 -35933460.66 0.0145 0.0083

Neptune -103094-10-13 00:57 J -35933375.61 -35933375.46 -35933375.31 0.0089 0.0029

Uranus -103094-10-15 23:01 J -35933372.65 -35933372.54 -35933372.43 0.0145 0.0108

Saturn -103094-12-06 02:23 J -35933321.46 -35933321.40 -35933321.33 0.0269 0.0243

Neptune -103093-01-09 03:06 J -35933287.51 -35933287.37 -35933287.22 0.0089 0.0034

Uranus -103093-01-12 05:01 J -35933284.34 -35933284.29 -35933284.21 0.0146 0.0133

Jupiter -103093-03-03 06:13 J -35933233.38 -35933233.24 -35933233.11 0.0526 0.0215

Saturn -103093-03-03 16:33 J -35933232.92 -35933232.81 -35933232.69 0.0269 0.0170

Neptune -103093-04-06 05:16 J -35933199.42 -35933199.28 -35933199.13 0.0089 0.0039

Saturn -103093-05-31 06:42 J -35933144.36 -35933144.22 -35933144.08 0.0269 0.0097

Jupiter -103093-05-31 23:16 J -35933143.65 -35933143.53 -35933143.42 0.0529 0.0328

Neptune -103093-07-03 07:40 J -35933111.32 -35933111.18 -35933111.04 0.0089 0.0044

Saturn -103093-08-27 20:23 J -35933055.80 -35933055.65 -35933055.50 0.0270 0.0026

Mars -103093-08-31 15:35 J -35933051.87 -35933051.85 -35933051.83 0.1850 0.1815

Neptune -103093-09-29 09:49 J -35933023.21 -35933023.09 -35933022.94 0.0089 0.0049

Venus -103093-11-17 17:01 J -35932973.92 -35932973.79 -35932973.66 0.3604 0.0768

Saturn -103093-11-24 09:49 J -35932967.24 -35932967.09 -35932966.95 0.0270 0.0046

Neptune -103093-12-26 12:13 J -35932935.11 -35932934.99 -35932934.85 0.0089 0.0054

Saturn -103092-02-20 23:01 J -35932878.67 -35932878.54 -35932878.41 0.0270 0.0116

Neptune -103092-03-24 14:23 J -35932847.01 -35932846.90 -35932846.76 0.0089 0.0059

Saturn -103092-05-20 11:59 J -35932790.10 -35932790.00 -35932789.89 0.0271 0.0185

Neptune -103092-06-20 16:47 J -35932758.90 -35932758.80 -35932758.67 0.0089 0.0064

Saturn -103092-08-17 00:57 J -35932701.51 -35932701.46 -35932701.41 0.0271 0.0252

Neptune -103092-09-16 18:57 J -35932670.79 -35932670.71 -35932670.59 0.0089 0.0069

Neptune -103092-12-13 21:49 J -35932582.68 -35932582.59 -35932582.50 0.0089 0.0073

Neptune -103091-03-12 00:13 J -35932494.57 -35932494.49 -35932494.42 0.0089 0.0078

Venus -103091-06-03 17:59 J -35932410.81 -35932410.75 -35932410.70 0.3762 0.3250

Neptune -103091-06-08 02:37 J -35932406.45 -35932406.39 -35932406.34 0.0089 0.0083

Neptune -103091-09-04 04:47 J -35932318.31 -35932318.30 -35932318.28 0.0089 0.0088

Earth -103088-06-27 06:42 J -35931291.31 -35931291.22 -35931291.13 0.2689 0.1762

Moon -103088-06-27 07:11 J -35931291.28 -35931291.20 -35931291.11 0.2684 0.1840 *

Jupiter -103088-10-20 02:52 J -35931176.53 -35931176.38 -35931176.23 0.0501 0.0113

Jupiter -103087-01-17 18:57 J -35931086.80 -35931086.71 -35931086.60 0.0498 0.0373

Venus -103087-06-03 15:06 J -35930949.99 -35930949.87 -35930949.74 0.3608 0.0655

Mars -103086-04-04 11:01 J -35930645.18 -35930645.04 -35930644.90 0.1653 0.0306

Mars -103085-02-15 20:52 J -35930327.73 -35930327.63 -35930327.52 0.1871 0.1075

Moon -103085-12-14 03:06 J -35930025.51 -35930025.37 -35930025.23 0.2651 0.0727

Earth -103085-12-14 03:21 J -35930025.50 -35930025.36 -35930025.22 0.2657 0.0736 *

Mars -103083-01-21 22:04 J -35929621.67 -35929621.58 -35929621.49 0.1854 0.1289

Venus -103082-12-18 12:57 J -35928926.06 -35928925.96 -35928925.85 0.3611 0.2025

Jupiter -103082-12-21 07:25 J -35928923.30 -35928923.19 -35928923.08 0.0525 0.0349

Jupiter -103081-03-20 00:42 J -35928833.60 -35928833.47 -35928833.33 0.0528 0.0197

Earth -103081-06-20 01:25 J -35928741.54 -35928741.44 -35928741.33 0.2675 0.1336

Moon -103081-06-20 01:40 J -35928741.52 -35928741.43 -35928741.33 0.2682 0.1388 *

Saturn -103079-06-22 00:42 J -35928009.58 -35928009.47 -35928009.36 0.0291 0.0203

Saturn -103079-09-18 18:28 J -35927920.88 -35927920.73 -35927920.59 0.0290 0.0111

Saturn -103079-12-16 12:28 J -35927832.14 -35927831.98 -35927831.82 0.0290 0.0017

Saturn -103078-03-15 06:42 J -35927743.37 -35927743.22 -35927743.06 0.0290 0.0080

Saturn -103078-06-12 01:25 J -35927654.56 -35927654.44 -35927654.31 0.0289 0.0177

Saturn -103078-09-08 20:37 J -35927565.68 -35927565.64 -35927565.59 0.0289 0.0275

Mars -103077-08-24 16:47 J -35927214.93 -35927214.80 -35927214.67 0.1650 0.0756

Venus -103076-07-03 10:33 J -35926902.11 -35926902.06 -35926902.01 0.3615 0.3338

Mars -103076-07-08 01:54 J -35926897.47 -35926897.42 -35926897.36 0.1875 0.1699

Jupiter -103076-08-08 04:33 J -35926866.45 -35926866.31 -35926866.18 0.0502 0.0233

Jupiter -103076-11-05 20:23 J -35926776.78 -35926776.65 -35926776.51 0.0499 0.0249

Mars -103075-07-31 19:54 J -35926508.78 -35926508.67 -35926508.57 0.1663 0.1175

Mars -103074-06-14 04:18 J -35926191.44 -35926191.32 -35926191.21 0.1859 0.0741

Moon -103072-12-17 05:16 J -35925274.36 -35925274.28 -35925274.21 0.2648 0.2240

Earth -103072-12-17 06:13 J -35925274.29 -35925274.24 -35925274.18 0.2652 0.2438 *

Jupiter -103070-10-09 07:54 J -35924613.22 -35924613.17 -35924613.12 0.0524 0.0492

Jupiter -103069-01-07 01:40 J -35924523.58 -35924523.43 -35924523.28 0.0527 0.0056

Earth -103068-06-22 21:06 J -35923990.74 -35923990.62 -35923990.51 0.2680 0.0229

Moon -103068-06-22 21:35 J -35923990.71 -35923990.60 -35923990.48 0.2683 0.0130 *

Mars -103067-01-14 22:47 J -35923784.64 -35923784.55 -35923784.45 0.1647 0.1188

Mars -103066-12-22 00:42 J -35923078.60 -35923078.47 -35923078.34 0.1660 0.0682

Mars -103065-11-03 10:18 J -35922761.19 -35922761.07 -35922760.94 0.1863 0.0187

Earth -103065-12-09 04:33 J -35922725.39 -35922725.31 -35922725.23 0.2667 0.2231

Moon -103065-12-09 05:30 J -35922725.36 -35922725.27 -35922725.18 0.2664 0.2056 *

Saturn -103064-04-24 05:16 J -35922589.32 -35922589.28 -35922589.24 0.0269 0.0260

Jupiter -103064-05-27 05:59 J -35922556.35 -35922556.25 -35922556.14 0.0503 0.0354

Saturn -103064-07-21 19:25 J -35922500.79 -35922500.69 -35922500.57 0.0270 0.0186

Jupiter -103064-08-24 21:35 J -35922466.75 -35922466.60 -35922466.45 0.0500 0.0125

Saturn -103064-10-18 09:35 J -35922412.24 -35922412.10 -35922411.96 0.0270 0.0113

Saturn -103063-01-14 23:16 J -35922323.68 -35922323.53 -35922323.38 0.0270 0.0041

Saturn -103063-04-13 12:57 J -35922235.11 -35922234.96 -35922234.82 0.0271 0.0032

Saturn -103063-07-11 02:09 J -35922146.55 -35922146.41 -35922146.27 0.0271 0.0101

Saturn -103063-10-07 15:21 J -35922057.97 -35922057.86 -35922057.75 0.0271 0.0171

Saturn -103062-01-04 04:04 J -35921969.39 -35921969.33 -35921969.26 0.0272 0.0239

Venus -103062-04-26 13:11 J -35921857.02 -35921856.95 -35921856.88 0.3780 0.2868

Mars -103058-06-07 05:16 J -35920354.31 -35920354.28 -35920354.25 0.1644 0.1603

Jupiter -103058-10-26 02:37 J -35920213.53 -35920213.39 -35920213.24 0.0526 0.0084

Jupiter -103057-01-23 19:11 J -35920123.77 -35920123.70 -35920123.62 0.0529 0.0452

Uranus -103057-10-12 01:54 J -35919861.48 -35919861.42 -35919861.34 0.0134 0.0120

Venus -103057-11-09 08:37 J -35919833.24 -35919833.14 -35919833.04 0.3777 0.1639

Uranus -103056-01-08 06:13 J -35919773.32 -35919773.24 -35919773.13 0.0134 0.0103

Uranus -103056-04-06 10:47 J -35919685.16 -35919685.05 -35919684.92 0.0134 0.0084

Mars -103056-05-13 05:59 J -35919648.40 -35919648.25 -35919648.11 0.1656 0.0209

Uranus -103056-07-03 15:06 J -35919596.99 -35919596.87 -35919596.73 0.0134 0.0067

Uranus -103056-09-29 19:40 J -35919508.82 -35919508.68 -35919508.54 0.0134 0.0049

Uranus -103056-12-26 23:45 J -35919420.65 -35919420.51 -35919420.36 0.0134 0.0031

Uranus -103055-03-25 04:04 J -35919332.48 -35919332.33 -35919332.18 0.0134 0.0014

Mars -103055-03-26 16:04 J -35919330.96 -35919330.83 -35919330.71 0.1867 0.0413

Uranus -103055-06-21 08:23 J -35919244.30 -35919244.15 -35919244.00 0.0134 0.0005

Earth -103055-06-25 16:33 J -35919239.92 -35919239.81 -35919239.71 0.2685 0.0901

Moon -103055-06-25 17:16 J -35919239.89 -35919239.78 -35919239.67 0.2684 0.0944 *

Uranus -103055-09-17 12:28 J -35919156.13 -35919155.98 -35919155.83 0.0134 0.0021

Uranus -103055-12-14 16:33 J -35919067.95 -35919067.81 -35919067.66 0.0134 0.0038

Uranus -103054-03-12 20:37 J -35918979.78 -35918979.64 -35918979.50 0.0134 0.0054

Uranus -103054-06-09 00:42 J -35918891.60 -35918891.47 -35918891.34 0.0133 0.0071

Uranus -103054-09-05 04:33 J -35918803.42 -35918803.31 -35918803.19 0.0133 0.0087

Uranus -103054-12-02 08:37 J -35918715.23 -35918715.14 -35918715.05 0.0133 0.0103

Uranus -103053-02-28 12:28 J -35918627.04 -35918626.98 -35918626.91 0.0133 0.0120

Jupiter -103052-03-15 07:54 J -35918246.22 -35918246.17 -35918246.12 0.0504 0.0470

Jupiter -103052-06-12 23:01 J -35918156.69 -35918156.54 -35918156.38 0.0501 0.0016

Jupiter -103052-09-10 15:49 J -35918066.86 -35918066.84 -35918066.82 0.0498 0.0493

Earth -103052-12-12 06:42 J -35917974.35 -35917974.22 -35917974.08 0.2662 0.0607

Moon -103052-12-12 07:25 J -35917974.34 -35917974.19 -35917974.05 0.2656 0.0594 *

Venus -103051-05-26 04:18 J -35917809.44 -35917809.32 -35917809.21 0.3773 0.0382

Saturn -103050-11-09 03:21 J -35917277.46 -35917277.36 -35917277.25 0.0290 0.0219

Saturn -103049-02-05 20:52 J -35917188.76 -35917188.63 -35917188.48 0.0290 0.0128

Saturn -103049-05-04 14:52 J -35917100.03 -35917099.88 -35917099.72 0.0290 0.0035

Saturn -103049-08-01 09:21 J -35917011.27 -35917011.11 -35917010.95 0.0289 0.0062

Saturn -103049-10-29 03:49 J -35916922.47 -35916922.34 -35916922.20 0.0289 0.0158

Saturn -103048-01-25 22:47 J -35916833.62 -35916833.55 -35916833.47 0.0289 0.0256

Moon -103048-06-18 10:47 J -35916690.11 -35916690.05 -35916690.00 0.2677 0.2312

Earth -103048-06-18 11:01 J -35916690.11 -35916690.04 -35916689.98 0.2671 0.2232 *

Venus -103047-05-25 18:57 J -35916348.76 -35916348.71 -35916348.66 0.3598 0.3266

Mars -103047-10-03 11:30 J -35916218.17 -35916218.02 -35916217.88 0.1653 0.0256

Jupiter -103046-08-14 03:35 J -35915903.49 -35915903.35 -35915903.22 0.0526 0.0224

Mars -103046-08-16 21:21 J -35915900.72 -35915900.61 -35915900.50 0.1871 0.1015

Jupiter -103046-11-11 20:37 J -35915813.76 -35915813.64 -35915813.53 0.0529 0.0318

Venus -103046-12-09 23:59 J -35915785.61 -35915785.50 -35915785.38 0.3769 0.0959

Mars -103044-07-22 22:04 J -35915194.66 -35915194.58 -35915194.49 0.1854 0.1339

Earth -103042-06-28 11:45 J -35914489.09 -35914489.01 -35914488.94 0.2689 0.1988

Moon -103042-06-28 11:59 J -35914489.07 -35914489.00 -35914488.92 0.2683 0.2026 *

Venus -103042-12-09 17:59 J -35914324.87 -35914324.75 -35914324.64 0.3602 0.1748

Jupiter -103040-04-01 00:57 J -35913846.60 -35913846.46 -35913846.31 0.0501 0.0113

Venus -103040-06-24 20:09 J -35913761.75 -35913761.66 -35913761.56 0.3765 0.2314

Jupiter -103040-06-29 17:16 J -35913756.88 -35913756.78 -35913756.68 0.0498 0.0373

Moon -103039-12-15 08:52 J -35913223.27 -35913223.13 -35913223.00 0.2651 0.1011

Earth -103039-12-15 09:35 J -35913223.24 -35913223.10 -35913222.97 0.2657 0.1076 *

Mars -103037-02-23 17:16 J -35912787.91 -35912787.78 -35912787.65 0.1650 0.0704

Mars -103036-01-06 02:09 J -35912470.47 -35912470.41 -35912470.35 0.1875 0.1644

Venus -103036-06-24 16:18 J -35912300.95 -35912300.82 -35912300.69 0.3605 0.0286

Mars -103035-01-29 20:23 J -35912081.75 -35912081.65 -35912081.55 0.1663 0.1231

Earth -103035-06-21 06:28 J -35911939.33 -35911939.23 -35911939.12 0.2675 0.1106

Moon -103035-06-21 06:57 J -35911939.32 -35911939.21 -35911939.11 0.2682 0.1015 *

Saturn -103035-12-08 20:52 J -35911768.72 -35911768.63 -35911768.53 0.0269 0.0207

Mars -103035-12-13 04:33 J -35911764.42 -35911764.31 -35911764.20 0.1859 0.0797

Venus -103034-01-08 16:47 J -35911737.82 -35911737.80 -35911737.79 0.3761 0.3712

Saturn -103034-03-07 11:01 J -35911680.17 -35911680.04 -35911679.91 0.0269 0.0134

Jupiter -103034-06-02 04:47 J -35911593.40 -35911593.30 -35911593.19 0.0525 0.0358

Saturn -103034-06-04 00:42 J -35911591.61 -35911591.47 -35911591.32 0.0269 0.0063

Jupiter -103034-08-30 22:18 J -35911503.70 -35911503.57 -35911503.43 0.0528 0.0190

Saturn -103034-08-31 14:23 J -35911503.05 -35911502.90 -35911502.75 0.0270 0.0010

Saturn -103034-11-28 03:49 J -35911414.48 -35911414.34 -35911414.20 0.0270 0.0080

Saturn -103033-02-24 16:47 J -35911325.91 -35911325.80 -35911325.67 0.0271 0.0150

Saturn -103033-05-23 05:45 J -35911237.34 -35911237.26 -35911237.17 0.0271 0.0218

Venus -103030-01-08 14:23 J -35910277.02 -35910276.90 -35910276.78 0.3609 0.1118

Jupiter -103028-01-18 02:37 J -35909536.53 -35909536.39 -35909536.26 0.0502 0.0234

Jupiter -103028-04-17 18:13 J -35909446.87 -35909446.74 -35909446.60 0.0499 0.0248

Mars -103028-07-15 23:16 J -35909357.63 -35909357.53 -35909357.43 0.1647 0.1139

Mars -103026-06-22 01:11 J -35908651.58 -35908651.45 -35908651.32 0.1660 0.0737

Mars -103025-05-04 10:33 J -35908334.19 -35908334.06 -35908333.94 0.1863 0.0236

Venus -103025-07-24 12:13 J -35908253.08 -35908252.99 -35908252.90 0.3613 0.2469

Jupiter -103022-03-21 06:13 J -35907283.29 -35907283.24 -35907283.20 0.0524 0.0492

Jupiter -103022-06-18 23:59 J -35907193.64 -35907193.50 -35907193.35 0.0527 0.0059

Earth -103022-06-24 02:09 J -35907188.53 -35907188.41 -35907188.30 0.2680 0.0071

Moon -103022-06-24 02:52 J -35907188.50 -35907188.38 -35907188.26 0.2682 0.0027 *

Saturn -103020-03-28 03:21 J -35906545.44 -35906545.36 -35906545.28 0.0291 0.0249

Saturn -103020-06-24 20:37 J -35906456.76 -35906456.64 -35906456.50 0.0291 0.0159

Saturn -103020-09-21 14:37 J -35906368.05 -35906367.89 -35906367.74 0.0290 0.0065

Pluto -103020-11-30 07:54 J -35906298.19 -35906298.17 -35906298.11 0.0085 0.0081

Saturn -103020-12-19 08:52 J -35906279.29 -35906279.13 -35906278.97 0.0290 0.0030

Pluto -103019-02-26 09:21 J -35906210.18 -35906210.11 -35906210.02 0.0085 0.0067

Saturn -103019-03-18 03:21 J -35906190.51 -35906190.36 -35906190.21 0.0289 0.0126

Pluto -103019-05-25 10:33 J -35906122.15 -35906122.06 -35906121.94 0.0085 0.0054

Saturn -103019-06-14 22:04 J -35906101.67 -35906101.58 -35906101.47 0.0289 0.0224

Pluto -103019-08-21 11:59 J -35906034.11 -35906034.00 -35906033.88 0.0084 0.0040

Pluto -103019-11-17 13:11 J -35905946.07 -35905945.95 -35905945.82 0.0084 0.0027

Mars -103019-12-06 05:30 J -35905927.31 -35905927.27 -35905927.23 0.1644 0.1560

Earth -103019-12-10 10:33 J -35905923.16 -35905923.06 -35905922.96 0.2667 0.1907

Moon -103019-12-10 11:30 J -35905923.12 -35905923.02 -35905922.92 0.2662 0.1910 *

Pluto -103018-02-13 14:37 J -35905858.02 -35905857.89 -35905857.76 0.0084 0.0013

Pluto -103018-05-12 15:49 J -35905769.97 -35905769.84 -35905769.71 0.0084 0.0001

Pluto -103018-08-08 17:01 J -35905681.92 -35905681.79 -35905681.66 0.0084 0.0014

Neptune -103018-10-15 23:59 J -35905613.51 -35905613.50 -35905613.47 0.0088 0.0088

Pluto -103018-11-04 18:13 J -35905593.86 -35905593.74 -35905593.61 0.0084 0.0027

Neptune -103017-01-12 02:23 J -35905525.45 -35905525.40 -35905525.34 0.0088 0.0083

Pluto -103017-01-31 19:25 J -35905505.80 -35905505.69 -35905505.57 0.0084 0.0040

Neptune -103017-04-09 04:47 J -35905437.37 -35905437.30 -35905437.22 0.0088 0.0078

Pluto -103017-04-28 20:52 J -35905417.74 -35905417.63 -35905417.53 0.0084 0.0053

Neptune -103017-07-06 06:42 J -35905349.29 -35905349.22 -35905349.11 0.0088 0.0074

Pluto -103017-07-25 22:04 J -35905329.66 -35905329.58 -35905329.50 0.0083 0.0066

Neptune -103017-10-02 09:06 J -35905261.21 -35905261.12 -35905261.01 0.0088 0.0069

Pluto -103017-10-21 23:16 J -35905241.57 -35905241.53 -35905241.49 0.0083 0.0079

Jupiter -103017-11-06 04:18 J -35905226.43 -35905226.32 -35905226.22 0.0503 0.0353

Mars -103017-11-11 06:13 J -35905221.38 -35905221.24 -35905221.09 0.1656 0.0262

Neptune -103017-12-29 11:30 J -35905173.12 -35905173.02 -35905172.90 0.0088 0.0064

Jupiter -103016-02-03 19:40 J -35905136.83 -35905136.68 -35905136.53 0.0500 0.0125

Neptune -103016-03-27 13:54 J -35905085.04 -35905084.92 -35905084.80 0.0088 0.0059

Neptune -103016-06-23 16:18 J -35904996.95 -35904996.82 -35904996.70 0.0088 0.0054

Neptune -103016-09-19 18:13 J -35904908.86 -35904908.74 -35904908.60 0.0088 0.0049

Mars -103016-09-24 16:04 J -35904903.95 -35904903.83 -35904903.70 0.1868 0.0358

Neptune -103016-12-16 20:23 J -35904820.77 -35904820.65 -35904820.50 0.0088 0.0045

Neptune -103015-03-14 22:47 J -35904732.69 -35904732.55 -35904732.40 0.0088 0.0040

Neptune -103015-06-11 01:11 J -35904644.60 -35904644.45 -35904644.30 0.0088 0.0035

Neptune -103015-09-07 03:06 J -35904556.51 -35904556.37 -35904556.21 0.0088 0.0031

Neptune -103015-12-04 05:30 J -35904468.42 -35904468.27 -35904468.11 0.0088 0.0025

Neptune -103014-03-02 07:40 J -35904380.33 -35904380.18 -35904380.02 0.0088 0.0021

Neptune -103014-05-29 09:49 J -35904292.24 -35904292.09 -35904291.93 0.0088 0.0016

Neptune -103014-08-25 11:59 J -35904204.15 -35904204.00 -35904203.84 0.0088 0.0012

Neptune -103014-11-21 14:09 J -35904116.06 -35904115.91 -35904115.75 0.0088 0.0007

Neptune -103013-02-17 16:18 J -35904027.97 -35904027.82 -35904027.66 0.0088 0.0004

Neptune -103013-05-15 18:28 J -35903939.88 -35903939.73 -35903939.57 0.0088 0.0003

Neptune -103013-08-11 20:37 J -35903851.79 -35903851.64 -35903851.48 0.0088 0.0007

Neptune -103013-11-07 22:47 J -35903763.71 -35903763.55 -35903763.39 0.0088 0.0012

Neptune -103012-02-04 00:57 J -35903675.62 -35903675.46 -35903675.31 0.0088 0.0016

Uranus -103012-03-09 13:25 J -35903641.95 -35903641.94 -35903641.93 0.0144 0.0143

Neptune -103012-05-03 02:52 J -35903587.53 -35903587.38 -35903587.22 0.0088 0.0021

Uranus -103012-06-05 18:57 J -35903553.79 -35903553.71 -35903553.62 0.0144 0.0122

Neptune -103012-07-30 05:01 J -35903499.44 -35903499.29 -35903499.14 0.0088 0.0025

Uranus -103012-09-02 00:28 J -35903465.59 -35903465.48 -35903465.36 0.0144 0.0100

Neptune -103012-10-26 06:57 J -35903411.35 -35903411.21 -35903411.05 0.0088 0.0030

Uranus -103012-11-29 06:13 J -35903377.37 -35903377.24 -35903377.10 0.0145 0.0077

Neptune -103011-01-22 09:06 J -35903323.26 -35903323.12 -35903322.97 0.0088 0.0035

Uranus -103011-02-25 11:59 J -35903289.14 -35903289.00 -35903288.84 0.0145 0.0054

Neptune -103011-04-20 11:01 J -35903235.17 -35903235.04 -35903234.89 0.0088 0.0039

Venus -103011-05-17 16:33 J -35903207.84 -35903207.81 -35903207.79 0.3782 0.3648

Uranus -103011-05-24 17:59 J -35903200.91 -35903200.75 -35903200.59 0.0145 0.0031

Neptune -103011-07-17 13:11 J -35903147.08 -35903146.95 -35903146.81 0.0088 0.0044

Uranus -103011-08-20 23:45 J -35903112.67 -35903112.51 -35903112.34 0.0145 0.0008

Neptune -103011-10-13 15:21 J -35903058.99 -35903058.86 -35903058.73 0.0088 0.0048

Uranus -103011-11-17 05:45 J -35903024.42 -35903024.26 -35903024.10 0.0145 0.0016

Neptune -103010-01-09 17:16 J -35902970.90 -35902970.78 -35902970.65 0.0088 0.0052

Uranus -103010-02-13 11:45 J -35902936.17 -35902936.01 -35902935.85 0.0145 0.0039

Jupiter -103010-04-07 00:57 J -35902883.61 -35902883.46 -35902883.31 0.0526 0.0082

Neptune -103010-04-07 19:25 J -35902882.80 -35902882.69 -35902882.57 0.0088 0.0057

Uranus -103010-05-12 17:45 J -35902847.90 -35902847.76 -35902847.61 0.0145 0.0064

Neptune -103010-07-04 21:06 J -35902794.71 -35902794.62 -35902794.49 0.0088 0.0062

Jupiter -103010-07-05 17:30 J -35902793.84 -35902793.77 -35902793.70 0.0529 0.0454

Uranus -103010-08-08 23:59 J -35902759.63 -35902759.50 -35902759.37 0.0145 0.0088

Neptune -103010-09-30 23:16 J -35902706.62 -35902706.53 -35902706.42 0.0088 0.0066

Uranus -103010-11-05 05:59 J -35902671.35 -35902671.25 -35902671.14 0.0145 0.0112

Neptune -103010-12-28 01:25 J -35902618.53 -35902618.44 -35902618.34 0.0088 0.0070

Uranus -103009-02-01 12:28 J -35902583.03 -35902582.98 -35902582.93 0.0146 0.0137

Neptune -103009-03-25 03:06 J -35902530.44 -35902530.37 -35902530.27 0.0088 0.0075

Neptune -103009-06-21 05:16 J -35902442.34 -35902442.28 -35902442.20 0.0088 0.0079

Earth -103009-06-25 21:21 J -35902437.71 -35902437.61 -35902437.50 0.2685 0.1128

Moon -103009-06-25 22:18 J -35902437.68 -35902437.57 -35902437.47 0.2684 0.1243 *

Neptune -103009-09-17 07:25 J -35902354.24 -35902354.19 -35902354.14 0.0088 0.0083

Neptune -103009-12-14 08:52 J -35902266.13 -35902266.13 -35902266.08 0.0088 0.0088

Mars -103007-04-03 11:45 J -35901791.16 -35901791.01 -35901790.87 0.1653 0.0214

Mars -103006-02-14 21:35 J -35901473.71 -35901473.60 -35901473.49 0.1871 0.0959

Venus -103006-12-01 11:45 J -35901184.10 -35901184.01 -35901183.93 0.3779 0.2452

Earth -103006-12-13 12:57 J -35901172.11 -35901171.96 -35901171.82 0.2661 0.0278

Moon -103006-12-13 13:11 J -35901172.10 -35901171.95 -35901171.81 0.2655 0.0201 *

Saturn -103005-04-26 23:30 J -35901036.60 -35901036.52 -35901036.44 0.0270 0.0225

Saturn -103005-07-24 13:40 J -35900948.05 -35900947.93 -35900947.80 0.0270 0.0152

Jupiter -103005-08-25 05:45 J -35900916.31 -35900916.26 -35900916.21 0.0504 0.0474

Saturn -103005-10-21 03:35 J -35900859.49 -35900859.35 -35900859.21 0.0270 0.0079

Jupiter -103005-11-22 20:52 J -35900826.78 -35900826.63 -35900826.47 0.0501 0.0009

Saturn -103004-01-17 17:16 J -35900770.93 -35900770.78 -35900770.63 0.0270 0.0007

Mars -103004-01-20 22:18 J -35900767.65 -35900767.57 -35900767.49 0.1855 0.1390

Jupiter -103004-02-20 13:40 J -35900736.96 -35900736.93 -35900736.91 0.0498 0.0490

Saturn -103004-04-16 06:42 J -35900682.36 -35900682.22 -35900682.08 0.0271 0.0064

Saturn -103004-07-13 19:54 J -35900593.80 -35900593.67 -35900593.54 0.0271 0.0134

Saturn -103004-10-10 08:52 J -35900505.22 -35900505.13 -35900505.03 0.0272 0.0203

Saturn -103003-01-06 21:49 J -35900416.60 -35900416.59 -35900416.58 0.0272 0.0270

Moon -103002-06-19 15:49 J -35899887.91 -35899887.84 -35899887.76 0.2678 0.1996

Earth -103002-06-19 16:04 J -35899887.91 -35899887.83 -35899887.75 0.2671 0.1999 *

103RD MILLENNIUM BCE

This is a list of transits of Mercury in the 103rd millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Venus -103000-06-16 07:11 J -35899160.31 -35899160.20 -35899160.09 0.3776 0.1213

Jupiter -102998-01-24 01:40 J -35898573.56 -35898573.43 -35898573.29 0.0525 0.0223

Jupiter -102998-04-23 18:42 J -35898483.83 -35898483.72 -35898483.60 0.0528 0.0319

Mars -102998-08-24 17:30 J -35898360.90 -35898360.77 -35898360.63 0.1650 0.0655

Mars -102997-07-07 02:23 J -35898043.46 -35898043.40 -35898043.33 0.1875 0.1588

Earth -102996-06-28 16:47 J -35897686.87 -35897686.80 -35897686.74 0.2690 0.2216

Moon -102996-06-28 17:01 J -35897686.85 -35897686.79 -35897686.73 0.2683 0.2215 *

Mars -102996-07-30 20:37 J -35897654.73 -35897654.64 -35897654.55 0.1663 0.1280

Mars -102995-06-13 04:47 J -35897337.41 -35897337.30 -35897337.19 0.1859 0.0849

Venus -102995-12-31 02:52 J -35897136.50 -35897136.38 -35897136.27 0.3772 0.0132

Jupiter -102993-09-10 22:33 J -35896516.70 -35896516.56 -35896516.41 0.0501 0.0119

Jupiter -102993-12-09 14:52 J -35896426.98 -35896426.88 -35896426.78 0.0499 0.0367

Moon -102993-12-15 14:37 J -35896421.01 -35896420.89 -35896420.76 0.2650 0.1317

Earth -102993-12-15 15:35 J -35896420.97 -35896420.85 -35896420.73 0.2656 0.1412 *

Saturn -102991-08-15 06:13 J -35895813.30 -35895813.24 -35895813.18 0.0291 0.0265

Saturn -102991-11-11 23:30 J -35895724.64 -35895724.52 -35895724.39 0.0290 0.0174

Venus -102991-12-30 18:28 J -35895675.81 -35895675.73 -35895675.65 0.3599 0.2748

Saturn -102990-02-08 17:16 J -35895635.93 -35895635.78 -35895635.62 0.0290 0.0082

Saturn -102990-05-08 11:30 J -35895547.18 -35895547.02 -35895546.86 0.0290 0.0013

Saturn -102990-08-05 05:59 J -35895458.40 -35895458.25 -35895458.10 0.0289 0.0109

Saturn -102990-11-02 00:42 J -35895369.58 -35895369.47 -35895369.35 0.0289 0.0206

Earth -102989-06-21 11:45 J -35895137.13 -35895137.01 -35895136.90 0.2676 0.0872

Moon -102989-06-21 11:59 J -35895137.11 -35895137.00 -35895136.89 0.2682 0.0889 *

Venus -102989-07-15 22:47 J -35895112.66 -35895112.55 -35895112.45 0.3768 0.1398

Mars -102988-01-13 23:30 J -35894930.62 -35894930.52 -35894930.41 0.1647 0.1091

Jupiter -102987-11-12 02:23 J -35894263.51 -35894263.40 -35894263.29 0.0525 0.0367

Mars -102987-12-21 01:40 J -35894224.56 -35894224.43 -35894224.30 0.1660 0.0792

Jupiter -102986-02-09 19:54 J -35894173.81 -35894173.67 -35894173.53 0.0528 0.0180

Mars -102986-11-03 10:47 J -35893907.18 -35893907.05 -35893906.93 0.1863 0.0288

Venus -102985-07-15 17:16 J -35893651.90 -35893651.78 -35893651.66 0.3603 0.1247

Venus -102983-01-29 18:57 J -35893088.79 -35893088.71 -35893088.63 0.3764 0.2761

Jupiter -102981-06-30 00:42 J -35892206.60 -35892206.47 -35892206.33 0.0502 0.0233

Jupiter -102981-09-27 16:33 J -35892116.94 -35892116.81 -35892116.68 0.0499 0.0249

Venus -102979-01-29 15:35 J -35891627.98 -35891627.85 -35891627.72 0.3606 0.0203

Mars -102979-06-06 05:59 J -35891500.31 -35891500.25 -35891500.20 0.1644 0.1513

Mars -102977-05-12 06:42 J -35890794.37 -35890794.22 -35890794.08 0.1656 0.0309

Mars -102976-03-25 16:18 J -35890476.95 -35890476.82 -35890476.69 0.1867 0.0304

Earth -102976-06-24 07:11 J -35890386.32 -35890386.20 -35890386.09 0.2681 0.0255

Moon -102976-06-24 07:54 J -35890386.28 -35890386.17 -35890386.05 0.2683 0.0411 *

Saturn -102976-09-14 00:57 J -35890304.51 -35890304.46 -35890304.39 0.0269 0.0246

Saturn -102976-12-11 15:21 J -35890215.97 -35890215.86 -35890215.74 0.0269 0.0172

Saturn -102975-03-10 05:16 J -35890127.42 -35890127.28 -35890127.14 0.0269 0.0099

Saturn -102975-06-06 18:57 J -35890038.86 -35890038.71 -35890038.56 0.0270 0.0028

Jupiter -102975-08-31 03:35 J -35889953.39 -35889953.35 -35889953.31 0.0524 0.0501

Saturn -102975-09-03 08:23 J -35889950.29 -35889950.15 -35889950.00 0.0270 0.0044

Jupiter -102975-11-28 21:35 J -35889863.75 -35889863.60 -35889863.45 0.0527 0.0050

Saturn -102975-11-30 21:49 J -35889861.73 -35889861.59 -35889861.46 0.0270 0.0113

Saturn -102974-02-27 10:47 J -35889773.15 -35889773.05 -35889772.94 0.0271 0.0182

Saturn -102974-05-26 23:30 J -35889684.56 -35889684.52 -35889684.46 0.0271 0.0250

Venus -102974-08-15 13:40 J -35889604.05 -35889603.93 -35889603.82 0.3610 0.1581

Uranus -102973-11-01 08:37 J -35889160.20 -35889160.14 -35889160.05 0.0134 0.0118

Earth -102973-12-10 16:18 J -35889120.93 -35889120.82 -35889120.70 0.2666 0.1589

Moon -102973-12-10 17:16 J -35889120.90 -35889120.78 -35889120.65 0.2661 0.1404 *

Uranus -102972-01-28 13:11 J -35889072.04 -35889071.95 -35889071.84 0.0134 0.0099

Uranus -102972-04-26 17:30 J -35888983.88 -35888983.77 -35888983.64 0.0134 0.0082

Uranus -102972-07-23 22:04 J -35888895.71 -35888895.58 -35888895.44 0.0134 0.0063

Uranus -102972-10-20 02:09 J -35888807.54 -35888807.41 -35888807.26 0.0134 0.0047

Uranus -102971-01-16 06:42 J -35888719.37 -35888719.22 -35888719.07 0.0134 0.0028

Uranus -102971-04-14 10:47 J -35888631.20 -35888631.05 -35888630.89 0.0134 0.0012

Uranus -102971-07-11 15:06 J -35888543.02 -35888542.87 -35888542.72 0.0134 0.0006

Uranus -102971-10-07 19:11 J -35888454.85 -35888454.70 -35888454.55 0.0134 0.0024

Uranus -102970-01-03 23:16 J -35888366.67 -35888366.53 -35888366.38 0.0134 0.0040

Uranus -102970-04-02 03:21 J -35888278.49 -35888278.36 -35888278.22 0.0134 0.0057

Uranus -102970-06-29 07:25 J -35888190.31 -35888190.19 -35888190.06 0.0133 0.0074

Uranus -102970-09-25 11:16 J -35888102.13 -35888102.03 -35888101.91 0.0133 0.0090

Uranus -102970-12-22 15:21 J -35888013.94 -35888013.86 -35888013.77 0.0133 0.0106

Uranus -102969-03-19 19:11 J -35887925.75 -35887925.70 -35887925.64 0.0133 0.0122

Jupiter -102969-04-18 02:23 J -35887896.51 -35887896.40 -35887896.29 0.0503 0.0353

Jupiter -102969-07-16 17:45 J -35887806.91 -35887806.76 -35887806.61 0.0500 0.0125

Venus -102968-02-28 11:01 J -35887580.11 -35887580.04 -35887579.96 0.3614 0.2897

Mars -102968-10-02 12:13 J -35887364.14 -35887363.99 -35887363.85 0.1653 0.0156

Mars -102967-08-15 21:35 J -35887046.71 -35887046.60 -35887046.48 0.1871 0.0911

Mars -102965-07-21 22:33 J -35886340.64 -35886340.56 -35886340.48 0.1854 0.1440

Earth -102963-06-27 02:23 J -35885635.50 -35885635.40 -35885635.30 0.2686 0.1359

Moon -102963-06-27 03:06 J -35885635.47 -35885635.37 -35885635.27 0.2682 0.1361 *

Jupiter -102963-09-16 23:16 J -35885553.68 -35885553.53 -35885553.39 0.0527 0.0083

Jupiter -102963-12-15 15:49 J -35885463.91 -35885463.84 -35885463.76 0.0530 0.0456

Saturn -102961-03-30 23:01 J -35884992.65 -35884992.54 -35884992.43 0.0291 0.0207

Saturn -102961-06-27 16:33 J -35884903.95 -35884903.81 -35884903.66 0.0290 0.0115

Saturn -102961-09-24 10:33 J -35884815.22 -35884815.06 -35884814.90 0.0290 0.0021

Saturn -102961-12-22 05:01 J -35884726.45 -35884726.29 -35884726.14 0.0290 0.0075

Saturn -102960-03-20 23:30 J -35884637.64 -35884637.52 -35884637.38 0.0289 0.0172

Saturn -102960-06-17 18:42 J -35884548.77 -35884548.72 -35884548.66 0.0289 0.0270

Moon -102960-12-13 18:42 J -35884369.86 -35884369.72 -35884369.57 0.2654 0.0031

Earth -102960-12-13 18:57 J -35884369.86 -35884369.71 -35884369.57 0.2661 0.0108 *

Mars -102958-02-22 17:59 J -35883933.89 -35883933.75 -35883933.62 0.1650 0.0610

Mars -102957-01-06 02:37 J -35883616.46 -35883616.39 -35883616.31 0.1875 0.1534

Jupiter -102957-02-05 04:04 J -35883586.37 -35883586.33 -35883586.27 0.0503 0.0471

Jupiter -102957-05-04 19:11 J -35883496.85 -35883496.70 -35883496.54 0.0500 0.0012

Jupiter -102957-08-02 11:45 J -35883407.03 -35883407.01 -35883406.98 0.0498 0.0490

Mars -102956-01-28 21:06 J -35883227.71 -35883227.62 -35883227.53 0.1663 0.1338

Moon -102956-06-19 21:06 J -35883085.71 -35883085.62 -35883085.54 0.2679 0.1789

Earth -102956-06-19 21:06 J -35883085.71 -35883085.62 -35883085.53 0.2672 0.1761 *

Mars -102956-12-12 04:47 J -35882910.41 -35882910.30 -35882910.19 0.1859 0.0897

Venus -102955-12-22 14:52 J -35882534.94 -35882534.88 -35882534.82 0.3781 0.3242

Jupiter -102951-07-06 00:13 J -35881243.63 -35881243.49 -35881243.36 0.0525 0.0220

Jupiter -102951-10-03 17:16 J -35881153.90 -35881153.78 -35881153.67 0.0528 0.0321

Earth -102950-06-29 21:49 J -35880884.64 -35880884.59 -35880884.55 0.2691 0.2444

Moon -102950-06-29 22:04 J -35880884.62 -35880884.58 -35880884.54 0.2684 0.2493 *

Venus -102949-07-07 10:04 J -35880511.17 -35880511.08 -35880510.98 0.3778 0.2038

Mars -102949-07-14 23:45 J -35880503.62 -35880503.51 -35880503.40 0.1647 0.1047

Mars -102947-06-21 01:54 J -35879797.55 -35879797.42 -35879797.30 0.1659 0.0838

Moon -102947-12-16 20:52 J -35879618.74 -35879618.63 -35879618.52 0.2650 0.1710

Earth -102947-12-16 21:35 J -35879618.71 -35879618.60 -35879618.49 0.2656 0.1755 *

Saturn -102946-02-01 03:06 J -35879572.38 -35879572.37 -35879572.34 0.0269 0.0266

Saturn -102946-04-30 17:30 J -35879483.87 -35879483.77 -35879483.66 0.0270 0.0192

Mars -102946-05-04 10:47 J -35879480.17 -35879480.05 -35879479.92 0.1864 0.0339

Saturn -102946-07-28 07:40 J -35879395.32 -35879395.18 -35879395.04 0.0270 0.0118

Saturn -102946-10-24 21:21 J -35879306.75 -35879306.61 -35879306.46 0.0270 0.0046

Saturn -102945-01-21 11:01 J -35879218.19 -35879218.04 -35879217.89 0.0271 0.0026

Jupiter -102945-02-21 20:37 J -35879186.79 -35879186.64 -35879186.50 0.0502 0.0122

Saturn -102945-04-19 00:13 J -35879129.62 -35879129.49 -35879129.35 0.0271 0.0096

Jupiter -102945-05-21 12:42 J -35879097.07 -35879096.97 -35879096.86 0.0499 0.0364

Saturn -102945-07-16 13:25 J -35879041.05 -35879040.94 -35879040.82 0.0271 0.0165

Saturn -102945-10-13 02:23 J -35878952.47 -35878952.40 -35878952.33 0.0272 0.0234

Venus -102943-01-21 05:30 J -35878487.38 -35878487.27 -35878487.15 0.3775 0.0799

Earth -102943-06-22 16:47 J -35878334.92 -35878334.80 -35878334.69 0.2677 0.0636

Moon -102943-06-22 17:16 J -35878334.89 -35878334.78 -35878334.66 0.2681 0.0543 *

Mars -102940-12-05 06:13 J -35877073.30 -35877073.24 -35877073.18 0.1644 0.1464

Jupiter -102939-04-24 00:57 J -35876933.57 -35876933.46 -35876933.35 0.0524 0.0361

Jupiter -102939-07-22 18:28 J -35876843.87 -35876843.73 -35876843.59 0.0528 0.0184

Venus -102938-08-07 01:11 J -35876463.56 -35876463.45 -35876463.33 0.3771 0.0518

Mars -102938-11-11 07:11 J -35876367.35 -35876367.20 -35876367.06 0.1656 0.0365

Mars -102937-09-23 16:33 J -35876049.93 -35876049.81 -35876049.68 0.1867 0.0252

Neptune -102935-04-01 16:18 J -35875494.83 -35875494.82 -35875494.79 0.0089 0.0088

Neptune -102935-06-28 18:13 J -35875406.77 -35875406.74 -35875406.67 0.0089 0.0084

Neptune -102935-09-24 20:23 J -35875318.71 -35875318.65 -35875318.57 0.0089 0.0079

Neptune -102935-12-21 22:18 J -35875230.64 -35875230.57 -35875230.47 0.0089 0.0075

Neptune -102934-03-20 00:42 J -35875142.56 -35875142.47 -35875142.38 0.0089 0.0070

Neptune -102934-06-16 02:23 J -35875054.49 -35875054.40 -35875054.28 0.0089 0.0066

Venus -102934-08-06 17:59 J -35875002.86 -35875002.75 -35875002.65 0.3600 0.2243

Neptune -102934-09-12 04:47 J -35874966.41 -35874966.30 -35874966.19 0.0089 0.0061

Neptune -102934-12-09 06:42 J -35874878.33 -35874878.22 -35874878.09 0.0089 0.0057

Jupiter -102934-12-10 22:18 J -35874876.70 -35874876.57 -35874876.43 0.0502 0.0239

Neptune -102933-03-06 08:52 J -35874790.25 -35874790.13 -35874790.00 0.0089 0.0052

Jupiter -102933-03-09 14:09 J -35874787.04 -35874786.91 -35874786.77 0.0499 0.0243

Neptune -102933-06-02 10:47 J -35874702.17 -35874702.05 -35874701.91 0.0089 0.0048

Neptune -102933-08-29 13:11 J -35874614.08 -35874613.95 -35874613.81 0.0089 0.0043

Neptune -102933-11-25 15:06 J -35874526.00 -35874525.87 -35874525.72 0.0089 0.0039

Venus -102932-02-19 21:21 J -35874439.71 -35874439.61 -35874439.51 0.3767 0.1834

Neptune -102932-02-21 17:16 J -35874437.92 -35874437.78 -35874437.63 0.0089 0.0034

Neptune -102932-05-20 19:25 J -35874349.83 -35874349.69 -35874349.53 0.0089 0.0030

Neptune -102932-08-16 21:35 J -35874261.74 -35874261.60 -35874261.44 0.0089 0.0025

Saturn -102932-08-18 01:40 J -35874260.52 -35874260.43 -35874260.33 0.0291 0.0223

Neptune -102932-11-12 23:59 J -35874173.66 -35874173.50 -35874173.35 0.0089 0.0020

Saturn -102932-11-14 19:11 J -35874171.84 -35874171.70 -35874171.55 0.0290 0.0132

Neptune -102931-02-09 01:54 J -35874085.57 -35874085.42 -35874085.26 0.0089 0.0016

Saturn -102931-02-11 13:11 J -35874083.11 -35874082.95 -35874082.79 0.0290 0.0038

Neptune -102931-05-08 04:18 J -35873997.48 -35873997.32 -35873997.17 0.0089 0.0011

Saturn -102931-05-11 07:25 J -35873994.35 -35873994.19 -35873994.03 0.0290 0.0058

Neptune -102931-08-04 06:28 J -35873909.39 -35873909.23 -35873909.07 0.0089 0.0006

Saturn -102931-08-08 02:09 J -35873905.55 -35873905.41 -35873905.27 0.0289 0.0154

Neptune -102931-10-31 08:37 J -35873821.30 -35873821.14 -35873820.98 0.0089 0.0001

Saturn -102931-11-04 20:52 J -35873816.70 -35873816.63 -35873816.54 0.0289 0.0253

Neptune -102930-01-27 10:47 J -35873733.21 -35873733.05 -35873732.89 0.0089 0.0004

Neptune -102930-04-25 12:57 J -35873645.11 -35873644.96 -35873644.80 0.0089 0.0009

Earth -102930-06-25 12:13 J -35873584.11 -35873583.99 -35873583.88 0.2682 0.0484

Moon -102930-06-25 12:57 J -35873584.07 -35873583.96 -35873583.84 0.2683 0.0497 *

Neptune -102930-07-22 15:21 J -35873557.02 -35873556.86 -35873556.70 0.0089 0.0013

Neptune -102930-10-18 17:30 J -35873468.92 -35873468.77 -35873468.61 0.0089 0.0018

Neptune -102929-01-14 19:40 J -35873380.83 -35873380.68 -35873380.52 0.0089 0.0023

Neptune -102929-04-11 22:04 J -35873292.73 -35873292.58 -35873292.43 0.0089 0.0027

Neptune -102929-07-09 00:13 J -35873204.64 -35873204.49 -35873204.34 0.0089 0.0032

Neptune -102929-10-05 02:23 J -35873116.54 -35873116.40 -35873116.25 0.0089 0.0037

Neptune -102928-01-01 04:47 J -35873028.44 -35873028.30 -35873028.15 0.0089 0.0042

Venus -102928-02-19 16:33 J -35872978.94 -35872978.81 -35872978.69 0.3604 0.0779

Uranus -102928-03-29 20:37 J -35872940.68 -35872940.64 -35872940.59 0.0144 0.0138

Neptune -102928-03-30 06:57 J -35872940.34 -35872940.21 -35872940.06 0.0089 0.0047

Mars -102928-04-02 12:28 J -35872937.12 -35872936.98 -35872936.83 0.1653 0.0112

Uranus -102928-06-26 02:09 J -35872852.50 -35872852.41 -35872852.31 0.0144 0.0116

Neptune -102928-06-26 09:06 J -35872852.23 -35872852.12 -35872851.97 0.0089 0.0052

Uranus -102928-09-22 07:40 J -35872764.29 -35872764.18 -35872764.05 0.0144 0.0095

Neptune -102928-09-22 11:30 J -35872764.13 -35872764.02 -35872763.88 0.0089 0.0057 *

Uranus -102928-12-19 13:40 J -35872676.07 -35872675.93 -35872675.79 0.0145 0.0072

Neptune -102928-12-19 14:09 J -35872676.03 -35872675.91 -35872675.79 0.0089 0.0061 *

Jupiter -102927-02-10 00:57 J -35872623.48 -35872623.46 -35872623.42 0.0524 0.0509

Mars -102927-02-13 22:04 J -35872619.70 -35872619.58 -35872619.47 0.1871 0.0856

Neptune -102927-03-17 16:18 J -35872587.92 -35872587.82 -35872587.71 0.0089 0.0066

Uranus -102927-03-17 19:25 J -35872587.84 -35872587.69 -35872587.54 0.0145 0.0049 *

Jupiter -102927-05-10 19:11 J -35872533.85 -35872533.70 -35872533.55 0.0527 0.0042

Neptune -102927-06-13 18:42 J -35872499.81 -35872499.72 -35872499.62 0.0089 0.0071

Uranus -102927-06-14 01:11 J -35872499.61 -35872499.45 -35872499.29 0.0145 0.0026

Venus -102927-09-05 17:30 J -35872415.83 -35872415.77 -35872415.71 0.3763 0.3205

Neptune -102927-09-09 21:06 J -35872411.70 -35872411.62 -35872411.53 0.0089 0.0076

Uranus -102927-09-10 07:11 J -35872411.37 -35872411.20 -35872411.04 0.0145 0.0004

Neptune -102927-12-06 23:30 J -35872323.58 -35872323.52 -35872323.45 0.0089 0.0081

Uranus -102927-12-07 12:57 J -35872323.12 -35872322.96 -35872322.79 0.0145 0.0021

Earth -102927-12-11 22:33 J -35872318.69 -35872318.56 -35872318.44 0.2666 0.1250

Moon -102927-12-11 23:16 J -35872318.66 -35872318.53 -35872318.40 0.2660 0.1259 *

Neptune -102926-03-05 01:40 J -35872235.45 -35872235.43 -35872235.38 0.0089 0.0086

Uranus -102926-03-05 18:57 J -35872234.86 -35872234.71 -35872234.55 0.0145 0.0045

Uranus -102926-06-02 00:57 J -35872146.60 -35872146.46 -35872146.31 0.0145 0.0069

Uranus -102926-08-29 07:11 J -35872058.32 -35872058.20 -35872058.07 0.0145 0.0093

Uranus -102926-11-25 13:25 J -35871970.03 -35871969.94 -35871969.84 0.0145 0.0118

Mars -102925-01-20 22:47 J -35871913.63 -35871913.55 -35871913.48 0.1854 0.1491

Uranus -102925-02-21 19:25 J -35871881.71 -35871881.69 -35871881.65 0.0146 0.0143

Earth -102923-06-18 06:28 J -35871034.23 -35871034.23 -35871034.23 0.2668 0.2666

Venus -102923-09-05 14:37 J -35870955.01 -35870954.89 -35870954.76 0.3607 0.0661

Jupiter -102922-09-29 00:42 J -35870566.58 -35870566.47 -35870566.36 0.0503 0.0351

Jupiter -102922-12-27 16:04 J -35870476.98 -35870476.83 -35870476.68 0.0500 0.0127

Mars -102919-08-23 18:13 J -35869506.88 -35869506.74 -35869506.60 0.1650 0.0558

Mars -102918-07-07 02:52 J -35869189.45 -35869189.38 -35869189.30 0.1875 0.1480

Venus -102917-03-21 12:42 J -35868931.08 -35868930.97 -35868930.87 0.3611 0.2020

Earth -102917-06-27 07:25 J -35868833.28 -35868833.19 -35868833.09 0.2686 0.1587

Moon -102917-06-27 08:09 J -35868833.25 -35868833.16 -35868833.07 0.2681 0.1708 *

Mars -102917-07-29 21:35 J -35868800.68 -35868800.60 -35868800.52 0.1663 0.1390

Saturn -102917-09-16 19:11 J -35868751.79 -35868751.70 -35868751.60 0.0269 0.0212

Saturn -102917-12-14 09:21 J -35868663.24 -35868663.11 -35868662.98 0.0269 0.0138

Saturn -102916-03-12 23:16 J -35868574.68 -35868574.53 -35868574.39 0.0269 0.0066

Saturn -102916-06-09 12:42 J -35868486.11 -35868485.97 -35868485.82 0.0270 0.0010

Mars -102916-06-12 05:01 J -35868483.40 -35868483.29 -35868483.18 0.1859 0.0948

Saturn -102916-09-06 02:09 J -35868397.55 -35868397.41 -35868397.27 0.0270 0.0076

Saturn -102916-12-03 15:21 J -35868308.98 -35868308.86 -35868308.74 0.0270 0.0145

Jupiter -102915-02-26 20:52 J -35868223.78 -35868223.63 -35868223.49 0.0527 0.0091

Saturn -102915-03-02 04:18 J -35868220.41 -35868220.32 -35868220.23 0.0271 0.0213

Jupiter -102915-05-27 13:25 J -35868134.01 -35868133.94 -35868133.86 0.0530 0.0449

Moon -102914-12-15 00:42 J -35867567.62 -35867567.47 -35867567.33 0.2653 0.0473

Earth -102914-12-15 00:57 J -35867567.60 -35867567.46 -35867567.32 0.2660 0.0403 *

Venus -102912-10-05 10:04 J -35866907.12 -35866907.08 -35866907.03 0.3615 0.3325

Moon -102910-06-21 02:09 J -35866283.50 -35866283.41 -35866283.31 0.2679 0.1536

Earth -102910-06-21 02:09 J -35866283.50 -35866283.41 -35866283.31 0.2673 0.1526 *

Jupiter -102910-07-18 02:23 J -35866256.45 -35866256.40 -35866256.34 0.0503 0.0469

Jupiter -102910-10-15 17:30 J -35866166.92 -35866166.77 -35866166.62 0.0500 0.0005

Jupiter -102909-01-13 09:49 J -35866077.10 -35866077.09 -35866077.06 0.0498 0.0492

Mars -102909-01-14 00:13 J -35866076.60 -35866076.49 -35866076.38 0.1647 0.0995

Mars -102908-12-20 02:23 J -35865370.53 -35865370.40 -35865370.28 0.1660 0.0896

Mars -102907-11-02 11:01 J -35865053.16 -35865053.04 -35865052.91 0.1863 0.0387

Moon -102904-06-30 02:52 J -35864082.40 -35864082.38 -35864082.36 0.2685 0.2632

Earth -102904-06-30 02:37 J -35864082.39 -35864082.39 -35864082.38 0.2691 0.2674 *

Jupiter -102904-12-15 22:18 J -35863913.71 -35863913.57 -35863913.43 0.0526 0.0221

Jupiter -102903-03-15 15:35 J -35863823.97 -35863823.85 -35863823.74 0.0529 0.0322

Saturn -102902-01-05 00:57 J -35863528.53 -35863528.46 -35863528.39 0.0291 0.0257

Saturn -102902-04-03 18:28 J -35863439.86 -35863439.73 -35863439.60 0.0291 0.0166

Saturn -102902-07-01 12:13 J -35863351.15 -35863350.99 -35863350.84 0.0290 0.0073

Saturn -102902-09-28 06:13 J -35863262.40 -35863262.24 -35863262.08 0.0290 0.0023

Saturn -102902-12-26 00:42 J -35863173.61 -35863173.47 -35863173.32 0.0290 0.0119

Saturn -102901-03-23 19:40 J -35863084.79 -35863084.68 -35863084.57 0.0289 0.0216

Moon -102901-12-17 02:37 J -35862816.49 -35862816.39 -35862816.29 0.2651 0.1935

Earth -102901-12-17 03:35 J -35862816.43 -35862816.35 -35862816.26 0.2655 0.2096 *

Mars -102900-06-05 06:28 J -35862646.30 -35862646.23 -35862646.16 0.1644 0.1422

Mars -102898-05-12 07:25 J -35861940.33 -35861940.19 -35861940.05 0.1656 0.0412

Venus -102898-07-29 13:11 J -35861862.02 -35861861.95 -35861861.88 0.3780 0.2843

Jupiter -102898-08-03 19:11 J -35861856.85 -35861856.70 -35861856.55 0.0501 0.0117

Jupiter -102898-11-01 11:16 J -35861767.14 -35861767.03 -35861766.93 0.0498 0.0368

Mars -102897-03-24 16:47 J -35861622.93 -35861622.80 -35861622.68 0.1868 0.0205

Earth -102897-06-22 21:49 J -35861532.71 -35861532.59 -35861532.48 0.2677 0.0400

Moon -102897-06-22 22:33 J -35861532.68 -35861532.56 -35861532.45 0.2682 0.0359 *

Earth -102894-12-10 02:23 J -35860267.44 -35860267.40 -35860267.36 0.2670 0.2540

Moon -102894-12-10 03:35 J -35860267.40 -35860267.35 -35860267.30 0.2667 0.2459 *

Venus -102892-02-11 08:37 J -35859838.25 -35859838.14 -35859838.04 0.3777 0.1625

Jupiter -102892-10-03 23:16 J -35859603.64 -35859603.53 -35859603.42 0.0524 0.0358

Jupiter -102891-01-01 16:47 J -35859513.93 -35859513.80 -35859513.66 0.0528 0.0189

Uranus -102889-08-25 11:01 J -35858547.06 -35858547.04 -35858547.01 0.0135 0.0133

Mars -102889-10-01 12:42 J -35858510.11 -35858509.97 -35858509.82 0.1653 0.0073

Uranus -102889-11-21 15:35 J -35858458.93 -35858458.85 -35858458.77 0.0134 0.0115

Uranus -102888-02-17 19:54 J -35858370.77 -35858370.67 -35858370.56 0.0134 0.0097

Uranus -102888-05-17 00:28 J -35858282.61 -35858282.48 -35858282.36 0.0134 0.0079

Uranus -102888-08-13 04:33 J -35858194.44 -35858194.31 -35858194.16 0.0134 0.0061

Mars -102888-08-14 22:18 J -35858192.69 -35858192.57 -35858192.45 0.1871 0.0793

Uranus -102888-11-09 09:06 J -35858106.27 -35858106.12 -35858105.98 0.0134 0.0043

Saturn -102887-02-03 21:06 J -35858019.69 -35858019.62 -35858019.54 0.0269 0.0233

Uranus -102887-02-05 13:11 J -35858018.09 -35858017.95 -35858017.79 0.0134 0.0026

Saturn -102887-05-03 11:16 J -35857931.15 -35857931.03 -35857930.91 0.0270 0.0159

Uranus -102887-05-04 17:30 J -35857929.92 -35857929.77 -35857929.62 0.0134 0.0008

Saturn -102887-07-31 01:11 J -35857842.59 -35857842.45 -35857842.31 0.0270 0.0087

Uranus -102887-07-31 21:35 J -35857841.75 -35857841.60 -35857841.44 0.0134 0.0010

Venus -102887-08-28 04:04 J -35857814.44 -35857814.33 -35857814.22 0.3773 0.0369

Saturn -102887-10-27 14:52 J -35857754.03 -35857753.88 -35857753.73 0.0270 0.0015

Uranus -102887-10-28 01:54 J -35857753.57 -35857753.42 -35857753.27 0.0134 0.0026

Saturn -102886-01-24 04:18 J -35857665.46 -35857665.32 -35857665.17 0.0271 0.0056

Uranus -102886-01-24 05:59 J -35857665.39 -35857665.25 -35857665.11 0.0134 0.0043 *

Uranus -102886-04-22 09:49 J -35857577.21 -35857577.09 -35857576.95 0.0134 0.0060

Saturn -102886-04-22 17:30 J -35857576.90 -35857576.77 -35857576.64 0.0271 0.0126

Jupiter -102886-05-22 20:23 J -35857546.78 -35857546.65 -35857546.51 0.0502 0.0240

Uranus -102886-07-19 14:09 J -35857489.03 -35857488.91 -35857488.79 0.0133 0.0076

Saturn -102886-07-20 06:28 J -35857488.32 -35857488.23 -35857488.12 0.0271 0.0196

Mars -102886-07-21 22:47 J -35857486.61 -35857486.55 -35857486.48 0.1855 0.1541

Jupiter -102886-08-20 12:13 J -35857457.13 -35857456.99 -35857456.85 0.0499 0.0242

Uranus -102886-10-15 17:59 J -35857400.85 -35857400.75 -35857400.64 0.0133 0.0092

Saturn -102886-10-16 19:25 J -35857399.72 -35857399.69 -35857399.65 0.0272 0.0263

Uranus -102885-01-11 21:49 J -35857312.66 -35857312.59 -35857312.49 0.0133 0.0109

Uranus -102885-04-09 01:54 J -35857224.47 -35857224.42 -35857224.37 0.0133 0.0124

Earth -102884-06-25 17:16 J -35856781.89 -35856781.78 -35856781.67 0.2682 0.0716

Moon -102884-06-25 17:59 J -35856781.86 -35856781.75 -35856781.64 0.2682 0.0849 *

Venus -102883-08-27 18:13 J -35856353.79 -35856353.74 -35856353.68 0.3598 0.3259

Venus -102881-03-12 23:59 J -35855790.61 -35855790.50 -35855790.39 0.3770 0.0938

Earth -102881-12-12 04:33 J -35855516.45 -35855516.31 -35855516.18 0.2665 0.0923

Moon -102881-12-12 05:01 J -35855516.43 -35855516.29 -35855516.16 0.2659 0.0807 *

Jupiter -102880-07-22 23:59 J -35855293.54 -35855293.50 -35855293.46 0.0524 0.0499

Jupiter -102880-10-20 17:59 J -35855203.90 -35855203.75 -35855203.60 0.0527 0.0050

Mars -102879-02-21 18:42 J -35855079.86 -35855079.72 -35855079.59 0.1650 0.0510

Mars -102878-01-05 03:06 J -35854762.45 -35854762.37 -35854762.28 0.1875 0.1425

Mars -102877-01-28 21:49 J -35854373.66 -35854373.59 -35854373.52 0.1663 0.1443

Venus -102877-03-12 17:16 J -35854329.89 -35854329.78 -35854329.67 0.3601 0.1742

Moon -102877-06-18 11:16 J -35854232.07 -35854232.03 -35854232.00 0.2675 0.2537

Earth -102877-06-18 11:45 J -35854232.06 -35854232.01 -35854231.97 0.2668 0.2427 *

Mars -102877-12-11 05:16 J -35854056.38 -35854056.28 -35854056.17 0.1859 0.1004

Venus -102876-09-26 19:54 J -35853766.76 -35853766.67 -35853766.57 0.3766 0.2277

Jupiter -102874-03-10 22:33 J -35853236.67 -35853236.56 -35853236.46 0.0503 0.0355

Jupiter -102874-06-08 13:54 J -35853147.07 -35853146.92 -35853146.77 0.0500 0.0123

Saturn -102873-05-24 03:21 J -35852796.41 -35852796.36 -35852796.31 0.0291 0.0274

Saturn -102873-08-20 20:37 J -35852707.76 -35852707.64 -35852707.52 0.0290 0.0184

Saturn -102873-11-17 14:23 J -35852619.05 -35852618.90 -35852618.75 0.0290 0.0092

Saturn -102872-02-14 08:23 J -35852530.31 -35852530.15 -35852529.99 0.0290 0.0005

Saturn -102872-05-14 02:52 J -35852441.53 -35852441.38 -35852441.23 0.0289 0.0099

Saturn -102872-08-10 21:35 J -35852352.72 -35852352.60 -35852352.48 0.0289 0.0197

Venus -102872-09-26 15:49 J -35852305.97 -35852305.84 -35852305.71 0.3605 0.0310

Earth -102871-06-28 12:28 J -35852031.06 -35852030.98 -35852030.89 0.2687 0.1815

Moon -102871-06-28 13:11 J -35852031.04 -35852030.95 -35852030.87 0.2682 0.1796 *

Venus -102870-04-12 16:18 J -35851742.84 -35851742.82 -35851742.79 0.3762 0.3661

Mars -102870-07-15 00:28 J -35851649.59 -35851649.48 -35851649.36 0.1647 0.0949

Mars -102868-06-20 02:37 J -35850943.51 -35850943.39 -35850943.26 0.1660 0.0951

Jupiter -102868-08-08 18:28 J -35850893.87 -35850893.73 -35850893.58 0.0526 0.0096

Jupiter -102868-11-06 11:16 J -35850804.10 -35850804.03 -35850803.95 0.0530 0.0443

Moon -102868-12-15 06:42 J -35850765.36 -35850765.22 -35850765.08 0.2653 0.0622

Earth -102868-12-15 06:57 J -35850765.35 -35850765.21 -35850765.07 0.2660 0.0747 *

Mars -102867-05-03 11:16 J -35850626.16 -35850626.03 -35850625.91 0.1864 0.0439

Pluto -102867-06-29 15:06 J -35850568.90 -35850568.87 -35850568.80 0.0060 0.0058

Pluto -102867-09-25 16:33 J -35850480.89 -35850480.81 -35850480.68 0.0060 0.0051

Pluto -102867-12-22 18:28 J -35850392.86 -35850392.73 -35850392.59 0.0060 0.0044

Pluto -102866-03-20 19:40 J -35850304.82 -35850304.68 -35850304.51 0.0060 0.0037

Venus -102866-04-12 13:54 J -35850282.04 -35850281.92 -35850281.80 0.3608 0.1117

Pluto -102866-06-16 21:06 J -35850216.77 -35850216.62 -35850216.43 0.0060 0.0030

Pluto -102866-09-12 23:01 J -35850128.72 -35850128.54 -35850128.36 0.0061 0.0022

Pluto -102866-12-10 00:28 J -35850040.67 -35850040.48 -35850040.29 0.0061 0.0015

Pluto -102865-03-07 01:54 J -35849952.61 -35849952.42 -35849952.22 0.0061 0.0008

Pluto -102865-06-03 03:35 J -35849864.55 -35849864.35 -35849864.16 0.0061 0.0001

Pluto -102865-08-30 04:47 J -35849776.49 -35849776.30 -35849776.09 0.0061 0.0008

Pluto -102865-11-26 06:13 J -35849688.42 -35849688.24 -35849688.04 0.0061 0.0015

Pluto -102864-02-22 07:54 J -35849600.35 -35849600.17 -35849599.98 0.0061 0.0022

Pluto -102864-05-21 09:06 J -35849512.27 -35849512.12 -35849511.93 0.0061 0.0030

Earth -102864-06-21 07:25 J -35849481.30 -35849481.19 -35849481.09 0.2673 0.1292

Moon -102864-06-21 07:25 J -35849481.29 -35849481.19 -35849481.08 0.2679 0.1246 *

Pluto -102864-08-17 10:47 J -35849424.19 -35849424.05 -35849423.88 0.0061 0.0037

Pluto -102864-11-13 11:59 J -35849336.11 -35849336.00 -35849335.84 0.0061 0.0046

Pluto -102863-02-09 13:54 J -35849248.01 -35849247.92 -35849247.81 0.0061 0.0053

Pluto -102863-05-08 15:06 J -35849159.88 -35849159.87 -35849159.81 0.0061 0.0060

Jupiter -102863-12-28 00:57 J -35848926.51 -35848926.46 -35848926.40 0.0504 0.0465

Jupiter -102862-03-27 16:04 J -35848836.99 -35848836.83 -35848836.68 0.0501 0.0016

Jupiter -102862-06-25 08:23 J -35848747.16 -35848747.15 -35848747.14 0.0498 0.0495

Venus -102861-10-26 11:45 J -35848258.10 -35848258.01 -35848257.92 0.3612 0.2457

Mars -102861-12-04 06:57 J -35848219.29 -35848219.21 -35848219.13 0.1644 0.1370

Mars -102859-11-10 07:54 J -35847513.31 -35847513.17 -35847513.03 0.1656 0.0467

Saturn -102858-06-23 23:01 J -35847287.59 -35847287.54 -35847287.49 0.0268 0.0252

Saturn -102858-09-20 13:11 J -35847199.06 -35847198.95 -35847198.84 0.0269 0.0179

Mars -102858-09-23 17:01 J -35847195.92 -35847195.79 -35847195.66 0.1867 0.0141

Saturn -102858-12-18 03:06 J -35847110.51 -35847110.37 -35847110.23 0.0269 0.0106

Saturn -102857-03-15 16:47 J -35847021.95 -35847021.80 -35847021.65 0.0269 0.0034

Saturn -102857-06-12 06:13 J -35846933.38 -35846933.24 -35846933.09 0.0270 0.0037

Saturn -102857-09-08 19:25 J -35846844.82 -35846844.69 -35846844.55 0.0270 0.0107

Saturn -102857-12-06 08:37 J -35846756.25 -35846756.14 -35846756.03 0.0270 0.0175

Saturn -102856-03-04 21:35 J -35846667.66 -35846667.60 -35846667.54 0.0271 0.0243

Jupiter -102856-05-27 19:54 J -35846583.80 -35846583.67 -35846583.53 0.0526 0.0228

Jupiter -102856-08-25 13:11 J -35846494.06 -35846493.95 -35846493.83 0.0529 0.0316

Moon -102855-12-18 08:23 J -35846014.20 -35846014.15 -35846014.09 0.2652 0.2413

Earth -102855-12-18 09:49 J -35846014.15 -35846014.09 -35846014.04 0.2654 0.2444 *

Neptune -102853-07-11 23:30 J -35845442.55 -35845442.52 -35845442.46 0.0088 0.0085

Neptune -102853-10-08 01:54 J -35845354.48 -35845354.42 -35845354.34 0.0088 0.0080

Neptune -102852-01-04 04:18 J -35845266.40 -35845266.32 -35845266.23 0.0088 0.0075

Neptune -102852-04-02 06:28 J -35845178.31 -35845178.23 -35845178.12 0.0088 0.0070

Neptune -102852-06-29 08:37 J -35845090.23 -35845090.14 -35845090.01 0.0088 0.0066

Neptune -102852-09-25 11:01 J -35845002.14 -35845002.04 -35845001.91 0.0088 0.0061

Neptune -102852-12-22 13:25 J -35844914.06 -35844913.94 -35844913.81 0.0088 0.0056

Neptune -102851-03-20 15:49 J -35844825.97 -35844825.84 -35844825.71 0.0088 0.0051

Neptune -102851-06-16 17:45 J -35844737.88 -35844737.76 -35844737.61 0.0088 0.0047

Earth -102851-06-24 02:52 J -35844730.50 -35844730.38 -35844730.26 0.2678 0.0164

Moon -102851-06-24 03:35 J -35844730.47 -35844730.35 -35844730.23 0.2682 0.0090 *

Neptune -102851-09-12 20:09 J -35844649.79 -35844649.66 -35844649.51 0.0088 0.0042

Neptune -102851-12-09 22:33 J -35844561.70 -35844561.56 -35844561.41 0.0088 0.0037

Jupiter -102850-01-13 17:30 J -35844526.91 -35844526.77 -35844526.62 0.0501 0.0113

Neptune -102850-03-08 00:57 J -35844473.61 -35844473.46 -35844473.31 0.0088 0.0032

Jupiter -102850-04-13 09:35 J -35844437.20 -35844437.10 -35844436.99 0.0498 0.0372

Neptune -102850-06-04 02:52 J -35844385.52 -35844385.38 -35844385.22 0.0088 0.0027

Neptune -102850-08-31 05:16 J -35844297.43 -35844297.28 -35844297.13 0.0088 0.0022

Neptune -102850-11-27 07:25 J -35844209.34 -35844209.19 -35844209.03 0.0088 0.0018

Neptune -102849-02-23 09:35 J -35844121.25 -35844121.10 -35844120.94 0.0088 0.0013

Mars -102849-04-01 13:11 J -35844083.09 -35844082.95 -35844082.80 0.1653 0.0018

Neptune -102849-05-21 11:45 J -35844033.16 -35844033.01 -35844032.85 0.0088 0.0008

Neptune -102849-08-17 13:54 J -35843945.08 -35843944.92 -35843944.76 0.0088 0.0004

Neptune -102849-11-13 16:04 J -35843856.99 -35843856.83 -35843856.67 0.0088 0.0002

Neptune -102848-02-09 18:13 J -35843768.90 -35843768.74 -35843768.58 0.0088 0.0006

Mars -102848-02-12 22:18 J -35843765.69 -35843765.57 -35843765.45 0.1872 0.0750

Neptune -102848-05-08 20:23 J -35843680.81 -35843680.65 -35843680.49 0.0088 0.0010

Neptune -102848-08-04 22:33 J -35843592.72 -35843592.56 -35843592.41 0.0088 0.0015

Neptune -102848-11-01 00:28 J -35843504.63 -35843504.48 -35843504.32 0.0088 0.0020

Earth -102848-12-10 08:09 J -35843465.23 -35843465.16 -35843465.08 0.2669 0.2222

Moon -102848-12-10 09:21 J -35843465.19 -35843465.11 -35843465.02 0.2666 0.2090 *

Neptune -102847-01-28 02:37 J -35843416.54 -35843416.39 -35843416.24 0.0088 0.0024

Neptune -102847-04-26 04:47 J -35843328.45 -35843328.30 -35843328.15 0.0088 0.0028

Neptune -102847-07-23 06:57 J -35843240.36 -35843240.21 -35843240.07 0.0088 0.0033

Venus -102847-08-19 16:33 J -35843212.84 -35843212.81 -35843212.78 0.3783 0.3618

Neptune -102847-10-19 08:52 J -35843152.27 -35843152.13 -35843151.98 0.0088 0.0037

Neptune -102846-01-15 11:01 J -35843064.18 -35843064.04 -35843063.90 0.0088 0.0042

Mars -102846-01-19 23:01 J -35843059.60 -35843059.54 -35843059.48 0.1855 0.1590

Neptune -102846-04-13 12:57 J -35842976.09 -35842975.96 -35842975.82 0.0088 0.0046

Neptune -102846-07-10 15:06 J -35842887.99 -35842887.87 -35842887.74 0.0088 0.0051

Neptune -102846-10-06 16:47 J -35842799.90 -35842799.80 -35842799.66 0.0088 0.0056

Neptune -102845-01-02 18:57 J -35842711.81 -35842711.71 -35842711.59 0.0088 0.0060

Neptune -102845-03-30 20:52 J -35842623.72 -35842623.63 -35842623.51 0.0088 0.0064

Neptune -102845-06-26 23:01 J -35842535.63 -35842535.54 -35842535.44 0.0088 0.0068

Neptune -102845-09-23 01:11 J -35842447.53 -35842447.45 -35842447.36 0.0088 0.0073

Neptune -102845-12-20 02:52 J -35842359.44 -35842359.38 -35842359.29 0.0088 0.0077

Jupiter -102844-03-15 21:35 J -35842273.71 -35842273.60 -35842273.49 0.0525 0.0359

Neptune -102844-03-18 04:47 J -35842271.34 -35842271.30 -35842271.23 0.0088 0.0082

Uranus -102844-04-19 03:49 J -35842239.39 -35842239.34 -35842239.28 0.0144 0.0133

Jupiter -102844-06-13 15:06 J -35842184.00 -35842183.87 -35842183.73 0.0528 0.0189

Neptune -102844-06-14 06:57 J -35842183.24 -35842183.21 -35842183.17 0.0088 0.0086

Uranus -102844-07-16 09:21 J -35842151.20 -35842151.11 -35842151.00 0.0144 0.0112

Uranus -102844-10-12 14:52 J -35842062.99 -35842062.88 -35842062.74 0.0144 0.0090

Saturn -102843-01-07 19:25 J -35841975.79 -35841975.69 -35841975.59 0.0291 0.0220

Uranus -102843-01-08 20:52 J -35841974.77 -35841974.63 -35841974.49 0.0145 0.0067

Saturn -102843-04-06 12:57 J -35841887.10 -35841886.96 -35841886.82 0.0291 0.0128

Uranus -102843-04-07 02:37 J -35841886.54 -35841886.39 -35841886.24 0.0145 0.0044

Saturn -102843-07-04 06:57 J -35841798.37 -35841798.21 -35841798.05 0.0290 0.0034

Uranus -102843-07-04 08:23 J -35841798.31 -35841798.15 -35841797.99 0.0145 0.0021 *

Uranus -102843-09-30 14:23 J -35841710.06 -35841709.90 -35841709.74 0.0145 0.0003

Saturn -102843-10-01 01:11 J -35841709.61 -35841709.45 -35841709.29 0.0290 0.0061

Uranus -102843-12-27 20:23 J -35841621.81 -35841621.65 -35841621.49 0.0145 0.0026

Saturn -102843-12-28 19:40 J -35841620.81 -35841620.68 -35841620.54 0.0290 0.0159

Uranus -102842-03-26 02:09 J -35841533.56 -35841533.41 -35841533.25 0.0145 0.0050

Saturn -102842-03-27 14:52 J -35841531.95 -35841531.88 -35841531.81 0.0289 0.0257

Uranus -102842-06-22 08:09 J -35841445.29 -35841445.16 -35841445.01 0.0145 0.0075

Uranus -102842-09-18 14:23 J -35841357.02 -35841356.90 -35841356.77 0.0145 0.0099

Uranus -102842-12-15 20:23 J -35841268.72 -35841268.65 -35841268.55 0.0145 0.0124

Venus -102841-03-04 11:45 J -35841189.10 -35841189.01 -35841188.93 0.3779 0.2435

Mars -102840-08-22 18:57 J -35840652.85 -35840652.71 -35840652.57 0.1650 0.0464

Mars -102839-07-06 03:21 J -35840335.44 -35840335.36 -35840335.27 0.1875 0.1371

Jupiter -102839-11-01 19:11 J -35840216.83 -35840216.70 -35840216.56 0.0502 0.0232

Jupiter -102838-01-30 11:01 J -35840127.17 -35840127.04 -35840126.91 0.0499 0.0249

Earth -102838-06-26 22:18 J -35839979.68 -35839979.57 -35839979.46 0.2683 0.0947

Moon -102838-06-26 23:01 J -35839979.65 -35839979.54 -35839979.43 0.2681 0.0987 *

Mars -102838-07-29 22:18 J -35839946.63 -35839946.57 -35839946.51 0.1663 0.1498

Mars -102837-06-11 05:16 J -35839629.38 -35839629.28 -35839629.18 0.1859 0.1048

Venus -102836-09-18 06:57 J -35839165.32 -35839165.21 -35839165.10 0.3776 0.1208

Earth -102835-12-13 10:33 J -35838714.20 -35838714.06 -35838713.92 0.2664 0.0589

Moon -102835-12-13 10:47 J -35838714.19 -35838714.05 -35838713.91 0.2657 0.0615 *

Jupiter -102832-01-01 22:33 J -35837963.60 -35837963.56 -35837963.51 0.0524 0.0494

Jupiter -102832-04-01 16:33 J -35837873.95 -35837873.81 -35837873.66 0.0527 0.0057

Moon -102831-06-19 16:18 J -35837429.89 -35837429.82 -35837429.75 0.2675 0.2174

Earth -102831-06-19 16:47 J -35837429.87 -35837429.80 -35837429.74 0.2669 0.2191 *

Mars -102830-01-13 00:57 J -35837222.58 -35837222.46 -35837222.34 0.1647 0.0899

Venus -102830-04-04 02:37 J -35837141.51 -35837141.39 -35837141.27 0.3772 0.0060

Mars -102829-12-19 03:06 J -35836516.49 -35836516.37 -35836516.25 0.1659 0.0999

Saturn -102828-02-06 14:23 J -35836467.00 -35836466.90 -35836466.80 0.0269 0.0202

Saturn -102828-05-06 04:33 J -35836378.44 -35836378.31 -35836378.18 0.0269 0.0129

Saturn -102828-08-02 18:28 J -35836289.88 -35836289.73 -35836289.59 0.0270 0.0057

Saturn -102828-10-30 07:54 J -35836201.32 -35836201.17 -35836201.02 0.0270 0.0015

Mars -102828-11-01 11:30 J -35836199.14 -35836199.02 -35836198.89 0.1864 0.0498

Saturn -102827-01-26 21:21 J -35836112.75 -35836112.61 -35836112.47 0.0270 0.0085

Saturn -102827-04-25 10:18 J -35836024.18 -35836024.07 -35836023.94 0.0271 0.0155

Saturn -102827-07-22 23:30 J -35835935.60 -35835935.52 -35835935.44 0.0271 0.0223

Jupiter -102827-08-20 20:52 J -35835906.74 -35835906.63 -35835906.53 0.0503 0.0353

Jupiter -102827-11-18 12:13 J -35835817.14 -35835816.99 -35835816.84 0.0500 0.0125

Venus -102826-04-03 17:45 J -35835680.84 -35835680.76 -35835680.67 0.3599 0.2742

Earth -102825-06-28 17:30 J -35835228.84 -35835228.77 -35835228.69 0.2688 0.2041

Moon -102825-06-28 17:59 J -35835228.82 -35835228.75 -35835228.68 0.2683 0.2148 *

Venus -102825-10-17 22:33 J -35835117.67 -35835117.56 -35835117.45 0.3768 0.1372

Moon -102822-12-16 12:28 J -35833963.11 -35833962.98 -35833962.85 0.2653 0.1113

Earth -102822-12-16 12:57 J -35833963.09 -35833962.96 -35833962.83 0.2659 0.1083 *

Mars -102821-06-04 07:11 J -35833792.28 -35833792.20 -35833792.12 0.1644 0.1325

Venus -102821-10-17 16:33 J -35833656.93 -35833656.81 -35833656.69 0.3602 0.1251

Jupiter -102820-01-18 17:45 J -35833563.91 -35833563.76 -35833563.62 0.0526 0.0084

Jupiter -102820-04-18 10:18 J -35833474.14 -35833474.07 -35833473.99 0.0529 0.0454

Venus -102819-05-03 18:42 J -35833093.80 -35833093.72 -35833093.64 0.3764 0.2722

Mars -102819-05-11 08:09 J -35833086.30 -35833086.16 -35833086.02 0.1656 0.0516

Mars -102818-03-24 17:16 J -35832768.91 -35832768.78 -35832768.66 0.1868 0.0109

Earth -102818-06-22 12:28 J -35832679.09 -35832678.98 -35832678.87 0.2674 0.1057

Moon -102818-06-22 12:42 J -35832679.07 -35832678.97 -35832678.86 0.2680 0.1073 *

Venus -102815-05-03 15:06 J -35831633.00 -35831632.87 -35831632.74 0.3606 0.0198

Jupiter -102815-06-08 23:01 J -35831596.60 -35831596.54 -35831596.49 0.0504 0.0467

Jupiter -102815-09-06 13:54 J -35831507.07 -35831506.92 -35831506.76 0.0501 0.0011

Jupiter -102815-12-05 06:28 J -35831417.25 -35831417.23 -35831417.22 0.0498 0.0494

Saturn -102814-05-27 21:21 J -35831243.69 -35831243.61 -35831243.52 0.0291 0.0239

Saturn -102814-08-24 14:52 J -35831155.01 -35831154.88 -35831154.74 0.0290 0.0148

Saturn -102814-11-21 08:37 J -35831066.29 -35831066.14 -35831065.98 0.0290 0.0056

Saturn -102813-02-18 02:52 J -35830977.54 -35830977.38 -35830977.22 0.0290 0.0041

Saturn -102813-05-16 21:21 J -35830888.75 -35830888.61 -35830888.46 0.0289 0.0138

Saturn -102813-08-13 16:33 J -35830799.91 -35830799.81 -35830799.72 0.0289 0.0235

Mars -102810-10-01 13:40 J -35829656.08 -35829655.93 -35829655.79 0.1653 0.0052

Venus -102810-11-17 13:11 J -35829609.07 -35829608.95 -35829608.84 0.3609 0.1574

Mars -102809-08-13 22:33 J -35829338.68 -35829338.56 -35829338.44 0.1872 0.0692

Jupiter -102809-11-06 17:59 J -35829253.89 -35829253.75 -35829253.62 0.0525 0.0231

Moon -102809-12-18 14:23 J -35829211.93 -35829211.90 -35829211.86 0.2651 0.2569

Jupiter -102808-02-04 11:16 J -35829164.15 -35829164.03 -35829163.92 0.0529 0.0312

Mars -102807-07-20 23:01 J -35828632.59 -35828632.54 -35828632.48 0.1855 0.1641

Earth -102805-06-24 07:54 J -35827928.29 -35827928.17 -35827928.05 0.2679 0.0074

Moon -102805-06-24 08:37 J -35827928.26 -35827928.14 -35827928.02 0.2682 0.0152 *

Uranus -102805-09-14 17:45 J -35827845.79 -35827845.76 -35827845.71 0.0135 0.0130

Uranus -102805-12-11 22:18 J -35827757.65 -35827757.57 -35827757.48 0.0134 0.0112

Uranus -102804-03-10 02:52 J -35827669.49 -35827669.38 -35827669.27 0.0134 0.0093

Venus -102804-06-02 10:47 J -35827585.12 -35827585.05 -35827584.97 0.3613 0.2894

Uranus -102804-06-06 07:11 J -35827581.32 -35827581.20 -35827581.07 0.0134 0.0076

Uranus -102804-09-02 11:30 J -35827493.15 -35827493.02 -35827492.88 0.0134 0.0058

Uranus -102804-11-29 15:49 J -35827404.98 -35827404.84 -35827404.69 0.0134 0.0040

Uranus -102803-02-25 20:09 J -35827316.81 -35827316.66 -35827316.51 0.0134 0.0023

Uranus -102803-05-25 00:28 J -35827228.63 -35827228.48 -35827228.33 0.0134 0.0005

Jupiter -102803-06-25 16:04 J -35827196.97 -35827196.83 -35827196.68 0.0501 0.0108

Uranus -102803-08-21 04:33 J -35827140.46 -35827140.31 -35827140.16 0.0134 0.0012

Jupiter -102803-09-23 08:23 J -35827107.25 -35827107.15 -35827107.05 0.0499 0.0378

Uranus -102803-11-17 08:52 J -35827052.28 -35827052.13 -35827051.99 0.0134 0.0029

Uranus -102802-02-13 12:57 J -35826964.10 -35826963.96 -35826963.82 0.0134 0.0046

Uranus -102802-05-12 16:47 J -35826875.93 -35826875.80 -35826875.66 0.0133 0.0063

Uranus -102802-08-08 20:37 J -35826787.74 -35826787.64 -35826787.51 0.0133 0.0080

Uranus -102802-11-05 00:42 J -35826699.56 -35826699.47 -35826699.35 0.0133 0.0096

Earth -102802-12-11 14:09 J -35826663.01 -35826662.91 -35826662.81 0.2669 0.1899

Moon -102802-12-11 15:06 J -35826662.97 -35826662.87 -35826662.76 0.2664 0.1797 *

Uranus -102801-02-01 04:47 J -35826611.37 -35826611.30 -35826611.21 0.0133 0.0112

Uranus -102801-04-29 08:52 J -35826523.17 -35826523.13 -35826523.09 0.0133 0.0127

Mars -102800-02-20 19:25 J -35826225.83 -35826225.69 -35826225.55 0.1650 0.0411

Mars -102799-01-04 03:35 J -35825908.44 -35825908.35 -35825908.25 0.1875 0.1316

Saturn -102799-06-26 16:18 J -35825734.90 -35825734.82 -35825734.73 0.0268 0.0221

Saturn -102799-09-23 06:28 J -35825646.36 -35825646.23 -35825646.10 0.0269 0.0148

Saturn -102799-12-20 20:23 J -35825557.80 -35825557.65 -35825557.51 0.0269 0.0076

Mars -102798-01-27 22:47 J -35825519.60 -35825519.55 -35825519.50 0.1663 0.1556

Saturn -102798-03-19 09:49 J -35825469.23 -35825469.09 -35825468.94 0.0269 0.0010

Saturn -102798-06-15 23:16 J -35825380.67 -35825380.53 -35825380.38 0.0270 0.0066

Saturn -102798-09-12 12:28 J -35825292.10 -35825291.98 -35825291.85 0.0270 0.0135

Saturn -102798-12-10 01:25 J -35825203.53 -35825203.44 -35825203.34 0.0270 0.0204

Mars -102798-12-11 05:30 J -35825202.37 -35825202.27 -35825202.16 0.1859 0.1108

Saturn -102797-03-07 14:23 J -35825114.90 -35825114.90 -35825114.90 0.0271 0.0270

Jupiter -102797-08-25 19:11 J -35824943.80 -35824943.70 -35824943.59 0.0525 0.0365

Jupiter -102797-11-23 12:57 J -35824854.09 -35824853.96 -35824853.82 0.0528 0.0184

Earth -102792-06-27 03:21 J -35823177.47 -35823177.36 -35823177.26 0.2683 0.1178

Moon -102792-06-27 04:04 J -35823177.43 -35823177.33 -35823177.23 0.2681 0.1280 *

Jupiter -102791-04-13 17:59 J -35822886.88 -35822886.75 -35822886.61 0.0502 0.0224

Jupiter -102791-07-12 09:35 J -35822797.23 -35822797.10 -35822796.96 0.0499 0.0256

Mars -102791-07-14 01:11 J -35822795.57 -35822795.45 -35822795.33 0.1647 0.0852

Venus -102790-03-26 14:52 J -35822539.94 -35822539.88 -35822539.82 0.3782 0.3216

Mars -102789-06-19 03:35 J -35822089.47 -35822089.35 -35822089.24 0.1659 0.1054

Earth -102789-12-13 16:18 J -35821911.96 -35821911.82 -35821911.67 0.2663 0.0274

Moon -102789-12-13 16:33 J -35821911.95 -35821911.81 -35821911.66 0.2656 0.0209 *

Mars -102788-05-02 11:30 J -35821772.14 -35821772.02 -35821771.90 0.1864 0.0541

Jupiter -102785-06-13 20:37 J -35820633.68 -35820633.64 -35820633.59 0.0524 0.0495

Moon -102785-06-19 21:35 J -35820627.67 -35820627.60 -35820627.53 0.2676 0.2045

Earth -102785-06-19 21:49 J -35820627.67 -35820627.59 -35820627.51 0.2670 0.1954 *

Jupiter -102785-09-11 14:52 J -35820544.02 -35820543.88 -35820543.73 0.0527 0.0057

Venus -102785-10-09 10:04 J -35820516.17 -35820516.08 -35820515.98 0.3778 0.2021

Saturn -102785-10-13 19:54 J -35820511.71 -35820511.67 -35820511.62 0.0291 0.0276

Saturn -102784-01-10 13:11 J -35820423.06 -35820422.95 -35820422.83 0.0291 0.0186

Saturn -102784-04-09 06:57 J -35820334.36 -35820334.21 -35820334.06 0.0291 0.0094

Saturn -102784-07-07 00:57 J -35820245.62 -35820245.46 -35820245.30 0.0290 0.0004

Saturn -102784-10-03 19:25 J -35820156.84 -35820156.69 -35820156.54 0.0290 0.0097

Saturn -102784-12-31 14:09 J -35820068.03 -35820067.91 -35820067.79 0.0289 0.0195

Mars -102782-12-04 07:25 J -35819365.28 -35819365.19 -35819365.10 0.1644 0.1281

Mars -102780-11-09 08:37 J -35818659.28 -35818659.14 -35818659.00 0.1656 0.0568

Jupiter -102779-01-30 19:54 J -35818576.78 -35818576.67 -35818576.56 0.0503 0.0342

Venus -102779-04-25 05:30 J -35818492.38 -35818492.27 -35818492.16 0.3775 0.0785

Jupiter -102779-04-30 11:16 J -35818487.18 -35818487.03 -35818486.88 0.0500 0.0135

Earth -102779-06-29 22:33 J -35818426.62 -35818426.56 -35818426.50 0.2688 0.2273

Moon -102779-06-29 22:47 J -35818426.61 -35818426.55 -35818426.48 0.2682 0.2248 *

Mars -102779-09-22 17:16 J -35818341.90 -35818341.78 -35818341.65 0.1868 0.0065

Moon -102776-12-16 18:13 J -35817160.87 -35817160.74 -35817160.61 0.2653 0.1276

Earth -102776-12-16 18:57 J -35817160.83 -35817160.71 -35817160.58 0.2658 0.1426 *

Pluto -102774-10-26 23:01 J -35816481.56 -35816481.54 -35816481.52 0.0085 0.0083

Venus -102774-11-09 01:11 J -35816468.56 -35816468.45 -35816468.33 0.3771 0.0507

Pluto -102773-01-22 23:59 J -35816393.56 -35816393.50 -35816393.41 0.0085 0.0070

Pluto -102773-04-20 01:25 J -35816305.53 -35816305.44 -35816305.34 0.0085 0.0056

Jupiter -102773-06-30 16:18 J -35816233.96 -35816233.82 -35816233.67 0.0526 0.0077

Pluto -102773-07-17 02:37 J -35816217.49 -35816217.39 -35816217.27 0.0084 0.0043

Jupiter -102773-09-28 09:21 J -35816144.18 -35816144.11 -35816144.05 0.0529 0.0462

Pluto -102773-10-13 03:49 J -35816129.45 -35816129.34 -35816129.20 0.0084 0.0030

Pluto -102772-01-09 05:16 J -35816041.41 -35816041.28 -35816041.15 0.0084 0.0016

Pluto -102772-04-07 06:28 J -35815953.36 -35815953.23 -35815953.09 0.0084 0.0004

Earth -102772-06-22 17:30 J -35815876.88 -35815876.77 -35815876.66 0.2674 0.0820

Moon -102772-06-22 17:59 J -35815876.87 -35815876.75 -35815876.64 0.2681 0.0724 *

Pluto -102772-07-04 07:54 J -35815865.30 -35815865.17 -35815865.04 0.0084 0.0011

Pluto -102772-09-30 09:06 J -35815777.25 -35815777.12 -35815777.00 0.0084 0.0024

Pluto -102772-12-27 10:04 J -35815689.19 -35815689.08 -35815688.95 0.0084 0.0038

Pluto -102771-03-25 11:16 J -35815601.12 -35815601.03 -35815600.91 0.0084 0.0051

Pluto -102771-06-21 12:28 J -35815513.05 -35815512.98 -35815512.88 0.0083 0.0063

Pluto -102771-09-17 13:40 J -35815424.97 -35815424.93 -35815424.87 0.0083 0.0076

Neptune -102771-12-27 16:04 J -35815323.87 -35815323.83 -35815323.78 0.0089 0.0085

Neptune -102770-03-25 17:45 J -35815235.80 -35815235.76 -35815235.68 0.0089 0.0081

Mars -102770-04-01 13:54 J -35815229.07 -35815228.92 -35815228.77 0.1653 0.0095

Neptune -102770-06-21 20:09 J -35815147.73 -35815147.66 -35815147.58 0.0089 0.0076

Neptune -102770-09-17 22:04 J -35815059.66 -35815059.58 -35815059.48 0.0089 0.0072

Venus -102770-11-08 17:16 J -35815007.88 -35815007.78 -35815007.68 0.3600 0.2230

Saturn -102770-11-13 17:01 J -35815002.84 -35815002.79 -35815002.72 0.0269 0.0247

Neptune -102770-12-15 00:13 J -35814971.58 -35814971.49 -35814971.39 0.0089 0.0067

Saturn -102769-02-10 07:25 J -35814914.30 -35814914.19 -35814914.07 0.0269 0.0173

Mars -102769-02-12 23:01 J -35814911.67 -35814911.54 -35814911.42 0.1872 0.0636

Neptune -102769-03-12 02:09 J -35814883.51 -35814883.41 -35814883.29 0.0089 0.0063

Saturn -102769-05-08 21:21 J -35814825.75 -35814825.61 -35814825.47 0.0269 0.0101

Neptune -102769-06-08 04:04 J -35814795.43 -35814795.33 -35814795.20 0.0089 0.0059

Saturn -102769-08-05 11:01 J -35814737.18 -35814737.04 -35814736.89 0.0270 0.0030

Neptune -102769-09-04 06:13 J -35814707.35 -35814707.24 -35814707.11 0.0089 0.0054

Saturn -102769-11-02 00:42 J -35814648.62 -35814648.47 -35814648.33 0.0270 0.0043

Neptune -102769-12-01 08:23 J -35814619.27 -35814619.15 -35814619.01 0.0089 0.0050

Saturn -102768-01-29 13:54 J -35814560.05 -35814559.92 -35814559.79 0.0270 0.0112

Neptune -102768-02-27 10:33 J -35814531.19 -35814531.06 -35814530.92 0.0089 0.0045

Saturn -102768-04-28 02:52 J -35814471.48 -35814471.38 -35814471.27 0.0271 0.0181

Venus -102768-05-24 21:21 J -35814444.72 -35814444.61 -35814444.51 0.3767 0.1817

Neptune -102768-05-26 12:42 J -35814443.10 -35814442.97 -35814442.83 0.0089 0.0040

Saturn -102768-07-25 15:49 J -35814382.89 -35814382.84 -35814382.78 0.0271 0.0249

Neptune -102768-08-22 14:37 J -35814355.02 -35814354.89 -35814354.74 0.0089 0.0036

Neptune -102768-11-18 17:01 J -35814266.94 -35814266.79 -35814266.64 0.0089 0.0031

Jupiter -102768-11-18 21:21 J -35814266.66 -35814266.61 -35814266.55 0.0504 0.0463 *

Mars -102767-01-18 23:16 J -35814205.57 -35814205.53 -35814205.48 0.1855 0.1693

Neptune -102767-02-14 18:57 J -35814178.85 -35814178.71 -35814178.55 0.0089 0.0027

Jupiter -102767-02-16 12:28 J -35814177.14 -35814176.98 -35814176.83 0.0501 0.0011

Neptune -102767-05-13 21:21 J -35814090.76 -35814090.61 -35814090.46 0.0089 0.0022

Neptune -102767-08-09 23:30 J -35814002.68 -35814002.52 -35814002.37 0.0089 0.0017

Neptune -102767-11-06 01:40 J -35813914.59 -35813914.43 -35813914.28 0.0089 0.0013

Neptune -102766-02-02 03:49 J -35813826.50 -35813826.34 -35813826.18 0.0089 0.0008

Neptune -102766-05-01 05:59 J -35813738.41 -35813738.25 -35813738.09 0.0089 0.0003

Neptune -102766-07-28 08:09 J -35813650.32 -35813650.16 -35813650.00 0.0089 0.0002

Neptune -102766-10-24 10:18 J -35813562.22 -35813562.07 -35813561.91 0.0089 0.0007

Neptune -102765-01-20 12:42 J -35813474.13 -35813473.97 -35813473.82 0.0089 0.0011

Neptune -102765-04-17 14:52 J -35813386.04 -35813385.88 -35813385.72 0.0089 0.0016

Neptune -102765-07-14 17:01 J -35813297.94 -35813297.79 -35813297.63 0.0089 0.0021

Neptune -102765-10-10 19:11 J -35813209.85 -35813209.70 -35813209.54 0.0089 0.0026

Neptune -102764-01-06 21:35 J -35813121.75 -35813121.60 -35813121.45 0.0089 0.0030

Neptune -102764-04-04 23:45 J -35813033.65 -35813033.51 -35813033.36 0.0089 0.0035

Venus -102764-05-24 16:04 J -35812983.96 -35812983.83 -35812983.71 0.3603 0.0770

Neptune -102764-07-02 01:54 J -35812945.55 -35812945.42 -35812945.27 0.0089 0.0040

Neptune -102764-09-28 04:04 J -35812857.45 -35812857.33 -35812857.18 0.0089 0.0045

Neptune -102764-12-25 06:28 J -35812769.35 -35812769.23 -35812769.09 0.0089 0.0050

Neptune -102763-03-23 08:37 J -35812681.25 -35812681.14 -35812681.00 0.0089 0.0055

Neptune -102763-06-19 11:16 J -35812593.15 -35812593.03 -35812592.91 0.0089 0.0059

Neptune -102763-09-15 13:40 J -35812505.04 -35812504.93 -35812504.82 0.0089 0.0064

Venus -102763-12-08 17:30 J -35812420.83 -35812420.77 -35812420.71 0.3763 0.3173

Neptune -102763-12-12 15:49 J -35812416.93 -35812416.84 -35812416.73 0.0089 0.0069

Neptune -102762-03-10 18:13 J -35812328.82 -35812328.74 -35812328.65 0.0089 0.0074

Neptune -102762-06-06 20:37 J -35812240.71 -35812240.64 -35812240.56 0.0089 0.0079

Neptune -102762-09-02 22:47 J -35812152.59 -35812152.55 -35812152.49 0.0089 0.0084

Jupiter -102761-04-18 17:30 J -35811923.91 -35811923.77 -35811923.64 0.0525 0.0215

Jupiter -102761-07-17 10:33 J -35811834.17 -35811834.06 -35811833.94 0.0528 0.0328

Mars -102761-08-21 19:40 J -35811798.82 -35811798.68 -35811798.54 0.1650 0.0359

Uranus -102760-05-09 10:47 J -35811538.11 -35811538.05 -35811537.97 0.0144 0.0129

Mars -102760-07-05 03:49 J -35811481.43 -35811481.34 -35811481.24 0.1875 0.1260

Uranus -102760-08-05 16:18 J -35811449.91 -35811449.82 -35811449.70 0.0144 0.0107

Uranus -102760-11-01 22:04 J -35811361.70 -35811361.58 -35811361.44 0.0144 0.0085

Uranus -102759-01-29 03:49 J -35811273.48 -35811273.34 -35811273.19 0.0145 0.0062

Uranus -102759-04-27 09:35 J -35811185.25 -35811185.10 -35811184.94 0.0145 0.0039

Earth -102759-06-25 12:57 J -35811126.08 -35811125.96 -35811125.84 0.2679 0.0303

Moon -102759-06-25 13:40 J -35811126.04 -35811125.93 -35811125.81 0.2680 0.0358 *

Uranus -102759-07-24 15:35 J -35811097.01 -35811096.85 -35811096.69 0.0145 0.0016

Mars -102759-07-28 23:01 J -35811092.57 -35811092.54 -35811092.50 0.1663 0.1606

Uranus -102759-10-20 21:21 J -35811008.77 -35811008.61 -35811008.44 0.0145 0.0008

Venus -102759-12-08 14:23 J -35810960.03 -35810959.90 -35810959.77 0.3607 0.0660

Uranus -102758-01-17 03:21 J -35810920.52 -35810920.36 -35810920.20 0.0145 0.0031

Uranus -102758-04-15 09:21 J -35810832.26 -35810832.11 -35810831.95 0.0145 0.0055

Mars -102758-06-11 05:45 J -35810775.36 -35810775.26 -35810775.16 0.1859 0.1156

Uranus -102758-07-12 15:21 J -35810743.99 -35810743.86 -35810743.72 0.0145 0.0079

Uranus -102758-10-08 21:35 J -35810655.71 -35810655.60 -35810655.48 0.0145 0.0104

Uranus -102757-01-05 03:35 J -35810567.41 -35810567.35 -35810567.26 0.0145 0.0128

Jupiter -102756-12-05 14:23 J -35809867.05 -35809866.90 -35809866.75 0.0502 0.0106

Earth -102756-12-11 20:09 J -35809860.77 -35809860.66 -35809860.55 0.2668 0.1569

Moon -102756-12-11 20:52 J -35809860.74 -35809860.63 -35809860.51 0.2662 0.1543 *

Jupiter -102755-03-05 06:28 J -35809777.33 -35809777.23 -35809777.13 0.0499 0.0379

Saturn -102755-05-30 14:37 J -35809690.99 -35809690.89 -35809690.78 0.0291 0.0209

Saturn -102755-08-27 08:23 J -35809602.30 -35809602.15 -35809602.01 0.0290 0.0117

Saturn -102755-11-24 02:09 J -35809513.57 -35809513.41 -35809513.25 0.0290 0.0024

Saturn -102754-02-20 20:37 J -35809424.80 -35809424.64 -35809424.49 0.0290 0.0074

Saturn -102754-05-20 15:06 J -35809335.99 -35809335.87 -35809335.73 0.0289 0.0171

Saturn -102754-08-17 10:04 J -35809247.12 -35809247.08 -35809247.01 0.0289 0.0270

Venus -102753-06-23 12:13 J -35808936.09 -35808935.99 -35808935.88 0.3611 0.2022

Mars -102751-01-12 01:40 J -35808368.56 -35808368.43 -35808368.31 0.1647 0.0802

Mars -102750-12-19 03:49 J -35807662.44 -35807662.34 -35807662.23 0.1659 0.1111

Jupiter -102749-02-05 17:30 J -35807613.88 -35807613.77 -35807613.66 0.0525 0.0364

Jupiter -102749-05-05 11:16 J -35807524.17 -35807524.03 -35807523.89 0.0528 0.0183

Mars -102749-10-31 11:45 J -35807345.13 -35807345.01 -35807344.89 0.1864 0.0598

Venus -102747-01-07 09:49 J -35806912.13 -35806912.09 -35806912.04 0.3615 0.3325

Earth -102746-06-28 08:23 J -35806375.25 -35806375.15 -35806375.05 0.2684 0.1409

Moon -102746-06-28 09:06 J -35806375.22 -35806375.12 -35806375.02 0.2681 0.1466 *

Jupiter -102744-09-23 16:47 J -35805556.93 -35805556.80 -35805556.66 0.0502 0.0217

Jupiter -102744-12-22 08:23 J -35805467.28 -35805467.15 -35805467.01 0.0499 0.0265

Moon -102743-12-14 22:33 J -35805109.71 -35805109.56 -35805109.42 0.2656 0.0067

Earth -102743-12-14 22:33 J -35805109.71 -35805109.56 -35805109.42 0.2663 0.0105 *

Mars -102742-06-04 07:40 J -35804938.27 -35804938.18 -35804938.08 0.1644 0.1233

Saturn -102740-04-01 18:57 J -35804270.72 -35804270.71 -35804270.68 0.0268 0.0266

Mars -102740-05-10 08:52 J -35804232.26 -35804232.13 -35804231.99 0.1656 0.0621

Saturn -102740-06-29 09:21 J -35804182.21 -35804182.11 -35804182.00 0.0268 0.0192

Saturn -102740-09-25 23:16 J -35804093.66 -35804093.53 -35804093.39 0.0269 0.0120

Saturn -102740-12-23 13:11 J -35804005.10 -35804004.95 -35804004.81 0.0269 0.0048

Saturn -102739-03-22 02:37 J -35803916.54 -35803916.39 -35803916.24 0.0269 0.0023

Mars -102739-03-23 17:30 J -35803914.90 -35803914.77 -35803914.64 0.1868 0.0042

Saturn -102739-06-18 15:49 J -35803827.97 -35803827.84 -35803827.70 0.0270 0.0093

Moon -102739-06-21 02:52 J -35803825.47 -35803825.38 -35803825.29 0.2677 0.1663

Earth -102739-06-21 02:52 J -35803825.47 -35803825.38 -35803825.29 0.2670 0.1720 *

Saturn -102739-09-15 05:01 J -35803739.41 -35803739.29 -35803739.17 0.0270 0.0162

Saturn -102739-12-12 17:59 J -35803650.83 -35803650.75 -35803650.68 0.0270 0.0229

Jupiter -102738-11-24 18:42 J -35803303.76 -35803303.72 -35803303.68 0.0524 0.0498

Jupiter -102737-02-22 12:57 J -35803214.11 -35803213.96 -35803213.81 0.0527 0.0053

Venus -102734-10-31 13:11 J -35801867.02 -35801866.95 -35801866.87 0.3781 0.2816

Earth -102733-06-30 03:35 J -35801624.39 -35801624.35 -35801624.31 0.2689 0.2503

Moon -102733-06-30 03:49 J -35801624.38 -35801624.34 -35801624.31 0.2682 0.2543 *

Jupiter -102732-07-12 18:42 J -35801246.83 -35801246.72 -35801246.60 0.0503 0.0333

Jupiter -102732-10-10 10:04 J -35801157.23 -35801157.08 -35801156.93 0.0500 0.0144

Mars -102731-09-30 14:23 J -35800802.05 -35800801.90 -35800801.76 0.1653 0.0150

Mars -102730-08-13 23:01 J -35800484.66 -35800484.54 -35800484.42 0.1872 0.0585

Moon -102730-12-17 23:59 J -35800358.61 -35800358.50 -35800358.39 0.2653 0.1717

Earth -102730-12-18 00:57 J -35800358.56 -35800358.46 -35800358.35 0.2657 0.1762 *

Venus -102728-05-16 08:37 J -35799843.25 -35799843.14 -35799843.04 0.3777 0.1608

Mars -102728-07-19 23:30 J -35799778.56 -35799778.52 -35799778.48 0.1855 0.1740

Earth -102726-06-23 22:33 J -35799074.68 -35799074.56 -35799074.45 0.2675 0.0584

Moon -102726-06-23 23:01 J -35799074.65 -35799074.54 -35799074.43 0.2681 0.0603 *

Saturn -102726-10-17 12:57 J -35798959.03 -35798958.96 -35798958.87 0.0291 0.0247

Jupiter -102726-12-11 14:37 J -35798904.03 -35798903.89 -35798903.74 0.0527 0.0077

Saturn -102725-01-14 06:28 J -35798870.36 -35798870.23 -35798870.10 0.0291 0.0155

Jupiter -102725-03-10 07:40 J -35798814.25 -35798814.18 -35798814.11 0.0530 0.0464

Saturn -102725-04-12 00:13 J -35798781.64 -35798781.49 -35798781.33 0.0291 0.0062

Saturn -102725-07-09 18:28 J -35798692.89 -35798692.73 -35798692.57 0.0290 0.0033

Saturn -102725-10-06 12:57 J -35798604.10 -35798603.96 -35798603.81 0.0290 0.0130

Saturn -102724-01-03 07:40 J -35798515.27 -35798515.18 -35798515.07 0.0289 0.0229

Venus -102723-11-30 04:04 J -35797819.44 -35797819.33 -35797819.22 0.3774 0.0362

Mars -102721-02-20 19:54 J -35797371.81 -35797371.67 -35797371.53 0.1649 0.0313

Uranus -102721-10-05 00:42 J -35797144.51 -35797144.47 -35797144.41 0.0135 0.0127

Uranus -102720-01-01 05:01 J -35797056.37 -35797056.29 -35797056.19 0.0134 0.0109

Mars -102720-01-03 04:04 J -35797054.42 -35797054.33 -35797054.23 0.1876 0.1206

Uranus -102720-03-30 09:35 J -35796968.21 -35796968.10 -35796967.98 0.0134 0.0090

Jupiter -102720-04-30 20:52 J -35796936.70 -35796936.63 -35796936.57 0.0503 0.0449

Uranus -102720-06-26 13:54 J -35796880.04 -35796879.92 -35796879.78 0.0134 0.0073

Jupiter -102720-07-29 11:45 J -35796847.16 -35796847.01 -35796846.86 0.0500 0.0024

Uranus -102720-09-22 18:13 J -35796791.87 -35796791.74 -35796791.59 0.0134 0.0055

Uranus -102720-12-19 22:47 J -35796703.70 -35796703.55 -35796703.41 0.0134 0.0037

Uranus -102719-03-18 02:52 J -35796615.53 -35796615.38 -35796615.22 0.0134 0.0020

Uranus -102719-06-14 07:11 J -35796527.35 -35796527.20 -35796527.05 0.0134 0.0003

Uranus -102719-09-10 11:30 J -35796439.18 -35796439.02 -35796438.87 0.0134 0.0015

Venus -102719-11-29 17:45 J -35796358.81 -35796358.76 -35796358.71 0.3598 0.3243

Uranus -102719-12-07 15:35 J -35796351.00 -35796350.85 -35796350.71 0.0134 0.0032

Mars -102719-12-10 05:45 J -35796348.35 -35796348.26 -35796348.16 0.1860 0.1204

Uranus -102718-03-05 19:40 J -35796262.82 -35796262.68 -35796262.54 0.0134 0.0048

Uranus -102718-06-01 23:30 J -35796174.64 -35796174.52 -35796174.38 0.0133 0.0066

Uranus -102718-08-29 03:35 J -35796086.46 -35796086.35 -35796086.22 0.0133 0.0082

Uranus -102718-11-25 07:25 J -35795998.28 -35795998.19 -35795998.08 0.0133 0.0099

Uranus -102717-02-21 11:30 J -35795910.08 -35795910.02 -35795909.93 0.0133 0.0114

Uranus -102717-05-19 15:35 J -35795821.87 -35795821.85 -35795821.82 0.0133 0.0130

Venus -102717-06-14 23:59 J -35795795.62 -35795795.50 -35795795.39 0.3770 0.0938

Jupiter -102714-09-29 16:18 J -35794593.96 -35794593.82 -35794593.68 0.0525 0.0206

Jupiter -102714-12-28 09:35 J -35794504.21 -35794504.10 -35794503.99 0.0529 0.0336

Venus -102713-06-14 16:47 J -35794334.92 -35794334.80 -35794334.69 0.3601 0.1732

Earth -102713-06-25 17:59 J -35794323.86 -35794323.75 -35794323.63 0.2680 0.0535

Moon -102713-06-25 18:57 J -35794323.83 -35794323.71 -35794323.60 0.2680 0.0677 *

Mars -102712-07-13 01:54 J -35793941.55 -35793941.42 -35793941.30 0.1647 0.0757

Venus -102712-12-29 19:54 J -35793771.76 -35793771.67 -35793771.58 0.3766 0.2250

Mars -102711-05-26 08:52 J -35793624.15 -35793624.13 -35793624.11 0.1879 0.1846

Saturn -102711-11-16 09:49 J -35793450.17 -35793450.09 -35793450.00 0.0269 0.0219

Saturn -102710-02-12 23:59 J -35793361.63 -35793361.50 -35793361.37 0.0269 0.0146

Saturn -102710-05-12 13:54 J -35793273.07 -35793272.92 -35793272.78 0.0269 0.0074

Mars -102710-06-19 04:04 J -35793235.43 -35793235.33 -35793235.22 0.1659 0.1156

Saturn -102710-08-09 03:35 J -35793184.50 -35793184.35 -35793184.20 0.0270 0.0008

Saturn -102710-11-05 16:47 J -35793095.94 -35793095.80 -35793095.65 0.0270 0.0069

Earth -102710-12-13 02:09 J -35793058.54 -35793058.41 -35793058.29 0.2667 0.1246

Moon -102710-12-13 02:52 J -35793058.51 -35793058.38 -35793058.25 0.2661 0.1115 *

Saturn -102709-02-02 05:59 J -35793007.37 -35793007.25 -35793007.12 0.0270 0.0138

Saturn -102709-04-30 18:57 J -35792918.80 -35792918.71 -35792918.61 0.0271 0.0206

Mars -102709-05-01 11:59 J -35792918.12 -35792918.00 -35792917.88 0.1864 0.0650

Jupiter -102708-05-17 13:11 J -35792537.10 -35792536.95 -35792536.80 0.0501 0.0099

Jupiter -102708-08-15 05:01 J -35792447.38 -35792447.29 -35792447.19 0.0499 0.0385

Venus -102708-12-29 15:21 J -35792310.99 -35792310.86 -35792310.73 0.3605 0.0289

Moon -102706-06-19 11:45 J -35791774.02 -35791774.01 -35791774.00 0.2671 0.2651

Earth -102706-06-19 12:13 J -35791774.00 -35791773.99 -35791773.97 0.2666 0.2626 *

Venus -102706-07-15 16:18 J -35791747.85 -35791747.82 -35791747.80 0.3762 0.3621

Mars -102703-12-03 08:09 J -35790511.26 -35790511.16 -35790511.06 0.1644 0.1182

Venus -102702-07-15 13:40 J -35790287.06 -35790286.93 -35790286.81 0.3608 0.1124

Jupiter -102702-07-18 17:16 J -35790283.90 -35790283.78 -35790283.67 0.0525 0.0344

Jupiter -102702-10-16 10:47 J -35790194.18 -35790194.05 -35790193.91 0.0528 0.0202

Mars -102701-11-08 09:21 J -35789805.24 -35789805.11 -35789804.97 0.1656 0.0676

Earth -102700-06-28 13:25 J -35789573.03 -35789572.94 -35789572.85 0.2685 0.1641

Moon -102700-06-28 13:54 J -35789573.01 -35789572.92 -35789572.83 0.2681 0.1694 *

Mars -102700-09-21 17:45 J -35789487.88 -35789487.76 -35789487.63 0.1868 0.0087

Moon -102697-12-15 04:18 J -35788307.47 -35788307.32 -35788307.18 0.2656 0.0378

Earth -102697-12-15 04:33 J -35788307.45 -35788307.31 -35788307.17 0.2662 0.0418 *

Venus -102696-01-28 11:16 J -35788263.12 -35788263.03 -35788262.93 0.3612 0.2452

Jupiter -102696-03-05 15:06 J -35788227.00 -35788226.87 -35788226.73 0.0502 0.0215

Saturn -102696-03-05 13:54 J -35788226.97 -35788226.92 -35788226.86 0.0291 0.0271 *

Saturn -102696-06-02 07:25 J -35788138.31 -35788138.19 -35788138.07 0.0291 0.0180

Jupiter -102696-06-03 06:57 J -35788137.34 -35788137.21 -35788137.08 0.0499 0.0267

Saturn -102696-08-30 01:11 J -35788049.60 -35788049.45 -35788049.30 0.0290 0.0088

Saturn -102696-11-26 19:11 J -35787960.86 -35787960.70 -35787960.54 0.0290 0.0007

Saturn -102695-02-23 13:40 J -35787872.08 -35787871.93 -35787871.78 0.0290 0.0104

Saturn -102695-05-23 08:23 J -35787783.26 -35787783.15 -35787783.03 0.0289 0.0202

Mars -102693-04-24 14:37 J -35787080.92 -35787080.89 -35787080.86 0.1641 0.1600

Moon -102693-06-21 08:09 J -35787023.26 -35787023.16 -35787023.07 0.2678 0.1536

Earth -102693-06-21 07:54 J -35787023.26 -35787023.17 -35787023.07 0.2671 0.1482 *

Mars -102691-03-31 14:37 J -35786375.03 -35786374.89 -35786374.74 0.1653 0.0202

Mars -102690-02-11 23:16 J -35786057.65 -35786057.53 -35786057.41 0.1872 0.0529

Jupiter -102690-05-06 17:01 J -35785973.83 -35785973.79 -35785973.74 0.0524 0.0495

Jupiter -102690-08-04 11:16 J -35785884.18 -35785884.03 -35785883.88 0.0527 0.0055

Neptune -102688-01-09 20:52 J -35785359.65 -35785359.63 -35785359.59 0.0088 0.0087

Mars -102688-01-17 23:30 J -35785351.54 -35785351.52 -35785351.49 0.1855 0.1791

Neptune -102688-04-07 23:16 J -35785271.58 -35785271.53 -35785271.46 0.0088 0.0082

Neptune -102688-07-05 01:40 J -35785183.50 -35785183.43 -35785183.35 0.0088 0.0077

Neptune -102688-10-01 04:04 J -35785095.42 -35785095.33 -35785095.23 0.0088 0.0072

Neptune -102688-12-28 05:59 J -35785007.34 -35785007.25 -35785007.13 0.0088 0.0068

Neptune -102687-03-26 08:23 J -35784919.25 -35784919.15 -35784919.02 0.0088 0.0063

Neptune -102687-06-22 10:47 J -35784831.16 -35784831.05 -35784830.92 0.0088 0.0058

Neptune -102687-09-18 13:11 J -35784743.07 -35784742.95 -35784742.81 0.0088 0.0053

Neptune -102687-12-15 15:35 J -35784654.98 -35784654.85 -35784654.71 0.0088 0.0048

Neptune -102686-03-13 17:30 J -35784566.90 -35784566.77 -35784566.61 0.0088 0.0044

Neptune -102686-06-09 19:54 J -35784478.81 -35784478.67 -35784478.52 0.0088 0.0038

Neptune -102686-09-05 22:18 J -35784390.72 -35784390.57 -35784390.42 0.0088 0.0033

Neptune -102686-12-03 00:28 J -35784302.63 -35784302.48 -35784302.32 0.0088 0.0029

Neptune -102685-02-29 02:37 J -35784214.54 -35784214.39 -35784214.23 0.0088 0.0024

Neptune -102685-05-27 04:47 J -35784126.45 -35784126.30 -35784126.14 0.0088 0.0020

Neptune -102685-08-23 07:11 J -35784038.36 -35784038.20 -35784038.04 0.0088 0.0015

Neptune -102685-11-19 09:21 J -35783950.27 -35783950.11 -35783949.95 0.0088 0.0010

Jupiter -102685-12-22 17:45 J -35783916.88 -35783916.76 -35783916.65 0.0503 0.0324

Neptune -102684-02-15 11:30 J -35783862.18 -35783862.02 -35783861.86 0.0088 0.0005

Jupiter -102684-03-22 09:06 J -35783827.27 -35783827.12 -35783826.98 0.0500 0.0154

Neptune -102684-05-14 13:40 J -35783774.09 -35783773.93 -35783773.77 0.0088 0.0001

Neptune -102684-08-10 15:49 J -35783686.00 -35783685.84 -35783685.68 0.0088 0.0004

Neptune -102684-11-06 17:59 J -35783597.91 -35783597.75 -35783597.59 0.0088 0.0009

Moon -102684-12-18 05:59 J -35783556.34 -35783556.25 -35783556.15 0.2652 0.1965

Earth -102684-12-18 07:11 J -35783556.29 -35783556.20 -35783556.12 0.2657 0.2110 *

Neptune -102683-02-02 20:09 J -35783509.82 -35783509.66 -35783509.50 0.0088 0.0013

Neptune -102683-05-01 22:18 J -35783421.73 -35783421.57 -35783421.42 0.0088 0.0018

Neptune -102683-07-29 00:13 J -35783333.64 -35783333.49 -35783333.33 0.0088 0.0023

Neptune -102683-10-25 02:23 J -35783245.55 -35783245.40 -35783245.25 0.0088 0.0027

Venus -102683-11-21 16:33 J -35783217.84 -35783217.81 -35783217.77 0.3783 0.3581

Neptune -102682-01-21 04:33 J -35783157.45 -35783157.31 -35783157.16 0.0088 0.0031

Neptune -102682-04-19 06:28 J -35783069.36 -35783069.23 -35783069.08 0.0088 0.0036

Neptune -102682-07-16 08:37 J -35782981.27 -35782981.14 -35782981.00 0.0088 0.0040

Mars -102682-08-21 20:23 J -35782944.80 -35782944.65 -35782944.51 0.1649 0.0267

Neptune -102682-10-12 10:47 J -35782893.18 -35782893.05 -35782892.92 0.0088 0.0045

Neptune -102681-01-08 12:42 J -35782805.09 -35782804.97 -35782804.84 0.0088 0.0049

Saturn -102681-04-04 11:45 J -35782718.07 -35782718.01 -35782717.93 0.0268 0.0239

Neptune -102681-04-05 14:52 J -35782717.00 -35782716.88 -35782716.76 0.0088 0.0054

Saturn -102681-07-02 01:54 J -35782629.53 -35782629.42 -35782629.29 0.0269 0.0165

Neptune -102681-07-02 16:33 J -35782628.91 -35782628.81 -35782628.68 0.0088 0.0059

Mars -102681-07-04 04:18 J -35782627.42 -35782627.32 -35782627.22 0.1875 0.1153

Saturn -102681-09-28 15:49 J -35782540.98 -35782540.84 -35782540.69 0.0269 0.0093

Neptune -102681-09-28 18:42 J -35782540.82 -35782540.72 -35782540.60 0.0088 0.0063 *

Neptune -102681-12-25 20:37 J -35782452.72 -35782452.64 -35782452.53 0.0088 0.0067

Saturn -102681-12-26 05:30 J -35782452.41 -35782452.27 -35782452.12 0.0269 0.0023

Neptune -102680-03-23 22:47 J -35782364.63 -35782364.55 -35782364.45 0.0088 0.0071

Saturn -102680-03-24 18:57 J -35782363.85 -35782363.71 -35782363.56 0.0269 0.0050

Neptune -102680-06-20 00:57 J -35782276.53 -35782276.46 -35782276.38 0.0088 0.0076

Saturn -102680-06-21 08:23 J -35782275.29 -35782275.15 -35782275.02 0.0270 0.0119

Earth   -102680-06-24 03:35 J -35782272.47 -35782272.35 -35782272.23 0.2676 0.0352

Moon   -102680-06-24 04:18 J -35782272.44 -35782272.32 -35782272.21 0.2680 0.0238 *

Neptune -102680-09-16 02:37 J -35782188.44 -35782188.39 -35782188.31 0.0088 0.0080

Saturn -102680-09-17 21:21 J -35782186.71 -35782186.61 -35782186.51 0.0270 0.0187

Neptune -102680-12-13 04:33 J -35782100.33 -35782100.31 -35782100.25 0.0088 0.0085

Saturn -102680-12-15 10:04 J -35782098.12 -35782098.08 -35782098.03 0.0270 0.0255

Mars   -102679-06-10 05:59 J -35781921.34 -35781921.25 -35781921.16 0.1859 0.1255

Jupiter -102678-05-23 12:42 J -35781574.11 -35781573.97 -35781573.82 0.0526 0.0078

Jupiter -102678-08-21 05:45 J -35781484.33 -35781484.26 -35781484.19 0.0530 0.0462

Venus   -102677-06-06 11:45 J -35781194.10 -35781194.01 -35781193.93 0.3780 0.2409

Earth   -102677-12-10 05:59 J -35781007.29 -35781007.25 -35781007.21 0.2672 0.2538

Moon   -102677-12-10 06:57 J -35781007.27 -35781007.21 -35781007.14 0.2669 0.2347 *

Uranus -102676-05-29 17:45 J -35780836.84 -35780836.76 -35780836.68 0.0144 0.0126

Uranus -102676-08-25 23:16 J -35780748.64 -35780748.53 -35780748.42 0.0144 0.0104

Uranus -102676-11-22 04:47 J -35780660.42 -35780660.30 -35780660.16 0.0144 0.0081

Uranus -102675-02-18 10:33 J -35780572.20 -35780572.06 -35780571.91 0.0145 0.0059

Uranus -102675-05-17 16:18 J -35780483.97 -35780483.82 -35780483.66 0.0145 0.0036

Uranus -102675-08-13 22:18 J -35780395.73 -35780395.57 -35780395.41 0.0145 0.0013

Uranus -102675-11-10 04:04 J -35780307.49 -35780307.33 -35780307.16 0.0145 0.0012

Uranus -102674-02-06 10:04 J -35780219.24 -35780219.08 -35780218.92 0.0145 0.0035

Uranus -102674-05-05 16:04 J -35780130.98 -35780130.83 -35780130.68 0.0145 0.0059

Uranus -102674-08-01 22:18 J -35780042.71 -35780042.57 -35780042.44 0.0145 0.0083

Uranus -102674-10-29 04:04 J -35779954.43 -35779954.33 -35779954.20 0.0145 0.0108

Uranus -102673-01-25 10:33 J -35779866.12 -35779866.06 -35779865.99 0.0145 0.0132

Jupiter -102673-10-10 19:54 J -35779606.74 -35779606.67 -35779606.60 0.0504 0.0438

Jupiter -102672-01-08 10:47 J -35779517.20 -35779517.05 -35779516.90 0.0500 0.0035

Mars -102672-01-11 02:09 J -35779514.54 -35779514.41 -35779514.28 0.1647 0.0707

Mars -102672-11-24 09:06 J -35779197.16 -35779197.12 -35779197.09 0.1879 0.1793

Venus -102672-12-21 06:57 J -35779170.32 -35779170.21 -35779170.10 0.3776 0.1199

Mars -102671-12-18 04:47 J -35778808.40 -35778808.30 -35778808.20 0.1659 0.1217

Mars -102670-10-31 12:13 J -35778491.11 -35778490.99 -35778490.87 0.1864 0.0701

Earth -102667-06-26 23:01 J -35777521.65 -35777521.54 -35777521.43 0.2680 0.0769

Moon -102667-06-26 23:59 J -35777521.61 -35777521.50 -35777521.39 0.2681 0.0794 *

Saturn -102667-10-20 05:30 J -35777406.37 -35777406.27 -35777406.17 0.0291 0.0219

Saturn -102666-01-16 23:01 J -35777317.68 -35777317.54 -35777317.39 0.0291 0.0128

Jupiter -102666-03-11 14:37 J -35777264.03 -35777263.89 -35777263.75 0.0526 0.0204

Saturn -102666-04-15 17:01 J -35777228.95 -35777228.79 -35777228.63 0.0291 0.0033

Jupiter -102666-06-09 07:54 J -35777174.28 -35777174.17 -35777174.06 0.0529 0.0339

Venus -102666-07-07 02:37 J -35777146.51 -35777146.39 -35777146.28 0.3773 0.0071

Saturn -102666-07-13 11:16 J -35777140.19 -35777140.03 -35777139.87 0.0290 0.0062

Saturn -102666-10-10 05:45 J -35777051.39 -35777051.26 -35777051.12 0.0290 0.0160

Saturn -102665-01-07 00:42 J -35776962.53 -35776962.47 -35776962.39 0.0289 0.0258

Earth -102664-12-13 08:09 J -35776256.30 -35776256.16 -35776256.03 0.2667 0.0914

Moon -102664-12-13 08:37 J -35776256.27 -35776256.14 -35776256.00 0.2661 0.0927 *

Mars -102663-06-03 08:23 J -35776084.25 -35776084.15 -35776084.05 0.1644 0.1140

Venus -102662-07-06 17:16 J -35775685.87 -35775685.78 -35775685.70 0.3599 0.2732

Mars -102661-05-09 09:35 J -35775378.23 -35775378.10 -35775377.96 0.1656 0.0724

Jupiter -102661-10-27 12:28 J -35775207.13 -35775206.98 -35775206.82 0.0501 0.0085

Venus -102660-01-19 22:33 J -35775122.67 -35775122.56 -35775122.46 0.3769 0.1358

Jupiter -102660-01-25 04:33 J -35775117.40 -35775117.31 -35775117.22 0.0498 0.0400

Mars -102660-03-22 17:59 J -35775060.88 -35775060.75 -35775060.62 0.1868 0.0126

Moon -102660-06-19 17:01 J -35774971.84 -35774971.79 -35774971.75 0.2672 0.2443

Earth -102660-06-19 17:16 J -35774971.83 -35774971.78 -35774971.72 0.2667 0.2386 *

Venus -102656-01-19 16:04 J -35773661.95 -35773661.83 -35773661.71 0.3602 0.1248

Venus -102655-08-05 18:28 J -35773098.81 -35773098.73 -35773098.65 0.3765 0.2686

Jupiter -102655-12-28 16:04 J -35772953.94 -35772953.83 -35772953.71 0.0525 0.0335

Jupiter -102654-03-28 09:49 J -35772864.23 -35772864.09 -35772863.96 0.0528 0.0211

Earth -102654-06-29 18:28 J -35772770.81 -35772770.73 -35772770.65 0.2685 0.1871

Moon -102654-06-29 18:57 J -35772770.79 -35772770.71 -35772770.63 0.2680 0.1950 *

Mars -102654-10-24 14:52 J -35772653.92 -35772653.88 -35772653.84 0.1641 0.1553

Saturn -102652-08-22 11:45 J -35771986.01 -35771986.01 -35771985.99 0.0268 0.0268

Mars -102652-09-29 14:52 J -35771948.02 -35771947.88 -35771947.73 0.1653 0.0251

Saturn -102652-11-19 02:09 J -35771897.51 -35771897.41 -35771897.30 0.0269 0.0194

Saturn -102651-02-15 16:18 J -35771808.96 -35771808.82 -35771808.68 0.0269 0.0121

Saturn -102651-05-15 05:59 J -35771720.39 -35771720.25 -35771720.10 0.0269 0.0049

Venus -102651-08-05 14:37 J -35771638.02 -35771637.89 -35771637.76 0.3606 0.0192

Saturn -102651-08-11 19:40 J -35771631.83 -35771631.68 -35771631.53 0.0270 0.0023

Mars -102651-08-12 23:30 J -35771630.64 -35771630.52 -35771630.39 0.1872 0.0473

Saturn -102651-11-08 08:52 J -35771543.27 -35771543.13 -35771542.99 0.0270 0.0093

Moon -102651-12-16 09:49 J -35771505.23 -35771505.09 -35771504.95 0.2655 0.0746

Earth -102651-12-16 10:33 J -35771505.20 -35771505.06 -35771504.93 0.2661 0.0751 *

Saturn -102650-02-04 22:04 J -35771454.70 -35771454.58 -35771454.46 0.0270 0.0162

Saturn -102650-05-04 10:47 J -35771366.12 -35771366.05 -35771365.97 0.0271 0.0230

Mars -102649-07-18 23:45 J -35770924.52 -35770924.51 -35770924.50 0.1855 0.1841

Jupiter -102649-08-15 14:09 J -35770897.05 -35770896.91 -35770896.78 0.0502 0.0206

Jupiter -102649-11-13 05:45 J -35770807.39 -35770807.26 -35770807.13 0.0499 0.0275

Earth -102647-06-22 13:11 J -35770221.06 -35770220.95 -35770220.85 0.2672 0.1247

Moon -102647-06-22 13:11 J -35770221.05 -35770220.95 -35770220.84 0.2678 0.1185 *

Venus -102645-02-19 12:42 J -35769614.09 -35769613.97 -35769613.86 0.3609 0.1560

Jupiter -102643-10-16 16:47 J -35768643.85 -35768643.80 -35768643.73 0.0524 0.0474

Jupiter -102642-01-14 11:01 J -35768554.18 -35768554.04 -35768553.89 0.0527 0.0078

Mars -102642-02-19 20:37 J -35768517.78 -35768517.64 -35768517.49 0.1650 0.0211

Mars -102641-01-03 04:33 J -35768200.41 -35768200.31 -35768200.20 0.1876 0.1096

Venus -102640-09-04 10:33 J -35767590.14 -35767590.06 -35767589.99 0.3613 0.2886

Mars -102640-12-09 06:13 J -35767494.32 -35767494.24 -35767494.15 0.1859 0.1312

Moon -102638-12-19 11:59 J -35766754.06 -35766754.00 -35766753.93 0.2653 0.2358

Earth -102638-12-19 13:11 J -35766754.00 -35766753.95 -35766753.90 0.2656 0.2451 *

Saturn -102637-03-08 06:13 J -35766674.32 -35766674.24 -35766674.16 0.0291 0.0245

Jupiter -102637-06-03 16:18 J -35766586.94 -35766586.82 -35766586.71 0.0503 0.0320

Saturn -102637-06-04 23:30 J -35766585.65 -35766585.52 -35766585.38 0.0291 0.0155

Jupiter -102637-09-01 07:40 J -35766497.33 -35766497.18 -35766497.04 0.0500 0.0158

Saturn -102637-09-01 17:30 J -35766496.93 -35766496.77 -35766496.62 0.0290 0.0061

Uranus -102637-10-25 07:25 J -35766443.24 -35766443.19 -35766443.12 0.0135 0.0124

Saturn -102637-11-29 11:30 J -35766408.17 -35766408.02 -35766407.86 0.0290 0.0036

Uranus -102636-01-21 11:59 J -35766355.09 -35766355.00 -35766354.90 0.0134 0.0105

Saturn -102636-02-26 06:13 J -35766319.39 -35766319.24 -35766319.10 0.0290 0.0132

Uranus -102636-04-19 16:18 J -35766266.93 -35766266.82 -35766266.69 0.0134 0.0088

Saturn -102636-05-26 00:57 J -35766230.55 -35766230.46 -35766230.36 0.0289 0.0230

Uranus -102636-07-16 20:52 J -35766178.76 -35766178.63 -35766178.50 0.0134 0.0069

Uranus -102636-10-13 01:11 J -35766090.59 -35766090.45 -35766090.30 0.0134 0.0052

Uranus -102635-01-09 05:30 J -35766002.42 -35766002.27 -35766002.12 0.0134 0.0034

Uranus -102635-04-07 09:49 J -35765914.24 -35765914.09 -35765913.94 0.0134 0.0017

Uranus -102635-07-04 14:09 J -35765826.07 -35765825.91 -35765825.76 0.0134 0.0003

Uranus -102635-09-30 18:13 J -35765737.89 -35765737.74 -35765737.59 0.0134 0.0018

Uranus -102635-12-27 22:18 J -35765649.71 -35765649.57 -35765649.42 0.0134 0.0035

Uranus -102634-03-26 02:23 J -35765561.53 -35765561.40 -35765561.26 0.0134 0.0052

Uranus -102634-06-22 06:28 J -35765473.35 -35765473.23 -35765473.10 0.0133 0.0068

Earth -102634-06-25 08:37 J -35765470.26 -35765470.14 -35765470.02 0.2676 0.0122

Moon -102634-06-25 09:21 J -35765470.22 -35765470.11 -35765469.99 0.2679 0.0138 *

Uranus -102634-09-18 10:33 J -35765385.17 -35765385.06 -35765384.94 0.0133 0.0085

Uranus -102634-12-15 14:23 J -35765296.98 -35765296.90 -35765296.79 0.0133 0.0102

Uranus -102633-03-12 18:28 J -35765208.79 -35765208.73 -35765208.65 0.0133 0.0117

Mars -102633-07-12 02:37 J -35765087.52 -35765087.39 -35765087.26 0.1646 0.0657

Mars -102632-05-25 09:21 J -35764770.16 -35764770.11 -35764770.06 0.1879 0.1736

Mars -102631-06-18 05:01 J -35764381.38 -35764381.29 -35764381.19 0.1659 0.1269

Jupiter -102631-11-02 11:16 J -35764244.17 -35764244.03 -35764243.88 0.0526 0.0073

Earth -102631-12-11 11:59 J -35764205.08 -35764205.00 -35764204.92 0.2671 0.2208

Moon -102631-12-11 12:57 J -35764205.03 -35764204.96 -35764204.88 0.2667 0.2197 *

Jupiter -102630-01-31 04:18 J -35764154.39 -35764154.32 -35764154.25 0.0529 0.0465

Mars -102630-05-01 12:13 J -35764064.10 -35764063.99 -35764063.87 0.1864 0.0753

Venus -102626-06-28 14:52 J -35762544.93 -35762544.88 -35762544.82 0.3782 0.3188

Jupiter -102625-03-22 18:42 J -35762276.79 -35762276.72 -35762276.64 0.0504 0.0429

Jupiter -102625-06-20 09:49 J -35762187.24 -35762187.09 -35762186.94 0.0501 0.0045

Mars -102624-12-02 08:52 J -35761657.24 -35761657.13 -35761657.03 0.1644 0.1088

Saturn -102622-04-08 04:18 J -35761165.41 -35761165.32 -35761165.22 0.0268 0.0212

Saturn -102622-07-05 18:13 J -35761076.86 -35761076.74 -35761076.60 0.0269 0.0140

Saturn -102622-10-02 08:09 J -35760988.30 -35760988.16 -35760988.01 0.0269 0.0068

Mars -102622-11-08 10:04 J -35760951.21 -35760951.08 -35760950.95 0.1656 0.0779

Saturn -102622-12-29 21:49 J -35760899.74 -35760899.59 -35760899.44 0.0269 0.0004

Saturn -102621-03-27 11:16 J -35760811.17 -35760811.03 -35760810.89 0.0269 0.0074

Pluto -102621-05-25 04:47 J -35760752.34 -35760752.30 -35760752.26 0.0060 0.0059

Saturn -102621-06-24 00:13 J -35760722.61 -35760722.49 -35760722.36 0.0270 0.0144

Earth -102621-06-27 04:04 J -35760719.44 -35760719.33 -35760719.22 0.2681 0.0999

Moon -102621-06-27 04:47 J -35760719.40 -35760719.30 -35760719.19 0.2680 0.1145 *

Pluto -102621-08-21 05:59 J -35760664.34 -35760664.25 -35760664.14 0.0060 0.0052

Saturn -102621-09-20 13:25 J -35760634.03 -35760633.94 -35760633.85 0.0270 0.0212

Mars -102621-09-20 18:13 J -35760633.87 -35760633.74 -35760633.61 0.1868 0.0177 *

Pluto -102621-11-17 07:25 J -35760576.31 -35760576.19 -35760576.04 0.0060 0.0045

Venus -102620-01-11 10:04 J -35760521.17 -35760521.08 -35760520.98 0.3779 0.2004

Pluto -102620-02-13 08:52 J -35760488.27 -35760488.13 -35760487.96 0.0060 0.0038

Pluto -102620-05-12 10:47 J -35760400.22 -35760400.05 -35760399.88 0.0060 0.0030

Pluto -102620-08-08 11:59 J -35760312.17 -35760312.00 -35760311.80 0.0061 0.0023

Pluto -102620-11-04 13:25 J -35760224.12 -35760223.94 -35760223.73 0.0061 0.0016

Pluto -102619-01-31 15:06 J -35760136.06 -35760135.87 -35760135.67 0.0061 0.0008

Pluto -102619-04-29 16:47 J -35760048.00 -35760047.80 -35760047.60 0.0061 0.0001

Pluto -102619-07-26 18:13 J -35759959.93 -35759959.74 -35759959.54 0.0061 0.0007

Jupiter -102619-08-21 12:42 J -35759934.11 -35759933.97 -35759933.83 0.0525 0.0205

Pluto -102619-10-22 19:40 J -35759871.87 -35759871.68 -35759871.48 0.0061 0.0014

Jupiter -102619-11-19 06:13 J -35759844.36 -35759844.24 -35759844.13 0.0529 0.0338

Pluto -102618-01-18 20:52 J -35759783.79 -35759783.63 -35759783.43 0.0061 0.0022

Pluto -102618-04-16 22:33 J -35759695.72 -35759695.56 -35759695.37 0.0061 0.0029

Pluto -102618-07-14 00:13 J -35759607.64 -35759607.49 -35759607.33 0.0061 0.0036

Pluto -102618-10-10 01:25 J -35759519.56 -35759519.44 -35759519.28 0.0061 0.0044

Earth -102618-12-14 14:09 J -35759454.05 -35759453.91 -35759453.78 0.2666 0.0591

Moon -102618-12-14 14:23 J -35759454.04 -35759453.90 -35759453.76 0.2660 0.0474 *

Pluto -102617-01-06 03:06 J -35759431.46 -35759431.37 -35759431.25 0.0061 0.0052

Pluto -102617-04-03 04:18 J -35759343.34 -35759343.32 -35759343.24 0.0061 0.0060

Venus -102615-07-28 05:30 J -35758497.38 -35758497.27 -35758497.16 0.3775 0.0784

Mars -102614-04-24 15:06 J -35758226.92 -35758226.87 -35758226.82 0.1641 0.1511

Moon -102614-06-20 22:18 J -35758169.64 -35758169.57 -35758169.51 0.2674 0.2193

Earth -102614-06-20 22:33 J -35758169.63 -35758169.56 -35758169.49 0.2667 0.2149 *

Jupiter -102613-04-08 11:45 J -35757877.16 -35757877.01 -35757876.86 0.0501 0.0073

Jupiter -102613-07-07 03:35 J -35757787.43 -35757787.35 -35757787.26 0.0498 0.0412

Mars -102612-03-30 15:21 J -35757521.00 -35757520.86 -35757520.71 0.1652 0.0301

Mars -102611-02-10 23:30 J -35757203.64 -35757203.52 -35757203.39 0.1872 0.0429

Venus -102609-02-11 01:11 J -35756473.57 -35756473.45 -35756473.34 0.3772 0.0483

Earth -102608-06-29 23:30 J -35755968.59 -35755968.52 -35755968.45 0.2686 0.2102

Moon -102608-06-29 23:59 J -35755968.58 -35755968.50 -35755968.43 0.2680 0.2089 *

Saturn -102608-07-26 04:33 J -35755942.34 -35755942.31 -35755942.27 0.0291 0.0283

Saturn -102608-10-22 21:49 J -35755853.70 -35755853.59 -35755853.47 0.0291 0.0193

Saturn -102607-01-19 15:35 J -35755765.00 -35755764.85 -35755764.70 0.0291 0.0100

Saturn -102607-04-18 09:35 J -35755676.26 -35755676.10 -35755675.94 0.0290 0.0007

Jupiter -102607-06-09 14:23 J -35755624.01 -35755623.90 -35755623.78 0.0525 0.0334

Saturn -102607-07-16 03:49 J -35755587.49 -35755587.34 -35755587.18 0.0290 0.0091

Jupiter -102607-09-07 08:09 J -35755534.29 -35755534.16 -35755534.02 0.0528 0.0214

Saturn -102607-10-12 22:33 J -35755498.68 -35755498.56 -35755498.43 0.0290 0.0188

Saturn -102606-01-09 17:30 J -35755409.78 -35755409.77 -35755409.74 0.0289 0.0287

Neptune -102606-06-27 13:54 J -35755240.95 -35755240.92 -35755240.88 0.0089 0.0086

Neptune -102606-09-23 15:49 J -35755152.89 -35755152.84 -35755152.77 0.0089 0.0082

Neptune -102606-12-20 17:45 J -35755064.82 -35755064.76 -35755064.68 0.0089 0.0078

Venus -102605-02-10 16:33 J -35755012.91 -35755012.81 -35755012.70 0.3600 0.2238

Neptune -102605-03-17 19:54 J -35754976.75 -35754976.67 -35754976.58 0.0089 0.0073

Neptune -102605-06-13 21:49 J -35754888.68 -35754888.59 -35754888.48 0.0089 0.0069

Neptune -102605-09-09 23:59 J -35754800.60 -35754800.50 -35754800.39 0.0089 0.0064

Neptune -102605-12-07 01:54 J -35754712.52 -35754712.42 -35754712.30 0.0089 0.0060

Moon -102605-12-16 15:49 J -35754702.97 -35754702.84 -35754702.70 0.2654 0.0964

Earth -102605-12-16 16:33 J -35754702.94 -35754702.81 -35754702.68 0.2661 0.1089 *

Neptune -102604-03-05 04:18 J -35754624.44 -35754624.32 -35754624.20 0.0089 0.0055

Neptune -102604-06-01 05:59 J -35754536.36 -35754536.25 -35754536.11 0.0089 0.0051

Venus -102604-08-26 21:06 J -35754449.73 -35754449.62 -35754449.52 0.3768 0.1781

Neptune -102604-08-28 08:23 J -35754448.28 -35754448.15 -35754448.02 0.0089 0.0046

Neptune -102604-11-24 10:18 J -35754360.20 -35754360.07 -35754359.93 0.0089 0.0042

Neptune -102603-02-20 12:28 J -35754272.12 -35754271.98 -35754271.84 0.0089 0.0037

Neptune -102603-05-19 14:23 J -35754184.03 -35754183.90 -35754183.74 0.0089 0.0033

Neptune -102603-08-15 16:47 J -35754095.95 -35754095.80 -35754095.65 0.0089 0.0028

Mars -102603-08-20 20:52 J -35754090.77 -35754090.63 -35754090.48 0.1649 0.0165

Neptune -102603-11-11 18:42 J -35754007.86 -35754007.72 -35754007.56 0.0089 0.0024

Neptune -102602-02-07 20:52 J -35753919.78 -35753919.63 -35753919.47 0.0089 0.0019

Neptune -102602-05-06 23:16 J -35753831.69 -35753831.53 -35753831.38 0.0089 0.0014

Mars -102602-07-04 04:47 J -35753773.41 -35753773.30 -35753773.19 0.1876 0.1041

Neptune -102602-08-03 01:11 J -35753743.60 -35753743.45 -35753743.29 0.0089 0.0010

Neptune -102602-10-30 03:35 J -35753655.51 -35753655.35 -35753655.19 0.0089 0.0005

Neptune -102601-01-26 05:45 J -35753567.42 -35753567.26 -35753567.10 0.0089 0.0000

Jupiter -102601-01-26 13:40 J -35753567.07 -35753566.93 -35753566.79 0.0502 0.0189

Neptune -102601-04-23 07:54 J -35753479.33 -35753479.17 -35753479.01 0.0089 0.0005

Jupiter -102601-04-25 05:16 J -35753477.41 -35753477.28 -35753477.16 0.0499 0.0291

Earth -102601-06-22 18:13 J -35753418.85 -35753418.74 -35753418.63 0.2672 0.1006

Moon -102601-06-22 18:28 J -35753418.84 -35753418.73 -35753418.62 0.2678 0.1006 *

Neptune -102601-07-20 10:04 J -35753391.24 -35753391.08 -35753390.92 0.0089 0.0010

Neptune -102601-10-16 12:13 J -35753303.14 -35753302.99 -35753302.83 0.0089 0.0014

Neptune -102600-01-12 14:23 J -35753215.05 -35753214.90 -35753214.74 0.0089 0.0019

Neptune -102600-04-10 16:47 J -35753126.95 -35753126.80 -35753126.65 0.0089 0.0024

Mars -102600-06-09 06:13 J -35753067.32 -35753067.24 -35753067.15 0.1860 0.1355

Neptune -102600-07-07 18:57 J -35753038.86 -35753038.71 -35753038.56 0.0089 0.0029

Venus -102600-08-26 15:21 J -35752988.98 -35752988.86 -35752988.73 0.3603 0.0766

Neptune -102600-10-03 21:21 J -35752950.76 -35752950.61 -35752950.46 0.0089 0.0033

Neptune -102600-12-30 23:30 J -35752862.66 -35752862.52 -35752862.37 0.0089 0.0038

Neptune -102599-03-29 01:40 J -35752774.56 -35752774.43 -35752774.28 0.0089 0.0043

Neptune -102599-06-25 03:49 J -35752686.46 -35752686.34 -35752686.19 0.0089 0.0048

Neptune -102599-09-21 06:13 J -35752598.36 -35752598.24 -35752598.10 0.0089 0.0053

Neptune -102599-12-18 08:23 J -35752510.26 -35752510.15 -35752510.01 0.0089 0.0058

Venus -102598-03-12 17:16 J -35752425.84 -35752425.78 -35752425.72 0.3764 0.3128

Neptune -102598-03-16 10:47 J -35752422.15 -35752422.05 -35752421.93 0.0089 0.0063

Neptune -102598-06-12 12:57 J -35752334.05 -35752333.96 -35752333.84 0.0089 0.0068

Neptune -102598-09-08 15:21 J -35752245.94 -35752245.86 -35752245.75 0.0089 0.0073

Neptune -102598-12-05 17:45 J -35752157.82 -35752157.76 -35752157.67 0.0089 0.0078

Neptune -102597-03-02 20:23 J -35752069.71 -35752069.65 -35752069.59 0.0089 0.0082

Neptune -102597-05-29 22:47 J -35751981.58 -35751981.55 -35751981.52 0.0089 0.0087

Jupiter -102595-03-28 15:49 J -35751313.91 -35751313.84 -35751313.77 0.0524 0.0464

Jupiter -102595-06-26 10:04 J -35751224.23 -35751224.08 -35751223.93 0.0527 0.0086

Venus -102594-03-12 13:54 J -35750965.05 -35750964.92 -35750964.80 0.3607 0.0661

Mars -102593-01-11 02:52 J -35750660.51 -35750660.38 -35750660.25 0.1647 0.0608

Saturn -102593-08-25 04:18 J -35750433.38 -35750433.32 -35750433.25 0.0268 0.0242

Saturn -102593-11-21 18:28 J -35750344.85 -35750344.73 -35750344.61 0.0269 0.0168

Mars -102593-11-23 09:35 J -35750343.15 -35750343.10 -35750343.04 0.1879 0.1678

Saturn -102592-02-18 08:23 J -35750256.29 -35750256.15 -35750256.00 0.0269 0.0096

Saturn -102592-05-17 22:04 J -35750167.73 -35750167.58 -35750167.43 0.0269 0.0025

Uranus -102592-06-19 00:13 J -35750135.57 -35750135.49 -35750135.40 0.0144 0.0123

Saturn -102592-08-14 11:45 J -35750079.16 -35750079.01 -35750078.87 0.0270 0.0047

Uranus -102592-09-15 05:45 J -35750047.37 -35750047.26 -35750047.14 0.0144 0.0101

Saturn -102592-11-11 00:57 J -35749990.59 -35749990.46 -35749990.33 0.0270 0.0117

Uranus -102592-12-12 11:30 J -35749959.15 -35749959.02 -35749958.88 0.0144 0.0078

Mars -102592-12-17 05:30 J -35749954.36 -35749954.27 -35749954.19 0.1659 0.1319

Saturn -102591-02-07 13:54 J -35749902.02 -35749901.92 -35749901.81 0.0270 0.0185

Uranus -102591-03-10 17:16 J -35749870.93 -35749870.78 -35749870.63 0.0145 0.0055

Saturn -102591-05-07 02:52 J -35749813.43 -35749813.38 -35749813.33 0.0271 0.0253

Uranus -102591-06-06 23:01 J -35749782.70 -35749782.54 -35749782.38 0.0145 0.0033

Uranus -102591-09-03 05:01 J -35749694.46 -35749694.29 -35749694.13 0.0145 0.0010

Mars -102591-10-30 12:42 J -35749637.09 -35749636.97 -35749636.86 0.1864 0.0810

Uranus -102591-11-30 10:47 J -35749606.21 -35749606.05 -35749605.89 0.0145 0.0014

Uranus -102590-02-26 16:47 J -35749517.96 -35749517.80 -35749517.64 0.0145 0.0038

Uranus -102590-05-25 22:33 J -35749429.70 -35749429.56 -35749429.40 0.0145 0.0062

Uranus -102590-08-22 04:33 J -35749341.43 -35749341.31 -35749341.16 0.0145 0.0087

Jupiter -102590-11-14 15:06 J -35749256.98 -35749256.87 -35749256.75 0.0503 0.0311

Uranus -102590-11-18 10:47 J -35749253.15 -35749253.05 -35749252.93 0.0145 0.0111

Jupiter -102589-02-12 06:28 J -35749167.37 -35749167.23 -35749167.08 0.0500 0.0167

Uranus -102589-02-14 17:16 J -35749164.84 -35749164.78 -35749164.72 0.0145 0.0135

Venus -102589-09-25 11:45 J -35748941.11 -35748941.01 -35748940.90 0.3610 0.2003

Earth -102588-06-25 13:40 J -35748668.05 -35748667.93 -35748667.81 0.2677 0.0129

Moon -102588-06-25 14:37 J -35748668.01 -35748667.89 -35748667.78 0.2680 0.0280 *

Earth -102585-12-11 17:59 J -35747402.85 -35747402.75 -35747402.65 0.2671 0.1883

Moon -102585-12-11 18:57 J -35747402.82 -35747402.71 -35747402.60 0.2666 0.1703 *

Mars -102584-06-02 09:06 J -35747230.23 -35747230.12 -35747230.01 0.1644 0.1043

Venus -102583-04-11 09:35 J -35746917.15 -35746917.10 -35746917.05 0.3614 0.3310

Jupiter -102583-04-14 11:16 J -35746914.18 -35746914.03 -35746913.88 0.0526 0.0050

Jupiter -102583-07-13 04:04 J -35746824.38 -35746824.33 -35746824.27 0.0529 0.0487

Mars -102582-05-09 10:33 J -35746524.19 -35746524.06 -35746523.94 0.1656 0.0831

Mars -102581-03-21 18:13 J -35746206.86 -35746206.74 -35746206.61 0.1868 0.0231

Saturn -102578-03-11 22:04 J -35745121.67 -35745121.58 -35745121.47 0.0291 0.0221

Saturn -102578-06-08 15:49 J -35745032.98 -35745032.84 -35745032.70 0.0291 0.0129

Jupiter -102578-09-02 17:30 J -35744946.85 -35744946.77 -35744946.69 0.0504 0.0423

Saturn -102578-09-05 09:35 J -35744944.26 -35744944.10 -35744943.94 0.0290 0.0035

Jupiter -102578-12-01 08:23 J -35744857.30 -35744857.15 -35744856.99 0.0501 0.0051

Saturn -102578-12-03 03:49 J -35744855.50 -35744855.34 -35744855.18 0.0290 0.0061

Saturn -102577-02-29 22:18 J -35744766.70 -35744766.57 -35744766.43 0.0289 0.0159

Saturn -102577-05-28 17:16 J -35744677.84 -35744677.78 -35744677.70 0.0289 0.0257

Earth -102575-06-28 09:06 J -35743917.22 -35743917.12 -35743917.02 0.2682 0.1233

Moon -102575-06-28 09:49 J -35743917.19 -35743917.09 -35743916.98 0.2679 0.1234 *

Mars -102575-10-23 15:35 J -35743799.92 -35743799.85 -35743799.79 0.1641 0.1460

Mars -102573-09-28 15:49 J -35743093.98 -35743093.84 -35743093.70 0.1653 0.0354

Mars -102572-08-11 23:59 J -35742776.63 -35742776.50 -35742776.38 0.1872 0.0367

Moon -102572-12-14 20:09 J -35742651.81 -35742651.66 -35742651.52 0.2659 0.0333

Earth -102572-12-14 20:09 J -35742651.81 -35742651.66 -35742651.52 0.2665 0.0249 *

Jupiter -102571-01-31 11:30 J -35742604.16 -35742604.02 -35742603.88 0.0525 0.0199

Jupiter -102571-05-01 04:47 J -35742514.41 -35742514.30 -35742514.19 0.0529 0.0343

Venus -102569-02-02 13:25 J -35741872.02 -35741871.94 -35741871.87 0.3781 0.2790

Moon -102568-06-21 03:21 J -35741367.44 -35741367.36 -35741367.28 0.2675 0.1919

Earth -102568-06-21 03:35 J -35741367.43 -35741367.35 -35741367.27 0.2668 0.1911 *

Jupiter -102566-09-19 10:47 J -35740547.21 -35740547.05 -35740546.90 0.0502 0.0064

Jupiter -102566-12-18 02:37 J -35740457.47 -35740457.39 -35740457.30 0.0499 0.0423

Venus -102564-08-18 08:37 J -35739848.25 -35739848.14 -35739848.04 0.3778 0.1606

Saturn -102563-01-12 06:28 J -35739701.26 -35739701.23 -35739701.19 0.0268 0.0260

Mars -102563-02-18 21:21 J -35739663.75 -35739663.61 -35739663.46 0.1649 0.0109

Saturn -102563-04-10 20:37 J -35739612.74 -35739612.64 -35739612.53 0.0269 0.0187

Saturn -102563-07-08 10:47 J -35739524.19 -35739524.05 -35739523.91 0.0269 0.0114

Saturn -102563-10-05 00:28 J -35739435.63 -35739435.48 -35739435.33 0.0269 0.0042

Saturn -102562-01-01 13:54 J -35739347.06 -35739346.92 -35739346.77 0.0269 0.0030

Mars -102562-01-02 05:01 J -35739346.40 -35739346.29 -35739346.18 0.1876 0.0988

Saturn -102562-03-31 03:21 J -35739258.50 -35739258.36 -35739258.22 0.0270 0.0099

Saturn -102562-06-27 16:18 J -35739169.93 -35739169.82 -35739169.70 0.0270 0.0168

Earth -102562-07-01 04:33 J -35739166.37 -35739166.31 -35739166.26 0.2686 0.2332

Moon -102562-07-01 04:47 J -35739166.34 -35739166.30 -35739166.25 0.2680 0.2419 *

Saturn -102562-09-24 05:16 J -35739081.35 -35739081.28 -35739081.21 0.0270 0.0235

Mars -102561-12-08 06:42 J -35738640.30 -35738640.22 -35738640.14 0.1859 0.1413

Jupiter -102560-11-19 12:42 J -35738294.09 -35738293.97 -35738293.86 0.0525 0.0333

Jupiter -102559-02-17 06:28 J -35738204.37 -35738204.23 -35738204.10 0.0528 0.0213

Moon -102559-12-17 21:49 J -35737900.71 -35737900.59 -35737900.47 0.2654 0.1430

Earth -102559-12-17 22:33 J -35737900.68 -35737900.56 -35737900.44 0.2660 0.1426 *

Venus -102558-03-04 04:04 J -35737824.45 -35737824.33 -35737824.22 0.3774 0.0375

Earth -102555-06-23 23:16 J -35736616.64 -35736616.53 -35736616.42 0.2673 0.0772

Moon -102555-06-23 23:45 J -35736616.62 -35736616.51 -35736616.40 0.2678 0.0722 *

Venus -102554-03-03 17:01 J -35736363.85 -35736363.79 -35736363.74 0.3597 0.3245

Jupiter -102554-07-08 12:42 J -35736237.11 -35736236.97 -35736236.83 0.0502 0.0178

Mars -102554-07-12 03:06 J -35736233.50 -35736233.37 -35736233.23 0.1646 0.0562

Jupiter -102554-10-06 04:18 J -35736147.44 -35736147.32 -35736147.20 0.0499 0.0303

Mars -102553-05-24 09:35 J -35735916.16 -35735916.10 -35735916.03 0.1879 0.1632

Venus -102553-09-16 23:45 J -35735800.62 -35735800.51 -35735800.40 0.3770 0.0904

Uranus -102553-11-14 13:54 J -35735741.97 -35735741.92 -35735741.84 0.0135 0.0122

Uranus -102552-02-10 18:28 J -35735653.82 -35735653.73 -35735653.62 0.0134 0.0103

Uranus -102552-05-09 22:47 J -35735565.66 -35735565.55 -35735565.42 0.0134 0.0086

Mars -102552-06-17 05:45 J -35735527.34 -35735527.26 -35735527.18 0.1659 0.1374

Uranus -102552-08-06 03:21 J -35735477.49 -35735477.36 -35735477.22 0.0134 0.0067

Uranus -102552-11-02 07:40 J -35735389.32 -35735389.18 -35735389.03 0.0134 0.0050

Uranus -102551-01-29 11:59 J -35735301.14 -35735301.00 -35735300.85 0.0134 0.0032

Uranus -102551-04-27 16:18 J -35735212.97 -35735212.82 -35735212.67 0.0134 0.0015

Mars -102551-04-30 12:28 J -35735210.09 -35735209.98 -35735209.86 0.1864 0.0854

Uranus -102551-07-24 20:37 J -35735124.79 -35735124.64 -35735124.49 0.0134 0.0003

Uranus -102551-10-21 00:42 J -35735036.62 -35735036.47 -35735036.32 0.0134 0.0020

Uranus -102550-01-17 05:01 J -35734948.44 -35734948.29 -35734948.15 0.0134 0.0037

Uranus -102550-04-15 09:06 J -35734860.26 -35734860.12 -35734859.98 0.0134 0.0054

Uranus -102550-07-12 12:57 J -35734772.08 -35734771.96 -35734771.82 0.0133 0.0071

Uranus -102550-10-08 17:01 J -35734683.89 -35734683.79 -35734683.67 0.0133 0.0087

Uranus -102549-01-04 21:06 J -35734595.71 -35734595.62 -35734595.52 0.0133 0.0103

Uranus -102549-04-02 01:11 J -35734507.51 -35734507.45 -35734507.38 0.0133 0.0119

Saturn -102549-07-28 20:37 J -35734389.70 -35734389.64 -35734389.56 0.0291 0.0258

Venus -102549-09-16 16:04 J -35734339.94 -35734339.83 -35734339.72 0.3601 0.1738

Saturn -102549-10-25 14:09 J -35734301.04 -35734300.91 -35734300.78 0.0291 0.0167

Saturn -102548-01-22 07:54 J -35734212.32 -35734212.17 -35734212.02 0.0291 0.0074

Saturn -102548-04-21 01:54 J -35734123.58 -35734123.42 -35734123.26 0.0290 0.0022

Saturn -102548-07-18 20:23 J -35734034.80 -35734034.65 -35734034.50 0.0290 0.0118

Jupiter -102548-09-07 14:09 J -35733983.98 -35733983.91 -35733983.84 0.0524 0.0463

Saturn -102548-10-15 15:06 J -35733945.97 -35733945.87 -35733945.76 0.0290 0.0216

Jupiter -102548-12-06 08:23 J -35733894.30 -35733894.15 -35733894.00 0.0527 0.0088

Venus -102547-04-02 19:40 J -35733776.77 -35733776.68 -35733776.58 0.3767 0.2215

Mars -102545-12-01 09:21 J -35732803.23 -35732803.11 -35732803.00 0.1644 0.0997

Venus -102543-04-02 14:52 J -35732316.01 -35732315.88 -35732315.75 0.3604 0.0301

Mars -102543-11-07 10:47 J -35732097.17 -35732097.05 -35732096.92 0.1656 0.0883

Jupiter -102542-04-26 14:37 J -35731927.01 -35731926.89 -35731926.76 0.0503 0.0294

Earth -102542-06-26 18:42 J -35731865.83 -35731865.72 -35731865.60 0.2677 0.0359

Moon -102542-06-26 19:40 J -35731865.80 -35731865.68 -35731865.57 0.2680 0.0392 *

Jupiter -102542-07-25 05:59 J -35731837.39 -35731837.25 -35731837.11 0.0500 0.0183

Mars -102542-09-20 18:28 J -35731779.85 -35731779.73 -35731779.60 0.1868 0.0287

Venus -102542-10-17 16:04 J -35731752.87 -35731752.83 -35731752.80 0.3762 0.3568

Earth -102539-12-12 23:45 J -35730600.62 -35730600.51 -35730600.39 0.2670 0.1560

Moon -102539-12-13 00:42 J -35730600.59 -35730600.47 -35730600.35 0.2665 0.1539 *

Venus -102538-10-17 12:57 J -35730292.08 -35730291.96 -35730291.83 0.3608 0.1108

Jupiter -102536-09-24 10:04 J -35729584.23 -35729584.08 -35729583.93 0.0526 0.0043

Jupiter -102536-12-23 03:06 J -35729494.42 -35729494.37 -35729494.32 0.0530 0.0496

Mars -102535-04-23 15:49 J -35729372.91 -35729372.84 -35729372.77 0.1641 0.1414

Saturn -102534-08-28 20:37 J -35728880.73 -35728880.64 -35728880.55 0.0269 0.0216

Saturn -102534-11-25 10:47 J -35728792.18 -35728792.05 -35728791.92 0.0269 0.0143

Saturn -102533-02-22 00:42 J -35728703.62 -35728703.47 -35728703.33 0.0269 0.0071

Mars -102533-03-29 16:04 J -35728666.97 -35728666.83 -35728666.69 0.1652 0.0402

Saturn -102533-05-20 14:23 J -35728615.05 -35728614.90 -35728614.75 0.0269 0.0007

Saturn -102533-08-17 03:35 J -35728526.49 -35728526.35 -35728526.20 0.0270 0.0072

Saturn -102533-11-13 16:47 J -35728437.92 -35728437.80 -35728437.67 0.0270 0.0141

Mars -102532-02-10 00:13 J -35728349.62 -35728349.49 -35728349.36 0.1872 0.0313

Saturn -102532-02-10 05:45 J -35728349.34 -35728349.26 -35728349.16 0.0270 0.0209

Venus -102532-05-02 11:01 J -35728268.13 -35728268.04 -35728267.95 0.3611 0.2442

Jupiter -102530-02-12 16:18 J -35727616.90 -35727616.82 -35727616.73 0.0504 0.0414

Jupiter -102530-05-13 07:25 J -35727527.35 -35727527.19 -35727527.04 0.0501 0.0061

Earth -102529-06-28 14:09 J -35727115.00 -35727114.91 -35727114.81 0.2682 0.1467

Moon -102529-06-28 14:52 J -35727114.97 -35727114.88 -35727114.79 0.2678 0.1598 *

Pluto -102528-12-18 15:06 J -35726576.93 -35726576.87 -35726576.79 0.0085 0.0072

Pluto -102527-03-16 16:18 J -35726488.90 -35726488.82 -35726488.71 0.0085 0.0059

Pluto -102527-06-12 17:45 J -35726400.87 -35726400.76 -35726400.65 0.0085 0.0045

Pluto -102527-09-08 18:57 J -35726312.83 -35726312.71 -35726312.58 0.0084 0.0031

Pluto -102527-12-05 20:09 J -35726224.78 -35726224.66 -35726224.52 0.0084 0.0018

Pluto -102526-03-03 21:35 J -35726136.73 -35726136.60 -35726136.47 0.0084 0.0005

Pluto -102526-05-30 22:47 J -35726048.68 -35726048.55 -35726048.42 0.0084 0.0009

Pluto -102526-08-26 23:59 J -35725960.63 -35725960.50 -35725960.37 0.0084 0.0022

Pluto -102526-11-23 01:11 J -35725872.57 -35725872.45 -35725872.33 0.0084 0.0035

Moon -102526-12-16 01:54 J -35725849.56 -35725849.42 -35725849.28 0.2658 0.0163

Earth -102526-12-16 02:09 J -35725849.56 -35725849.41 -35725849.27 0.2665 0.0112 *

Pluto -102525-02-19 02:23 J -35725784.50 -35725784.40 -35725784.29 0.0084 0.0048

Pluto -102525-05-17 03:35 J -35725696.44 -35725696.35 -35725696.26 0.0083 0.0061

Pluto -102525-08-13 04:47 J -35725608.36 -35725608.30 -35725608.24 0.0083 0.0074

Neptune -102524-07-10 18:13 J -35725276.74 -35725276.74 -35725276.72 0.0088 0.0088

Jupiter -102524-07-13 11:16 J -35725274.17 -35725274.03 -35725273.89 0.0525 0.0177

Mars -102524-08-19 21:35 J -35725236.74 -35725236.60 -35725236.45 0.1649 0.0072

Neptune -102524-10-06 20:23 J -35725188.68 -35725188.65 -35725188.58 0.0088 0.0084

Jupiter -102524-10-11 04:47 J -35725184.41 -35725184.30 -35725184.20 0.0529 0.0365

Neptune -102523-01-02 22:47 J -35725100.61 -35725100.55 -35725100.46 0.0088 0.0079

Neptune -102523-04-01 01:11 J -35725012.52 -35725012.45 -35725012.35 0.0088 0.0074

Neptune -102523-06-28 03:35 J -35724924.44 -35724924.35 -35724924.23 0.0088 0.0069

Mars -102523-07-03 05:16 J -35724919.39 -35724919.28 -35724919.17 0.1876 0.0935

Neptune -102523-09-24 05:59 J -35724836.35 -35724836.25 -35724836.13 0.0088 0.0064

Neptune -102523-12-21 08:23 J -35724748.26 -35724748.15 -35724748.02 0.0088 0.0059

Neptune -102522-03-19 10:33 J -35724660.17 -35724660.06 -35724659.92 0.0088 0.0054

Neptune -102522-06-15 12:57 J -35724572.08 -35724571.96 -35724571.82 0.0088 0.0049

Moon -102522-06-22 08:37 J -35724565.23 -35724565.14 -35724565.05 0.2675 0.1722

Earth -102522-06-22 08:37 J -35724565.23 -35724565.14 -35724565.05 0.2668 0.1671 *

Neptune -102522-09-11 15:21 J -35724483.99 -35724483.86 -35724483.72 0.0088 0.0044

Neptune -102522-12-08 17:30 J -35724395.90 -35724395.77 -35724395.62 0.0088 0.0040

Neptune -102521-03-05 19:54 J -35724307.81 -35724307.67 -35724307.52 0.0088 0.0035

Neptune -102521-06-01 22:04 J -35724219.72 -35724219.58 -35724219.42 0.0088 0.0030

Mars -102521-06-08 06:42 J -35724213.30 -35724213.22 -35724213.14 0.1859 0.1459

Neptune -102521-08-29 00:13 J -35724131.63 -35724131.49 -35724131.33 0.0088 0.0026

Neptune -102521-11-25 02:37 J -35724043.54 -35724043.39 -35724043.23 0.0088 0.0021

Neptune -102520-02-21 04:47 J -35723955.45 -35723955.30 -35723955.14 0.0088 0.0016

Neptune -102520-05-20 06:57 J -35723867.36 -35723867.21 -35723867.05 0.0088 0.0011

Neptune -102520-08-16 09:21 J -35723779.27 -35723779.11 -35723778.96 0.0088 0.0007

Neptune -102520-11-12 11:30 J -35723691.18 -35723691.02 -35723690.86 0.0088 0.0003

Saturn -102520-12-15 20:52 J -35723657.65 -35723657.63 -35723657.60 0.0291 0.0286

Neptune -102519-02-08 13:40 J -35723603.09 -35723602.93 -35723602.77 0.0088 0.0003

Saturn -102519-03-14 14:09 J -35723569.02 -35723568.91 -35723568.79 0.0291 0.0196

Neptune -102519-05-07 15:49 J -35723515.00 -35723514.84 -35723514.69 0.0088 0.0008

Saturn -102519-06-11 07:54 J -35723480.32 -35723480.17 -35723480.02 0.0290 0.0103

Neptune -102519-08-03 17:45 J -35723426.91 -35723426.76 -35723426.60 0.0088 0.0012

Saturn -102519-09-08 01:54 J -35723391.58 -35723391.42 -35723391.26 0.0290 0.0009

Neptune -102519-10-30 19:54 J -35723338.82 -35723338.67 -35723338.51 0.0088 0.0017

Saturn -102519-12-05 20:09 J -35723302.81 -35723302.66 -35723302.50 0.0290 0.0088

Neptune -102518-01-26 22:04 J -35723250.73 -35723250.58 -35723250.42 0.0088 0.0021

Venus -102518-02-23 16:47 J -35723222.84 -35723222.80 -35723222.77 0.3783 0.3552

Jupiter -102518-03-01 09:21 J -35723217.26 -35723217.11 -35723216.96 0.0502 0.0056

Saturn -102518-03-04 14:52 J -35723214.00 -35723213.88 -35723213.75 0.0289 0.0185

Neptune -102518-04-25 00:13 J -35723162.64 -35723162.49 -35723162.34 0.0088 0.0026

Jupiter -102518-05-30 01:25 J -35723127.52 -35723127.44 -35723127.36 0.0499 0.0428

Saturn -102518-06-01 10:04 J -35723125.11 -35723125.08 -35723125.06 0.0289 0.0284

Neptune -102518-07-22 02:09 J -35723074.55 -35723074.41 -35723074.25 0.0088 0.0031

Neptune -102518-10-18 04:18 J -35722986.46 -35722986.32 -35722986.17 0.0088 0.0035

Neptune -102517-01-14 06:13 J -35722898.37 -35722898.24 -35722898.09 0.0088 0.0040

Neptune -102517-04-11 08:37 J -35722810.28 -35722810.14 -35722810.01 0.0088 0.0044

Neptune -102517-07-08 10:18 J -35722722.18 -35722722.07 -35722721.92 0.0088 0.0049

Neptune -102517-10-04 12:28 J -35722634.09 -35722633.98 -35722633.85 0.0088 0.0053

Neptune -102517-12-31 14:23 J -35722546.00 -35722545.90 -35722545.77 0.0088 0.0058

Neptune -102516-03-29 16:33 J -35722457.91 -35722457.81 -35722457.69 0.0088 0.0062

Neptune -102516-06-25 18:42 J -35722369.82 -35722369.72 -35722369.61 0.0088 0.0066

Moon -102516-07-01 09:49 J -35722364.13 -35722364.09 -35722364.06 0.2681 0.2516

Earth -102516-07-01 09:35 J -35722364.13 -35722364.10 -35722364.07 0.2687 0.2563 *

Neptune -102516-09-21 20:37 J -35722281.72 -35722281.64 -35722281.54 0.0088 0.0070

Neptune -102516-12-18 22:33 J -35722193.63 -35722193.56 -35722193.47 0.0088 0.0075

Neptune -102515-03-17 00:42 J -35722105.53 -35722105.47 -35722105.40 0.0088 0.0079

Neptune -102515-06-13 02:23 J -35722017.43 -35722017.40 -35722017.33 0.0088 0.0084

Neptune -102515-09-09 04:33 J -35721929.32 -35721929.31 -35721929.28 0.0088 0.0088

Mars   -102514-01-10 03:35 J -35721806.49 -35721806.35 -35721806.21 0.1646 0.0510

Mars   -102514-11-23 10:04 J -35721489.15 -35721489.08 -35721489.01 0.1879 0.1569

Venus   -102513-09-08 11:45 J -35721199.10 -35721199.01 -35721198.93 0.3780 0.2392

Mars   -102513-12-16 06:13 J -35721100.31 -35721100.24 -35721100.16 0.1659 0.1432

Moon   -102513-12-18 03:35 J -35721098.46 -35721098.35 -35721098.23 0.2655 0.1597

Earth   -102513-12-18 04:33 J -35721098.41 -35721098.31 -35721098.20 0.2660 0.1778 *

Jupiter -102512-05-01 11:16 J -35720964.14 -35720964.03 -35720963.91 0.0524 0.0326

Jupiter -102512-07-30 05:01 J -35720874.42 -35720874.29 -35720874.15 0.0528 0.0220

Mars   -102512-10-29 12:57 J -35720783.07 -35720782.96 -35720782.85 0.1864 0.0910

Earth   -102509-06-24 04:18 J -35719814.43 -35719814.32 -35719814.20 0.2673 0.0536

Moon   -102509-06-24 05:01 J -35719814.41 -35719814.29 -35719814.18 0.2679 0.0476 *

Uranus -102508-04-12 01:11 J -35719522.47 -35719522.45 -35719522.41 0.0144 0.0141

Uranus -102508-07-09 06:57 J -35719434.29 -35719434.21 -35719434.12 0.0144 0.0119

Uranus -102508-10-05 12:28 J -35719346.09 -35719345.98 -35719345.86 0.0144 0.0097

Uranus -102507-01-01 18:13 J -35719257.87 -35719257.74 -35719257.60 0.0144 0.0075

Venus   -102507-03-25 06:57 J -35719175.32 -35719175.21 -35719175.10 0.3777 0.1195

Uranus -102507-03-30 23:45 J -35719169.65 -35719169.51 -35719169.35 0.0145 0.0053

Uranus -102507-06-27 05:45 J -35719081.42 -35719081.26 -35719081.10 0.0145 0.0029

Uranus -102507-09-23 11:30 J -35718993.18 -35718993.02 -35718992.85 0.0145 0.0007

Jupiter -102507-12-18 11:30 J -35718907.16 -35718907.02 -35718906.87 0.0502 0.0170

Uranus -102507-12-20 17:30 J -35718904.93 -35718904.77 -35718904.61 0.0145 0.0017

Jupiter -102506-03-18 03:21 J -35718817.48 -35718817.36 -35718817.24 0.0500 0.0313

Uranus -102506-03-18 23:30 J -35718816.68 -35718816.52 -35718816.37 0.0145 0.0041

Uranus -102506-06-15 05:16 J -35718728.42 -35718728.28 -35718728.13 0.0145 0.0065

Uranus -102506-09-11 11:16 J -35718640.15 -35718640.03 -35718639.89 0.0145 0.0090

Uranus -102506-12-08 17:30 J -35718551.86 -35718551.77 -35718551.66 0.0145 0.0114

Uranus -102505-03-05 23:30 J -35718463.55 -35718463.52 -35718463.46 0.0145 0.0139

Mars   -102505-06-01 09:35 J -35718376.21 -35718376.10 -35718375.98 0.1644 0.0947

Saturn -102504-01-14 23:01 J -35718148.61 -35718148.54 -35718148.47 0.0269 0.0235

Saturn -102504-04-13 13:11 J -35718060.07 -35718059.95 -35718059.83 0.0269 0.0161

Saturn -102504-07-11 03:06 J -35717971.51 -35717971.37 -35717971.23 0.0269 0.0089

Saturn -102504-10-07 16:47 J -35717882.95 -35717882.80 -35717882.65 0.0269 0.0017

Saturn -102503-01-04 06:13 J -35717794.39 -35717794.24 -35717794.09 0.0270 0.0054

Saturn -102503-04-02 19:25 J -35717705.82 -35717705.69 -35717705.56 0.0270 0.0124

Mars -102503-05-08 11:16 J -35717670.15 -35717670.03 -35717669.91 0.1656 0.0936

Saturn -102503-06-30 08:23 J -35717617.24 -35717617.15 -35717617.04 0.0270 0.0193

Saturn -102503-09-26 21:21 J -35717528.64 -35717528.61 -35717528.57 0.0271 0.0260

Mars -102502-03-21 18:42 J -35717352.85 -35717352.72 -35717352.59 0.1868 0.0333

Venus -102502-10-09 02:37 J -35717151.51 -35717151.39 -35717151.28 0.3773 0.0122

Jupiter -102500-02-17 12:28 J -35716654.05 -35716653.98 -35716653.91 0.0524 0.0462

Jupiter -102500-05-18 06:42 J -35716564.37 -35716564.22 -35716564.08 0.0527 0.0088

Venus -102498-10-08 16:33 J -35715690.90 -35715690.81 -35715690.73 0.3598 0.2737

Venus -102496-04-23 22:18 J -35715127.68 -35715127.57 -35715127.46 0.3769 0.1328

Earth -102496-06-26 23:45 J -35715063.62 -35715063.51 -35715063.39 0.2678 0.0594

Moon -102496-06-27 00:42 J -35715063.59 -35715063.47 -35715063.36 0.2678 0.0694 *

Mars -102496-10-22 16:04 J -35714945.91 -35714945.83 -35714945.75 0.1641 0.1370

Jupiter -102495-10-06 13:40 J -35714597.05 -35714596.93 -35714596.81 0.0503 0.0284

Jupiter -102494-01-04 05:01 J -35714507.43 -35714507.29 -35714507.15 0.0500 0.0194

Mars -102494-09-28 16:33 J -35714239.95 -35714239.81 -35714239.67 0.1652 0.0457

Mars -102493-08-11 00:13 J -35713922.62 -35713922.49 -35713922.36 0.1872 0.0263

Earth -102493-12-13 05:45 J -35713798.38 -35713798.26 -35713798.13 0.2669 0.1233

Moon -102493-12-13 06:13 J -35713798.36 -35713798.24 -35713798.11 0.2663 0.1152 *

Venus -102492-04-23 15:35 J -35713666.98 -35713666.85 -35713666.73 0.3602 0.1251

Venus -102491-11-07 18:28 J -35713103.81 -35713103.73 -35713103.65 0.3765 0.2652

Saturn -102490-08-01 13:11 J -35712837.04 -35712836.95 -35712836.85 0.0291 0.0231

Saturn -102490-10-29 06:42 J -35712748.35 -35712748.22 -35712748.08 0.0291 0.0139

Saturn -102489-01-26 00:28 J -35712659.63 -35712659.48 -35712659.32 0.0290 0.0046

Saturn -102489-04-23 18:42 J -35712570.88 -35712570.72 -35712570.56 0.0290 0.0050

Earth -102489-06-19 17:59 J -35712513.78 -35712513.75 -35712513.72 0.2664 0.2580

Saturn -102489-07-21 13:11 J -35712482.09 -35712481.95 -35712481.81 0.0290 0.0147

Saturn -102489-10-18 08:09 J -35712393.24 -35712393.16 -35712393.07 0.0289 0.0245

Jupiter -102488-03-06 08:23 J -35712254.30 -35712254.15 -35712254.00 0.0526 0.0040

Jupiter -102488-06-04 01:25 J -35712164.49 -35712164.44 -35712164.39 0.0530 0.0497

Venus -102487-11-07 14:09 J -35711643.04 -35711642.91 -35711642.78 0.3605 0.0193

Mars -102484-02-17 21:49 J -35710809.73 -35710809.59 -35710809.44 0.1649 0.0046

Mars -102483-01-01 05:30 J -35710492.39 -35710492.27 -35710492.16 0.1876 0.0877

Earth -102483-06-29 19:11 J -35710312.79 -35710312.70 -35710312.61 0.2683 0.1700

Moon -102483-06-29 19:54 J -35710312.76 -35710312.67 -35710312.58 0.2679 0.1701 *

Jupiter -102483-07-25 15:49 J -35710286.93 -35710286.84 -35710286.75 0.0504 0.0399

Jupiter -102483-10-23 06:42 J -35710197.37 -35710197.22 -35710197.07 0.0501 0.0075

Mars -102482-12-08 06:42 J -35709786.29 -35709786.22 -35709786.14 0.1860 0.1510

Venus -102481-05-23 12:13 J -35709619.10 -35709618.99 -35709618.87 0.3609 0.1552

Moon -102480-12-16 07:54 J -35709047.32 -35709047.17 -35709047.03 0.2657 0.0328

Earth -102480-12-16 08:09 J -35709047.31 -35709047.16 -35709047.02 0.2664 0.0431 *

Jupiter -102477-12-23 10:04 J -35707944.22 -35707944.08 -35707943.94 0.0526 0.0169

Jupiter -102476-03-23 03:21 J -35707854.46 -35707854.36 -35707854.25 0.0529 0.0372

Moon -102476-06-22 13:54 J -35707763.02 -35707762.92 -35707762.82 0.2675 0.1371

Earth -102476-06-22 13:40 J -35707763.02 -35707762.93 -35707762.83 0.2669 0.1437 *

Venus -102476-12-07 10:04 J -35707595.15 -35707595.08 -35707595.00 0.3613 0.2876

Saturn -102475-06-03 22:47 J -35707416.57 -35707416.55 -35707416.52 0.0268 0.0264

Mars -102475-07-11 03:49 J -35707379.48 -35707379.34 -35707379.20 0.1646 0.0462

Saturn -102475-08-31 12:57 J -35707328.06 -35707327.96 -35707327.84 0.0269 0.0191

Saturn -102475-11-28 03:06 J -35707239.50 -35707239.37 -35707239.23 0.0269 0.0117

Saturn -102474-02-24 17:01 J -35707150.94 -35707150.79 -35707150.64 0.0269 0.0045

Saturn -102474-05-24 06:28 J -35707062.37 -35707062.23 -35707062.08 0.0269 0.0027

Mars -102474-05-24 10:18 J -35707062.15 -35707062.07 -35707062.00 0.1879 0.1516 *

Saturn -102474-08-20 19:54 J -35706973.81 -35706973.67 -35706973.53 0.0270 0.0096

Saturn -102474-11-17 09:06 J -35706885.24 -35706885.12 -35706885.01 0.0270 0.0166

Saturn -102473-02-13 21:49 J -35706796.65 -35706796.59 -35706796.51 0.0270 0.0234

Mars -102473-06-16 06:28 J -35706673.29 -35706673.23 -35706673.16 0.1659 0.1479

Mars -102472-04-29 13:11 J -35706356.06 -35706355.95 -35706355.85 0.1864 0.0964

Jupiter -102471-08-11 08:09 J -35705887.31 -35705887.16 -35705887.01 0.0501 0.0048

Jupiter -102471-11-09 00:13 J -35705797.56 -35705797.49 -35705797.42 0.0499 0.0436

Uranus -102469-12-04 20:23 J -35705040.71 -35705040.65 -35705040.57 0.0135 0.0120

Uranus -102468-03-03 00:57 J -35704952.55 -35704952.46 -35704952.35 0.0134 0.0101

Uranus -102468-05-30 05:16 J -35704864.39 -35704864.28 -35704864.15 0.0134 0.0084

Uranus -102468-08-26 09:49 J -35704776.22 -35704776.09 -35704775.95 0.0134 0.0065

Uranus -102468-11-22 14:23 J -35704688.05 -35704687.90 -35704687.76 0.0134 0.0047

Uranus -102467-02-18 18:28 J -35704599.87 -35704599.73 -35704599.57 0.0134 0.0030

Uranus -102467-05-17 22:47 J -35704511.70 -35704511.55 -35704511.39 0.0134 0.0013

Uranus -102467-08-14 03:06 J -35704423.52 -35704423.37 -35704423.22 0.0134 0.0006

Uranus -102467-11-10 07:11 J -35704335.34 -35704335.20 -35704335.04 0.0134 0.0023

Moon -102467-12-19 09:21 J -35704296.20 -35704296.11 -35704296.02 0.2655 0.2096

Earth -102467-12-19 10:33 J -35704296.14 -35704296.06 -35704295.97 0.2659 0.2117 *

Uranus -102466-02-06 11:30 J -35704247.16 -35704247.02 -35704246.87 0.0134 0.0039

Uranus -102466-05-05 15:35 J -35704158.98 -35704158.85 -35704158.71 0.0134 0.0056

Uranus -102466-08-01 19:40 J -35704070.80 -35704070.68 -35704070.55 0.0133 0.0073

Uranus -102466-10-28 23:45 J -35703982.62 -35703982.51 -35703982.40 0.0133 0.0089

Mars -102466-12-01 10:04 J -35703949.20 -35703949.08 -35703948.96 0.1644 0.0897

Uranus -102465-01-25 03:49 J -35703894.43 -35703894.34 -35703894.25 0.0133 0.0105

Uranus -102465-04-22 07:54 J -35703806.23 -35703806.17 -35703806.11 0.0133 0.0122

Jupiter -102465-10-11 11:16 J -35703634.16 -35703634.03 -35703633.91 0.0525 0.0306

Jupiter -102464-01-09 05:01 J -35703544.43 -35703544.29 -35703544.16 0.0528 0.0240

Mars -102464-11-06 11:45 J -35703243.13 -35703243.01 -35703242.90 0.1656 0.0992

Earth -102463-06-25 09:21 J -35703012.22 -35703012.11 -35703011.99 0.2674 0.0303

Moon -102463-06-25 10:04 J -35703012.20 -35703012.08 -35703011.97 0.2679 0.0265 *

Mars -102463-09-19 18:57 J -35702925.84 -35702925.71 -35702925.59 0.1868 0.0388

Venus -102462-09-30 15:06 J -35702549.93 -35702549.87 -35702549.82 0.3782 0.3165

Saturn -102461-12-18 13:11 J -35702105.01 -35702104.95 -35702104.88 0.0291 0.0260

Saturn -102460-03-17 06:28 J -35702016.35 -35702016.23 -35702016.10 0.0291 0.0170

Saturn -102460-06-14 00:13 J -35701927.64 -35701927.49 -35701927.33 0.0290 0.0077

Saturn -102460-09-10 18:28 J -35701838.89 -35701838.73 -35701838.57 0.0290 0.0019

Saturn -102460-12-08 12:57 J -35701750.11 -35701749.96 -35701749.82 0.0290 0.0116

Earth -102460-12-11 09:49 J -35701747.14 -35701747.09 -35701747.05 0.2674 0.2521

Moon -102460-12-11 11:01 J -35701747.10 -35701747.04 -35701746.99 0.2671 0.2440 *

Saturn -102459-03-07 07:25 J -35701661.29 -35701661.19 -35701661.07 0.0289 0.0214

Jupiter -102459-05-30 10:18 J -35701577.22 -35701577.07 -35701576.93 0.0502 0.0165

Jupiter -102459-08-28 01:54 J -35701487.54 -35701487.42 -35701487.30 0.0499 0.0317

Venus -102456-04-15 10:04 J -35700526.17 -35700526.08 -35700525.98 0.3779 0.1992

Mars -102456-04-22 16:18 J -35700518.90 -35700518.82 -35700518.74 0.1641 0.1323

Mars -102454-03-29 16:47 J -35699812.94 -35699812.80 -35699812.66 0.1652 0.0507

Mars -102453-02-10 00:28 J -35699495.61 -35699495.48 -35699495.35 0.1872 0.0208

Jupiter -102453-07-30 11:01 J -35699324.11 -35699324.04 -35699323.96 0.0523 0.0454

Jupiter -102453-10-28 05:16 J -35699234.43 -35699234.28 -35699234.13 0.0527 0.0094

Venus -102451-10-30 05:30 J -35698502.38 -35698502.27 -35698502.16 0.3775 0.0783

Earth -102450-06-28 05:01 J -35698261.41 -35698261.29 -35698261.18 0.2679 0.0831

Moon -102450-06-28 05:45 J -35698261.37 -35698261.26 -35698261.15 0.2677 0.0904 *

Jupiter -102447-03-18 12:28 J -35697267.11 -35697266.98 -35697266.86 0.0503 0.0278

Jupiter -102447-06-16 03:49 J -35697177.48 -35697177.34 -35697177.20 0.0500 0.0202

Earth -102447-12-14 11:45 J -35696996.14 -35696996.01 -35696995.88 0.2669 0.0905

Moon -102447-12-14 11:59 J -35696996.13 -35696996.00 -35696995.86 0.2662 0.0876 *

Saturn -102445-01-18 15:35 J -35696595.94 -35696595.85 -35696595.75 0.0269 0.0208

Saturn -102445-04-16 05:45 J -35696507.39 -35696507.26 -35696507.13 0.0269 0.0135

Venus -102445-05-15 01:11 J -35696478.57 -35696478.45 -35696478.34 0.3772 0.0488

Saturn -102445-07-13 19:40 J -35696418.83 -35696418.68 -35696418.54 0.0269 0.0062

Mars -102445-08-18 22:18 J -35696382.71 -35696382.57 -35696382.42 0.1649 0.0042

Saturn -102445-10-10 09:06 J -35696330.26 -35696330.12 -35696329.97 0.0270 0.0013

Saturn -102444-01-06 22:33 J -35696241.70 -35696241.56 -35696241.41 0.0270 0.0080

Saturn -102444-04-05 11:45 J -35696153.13 -35696153.01 -35696152.88 0.0270 0.0150

Mars -102444-07-02 05:30 J -35696065.38 -35696065.27 -35696065.15 0.1876 0.0829

Saturn -102444-07-03 00:42 J -35696064.55 -35696064.47 -35696064.38 0.0270 0.0218

Moon -102443-06-20 22:33 J -35695711.61 -35695711.56 -35695711.50 0.2670 0.2334

Earth -102443-06-20 23:01 J -35695711.59 -35695711.54 -35695711.48 0.2665 0.2347 *

Mars -102442-06-08 06:57 J -35695359.27 -35695359.21 -35695359.14 0.1860 0.1560

Neptune -102442-12-26 11:45 J -35695158.03 -35695158.01 -35695157.98 0.0089 0.0087

Neptune -102441-03-23 13:40 J -35695069.97 -35695069.93 -35695069.87 0.0089 0.0083

Venus -102441-05-14 16:04 J -35695017.94 -35695017.83 -35695017.73 0.3599 0.2238

Neptune -102441-06-19 15:35 J -35694981.91 -35694981.85 -35694981.77 0.0089 0.0079

Jupiter -102441-08-16 06:42 J -35694924.37 -35694924.22 -35694924.08 0.0526 0.0043

Neptune -102441-09-15 17:45 J -35694893.84 -35694893.76 -35694893.67 0.0089 0.0074

Jupiter -102441-11-13 23:30 J -35694834.57 -35694834.52 -35694834.47 0.0529 0.0495

Neptune -102441-12-12 19:40 J -35694805.76 -35694805.68 -35694805.58 0.0089 0.0070

Neptune -102440-03-10 21:35 J -35694717.69 -35694717.60 -35694717.49 0.0089 0.0066

Neptune -102440-06-06 23:45 J -35694629.61 -35694629.51 -35694629.39 0.0089 0.0061

Neptune -102440-09-03 01:40 J -35694541.54 -35694541.43 -35694541.30 0.0089 0.0057

Venus -102440-11-28 20:52 J -35694454.73 -35694454.63 -35694454.52 0.3768 0.1756

Neptune -102440-11-30 03:49 J -35694453.46 -35694453.34 -35694453.21 0.0089 0.0052

Neptune -102439-02-26 05:45 J -35694365.38 -35694365.26 -35694365.12 0.0089 0.0048

Neptune -102439-05-25 08:09 J -35694277.30 -35694277.16 -35694277.03 0.0089 0.0043

Neptune -102439-08-21 10:04 J -35694189.21 -35694189.08 -35694188.94 0.0089 0.0039

Neptune -102439-11-17 12:13 J -35694101.13 -35694100.99 -35694100.84 0.0089 0.0034

Neptune -102438-02-13 14:09 J -35694013.05 -35694012.91 -35694012.75 0.0089 0.0030

Neptune -102438-05-12 16:18 J -35693924.96 -35693924.82 -35693924.66 0.0089 0.0025

Neptune -102438-08-08 18:42 J -35693836.88 -35693836.72 -35693836.57 0.0089 0.0020

Neptune -102438-11-04 20:37 J -35693748.79 -35693748.64 -35693748.48 0.0089 0.0016

Neptune -102437-01-31 23:01 J -35693660.70 -35693660.54 -35693660.39 0.0089 0.0011

Neptune -102437-04-29 00:57 J -35693572.61 -35693572.46 -35693572.30 0.0089 0.0007

Earth -102437-06-30 00:13 J -35693510.57 -35693510.49 -35693510.41 0.2683 0.1932

Moon -102437-06-30 00:57 J -35693510.54 -35693510.46 -35693510.39 0.2679 0.2028 *

Neptune -102437-07-26 03:21 J -35693484.52 -35693484.36 -35693484.21 0.0089 0.0003

Neptune -102437-10-22 05:30 J -35693396.43 -35693396.27 -35693396.12 0.0089 0.0004

Neptune -102436-01-18 07:40 J -35693308.34 -35693308.18 -35693308.02 0.0089 0.0008

Neptune -102436-04-16 09:49 J -35693220.25 -35693220.09 -35693219.93 0.0089 0.0013

Neptune -102436-07-13 11:59 J -35693132.15 -35693132.00 -35693131.84 0.0089 0.0017

Neptune -102436-10-09 14:09 J -35693044.06 -35693043.91 -35693043.75 0.0089 0.0022

Venus -102436-11-28 14:52 J -35692994.01 -35692993.88 -35692993.75 0.3603 0.0766

Jupiter -102435-01-04 14:37 J -35692956.98 -35692956.89 -35692956.80 0.0504 0.0391

Neptune -102435-01-05 16:18 J -35692955.96 -35692955.82 -35692955.66 0.0089 0.0027

Mars -102435-01-09 04:18 J -35692952.46 -35692952.32 -35692952.18 0.1646 0.0414

Neptune -102435-04-03 18:28 J -35692867.87 -35692867.73 -35692867.57 0.0089 0.0032

Jupiter -102435-04-04 05:30 J -35692867.42 -35692867.27 -35692867.12 0.0501 0.0083

Neptune -102435-06-30 20:37 J -35692779.77 -35692779.64 -35692779.48 0.0089 0.0037

Neptune -102435-09-26 23:16 J -35692691.67 -35692691.53 -35692691.39 0.0089 0.0041

Mars -102435-11-22 10:33 J -35692635.14 -35692635.06 -35692634.98 0.1880 0.1462

Neptune -102435-12-24 01:25 J -35692603.57 -35692603.44 -35692603.30 0.0089 0.0046

Neptune -102434-03-22 03:35 J -35692515.47 -35692515.35 -35692515.21 0.0089 0.0051

Venus -102434-06-14 17:01 J -35692430.85 -35692430.79 -35692430.72 0.3764 0.3086

Neptune -102434-06-18 05:59 J -35692427.37 -35692427.25 -35692427.12 0.0089 0.0056

Neptune -102434-09-14 08:09 J -35692339.26 -35692339.16 -35692339.03 0.0089 0.0061

Neptune -102434-12-11 10:33 J -35692251.16 -35692251.06 -35692250.94 0.0089 0.0066

Mars -102434-12-16 07:11 J -35692246.26 -35692246.20 -35692246.15 0.1659 0.1539

Moon -102434-12-17 13:25 J -35692245.07 -35692244.94 -35692244.80 0.2658 0.0768

Earth -102434-12-17 13:54 J -35692245.05 -35692244.92 -35692244.78 0.2663 0.0762 *

Neptune -102433-03-08 12:42 J -35692163.05 -35692162.97 -35692162.86 0.0089 0.0071

Neptune -102433-06-04 15:06 J -35692074.94 -35692074.87 -35692074.77 0.0089 0.0076

Neptune -102433-08-31 17:16 J -35691986.82 -35691986.78 -35691986.69 0.0089 0.0081

Mars -102433-10-28 13:11 J -35691929.06 -35691928.95 -35691928.84 0.1864 0.1011

Neptune -102433-11-27 19:40 J -35691898.70 -35691898.68 -35691898.62 0.0089 0.0086

Saturn -102431-05-07 13:11 J -35691372.95 -35691372.95 -35691372.95 0.0291 0.0291

Saturn -102431-08-04 06:13 J -35691284.34 -35691284.24 -35691284.12 0.0291 0.0202

Saturn -102431-10-31 23:45 J -35691195.65 -35691195.51 -35691195.36 0.0290 0.0110

Saturn -102430-01-28 17:45 J -35691106.92 -35691106.76 -35691106.60 0.0290 0.0015

Saturn -102430-04-27 11:59 J -35691018.15 -35691018.00 -35691017.84 0.0290 0.0081

Venus -102430-06-14 13:25 J -35690970.07 -35690969.94 -35690969.82 0.3606 0.0650

Earth -102430-06-23 18:57 J -35690960.82 -35690960.71 -35690960.61 0.2670 0.1197

Moon -102430-06-23 19:11 J -35690960.80 -35690960.70 -35690960.60 0.2676 0.1239 *

Saturn -102430-07-25 06:28 J -35690929.35 -35690929.23 -35690929.10 0.0289 0.0179

Saturn -102430-10-22 01:25 J -35690840.47 -35690840.44 -35690840.39 0.0289 0.0277

Jupiter -102429-06-04 08:09 J -35690614.30 -35690614.16 -35690614.02 0.0525 0.0170

Jupiter -102429-09-02 01:25 J -35690524.54 -35690524.44 -35690524.33 0.0529 0.0372

Mars -102426-06-01 10:04 J -35689522.20 -35689522.08 -35689521.95 0.1643 0.0856

Venus -102425-12-28 11:30 J -35688946.13 -35688946.02 -35688945.92 0.3610 0.1997

Uranus -102424-05-02 08:09 J -35688821.20 -35688821.16 -35688821.11 0.0144 0.0137

Mars -102424-05-07 11:59 J -35688816.12 -35688816.00 -35688815.89 0.1655 0.1038

Uranus -102424-07-29 13:54 J -35688733.01 -35688732.92 -35688732.83 0.0144 0.0115

Uranus -102424-10-25 19:25 J -35688644.81 -35688644.69 -35688644.57 0.0144 0.0093

Jupiter -102423-01-21 07:25 J -35688557.34 -35688557.19 -35688557.04 0.0501 0.0035

Uranus -102423-01-22 00:57 J -35688556.59 -35688556.46 -35688556.31 0.0144 0.0071

Mars -102423-03-20 18:57 J -35688498.83 -35688498.71 -35688498.58 0.1869 0.0439

Uranus -102423-04-20 06:42 J -35688468.37 -35688468.22 -35688468.06 0.0144 0.0049

Jupiter -102423-04-20 23:16 J -35688467.59 -35688467.53 -35688467.46 0.0498 0.0450

Uranus -102423-07-17 12:28 J -35688380.13 -35688379.98 -35688379.81 0.0145 0.0026

Uranus -102423-10-13 18:28 J -35688291.89 -35688291.73 -35688291.57 0.0145 0.0002

Uranus -102422-01-10 00:13 J -35688203.65 -35688203.49 -35688203.32 0.0145 0.0021

Uranus -102422-04-08 06:13 J -35688115.39 -35688115.24 -35688115.08 0.0145 0.0045

Uranus -102422-07-05 12:13 J -35688027.13 -35688026.99 -35688026.84 0.0145 0.0069

Uranus -102422-10-01 18:13 J -35687938.86 -35687938.74 -35687938.61 0.0145 0.0093

Uranus -102422-12-29 00:13 J -35687850.57 -35687850.49 -35687850.38 0.0145 0.0118

Uranus -102421-03-26 06:42 J -35687762.25 -35687762.22 -35687762.19 0.0145 0.0142

Moon -102421-12-19 15:21 J -35687493.93 -35687493.86 -35687493.78 0.2655 0.2250

Earth -102421-12-19 16:47 J -35687493.85 -35687493.80 -35687493.75 0.2658 0.2466 *

Venus -102419-07-14 09:21 J -35686922.16 -35686922.11 -35686922.07 0.3614 0.3299

Jupiter -102417-03-23 09:35 J -35686304.22 -35686304.10 -35686303.97 0.0525 0.0301

Jupiter -102417-06-21 03:35 J -35686214.48 -35686214.35 -35686214.22 0.0528 0.0245

Earth -102417-06-25 14:23 J -35686210.01 -35686209.90 -35686209.78 0.2674 0.0100

Moon -102417-06-25 15:06 J -35686209.99 -35686209.87 -35686209.75 0.2678 0.0067 *

Mars -102417-10-21 16:47 J -35686091.89 -35686091.80 -35686091.72 0.1641 0.1276

Saturn -102416-06-06 15:21 J -35685863.92 -35685863.86 -35685863.78 0.0269 0.0238

Saturn -102416-09-03 05:45 J -35685775.38 -35685775.26 -35685775.14 0.0269 0.0164

Saturn -102416-11-30 19:40 J -35685686.82 -35685686.68 -35685686.53 0.0269 0.0091

Saturn -102415-02-27 09:35 J -35685598.25 -35685598.10 -35685597.95 0.0269 0.0019

Saturn -102415-05-26 23:01 J -35685509.68 -35685509.54 -35685509.39 0.0270 0.0053

Saturn -102415-08-23 12:13 J -35685421.12 -35685420.99 -35685420.85 0.0270 0.0123

Mars -102415-09-27 17:01 J -35685385.92 -35685385.79 -35685385.65 0.1652 0.0558

Saturn -102415-11-20 01:25 J -35685332.54 -35685332.44 -35685332.34 0.0270 0.0191

Saturn -102414-02-16 14:23 J -35685243.94 -35685243.90 -35685243.86 0.0271 0.0259

Mars -102414-08-11 00:42 J -35685068.60 -35685068.47 -35685068.34 0.1872 0.0155

Earth -102414-12-12 15:35 J -35684944.92 -35684944.85 -35684944.77 0.2673 0.2201

Moon -102414-12-12 16:47 J -35684944.89 -35684944.80 -35684944.71 0.2669 0.2048 *

Jupiter -102412-11-09 08:52 J -35684247.27 -35684247.13 -35684246.98 0.0502 0.0157

Jupiter -102411-02-07 00:28 J -35684157.59 -35684157.48 -35684157.36 0.0499 0.0324

Jupiter -102405-01-10 10:33 J -35681994.14 -35681994.06 -35681993.97 0.0524 0.0437

Mars -102405-02-17 22:47 J -35681955.70 -35681955.55 -35681955.41 0.1649 0.0094

Jupiter -102405-04-09 04:47 J -35681904.44 -35681904.30 -35681904.15 0.0527 0.0113

Venus -102405-05-06 13:25 J -35681877.02 -35681876.94 -35681876.87 0.3781 0.2770

Mars -102405-12-31 05:45 J -35681638.37 -35681638.26 -35681638.14 0.1876 0.0772

Earth -102404-06-28 10:04 J -35681459.19 -35681459.08 -35681458.98 0.2679 0.1062

Moon -102404-06-28 10:47 J -35681459.15 -35681459.05 -35681458.94 0.2678 0.1131 *

Mars -102403-12-07 07:11 J -35680932.26 -35680932.20 -35680932.14 0.1860 0.1615

Saturn -102402-12-22 06:13 J -35680552.33 -35680552.24 -35680552.14 0.0291 0.0231

Saturn -102401-03-19 23:45 J -35680463.65 -35680463.51 -35680463.37 0.0290 0.0139

Saturn -102401-06-16 17:30 J -35680374.93 -35680374.77 -35680374.61 0.0290 0.0046

Saturn -102401-09-13 11:45 J -35680286.17 -35680286.01 -35680285.85 0.0290 0.0050

Saturn -102401-12-11 06:13 J -35680197.38 -35680197.24 -35680197.10 0.0289 0.0147

Earth -102401-12-14 17:45 J -35680193.90 -35680193.76 -35680193.62 0.2668 0.0570

Moon -102401-12-14 17:59 J -35680193.89 -35680193.75 -35680193.61 0.2661 0.0550 *

Saturn -102400-03-10 00:57 J -35680108.54 -35680108.46 -35680108.37 0.0289 0.0246

Jupiter -102400-08-28 11:01 J -35679937.17 -35679937.04 -35679936.92 0.0503 0.0273

Venus -102400-11-20 08:37 J -35679853.25 -35679853.14 -35679853.04 0.3778 0.1593

Jupiter -102400-11-26 02:09 J -35679847.55 -35679847.41 -35679847.26 0.0500 0.0206

Moon -102397-06-21 03:49 J -35678909.40 -35678909.34 -35678909.27 0.2671 0.2200

Earth -102397-06-21 04:18 J -35678909.39 -35678909.32 -35678909.25 0.2666 0.2106 *

Mars -102396-07-10 04:33 J -35678525.45 -35678525.31 -35678525.17 0.1646 0.0364

Mars -102395-05-23 10:47 J -35678208.14 -35678208.05 -35678207.97 0.1879 0.1408

Venus -102394-06-06 04:04 J -35677829.45 -35677829.33 -35677829.22 0.3774 0.0379

Mars -102394-06-16 07:25 J -35677819.23 -35677819.19 -35677819.15 0.1659 0.1590

Jupiter -102393-01-27 05:16 J -35677594.43 -35677594.28 -35677594.13 0.0526 0.0036

Jupiter -102393-04-25 22:04 J -35677504.62 -35677504.58 -35677504.53 0.0529 0.0500

Mars -102393-04-28 13:25 J -35677502.05 -35677501.94 -35677501.84 0.1864 0.1064

Earth -102391-07-01 05:16 J -35676708.34 -35676708.28 -35676708.21 0.2684 0.2166

Moon -102391-07-01 05:45 J -35676708.33 -35676708.26 -35676708.19 0.2678 0.2174 *

Venus -102390-06-05 16:18 J -35676368.87 -35676368.82 -35676368.76 0.3597 0.3242

Venus -102389-12-19 23:45 J -35675805.63 -35675805.51 -35675805.40 0.3771 0.0893

Jupiter -102388-06-16 13:11 J -35675627.05 -35675626.95 -35675626.86 0.0504 0.0387

Jupiter -102388-09-14 04:04 J -35675537.48 -35675537.33 -35675537.18 0.0501 0.0088

Moon -102388-12-17 19:11 J -35675442.83 -35675442.70 -35675442.56 0.2657 0.1001

Earth -102388-12-17 20:09 J -35675442.79 -35675442.66 -35675442.53 0.2663 0.1102 *

Saturn -102387-10-24 17:59 J -35675131.79 -35675131.75 -35675131.70 0.0269 0.0255

Mars -102387-11-30 10:33 J -35675095.18 -35675095.06 -35675094.93 0.1643 0.0803

Saturn -102386-01-21 08:23 J -35675043.26 -35675043.15 -35675043.03 0.0269 0.0181

Saturn -102386-04-19 22:33 J -35674954.70 -35674954.56 -35674954.42 0.0269 0.0107

Saturn -102386-07-17 12:13 J -35674866.13 -35674865.99 -35674865.84 0.0270 0.0036

Saturn -102386-10-14 01:54 J -35674777.57 -35674777.42 -35674777.27 0.0270 0.0037

Saturn -102385-01-10 15:21 J -35674689.00 -35674688.86 -35674688.73 0.0270 0.0107

Saturn -102385-04-08 04:18 J -35674600.42 -35674600.32 -35674600.20 0.0271 0.0177

Saturn -102385-07-05 17:16 J -35674511.84 -35674511.78 -35674511.72 0.0271 0.0244

Mars -102385-11-05 12:28 J -35674389.09 -35674388.98 -35674388.87 0.1656 0.1096

Venus -102385-12-19 15:35 J -35674344.97 -35674344.85 -35674344.74 0.3600 0.1740

Uranus -102385-12-25 02:52 J -35674339.45 -35674339.38 -35674339.30 0.0135 0.0118

Uranus -102384-03-23 07:25 J -35674251.29 -35674251.19 -35674251.08 0.0134 0.0099

Uranus -102384-06-19 11:45 J -35674163.12 -35674163.01 -35674162.88 0.0134 0.0082

Earth -102384-06-23 23:59 J -35674158.61 -35674158.50 -35674158.39 0.2670 0.0962

Moon -102384-06-24 00:13 J -35674158.60 -35674158.49 -35674158.38 0.2677 0.0863 *

Uranus -102384-09-15 16:18 J -35674074.95 -35674074.82 -35674074.68 0.0134 0.0063

Mars -102384-09-18 19:11 J -35674071.82 -35674071.70 -35674071.57 0.1868 0.0496

Uranus -102384-12-12 20:37 J -35673986.78 -35673986.64 -35673986.49 0.0134 0.0046

Uranus -102383-03-11 00:57 J -35673898.60 -35673898.46 -35673898.30 0.0134 0.0028

Uranus -102383-06-07 05:16 J -35673810.43 -35673810.28 -35673810.12 0.0134 0.0011

Venus -102383-07-05 19:40 J -35673781.78 -35673781.68 -35673781.59 0.3767 0.2186

Uranus -102383-09-03 09:35 J -35673722.25 -35673722.10 -35673721.95 0.0134 0.0007

Uranus -102383-11-30 13:54 J -35673634.07 -35673633.92 -35673633.77 0.0134 0.0024

Uranus -102382-02-26 17:59 J -35673545.89 -35673545.75 -35673545.60 0.0134 0.0041

Uranus -102382-05-25 22:04 J -35673457.71 -35673457.58 -35673457.44 0.0134 0.0058

Uranus -102382-08-22 02:09 J -35673369.53 -35673369.41 -35673369.28 0.0133 0.0075

Jupiter -102382-11-15 06:13 J -35673284.38 -35673284.24 -35673284.09 0.0525 0.0171

Uranus -102382-11-18 05:59 J -35673281.34 -35673281.25 -35673281.13 0.0133 0.0092

Jupiter -102381-02-12 23:45 J -35673194.62 -35673194.51 -35673194.41 0.0528 0.0369

Uranus -102381-02-14 10:18 J -35673193.15 -35673193.07 -35673192.98 0.0133 0.0107

Uranus -102381-05-12 14:09 J -35673104.95 -35673104.91 -35673104.85 0.0133 0.0124

Venus -102379-07-05 14:23 J -35672321.03 -35672320.90 -35672320.77 0.3604 0.0305

Venus -102377-01-19 15:49 J -35671757.88 -35671757.84 -35671757.80 0.3763 0.3519

Mars -102377-04-21 16:47 J -35671664.89 -35671664.80 -35671664.70 0.1641 0.1232

Jupiter -102376-04-04 15:21 J -35671316.88 -35671316.86 -35671316.84 0.0505 0.0500

Jupiter -102376-07-03 05:59 J -35671227.40 -35671227.25 -35671227.10 0.0502 0.0031

Jupiter -102376-09-30 21:49 J -35671137.65 -35671137.59 -35671137.52 0.0499 0.0455

Mars -102375-03-28 17:30 J -35670958.90 -35670958.77 -35670958.63 0.1652 0.0611

Pluto -102375-04-20 17:30 J -35670935.77 -35670935.77 -35670935.75 0.0060 0.0060

Pluto -102375-07-17 18:28 J -35670847.79 -35670847.73 -35670847.61 0.0060 0.0054

Pluto -102375-10-13 20:37 J -35670759.77 -35670759.64 -35670759.51 0.0060 0.0046

Pluto -102374-01-09 21:49 J -35670671.73 -35670671.59 -35670671.43 0.0060 0.0039

Mars -102374-02-09 00:42 J -35670641.60 -35670641.47 -35670641.34 0.1872 0.0110

Pluto -102374-04-07 23:16 J -35670583.68 -35670583.53 -35670583.35 0.0060 0.0032

Pluto -102374-07-05 00:42 J -35670495.63 -35670495.47 -35670495.27 0.0060 0.0025

Pluto -102374-10-01 02:37 J -35670407.58 -35670407.39 -35670407.20 0.0061 0.0017

Pluto -102374-12-28 04:04 J -35670319.52 -35670319.33 -35670319.13 0.0061 0.0010

Venus -102373-01-19 12:28 J -35670297.10 -35670296.98 -35670296.85 0.3607 0.1102

Pluto -102373-03-25 05:30 J -35670231.46 -35670231.27 -35670231.07 0.0061 0.0003

Pluto -102373-06-21 07:11 J -35670143.40 -35670143.20 -35670143.00 0.0061 0.0005

Pluto -102373-09-17 08:23 J -35670055.33 -35670055.15 -35670054.94 0.0061 0.0013

Pluto -102373-12-14 10:04 J -35669967.26 -35669967.08 -35669966.89 0.0061 0.0020

Pluto -102372-03-12 11:30 J -35669879.19 -35669879.02 -35669878.84 0.0061 0.0027

Saturn -102372-05-10 06:42 J -35669820.28 -35669820.22 -35669820.15 0.0291 0.0259

Pluto -102372-06-08 12:42 J -35669791.11 -35669790.97 -35669790.79 0.0061 0.0035

Saturn -102372-08-06 23:59 J -35669731.62 -35669731.50 -35669731.37 0.0290 0.0168

Pluto -102372-09-04 14:37 J -35669703.02 -35669702.89 -35669702.74 0.0061 0.0042

Saturn -102372-11-03 17:30 J -35669642.92 -35669642.77 -35669642.61 0.0290 0.0076

Pluto -102372-12-01 15:49 J -35669614.93 -35669614.84 -35669614.71 0.0061 0.0050

Saturn -102371-01-31 11:30 J -35669554.18 -35669554.02 -35669553.86 0.0290 0.0020

Pluto -102371-02-27 17:30 J -35669526.82 -35669526.77 -35669526.69 0.0061 0.0058

Saturn -102371-04-30 05:59 J -35669465.40 -35669465.25 -35669465.10 0.0290 0.0115

Earth -102371-06-26 19:25 J -35669407.80 -35669407.69 -35669407.57 0.2675 0.0196

Moon -102371-06-26 20:23 J -35669407.77 -35669407.65 -35669407.53 0.2677 0.0193 *

Saturn -102371-07-28 00:42 J -35669376.58 -35669376.47 -35669376.36 0.0289 0.0213

Jupiter -102370-09-03 07:40 J -35668974.31 -35668974.18 -35668974.06 0.0524 0.0304

Jupiter -102370-12-02 01:25 J -35668884.57 -35668884.44 -35668884.31 0.0528 0.0242

Venus -102368-08-04 10:33 J -35668273.15 -35668273.06 -35668272.96 0.3611 0.2434

Earth -102368-12-12 21:35 J -35668142.70 -35668142.60 -35668142.50 0.2673 0.1877

Moon -102368-12-12 22:33 J -35668142.66 -35668142.56 -35668142.46 0.2667 0.1881 *

Mars -102366-08-18 23:01 J -35667528.69 -35667528.54 -35667528.40 0.1649 0.0146

Mars -102365-07-01 06:13 J -35667211.36 -35667211.24 -35667211.12 0.1876 0.0717

Jupiter -102364-04-21 07:54 J -35666917.31 -35666917.17 -35666917.02 0.0502 0.0146

Jupiter -102364-07-19 23:30 J -35666827.63 -35666827.52 -35666827.40 0.0499 0.0335

Mars -102363-06-07 07:11 J -35666505.25 -35666505.20 -35666505.15 0.1860 0.1659

Neptune -102359-04-06 18:13 J -35665105.78 -35665105.74 -35665105.70 0.0088 0.0085

Neptune -102359-07-03 20:09 J -35665017.71 -35665017.66 -35665017.57 0.0088 0.0081

Neptune -102359-09-29 22:33 J -35664929.63 -35664929.56 -35664929.46 0.0088 0.0076

Neptune -102359-12-27 00:57 J -35664841.54 -35664841.46 -35664841.35 0.0088 0.0071

Neptune -102358-03-25 03:21 J -35664753.45 -35664753.36 -35664753.24 0.0088 0.0066

Neptune -102358-06-21 05:45 J -35664665.37 -35664665.26 -35664665.13 0.0088 0.0061

Jupiter -102358-06-22 08:52 J -35664664.21 -35664664.13 -35664664.04 0.0524 0.0435

Earth -102358-06-29 15:06 J -35664656.98 -35664656.87 -35664656.77 0.2680 0.1295

Moon -102358-06-29 15:49 J -35664656.94 -35664656.84 -35664656.74 0.2678 0.1391 *

Neptune -102358-09-17 08:09 J -35664577.28 -35664577.16 -35664577.03 0.0088 0.0056

Jupiter -102358-09-20 03:21 J -35664574.51 -35664574.36 -35664574.22 0.0527 0.0115

Neptune -102358-12-14 10:33 J -35664489.19 -35664489.06 -35664488.92 0.0088 0.0051

Neptune -102357-03-11 12:57 J -35664401.10 -35664400.96 -35664400.82 0.0088 0.0046

Neptune -102357-06-07 15:06 J -35664313.01 -35664312.87 -35664312.72 0.0088 0.0041

Saturn -102357-06-09 08:37 J -35664311.23 -35664311.14 -35664311.04 0.0269 0.0209

Neptune -102357-09-03 17:16 J -35664224.92 -35664224.78 -35664224.62 0.0088 0.0037

Saturn -102357-09-05 22:47 J -35664222.68 -35664222.55 -35664222.42 0.0269 0.0135

Neptune -102357-11-30 19:40 J -35664136.82 -35664136.68 -35664136.52 0.0088 0.0032

Saturn -102357-12-03 12:42 J -35664134.11 -35664133.97 -35664133.82 0.0269 0.0062

Mars -102356-01-08 04:47 J -35664098.44 -35664098.30 -35664098.16 0.1646 0.0314

Neptune -102356-02-26 22:04 J -35664048.73 -35664048.58 -35664048.43 0.0088 0.0027

Saturn -102356-03-02 02:23 J -35664045.55 -35664045.40 -35664045.25 0.0270 0.0011

Neptune -102356-05-26 00:13 J -35663960.64 -35663960.49 -35663960.33 0.0088 0.0022

Saturn -102356-05-29 15:49 J -35663956.98 -35663956.84 -35663956.69 0.0270 0.0081

Neptune -102356-08-22 02:23 J -35663872.55 -35663872.40 -35663872.24 0.0088 0.0018

Saturn -102356-08-26 05:01 J -35663868.41 -35663868.29 -35663868.16 0.0270 0.0151

Neptune -102356-11-18 04:47 J -35663784.46 -35663784.30 -35663784.14 0.0088 0.0013

Mars -102356-11-21 11:01 J -35663781.13 -35663781.04 -35663780.95 0.1879 0.1349

Saturn -102356-11-22 18:13 J -35663779.83 -35663779.74 -35663779.66 0.0271 0.0219

Neptune -102355-02-14 06:57 J -35663696.37 -35663696.21 -35663696.05 0.0088 0.0008

Neptune -102355-05-13 09:06 J -35663608.28 -35663608.12 -35663607.96 0.0088 0.0003

Neptune -102355-08-09 11:16 J -35663520.19 -35663520.03 -35663519.87 0.0088 0.0002

Neptune -102355-11-05 13:25 J -35663432.09 -35663431.94 -35663431.78 0.0088 0.0006

Mars -102355-12-15 07:40 J -35663392.20 -35663392.18 -35663392.16 0.1659 0.1641

Earth -102355-12-15 23:45 J -35663391.66 -35663391.51 -35663391.37 0.2667 0.0256

Moon -102355-12-15 23:45 J -35663391.65 -35663391.51 -35663391.36 0.2661 0.0197 *

Neptune -102354-02-01 15:35 J -35663344.00 -35663343.85 -35663343.69 0.0088 0.0011

Neptune -102354-04-30 17:45 J -35663255.91 -35663255.76 -35663255.60 0.0088 0.0016

Venus -102354-05-28 16:47 J -35663227.84 -35663227.80 -35663227.76 0.3783 0.3520

Neptune -102354-07-27 19:54 J -35663167.82 -35663167.67 -35663167.51 0.0088 0.0020

Neptune -102354-10-23 22:04 J -35663079.73 -35663079.58 -35663079.43 0.0088 0.0025

Mars -102354-10-28 13:40 J -35663075.03 -35663074.93 -35663074.83 0.1864 0.1119

Neptune -102353-01-19 23:59 J -35662991.64 -35662991.50 -35662991.34 0.0088 0.0030

Neptune -102353-04-17 02:09 J -35662903.55 -35662903.41 -35662903.26 0.0088 0.0034

Neptune -102353-07-14 04:18 J -35662815.46 -35662815.32 -35662815.17 0.0088 0.0038

Neptune -102353-10-10 06:28 J -35662727.36 -35662727.23 -35662727.09 0.0088 0.0043

Neptune -102352-01-06 08:23 J -35662639.27 -35662639.15 -35662639.01 0.0088 0.0047

Jupiter -102352-02-07 09:35 J -35662607.23 -35662607.10 -35662606.98 0.0503 0.0268

Neptune -102352-04-04 10:33 J -35662551.18 -35662551.06 -35662550.93 0.0088 0.0052

Jupiter -102352-05-08 00:42 J -35662517.61 -35662517.47 -35662517.33 0.0500 0.0210

Neptune -102352-07-01 12:28 J -35662463.09 -35662462.98 -35662462.85 0.0088 0.0056

Neptune -102352-09-27 14:37 J -35662375.00 -35662374.89 -35662374.77 0.0088 0.0060

Neptune -102352-12-24 16:47 J -35662286.90 -35662286.80 -35662286.70 0.0088 0.0065

Neptune -102351-03-22 18:28 J -35662198.81 -35662198.73 -35662198.62 0.0088 0.0070

Neptune -102351-06-18 20:37 J -35662110.71 -35662110.64 -35662110.55 0.0088 0.0074

Moon -102351-06-22 09:21 J -35662107.20 -35662107.11 -35662107.03 0.2673 0.1837

Earth -102351-06-22 09:21 J -35662107.19 -35662107.11 -35662107.03 0.2666 0.1863 *

Neptune -102351-09-14 22:47 J -35662022.62 -35662022.55 -35662022.48 0.0088 0.0078

Neptune -102351-12-12 00:28 J -35661934.52 -35661934.48 -35661934.41 0.0088 0.0083

Neptune -102350-03-10 02:37 J -35661846.41 -35661846.39 -35661846.35 0.0088 0.0087

Venus -102349-12-11 11:45 J -35661204.10 -35661204.01 -35661203.92 0.3780 0.2371

Mars -102347-05-31 10:47 J -35660668.17 -35660668.05 -35660667.92 0.1643 0.0757

Jupiter -102346-07-09 04:33 J -35660264.46 -35660264.31 -35660264.16 0.0526 0.0020

Jupiter -102346-10-06 21:35 J -35660174.63 -35660174.60 -35660174.57 0.0529 0.0515

Mars -102345-05-06 12:42 J -35659962.07 -35659961.97 -35659961.86 0.1656 0.1148

Earth -102345-07-01 10:18 J -35659906.12 -35659906.07 -35659906.02 0.2685 0.2396

Moon -102345-07-01 10:33 J -35659906.10 -35659906.06 -35659906.01 0.2678 0.2417 *

Mars -102344-03-19 19:25 J -35659644.81 -35659644.69 -35659644.57 0.1868 0.0543

Venus -102343-06-27 06:57 J -35659180.31 -35659180.21 -35659180.10 0.3777 0.1190

Saturn -102343-09-27 06:42 J -35659088.23 -35659088.22 -35659088.20 0.0291 0.0288

Saturn -102343-12-24 23:45 J -35658999.61 -35658999.51 -35658999.39 0.0291 0.0199

Saturn -102342-03-23 17:30 J -35658910.92 -35658910.77 -35658910.62 0.0290 0.0106

Saturn -102342-06-20 11:30 J -35658822.18 -35658822.02 -35658821.86 0.0290 0.0014

Saturn -102342-09-17 05:45 J -35658733.42 -35658733.26 -35658733.11 0.0290 0.0085

Saturn -102342-12-15 00:13 J -35658644.61 -35658644.49 -35658644.36 0.0289 0.0182

Moon -102342-12-19 01:11 J -35658640.58 -35658640.45 -35658640.33 0.2657 0.1360

Earth -102342-12-19 02:09 J -35658640.53 -35658640.41 -35658640.29 0.2662 0.1442 *

Saturn -102341-03-12 19:11 J -35658555.73 -35658555.70 -35658555.66 0.0289 0.0281

Jupiter -102341-11-26 11:30 J -35658297.11 -35658297.02 -35658296.92 0.0504 0.0384

Jupiter -102340-02-24 02:23 J -35658207.55 -35658207.40 -35658207.24 0.0501 0.0092

Uranus -102340-05-22 15:06 J -35658119.92 -35658119.87 -35658119.80 0.0144 0.0133

Uranus -102340-08-18 20:52 J -35658031.73 -35658031.63 -35658031.53 0.0144 0.0111

Uranus -102340-11-15 02:23 J -35657943.52 -35657943.40 -35657943.27 0.0144 0.0089

Uranus -102339-02-11 08:09 J -35657855.30 -35657855.16 -35657855.02 0.0144 0.0067

Uranus -102339-05-10 13:40 J -35657767.08 -35657766.93 -35657766.77 0.0144 0.0045

Uranus -102339-08-06 19:40 J -35657678.84 -35657678.68 -35657678.52 0.0145 0.0021

Uranus -102339-11-03 01:25 J -35657590.60 -35657590.44 -35657590.28 0.0145 0.0002

Uranus -102338-01-30 07:11 J -35657502.36 -35657502.20 -35657502.03 0.0145 0.0026

Uranus -102338-04-28 13:11 J -35657414.10 -35657413.95 -35657413.79 0.0145 0.0049

Earth -102338-06-25 05:01 J -35657356.40 -35657356.29 -35657356.18 0.2671 0.0721

Moon -102338-06-25 05:30 J -35657356.39 -35657356.27 -35657356.16 0.2677 0.0751 *

Uranus -102338-07-25 19:11 J -35657325.84 -35657325.70 -35657325.56 0.0145 0.0073

Mars -102338-10-21 17:16 J -35657237.88 -35657237.78 -35657237.68 0.1641 0.1180

Uranus -102338-10-22 01:11 J -35657237.56 -35657237.45 -35657237.32 0.0145 0.0097

Venus -102337-01-11 02:37 J -35657156.51 -35657156.39 -35657156.28 0.3773 0.0146

Uranus -102337-01-18 07:25 J -35657149.28 -35657149.19 -35657149.10 0.0145 0.0122

Mars -102336-09-26 17:59 J -35656531.89 -35656531.75 -35656531.62 0.1652 0.0664

Mars -102335-08-10 01:11 J -35656214.58 -35656214.45 -35656214.32 0.1872 0.0065

Jupiter -102334-04-27 04:47 J -35655954.44 -35655954.30 -35655954.15 0.0525 0.0166

Jupiter -102334-07-25 22:04 J -35655864.68 -35655864.58 -35655864.47 0.0528 0.0374

Venus -102333-01-10 15:49 J -35655695.92 -35655695.84 -35655695.75 0.3598 0.2735

Venus -102332-07-26 22:18 J -35655132.68 -35655132.57 -35655132.47 0.3770 0.1309

Jupiter -102329-09-14 13:40 J -35653986.95 -35653986.93 -35653986.91 0.0505 0.0499

Jupiter -102329-12-13 04:18 J -35653897.47 -35653897.32 -35653897.17 0.0502 0.0028

Jupiter -102328-03-12 20:23 J -35653807.71 -35653807.65 -35653807.59 0.0499 0.0458

Mars -102328-03-12 23:45 J -35653807.54 -35653807.51 -35653807.48 0.1638 0.1597

Venus -102328-07-26 14:52 J -35653672.00 -35653671.88 -35653671.75 0.3601 0.1253

Saturn -102328-10-27 11:16 J -35653579.11 -35653579.03 -35653578.94 0.0269 0.0226

Saturn -102327-01-24 01:40 J -35653490.56 -35653490.43 -35653490.31 0.0270 0.0152

Saturn -102327-04-22 15:35 J -35653401.99 -35653401.85 -35653401.70 0.0270 0.0078

Saturn -102327-07-20 05:16 J -35653313.43 -35653313.28 -35653313.13 0.0270 0.0009

Saturn -102327-10-16 18:57 J -35653224.86 -35653224.71 -35653224.57 0.0270 0.0065

Saturn -102326-01-13 08:09 J -35653136.29 -35653136.16 -35653136.03 0.0271 0.0135

Venus -102326-02-09 18:13 J -35653108.82 -35653108.74 -35653108.66 0.3766 0.2614

Mars -102326-02-16 23:30 J -35653101.67 -35653101.52 -35653101.38 0.1649 0.0200

Saturn -102326-04-11 21:06 J -35653047.71 -35653047.62 -35653047.52 0.0271 0.0205

Mars -102326-12-31 06:13 J -35652784.36 -35652784.24 -35652784.12 0.1876 0.0664

Earth -102325-06-27 00:42 J -35652605.59 -35652605.47 -35652605.36 0.2676 0.0419

Moon -102325-06-27 01:25 J -35652605.55 -35652605.44 -35652605.32 0.2677 0.0563 *

Mars -102324-12-06 07:25 J -35652078.23 -35652078.19 -35652078.14 0.1860 0.1714

Venus -102322-02-09 13:25 J -35651648.07 -35651647.94 -35651647.81 0.3605 0.0206

Jupiter -102322-02-13 05:45 J -35651644.38 -35651644.26 -35651644.14 0.0524 0.0304

Jupiter -102322-05-13 23:30 J -35651554.65 -35651554.52 -35651554.39 0.0527 0.0240

Earth -102322-12-14 03:35 J -35651340.47 -35651340.35 -35651340.24 0.2672 0.1553

Moon -102322-12-14 04:18 J -35651340.44 -35651340.32 -35651340.20 0.2666 0.1383 *

Mars -102317-07-09 05:01 J -35649671.43 -35649671.29 -35649671.14 0.1646 0.0268

Venus -102317-08-25 11:45 J -35649624.12 -35649624.01 -35649623.89 0.3609 0.1547

Jupiter -102317-10-01 06:13 J -35649587.39 -35649587.24 -35649587.10 0.0503 0.0145

Jupiter -102317-12-29 21:49 J -35649497.70 -35649497.59 -35649497.48 0.0500 0.0337

Mars -102316-05-22 11:01 J -35649354.13 -35649354.04 -35649353.94 0.1880 0.1301

Mars -102314-04-28 13:40 J -35648648.03 -35648647.93 -35648647.84 0.1864 0.1163

Saturn -102313-05-13 01:11 J -35648267.55 -35648267.45 -35648267.35 0.0290 0.0222

Saturn -102313-08-09 18:28 J -35648178.86 -35648178.73 -35648178.58 0.0290 0.0132

Saturn -102313-11-06 12:13 J -35648090.14 -35648089.99 -35648089.83 0.0290 0.0039

Saturn -102312-02-03 06:28 J -35648001.39 -35648001.23 -35648001.07 0.0290 0.0058

Saturn -102312-05-03 00:57 J -35647912.60 -35647912.46 -35647912.32 0.0289 0.0155

Earth -102312-06-29 20:09 J -35647854.76 -35647854.66 -35647854.57 0.2680 0.1526

Moon -102312-06-29 20:37 J -35647854.73 -35647854.64 -35647854.54 0.2677 0.1547 *

Saturn -102312-07-30 19:40 J -35647823.75 -35647823.68 -35647823.60 0.0289 0.0253

Venus -102311-03-11 09:35 J -35647600.17 -35647600.10 -35647600.02 0.3612 0.2855

Jupiter -102311-12-02 06:42 J -35647334.30 -35647334.22 -35647334.14 0.0523 0.0440

Jupiter -102310-03-02 00:57 J -35647244.60 -35647244.46 -35647244.31 0.0527 0.0109

Moon -102309-12-16 05:30 J -35646589.42 -35646589.27 -35646589.13 0.2660 0.0070

Earth -102309-12-16 05:45 J -35646589.41 -35646589.26 -35646589.12 0.2667 0.0130 *

Mars -102308-11-29 11:16 J -35646241.16 -35646241.03 -35646240.90 0.1643 0.0709

Mars -102306-11-05 13:11 J -35645535.05 -35645534.95 -35645534.85 0.1655 0.1201

Moon -102305-06-22 14:23 J -35645304.99 -35645304.90 -35645304.81 0.2674 0.1669

Earth -102305-06-22 14:23 J -35645304.99 -35645304.90 -35645304.80 0.2667 0.1625 *

Jupiter -102305-07-20 08:09 J -35645277.28 -35645277.16 -35645277.03 0.0503 0.0260

Mars -102305-09-17 19:40 J -35645217.80 -35645217.68 -35645217.56 0.1869 0.0599

Jupiter -102305-10-17 23:30 J -35645187.66 -35645187.52 -35645187.38 0.0500 0.0218

Uranus -102301-10-18 04:47 J -35643726.30 -35643726.30 -35643726.27 0.0135 0.0134

Uranus -102300-01-14 09:49 J -35643638.17 -35643638.09 -35643638.02 0.0134 0.0115

Uranus -102300-04-12 14:09 J -35643550.01 -35643549.91 -35643549.80 0.0134 0.0097

Uranus -102300-07-09 18:42 J -35643461.85 -35643461.72 -35643461.60 0.0134 0.0079

Uranus -102300-10-05 22:47 J -35643373.67 -35643373.55 -35643373.40 0.0134 0.0062

Uranus -102299-01-02 03:21 J -35643285.50 -35643285.36 -35643285.21 0.0134 0.0043

Uranus -102299-03-31 07:40 J -35643197.33 -35643197.18 -35643197.02 0.0134 0.0026

Uranus -102299-06-27 11:59 J -35643109.15 -35643109.00 -35643108.84 0.0134 0.0008

Earth -102299-07-02 15:21 J -35643103.88 -35643103.86 -35643103.84 0.2685 0.2625

Moon -102299-07-02 15:35 J -35643103.86 -35643103.85 -35643103.83 0.2678 0.2650 *

Uranus -102299-09-23 16:18 J -35643020.97 -35643020.82 -35643020.67 0.0134 0.0009

Jupiter -102299-12-19 02:37 J -35642934.54 -35642934.39 -35642934.24 0.0526 0.0021

Uranus -102299-12-20 20:23 J -35642932.79 -35642932.65 -35642932.49 0.0134 0.0027

Saturn -102298-03-16 11:30 J -35642847.06 -35642847.02 -35642846.96 0.0269 0.0253

Jupiter -102298-03-18 19:40 J -35642844.71 -35642844.68 -35642844.65 0.0529 0.0515

Uranus -102298-03-19 00:42 J -35642844.61 -35642844.47 -35642844.33 0.0134 0.0043

Mars -102298-04-21 17:30 J -35642810.87 -35642810.77 -35642810.67 0.1641 0.1135

Saturn -102298-06-13 02:09 J -35642758.52 -35642758.41 -35642758.30 0.0269 0.0178

Uranus -102298-06-15 04:47 J -35642756.43 -35642756.30 -35642756.16 0.0133 0.0060

Saturn -102298-09-09 16:18 J -35642669.96 -35642669.82 -35642669.68 0.0269 0.0105

Uranus -102298-09-11 08:37 J -35642668.25 -35642668.14 -35642668.00 0.0133 0.0078

Saturn -102298-12-07 05:59 J -35642581.40 -35642581.25 -35642581.10 0.0270 0.0032

Uranus -102298-12-08 12:57 J -35642580.06 -35642579.96 -35642579.85 0.0133 0.0093

Venus -102297-01-02 15:06 J -35642554.93 -35642554.87 -35642554.81 0.3782 0.3134

Saturn -102297-03-04 19:40 J -35642492.83 -35642492.68 -35642492.53 0.0270 0.0040

Uranus -102297-03-05 17:01 J -35642491.87 -35642491.79 -35642491.70 0.0133 0.0110

Saturn -102297-06-01 09:06 J -35642404.26 -35642404.12 -35642403.99 0.0270 0.0110

Uranus -102297-06-01 20:52 J -35642403.67 -35642403.63 -35642403.57 0.0133 0.0126

Saturn -102297-08-28 22:18 J -35642315.68 -35642315.57 -35642315.46 0.0270 0.0180

Saturn -102297-11-25 11:16 J -35642227.09 -35642227.03 -35642226.98 0.0271 0.0248

Mars -102296-03-27 18:13 J -35642104.87 -35642104.74 -35642104.61 0.1652 0.0713

Moon -102296-12-19 07:11 J -35641838.31 -35641838.20 -35641838.09 0.2656 0.1697

Earth -102296-12-19 08:09 J -35641838.27 -35641838.16 -35641838.06 0.2661 0.1780 *

Mars -102295-02-08 01:11 J -35641787.57 -35641787.45 -35641787.32 0.1872 0.0066

Jupiter -102293-05-08 09:49 J -35640967.18 -35640967.09 -35640966.99 0.0504 0.0381

Jupiter -102293-08-06 00:42 J -35640877.62 -35640877.47 -35640877.31 0.0501 0.0095

Earth -102292-06-25 10:04 J -35640554.19 -35640554.08 -35640553.96 0.2672 0.0485

Moon -102292-06-25 10:47 J -35640554.17 -35640554.05 -35640553.94 0.2676 0.0380 *

Venus -102292-07-18 10:04 J -35640531.17 -35640531.08 -35640530.98 0.3779 0.1984

Mars -102289-09-10 23:59 J -35639380.54 -35639380.50 -35639380.45 0.1638 0.1551

Moon -102289-12-11 08:52 J -35639289.14 -35639289.13 -35639289.12 0.2673 0.2654

Mars -102287-08-17 23:45 J -35638674.66 -35638674.51 -35638674.37 0.1649 0.0244

Jupiter -102287-10-07 03:49 J -35638624.48 -35638624.34 -35638624.19 0.0525 0.0155

Jupiter -102286-01-04 21:21 J -35638534.71 -35638534.61 -35638534.51 0.0528 0.0385

Venus -102286-02-01 05:30 J -35638507.38 -35638507.27 -35638507.16 0.3776 0.0781

Mars -102286-07-01 06:28 J -35638357.35 -35638357.23 -35638357.11 0.1876 0.0610

Mars -102284-06-06 07:25 J -35637651.22 -35637651.19 -35637651.15 0.1860 0.1763

Saturn -102284-09-30 01:11 J -35637535.52 -35637535.45 -35637535.37 0.0291 0.0252

Saturn -102284-12-27 18:28 J -35637446.86 -35637446.73 -35637446.60 0.0290 0.0161

Saturn -102283-03-26 11:59 J -35637358.15 -35637358.00 -35637357.84 0.0290 0.0069

Saturn -102283-06-23 06:13 J -35637269.40 -35637269.24 -35637269.09 0.0290 0.0028

Saturn -102283-09-20 00:28 J -35637180.63 -35637180.48 -35637180.33 0.0289 0.0123

Saturn -102283-12-17 19:11 J -35637091.80 -35637091.70 -35637091.59 0.0289 0.0221

Pluto -102282-11-14 05:30 J -35636760.31 -35636760.27 -35636760.21 0.0085 0.0078

Pluto -102281-02-10 06:42 J -35636672.29 -35636672.22 -35636672.13 0.0085 0.0065

Jupiter -102281-02-25 11:59 J -35636657.02 -35636657.00 -35636656.98 0.0505 0.0497

Pluto -102281-05-08 08:09 J -35636584.26 -35636584.16 -35636584.05 0.0085 0.0051

Jupiter -102281-05-25 02:37 J -35636567.54 -35636567.39 -35636567.24 0.0502 0.0027

Pluto -102281-08-04 09:21 J -35636496.22 -35636496.11 -35636495.99 0.0084 0.0038

Venus -102281-08-17 00:57 J -35636483.57 -35636483.46 -35636483.34 0.3772 0.0455

Jupiter -102281-08-22 18:28 J -35636477.78 -35636477.73 -35636477.67 0.0499 0.0459

Pluto -102281-10-31 10:33 J -35636408.18 -35636408.06 -35636407.93 0.0084 0.0024

Pluto -102280-01-27 11:59 J -35636320.13 -35636320.00 -35636319.87 0.0084 0.0011

Pluto -102280-04-25 13:11 J -35636232.08 -35636231.95 -35636231.82 0.0084 0.0002

Pluto -102280-07-22 14:23 J -35636144.03 -35636143.90 -35636143.77 0.0084 0.0016

Pluto -102280-10-18 15:35 J -35636055.97 -35636055.85 -35636055.72 0.0084 0.0029

Pluto -102279-01-14 16:47 J -35635967.91 -35635967.80 -35635967.68 0.0084 0.0042

Pluto -102279-04-12 17:59 J -35635879.85 -35635879.75 -35635879.65 0.0084 0.0055

Earth -102279-06-28 05:45 J -35635803.38 -35635803.26 -35635803.15 0.2676 0.0650

Moon -102279-06-28 06:28 J -35635803.34 -35635803.23 -35635803.11 0.2678 0.0660 *

Pluto -102279-07-09 18:57 J -35635791.77 -35635791.71 -35635791.62 0.0083 0.0068

Pluto -102279-10-05 20:09 J -35635703.68 -35635703.66 -35635703.61 0.0083 0.0081

Mars -102277-01-08 05:30 J -35635244.41 -35635244.27 -35635244.12 0.1646 0.0213

Neptune -102277-06-25 09:49 J -35635075.10 -35635075.09 -35635075.07 0.0089 0.0088

Venus -102277-08-16 15:21 J -35635022.96 -35635022.86 -35635022.75 0.3599 0.2235

Neptune -102277-09-21 11:45 J -35634987.05 -35634987.01 -35634986.96 0.0089 0.0084

Mars -102277-11-20 11:30 J -35634927.12 -35634927.02 -35634926.92 0.1880 0.1239

Neptune -102277-12-18 13:25 J -35634898.99 -35634898.94 -35634898.86 0.0089 0.0080

Neptune -102276-03-16 15:49 J -35634810.92 -35634810.84 -35634810.76 0.0089 0.0075

Neptune -102276-06-12 17:30 J -35634722.85 -35634722.77 -35634722.67 0.0089 0.0071

Neptune -102276-09-08 19:25 J -35634634.77 -35634634.69 -35634634.57 0.0089 0.0067

Neptune -102276-12-05 21:49 J -35634546.70 -35634546.59 -35634546.48 0.0089 0.0062

Earth -102276-12-14 09:35 J -35634538.23 -35634538.10 -35634537.98 0.2671 0.1224

Moon -102276-12-14 10:18 J -35634538.20 -35634538.07 -35634537.95 0.2666 0.1244 *

Venus -102275-03-02 20:52 J -35634459.73 -35634459.63 -35634459.53 0.3769 0.1726

Neptune -102275-03-03 23:45 J -35634458.62 -35634458.51 -35634458.39 0.0089 0.0058

Neptune -102275-05-31 01:54 J -35634370.54 -35634370.42 -35634370.30 0.0089 0.0053

Jupiter -102275-07-26 04:04 J -35634314.45 -35634314.33 -35634314.20 0.0524 0.0300

Neptune -102275-08-27 03:49 J -35634282.46 -35634282.34 -35634282.21 0.0089 0.0049

Jupiter -102275-10-23 21:49 J -35634224.72 -35634224.59 -35634224.46 0.0527 0.0243

Mars -102275-10-27 13:54 J -35634221.02 -35634220.92 -35634220.83 0.1864 0.1220

Neptune -102275-11-23 05:59 J -35634194.38 -35634194.25 -35634194.12 0.0089 0.0044

Neptune -102274-02-19 07:54 J -35634106.30 -35634106.17 -35634106.03 0.0089 0.0040

Neptune -102274-05-18 10:04 J -35634018.22 -35634018.08 -35634017.93 0.0089 0.0035

Neptune -102274-08-14 11:59 J -35633930.14 -35633930.00 -35633929.84 0.0089 0.0031

Neptune -102274-11-10 14:23 J -35633842.05 -35633841.90 -35633841.75 0.0089 0.0026

Neptune -102273-02-06 16:18 J -35633753.97 -35633753.82 -35633753.66 0.0089 0.0022

Neptune -102273-05-04 18:28 J -35633665.88 -35633665.73 -35633665.57 0.0089 0.0017

Neptune -102273-07-31 20:37 J -35633577.79 -35633577.64 -35633577.48 0.0089 0.0012

Neptune -102273-10-27 22:47 J -35633489.71 -35633489.55 -35633489.39 0.0089 0.0008

Neptune -102272-01-24 00:57 J -35633401.62 -35633401.46 -35633401.30 0.0089 0.0003

Neptune -102272-04-22 03:06 J -35633313.53 -35633313.37 -35633313.21 0.0089 0.0002

Moon -102272-06-20 23:16 J -35633253.56 -35633253.53 -35633253.50 0.2668 0.2571

Earth -102272-06-20 23:45 J -35633253.54 -35633253.51 -35633253.48 0.2663 0.2542 *

Neptune -102272-07-19 05:16 J -35633225.44 -35633225.28 -35633225.12 0.0089 0.0006

Neptune -102272-10-15 07:25 J -35633137.35 -35633137.19 -35633137.03 0.0089 0.0011

Neptune -102271-01-11 09:35 J -35633049.25 -35633049.10 -35633048.94 0.0089 0.0016

Venus   -102271-03-02 14:23 J -35632999.03 -35632998.90 -35632998.78 0.3602 0.0787

Neptune -102271-04-09 11:45 J -35632961.16 -35632961.01 -35632960.85 0.0089 0.0021

Neptune -102271-07-06 14:09 J -35632873.07 -35632872.91 -35632872.76 0.0089 0.0025

Neptune -102271-10-02 16:18 J -35632784.97 -35632784.82 -35632784.67 0.0089 0.0030

Neptune -102271-12-29 18:28 J -35632696.87 -35632696.73 -35632696.58 0.0089 0.0035

Neptune -102270-03-27 20:37 J -35632608.78 -35632608.64 -35632608.49 0.0089 0.0040

Neptune -102270-06-23 22:47 J -35632520.68 -35632520.55 -35632520.40 0.0089 0.0045

Venus   -102270-09-16 16:47 J -35632435.86 -35632435.80 -35632435.73 0.3765 0.3037

Neptune -102270-09-20 00:57 J -35632432.58 -35632432.46 -35632432.31 0.0089 0.0050

Neptune -102270-12-17 03:35 J -35632344.48 -35632344.35 -35632344.22 0.0089 0.0054

Jupiter -102269-03-13 04:18 J -35632257.47 -35632257.32 -35632257.18 0.0503 0.0145

Neptune -102269-03-14 05:45 J -35632256.37 -35632256.26 -35632256.14 0.0089 0.0059

Neptune -102269-06-10 08:09 J -35632168.27 -35632168.16 -35632168.05 0.0089 0.0064

Jupiter -102269-06-10 19:54 J -35632167.78 -35632167.67 -35632167.56 0.0500 0.0337

Neptune -102269-09-06 10:18 J -35632080.16 -35632080.07 -35632079.96 0.0089 0.0069

Saturn -102269-10-30 05:01 J -35632026.40 -35632026.29 -35632026.19 0.0270 0.0195

Neptune -102269-12-03 12:42 J -35631992.05 -35631991.97 -35631991.88 0.0089 0.0074

Saturn -102268-01-26 19:11 J -35631937.84 -35631937.70 -35631937.57 0.0270 0.0121

Neptune -102268-03-01 14:52 J -35631903.94 -35631903.88 -35631903.79 0.0089 0.0079

Saturn -102268-04-25 09:06 J -35631849.27 -35631849.12 -35631848.97 0.0270 0.0048

Neptune -102268-05-28 17:16 J -35631815.82 -35631815.78 -35631815.72 0.0089 0.0084

Mars   -102268-05-30 11:30 J -35631814.15 -35631814.02 -35631813.89 0.1643 0.0658

Saturn -102268-07-22 22:47 J -35631760.70 -35631760.55 -35631760.40 0.0270 0.0025

Neptune -102268-08-24 19:54 J -35631727.67 -35631727.67 -35631727.67 0.0089 0.0089

Saturn -102268-10-19 12:13 J -35631672.13 -35631671.99 -35631671.85 0.0271 0.0096

Saturn -102267-01-16 01:25 J -35631583.55 -35631583.44 -35631583.32 0.0271 0.0166

Saturn -102267-04-14 14:23 J -35631494.97 -35631494.90 -35631494.83 0.0271 0.0234

Mars -102266-05-06 13:25 J -35631108.03 -35631107.94 -35631107.84 0.1655 0.1254

Earth -102266-07-01 01:11 J -35631052.54 -35631052.45 -35631052.37 0.2681 0.1758

Moon -102266-07-01 01:40 J -35631052.51 -35631052.43 -35631052.35 0.2676 0.1870 *

Venus -102266-09-16 12:57 J -35630975.09 -35630974.96 -35630974.84 0.3606 0.0642

Mars -102265-03-18 19:40 J -35630790.80 -35630790.68 -35630790.56 0.1868 0.0650

Jupiter -102263-05-14 04:47 J -35630004.38 -35630004.30 -35630004.22 0.0523 0.0440

Jupiter -102263-08-11 23:01 J -35629914.68 -35629914.54 -35629914.39 0.0526 0.0107

Moon -102263-12-17 11:16 J -35629787.18 -35629787.03 -35629786.89 0.2659 0.0477

Earth -102263-12-17 11:30 J -35629787.16 -35629787.02 -35629786.87 0.2666 0.0438 *

Venus -102260-04-01 11:01 J -35628951.15 -35628951.04 -35628950.93 0.3609 0.1981

Earth -102259-06-23 19:25 J -35628502.79 -35628502.69 -35628502.58 0.2667 0.1389

Moon -102259-06-23 19:40 J -35628502.78 -35628502.68 -35628502.58 0.2674 0.1371 *

Mars -102259-10-20 17:45 J -35628383.86 -35628383.76 -35628383.65 0.1641 0.1090

Jupiter -102258-12-31 06:13 J -35627947.37 -35627947.24 -35627947.11 0.0504 0.0262

Jupiter -102257-03-29 21:21 J -35627857.74 -35627857.61 -35627857.46 0.0500 0.0218

Mars -102257-09-25 18:28 J -35627677.86 -35627677.73 -35627677.60 0.1652 0.0768

Uranus -102256-06-11 22:04 J -35627418.64 -35627418.58 -35627418.50 0.0144 0.0129

Mars -102256-08-09 01:25 J -35627360.57 -35627360.44 -35627360.32 0.1873 0.0078

Uranus -102256-09-08 03:49 J -35627330.44 -35627330.34 -35627330.23 0.0144 0.0107

Uranus -102256-12-05 09:21 J -35627242.23 -35627242.11 -35627241.98 0.0144 0.0085

Uranus -102255-03-03 15:06 J -35627154.01 -35627153.87 -35627153.73 0.0144 0.0063

Uranus -102255-05-30 20:52 J -35627065.79 -35627065.63 -35627065.48 0.0145 0.0040

Uranus -102255-08-27 02:37 J -35626977.55 -35626977.39 -35626977.23 0.0145 0.0017

Venus -102255-10-16 08:52 J -35626927.18 -35626927.13 -35626927.08 0.3613 0.3270

Uranus -102255-11-23 08:23 J -35626889.31 -35626889.15 -35626888.99 0.0145 0.0006

Saturn -102254-02-17 03:06 J -35626803.41 -35626803.37 -35626803.31 0.0290 0.0272

Uranus -102254-02-19 14:09 J -35626801.06 -35626800.91 -35626800.74 0.0145 0.0030

Saturn -102254-05-16 20:23 J -35626714.77 -35626714.65 -35626714.53 0.0290 0.0182

Uranus -102254-05-18 20:09 J -35626712.81 -35626712.66 -35626712.50 0.0145 0.0053

Saturn -102254-08-13 13:54 J -35626626.07 -35626625.92 -35626625.77 0.0290 0.0090

Uranus -102254-08-15 02:09 J -35626624.54 -35626624.41 -35626624.27 0.0145 0.0077

Saturn -102254-11-10 07:40 J -35626537.34 -35626537.18 -35626537.02 0.0290 0.0005

Uranus -102254-11-11 08:09 J -35626536.27 -35626536.16 -35626536.04 0.0145 0.0102

Saturn -102253-02-07 01:54 J -35626448.57 -35626448.42 -35626448.27 0.0289 0.0100

Uranus -102253-02-07 14:23 J -35626447.98 -35626447.90 -35626447.82 0.0145 0.0126

Saturn -102253-05-05 20:23 J -35626359.76 -35626359.65 -35626359.52 0.0289 0.0198

Jupiter -102251-05-31 00:13 J -35625604.64 -35625604.49 -35625604.34 0.0526 0.0028

Jupiter -102251-08-28 17:16 J -35625514.82 -35625514.78 -35625514.74 0.0529 0.0508

Moon -102250-12-20 12:57 J -35625036.05 -35625035.96 -35625035.86 0.2657 0.1983

Earth -102250-12-20 14:09 J -35625036.00 -35625035.91 -35625035.83 0.2661 0.2126 *

Mars -102249-03-12 00:13 J -35624953.54 -35624953.49 -35624953.43 0.1638 0.1507

Mars -102247-02-15 23:59 J -35624247.64 -35624247.50 -35624247.36 0.1649 0.0291

Mars -102247-12-30 06:42 J -35623930.34 -35623930.22 -35623930.09 0.1876 0.0551

Earth -102246-06-26 15:06 J -35623751.98 -35623751.87 -35623751.75 0.2672 0.0259

Moon -102246-06-26 15:49 J -35623751.95 -35623751.84 -35623751.72 0.2676 0.0235 *

Jupiter -102246-10-19 08:23 J -35623637.24 -35623637.15 -35623637.05 0.0504 0.0376

Jupiter -102245-01-16 23:16 J -35623547.68 -35623547.53 -35623547.38 0.0501 0.0099

Mars -102245-12-05 07:40 J -35623224.20 -35623224.18 -35623224.15 0.1860 0.1814

Earth -102243-12-12 13:40 J -35622486.98 -35622486.93 -35622486.89 0.2676 0.2510

Moon -102243-12-12 14:37 J -35622486.94 -35622486.89 -35622486.83 0.2672 0.2458 *

Venus -102241-08-08 13:25 J -35621882.02 -35621881.94 -35621881.86 0.3782 0.2752

Jupiter -102239-03-19 01:40 J -35621294.57 -35621294.43 -35621294.28 0.0525 0.0159

Saturn -102239-03-19 05:30 J -35621294.35 -35621294.27 -35621294.17 0.0269 0.0220 *

Saturn -102239-06-15 19:54 J -35621205.80 -35621205.67 -35621205.54 0.0269 0.0146

Jupiter -102239-06-16 19:11 J -35621204.80 -35621204.70 -35621204.60 0.0528 0.0382

Saturn -102239-09-12 09:49 J -35621117.23 -35621117.09 -35621116.94 0.0270 0.0073

Saturn -102239-12-09 23:45 J -35621028.66 -35621028.51 -35621028.36 0.0270 0.0003

Saturn -102238-03-08 13:11 J -35620940.09 -35620939.95 -35620939.81 0.0270 0.0071

Saturn -102238-06-05 02:23 J -35620851.52 -35620851.40 -35620851.27 0.0270 0.0142

Mars -102238-07-09 05:45 J -35620817.40 -35620817.26 -35620817.11 0.1646 0.0167

Saturn -102238-09-01 15:35 J -35620762.94 -35620762.85 -35620762.76 0.0271 0.0210

Mars -102237-05-21 11:30 J -35620500.12 -35620500.02 -35620499.92 0.1880 0.1188

Venus -102235-02-22 08:37 J -35619858.24 -35619858.14 -35619858.04 0.3778 0.1585

Mars -102235-04-27 14:09 J -35619794.01 -35619793.91 -35619793.82 0.1864 0.1273

Jupiter -102234-08-07 10:18 J -35619327.10 -35619327.07 -35619327.05 0.0505 0.0495

Jupiter -102234-11-05 00:42 J -35619237.62 -35619237.47 -35619237.32 0.0502 0.0026

Jupiter -102233-02-02 16:33 J -35619147.86 -35619147.81 -35619147.75 0.0499 0.0459

Earth -102233-06-28 10:47 J -35619001.16 -35619001.05 -35619000.94 0.2677 0.0882

Moon -102233-06-28 11:30 J -35619001.13 -35619001.02 -35619000.91 0.2677 0.1027 *

Venus -102230-09-08 03:49 J -35617834.45 -35617834.34 -35617834.22 0.3775 0.0405

Earth -102230-12-15 15:21 J -35617735.99 -35617735.86 -35617735.72 0.2671 0.0894

Moon -102230-12-15 15:49 J -35617735.98 -35617735.84 -35617735.70 0.2664 0.0772 *

Mars -102229-11-28 11:59 J -35617387.14 -35617387.00 -35617386.87 0.1643 0.0611

Mars -102228-10-11 16:18 J -35617069.85 -35617069.82 -35617069.80 0.1883 0.1836

Jupiter -102227-01-05 02:52 J -35616984.50 -35616984.38 -35616984.25 0.0524 0.0294

Jupiter -102227-04-04 20:37 J -35616894.76 -35616894.64 -35616894.50 0.0527 0.0251

Mars -102227-11-04 13:54 J -35616681.01 -35616680.92 -35616680.83 0.1656 0.1309

Moon -102226-06-22 04:33 J -35616451.36 -35616451.31 -35616451.26 0.2670 0.2389

Earth -102226-06-22 04:47 J -35616451.36 -35616451.30 -35616451.24 0.2663 0.2298 *

Venus -102226-09-07 15:35 J -35616373.90 -35616373.85 -35616373.79 0.3597 0.3248

Mars -102226-09-17 19:54 J -35616363.79 -35616363.67 -35616363.55 0.1869 0.0702

Saturn -102225-10-02 20:09 J -35615982.75 -35615982.66 -35615982.54 0.0290 0.0213

Saturn -102225-12-30 13:54 J -35615894.07 -35615893.92 -35615893.78 0.0290 0.0121

Venus -102224-03-23 23:30 J -35615810.63 -35615810.52 -35615810.41 0.3771 0.0863

Saturn -102224-03-29 07:40 J -35615805.34 -35615805.18 -35615805.03 0.0290 0.0028

Saturn -102224-06-26 01:40 J -35615716.58 -35615716.43 -35615716.27 0.0289 0.0069

Saturn -102224-09-22 20:09 J -35615627.79 -35615627.66 -35615627.53 0.0289 0.0167

Saturn -102224-12-20 15:06 J -35615538.93 -35615538.87 -35615538.81 0.0289 0.0265

Jupiter -102222-08-24 02:37 J -35614927.54 -35614927.39 -35614927.25 0.0503 0.0145

Jupiter -102222-11-21 18:13 J -35614837.86 -35614837.74 -35614837.63 0.0500 0.0337

Venus -102220-03-23 14:52 J -35614350.00 -35614349.88 -35614349.77 0.3600 0.1748

Earth -102220-07-01 06:13 J -35614250.32 -35614250.24 -35614250.17 0.2682 0.1995

Moon -102220-07-01 06:42 J -35614250.30 -35614250.22 -35614250.14 0.2676 0.1976 *

Mars -102219-04-20 17:59 J -35613956.86 -35613956.75 -35613956.64 0.1641 0.1042

Venus -102219-10-07 19:25 J -35613786.78 -35613786.69 -35613786.59 0.3767 0.2144

Mars -102217-03-26 18:57 J -35613250.84 -35613250.71 -35613250.58 0.1652 0.0819

Uranus -102217-11-07 11:45 J -35613025.04 -35613025.01 -35613024.97 0.0135 0.0131

Moon -102217-12-17 17:16 J -35612984.92 -35612984.78 -35612984.64 0.2659 0.0642

Earth -102217-12-17 17:45 J -35612984.90 -35612984.76 -35612984.63 0.2665 0.0777 *

Uranus -102216-02-03 16:04 J -35612936.90 -35612936.83 -35612936.73 0.0134 0.0113

Mars -102216-02-07 01:40 J -35612933.56 -35612933.43 -35612933.30 0.1873 0.0119

Uranus -102216-05-02 20:37 J -35612848.74 -35612848.64 -35612848.52 0.0134 0.0095

Uranus -102216-07-30 01:11 J -35612760.57 -35612760.45 -35612760.31 0.0134 0.0076

Jupiter -102216-10-24 03:06 J -35612674.45 -35612674.37 -35612674.29 0.0523 0.0437

Uranus -102216-10-26 05:45 J -35612672.40 -35612672.26 -35612672.12 0.0134 0.0058

Jupiter -102215-01-21 21:21 J -35612584.75 -35612584.61 -35612584.46 0.0526 0.0110

Uranus -102215-01-22 10:04 J -35612584.22 -35612584.08 -35612583.93 0.0134 0.0041

Uranus -102215-04-20 14:23 J -35612496.05 -35612495.90 -35612495.74 0.0134 0.0023

Uranus -102215-07-17 18:42 J -35612407.87 -35612407.72 -35612407.56 0.0134 0.0006

Venus -102215-10-07 13:40 J -35612326.06 -35612325.93 -35612325.80 0.3603 0.0312

Uranus -102215-10-13 23:01 J -35612319.69 -35612319.54 -35612319.39 0.0134 0.0012

Uranus -102214-01-10 03:06 J -35612231.51 -35612231.37 -35612231.21 0.0134 0.0030

Uranus -102214-04-08 07:25 J -35612143.33 -35612143.19 -35612143.05 0.0134 0.0046

Uranus -102214-07-05 11:30 J -35612055.15 -35612055.02 -35612054.88 0.0133 0.0063

Uranus -102214-10-01 15:35 J -35611966.97 -35611966.85 -35611966.72 0.0133 0.0079

Uranus -102214-12-28 19:25 J -35611878.78 -35611878.69 -35611878.57 0.0133 0.0097

Uranus -102213-03-25 23:30 J -35611790.59 -35611790.52 -35611790.43 0.0133 0.0113

Venus -102213-04-22 15:35 J -35611762.89 -35611762.85 -35611762.81 0.3763 0.3463

Uranus -102213-06-22 03:35 J -35611702.38 -35611702.35 -35611702.30 0.0133 0.0128

Earth -102213-06-24 00:42 J -35611700.58 -35611700.47 -35611700.37 0.2668 0.1149

Moon -102213-06-24 00:57 J -35611700.57 -35611700.46 -35611700.36 0.2674 0.1123 *

Jupiter -102210-06-12 04:04 J -35610617.45 -35610617.33 -35610617.20 0.0504 0.0265

Saturn -102210-08-06 08:23 J -35610562.22 -35610562.15 -35610562.07 0.0270 0.0237

Jupiter -102210-09-09 19:25 J -35610527.83 -35610527.69 -35610527.55 0.0501 0.0215

Mars -102210-09-11 00:42 J -35610526.53 -35610526.47 -35610526.41 0.1638 0.1458

Saturn -102210-11-02 22:47 J -35610473.67 -35610473.55 -35610473.43 0.0270 0.0163

Saturn -102209-01-30 12:42 J -35610385.11 -35610384.97 -35610384.82 0.0270 0.0090

Venus -102209-04-22 11:59 J -35610302.12 -35610302.00 -35610301.87 0.3607 0.1087

Saturn -102209-04-28 02:37 J -35610296.54 -35610296.39 -35610296.24 0.0270 0.0017

Saturn -102209-07-25 16:18 J -35610207.97 -35610207.82 -35610207.67 0.0271 0.0056

Saturn -102209-10-22 05:45 J -35610119.39 -35610119.26 -35610119.13 0.0271 0.0127

Saturn -102208-01-18 18:57 J -35610030.81 -35610030.71 -35610030.61 0.0271 0.0197

Saturn -102208-04-17 07:40 J -35609942.20 -35609942.18 -35609942.14 0.0272 0.0265

Mars -102208-08-17 00:28 J -35609820.63 -35609820.48 -35609820.34 0.1649 0.0347

Mars -102207-06-30 06:42 J -35609503.34 -35609503.22 -35609503.09 0.1876 0.0506

Venus -102204-11-06 10:04 J -35608278.17 -35608278.08 -35608277.98 0.3610 0.2413

Jupiter -102204-11-09 22:18 J -35608274.72 -35608274.57 -35608274.42 0.0525 0.0029

Moon -102204-12-20 18:57 J -35608233.77 -35608233.71 -35608233.66 0.2658 0.2422

Earth -102204-12-20 20:09 J -35608233.71 -35608233.66 -35608233.61 0.2660 0.2472 *

Jupiter -102203-02-07 15:21 J -35608184.90 -35608184.86 -35608184.82 0.0528 0.0505

Earth -102200-06-26 20:23 J -35606949.77 -35606949.65 -35606949.54 0.2673 0.0084

Moon -102200-06-26 21:06 J -35606949.74 -35606949.62 -35606949.51 0.2677 0.0125 *

Mars -102198-01-07 06:13 J -35606390.39 -35606390.24 -35606390.10 0.1646 0.0124

Jupiter -102198-03-31 06:13 J -35606307.34 -35606307.24 -35606307.14 0.0505 0.0380

Jupiter -102198-06-28 21:06 J -35606217.77 -35606217.62 -35606217.47 0.0501 0.0095

Mars -102198-11-20 11:45 J -35606073.11 -35606073.01 -35606072.90 0.1880 0.1133

Earth -102197-12-12 19:25 J -35605684.77 -35605684.69 -35605684.61 0.2675 0.2189

Moon -102197-12-12 20:37 J -35605684.73 -35605684.64 -35605684.55 0.2671 0.2040 *

Mars -102196-10-26 14:09 J -35605367.00 -35605366.91 -35605366.82 0.1864 0.1319

Saturn -102195-02-19 22:47 J -35605250.64 -35605250.55 -35605250.45 0.0290 0.0230

Saturn -102195-05-19 16:04 J -35605161.96 -35605161.83 -35605161.69 0.0290 0.0139

Saturn -102195-08-16 09:49 J -35605073.25 -35605073.09 -35605072.93 0.0290 0.0046

Neptune -102195-10-05 15:21 J -35605022.88 -35605022.86 -35605022.82 0.0089 0.0087

Saturn -102195-11-13 03:49 J -35604984.50 -35604984.34 -35604984.18 0.0289 0.0049

Neptune -102194-01-01 17:45 J -35604934.81 -35604934.76 -35604934.69 0.0088 0.0082

Saturn -102194-02-09 22:04 J -35604895.71 -35604895.58 -35604895.43 0.0289 0.0146

Neptune -102194-03-30 20:09 J -35604846.73 -35604846.66 -35604846.57 0.0088 0.0077

Saturn -102194-05-09 17:01 J -35604806.88 -35604806.79 -35604806.71 0.0289 0.0244

Neptune -102194-06-26 22:47 J -35604758.64 -35604758.55 -35604758.46 0.0088 0.0072

Neptune -102194-09-23 01:11 J -35604670.56 -35604670.45 -35604670.35 0.0088 0.0067

Neptune -102194-12-20 03:06 J -35604582.47 -35604582.37 -35604582.24 0.0088 0.0063

Neptune -102193-03-17 05:30 J -35604494.38 -35604494.27 -35604494.13 0.0088 0.0058

Neptune -102193-06-13 07:54 J -35604406.29 -35604406.17 -35604406.03 0.0088 0.0053

Neptune -102193-09-09 10:18 J -35604318.20 -35604318.07 -35604317.93 0.0088 0.0048

Neptune -102193-12-06 12:42 J -35604230.11 -35604229.97 -35604229.83 0.0088 0.0043

Neptune -102192-03-04 15:06 J -35604142.02 -35604141.87 -35604141.73 0.0088 0.0038

Neptune -102192-05-31 17:01 J -35604053.93 -35604053.79 -35604053.63 0.0088 0.0034

Neptune -102192-08-27 19:25 J -35603965.84 -35603965.69 -35603965.53 0.0088 0.0029

Jupiter -102192-08-28 23:16 J -35603964.68 -35603964.53 -35603964.39 0.0525 0.0167

Neptune -102192-11-23 21:49 J -35603877.74 -35603877.59 -35603877.43 0.0088 0.0024

Jupiter -102192-11-26 16:47 J -35603874.91 -35603874.80 -35603874.70 0.0528 0.0373

Neptune -102191-02-19 23:59 J -35603789.65 -35603789.50 -35603789.34 0.0088 0.0019

Neptune -102191-05-19 02:09 J -35603701.56 -35603701.41 -35603701.24 0.0088 0.0015

Neptune -102191-08-15 04:33 J -35603613.47 -35603613.31 -35603613.15 0.0088 0.0009

Neptune -102191-11-11 06:42 J -35603525.38 -35603525.22 -35603525.06 0.0088 0.0005

Neptune -102190-02-07 08:52 J -35603437.29 -35603437.13 -35603436.97 0.0088 0.0002

Neptune -102190-05-06 11:01 J -35603349.19 -35603349.04 -35603348.88 0.0088 0.0006

Neptune -102190-08-02 13:25 J -35603261.10 -35603260.94 -35603260.79 0.0088 0.0010

Venus -102190-08-30 16:47 J -35603232.84 -35603232.80 -35603232.76 0.3784 0.3500

Neptune -102190-10-29 15:21 J -35603173.01 -35603172.86 -35603172.70 0.0088 0.0015

Neptune -102189-01-25 17:45 J -35603084.92 -35603084.76 -35603084.61 0.0088 0.0019

Neptune -102189-04-22 19:40 J -35602996.83 -35602996.68 -35602996.52 0.0088 0.0024

Mars -102189-05-29 11:59 J -35602960.13 -35602960.00 -35602959.86 0.1643 0.0565

Neptune -102189-07-19 22:04 J -35602908.73 -35602908.58 -35602908.43 0.0088 0.0028

Neptune -102189-10-15 23:59 J -35602820.64 -35602820.50 -35602820.35 0.0088 0.0032

Neptune -102188-01-12 02:09 J -35602732.55 -35602732.41 -35602732.27 0.0088 0.0037

Neptune -102188-04-10 04:04 J -35602644.46 -35602644.33 -35602644.18 0.0088 0.0042

Mars -102188-04-11 16:33 J -35602642.85 -35602642.81 -35602642.77 0.1883 0.1782

Neptune -102188-07-07 06:28 J -35602556.37 -35602556.23 -35602556.10 0.0088 0.0046

Neptune -102188-10-03 08:23 J -35602468.27 -35602468.15 -35602468.02 0.0088 0.0050

Neptune -102188-12-30 10:33 J -35602380.18 -35602380.06 -35602379.94 0.0088 0.0055

Neptune -102187-03-28 12:13 J -35602292.09 -35602291.99 -35602291.86 0.0088 0.0060

Mars -102187-05-05 14:09 J -35602253.99 -35602253.91 -35602253.83 0.1655 0.1357

Neptune -102187-06-24 14:37 J -35602203.99 -35602203.89 -35602203.78 0.0088 0.0064

Earth -102187-06-29 15:49 J -35602198.95 -35602198.84 -35602198.73 0.2677 0.1119

Moon -102187-06-29 16:33 J -35602198.91 -35602198.81 -35602198.70 0.2675 0.1140 *

Neptune -102187-09-20 16:18 J -35602115.90 -35602115.82 -35602115.71 0.0088 0.0069

Neptune -102187-12-17 18:28 J -35602027.80 -35602027.73 -35602027.63 0.0088 0.0073

Jupiter -102186-01-17 08:23 J -35601997.17 -35601997.15 -35601997.11 0.0505 0.0494

Neptune -102186-03-15 20:37 J -35601939.71 -35601939.64 -35601939.56 0.0088 0.0077

Mars -102186-03-18 20:09 J -35601936.78 -35601936.66 -35601936.55 0.1869 0.0754

Jupiter -102186-04-16 23:01 J -35601907.69 -35601907.54 -35601907.39 0.0502 0.0023

Neptune -102186-06-11 22:18 J -35601851.61 -35601851.57 -35601851.49 0.0088 0.0082

Jupiter -102186-07-15 14:52 J -35601817.93 -35601817.88 -35601817.82 0.0499 0.0462

Neptune -102186-09-08 00:28 J -35601763.50 -35601763.48 -35601763.43 0.0088 0.0086

Venus -102184-03-15 11:45 J -35601209.09 -35601209.01 -35601208.92 0.3780 0.2364

Earth -102184-12-15 21:21 J -35600933.75 -35600933.61 -35600933.47 0.2670 0.0559

Moon -102184-12-15 21:35 J -35600933.74 -35600933.60 -35600933.46 0.2663 0.0619 *

Saturn -102181-12-23 09:35 J -35599830.14 -35599830.10 -35599830.07 0.0269 0.0260

Saturn -102180-03-21 23:59 J -35599741.61 -35599741.50 -35599741.39 0.0269 0.0186

Jupiter -102180-06-17 00:28 J -35599654.60 -35599654.48 -35599654.35 0.0524 0.0300

Saturn -102180-06-18 14:09 J -35599653.05 -35599652.91 -35599652.77 0.0269 0.0112

Moon -102180-06-22 09:35 J -35599649.17 -35599649.10 -35599649.02 0.2670 0.2047

Earth -102180-06-22 10:04 J -35599649.16 -35599649.08 -35599649.01 0.2664 0.2057 *

Jupiter -102180-09-14 18:28 J -35599564.86 -35599564.73 -35599564.60 0.0527 0.0245

Saturn -102180-09-15 04:04 J -35599564.48 -35599564.33 -35599564.18 0.0270 0.0039

Mars -102180-10-19 18:28 J -35599529.84 -35599529.73 -35599529.62 0.1641 0.0991

Saturn -102180-12-12 17:45 J -35599475.91 -35599475.76 -35599475.62 0.0270 0.0034

Saturn -102179-03-11 06:57 J -35599387.34 -35599387.21 -35599387.07 0.0270 0.0105

Saturn -102179-06-07 20:09 J -35599298.77 -35599298.66 -35599298.54 0.0271 0.0174

Saturn -102179-09-04 09:06 J -35599210.17 -35599210.12 -35599210.05 0.0271 0.0243

Venus -102179-09-29 06:57 J -35599185.32 -35599185.21 -35599185.10 0.3777 0.1192

Mars -102178-09-25 19:11 J -35598823.82 -35598823.70 -35598823.57 0.1652 0.0872

Mars -102177-08-08 01:54 J -35598506.55 -35598506.42 -35598506.29 0.1872 0.0172

Jupiter -102174-02-03 00:42 J -35597597.62 -35597597.47 -35597597.33 0.0503 0.0145

Jupiter -102174-05-03 16:04 J -35597507.94 -35597507.83 -35597507.71 0.0500 0.0336

Earth -102174-07-02 11:16 J -35597448.10 -35597448.03 -35597447.97 0.2682 0.2227

Moon -102174-07-02 11:45 J -35597448.07 -35597448.01 -35597447.96 0.2677 0.2334 *

Venus -102173-04-14 02:23 J -35597161.51 -35597161.40 -35597161.28 0.3774 0.0048

Uranus -102172-07-02 05:01 J -35596717.36 -35596717.29 -35596717.21 0.0144 0.0126

Uranus -102172-09-28 10:33 J -35596629.16 -35596629.06 -35596628.94 0.0144 0.0104

Uranus -102172-12-25 16:04 J -35596540.95 -35596540.83 -35596540.69 0.0144 0.0082

Uranus -102171-03-23 21:49 J -35596452.73 -35596452.59 -35596452.44 0.0145 0.0059

Uranus -102171-06-20 03:35 J -35596364.50 -35596364.35 -35596364.19 0.0145 0.0036

Uranus -102171-09-16 09:21 J -35596276.27 -35596276.11 -35596275.95 0.0145 0.0014

Uranus -102171-12-13 15:06 J -35596188.03 -35596187.87 -35596187.70 0.0145 0.0011

Moon -102171-12-18 23:01 J -35596182.67 -35596182.54 -35596182.41 0.2659 0.1140

Earth -102171-12-18 23:45 J -35596182.64 -35596182.51 -35596182.38 0.2665 0.1115 *

Uranus -102170-03-11 21:06 J -35596099.78 -35596099.62 -35596099.46 0.0145 0.0033

Mars -102170-03-12 00:57 J -35596099.53 -35596099.46 -35596099.39 0.1638 0.1412 *

Uranus -102170-06-08 02:52 J -35596011.52 -35596011.38 -35596011.22 0.0145 0.0058

Uranus -102170-09-04 08:52 J -35595923.26 -35595923.13 -35595922.99 0.0145 0.0081

Uranus -102170-12-01 14:52 J -35595834.98 -35595834.88 -35595834.76 0.0145 0.0106

Uranus -102169-02-27 21:06 J -35595746.69 -35595746.62 -35595746.54 0.0145 0.0130

Venus -102169-04-13 15:06 J -35595700.95 -35595700.87 -35595700.78 0.3598 0.2745

Mars -102168-02-15 00:42 J -35595393.61 -35595393.47 -35595393.33 0.1649 0.0399

Jupiter -102168-04-05 01:25 J -35595344.52 -35595344.44 -35595344.35 0.0523 0.0435

Jupiter -102168-07-03 19:54 J -35595254.81 -35595254.67 -35595254.52 0.0526 0.0114

Venus -102168-10-28 22:04 J -35595137.69 -35595137.58 -35595137.47 0.3770 0.1278

Mars -102168-12-29 07:11 J -35595076.33 -35595076.20 -35595076.08 0.1877 0.0449

Earth -102167-06-25 05:45 J -35594898.37 -35594898.26 -35594898.15 0.2668 0.0904

Moon -102167-06-25 06:13 J -35594898.35 -35594898.24 -35594898.13 0.2674 0.0898 *

Saturn -102166-07-09 22:47 J -35594518.61 -35594518.55 -35594518.48 0.0290 0.0260

Saturn -102166-10-06 16:04 J -35594429.96 -35594429.83 -35594429.71 0.0290 0.0170

Saturn -102165-01-03 09:35 J -35594341.25 -35594341.10 -35594340.95 0.0290 0.0077

Saturn -102165-04-01 03:35 J -35594252.51 -35594252.35 -35594252.19 0.0290 0.0019

Saturn -102165-06-28 21:49 J -35594163.74 -35594163.59 -35594163.44 0.0289 0.0114

Saturn -102165-09-25 16:18 J -35594074.92 -35594074.82 -35594074.71 0.0289 0.0212

Venus -102164-10-28 14:23 J -35593677.03 -35593676.90 -35593676.78 0.3601 0.1271

Jupiter -102163-11-22 02:23 J -35593287.53 -35593287.40 -35593287.27 0.0504 0.0264

Jupiter -102162-02-19 17:30 J -35593197.90 -35593197.77 -35593197.63 0.0501 0.0214

Venus -102162-05-14 17:59 J -35593113.83 -35593113.75 -35593113.66 0.3766 0.2569

Mars -102159-07-08 06:28 J -35591963.38 -35591963.23 -35591963.09 0.1646 0.0068

Venus -102158-05-14 12:57 J -35591653.09 -35591652.96 -35591652.83 0.3604 0.0167

Mars -102158-05-21 11:59 J -35591646.11 -35591646.00 -35591645.89 0.1880 0.1079

Moon -102158-12-22 00:57 J -35591431.49 -35591431.46 -35591431.44 0.2658 0.2610

Jupiter -102156-04-21 20:37 J -35590944.79 -35590944.64 -35590944.49 0.0525 0.0027

Mars -102156-04-26 14:09 J -35590939.99 -35590939.91 -35590939.82 0.1865 0.1371

Jupiter -102156-07-20 13:40 J -35590854.97 -35590854.93 -35590854.89 0.0528 0.0506

Earth -102154-06-28 01:25 J -35590147.56 -35590147.44 -35590147.32 0.2673 0.0235

Moon -102154-06-28 02:09 J -35590147.53 -35590147.41 -35590147.29 0.2676 0.0287 *

Venus -102153-11-27 11:30 J -35589629.14 -35589629.02 -35589628.91 0.3608 0.1533

Saturn -102151-08-09 02:37 J -35589009.49 -35589009.39 -35589009.29 0.0270 0.0203

Jupiter -102151-09-10 04:04 J -35588977.43 -35588977.33 -35588977.24 0.0505 0.0385

Saturn -102151-11-05 16:47 J -35588920.93 -35588920.80 -35588920.67 0.0270 0.0129

Jupiter -102151-12-08 18:57 J -35588887.86 -35588887.71 -35588887.56 0.0502 0.0091

Earth -102151-12-14 01:25 J -35588882.54 -35588882.44 -35588882.34 0.2675 0.1866

Moon -102151-12-14 02:09 J -35588882.51 -35588882.41 -35588882.30 0.2670 0.1797 *

Saturn -102150-02-02 06:42 J -35588832.36 -35588832.22 -35588832.07 0.0270 0.0056

Saturn -102150-05-01 20:37 J -35588743.79 -35588743.64 -35588743.49 0.0271 0.0019

Saturn -102150-07-29 10:04 J -35588655.22 -35588655.08 -35588654.94 0.0271 0.0089

Saturn -102150-10-25 23:16 J -35588566.65 -35588566.53 -35588566.41 0.0271 0.0159

Mars -102150-11-28 12:28 J -35588533.12 -35588532.98 -35588532.84 0.1643 0.0510

Saturn -102149-01-22 12:13 J -35588478.06 -35588477.99 -35588477.90 0.0272 0.0229

Mars -102149-10-10 16:33 J -35588215.86 -35588215.81 -35588215.76 0.1883 0.1730

Mars -102148-11-03 14:37 J -35587826.96 -35587826.89 -35587826.82 0.1655 0.1416

Venus -102147-06-13 09:21 J -35587605.19 -35587605.11 -35587605.03 0.3612 0.2834

Mars -102147-09-16 20:23 J -35587509.77 -35587509.65 -35587509.54 0.1869 0.0809

Jupiter -102144-02-07 21:21 J -35586634.75 -35586634.61 -35586634.47 0.0524 0.0167

Jupiter -102144-05-08 14:52 J -35586544.98 -35586544.88 -35586544.78 0.0527 0.0372

Earth -102141-06-29 20:52 J -35585396.73 -35585396.63 -35585396.53 0.2678 0.1351

Moon -102141-06-29 21:35 J -35585396.69 -35585396.60 -35585396.50 0.2675 0.1474 *

Mars -102140-04-19 18:42 J -35585102.84 -35585102.72 -35585102.61 0.1640 0.0948

Jupiter -102139-06-29 06:13 J -35584667.26 -35584667.24 -35584667.22 0.0505 0.0499

Jupiter -102139-09-26 20:37 J -35584577.79 -35584577.64 -35584577.49 0.0502 0.0030

Jupiter -102139-12-25 12:28 J -35584488.03 -35584487.98 -35584487.91 0.0499 0.0456

Mars -102138-03-26 19:40 J -35584396.80 -35584396.68 -35584396.56 0.1652 0.0924

Moon -102138-12-17 03:21 J -35584131.50 -35584131.36 -35584131.21 0.2662 0.0166

Earth -102138-12-17 03:21 J -35584131.50 -35584131.36 -35584131.22 0.2669 0.0227 *

Mars -102137-02-07 01:54 J -35584079.55 -35584079.42 -35584079.29 0.1873 0.0217

Saturn -102137-11-26 01:40 J -35583786.47 -35583786.43 -35583786.38 0.0290 0.0275

Saturn -102136-02-22 18:57 J -35583697.83 -35583697.71 -35583697.59 0.0290 0.0185

Saturn -102136-05-22 12:13 J -35583609.13 -35583608.99 -35583608.83 0.0290 0.0094

Saturn -102136-08-19 06:13 J -35583520.40 -35583520.24 -35583520.08 0.0289 0.0002

Saturn -102136-11-16 00:13 J -35583431.64 -35583431.49 -35583431.33 0.0289 0.0097

Saturn -102135-02-12 18:57 J -35583342.83 -35583342.71 -35583342.59 0.0289 0.0194

Moon -102134-06-23 14:52 J -35582846.96 -35582846.88 -35582846.80 0.2671 0.1899

Earth -102134-06-23 15:06 J -35582846.96 -35582846.87 -35582846.79 0.2664 0.1816 *

Venus -102133-04-05 15:06 J -35582559.93 -35582559.87 -35582559.81 0.3783 0.3119

Jupiter -102133-11-26 21:49 J -35582324.71 -35582324.59 -35582324.46 0.0524 0.0309

Uranus -102133-11-27 18:42 J -35582323.76 -35582323.72 -35582323.67 0.0135 0.0127

Uranus -102132-02-23 23:16 J -35582235.62 -35582235.53 -35582235.44 0.0134 0.0109

Jupiter -102132-02-24 15:49 J -35582234.97 -35582234.84 -35582234.70 0.0527 0.0236

Uranus -102132-05-23 03:49 J -35582147.45 -35582147.34 -35582147.22 0.0134 0.0090

Uranus -102132-08-19 08:09 J -35582059.28 -35582059.16 -35582059.02 0.0134 0.0073

Uranus -102132-11-15 12:28 J -35581971.11 -35581970.98 -35581970.83 0.0134 0.0055

Uranus -102131-02-11 17:01 J -35581882.94 -35581882.79 -35581882.64 0.0134 0.0037

Uranus -102131-05-10 21:21 J -35581794.76 -35581794.61 -35581794.45 0.0134 0.0020

Uranus -102131-08-07 01:40 J -35581706.58 -35581706.43 -35581706.27 0.0134 0.0003

Mars -102131-09-10 01:11 J -35581672.53 -35581672.45 -35581672.37 0.1638 0.1367

Uranus -102131-11-03 05:59 J -35581618.40 -35581618.25 -35581618.10 0.0134 0.0015

Uranus -102130-01-30 10:04 J -35581530.22 -35581530.08 -35581529.93 0.0134 0.0033

Uranus -102130-04-28 14:09 J -35581442.04 -35581441.91 -35581441.76 0.0134 0.0050

Uranus -102130-07-25 18:28 J -35581353.86 -35581353.73 -35581353.60 0.0133 0.0066

Uranus -102130-10-21 22:33 J -35581265.67 -35581265.56 -35581265.44 0.0133 0.0082

Uranus -102129-01-18 02:23 J -35581177.49 -35581177.40 -35581177.29 0.0133 0.0099

Uranus -102129-04-15 06:28 J -35581089.29 -35581089.23 -35581089.15 0.0133 0.0115

Pluto -102129-06-12 07:54 J -35581031.23 -35581031.17 -35581031.07 0.0060 0.0055

Uranus -102129-07-12 10:33 J -35581001.08 -35581001.06 -35581001.03 0.0133 0.0131

Mars -102129-08-16 00:57 J -35580966.60 -35580966.46 -35580966.32 0.1649 0.0442

Pluto -102129-09-08 09:21 J -35580943.21 -35580943.11 -35580942.97 0.0060 0.0048

Pluto -102129-12-05 10:47 J -35580855.17 -35580855.05 -35580854.88 0.0060 0.0041

Pluto -102128-03-03 12:42 J -35580767.13 -35580766.97 -35580766.80 0.0060 0.0033

Pluto -102128-05-30 13:54 J -35580679.08 -35580678.92 -35580678.73 0.0060 0.0026

Mars -102128-06-29 07:11 J -35580649.32 -35580649.20 -35580649.07 0.1877 0.0395

Earth -102128-07-02 16:18 J -35580645.87 -35580645.82 -35580645.78 0.2683 0.2459

Moon -102128-07-02 16:33 J -35580645.86 -35580645.81 -35580645.76 0.2677 0.2419 *

Pluto -102128-08-26 15:35 J -35580591.03 -35580590.85 -35580590.65 0.0061 0.0018

Venus -102128-10-20 10:18 J -35580536.17 -35580536.07 -35580535.98 0.3779 0.1976

Pluto -102128-11-22 17:16 J -35580502.97 -35580502.78 -35580502.58 0.0061 0.0011

Pluto -102127-02-18 18:42 J -35580414.91 -35580414.72 -35580414.52 0.0061 0.0004

Pluto -102127-05-17 20:09 J -35580326.85 -35580326.66 -35580326.46 0.0061 0.0004

Jupiter -102127-07-15 22:47 J -35580267.69 -35580267.55 -35580267.40 0.0503 0.0144

Pluto -102127-08-13 21:49 J -35580238.78 -35580238.59 -35580238.40 0.0061 0.0011

Jupiter -102127-10-13 14:23 J -35580178.02 -35580177.90 -35580177.79 0.0500 0.0337

Pluto -102127-11-09 23:01 J -35580150.71 -35580150.54 -35580150.34 0.0061 0.0019

Pluto -102126-02-06 00:28 J -35580062.64 -35580062.48 -35580062.28 0.0061 0.0026

Pluto -102126-05-05 02:23 J -35579974.56 -35579974.40 -35579974.23 0.0061 0.0033

Pluto -102126-08-01 03:21 J -35579886.48 -35579886.36 -35579886.19 0.0061 0.0042

Pluto -102126-10-28 05:16 J -35579798.39 -35579798.28 -35579798.15 0.0061 0.0048

Pluto -102125-01-24 06:28 J -35579710.28 -35579710.23 -35579710.13 0.0061 0.0056

Moon -102125-12-19 04:47 J -35579380.43 -35579380.30 -35579380.18 0.2659 0.1285

Earth -102125-12-19 05:45 J -35579380.38 -35579380.26 -35579380.14 0.2664 0.1455 *

Venus -102122-05-06 05:30 J -35578512.38 -35578512.27 -35578512.16 0.3776 0.0790

Saturn -102122-12-27 03:49 J -35578277.42 -35578277.34 -35578277.25 0.0269 0.0225

Saturn -102121-03-24 18:13 J -35578188.87 -35578188.74 -35578188.61 0.0269 0.0151

Saturn -102121-06-21 08:09 J -35578100.30 -35578100.16 -35578100.01 0.0270 0.0078

Earth -102121-06-25 10:47 J -35578096.16 -35578096.05 -35578095.93 0.2669 0.0668

Moon -102121-06-25 11:16 J -35578096.14 -35578096.03 -35578095.91 0.2675 0.0579 *

Jupiter -102121-09-14 23:01 J -35578014.62 -35578014.54 -35578014.46 0.0523 0.0443

Saturn -102121-09-17 22:04 J -35578011.73 -35578011.58 -35578011.43 0.0270 0.0004

Jupiter -102121-12-13 17:30 J -35577924.92 -35577924.77 -35577924.62 0.0527 0.0106

Saturn -102121-12-15 11:30 J -35577923.16 -35577923.02 -35577922.87 0.0270 0.0068

Saturn -102120-03-14 00:57 J -35577834.59 -35577834.46 -35577834.33 0.0270 0.0138

Saturn -102120-06-10 14:09 J -35577746.00 -35577745.91 -35577745.82 0.0271 0.0207

Mars -102119-01-06 06:42 J -35577536.36 -35577536.22 -35577536.07 0.1646 0.0048

Mars -102119-11-19 12:13 J -35577219.10 -35577218.99 -35577218.88 0.1880 0.1021

Mars -102117-10-25 14:37 J -35576512.97 -35576512.89 -35576512.81 0.1864 0.1429

Venus -102117-11-19 00:57 J -35576488.57 -35576488.46 -35576488.34 0.3773 0.0435

Jupiter -102115-05-04 00:28 J -35575957.61 -35575957.48 -35575957.35 0.0503 0.0264

Jupiter -102115-08-01 15:35 J -35575867.99 -35575867.85 -35575867.71 0.0500 0.0213

Venus -102113-11-18 14:52 J -35575027.99 -35575027.88 -35575027.78 0.3599 0.2245

Neptune -102112-03-22 09:35 J -35574904.13 -35574904.10 -35574904.05 0.0089 0.0085

Neptune -102112-06-18 11:30 J -35574816.07 -35574816.02 -35574815.95 0.0089 0.0081

Neptune -102112-09-14 13:25 J -35574728.00 -35574727.94 -35574727.85 0.0089 0.0077

Neptune -102112-12-11 15:35 J -35574639.93 -35574639.85 -35574639.76 0.0089 0.0072

Neptune -102111-03-09 17:30 J -35574551.86 -35574551.77 -35574551.67 0.0089 0.0068

Venus -102111-06-04 20:52 J -35574464.74 -35574464.63 -35574464.53 0.3769 0.1699

Neptune -102111-06-05 19:25 J -35574463.79 -35574463.69 -35574463.57 0.0089 0.0064

Neptune -102111-09-01 21:35 J -35574375.71 -35574375.60 -35574375.48 0.0089 0.0059

Neptune -102111-11-28 23:30 J -35574287.63 -35574287.52 -35574287.39 0.0089 0.0055

Neptune -102110-02-25 01:40 J -35574199.55 -35574199.43 -35574199.30 0.0089 0.0050

Neptune -102110-05-24 03:35 J -35574111.47 -35574111.35 -35574111.21 0.0089 0.0046

Mars -102110-05-29 12:42 J -35574106.11 -35574105.97 -35574105.83 0.1643 0.0464

Neptune -102110-08-20 05:45 J -35574023.39 -35574023.26 -35574023.12 0.0089 0.0041

Neptune -102110-11-16 07:40 J -35573935.31 -35573935.18 -35573935.03 0.0089 0.0037

Neptune -102109-02-12 09:49 J -35573847.23 -35573847.09 -35573846.94 0.0089 0.0032

Mars -102109-04-10 16:47 J -35573788.85 -35573788.80 -35573788.74 0.1883 0.1673

Neptune -102109-05-10 11:59 J -35573759.14 -35573759.00 -35573758.85 0.0089 0.0028

Neptune -102109-08-06 14:09 J -35573671.06 -35573670.91 -35573670.76 0.0089 0.0023

Jupiter -102109-10-01 18:57 J -35573614.86 -35573614.71 -35573614.56 0.0526 0.0026

Neptune -102109-11-02 16:04 J -35573582.97 -35573582.83 -35573582.67 0.0089 0.0019

Jupiter -102109-12-30 11:59 J -35573525.03 -35573525.00 -35573524.96 0.0529 0.0509

Neptune -102108-01-29 18:13 J -35573494.89 -35573494.74 -35573494.58 0.0089 0.0014

Neptune -102108-04-27 20:23 J -35573406.80 -35573406.65 -35573406.49 0.0089 0.0009

Mars -102108-05-04 14:52 J -35573399.94 -35573399.88 -35573399.81 0.1655 0.1471

Earth -102108-06-28 06:28 J -35573345.35 -35573345.23 -35573345.11 0.2674 0.0471

Moon -102108-06-28 07:11 J -35573345.31 -35573345.20 -35573345.08 0.2675 0.0542 *

Neptune -102108-07-24 22:33 J -35573318.71 -35573318.56 -35573318.40 0.0089 0.0005

Neptune -102108-10-21 00:42 J -35573230.62 -35573230.47 -35573230.31 0.0089 0.0001

Neptune -102107-01-17 02:52 J -35573142.54 -35573142.38 -35573142.22 0.0089 0.0005

Mars -102107-03-17 20:23 J -35573082.76 -35573082.65 -35573082.54 0.1869 0.0858

Neptune -102107-04-15 05:01 J -35573054.45 -35573054.29 -35573054.13 0.0089 0.0010

Venus -102107-06-04 13:40 J -35573004.06 -35573003.93 -35573003.80 0.3602 0.0789

Neptune -102107-07-12 07:11 J -35572966.35 -35572966.20 -35572966.04 0.0089 0.0014

Saturn -102107-07-12 18:42 J -35572965.82 -35572965.72 -35572965.62 0.0290 0.0216

Neptune -102107-10-08 09:21 J -35572878.26 -35572878.11 -35572877.95 0.0089 0.0019

Saturn -102107-10-09 11:59 J -35572877.14 -35572877.00 -35572876.86 0.0290 0.0125

Neptune -102106-01-04 11:30 J -35572790.17 -35572790.02 -35572789.86 0.0089 0.0024

Saturn -102106-01-06 05:45 J -35572788.42 -35572788.26 -35572788.10 0.0290 0.0031

Neptune -102106-04-02 13:40 J -35572702.07 -35572701.93 -35572701.77 0.0089 0.0029

Saturn -102106-04-04 23:45 J -35572699.66 -35572699.51 -35572699.35 0.0289 0.0064

Neptune -102106-06-29 16:04 J -35572613.98 -35572613.83 -35572613.68 0.0089 0.0033

Saturn -102106-07-02 18:13 J -35572610.87 -35572610.74 -35572610.61 0.0289 0.0161

Neptune -102106-09-25 18:13 J -35572525.88 -35572525.74 -35572525.59 0.0089 0.0038

Saturn -102106-09-29 12:57 J -35572522.02 -35572521.96 -35572521.89 0.0289 0.0260

Venus -102106-12-19 16:47 J -35572440.87 -35572440.80 -35572440.73 0.3765 0.2991

Neptune -102106-12-22 20:23 J -35572437.78 -35572437.65 -35572437.50 0.0089 0.0043

Neptune -102105-03-19 22:33 J -35572349.68 -35572349.56 -35572349.42 0.0089 0.0048

Neptune -102105-06-16 00:42 J -35572261.58 -35572261.47 -35572261.33 0.0089 0.0053

Neptune -102105-09-12 03:06 J -35572173.48 -35572173.37 -35572173.24 0.0089 0.0058

Neptune -102105-12-09 05:16 J -35572085.38 -35572085.28 -35572085.15 0.0089 0.0063

Earth -102105-12-14 07:11 J -35572080.31 -35572080.20 -35572080.08 0.2674 0.1541

Moon -102105-12-14 07:54 J -35572080.29 -35572080.17 -35572080.05 0.2668 0.1497 *

Neptune -102104-03-07 07:54 J -35571997.27 -35571997.17 -35571997.06 0.0089 0.0067

Neptune -102104-06-03 10:04 J -35571909.16 -35571909.08 -35571908.98 0.0089 0.0072

Neptune -102104-08-30 12:28 J -35571821.05 -35571820.98 -35571820.90 0.0089 0.0077

Neptune -102104-11-26 14:37 J -35571732.94 -35571732.89 -35571732.82 0.0089 0.0082

Jupiter -102103-02-20 02:23 J -35571647.49 -35571647.40 -35571647.30 0.0504 0.0383

Neptune -102103-02-22 17:01 J -35571644.81 -35571644.79 -35571644.75 0.0089 0.0087

Jupiter -102103-05-20 17:16 J -35571557.93 -35571557.78 -35571557.63 0.0501 0.0092

Venus -102102-12-19 12:28 J -35570980.11 -35570979.98 -35570979.86 0.3606 0.0626

Mars -102101-10-18 18:57 J -35570675.83 -35570675.71 -35570675.59 0.1640 0.0897

Mars -102099-09-24 20:09 J -35569969.78 -35569969.66 -35569969.55 0.1652 0.0978

Mars -102098-08-08 02:09 J -35569652.54 -35569652.41 -35569652.28 0.1873 0.0275

Jupiter -102097-07-20 19:40 J -35569304.82 -35569304.68 -35569304.54 0.0524 0.0165

Jupiter -102097-10-18 13:11 J -35569215.05 -35569214.95 -35569214.85 0.0527 0.0373

Venus -102096-07-04 10:33 J -35568956.16 -35568956.06 -35568955.95 0.3609 0.1970

Earth -102095-07-01 01:54 J -35568594.51 -35568594.42 -35568594.33 0.2679 0.1587

Moon -102095-07-01 02:37 J -35568594.48 -35568594.39 -35568594.29 0.2676 0.1622 *

Saturn -102092-05-15 06:13 J -35567545.30 -35567545.24 -35567545.17 0.0270 0.0244

Saturn -102092-08-11 20:37 J -35567456.75 -35567456.64 -35567456.51 0.0270 0.0169

Saturn -102092-11-08 10:47 J -35567368.19 -35567368.05 -35567367.90 0.0270 0.0095

Jupiter -102092-12-09 04:04 J -35567337.34 -35567337.33 -35567337.32 0.0506 0.0504

Moon -102092-12-17 09:21 J -35567329.26 -35567329.11 -35567328.97 0.2662 0.0104

Earth -102092-12-17 09:21 J -35567329.25 -35567329.11 -35567328.97 0.2669 0.0116 *

Saturn -102091-02-05 00:42 J -35567279.62 -35567279.47 -35567279.32 0.0271 0.0022

Jupiter -102091-03-08 18:28 J -35567247.88 -35567247.73 -35567247.58 0.0503 0.0033

Mars -102091-03-11 01:25 J -35567245.52 -35567245.44 -35567245.36 0.1638 0.1321

Saturn -102091-05-04 14:23 J -35567191.04 -35567190.90 -35567190.75 0.0271 0.0051

Jupiter -102091-06-06 10:18 J -35567158.13 -35567158.07 -35567158.00 0.0500 0.0452

Saturn -102091-08-01 03:49 J -35567102.47 -35567102.34 -35567102.21 0.0271 0.0122

Saturn -102091-10-28 17:01 J -35567013.89 -35567013.79 -35567013.69 0.0271 0.0192

Venus -102090-01-18 08:23 J -35566932.20 -35566932.15 -35566932.09 0.3613 0.3253

Saturn -102090-01-25 05:59 J -35566925.28 -35566925.25 -35566925.21 0.0272 0.0260

Mars -102089-02-15 01:25 J -35566539.58 -35566539.44 -35566539.30 0.1649 0.0500

Mars -102089-12-28 07:25 J -35566222.32 -35566222.19 -35566222.06 0.1877 0.0340

Moon -102088-06-23 20:09 J -35566044.75 -35566044.66 -35566044.56 0.2672 0.1517

Earth -102088-06-23 20:09 J -35566044.75 -35566044.66 -35566044.56 0.2665 0.1579 *

Uranus -102088-07-22 11:30 J -35566016.09 -35566016.02 -35566015.93 0.0144 0.0123

Uranus -102088-10-18 17:01 J -35565927.89 -35565927.79 -35565927.67 0.0144 0.0101

Uranus -102087-01-14 22:47 J -35565839.68 -35565839.55 -35565839.41 0.0144 0.0079

Uranus -102087-04-13 04:18 J -35565751.46 -35565751.32 -35565751.17 0.0145 0.0057

Uranus -102087-07-10 10:04 J -35565663.23 -35565663.08 -35565662.92 0.0145 0.0034

Uranus -102087-10-06 15:49 J -35565575.00 -35565574.84 -35565574.67 0.0145 0.0012

Uranus -102086-01-02 21:49 J -35565486.75 -35565486.59 -35565486.43 0.0145 0.0013

Uranus -102086-04-01 03:35 J -35565398.51 -35565398.35 -35565398.19 0.0145 0.0036

Uranus -102086-06-28 09:21 J -35565310.25 -35565310.11 -35565309.95 0.0145 0.0060

Uranus -102086-09-24 15:35 J -35565221.98 -35565221.85 -35565221.72 0.0145 0.0084

Uranus -102086-12-21 21:35 J -35565133.71 -35565133.60 -35565133.49 0.0145 0.0108

Uranus -102085-03-19 03:35 J -35565045.41 -35565045.35 -35565045.28 0.0145 0.0132

Jupiter -102085-05-08 20:09 J -35564994.78 -35564994.66 -35564994.53 0.0523 0.0307

Jupiter -102085-08-06 14:09 J -35564905.04 -35564904.91 -35564904.78 0.0527 0.0237

Mars -102080-07-07 07:11 J -35563109.35 -35563109.20 -35563109.06 0.1646 0.0063

Jupiter -102080-12-25 20:23 J -35562937.79 -35562937.65 -35562937.51 0.0503 0.0150

Jupiter -102079-03-25 11:45 J -35562848.12 -35562848.01 -35562847.89 0.0500 0.0331

Mars -102079-05-20 12:28 J -35562792.09 -35562791.98 -35562791.87 0.1880 0.0971

Moon -102079-12-20 10:33 J -35562578.17 -35562578.06 -35562577.95 0.2659 0.1760

Earth -102079-12-20 11:45 J -35562578.12 -35562578.01 -35562577.91 0.2663 0.1795 *

Saturn -102078-11-29 21:35 J -35562233.69 -35562233.60 -35562233.50 0.0290 0.0231

Saturn -102077-02-26 14:52 J -35562145.01 -35562144.88 -35562144.74 0.0290 0.0140

Mars -102077-04-25 14:23 J -35562085.97 -35562085.90 -35562085.82 0.1865 0.1471

Saturn -102077-05-25 08:37 J -35562056.30 -35562056.14 -35562055.99 0.0290 0.0047

Saturn -102077-08-22 02:37 J -35561967.55 -35561967.39 -35561967.23 0.0289 0.0048

Venus -102077-11-10 13:25 J -35561887.01 -35561886.94 -35561886.86 0.3782 0.2737

Saturn -102077-11-18 20:52 J -35561878.77 -35561878.63 -35561878.49 0.0289 0.0145

Saturn -102076-02-15 15:35 J -35561789.93 -35561789.85 -35561789.76 0.0289 0.0243

Earth -102075-06-26 15:49 J -35561293.95 -35561293.84 -35561293.72 0.2670 0.0435

Moon -102075-06-26 16:33 J -35561293.93 -35561293.81 -35561293.70 0.2675 0.0444 *

Jupiter -102073-02-25 20:23 J -35560684.72 -35560684.65 -35560684.57 0.0523 0.0452

Jupiter -102073-05-25 14:52 J -35560595.02 -35560594.88 -35560594.73 0.0526 0.0097

Venus -102071-05-27 08:37 J -35559863.24 -35559863.14 -35559863.04 0.3778 0.1579

Mars -102071-11-27 12:57 J -35559679.10 -35559678.96 -35559678.82 0.1643 0.0417

Mars -102070-10-10 17:16 J -35559361.85 -35559361.78 -35559361.71 0.1883 0.1610

Mars -102069-11-02 15:21 J -35558972.92 -35558972.86 -35558972.81 0.1655 0.1520

Mars -102068-09-15 20:37 J -35558655.75 -35558655.64 -35558655.53 0.1869 0.0915

Jupiter -102068-10-13 22:47 J -35558627.68 -35558627.55 -35558627.43 0.0504 0.0264

Jupiter -102067-01-11 13:40 J -35558538.06 -35558537.93 -35558537.79 0.0501 0.0214

Venus -102066-12-11 04:04 J -35557839.45 -35557839.33 -35557839.22 0.3775 0.0409

Saturn -102063-10-02 07:54 J -35556813.19 -35556813.17 -35556813.14 0.0269 0.0264

Saturn -102063-12-29 22:18 J -35556724.67 -35556724.57 -35556724.46 0.0269 0.0189

Saturn -102062-03-28 12:28 J -35556636.11 -35556635.98 -35556635.84 0.0269 0.0116

Saturn -102062-06-25 02:23 J -35556547.54 -35556547.40 -35556547.25 0.0270 0.0043

Earth -102062-06-29 11:30 J -35556543.13 -35556543.02 -35556542.91 0.2674 0.0704

Moon -102062-06-29 12:28 J -35556543.10 -35556542.98 -35556542.87 0.2674 0.0827 *

Saturn -102062-09-21 16:04 J -35556458.97 -35556458.83 -35556458.68 0.0270 0.0031

Venus -102062-12-10 14:52 J -35556378.93 -35556378.88 -35556378.82 0.3596 0.3252

Saturn -102062-12-19 05:30 J -35556370.40 -35556370.27 -35556370.13 0.0270 0.0101

Jupiter -102061-03-13 16:18 J -35556284.97 -35556284.82 -35556284.67 0.0526 0.0038

Saturn -102061-03-16 18:57 J -35556281.83 -35556281.71 -35556281.60 0.0270 0.0171

Mars -102061-04-18 19:11 J -35556248.82 -35556248.70 -35556248.57 0.1640 0.0852

Jupiter -102061-06-11 09:35 J -35556195.14 -35556195.10 -35556195.05 0.0529 0.0501

Saturn -102061-06-13 07:40 J -35556193.24 -35556193.18 -35556193.10 0.0271 0.0240

Venus -102060-06-25 23:30 J -35555815.63 -35555815.52 -35555815.41 0.3772 0.0844

Mars -102059-03-25 20:23 J -35555542.77 -35555542.65 -35555542.54 0.1652 0.1028

Earth -102059-12-15 13:11 J -35555278.07 -35555277.95 -35555277.82 0.2673 0.1211

Moon -102059-12-15 13:40 J -35555278.06 -35555277.93 -35555277.80 0.2666 0.1115 *

Mars -102058-02-06 02:23 J -35555225.53 -35555225.40 -35555225.28 0.1873 0.0329

Venus -102056-06-25 14:23 J -35554355.02 -35554354.90 -35554354.79 0.3600 0.1755

Jupiter -102056-08-02 00:28 J -35554317.57 -35554317.48 -35554317.38 0.0504 0.0383

Jupiter -102056-10-30 15:21 J -35554228.01 -35554227.86 -35554227.71 0.0501 0.0092

Moon -102055-06-22 04:47 J -35553993.34 -35553993.30 -35553993.26 0.2666 0.2502

Earth -102055-06-22 05:30 J -35553993.31 -35553993.27 -35553993.23 0.2661 0.2495 *

Venus -102054-01-09 19:25 J -35553791.79 -35553791.69 -35553791.60 0.3768 0.2111

Mars -102052-09-09 01:54 J -35552818.51 -35552818.42 -35552818.34 0.1638 0.1273

Venus -102050-01-09 13:11 J -35552331.08 -35552330.95 -35552330.82 0.3603 0.0320

Mars -102050-08-16 01:40 J -35552112.56 -35552112.43 -35552112.29 0.1649 0.0553

Jupiter -102050-12-31 17:45 J -35551974.90 -35551974.76 -35551974.62 0.0525 0.0167

Jupiter -102049-03-30 11:16 J -35551885.13 -35551885.03 -35551884.92 0.0528 0.0374

Mars -102049-06-28 07:40 J -35551795.31 -35551795.18 -35551795.05 0.1877 0.0284

Earth -102049-07-01 06:57 J -35551792.29 -35551792.21 -35551792.12 0.2679 0.1822

Moon -102049-07-01 07:40 J -35551792.26 -35551792.18 -35551792.10 0.2676 0.1897 *

Venus -102049-07-25 15:21 J -35551767.90 -35551767.86 -35551767.81 0.3764 0.3417

Uranus -102049-12-18 01:25 J -35551622.49 -35551622.44 -35551622.37 0.0135 0.0124

Uranus -102048-03-16 05:59 J -35551534.34 -35551534.25 -35551534.15 0.0134 0.0106

Saturn -102048-04-17 21:06 J -35551501.67 -35551501.62 -35551501.55 0.0291 0.0264

Uranus -102048-06-12 10:33 J -35551446.17 -35551446.06 -35551445.94 0.0134 0.0087

Saturn -102048-07-15 14:23 J -35551413.02 -35551412.90 -35551412.77 0.0290 0.0173

Uranus -102048-09-08 15:06 J -35551358.00 -35551357.87 -35551357.74 0.0134 0.0069

Saturn -102048-10-12 07:54 J -35551324.32 -35551324.17 -35551324.01 0.0290 0.0081

Uranus -102048-12-05 19:25 J -35551269.83 -35551269.69 -35551269.54 0.0134 0.0052

Saturn -102047-01-09 01:54 J -35551235.58 -35551235.42 -35551235.26 0.0290 0.0015

Uranus -102047-03-03 23:45 J -35551181.65 -35551181.51 -35551181.36 0.0134 0.0034

Saturn -102047-04-07 20:09 J -35551146.81 -35551146.66 -35551146.51 0.0289 0.0111

Uranus -102047-05-31 04:04 J -35551093.48 -35551093.33 -35551093.17 0.0134 0.0017

Saturn -102047-07-05 14:37 J -35551058.00 -35551057.89 -35551057.77 0.0289 0.0208

Uranus -102047-08-27 08:23 J -35551005.30 -35551005.15 -35551004.99 0.0134 0.0004

Uranus -102047-11-23 12:42 J -35550917.12 -35550916.97 -35550916.82 0.0134 0.0018

Uranus -102046-02-19 16:47 J -35550828.94 -35550828.80 -35550828.65 0.0134 0.0036

Uranus -102046-05-18 21:06 J -35550740.76 -35550740.62 -35550740.48 0.0134 0.0052

Uranus -102046-08-15 01:11 J -35550652.58 -35550652.45 -35550652.32 0.0133 0.0069

Uranus -102046-11-11 05:16 J -35550564.39 -35550564.28 -35550564.16 0.0133 0.0085

Moon -102046-12-18 14:52 J -35550527.02 -35550526.88 -35550526.74 0.2662 0.0415

Earth -102046-12-18 15:21 J -35550527.00 -35550526.86 -35550526.72 0.2668 0.0447 *

Uranus -102045-02-07 09:21 J -35550476.20 -35550476.11 -35550476.01 0.0133 0.0102

Uranus -102045-05-05 13:11 J -35550388.01 -35550387.95 -35550387.87 0.0133 0.0118

Venus -102045-07-25 11:45 J -35550307.14 -35550307.01 -35550306.89 0.3607 0.1070

Jupiter -102044-05-21 02:23 J -35550007.41 -35550007.40 -35550007.38 0.0505 0.0500

Jupiter -102044-08-18 16:47 J -35549917.95 -35549917.80 -35549917.64 0.0502 0.0032

Jupiter -102044-11-16 08:37 J -35549828.20 -35549828.14 -35549828.07 0.0499 0.0453

Earth -102042-06-25 01:11 J -35549242.55 -35549242.45 -35549242.34 0.2666 0.1338

Moon -102042-06-25 01:25 J -35549242.54 -35549242.44 -35549242.34 0.2673 0.1396 *

Mars -102040-01-05 07:25 J -35548682.33 -35548682.19 -35548682.04 0.1646 0.0093

Mars -102040-11-18 12:42 J -35548365.08 -35548364.97 -35548364.86 0.1880 0.0910

Venus -102039-02-08 09:49 J -35548283.19 -35548283.09 -35548283.00 0.3610 0.2389

Jupiter -102038-10-19 18:28 J -35547664.85 -35547664.73 -35547664.60 0.0523 0.0304

Mars -102038-10-25 14:52 J -35547658.95 -35547658.88 -35547658.81 0.1865 0.1530

Jupiter -102037-01-17 12:28 J -35547575.11 -35547574.98 -35547574.84 0.0527 0.0239

Pluto -102036-10-09 20:23 J -35546943.68 -35546943.65 -35546943.59 0.0085 0.0079

Pluto -102035-01-05 21:49 J -35546855.66 -35546855.59 -35546855.50 0.0085 0.0065

Pluto -102035-04-03 23:01 J -35546767.63 -35546767.54 -35546767.42 0.0085 0.0052

Pluto -102035-07-01 00:28 J -35546679.59 -35546679.48 -35546679.36 0.0084 0.0038

Pluto -102035-09-27 01:54 J -35546591.55 -35546591.42 -35546591.30 0.0084 0.0025

Pluto -102035-12-24 03:06 J -35546503.50 -35546503.37 -35546503.24 0.0084 0.0011

Pluto -102034-03-22 04:18 J -35546415.45 -35546415.32 -35546415.19 0.0084 0.0002

Pluto -102034-06-18 05:30 J -35546327.40 -35546327.27 -35546327.14 0.0084 0.0015

Pluto -102034-09-14 06:42 J -35546239.34 -35546239.22 -35546239.09 0.0084 0.0028

Pluto -102034-12-11 07:54 J -35546151.28 -35546151.17 -35546151.05 0.0084 0.0041

Pluto -102033-03-08 09:06 J -35546063.21 -35546063.12 -35546063.01 0.0084 0.0054

Saturn -102033-05-18 00:28 J -35545992.57 -35545992.48 -35545992.38 0.0270 0.0209

Pluto -102033-06-04 10:18 J -35545975.14 -35545975.07 -35545974.99 0.0083 0.0067

Saturn -102033-08-14 14:52 J -35545904.01 -35545903.88 -35545903.75 0.0270 0.0135

Pluto -102033-08-31 11:30 J -35545887.05 -35545887.02 -35545886.98 0.0083 0.0079

Saturn -102033-11-11 04:47 J -35545815.44 -35545815.30 -35545815.15 0.0270 0.0061

Moon -102033-12-20 16:33 J -35545775.91 -35545775.81 -35545775.71 0.2658 0.1960

Earth -102033-12-20 17:45 J -35545775.85 -35545775.76 -35545775.68 0.2663 0.2139 *

Saturn -102032-02-07 18:42 J -35545726.87 -35545726.72 -35545726.57 0.0271 0.0013

Saturn -102032-05-07 08:09 J -35545638.30 -35545638.16 -35545638.02 0.0271 0.0083

Jupiter -102032-06-06 18:13 J -35545607.88 -35545607.74 -35545607.60 0.0503 0.0154

Saturn -102032-08-03 21:21 J -35545549.72 -35545549.61 -35545549.48 0.0271 0.0154

Jupiter -102032-09-04 09:35 J -35545518.21 -35545518.10 -35545517.98 0.0500 0.0328

Saturn -102032-10-31 10:33 J -35545461.14 -35545461.06 -35545460.98 0.0271 0.0223

Mars -102031-05-28 13:25 J -35545252.08 -35545251.94 -35545251.80 0.1643 0.0366

Neptune -102030-04-05 12:57 J -35544939.96 -35544939.96 -35544939.95 0.0089 0.0088

Mars -102030-04-10 17:16 J -35544934.85 -35544934.78 -35544934.71 0.1883 0.1568

Neptune -102030-07-02 15:06 J -35544851.91 -35544851.87 -35544851.80 0.0089 0.0084

Neptune -102030-09-28 17:30 J -35544763.83 -35544763.77 -35544763.68 0.0088 0.0079

Neptune -102030-12-25 19:54 J -35544675.75 -35544675.67 -35544675.57 0.0088 0.0074

Neptune -102029-03-22 22:18 J -35544587.66 -35544587.57 -35544587.46 0.0088 0.0069

Mars -102029-05-03 15:35 J -35544545.89 -35544545.85 -35544545.80 0.1655 0.1576

Neptune -102029-06-19 00:42 J -35544499.57 -35544499.47 -35544499.35 0.0088 0.0064

Earth   -102029-06-26 21:06 J -35544491.74 -35544491.62 -35544491.51 0.2670 0.0216

Moon   -102029-06-26 21:35 J -35544491.72 -35544491.60 -35544491.48 0.2674 0.0078 *

Neptune -102029-09-15 03:06 J -35544411.48 -35544411.37 -35544411.24 0.0088 0.0059

Neptune -102029-12-12 05:16 J -35544323.39 -35544323.28 -35544323.14 0.0088 0.0055

Neptune -102028-03-10 07:40 J -35544235.30 -35544235.18 -35544235.03 0.0088 0.0050

Mars   -102028-03-16 20:37 J -35544228.75 -35544228.64 -35544228.53 0.1869 0.0962

Neptune -102028-06-06 10:04 J -35544147.21 -35544147.08 -35544146.93 0.0088 0.0044

Neptune -102028-09-02 12:28 J -35544059.12 -35544058.98 -35544058.83 0.0088 0.0040

Neptune -102028-11-29 14:52 J -35543971.03 -35543970.88 -35543970.73 0.0088 0.0035

Neptune -102027-02-25 17:01 J -35543882.94 -35543882.79 -35543882.63 0.0088 0.0030

Neptune -102027-05-24 19:11 J -35543794.84 -35543794.70 -35543794.54 0.0088 0.0026

Neptune -102027-08-20 21:35 J -35543706.75 -35543706.60 -35543706.44 0.0088 0.0020

Neptune -102027-11-16 23:59 J -35543618.66 -35543618.50 -35543618.34 0.0088 0.0016

Neptune -102026-02-13 02:09 J -35543530.57 -35543530.41 -35543530.25 0.0088 0.0011

Neptune -102026-05-12 04:18 J -35543442.48 -35543442.32 -35543442.16 0.0088 0.0006

Jupiter -102026-08-07 18:57 J -35543354.78 -35543354.71 -35543354.63 0.0522 0.0446

Neptune -102026-08-08 06:42 J -35543354.38 -35543354.22 -35543354.06 0.0088 0.0002

Neptune -102026-11-04 08:52 J -35543266.29 -35543266.13 -35543265.97 0.0088 0.0003

Jupiter -102026-11-05 13:25 J -35543265.08 -35543264.94 -35543264.79 0.0526 0.0101

Venus   -102026-12-02 17:01 J -35543237.83 -35543237.79 -35543237.75 0.3784 0.3470

Earth   -102026-12-13 17:16 J -35543226.82 -35543226.78 -35543226.73 0.2678 0.2501

Moon   -102026-12-13 18:28 J -35543226.80 -35543226.73 -35543226.66 0.2674 0.2315 *

Neptune -102025-01-31 11:01 J -35543178.20 -35543178.04 -35543177.88 0.0088 0.0008

Neptune -102025-04-28 13:11 J -35543090.11 -35543089.95 -35543089.79 0.0088 0.0013

Neptune -102025-07-25 15:21 J -35543002.01 -35543001.86 -35543001.70 0.0088 0.0017

Neptune -102025-10-21 17:30 J -35542913.92 -35542913.77 -35542913.61 0.0088 0.0022

Neptune -102024-01-17 19:40 J -35542825.83 -35542825.68 -35542825.53 0.0088 0.0027

Neptune -102024-04-15 21:35 J -35542737.74 -35542737.60 -35542737.44 0.0088 0.0032

Neptune -102024-07-12 23:59 J -35542649.64 -35542649.50 -35542649.36 0.0088 0.0036

Neptune -102024-10-09 01:54 J -35542561.55 -35542561.42 -35542561.27 0.0088 0.0040

Neptune -102023-01-05 04:04 J -35542473.46 -35542473.33 -35542473.19 0.0088 0.0045

Neptune -102023-04-03 05:59 J -35542385.36 -35542385.25 -35542385.11 0.0088 0.0050

Neptune -102023-06-30 08:23 J -35542297.27 -35542297.15 -35542297.02 0.0088 0.0054

Neptune -102023-09-26 10:18 J -35542209.18 -35542209.07 -35542208.95 0.0088 0.0058

Neptune -102023-12-23 12:28 J -35542121.08 -35542120.98 -35542120.87 0.0088 0.0063

Neptune -102022-03-21 14:09 J -35542032.99 -35542032.91 -35542032.79 0.0088 0.0068

Neptune -102022-06-17 16:18 J -35541944.89 -35541944.82 -35541944.71 0.0088 0.0072

Neptune -102022-09-13 18:28 J -35541856.80 -35541856.73 -35541856.64 0.0088 0.0076

Mars -102022-10-18 19:25 J -35541821.81 -35541821.69 -35541821.56 0.1640 0.0806

Neptune -102022-12-10 20:23 J -35541768.70 -35541768.65 -35541768.57 0.0088 0.0080

Neptune -102021-03-07 22:33 J -35541680.59 -35541680.56 -35541680.51 0.0088 0.0084

Jupiter -102020-03-25 20:23 J -35541297.78 -35541297.65 -35541297.53 0.0504 0.0271

Venus -102020-06-17 11:59 J -35541214.09 -35541214.00 -35541213.92 0.3781 0.2348

Jupiter -102020-06-23 11:16 J -35541208.16 -35541208.03 -35541207.89 0.0501 0.0208

Mars -102020-09-23 20:37 J -35541115.75 -35541115.64 -35541115.52 0.1652 0.1083

Mars -102019-08-07 02:23 J -35540798.52 -35540798.40 -35540798.27 0.1873 0.0378

Saturn -102019-09-05 00:13 J -35540769.53 -35540769.49 -35540769.45 0.0290 0.0278

Saturn -102019-12-02 17:16 J -35540680.89 -35540680.78 -35540680.66 0.0290 0.0188

Saturn -102018-03-01 10:47 J -35540592.20 -35540592.05 -35540591.90 0.0290 0.0096

Saturn -102018-05-29 04:33 J -35540503.47 -35540503.31 -35540503.15 0.0289 0.0005

Saturn -102018-08-25 22:47 J -35540414.70 -35540414.55 -35540414.40 0.0289 0.0094

Saturn -102018-11-22 17:16 J -35540325.90 -35540325.78 -35540325.66 0.0289 0.0191

Earth -102016-06-29 16:33 J -35539740.92 -35539740.81 -35539740.70 0.2675 0.0940

Moon -102016-06-29 17:30 J -35539740.88 -35539740.77 -35539740.66 0.2675 0.0984 *

Venus -102014-01-01 07:11 J -35539190.31 -35539190.20 -35539190.10 0.3777 0.1196

Jupiter -102014-08-24 13:54 J -35538955.07 -35538954.92 -35538954.77 0.0525 0.0043

Jupiter -102014-11-22 07:11 J -35538865.25 -35538865.20 -35538865.15 0.0529 0.0493

Earth -102013-12-15 19:11 J -35538475.84 -35538475.70 -35538475.57 0.2673 0.0883

Moon -102013-12-15 19:40 J -35538475.82 -35538475.68 -35538475.55 0.2666 0.0886 *

Mars -102012-03-10 02:09 J -35538391.51 -35538391.41 -35538391.32 0.1638 0.1226

Mars -102010-02-14 02:09 J -35537685.55 -35537685.41 -35537685.28 0.1649 0.0602

Mars -102010-12-28 07:54 J -35537368.30 -35537368.17 -35537368.04 0.1877 0.0225

Moon -102009-06-22 10:18 J -35537191.13 -35537191.07 -35537191.02 0.2667 0.2332

Earth -102009-06-22 10:33 J -35537191.12 -35537191.06 -35537191.00 0.2662 0.2250 *

Venus -102009-07-17 02:23 J -35537166.51 -35537166.40 -35537166.28 0.3774 0.0067

Jupiter -102008-01-11 22:47 J -35536987.65 -35536987.55 -35536987.46 0.0505 0.0382

Jupiter -102008-04-11 13:25 J -35536898.09 -35536897.94 -35536897.79 0.0502 0.0092

Venus -102005-07-16 14:37 J -35535705.98 -35535705.89 -35535705.81 0.3597 0.2749

Uranus -102004-05-15 12:28 J -35535402.99 -35535402.98 -35535402.94 0.0144 0.0142

Uranus -102004-08-11 17:59 J -35535314.82 -35535314.75 -35535314.65 0.0144 0.0121

Saturn -102004-10-05 02:23 J -35535260.48 -35535260.40 -35535260.32 0.0269 0.0228

Uranus -102004-11-07 23:30 J -35535226.62 -35535226.52 -35535226.39 0.0144 0.0099

Saturn -102003-01-01 16:33 J -35535171.93 -35535171.81 -35535171.68 0.0269 0.0154

Venus -102003-01-30 22:04 J -35535142.69 -35535142.58 -35535142.47 0.3771 0.1252

Uranus -102003-02-04 05:16 J -35535138.41 -35535138.28 -35535138.14 0.0144 0.0076

Saturn -102003-03-31 06:42 J -35535083.36 -35535083.22 -35535083.07 0.0269 0.0080

Uranus -102003-05-03 11:01 J -35535050.19 -35535050.04 -35535049.89 0.0145 0.0054

Saturn -102003-06-27 20:37 J -35534994.79 -35534994.64 -35534994.49 0.0270 0.0009

Earth -102003-07-02 11:59 J -35534990.07 -35534990.00 -35534989.93 0.2680 0.2055

Moon -102003-07-02 12:28 J -35534990.05 -35534989.98 -35534989.91 0.2674 0.2109 *

Uranus -102003-07-30 16:47 J -35534961.96 -35534961.80 -35534961.65 0.0145 0.0031

Saturn -102003-09-24 10:04 J -35534906.22 -35534906.08 -35534905.93 0.0270 0.0064

Uranus -102003-10-26 22:18 J -35534873.73 -35534873.57 -35534873.40 0.0145 0.0009

Saturn -102003-12-21 23:30 J -35534817.65 -35534817.52 -35534817.39 0.0270 0.0134

Uranus -102002-01-23 04:18 J -35534785.48 -35534785.32 -35534785.16 0.0145 0.0015

Saturn -102002-03-20 12:28 J -35534729.07 -35534728.98 -35534728.88 0.0271 0.0204

Uranus -102002-04-21 10:04 J -35534697.23 -35534697.08 -35534696.92 0.0145 0.0039

Jupiter -102002-06-12 15:21 J -35534645.01 -35534644.86 -35534644.72 0.0525 0.0176

Uranus -102002-07-18 16:04 J -35534608.98 -35534608.83 -35534608.68 0.0145 0.0062

Jupiter -102002-09-10 08:52 J -35534555.23 -35534555.13 -35534555.02 0.0528 0.0366

Uranus -102002-10-14 21:49 J -35534520.71 -35534520.59 -35534520.45 0.0145 0.0087

Uranus -102001-01-11 03:49 J -35534432.43 -35534432.34 -35534432.22 0.0145 0.0111

Uranus -102001-04-08 10:04 J -35534344.13 -35534344.08 -35534344.02 0.0146 0.0135

Mars -102001-07-06 07:40 J -35534255.32 -35534255.18 -35534255.03 0.1646 0.0144

102ND MILLENNIUM BCE

This is a list of transits of Mercury in the 102nd millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Mars -102000-05-19 12:57 J -35533938.08 -35533937.96 -35533937.85 0.1880 0.0862

Moon -102000-12-18 20:37 J -35533724.78 -35533724.64 -35533724.50 0.2661 0.0743

Earth -102000-12-18 21:21 J -35533724.75 -35533724.61 -35533724.48 0.2667 0.0785 *

Venus -101999-01-30 13:40 J -35533682.05 -35533681.93 -35533681.81 0.3601 0.1278

Mars -101998-04-25 14:52 J -35533231.94 -35533231.88 -35533231.81 0.1865 0.1580

Venus -101998-08-16 17:59 J -35533118.84 -35533118.75 -35533118.67 0.3767 0.2520

Jupiter -101997-10-31 00:42 J -35532677.49 -35532677.47 -35532677.44 0.0505 0.0498

Jupiter -101996-01-28 15:06 J -35532588.02 -35532587.87 -35532587.72 0.0502 0.0029

Jupiter -101996-04-28 06:42 J -35532498.28 -35532498.22 -35532498.15 0.0499 0.0454

Earth -101996-06-25 06:28 J -35532440.34 -35532440.23 -35532440.12 0.2666 0.1093

Moon -101996-06-25 06:28 J -35532440.33 -35532440.23 -35532440.12 0.2673 0.1019 *

Venus -101994-08-16 12:28 J -35531658.11 -35531657.98 -35531657.85 0.3604 0.0152

Mars -101992-11-26 13:40 J -35530825.07 -35530824.93 -35530824.79 0.1643 0.0315

Mars -101991-10-09 17:30 J -35530507.84 -35530507.77 -35530507.69 0.1883 0.1504

Jupiter -101990-03-31 16:33 J -35530334.93 -35530334.81 -35530334.69 0.0524 0.0307

Jupiter -101990-06-29 10:47 J -35530245.18 -35530245.05 -35530244.92 0.0527 0.0238

Mars -101990-11-02 16:04 J -35530118.85 -35530118.83 -35530118.81 0.1655 0.1633

Saturn -101989-04-20 16:33 J -35529948.90 -35529948.81 -35529948.71 0.0290 0.0222

Saturn -101989-07-18 09:49 J -35529860.22 -35529860.09 -35529859.94 0.0290 0.0131

Mars -101989-09-14 20:52 J -35529801.73 -35529801.63 -35529801.52 0.1869 0.1018

Saturn -101989-10-15 03:35 J -35529771.51 -35529771.35 -35529771.19 0.0290 0.0037

Saturn -101988-01-11 21:35 J -35529682.76 -35529682.60 -35529682.44 0.0290 0.0058

Venus -101988-03-01 10:47 J -35529634.16 -35529634.05 -35529633.93 0.3608 0.1503

Saturn -101988-04-10 16:04 J -35529593.97 -35529593.83 -35529593.69 0.0289 0.0155

Saturn -101988-07-08 10:47 J -35529505.12 -35529505.05 -35529504.97 0.0289 0.0254

Moon -101987-12-21 22:33 J -35528973.62 -35528973.56 -35528973.50 0.2659 0.2415

Earth -101987-12-21 23:45 J -35528973.56 -35528973.51 -35528973.46 0.2662 0.2485 *

Jupiter -101985-11-16 16:47 J -35528277.94 -35528277.80 -35528277.65 0.0503 0.0149

Jupiter -101984-02-14 08:09 J -35528188.27 -35528188.16 -35528188.04 0.0500 0.0331

Earth -101983-06-28 02:09 J -35527689.53 -35527689.41 -35527689.29 0.2671 0.0070

Moon -101983-06-28 02:52 J -35527689.50 -35527689.38 -35527689.26 0.2674 0.0057 *

Venus -101983-09-15 08:52 J -35527610.21 -35527610.13 -35527610.05 0.3611 0.2808

Mars -101982-04-18 19:54 J -35527394.80 -35527394.67 -35527394.54 0.1640 0.0753

Mars -101980-03-24 21:06 J -35526688.72 -35526688.62 -35526688.51 0.1652 0.1137

Earth -101980-12-13 23:16 J -35526424.61 -35526424.53 -35526424.45 0.2677 0.2173

Moon -101980-12-14 00:13 J -35526424.57 -35526424.49 -35526424.41 0.2672 0.2174 *

Mars -101979-02-05 02:37 J -35526371.51 -35526371.39 -35526371.26 0.1873 0.0436

Jupiter -101978-01-17 17:16 J -35526024.85 -35526024.78 -35526024.69 0.0522 0.0444

Jupiter -101978-04-17 11:59 J -35525935.15 -35525935.00 -35525934.86 0.0526 0.0105

Saturn -101974-02-22 04:04 J -35524528.38 -35524528.33 -35524528.27 0.0270 0.0250

Saturn -101974-05-21 18:28 J -35524439.84 -35524439.73 -35524439.61 0.0270 0.0175

Saturn -101974-08-18 08:37 J -35524351.28 -35524351.14 -35524351.00 0.0270 0.0101

Saturn -101974-11-14 22:33 J -35524262.71 -35524262.56 -35524262.41 0.0270 0.0028

Saturn -101973-02-11 12:13 J -35524174.14 -35524173.99 -35524173.84 0.0271 0.0044

Saturn -101973-05-10 01:40 J -35524085.56 -35524085.43 -35524085.29 0.0271 0.0115

Saturn -101973-08-06 14:52 J -35523996.98 -35523996.88 -35523996.77 0.0271 0.0185

Jupiter -101973-09-04 18:13 J -35523967.86 -35523967.74 -35523967.61 0.0504 0.0272

Mars -101973-09-08 02:23 J -35523964.50 -35523964.40 -35523964.30 0.1638 0.1179

Saturn -101973-11-03 03:49 J -35523908.38 -35523908.34 -35523908.29 0.0271 0.0254

Jupiter -101973-12-03 09:21 J -35523878.25 -35523878.11 -35523877.97 0.0501 0.0206

Mars -101971-08-15 02:23 J -35523258.53 -35523258.40 -35523258.26 0.1649 0.0655

Mars -101970-06-28 07:54 J -35522941.30 -35522941.17 -35522941.04 0.1877 0.0180

Earth -101970-06-30 21:35 J -35522938.70 -35522938.60 -35522938.49 0.2676 0.1175

Moon -101970-06-30 22:33 J -35522938.67 -35522938.56 -35522938.46 0.2675 0.1308 *

Venus -101969-07-08 15:21 J -35522564.92 -35522564.86 -35522564.80 0.3783 0.3096

Earth -101967-12-17 01:11 J -35521673.59 -35521673.45 -35521673.31 0.2672 0.0548

Moon -101967-12-17 01:25 J -35521673.58 -35521673.44 -35521673.30 0.2666 0.0456 *

Jupiter -101966-02-03 12:42 J -35521625.12 -35521624.97 -35521624.82 0.0525 0.0036

Jupiter -101966-05-04 05:59 J -35521535.29 -35521535.25 -35521535.21 0.0528 0.0500

Uranus -101964-01-07 08:23 J -35520921.22 -35520921.15 -35520921.09 0.0135 0.0121

Uranus -101964-04-05 12:42 J -35520833.06 -35520832.97 -35520832.86 0.0134 0.0103

Uranus -101964-07-02 17:16 J -35520744.90 -35520744.78 -35520744.66 0.0134 0.0085

Uranus -101964-09-28 21:49 J -35520656.72 -35520656.59 -35520656.46 0.0134 0.0067

Uranus -101964-12-26 02:09 J -35520568.55 -35520568.41 -35520568.26 0.0134 0.0049

Venus -101963-01-22 10:18 J -35520541.17 -35520541.07 -35520540.98 0.3780 0.1964

Mars -101963-01-29 08:52 J -35520534.15 -35520534.13 -35520534.10 0.1635 0.1595

Uranus -101963-03-24 06:28 J -35520480.37 -35520480.23 -35520480.07 0.0134 0.0031

Uranus -101963-06-20 10:47 J -35520392.20 -35520392.05 -35520391.89 0.0134 0.0014

Moon -101963-06-23 15:35 J -35520388.93 -35520388.85 -35520388.78 0.2669 0.2025

Earth -101963-06-23 15:49 J -35520388.92 -35520388.84 -35520388.77 0.2662 0.2010 *

Uranus -101963-09-16 15:06 J -35520304.02 -35520303.87 -35520303.71 0.0134 0.0005

Uranus -101963-12-13 19:25 J -35520215.84 -35520215.69 -35520215.54 0.0134 0.0021

Uranus -101962-03-11 23:45 J -35520127.66 -35520127.51 -35520127.37 0.0134 0.0038

Uranus -101962-06-08 03:49 J -35520039.48 -35520039.34 -35520039.20 0.0134 0.0055

Uranus -101962-09-04 07:54 J -35519951.29 -35519951.17 -35519951.04 0.0133 0.0071

Uranus -101962-12-01 11:59 J -35519863.11 -35519863.00 -35519862.88 0.0133 0.0088

Mars -101961-01-05 08:09 J -35519828.31 -35519828.16 -35519828.02 0.1645 0.0189

Uranus -101961-02-27 15:49 J -35519774.92 -35519774.84 -35519774.74 0.0133 0.0105

Uranus -101961-05-25 19:54 J -35519686.72 -35519686.67 -35519686.60 0.0133 0.0121

Jupiter -101961-06-23 20:23 J -35519657.74 -35519657.65 -35519657.55 0.0505 0.0387

Jupiter -101961-09-21 11:16 J -35519568.18 -35519568.03 -35519567.88 0.0502 0.0087

Mars -101961-11-17 13:11 J -35519511.07 -35519510.95 -35519510.84 0.1881 0.0804

Saturn -101960-09-07 19:11 J -35519216.78 -35519216.70 -35519216.61 0.0290 0.0239

Saturn -101960-12-05 12:28 J -35519128.11 -35519127.98 -35519127.85 0.0290 0.0148

Saturn -101959-03-04 05:59 J -35519039.40 -35519039.25 -35519039.09 0.0290 0.0055

Saturn -101959-05-31 23:59 J -35518950.66 -35518950.50 -35518950.34 0.0289 0.0040

Saturn -101959-08-28 18:13 J -35518861.88 -35518861.74 -35518861.59 0.0289 0.0137

Mars -101959-10-24 14:52 J -35518804.93 -35518804.88 -35518804.82 0.1865 0.1628

Saturn -101959-11-25 12:57 J -35518773.05 -35518772.96 -35518772.86 0.0289 0.0235

Venus -101958-08-08 05:30 J -35518517.38 -35518517.27 -35518517.16 0.3777 0.0800

Earth -101957-07-02 17:01 J -35518187.85 -35518187.79 -35518187.73 0.2681 0.2286

Moon -101957-07-02 17:30 J -35518187.83 -35518187.77 -35518187.71 0.2674 0.2289 *

Jupiter -101955-11-22 12:57 J -35517315.10 -35517314.96 -35517314.82 0.0524 0.0181

Jupiter -101954-02-20 06:42 J -35517225.33 -35517225.22 -35517225.11 0.0528 0.0359

Moon -101954-12-20 02:37 J -35516922.53 -35516922.39 -35516922.26 0.2660 0.1014

Earth -101954-12-20 03:21 J -35516922.49 -35516922.36 -35516922.23 0.2667 0.1126 *

Venus -101952-02-21 00:57 J -35516493.58 -35516493.46 -35516493.35 0.3773 0.0412

Mars -101952-05-27 13:54 J -35516398.06 -35516397.92 -35516397.78 0.1643 0.0268

Mars -101951-04-09 17:45 J -35516080.84 -35516080.76 -35516080.67 0.1883 0.1448

Earth -101950-06-26 11:30 J -35515638.13 -35515638.02 -35515637.91 0.2667 0.0852

Moon -101950-06-26 11:45 J -35515638.12 -35515638.01 -35515637.89 0.2673 0.0876 *

Mars -101949-03-15 21:06 J -35515374.72 -35515374.62 -35515374.52 0.1869 0.1070

Jupiter -101949-04-11 23:01 J -35515347.56 -35515347.54 -35515347.51 0.0506 0.0497

Jupiter -101949-07-10 13:25 J -35515258.09 -35515257.94 -35515257.79 0.0502 0.0027

Jupiter -101949-10-08 05:01 J -35515168.34 -35515168.29 -35515168.22 0.0499 0.0457

Venus -101948-02-20 13:54 J -35515033.02 -35515032.92 -35515032.82 0.3598 0.2267

Neptune -101948-09-20 07:11 J -35514821.21 -35514821.20 -35514821.15 0.0089 0.0087

Neptune -101948-12-17 09:35 J -35514733.15 -35514733.10 -35514733.05 0.0089 0.0082

Neptune -101947-03-15 11:16 J -35514645.09 -35514645.03 -35514644.95 0.0089 0.0078

Neptune -101947-06-11 13:11 J -35514557.02 -35514556.95 -35514556.85 0.0089 0.0074

Venus -101947-09-06 20:37 J -35514469.74 -35514469.64 -35514469.54 0.3769 0.1652

Neptune -101947-09-07 15:21 J -35514468.95 -35514468.86 -35514468.76 0.0089 0.0069

Neptune -101947-12-04 17:16 J -35514380.87 -35514380.78 -35514380.67 0.0089 0.0065

Neptune -101946-03-02 19:11 J -35514292.80 -35514292.70 -35514292.58 0.0089 0.0061

Neptune -101946-05-29 21:21 J -35514204.72 -35514204.61 -35514204.48 0.0089 0.0056

Neptune -101946-08-25 23:16 J -35514116.64 -35514116.53 -35514116.39 0.0089 0.0052

Neptune -101946-11-22 01:25 J -35514028.56 -35514028.44 -35514028.30 0.0089 0.0047

Neptune -101945-02-18 03:21 J -35513940.48 -35513940.36 -35513940.21 0.0089 0.0043

Neptune -101945-05-16 05:30 J -35513852.40 -35513852.27 -35513852.12 0.0089 0.0038

Neptune -101945-08-12 07:25 J -35513764.32 -35513764.19 -35513764.03 0.0089 0.0034

Saturn -101945-10-07 20:23 J -35513707.75 -35513707.65 -35513707.54 0.0269 0.0194

Neptune -101945-11-08 09:35 J -35513676.24 -35513676.10 -35513675.94 0.0089 0.0029

Saturn -101944-01-04 10:33 J -35513619.19 -35513619.06 -35513618.92 0.0269 0.0121

Neptune -101944-02-04 11:45 J -35513588.15 -35513588.01 -35513587.85 0.0089 0.0025

Saturn -101944-04-03 00:42 J -35513530.62 -35513530.47 -35513530.32 0.0269 0.0047

Neptune -101944-05-03 13:54 J -35513500.07 -35513499.92 -35513499.77 0.0089 0.0020

Saturn -101944-06-30 14:23 J -35513442.05 -35513441.90 -35513441.75 0.0270 0.0026

Neptune -101944-07-30 16:04 J -35513411.98 -35513411.83 -35513411.68 0.0089 0.0015

Saturn -101944-09-27 03:49 J -35513353.48 -35513353.34 -35513353.20 0.0270 0.0096

Neptune -101944-10-26 18:13 J -35513323.90 -35513323.74 -35513323.59 0.0089 0.0011

Saturn -101944-12-24 17:01 J -35513264.90 -35513264.79 -35513264.67 0.0270 0.0166

Neptune -101943-01-22 20:23 J -35513235.81 -35513235.65 -35513235.50 0.0089 0.0006

Saturn -101943-03-23 05:59 J -35513176.32 -35513176.25 -35513176.18 0.0271 0.0235

Neptune -101943-04-20 22:18 J -35513147.72 -35513147.57 -35513147.41 0.0089 0.0003

Neptune -101943-07-18 00:28 J -35513059.63 -35513059.48 -35513059.32 0.0089 0.0004

Venus -101943-09-06 13:11 J -35513009.08 -35513008.95 -35513008.83 0.3602 0.0811

Jupiter -101943-09-10 14:09 J -35513005.03 -35513004.91 -35513004.79 0.0524 0.0315

Neptune -101943-10-14 02:37 J -35512971.54 -35512971.39 -35512971.23 0.0089 0.0008

Mars -101943-10-17 20:23 J -35512967.78 -35512967.65 -35512967.52 0.1640 0.0703

Jupiter -101943-12-09 08:23 J -35512915.28 -35512915.15 -35512915.02 0.0527 0.0231

Neptune -101942-01-10 04:47 J -35512883.45 -35512883.30 -35512883.14 0.0089 0.0013

Neptune -101942-04-08 06:57 J -35512795.36 -35512795.21 -35512795.05 0.0089 0.0018

Neptune -101942-07-05 09:06 J -35512707.27 -35512707.12 -35512706.96 0.0089 0.0022

Neptune -101942-10-01 11:16 J -35512619.18 -35512619.03 -35512618.88 0.0089 0.0027

Neptune -101942-12-28 13:25 J -35512531.08 -35512530.94 -35512530.79 0.0089 0.0032

Venus -101941-03-22 16:33 J -35512445.88 -35512445.81 -35512445.74 0.3766 0.2936

Neptune -101941-03-25 15:35 J -35512442.99 -35512442.85 -35512442.70 0.0089 0.0037

Neptune -101941-06-21 17:59 J -35512354.89 -35512354.75 -35512354.61 0.0089 0.0041

Neptune -101941-09-17 20:09 J -35512266.79 -35512266.66 -35512266.52 0.0089 0.0046

Mars -101941-09-22 21:21 J -35512261.71 -35512261.61 -35512261.50 0.1652 0.1191

Neptune -101941-12-14 22:18 J -35512178.69 -35512178.57 -35512178.43 0.0089 0.0051

Neptune -101940-03-13 00:28 J -35512090.59 -35512090.48 -35512090.34 0.0089 0.0056

Neptune -101940-06-09 02:37 J -35512002.49 -35512002.39 -35512002.26 0.0089 0.0061

Mars -101940-08-06 02:52 J -35511944.50 -35511944.38 -35511944.25 0.1873 0.0490

Neptune -101940-09-05 04:47 J -35511914.39 -35511914.30 -35511914.17 0.0089 0.0066

Neptune -101940-12-02 07:40 J -35511826.28 -35511826.18 -35511826.09 0.0089 0.0070

Neptune -101939-02-28 09:49 J -35511738.17 -35511738.09 -35511738.00 0.0089 0.0075

Neptune -101939-05-27 11:59 J -35511650.06 -35511650.00 -35511649.92 0.0089 0.0080

Neptune -101939-08-23 14:23 J -35511561.94 -35511561.90 -35511561.85 0.0089 0.0085

Venus -101937-03-22 11:45 J -35510985.14 -35510985.01 -35510984.88 0.3605 0.0593

Jupiter -101937-04-28 15:21 J -35510948.01 -35510947.86 -35510947.72 0.0503 0.0146

Earth -101937-06-28 07:11 J -35510887.32 -35510887.20 -35510887.08 0.2672 0.0290

Moon -101937-06-28 07:54 J -35510887.28 -35510887.17 -35510887.05 0.2674 0.0454 *

Jupiter -101937-07-27 06:42 J -35510858.34 -35510858.22 -35510858.11 0.0500 0.0334

Earth -101934-12-15 05:16 J -35509622.38 -35509622.28 -35509622.18 0.2676 0.1851

Moon -101934-12-15 06:13 J -35509622.35 -35509622.24 -35509622.13 0.2671 0.1669 *

Mars -101933-03-09 02:37 J -35509537.49 -35509537.39 -35509537.29 0.1638 0.1132

Venus -101932-10-06 10:04 J -35508961.19 -35508961.08 -35508960.97 0.3609 0.1932

Mars -101931-02-13 02:52 J -35508831.51 -35508831.38 -35508831.25 0.1649 0.0708

Jupiter -101931-06-29 15:21 J -35508694.93 -35508694.86 -35508694.78 0.0523 0.0446

Jupiter -101931-09-27 10:04 J -35508605.23 -35508605.08 -35508604.93 0.0526 0.0103

Mars -101931-12-27 08:09 J -35508514.29 -35508514.16 -35508514.03 0.1877 0.0128

Saturn -101930-01-25 18:13 J -35508484.78 -35508484.74 -35508484.68 0.0291 0.0274

Saturn -101930-04-24 11:16 J -35508396.14 -35508396.03 -35508395.90 0.0290 0.0184

Saturn -101930-07-22 04:47 J -35508307.45 -35508307.30 -35508307.15 0.0290 0.0091

Saturn -101930-10-18 22:47 J -35508218.71 -35508218.55 -35508218.39 0.0290 0.0009

Saturn -101929-01-15 16:47 J -35508129.95 -35508129.80 -35508129.65 0.0290 0.0100

Saturn -101929-04-13 11:30 J -35508041.14 -35508041.02 -35508040.91 0.0289 0.0198

Venus -101926-04-22 08:09 J -35506937.22 -35506937.16 -35506937.11 0.3612 0.3224

Jupiter -101925-02-15 17:16 J -35506637.91 -35506637.78 -35506637.66 0.0504 0.0264

Jupiter -101925-05-15 08:09 J -35506548.30 -35506548.16 -35506548.02 0.0501 0.0212

Earth -101924-07-01 02:37 J -35506136.49 -35506136.39 -35506136.29 0.2676 0.1417

Moon -101924-07-01 03:21 J -35506136.46 -35506136.36 -35506136.26 0.2674 0.1422 *

Mars -101924-07-30 09:21 J -35506107.15 -35506107.11 -35506107.07 0.1635 0.1546

Mars -101922-07-06 08:23 J -35505401.29 -35505401.15 -35505401.00 0.1645 0.0239

Mars -101921-05-18 13:11 J -35505084.07 -35505083.95 -35505083.83 0.1880 0.0750

Moon -101921-12-17 06:57 J -35504871.35 -35504871.21 -35504871.07 0.2665 0.0304

Earth -101921-12-17 06:57 J -35504871.35 -35504871.21 -35504871.06 0.2671 0.0230 *

Uranus -101920-06-04 19:11 J -35504701.73 -35504701.70 -35504701.65 0.0144 0.0139

Uranus -101920-09-01 00:42 J -35504613.55 -35504613.47 -35504613.37 0.0144 0.0117

Uranus -101920-11-28 06:13 J -35504525.35 -35504525.24 -35504525.11 0.0144 0.0096

Uranus -101919-02-24 11:45 J -35504437.14 -35504437.01 -35504436.86 0.0144 0.0074

Mars -101919-04-24 15:06 J -35504377.92 -35504377.87 -35504377.82 0.1865 0.1681

Uranus -101919-05-23 17:30 J -35504348.92 -35504348.77 -35504348.62 0.0145 0.0051

Jupiter -101919-07-16 11:16 J -35504295.18 -35504295.03 -35504294.88 0.0525 0.0031

Uranus -101919-08-19 23:16 J -35504260.69 -35504260.53 -35504260.37 0.0145 0.0028

Jupiter -101919-10-14 04:33 J -35504205.35 -35504205.31 -35504205.27 0.0528 0.0505

Uranus -101919-11-16 05:01 J -35504172.45 -35504172.29 -35504172.13 0.0145 0.0005

Uranus -101918-02-12 10:47 J -35504084.21 -35504084.05 -35504083.89 0.0145 0.0018

Uranus -101918-05-11 16:33 J -35503995.96 -35503995.81 -35503995.65 0.0145 0.0042

Uranus -101918-08-07 22:33 J -35503907.70 -35503907.56 -35503907.41 0.0145 0.0065

Uranus -101918-11-04 04:33 J -35503819.44 -35503819.31 -35503819.18 0.0145 0.0089

Uranus -101917-01-31 10:33 J -35503731.16 -35503731.06 -35503730.96 0.0145 0.0113

Uranus -101917-04-28 16:33 J -35503642.85 -35503642.81 -35503642.75 0.0145 0.0138

Moon -101917-06-23 20:37 J -35503586.73 -35503586.64 -35503586.55 0.2670 0.1796

Earth -101917-06-23 20:52 J -35503586.72 -35503586.63 -35503586.54 0.2663 0.1767 *

Saturn -101915-02-24 21:49 J -35502975.68 -35502975.59 -35502975.50 0.0269 0.0217

Saturn -101915-05-24 12:13 J -35502887.12 -35502886.99 -35502886.86 0.0270 0.0143

Saturn -101915-08-21 02:09 J -35502798.55 -35502798.41 -35502798.26 0.0270 0.0069

Saturn -101915-11-17 16:04 J -35502709.98 -35502709.83 -35502709.68 0.0270 0.0007

Saturn -101914-02-14 05:30 J -35502621.41 -35502621.27 -35502621.13 0.0270 0.0075

Saturn -101914-05-13 18:42 J -35502532.84 -35502532.72 -35502532.59 0.0271 0.0146

Saturn -101914-08-10 07:54 J -35502444.25 -35502444.17 -35502444.08 0.0271 0.0215

Jupiter -101914-12-04 18:42 J -35502327.81 -35502327.72 -35502327.62 0.0505 0.0386

Jupiter -101913-03-03 09:21 J -35502238.26 -35502238.11 -35502237.96 0.0502 0.0088

Mars -101913-11-25 14:23 J -35501971.04 -35501970.90 -35501970.76 0.1643 0.0213

Venus -101912-02-12 13:40 J -35501892.01 -35501891.93 -35501891.86 0.3782 0.2721

Mars -101912-10-08 17:59 J -35501653.84 -35501653.75 -35501653.66 0.1884 0.1394

Earth -101911-07-03 22:04 J -35501385.61 -35501385.58 -35501385.54 0.2681 0.2520

Moon -101911-07-03 22:33 J -35501385.59 -35501385.56 -35501385.54 0.2675 0.2589 *

Mars -101910-09-14 21:21 J -35500947.71 -35500947.61 -35500947.51 0.1869 0.1123

Moon -101908-12-20 08:23 J -35500120.27 -35500120.15 -35500120.03 0.2661 0.1444

Earth -101908-12-20 09:21 J -35500120.23 -35500120.11 -35500120.00 0.2666 0.1467 *

Jupiter -101907-05-04 11:59 J -35499985.14 -35499985.00 -35499984.85 0.0524 0.0170

Jupiter -101907-08-02 05:45 J -35499895.36 -35499895.26 -35499895.16 0.0527 0.0370

Venus -101907-08-29 08:37 J -35499868.24 -35499868.14 -35499868.04 0.3779 0.1585

Earth -101904-06-26 16:33 J -35498835.92 -35498835.81 -35498835.69 0.2667 0.0616

Moon -101904-06-26 17:16 J -35498835.90 -35498835.78 -35498835.67 0.2673 0.0546 *

Mars -101903-04-17 20:23 J -35498540.78 -35498540.65 -35498540.52 0.1640 0.0660

Jupiter -101902-09-22 21:06 J -35498017.64 -35498017.62 -35498017.60 0.0506 0.0500

Jupiter -101902-12-21 11:16 J -35497928.18 -35497928.03 -35497927.87 0.0503 0.0034

Venus -101901-03-14 03:49 J -35497844.45 -35497844.34 -35497844.22 0.3776 0.0424

Jupiter -101901-03-20 03:06 J -35497838.43 -35497838.37 -35497838.31 0.0500 0.0453

Mars -101901-03-23 21:49 J -35497834.69 -35497834.59 -35497834.49 0.1652 0.1242

Saturn -101901-09-10 13:25 J -35497664.04 -35497663.94 -35497663.82 0.0290 0.0202

Saturn -101901-12-08 06:57 J -35497575.36 -35497575.21 -35497575.07 0.0290 0.0110

Mars -101900-02-04 02:52 J -35497517.50 -35497517.38 -35497517.25 0.1873 0.0539

Saturn -101900-03-07 00:42 J -35497486.63 -35497486.47 -35497486.31 0.0290 0.0016

Saturn -101900-06-03 18:42 J -35497397.87 -35497397.72 -35497397.56 0.0289 0.0080

Saturn -101900-08-31 13:11 J -35497309.07 -35497308.95 -35497308.82 0.0289 0.0177

Saturn -101900-11-28 08:09 J -35497220.21 -35497220.16 -35497220.12 0.0289 0.0276

Venus -101897-03-13 14:09 J -35496383.96 -35496383.91 -35496383.86 0.3596 0.3269

Venus -101896-09-27 23:30 J -35495820.64 -35495820.52 -35495820.41 0.3772 0.0816

Jupiter -101895-02-20 11:59 J -35495675.12 -35495675.00 -35495674.88 0.0523 0.0318

Jupiter -101895-05-21 06:13 J -35495585.37 -35495585.24 -35495585.11 0.0527 0.0227

Mars -101894-09-08 02:52 J -35495110.48 -35495110.38 -35495110.27 0.1638 0.1085

Mars -101892-08-14 03:06 J -35494404.50 -35494404.37 -35494404.24 0.1648 0.0755

Venus -101892-09-27 13:25 J -35494360.05 -35494359.94 -35494359.82 0.3599 0.1781

Mars -101891-06-27 08:23 J -35494087.27 -35494087.15 -35494087.02 0.1877 0.0085

Earth -101891-06-29 12:13 J -35494085.10 -35494084.99 -35494084.87 0.2672 0.0528

Moon -101891-06-29 13:11 J -35494085.07 -35494084.95 -35494084.84 0.2675 0.0551 *

Venus -101890-04-13 19:11 J -35493796.79 -35493796.70 -35493796.60 0.3768 0.2063

Jupiter -101890-10-09 13:54 J -35493618.07 -35493617.92 -35493617.78 0.0503 0.0143

Jupiter -101889-01-07 05:01 J -35493528.40 -35493528.29 -35493528.17 0.0500 0.0339

Earth -101888-12-15 11:01 J -35492820.15 -35492820.04 -35492819.92 0.2676 0.1522

Moon -101888-12-15 11:59 J -35492820.12 -35492820.00 -35492819.89 0.2671 0.1523 *

Venus -101886-04-13 12:28 J -35492336.11 -35492335.98 -35492335.85 0.3603 0.0347

Saturn -101886-07-14 23:45 J -35492243.57 -35492243.51 -35492243.43 0.0269 0.0236

Saturn -101886-10-11 14:09 J -35492155.03 -35492154.91 -35492154.78 0.0269 0.0162

Saturn -101885-01-08 04:18 J -35492066.46 -35492066.32 -35492066.18 0.0269 0.0088

Saturn -101885-04-05 17:59 J -35491977.90 -35491977.75 -35491977.59 0.0269 0.0018

Saturn -101885-07-03 07:40 J -35491889.32 -35491889.18 -35491889.03 0.0270 0.0056

Saturn -101885-09-29 21:06 J -35491800.75 -35491800.62 -35491800.49 0.0270 0.0127

Venus -101885-10-27 15:21 J -35491772.91 -35491772.86 -35491772.81 0.3764 0.3357

Saturn -101885-12-27 10:04 J -35491712.17 -35491712.08 -35491711.97 0.0270 0.0196

Mars -101884-01-28 09:35 J -35491680.15 -35491680.10 -35491680.04 0.1635 0.1498

Saturn -101884-03-25 23:01 J -35491623.56 -35491623.54 -35491623.51 0.0271 0.0264

Jupiter -101884-12-09 12:57 J -35491365.03 -35491364.96 -35491364.88 0.0523 0.0453

Jupiter -101883-03-09 07:40 J -35491275.32 -35491275.18 -35491275.03 0.0526 0.0098

Pluto -101883-05-08 20:52 J -35491214.68 -35491214.63 -35491214.55 0.0060 0.0057

Pluto -101883-08-04 22:18 J -35491126.66 -35491126.57 -35491126.44 0.0060 0.0050

Pluto -101883-10-31 23:45 J -35491038.63 -35491038.51 -35491038.35 0.0060 0.0043

Mars -101882-01-04 08:52 J -35490974.27 -35490974.13 -35490973.99 0.1646 0.0294

Pluto -101882-01-28 01:11 J -35490950.59 -35490950.45 -35490950.27 0.0060 0.0036

Pluto -101882-04-26 03:06 J -35490862.54 -35490862.37 -35490862.19 0.0060 0.0028

Pluto -101882-07-23 04:33 J -35490774.49 -35490774.31 -35490774.12 0.0061 0.0021

Pluto -101882-10-19 05:59 J -35490686.43 -35490686.25 -35490686.05 0.0061 0.0014

Mars -101882-11-17 13:25 J -35490657.06 -35490656.94 -35490656.81 0.1880 0.0692

Pluto -101881-01-15 07:40 J -35490598.37 -35490598.18 -35490597.98 0.0061 0.0006

Pluto -101881-04-12 09:06 J -35490510.31 -35490510.12 -35490509.92 0.0061 0.0002

Pluto -101881-07-09 10:33 J -35490422.25 -35490422.06 -35490421.86 0.0061 0.0009

Pluto -101881-10-05 11:59 J -35490334.18 -35490334.00 -35490333.80 0.0061 0.0016

Venus -101881-10-27 11:01 J -35490312.16 -35490312.04 -35490311.91 0.3606 0.1043

Pluto -101880-01-01 13:40 J -35490246.11 -35490245.93 -35490245.75 0.0061 0.0023

Uranus -101880-01-27 14:37 J -35490219.95 -35490219.89 -35490219.81 0.0135 0.0119

Pluto -101880-03-30 14:52 J -35490158.03 -35490157.88 -35490157.69 0.0061 0.0031

Uranus -101880-04-25 19:11 J -35490131.79 -35490131.70 -35490131.59 0.0134 0.0101

Pluto -101880-06-26 16:33 J -35490069.95 -35490069.81 -35490069.65 0.0061 0.0038

Uranus -101880-07-22 23:45 J -35490043.62 -35490043.51 -35490043.38 0.0134 0.0083

Pluto -101880-09-22 17:45 J -35489981.87 -35489981.76 -35489981.61 0.0061 0.0046

Uranus -101880-10-19 04:18 J -35489955.45 -35489955.32 -35489955.18 0.0134 0.0064

Mars -101880-10-23 15:21 J -35489950.90 -35489950.86 -35489950.81 0.1865 0.1739

Pluto -101880-12-19 19:25 J -35489893.77 -35489893.69 -35489893.58 0.0061 0.0054

Uranus -101879-01-15 08:52 J -35489867.28 -35489867.13 -35489866.99 0.0134 0.0046

Pluto -101879-03-17 20:52 J -35489805.63 -35489805.63 -35489805.59 0.0061 0.0061

Uranus -101879-04-13 13:11 J -35489779.10 -35489778.95 -35489778.80 0.0134 0.0029

Uranus -101879-07-10 17:30 J -35489690.92 -35489690.77 -35489690.62 0.0134 0.0011

Uranus -101879-10-06 21:49 J -35489602.74 -35489602.59 -35489602.44 0.0134 0.0006

Uranus -101878-01-03 01:54 J -35489514.57 -35489514.42 -35489514.26 0.0134 0.0023

Uranus -101878-04-01 06:13 J -35489426.38 -35489426.24 -35489426.09 0.0134 0.0040

Uranus -101878-06-28 10:18 J -35489338.20 -35489338.07 -35489337.93 0.0134 0.0057

Earth -101878-07-02 07:40 J -35489334.27 -35489334.18 -35489334.08 0.2677 0.1651

Moon -101878-07-02 08:23 J -35489334.23 -35489334.15 -35489334.06 0.2673 0.1784 *

Jupiter -101878-07-28 15:49 J -35489307.97 -35489307.84 -35489307.71 0.0504 0.0258

Uranus -101878-09-24 14:23 J -35489250.02 -35489249.90 -35489249.77 0.0133 0.0074

Jupiter -101878-10-26 06:42 J -35489218.36 -35489218.22 -35489218.08 0.0501 0.0218

Uranus -101878-12-21 18:28 J -35489161.83 -35489161.73 -35489161.61 0.0133 0.0090

Uranus -101877-03-18 22:33 J -35489073.64 -35489073.56 -35489073.46 0.0133 0.0107

Uranus -101877-06-15 02:37 J -35488985.44 -35488985.39 -35488985.33 0.0133 0.0123

Venus -101875-05-13 09:21 J -35488288.21 -35488288.11 -35488288.02 0.3610 0.2361

Moon -101875-12-18 12:42 J -35488069.11 -35488068.97 -35488068.82 0.2663 0.0199

Earth -101875-12-18 12:57 J -35488069.10 -35488068.96 -35488068.82 0.2670 0.0138 *

Mars -101873-05-26 14:37 J -35487544.03 -35487543.89 -35487543.74 0.1643 0.0166

Mars -101872-04-08 18:13 J -35487226.83 -35487226.74 -35487226.65 0.1884 0.1337

Jupiter -101872-12-26 09:21 J -35486965.26 -35486965.11 -35486964.96 0.0525 0.0034

Saturn -101871-01-28 12:13 J -35486932.07 -35486931.99 -35486931.90 0.0291 0.0239

Jupiter -101871-03-26 02:52 J -35486875.42 -35486875.38 -35486875.34 0.0529 0.0505

Saturn -101871-04-27 05:16 J -35486843.40 -35486843.28 -35486843.14 0.0290 0.0149

Moon -101871-06-25 01:54 J -35486784.52 -35486784.42 -35486784.33 0.2670 0.1553

Earth -101871-06-25 01:54 J -35486784.52 -35486784.42 -35486784.32 0.2663 0.1524 *

Saturn -101871-07-24 23:01 J -35486754.69 -35486754.54 -35486754.38 0.0290 0.0055

Saturn -101871-10-21 17:01 J -35486665.95 -35486665.79 -35486665.63 0.0290 0.0041

Saturn -101870-01-18 11:16 J -35486577.17 -35486577.03 -35486576.89 0.0290 0.0138

Mars -101870-03-15 21:21 J -35486520.71 -35486520.61 -35486520.51 0.1869 0.1174

Saturn -101870-04-17 05:45 J -35486488.34 -35486488.26 -35486488.16 0.0289 0.0237

Jupiter -101866-05-16 17:45 J -35484997.85 -35484997.76 -35484997.66 0.0505 0.0375

Jupiter -101866-08-14 08:23 J -35484908.30 -35484908.15 -35484908.00 0.0501 0.0098

Neptune -101866-12-31 12:13 J -35484769.01 -35484768.99 -35484768.93 0.0089 0.0086

Neptune -101865-03-28 14:37 J -35484680.94 -35484680.89 -35484680.80 0.0089 0.0081

Neptune -101865-06-24 17:16 J -35484592.85 -35484592.78 -35484592.69 0.0089 0.0076

Neptune -101865-09-20 19:40 J -35484504.77 -35484504.68 -35484504.57 0.0089 0.0071

Neptune -101865-12-17 22:04 J -35484416.68 -35484416.58 -35484416.46 0.0089 0.0066

Neptune -101864-03-16 00:28 J -35484328.59 -35484328.48 -35484328.36 0.0088 0.0061

Neptune -101864-06-12 02:52 J -35484240.50 -35484240.38 -35484240.25 0.0088 0.0056

Neptune -101864-09-08 05:16 J -35484152.41 -35484152.28 -35484152.15 0.0088 0.0051

Mars -101864-10-16 20:52 J -35484113.76 -35484113.63 -35484113.50 0.1640 0.0606

Neptune -101864-12-05 07:25 J -35484064.32 -35484064.19 -35484064.04 0.0088 0.0046

Neptune -101863-03-03 09:35 J -35483976.23 -35483976.10 -35483975.94 0.0088 0.0042

Neptune -101863-05-30 11:59 J -35483888.14 -35483888.00 -35483887.84 0.0088 0.0037

Neptune -101863-08-26 14:23 J -35483800.04 -35483799.90 -35483799.74 0.0088 0.0032

Neptune -101863-11-22 16:47 J -35483711.95 -35483711.80 -35483711.65 0.0088 0.0027

Neptune -101862-02-18 18:57 J -35483623.86 -35483623.71 -35483623.55 0.0088 0.0022

Neptune -101862-05-17 21:21 J -35483535.77 -35483535.61 -35483535.45 0.0088 0.0017

Neptune -101862-08-13 23:30 J -35483447.68 -35483447.52 -35483447.36 0.0088 0.0013

Mars -101862-09-22 22:18 J -35483407.66 -35483407.57 -35483407.48 0.1652 0.1297

Neptune -101862-11-10 01:54 J -35483359.58 -35483359.42 -35483359.26 0.0088 0.0008

Moon -101862-12-21 14:09 J -35483318.02 -35483317.91 -35483317.79 0.2661 0.1637

Earth -101862-12-21 15:21 J -35483317.97 -35483317.86 -35483317.76 0.2665 0.1810 *

Neptune -101861-02-06 04:04 J -35483271.49 -35483271.33 -35483271.17 0.0088 0.0003

Venus -101861-03-05 17:01 J -35483242.83 -35483242.79 -35483242.74 0.3784 0.3453

Neptune -101861-05-04 06:13 J -35483183.40 -35483183.24 -35483183.08 0.0088 0.0002

Neptune -101861-07-31 08:23 J -35483095.30 -35483095.15 -35483094.99 0.0088 0.0007

Mars -101861-08-05 03:06 J -35483090.49 -35483090.37 -35483090.24 0.1873 0.0598

Neptune -101861-10-27 10:33 J -35483007.21 -35483007.06 -35483006.90 0.0088 0.0012

Neptune -101860-01-23 12:57 J -35482919.12 -35482918.96 -35482918.81 0.0088 0.0016

Neptune -101860-04-21 14:52 J -35482831.02 -35482830.88 -35482830.72 0.0088 0.0021

Neptune -101860-07-18 17:16 J -35482742.93 -35482742.78 -35482742.63 0.0088 0.0025

Jupiter -101860-10-14 10:47 J -35482655.20 -35482655.05 -35482654.91 0.0524 0.0163

Neptune -101860-10-14 19:25 J -35482654.84 -35482654.69 -35482654.54 0.0088 0.0029

Neptune -101859-01-10 21:21 J -35482566.75 -35482566.61 -35482566.46 0.0088 0.0034

Jupiter -101859-01-12 04:33 J -35482565.42 -35482565.31 -35482565.21 0.0528 0.0377

Neptune -101859-04-08 23:45 J -35482478.65 -35482478.51 -35482478.37 0.0088 0.0039

Neptune -101859-07-06 01:40 J -35482390.56 -35482390.43 -35482390.29 0.0088 0.0043

Neptune -101859-10-02 03:49 J -35482302.47 -35482302.34 -35482302.20 0.0088 0.0048

Neptune -101859-12-29 05:45 J -35482214.37 -35482214.26 -35482214.12 0.0088 0.0053

Neptune -101858-03-27 08:09 J -35482126.28 -35482126.16 -35482126.04 0.0088 0.0057

Neptune -101858-06-23 10:04 J -35482038.18 -35482038.08 -35482037.96 0.0088 0.0061

Earth -101858-06-27 21:35 J -35482033.71 -35482033.60 -35482033.48 0.2668 0.0388

Moon -101858-06-27 22:18 J -35482033.69 -35482033.57 -35482033.45 0.2673 0.0326 *

Neptune -101858-09-19 12:13 J -35481950.09 -35481949.99 -35481949.88 0.0088 0.0066

Neptune -101858-12-16 13:54 J -35481861.99 -35481861.92 -35481861.81 0.0088 0.0071

Neptune -101857-03-13 16:04 J -35481773.90 -35481773.83 -35481773.73 0.0088 0.0075

Neptune -101857-06-09 18:28 J -35481685.80 -35481685.73 -35481685.66 0.0088 0.0079

Neptune -101857-09-05 20:09 J -35481597.69 -35481597.66 -35481597.59 0.0088 0.0084

Saturn -101857-12-01 00:42 J -35481511.50 -35481511.47 -35481511.43 0.0269 0.0261

Neptune -101857-12-02 22:18 J -35481509.58 -35481509.57 -35481509.54 0.0088 0.0088

Saturn -101856-02-27 15:06 J -35481422.98 -35481422.87 -35481422.76 0.0269 0.0187

Saturn -101856-05-27 05:16 J -35481334.41 -35481334.28 -35481334.14 0.0270 0.0113

Saturn -101856-08-23 19:11 J -35481245.85 -35481245.70 -35481245.55 0.0270 0.0040

Venus -101856-09-19 11:59 J -35481219.09 -35481219.00 -35481218.91 0.3781 0.2344

Saturn -101856-11-20 08:52 J -35481157.27 -35481157.13 -35481156.98 0.0270 0.0034

Saturn -101855-02-16 22:18 J -35481068.70 -35481068.57 -35481068.43 0.0270 0.0104

Saturn -101855-05-16 11:45 J -35480980.12 -35480980.01 -35480979.90 0.0271 0.0174

Saturn -101855-08-13 00:42 J -35480891.53 -35480891.47 -35480891.41 0.0271 0.0242

Jupiter -101854-03-04 19:40 J -35480687.71 -35480687.68 -35480687.66 0.0506 0.0496

Mars -101854-03-09 03:06 J -35480683.47 -35480683.37 -35480683.26 0.1638 0.1038

Jupiter -101854-06-02 09:49 J -35480598.24 -35480598.09 -35480597.94 0.0503 0.0027

Jupiter -101854-08-31 01:25 J -35480508.50 -35480508.44 -35480508.38 0.0500 0.0456

Mars -101852-02-12 03:35 J -35479977.48 -35479977.35 -35479977.22 0.1648 0.0814

Mars -101852-12-26 08:37 J -35479660.27 -35479660.14 -35479660.01 0.1877 0.0030

Venus -101850-04-05 06:57 J -35479195.31 -35479195.21 -35479195.10 0.3778 0.1204

Jupiter -101848-08-02 11:30 J -35478345.14 -35478345.02 -35478344.90 0.0523 0.0302

Jupiter -101848-10-31 05:30 J -35478255.40 -35478255.27 -35478255.13 0.0527 0.0242

Earth -101845-06-29 17:16 J -35477282.89 -35477282.78 -35477282.67 0.2673 0.0762

Moon -101845-06-29 18:13 J -35477282.86 -35477282.74 -35477282.63 0.2673 0.0895 *

Mars -101845-07-29 09:49 J -35477253.15 -35477253.09 -35477253.03 0.1635 0.1456

Venus -101845-10-19 02:23 J -35477171.51 -35477171.40 -35477171.28 0.3774 0.0030

Mars -101843-07-05 09:06 J -35476547.26 -35476547.12 -35476546.98 0.1645 0.0340

Jupiter -101842-03-21 11:59 J -35476288.15 -35476288.00 -35476287.86 0.0503 0.0143

Mars -101842-05-18 13:40 J -35476230.05 -35476229.93 -35476229.81 0.1881 0.0637

Saturn -101842-06-17 13:54 J -35476199.98 -35476199.92 -35476199.85 0.0290 0.0260

Jupiter -101842-06-19 03:06 J -35476198.48 -35476198.37 -35476198.25 0.0500 0.0339

Saturn -101842-09-14 07:11 J -35476111.33 -35476111.20 -35476111.08 0.0290 0.0169

Saturn -101842-12-12 00:42 J -35476022.63 -35476022.47 -35476022.32 0.0290 0.0077

Earth -101842-12-16 17:01 J -35476017.92 -35476017.79 -35476017.67 0.2675 0.1199

Moon -101842-12-16 17:30 J -35476017.90 -35476017.77 -35476017.64 0.2669 0.1099 *

Saturn -101841-03-09 18:28 J -35475933.89 -35475933.73 -35475933.57 0.0290 0.0018

Saturn -101841-06-06 12:42 J -35475845.12 -35475844.97 -35475844.82 0.0289 0.0115

Saturn -101841-09-03 07:11 J -35475756.30 -35475756.20 -35475756.08 0.0289 0.0213

Venus -101841-10-18 13:40 J -35475711.01 -35475710.93 -35475710.84 0.3597 0.2771

Mars -101840-04-23 15:21 J -35475523.89 -35475523.86 -35475523.82 0.1865 0.1781

Venus -101839-05-04 22:04 J -35475147.69 -35475147.58 -35475147.47 0.3771 0.1220

Moon -101838-06-23 10:33 J -35474733.08 -35474733.06 -35474733.03 0.2665 0.2576

Earth -101838-06-23 11:16 J -35474733.08 -35474733.03 -35474732.99 0.2659 0.2449 *

Jupiter -101836-05-21 11:16 J -35474035.11 -35474035.03 -35474034.96 0.0522 0.0453

Uranus -101836-06-25 02:09 J -35474000.46 -35474000.41 -35474000.35 0.0144 0.0135

Jupiter -101836-08-19 05:59 J -35473945.40 -35473945.25 -35473945.11 0.0526 0.0096

Uranus -101836-09-21 07:40 J -35473912.27 -35473912.18 -35473912.08 0.0144 0.0114

Uranus -101836-12-18 13:11 J -35473824.07 -35473823.95 -35473823.83 0.0144 0.0092

Uranus -101835-03-16 18:42 J -35473735.86 -35473735.72 -35473735.58 0.0145 0.0070

Venus -101835-05-04 12:57 J -35473687.08 -35473686.96 -35473686.83 0.3600 0.1301

Uranus -101835-06-13 00:28 J -35473647.63 -35473647.48 -35473647.33 0.0145 0.0047

Uranus -101835-09-09 05:59 J -35473559.40 -35473559.25 -35473559.09 0.0145 0.0025

Uranus -101835-12-06 11:45 J -35473471.17 -35473471.01 -35473470.84 0.0145 0.0004

Uranus -101834-03-04 17:30 J -35473382.92 -35473382.77 -35473382.60 0.0145 0.0022

Uranus -101834-05-31 23:30 J -35473294.67 -35473294.52 -35473294.37 0.0145 0.0045

Uranus -101834-08-28 05:16 J -35473206.42 -35473206.28 -35473206.13 0.0145 0.0069

Venus -101834-11-18 17:59 J -35473123.84 -35473123.75 -35473123.67 0.3767 0.2482

Uranus -101834-11-24 11:16 J -35473118.15 -35473118.03 -35473117.90 0.0145 0.0093

Mars -101834-11-25 14:52 J -35473117.02 -35473116.88 -35473116.73 0.1643 0.0122

Uranus -101833-02-20 17:16 J -35473029.87 -35473029.78 -35473029.68 0.0145 0.0118

Uranus -101833-05-18 23:30 J -35472941.55 -35472941.52 -35472941.48 0.0145 0.0142

Mars -101833-10-07 18:42 J -35472799.82 -35472799.72 -35472799.63 0.1884 0.1277

Earth -101832-07-02 12:42 J -35472532.05 -35472531.97 -35472531.88 0.2677 0.1888

Moon -101832-07-02 13:25 J -35472532.02 -35472531.94 -35472531.85 0.2673 0.1879 *

Mars -101831-09-13 21:35 J -35472093.69 -35472093.60 -35472093.50 0.1869 0.1231

Jupiter -101830-01-07 14:23 J -35471978.02 -35471977.90 -35471977.77 0.0504 0.0253

Jupiter -101830-04-07 05:30 J -35471888.41 -35471888.27 -35471888.13 0.0501 0.0224

Venus -101830-11-18 11:59 J -35471663.13 -35471663.00 -35471662.87 0.3604 0.0130

Moon -101829-12-18 18:42 J -35471266.86 -35471266.72 -35471266.58 0.2663 0.0343

Earth -101829-12-18 18:57 J -35471266.85 -35471266.71 -35471266.57 0.2670 0.0458 *

Saturn -101827-07-17 17:16 J -35470690.88 -35470690.78 -35470690.68 0.0269 0.0205

Saturn -101827-10-14 07:25 J -35470602.32 -35470602.19 -35470602.06 0.0269 0.0131

Saturn -101826-01-10 21:21 J -35470513.76 -35470513.61 -35470513.46 0.0269 0.0058

Saturn -101826-04-09 11:01 J -35470425.19 -35470425.04 -35470424.88 0.0269 0.0017

Saturn -101826-07-07 00:42 J -35470336.61 -35470336.47 -35470336.33 0.0270 0.0086

Saturn -101826-10-03 13:54 J -35470248.04 -35470247.92 -35470247.80 0.0270 0.0155

Saturn -101826-12-31 02:52 J -35470159.45 -35470159.38 -35470159.30 0.0270 0.0224

Earth -101825-06-25 06:57 J -35469982.31 -35469982.21 -35469982.10 0.2664 0.1285

Moon -101825-06-25 07:11 J -35469982.30 -35469982.20 -35469982.10 0.2670 0.1236 *

Mars -101824-04-16 21:06 J -35469686.75 -35469686.62 -35469686.48 0.1640 0.0558

Venus -101824-06-03 10:18 J -35469639.18 -35469639.07 -35469638.95 0.3607 0.1484

Jupiter -101824-06-07 07:11 J -35469635.35 -35469635.20 -35469635.04 0.0525 0.0039

Jupiter -101824-09-05 00:42 J -35469545.51 -35469545.47 -35469545.43 0.0529 0.0500

Mars -101822-03-23 22:33 J -35468980.64 -35468980.56 -35468980.47 0.1652 0.1351

Mars -101821-02-04 03:21 J -35468663.48 -35468663.36 -35468663.24 0.1873 0.0649

Jupiter -101819-10-26 16:33 J -35467667.91 -35467667.81 -35467667.70 0.0505 0.0368

Venus -101819-12-18 08:37 J -35467615.22 -35467615.14 -35467615.06 0.3611 0.2786

Jupiter -101818-01-24 07:11 J -35467578.35 -35467578.20 -35467578.05 0.0501 0.0106

Moon -101816-12-21 19:54 J -35466515.75 -35466515.67 -35466515.58 0.2662 0.2128

Earth -101816-12-21 21:21 J -35466515.70 -35466515.61 -35466515.53 0.2665 0.2153 *

Mars -101815-09-07 03:35 J -35466256.46 -35466256.35 -35466256.24 0.1637 0.0987

Mars -101813-08-13 03:49 J -35465550.46 -35465550.34 -35465550.21 0.1648 0.0866

Saturn -101812-01-31 05:30 J -35465379.37 -35465379.27 -35465379.16 0.0291 0.0207

Jupiter -101812-03-26 08:52 J -35465325.27 -35465325.13 -35465324.98 0.0525 0.0164

Saturn -101812-04-29 23:01 J -35465290.69 -35465290.54 -35465290.40 0.0290 0.0115

Jupiter -101812-06-24 02:37 J -35465235.49 -35465235.39 -35465235.28 0.0528 0.0377

Mars -101812-06-26 08:52 J -35465233.26 -35465233.13 -35465233.00 0.1877 0.0059

Earth -101812-06-28 02:52 J -35465231.50 -35465231.38 -35465231.26 0.2668 0.0150

Moon -101812-06-28 03:21 J -35465231.47 -35465231.36 -35465231.24 0.2674 0.0097 *

Saturn -101812-07-27 16:33 J -35465201.96 -35465201.81 -35465201.65 0.0290 0.0023

Saturn -101812-10-24 10:47 J -35465113.21 -35465113.05 -35465112.90 0.0290 0.0075

Saturn -101811-01-21 05:01 J -35465024.41 -35465024.29 -35465024.15 0.0290 0.0173

Saturn -101811-04-19 23:45 J -35464935.55 -35464935.51 -35464935.45 0.0289 0.0271

Earth -101809-12-13 21:06 J -35463966.67 -35463966.62 -35463966.57 0.2680 0.2489

Moon -101809-12-13 22:18 J -35463966.63 -35463966.57 -35463966.51 0.2677 0.2381 *

Jupiter -101807-08-14 18:42 J -35463357.75 -35463357.72 -35463357.67 0.0505 0.0483

Jupiter -101807-11-12 09:06 J -35463268.27 -35463268.12 -35463267.97 0.0502 0.0013

Jupiter -101806-02-10 00:42 J -35463178.52 -35463178.47 -35463178.42 0.0499 0.0468

Mars -101805-01-28 10:04 J -35462826.15 -35462826.08 -35462826.00 0.1635 0.1406

Venus -101805-10-10 15:21 J -35462569.92 -35462569.86 -35462569.80 0.3783 0.3082

Mars -101803-01-03 09:35 J -35462120.25 -35462120.10 -35462119.96 0.1645 0.0398

Mars -101803-11-16 13:54 J -35461803.04 -35461802.92 -35461802.79 0.1881 0.0580

Mars -101801-10-22 15:35 J -35461096.86 -35461096.85 -35461096.83 0.1865 0.1839

Jupiter -101800-01-12 10:04 J -35461015.20 -35461015.08 -35461014.95 0.0523 0.0296

Jupiter -101800-04-12 04:18 J -35460925.45 -35460925.32 -35460925.18 0.0527 0.0250

Venus -101799-04-26 10:18 J -35460546.17 -35460546.07 -35460545.97 0.3780 0.1962

Earth -101799-06-30 22:18 J -35460480.68 -35460480.57 -35460480.46 0.2673 0.1002

Moon -101799-06-30 23:16 J -35460480.64 -35460480.53 -35460480.42 0.2672 0.1055 *

Saturn -101798-12-04 17:45 J -35459958.84 -35459958.76 -35459958.68 0.0269 0.0232

Saturn -101797-03-02 07:54 J -35459870.29 -35459870.17 -35459870.04 0.0269 0.0158

Saturn -101797-05-29 22:04 J -35459781.72 -35459781.58 -35459781.43 0.0269 0.0084

Saturn -101797-08-26 11:59 J -35459693.15 -35459693.00 -35459692.85 0.0270 0.0011

Uranus -101797-11-20 16:47 J -35459606.80 -35459606.80 -35459606.78 0.0135 0.0135

Saturn -101797-11-23 01:40 J -35459604.58 -35459604.43 -35459604.29 0.0270 0.0061

Uranus -101796-02-16 21:35 J -35459518.67 -35459518.60 -35459518.52 0.0135 0.0116

Saturn -101796-02-19 14:52 J -35459516.01 -35459515.88 -35459515.75 0.0270 0.0131

Uranus -101796-05-16 02:09 J -35459430.51 -35459430.41 -35459430.30 0.0134 0.0098

Saturn -101796-05-19 04:04 J -35459427.42 -35459427.33 -35459427.23 0.0271 0.0200

Uranus -101796-08-12 06:42 J -35459342.35 -35459342.22 -35459342.10 0.0134 0.0079

Saturn -101796-08-15 17:01 J -35459338.80 -35459338.79 -35459338.77 0.0271 0.0268

Uranus -101796-11-08 11:01 J -35459254.17 -35459254.04 -35459253.90 0.0134 0.0062

Earth -101796-12-16 22:47 J -35459215.68 -35459215.55 -35459215.41 0.2674 0.0870

Moon -101796-12-16 23:16 J -35459215.67 -35459215.53 -35459215.40 0.2667 0.0872 *

Uranus -101795-02-04 15:21 J -35459166.00 -35459165.86 -35459165.71 0.0134 0.0044

Uranus -101795-05-03 19:54 J -35459077.82 -35459077.67 -35459077.52 0.0134 0.0026

Uranus -101795-07-31 00:13 J -35458989.64 -35458989.49 -35458989.34 0.0134 0.0009

Jupiter -101795-08-31 10:33 J -35458958.20 -35458958.06 -35458957.91 0.0503 0.0137

Uranus -101795-10-27 04:33 J -35458901.46 -35458901.31 -35458901.16 0.0134 0.0009

Jupiter -101795-11-29 01:54 J -35458868.53 -35458868.42 -35458868.31 0.0500 0.0343

Uranus -101794-01-23 08:37 J -35458813.29 -35458813.14 -35458812.99 0.0134 0.0026

Uranus -101794-04-21 12:57 J -35458725.10 -35458724.96 -35458724.82 0.0134 0.0043

Mars -101794-05-26 15:21 J -35458690.01 -35458689.86 -35458689.72 0.1642 0.0074

Uranus -101794-07-18 17:01 J -35458636.92 -35458636.79 -35458636.65 0.0134 0.0060

Uranus -101794-10-14 21:06 J -35458548.74 -35458548.62 -35458548.49 0.0133 0.0076

Venus -101794-11-10 05:30 J -35458522.38 -35458522.27 -35458522.16 0.3777 0.0805

Uranus -101793-01-11 01:11 J -35458460.55 -35458460.45 -35458460.34 0.0133 0.0093

Mars -101793-04-07 18:28 J -35458372.82 -35458372.73 -35458372.63 0.1884 0.1232

Uranus -101793-04-08 05:16 J -35458372.36 -35458372.28 -35458372.19 0.0133 0.0109

Uranus -101793-07-05 09:21 J -35458284.15 -35458284.11 -35458284.06 0.0133 0.0125

Moon -101792-06-23 15:49 J -35457930.91 -35457930.84 -35457930.78 0.2665 0.2192

Earth -101792-06-23 16:18 J -35457930.89 -35457930.82 -35457930.76 0.2660 0.2204 *

Mars -101791-03-14 21:35 J -35457666.69 -35457666.60 -35457666.50 0.1869 0.1279

Pluto -101790-09-05 11:01 J -35457127.04 -35457127.04 -35457127.02 0.0085 0.0084

Pluto -101790-12-02 12:13 J -35457039.05 -35457038.99 -35457038.91 0.0085 0.0071

Pluto -101789-02-28 13:40 J -35456951.02 -35456950.93 -35456950.83 0.0085 0.0057

Pluto -101789-05-26 14:52 J -35456862.98 -35456862.88 -35456862.76 0.0084 0.0044

Pluto -101789-08-22 16:04 J -35456774.94 -35456774.83 -35456774.70 0.0084 0.0031

Jupiter -101789-10-31 10:47 J -35456705.13 -35456705.05 -35456704.96 0.0522 0.0434

Pluto -101789-11-18 17:30 J -35456686.90 -35456686.77 -35456686.64 0.0084 0.0017

Jupiter -101788-01-29 05:30 J -35456615.42 -35456615.27 -35456615.12 0.0526 0.0114

Pluto -101788-02-14 18:42 J -35456598.85 -35456598.72 -35456598.58 0.0084 0.0004

Pluto -101788-05-13 19:54 J -35456510.80 -35456510.67 -35456510.53 0.0084 0.0010

Venus -101788-05-26 00:57 J -35456498.58 -35456498.46 -35456498.35 0.3773 0.0390

Pluto -101788-08-09 21:06 J -35456422.74 -35456422.62 -35456422.49 0.0084 0.0023

Pluto -101788-11-05 22:18 J -35456334.68 -35456334.57 -35456334.44 0.0084 0.0036

Pluto -101787-02-01 23:30 J -35456246.62 -35456246.52 -35456246.41 0.0084 0.0049

Pluto -101787-05-01 00:42 J -35456158.55 -35456158.47 -35456158.37 0.0083 0.0061

Pluto -101787-07-28 01:40 J -35456070.47 -35456070.43 -35456070.35 0.0083 0.0075

Earth -101786-07-03 17:45 J -35455729.82 -35455729.76 -35455729.68 0.2678 0.2120

Moon -101786-07-03 18:28 J -35455729.79 -35455729.73 -35455729.67 0.2674 0.2230 *

Mars -101785-10-15 21:21 J -35455259.74 -35455259.61 -35455259.47 0.1640 0.0511

Venus -101784-05-25 13:25 J -35455038.05 -35455037.94 -35455037.84 0.3598 0.2279

Mars -101784-08-28 23:16 J -35454942.53 -35454942.53 -35454942.53 0.1887 0.1884

Neptune -101783-03-21 05:16 J -35454738.29 -35454738.28 -35454738.26 0.0089 0.0088

Neptune -101783-06-17 06:57 J -35454650.24 -35454650.21 -35454650.15 0.0089 0.0084

Jupiter -101783-06-19 12:42 J -35454648.10 -35454647.97 -35454647.84 0.0504 0.0252

Saturn -101783-06-20 06:28 J -35454647.31 -35454647.23 -35454647.13 0.0290 0.0232

Neptune -101783-09-13 08:52 J -35454562.18 -35454562.13 -35454562.05 0.0089 0.0080

Saturn -101783-09-16 23:59 J -35454558.64 -35454558.50 -35454558.36 0.0290 0.0140

Jupiter -101783-09-17 03:49 J -35454558.48 -35454558.34 -35454558.21 0.0501 0.0226 *

Mars -101783-09-21 23:01 J -35454553.62 -35454553.54 -35454553.47 0.1652 0.1405

Venus -101783-12-09 20:37 J -35454474.75 -35454474.64 -35454474.54 0.3770 0.1622

Neptune -101783-12-10 11:01 J -35454474.11 -35454474.04 -35454473.95 0.0089 0.0075

Saturn -101783-12-14 17:30 J -35454469.92 -35454469.77 -35454469.61 0.0290 0.0047

Moon -101783-12-20 00:28 J -35454464.62 -35454464.48 -35454464.35 0.2663 0.0816

Earth -101783-12-20 00:57 J -35454464.60 -35454464.46 -35454464.33 0.2669 0.0794 *

Neptune -101782-03-08 12:57 J -35454386.04 -35454385.96 -35454385.86 0.0089 0.0071

Saturn -101782-03-13 11:30 J -35454381.18 -35454381.02 -35454380.86 0.0290 0.0050

Neptune -101782-06-04 14:52 J -35454297.96 -35454297.88 -35454297.76 0.0089 0.0067

Saturn -101782-06-10 05:59 J -35454292.39 -35454292.25 -35454292.11 0.0289 0.0147

Mars -101782-08-05 03:35 J -35454236.47 -35454236.35 -35454236.23 0.1874 0.0702

Neptune -101782-08-31 17:01 J -35454209.89 -35454209.79 -35454209.67 0.0089 0.0062

Saturn -101782-09-07 00:28 J -35454203.56 -35454203.48 -35454203.39 0.0289 0.0245

Neptune -101782-11-27 18:57 J -35454121.81 -35454121.71 -35454121.58 0.0089 0.0058

Neptune -101781-02-23 21:06 J -35454033.74 -35454033.62 -35454033.49 0.0089 0.0053

Neptune -101781-05-21 23:01 J -35453945.66 -35453945.54 -35453945.40 0.0089 0.0049

Neptune -101781-08-18 01:11 J -35453857.58 -35453857.45 -35453857.31 0.0089 0.0044

Neptune -101781-11-14 03:06 J -35453769.50 -35453769.37 -35453769.22 0.0089 0.0040

Neptune -101780-02-10 05:16 J -35453681.42 -35453681.28 -35453681.13 0.0089 0.0035

Neptune -101780-05-09 07:11 J -35453593.33 -35453593.20 -35453593.04 0.0089 0.0031

Neptune -101780-08-05 09:21 J -35453505.25 -35453505.11 -35453504.95 0.0089 0.0026

Neptune -101780-11-01 11:30 J -35453417.17 -35453417.02 -35453416.86 0.0089 0.0022

Neptune -101779-01-28 13:40 J -35453329.08 -35453328.93 -35453328.78 0.0089 0.0017

Neptune -101779-04-26 15:49 J -35453241.00 -35453240.84 -35453240.69 0.0089 0.0012

Earth -101779-06-26 12:13 J -35453180.10 -35453179.99 -35453179.88 0.2664 0.1043

Moon -101779-06-26 12:28 J -35453180.09 -35453179.98 -35453179.87 0.2671 0.1072 *

Neptune -101779-07-23 17:45 J -35453152.91 -35453152.76 -35453152.60 0.0089 0.0008

Neptune -101779-10-19 19:54 J -35453064.82 -35453064.67 -35453064.51 0.0089 0.0004

Venus -101779-12-09 12:28 J -35453014.10 -35453013.98 -35453013.85 0.3601 0.0827

Neptune -101778-01-15 22:04 J -35452976.73 -35452976.58 -35452976.42 0.0089 0.0003

Neptune -101778-04-14 00:13 J -35452888.64 -35452888.49 -35452888.33 0.0089 0.0007

Neptune -101778-07-11 02:23 J -35452800.55 -35452800.40 -35452800.24 0.0089 0.0011

Neptune -101778-10-07 04:33 J -35452712.46 -35452712.31 -35452712.15 0.0089 0.0016

Neptune -101777-01-03 06:42 J -35452624.37 -35452624.22 -35452624.07 0.0089 0.0021

Neptune -101777-03-31 08:52 J -35452536.28 -35452536.13 -35452535.98 0.0089 0.0025

Venus -101777-06-24 16:33 J -35452450.88 -35452450.81 -35452450.74 0.3766 0.2891

Neptune -101777-06-27 11:01 J -35452448.19 -35452448.04 -35452447.89 0.0089 0.0030

Neptune -101777-09-23 13:11 J -35452360.09 -35452359.95 -35452359.80 0.0089 0.0035

Jupiter -101777-11-17 05:30 J -35452305.42 -35452305.27 -35452305.12 0.0525 0.0037

Neptune -101777-12-20 15:21 J -35452272.00 -35452271.86 -35452271.71 0.0089 0.0040

Jupiter -101776-02-14 23:01 J -35452215.58 -35452215.54 -35452215.50 0.0528 0.0501

Neptune -101776-03-18 17:45 J -35452183.90 -35452183.76 -35452183.62 0.0089 0.0044

Neptune -101776-06-14 19:54 J -35452095.80 -35452095.67 -35452095.54 0.0089 0.0049

Neptune -101776-09-10 22:04 J -35452007.70 -35452007.58 -35452007.45 0.0089 0.0054

Neptune -101776-12-08 00:13 J -35451919.60 -35451919.49 -35451919.36 0.0089 0.0059

Neptune -101775-03-06 02:23 J -35451831.50 -35451831.40 -35451831.28 0.0089 0.0064

Mars -101775-03-08 03:49 J -35451829.46 -35451829.34 -35451829.22 0.1638 0.0940

Neptune -101775-06-02 04:33 J -35451743.39 -35451743.31 -35451743.19 0.0089 0.0069

Neptune -101775-08-29 07:11 J -35451655.29 -35451655.20 -35451655.11 0.0089 0.0073

Neptune -101775-11-25 09:21 J -35451567.18 -35451567.11 -35451567.03 0.0089 0.0078

Neptune -101774-02-21 11:45 J -35451479.06 -35451479.01 -35451478.95 0.0089 0.0083

Neptune -101774-05-20 13:54 J -35451390.93 -35451390.92 -35451390.89 0.0089 0.0088

Mars -101773-02-12 04:04 J -35451123.45 -35451123.33 -35451123.20 0.1648 0.0917

Venus -101773-06-24 11:16 J -35450990.16 -35450990.03 -35450989.90 0.3605 0.0580

Mars -101773-12-25 09:06 J -35450806.25 -35450806.12 -35450805.99 0.1877 0.0108

Jupiter -101771-04-07 15:21 J -35450337.96 -35450337.86 -35450337.75 0.0505 0.0361

Jupiter -101771-07-06 05:59 J -35450248.40 -35450248.25 -35450248.10 0.0502 0.0114

Moon -101770-12-23 01:54 J -35449713.49 -35449713.42 -35449713.35 0.2661 0.2272

Earth -101770-12-23 03:06 J -35449713.41 -35449713.37 -35449713.32 0.2664 0.2497 *

Saturn -101768-04-22 19:54 J -35449226.72 -35449226.67 -35449226.62 0.0269 0.0251

Saturn -101768-07-20 10:04 J -35449138.19 -35449138.08 -35449137.96 0.0269 0.0177

Saturn -101768-10-17 00:13 J -35449049.63 -35449049.49 -35449049.35 0.0269 0.0103

Venus -101767-01-08 09:35 J -35448966.20 -35448966.10 -35448965.99 0.3608 0.1916

Saturn -101767-01-13 14:09 J -35448961.06 -35448960.91 -35448960.76 0.0269 0.0030

Saturn -101767-04-12 03:49 J -35448872.49 -35448872.34 -35448872.19 0.0269 0.0042

Saturn -101767-07-09 17:16 J -35448783.92 -35448783.78 -35448783.65 0.0270 0.0113

Saturn -101767-10-06 06:28 J -35448695.34 -35448695.23 -35448695.12 0.0270 0.0182

Saturn -101766-01-02 19:25 J -35448606.74 -35448606.69 -35448606.64 0.0270 0.0250

Earth -101766-06-29 07:54 J -35448429.29 -35448429.17 -35448429.05 0.2669 0.0109

Moon -101766-06-29 08:37 J -35448429.26 -35448429.14 -35448429.02 0.2673 0.0202 *

Mars -101766-07-29 10:18 J -35448399.14 -35448399.07 -35448398.99 0.1635 0.1361

Jupiter -101765-09-05 06:57 J -35447995.36 -35447995.21 -35447995.07 0.0524 0.0166

Jupiter -101765-12-04 00:42 J -35447905.57 -35447905.47 -35447905.36 0.0528 0.0374

Mars -101764-07-04 09:49 J -35447693.23 -35447693.09 -35447692.95 0.1645 0.0446

Mars -101763-05-17 14:09 J -35447376.04 -35447375.91 -35447375.79 0.1881 0.0531

Earth -101763-12-15 03:06 J -35447164.45 -35447164.37 -35447164.29 0.2679 0.2164

Moon -101763-12-15 04:04 J -35447164.42 -35447164.33 -35447164.24 0.2675 0.2040 *

Venus -101762-07-25 07:40 J -35446942.23 -35446942.18 -35446942.12 0.3612 0.3200

Jupiter -101759-01-24 17:45 J -35446027.81 -35446027.76 -35446027.71 0.0506 0.0473

Jupiter -101759-04-24 08:09 J -35445938.32 -35445938.16 -35445938.01 0.0502 0.0015

Jupiter -101759-07-22 23:30 J -35445848.55 -35445848.52 -35445848.47 0.0499 0.0478

Mars -101755-11-24 15:35 J -35444262.99 -35444262.85 -35444262.70 0.1643 0.0052

Mars -101754-10-07 18:57 J -35443945.81 -35443945.71 -35443945.60 0.1884 0.1165

Saturn -101754-11-07 05:16 J -35443915.33 -35443915.28 -35443915.22 0.0291 0.0269

Saturn -101753-02-03 22:18 J -35443826.69 -35443826.57 -35443826.45 0.0291 0.0178

Saturn -101753-05-02 15:49 J -35443737.99 -35443737.84 -35443737.69 0.0290 0.0086

Jupiter -101753-06-24 08:23 J -35443685.27 -35443685.15 -35443685.02 0.0524 0.0295

Earth -101753-07-01 03:21 J -35443678.46 -35443678.36 -35443678.25 0.2674 0.1245

Moon -101753-07-01 04:18 J -35443678.42 -35443678.32 -35443678.22 0.2672 0.1338 *

Saturn -101753-07-30 09:35 J -35443649.26 -35443649.10 -35443648.94 0.0290 0.0009

Jupiter -101753-09-22 02:37 J -35443595.52 -35443595.39 -35443595.26 0.0527 0.0250

Saturn -101753-10-27 03:49 J -35443560.49 -35443560.34 -35443560.19 0.0290 0.0106

Saturn -101752-01-23 22:18 J -35443471.68 -35443471.57 -35443471.45 0.0289 0.0204

Uranus -101752-07-15 09:06 J -35443299.18 -35443299.12 -35443299.05 0.0144 0.0131

Mars -101752-09-12 21:49 J -35443239.67 -35443239.59 -35443239.50 0.1869 0.1336

Uranus -101752-10-11 14:37 J -35443210.99 -35443210.89 -35443210.79 0.0144 0.0110

Uranus -101751-01-07 20:09 J -35443122.78 -35443122.66 -35443122.53 0.0144 0.0088

Uranus -101751-04-06 01:40 J -35443034.57 -35443034.43 -35443034.28 0.0145 0.0065

Uranus -101751-07-03 07:25 J -35442946.34 -35442946.19 -35442946.04 0.0145 0.0043

Uranus -101751-09-29 12:57 J -35442858.11 -35442857.96 -35442857.79 0.0145 0.0021

Uranus -101751-12-26 18:57 J -35442769.88 -35442769.71 -35442769.55 0.0145 0.0005

Uranus -101750-03-25 00:42 J -35442681.63 -35442681.47 -35442681.31 0.0145 0.0026

Uranus -101750-06-21 06:28 J -35442593.38 -35442593.23 -35442593.08 0.0145 0.0050

Uranus -101750-09-17 12:28 J -35442505.12 -35442504.98 -35442504.84 0.0145 0.0074

Uranus -101750-12-14 18:28 J -35442416.85 -35442416.73 -35442416.61 0.0145 0.0098

Earth -101750-12-18 04:47 J -35442413.44 -35442413.30 -35442413.16 0.2674 0.0539

Moon -101750-12-18 05:01 J -35442413.43 -35442413.29 -35442413.15 0.2667 0.0498 *

Uranus -101749-03-12 00:28 J -35442328.57 -35442328.48 -35442328.39 0.0145 0.0122

Venus -101748-05-17 13:40 J -35441897.00 -35441896.93 -35441896.85 0.3782 0.2710

Jupiter -101747-02-10 10:04 J -35441628.23 -35441628.08 -35441627.94 0.0503 0.0121

Jupiter -101747-05-11 01:11 J -35441538.55 -35441538.45 -35441538.34 0.0500 0.0358

Moon -101746-06-24 21:06 J -35441128.69 -35441128.62 -35441128.55 0.2666 0.2060

Earth -101746-06-24 21:21 J -35441128.69 -35441128.61 -35441128.53 0.2660 0.1960 *

Mars -101745-04-15 21:49 J -35440832.73 -35440832.59 -35440832.45 0.1640 0.0459

Mars -101744-02-26 23:16 J -35440515.55 -35440515.53 -35440515.50 0.1887 0.1836

Mars -101743-03-22 23:16 J -35440126.59 -35440126.53 -35440126.46 0.1652 0.1461

Venus -101743-12-01 08:37 J -35439873.24 -35439873.14 -35439873.03 0.3779 0.1586

Mars -101742-02-03 03:49 J -35439809.46 -35439809.34 -35439809.23 0.1873 0.0758

Jupiter -101741-04-12 09:35 J -35439375.18 -35439375.10 -35439375.01 0.0523 0.0426

Jupiter -101741-07-11 04:18 J -35439285.46 -35439285.32 -35439285.17 0.0526 0.0122

Earth -101740-07-03 23:01 J -35438927.60 -35438927.54 -35438927.49 0.2679 0.2357

Moon -101740-07-03 23:16 J -35438927.58 -35438927.53 -35438927.47 0.2673 0.2344 *

Saturn -101739-12-07 10:18 J -35438406.17 -35438406.07 -35438405.97 0.0269 0.0205

Saturn -101738-03-06 00:28 J -35438317.61 -35438317.48 -35438317.34 0.0269 0.0131

Saturn -101738-06-02 14:37 J -35438229.04 -35438228.89 -35438228.74 0.0269 0.0058

Saturn -101738-08-30 04:18 J -35438140.47 -35438140.32 -35438140.17 0.0270 0.0015

Saturn -101738-11-26 17:45 J -35438051.90 -35438051.76 -35438051.62 0.0270 0.0086

Saturn -101737-02-23 07:11 J -35437963.32 -35437963.20 -35437963.08 0.0270 0.0156

Saturn -101737-05-21 20:09 J -35437874.74 -35437874.66 -35437874.58 0.0271 0.0225

Venus -101737-06-16 04:04 J -35437849.45 -35437849.33 -35437849.22 0.3776 0.0432

Moon -101737-12-20 05:59 J -35437662.38 -35437662.25 -35437662.12 0.2664 0.1005

Earth -101737-12-20 06:57 J -35437662.34 -35437662.21 -35437662.09 0.2669 0.1136 *

Mars -101736-09-06 04:04 J -35437402.45 -35437402.33 -35437402.21 0.1637 0.0893

Jupiter -101736-11-29 11:30 J -35437318.15 -35437318.02 -35437317.88 0.0504 0.0244

Jupiter -101735-02-27 02:37 J -35437228.53 -35437228.39 -35437228.26 0.0501 0.0233

Mars -101734-08-13 04:33 J -35436696.43 -35436696.31 -35436696.19 0.1648 0.0970

Venus -101733-06-15 13:25 J -35436388.99 -35436388.94 -35436388.89 0.3596 0.3279

Mars -101733-06-25 09:06 J -35436379.25 -35436379.12 -35436378.99 0.1877 0.0149

Earth -101733-06-26 17:16 J -35436377.89 -35436377.78 -35436377.67 0.2665 0.0800

Moon -101733-06-26 17:30 J -35436377.88 -35436377.77 -35436377.65 0.2672 0.0709 *

Venus -101732-12-30 23:30 J -35435825.63 -35435825.52 -35435825.41 0.3772 0.0792

Jupiter -101729-04-29 05:30 J -35434975.42 -35434975.27 -35434975.12 0.0525 0.0015

Jupiter -101729-07-27 22:47 J -35434885.57 -35434885.55 -35434885.53 0.0528 0.0521

Venus -101728-12-30 12:57 J -35434365.08 -35434364.96 -35434364.85 0.3599 0.1789

Mars -101726-01-27 10:33 J -35433972.14 -35433972.06 -35433971.97 0.1635 0.1316

Venus -101726-07-16 19:11 J -35433801.80 -35433801.70 -35433801.60 0.3769 0.2025

Mars -101724-01-02 10:04 J -35433266.22 -35433266.08 -35433265.94 0.1645 0.0497

Saturn -101724-06-22 23:01 J -35433094.64 -35433094.54 -35433094.43 0.0290 0.0204

Jupiter -101724-09-17 13:54 J -35433008.02 -35433007.92 -35433007.81 0.0505 0.0357

Saturn -101724-09-19 16:33 J -35433005.96 -35433005.81 -35433005.67 0.0290 0.0112

Mars -101724-11-15 14:23 J -35432949.03 -35432948.90 -35432948.77 0.1881 0.0467

Jupiter -101724-12-16 04:33 J -35432918.46 -35432918.31 -35432918.16 0.0502 0.0117

Saturn -101724-12-17 10:04 J -35432917.23 -35432917.08 -35432916.92 0.0290 0.0020

Saturn -101723-03-16 04:18 J -35432828.48 -35432828.32 -35432828.17 0.0290 0.0079

Saturn -101723-06-12 22:33 J -35432739.68 -35432739.56 -35432739.42 0.0289 0.0177

Saturn -101723-09-09 17:30 J -35432650.81 -35432650.77 -35432650.72 0.0289 0.0275

Venus -101722-07-16 11:59 J -35432341.13 -35432341.00 -35432340.87 0.3602 0.0356

Venus -101720-01-29 15:06 J -35431777.92 -35431777.87 -35431777.81 0.3765 0.3303

Earth -101720-06-29 12:57 J -35431627.08 -35431626.96 -35431626.84 0.2670 0.0345

Moon -101720-06-29 13:40 J -35431627.04 -35431626.93 -35431626.81 0.2672 0.0385 *

Jupiter -101717-02-16 05:16 J -35430665.42 -35430665.28 -35430665.13 0.0524 0.0163

Jupiter -101717-05-15 23:16 J -35430575.63 -35430575.53 -35430575.43 0.0528 0.0378

Earth -101717-12-15 08:52 J -35430362.23 -35430362.13 -35430362.02 0.2678 0.1838

Moon -101717-12-15 09:49 J -35430362.19 -35430362.09 -35430361.99 0.2673 0.1826 *

Venus -101716-01-29 10:33 J -35430317.18 -35430317.06 -35430316.93 0.3606 0.1015

Mars -101715-05-25 15:49 J -35429835.98 -35429835.84 -35429835.69 0.1643 0.0060

Mars -101714-04-07 19:11 J -35429518.80 -35429518.70 -35429518.59 0.1884 0.1109

Uranus -101713-12-10 23:45 J -35428905.54 -35428905.51 -35428905.47 0.0135 0.0131

Uranus -101712-03-09 04:18 J -35428817.40 -35428817.32 -35428817.23 0.0134 0.0113

Mars -101712-03-13 22:04 J -35428812.66 -35428812.58 -35428812.49 0.1870 0.1390

Uranus -101712-06-05 08:52 J -35428729.23 -35428729.13 -35428729.01 0.0134 0.0094

Jupiter -101712-07-06 16:33 J -35428697.86 -35428697.81 -35428697.75 0.0506 0.0466

Uranus -101712-09-01 13:25 J -35428641.06 -35428640.94 -35428640.81 0.0134 0.0076

Jupiter -101712-10-04 06:57 J -35428608.36 -35428608.21 -35428608.06 0.0503 0.0005

Uranus -101712-11-28 17:59 J -35428552.89 -35428552.75 -35428552.61 0.0134 0.0058

Jupiter -101711-01-01 22:33 J -35428518.59 -35428518.56 -35428518.53 0.0500 0.0488

Uranus -101711-02-24 22:18 J -35428464.72 -35428464.57 -35428464.42 0.0134 0.0041

Uranus -101711-05-24 02:37 J -35428376.54 -35428376.39 -35428376.23 0.0134 0.0023

Venus -101711-08-15 08:52 J -35428293.23 -35428293.13 -35428293.03 0.3610 0.2336

Uranus -101711-08-20 06:57 J -35428288.36 -35428288.21 -35428288.05 0.0134 0.0006

Uranus -101711-11-16 11:16 J -35428200.18 -35428200.03 -35428199.88 0.0134 0.0012

Uranus -101710-02-12 15:35 J -35428112.00 -35428111.85 -35428111.70 0.0134 0.0029

Uranus -101710-05-11 19:40 J -35428023.82 -35428023.68 -35428023.53 0.0134 0.0046

Uranus -101710-08-07 23:45 J -35427935.64 -35427935.51 -35427935.37 0.0133 0.0063

Uranus -101710-11-04 03:49 J -35427847.45 -35427847.34 -35427847.21 0.0133 0.0080

Uranus -101709-01-31 08:09 J -35427759.26 -35427759.16 -35427759.05 0.0133 0.0095

Saturn -101709-04-25 12:28 J -35427674.06 -35427673.98 -35427673.90 0.0269 0.0224

Uranus -101709-04-28 11:59 J -35427671.07 -35427671.00 -35427670.91 0.0133 0.0112

Saturn -101709-07-23 02:37 J -35427585.51 -35427585.39 -35427585.26 0.0269 0.0150

Uranus -101709-07-25 16:04 J -35427582.86 -35427582.83 -35427582.78 0.0133 0.0128

Saturn -101709-10-19 16:47 J -35427496.95 -35427496.80 -35427496.65 0.0269 0.0076

Saturn -101708-01-16 06:42 J -35427408.38 -35427408.22 -35427408.07 0.0269 0.0008

Saturn -101708-04-14 20:09 J -35427319.80 -35427319.66 -35427319.51 0.0270 0.0068

Saturn -101708-07-12 09:21 J -35427231.23 -35427231.11 -35427230.98 0.0270 0.0139

Saturn -101708-10-08 22:33 J -35427142.65 -35427142.56 -35427142.46 0.0270 0.0208

Earth -101707-07-02 08:37 J -35426876.24 -35426876.14 -35426876.05 0.2675 0.1477

Moon -101707-07-02 09:21 J -35426876.21 -35426876.11 -35426876.01 0.2673 0.1547 *

Mars -101706-10-15 22:04 J -35426405.72 -35426405.58 -35426405.44 0.1640 0.0409

Jupiter -101706-12-05 06:28 J -35426355.35 -35426355.23 -35426355.10 0.0523 0.0296

Venus -101705-02-29 06:42 J -35426269.23 -35426269.22 -35426269.21 0.3613 0.3593

Jupiter -101705-03-04 00:57 J -35426265.60 -35426265.46 -35426265.33 0.0527 0.0249

Mars -101705-08-27 23:45 J -35426088.55 -35426088.51 -35426088.47 0.1887 0.1774

Mars -101704-09-20 23:45 J -35425699.57 -35425699.51 -35425699.45 0.1652 0.1514

Moon -101704-12-18 10:47 J -35425611.19 -35425611.05 -35425610.91 0.2666 0.0191

Earth -101704-12-18 10:47 J -35425611.19 -35425611.05 -35425610.91 0.2673 0.0205 *

Mars -101703-08-04 03:49 J -35425382.45 -35425382.34 -35425382.22 0.1873 0.0814

Neptune -101701-06-30 09:21 J -35424686.11 -35424686.11 -35424686.06 0.0089 0.0088

Neptune -101701-09-26 11:59 J -35424598.04 -35424598.00 -35424597.93 0.0089 0.0083

Neptune -101701-12-23 14:23 J -35424509.96 -35424509.90 -35424509.81 0.0089 0.0078

Neptune -101700-03-21 16:47 J -35424421.88 -35424421.80 -35424421.69 0.0089 0.0073

Neptune -101700-06-17 19:11 J -35424333.79 -35424333.70 -35424333.58 0.0089 0.0068

Moon -101700-06-25 02:23 J -35424326.49 -35424326.40 -35424326.30 0.2668 0.1672

Earth -101700-06-25 02:37 J -35424326.48 -35424326.39 -35424326.30 0.2661 0.1716 *

Jupiter -101700-07-23 09:06 J -35424298.27 -35424298.12 -35424297.98 0.0503 0.0111

Neptune -101700-09-13 21:35 J -35424245.70 -35424245.60 -35424245.47 0.0089 0.0063

Jupiter -101700-10-21 00:13 J -35424208.59 -35424208.49 -35424208.38 0.0500 0.0369

Neptune -101700-12-10 23:59 J -35424157.61 -35424157.50 -35424157.37 0.0089 0.0058

Neptune -101699-03-09 02:23 J -35424069.52 -35424069.40 -35424069.26 0.0089 0.0053

Neptune -101699-06-05 05:01 J -35423981.43 -35423981.29 -35423981.16 0.0089 0.0048

Neptune -101699-09-01 06:57 J -35423893.34 -35423893.21 -35423893.05 0.0089 0.0044

Neptune -101699-11-28 09:21 J -35423805.25 -35423805.11 -35423804.95 0.0088 0.0039

Neptune -101698-02-24 11:45 J -35423717.15 -35423717.01 -35423716.85 0.0088 0.0034

Neptune -101698-05-23 14:09 J -35423629.06 -35423628.91 -35423628.76 0.0088 0.0029

Neptune -101698-08-19 16:33 J -35423540.97 -35423540.81 -35423540.66 0.0088 0.0024

Neptune -101698-11-15 18:28 J -35423452.88 -35423452.73 -35423452.56 0.0088 0.0020

Neptune -101697-02-11 20:52 J -35423364.78 -35423364.63 -35423364.47 0.0088 0.0015

Neptune -101697-05-09 23:16 J -35423276.69 -35423276.53 -35423276.37 0.0088 0.0010

Venus -101697-06-07 17:16 J -35423247.83 -35423247.78 -35423247.74 0.3784 0.3432

Neptune -101697-08-06 01:25 J -35423188.60 -35423188.44 -35423188.28 0.0088 0.0005

Neptune -101697-11-02 03:49 J -35423100.50 -35423100.34 -35423100.18 0.0088 0.0002

Neptune -101696-01-29 05:59 J -35423012.41 -35423012.25 -35423012.09 0.0088 0.0005

Mars -101696-03-07 04:18 J -35422975.44 -35422975.32 -35422975.19 0.1637 0.0846

Neptune -101696-04-27 08:09 J -35422924.32 -35422924.16 -35422924.00 0.0088 0.0009

Neptune -101696-07-24 10:18 J -35422836.22 -35422836.07 -35422835.91 0.0088 0.0014

Neptune -101696-10-20 12:28 J -35422748.13 -35422747.98 -35422747.82 0.0088 0.0019

Neptune -101695-01-16 14:37 J -35422660.04 -35422659.89 -35422659.73 0.0088 0.0023

Neptune -101695-04-14 16:47 J -35422571.95 -35422571.80 -35422571.64 0.0088 0.0028

Neptune -101695-07-11 18:57 J -35422483.85 -35422483.71 -35422483.56 0.0088 0.0033

Neptune -101695-10-07 20:52 J -35422395.76 -35422395.63 -35422395.47 0.0088 0.0038

Saturn -101695-11-09 21:35 J -35422362.68 -35422362.60 -35422362.51 0.0291 0.0242

Neptune -101694-01-03 23:16 J -35422307.66 -35422307.53 -35422307.39 0.0088 0.0042

Saturn -101694-02-06 14:37 J -35422274.02 -35422273.89 -35422273.75 0.0290 0.0152

Mars -101694-02-11 05:01 J -35422269.41 -35422269.29 -35422269.18 0.1648 0.1026

Neptune -101694-04-02 01:11 J -35422219.57 -35422219.45 -35422219.30 0.0088 0.0047

Saturn -101694-05-06 08:23 J -35422185.31 -35422185.15 -35422185.00 0.0290 0.0058

Neptune -101694-06-29 03:21 J -35422131.48 -35422131.36 -35422131.22 0.0088 0.0051

Earth -101694-07-05 04:04 J -35422125.36 -35422125.33 -35422125.31 0.2679 0.2592

Moon -101694-07-05 04:18 J -35422125.34 -35422125.32 -35422125.31 0.2673 0.2634 *

Saturn -101694-08-03 02:09 J -35422096.57 -35422096.41 -35422096.25 0.0290 0.0038

Jupiter -101694-09-23 07:54 J -35422045.26 -35422045.17 -35422045.08 0.0523 0.0425

Neptune -101694-09-25 05:30 J -35422043.38 -35422043.27 -35422043.14 0.0088 0.0055

Saturn -101694-10-30 20:23 J -35422007.79 -35422007.65 -35422007.50 0.0290 0.0135

Jupiter -101694-12-22 02:37 J -35421955.53 -35421955.39 -35421955.24 0.0526 0.0124

Neptune -101694-12-22 07:40 J -35421955.29 -35421955.18 -35421955.06 0.0088 0.0060 *

Mars -101694-12-25 09:21 J -35421952.23 -35421952.11 -35421951.98 0.1877 0.0217

Saturn -101693-01-27 15:06 J -35421918.96 -35421918.87 -35421918.77 0.0289 0.0233

Neptune -101693-03-19 09:35 J -35421867.19 -35421867.10 -35421866.98 0.0088 0.0064

Neptune -101693-06-15 11:45 J -35421779.10 -35421779.01 -35421778.90 0.0088 0.0069

Neptune -101693-09-11 13:54 J -35421691.00 -35421690.92 -35421690.83 0.0088 0.0073

Neptune -101693-12-08 15:49 J -35421602.90 -35421602.84 -35421602.75 0.0088 0.0077

Neptune -101692-03-06 17:59 J -35421514.80 -35421514.75 -35421514.68 0.0088 0.0082

Neptune -101692-06-02 20:09 J -35421426.69 -35421426.66 -35421426.62 0.0088 0.0086

Venus -101692-12-22 11:59 J -35421224.08 -35421224.00 -35421223.91 0.3781 0.2336

Moon -101691-12-21 11:45 J -35420860.13 -35420860.01 -35420859.88 0.2663 0.1413

Earth -101691-12-21 12:57 J -35420860.08 -35420859.96 -35420859.85 0.2668 0.1475 *

Jupiter -101688-05-11 11:16 J -35419988.17 -35419988.03 -35419987.90 0.0504 0.0227

Jupiter -101688-08-09 01:54 J -35419898.55 -35419898.42 -35419898.28 0.0501 0.0250

Earth -101687-06-27 22:18 J -35419575.68 -35419575.57 -35419575.45 0.2666 0.0559

Moon -101687-06-27 22:47 J -35419575.67 -35419575.55 -35419575.44 0.2672 0.0586 *

Mars -101687-07-28 11:01 J -35419545.13 -35419545.04 -35419544.95 0.1635 0.1265

Venus -101686-07-08 07:11 J -35419200.31 -35419200.20 -35419200.10 0.3778 0.1203

Mars -101685-07-03 10:33 J -35418839.20 -35418839.06 -35418838.92 0.1645 0.0551

Mars -101684-05-16 14:37 J -35418522.02 -35418521.89 -35418521.77 0.1881 0.0418

Jupiter -101682-10-10 04:18 J -35417645.47 -35417645.32 -35417645.17 0.0525 0.0005

Venus -101680-01-21 02:23 J -35417176.51 -35417176.40 -35417176.28 0.3775 0.0045

Saturn -101680-09-12 12:13 J -35416942.03 -35416941.99 -35416941.94 0.0269 0.0254

Saturn -101680-12-10 02:37 J -35416853.50 -35416853.39 -35416853.27 0.0269 0.0179

Saturn -101679-03-08 16:47 J -35416764.94 -35416764.80 -35416764.65 0.0269 0.0105

Saturn -101679-06-05 06:42 J -35416676.37 -35416676.22 -35416676.07 0.0269 0.0033

Saturn -101679-09-01 20:23 J -35416587.79 -35416587.65 -35416587.50 0.0270 0.0041

Saturn -101679-11-29 09:49 J -35416499.22 -35416499.09 -35416498.95 0.0270 0.0111

Saturn -101678-02-25 23:01 J -35416410.64 -35416410.54 -35416410.43 0.0270 0.0181

Saturn -101678-05-25 11:59 J -35416322.05 -35416322.00 -35416321.94 0.0271 0.0250

Venus -101676-01-20 12:57 J -35415716.04 -35415715.96 -35415715.87 0.3597 0.2789

Jupiter -101676-02-27 12:57 J -35415678.07 -35415677.96 -35415677.86 0.0505 0.0348

Jupiter -101676-05-28 03:21 J -35415588.50 -35415588.36 -35415588.21 0.0502 0.0127

Mars -101676-11-23 16:18 J -35415408.96 -35415408.82 -35415408.67 0.1642 0.0092

Venus -101675-08-06 21:49 J -35415152.70 -35415152.59 -35415152.48 0.3771 0.1186

Mars -101675-10-06 19:25 J -35415091.80 -35415091.69 -35415091.58 0.1884 0.1057

Earth -101674-06-30 17:59 J -35414824.86 -35414824.75 -35414824.63 0.2671 0.0583

Moon -101674-06-30 18:57 J -35414824.83 -35414824.71 -35414824.60 0.2672 0.0731 *

Mars -101673-09-11 22:18 J -35414385.65 -35414385.57 -35414385.49 0.1869 0.1440

Venus -101671-08-06 12:28 J -35413692.10 -35413691.98 -35413691.86 0.3600 0.1313

Earth -101671-12-16 14:52 J -35413559.99 -35413559.88 -35413559.76 0.2678 0.1511

Moon -101671-12-16 15:35 J -35413559.97 -35413559.85 -35413559.73 0.2671 0.1361 *

Jupiter -101670-07-29 05:16 J -35413335.42 -35413335.28 -35413335.13 0.0524 0.0141

Jupiter -101670-10-26 23:01 J -35413245.63 -35413245.54 -35413245.44 0.0528 0.0400

Venus -101669-02-20 17:45 J -35413128.85 -35413128.76 -35413128.67 0.3768 0.2430

Uranus -101668-08-04 16:04 J -35412597.89 -35412597.83 -35412597.75 0.0144 0.0127

Uranus -101668-10-31 21:35 J -35412509.70 -35412509.60 -35412509.49 0.0144 0.0105

Uranus -101667-01-28 03:06 J -35412421.49 -35412421.37 -35412421.23 0.0144 0.0083

Uranus -101667-04-26 08:52 J -35412333.28 -35412333.13 -35412332.99 0.0145 0.0061

Earth -101667-06-23 11:45 J -35412275.02 -35412275.01 -35412275.00 0.2657 0.2643

Uranus -101667-07-23 14:23 J -35412245.05 -35412244.90 -35412244.74 0.0145 0.0038

Uranus -101667-10-19 20:09 J -35412156.82 -35412156.66 -35412156.50 0.0145 0.0016

Uranus -101666-01-16 01:54 J -35412068.58 -35412068.42 -35412068.26 0.0145 0.0008

Uranus -101666-04-14 07:40 J -35411980.33 -35411980.18 -35411980.02 0.0145 0.0031

Mars -101666-04-15 22:18 J -35411978.71 -35411978.57 -35411978.43 0.1640 0.0364

Uranus -101666-07-11 13:40 J -35411892.08 -35411891.93 -35411891.78 0.0145 0.0055

Uranus -101666-10-07 19:25 J -35411803.82 -35411803.69 -35411803.55 0.0145 0.0079

Uranus -101665-01-04 01:25 J -35411715.55 -35411715.44 -35411715.32 0.0145 0.0103

Venus -101665-02-20 11:16 J -35411668.16 -35411668.03 -35411667.90 0.3603 0.0099

Mars -101665-02-26 23:59 J -35411661.55 -35411661.50 -35411661.45 0.1887 0.1717

Saturn -101665-03-28 21:49 J -35411630.63 -35411630.59 -35411630.52 0.0290 0.0270

Uranus -101665-04-01 07:40 J -35411627.26 -35411627.18 -35411627.10 0.0145 0.0127

Saturn -101665-06-25 15:06 J -35411541.99 -35411541.87 -35411541.75 0.0290 0.0179

Saturn -101665-09-22 08:37 J -35411453.29 -35411453.14 -35411452.99 0.0290 0.0086

Jupiter -101665-12-16 15:21 J -35411367.92 -35411367.86 -35411367.80 0.0506 0.0461

Saturn -101665-12-20 02:23 J -35411364.56 -35411364.40 -35411364.24 0.0290 0.0009

Jupiter -101664-03-16 05:30 J -35411278.42 -35411278.27 -35411278.12 0.0503 0.0010

Saturn -101664-03-18 20:23 J -35411275.79 -35411275.65 -35411275.49 0.0289 0.0106

Mars -101664-03-21 23:59 J -35411272.54 -35411272.50 -35411272.45 0.1651 0.1568

Jupiter -101664-06-13 21:06 J -35411188.64 -35411188.62 -35411188.59 0.0500 0.0492

Saturn -101664-06-15 15:06 J -35411186.99 -35411186.87 -35411186.76 0.0289 0.0203

Venus -101664-09-05 13:54 J -35411104.94 -35411104.92 -35411104.91 0.3763 0.3710

Mars -101663-02-02 04:04 J -35410955.44 -35410955.33 -35410955.22 0.1874 0.0862

Earth -101661-07-02 13:40 J -35410074.02 -35410073.93 -35410073.84 0.2675 0.1713

Moon -101661-07-02 14:23 J -35410073.99 -35410073.90 -35410073.82 0.2672 0.1759 *

Venus -101660-09-05 09:49 J -35409644.20 -35409644.09 -35409643.97 0.3607 0.1455

Jupiter -101658-05-17 05:01 J -35409025.41 -35409025.29 -35409025.16 0.0523 0.0290

Jupiter -101658-08-14 23:30 J -35408935.65 -35408935.52 -35408935.39 0.0527 0.0254

Moon -101658-12-19 16:18 J -35408808.96 -35408808.82 -35408808.67 0.2666 0.0101

Earth -101658-12-19 16:47 J -35408808.95 -35408808.80 -35408808.66 0.2673 0.0157 *

Mars -101657-09-05 04:47 J -35408548.43 -35408548.30 -35408548.18 0.1637 0.0794

Mars -101655-08-12 05:16 J -35407842.39 -35407842.28 -35407842.17 0.1648 0.1075

Venus -101654-03-22 08:09 J -35407620.25 -35407620.16 -35407620.08 0.3611 0.2750

Mars -101654-06-25 09:35 J -35407525.22 -35407525.10 -35407524.97 0.1877 0.0275

Earth -101654-06-26 07:40 J -35407524.28 -35407524.18 -35407524.08 0.2662 0.1470

Moon -101654-06-26 07:40 J -35407524.27 -35407524.18 -35407524.08 0.2669 0.1530 *

Jupiter -101652-01-02 07:54 J -35406968.32 -35406968.17 -35406968.02 0.0504 0.0103

Jupiter -101652-04-01 23:16 J -35406878.63 -35406878.53 -35406878.43 0.0500 0.0378

Saturn -101650-04-29 04:47 J -35406121.40 -35406121.30 -35406121.19 0.0269 0.0198

Saturn -101650-07-26 18:57 J -35406032.84 -35406032.71 -35406032.57 0.0269 0.0124

Saturn -101650-10-23 09:06 J -35405944.27 -35405944.12 -35405943.97 0.0269 0.0050

Saturn -101649-01-19 22:47 J -35405855.70 -35405855.55 -35405855.40 0.0270 0.0022

Saturn -101649-04-17 12:13 J -35405767.13 -35405766.99 -35405766.85 0.0270 0.0093

Saturn -101649-07-15 01:40 J -35405678.55 -35405678.43 -35405678.32 0.0270 0.0163

Saturn -101649-10-11 14:23 J -35405589.96 -35405589.90 -35405589.82 0.0270 0.0233

Mars -101647-01-26 11:16 J -35405118.12 -35405118.03 -35405117.93 0.1635 0.1217

Jupiter -101646-03-05 06:13 J -35404715.33 -35404715.24 -35404715.15 0.0522 0.0424

Jupiter -101646-06-03 00:57 J -35404625.61 -35404625.46 -35404625.32 0.0526 0.0124

Mars -101645-01-02 11:01 J -35404412.18 -35404412.04 -35404411.91 0.1645 0.0608

Mars -101645-11-14 14:52 J -35404095.01 -35404094.88 -35404094.75 0.1881 0.0356

Moon -101645-12-21 17:45 J -35404057.87 -35404057.76 -35404057.65 0.2662 0.1700

Earth -101645-12-21 18:42 J -35404057.82 -35404057.72 -35404057.61 0.2667 0.1821 *

Earth -101641-06-28 03:21 J -35402773.47 -35402773.36 -35402773.24 0.2666 0.0332

Moon -101641-06-28 04:04 J -35402773.45 -35402773.33 -35402773.21 0.2671 0.0197 *

Jupiter -101641-10-21 10:04 J -35402658.21 -35402658.08 -35402657.94 0.0504 0.0217

Venus -101640-01-12 15:35 J -35402574.92 -35402574.85 -35402574.79 0.3783 0.3068

Jupiter -101640-01-19 01:11 J -35402568.58 -35402568.45 -35402568.32 0.0501 0.0260

Mars -101638-06-18 18:13 J -35401687.75 -35401687.74 -35401687.73 0.1633 0.1627

Moon -101638-12-14 20:23 J -35401508.68 -35401508.65 -35401508.63 0.2678 0.2608

Pluto -101637-04-03 09:21 J -35401398.11 -35401398.11 -35401398.09 0.0060 0.0060

Pluto -101637-06-30 10:18 J -35401310.13 -35401310.07 -35401309.95 0.0060 0.0054

Pluto -101637-09-26 12:28 J -35401222.10 -35401221.98 -35401221.85 0.0060 0.0046

Pluto -101637-12-23 13:54 J -35401134.06 -35401133.92 -35401133.76 0.0060 0.0039

Pluto -101636-03-21 15:06 J -35401046.02 -35401045.87 -35401045.68 0.0060 0.0032

Mars -101636-05-24 16:33 J -35400981.95 -35400981.81 -35400981.66 0.1642 0.0146

Pluto -101636-06-17 16:47 J -35400957.97 -35400957.80 -35400957.61 0.0060 0.0024

Pluto -101636-09-13 18:28 J -35400869.92 -35400869.73 -35400869.54 0.0061 0.0017

Saturn -101636-11-12 13:54 J -35400810.02 -35400809.92 -35400809.82 0.0290 0.0216

Pluto -101636-12-10 19:54 J -35400781.86 -35400781.67 -35400781.47 0.0061 0.0010

Saturn -101635-02-09 07:11 J -35400721.34 -35400721.20 -35400721.06 0.0290 0.0124

Pluto -101635-03-08 21:35 J -35400693.80 -35400693.60 -35400693.40 0.0061 0.0002

Mars -101635-04-06 19:40 J -35400664.79 -35400664.68 -35400664.57 0.1884 0.0999

Saturn -101635-05-09 00:42 J -35400632.62 -35400632.47 -35400632.31 0.0290 0.0031

Pluto -101635-06-04 23:01 J -35400605.73 -35400605.54 -35400605.34 0.0061 0.0005

Venus -101635-07-29 10:18 J -35400551.16 -35400551.07 -35400550.97 0.3781 0.1966

Saturn -101635-08-05 18:42 J -35400543.87 -35400543.72 -35400543.56 0.0290 0.0066

Pluto -101635-09-01 00:42 J -35400517.67 -35400517.47 -35400517.28 0.0061 0.0012

Saturn -101635-11-02 12:57 J -35400455.08 -35400454.96 -35400454.82 0.0289 0.0164

Pluto -101635-11-28 01:54 J -35400429.60 -35400429.42 -35400429.22 0.0061 0.0020

Saturn -101634-01-30 07:40 J -35400366.24 -35400366.18 -35400366.10 0.0289 0.0262

Pluto -101634-02-24 03:21 J -35400341.52 -35400341.36 -35400341.17 0.0061 0.0027

Jupiter -101634-03-22 02:37 J -35400315.54 -35400315.39 -35400315.24 0.0525 0.0009

Pluto -101634-05-23 05:01 J -35400253.45 -35400253.29 -35400253.12 0.0061 0.0034

Pluto -101634-08-19 06:13 J -35400165.36 -35400165.24 -35400165.08 0.0061 0.0042

Pluto -101634-11-15 07:54 J -35400077.27 -35400077.17 -35400077.04 0.0061 0.0050

Pluto -101633-02-11 09:06 J -35399989.16 -35399989.12 -35399989.02 0.0061 0.0058

Mars -101633-03-12 22:18 J -35399958.64 -35399958.57 -35399958.49 0.1870 0.1492

Venus -101629-02-12 05:30 J -35398527.38 -35398527.27 -35398527.16 0.3777 0.0818

Jupiter -101629-08-09 12:28 J -35398348.09 -35398347.98 -35398347.87 0.0505 0.0331

Jupiter -101629-11-07 02:52 J -35398258.52 -35398258.38 -35398258.23 0.0502 0.0143

Uranus -101629-12-31 06:57 J -35398204.26 -35398204.21 -35398204.16 0.0135 0.0127

Uranus -101628-03-29 11:30 J -35398116.11 -35398116.02 -35398115.93 0.0134 0.0109

Uranus -101628-06-25 15:49 J -35398027.94 -35398027.84 -35398027.71 0.0134 0.0091

Earth -101628-06-30 23:01 J -35398022.65 -35398022.54 -35398022.42 0.2671 0.0828

Moon -101628-06-30 23:59 J -35398022.61 -35398022.50 -35398022.39 0.2672 0.0844 *

Uranus -101628-09-21 20:23 J -35397939.77 -35397939.65 -35397939.51 0.0134 0.0073

Uranus -101628-12-19 00:57 J -35397851.60 -35397851.46 -35397851.32 0.0134 0.0055

Uranus -101627-03-17 05:16 J -35397763.42 -35397763.28 -35397763.12 0.0134 0.0037

Uranus -101627-06-13 09:49 J -35397675.24 -35397675.09 -35397674.94 0.0134 0.0019

Uranus -101627-09-09 14:09 J -35397587.07 -35397586.91 -35397586.76 0.0134 0.0002

Mars -101627-10-14 22:47 J -35397551.69 -35397551.55 -35397551.41 0.1640 0.0308

Uranus -101627-12-06 18:28 J -35397498.89 -35397498.73 -35397498.58 0.0134 0.0016

Uranus -101626-03-04 22:33 J -35397410.70 -35397410.56 -35397410.41 0.0134 0.0033

Uranus -101626-06-01 02:52 J -35397322.52 -35397322.38 -35397322.24 0.0134 0.0049

Mars -101626-08-28 00:13 J -35397234.55 -35397234.49 -35397234.43 0.1887 0.1662

Uranus -101626-08-28 06:57 J -35397234.34 -35397234.21 -35397234.07 0.0133 0.0066

Uranus -101626-11-24 11:16 J -35397146.15 -35397146.03 -35397145.92 0.0133 0.0083

Uranus -101625-02-20 15:06 J -35397057.96 -35397057.87 -35397057.76 0.0133 0.0099

Uranus -101625-05-18 19:11 J -35396969.77 -35396969.70 -35396969.62 0.0133 0.0116

Uranus -101625-08-14 23:01 J -35396881.54 -35396881.54 -35396881.51 0.0133 0.0132

Mars -101625-09-20 00:28 J -35396845.50 -35396845.48 -35396845.45 0.1651 0.1624

Earth -101625-12-16 20:52 J -35396757.76 -35396757.63 -35396757.51 0.2677 0.1184

Moon -101625-12-16 21:21 J -35396757.73 -35396757.61 -35396757.48 0.2671 0.1201 *

Mars -101624-08-03 04:18 J -35396528.43 -35396528.32 -35396528.21 0.1874 0.0920

Venus -101624-08-28 00:57 J -35396503.58 -35396503.46 -35396503.35 0.3774 0.0372

Jupiter -101622-01-08 04:04 J -35396005.47 -35396005.33 -35396005.18 0.0524 0.0133

Jupiter -101622-04-07 22:04 J -35395915.67 -35395915.58 -35395915.49 0.0528 0.0408

Moon -101621-06-23 16:18 J -35395472.86 -35395472.82 -35395472.77 0.2663 0.2454

Earth -101621-06-23 16:47 J -35395472.85 -35395472.80 -35395472.75 0.2657 0.2398 *

Saturn -101621-09-15 04:33 J -35395389.39 -35395389.31 -35395389.23 0.0269 0.0229

Saturn -101621-12-12 18:57 J -35395300.83 -35395300.71 -35395300.58 0.0269 0.0154

Saturn -101620-03-11 09:06 J -35395212.27 -35395212.12 -35395211.98 0.0269 0.0080

Saturn -101620-06-07 23:01 J -35395123.70 -35395123.54 -35395123.39 0.0269 0.0010

Venus -101620-08-27 12:42 J -35395043.07 -35395042.97 -35395042.87 0.3598 0.2294

Saturn -101620-09-04 12:28 J -35395035.12 -35395034.98 -35395034.83 0.0270 0.0065

Saturn -101620-12-02 01:54 J -35394946.55 -35394946.42 -35394946.29 0.0270 0.0136

Saturn -101619-02-28 14:52 J -35394857.96 -35394857.88 -35394857.78 0.0270 0.0206

Neptune -101619-12-16 04:33 J -35394567.33 -35394567.31 -35394567.25 0.0089 0.0086

Venus -101618-03-13 20:23 J -35394479.75 -35394479.65 -35394479.54 0.3770 0.1585

Neptune -101618-03-14 06:42 J -35394479.27 -35394479.22 -35394479.15 0.0089 0.0081

Neptune -101618-06-10 08:37 J -35394391.20 -35394391.14 -35394391.05 0.0089 0.0077

Neptune -101618-09-06 10:33 J -35394303.13 -35394303.06 -35394302.96 0.0089 0.0073

Neptune -101618-12-03 12:42 J -35394215.06 -35394214.97 -35394214.87 0.0089 0.0068

Neptune -101617-02-29 14:37 J -35394126.99 -35394126.89 -35394126.78 0.0089 0.0064

Mars -101617-03-06 05:01 J -35394121.42 -35394121.29 -35394121.16 0.1637 0.0746

Neptune -101617-05-27 16:47 J -35394038.91 -35394038.80 -35394038.69 0.0089 0.0059

Jupiter -101617-05-28 14:09 J -35394037.97 -35394037.91 -35394037.84 0.0506 0.0451

Neptune -101617-08-23 18:42 J -35393950.84 -35393950.72 -35393950.60 0.0089 0.0055

Jupiter -101617-08-26 04:33 J -35393948.46 -35393948.31 -35393948.16 0.0502 0.0021

Neptune -101617-11-19 20:37 J -35393862.76 -35393862.64 -35393862.51 0.0089 0.0051

Neptune -101616-02-15 22:47 J -35393774.68 -35393774.55 -35393774.42 0.0089 0.0046

Neptune -101616-05-15 00:42 J -35393686.60 -35393686.47 -35393686.33 0.0089 0.0042

Neptune -101616-08-11 02:52 J -35393598.52 -35393598.38 -35393598.24 0.0089 0.0037

Neptune -101616-11-07 04:47 J -35393510.44 -35393510.30 -35393510.15 0.0089 0.0033

Neptune -101615-02-03 06:57 J -35393422.35 -35393422.21 -35393422.06 0.0089 0.0028

Mars -101615-02-10 05:45 J -35393415.36 -35393415.26 -35393415.15 0.1648 0.1135

Neptune -101615-05-02 09:06 J -35393334.27 -35393334.12 -35393333.97 0.0089 0.0023

Earth -101615-07-03 18:42 J -35393271.80 -35393271.72 -35393271.64 0.2676 0.1948

Moon -101615-07-03 19:11 J -35393271.77 -35393271.70 -35393271.62 0.2671 0.2045 *

Neptune -101615-07-29 11:01 J -35393246.19 -35393246.04 -35393245.88 0.0089 0.0019

Neptune -101615-10-25 13:11 J -35393158.10 -35393157.95 -35393157.80 0.0089 0.0014

Mars -101615-12-24 09:49 J -35393098.22 -35393098.09 -35393097.97 0.1878 0.0320

Neptune -101614-01-21 15:21 J -35393070.02 -35393069.86 -35393069.71 0.0089 0.0010

Venus -101614-03-13 11:45 J -35393019.13 -35393019.01 -35393018.88 0.3601 0.0858

Neptune -101614-04-19 17:30 J -35392981.93 -35392981.77 -35392981.62 0.0089 0.0005

Neptune -101614-07-16 19:25 J -35392893.84 -35392893.69 -35392893.53 0.0089 0.0003

Neptune -101614-10-12 21:35 J -35392805.75 -35392805.60 -35392805.44 0.0089 0.0005

Neptune -101613-01-08 23:45 J -35392717.66 -35392717.51 -35392717.35 0.0089 0.0009

Neptune -101613-04-06 01:54 J -35392629.57 -35392629.42 -35392629.26 0.0089 0.0014

Neptune -101613-07-03 04:04 J -35392541.48 -35392541.33 -35392541.18 0.0089 0.0018

Venus -101613-09-26 16:18 J -35392455.89 -35392455.82 -35392455.74 0.3766 0.2832

Neptune -101613-09-29 06:13 J -35392453.39 -35392453.24 -35392453.09 0.0089 0.0023

Neptune -101613-12-26 08:23 J -35392365.30 -35392365.15 -35392365.00 0.0089 0.0028

Neptune -101612-03-24 10:18 J -35392277.20 -35392277.07 -35392276.91 0.0089 0.0033

Neptune -101612-06-20 12:28 J -35392189.11 -35392188.98 -35392188.82 0.0089 0.0038

Neptune -101612-09-16 14:52 J -35392101.01 -35392100.88 -35392100.74 0.0089 0.0042

Neptune -101612-12-13 17:01 J -35392012.92 -35392012.79 -35392012.65 0.0089 0.0047

Moon -101612-12-19 22:04 J -35392006.72 -35392006.58 -35392006.44 0.2665 0.0488

Earth -101612-12-19 22:33 J -35392006.69 -35392006.56 -35392006.42 0.2672 0.0478 *

Neptune -101611-03-11 19:11 J -35391924.82 -35391924.70 -35391924.56 0.0089 0.0052

Neptune -101611-06-07 21:21 J -35391836.72 -35391836.61 -35391836.47 0.0089 0.0057

Neptune -101611-09-03 23:30 J -35391748.62 -35391748.52 -35391748.39 0.0089 0.0062

Jupiter -101611-10-27 05:01 J -35391695.42 -35391695.29 -35391695.16 0.0523 0.0268

Neptune -101611-12-01 02:09 J -35391660.51 -35391660.41 -35391660.30 0.0089 0.0066

Jupiter -101610-01-24 23:16 J -35391605.65 -35391605.53 -35391605.40 0.0527 0.0276

Neptune -101610-02-27 04:18 J -35391572.41 -35391572.32 -35391572.22 0.0089 0.0071

Neptune -101610-05-26 06:28 J -35391484.30 -35391484.23 -35391484.14 0.0089 0.0076

Neptune -101610-08-22 08:37 J -35391396.19 -35391396.14 -35391396.06 0.0089 0.0081

Neptune -101610-11-18 11:01 J -35391308.07 -35391308.04 -35391307.99 0.0089 0.0086

Venus -101609-09-26 10:47 J -35390995.18 -35390995.05 -35390994.92 0.3604 0.0551

Moon -101608-06-26 12:42 J -35390722.07 -35390721.97 -35390721.86 0.2669 0.1192

Earth -101608-06-26 12:42 J -35390722.07 -35390721.97 -35390721.86 0.2662 0.1232 *

Mars -101608-07-27 11:30 J -35390691.12 -35390691.02 -35390690.92 0.1635 0.1173

Saturn -101606-04-01 13:54 J -35390077.99 -35390077.92 -35390077.83 0.0290 0.0245

Saturn -101606-06-29 07:11 J -35389989.33 -35389989.20 -35389989.07 0.0290 0.0153

Mars -101606-07-03 11:01 J -35389985.17 -35389985.04 -35389984.90 0.1645 0.0654

Saturn -101606-09-26 00:42 J -35389900.62 -35389900.47 -35389900.31 0.0290 0.0060

Saturn -101606-12-23 18:42 J -35389811.88 -35389811.72 -35389811.57 0.0290 0.0036

Saturn -101605-03-21 12:57 J -35389723.11 -35389722.96 -35389722.82 0.0289 0.0133

Mars -101605-05-15 14:52 J -35389668.00 -35389667.88 -35389667.75 0.1881 0.0308

Jupiter -101605-06-14 06:42 J -35389638.37 -35389638.22 -35389638.08 0.0503 0.0097

Saturn -101605-06-18 07:25 J -35389634.28 -35389634.19 -35389634.09 0.0289 0.0231

Jupiter -101605-09-11 21:49 J -35389548.68 -35389548.59 -35389548.49 0.0500 0.0384

Venus -101603-04-12 09:06 J -35388971.23 -35388971.12 -35388971.01 0.3608 0.1884

Jupiter -101599-08-15 04:47 J -35387385.39 -35387385.30 -35387385.20 0.0522 0.0417

Jupiter -101599-11-12 23:30 J -35387295.66 -35387295.52 -35387295.37 0.0526 0.0130

Mars -101599-12-17 18:28 J -35387260.76 -35387260.73 -35387260.70 0.1633 0.1579

Moon -101599-12-22 23:45 J -35387255.60 -35387255.51 -35387255.42 0.2663 0.2044

Earth -101599-12-23 00:42 J -35387255.55 -35387255.47 -35387255.38 0.2667 0.2163 *

Venus -101598-10-27 07:11 J -35386947.26 -35386947.20 -35386947.14 0.3612 0.3159

Mars -101597-11-22 17:01 J -35386554.94 -35386554.79 -35386554.65 0.1642 0.0193

Mars -101596-10-05 19:54 J -35386237.78 -35386237.67 -35386237.55 0.1884 0.0937

Earth -101595-06-29 08:37 J -35385971.26 -35385971.14 -35385971.02 0.2667 0.0096

Moon -101595-06-29 09:21 J -35385971.23 -35385971.11 -35385970.99 0.2671 0.0077 *

Mars -101594-09-11 22:47 J -35385531.62 -35385531.55 -35385531.49 0.1870 0.1552

Jupiter -101593-04-02 09:06 J -35385328.26 -35385328.12 -35385327.99 0.0504 0.0209

Jupiter -101593-06-30 23:59 J -35385238.63 -35385238.50 -35385238.37 0.0501 0.0269

Earth -101592-12-15 00:57 J -35384706.51 -35384706.46 -35384706.40 0.2681 0.2472

Moon -101592-12-15 02:09 J -35384706.46 -35384706.41 -35384706.36 0.2677 0.2444 *

Saturn -101591-02-02 06:57 J -35384657.27 -35384657.21 -35384657.15 0.0269 0.0247

Saturn -101591-05-01 21:21 J -35384568.73 -35384568.61 -35384568.49 0.0269 0.0172

Saturn -101591-07-29 11:30 J -35384480.16 -35384480.02 -35384479.88 0.0269 0.0098

Saturn -101591-10-26 01:25 J -35384391.59 -35384391.44 -35384391.29 0.0270 0.0025

Saturn -101590-01-22 15:06 J -35384303.02 -35384302.87 -35384302.72 0.0270 0.0047

Saturn -101590-04-21 04:33 J -35384214.45 -35384214.31 -35384214.18 0.0270 0.0118

Saturn -101590-07-18 17:30 J -35384125.87 -35384125.77 -35384125.66 0.0270 0.0189

Saturn -101590-10-15 06:42 J -35384037.26 -35384037.22 -35384037.18 0.0270 0.0256

Venus -101589-02-03 19:11 J -35383925.71 -35383925.70 -35383925.70 0.3786 0.3779

Mars -101587-04-14 23:01 J -35383124.68 -35383124.54 -35383124.39 0.1640 0.0259

Jupiter -101587-09-01 00:57 J -35382985.61 -35382985.46 -35382985.31 0.0525 0.0014

Mars -101586-02-26 00:28 J -35382807.55 -35382807.48 -35382807.42 0.1887 0.1604

Mars -101584-02-01 04:33 J -35382101.42 -35382101.31 -35382101.20 0.1874 0.0974

Venus -101584-08-19 13:54 J -35381902.00 -35381901.92 -35381901.85 0.3782 0.2708

Uranus -101584-08-24 23:01 J -35381896.61 -35381896.54 -35381896.45 0.0144 0.0123

Uranus -101584-11-21 04:33 J -35381808.41 -35381808.31 -35381808.19 0.0144 0.0101

Uranus -101583-02-17 10:04 J -35381720.20 -35381720.08 -35381719.94 0.0145 0.0079

Uranus -101583-05-16 15:49 J -35381631.99 -35381631.84 -35381631.69 0.0145 0.0057

Uranus -101583-08-12 21:35 J -35381543.76 -35381543.60 -35381543.45 0.0145 0.0034

Uranus -101583-11-09 03:06 J -35381455.53 -35381455.37 -35381455.21 0.0145 0.0012

Uranus -101582-02-05 08:52 J -35381367.29 -35381367.13 -35381366.97 0.0145 0.0012

Uranus -101582-05-04 14:52 J -35381279.04 -35381278.88 -35381278.73 0.0145 0.0035

Earth -101582-07-02 04:18 J -35381220.43 -35381220.32 -35381220.22 0.2672 0.1067

Moon -101582-07-02 05:01 J -35381220.39 -35381220.29 -35381220.18 0.2672 0.1212 *

Uranus -101582-07-31 20:37 J -35381190.79 -35381190.64 -35381190.49 0.0145 0.0059

Uranus -101582-10-28 02:23 J -35381102.52 -35381102.40 -35381102.26 0.0145 0.0083

Jupiter -101581-01-20 11:16 J -35381018.14 -35381018.03 -35381017.91 0.0505 0.0322

Uranus -101581-01-24 08:23 J -35381014.25 -35381014.15 -35381014.03 0.0145 0.0107

Jupiter -101581-04-19 01:54 J -35380928.56 -35380928.42 -35380928.27 0.0502 0.0152

Uranus -101581-04-21 14:23 J -35380925.95 -35380925.90 -35380925.82 0.0145 0.0132

Earth -101579-12-18 02:37 J -35379955.52 -35379955.39 -35379955.26 0.2676 0.0858

Moon -101579-12-18 02:52 J -35379955.51 -35379955.38 -35379955.24 0.2670 0.0746 *

Venus -101578-03-05 08:52 J -35379878.24 -35379878.13 -35379878.03 0.3779 0.1589

Mars -101578-09-05 05:16 J -35379694.41 -35379694.28 -35379694.15 0.1637 0.0698

Saturn -101577-08-18 13:25 J -35379345.98 -35379345.94 -35379345.90 0.0290 0.0278

Saturn -101577-11-15 06:28 J -35379257.35 -35379257.23 -35379257.12 0.0290 0.0189

Saturn -101576-02-11 23:45 J -35379168.66 -35379168.51 -35379168.36 0.0290 0.0096

Saturn -101576-05-11 17:30 J -35379079.93 -35379079.77 -35379079.62 0.0290 0.0009

Saturn -101576-08-08 11:30 J -35378991.17 -35378991.02 -35378990.87 0.0290 0.0094

Mars -101576-08-11 05:59 J -35378988.35 -35378988.25 -35378988.14 0.1648 0.1188

Saturn -101576-11-05 05:45 J -35378902.37 -35378902.26 -35378902.13 0.0289 0.0192

Jupiter -101575-06-20 02:23 J -35378675.55 -35378675.40 -35378675.25 0.0524 0.0132

Mars -101575-06-24 10:04 J -35378671.21 -35378671.08 -35378670.96 0.1878 0.0377

Moon -101575-06-24 21:35 J -35378670.66 -35378670.60 -35378670.53 0.2665 0.2218

Earth -101575-06-24 22:04 J -35378670.65 -35378670.58 -35378670.51 0.2658 0.2154 *

Jupiter -101575-09-17 20:09 J -35378585.75 -35378585.66 -35378585.56 0.0528 0.0408

Venus -101573-09-18 03:49 J -35377854.45 -35377854.34 -35377854.22 0.3776 0.0456

Jupiter -101570-11-08 13:40 J -35376708.00 -35376707.93 -35376707.86 0.0506 0.0435

Jupiter -101569-02-06 03:49 J -35376618.49 -35376618.34 -35376618.18 0.0502 0.0037

Earth -101569-07-03 23:45 J -35376469.58 -35376469.51 -35376469.45 0.2676 0.2187

Moon -101569-07-04 00:13 J -35376469.55 -35376469.49 -35376469.42 0.2671 0.2177 *

Venus -101569-09-17 12:42 J -35376394.02 -35376393.97 -35376393.92 0.3596 0.3307

Mars -101568-01-25 11:59 J -35376264.10 -35376264.00 -35376263.90 0.1635 0.1121

Venus -101567-04-03 23:16 J -35375830.64 -35375830.53 -35375830.41 0.3773 0.0769

Mars -101566-01-01 11:30 J -35375558.15 -35375558.02 -35375557.88 0.1645 0.0711

Mars -101566-11-14 15:21 J -35375240.99 -35375240.86 -35375240.74 0.1881 0.0253

Moon -101566-12-21 04:04 J -35375204.47 -35375204.33 -35375204.19 0.2665 0.0675

Earth -101566-12-21 04:33 J -35375204.44 -35375204.31 -35375204.17 0.2671 0.0807 *

Venus -101563-04-03 12:13 J -35374370.10 -35374369.99 -35374369.88 0.3599 0.1812

Jupiter -101563-04-08 03:49 J -35374365.47 -35374365.34 -35374365.21 0.0523 0.0261

Jupiter -101563-07-06 22:04 J -35374275.70 -35374275.58 -35374275.45 0.0527 0.0283

Earth -101562-06-27 17:59 J -35373919.87 -35373919.75 -35373919.64 0.2663 0.0992

Moon -101562-06-27 17:59 J -35373919.85 -35373919.75 -35373919.64 0.2669 0.0993 *

Saturn -101562-09-18 20:52 J -35373836.72 -35373836.63 -35373836.52 0.0269 0.0203

Venus -101562-10-18 18:57 J -35373806.80 -35373806.71 -35373806.61 0.3769 0.1982

Saturn -101562-12-16 11:16 J -35373748.16 -35373748.03 -35373747.89 0.0269 0.0128

Saturn -101561-03-14 01:11 J -35373659.59 -35373659.45 -35373659.30 0.0269 0.0055

Saturn -101561-06-10 15:06 J -35373571.02 -35373570.87 -35373570.72 0.0270 0.0018

Saturn -101561-09-07 04:33 J -35373482.45 -35373482.31 -35373482.16 0.0270 0.0090

Saturn -101561-12-04 17:59 J -35373393.87 -35373393.75 -35373393.63 0.0270 0.0160

Saturn -101560-03-03 06:57 J -35373305.28 -35373305.21 -35373305.13 0.0270 0.0229

Mars -101559-06-17 18:42 J -35372833.77 -35372833.72 -35372833.68 0.1633 0.1536

Venus -101558-10-18 11:16 J -35372346.16 -35372346.03 -35372345.90 0.3602 0.0391

Jupiter -101558-11-25 05:30 J -35372308.42 -35372308.27 -35372308.12 0.0503 0.0088

Jupiter -101557-02-22 20:37 J -35372218.73 -35372218.64 -35372218.54 0.0500 0.0393

Mars -101557-05-23 17:16 J -35372127.92 -35372127.78 -35372127.63 0.1642 0.0245

Mars -101556-04-05 19:54 J -35371810.78 -35371810.67 -35371810.55 0.1885 0.0890

Venus -101556-05-03 15:06 J -35371782.93 -35371782.87 -35371782.82 0.3765 0.3242

Mars -101554-03-12 22:47 J -35371104.62 -35371104.55 -35371104.49 0.1870 0.1598

Moon -101553-12-23 05:30 J -35370453.32 -35370453.27 -35370453.21 0.2664 0.2434

Earth -101553-12-23 06:57 J -35370453.26 -35370453.21 -35370453.17 0.2666 0.2510 *

Venus -101552-05-03 10:04 J -35370322.20 -35370322.08 -35370321.95 0.3605 0.0986

Jupiter -101551-01-25 04:47 J -35370055.40 -35370055.30 -35370055.20 0.0522 0.0396

Jupiter -101551-04-24 23:30 J -35369965.67 -35369965.52 -35369965.38 0.0526 0.0151

Earth -101549-06-29 13:40 J -35369169.05 -35369168.93 -35369168.81 0.2667 0.0165

Moon -101549-06-29 14:23 J -35369169.02 -35369168.90 -35369168.78 0.2671 0.0297 *

Mars -101548-10-13 23:16 J -35368697.67 -35368697.53 -35368697.38 0.1639 0.0213

Saturn -101547-04-04 06:13 J -35368525.33 -35368525.24 -35368525.13 0.0290 0.0219

Saturn -101547-07-01 23:30 J -35368436.66 -35368436.52 -35368436.38 0.0290 0.0127

Mars -101547-08-27 00:42 J -35368380.54 -35368380.47 -35368380.39 0.1888 0.1539

Saturn -101547-09-28 17:16 J -35368347.94 -35368347.78 -35368347.63 0.0290 0.0033

Venus -101547-11-17 08:23 J -35368298.25 -35368298.15 -35368298.05 0.3609 0.2305

Saturn -101547-12-26 11:16 J -35368259.19 -35368259.03 -35368258.88 0.0290 0.0064

Saturn -101546-03-25 05:30 J -35368170.40 -35368170.27 -35368170.13 0.0289 0.0161

Saturn -101546-06-22 00:13 J -35368081.56 -35368081.49 -35368081.42 0.0289 0.0260

Jupiter -101546-09-13 07:40 J -35367998.32 -35367998.18 -35367998.04 0.0504 0.0203

Jupiter -101546-12-11 22:33 J -35367908.68 -35367908.56 -35367908.43 0.0501 0.0274

Earth -101546-12-16 06:57 J -35367904.29 -35367904.21 -35367904.13 0.2681 0.2151

Moon -101546-12-16 07:54 J -35367904.26 -35367904.17 -35367904.08 0.2676 0.1984 *

Mars -101545-08-02 04:33 J -35367674.41 -35367674.31 -35367674.20 0.1874 0.1027

Uranus -101544-01-20 13:54 J -35367502.97 -35367502.92 -35367502.85 0.0135 0.0123

Uranus -101544-04-18 18:28 J -35367414.82 -35367414.73 -35367414.62 0.0134 0.0104

Uranus -101544-07-15 23:01 J -35367326.65 -35367326.54 -35367326.41 0.0134 0.0086

Uranus -101544-10-12 03:35 J -35367238.48 -35367238.35 -35367238.21 0.0134 0.0068

Pluto -101544-10-28 02:52 J -35367222.43 -35367222.38 -35367222.31 0.0085 0.0076

Uranus -101543-01-08 08:09 J -35367150.30 -35367150.16 -35367150.02 0.0134 0.0050

Pluto -101543-01-24 04:18 J -35367134.40 -35367134.32 -35367134.23 0.0085 0.0062

Uranus -101543-04-06 12:28 J -35367062.13 -35367061.98 -35367061.83 0.0134 0.0033

Pluto -101543-04-22 05:30 J -35367046.37 -35367046.27 -35367046.16 0.0085 0.0049

Uranus -101543-07-03 17:01 J -35366973.95 -35366973.79 -35366973.64 0.0134 0.0015

Pluto -101543-07-19 06:42 J -35366958.33 -35366958.22 -35366958.09 0.0084 0.0036

Uranus -101543-09-29 21:21 J -35366885.77 -35366885.61 -35366885.46 0.0134 0.0004

Pluto -101543-10-15 08:09 J -35366870.29 -35366870.16 -35366870.03 0.0084 0.0022

Uranus -101543-12-27 01:40 J -35366797.59 -35366797.43 -35366797.28 0.0134 0.0020

Pluto -101542-01-11 09:21 J -35366782.24 -35366782.11 -35366781.98 0.0084 0.0009

Uranus -101542-03-25 05:45 J -35366709.40 -35366709.26 -35366709.11 0.0134 0.0037

Pluto -101542-04-09 10:33 J -35366694.19 -35366694.06 -35366693.92 0.0084 0.0005

Uranus -101542-06-21 10:04 J -35366621.22 -35366621.08 -35366620.94 0.0133 0.0054

Pluto -101542-07-06 11:45 J -35366606.13 -35366606.01 -35366605.88 0.0084 0.0018

Uranus -101542-09-17 14:09 J -35366533.04 -35366532.91 -35366532.78 0.0133 0.0070

Pluto -101542-10-02 12:57 J -35366518.08 -35366517.96 -35366517.83 0.0084 0.0031

Uranus -101542-12-14 17:59 J -35366444.85 -35366444.75 -35366444.62 0.0133 0.0088

Pluto -101542-12-29 14:09 J -35366430.02 -35366429.91 -35366429.79 0.0084 0.0044

Uranus -101541-03-11 22:18 J -35366356.66 -35366356.57 -35366356.47 0.0133 0.0103

Pluto -101541-03-26 15:21 J -35366341.95 -35366341.86 -35366341.76 0.0083 0.0056

Venus -101541-06-02 06:28 J -35366274.25 -35366274.23 -35366274.21 0.3613 0.3561

Uranus -101541-06-08 02:23 J -35366268.46 -35366268.40 -35366268.33 0.0133 0.0120

Pluto -101541-06-22 16:18 J -35366253.88 -35366253.82 -35366253.73 0.0083 0.0070

Pluto -101541-09-18 17:45 J -35366165.77 -35366165.76 -35366165.73 0.0083 0.0082

Jupiter -101539-02-10 23:30 J -35365655.67 -35365655.52 -35365655.37 0.0525 0.0009

Mars -101538-03-06 05:45 J -35365267.39 -35365267.26 -35365267.13 0.1637 0.0648

Mars -101536-02-09 06:28 J -35364561.33 -35364561.23 -35364561.14 0.1648 0.1239

Neptune -101536-03-27 09:06 J -35364515.16 -35364515.12 -35364515.06 0.0089 0.0085

Neptune -101536-06-23 11:30 J -35364427.08 -35364427.02 -35364426.94 0.0089 0.0080

Earth -101536-07-02 09:21 J -35364418.21 -35364418.11 -35364418.01 0.2672 0.1303

Moon -101536-07-02 10:04 J -35364418.18 -35364418.08 -35364417.98 0.2670 0.1310 *

Neptune -101536-09-19 13:54 J -35364339.00 -35364338.92 -35364338.82 0.0089 0.0075

Neptune -101536-12-16 16:18 J -35364250.91 -35364250.82 -35364250.71 0.0089 0.0070

Mars -101536-12-23 10:18 J -35364244.19 -35364244.07 -35364243.94 0.1878 0.0436

Neptune -101535-03-14 18:42 J -35364162.82 -35364162.72 -35364162.60 0.0089 0.0065

Neptune -101535-06-10 21:06 J -35364074.73 -35364074.62 -35364074.49 0.0089 0.0060

Neptune -101535-09-06 23:45 J -35363986.64 -35363986.51 -35363986.39 0.0089 0.0055

Neptune -101535-12-04 01:40 J -35363898.55 -35363898.43 -35363898.28 0.0088 0.0051

Neptune -101534-03-02 04:04 J -35363810.46 -35363810.33 -35363810.18 0.0088 0.0046

Neptune -101534-05-29 06:28 J -35363722.36 -35363722.23 -35363722.08 0.0088 0.0041

Jupiter -101534-07-02 10:04 J -35363688.20 -35363688.08 -35363687.97 0.0505 0.0316

Neptune -101534-08-25 08:52 J -35363634.27 -35363634.13 -35363633.97 0.0088 0.0036

Jupiter -101534-09-30 00:42 J -35363598.62 -35363598.47 -35363598.33 0.0502 0.0159

Neptune -101534-11-21 11:16 J -35363546.18 -35363546.03 -35363545.88 0.0088 0.0031

Neptune -101533-02-17 13:40 J -35363458.09 -35363457.93 -35363457.78 0.0088 0.0026

Neptune -101533-05-15 15:49 J -35363369.99 -35363369.84 -35363369.68 0.0088 0.0021

Neptune -101533-08-11 17:59 J -35363281.90 -35363281.75 -35363281.58 0.0088 0.0017

Venus -101533-09-09 17:16 J -35363252.82 -35363252.78 -35363252.73 0.3784 0.3422

Neptune -101533-11-07 20:23 J -35363193.81 -35363193.65 -35363193.49 0.0088 0.0012

Moon -101533-12-18 08:37 J -35363153.28 -35363153.14 -35363153.00 0.2669 0.0599

Earth -101533-12-18 08:37 J -35363153.28 -35363153.14 -35363153.00 0.2676 0.0524 *

Neptune -101532-02-03 22:33 J -35363105.71 -35363105.56 -35363105.39 0.0088 0.0008

Saturn -101532-02-04 23:16 J -35363104.61 -35363104.53 -35363104.44 0.0269 0.0222

Neptune -101532-05-03 00:57 J -35363017.62 -35363017.46 -35363017.30 0.0088 0.0002

Saturn -101532-05-04 13:40 J -35363016.05 -35363015.93 -35363015.80 0.0270 0.0147

Neptune -101532-07-30 03:06 J -35362929.53 -35362929.37 -35362929.21 0.0088 0.0003

Saturn -101532-08-01 03:49 J -35362927.48 -35362927.34 -35362927.19 0.0270 0.0072

Neptune -101532-10-26 05:30 J -35362841.43 -35362841.27 -35362841.11 0.0088 0.0007

Saturn -101532-10-28 17:45 J -35362838.91 -35362838.76 -35362838.61 0.0270 0.0001

Neptune -101531-01-22 07:40 J -35362753.34 -35362753.18 -35362753.02 0.0088 0.0012

Saturn -101531-01-25 07:25 J -35362750.34 -35362750.19 -35362750.05 0.0270 0.0073

Neptune -101531-04-20 09:49 J -35362665.25 -35362665.09 -35362664.93 0.0088 0.0017

Saturn -101531-04-23 20:37 J -35362661.76 -35362661.64 -35362661.51 0.0270 0.0144

Neptune -101531-07-17 11:59 J -35362577.15 -35362577.00 -35362576.84 0.0088 0.0021

Saturn -101531-07-21 09:49 J -35362573.18 -35362573.09 -35362573.00 0.0270 0.0213

Neptune -101531-10-13 14:09 J -35362489.06 -35362488.91 -35362488.75 0.0088 0.0026

Neptune -101530-01-09 16:18 J -35362400.96 -35362400.82 -35362400.67 0.0088 0.0030

Neptune -101530-04-07 18:13 J -35362312.87 -35362312.74 -35362312.58 0.0088 0.0036

Neptune -101530-07-04 20:37 J -35362224.78 -35362224.64 -35362224.50 0.0088 0.0040

Neptune -101530-09-30 22:33 J -35362136.68 -35362136.56 -35362136.41 0.0088 0.0045

Neptune -101530-12-28 00:57 J -35362048.59 -35362048.46 -35362048.33 0.0088 0.0049

Neptune -101529-03-25 02:52 J -35361960.49 -35361960.38 -35361960.24 0.0088 0.0053

Neptune -101529-06-21 05:01 J -35361872.40 -35361872.29 -35361872.16 0.0088 0.0058

Moon -101529-06-25 02:52 J -35361868.47 -35361868.38 -35361868.30 0.2665 0.1921

Earth -101529-06-25 03:06 J -35361868.45 -35361868.37 -35361868.29 0.2659 0.1910 *

Mars -101529-07-26 12:13 J -35361837.10 -35361836.99 -35361836.88 0.1635 0.1074

Neptune -101529-09-17 06:57 J -35361784.30 -35361784.21 -35361784.08 0.0088 0.0063

Neptune -101529-12-14 09:21 J -35361696.21 -35361696.11 -35361696.00 0.0088 0.0067

Neptune -101528-03-12 11:01 J -35361608.11 -35361608.04 -35361607.93 0.0088 0.0072

Neptune -101528-06-08 13:25 J -35361520.01 -35361519.94 -35361519.85 0.0088 0.0075

Neptune -101528-09-04 15:35 J -35361431.91 -35361431.85 -35361431.78 0.0088 0.0080

Jupiter -101528-11-30 00:42 J -35361345.62 -35361345.47 -35361345.33 0.0524 0.0131

Neptune -101528-12-01 17:16 J -35361343.81 -35361343.78 -35361343.72 0.0088 0.0085

Jupiter -101527-02-27 18:28 J -35361255.82 -35361255.73 -35361255.64 0.0527 0.0408

Venus -101527-03-26 12:13 J -35361229.08 -35361228.99 -35361228.91 0.3782 0.2338

Mars -101527-07-02 11:59 J -35361131.13 -35361131.00 -35361130.87 0.1645 0.0763

Mars -101526-05-15 15:21 J -35360813.99 -35360813.86 -35360813.73 0.1881 0.0191

Earth -101523-07-05 04:47 J -35359667.35 -35359667.30 -35359667.25 0.2677 0.2422

Moon -101523-07-05 05:16 J -35359667.31 -35359667.28 -35359667.24 0.2672 0.2524 *

Jupiter -101522-04-20 12:13 J -35359378.06 -35359377.99 -35359377.91 0.0506 0.0429

Jupiter -101522-07-19 02:37 J -35359288.54 -35359288.39 -35359288.24 0.0503 0.0043

Venus -101522-10-10 07:11 J -35359205.31 -35359205.20 -35359205.09 0.3778 0.1213

Mars -101520-12-16 19:11 J -35358406.76 -35358406.70 -35358406.65 0.1633 0.1484

Moon -101520-12-21 09:49 J -35358402.22 -35358402.09 -35358401.96 0.2665 0.1161

Earth -101520-12-21 10:33 J -35358402.19 -35358402.06 -35358401.93 0.2670 0.1145 *

Saturn -101518-08-22 05:59 J -35357793.32 -35357793.25 -35357793.16 0.0290 0.0250

Saturn -101518-11-18 23:16 J -35357704.66 -35357704.53 -35357704.40 0.0290 0.0159

Mars -101518-11-22 17:45 J -35357700.90 -35357700.76 -35357700.62 0.1642 0.0298

Saturn -101517-02-15 16:47 J -35357615.96 -35357615.80 -35357615.65 0.0290 0.0067

Saturn -101517-05-14 10:33 J -35357527.22 -35357527.06 -35357526.90 0.0290 0.0029

Saturn -101517-08-11 04:33 J -35357438.45 -35357438.31 -35357438.16 0.0289 0.0126

Mars -101517-10-04 20:23 J -35357383.77 -35357383.65 -35357383.53 0.1884 0.0823

Saturn -101517-11-07 23:01 J -35357349.64 -35357349.54 -35357349.43 0.0289 0.0224

Venus -101516-04-25 02:23 J -35357181.51 -35357181.40 -35357181.29 0.3775 0.0054

Earth -101516-06-27 23:01 J -35357117.66 -35357117.54 -35357117.43 0.2663 0.0745

Moon -101516-06-27 23:30 J -35357117.64 -35357117.52 -35357117.41 0.2669 0.0715 *

Jupiter -101516-09-18 01:54 J -35357035.55 -35357035.42 -35357035.29 0.0523 0.0261

Jupiter -101516-12-16 20:09 J -35356945.78 -35356945.66 -35356945.53 0.0527 0.0283

Mars -101515-09-10 23:01 J -35356677.60 -35356677.54 -35356677.49 0.1870 0.1656

Venus -101512-04-24 12:13 J -35355721.07 -35355720.99 -35355720.90 0.3596 0.2811

Venus -101511-11-08 21:49 J -35355157.70 -35355157.59 -35355157.48 0.3771 0.1151

Jupiter -101510-05-07 04:47 J -35354978.45 -35354978.30 -35354978.15 0.0503 0.0074

Jupiter -101510-08-04 19:54 J -35354888.75 -35354888.67 -35354888.58 0.0500 0.0406

Mars -101508-04-13 23:45 J -35354270.66 -35354270.51 -35354270.37 0.1639 0.0158

Mars -101507-02-25 00:42 J -35353953.54 -35353953.47 -35353953.39 0.1887 0.1493

Venus -101507-11-08 11:45 J -35353697.13 -35353697.01 -35353696.89 0.3599 0.1339

Moon -101507-12-24 11:30 J -35353651.03 -35353651.02 -35353651.02 0.2664 0.2654

Mars -101505-02-01 04:47 J -35353247.40 -35353247.30 -35353247.19 0.1874 0.1082

Venus -101505-05-24 17:45 J -35353133.85 -35353133.76 -35353133.67 0.3768 0.2380

Jupiter -101504-07-07 03:06 J -35352725.46 -35352725.37 -35352725.26 0.0523 0.0392

Jupiter -101504-10-04 22:04 J -35352635.73 -35352635.58 -35352635.44 0.0526 0.0156

Saturn -101503-06-24 23:16 J -35352372.59 -35352372.53 -35352372.48 0.0269 0.0251

Earth -101503-06-30 18:42 J -35352366.84 -35352366.72 -35352366.60 0.2668 0.0408

Moon -101503-06-30 19:25 J -35352366.80 -35352366.69 -35352366.57 0.2671 0.0446 *

Saturn -101503-09-21 13:40 J -35352284.04 -35352283.93 -35352283.81 0.0269 0.0176

Saturn -101503-12-19 03:49 J -35352195.48 -35352195.34 -35352195.20 0.0269 0.0101

Saturn -101502-03-17 17:45 J -35352106.91 -35352106.76 -35352106.60 0.0270 0.0029

Saturn -101502-06-14 07:40 J -35352018.33 -35352018.18 -35352018.04 0.0270 0.0045

Saturn -101502-09-10 21:06 J -35351929.76 -35351929.62 -35351929.49 0.0270 0.0116

Saturn -101502-12-08 10:18 J -35351841.17 -35351841.07 -35351840.96 0.0270 0.0186

Saturn -101501-03-05 23:16 J -35351752.57 -35351752.53 -35351752.48 0.0271 0.0255

Venus -101501-05-24 10:47 J -35351673.18 -35351673.05 -35351672.92 0.3603 0.0074

Uranus -101500-06-18 00:13 J -35351283.50 -35351283.49 -35351283.44 0.0144 0.0142

Uranus -101500-09-14 05:59 J -35351195.33 -35351195.25 -35351195.16 0.0144 0.0119

Venus -101500-12-08 13:40 J -35351109.95 -35351109.93 -35351109.90 0.3764 0.3648

Uranus -101500-12-11 11:30 J -35351107.13 -35351107.02 -35351106.90 0.0144 0.0097

Earth -101500-12-16 12:42 J -35351102.07 -35351101.97 -35351101.87 0.2680 0.1827

Moon -101500-12-16 13:40 J -35351102.03 -35351101.93 -35351101.83 0.2675 0.1787 *

Uranus -101499-03-09 16:47 J -35351018.92 -35351018.80 -35351018.65 0.0145 0.0076

Uranus -101499-06-05 22:33 J -35350930.70 -35350930.56 -35350930.41 0.0145 0.0053

Uranus -101499-09-02 04:18 J -35350842.48 -35350842.32 -35350842.16 0.0145 0.0030

Mars -101499-09-04 05:59 J -35350840.39 -35350840.25 -35350840.12 0.1637 0.0600

Uranus -101499-11-29 10:04 J -35350754.24 -35350754.08 -35350753.92 0.0145 0.0007

Jupiter -101498-02-23 06:28 J -35350668.37 -35350668.23 -35350668.09 0.0504 0.0195

Uranus -101498-02-25 15:49 J -35350666.00 -35350665.84 -35350665.68 0.0145 0.0016

Jupiter -101498-05-23 21:21 J -35350578.73 -35350578.61 -35350578.48 0.0501 0.0282

Uranus -101498-05-24 21:35 J -35350577.75 -35350577.60 -35350577.44 0.0145 0.0039

Uranus -101498-08-21 03:21 J -35350489.50 -35350489.36 -35350489.21 0.0145 0.0063

Uranus -101498-11-17 09:06 J -35350401.23 -35350401.12 -35350400.97 0.0145 0.0088

Uranus -101497-02-13 15:06 J -35350312.96 -35350312.87 -35350312.75 0.0145 0.0112

Uranus -101497-05-11 21:21 J -35350224.66 -35350224.61 -35350224.54 0.0146 0.0136

Mars -101497-08-10 06:42 J -35350134.30 -35350134.22 -35350134.13 0.1648 0.1296

Mars -101496-06-23 10:18 J -35349817.19 -35349817.07 -35349816.95 0.1878 0.0481

Venus -101496-12-08 09:21 J -35349649.22 -35349649.11 -35349648.99 0.3606 0.1427

Jupiter -101492-07-23 23:16 J -35348325.68 -35348325.53 -35348325.38 0.0525 0.0024

Venus -101490-06-24 07:40 J -35347625.26 -35347625.18 -35347625.10 0.3610 0.2718

Earth -101490-07-03 14:23 J -35347616.00 -35347615.90 -35347615.81 0.2673 0.1540

Moon -101490-07-03 15:06 J -35347615.96 -35347615.87 -35347615.78 0.2670 0.1676 *

Mars -101489-01-25 12:28 J -35347410.09 -35347409.98 -35347409.87 0.1635 0.1026

Saturn -101488-01-08 06:13 J -35347061.28 -35347061.24 -35347061.20 0.0290 0.0280

Saturn -101488-04-06 23:01 J -35346972.65 -35346972.54 -35346972.42 0.0290 0.0190

Saturn -101488-07-04 16:18 J -35346883.96 -35346883.82 -35346883.67 0.0290 0.0098

Saturn -101488-10-01 10:04 J -35346795.24 -35346795.08 -35346794.92 0.0290 0.0005

Saturn -101488-12-29 04:04 J -35346706.48 -35346706.33 -35346706.17 0.0289 0.0094

Mars -101488-12-31 12:13 J -35346704.11 -35346703.99 -35346703.86 0.1645 0.0816

Saturn -101487-03-27 22:33 J -35346617.68 -35346617.56 -35346617.44 0.0289 0.0192

Mars -101487-11-13 15:49 J -35346386.97 -35346386.84 -35346386.72 0.1882 0.0141

Jupiter -101487-12-12 08:37 J -35346358.25 -35346358.14 -35346358.02 0.0505 0.0311

Moon -101487-12-19 14:23 J -35346351.04 -35346350.90 -35346350.76 0.2668 0.0123

Earth -101487-12-19 14:23 J -35346351.04 -35346350.90 -35346350.76 0.2675 0.0201 *

Jupiter -101486-03-11 23:16 J -35346268.67 -35346268.53 -35346268.39 0.0502 0.0163

Moon -101483-06-26 08:09 J -35345066.25 -35345066.16 -35345066.07 0.2666 0.1736

Earth -101483-06-26 08:09 J -35345066.25 -35345066.16 -35345066.06 0.2659 0.1668 *

Jupiter -101480-05-11 23:16 J -35344015.68 -35344015.53 -35344015.38 0.0524 0.0123

Mars -101480-06-16 19:25 J -35343979.76 -35343979.69 -35343979.63 0.1633 0.1439

Jupiter -101480-08-09 17:01 J -35343925.87 -35343925.79 -35343925.70 0.0527 0.0414

Mars -101478-05-23 17:59 J -35343273.89 -35343273.75 -35343273.61 0.1642 0.0347

Mars -101477-04-04 20:37 J -35342956.76 -35342956.64 -35342956.52 0.1884 0.0768

Earth -101477-07-05 09:49 J -35342865.10 -35342865.09 -35342865.08 0.2677 0.2658

Moon -101477-07-05 10:04 J -35342865.10 -35342865.08 -35342865.06 0.2672 0.2620 *

Venus -101476-04-16 15:35 J -35342579.91 -35342579.85 -35342579.79 0.3784 0.3060

Mars -101475-03-11 23:16 J -35342250.58 -35342250.53 -35342250.49 0.1870 0.1710

Jupiter -101475-09-30 11:01 J -35342048.12 -35342048.04 -35342047.96 0.0506 0.0425

Jupiter -101475-12-29 01:11 J -35341958.60 -35341958.45 -35341958.30 0.0503 0.0048

Moon -101474-12-22 15:35 J -35341599.98 -35341599.85 -35341599.73 0.2666 0.1310

Earth -101474-12-22 16:33 J -35341599.93 -35341599.81 -35341599.69 0.2670 0.1489 *

Saturn -101473-02-08 16:04 J -35341551.93 -35341551.83 -35341551.72 0.0270 0.0194

Saturn -101473-05-07 06:28 J -35341463.37 -35341463.23 -35341463.09 0.0270 0.0119

Saturn -101473-08-03 20:37 J -35341374.79 -35341374.64 -35341374.49 0.0270 0.0045

Saturn -101473-10-31 10:18 J -35341286.22 -35341286.07 -35341285.92 0.0270 0.0028

Saturn -101472-01-27 23:45 J -35341197.64 -35341197.51 -35341197.37 0.0270 0.0100

Saturn -101472-04-26 13:11 J -35341109.06 -35341108.95 -35341108.84 0.0271 0.0170

Saturn -101472-07-24 02:23 J -35341020.47 -35341020.40 -35341020.34 0.0271 0.0239

Venus -101471-10-31 10:33 J -35340556.16 -35340556.06 -35340555.97 0.3781 0.1964

Earth -101470-06-29 04:04 J -35340315.45 -35340315.33 -35340315.21 0.2664 0.0503

Moon -101470-06-29 04:33 J -35340315.42 -35340315.31 -35340315.19 0.2670 0.0435 *

Mars -101469-10-12 23:59 J -35339843.64 -35339843.50 -35339843.35 0.1640 0.0114

Jupiter -101468-02-28 00:13 J -35339705.62 -35339705.49 -35339705.36 0.0523 0.0259

Jupiter -101468-05-28 18:28 J -35339615.86 -35339615.73 -35339615.61 0.0526 0.0282

Mars -101468-08-26 01:11 J -35339526.53 -35339526.45 -35339526.37 0.1888 0.1427

Mars -101466-08-02 05:01 J -35338820.39 -35338820.29 -35338820.19 0.1874 0.1136

Venus -101465-05-16 05:30 J -35338532.38 -35338532.27 -35338532.16 0.3777 0.0835

Jupiter -101463-10-17 03:21 J -35337648.51 -35337648.36 -35337648.21 0.0504 0.0069

Jupiter -101462-01-14 18:42 J -35337558.81 -35337558.72 -35337558.64 0.0500 0.0411

Uranus -101460-02-09 21:21 J -35336801.68 -35336801.61 -35336801.53 0.0134 0.0118

Uranus -101460-05-09 01:54 J -35336713.52 -35336713.42 -35336713.31 0.0134 0.0099

Uranus -101460-08-05 06:28 J -35336625.35 -35336625.23 -35336625.11 0.0134 0.0081

Uranus -101460-11-01 10:47 J -35336537.18 -35336537.05 -35336536.91 0.0134 0.0064

Venus -101460-11-30 00:57 J -35336508.58 -35336508.46 -35336508.35 0.3774 0.0345

Uranus -101459-01-28 15:21 J -35336449.00 -35336448.86 -35336448.71 0.0134 0.0046

Mars -101459-03-05 06:13 J -35336413.37 -35336413.24 -35336413.10 0.1637 0.0549

Uranus -101459-04-26 19:40 J -35336360.83 -35336360.68 -35336360.52 0.0134 0.0028

Uranus -101459-07-24 00:13 J -35336272.65 -35336272.49 -35336272.34 0.0134 0.0011

Saturn -101459-08-24 23:30 J -35336240.61 -35336240.52 -35336240.41 0.0290 0.0218

Uranus -101459-10-20 04:33 J -35336184.47 -35336184.31 -35336184.16 0.0134 0.0007

Saturn -101459-11-21 16:47 J -35336151.94 -35336151.80 -35336151.66 0.0290 0.0127

Uranus -101458-01-16 08:37 J -35336096.28 -35336096.14 -35336095.98 0.0134 0.0025

Saturn -101458-02-18 10:18 J -35336063.23 -35336063.07 -35336062.91 0.0290 0.0033

Uranus -101458-04-14 12:57 J -35336008.10 -35336007.96 -35336007.81 0.0134 0.0041

Saturn -101458-05-18 04:04 J -35335974.48 -35335974.33 -35335974.17 0.0289 0.0063

Uranus -101458-07-11 17:01 J -35335919.92 -35335919.79 -35335919.64 0.0133 0.0059

Saturn -101458-08-14 22:18 J -35335885.70 -35335885.57 -35335885.43 0.0289 0.0160

Uranus -101458-10-07 21:21 J -35335831.73 -35335831.61 -35335831.48 0.0133 0.0075

Saturn -101458-11-11 17:01 J -35335796.86 -35335796.79 -35335796.72 0.0289 0.0258

Uranus -101457-01-04 01:25 J -35335743.54 -35335743.44 -35335743.33 0.0133 0.0091

Mars -101457-02-09 07:11 J -35335707.28 -35335707.20 -35335707.11 0.1648 0.1355

Uranus -101457-04-01 05:16 J -35335655.35 -35335655.28 -35335655.18 0.0133 0.0109

Uranus -101457-06-28 09:35 J -35335567.15 -35335567.10 -35335567.04 0.0133 0.0124

Earth -101457-06-30 23:45 J -35335564.62 -35335564.51 -35335564.39 0.2669 0.0651

Moon -101457-07-01 00:42 J -35335564.59 -35335564.47 -35335564.36 0.2670 0.0742 *

Jupiter -101457-12-17 01:11 J -35335395.55 -35335395.45 -35335395.35 0.0522 0.0393

Mars -101457-12-22 10:33 J -35335390.18 -35335390.06 -35335389.93 0.1878 0.0550

Jupiter -101456-03-16 19:54 J -35335305.81 -35335305.67 -35335305.52 0.0526 0.0154

Venus -101456-11-29 11:59 J -35335048.10 -35335048.00 -35335047.90 0.3597 0.2317

Venus -101454-06-15 20:23 J -35334484.75 -35334484.65 -35334484.54 0.3770 0.1541

Neptune -101454-06-16 02:37 J -35334484.42 -35334484.39 -35334484.37 0.0089 0.0087

Neptune -101454-09-12 04:18 J -35334396.36 -35334396.32 -35334396.26 0.0089 0.0083

Neptune -101454-12-09 06:13 J -35334308.30 -35334308.24 -35334308.16 0.0089 0.0079

Earth -101454-12-17 18:42 J -35334299.84 -35334299.72 -35334299.61 0.2680 0.1505

Moon -101454-12-17 19:11 J -35334299.82 -35334299.70 -35334299.58 0.2673 0.1440 *

Neptune -101453-03-06 07:54 J -35334220.23 -35334220.17 -35334220.07 0.0089 0.0075

Neptune -101453-06-02 10:18 J -35334132.16 -35334132.07 -35334131.98 0.0089 0.0070

Neptune -101453-08-29 11:59 J -35334044.09 -35334044.00 -35334043.88 0.0089 0.0066

Neptune -101453-11-25 14:23 J -35333956.01 -35333955.90 -35333955.79 0.0089 0.0061

Neptune -101452-02-21 16:04 J -35333867.94 -35333867.83 -35333867.70 0.0089 0.0057

Neptune -101452-05-20 17:59 J -35333779.86 -35333779.75 -35333779.61 0.0089 0.0053

Neptune -101452-08-16 20:09 J -35333691.78 -35333691.66 -35333691.52 0.0089 0.0048

Neptune -101452-11-12 22:04 J -35333603.70 -35333603.58 -35333603.44 0.0089 0.0044

Neptune -101451-02-09 00:13 J -35333515.62 -35333515.49 -35333515.35 0.0089 0.0039

Neptune -101451-05-08 02:09 J -35333427.54 -35333427.41 -35333427.26 0.0089 0.0035

Neptune -101451-08-04 04:18 J -35333339.46 -35333339.32 -35333339.17 0.0089 0.0030

Jupiter -101451-08-05 05:30 J -35333338.41 -35333338.27 -35333338.13 0.0504 0.0184

Neptune -101451-10-31 06:13 J -35333251.38 -35333251.24 -35333251.08 0.0089 0.0026

Jupiter -101451-11-02 20:23 J -35333248.77 -35333248.65 -35333248.52 0.0501 0.0293

Neptune -101450-01-27 08:23 J -35333163.29 -35333163.15 -35333162.99 0.0089 0.0021

Neptune -101450-04-25 10:33 J -35333075.21 -35333075.06 -35333074.91 0.0089 0.0016

Venus -101450-06-15 11:16 J -35333024.16 -35333024.03 -35333023.90 0.3601 0.0876

Earth -101450-06-24 17:30 J -35333014.80 -35333014.77 -35333014.75 0.2655 0.2595

Neptune -101450-07-22 12:42 J -35332987.12 -35332986.97 -35332986.82 0.0089 0.0012

Mars -101450-07-26 12:42 J -35332983.08 -35332982.97 -35332982.85 0.1635 0.0978

Neptune -101450-10-18 14:52 J -35332899.04 -35332898.88 -35332898.73 0.0089 0.0007

Neptune -101449-01-14 16:47 J -35332810.95 -35332810.80 -35332810.64 0.0089 0.0003

Neptune -101449-04-11 18:57 J -35332722.86 -35332722.71 -35332722.55 0.0089 0.0002

Neptune -101449-07-08 21:06 J -35332634.78 -35332634.62 -35332634.46 0.0089 0.0007

Neptune -101449-10-04 23:16 J -35332546.69 -35332546.53 -35332546.38 0.0089 0.0012

Venus -101449-12-29 16:18 J -35332460.90 -35332460.82 -35332460.74 0.3767 0.2780

Neptune -101448-01-01 01:25 J -35332458.60 -35332458.44 -35332458.29 0.0089 0.0016

Neptune -101448-03-30 03:35 J -35332370.51 -35332370.35 -35332370.20 0.0089 0.0021

Neptune -101448-06-26 05:30 J -35332282.41 -35332282.27 -35332282.11 0.0089 0.0026

Mars -101448-07-01 12:42 J -35332277.10 -35332276.97 -35332276.85 0.1645 0.0870

Neptune -101448-09-22 07:40 J -35332194.32 -35332194.18 -35332194.02 0.0089 0.0031

Neptune -101448-12-19 10:04 J -35332106.23 -35332106.08 -35332105.94 0.0089 0.0035

Neptune -101447-03-17 11:59 J -35332018.13 -35332018.00 -35332017.85 0.0089 0.0040

Mars -101447-05-14 15:49 J -35331959.97 -35331959.84 -35331959.71 0.1881 0.0077

Neptune -101447-06-13 14:09 J -35331930.04 -35331929.91 -35331929.76 0.0089 0.0045

Neptune -101447-09-09 16:18 J -35331841.94 -35331841.82 -35331841.68 0.0089 0.0050

Neptune -101447-12-06 18:28 J -35331753.84 -35331753.73 -35331753.59 0.0089 0.0055

Neptune -101446-03-04 21:06 J -35331665.74 -35331665.62 -35331665.50 0.0089 0.0059

Neptune -101446-05-31 23:16 J -35331577.64 -35331577.53 -35331577.42 0.0089 0.0064

Neptune -101446-08-28 01:25 J -35331489.53 -35331489.44 -35331489.33 0.0089 0.0069

Neptune -101446-11-24 03:35 J -35331401.43 -35331401.35 -35331401.25 0.0089 0.0074

Neptune -101445-02-20 05:45 J -35331313.32 -35331313.26 -35331313.17 0.0089 0.0079

Neptune -101445-05-18 07:54 J -35331225.20 -35331225.17 -35331225.10 0.0089 0.0084

Neptune -101445-08-14 10:18 J -35331137.07 -35331137.07 -35331137.04 0.0089 0.0089

Venus -101445-12-29 10:04 J -35331000.20 -35331000.08 -35330999.95 0.3604 0.0530

Jupiter -101444-01-02 21:35 J -35330995.75 -35330995.60 -35330995.45 0.0525 0.0026

Saturn -101444-06-27 16:04 J -35330819.91 -35330819.83 -35330819.74 0.0269 0.0223

Earth -101444-07-03 19:25 J -35330813.78 -35330813.69 -35330813.60 0.2673 0.1779

Moon -101444-07-03 20:09 J -35330813.74 -35330813.66 -35330813.57 0.2670 0.1794 *

Saturn -101444-09-24 06:42 J -35330731.35 -35330731.22 -35330731.10 0.0269 0.0148

Saturn -101444-12-21 20:37 J -35330642.78 -35330642.64 -35330642.49 0.0270 0.0074

Saturn -101443-03-20 10:33 J -35330554.21 -35330554.06 -35330553.91 0.0270 0.0007

Saturn -101443-06-17 00:13 J -35330465.63 -35330465.49 -35330465.34 0.0270 0.0072

Saturn -101443-09-13 13:40 J -35330377.05 -35330376.93 -35330376.80 0.0270 0.0143

Saturn -101443-12-11 02:52 J -35330288.47 -35330288.38 -35330288.29 0.0270 0.0213

Mars -101441-12-15 19:25 J -35329552.76 -35329552.69 -35329552.61 0.1632 0.1395

Moon -101441-12-19 20:09 J -35329548.80 -35329548.66 -35329548.51 0.2667 0.0104

Earth -101441-12-19 20:23 J -35329548.79 -35329548.65 -35329548.51 0.2674 0.0144 *

Jupiter -101439-05-24 07:11 J -35329028.31 -35329028.20 -35329028.08 0.0505 0.0305

Venus -101439-07-15 08:37 J -35328976.25 -35328976.14 -35328976.03 0.3608 0.1854

Jupiter -101439-08-21 21:49 J -35328938.73 -35328938.59 -35328938.44 0.0502 0.0170

Mars -101439-11-21 18:28 J -35328846.87 -35328846.73 -35328846.59 0.1642 0.0402

Mars -101438-10-04 20:52 J -35328529.75 -35328529.63 -35328529.51 0.1885 0.0716

Moon -101437-06-26 13:25 J -35328264.04 -35328263.94 -35328263.84 0.2666 0.1363

Earth -101437-06-26 13:25 J -35328264.04 -35328263.94 -35328263.84 0.2660 0.1422 *

Mars -101436-09-09 23:16 J -35327823.57 -35327823.53 -35327823.49 0.1870 0.1759

Venus -101433-01-29 06:42 J -35326952.28 -35326952.22 -35326952.15 0.3611 0.3126

Jupiter -101433-10-21 22:47 J -35326685.70 -35326685.55 -35326685.40 0.0524 0.0109

Jupiter -101432-01-19 16:33 J -35326595.89 -35326595.81 -35326595.72 0.0527 0.0430

Saturn -101429-01-11 23:30 J -35325508.59 -35325508.52 -35325508.44 0.0290 0.0248

Saturn -101429-04-09 16:33 J -35325419.94 -35325419.81 -35325419.68 0.0290 0.0158

Mars -101429-04-13 00:13 J -35325416.63 -35325416.49 -35325416.34 0.1639 0.0065

Saturn -101429-07-07 10:04 J -35325331.24 -35325331.08 -35325330.93 0.0290 0.0065

Saturn -101429-10-04 03:49 J -35325242.50 -35325242.34 -35325242.18 0.0289 0.0031

Saturn -101429-12-31 22:04 J -35325153.73 -35325153.58 -35325153.44 0.0289 0.0128

Mars -101428-02-24 01:25 J -35325099.53 -35325099.44 -35325099.35 0.1888 0.1368

Saturn -101428-03-30 16:33 J -35325064.91 -35325064.81 -35325064.71 0.0289 0.0226

Moon -101428-12-22 21:21 J -35324797.72 -35324797.61 -35324797.51 0.2665 0.1802

Earth -101428-12-22 22:33 J -35324797.67 -35324797.56 -35324797.46 0.2669 0.1828 *

Jupiter -101427-03-12 09:35 J -35324718.18 -35324718.10 -35324718.02 0.0506 0.0420

Jupiter -101427-06-09 23:45 J -35324628.66 -35324628.51 -35324628.36 0.0503 0.0051

Mars -101426-01-31 05:16 J -35324393.38 -35324393.28 -35324393.19 0.1874 0.1191

Venus -101425-05-07 19:11 J -35323930.71 -35323930.70 -35323930.69 0.3786 0.3763

Earth -101424-06-29 09:06 J -35323513.23 -35323513.12 -35323513.00 0.2665 0.0278

Moon -101424-06-29 09:49 J -35323513.21 -35323513.09 -35323512.97 0.2670 0.0250 *

Jupiter -101421-08-09 22:47 J -35322375.68 -35322375.55 -35322375.42 0.0523 0.0253

Jupiter -101421-11-07 17:01 J -35322285.91 -35322285.79 -35322285.66 0.0526 0.0288

Mars -101420-09-03 06:42 J -35321986.36 -35321986.22 -35321986.08 0.1637 0.0496

Venus -101420-11-21 13:54 J -35321907.00 -35321906.92 -35321906.84 0.3783 0.2696

Mars -101418-08-10 07:25 J -35321280.26 -35321280.19 -35321280.11 0.1648 0.1404

Mars -101417-06-22 11:01 J -35320963.17 -35320963.04 -35320962.92 0.1878 0.0605

Uranus -101416-07-08 07:40 J -35320582.23 -35320582.18 -35320582.13 0.0144 0.0137

Uranus -101416-10-04 12:42 J -35320494.05 -35320493.97 -35320493.86 0.0144 0.0116

Uranus -101416-12-31 18:13 J -35320405.85 -35320405.74 -35320405.61 0.0144 0.0094

Jupiter -101415-03-29 01:40 J -35320318.58 -35320318.43 -35320318.28 0.0504 0.0067

Uranus -101415-03-29 23:59 J -35320317.63 -35320317.50 -35320317.36 0.0145 0.0071

Uranus -101415-06-26 05:30 J -35320229.41 -35320229.27 -35320229.11 0.0145 0.0049

Jupiter -101415-06-26 17:01 J -35320228.87 -35320228.79 -35320228.70 0.0501 0.0415

Uranus -101415-09-22 11:16 J -35320141.19 -35320141.03 -35320140.87 0.0145 0.0026

Saturn -101415-11-14 18:42 J -35320087.78 -35320087.72 -35320087.65 0.0270 0.0241

Uranus -101415-12-19 17:01 J -35320052.95 -35320052.79 -35320052.63 0.0145 0.0003

Saturn -101414-02-11 09:21 J -35319999.23 -35319999.11 -35319998.99 0.0270 0.0165

Uranus -101414-03-17 22:47 J -35319964.71 -35319964.55 -35319964.39 0.0145 0.0020

Saturn -101414-05-10 23:30 J -35319910.66 -35319910.52 -35319910.38 0.0270 0.0090

Venus -101414-06-07 08:52 J -35319883.23 -35319883.13 -35319883.03 0.3780 0.1591

Uranus -101414-06-14 04:33 J -35319876.46 -35319876.31 -35319876.15 0.0145 0.0044

Saturn -101414-08-07 13:25 J -35319822.09 -35319821.94 -35319821.79 0.0270 0.0017

Uranus -101414-09-10 10:18 J -35319788.21 -35319788.07 -35319787.92 0.0145 0.0067

Saturn -101414-11-04 03:06 J -35319733.51 -35319733.37 -35319733.22 0.0270 0.0057

Uranus -101414-12-07 16:18 J -35319699.94 -35319699.82 -35319699.69 0.0145 0.0091

Saturn -101413-01-31 16:47 J -35319644.93 -35319644.80 -35319644.67 0.0271 0.0128

Uranus -101413-03-04 22:04 J -35319611.66 -35319611.58 -35319611.47 0.0145 0.0116

Saturn -101413-04-29 05:59 J -35319556.35 -35319556.25 -35319556.15 0.0271 0.0198

Uranus -101413-06-01 04:18 J -35319523.35 -35319523.32 -35319523.27 0.0146 0.0140

Saturn -101413-07-26 18:57 J -35319467.73 -35319467.71 -35319467.68 0.0271 0.0267

Earth -101411-07-02 05:01 J -35318762.41 -35318762.29 -35318762.18 0.2669 0.0891

Moon -101411-07-02 05:45 J -35318762.37 -35318762.26 -35318762.15 0.2669 0.0983 *

Mars -101410-01-24 13:11 J -35318556.07 -35318555.95 -35318555.83 0.1635 0.0926

Jupiter -101409-05-28 23:30 J -35318065.62 -35318065.52 -35318065.42 0.0522 0.0391

Jupiter -101409-08-26 18:13 J -35317975.89 -35317975.74 -35317975.60 0.0525 0.0154

Venus -101409-12-21 04:04 J -35317859.45 -35317859.33 -35317859.22 0.3776 0.0460

Mars -101409-12-30 13:11 J -35317850.07 -35317849.95 -35317849.83 0.1645 0.0927

Mars -101408-11-12 16:04 J -35317532.96 -35317532.83 -35317532.70 0.1881 0.0028

Earth -101408-12-18 00:28 J -35317497.60 -35317497.48 -35317497.35 0.2679 0.1176

Moon -101408-12-18 00:57 J -35317497.59 -35317497.46 -35317497.33 0.2672 0.1114 *

Venus -101405-12-20 11:59 J -35316399.05 -35316399.00 -35316398.95 0.3595 0.3324

Moon -101404-06-24 21:49 J -35316212.64 -35316212.59 -35316212.53 0.2661 0.2350

Earth -101404-06-24 22:33 J -35316212.61 -35316212.56 -35316212.51 0.2656 0.2351 *

Jupiter -101403-01-15 03:49 J -35316008.48 -35316008.34 -35316008.20 0.0505 0.0182

Jupiter -101403-04-14 18:42 J -35315918.84 -35315918.72 -35315918.59 0.0501 0.0296

Venus -101403-07-06 23:30 J -35315835.64 -35315835.52 -35315835.41 0.3773 0.0737

Mars -101401-06-15 19:54 J -35315125.75 -35315125.67 -35315125.59 0.1632 0.1344

Saturn -101400-05-31 00:57 J -35314776.51 -35314776.46 -35314776.41 0.0290 0.0272

Saturn -101400-08-27 17:45 J -35314687.88 -35314687.76 -35314687.64 0.0290 0.0183

Saturn -101400-11-24 11:01 J -35314599.19 -35314599.04 -35314598.89 0.0289 0.0090

Saturn -101399-02-21 04:47 J -35314510.46 -35314510.30 -35314510.15 0.0289 0.0009

Saturn -101399-05-20 22:33 J -35314421.71 -35314421.56 -35314421.40 0.0289 0.0100

Mars -101399-05-22 18:42 J -35314419.86 -35314419.72 -35314419.58 0.1642 0.0453

Venus -101399-07-06 11:30 J -35314375.13 -35314375.02 -35314374.90 0.3598 0.1837

Saturn -101399-08-17 17:01 J -35314332.91 -35314332.79 -35314332.67 0.0289 0.0198

Mars -101398-04-04 21:06 J -35314102.74 -35314102.62 -35314102.50 0.1885 0.0656

Earth -101398-07-05 00:28 J -35314011.56 -35314011.48 -35314011.40 0.2674 0.2015

Moon -101398-07-05 01:11 J -35314011.52 -35314011.45 -35314011.38 0.2670 0.2114 *

Venus -101397-01-20 18:57 J -35313811.80 -35313811.71 -35313811.61 0.3769 0.1938

Jupiter -101397-06-14 19:25 J -35313665.84 -35313665.69 -35313665.54 0.0525 0.0023

Mars -101396-03-10 23:30 J -35313396.55 -35313396.52 -35313396.50 0.1870 0.1814

Moon -101395-12-21 01:54 J -35312746.56 -35312746.42 -35312746.28 0.2668 0.0467

Earth -101395-12-21 02:23 J -35312746.54 -35312746.40 -35312746.27 0.2674 0.0482 *

Venus -101393-01-20 10:47 J -35312351.18 -35312351.05 -35312350.92 0.3602 0.0421

Venus -101392-08-05 14:52 J -35311787.94 -35311787.88 -35311787.82 0.3766 0.3178

Jupiter -101392-11-03 06:13 J -35311698.36 -35311698.24 -35311698.12 0.0505 0.0296

Jupiter -101391-01-31 20:37 J -35311608.78 -35311608.64 -35311608.49 0.0502 0.0178

Pluto -101391-05-26 22:18 J -35311493.59 -35311493.57 -35311493.50 0.0060 0.0059

Earth -101391-06-27 18:28 J -35311461.84 -35311461.73 -35311461.62 0.2661 0.1176

Moon -101391-06-27 18:42 J -35311461.83 -35311461.72 -35311461.62 0.2667 0.1233 *

Pluto -101391-08-22 23:45 J -35311405.59 -35311405.51 -35311405.38 0.0060 0.0052

Pluto -101391-11-19 01:11 J -35311317.56 -35311317.45 -35311317.29 0.0060 0.0045

Pluto -101390-02-15 03:21 J -35311229.52 -35311229.36 -35311229.20 0.0060 0.0037

Pluto -101390-05-14 04:33 J -35311141.47 -35311141.31 -35311141.13 0.0060 0.0030

Pluto -101390-08-10 05:59 J -35311053.42 -35311053.25 -35311053.05 0.0060 0.0023

Mars -101390-10-13 00:42 J -35310989.61 -35310989.47 -35310989.32 0.1639 0.0036

Pluto -101390-11-06 07:40 J -35310965.36 -35310965.18 -35310964.98 0.0061 0.0015

Pluto -101389-02-02 09:21 J -35310877.31 -35310877.11 -35310876.91 0.0061 0.0008

Pluto -101389-04-30 10:47 J -35310789.24 -35310789.05 -35310788.85 0.0061 0.0001

Pluto -101389-07-27 12:13 J -35310701.18 -35310700.99 -35310700.79 0.0061 0.0007

Mars -101389-08-25 01:40 J -35310672.52 -35310672.43 -35310672.34 0.1888 0.1313

Pluto -101389-10-23 13:40 J -35310613.11 -35310612.93 -35310612.73 0.0061 0.0014

Pluto -101388-01-19 15:21 J -35310525.04 -35310524.86 -35310524.67 0.0061 0.0021

Pluto -101388-04-17 16:33 J -35310436.97 -35310436.81 -35310436.62 0.0061 0.0029

Pluto -101388-07-14 18:13 J -35310348.89 -35310348.74 -35310348.57 0.0061 0.0036

Venus -101388-08-05 09:35 J -35310327.23 -35310327.10 -35310326.97 0.3605 0.0956

Pluto -101388-10-10 19:25 J -35310260.80 -35310260.69 -35310260.53 0.0061 0.0044

Pluto -101387-01-06 21:06 J -35310172.71 -35310172.62 -35310172.49 0.0061 0.0051

Pluto -101387-04-04 23:01 J -35310084.59 -35310084.54 -35310084.48 0.0061 0.0059

Mars -101387-08-01 05:30 J -35309966.37 -35309966.27 -35309966.18 0.1874 0.1248

Jupiter -101385-04-02 20:52 J -35309355.78 -35309355.63 -35309355.48 0.0524 0.0109

Saturn -101385-04-02 18:57 J -35309355.71 -35309355.71 -35309355.70 0.0269 0.0269 *

Saturn -101385-06-30 09:35 J -35309267.20 -35309267.10 -35309266.99 0.0269 0.0193

Jupiter -101385-07-01 14:37 J -35309265.97 -35309265.89 -35309265.80 0.0527 0.0430

Saturn -101385-09-26 23:59 J -35309178.64 -35309178.50 -35309178.36 0.0270 0.0117

Saturn -101385-12-24 13:54 J -35309090.07 -35309089.92 -35309089.77 0.0270 0.0044

Saturn -101384-03-23 03:49 J -35309001.49 -35309001.34 -35309001.19 0.0270 0.0030

Saturn -101384-06-19 17:16 J -35308912.91 -35308912.78 -35308912.64 0.0270 0.0102

Saturn -101384-09-16 06:42 J -35308824.33 -35308824.22 -35308824.11 0.0270 0.0172

Saturn -101384-12-13 19:40 J -35308735.73 -35308735.68 -35308735.61 0.0271 0.0242

Venus -101382-02-19 07:54 J -35308303.27 -35308303.17 -35308303.07 0.3609 0.2262

Moon -101382-12-24 03:06 J -35307995.46 -35307995.37 -35307995.27 0.2665 0.1971

Earth -101382-12-24 04:18 J -35307995.40 -35307995.32 -35307995.24 0.2668 0.2172 *

Mars -101380-03-04 06:57 J -35307559.35 -35307559.21 -35307559.07 0.1637 0.0448

Jupiter -101380-08-22 07:54 J -35307388.25 -35307388.17 -35307388.08 0.0506 0.0416

Jupiter -101380-11-19 22:18 J -35307298.72 -35307298.57 -35307298.42 0.0503 0.0055

Mars -101378-02-08 08:09 J -35306853.23 -35306853.16 -35306853.10 0.1648 0.1464

Earth -101378-06-30 14:23 J -35306711.02 -35306710.90 -35306710.78 0.2665 0.0061

Moon -101378-06-30 14:52 J -35306710.99 -35306710.88 -35306710.76 0.2669 0.0130 *

Mars -101378-12-22 11:01 J -35306536.16 -35306536.04 -35306535.92 0.1878 0.0652

Venus -101377-09-04 05:59 J -35306279.27 -35306279.25 -35306279.22 0.3613 0.3524

Uranus -101377-12-03 23:45 J -35306188.53 -35306188.51 -35306188.48 0.0135 0.0132

Uranus -101376-03-02 04:18 J -35306100.39 -35306100.32 -35306100.23 0.0134 0.0114

Uranus -101376-05-29 08:52 J -35306012.23 -35306012.13 -35306012.01 0.0134 0.0095

Uranus -101376-08-25 13:25 J -35305924.06 -35305923.94 -35305923.81 0.0134 0.0077

Uranus -101376-11-21 17:59 J -35305835.89 -35305835.75 -35305835.61 0.0134 0.0059

Uranus -101375-02-17 22:33 J -35305747.71 -35305747.56 -35305747.41 0.0134 0.0041

Uranus -101375-05-17 02:52 J -35305659.53 -35305659.38 -35305659.22 0.0134 0.0024

Uranus -101375-08-13 07:11 J -35305571.35 -35305571.20 -35305571.04 0.0134 0.0007

Uranus -101375-11-09 11:30 J -35305483.17 -35305483.02 -35305482.86 0.0134 0.0012

Earth -101375-12-16 05:01 J -35305446.35 -35305446.29 -35305446.24 0.2683 0.2459

Moon -101375-12-16 05:59 J -35305446.32 -35305446.25 -35305446.18 0.2679 0.2291 *

Uranus -101374-02-05 15:49 J -35305394.99 -35305394.84 -35305394.69 0.0134 0.0029

Uranus -101374-05-04 20:09 J -35305306.80 -35305306.66 -35305306.52 0.0133 0.0045

Uranus -101374-08-01 00:13 J -35305218.62 -35305218.49 -35305218.35 0.0133 0.0063

Uranus -101374-10-28 04:18 J -35305130.43 -35305130.32 -35305130.19 0.0133 0.0079

Jupiter -101373-01-20 21:49 J -35305045.72 -35305045.59 -35305045.45 0.0523 0.0243

Uranus -101373-01-24 08:37 J -35305042.24 -35305042.14 -35305042.03 0.0133 0.0095

Jupiter -101373-04-19 16:18 J -35304955.95 -35304955.82 -35304955.70 0.0526 0.0300

Uranus -101373-04-21 12:28 J -35304954.05 -35304953.98 -35304953.89 0.0133 0.0112

Uranus -101373-07-18 16:33 J -35304865.83 -35304865.81 -35304865.76 0.0133 0.0129

Neptune -101372-09-25 05:30 J -35304432.27 -35304432.27 -35304432.22 0.0089 0.0088

Neptune -101372-12-22 08:09 J -35304344.20 -35304344.16 -35304344.09 0.0089 0.0082

Neptune -101371-03-20 10:33 J -35304256.12 -35304256.06 -35304255.97 0.0089 0.0078

Neptune -101371-06-16 12:57 J -35304168.04 -35304167.96 -35304167.85 0.0089 0.0073

Mars -101371-07-25 13:25 J -35304129.06 -35304128.94 -35304128.82 0.1634 0.0882

Neptune -101371-09-12 15:21 J -35304079.95 -35304079.86 -35304079.74 0.0089 0.0068

Neptune -101371-12-09 17:45 J -35303991.86 -35303991.76 -35303991.63 0.0089 0.0063

Saturn -101370-01-14 17:30 J -35303955.87 -35303955.77 -35303955.66 0.0290 0.0214

Neptune -101370-03-07 20:23 J -35303903.77 -35303903.65 -35303903.52 0.0089 0.0058

Saturn -101370-04-13 10:47 J -35303867.19 -35303867.05 -35303866.91 0.0290 0.0122

Neptune -101370-06-03 22:47 J -35303815.68 -35303815.55 -35303815.41 0.0089 0.0053

Saturn -101370-07-11 04:18 J -35303778.48 -35303778.32 -35303778.16 0.0290 0.0028

Neptune -101370-08-31 01:11 J -35303727.58 -35303727.45 -35303727.31 0.0089 0.0048

Saturn -101370-10-07 22:04 J -35303689.73 -35303689.58 -35303689.42 0.0289 0.0069

Neptune -101370-11-27 03:35 J -35303639.49 -35303639.35 -35303639.21 0.0089 0.0043

Saturn -101369-01-04 16:33 J -35303600.94 -35303600.81 -35303600.68 0.0289 0.0165

Neptune -101369-02-23 05:59 J -35303551.40 -35303551.25 -35303551.11 0.0089 0.0038

Saturn -101369-04-02 11:16 J -35303512.10 -35303512.03 -35303511.97 0.0289 0.0264

Neptune -101369-05-21 07:54 J -35303463.31 -35303463.17 -35303463.01 0.0089 0.0034

Mars   -101369-06-30 13:11 J -35303423.06 -35303422.95 -35303422.83 0.1645 0.0975

Neptune -101369-08-17 10:18 J -35303375.21 -35303375.07 -35303374.91 0.0089 0.0029

Neptune -101369-11-13 12:42 J -35303287.12 -35303286.97 -35303286.81 0.0089 0.0024

Venus   -101369-12-12 17:30 J -35303257.82 -35303257.77 -35303257.72 0.3785 0.3404

Neptune -101368-02-09 15:06 J -35303199.03 -35303198.87 -35303198.71 0.0088 0.0019

Neptune -101368-05-08 17:16 J -35303110.93 -35303110.78 -35303110.61 0.0088 0.0014

Mars   -101368-05-13 16:18 J -35303105.95 -35303105.82 -35303105.69 0.1882 0.0040

Neptune -101368-08-04 19:40 J -35303022.84 -35303022.68 -35303022.52 0.0088 0.0009

Jupiter -101368-09-08 00:13 J -35302988.64 -35302988.49 -35302988.34 0.0504 0.0065

Neptune -101368-10-31 21:49 J -35302934.74 -35302934.59 -35302934.42 0.0088 0.0005

Jupiter -101368-12-06 15:21 J -35302898.94 -35302898.86 -35302898.77 0.0501 0.0416

Neptune -101367-01-28 00:13 J -35302846.65 -35302846.49 -35302846.33 0.0088 0.0000

Neptune -101367-04-26 02:23 J -35302758.56 -35302758.40 -35302758.24 0.0088 0.0005

Neptune -101367-07-23 04:47 J -35302670.46 -35302670.30 -35302670.15 0.0088 0.0010

Neptune -101367-10-19 06:42 J -35302582.37 -35302582.22 -35302582.05 0.0088 0.0015

Neptune -101366-01-15 09:06 J -35302494.28 -35302494.12 -35302493.96 0.0088 0.0019

Neptune -101366-04-13 11:16 J -35302406.18 -35302406.03 -35302405.88 0.0088 0.0024

Neptune -101366-07-10 13:11 J -35302318.09 -35302317.95 -35302317.79 0.0088 0.0029

Neptune -101366-10-06 15:35 J -35302229.99 -35302229.85 -35302229.70 0.0088 0.0033

Neptune -101365-01-02 17:45 J -35302141.90 -35302141.76 -35302141.61 0.0088 0.0037

Neptune -101365-03-30 19:54 J -35302053.81 -35302053.67 -35302053.53 0.0088 0.0042

Neptune -101365-06-26 21:49 J -35301965.71 -35301965.59 -35301965.44 0.0088 0.0047

Earth -101365-07-02 10:04 J -35301960.19 -35301960.08 -35301959.98 0.2670 0.1127

Moon -101365-07-02 10:47 J -35301960.15 -35301960.05 -35301959.94 0.2669 0.1194 *

Neptune -101365-09-23 00:13 J -35301877.62 -35301877.49 -35301877.36 0.0088 0.0051

Neptune -101365-12-20 02:09 J -35301789.52 -35301789.41 -35301789.28 0.0088 0.0056

Neptune -101364-03-18 04:33 J -35301701.43 -35301701.31 -35301701.20 0.0088 0.0060

Neptune -101364-06-14 06:13 J -35301613.33 -35301613.24 -35301613.12 0.0088 0.0065

Neptune -101364-09-10 08:37 J -35301525.23 -35301525.14 -35301525.04 0.0088 0.0069

Neptune -101364-12-07 10:33 J -35301437.14 -35301437.06 -35301436.96 0.0088 0.0073

Neptune -101363-03-05 12:42 J -35301349.04 -35301348.97 -35301348.89 0.0088 0.0078

Neptune -101363-06-01 14:37 J -35301260.93 -35301260.89 -35301260.82 0.0088 0.0082

Venus -101363-06-28 12:13 J -35301234.07 -35301233.99 -35301233.90 0.3782 0.2329

Neptune -101363-08-28 16:33 J -35301172.82 -35301172.81 -35301172.76 0.0088 0.0087

Jupiter -101362-11-08 21:49 J -35300735.69 -35300735.59 -35300735.48 0.0521 0.0386

Mars -101362-12-15 20:09 J -35300698.74 -35300698.66 -35300698.57 0.1632 0.1295

Earth -101362-12-19 06:28 J -35300695.36 -35300695.23 -35300695.10 0.2678 0.0840

Moon -101362-12-19 06:57 J -35300695.35 -35300695.21 -35300695.08 0.2671 0.0836 *

Jupiter -101361-02-06 16:33 J -35300645.95 -35300645.81 -35300645.66 0.0525 0.0159

Mars -101360-11-20 19:11 J -35299992.84 -35299992.70 -35299992.56 0.1642 0.0509

Mars -101359-10-03 21:21 J -35299675.73 -35299675.61 -35299675.48 0.1885 0.0593

Moon -101358-06-26 03:21 J -35299410.43 -35299410.36 -35299410.30 0.2662 0.2201

Earth -101358-06-26 03:35 J -35299410.42 -35299410.35 -35299410.27 0.2656 0.2105 *

Venus -101357-01-12 07:11 J -35299210.30 -35299210.20 -35299210.09 0.3779 0.1222

Jupiter -101356-06-27 01:54 J -35298678.56 -35298678.42 -35298678.28 0.0505 0.0183

Jupiter -101356-09-24 17:01 J -35298588.92 -35298588.79 -35298588.67 0.0502 0.0296

Saturn -101356-11-17 12:13 J -35298535.08 -35298534.99 -35298534.89 0.0270 0.0210

Saturn -101355-02-14 02:37 J -35298446.52 -35298446.39 -35298446.25 0.0270 0.0135

Saturn -101355-05-13 16:47 J -35298357.94 -35298357.80 -35298357.65 0.0270 0.0060

Saturn -101355-08-10 06:42 J -35298269.37 -35298269.22 -35298269.07 0.0271 0.0014

Saturn -101355-11-06 20:23 J -35298180.79 -35298180.65 -35298180.51 0.0271 0.0086

Saturn -101354-02-03 09:49 J -35298092.21 -35298092.09 -35298091.97 0.0271 0.0157

Saturn -101354-05-02 23:01 J -35298003.62 -35298003.54 -35298003.46 0.0271 0.0227

Earth -101352-07-05 05:30 J -35297209.33 -35297209.27 -35297209.21 0.2675 0.2251

Moon -101352-07-05 05:59 J -35297209.31 -35297209.25 -35297209.19 0.2669 0.2279 *

Venus -101352-07-28 02:23 J -35297186.51 -35297186.40 -35297186.28 0.3776 0.0096

Mars -101350-04-13 01:11 J -35296562.60 -35296562.45 -35296562.31 0.1639 0.0063

Jupiter -101350-11-25 17:30 J -35296335.92 -35296335.77 -35296335.62 0.0524 0.0024

Mars -101349-02-24 01:54 J -35296245.52 -35296245.42 -35296245.32 0.1888 0.1253

Moon -101349-12-21 07:25 J -35295944.32 -35295944.19 -35295944.05 0.2668 0.0745

Earth -101349-12-21 08:09 J -35295944.29 -35295944.16 -35295944.02 0.2673 0.0820 *

Venus -101348-07-27 11:30 J -35295726.10 -35295726.02 -35295725.93 0.3596 0.2831

Mars -101347-01-30 05:30 J -35295539.36 -35295539.27 -35295539.18 0.1874 0.1302

Venus -101346-02-10 21:49 J -35295162.70 -35295162.59 -35295162.48 0.3772 0.1114

Earth -101345-06-27 23:30 J -35294659.63 -35294659.52 -35294659.40 0.2661 0.0938

Moon -101345-06-27 23:45 J -35294659.62 -35294659.51 -35294659.39 0.2668 0.0846 *

Jupiter -101344-04-15 04:04 J -35294368.44 -35294368.33 -35294368.21 0.0506 0.0298

Jupiter -101344-07-13 18:42 J -35294278.86 -35294278.72 -35294278.58 0.0502 0.0177

Venus -101342-02-10 11:01 J -35293702.16 -35293702.04 -35293701.92 0.3599 0.1374

Saturn -101341-06-02 19:40 J -35293223.77 -35293223.68 -35293223.59 0.0290 0.0234

Venus -101341-08-26 17:30 J -35293138.86 -35293138.77 -35293138.68 0.3768 0.2326

Saturn -101341-08-30 12:42 J -35293135.11 -35293134.97 -35293134.84 0.0289 0.0143

Mars -101341-09-02 07:11 J -35293132.34 -35293132.20 -35293132.06 0.1637 0.0399

Saturn -101341-11-27 05:59 J -35293046.40 -35293046.25 -35293046.09 0.0289 0.0051

Saturn -101340-02-23 23:45 J -35292957.67 -35292957.51 -35292957.35 0.0289 0.0045

Saturn -101340-05-23 17:45 J -35292868.89 -35292868.76 -35292868.61 0.0289 0.0142

Saturn -101340-08-20 12:28 J -35292780.07 -35292779.98 -35292779.89 0.0289 0.0240

Mars -101339-08-09 08:23 J -35292426.21 -35292426.15 -35292426.10 0.1648 0.1516

Mars -101338-06-22 11:16 J -35292109.15 -35292109.03 -35292108.91 0.1878 0.0710

Jupiter -101338-09-13 18:28 J -35292025.88 -35292025.73 -35292025.58 0.0524 0.0114

Jupiter -101338-12-12 12:28 J -35291936.07 -35291935.98 -35291935.89 0.0527 0.0424

Venus -101337-08-26 10:18 J -35291678.21 -35291678.07 -35291677.94 0.3603 0.0129

Moon -101336-12-24 09:06 J -35291193.17 -35291193.12 -35291193.07 0.2665 0.2460

Earth -101336-12-24 10:18 J -35291193.11 -35291193.07 -35291193.02 0.2668 0.2511 *

Venus -101335-03-12 13:25 J -35291114.97 -35291114.94 -35291114.90 0.3764 0.3585

Jupiter -101332-02-01 06:42 J -35290058.31 -35290058.22 -35290058.14 0.0506 0.0411

Jupiter -101332-05-01 20:52 J -35289968.78 -35289968.63 -35289968.48 0.0503 0.0061

Earth -101332-06-30 19:25 J -35289908.81 -35289908.69 -35289908.57 0.2666 0.0226

Moon -101332-06-30 20:09 J -35289908.78 -35289908.66 -35289908.54 0.2668 0.0244 *

Uranus -101332-07-28 14:37 J -35289880.95 -35289880.89 -35289880.83 0.0144 0.0132

Uranus -101332-10-24 20:09 J -35289792.76 -35289792.66 -35289792.56 0.0144 0.0111

Uranus -101331-01-21 01:11 J -35289704.56 -35289704.45 -35289704.31 0.0144 0.0090

Mars -101331-01-23 13:40 J -35289702.05 -35289701.93 -35289701.80 0.1634 0.0830

Venus -101331-03-12 08:52 J -35289654.25 -35289654.13 -35289654.01 0.3606 0.1382

Uranus -101331-04-19 06:57 J -35289616.34 -35289616.21 -35289616.06 0.0145 0.0067

Uranus -101331-07-16 12:28 J -35289528.12 -35289527.98 -35289527.82 0.0145 0.0045

Uranus -101331-10-12 18:13 J -35289439.89 -35289439.74 -35289439.58 0.0145 0.0022

Uranus -101330-01-08 23:59 J -35289351.66 -35289351.50 -35289351.34 0.0145 0.0002

Uranus -101330-04-07 05:45 J -35289263.42 -35289263.26 -35289263.10 0.0145 0.0025

Uranus -101330-07-04 11:30 J -35289175.17 -35289175.02 -35289174.86 0.0145 0.0048

Uranus -101330-09-30 17:30 J -35289086.91 -35289086.77 -35289086.63 0.0145 0.0072

Uranus -101330-12-27 23:16 J -35288998.64 -35288998.53 -35288998.40 0.0145 0.0096

Mars -101330-12-30 13:54 J -35288996.04 -35288995.92 -35288995.81 0.1645 0.1035

Uranus -101329-03-25 05:16 J -35288910.36 -35288910.28 -35288910.18 0.0146 0.0120

Uranus -101329-06-21 11:16 J -35288822.04 -35288822.03 -35288822.00 0.0146 0.0144

Mars -101329-11-11 16:33 J -35288678.94 -35288678.81 -35288678.68 0.1881 0.0097

Earth -101329-12-16 10:47 J -35288644.13 -35288644.05 -35288643.97 0.2683 0.2135

Moon -101329-12-16 11:45 J -35288644.10 -35288644.01 -35288643.93 0.2677 0.2142 *

Saturn -101326-04-06 12:42 J -35287803.03 -35287802.97 -35287802.89 0.0269 0.0236

Jupiter -101326-07-02 19:40 J -35287715.81 -35287715.68 -35287715.54 0.0523 0.0246

Saturn -101326-07-04 03:21 J -35287714.48 -35287714.36 -35287714.23 0.0270 0.0160

Venus -101326-09-26 07:11 J -35287630.29 -35287630.20 -35287630.12 0.3610 0.2675

Jupiter -101326-09-30 14:09 J -35287626.03 -35287625.91 -35287625.79 0.0527 0.0297

Saturn -101326-09-30 17:30 J -35287625.91 -35287625.77 -35287625.62 0.0270 0.0086 *

Saturn -101326-12-28 07:40 J -35287537.33 -35287537.18 -35287537.03 0.0270 0.0012

Saturn -101325-03-25 21:21 J -35287448.76 -35287448.61 -35287448.46 0.0270 0.0061

Saturn -101325-06-22 10:47 J -35287360.18 -35287360.05 -35287359.92 0.0270 0.0133

Saturn -101325-09-18 23:59 J -35287271.59 -35287271.50 -35287271.40 0.0271 0.0203

Mars -101322-06-15 20:23 J -35286271.74 -35286271.65 -35286271.56 0.1632 0.1251

Jupiter -101320-02-17 22:33 J -35285658.71 -35285658.56 -35285658.41 0.0504 0.0063

Jupiter -101320-05-18 13:40 J -35285569.01 -35285568.93 -35285568.85 0.0500 0.0418

Mars -101320-05-21 19:25 J -35285565.83 -35285565.69 -35285565.55 0.1642 0.0560

Mars -101319-04-03 21:21 J -35285248.73 -35285248.61 -35285248.48 0.1885 0.0545

Earth -101319-07-03 15:06 J -35285157.97 -35285157.87 -35285157.77 0.2671 0.1365

Moon -101319-07-03 15:49 J -35285157.93 -35285157.84 -35285157.74 0.2670 0.1479 *

Moon -101316-12-19 12:28 J -35283893.12 -35283892.98 -35283892.84 0.2671 0.0445

Earth -101316-12-19 12:13 J -35283893.12 -35283892.99 -35283892.85 0.2678 0.0518 *

Jupiter -101314-04-20 20:37 J -35283405.74 -35283405.64 -35283405.53 0.0522 0.0380

Jupiter -101314-07-19 15:35 J -35283316.00 -35283315.85 -35283315.71 0.0525 0.0166

Moon -101312-06-26 08:37 J -35282608.23 -35282608.14 -35282608.06 0.2664 0.1848

Earth -101312-06-26 08:52 J -35282608.22 -35282608.13 -35282608.05 0.2657 0.1859 *

Venus -101312-07-19 15:49 J -35282584.91 -35282584.84 -35282584.78 0.3784 0.3051

Saturn -101312-10-20 19:25 J -35282491.74 -35282491.69 -35282491.62 0.0290 0.0265

Saturn -101311-01-17 12:28 J -35282403.10 -35282402.98 -35282402.86 0.0290 0.0174

Saturn -101311-04-16 05:45 J -35282314.41 -35282314.26 -35282314.11 0.0290 0.0082

Saturn -101311-07-13 23:30 J -35282225.68 -35282225.52 -35282225.36 0.0289 0.0014

Saturn -101311-10-10 17:30 J -35282136.92 -35282136.77 -35282136.62 0.0289 0.0109

Mars -101311-10-12 01:25 J -35282135.59 -35282135.44 -35282135.30 0.1639 0.0105

Saturn -101310-01-07 11:45 J -35282048.12 -35282048.01 -35282047.89 0.0289 0.0207

Mars -101310-08-25 02:23 J -35281818.50 -35281818.40 -35281818.30 0.1888 0.1190

Jupiter -101309-12-07 00:28 J -35281348.62 -35281348.48 -35281348.34 0.0505 0.0181

Jupiter -101308-03-06 15:06 J -35281258.99 -35281258.87 -35281258.74 0.0501 0.0298

Mars -101308-07-31 05:45 J -35281112.35 -35281112.26 -35281112.17 0.1874 0.1355

Venus -101306-02-02 10:33 J -35280561.15 -35280561.06 -35280560.96 0.3781 0.1965

Earth -101306-07-06 10:33 J -35280407.10 -35280407.06 -35280407.02 0.2675 0.2489

Moon -101306-07-06 11:01 J -35280407.08 -35280407.04 -35280407.00 0.2669 0.2510 *

Moon -101303-12-22 13:25 J -35279142.07 -35279141.94 -35279141.81 0.2667 0.1061

Earth -101303-12-22 14:09 J -35279142.03 -35279141.91 -35279141.78 0.2672 0.1161 *

Jupiter -101302-05-07 16:04 J -35279005.98 -35279005.83 -35279005.68 0.0524 0.0027

Mars -101301-03-03 07:40 J -35278705.32 -35278705.18 -35278705.04 0.1637 0.0346

Venus -101301-08-18 05:30 J -35278537.38 -35278537.27 -35278537.16 0.3778 0.0859

Mars -101300-01-14 06:28 J -35278388.25 -35278388.23 -35278388.22 0.1891 0.1875

Mars -101299-02-07 08:37 J -35277999.18 -35277999.14 -35277999.09 0.1648 0.1572

Earth -101299-06-29 04:47 J -35277857.42 -35277857.30 -35277857.19 0.2662 0.0686

Moon -101299-06-29 05:01 J -35277857.40 -35277857.29 -35277857.17 0.2668 0.0720 *

Mars -101299-12-21 11:30 J -35277682.13 -35277682.02 -35277681.90 0.1878 0.0771

Pluto -101298-12-20 17:45 J -35277317.82 -35277317.76 -35277317.69 0.0085 0.0074

Pluto -101297-03-17 18:57 J -35277229.79 -35277229.71 -35277229.61 0.0085 0.0061

Pluto -101297-06-13 20:09 J -35277141.76 -35277141.66 -35277141.54 0.0084 0.0047

Saturn -101297-08-23 15:21 J -35277070.90 -35277070.86 -35277070.80 0.0270 0.0255

Pluto -101297-09-09 21:35 J -35277053.72 -35277053.60 -35277053.48 0.0084 0.0034

Jupiter -101297-09-25 02:09 J -35277038.53 -35277038.41 -35277038.29 0.0506 0.0301

Saturn -101297-11-20 05:59 J -35276982.36 -35276982.25 -35276982.13 0.0270 0.0178

Pluto -101297-12-06 22:47 J -35276965.67 -35276965.55 -35276965.42 0.0084 0.0021

Jupiter -101297-12-23 16:47 J -35276948.94 -35276948.80 -35276948.66 0.0503 0.0175

Saturn -101296-02-16 20:23 J -35276893.79 -35276893.65 -35276893.51 0.0270 0.0102

Pluto -101296-03-04 23:59 J -35276877.62 -35276877.50 -35276877.36 0.0084 0.0008

Saturn -101296-05-16 10:33 J -35276805.21 -35276805.06 -35276804.91 0.0271 0.0028

Pluto -101296-06-01 01:25 J -35276789.57 -35276789.44 -35276789.31 0.0084 0.0006

Saturn -101296-08-13 00:13 J -35276716.63 -35276716.49 -35276716.34 0.0271 0.0046

Pluto -101296-08-28 02:37 J -35276701.52 -35276701.39 -35276701.26 0.0084 0.0019

Saturn -101296-11-09 13:54 J -35276628.05 -35276627.92 -35276627.79 0.0271 0.0118

Pluto -101296-11-24 03:35 J -35276613.46 -35276613.35 -35276613.22 0.0084 0.0032

Saturn -101295-02-06 03:21 J -35276539.47 -35276539.36 -35276539.26 0.0271 0.0189

Pluto -101295-02-20 04:47 J -35276525.40 -35276525.30 -35276525.18 0.0084 0.0045

Venus -101295-03-04 00:57 J -35276513.58 -35276513.46 -35276513.35 0.3774 0.0317

Saturn -101295-05-05 16:18 J -35276450.86 -35276450.82 -35276450.77 0.0271 0.0258

Pluto -101295-05-19 05:59 J -35276437.33 -35276437.25 -35276437.14 0.0083 0.0058

Pluto -101295-08-15 07:11 J -35276349.26 -35276349.20 -35276349.12 0.0083 0.0070

Pluto -101295-11-11 08:37 J -35276261.15 -35276261.14 -35276261.13 0.0083 0.0082

Uranus -101293-12-24 06:42 J -35275487.25 -35275487.22 -35275487.16 0.0135 0.0128

Uranus -101292-03-22 11:45 J -35275399.10 -35275399.01 -35275398.92 0.0134 0.0109

Uranus -101292-06-18 16:18 J -35275310.94 -35275310.82 -35275310.71 0.0134 0.0091

Mars -101292-07-24 14:09 J -35275275.04 -35275274.91 -35275274.79 0.1634 0.0779

Uranus -101292-09-14 20:52 J -35275222.76 -35275222.63 -35275222.50 0.0134 0.0073

Uranus -101292-12-12 01:11 J -35275134.59 -35275134.45 -35275134.30 0.0134 0.0055

Venus -101291-03-03 11:01 J -35275053.13 -35275053.04 -35275052.94 0.3597 0.2357

Uranus -101291-03-10 05:45 J -35275046.41 -35275046.26 -35275046.11 0.0134 0.0037

Uranus -101291-06-06 10:04 J -35274958.23 -35274958.08 -35274957.92 0.0134 0.0019

Uranus -101291-09-02 14:37 J -35274870.05 -35274869.89 -35274869.74 0.0134 0.0004

Uranus -101291-11-29 18:57 J -35274781.87 -35274781.71 -35274781.56 0.0134 0.0016

Jupiter -101290-02-23 16:47 J -35274695.95 -35274695.80 -35274695.66 0.0523 0.0114

Uranus -101290-02-25 23:01 J -35274693.68 -35274693.54 -35274693.39 0.0134 0.0033

Jupiter -101290-05-24 10:33 J -35274606.15 -35274606.06 -35274605.97 0.0527 0.0422

Uranus -101290-05-25 03:21 J -35274605.50 -35274605.36 -35274605.22 0.0133 0.0050

Mars -101290-06-30 14:09 J -35274569.02 -35274568.91 -35274568.80 0.1645 0.1089

Uranus -101290-08-21 07:40 J -35274517.31 -35274517.18 -35274517.05 0.0133 0.0067

Venus -101290-09-17 20:23 J -35274489.76 -35274489.65 -35274489.55 0.3771 0.1491

Uranus -101290-11-17 11:45 J -35274429.13 -35274429.01 -35274428.89 0.0133 0.0083

Uranus -101289-02-13 15:35 J -35274340.93 -35274340.85 -35274340.74 0.0133 0.0101

Neptune -101289-03-12 01:40 J -35274313.46 -35274313.43 -35274313.38 0.0089 0.0085

Uranus -101289-05-11 19:54 J -35274252.74 -35274252.67 -35274252.59 0.0133 0.0116

Mars -101289-05-12 16:47 J -35274251.93 -35274251.80 -35274251.67 0.1882 0.0160

Neptune -101289-06-08 03:35 J -35274225.40 -35274225.35 -35274225.28 0.0089 0.0081

Uranus -101289-08-07 23:59 J -35274164.51 -35274164.50 -35274164.48 0.0133 0.0132

Neptune -101289-09-04 05:30 J -35274137.33 -35274137.27 -35274137.18 0.0089 0.0077

Neptune -101289-12-01 07:40 J -35274049.26 -35274049.18 -35274049.09 0.0089 0.0072

Neptune -101288-02-27 09:21 J -35273961.19 -35273961.11 -35273961.00 0.0089 0.0068

Neptune -101288-05-26 11:16 J -35273873.12 -35273873.03 -35273872.91 0.0089 0.0064

Neptune -101288-08-22 13:25 J -35273785.05 -35273784.94 -35273784.82 0.0089 0.0059

Neptune -101288-11-18 15:21 J -35273696.97 -35273696.86 -35273696.73 0.0089 0.0055

Neptune -101287-02-14 17:16 J -35273608.89 -35273608.78 -35273608.64 0.0089 0.0051

Neptune -101287-05-13 19:25 J -35273520.82 -35273520.69 -35273520.56 0.0089 0.0046

Neptune -101287-08-09 21:21 J -35273432.74 -35273432.61 -35273432.47 0.0089 0.0042

Neptune -101287-11-05 23:30 J -35273344.66 -35273344.52 -35273344.38 0.0089 0.0037

Neptune -101286-02-02 01:25 J -35273256.58 -35273256.44 -35273256.29 0.0089 0.0033

Neptune -101286-05-01 03:35 J -35273168.49 -35273168.35 -35273168.20 0.0089 0.0028

Earth -101286-07-02 00:28 J -35273106.59 -35273106.48 -35273106.36 0.2666 0.0470

Moon -101286-07-02 01:25 J -35273106.56 -35273106.44 -35273106.33 0.2669 0.0627 *

Neptune -101286-07-28 05:30 J -35273080.41 -35273080.27 -35273080.11 0.0089 0.0024

Venus -101286-09-17 10:33 J -35273029.19 -35273029.06 -35273028.93 0.3600 0.0910

Neptune -101286-10-24 07:40 J -35272992.33 -35272992.18 -35272992.03 0.0089 0.0019

Neptune -101285-01-20 09:49 J -35272904.24 -35272904.09 -35272903.94 0.0089 0.0014

Neptune -101285-04-17 11:45 J -35272816.16 -35272816.01 -35272815.85 0.0089 0.0010

Jupiter -101285-07-14 04:18 J -35272728.40 -35272728.32 -35272728.23 0.0507 0.0415

Neptune -101285-07-14 13:54 J -35272728.07 -35272727.92 -35272727.76 0.0089 0.0005

Neptune -101285-10-10 16:04 J -35272639.99 -35272639.83 -35272639.67 0.0089 0.0000

Jupiter -101285-10-11 18:42 J -35272638.87 -35272638.72 -35272638.57 0.0503 0.0058

Neptune -101284-01-06 18:13 J -35272551.90 -35272551.74 -35272551.59 0.0089 0.0005

Venus -101284-04-02 16:04 J -35272465.91 -35272465.83 -35272465.75 0.3767 0.2720

Neptune -101284-04-04 20:23 J -35272463.81 -35272463.65 -35272463.50 0.0089 0.0009

Neptune -101284-07-01 22:18 J -35272375.72 -35272375.57 -35272375.41 0.0089 0.0014

Neptune -101284-09-28 00:28 J -35272287.63 -35272287.48 -35272287.32 0.0089 0.0018

Neptune -101284-12-25 02:37 J -35272199.54 -35272199.39 -35272199.24 0.0089 0.0023

Neptune -101283-03-23 04:47 J -35272111.45 -35272111.30 -35272111.15 0.0089 0.0028

Neptune -101283-06-19 06:57 J -35272023.35 -35272023.21 -35272023.06 0.0089 0.0033

Neptune -101283-09-15 08:52 J -35271935.26 -35271935.13 -35271934.97 0.0089 0.0038

Neptune -101283-12-12 11:16 J -35271847.16 -35271847.03 -35271846.89 0.0089 0.0042

Mars -101283-12-14 20:52 J -35271844.73 -35271844.63 -35271844.54 0.1632 0.1198

Earth -101283-12-17 16:33 J -35271841.91 -35271841.81 -35271841.71 0.2682 0.1818

Moon -101283-12-17 17:30 J -35271841.88 -35271841.77 -35271841.66 0.2676 0.1643 *

Saturn -101282-03-09 22:04 J -35271759.61 -35271759.58 -35271759.55 0.0290 0.0282

Neptune -101282-03-10 13:25 J -35271759.07 -35271758.94 -35271758.80 0.0089 0.0047

Saturn -101282-06-06 14:52 J -35271670.99 -35271670.88 -35271670.76 0.0289 0.0193

Neptune -101282-06-06 15:35 J -35271670.97 -35271670.85 -35271670.71 0.0089 0.0052 *

Neptune -101282-09-02 17:45 J -35271582.87 -35271582.76 -35271582.63 0.0089 0.0057

Saturn -101282-09-03 08:09 J -35271582.31 -35271582.16 -35271582.02 0.0289 0.0101

Neptune -101282-11-29 19:54 J -35271494.77 -35271494.67 -35271494.54 0.0089 0.0062

Saturn -101282-12-01 01:40 J -35271493.59 -35271493.43 -35271493.27 0.0289 0.0008

Neptune -101281-02-25 22:18 J -35271406.67 -35271406.57 -35271406.46 0.0089 0.0066

Saturn -101281-02-27 19:25 J -35271404.84 -35271404.69 -35271404.53 0.0289 0.0089

Neptune -101281-05-24 00:28 J -35271318.56 -35271318.48 -35271318.37 0.0089 0.0071

Saturn -101281-05-26 13:40 J -35271316.05 -35271315.93 -35271315.80 0.0289 0.0187

Neptune -101281-08-20 02:37 J -35271230.46 -35271230.39 -35271230.29 0.0089 0.0076

Saturn -101281-08-23 08:23 J -35271227.17 -35271227.15 -35271227.12 0.0288 0.0285

Neptune -101281-11-16 05:01 J -35271142.34 -35271142.29 -35271142.22 0.0089 0.0081

Mars -101281-11-19 19:54 J -35271138.81 -35271138.67 -35271138.54 0.1642 0.0616

Neptune -101280-02-12 07:11 J -35271054.23 -35271054.20 -35271054.15 0.0089 0.0086

Venus -101280-04-02 09:35 J -35271005.23 -35271005.10 -35271004.97 0.3604 0.0480

Mars -101280-10-02 21:49 J -35270821.71 -35270821.59 -35270821.46 0.1885 0.0478

Jupiter -101279-12-12 17:16 J -35270385.91 -35270385.78 -35270385.65 0.0523 0.0253

Jupiter -101278-03-12 11:45 J -35270296.14 -35270296.01 -35270295.89 0.0526 0.0289

Venus -101275-10-17 08:09 J -35268981.27 -35268981.16 -35268981.05 0.3607 0.1804

Mars -101273-05-06 03:35 J -35268414.36 -35268414.35 -35268414.33 0.1630 0.1610

Earth -101273-07-03 20:09 J -35268355.75 -35268355.66 -35268355.57 0.2671 0.1606

Moon -101273-07-03 20:52 J -35268355.72 -35268355.63 -35268355.54 0.2668 0.1623 *

Jupiter -101273-07-30 20:52 J -35268328.78 -35268328.63 -35268328.48 0.0504 0.0060

Jupiter -101273-10-28 11:59 J -35268239.08 -35268239.00 -35268238.92 0.0501 0.0421

Mars -101271-04-12 01:40 J -35267708.57 -35267708.43 -35267708.28 0.1639 0.0156

Mars -101270-02-23 02:23 J -35267391.51 -35267391.40 -35267391.30 0.1888 0.1143

Moon -101270-12-20 17:59 J -35267090.89 -35267090.75 -35267090.61 0.2670 0.0274

Earth -101270-12-20 18:13 J -35267090.88 -35267090.74 -35267090.60 0.2677 0.0177 *

Venus -101269-05-02 06:28 J -35266957.30 -35266957.23 -35266957.17 0.3611 0.3081

Mars -101268-01-29 05:59 J -35266685.33 -35266685.25 -35266685.17 0.1874 0.1410

Saturn -101267-04-09 06:57 J -35266250.30 -35266250.21 -35266250.10 0.0270 0.0202

Saturn -101267-07-06 21:21 J -35266161.74 -35266161.61 -35266161.47 0.0270 0.0126

Jupiter -101267-09-30 18:13 J -35266075.84 -35266075.74 -35266075.63 0.0522 0.0386

Saturn -101267-10-03 11:30 J -35266073.16 -35266073.02 -35266072.87 0.0270 0.0052

Jupiter -101267-12-29 13:11 J -35265986.09 -35265985.95 -35265985.81 0.0525 0.0160

Saturn -101267-12-31 01:25 J -35265984.59 -35265984.44 -35265984.29 0.0270 0.0023

Saturn -101266-03-29 15:06 J -35265896.01 -35265895.87 -35265895.73 0.0270 0.0095

Saturn -101266-06-26 04:33 J -35265807.43 -35265807.31 -35265807.19 0.0271 0.0166

Moon -101266-06-27 13:54 J -35265806.02 -35265805.92 -35265805.83 0.2665 0.1658

Earth -101266-06-27 13:54 J -35265806.01 -35265805.92 -35265805.82 0.2658 0.1610 *

Saturn -101266-09-22 17:45 J -35265718.83 -35265718.76 -35265718.69 0.0271 0.0235

Mars -101262-09-02 07:54 J -35264278.31 -35264278.17 -35264278.03 0.1637 0.0296

Jupiter -101261-05-18 22:33 J -35264018.70 -35264018.56 -35264018.42 0.0505 0.0180

Mars -101261-07-15 06:42 J -35263961.25 -35263961.22 -35263961.19 0.1891 0.1814

Venus -101261-08-09 19:25 J -35263935.70 -35263935.69 -35263935.68 0.3786 0.3752

Jupiter -101261-08-16 13:25 J -35263929.06 -35263928.94 -35263928.82 0.0501 0.0297

Mars -101260-08-08 09:06 J -35263572.13 -35263572.12 -35263572.10 0.1648 0.1629

Mars -101259-06-21 11:30 J -35263255.13 -35263255.02 -35263254.90 0.1878 0.0818

Moon -101257-12-22 19:11 J -35262339.82 -35262339.70 -35262339.58 0.2666 0.1446

Earth -101257-12-22 20:09 J -35262339.78 -35262339.66 -35262339.54 0.2672 0.1499 *

Venus -101255-02-23 14:09 J -35261911.99 -35261911.91 -35261911.84 0.3783 0.2695

Jupiter -101255-07-19 19:11 J -35261765.70 -35261765.70 -35261765.69 0.0521 0.0520

Jupiter -101255-10-17 14:23 J -35261676.05 -35261675.90 -35261675.74 0.0525 0.0033

Earth -101253-06-29 09:49 J -35261055.21 -35261055.09 -35261054.97 0.2662 0.0445

Moon -101253-06-29 10:18 J -35261055.18 -35261055.07 -35261054.95 0.2667 0.0355 *

Saturn -101253-10-23 14:37 J -35260938.98 -35260938.89 -35260938.78 0.0290 0.0224

Saturn -101252-01-20 07:54 J -35260850.31 -35260850.17 -35260850.03 0.0290 0.0132

Mars -101252-01-22 14:23 J -35260848.03 -35260847.90 -35260847.77 0.1634 0.0730

Saturn -101252-04-19 01:25 J -35260761.60 -35260761.44 -35260761.29 0.0289 0.0040

Saturn -101252-07-16 19:11 J -35260672.86 -35260672.70 -35260672.55 0.0289 0.0057

Saturn -101252-10-13 13:11 J -35260584.08 -35260583.95 -35260583.81 0.0289 0.0154

Saturn -101251-01-10 07:40 J -35260495.25 -35260495.18 -35260495.10 0.0289 0.0252

Mars -101251-12-29 14:23 J -35260142.00 -35260141.90 -35260141.79 0.1645 0.1141

Venus -101250-09-09 08:52 J -35259888.23 -35259888.13 -35259888.03 0.3780 0.1605

Mars -101250-11-11 17:01 J -35259824.92 -35259824.79 -35259824.66 0.1882 0.0216

Jupiter -101249-03-07 00:28 J -35259708.60 -35259708.48 -35259708.36 0.0506 0.0298

Jupiter -101249-06-04 15:06 J -35259619.02 -35259618.87 -35259618.73 0.0502 0.0176

Uranus -101248-08-17 21:49 J -35259179.65 -35259179.59 -35259179.51 0.0144 0.0127

Uranus -101248-11-14 03:21 J -35259091.46 -35259091.36 -35259091.25 0.0144 0.0105

Uranus -101247-02-10 08:52 J -35259003.26 -35259003.13 -35259003.00 0.0144 0.0083

Uranus -101247-05-09 14:23 J -35258915.04 -35258914.90 -35258914.75 0.0145 0.0061

Uranus -101247-08-05 19:54 J -35258826.82 -35258826.67 -35258826.51 0.0145 0.0039

Uranus -101247-11-02 01:40 J -35258738.59 -35258738.43 -35258738.27 0.0145 0.0016

Uranus -101246-01-29 07:25 J -35258650.35 -35258650.19 -35258650.03 0.0145 0.0007

Uranus -101246-04-27 13:11 J -35258562.11 -35258561.95 -35258561.79 0.0145 0.0030

Uranus -101246-07-24 18:57 J -35258473.86 -35258473.71 -35258473.56 0.0145 0.0054

Uranus -101246-10-21 00:42 J -35258385.60 -35258385.47 -35258385.33 0.0145 0.0078

Uranus -101245-01-17 06:42 J -35258297.33 -35258297.22 -35258297.10 0.0145 0.0101

Uranus -101245-04-14 12:42 J -35258209.05 -35258208.97 -35258208.88 0.0146 0.0126

Venus -101244-03-25 04:04 J -35257864.44 -35257864.33 -35257864.22 0.3777 0.0481

Mars -101243-06-14 21:06 J -35257417.72 -35257417.62 -35257417.52 0.1632 0.1152

Jupiter -101243-08-05 15:06 J -35257366.02 -35257365.87 -35257365.72 0.0523 0.0111

Jupiter -101243-11-03 08:52 J -35257276.21 -35257276.13 -35257276.04 0.0526 0.0425

Mars -101241-05-20 20:09 J -35256711.79 -35256711.66 -35256711.53 0.1642 0.0666

Venus -101240-03-24 11:01 J -35256404.08 -35256404.04 -35256403.99 0.3595 0.3355

Mars -101240-04-02 22:04 J -35256394.71 -35256394.58 -35256394.46 0.1885 0.0426

Earth -101240-07-02 05:45 J -35256304.38 -35256304.26 -35256304.15 0.2667 0.0718

Moon -101240-07-02 06:28 J -35256304.34 -35256304.23 -35256304.12 0.2669 0.0721 *

Venus -101239-10-08 23:16 J -35255840.64 -35255840.53 -35255840.41 0.3773 0.0689

Saturn -101238-08-27 09:35 J -35255518.19 -35255518.10 -35255518.01 0.0270 0.0220

Saturn -101238-11-23 23:59 J -35255429.62 -35255429.50 -35255429.37 0.0271 0.0144

Jupiter -101238-12-25 02:23 J -35255398.48 -35255398.40 -35255398.32 0.0507 0.0419

Saturn -101237-02-20 14:23 J -35255341.05 -35255340.90 -35255340.76 0.0271 0.0069

Jupiter -101237-03-23 16:33 J -35255308.96 -35255308.81 -35255308.66 0.0504 0.0054

Saturn -101237-05-19 04:18 J -35255252.47 -35255252.32 -35255252.17 0.0271 0.0006

Saturn -101237-08-15 17:59 J -35255163.89 -35255163.75 -35255163.61 0.0271 0.0078

Saturn -101237-11-12 07:25 J -35255075.31 -35255075.19 -35255075.06 0.0271 0.0150

Earth -101237-12-17 22:33 J -35255039.68 -35255039.56 -35255039.45 0.2681 0.1487

Moon -101237-12-17 23:16 J -35255039.65 -35255039.53 -35255039.42 0.2676 0.1503 *

Saturn -101236-02-08 20:37 J -35254986.72 -35254986.64 -35254986.55 0.0271 0.0221

Venus -101235-10-08 10:47 J -35254380.16 -35254380.05 -35254379.94 0.3598 0.1880

Mars -101234-11-05 04:04 J -35253987.37 -35253987.33 -35253987.29 0.1630 0.1560

Venus -101233-04-23 18:57 J -35253816.81 -35253816.71 -35253816.61 0.3770 0.1881

Moon -101233-06-24 22:33 J -35253754.59 -35253754.56 -35253754.54 0.2659 0.2578

Earth -101233-06-24 23:01 J -35253754.57 -35253754.54 -35253754.51 0.2654 0.2550 *

Mars -101232-10-11 02:09 J -35253281.55 -35253281.41 -35253281.27 0.1639 0.0207

Jupiter -101231-05-24 15:35 J -35253055.98 -35253055.85 -35253055.72 0.0522 0.0251

Jupiter -101231-08-22 09:49 J -35252966.21 -35252966.09 -35252965.96 0.0526 0.0290

Mars -101231-08-24 02:37 J -35252964.49 -35252964.39 -35252964.28 0.1888 0.1077

Venus -101229-04-23 10:04 J -35252356.21 -35252356.08 -35252355.95 0.3601 0.0451

Mars -101229-07-30 06:13 J -35252258.32 -35252258.24 -35252258.17 0.1874 0.1466

Venus -101228-11-07 14:52 J -35251792.95 -35251792.88 -35251792.82 0.3766 0.3114

Earth -101227-07-05 01:11 J -35251553.53 -35251553.45 -35251553.36 0.2672 0.1846

Moon -101227-07-05 01:54 J -35251553.50 -35251553.42 -35251553.34 0.2667 0.1973 *

Jupiter -101225-01-10 18:28 J -35250998.88 -35250998.73 -35250998.58 0.0504 0.0065

Jupiter -101225-04-09 09:35 J -35250909.18 -35250909.10 -35250909.01 0.0501 0.0416

Venus -101224-11-07 08:52 J -35250332.25 -35250332.13 -35250332.00 0.3605 0.0917

Moon -101224-12-20 23:45 J -35250288.65 -35250288.51 -35250288.37 0.2669 0.0207

Earth -101224-12-21 00:13 J -35250288.64 -35250288.49 -35250288.35 0.2676 0.0177 *

Saturn -101223-03-12 17:45 J -35250206.84 -35250206.76 -35250206.67 0.0289 0.0239

Saturn -101223-06-09 10:47 J -35250118.19 -35250118.05 -35250117.92 0.0289 0.0148

Saturn -101223-09-06 04:04 J -35250029.48 -35250029.33 -35250029.18 0.0289 0.0056

Saturn -101223-12-03 21:49 J -35249940.75 -35249940.59 -35249940.43 0.0289 0.0040

Saturn -101222-03-02 15:49 J -35249851.98 -35249851.84 -35249851.70 0.0289 0.0136

Mars -101222-03-03 08:23 J -35249851.30 -35249851.15 -35249851.01 0.1637 0.0244

Saturn -101222-05-30 10:04 J -35249763.16 -35249763.08 -35249762.98 0.0288 0.0235

Mars -101221-01-14 06:57 J -35249534.25 -35249534.21 -35249534.16 0.1891 0.1755

Moon -101220-06-27 18:57 J -35249003.81 -35249003.71 -35249003.61 0.2665 0.1370

Earth -101220-06-27 19:11 J -35249003.81 -35249003.70 -35249003.60 0.2658 0.1370 *

Mars -101220-12-20 11:59 J -35248828.12 -35248828.00 -35248827.89 0.1878 0.0883

Jupiter -101219-03-12 15:49 J -35248745.94 -35248745.84 -35248745.74 0.0522 0.0394

Jupiter -101219-06-10 10:47 J -35248656.20 -35248656.05 -35248655.91 0.0525 0.0152

Venus -101218-05-24 07:25 J -35248308.29 -35248308.19 -35248308.09 0.3608 0.2222

Jupiter -101214-10-29 20:52 J -35246688.77 -35246688.63 -35246688.49 0.0505 0.0179

Jupiter -101213-01-27 11:30 J -35246599.14 -35246599.02 -35246598.89 0.0502 0.0298

Mars -101213-07-23 14:37 J -35246421.02 -35246420.89 -35246420.76 0.1634 0.0681

Venus -101213-12-07 05:30 J -35246284.30 -35246284.27 -35246284.23 0.3612 0.3482

Mars -101211-06-29 14:52 J -35245714.98 -35245714.88 -35245714.78 0.1645 0.1196

Moon -101211-12-24 00:57 J -35245537.57 -35245537.46 -35245537.35 0.2667 0.1680

Earth -101211-12-24 02:09 J -35245537.51 -35245537.41 -35245537.31 0.2671 0.1842 *

Mars -101210-05-12 17:01 J -35245397.91 -35245397.79 -35245397.66 0.1882 0.0268

Saturn -101208-01-13 10:47 J -35244786.11 -35244786.05 -35244785.98 0.0270 0.0242

Uranus -101208-01-13 14:09 J -35244785.96 -35244785.91 -35244785.84 0.0134 0.0123

Uranus -101208-04-11 18:42 J -35244697.81 -35244697.72 -35244697.61 0.0134 0.0105

Saturn -101208-04-12 01:25 J -35244697.56 -35244697.44 -35244697.32 0.0270 0.0166

Uranus -101208-07-08 23:16 J -35244609.64 -35244609.53 -35244609.40 0.0134 0.0086

Saturn -101208-07-09 15:35 J -35244608.99 -35244608.85 -35244608.70 0.0270 0.0091

Uranus -101208-10-05 03:49 J -35244521.46 -35244521.34 -35244521.19 0.0134 0.0068

Saturn -101208-10-06 05:45 J -35244520.41 -35244520.26 -35244520.11 0.0270 0.0017

Uranus -101207-01-01 08:23 J -35244433.29 -35244433.15 -35244433.00 0.0134 0.0050

Saturn -101207-01-02 19:25 J -35244431.83 -35244431.69 -35244431.54 0.0270 0.0057

Jupiter -101207-03-29 11:59 J -35244346.15 -35244346.00 -35244345.85 0.0524 0.0024

Uranus -101207-03-30 12:57 J -35244345.11 -35244344.96 -35244344.80 0.0134 0.0032

Saturn -101207-04-01 09:06 J -35244343.25 -35244343.12 -35244342.99 0.0270 0.0128

Neptune -101207-06-22 04:33 J -35244261.34 -35244261.31 -35244261.25 0.0089 0.0086

Uranus -101207-06-26 17:30 J -35244256.93 -35244256.77 -35244256.62 0.0134 0.0014

Saturn -101207-06-28 22:18 J -35244254.66 -35244254.57 -35244254.47 0.0271 0.0199

Earth -101207-06-30 14:52 J -35244252.99 -35244252.88 -35244252.76 0.2663 0.0220

Moon -101207-06-30 15:35 J -35244252.97 -35244252.85 -35244252.73 0.2667 0.0175 *

Neptune -101207-09-18 06:57 J -35244173.26 -35244173.21 -35244173.13 0.0089 0.0081

Uranus -101207-09-22 21:49 J -35244168.74 -35244168.59 -35244168.44 0.0134 0.0003

Saturn -101207-09-25 11:30 J -35244166.04 -35244166.02 -35244166.00 0.0271 0.0268

Neptune -101207-12-15 09:21 J -35244085.18 -35244085.11 -35244085.01 0.0088 0.0076

Uranus -101207-12-20 02:09 J -35244080.56 -35244080.41 -35244080.26 0.0134 0.0020

Neptune -101206-03-13 11:59 J -35243997.09 -35243997.00 -35243996.89 0.0088 0.0071

Uranus -101206-03-18 06:28 J -35243992.38 -35243992.23 -35243992.08 0.0134 0.0037

Neptune -101206-06-09 14:23 J -35243909.00 -35243908.90 -35243908.78 0.0088 0.0066

Uranus -101206-06-14 10:33 J -35243904.19 -35243904.06 -35243903.91 0.0133 0.0055

Neptune -101206-09-05 16:47 J -35243820.91 -35243820.80 -35243820.67 0.0088 0.0061

Uranus -101206-09-10 14:52 J -35243816.01 -35243815.88 -35243815.75 0.0133 0.0071

Neptune -101206-12-02 19:11 J -35243732.82 -35243732.70 -35243732.56 0.0088 0.0056

Uranus -101206-12-07 18:57 J -35243727.82 -35243727.71 -35243727.59 0.0133 0.0088

Neptune -101205-02-28 21:35 J -35243644.72 -35243644.60 -35243644.45 0.0088 0.0051

Uranus -101205-03-04 23:01 J -35243639.62 -35243639.54 -35243639.44 0.0133 0.0104

Neptune -101205-05-27 00:13 J -35243556.63 -35243556.49 -35243556.35 0.0088 0.0046

Uranus -101205-06-01 03:21 J -35243551.42 -35243551.36 -35243551.30 0.0133 0.0120

Neptune -101205-08-23 02:37 J -35243468.54 -35243468.39 -35243468.25 0.0088 0.0041

Neptune -101205-11-19 04:33 J -35243380.44 -35243380.31 -35243380.14 0.0088 0.0037

Neptune -101204-02-15 06:57 J -35243292.35 -35243292.21 -35243292.04 0.0088 0.0032

Venus -101204-03-16 17:30 J -35243262.81 -35243262.77 -35243262.72 0.3785 0.3402

Neptune -101204-05-14 09:21 J -35243204.25 -35243204.11 -35243203.94 0.0088 0.0027

Neptune -101204-08-10 11:45 J -35243116.16 -35243116.01 -35243115.85 0.0088 0.0022

Neptune -101204-11-06 14:09 J -35243028.07 -35243027.91 -35243027.75 0.0088 0.0017

Mars -101204-12-13 21:21 J -35242990.71 -35242990.61 -35242990.51 0.1632 0.1105

Neptune -101203-02-02 16:33 J -35242939.97 -35242939.81 -35242939.65 0.0088 0.0012

Neptune -101203-05-01 18:42 J -35242851.88 -35242851.72 -35242851.56 0.0088 0.0007

Neptune -101203-07-28 21:06 J -35242763.78 -35242763.62 -35242763.46 0.0088 0.0003

Neptune -101203-10-24 23:16 J -35242675.69 -35242675.53 -35242675.37 0.0088 0.0002

Neptune -101202-01-21 01:25 J -35242587.60 -35242587.44 -35242587.27 0.0088 0.0008

Neptune -101202-04-19 03:49 J -35242499.50 -35242499.34 -35242499.18 0.0088 0.0012

Neptune -101202-07-16 05:59 J -35242411.41 -35242411.25 -35242411.09 0.0088 0.0016

Jupiter -101202-08-17 22:33 J -35242378.67 -35242378.56 -35242378.43 0.0505 0.0299

Neptune -101202-10-12 08:09 J -35242323.31 -35242323.16 -35242323.00 0.0088 0.0021

Jupiter -101202-11-15 13:11 J -35242289.09 -35242288.95 -35242288.81 0.0502 0.0175

Mars -101202-11-19 20:37 J -35242284.77 -35242284.64 -35242284.51 0.1642 0.0722

Neptune -101201-01-08 10:18 J -35242235.22 -35242235.07 -35242234.91 0.0088 0.0026

Neptune -101201-04-05 12:28 J -35242147.12 -35242146.98 -35242146.83 0.0088 0.0030

Neptune -101201-07-02 14:52 J -35242059.03 -35242058.88 -35242058.74 0.0088 0.0035

Neptune -101201-09-28 16:47 J -35241970.93 -35241970.80 -35241970.65 0.0088 0.0040

Mars -101201-10-01 22:18 J -35241967.70 -35241967.57 -35241967.45 0.1885 0.0370

Neptune -101201-12-25 18:42 J -35241882.84 -35241882.72 -35241882.57 0.0088 0.0045

Neptune -101200-03-23 21:06 J -35241794.75 -35241794.62 -35241794.48 0.0088 0.0049

Neptune -101200-06-19 23:01 J -35241706.65 -35241706.54 -35241706.40 0.0088 0.0054

Neptune -101200-09-16 01:25 J -35241618.55 -35241618.44 -35241618.32 0.0088 0.0057

Neptune -101200-12-13 03:35 J -35241530.46 -35241530.35 -35241530.24 0.0088 0.0062

Neptune -101199-03-11 05:30 J -35241442.36 -35241442.27 -35241442.16 0.0088 0.0067

Neptune -101199-06-07 07:40 J -35241354.26 -35241354.18 -35241354.08 0.0088 0.0071

Neptune -101199-09-03 09:35 J -35241266.16 -35241266.10 -35241266.00 0.0088 0.0076

Venus -101199-09-30 12:13 J -35241239.07 -35241238.99 -35241238.90 0.3782 0.2339

Neptune -101199-11-30 11:45 J -35241178.06 -35241178.01 -35241177.93 0.0088 0.0080

Neptune -101198-02-26 13:40 J -35241089.96 -35241089.93 -35241089.87 0.0088 0.0085

Neptune -101198-05-25 16:04 J -35241001.83 -35241001.83 -35241001.82 0.0088 0.0088

Jupiter -101195-01-15 13:11 J -35240036.09 -35240035.95 -35240035.80 0.0524 0.0112

Jupiter -101195-04-15 07:25 J -35239946.28 -35239946.19 -35239946.11 0.0527 0.0427

Mars -101194-05-06 04:18 J -35239560.37 -35239560.32 -35239560.27 0.1630 0.1513

Earth -101194-07-03 10:47 J -35239502.16 -35239502.05 -35239501.94 0.2668 0.0954

Moon -101194-07-03 11:30 J -35239502.13 -35239502.02 -35239501.91 0.2668 0.1094 *

Saturn -101194-07-30 17:30 J -35239474.82 -35239474.77 -35239474.72 0.0290 0.0270

Saturn -101194-10-27 10:18 J -35239386.19 -35239386.07 -35239385.95 0.0290 0.0181

Saturn -101193-01-24 03:35 J -35239297.50 -35239297.35 -35239297.20 0.0289 0.0088

Venus -101193-04-15 07:11 J -35239215.30 -35239215.20 -35239215.09 0.3779 0.1241

Saturn -101193-04-21 21:06 J -35239208.78 -35239208.62 -35239208.46 0.0289 0.0008

Saturn -101193-07-19 15:06 J -35239120.02 -35239119.87 -35239119.72 0.0289 0.0102

Saturn -101193-10-16 09:21 J -35239031.22 -35239031.11 -35239030.99 0.0289 0.0200

Mars -101192-04-11 02:23 J -35238854.54 -35238854.40 -35238854.26 0.1639 0.0255

Mars -101191-02-22 03:06 J -35238537.48 -35238537.37 -35238537.26 0.1888 0.1017

Earth -101191-12-19 04:18 J -35238237.44 -35238237.32 -35238237.19 0.2681 0.1161

Moon -101191-12-19 04:47 J -35238237.43 -35238237.30 -35238237.17 0.2675 0.1053 *

Jupiter -101190-06-06 00:42 J -35238068.55 -35238068.47 -35238068.39 0.0506 0.0416

Jupiter -101190-09-03 14:52 J -35237979.03 -35237978.88 -35237978.73 0.0503 0.0054

Mars -101189-01-29 06:13 J -35237831.31 -35237831.24 -35237831.16 0.1875 0.1523

Venus -101188-10-30 02:23 J -35237191.51 -35237191.40 -35237191.28 0.3776 0.0129

Moon -101187-06-26 03:35 J -35236952.39 -35236952.35 -35236952.30 0.2660 0.2412

Earth -101187-06-26 04:04 J -35236952.38 -35236952.33 -35236952.27 0.2654 0.2302 *

Venus -101184-10-29 10:47 J -35235731.13 -35235731.05 -35235730.97 0.3596 0.2866

Jupiter -101184-11-03 13:54 J -35235726.06 -35235725.92 -35235725.79 0.0522 0.0249

Jupiter -101183-02-01 08:09 J -35235636.28 -35235636.16 -35235636.03 0.0525 0.0292

Mars -101183-09-01 08:37 J -35235424.28 -35235424.14 -35235424.00 0.1637 0.0191

Venus -101182-05-15 21:49 J -35235167.70 -35235167.59 -35235167.48 0.3772 0.1066

Mars -101182-07-15 07:11 J -35235107.25 -35235107.20 -35235107.14 0.1891 0.1696

Earth -101181-07-05 06:13 J -35234751.31 -35234751.24 -35234751.16 0.2672 0.2084

Moon -101181-07-05 06:57 J -35234751.28 -35234751.21 -35234751.14 0.2668 0.2070 *

Mars -101180-06-20 11:59 J -35234401.11 -35234401.00 -35234400.88 0.1878 0.0938

Saturn -101179-06-02 13:11 J -35234053.98 -35234053.95 -35234053.91 0.0270 0.0262

Saturn -101179-08-30 03:49 J -35233965.45 -35233965.34 -35233965.23 0.0270 0.0185

Saturn -101179-11-26 18:13 J -35233876.88 -35233876.74 -35233876.60 0.0271 0.0109

Saturn -101178-02-23 08:23 J -35233788.30 -35233788.15 -35233788.00 0.0271 0.0034

Venus -101178-05-15 10:18 J -35233707.19 -35233707.07 -35233706.95 0.3599 0.1408

Saturn -101178-05-22 22:18 J -35233699.72 -35233699.57 -35233699.42 0.0271 0.0040

Jupiter -101178-06-22 16:18 J -35233668.97 -35233668.82 -35233668.67 0.0504 0.0070

Saturn -101178-08-19 11:45 J -35233611.14 -35233611.01 -35233610.87 0.0271 0.0112

Jupiter -101178-09-20 07:25 J -35233579.27 -35233579.19 -35233579.10 0.0501 0.0411

Saturn -101178-11-16 01:11 J -35233522.55 -35233522.45 -35233522.34 0.0271 0.0183

Moon -101178-12-22 05:45 J -35233486.41 -35233486.26 -35233486.12 0.2669 0.0370

Earth -101178-12-22 05:59 J -35233486.39 -35233486.25 -35233486.11 0.2676 0.0496 *

Saturn -101177-02-12 14:23 J -35233433.95 -35233433.90 -35233433.85 0.0272 0.0253

Venus -101177-11-28 17:30 J -35233143.86 -35233143.77 -35233143.68 0.3769 0.2272

Earth -101174-06-29 00:13 J -35232201.60 -35232201.49 -35232201.38 0.2659 0.1123

Moon -101174-06-29 00:28 J -35232201.59 -35232201.48 -35232201.38 0.2665 0.1100 *

Mars -101173-01-22 15:06 J -35231994.00 -35231993.87 -35231993.74 0.1634 0.0629

Venus -101173-11-28 09:35 J -35231683.23 -35231683.10 -35231682.97 0.3602 0.0008

Jupiter -101172-08-22 14:09 J -35231416.01 -35231415.91 -35231415.81 0.0521 0.0390

Jupiter -101172-11-20 09:06 J -35231326.27 -35231326.12 -35231325.98 0.0525 0.0154

Mars -101172-12-28 15:21 J -35231287.95 -35231287.86 -35231287.77 0.1645 0.1254

Venus -101171-06-14 13:25 J -35231119.98 -35231119.94 -35231119.90 0.3765 0.3512

Mars -101171-11-10 17:30 J -35230970.90 -35230970.77 -35230970.65 0.1882 0.0330

Venus -101167-06-14 08:23 J -35229659.27 -35229659.15 -35229659.03 0.3606 0.1347

Jupiter -101166-04-10 18:13 J -35229358.87 -35229358.74 -35229358.60 0.0505 0.0187

Jupiter -101166-07-09 09:06 J -35229269.24 -35229269.12 -35229268.99 0.0502 0.0291

Saturn -101165-12-16 20:37 J -35228742.66 -35228742.64 -35228742.61 0.0289 0.0284

Moon -101165-12-24 06:42 J -35228735.30 -35228735.22 -35228735.13 0.2668 0.2145

Earth -101165-12-24 08:09 J -35228735.24 -35228735.16 -35228735.08 0.2670 0.2183 *

Saturn -101164-03-15 13:25 J -35228654.05 -35228653.94 -35228653.82 0.0289 0.0195

Uranus -101164-06-10 23:45 J -35228566.51 -35228566.51 -35228566.49 0.0144 0.0143

Saturn -101164-06-12 06:42 J -35228565.37 -35228565.22 -35228565.08 0.0289 0.0104

Mars -101164-06-13 21:35 J -35228563.70 -35228563.60 -35228563.49 0.1632 0.1055

Uranus -101164-09-07 05:01 J -35228478.36 -35228478.29 -35228478.19 0.0144 0.0122

Saturn -101164-09-08 23:59 J -35228476.65 -35228476.50 -35228476.34 0.0289 0.0013

Uranus -101164-12-04 10:33 J -35228390.16 -35228390.06 -35228389.94 0.0144 0.0100

Saturn -101164-12-06 17:59 J -35228387.90 -35228387.75 -35228387.60 0.0289 0.0086

Uranus -101163-03-02 16:04 J -35228301.95 -35228301.83 -35228301.69 0.0145 0.0078

Saturn -101163-03-05 12:13 J -35228299.11 -35228298.99 -35228298.87 0.0289 0.0184

Uranus -101163-05-29 21:49 J -35228213.74 -35228213.59 -35228213.45 0.0145 0.0056

Saturn -101163-06-02 06:42 J -35228210.24 -35228210.22 -35228210.18 0.0288 0.0283

Uranus -101163-08-26 03:21 J -35228125.51 -35228125.36 -35228125.20 0.0145 0.0033

Uranus -101163-11-22 09:06 J -35228037.28 -35228037.12 -35228036.96 0.0145 0.0011

Uranus -101162-02-18 14:37 J -35227949.04 -35227948.89 -35227948.72 0.0145 0.0013

Uranus -101162-05-17 20:23 J -35227860.80 -35227860.65 -35227860.49 0.0145 0.0036

Mars -101162-05-20 20:52 J -35227857.76 -35227857.63 -35227857.50 0.1642 0.0776

Uranus -101162-08-14 02:09 J -35227772.55 -35227772.41 -35227772.25 0.0145 0.0060

Uranus -101162-11-10 07:54 J -35227684.29 -35227684.17 -35227684.02 0.0145 0.0084

Venus -101162-12-29 06:42 J -35227635.30 -35227635.22 -35227635.13 0.3609 0.2637

Uranus -101161-02-06 14:09 J -35227596.02 -35227595.91 -35227595.80 0.0146 0.0107

Mars -101161-04-01 22:33 J -35227540.69 -35227540.56 -35227540.43 0.1885 0.0310

Uranus -101161-05-04 19:54 J -35227507.73 -35227507.67 -35227507.59 0.0146 0.0132

Earth -101161-06-30 20:09 J -35227450.78 -35227450.66 -35227450.54 0.2663 0.0083

Moon -101161-06-30 20:52 J -35227450.75 -35227450.63 -35227450.52 0.2668 0.0171 *

Jupiter -101160-09-08 09:35 J -35227016.25 -35227016.10 -35227015.95 0.0524 0.0015

Earth -101158-12-17 08:52 J -35226186.19 -35226186.13 -35226186.08 0.2685 0.2450

Moon -101158-12-17 09:49 J -35226186.15 -35226186.09 -35226186.02 0.2681 0.2322 *

Mars -101155-11-04 04:33 J -35225133.37 -35225133.31 -35225133.25 0.1630 0.1466

Jupiter -101154-01-27 20:52 J -35225048.75 -35225048.63 -35225048.51 0.0506 0.0299

Jupiter -101154-04-27 11:16 J -35224959.17 -35224959.03 -35224958.89 0.0503 0.0175

Mars -101153-10-10 02:52 J -35224427.52 -35224427.38 -35224427.24 0.1639 0.0313

Mars -101152-08-23 03:06 J -35224110.48 -35224110.37 -35224110.26 0.1888 0.0963

Mars -101150-07-30 06:28 J -35223404.29 -35223404.23 -35223404.16 0.1874 0.1576

Saturn -101149-01-17 05:16 J -35223233.37 -35223233.28 -35223233.18 0.0270 0.0206

Saturn -101149-04-14 19:54 J -35223144.81 -35223144.67 -35223144.54 0.0270 0.0130

Saturn -101149-07-12 10:04 J -35223056.23 -35223056.08 -35223055.93 0.0270 0.0055

Saturn -101149-10-08 23:59 J -35222967.65 -35222967.50 -35222967.35 0.0270 0.0019

Saturn -101148-01-05 13:40 J -35222879.07 -35222878.93 -35222878.79 0.0270 0.0091

Saturn -101148-04-04 02:52 J -35222790.49 -35222790.38 -35222790.26 0.0271 0.0163

Jupiter -101148-06-27 10:47 J -35222706.20 -35222706.05 -35222705.90 0.0523 0.0120

Saturn -101148-07-01 16:04 J -35222701.90 -35222701.83 -35222701.75 0.0271 0.0233

Earth -101148-07-03 15:49 J -35222699.95 -35222699.84 -35222699.74 0.2668 0.1192

Moon -101148-07-03 16:33 J -35222699.91 -35222699.81 -35222699.70 0.2667 0.1224 *

Jupiter -101148-09-25 04:47 J -35222616.39 -35222616.30 -35222616.21 0.0527 0.0419

Venus -101148-10-21 15:49 J -35222589.90 -35222589.84 -35222589.77 0.3784 0.3048

Pluto -101145-07-18 11:01 J -35221589.05 -35221589.04 -35221588.99 0.0060 0.0059

Pluto -101145-10-14 12:28 J -35221501.06 -35221500.98 -35221500.86 0.0060 0.0052

Earth -101145-12-19 10:18 J -35221435.21 -35221435.07 -35221434.94 0.2680 0.0837

Moon -101145-12-19 10:18 J -35221435.20 -35221435.07 -35221434.93 0.2673 0.0869 *

Pluto -101144-01-10 13:54 J -35221413.03 -35221412.92 -35221412.77 0.0060 0.0045

Pluto -101144-04-08 15:49 J -35221324.99 -35221324.84 -35221324.68 0.0060 0.0038

Pluto -101144-07-05 17:16 J -35221236.94 -35221236.78 -35221236.60 0.0060 0.0031

Pluto -101144-10-01 18:42 J -35221148.89 -35221148.72 -35221148.53 0.0060 0.0024

Pluto -101144-12-28 20:09 J -35221060.84 -35221060.66 -35221060.46 0.0061 0.0017

Mars -101143-03-02 08:52 J -35220997.27 -35220997.13 -35220996.99 0.1636 0.0143

Pluto -101143-03-26 21:49 J -35220972.78 -35220972.59 -35220972.39 0.0061 0.0009

Pluto -101143-06-22 23:16 J -35220884.72 -35220884.53 -35220884.33 0.0061 0.0002

Pluto -101143-09-19 00:42 J -35220796.66 -35220796.47 -35220796.27 0.0061 0.0006

Jupiter -101143-11-15 22:47 J -35220738.63 -35220738.55 -35220738.46 0.0506 0.0416

Pluto -101143-12-16 02:09 J -35220708.59 -35220708.41 -35220708.21 0.0061 0.0013

Mars -101142-01-13 07:25 J -35220680.25 -35220680.19 -35220680.12 0.1891 0.1637

Jupiter -101142-02-13 12:57 J -35220649.11 -35220648.96 -35220648.81 0.0503 0.0054

Pluto -101142-03-14 03:49 J -35220620.52 -35220620.34 -35220620.15 0.0061 0.0020

Venus -101142-05-07 10:47 J -35220566.15 -35220566.05 -35220565.96 0.3781 0.1978

Pluto -101142-06-10 05:01 J -35220532.45 -35220532.29 -35220532.10 0.0061 0.0028

Pluto -101142-09-06 06:42 J -35220444.37 -35220444.22 -35220444.05 0.0061 0.0035

Pluto -101142-12-03 08:23 J -35220356.28 -35220356.15 -35220356.00 0.0061 0.0043

Pluto -101141-02-29 09:35 J -35220268.19 -35220268.10 -35220267.97 0.0061 0.0050

Pluto -101141-05-27 11:16 J -35220180.08 -35220180.03 -35220179.95 0.0061 0.0058

Moon -101141-06-26 08:52 J -35220150.20 -35220150.13 -35220150.05 0.2661 0.2047

Earth -101141-06-26 09:21 J -35220150.18 -35220150.11 -35220150.03 0.2655 0.2053 *

Mars -101141-12-19 12:13 J -35219974.10 -35219973.99 -35219973.88 0.1878 0.0988

Venus -101137-11-20 05:45 J -35218542.37 -35218542.26 -35218542.15 0.3778 0.0868

Jupiter -101136-04-15 11:59 J -35218396.14 -35218396.00 -35218395.87 0.0523 0.0252

Jupiter -101136-07-14 06:28 J -35218306.36 -35218306.23 -35218306.11 0.0526 0.0291

Earth -101135-07-06 11:16 J -35217949.08 -35217949.03 -35217948.97 0.2673 0.2322

Moon -101135-07-06 11:59 J -35217949.05 -35217949.00 -35217948.96 0.2668 0.2438 *

Saturn -101135-08-02 13:11 J -35217922.04 -35217921.95 -35217921.86 0.0290 0.0227

Saturn -101135-10-30 05:59 J -35217833.38 -35217833.25 -35217833.10 0.0290 0.0137

Saturn -101134-01-26 23:30 J -35217744.67 -35217744.52 -35217744.36 0.0289 0.0043

Saturn -101134-04-25 17:16 J -35217655.94 -35217655.78 -35217655.62 0.0289 0.0052

Saturn -101134-07-23 11:16 J -35217567.16 -35217567.03 -35217566.89 0.0289 0.0150

Mars -101134-07-23 15:21 J -35217567.00 -35217566.86 -35217566.73 0.1634 0.0582 *

Saturn -101134-10-20 05:45 J -35217478.33 -35217478.26 -35217478.17 0.0289 0.0248

Mars -101132-06-28 15:35 J -35216860.94 -35216860.85 -35216860.76 0.1644 0.1303

Moon -101132-12-22 11:16 J -35216684.16 -35216684.03 -35216683.89 0.2669 0.0850

Earth -101132-12-22 11:59 J -35216684.14 -35216684.00 -35216683.87 0.2675 0.0828 *

Mars -101131-05-11 17:45 J -35216543.89 -35216543.76 -35216543.64 0.1882 0.0386

Venus -101131-06-06 00:57 J -35216518.57 -35216518.46 -35216518.35 0.3775 0.0276

Jupiter -101131-12-02 14:52 J -35216339.03 -35216338.88 -35216338.74 0.0504 0.0068

Jupiter -101130-03-02 05:45 J -35216249.34 -35216249.26 -35216249.17 0.0501 0.0413

Earth -101128-06-29 05:16 J -35215399.39 -35215399.28 -35215399.16 0.2659 0.0877

Moon -101128-06-29 05:45 J -35215399.37 -35215399.26 -35215399.15 0.2666 0.0884 *

Venus -101127-06-05 10:33 J -35215058.16 -35215058.06 -35215057.97 0.3597 0.2386

Venus -101126-12-20 20:23 J -35214494.76 -35214494.65 -35214494.54 0.3771 0.1452

Neptune -101125-09-09 23:16 J -35214230.55 -35214230.53 -35214230.50 0.0089 0.0087

Neptune -101125-12-07 00:57 J -35214142.50 -35214142.46 -35214142.40 0.0089 0.0083

Mars -101125-12-12 22:04 J -35214136.69 -35214136.58 -35214136.47 0.1632 0.1002

Jupiter -101124-02-01 12:28 J -35214086.08 -35214085.98 -35214085.88 0.0521 0.0388

Uranus -101124-02-02 21:49 J -35214084.66 -35214084.59 -35214084.51 0.0134 0.0117

Neptune -101124-03-05 02:52 J -35214054.44 -35214054.38 -35214054.30 0.0089 0.0079

Uranus -101124-05-02 02:23 J -35213996.50 -35213996.40 -35213996.29 0.0134 0.0099

Jupiter -101124-05-02 07:25 J -35213996.33 -35213996.19 -35213996.05 0.0525 0.0156 *

Neptune -101124-06-01 04:47 J -35213966.37 -35213966.30 -35213966.21 0.0089 0.0075

Uranus -101124-07-29 06:57 J -35213908.33 -35213908.21 -35213908.08 0.0134 0.0080

Neptune -101124-08-28 06:57 J -35213878.30 -35213878.21 -35213878.12 0.0089 0.0070

Uranus -101124-10-25 11:30 J -35213820.15 -35213820.02 -35213819.87 0.0134 0.0062

Neptune -101124-11-24 08:37 J -35213790.23 -35213790.14 -35213790.03 0.0089 0.0066

Uranus -101123-01-21 16:04 J -35213731.97 -35213731.83 -35213731.68 0.0134 0.0044

Neptune -101123-02-20 10:33 J -35213702.16 -35213702.06 -35213701.94 0.0089 0.0062

Uranus -101123-04-19 20:37 J -35213643.79 -35213643.64 -35213643.49 0.0134 0.0026

Neptune -101123-05-19 12:42 J -35213614.08 -35213613.97 -35213613.85 0.0089 0.0057

Uranus -101123-07-17 00:57 J -35213555.61 -35213555.46 -35213555.30 0.0134 0.0009

Neptune -101123-08-15 14:37 J -35213526.01 -35213525.89 -35213525.76 0.0089 0.0053

Uranus -101123-10-13 05:16 J -35213467.43 -35213467.28 -35213467.12 0.0134 0.0010

Neptune -101123-11-11 16:33 J -35213437.93 -35213437.81 -35213437.68 0.0089 0.0049

Mars -101123-11-18 21:21 J -35213430.74 -35213430.61 -35213430.48 0.1642 0.0831

Uranus -101122-01-09 09:49 J -35213379.25 -35213379.09 -35213378.94 0.0134 0.0026

Neptune -101122-02-07 18:28 J -35213349.85 -35213349.73 -35213349.59 0.0089 0.0044

Uranus -101122-04-07 13:54 J -35213291.06 -35213290.92 -35213290.77 0.0134 0.0043

Neptune -101122-05-06 20:23 J -35213261.77 -35213261.65 -35213261.50 0.0089 0.0040

Uranus -101122-07-04 18:13 J -35213202.87 -35213202.74 -35213202.60 0.0133 0.0060

Neptune -101122-08-02 22:33 J -35213173.69 -35213173.56 -35213173.41 0.0089 0.0035

Uranus -101122-09-30 22:18 J -35213114.69 -35213114.57 -35213114.44 0.0133 0.0077

Mars -101122-10-01 22:47 J -35213113.68 -35213113.55 -35213113.42 0.1885 0.0245

Neptune -101122-10-30 00:28 J -35213085.61 -35213085.48 -35213085.33 0.0089 0.0031

Venus -101122-12-20 10:04 J -35213034.21 -35213034.08 -35213033.96 0.3600 0.0943

Uranus -101122-12-28 02:23 J -35213026.50 -35213026.40 -35213026.28 0.0133 0.0093

Neptune -101121-01-26 02:37 J -35212997.53 -35212997.39 -35212997.24 0.0089 0.0026

Uranus -101121-03-25 06:42 J -35212938.30 -35212938.22 -35212938.13 0.0133 0.0109

Neptune -101121-04-23 04:33 J -35212909.45 -35212909.31 -35212909.15 0.0089 0.0022

Uranus -101121-06-21 10:33 J -35212850.09 -35212850.06 -35212850.00 0.0133 0.0126

Neptune -101121-07-20 06:42 J -35212821.37 -35212821.22 -35212821.06 0.0089 0.0017

Neptune -101121-10-16 08:52 J -35212733.28 -35212733.13 -35212732.98 0.0089 0.0012

Neptune -101120-01-12 11:01 J -35212645.20 -35212645.04 -35212644.89 0.0089 0.0008

Neptune -101120-04-10 12:57 J -35212557.11 -35212556.96 -35212556.80 0.0089 0.0004

Saturn -101120-06-05 07:25 J -35212501.27 -35212501.19 -35212501.11 0.0270 0.0226

Venus -101120-07-05 16:04 J -35212470.91 -35212470.83 -35212470.75 0.3768 0.2664

Neptune -101120-07-07 15:06 J -35212469.03 -35212468.87 -35212468.71 0.0089 0.0002

Saturn -101120-09-01 21:49 J -35212412.71 -35212412.59 -35212412.46 0.0270 0.0150

Neptune -101120-10-03 17:16 J -35212380.94 -35212380.78 -35212380.63 0.0089 0.0006

Saturn -101120-11-29 12:13 J -35212324.14 -35212323.99 -35212323.84 0.0271 0.0074

Neptune -101120-12-30 19:11 J -35212292.85 -35212292.70 -35212292.54 0.0089 0.0011

Saturn -101119-02-26 02:09 J -35212235.56 -35212235.41 -35212235.25 0.0271 0.0007

Neptune -101119-03-28 21:21 J -35212204.76 -35212204.61 -35212204.45 0.0089 0.0016

Saturn -101119-05-25 16:04 J -35212146.98 -35212146.83 -35212146.69 0.0271 0.0073

Neptune -101119-06-24 23:30 J -35212116.67 -35212116.52 -35212116.36 0.0089 0.0020

Saturn -101119-08-22 05:30 J -35212058.39 -35212058.27 -35212058.14 0.0271 0.0145

Jupiter -101119-09-20 16:18 J -35212028.96 -35212028.82 -35212028.68 0.0505 0.0190

Neptune -101119-09-21 01:40 J -35212028.58 -35212028.43 -35212028.28 0.0089 0.0025

Saturn -101119-11-18 18:42 J -35211969.80 -35211969.72 -35211969.63 0.0271 0.0216

Neptune -101119-12-18 03:35 J -35211940.49 -35211940.35 -35211940.19 0.0089 0.0030

Jupiter -101119-12-19 06:57 J -35211939.33 -35211939.21 -35211939.08 0.0502 0.0287

Moon -101119-12-25 12:42 J -35211933.04 -35211932.97 -35211932.90 0.2668 0.2307

Earth -101119-12-25 13:54 J -35211932.96 -35211932.92 -35211932.87 0.2670 0.2533 *

Neptune -101118-03-16 05:45 J -35211852.39 -35211852.26 -35211852.10 0.0089 0.0035

Neptune -101118-06-12 08:09 J -35211764.30 -35211764.16 -35211764.02 0.0089 0.0039

Neptune -101118-09-08 10:18 J -35211676.20 -35211676.07 -35211675.93 0.0089 0.0044

Neptune -101118-12-05 12:13 J -35211588.11 -35211587.99 -35211587.84 0.0089 0.0049

Neptune -101117-03-02 14:23 J -35211500.01 -35211499.90 -35211499.76 0.0089 0.0054

Neptune -101117-05-29 17:01 J -35211411.91 -35211411.79 -35211411.67 0.0089 0.0058

Neptune -101117-08-25 19:11 J -35211323.81 -35211323.70 -35211323.59 0.0089 0.0063

Neptune -101117-11-21 21:06 J -35211235.71 -35211235.62 -35211235.51 0.0089 0.0068

Neptune -101116-02-17 23:16 J -35211147.60 -35211147.53 -35211147.42 0.0089 0.0073

Neptune -101116-05-17 01:40 J -35211059.50 -35211059.43 -35211059.34 0.0089 0.0078

Venus -101116-07-05 09:06 J -35211010.25 -35211010.12 -35211009.99 0.3603 0.0452

Neptune -101116-08-13 03:49 J -35210971.38 -35210971.34 -35210971.27 0.0089 0.0083

Neptune -101116-11-09 05:59 J -35210883.26 -35210883.25 -35210883.21 0.0089 0.0088

Mars -101115-05-05 04:47 J -35210706.36 -35210706.30 -35210706.23 0.1630 0.1419

Earth -101115-07-02 01:11 J -35210648.57 -35210648.45 -35210648.33 0.2664 0.0286

Moon -101115-07-02 01:54 J -35210648.54 -35210648.42 -35210648.30 0.2668 0.0352 *

Mars -101113-04-10 03:06 J -35210000.51 -35210000.37 -35210000.23 0.1639 0.0365

Jupiter -101112-02-18 08:09 J -35209686.31 -35209686.16 -35209686.01 0.0524 0.0019

Mars -101112-02-21 03:21 J -35209683.47 -35209683.36 -35209683.24 0.1888 0.0903

Earth -101112-12-17 14:37 J -35209383.97 -35209383.89 -35209383.81 0.2685 0.2128

Moon -101112-12-17 15:35 J -35209383.94 -35209383.85 -35209383.76 0.2680 0.2036 *

Venus -101110-01-19 07:40 J -35208986.29 -35208986.18 -35208986.07 0.3607 0.1770

Mars -101110-01-28 06:42 J -35208977.28 -35208977.22 -35208977.16 0.1874 0.1630

Jupiter -101107-07-09 18:28 J -35207718.85 -35207718.73 -35207718.61 0.0506 0.0306

Jupiter -101107-10-07 08:52 J -35207629.27 -35207629.13 -35207628.99 0.0503 0.0168

Saturn -101106-12-20 16:04 J -35207189.91 -35207189.83 -35207189.74 0.0289 0.0242

Saturn -101105-03-18 09:06 J -35207101.25 -35207101.12 -35207100.99 0.0289 0.0151

Saturn -101105-06-15 02:23 J -35207012.55 -35207012.40 -35207012.25 0.0289 0.0059

Venus -101105-08-04 05:59 J -35206962.32 -35206962.25 -35206962.18 0.3611 0.3040

Saturn -101105-09-11 20:09 J -35206923.82 -35206923.66 -35206923.51 0.0289 0.0037

Saturn -101105-12-09 14:09 J -35206835.05 -35206834.91 -35206834.77 0.0289 0.0133

Saturn -101104-03-08 08:23 J -35206746.24 -35206746.15 -35206746.05 0.0288 0.0231

Mars -101104-08-31 09:21 J -35206570.26 -35206570.11 -35206569.97 0.1636 0.0097

Mars -101103-07-14 07:40 J -35206253.25 -35206253.18 -35206253.11 0.1891 0.1579

Earth -101102-07-04 20:52 J -35205897.73 -35205897.63 -35205897.53 0.2669 0.1428

Moon -101102-07-04 21:35 J -35205897.69 -35205897.60 -35205897.50 0.2666 0.1547 *

Mars -101101-06-19 12:28 J -35205547.09 -35205546.98 -35205546.88 0.1878 0.1046

Jupiter -101101-12-07 08:09 J -35205376.30 -35205376.16 -35205376.01 0.0523 0.0128

Jupiter -101100-03-07 02:23 J -35205286.49 -35205286.40 -35205286.31 0.0527 0.0410

Moon -101099-12-20 16:04 J -35204632.97 -35204632.83 -35204632.69 0.2672 0.0459

Earth -101099-12-20 16:04 J -35204632.97 -35204632.83 -35204632.69 0.2679 0.0504 *

Venus -101097-11-11 19:40 J -35203940.70 -35203940.68 -35203940.67 0.3786 0.3737

Jupiter -101095-04-27 21:06 J -35203408.70 -35203408.62 -35203408.54 0.0507 0.0416

Moon -101095-06-27 14:09 J -35203347.99 -35203347.91 -35203347.82 0.2661 0.1900

Earth -101095-06-27 14:23 J -35203347.98 -35203347.90 -35203347.81 0.2655 0.1805 *

Jupiter -101095-07-26 11:01 J -35203319.19 -35203319.04 -35203318.89 0.0503 0.0056

Mars -101094-01-21 15:49 J -35203139.98 -35203139.84 -35203139.71 0.1634 0.0529

Mars -101093-12-27 16:04 J -35202433.91 -35202433.83 -35202433.75 0.1645 0.1366

Mars -101092-11-09 17:45 J -35202116.88 -35202116.76 -35202116.63 0.1882 0.0443

Venus -101091-05-28 14:09 J -35201916.98 -35201916.91 -35201916.83 0.3783 0.2691

Saturn -101091-10-23 09:06 J -35201769.18 -35201769.12 -35201769.05 0.0270 0.0246

Saturn -101090-01-19 23:45 J -35201680.63 -35201680.51 -35201680.39 0.0270 0.0169

Saturn -101090-04-18 14:09 J -35201592.05 -35201591.91 -35201591.77 0.0270 0.0094

Saturn -101090-07-16 04:04 J -35201503.48 -35201503.33 -35201503.17 0.0270 0.0021

Saturn -101090-10-12 17:59 J -35201414.90 -35201414.75 -35201414.60 0.0270 0.0054

Saturn -101089-01-09 07:25 J -35201326.32 -35201326.19 -35201326.05 0.0270 0.0126

Saturn -101089-04-06 20:52 J -35201237.73 -35201237.63 -35201237.53 0.0271 0.0196

Saturn -101089-07-04 10:04 J -35201149.11 -35201149.08 -35201149.06 0.0271 0.0265

Earth -101089-07-06 16:18 J -35201146.85 -35201146.82 -35201146.78 0.2673 0.2560

Moon -101089-07-06 16:47 J -35201146.83 -35201146.80 -35201146.76 0.2668 0.2530 *

Jupiter -101089-09-25 09:21 J -35201066.24 -35201066.11 -35201065.98 0.0522 0.0261

Jupiter -101089-12-24 03:49 J -35200976.46 -35200976.34 -35200976.21 0.0526 0.0282

Venus -101086-12-12 09:06 J -35199893.22 -35199893.12 -35199893.02 0.3780 0.1613

Moon -101086-12-23 17:01 J -35199881.92 -35199881.79 -35199881.66 0.2670 0.1013

Earth -101086-12-23 17:45 J -35199881.88 -35199881.76 -35199881.63 0.2674 0.1169 *

Mars -101085-06-12 22:18 J -35199709.69 -35199709.57 -35199709.46 0.1632 0.0960

Jupiter -101083-05-14 12:57 J -35199009.11 -35199008.96 -35199008.81 0.0504 0.0066

Mars -101083-05-19 21:35 J -35199003.72 -35199003.60 -35199003.48 0.1642 0.0882

Jupiter -101083-08-12 04:04 J -35198919.42 -35198919.33 -35198919.25 0.0501 0.0413

Mars -101082-04-01 22:47 J -35198686.68 -35198686.55 -35198686.42 0.1886 0.0200

Earth -101082-06-30 10:33 J -35198597.18 -35198597.06 -35198596.95 0.2660 0.0635

Moon -101082-06-30 10:47 J -35198597.16 -35198597.05 -35198596.93 0.2666 0.0542 *

Venus -101080-06-27 04:04 J -35197869.44 -35197869.33 -35197869.22 0.3777 0.0500

Uranus -101080-07-01 07:25 J -35197865.23 -35197865.19 -35197865.14 0.0144 0.0137

Uranus -101080-09-27 12:57 J -35197777.05 -35197776.96 -35197776.87 0.0144 0.0116

Uranus -101080-12-24 18:28 J -35197688.85 -35197688.73 -35197688.61 0.0144 0.0094

Uranus -101079-03-22 23:45 J -35197600.64 -35197600.51 -35197600.37 0.0145 0.0072

Uranus -101079-06-19 05:16 J -35197512.42 -35197512.28 -35197512.12 0.0145 0.0050

Uranus -101079-09-15 11:01 J -35197424.20 -35197424.04 -35197423.88 0.0145 0.0027

Uranus -101079-12-12 16:47 J -35197335.96 -35197335.80 -35197335.64 0.0145 0.0005

Uranus -101078-03-10 22:18 J -35197247.73 -35197247.57 -35197247.41 0.0145 0.0019

Uranus -101078-06-07 04:04 J -35197159.48 -35197159.33 -35197159.17 0.0145 0.0042

Uranus -101078-09-03 09:49 J -35197071.23 -35197071.09 -35197070.94 0.0145 0.0066

Uranus -101078-11-30 15:49 J -35196982.96 -35196982.84 -35196982.71 0.0145 0.0090

Uranus -101077-02-26 21:49 J -35196894.69 -35196894.59 -35196894.49 0.0146 0.0114

Uranus -101077-05-25 03:49 J -35196806.39 -35196806.34 -35196806.29 0.0146 0.0138

Jupiter -101077-07-14 10:18 J -35196756.17 -35196756.07 -35196755.97 0.0522 0.0393

Jupiter -101077-10-12 05:30 J -35196666.42 -35196666.27 -35196666.13 0.0525 0.0154

Saturn -101076-05-08 15:35 J -35196457.89 -35196457.85 -35196457.80 0.0290 0.0275

Venus -101076-06-26 10:18 J -35196409.11 -35196409.07 -35196409.03 0.3594 0.3379

Saturn -101076-08-05 08:23 J -35196369.26 -35196369.15 -35196369.03 0.0290 0.0185

Saturn -101076-11-02 01:40 J -35196280.58 -35196280.43 -35196280.28 0.0290 0.0093

Mars -101076-11-03 05:16 J -35196279.36 -35196279.28 -35196279.21 0.1630 0.1370

Saturn -101075-01-29 19:11 J -35196191.86 -35196191.70 -35196191.54 0.0289 0.0002

Saturn -101075-04-28 12:57 J -35196103.11 -35196102.96 -35196102.80 0.0289 0.0098

Saturn -101075-07-26 07:11 J -35196014.31 -35196014.20 -35196014.08 0.0289 0.0195

Venus -101074-01-10 23:30 J -35195845.64 -35195845.52 -35195845.41 0.3774 0.0670

Mars -101074-10-10 03:21 J -35195573.50 -35195573.36 -35195573.22 0.1639 0.0415

Mars -101073-08-22 03:49 J -35195256.46 -35195256.34 -35195256.22 0.1888 0.0838

Jupiter -101071-03-02 14:52 J -35194699.02 -35194698.88 -35194698.74 0.0505 0.0185

Jupiter -101071-05-31 05:30 J -35194609.39 -35194609.27 -35194609.14 0.0502 0.0292

Mars -101071-07-29 06:57 J -35194550.27 -35194550.21 -35194550.16 0.1875 0.1686

Venus -101070-01-10 10:04 J -35194385.19 -35194385.08 -35194384.97 0.3598 0.1906

Earth -101069-07-02 06:13 J -35193846.35 -35193846.24 -35193846.12 0.2665 0.0530

Moon -101069-07-02 07:11 J -35193846.32 -35193846.20 -35193846.09 0.2666 0.0591 *

Venus -101069-07-26 18:57 J -35193821.81 -35193821.71 -35193821.61 0.3770 0.1835

Earth -101066-12-18 20:37 J -35192581.75 -35192581.64 -35192581.54 0.2684 0.1798

Moon -101066-12-18 21:06 J -35192581.72 -35192581.62 -35192581.51 0.2678 0.1777 *

Venus -101065-07-26 09:35 J -35192361.23 -35192361.10 -35192360.97 0.3601 0.0492

Jupiter -101065-07-31 06:28 J -35192356.38 -35192356.23 -35192356.08 0.0524 0.0020

Mars -101064-03-01 09:35 J -35192143.24 -35192143.10 -35192142.95 0.1636 0.0049

Mars -101063-01-12 07:54 J -35191826.24 -35191826.17 -35191826.09 0.1891 0.1519

Venus -101063-02-09 14:37 J -35191797.95 -35191797.89 -35191797.82 0.3766 0.3054

Mars -101062-12-19 12:42 J -35191120.07 -35191119.97 -35191119.87 0.1878 0.1108

Saturn -101061-03-11 10:47 J -35191037.06 -35191037.05 -35191037.04 0.0270 0.0268

Saturn -101061-06-08 01:25 J -35190948.54 -35190948.44 -35190948.33 0.0270 0.0192

Saturn -101061-09-04 15:49 J -35190859.97 -35190859.84 -35190859.70 0.0270 0.0116

Saturn -101061-12-02 05:59 J -35190771.40 -35190771.25 -35190771.10 0.0271 0.0041

Saturn -101060-02-28 19:54 J -35190682.82 -35190682.67 -35190682.52 0.0271 0.0033

Saturn -101060-05-28 09:35 J -35190594.24 -35190594.10 -35190593.96 0.0271 0.0106

Saturn -101060-08-24 23:01 J -35190505.65 -35190505.54 -35190505.43 0.0271 0.0177

Saturn -101060-11-21 12:13 J -35190417.05 -35190416.99 -35190416.93 0.0271 0.0247

Jupiter -101060-12-19 16:33 J -35190388.93 -35190388.81 -35190388.70 0.0506 0.0308

Venus -101059-02-09 08:23 J -35190337.28 -35190337.15 -35190337.02 0.3605 0.0872

Jupiter -101059-03-19 06:42 J -35190299.36 -35190299.22 -35190299.07 0.0503 0.0167

Earth -101056-07-05 01:54 J -35189095.51 -35189095.42 -35189095.33 0.2669 0.1671

Moon -101056-07-05 02:52 J -35189095.47 -35189095.38 -35189095.29 0.2667 0.1723 *

Mars -101055-07-22 16:04 J -35188712.97 -35188712.83 -35188712.70 0.1634 0.0479

Venus -101054-08-26 06:57 J -35188313.31 -35188313.21 -35188313.11 0.3608 0.2185

Jupiter -101053-05-19 07:11 J -35188046.35 -35188046.20 -35188046.06 0.0523 0.0120

Mars -101053-06-27 16:33 J -35188006.89 -35188006.81 -35188006.74 0.1645 0.1419

Jupiter -101053-08-17 01:11 J -35187956.54 -35187956.45 -35187956.36 0.0526 0.0417

Moon -101053-12-20 21:49 J -35187830.73 -35187830.59 -35187830.44 0.2672 0.0204

Earth -101053-12-20 22:04 J -35187830.72 -35187830.58 -35187830.44 0.2679 0.0184 *

Mars -101052-05-10 17:59 J -35187689.87 -35187689.75 -35187689.62 0.1882 0.0494

Pluto -101051-02-11 08:09 J -35187413.21 -35187413.16 -35187413.09 0.0085 0.0074

Pluto -101051-05-10 09:21 J -35187325.19 -35187325.11 -35187325.01 0.0085 0.0061

Pluto -101051-08-06 10:47 J -35187237.15 -35187237.05 -35187236.94 0.0084 0.0047

Pluto -101051-11-02 11:59 J -35187149.11 -35187149.00 -35187148.87 0.0084 0.0034

Pluto -101050-01-29 13:11 J -35187061.07 -35187060.95 -35187060.81 0.0084 0.0021

Pluto -101050-04-27 14:37 J -35186973.02 -35186972.89 -35186972.76 0.0084 0.0008

Pluto -101050-07-24 15:49 J -35186884.97 -35186884.84 -35186884.70 0.0084 0.0006

Pluto -101050-10-20 17:01 J -35186796.91 -35186796.79 -35186796.66 0.0084 0.0019

Pluto -101049-01-16 18:13 J -35186708.86 -35186708.74 -35186708.61 0.0084 0.0031

Pluto -101049-04-13 19:25 J -35186620.79 -35186620.69 -35186620.57 0.0084 0.0044

Moon -101049-06-27 19:40 J -35186545.78 -35186545.68 -35186545.58 0.2662 0.1504

Earth -101049-06-27 19:40 J -35186545.78 -35186545.68 -35186545.58 0.2656 0.1559 *

Pluto -101049-07-10 20:52 J -35186532.73 -35186532.63 -35186532.54 0.0083 0.0057

Pluto -101049-10-06 21:49 J -35186444.65 -35186444.59 -35186444.51 0.0083 0.0070

Pluto -101048-01-02 23:01 J -35186356.55 -35186356.54 -35186356.51 0.0083 0.0082

Venus -101048-03-11 05:01 J -35186289.32 -35186289.29 -35186289.25 0.3612 0.3428

Jupiter -101048-10-07 18:42 J -35186078.80 -35186078.72 -35186078.64 0.0507 0.0423

Jupiter -101047-01-05 08:52 J -35185989.28 -35185989.13 -35185988.98 0.0504 0.0049

Saturn -101047-12-23 11:16 J -35185637.14 -35185637.03 -35185636.92 0.0289 0.0201

Saturn -101046-03-22 04:18 J -35185548.46 -35185548.32 -35185548.17 0.0289 0.0109

Saturn -101046-06-18 21:49 J -35185459.75 -35185459.59 -35185459.43 0.0289 0.0015

Saturn -101046-09-15 15:35 J -35185371.00 -35185370.85 -35185370.69 0.0289 0.0081

Mars -101046-12-12 22:33 J -35185282.67 -35185282.56 -35185282.44 0.1632 0.0906

Saturn -101046-12-13 09:49 J -35185282.21 -35185282.09 -35185281.96 0.0289 0.0178

Saturn -101045-03-11 04:33 J -35185193.35 -35185193.31 -35185193.27 0.0288 0.0277

Mars -101044-11-17 22:04 J -35184576.70 -35184576.58 -35184576.46 0.1642 0.0939

Mars -101043-09-30 23:16 J -35184259.66 -35184259.53 -35184259.40 0.1885 0.0135

Neptune -101042-03-19 03:21 J -35184090.41 -35184090.36 -35184090.31 0.0089 0.0084

Neptune -101042-06-15 05:45 J -35184002.33 -35184002.26 -35184002.18 0.0089 0.0079

Neptune -101042-09-11 08:23 J -35183914.24 -35183914.15 -35183914.06 0.0089 0.0074

Neptune -101042-12-08 10:47 J -35183826.15 -35183826.05 -35183825.95 0.0089 0.0069

Neptune -101041-03-05 12:42 J -35183738.06 -35183737.97 -35183737.84 0.0088 0.0065

Jupiter -101041-03-07 06:57 J -35183736.34 -35183736.21 -35183736.08 0.0522 0.0267

Neptune -101041-06-01 15:21 J -35183649.97 -35183649.86 -35183649.73 0.0088 0.0059

Jupiter -101041-06-05 01:40 J -35183646.56 -35183646.43 -35183646.31 0.0526 0.0276

Neptune -101041-08-28 17:45 J -35183561.88 -35183561.76 -35183561.62 0.0088 0.0055

Neptune -101041-11-24 20:09 J -35183473.78 -35183473.66 -35183473.51 0.0088 0.0050

Uranus -101041-11-27 00:57 J -35183471.50 -35183471.46 -35183471.41 0.0135 0.0129

Neptune -101040-02-20 22:33 J -35183385.69 -35183385.56 -35183385.41 0.0088 0.0045

Uranus -101040-02-23 05:30 J -35183383.35 -35183383.27 -35183383.17 0.0134 0.0111

Neptune -101040-05-20 00:57 J -35183297.60 -35183297.46 -35183297.30 0.0088 0.0040

Uranus -101040-05-22 10:04 J -35183295.18 -35183295.08 -35183294.96 0.0134 0.0093

Venus -101040-06-18 17:45 J -35183267.80 -35183267.76 -35183267.71 0.3785 0.3389

Neptune -101040-08-16 03:21 J -35183209.50 -35183209.36 -35183209.20 0.0088 0.0035

Uranus -101040-08-18 14:37 J -35183207.01 -35183206.89 -35183206.75 0.0134 0.0074

Neptune -101040-11-12 05:45 J -35183121.41 -35183121.26 -35183121.10 0.0088 0.0030

Uranus -101040-11-14 19:11 J -35183118.83 -35183118.70 -35183118.55 0.0134 0.0056

Moon -101040-12-23 22:47 J -35183079.67 -35183079.55 -35183079.44 0.2669 0.1456

Earth -101040-12-23 23:45 J -35183079.62 -35183079.51 -35183079.39 0.2674 0.1505 *

Neptune -101039-02-08 08:09 J -35183033.31 -35183033.16 -35183033.00 0.0088 0.0025

Uranus -101039-02-10 23:45 J -35183030.65 -35183030.51 -35183030.35 0.0134 0.0038

Neptune -101039-05-07 10:18 J -35182945.22 -35182945.07 -35182944.90 0.0088 0.0021

Uranus -101039-05-10 04:18 J -35182942.47 -35182942.32 -35182942.17 0.0134 0.0020

Neptune -101039-08-03 12:42 J -35182857.12 -35182856.97 -35182856.80 0.0088 0.0016

Uranus -101039-08-06 08:37 J -35182854.29 -35182854.14 -35182853.98 0.0134 0.0005

Neptune -101039-10-30 15:06 J -35182769.03 -35182768.87 -35182768.71 0.0088 0.0011

Uranus -101039-11-02 13:11 J -35182766.11 -35182765.95 -35182765.80 0.0134 0.0015

Neptune -101038-01-26 17:30 J -35182680.93 -35182680.77 -35182680.61 0.0088 0.0006

Uranus -101038-01-29 17:16 J -35182677.92 -35182677.78 -35182677.63 0.0134 0.0032

Neptune -101038-04-24 19:40 J -35182592.84 -35182592.68 -35182592.51 0.0088 0.0002

Uranus -101038-04-27 21:35 J -35182589.74 -35182589.60 -35182589.45 0.0133 0.0049

Neptune -101038-07-21 22:04 J -35182504.74 -35182504.58 -35182504.42 0.0088 0.0004

Uranus -101038-07-25 01:54 J -35182501.55 -35182501.42 -35182501.29 0.0133 0.0065

Neptune -101038-10-18 00:13 J -35182416.65 -35182416.49 -35182416.33 0.0088 0.0009

Uranus -101038-10-21 05:59 J -35182413.36 -35182413.25 -35182413.13 0.0133 0.0082

Neptune -101037-01-14 02:23 J -35182328.55 -35182328.40 -35182328.24 0.0088 0.0014

Uranus -101037-01-17 10:18 J -35182325.17 -35182325.07 -35182324.97 0.0133 0.0099

Neptune -101037-04-11 04:47 J -35182240.46 -35182240.30 -35182240.14 0.0088 0.0018

Uranus -101037-04-14 14:09 J -35182236.98 -35182236.91 -35182236.83 0.0133 0.0115

Neptune -101037-07-08 06:57 J -35182152.36 -35182152.21 -35182152.05 0.0088 0.0023

Uranus -101037-07-11 18:13 J -35182148.75 -35182148.74 -35182148.71 0.0133 0.0131

Neptune -101037-10-04 09:06 J -35182064.27 -35182064.12 -35182063.96 0.0088 0.0027

Neptune -101037-12-31 11:16 J -35181976.17 -35181976.03 -35181975.88 0.0088 0.0032

Neptune -101036-03-29 13:25 J -35181888.08 -35181887.94 -35181887.79 0.0088 0.0037

Mars -101036-05-04 05:30 J -35181852.35 -35181852.27 -35181852.19 0.1630 0.1324

Neptune -101036-06-25 15:21 J -35181799.98 -35181799.86 -35181799.70 0.0088 0.0042

Earth -101036-06-30 15:35 J -35181794.97 -35181794.85 -35181794.73 0.2661 0.0382

Moon -101036-06-30 16:04 J -35181794.95 -35181794.83 -35181794.71 0.2666 0.0399 *

Neptune -101036-09-21 17:45 J -35181711.89 -35181711.76 -35181711.62 0.0088 0.0046

Jupiter -101036-10-24 11:16 J -35181679.18 -35181679.03 -35181678.88 0.0504 0.0065

Neptune -101036-12-18 19:40 J -35181623.79 -35181623.68 -35181623.53 0.0088 0.0051

Jupiter -101035-01-22 02:23 J -35181589.49 -35181589.40 -35181589.32 0.0501 0.0415

Neptune -101035-03-16 22:04 J -35181535.70 -35181535.58 -35181535.45 0.0088 0.0055

Neptune -101035-06-12 23:59 J -35181447.60 -35181447.50 -35181447.37 0.0088 0.0060

Neptune -101035-09-09 02:09 J -35181359.50 -35181359.41 -35181359.29 0.0088 0.0064

Neptune -101035-12-06 04:33 J -35181271.41 -35181271.31 -35181271.21 0.0088 0.0068

Venus -101034-01-02 12:28 J -35181244.07 -35181243.98 -35181243.89 0.3782 0.2336

Neptune -101034-03-04 06:28 J -35181183.31 -35181183.23 -35181183.13 0.0088 0.0073

Mars -101034-04-10 03:49 J -35181146.48 -35181146.34 -35181146.20 0.1639 0.0471

Neptune -101034-05-31 08:37 J -35181095.21 -35181095.14 -35181095.06 0.0088 0.0077

Neptune -101034-08-27 10:33 J -35181007.11 -35181007.06 -35181006.99 0.0088 0.0081

Neptune -101034-11-23 12:42 J -35180919.00 -35180918.97 -35180918.92 0.0088 0.0086

Mars -101033-02-21 03:49 J -35180829.46 -35180829.34 -35180829.22 0.1889 0.0789

Saturn -101032-10-26 03:21 J -35180216.45 -35180216.36 -35180216.26 0.0270 0.0211

Saturn -101031-01-22 17:45 J -35180127.88 -35180127.76 -35180127.62 0.0270 0.0135

Mars -101031-01-27 07:11 J -35180123.25 -35180123.20 -35180123.16 0.1874 0.1742

Saturn -101031-04-21 08:09 J -35180039.31 -35180039.16 -35180039.01 0.0270 0.0059

Saturn -101031-07-18 22:04 J -35179950.73 -35179950.58 -35179950.43 0.0270 0.0014

Saturn -101031-10-15 11:45 J -35179862.15 -35179862.01 -35179861.87 0.0270 0.0087

Saturn -101030-01-12 01:11 J -35179773.57 -35179773.45 -35179773.33 0.0270 0.0158

Saturn -101030-04-10 14:23 J -35179684.97 -35179684.90 -35179684.82 0.0271 0.0228

Jupiter -101030-12-25 07:54 J -35179426.27 -35179426.17 -35179426.07 0.0521 0.0401

Jupiter -101029-03-24 02:52 J -35179336.52 -35179336.38 -35179336.23 0.0525 0.0146

Venus -101029-07-18 07:25 J -35179220.30 -35179220.19 -35179220.09 0.3779 0.1253

Mars -101025-08-30 09:49 J -35177716.23 -35177716.09 -35177715.94 0.1636 0.0038

Mars -101024-07-13 08:23 J -35177399.23 -35177399.15 -35177399.07 0.1892 0.1457

Jupiter -101024-08-12 13:11 J -35177369.09 -35177368.95 -35177368.81 0.0505 0.0183

Jupiter -101024-11-10 03:49 J -35177279.46 -35177279.34 -35177279.21 0.0502 0.0294

Venus -101023-02-01 02:37 J -35177196.51 -35177196.39 -35177196.28 0.3776 0.0202

Earth -101023-07-03 11:16 J -35177044.14 -35177044.03 -35177043.91 0.2665 0.0777

Moon -101023-07-03 12:13 J -35177044.10 -35177043.99 -35177043.88 0.2666 0.0905 *

Mars -101022-06-19 12:42 J -35176693.07 -35176692.97 -35176692.87 0.1879 0.1155

Earth -101020-12-19 02:23 J -35175779.52 -35175779.40 -35175779.29 0.2683 0.1472

Moon -101020-12-19 02:52 J -35175779.50 -35175779.38 -35175779.26 0.2677 0.1353 *

Venus -101019-01-31 10:04 J -35175736.16 -35175736.08 -35175736.01 0.3596 0.2905

Venus -101018-08-17 21:49 J -35175172.70 -35175172.59 -35175172.48 0.3773 0.1022

Jupiter -101017-01-11 04:33 J -35175026.47 -35175026.31 -35175026.16 0.0524 0.0023

Saturn -101017-05-11 10:18 J -35174905.15 -35174905.07 -35174904.98 0.0290 0.0236

Saturn -101017-08-08 03:21 J -35174816.49 -35174816.36 -35174816.22 0.0290 0.0145

Saturn -101017-11-04 20:37 J -35174727.79 -35174727.64 -35174727.48 0.0290 0.0052

Saturn -101016-02-01 14:23 J -35174639.06 -35174638.90 -35174638.74 0.0289 0.0043

Saturn -101016-05-01 08:23 J -35174550.29 -35174550.15 -35174550.01 0.0289 0.0140

Moon -101016-06-26 04:04 J -35174494.37 -35174494.33 -35174494.29 0.2656 0.2516

Earth -101016-06-26 04:47 J -35174494.34 -35174494.30 -35174494.26 0.2652 0.2495 *

Saturn -101016-07-29 02:52 J -35174461.47 -35174461.38 -35174461.29 0.0289 0.0239

Mars -101015-01-20 16:18 J -35174285.96 -35174285.82 -35174285.68 0.1634 0.0428

Venus -101014-08-17 09:35 J -35173712.22 -35173712.10 -35173711.97 0.3599 0.1443

Mars -101014-12-27 16:47 J -35173579.86 -35173579.80 -35173579.74 0.1644 0.1471

Mars -101013-11-08 18:28 J -35173262.86 -35173262.73 -35173262.61 0.1882 0.0561

Venus -101012-03-02 17:30 J -35173148.86 -35173148.77 -35173148.68 0.3769 0.2217

Jupiter -101012-05-31 15:21 J -35173058.98 -35173058.86 -35173058.74 0.0506 0.0300

Jupiter -101012-08-29 05:30 J -35172969.41 -35172969.27 -35172969.12 0.0503 0.0174

Earth -101010-07-06 06:57 J -35172293.29 -35172293.21 -35172293.13 0.2670 0.1911

Moon -101010-07-06 07:40 J -35172293.26 -35172293.18 -35172293.10 0.2667 0.1979 *

Venus -101008-03-02 08:52 J -35171688.26 -35171688.13 -35171688.00 0.3602 0.0047

Venus -101007-09-16 13:11 J -35171124.99 -35171124.95 -35171124.90 0.3765 0.3440

Moon -101007-12-22 03:35 J -35171028.49 -35171028.35 -35171028.21 0.2672 0.0121

Earth -101007-12-22 03:49 J -35171028.48 -35171028.34 -35171028.20 0.2678 0.0191 *

Mars -101006-06-12 22:47 J -35170855.67 -35170855.55 -35170855.42 0.1632 0.0859

Jupiter -101006-10-30 05:30 J -35170716.42 -35170716.27 -35170716.12 0.0523 0.0116

Jupiter -101005-01-27 23:45 J -35170626.60 -35170626.51 -35170626.43 0.0526 0.0421

Mars -101004-05-18 22:18 J -35170149.68 -35170149.57 -35170149.45 0.1642 0.0992

Mars -101003-03-31 23:16 J -35169832.66 -35169832.53 -35169832.40 0.1885 0.0100

Earth -101003-06-29 00:42 J -35169743.57 -35169743.47 -35169743.36 0.2656 0.1311

Moon -101003-06-29 00:57 J -35169743.56 -35169743.46 -35169743.36 0.2664 0.1375 *

Venus -101003-09-16 07:40 J -35169664.30 -35169664.18 -35169664.05 0.3606 0.1305

Saturn -101002-03-15 04:47 J -35169484.38 -35169484.30 -35169484.23 0.0270 0.0234

Saturn -101002-06-11 19:11 J -35169395.82 -35169395.70 -35169395.57 0.0270 0.0158

Saturn -101002-09-08 09:35 J -35169307.24 -35169307.10 -35169306.95 0.0270 0.0082

Saturn -101002-12-05 23:45 J -35169218.67 -35169218.51 -35169218.36 0.0270 0.0010

Saturn -101001-03-03 13:25 J -35169130.08 -35169129.94 -35169129.79 0.0271 0.0065

Saturn -101001-05-31 02:52 J -35169041.50 -35169041.38 -35169041.25 0.0271 0.0138

Saturn -101001-08-27 16:18 J -35168952.91 -35168952.82 -35168952.73 0.0271 0.0208

101ST MILLENNIUM BCE

This is a list of transits of Mercury in the 101st millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Jupiter -101000-03-19 17:01 J -35168748.87 -35168748.79 -35168748.71 0.0507 0.0422

Jupiter -101000-06-17 06:57 J -35168659.36 -35168659.21 -35168659.06 0.0504 0.0048

Venus -100997-04-01 06:13 J -35167640.33 -35167640.24 -35167640.15 0.3609 0.2585

Mars -100997-11-02 05:45 J -35167425.34 -35167425.26 -35167425.17 0.1630 0.1273

Uranus -100996-07-21 14:37 J -35167163.94 -35167163.89 -35167163.82 0.0144 0.0132

Uranus -100996-10-17 20:09 J -35167075.76 -35167075.66 -35167075.56 0.0144 0.0111

Uranus -100995-01-14 01:40 J -35166987.56 -35166987.43 -35166987.31 0.0145 0.0089

Uranus -100995-04-12 06:57 J -35166899.34 -35166899.21 -35166899.06 0.0145 0.0067

Uranus -100995-07-09 12:28 J -35166811.12 -35166810.98 -35166810.82 0.0145 0.0045

Uranus -100995-10-05 18:13 J -35166722.90 -35166722.74 -35166722.58 0.0145 0.0022

Mars -100995-10-09 04:18 J -35166719.46 -35166719.32 -35166719.18 0.1639 0.0526

Uranus -100994-01-01 23:59 J -35166634.66 -35166634.50 -35166634.34 0.0145 0.0003

Uranus -100994-03-31 05:30 J -35166546.42 -35166546.27 -35166546.11 0.0145 0.0024

Uranus -100994-06-27 11:16 J -35166458.18 -35166458.03 -35166457.87 0.0145 0.0048

Jupiter -100994-08-18 05:59 J -35166406.38 -35166406.25 -35166406.11 0.0522 0.0255

Mars -100994-08-22 04:18 J -35166402.44 -35166402.32 -35166402.20 0.1889 0.0723

Uranus -100994-09-23 17:01 J -35166369.92 -35166369.79 -35166369.64 0.0145 0.0071

Jupiter -100994-11-16 00:42 J -35166316.60 -35166316.47 -35166316.35 0.0525 0.0286

Uranus -100994-12-20 23:01 J -35166281.66 -35166281.54 -35166281.41 0.0146 0.0095

Moon -100994-12-25 04:47 J -35166277.41 -35166277.30 -35166277.20 0.2669 0.1703

Earth -100994-12-25 05:45 J -35166277.36 -35166277.26 -35166277.16 0.2673 0.1853 *

Uranus -100993-03-18 05:01 J -35166193.38 -35166193.29 -35166193.20 0.0146 0.0119

Uranus -100993-06-14 11:01 J -35166105.06 -35166105.04 -35166105.01 0.0146 0.0143

Mars -100992-07-28 07:11 J -35165696.23 -35165696.20 -35165696.17 0.1875 0.1795

Earth -100990-07-01 20:37 J -35164992.76 -35164992.64 -35164992.52 0.2661 0.0155

Moon -100990-07-01 21:21 J -35164992.73 -35164992.61 -35164992.49 0.2665 0.0044 *

Jupiter -100988-04-05 09:06 J -35164349.27 -35164349.12 -35164348.97 0.0505 0.0069

Jupiter -100988-07-03 23:59 J -35164259.58 -35164259.50 -35164259.41 0.0501 0.0411

Saturn -100988-09-28 12:42 J -35164173.04 -35164172.97 -35164172.89 0.0290 0.0253

Saturn -100988-12-26 05:45 J -35164084.39 -35164084.26 -35164084.13 0.0289 0.0163

Saturn -100987-03-24 23:01 J -35163995.69 -35163995.54 -35163995.39 0.0289 0.0070

Saturn -100987-06-21 16:33 J -35163906.97 -35163906.81 -35163906.65 0.0289 0.0025

Saturn -100987-09-18 10:33 J -35163818.20 -35163818.06 -35163817.91 0.0289 0.0121

Saturn -100987-12-16 04:47 J -35163729.40 -35163729.30 -35163729.19 0.0289 0.0220

Moon -100987-12-17 07:54 J -35163728.21 -35163728.17 -35163728.13 0.2684 0.2569

Mars -100985-02-29 10:18 J -35163289.21 -35163289.07 -35163288.93 0.1636 0.0068

Mars -100984-01-11 08:37 J -35162972.23 -35162972.14 -35162972.06 0.1891 0.1400

Venus -100983-01-23 16:04 J -35162594.89 -35162594.83 -35162594.76 0.3784 0.3040

Mars -100983-12-18 12:57 J -35162266.05 -35162265.96 -35162265.86 0.1879 0.1219

Jupiter -100982-06-06 05:45 J -35162096.36 -35162096.26 -35162096.17 0.0521 0.0405

Jupiter -100982-09-04 00:42 J -35162006.61 -35162006.47 -35162006.32 0.0525 0.0142

Venus -100978-08-09 10:47 J -35160571.15 -35160571.05 -35160570.96 0.3782 0.1985

Earth -100977-07-03 16:33 J -35160241.92 -35160241.81 -35160241.70 0.2666 0.1017

Moon -100977-07-03 17:16 J -35160241.89 -35160241.78 -35160241.67 0.2666 0.1052 *

Jupiter -100976-01-22 11:45 J -35160039.15 -35160039.01 -35160038.87 0.0505 0.0180

Jupiter -100976-04-22 02:23 J -35159949.52 -35159949.40 -35159949.28 0.0502 0.0296

Mars -100976-07-21 16:33 J -35159858.95 -35159858.81 -35159858.67 0.1634 0.0379

Mars -100974-06-27 17:16 J -35159152.83 -35159152.78 -35159152.73 0.1644 0.1529

Earth -100974-12-20 08:09 J -35158977.28 -35158977.16 -35158977.03 0.2683 0.1147

Moon -100974-12-20 08:37 J -35158977.26 -35158977.14 -35158977.01 0.2676 0.1168 *

Mars -100973-05-09 18:28 J -35158835.86 -35158835.73 -35158835.61 0.1882 0.0607

Saturn -100973-08-01 06:42 J -35158752.27 -35158752.22 -35158752.16 0.0269 0.0253

Saturn -100973-10-28 21:21 J -35158663.72 -35158663.61 -35158663.49 0.0270 0.0176

Saturn -100972-01-25 11:45 J -35158575.15 -35158575.01 -35158574.87 0.0270 0.0101

Venus -100972-02-22 05:45 J -35158547.37 -35158547.26 -35158547.15 0.3778 0.0887

Saturn -100972-04-24 01:40 J -35158486.58 -35158486.43 -35158486.27 0.0270 0.0028

Saturn -100972-07-21 15:35 J -35158398.00 -35158397.85 -35158397.70 0.0270 0.0047

Saturn -100972-10-18 05:01 J -35158309.42 -35158309.29 -35158309.15 0.0270 0.0119

Saturn -100971-01-14 18:28 J -35158220.83 -35158220.73 -35158220.62 0.0270 0.0190

Saturn -100971-04-13 07:40 J -35158132.22 -35158132.18 -35158132.14 0.0271 0.0259

Jupiter -100970-06-23 02:09 J -35157696.56 -35157696.41 -35157696.26 0.0524 0.0012

Moon -100970-06-27 09:21 J -35157692.16 -35157692.11 -35157692.05 0.2658 0.2323

Earth -100970-06-27 09:49 J -35157692.15 -35157692.09 -35157692.03 0.2652 0.2247 *

Venus -100967-09-08 00:57 J -35156523.58 -35156523.46 -35156523.35 0.3775 0.0252

Mars -100967-12-11 23:16 J -35156428.66 -35156428.53 -35156428.41 0.1632 0.0810

Jupiter -100965-11-10 13:54 J -35155729.04 -35155728.92 -35155728.80 0.0506 0.0295

Mars -100965-11-16 22:47 J -35155722.66 -35155722.55 -35155722.44 0.1641 0.1048

Jupiter -100964-02-08 04:04 J -35155639.47 -35155639.33 -35155639.18 0.0503 0.0178

Earth -100964-07-06 11:59 J -35155491.06 -35155491.00 -35155490.93 0.2671 0.2155

Moon -100964-07-06 12:42 J -35155491.04 -35155490.97 -35155490.91 0.2666 0.2225 *

Mars -100964-09-29 23:45 J -35155405.64 -35155405.51 -35155405.39 0.1886 0.0071

Venus -100963-09-07 09:35 J -35155063.20 -35155063.10 -35155063.00 0.3597 0.2422

Venus -100961-03-23 20:23 J -35154499.76 -35154499.65 -35154499.55 0.3772 0.1402

Moon -100961-12-22 09:06 J -35154226.26 -35154226.12 -35154225.98 0.2671 0.0491

Earth -100961-12-22 09:49 J -35154226.23 -35154226.09 -35154225.95 0.2677 0.0506 *

Neptune -100960-06-06 22:04 J -35154059.60 -35154059.58 -35154059.53 0.0089 0.0086

Neptune -100960-09-02 23:45 J -35153971.55 -35153971.51 -35153971.43 0.0089 0.0082

Neptune -100960-11-30 02:09 J -35153883.48 -35153883.41 -35153883.34 0.0089 0.0077

Neptune -100959-02-26 03:49 J -35153795.41 -35153795.34 -35153795.25 0.0089 0.0073

Neptune -100959-05-25 05:45 J -35153707.34 -35153707.26 -35153707.16 0.0089 0.0069

Neptune -100959-08-21 07:54 J -35153619.27 -35153619.17 -35153619.07 0.0089 0.0064

Neptune -100959-11-17 09:35 J -35153531.20 -35153531.10 -35153530.98 0.0089 0.0060

Neptune -100958-02-13 11:30 J -35153443.13 -35153443.02 -35153442.89 0.0089 0.0056

Saturn -100958-02-15 11:59 J -35153441.01 -35153441.00 -35153440.99 0.0290 0.0288

Jupiter -100958-04-11 03:35 J -35153386.50 -35153386.35 -35153386.20 0.0523 0.0119

Neptune -100958-05-12 13:40 J -35153355.05 -35153354.93 -35153354.80 0.0089 0.0051

Saturn -100958-05-15 04:47 J -35153352.41 -35153352.30 -35153352.19 0.0290 0.0199

Jupiter -100958-07-09 21:49 J -35153296.68 -35153296.59 -35153296.50 0.0527 0.0420

Neptune -100958-08-08 15:35 J -35153266.97 -35153266.85 -35153266.72 0.0089 0.0047

Saturn -100958-08-11 21:49 J -35153263.74 -35153263.59 -35153263.45 0.0290 0.0107

Neptune -100958-11-04 17:45 J -35153178.90 -35153178.76 -35153178.63 0.0089 0.0042

Saturn -100958-11-08 15:21 J -35153175.02 -35153174.86 -35153174.71 0.0290 0.0015

Neptune -100957-01-31 19:25 J -35153090.82 -35153090.69 -35153090.54 0.0089 0.0038

Saturn -100957-02-05 09:06 J -35153086.27 -35153086.12 -35153085.97 0.0289 0.0083

Venus -100957-03-23 09:06 J -35153039.24 -35153039.12 -35153038.99 0.3600 0.0989

Neptune -100957-04-28 21:21 J -35153002.74 -35153002.61 -35153002.45 0.0089 0.0034

Mars -100957-05-03 05:59 J -35152998.34 -35152998.25 -35152998.15 0.1630 0.1226

Saturn -100957-05-04 03:06 J -35152997.49 -35152997.37 -35152997.24 0.0289 0.0181

Moon -100957-06-29 05:59 J -35152941.36 -35152941.25 -35152941.14 0.2664 0.0997

Earth -100957-06-29 05:59 J -35152941.36 -35152941.25 -35152941.14 0.2657 0.1062 *

Neptune -100957-07-25 23:30 J -35152914.66 -35152914.52 -35152914.37 0.0089 0.0029

Saturn -100957-07-31 21:49 J -35152908.63 -35152908.59 -35152908.55 0.0289 0.0280

Neptune -100957-10-22 01:25 J -35152826.58 -35152826.44 -35152826.28 0.0089 0.0025

Uranus -100957-12-17 08:52 J -35152770.19 -35152770.13 -35152770.06 0.0135 0.0122

Neptune -100956-01-18 03:35 J -35152738.50 -35152738.35 -35152738.19 0.0089 0.0020

Uranus -100956-03-15 13:25 J -35152682.03 -35152681.94 -35152681.83 0.0134 0.0104

Neptune -100956-04-16 05:45 J -35152650.41 -35152650.26 -35152650.11 0.0089 0.0015

Uranus -100956-06-11 17:59 J -35152593.86 -35152593.75 -35152593.62 0.0134 0.0086

Neptune -100956-07-13 07:40 J -35152562.33 -35152562.18 -35152562.02 0.0089 0.0011

Uranus -100956-09-07 22:33 J -35152505.68 -35152505.56 -35152505.41 0.0134 0.0068

Venus -100956-10-07 16:04 J -35152475.92 -35152475.83 -35152475.75 0.3768 0.2597

Neptune -100956-10-09 09:49 J -35152474.24 -35152474.09 -35152473.93 0.0089 0.0006

Uranus -100956-12-05 03:21 J -35152417.51 -35152417.36 -35152417.22 0.0134 0.0049

Neptune -100955-01-05 11:59 J -35152386.16 -35152386.00 -35152385.85 0.0089 0.0002

Uranus -100955-03-03 07:40 J -35152329.33 -35152329.18 -35152329.02 0.0134 0.0032

Neptune -100955-04-03 13:54 J -35152298.07 -35152297.92 -35152297.76 0.0089 0.0004

Mars -100955-04-09 04:33 J -35152292.45 -35152292.31 -35152292.18 0.1639 0.0575

Uranus -100955-05-30 12:13 J -35152241.15 -35152240.99 -35152240.84 0.0134 0.0014

Neptune -100955-06-30 16:04 J -35152209.98 -35152209.83 -35152209.67 0.0089 0.0008

Uranus -100955-08-26 16:33 J -35152152.96 -35152152.81 -35152152.65 0.0134 0.0004

Neptune -100955-09-26 17:59 J -35152121.90 -35152121.75 -35152121.59 0.0089 0.0013

Uranus -100955-11-22 20:52 J -35152064.78 -35152064.63 -35152064.48 0.0134 0.0021

Neptune -100955-12-23 20:23 J -35152033.81 -35152033.65 -35152033.50 0.0089 0.0017

Uranus -100954-02-19 01:11 J -35151976.60 -35151976.45 -35151976.30 0.0134 0.0038

Mars -100954-02-20 04:33 J -35151975.43 -35151975.31 -35151975.19 0.1889 0.0664

Neptune -100954-03-21 22:18 J -35151945.72 -35151945.57 -35151945.41 0.0089 0.0022

Uranus -100954-05-18 05:16 J -35151888.41 -35151888.28 -35151888.13 0.0133 0.0055

Neptune -100954-06-18 00:28 J -35151857.63 -35151857.48 -35151857.33 0.0089 0.0027

Uranus -100954-08-14 09:35 J -35151800.22 -35151800.10 -35151799.97 0.0133 0.0072

Neptune -100954-09-14 02:37 J -35151769.53 -35151769.39 -35151769.24 0.0089 0.0031

Uranus -100954-11-10 13:40 J -35151712.03 -35151711.93 -35151711.81 0.0133 0.0089

Neptune -100954-12-11 04:47 J -35151681.44 -35151681.30 -35151681.15 0.0089 0.0036

Uranus -100953-02-06 17:45 J -35151623.84 -35151623.76 -35151623.66 0.0133 0.0105

Neptune -100953-03-08 06:42 J -35151593.35 -35151593.22 -35151593.07 0.0089 0.0041

Uranus -100953-05-04 21:49 J -35151535.64 -35151535.59 -35151535.52 0.0133 0.0121

Neptune -100953-06-04 08:52 J -35151505.25 -35151505.13 -35151504.98 0.0089 0.0046

Jupiter -100953-08-29 16:04 J -35151418.91 -35151418.83 -35151418.74 0.0507 0.0411

Neptune -100953-08-31 11:16 J -35151417.16 -35151417.03 -35151416.90 0.0089 0.0050

Jupiter -100953-11-27 05:59 J -35151329.40 -35151329.25 -35151329.10 0.0503 0.0058

Neptune -100953-11-27 13:25 J -35151329.06 -35151328.94 -35151328.81 0.0089 0.0055

Mars -100952-01-26 07:25 J -35151269.20 -35151269.19 -35151269.17 0.1875 0.1852

Neptune -100952-02-23 15:35 J -35151240.96 -35151240.85 -35151240.73 0.0089 0.0060

Neptune -100952-05-22 17:45 J -35151152.86 -35151152.76 -35151152.64 0.0089 0.0065

Neptune -100952-08-18 19:54 J -35151064.75 -35151064.67 -35151064.56 0.0089 0.0070

Venus -100952-10-07 08:23 J -35151015.28 -35151015.15 -35151015.02 0.3603 0.0401

Neptune -100952-11-14 22:04 J -35150976.65 -35150976.58 -35150976.48 0.0089 0.0075

Neptune -100951-02-11 00:42 J -35150888.54 -35150888.47 -35150888.40 0.0089 0.0079

Neptune -100951-05-10 02:52 J -35150800.42 -35150800.38 -35150800.33 0.0089 0.0084

Moon -100948-12-25 10:33 J -35149475.14 -35149475.06 -35149474.97 0.2669 0.2102

Earth -100948-12-25 11:45 J -35149475.09 -35149475.01 -35149474.93 0.2672 0.2199 *

Jupiter -100946-01-28 04:33 J -35149076.44 -35149076.31 -35149076.17 0.0522 0.0250

Venus -100946-04-23 07:11 J -35148991.32 -35148991.20 -35148991.09 0.3606 0.1722

Jupiter -100946-04-27 23:16 J -35148986.65 -35148986.53 -35148986.41 0.0526 0.0291

Mars -100946-08-30 10:33 J -35148862.20 -35148862.06 -35148861.91 0.1636 0.0124

Mars -100945-07-12 08:52 J -35148545.23 -35148545.13 -35148545.04 0.1892 0.1342

Earth -100944-07-02 01:54 J -35148190.54 -35148190.42 -35148190.30 0.2662 0.0139

Moon -100944-07-02 02:37 J -35148190.51 -35148190.39 -35148190.27 0.2665 0.0121 *

Saturn -100943-03-17 22:18 J -35147931.67 -35147931.57 -35147931.47 0.0270 0.0202

Saturn -100943-06-14 12:42 J -35147843.10 -35147842.97 -35147842.83 0.0270 0.0126

Mars -100943-06-18 13:11 J -35147839.04 -35147838.95 -35147838.86 0.1878 0.1271

Saturn -100943-09-11 02:52 J -35147754.53 -35147754.38 -35147754.23 0.0270 0.0051

Saturn -100943-12-08 16:47 J -35147665.95 -35147665.80 -35147665.65 0.0270 0.0023

Saturn -100942-03-07 06:28 J -35147577.37 -35147577.23 -35147577.09 0.0271 0.0096

Saturn -100942-06-03 19:54 J -35147488.78 -35147488.67 -35147488.55 0.0271 0.0167

Saturn -100942-08-31 09:06 J -35147400.18 -35147400.12 -35147400.05 0.0271 0.0237

Jupiter -100941-09-15 07:25 J -35147019.34 -35147019.19 -35147019.04 0.0504 0.0067

Venus -100941-11-06 05:30 J -35146967.34 -35146967.27 -35146967.20 0.3610 0.2985

Jupiter -100941-12-13 22:33 J -35146929.65 -35146929.56 -35146929.48 0.0501 0.0412

Earth -100941-12-17 12:42 J -35146926.02 -35146925.97 -35146925.91 0.2687 0.2434

Moon -100941-12-17 13:40 J -35146925.99 -35146925.93 -35146925.87 0.2682 0.2427 *

Mars -100936-01-19 17:01 J -35145431.93 -35145431.79 -35145431.65 0.1634 0.0325

Jupiter -100935-11-16 05:01 J -35144766.39 -35144766.29 -35144766.19 0.0521 0.0390

Mars -100935-12-26 17:45 J -35144725.80 -35144725.76 -35144725.73 0.1644 0.1588

Jupiter -100934-02-14 00:13 J -35144676.64 -35144676.49 -35144676.35 0.0525 0.0156

Mars -100934-11-08 18:42 J -35144408.84 -35144408.72 -35144408.60 0.1882 0.0669

Venus -100932-02-13 19:40 J -35143945.69 -35143945.68 -35143945.66 0.3786 0.3727

Earth -100931-07-04 21:35 J -35143439.71 -35143439.60 -35143439.50 0.2666 0.1254

Moon -100931-07-04 22:18 J -35143439.67 -35143439.57 -35143439.47 0.2666 0.1398 *

Jupiter -100929-07-04 09:49 J -35142709.23 -35142709.09 -35142708.96 0.0505 0.0183

Saturn -100929-10-01 06:42 J -35142620.32 -35142620.22 -35142620.13 0.0290 0.0219

Jupiter -100929-10-02 00:28 J -35142619.61 -35142619.48 -35142619.36 0.0502 0.0295

Saturn -100929-12-28 23:30 J -35142531.66 -35142531.52 -35142531.38 0.0289 0.0128

Saturn -100928-03-27 17:01 J -35142442.95 -35142442.79 -35142442.64 0.0289 0.0034

Saturn -100928-06-24 10:47 J -35142354.21 -35142354.05 -35142353.90 0.0289 0.0062

Saturn -100928-09-21 04:47 J -35142265.43 -35142265.30 -35142265.16 0.0289 0.0159

Saturn -100928-12-18 23:16 J -35142176.60 -35142176.53 -35142176.46 0.0289 0.0258

Earth -100928-12-20 14:09 J -35142175.05 -35142174.91 -35142174.78 0.2682 0.0825

Moon -100928-12-20 14:09 J -35142175.04 -35142174.91 -35142174.77 0.2676 0.0724 *

Mars -100927-06-11 23:30 J -35142001.64 -35142001.52 -35142001.39 0.1632 0.0757

Venus -100927-08-30 14:23 J -35141921.98 -35141921.90 -35141921.83 0.3783 0.2699

Mars -100925-05-17 23:01 J -35141295.64 -35141295.54 -35141295.43 0.1641 0.1103

Mars -100924-03-30 23:45 J -35140978.64 -35140978.51 -35140978.38 0.1886 0.0068

Moon -100924-06-27 14:37 J -35140889.96 -35140889.89 -35140889.81 0.2660 0.2036

Earth -100924-06-27 15:06 J -35140889.95 -35140889.87 -35140889.80 0.2653 0.1999 *

Jupiter -100923-12-03 00:13 J -35140366.65 -35140366.49 -35140366.34 0.0524 0.0015

Venus -100921-03-15 09:06 J -35139898.22 -35139898.12 -35139898.02 0.3781 0.1628

Earth -100918-07-07 17:16 J -35138688.83 -35138688.78 -35138688.73 0.2671 0.2392

Moon -100918-07-07 17:45 J -35138688.81 -35138688.76 -35138688.71 0.2665 0.2389 *

Mars -100918-11-02 06:13 J -35138571.33 -35138571.24 -35138571.14 0.1630 0.1179

Jupiter -100917-04-22 12:28 J -35138399.10 -35138398.98 -35138398.86 0.0506 0.0292

Jupiter -100917-07-21 02:37 J -35138309.53 -35138309.39 -35138309.24 0.0503 0.0182

Venus -100916-09-29 04:04 J -35137874.44 -35137874.33 -35137874.22 0.3777 0.0530

Mars -100916-10-08 04:47 J -35137865.43 -35137865.30 -35137865.16 0.1639 0.0633

Mars -100915-08-21 04:33 J -35137548.43 -35137548.31 -35137548.18 0.1889 0.0612

Moon -100915-12-23 15:06 J -35137424.01 -35137423.87 -35137423.74 0.2671 0.0714

Earth -100915-12-23 15:35 J -35137423.98 -35137423.85 -35137423.71 0.2677 0.0847 *

Saturn -100914-08-05 00:13 J -35137199.57 -35137199.49 -35137199.39 0.0269 0.0221

Saturn -100914-11-01 14:52 J -35137111.01 -35137110.88 -35137110.75 0.0270 0.0144

Saturn -100913-01-29 05:01 J -35137022.43 -35137022.29 -35137022.14 0.0270 0.0070

Saturn -100913-04-26 19:11 J -35136933.85 -35136933.70 -35136933.55 0.0270 0.0006

Saturn -100913-07-24 08:52 J -35136845.27 -35136845.13 -35136844.99 0.0270 0.0078

Saturn -100913-10-20 22:18 J -35136756.69 -35136756.57 -35136756.45 0.0270 0.0149

Saturn -100912-01-17 11:30 J -35136668.10 -35136668.02 -35136667.93 0.0270 0.0219

Uranus -100912-08-10 22:04 J -35136462.64 -35136462.58 -35136462.50 0.0144 0.0127

Venus -100912-09-28 09:21 J -35136414.15 -35136414.11 -35136414.07 0.3594 0.3428

Uranus -100912-11-07 03:21 J -35136374.45 -35136374.36 -35136374.24 0.0144 0.0106

Uranus -100911-02-03 08:52 J -35136286.25 -35136286.13 -35136285.99 0.0145 0.0084

Uranus -100911-05-02 14:37 J -35136198.04 -35136197.89 -35136197.75 0.0145 0.0061

Earth -100911-06-30 11:01 J -35136139.15 -35136139.04 -35136138.92 0.2658 0.0815

Moon -100911-06-30 11:16 J -35136139.14 -35136139.03 -35136138.92 0.2664 0.0831 *

Uranus -100911-07-29 19:54 J -35136109.81 -35136109.67 -35136109.51 0.0145 0.0039

Jupiter -100911-09-21 01:11 J -35136056.59 -35136056.45 -35136056.30 0.0523 0.0124

Uranus -100911-10-26 01:40 J -35136021.59 -35136021.43 -35136021.27 0.0145 0.0016

Jupiter -100911-12-19 19:40 J -35135966.77 -35135966.68 -35135966.59 0.0527 0.0415

Uranus -100910-01-22 07:25 J -35135933.35 -35135933.19 -35135933.03 0.0145 0.0007

Venus -100910-04-14 23:16 J -35135850.64 -35135850.53 -35135850.41 0.3774 0.0620

Uranus -100910-04-20 12:57 J -35135845.11 -35135844.96 -35135844.80 0.0145 0.0030

Uranus -100910-07-17 18:42 J -35135756.86 -35135756.72 -35135756.56 0.0145 0.0054

Uranus -100910-10-14 00:28 J -35135668.61 -35135668.48 -35135668.33 0.0145 0.0077

Uranus -100909-01-10 06:28 J -35135580.34 -35135580.23 -35135580.11 0.0146 0.0101

Uranus -100909-04-07 12:28 J -35135492.06 -35135491.98 -35135491.89 0.0146 0.0125

Mars -100908-03-24 13:25 J -35135140.97 -35135140.94 -35135140.92 0.1628 0.1589

Mars -100906-02-28 10:47 J -35134435.19 -35134435.05 -35134434.90 0.1636 0.0174

Venus -100906-04-14 09:21 J -35134390.22 -35134390.11 -35134390.00 0.3597 0.1947

Mars -100905-01-11 09:06 J -35134118.22 -35134118.12 -35134118.02 0.1892 0.1279

Jupiter -100905-02-09 14:37 J -35134088.97 -35134088.89 -35134088.80 0.0507 0.0406

Jupiter -100905-05-09 04:47 J -35133999.45 -35133999.30 -35133999.15 0.0503 0.0065

Venus -100905-10-28 18:57 J -35133826.81 -35133826.71 -35133826.61 0.3770 0.1780

Mars -100904-12-17 13:25 J -35133412.03 -35133411.94 -35133411.85 0.1879 0.1325

Moon -100902-12-26 16:18 J -35132672.87 -35132672.82 -35132672.76 0.2671 0.2440

Earth -100902-12-26 17:45 J -35132672.80 -35132672.76 -35132672.72 0.2671 0.2540 *

Venus -100901-10-28 08:37 J -35132366.27 -35132366.14 -35132366.00 0.3600 0.0546

Saturn -100899-02-18 05:16 J -35131888.34 -35131888.28 -35131888.20 0.0290 0.0256

Venus -100899-05-14 14:37 J -35131802.96 -35131802.89 -35131802.82 0.3767 0.2982

Saturn -100899-05-17 22:04 J -35131799.70 -35131799.58 -35131799.44 0.0290 0.0166

Jupiter -100899-07-10 02:37 J -35131746.52 -35131746.39 -35131746.26 0.0522 0.0253

Saturn -100899-08-14 15:35 J -35131711.01 -35131710.85 -35131710.70 0.0290 0.0073

Jupiter -100899-10-07 21:21 J -35131656.73 -35131656.61 -35131656.49 0.0526 0.0290

Saturn -100899-11-11 09:06 J -35131622.28 -35131622.12 -35131621.96 0.0289 0.0022

Pluto -100899-12-07 00:28 J -35131596.54 -35131596.48 -35131596.38 0.0060 0.0055

Saturn -100898-02-08 02:52 J -35131533.52 -35131533.38 -35131533.23 0.0289 0.0119

Pluto -100898-03-05 01:54 J -35131508.52 -35131508.42 -35131508.28 0.0060 0.0048

Saturn -100898-05-07 21:21 J -35131444.71 -35131444.61 -35131444.50 0.0289 0.0217

Pluto -100898-06-01 03:35 J -35131420.48 -35131420.35 -35131420.19 0.0060 0.0040

Earth -100898-07-03 06:57 J -35131388.33 -35131388.21 -35131388.09 0.2662 0.0350

Moon -100898-07-03 07:40 J -35131388.29 -35131388.18 -35131388.06 0.2666 0.0499 *

Pluto -100898-08-28 05:01 J -35131332.44 -35131332.29 -35131332.11 0.0060 0.0033

Pluto -100898-11-24 06:57 J -35131244.39 -35131244.21 -35131244.03 0.0060 0.0026

Pluto -100897-02-20 08:23 J -35131156.34 -35131156.15 -35131155.96 0.0060 0.0019

Pluto -100897-05-18 09:49 J -35131068.28 -35131068.09 -35131067.89 0.0061 0.0012

Mars -100897-07-20 17:16 J -35131004.92 -35131004.78 -35131004.64 0.1634 0.0275

Pluto -100897-08-14 11:16 J -35130980.22 -35130980.03 -35130979.83 0.0061 0.0005

Pluto -100897-11-10 12:57 J -35130892.16 -35130891.96 -35130891.76 0.0061 0.0003

Pluto -100896-02-06 14:09 J -35130804.09 -35130803.91 -35130803.70 0.0061 0.0011

Pluto -100896-05-05 15:35 J -35130716.02 -35130715.85 -35130715.65 0.0061 0.0018

Pluto -100896-08-01 17:16 J -35130627.95 -35130627.78 -35130627.59 0.0061 0.0025

Pluto -100896-10-28 18:57 J -35130539.87 -35130539.71 -35130539.54 0.0061 0.0032

Pluto -100895-01-24 19:54 J -35130451.79 -35130451.67 -35130451.50 0.0061 0.0040

Pluto -100895-04-22 21:35 J -35130363.70 -35130363.60 -35130363.46 0.0061 0.0048

Venus -100895-05-14 07:54 J -35130342.30 -35130342.17 -35130342.05 0.3604 0.0835

Mars -100895-06-26 17:59 J -35130298.76 -35130298.75 -35130298.74 0.1644 0.1638

Pluto -100895-07-19 22:47 J -35130275.60 -35130275.55 -35130275.43 0.0061 0.0056

Earth -100895-12-18 18:28 J -35130123.81 -35130123.73 -35130123.64 0.2686 0.2113

Moon -100895-12-18 19:25 J -35130123.78 -35130123.69 -35130123.59 0.2681 0.1941 *

Mars -100894-05-09 18:57 J -35129981.83 -35129981.71 -35129981.59 0.1883 0.0726

Jupiter -100893-02-26 06:42 J -35129689.37 -35129689.22 -35129689.07 0.0504 0.0054

Jupiter -100893-05-25 21:35 J -35129599.68 -35129599.60 -35129599.52 0.0501 0.0424

Venus -100890-11-28 06:28 J -35128318.33 -35128318.23 -35128318.13 0.3607 0.2136

Mars -100888-12-10 23:59 J -35127574.63 -35127574.50 -35127574.38 0.1632 0.0708

Jupiter -100887-04-28 03:35 J -35127436.45 -35127436.35 -35127436.24 0.0521 0.0384

Jupiter -100887-07-26 22:47 J -35127346.69 -35127346.55 -35127346.40 0.0525 0.0162

Mars -100886-11-16 23:30 J -35126868.62 -35126868.52 -35126868.42 0.1642 0.1158

Earth -100885-07-05 02:37 J -35126637.49 -35126637.39 -35126637.29 0.2667 0.1500

Moon -100885-07-05 03:21 J -35126637.45 -35126637.36 -35126637.26 0.2665 0.1507 *

Mars -100885-09-29 00:13 J -35126551.62 -35126551.49 -35126551.37 0.1886 0.0122

Saturn -100885-12-22 00:57 J -35126467.52 -35126467.46 -35126467.41 0.0270 0.0248

Saturn -100884-03-20 15:21 J -35126378.97 -35126378.86 -35126378.74 0.0270 0.0172

Venus -100884-06-13 04:47 J -35126294.34 -35126294.30 -35126294.26 0.3611 0.3381

Saturn -100884-06-17 05:45 J -35126290.40 -35126290.26 -35126290.11 0.0270 0.0096

Saturn -100884-09-13 19:54 J -35126201.82 -35126201.67 -35126201.52 0.0270 0.0021

Saturn -100884-12-11 09:35 J -35126113.24 -35126113.10 -35126112.95 0.0270 0.0053

Saturn -100883-03-09 23:16 J -35126024.66 -35126024.53 -35126024.40 0.0270 0.0124

Saturn -100883-06-06 12:42 J -35125936.07 -35125935.97 -35125935.87 0.0271 0.0195

Saturn -100883-09-03 01:40 J -35125847.45 -35125847.43 -35125847.40 0.0271 0.0264

Jupiter -100882-12-15 08:23 J -35125379.29 -35125379.15 -35125379.01 0.0505 0.0177

Moon -100882-12-21 19:54 J -35125372.81 -35125372.67 -35125372.54 0.2675 0.0588

Earth -100882-12-21 19:54 J -35125372.81 -35125372.67 -35125372.53 0.2681 0.0488 *

Jupiter -100881-03-13 23:01 J -35125289.66 -35125289.54 -35125289.42 0.0502 0.0299

Mars -100878-05-03 06:42 J -35124144.32 -35124144.22 -35124144.12 0.1630 0.1130

Moon -100878-06-28 19:54 J -35124087.76 -35124087.67 -35124087.58 0.2660 0.1774

Earth -100878-06-28 20:09 J -35124087.75 -35124087.66 -35124087.57 0.2654 0.1753 *

Neptune -100878-09-16 23:16 J -35124007.54 -35124007.53 -35124007.51 0.0089 0.0088

Neptune -100878-12-14 01:40 J -35123919.48 -35123919.43 -35123919.37 0.0089 0.0083

Neptune -100877-03-11 04:04 J -35123831.40 -35123831.33 -35123831.25 0.0089 0.0078

Neptune -100877-06-07 06:42 J -35123743.31 -35123743.22 -35123743.13 0.0089 0.0073

Neptune -100877-09-03 09:06 J -35123655.22 -35123655.12 -35123655.01 0.0089 0.0068

Neptune -100877-11-30 11:30 J -35123567.13 -35123567.02 -35123566.90 0.0089 0.0063

Neptune -100876-02-26 13:40 J -35123479.04 -35123478.93 -35123478.79 0.0088 0.0058

Mars -100876-04-08 05:16 J -35123438.41 -35123438.28 -35123438.15 0.1639 0.0684

Neptune -100876-05-25 16:04 J -35123390.95 -35123390.83 -35123390.68 0.0088 0.0054

Neptune -100876-08-21 18:28 J -35123302.85 -35123302.73 -35123302.58 0.0088 0.0049

Venus -100876-09-20 17:59 J -35123272.80 -35123272.75 -35123272.70 0.3785 0.3385

Neptune -100876-11-17 20:52 J -35123214.76 -35123214.63 -35123214.47 0.0088 0.0044

Neptune -100875-02-13 23:30 J -35123126.66 -35123126.52 -35123126.37 0.0088 0.0038

Mars -100875-02-19 04:47 J -35123121.42 -35123121.30 -35123121.17 0.1889 0.0552

Neptune -100875-05-13 01:54 J -35123038.57 -35123038.42 -35123038.27 0.0088 0.0033

Jupiter -100875-05-14 23:45 J -35123036.66 -35123036.51 -35123036.36 0.0524 0.0026

Neptune -100875-08-09 04:18 J -35122950.47 -35122950.32 -35122950.16 0.0088 0.0029

Neptune -100875-11-05 06:42 J -35122862.38 -35122862.22 -35122862.06 0.0088 0.0024

Neptune -100874-02-01 09:06 J -35122774.28 -35122774.12 -35122773.96 0.0088 0.0019

Neptune -100874-04-30 11:16 J -35122686.19 -35122686.03 -35122685.87 0.0088 0.0014

Neptune -100874-07-27 13:40 J -35122598.09 -35122597.93 -35122597.77 0.0088 0.0009

Neptune -100874-10-23 16:04 J -35122509.99 -35122509.83 -35122509.67 0.0088 0.0005

Neptune -100873-01-19 18:13 J -35122421.90 -35122421.74 -35122421.58 0.0088 0.0001

Neptune -100873-04-16 20:37 J -35122333.80 -35122333.64 -35122333.48 0.0088 0.0005

Neptune -100873-07-13 22:47 J -35122245.71 -35122245.55 -35122245.39 0.0088 0.0010

Neptune -100873-10-10 00:57 J -35122157.61 -35122157.46 -35122157.30 0.0088 0.0015

Uranus -100873-10-10 11:59 J -35122157.01 -35122157.00 -35122156.98 0.0135 0.0134

Neptune -100872-01-06 03:06 J -35122069.52 -35122069.37 -35122069.20 0.0088 0.0020

Uranus -100872-01-06 16:33 J -35122068.88 -35122068.81 -35122068.72 0.0135 0.0116

Neptune -100872-04-04 05:30 J -35121981.42 -35121981.27 -35121981.11 0.0088 0.0024

Uranus -100872-04-04 21:06 J -35121980.71 -35121980.62 -35121980.50 0.0134 0.0098

Neptune -100872-07-01 07:40 J -35121893.33 -35121893.18 -35121893.03 0.0088 0.0029

Uranus -100872-07-02 01:40 J -35121892.54 -35121892.43 -35121892.29 0.0134 0.0080

Earth -100872-07-07 22:18 J -35121886.59 -35121886.57 -35121886.56 0.2672 0.2628

Neptune -100872-09-27 09:49 J -35121805.23 -35121805.09 -35121804.94 0.0088 0.0033

Uranus -100872-09-28 06:28 J -35121804.37 -35121804.23 -35121804.09 0.0134 0.0061

Neptune -100872-12-24 11:59 J -35121717.14 -35121717.00 -35121716.85 0.0088 0.0038

Uranus -100872-12-25 11:01 J -35121716.19 -35121716.04 -35121715.89 0.0134 0.0043

Neptune -100871-03-22 14:09 J -35121629.04 -35121628.91 -35121628.76 0.0088 0.0043

Uranus -100871-03-23 15:35 J -35121628.01 -35121627.85 -35121627.70 0.0134 0.0025

Neptune -100871-06-18 16:33 J -35121540.95 -35121540.81 -35121540.68 0.0088 0.0047

Uranus -100871-06-19 19:54 J -35121539.82 -35121539.67 -35121539.51 0.0134 0.0008

Neptune -100871-09-14 18:28 J -35121452.85 -35121452.73 -35121452.59 0.0088 0.0052

Uranus -100871-09-16 00:13 J -35121451.64 -35121451.49 -35121451.33 0.0134 0.0010

Neptune -100871-12-11 20:52 J -35121364.75 -35121364.63 -35121364.51 0.0088 0.0056

Uranus -100871-12-13 04:33 J -35121363.46 -35121363.31 -35121363.16 0.0134 0.0027

Neptune -100870-03-09 22:47 J -35121276.66 -35121276.55 -35121276.43 0.0088 0.0061

Uranus -100870-03-11 08:52 J -35121275.27 -35121275.13 -35121274.98 0.0134 0.0044

Venus -100870-04-06 12:42 J -35121249.06 -35121248.97 -35121248.89 0.3783 0.2350

Neptune -100870-06-06 00:57 J -35121188.56 -35121188.46 -35121188.35 0.0088 0.0065

Uranus -100870-06-07 12:57 J -35121187.09 -35121186.96 -35121186.82 0.0133 0.0062

Saturn -100870-07-08 06:57 J -35121156.25 -35121156.21 -35121156.17 0.0290 0.0278

Neptune -100870-09-02 02:52 J -35121100.46 -35121100.38 -35121100.27 0.0088 0.0070

Uranus -100870-09-03 17:16 J -35121098.90 -35121098.78 -35121098.65 0.0133 0.0078

Jupiter -100870-10-03 10:33 J -35121069.17 -35121069.06 -35121068.93 0.0506 0.0292

Saturn -100870-10-04 23:30 J -35121067.63 -35121067.52 -35121067.40 0.0290 0.0189

Neptune -100870-11-29 05:16 J -35121012.36 -35121012.28 -35121012.19 0.0088 0.0074

Uranus -100870-11-30 21:21 J -35121010.71 -35121010.61 -35121010.50 0.0133 0.0095

Jupiter -100869-01-01 00:57 J -35120979.60 -35120979.46 -35120979.32 0.0503 0.0182

Saturn -100869-01-01 16:47 J -35120978.95 -35120978.80 -35120978.65 0.0289 0.0096

Neptune -100869-02-25 06:57 J -35120924.26 -35120924.21 -35120924.12 0.0088 0.0079

Uranus -100869-02-27 01:40 J -35120922.51 -35120922.43 -35120922.35 0.0133 0.0111

Saturn -100869-03-30 10:18 J -35120890.23 -35120890.07 -35120889.91 0.0289 0.0002

Neptune -100869-05-23 09:21 J -35120836.16 -35120836.11 -35120836.05 0.0088 0.0083

Uranus -100869-05-25 05:30 J -35120834.30 -35120834.27 -35120834.22 0.0133 0.0127

Saturn -100869-06-27 04:04 J -35120801.48 -35120801.33 -35120801.18 0.0289 0.0095

Neptune -100869-08-19 11:30 J -35120748.04 -35120748.02 -35120747.99 0.0088 0.0087

Mars -100869-09-22 13:40 J -35120713.97 -35120713.93 -35120713.88 0.1628 0.1537

Saturn -100869-09-23 22:18 J -35120712.69 -35120712.57 -35120712.45 0.0289 0.0193

Moon -100869-12-23 20:52 J -35120621.76 -35120621.63 -35120621.51 0.2671 0.1173

Earth -100869-12-23 21:35 J -35120621.73 -35120621.60 -35120621.48 0.2676 0.1175 *

Mars -100867-08-29 11:16 J -35120008.17 -35120008.03 -35120007.89 0.1636 0.0225

Mars -100866-07-12 09:21 J -35119691.21 -35119691.11 -35119691.01 0.1892 0.1222

Earth -100865-06-30 16:04 J -35119336.94 -35119336.83 -35119336.71 0.2658 0.0577

Moon -100865-06-30 16:33 J -35119336.92 -35119336.81 -35119336.69 0.2664 0.0519 *

Venus -100865-10-20 07:25 J -35119225.29 -35119225.19 -35119225.08 0.3780 0.1272

Mars -100864-06-17 13:40 J -35118985.02 -35118984.93 -35118984.85 0.1879 0.1383

Jupiter -100863-03-02 23:30 J -35118726.67 -35118726.52 -35118726.37 0.0523 0.0122

Jupiter -100863-05-31 17:45 J -35118636.85 -35118636.76 -35118636.67 0.0526 0.0415

Venus -100859-05-06 02:37 J -35117201.51 -35117201.39 -35117201.28 0.3776 0.0211

Jupiter -100858-07-22 13:25 J -35116759.03 -35116758.94 -35116758.85 0.0507 0.0400

Jupiter -100858-10-20 03:21 J -35116669.51 -35116669.36 -35116669.21 0.0504 0.0070

Mars -100857-01-19 17:30 J -35116577.91 -35116577.77 -35116577.62 0.1634 0.0227

Venus -100855-05-05 09:06 J -35115741.19 -35115741.12 -35115741.04 0.3595 0.2940

Saturn -100855-05-11 02:52 J -35115735.39 -35115735.38 -35115735.35 0.0269 0.0267

Saturn -100855-08-07 17:45 J -35115646.87 -35115646.76 -35115646.65 0.0269 0.0190

Saturn -100855-11-04 08:09 J -35115558.30 -35115558.16 -35115558.02 0.0270 0.0114

Mars -100855-11-07 19:11 J -35115554.82 -35115554.70 -35115554.59 0.1882 0.0782

Saturn -100854-01-31 22:18 J -35115469.72 -35115469.57 -35115469.42 0.0270 0.0040

Saturn -100854-04-30 11:59 J -35115381.15 -35115381.00 -35115380.85 0.0270 0.0035

Saturn -100854-07-28 01:40 J -35115292.57 -35115292.43 -35115292.29 0.0270 0.0106

Saturn -100854-10-24 15:06 J -35115203.98 -35115203.87 -35115203.76 0.0270 0.0177

Venus -100854-11-19 21:49 J -35115177.70 -35115177.59 -35115177.48 0.3773 0.0984

Saturn -100853-01-21 04:04 J -35115115.38 -35115115.33 -35115115.27 0.0270 0.0247

Earth -100852-07-03 11:59 J -35114586.12 -35114586.00 -35114585.88 0.2663 0.0595

Moon -100852-07-03 12:42 J -35114586.08 -35114585.97 -35114585.85 0.2666 0.0623 *

Jupiter -100852-12-20 00:28 J -35114416.61 -35114416.48 -35114416.34 0.0522 0.0256

Jupiter -100851-03-19 19:25 J -35114326.82 -35114326.69 -35114326.57 0.0526 0.0287

Venus -100850-11-19 09:06 J -35113717.25 -35113717.12 -35113717.00 0.3598 0.1482

Earth -100849-12-19 00:28 J -35113321.59 -35113321.48 -35113321.38 0.2686 0.1790

Moon -100849-12-19 01:11 J -35113321.56 -35113321.45 -35113321.35 0.2680 0.1776 *

Venus -100848-06-04 17:30 J -35113153.87 -35113153.77 -35113153.68 0.3769 0.2160

Mars -100848-06-10 23:59 J -35113147.63 -35113147.50 -35113147.37 0.1631 0.0663

Mars -100846-05-17 23:45 J -35112441.61 -35112441.51 -35112441.41 0.1641 0.1209

Jupiter -100846-08-08 05:30 J -35112359.42 -35112359.27 -35112359.12 0.0504 0.0047

Jupiter -100846-11-05 20:37 J -35112269.72 -35112269.64 -35112269.57 0.0501 0.0433

Mars -100845-03-30 00:13 J -35112124.62 -35112124.49 -35112124.36 0.1886 0.0154

Venus -100844-06-04 08:09 J -35111693.29 -35111693.16 -35111693.02 0.3602 0.0157

Venus -100843-12-19 13:11 J -35111130.00 -35111129.95 -35111129.90 0.3766 0.3372

Saturn -100840-02-20 22:18 J -35110335.66 -35110335.57 -35110335.47 0.0290 0.0226

Saturn -100840-05-20 15:21 J -35110247.00 -35110246.86 -35110246.72 0.0290 0.0135

Saturn -100840-08-17 08:37 J -35110158.29 -35110158.14 -35110157.98 0.0290 0.0041

Jupiter -100840-10-08 01:40 J -35110106.53 -35110106.43 -35110106.32 0.0521 0.0385

Saturn -100840-11-14 02:23 J -35110069.56 -35110069.40 -35110069.24 0.0289 0.0055

Jupiter -100839-01-05 20:52 J -35110016.77 -35110016.63 -35110016.48 0.0525 0.0162

Saturn -100839-02-10 20:23 J -35109980.78 -35109980.65 -35109980.51 0.0289 0.0152

Saturn -100839-05-10 14:52 J -35109891.96 -35109891.88 -35109891.80 0.0289 0.0251

Earth -100839-07-06 07:40 J -35109835.27 -35109835.18 -35109835.09 0.2668 0.1740

Moon -100839-07-06 08:23 J -35109835.23 -35109835.15 -35109835.06 0.2664 0.1879 *

Mars -100839-11-01 06:57 J -35109717.31 -35109717.21 -35109717.10 0.1630 0.1079

Venus -100839-12-19 07:11 J -35109669.32 -35109669.20 -35109669.07 0.3605 0.1261

Mars -100837-10-07 05:30 J -35109011.40 -35109011.27 -35109011.14 0.1639 0.0736

Mars -100836-08-20 05:16 J -35108694.41 -35108694.28 -35108694.15 0.1889 0.0485

Moon -100836-12-22 01:25 J -35108570.58 -35108570.44 -35108570.29 0.2674 0.0121

Earth -100836-12-22 01:54 J -35108570.56 -35108570.42 -35108570.29 0.2681 0.0176 *

Jupiter -100834-05-27 07:40 J -35108049.32 -35108049.18 -35108049.04 0.0505 0.0163

Jupiter -100834-08-24 22:18 J -35107959.69 -35107959.57 -35107959.45 0.0502 0.0313

Venus -100833-07-04 05:45 J -35107645.35 -35107645.26 -35107645.17 0.3609 0.2541

Moon -100832-06-29 01:11 J -35107285.55 -35107285.45 -35107285.35 0.2661 0.1549

Earth -100832-06-29 01:11 J -35107285.54 -35107285.45 -35107285.35 0.2654 0.1505 *

Mars -100829-03-23 13:54 J -35106286.97 -35106286.92 -35106286.86 0.1628 0.1490

Uranus -100828-06-03 23:59 J -35105849.51 -35105849.50 -35105849.48 0.0144 0.0143

Jupiter -100828-07-27 02:52 J -35105796.40 -35105796.38 -35105796.36 0.0520 0.0516

Uranus -100828-08-31 05:30 J -35105761.35 -35105761.27 -35105761.19 0.0144 0.0122

Jupiter -100828-10-24 22:33 J -35105706.71 -35105706.56 -35105706.41 0.0524 0.0034

Uranus -100828-11-27 10:33 J -35105673.16 -35105673.06 -35105672.94 0.0145 0.0101

Uranus -100827-02-23 16:04 J -35105584.95 -35105584.83 -35105584.69 0.0145 0.0079

Mars -100827-02-27 11:45 J -35105581.16 -35105581.01 -35105580.87 0.1636 0.0281

Uranus -100827-05-22 21:49 J -35105496.74 -35105496.59 -35105496.45 0.0145 0.0056

Uranus -100827-08-19 03:06 J -35105408.52 -35105408.37 -35105408.21 0.0145 0.0034

Uranus -100827-11-15 08:52 J -35105320.29 -35105320.13 -35105319.97 0.0145 0.0011

Mars -100826-01-10 09:35 J -35105264.20 -35105264.10 -35105264.00 0.1892 0.1161

Uranus -100826-02-11 14:37 J -35105232.05 -35105231.89 -35105231.73 0.0145 0.0012

Uranus -100826-05-10 20:09 J -35105143.81 -35105143.66 -35105143.50 0.0145 0.0035

Uranus -100826-08-07 01:54 J -35105055.56 -35105055.42 -35105055.27 0.0145 0.0059

Uranus -100826-11-03 07:40 J -35104967.30 -35104967.18 -35104967.04 0.0145 0.0082

Saturn -100826-12-25 17:45 J -35104914.85 -35104914.76 -35104914.67 0.0270 0.0219

Uranus -100825-01-30 13:40 J -35104879.04 -35104878.93 -35104878.82 0.0146 0.0106

Saturn -100825-03-23 08:09 J -35104826.28 -35104826.16 -35104826.02 0.0270 0.0143

Uranus -100825-04-27 19:40 J -35104790.75 -35104790.68 -35104790.61 0.0146 0.0130

Saturn -100825-06-19 22:33 J -35104737.71 -35104737.56 -35104737.41 0.0270 0.0067

Saturn -100825-09-16 12:28 J -35104649.13 -35104648.98 -35104648.83 0.0270 0.0008

Saturn -100825-12-14 02:09 J -35104560.55 -35104560.41 -35104560.26 0.0270 0.0080

Mars -100825-12-16 13:54 J -35104558.00 -35104557.92 -35104557.84 0.1879 0.1442

Saturn -100824-03-12 15:35 J -35104471.97 -35104471.85 -35104471.72 0.0270 0.0152

Saturn -100824-06-09 05:01 J -35104383.37 -35104383.29 -35104383.21 0.0271 0.0222

Moon -100823-12-25 02:23 J -35103819.52 -35103819.40 -35103819.27 0.2672 0.1339

Earth -100823-12-25 03:35 J -35103819.47 -35103819.35 -35103819.24 0.2675 0.1522 *

Jupiter -100822-03-15 09:35 J -35103739.23 -35103739.10 -35103738.98 0.0506 0.0284

Jupiter -100822-06-12 23:45 J -35103649.65 -35103649.51 -35103649.37 0.0503 0.0189

Venus -100819-04-27 16:18 J -35102599.89 -35102599.82 -35102599.76 0.3785 0.3043

Earth -100819-07-01 21:21 J -35102534.73 -35102534.61 -35102534.49 0.2659 0.0335

Moon -100819-07-01 21:49 J -35102534.71 -35102534.59 -35102534.47 0.2664 0.0269 *

Mars -100818-07-20 17:59 J -35102150.90 -35102150.75 -35102150.61 0.1634 0.0179

Mars -100817-06-01 13:40 J -35101833.95 -35101833.93 -35101833.91 0.1894 0.1853

Jupiter -100816-08-12 23:16 J -35101396.68 -35101396.53 -35101396.38 0.0523 0.0103

Jupiter -100816-11-10 17:30 J -35101306.85 -35101306.77 -35101306.68 0.0526 0.0435

Mars -100815-05-08 19:11 J -35101127.81 -35101127.70 -35101127.58 0.1883 0.0836

Venus -100814-11-11 11:01 J -35100576.14 -35100576.04 -35100575.95 0.3782 0.1998

Saturn -100811-07-10 23:16 J -35099603.60 -35099603.53 -35099603.45 0.0290 0.0251

Saturn -100811-10-07 16:18 J -35099514.95 -35099514.82 -35099514.69 0.0290 0.0160

Jupiter -100810-01-01 11:45 J -35099429.09 -35099429.01 -35099428.91 0.0507 0.0398

Saturn -100810-01-04 09:21 J -35099426.26 -35099426.11 -35099425.95 0.0289 0.0067

Jupiter -100810-04-01 01:54 J -35099339.57 -35099339.42 -35099339.27 0.0504 0.0073

Saturn -100810-04-03 03:06 J -35099337.53 -35099337.37 -35099337.21 0.0289 0.0029

Saturn -100810-06-30 21:06 J -35099248.77 -35099248.62 -35099248.48 0.0289 0.0125

Saturn -100810-09-27 15:21 J -35099159.96 -35099159.86 -35099159.76 0.0289 0.0224

Mars -100809-12-10 00:28 J -35098720.61 -35098720.48 -35098720.35 0.1631 0.0607

Venus -100808-05-27 05:45 J -35098552.37 -35098552.26 -35098552.15 0.3778 0.0918

Mars -100807-11-16 00:13 J -35098014.58 -35098014.49 -35098014.40 0.1641 0.1268

Earth -100806-07-04 17:01 J -35097783.90 -35097783.79 -35097783.67 0.2664 0.0837

Moon -100806-07-04 17:59 J -35097783.86 -35097783.75 -35097783.64 0.2664 0.0952 *

Mars -100806-09-29 00:28 J -35097697.61 -35097697.48 -35097697.35 0.1886 0.0221

Pluto -100805-04-04 21:49 J -35097508.62 -35097508.59 -35097508.55 0.0085 0.0081

Pluto -100805-07-01 23:01 J -35097420.61 -35097420.54 -35097420.46 0.0085 0.0068

Pluto -100805-09-28 00:13 J -35097332.58 -35097332.49 -35097332.38 0.0085 0.0055

Pluto -100805-12-25 01:25 J -35097244.55 -35097244.44 -35097244.32 0.0084 0.0041

Pluto -100804-03-23 02:37 J -35097156.50 -35097156.39 -35097156.26 0.0084 0.0029

Jupiter -100804-05-31 23:01 J -35097086.67 -35097086.54 -35097086.41 0.0522 0.0251

Pluto -100804-06-19 04:04 J -35097068.46 -35097068.33 -35097068.20 0.0084 0.0015

Jupiter -100804-08-29 17:45 J -35096996.88 -35096996.76 -35096996.63 0.0525 0.0290

Pluto -100804-09-15 05:16 J -35096980.41 -35096980.28 -35096980.14 0.0084 0.0003

Pluto -100804-12-12 06:28 J -35096892.36 -35096892.23 -35096892.09 0.0084 0.0012

Pluto -100803-03-10 07:40 J -35096804.30 -35096804.18 -35096804.05 0.0084 0.0024

Pluto -100803-06-06 09:06 J -35096716.24 -35096716.12 -35096716.01 0.0084 0.0037

Pluto -100803-09-02 10:04 J -35096628.18 -35096628.08 -35096627.97 0.0084 0.0050

Pluto -100803-11-29 11:16 J -35096540.11 -35096540.03 -35096539.94 0.0083 0.0063

Venus -100803-12-11 00:57 J -35096528.57 -35096528.46 -35096528.35 0.3775 0.0205

Earth -100803-12-20 06:13 J -35096519.36 -35096519.24 -35096519.13 0.2685 0.1463

Moon -100803-12-20 06:42 J -35096519.34 -35096519.22 -35096519.10 0.2679 0.1391 *

Pluto -100802-02-25 12:28 J -35096452.03 -35096451.98 -35096451.92 0.0083 0.0075

Mars -100799-05-02 07:11 J -35095290.31 -35095290.20 -35095290.09 0.1629 0.1033

Moon -100799-06-27 09:49 J -35095234.12 -35095234.09 -35095234.07 0.2656 0.2582

Earth -100799-06-27 10:18 J -35095234.11 -35095234.07 -35095234.02 0.2650 0.2443 *

Jupiter -100799-10-20 14:37 J -35095118.89 -35095118.89 -35095118.88 0.0508 0.0506

Venus -100799-12-10 08:52 J -35095068.22 -35095068.13 -35095068.03 0.3596 0.2459

Jupiter -100798-01-18 04:18 J -35095029.47 -35095029.32 -35095029.17 0.0505 0.0040

Jupiter -100798-04-17 19:11 J -35094939.76 -35094939.70 -35094939.62 0.0501 0.0441

Mars -100797-04-07 05:59 J -35094584.38 -35094584.25 -35094584.12 0.1639 0.0793

Venus -100797-06-25 20:23 J -35094504.76 -35094504.65 -35094504.54 0.3772 0.1354

Mars -100796-02-18 05:16 J -35094267.41 -35094267.28 -35094267.15 0.1889 0.0437

Saturn -100796-05-13 19:54 J -35094182.74 -35094182.67 -35094182.59 0.0269 0.0238

Saturn -100796-08-10 10:33 J -35094094.18 -35094094.06 -35094093.93 0.0270 0.0161

Saturn -100796-11-07 00:57 J -35094005.61 -35094005.46 -35094005.32 0.0270 0.0086

Neptune -100796-12-05 19:11 J -35093976.70 -35093976.70 -35093976.69 0.0089 0.0088

Saturn -100795-02-03 14:52 J -35093917.03 -35093916.88 -35093916.73 0.0270 0.0012

Neptune -100795-03-03 21:06 J -35093888.66 -35093888.62 -35093888.57 0.0089 0.0084

Saturn -100795-05-03 04:47 J -35093828.45 -35093828.30 -35093828.16 0.0270 0.0062

Neptune -100795-05-30 23:01 J -35093800.60 -35093800.54 -35093800.47 0.0089 0.0080

Saturn -100795-07-30 18:13 J -35093739.87 -35093739.74 -35093739.61 0.0270 0.0134

Neptune -100795-08-27 00:42 J -35093712.53 -35093712.47 -35093712.38 0.0089 0.0076

Saturn -100795-10-27 07:25 J -35093651.28 -35093651.19 -35093651.09 0.0270 0.0204

Neptune -100795-11-23 02:37 J -35093624.47 -35093624.39 -35093624.29 0.0089 0.0072

Neptune -100794-02-19 04:47 J -35093536.40 -35093536.30 -35093536.20 0.0089 0.0067

Neptune -100794-05-18 06:28 J -35093448.32 -35093448.23 -35093448.11 0.0089 0.0063

Neptune -100794-08-14 08:23 J -35093360.25 -35093360.15 -35093360.02 0.0089 0.0059

Neptune -100794-11-10 10:33 J -35093272.18 -35093272.06 -35093271.94 0.0089 0.0054

Neptune -100793-02-06 12:28 J -35093184.10 -35093183.98 -35093183.85 0.0089 0.0050

Neptune -100793-05-04 14:09 J -35093096.02 -35093095.91 -35093095.76 0.0089 0.0046

Venus -100793-06-25 08:37 J -35093044.27 -35093044.14 -35093044.02 0.3599 0.1025

Earth -100793-07-06 12:42 J -35093033.04 -35093032.97 -35093032.89 0.2668 0.1984

Moon -100793-07-06 13:40 J -35093033.01 -35093032.93 -35093032.86 0.2664 0.1984 *

Neptune -100793-07-31 16:18 J -35093007.95 -35093007.82 -35093007.68 0.0089 0.0041

Neptune -100793-10-27 18:13 J -35092919.87 -35092919.74 -35092919.59 0.0089 0.0037

Neptune -100792-01-23 20:23 J -35092831.79 -35092831.65 -35092831.50 0.0089 0.0032

Jupiter -100792-03-19 23:45 J -35092776.61 -35092776.51 -35092776.40 0.0521 0.0386

Neptune -100792-04-21 22:18 J -35092743.71 -35092743.57 -35092743.42 0.0089 0.0028

Jupiter -100792-06-17 18:57 J -35092686.85 -35092686.71 -35092686.56 0.0525 0.0161

Neptune -100792-07-19 00:28 J -35092655.63 -35092655.48 -35092655.33 0.0089 0.0023

Neptune -100792-10-15 02:23 J -35092567.55 -35092567.40 -35092567.25 0.0089 0.0019

Venus -100791-01-09 16:04 J -35092480.92 -35092480.83 -35092480.75 0.3768 0.2539

Neptune -100791-01-11 04:33 J -35092479.46 -35092479.31 -35092479.16 0.0089 0.0014

Neptune -100791-04-09 06:28 J -35092391.38 -35092391.23 -35092391.07 0.0089 0.0009

Neptune -100791-07-06 08:37 J -35092303.30 -35092303.14 -35092302.99 0.0089 0.0005

Neptune -100791-10-02 10:33 J -35092215.21 -35092215.06 -35092214.90 0.0089 0.0001

Neptune -100791-12-29 12:42 J -35092127.13 -35092126.97 -35092126.82 0.0089 0.0004

Neptune -100790-03-27 14:37 J -35092039.04 -35092038.89 -35092038.73 0.0089 0.0009

Neptune -100790-06-23 16:47 J -35091950.95 -35091950.80 -35091950.64 0.0089 0.0014

Neptune -100790-09-19 18:57 J -35091862.86 -35091862.71 -35091862.56 0.0089 0.0018

Mars -100790-09-22 14:09 J -35091859.97 -35091859.91 -35091859.85 0.1628 0.1444

Neptune -100790-12-16 20:52 J -35091774.77 -35091774.63 -35091774.47 0.0089 0.0023

Moon -100790-12-23 07:25 J -35091768.34 -35091768.19 -35091768.05 0.2673 0.0101

Earth -100790-12-23 07:40 J -35091768.32 -35091768.18 -35091768.04 0.2680 0.0179 *

Neptune -100789-03-13 23:01 J -35091686.68 -35091686.54 -35091686.39 0.0089 0.0028

Neptune -100789-06-10 00:57 J -35091598.59 -35091598.46 -35091598.30 0.0089 0.0033

Neptune -100789-09-06 03:21 J -35091510.50 -35091510.36 -35091510.21 0.0089 0.0037

Uranus -100789-10-30 19:40 J -35091455.72 -35091455.68 -35091455.62 0.0135 0.0128

Neptune -100789-12-03 05:30 J -35091422.41 -35091422.27 -35091422.13 0.0089 0.0042

Uranus -100788-01-27 00:28 J -35091367.57 -35091367.48 -35091367.38 0.0135 0.0109

Neptune -100788-03-01 07:25 J -35091334.31 -35091334.19 -35091334.04 0.0089 0.0047

Uranus -100788-04-25 05:01 J -35091279.40 -35091279.29 -35091279.17 0.0134 0.0091

Neptune -100788-05-28 09:35 J -35091246.21 -35091246.10 -35091245.96 0.0089 0.0052

Uranus -100788-07-22 09:35 J -35091191.22 -35091191.10 -35091190.96 0.0134 0.0073

Neptune -100788-08-24 11:59 J -35091158.12 -35091158.00 -35091157.87 0.0089 0.0056

Mars -100788-08-28 11:45 J -35091154.15 -35091154.01 -35091153.86 0.1636 0.0330

Uranus -100788-10-18 14:09 J -35091103.05 -35091102.91 -35091102.76 0.0134 0.0055

Neptune -100788-11-20 14:09 J -35091070.02 -35091069.91 -35091069.79 0.0089 0.0061

Venus -100787-01-09 07:40 J -35091020.31 -35091020.18 -35091020.04 0.3603 0.0371

Uranus -100787-01-14 18:42 J -35091014.87 -35091014.72 -35091014.57 0.0134 0.0037

Neptune -100787-02-16 16:18 J -35090981.92 -35090981.82 -35090981.71 0.0089 0.0066

Uranus -100787-04-12 23:16 J -35090926.68 -35090926.53 -35090926.38 0.0134 0.0019

Neptune -100787-05-15 18:28 J -35090893.81 -35090893.73 -35090893.62 0.0089 0.0071

Uranus -100787-07-10 03:35 J -35090838.50 -35090838.35 -35090838.19 0.0134 0.0003

Mars -100787-07-11 09:49 J -35090837.19 -35090837.09 -35090836.98 0.1892 0.1101

Neptune -100787-08-11 20:37 J -35090805.71 -35090805.64 -35090805.54 0.0089 0.0076

Uranus -100787-10-06 07:54 J -35090750.32 -35090750.17 -35090750.01 0.0134 0.0017

Jupiter -100787-11-06 06:42 J -35090719.36 -35090719.22 -35090719.08 0.0505 0.0153

Neptune -100787-11-07 23:01 J -35090717.60 -35090717.54 -35090717.47 0.0089 0.0080

Uranus -100786-01-02 12:13 J -35090662.13 -35090661.99 -35090661.84 0.0134 0.0034

Jupiter -100786-02-03 21:06 J -35090629.73 -35090629.62 -35090629.50 0.0502 0.0323

Neptune -100786-02-04 01:11 J -35090629.48 -35090629.45 -35090629.40 0.0089 0.0085

Uranus -100786-03-31 16:33 J -35090573.95 -35090573.81 -35090573.66 0.0134 0.0050

Uranus -100786-06-27 20:37 J -35090485.76 -35090485.64 -35090485.50 0.0133 0.0068

Earth -100786-06-30 06:28 J -35090483.34 -35090483.23 -35090483.12 0.2655 0.1252

Moon -100786-06-30 06:28 J -35090483.33 -35090483.23 -35090483.12 0.2661 0.1202 *

Venus -100786-07-26 11:45 J -35090457.01 -35090457.01 -35090457.00 0.3765 0.3757

Uranus -100786-09-24 01:11 J -35090397.57 -35090397.45 -35090397.34 0.0133 0.0084

Uranus -100786-12-21 05:01 J -35090309.38 -35090309.29 -35090309.18 0.0133 0.0101

Uranus -100785-03-18 09:21 J -35090221.18 -35090221.11 -35090221.04 0.0133 0.0117

Uranus -100785-06-14 13:25 J -35090132.94 -35090132.94 -35090132.93 0.0133 0.0133

Mars -100785-06-16 13:54 J -35090131.00 -35090130.92 -35090130.85 0.1879 0.1490

Venus -100782-07-26 06:42 J -35088996.34 -35088996.22 -35088996.11 0.3606 0.1677

Saturn -100782-11-27 22:18 J -35088871.59 -35088871.57 -35088871.56 0.0290 0.0287

Saturn -100781-02-24 14:52 J -35088782.99 -35088782.88 -35088782.77 0.0290 0.0198

Saturn -100781-05-23 07:54 J -35088694.31 -35088694.17 -35088694.02 0.0290 0.0106

Saturn -100781-08-20 01:25 J -35088605.60 -35088605.44 -35088605.29 0.0290 0.0013

Saturn -100781-11-16 19:11 J -35088516.85 -35088516.70 -35088516.55 0.0289 0.0085

Jupiter -100780-01-06 00:57 J -35088466.47 -35088466.46 -35088466.44 0.0520 0.0516

Saturn -100780-02-13 13:25 J -35088428.07 -35088427.94 -35088427.82 0.0289 0.0183

Jupiter -100780-04-05 20:37 J -35088376.79 -35088376.64 -35088376.49 0.0524 0.0034

Saturn -100780-05-13 07:40 J -35088339.20 -35088339.18 -35088339.14 0.0289 0.0282

Mars -100778-01-18 18:13 J -35087723.88 -35087723.74 -35087723.60 0.1634 0.0121

Mars -100778-12-01 13:54 J -35087406.96 -35087406.92 -35087406.88 0.1894 0.1790

Moon -100777-12-25 08:09 J -35087017.26 -35087017.16 -35087017.06 0.2672 0.1834

Earth -100777-12-25 09:21 J -35087017.21 -35087017.11 -35087017.01 0.2675 0.1862 *

Venus -100776-02-08 05:01 J -35086972.36 -35086972.29 -35086972.22 0.3610 0.2934

Mars -100776-11-06 19:40 J -35086700.80 -35086700.68 -35086700.57 0.1883 0.0900

Jupiter -100775-08-25 08:52 J -35086409.25 -35086409.13 -35086409.00 0.0506 0.0269

Jupiter -100775-11-22 23:16 J -35086319.67 -35086319.53 -35086319.39 0.0503 0.0205

Earth -100773-07-02 02:23 J -35085732.52 -35085732.40 -35085732.28 0.2659 0.0080

Moon -100773-07-02 03:06 J -35085732.49 -35085732.37 -35085732.25 0.2665 0.0080 *

Moon -100770-12-18 11:59 J -35084468.01 -35084468.00 -35084467.98 0.2686 0.2659

Mars -100769-06-10 00:42 J -35084293.60 -35084293.47 -35084293.33 0.1631 0.0558

Jupiter -100768-01-22 22:04 J -35084066.73 -35084066.58 -35084066.43 0.0523 0.0095

Jupiter -100768-04-22 16:18 J -35083976.89 -35083976.82 -35083976.74 0.0527 0.0443

Venus -100768-05-18 19:54 J -35083950.69 -35083950.67 -35083950.65 0.3786 0.3720

Mars -100767-05-17 00:28 J -35083587.56 -35083587.48 -35083587.39 0.1641 0.1324

Saturn -100767-09-30 19:40 J -35083450.69 -35083450.68 -35083450.67 0.0269 0.0268

Saturn -100767-12-28 10:18 J -35083362.17 -35083362.07 -35083361.96 0.0269 0.0191

Saturn -100766-03-27 00:42 J -35083273.60 -35083273.47 -35083273.32 0.0270 0.0116

Mars -100766-03-30 00:42 J -35083270.60 -35083270.47 -35083270.34 0.1886 0.0271

Saturn -100766-06-23 15:06 J -35083185.02 -35083184.87 -35083184.72 0.0270 0.0040

Saturn -100766-09-20 05:01 J -35083096.44 -35083096.29 -35083096.14 0.0270 0.0034

Saturn -100766-12-17 18:28 J -35083007.86 -35083007.73 -35083007.59 0.0270 0.0106

Saturn -100765-03-15 07:54 J -35082919.28 -35082919.17 -35082919.05 0.0270 0.0177

Saturn -100765-06-11 21:06 J -35082830.67 -35082830.62 -35082830.56 0.0271 0.0247

Jupiter -100763-06-13 10:47 J -35082099.14 -35082099.05 -35082098.95 0.0507 0.0389

Jupiter -100763-09-11 00:42 J -35082009.62 -35082009.47 -35082009.32 0.0504 0.0081

Venus -100763-12-02 14:23 J -35081926.97 -35081926.90 -35081926.82 0.3784 0.2700

Earth -100760-07-04 22:18 J -35080981.68 -35080981.57 -35080981.46 0.2664 0.1081

Moon -100760-07-04 23:01 J -35080981.64 -35080981.54 -35080981.43 0.2663 0.1152 *

Mars -100760-10-31 07:40 J -35080863.30 -35080863.18 -35080863.07 0.1629 0.0981

Mars -100758-10-07 06:13 J -35080157.36 -35080157.24 -35080157.11 0.1639 0.0848

Venus -100757-06-17 09:21 J -35079903.21 -35079903.11 -35079903.01 0.3781 0.1646

Mars -100757-08-19 05:45 J -35079840.39 -35079840.26 -35079840.14 0.1889 0.0375

Jupiter -100757-11-10 22:47 J -35079756.68 -35079756.55 -35079756.41 0.0522 0.0231

Earth -100757-12-20 11:59 J -35079717.12 -35079717.00 -35079716.87 0.2685 0.1135

Moon -100757-12-20 12:13 J -35079717.11 -35079716.99 -35079716.86 0.2677 0.1111 *

Jupiter -100756-02-08 17:45 J -35079666.88 -35079666.76 -35079666.64 0.0526 0.0311

Moon -100753-06-27 14:52 J -35078431.94 -35078431.88 -35078431.81 0.2656 0.2186

Earth -100753-06-27 15:35 J -35078431.92 -35078431.85 -35078431.79 0.2651 0.2194 *

Saturn -100752-07-13 15:21 J -35078050.95 -35078050.86 -35078050.76 0.0290 0.0225

Saturn -100752-10-10 08:23 J -35077962.29 -35077962.15 -35077962.01 0.0290 0.0133

Venus -100751-01-01 04:18 J -35077879.44 -35077879.32 -35077879.21 0.3778 0.0566

Saturn -100751-01-07 01:40 J -35077873.58 -35077873.43 -35077873.27 0.0289 0.0040

Jupiter -100751-04-01 13:25 J -35077788.96 -35077788.94 -35077788.92 0.0508 0.0501

Saturn -100751-04-05 19:25 J -35077784.85 -35077784.69 -35077784.53 0.0289 0.0056

Jupiter -100751-06-30 02:52 J -35077699.53 -35077699.38 -35077699.23 0.0505 0.0036

Saturn -100751-07-03 13:25 J -35077696.07 -35077695.94 -35077695.80 0.0289 0.0154

Jupiter -100751-09-27 17:45 J -35077609.82 -35077609.76 -35077609.68 0.0501 0.0444

Saturn -100751-09-30 07:54 J -35077607.24 -35077607.17 -35077607.09 0.0289 0.0253

Mars -100750-03-23 14:23 J -35077432.97 -35077432.90 -35077432.83 0.1628 0.1396

Mars -100748-02-26 12:13 J -35076727.13 -35076726.99 -35076726.85 0.1636 0.0384

Venus -100748-12-31 08:37 J -35076419.17 -35076419.14 -35076419.11 0.3594 0.3461

Mars -100747-01-09 10:04 J -35076410.19 -35076410.08 -35076409.97 0.1892 0.1046

Earth -100747-07-07 17:59 J -35076230.82 -35076230.75 -35076230.69 0.2669 0.2220

Moon -100747-07-07 18:28 J -35076230.78 -35076230.73 -35076230.67 0.2665 0.2330 *

Venus -100746-07-17 23:30 J -35075855.64 -35075855.52 -35075855.41 0.3774 0.0581

Mars -100746-12-16 14:09 J -35075703.98 -35075703.91 -35075703.84 0.1879 0.1551

Jupiter -100745-08-29 22:33 J -35075446.67 -35075446.56 -35075446.46 0.0521 0.0379

Jupiter -100745-11-27 17:45 J -35075356.91 -35075356.76 -35075356.62 0.0524 0.0165

Uranus -100744-06-24 07:40 J -35075148.22 -35075148.18 -35075148.12 0.0144 0.0136

Uranus -100744-09-20 12:57 J -35075060.04 -35075059.96 -35075059.86 0.0144 0.0115

Uranus -100744-12-17 18:28 J -35074971.84 -35074971.73 -35074971.61 0.0144 0.0093

Moon -100744-12-23 12:57 J -35074966.10 -35074965.96 -35074965.82 0.2674 0.0511

Earth -100744-12-23 13:40 J -35074966.07 -35074965.93 -35074965.80 0.2679 0.0521 *

Uranus -100743-03-15 23:45 J -35074883.63 -35074883.51 -35074883.36 0.0145 0.0072

Uranus -100743-06-12 05:30 J -35074795.42 -35074795.27 -35074795.12 0.0145 0.0049

Uranus -100743-09-08 11:01 J -35074707.19 -35074707.04 -35074706.88 0.0145 0.0027

Uranus -100743-12-05 16:33 J -35074618.96 -35074618.81 -35074618.65 0.0145 0.0006

Uranus -100742-03-03 22:18 J -35074530.73 -35074530.57 -35074530.41 0.0145 0.0019

Uranus -100742-05-31 04:04 J -35074442.48 -35074442.33 -35074442.18 0.0145 0.0042

Venus -100742-07-17 08:37 J -35074395.25 -35074395.14 -35074395.03 0.3597 0.1985

Uranus -100742-08-27 09:49 J -35074354.23 -35074354.09 -35074353.95 0.0145 0.0066

Uranus -100742-11-23 15:35 J -35074265.97 -35074265.85 -35074265.72 0.0145 0.0090

Uranus -100741-02-19 21:21 J -35074177.70 -35074177.61 -35074177.50 0.0146 0.0114

Uranus -100741-05-18 03:21 J -35074089.40 -35074089.36 -35074089.30 0.0146 0.0138

Venus -100740-01-30 18:57 J -35073831.82 -35073831.71 -35073831.61 0.3771 0.1728

Earth -100740-06-30 11:30 J -35073681.13 -35073681.02 -35073680.90 0.2655 0.1006

Moon -100740-06-30 11:59 J -35073681.11 -35073681.00 -35073680.90 0.2662 0.1050 *

Jupiter -100739-04-18 05:30 J -35073389.41 -35073389.27 -35073389.13 0.0506 0.0146

Jupiter -100739-07-16 20:09 J -35073299.77 -35073299.66 -35073299.55 0.0502 0.0331

Mars -100739-07-19 18:28 J -35073296.87 -35073296.73 -35073296.58 0.1633 0.0072

Mars -100738-06-01 14:09 J -35072979.96 -35072979.91 -35072979.86 0.1895 0.1738

Saturn -100737-05-16 12:42 J -35072630.06 -35072629.97 -35072629.87 0.0270 0.0210

Saturn -100737-08-13 03:06 J -35072541.50 -35072541.37 -35072541.23 0.0270 0.0134

Saturn -100737-11-09 17:30 J -35072452.92 -35072452.77 -35072452.62 0.0270 0.0059

Venus -100736-01-30 08:09 J -35072371.29 -35072371.16 -35072371.03 0.3600 0.0586

Saturn -100736-02-06 07:25 J -35072364.34 -35072364.19 -35072364.04 0.0270 0.0016

Saturn -100736-05-05 21:06 J -35072275.76 -35072275.62 -35072275.48 0.0270 0.0088

Mars -100736-05-07 19:40 J -35072273.79 -35072273.68 -35072273.57 0.1883 0.0948

Saturn -100736-08-02 10:33 J -35072187.18 -35072187.06 -35072186.94 0.0270 0.0160

Saturn -100736-10-29 23:45 J -35072098.58 -35072098.51 -35072098.43 0.0270 0.0230

Venus -100735-08-16 14:37 J -35071807.97 -35071807.89 -35071807.82 0.3767 0.2915

Jupiter -100733-06-17 23:16 J -35071136.55 -35071136.53 -35071136.51 0.0520 0.0514

Jupiter -100733-09-15 18:57 J -35071046.86 -35071046.71 -35071046.56 0.0524 0.0035

Venus -100731-08-16 07:11 J -35070347.33 -35070347.20 -35070347.07 0.3604 0.0786

Moon -100731-12-26 14:09 J -35070215.01 -35070214.91 -35070214.82 0.2671 0.1986

Earth -100731-12-26 15:21 J -35070214.94 -35070214.86 -35070214.78 0.2674 0.2203 *

Mars -100730-12-10 00:57 J -35069866.59 -35069866.46 -35069866.32 0.1631 0.0509

Mars -100728-11-15 00:57 J -35069160.54 -35069160.46 -35069160.38 0.1641 0.1377

Jupiter -100727-02-04 07:54 J -35069079.30 -35069079.17 -35069079.04 0.0506 0.0259

Jupiter -100727-05-04 22:04 J -35068989.71 -35068989.58 -35068989.44 0.0503 0.0215

Earth -100727-07-03 07:25 J -35068930.30 -35068930.19 -35068930.07 0.2660 0.0197

Moon -100727-07-03 08:09 J -35068930.28 -35068930.16 -35068930.04 0.2664 0.0277 *

Mars -100727-09-28 00:57 J -35068843.59 -35068843.46 -35068843.33 0.1886 0.0331

Venus -100725-03-01 05:45 J -35068323.36 -35068323.26 -35068323.15 0.3607 0.2079

Earth -100724-12-18 16:47 J -35067665.86 -35067665.80 -35067665.74 0.2689 0.2414

Moon -100724-12-18 17:30 J -35067665.84 -35067665.77 -35067665.69 0.2684 0.2272 *

Saturn -100723-11-30 14:23 J -35067318.96 -35067318.90 -35067318.83 0.0290 0.0261

Saturn -100722-02-27 07:11 J -35067230.32 -35067230.20 -35067230.07 0.0290 0.0171

Saturn -100722-05-27 00:28 J -35067141.63 -35067141.48 -35067141.33 0.0290 0.0078

Saturn -100722-08-23 17:59 J -35067052.91 -35067052.75 -35067052.59 0.0289 0.0017

Saturn -100722-11-20 11:45 J -35066964.15 -35066964.01 -35066963.86 0.0289 0.0114

Saturn -100721-02-17 05:59 J -35066875.35 -35066875.25 -35066875.14 0.0289 0.0213

Jupiter -100721-07-04 20:09 J -35066736.80 -35066736.66 -35066736.50 0.0523 0.0096

Jupiter -100721-10-02 14:37 J -35066646.97 -35066646.89 -35066646.81 0.0527 0.0443

Mars -100720-05-01 07:54 J -35066436.29 -35066436.17 -35066436.06 0.1629 0.0935

Venus -100720-09-15 04:18 J -35066299.37 -35066299.32 -35066299.28 0.3611 0.3326

Mars -100718-04-07 06:28 J -35065730.35 -35065730.23 -35065730.11 0.1638 0.0897

Mars -100717-02-18 05:45 J -35065413.38 -35065413.26 -35065413.13 0.1889 0.0320

Jupiter -100716-11-23 10:18 J -35064769.17 -35064769.07 -35064768.97 0.0507 0.0373

Jupiter -100715-02-21 00:13 J -35064679.64 -35064679.49 -35064679.34 0.0504 0.0097

Earth -100714-07-06 03:21 J -35064179.46 -35064179.36 -35064179.26 0.2665 0.1326

Moon -100714-07-06 04:18 J -35064179.42 -35064179.32 -35064179.22 0.2664 0.1413 *

Neptune -100713-06-12 20:52 J -35063836.64 -35063836.63 -35063836.59 0.0089 0.0088

Neptune -100713-09-08 23:30 J -35063748.57 -35063748.52 -35063748.45 0.0089 0.0083

Neptune -100713-12-06 01:54 J -35063660.48 -35063660.42 -35063660.33 0.0089 0.0078

Neptune -100712-03-04 04:18 J -35063572.40 -35063572.32 -35063572.21 0.0089 0.0073

Neptune -100712-05-31 06:57 J -35063484.31 -35063484.21 -35063484.09 0.0089 0.0068

Neptune -100712-08-27 09:21 J -35063396.22 -35063396.11 -35063395.98 0.0088 0.0063

Neptune -100712-11-23 11:45 J -35063308.12 -35063308.01 -35063307.87 0.0088 0.0058

Venus -100712-12-23 18:13 J -35063277.79 -35063277.74 -35063277.69 0.3786 0.3379

Neptune -100711-02-19 14:09 J -35063220.03 -35063219.91 -35063219.76 0.0088 0.0053

Neptune -100711-05-18 16:47 J -35063131.93 -35063131.80 -35063131.66 0.0088 0.0048

Neptune -100711-08-14 19:11 J -35063043.84 -35063043.70 -35063043.55 0.0088 0.0043

Mars -100711-09-21 14:52 J -35063005.96 -35063005.88 -35063005.81 0.1628 0.1348

Neptune -100711-11-10 21:35 J -35062955.74 -35062955.60 -35062955.45 0.0088 0.0038

Moon -100711-12-21 18:13 J -35062914.88 -35062914.74 -35062914.61 0.2677 0.0793

Earth -100711-12-21 17:59 J -35062914.88 -35062914.75 -35062914.62 0.2684 0.0802 *

Neptune -100710-02-06 23:59 J -35062867.65 -35062867.50 -35062867.34 0.0088 0.0033

Neptune -100710-05-06 02:09 J -35062779.55 -35062779.41 -35062779.24 0.0088 0.0029

Neptune -100710-08-02 04:33 J -35062691.46 -35062691.31 -35062691.14 0.0088 0.0024

Neptune -100710-10-29 06:57 J -35062603.36 -35062603.21 -35062603.04 0.0088 0.0019

Neptune -100709-01-25 09:21 J -35062515.26 -35062515.11 -35062514.94 0.0088 0.0014

Neptune -100709-04-22 11:45 J -35062427.17 -35062427.01 -35062426.85 0.0088 0.0009

Jupiter -100709-04-22 21:35 J -35062426.74 -35062426.60 -35062426.46 0.0522 0.0223

Neptune -100709-07-19 14:09 J -35062339.07 -35062338.91 -35062338.75 0.0088 0.0004

Jupiter -100709-07-21 16:18 J -35062336.93 -35062336.82 -35062336.70 0.0526 0.0319

Mars -100709-08-27 12:42 J -35062300.11 -35062299.97 -35062299.83 0.1636 0.0438

Neptune -100709-10-15 16:18 J -35062250.98 -35062250.82 -35062250.65 0.0088 0.0003

Neptune -100708-01-11 18:42 J -35062162.88 -35062162.72 -35062162.56 0.0088 0.0006

Neptune -100708-04-09 20:52 J -35062074.78 -35062074.63 -35062074.46 0.0088 0.0011

Neptune -100708-07-06 23:16 J -35061986.69 -35061986.53 -35061986.37 0.0088 0.0015

Mars -100708-07-10 10:18 J -35061983.18 -35061983.07 -35061982.96 0.1892 0.0985

Neptune -100708-10-03 01:25 J -35061898.59 -35061898.44 -35061898.28 0.0088 0.0020

Saturn -100708-10-03 12:13 J -35061898.05 -35061897.99 -35061897.92 0.0269 0.0241

Neptune -100708-12-30 03:35 J -35061810.50 -35061810.35 -35061810.19 0.0088 0.0025

Saturn -100708-12-31 02:52 J -35061809.50 -35061809.38 -35061809.26 0.0270 0.0164

Neptune -100707-03-28 05:45 J -35061722.40 -35061722.26 -35061722.10 0.0088 0.0030

Saturn -100707-03-29 17:16 J -35061720.92 -35061720.78 -35061720.63 0.0270 0.0089

Neptune -100707-06-24 08:09 J -35061634.30 -35061634.16 -35061634.01 0.0088 0.0034

Saturn -100707-06-26 07:25 J -35061632.34 -35061632.19 -35061632.04 0.0270 0.0014

Moon -100707-06-28 20:23 J -35061629.73 -35061629.65 -35061629.58 0.2657 0.2047

Earth -100707-06-28 20:37 J -35061629.72 -35061629.64 -35061629.56 0.2651 0.1944 *

Neptune -100707-09-20 10:18 J -35061546.21 -35061546.07 -35061545.92 0.0088 0.0039

Saturn -100707-09-22 21:06 J -35061543.76 -35061543.62 -35061543.47 0.0270 0.0060

Neptune -100707-12-17 12:28 J -35061458.11 -35061457.98 -35061457.83 0.0088 0.0043

Saturn -100707-12-20 10:47 J -35061455.18 -35061455.05 -35061454.92 0.0270 0.0132

Neptune -100706-03-15 14:37 J -35061370.01 -35061369.89 -35061369.75 0.0088 0.0048

Saturn -100706-03-18 23:59 J -35061366.59 -35061366.50 -35061366.40 0.0270 0.0203

Neptune -100706-06-11 16:47 J -35061281.92 -35061281.80 -35061281.66 0.0088 0.0052

Mars -100706-06-16 14:23 J -35061276.97 -35061276.90 -35061276.84 0.1879 0.1606

Venus -100706-07-09 12:42 J -35061254.05 -35061253.97 -35061253.88 0.3783 0.2353

Neptune -100706-09-07 19:11 J -35061193.82 -35061193.70 -35061193.58 0.0088 0.0057

Neptune -100706-12-04 21:06 J -35061105.72 -35061105.62 -35061105.50 0.0088 0.0061

Neptune -100705-03-01 23:16 J -35061017.63 -35061017.53 -35061017.42 0.0088 0.0066

Neptune -100705-05-29 01:11 J -35060929.53 -35060929.45 -35060929.34 0.0088 0.0071

Neptune -100705-08-25 03:35 J -35060841.43 -35060841.35 -35060841.26 0.0088 0.0075

Uranus -100705-11-20 03:21 J -35060754.41 -35060754.36 -35060754.28 0.0135 0.0122

Neptune -100705-11-21 05:30 J -35060753.32 -35060753.27 -35060753.19 0.0088 0.0079

Uranus -100704-02-16 08:09 J -35060666.25 -35060666.16 -35060666.05 0.0135 0.0103

Neptune -100704-02-17 07:40 J -35060665.22 -35060665.18 -35060665.12 0.0088 0.0084

Uranus -100704-05-15 12:42 J -35060578.08 -35060577.97 -35060577.84 0.0134 0.0085

Neptune -100704-05-16 09:49 J -35060577.10 -35060577.09 -35060577.07 0.0088 0.0088

Uranus -100704-08-11 17:16 J -35060489.91 -35060489.78 -35060489.63 0.0134 0.0067

Jupiter -100704-09-11 12:13 J -35060459.02 -35060458.99 -35060458.95 0.0508 0.0492

Uranus -100704-11-07 21:49 J -35060401.73 -35060401.59 -35060401.44 0.0134 0.0049

Jupiter -100704-12-10 01:54 J -35060369.57 -35060369.42 -35060369.27 0.0504 0.0025

Uranus -100703-02-04 02:23 J -35060313.55 -35060313.40 -35060313.24 0.0134 0.0031

Jupiter -100703-03-09 16:47 J -35060279.86 -35060279.80 -35060279.74 0.0501 0.0453

Uranus -100703-05-03 06:57 J -35060225.37 -35060225.21 -35060225.06 0.0134 0.0013

Uranus -100703-07-30 11:16 J -35060137.18 -35060137.03 -35060136.87 0.0134 0.0005

Uranus -100703-10-26 15:35 J -35060049.00 -35060048.85 -35060048.69 0.0134 0.0022

Uranus -100702-01-22 19:54 J -35059960.81 -35059960.67 -35059960.52 0.0134 0.0039

Uranus -100702-04-21 00:13 J -35059872.63 -35059872.49 -35059872.35 0.0134 0.0056

Uranus -100702-07-18 04:18 J -35059784.44 -35059784.32 -35059784.18 0.0133 0.0074

Uranus -100702-10-14 08:37 J -35059696.25 -35059696.14 -35059696.02 0.0133 0.0090

Uranus -100701-01-10 12:42 J -35059608.05 -35059607.97 -35059607.87 0.0133 0.0106

Uranus -100701-04-07 17:01 J -35059519.84 -35059519.79 -35059519.73 0.0133 0.0122

Earth -100701-07-07 23:01 J -35059428.58 -35059428.54 -35059428.50 0.2669 0.2463

Moon -100701-07-07 23:30 J -35059428.57 -35059428.52 -35059428.48 0.2664 0.2467 *

Venus -100700-01-22 07:40 J -35059230.29 -35059230.18 -35059230.08 0.3780 0.1294

Mars -100699-01-17 18:57 J -35058869.86 -35058869.71 -35058869.57 0.1633 0.0023

Mars -100699-11-30 14:37 J -35058552.95 -35058552.89 -35058552.83 0.1895 0.1669

Moon -100698-12-24 18:28 J -35058163.86 -35058163.73 -35058163.59 0.2674 0.0754

Earth -100698-12-24 19:25 J -35058163.82 -35058163.69 -35058163.56 0.2679 0.0853 *

Jupiter -100697-02-09 22:18 J -35058116.68 -35058116.57 -35058116.45 0.0521 0.0359

Jupiter -100697-05-09 17:30 J -35058026.91 -35058026.77 -35058026.62 0.0525 0.0187

Mars -100697-11-05 19:54 J -35057846.78 -35057846.67 -35057846.56 0.1883 0.1011

Venus -100695-08-08 02:37 J -35057206.51 -35057206.39 -35057206.28 0.3777 0.0218

Earth -100694-07-01 16:47 J -35056878.92 -35056878.80 -35056878.69 0.2656 0.0760

Moon -100694-07-01 17:01 J -35056878.91 -35056878.79 -35056878.67 0.2663 0.0660 *

Saturn -100693-04-18 14:37 J -35056586.89 -35056586.89 -35056586.88 0.0290 0.0289

Saturn -100693-07-16 07:25 J -35056498.30 -35056498.19 -35056498.08 0.0290 0.0200

Saturn -100693-10-13 00:28 J -35056409.62 -35056409.48 -35056409.33 0.0290 0.0108

Saturn -100692-01-09 17:59 J -35056320.91 -35056320.75 -35056320.60 0.0289 0.0015

Saturn -100692-04-08 11:45 J -35056232.17 -35056232.01 -35056231.86 0.0289 0.0083

Saturn -100692-07-06 05:45 J -35056143.38 -35056143.26 -35056143.13 0.0289 0.0181

Jupiter -100692-09-28 04:04 J -35056059.47 -35056059.33 -35056059.18 0.0505 0.0141

Saturn -100692-10-03 00:13 J -35056054.52 -35056054.49 -35056054.45 0.0289 0.0281

Jupiter -100692-12-26 18:42 J -35055969.83 -35055969.72 -35055969.60 0.0502 0.0336

Venus -100691-08-07 08:23 J -35055746.22 -35055746.15 -35055746.08 0.3595 0.2979

Mars -100690-06-10 01:25 J -35055439.58 -35055439.44 -35055439.31 0.1631 0.0459

Venus -100689-02-21 21:49 J -35055182.70 -35055182.59 -35055182.48 0.3773 0.0937

Mars -100688-05-16 01:11 J -35054733.52 -35054733.45 -35054733.38 0.1641 0.1433

Mars -100687-03-29 01:11 J -35054416.58 -35054416.45 -35054416.33 0.1886 0.0389

Jupiter -100686-11-28 21:49 J -35053806.61 -35053806.59 -35053806.55 0.0520 0.0507

Venus -100685-02-21 08:09 J -35053722.28 -35053722.16 -35053722.04 0.3598 0.1533

Jupiter -100685-02-26 17:30 J -35053716.92 -35053716.77 -35053716.62 0.0523 0.0042

Moon -100685-12-26 19:54 J -35053412.71 -35053412.67 -35053412.62 0.2671 0.2509

Earth -100685-12-26 21:21 J -35053412.65 -35053412.61 -35053412.57 0.2674 0.2549 *

Venus -100684-09-06 17:16 J -35053158.87 -35053158.78 -35053158.68 0.3770 0.2094

Earth -100681-07-03 12:42 J -35052128.09 -35052127.97 -35052127.85 0.2661 0.0417

Moon -100681-07-03 13:25 J -35052128.06 -35052127.94 -35052127.82 0.2663 0.0441 *

Mars -100681-10-30 08:09 J -35052009.28 -35052009.16 -35052009.05 0.1629 0.0886

Jupiter -100680-07-17 06:42 J -35051749.35 -35051749.22 -35051749.09 0.0507 0.0253

Venus -100680-09-06 07:40 J -35051698.31 -35051698.18 -35051698.05 0.3601 0.0147

Jupiter -100680-10-14 20:52 J -35051659.76 -35051659.63 -35051659.49 0.0503 0.0222

Mars -100679-10-06 06:57 J -35051303.33 -35051303.21 -35051303.09 0.1638 0.0954

Saturn -100678-02-20 14:37 J -35051165.93 -35051165.89 -35051165.85 0.0270 0.0260

Venus -100678-03-23 13:11 J -35051135.01 -35051134.95 -35051134.90 0.3766 0.3294

Saturn -100678-05-20 05:16 J -35051077.39 -35051077.28 -35051077.17 0.0270 0.0183

Saturn -100678-08-16 19:40 J -35050988.82 -35050988.68 -35050988.54 0.0270 0.0107

Mars -100678-08-19 05:59 J -35050986.38 -35050986.25 -35050986.12 0.1889 0.0262

Saturn -100678-11-13 09:49 J -35050900.24 -35050900.09 -35050899.94 0.0270 0.0032

Earth -100678-12-19 22:33 J -35050863.65 -35050863.56 -35050863.48 0.2688 0.2095

Moon -100678-12-19 23:16 J -35050863.62 -35050863.53 -35050863.45 0.2682 0.2104 *

Saturn -100677-02-09 23:45 J -35050811.66 -35050811.51 -35050811.36 0.0270 0.0042

Saturn -100677-05-08 13:25 J -35050723.08 -35050722.94 -35050722.81 0.0270 0.0114

Saturn -100677-08-05 02:52 J -35050634.49 -35050634.38 -35050634.28 0.0270 0.0186

Saturn -100677-11-01 15:49 J -35050545.88 -35050545.84 -35050545.79 0.0271 0.0255

Venus -100674-03-23 06:42 J -35049674.35 -35049674.22 -35049674.10 0.3605 0.1207

Jupiter -100674-12-15 18:42 J -35049406.88 -35049406.72 -35049406.57 0.0523 0.0094

Jupiter -100673-03-14 12:57 J -35049317.04 -35049316.96 -35049316.88 0.0526 0.0443

Mars -100671-03-22 14:52 J -35048578.96 -35048578.88 -35048578.79 0.1628 0.1303

Mars -100669-02-26 12:57 J -35047873.10 -35047872.96 -35047872.82 0.1636 0.0487

Venus -100669-10-06 05:16 J -35047650.38 -35047650.28 -35047650.19 0.3608 0.2480

Mars -100668-01-08 10:33 J -35047556.17 -35047556.06 -35047555.94 0.1892 0.0922

Jupiter -100668-05-05 09:06 J -35047439.22 -35047439.12 -35047439.02 0.0507 0.0365

Earth -100668-07-06 08:23 J -35047377.24 -35047377.15 -35047377.05 0.2665 0.1569

Moon -100668-07-06 09:21 J -35047377.21 -35047377.11 -35047377.02 0.2664 0.1662 *

Jupiter -100668-08-02 23:01 J -35047349.68 -35047349.54 -35047349.39 0.0504 0.0107

Mars -100667-12-15 14:23 J -35046849.95 -35046849.90 -35046849.84 0.1879 0.1660

Moon -100665-12-21 23:45 J -35046112.65 -35046112.51 -35046112.37 0.2677 0.0438

Earth -100665-12-21 23:45 J -35046112.64 -35046112.51 -35046112.37 0.2683 0.0473 *

Saturn -100664-12-03 06:57 J -35045766.30 -35045766.21 -35045766.12 0.0290 0.0234

Saturn -100663-03-01 23:45 J -35045677.64 -35045677.51 -35045677.37 0.0289 0.0143

Saturn -100663-05-29 17:01 J -35045588.95 -35045588.79 -35045588.64 0.0289 0.0050

Saturn -100663-08-26 10:33 J -35045500.22 -35045500.06 -35045499.90 0.0289 0.0046

Saturn -100663-11-23 04:33 J -35045411.45 -35045411.31 -35045411.17 0.0289 0.0143

Saturn -100662-02-19 22:47 J -35045322.63 -35045322.55 -35045322.46 0.0289 0.0242

Jupiter -100662-10-03 19:40 J -35045096.81 -35045096.68 -35045096.53 0.0522 0.0223

Jupiter -100661-01-01 14:37 J -35045007.01 -35045006.89 -35045006.77 0.0526 0.0319

Moon -100661-06-29 01:40 J -35044827.52 -35044827.43 -35044827.34 0.2659 0.1660

Earth -100661-06-29 01:54 J -35044827.52 -35044827.42 -35044827.33 0.2652 0.1695 *

Uranus -100660-07-14 15:21 J -35044446.92 -35044446.86 -35044446.79 0.0144 0.0130

Mars -100660-07-18 19:11 J -35044442.85 -35044442.70 -35044442.56 0.1633 0.0041

Uranus -100660-10-10 20:23 J -35044358.74 -35044358.65 -35044358.53 0.0144 0.0110

Uranus -100659-01-07 01:54 J -35044270.53 -35044270.42 -35044270.29 0.0144 0.0088

Uranus -100659-04-05 07:25 J -35044182.32 -35044182.19 -35044182.04 0.0145 0.0065

Mars -100659-05-31 14:37 J -35044125.95 -35044125.89 -35044125.82 0.1895 0.1614

Uranus -100659-07-02 12:57 J -35044094.11 -35044093.96 -35044093.80 0.0145 0.0043

Uranus -100659-09-28 18:42 J -35044005.88 -35044005.72 -35044005.57 0.0145 0.0021

Uranus -100659-12-26 00:13 J -35043917.65 -35043917.49 -35043917.33 0.0145 0.0002

Uranus -100658-03-24 05:59 J -35043829.41 -35043829.25 -35043829.09 0.0145 0.0025

Uranus -100658-06-20 11:45 J -35043741.16 -35043741.01 -35043740.86 0.0145 0.0049

Uranus -100658-09-16 17:16 J -35043652.91 -35043652.78 -35043652.63 0.0145 0.0073

Uranus -100658-12-13 23:01 J -35043564.65 -35043564.54 -35043564.41 0.0145 0.0097

Uranus -100657-03-11 05:16 J -35043476.37 -35043476.28 -35043476.19 0.0146 0.0120

Mars -100657-05-06 20:09 J -35043419.77 -35043419.66 -35043419.56 0.1883 0.1066

Uranus -100657-06-07 11:16 J -35043388.05 -35043388.03 -35043388.01 0.0146 0.0144

Jupiter -100656-02-21 11:45 J -35043129.06 -35043129.01 -35043128.96 0.0508 0.0476

Jupiter -100656-05-22 01:25 J -35043039.59 -35043039.44 -35043039.29 0.0504 0.0016

Jupiter -100656-08-19 16:18 J -35042949.87 -35042949.82 -35042949.77 0.0501 0.0468

Venus -100655-07-30 16:18 J -35042604.88 -35042604.82 -35042604.75 0.3785 0.3046

Pluto -100652-01-28 11:59 J -35041692.02 -35041692.00 -35041691.97 0.0060 0.0059

Pluto -100652-04-26 13:25 J -35041604.03 -35041603.94 -35041603.84 0.0060 0.0053

Pluto -100652-07-23 14:52 J -35041516.00 -35041515.88 -35041515.74 0.0060 0.0046

Pluto -100652-10-19 16:18 J -35041427.96 -35041427.82 -35041427.66 0.0060 0.0039

Moon -100652-12-25 00:28 J -35041361.61 -35041361.48 -35041361.35 0.2673 0.1105

Earth -100652-12-25 01:25 J -35041361.57 -35041361.44 -35041361.32 0.2678 0.1196 *

Pluto -100651-01-15 17:45 J -35041339.91 -35041339.76 -35041339.58 0.0060 0.0032

Pluto -100651-04-13 19:11 J -35041251.87 -35041251.70 -35041251.50 0.0060 0.0025

Pluto -100651-07-10 20:37 J -35041163.81 -35041163.64 -35041163.43 0.0061 0.0018

Pluto -100651-10-06 22:33 J -35041075.75 -35041075.56 -35041075.36 0.0061 0.0010

Mars -100651-12-09 01:40 J -35041012.57 -35041012.43 -35041012.29 0.1631 0.0405

Pluto -100650-01-02 23:59 J -35040987.69 -35040987.50 -35040987.30 0.0061 0.0003

Pluto -100650-04-01 01:25 J -35040899.63 -35040899.44 -35040899.24 0.0061 0.0005

Pluto -100650-06-28 03:06 J -35040811.56 -35040811.37 -35040811.18 0.0061 0.0012

Jupiter -100650-07-22 21:06 J -35040786.74 -35040786.62 -35040786.51 0.0521 0.0352

Pluto -100650-09-24 04:33 J -35040723.49 -35040723.31 -35040723.12 0.0061 0.0019

Jupiter -100650-10-20 16:18 J -35040696.96 -35040696.82 -35040696.68 0.0525 0.0193

Pluto -100650-12-21 05:45 J -35040635.42 -35040635.26 -35040635.06 0.0061 0.0027

Venus -100649-02-13 11:01 J -35040581.13 -35040581.04 -35040580.94 0.3782 0.2006

Pluto -100649-03-18 07:25 J -35040547.34 -35040547.19 -35040547.01 0.0061 0.0034

Pluto -100649-06-14 09:06 J -35040459.26 -35040459.12 -35040458.97 0.0061 0.0041

Pluto -100649-09-10 10:18 J -35040371.17 -35040371.07 -35040370.93 0.0061 0.0049

Saturn -100649-10-06 04:47 J -35040345.39 -35040345.30 -35040345.21 0.0270 0.0215

Mars -100649-11-14 01:40 J -35040306.49 -35040306.43 -35040306.37 0.1641 0.1490

Pluto -100649-12-07 11:59 J -35040283.06 -35040283.00 -35040282.91 0.0061 0.0056

Saturn -100648-01-02 19:25 J -35040256.82 -35040256.69 -35040256.56 0.0270 0.0138

Saturn -100648-04-01 09:35 J -35040168.25 -35040168.10 -35040167.95 0.0270 0.0063

Saturn -100648-06-28 23:45 J -35040079.66 -35040079.51 -35040079.36 0.0270 0.0013

Earth -100648-07-01 21:49 J -35040076.71 -35040076.59 -35040076.47 0.2657 0.0510

Moon -100648-07-01 22:18 J -35040076.69 -35040076.57 -35040076.46 0.2663 0.0543 *

Saturn -100648-09-25 13:25 J -35039991.08 -35039990.94 -35039990.80 0.0270 0.0085

Mars -100648-09-27 01:11 J -35039989.57 -35039989.45 -35039989.32 0.1886 0.0451

Saturn -100648-12-23 02:52 J -35039902.50 -35039902.38 -35039902.26 0.0270 0.0157

Saturn -100647-03-21 16:04 J -35039813.90 -35039813.83 -35039813.74 0.0270 0.0228

Jupiter -100644-03-10 03:06 J -35038729.51 -35038729.37 -35038729.23 0.0505 0.0131

Jupiter -100644-06-07 17:30 J -35038639.87 -35038639.77 -35038639.65 0.0502 0.0345

Venus -100644-08-29 05:59 J -35038557.36 -35038557.25 -35038557.15 0.3779 0.0951

Mars -100641-04-30 08:23 J -35037582.27 -35037582.15 -35037582.03 0.1629 0.0835

Mars -100639-04-06 07:25 J -35036876.31 -35036876.19 -35036876.08 0.1638 0.1010

Mars -100638-02-17 06:13 J -35036559.37 -35036559.24 -35036559.11 0.1889 0.0198

Venus -100638-03-15 00:57 J -35036533.57 -35036533.46 -35036533.34 0.3776 0.0178

Jupiter -100638-05-10 21:35 J -35036476.64 -35036476.60 -35036476.54 0.0520 0.0488

Jupiter -100638-08-08 17:30 J -35036386.93 -35036386.77 -35036386.62 0.0524 0.0062

Earth -100635-07-04 17:45 J -35035325.87 -35035325.76 -35035325.64 0.2661 0.0658

Moon -100635-07-04 18:42 J -35035325.84 -35035325.72 -35035325.61 0.2663 0.0816 *

Venus -100634-03-14 08:09 J -35035073.26 -35035073.16 -35035073.07 0.3596 0.2511

Saturn -100634-04-22 06:42 J -35035034.27 -35035034.22 -35035034.15 0.0290 0.0264

Saturn -100634-07-19 23:30 J -35034945.63 -35034945.52 -35034945.39 0.0290 0.0174

Saturn -100634-10-16 16:47 J -35034856.95 -35034856.80 -35034856.65 0.0289 0.0080

Saturn -100633-01-13 10:18 J -35034768.23 -35034768.07 -35034767.91 0.0289 0.0015

Saturn -100633-04-11 04:04 J -35034679.47 -35034679.33 -35034679.18 0.0289 0.0112

Saturn -100633-07-08 22:33 J -35034590.67 -35034590.56 -35034590.45 0.0289 0.0210

Venus -100633-09-27 20:23 J -35034509.76 -35034509.65 -35034509.55 0.3772 0.1302

Jupiter -100633-12-27 05:16 J -35034419.40 -35034419.28 -35034419.15 0.0506 0.0247

Jupiter -100632-03-26 19:40 J -35034329.82 -35034329.68 -35034329.55 0.0503 0.0227

Mars -100632-09-20 15:21 J -35034151.95 -35034151.86 -35034151.77 0.1627 0.1250

Earth -100632-12-20 04:18 J -35034061.42 -35034061.32 -35034061.22 0.2688 0.1775

Moon -100632-12-20 05:01 J -35034061.40 -35034061.29 -35034061.18 0.2681 0.1619 *

Neptune -100631-09-01 17:45 J -35033805.77 -35033805.76 -35033805.73 0.0089 0.0088

Neptune -100631-11-28 19:54 J -35033717.72 -35033717.67 -35033717.62 0.0089 0.0083

Neptune -100630-02-24 21:35 J -35033629.66 -35033629.60 -35033629.52 0.0089 0.0079

Neptune -100630-05-23 23:30 J -35033541.59 -35033541.52 -35033541.43 0.0089 0.0075

Neptune -100630-08-20 01:11 J -35033453.52 -35033453.45 -35033453.34 0.0089 0.0071

Mars -100630-08-27 13:11 J -35033446.08 -35033445.95 -35033445.81 0.1636 0.0543

Neptune -100630-11-16 03:21 J -35033365.45 -35033365.36 -35033365.25 0.0089 0.0066

Neptune -100629-02-12 05:16 J -35033277.38 -35033277.28 -35033277.17 0.0089 0.0062

Neptune -100629-05-10 06:57 J -35033189.31 -35033189.21 -35033189.08 0.0089 0.0058

Mars -100629-07-09 10:47 J -35033129.17 -35033129.05 -35033128.94 0.1892 0.0868

Neptune -100629-08-06 09:06 J -35033101.23 -35033101.12 -35033100.99 0.0089 0.0053

Venus -100629-09-27 07:40 J -35033049.30 -35033049.18 -35033049.05 0.3599 0.1084

Neptune -100629-11-02 11:01 J -35033013.16 -35033013.04 -35033012.90 0.0089 0.0049

Neptune -100628-01-29 13:11 J -35032925.08 -35032924.95 -35032924.82 0.0089 0.0044

Neptune -100628-04-27 15:06 J -35032837.00 -35032836.87 -35032836.73 0.0089 0.0040

Earth -100628-06-27 10:47 J -35032776.05 -35032776.05 -35032776.05 0.2648 0.2644

Neptune -100628-07-24 16:47 J -35032748.93 -35032748.80 -35032748.65 0.0089 0.0036

Neptune -100628-10-20 18:57 J -35032660.85 -35032660.71 -35032660.56 0.0089 0.0031

Neptune -100627-01-16 20:52 J -35032572.77 -35032572.63 -35032572.47 0.0089 0.0027

Venus -100627-04-13 15:49 J -35032485.92 -35032485.84 -35032485.75 0.3769 0.2470

Neptune -100627-04-14 23:01 J -35032484.68 -35032484.54 -35032484.39 0.0089 0.0022

Mars -100627-06-15 14:37 J -35032422.94 -35032422.89 -35032422.84 0.1879 0.1715

Neptune -100627-07-12 00:57 J -35032396.60 -35032396.46 -35032396.30 0.0089 0.0018

Neptune -100627-10-08 03:06 J -35032308.52 -35032308.37 -35032308.22 0.0089 0.0013

Neptune -100626-01-04 05:01 J -35032220.44 -35032220.29 -35032220.13 0.0089 0.0009

Neptune -100626-04-02 07:11 J -35032132.35 -35032132.20 -35032132.05 0.0089 0.0004

Jupiter -100626-05-27 17:16 J -35032076.93 -35032076.78 -35032076.63 0.0522 0.0086

Neptune -100626-06-29 09:21 J -35032044.27 -35032044.11 -35032043.96 0.0089 0.0002

Jupiter -100626-08-25 11:45 J -35031987.09 -35031987.01 -35031986.94 0.0526 0.0450

Neptune -100626-09-25 11:16 J -35031956.18 -35031956.03 -35031955.87 0.0089 0.0006

Neptune -100626-12-22 13:25 J -35031868.10 -35031867.94 -35031867.79 0.0089 0.0010

Neptune -100625-03-19 15:21 J -35031780.01 -35031779.86 -35031779.70 0.0089 0.0015

Neptune -100625-06-15 17:16 J -35031691.92 -35031691.78 -35031691.62 0.0089 0.0020

Neptune -100625-09-11 19:40 J -35031603.83 -35031603.68 -35031603.53 0.0089 0.0024

Neptune -100625-12-08 21:35 J -35031515.74 -35031515.60 -35031515.45 0.0089 0.0029

Neptune -100624-03-06 23:30 J -35031427.65 -35031427.52 -35031427.36 0.0089 0.0034

Neptune -100624-06-03 01:54 J -35031339.56 -35031339.42 -35031339.28 0.0089 0.0038

Neptune -100624-08-30 03:49 J -35031251.47 -35031251.34 -35031251.19 0.0089 0.0043

Neptune -100624-11-26 05:59 J -35031163.37 -35031163.25 -35031163.11 0.0089 0.0048

Neptune -100623-02-22 08:23 J -35031075.28 -35031075.15 -35031075.02 0.0089 0.0052

Venus -100623-04-13 07:11 J -35031025.33 -35031025.20 -35031025.07 0.3602 0.0307

Neptune -100623-05-21 10:33 J -35030987.18 -35030987.06 -35030986.94 0.0089 0.0057

Neptune -100623-08-17 12:28 J -35030899.08 -35030898.98 -35030898.86 0.0089 0.0062

Neptune -100623-11-13 14:37 J -35030810.98 -35030810.89 -35030810.77 0.0089 0.0067

Neptune -100622-02-09 16:47 J -35030722.88 -35030722.80 -35030722.69 0.0089 0.0072

Neptune -100622-05-08 19:25 J -35030634.77 -35030634.69 -35030634.61 0.0089 0.0076

Earth -100622-07-07 13:25 J -35030575.02 -35030574.94 -35030574.85 0.2666 0.1812

Moon -100622-07-07 14:09 J -35030574.99 -35030574.91 -35030574.82 0.2663 0.1846 *

Neptune -100622-08-04 21:35 J -35030546.66 -35030546.60 -35030546.54 0.0089 0.0081

Venus -100622-10-28 11:45 J -35030462.03 -35030462.01 -35030461.99 0.3765 0.3670

Neptune -100622-10-31 23:45 J -35030458.54 -35030458.51 -35030458.47 0.0089 0.0086

Uranus -100621-09-13 06:42 J -35030141.24 -35030141.22 -35030141.19 0.0135 0.0133

Jupiter -100621-10-15 07:54 J -35030109.27 -35030109.17 -35030109.07 0.0508 0.0359

Uranus -100621-12-10 11:16 J -35030053.10 -35030053.03 -35030052.94 0.0135 0.0115

Jupiter -100620-01-12 21:49 J -35030019.74 -35030019.59 -35030019.44 0.0504 0.0113

Mars -100620-01-16 19:25 J -35030015.83 -35030015.69 -35030015.54 0.1633 0.0089

Uranus -100620-03-08 16:04 J -35029964.93 -35029964.83 -35029964.72 0.0135 0.0096

Uranus -100620-06-04 20:37 J -35029876.76 -35029876.64 -35029876.51 0.0134 0.0078

Uranus -100620-09-01 01:25 J -35029788.58 -35029788.44 -35029788.30 0.0134 0.0060

Uranus -100620-11-28 05:59 J -35029700.40 -35029700.25 -35029700.10 0.0134 0.0042

Mars -100620-11-29 14:52 J -35029698.95 -35029698.88 -35029698.80 0.1895 0.1556

Saturn -100619-02-23 06:57 J -35029613.27 -35029613.21 -35029613.12 0.0270 0.0234

Uranus -100619-02-24 10:18 J -35029612.22 -35029612.07 -35029611.91 0.0134 0.0024

Saturn -100619-05-22 21:49 J -35029524.71 -35029524.59 -35029524.46 0.0270 0.0157

Uranus -100619-05-23 14:52 J -35029524.04 -35029523.88 -35029523.73 0.0134 0.0006

Saturn -100619-08-19 12:13 J -35029436.14 -35029435.99 -35029435.85 0.0270 0.0081

Uranus -100619-08-19 19:11 J -35029435.85 -35029435.70 -35029435.54 0.0134 0.0011 *

Uranus -100619-11-15 23:30 J -35029347.67 -35029347.52 -35029347.37 0.0134 0.0029

Saturn -100619-11-16 02:09 J -35029347.56 -35029347.41 -35029347.25 0.0270 0.0010 *

Moon -100619-12-23 05:16 J -35029310.42 -35029310.28 -35029310.14 0.2676 0.0236

Earth -100619-12-23 05:30 J -35029310.40 -35029310.27 -35029310.13 0.2682 0.0165 *

Uranus -100618-02-12 03:49 J -35029259.48 -35029259.34 -35029259.19 0.0134 0.0046

Saturn -100618-02-12 16:04 J -35029258.97 -35029258.83 -35029258.68 0.0270 0.0068

Uranus -100618-05-11 08:09 J -35029171.29 -35029171.16 -35029171.02 0.0134 0.0063

Saturn -100618-05-12 05:30 J -35029170.39 -35029170.27 -35029170.14 0.0271 0.0141

Uranus -100618-08-07 12:13 J -35029083.10 -35029082.99 -35029082.86 0.0133 0.0080

Saturn -100618-08-08 18:57 J -35029081.80 -35029081.71 -35029081.62 0.0271 0.0211

Venus -100618-10-28 05:59 J -35029001.37 -35029001.25 -35029001.13 0.3606 0.1614

Uranus -100618-11-03 16:18 J -35028994.91 -35028994.82 -35028994.70 0.0133 0.0097

Mars -100618-11-05 20:09 J -35028992.76 -35028992.66 -35028992.56 0.1883 0.1119

Uranus -100617-01-30 20:37 J -35028906.71 -35028906.64 -35028906.55 0.0133 0.0113

Uranus -100617-04-28 00:42 J -35028818.49 -35028818.47 -35028818.42 0.0133 0.0129

Moon -100615-06-30 06:57 J -35028025.31 -35028025.21 -35028025.11 0.2660 0.1497

Earth -100615-06-30 06:57 J -35028025.31 -35028025.21 -35028025.11 0.2653 0.1444 *

Jupiter -100614-03-15 18:13 J -35027766.88 -35027766.74 -35027766.60 0.0522 0.0220

Jupiter -100614-06-13 12:57 J -35027677.08 -35027676.96 -35027676.84 0.0525 0.0320

Venus -100612-05-13 04:33 J -35026977.39 -35026977.31 -35026977.23 0.3609 0.2879

Mars -100611-06-09 01:54 J -35026585.56 -35026585.42 -35026585.28 0.1631 0.0362

Mars -100609-05-15 01:54 J -35025879.47 -35025879.42 -35025879.37 0.1641 0.1541

Jupiter -100609-08-03 10:18 J -35025799.12 -35025799.07 -35025799.01 0.0508 0.0470

Jupiter -100609-10-31 23:59 J -35025709.65 -35025709.50 -35025709.35 0.0505 0.0013

Jupiter -100608-01-29 15:06 J -35025619.92 -35025619.87 -35025619.83 0.0501 0.0476

Mars -100608-03-28 01:25 J -35025562.56 -35025562.44 -35025562.31 0.1887 0.0501

Moon -100606-12-26 06:13 J -35024559.36 -35024559.24 -35024559.12 0.2673 0.1445

Earth -100606-12-26 07:11 J -35024559.31 -35024559.20 -35024559.08 0.2677 0.1534 *

Saturn -100605-12-05 23:30 J -35024213.63 -35024213.52 -35024213.41 0.0289 0.0205

Saturn -100604-03-04 16:33 J -35024124.96 -35024124.81 -35024124.67 0.0289 0.0114

Saturn -100604-06-01 09:49 J -35024036.25 -35024036.09 -35024035.93 0.0289 0.0020

Venus -100604-08-20 20:09 J -35023955.68 -35023955.66 -35023955.64 0.3787 0.3717

Saturn -100604-08-29 03:21 J -35023947.51 -35023947.36 -35023947.20 0.0289 0.0077

Saturn -100604-11-25 21:35 J -35023858.73 -35023858.60 -35023858.47 0.0289 0.0174

Saturn -100603-02-22 16:04 J -35023769.88 -35023769.83 -35023769.78 0.0289 0.0273

Jupiter -100602-01-01 19:11 J -35023456.81 -35023456.70 -35023456.59 0.0521 0.0352

Jupiter -100602-04-01 14:23 J -35023367.04 -35023366.90 -35023366.76 0.0525 0.0193

Earth -100602-07-03 03:06 J -35023274.49 -35023274.37 -35023274.25 0.2657 0.0270

Moon -100602-07-03 03:35 J -35023274.47 -35023274.35 -35023274.23 0.2662 0.0144 *

Mars -100602-10-30 08:37 J -35023155.26 -35023155.14 -35023155.01 0.1629 0.0784

Mars -100600-10-05 07:40 J -35022449.29 -35022449.18 -35022449.07 0.1638 0.1062

Mars -100599-08-18 06:28 J -35022132.36 -35022132.23 -35022132.10 0.1889 0.0149

Venus -100598-03-06 14:37 J -35021931.97 -35021931.89 -35021931.81 0.3784 0.2705

Jupiter -100597-08-20 02:23 J -35021399.54 -35021399.40 -35021399.25 0.0505 0.0117

Jupiter -100597-11-17 17:01 J -35021309.90 -35021309.79 -35021309.69 0.0502 0.0359

Venus -100593-09-19 09:21 J -35019908.21 -35019908.11 -35019908.01 0.3781 0.1663

Mars -100592-03-21 15:35 J -35019724.94 -35019724.85 -35019724.76 0.1627 0.1203

Jupiter -100591-10-20 20:09 J -35019146.71 -35019146.66 -35019146.60 0.0520 0.0482

Jupiter -100590-01-18 16:04 J -35019056.98 -35019056.83 -35019056.68 0.0524 0.0067

Mars -100590-02-25 13:40 J -35019019.07 -35019018.93 -35019018.80 0.1636 0.0596

Saturn -100590-07-13 06:42 J -35018881.24 -35018881.22 -35018881.19 0.0270 0.0265

Saturn -100590-10-09 21:21 J -35018792.71 -35018792.61 -35018792.49 0.0270 0.0188

Saturn -100589-01-06 11:59 J -35018704.14 -35018704.00 -35018703.86 0.0270 0.0111

Mars -100589-01-08 11:01 J -35018702.16 -35018702.04 -35018701.92 0.1892 0.0807

Saturn -100589-04-04 02:09 J -35018615.56 -35018615.41 -35018615.26 0.0270 0.0035

Saturn -100589-07-01 16:04 J -35018526.98 -35018526.83 -35018526.68 0.0270 0.0039

Earth -100589-07-04 22:47 J -35018523.66 -35018523.55 -35018523.43 0.2662 0.0910

Moon -100589-07-04 23:45 J -35018523.62 -35018523.51 -35018523.40 0.2663 0.0921 *

Saturn -100589-09-28 05:45 J -35018438.39 -35018438.26 -35018438.12 0.0270 0.0112

Saturn -100589-12-25 19:11 J -35018349.80 -35018349.70 -35018349.59 0.0270 0.0183

Saturn -100588-03-24 08:23 J -35018261.19 -35018261.15 -35018261.10 0.0271 0.0253

Mars -100588-12-14 14:52 J -35017995.92 -35017995.88 -35017995.84 0.1879 0.1773

Venus -100587-04-05 04:18 J -35017884.43 -35017884.32 -35017884.21 0.3778 0.0591

Earth -100586-12-21 10:04 J -35017259.19 -35017259.08 -35017258.96 0.2687 0.1449

Moon -100586-12-21 10:47 J -35017259.17 -35017259.05 -35017258.94 0.2681 0.1479 *

Jupiter -100585-06-08 04:18 J -35017089.45 -35017089.32 -35017089.19 0.0506 0.0238

Jupiter -100585-09-05 18:28 J -35016999.86 -35016999.73 -35016999.59 0.0503 0.0235

Venus -100583-04-04 07:40 J -35016424.20 -35016424.18 -35016424.15 0.3594 0.3508

Mars -100583-08-11 22:47 J -35016294.57 -35016294.55 -35016294.54 0.1626 0.1610

Moon -100582-06-28 15:21 J -35015973.90 -35015973.86 -35015973.81 0.2654 0.2438

Earth -100582-06-28 16:04 J -35015973.88 -35015973.83 -35015973.78 0.2649 0.2395 *

Venus -100582-10-19 23:30 J -35015860.64 -35015860.52 -35015860.41 0.3775 0.0535

Mars -100581-07-17 19:40 J -35015588.82 -35015588.68 -35015588.53 0.1633 0.0143

Mars -100580-05-30 15:06 J -35015271.95 -35015271.87 -35015271.79 0.1895 0.1496

Jupiter -100579-11-06 17:01 J -35014746.94 -35014746.79 -35014746.64 0.0523 0.0067

Jupiter -100578-02-04 11:16 J -35014657.09 -35014657.03 -35014656.96 0.0526 0.0469

Mars -100578-05-06 20:23 J -35014565.75 -35014565.65 -35014565.55 0.1883 0.1176

Venus -100578-10-19 07:40 J -35014400.29 -35014400.18 -35014400.07 0.3597 0.2043

Venus -100576-05-04 18:42 J -35013836.82 -35013836.72 -35013836.61 0.3771 0.1669

Uranus -100576-05-07 18:13 J -35013833.75 -35013833.74 -35013833.72 0.0144 0.0143

Earth -100576-07-07 18:42 J -35013772.80 -35013772.72 -35013772.65 0.2667 0.2053

Moon -100576-07-07 19:11 J -35013772.77 -35013772.70 -35013772.63 0.2662 0.2163 *

Uranus -100576-08-03 23:30 J -35013745.60 -35013745.52 -35013745.44 0.0144 0.0122

Uranus -100576-10-31 04:47 J -35013657.41 -35013657.30 -35013657.18 0.0144 0.0101

Uranus -100575-01-27 10:18 J -35013569.20 -35013569.07 -35013568.94 0.0144 0.0079

Saturn -100575-04-24 23:30 J -35013481.61 -35013481.52 -35013481.44 0.0289 0.0236

Uranus -100575-04-25 15:49 J -35013480.99 -35013480.84 -35013480.70 0.0145 0.0057

Saturn -100575-07-22 16:04 J -35013392.95 -35013392.83 -35013392.69 0.0289 0.0146

Uranus -100575-07-22 21:21 J -35013392.77 -35013392.61 -35013392.46 0.0145 0.0035 *

Uranus -100575-10-19 02:52 J -35013304.54 -35013304.38 -35013304.22 0.0145 0.0012

Saturn -100575-10-19 09:21 J -35013304.26 -35013304.11 -35013303.95 0.0289 0.0053 *

Uranus -100574-01-15 08:23 J -35013216.30 -35013216.15 -35013215.99 0.0145 0.0012

Saturn -100574-01-16 03:06 J -35013215.53 -35013215.37 -35013215.21 0.0289 0.0044

Uranus -100574-04-13 14:09 J -35013128.06 -35013127.91 -35013127.75 0.0145 0.0034

Saturn -100574-04-14 20:52 J -35013126.76 -35013126.63 -35013126.48 0.0289 0.0142

Uranus -100574-07-10 19:54 J -35013039.81 -35013039.67 -35013039.52 0.0145 0.0057

Saturn -100574-07-12 15:21 J -35013037.94 -35013037.86 -35013037.77 0.0289 0.0240

Uranus -100574-10-07 01:40 J -35012951.56 -35012951.43 -35012951.29 0.0145 0.0081

Uranus -100573-01-03 07:40 J -35012863.29 -35012863.18 -35012863.07 0.0145 0.0105

Jupiter -100573-03-27 06:28 J -35012779.33 -35012779.23 -35012779.12 0.0507 0.0353

Uranus -100573-03-31 13:25 J -35012775.01 -35012774.94 -35012774.86 0.0146 0.0129

Jupiter -100573-06-24 20:37 J -35012689.79 -35012689.64 -35012689.50 0.0504 0.0118

Moon -100573-12-23 11:01 J -35012508.19 -35012508.04 -35012507.90 0.2675 0.0237

Earth -100573-12-23 11:30 J -35012508.16 -35012508.02 -35012507.88 0.2682 0.0192 *

Venus -100572-05-04 07:25 J -35012376.32 -35012376.19 -35012376.06 0.3600 0.0630

Mars -100572-12-08 02:23 J -35012158.54 -35012158.40 -35012158.26 0.1631 0.0305

Venus -100571-11-18 14:23 J -35011812.97 -35011812.90 -35011812.82 0.3767 0.2845

Mars -100570-11-14 02:23 J -35011452.43 -35011452.40 -35011452.37 0.1641 0.1602

Moon -100569-06-30 12:13 J -35011223.10 -35011222.99 -35011222.89 0.2660 0.1173

Earth -100569-06-30 12:13 J -35011223.10 -35011222.99 -35011222.89 0.2653 0.1199 *

Mars -100569-09-26 01:40 J -35011135.55 -35011135.43 -35011135.30 0.1886 0.0564

Jupiter -100567-08-25 16:47 J -35010436.93 -35010436.80 -35010436.65 0.0521 0.0213

Venus -100567-11-18 06:42 J -35010352.35 -35010352.22 -35010352.10 0.3603 0.0740

Jupiter -100567-11-23 11:45 J -35010347.13 -35010347.01 -35010346.90 0.0525 0.0327

Mars -100562-04-30 08:52 J -35008728.26 -35008728.13 -35008728.00 0.1629 0.0738

Jupiter -100561-01-14 08:52 J -35008469.18 -35008469.13 -35008469.07 0.0509 0.0467

Jupiter -100561-04-12 22:33 J -35008379.71 -35008379.56 -35008379.41 0.0505 0.0013

Venus -100561-06-03 05:16 J -35008328.38 -35008328.28 -35008328.17 0.3607 0.2024

Jupiter -100561-07-11 13:40 J -35008289.97 -35008289.93 -35008289.89 0.0502 0.0482

Saturn -100560-02-25 23:59 J -35008060.60 -35008060.50 -35008060.40 0.0270 0.0207

Mars -100560-04-05 07:54 J -35008022.27 -35008022.17 -35008022.06 0.1638 0.1119

Saturn -100560-05-25 14:23 J -35007972.03 -35007971.90 -35007971.76 0.0270 0.0130

Saturn -100560-08-22 04:47 J -35007883.45 -35007883.30 -35007883.15 0.0270 0.0054

Saturn -100560-11-18 18:42 J -35007794.87 -35007794.72 -35007794.57 0.0271 0.0022

Moon -100560-12-26 11:59 J -35007757.10 -35007757.00 -35007756.89 0.2674 0.1725

Earth -100560-12-26 13:11 J -35007757.05 -35007756.95 -35007756.85 0.2677 0.1874 *

Saturn -100559-02-15 08:37 J -35007706.28 -35007706.14 -35007706.00 0.0271 0.0095

Mars -100559-02-16 06:28 J -35007705.36 -35007705.23 -35007705.10 0.1890 0.0102

Saturn -100559-05-14 22:04 J -35007617.70 -35007617.58 -35007617.46 0.0271 0.0167

Saturn -100559-08-11 11:16 J -35007529.10 -35007529.03 -35007528.96 0.0271 0.0237

Pluto -100559-08-24 12:13 J -35007516.04 -35007515.99 -35007515.94 0.0085 0.0077

Pluto -100559-11-20 13:25 J -35007428.02 -35007427.94 -35007427.85 0.0085 0.0064

Pluto -100558-02-16 14:37 J -35007339.99 -35007339.89 -35007339.78 0.0084 0.0051

Pluto -100558-05-15 15:49 J -35007251.95 -35007251.84 -35007251.71 0.0084 0.0038

Pluto -100558-08-11 17:16 J -35007163.91 -35007163.78 -35007163.65 0.0084 0.0024

Pluto -100558-11-07 18:28 J -35007075.86 -35007075.73 -35007075.60 0.0084 0.0011

Pluto -100557-02-03 19:40 J -35006987.81 -35006987.68 -35006987.54 0.0084 0.0004

Pluto -100557-05-01 21:06 J -35006899.75 -35006899.62 -35006899.49 0.0084 0.0015

Pluto -100557-07-28 22:04 J -35006811.70 -35006811.58 -35006811.45 0.0084 0.0028

Pluto -100557-10-24 23:16 J -35006723.64 -35006723.53 -35006723.41 0.0084 0.0041

Pluto -100556-01-21 00:28 J -35006635.57 -35006635.48 -35006635.37 0.0083 0.0054

Pluto -100556-04-19 01:40 J -35006547.50 -35006547.43 -35006547.34 0.0083 0.0066

Earth -100556-07-03 08:09 J -35006472.28 -35006472.16 -35006472.04 0.2658 0.0015

Moon -100556-07-03 08:52 J -35006472.25 -35006472.13 -35006472.01 0.2662 0.0012 *

Pluto -100556-07-16 03:06 J -35006459.41 -35006459.37 -35006459.33 0.0083 0.0079

Venus -100556-12-18 03:49 J -35006304.39 -35006304.34 -35006304.29 0.3610 0.3269

Jupiter -100555-06-13 17:30 J -35006126.88 -35006126.77 -35006126.65 0.0520 0.0348

Jupiter -100555-09-11 12:42 J -35006037.11 -35006036.97 -35006036.83 0.0524 0.0194

Mars -100553-09-19 15:49 J -35005297.94 -35005297.84 -35005297.74 0.1627 0.1157

Moon -100553-12-18 15:49 J -35005207.84 -35005207.84 -35005207.83 0.2687 0.2677

Mars -100551-08-26 13:54 J -35004592.06 -35004591.92 -35004591.79 0.1635 0.0645

Mars -100550-07-09 11:16 J -35004275.15 -35004275.03 -35004274.91 0.1893 0.0746

Jupiter -100549-01-31 00:57 J -35004069.61 -35004069.46 -35004069.32 0.0506 0.0113

Jupiter -100549-04-29 15:35 J -35003979.95 -35003979.85 -35003979.75 0.0502 0.0364

Neptune -100548-03-09 19:11 J -35003665.73 -35003665.70 -35003665.67 0.0089 0.0087

Neptune -100548-06-05 21:35 J -35003577.66 -35003577.60 -35003577.54 0.0089 0.0082

Mars -100548-06-14 14:52 J -35003568.91 -35003568.88 -35003568.85 0.1880 0.1822

Neptune -100548-09-01 23:59 J -35003489.57 -35003489.50 -35003489.41 0.0089 0.0077

Neptune -100548-11-29 02:37 J -35003401.49 -35003401.39 -35003401.30 0.0089 0.0072

Neptune -100547-02-25 05:01 J -35003313.40 -35003313.29 -35003313.18 0.0089 0.0067

Venus -100547-03-27 18:13 J -35003282.78 -35003282.74 -35003282.69 0.3786 0.3386

Neptune -100547-05-24 07:11 J -35003225.30 -35003225.20 -35003225.07 0.0089 0.0062

Neptune -100547-08-20 09:35 J -35003137.21 -35003137.10 -35003136.96 0.0089 0.0058

Neptune -100547-11-16 11:59 J -35003049.12 -35003049.00 -35003048.85 0.0089 0.0053

Neptune -100546-02-12 14:37 J -35002961.02 -35002960.89 -35002960.74 0.0089 0.0047

Neptune -100546-05-11 17:01 J -35002872.93 -35002872.79 -35002872.64 0.0088 0.0042

Neptune -100546-08-07 19:25 J -35002784.83 -35002784.69 -35002784.53 0.0088 0.0038

Saturn -100546-09-11 23:59 J -35002749.55 -35002749.50 -35002749.43 0.0289 0.0264

Neptune -100546-11-03 21:49 J -35002696.74 -35002696.59 -35002696.43 0.0088 0.0033

Saturn -100546-12-09 16:47 J -35002660.92 -35002660.80 -35002660.67 0.0289 0.0173

Neptune -100545-01-31 00:13 J -35002608.64 -35002608.49 -35002608.33 0.0088 0.0028

Saturn -100545-03-07 09:49 J -35002572.24 -35002572.09 -35002571.94 0.0289 0.0081

Neptune -100545-04-28 02:37 J -35002520.54 -35002520.39 -35002520.23 0.0088 0.0023

Saturn -100545-06-04 03:21 J -35002483.52 -35002483.36 -35002483.20 0.0289 0.0014

Neptune -100545-07-25 05:01 J -35002432.45 -35002432.29 -35002432.13 0.0088 0.0018

Saturn -100545-08-31 21:06 J -35002394.77 -35002394.62 -35002394.47 0.0289 0.0110

Neptune -100545-10-21 07:25 J -35002344.35 -35002344.19 -35002344.03 0.0088 0.0013

Saturn -100545-11-28 15:21 J -35002305.97 -35002305.86 -35002305.75 0.0289 0.0208

Neptune -100544-01-17 09:35 J -35002256.26 -35002256.10 -35002255.93 0.0088 0.0009

Neptune -100544-04-15 11:59 J -35002168.16 -35002168.00 -35002167.83 0.0088 0.0004

Neptune -100544-07-12 14:23 J -35002080.06 -35002079.90 -35002079.74 0.0088 0.0001

Neptune -100544-10-08 16:33 J -35001991.97 -35001991.81 -35001991.64 0.0088 0.0007

Neptune -100543-01-04 18:57 J -35001903.87 -35001903.71 -35001903.55 0.0088 0.0011

Mars -100543-02-09 23:01 J -35001867.58 -35001867.54 -35001867.50 0.1626 0.1562

Jupiter -100543-04-01 18:13 J -35001816.79 -35001816.74 -35001816.68 0.0520 0.0483

Neptune -100543-04-02 21:06 J -35001815.77 -35001815.62 -35001815.46 0.0088 0.0016

Neptune -100543-06-29 23:16 J -35001727.68 -35001727.53 -35001727.36 0.0088 0.0021

Jupiter -100543-06-30 13:54 J -35001727.07 -35001726.92 -35001726.77 0.0524 0.0065

Earth -100543-07-06 04:04 J -35001721.44 -35001721.33 -35001721.23 0.2662 0.1152

Moon -100543-07-06 04:47 J -35001721.40 -35001721.30 -35001721.19 0.2663 0.1303 *

Neptune -100543-09-26 01:40 J -35001639.58 -35001639.43 -35001639.27 0.0088 0.0025

Neptune -100543-12-23 03:49 J -35001551.48 -35001551.34 -35001551.18 0.0088 0.0030

Neptune -100542-03-21 05:59 J -35001463.39 -35001463.25 -35001463.09 0.0088 0.0035

Neptune -100542-06-17 08:23 J -35001375.29 -35001375.15 -35001375.00 0.0088 0.0039

Neptune -100542-09-13 10:33 J -35001287.19 -35001287.06 -35001286.92 0.0088 0.0044

Venus -100542-10-11 12:57 J -35001259.05 -35001258.96 -35001258.88 0.3783 0.2370

Neptune -100542-12-10 12:42 J -35001199.10 -35001198.97 -35001198.83 0.0088 0.0048

Mars -100541-01-16 20:09 J -35001161.80 -35001161.66 -35001161.52 0.1633 0.0193

Neptune -100541-03-07 14:52 J -35001111.00 -35001110.88 -35001110.74 0.0088 0.0053

Neptune -100541-06-03 17:01 J -35001022.90 -35001022.79 -35001022.66 0.0088 0.0057

Neptune -100541-08-30 19:25 J -35000934.80 -35000934.69 -35000934.58 0.0088 0.0062

Neptune -100541-11-26 21:21 J -35000846.70 -35000846.61 -35000846.50 0.0088 0.0066

Mars -100541-11-28 15:35 J -35000844.94 -35000844.85 -35000844.77 0.1895 0.1432

Neptune -100540-02-22 23:30 J -35000758.60 -35000758.52 -35000758.42 0.0088 0.0071

Neptune -100540-05-22 01:25 J -35000670.50 -35000670.44 -35000670.34 0.0088 0.0076

Neptune -100540-08-18 03:49 J -35000582.40 -35000582.34 -35000582.27 0.0088 0.0080

Neptune -100540-11-14 05:45 J -35000494.29 -35000494.26 -35000494.20 0.0088 0.0084

Earth -100540-12-21 16:04 J -35000456.96 -35000456.83 -35000456.71 0.2686 0.1123

Moon -100540-12-21 16:18 J -35000456.95 -35000456.82 -35000456.70 0.2680 0.1023 *

Neptune -100539-02-10 08:09 J -35000406.16 -35000406.16 -35000406.15 0.0088 0.0088

Mars -100539-11-04 20:37 J -35000138.73 -35000138.64 -35000138.54 0.1883 0.1241

Jupiter -100538-11-19 03:21 J -34999759.49 -34999759.36 -34999759.23 0.0506 0.0227

Jupiter -100537-02-16 17:30 J -34999669.90 -34999669.77 -34999669.63 0.0503 0.0247

Uranus -100537-10-03 14:37 J -34999439.93 -34999439.89 -34999439.83 0.0135 0.0126

Uranus -100537-12-30 19:11 J -34999351.78 -34999351.70 -34999351.59 0.0135 0.0108

Uranus -100536-03-29 00:13 J -34999263.61 -34999263.49 -34999263.37 0.0135 0.0089

Venus -100536-04-26 07:40 J -34999235.29 -34999235.18 -34999235.08 0.3780 0.1316

Uranus -100536-06-25 04:47 J -34999175.43 -34999175.30 -34999175.17 0.0134 0.0070

Moon -100536-06-28 20:37 J -34999171.70 -34999171.64 -34999171.57 0.2656 0.2227

Earth -100536-06-28 21:06 J -34999171.69 -34999171.62 -34999171.55 0.2649 0.2140 *

Uranus -100536-09-21 09:21 J -34999087.25 -34999087.11 -34999086.96 0.0134 0.0052

Uranus -100536-12-18 13:54 J -34998999.07 -34998998.92 -34998998.77 0.0134 0.0034

Uranus -100535-03-16 18:28 J -34998910.89 -34998910.73 -34998910.58 0.0134 0.0017

Uranus -100535-06-12 22:47 J -34998822.70 -34998822.55 -34998822.39 0.0134 0.0002

Uranus -100535-09-09 03:06 J -34998734.52 -34998734.37 -34998734.21 0.0134 0.0019

Uranus -100535-12-06 07:25 J -34998646.33 -34998646.19 -34998646.03 0.0134 0.0036

Uranus -100534-03-04 11:45 J -34998558.14 -34998558.01 -34998557.86 0.0134 0.0053

Uranus -100534-05-31 16:04 J -34998469.95 -34998469.83 -34998469.69 0.0134 0.0070

Uranus -100534-08-27 20:09 J -34998381.76 -34998381.66 -34998381.53 0.0133 0.0087

Uranus -100534-11-24 00:28 J -34998293.57 -34998293.48 -34998293.38 0.0133 0.0103

Uranus -100533-02-20 04:33 J -34998205.36 -34998205.31 -34998205.23 0.0133 0.0120

Mars -100532-06-08 02:37 J -34997731.53 -34997731.39 -34997731.25 0.1631 0.0255

Jupiter -100531-04-18 15:21 J -34997417.01 -34997416.86 -34997416.71 0.0523 0.0064

Saturn -100531-07-15 23:30 J -34997328.59 -34997328.52 -34997328.44 0.0270 0.0237

Jupiter -100531-07-17 09:49 J -34997327.16 -34997327.09 -34997327.03 0.0526 0.0472

Saturn -100531-10-12 14:23 J -34997240.03 -34997239.90 -34997239.78 0.0270 0.0159

Venus -100531-11-10 02:37 J -34997211.50 -34997211.39 -34997211.28 0.3777 0.0236

Saturn -100530-01-09 04:47 J -34997151.45 -34997151.30 -34997151.16 0.0270 0.0083

Saturn -100530-04-07 18:57 J -34997062.86 -34997062.71 -34997062.56 0.0270 0.0009

Saturn -100530-07-05 08:37 J -34996974.28 -34996974.14 -34996973.99 0.0270 0.0067

Earth -100530-07-08 23:45 J -34996970.57 -34996970.51 -34996970.45 0.2667 0.2298

Moon -100530-07-09 00:13 J -34996970.55 -34996970.49 -34996970.43 0.2662 0.2284 *

Saturn -100530-10-01 22:18 J -34996885.69 -34996885.57 -34996885.44 0.0270 0.0139

Saturn -100530-12-29 11:45 J -34996797.10 -34996797.01 -34996796.92 0.0271 0.0210

Mars -100529-03-27 01:54 J -34996708.54 -34996708.42 -34996708.30 0.1886 0.0616

Venus -100527-11-09 07:25 J -34995751.26 -34995751.19 -34995751.12 0.3594 0.3029

Moon -100527-12-24 16:47 J -34995705.94 -34995705.80 -34995705.66 0.2675 0.0381

Earth -100527-12-24 17:16 J -34995705.91 -34995705.78 -34995705.64 0.2681 0.0530 *

Jupiter -100526-09-07 05:16 J -34995449.38 -34995449.28 -34995449.17 0.0507 0.0346

Jupiter -100526-12-05 19:11 J -34995359.84 -34995359.70 -34995359.55 0.0504 0.0125

Venus -100525-05-25 21:49 J -34995187.70 -34995187.59 -34995187.48 0.3774 0.0885

Earth -100523-07-01 17:16 J -34994420.89 -34994420.78 -34994420.67 0.2654 0.0947

Moon -100523-07-01 17:30 J -34994420.88 -34994420.77 -34994420.66 0.2660 0.0932 *

Mars -100523-10-29 09:21 J -34994301.24 -34994301.11 -34994300.99 0.1629 0.0686

Venus -100521-05-25 07:25 J -34993727.31 -34993727.19 -34993727.07 0.3598 0.1581

Mars -100521-10-04 08:23 J -34993595.25 -34993595.15 -34993595.05 0.1638 0.1172

Mars -100520-08-17 06:57 J -34993278.34 -34993278.21 -34993278.08 0.1890 0.0028

Venus -100520-12-09 17:16 J -34993163.87 -34993163.78 -34993163.68 0.3770 0.2039

Jupiter -100519-02-04 16:18 J -34993106.96 -34993106.82 -34993106.68 0.0522 0.0197

Jupiter -100519-05-05 11:01 J -34993017.15 -34993017.04 -34993016.92 0.0525 0.0342

Saturn -100516-04-27 16:33 J -34991928.92 -34991928.81 -34991928.70 0.0289 0.0205

Saturn -100516-07-25 09:35 J -34991840.25 -34991840.10 -34991839.96 0.0289 0.0114

Saturn -100516-10-22 02:52 J -34991751.54 -34991751.38 -34991751.23 0.0289 0.0020

Venus -100516-12-09 06:57 J -34991703.34 -34991703.21 -34991703.08 0.3601 0.0191

Saturn -100515-01-18 20:23 J -34991662.80 -34991662.65 -34991662.49 0.0289 0.0077

Saturn -100515-04-17 14:23 J -34991574.02 -34991573.90 -34991573.77 0.0289 0.0175

Saturn -100515-07-15 08:52 J -34991485.17 -34991485.13 -34991485.08 0.0288 0.0274

Venus -100514-06-25 13:11 J -34991140.01 -34991139.95 -34991139.90 0.3766 0.3220

Jupiter -100514-06-26 07:40 J -34991139.24 -34991139.18 -34991139.12 0.0508 0.0461

Jupiter -100514-09-23 21:21 J -34991049.76 -34991049.61 -34991049.46 0.0505 0.0012

Jupiter -100514-12-22 12:13 J -34990960.03 -34990959.99 -34990959.96 0.0502 0.0486

Moon -100514-12-27 17:45 J -34990954.84 -34990954.76 -34990954.68 0.2675 0.2166

Earth -100514-12-27 18:57 J -34990954.78 -34990954.71 -34990954.63 0.2676 0.2218 *

Mars -100513-03-20 16:04 J -34990870.93 -34990870.83 -34990870.73 0.1627 0.1107

Mars -100511-02-24 14:09 J -34990165.04 -34990164.91 -34990164.77 0.1636 0.0705

Mars -100510-01-07 11:30 J -34989848.14 -34989848.02 -34989847.90 0.1892 0.0692

Venus -100510-06-25 05:59 J -34989679.37 -34989679.25 -34989679.12 0.3604 0.1150

Earth -100510-07-04 13:11 J -34989670.07 -34989669.95 -34989669.83 0.2658 0.0243

Moon -100510-07-04 13:54 J -34989670.03 -34989669.92 -34989669.80 0.2662 0.0366 *

Jupiter -100508-11-23 16:04 J -34988796.94 -34988796.83 -34988796.71 0.0520 0.0342

Jupiter -100507-02-21 11:16 J -34988707.16 -34988707.03 -34988706.88 0.0524 0.0202

Earth -100507-12-19 20:37 J -34988405.70 -34988405.64 -34988405.58 0.2691 0.2404

Moon -100507-12-19 21:35 J -34988405.67 -34988405.60 -34988405.53 0.2686 0.2266 *

Venus -100504-01-08 04:47 J -34987655.40 -34987655.30 -34987655.21 0.3608 0.2427

Mars -100504-08-10 23:16 J -34987440.58 -34987440.53 -34987440.49 0.1625 0.1518

Jupiter -100502-07-12 23:16 J -34986739.67 -34986739.53 -34986739.38 0.0506 0.0111

Mars -100502-07-17 20:23 J -34986734.79 -34986734.65 -34986734.51 0.1633 0.0243

Jupiter -100502-10-10 13:54 J -34986650.02 -34986649.92 -34986649.81 0.0503 0.0367

Saturn -100502-12-03 02:09 J -34986596.46 -34986596.41 -34986596.36 0.0271 0.0256

Saturn -100501-02-29 16:47 J -34986507.91 -34986507.80 -34986507.68 0.0271 0.0178

Saturn -100501-05-28 07:25 J -34986419.33 -34986419.19 -34986419.05 0.0271 0.0101

Mars -100501-05-29 15:35 J -34986417.94 -34986417.85 -34986417.76 0.1895 0.1379

Saturn -100501-08-24 21:35 J -34986330.75 -34986330.60 -34986330.45 0.0271 0.0025

Saturn -100501-11-21 11:30 J -34986242.17 -34986242.02 -34986241.87 0.0271 0.0050

Saturn -100500-02-18 01:11 J -34986153.58 -34986153.45 -34986153.31 0.0271 0.0123

Saturn -100500-05-17 14:37 J -34986064.99 -34986064.89 -34986064.78 0.0271 0.0195

Saturn -100500-08-14 04:04 J -34985976.36 -34985976.33 -34985976.31 0.0271 0.0265

Mars -100499-05-05 20:37 J -34985711.73 -34985711.64 -34985711.55 0.1883 0.1286

Earth -100497-07-06 09:06 J -34984919.22 -34984919.12 -34984919.02 0.2663 0.1395

Moon -100497-07-06 09:49 J -34984919.19 -34984919.09 -34984918.99 0.2661 0.1413 *

Jupiter -100496-09-11 16:33 J -34984486.86 -34984486.81 -34984486.75 0.0519 0.0479

Jupiter -100496-12-10 12:13 J -34984397.14 -34984396.99 -34984396.84 0.0523 0.0067

Moon -100494-12-22 21:49 J -34983654.73 -34983654.59 -34983654.46 0.2679 0.0858

Earth -100494-12-22 21:49 J -34983654.72 -34983654.59 -34983654.46 0.2686 0.0790 *

Mars -100493-12-07 02:52 J -34983304.53 -34983304.38 -34983304.24 0.1631 0.0209

Uranus -100492-05-28 01:40 J -34983132.46 -34983132.43 -34983132.37 0.0144 0.0137

Uranus -100492-08-24 07:11 J -34983044.29 -34983044.20 -34983044.10 0.0144 0.0116

Uranus -100492-11-20 12:28 J -34982956.09 -34982955.98 -34982955.85 0.0144 0.0094

Uranus -100491-02-16 17:59 J -34982867.88 -34982867.75 -34982867.61 0.0144 0.0072

Uranus -100491-05-15 23:30 J -34982779.67 -34982779.52 -34982779.37 0.0145 0.0050

Uranus -100491-08-12 05:01 J -34982691.44 -34982691.29 -34982691.13 0.0145 0.0028

Venus -100491-11-01 16:33 J -34982609.87 -34982609.81 -34982609.75 0.3785 0.3050

Uranus -100491-11-08 10:47 J -34982603.21 -34982603.05 -34982602.90 0.0145 0.0006

Uranus -100490-02-04 16:18 J -34982514.98 -34982514.82 -34982514.66 0.0145 0.0018

Jupiter -100490-05-01 01:40 J -34982429.56 -34982429.43 -34982429.30 0.0507 0.0225

Uranus -100490-05-03 22:04 J -34982426.74 -34982426.58 -34982426.43 0.0145 0.0041

Moon -100490-06-30 01:54 J -34982369.50 -34982369.42 -34982369.33 0.2656 0.1883

Earth -100490-06-30 02:23 J -34982369.49 -34982369.40 -34982369.32 0.2650 0.1886 *

Jupiter -100490-07-29 15:49 J -34982339.97 -34982339.84 -34982339.70 0.0503 0.0250

Uranus -100490-07-31 03:49 J -34982338.49 -34982338.34 -34982338.20 0.0145 0.0065

Mars -100490-09-26 02:09 J -34982281.53 -34982281.41 -34982281.29 0.1887 0.0676

Uranus -100490-10-27 09:21 J -34982250.23 -34982250.11 -34982249.97 0.0145 0.0089

Uranus -100489-01-23 15:21 J -34982161.95 -34982161.86 -34982161.75 0.0145 0.0112

Uranus -100489-04-20 21:06 J -34982073.66 -34982073.62 -34982073.55 0.0146 0.0137

Saturn -100487-09-14 17:59 J -34981196.84 -34981196.75 -34981196.66 0.0289 0.0229

Saturn -100487-12-12 10:33 J -34981108.19 -34981108.06 -34981107.92 0.0289 0.0139

Saturn -100486-03-11 03:49 J -34981019.49 -34981019.34 -34981019.18 0.0289 0.0046

Saturn -100486-06-07 21:21 J -34980930.77 -34980930.61 -34980930.45 0.0289 0.0049

Saturn -100486-09-04 15:06 J -34980842.00 -34980841.87 -34980841.73 0.0288 0.0147

Saturn -100486-12-02 09:21 J -34980753.19 -34980753.11 -34980753.02 0.0288 0.0245

Venus -100485-05-17 11:16 J -34980586.13 -34980586.03 -34980585.94 0.3782 0.2026

Earth -100484-07-09 04:47 J -34980168.33 -34980168.30 -34980168.27 0.2668 0.2536

Moon -100484-07-09 05:16 J -34980168.29 -34980168.28 -34980168.27 0.2663 0.2648 *

Jupiter -100484-09-28 13:11 J -34980087.10 -34980086.95 -34980086.80 0.0523 0.0067

Jupiter -100484-12-27 07:40 J -34979997.25 -34979997.18 -34979997.12 0.0526 0.0468

Mars -100483-04-29 09:35 J -34979874.23 -34979874.10 -34979873.97 0.1629 0.0638

Mars -100481-04-04 08:37 J -34979168.24 -34979168.14 -34979168.04 0.1638 0.1224

Moon -100481-12-24 22:33 J -34978903.70 -34978903.56 -34978903.43 0.2675 0.0881

Earth -100481-12-24 23:16 J -34978903.66 -34978903.53 -34978903.40 0.2680 0.0866 *

Mars -100480-02-15 07:11 J -34978851.33 -34978851.20 -34978851.07 0.1890 0.0048

Venus -100480-12-01 05:59 J -34978562.36 -34978562.25 -34978562.14 0.3779 0.0967

Jupiter -100478-02-17 04:04 J -34978119.43 -34978119.33 -34978119.22 0.0507 0.0338

Jupiter -100478-05-17 17:59 J -34978029.89 -34978029.75 -34978029.60 0.0504 0.0134

Earth -100477-07-01 22:33 J -34977618.68 -34977618.56 -34977618.45 0.2654 0.0702

Moon -100477-07-01 22:47 J -34977618.66 -34977618.55 -34977618.43 0.2660 0.0682 *

Venus -100474-06-17 01:11 J -34976538.57 -34976538.45 -34976538.34 0.3776 0.0189

Mars -100474-09-19 16:18 J -34976443.92 -34976443.82 -34976443.71 0.1627 0.1058

Jupiter -100472-07-17 14:23 J -34975777.04 -34975776.90 -34975776.75 0.0522 0.0197

Saturn -100472-07-18 17:01 J -34975775.89 -34975775.79 -34975775.69 0.0270 0.0206

Mars -100472-08-25 14:37 J -34975738.02 -34975737.89 -34975737.76 0.1635 0.0756

Saturn -100472-10-15 07:25 J -34975687.32 -34975687.19 -34975687.05 0.0270 0.0129

Jupiter -100472-10-15 09:21 J -34975687.22 -34975687.11 -34975687.00 0.0525 0.0343 *

Saturn -100471-01-11 21:49 J -34975598.74 -34975598.59 -34975598.44 0.0270 0.0053

Saturn -100471-04-10 11:59 J -34975510.15 -34975510.00 -34975509.85 0.0270 0.0023

Saturn -100471-07-08 01:40 J -34975421.57 -34975421.43 -34975421.29 0.0270 0.0095

Mars -100471-07-08 11:45 J -34975421.14 -34975421.01 -34975420.89 0.1893 0.0631

Saturn -100471-10-04 15:06 J -34975332.98 -34975332.87 -34975332.75 0.0271 0.0168

Saturn -100470-01-01 04:33 J -34975244.38 -34975244.31 -34975244.24 0.0271 0.0238

Venus -100470-06-16 07:11 J -34975078.29 -34975078.20 -34975078.10 0.3595 0.2555

Venus -100469-12-30 20:23 J -34974514.76 -34974514.65 -34974514.54 0.3773 0.1248

Moon -100468-12-27 23:30 J -34974152.58 -34974152.52 -34974152.45 0.2674 0.2347

Earth -100468-12-28 00:57 J -34974152.49 -34974152.46 -34974152.42 0.2675 0.2564 *

Jupiter -100467-12-06 06:13 J -34973809.30 -34973809.24 -34973809.17 0.0508 0.0455

Jupiter -100466-03-05 19:54 J -34973719.82 -34973719.67 -34973719.52 0.0505 0.0014

Neptune -100466-05-29 16:18 J -34973634.84 -34973634.82 -34973634.78 0.0089 0.0087

Jupiter -100466-06-03 10:33 J -34973630.08 -34973630.06 -34973630.02 0.0501 0.0491

Neptune -100466-08-25 17:59 J -34973546.79 -34973546.75 -34973546.68 0.0089 0.0083

Neptune -100466-11-21 19:54 J -34973458.72 -34973458.67 -34973458.59 0.0089 0.0079

Neptune -100465-02-17 22:04 J -34973370.66 -34973370.58 -34973370.50 0.0089 0.0074

Neptune -100465-05-15 23:45 J -34973282.59 -34973282.51 -34973282.41 0.0089 0.0070

Neptune -100465-08-12 01:40 J -34973194.52 -34973194.43 -34973194.32 0.0089 0.0066

Neptune -100465-11-08 03:49 J -34973106.45 -34973106.34 -34973106.23 0.0089 0.0061

Venus -100465-12-30 07:11 J -34973054.33 -34973054.20 -34973054.08 0.3599 0.1128

Neptune -100464-02-04 05:30 J -34973018.37 -34973018.27 -34973018.14 0.0089 0.0057

Mars -100464-02-08 23:30 J -34973013.58 -34973013.52 -34973013.46 0.1625 0.1467

Neptune -100464-05-03 07:25 J -34972930.30 -34972930.19 -34972930.06 0.0089 0.0053

Earth -100464-07-04 18:28 J -34972867.85 -34972867.73 -34972867.62 0.2659 0.0485

Moon -100464-07-04 19:11 J -34972867.82 -34972867.70 -34972867.58 0.2662 0.0530 *

Neptune -100464-07-30 09:35 J -34972842.22 -34972842.10 -34972841.97 0.0089 0.0048

Neptune -100464-10-26 11:30 J -34972754.15 -34972754.02 -34972753.88 0.0089 0.0044

Neptune -100463-01-22 13:25 J -34972666.07 -34972665.94 -34972665.80 0.0089 0.0039

Neptune -100463-04-20 15:21 J -34972577.99 -34972577.86 -34972577.71 0.0089 0.0035

Venus -100463-07-16 15:49 J -34972490.93 -34972490.84 -34972490.75 0.3769 0.2406

Neptune -100463-07-17 17:30 J -34972489.91 -34972489.77 -34972489.63 0.0089 0.0030

Neptune -100463-10-13 19:25 J -34972401.83 -34972401.69 -34972401.54 0.0089 0.0026

Neptune -100462-01-09 21:35 J -34972313.75 -34972313.60 -34972313.45 0.0089 0.0021

Mars -100462-01-15 20:52 J -34972307.78 -34972307.63 -34972307.49 0.1633 0.0301

Neptune -100462-04-07 23:30 J -34972225.67 -34972225.52 -34972225.37 0.0089 0.0017

Neptune -100462-07-05 01:25 J -34972137.59 -34972137.44 -34972137.28 0.0089 0.0012

Neptune -100462-10-01 03:35 J -34972049.50 -34972049.35 -34972049.20 0.0089 0.0008

Mars -100462-11-28 16:04 J -34971990.93 -34971990.83 -34971990.74 0.1895 0.1312

Neptune -100462-12-28 05:30 J -34971961.42 -34971961.27 -34971961.11 0.0089 0.0003

Neptune -100461-03-25 07:40 J -34971873.34 -34971873.18 -34971873.03 0.0089 0.0002

Neptune -100461-06-21 09:35 J -34971785.25 -34971785.10 -34971784.94 0.0089 0.0007

Neptune -100461-09-17 11:45 J -34971697.16 -34971697.01 -34971696.86 0.0089 0.0011

Neptune -100461-12-14 13:40 J -34971609.08 -34971608.93 -34971608.77 0.0089 0.0016

Earth -100461-12-20 02:37 J -34971603.48 -34971603.39 -34971603.31 0.2690 0.2079

Moon -100461-12-20 03:21 J -34971603.45 -34971603.36 -34971603.27 0.2685 0.2015 *

Neptune -100460-03-12 15:49 J -34971520.99 -34971520.84 -34971520.69 0.0089 0.0020

Jupiter -100460-05-05 15:21 J -34971466.98 -34971466.86 -34971466.74 0.0521 0.0331

Neptune -100460-06-08 17:45 J -34971432.90 -34971432.76 -34971432.60 0.0089 0.0025

Jupiter -100460-08-03 10:33 J -34971377.20 -34971377.06 -34971376.92 0.0524 0.0213

Neptune -100460-09-04 19:54 J -34971344.81 -34971344.67 -34971344.52 0.0089 0.0030

Mars -100460-11-03 21:06 J -34971284.71 -34971284.62 -34971284.54 0.1883 0.1351

Neptune -100460-12-01 22:04 J -34971256.72 -34971256.58 -34971256.43 0.0089 0.0034

Neptune -100459-02-28 00:13 J -34971168.63 -34971168.49 -34971168.35 0.0089 0.0039

Neptune -100459-05-27 02:09 J -34971080.54 -34971080.41 -34971080.26 0.0089 0.0044

Venus -100459-07-16 06:28 J -34971030.36 -34971030.23 -34971030.10 0.3602 0.0259

Neptune -100459-08-23 04:33 J -34970992.44 -34970992.31 -34970992.18 0.0089 0.0048

Neptune -100459-11-19 06:28 J -34970904.35 -34970904.23 -34970904.09 0.0089 0.0053

Neptune -100458-02-15 08:37 J -34970816.25 -34970816.14 -34970816.01 0.0089 0.0058

Neptune -100458-05-14 10:47 J -34970728.15 -34970728.05 -34970727.93 0.0089 0.0063

Neptune -100458-08-10 13:11 J -34970640.05 -34970639.95 -34970639.85 0.0089 0.0067

Neptune -100458-11-06 15:21 J -34970551.95 -34970551.86 -34970551.77 0.0089 0.0072

Venus -100457-01-30 11:45 J -34970467.04 -34970467.01 -34970466.98 0.3765 0.3593

Saturn -100457-02-01 17:45 J -34970464.82 -34970464.76 -34970464.69 0.0289 0.0260

Neptune -100457-02-02 17:16 J -34970463.84 -34970463.78 -34970463.69 0.0089 0.0077

Saturn -100457-04-30 10:33 J -34970376.19 -34970376.06 -34970375.94 0.0289 0.0170

Neptune -100457-04-30 19:25 J -34970375.73 -34970375.69 -34970375.61 0.0089 0.0082

Neptune -100457-07-27 21:35 J -34970287.61 -34970287.60 -34970287.55 0.0089 0.0087

Saturn -100457-07-28 03:35 J -34970287.50 -34970287.35 -34970287.20 0.0289 0.0078

Saturn -100457-10-24 20:52 J -34970198.79 -34970198.63 -34970198.47 0.0289 0.0017

Saturn -100456-01-21 14:37 J -34970110.03 -34970109.89 -34970109.74 0.0289 0.0114

Saturn -100456-04-20 08:52 J -34970021.24 -34970021.13 -34970021.02 0.0289 0.0212

Jupiter -100455-12-22 21:49 J -34969409.73 -34969409.59 -34969409.44 0.0506 0.0107

Jupiter -100454-03-22 12:28 J -34969320.08 -34969319.98 -34969319.88 0.0502 0.0370

Venus -100453-01-30 05:30 J -34969006.39 -34969006.27 -34969006.16 0.3605 0.1562

Mars -100453-06-07 03:06 J -34968877.51 -34968877.37 -34968877.23 0.1631 0.0152

Uranus -100453-10-23 22:47 J -34968738.61 -34968738.55 -34968738.46 0.0135 0.0118

Uranus -100452-01-20 03:49 J -34968650.45 -34968650.34 -34968650.23 0.0135 0.0099

Uranus -100452-04-18 08:23 J -34968562.27 -34968562.15 -34968562.02 0.0135 0.0081

Uranus -100452-07-15 12:57 J -34968474.09 -34968473.96 -34968473.82 0.0134 0.0063

Uranus -100452-10-11 17:30 J -34968385.91 -34968385.77 -34968385.62 0.0134 0.0045

Uranus -100451-01-07 22:04 J -34968297.73 -34968297.58 -34968297.42 0.0134 0.0027

Uranus -100451-04-06 02:37 J -34968209.55 -34968209.39 -34968209.24 0.0134 0.0009

Uranus -100451-07-03 06:57 J -34968121.36 -34968121.21 -34968121.05 0.0134 0.0009

Earth -100451-07-07 14:09 J -34968117.00 -34968116.91 -34968116.82 0.2664 0.1636

Moon -100451-07-07 15:06 J -34968116.96 -34968116.87 -34968116.79 0.2661 0.1767 *

Uranus -100451-09-29 11:30 J -34968033.17 -34968033.02 -34968032.87 0.0134 0.0026

Uranus -100451-12-26 15:35 J -34967944.99 -34967944.85 -34967944.70 0.0134 0.0044

Uranus -100450-03-24 19:54 J -34967856.80 -34967856.67 -34967856.53 0.0134 0.0061

Mars -100450-03-27 02:09 J -34967854.53 -34967854.41 -34967854.29 0.1887 0.0730

Uranus -100450-06-21 00:13 J -34967768.61 -34967768.49 -34967768.36 0.0133 0.0077

Uranus -100450-09-17 04:33 J -34967680.41 -34967680.31 -34967680.20 0.0133 0.0094

Uranus -100450-12-14 08:37 J -34967592.21 -34967592.14 -34967592.05 0.0133 0.0111

Uranus -100449-03-11 12:57 J -34967504.00 -34967503.96 -34967503.91 0.0133 0.0127

Jupiter -100448-02-21 15:21 J -34967156.92 -34967156.86 -34967156.80 0.0519 0.0473

Jupiter -100448-05-22 10:47 J -34967067.20 -34967067.05 -34967066.90 0.0523 0.0073

Venus -100448-08-15 04:04 J -34966982.41 -34966982.33 -34966982.25 0.3609 0.2822

Moon -100448-12-23 03:35 J -34966852.49 -34966852.35 -34966852.21 0.2678 0.0420

Earth -100448-12-23 03:35 J -34966852.48 -34966852.35 -34966852.21 0.2685 0.0462 *

Moon -100444-06-30 07:11 J -34965567.29 -34965567.20 -34965567.11 0.2657 0.1719

Earth -100444-06-30 07:25 J -34965567.28 -34965567.19 -34965567.09 0.2650 0.1636 *

Mars -100444-10-28 09:49 J -34965447.23 -34965447.09 -34965446.96 0.1629 0.0587

Jupiter -100443-10-10 23:45 J -34965099.64 -34965099.51 -34965099.37 0.0507 0.0226

Saturn -100443-12-05 19:11 J -34965043.77 -34965043.70 -34965043.61 0.0271 0.0226

Jupiter -100442-01-08 14:09 J -34965010.04 -34965009.91 -34965009.78 0.0504 0.0250

Saturn -100442-03-04 10:04 J -34964955.21 -34964955.08 -34964954.95 0.0271 0.0148

Saturn -100442-06-01 00:28 J -34964866.63 -34964866.48 -34964866.33 0.0271 0.0071

Saturn -100442-08-28 14:37 J -34964778.04 -34964777.89 -34964777.74 0.0271 0.0006

Mars -100442-10-04 09:06 J -34964741.21 -34964741.12 -34964741.03 0.1638 0.1283

Saturn -100442-11-25 04:33 J -34964689.45 -34964689.31 -34964689.17 0.0271 0.0079

Saturn -100441-02-21 17:59 J -34964600.86 -34964600.75 -34964600.62 0.0271 0.0153

Saturn -100441-05-20 07:25 J -34964512.26 -34964512.19 -34964512.10 0.0271 0.0224

Mars -100441-08-16 07:11 J -34964424.33 -34964424.20 -34964424.07 0.1890 0.0094

Venus -100440-11-22 20:23 J -34963960.67 -34963960.65 -34963960.63 0.3787 0.3712

Jupiter -100436-03-10 11:30 J -34962757.17 -34962757.02 -34962756.87 0.0522 0.0065

Jupiter -100436-06-08 05:45 J -34962667.32 -34962667.26 -34962667.19 0.0525 0.0469

Moon -100435-12-26 04:04 J -34962101.46 -34962101.33 -34962101.20 0.2676 0.1031

Earth -100435-12-26 05:01 J -34962101.41 -34962101.29 -34962101.16 0.2680 0.1206 *

Mars -100434-03-20 16:33 J -34962016.92 -34962016.81 -34962016.70 0.1627 0.1011

Venus -100434-06-08 14:52 J -34961936.96 -34961936.88 -34961936.81 0.3784 0.2714

Mars -100432-02-23 14:52 J -34961311.01 -34961310.88 -34961310.75 0.1635 0.0807

Mars -100431-01-06 11:59 J -34960994.12 -34960994.00 -34960993.87 0.1893 0.0566

Earth -100431-07-03 03:35 J -34960816.47 -34960816.35 -34960816.23 0.2655 0.0443

Moon -100431-07-03 04:04 J -34960816.45 -34960816.33 -34960816.21 0.2661 0.0356 *

Jupiter -100431-07-30 02:09 J -34960789.51 -34960789.41 -34960789.30 0.0508 0.0339

Jupiter -100431-10-27 16:04 J -34960699.97 -34960699.83 -34960699.68 0.0504 0.0134

Venus -100429-12-22 09:35 J -34959913.20 -34959913.10 -34959913.00 0.3781 0.1684

Saturn -100428-06-20 19:40 J -34959732.70 -34959732.68 -34959732.64 0.0289 0.0281

Saturn -100428-09-17 12:13 J -34959644.10 -34959643.99 -34959643.87 0.0289 0.0192

Saturn -100428-12-15 05:16 J -34959555.42 -34959555.28 -34959555.13 0.0289 0.0100

Saturn -100427-03-13 22:33 J -34959466.72 -34959466.56 -34959466.40 0.0289 0.0006

Saturn -100427-06-10 16:04 J -34959377.98 -34959377.83 -34959377.67 0.0288 0.0090

Saturn -100427-09-07 10:04 J -34959289.19 -34959289.08 -34959288.95 0.0288 0.0188

Saturn -100427-12-05 04:33 J -34959200.32 -34959200.31 -34959200.29 0.0288 0.0286

Mars -100425-08-09 23:45 J -34958586.57 -34958586.51 -34958586.44 0.1625 0.1420

Jupiter -100425-12-27 12:13 J -34958447.13 -34958446.99 -34958446.85 0.0521 0.0202

Jupiter -100424-03-27 06:57 J -34958357.32 -34958357.21 -34958357.09 0.0525 0.0338

Venus -100423-07-08 04:18 J -34957889.43 -34957889.32 -34957889.21 0.3778 0.0623

Mars -100423-07-16 21:06 J -34957880.77 -34957880.62 -34957880.48 0.1633 0.0351

Mars -100422-05-29 16:04 J -34957563.93 -34957563.83 -34957563.73 0.1895 0.1258

Mars -100420-05-04 21:06 J -34956857.70 -34956857.62 -34956857.53 0.1883 0.1405

Jupiter -100419-05-18 04:47 J -34956479.36 -34956479.30 -34956479.23 0.0508 0.0450

Venus -100419-07-07 06:57 J -34956429.23 -34956429.21 -34956429.19 0.3593 0.3551

Jupiter -100419-08-15 18:28 J -34956389.88 -34956389.73 -34956389.58 0.0505 0.0017

Jupiter -100419-11-13 09:21 J -34956300.13 -34956300.11 -34956300.09 0.0502 0.0496

Earth -100418-07-05 23:30 J -34956065.64 -34956065.52 -34956065.40 0.2660 0.0729

Moon -100418-07-06 00:13 J -34956065.60 -34956065.49 -34956065.37 0.2661 0.0812 *

Venus -100417-01-21 23:30 J -34955865.63 -34955865.52 -34955865.41 0.3775 0.0481

Earth -100415-12-21 08:23 J -34954801.26 -34954801.15 -34954801.05 0.2689 0.1757

Moon -100415-12-21 08:52 J -34954801.24 -34954801.13 -34954801.03 0.2683 0.1730 *

Mars -100414-12-07 03:35 J -34954450.50 -34954450.35 -34954450.21 0.1631 0.0112

Venus -100413-01-21 06:57 J -34954405.32 -34954405.21 -34954405.10 0.3596 0.2089

Saturn -100413-04-23 19:40 J -34954311.73 -34954311.68 -34954311.62 0.0270 0.0252

Saturn -100413-07-21 10:33 J -34954223.17 -34954223.06 -34954222.94 0.0270 0.0174

Jupiter -100413-10-15 13:11 J -34954137.07 -34954136.95 -34954136.83 0.0521 0.0333

Saturn -100413-10-18 00:57 J -34954134.60 -34954134.46 -34954134.31 0.0270 0.0098

Jupiter -100412-01-13 08:37 J -34954047.28 -34954047.14 -34954047.01 0.0524 0.0211

Saturn -100412-01-14 15:21 J -34954046.01 -34954045.86 -34954045.71 0.0270 0.0021

Saturn -100412-04-13 05:16 J -34953957.43 -34953957.28 -34953957.13 0.0270 0.0053

Saturn -100412-07-10 18:57 J -34953868.84 -34953868.71 -34953868.57 0.0271 0.0127

Venus -100412-08-06 18:42 J -34953841.82 -34953841.72 -34953841.61 0.3772 0.1613

Saturn -100412-10-07 08:23 J -34953780.24 -34953780.15 -34953780.04 0.0271 0.0199

Saturn -100411-01-03 21:35 J -34953691.61 -34953691.60 -34953691.58 0.0271 0.0269

Earth -100411-06-28 16:18 J -34953515.84 -34953515.82 -34953515.79 0.2646 0.2590

Mars -100411-09-25 02:23 J -34953427.51 -34953427.40 -34953427.28 0.1887 0.0792

Uranus -100408-06-17 09:49 J -34952431.14 -34952431.09 -34952431.01 0.0144 0.0129

Venus -100408-08-06 06:42 J -34952381.35 -34952381.22 -34952381.09 0.3600 0.0678

Uranus -100408-09-13 15:21 J -34952342.96 -34952342.86 -34952342.75 0.0144 0.0108

Uranus -100408-12-10 20:52 J -34952254.76 -34952254.63 -34952254.51 0.0144 0.0086

Uranus -100407-03-09 02:09 J -34952166.55 -34952166.41 -34952166.27 0.0145 0.0064

Jupiter -100407-06-03 20:23 J -34952079.80 -34952079.65 -34952079.51 0.0506 0.0104

Uranus -100407-06-05 07:40 J -34952078.33 -34952078.18 -34952078.03 0.0145 0.0042

Jupiter -100407-09-01 10:47 J -34951990.15 -34951990.05 -34951989.95 0.0502 0.0373

Uranus -100407-09-01 13:11 J -34951990.10 -34951989.95 -34951989.79 0.0145 0.0019 *

Uranus -100407-11-28 18:57 J -34951901.87 -34951901.71 -34951901.55 0.0145 0.0005

Venus -100406-02-20 14:23 J -34951817.97 -34951817.90 -34951817.82 0.3768 0.2772

Uranus -100406-02-25 00:28 J -34951813.64 -34951813.48 -34951813.32 0.0145 0.0026

Uranus -100406-05-24 06:13 J -34951725.39 -34951725.24 -34951725.09 0.0145 0.0050

Pluto -100406-06-18 23:45 J -34951699.52 -34951699.51 -34951699.46 0.0060 0.0059

Uranus -100406-08-20 11:45 J -34951637.14 -34951637.01 -34951636.86 0.0145 0.0074

Pluto -100406-09-15 01:11 J -34951611.53 -34951611.45 -34951611.34 0.0060 0.0053

Uranus -100406-11-16 17:45 J -34951548.88 -34951548.76 -34951548.64 0.0145 0.0097

Pluto -100406-12-12 02:37 J -34951523.50 -34951523.39 -34951523.24 0.0060 0.0046

Uranus -100405-02-12 23:30 J -34951460.60 -34951460.52 -34951460.42 0.0146 0.0121

Pluto -100405-03-09 04:04 J -34951435.46 -34951435.33 -34951435.16 0.0060 0.0039

Uranus -100405-05-11 05:30 J -34951372.27 -34951372.27 -34951372.25 0.0146 0.0145

Pluto -100405-06-05 05:45 J -34951347.41 -34951347.26 -34951347.08 0.0060 0.0031

Earth -100405-07-07 19:11 J -34951314.78 -34951314.70 -34951314.61 0.2664 0.1884

Moon -100405-07-07 20:09 J -34951314.74 -34951314.66 -34951314.58 0.2661 0.1912 *

Pluto -100405-09-01 07:11 J -34951259.36 -34951259.20 -34951259.00 0.0060 0.0024

Pluto -100405-11-28 09:06 J -34951171.31 -34951171.12 -34951170.93 0.0060 0.0017

Pluto -100404-02-24 10:33 J -34951083.25 -34951083.06 -34951082.86 0.0061 0.0010

Mars -100404-04-28 10:04 J -34951020.21 -34951020.08 -34951019.94 0.1629 0.0535

Pluto -100404-05-23 11:59 J -34950995.19 -34950995.00 -34950994.80 0.0061 0.0003

Pluto -100404-08-19 13:40 J -34950907.13 -34950906.93 -34950906.73 0.0061 0.0005

Pluto -100404-11-15 15:06 J -34950819.06 -34950818.87 -34950818.67 0.0061 0.0012

Pluto -100403-02-11 16:18 J -34950730.99 -34950730.82 -34950730.62 0.0061 0.0020

Pluto -100403-05-10 17:45 J -34950642.92 -34950642.76 -34950642.56 0.0061 0.0027

Pluto -100403-08-06 19:25 J -34950554.84 -34950554.69 -34950554.51 0.0061 0.0034

Pluto -100403-11-02 21:06 J -34950466.76 -34950466.62 -34950466.47 0.0061 0.0041

Pluto -100402-01-29 22:18 J -34950378.67 -34950378.57 -34950378.43 0.0061 0.0049

Venus -100402-02-20 05:59 J -34950357.38 -34950357.25 -34950357.12 0.3603 0.0671

Mars -100402-04-04 09:21 J -34950314.19 -34950314.11 -34950314.02 0.1638 0.1338

Pluto -100402-04-27 23:59 J -34950290.56 -34950290.50 -34950290.41 0.0061 0.0057

Moon -100402-12-24 09:21 J -34950050.25 -34950050.11 -34950049.97 0.2678 0.0187

Earth -100402-12-24 09:35 J -34950050.24 -34950050.10 -34950049.96 0.2684 0.0139 *

Mars -100401-02-15 07:25 J -34949997.32 -34949997.19 -34949997.06 0.1890 0.0162

Jupiter -100401-08-03 13:54 J -34949826.98 -34949826.92 -34949826.85 0.0520 0.0467

Jupiter -100401-11-01 09:35 J -34949737.25 -34949737.10 -34949736.94 0.0523 0.0081

Saturn -100398-02-04 12:13 J -34948912.09 -34948911.99 -34948911.89 0.0289 0.0223

Saturn -100398-05-04 05:01 J -34948823.43 -34948823.29 -34948823.15 0.0289 0.0132

Moon -100398-07-01 12:42 J -34948765.07 -34948764.97 -34948764.87 0.2657 0.1322

Earth -100398-07-01 12:42 J -34948765.07 -34948764.97 -34948764.87 0.2651 0.1384 *

Saturn -100398-07-31 22:04 J -34948734.73 -34948734.58 -34948734.42 0.0289 0.0039

Saturn -100398-10-28 15:35 J -34948646.00 -34948645.85 -34948645.69 0.0289 0.0057

Saturn -100397-01-25 09:35 J -34948557.23 -34948557.10 -34948556.96 0.0289 0.0154

Saturn -100397-04-23 03:49 J -34948468.41 -34948468.34 -34948468.26 0.0288 0.0253

Venus -100397-09-05 04:47 J -34948333.41 -34948333.30 -34948333.19 0.3606 0.1969

Jupiter -100395-03-22 22:18 J -34947769.70 -34947769.57 -34947769.43 0.0507 0.0222

Jupiter -100395-06-20 12:28 J -34947680.10 -34947679.98 -34947679.84 0.0503 0.0253

Mars -100395-09-18 17:01 J -34947589.91 -34947589.79 -34947589.68 0.1627 0.0961

Mars -100393-08-24 15:06 J -34946883.99 -34946883.87 -34946883.74 0.1635 0.0864

Mars -100392-07-07 11:59 J -34946567.12 -34946567.00 -34946566.87 0.1893 0.0517

Venus -100391-03-22 03:21 J -34946309.42 -34946309.36 -34946309.31 0.3610 0.3202

Jupiter -100389-08-20 10:04 J -34945427.23 -34945427.08 -34945426.93 0.0522 0.0060

Jupiter -100389-11-18 04:18 J -34945337.38 -34945337.32 -34945337.25 0.0525 0.0473

Moon -100389-12-26 09:49 J -34945299.21 -34945299.09 -34945298.97 0.2676 0.1500

Earth -100389-12-26 11:01 J -34945299.15 -34945299.04 -34945298.93 0.2679 0.1547 *

Mars -100385-02-08 23:59 J -34944159.57 -34944159.50 -34944159.43 0.1625 0.1376

Earth -100385-07-03 08:37 J -34944014.26 -34944014.14 -34944014.02 0.2655 0.0214

Moon -100385-07-03 09:21 J -34944014.23 -34944014.11 -34944013.99 0.2661 0.0205 *

Neptune -100384-12-04 16:47 J -34943494.83 -34943494.80 -34943494.77 0.0089 0.0087

Saturn -100384-12-08 12:57 J -34943491.06 -34943490.96 -34943490.85 0.0271 0.0193

Jupiter -100383-01-09 00:13 J -34943459.60 -34943459.49 -34943459.38 0.0508 0.0341

Mars -100383-01-14 21:21 J -34943453.75 -34943453.61 -34943453.47 0.1633 0.0401

Neptune -100383-03-02 19:11 J -34943406.75 -34943406.70 -34943406.63 0.0089 0.0082

Saturn -100383-03-07 03:35 J -34943402.48 -34943402.35 -34943402.21 0.0271 0.0116

Jupiter -100383-04-08 14:09 J -34943370.05 -34943369.91 -34943369.76 0.0505 0.0131

Neptune -100383-05-29 21:49 J -34943318.67 -34943318.59 -34943318.51 0.0089 0.0077

Saturn -100383-06-03 17:59 J -34943313.90 -34943313.75 -34943313.60 0.0271 0.0039

Venus -100383-06-29 18:28 J -34943287.77 -34943287.73 -34943287.68 0.3786 0.3385

Neptune -100383-08-26 00:13 J -34943230.58 -34943230.49 -34943230.39 0.0089 0.0072

Saturn -100383-08-31 08:09 J -34943225.31 -34943225.16 -34943225.01 0.0271 0.0037

Neptune -100383-11-22 02:37 J -34943142.49 -34943142.39 -34943142.28 0.0088 0.0067

Mars -100383-11-27 16:18 J -34943136.92 -34943136.82 -34943136.72 0.1896 0.1197

Saturn -100383-11-27 21:49 J -34943136.72 -34943136.59 -34943136.45 0.0271 0.0110 *

Neptune -100382-02-18 05:16 J -34943054.40 -34943054.28 -34943054.16 0.0088 0.0062

Saturn -100382-02-24 11:30 J -34943048.13 -34943048.02 -34943047.91 0.0272 0.0183

Neptune -100382-05-17 07:40 J -34942966.30 -34942966.18 -34942966.05 0.0088 0.0057

Saturn -100382-05-24 00:42 J -34942959.52 -34942959.47 -34942959.42 0.0272 0.0254

Neptune -100382-08-13 09:49 J -34942878.21 -34942878.09 -34942877.94 0.0088 0.0052

Neptune -100382-11-09 12:13 J -34942790.12 -34942789.99 -34942789.84 0.0088 0.0048

Neptune -100381-02-05 14:37 J -34942702.02 -34942701.89 -34942701.73 0.0088 0.0043

Neptune -100381-05-03 17:16 J -34942613.92 -34942613.78 -34942613.63 0.0088 0.0037

Neptune -100381-07-30 19:40 J -34942525.83 -34942525.68 -34942525.52 0.0088 0.0032

Neptune -100381-10-26 22:04 J -34942437.73 -34942437.58 -34942437.42 0.0088 0.0028

Mars -100381-11-02 21:21 J -34942430.69 -34942430.61 -34942430.53 0.1883 0.1459

Neptune -100380-01-23 00:28 J -34942349.64 -34942349.48 -34942349.32 0.0088 0.0023

Neptune -100380-04-21 02:52 J -34942261.54 -34942261.38 -34942261.22 0.0088 0.0018

Neptune -100380-07-18 05:16 J -34942173.44 -34942173.28 -34942173.12 0.0088 0.0013

Neptune -100380-10-14 07:25 J -34942085.35 -34942085.19 -34942085.02 0.0088 0.0009

Neptune -100379-01-10 09:49 J -34941997.25 -34941997.09 -34941996.92 0.0088 0.0004

Neptune -100379-04-08 12:13 J -34941909.15 -34941908.99 -34941908.83 0.0088 0.0002

Neptune -100379-07-05 14:37 J -34941821.06 -34941820.89 -34941820.73 0.0088 0.0007

Neptune -100379-10-01 16:47 J -34941732.96 -34941732.80 -34941732.64 0.0088 0.0011

Neptune -100379-12-28 19:11 J -34941644.86 -34941644.70 -34941644.54 0.0088 0.0016

Neptune -100378-03-26 21:21 J -34941556.76 -34941556.61 -34941556.45 0.0088 0.0021

Neptune -100378-06-22 23:30 J -34941468.67 -34941468.52 -34941468.36 0.0088 0.0025

Neptune -100378-09-19 01:54 J -34941380.57 -34941380.42 -34941380.27 0.0088 0.0030

Neptune -100378-12-16 04:04 J -34941292.47 -34941292.33 -34941292.18 0.0088 0.0035

Venus -100377-01-13 13:11 J -34941264.04 -34941263.95 -34941263.87 0.3783 0.2380

Neptune -100377-03-13 06:13 J -34941204.38 -34941204.24 -34941204.09 0.0088 0.0039

Jupiter -100377-06-08 10:33 J -34941117.20 -34941117.06 -34941116.92 0.0521 0.0199

Neptune -100377-06-09 08:37 J -34941116.28 -34941116.14 -34941116.00 0.0088 0.0044

Neptune -100377-09-05 10:33 J -34941028.18 -34941028.06 -34941027.92 0.0088 0.0049

Jupiter -100377-09-06 05:16 J -34941027.39 -34941027.28 -34941027.16 0.0524 0.0338

Neptune -100377-12-02 12:42 J -34940940.08 -34940939.97 -34940939.83 0.0088 0.0053

Neptune -100376-02-28 15:06 J -34940851.98 -34940851.87 -34940851.74 0.0088 0.0058

Neptune -100376-05-27 17:01 J -34940763.89 -34940763.79 -34940763.66 0.0088 0.0063

Neptune -100376-08-23 19:25 J -34940675.79 -34940675.69 -34940675.58 0.0088 0.0067

Neptune -100376-11-19 21:21 J -34940587.69 -34940587.61 -34940587.50 0.0088 0.0072

Neptune -100375-02-15 23:45 J -34940499.58 -34940499.51 -34940499.42 0.0088 0.0076

Neptune -100375-05-15 01:40 J -34940411.48 -34940411.43 -34940411.35 0.0088 0.0080

Neptune -100375-08-11 03:49 J -34940323.37 -34940323.34 -34940323.28 0.0088 0.0085

Mars -100374-06-07 03:35 J -34940023.49 -34940023.35 -34940023.20 0.1631 0.0061

Mars -100373-04-18 20:23 J -34939706.65 -34939706.65 -34939706.65 0.1898 0.1896

Earth -100372-07-06 04:33 J -34939263.42 -34939263.31 -34939263.19 0.2660 0.0979

Moon -100372-07-06 05:30 J -34939263.38 -34939263.27 -34939263.16 0.2660 0.1091 *

Venus -100372-07-29 07:40 J -34939240.28 -34939240.18 -34939240.07 0.3781 0.1350

Jupiter -100372-10-28 02:37 J -34939149.45 -34939149.39 -34939149.32 0.0509 0.0455

Jupiter -100371-01-25 16:18 J -34939059.97 -34939059.82 -34939059.67 0.0505 0.0014

Mars -100371-03-26 02:37 J -34939000.50 -34939000.39 -34939000.27 0.1887 0.0847

Jupiter -100371-04-25 07:11 J -34938970.22 -34938970.20 -34938970.17 0.0502 0.0493

Saturn -100369-06-23 14:37 J -34938179.96 -34938179.89 -34938179.80 0.0289 0.0241

Uranus -100369-08-17 02:37 J -34938125.43 -34938125.39 -34938125.34 0.0135 0.0128

Saturn -100369-09-20 07:25 J -34938091.32 -34938091.19 -34938091.05 0.0289 0.0150

Uranus -100369-11-13 07:11 J -34938037.28 -34938037.20 -34938037.10 0.0135 0.0110

Saturn -100369-12-18 00:28 J -34938002.63 -34938002.48 -34938002.32 0.0289 0.0058

Earth -100369-12-21 14:09 J -34937999.03 -34937998.91 -34937998.80 0.2689 0.1430

Moon -100369-12-21 14:23 J -34937999.02 -34937998.90 -34937998.78 0.2682 0.1345 *

Uranus -100368-02-09 11:59 J -34937949.11 -34937949.00 -34937948.88 0.0135 0.0091

Saturn -100368-03-16 17:59 J -34937913.91 -34937913.75 -34937913.59 0.0288 0.0037

Uranus -100368-05-08 16:33 J -34937860.94 -34937860.81 -34937860.67 0.0134 0.0073

Saturn -100368-06-13 11:45 J -34937825.15 -34937825.01 -34937824.87 0.0288 0.0134

Uranus -100368-08-04 21:21 J -34937772.76 -34937772.61 -34937772.47 0.0134 0.0054

Saturn -100368-09-10 05:45 J -34937736.35 -34937736.26 -34937736.16 0.0288 0.0232

Uranus -100368-11-01 01:54 J -34937684.57 -34937684.42 -34937684.27 0.0134 0.0037

Uranus -100367-01-28 06:13 J -34937596.39 -34937596.24 -34937596.08 0.0134 0.0019

Uranus -100367-04-26 10:47 J -34937508.20 -34937508.05 -34937507.89 0.0134 0.0002

Uranus -100367-07-23 15:06 J -34937420.02 -34937419.87 -34937419.71 0.0134 0.0017

Uranus -100367-10-19 19:40 J -34937331.83 -34937331.68 -34937331.53 0.0134 0.0034

Uranus -100366-01-15 23:59 J -34937243.64 -34937243.50 -34937243.36 0.0134 0.0051

Venus -100366-02-12 02:52 J -34937216.50 -34937216.38 -34937216.27 0.3777 0.0303

Uranus -100366-04-14 04:18 J -34937155.45 -34937155.32 -34937155.19 0.0134 0.0068

Uranus -100366-07-11 08:37 J -34937067.26 -34937067.14 -34937067.03 0.0133 0.0085

Uranus -100366-10-07 12:42 J -34936979.06 -34936978.97 -34936978.87 0.0133 0.0101

Uranus -100365-01-03 16:47 J -34936890.86 -34936890.80 -34936890.72 0.0133 0.0118

Jupiter -100365-03-27 10:47 J -34936807.17 -34936807.05 -34936806.93 0.0520 0.0339

Jupiter -100365-06-25 06:13 J -34936717.38 -34936717.24 -34936717.10 0.0524 0.0204

Moon -100365-06-28 20:52 J -34936713.68 -34936713.63 -34936713.57 0.2652 0.2343

Earth -100365-06-28 21:35 J -34936713.65 -34936713.60 -34936713.54 0.2647 0.2336 *

Mars -100365-10-27 10:18 J -34936593.20 -34936593.07 -34936592.93 0.1629 0.0486

Mars -100363-10-03 09:35 J -34935887.17 -34935887.10 -34935887.02 0.1638 0.1392

Venus -100362-02-11 06:42 J -34935756.29 -34935756.22 -34935756.16 0.3594 0.3083

Mars -100362-08-16 07:54 J -34935570.30 -34935570.17 -34935570.05 0.1890 0.0224

Venus -100361-08-27 21:49 J -34935192.70 -34935192.59 -34935192.48 0.3774 0.0834

Jupiter -100360-11-13 18:42 J -34934749.87 -34934749.72 -34934749.57 0.0506 0.0101

Jupiter -100359-02-11 09:06 J -34934660.21 -34934660.12 -34934660.02 0.0503 0.0376

Earth -100359-07-09 00:28 J -34934512.55 -34934512.48 -34934512.41 0.2665 0.2129

Moon -100359-07-09 01:11 J -34934512.52 -34934512.45 -34934512.39 0.2661 0.2216 *

Venus -100357-08-27 06:42 J -34933732.34 -34933732.22 -34933732.10 0.3597 0.1629

Moon -100356-12-24 14:52 J -34933248.02 -34933247.88 -34933247.74 0.2678 0.0161

Earth -100356-12-24 15:21 J -34933248.00 -34933247.86 -34933247.72 0.2684 0.0208 *

Venus -100355-03-13 17:16 J -34933168.87 -34933168.78 -34933168.68 0.3771 0.1974

Mars -100355-03-19 17:16 J -34933162.90 -34933162.78 -34933162.67 0.1627 0.0912

Saturn -100354-04-27 13:54 J -34932759.01 -34932758.92 -34932758.83 0.0270 0.0218

Saturn -100354-07-25 04:33 J -34932670.44 -34932670.31 -34932670.18 0.0270 0.0140

Saturn -100354-10-21 18:57 J -34932581.86 -34932581.71 -34932581.56 0.0270 0.0063

Jupiter -100353-01-14 11:30 J -34932497.08 -34932497.02 -34932496.95 0.0520 0.0473

Saturn -100353-01-18 09:06 J -34932493.27 -34932493.12 -34932492.97 0.0270 0.0012

Mars -100353-02-23 15:35 J -34932456.97 -34932456.85 -34932456.73 0.1635 0.0918

Jupiter -100353-04-13 07:25 J -34932407.34 -34932407.19 -34932407.04 0.0523 0.0074

Saturn -100353-04-15 23:01 J -34932404.68 -34932404.54 -34932404.40 0.0271 0.0086

Saturn -100353-07-13 12:42 J -34932316.09 -34932315.97 -34932315.85 0.0271 0.0159

Saturn -100353-10-10 01:54 J -34932227.49 -34932227.42 -34932227.34 0.0271 0.0230

Mars -100352-01-05 12:13 J -34932140.11 -34932139.99 -34932139.86 0.1893 0.0455

Earth -100352-07-01 17:45 J -34931962.87 -34931962.76 -34931962.65 0.2652 0.1133

Moon -100352-07-01 17:59 J -34931962.86 -34931962.75 -34931962.64 0.2658 0.1190 *

Venus -100351-03-13 06:13 J -34931708.37 -34931708.24 -34931708.11 0.3601 0.0246

Venus -100350-09-27 12:57 J -34931145.02 -34931144.96 -34931144.90 0.3767 0.3135

Jupiter -100348-09-01 20:37 J -34930439.77 -34930439.64 -34930439.51 0.0507 0.0220

Jupiter -100348-11-30 10:47 J -34930350.18 -34930350.05 -34930349.92 0.0503 0.0253

Mars -100346-08-10 00:13 J -34929732.57 -34929732.49 -34929732.41 0.1625 0.1325

Venus -100346-09-27 05:30 J -34929684.40 -34929684.27 -34929684.15 0.3604 0.1094

Mars -100344-07-15 21:35 J -34929026.74 -34929026.60 -34929026.46 0.1633 0.0455

Mars -100343-05-28 16:33 J -34928709.91 -34928709.81 -34928709.70 0.1895 0.1138

Moon -100343-12-27 15:49 J -34928496.95 -34928496.84 -34928496.74 0.2675 0.1713

Earth -100343-12-27 17:01 J -34928496.89 -34928496.79 -34928496.70 0.2679 0.1893 *

Jupiter -100341-01-31 08:37 J -34928097.30 -34928097.14 -34928096.99 0.0522 0.0058

Jupiter -100341-04-30 02:52 J -34928007.43 -34928007.38 -34928007.31 0.0526 0.0478

Mars -100341-05-03 21:21 J -34928003.68 -34928003.61 -34928003.53 0.1884 0.1517

Venus -100340-04-12 04:04 J -34927660.42 -34927660.33 -34927660.23 0.3607 0.2367

Saturn -100340-11-10 14:37 J -34927447.93 -34927447.89 -34927447.84 0.0289 0.0272

Saturn -100339-02-07 07:11 J -34927359.31 -34927359.20 -34927359.08 0.0289 0.0182

Saturn -100339-05-07 00:13 J -34927270.64 -34927270.49 -34927270.34 0.0289 0.0090

Earth -100339-07-04 13:54 J -34927212.04 -34927211.92 -34927211.80 0.2656 0.0066

Moon -100339-07-04 14:23 J -34927212.01 -34927211.90 -34927211.78 0.2660 0.0207 *

Saturn -100339-08-03 17:30 J -34927181.93 -34927181.77 -34927181.61 0.0289 0.0004

Saturn -100339-10-31 11:01 J -34927093.18 -34927093.04 -34927092.88 0.0289 0.0101

Saturn -100338-01-28 05:01 J -34927004.40 -34927004.29 -34927004.17 0.0288 0.0199

Jupiter -100336-06-20 22:47 J -34926129.66 -34926129.55 -34926129.44 0.0508 0.0338

Jupiter -100336-09-18 12:42 J -34926040.12 -34926039.97 -34926039.83 0.0504 0.0133

Moon -100336-12-19 19:54 J -34925947.72 -34925947.67 -34925947.63 0.2689 0.2536

Venus -100335-10-27 02:23 J -34925636.41 -34925636.40 -34925636.38 0.3611 0.3580

Mars -100335-12-06 04:04 J -34925596.47 -34925596.33 -34925596.19 0.1631 0.0012

Mars -100334-10-18 20:37 J -34925279.67 -34925279.64 -34925279.61 0.1898 0.1841

Mars -100332-09-24 02:52 J -34924573.49 -34924573.38 -34924573.27 0.1887 0.0905

Jupiter -100330-11-19 08:52 J -34923787.27 -34923787.13 -34923786.98 0.0521 0.0195

Jupiter -100329-02-17 03:35 J -34923697.46 -34923697.35 -34923697.23 0.0524 0.0342

Venus -100326-02-03 16:47 J -34922614.86 -34922614.80 -34922614.74 0.3785 0.3054

Earth -100326-07-07 09:49 J -34922461.20 -34922461.09 -34922460.99 0.2661 0.1224

Moon -100326-07-07 10:33 J -34922461.16 -34922461.06 -34922460.95 0.2660 0.1278 *

Mars -100325-04-27 10:33 J -34922166.20 -34922166.06 -34922165.92 0.1628 0.0438

Saturn -100325-09-13 16:18 J -34922026.89 -34922026.82 -34922026.75 0.0271 0.0237

Saturn -100325-12-11 06:57 J -34921938.33 -34921938.21 -34921938.08 0.0271 0.0159

Saturn -100324-03-09 21:35 J -34921849.75 -34921849.60 -34921849.45 0.0271 0.0082

Jupiter -100324-04-09 00:42 J -34921819.53 -34921819.47 -34921819.41 0.0509 0.0458

Uranus -100324-04-10 12:28 J -34921817.99 -34921817.98 -34921817.97 0.0144 0.0143

Saturn -100324-06-06 11:45 J -34921761.16 -34921761.01 -34921760.86 0.0271 0.0007

Jupiter -100324-07-07 14:09 J -34921730.06 -34921729.91 -34921729.76 0.0506 0.0013

Uranus -100324-07-07 17:45 J -34921729.84 -34921729.76 -34921729.68 0.0144 0.0122 *

Saturn -100324-09-03 01:40 J -34921672.57 -34921672.43 -34921672.28 0.0271 0.0070

Uranus -100324-10-03 22:47 J -34921641.65 -34921641.55 -34921641.43 0.0144 0.0102

Jupiter -100324-10-05 05:01 J -34921640.32 -34921640.29 -34921640.26 0.0502 0.0490

Saturn -100324-11-30 15:35 J -34921583.98 -34921583.85 -34921583.73 0.0272 0.0143

Uranus -100324-12-31 04:18 J -34921553.44 -34921553.32 -34921553.18 0.0144 0.0080

Saturn -100323-02-27 05:01 J -34921495.38 -34921495.29 -34921495.20 0.0272 0.0215

Uranus -100323-03-29 09:49 J -34921465.23 -34921465.09 -34921464.94 0.0145 0.0057

Mars -100323-04-03 10:04 J -34921460.15 -34921460.08 -34921460.01 0.1638 0.1447

Uranus -100323-06-25 15:21 J -34921377.01 -34921376.86 -34921376.71 0.0145 0.0035

Uranus -100323-09-21 20:52 J -34921288.79 -34921288.63 -34921288.47 0.0145 0.0013

Uranus -100323-12-19 02:23 J -34921200.55 -34921200.40 -34921200.24 0.0145 0.0011

Earth -100323-12-22 19:54 J -34921196.80 -34921196.67 -34921196.54 0.2688 0.1102

Moon -100323-12-22 20:09 J -34921196.78 -34921196.66 -34921196.53 0.2681 0.1128 *

Mars -100322-02-14 07:40 J -34921143.30 -34921143.18 -34921143.05 0.1890 0.0269

Uranus -100322-03-17 08:09 J -34921112.32 -34921112.16 -34921112.00 0.0145 0.0033

Uranus -100322-06-13 13:40 J -34921024.07 -34921023.93 -34921023.77 0.0145 0.0057

Uranus -100322-09-09 19:40 J -34920935.82 -34920935.68 -34920935.55 0.0145 0.0080

Uranus -100322-12-07 01:11 J -34920847.55 -34920847.45 -34920847.33 0.0145 0.0104

Uranus -100321-03-04 07:11 J -34920759.27 -34920759.20 -34920759.12 0.0146 0.0127

Venus -100321-08-19 11:16 J -34920591.12 -34920591.03 -34920590.94 0.3783 0.2045

Moon -100319-06-30 02:23 J -34919911.47 -34919911.40 -34919911.33 0.2653 0.2167

Earth -100319-06-30 02:52 J -34919911.46 -34919911.38 -34919911.31 0.2648 0.2080 *

Jupiter -100318-09-07 09:06 J -34919477.23 -34919477.12 -34919477.00 0.0520 0.0336

Jupiter -100318-12-06 04:33 J -34919387.45 -34919387.31 -34919387.17 0.0523 0.0206

Mars -100316-09-17 17:30 J -34918735.89 -34918735.77 -34918735.65 0.1627 0.0864

Venus -100315-03-05 05:59 J -34918567.35 -34918567.25 -34918567.14 0.3780 0.1008

Mars -100314-08-24 15:49 J -34918029.96 -34918029.84 -34918029.73 0.1635 0.0967

Mars -100313-07-06 12:42 J -34917713.10 -34917712.97 -34917712.84 0.1893 0.0392

Earth -100313-07-09 05:30 J -34917710.32 -34917710.27 -34917710.22 0.2665 0.2371

Moon -100313-07-09 05:59 J -34917710.30 -34917710.25 -34917710.20 0.2660 0.2418 *

Pluto -100312-01-12 01:40 J -34917523.47 -34917523.43 -34917523.38 0.0085 0.0079

Pluto -100312-04-10 02:52 J -34917435.45 -34917435.38 -34917435.29 0.0085 0.0066

Jupiter -100312-04-25 16:18 J -34917419.96 -34917419.82 -34917419.67 0.0506 0.0107

Pluto -100312-07-07 04:18 J -34917347.42 -34917347.32 -34917347.21 0.0084 0.0052

Jupiter -100312-07-24 06:57 J -34917330.31 -34917330.21 -34917330.11 0.0503 0.0370

Pluto -100312-10-03 05:30 J -34917259.38 -34917259.27 -34917259.15 0.0084 0.0039

Pluto -100312-12-30 06:42 J -34917171.34 -34917171.22 -34917171.09 0.0084 0.0026

Pluto -100311-03-28 08:09 J -34917083.29 -34917083.16 -34917083.03 0.0084 0.0013

Pluto -100311-06-24 09:21 J -34916995.24 -34916995.11 -34916994.98 0.0084 0.0001

Pluto -100311-09-20 10:33 J -34916907.19 -34916907.06 -34916906.93 0.0084 0.0013

Pluto -100311-12-17 11:45 J -34916819.13 -34916819.01 -34916818.88 0.0084 0.0026

Pluto -100310-03-15 12:57 J -34916731.07 -34916730.96 -34916730.84 0.0084 0.0039

Saturn -100310-03-30 17:45 J -34916715.77 -34916715.76 -34916715.75 0.0289 0.0287

Pluto -100310-06-11 14:09 J -34916643.01 -34916642.91 -34916642.80 0.0083 0.0051

Saturn -100310-06-27 10:18 J -34916627.18 -34916627.07 -34916626.96 0.0289 0.0198

Pluto -100310-09-07 15:06 J -34916554.94 -34916554.87 -34916554.77 0.0083 0.0064

Venus -100310-09-19 01:11 J -34916543.57 -34916543.45 -34916543.34 0.3776 0.0167

Saturn -100310-09-24 03:06 J -34916538.52 -34916538.37 -34916538.23 0.0288 0.0106

Pluto -100310-12-04 16:33 J -34916466.86 -34916466.81 -34916466.76 0.0083 0.0076

Saturn -100310-12-21 20:09 J -34916449.81 -34916449.66 -34916449.50 0.0288 0.0015

Moon -100310-12-25 20:23 J -34916445.79 -34916445.65 -34916445.51 0.2678 0.0500

Earth -100310-12-25 21:21 J -34916445.75 -34916445.61 -34916445.48 0.2683 0.0554 *

Saturn -100309-03-19 13:40 J -34916361.08 -34916360.93 -34916360.77 0.0288 0.0084

Saturn -100309-06-16 07:40 J -34916272.30 -34916272.18 -34916272.05 0.0288 0.0181

Saturn -100309-09-13 02:09 J -34916183.45 -34916183.41 -34916183.37 0.0288 0.0279

Mars -100306-02-08 00:42 J -34915305.56 -34915305.47 -34915305.39 0.1625 0.1276

Jupiter -100306-06-26 09:06 J -34915167.18 -34915167.12 -34915167.06 0.0519 0.0479

Earth -100306-07-02 23:01 J -34915160.66 -34915160.54 -34915160.43 0.2652 0.0882

Moon -100306-07-02 23:16 J -34915160.65 -34915160.53 -34915160.42 0.2659 0.0800 *

Venus -100306-09-18 06:28 J -34915083.32 -34915083.23 -34915083.14 0.3595 0.2612

Jupiter -100306-09-24 05:01 J -34915077.44 -34915077.29 -34915077.14 0.0523 0.0068

Mars -100304-01-13 22:04 J -34914599.72 -34914599.58 -34914599.44 0.1633 0.0510

Venus -100304-04-03 20:23 J -34914519.76 -34914519.65 -34914519.54 0.3773 0.1190

Mars -100304-11-26 16:47 J -34914282.90 -34914282.80 -34914282.69 0.1895 0.1076

Mars -100302-11-02 21:49 J -34913576.66 -34913576.59 -34913576.52 0.1883 0.1579

Neptune -100301-02-23 14:52 J -34913463.91 -34913463.88 -34913463.84 0.0089 0.0086

Neptune -100301-05-21 16:33 J -34913375.85 -34913375.81 -34913375.74 0.0089 0.0082

Neptune -100301-08-17 18:28 J -34913287.79 -34913287.73 -34913287.65 0.0089 0.0078

Neptune -100301-11-13 20:09 J -34913199.72 -34913199.66 -34913199.56 0.0089 0.0074

Neptune -100300-02-09 22:18 J -34913111.66 -34913111.57 -34913111.47 0.0089 0.0069

Jupiter -100300-02-11 18:57 J -34913109.84 -34913109.71 -34913109.58 0.0507 0.0220

Venus -100300-04-03 06:13 J -34913059.36 -34913059.24 -34913059.11 0.3598 0.1187

Neptune -100300-05-09 00:13 J -34913023.58 -34913023.49 -34913023.38 0.0089 0.0065

Jupiter -100300-05-12 09:06 J -34913020.25 -34913020.12 -34913019.99 0.0504 0.0254

Neptune -100300-08-05 01:54 J -34912935.51 -34912935.42 -34912935.30 0.0089 0.0061

Neptune -100300-11-01 04:04 J -34912847.44 -34912847.33 -34912847.21 0.0089 0.0056

Neptune -100299-01-28 05:59 J -34912759.37 -34912759.25 -34912759.12 0.0089 0.0052

Neptune -100299-04-26 07:40 J -34912671.29 -34912671.18 -34912671.04 0.0089 0.0048

Neptune -100299-07-23 09:49 J -34912583.21 -34912583.09 -34912582.95 0.0089 0.0043

Venus -100299-10-18 15:49 J -34912495.93 -34912495.84 -34912495.75 0.3769 0.2329

Neptune -100299-10-19 11:45 J -34912495.14 -34912495.01 -34912494.86 0.0089 0.0039

Neptune -100298-01-15 13:54 J -34912407.06 -34912406.92 -34912406.78 0.0089 0.0034

Neptune -100298-04-13 15:49 J -34912318.98 -34912318.84 -34912318.69 0.0089 0.0030

Neptune -100298-07-10 17:45 J -34912230.90 -34912230.76 -34912230.61 0.0089 0.0025

Neptune -100298-10-06 19:40 J -34912142.82 -34912142.68 -34912142.52 0.0089 0.0021

Neptune -100297-01-02 21:49 J -34912054.74 -34912054.59 -34912054.44 0.0089 0.0016

Neptune -100297-03-30 23:45 J -34911966.66 -34911966.51 -34911966.35 0.0089 0.0012

Neptune -100297-06-27 01:54 J -34911878.57 -34911878.42 -34911878.27 0.0089 0.0007

Neptune -100297-09-23 03:49 J -34911790.49 -34911790.34 -34911790.18 0.0089 0.0003

Neptune -100297-12-20 05:59 J -34911702.41 -34911702.25 -34911702.10 0.0089 0.0002

Moon -100297-12-27 21:35 J -34911694.68 -34911694.60 -34911694.52 0.2675 0.2156

Earth -100297-12-27 22:47 J -34911694.62 -34911694.55 -34911694.47 0.2678 0.2237 *

Neptune -100296-03-18 07:54 J -34911614.32 -34911614.17 -34911614.01 0.0089 0.0007

Neptune -100296-06-14 09:49 J -34911526.24 -34911526.09 -34911525.93 0.0089 0.0012

Neptune -100296-09-10 11:59 J -34911438.15 -34911438.00 -34911437.84 0.0089 0.0016

Neptune -100296-12-07 14:09 J -34911350.06 -34911349.91 -34911349.76 0.0089 0.0021

Saturn -100295-01-31 17:16 J -34911294.81 -34911294.78 -34911294.73 0.0270 0.0260

Neptune -100295-03-05 16:18 J -34911261.97 -34911261.82 -34911261.67 0.0089 0.0025

Saturn -100295-04-30 08:09 J -34911206.27 -34911206.16 -34911206.04 0.0270 0.0182

Neptune -100295-06-01 18:13 J -34911173.88 -34911173.74 -34911173.59 0.0089 0.0030

Mars -100295-06-06 04:18 J -34911169.46 -34911169.32 -34911169.18 0.1631 0.0056

Saturn -100295-07-27 22:47 J -34911117.69 -34911117.55 -34911117.40 0.0270 0.0104

Neptune -100295-08-28 20:09 J -34911085.79 -34911085.66 -34911085.51 0.0089 0.0035

Venus -100295-10-18 05:45 J -34911035.39 -34911035.26 -34911035.13 0.3601 0.0182

Saturn -100295-10-24 13:11 J -34911029.10 -34911028.95 -34911028.80 0.0270 0.0028

Neptune -100295-11-24 22:33 J -34910997.70 -34910997.56 -34910997.42 0.0089 0.0039

Saturn -100294-01-21 03:06 J -34910940.52 -34910940.37 -34910940.22 0.0271 0.0047

Neptune -100294-02-21 00:28 J -34910909.61 -34910909.48 -34910909.34 0.0089 0.0044

Mars -100294-04-18 20:52 J -34910852.67 -34910852.63 -34910852.59 0.1898 0.1780

Saturn -100294-04-19 17:01 J -34910851.93 -34910851.79 -34910851.66 0.0271 0.0121

Neptune -100294-05-20 02:37 J -34910821.51 -34910821.39 -34910821.25 0.0089 0.0049

Jupiter -100294-07-13 05:59 J -34910767.40 -34910767.25 -34910767.09 0.0522 0.0066

Saturn -100294-07-17 06:28 J -34910763.33 -34910763.23 -34910763.13 0.0271 0.0193

Neptune -100294-08-16 04:33 J -34910733.42 -34910733.31 -34910733.17 0.0089 0.0054

Jupiter -100294-10-11 00:28 J -34910677.54 -34910677.48 -34910677.41 0.0526 0.0471

Saturn -100294-10-13 19:40 J -34910674.71 -34910674.68 -34910674.64 0.0271 0.0263

Neptune -100294-11-12 06:57 J -34910645.32 -34910645.21 -34910645.09 0.0089 0.0058

Neptune -100293-02-08 09:06 J -34910557.22 -34910557.12 -34910557.01 0.0089 0.0063

Venus -100293-05-03 11:30 J -34910472.06 -34910472.02 -34910471.98 0.3766 0.3505

Neptune -100293-05-06 11:01 J -34910469.13 -34910469.04 -34910468.92 0.0089 0.0068

Earth -100293-07-04 18:57 J -34910409.83 -34910409.71 -34910409.59 0.2657 0.0305

Moon -100293-07-04 19:54 J -34910409.79 -34910409.67 -34910409.56 0.2659 0.0327 *

Neptune -100293-08-02 13:11 J -34910381.02 -34910380.95 -34910380.84 0.0089 0.0073

Neptune -100293-10-29 15:49 J -34910292.92 -34910292.84 -34910292.77 0.0089 0.0077

Neptune -100292-01-25 17:45 J -34910204.81 -34910204.76 -34910204.69 0.0089 0.0082

Mars -100292-03-25 02:52 J -34910146.49 -34910146.38 -34910146.27 0.1887 0.0960

Neptune -100292-04-23 19:54 J -34910116.69 -34910116.67 -34910116.63 0.0089 0.0087

Earth -100290-12-21 00:42 J -34909145.53 -34909145.47 -34909145.41 0.2692 0.2384

Moon -100290-12-21 01:25 J -34909145.50 -34909145.44 -34909145.38 0.2687 0.2394 *

Venus -100289-05-03 04:47 J -34909011.42 -34909011.30 -34909011.18 0.3605 0.1499

Jupiter -100289-11-30 20:52 J -34908799.73 -34908799.63 -34908799.51 0.0508 0.0338

Jupiter -100288-02-28 10:47 J -34908710.19 -34908710.05 -34908709.90 0.0504 0.0133

Mars -100286-10-27 11:01 J -34907739.18 -34907739.04 -34907738.90 0.1629 0.0385

Uranus -100285-09-06 10:47 J -34907424.12 -34907424.05 -34907423.98 0.0135 0.0120

Uranus -100285-12-03 15:21 J -34907335.95 -34907335.86 -34907335.75 0.0135 0.0102

Uranus -100284-03-01 19:54 J -34907247.78 -34907247.67 -34907247.53 0.0135 0.0084

Uranus -100284-05-29 00:57 J -34907159.60 -34907159.46 -34907159.33 0.0134 0.0065

Uranus -100284-08-25 05:30 J -34907071.42 -34907071.27 -34907071.13 0.0134 0.0047

Mars -100284-10-02 10:18 J -34907033.12 -34907033.07 -34907033.01 0.1638 0.1504

Venus -100284-11-17 03:35 J -34906987.44 -34906987.35 -34906987.27 0.3608 0.2755

Uranus -100284-11-21 09:49 J -34906983.24 -34906983.09 -34906982.93 0.0134 0.0029

Uranus -100283-02-17 14:37 J -34906895.05 -34906894.89 -34906894.74 0.0134 0.0012

Uranus -100283-05-16 18:57 J -34906806.86 -34906806.71 -34906806.55 0.0134 0.0007

Uranus -100283-08-12 23:16 J -34906718.68 -34906718.53 -34906718.37 0.0134 0.0025

Mars -100283-08-15 08:09 J -34906716.29 -34906716.16 -34906716.03 0.1890 0.0328

Uranus -100283-11-09 03:35 J -34906630.49 -34906630.35 -34906630.19 0.0134 0.0042

Uranus -100282-02-05 07:54 J -34906542.30 -34906542.17 -34906542.02 0.0134 0.0059

Jupiter -100282-05-01 07:11 J -34906457.35 -34906457.20 -34906457.06 0.0521 0.0196

Uranus -100282-05-04 12:13 J -34906454.11 -34906453.99 -34906453.86 0.0134 0.0076

Jupiter -100282-07-30 02:09 J -34906367.53 -34906367.41 -34906367.30 0.0525 0.0343

Uranus -100282-07-31 16:33 J -34906365.91 -34906365.81 -34906365.69 0.0133 0.0092

Uranus -100282-10-27 20:37 J -34906277.71 -34906277.64 -34906277.54 0.0133 0.0109

Uranus -100281-01-24 00:57 J -34906189.50 -34906189.46 -34906189.40 0.0133 0.0125

Saturn -100281-11-13 09:49 J -34905895.17 -34905895.09 -34905894.99 0.0289 0.0230

Saturn -100280-02-10 02:37 J -34905806.52 -34905806.39 -34905806.25 0.0289 0.0139

Saturn -100280-05-09 19:54 J -34905717.83 -34905717.67 -34905717.52 0.0289 0.0047

Earth -100280-07-07 14:52 J -34905658.98 -34905658.88 -34905658.78 0.2661 0.1466

Moon -100280-07-07 15:49 J -34905658.94 -34905658.84 -34905658.75 0.2661 0.1599 *

Saturn -100280-08-06 13:11 J -34905629.10 -34905628.95 -34905628.79 0.0289 0.0050

Saturn -100280-11-03 06:57 J -34905540.34 -34905540.21 -34905540.07 0.0288 0.0147

Saturn -100279-01-31 01:11 J -34905451.53 -34905451.45 -34905451.36 0.0288 0.0245

Jupiter -100277-09-18 23:16 J -34904489.59 -34904489.53 -34904489.47 0.0509 0.0454

Jupiter -100277-12-17 12:42 J -34904400.12 -34904399.97 -34904399.82 0.0505 0.0013

Moon -100277-12-23 01:40 J -34904394.56 -34904394.43 -34904394.29 0.2681 0.0703

Earth -100277-12-23 01:40 J -34904394.56 -34904394.43 -34904394.30 0.2687 0.0777 *

Jupiter -100276-03-17 03:35 J -34904310.38 -34904310.35 -34904310.33 0.0502 0.0491

Mars -100276-03-18 17:45 J -34904308.88 -34904308.76 -34904308.64 0.1627 0.0812

Venus -100275-02-24 20:37 J -34903965.66 -34903965.64 -34903965.63 0.3787 0.3716

Mars -100274-02-22 16:18 J -34903602.93 -34903602.82 -34903602.71 0.1635 0.1028

Mars -100273-01-05 12:42 J -34903286.10 -34903285.97 -34903285.84 0.1893 0.0336

Moon -100273-06-30 07:40 J -34903109.26 -34903109.18 -34903109.09 0.2655 0.1840

Earth -100273-06-30 07:54 J -34903109.25 -34903109.17 -34903109.08 0.2648 0.1831 *

Jupiter -100270-02-17 07:25 J -34902147.30 -34902147.19 -34902147.07 0.0520 0.0333

Jupiter -100270-05-18 02:52 J -34902057.52 -34902057.38 -34902057.24 0.0523 0.0208

Venus -100270-09-10 14:52 J -34901941.95 -34901941.88 -34901941.80 0.3785 0.2731

Earth -100267-07-10 10:33 J -34900908.08 -34900908.06 -34900908.04 0.2666 0.2614

Moon -100267-07-10 11:01 J -34900908.06 -34900908.04 -34900908.02 0.2660 0.2619 *

Mars -100267-08-09 00:42 J -34900878.56 -34900878.47 -34900878.38 0.1625 0.1232

Saturn -100266-09-17 10:33 J -34900474.16 -34900474.06 -34900473.96 0.0271 0.0201

Saturn -100266-12-15 01:11 J -34900385.59 -34900385.45 -34900385.31 0.0271 0.0123

Saturn -100265-03-12 15:35 J -34900297.00 -34900296.85 -34900296.70 0.0271 0.0047

Saturn -100265-06-09 05:45 J -34900208.41 -34900208.26 -34900208.11 0.0271 0.0029

Mars -100265-07-14 22:18 J -34900172.71 -34900172.57 -34900172.44 0.1633 0.0560

Saturn -100265-09-05 19:25 J -34900119.82 -34900119.69 -34900119.55 0.0271 0.0104

Jupiter -100265-10-05 14:09 J -34900090.05 -34900089.91 -34900089.76 0.0507 0.0112

Saturn -100265-12-03 09:06 J -34900031.23 -34900031.12 -34900031.00 0.0272 0.0176

Jupiter -100264-01-03 04:47 J -34900000.40 -34900000.30 -34900000.20 0.0503 0.0366

Saturn -100264-03-01 22:33 J -34899942.62 -34899942.56 -34899942.50 0.0272 0.0248

Venus -100264-03-26 09:35 J -34899918.20 -34899918.10 -34899918.00 0.3782 0.1709

Mars -100264-05-27 17:01 J -34899855.90 -34899855.79 -34899855.68 0.1896 0.1020

Moon -100264-12-26 02:09 J -34899643.54 -34899643.41 -34899643.27 0.2677 0.0749

Earth -100264-12-26 03:06 J -34899643.50 -34899643.37 -34899643.24 0.2682 0.0883 *

Mars -100262-05-03 21:35 J -34899149.66 -34899149.60 -34899149.53 0.1884 0.1625

Earth -100260-07-03 04:04 J -34898358.44 -34898358.33 -34898358.21 0.2653 0.0632

Moon -100260-07-03 04:33 J -34898358.43 -34898358.31 -34898358.20 0.2659 0.0656 *

Venus -100259-10-10 04:33 J -34897894.43 -34897894.31 -34897894.20 0.3779 0.0675

Jupiter -100259-12-06 07:40 J -34897837.24 -34897837.18 -34897837.12 0.0519 0.0474

Jupiter -100258-03-06 03:21 J -34897747.51 -34897747.36 -34897747.21 0.0522 0.0071

Mars -100256-12-05 04:33 J -34896742.45 -34896742.31 -34896742.16 0.1631 0.0107

Mars -100255-10-17 21:21 J -34896425.67 -34896425.61 -34896425.56 0.1898 0.1713

Venus -100253-04-24 23:30 J -34895870.63 -34895870.52 -34895870.41 0.3775 0.0428

Jupiter -100253-07-24 16:33 J -34895779.94 -34895779.81 -34895779.68 0.0507 0.0227

Mars -100253-09-23 03:21 J -34895719.47 -34895719.36 -34895719.26 0.1887 0.1023

Jupiter -100253-10-22 06:42 J -34895690.35 -34895690.22 -34895690.09 0.0504 0.0247

Saturn -100251-04-02 13:11 J -34895163.03 -34895162.95 -34895162.87 0.0289 0.0244

Saturn -100251-06-30 05:45 J -34895074.38 -34895074.26 -34895074.12 0.0288 0.0154

Saturn -100251-09-26 22:47 J -34894985.70 -34894985.55 -34894985.39 0.0288 0.0061

Saturn -100251-12-24 16:18 J -34894896.98 -34894896.82 -34894896.67 0.0288 0.0034

Moon -100251-12-29 03:35 J -34894892.41 -34894892.35 -34894892.30 0.2677 0.2460

Earth -100251-12-29 04:47 J -34894892.33 -34894892.30 -34894892.27 0.2677 0.2580 *

Saturn -100250-03-23 10:04 J -34894808.23 -34894808.08 -34894807.94 0.0288 0.0130

Saturn -100250-06-20 04:04 J -34894719.42 -34894719.33 -34894719.23 0.0288 0.0229

Venus -100249-04-24 06:13 J -34894410.35 -34894410.24 -34894410.13 0.3596 0.2147

Venus -100248-11-08 18:57 J -34893846.82 -34893846.71 -34893846.61 0.3772 0.1553

Earth -100247-07-06 00:13 J -34893607.61 -34893607.49 -34893607.38 0.2657 0.0558

Moon -100247-07-06 00:57 J -34893607.57 -34893607.46 -34893607.34 0.2660 0.0712 *

Jupiter -100247-12-23 03:35 J -34893437.50 -34893437.35 -34893437.20 0.0522 0.0072

Jupiter -100246-03-22 22:04 J -34893347.65 -34893347.58 -34893347.51 0.0525 0.0462

Mars -100246-04-27 11:16 J -34893312.17 -34893312.03 -34893311.89 0.1629 0.0333

Mars -100244-04-02 10:47 J -34892606.09 -34892606.05 -34892606.01 0.1638 0.1559

Venus -100244-11-08 05:59 J -34892386.38 -34892386.25 -34892386.12 0.3599 0.0742

Earth -100244-12-21 06:28 J -34892343.32 -34892343.23 -34892343.14 0.2692 0.2068

Moon -100244-12-21 07:11 J -34892343.30 -34892343.20 -34892343.10 0.2686 0.1905 *

Mars -100243-02-13 08:23 J -34892289.28 -34892289.15 -34892289.02 0.1890 0.0388

Venus -100242-05-25 14:23 J -34891822.98 -34891822.90 -34891822.82 0.3768 0.2693

Jupiter -100241-05-12 19:11 J -34891469.81 -34891469.70 -34891469.59 0.0508 0.0338

Jupiter -100241-08-10 08:52 J -34891380.27 -34891380.13 -34891379.98 0.0505 0.0133

Uranus -100240-04-30 20:37 J -34891116.69 -34891116.64 -34891116.59 0.0144 0.0135

Uranus -100240-07-28 01:54 J -34891028.51 -34891028.42 -34891028.32 0.0144 0.0114

Uranus -100240-10-24 07:11 J -34890940.31 -34890940.20 -34890940.08 0.0144 0.0093

Uranus -100239-01-20 12:28 J -34890852.11 -34890851.98 -34890851.84 0.0144 0.0071

Uranus -100239-04-18 17:59 J -34890763.89 -34890763.75 -34890763.60 0.0145 0.0049

Uranus -100239-07-15 23:30 J -34890675.67 -34890675.52 -34890675.36 0.0145 0.0027

Uranus -100239-10-12 05:01 J -34890587.45 -34890587.29 -34890587.13 0.0145 0.0005

Uranus -100238-01-08 10:33 J -34890499.21 -34890499.06 -34890498.90 0.0145 0.0019

Uranus -100238-04-06 16:18 J -34890410.97 -34890410.82 -34890410.67 0.0145 0.0042

Venus -100238-05-25 05:16 J -34890362.41 -34890362.28 -34890362.15 0.3603 0.0606

Uranus -100238-07-03 21:49 J -34890322.72 -34890322.59 -34890322.44 0.0145 0.0065

Uranus -100238-09-30 03:35 J -34890234.47 -34890234.35 -34890234.21 0.0145 0.0089

Uranus -100238-12-27 09:21 J -34890146.20 -34890146.11 -34890146.00 0.0145 0.0113

Uranus -100237-03-24 15:35 J -34890057.91 -34890057.85 -34890057.80 0.0146 0.0136

Mars -100237-09-16 17:59 J -34889881.87 -34889881.75 -34889881.62 0.1627 0.0762

Saturn -100236-02-03 11:59 J -34889742.08 -34889742.00 -34889741.91 0.0270 0.0222

Saturn -100236-05-03 02:37 J -34889653.51 -34889653.39 -34889653.25 0.0270 0.0145

Saturn -100236-07-30 17:16 J -34889564.93 -34889564.78 -34889564.63 0.0270 0.0067

Saturn -100236-10-27 07:25 J -34889476.34 -34889476.19 -34889476.04 0.0271 0.0008

Saturn -100235-01-23 21:21 J -34889387.75 -34889387.61 -34889387.47 0.0271 0.0083

Saturn -100235-04-22 11:01 J -34889299.16 -34889299.04 -34889298.92 0.0271 0.0156

Saturn -100235-07-20 00:28 J -34889210.56 -34889210.48 -34889210.40 0.0271 0.0227

Mars -100235-08-23 16:33 J -34889175.92 -34889175.81 -34889175.70 0.1635 0.1081

Jupiter -100235-10-11 04:33 J -34889127.45 -34889127.31 -34889127.17 0.0521 0.0205

Jupiter -100234-01-08 23:30 J -34889037.63 -34889037.52 -34889037.40 0.0525 0.0334

Mars -100234-07-06 12:57 J -34888859.09 -34888858.96 -34888858.83 0.1893 0.0275

Earth -100234-07-08 19:54 J -34888856.76 -34888856.67 -34888856.58 0.2662 0.1715

Moon -100234-07-08 20:37 J -34888856.73 -34888856.64 -34888856.55 0.2659 0.1725 *

Venus -100233-12-08 04:18 J -34888338.43 -34888338.32 -34888338.21 0.3606 0.1905

Moon -100231-12-24 07:11 J -34887592.33 -34887592.20 -34887592.06 0.2680 0.0554

Earth -100231-12-24 07:25 J -34887592.32 -34887592.19 -34887592.05 0.2687 0.0451 *

Jupiter -100229-02-29 21:21 J -34887159.67 -34887159.61 -34887159.54 0.0509 0.0454

Jupiter -100229-05-29 10:47 J -34887070.20 -34887070.05 -34887069.90 0.0505 0.0015

Jupiter -100229-08-27 01:40 J -34886980.46 -34886980.43 -34886980.40 0.0502 0.0490

Mars -100227-02-07 00:57 J -34886451.55 -34886451.46 -34886451.36 0.1625 0.1181

Venus -100227-06-24 02:52 J -34886314.44 -34886314.38 -34886314.32 0.3610 0.3138

Moon -100227-07-01 12:57 J -34886307.05 -34886306.96 -34886306.86 0.2656 0.1604

Earth -100227-07-01 13:11 J -34886307.05 -34886306.95 -34886306.85 0.2649 0.1574 *

Mars -100225-01-13 22:33 J -34885745.69 -34885745.56 -34885745.42 0.1633 0.0616

Mars -100225-11-25 17:16 J -34885428.89 -34885428.78 -34885428.66 0.1896 0.0956

Jupiter -100223-07-30 05:16 J -34884817.39 -34884817.28 -34884817.15 0.0520 0.0338

Jupiter -100223-10-28 00:57 J -34884727.60 -34884727.46 -34884727.32 0.0524 0.0206

Mars -100223-11-01 22:04 J -34884722.64 -34884722.58 -34884722.53 0.1884 0.1688

Saturn -100222-08-20 12:57 J -34884431.00 -34884430.96 -34884430.91 0.0289 0.0276

Saturn -100222-11-17 05:30 J -34884342.39 -34884342.27 -34884342.15 0.0289 0.0186

Saturn -100221-02-13 22:18 J -34884253.71 -34884253.57 -34884253.42 0.0289 0.0095

Saturn -100221-05-12 15:35 J -34884165.01 -34884164.85 -34884164.69 0.0289 0.0004

Saturn -100221-08-09 09:21 J -34884076.26 -34884076.11 -34884075.96 0.0289 0.0096

Saturn -100221-11-06 03:06 J -34883987.48 -34883987.37 -34883987.25 0.0288 0.0194

Neptune -100219-08-31 14:23 J -34883323.93 -34883323.90 -34883323.87 0.0089 0.0087

Venus -100219-10-01 18:42 J -34883292.77 -34883292.72 -34883292.67 0.3786 0.3392

Neptune -100219-11-27 16:47 J -34883235.85 -34883235.80 -34883235.73 0.0089 0.0082

Neptune -100218-02-23 19:25 J -34883147.77 -34883147.69 -34883147.61 0.0089 0.0077

Neptune -100218-05-22 21:49 J -34883059.68 -34883059.59 -34883059.49 0.0088 0.0072

Mars -100218-06-30 08:23 J -34883021.18 -34883021.15 -34883021.13 0.1623 0.1589

Neptune -100218-08-19 00:13 J -34882971.59 -34882971.49 -34882971.37 0.0088 0.0067

Neptune -100218-11-15 02:52 J -34882883.50 -34882883.38 -34882883.26 0.0088 0.0062

Moon -100218-12-27 08:09 J -34882841.29 -34882841.16 -34882841.04 0.2677 0.1193

Earth -100218-12-27 08:52 J -34882841.25 -34882841.13 -34882841.00 0.2682 0.1223 *

Neptune -100217-02-11 05:16 J -34882795.40 -34882795.28 -34882795.15 0.0088 0.0057

Jupiter -100217-03-17 12:42 J -34882760.11 -34882759.97 -34882759.82 0.0506 0.0108

Neptune -100217-05-09 07:25 J -34882707.31 -34882707.19 -34882707.04 0.0088 0.0053

Jupiter -100217-06-15 03:06 J -34882670.47 -34882670.37 -34882670.26 0.0503 0.0369

Neptune -100217-08-05 09:49 J -34882619.21 -34882619.09 -34882618.93 0.0088 0.0048

Neptune -100217-11-01 12:28 J -34882531.12 -34882530.98 -34882530.83 0.0088 0.0042

Neptune -100216-01-28 14:52 J -34882443.02 -34882442.88 -34882442.72 0.0088 0.0037

Neptune -100216-04-26 17:16 J -34882354.93 -34882354.78 -34882354.62 0.0088 0.0033

Mars -100216-06-05 05:01 J -34882315.44 -34882315.29 -34882315.15 0.1630 0.0167

Neptune -100216-07-23 19:40 J -34882266.83 -34882266.68 -34882266.52 0.0088 0.0028

Neptune -100216-10-19 22:04 J -34882178.73 -34882178.58 -34882178.42 0.0088 0.0023

Neptune -100215-01-16 00:28 J -34882090.64 -34882090.48 -34882090.31 0.0088 0.0018

Neptune -100215-04-14 02:52 J -34882002.54 -34882002.38 -34882002.21 0.0088 0.0013

Mars -100215-04-17 21:06 J -34881998.68 -34881998.62 -34881998.55 0.1898 0.1666

Neptune -100215-07-11 05:16 J -34881914.44 -34881914.28 -34881914.12 0.0088 0.0008

Neptune -100215-10-07 07:40 J -34881826.34 -34881826.18 -34881826.02 0.0088 0.0003

Neptune -100214-01-03 09:49 J -34881738.25 -34881738.09 -34881737.92 0.0088 0.0003

Neptune -100214-04-01 12:13 J -34881650.15 -34881649.99 -34881649.83 0.0088 0.0006

Neptune -100214-06-28 14:23 J -34881562.05 -34881561.90 -34881561.73 0.0088 0.0012

Earth -100214-07-04 09:21 J -34881556.23 -34881556.11 -34881555.99 0.2653 0.0388

Moon -100214-07-04 09:49 J -34881556.21 -34881556.09 -34881555.97 0.2658 0.0297 *

Neptune -100214-09-24 16:47 J -34881473.96 -34881473.80 -34881473.64 0.0088 0.0016

Neptune -100214-12-21 18:57 J -34881385.86 -34881385.71 -34881385.55 0.0088 0.0021

Neptune -100213-03-18 21:21 J -34881297.76 -34881297.61 -34881297.45 0.0088 0.0025

Mars -100213-03-24 03:21 J -34881292.46 -34881292.36 -34881292.26 0.1887 0.1074

Venus -100213-04-16 13:11 J -34881269.03 -34881268.95 -34881268.86 0.3784 0.2396

Neptune -100213-06-14 23:45 J -34881209.66 -34881209.51 -34881209.36 0.0088 0.0030

Neptune -100213-09-11 01:54 J -34881121.57 -34881121.42 -34881121.27 0.0088 0.0034

Neptune -100213-12-08 03:49 J -34881033.47 -34881033.34 -34881033.18 0.0088 0.0040

Neptune -100212-03-06 06:28 J -34880945.37 -34880945.23 -34880945.09 0.0088 0.0044

Neptune -100212-06-02 08:23 J -34880857.27 -34880857.15 -34880857.01 0.0088 0.0049

Neptune -100212-08-29 10:33 J -34880769.17 -34880769.06 -34880768.92 0.0088 0.0053

Neptune -100212-11-25 12:57 J -34880681.08 -34880680.96 -34880680.84 0.0088 0.0058

Neptune -100211-02-21 14:52 J -34880592.98 -34880592.88 -34880592.75 0.0088 0.0063

Jupiter -100211-05-18 05:45 J -34880507.31 -34880507.26 -34880507.19 0.0519 0.0473

Neptune -100211-05-20 17:16 J -34880504.88 -34880504.78 -34880504.67 0.0088 0.0067

Jupiter -100211-08-16 01:40 J -34880417.58 -34880417.43 -34880417.28 0.0522 0.0073

Neptune -100211-08-16 19:11 J -34880416.78 -34880416.70 -34880416.59 0.0088 0.0072

Neptune -100211-11-12 21:35 J -34880328.67 -34880328.60 -34880328.51 0.0088 0.0076

Neptune -100210-02-08 23:30 J -34880240.57 -34880240.52 -34880240.44 0.0088 0.0080

Neptune -100210-05-08 01:40 J -34880152.46 -34880152.43 -34880152.37 0.0088 0.0085

Venus -100208-10-31 07:54 J -34879245.27 -34879245.17 -34879245.07 0.3781 0.1371

Saturn -100207-06-23 13:54 J -34879009.98 -34879009.92 -34879009.85 0.0271 0.0244

Saturn -100207-09-20 04:47 J -34878921.42 -34878921.30 -34878921.18 0.0271 0.0165

Mars -100207-10-26 11:30 J -34878885.16 -34878885.02 -34878884.88 0.1628 0.0283

Saturn -100207-12-17 19:25 J -34878832.84 -34878832.69 -34878832.55 0.0271 0.0087

Saturn -100206-03-16 09:35 J -34878744.25 -34878744.10 -34878743.94 0.0271 0.0013

Saturn -100206-06-12 23:45 J -34878655.66 -34878655.51 -34878655.37 0.0271 0.0064

Saturn -100206-09-09 13:25 J -34878567.07 -34878566.94 -34878566.81 0.0272 0.0138

Saturn -100206-12-07 02:52 J -34878478.47 -34878478.38 -34878478.28 0.0272 0.0210

Jupiter -100205-01-04 14:23 J -34878450.03 -34878449.90 -34878449.77 0.0507 0.0231

Jupiter -100205-04-03 04:33 J -34878360.44 -34878360.31 -34878360.18 0.0504 0.0243

Mars -100205-10-01 11:01 J -34878179.06 -34878179.04 -34878179.02 0.1638 0.1617

Mars -100204-08-14 08:23 J -34877862.27 -34877862.15 -34877862.02 0.1891 0.0442

Venus -100202-05-17 02:52 J -34877221.50 -34877221.38 -34877221.27 0.3777 0.0322

Uranus -100201-06-30 13:54 J -34876810.94 -34876810.92 -34876810.88 0.0135 0.0132

Earth -100201-07-06 05:16 J -34876805.39 -34876805.28 -34876805.17 0.2658 0.0798

Moon -100201-07-06 05:59 J -34876805.36 -34876805.25 -34876805.13 0.2660 0.0820 *

Uranus -100201-09-26 18:42 J -34876722.80 -34876722.72 -34876722.63 0.0135 0.0113

Uranus -100201-12-23 23:16 J -34876634.63 -34876634.53 -34876634.40 0.0135 0.0095

Uranus -100200-03-22 04:18 J -34876546.45 -34876546.32 -34876546.19 0.0135 0.0076

Uranus -100200-06-18 08:52 J -34876458.27 -34876458.13 -34876457.99 0.0134 0.0058

Uranus -100200-09-14 13:25 J -34876370.09 -34876369.94 -34876369.79 0.0134 0.0039

Uranus -100200-12-11 17:59 J -34876281.90 -34876281.75 -34876281.59 0.0134 0.0022

Uranus -100199-03-09 22:33 J -34876193.72 -34876193.56 -34876193.40 0.0134 0.0004

Jupiter -100199-06-04 02:09 J -34876107.56 -34876107.41 -34876107.26 0.0521 0.0067

Uranus -100199-06-06 03:06 J -34876105.53 -34876105.37 -34876105.22 0.0134 0.0014

Jupiter -100199-09-01 20:37 J -34876017.70 -34876017.64 -34876017.57 0.0525 0.0466

Uranus -100199-09-02 07:25 J -34876017.34 -34876017.19 -34876017.04 0.0134 0.0031

Uranus -100199-11-29 11:45 J -34875929.15 -34875929.01 -34875928.86 0.0134 0.0049

Uranus -100198-02-25 16:04 J -34875840.96 -34875840.83 -34875840.69 0.0134 0.0066

Venus -100198-05-16 05:45 J -34875761.32 -34875761.26 -34875761.19 0.3594 0.3136

Uranus -100198-05-24 20:23 J -34875752.77 -34875752.65 -34875752.53 0.0134 0.0083

Uranus -100198-08-21 00:28 J -34875664.57 -34875664.48 -34875664.37 0.0133 0.0100

Uranus -100198-11-17 05:01 J -34875576.36 -34875576.29 -34875576.22 0.0133 0.0116

Earth -100198-12-22 12:13 J -34875541.09 -34875540.99 -34875540.88 0.2691 0.1739

Moon -100198-12-22 12:57 J -34875541.07 -34875540.96 -34875540.86 0.2685 0.1749 *

Uranus -100197-02-13 08:52 J -34875488.13 -34875488.13 -34875488.10 0.0133 0.0133

Mars -100197-03-17 18:13 J -34875454.87 -34875454.74 -34875454.61 0.1627 0.0714

Venus -100197-11-29 22:04 J -34875197.70 -34875197.58 -34875197.47 0.3774 0.0797

Mars -100195-02-21 16:47 J -34874748.90 -34874748.80 -34874748.70 0.1635 0.1132

Mars -100194-01-04 13:25 J -34874432.07 -34874431.94 -34874431.81 0.1893 0.0219

Moon -100194-06-29 21:21 J -34874255.64 -34874255.61 -34874255.57 0.2650 0.2548

Earth -100194-06-29 22:04 J -34874255.61 -34874255.58 -34874255.55 0.2645 0.2532 *

Jupiter -100194-10-23 16:47 J -34874139.91 -34874139.80 -34874139.70 0.0508 0.0346

Jupiter -100193-01-21 06:28 J -34874050.37 -34874050.23 -34874050.08 0.0505 0.0125

Venus -100193-11-29 05:59 J -34873737.37 -34873737.25 -34873737.13 0.3597 0.1688

Saturn -100192-04-05 08:37 J -34873610.25 -34873610.14 -34873610.03 0.0289 0.0201

Saturn -100192-07-03 01:25 J -34873521.58 -34873521.44 -34873521.30 0.0288 0.0109

Saturn -100192-09-29 18:28 J -34873432.88 -34873432.73 -34873432.57 0.0288 0.0017

Saturn -100192-12-27 11:59 J -34873344.15 -34873344.00 -34873343.84 0.0288 0.0081

Saturn -100191-03-26 05:59 J -34873255.37 -34873255.25 -34873255.12 0.0288 0.0178

Venus -100191-06-15 17:16 J -34873173.88 -34873173.78 -34873173.68 0.3771 0.1907

Saturn -100191-06-23 00:13 J -34873166.53 -34873166.49 -34873166.44 0.0288 0.0277

Earth -100188-07-09 01:11 J -34872054.53 -34872054.45 -34872054.37 0.2663 0.1959

Moon -100188-07-09 01:40 J -34872054.50 -34872054.43 -34872054.35 0.2658 0.2094 *

Mars -100188-08-08 01:25 J -34872024.54 -34872024.44 -34872024.34 0.1625 0.1133

Jupiter -100187-03-23 01:54 J -34871797.55 -34871797.42 -34871797.27 0.0521 0.0213

Venus -100187-06-15 05:30 J -34871713.40 -34871713.27 -34871713.14 0.3600 0.0306

Jupiter -100187-06-20 21:06 J -34871707.74 -34871707.62 -34871707.50 0.0524 0.0327

Mars -100186-07-14 22:47 J -34871318.68 -34871318.55 -34871318.41 0.1633 0.0670

Venus -100186-12-30 12:57 J -34871150.03 -34871149.96 -34871149.89 0.3767 0.3061

Mars -100185-05-26 17:30 J -34871001.89 -34871001.77 -34871001.66 0.1896 0.0899

Moon -100185-12-24 12:57 J -34870790.10 -34870789.96 -34870789.82 0.2679 0.0074

Earth -100185-12-24 13:25 J -34870790.08 -34870789.94 -34870789.80 0.2686 0.0123 *

Mars -100183-05-02 22:18 J -34870295.62 -34870295.57 -34870295.53 0.1884 0.1745

Jupiter -100182-08-11 19:25 J -34869829.75 -34869829.69 -34869829.62 0.0509 0.0456

Jupiter -100182-11-09 08:52 J -34869740.28 -34869740.13 -34869739.98 0.0506 0.0017

Venus -100182-12-30 04:47 J -34869689.42 -34869689.30 -34869689.17 0.3604 0.1028

Jupiter -100181-02-06 23:30 J -34869650.54 -34869650.52 -34869650.48 0.0502 0.0491

Moon -100181-07-01 18:13 J -34869504.84 -34869504.74 -34869504.64 0.2656 0.1344

Earth -100181-07-01 18:13 J -34869504.84 -34869504.74 -34869504.63 0.2649 0.1324 *

Mars -100179-12-29 08:37 J -34868594.18 -34868594.14 -34868594.10 0.1623 0.1537

Saturn -100178-11-10 15:35 J -34868277.87 -34868277.85 -34868277.81 0.0270 0.0264

Saturn -100177-02-07 06:42 J -34868189.33 -34868189.22 -34868189.11 0.0270 0.0184

Saturn -100177-05-05 21:06 J -34868100.75 -34868100.62 -34868100.47 0.0270 0.0108

Saturn -100177-08-02 11:30 J -34868012.17 -34868012.02 -34868011.86 0.0270 0.0032

Saturn -100177-10-30 01:40 J -34867923.58 -34867923.43 -34867923.28 0.0271 0.0045

Mars -100177-12-04 05:16 J -34867888.42 -34867888.28 -34867888.14 0.1630 0.0216

Saturn -100176-01-26 15:21 J -34867834.99 -34867834.86 -34867834.72 0.0271 0.0119

Saturn -100176-04-25 05:01 J -34867746.39 -34867746.29 -34867746.19 0.0271 0.0191

Venus -100176-07-15 03:35 J -34867665.45 -34867665.35 -34867665.25 0.3607 0.2305

Saturn -100176-07-22 18:13 J -34867657.77 -34867657.74 -34867657.70 0.0271 0.0262

Mars -100176-10-16 21:35 J -34867571.67 -34867571.60 -34867571.53 0.1898 0.1593

Jupiter -100175-01-09 02:52 J -34867487.50 -34867487.38 -34867487.27 0.0520 0.0346

Jupiter -100175-04-08 22:18 J -34867397.71 -34867397.57 -34867397.43 0.0524 0.0197

Mars -100174-09-23 03:35 J -34866865.45 -34866865.35 -34866865.25 0.1887 0.1136

Moon -100172-12-27 13:40 J -34866039.05 -34866038.93 -34866038.81 0.2678 0.1375

Earth -100172-12-27 14:52 J -34866039.00 -34866038.88 -34866038.77 0.2681 0.1560 *

Venus -100170-01-29 02:09 J -34865641.44 -34865641.41 -34865641.39 0.3611 0.3516

Jupiter -100170-08-28 11:01 J -34865430.18 -34865430.04 -34865429.89 0.0506 0.0107

Jupiter -100170-11-26 01:25 J -34865340.54 -34865340.44 -34865340.34 0.0503 0.0369

Earth -100168-07-04 14:23 J -34864754.02 -34864753.90 -34864753.78 0.2654 0.0132

Moon -100168-07-04 15:06 J -34864753.99 -34864753.87 -34864753.75 0.2659 0.0081 *

Mars -100167-04-26 11:45 J -34864458.15 -34864458.01 -34864457.87 0.1628 0.0231

Mars -100164-02-12 08:37 J -34863435.26 -34863435.14 -34863435.01 0.1891 0.0506

Jupiter -100164-10-28 03:35 J -34863177.40 -34863177.35 -34863177.29 0.0519 0.0478

Jupiter -100163-01-25 23:45 J -34863087.67 -34863087.51 -34863087.36 0.0523 0.0070

Saturn -100163-08-23 08:09 J -34862878.24 -34862878.16 -34862878.07 0.0289 0.0234

Saturn -100163-11-20 00:57 J -34862789.60 -34862789.46 -34862789.33 0.0289 0.0143

Saturn -100162-02-16 17:59 J -34862700.91 -34862700.75 -34862700.60 0.0289 0.0050

Venus -100162-05-08 17:01 J -34862619.86 -34862619.79 -34862619.73 0.3785 0.3067

Saturn -100162-05-16 11:16 J -34862612.18 -34862612.03 -34862611.87 0.0289 0.0045

Saturn -100162-08-13 05:01 J -34862523.43 -34862523.29 -34862523.15 0.0289 0.0142

Saturn -100162-11-09 23:16 J -34862434.62 -34862434.53 -34862434.44 0.0288 0.0240

Pluto -100159-02-02 11:59 J -34861619.05 -34861619.00 -34861618.91 0.0060 0.0056

Pluto -100159-05-01 13:25 J -34861531.03 -34861530.94 -34861530.81 0.0060 0.0049

Pluto -100159-07-28 14:52 J -34861443.00 -34861442.88 -34861442.72 0.0060 0.0043

Pluto -100159-10-24 16:18 J -34861354.95 -34861354.82 -34861354.63 0.0060 0.0036

Pluto -100158-01-20 18:28 J -34861266.91 -34861266.73 -34861266.56 0.0060 0.0028

Pluto -100158-04-18 19:40 J -34861178.86 -34861178.68 -34861178.49 0.0060 0.0021

Jupiter -100158-06-16 13:11 J -34861120.08 -34861119.95 -34861119.82 0.0507 0.0225

Pluto -100158-07-15 21:21 J -34861090.80 -34861090.61 -34861090.42 0.0061 0.0014

Jupiter -100158-09-14 03:06 J -34861030.50 -34861030.37 -34861030.24 0.0504 0.0248

Mars -100158-09-16 18:28 J -34861027.86 -34861027.73 -34861027.60 0.1626 0.0664

Pluto -100158-10-11 22:47 J -34861002.74 -34861002.55 -34861002.35 0.0061 0.0007

Pluto -100157-01-08 00:28 J -34860914.68 -34860914.48 -34860914.28 0.0061 0.0001

Pluto -100157-04-05 01:54 J -34860826.61 -34860826.42 -34860826.22 0.0061 0.0008

Pluto -100157-07-02 03:06 J -34860738.55 -34860738.37 -34860738.16 0.0061 0.0016

Pluto -100157-09-28 04:33 J -34860650.47 -34860650.31 -34860650.11 0.0061 0.0023

Venus -100157-11-21 11:30 J -34860596.11 -34860596.02 -34860595.93 0.3783 0.2062

Pluto -100157-12-25 06:13 J -34860562.40 -34860562.24 -34860562.06 0.0061 0.0030

Pluto -100156-03-23 07:54 J -34860474.32 -34860474.17 -34860474.01 0.0061 0.0037

Uranus -100156-05-21 04:18 J -34860415.38 -34860415.32 -34860415.24 0.0144 0.0128

Pluto -100156-06-19 09:06 J -34860386.23 -34860386.12 -34860385.97 0.0061 0.0045

Uranus -100156-08-17 09:35 J -34860327.19 -34860327.10 -34860326.99 0.0144 0.0107

Mars -100156-08-22 17:16 J -34860321.88 -34860321.78 -34860321.68 0.1635 0.1190

Pluto -100156-09-15 10:47 J -34860298.13 -34860298.05 -34860297.93 0.0061 0.0052

Uranus -100156-11-13 15:06 J -34860238.99 -34860238.87 -34860238.74 0.0144 0.0085

Pluto -100156-12-12 12:42 J -34860210.01 -34860209.97 -34860209.93 0.0061 0.0060

Uranus -100155-02-09 20:23 J -34860150.78 -34860150.65 -34860150.50 0.0144 0.0064

Uranus -100155-05-09 01:54 J -34860062.57 -34860062.42 -34860062.27 0.0144 0.0042

Mars -100155-07-05 13:11 J -34860005.08 -34860004.95 -34860004.81 0.1893 0.0175

Earth -100155-07-07 10:18 J -34860003.18 -34860003.07 -34860002.96 0.2659 0.1046

Moon -100155-07-07 11:16 J -34860003.14 -34860003.03 -34860002.93 0.2659 0.1182 *

Uranus -100155-08-05 07:25 J -34859974.35 -34859974.19 -34859974.03 0.0145 0.0019

Uranus -100155-11-01 12:57 J -34859886.12 -34859885.96 -34859885.80 0.0145 0.0003

Uranus -100154-01-28 18:28 J -34859797.88 -34859797.73 -34859797.57 0.0145 0.0026

Uranus -100154-04-27 00:13 J -34859709.64 -34859709.49 -34859709.34 0.0145 0.0049

Uranus -100154-07-24 05:45 J -34859621.39 -34859621.26 -34859621.11 0.0145 0.0072

Uranus -100154-10-20 11:45 J -34859533.13 -34859533.01 -34859532.89 0.0145 0.0096

Uranus -100153-01-16 17:16 J -34859444.86 -34859444.78 -34859444.68 0.0145 0.0120

Uranus -100153-04-13 23:16 J -34859356.55 -34859356.53 -34859356.50 0.0146 0.0143

Jupiter -100152-11-14 00:28 J -34858777.63 -34858777.48 -34858777.33 0.0522 0.0065

Earth -100152-12-22 17:59 J -34858738.86 -34858738.75 -34858738.63 0.2691 0.1415

Moon -100152-12-22 18:28 J -34858738.85 -34858738.73 -34858738.61 0.2684 0.1340 *

Jupiter -100151-02-11 18:57 J -34858687.77 -34858687.71 -34858687.64 0.0525 0.0469

Venus -100151-06-07 06:13 J -34858572.35 -34858572.24 -34858572.13 0.3780 0.1030

Mars -100148-02-06 01:25 J -34857597.54 -34857597.44 -34857597.33 0.1625 0.1086

Saturn -100148-06-26 08:23 J -34857457.25 -34857457.15 -34857457.05 0.0271 0.0207

Moon -100148-06-30 02:52 J -34857453.43 -34857453.38 -34857453.34 0.2651 0.2399

Earth -100148-06-30 03:21 J -34857453.42 -34857453.36 -34857453.30 0.2645 0.2275 *

Saturn -100148-09-22 23:01 J -34857368.68 -34857368.54 -34857368.40 0.0271 0.0129

Saturn -100148-12-20 13:25 J -34857280.09 -34857279.94 -34857279.79 0.0271 0.0052

Saturn -100147-03-19 03:35 J -34857191.50 -34857191.35 -34857191.20 0.0271 0.0024

Saturn -100147-06-15 17:30 J -34857102.91 -34857102.77 -34857102.63 0.0271 0.0098

Saturn -100147-09-12 07:11 J -34857014.32 -34857014.20 -34857014.09 0.0272 0.0171

Saturn -100147-12-09 20:37 J -34856925.71 -34856925.64 -34856925.58 0.0272 0.0243

Mars -100146-01-12 23:16 J -34856891.66 -34856891.53 -34856891.40 0.1632 0.0722

Jupiter -100146-04-04 14:37 J -34856809.99 -34856809.89 -34856809.78 0.0508 0.0349

Jupiter -100146-07-03 04:33 J -34856720.46 -34856720.31 -34856720.17 0.0505 0.0122

Mars -100146-11-25 17:45 J -34856574.88 -34856574.76 -34856574.64 0.1896 0.0835

Venus -100146-12-22 01:11 J -34856548.56 -34856548.45 -34856548.34 0.3777 0.0044

Mars -100144-10-31 22:18 J -34855868.61 -34855868.57 -34855868.54 0.1884 0.1798

Earth -100142-07-10 06:13 J -34855252.31 -34855252.24 -34855252.18 0.2663 0.2200

Moon -100142-07-10 06:57 J -34855252.28 -34855252.21 -34855252.15 0.2659 0.2190 *

Venus -100142-12-21 05:45 J -34855088.35 -34855088.26 -34855088.17 0.3595 0.2665

Venus -100140-07-06 20:23 J -34854524.76 -34854524.65 -34854524.54 0.3773 0.1135

Jupiter -100140-09-02 00:57 J -34854467.60 -34854467.46 -34854467.32 0.0520 0.0204

Jupiter -100140-11-30 19:54 J -34854377.79 -34854377.67 -34854377.56 0.0524 0.0334

Mars -100139-06-29 08:52 J -34854167.18 -34854167.13 -34854167.08 0.1623 0.1490

Moon -100139-12-25 18:42 J -34853987.86 -34853987.72 -34853987.58 0.2679 0.0104

Earth -100139-12-25 19:11 J -34853987.84 -34853987.70 -34853987.56 0.2686 0.0230 *

Mars -100137-06-04 05:30 J -34853461.41 -34853461.27 -34853461.13 0.1630 0.0263

Neptune -100137-11-19 12:57 J -34853292.98 -34853292.96 -34853292.91 0.0089 0.0086

Neptune -100136-02-15 14:52 J -34853204.93 -34853204.88 -34853204.82 0.0089 0.0082

Mars -100136-04-16 21:49 J -34853144.66 -34853144.59 -34853144.51 0.1898 0.1534

Neptune -100136-05-14 16:33 J -34853116.86 -34853116.81 -34853116.72 0.0089 0.0078

Venus -100136-07-06 05:30 J -34853064.39 -34853064.27 -34853064.14 0.3598 0.1244

Neptune -100136-08-10 18:42 J -34853028.80 -34853028.72 -34853028.63 0.0089 0.0073

Neptune -100136-11-06 20:37 J -34852940.73 -34852940.64 -34852940.54 0.0089 0.0069

Neptune -100135-02-02 22:18 J -34852852.66 -34852852.57 -34852852.46 0.0089 0.0065

Neptune -100135-05-02 00:28 J -34852764.59 -34852764.48 -34852764.37 0.0089 0.0060

Moon -100135-07-02 23:30 J -34852702.63 -34852702.52 -34852702.40 0.2656 0.1029

Earth -100135-07-02 23:30 J -34852702.63 -34852702.52 -34852702.41 0.2650 0.1068 *

Neptune -100135-07-29 02:23 J -34852676.51 -34852676.40 -34852676.28 0.0089 0.0056

Neptune -100135-10-25 04:04 J -34852588.44 -34852588.33 -34852588.20 0.0089 0.0052

Venus -100134-01-20 15:49 J -34852500.93 -34852500.84 -34852500.75 0.3770 0.2262

Neptune -100134-01-21 06:13 J -34852500.36 -34852500.24 -34852500.11 0.0089 0.0047

Jupiter -100134-01-21 17:01 J -34852499.84 -34852499.79 -34852499.72 0.0509 0.0464

Mars -100134-03-24 03:49 J -34852438.44 -34852438.34 -34852438.24 0.1888 0.1194

Neptune -100134-04-19 08:09 J -34852412.29 -34852412.16 -34852412.02 0.0089 0.0043

Jupiter -100134-04-21 06:42 J -34852410.37 -34852410.22 -34852410.07 0.0506 0.0014

Neptune -100134-07-16 09:49 J -34852324.21 -34852324.09 -34852323.94 0.0089 0.0039

Jupiter -100134-07-19 21:21 J -34852320.65 -34852320.61 -34852320.57 0.0502 0.0483

Neptune -100134-10-12 11:59 J -34852236.13 -34852236.00 -34852235.85 0.0089 0.0034

Neptune -100133-01-08 13:54 J -34852148.05 -34852147.92 -34852147.77 0.0089 0.0030

Saturn -100133-01-10 11:01 J -34852146.11 -34852146.04 -34852145.96 0.0289 0.0249

Neptune -100133-04-05 16:04 J -34852059.97 -34852059.83 -34852059.68 0.0089 0.0025

Saturn -100133-04-08 03:49 J -34852057.47 -34852057.34 -34852057.21 0.0289 0.0158

Neptune -100133-07-02 17:59 J -34851971.89 -34851971.75 -34851971.60 0.0089 0.0020

Saturn -100133-07-05 20:37 J -34851968.79 -34851968.64 -34851968.48 0.0288 0.0066

Neptune -100133-09-28 19:54 J -34851883.81 -34851883.67 -34851883.51 0.0089 0.0016

Saturn -100133-10-02 14:09 J -34851880.07 -34851879.91 -34851879.76 0.0288 0.0029

Neptune -100133-12-25 22:04 J -34851795.73 -34851795.58 -34851795.43 0.0089 0.0011

Saturn -100133-12-30 07:40 J -34851791.32 -34851791.18 -34851791.03 0.0288 0.0126

Neptune -100132-03-23 23:59 J -34851707.65 -34851707.50 -34851707.34 0.0089 0.0007

Saturn -100132-03-29 01:40 J -34851702.52 -34851702.43 -34851702.32 0.0288 0.0224

Neptune -100132-06-20 02:09 J -34851619.57 -34851619.41 -34851619.26 0.0089 0.0002

Neptune -100132-09-16 04:04 J -34851531.48 -34851531.33 -34851531.17 0.0089 0.0003

Neptune -100132-12-13 06:13 J -34851443.40 -34851443.24 -34851443.09 0.0089 0.0007

Neptune -100131-03-11 08:09 J -34851355.31 -34851355.16 -34851355.00 0.0089 0.0012

Neptune -100131-06-07 10:18 J -34851267.22 -34851267.07 -34851266.92 0.0089 0.0016

Neptune -100131-09-03 12:13 J -34851179.14 -34851178.99 -34851178.83 0.0089 0.0021

Neptune -100131-11-30 14:23 J -34851091.05 -34851090.90 -34851090.75 0.0089 0.0026

Venus   -100130-01-20 05:01 J -34851040.42 -34851040.29 -34851040.15 0.3601 0.0172

Neptune -100130-02-26 16:33 J -34851002.96 -34851002.81 -34851002.67 0.0089 0.0030

Neptune -100130-05-25 18:28 J -34850914.87 -34850914.73 -34850914.58 0.0089 0.0035

Neptune -100130-08-21 20:37 J -34850826.78 -34850826.64 -34850826.50 0.0089 0.0040

Neptune -100130-11-17 22:33 J -34850738.68 -34850738.56 -34850738.41 0.0089 0.0045

Neptune -100129-02-14 00:57 J -34850650.59 -34850650.46 -34850650.33 0.0089 0.0049

Neptune -100129-05-12 02:52 J -34850562.49 -34850562.38 -34850562.25 0.0089 0.0054

Venus   -100129-08-05 11:30 J -34850477.06 -34850477.02 -34850476.97 0.3766 0.3424

Neptune -100129-08-08 05:01 J -34850474.40 -34850474.29 -34850474.16 0.0089 0.0059

Neptune -100129-11-04 06:57 J -34850386.30 -34850386.21 -34850386.08 0.0089 0.0064

Neptune -100128-01-31 09:21 J -34850298.20 -34850298.11 -34850298.00 0.0089 0.0068

Neptune -100128-04-29 11:30 J -34850210.10 -34850210.02 -34850209.92 0.0089 0.0073

Jupiter -100128-06-21 00:28 J -34850157.59 -34850157.48 -34850157.37 0.0520 0.0352

Neptune -100128-07-26 13:40 J -34850121.99 -34850121.93 -34850121.85 0.0089 0.0078

Jupiter -100128-09-18 19:54 J -34850067.81 -34850067.67 -34850067.52 0.0523 0.0191

Neptune -100128-10-22 15:35 J -34850033.88 -34850033.85 -34850033.77 0.0089 0.0083

Mars -100128-10-25 12:13 J -34850031.14 -34850030.99 -34850030.85 0.1628 0.0184

Neptune -100127-01-18 18:13 J -34849945.76 -34849945.74 -34849945.71 0.0089 0.0087

Moon -100126-12-28 19:25 J -34849236.79 -34849236.69 -34849236.59 0.2679 0.1871

Earth -100126-12-28 20:37 J -34849236.73 -34849236.64 -34849236.54 0.2680 0.1902 *

Venus -100125-08-05 04:18 J -34849016.44 -34849016.32 -34849016.20 0.3605 0.1439

Mars -100125-08-13 08:52 J -34849008.25 -34849008.13 -34849008.00 0.1890 0.0564

Jupiter -100122-02-07 09:06 J -34848100.26 -34848100.12 -34848099.97 0.0507 0.0108

Jupiter -100122-05-07 23:30 J -34848010.62 -34848010.52 -34848010.41 0.0503 0.0369

Earth -100122-07-05 19:40 J -34847951.81 -34847951.68 -34847951.56 0.2655 0.0154

Moon -100122-07-05 20:09 J -34847951.78 -34847951.66 -34847951.54 0.2659 0.0215 *

Venus -100119-02-19 02:52 J -34846992.46 -34846992.38 -34846992.29 0.3608 0.2686

Saturn -100119-11-13 10:18 J -34846725.15 -34846725.07 -34846724.98 0.0270 0.0226

Earth -100119-12-20 23:01 J -34846687.55 -34846687.54 -34846687.53 0.2695 0.2686

Moon -100119-12-20 23:59 J -34846687.53 -34846687.50 -34846687.47 0.2691 0.2595 *

Saturn -100118-02-10 01:11 J -34846636.58 -34846636.45 -34846636.32 0.0270 0.0148

Mars -100118-03-17 18:57 J -34846600.85 -34846600.71 -34846600.58 0.1626 0.0614

Saturn -100118-05-09 15:35 J -34846548.00 -34846547.85 -34846547.70 0.0270 0.0070

Saturn -100118-08-06 05:45 J -34846459.41 -34846459.26 -34846459.11 0.0270 0.0006

Saturn -100118-11-02 19:40 J -34846370.82 -34846370.68 -34846370.53 0.0271 0.0080

Saturn -100117-01-30 09:21 J -34846282.23 -34846282.11 -34846281.99 0.0271 0.0153

Saturn -100117-04-27 22:47 J -34846193.63 -34846193.55 -34846193.47 0.0271 0.0225

Uranus -100117-07-20 22:04 J -34846109.64 -34846109.58 -34846109.52 0.0135 0.0124

Uranus -100117-10-17 02:37 J -34846021.48 -34846021.39 -34846021.28 0.0135 0.0106

Uranus -100116-01-13 07:25 J -34845933.30 -34845933.19 -34845933.06 0.0135 0.0087

Mars -100116-02-20 17:30 J -34845894.86 -34845894.77 -34845894.67 0.1635 0.1248

Jupiter -100116-04-09 00:57 J -34845847.50 -34845847.46 -34845847.40 0.0519 0.0487

Uranus -100116-04-11 12:13 J -34845845.12 -34845844.99 -34845844.85 0.0135 0.0069

Jupiter -100116-07-07 21:06 J -34845757.77 -34845757.62 -34845757.47 0.0523 0.0060

Uranus -100116-07-08 16:47 J -34845756.94 -34845756.80 -34845756.65 0.0134 0.0050

Uranus -100116-10-04 21:21 J -34845668.76 -34845668.61 -34845668.45 0.0134 0.0033

Uranus -100115-01-01 02:09 J -34845580.57 -34845580.41 -34845580.26 0.0134 0.0015

Mars -100115-01-03 13:40 J -34845578.06 -34845577.93 -34845577.80 0.1894 0.0095

Uranus -100115-03-30 06:28 J -34845492.38 -34845492.23 -34845492.07 0.0134 0.0005

Uranus -100115-06-26 11:01 J -34845404.19 -34845404.04 -34845403.89 0.0134 0.0021

Uranus -100115-09-22 15:21 J -34845316.00 -34845315.86 -34845315.71 0.0134 0.0039

Uranus -100115-12-19 19:40 J -34845227.81 -34845227.68 -34845227.53 0.0134 0.0056

Uranus -100114-03-17 23:59 J -34845139.62 -34845139.50 -34845139.36 0.0134 0.0073

Uranus -100114-06-14 04:18 J -34845051.43 -34845051.32 -34845051.20 0.0134 0.0090

Uranus -100114-09-10 08:23 J -34844963.23 -34844963.15 -34844963.04 0.0134 0.0107

Uranus -100114-12-07 12:57 J -34844875.02 -34844874.96 -34844874.90 0.0133 0.0123

Venus -100111-05-29 20:52 J -34843970.65 -34843970.63 -34843970.62 0.3787 0.3718

Jupiter -100111-11-26 11:30 J -34843790.15 -34843790.02 -34843789.89 0.0507 0.0224

Jupiter -100110-02-24 01:25 J -34843700.57 -34843700.44 -34843700.31 0.0504 0.0249

Earth -100109-07-07 15:35 J -34843200.96 -34843200.85 -34843200.75 0.2659 0.1295

Moon -100109-07-07 16:18 J -34843200.92 -34843200.82 -34843200.72 0.2658 0.1342 *

Mars -100109-08-07 01:54 J -34843170.53 -34843170.42 -34843170.31 0.1625 0.1033

Mars -100107-07-13 23:30 J -34842464.64 -34842464.52 -34842464.39 0.1632 0.0777

Mars -100106-05-26 17:59 J -34842147.87 -34842147.75 -34842147.63 0.1896 0.0776

Venus -100106-12-13 15:06 J -34841946.94 -34841946.87 -34841946.79 0.3785 0.2739

Moon -100106-12-23 23:59 J -34841936.63 -34841936.50 -34841936.37 0.2683 0.1096

Earth -100106-12-23 23:59 J -34841936.63 -34841936.50 -34841936.38 0.2690 0.1085 *

Jupiter -100104-04-25 22:18 J -34841447.72 -34841447.57 -34841447.42 0.0522 0.0069

Mars -100104-05-01 22:33 J -34841441.58 -34841441.56 -34841441.55 0.1884 0.1857

Saturn -100104-05-29 10:33 J -34841414.08 -34841414.06 -34841414.03 0.0289 0.0283

Jupiter -100104-07-24 17:01 J -34841357.86 -34841357.79 -34841357.72 0.0526 0.0466

Saturn -100104-08-26 03:06 J -34841325.48 -34841325.37 -34841325.26 0.0289 0.0193

Saturn -100104-11-22 19:54 J -34841236.82 -34841236.67 -34841236.53 0.0289 0.0102

Saturn -100103-02-19 12:57 J -34841148.11 -34841147.96 -34841147.80 0.0289 0.0011

Saturn -100103-05-19 06:28 J -34841059.38 -34841059.23 -34841059.07 0.0289 0.0089

Saturn -100103-08-16 00:28 J -34840970.60 -34840970.48 -34840970.36 0.0288 0.0186

Saturn -100103-11-12 18:42 J -34840881.73 -34840881.72 -34840881.69 0.0288 0.0286

Moon -100102-07-01 07:54 J -34840651.25 -34840651.17 -34840651.09 0.2652 0.2009

Earth -100102-07-01 08:23 J -34840651.23 -34840651.15 -34840651.07 0.2646 0.2023 *

Venus -100100-06-28 09:49 J -34839923.19 -34839923.09 -34839922.99 0.3782 0.1731

Mars -100100-12-28 09:06 J -34839740.18 -34839740.12 -34839740.06 0.1623 0.1444

Jupiter -100099-09-14 13:40 J -34839480.04 -34839479.93 -34839479.82 0.0508 0.0340

Jupiter -100099-12-13 03:21 J -34839390.51 -34839390.36 -34839390.22 0.0505 0.0129

Mars -100098-12-04 05:59 J -34839034.40 -34839034.25 -34839034.11 0.1630 0.0323

Mars -100097-10-15 22:04 J -34838717.66 -34838717.58 -34838717.50 0.1898 0.1478

Earth -100096-07-10 11:16 J -34838450.07 -34838450.03 -34838449.99 0.2664 0.2443

Moon -100096-07-10 11:45 J -34838450.03 -34838450.01 -34838449.98 0.2659 0.2561 *

Mars -100095-09-22 03:49 J -34838011.43 -34838011.34 -34838011.24 0.1887 0.1251

Venus -100094-01-12 04:33 J -34837899.42 -34837899.31 -34837899.20 0.3779 0.0691

Moon -100093-12-26 00:28 J -34837185.62 -34837185.48 -34837185.35 0.2679 0.0562

Earth -100093-12-26 01:11 J -34837185.59 -34837185.45 -34837185.32 0.2685 0.0565 *

Jupiter -100092-02-11 23:16 J -34837137.67 -34837137.53 -34837137.39 0.0521 0.0201

Jupiter -100092-05-12 18:13 J -34837047.85 -34837047.74 -34837047.62 0.0524 0.0337

Saturn -100089-04-01 11:30 J -34835993.08 -34835993.02 -34835992.96 0.0271 0.0250

Saturn -100089-06-29 02:23 J -34835904.52 -34835904.40 -34835904.28 0.0271 0.0171

Earth -100089-07-03 04:33 J -34835900.42 -34835900.31 -34835900.19 0.2651 0.0821

Moon -100089-07-03 05:01 J -34835900.40 -34835900.29 -34835900.18 0.2657 0.0838 *

Venus -100089-07-27 23:30 J -34835875.63 -34835875.52 -34835875.40 0.3776 0.0396

Saturn -100089-09-25 17:01 J -34835815.94 -34835815.79 -34835815.65 0.0271 0.0094

Saturn -100089-12-23 07:11 J -34835727.35 -34835727.20 -34835727.04 0.0271 0.0018

Saturn -100088-03-21 21:21 J -34835638.76 -34835638.61 -34835638.46 0.0271 0.0058

Mars -100088-04-25 12:13 J -34835604.13 -34835603.99 -34835603.84 0.1628 0.0133

Saturn -100088-06-18 11:01 J -34835550.17 -34835550.04 -34835549.91 0.0271 0.0132

Saturn -100088-09-15 00:28 J -34835461.57 -34835461.48 -34835461.38 0.0271 0.0204

Jupiter -100087-07-03 15:21 J -34835169.91 -34835169.86 -34835169.80 0.0509 0.0463

Jupiter -100087-10-01 04:47 J -34835080.45 -34835080.30 -34835080.15 0.0506 0.0004

Jupiter -100087-12-29 19:25 J -34834990.73 -34834990.69 -34834990.65 0.0502 0.0482

Mars -100085-02-12 09:06 J -34834581.25 -34834581.12 -34834581.00 0.1891 0.0619

Venus -100085-07-27 05:30 J -34834415.38 -34834415.27 -34834415.17 0.3596 0.2204

Venus -100083-02-10 18:57 J -34833851.82 -34833851.71 -34833851.61 0.3772 0.1490

Jupiter -100081-11-30 23:30 J -34832827.63 -34832827.52 -34832827.40 0.0520 0.0341

Jupiter -100080-02-28 18:57 J -34832737.85 -34832737.71 -34832737.57 0.0523 0.0202

Moon -100080-12-29 01:11 J -34832434.54 -34832434.45 -34832434.36 0.2678 0.2024

Earth -100080-12-29 02:37 J -34832434.46 -34832434.39 -34832434.32 0.2680 0.2249 *

Venus -100079-02-10 05:16 J -34832391.41 -34832391.28 -34832391.15 0.3599 0.0808

Mars -100079-09-15 19:11 J -34832173.84 -34832173.70 -34832173.57 0.1626 0.0562

Venus -100078-08-27 14:23 J -34831827.98 -34831827.90 -34831827.82 0.3769 0.2616

Mars -100077-08-21 17:45 J -34831467.85 -34831467.76 -34831467.67 0.1635 0.1297

Mars -100076-07-04 13:54 J -34831151.05 -34831150.92 -34831150.79 0.1894 0.0036

Earth -100076-07-06 00:42 J -34831149.59 -34831149.47 -34831149.35 0.2655 0.0374

Moon -100076-07-06 01:25 J -34831149.56 -34831149.44 -34831149.32 0.2659 0.0462 *

Jupiter -100075-07-20 06:57 J -34830770.35 -34830770.21 -34830770.06 0.0507 0.0113

Jupiter -100075-10-17 21:21 J -34830680.71 -34830680.61 -34830680.51 0.0503 0.0363

Saturn -100074-01-13 05:45 J -34830593.37 -34830593.26 -34830593.16 0.0289 0.0210

Saturn -100074-04-11 22:18 J -34830504.71 -34830504.57 -34830504.43 0.0289 0.0119

Saturn -100074-07-09 15:35 J -34830416.01 -34830415.85 -34830415.70 0.0288 0.0026

Venus -100074-08-27 04:33 J -34830367.44 -34830367.31 -34830367.17 0.3602 0.0560

Saturn -100074-10-06 08:52 J -34830327.28 -34830327.13 -34830326.97 0.0288 0.0071

Saturn -100073-01-03 02:52 J -34830238.51 -34830238.38 -34830238.25 0.0288 0.0168

Saturn -100073-03-31 21:06 J -34830149.68 -34830149.62 -34830149.56 0.0288 0.0267

Earth -100073-12-21 04:47 J -34829885.36 -34829885.30 -34829885.24 0.2694 0.2370

Moon -100073-12-21 05:30 J -34829885.34 -34829885.27 -34829885.20 0.2689 0.2253 *

Uranus -100072-03-14 07:40 J -34829802.21 -34829802.18 -34829802.15 0.0144 0.0140

Uranus -100072-06-10 12:57 J -34829714.05 -34829713.96 -34829713.88 0.0144 0.0119

Uranus -100072-09-06 17:59 J -34829625.85 -34829625.75 -34829625.63 0.0144 0.0098

Uranus -100072-12-03 23:30 J -34829537.65 -34829537.52 -34829537.39 0.0144 0.0077

Uranus -100071-03-02 04:47 J -34829449.44 -34829449.30 -34829449.15 0.0144 0.0055

Uranus -100071-05-29 10:18 J -34829361.22 -34829361.07 -34829360.92 0.0144 0.0033

Uranus -100071-08-25 15:49 J -34829273.00 -34829272.84 -34829272.68 0.0145 0.0011

Uranus -100071-11-21 21:21 J -34829184.77 -34829184.61 -34829184.45 0.0145 0.0012

Uranus -100070-02-18 02:52 J -34829096.53 -34829096.38 -34829096.22 0.0145 0.0035

Uranus -100070-05-17 08:37 J -34829008.29 -34829008.14 -34829007.99 0.0145 0.0058

Uranus -100070-08-13 14:09 J -34828920.04 -34828919.91 -34828919.77 0.0145 0.0082

Uranus -100070-11-09 19:54 J -34828831.77 -34828831.67 -34828831.55 0.0145 0.0105

Mars -100069-02-06 02:09 J -34828743.52 -34828743.41 -34828743.30 0.1625 0.0983

Uranus -100069-02-06 01:54 J -34828743.49 -34828743.42 -34828743.35 0.0145 0.0129 *

Jupiter -100069-09-18 22:47 J -34828517.59 -34828517.55 -34828517.50 0.0519 0.0491

Jupiter -100069-12-17 18:57 J -34828427.86 -34828427.71 -34828427.56 0.0522 0.0055

Venus -100068-03-12 03:35 J -34828343.46 -34828343.35 -34828343.24 0.3606 0.1830

Mars -100067-01-11 23:59 J -34828037.63 -34828037.50 -34828037.38 0.1633 0.0833

Mars -100067-11-24 18:13 J -34827720.86 -34827720.74 -34827720.62 0.1896 0.0714

Pluto -100066-08-29 15:49 J -34827442.90 -34827442.84 -34827442.76 0.0085 0.0072

Pluto -100066-11-25 17:01 J -34827354.87 -34827354.79 -34827354.69 0.0085 0.0058

Pluto -100065-02-21 18:13 J -34827266.84 -34827266.74 -34827266.62 0.0084 0.0046

Pluto -100065-05-19 19:40 J -34827178.80 -34827178.68 -34827178.55 0.0084 0.0032

Pluto -100065-08-15 20:52 J -34827090.75 -34827090.63 -34827090.50 0.0084 0.0019

Pluto -100065-11-11 22:18 J -34827002.70 -34827002.57 -34827002.44 0.0084 0.0006

Pluto -100064-02-07 23:30 J -34826914.65 -34826914.52 -34826914.39 0.0084 0.0007

Pluto -100064-05-07 00:42 J -34826826.60 -34826826.47 -34826826.34 0.0084 0.0020

Pluto -100064-08-03 01:54 J -34826738.54 -34826738.42 -34826738.30 0.0084 0.0033

Pluto -100064-10-30 03:06 J -34826650.48 -34826650.37 -34826650.26 0.0084 0.0045

Pluto -100063-01-26 04:04 J -34826562.41 -34826562.33 -34826562.22 0.0083 0.0059

Pluto -100063-04-24 05:30 J -34826474.33 -34826474.27 -34826474.20 0.0083 0.0071

Jupiter -100063-05-08 09:49 J -34826460.23 -34826460.09 -34826459.96 0.0508 0.0224

Earth -100063-07-08 20:37 J -34826398.74 -34826398.64 -34826398.54 0.2660 0.1540

Moon -100063-07-08 21:35 J -34826398.70 -34826398.60 -34826398.51 0.2658 0.1644 *

Pluto -100063-07-21 06:42 J -34826386.22 -34826386.22 -34826386.21 0.0083 0.0083

Jupiter -100063-08-05 23:45 J -34826370.64 -34826370.51 -34826370.38 0.0504 0.0250

Venus -100063-09-26 02:23 J -34826319.47 -34826319.40 -34826319.34 0.3609 0.3069

Mars -100060-06-28 09:21 J -34825313.18 -34825313.11 -34825313.04 0.1623 0.1395

Saturn -100060-08-19 13:40 J -34825260.94 -34825260.93 -34825260.92 0.0270 0.0268

Saturn -100060-11-16 04:18 J -34825172.42 -34825172.32 -34825172.20 0.0270 0.0191

Moon -100060-12-24 05:45 J -34825134.40 -34825134.26 -34825134.13 0.2682 0.0748

Earth -100060-12-24 05:45 J -34825134.39 -34825134.26 -34825134.13 0.2689 0.0757 *

Saturn -100059-02-12 19:11 J -34825083.84 -34825083.70 -34825083.56 0.0270 0.0112

Saturn -100059-05-12 09:35 J -34824995.25 -34824995.10 -34824994.95 0.0270 0.0036

Saturn -100059-08-08 23:30 J -34824906.67 -34824906.52 -34824906.37 0.0270 0.0040

Saturn -100059-11-05 13:25 J -34824818.08 -34824817.94 -34824817.80 0.0271 0.0114

Saturn -100058-02-02 02:52 J -34824729.48 -34824729.38 -34824729.27 0.0271 0.0186

Saturn -100058-05-01 16:18 J -34824640.86 -34824640.82 -34824640.78 0.0271 0.0257

Mars -100058-06-04 06:13 J -34824607.38 -34824607.24 -34824607.10 0.1630 0.0372

Mars -100057-04-15 22:18 J -34824290.66 -34824290.57 -34824290.48 0.1899 0.1415

Jupiter -100057-10-05 19:54 J -34824117.82 -34824117.67 -34824117.52 0.0522 0.0077

Jupiter -100056-01-03 14:37 J -34824027.96 -34824027.89 -34824027.82 0.0525 0.0458

Moon -100056-07-01 13:25 J -34823849.03 -34823848.94 -34823848.86 0.2652 0.1867

Earth -100056-07-01 13:40 J -34823849.02 -34823848.93 -34823848.84 0.2647 0.1765 *

Mars -100055-03-23 04:04 J -34823584.42 -34823584.33 -34823584.24 0.1888 0.1305

Venus -100054-01-03 18:57 J -34823297.76 -34823297.71 -34823297.66 0.3787 0.3396

Neptune -100054-05-28 11:59 J -34823153.02 -34823153.00 -34823152.97 0.0088 0.0087

Neptune -100054-08-24 14:23 J -34823064.95 -34823064.90 -34823064.83 0.0088 0.0082

Neptune -100054-11-20 17:01 J -34822976.86 -34822976.79 -34822976.70 0.0088 0.0077

Neptune -100053-02-16 19:25 J -34822888.77 -34822888.69 -34822888.58 0.0088 0.0072

Neptune -100053-05-14 22:04 J -34822800.68 -34822800.58 -34822800.47 0.0088 0.0067

Neptune -100053-08-11 00:28 J -34822712.59 -34822712.48 -34822712.35 0.0088 0.0062

Neptune -100053-11-07 03:06 J -34822624.50 -34822624.37 -34822624.24 0.0088 0.0057

Neptune -100052-02-03 05:30 J -34822536.40 -34822536.27 -34822536.13 0.0088 0.0052

Neptune -100052-05-02 07:54 J -34822448.30 -34822448.17 -34822448.02 0.0088 0.0047

Neptune -100052-07-29 10:33 J -34822360.21 -34822360.06 -34822359.92 0.0088 0.0042

Neptune -100052-10-25 12:42 J -34822272.11 -34822271.97 -34822271.81 0.0088 0.0037

Neptune -100051-01-21 15:06 J -34822184.02 -34822183.87 -34822183.71 0.0088 0.0032

Jupiter -100051-02-24 12:13 J -34822150.10 -34822149.99 -34822149.89 0.0508 0.0337

Neptune -100051-04-19 17:30 J -34822095.92 -34822095.77 -34822095.61 0.0088 0.0027

Jupiter -100051-05-25 01:40 J -34822060.57 -34822060.43 -34822060.28 0.0505 0.0133

Neptune -100051-07-16 19:54 J -34822007.82 -34822007.67 -34822007.50 0.0088 0.0023

Neptune -100051-10-12 22:18 J -34821919.73 -34821919.57 -34821919.40 0.0088 0.0018

Neptune -100050-01-09 00:42 J -34821831.63 -34821831.47 -34821831.30 0.0088 0.0013

Neptune -100050-04-07 03:06 J -34821743.53 -34821743.37 -34821743.21 0.0088 0.0008

Neptune -100050-07-04 05:30 J -34821655.43 -34821655.27 -34821655.11 0.0088 0.0003

Neptune -100050-09-30 07:54 J -34821567.34 -34821567.17 -34821567.01 0.0088 0.0003

Neptune -100050-12-27 10:04 J -34821479.24 -34821479.08 -34821478.92 0.0088 0.0007

Neptune -100049-03-24 12:28 J -34821391.14 -34821390.98 -34821390.82 0.0088 0.0011

Neptune -100049-06-20 14:37 J -34821303.04 -34821302.89 -34821302.73 0.0088 0.0016

Venus -100049-07-19 13:25 J -34821274.03 -34821273.94 -34821273.86 0.3784 0.2413

Neptune -100049-09-16 17:01 J -34821214.95 -34821214.79 -34821214.63 0.0088 0.0021

Mars -100049-10-24 12:42 J -34821177.11 -34821176.97 -34821176.83 0.1628 0.0074

Neptune -100049-12-13 19:11 J -34821126.85 -34821126.70 -34821126.54 0.0088 0.0025

Neptune -100048-03-11 21:21 J -34821038.75 -34821038.61 -34821038.45 0.0088 0.0030

Neptune -100048-06-07 23:45 J -34820950.65 -34820950.51 -34820950.36 0.0088 0.0035

Neptune -100048-09-04 01:54 J -34820862.56 -34820862.42 -34820862.27 0.0088 0.0040

Neptune -100048-12-01 04:04 J -34820774.46 -34820774.33 -34820774.18 0.0088 0.0044

Neptune -100047-02-27 06:28 J -34820686.36 -34820686.23 -34820686.09 0.0088 0.0049

Neptune -100047-05-26 08:23 J -34820598.26 -34820598.15 -34820598.01 0.0088 0.0054

Neptune -100047-08-22 10:47 J -34820510.16 -34820510.05 -34820509.92 0.0088 0.0058

Neptune -100047-11-18 12:57 J -34820422.06 -34820421.96 -34820421.84 0.0088 0.0062

Moon -100047-12-27 05:59 J -34820383.38 -34820383.25 -34820383.11 0.2680 0.0769

Earth -100047-12-27 06:57 J -34820383.34 -34820383.21 -34820383.08 0.2684 0.0902 *

Neptune -100046-02-14 15:21 J -34820333.96 -34820333.86 -34820333.76 0.0088 0.0067

Neptune -100046-05-13 17:16 J -34820245.86 -34820245.78 -34820245.68 0.0088 0.0071

Neptune -100046-08-09 19:40 J -34820157.76 -34820157.68 -34820157.60 0.0088 0.0076

Mars -100046-08-13 09:21 J -34820154.23 -34820154.11 -34820153.99 0.1891 0.0681

Neptune -100046-11-05 21:35 J -34820069.65 -34820069.60 -34820069.53 0.0088 0.0080

Neptune -100045-02-01 23:45 J -34819981.54 -34819981.51 -34819981.46 0.0088 0.0085

Saturn -100045-06-01 04:47 J -34819861.37 -34819861.30 -34819861.22 0.0289 0.0245

Jupiter -100045-07-24 21:06 J -34819807.76 -34819807.62 -34819807.48 0.0521 0.0206

Saturn -100045-08-28 21:21 J -34819772.73 -34819772.61 -34819772.47 0.0289 0.0155

Jupiter -100045-10-22 16:18 J -34819717.94 -34819717.82 -34819717.71 0.0525 0.0334

Saturn -100045-11-25 14:23 J -34819684.05 -34819683.90 -34819683.74 0.0289 0.0062

Saturn -100044-02-22 07:40 J -34819595.33 -34819595.18 -34819595.02 0.0289 0.0034

Saturn -100044-05-22 01:25 J -34819506.58 -34819506.44 -34819506.30 0.0289 0.0130

Saturn -100044-08-18 19:25 J -34819417.78 -34819417.69 -34819417.59 0.0288 0.0228

Venus -100043-02-02 08:09 J -34819250.27 -34819250.16 -34819250.06 0.3781 0.1405

Earth -100043-07-04 09:49 J -34819098.21 -34819098.09 -34819097.97 0.2651 0.0564

Moon -100043-07-04 10:18 J -34819098.19 -34819098.07 -34819097.96 0.2658 0.0467 *

Jupiter -100040-12-13 14:23 J -34817839.96 -34817839.90 -34817839.83 0.0509 0.0453

Jupiter -100039-03-13 03:49 J -34817750.49 -34817750.34 -34817750.19 0.0505 0.0014

Mars -100039-03-16 19:25 J -34817746.83 -34817746.69 -34817746.56 0.1626 0.0511

Jupiter -100039-06-10 18:28 J -34817660.76 -34817660.73 -34817660.70 0.0502 0.0491

Venus -100038-08-19 02:52 J -34817226.49 -34817226.38 -34817226.27 0.3778 0.0356

Mars -100037-02-20 18:13 J -34817040.82 -34817040.74 -34817040.66 0.1635 0.1359

Mars -100036-01-02 13:54 J -34816724.05 -34816723.92 -34816723.78 0.1894 0.0067

Venus -100034-08-18 05:01 J -34815766.35 -34815766.29 -34815766.23 0.3594 0.3193

Moon -100034-12-30 07:11 J -34815632.24 -34815632.20 -34815632.16 0.2678 0.2557

Earth -100034-12-30 08:37 J -34815632.18 -34815632.14 -34815632.11 0.2679 0.2594 *

Jupiter -100033-05-12 21:49 J -34815497.70 -34815497.59 -34815497.47 0.0520 0.0338

Uranus -100033-08-10 05:59 J -34815408.32 -34815408.25 -34815408.16 0.0135 0.0117

Jupiter -100033-08-10 17:30 J -34815407.91 -34815407.77 -34815407.63 0.0523 0.0205

Uranus -100033-11-06 10:47 J -34815320.15 -34815320.05 -34815319.93 0.0135 0.0098

Uranus -100032-02-02 15:35 J -34815231.97 -34815231.85 -34815231.72 0.0135 0.0080

Venus -100032-03-03 22:04 J -34815202.69 -34815202.58 -34815202.47 0.3775 0.0733

Uranus -100032-05-01 20:23 J -34815143.79 -34815143.65 -34815143.51 0.0135 0.0061

Uranus -100032-07-29 00:57 J -34815055.61 -34815055.46 -34815055.31 0.0134 0.0043

Uranus -100032-10-25 05:30 J -34814967.42 -34814967.27 -34814967.11 0.0134 0.0025

Uranus -100031-01-21 10:04 J -34814879.23 -34814879.08 -34814878.92 0.0134 0.0008

Uranus -100031-04-19 14:37 J -34814791.04 -34814790.89 -34814790.73 0.0134 0.0011

Uranus -100031-07-16 19:11 J -34814702.85 -34814702.70 -34814702.55 0.0134 0.0028

Uranus -100031-10-12 23:30 J -34814614.66 -34814614.52 -34814614.37 0.0134 0.0046

Uranus -100030-01-09 03:49 J -34814526.47 -34814526.34 -34814526.20 0.0134 0.0063

Saturn -100030-04-05 05:16 J -34814440.37 -34814440.28 -34814440.18 0.0271 0.0216

Uranus -100030-04-07 08:09 J -34814438.28 -34814438.16 -34814438.03 0.0134 0.0080

Saturn -100030-07-02 20:09 J -34814351.79 -34814351.66 -34814351.53 0.0271 0.0138

Uranus -100030-07-04 12:28 J -34814350.08 -34814349.98 -34814349.87 0.0134 0.0097

Earth -100030-07-07 05:45 J -34814347.37 -34814347.26 -34814347.14 0.2656 0.0628

Moon -100030-07-07 06:42 J -34814347.34 -34814347.22 -34814347.10 0.2657 0.0660 *

Mars -100030-08-07 02:23 J -34814316.52 -34814316.40 -34814316.29 0.1624 0.0940

Saturn -100030-09-29 10:33 J -34814263.21 -34814263.06 -34814262.91 0.0271 0.0061

Uranus -100030-09-30 16:33 J -34814261.88 -34814261.81 -34814261.72 0.0134 0.0114

Saturn -100030-12-27 00:42 J -34814174.62 -34814174.47 -34814174.32 0.0271 0.0016

Uranus -100030-12-27 20:52 J -34814173.66 -34814173.63 -34814173.59 0.0133 0.0130

Saturn -100029-03-24 14:37 J -34814086.03 -34814085.89 -34814085.75 0.0271 0.0090

Saturn -100029-06-21 04:18 J -34813997.44 -34813997.32 -34813997.20 0.0271 0.0163

Saturn -100029-09-17 17:45 J -34813908.83 -34813908.76 -34813908.69 0.0271 0.0235

Venus -100028-03-03 05:01 J -34813742.41 -34813742.29 -34813742.17 0.3597 0.1759

Mars -100028-07-13 00:13 J -34813610.61 -34813610.49 -34813610.37 0.1632 0.0883

Jupiter -100028-12-30 05:16 J -34813440.42 -34813440.28 -34813440.13 0.0507 0.0112

Jupiter -100027-03-29 19:40 J -34813350.78 -34813350.68 -34813350.58 0.0503 0.0365

Mars -100027-05-25 18:28 J -34813293.86 -34813293.73 -34813293.61 0.1897 0.0659

Venus -100027-09-17 17:16 J -34813178.88 -34813178.78 -34813178.68 0.3771 0.1831

Earth -100027-12-22 10:33 J -34813083.15 -34813083.06 -34813082.97 0.2694 0.2043

Moon -100027-12-22 11:01 J -34813083.12 -34813083.04 -34813082.95 0.2687 0.2053 *

Venus -100023-09-17 04:47 J -34811718.43 -34811718.30 -34811718.17 0.3600 0.0371

Jupiter -100021-02-29 22:04 J -34811187.63 -34811187.58 -34811187.51 0.0519 0.0477

Venus -100021-04-02 12:57 J -34811155.03 -34811154.96 -34811154.89 0.3768 0.2976

Jupiter -100021-05-29 18:13 J -34811097.89 -34811097.74 -34811097.59 0.0522 0.0069

Mars -100021-12-27 09:35 J -34810886.18 -34810886.10 -34810886.02 0.1623 0.1346

Mars -100019-12-03 06:28 J -34810180.37 -34810180.23 -34810180.09 0.1630 0.0424

Mars -100018-10-15 22:47 J -34809863.64 -34809863.55 -34809863.46 0.1898 0.1346

Venus -100017-04-02 04:04 J -34809694.45 -34809694.33 -34809694.20 0.3603 0.0958

Earth -100017-07-09 01:40 J -34809596.51 -34809596.43 -34809596.34 0.2660 0.1790

Moon -100017-07-09 02:37 J -34809596.48 -34809596.39 -34809596.31 0.2658 0.1860 *

Mars -100016-09-21 04:18 J -34809157.40 -34809157.32 -34809157.23 0.1888 0.1371

Jupiter -100016-10-18 07:40 J -34809130.31 -34809130.18 -34809130.05 0.0508 0.0227

Saturn -100016-10-19 06:42 J -34809129.27 -34809129.22 -34809129.15 0.0289 0.0265

Jupiter -100015-01-15 21:35 J -34809040.73 -34809040.60 -34809040.46 0.0504 0.0247

Saturn -100015-01-15 23:30 J -34809040.64 -34809040.52 -34809040.40 0.0289 0.0174 *

Saturn -100015-04-14 16:18 J -34808951.97 -34808951.82 -34808951.67 0.0289 0.0082

Saturn -100015-07-12 09:35 J -34808863.26 -34808863.10 -34808862.94 0.0288 0.0012

Saturn -100015-10-09 03:06 J -34808774.51 -34808774.37 -34808774.22 0.0288 0.0109

Saturn -100014-01-05 21:06 J -34808685.72 -34808685.62 -34808685.50 0.0288 0.0207

Moon -100014-12-25 11:16 J -34808332.16 -34808332.03 -34808331.89 0.2682 0.0430

Earth -100014-12-25 11:30 J -34808332.16 -34808332.02 -34808331.88 0.2689 0.0426 *

Venus -100012-10-17 03:06 J -34807670.48 -34807670.37 -34807670.27 0.3607 0.2225

Moon -100010-07-02 18:42 J -34807046.82 -34807046.72 -34807046.62 0.2654 0.1463

Earth -100010-07-02 18:42 J -34807046.82 -34807046.72 -34807046.62 0.2647 0.1515 *

Jupiter -100009-03-17 17:59 J -34806787.91 -34806787.75 -34806787.60 0.0521 0.0079

Mars -100009-04-24 12:57 J -34806750.10 -34806749.96 -34806749.81 0.1628 0.0036

Jupiter -100009-06-15 12:42 J -34806698.04 -34806697.97 -34806697.90 0.0525 0.0456

Mars -100006-02-11 09:35 J -34805727.22 -34805727.10 -34805726.98 0.1891 0.0740

Venus -100006-05-03 01:40 J -34805646.47 -34805646.43 -34805646.40 0.3610 0.3442

Jupiter -100004-08-06 10:33 J -34804820.17 -34804820.06 -34804819.95 0.0509 0.0336

Jupiter -100004-11-04 00:13 J -34804730.63 -34804730.49 -34804730.35 0.0505 0.0135

Saturn -100001-08-22 07:25 J -34803708.26 -34803708.19 -34803708.11 0.0270 0.0234

Saturn -100001-11-18 22:18 J -34803619.69 -34803619.57 -34803619.44 0.0270 0.0156

Moon -100001-12-27 11:45 J -34803581.14 -34803581.01 -34803580.89 0.2679 0.1150

Earth -100001-12-27 12:42 J -34803581.09 -34803580.97 -34803580.84 0.2683 0.1236 *

100TH MILLENNIUM BCE

This is a list of transits of Mercury in the 100th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Saturn -100000-02-15 12:57 J -34803531.11 -34803530.96 -34803530.81 0.0270 0.0078

Saturn -100000-05-15 03:06 J -34803442.52 -34803442.37 -34803442.22 0.0270 0.0003

Saturn -100000-08-11 17:01 J -34803353.93 -34803353.79 -34803353.64 0.0270 0.0072

Mars -100000-09-14 19:40 J -34803319.81 -34803319.68 -34803319.54 0.1626 0.0460

Saturn -100000-11-08 06:42 J -34803265.34 -34803265.22 -34803265.09 0.0271 0.0146

Saturn -99999-02-04 20:09 J -34803176.74 -34803176.66 -34803176.57 0.0271 0.0218

Venus -99998-08-10 17:01 J -34802624.85 -34802624.79 -34802624.72 0.3786 0.3083

Mars -99998-08-21 18:28 J -34802613.80 -34802613.73 -34802613.65 0.1635 0.1413

Jupiter -99997-01-04 18:42 J -34802477.86 -34802477.72 -34802477.58 0.0521 0.0212

Jupiter -99997-04-03 13:54 J -34802388.03 -34802387.92 -34802387.80 0.0524 0.0328

Mars -99997-07-03 14:09 J -34802297.04 -34802296.91 -34802296.78 0.1894 0.0099

Earth -99997-07-04 14:52 J -34802296.00 -34802295.88 -34802295.76 0.2652 0.0323

Moon -99997-07-04 15:21 J -34802295.98 -34802295.86 -34802295.74 0.2658 0.0343 *

Venus -99992-02-23 11:45 J -34800601.11 -34800601.01 -34800600.92 0.3783 0.2090

Jupiter -99992-05-25 12:57 J -34800510.02 -34800509.96 -34800509.89 0.0509 0.0448

Jupiter -99992-08-23 02:23 J -34800420.55 -34800420.40 -34800420.25 0.0506 0.0019

Jupiter -99992-11-20 17:01 J -34800330.81 -34800330.79 -34800330.77 0.0502 0.0496

Mars -99990-02-05 02:37 J -34799889.51 -34799889.39 -34799889.27 0.1624 0.0885

Mars -99988-01-11 00:28 J -34799183.59 -34799183.48 -34799183.36 0.1632 0.0942

Uranus -99988-04-03 15:49 J -34799100.90 -34799100.84 -34799100.78 0.0144 0.0132

Uranus -99988-06-30 21:06 J -34799012.72 -34799012.62 -34799012.53 0.0144 0.0111

Uranus -99988-09-27 02:09 J -34798924.53 -34798924.41 -34798924.28 0.0144 0.0090

Mars -99988-11-23 18:42 J -34798866.84 -34798866.72 -34798866.59 0.1896 0.0593

Uranus -99988-12-24 07:40 J -34798836.32 -34798836.18 -34798836.05 0.0144 0.0069

Uranus -99987-03-22 12:57 J -34798748.11 -34798747.96 -34798747.81 0.0144 0.0047

Uranus -99987-06-18 18:28 J -34798659.89 -34798659.73 -34798659.58 0.0144 0.0025

Venus -99987-09-09 06:13 J -34798577.34 -34798577.24 -34798577.13 0.3780 0.1077

Uranus -99987-09-14 23:59 J -34798571.66 -34798571.50 -34798571.35 0.0145 0.0004

Uranus -99987-12-12 05:16 J -34798483.43 -34798483.28 -34798483.12 0.0145 0.0021

Uranus -99986-03-10 11:01 J -34798395.19 -34798395.04 -34798394.89 0.0145 0.0043

Saturn -99986-06-04 22:33 J -34798308.66 -34798308.56 -34798308.46 0.0289 0.0211

Uranus -99986-06-06 16:33 J -34798306.95 -34798306.81 -34798306.66 0.0145 0.0066

Saturn -99986-09-01 15:06 J -34798220.00 -34798219.87 -34798219.72 0.0289 0.0120

Uranus -99986-09-02 22:18 J -34798218.69 -34798218.57 -34798218.44 0.0145 0.0090

Jupiter -99986-10-23 19:54 J -34798167.79 -34798167.67 -34798167.56 0.0520 0.0341

Saturn -99986-11-29 08:23 J -34798131.31 -34798131.15 -34798131.00 0.0289 0.0026

Uranus -99986-11-30 04:04 J -34798130.42 -34798130.33 -34798130.23 0.0145 0.0113

Jupiter -99985-01-21 15:35 J -34798077.99 -34798077.85 -34798077.71 0.0524 0.0203

Saturn -99985-02-26 01:40 J -34798042.58 -34798042.43 -34798042.27 0.0289 0.0070

Uranus -99985-02-26 10:04 J -34798042.13 -34798042.08 -34798042.03 0.0145 0.0137

Saturn -99985-05-24 19:40 J -34797953.81 -34797953.68 -34797953.55 0.0289 0.0168

Saturn -99985-08-21 13:54 J -34797864.98 -34797864.92 -34797864.86 0.0288 0.0267

Earth -99984-07-07 11:01 J -34797545.16 -34797545.04 -34797544.93 0.2656 0.0870

Moon -99984-07-07 11:59 J -34797545.12 -34797545.00 -34797544.89 0.2657 0.1023 *

Venus -99981-03-25 01:11 J -34796553.56 -34796553.45 -34796553.33 0.3777 0.0083

Mars -99981-06-27 09:49 J -34796459.17 -34796459.09 -34796459.01 0.1623 0.1300

Earth -99981-12-22 16:18 J -34796280.92 -34796280.82 -34796280.72 0.2693 0.1723

Moon -99981-12-22 16:47 J -34796280.91 -34796280.80 -34796280.69 0.2686 0.1591 *

Jupiter -99980-06-11 04:33 J -34796110.45 -34796110.31 -34796110.16 0.0506 0.0099

Jupiter -99980-09-08 18:57 J -34796020.81 -34796020.71 -34796020.61 0.0503 0.0376

Mars -99979-06-03 06:42 J -34795753.35 -34795753.22 -34795753.08 0.1630 0.0481

Mars -99978-04-15 22:47 J -34795436.65 -34795436.55 -34795436.46 0.1899 0.1297

Venus -99977-03-24 04:47 J -34795093.39 -34795093.30 -34795093.22 0.3594 0.2734

Moon -99977-06-30 02:52 J -34794995.41 -34794995.38 -34794995.34 0.2648 0.2514

Earth -99977-06-30 03:35 J -34794995.39 -34794995.35 -34794995.31 0.2643 0.2475 *

Mars -99976-03-22 04:33 J -34794730.40 -34794730.31 -34794730.23 0.1888 0.1423

Venus -99976-10-08 20:23 J -34794529.76 -34794529.65 -34794529.54 0.3774 0.1069

Jupiter -99974-08-11 20:37 J -34793857.70 -34793857.64 -34793857.57 0.0519 0.0472

Jupiter -99974-11-09 16:47 J -34793767.95 -34793767.80 -34793767.65 0.0523 0.0074

Neptune -99972-08-16 11:16 J -34793122.05 -34793122.03 -34793121.98 0.0089 0.0086

Venus -99972-10-08 04:47 J -34793069.43 -34793069.30 -34793069.18 0.3598 0.1313

Neptune -99972-11-12 12:57 J -34793034.00 -34793033.96 -34793033.89 0.0089 0.0082

Saturn -99971-01-09 07:40 J -34792976.21 -34792976.18 -34792976.14 0.0270 0.0263

Neptune -99971-02-08 15:06 J -34792945.94 -34792945.87 -34792945.79 0.0089 0.0077

Saturn -99971-04-07 22:47 J -34792887.67 -34792887.55 -34792887.44 0.0270 0.0184

Neptune -99971-05-07 17:01 J -34792857.87 -34792857.79 -34792857.70 0.0089 0.0073

Saturn -99971-07-05 13:11 J -34792799.08 -34792798.95 -34792798.80 0.0270 0.0107

Earth -99971-07-10 06:57 J -34792794.29 -34792794.21 -34792794.14 0.2661 0.2035

Moon -99971-07-10 07:40 J -34792794.26 -34792794.18 -34792794.11 0.2658 0.2086 *

Neptune -99971-08-03 18:42 J -34792769.80 -34792769.72 -34792769.62 0.0089 0.0069

Saturn -99971-10-02 03:35 J -34792710.50 -34792710.35 -34792710.19 0.0271 0.0030

Neptune -99971-10-30 20:23 J -34792681.73 -34792681.65 -34792681.53 0.0089 0.0065

Saturn -99971-12-29 17:45 J -34792621.91 -34792621.76 -34792621.61 0.0271 0.0046

Neptune -99970-01-26 22:33 J -34792593.66 -34792593.56 -34792593.44 0.0089 0.0060

Saturn -99970-03-28 07:40 J -34792533.32 -34792533.18 -34792533.05 0.0271 0.0120

Venus -99970-04-24 15:49 J -34792505.93 -34792505.84 -34792505.75 0.3770 0.2185

Neptune -99970-04-25 00:28 J -34792505.59 -34792505.48 -34792505.36 0.0089 0.0056

Saturn -99970-06-24 21:06 J -34792444.72 -34792444.62 -34792444.51 0.0271 0.0193

Neptune -99970-07-22 02:09 J -34792417.51 -34792417.41 -34792417.27 0.0089 0.0052

Saturn -99970-09-21 10:33 J -34792356.09 -34792356.06 -34792356.03 0.0271 0.0263

Neptune -99970-10-18 04:18 J -34792329.44 -34792329.32 -34792329.19 0.0089 0.0047

Mars -99970-10-24 13:11 J -34792323.09 -34792322.95 -34792322.80 0.1628 0.0033

Neptune -99969-01-14 06:13 J -34792241.36 -34792241.24 -34792241.10 0.0089 0.0043

Neptune -99969-04-11 08:23 J -34792153.29 -34792153.15 -34792153.01 0.0089 0.0038

Neptune -99969-07-08 10:04 J -34792065.21 -34792065.08 -34792064.93 0.0089 0.0034

Neptune -99969-10-04 12:13 J -34791977.13 -34791976.99 -34791976.84 0.0089 0.0029

Neptune -99969-12-31 14:09 J -34791889.05 -34791888.91 -34791888.76 0.0089 0.0025

Neptune -99968-03-29 16:18 J -34791800.97 -34791800.82 -34791800.67 0.0089 0.0020

Jupiter -99968-03-30 06:13 J -34791800.37 -34791800.24 -34791800.10 0.0507 0.0222

Neptune -99968-06-25 18:13 J -34791712.89 -34791712.74 -34791712.59 0.0089 0.0016

Jupiter -99968-06-27 20:09 J -34791710.78 -34791710.66 -34791710.52 0.0504 0.0251

Neptune -99968-09-21 20:09 J -34791624.81 -34791624.66 -34791624.51 0.0089 0.0011

Neptune -99968-12-18 22:18 J -34791536.73 -34791536.57 -34791536.42 0.0089 0.0007

Moon -99968-12-25 16:47 J -34791529.94 -34791529.80 -34791529.66 0.2682 0.0196

Earth -99968-12-25 17:16 J -34791529.91 -34791529.78 -34791529.64 0.2688 0.0108 *

Neptune -99967-03-17 00:13 J -34791448.64 -34791448.49 -34791448.34 0.0089 0.0002

Neptune -99967-06-13 02:09 J -34791360.56 -34791360.41 -34791360.25 0.0089 0.0004

Mars -99967-08-12 09:35 J -34791300.21 -34791300.10 -34791299.98 0.1891 0.0795

Neptune -99967-09-09 04:18 J -34791272.47 -34791272.32 -34791272.17 0.0089 0.0007

Neptune -99967-12-06 06:13 J -34791184.39 -34791184.24 -34791184.08 0.0089 0.0012

Neptune -99966-03-04 08:09 J -34791096.30 -34791096.16 -34791096.00 0.0089 0.0017

Venus -99966-04-24 04:18 J -34791045.45 -34791045.32 -34791045.18 0.3601 0.0134

Neptune -99966-05-31 10:18 J -34791008.21 -34791008.07 -34791007.91 0.0089 0.0021

Neptune -99966-08-27 12:28 J -34790920.13 -34790919.98 -34790919.83 0.0089 0.0026

Neptune -99966-11-23 14:23 J -34790832.04 -34790831.90 -34790831.75 0.0089 0.0031

Neptune -99965-02-19 16:33 J -34790743.95 -34790743.81 -34790743.66 0.0089 0.0035

Neptune -99965-05-17 18:42 J -34790655.86 -34790655.72 -34790655.58 0.0089 0.0040

Neptune -99965-08-13 20:37 J -34790567.76 -34790567.64 -34790567.49 0.0089 0.0045

Venus -99965-11-07 11:30 J -34790482.07 -34790482.02 -34790481.97 0.3766 0.3335

Neptune -99965-11-09 23:01 J -34790479.67 -34790479.54 -34790479.41 0.0089 0.0049

Neptune -99964-02-06 00:57 J -34790391.58 -34790391.46 -34790391.33 0.0089 0.0054

Neptune -99964-05-05 03:06 J -34790303.48 -34790303.37 -34790303.25 0.0089 0.0059

Earth -99964-07-02 23:59 J -34790244.61 -34790244.50 -34790244.39 0.2648 0.1258

Moon -99964-07-02 23:59 J -34790244.60 -34790244.50 -34790244.39 0.2655 0.1313 *

Neptune -99964-08-01 05:01 J -34790215.38 -34790215.29 -34790215.17 0.0089 0.0064

Neptune -99964-10-28 07:40 J -34790127.28 -34790127.18 -34790127.08 0.0089 0.0068

Neptune -99963-01-24 09:35 J -34790039.18 -34790039.10 -34790039.01 0.0089 0.0073

Neptune -99963-04-22 11:45 J -34789951.08 -34789951.01 -34789950.93 0.0089 0.0078

Neptune -99963-07-19 13:40 J -34789862.97 -34789862.93 -34789862.86 0.0089 0.0083

Neptune -99963-10-15 15:49 J -34789774.84 -34789774.84 -34789774.80 0.0089 0.0088

Jupiter -99962-08-28 17:30 J -34789457.93 -34789457.77 -34789457.62 0.0521 0.0062

Jupiter -99962-11-26 11:59 J -34789368.05 -34789368.00 -34789367.93 0.0525 0.0472

Venus -99961-11-07 03:35 J -34789021.47 -34789021.35 -34789021.23 0.3604 0.1363

Mars -99960-03-15 19:54 J -34788892.81 -34788892.67 -34788892.53 0.1626 0.0411

Mars -99958-02-19 18:57 J -34788186.78 -34788186.71 -34788186.65 0.1635 0.1466

Mars -99957-01-02 14:37 J -34787870.02 -34787869.89 -34787869.76 0.1894 0.0149

Saturn -99957-10-21 23:59 J -34787576.58 -34787576.50 -34787576.40 0.0289 0.0233

Jupiter -99956-01-16 08:37 J -34787490.24 -34787490.14 -34787490.03 0.0508 0.0337

Saturn -99956-01-18 16:47 J -34787487.93 -34787487.80 -34787487.66 0.0289 0.0142

Jupiter -99956-04-15 22:18 J -34787400.71 -34787400.57 -34787400.42 0.0505 0.0134

Saturn -99956-04-17 09:49 J -34787399.24 -34787399.09 -34787398.94 0.0289 0.0048

Saturn -99956-07-15 03:06 J -34787310.52 -34787310.37 -34787310.21 0.0289 0.0048

Saturn -99956-10-11 20:52 J -34787221.76 -34787221.63 -34787221.49 0.0288 0.0145

Saturn -99955-01-08 15:06 J -34787132.95 -34787132.87 -34787132.79 0.0288 0.0243

Venus -99955-05-24 02:23 J -34786997.49 -34786997.40 -34786997.31 0.3608 0.2612

Moon -99955-12-28 17:30 J -34786778.89 -34786778.77 -34786778.65 0.2679 0.1456

Earth -99955-12-28 18:42 J -34786778.83 -34786778.72 -34786778.61 0.2683 0.1578 *

Earth -99951-07-05 20:09 J -34785493.78 -34785493.66 -34785493.54 0.2652 0.0075

Moon -99951-07-05 20:37 J -34785493.76 -34785493.64 -34785493.52 0.2657 0.0100 *

Mars -99951-08-06 02:52 J -34785462.50 -34785462.38 -34785462.26 0.1624 0.0836

Jupiter -99950-06-16 17:01 J -34785147.93 -34785147.79 -34785147.65 0.0520 0.0210

Jupiter -99950-09-14 12:13 J -34785058.11 -34785057.99 -34785057.87 0.0524 0.0328

Uranus -99949-06-03 09:21 J -34784795.15 -34784795.11 -34784795.05 0.0135 0.0128

Mars -99949-07-12 00:57 J -34784756.58 -34784756.46 -34784756.35 0.1632 0.0996

Uranus -99949-08-30 14:09 J -34784706.99 -34784706.91 -34784706.81 0.0135 0.0109

Uranus -99949-11-26 18:57 J -34784618.82 -34784618.71 -34784618.59 0.0135 0.0091

Uranus -99948-02-22 23:45 J -34784530.64 -34784530.51 -34784530.37 0.0135 0.0072

Uranus -99948-05-22 04:18 J -34784442.46 -34784442.32 -34784442.17 0.0135 0.0054

Mars -99948-05-24 18:57 J -34784439.84 -34784439.71 -34784439.59 0.1896 0.0536

Uranus -99948-08-18 09:06 J -34784354.27 -34784354.12 -34784353.97 0.0135 0.0035

Uranus -99948-11-14 13:40 J -34784266.08 -34784265.93 -34784265.77 0.0134 0.0017

Uranus -99947-02-10 18:13 J -34784177.90 -34784177.74 -34784177.58 0.0134 0.0000

Uranus -99947-05-09 22:47 J -34784089.71 -34784089.55 -34784089.40 0.0134 0.0018

Uranus -99947-08-06 03:06 J -34784001.52 -34784001.37 -34784001.22 0.0134 0.0036

Venus -99947-08-31 20:52 J -34783975.64 -34783975.63 -34783975.61 0.3788 0.3729

Uranus -99947-11-02 07:25 J -34783913.33 -34783913.19 -34783913.04 0.0134 0.0053

Uranus -99946-01-29 11:45 J -34783825.13 -34783825.01 -34783824.87 0.0134 0.0070

Uranus -99946-04-27 16:04 J -34783736.94 -34783736.83 -34783736.71 0.0134 0.0087

Uranus -99946-07-24 20:23 J -34783648.74 -34783648.65 -34783648.55 0.0134 0.0104

Uranus -99946-10-21 00:28 J -34783560.53 -34783560.48 -34783560.40 0.0134 0.0121

Jupiter -99945-11-04 11:45 J -34783180.08 -34783180.01 -34783179.95 0.0510 0.0445

Jupiter -99944-02-02 00:57 J -34783090.61 -34783090.46 -34783090.31 0.0506 0.0023

Jupiter -99944-05-02 15:35 J -34783000.86 -34783000.85 -34783000.84 0.0503 0.0501

Saturn -99942-08-26 00:57 J -34782155.56 -34782155.46 -34782155.35 0.0270 0.0202

Saturn -99942-11-22 15:35 J -34782066.98 -34782066.85 -34782066.71 0.0270 0.0124

Mars -99942-12-27 10:04 J -34782032.16 -34782032.08 -34782031.99 0.1623 0.1249

Saturn -99941-02-19 05:59 J -34781978.40 -34781978.25 -34781978.09 0.0270 0.0048

Venus -99941-03-16 15:21 J -34781951.93 -34781951.86 -34781951.79 0.3785 0.2757

Saturn -99941-05-17 20:09 J -34781889.81 -34781889.66 -34781889.51 0.0270 0.0029

Saturn -99941-08-14 10:04 J -34781801.22 -34781801.08 -34781800.94 0.0270 0.0103

Saturn -99941-11-10 23:30 J -34781712.62 -34781712.52 -34781712.40 0.0271 0.0176

Saturn -99940-02-07 12:57 J -34781624.01 -34781623.96 -34781623.90 0.0271 0.0247

Mars -99940-12-02 07:11 J -34781326.34 -34781326.20 -34781326.06 0.1630 0.0535

Mars -99939-10-14 23:16 J -34781009.63 -34781009.53 -34781009.43 0.1899 0.1225

Jupiter -99938-04-04 17:45 J -34780837.88 -34780837.76 -34780837.64 0.0520 0.0344

Jupiter -99938-07-03 13:25 J -34780748.08 -34780747.94 -34780747.80 0.0523 0.0198

Earth -99938-07-08 16:04 J -34780742.94 -34780742.83 -34780742.72 0.2657 0.1119

Moon -99938-07-08 17:01 J -34780742.90 -34780742.79 -34780742.68 0.2658 0.1142 *

Mars -99937-09-20 04:47 J -34780303.38 -34780303.30 -34780303.23 0.1888 0.1484

Venus -99936-09-30 09:49 J -34779928.19 -34779928.09 -34779927.99 0.3782 0.1763

Earth -99935-12-23 22:04 J -34779478.70 -34779478.58 -34779478.46 0.2692 0.1397

Moon -99935-12-23 22:33 J -34779478.68 -34779478.56 -34779478.45 0.2686 0.1439 *

Jupiter -99933-11-21 03:21 J -34778780.50 -34778780.36 -34778780.21 0.0507 0.0092

Jupiter -99932-02-18 17:30 J -34778690.86 -34778690.77 -34778690.67 0.0503 0.0383

Moon -99931-07-01 08:23 J -34778193.21 -34778193.15 -34778193.09 0.2649 0.2276

Earth -99931-07-01 08:52 J -34778193.20 -34778193.13 -34778193.07 0.2644 0.2218 *

Venus -99930-04-16 04:33 J -34777904.42 -34777904.31 -34777904.20 0.3779 0.0748

Mars -99930-04-24 13:40 J -34777896.08 -34777895.93 -34777895.79 0.1628 0.0094

Mars -99927-02-10 09:49 J -34776873.20 -34776873.09 -34776872.97 0.1891 0.0856

Saturn -99927-03-10 23:01 J -34776844.58 -34776844.54 -34776844.48 0.0289 0.0269

Saturn -99927-06-07 15:35 J -34776755.97 -34776755.85 -34776755.73 0.0289 0.0179

Saturn -99927-09-04 08:23 J -34776667.29 -34776667.15 -34776667.00 0.0289 0.0087

Saturn -99927-12-02 01:40 J -34776578.59 -34776578.43 -34776578.27 0.0289 0.0008

Jupiter -99926-01-21 18:42 J -34776527.78 -34776527.72 -34776527.66 0.0519 0.0474

Saturn -99926-02-28 19:11 J -34776489.85 -34776489.70 -34776489.55 0.0289 0.0104

Jupiter -99926-04-21 14:52 J -34776438.03 -34776437.88 -34776437.73 0.0523 0.0072

Saturn -99926-05-28 13:11 J -34776401.06 -34776400.95 -34776400.83 0.0289 0.0202

Earth -99925-07-10 11:59 J -34775992.06 -34775992.00 -34775991.94 0.2662 0.2278

Moon -99925-07-10 12:28 J -34775992.03 -34775991.98 -34775991.93 0.2657 0.2369 *

Venus -99925-10-29 23:45 J -34775880.63 -34775880.51 -34775880.40 0.3776 0.0355

Moon -99922-12-26 22:18 J -34774727.70 -34774727.57 -34774727.43 0.2681 0.0252

Earth -99922-12-26 23:01 J -34774727.67 -34774727.54 -34774727.40 0.2687 0.0252 *

Jupiter -99921-09-09 05:45 J -34774470.40 -34774470.26 -34774470.13 0.0507 0.0208

Mars -99921-09-13 20:09 J -34774465.79 -34774465.66 -34774465.52 0.1626 0.0361

Venus -99921-10-29 04:33 J -34774420.42 -34774420.31 -34774420.21 0.3595 0.2275

Jupiter -99921-12-07 19:40 J -34774380.81 -34774380.68 -34774380.55 0.0504 0.0265

Venus -99919-05-15 18:57 J -34773856.82 -34773856.71 -34773856.61 0.3772 0.1424

Mars -99919-08-20 19:11 J -34773759.75 -34773759.70 -34773759.65 0.1635 0.1525

Mars -99918-07-03 14:37 J -34773443.02 -34773442.89 -34773442.76 0.1894 0.0199

Earth -99918-07-04 05:01 J -34773442.40 -34773442.29 -34773442.17 0.2648 0.1011

Moon -99918-07-04 05:16 J -34773442.39 -34773442.28 -34773442.17 0.2655 0.0956 *

Venus -99915-05-15 04:33 J -34772396.44 -34772396.31 -34772396.18 0.3599 0.0875

Jupiter -99914-02-07 16:04 J -34772127.98 -34772127.83 -34772127.68 0.0522 0.0056

Jupiter -99914-05-08 10:47 J -34772038.11 -34772038.05 -34772037.99 0.0525 0.0478

Venus -99914-11-29 14:23 J -34771832.99 -34771832.90 -34771832.82 0.3769 0.2541

Pluto -99913-09-18 23:30 J -34771538.57 -34771538.52 -34771538.41 0.0060 0.0056

Pluto -99913-12-16 01:11 J -34771450.55 -34771450.45 -34771450.31 0.0060 0.0048

Saturn -99912-01-12 00:57 J -34771423.54 -34771423.46 -34771423.38 0.0270 0.0232

Pluto -99912-03-14 02:37 J -34771362.51 -34771362.39 -34771362.22 0.0060 0.0041

Saturn -99912-04-10 15:49 J -34771334.97 -34771334.84 -34771334.71 0.0270 0.0153

Pluto -99912-06-10 04:04 J -34771274.47 -34771274.33 -34771274.14 0.0060 0.0035

Saturn -99912-07-08 06:13 J -34771246.38 -34771246.24 -34771246.09 0.0270 0.0076

Pluto -99912-09-06 05:59 J -34771186.42 -34771186.25 -34771186.07 0.0060 0.0027

Saturn -99912-10-04 20:37 J -34771157.80 -34771157.64 -34771157.49 0.0271 0.0004

Pluto -99912-12-03 07:25 J -34771098.37 -34771098.19 -34771097.99 0.0060 0.0020

Saturn -99911-01-01 10:33 J -34771069.20 -34771069.06 -34771068.91 0.0271 0.0075

Mars -99911-02-04 03:06 J -34771035.49 -34771035.37 -34771035.24 0.1624 0.0787

Pluto -99911-03-01 08:52 J -34771010.31 -34771010.13 -34771009.93 0.0061 0.0013

Saturn -99911-03-31 00:13 J -34770980.61 -34770980.49 -34770980.36 0.0271 0.0149

Pluto -99911-05-28 10:33 J -34770922.25 -34770922.06 -34770921.86 0.0061 0.0005

Saturn -99911-06-27 13:40 J -34770892.01 -34770891.93 -34770891.84 0.0271 0.0221

Pluto -99911-08-24 12:13 J -34770834.19 -34770833.99 -34770833.80 0.0061 0.0002

Pluto -99911-11-20 13:40 J -34770746.13 -34770745.93 -34770745.74 0.0061 0.0009

Pluto -99910-02-16 14:52 J -34770658.06 -34770657.88 -34770657.68 0.0061 0.0017

Pluto -99910-05-15 16:18 J -34770569.99 -34770569.82 -34770569.62 0.0061 0.0024

Pluto -99910-08-11 17:59 J -34770481.91 -34770481.75 -34770481.57 0.0061 0.0031

Pluto -99910-11-07 19:25 J -34770393.83 -34770393.69 -34770393.52 0.0061 0.0038

Venus -99910-11-29 04:04 J -34770372.46 -34770372.33 -34770372.20 0.3602 0.0484

Mars -99909-01-11 01:11 J -34770329.56 -34770329.45 -34770329.34 0.1632 0.1050

Pluto -99909-02-03 20:37 J -34770305.74 -34770305.64 -34770305.48 0.0061 0.0046

Pluto -99909-05-01 22:18 J -34770217.64 -34770217.57 -34770217.45 0.0061 0.0053

Jupiter -99909-06-28 07:25 J -34770160.30 -34770160.19 -34770160.07 0.0508 0.0329

Pluto -99909-07-29 00:13 J -34770129.51 -34770129.49 -34770129.46 0.0061 0.0061

Jupiter -99909-09-25 21:06 J -34770070.76 -34770070.62 -34770070.48 0.0505 0.0140

Mars -99909-11-22 19:11 J -34770012.82 -34770012.70 -34770012.57 0.1897 0.0470

Moon -99909-12-28 23:16 J -34769976.63 -34769976.53 -34769976.42 0.2680 0.1785

Earth -99909-12-29 00:28 J -34769976.57 -34769976.48 -34769976.38 0.2682 0.1917 *

Venus -99908-06-14 10:04 J -34769809.10 -34769809.08 -34769809.06 0.3765 0.3693

Earth -99905-07-06 01:11 J -34768691.57 -34768691.45 -34768691.33 0.2653 0.0201

Moon -99905-07-06 02:09 J -34768691.53 -34768691.41 -34768691.29 0.2656 0.0224 *

Uranus -99904-04-23 23:59 J -34768399.57 -34768399.50 -34768399.42 0.0144 0.0124

Venus -99904-06-14 03:06 J -34768348.49 -34768348.37 -34768348.26 0.3605 0.1763

Uranus -99904-07-21 05:01 J -34768311.39 -34768311.29 -34768311.17 0.0144 0.0103

Uranus -99904-10-17 10:33 J -34768223.19 -34768223.06 -34768222.93 0.0144 0.0082

Uranus -99903-01-13 15:49 J -34768134.98 -34768134.84 -34768134.70 0.0144 0.0060

Uranus -99903-04-11 21:06 J -34768046.77 -34768046.62 -34768046.46 0.0144 0.0038

Uranus -99903-07-09 02:37 J -34767958.55 -34767958.39 -34767958.23 0.0145 0.0016

Uranus -99903-10-05 08:09 J -34767870.32 -34767870.16 -34767870.00 0.0145 0.0006

Jupiter -99903-11-26 16:47 J -34767817.95 -34767817.80 -34767817.66 0.0521 0.0192

Uranus -99902-01-01 13:40 J -34767782.08 -34767781.93 -34767781.77 0.0145 0.0029

Jupiter -99902-02-24 11:59 J -34767728.11 -34767728.00 -34767727.89 0.0524 0.0346

Uranus -99902-03-30 19:11 J -34767693.84 -34767693.70 -34767693.55 0.0145 0.0052

Uranus -99902-06-27 00:57 J -34767605.59 -34767605.46 -34767605.32 0.0145 0.0075

Mars -99902-06-27 10:18 J -34767605.16 -34767605.07 -34767604.97 0.1623 0.1201

Uranus -99902-09-23 06:42 J -34767517.34 -34767517.22 -34767517.10 0.0145 0.0098

Uranus -99902-12-20 12:13 J -34767429.06 -34767428.99 -34767428.89 0.0145 0.0123

Earth -99902-12-22 03:06 J -34767427.39 -34767427.37 -34767427.36 0.2697 0.2671

Moon -99902-12-22 03:49 J -34767427.36 -34767427.34 -34767427.32 0.2691 0.2651 *

Mars -99900-06-02 07:25 J -34766899.33 -34766899.19 -34766899.06 0.1630 0.0585

Mars -99899-04-14 23:30 J -34766582.63 -34766582.52 -34766582.42 0.1899 0.1167

Venus -99899-12-29 01:54 J -34766324.49 -34766324.42 -34766324.35 0.3609 0.2998

Saturn -99898-10-25 16:33 J -34766023.91 -34766023.81 -34766023.69 0.0289 0.0204

Saturn -99897-01-22 09:35 J -34765935.25 -34765935.10 -34765934.96 0.0289 0.0112

Mars -99897-03-21 04:47 J -34765876.37 -34765876.30 -34765876.22 0.1888 0.1542

Jupiter -99897-04-16 10:04 J -34765850.15 -34765850.08 -34765850.01 0.0509 0.0443

Saturn -99897-04-20 02:37 J -34765846.55 -34765846.39 -34765846.23 0.0289 0.0018

Jupiter -99897-07-14 23:16 J -34765760.67 -34765760.53 -34765760.38 0.0506 0.0028

Saturn -99897-07-17 20:09 J -34765757.81 -34765757.66 -34765757.51 0.0289 0.0078

Jupiter -99897-10-12 13:54 J -34765670.92 -34765670.92 -34765670.91 0.0503 0.0502

Saturn -99897-10-14 13:54 J -34765669.04 -34765668.92 -34765668.79 0.0288 0.0176

Saturn -99896-01-11 07:54 J -34765580.20 -34765580.17 -34765580.11 0.0288 0.0277

Mars -99893-11-16 17:45 J -34764174.77 -34764174.76 -34764174.74 0.1622 0.1604

Earth -99892-07-08 21:06 J -34763940.72 -34763940.62 -34763940.51 0.2657 0.1368

Moon -99892-07-08 22:04 J -34763940.68 -34763940.58 -34763940.48 0.2657 0.1516 *

Jupiter -99891-09-14 16:04 J -34763507.94 -34763507.83 -34763507.71 0.0519 0.0340

Mars -99891-10-23 13:54 J -34763469.06 -34763468.92 -34763468.78 0.1628 0.0137

Jupiter -99891-12-13 11:45 J -34763418.15 -34763418.01 -34763417.87 0.0523 0.0202

Venus -99890-04-07 19:11 J -34763302.75 -34763302.70 -34763302.66 0.3787 0.3410

Mars -99890-09-05 03:06 J -34763152.38 -34763152.37 -34763152.35 0.1901 0.1884

Neptune -99889-02-22 09:35 J -34762982.12 -34762982.10 -34762982.06 0.0088 0.0087

Neptune -99889-05-20 12:13 J -34762894.05 -34762893.99 -34762893.92 0.0088 0.0082

Neptune -99889-08-16 14:37 J -34762805.96 -34762805.89 -34762805.80 0.0088 0.0077

Neptune -99889-11-12 17:16 J -34762717.87 -34762717.78 -34762717.68 0.0088 0.0072

Moon -99889-12-24 03:49 J -34762676.47 -34762676.34 -34762676.21 0.2685 0.0986

Earth -99889-12-24 03:49 J -34762676.47 -34762676.34 -34762676.21 0.2692 0.1075 *

Neptune -99888-02-08 19:40 J -34762629.78 -34762629.68 -34762629.56 0.0088 0.0067

Neptune -99888-05-07 22:18 J -34762541.68 -34762541.57 -34762541.45 0.0088 0.0062

Neptune -99888-08-04 00:42 J -34762453.59 -34762453.47 -34762453.34 0.0088 0.0057

Mars -99888-08-11 10:04 J -34762446.19 -34762446.08 -34762445.97 0.1891 0.0917

Neptune -99888-10-31 03:06 J -34762365.49 -34762365.37 -34762365.23 0.0088 0.0052

Neptune -99887-01-27 05:45 J -34762277.40 -34762277.26 -34762277.12 0.0088 0.0047

Neptune -99887-04-25 08:09 J -34762189.30 -34762189.16 -34762189.01 0.0088 0.0042

Neptune -99887-07-22 10:47 J -34762101.20 -34762101.05 -34762100.90 0.0088 0.0037

Neptune -99887-10-18 12:57 J -34762013.11 -34762012.96 -34762012.80 0.0088 0.0032

Neptune -99886-01-14 15:21 J -34761925.01 -34761924.86 -34761924.70 0.0088 0.0027

Neptune -99886-04-12 17:45 J -34761836.91 -34761836.76 -34761836.59 0.0088 0.0022

Neptune -99886-07-09 20:09 J -34761748.82 -34761748.66 -34761748.49 0.0088 0.0018

Neptune -99886-10-05 22:33 J -34761660.72 -34761660.56 -34761660.39 0.0088 0.0013

Neptune -99885-01-02 00:57 J -34761572.62 -34761572.46 -34761572.29 0.0088 0.0008

Neptune -99885-03-30 03:21 J -34761484.52 -34761484.36 -34761484.20 0.0088 0.0003

Jupiter -99885-05-03 01:54 J -34761450.56 -34761450.42 -34761450.27 0.0507 0.0088

Neptune -99885-06-26 05:45 J -34761396.43 -34761396.26 -34761396.10 0.0088 0.0002

Moon -99885-07-01 13:40 J -34761391.00 -34761390.93 -34761390.85 0.2651 0.2019

Earth -99885-07-01 13:54 J -34761391.00 -34761390.92 -34761390.83 0.2644 0.1964 *

Jupiter -99885-07-31 16:18 J -34761360.91 -34761360.82 -34761360.72 0.0503 0.0389

Neptune -99885-09-22 07:54 J -34761308.33 -34761308.17 -34761308.00 0.0088 0.0007

Venus -99885-10-21 13:40 J -34761279.02 -34761278.93 -34761278.85 0.3784 0.2440

Neptune -99885-12-19 10:18 J -34761220.23 -34761220.07 -34761219.91 0.0088 0.0012

Neptune -99884-03-17 12:28 J -34761132.13 -34761131.98 -34761131.81 0.0088 0.0017

Neptune -99884-06-13 14:52 J -34761044.03 -34761043.88 -34761043.72 0.0088 0.0021

Neptune -99884-09-09 17:16 J -34760955.94 -34760955.78 -34760955.63 0.0088 0.0026

Neptune -99884-12-06 19:25 J -34760867.84 -34760867.69 -34760867.53 0.0088 0.0030

Neptune -99883-03-04 21:35 J -34760779.74 -34760779.60 -34760779.44 0.0088 0.0035

Neptune -99883-05-31 23:59 J -34760691.64 -34760691.50 -34760691.35 0.0088 0.0040

Saturn -99883-06-01 03:06 J -34760691.42 -34760691.37 -34760691.31 0.0270 0.0251 *

Neptune -99883-08-28 02:09 J -34760603.54 -34760603.41 -34760603.27 0.0088 0.0044

Saturn -99883-08-28 17:59 J -34760602.86 -34760602.75 -34760602.63 0.0270 0.0172

Neptune -99883-11-24 04:33 J -34760515.44 -34760515.31 -34760515.18 0.0088 0.0049

Saturn -99883-11-25 08:37 J -34760514.28 -34760514.14 -34760513.99 0.0270 0.0095

Neptune -99882-02-20 06:28 J -34760427.34 -34760427.23 -34760427.09 0.0088 0.0054

Saturn -99882-02-21 23:01 J -34760425.69 -34760425.54 -34760425.39 0.0270 0.0018

Neptune -99882-05-19 08:37 J -34760339.25 -34760339.14 -34760339.01 0.0088 0.0058

Saturn -99882-05-21 12:57 J -34760337.11 -34760336.96 -34760336.81 0.0270 0.0057

Neptune -99882-08-15 11:01 J -34760251.15 -34760251.04 -34760250.92 0.0088 0.0063

Saturn -99882-08-18 02:37 J -34760248.51 -34760248.39 -34760248.25 0.0271 0.0131

Neptune -99882-11-11 12:57 J -34760163.05 -34760162.96 -34760162.84 0.0088 0.0068

Saturn -99882-11-14 16:18 J -34760159.92 -34760159.82 -34760159.72 0.0271 0.0203

Neptune -99881-02-07 15:21 J -34760074.94 -34760074.86 -34760074.76 0.0088 0.0072

Mars -99881-03-14 20:37 J -34760038.78 -34760038.64 -34760038.50 0.1626 0.0304

Neptune -99881-05-05 17:16 J -34759986.84 -34759986.78 -34759986.68 0.0088 0.0077

Neptune -99881-08-01 19:40 J -34759898.73 -34759898.68 -34759898.61 0.0088 0.0081

Neptune -99881-10-28 21:35 J -34759810.62 -34759810.60 -34759810.54 0.0088 0.0085

Mars -99879-02-18 19:40 J -34759332.71 -34759332.68 -34759332.65 0.1635 0.1585

Venus -99879-05-07 08:09 J -34759255.26 -34759255.16 -34759255.06 0.3781 0.1432

Jupiter -99879-07-03 16:47 J -34759197.86 -34759197.80 -34759197.74 0.0519 0.0475

Earth -99879-07-11 17:01 J -34759189.82 -34759189.79 -34759189.75 0.2662 0.2523

Moon -99879-07-11 17:30 J -34759189.80 -34759189.77 -34759189.73 0.2656 0.2509 *

Jupiter -99879-10-01 12:57 J -34759108.11 -34759107.96 -34759107.81 0.0522 0.0071

Mars -99878-01-01 14:52 J -34759016.00 -34759015.88 -34759015.75 0.1894 0.0273

Moon -99876-12-27 04:04 J -34757925.46 -34757925.33 -34757925.19 0.2681 0.0426

Earth -99876-12-27 05:01 J -34757925.43 -34757925.29 -34757925.16 0.2687 0.0577 *

Venus -99874-11-21 03:06 J -34757231.49 -34757231.37 -34757231.26 0.3778 0.0415

Jupiter -99873-02-20 04:33 J -34757140.45 -34757140.31 -34757140.18 0.0508 0.0200

Jupiter -99873-05-19 18:28 J -34757050.86 -34757050.73 -34757050.60 0.0504 0.0273

Earth -99872-07-04 10:18 J -34756640.19 -34756640.07 -34756639.95 0.2649 0.0750

Moon -99872-07-04 10:33 J -34756640.17 -34756640.06 -34756639.94 0.2655 0.0749 *

Mars -99872-08-05 03:35 J -34756608.48 -34756608.35 -34756608.23 0.1624 0.0736

Mars -99870-07-12 01:25 J -34755902.54 -34755902.44 -34755902.33 0.1632 0.1107

Venus -99870-11-20 04:04 J -34755771.39 -34755771.33 -34755771.28 0.3593 0.3255

Mars -99869-05-23 19:25 J -34755585.82 -34755585.69 -34755585.56 0.1897 0.0413

Saturn -99868-03-13 15:49 J -34755291.92 -34755291.84 -34755291.76 0.0289 0.0240

Venus -99868-06-05 22:04 J -34755207.69 -34755207.58 -34755207.47 0.3775 0.0669

Saturn -99868-06-10 08:23 J -34755203.28 -34755203.15 -34755203.02 0.0289 0.0149

Saturn -99868-09-07 01:25 J -34755114.60 -34755114.44 -34755114.29 0.0289 0.0056

Saturn -99868-12-04 18:42 J -34755025.88 -34755025.72 -34755025.57 0.0289 0.0039

Saturn -99867-03-03 12:13 J -34754937.13 -34754936.99 -34754936.84 0.0289 0.0136

Saturn -99867-05-31 06:28 J -34754848.32 -34754848.23 -34754848.14 0.0288 0.0235

Jupiter -99867-07-20 14:09 J -34754798.06 -34754797.91 -34754797.76 0.0522 0.0057

Jupiter -99867-10-18 09:06 J -34754708.18 -34754708.12 -34754708.06 0.0525 0.0478

Uranus -99865-06-23 17:30 J -34754093.83 -34754093.77 -34754093.68 0.0135 0.0120

Uranus -99865-09-19 22:33 J -34754005.66 -34754005.56 -34754005.45 0.0135 0.0101

Uranus -99865-12-17 03:06 J -34753917.48 -34753917.37 -34753917.23 0.0135 0.0083

Uranus -99864-03-15 08:09 J -34753829.30 -34753829.16 -34753829.02 0.0135 0.0064

Venus -99864-06-05 04:18 J -34753747.44 -34753747.32 -34753747.21 0.3596 0.1820

Uranus -99864-06-11 12:42 J -34753741.12 -34753740.97 -34753740.82 0.0135 0.0046

Uranus -99864-09-07 17:16 J -34753652.93 -34753652.78 -34753652.62 0.0135 0.0028

Uranus -99864-12-04 21:49 J -34753564.74 -34753564.59 -34753564.43 0.0134 0.0010

Uranus -99863-03-03 02:23 J -34753476.55 -34753476.40 -34753476.24 0.0134 0.0008

Uranus -99863-05-30 06:57 J -34753388.36 -34753388.21 -34753388.06 0.0134 0.0026

Uranus -99863-08-26 11:16 J -34753300.17 -34753300.03 -34753299.88 0.0134 0.0043

Uranus -99863-11-22 15:49 J -34753211.98 -34753211.84 -34753211.71 0.0134 0.0060

Venus -99863-12-20 17:16 J -34753183.88 -34753183.78 -34753183.68 0.3772 0.1771

Mars -99863-12-26 10:33 J -34753178.15 -34753178.06 -34753177.96 0.1623 0.1153

Moon -99863-12-30 05:01 J -34753174.37 -34753174.29 -34753174.21 0.2681 0.2191

Earth -99863-12-30 06:28 J -34753174.31 -34753174.23 -34753174.16 0.2681 0.2259 *

Uranus -99862-02-18 19:54 J -34753123.79 -34753123.67 -34753123.54 0.0134 0.0078

Uranus -99862-05-18 00:13 J -34753035.59 -34753035.49 -34753035.38 0.0134 0.0094

Uranus -99862-08-14 04:33 J -34752947.39 -34752947.31 -34752947.22 0.0134 0.0111

Uranus -99862-11-10 08:37 J -34752859.17 -34752859.14 -34752859.09 0.0134 0.0128

Jupiter -99862-12-09 06:57 J -34752830.32 -34752830.21 -34752830.09 0.0508 0.0314

Jupiter -99861-03-07 20:37 J -34752740.78 -34752740.64 -34752740.50 0.0505 0.0156

Mars -99861-12-01 07:40 J -34752472.31 -34752472.18 -34752472.04 0.1630 0.0644

Mars -99860-10-13 23:30 J -34752155.62 -34752155.52 -34752155.41 0.1899 0.1109

Earth -99859-07-07 06:28 J -34751889.35 -34751889.23 -34751889.11 0.2654 0.0443

Moon -99859-07-07 07:11 J -34751889.32 -34751889.20 -34751889.08 0.2657 0.0578 *

Venus -99859-12-20 04:04 J -34751723.46 -34751723.33 -34751723.19 0.3599 0.0445

Mars -99858-09-20 05:01 J -34751449.36 -34751449.29 -34751449.22 0.1888 0.1597

Venus -99857-07-05 12:57 J -34751160.03 -34751159.96 -34751159.89 0.3768 0.2897

Earth -99856-12-22 08:52 J -34750625.19 -34750625.13 -34750625.07 0.2696 0.2347

Moon -99856-12-22 09:35 J -34750625.17 -34750625.10 -34750625.02 0.2691 0.2206 *

Jupiter -99855-05-08 15:21 J -34750488.00 -34750487.86 -34750487.71 0.0521 0.0185

Jupiter -99855-08-06 10:33 J -34750398.17 -34750398.06 -34750397.94 0.0524 0.0354

Saturn -99853-01-15 17:45 J -34749870.86 -34749870.76 -34749870.66 0.0270 0.0203

Saturn -99853-04-13 08:23 J -34749782.28 -34749782.15 -34749782.01 0.0270 0.0125

Mars -99853-05-17 17:59 J -34749747.79 -34749747.75 -34749747.72 0.1621 0.1558

Venus -99853-07-05 03:35 J -34749699.48 -34749699.35 -34749699.22 0.3603 0.0893

Saturn -99853-07-10 22:47 J -34749693.70 -34749693.55 -34749693.39 0.0270 0.0049

Saturn -99853-10-07 13:11 J -34749605.11 -34749604.95 -34749604.80 0.0270 0.0029

Saturn -99852-01-04 02:52 J -34749516.51 -34749516.38 -34749516.24 0.0271 0.0103

Saturn -99852-04-02 16:33 J -34749427.92 -34749427.81 -34749427.69 0.0271 0.0175

Saturn -99852-06-30 05:59 J -34749339.31 -34749339.25 -34749339.19 0.0271 0.0247

Mars -99851-04-23 14:09 J -34749042.05 -34749041.91 -34749041.77 0.1628 0.0186

Mars -99850-03-06 03:35 J -34748725.39 -34748725.35 -34748725.32 0.1901 0.1821

Jupiter -99850-09-27 08:52 J -34748520.20 -34748520.13 -34748520.05 0.0509 0.0434

Jupiter -99850-12-25 22:18 J -34748430.72 -34748430.57 -34748430.42 0.0506 0.0033

Mars -99848-02-09 10:18 J -34748019.18 -34748019.07 -34748018.96 0.1892 0.0974

Venus -99847-01-19 02:23 J -34747675.50 -34747675.40 -34747675.29 0.3606 0.2160

Earth -99846-07-10 02:23 J -34747138.50 -34747138.40 -34747138.31 0.2658 0.1614

Moon -99846-07-10 03:06 J -34747138.46 -34747138.37 -34747138.27 0.2656 0.1622 *

Jupiter -99843-02-24 16:04 J -34746177.95 -34746177.83 -34746177.71 0.0520 0.0320

Jupiter -99843-05-25 11:30 J -34746088.15 -34746088.02 -34746087.88 0.0523 0.0222

Moon -99843-12-25 09:21 J -34745874.24 -34745874.11 -34745873.97 0.2684 0.0836

Earth -99843-12-25 09:35 J -34745874.23 -34745874.10 -34745873.96 0.2691 0.0742 *

Venus -99842-08-05 01:11 J -34745651.49 -34745651.45 -34745651.41 0.3610 0.3371

Mars -99842-09-13 20:52 J -34745611.77 -34745611.63 -34745611.49 0.1626 0.0253

Mars -99839-07-02 15:21 J -34744588.99 -34744588.86 -34744588.74 0.1894 0.0334

Moon -99839-07-02 18:57 J -34744588.80 -34744588.71 -34744588.62 0.2652 0.1709 *

Earth -99839-07-02 19:11 J -34744588.79 -34744588.70 -34744588.61 0.2645 0.1706 *

Saturn -99839-07-31 16:18 J -34744559.87 -34744559.82 -34744559.75 0.0289 0.0267

Saturn -99839-10-28 08:52 J -34744471.24 -34744471.13 -34744471.00 0.0289 0.0177

Saturn -99838-01-25 01:54 J -34744382.57 -34744382.42 -34744382.27 0.0289 0.0084

Saturn -99838-04-23 19:11 J -34744293.86 -34744293.70 -34744293.55 0.0289 0.0013

Saturn -99838-07-21 12:42 J -34744205.12 -34744204.97 -34744204.82 0.0289 0.0108

Jupiter -99838-10-14 00:28 J -34744120.62 -34744120.48 -34744120.33 0.0507 0.0084

Saturn -99838-10-18 06:28 J -34744116.33 -34744116.23 -34744116.11 0.0288 0.0207

Jupiter -99837-01-11 14:52 J -34744030.97 -34744030.88 -34744030.79 0.0503 0.0392

Venus -99834-11-12 17:16 J -34742629.84 -34742629.78 -34742629.71 0.3786 0.3095

Mars -99832-02-03 03:49 J -34742181.47 -34742181.34 -34742181.21 0.1624 0.0683

Jupiter -99832-12-13 15:21 J -34741867.92 -34741867.86 -34741867.79 0.0518 0.0468

Jupiter -99831-03-13 11:30 J -34741778.17 -34741778.02 -34741777.87 0.0522 0.0076

Mars -99830-01-10 01:54 J -34741475.52 -34741475.42 -34741475.32 0.1632 0.1164

Mars -99830-11-22 19:40 J -34741158.81 -34741158.68 -34741158.55 0.1897 0.0349

Moon -99830-12-28 09:49 J -34741123.22 -34741123.09 -34741122.96 0.2681 0.0910

Earth -99830-12-28 10:47 J -34741123.18 -34741123.05 -34741122.92 0.2686 0.0906 *

Venus -99828-05-28 11:45 J -34740606.10 -34740606.01 -34740605.92 0.3783 0.2115

Earth -99826-07-05 15:21 J -34739837.97 -34739837.86 -34739837.74 0.2650 0.0509

Moon -99826-07-05 16:04 J -34739837.95 -34739837.83 -34739837.72 0.2655 0.0467 *

Jupiter -99826-08-02 03:06 J -34739810.50 -34739810.37 -34739810.23 0.0508 0.0195

Jupiter -99826-10-30 17:16 J -34739720.91 -34739720.78 -34739720.66 0.0504 0.0280

Saturn -99824-06-03 19:54 J -34739138.75 -34739138.67 -34739138.58 0.0270 0.0223

Saturn -99824-08-31 10:47 J -34739050.18 -34739050.05 -34739049.92 0.0270 0.0144

Saturn -99824-11-28 01:25 J -34738961.59 -34738961.44 -34738961.29 0.0270 0.0066

Saturn -99823-02-24 15:35 J -34738873.00 -34738872.85 -34738872.70 0.0271 0.0010

Saturn -99823-05-24 05:30 J -34738784.41 -34738784.27 -34738784.13 0.0271 0.0085

Mars -99823-06-26 11:01 J -34738751.15 -34738751.04 -34738750.94 0.1623 0.1103

Saturn -99823-08-20 19:11 J -34738695.82 -34738695.70 -34738695.58 0.0271 0.0158

Saturn -99823-11-17 08:37 J -34738607.21 -34738607.14 -34738607.06 0.0271 0.0230

Venus -99823-12-12 06:28 J -34738582.34 -34738582.23 -34738582.12 0.3780 0.1101

Mars -99821-06-01 08:09 J -34738045.29 -34738045.16 -34738045.03 0.1630 0.0696

Uranus -99820-02-15 02:37 J -34737786.43 -34737786.39 -34737786.34 0.0144 0.0138

Mars -99820-04-13 23:59 J -34737728.61 -34737728.50 -34737728.39 0.1899 0.1045

Uranus -99820-05-14 07:40 J -34737698.26 -34737698.18 -34737698.08 0.0144 0.0117

Uranus -99820-08-10 12:57 J -34737610.07 -34737609.96 -34737609.84 0.0144 0.0096

Uranus -99820-11-06 18:13 J -34737521.87 -34737521.74 -34737521.60 0.0144 0.0075

Jupiter -99820-12-30 12:28 J -34737468.14 -34737467.98 -34737467.83 0.0521 0.0057

Pluto -99819-01-17 03:35 J -34737450.35 -34737450.35 -34737450.34 0.0085 0.0085

Uranus -99819-02-02 23:45 J -34737433.66 -34737433.51 -34737433.37 0.0144 0.0053

Jupiter -99819-03-30 07:11 J -34737378.26 -34737378.20 -34737378.14 0.0525 0.0477

Pluto -99819-04-15 04:47 J -34737362.36 -34737362.30 -34737362.22 0.0085 0.0071

Uranus -99819-05-02 05:01 J -34737345.44 -34737345.29 -34737345.13 0.0144 0.0031

Pluto -99819-07-12 06:13 J -34737274.33 -34737274.24 -34737274.14 0.0084 0.0058

Uranus -99819-07-29 10:33 J -34737257.22 -34737257.06 -34737256.90 0.0144 0.0009

Pluto -99819-10-08 07:25 J -34737186.30 -34737186.19 -34737186.07 0.0084 0.0045

Uranus -99819-10-25 16:04 J -34737168.99 -34737168.83 -34737168.68 0.0145 0.0014

Pluto -99818-01-04 08:52 J -34737098.25 -34737098.13 -34737098.01 0.0084 0.0032

Uranus -99818-01-21 21:21 J -34737080.76 -34737080.61 -34737080.45 0.0145 0.0037

Mars -99818-03-21 05:16 J -34737022.34 -34737022.28 -34737022.22 0.1888 0.1657

Pluto -99818-04-02 10:04 J -34737010.21 -34737010.08 -34737009.95 0.0084 0.0019

Uranus -99818-04-20 02:52 J -34736992.51 -34736992.38 -34736992.22 0.0145 0.0060

Pluto -99818-06-29 11:16 J -34736922.16 -34736922.03 -34736921.90 0.0084 0.0006

Uranus -99818-07-17 08:37 J -34736904.26 -34736904.14 -34736904.00 0.0145 0.0083

Pluto -99818-09-25 12:28 J -34736834.11 -34736833.98 -34736833.85 0.0084 0.0007

Uranus -99818-10-13 14:23 J -34736816.00 -34736815.90 -34736815.78 0.0145 0.0106

Pluto -99818-12-22 13:40 J -34736746.05 -34736745.93 -34736745.80 0.0084 0.0020

Uranus -99817-01-09 20:09 J -34736727.72 -34736727.66 -34736727.58 0.0145 0.0130

Pluto -99817-03-19 14:52 J -34736658.00 -34736657.88 -34736657.75 0.0084 0.0033

Pluto -99817-06-15 16:04 J -34736569.93 -34736569.83 -34736569.71 0.0083 0.0046

Venus -99817-06-27 01:25 J -34736558.56 -34736558.44 -34736558.33 0.3777 0.0097

Pluto -99817-09-11 17:16 J -34736481.87 -34736481.78 -34736481.68 0.0083 0.0058

Pluto -99817-12-08 18:28 J -34736393.79 -34736393.73 -34736393.66 0.0083 0.0071

Moon -99817-12-30 10:47 J -34736372.11 -34736372.05 -34736371.99 0.2681 0.2397

Earth -99817-12-30 12:13 J -34736372.02 -34736371.99 -34736371.96 0.2681 0.2602 *

Pluto -99816-03-06 19:40 J -34736305.68 -34736305.68 -34736305.67 0.0083 0.0083

Jupiter -99814-05-21 05:45 J -34735500.37 -34735500.26 -34735500.14 0.0509 0.0306

Jupiter -99814-08-18 19:25 J -34735410.83 -34735410.69 -34735410.55 0.0505 0.0165

Mars -99814-11-16 18:13 J -34735320.78 -34735320.74 -34735320.69 0.1621 0.1508

Venus -99813-06-26 03:49 J -34735098.42 -34735098.34 -34735098.26 0.3594 0.2793

Earth -99813-07-07 11:30 J -34735087.13 -34735087.02 -34735086.90 0.2654 0.0693

Moon -99813-07-07 12:28 J -34735087.10 -34735086.98 -34735086.87 0.2657 0.0734 *

Mars -99812-10-22 14:37 J -34734615.03 -34734614.89 -34734614.75 0.1628 0.0246

Venus -99811-01-10 20:23 J -34734534.76 -34734534.65 -34734534.54 0.3774 0.1018

Mars -99811-09-04 03:35 J -34734298.39 -34734298.35 -34734298.30 0.1901 0.1761

Earth -99810-12-23 14:37 J -34733822.98 -34733822.89 -34733822.80 0.2695 0.2025

Moon -99810-12-23 15:21 J -34733822.95 -34733822.86 -34733822.77 0.2690 0.1993 *

Saturn -99809-03-16 08:09 J -34733739.26 -34733739.16 -34733739.05 0.0289 0.0212

Saturn -99809-06-13 00:57 J -34733650.60 -34733650.46 -34733650.32 0.0289 0.0121

Mars -99809-08-10 10:33 J -34733592.17 -34733592.06 -34733591.95 0.1891 0.1036

Saturn -99809-09-09 17:59 J -34733561.91 -34733561.75 -34733561.60 0.0289 0.0028

Saturn -99809-12-07 11:16 J -34733473.18 -34733473.03 -34733472.87 0.0289 0.0069

Saturn -99808-03-06 05:01 J -34733384.42 -34733384.29 -34733384.16 0.0289 0.0166

Saturn -99808-06-02 23:16 J -34733295.59 -34733295.53 -34733295.47 0.0288 0.0266

Jupiter -99808-10-18 13:25 J -34733158.08 -34733157.94 -34733157.79 0.0521 0.0186

Venus -99807-01-10 04:04 J -34733074.46 -34733074.33 -34733074.21 0.3597 0.1375

Jupiter -99807-01-16 08:52 J -34733068.24 -34733068.13 -34733068.02 0.0524 0.0353

Neptune -99807-05-13 09:35 J -34732951.12 -34732951.10 -34732951.05 0.0089 0.0086

Neptune -99807-08-09 11:45 J -34732863.07 -34732863.01 -34732862.95 0.0089 0.0081

Neptune -99807-11-05 13:25 J -34732775.00 -34732774.94 -34732774.86 0.0089 0.0077

Neptune -99806-02-01 15:06 J -34732686.94 -34732686.87 -34732686.77 0.0089 0.0073

Neptune -99806-04-30 17:01 J -34732598.87 -34732598.79 -34732598.68 0.0089 0.0069

Venus -99806-07-27 15:49 J -34732510.93 -34732510.84 -34732510.75 0.3771 0.2113

Neptune -99806-07-27 19:11 J -34732510.80 -34732510.70 -34732510.60 0.0089 0.0064 *

Neptune -99806-10-23 20:52 J -34732422.73 -34732422.63 -34732422.51 0.0089 0.0060

Neptune -99805-01-19 22:33 J -34732334.66 -34732334.56 -34732334.43 0.0089 0.0056

Neptune -99805-04-17 00:42 J -34732246.59 -34732246.47 -34732246.34 0.0089 0.0051

Neptune -99805-07-14 02:37 J -34732158.51 -34732158.39 -34732158.26 0.0089 0.0047

Neptune -99805-10-10 04:47 J -34732070.43 -34732070.30 -34732070.17 0.0089 0.0042

Neptune -99804-01-06 06:28 J -34731982.36 -34731982.23 -34731982.09 0.0089 0.0038

Neptune -99804-04-04 08:23 J -34731894.28 -34731894.15 -34731894.00 0.0089 0.0034

Neptune -99804-07-01 10:33 J -34731806.20 -34731806.06 -34731805.92 0.0089 0.0029

Neptune -99804-09-27 12:28 J -34731718.12 -34731717.98 -34731717.83 0.0089 0.0024

Neptune -99804-12-24 14:23 J -34731630.04 -34731629.90 -34731629.75 0.0089 0.0020

Neptune -99803-03-22 16:18 J -34731541.96 -34731541.82 -34731541.66 0.0089 0.0016

Neptune -99803-06-18 18:28 J -34731453.88 -34731453.73 -34731453.58 0.0089 0.0011

Neptune -99803-09-14 20:23 J -34731365.80 -34731365.65 -34731365.49 0.0089 0.0007

Neptune -99803-12-11 22:33 J -34731277.72 -34731277.56 -34731277.41 0.0089 0.0002

Jupiter -99802-03-09 08:23 J -34731190.23 -34731190.15 -34731190.07 0.0509 0.0418

Neptune -99802-03-10 00:28 J -34731189.63 -34731189.48 -34731189.33 0.0089 0.0003

Mars -99802-03-14 21:06 J -34731184.76 -34731184.62 -34731184.48 0.1626 0.0203

Neptune -99802-06-06 02:23 J -34731101.55 -34731101.40 -34731101.24 0.0089 0.0008

Jupiter -99802-06-06 21:49 J -34731100.74 -34731100.59 -34731100.45 0.0506 0.0050

Venus -99802-07-27 03:49 J -34731050.48 -34731050.34 -34731050.21 0.3601 0.0084

Neptune -99802-09-02 04:33 J -34731013.46 -34731013.31 -34731013.16 0.0089 0.0012

Neptune -99802-11-29 06:28 J -34730925.38 -34730925.23 -34730925.07 0.0089 0.0017

Neptune -99801-02-25 08:23 J -34730837.29 -34730837.15 -34730836.99 0.0089 0.0022

Neptune -99801-05-23 10:33 J -34730749.20 -34730749.06 -34730748.91 0.0089 0.0026

Neptune -99801-08-19 12:42 J -34730661.11 -34730660.97 -34730660.82 0.0089 0.0031

Neptune -99801-11-15 14:37 J -34730573.02 -34730572.89 -34730572.74 0.0089 0.0036

Venus -99800-02-09 11:30 J -34730487.08 -34730487.02 -34730486.97 0.3767 0.3250

Neptune -99800-02-11 16:47 J -34730484.93 -34730484.80 -34730484.65 0.0089 0.0040

Neptune -99800-05-10 18:57 J -34730396.84 -34730396.71 -34730396.57 0.0089 0.0045

Earth -99800-07-10 07:25 J -34730336.27 -34730336.19 -34730336.10 0.2659 0.1861

Moon -99800-07-10 08:09 J -34730336.23 -34730336.16 -34730336.08 0.2655 0.1996 *

Neptune -99800-08-06 20:52 J -34730308.75 -34730308.63 -34730308.49 0.0089 0.0050

Neptune -99800-11-02 23:16 J -34730220.65 -34730220.53 -34730220.41 0.0089 0.0054

Mars -99800-12-31 15:21 J -34730161.99 -34730161.86 -34730161.73 0.1894 0.0383

Neptune -99799-01-30 01:11 J -34730132.56 -34730132.45 -34730132.32 0.0089 0.0059

Neptune -99799-04-28 03:21 J -34730044.46 -34730044.36 -34730044.24 0.0089 0.0064

Neptune -99799-07-25 05:30 J -34729956.36 -34729956.27 -34729956.16 0.0089 0.0069

Neptune -99799-10-21 07:25 J -34729868.26 -34729868.19 -34729868.08 0.0089 0.0074

Neptune -99798-01-17 10:04 J -34729780.15 -34729780.08 -34729780.01 0.0089 0.0078

Neptune -99798-04-15 11:59 J -34729692.04 -34729692.00 -34729691.94 0.0089 0.0083

Neptune -99798-07-12 14:09 J -34729603.92 -34729603.91 -34729603.88 0.0089 0.0088

Moon -99797-12-25 15:06 J -34729072.01 -34729071.87 -34729071.73 0.2683 0.0371

Earth -99797-12-25 15:35 J -34729071.99 -34729071.85 -34729071.72 0.2690 0.0414 *

Venus -99796-02-09 02:52 J -34729026.50 -34729026.38 -34729026.25 0.3604 0.1295

Jupiter -99796-08-06 14:37 J -34728848.01 -34728847.89 -34728847.76 0.0520 0.0314

Jupiter -99796-11-04 10:18 J -34728758.20 -34728758.07 -34728757.93 0.0523 0.0229

Saturn -99795-10-21 19:11 J -34728406.74 -34728406.70 -34728406.64 0.0270 0.0255

Saturn -99794-01-18 10:18 J -34728318.18 -34728318.07 -34728317.95 0.0270 0.0176

Saturn -99794-04-17 00:57 J -34728229.60 -34728229.46 -34728229.31 0.0270 0.0098

Saturn -99794-07-14 15:21 J -34728141.01 -34728140.86 -34728140.71 0.0270 0.0021

Saturn -99794-10-11 05:30 J -34728052.42 -34728052.27 -34728052.12 0.0270 0.0055

Saturn -99793-01-07 19:11 J -34727963.83 -34727963.70 -34727963.57 0.0271 0.0129

Saturn -99793-04-05 08:52 J -34727875.23 -34727875.13 -34727875.03 0.0271 0.0201

Moon -99793-07-03 00:13 J -34727786.59 -34727786.49 -34727786.39 0.2652 0.1513

Earth -99793-07-03 00:28 J -34727786.58 -34727786.48 -34727786.38 0.2645 0.1448 *

Mars -99793-08-04 04:04 J -34727754.46 -34727754.33 -34727754.20 0.1624 0.0638

Mars -99791-07-11 02:09 J -34727048.50 -34727048.41 -34727048.31 0.1632 0.1215

Venus -99791-08-26 01:54 J -34727002.51 -34727002.42 -34727002.33 0.3607 0.2541

Jupiter -99790-03-25 23:30 J -34726790.66 -34726790.52 -34726790.37 0.0507 0.0074

Mars -99790-05-23 19:54 J -34726731.80 -34726731.67 -34726731.54 0.1897 0.0290

Jupiter -99790-06-23 13:40 J -34726701.01 -34726700.93 -34726700.84 0.0503 0.0402

Jupiter -99784-05-25 15:06 J -34724537.94 -34724537.87 -34724537.79 0.0519 0.0449

Jupiter -99784-08-23 11:16 J -34724448.18 -34724448.03 -34724447.88 0.0522 0.0097

Mars -99784-12-25 11:16 J -34724324.14 -34724324.03 -34724323.92 0.1623 0.1050

Moon -99784-12-28 15:35 J -34724320.98 -34724320.85 -34724320.72 0.2682 0.1066

Earth -99784-12-28 16:33 J -34724320.93 -34724320.81 -34724320.68 0.2685 0.1257 *

Venus -99783-12-03 21:21 J -34723980.63 -34723980.61 -34723980.60 0.3788 0.3734

Mars -99782-12-01 08:23 J -34723618.28 -34723618.15 -34723618.02 0.1630 0.0752

Uranus -99781-04-16 20:52 J -34723480.66 -34723480.63 -34723480.59 0.0135 0.0132

Uranus -99781-07-14 01:25 J -34723392.51 -34723392.44 -34723392.34 0.0135 0.0113

Uranus -99781-10-10 06:28 J -34723304.34 -34723304.23 -34723304.11 0.0135 0.0094

Mars -99781-10-13 00:13 J -34723301.60 -34723301.49 -34723301.37 0.1899 0.0975

Uranus -99780-01-06 11:16 J -34723216.16 -34723216.03 -34723215.90 0.0135 0.0075

Uranus -99780-04-04 15:49 J -34723127.97 -34723127.84 -34723127.69 0.0135 0.0057

Uranus -99780-07-01 20:37 J -34723039.79 -34723039.64 -34723039.49 0.0135 0.0039

Earth -99780-07-05 20:37 J -34723035.76 -34723035.64 -34723035.52 0.2650 0.0246

Moon -99780-07-05 21:21 J -34723035.74 -34723035.61 -34723035.49 0.2655 0.0192 *

Saturn -99780-08-03 08:37 J -34723007.23 -34723007.14 -34723007.06 0.0289 0.0241

Uranus -99780-09-28 01:11 J -34722951.60 -34722951.45 -34722951.29 0.0135 0.0021

Saturn -99780-10-31 00:57 J -34722918.58 -34722918.46 -34722918.32 0.0289 0.0151

Uranus -99780-12-25 05:45 J -34722863.41 -34722863.26 -34722863.10 0.0134 0.0004

Saturn -99779-01-27 17:59 J -34722829.90 -34722829.75 -34722829.59 0.0289 0.0057

Uranus -99779-03-23 10:18 J -34722775.22 -34722775.07 -34722774.91 0.0134 0.0015

Saturn -99779-04-26 11:16 J -34722741.18 -34722741.03 -34722740.87 0.0289 0.0039

Uranus -99779-06-19 14:37 J -34722687.03 -34722686.89 -34722686.73 0.0134 0.0033

Saturn -99779-07-24 05:01 J -34722652.43 -34722652.29 -34722652.15 0.0288 0.0136

Uranus -99779-09-15 19:11 J -34722598.84 -34722598.70 -34722598.55 0.0134 0.0050

Mars -99779-09-19 05:30 J -34722595.32 -34722595.27 -34722595.22 0.1888 0.1722

Saturn -99779-10-20 23:01 J -34722563.63 -34722563.54 -34722563.44 0.0288 0.0235

Uranus -99779-12-12 23:30 J -34722510.65 -34722510.52 -34722510.38 0.0134 0.0067

Jupiter -99778-01-12 01:54 J -34722480.56 -34722480.42 -34722480.28 0.0508 0.0189

Uranus -99778-03-11 03:49 J -34722422.45 -34722422.34 -34722422.22 0.0134 0.0084

Jupiter -99778-04-11 15:49 J -34722390.96 -34722390.84 -34722390.71 0.0504 0.0284

Uranus -99778-06-07 08:09 J -34722334.25 -34722334.16 -34722334.06 0.0134 0.0101

Uranus -99778-09-03 12:13 J -34722246.05 -34722245.99 -34722245.91 0.0134 0.0118

Venus -99777-06-18 15:35 J -34721956.92 -34721956.85 -34721956.78 0.3785 0.2775

Mars -99774-05-17 18:28 J -34720893.78 -34720893.73 -34720893.67 0.1621 0.1460

Mars -99772-04-22 14:52 J -34720188.02 -34720187.88 -34720187.74 0.1628 0.0297

Jupiter -99772-06-11 11:01 J -34720138.19 -34720138.04 -34720137.88 0.0521 0.0050

Jupiter -99772-09-09 05:45 J -34720048.31 -34720048.26 -34720048.20 0.0525 0.0484

Venus -99771-01-02 10:04 J -34719933.18 -34719933.08 -34719932.98 0.3782 0.1789

Mars -99771-03-05 03:49 J -34719871.39 -34719871.34 -34719871.28 0.1901 0.1700

Mars -99769-02-09 10:47 J -34719165.16 -34719165.05 -34719164.95 0.1891 0.1095

Earth -99767-07-08 16:47 J -34718284.92 -34718284.80 -34718284.69 0.2655 0.0946

Moon -99767-07-08 17:30 J -34718284.88 -34718284.77 -34718284.66 0.2656 0.1043 *

Jupiter -99767-10-31 04:33 J -34718170.43 -34718170.31 -34718170.19 0.0509 0.0300

Jupiter -99766-01-28 18:13 J -34718080.88 -34718080.74 -34718080.60 0.0505 0.0171

Venus -99766-07-19 04:47 J -34717909.41 -34717909.30 -34717909.19 0.3780 0.0773

Saturn -99765-06-06 12:42 J -34717586.08 -34717585.97 -34717585.86 0.0271 0.0195

Saturn -99765-09-03 03:21 J -34717497.50 -34717497.36 -34717497.22 0.0271 0.0117

Saturn -99765-11-30 17:45 J -34717408.91 -34717408.76 -34717408.60 0.0271 0.0040

Saturn -99764-02-27 07:54 J -34717320.32 -34717320.17 -34717320.02 0.0271 0.0037

Saturn -99764-05-26 21:49 J -34717231.73 -34717231.59 -34717231.45 0.0271 0.0111

Saturn -99764-08-23 11:30 J -34717143.13 -34717143.02 -34717142.91 0.0271 0.0184

Saturn -99764-11-20 00:42 J -34717054.51 -34717054.47 -34717054.42 0.0271 0.0256

Earth -99764-12-23 20:23 J -34717020.76 -34717020.65 -34717020.55 0.2695 0.1704

Moon -99764-12-23 20:37 J -34717020.74 -34717020.64 -34717020.53 0.2688 0.1670 *

Mars -99763-09-12 21:35 J -34716757.75 -34716757.60 -34716757.46 0.1626 0.0156

Venus -99760-01-31 23:45 J -34715885.62 -34715885.51 -34715885.40 0.3776 0.0275

Jupiter -99760-03-30 11:45 J -34715828.15 -34715828.01 -34715827.86 0.0520 0.0183

Jupiter -99760-06-28 06:57 J -34715738.31 -34715738.21 -34715738.09 0.0524 0.0355

Moon -99760-07-01 08:37 J -34715735.17 -34715735.14 -34715735.11 0.2647 0.2557

Earth -99760-07-01 09:06 J -34715735.16 -34715735.12 -34715735.07 0.2642 0.2415 *

Mars -99760-07-01 15:35 J -34715734.98 -34715734.85 -34715734.73 0.1895 0.0445

Venus -99756-01-31 03:35 J -34714425.45 -34714425.35 -34714425.25 0.3595 0.2341

Venus -99755-08-17 18:57 J -34713861.82 -34713861.71 -34713861.61 0.3773 0.1351

Jupiter -99755-08-19 07:11 J -34713860.28 -34713860.20 -34713860.11 0.0510 0.0411

Jupiter -99755-11-16 20:37 J -34713770.79 -34713770.64 -34713770.49 0.0506 0.0057

Earth -99754-07-11 12:42 J -34713534.05 -34713533.97 -34713533.90 0.2659 0.2113

Moon -99754-07-11 13:25 J -34713534.01 -34713533.94 -34713533.87 0.2656 0.2123 *

Mars -99753-02-03 04:18 J -34713327.45 -34713327.32 -34713327.18 0.1624 0.0581

Mars -99751-01-09 02:37 J -34712621.48 -34712621.39 -34712621.30 0.1632 0.1276

Venus -99751-08-17 03:49 J -34712401.47 -34712401.34 -34712401.21 0.3598 0.0943

Mars -99751-11-21 20:08 J -34712304.79 -34712304.66 -34712304.53 0.1897 0.0227

Saturn -99751-12-21 08:23 J -34712275.20 -34712275.15 -34712275.11 0.0289 0.0274

Moon -99751-12-26 20:52 J -34712269.77 -34712269.63 -34712269.49 0.2683 0.0168

Earth -99751-12-26 21:20 J -34712269.75 -34712269.61 -34712269.48 0.2690 0.0095 *

Saturn -99750-03-20 00:42 J -34712186.59 -34712186.47 -34712186.35 0.0289 0.0184

Saturn -99750-06-16 17:30 J -34712097.92 -34712097.77 -34712097.63 0.0289 0.0093

Saturn -99750-09-13 10:32 J -34712009.22 -34712009.06 -34712008.90 0.0289 0.0003

Saturn -99750-12-11 04:04 J -34711920.48 -34711920.33 -34711920.18 0.0288 0.0098

Venus -99749-03-02 14:23 J -34711837.99 -34711837.90 -34711837.82 0.3770 0.2463

Saturn -99749-03-08 21:49 J -34711831.70 -34711831.59 -34711831.47 0.0288 0.0197

Jupiter -99748-01-16 12:42 J -34711518.09 -34711517.97 -34711517.84 0.0520 0.0313

Jupiter -99748-04-16 08:23 J -34711428.28 -34711428.15 -34711428.01 0.0523 0.0230

Moon -99747-07-04 05:44 J -34710984.37 -34710984.26 -34710984.15 0.2652 0.1135

Earth -99747-07-04 05:30 J -34710984.37 -34710984.27 -34710984.16 0.2646 0.1198 *

Venus -99745-03-02 03:20 J -34710377.50 -34710377.36 -34710377.23 0.3602 0.0415

Mars -99744-06-25 11:30 J -34709897.13 -34709897.02 -34709896.91 0.1622 0.1005

Venus -99744-09-16 09:49 J -34709814.12 -34709814.09 -34709814.05 0.3766 0.3597

Jupiter -99743-09-04 23:01 J -34709460.69 -34709460.54 -34709460.40 0.0507 0.0059

Jupiter -99743-12-03 13:11 J -34709371.03 -34709370.95 -34709370.86 0.0503 0.0417

Mars -99742-06-01 08:37 J -34709191.26 -34709191.14 -34709191.01 0.1630 0.0807

Mars -99741-04-13 00:13 J -34708874.60 -34708874.49 -34708874.37 0.1900 0.0925

Venus -99740-09-16 02:23 J -34708353.51 -34708353.40 -34708353.28 0.3605 0.1689

Mars -99739-03-20 05:30 J -34708168.31 -34708168.27 -34708168.23 0.1888 0.1772

Moon -99738-12-29 21:20 J -34707518.73 -34707518.61 -34707518.50 0.2682 0.1552

Earth -99738-12-29 22:32 J -34707518.67 -34707518.56 -34707518.45 0.2685 0.1592 *

Jupiter -99737-11-04 13:40 J -34707208.00 -34707207.93 -34707207.84 0.0519 0.0443

Jupiter -99736-02-02 10:04 J -34707118.23 -34707118.08 -34707117.93 0.0522 0.0103

Uranus -99736-03-07 10:18 J -34707085.12 -34707085.07 -34707084.99 0.0144 0.0131

Uranus -99736-06-03 15:35 J -34706996.94 -34706996.85 -34706996.74 0.0144 0.0110

Uranus -99736-08-30 21:06 J -34706908.74 -34706908.62 -34706908.50 0.0144 0.0088

Saturn -99736-10-24 11:59 J -34706854.08 -34706854.00 -34706853.91 0.0270 0.0227

Uranus -99736-11-27 02:08 J -34706820.54 -34706820.41 -34706820.27 0.0144 0.0067

Saturn -99735-01-21 02:52 J -34706765.51 -34706765.38 -34706765.25 0.0270 0.0148

Uranus -99735-02-23 07:40 J -34706732.33 -34706732.18 -34706732.03 0.0144 0.0045

Saturn -99735-04-19 17:30 J -34706676.92 -34706676.77 -34706676.62 0.0270 0.0070

Uranus -99735-05-22 12:56 J -34706644.11 -34706643.96 -34706643.80 0.0144 0.0023

Saturn -99735-07-17 07:40 J -34706588.33 -34706588.18 -34706588.02 0.0270 0.0010

Uranus -99735-08-18 18:28 J -34706555.89 -34706555.73 -34706555.57 0.0144 0.0001

Saturn -99735-10-13 21:49 J -34706499.74 -34706499.59 -34706499.45 0.0271 0.0081

Uranus -99735-11-14 23:59 J -34706467.66 -34706467.50 -34706467.34 0.0145 0.0021

Mars -99735-11-15 18:42 J -34706466.78 -34706466.72 -34706466.65 0.1621 0.1412

Saturn -99734-01-10 11:30 J -34706411.14 -34706411.02 -34706410.90 0.0271 0.0155

Uranus -99734-02-11 05:30 J -34706379.42 -34706379.27 -34706379.12 0.0145 0.0044

Venus -99734-04-02 01:11 J -34706329.52 -34706329.45 -34706329.37 0.3608 0.2914

Saturn -99734-04-09 00:56 J -34706322.53 -34706322.46 -34706322.38 0.0271 0.0227

Uranus -99734-05-10 11:01 J -34706291.18 -34706291.04 -34706290.89 0.0145 0.0067

Earth -99734-07-07 01:54 J -34706233.55 -34706233.42 -34706233.30 0.2651 0.0090

Moon -99734-07-07 02:23 J -34706233.52 -34706233.40 -34706233.28 0.2656 0.0049 *

Uranus -99734-08-06 16:47 J -34706202.92 -34706202.80 -34706202.67 0.0145 0.0090

Uranus -99734-11-02 22:18 J -34706114.66 -34706114.57 -34706114.46 0.0145 0.0114

Uranus -99733-01-30 04:18 J -34706026.37 -34706026.32 -34706026.27 0.0145 0.0137

Mars -99733-10-21 15:06 J -34705761.01 -34705760.87 -34705760.73 0.1627 0.0347

Mars -99732-09-03 04:18 J -34705444.38 -34705444.32 -34705444.25 0.1901 0.1629

Jupiter -99731-06-24 00:56 J -34705150.60 -34705150.46 -34705150.32 0.0508 0.0179

Jupiter -99731-09-21 14:52 J -34705061.00 -34705060.88 -34705060.76 0.0504 0.0294

Mars -99730-08-10 10:47 J -34704738.15 -34704738.05 -34704737.95 0.1892 0.1152

Venus -99726-07-10 19:25 J -34703307.73 -34703307.69 -34703307.65 0.3787 0.3419

Neptune -99725-11-18 07:25 J -34702811.21 -34702811.19 -34702811.15 0.0088 0.0087

Jupiter -99725-11-21 11:01 J -34702808.20 -34702808.04 -34702807.89 0.0521 0.0033

Neptune -99724-02-14 09:49 J -34702723.13 -34702723.09 -34702723.01 0.0088 0.0082

Jupiter -99724-02-19 05:44 J -34702718.30 -34702718.26 -34702718.22 0.0525 0.0503

Neptune -99724-05-13 12:28 J -34702635.05 -34702634.98 -34702634.88 0.0088 0.0077

Neptune -99724-08-09 15:06 J -34702546.96 -34702546.87 -34702546.76 0.0088 0.0071

Neptune -99724-11-05 17:30 J -34702458.86 -34702458.77 -34702458.65 0.0088 0.0067

Neptune -99723-02-01 20:08 J -34702370.77 -34702370.66 -34702370.53 0.0088 0.0061

Mars -99723-03-13 21:49 J -34702330.73 -34702330.59 -34702330.45 0.1626 0.0098

Neptune -99723-04-30 22:32 J -34702282.67 -34702282.56 -34702282.42 0.0088 0.0057

Neptune -99723-07-28 00:56 J -34702194.58 -34702194.46 -34702194.31 0.0088 0.0052

Neptune -99723-10-24 03:35 J -34702106.48 -34702106.35 -34702106.20 0.0088 0.0046

Neptune -99722-01-20 05:59 J -34702018.38 -34702018.25 -34702018.09 0.0088 0.0042

Neptune -99722-04-18 08:37 J -34701930.29 -34701930.14 -34701929.99 0.0088 0.0036

Neptune -99722-07-15 11:01 J -34701842.19 -34701842.04 -34701841.88 0.0088 0.0031

Neptune -99722-10-11 13:25 J -34701754.09 -34701753.94 -34701753.78 0.0088 0.0027

Neptune -99721-01-07 15:49 J -34701665.99 -34701665.84 -34701665.67 0.0088 0.0022

Neptune -99721-04-04 18:28 J -34701577.90 -34701577.73 -34701577.57 0.0088 0.0017

Neptune -99721-07-01 20:37 J -34701489.80 -34701489.64 -34701489.47 0.0088 0.0012

Earth -99721-07-08 21:49 J -34701482.70 -34701482.59 -34701482.48 0.2655 0.1192

Moon -99721-07-08 22:47 J -34701482.66 -34701482.55 -34701482.45 0.2654 0.1289 *

Saturn -99721-08-06 00:42 J -34701454.57 -34701454.47 -34701454.37 0.0289 0.0215

Neptune -99721-09-27 23:01 J -34701401.70 -34701401.54 -34701401.37 0.0088 0.0007

Saturn -99721-11-02 17:16 J -34701365.92 -34701365.78 -34701365.64 0.0289 0.0124

Neptune -99721-12-25 01:25 J -34701313.60 -34701313.44 -34701313.27 0.0088 0.0002

Mars -99721-12-30 16:04 J -34701307.96 -34701307.83 -34701307.71 0.1894 0.0517

Venus -99720-01-23 13:40 J -34701284.01 -34701283.93 -34701283.84 0.3784 0.2464

Saturn -99720-01-30 10:18 J -34701277.23 -34701277.07 -34701276.91 0.0289 0.0030

Neptune -99720-03-23 03:49 J -34701225.50 -34701225.34 -34701225.18 0.0088 0.0003

Saturn -99720-04-29 03:35 J -34701188.50 -34701188.35 -34701188.19 0.0289 0.0067

Neptune -99720-06-19 06:13 J -34701137.41 -34701137.24 -34701137.08 0.0088 0.0008

Saturn -99720-07-26 21:20 J -34701099.74 -34701099.61 -34701099.47 0.0288 0.0165

Neptune -99720-09-15 08:23 J -34701049.31 -34701049.15 -34701048.99 0.0088 0.0012

Saturn -99720-10-23 15:20 J -34701010.91 -34701010.86 -34701010.78 0.0288 0.0265

Neptune -99720-12-12 10:47 J -34700961.21 -34700961.05 -34700960.89 0.0088 0.0017

Neptune -99719-03-10 12:56 J -34700873.11 -34700872.96 -34700872.80 0.0088 0.0022

Jupiter -99719-04-12 03:20 J -34700840.48 -34700840.36 -34700840.24 0.0509 0.0294

Neptune -99719-06-06 15:20 J -34700785.01 -34700784.86 -34700784.70 0.0088 0.0026

Jupiter -99719-07-10 17:01 J -34700750.93 -34700750.79 -34700750.65 0.0505 0.0177

Neptune -99719-09-02 17:30 J -34700696.92 -34700696.77 -34700696.61 0.0088 0.0031

Neptune -99719-11-29 19:54 J -34700608.82 -34700608.67 -34700608.52 0.0088 0.0036

Neptune -99718-02-25 22:04 J -34700520.72 -34700520.58 -34700520.43 0.0088 0.0040

Neptune -99718-05-25 00:28 J -34700432.62 -34700432.48 -34700432.34 0.0088 0.0045

Neptune -99718-08-21 02:23 J -34700344.52 -34700344.40 -34700344.26 0.0088 0.0050

Neptune -99718-11-17 04:32 J -34700256.42 -34700256.31 -34700256.17 0.0088 0.0055

Moon -99718-12-25 02:08 J -34700218.53 -34700218.41 -34700218.29 0.2687 0.1336

Earth -99718-12-25 02:08 J -34700218.53 -34700218.41 -34700218.30 0.2694 0.1385 *

Neptune -99717-02-13 06:56 J -34700168.32 -34700168.21 -34700168.08 0.0088 0.0059

Neptune -99717-05-11 09:06 J -34700080.22 -34700080.12 -34700080.00 0.0088 0.0063

Neptune -99717-08-07 11:16 J -34699992.12 -34699992.03 -34699991.92 0.0088 0.0068

Neptune -99717-11-03 13:25 J -34699904.02 -34699903.94 -34699903.84 0.0088 0.0072

Neptune -99716-01-30 15:35 J -34699815.92 -34699815.85 -34699815.76 0.0088 0.0077

Neptune -99716-04-28 17:44 J -34699727.81 -34699727.76 -34699727.69 0.0088 0.0081

Neptune -99716-07-25 19:54 J -34699639.69 -34699639.67 -34699639.62 0.0088 0.0086

Venus -99715-08-09 08:23 J -34699260.25 -34699260.15 -34699260.05 0.3782 0.1470

Moon -99714-07-02 13:54 J -34698932.99 -34698932.92 -34698932.85 0.2648 0.2153

Earth -99714-07-02 14:23 J -34698932.97 -34698932.90 -34698932.83 0.2642 0.2161 *

Mars -99714-08-04 04:32 J -34698900.44 -34698900.31 -34698900.17 0.1624 0.0532

Jupiter -99713-09-09 10:47 J -34698498.20 -34698498.05 -34698497.91 0.0520 0.0174

Jupiter -99713-12-08 05:44 J -34698408.36 -34698408.26 -34698408.15 0.0524 0.0363

Mars -99712-07-10 02:52 J -34698194.46 -34698194.38 -34698194.29 0.1632 0.1333

Mars -99711-05-22 20:23 J -34697877.78 -34697877.65 -34697877.52 0.1897 0.0169

Venus -99709-02-23 03:06 J -34697236.48 -34697236.37 -34697236.26 0.3779 0.0444

Earth -99708-07-11 17:44 J -34696731.81 -34696731.76 -34696731.71 0.2660 0.2356

Moon -99708-07-11 18:28 J -34696731.78 -34696731.73 -34696731.69 0.2656 0.2458 *

Jupiter -99707-01-29 05:59 J -34696530.34 -34696530.25 -34696530.17 0.0510 0.0406

Jupiter -99707-04-28 19:11 J -34696440.84 -34696440.70 -34696440.55 0.0506 0.0063

Saturn -99706-03-13 14:23 J -34696121.96 -34696121.90 -34696121.84 0.0271 0.0247

Saturn -99706-06-10 05:16 J -34696033.40 -34696033.28 -34696033.16 0.0271 0.0168

Saturn -99706-09-06 19:54 J -34695944.81 -34695944.67 -34695944.52 0.0271 0.0089

Saturn -99706-12-04 10:18 J -34695856.22 -34695856.07 -34695855.92 0.0271 0.0012

Venus -99705-02-22 03:06 J -34695776.42 -34695776.37 -34695776.33 0.3593 0.3334

Saturn -99705-03-02 00:28 J -34695767.63 -34695767.48 -34695767.34 0.0271 0.0064

Saturn -99705-05-29 14:08 J -34695679.04 -34695678.91 -34695678.78 0.0271 0.0138

Saturn -99705-08-26 03:49 J -34695590.43 -34695590.34 -34695590.25 0.0271 0.0210

Mars -99705-12-24 11:44 J -34695470.12 -34695470.01 -34695469.90 0.1622 0.0950

Moon -99705-12-27 02:23 J -34695467.54 -34695467.40 -34695467.26 0.2684 0.0213

Earth -99705-12-27 03:06 J -34695467.51 -34695467.37 -34695467.24 0.2689 0.0258 *

Venus -99704-09-07 22:04 J -34695212.69 -34695212.58 -34695212.47 0.3775 0.0608

Mars -99703-11-30 09:06 J -34694764.24 -34694764.12 -34694764.00 0.1630 0.0863

Mars -99702-10-13 00:42 J -34694447.59 -34694447.47 -34694447.35 0.1899 0.0853

Jupiter -99701-06-28 11:16 J -34694188.15 -34694188.03 -34694187.91 0.0519 0.0309

Earth -99701-07-04 10:47 J -34694182.16 -34694182.05 -34694181.94 0.2647 0.0938

Moon -99701-07-04 11:01 J -34694182.15 -34694182.04 -34694181.93 0.2653 0.0986 *

Jupiter -99701-09-26 06:56 J -34694098.35 -34694098.21 -34694098.07 0.0523 0.0231

Venus -99700-09-07 03:20 J -34693752.47 -34693752.36 -34693752.24 0.3596 0.1890

Mars -99700-09-18 05:44 J -34693741.28 -34693741.26 -34693741.23 0.1888 0.1835

Venus -99698-03-24 17:16 J -34693188.88 -34693188.78 -34693188.68 0.3772 0.1695

Uranus -99697-05-07 04:47 J -34692779.35 -34692779.30 -34692779.24 0.0135 0.0125

Uranus -99697-08-03 09:20 J -34692691.19 -34692691.11 -34692691.00 0.0135 0.0106

Uranus -99697-10-30 14:23 J -34692603.02 -34692602.90 -34692602.77 0.0135 0.0087

Uranus -99696-01-26 19:11 J -34692514.83 -34692514.70 -34692514.56 0.0135 0.0068

Uranus -99696-04-24 23:59 J -34692426.65 -34692426.50 -34692426.36 0.0135 0.0050

Uranus -99696-07-22 04:32 J -34692338.46 -34692338.31 -34692338.16 0.0135 0.0032

Uranus -99696-10-18 09:06 J -34692250.27 -34692250.12 -34692249.96 0.0135 0.0014

Uranus -99695-01-14 13:40 J -34692162.08 -34692161.93 -34692161.77 0.0134 0.0004

Jupiter -99695-02-14 21:35 J -34692130.74 -34692130.60 -34692130.45 0.0507 0.0054

Uranus -99695-04-12 18:13 J -34692073.89 -34692073.74 -34692073.59 0.0134 0.0022

Jupiter -99695-05-15 11:59 J -34692041.08 -34692041.00 -34692040.92 0.0504 0.0424

Mars -99695-05-16 18:56 J -34692039.78 -34692039.71 -34692039.63 0.1621 0.1364

Uranus -99695-07-09 22:32 J -34691985.70 -34691985.56 -34691985.41 0.0134 0.0040

Uranus -99695-10-06 02:52 J -34691897.51 -34691897.38 -34691897.23 0.0134 0.0057

Uranus -99694-01-02 07:25 J -34691809.32 -34691809.19 -34691809.06 0.0134 0.0074

Venus -99694-03-24 03:20 J -34691728.49 -34691728.36 -34691728.23 0.3599 0.0517

Uranus -99694-03-31 11:44 J -34691721.12 -34691721.01 -34691720.89 0.0134 0.0091

Uranus -99694-06-27 15:49 J -34691632.92 -34691632.84 -34691632.74 0.0134 0.0108

Uranus -99694-09-23 20:23 J -34691544.70 -34691544.65 -34691544.59 0.0134 0.0124

Mars -99693-04-21 15:20 J -34691334.00 -34691333.86 -34691333.72 0.1627 0.0406

Venus -99693-10-07 12:42 J -34691165.04 -34691164.97 -34691164.89 0.3768 0.2808

Mars -99692-03-04 04:18 J -34691017.39 -34691017.32 -34691017.24 0.1901 0.1577

Saturn -99692-12-24 00:42 J -34690722.54 -34690722.47 -34690722.39 0.0288 0.0246

Moon -99692-12-30 03:06 J -34690716.48 -34690716.37 -34690716.26 0.2682 0.1732

Earth -99692-12-30 04:18 J -34690716.41 -34690716.32 -34690716.22 0.2684 0.1934 *

Saturn -99691-03-22 17:16 J -34690633.91 -34690633.78 -34690633.65 0.0288 0.0156

Saturn -99691-06-19 10:04 J -34690545.23 -34690545.08 -34690544.93 0.0288 0.0063

Saturn -99691-09-16 03:20 J -34690456.52 -34690456.36 -34690456.21 0.0288 0.0032

Saturn -99691-12-13 20:52 J -34690367.77 -34690367.63 -34690367.49 0.0288 0.0129

Mars -99690-02-08 11:01 J -34690311.13 -34690311.04 -34690310.94 0.1892 0.1215

Saturn -99690-03-12 14:52 J -34690278.98 -34690278.88 -34690278.78 0.0288 0.0228

Jupiter -99689-04-16 11:59 J -34689878.08 -34689878.00 -34689877.92 0.0519 0.0442

Jupiter -99689-07-15 08:08 J -34689788.31 -34689788.16 -34689788.01 0.0522 0.0103

Venus -99689-10-07 02:52 J -34689704.51 -34689704.38 -34689704.25 0.3603 0.0813

Earth -99688-07-07 06:56 J -34689431.33 -34689431.21 -34689431.09 0.2651 0.0260

Moon -99688-07-07 07:40 J -34689431.30 -34689431.18 -34689431.06 0.2655 0.0382 *

Earth -99685-12-22 07:11 J -34688167.22 -34688167.20 -34688167.18 0.2698 0.2652

Moon -99685-12-22 07:54 J -34688167.22 -34688167.17 -34688167.12 0.2694 0.2497 *

Mars -99684-09-11 22:04 J -34687903.72 -34687903.58 -34687903.44 0.1625 0.0043

Jupiter -99684-12-04 00:13 J -34687820.63 -34687820.49 -34687820.35 0.0508 0.0165

Jupiter -99683-03-03 14:08 J -34687731.03 -34687730.91 -34687730.79 0.0504 0.0308

Venus -99683-04-23 01:54 J -34687680.53 -34687680.42 -34687680.31 0.3606 0.2076

Mars -99681-06-30 15:49 J -34686880.96 -34686880.84 -34686880.71 0.1895 0.0566

Venus -99678-11-07 00:28 J -34685656.53 -34685656.48 -34685656.43 0.3609 0.3284

Jupiter -99677-05-03 09:20 J -34685478.26 -34685478.11 -34685477.95 0.0521 0.0029

Jupiter -99677-08-01 04:18 J -34685388.35 -34685388.32 -34685388.29 0.0525 0.0508

Saturn -99677-10-27 04:47 J -34685301.40 -34685301.30 -34685301.19 0.0270 0.0199

Saturn -99676-01-23 19:40 J -34685212.82 -34685212.68 -34685212.55 0.0270 0.0121

Saturn -99676-04-22 10:04 J -34685124.23 -34685124.08 -34685123.93 0.0270 0.0043

Saturn -99676-07-20 00:13 J -34685035.64 -34685035.49 -34685035.34 0.0271 0.0033

Saturn -99676-10-16 14:08 J -34684947.05 -34684946.91 -34684946.77 0.0271 0.0108

Saturn -99675-01-13 03:49 J -34684858.45 -34684858.34 -34684858.23 0.0271 0.0181

Saturn -99675-04-11 17:16 J -34684769.83 -34684769.78 -34684769.73 0.0271 0.0253

Earth -99675-07-10 02:52 J -34684680.48 -34684680.38 -34684680.28 0.2656 0.1444

Moon -99675-07-10 03:49 J -34684680.44 -34684680.34 -34684680.24 0.2655 0.1509 *

Mars -99674-02-02 04:47 J -34684473.43 -34684473.30 -34684473.16 0.1624 0.0482

Mars -99672-01-08 03:20 J -34683767.44 -34683767.36 -34683767.29 0.1632 0.1386

Jupiter -99672-09-22 02:08 J -34683510.53 -34683510.41 -34683510.28 0.0509 0.0285

Mars -99672-11-20 20:37 J -34683450.77 -34683450.64 -34683450.51 0.1898 0.0109

Jupiter -99672-12-20 15:49 J -34683420.98 -34683420.84 -34683420.70 0.0505 0.0185

Earth -99672-12-25 07:54 J -34683416.30 -34683416.17 -34683416.05 0.2693 0.1053

Moon -99672-12-25 07:54 J -34683416.29 -34683416.17 -34683416.04 0.2686 0.1082 *

Venus -99669-02-14 17:30 J -34682634.83 -34682634.77 -34682634.71 0.3786 0.3109

Moon -99668-07-02 19:11 J -34682130.78 -34682130.70 -34682130.62 0.2649 0.2001

Earth -99668-07-02 19:40 J -34682130.77 -34682130.68 -34682130.60 0.2643 0.1905 *

Pluto -99666-05-06 09:49 J -34681458.11 -34681458.09 -34681458.06 0.0060 0.0059

Pluto -99666-08-02 11:16 J -34681370.12 -34681370.03 -34681369.93 0.0060 0.0053

Pluto -99666-10-29 12:42 J -34681282.09 -34681281.97 -34681281.83 0.0060 0.0046

Pluto -99665-01-25 14:08 J -34681194.05 -34681193.91 -34681193.75 0.0060 0.0039

Jupiter -99665-02-20 10:18 J -34681168.22 -34681168.07 -34681167.92 0.0520 0.0157

Pluto -99665-04-22 15:35 J -34681106.00 -34681105.85 -34681105.67 0.0060 0.0032

Jupiter -99665-05-20 05:30 J -34681078.37 -34681078.27 -34681078.16 0.0524 0.0380

Mars -99665-06-24 11:59 J -34681043.12 -34681043.00 -34681042.88 0.1622 0.0902

Pluto -99665-07-19 17:16 J -34681017.95 -34681017.78 -34681017.59 0.0060 0.0025

Pluto -99665-10-15 18:42 J -34680929.90 -34680929.72 -34680929.52 0.0060 0.0018

Pluto -99664-01-11 20:08 J -34680841.84 -34680841.66 -34680841.45 0.0061 0.0011

Pluto -99664-04-09 21:49 J -34680753.78 -34680753.59 -34680753.39 0.0061 0.0003

Pluto -99664-07-06 23:16 J -34680665.72 -34680665.53 -34680665.33 0.0061 0.0004

Venus -99664-08-30 11:59 J -34680611.09 -34680611.00 -34680610.91 0.3784 0.2144

Pluto -99664-10-03 00:42 J -34680577.66 -34680577.47 -34680577.27 0.0061 0.0012

Pluto -99664-12-30 02:08 J -34680489.59 -34680489.41 -34680489.21 0.0061 0.0019

Pluto -99663-03-28 03:35 J -34680401.51 -34680401.35 -34680401.16 0.0061 0.0026

Mars -99663-05-31 09:20 J -34680337.23 -34680337.11 -34680336.99 0.1630 0.0915

Pluto -99663-06-24 05:16 J -34680313.44 -34680313.28 -34680313.11 0.0061 0.0033

Pluto -99663-09-20 06:56 J -34680225.35 -34680225.21 -34680225.06 0.0061 0.0040

Pluto -99663-12-17 07:54 J -34680137.26 -34680137.17 -34680137.02 0.0061 0.0048

Pluto -99662-03-15 09:35 J -34680049.16 -34680049.10 -34680049.00 0.0061 0.0056

Mars -99662-04-13 00:56 J -34680020.58 -34680020.46 -34680020.34 0.1899 0.0794

Saturn -99662-05-13 00:28 J -34679990.51 -34679990.48 -34679990.43 0.0289 0.0278

Earth -99662-07-12 22:47 J -34679929.57 -34679929.55 -34679929.53 0.2660 0.2605

Moon -99662-07-12 23:16 J -34679929.54 -34679929.53 -34679929.51 0.2655 0.2627 *

Saturn -99662-08-09 17:01 J -34679901.90 -34679901.79 -34679901.67 0.0289 0.0188

Saturn -99662-11-06 09:49 J -34679813.24 -34679813.09 -34679812.94 0.0289 0.0095

Saturn -99661-02-03 02:52 J -34679724.54 -34679724.38 -34679724.22 0.0288 0.0003

Saturn -99661-05-01 20:23 J -34679635.80 -34679635.65 -34679635.50 0.0288 0.0096

Saturn -99661-07-29 14:08 J -34679547.02 -34679546.91 -34679546.79 0.0288 0.0194

Jupiter -99660-07-11 04:32 J -34679200.39 -34679200.31 -34679200.21 0.0510 0.0400

Jupiter -99660-10-08 17:59 J -34679110.90 -34679110.75 -34679110.60 0.0506 0.0068

Moon -99659-12-28 07:54 J -34678665.31 -34678665.17 -34678665.03 0.2684 0.0510

Earth -99659-12-28 08:52 J -34678665.27 -34678665.13 -34678665.00 0.2688 0.0586 *

Venus -99658-03-16 06:42 J -34678587.33 -34678587.22 -34678587.12 0.3781 0.1149

Mars -99656-11-14 19:25 J -34677612.77 -34677612.69 -34677612.61 0.1621 0.1312

Earth -99655-07-05 15:49 J -34677379.95 -34677379.84 -34677379.72 0.2647 0.0694

Moon -99655-07-05 16:18 J -34677379.94 -34677379.82 -34677379.71 0.2654 0.0592 *

Mars -99654-10-21 15:49 J -34676906.98 -34676906.84 -34676906.70 0.1627 0.0461

Jupiter -99654-12-09 10:04 J -34676858.21 -34676858.08 -34676857.95 0.0519 0.0300

Jupiter -99653-03-08 05:44 J -34676768.40 -34676768.26 -34676768.13 0.0523 0.0239

Mars -99653-09-02 04:47 J -34676590.38 -34676590.30 -34676590.22 0.1902 0.1505

Venus -99653-09-29 01:25 J -34676563.55 -34676563.44 -34676563.33 0.3778 0.0117

Uranus -99652-03-27 18:28 J -34676383.81 -34676383.73 -34676383.65 0.0144 0.0123

Uranus -99652-06-23 23:16 J -34676295.62 -34676295.53 -34676295.41 0.0144 0.0103

Uranus -99652-09-20 04:47 J -34676207.42 -34676207.30 -34676207.17 0.0144 0.0081

Uranus -99652-12-17 10:04 J -34676119.22 -34676119.08 -34676118.94 0.0144 0.0060

Uranus -99651-03-15 15:20 J -34676031.01 -34676030.86 -34676030.70 0.0144 0.0038

Uranus -99651-06-11 20:52 J -34675942.79 -34675942.63 -34675942.47 0.0144 0.0016

Mars -99651-08-09 11:16 J -34675884.12 -34675884.03 -34675883.93 0.1892 0.1275

Uranus -99651-09-08 02:23 J -34675854.56 -34675854.40 -34675854.25 0.0144 0.0007

Uranus -99651-12-05 07:40 J -34675766.33 -34675766.18 -34675766.02 0.0145 0.0029

Uranus -99650-03-03 13:11 J -34675678.09 -34675677.95 -34675677.79 0.0145 0.0052

Uranus -99650-05-30 18:42 J -34675589.85 -34675589.72 -34675589.57 0.0145 0.0075

Uranus -99650-08-27 00:28 J -34675501.59 -34675501.48 -34675501.36 0.0145 0.0098

Uranus -99650-11-23 06:13 J -34675413.32 -34675413.24 -34675413.15 0.0145 0.0121

Uranus -99649-02-19 11:59 J -34675325.00 -34675325.00 -34675324.99 0.0145 0.0145

Venus -99649-09-28 02:52 J -34675103.46 -34675103.38 -34675103.30 0.3594 0.2871

Jupiter -99648-07-27 20:08 J -34674800.80 -34674800.66 -34674800.51 0.0507 0.0049

Jupiter -99648-10-25 10:32 J -34674711.14 -34674711.06 -34674710.98 0.0504 0.0429

Saturn -99647-03-16 07:11 J -34674569.29 -34674569.20 -34674569.11 0.0271 0.0219

Venus -99647-04-14 20:23 J -34674539.75 -34674539.65 -34674539.54 0.3774 0.0954

Saturn -99647-06-12 21:49 J -34674480.72 -34674480.59 -34674480.45 0.0271 0.0140

Saturn -99647-09-09 12:28 J -34674392.13 -34674391.98 -34674391.83 0.0271 0.0062

Saturn -99647-12-07 02:52 J -34674303.53 -34674303.38 -34674303.23 0.0271 0.0015

Saturn -99646-03-05 16:47 J -34674214.94 -34674214.80 -34674214.65 0.0271 0.0091

Saturn -99646-06-02 06:42 J -34674126.34 -34674126.22 -34674126.11 0.0271 0.0165

Saturn -99646-08-29 19:54 J -34674037.73 -34674037.67 -34674037.59 0.0271 0.0238

Moon -99646-12-31 08:52 J -34673914.20 -34673914.13 -34673914.05 0.2682 0.2207

Earth -99646-12-31 10:04 J -34673914.15 -34673914.08 -34673914.00 0.2683 0.2272 *

Mars -99644-03-12 22:32 J -34673476.71 -34673476.56 -34673476.42 0.1625 0.0054

Venus -99643-04-14 03:06 J -34673079.49 -34673079.37 -34673079.24 0.3597 0.1451

Neptune -99642-02-07 08:08 J -34672780.19 -34672780.16 -34672780.11 0.0089 0.0085

Neptune -99642-05-06 09:49 J -34672692.13 -34672692.09 -34672692.02 0.0089 0.0081

Earth -99642-07-08 11:59 J -34672629.11 -34672629.00 -34672628.88 0.2652 0.0519

Moon -99642-07-08 12:56 J -34672629.08 -34672628.96 -34672628.84 0.2654 0.0529 *

Neptune -99642-08-02 11:44 J -34672604.07 -34672604.01 -34672603.92 0.0089 0.0077

Jupiter -99642-09-27 10:18 J -34672548.15 -34672548.07 -34672547.98 0.0518 0.0437

Neptune -99642-10-29 13:54 J -34672516.01 -34672515.92 -34672515.84 0.0089 0.0072

Venus -99642-10-29 15:49 J -34672515.94 -34672515.84 -34672515.75 0.3771 0.2033 *

Jupiter -99642-12-26 06:28 J -34672458.38 -34672458.23 -34672458.08 0.0522 0.0107

Mars -99642-12-30 16:18 J -34672453.94 -34672453.82 -34672453.70 0.1895 0.0632

Neptune -99641-01-25 15:35 J -34672427.94 -34672427.85 -34672427.75 0.0089 0.0068

Neptune -99641-04-22 17:16 J -34672339.87 -34672339.78 -34672339.66 0.0089 0.0064

Neptune -99641-07-19 19:25 J -34672251.80 -34672251.69 -34672251.58 0.0089 0.0059

Neptune -99641-10-15 21:06 J -34672163.73 -34672163.62 -34672163.49 0.0089 0.0055

Neptune -99640-01-11 23:01 J -34672075.65 -34672075.54 -34672075.41 0.0089 0.0051

Neptune -99640-04-10 01:11 J -34671987.58 -34671987.45 -34671987.32 0.0089 0.0046

Neptune -99640-07-07 02:52 J -34671899.50 -34671899.38 -34671899.24 0.0089 0.0042

Neptune -99640-10-03 04:47 J -34671811.43 -34671811.30 -34671811.16 0.0089 0.0038

Neptune -99640-12-30 06:56 J -34671723.35 -34671723.21 -34671723.07 0.0089 0.0033

Neptune -99639-03-28 08:37 J -34671635.27 -34671635.14 -34671634.99 0.0089 0.0029

Neptune -99639-06-24 10:47 J -34671547.20 -34671547.05 -34671546.90 0.0089 0.0024

Neptune -99639-09-20 12:42 J -34671459.12 -34671458.97 -34671458.82 0.0089 0.0020

Neptune -99639-12-17 14:37 J -34671371.04 -34671370.89 -34671370.74 0.0089 0.0015

Earth -99639-12-23 12:56 J -34671365.03 -34671364.96 -34671364.90 0.2698 0.2335

Moon -99639-12-23 13:25 J -34671365.00 -34671364.94 -34671364.87 0.2691 0.2357 *

Neptune -99638-03-15 16:32 J -34671282.95 -34671282.81 -34671282.65 0.0089 0.0011

Neptune -99638-06-11 18:42 J -34671194.87 -34671194.72 -34671194.57 0.0089 0.0006

Neptune -99638-09-07 20:37 J -34671106.79 -34671106.64 -34671106.48 0.0089 0.0002

Venus -99638-10-29 02:52 J -34671055.51 -34671055.38 -34671055.24 0.3600 0.0120

Neptune -99638-12-04 22:47 J -34671018.71 -34671018.55 -34671018.40 0.0089 0.0004

Neptune -99637-03-02 00:42 J -34670930.62 -34670930.47 -34670930.32 0.0089 0.0008

Neptune -99637-05-29 02:37 J -34670842.54 -34670842.39 -34670842.23 0.0089 0.0013

Neptune -99637-08-25 04:47 J -34670754.45 -34670754.30 -34670754.15 0.0089 0.0017

Neptune -99637-11-21 06:42 J -34670666.36 -34670666.22 -34670666.06 0.0089 0.0022

Neptune -99636-02-17 08:52 J -34670578.28 -34670578.13 -34670577.98 0.0089 0.0026

Venus -99636-05-14 11:16 J -34670492.09 -34670492.03 -34670491.97 0.3767 0.3157

Jupiter -99636-05-15 22:47 J -34670490.69 -34670490.55 -34670490.41 0.0508 0.0161

Neptune -99636-05-16 10:47 J -34670490.19 -34670490.05 -34670489.90 0.0089 0.0031

Neptune -99636-08-12 12:56 J -34670402.10 -34670401.96 -34670401.81 0.0089 0.0036

Jupiter -99636-08-13 12:42 J -34670401.09 -34670400.97 -34670400.85 0.0505 0.0313

Neptune -99636-11-08 15:06 J -34670314.01 -34670313.87 -34670313.73 0.0089 0.0040

Neptune -99635-02-04 17:01 J -34670225.91 -34670225.79 -34670225.65 0.0089 0.0045

Neptune -99635-05-03 19:11 J -34670137.82 -34670137.70 -34670137.56 0.0089 0.0050

Neptune -99635-07-30 21:06 J -34670049.73 -34670049.62 -34670049.48 0.0089 0.0055

Mars -99635-08-03 05:16 J -34670046.42 -34670046.28 -34670046.15 0.1624 0.0428

Neptune -99635-10-26 23:30 J -34669961.63 -34669961.52 -34669961.40 0.0089 0.0059

Neptune -99634-01-23 01:40 J -34669873.53 -34669873.43 -34669873.32 0.0089 0.0064

Neptune -99634-04-21 03:35 J -34669785.43 -34669785.35 -34669785.24 0.0089 0.0069

Neptune -99634-07-18 05:44 J -34669697.33 -34669697.26 -34669697.16 0.0089 0.0074

Neptune -99634-10-14 07:54 J -34669609.23 -34669609.17 -34669609.08 0.0089 0.0079

Neptune -99633-01-10 10:18 J -34669521.12 -34669521.07 -34669521.01 0.0089 0.0083

Neptune -99633-04-07 12:28 J -34669432.99 -34669432.98 -34669432.96 0.0089 0.0088

Mars -99633-07-09 03:35 J -34669340.41 -34669340.35 -34669340.28 0.1632 0.1444

Saturn -99633-12-26 17:44 J -34669169.86 -34669169.76 -34669169.66 0.0288 0.0215

Saturn -99632-03-25 10:18 J -34669081.21 -34669081.07 -34669080.93 0.0288 0.0124

Venus -99632-05-14 02:23 J -34669031.53 -34669031.40 -34669031.28 0.3603 0.1213

Mars -99632-05-21 20:52 J -34669023.76 -34669023.63 -34669023.50 0.1897 0.0058

Saturn -99632-06-22 03:20 J -34668992.52 -34668992.36 -34668992.21 0.0288 0.0031

Saturn -99632-09-18 20:37 J -34668903.80 -34668903.64 -34668903.49 0.0288 0.0065

Saturn -99632-12-16 14:08 J -34668815.04 -34668814.91 -34668814.77 0.0288 0.0162

Saturn -99631-03-15 08:08 J -34668726.22 -34668726.16 -34668726.09 0.0288 0.0261

Jupiter -99630-10-14 07:25 J -34668148.34 -34668148.19 -34668148.03 0.0521 0.0027

Jupiter -99629-01-12 02:23 J -34668058.44 -34668058.40 -34668058.37 0.0525 0.0507

Earth -99629-07-10 08:08 J -34667878.25 -34667878.16 -34667878.07 0.2656 0.1692

Moon -99629-07-10 08:52 J -34667878.21 -34667878.13 -34667878.04 0.2655 0.1807 *

Venus -99627-11-28 01:25 J -34667007.54 -34667007.44 -34667007.35 0.3607 0.2464

Mars -99626-12-24 12:13 J -34666616.11 -34666615.99 -34666615.87 0.1622 0.0852

Moon -99626-12-26 13:25 J -34666614.07 -34666613.94 -34666613.80 0.2686 0.0679

Earth -99626-12-26 13:40 J -34666614.06 -34666613.93 -34666613.80 0.2693 0.0727 *

Jupiter -99624-03-04 01:25 J -34666180.57 -34666180.44 -34666180.32 0.0509 0.0273

Jupiter -99624-06-01 14:52 J -34666091.01 -34666090.88 -34666090.74 0.0505 0.0198

Mars -99624-11-29 09:49 J -34665910.21 -34665910.09 -34665909.98 0.1629 0.0974

Mars -99623-10-12 01:11 J -34665593.57 -34665593.45 -34665593.33 0.1900 0.0733

Moon -99622-07-04 00:42 J -34665328.57 -34665328.47 -34665328.38 0.2650 0.1626

Earth -99622-07-04 00:42 J -34665328.56 -34665328.47 -34665328.37 0.2643 0.1647 *

Venus -99618-03-07 21:35 J -34663985.62 -34663985.60 -34663985.59 0.3788 0.3746

Jupiter -99618-08-02 08:37 J -34663838.29 -34663838.14 -34663837.99 0.0520 0.0154

Saturn -99618-08-03 06:28 J -34663837.28 -34663837.23 -34663837.16 0.0271 0.0251

Saturn -99618-10-30 21:35 J -34663748.71 -34663748.60 -34663748.47 0.0271 0.0171

Jupiter -99618-10-31 04:04 J -34663748.44 -34663748.33 -34663748.23 0.0524 0.0383

Saturn -99617-01-27 12:28 J -34663660.13 -34663659.98 -34663659.84 0.0271 0.0092

Saturn -99617-04-25 02:52 J -34663571.54 -34663571.38 -34663571.23 0.0271 0.0015

Saturn -99617-07-22 17:01 J -34663482.94 -34663482.79 -34663482.65 0.0271 0.0062

Saturn -99617-10-19 06:42 J -34663394.35 -34663394.22 -34663394.09 0.0271 0.0136

Saturn -99616-01-15 20:23 J -34663305.74 -34663305.65 -34663305.56 0.0271 0.0209

Mars -99616-05-15 19:40 J -34663185.77 -34663185.68 -34663185.60 0.1621 0.1264

Mars -99614-04-21 16:04 J -34662479.97 -34662479.83 -34662479.69 0.1627 0.0510

Mars -99613-03-03 05:16 J -34662163.37 -34662163.28 -34662163.20 0.1902 0.1441

Uranus -99613-05-27 11:59 J -34662078.06 -34662078.00 -34662077.91 0.0135 0.0120

Uranus -99613-08-23 17:01 J -34661989.89 -34661989.79 -34661989.68 0.0135 0.0100

Venus -99613-09-20 15:49 J -34661961.92 -34661961.84 -34661961.77 0.3785 0.2803

Uranus -99613-11-19 21:49 J -34661901.71 -34661901.59 -34661901.46 0.0135 0.0082

Jupiter -99613-12-21 03:35 J -34661870.44 -34661870.35 -34661870.26 0.0510 0.0391

Moon -99613-12-28 13:40 J -34661863.06 -34661862.93 -34661862.80 0.2683 0.0797

Earth -99613-12-28 14:37 J -34661863.02 -34661862.89 -34661862.76 0.2688 0.0929 *

Uranus -99612-02-16 02:37 J -34661813.53 -34661813.39 -34661813.25 0.0135 0.0063

Jupiter -99612-03-20 16:47 J -34661780.95 -34661780.80 -34661780.65 0.0506 0.0076

Uranus -99612-05-15 07:11 J -34661725.34 -34661725.20 -34661725.04 0.0135 0.0045

Uranus -99612-08-11 11:59 J -34661637.15 -34661637.00 -34661636.84 0.0135 0.0026

Uranus -99612-11-07 16:32 J -34661548.96 -34661548.81 -34661548.65 0.0135 0.0009

Uranus -99611-02-03 21:06 J -34661460.77 -34661460.62 -34661460.46 0.0135 0.0010

Mars -99611-02-07 11:30 J -34661457.11 -34661457.02 -34661456.93 0.1892 0.1333

Uranus -99611-05-03 01:40 J -34661372.58 -34661372.43 -34661372.28 0.0134 0.0027

Uranus -99611-07-30 05:59 J -34661284.39 -34661284.25 -34661284.10 0.0134 0.0045

Uranus -99611-10-26 10:32 J -34661196.19 -34661196.06 -34661195.92 0.0134 0.0062

Uranus -99610-01-22 14:52 J -34661108.00 -34661107.88 -34661107.75 0.0134 0.0079

Uranus -99610-04-20 19:11 J -34661019.80 -34661019.70 -34661019.59 0.0134 0.0096

Uranus -99610-07-17 23:30 J -34660931.59 -34660931.52 -34660931.43 0.0134 0.0113

Uranus -99610-10-14 03:35 J -34660843.37 -34660843.35 -34660843.30 0.0134 0.0130

Earth -99609-07-05 21:06 J -34660577.74 -34660577.62 -34660577.50 0.2648 0.0432

Moon -99609-07-05 21:35 J -34660577.72 -34660577.60 -34660577.49 0.2654 0.0468 *

Venus -99607-04-06 10:18 J -34659938.17 -34659938.07 -34659937.98 0.3783 0.1828

Jupiter -99606-05-21 09:20 J -34659528.23 -34659528.11 -34659527.98 0.0519 0.0286

Jupiter -99606-08-19 05:01 J -34659438.42 -34659438.29 -34659438.15 0.0523 0.0255

Mars -99605-09-10 22:47 J -34659049.70 -34659049.55 -34659049.41 0.1626 0.0075

Saturn -99603-05-15 17:30 J -34658437.84 -34658437.77 -34658437.69 0.0288 0.0248

Saturn -99603-08-12 09:49 J -34658349.21 -34658349.09 -34658348.96 0.0288 0.0158

Saturn -99603-11-09 02:52 J -34658260.54 -34658260.38 -34658260.23 0.0288 0.0065

Saturn -99602-02-05 19:54 J -34658171.82 -34658171.67 -34658171.51 0.0288 0.0031

Saturn -99602-05-05 13:25 J -34658083.08 -34658082.94 -34658082.79 0.0288 0.0128

Mars -99602-06-30 16:32 J -34658026.93 -34658026.81 -34658026.69 0.1895 0.0692

Saturn -99602-08-02 07:25 J -34657994.28 -34657994.19 -34657994.09 0.0288 0.0227

Venus -99602-10-21 05:01 J -34657914.40 -34657914.29 -34657914.19 0.3780 0.0836

Jupiter -99601-10-09 05:59 J -34657560.26 -34657560.25 -34657560.23 0.0511 0.0506

Jupiter -99600-01-06 18:56 J -34657470.85 -34657470.71 -34657470.56 0.0507 0.0042

Jupiter -99600-04-06 09:06 J -34657381.19 -34657381.12 -34657381.04 0.0504 0.0435

Moon -99600-12-31 14:52 J -34657111.93 -34657111.88 -34657111.83 0.2683 0.2475

Earth -99600-12-31 16:04 J -34657111.86 -34657111.83 -34657111.80 0.2683 0.2618 *

Venus -99596-05-05 23:44 J -34655890.62 -34655890.51 -34655890.39 0.3777 0.0235

Earth -99596-07-08 17:16 J -34655826.90 -34655826.78 -34655826.67 0.2652 0.0762

Moon -99596-07-08 17:59 J -34655826.86 -34655826.75 -34655826.63 0.2654 0.0930 *

Mars -99595-02-01 05:30 J -34655619.41 -34655619.27 -34655619.13 0.1624 0.0373

Jupiter -99594-03-09 09:20 J -34655218.20 -34655218.11 -34655218.03 0.0518 0.0428

Jupiter -99594-06-07 05:16 J -34655128.43 -34655128.28 -34655128.13 0.0521 0.0114

Mars -99593-01-08 04:04 J -34654913.38 -34654913.33 -34654913.28 0.1632 0.1504

Mars -99593-11-19 21:06 J -34654596.75 -34654596.62 -34654596.49 0.1897 0.0032

Earth -99593-12-23 18:42 J -34654562.81 -34654562.72 -34654562.63 0.2697 0.2016

Moon -99593-12-23 19:11 J -34654562.80 -34654562.70 -34654562.60 0.2691 0.1864 *

Venus -99592-05-05 02:52 J -34654430.48 -34654430.38 -34654430.28 0.3595 0.2412

Venus -99591-11-19 18:56 J -34653866.82 -34653866.71 -34653866.60 0.3773 0.1280

Earth -99589-07-01 09:35 J -34653277.11 -34653277.10 -34653277.09 0.2640 0.2615

Jupiter -99589-10-25 21:06 J -34653160.76 -34653160.62 -34653160.48 0.0508 0.0159

Saturn -99589-12-20 09:06 J -34653105.13 -34653105.12 -34653105.12 0.0271 0.0271

Jupiter -99588-01-23 11:01 J -34653071.15 -34653071.04 -34653070.92 0.0505 0.0316

Saturn -99588-03-18 23:59 J -34653016.60 -34653016.50 -34653016.38 0.0271 0.0190

Saturn -99588-06-15 14:52 J -34652928.02 -34652927.88 -34652927.74 0.0271 0.0111

Saturn -99588-09-12 05:16 J -34652839.43 -34652839.28 -34652839.12 0.0271 0.0034

Saturn -99588-12-09 19:40 J -34652750.83 -34652750.68 -34652750.53 0.0271 0.0044

Saturn -99587-03-08 09:35 J -34652662.24 -34652662.10 -34652661.97 0.0271 0.0119

Saturn -99587-06-04 23:16 J -34652573.63 -34652573.53 -34652573.43 0.0272 0.0192

Saturn -99587-09-01 12:28 J -34652485.00 -34652484.98 -34652484.94 0.0272 0.0265

Venus -99587-11-19 02:52 J -34652406.51 -34652406.38 -34652406.25 0.3598 0.1015

Mars -99586-06-24 12:42 J -34652189.10 -34652188.97 -34652188.85 0.1622 0.0799

Venus -99585-06-04 14:23 J -34651842.99 -34651842.90 -34651842.82 0.3770 0.2380

Mars -99584-05-30 10:04 J -34651483.19 -34651483.08 -34651482.97 0.1629 0.1030

Mars -99583-04-12 01:25 J -34651166.56 -34651166.44 -34651166.32 0.1900 0.0667

Earth -99583-07-11 13:11 J -34651076.03 -34651075.95 -34651075.87 0.2657 0.1939

Moon -99583-07-11 13:54 J -34651076.00 -34651075.92 -34651075.84 0.2654 0.1960 *

Jupiter -99582-03-26 05:59 J -34650818.41 -34650818.25 -34650818.10 0.0521 0.0021

Jupiter -99582-06-24 00:42 J -34650728.50 -34650728.47 -34650728.44 0.0524 0.0509

Venus -99581-06-04 02:37 J -34650382.53 -34650382.39 -34650382.26 0.3601 0.0332

Venus -99580-12-19 09:49 J -34649819.13 -34649819.09 -34649819.05 0.3766 0.3507

Moon -99580-12-26 18:56 J -34649811.84 -34649811.71 -34649811.57 0.2686 0.0515

Earth -99580-12-26 19:25 J -34649811.83 -34649811.69 -34649811.56 0.2692 0.0399 *

Jupiter -99577-08-13 23:44 J -34648850.63 -34648850.51 -34648850.39 0.0509 0.0272

Jupiter -99577-11-11 13:25 J -34648761.08 -34648760.94 -34648760.81 0.0506 0.0200

Mars -99577-11-13 19:54 J -34648758.76 -34648758.67 -34648758.58 0.1621 0.1213

Moon -99576-07-04 05:59 J -34648526.35 -34648526.25 -34648526.15 0.2651 0.1422

Earth -99576-07-04 05:59 J -34648526.35 -34648526.25 -34648526.15 0.2644 0.1387 *

Venus -99576-12-19 01:54 J -34648358.54 -34648358.42 -34648358.30 0.3604 0.1610

Mars -99575-10-20 16:32 J -34648052.95 -34648052.81 -34648052.68 0.1627 0.0571

Mars -99574-09-02 05:16 J -34647736.37 -34647736.28 -34647736.19 0.1902 0.1382

Saturn -99574-10-02 18:56 J -34647705.75 -34647705.71 -34647705.66 0.0288 0.0271

Saturn -99574-12-30 11:16 J -34647617.15 -34647617.03 -34647616.91 0.0288 0.0182

Saturn -99573-03-28 04:04 J -34647528.48 -34647528.33 -34647528.19 0.0288 0.0090

Saturn -99573-06-24 21:06 J -34647439.78 -34647439.62 -34647439.47 0.0288 0.0008

Saturn -99573-09-21 14:23 J -34647351.05 -34647350.90 -34647350.75 0.0288 0.0100

Pluto -99573-11-29 16:32 J -34647281.84 -34647281.81 -34647281.75 0.0085 0.0080

Saturn -99573-12-19 08:08 J -34647262.27 -34647262.16 -34647262.04 0.0288 0.0198

Pluto -99572-02-25 17:44 J -34647193.82 -34647193.76 -34647193.66 0.0085 0.0067

Pluto -99572-05-24 19:25 J -34647105.79 -34647105.69 -34647105.59 0.0084 0.0053

Mars -99572-08-08 11:44 J -34647030.09 -34647030.01 -34647029.92 0.1892 0.1395

Pluto -99572-08-20 20:37 J -34647017.75 -34647017.64 -34647017.52 0.0084 0.0040

Pluto -99572-11-16 21:49 J -34646929.71 -34646929.59 -34646929.46 0.0084 0.0027

Pluto -99571-02-12 23:01 J -34646841.66 -34646841.54 -34646841.40 0.0084 0.0014

Pluto -99571-05-12 00:28 J -34646753.62 -34646753.48 -34646753.35 0.0084 0.0002

Pluto -99571-08-08 01:40 J -34646665.56 -34646665.43 -34646665.30 0.0084 0.0012

Pluto -99571-11-04 02:52 J -34646577.51 -34646577.38 -34646577.25 0.0084 0.0025

Jupiter -99570-01-12 06:42 J -34646508.37 -34646508.22 -34646508.07 0.0520 0.0156

Pluto -99570-01-31 03:49 J -34646489.45 -34646489.34 -34646489.21 0.0084 0.0038

Jupiter -99570-04-12 01:54 J -34646418.52 -34646418.42 -34646418.32 0.0524 0.0381

Pluto -99570-04-29 05:01 J -34646401.38 -34646401.29 -34646401.18 0.0083 0.0050

Venus -99570-07-05 00:42 J -34646334.55 -34646334.47 -34646334.39 0.3608 0.2837

Pluto -99570-07-26 06:28 J -34646313.32 -34646313.23 -34646313.14 0.0083 0.0063

Pluto -99570-10-22 07:25 J -34646225.23 -34646225.19 -34646225.13 0.0083 0.0075

Uranus -99568-01-18 21:06 J -34645770.66 -34645770.62 -34645770.57 0.0143 0.0137

Uranus -99568-04-17 02:23 J -34645682.49 -34645682.40 -34645682.31 0.0144 0.0116

Uranus -99568-07-14 07:25 J -34645594.30 -34645594.19 -34645594.07 0.0144 0.0095

Uranus -99568-10-10 12:42 J -34645506.10 -34645505.97 -34645505.83 0.0144 0.0074

Uranus -99567-01-06 17:59 J -34645417.89 -34645417.75 -34645417.60 0.0144 0.0052

Uranus -99567-04-04 23:16 J -34645329.68 -34645329.53 -34645329.37 0.0144 0.0031

Uranus -99567-07-02 04:47 J -34645241.46 -34645241.30 -34645241.14 0.0144 0.0008

Uranus -99567-09-28 10:18 J -34645153.23 -34645153.07 -34645152.92 0.0144 0.0014

Uranus -99567-12-25 15:49 J -34645065.00 -34645064.84 -34645064.69 0.0144 0.0036

Moon -99567-12-29 19:25 J -34645060.81 -34645060.69 -34645060.56 0.2683 0.1203

Earth -99567-12-29 20:23 J -34645060.77 -34645060.65 -34645060.52 0.2687 0.1265 *

Uranus -99566-03-23 21:06 J -34644976.75 -34644976.62 -34644976.47 0.0145 0.0060

Uranus -99566-06-20 02:52 J -34644888.51 -34644888.38 -34644888.24 0.0145 0.0082

Uranus -99566-09-16 08:23 J -34644800.25 -34644800.15 -34644800.03 0.0145 0.0106

Uranus -99566-12-13 14:08 J -34644711.97 -34644711.91 -34644711.83 0.0145 0.0129

Mars -99565-03-11 23:01 J -34644622.68 -34644622.54 -34644622.40 0.1625 0.0118

Jupiter -99565-06-02 02:23 J -34644540.49 -34644540.40 -34644540.30 0.0510 0.0383

Jupiter -99565-08-30 15:35 J -34644450.99 -34644450.85 -34644450.70 0.0506 0.0086

Earth -99563-07-07 02:23 J -34643775.53 -34643775.40 -34643775.28 0.2649 0.0200

Moon -99563-07-07 02:52 J -34643775.50 -34643775.38 -34643775.26 0.2653 0.0072 *

Mars -99563-12-29 16:32 J -34643599.92 -34643599.81 -34643599.69 0.1895 0.0750

Venus -99562-10-12 19:40 J -34643312.73 -34643312.68 -34643312.64 0.3787 0.3438

Neptune -99560-08-15 05:44 J -34642640.30 -34642640.26 -34642640.22 0.0088 0.0086

Neptune -99560-11-11 08:08 J -34642552.22 -34642552.16 -34642552.08 0.0088 0.0081

Neptune -99559-02-07 10:47 J -34642464.13 -34642464.05 -34642463.96 0.0088 0.0076

Neptune -99559-05-06 13:11 J -34642376.04 -34642375.95 -34642375.84 0.0088 0.0071

Neptune -99559-08-02 15:49 J -34642287.94 -34642287.84 -34642287.72 0.0088 0.0066

Saturn -99559-08-05 23:59 J -34642284.59 -34642284.50 -34642284.41 0.0271 0.0220

Neptune -99559-10-29 18:13 J -34642199.85 -34642199.74 -34642199.61 0.0088 0.0061

Jupiter -99559-10-31 07:40 J -34642198.31 -34642198.18 -34642198.05 0.0519 0.0285

Saturn -99559-11-02 14:52 J -34642196.01 -34642195.88 -34642195.75 0.0271 0.0140

Neptune -99558-01-25 20:52 J -34642111.75 -34642111.63 -34642111.49 0.0088 0.0056

Jupiter -99558-01-29 03:20 J -34642108.49 -34642108.36 -34642108.23 0.0523 0.0255

Saturn -99558-01-30 05:30 J -34642107.42 -34642107.27 -34642107.12 0.0271 0.0062

Neptune -99558-04-23 23:16 J -34642023.66 -34642023.53 -34642023.38 0.0088 0.0051

Saturn -99558-04-28 19:54 J -34642018.83 -34642018.67 -34642018.52 0.0271 0.0017

Neptune -99558-07-21 01:54 J -34641935.56 -34641935.42 -34641935.27 0.0088 0.0045

Saturn -99558-07-26 09:49 J -34641930.23 -34641930.09 -34641929.95 0.0271 0.0091

Neptune -99558-10-17 04:18 J -34641847.46 -34641847.32 -34641847.17 0.0088 0.0041

Saturn -99558-10-22 23:30 J -34641841.63 -34641841.52 -34641841.40 0.0271 0.0165

Neptune -99557-01-13 06:42 J -34641759.36 -34641759.22 -34641759.06 0.0088 0.0036

Saturn -99557-01-19 13:11 J -34641753.02 -34641752.95 -34641752.88 0.0271 0.0237

Neptune -99557-04-10 09:20 J -34641671.26 -34641671.11 -34641670.95 0.0088 0.0031

Neptune -99557-07-07 11:44 J -34641583.17 -34641583.01 -34641582.85 0.0088 0.0026

Neptune -99557-10-03 14:08 J -34641495.07 -34641494.91 -34641494.75 0.0088 0.0021

Neptune -99557-12-30 16:32 J -34641406.97 -34641406.81 -34641406.64 0.0088 0.0016

Neptune -99556-03-28 18:56 J -34641318.87 -34641318.71 -34641318.54 0.0088 0.0011

Venus -99556-04-27 13:54 J -34641289.00 -34641288.92 -34641288.84 0.3785 0.2487

Neptune -99556-06-24 21:20 J -34641230.77 -34641230.61 -34641230.44 0.0088 0.0006

Mars -99556-08-02 05:44 J -34641192.40 -34641192.26 -34641192.12 0.1624 0.0324

Neptune -99556-09-20 23:44 J -34641142.67 -34641142.51 -34641142.34 0.0088 0.0002

Neptune -99556-12-18 02:08 J -34641054.57 -34641054.41 -34641054.25 0.0088 0.0004

Neptune -99555-03-16 04:32 J -34640966.47 -34640966.31 -34640966.15 0.0088 0.0008

Neptune -99555-06-12 06:42 J -34640878.38 -34640878.22 -34640878.05 0.0088 0.0013

Neptune -99555-09-08 09:06 J -34640790.28 -34640790.12 -34640789.96 0.0088 0.0018

Neptune -99555-12-05 11:30 J -34640702.18 -34640702.02 -34640701.86 0.0088 0.0023

Neptune -99554-03-03 13:40 J -34640614.08 -34640613.93 -34640613.77 0.0088 0.0027

Neptune -99554-05-30 15:49 J -34640525.98 -34640525.84 -34640525.68 0.0088 0.0032

Mars -99554-07-09 04:18 J -34640486.36 -34640486.32 -34640486.28 0.1632 0.1557

Neptune -99554-08-26 18:13 J -34640437.88 -34640437.74 -34640437.59 0.0088 0.0037

Neptune -99554-11-22 20:23 J -34640349.78 -34640349.65 -34640349.50 0.0088 0.0042

Neptune -99553-02-18 22:32 J -34640261.68 -34640261.56 -34640261.41 0.0088 0.0046

Jupiter -99553-03-21 04:32 J -34640230.33 -34640230.31 -34640230.28 0.0511 0.0500

Neptune -99553-05-17 00:56 J -34640173.58 -34640173.46 -34640173.32 0.0088 0.0051

Mars -99553-05-20 21:20 J -34640169.74 -34640169.61 -34640169.48 0.1898 0.0087

Jupiter -99553-06-18 17:44 J -34640140.91 -34640140.76 -34640140.62 0.0507 0.0038

Neptune -99553-08-13 03:06 J -34640085.48 -34640085.37 -34640085.24 0.0088 0.0055

Jupiter -99553-09-16 07:54 J -34640051.24 -34640051.17 -34640051.10 0.0504 0.0439

Neptune -99553-11-09 05:30 J -34639997.38 -34639997.27 -34639997.15 0.0088 0.0060

Neptune -99552-02-05 07:25 J -34639909.28 -34639909.19 -34639909.07 0.0088 0.0065

Neptune -99552-05-04 09:49 J -34639821.18 -34639821.09 -34639820.99 0.0088 0.0069

Neptune -99552-07-31 11:44 J -34639733.08 -34639733.01 -34639732.91 0.0088 0.0074

Neptune -99552-10-27 14:08 J -34639644.97 -34639644.91 -34639644.83 0.0088 0.0078

Neptune -99551-01-23 16:04 J -34639556.87 -34639556.83 -34639556.76 0.0088 0.0083

Neptune -99551-04-21 18:28 J -34639468.75 -34639468.73 -34639468.69 0.0088 0.0087

Venus -99551-11-11 08:23 J -34639265.25 -34639265.15 -34639265.04 0.3782 0.1512

Earth -99550-07-09 22:18 J -34639024.68 -34639024.57 -34639024.46 0.2653 0.1018

Moon -99550-07-09 23:16 J -34639024.64 -34639024.53 -34639024.42 0.2655 0.1030 *

Jupiter -99547-08-19 08:08 J -34637888.24 -34637888.16 -34637888.06 0.0518 0.0418

Jupiter -99547-11-17 04:32 J -34637798.46 -34637798.31 -34637798.16 0.0522 0.0126

Mars -99547-12-23 12:56 J -34637762.09 -34637761.96 -34637761.84 0.1622 0.0746

Earth -99547-12-25 00:28 J -34637760.59 -34637760.48 -34637760.38 0.2697 0.1690

Moon -99547-12-25 00:56 J -34637760.57 -34637760.46 -34637760.36 0.2690 0.1721 *

Venus -99545-05-27 03:06 J -34637241.48 -34637241.37 -34637241.25 0.3779 0.0516

Mars -99545-11-28 10:32 J -34637056.17 -34637056.06 -34637055.96 0.1629 0.1087

Saturn -99544-05-18 11:01 J -34636885.14 -34636885.04 -34636884.94 0.0288 0.0214

Saturn -99544-08-15 03:35 J -34636796.49 -34636796.35 -34636796.21 0.0288 0.0123

Mars -99544-10-11 01:54 J -34636739.55 -34636739.42 -34636739.30 0.1900 0.0602

Saturn -99544-11-11 20:23 J -34636707.80 -34636707.65 -34636707.49 0.0288 0.0031

Saturn -99543-02-08 13:40 J -34636619.08 -34636618.93 -34636618.77 0.0288 0.0067

Saturn -99543-05-08 07:25 J -34636530.32 -34636530.19 -34636530.06 0.0288 0.0164

Moon -99543-07-02 14:08 J -34636474.96 -34636474.91 -34636474.85 0.2645 0.2386

Earth -99543-07-02 14:52 J -34636474.94 -34636474.88 -34636474.83 0.2640 0.2359 *

Saturn -99543-08-05 01:25 J -34636441.50 -34636441.44 -34636441.37 0.0288 0.0263

Jupiter -99541-04-06 19:54 J -34635830.81 -34635830.67 -34635830.53 0.0508 0.0153

Venus -99541-05-26 02:08 J -34635781.45 -34635781.41 -34635781.37 0.3593 0.3404

Jupiter -99541-07-05 09:49 J -34635741.21 -34635741.09 -34635740.98 0.0505 0.0320

Venus -99540-12-10 22:18 J -34635217.69 -34635217.57 -34635217.46 0.3776 0.0565

Mars -99537-05-14 20:08 J -34634331.76 -34634331.66 -34634331.56 0.1621 0.1164

Earth -99537-07-11 18:13 J -34634273.80 -34634273.74 -34634273.67 0.2658 0.2186

Moon -99537-07-11 18:56 J -34634273.77 -34634273.71 -34634273.65 0.2653 0.2308 *

Venus -99536-12-10 02:37 J -34633757.50 -34633757.39 -34633757.28 0.3596 0.1961

Mars -99535-04-20 16:47 J -34633625.93 -34633625.80 -34633625.67 0.1627 0.0623

Jupiter -99535-09-05 04:32 J -34633488.46 -34633488.31 -34633488.15 0.0520 0.0018

Jupiter -99535-12-03 23:16 J -34633398.55 -34633398.53 -34633398.50 0.0524 0.0516

Mars -99534-03-03 05:30 J -34633309.36 -34633309.27 -34633309.17 0.1902 0.1319

Venus -99534-06-26 17:30 J -34633193.88 -34633193.77 -34633193.67 0.3772 0.1625

Moon -99534-12-28 00:28 J -34633009.62 -34633009.48 -34633009.34 0.2685 0.0076

Earth -99534-12-28 01:11 J -34633009.59 -34633009.45 -34633009.31 0.2692 0.0068 *

Mars -99532-02-06 11:59 J -34632603.08 -34632603.00 -34632602.92 0.1892 0.1454

Venus -99530-06-26 02:37 J -34631733.52 -34631733.39 -34631733.26 0.3599 0.0589

Moon -99530-07-05 11:16 J -34631724.14 -34631724.03 -34631723.92 0.2651 0.1124

Earth -99530-07-05 11:16 J -34631724.14 -34631724.03 -34631723.92 0.2645 0.1130 *

Saturn -99530-12-24 02:08 J -34631552.47 -34631552.41 -34631552.33 0.0272 0.0240

Jupiter -99529-01-24 21:49 J -34631520.71 -34631520.59 -34631520.46 0.0509 0.0272

Uranus -99529-03-20 14:52 J -34631464.90 -34631464.88 -34631464.84 0.0135 0.0132

Saturn -99529-03-21 17:16 J -34631463.90 -34631463.78 -34631463.65 0.0272 0.0160

Jupiter -99529-04-23 11:30 J -34631431.15 -34631431.02 -34631430.88 0.0506 0.0200

Uranus -99529-06-16 19:40 J -34631376.75 -34631376.68 -34631376.58 0.0135 0.0114

Saturn -99529-06-18 07:54 J -34631375.31 -34631375.17 -34631375.02 0.0272 0.0081

Uranus -99529-09-13 00:42 J -34631288.58 -34631288.47 -34631288.35 0.0135 0.0094

Saturn -99529-09-14 22:18 J -34631286.72 -34631286.57 -34631286.41 0.0272 0.0008

Uranus -99529-12-10 05:16 J -34631200.40 -34631200.28 -34631200.14 0.0135 0.0076

Saturn -99529-12-12 12:28 J -34631198.12 -34631197.98 -34631197.83 0.0272 0.0074

Venus -99528-01-09 12:42 J -34631170.04 -34631169.97 -34631169.89 0.3769 0.2727

Uranus -99528-03-08 10:18 J -34631112.21 -34631112.07 -34631111.93 0.0135 0.0057

Saturn -99528-03-11 02:23 J -34631109.52 -34631109.40 -34631109.27 0.0272 0.0148

Uranus -99528-06-04 14:52 J -34631024.03 -34631023.88 -34631023.72 0.0135 0.0039

Saturn -99528-06-07 16:04 J -34631020.91 -34631020.83 -34631020.75 0.0272 0.0222

Uranus -99528-08-31 19:40 J -34630935.84 -34630935.68 -34630935.53 0.0135 0.0021

Mars -99528-10-05 03:35 J -34630901.38 -34630901.35 -34630901.32 0.1620 0.1568

Uranus -99528-11-28 00:13 J -34630847.65 -34630847.49 -34630847.33 0.0135 0.0002

Uranus -99527-02-24 04:47 J -34630759.45 -34630759.30 -34630759.14 0.0135 0.0015

Uranus -99527-05-23 09:06 J -34630671.26 -34630671.12 -34630670.96 0.0134 0.0034

Uranus -99527-08-19 13:40 J -34630583.07 -34630582.93 -34630582.78 0.0134 0.0051

Uranus -99527-11-15 17:59 J -34630494.87 -34630494.75 -34630494.61 0.0134 0.0068

Uranus -99526-02-11 22:32 J -34630406.68 -34630406.56 -34630406.44 0.0134 0.0085

Uranus -99526-05-11 02:52 J -34630318.47 -34630318.38 -34630318.28 0.0134 0.0102

Uranus -99526-08-07 06:56 J -34630230.26 -34630230.21 -34630230.13 0.0134 0.0119

Mars -99526-09-10 23:16 J -34630195.67 -34630195.53 -34630195.38 0.1625 0.0177

Venus -99524-01-09 02:08 J -34629709.54 -34629709.41 -34629709.28 0.3602 0.0735

Jupiter -99523-06-24 05:01 J -34629178.44 -34629178.29 -34629178.14 0.0519 0.0151

Mars -99523-06-29 17:01 J -34629172.91 -34629172.79 -34629172.68 0.1895 0.0815

Jupiter -99523-09-22 00:13 J -34629088.59 -34629088.49 -34629088.38 0.0523 0.0383

Moon -99521-12-30 01:11 J -34628258.57 -34628258.45 -34628258.33 0.2684 0.1425

Earth -99521-12-30 02:23 J -34628258.51 -34628258.40 -34628258.29 0.2686 0.1602 *

Venus -99519-07-26 01:25 J -34627685.55 -34627685.44 -34627685.34 0.3605 0.2001

Jupiter -99518-11-13 00:28 J -34627210.57 -34627210.48 -34627210.38 0.0510 0.0385

Jupiter -99517-02-10 13:54 J -34627121.07 -34627120.92 -34627120.78 0.0507 0.0085

Earth -99517-07-07 07:25 J -34626973.31 -34626973.19 -34626973.07 0.2649 0.0079

Moon -99517-07-07 08:08 J -34626973.28 -34626973.16 -34626973.04 0.2653 0.0122 *

Mars -99516-01-31 06:13 J -34626765.38 -34626765.24 -34626765.10 0.1623 0.0267

Saturn -99515-10-05 12:56 J -34626153.04 -34626152.96 -34626152.87 0.0288 0.0235

Saturn -99514-01-02 05:30 J -34626064.41 -34626064.27 -34626064.14 0.0288 0.0145

Mars -99514-01-07 04:47 J -34626059.31 -34626059.30 -34626059.29 0.1632 0.1620

Saturn -99514-03-31 22:18 J -34625975.73 -34625975.57 -34625975.42 0.0288 0.0053

Saturn -99514-06-28 15:20 J -34625887.02 -34625886.86 -34625886.70 0.0288 0.0043

Saturn -99514-09-25 08:52 J -34625798.27 -34625798.13 -34625797.99 0.0288 0.0139

Mars -99514-11-19 21:35 J -34625742.73 -34625742.60 -34625742.47 0.1898 0.0153

Saturn -99514-12-23 02:52 J -34625709.47 -34625709.38 -34625709.29 0.0288 0.0238

Venus -99513-02-08 23:59 J -34625661.56 -34625661.50 -34625661.44 0.3609 0.3203

Jupiter -99511-04-12 05:16 J -34624868.40 -34624868.28 -34624868.14 0.0519 0.0289

Jupiter -99511-07-11 01:11 J -34624778.58 -34624778.45 -34624778.32 0.0523 0.0251

Mars -99507-06-23 13:11 J -34623335.08 -34623334.95 -34623334.83 0.1622 0.0701

Jupiter -99506-09-01 03:20 J -34622900.39 -34622900.36 -34622900.33 0.0511 0.0495

Jupiter -99506-11-29 16:18 J -34622810.97 -34622810.82 -34622810.67 0.0507 0.0030

Jupiter -99505-02-27 06:28 J -34622721.29 -34622721.23 -34622721.16 0.0504 0.0446

Venus -99505-05-18 17:44 J -34622639.82 -34622639.76 -34622639.70 0.3786 0.3130

Mars -99505-05-29 10:47 J -34622629.15 -34622629.05 -34622628.95 0.1629 0.1141

Mars -99504-04-11 01:54 J -34622312.55 -34622312.42 -34622312.30 0.1900 0.0549

Earth -99504-07-10 03:35 J -34622222.46 -34622222.35 -34622222.25 0.2654 0.1267

Moon -99504-07-10 04:18 J -34622222.42 -34622222.32 -34622222.22 0.2654 0.1416 *

Moon -99501-12-25 06:13 J -34620958.36 -34620958.24 -34620958.12 0.2689 0.1285

Earth -99501-12-25 06:13 J -34620958.36 -34620958.24 -34620958.13 0.2696 0.1362 *

Saturn -99500-05-12 02:23 J -34620820.42 -34620820.40 -34620820.38 0.0271 0.0268

Saturn -99500-08-08 17:30 J -34620731.88 -34620731.77 -34620731.65 0.0271 0.0187

Saturn -99500-11-05 08:23 J -34620643.29 -34620643.15 -34620643.01 0.0271 0.0108

Venus -99500-12-02 12:13 J -34620616.08 -34620615.99 -34620615.90 0.3784 0.2171

Jupiter -99499-01-29 06:13 J -34620558.33 -34620558.24 -34620558.15 0.0518 0.0420

Saturn -99499-02-01 22:47 J -34620554.70 -34620554.55 -34620554.39 0.0271 0.0031

Jupiter -99499-04-29 02:23 J -34620468.55 -34620468.40 -34620468.25 0.0522 0.0124

Saturn -99499-05-01 13:11 J -34620466.10 -34620465.95 -34620465.80 0.0271 0.0047

Saturn -99499-07-29 03:06 J -34620377.50 -34620377.37 -34620377.24 0.0271 0.0122

Saturn -99499-10-25 16:47 J -34620288.90 -34620288.80 -34620288.70 0.0271 0.0196

Saturn -99498-01-22 06:13 J -34620200.26 -34620200.24 -34620200.22 0.0271 0.0268

Mars -99498-11-13 20:23 J -34619904.75 -34619904.65 -34619904.55 0.1621 0.1113

Moon -99497-07-02 19:40 J -34619672.75 -34619672.68 -34619672.62 0.2647 0.2203

Earth -99497-07-02 19:54 J -34619672.74 -34619672.67 -34619672.59 0.2641 0.2100 *

Mars -99496-10-19 17:01 J -34619198.92 -34619198.79 -34619198.66 0.1627 0.0676

Mars -99495-09-01 05:59 J -34618882.35 -34618882.25 -34618882.15 0.1902 0.1247

Venus -99494-06-18 06:42 J -34618592.32 -34618592.22 -34618592.11 0.3781 0.1190

Jupiter -99494-09-17 18:13 J -34618500.87 -34618500.74 -34618500.59 0.0508 0.0150

Jupiter -99494-12-16 08:08 J -34618411.27 -34618411.16 -34618411.04 0.0504 0.0324

Mars -99493-08-07 12:13 J -34618176.07 -34618175.99 -34618175.92 0.1892 0.1516

Earth -99491-07-12 23:30 J -34617471.57 -34617471.52 -34617471.48 0.2658 0.2437

Moon -99491-07-12 23:59 J -34617471.54 -34617471.50 -34617471.45 0.2653 0.2419 *

Venus -99488-01-01 01:40 J -34616568.55 -34616568.43 -34616568.32 0.3778 0.0195

Mars -99488-04-05 03:49 J -34616474.38 -34616474.34 -34616474.29 0.1620 0.1520

Moon -99488-12-28 06:28 J -34616207.37 -34616207.23 -34616207.09 0.2685 0.0133

Earth -99488-12-28 06:56 J -34616207.34 -34616207.21 -34616207.07 0.2691 0.0278 *

Jupiter -99487-02-15 03:20 J -34616158.51 -34616158.36 -34616158.20 0.0521 0.0017

Jupiter -99487-05-15 22:18 J -34616068.57 -34616068.57 -34616068.57 0.0525 0.0524

Mars -99486-03-11 23:44 J -34615768.65 -34615768.51 -34615768.37 0.1625 0.0229

Saturn -99485-02-22 12:42 J -34615421.02 -34615420.97 -34615420.91 0.0288 0.0268

Saturn -99485-05-21 05:01 J -34615332.40 -34615332.29 -34615332.16 0.0288 0.0178

Saturn -99485-08-17 21:49 J -34615243.74 -34615243.59 -34615243.44 0.0288 0.0086

Saturn -99485-11-14 14:52 J -34615155.04 -34615154.88 -34615154.72 0.0288 0.0009

Venus -99485-12-31 02:08 J -34615108.49 -34615108.41 -34615108.34 0.3594 0.2938

Uranus -99484-02-08 05:01 J -34615069.35 -34615069.29 -34615069.22 0.0143 0.0129

Saturn -99484-02-11 08:08 J -34615066.30 -34615066.16 -34615066.01 0.0288 0.0106

Uranus -99484-05-07 10:04 J -34614981.17 -34614981.08 -34614980.97 0.0143 0.0109

Saturn -99484-05-11 01:54 J -34614977.53 -34614977.42 -34614977.30 0.0288 0.0204

Earth -99484-07-05 16:18 J -34614921.93 -34614921.82 -34614921.70 0.2645 0.0877

Moon -99484-07-05 16:32 J -34614921.92 -34614921.81 -34614921.69 0.2651 0.0843 *

Uranus -99484-08-03 15:20 J -34614892.98 -34614892.86 -34614892.73 0.0144 0.0088

Uranus -99484-10-30 20:37 J -34614804.77 -34614804.64 -34614804.50 0.0144 0.0066

Mars -99484-12-28 17:16 J -34614745.89 -34614745.78 -34614745.66 0.1895 0.0881

Uranus -99483-01-27 01:54 J -34614716.56 -34614716.42 -34614716.27 0.0144 0.0045

Uranus -99483-04-25 07:25 J -34614628.35 -34614628.19 -34614628.04 0.0144 0.0023

Venus -99483-07-17 20:37 J -34614544.75 -34614544.64 -34614544.53 0.3775 0.0881

Uranus -99483-07-22 12:42 J -34614540.12 -34614539.97 -34614539.81 0.0144 0.0003

Uranus -99483-10-18 18:13 J -34614451.90 -34614451.74 -34614451.58 0.0144 0.0022

Uranus -99482-01-14 23:44 J -34614363.66 -34614363.51 -34614363.36 0.0144 0.0044

Uranus -99482-04-13 05:16 J -34614275.42 -34614275.28 -34614275.14 0.0145 0.0067

Jupiter -99482-07-06 20:37 J -34614190.76 -34614190.64 -34614190.52 0.0509 0.0266

Uranus -99482-07-10 11:01 J -34614187.17 -34614187.04 -34614186.92 0.0145 0.0090

Jupiter -99482-10-04 10:04 J -34614101.21 -34614101.08 -34614100.94 0.0505 0.0205

Uranus -99482-10-06 16:18 J -34614098.90 -34614098.82 -34614098.71 0.0145 0.0114

Uranus -99481-01-02 22:04 J -34614010.61 -34614010.58 -34614010.51 0.0145 0.0137

Venus -99479-07-17 02:23 J -34613084.52 -34613084.40 -34613084.28 0.3597 0.1522

Neptune -99478-08-08 05:16 J -34612697.30 -34612697.28 -34612697.27 0.0089 0.0088

Neptune -99478-11-04 06:56 J -34612609.25 -34612609.21 -34612609.16 0.0089 0.0084

Neptune -99477-01-31 08:37 J -34612521.19 -34612521.14 -34612521.07 0.0089 0.0080

Venus -99477-01-31 15:49 J -34612520.93 -34612520.84 -34612520.74 0.3771 0.1960

Neptune -99477-04-28 10:18 J -34612433.13 -34612433.07 -34612432.98 0.0089 0.0076

Neptune -99477-07-25 12:13 J -34612345.06 -34612344.99 -34612344.89 0.0089 0.0072

Mars -99477-08-01 06:28 J -34612338.37 -34612338.23 -34612338.09 0.1623 0.0216

Neptune -99477-10-21 14:08 J -34612257.00 -34612256.91 -34612256.80 0.0089 0.0067

Neptune -99476-01-17 16:04 J -34612168.93 -34612168.83 -34612168.72 0.0089 0.0063

Neptune -99476-04-15 17:44 J -34612080.86 -34612080.76 -34612080.63 0.0089 0.0059

Neptune -99476-07-12 19:54 J -34611992.78 -34611992.67 -34611992.55 0.0089 0.0054

Neptune -99476-10-08 21:35 J -34611904.71 -34611904.60 -34611904.46 0.0089 0.0050

Jupiter -99476-12-04 03:35 J -34611848.50 -34611848.35 -34611848.20 0.0519 0.0146

Neptune -99475-01-04 23:30 J -34611816.64 -34611816.52 -34611816.38 0.0089 0.0046

Jupiter -99475-03-03 22:47 J -34611758.65 -34611758.55 -34611758.45 0.0523 0.0389

Neptune -99475-04-03 01:40 J -34611728.56 -34611728.43 -34611728.30 0.0089 0.0041

Neptune -99475-06-30 03:20 J -34611640.49 -34611640.36 -34611640.21 0.0089 0.0037

Neptune -99475-09-26 05:30 J -34611552.41 -34611552.27 -34611552.13 0.0089 0.0032

Neptune -99475-12-23 07:11 J -34611464.33 -34611464.20 -34611464.05 0.0089 0.0028

Moon -99475-12-31 06:56 J -34611456.31 -34611456.21 -34611456.12 0.2685 0.1906

Earth -99475-12-31 08:08 J -34611456.25 -34611456.16 -34611456.07 0.2686 0.1941 *

Neptune -99474-03-21 09:20 J -34611376.25 -34611376.11 -34611375.96 0.0089 0.0023

Mars -99474-05-20 21:49 J -34611315.72 -34611315.59 -34611315.46 0.1898 0.0208

Neptune -99474-06-17 11:16 J -34611288.18 -34611288.03 -34611287.88 0.0089 0.0019

Neptune -99474-09-13 13:11 J -34611200.10 -34611199.95 -34611199.80 0.0089 0.0014

Neptune -99474-12-10 15:06 J -34611112.02 -34611111.87 -34611111.71 0.0089 0.0010

Venus -99473-01-31 02:08 J -34611060.54 -34611060.41 -34611060.27 0.3600 0.0198

Neptune -99473-03-07 17:16 J -34611023.93 -34611023.78 -34611023.63 0.0089 0.0005

Neptune -99473-06-03 19:11 J -34610935.85 -34610935.70 -34610935.55 0.0089 0.0001

Neptune -99473-08-30 21:06 J -34610847.77 -34610847.62 -34610847.46 0.0089 0.0004

Neptune -99473-11-26 23:01 J -34610759.69 -34610759.54 -34610759.38 0.0089 0.0009

Neptune -99472-02-23 01:11 J -34610671.60 -34610671.45 -34610671.30 0.0089 0.0013

Neptune -99472-05-22 03:06 J -34610583.51 -34610583.37 -34610583.21 0.0089 0.0018

Venus -99472-08-16 11:16 J -34610497.09 -34610497.03 -34610496.96 0.3768 0.3064

Neptune -99472-08-18 05:16 J -34610495.43 -34610495.28 -34610495.13 0.0089 0.0022

Neptune -99472-11-14 07:11 J -34610407.34 -34610407.20 -34610407.05 0.0089 0.0027

Neptune -99471-02-10 09:06 J -34610319.25 -34610319.12 -34610318.96 0.0089 0.0032

Neptune -99471-05-09 11:30 J -34610231.16 -34610231.02 -34610230.88 0.0089 0.0036

Earth -99471-07-08 12:42 J -34610171.09 -34610170.97 -34610170.85 0.2650 0.0344

Moon -99471-07-08 13:25 J -34610171.06 -34610170.94 -34610170.82 0.2654 0.0436 *

Neptune -99471-08-05 13:25 J -34610143.07 -34610142.94 -34610142.80 0.0089 0.0041

Neptune -99471-11-01 15:20 J -34610054.98 -34610054.86 -34610054.71 0.0089 0.0046

Saturn -99471-12-26 19:40 J -34609999.77 -34609999.68 -34609999.57 0.0272 0.0208

Neptune -99470-01-28 17:30 J -34609966.89 -34609966.77 -34609966.63 0.0089 0.0051

Saturn -99470-03-25 10:47 J -34609911.19 -34609911.05 -34609910.92 0.0272 0.0128

Jupiter -99470-04-24 22:32 J -34609880.65 -34609880.56 -34609880.47 0.0510 0.0387

Neptune -99470-04-26 19:40 J -34609878.79 -34609878.68 -34609878.55 0.0089 0.0055

Saturn -99470-06-22 01:25 J -34609822.59 -34609822.44 -34609822.29 0.0272 0.0049

Jupiter -99470-07-23 11:59 J -34609791.15 -34609791.00 -34609790.86 0.0507 0.0083

Neptune -99470-07-23 21:49 J -34609790.70 -34609790.59 -34609790.47 0.0089 0.0060

Saturn -99470-09-18 15:49 J -34609734.00 -34609733.84 -34609733.69 0.0272 0.0030

Neptune -99470-10-19 23:44 J -34609702.60 -34609702.51 -34609702.39 0.0089 0.0065

Saturn -99470-12-16 05:44 J -34609645.40 -34609645.26 -34609645.12 0.0272 0.0105

Neptune -99469-01-16 01:54 J -34609614.50 -34609614.42 -34609614.31 0.0089 0.0070

Saturn -99469-03-13 19:40 J -34609556.79 -34609556.68 -34609556.57 0.0272 0.0179

Neptune -99469-04-13 04:18 J -34609526.40 -34609526.32 -34609526.23 0.0089 0.0074

Saturn -99469-06-10 09:06 J -34609468.17 -34609468.12 -34609468.06 0.0272 0.0252

Neptune -99469-07-10 06:28 J -34609438.29 -34609438.23 -34609438.16 0.0089 0.0079

Neptune -99469-10-06 08:23 J -34609350.18 -34609350.15 -34609350.09 0.0089 0.0084

Neptune -99468-01-02 10:47 J -34609262.05 -34609262.05 -34609262.04 0.0089 0.0089

Venus -99468-08-16 01:40 J -34609036.55 -34609036.43 -34609036.30 0.3603 0.1138

Mars -99468-12-22 13:25 J -34608908.07 -34608907.94 -34608907.81 0.1622 0.0644

Earth -99468-12-23 11:16 J -34608907.05 -34608907.03 -34608907.00 0.2700 0.2636

Moon -99468-12-23 12:13 J -34608907.03 -34608906.99 -34608906.95 0.2695 0.2534 *

Mars -99466-11-28 11:16 J -34608202.13 -34608202.03 -34608201.94 0.1629 0.1201

Mars -99465-10-10 02:23 J -34607885.53 -34607885.40 -34607885.28 0.1900 0.0479

Jupiter -99464-09-22 03:49 J -34607538.47 -34607538.34 -34607538.21 0.0518 0.0284

Jupiter -99464-12-20 23:30 J -34607448.65 -34607448.52 -34607448.38 0.0522 0.0254

Venus -99462-03-02 00:42 J -34607012.57 -34607012.47 -34607012.37 0.3607 0.2373

Jupiter -99458-02-11 01:11 J -34605570.48 -34605570.45 -34605570.42 0.0511 0.0499

Jupiter -99458-05-11 14:08 J -34605481.05 -34605480.91 -34605480.76 0.0508 0.0035

Mars -99458-05-14 20:37 J -34605477.74 -34605477.64 -34605477.53 0.1621 0.1064

Earth -99458-07-11 08:37 J -34605420.24 -34605420.14 -34605420.04 0.2654 0.1520

Moon -99458-07-11 09:35 J -34605420.20 -34605420.10 -34605420.01 0.2652 0.1552 *

Jupiter -99458-08-09 04:18 J -34605391.38 -34605391.32 -34605391.24 0.0504 0.0443

Venus -99457-09-14 23:16 J -34604988.54 -34604988.53 -34604988.51 0.3610 0.3568

Mars -99456-04-19 17:30 J -34604771.90 -34604771.77 -34604771.64 0.1627 0.0735

Saturn -99456-07-11 15:35 J -34604688.87 -34604688.85 -34604688.83 0.0288 0.0284

Saturn -99456-10-08 07:40 J -34604600.29 -34604600.18 -34604600.07 0.0288 0.0195

Saturn -99455-01-05 00:13 J -34604511.63 -34604511.49 -34604511.34 0.0288 0.0104

Mars -99455-03-02 06:13 J -34604455.35 -34604455.24 -34604455.14 0.1902 0.1194

Saturn -99455-04-03 17:16 J -34604422.94 -34604422.78 -34604422.63 0.0288 0.0011

Saturn -99455-07-01 10:32 J -34604334.21 -34604334.06 -34604333.91 0.0288 0.0085

Saturn -99455-09-28 04:04 J -34604245.45 -34604245.33 -34604245.20 0.0288 0.0183

Saturn -99455-12-25 22:04 J -34604156.60 -34604156.58 -34604156.55 0.0287 0.0282

Moon -99455-12-26 11:44 J -34604156.13 -34604156.01 -34604155.88 0.2688 0.1083

Earth -99455-12-26 11:59 J -34604156.13 -34604156.00 -34604155.88 0.2695 0.1039 *

Venus -99454-06-09 21:49 J -34603990.60 -34603990.59 -34603990.58 0.3788 0.3756

Mars -99453-02-06 12:28 J -34603749.05 -34603748.98 -34603748.92 0.1892 0.1577

Jupiter -99452-07-11 03:49 J -34603228.42 -34603228.34 -34603228.25 0.0518 0.0425

Jupiter -99452-10-09 00:13 J -34603138.64 -34603138.49 -34603138.34 0.0522 0.0119

Moon -99451-07-04 00:42 J -34602870.55 -34602870.47 -34602870.38 0.2648 0.1825

Earth -99451-07-04 01:11 J -34602870.54 -34602870.45 -34602870.36 0.2641 0.1837 *

Mars -99449-10-04 04:04 J -34602047.38 -34602047.33 -34602047.27 0.1619 0.1472

Venus -99449-12-23 16:04 J -34601966.91 -34601966.83 -34601966.76 0.3786 0.2821

Mars -99447-09-09 23:59 J -34601341.64 -34601341.50 -34601341.36 0.1625 0.0280

Jupiter -99446-02-27 16:47 J -34601170.94 -34601170.80 -34601170.66 0.0508 0.0147

Jupiter -99446-05-28 06:42 J -34601081.33 -34601081.22 -34601081.11 0.0505 0.0327

Uranus -99445-04-09 22:04 J -34600763.62 -34600763.58 -34600763.51 0.0136 0.0128

Uranus -99445-07-07 03:06 J -34600675.46 -34600675.37 -34600675.27 0.0135 0.0108

Uranus -99445-10-03 07:54 J -34600587.28 -34600587.17 -34600587.04 0.0135 0.0090

Uranus -99445-12-30 12:56 J -34600499.10 -34600498.96 -34600498.83 0.0135 0.0071

Uranus -99444-03-28 17:30 J -34600410.91 -34600410.77 -34600410.62 0.0135 0.0052

Uranus -99444-06-24 22:18 J -34600322.72 -34600322.57 -34600322.42 0.0135 0.0034

Mars -99444-06-28 17:16 J -34600318.89 -34600318.78 -34600318.67 0.1895 0.0931

Uranus -99444-09-21 02:52 J -34600234.53 -34600234.38 -34600234.22 0.0135 0.0016

Uranus -99444-12-18 07:40 J -34600146.34 -34600146.18 -34600146.03 0.0135 0.0004

Uranus -99443-03-16 12:13 J -34600058.15 -34600057.99 -34600057.84 0.0135 0.0021

Uranus -99443-06-12 16:32 J -34599969.95 -34599969.81 -34599969.65 0.0134 0.0038

Venus -99443-07-09 10:32 J -34599943.16 -34599943.06 -34599942.97 0.3783 0.1860

Uranus -99443-09-08 21:06 J -34599881.76 -34599881.62 -34599881.48 0.0134 0.0056

Uranus -99443-12-06 01:25 J -34599793.56 -34599793.44 -34599793.30 0.0134 0.0073

Uranus -99442-03-04 05:44 J -34599705.36 -34599705.26 -34599705.14 0.0134 0.0090

Uranus -99442-05-31 10:04 J -34599617.16 -34599617.08 -34599616.98 0.0134 0.0107

Uranus -99442-08-27 14:23 J -34599528.94 -34599528.90 -34599528.83 0.0134 0.0124

Moon -99442-12-29 11:59 J -34599405.13 -34599405.00 -34599404.86 0.2685 0.0611

Earth -99442-12-29 12:56 J -34599405.10 -34599404.96 -34599404.83 0.2690 0.0612 *

Saturn -99441-05-14 20:23 J -34599267.72 -34599267.65 -34599267.57 0.0271 0.0233

Saturn -99441-08-11 11:30 J -34599179.15 -34599179.02 -34599178.89 0.0271 0.0153

Saturn -99441-11-08 02:08 J -34599090.56 -34599090.41 -34599090.26 0.0271 0.0074

Saturn -99440-02-04 16:32 J -34599001.96 -34599001.81 -34599001.65 0.0271 0.0006

Saturn -99440-05-04 06:42 J -34598913.36 -34598913.22 -34598913.07 0.0271 0.0080

Jupiter -99440-07-28 01:11 J -34598828.60 -34598828.45 -34598828.29 0.0521 0.0012

Saturn -99440-07-31 20:37 J -34598824.76 -34598824.64 -34598824.52 0.0271 0.0155

Jupiter -99440-10-25 20:08 J -34598738.68 -34598738.66 -34598738.64 0.0525 0.0520

Saturn -99440-10-28 10:04 J -34598736.15 -34598736.08 -34598735.99 0.0271 0.0229

Earth -99438-07-06 21:35 J -34598119.72 -34598119.60 -34598119.48 0.2646 0.0617

Moon -99438-07-06 22:04 J -34598119.70 -34598119.58 -34598119.47 0.2651 0.0622 *

Venus -99437-01-23 05:01 J -34597919.40 -34597919.29 -34597919.18 0.3780 0.0866

Mars -99437-01-31 06:42 J -34597911.36 -34597911.22 -34597911.08 0.1623 0.0164

Mars -99435-11-18 22:04 J -34596888.70 -34596888.58 -34596888.45 0.1898 0.0282

Jupiter -99435-12-16 18:56 J -34596860.83 -34596860.71 -34596860.58 0.0509 0.0264

Jupiter -99434-03-16 08:23 J -34596771.28 -34596771.15 -34596771.01 0.0505 0.0207

Venus -99432-08-07 23:59 J -34595895.62 -34595895.50 -34595895.39 0.3777 0.0184

Moon -99429-12-31 12:42 J -34594654.06 -34594653.97 -34594653.88 0.2685 0.2066

Earth -99429-12-31 14:08 J -34594653.98 -34594653.91 -34594653.84 0.2685 0.2293 *

Jupiter -99428-05-16 02:08 J -34594518.56 -34594518.41 -34594518.26 0.0520 0.0142

Mars -99428-06-22 13:40 J -34594481.06 -34594480.93 -34594480.80 0.1622 0.0594

Venus -99428-08-07 01:54 J -34594435.51 -34594435.42 -34594435.32 0.3595 0.2485

Jupiter -99428-08-13 21:20 J -34594428.70 -34594428.61 -34594428.51 0.0524 0.0393

Venus -99426-02-21 18:56 J -34593871.81 -34593871.71 -34593871.60 0.3774 0.1215

Saturn -99426-02-25 07:25 J -34593868.28 -34593868.19 -34593868.09 0.0288 0.0228

Saturn -99426-05-24 23:59 J -34593779.64 -34593779.50 -34593779.37 0.0288 0.0137

Mars -99426-05-29 11:30 J -34593775.11 -34593775.02 -34593774.93 0.1629 0.1255

Saturn -99426-08-21 16:47 J -34593690.96 -34593690.80 -34593690.65 0.0288 0.0045

Saturn -99426-11-18 09:49 J -34593602.24 -34593602.09 -34593601.93 0.0288 0.0051

Saturn -99425-02-15 03:20 J -34593513.49 -34593513.36 -34593513.22 0.0288 0.0148

Mars -99425-04-10 02:23 J -34593458.52 -34593458.40 -34593458.27 0.1900 0.0418

Saturn -99425-05-13 21:20 J -34593424.69 -34593424.61 -34593424.53 0.0288 0.0247

Earth -99425-07-08 17:44 J -34593368.88 -34593368.76 -34593368.64 0.2650 0.0584

Moon -99425-07-08 18:28 J -34593368.84 -34593368.73 -34593368.61 0.2654 0.0657 *

Jupiter -99423-10-04 21:20 J -34592550.71 -34592550.61 -34592550.52 0.0510 0.0381

Jupiter -99422-01-02 10:32 J -34592461.21 -34592461.06 -34592460.92 0.0506 0.0087

Venus -99422-02-21 02:08 J -34592411.54 -34592411.41 -34592411.29 0.3598 0.1105

Earth -99422-12-24 17:01 J -34592104.86 -34592104.79 -34592104.72 0.2699 0.2318

Moon -99422-12-24 17:44 J -34592104.84 -34592104.76 -34592104.69 0.2694 0.2231 *

Venus -99421-09-06 14:23 J -34591847.99 -34591847.90 -34591847.81 0.3770 0.2294

Pluto -99419-06-14 21:20 J -34591201.69 -34591201.61 -34591201.51 0.0060 0.0053

Pluto -99419-09-10 22:47 J -34591113.66 -34591113.55 -34591113.42 0.0060 0.0047

Mars -99419-11-12 21:06 J -34591050.73 -34591050.62 -34591050.51 0.1621 0.1010

Pluto -99419-12-08 00:28 J -34591025.62 -34591025.48 -34591025.33 0.0060 0.0040

Pluto -99418-03-06 01:54 J -34590937.58 -34590937.42 -34590937.25 0.0060 0.0033

Pluto -99418-06-02 03:20 J -34590849.53 -34590849.36 -34590849.17 0.0060 0.0026

Pluto -99418-08-29 04:47 J -34590761.48 -34590761.30 -34590761.10 0.0060 0.0019

Pluto -99418-11-25 06:28 J -34590673.42 -34590673.23 -34590673.03 0.0060 0.0011

Pluto -99417-02-21 07:54 J -34590585.36 -34590585.17 -34590584.97 0.0061 0.0005

Pluto -99417-05-19 09:35 J -34590497.30 -34590497.10 -34590496.90 0.0061 0.0003

Pluto -99417-08-15 11:01 J -34590409.23 -34590409.04 -34590408.84 0.0061 0.0010

Venus -99417-09-06 01:54 J -34590387.55 -34590387.42 -34590387.29 0.3601 0.0250

Mars -99417-10-18 17:44 J -34590344.88 -34590344.76 -34590344.63 0.1627 0.0793

Pluto -99417-11-11 12:13 J -34590321.16 -34590320.99 -34590320.79 0.0061 0.0018

Pluto -99416-02-07 13:40 J -34590233.09 -34590232.93 -34590232.73 0.0061 0.0025

Jupiter -99416-03-04 02:23 J -34590208.53 -34590208.40 -34590208.27 0.0518 0.0280

Pluto -99416-05-06 15:20 J -34590145.02 -34590144.86 -34590144.68 0.0061 0.0032

Jupiter -99416-06-01 22:04 J -34590118.71 -34590118.58 -34590118.45 0.0522 0.0258

Pluto -99416-08-02 16:47 J -34590056.93 -34590056.80 -34590056.63 0.0061 0.0039

Mars -99416-08-31 06:28 J -34590028.33 -34590028.23 -34590028.12 0.1902 0.1121

Pluto -99416-10-29 18:28 J -34589968.85 -34589968.73 -34589968.59 0.0061 0.0046

Pluto -99415-01-25 19:40 J -34589880.75 -34589880.68 -34589880.56 0.0061 0.0054

Venus -99415-03-23 09:49 J -34589824.13 -34589824.09 -34589824.04 0.3767 0.3408

Pluto -99415-04-23 21:49 J -34589792.59 -34589792.59 -34589792.59 0.0061 0.0061

Mars -99414-08-07 12:28 J -34589322.04 -34589321.98 -34589321.91 0.1892 0.1637

Earth -99412-07-11 13:54 J -34588618.01 -34588617.92 -34588617.84 0.2655 0.1769

Moon -99412-07-11 14:37 J -34588617.97 -34588617.89 -34588617.81 0.2652 0.1881 *

Saturn -99412-10-01 22:32 J -34588535.61 -34588535.56 -34588535.50 0.0272 0.0254

Saturn -99412-12-29 13:40 J -34588447.05 -34588446.93 -34588446.81 0.0272 0.0173

Venus -99411-03-23 01:11 J -34588363.57 -34588363.45 -34588363.33 0.3604 0.1521

Saturn -99411-03-28 04:32 J -34588358.45 -34588358.31 -34588358.16 0.0272 0.0093

Saturn -99411-06-24 19:11 J -34588269.86 -34588269.70 -34588269.55 0.0272 0.0017

Jupiter -99411-07-23 23:01 J -34588240.56 -34588240.54 -34588240.51 0.0511 0.0503

Saturn -99411-09-21 09:20 J -34588181.26 -34588181.11 -34588180.96 0.0272 0.0062

Jupiter -99411-10-21 12:13 J -34588151.14 -34588150.99 -34588150.85 0.0508 0.0038

Saturn -99411-12-18 23:16 J -34588092.66 -34588092.53 -34588092.40 0.0272 0.0138

Jupiter -99410-01-19 02:23 J -34588061.47 -34588061.40 -34588061.33 0.0504 0.0440

Saturn -99410-03-17 12:56 J -34588004.05 -34588003.96 -34588003.86 0.0272 0.0212

Mars -99409-04-04 04:18 J -34587620.38 -34587620.32 -34587620.25 0.1619 0.1422

Moon -99409-12-26 17:30 J -34587353.91 -34587353.77 -34587353.64 0.2687 0.0705

Earth -99409-12-26 17:44 J -34587353.90 -34587353.76 -34587353.63 0.2694 0.0716 *

Mars -99407-03-11 00:13 J -34586914.63 -34586914.49 -34586914.35 0.1625 0.0338

Mars -99406-01-21 10:04 J -34586598.10 -34586598.08 -34586598.05 0.1904 0.1857

Venus -99406-10-06 23:59 J -34586339.58 -34586339.50 -34586339.41 0.3608 0.2749

Moon -99405-07-04 06:13 J -34586068.34 -34586068.24 -34586068.15 0.2648 0.1674

Earth -99405-07-04 06:28 J -34586068.33 -34586068.23 -34586068.14 0.2642 0.1581 *

Jupiter -99405-12-21 02:23 J -34585898.49 -34585898.40 -34585898.31 0.0517 0.0419

Mars -99405-12-27 17:44 J -34585891.87 -34585891.76 -34585891.65 0.1895 0.1002

Jupiter -99404-03-20 22:32 J -34585808.71 -34585808.56 -34585808.41 0.0521 0.0122

Uranus -99401-12-02 07:54 J -34584456.18 -34584456.17 -34584456.15 0.0143 0.0143

Uranus -99400-02-28 12:56 J -34584368.03 -34584367.96 -34584367.87 0.0143 0.0122

Uranus -99400-05-27 17:59 J -34584279.85 -34584279.75 -34584279.63 0.0143 0.0102

Uranus -99400-08-23 23:16 J -34584191.65 -34584191.53 -34584191.39 0.0144 0.0080

Uranus -99400-11-20 04:32 J -34584103.45 -34584103.31 -34584103.16 0.0144 0.0059

Uranus -99399-02-16 09:49 J -34584015.23 -34584015.09 -34584014.93 0.0144 0.0038

Uranus -99399-05-15 15:20 J -34583927.02 -34583926.86 -34583926.70 0.0144 0.0015

Jupiter -99399-08-09 14:23 J -34583841.03 -34583840.90 -34583840.75 0.0509 0.0154

Uranus -99399-08-11 20:37 J -34583838.79 -34583838.64 -34583838.48 0.0144 0.0008

Jupiter -99399-11-07 04:18 J -34583751.43 -34583751.32 -34583751.20 0.0505 0.0322

Uranus -99399-11-08 02:08 J -34583750.56 -34583750.41 -34583750.25 0.0144 0.0029

Uranus -99398-02-04 07:40 J -34583662.32 -34583662.18 -34583662.03 0.0144 0.0052

Uranus -99398-05-03 13:11 J -34583574.08 -34583573.95 -34583573.81 0.0145 0.0075

Uranus -99398-07-30 18:42 J -34583485.83 -34583485.72 -34583485.59 0.0145 0.0098

Mars -99398-08-01 06:56 J -34583484.35 -34583484.21 -34583484.06 0.1623 0.0113

Uranus -99398-10-27 00:28 J -34583397.56 -34583397.48 -34583397.38 0.0145 0.0121

Venus -99397-01-14 19:54 J -34583317.71 -34583317.67 -34583317.63 0.3787 0.3452

Uranus -99397-01-23 06:13 J -34583309.24 -34583309.24 -34583309.22 0.0145 0.0145

Saturn -99397-07-14 10:32 J -34583136.14 -34583136.06 -34583135.98 0.0288 0.0243

Saturn -99397-10-11 02:52 J -34583047.51 -34583047.38 -34583047.25 0.0288 0.0153

Saturn -99396-01-07 19:40 J -34582958.84 -34582958.68 -34582958.53 0.0288 0.0061

Saturn -99396-04-06 12:42 J -34582870.13 -34582869.97 -34582869.82 0.0288 0.0035

Saturn -99396-07-04 05:59 J -34582781.39 -34582781.25 -34582781.11 0.0287 0.0131

Saturn -99396-09-30 23:44 J -34582692.60 -34582692.51 -34582692.41 0.0287 0.0229

Moon -99396-12-29 17:30 J -34582602.90 -34582602.77 -34582602.63 0.2686 0.0789

Earth -99396-12-29 18:42 J -34582602.85 -34582602.72 -34582602.60 0.2689 0.0944 *

Neptune -99395-05-12 03:49 J -34582469.37 -34582469.34 -34582469.28 0.0088 0.0085

Mars -99395-05-19 22:18 J -34582461.70 -34582461.57 -34582461.44 0.1898 0.0331

Neptune -99395-08-08 06:28 J -34582381.29 -34582381.23 -34582381.15 0.0088 0.0080

Neptune -99395-11-04 09:06 J -34582293.20 -34582293.12 -34582293.02 0.0088 0.0075

Neptune -99394-01-31 11:30 J -34582205.11 -34582205.02 -34582204.90 0.0088 0.0070

Neptune -99394-04-29 14:08 J -34582117.02 -34582116.91 -34582116.79 0.0088 0.0065

Neptune -99394-07-26 16:32 J -34582028.92 -34582028.81 -34582028.67 0.0088 0.0060

Neptune -99394-10-22 19:11 J -34581940.82 -34581940.70 -34581940.56 0.0088 0.0054

Neptune -99393-01-18 21:35 J -34581852.73 -34581852.60 -34581852.45 0.0088 0.0050

Neptune -99393-04-16 00:13 J -34581764.63 -34581764.49 -34581764.34 0.0088 0.0044

Neptune -99393-07-13 02:37 J -34581676.53 -34581676.39 -34581676.23 0.0088 0.0040

Neptune -99393-10-09 05:16 J -34581588.43 -34581588.28 -34581588.13 0.0088 0.0034

Neptune -99392-01-05 07:40 J -34581500.33 -34581500.18 -34581500.02 0.0088 0.0030

Jupiter -99392-01-06 22:47 J -34581498.70 -34581498.55 -34581498.40 0.0520 0.0018

Neptune -99392-04-03 10:04 J -34581412.23 -34581412.08 -34581411.92 0.0088 0.0025

Jupiter -99392-04-06 17:44 J -34581408.79 -34581408.76 -34581408.73 0.0524 0.0512

Neptune -99392-06-30 12:42 J -34581324.13 -34581323.97 -34581323.81 0.0088 0.0020

Earth -99392-07-07 02:37 J -34581317.51 -34581317.39 -34581317.26 0.2646 0.0375

Moon -99392-07-07 03:20 J -34581317.48 -34581317.36 -34581317.24 0.2652 0.0270 *

Venus -99392-07-30 14:08 J -34581293.99 -34581293.91 -34581293.83 0.3785 0.2514

Neptune -99392-09-26 15:06 J -34581236.03 -34581235.87 -34581235.71 0.0088 0.0015

Neptune -99392-12-23 17:16 J -34581147.94 -34581147.78 -34581147.61 0.0088 0.0011

Neptune -99391-03-21 19:54 J -34581059.84 -34581059.67 -34581059.51 0.0088 0.0005

Neptune -99391-06-17 22:18 J -34580971.74 -34580971.57 -34580971.41 0.0088 0.0001

Neptune -99391-09-14 00:28 J -34580883.64 -34580883.48 -34580883.31 0.0088 0.0006

Neptune -99391-12-11 02:52 J -34580795.54 -34580795.38 -34580795.21 0.0088 0.0010

Neptune -99390-03-09 05:16 J -34580707.44 -34580707.28 -34580707.12 0.0088 0.0014

Neptune -99390-06-05 07:25 J -34580619.34 -34580619.19 -34580619.02 0.0088 0.0020

Neptune -99390-09-01 10:04 J -34580531.24 -34580531.08 -34580530.93 0.0088 0.0024

Neptune -99390-11-28 12:13 J -34580443.14 -34580442.99 -34580442.83 0.0088 0.0029

Neptune -99389-02-24 14:23 J -34580355.04 -34580354.90 -34580354.74 0.0088 0.0034

Neptune -99389-05-22 16:32 J -34580266.94 -34580266.81 -34580266.65 0.0088 0.0039

Neptune -99389-08-18 18:56 J -34580178.84 -34580178.71 -34580178.56 0.0088 0.0043

Neptune -99389-11-14 21:06 J -34580090.74 -34580090.62 -34580090.47 0.0088 0.0048

Mars -99389-12-21 14:08 J -34580054.05 -34580053.91 -34580053.78 0.1622 0.0544

Neptune -99388-02-10 23:44 J -34580002.64 -34580002.51 -34580002.38 0.0088 0.0052

Neptune -99388-05-10 01:40 J -34579914.54 -34579914.43 -34579914.30 0.0088 0.0057

Neptune -99388-08-06 03:49 J -34579826.44 -34579826.34 -34579826.21 0.0088 0.0061

Neptune -99388-11-02 06:13 J -34579738.34 -34579738.24 -34579738.13 0.0088 0.0065

Neptune -99387-01-29 08:08 J -34579650.24 -34579650.16 -34579650.05 0.0088 0.0071

Neptune -99387-04-27 10:32 J -34579562.13 -34579562.06 -34579561.97 0.0088 0.0075

Jupiter -99387-05-28 17:16 J -34579530.91 -34579530.78 -34579530.66 0.0509 0.0265

Neptune -99387-07-24 12:28 J -34579474.03 -34579473.98 -34579473.89 0.0088 0.0080

Jupiter -99387-08-26 06:42 J -34579441.35 -34579441.22 -34579441.08 0.0506 0.0207

Neptune -99387-10-20 14:52 J -34579385.92 -34579385.88 -34579385.82 0.0088 0.0084

Mars -99387-11-27 11:59 J -34579348.09 -34579348.00 -34579347.92 0.1629 0.1316

Neptune -99386-01-16 17:16 J -34579297.79 -34579297.78 -34579297.76 0.0088 0.0088

Venus -99386-02-13 08:37 J -34579270.24 -34579270.14 -34579270.04 0.3782 0.1545

Mars -99386-10-10 02:37 J -34579031.52 -34579031.39 -34579031.26 0.1900 0.0354

Moon -99382-01-01 18:28 J -34577851.76 -34577851.73 -34577851.69 0.2684 0.2601

Earth -99382-01-01 19:54 J -34577851.69 -34577851.67 -34577851.65 0.2684 0.2633 *

Saturn -99382-05-18 14:37 J -34577714.99 -34577714.89 -34577714.78 0.0271 0.0197

Saturn -99382-08-15 05:30 J -34577626.40 -34577626.27 -34577626.12 0.0271 0.0117

Saturn -99382-11-11 20:08 J -34577537.81 -34577537.66 -34577537.50 0.0271 0.0039

Saturn -99381-02-08 10:32 J -34577449.21 -34577449.06 -34577448.91 0.0271 0.0039

Saturn -99381-05-07 00:28 J -34577360.61 -34577360.48 -34577360.34 0.0271 0.0115

Saturn -99381-08-03 14:23 J -34577272.01 -34577271.90 -34577271.79 0.0271 0.0189

Venus -99381-08-29 03:20 J -34577246.47 -34577246.36 -34577246.25 0.3779 0.0548

Jupiter -99381-10-25 23:44 J -34577188.66 -34577188.51 -34577188.36 0.0520 0.0150

Saturn -99381-10-31 03:49 J -34577183.37 -34577183.34 -34577183.30 0.0271 0.0261

Jupiter -99380-01-23 18:56 J -34577098.80 -34577098.71 -34577098.60 0.0524 0.0387

Mars -99379-05-13 21:20 J -34576623.73 -34576623.61 -34576623.50 0.1621 0.0963

Earth -99379-07-09 23:01 J -34576566.66 -34576566.54 -34576566.43 0.2651 0.0845

Moon -99379-07-09 23:44 J -34576566.62 -34576566.51 -34576566.40 0.2652 0.0901 *

Mars -99377-04-18 17:59 J -34575917.87 -34575917.75 -34575917.63 0.1627 0.0843

Venus -99377-08-28 01:11 J -34575786.48 -34575786.45 -34575786.42 0.3593 0.3474

Mars -99376-03-01 06:56 J -34575601.32 -34575601.21 -34575601.10 0.1902 0.1057

Earth -99376-12-24 22:47 J -34575302.64 -34575302.55 -34575302.46 0.2699 0.1998

Moon -99376-12-24 23:01 J -34575302.63 -34575302.54 -34575302.45 0.2692 0.2004 *

Venus -99375-03-14 22:18 J -34575222.68 -34575222.57 -34575222.46 0.3776 0.0486

Jupiter -99375-03-16 19:25 J -34575220.78 -34575220.69 -34575220.59 0.0510 0.0381

Jupiter -99375-06-14 08:37 J -34575131.28 -34575131.14 -34575130.99 0.0506 0.0087

Mars -99374-02-05 12:42 J -34574895.02 -34574894.97 -34574894.91 0.1893 0.1697

Earth -99372-07-02 15:06 J -34574016.90 -34574016.87 -34574016.84 0.2638 0.2560

Venus -99371-03-14 01:40 J -34573762.54 -34573762.43 -34573762.32 0.3595 0.2049

Venus -99370-09-28 17:30 J -34573198.88 -34573198.77 -34573198.67 0.3773 0.1547

Mars -99370-10-04 04:47 J -34573193.38 -34573193.30 -34573193.23 0.1619 0.1372

Jupiter -99369-08-14 00:28 J -34572878.61 -34572878.48 -34572878.35 0.0519 0.0281

Jupiter -99369-11-11 20:23 J -34572788.78 -34572788.65 -34572788.52 0.0523 0.0259

Mars -99368-09-09 00:42 J -34572487.61 -34572487.47 -34572487.33 0.1625 0.0392

Saturn -99368-12-01 10:18 J -34572404.10 -34572404.07 -34572404.02 0.0288 0.0275

Saturn -99367-02-28 02:37 J -34572315.50 -34572315.39 -34572315.27 0.0288 0.0186

Saturn -99367-05-27 19:11 J -34572226.84 -34572226.70 -34572226.55 0.0288 0.0094

Mars -99367-07-22 10:18 J -34572171.11 -34572171.07 -34572171.03 0.1904 0.1792

Saturn -99367-08-24 12:13 J -34572138.15 -34572137.99 -34572137.84 0.0288 0.0003

Saturn -99367-11-21 05:30 J -34572049.42 -34572049.27 -34572049.12 0.0288 0.0096

Saturn -99366-02-17 23:01 J -34571960.65 -34571960.54 -34571960.42 0.0288 0.0195

Earth -99366-07-12 18:56 J -34571815.79 -34571815.71 -34571815.63 0.2655 0.2016

Moon -99366-07-12 19:40 J -34571815.75 -34571815.68 -34571815.60 0.2652 0.2068 *

Venus -99366-09-28 01:40 J -34571738.56 -34571738.43 -34571738.29 0.3599 0.0683

Mars -99365-06-27 17:59 J -34571464.86 -34571464.75 -34571464.65 0.1895 0.1063

Venus -99364-04-13 12:42 J -34571175.05 -34571174.97 -34571174.89 0.3769 0.2631

Jupiter -99363-01-02 21:49 J -34570910.62 -34570910.59 -34570910.56 0.0511 0.0497

Jupiter -99363-04-02 10:47 J -34570821.20 -34570821.05 -34570820.90 0.0507 0.0033

Jupiter -99363-07-01 00:56 J -34570731.53 -34570731.46 -34570731.39 0.0504 0.0442

Moon -99363-12-27 23:01 J -34570551.67 -34570551.54 -34570551.40 0.2687 0.0418

Earth -99363-12-27 23:30 J -34570551.66 -34570551.52 -34570551.39 0.2694 0.0392 *

Uranus -99361-04-30 05:44 J -34570062.31 -34570062.26 -34570062.17 0.0135 0.0122

Uranus -99361-07-27 10:47 J -34569974.14 -34569974.05 -34569973.94 0.0135 0.0102

Uranus -99361-10-23 15:35 J -34569885.96 -34569885.85 -34569885.71 0.0135 0.0084

Uranus -99360-01-19 20:37 J -34569797.78 -34569797.64 -34569797.50 0.0135 0.0065

Venus -99360-04-13 01:25 J -34569714.57 -34569714.44 -34569714.31 0.3602 0.0647

Uranus -99360-04-18 01:11 J -34569709.59 -34569709.45 -34569709.30 0.0135 0.0046

Uranus -99360-07-15 05:59 J -34569621.40 -34569621.25 -34569621.09 0.0135 0.0028

Uranus -99360-10-11 10:47 J -34569533.21 -34569533.05 -34569532.90 0.0135 0.0010

Uranus -99359-01-07 15:20 J -34569445.02 -34569444.86 -34569444.71 0.0135 0.0009

Uranus -99359-04-05 19:40 J -34569356.83 -34569356.68 -34569356.52 0.0135 0.0027

Uranus -99359-07-03 00:13 J -34569268.63 -34569268.49 -34569268.34 0.0134 0.0044

Moon -99359-07-05 11:30 J -34569266.12 -34569266.02 -34569265.91 0.2649 0.1265

Earth -99359-07-05 11:30 J -34569266.12 -34569266.02 -34569265.91 0.2642 0.1327 *

Uranus -99359-09-29 04:47 J -34569180.44 -34569180.30 -34569180.16 0.0134 0.0061

Venus -99359-10-28 08:23 J -34569151.15 -34569151.15 -34569151.14 0.3765 0.3748

Uranus -99359-12-26 09:06 J -34569092.24 -34569092.12 -34569091.99 0.0134 0.0079

Mars -99358-01-30 07:25 J -34569057.33 -34569057.19 -34569057.05 0.1623 0.0054

Uranus -99358-03-24 13:25 J -34569004.04 -34569003.94 -34569003.82 0.0134 0.0096

Uranus -99358-06-20 17:44 J -34568915.83 -34568915.76 -34568915.67 0.0134 0.0113

Uranus -99358-09-16 22:18 J -34568827.60 -34568827.57 -34568827.53 0.0134 0.0129

Jupiter -99357-06-02 00:42 J -34568568.56 -34568568.47 -34568568.38 0.0517 0.0417

Jupiter -99357-08-30 20:52 J -34568478.78 -34568478.63 -34568478.48 0.0521 0.0125

Mars -99356-11-17 22:32 J -34568034.68 -34568034.56 -34568034.43 0.1898 0.0402

Venus -99355-10-28 00:42 J -34567690.58 -34567690.47 -34567690.36 0.3605 0.1908

Saturn -99353-10-04 16:47 J -34566982.89 -34566982.80 -34566982.71 0.0272 0.0218

Saturn -99352-01-01 07:40 J -34566894.31 -34566894.18 -34566894.04 0.0272 0.0138

Saturn -99352-03-30 22:32 J -34566805.71 -34566805.56 -34566805.41 0.0272 0.0058

Saturn -99352-06-27 12:56 J -34566717.11 -34566716.96 -34566716.81 0.0272 0.0020

Saturn -99352-09-24 03:06 J -34566628.51 -34566628.37 -34566628.23 0.0272 0.0096

Saturn -99352-12-21 17:01 J -34566539.91 -34566539.79 -34566539.68 0.0272 0.0171

Jupiter -99351-01-19 12:28 J -34566511.12 -34566510.98 -34566510.84 0.0509 0.0157

Saturn -99351-03-20 06:28 J -34566451.29 -34566451.23 -34566451.16 0.0272 0.0245

Jupiter -99351-04-19 02:08 J -34566421.52 -34566421.41 -34566421.29 0.0505 0.0318

Moon -99350-12-30 23:16 J -34565800.65 -34565800.53 -34565800.41 0.2686 0.1201

Earth -99350-12-31 00:28 J -34565800.60 -34565800.48 -34565800.36 0.2689 0.1278 *

Venus -99349-05-12 23:30 J -34565666.58 -34565666.52 -34565666.46 0.3609 0.3114

Mars -99349-06-21 14:23 J -34565627.04 -34565626.90 -34565626.77 0.1622 0.0487

Mars -99347-05-28 12:13 J -34564921.07 -34564920.99 -34564920.91 0.1629 0.1371

Mars -99346-04-10 03:06 J -34564604.50 -34564604.37 -34564604.24 0.1900 0.0294

Earth -99346-07-08 07:54 J -34564515.29 -34564515.17 -34564515.05 0.2647 0.0105

Moon -99346-07-08 08:23 J -34564515.27 -34564515.15 -34564515.03 0.2652 0.0128 *

Jupiter -99345-06-18 21:20 J -34564168.77 -34564168.61 -34564168.46 0.0520 0.0013

Jupiter -99345-09-16 16:04 J -34564078.85 -34564078.83 -34564078.80 0.0524 0.0516

Venus -99341-08-20 17:59 J -34562644.81 -34562644.75 -34562644.69 0.3787 0.3155

Jupiter -99340-11-07 14:52 J -34562201.00 -34562200.88 -34562200.76 0.0510 0.0272

Mars -99340-11-11 21:35 J -34562196.72 -34562196.60 -34562196.49 0.1620 0.0911

Jupiter -99339-02-05 04:18 J -34562111.45 -34562111.32 -34562111.18 0.0506 0.0199

Saturn -99338-07-18 05:44 J -34561583.36 -34561583.26 -34561583.15 0.0288 0.0200

Saturn -99338-10-14 22:18 J -34561494.71 -34561494.57 -34561494.43 0.0288 0.0108

Mars -99338-10-18 18:28 J -34561490.85 -34561490.73 -34561490.61 0.1627 0.0903

Saturn -99337-01-11 15:06 J -34561406.02 -34561405.87 -34561405.71 0.0287 0.0016

Saturn -99337-04-09 08:23 J -34561317.30 -34561317.15 -34561317.00 0.0287 0.0081

Saturn -99337-07-07 01:54 J -34561228.54 -34561228.42 -34561228.29 0.0287 0.0178

Mars -99337-08-30 06:56 J -34561174.32 -34561174.21 -34561174.10 0.1902 0.0998

Saturn -99337-10-03 19:54 J -34561139.70 -34561139.67 -34561139.63 0.0287 0.0277

Venus -99335-03-06 12:28 J -34560621.07 -34560620.98 -34560620.89 0.3784 0.2206

Mars -99335-08-06 12:56 J -34560468.00 -34560467.96 -34560467.92 0.1892 0.1756

Jupiter -99333-04-06 21:06 J -34559858.76 -34559858.62 -34559858.47 0.0519 0.0157

Jupiter -99333-07-05 16:32 J -34559768.91 -34559768.81 -34559768.70 0.0523 0.0379

Earth -99333-07-10 04:04 J -34559764.44 -34559764.33 -34559764.22 0.2651 0.1090

Moon -99333-07-10 05:01 J -34559764.40 -34559764.29 -34559764.19 0.2651 0.1227 *

Mars -99330-04-04 04:47 J -34558766.38 -34558766.30 -34558766.22 0.1619 0.1325

Venus -99330-09-20 06:56 J -34558597.32 -34558597.21 -34558597.11 0.3781 0.1234

Earth -99330-12-26 04:32 J -34558500.42 -34558500.31 -34558500.21 0.2698 0.1674

Moon -99330-12-26 04:47 J -34558500.41 -34558500.30 -34558500.19 0.2691 0.1570 *

Mars -99328-03-10 00:56 J -34558060.60 -34558060.46 -34558060.32 0.1625 0.0444

Jupiter -99328-08-26 17:44 J -34557890.86 -34557890.76 -34557890.67 0.0510 0.0383

Jupiter -99328-11-24 06:56 J -34557801.36 -34557801.21 -34557801.07 0.0507 0.0086

Mars -99327-01-20 10:47 J -34557744.11 -34557744.05 -34557744.00 0.1904 0.1727

Moon -99326-07-03 19:40 J -34557214.74 -34557214.68 -34557214.62 0.2643 0.2317

Earth -99326-07-03 20:23 J -34557214.71 -34557214.65 -34557214.59 0.2639 0.2299 *

Pluto -99326-10-13 04:18 J -34557113.32 -34557113.32 -34557113.30 0.0085 0.0084

Mars -99326-12-27 17:59 J -34557037.85 -34557037.75 -34557037.65 0.1896 0.1120

Pluto -99325-01-09 05:44 J -34557025.33 -34557025.26 -34557025.19 0.0085 0.0071

Pluto -99325-04-06 06:56 J -34556937.30 -34556937.21 -34556937.11 0.0084 0.0058

Pluto -99325-07-03 08:08 J -34556849.27 -34556849.16 -34556849.05 0.0084 0.0045

Pluto -99325-09-29 09:20 J -34556761.23 -34556761.11 -34556760.98 0.0084 0.0032

Pluto -99325-12-26 10:32 J -34556673.18 -34556673.06 -34556672.92 0.0084 0.0019

Pluto -99324-03-24 11:59 J -34556585.13 -34556585.00 -34556584.87 0.0084 0.0006

Venus -99324-04-05 01:40 J -34556573.54 -34556573.43 -34556573.32 0.3778 0.0226

Pluto -99324-06-20 13:11 J -34556497.08 -34556496.95 -34556496.82 0.0084 0.0007

Pluto -99324-09-16 14:23 J -34556409.03 -34556408.90 -34556408.77 0.0084 0.0020

Pluto -99324-12-13 15:35 J -34556320.97 -34556320.85 -34556320.73 0.0084 0.0033

Saturn -99323-02-21 18:13 J -34556250.81 -34556250.74 -34556250.67 0.0271 0.0240

Pluto -99323-03-11 16:32 J -34556232.91 -34556232.81 -34556232.69 0.0083 0.0046

Saturn -99323-05-21 09:06 J -34556162.24 -34556162.12 -34556161.99 0.0271 0.0160

Pluto -99323-06-07 17:59 J -34556144.84 -34556144.75 -34556144.65 0.0083 0.0058

Saturn -99323-08-17 23:59 J -34556073.64 -34556073.50 -34556073.35 0.0271 0.0080

Pluto -99323-09-03 18:56 J -34556056.77 -34556056.71 -34556056.63 0.0083 0.0070

Saturn -99323-11-14 14:37 J -34555985.05 -34555984.89 -34555984.74 0.0271 0.0006

Pluto -99323-11-30 20:23 J -34555968.66 -34555968.65 -34555968.64 0.0083 0.0082

Saturn -99322-02-11 04:47 J -34555896.45 -34555896.30 -34555896.16 0.0271 0.0075

Saturn -99322-05-10 18:42 J -34555807.84 -34555807.72 -34555807.60 0.0271 0.0151

Saturn -99322-08-07 08:08 J -34555719.23 -34555719.16 -34555719.07 0.0271 0.0225

Jupiter -99321-01-24 21:49 J -34555548.72 -34555548.59 -34555548.46 0.0519 0.0290

Jupiter -99321-04-23 17:44 J -34555458.89 -34555458.76 -34555458.62 0.0522 0.0250

Venus -99320-04-04 01:11 J -34555113.53 -34555113.45 -34555113.38 0.3593 0.3023

Earth -99320-07-12 23:59 J -34555013.56 -34555013.50 -34555013.44 0.2656 0.2268

Moon -99320-07-13 00:42 J -34555013.52 -34555013.47 -34555013.41 0.2653 0.2338 *

Mars -99319-07-31 07:40 J -34554630.32 -34554630.18 -34554630.04 0.1623 0.0016

Venus -99319-10-19 20:37 J -34554549.75 -34554549.64 -34554549.53 0.3775 0.0807

Uranus -99317-12-22 15:49 J -34553754.88 -34553754.84 -34553754.79 0.0143 0.0136

Moon -99317-12-28 04:32 J -34553749.44 -34553749.31 -34553749.17 0.2688 0.0150

Earth -99317-12-28 05:16 J -34553749.42 -34553749.28 -34553749.15 0.2693 0.0067 *

Uranus -99316-03-20 20:37 J -34553666.72 -34553666.64 -34553666.54 0.0143 0.0116

Mars -99316-05-18 22:47 J -34553607.67 -34553607.55 -34553607.42 0.1898 0.0464

Jupiter -99316-06-14 20:08 J -34553580.69 -34553580.66 -34553580.63 0.0511 0.0497

Uranus -99316-06-17 01:54 J -34553578.53 -34553578.42 -34553578.30 0.0143 0.0094

Jupiter -99316-09-12 08:52 J -34553491.27 -34553491.13 -34553490.98 0.0507 0.0035

Uranus -99316-09-13 06:56 J -34553490.33 -34553490.21 -34553490.06 0.0144 0.0074

Uranus -99316-12-10 12:28 J -34553402.12 -34553401.98 -34553401.83 0.0144 0.0052

Jupiter -99316-12-10 23:01 J -34553401.61 -34553401.54 -34553401.47 0.0504 0.0442

Uranus -99315-03-08 17:44 J -34553313.91 -34553313.76 -34553313.60 0.0144 0.0030

Uranus -99315-06-04 23:16 J -34553225.69 -34553225.53 -34553225.38 0.0144 0.0009

Uranus -99315-09-01 04:32 J -34553137.47 -34553137.31 -34553137.15 0.0144 0.0014

Venus -99315-10-19 01:25 J -34553089.56 -34553089.44 -34553089.32 0.3596 0.1614

Uranus -99315-11-28 10:04 J -34553049.23 -34553049.08 -34553048.93 0.0144 0.0036

Uranus -99314-02-24 15:20 J -34552961.00 -34552960.86 -34552960.71 0.0144 0.0060

Uranus -99314-05-23 21:06 J -34552872.75 -34552872.62 -34552872.49 0.0145 0.0082

Uranus -99314-08-20 02:37 J -34552784.49 -34552784.39 -34552784.27 0.0145 0.0105

Uranus -99314-11-16 08:23 J -34552696.22 -34552696.15 -34552696.07 0.0145 0.0128

Neptune -99313-05-04 04:04 J -34552526.36 -34552526.33 -34552526.31 0.0089 0.0087

Venus -99313-05-04 15:49 J -34552525.94 -34552525.84 -34552525.74 0.3772 0.1874

Earth -99313-07-05 16:47 J -34552463.91 -34552463.80 -34552463.69 0.2643 0.1066

Moon -99313-07-05 17:01 J -34552463.90 -34552463.79 -34552463.68 0.2650 0.1121 *

Neptune -99313-07-31 05:44 J -34552438.31 -34552438.26 -34552438.21 0.0089 0.0083

Neptune -99313-10-27 07:25 J -34552350.25 -34552350.19 -34552350.12 0.0089 0.0079

Neptune -99312-01-23 09:06 J -34552262.18 -34552262.12 -34552262.03 0.0089 0.0075

Neptune -99312-04-21 11:01 J -34552174.12 -34552174.04 -34552173.94 0.0089 0.0071

Neptune -99312-07-18 12:56 J -34552086.05 -34552085.96 -34552085.85 0.0089 0.0066

Neptune -99312-10-14 14:52 J -34551997.98 -34551997.88 -34551997.77 0.0089 0.0062

Neptune -99311-01-10 16:32 J -34551909.91 -34551909.81 -34551909.68 0.0089 0.0058

Neptune -99311-04-08 18:42 J -34551821.84 -34551821.72 -34551821.60 0.0089 0.0053

Neptune -99311-07-05 20:23 J -34551733.76 -34551733.65 -34551733.52 0.0089 0.0049

Neptune -99311-10-01 22:18 J -34551645.69 -34551645.57 -34551645.43 0.0089 0.0045

Neptune -99311-12-29 00:13 J -34551557.62 -34551557.49 -34551557.35 0.0089 0.0040

Neptune -99310-03-27 02:08 J -34551469.54 -34551469.41 -34551469.27 0.0089 0.0036

Neptune -99310-06-23 04:18 J -34551381.46 -34551381.32 -34551381.18 0.0089 0.0031

Neptune -99310-09-19 05:59 J -34551293.39 -34551293.25 -34551293.10 0.0089 0.0027

Jupiter -99310-11-12 22:32 J -34551238.65 -34551238.56 -34551238.47 0.0518 0.0421

Neptune -99310-12-16 08:08 J -34551205.31 -34551205.16 -34551205.02 0.0089 0.0022

Mars -99310-12-21 14:37 J -34551200.02 -34551199.89 -34551199.75 0.1622 0.0434

Jupiter -99309-02-10 18:56 J -34551148.86 -34551148.71 -34551148.56 0.0522 0.0122

Neptune -99309-03-13 10:04 J -34551117.23 -34551117.08 -34551116.93 0.0089 0.0018

Venus -99309-05-04 01:25 J -34551065.57 -34551065.44 -34551065.30 0.3599 0.0258

Neptune -99309-06-09 11:59 J -34551029.15 -34551029.00 -34551028.85 0.0089 0.0013

Neptune -99309-09-05 13:54 J -34550941.07 -34550940.92 -34550940.77 0.0089 0.0009

Neptune -99309-12-02 15:49 J -34550852.99 -34550852.84 -34550852.68 0.0089 0.0005

Saturn -99309-12-04 05:44 J -34550851.35 -34550851.26 -34550851.17 0.0288 0.0232

Neptune -99308-02-28 17:44 J -34550764.91 -34550764.76 -34550764.60 0.0089 0.0003

Saturn -99308-03-02 22:04 J -34550762.72 -34550762.58 -34550762.45 0.0288 0.0142

Neptune -99308-05-27 19:54 J -34550676.82 -34550676.67 -34550676.52 0.0089 0.0005

Saturn -99308-05-30 14:37 J -34550674.04 -34550673.89 -34550673.73 0.0288 0.0050

Neptune -99308-08-23 21:49 J -34550588.74 -34550588.59 -34550588.44 0.0089 0.0009

Saturn -99308-08-27 07:54 J -34550585.33 -34550585.17 -34550585.02 0.0288 0.0046

Venus -99308-11-18 11:16 J -34550502.10 -34550502.03 -34550501.96 0.3768 0.2968

Neptune -99308-11-19 23:44 J -34550500.66 -34550500.51 -34550500.35 0.0089 0.0014

Saturn -99308-11-24 01:11 J -34550496.58 -34550496.45 -34550496.31 0.0288 0.0143

Mars -99308-11-26 12:28 J -34550494.04 -34550493.98 -34550493.91 0.1629 0.1430

Neptune -99307-02-16 01:40 J -34550412.57 -34550412.43 -34550412.27 0.0089 0.0019

Saturn -99307-02-20 18:56 J -34550407.79 -34550407.71 -34550407.62 0.0288 0.0242

Neptune -99307-05-15 03:49 J -34550324.48 -34550324.34 -34550324.19 0.0089 0.0023

Neptune -99307-08-11 05:44 J -34550236.40 -34550236.26 -34550236.10 0.0089 0.0028

Mars -99307-10-09 03:20 J -34550177.49 -34550177.36 -34550177.23 0.1900 0.0222

Neptune -99307-11-07 07:54 J -34550148.31 -34550148.17 -34550148.02 0.0089 0.0033

Neptune -99306-02-03 10:04 J -34550060.22 -34550060.08 -34550059.94 0.0089 0.0037

Neptune -99306-05-02 11:59 J -34549972.13 -34549972.00 -34549971.86 0.0089 0.0042

Neptune -99306-07-29 13:54 J -34549884.04 -34549883.92 -34549883.77 0.0089 0.0047

Neptune -99306-10-25 16:18 J -34549795.94 -34549795.82 -34549795.69 0.0089 0.0051

Neptune -99305-01-21 18:13 J -34549707.85 -34549707.74 -34549707.61 0.0089 0.0056

Neptune -99305-04-18 20:23 J -34549619.76 -34549619.65 -34549619.53 0.0089 0.0061

Neptune -99305-07-15 22:18 J -34549531.66 -34549531.57 -34549531.45 0.0089 0.0066

Neptune -99305-10-12 00:28 J -34549443.56 -34549443.48 -34549443.37 0.0089 0.0071

Neptune -99304-01-08 02:52 J -34549355.46 -34549355.38 -34549355.29 0.0089 0.0075

Neptune -99304-04-06 04:47 J -34549267.35 -34549267.30 -34549267.22 0.0089 0.0080

Jupiter -99304-07-01 11:01 J -34549181.18 -34549181.04 -34549180.90 0.0508 0.0152

Neptune -99304-07-03 06:56 J -34549179.24 -34549179.21 -34549179.15 0.0089 0.0085

Jupiter -99304-09-29 00:56 J -34549091.58 -34549091.46 -34549091.35 0.0505 0.0321

Venus -99304-11-18 00:56 J -34549041.59 -34549041.46 -34549041.33 0.3603 0.1045

Moon -99304-12-31 05:01 J -34548998.41 -34548998.29 -34548998.17 0.2685 0.1465

Earth -99304-12-31 06:13 J -34548998.35 -34548998.24 -34548998.13 0.2688 0.1615 *

Mars -99300-05-12 21:49 J -34547769.71 -34547769.59 -34547769.47 0.1620 0.0859

Earth -99300-07-08 13:11 J -34547713.08 -34547712.95 -34547712.83 0.2648 0.0174

Moon -99300-07-08 13:40 J -34547713.05 -34547712.93 -34547712.81 0.2652 0.0283 *

Mars -99298-04-18 18:42 J -34547063.83 -34547063.72 -34547063.60 0.1627 0.0960

Venus -99298-06-03 23:59 J -34547017.60 -34547017.50 -34547017.39 0.3606 0.2289

Jupiter -99298-11-29 19:40 J -34546838.84 -34546838.68 -34546838.53 0.0520 0.0012

Jupiter -99297-02-27 14:37 J -34546748.91 -34546748.89 -34546748.87 0.0524 0.0518

Mars -99297-02-29 07:11 J -34546747.31 -34546747.20 -34546747.08 0.1903 0.0934

Mars -99295-02-04 13:11 J -34546040.98 -34546040.95 -34546040.92 0.1892 0.1817

Saturn -99294-07-11 19:54 J -34545518.71 -34545518.67 -34545518.63 0.0272 0.0262

Saturn -99294-10-08 11:01 J -34545430.15 -34545430.04 -34545429.92 0.0272 0.0181

Saturn -99293-01-05 01:54 J -34545341.56 -34545341.42 -34545341.27 0.0272 0.0101

Saturn -99293-04-02 16:32 J -34545252.96 -34545252.81 -34545252.66 0.0272 0.0022

Saturn -99293-06-30 06:56 J -34545164.36 -34545164.21 -34545164.06 0.0272 0.0056

Saturn -99293-09-26 20:52 J -34545075.76 -34545075.63 -34545075.50 0.0272 0.0131

Venus -99293-12-17 22:47 J -34544993.58 -34544993.55 -34544993.52 0.3610 0.3478

Saturn -99293-12-24 10:47 J -34544987.15 -34544987.05 -34544986.96 0.0272 0.0206

Jupiter -99292-04-19 12:42 J -34544871.09 -34544870.97 -34544870.85 0.0510 0.0276

Jupiter -99292-07-18 02:08 J -34544781.54 -34544781.41 -34544781.27 0.0506 0.0195

Mars -99291-10-03 05:16 J -34544339.37 -34544339.28 -34544339.20 0.1619 0.1270

Venus -99290-09-11 22:04 J -34543995.59 -34543995.58 -34543995.58 0.3788 0.3778

Mars -99289-09-08 01:11 J -34543633.58 -34543633.45 -34543633.31 0.1625 0.0505

Mars -99288-07-21 11:01 J -34543317.10 -34543317.04 -34543316.98 0.1904 0.1660

Earth -99287-07-11 09:06 J -34542962.22 -34542962.12 -34542962.01 0.2652 0.1345

Moon -99287-07-11 10:04 J -34542962.18 -34542962.08 -34542961.97 0.2652 0.1380 *

Mars -99286-06-27 18:13 J -34542610.84 -34542610.74 -34542610.64 0.1896 0.1185

Jupiter -99286-09-17 19:54 J -34542528.82 -34542528.67 -34542528.52 0.0519 0.0150

Jupiter -99286-12-16 15:20 J -34542438.96 -34542438.86 -34542438.76 0.0523 0.0384

Venus -99284-03-27 16:04 J -34541971.90 -34541971.83 -34541971.76 0.3786 0.2854

Earth -99284-12-26 10:04 J -34541698.19 -34541698.08 -34541697.96 0.2698 0.1353

Moon -99284-12-26 10:18 J -34541698.18 -34541698.07 -34541697.95 0.2691 0.1401 *

Jupiter -99280-02-05 15:06 J -34540560.96 -34540560.87 -34540560.77 0.0511 0.0391

Jupiter -99280-05-06 04:18 J -34540471.46 -34540471.32 -34540471.17 0.0507 0.0079

Moon -99280-07-04 01:11 J -34540412.52 -34540412.45 -34540412.38 0.2645 0.2108

Earth -99280-07-04 01:40 J -34540412.51 -34540412.43 -34540412.36 0.2639 0.2035 *

Mars -99279-01-29 07:54 J -34540203.31 -34540203.17 -34540203.02 0.1623 0.0067

Saturn -99279-04-23 08:52 J -34540119.20 -34540119.13 -34540119.05 0.0288 0.0245

Saturn -99279-07-21 01:11 J -34540030.58 -34540030.45 -34540030.32 0.0288 0.0155

Venus -99279-10-11 10:32 J -34539948.15 -34539948.06 -34539947.96 0.3783 0.1898

Saturn -99279-10-17 17:59 J -34539941.90 -34539941.75 -34539941.60 0.0288 0.0063

Saturn -99278-01-14 11:01 J -34539853.20 -34539853.04 -34539852.89 0.0287 0.0033

Saturn -99278-04-13 04:18 J -34539764.46 -34539764.32 -34539764.18 0.0287 0.0128

Saturn -99278-07-10 22:04 J -34539675.67 -34539675.58 -34539675.48 0.0287 0.0227

Uranus -99277-02-22 08:37 J -34539449.15 -34539449.14 -34539449.13 0.0136 0.0135

Uranus -99277-05-20 13:25 J -34539361.02 -34539360.94 -34539360.86 0.0135 0.0116

Uranus -99277-08-16 17:59 J -34539272.85 -34539272.75 -34539272.62 0.0135 0.0098

Uranus -99277-11-12 23:01 J -34539184.66 -34539184.54 -34539184.40 0.0135 0.0078

Mars -99277-11-16 23:01 J -34539180.66 -34539180.54 -34539180.41 0.1898 0.0524

Uranus -99276-02-09 03:49 J -34539096.48 -34539096.34 -34539096.19 0.0135 0.0060

Uranus -99276-05-08 08:37 J -34539008.29 -34539008.14 -34539007.99 0.0135 0.0041

Uranus -99276-08-04 13:25 J -34538920.10 -34538919.94 -34538919.79 0.0135 0.0022

Uranus -99276-10-31 17:59 J -34538831.90 -34538831.75 -34538831.59 0.0135 0.0005

Uranus -99275-01-27 22:32 J -34538743.71 -34538743.56 -34538743.40 0.0135 0.0014

Uranus -99275-04-26 03:06 J -34538655.52 -34538655.37 -34538655.21 0.0135 0.0032

Uranus -99275-07-23 07:40 J -34538567.32 -34538567.18 -34538567.03 0.0134 0.0049

Uranus -99275-10-19 12:13 J -34538479.13 -34538478.99 -34538478.86 0.0134 0.0067

Uranus -99274-01-15 16:18 J -34538390.93 -34538390.82 -34538390.69 0.0134 0.0085

Uranus -99274-04-13 20:52 J -34538302.72 -34538302.63 -34538302.52 0.0134 0.0101

Jupiter -99274-07-06 19:25 J -34538218.82 -34538218.69 -34538218.56 0.0518 0.0296

Uranus -99274-07-11 01:11 J -34538214.51 -34538214.45 -34538214.37 0.0134 0.0118

Earth -99274-07-14 05:16 J -34538211.32 -34538211.28 -34538211.25 0.2657 0.2516

Moon -99274-07-14 05:44 J -34538211.29 -34538211.26 -34538211.24 0.2651 0.2582 *

Jupiter -99274-10-04 15:20 J -34538128.99 -34538128.86 -34538128.72 0.0522 0.0243

Venus -99273-04-26 05:16 J -34537924.39 -34537924.28 -34537924.18 0.3780 0.0921

Moon -99271-12-29 10:04 J -34536947.21 -34536947.08 -34536946.94 0.2688 0.0265

Earth -99271-12-29 11:01 J -34536947.18 -34536947.04 -34536946.91 0.2693 0.0286 *

Mars -99270-06-21 14:52 J -34536773.02 -34536772.88 -34536772.74 0.1621 0.0387

Jupiter -99269-11-24 18:13 J -34536250.77 -34536250.74 -34536250.72 0.0512 0.0500

Jupiter -99268-02-22 06:56 J -34536161.35 -34536161.21 -34536161.06 0.0508 0.0037

Jupiter -99268-05-22 21:06 J -34536071.69 -34536071.62 -34536071.55 0.0504 0.0440

Mars -99268-05-27 12:56 J -34536067.02 -34536066.96 -34536066.91 0.1629 0.1485

Venus -99268-11-09 23:59 J -34535900.61 -34535900.50 -34535900.39 0.3777 0.0109

Mars -99267-04-09 03:20 J -34535750.49 -34535750.36 -34535750.23 0.1901 0.0166

Earth -99267-07-06 22:04 J -34535661.70 -34535661.58 -34535661.47 0.2644 0.0809

Moon -99267-07-06 22:04 J -34535661.69 -34535661.58 -34535661.46 0.2650 0.0736 *

Saturn -99264-02-24 12:42 J -34534698.06 -34534697.97 -34534697.86 0.0271 0.0202

Saturn -99264-05-24 03:49 J -34534609.48 -34534609.34 -34534609.20 0.0271 0.0121

Saturn -99264-08-20 18:28 J -34534520.88 -34534520.73 -34534520.58 0.0271 0.0042

Venus -99264-11-09 00:56 J -34534440.55 -34534440.46 -34534440.37 0.3594 0.2571

Saturn -99264-11-17 08:52 J -34534432.28 -34534432.13 -34534431.98 0.0271 0.0036

Saturn -99263-02-13 22:47 J -34534343.68 -34534343.55 -34534343.41 0.0271 0.0112

Saturn -99263-05-13 12:42 J -34534255.08 -34534254.97 -34534254.86 0.0271 0.0186

Saturn -99263-08-10 02:23 J -34534166.45 -34534166.40 -34534166.36 0.0272 0.0259

Jupiter -99262-04-24 19:54 J -34533908.75 -34533908.67 -34533908.58 0.0518 0.0430

Venus -99262-05-26 18:56 J -34533876.81 -34533876.71 -34533876.60 0.3774 0.1147

Jupiter -99262-07-23 16:18 J -34533818.97 -34533818.82 -34533818.67 0.0521 0.0113

Mars -99261-11-10 22:04 J -34533342.70 -34533342.58 -34533342.46 0.1620 0.0807

Mars -99259-10-17 19:11 J -34532636.82 -34532636.70 -34532636.59 0.1627 0.1015

Venus -99258-05-26 01:11 J -34532416.57 -34532416.45 -34532416.32 0.3597 0.1183

Mars -99258-08-30 07:40 J -34532320.29 -34532320.18 -34532320.06 0.1903 0.0861

Moon -99257-01-01 10:47 J -34532196.15 -34532196.05 -34532195.95 0.2686 0.1845

Earth -99257-01-01 11:59 J -34532196.09 -34532196.00 -34532195.90 0.2688 0.1959 *

Venus -99257-12-09 14:23 J -34531852.99 -34531852.90 -34531852.81 0.3771 0.2209

Jupiter -99257-12-11 09:20 J -34531851.25 -34531851.11 -34531850.97 0.0508 0.0152

Jupiter -99256-03-10 23:01 J -34531761.65 -34531761.54 -34531761.42 0.0505 0.0320

Mars -99256-08-05 13:25 J -34531613.95 -34531613.94 -34531613.93 0.1893 0.1880

Earth -99254-07-09 18:13 J -34530910.86 -34530910.74 -34530910.62 0.2648 0.0403

Moon -99254-07-09 18:56 J -34530910.82 -34530910.71 -34530910.59 0.2651 0.0426 *

Venus -99253-12-09 01:11 J -34530392.58 -34530392.45 -34530392.32 0.3600 0.0164

Mars -99251-04-03 05:30 J -34529912.36 -34529912.27 -34529912.18 0.1619 0.1221

Venus -99251-06-25 09:49 J -34529829.14 -34529829.09 -34529829.04 0.3767 0.3310

Earth -99251-12-24 15:20 J -34529646.89 -34529646.86 -34529646.83 0.2702 0.2617

Moon -99251-12-24 16:04 J -34529646.86 -34529646.83 -34529646.80 0.2696 0.2619 *

Jupiter -99250-05-11 17:30 J -34529508.93 -34529508.77 -34529508.62 0.0520 0.0018

Jupiter -99250-08-09 12:28 J -34529419.00 -34529418.98 -34529418.95 0.0524 0.0515

Saturn -99250-09-10 08:37 J -34529387.17 -34529387.14 -34529387.10 0.0288 0.0278

Saturn -99250-12-08 00:56 J -34529298.57 -34529298.46 -34529298.35 0.0288 0.0189

Saturn -99249-03-05 17:30 J -34529209.92 -34529209.77 -34529209.63 0.0288 0.0097

Mars -99249-03-09 01:40 J -34529206.57 -34529206.43 -34529206.30 0.1625 0.0558

Saturn -99249-06-02 10:18 J -34529121.23 -34529121.07 -34529120.91 0.0288 0.0004

Saturn -99249-08-30 03:35 J -34529032.50 -34529032.35 -34529032.20 0.0288 0.0093

Saturn -99249-11-26 21:06 J -34528943.73 -34528943.62 -34528943.50 0.0288 0.0191

Mars -99248-01-19 11:16 J -34528890.10 -34528890.03 -34528889.96 0.1904 0.1596

Venus -99247-06-25 00:28 J -34528368.60 -34528368.48 -34528368.36 0.3604 0.1440

Mars -99247-12-26 18:42 J -34528183.82 -34528183.72 -34528183.63 0.1895 0.1251

Jupiter -99245-09-29 11:30 J -34527541.14 -34527541.02 -34527540.90 0.0509 0.0270

Jupiter -99245-12-28 00:56 J -34527451.60 -34527451.46 -34527451.32 0.0506 0.0200

Venus -99241-01-08 23:30 J -34526344.60 -34526344.52 -34526344.43 0.3607 0.2663

Earth -99241-07-11 14:23 J -34526160.00 -34526159.90 -34526159.81 0.2653 0.1590

Moon -99241-07-11 15:06 J -34526159.96 -34526159.87 -34526159.78 0.2652 0.1736 *

Mars -99240-07-30 08:23 J -34525776.30 -34525776.15 -34525776.01 0.1623 0.0118

Jupiter -99238-02-27 18:13 J -34525198.89 -34525198.74 -34525198.59 0.0519 0.0149

Jupiter -99238-05-28 13:25 J -34525109.03 -34525108.94 -34525108.83 0.0523 0.0386

Moon -99238-12-27 15:49 J -34524895.96 -34524895.84 -34524895.71 0.2691 0.0947

Earth -99238-12-27 16:04 J -34524895.96 -34524895.83 -34524895.71 0.2697 0.1027 *

Mars -99237-05-17 23:16 J -34524753.66 -34524753.53 -34524753.41 0.1898 0.0584

Saturn -99235-07-14 14:08 J -34523965.99 -34523965.91 -34523965.81 0.0272 0.0225

Saturn -99235-10-11 05:16 J -34523877.40 -34523877.28 -34523877.14 0.0272 0.0144

Saturn -99234-01-07 20:08 J -34523788.81 -34523788.66 -34523788.51 0.0272 0.0064

Saturn -99234-04-06 10:32 J -34523700.21 -34523700.06 -34523699.90 0.0272 0.0016

Saturn -99234-07-04 00:42 J -34523611.61 -34523611.47 -34523611.32 0.0272 0.0092

Moon -99234-07-05 06:28 J -34523610.32 -34523610.23 -34523610.14 0.2646 0.1805

Earth -99234-07-05 06:42 J -34523610.31 -34523610.22 -34523610.13 0.2640 0.1776 *

Saturn -99234-09-30 14:37 J -34523523.00 -34523522.89 -34523522.77 0.0272 0.0167

Saturn -99234-12-28 04:18 J -34523434.38 -34523434.32 -34523434.25 0.0272 0.0240

Venus -99233-04-17 20:08 J -34523322.70 -34523322.66 -34523322.62 0.3788 0.3476

Jupiter -99233-07-18 13:11 J -34523231.04 -34523230.95 -34523230.86 0.0511 0.0394

Jupiter -99233-10-16 02:23 J -34523141.55 -34523141.40 -34523141.25 0.0507 0.0074

Uranus -99232-01-11 23:01 J -34523053.59 -34523053.54 -34523053.46 0.0143 0.0130

Uranus -99232-04-10 04:18 J -34522965.41 -34522965.32 -34522965.21 0.0143 0.0109

Uranus -99232-07-07 09:20 J -34522877.22 -34522877.11 -34522876.98 0.0143 0.0089

Uranus -99232-10-03 14:37 J -34522789.02 -34522788.89 -34522788.75 0.0144 0.0067

Uranus -99232-12-30 19:54 J -34522700.81 -34522700.67 -34522700.52 0.0144 0.0046

Uranus -99231-03-29 01:25 J -34522612.60 -34522612.44 -34522612.29 0.0144 0.0024

Uranus -99231-06-25 06:42 J -34522524.38 -34522524.22 -34522524.06 0.0144 0.0002

Uranus -99231-09-21 11:59 J -34522436.15 -34522436.00 -34522435.84 0.0144 0.0021

Neptune -99231-11-09 23:59 J -34522386.50 -34522386.50 -34522386.48 0.0088 0.0088

Uranus -99231-12-18 17:30 J -34522347.92 -34522347.77 -34522347.62 0.0144 0.0042

Mars -99231-12-20 15:20 J -34522346.00 -34522345.86 -34522345.72 0.1621 0.0329

Neptune -99230-02-06 02:23 J -34522298.44 -34522298.40 -34522298.33 0.0088 0.0084

Uranus -99230-03-16 23:01 J -34522259.68 -34522259.54 -34522259.39 0.0144 0.0065

Neptune -99230-05-05 05:01 J -34522210.35 -34522210.29 -34522210.20 0.0088 0.0078

Uranus -99230-06-13 04:47 J -34522171.43 -34522171.30 -34522171.18 0.0145 0.0088

Neptune -99230-08-01 07:54 J -34522122.26 -34522122.17 -34522122.07 0.0088 0.0073

Uranus -99230-09-09 10:18 J -34522083.17 -34522083.07 -34522082.97 0.0145 0.0111

Neptune -99230-10-28 10:32 J -34522034.17 -34522034.06 -34522033.96 0.0088 0.0068

Uranus -99230-12-06 16:04 J -34521994.89 -34521994.83 -34521994.77 0.0145 0.0134

Neptune -99229-01-24 12:56 J -34521946.07 -34521945.96 -34521945.84 0.0088 0.0063

Neptune -99229-04-21 15:35 J -34521857.98 -34521857.85 -34521857.72 0.0088 0.0058

Neptune -99229-07-18 17:59 J -34521769.88 -34521769.75 -34521769.61 0.0088 0.0053

Neptune -99229-10-14 20:37 J -34521681.78 -34521681.64 -34521681.50 0.0088 0.0048

Mars -99229-11-25 13:11 J -34521639.99 -34521639.95 -34521639.90 0.1629 0.1547

Neptune -99228-01-10 23:01 J -34521593.68 -34521593.54 -34521593.39 0.0088 0.0043

Neptune -99228-04-09 01:25 J -34521505.58 -34521505.44 -34521505.28 0.0088 0.0038

Neptune -99228-07-06 04:04 J -34521417.49 -34521417.33 -34521417.18 0.0088 0.0033

Neptune -99228-10-02 06:28 J -34521329.39 -34521329.23 -34521329.07 0.0088 0.0028

Mars -99228-10-08 03:49 J -34521323.47 -34521323.34 -34521323.21 0.1901 0.0093

Venus -99228-11-01 14:23 J -34521298.98 -34521298.90 -34521298.82 0.3785 0.2546

Neptune -99228-12-29 08:52 J -34521241.29 -34521241.13 -34521240.97 0.0088 0.0023

Neptune -99227-03-27 11:16 J -34521153.19 -34521153.03 -34521152.86 0.0088 0.0018

Neptune -99227-06-23 13:40 J -34521065.09 -34521064.93 -34521064.76 0.0088 0.0013

Neptune -99227-09-19 16:18 J -34520976.99 -34520976.82 -34520976.66 0.0088 0.0008

Neptune -99227-12-16 18:42 J -34520888.89 -34520888.72 -34520888.56 0.0088 0.0004

Jupiter -99227-12-16 18:13 J -34520888.87 -34520888.74 -34520888.61 0.0518 0.0288 *

Neptune -99226-03-14 21:06 J -34520800.79 -34520800.62 -34520800.46 0.0088 0.0002

Jupiter -99226-03-16 14:08 J -34520799.04 -34520798.91 -34520798.77 0.0522 0.0250

Neptune -99226-06-10 23:30 J -34520712.69 -34520712.52 -34520712.36 0.0088 0.0007

Neptune -99226-09-07 01:40 J -34520624.59 -34520624.43 -34520624.26 0.0088 0.0011

Neptune -99226-12-04 04:04 J -34520536.49 -34520536.33 -34520536.17 0.0088 0.0016

Neptune -99225-03-01 06:28 J -34520448.39 -34520448.23 -34520448.07 0.0088 0.0021

Neptune -99225-05-28 08:37 J -34520360.29 -34520360.14 -34520359.98 0.0088 0.0026

Neptune -99225-08-24 11:01 J -34520272.19 -34520272.04 -34520271.88 0.0088 0.0030

Neptune -99225-11-20 13:11 J -34520184.09 -34520183.95 -34520183.79 0.0088 0.0035

Moon -99225-12-29 15:49 J -34520144.98 -34520144.84 -34520144.70 0.2687 0.0454

Earth -99225-12-29 16:47 J -34520144.94 -34520144.80 -34520144.67 0.2692 0.0618 *

Neptune -99224-02-16 15:35 J -34520095.99 -34520095.85 -34520095.70 0.0088 0.0040

Neptune -99224-05-15 17:44 J -34520007.89 -34520007.76 -34520007.61 0.0088 0.0045

Neptune -99224-08-11 19:54 J -34519919.79 -34519919.67 -34519919.52 0.0088 0.0050

Neptune -99224-11-07 22:18 J -34519831.69 -34519831.57 -34519831.43 0.0088 0.0054

Neptune -99223-02-04 00:28 J -34519743.58 -34519743.48 -34519743.34 0.0088 0.0059

Neptune -99223-05-03 02:52 J -34519655.48 -34519655.38 -34519655.26 0.0088 0.0063

Neptune -99223-07-30 05:01 J -34519567.38 -34519567.29 -34519567.18 0.0088 0.0067

Neptune -99223-10-26 07:25 J -34519479.28 -34519479.19 -34519479.10 0.0088 0.0072

Neptune -99222-01-22 09:20 J -34519391.17 -34519391.11 -34519391.02 0.0088 0.0077

Neptune -99222-04-20 11:44 J -34519303.06 -34519303.01 -34519302.94 0.0088 0.0081

Venus -99222-05-18 08:52 J -34519275.23 -34519275.13 -34519275.03 0.3782 0.1587

Neptune -99222-07-17 13:40 J -34519214.95 -34519214.93 -34519214.87 0.0088 0.0086

Jupiter -99221-05-06 15:49 J -34518920.85 -34518920.84 -34518920.83 0.0512 0.0507

Mars -99221-05-11 22:18 J -34518915.69 -34518915.57 -34518915.44 0.1620 0.0757

Earth -99221-07-07 03:06 J -34518859.49 -34518859.37 -34518859.25 0.2644 0.0551

Moon -99221-07-07 03:35 J -34518859.47 -34518859.35 -34518859.23 0.2650 0.0563 *

Jupiter -99221-08-04 04:32 J -34518831.45 -34518831.31 -34518831.16 0.0508 0.0046

Jupiter -99221-11-01 18:42 J -34518741.79 -34518741.72 -34518741.64 0.0505 0.0433

Saturn -99220-04-26 03:49 J -34518566.44 -34518566.34 -34518566.23 0.0288 0.0204

Saturn -99220-07-23 20:23 J -34518477.79 -34518477.65 -34518477.51 0.0288 0.0112

Saturn -99220-10-20 13:11 J -34518389.10 -34518388.95 -34518388.79 0.0288 0.0019

Saturn -99219-01-17 06:28 J -34518300.38 -34518300.23 -34518300.08 0.0287 0.0077

Saturn -99219-04-15 23:59 J -34518211.63 -34518211.50 -34518211.37 0.0287 0.0175

Mars -99219-04-17 19:25 J -34518209.79 -34518209.69 -34518209.58 0.1627 0.1074

Saturn -99219-07-13 17:59 J -34518122.80 -34518122.75 -34518122.71 0.0287 0.0274

Mars -99218-02-28 07:40 J -34517893.30 -34517893.18 -34517893.06 0.1903 0.0809

Venus -99217-12-01 03:35 J -34517251.46 -34517251.35 -34517251.24 0.3779 0.0603

Jupiter -99215-10-04 17:30 J -34516578.85 -34516578.77 -34516578.68 0.0517 0.0436

Jupiter -99214-01-02 14:08 J -34516489.07 -34516488.91 -34516488.76 0.0521 0.0107

Venus -99213-11-30 00:13 J -34515791.50 -34515791.49 -34515791.47 0.3592 0.3553

Mars -99212-10-02 05:44 J -34515485.36 -34515485.26 -34515485.17 0.1619 0.1173

Moon -99211-01-01 16:32 J -34515393.88 -34515393.81 -34515393.73 0.2687 0.2210

Earth -99211-01-01 17:44 J -34515393.83 -34515393.76 -34515393.69 0.2687 0.2297 *

Venus -99211-06-16 22:18 J -34515227.68 -34515227.57 -34515227.45 0.3776 0.0436

Mars -99210-09-08 01:54 J -34514779.56 -34514779.42 -34514779.29 0.1625 0.0609

Jupiter -99209-05-23 07:25 J -34514521.33 -34514521.19 -34514521.05 0.0509 0.0154

Mars -99209-07-20 11:30 J -34514463.09 -34514463.02 -34514462.94 0.1905 0.1531

Jupiter -99209-08-20 21:06 J -34514431.73 -34514431.62 -34514431.50 0.0505 0.0319

Earth -99208-07-09 23:30 J -34514108.64 -34514108.52 -34514108.41 0.2649 0.0663

Moon -99208-07-10 00:13 J -34514108.60 -34514108.49 -34514108.37 0.2651 0.0817 *

Venus -99207-06-16 00:42 J -34513767.57 -34513767.47 -34513767.36 0.3595 0.2132

Mars -99207-06-26 18:28 J -34513756.82 -34513756.73 -34513756.63 0.1896 0.1303

Saturn -99206-12-01 16:18 J -34513233.88 -34513233.82 -34513233.75 0.0271 0.0243

Venus -99206-12-31 17:30 J -34513203.87 -34513203.77 -34513203.67 0.3773 0.1469

Saturn -99205-02-28 07:25 J -34513145.31 -34513145.19 -34513145.06 0.0271 0.0162

Saturn -99205-05-26 22:18 J -34513056.72 -34513056.57 -34513056.42 0.0271 0.0083

Saturn -99205-08-23 12:42 J -34512968.12 -34512967.97 -34512967.81 0.0271 0.0009

Saturn -99205-11-20 03:06 J -34512879.52 -34512879.37 -34512879.23 0.0271 0.0073

Earth -99205-12-24 21:06 J -34512844.69 -34512844.62 -34512844.55 0.2701 0.2299

Moon -99205-12-24 21:49 J -34512844.67 -34512844.59 -34512844.51 0.2695 0.2157 *

Saturn -99204-02-16 17:01 J -34512790.92 -34512790.79 -34512790.67 0.0271 0.0148

Saturn -99204-05-16 06:42 J -34512702.30 -34512702.22 -34512702.14 0.0271 0.0221

Jupiter -99203-10-21 14:52 J -34512179.03 -34512178.88 -34512178.72 0.0520 0.0025

Jupiter -99202-01-19 10:04 J -34512089.12 -34512089.08 -34512089.05 0.0524 0.0506

Mars -99202-02-22 13:25 J -34512054.97 -34512054.94 -34512054.92 0.1618 0.1576

Venus -99202-12-31 00:56 J -34511743.59 -34511743.46 -34511743.32 0.3598 0.0761

Mars -99200-01-28 08:37 J -34511349.28 -34511349.14 -34511349.00 0.1623 0.0163

Venus -99200-07-16 12:56 J -34511180.05 -34511179.96 -34511179.88 0.3770 0.2547

Mars -99198-11-16 23:44 J -34510326.64 -34510326.51 -34510326.39 0.1899 0.0657

Jupiter -99197-03-11 09:49 J -34510211.21 -34510211.09 -34510210.97 0.0510 0.0269

Jupiter -99197-06-08 23:16 J -34510121.67 -34510121.53 -34510121.40 0.0506 0.0201

Venus -99196-07-16 00:42 J -34509719.60 -34509719.47 -34509719.34 0.3601 0.0569

Earth -99195-07-12 19:25 J -34509357.77 -34509357.69 -34509357.60 0.2653 0.1844

Moon -99195-07-12 20:08 J -34509357.74 -34509357.66 -34509357.57 0.2651 0.1852 *

Venus -99194-01-30 08:23 J -34509156.17 -34509156.15 -34509156.12 0.3766 0.3649

Uranus -99193-03-13 15:49 J -34508747.87 -34508747.84 -34508747.79 0.0136 0.0130

Uranus -99193-06-09 20:37 J -34508659.72 -34508659.64 -34508659.53 0.0135 0.0111

Uranus -99193-09-06 01:40 J -34508571.54 -34508571.43 -34508571.30 0.0135 0.0091

Uranus -99193-12-03 06:42 J -34508483.35 -34508483.22 -34508483.09 0.0135 0.0072

Uranus -99192-03-01 11:16 J -34508395.17 -34508395.03 -34508394.87 0.0135 0.0054

Uranus -99192-05-28 16:18 J -34508306.98 -34508306.82 -34508306.67 0.0135 0.0035

Uranus -99192-08-24 20:52 J -34508218.78 -34508218.63 -34508218.47 0.0135 0.0017

Uranus -99192-11-21 01:40 J -34508130.59 -34508130.43 -34508130.28 0.0135 0.0004

Moon -99192-12-27 21:20 J -34508093.74 -34508093.61 -34508093.48 0.2690 0.0803

Earth -99192-12-27 21:35 J -34508093.73 -34508093.60 -34508093.46 0.2696 0.0699 *

Uranus -99191-02-17 06:13 J -34508042.40 -34508042.24 -34508042.09 0.0135 0.0019

Uranus -99191-05-16 10:47 J -34507954.20 -34507954.05 -34507953.90 0.0135 0.0037

Mars -99191-06-20 15:35 J -34507918.99 -34507918.85 -34507918.71 0.1621 0.0276

Jupiter -99191-08-09 15:49 J -34507868.99 -34507868.84 -34507868.69 0.0519 0.0155

Uranus -99191-08-12 15:06 J -34507866.01 -34507865.87 -34507865.72 0.0134 0.0055

Saturn -99191-09-13 03:35 J -34507834.43 -34507834.35 -34507834.26 0.0288 0.0237

Jupiter -99191-11-07 11:30 J -34507779.13 -34507779.02 -34507778.92 0.0523 0.0381

Uranus -99191-11-08 19:25 J -34507777.81 -34507777.69 -34507777.55 0.0134 0.0073

Saturn -99191-12-10 19:54 J -34507745.80 -34507745.67 -34507745.54 0.0288 0.0147

Venus -99190-01-29 23:59 J -34507695.61 -34507695.50 -34507695.38 0.3605 0.1824

Uranus -99190-02-04 23:59 J -34507689.61 -34507689.50 -34507689.38 0.0134 0.0089

Saturn -99190-03-09 12:28 J -34507657.13 -34507656.98 -34507656.82 0.0288 0.0055

Uranus -99190-05-04 04:18 J -34507601.40 -34507601.32 -34507601.22 0.0134 0.0107

Saturn -99190-06-06 05:30 J -34507568.42 -34507568.27 -34507568.11 0.0288 0.0042

Uranus -99190-07-31 08:37 J -34507513.19 -34507513.14 -34507513.07 0.0134 0.0123

Saturn -99190-09-02 23:01 J -34507479.68 -34507479.54 -34507479.40 0.0288 0.0138

Saturn -99190-11-30 16:47 J -34507390.89 -34507390.80 -34507390.71 0.0288 0.0237

Mars -99189-05-26 13:40 J -34507212.95 -34507212.93 -34507212.91 0.1629 0.1603

Mars -99188-04-08 04:04 J -34506896.46 -34506896.33 -34506896.20 0.1901 0.0055

Moon -99188-07-05 11:44 J -34506808.11 -34506808.01 -34506807.91 0.2647 0.1526

Earth -99188-07-05 11:59 J -34506808.10 -34506808.00 -34506807.90 0.2640 0.1516 *

Jupiter -99186-12-29 12:13 J -34505901.08 -34505900.99 -34505900.90 0.0510 0.0385

Jupiter -99185-03-28 01:11 J -34505811.59 -34505811.45 -34505811.30 0.0507 0.0082

Venus -99185-08-14 23:01 J -34505671.61 -34505671.54 -34505671.47 0.3608 0.3028

Mars -99182-11-10 22:47 J -34504488.68 -34504488.55 -34504488.43 0.1620 0.0703

Mars -99180-10-16 19:54 J -34503782.78 -34503782.67 -34503782.57 0.1627 0.1131

Jupiter -99179-05-28 16:32 J -34503558.94 -34503558.81 -34503558.68 0.0518 0.0286

Jupiter -99179-08-26 12:28 J -34503469.11 -34503468.98 -34503468.84 0.0522 0.0253

Mars -99179-08-29 08:08 J -34503466.28 -34503466.16 -34503466.04 0.1903 0.0735

Moon -99179-12-30 21:35 J -34503342.73 -34503342.60 -34503342.47 0.2687 0.0939

Earth -99179-12-30 22:32 J -34503342.69 -34503342.56 -34503342.43 0.2691 0.0954 *

Venus -99177-11-22 18:13 J -34502649.80 -34502649.74 -34502649.68 0.3787 0.3177

Saturn -99176-04-19 17:16 J -34502501.79 -34502501.78 -34502501.75 0.0272 0.0269

Saturn -99176-07-17 08:37 J -34502413.25 -34502413.14 -34502413.03 0.0272 0.0187

Saturn -99176-10-13 23:30 J -34502324.66 -34502324.52 -34502324.37 0.0272 0.0107

Saturn -99175-01-10 14:08 J -34502236.06 -34502235.91 -34502235.75 0.0272 0.0028

Saturn -99175-04-09 04:32 J -34502147.46 -34502147.31 -34502147.16 0.0272 0.0050

Saturn -99175-07-06 18:28 J -34502058.86 -34502058.73 -34502058.59 0.0272 0.0126

Earth -99175-07-08 08:23 J -34502057.27 -34502057.15 -34502057.03 0.2645 0.0291

Moon -99175-07-08 08:52 J -34502057.25 -34502057.13 -34502057.01 0.2650 0.0227 *

Saturn -99175-10-03 08:23 J -34501970.25 -34501970.15 -34501970.05 0.0272 0.0200

Jupiter -99174-10-17 13:54 J -34501590.93 -34501590.92 -34501590.90 0.0512 0.0508

Jupiter -99173-01-15 02:52 J -34501501.53 -34501501.38 -34501501.24 0.0508 0.0045

Jupiter -99173-04-13 16:47 J -34501411.87 -34501411.80 -34501411.72 0.0505 0.0431

Mars -99172-04-02 05:59 J -34501058.35 -34501058.25 -34501058.15 0.1619 0.1121

Pluto -99172-07-24 06:42 J -34500945.29 -34500945.22 -34500945.12 0.0060 0.0054

Pluto -99172-10-20 08:08 J -34500857.27 -34500857.16 -34500857.03 0.0060 0.0048

Pluto -99171-01-16 09:49 J -34500769.23 -34500769.09 -34500768.94 0.0060 0.0040

Pluto -99171-04-14 11:16 J -34500681.19 -34500681.03 -34500680.86 0.0060 0.0033

Venus -99171-06-08 12:42 J -34500626.06 -34500625.97 -34500625.89 0.3784 0.2243

Pluto -99171-07-11 12:42 J -34500593.14 -34500592.97 -34500592.78 0.0060 0.0027

Pluto -99171-10-07 14:08 J -34500505.08 -34500504.91 -34500504.71 0.0060 0.0020

Pluto -99170-01-03 15:49 J -34500417.03 -34500416.84 -34500416.64 0.0060 0.0012

Mars -99170-03-09 02:08 J -34500352.54 -34500352.41 -34500352.27 0.1625 0.0669

Pluto -99170-04-01 17:16 J -34500328.97 -34500328.78 -34500328.58 0.0060 0.0006

Pluto -99170-06-28 18:56 J -34500240.91 -34500240.71 -34500240.51 0.0061 0.0002

Pluto -99170-09-24 20:23 J -34500152.84 -34500152.65 -34500152.45 0.0061 0.0009

Pluto -99170-12-21 21:35 J -34500064.77 -34500064.60 -34500064.39 0.0061 0.0017

Mars -99169-01-19 11:44 J -34500036.09 -34500036.01 -34500035.92 0.1904 0.1468

Pluto -99169-03-18 23:01 J -34499976.70 -34499976.54 -34499976.34 0.0061 0.0024

Pluto -99169-06-15 00:42 J -34499888.63 -34499888.47 -34499888.29 0.0061 0.0031

Pluto -99169-09-11 02:08 J -34499800.55 -34499800.41 -34499800.24 0.0061 0.0038

Pluto -99169-12-08 03:49 J -34499712.46 -34499712.34 -34499712.20 0.0061 0.0045

Pluto -99168-03-06 05:01 J -34499624.36 -34499624.29 -34499624.17 0.0061 0.0053

Pluto -99168-06-02 06:42 J -34499536.23 -34499536.22 -34499536.16 0.0061 0.0060

Mars -99168-12-25 18:56 J -34499329.79 -34499329.71 -34499329.62 0.1896 0.1372

Jupiter -99167-03-16 16:32 J -34499248.89 -34499248.81 -34499248.72 0.0517 0.0425

Jupiter -99167-06-14 12:56 J -34499159.11 -34499158.96 -34499158.81 0.0521 0.0117

Venus -99166-12-23 07:11 J -34498602.31 -34498602.20 -34498602.10 0.3781 0.1278

Moon -99165-01-02 22:18 J -34498591.62 -34498591.57 -34498591.51 0.2688 0.2456

Earth -99165-01-02 23:44 J -34498591.53 -34498591.51 -34498591.49 0.2686 0.2641 *

Mars -99163-08-23 13:25 J -34497627.98 -34497627.94 -34497627.89 0.1618 0.1529

Earth -99162-07-11 04:32 J -34497306.42 -34497306.31 -34497306.20 0.2649 0.0913

Moon -99162-07-11 05:30 J -34497306.39 -34497306.27 -34497306.16 0.2652 0.0940 *

Jupiter -99162-11-03 05:01 J -34497191.42 -34497191.29 -34497191.15 0.0509 0.0161

Saturn -99161-01-31 06:13 J -34497102.30 -34497102.24 -34497102.16 0.0288 0.0253

Jupiter -99161-01-31 18:56 J -34497101.83 -34497101.71 -34497101.60 0.0506 0.0313

Saturn -99161-04-28 22:32 J -34497013.68 -34497013.56 -34497013.43 0.0288 0.0163

Saturn -99161-07-26 15:06 J -34496925.02 -34496924.87 -34496924.71 0.0288 0.0071

Mars -99161-07-29 08:52 J -34496922.27 -34496922.13 -34496921.99 0.1623 0.0217

Saturn -99161-10-23 08:08 J -34496836.31 -34496836.16 -34496836.00 0.0288 0.0024

Saturn -99160-01-20 01:25 J -34496747.58 -34496747.44 -34496747.29 0.0288 0.0121

Saturn -99160-04-18 19:11 J -34496658.80 -34496658.70 -34496658.59 0.0287 0.0219

Venus -99160-07-08 01:54 J -34496578.53 -34496578.42 -34496578.31 0.3779 0.0296

Earth -99159-12-26 02:52 J -34496042.47 -34496042.38 -34496042.29 0.2701 0.1975

Moon -99159-12-26 03:20 J -34496042.45 -34496042.36 -34496042.27 0.2695 0.1969 *

Mars -99158-05-17 23:44 J -34495899.63 -34495899.51 -34495899.39 0.1898 0.0709

Venus -99156-07-07 00:13 J -34495118.56 -34495118.49 -34495118.42 0.3593 0.3099

Jupiter -99155-04-02 12:42 J -34494849.13 -34494848.97 -34494848.82 0.0520 0.0030

Jupiter -99155-07-01 07:40 J -34494759.21 -34494759.18 -34494759.13 0.0524 0.0501

Moon -99155-07-03 20:08 J -34494756.70 -34494756.66 -34494756.63 0.2641 0.2501

Earth -99155-07-03 20:37 J -34494756.68 -34494756.64 -34494756.60 0.2636 0.2496 *

Venus -99154-01-21 20:52 J -34494554.75 -34494554.63 -34494554.52 0.3775 0.0755

Mars -99152-12-19 15:49 J -34493491.98 -34493491.84 -34493491.70 0.1621 0.0225

Venus -99150-01-21 00:42 J -34493094.59 -34493094.47 -34493094.35 0.3596 0.1693

Jupiter -99150-08-22 07:54 J -34492881.29 -34492881.17 -34492881.04 0.0510 0.0271

Jupiter -99150-11-19 21:20 J -34492791.74 -34492791.61 -34492791.47 0.0506 0.0200

Earth -99149-07-13 00:42 J -34492555.55 -34492555.47 -34492555.40 0.2654 0.2096

Moon -99149-07-13 01:25 J -34492555.51 -34492555.44 -34492555.38 0.2650 0.2231 *

Venus -99149-08-06 15:49 J -34492530.94 -34492530.84 -34492530.74 0.3772 0.1798

Mars -99149-10-07 04:18 J -34492469.45 -34492469.32 -34492469.19 0.1901 0.0047

Neptune -99148-01-29 02:52 J -34492355.41 -34492355.38 -34492355.34 0.0089 0.0086

Uranus -99148-02-01 06:42 J -34492352.29 -34492352.22 -34492352.14 0.0143 0.0124

Neptune -99148-04-27 04:32 J -34492267.35 -34492267.31 -34492267.24 0.0089 0.0082

Uranus -99148-04-30 11:44 J -34492264.10 -34492264.01 -34492263.89 0.0143 0.0104

Neptune -99148-07-24 06:13 J -34492179.29 -34492179.24 -34492179.15 0.0089 0.0078

Uranus -99148-07-27 17:01 J -34492175.91 -34492175.79 -34492175.66 0.0143 0.0082

Neptune -99148-10-20 08:23 J -34492091.23 -34492091.15 -34492091.07 0.0089 0.0073

Uranus -99148-10-23 22:04 J -34492087.71 -34492087.58 -34492087.43 0.0144 0.0062

Neptune -99147-01-16 10:04 J -34492003.16 -34492003.08 -34492002.98 0.0089 0.0069

Uranus -99147-01-20 03:35 J -34491999.50 -34491999.35 -34491999.20 0.0144 0.0040

Neptune -99147-04-14 11:44 J -34491915.09 -34491915.01 -34491914.89 0.0089 0.0065

Uranus -99147-04-18 08:52 J -34491911.29 -34491911.13 -34491910.97 0.0144 0.0018

Neptune -99147-07-11 13:40 J -34491827.02 -34491826.93 -34491826.81 0.0089 0.0061

Uranus -99147-07-15 14:08 J -34491823.06 -34491822.91 -34491822.75 0.0144 0.0005

Neptune -99147-10-07 15:49 J -34491738.95 -34491738.84 -34491738.72 0.0089 0.0056

Uranus -99147-10-11 19:40 J -34491734.84 -34491734.68 -34491734.53 0.0144 0.0026

Saturn -99147-12-04 10:47 J -34491681.14 -34491681.05 -34491680.94 0.0271 0.0205

Neptune -99146-01-03 17:30 J -34491650.88 -34491650.77 -34491650.64 0.0089 0.0052

Uranus -99146-01-08 01:11 J -34491646.60 -34491646.45 -34491646.30 0.0144 0.0049

Saturn -99146-03-03 01:54 J -34491592.56 -34491592.42 -34491592.28 0.0271 0.0125

Neptune -99146-04-01 19:11 J -34491562.81 -34491562.70 -34491562.56 0.0089 0.0048

Uranus -99146-04-06 06:28 J -34491558.36 -34491558.23 -34491558.09 0.0144 0.0071

Saturn -99146-05-30 16:32 J -34491503.96 -34491503.81 -34491503.66 0.0271 0.0046

Neptune -99146-06-28 21:20 J -34491474.73 -34491474.61 -34491474.47 0.0089 0.0043

Uranus -99146-07-03 12:13 J -34491470.11 -34491469.99 -34491469.87 0.0145 0.0094

Saturn -99146-08-27 06:56 J -34491415.36 -34491415.21 -34491415.06 0.0271 0.0032

Neptune -99146-09-24 23:16 J -34491386.66 -34491386.53 -34491386.39 0.0089 0.0039

Uranus -99146-09-29 17:44 J -34491381.85 -34491381.76 -34491381.66 0.0145 0.0117

Saturn -99146-11-23 21:06 J -34491326.76 -34491326.62 -34491326.48 0.0271 0.0108

Neptune -99146-12-22 01:11 J -34491298.58 -34491298.45 -34491298.31 0.0089 0.0034

Uranus -99146-12-26 23:16 J -34491293.55 -34491293.53 -34491293.48 0.0145 0.0141

Moon -99146-12-29 02:52 J -34491291.51 -34491291.38 -34491291.24 0.2689 0.0343

Earth -99146-12-29 03:35 J -34491291.49 -34491291.35 -34491291.22 0.2696 0.0369 *

Saturn -99145-02-20 10:47 J -34491238.16 -34491238.05 -34491237.94 0.0271 0.0183

Neptune -99145-03-19 03:06 J -34491210.51 -34491210.37 -34491210.23 0.0089 0.0030

Saturn -99145-05-19 00:28 J -34491149.53 -34491149.48 -34491149.43 0.0271 0.0256

Neptune -99145-06-15 05:01 J -34491122.43 -34491122.29 -34491122.14 0.0089 0.0025

Venus -99145-08-06 00:42 J -34491070.60 -34491070.47 -34491070.33 0.3599 0.0341

Neptune -99145-09-11 06:56 J -34491034.35 -34491034.21 -34491034.06 0.0089 0.0021

Neptune -99145-12-08 08:52 J -34490946.27 -34490946.13 -34490945.98 0.0089 0.0017

Neptune -99144-03-06 10:47 J -34490858.20 -34490858.05 -34490857.89 0.0089 0.0012

Neptune -99144-06-02 12:42 J -34490770.12 -34490769.97 -34490769.81 0.0089 0.0008

Neptune -99144-08-29 14:52 J -34490682.03 -34490681.88 -34490681.73 0.0089 0.0003

Neptune -99144-11-25 16:47 J -34490593.95 -34490593.80 -34490593.65 0.0089 0.0002

Jupiter -99143-01-19 13:25 J -34490539.09 -34490538.94 -34490538.79 0.0519 0.0163

Venus -99143-02-20 11:16 J -34490507.10 -34490507.03 -34490506.95 0.3769 0.2879

Neptune -99143-02-21 18:42 J -34490505.87 -34490505.72 -34490505.56 0.0089 0.0006

Jupiter -99143-04-19 08:52 J -34490449.23 -34490449.13 -34490449.02 0.0523 0.0373

Neptune -99143-05-20 20:37 J -34490417.79 -34490417.64 -34490417.48 0.0089 0.0011

Neptune -99143-08-16 22:47 J -34490329.70 -34490329.55 -34490329.40 0.0089 0.0015

Neptune -99143-11-13 00:42 J -34490241.62 -34490241.47 -34490241.32 0.0089 0.0020

Neptune -99142-02-09 02:37 J -34490153.53 -34490153.39 -34490153.24 0.0089 0.0025

Neptune -99142-05-08 04:47 J -34490065.44 -34490065.30 -34490065.15 0.0089 0.0029

Mars -99142-05-11 23:01 J -34490061.67 -34490061.54 -34490061.42 0.1620 0.0654

Moon -99142-07-06 17:01 J -34490005.89 -34490005.79 -34490005.68 0.2647 0.1299

Earth -99142-07-06 17:16 J -34490005.89 -34490005.78 -34490005.68 0.2641 0.1258 *

Neptune -99142-08-04 06:42 J -34489977.36 -34489977.22 -34489977.07 0.0089 0.0034

Neptune -99142-10-31 08:37 J -34489889.27 -34489889.14 -34489888.99 0.0089 0.0039

Neptune -99141-01-27 10:47 J -34489801.18 -34489801.05 -34489800.91 0.0089 0.0043

Neptune -99141-04-24 12:56 J -34489713.09 -34489712.96 -34489712.83 0.0089 0.0048

Neptune -99141-07-21 14:52 J -34489624.99 -34489624.88 -34489624.75 0.0089 0.0053

Neptune -99141-10-17 17:16 J -34489536.90 -34489536.78 -34489536.66 0.0089 0.0057

Neptune -99140-01-13 19:11 J -34489448.81 -34489448.70 -34489448.58 0.0089 0.0062

Neptune -99140-04-11 21:06 J -34489360.71 -34489360.62 -34489360.51 0.0089 0.0067

Mars -99140-04-16 20:08 J -34489355.76 -34489355.66 -34489355.57 0.1627 0.1183

Neptune -99140-07-08 23:16 J -34489272.61 -34489272.53 -34489272.43 0.0089 0.0072

Neptune -99140-10-05 01:40 J -34489184.51 -34489184.43 -34489184.35 0.0089 0.0076

Neptune -99139-01-01 03:35 J -34489096.40 -34489096.35 -34489096.28 0.0089 0.0081

Venus -99139-02-20 00:13 J -34489046.62 -34489046.49 -34489046.36 0.3602 0.0957

Mars -99139-02-27 08:23 J -34489039.27 -34489039.15 -34489039.02 0.1903 0.0672

Neptune -99139-03-30 05:44 J -34489008.29 -34489008.26 -34489008.21 0.0089 0.0086

Jupiter -99138-06-10 10:32 J -34488571.15 -34488571.06 -34488570.96 0.0511 0.0383

Jupiter -99138-09-07 23:30 J -34488481.66 -34488481.52 -34488481.37 0.0507 0.0085

Venus -99134-09-05 23:30 J -34487022.62 -34487022.52 -34487022.42 0.3606 0.2200

Mars -99133-10-01 06:13 J -34486631.34 -34486631.24 -34486631.13 0.1619 0.1070

Moon -99133-12-31 03:20 J -34486540.49 -34486540.36 -34486540.24 0.2688 0.1101

Earth -99133-12-31 04:18 J -34486540.44 -34486540.32 -34486540.20 0.2691 0.1293 *

Saturn -99132-06-19 05:44 J -34486370.26 -34486370.26 -34486370.24 0.0288 0.0287

Saturn -99132-09-15 22:04 J -34486281.69 -34486281.58 -34486281.47 0.0288 0.0198

Jupiter -99132-11-07 14:08 J -34486229.03 -34486228.91 -34486228.78 0.0518 0.0293

Saturn -99132-12-13 14:23 J -34486193.04 -34486192.90 -34486192.75 0.0288 0.0107

Jupiter -99131-02-05 10:18 J -34486139.20 -34486139.07 -34486138.94 0.0522 0.0248

Saturn -99131-03-12 07:11 J -34486104.35 -34486104.20 -34486104.04 0.0288 0.0015

Saturn -99131-06-09 00:28 J -34486015.63 -34486015.48 -34486015.33 0.0288 0.0083

Saturn -99131-09-05 17:59 J -34485926.87 -34485926.75 -34485926.62 0.0288 0.0181

Mars -99131-09-07 02:37 J -34485925.52 -34485925.39 -34485925.26 0.1625 0.0724

Saturn -99131-12-03 11:44 J -34485838.03 -34485838.01 -34485837.97 0.0288 0.0281

Mars -99130-07-20 12:13 J -34485609.08 -34485608.99 -34485608.91 0.1905 0.1403

Earth -99129-07-08 13:25 J -34485255.06 -34485254.94 -34485254.81 0.2645 0.0106

Moon -99129-07-08 14:08 J -34485255.03 -34485254.91 -34485254.79 0.2650 0.0076 *

Venus -99128-03-21 22:18 J -34484998.61 -34484998.57 -34484998.53 0.3609 0.3378

Mars -99128-06-25 19:11 J -34484902.78 -34484902.70 -34484902.62 0.1896 0.1432

Jupiter -99126-03-29 13:11 J -34484260.98 -34484260.95 -34484260.92 0.0511 0.0498

Jupiter -99126-06-27 01:54 J -34484171.57 -34484171.42 -34484171.28 0.0508 0.0037

Jupiter -99126-09-24 15:49 J -34484081.91 -34484081.84 -34484081.77 0.0504 0.0440

Mars -99123-02-21 13:54 J -34483200.98 -34483200.92 -34483200.87 0.1618 0.1476

Mars -99121-01-28 09:20 J -34482495.25 -34482495.11 -34482494.97 0.1623 0.0275

Venus -99120-06-29 16:32 J -34481976.88 -34481976.81 -34481976.74 0.3786 0.2878

Jupiter -99120-08-26 14:52 J -34481918.96 -34481918.88 -34481918.79 0.0517 0.0423

Jupiter -99120-11-24 11:30 J -34481829.17 -34481829.02 -34481828.87 0.0521 0.0120

Mars -99119-11-15 23:59 J -34481472.62 -34481472.50 -34481472.38 0.1899 0.0778

Saturn -99117-04-22 11:30 J -34480949.09 -34480949.02 -34480948.93 0.0271 0.0232

Saturn -99117-07-20 02:37 J -34480860.51 -34480860.39 -34480860.26 0.0271 0.0151

Saturn -99117-10-16 17:30 J -34480771.92 -34480771.77 -34480771.62 0.0271 0.0071

Saturn -99116-01-13 07:54 J -34480683.32 -34480683.17 -34480683.01 0.0271 0.0010

Saturn -99116-04-11 22:04 J -34480594.72 -34480594.58 -34480594.43 0.0272 0.0085

Saturn -99116-07-09 11:59 J -34480506.11 -34480506.00 -34480505.87 0.0272 0.0160

Earth -99116-07-11 09:49 J -34480504.20 -34480504.09 -34480503.99 0.2650 0.1168

Moon -99116-07-11 10:32 J -34480504.16 -34480504.06 -34480503.95 0.2651 0.1290 *

Saturn -99116-10-06 01:54 J -34480417.50 -34480417.42 -34480417.35 0.0272 0.0233

Venus -99114-01-13 10:47 J -34479953.14 -34479953.05 -34479952.95 0.3783 0.1935

Jupiter -99114-04-15 03:35 J -34479861.49 -34479861.35 -34479861.22 0.0509 0.0160

Jupiter -99114-07-13 17:01 J -34479771.90 -34479771.79 -34479771.67 0.0505 0.0314

Earth -99113-12-26 08:37 J -34479240.25 -34479240.14 -34479240.04 0.2700 0.1657

Moon -99113-12-26 08:52 J -34479240.24 -34479240.13 -34479240.03 0.2693 0.1615 *

Mars -99112-06-19 16:04 J -34479064.97 -34479064.83 -34479064.69 0.1621 0.0171

Uranus -99109-04-02 22:47 J -34478046.60 -34478046.55 -34478046.48 0.0136 0.0126

Mars -99109-04-07 04:32 J -34478042.44 -34478042.31 -34478042.18 0.1901 0.0101

Uranus -99109-06-30 03:49 J -34477958.43 -34477958.34 -34477958.24 0.0135 0.0106

Moon -99109-07-04 01:25 J -34477954.49 -34477954.44 -34477954.39 0.2643 0.2368

Earth -99109-07-04 01:54 J -34477954.48 -34477954.42 -34477954.36 0.2637 0.2233 *

Venus -99109-07-29 05:16 J -34477929.38 -34477929.28 -34477929.17 0.3781 0.0976

Uranus -99109-09-26 08:37 J -34477870.25 -34477870.14 -34477870.01 0.0135 0.0088

Uranus -99109-12-23 13:40 J -34477782.07 -34477781.93 -34477781.79 0.0135 0.0068

Uranus -99108-03-21 18:13 J -34477693.88 -34477693.74 -34477693.58 0.0135 0.0050

Uranus -99108-06-17 23:16 J -34477605.69 -34477605.53 -34477605.38 0.0135 0.0031

Jupiter -99108-09-12 11:59 J -34477519.16 -34477519.00 -34477518.85 0.0520 0.0020

Uranus -99108-09-14 03:49 J -34477517.49 -34477517.34 -34477517.18 0.0135 0.0013

Uranus -99108-12-11 08:37 J -34477429.30 -34477429.14 -34477428.98 0.0135 0.0005

Jupiter -99108-12-11 06:56 J -34477429.23 -34477429.21 -34477429.18 0.0524 0.0513 *

Uranus -99107-03-09 13:11 J -34477341.10 -34477340.95 -34477340.79 0.0135 0.0023

Uranus -99107-06-05 17:44 J -34477252.91 -34477252.76 -34477252.61 0.0135 0.0041

Uranus -99107-09-01 22:18 J -34477164.71 -34477164.57 -34477164.43 0.0134 0.0059

Uranus -99107-11-29 02:37 J -34477076.51 -34477076.39 -34477076.26 0.0134 0.0076

Uranus -99106-02-25 06:56 J -34476988.31 -34476988.21 -34476988.09 0.0134 0.0094

Uranus -99106-05-24 11:30 J -34476900.10 -34476900.02 -34476899.93 0.0134 0.0110

Uranus -99106-08-20 15:49 J -34476811.88 -34476811.84 -34476811.79 0.0134 0.0127

Venus -99103-02-12 00:13 J -34475905.60 -34475905.49 -34475905.38 0.3778 0.0090

Earth -99103-07-14 05:44 J -34475753.31 -34475753.26 -34475753.21 0.2654 0.2348

Moon -99103-07-14 06:28 J -34475753.28 -34475753.23 -34475753.18 0.2650 0.2344 *

Mars -99103-11-09 23:16 J -34475634.66 -34475634.53 -34475634.40 0.1620 0.0601

Jupiter -99102-02-01 05:59 J -34475551.37 -34475551.25 -34475551.13 0.0510 0.0275

Saturn -99102-02-03 00:13 J -34475549.59 -34475549.49 -34475549.39 0.0288 0.0217

Jupiter -99102-05-01 19:11 J -34475461.83 -34475461.70 -34475461.56 0.0506 0.0196

Saturn -99102-05-02 16:32 J -34475460.94 -34475460.81 -34475460.67 0.0288 0.0126

Saturn -99102-07-30 09:20 J -34475372.26 -34475372.11 -34475371.95 0.0288 0.0033

Saturn -99102-10-27 02:37 J -34475283.55 -34475283.39 -34475283.24 0.0288 0.0064

Saturn -99101-01-23 19:54 J -34475194.79 -34475194.67 -34475194.53 0.0288 0.0161

Saturn -99101-04-21 13:54 J -34475105.98 -34475105.92 -34475105.85 0.0287 0.0260

Mars -99101-10-15 20:23 J -34474928.74 -34474928.65 -34474928.55 0.1626 0.1246

Mars -99100-08-28 08:37 J -34474612.27 -34474612.14 -34474612.02 0.1903 0.0612

Moon -99100-12-29 08:37 J -34474489.28 -34474489.14 -34474489.00 0.2689 0.0159

Earth -99100-12-29 09:06 J -34474489.25 -34474489.12 -34474488.98 0.2695 0.0093 *

Venus -99099-02-10 23:59 J -34474445.59 -34474445.50 -34474445.41 0.3594 0.2660

Venus -99098-08-28 19:11 J -34473881.81 -34473881.70 -34473881.59 0.3774 0.1065

Jupiter -99096-07-01 11:16 J -34473209.18 -34473209.03 -34473208.88 0.0519 0.0165

Earth -99096-07-06 22:18 J -34473203.68 -34473203.57 -34473203.45 0.2641 0.0997

Moon -99096-07-06 22:32 J -34473203.67 -34473203.56 -34473203.45 0.2648 0.0937 *

Jupiter -99096-09-29 06:56 J -34473119.32 -34473119.21 -34473119.10 0.0523 0.0370

Venus -99094-08-28 00:28 J -34472421.61 -34472421.48 -34472421.35 0.3597 0.1262

Mars -99093-04-01 06:28 J -34472204.34 -34472204.23 -34472204.12 0.1619 0.1021

Venus -99092-03-13 14:23 J -34471857.99 -34471857.90 -34471857.81 0.3771 0.2121

Mars -99091-03-08 02:52 J -34471498.51 -34471498.38 -34471498.25 0.1624 0.0778

Jupiter -99091-11-20 08:52 J -34471241.22 -34471241.13 -34471241.04 0.0511 0.0383

Mars -99090-01-18 12:28 J -34471182.07 -34471181.98 -34471181.89 0.1905 0.1334

Jupiter -99090-02-17 22:04 J -34471151.73 -34471151.58 -34471151.44 0.0507 0.0085

Mars -99089-12-24 19:25 J -34470475.77 -34470475.69 -34470475.62 0.1896 0.1492

Venus -99088-03-13 00:13 J -34470397.62 -34470397.49 -34470397.35 0.3600 0.0095

Saturn -99088-09-09 13:54 J -34470216.97 -34470216.92 -34470216.86 0.0271 0.0250

Saturn -99088-12-07 05:01 J -34470128.41 -34470128.29 -34470128.16 0.0271 0.0169

Saturn -99087-03-05 19:54 J -34470039.81 -34470039.67 -34470039.52 0.0271 0.0089

Saturn -99087-06-02 10:32 J -34469951.22 -34469951.06 -34469950.91 0.0271 0.0011

Saturn -99087-08-30 00:42 J -34469862.62 -34469862.47 -34469862.32 0.0271 0.0067

Venus -99087-09-27 09:49 J -34469834.15 -34469834.09 -34469834.03 0.3767 0.3205

Saturn -99087-11-26 14:37 J -34469774.01 -34469773.89 -34469773.76 0.0271 0.0142

Moon -99086-01-01 08:52 J -34469738.24 -34469738.13 -34469738.02 0.2689 0.1598

Earth -99086-01-01 10:04 J -34469738.18 -34469738.08 -34469737.97 0.2690 0.1635 *

Saturn -99086-02-23 04:18 J -34469685.40 -34469685.32 -34469685.23 0.0271 0.0216

Jupiter -99084-04-19 11:59 J -34468899.13 -34468899.00 -34468898.87 0.0518 0.0298

Jupiter -99084-07-18 07:54 J -34468809.30 -34468809.17 -34468809.03 0.0522 0.0242

Mars -99084-08-22 14:08 J -34468773.97 -34468773.91 -34468773.85 0.1618 0.1427

Earth -99083-07-09 18:42 J -34468452.84 -34468452.72 -34468452.60 0.2646 0.0221

Moon -99083-07-09 19:25 J -34468452.81 -34468452.69 -34468452.57 0.2651 0.0276 *

Venus -99083-09-26 23:44 J -34468373.63 -34468373.51 -34468373.38 0.3603 0.1349

Mars -99082-07-29 09:35 J -34468068.24 -34468068.10 -34468067.96 0.1623 0.0328

Mars -99079-05-17 00:13 J -34467045.60 -34467045.49 -34467045.37 0.1899 0.0840

Jupiter -99079-09-08 11:30 J -34466931.05 -34466931.02 -34466930.98 0.0512 0.0495

Jupiter -99079-12-07 00:13 J -34466841.63 -34466841.49 -34466841.34 0.0508 0.0035

Pluto -99078-02-17 16:47 J -34466768.86 -34466768.80 -34466768.73 0.0085 0.0074

Jupiter -99078-03-06 14:23 J -34466751.97 -34466751.90 -34466751.83 0.0504 0.0443

Pluto -99078-05-16 17:59 J -34466680.83 -34466680.75 -34466680.65 0.0085 0.0061

Pluto -99078-08-12 19:11 J -34466592.80 -34466592.70 -34466592.58 0.0084 0.0048

Pluto -99078-11-08 20:37 J -34466504.76 -34466504.64 -34466504.52 0.0084 0.0034

Pluto -99077-02-04 21:49 J -34466416.72 -34466416.59 -34466416.46 0.0084 0.0021

Venus -99077-04-11 22:47 J -34466349.64 -34466349.55 -34466349.45 0.3607 0.2567

Pluto -99077-05-02 23:01 J -34466328.67 -34466328.54 -34466328.41 0.0084 0.0009

Pluto -99077-07-30 00:13 J -34466240.62 -34466240.49 -34466240.35 0.0084 0.0005

Pluto -99077-10-26 01:40 J -34466152.56 -34466152.43 -34466152.30 0.0084 0.0017

Pluto -99076-01-22 02:37 J -34466064.51 -34466064.39 -34466064.26 0.0084 0.0030

Pluto -99076-04-20 03:49 J -34465976.45 -34465976.34 -34465976.22 0.0084 0.0042

Pluto -99076-07-17 05:16 J -34465888.38 -34465888.28 -34465888.18 0.0083 0.0055

Pluto -99076-10-13 06:13 J -34465800.31 -34465800.24 -34465800.16 0.0083 0.0067

Pluto -99075-01-09 07:40 J -34465712.22 -34465712.18 -34465712.15 0.0083 0.0080

Saturn -99073-06-21 23:30 J -34464817.58 -34464817.52 -34464817.44 0.0288 0.0252

Saturn -99073-09-18 15:49 J -34464728.96 -34464728.84 -34464728.71 0.0288 0.0162

Saturn -99073-12-16 08:37 J -34464640.29 -34464640.14 -34464639.99 0.0288 0.0069

Mars -99073-12-18 16:32 J -34464637.96 -34464637.81 -34464637.67 0.1621 0.0123

Jupiter -99072-02-05 12:42 J -34464589.06 -34464588.97 -34464588.88 0.0517 0.0428

Saturn -99072-03-15 01:25 J -34464551.59 -34464551.44 -34464551.28 0.0288 0.0026

Jupiter -99072-05-06 09:20 J -34464499.26 -34464499.11 -34464498.96 0.0521 0.0115

Saturn -99072-06-11 18:42 J -34464462.86 -34464462.72 -34464462.57 0.0288 0.0123

Saturn -99072-09-08 12:28 J -34464374.08 -34464373.98 -34464373.88 0.0288 0.0221

Earth -99070-07-12 14:52 J -34463701.98 -34463701.88 -34463701.78 0.2650 0.1417

Moon -99070-07-12 15:49 J -34463701.94 -34463701.84 -34463701.74 0.2649 0.1491 *

Mars -99070-10-07 04:47 J -34463615.43 -34463615.30 -34463615.17 0.1901 0.0160

Venus -99069-07-20 20:23 J -34463327.69 -34463327.65 -34463327.61 0.3788 0.3496

Jupiter -99067-09-25 02:37 J -34462531.53 -34462531.39 -34462531.25 0.0509 0.0148

Jupiter -99067-12-23 16:18 J -34462441.93 -34462441.82 -34462441.71 0.0505 0.0324

Moon -99067-12-27 14:23 J -34462438.02 -34462437.90 -34462437.79 0.2692 0.1318

Earth -99067-12-27 14:23 J -34462438.02 -34462437.90 -34462437.79 0.2699 0.1332 *

Neptune -99066-08-06 22:32 J -34462215.57 -34462215.56 -34462215.51 0.0088 0.0087

Neptune -99066-11-03 01:11 J -34462127.50 -34462127.45 -34462127.37 0.0088 0.0082

Neptune -99065-01-30 03:49 J -34462039.41 -34462039.34 -34462039.24 0.0088 0.0077

Neptune -99065-04-27 06:28 J -34461951.32 -34461951.23 -34461951.12 0.0088 0.0071

Neptune -99065-07-24 08:52 J -34461863.22 -34461863.13 -34461863.00 0.0088 0.0067

Neptune -99065-10-20 11:30 J -34461775.13 -34461775.02 -34461774.88 0.0088 0.0061

Uranus -99065-11-25 09:06 J -34461739.15 -34461739.12 -34461739.08 0.0143 0.0139

Neptune -99064-01-16 14:23 J -34461687.03 -34461686.90 -34461686.77 0.0088 0.0056

Uranus -99064-02-21 14:08 J -34461650.99 -34461650.91 -34461650.82 0.0143 0.0119

Neptune -99064-04-14 16:32 J -34461598.93 -34461598.81 -34461598.66 0.0088 0.0052

Uranus -99064-05-20 19:11 J -34461562.80 -34461562.70 -34461562.58 0.0143 0.0098

Neptune -99064-07-11 19:25 J -34461510.83 -34461510.69 -34461510.55 0.0088 0.0046

Uranus -99064-08-17 00:13 J -34461474.61 -34461474.49 -34461474.35 0.0143 0.0078

Neptune -99064-10-07 21:35 J -34461422.73 -34461422.60 -34461422.44 0.0088 0.0042

Uranus -99064-11-13 05:44 J -34461386.40 -34461386.26 -34461386.12 0.0144 0.0056

Neptune -99063-01-04 00:13 J -34461334.63 -34461334.49 -34461334.33 0.0088 0.0036

Venus -99063-02-03 14:37 J -34461303.97 -34461303.89 -34461303.81 0.3785 0.2576

Uranus -99063-02-09 10:47 J -34461298.19 -34461298.05 -34461297.89 0.0144 0.0035

Neptune -99063-04-02 02:37 J -34461246.53 -34461246.39 -34461246.22 0.0088 0.0032

Uranus -99063-05-08 16:18 J -34461209.98 -34461209.82 -34461209.67 0.0144 0.0013

Mars -99063-05-10 23:30 J -34461207.65 -34461207.52 -34461207.39 0.1620 0.0547

Neptune -99063-06-29 05:16 J -34461158.43 -34461158.28 -34461158.12 0.0088 0.0026

Moon -99063-07-05 06:28 J -34461152.31 -34461152.23 -34461152.14 0.2643 0.1960

Earth -99063-07-05 07:11 J -34461152.28 -34461152.20 -34461152.12 0.2638 0.1976 *

Uranus -99063-08-04 21:35 J -34461121.76 -34461121.60 -34461121.44 0.0144 0.0009

Neptune -99063-09-25 07:40 J -34461070.33 -34461070.18 -34461070.01 0.0088 0.0021

Uranus -99063-11-01 02:52 J -34461033.53 -34461033.38 -34461033.22 0.0144 0.0032

Neptune -99063-12-22 10:04 J -34460982.23 -34460982.08 -34460981.91 0.0088 0.0017

Uranus -99062-01-28 08:23 J -34460945.29 -34460945.15 -34460945.00 0.0144 0.0054

Neptune -99062-03-20 12:42 J -34460894.13 -34460893.97 -34460893.81 0.0088 0.0011

Uranus -99062-04-26 13:54 J -34460857.05 -34460856.92 -34460856.78 0.0144 0.0077

Neptune -99062-06-16 15:06 J -34460806.03 -34460805.87 -34460805.70 0.0088 0.0006

Uranus -99062-07-23 19:25 J -34460768.80 -34460768.69 -34460768.57 0.0145 0.0099

Neptune -99062-09-12 17:30 J -34460717.93 -34460717.77 -34460717.60 0.0088 0.0002

Uranus -99062-10-20 00:56 J -34460680.53 -34460680.46 -34460680.37 0.0145 0.0123

Neptune -99062-12-09 19:54 J -34460629.83 -34460629.67 -34460629.50 0.0088 0.0003

Neptune -99061-03-06 22:18 J -34460541.73 -34460541.57 -34460541.41 0.0088 0.0008

Mars -99061-04-15 20:52 J -34460501.72 -34460501.63 -34460501.54 0.1626 0.1302

Neptune -99061-06-03 00:42 J -34460453.63 -34460453.47 -34460453.31 0.0088 0.0013

Neptune -99061-08-30 03:06 J -34460365.53 -34460365.37 -34460365.21 0.0088 0.0018

Neptune -99061-11-26 05:16 J -34460277.43 -34460277.28 -34460277.12 0.0088 0.0023

Neptune -99060-02-22 07:40 J -34460189.33 -34460189.18 -34460189.02 0.0088 0.0027

Jupiter -99060-02-22 10:18 J -34460189.22 -34460189.07 -34460188.91 0.0520 0.0015 *

Mars -99060-02-26 08:52 J -34460185.25 -34460185.13 -34460185.00 0.1903 0.0544

Neptune -99060-05-21 09:49 J -34460101.23 -34460101.09 -34460100.93 0.0088 0.0033

Jupiter -99060-05-23 05:30 J -34460099.29 -34460099.27 -34460099.25 0.0524 0.0517

Neptune -99060-08-17 12:28 J -34460013.13 -34460012.98 -34460012.83 0.0088 0.0037

Neptune -99060-11-13 14:37 J -34459925.03 -34459924.89 -34459924.74 0.0088 0.0042

Neptune -99059-02-09 16:47 J -34459836.93 -34459836.80 -34459836.65 0.0088 0.0046

Neptune -99059-05-08 18:56 J -34459748.83 -34459748.71 -34459748.56 0.0088 0.0051

Neptune -99059-08-04 21:20 J -34459660.72 -34459660.61 -34459660.48 0.0088 0.0056

Neptune -99059-10-31 23:30 J -34459572.62 -34459572.52 -34459572.39 0.0088 0.0061

Neptune -99058-01-28 01:54 J -34459484.52 -34459484.42 -34459484.30 0.0088 0.0065

Neptune -99058-04-26 04:04 J -34459396.42 -34459396.33 -34459396.22 0.0088 0.0069

Saturn -99058-04-26 05:16 J -34459396.38 -34459396.28 -34459396.17 0.0271 0.0198 *

Neptune -99058-07-23 06:28 J -34459308.31 -34459308.23 -34459308.14 0.0088 0.0074

Saturn -99058-07-23 20:23 J -34459307.79 -34459307.65 -34459307.51 0.0271 0.0117

Venus -99058-08-20 08:52 J -34459280.22 -34459280.13 -34459280.03 0.3783 0.1642

Neptune -99058-10-19 08:23 J -34459220.20 -34459220.15 -34459220.06 0.0088 0.0079

Saturn -99058-10-20 11:01 J -34459219.19 -34459219.04 -34459218.89 0.0271 0.0038

Neptune -99057-01-15 11:01 J -34459132.09 -34459132.04 -34459131.99 0.0088 0.0083

Saturn -99057-01-17 01:25 J -34459130.59 -34459130.44 -34459130.29 0.0271 0.0040

Neptune -99057-04-12 12:56 J -34459043.97 -34459043.96 -34459043.93 0.0088 0.0087

Saturn -99057-04-14 15:35 J -34459041.99 -34459041.85 -34459041.72 0.0271 0.0117

Saturn -99057-07-12 05:16 J -34458953.38 -34458953.28 -34458953.17 0.0272 0.0191

Earth -99057-07-14 10:47 J -34458951.07 -34458951.05 -34458951.02 0.2655 0.2596

Saturn -99057-10-08 18:56 J -34458864.74 -34458864.71 -34458864.68 0.0272 0.0264

Jupiter -99055-07-14 04:32 J -34458221.43 -34458221.31 -34458221.19 0.0510 0.0270

Jupiter -99055-10-11 17:44 J -34458131.89 -34458131.76 -34458131.62 0.0506 0.0200

Mars -99054-10-01 06:56 J -34457777.33 -34457777.21 -34457777.10 0.1619 0.0967

Moon -99054-12-30 14:08 J -34457687.04 -34457686.91 -34457686.77 0.2689 0.0276

Earth -99054-12-30 14:52 J -34457687.01 -34457686.88 -34457686.74 0.2694 0.0306 *

Venus -99052-03-05 03:35 J -34457256.46 -34457256.35 -34457256.24 0.3780 0.0657

Mars -99052-09-06 03:06 J -34457071.49 -34457071.37 -34457071.24 0.1624 0.0837

Mars -99051-07-19 12:42 J -34456755.07 -34456754.97 -34456754.87 0.1905 0.1272

Earth -99050-07-08 03:35 J -34456401.47 -34456401.35 -34456401.23 0.2642 0.0738

Moon -99050-07-08 03:49 J -34456401.45 -34456401.34 -34456401.22 0.2648 0.0777 *

Mars -99049-06-24 19:40 J -34456048.76 -34456048.68 -34456048.61 0.1896 0.1555

Jupiter -99049-12-11 10:47 J -34455879.20 -34455879.05 -34455878.90 0.0519 0.0149

Jupiter -99048-03-11 06:13 J -34455789.33 -34455789.24 -34455789.13 0.0523 0.0386

Venus -99047-09-18 22:32 J -34455232.68 -34455232.56 -34455232.45 0.3777 0.0376

Mars -99044-02-20 14:08 J -34454346.97 -34454346.91 -34454346.83 0.1617 0.1382

Saturn -99044-11-09 01:25 J -34454085.48 -34454085.44 -34454085.39 0.0288 0.0272

Saturn -99043-02-05 17:30 J -34453996.88 -34453996.77 -34453996.65 0.0288 0.0183

Jupiter -99043-05-02 06:56 J -34453911.30 -34453911.21 -34453911.11 0.0511 0.0385

Saturn -99043-05-05 10:04 J -34453908.22 -34453908.08 -34453907.93 0.0288 0.0091

Jupiter -99043-07-30 20:08 J -34453821.81 -34453821.66 -34453821.52 0.0507 0.0083

Saturn -99043-08-02 03:06 J -34453819.53 -34453819.37 -34453819.22 0.0288 0.0005

Venus -99043-09-17 23:59 J -34453772.61 -34453772.50 -34453772.40 0.3595 0.2219

Saturn -99043-10-29 20:08 J -34453730.80 -34453730.66 -34453730.50 0.0288 0.0101

Saturn -99042-01-26 13:54 J -34453642.03 -34453641.92 -34453641.80 0.0288 0.0199

Mars -99042-01-27 09:49 J -34453641.23 -34453641.09 -34453640.95 0.1623 0.0381

Venus -99041-04-03 17:30 J -34453208.87 -34453208.77 -34453208.66 0.3773 0.1384

Moon -99040-01-01 14:37 J -34452935.99 -34452935.89 -34452935.79 0.2688 0.1757

Earth -99040-01-01 15:49 J -34452935.93 -34452935.84 -34452935.74 0.2689 0.1973 *

Mars -99040-11-15 00:28 J -34452618.60 -34452618.48 -34452618.37 0.1899 0.0899

Venus -99037-04-03 00:13 J -34451748.62 -34451748.49 -34451748.36 0.3598 0.0850

Earth -99037-07-09 23:59 J -34451650.62 -34451650.50 -34451650.38 0.2646 0.0485

Moon -99037-07-10 00:42 J -34451650.59 -34451650.47 -34451650.36 0.2650 0.0590 *

Jupiter -99037-09-29 10:04 J -34451569.21 -34451569.08 -34451568.95 0.0518 0.0297

Jupiter -99037-12-28 06:13 J -34451479.38 -34451479.24 -34451479.11 0.0522 0.0241

Venus -99036-10-18 12:42 J -34451185.05 -34451184.97 -34451184.88 0.3770 0.2449

Earth -99034-12-25 19:40 J -34450386.71 -34450386.68 -34450386.65 0.2703 0.2601

Moon -99034-12-25 20:23 J -34450386.71 -34450386.65 -34450386.60 0.2698 0.2467 *

Mars -99033-06-18 16:32 J -34450210.95 -34450210.81 -34450210.66 0.1621 0.0076

Venus -99032-10-17 23:59 J -34449724.63 -34449724.50 -34449724.37 0.3601 0.0467

Jupiter -99031-02-18 10:04 J -34449601.12 -34449601.08 -34449601.05 0.0512 0.0493

Jupiter -99031-05-18 22:47 J -34449511.70 -34449511.55 -34449511.40 0.0508 0.0029

Jupiter -99031-08-16 12:42 J -34449422.03 -34449421.97 -34449421.90 0.0505 0.0446

Mars -99030-04-07 05:01 J -34449188.42 -34449188.29 -34449188.16 0.1902 0.0229

Venus -99030-05-04 08:23 J -34449161.19 -34449161.15 -34449161.12 0.3766 0.3538

Saturn -99029-09-12 07:54 J -34448664.26 -34448664.17 -34448664.08 0.0271 0.0215

Saturn -99029-12-09 22:47 J -34448575.68 -34448575.55 -34448575.41 0.0271 0.0135

Saturn -99028-03-08 13:40 J -34448487.08 -34448486.93 -34448486.78 0.0271 0.0055

Saturn -99028-06-05 04:04 J -34448398.49 -34448398.33 -34448398.18 0.0271 0.0023

Saturn -99028-09-01 18:13 J -34448309.88 -34448309.74 -34448309.60 0.0271 0.0100

Saturn -99028-11-29 07:54 J -34448221.28 -34448221.17 -34448221.05 0.0271 0.0174

Saturn -99027-02-25 21:35 J -34448132.66 -34448132.60 -34448132.54 0.0271 0.0247

Venus -99026-05-03 23:16 J -34447700.64 -34447700.53 -34447700.41 0.3604 0.1731

Uranus -99025-04-23 05:44 J -34447345.31 -34447345.26 -34447345.17 0.0136 0.0122

Jupiter -99025-07-18 10:32 J -34447259.14 -34447259.06 -34447258.97 0.0517 0.0431

Uranus -99025-07-20 10:47 J -34447257.14 -34447257.05 -34447256.93 0.0135 0.0103

Jupiter -99025-10-16 07:11 J -34447169.35 -34447169.20 -34447169.05 0.0521 0.0111

Uranus -99025-10-16 15:49 J -34447168.96 -34447168.84 -34447168.71 0.0135 0.0083

Uranus -99024-01-12 20:37 J -34447080.77 -34447080.64 -34447080.49 0.0135 0.0065

Uranus -99024-04-11 01:40 J -34446992.58 -34446992.43 -34446992.28 0.0135 0.0046

Uranus -99024-07-08 06:13 J -34446904.39 -34446904.24 -34446904.08 0.0135 0.0027

Earth -99024-07-12 19:54 J -34446899.76 -34446899.67 -34446899.57 0.2651 0.1677

Moon -99024-07-12 20:52 J -34446899.72 -34446899.63 -34446899.54 0.2649 0.1756 *

Uranus -99024-10-04 11:01 J -34446816.20 -34446816.04 -34446815.88 0.0135 0.0009

Mars -99024-11-08 23:44 J -34446780.64 -34446780.51 -34446780.37 0.1620 0.0495

Uranus -99024-12-31 15:49 J -34446728.00 -34446727.84 -34446727.69 0.0135 0.0010

Uranus -99023-03-29 20:23 J -34446639.81 -34446639.65 -34446639.50 0.0135 0.0027

Uranus -99023-06-26 00:56 J -34446551.61 -34446551.46 -34446551.31 0.0135 0.0045

Uranus -99023-09-22 05:16 J -34446463.41 -34446463.28 -34446463.14 0.0134 0.0063

Uranus -99023-12-19 09:49 J -34446375.21 -34446375.09 -34446374.96 0.0134 0.0080

Uranus -99022-03-17 14:08 J -34446287.01 -34446286.91 -34446286.79 0.0134 0.0097

Uranus -99022-06-13 18:28 J -34446198.80 -34446198.73 -34446198.64 0.0134 0.0115

Uranus -99022-09-09 22:47 J -34446110.56 -34446110.55 -34446110.51 0.0134 0.0131

Mars -99022-10-15 21:06 J -34446074.70 -34446074.62 -34446074.54 0.1626 0.1356

Mars -99021-08-27 09:20 J -34445758.24 -34445758.11 -34445757.98 0.1903 0.0472

Venus -99021-11-16 22:18 J -34445676.64 -34445676.57 -34445676.49 0.3608 0.2927

Moon -99021-12-27 19:54 J -34445635.79 -34445635.67 -34445635.54 0.2691 0.1036

Earth -99021-12-27 19:54 J -34445635.79 -34445635.67 -34445635.54 0.2699 0.1011 *

Jupiter -99019-03-07 01:25 J -34445201.58 -34445201.44 -34445201.30 0.0509 0.0143

Jupiter -99019-06-04 14:52 J -34445111.99 -34445111.88 -34445111.76 0.0505 0.0330

Moon -99017-07-05 11:59 J -34444350.09 -34444350.00 -34444349.91 0.2644 0.1813

Earth -99017-07-05 12:13 J -34444350.08 -34444349.99 -34444349.89 0.2638 0.1713 *

Mars -99014-04-01 07:11 J -34443350.32 -34443350.20 -34443350.09 0.1619 0.0918

Saturn -99014-06-25 16:47 J -34443264.89 -34443264.80 -34443264.70 0.0288 0.0219

Saturn -99014-09-22 09:06 J -34443176.25 -34443176.12 -34443175.98 0.0288 0.0128

Saturn -99014-12-20 01:54 J -34443087.57 -34443087.42 -34443087.26 0.0288 0.0035

Saturn -99013-03-17 18:56 J -34442998.86 -34442998.71 -34442998.55 0.0288 0.0061

Saturn -99013-06-14 12:13 J -34442910.11 -34442909.99 -34442909.85 0.0288 0.0159

Jupiter -99013-08-04 08:08 J -34442859.31 -34442859.16 -34442859.00 0.0520 0.0020

Saturn -99013-09-11 06:13 J -34442821.31 -34442821.24 -34442821.17 0.0288 0.0258

Jupiter -99013-11-02 03:20 J -34442769.38 -34442769.36 -34442769.33 0.0524 0.0515

Venus -99012-02-24 18:28 J -34442654.78 -34442654.73 -34442654.67 0.3787 0.3203

Mars -99012-03-07 03:35 J -34442644.47 -34442644.35 -34442644.23 0.1624 0.0892

Mars -99011-01-17 12:56 J -34442328.06 -34442327.96 -34442327.86 0.1905 0.1207

Mars -99010-12-24 19:54 J -34441621.74 -34441621.67 -34441621.61 0.1896 0.1618

Jupiter -99008-12-24 03:49 J -34440891.47 -34440891.34 -34440891.22 0.0510 0.0257

Moon -99008-12-30 19:40 J -34440884.81 -34440884.68 -34440884.54 0.2690 0.0531

Earth -99008-12-30 20:37 J -34440884.77 -34440884.64 -34440884.50 0.2694 0.0636 *

Jupiter -99007-03-23 17:01 J -34440801.92 -34440801.79 -34440801.65 0.0506 0.0213

Venus -99007-09-10 12:42 J -34440631.05 -34440630.97 -34440630.88 0.3785 0.2282

Mars -99005-08-21 14:37 J -34439919.97 -34439919.89 -34439919.81 0.1617 0.1328

Earth -99004-07-08 08:52 J -34439599.25 -34439599.13 -34439599.01 0.2643 0.0489

Moon -99004-07-08 09:06 J -34439599.24 -34439599.12 -34439599.00 0.2649 0.0373 *

Mars -99003-07-28 10:04 J -34439214.22 -34439214.08 -34439213.94 0.1623 0.0436

Venus -99001-03-26 07:11 J -34438607.30 -34438607.20 -34438607.09 0.3782 0.1329

Jupiter -99001-05-23 09:20 J -34438549.26 -34438549.11 -34438548.96 0.0519 0.0145

Jupiter -99001-08-21 05:01 J -34438459.39 -34438459.29 -34438459.19 0.0523 0.0390

99TH MILLENNIUM BCE

This is a list of transits of Mercury in the 99th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Mars -99000-05-16 00:42 J -34438191.58 -34438191.47 -34438191.36 0.1899 0.0963

Saturn -98999-01-30 07:25 J -34437932.24 -34437932.19 -34437932.11 0.0271 0.0247

Saturn -98999-04-28 22:47 J -34437843.67 -34437843.55 -34437843.42 0.0271 0.0165

Saturn -98999-07-26 13:40 J -34437755.08 -34437754.93 -34437754.78 0.0271 0.0085

Saturn -98999-10-23 04:18 J -34437666.48 -34437666.32 -34437666.17 0.0271 0.0008

Saturn -98998-01-19 18:28 J -34437577.88 -34437577.73 -34437577.58 0.0271 0.0071

Saturn -98998-04-18 08:23 J -34437489.27 -34437489.15 -34437489.02 0.0271 0.0147

Saturn -98998-07-15 22:04 J -34437400.66 -34437400.58 -34437400.49 0.0271 0.0221

Venus -98996-10-10 01:54 J -34436583.53 -34436583.42 -34436583.31 0.3779 0.0345

Jupiter -98996-10-12 05:44 J -34436581.35 -34436581.26 -34436581.16 0.0511 0.0378

Jupiter -98995-01-09 18:42 J -34436491.86 -34436491.72 -34436491.57 0.0507 0.0089

Moon -98994-01-02 20:23 J -34436133.72 -34436133.65 -34436133.57 0.2688 0.2261

Earth -98994-01-02 21:49 J -34436133.66 -34436133.59 -34436133.52 0.2689 0.2311 *

Mars -98994-12-18 17:01 J -34435783.93 -34435783.79 -34435783.65 0.1621 0.0023

Venus -98992-10-08 23:01 J -34435123.60 -34435123.54 -34435123.48 0.3593 0.3200

Earth -98991-07-11 05:01 J -34434848.41 -34434848.29 -34434848.17 0.2647 0.0732

Moon -98991-07-11 05:59 J -34434848.37 -34434848.25 -34434848.14 0.2649 0.0764 *

Mars -98991-10-06 05:16 J -34434761.41 -34434761.28 -34434761.15 0.1901 0.0291

Venus -98990-04-25 20:52 J -34434559.74 -34434559.63 -34434559.52 0.3776 0.0669

Jupiter -98989-03-11 09:35 J -34434239.23 -34434239.10 -34434238.96 0.0518 0.0280

Jupiter -98989-06-09 05:44 J -34434149.39 -34434149.26 -34434149.12 0.0522 0.0259

Earth -98988-12-26 01:25 J -34433584.51 -34433584.44 -34433584.37 0.2703 0.2281

Moon -98988-12-26 01:40 J -34433584.49 -34433584.43 -34433584.36 0.2696 0.2309 *

Venus -98986-04-24 23:44 J -34433099.63 -34433099.51 -34433099.39 0.3596 0.1783

Venus -98985-11-08 16:04 J -34432535.94 -34432535.83 -34432535.73 0.3772 0.1712

Saturn -98985-11-11 17:59 J -34432532.82 -34432532.75 -34432532.66 0.0288 0.0243

Saturn -98984-02-08 10:32 J -34432444.19 -34432444.06 -34432443.93 0.0288 0.0152

Saturn -98984-05-08 03:06 J -34432355.52 -34432355.37 -34432355.22 0.0288 0.0059

Mars -98984-05-09 23:59 J -34432353.63 -34432353.50 -34432353.36 0.1620 0.0444

Neptune -98984-07-30 00:13 J -34432272.49 -34432272.49 -34432272.47 0.0089 0.0089

Jupiter -98984-07-31 08:23 J -34432271.19 -34432271.15 -34432271.11 0.0512 0.0492

Saturn -98984-08-04 20:08 J -34432266.82 -34432266.66 -34432266.51 0.0288 0.0036

Neptune -98984-10-26 02:08 J -34432184.45 -34432184.41 -34432184.36 0.0089 0.0084

Jupiter -98984-10-28 21:06 J -34432181.77 -34432181.62 -34432181.47 0.0508 0.0028

Saturn -98984-11-01 13:25 J -34432178.08 -34432177.94 -34432177.80 0.0288 0.0134

Neptune -98983-01-22 03:49 J -34432096.39 -34432096.34 -34432096.27 0.0089 0.0080

Jupiter -98983-01-26 11:01 J -34432092.10 -34432092.04 -34432091.97 0.0505 0.0447

Saturn -98983-01-29 07:11 J -34432089.29 -34432089.20 -34432089.10 0.0288 0.0232

Neptune -98983-04-20 05:30 J -34432008.33 -34432008.27 -34432008.18 0.0089 0.0076

Neptune -98983-07-17 07:25 J -34431920.27 -34431920.19 -34431920.09 0.0089 0.0072

Neptune -98983-10-13 09:35 J -34431832.20 -34431832.10 -34431832.01 0.0089 0.0067

Neptune -98982-01-09 11:16 J -34431744.13 -34431744.03 -34431743.92 0.0089 0.0063

Neptune -98982-04-07 12:56 J -34431656.06 -34431655.96 -34431655.84 0.0089 0.0059

Mars -98982-04-15 21:35 J -34431647.67 -34431647.60 -34431647.53 0.1626 0.1416

Neptune -98982-07-04 15:06 J -34431567.99 -34431567.87 -34431567.76 0.0089 0.0054

Neptune -98982-09-30 16:47 J -34431479.92 -34431479.80 -34431479.67 0.0089 0.0050

Neptune -98982-12-27 18:28 J -34431391.84 -34431391.73 -34431391.59 0.0089 0.0046

Mars -98981-02-26 09:20 J -34431331.24 -34431331.11 -34431330.98 0.1903 0.0421

Neptune -98981-03-24 20:37 J -34431303.77 -34431303.64 -34431303.51 0.0089 0.0041

Neptune -98981-06-20 22:32 J -34431215.69 -34431215.56 -34431215.42 0.0089 0.0037

Neptune -98981-09-17 00:13 J -34431127.62 -34431127.49 -34431127.34 0.0089 0.0033

Venus -98981-11-07 23:59 J -34431075.64 -34431075.50 -34431075.37 0.3599 0.0451

Neptune -98981-12-14 02:23 J -34431039.54 -34431039.40 -34431039.26 0.0089 0.0028

Uranus -98981-12-15 16:47 J -34431037.85 -34431037.80 -34431037.75 0.0143 0.0133

Neptune -98980-03-12 04:04 J -34430951.46 -34430951.33 -34430951.17 0.0089 0.0024

Uranus -98980-03-13 21:35 J -34430949.68 -34430949.60 -34430949.50 0.0143 0.0113

Neptune -98980-06-08 06:13 J -34430863.39 -34430863.24 -34430863.09 0.0089 0.0019

Uranus -98980-06-10 02:37 J -34430861.50 -34430861.39 -34430861.26 0.0143 0.0093

Neptune -98980-09-04 08:08 J -34430775.31 -34430775.16 -34430775.01 0.0089 0.0015

Uranus -98980-09-06 07:54 J -34430773.30 -34430773.17 -34430773.03 0.0143 0.0071

Neptune -98980-12-01 10:04 J -34430687.23 -34430687.08 -34430686.93 0.0089 0.0010

Uranus -98980-12-03 12:56 J -34430685.10 -34430684.96 -34430684.81 0.0144 0.0051

Neptune -98979-02-27 11:59 J -34430599.15 -34430599.00 -34430598.85 0.0089 0.0006

Uranus -98979-03-01 18:28 J -34430596.89 -34430596.73 -34430596.58 0.0144 0.0029

Venus -98979-05-25 11:16 J -34430512.10 -34430512.03 -34430511.95 0.3769 0.2779

Neptune -98979-05-26 13:54 J -34430511.07 -34430510.92 -34430510.76 0.0089 0.0003

Uranus -98979-05-28 23:44 J -34430508.67 -34430508.51 -34430508.36 0.0144 0.0007

Neptune -98979-08-22 16:04 J -34430422.99 -34430422.83 -34430422.68 0.0089 0.0004

Uranus -98979-08-25 05:01 J -34430420.45 -34430420.29 -34430420.13 0.0144 0.0015

Neptune -98979-11-18 17:59 J -34430334.90 -34430334.75 -34430334.60 0.0089 0.0008

Uranus -98979-11-21 10:18 J -34430332.22 -34430332.07 -34430331.91 0.0144 0.0037

Neptune -98978-02-14 19:54 J -34430246.82 -34430246.67 -34430246.52 0.0089 0.0013

Uranus -98978-02-17 15:49 J -34430243.98 -34430243.84 -34430243.69 0.0144 0.0059

Neptune -98978-05-13 21:49 J -34430158.73 -34430158.59 -34430158.43 0.0089 0.0018

Uranus -98978-05-16 21:20 J -34430155.74 -34430155.61 -34430155.48 0.0144 0.0082

Earth -98978-07-14 01:11 J -34430097.53 -34430097.45 -34430097.37 0.2652 0.1924

Moon -98978-07-14 02:08 J -34430097.49 -34430097.41 -34430097.34 0.2650 0.2021 *

Neptune -98978-08-09 23:59 J -34430070.65 -34430070.50 -34430070.35 0.0089 0.0022

Uranus -98978-08-13 02:37 J -34430067.48 -34430067.39 -34430067.27 0.0144 0.0106

Neptune -98978-11-06 01:54 J -34429982.56 -34429982.42 -34429982.27 0.0089 0.0027

Uranus -98978-11-09 08:37 J -34429979.21 -34429979.14 -34429979.07 0.0145 0.0128

Jupiter -98978-12-29 08:52 J -34429929.21 -34429929.13 -34429929.04 0.0517 0.0428

Neptune -98977-02-02 03:49 J -34429894.48 -34429894.34 -34429894.19 0.0089 0.0031

Jupiter -98977-03-28 05:30 J -34429839.42 -34429839.27 -34429839.12 0.0521 0.0114

Neptune -98977-04-30 05:44 J -34429806.39 -34429806.26 -34429806.11 0.0089 0.0036

Neptune -98977-07-27 07:54 J -34429718.30 -34429718.17 -34429718.03 0.0089 0.0041

Neptune -98977-10-23 10:04 J -34429630.21 -34429630.08 -34429629.94 0.0089 0.0045

Neptune -98976-01-19 11:59 J -34429542.12 -34429542.00 -34429541.86 0.0089 0.0050

Neptune -98976-04-17 13:54 J -34429454.03 -34429453.92 -34429453.78 0.0089 0.0055

Neptune -98976-07-14 16:18 J -34429365.93 -34429365.82 -34429365.70 0.0089 0.0059

Neptune -98976-10-10 18:13 J -34429277.84 -34429277.74 -34429277.62 0.0089 0.0064

Neptune -98975-01-06 20:08 J -34429189.74 -34429189.66 -34429189.55 0.0089 0.0069

Neptune -98975-04-04 22:18 J -34429101.64 -34429101.57 -34429101.47 0.0089 0.0074

Venus -98975-05-24 23:30 J -34429051.64 -34429051.52 -34429051.39 0.3602 0.0871

Neptune -98975-07-02 00:42 J -34429013.54 -34429013.47 -34429013.40 0.0089 0.0078

Neptune -98975-09-28 02:37 J -34428925.43 -34428925.39 -34428925.33 0.0089 0.0083

Mars -98975-09-30 07:25 J -34428923.31 -34428923.19 -34428923.08 0.1618 0.0869

Neptune -98975-12-25 04:47 J -34428837.31 -34428837.30 -34428837.27 0.0089 0.0088

Moon -98975-12-29 01:25 J -34428833.57 -34428833.44 -34428833.30 0.2691 0.0658

Earth -98975-12-29 01:40 J -34428833.56 -34428833.43 -34428833.30 0.2698 0.0682 *

Mars -98973-09-05 03:49 J -34428217.46 -34428217.34 -34428217.23 0.1624 0.0945

Mars -98972-07-18 13:11 J -34427901.05 -34427900.95 -34427900.84 0.1905 0.1140

Jupiter -98972-08-16 23:59 J -34427871.65 -34427871.50 -34427871.36 0.0509 0.0140

Jupiter -98972-11-14 13:25 J -34427782.04 -34427781.94 -34427781.82 0.0506 0.0335

Moon -98971-07-06 17:30 J -34427547.87 -34427547.77 -34427547.67 0.2645 0.1413

Earth -98971-07-06 17:30 J -34427547.87 -34427547.77 -34427547.67 0.2639 0.1451 *

Saturn -98970-06-19 10:04 J -34427200.11 -34427200.08 -34427200.05 0.0271 0.0265

Mars -98970-06-24 19:54 J -34427194.73 -34427194.67 -34427194.61 0.1896 0.1672

Saturn -98970-09-16 01:11 J -34427111.56 -34427111.45 -34427111.33 0.0271 0.0183

Venus -98970-12-08 22:47 J -34427027.65 -34427027.55 -34427027.44 0.3605 0.2108

Saturn -98970-12-13 16:04 J -34427022.97 -34427022.83 -34427022.68 0.0271 0.0103

Saturn -98969-03-11 06:42 J -34426934.37 -34426934.22 -34426934.06 0.0271 0.0024

Saturn -98969-06-07 21:06 J -34426845.77 -34426845.62 -34426845.47 0.0271 0.0054

Saturn -98969-09-04 11:01 J -34426757.17 -34426757.04 -34426756.90 0.0271 0.0130

Saturn -98969-12-02 00:42 J -34426668.56 -34426668.47 -34426668.37 0.0271 0.0204

Jupiter -98965-01-15 06:13 J -34425529.39 -34425529.24 -34425529.08 0.0520 0.0019

Mars -98965-02-20 14:52 J -34425492.96 -34425492.88 -34425492.80 0.1617 0.1277

Jupiter -98965-04-14 01:25 J -34425439.46 -34425439.44 -34425439.41 0.0524 0.0512

Venus -98964-06-23 21:49 J -34425003.64 -34425003.59 -34425003.54 0.3609 0.3287

Mars -98963-01-26 10:32 J -34424787.20 -34424787.06 -34424786.93 0.1623 0.0493

Mars -98963-12-08 16:47 J -34424470.82 -34424470.80 -34424470.78 0.1906 0.1882

Moon -98961-01-01 01:25 J -34424082.57 -34424082.44 -34424082.31 0.2689 0.0844

Earth -98961-01-01 02:23 J -34424082.52 -34424082.40 -34424082.27 0.2693 0.0969 *

Mars -98961-11-14 00:56 J -34423764.56 -34423764.46 -34423764.35 0.1899 0.1034

Jupiter -98960-06-05 02:37 J -34423561.52 -34423561.39 -34423561.27 0.0510 0.0251

Jupiter -98960-09-02 15:49 J -34423471.97 -34423471.84 -34423471.70 0.0506 0.0219

Earth -98958-07-09 13:54 J -34422797.04 -34422796.92 -34422796.80 0.2643 0.0224

Moon -98958-07-09 14:23 J -34422797.02 -34422796.90 -34422796.78 0.2649 0.0250 *

Venus -98956-10-01 16:32 J -34421981.87 -34421981.81 -34421981.74 0.3786 0.2913

Saturn -98955-03-31 17:30 J -34421800.80 -34421800.77 -34421800.73 0.0288 0.0278

Saturn -98955-06-28 09:49 J -34421712.21 -34421712.09 -34421711.98 0.0288 0.0188

Saturn -98955-09-25 02:08 J -34421623.55 -34421623.41 -34421623.26 0.0288 0.0096

Saturn -98955-12-22 18:56 J -34421534.86 -34421534.71 -34421534.55 0.0288 0.0005

Saturn -98954-03-21 12:13 J -34421446.14 -34421445.99 -34421445.84 0.0288 0.0094

Saturn -98954-06-18 05:44 J -34421357.38 -34421357.26 -34421357.14 0.0288 0.0192

Mars -98954-06-18 17:16 J -34421356.92 -34421356.78 -34421356.64 0.1621 0.0051

Jupiter -98954-11-03 07:11 J -34421219.35 -34421219.20 -34421219.05 0.0519 0.0147

Jupiter -98953-02-01 02:52 J -34421129.47 -34421129.38 -34421129.27 0.0523 0.0389

Mars -98951-04-06 05:30 J -34420334.40 -34420334.27 -34420334.14 0.1901 0.0351

Venus -98950-04-17 11:01 J -34419958.14 -34419958.04 -34419957.95 0.3784 0.1980

Moon -98948-01-03 02:23 J -34419331.45 -34419331.40 -34419331.35 0.2689 0.2490

Earth -98948-01-03 03:35 J -34419331.37 -34419331.35 -34419331.33 0.2688 0.2654 *

Jupiter -98948-03-24 05:16 J -34419251.38 -34419251.28 -34419251.18 0.0511 0.0364

Jupiter -98948-06-21 18:13 J -34419161.89 -34419161.74 -34419161.60 0.0507 0.0103

Earth -98945-07-11 10:18 J -34418046.19 -34418046.07 -34418045.96 0.2648 0.0989

Moon -98945-07-11 11:01 J -34418046.15 -34418046.04 -34418045.93 0.2648 0.1148 *

Venus -98945-10-31 05:30 J -34417934.38 -34417934.27 -34417934.16 0.3781 0.1019

Mars -98945-11-08 00:28 J -34417926.62 -34417926.48 -34417926.35 0.1620 0.0391

Mars -98943-10-14 21:49 J -34417220.65 -34417220.59 -34417220.53 0.1626 0.1474

Jupiter -98942-08-22 08:08 J -34416909.29 -34416909.16 -34416909.02 0.0518 0.0275

Mars -98942-08-27 09:49 J -34416904.22 -34416904.09 -34416903.96 0.1904 0.0352

Jupiter -98942-11-20 04:18 J -34416819.45 -34416819.32 -34416819.18 0.0522 0.0265

Earth -98942-12-27 06:56 J -34416782.30 -34416782.21 -34416782.12 0.2702 0.1962

Moon -98942-12-27 07:25 J -34416782.29 -34416782.19 -34416782.09 0.2695 0.1827 *

Uranus -98941-05-13 12:42 J -34416644.04 -34416643.97 -34416643.88 0.0136 0.0118

Uranus -98941-08-09 17:30 J -34416555.86 -34416555.77 -34416555.65 0.0135 0.0100

Uranus -98941-11-05 22:32 J -34416467.68 -34416467.56 -34416467.42 0.0135 0.0080

Saturn -98940-02-02 00:42 J -34416379.56 -34416379.47 -34416379.37 0.0271 0.0215

Uranus -98940-02-02 03:35 J -34416379.49 -34416379.35 -34416379.21 0.0135 0.0061 *

Uranus -98940-05-01 08:23 J -34416291.30 -34416291.15 -34416291.00 0.0135 0.0043

Saturn -98940-05-01 15:49 J -34416290.97 -34416290.84 -34416290.70 0.0271 0.0134

Uranus -98940-07-28 13:11 J -34416203.11 -34416202.95 -34416202.79 0.0135 0.0024

Saturn -98940-07-29 06:28 J -34416202.38 -34416202.23 -34416202.07 0.0271 0.0055

Uranus -98940-10-24 17:44 J -34416114.91 -34416114.76 -34416114.60 0.0135 0.0007

Saturn -98940-10-25 21:06 J -34416113.78 -34416113.62 -34416113.47 0.0271 0.0024

Uranus -98939-01-20 22:32 J -34416026.72 -34416026.56 -34416026.40 0.0135 0.0012

Saturn -98939-01-22 11:16 J -34416025.17 -34416025.03 -34416024.89 0.0271 0.0101

Uranus -98939-04-19 03:06 J -34415938.52 -34415938.37 -34415938.22 0.0135 0.0030

Saturn -98939-04-21 01:11 J -34415936.57 -34415936.45 -34415936.34 0.0271 0.0176

Venus -98939-05-17 00:13 J -34415910.60 -34415910.49 -34415910.38 0.3778 0.0043

Uranus -98939-07-16 07:40 J -34415850.32 -34415850.18 -34415850.03 0.0135 0.0048

Saturn -98939-07-18 14:37 J -34415847.94 -34415847.89 -34415847.83 0.0271 0.0249

Uranus -98939-10-12 12:13 J -34415762.12 -34415761.99 -34415761.85 0.0134 0.0066

Uranus -98938-01-08 16:32 J -34415673.92 -34415673.81 -34415673.68 0.0134 0.0083

Uranus -98938-04-06 20:52 J -34415585.72 -34415585.63 -34415585.52 0.0134 0.0101

Uranus -98938-07-04 01:25 J -34415497.51 -34415497.44 -34415497.36 0.0134 0.0117

Moon -98938-07-05 01:25 J -34415496.47 -34415496.44 -34415496.40 0.2639 0.2494

Earth -98938-07-05 02:08 J -34415496.45 -34415496.41 -34415496.36 0.2635 0.2434 *

Uranus -98938-09-30 05:44 J -34415409.26 -34415409.26 -34415409.25 0.0134 0.0134

Jupiter -98936-01-10 07:25 J -34414941.24 -34414941.19 -34414941.15 0.0512 0.0483

Jupiter -98936-04-09 19:54 J -34414851.81 -34414851.67 -34414851.52 0.0508 0.0025

Jupiter -98936-07-08 09:49 J -34414762.15 -34414762.09 -34414762.02 0.0505 0.0454

Mars -98935-03-31 07:40 J -34414496.30 -34414496.18 -34414496.06 0.1618 0.0814

Venus -98935-05-15 23:01 J -34414450.62 -34414450.54 -34414450.45 0.3594 0.2750

Venus -98934-11-30 19:11 J -34413886.81 -34413886.70 -34413886.59 0.3775 0.0988

Mars -98933-03-06 04:18 J -34413790.44 -34413790.32 -34413790.21 0.1624 0.1007

Mars -98932-01-16 13:25 J -34413474.05 -34413473.94 -34413473.83 0.1905 0.1077

Earth -98932-07-14 06:13 J -34413295.30 -34413295.24 -34413295.17 0.2652 0.2177

Moon -98932-07-14 06:56 J -34413295.27 -34413295.21 -34413295.14 0.2649 0.2215 *

Mars -98931-12-23 20:08 J -34412767.70 -34412767.66 -34412767.61 0.1896 0.1744

Jupiter -98930-06-10 08:37 J -34412599.23 -34412599.14 -34412599.04 0.0517 0.0409

Jupiter -98930-09-08 05:16 J -34412509.43 -34412509.28 -34412509.13 0.0521 0.0132

Venus -98930-11-29 23:30 J -34412426.64 -34412426.52 -34412426.39 0.3596 0.1359

Moon -98929-12-29 06:56 J -34412031.34 -34412031.21 -34412031.07 0.2692 0.0467

Earth -98929-12-29 07:25 J -34412031.32 -34412031.19 -34412031.05 0.2697 0.0351 *

Venus -98928-06-15 14:23 J -34411862.99 -34411862.90 -34411862.80 0.3771 0.2031

Mars -98926-08-21 15:06 J -34411065.96 -34411065.87 -34411065.78 0.1617 0.1230

Saturn -98926-11-15 10:32 J -34410980.16 -34410980.06 -34410979.96 0.0288 0.0215

Saturn -98925-02-12 02:52 J -34410891.52 -34410891.38 -34410891.24 0.0288 0.0124

Saturn -98925-05-10 19:40 J -34410802.84 -34410802.68 -34410802.53 0.0288 0.0031

Moon -98925-07-06 22:47 J -34410745.66 -34410745.55 -34410745.44 0.2646 0.1226

Earth -98925-07-06 22:47 J -34410745.66 -34410745.55 -34410745.44 0.2639 0.1185 *

Saturn -98925-08-07 12:42 J -34410714.12 -34410713.97 -34410713.82 0.0288 0.0066

Pluto -98925-09-01 15:20 J -34410688.90 -34410688.86 -34410688.79 0.0060 0.0057

Saturn -98925-11-04 06:13 J -34410625.37 -34410625.24 -34410625.11 0.0288 0.0164

Pluto -98925-11-28 16:47 J -34410600.89 -34410600.80 -34410600.68 0.0060 0.0050

Jupiter -98924-01-26 22:18 J -34410541.71 -34410541.57 -34410541.42 0.0509 0.0137

Saturn -98924-01-31 23:44 J -34410536.56 -34410536.51 -34410536.44 0.0288 0.0264

Pluto -98924-02-24 18:28 J -34410512.86 -34410512.73 -34410512.59 0.0060 0.0043

Jupiter -98924-04-26 11:59 J -34410452.11 -34410452.00 -34410451.89 0.0506 0.0337

Pluto -98924-05-23 19:54 J -34410424.82 -34410424.67 -34410424.50 0.0060 0.0036

Venus -98924-06-14 23:30 J -34410402.65 -34410402.52 -34410402.38 0.3600 0.0070

Mars -98924-07-27 10:47 J -34410360.19 -34410360.05 -34410359.92 0.1622 0.0546

Pluto -98924-08-19 21:20 J -34410336.77 -34410336.61 -34410336.43 0.0060 0.0030

Pluto -98924-11-15 23:01 J -34410248.72 -34410248.54 -34410248.35 0.0060 0.0022

Pluto -98923-02-12 00:28 J -34410160.67 -34410160.48 -34410160.28 0.0060 0.0015

Pluto -98923-05-11 01:54 J -34410072.61 -34410072.42 -34410072.22 0.0060 0.0009

Mars -98923-06-08 16:47 J -34410043.83 -34410043.80 -34410043.76 0.1907 0.1828

Pluto -98923-08-07 03:35 J -34409984.55 -34409984.35 -34409984.15 0.0060 0.0001

Pluto -98923-11-03 05:01 J -34409896.48 -34409896.29 -34409896.09 0.0061 0.0006

Venus -98923-12-30 09:49 J -34409839.15 -34409839.09 -34409839.03 0.3768 0.3108

Pluto -98922-01-30 06:42 J -34409808.42 -34409808.22 -34409808.03 0.0061 0.0013

Pluto -98922-04-28 08:08 J -34409720.35 -34409720.16 -34409719.97 0.0061 0.0020

Pluto -98922-07-25 09:06 J -34409632.27 -34409632.12 -34409631.92 0.0061 0.0028

Pluto -98922-10-21 10:47 J -34409544.19 -34409544.05 -34409543.87 0.0061 0.0035

Pluto -98921-01-17 12:13 J -34409456.11 -34409455.99 -34409455.83 0.0061 0.0042

Pluto -98921-04-14 13:54 J -34409368.02 -34409367.92 -34409367.79 0.0061 0.0049

Mars -98921-05-15 00:56 J -34409337.56 -34409337.46 -34409337.35 0.1899 0.1084

Pluto -98921-07-11 15:49 J -34409279.91 -34409279.84 -34409279.77 0.0061 0.0056

Venus -98919-12-29 23:16 J -34408378.66 -34408378.53 -34408378.41 0.3603 0.1254

Jupiter -98918-06-27 04:47 J -34408199.45 -34408199.30 -34408199.14 0.0520 0.0016

Jupiter -98918-09-24 23:59 J -34408109.52 -34408109.50 -34408109.47 0.0523 0.0517

Moon -98915-01-01 07:11 J -34407280.32 -34407280.20 -34407280.08 0.2689 0.1217

Earth -98915-01-01 08:23 J -34407280.27 -34407280.15 -34407280.04 0.2692 0.1307 *

Mars -98915-12-17 17:30 J -34406929.91 -34406929.77 -34406929.63 0.1621 0.0098

Venus -98913-07-14 22:18 J -34406354.66 -34406354.57 -34406354.47 0.3606 0.2473

Jupiter -98913-11-15 01:11 J -34406231.58 -34406231.45 -34406231.32 0.0510 0.0246

Jupiter -98912-02-12 14:37 J -34406142.03 -34406141.89 -34406141.76 0.0507 0.0225

Earth -98912-07-09 19:11 J -34405994.82 -34405994.70 -34405994.58 0.2644 0.0059

Moon -98912-07-09 19:40 J -34405994.80 -34405994.68 -34405994.56 0.2648 0.0173 *

Mars -98912-10-05 05:44 J -34405907.39 -34405907.26 -34405907.14 0.1902 0.0415

Saturn -98911-06-22 03:06 J -34405647.44 -34405647.37 -34405647.29 0.0271 0.0234

Saturn -98911-09-18 18:13 J -34405558.87 -34405558.74 -34405558.61 0.0271 0.0153

Saturn -98911-12-16 09:06 J -34405470.27 -34405470.12 -34405469.97 0.0271 0.0073

Saturn -98910-03-14 23:30 J -34405381.67 -34405381.52 -34405381.36 0.0271 0.0009

Saturn -98910-06-11 13:54 J -34405293.07 -34405292.92 -34405292.78 0.0271 0.0083

Saturn -98910-09-08 03:49 J -34405204.46 -34405204.34 -34405204.22 0.0271 0.0159

Saturn -98910-12-05 17:30 J -34405115.85 -34405115.77 -34405115.70 0.0271 0.0232

Jupiter -98906-04-15 05:30 J -34403889.42 -34403889.27 -34403889.12 0.0519 0.0145

Jupiter -98906-07-14 01:11 J -34403799.55 -34403799.45 -34403799.35 0.0522 0.0389

Mars -98905-05-09 00:42 J -34403499.61 -34403499.47 -34403499.34 0.1620 0.0340

Venus -98905-10-22 20:37 J -34403332.68 -34403332.64 -34403332.60 0.3788 0.3524

Mars -98903-04-14 22:04 J -34402793.62 -34402793.58 -34402793.53 0.1626 0.1528

Mars -98902-02-25 10:04 J -34402477.21 -34402477.08 -34402476.95 0.1904 0.0282

Neptune -98901-05-02 22:04 J -34402044.62 -34402044.58 -34402044.52 0.0088 0.0084

Neptune -98901-07-30 00:42 J -34401956.54 -34401956.47 -34401956.39 0.0088 0.0079

Jupiter -98901-09-03 03:49 J -34401921.44 -34401921.34 -34401921.23 0.0511 0.0358

Neptune -98901-10-26 03:06 J -34401868.45 -34401868.37 -34401868.27 0.0088 0.0074

Jupiter -98901-12-01 17:01 J -34401831.94 -34401831.79 -34401831.65 0.0507 0.0110

Neptune -98900-01-22 05:44 J -34401780.36 -34401780.26 -34401780.15 0.0088 0.0069

Neptune -98900-04-20 08:23 J -34401692.26 -34401692.15 -34401692.03 0.0088 0.0064

Neptune -98900-07-17 10:47 J -34401604.16 -34401604.05 -34401603.91 0.0088 0.0059

Neptune -98900-10-13 13:25 J -34401516.07 -34401515.94 -34401515.80 0.0088 0.0054

Neptune -98899-01-09 15:49 J -34401427.97 -34401427.84 -34401427.69 0.0088 0.0049

Neptune -98899-04-07 18:28 J -34401339.87 -34401339.73 -34401339.58 0.0088 0.0044

Venus -98899-05-08 14:52 J -34401308.96 -34401308.88 -34401308.80 0.3785 0.2614

Neptune -98899-07-04 20:52 J -34401251.77 -34401251.63 -34401251.47 0.0088 0.0039

Earth -98899-07-12 15:20 J -34401243.97 -34401243.86 -34401243.75 0.2648 0.1242

Moon -98899-07-12 16:18 J -34401243.93 -34401243.82 -34401243.71 0.2649 0.1260 *

Neptune -98899-09-30 23:30 J -34401163.67 -34401163.52 -34401163.36 0.0088 0.0034

Neptune -98899-12-28 01:54 J -34401075.57 -34401075.42 -34401075.25 0.0088 0.0029

Neptune -98898-03-26 04:32 J -34400987.47 -34400987.31 -34400987.15 0.0088 0.0024

Neptune -98898-06-22 06:56 J -34400899.37 -34400899.21 -34400899.04 0.0088 0.0019

Neptune -98898-09-18 09:20 J -34400811.27 -34400811.11 -34400810.94 0.0088 0.0014

Neptune -98898-12-15 11:44 J -34400723.17 -34400723.01 -34400722.84 0.0088 0.0009

Neptune -98897-03-12 14:23 J -34400635.07 -34400634.90 -34400634.74 0.0088 0.0004

Neptune -98897-06-08 16:47 J -34400546.97 -34400546.80 -34400546.64 0.0088 0.0001

Neptune -98897-09-04 19:11 J -34400458.87 -34400458.70 -34400458.54 0.0088 0.0006

Neptune -98897-12-01 21:35 J -34400370.77 -34400370.60 -34400370.44 0.0088 0.0011

Uranus -98896-01-04 23:59 J -34400336.56 -34400336.50 -34400336.43 0.0143 0.0128

Neptune -98896-02-27 23:44 J -34400282.67 -34400282.51 -34400282.34 0.0088 0.0016

Uranus -98896-04-03 05:01 J -34400248.39 -34400248.29 -34400248.19 0.0143 0.0108

Saturn -98896-04-03 09:49 J -34400248.15 -34400248.09 -34400248.01 0.0288 0.0250

Neptune -98896-05-27 02:08 J -34400194.56 -34400194.41 -34400194.25 0.0088 0.0020

Uranus -98896-06-30 10:04 J -34400160.20 -34400160.08 -34400159.95 0.0143 0.0087

Saturn -98896-07-01 02:08 J -34400159.53 -34400159.41 -34400159.28 0.0288 0.0160

Neptune -98896-08-23 04:18 J -34400106.46 -34400106.32 -34400106.15 0.0088 0.0026

Uranus -98896-09-26 15:06 J -34400072.00 -34400071.87 -34400071.72 0.0143 0.0067

Saturn -98896-09-27 18:42 J -34400070.87 -34400070.72 -34400070.57 0.0288 0.0067

Mars -98896-09-29 07:54 J -34400069.29 -34400069.17 -34400069.05 0.1618 0.0761

Neptune -98896-11-19 06:56 J -34400018.36 -34400018.21 -34400018.06 0.0088 0.0030

Uranus -98896-12-23 20:23 J -34399983.79 -34399983.65 -34399983.50 0.0144 0.0045

Saturn -98896-12-25 11:44 J -34399982.17 -34399982.01 -34399981.86 0.0288 0.0029

Earth -98896-12-27 12:42 J -34399980.07 -34399979.97 -34399979.86 0.2702 0.1634

Moon -98896-12-27 12:56 J -34399980.06 -34399979.96 -34399979.85 0.2695 0.1683 *

Neptune -98895-02-15 09:06 J -34399930.26 -34399930.12 -34399929.96 0.0088 0.0035

Uranus -98895-03-22 01:40 J -34399895.58 -34399895.43 -34399895.27 0.0144 0.0024

Saturn -98895-03-24 04:47 J -34399893.43 -34399893.30 -34399893.15 0.0288 0.0126

Neptune -98895-05-14 11:16 J -34399842.16 -34399842.03 -34399841.87 0.0088 0.0040

Uranus -98895-06-18 06:56 J -34399807.36 -34399807.21 -34399807.05 0.0144 0.0003

Saturn -98895-06-20 22:32 J -34399804.65 -34399804.56 -34399804.46 0.0288 0.0224

Neptune -98895-08-10 13:54 J -34399754.06 -34399753.92 -34399753.78 0.0088 0.0044

Uranus -98895-09-14 12:28 J -34399719.14 -34399718.98 -34399718.83 0.0144 0.0020

Neptune -98895-11-06 16:04 J -34399665.96 -34399665.83 -34399665.69 0.0088 0.0049

Uranus -98895-12-11 17:44 J -34399630.91 -34399630.76 -34399630.61 0.0144 0.0042

Jupiter -98894-02-01 06:13 J -34399579.37 -34399579.24 -34399579.10 0.0518 0.0276

Neptune -98894-02-02 18:13 J -34399577.86 -34399577.74 -34399577.60 0.0088 0.0054

Uranus -98894-03-09 23:16 J -34399542.67 -34399542.53 -34399542.39 0.0144 0.0065

Neptune -98894-05-01 20:37 J -34399489.75 -34399489.64 -34399489.51 0.0088 0.0058

Jupiter -98894-05-02 02:23 J -34399489.53 -34399489.40 -34399489.26 0.0522 0.0264 *

Uranus -98894-06-06 04:32 J -34399454.43 -34399454.31 -34399454.18 0.0144 0.0087

Neptune -98894-07-28 22:47 J -34399401.65 -34399401.55 -34399401.43 0.0088 0.0063

Uranus -98894-09-02 10:04 J -34399366.17 -34399366.08 -34399365.97 0.0144 0.0110

Mars -98894-09-05 04:32 J -34399363.42 -34399363.31 -34399363.20 0.1624 0.1062

Neptune -98894-10-25 00:56 J -34399313.55 -34399313.46 -34399313.34 0.0088 0.0067

Venus -98894-11-22 09:06 J -34399285.21 -34399285.12 -34399285.02 0.3783 0.1685

Uranus -98894-11-29 15:35 J -34399277.90 -34399277.85 -34399277.78 0.0145 0.0134

Neptune -98893-01-21 03:20 J -34399225.44 -34399225.36 -34399225.26 0.0088 0.0072

Neptune -98893-04-18 05:30 J -34399137.34 -34399137.27 -34399137.18 0.0088 0.0076

Neptune -98893-07-15 07:54 J -34399049.23 -34399049.17 -34399049.10 0.0088 0.0081

Mars -98893-07-17 13:40 J -34399047.04 -34399046.93 -34399046.81 0.1905 0.1012

Neptune -98893-10-11 09:49 J -34398961.11 -34398961.09 -34398961.03 0.0088 0.0086

Moon -98892-07-05 06:56 J -34398694.28 -34398694.21 -34398694.15 0.2641 0.2212

Earth -98892-07-05 07:25 J -34398694.26 -34398694.19 -34398694.12 0.2636 0.2170 *

Mars -98891-06-23 20:23 J -34398340.69 -34398340.65 -34398340.61 0.1896 0.1800

Jupiter -98889-06-22 06:42 J -34397611.27 -34397611.22 -34397611.16 0.0512 0.0468

Jupiter -98889-09-19 19:25 J -34397521.84 -34397521.69 -34397521.54 0.0508 0.0005

Jupiter -98889-12-18 09:20 J -34397432.16 -34397432.11 -34397432.06 0.0505 0.0469

Venus -98888-06-07 03:49 J -34397261.45 -34397261.34 -34397261.23 0.3780 0.0712

Mars -98886-02-19 15:20 J -34396638.95 -34396638.86 -34396638.76 0.1617 0.1176

Earth -98886-07-15 11:30 J -34396493.07 -34396493.02 -34396492.98 0.2653 0.2426

Moon -98886-07-15 11:59 J -34396493.03 -34396493.00 -34396492.97 0.2648 0.2534 *

Mars -98884-01-25 11:01 J -34395933.17 -34395933.04 -34395932.90 0.1622 0.0604

Mars -98884-12-07 17:16 J -34395616.83 -34395616.78 -34395616.73 0.1907 0.1753

Jupiter -98883-11-20 07:11 J -34395269.29 -34395269.20 -34395269.10 0.0517 0.0404

Venus -98883-12-21 22:32 J -34395237.67 -34395237.56 -34395237.45 0.3777 0.0301

Moon -98883-12-30 12:28 J -34395229.12 -34395228.98 -34395228.84 0.2691 0.0029

Earth -98883-12-30 13:11 J -34395229.08 -34395228.95 -34395228.81 0.2697 0.0063 *

Jupiter -98882-02-18 03:49 J -34395179.49 -34395179.34 -34395179.19 0.0521 0.0138

Saturn -98882-11-09 02:08 J -34394915.42 -34394915.41 -34394915.38 0.0271 0.0268

Mars -98882-11-14 01:25 J -34394910.55 -34394910.44 -34394910.34 0.1899 0.1154

Saturn -98881-02-05 17:30 J -34394826.88 -34394826.77 -34394826.65 0.0271 0.0186

Saturn -98881-05-04 08:37 J -34394738.29 -34394738.14 -34394738.00 0.0271 0.0105

Saturn -98881-07-31 23:16 J -34394649.69 -34394649.53 -34394649.38 0.0271 0.0026

Saturn -98881-10-28 13:40 J -34394561.08 -34394560.93 -34394560.78 0.0271 0.0052

Saturn -98880-01-25 03:35 J -34394472.48 -34394472.35 -34394472.21 0.0271 0.0128

Saturn -98880-04-23 17:16 J -34394383.87 -34394383.78 -34394383.67 0.0271 0.0204

Moon -98879-07-08 04:04 J -34393943.45 -34393943.33 -34393943.22 0.2647 0.0895

Earth -98879-07-08 04:04 J -34393943.45 -34393943.33 -34393943.22 0.2640 0.0933 *

Venus -98879-12-20 23:01 J -34393777.64 -34393777.54 -34393777.43 0.3594 0.2306

Venus -98877-07-06 17:44 J -34393213.87 -34393213.76 -34393213.66 0.3774 0.1313

Jupiter -98877-07-08 21:20 J -34393211.75 -34393211.61 -34393211.47 0.0509 0.0126

Mars -98877-07-11 23:01 J -34393208.57 -34393208.54 -34393208.52 0.1616 0.1584

Jupiter -98877-10-06 11:01 J -34393122.15 -34393122.04 -34393121.93 0.0505 0.0346

Mars -98875-06-17 17:59 J -34392502.90 -34392502.75 -34392502.61 0.1621 0.0162

Venus -98873-07-05 23:16 J -34391753.66 -34391753.53 -34391753.39 0.3597 0.0945

Mars -98872-04-05 05:59 J -34391480.38 -34391480.25 -34391480.13 0.1902 0.0478

Venus -98871-01-20 12:56 J -34391190.05 -34391189.96 -34391189.87 0.3770 0.2358

Jupiter -98871-12-07 04:32 J -34390869.46 -34390869.31 -34390869.15 0.0520 0.0015

Moon -98869-01-02 12:56 J -34390478.07 -34390477.96 -34390477.85 0.2690 0.1481

Earth -98869-01-02 14:08 J -34390478.02 -34390477.91 -34390477.81 0.2692 0.1645 *

Venus -98867-01-19 23:16 J -34389729.66 -34389729.53 -34389729.40 0.3601 0.0376

Saturn -98867-08-21 10:32 J -34389516.10 -34389516.06 -34389516.03 0.0288 0.0278

Saturn -98867-11-18 02:23 J -34389427.51 -34389427.40 -34389427.28 0.0288 0.0189

Saturn -98866-02-14 18:56 J -34389338.85 -34389338.71 -34389338.56 0.0288 0.0096

Saturn -98866-05-14 11:44 J -34389250.16 -34389250.01 -34389249.85 0.0288 0.0009

Earth -98866-07-11 00:13 J -34389192.61 -34389192.49 -34389192.36 0.2644 0.0315

Moon -98866-07-11 01:11 J -34389192.57 -34389192.45 -34389192.33 0.2648 0.0330 *

Venus -98866-08-06 08:23 J -34389166.20 -34389166.15 -34389166.11 0.3767 0.3435

Saturn -98866-08-11 05:01 J -34389161.44 -34389161.29 -34389161.14 0.0288 0.0095

Saturn -98866-11-07 22:32 J -34389072.67 -34389072.56 -34389072.44 0.0288 0.0194

Mars -98866-11-08 00:56 J -34389072.60 -34389072.46 -34389072.32 0.1619 0.0284 *

Jupiter -98865-04-26 23:59 J -34388901.63 -34388901.50 -34388901.38 0.0510 0.0242

Jupiter -98865-07-25 13:11 J -34388812.08 -34388811.95 -34388811.82 0.0507 0.0229

Mars -98864-10-13 22:32 J -34388366.59 -34388366.56 -34388366.53 0.1626 0.1591

Mars -98863-08-26 10:04 J -34388050.21 -34388050.08 -34388049.95 0.1904 0.0227

Venus -98862-08-05 22:47 J -34387705.67 -34387705.55 -34387705.43 0.3604 0.1633

Jupiter -98859-09-25 04:18 J -34386559.47 -34386559.32 -34386559.17 0.0518 0.0138

Jupiter -98859-12-23 23:59 J -34386469.60 -34386469.50 -34386469.41 0.0522 0.0395

Uranus -98857-03-06 14:37 J -34386030.90 -34386030.89 -34386030.85 0.0136 0.0134

Uranus -98857-06-02 19:40 J -34385942.75 -34385942.68 -34385942.58 0.0136 0.0115

Uranus -98857-08-30 00:42 J -34385854.57 -34385854.47 -34385854.35 0.0135 0.0095

Uranus -98857-11-26 05:44 J -34385766.39 -34385766.26 -34385766.12 0.0135 0.0076

Venus -98856-02-18 21:49 J -34385681.67 -34385681.59 -34385681.51 0.3608 0.2830

Uranus -98856-02-22 10:32 J -34385678.20 -34385678.06 -34385677.91 0.0135 0.0057

Mars -98856-03-30 08:08 J -34385642.29 -34385642.16 -34385642.04 0.1618 0.0713

Uranus -98856-05-21 15:20 J -34385590.01 -34385589.86 -34385589.70 0.0135 0.0039

Uranus -98856-08-17 20:08 J -34385501.81 -34385501.66 -34385501.50 0.0135 0.0020

Uranus -98856-11-14 00:56 J -34385413.62 -34385413.46 -34385413.30 0.0135 0.0002

Uranus -98855-02-10 05:30 J -34385325.42 -34385325.27 -34385325.11 0.0135 0.0016

Uranus -98855-05-09 10:04 J -34385237.23 -34385237.08 -34385236.92 0.0135 0.0034

Uranus -98855-08-05 14:37 J -34385149.03 -34385148.89 -34385148.74 0.0135 0.0052

Uranus -98855-11-01 19:11 J -34385060.83 -34385060.70 -34385060.56 0.0134 0.0069

Uranus -98854-01-28 23:44 J -34384972.63 -34384972.51 -34384972.39 0.0134 0.0087

Mars -98854-03-06 04:47 J -34384936.40 -34384936.30 -34384936.20 0.1624 0.1116

Uranus -98854-04-27 04:04 J -34384884.42 -34384884.33 -34384884.23 0.0134 0.0104

Uranus -98854-07-24 08:37 J -34384796.21 -34384796.14 -34384796.08 0.0134 0.0121

Mars -98853-01-16 14:08 J -34384620.03 -34384619.91 -34384619.80 0.1906 0.0943

Jupiter -98853-02-14 02:37 J -34384591.49 -34384591.39 -34384591.29 0.0511 0.0353

Jupiter -98853-05-13 15:35 J -34384501.99 -34384501.85 -34384501.70 0.0508 0.0116

Earth -98853-07-12 20:37 J -34384441.74 -34384441.64 -34384441.54 0.2649 0.1501

Moon -98853-07-12 21:20 J -34384441.70 -34384441.61 -34384441.51 0.2649 0.1659 *

Saturn -98852-06-24 19:54 J -34384094.77 -34384094.67 -34384094.57 0.0272 0.0206

Saturn -98852-09-21 11:01 J -34384006.18 -34384006.04 -34384005.90 0.0271 0.0124

Saturn -98852-12-19 01:40 J -34383917.58 -34383917.43 -34383917.28 0.0271 0.0045

Mars -98852-12-22 20:37 J -34383913.67 -34383913.64 -34383913.62 0.1897 0.1861

Saturn -98851-03-17 16:04 J -34383828.98 -34383828.83 -34383828.67 0.0271 0.0034

Saturn -98851-06-14 06:13 J -34383740.38 -34383740.24 -34383740.10 0.0271 0.0111

Saturn -98851-09-10 20:08 J -34383651.77 -34383651.66 -34383651.55 0.0271 0.0186

Saturn -98851-12-08 09:35 J -34383563.13 -34383563.10 -34383563.05 0.0272 0.0260

Moon -98850-12-28 18:28 J -34383177.85 -34383177.73 -34383177.61 0.2694 0.1238

Earth -98850-12-28 18:28 J -34383177.85 -34383177.73 -34383177.61 0.2701 0.1315 *

Venus -98848-05-29 18:42 J -34382659.77 -34382659.72 -34382659.66 0.3787 0.3233

Jupiter -98847-07-14 04:47 J -34382249.43 -34382249.30 -34382249.17 0.0518 0.0271

Mars -98847-08-20 15:35 J -34382211.95 -34382211.85 -34382211.75 0.1617 0.1127

Jupiter -98847-10-12 00:56 J -34382159.59 -34382159.46 -34382159.33 0.0521 0.0266

Moon -98846-07-06 12:13 J -34381892.07 -34381891.99 -34381891.91 0.2643 0.1988

Earth -98846-07-06 12:42 J -34381892.06 -34381891.97 -34381891.89 0.2636 0.1908 *

Mars -98845-07-26 11:16 J -34381506.16 -34381506.03 -34381505.90 0.1622 0.0657

Mars -98844-06-07 17:30 J -34381189.83 -34381189.77 -34381189.71 0.1907 0.1692

Venus -98843-12-13 12:56 J -34380636.04 -34380635.96 -34380635.87 0.3785 0.2319

Mars -98842-05-15 01:40 J -34380483.53 -34380483.43 -34380483.34 0.1899 0.1217

Jupiter -98842-12-03 05:30 J -34380281.33 -34380281.27 -34380281.21 0.0512 0.0462

Jupiter -98841-03-01 18:13 J -34380191.89 -34380191.74 -34380191.59 0.0508 0.0002

Jupiter -98841-05-30 08:08 J -34380102.20 -34380102.16 -34380102.11 0.0505 0.0477

Mars -98837-01-10 23:16 J -34378781.57 -34378781.53 -34378781.49 0.1616 0.1532

Saturn -98837-04-06 02:23 J -34378695.49 -34378695.40 -34378695.30 0.0288 0.0221

Venus -98837-06-28 07:25 J -34378612.29 -34378612.19 -34378612.08 0.3782 0.1376

Saturn -98837-07-03 18:42 J -34378606.86 -34378606.72 -34378606.58 0.0288 0.0131

Saturn -98837-09-30 11:16 J -34378518.18 -34378518.03 -34378517.87 0.0288 0.0037

Saturn -98837-12-28 04:18 J -34378429.47 -34378429.32 -34378429.17 0.0288 0.0058

Moon -98837-12-30 18:13 J -34378426.88 -34378426.74 -34378426.60 0.2690 0.0148

Earth -98837-12-30 18:56 J -34378426.84 -34378426.71 -34378426.57 0.2696 0.0322 *

Saturn -98836-03-26 21:35 J -34378340.73 -34378340.60 -34378340.46 0.0288 0.0156

Saturn -98836-06-23 15:20 J -34378251.93 -34378251.86 -34378251.78 0.0288 0.0255

Mars -98836-12-16 18:13 J -34378075.88 -34378075.74 -34378075.60 0.1621 0.0210

Jupiter -98835-05-02 05:16 J -34377939.37 -34377939.28 -34377939.18 0.0517 0.0403

Jupiter -98835-07-31 01:54 J -34377849.56 -34377849.42 -34377849.27 0.0521 0.0139

Earth -98833-07-08 09:06 J -34377141.24 -34377141.12 -34377141.00 0.2641 0.0669

Moon -98833-07-08 09:20 J -34377141.23 -34377141.11 -34377140.99 0.2647 0.0652 *

Mars -98833-10-04 06:13 J -34377053.37 -34377053.24 -34377053.12 0.1902 0.0542

Venus -98831-01-12 02:08 J -34376588.52 -34376588.41 -34376588.30 0.3779 0.0409

Pluto -98831-03-29 02:37 J -34376512.39 -34376512.39 -34376512.37 0.0085 0.0084

Pluto -98831-06-25 03:49 J -34376424.40 -34376424.34 -34376424.26 0.0085 0.0071

Pluto -98831-09-21 05:01 J -34376336.37 -34376336.29 -34376336.18 0.0084 0.0059

Pluto -98831-12-18 06:28 J -34376248.33 -34376248.23 -34376248.11 0.0084 0.0045

Pluto -98830-03-16 07:40 J -34376160.29 -34376160.18 -34376160.05 0.0084 0.0032

Pluto -98830-06-12 09:06 J -34376072.25 -34376072.12 -34376071.99 0.0084 0.0019

Pluto -98830-09-08 10:18 J -34375984.20 -34375984.07 -34375983.94 0.0084 0.0006

Pluto -98830-12-05 11:30 J -34375896.15 -34375896.02 -34375895.89 0.0084 0.0007

Jupiter -98830-12-19 20:52 J -34375881.78 -34375881.63 -34375881.49 0.0509 0.0112

Pluto -98829-03-02 12:42 J -34375808.09 -34375807.97 -34375807.84 0.0084 0.0020

Jupiter -98829-03-18 10:18 J -34375792.17 -34375792.07 -34375791.96 0.0506 0.0361

Pluto -98829-05-29 13:54 J -34375720.04 -34375719.92 -34375719.79 0.0084 0.0032

Pluto -98829-08-25 15:06 J -34375631.98 -34375631.87 -34375631.75 0.0083 0.0045

Pluto -98829-11-21 16:04 J -34375543.91 -34375543.83 -34375543.72 0.0083 0.0058

Pluto -98828-02-17 17:30 J -34375455.84 -34375455.77 -34375455.69 0.0083 0.0069

Pluto -98828-05-16 18:28 J -34375367.73 -34375367.73 -34375367.69 0.0083 0.0082

Venus -98827-01-10 22:18 J -34375128.63 -34375128.57 -34375128.52 0.3592 0.3284

Mars -98826-05-09 01:11 J -34374645.59 -34374645.45 -34374645.31 0.1619 0.0230

Venus -98826-07-28 20:52 J -34374564.74 -34374564.63 -34374564.52 0.3776 0.0608

Moon -98823-01-02 18:42 J -34373675.81 -34373675.72 -34373675.63 0.2691 0.1943

Earth -98823-01-02 19:54 J -34373675.76 -34373675.67 -34373675.58 0.2691 0.1988 *

Mars -98823-02-24 10:32 J -34373623.20 -34373623.06 -34373622.93 0.1904 0.0166

Jupiter -98823-05-19 03:20 J -34373539.52 -34373539.36 -34373539.21 0.0520 0.0018

Saturn -98823-11-11 18:56 J -34373362.77 -34373362.71 -34373362.63 0.0271 0.0239

Saturn -98822-02-08 10:18 J -34373274.20 -34373274.07 -34373273.94 0.0271 0.0157

Saturn -98822-05-08 01:11 J -34373185.60 -34373185.45 -34373185.30 0.0271 0.0077

Venus -98822-07-27 23:01 J -34373104.66 -34373104.54 -34373104.43 0.3595 0.1875

Saturn -98822-08-04 15:49 J -34373097.00 -34373096.84 -34373096.69 0.0271 0.0007

Saturn -98822-11-01 05:59 J -34373008.39 -34373008.25 -34373008.10 0.0271 0.0080

Saturn -98821-01-28 20:08 J -34372919.79 -34372919.66 -34372919.54 0.0271 0.0156

Saturn -98821-04-26 09:49 J -34372831.17 -34372831.09 -34372831.01 0.0271 0.0230

Venus -98820-02-10 16:04 J -34372540.93 -34372540.83 -34372540.73 0.3773 0.1624

Earth -98820-07-11 05:30 J -34372390.39 -34372390.27 -34372390.15 0.2645 0.0553

Moon -98820-07-11 06:13 J -34372390.35 -34372390.24 -34372390.12 0.2648 0.0687 *

Neptune -98819-04-25 23:30 J -34372101.54 -34372101.52 -34372101.48 0.0089 0.0087

Neptune -98819-07-23 01:40 J -34372013.49 -34372013.43 -34372013.38 0.0089 0.0082

Neptune -98819-10-19 03:20 J -34371925.43 -34371925.36 -34371925.29 0.0089 0.0078

Neptune -98818-01-15 05:01 J -34371837.36 -34371837.29 -34371837.20 0.0089 0.0074

Neptune -98818-04-13 06:42 J -34371749.30 -34371749.22 -34371749.12 0.0089 0.0070

Neptune -98818-07-10 08:52 J -34371661.23 -34371661.13 -34371661.03 0.0089 0.0065

Neptune -98818-10-06 10:32 J -34371573.16 -34371573.06 -34371572.95 0.0089 0.0061

Jupiter -98818-10-07 22:47 J -34371571.67 -34371571.55 -34371571.42 0.0510 0.0232

Neptune -98817-01-02 12:13 J -34371485.09 -34371484.99 -34371484.86 0.0089 0.0057

Jupiter -98817-01-05 12:13 J -34371482.12 -34371481.99 -34371481.86 0.0506 0.0238

Neptune -98817-03-30 14:23 J -34371397.02 -34371396.90 -34371396.78 0.0089 0.0052

Neptune -98817-06-26 16:04 J -34371308.95 -34371308.83 -34371308.70 0.0089 0.0048

Neptune -98817-09-22 17:59 J -34371220.87 -34371220.75 -34371220.61 0.0089 0.0044

Mars -98817-09-28 08:23 J -34371215.28 -34371215.15 -34371215.02 0.1618 0.0658

Neptune -98817-12-19 19:54 J -34371132.80 -34371132.67 -34371132.53 0.0089 0.0039

Earth -98817-12-25 23:44 J -34371126.54 -34371126.51 -34371126.47 0.2705 0.2581

Moon -98817-12-26 00:28 J -34371126.53 -34371126.48 -34371126.42 0.2699 0.2473 *

Venus -98816-02-09 23:01 J -34371080.67 -34371080.54 -34371080.40 0.3599 0.0532

Neptune -98816-03-17 21:49 J -34371044.72 -34371044.59 -34371044.45 0.0089 0.0035

Neptune -98816-06-13 23:30 J -34370956.65 -34370956.52 -34370956.37 0.0089 0.0031

Neptune -98816-09-10 01:40 J -34370868.57 -34370868.43 -34370868.28 0.0089 0.0026

Neptune -98816-12-07 03:35 J -34370780.49 -34370780.35 -34370780.20 0.0089 0.0021

Neptune -98815-03-05 05:30 J -34370692.42 -34370692.27 -34370692.12 0.0089 0.0017

Neptune -98815-06-01 07:25 J -34370604.34 -34370604.19 -34370604.04 0.0089 0.0013

Venus -98815-08-27 11:16 J -34370517.11 -34370517.03 -34370516.95 0.3769 0.2678

Neptune -98815-08-28 09:20 J -34370516.26 -34370516.11 -34370515.96 0.0089 0.0008

Mars -98815-09-04 05:01 J -34370509.38 -34370509.29 -34370509.19 0.1624 0.1175

Neptune -98815-11-24 11:16 J -34370428.18 -34370428.03 -34370427.87 0.0089 0.0004

Neptune -98814-02-20 13:11 J -34370340.10 -34370339.95 -34370339.79 0.0089 0.0003

Neptune -98814-05-19 15:20 J -34370252.01 -34370251.86 -34370251.71 0.0089 0.0006

Mars -98814-07-17 14:08 J -34370193.02 -34370192.91 -34370192.79 0.1905 0.0886

Neptune -98814-08-15 17:16 J -34370163.93 -34370163.78 -34370163.63 0.0089 0.0010

Neptune -98814-11-11 19:11 J -34370075.85 -34370075.70 -34370075.55 0.0089 0.0015

Neptune -98813-02-07 21:06 J -34369987.76 -34369987.62 -34369987.47 0.0089 0.0020

Neptune -98813-05-05 23:16 J -34369899.68 -34369899.53 -34369899.38 0.0089 0.0024

Neptune -98813-08-02 01:11 J -34369811.59 -34369811.45 -34369811.30 0.0089 0.0029

Neptune -98813-10-29 03:20 J -34369723.50 -34369723.36 -34369723.22 0.0089 0.0033

Neptune -98812-01-25 05:16 J -34369635.42 -34369635.28 -34369635.14 0.0089 0.0038

Uranus -98812-01-25 07:25 J -34369635.26 -34369635.19 -34369635.11 0.0143 0.0123 *

Neptune -98812-04-23 07:11 J -34369547.33 -34369547.20 -34369547.06 0.0089 0.0043

Uranus -98812-04-23 12:13 J -34369547.08 -34369546.99 -34369546.87 0.0143 0.0103 *

Neptune -98812-07-20 09:20 J -34369459.24 -34369459.11 -34369458.98 0.0089 0.0047

Uranus -98812-07-20 17:30 J -34369458.89 -34369458.77 -34369458.64 0.0143 0.0082

Neptune -98812-10-16 11:16 J -34369371.15 -34369371.03 -34369370.90 0.0089 0.0052

Uranus -98812-10-16 22:32 J -34369370.69 -34369370.56 -34369370.41 0.0143 0.0061

Neptune -98811-01-12 13:11 J -34369283.05 -34369282.95 -34369282.82 0.0089 0.0057

Uranus -98811-01-13 03:49 J -34369282.49 -34369282.34 -34369282.19 0.0144 0.0040

Jupiter -98811-03-07 04:04 J -34369229.49 -34369229.33 -34369229.18 0.0519 0.0120

Neptune -98811-04-10 15:35 J -34369194.96 -34369194.85 -34369194.74 0.0089 0.0061

Uranus -98811-04-11 09:06 J -34369194.28 -34369194.12 -34369193.97 0.0144 0.0018

Jupiter -98811-06-04 23:30 J -34369139.60 -34369139.52 -34369139.42 0.0523 0.0415

Neptune -98811-07-07 17:30 J -34369106.86 -34369106.77 -34369106.66 0.0089 0.0066

Uranus -98811-07-08 14:23 J -34369106.06 -34369105.90 -34369105.74 0.0144 0.0003

Venus -98811-08-26 23:01 J -34369056.67 -34369056.54 -34369056.41 0.3602 0.0778

Neptune -98811-10-03 19:25 J -34369018.77 -34369018.69 -34369018.58 0.0089 0.0071

Uranus -98811-10-04 19:40 J -34369017.83 -34369017.68 -34369017.52 0.0144 0.0025

Neptune -98811-12-30 21:35 J -34368930.67 -34368930.60 -34368930.51 0.0089 0.0076

Uranus -98810-01-01 01:11 J -34368929.60 -34368929.45 -34368929.30 0.0144 0.0048

Neptune -98810-03-28 23:59 J -34368842.56 -34368842.50 -34368842.43 0.0089 0.0080

Uranus -98810-03-30 06:28 J -34368841.36 -34368841.23 -34368841.09 0.0144 0.0070

Neptune -98810-06-25 01:54 J -34368754.45 -34368754.42 -34368754.37 0.0089 0.0085

Uranus -98810-06-26 11:59 J -34368753.12 -34368753.00 -34368752.87 0.0144 0.0093

Uranus -98810-09-22 17:30 J -34368664.86 -34368664.77 -34368664.67 0.0144 0.0116

Uranus -98810-12-19 23:01 J -34368576.57 -34368576.54 -34368576.49 0.0145 0.0139

Venus -98809-03-12 06:56 J -34368493.21 -34368493.21 -34368493.21 0.3766 0.3765

Saturn -98808-08-24 02:23 J -34367963.47 -34367963.40 -34367963.32 0.0288 0.0252

Saturn -98808-11-20 18:42 J -34367874.85 -34367874.72 -34367874.60 0.0288 0.0162

Saturn -98807-02-17 11:01 J -34367786.18 -34367786.04 -34367785.88 0.0288 0.0070

Mars -98807-02-18 15:49 J -34367784.94 -34367784.84 -34367784.74 0.1617 0.1079

Saturn -98807-05-17 04:04 J -34367697.48 -34367697.33 -34367697.17 0.0288 0.0026

Earth -98807-07-14 01:40 J -34367639.52 -34367639.43 -34367639.34 0.2649 0.1755

Moon -98807-07-14 02:37 J -34367639.48 -34367639.39 -34367639.30 0.2647 0.1771 *

Saturn -98807-08-13 21:20 J -34367608.75 -34367608.61 -34367608.47 0.0288 0.0123

Saturn -98807-11-10 14:52 J -34367519.97 -34367519.88 -34367519.77 0.0288 0.0223

Jupiter -98806-07-27 01:25 J -34367261.54 -34367261.44 -34367261.33 0.0511 0.0346

Jupiter -98806-10-24 14:23 J -34367172.04 -34367171.90 -34367171.75 0.0507 0.0122

Mars -98805-01-25 11:44 J -34367079.14 -34367079.01 -34367078.88 0.1622 0.0714

Venus -98805-03-11 22:04 J -34367032.68 -34367032.58 -34367032.47 0.3605 0.1999

Mars -98805-12-06 17:44 J -34366762.83 -34366762.76 -34366762.69 0.1907 0.1628

Moon -98804-12-28 23:59 J -34366375.63 -34366375.50 -34366375.38 0.2694 0.1063

Earth -98804-12-29 00:13 J -34366375.62 -34366375.49 -34366375.37 0.2700 0.0988 *

Mars -98803-11-13 01:40 J -34366056.52 -34366056.43 -34366056.33 0.1899 0.1274

Moon -98800-07-06 17:30 J -34365089.86 -34365089.77 -34365089.67 0.2643 0.1632

Earth -98800-07-06 17:44 J -34365089.85 -34365089.76 -34365089.66 0.2637 0.1648 *

Venus -98800-09-25 21:06 J -34365008.68 -34365008.62 -34365008.56 0.3609 0.3185

Jupiter -98800-12-24 03:35 J -34364919.49 -34364919.35 -34364919.22 0.0517 0.0262

Jupiter -98799-03-23 23:44 J -34364829.64 -34364829.51 -34364829.38 0.0521 0.0274

Mars -98798-07-11 23:30 J -34364354.57 -34364354.52 -34364354.47 0.1616 0.1484

Mars -98796-06-16 18:28 J -34363648.87 -34363648.73 -34363648.59 0.1621 0.0261

Jupiter -98794-05-15 04:04 J -34362951.39 -34362951.33 -34362951.27 0.0513 0.0458

Jupiter -98794-08-12 16:47 J -34362861.94 -34362861.80 -34362861.65 0.0509 0.0011

Jupiter -98794-11-10 06:42 J -34362772.25 -34362772.22 -34362772.17 0.0505 0.0483

Saturn -98793-03-30 21:20 J -34362630.65 -34362630.61 -34362630.57 0.0272 0.0260

Mars -98793-04-04 06:13 J -34362626.36 -34362626.24 -34362626.11 0.1902 0.0605

Saturn -98793-06-27 12:28 J -34362542.09 -34362541.98 -34362541.86 0.0272 0.0178

Saturn -98793-09-24 03:35 J -34362453.50 -34362453.35 -34362453.21 0.0272 0.0097

Saturn -98793-12-21 18:13 J -34362364.90 -34362364.74 -34362364.59 0.0272 0.0018

Saturn -98792-03-20 08:23 J -34362276.29 -34362276.15 -34362276.00 0.0272 0.0062

Saturn -98792-06-16 22:32 J -34362187.69 -34362187.56 -34362187.43 0.0272 0.0138

Saturn -98792-09-13 12:13 J -34362099.07 -34362098.99 -34362098.89 0.0272 0.0213

Venus -98791-01-03 17:01 J -34361986.86 -34361986.79 -34361986.73 0.3787 0.2943

Moon -98791-12-31 23:59 J -34361624.64 -34361624.50 -34361624.37 0.2691 0.0652

Earth -98790-01-01 00:42 J -34361624.60 -34361624.47 -34361624.34 0.2695 0.0651 *

Jupiter -98788-10-12 03:49 J -34360609.44 -34360609.34 -34360609.24 0.0516 0.0398

Jupiter -98787-01-10 00:28 J -34360519.63 -34360519.48 -34360519.33 0.0520 0.0142

Earth -98787-07-09 14:23 J -34360339.02 -34360338.90 -34360338.78 0.2641 0.0408

Moon -98787-07-09 14:52 J -34360339.00 -34360338.88 -34360338.76 0.2647 0.0386 *

Mars -98787-11-07 01:25 J -34360218.58 -34360218.44 -34360218.30 0.1619 0.0178

Venus -98786-07-20 11:16 J -34359963.12 -34359963.03 -34359962.94 0.3784 0.2022

Mars -98784-08-25 10:47 J -34359196.18 -34359196.05 -34359195.92 0.1904 0.0089

Jupiter -98782-05-31 19:25 J -34358551.83 -34358551.69 -34358551.55 0.0509 0.0106

Jupiter -98782-08-29 09:06 J -34358462.22 -34358462.12 -34358462.02 0.0506 0.0367

Venus -98780-02-02 05:44 J -34357939.37 -34357939.26 -34357939.15 0.3781 0.1072

Saturn -98778-01-11 02:52 J -34357231.40 -34357231.38 -34357231.35 0.0287 0.0282

Saturn -98778-04-09 18:56 J -34357142.82 -34357142.71 -34357142.60 0.0287 0.0192

Saturn -98778-07-07 11:16 J -34357054.17 -34357054.03 -34357053.88 0.0287 0.0101

Saturn -98778-10-04 04:04 J -34356965.49 -34356965.33 -34356965.18 0.0287 0.0007

Saturn -98778-12-31 21:06 J -34356876.77 -34356876.62 -34356876.47 0.0287 0.0089

Moon -98777-01-04 00:28 J -34356873.57 -34356873.48 -34356873.40 0.2691 0.2111

Earth -98777-01-04 01:40 J -34356873.50 -34356873.43 -34356873.36 0.2690 0.2329 *

Mars -98777-03-29 08:37 J -34356788.27 -34356788.14 -34356788.01 0.1618 0.0608

Saturn -98777-03-29 14:23 J -34356788.01 -34356787.90 -34356787.77 0.0287 0.0188 *

Saturn -98777-06-26 08:23 J -34356699.15 -34356699.15 -34356699.14 0.0287 0.0287

Jupiter -98776-10-29 01:25 J -34356209.60 -34356209.44 -34356209.29 0.0520 0.0015

Mars -98775-03-05 05:30 J -34356082.36 -34356082.27 -34356082.18 0.1624 0.1233

Venus -98775-08-19 00:28 J -34355915.60 -34355915.48 -34355915.37 0.3778 0.0152

Mars -98774-01-15 14:23 J -34355766.01 -34355765.90 -34355765.78 0.1906 0.0820

Earth -98774-07-12 10:47 J -34355588.17 -34355588.05 -34355587.94 0.2646 0.0814

Moon -98774-07-12 11:30 J -34355588.13 -34355588.02 -34355587.90 0.2649 0.0865 *

Uranus -98773-03-26 21:49 J -34355329.63 -34355329.59 -34355329.54 0.0136 0.0130

Uranus -98773-06-23 02:52 J -34355241.47 -34355241.38 -34355241.29 0.0136 0.0111

Uranus -98773-09-19 07:40 J -34355153.29 -34355153.18 -34355153.06 0.0135 0.0092

Uranus -98773-12-16 12:42 J -34355065.10 -34355064.97 -34355064.84 0.0135 0.0073

Uranus -98772-03-14 17:30 J -34354976.91 -34354976.77 -34354976.62 0.0135 0.0054

Uranus -98772-06-10 22:18 J -34354888.72 -34354888.57 -34354888.42 0.0135 0.0035

Uranus -98772-09-07 03:06 J -34354800.53 -34354800.37 -34354800.21 0.0135 0.0017

Uranus -98772-12-04 07:40 J -34354712.33 -34354712.18 -34354712.02 0.0135 0.0004

Uranus -98771-03-02 12:28 J -34354624.14 -34354623.98 -34354623.83 0.0135 0.0019

Uranus -98771-05-29 17:01 J -34354535.94 -34354535.79 -34354535.64 0.0135 0.0037

Venus -98771-08-17 22:18 J -34354455.66 -34354455.57 -34354455.49 0.3593 0.2840

Uranus -98771-08-25 21:35 J -34354447.74 -34354447.60 -34354447.46 0.0135 0.0055

Uranus -98771-11-22 01:54 J -34354359.54 -34354359.42 -34354359.28 0.0134 0.0073

Earth -98771-12-27 05:30 J -34354324.34 -34354324.27 -34354324.20 0.2705 0.2262

Moon -98771-12-27 05:59 J -34354324.32 -34354324.25 -34354324.17 0.2699 0.2204 *

Uranus -98770-02-18 06:28 J -34354271.34 -34354271.23 -34354271.11 0.0134 0.0090

Jupiter -98770-03-19 22:04 J -34354241.71 -34354241.58 -34354241.45 0.0510 0.0218

Uranus -98770-05-17 11:01 J -34354183.13 -34354183.04 -34354182.95 0.0134 0.0107

Jupiter -98770-06-17 11:30 J -34354152.15 -34354152.02 -34354151.89 0.0507 0.0252

Uranus -98770-08-13 15:20 J -34354094.92 -34354094.86 -34354094.80 0.0134 0.0124

Venus -98769-03-03 19:25 J -34353891.80 -34353891.69 -34353891.59 0.3775 0.0920

Mars -98768-08-19 16:04 J -34353357.94 -34353357.83 -34353357.72 0.1617 0.1025

Mars -98766-07-26 11:59 J -34352652.13 -34352652.00 -34352651.87 0.1622 0.0770

Venus -98765-03-02 22:32 J -34352431.68 -34352431.56 -34352431.43 0.3596 0.1465

Mars -98765-06-06 17:59 J -34352335.82 -34352335.75 -34352335.67 0.1907 0.1561

Jupiter -98764-08-17 02:23 J -34351899.55 -34351899.40 -34351899.24 0.0519 0.0115

Venus -98764-09-17 14:23 J -34351868.00 -34351867.90 -34351867.80 0.3772 0.1937

Saturn -98764-11-14 11:44 J -34351810.10 -34351810.01 -34351809.91 0.0271 0.0211

Jupiter -98764-11-14 22:18 J -34351809.66 -34351809.57 -34351809.48 0.0523 0.0419

Saturn -98763-02-11 02:52 J -34351721.51 -34351721.38 -34351721.24 0.0271 0.0129

Saturn -98763-05-10 17:44 J -34351632.91 -34351632.76 -34351632.61 0.0271 0.0049

Mars -98763-05-14 01:54 J -34351629.51 -34351629.42 -34351629.33 0.1900 0.1338

Saturn -98763-08-07 08:08 J -34351544.31 -34351544.16 -34351544.01 0.0271 0.0030

Saturn -98763-11-03 22:18 J -34351455.70 -34351455.57 -34351455.43 0.0271 0.0107

Saturn -98762-01-31 12:13 J -34351367.09 -34351366.99 -34351366.87 0.0271 0.0183

Saturn -98762-04-30 01:54 J -34351278.46 -34351278.42 -34351278.37 0.0271 0.0256

Earth -98761-07-14 06:56 J -34350837.29 -34350837.21 -34350837.14 0.2650 0.2008

Moon -98761-07-14 07:40 J -34350837.25 -34350837.18 -34350837.11 0.2646 0.2131 *

Venus -98760-09-16 22:47 J -34350407.68 -34350407.55 -34350407.41 0.3599 0.0126

Jupiter -98758-01-06 00:28 J -34349931.59 -34349931.48 -34349931.37 0.0511 0.0336

Mars -98758-01-09 23:44 J -34349927.57 -34349927.51 -34349927.45 0.1616 0.1434

Venus -98758-04-03 09:49 J -34349844.16 -34349844.09 -34349844.02 0.3768 0.3001

Jupiter -98758-04-05 13:25 J -34349842.08 -34349841.94 -34349841.80 0.0507 0.0131

Moon -98758-12-30 05:30 J -34349573.40 -34349573.27 -34349573.14 0.2693 0.0656

Earth -98758-12-30 05:44 J -34349573.39 -34349573.26 -34349573.13 0.2700 0.0666 *

Mars -98757-12-15 18:42 J -34349221.86 -34349221.72 -34349221.58 0.1620 0.0322

Venus -98754-04-02 22:32 J -34348383.69 -34348383.56 -34348383.44 0.3603 0.1154

Moon -98754-07-07 22:47 J -34348287.65 -34348287.55 -34348287.44 0.2644 0.1466

Earth -98754-07-07 23:01 J -34348287.64 -34348287.54 -34348287.43 0.2637 0.1382 *

Mars -98754-10-04 06:42 J -34348199.34 -34348199.22 -34348199.10 0.1902 0.0670

Jupiter -98752-06-05 03:06 J -34347589.51 -34347589.37 -34347589.23 0.0518 0.0246

Jupiter -98752-09-02 23:16 J -34347499.65 -34347499.53 -34347499.40 0.0522 0.0291

Saturn -98749-08-26 18:42 J -34346410.81 -34346410.72 -34346410.62 0.0288 0.0225

Venus -98749-10-16 21:35 J -34346359.69 -34346359.60 -34346359.50 0.3606 0.2367

Saturn -98749-11-23 11:01 J -34346322.18 -34346322.04 -34346321.90 0.0288 0.0134

Saturn -98748-02-20 03:35 J -34346233.50 -34346233.35 -34346233.19 0.0288 0.0041

Saturn -98748-05-19 20:37 J -34346144.80 -34346144.64 -34346144.49 0.0288 0.0055

Saturn -98748-08-16 13:54 J -34346056.05 -34346055.92 -34346055.78 0.0288 0.0153

Saturn -98748-11-13 07:40 J -34345967.25 -34345967.18 -34345967.10 0.0287 0.0252

Mars -98747-05-08 01:40 J -34345791.57 -34345791.43 -34345791.29 0.1619 0.0127

Jupiter -98747-10-25 02:52 J -34345621.44 -34345621.38 -34345621.31 0.0512 0.0451

Jupiter -98746-01-22 15:35 J -34345531.99 -34345531.85 -34345531.70 0.0508 0.0019

Jupiter -98746-04-22 05:30 J -34345442.30 -34345442.27 -34345442.23 0.0505 0.0489

Moon -98744-01-01 05:30 J -34344822.40 -34344822.27 -34344822.14 0.2692 0.0811

Earth -98744-01-01 06:28 J -34344822.35 -34344822.23 -34344822.10 0.2695 0.0988 *

Mars -98744-02-23 10:47 J -34344769.18 -34344769.05 -34344768.92 0.1904 0.0041

Venus -98743-05-02 20:37 J -34344335.67 -34344335.64 -34344335.62 0.3610 0.3532

Earth -98741-07-09 19:40 J -34343536.81 -34343536.68 -34343536.56 0.2642 0.0178

Moon -98741-07-09 20:08 J -34343536.78 -34343536.66 -34343536.54 0.2647 0.0045 *

Venus -98740-01-24 20:52 J -34343337.66 -34343337.63 -34343337.59 0.3788 0.3550

Jupiter -98740-03-24 02:37 J -34343279.49 -34343279.39 -34343279.28 0.0516 0.0388

Jupiter -98740-06-21 23:16 J -34343189.68 -34343189.53 -34343189.38 0.0520 0.0151

Mars -98738-09-28 08:52 J -34342361.26 -34342361.13 -34342361.00 0.1618 0.0556

Neptune -98737-10-31 18:28 J -34341961.75 -34341961.73 -34341961.68 0.0088 0.0087

Neptune -98736-01-27 21:06 J -34341873.67 -34341873.62 -34341873.54 0.0088 0.0082

Neptune -98736-04-25 23:44 J -34341785.58 -34341785.51 -34341785.41 0.0088 0.0076

Neptune -98736-07-23 02:23 J -34341697.49 -34341697.40 -34341697.29 0.0088 0.0071

Mars -98736-09-03 05:44 J -34341655.35 -34341655.26 -34341655.18 0.1624 0.1286

Neptune -98736-10-19 05:16 J -34341609.39 -34341609.28 -34341609.17 0.0088 0.0066

Neptune -98735-01-15 07:54 J -34341521.29 -34341521.17 -34341521.05 0.0088 0.0061

Neptune -98735-04-13 10:18 J -34341433.20 -34341433.07 -34341432.94 0.0088 0.0056

Neptune -98735-07-10 12:56 J -34341345.10 -34341344.96 -34341344.82 0.0088 0.0051

Mars -98735-07-16 14:52 J -34341339.00 -34341338.88 -34341338.76 0.1906 0.0748

Venus -98735-08-10 15:06 J -34341313.95 -34341313.87 -34341313.79 0.3786 0.2653

Neptune -98735-10-06 15:20 J -34341257.00 -34341256.86 -34341256.71 0.0088 0.0046

Jupiter -98735-11-10 17:59 J -34341221.89 -34341221.75 -34341221.61 0.0510 0.0102

Neptune -98734-01-02 17:59 J -34341168.90 -34341168.75 -34341168.60 0.0088 0.0041

Jupiter -98734-02-08 07:40 J -34341132.28 -34341132.18 -34341132.08 0.0506 0.0372

Neptune -98734-03-31 20:23 J -34341080.80 -34341080.65 -34341080.49 0.0088 0.0036

Saturn -98734-04-03 13:54 J -34341078.00 -34341077.92 -34341077.83 0.0272 0.0232

Neptune -98734-06-27 23:01 J -34340992.70 -34340992.54 -34340992.39 0.0088 0.0031

Saturn -98734-07-01 05:16 J -34340989.41 -34340989.28 -34340989.15 0.0272 0.0149

Neptune -98734-09-24 01:25 J -34340904.60 -34340904.44 -34340904.28 0.0088 0.0026

Saturn -98734-09-27 20:08 J -34340900.81 -34340900.66 -34340900.51 0.0272 0.0069

Neptune -98734-12-21 03:49 J -34340816.50 -34340816.34 -34340816.17 0.0088 0.0021

Saturn -98734-12-25 10:47 J -34340812.21 -34340812.05 -34340811.90 0.0272 0.0013

Neptune -98733-03-18 06:13 J -34340728.40 -34340728.24 -34340728.07 0.0088 0.0016

Saturn -98733-03-23 00:56 J -34340723.60 -34340723.46 -34340723.31 0.0272 0.0089

Neptune -98733-06-14 08:52 J -34340640.30 -34340640.13 -34340639.97 0.0088 0.0011

Saturn -98733-06-19 14:52 J -34340634.99 -34340634.88 -34340634.75 0.0272 0.0165

Neptune -98733-09-10 11:16 J -34340552.19 -34340552.03 -34340551.86 0.0088 0.0006

Saturn -98733-09-16 04:47 J -34340546.37 -34340546.30 -34340546.23 0.0272 0.0239

Neptune -98733-12-07 13:40 J -34340464.09 -34340463.93 -34340463.76 0.0088 0.0002

Neptune -98732-03-05 16:04 J -34340375.99 -34340375.83 -34340375.66 0.0088 0.0004

Neptune -98732-06-01 18:28 J -34340287.89 -34340287.73 -34340287.56 0.0088 0.0008

Neptune -98732-08-28 20:52 J -34340199.79 -34340199.63 -34340199.47 0.0088 0.0013

Neptune -98732-11-24 23:16 J -34340111.69 -34340111.53 -34340111.37 0.0088 0.0018

Moon -98731-01-04 06:13 J -34340071.26 -34340071.24 -34340071.22 0.2690 0.2637

Earth -98731-01-04 07:25 J -34340071.20 -34340071.19 -34340071.17 0.2690 0.2672

Neptune -98731-02-21 01:40 J -34340023.59 -34340023.43 -34340023.27 0.0088 0.0023

Neptune -98731-05-20 04:04 J -34339935.49 -34339935.33 -34339935.18 0.0088 0.0028

Neptune -98731-08-16 06:13 J -34339847.39 -34339847.24 -34339847.08 0.0088 0.0032

Neptune -98731-11-12 08:23 J -34339759.28 -34339759.15 -34339758.99 0.0088 0.0038

Neptune -98730-02-08 11:01 J -34339671.18 -34339671.04 -34339670.90 0.0088 0.0042

Neptune -98730-05-07 13:11 J -34339583.08 -34339582.95 -34339582.81 0.0088 0.0047

Neptune -98730-08-03 15:20 J -34339494.98 -34339494.86 -34339494.72 0.0088 0.0052

Neptune -98730-10-30 17:59 J -34339406.88 -34339406.75 -34339406.63 0.0088 0.0056

Neptune -98729-01-26 19:54 J -34339318.77 -34339318.67 -34339318.54 0.0088 0.0061

Venus -98729-02-24 09:20 J -34339290.20 -34339290.11 -34339290.01 0.3783 0.1728

Neptune -98729-04-23 22:04 J -34339230.67 -34339230.58 -34339230.45 0.0088 0.0066

Neptune -98729-07-21 00:42 J -34339142.56 -34339142.47 -34339142.37 0.0088 0.0070

Neptune -98729-10-17 02:37 J -34339054.46 -34339054.39 -34339054.29 0.0088 0.0075

Uranus -98729-11-18 09:35 J -34339022.13 -34339022.10 -34339022.07 0.0143 0.0139

Neptune -98728-01-13 05:16 J -34338966.35 -34338966.28 -34338966.21 0.0088 0.0079

Uranus -98728-02-14 14:23 J -34338933.98 -34338933.90 -34338933.81 0.0143 0.0119

Mars -98728-02-17 16:18 J -34338930.93 -34338930.82 -34338930.71 0.1617 0.0974

Jupiter -98728-04-09 23:59 J -34338879.66 -34338879.50 -34338879.35 0.0519 0.0020

Neptune -98728-04-11 07:11 J -34338878.24 -34338878.20 -34338878.13 0.0088 0.0084

Uranus -98728-05-13 19:40 J -34338845.79 -34338845.68 -34338845.57 0.0143 0.0099

Neptune -98728-07-08 09:35 J -34338790.11 -34338790.10 -34338790.08 0.0088 0.0088

Earth -98728-07-12 15:49 J -34338785.95 -34338785.84 -34338785.73 0.2646 0.1068

Moon -98728-07-12 16:47 J -34338785.91 -34338785.80 -34338785.69 0.2647 0.1153 *

Uranus -98728-08-10 00:28 J -34338757.60 -34338757.48 -34338757.34 0.0143 0.0078

Uranus -98728-11-06 05:44 J -34338669.40 -34338669.26 -34338669.12 0.0143 0.0057

Uranus -98727-02-02 11:01 J -34338581.19 -34338581.04 -34338580.89 0.0144 0.0036

Uranus -98727-05-01 16:04 J -34338492.98 -34338492.83 -34338492.67 0.0144 0.0015

Uranus -98727-07-28 21:20 J -34338404.76 -34338404.61 -34338404.45 0.0144 0.0009

Uranus -98727-10-25 02:37 J -34338316.54 -34338316.39 -34338316.23 0.0144 0.0030

Uranus -98726-01-21 08:08 J -34338228.30 -34338228.16 -34338228.01 0.0144 0.0052

Mars -98726-01-24 12:13 J -34338225.11 -34338224.99 -34338224.86 0.1622 0.0828

Uranus -98726-04-19 13:40 J -34338140.06 -34338139.93 -34338139.79 0.0144 0.0074

Uranus -98726-07-16 18:56 J -34338051.82 -34338051.71 -34338051.58 0.0144 0.0098

Uranus -98726-10-13 00:28 J -34337963.55 -34337963.48 -34337963.38 0.0144 0.0120

Mars -98726-12-06 18:28 J -34337908.81 -34337908.73 -34337908.65 0.1907 0.1491

Uranus -98725-01-09 05:59 J -34337875.25 -34337875.25 -34337875.21 0.0145 0.0144

Earth -98725-12-27 11:16 J -34337522.13 -34337522.03 -34337521.94 0.2704 0.1944

Moon -98725-12-27 11:30 J -34337522.12 -34337522.02 -34337521.93 0.2697 0.1941 *

Venus -98724-09-09 03:49 J -34337266.44 -34337266.34 -34337266.23 0.3780 0.0790

Mars -98724-11-12 02:23 J -34337202.49 -34337202.40 -34337202.32 0.1900 0.1409

Jupiter -98723-08-29 20:37 J -34336911.77 -34336911.64 -34336911.51 0.0511 0.0214

Jupiter -98723-11-27 10:04 J -34336822.21 -34336822.08 -34336821.95 0.0507 0.0257

Moon -98721-07-05 06:56 J -34336236.24 -34336236.21 -34336236.17 0.2639 0.2514

Earth -98721-07-05 07:40 J -34336236.23 -34336236.18 -34336236.13 0.2634 0.2370 *

Saturn -98719-01-13 19:40 J -34335678.75 -34335678.68 -34335678.61 0.0287 0.0252

Saturn -98719-04-12 11:44 J -34335590.13 -34335590.01 -34335589.88 0.0287 0.0162

Saturn -98719-07-10 04:04 J -34335501.47 -34335501.33 -34335501.17 0.0287 0.0070

Mars -98719-07-10 23:59 J -34335500.57 -34335500.50 -34335500.43 0.1616 0.1385

Saturn -98719-10-06 21:06 J -34335412.78 -34335412.62 -34335412.47 0.0287 0.0026

Saturn -98718-01-03 14:08 J -34335324.05 -34335323.91 -34335323.77 0.0287 0.0122

Venus -98718-03-25 22:47 J -34335242.66 -34335242.55 -34335242.44 0.3777 0.0229

Saturn -98718-04-02 07:40 J -34335235.28 -34335235.18 -34335235.08 0.0287 0.0220

Mars -98717-06-15 18:56 J -34334794.85 -34334794.71 -34334794.57 0.1620 0.0374

Jupiter -98716-01-27 00:28 J -34334569.63 -34334569.48 -34334569.32 0.0519 0.0115

Jupiter -98716-04-26 20:23 J -34334479.74 -34334479.65 -34334479.56 0.0522 0.0418

Earth -98715-07-15 11:59 J -34334035.06 -34334035.00 -34334034.94 0.2651 0.2260

Moon -98715-07-15 12:42 J -34334035.02 -34334034.97 -34334034.91 0.2647 0.2292 *

Venus -98714-03-24 22:04 J -34333782.68 -34333782.58 -34333782.48 0.3594 0.2407

Mars -98714-04-04 06:42 J -34333772.34 -34333772.22 -34333772.10 0.1902 0.0727

Venus -98713-10-08 17:44 J -34333218.87 -34333218.76 -34333218.66 0.3774 0.1224

Moon -98712-12-30 11:16 J -34332771.17 -34332771.03 -34332770.90 0.2692 0.0405

Earth -98712-12-30 11:30 J -34332771.15 -34332771.02 -34332770.88 0.2699 0.0338 *

Jupiter -98711-06-17 23:30 J -34332601.63 -34332601.52 -34332601.41 0.0511 0.0325

Jupiter -98711-09-15 12:28 J -34332512.12 -34332511.98 -34332511.84 0.0508 0.0143

Venus -98709-10-07 22:32 J -34331758.69 -34331758.56 -34331758.43 0.3597 0.1045

Moon -98708-07-08 04:18 J -34331485.43 -34331485.32 -34331485.21 0.2644 0.1056

Earth -98708-07-08 04:18 J -34331485.43 -34331485.32 -34331485.21 0.2638 0.1122 *

Mars -98708-11-06 02:08 J -34331364.56 -34331364.41 -34331364.27 0.1619 0.0085

Venus -98707-04-24 12:56 J -34331195.05 -34331194.96 -34331194.87 0.3771 0.2259

Saturn -98705-08-20 13:11 J -34330345.98 -34330345.95 -34330345.91 0.0272 0.0265

Mars -98705-08-24 11:16 J -34330342.16 -34330342.03 -34330341.90 0.1904 0.0053

Jupiter -98705-11-15 01:25 J -34330259.57 -34330259.44 -34330259.30 0.0518 0.0243

Saturn -98705-11-17 04:32 J -34330257.42 -34330257.31 -34330257.19 0.0271 0.0182

Jupiter -98704-02-12 21:35 J -34330169.72 -34330169.60 -34330169.47 0.0522 0.0295

Saturn -98704-02-13 19:40 J -34330168.82 -34330168.68 -34330168.54 0.0271 0.0100

Saturn -98704-05-13 10:18 J -34330080.22 -34330080.07 -34330079.91 0.0271 0.0021

Saturn -98704-08-10 00:42 J -34329991.61 -34329991.47 -34329991.32 0.0271 0.0058

Saturn -98704-11-06 14:52 J -34329903.01 -34329902.88 -34329902.75 0.0271 0.0135

Saturn -98703-02-03 04:47 J -34329814.39 -34329814.30 -34329814.21 0.0271 0.0210

Venus -98703-04-23 22:32 J -34329734.70 -34329734.56 -34329734.43 0.3600 0.0280

Venus -98702-11-08 08:23 J -34329171.20 -34329171.15 -34329171.10 0.3767 0.3324

Jupiter -98699-04-06 01:54 J -34328291.49 -34328291.42 -34328291.35 0.0512 0.0442

Jupiter -98699-07-04 14:37 J -34328202.04 -34328201.89 -34328201.75 0.0508 0.0025

Jupiter -98699-10-02 04:32 J -34328112.34 -34328112.31 -34328112.29 0.0505 0.0496

Moon -98698-01-02 11:01 J -34328020.16 -34328020.04 -34328019.92 0.2692 0.1256

Earth -98698-01-02 12:13 J -34328020.11 -34328019.99 -34328019.87 0.2694 0.1321 *

Mars -98698-03-29 09:06 J -34327934.25 -34327934.12 -34327933.98 0.1618 0.0504

Venus -98698-11-07 22:04 J -34327710.70 -34327710.58 -34327710.46 0.3604 0.1527

Mars -98696-03-04 06:13 J -34327228.32 -34327228.24 -34327228.16 0.1624 0.1348

Mars -98695-01-14 15:06 J -34326912.00 -34326911.87 -34326911.75 0.1906 0.0688

Earth -98695-07-11 00:42 J -34326734.59 -34326734.47 -34326734.35 0.2642 0.0119

Moon -98695-07-11 01:25 J -34326734.56 -34326734.44 -34326734.32 0.2648 0.0129 *

Jupiter -98693-09-03 02:08 J -34325949.52 -34325949.41 -34325949.30 0.0517 0.0374

Jupiter -98693-12-01 22:47 J -34325859.70 -34325859.55 -34325859.41 0.0521 0.0166

Venus -98692-05-23 21:06 J -34325686.70 -34325686.62 -34325686.53 0.3607 0.2727

Saturn -98690-06-02 19:25 J -34324946.70 -34324946.69 -34324946.67 0.0287 0.0284

Saturn -98690-08-30 11:16 J -34324858.13 -34324858.03 -34324857.91 0.0287 0.0196

Saturn -98690-11-27 03:49 J -34324769.48 -34324769.34 -34324769.20 0.0287 0.0104

Saturn -98689-02-23 20:23 J -34324680.80 -34324680.65 -34324680.49 0.0287 0.0012

Uranus -98689-04-16 04:47 J -34324628.35 -34324628.30 -34324628.24 0.0136 0.0126

Saturn -98689-05-22 13:25 J -34324592.08 -34324591.94 -34324591.78 0.0287 0.0087

Uranus -98689-07-13 09:49 J -34324540.18 -34324540.09 -34324539.99 0.0136 0.0107

Mars -98689-08-18 16:32 J -34324503.93 -34324503.81 -34324503.70 0.1617 0.0927

Saturn -98689-08-19 06:56 J -34324503.33 -34324503.21 -34324503.09 0.0287 0.0185

Uranus -98689-10-09 14:52 J -34324452.00 -34324451.88 -34324451.76 0.0136 0.0088

Saturn -98689-11-16 00:42 J -34324414.48 -34324414.47 -34324414.45 0.0287 0.0285

Uranus -98688-01-05 19:40 J -34324363.81 -34324363.68 -34324363.54 0.0135 0.0069

Uranus -98688-04-04 00:28 J -34324275.62 -34324275.48 -34324275.33 0.0135 0.0050

Uranus -98688-07-01 05:16 J -34324187.43 -34324187.28 -34324187.12 0.0135 0.0032

Uranus -98688-09-27 10:04 J -34324099.24 -34324099.08 -34324098.92 0.0135 0.0013

Uranus -98688-12-24 14:52 J -34324011.04 -34324010.88 -34324010.73 0.0135 0.0006

Uranus -98687-03-22 19:25 J -34323922.84 -34323922.69 -34323922.53 0.0135 0.0023

Jupiter -98687-04-22 16:47 J -34323891.94 -34323891.80 -34323891.65 0.0509 0.0096

Uranus -98687-06-18 23:59 J -34323834.65 -34323834.50 -34323834.35 0.0135 0.0041

Jupiter -98687-07-21 06:28 J -34323802.33 -34323802.23 -34323802.13 0.0506 0.0378

Mars -98687-07-25 12:28 J -34323798.10 -34323797.98 -34323797.86 0.1622 0.0881

Uranus -98687-09-15 04:32 J -34323746.45 -34323746.31 -34323746.17 0.0135 0.0059

Uranus -98687-12-12 09:06 J -34323658.25 -34323658.12 -34323657.99 0.0134 0.0076

Uranus -98686-03-10 13:25 J -34323570.04 -34323569.94 -34323569.82 0.0134 0.0093

Uranus -98686-06-06 17:44 J -34323481.83 -34323481.76 -34323481.66 0.0134 0.0111

Mars -98686-06-06 18:28 J -34323481.82 -34323481.73 -34323481.64 0.1908 0.1435 *

Uranus -98686-09-02 22:18 J -34323393.61 -34323393.57 -34323393.52 0.0134 0.0127

Mars -98684-05-13 02:08 J -34322775.49 -34322775.41 -34322775.33 0.1900 0.1457

Venus -98684-08-31 18:56 J -34322664.76 -34322664.71 -34322664.65 0.3788 0.3267

Earth -98682-07-13 21:06 J -34321983.73 -34321983.62 -34321983.52 0.2647 0.1325

Moon -98682-07-13 22:04 J -34321983.69 -34321983.58 -34321983.48 0.2646 0.1445 *

Jupiter -98681-06-22 01:40 J -34321639.43 -34321639.43 -34321639.42 0.0515 0.0515

Jupiter -98681-09-19 22:47 J -34321549.71 -34321549.55 -34321549.40 0.0519 0.0027

Mars -98679-01-09 00:13 J -34321073.57 -34321073.49 -34321073.41 0.1616 0.1335

Moon -98679-12-28 17:01 J -34320719.90 -34320719.79 -34320719.68 0.2696 0.1552

Earth -98679-12-28 16:47 J -34320719.90 -34320719.80 -34320719.69 0.2703 0.1624 *

Venus -98678-03-17 13:11 J -34320641.03 -34320640.95 -34320640.86 0.3785 0.2361

Mars -98678-12-15 19:11 J -34320367.83 -34320367.70 -34320367.56 0.1620 0.0427

Pluto -98677-01-08 00:42 J -34320344.52 -34320344.47 -34320344.41 0.0060 0.0057

Pluto -98677-04-05 01:25 J -34320256.51 -34320256.44 -34320256.30 0.0060 0.0051

Pluto -98677-07-02 03:06 J -34320168.48 -34320168.37 -34320168.21 0.0060 0.0044

Pluto -98677-09-28 04:32 J -34320080.44 -34320080.31 -34320080.13 0.0060 0.0038

Pluto -98677-12-25 06:13 J -34319992.39 -34319992.24 -34319992.05 0.0060 0.0030

Pluto -98676-03-23 07:40 J -34319904.34 -34319904.18 -34319903.98 0.0060 0.0024

Pluto -98676-06-19 09:35 J -34319816.29 -34319816.10 -34319815.91 0.0060 0.0016

Pluto -98676-09-15 11:01 J -34319728.23 -34319728.04 -34319727.84 0.0060 0.0009

Pluto -98676-12-12 12:28 J -34319640.17 -34319639.98 -34319639.78 0.0060 0.0002

Jupiter -98675-02-08 19:11 J -34319581.83 -34319581.70 -34319581.57 0.0511 0.0212

Pluto -98675-03-10 13:54 J -34319552.11 -34319551.92 -34319551.71 0.0061 0.0006

Saturn -98675-04-06 06:42 J -34319525.32 -34319525.22 -34319525.11 0.0272 0.0203

Jupiter -98675-05-09 08:23 J -34319492.27 -34319492.15 -34319492.02 0.0507 0.0260

Pluto -98675-06-06 15:20 J -34319464.04 -34319463.86 -34319463.66 0.0061 0.0013

Saturn -98675-07-03 21:49 J -34319436.72 -34319436.59 -34319436.44 0.0272 0.0121

Moon -98675-07-06 12:13 J -34319434.06 -34319433.99 -34319433.91 0.2639 0.2110

Earth -98675-07-06 12:56 J -34319434.03 -34319433.96 -34319433.89 0.2634 0.2108 *

Pluto -98675-09-02 16:47 J -34319375.97 -34319375.80 -34319375.60 0.0061 0.0020

Saturn -98675-09-30 12:42 J -34319348.12 -34319347.97 -34319347.81 0.0272 0.0040

Mars -98675-10-03 06:56 J -34319345.32 -34319345.21 -34319345.09 0.1902 0.0797

Pluto -98675-11-29 18:28 J -34319287.90 -34319287.73 -34319287.55 0.0061 0.0027

Saturn -98675-12-28 03:20 J -34319259.51 -34319259.36 -34319259.21 0.0272 0.0039

Pluto -98674-02-25 19:54 J -34319199.82 -34319199.67 -34319199.50 0.0061 0.0034

Saturn -98674-03-26 17:30 J -34319170.91 -34319170.77 -34319170.63 0.0272 0.0117

Pluto -98674-05-24 21:06 J -34319111.74 -34319111.62 -34319111.45 0.0061 0.0042

Saturn -98674-06-23 07:25 J -34319082.29 -34319082.19 -34319082.08 0.0272 0.0193

Pluto -98674-08-20 22:32 J -34319023.65 -34319023.56 -34319023.41 0.0061 0.0049

Saturn -98674-09-19 21:06 J -34318993.64 -34318993.62 -34318993.59 0.0272 0.0267

Pluto -98674-11-17 00:13 J -34318935.54 -34318935.49 -34318935.39 0.0061 0.0056

Venus -98673-09-30 07:40 J -34318617.28 -34318617.18 -34318617.08 0.3782 0.1431

Jupiter -98669-07-08 23:16 J -34317239.69 -34317239.53 -34317239.38 0.0518 0.0109

Earth -98669-07-15 17:16 J -34317232.82 -34317232.78 -34317232.75 0.2651 0.2515

Moon -98669-07-15 17:44 J -34317232.77 -34317232.76 -34317232.74 0.2647 0.2604 *

Jupiter -98669-10-06 18:42 J -34317149.80 -34317149.72 -34317149.63 0.0522 0.0422

Mars -98668-05-07 02:23 J -34316937.55 -34316937.40 -34316937.26 0.1619 0.0042

Venus -98667-04-16 02:08 J -34316593.52 -34316593.41 -34316593.30 0.3779 0.0480

Moon -98666-12-31 16:32 J -34315968.94 -34315968.81 -34315968.67 0.2693 0.0105

Earth -98666-12-31 17:16 J -34315968.91 -34315968.78 -34315968.64 0.2698 0.0020 *

Mars -98665-02-23 11:30 J -34315915.15 -34315915.02 -34315914.89 0.1904 0.0107

Jupiter -98664-11-27 21:49 J -34315271.70 -34315271.59 -34315271.48 0.0512 0.0324

Jupiter -98663-02-25 10:47 J -34315182.19 -34315182.05 -34315181.90 0.0508 0.0145

Venus -98663-04-14 21:06 J -34315133.66 -34315133.62 -34315133.57 0.3592 0.3383

Earth -98662-07-09 09:35 J -34314683.22 -34314683.10 -34314682.99 0.2639 0.0859

Moon -98662-07-09 09:49 J -34314683.21 -34314683.09 -34314682.98 0.2645 0.0905 *

Venus -98662-10-30 21:06 J -34314569.73 -34314569.62 -34314569.51 0.3776 0.0526

Saturn -98660-01-16 12:56 J -34314126.05 -34314125.96 -34314125.86 0.0287 0.0219

Saturn -98660-04-15 05:01 J -34314037.42 -34314037.29 -34314037.15 0.0287 0.0129

Saturn -98660-07-12 21:35 J -34313948.75 -34313948.60 -34313948.44 0.0287 0.0036

Saturn -98660-10-09 14:37 J -34313860.05 -34313859.89 -34313859.74 0.0287 0.0060

Saturn -98659-01-06 07:54 J -34313771.30 -34313771.17 -34313771.04 0.0287 0.0157

Saturn -98659-04-05 01:25 J -34313682.51 -34313682.44 -34313682.37 0.0287 0.0256

Mars -98659-09-27 09:35 J -34313507.24 -34313507.10 -34313506.97 0.1618 0.0450

Venus -98658-10-29 21:49 J -34313109.70 -34313109.59 -34313109.47 0.3595 0.1983

Jupiter -98657-04-26 23:30 J -34312929.66 -34312929.52 -34312929.38 0.0517 0.0244

Jupiter -98657-07-25 19:40 J -34312839.80 -34312839.68 -34312839.55 0.0521 0.0293

Mars -98657-09-02 06:28 J -34312801.30 -34312801.23 -34312801.16 0.1624 0.1404

Venus -98656-05-15 16:04 J -34312545.93 -34312545.83 -34312545.73 0.3773 0.1533

Mars -98656-07-15 15:20 J -34312484.99 -34312484.86 -34312484.74 0.1906 0.0624

Neptune -98655-10-24 21:35 J -34312018.61 -34312018.60 -34312018.59 0.0089 0.0088

Neptune -98654-01-20 23:16 J -34311930.57 -34311930.53 -34311930.48 0.0089 0.0084

Neptune -98654-04-19 00:56 J -34311842.51 -34311842.46 -34311842.39 0.0089 0.0080

Neptune -98654-07-16 02:37 J -34311754.45 -34311754.39 -34311754.30 0.0089 0.0076

Neptune -98654-10-12 04:32 J -34311666.38 -34311666.31 -34311666.21 0.0089 0.0072

Neptune -98653-01-08 06:28 J -34311578.32 -34311578.23 -34311578.13 0.0089 0.0067

Neptune -98653-04-05 08:23 J -34311490.25 -34311490.15 -34311490.04 0.0089 0.0063

Neptune -98653-07-02 10:04 J -34311402.18 -34311402.08 -34311401.96 0.0089 0.0059

Neptune -98653-09-28 12:13 J -34311314.11 -34311313.99 -34311313.88 0.0089 0.0054

Neptune -98653-12-25 13:54 J -34311226.04 -34311225.92 -34311225.79 0.0089 0.0050

Moon -98652-01-02 16:47 J -34311217.91 -34311217.80 -34311217.68 0.2692 0.1489

Earth -98652-01-02 17:59 J -34311217.85 -34311217.75 -34311217.64 0.2694 0.1663 *

Neptune -98652-03-23 15:35 J -34311137.97 -34311137.85 -34311137.71 0.0089 0.0046

Venus -98652-05-14 22:18 J -34311085.70 -34311085.57 -34311085.44 0.3598 0.0631

Neptune -98652-06-19 17:44 J -34311049.89 -34311049.76 -34311049.63 0.0089 0.0041

Neptune -98652-09-15 19:25 J -34310961.82 -34310961.69 -34310961.55 0.0089 0.0037

Jupiter -98652-09-16 00:42 J -34310961.54 -34310961.47 -34310961.39 0.0512 0.0434

Neptune -98652-12-12 21:20 J -34310873.74 -34310873.61 -34310873.46 0.0089 0.0033

Jupiter -98652-12-14 13:25 J -34310872.08 -34310871.94 -34310871.79 0.0509 0.0031

Neptune -98651-03-10 23:16 J -34310785.67 -34310785.53 -34310785.38 0.0089 0.0028

Neptune -98651-06-07 01:11 J -34310697.59 -34310697.45 -34310697.30 0.0089 0.0024

Neptune -98651-09-03 03:06 J -34310609.51 -34310609.37 -34310609.22 0.0089 0.0019

Venus -98651-11-29 11:16 J -34310522.11 -34310522.03 -34310521.94 0.3770 0.2581

Neptune -98651-11-30 05:01 J -34310521.43 -34310521.29 -34310521.14 0.0089 0.0015

Neptune -98650-02-26 06:56 J -34310433.36 -34310433.21 -34310433.06 0.0089 0.0010

Neptune -98650-05-25 08:52 J -34310345.28 -34310345.13 -34310344.97 0.0089 0.0006

Neptune -98650-08-21 11:01 J -34310257.20 -34310257.04 -34310256.89 0.0089 0.0002

Neptune -98650-11-17 12:56 J -34310169.11 -34310168.96 -34310168.81 0.0089 0.0004

Neptune -98649-02-13 14:52 J -34310081.03 -34310080.88 -34310080.73 0.0089 0.0008

Mars -98649-02-17 16:47 J -34310076.91 -34310076.80 -34310076.68 0.1617 0.0872

Neptune -98649-05-11 16:47 J -34309992.95 -34309992.80 -34309992.65 0.0089 0.0013

Earth -98649-07-11 05:59 J -34309932.37 -34309932.25 -34309932.13 0.2643 0.0373

Moon -98649-07-11 06:42 J -34309932.34 -34309932.22 -34309932.10 0.2647 0.0506 *

Neptune -98649-08-07 18:42 J -34309904.87 -34309904.72 -34309904.57 0.0089 0.0017

Neptune -98649-11-03 20:37 J -34309816.78 -34309816.64 -34309816.48 0.0089 0.0022

Neptune -98648-01-30 22:32 J -34309728.69 -34309728.56 -34309728.40 0.0089 0.0027

Neptune -98648-04-29 00:42 J -34309640.61 -34309640.47 -34309640.32 0.0089 0.0031

Neptune -98648-07-26 02:37 J -34309552.52 -34309552.39 -34309552.24 0.0089 0.0036

Neptune -98648-10-22 04:32 J -34309464.43 -34309464.31 -34309464.16 0.0089 0.0041

Neptune -98647-01-18 06:42 J -34309376.34 -34309376.22 -34309376.08 0.0089 0.0045

Mars -98647-01-23 12:56 J -34309371.08 -34309370.96 -34309370.84 0.1622 0.0938

Neptune -98647-04-16 08:37 J -34309288.25 -34309288.14 -34309288.00 0.0089 0.0050

Neptune -98647-07-13 10:47 J -34309200.16 -34309200.05 -34309199.92 0.0089 0.0055

Neptune -98647-10-09 12:56 J -34309112.07 -34309111.96 -34309111.84 0.0089 0.0059

Venus -98647-11-28 22:04 J -34309061.71 -34309061.58 -34309061.45 0.3601 0.0670

Mars -98647-12-05 18:56 J -34309054.80 -34309054.71 -34309054.62 0.1907 0.1361

Neptune -98646-01-05 14:52 J -34309023.98 -34309023.88 -34309023.76 0.0089 0.0064

Neptune -98646-04-03 16:47 J -34308935.88 -34308935.80 -34308935.68 0.0089 0.0069

Neptune -98646-06-30 19:11 J -34308847.78 -34308847.70 -34308847.61 0.0089 0.0073

Saturn -98646-08-24 06:28 J -34308793.31 -34308793.23 -34308793.15 0.0272 0.0234

Neptune -98646-09-26 21:06 J -34308759.68 -34308759.62 -34308759.54 0.0089 0.0078

Saturn -98646-11-20 21:49 J -34308704.72 -34308704.59 -34308704.46 0.0272 0.0151

Neptune -98646-12-23 23:16 J -34308671.57 -34308671.53 -34308671.47 0.0089 0.0083

Jupiter -98645-02-14 00:13 J -34308619.59 -34308619.49 -34308619.38 0.0517 0.0374

Saturn -98645-02-17 12:42 J -34308616.12 -34308615.97 -34308615.82 0.0272 0.0070

Neptune -98645-03-21 01:11 J -34308583.45 -34308583.45 -34308583.41 0.0089 0.0088

Jupiter -98645-05-13 20:52 J -34308529.77 -34308529.63 -34308529.48 0.0521 0.0167

Saturn -98645-05-16 03:20 J -34308527.51 -34308527.36 -34308527.21 0.0272 0.0010

Venus -98645-06-14 06:56 J -34308498.24 -34308498.21 -34308498.19 0.3766 0.3651

Saturn -98645-08-12 17:44 J -34308438.91 -34308438.76 -34308438.62 0.0272 0.0088

Saturn -98645-11-09 07:40 J -34308350.30 -34308350.18 -34308350.06 0.0272 0.0164

Mars -98645-11-11 02:37 J -34308348.47 -34308348.39 -34308348.32 0.1900 0.1528

Uranus -98645-12-08 16:32 J -34308320.85 -34308320.81 -34308320.76 0.0143 0.0135

Saturn -98644-02-05 21:20 J -34308261.67 -34308261.61 -34308261.53 0.0272 0.0239

Uranus -98644-03-06 21:20 J -34308232.69 -34308232.61 -34308232.51 0.0143 0.0115

Uranus -98644-06-03 02:37 J -34308144.50 -34308144.39 -34308144.28 0.0143 0.0094

Uranus -98644-08-30 07:40 J -34308056.31 -34308056.18 -34308056.05 0.0143 0.0074

Uranus -98644-11-26 12:42 J -34307968.11 -34307967.97 -34307967.82 0.0143 0.0053

Uranus -98643-02-22 17:59 J -34307879.90 -34307879.75 -34307879.60 0.0144 0.0031

Uranus -98643-05-21 23:16 J -34307791.69 -34307791.53 -34307791.38 0.0144 0.0010

Uranus -98643-08-18 04:32 J -34307703.47 -34307703.31 -34307703.16 0.0144 0.0012

Uranus -98643-11-14 09:49 J -34307615.24 -34307615.09 -34307614.94 0.0144 0.0034

Uranus -98642-02-10 15:06 J -34307527.01 -34307526.87 -34307526.72 0.0144 0.0056

Uranus -98642-05-09 20:23 J -34307438.77 -34307438.65 -34307438.50 0.0144 0.0080

Uranus -98642-08-06 02:08 J -34307350.52 -34307350.41 -34307350.29 0.0144 0.0101

Uranus -98642-11-02 07:40 J -34307262.25 -34307262.18 -34307262.09 0.0144 0.0124

Venus -98641-06-13 21:35 J -34307037.71 -34307037.60 -34307037.49 0.3605 0.1898

Mars -98640-07-10 00:28 J -34306646.57 -34306646.48 -34306646.40 0.1616 0.1286

Jupiter -98640-10-02 15:35 J -34306561.99 -34306561.85 -34306561.71 0.0509 0.0088

Jupiter -98640-12-31 05:16 J -34306472.38 -34306472.28 -34306472.19 0.0506 0.0384

Mars -98638-06-15 19:40 J -34305940.82 -34305940.68 -34305940.55 0.1620 0.0483

Earth -98636-07-14 02:08 J -34305181.50 -34305181.41 -34305181.31 0.2647 0.1580

Moon -98636-07-14 03:06 J -34305181.46 -34305181.37 -34305181.27 0.2646 0.1628 *

Venus -98636-12-28 20:37 J -34305013.71 -34305013.64 -34305013.57 0.3608 0.3081

Mars -98635-04-03 07:11 J -34304918.31 -34304918.20 -34304918.08 0.1902 0.0856

Jupiter -98634-12-03 00:42 J -34304309.49 -34304309.47 -34304309.44 0.0516 0.0505

Jupiter -98633-03-01 21:49 J -34304219.74 -34304219.59 -34304219.43 0.0520 0.0038

Earth -98633-12-28 22:32 J -34303917.68 -34303917.56 -34303917.44 0.2703 0.1293

Moon -98633-12-28 22:32 J -34303917.67 -34303917.56 -34303917.44 0.2695 0.1351 *

Saturn -98631-06-05 12:42 J -34303394.04 -34303393.97 -34303393.90 0.0287 0.0252

Saturn -98631-09-02 04:47 J -34303305.43 -34303305.30 -34303305.18 0.0287 0.0162

Saturn -98631-11-29 21:06 J -34303216.77 -34303216.62 -34303216.47 0.0287 0.0070

Saturn -98630-02-26 13:54 J -34303128.08 -34303127.92 -34303127.76 0.0287 0.0025

Saturn -98630-05-26 06:56 J -34303039.35 -34303039.21 -34303039.06 0.0287 0.0122

Saturn -98630-08-23 00:42 J -34302950.57 -34302950.47 -34302950.37 0.0287 0.0220

Moon -98629-07-06 17:44 J -34302631.84 -34302631.76 -34302631.68 0.2640 0.1928

Earth -98629-07-06 18:13 J -34302631.83 -34302631.74 -34302631.65 0.2635 0.1840 *

Mars -98629-11-05 02:37 J -34302510.53 -34302510.39 -34302510.25 0.1619 0.0048

Jupiter -98628-07-21 17:59 J -34302251.88 -34302251.75 -34302251.62 0.0510 0.0205

Jupiter -98628-10-19 07:11 J -34302162.32 -34302162.20 -34302162.07 0.0507 0.0266

Venus -98627-04-07 17:01 J -34301991.85 -34301991.79 -34301991.72 0.3787 0.2986

Mars -98626-08-24 11:30 J -34301488.15 -34301488.02 -34301487.89 0.1905 0.0161

Venus -98622-10-22 11:30 J -34299968.12 -34299968.02 -34299967.93 0.3784 0.2074

Jupiter -98622-12-19 21:49 J -34299909.74 -34299909.59 -34299909.43 0.0518 0.0101

Jupiter -98621-03-18 17:30 J -34299819.85 -34299819.77 -34299819.68 0.0522 0.0429

Moon -98620-12-31 22:04 J -34299166.71 -34299166.58 -34299166.44 0.2693 0.0288

Earth -98620-12-31 23:01 J -34299166.67 -34299166.54 -34299166.40 0.2698 0.0332 *

Mars -98619-03-28 09:35 J -34299080.23 -34299080.10 -34299079.96 0.1618 0.0401

Mars -98617-03-03 06:42 J -34298374.28 -34298374.22 -34298374.16 0.1624 0.1458

Saturn -98616-01-10 08:23 J -34298061.19 -34298061.15 -34298061.09 0.0273 0.0256

Mars -98616-01-13 15:35 J -34298057.98 -34298057.85 -34298057.72 0.1906 0.0553

Saturn -98616-04-08 23:44 J -34297972.62 -34297972.51 -34297972.38 0.0272 0.0173

Venus -98616-05-07 05:59 J -34297944.36 -34297944.25 -34297944.15 0.3781 0.1142

Jupiter -98616-05-09 20:08 J -34297941.77 -34297941.66 -34297941.55 0.0512 0.0324

Saturn -98616-07-06 14:52 J -34297884.02 -34297883.88 -34297883.73 0.0272 0.0091

Earth -98616-07-09 14:37 J -34297881.01 -34297880.89 -34297880.77 0.2639 0.0601

Moon -98616-07-09 15:06 J -34297880.99 -34297880.87 -34297880.75 0.2646 0.0504 *

Jupiter -98616-08-07 09:06 J -34297852.26 -34297852.12 -34297851.98 0.0508 0.0146

Saturn -98616-10-03 05:44 J -34297795.41 -34297795.26 -34297795.11 0.0272 0.0010

Saturn -98616-12-30 20:08 J -34297706.81 -34297706.66 -34297706.51 0.0272 0.0069

Saturn -98615-03-29 10:18 J -34297618.20 -34297618.07 -34297617.94 0.0272 0.0146

Saturn -98615-06-26 00:13 J -34297529.57 -34297529.49 -34297529.40 0.0272 0.0222

Venus -98611-11-21 00:28 J -34295920.59 -34295920.48 -34295920.36 0.3779 0.0201

Mars -98610-08-18 17:01 J -34295649.91 -34295649.79 -34295649.67 0.1617 0.0822

Jupiter -98610-10-07 22:04 J -34295599.72 -34295599.58 -34295599.44 0.0517 0.0237

Jupiter -98609-01-05 18:13 J -34295509.86 -34295509.74 -34295509.61 0.0521 0.0297

Mars -98608-07-24 13:11 J -34294944.06 -34294943.95 -34294943.84 0.1622 0.0994

Mars -98607-06-05 19:11 J -34294627.80 -34294627.70 -34294627.61 0.1907 0.1300

Venus -98607-11-19 21:06 J -34294460.69 -34294460.62 -34294460.54 0.3593 0.2940

Moon -98606-01-03 22:32 J -34294415.65 -34294415.56 -34294415.46 0.2691 0.1903

Earth -98606-01-03 23:44 J -34294415.60 -34294415.51 -34294415.42 0.2693 0.1997 *

Uranus -98605-05-06 11:16 J -34293927.08 -34293927.03 -34293926.95 0.0136 0.0124

Mars -98605-05-12 02:52 J -34293921.45 -34293921.38 -34293921.31 0.1900 0.1591

Venus -98605-06-05 19:25 J -34293896.80 -34293896.69 -34293896.58 0.3775 0.0827

Uranus -98605-08-02 16:32 J -34293838.91 -34293838.81 -34293838.71 0.0136 0.0104

Uranus -98605-10-29 21:35 J -34293750.73 -34293750.60 -34293750.48 0.0136 0.0085

Uranus -98604-01-26 02:08 J -34293662.54 -34293662.41 -34293662.26 0.0135 0.0067

Jupiter -98604-02-25 22:47 J -34293631.62 -34293631.55 -34293631.47 0.0513 0.0436

Uranus -98604-04-24 07:11 J -34293574.35 -34293574.20 -34293574.05 0.0135 0.0047

Jupiter -98604-05-26 11:44 J -34293542.16 -34293542.01 -34293541.87 0.0509 0.0034

Uranus -98604-07-21 11:59 J -34293486.15 -34293486.00 -34293485.84 0.0135 0.0029

Uranus -98604-10-17 16:47 J -34293397.96 -34293397.80 -34293397.64 0.0135 0.0010

Uranus -98603-01-13 21:20 J -34293309.76 -34293309.61 -34293309.45 0.0135 0.0009

Uranus -98603-04-12 02:08 J -34293221.57 -34293221.41 -34293221.26 0.0135 0.0026

Uranus -98603-07-09 06:42 J -34293133.37 -34293133.22 -34293133.07 0.0135 0.0044

Earth -98603-07-12 11:01 J -34293130.15 -34293130.04 -34293129.92 0.2644 0.0641

Moon -98603-07-12 11:59 J -34293130.12 -34293130.00 -34293129.88 0.2646 0.0644 *

Uranus -98603-10-05 11:01 J -34293045.17 -34293045.04 -34293044.89 0.0135 0.0062

Uranus -98602-01-01 15:49 J -34292956.97 -34292956.84 -34292956.72 0.0134 0.0079

Uranus -98602-03-30 19:54 J -34292868.76 -34292868.67 -34292868.55 0.0134 0.0097

Uranus -98602-06-27 00:28 J -34292780.55 -34292780.48 -34292780.39 0.0134 0.0113

Uranus -98602-09-23 04:47 J -34292692.32 -34292692.30 -34292692.25 0.0134 0.0130

Saturn -98602-10-23 14:37 J -34292661.92 -34292661.89 -34292661.84 0.0287 0.0273

Saturn -98601-01-20 06:42 J -34292573.33 -34292573.22 -34292573.10 0.0287 0.0183

Saturn -98601-04-17 23:01 J -34292484.69 -34292484.54 -34292484.39 0.0287 0.0092

Venus -98601-06-04 21:49 J -34292436.71 -34292436.59 -34292436.47 0.3596 0.1558

Saturn -98601-07-15 15:35 J -34292396.00 -34292395.85 -34292395.69 0.0287 0.0008

Saturn -98601-10-12 08:37 J -34292307.28 -34292307.14 -34292306.99 0.0287 0.0098

Mars -98600-01-08 00:42 J -34292219.56 -34292219.47 -34292219.38 0.1616 0.1232

Saturn -98600-01-09 02:08 J -34292218.53 -34292218.41 -34292218.30 0.0287 0.0196

Venus -98600-12-20 14:37 J -34291872.99 -34291872.89 -34291872.80 0.3772 0.1855

Earth -98600-12-27 04:04 J -34291866.37 -34291866.33 -34291866.29 0.2707 0.2556

Moon -98600-12-27 04:32 J -34291866.34 -34291866.31 -34291866.27 0.2700 0.2578 *

Mars -98599-12-14 19:54 J -34291513.80 -34291513.67 -34291513.53 0.1620 0.0541

Jupiter -98598-07-26 22:04 J -34291289.68 -34291289.58 -34291289.47 0.0516 0.0376

Jupiter -98598-10-24 18:56 J -34291199.86 -34291199.71 -34291199.57 0.0520 0.0164

Mars -98596-10-02 07:25 J -34290491.30 -34290491.19 -34290491.08 0.1902 0.0922

Venus -98596-12-19 22:04 J -34290412.71 -34290412.58 -34290412.45 0.3599 0.0223

Venus -98594-07-06 09:49 J -34289849.16 -34289849.09 -34289849.02 0.3768 0.2897

Jupiter -98592-03-14 14:23 J -34289232.05 -34289231.90 -34289231.76 0.0510 0.0084

Jupiter -98592-06-12 03:49 J -34289142.43 -34289142.34 -34289142.24 0.0506 0.0391

Venus -98590-07-05 21:49 J -34288388.72 -34288388.59 -34288388.47 0.3602 0.1050

Earth -98590-07-15 07:25 J -34288379.28 -34288379.19 -34288379.11 0.2648 0.1835

Moon -98590-07-15 08:23 J -34288379.23 -34288379.15 -34288379.07 0.2647 0.1972 *

Mars -98589-05-06 02:52 J -34288083.52 -34288083.38 -34288083.24 0.1619 0.0093

Saturn -98587-08-26 23:59 J -34287240.60 -34287240.50 -34287240.39 0.0272 0.0201

Saturn -98587-11-23 15:06 J -34287152.01 -34287151.87 -34287151.73 0.0272 0.0119

Moon -98587-12-30 04:04 J -34287115.45 -34287115.33 -34287115.20 0.2696 0.0906

Earth -98587-12-30 04:18 J -34287115.44 -34287115.32 -34287115.19 0.2702 0.0967 *

Saturn -98586-02-20 05:59 J -34287063.40 -34287063.25 -34287063.09 0.0272 0.0038

Mars -98586-02-22 11:44 J -34287061.14 -34287061.01 -34287060.88 0.1905 0.0233

Jupiter -98586-05-14 22:47 J -34286979.57 -34286979.55 -34286979.52 0.0516 0.0506

Saturn -98586-05-19 20:37 J -34286974.79 -34286974.64 -34286974.49 0.0272 0.0042

Jupiter -98586-08-12 19:54 J -34286889.83 -34286889.67 -34286889.52 0.0519 0.0036

Saturn -98586-08-16 10:47 J -34286886.18 -34286886.05 -34286885.91 0.0272 0.0119

Saturn -98586-11-13 00:42 J -34286797.57 -34286797.47 -34286797.36 0.0272 0.0195

Saturn -98585-02-09 14:23 J -34286708.91 -34286708.90 -34286708.88 0.0272 0.0269

Venus -98584-01-18 21:06 J -34286364.72 -34286364.62 -34286364.52 0.3606 0.2266

Pluto -98584-10-30 14:23 J -34286079.96 -34286079.90 -34286079.83 0.0085 0.0073

Pluto -98583-01-26 15:49 J -34285991.93 -34285991.84 -34285991.75 0.0084 0.0060

Pluto -98583-04-24 17:01 J -34285903.89 -34285903.79 -34285903.68 0.0084 0.0047

Moon -98583-07-07 23:16 J -34285829.63 -34285829.53 -34285829.43 0.2642 0.1577

Earth -98583-07-07 23:30 J -34285829.62 -34285829.52 -34285829.42 0.2635 0.1577 *

Pluto -98583-07-21 18:28 J -34285815.85 -34285815.73 -34285815.61 0.0084 0.0034

Pluto -98583-10-17 19:40 J -34285727.81 -34285727.68 -34285727.55 0.0084 0.0021

Pluto -98582-01-13 20:52 J -34285639.76 -34285639.63 -34285639.50 0.0084 0.0008

Pluto -98582-04-11 22:04 J -34285551.71 -34285551.58 -34285551.45 0.0084 0.0005

Pluto -98582-07-08 23:16 J -34285463.65 -34285463.53 -34285463.40 0.0084 0.0018

Pluto -98582-10-05 00:28 J -34285375.60 -34285375.48 -34285375.35 0.0084 0.0031

Pluto -98581-01-01 01:54 J -34285287.54 -34285287.42 -34285287.31 0.0083 0.0043

Pluto -98581-03-29 02:52 J -34285199.47 -34285199.38 -34285199.28 0.0083 0.0055

Pluto -98581-06-25 04:18 J -34285111.40 -34285111.32 -34285111.25 0.0083 0.0068

Pluto -98581-09-21 05:16 J -34285023.30 -34285023.28 -34285023.24 0.0083 0.0080

Jupiter -98581-12-31 16:32 J -34284921.94 -34284921.81 -34284921.68 0.0510 0.0200

Jupiter -98580-03-31 05:44 J -34284832.38 -34284832.26 -34284832.13 0.0507 0.0270

Mars -98580-09-26 10:04 J -34284653.22 -34284653.08 -34284652.95 0.1618 0.0346

Venus -98579-08-04 19:54 J -34284340.70 -34284340.67 -34284340.63 0.3609 0.3430

Mars -98578-09-02 06:56 J -34283947.26 -34283947.21 -34283947.16 0.1624 0.1518

Mars -98577-07-14 15:35 J -34283630.97 -34283630.85 -34283630.72 0.1906 0.0500

Venus -98576-04-28 21:06 J -34283342.65 -34283342.62 -34283342.58 0.3789 0.3581

Jupiter -98574-05-31 20:37 J -34282579.79 -34282579.64 -34282579.48 0.0518 0.0095

Jupiter -98574-08-29 16:18 J -34282489.89 -34282489.82 -34282489.73 0.0522 0.0439

Moon -98573-01-02 03:49 J -34282364.47 -34282364.34 -34282364.21 0.2693 0.0508

Earth -98573-01-02 04:47 J -34282364.43 -34282364.30 -34282364.17 0.2697 0.0671 *

Saturn -98572-06-08 06:28 J -34281841.33 -34281841.23 -34281841.13 0.0287 0.0217

Neptune -98572-07-28 17:59 J -34281790.79 -34281790.75 -34281790.68 0.0088 0.0084

Saturn -98572-09-04 22:32 J -34281752.69 -34281752.56 -34281752.42 0.0287 0.0126

Neptune -98572-10-24 20:37 J -34281702.70 -34281702.64 -34281702.55 0.0088 0.0079

Saturn -98572-12-02 15:06 J -34281664.02 -34281663.87 -34281663.71 0.0287 0.0033

Neptune -98571-01-20 23:16 J -34281614.61 -34281614.53 -34281614.42 0.0088 0.0074

Saturn -98571-03-01 08:08 J -34281575.32 -34281575.16 -34281575.01 0.0287 0.0063

Neptune -98571-04-19 01:40 J -34281526.52 -34281526.43 -34281526.30 0.0088 0.0069

Saturn -98571-05-29 01:25 J -34281486.57 -34281486.44 -34281486.31 0.0287 0.0161

Neptune -98571-07-16 04:18 J -34281438.42 -34281438.32 -34281438.18 0.0088 0.0064

Saturn -98571-08-25 18:42 J -34281397.77 -34281397.72 -34281397.64 0.0287 0.0261

Neptune -98571-10-12 06:56 J -34281350.32 -34281350.21 -34281350.07 0.0088 0.0059

Venus -98571-11-12 15:20 J -34281318.94 -34281318.86 -34281318.79 0.3786 0.2694

Neptune -98570-01-08 09:49 J -34281262.22 -34281262.09 -34281261.95 0.0088 0.0053

Mars -98570-02-16 17:16 J -34281222.90 -34281222.78 -34281222.66 0.1616 0.0771

Neptune -98570-04-06 12:28 J -34281174.12 -34281173.98 -34281173.84 0.0088 0.0048

Neptune -98570-07-03 14:52 J -34281086.02 -34281085.88 -34281085.73 0.0088 0.0043

Earth -98570-07-10 19:54 J -34281078.79 -34281078.67 -34281078.54 0.2640 0.0334

Moon -98570-07-10 20:23 J -34281078.77 -34281078.65 -34281078.53 0.2646 0.0351 *

Neptune -98570-09-29 17:30 J -34280997.92 -34280997.77 -34280997.62 0.0088 0.0038

Neptune -98570-12-26 19:54 J -34280909.82 -34280909.67 -34280909.51 0.0088 0.0033

Neptune -98569-03-23 22:32 J -34280821.72 -34280821.56 -34280821.40 0.0088 0.0028

Neptune -98569-06-20 00:56 J -34280733.62 -34280733.46 -34280733.30 0.0088 0.0023

Neptune -98569-09-16 03:20 J -34280645.52 -34280645.36 -34280645.19 0.0088 0.0018

Jupiter -98569-10-19 18:56 J -34280611.82 -34280611.71 -34280611.60 0.0511 0.0317

Neptune -98569-12-13 05:44 J -34280557.42 -34280557.26 -34280557.09 0.0088 0.0014

Jupiter -98568-01-17 07:54 J -34280522.31 -34280522.17 -34280522.03 0.0508 0.0151

Mars -98568-01-22 13:25 J -34280517.04 -34280516.94 -34280516.83 0.1622 0.1053

Neptune -98568-03-11 08:23 J -34280469.32 -34280469.15 -34280468.99 0.0088 0.0008

Neptune -98568-06-07 10:47 J -34280381.22 -34280381.05 -34280380.88 0.0088 0.0003

Neptune -98568-09-03 13:11 J -34280293.11 -34280292.95 -34280292.78 0.0088 0.0002

Neptune -98568-11-30 15:35 J -34280205.01 -34280204.85 -34280204.68 0.0088 0.0006

Mars -98568-12-04 19:25 J -34280200.79 -34280200.69 -34280200.59 0.1908 0.1233

Neptune -98567-02-26 17:59 J -34280116.91 -34280116.75 -34280116.58 0.0088 0.0011

Neptune -98567-05-25 20:23 J -34280028.81 -34280028.65 -34280028.49 0.0088 0.0016

Neptune -98567-08-21 22:47 J -34279940.71 -34279940.55 -34279940.39 0.0088 0.0021

Neptune -98567-11-18 01:11 J -34279852.61 -34279852.45 -34279852.29 0.0088 0.0026

Neptune -98566-02-14 03:20 J -34279764.51 -34279764.36 -34279764.20 0.0088 0.0031

Neptune -98566-05-13 05:44 J -34279676.40 -34279676.26 -34279676.10 0.0088 0.0035

Neptune -98566-08-09 07:54 J -34279588.30 -34279588.17 -34279588.01 0.0088 0.0040

Neptune -98566-11-05 10:18 J -34279500.20 -34279500.07 -34279499.92 0.0088 0.0045

Mars -98566-11-11 02:52 J -34279494.44 -34279494.38 -34279494.32 0.1900 0.1648

Neptune -98565-02-01 12:42 J -34279412.10 -34279411.97 -34279411.83 0.0088 0.0049

Neptune -98565-04-29 14:52 J -34279323.99 -34279323.88 -34279323.74 0.0088 0.0054

Venus -98565-05-28 09:35 J -34279295.20 -34279295.10 -34279295.00 0.3783 0.1776

Neptune -98565-07-26 17:16 J -34279235.89 -34279235.78 -34279235.65 0.0088 0.0059

Neptune -98565-10-22 19:25 J -34279147.79 -34279147.69 -34279147.56 0.0088 0.0064

Neptune -98564-01-18 22:04 J -34279059.68 -34279059.58 -34279059.48 0.0088 0.0068

Neptune -98564-04-16 23:59 J -34278971.58 -34278971.50 -34278971.40 0.0088 0.0073

Neptune -98564-07-14 02:08 J -34278883.47 -34278883.41 -34278883.31 0.0088 0.0078

Neptune -98564-10-10 04:32 J -34278795.36 -34278795.31 -34278795.24 0.0088 0.0082

Neptune -98563-01-06 06:42 J -34278707.24 -34278707.22 -34278707.17 0.0088 0.0086

Jupiter -98562-03-19 20:52 J -34278269.77 -34278269.63 -34278269.49 0.0517 0.0231

Jupiter -98562-06-17 16:47 J -34278179.92 -34278179.80 -34278179.67 0.0521 0.0303

Mars -98561-07-09 00:56 J -34277792.56 -34277792.46 -34277792.37 0.1616 0.1184

Uranus -98561-12-28 23:16 J -34277619.57 -34277619.53 -34277619.46 0.0143 0.0132

Moon -98560-01-04 04:32 J -34277613.39 -34277613.31 -34277613.24 0.2693 0.2236

Earth -98560-01-04 05:44 J -34277613.33 -34277613.26 -34277613.20 0.2692 0.2345 *

Uranus -98560-03-27 04:18 J -34277531.41 -34277531.32 -34277531.22 0.0143 0.0112

Uranus -98560-06-23 09:20 J -34277443.22 -34277443.11 -34277442.98 0.0143 0.0091

Uranus -98560-09-19 14:23 J -34277355.02 -34277354.90 -34277354.76 0.0143 0.0070

Venus -98560-12-12 04:04 J -34277271.44 -34277271.33 -34277271.22 0.3781 0.0838

Uranus -98560-12-16 19:40 J -34277266.82 -34277266.68 -34277266.53 0.0143 0.0049

Uranus -98559-03-15 00:56 J -34277178.61 -34277178.46 -34277178.31 0.0144 0.0028

Uranus -98559-06-11 06:13 J -34277090.40 -34277090.24 -34277090.09 0.0144 0.0007

Mars -98559-06-14 20:08 J -34277086.79 -34277086.66 -34277086.53 0.1620 0.0590

Uranus -98559-09-07 11:30 J -34277002.18 -34277002.02 -34277001.87 0.0144 0.0016

Uranus -98559-12-04 16:47 J -34276913.95 -34276913.80 -34276913.65 0.0144 0.0038

Uranus -98558-03-02 22:04 J -34276825.72 -34276825.58 -34276825.43 0.0144 0.0060

Uranus -98558-05-30 03:35 J -34276737.48 -34276737.35 -34276737.22 0.0144 0.0083

Uranus -98558-08-26 09:06 J -34276649.22 -34276649.12 -34276649.01 0.0144 0.0105

Uranus -98558-11-22 14:37 J -34276560.95 -34276560.89 -34276560.81 0.0144 0.0128

Saturn -98557-01-14 01:54 J -34276508.50 -34276508.42 -34276508.32 0.0273 0.0223

Saturn -98557-04-11 17:16 J -34276419.91 -34276419.78 -34276419.64 0.0273 0.0140

Saturn -98557-07-09 08:23 J -34276331.30 -34276331.15 -34276331.00 0.0273 0.0058

Earth -98557-07-12 16:18 J -34276327.93 -34276327.82 -34276327.70 0.2644 0.0890

Moon -98557-07-12 17:16 J -34276327.89 -34276327.78 -34276327.67 0.2646 0.1055 *

Jupiter -98557-08-07 20:52 J -34276301.70 -34276301.63 -34276301.55 0.0513 0.0438

Saturn -98557-10-05 23:01 J -34276242.70 -34276242.54 -34276242.39 0.0273 0.0023

Jupiter -98557-11-05 09:49 J -34276212.24 -34276212.09 -34276211.95 0.0509 0.0031

Saturn -98556-01-02 13:25 J -34276154.08 -34276153.94 -34276153.80 0.0273 0.0101

Jupiter -98556-02-02 23:44 J -34276122.51 -34276122.51 -34276122.50 0.0506 0.0505

Saturn -98556-04-01 03:20 J -34276065.47 -34276065.36 -34276065.24 0.0273 0.0178

Mars -98556-04-02 07:40 J -34276064.29 -34276064.18 -34276064.07 0.1903 0.0983

Saturn -98556-06-28 17:01 J -34275976.83 -34275976.79 -34275976.73 0.0273 0.0253

Venus -98554-06-27 22:47 J -34275247.66 -34275247.55 -34275247.43 0.3778 0.0179

Earth -98554-12-28 09:49 J -34275064.17 -34275064.09 -34275064.02 0.2706 0.2243

Moon -98554-12-28 10:18 J -34275064.16 -34275064.07 -34275063.99 0.2699 0.2107 *

Mars -98552-11-29 08:37 J -34274362.16 -34274362.14 -34274362.12 0.1615 0.1588

Jupiter -98550-01-05 20:52 J -34273959.74 -34273959.63 -34273959.52 0.0516 0.0369

Jupiter -98550-04-05 17:16 J -34273869.92 -34273869.78 -34273869.63 0.0520 0.0170

Venus -98550-06-26 21:06 J -34273787.72 -34273787.62 -34273787.52 0.3594 0.2504

Earth -98550-07-06 07:54 J -34273778.19 -34273778.17 -34273778.15 0.2632 0.2570

Mars -98550-11-05 03:06 J -34273656.51 -34273656.37 -34273656.23 0.1619 0.0148

Venus -98548-01-10 17:44 J -34273223.87 -34273223.76 -34273223.65 0.3774 0.1139

Mars -98547-08-23 12:13 J -34272634.12 -34272633.99 -34272633.86 0.1904 0.0301

Jupiter -98545-08-24 12:13 J -34271902.13 -34271901.99 -34271901.85 0.0510 0.0086

Jupiter -98545-11-22 01:54 J -34271812.52 -34271812.42 -34271812.33 0.0506 0.0387

Venus -98544-01-09 21:35 J -34271763.72 -34271763.60 -34271763.47 0.3597 0.1143

Earth -98544-07-15 12:28 J -34271577.05 -34271576.98 -34271576.90 0.2649 0.2092

Moon -98544-07-15 13:25 J -34271577.02 -34271576.94 -34271576.87 0.2646 0.2105 *

Venus -98543-07-27 12:56 J -34271200.05 -34271199.96 -34271199.87 0.3771 0.2164

Saturn -98543-10-26 09:06 J -34271109.21 -34271109.12 -34271109.03 0.0287 0.0234

Saturn -98542-01-23 01:11 J -34271020.58 -34271020.45 -34271020.32 0.0287 0.0144

Saturn -98542-04-21 17:30 J -34270931.92 -34270931.77 -34270931.62 0.0287 0.0052

Saturn -98542-07-19 10:18 J -34270843.22 -34270843.07 -34270842.91 0.0287 0.0043

Saturn -98542-10-16 03:35 J -34270754.49 -34270754.35 -34270754.22 0.0287 0.0140

Saturn -98541-01-12 20:52 J -34270665.71 -34270665.63 -34270665.54 0.0287 0.0239

Moon -98541-12-30 09:35 J -34270313.23 -34270313.10 -34270312.97 0.2695 0.0760

Earth -98541-12-30 10:04 J -34270313.21 -34270313.08 -34270312.95 0.2701 0.0638 *

Mars -98540-03-27 10:18 J -34270226.21 -34270226.07 -34270225.93 0.1618 0.0291

Venus -98539-07-26 21:49 J -34269739.73 -34269739.59 -34269739.46 0.3600 0.0186

Jupiter -98539-10-24 20:37 J -34269649.66 -34269649.64 -34269649.62 0.0515 0.0510

Jupiter -98538-01-22 17:44 J -34269559.92 -34269559.76 -34269559.61 0.0519 0.0033

Mars -98538-03-03 07:25 J -34269520.22 -34269520.19 -34269520.16 0.1624 0.1579

Mars -98537-01-13 16:04 J -34269203.96 -34269203.83 -34269203.70 0.1906 0.0426

Venus -98537-02-10 08:23 J -34269176.21 -34269176.15 -34269176.09 0.3767 0.3217

Moon -98537-07-08 04:32 J -34269027.42 -34269027.31 -34269027.20 0.2643 0.1326

Earth -98537-07-08 04:32 J -34269027.41 -34269027.31 -34269027.20 0.2636 0.1312 *

Venus -98533-02-09 21:20 J -34267715.73 -34267715.61 -34267715.49 0.3603 0.1422

Jupiter -98533-06-12 14:52 J -34267592.01 -34267591.88 -34267591.74 0.0511 0.0199

Jupiter -98533-09-10 04:18 J -34267502.44 -34267502.32 -34267502.20 0.0507 0.0273

Mars -98531-08-17 17:30 J -34266795.89 -34266795.77 -34266795.64 0.1616 0.0718

Mars -98529-07-23 13:54 J -34266090.03 -34266089.92 -34266089.82 0.1622 0.1108

Saturn -98528-06-02 02:23 J -34265776.45 -34265776.40 -34265776.33 0.0272 0.0250

Mars -98528-06-04 19:40 J -34265773.79 -34265773.68 -34265773.58 0.1908 0.1167

Venus -98528-08-25 20:37 J -34265691.73 -34265691.64 -34265691.55 0.3607 0.2624

Saturn -98528-08-29 17:59 J -34265687.87 -34265687.75 -34265687.63 0.0272 0.0166

Saturn -98528-11-26 09:06 J -34265599.27 -34265599.12 -34265598.98 0.0272 0.0084

Moon -98527-01-02 09:35 J -34265562.23 -34265562.10 -34265561.97 0.2692 0.0969

Earth -98527-01-02 10:32 J -34265562.18 -34265562.06 -34265561.93 0.2697 0.1005 *

Saturn -98527-02-22 23:44 J -34265510.66 -34265510.51 -34265510.36 0.0272 0.0004

Saturn -98527-05-22 14:08 J -34265422.06 -34265421.91 -34265421.76 0.0272 0.0075

Saturn -98527-08-19 04:18 J -34265333.44 -34265333.32 -34265333.19 0.0272 0.0152

Jupiter -98527-11-10 18:28 J -34265249.88 -34265249.73 -34265249.57 0.0518 0.0098

Saturn -98527-11-15 17:59 J -34265244.82 -34265244.75 -34265244.66 0.0272 0.0228

Jupiter -98526-02-08 14:08 J -34265159.99 -34265159.91 -34265159.82 0.0522 0.0435

Mars -98526-05-12 03:06 J -34265067.42 -34265067.37 -34265067.32 0.1900 0.1712

Earth -98524-07-11 01:11 J -34264276.57 -34264276.45 -34264276.33 0.2640 0.0072

Moon -98524-07-11 01:40 J -34264276.55 -34264276.43 -34264276.30 0.2645 0.0075 *

Mars -98521-01-08 01:11 J -34263365.55 -34263365.45 -34263365.36 0.1615 0.1135

Jupiter -98521-03-31 17:16 J -34263281.89 -34263281.78 -34263281.66 0.0511 0.0315

Uranus -98521-05-26 17:59 J -34263225.81 -34263225.75 -34263225.67 0.0136 0.0121

Jupiter -98521-06-29 06:13 J -34263192.38 -34263192.24 -34263192.10 0.0508 0.0154

Uranus -98521-08-22 23:01 J -34263137.64 -34263137.54 -34263137.42 0.0136 0.0102

Uranus -98521-11-19 04:04 J -34263049.45 -34263049.33 -34263049.20 0.0135 0.0082

Uranus -98520-02-15 08:52 J -34262961.26 -34262961.13 -34262960.98 0.0135 0.0064

Uranus -98520-05-14 13:54 J -34262873.07 -34262872.92 -34262872.77 0.0135 0.0044

Uranus -98520-08-10 18:42 J -34262784.88 -34262784.72 -34262784.56 0.0135 0.0026

Uranus -98520-11-06 23:30 J -34262696.68 -34262696.52 -34262696.36 0.0135 0.0008

Venus -98520-12-03 19:25 J -34262669.75 -34262669.69 -34262669.64 0.3788 0.3300

Mars -98520-12-13 20:23 J -34262659.78 -34262659.65 -34262659.51 0.1620 0.0652

Uranus -98519-02-03 04:04 J -34262608.48 -34262608.33 -34262608.17 0.0135 0.0011

Uranus -98519-05-02 08:52 J -34262520.29 -34262520.13 -34262519.98 0.0135 0.0029

Uranus -98519-07-29 13:25 J -34262432.09 -34262431.94 -34262431.79 0.0135 0.0046

Uranus -98519-10-25 17:44 J -34262343.89 -34262343.76 -34262343.61 0.0135 0.0065

Uranus -98518-01-21 22:32 J -34262255.68 -34262255.56 -34262255.44 0.0134 0.0082

Uranus -98518-04-20 03:06 J -34262167.48 -34262167.37 -34262167.27 0.0134 0.0099

Uranus -98518-07-17 07:11 J -34262079.26 -34262079.20 -34262079.11 0.0134 0.0116

Uranus -98518-10-13 11:30 J -34261991.02 -34261991.02 -34261990.99 0.0134 0.0133

Mars -98517-10-01 07:54 J -34261637.28 -34261637.17 -34261637.06 0.1902 0.1048

Jupiter -98515-08-29 19:11 J -34260939.84 -34260939.70 -34260939.56 0.0517 0.0228

Jupiter -98515-11-27 15:20 J -34260849.98 -34260849.86 -34260849.73 0.0521 0.0308

Moon -98514-01-05 10:18 J -34260811.12 -34260811.07 -34260811.03 0.2694 0.2531

Earth -98514-01-05 11:30 J -34260811.02 -34260811.02 -34260811.02 0.2692 0.2689

Venus -98514-06-19 13:25 J -34260646.02 -34260645.94 -34260645.85 0.3785 0.2406

Saturn -98513-03-14 08:52 J -34260377.18 -34260377.13 -34260377.08 0.0287 0.0267

Saturn -98513-06-11 00:42 J -34260288.58 -34260288.47 -34260288.35 0.0287 0.0178

Saturn -98513-09-07 17:01 J -34260199.93 -34260199.79 -34260199.64 0.0287 0.0086

Saturn -98513-12-05 09:49 J -34260111.25 -34260111.09 -34260110.94 0.0287 0.0009

Saturn -98512-03-04 02:52 J -34260022.53 -34260022.38 -34260022.24 0.0287 0.0105

Mars -98512-05-30 08:52 J -34259935.17 -34259935.13 -34259935.09 0.1615 0.1542

Saturn -98512-05-31 20:08 J -34259933.77 -34259933.66 -34259933.55 0.0287 0.0203

Earth -98511-07-13 21:35 J -34259525.71 -34259525.60 -34259525.49 0.2645 0.1152

Moon -98511-07-13 22:32 J -34259525.67 -34259525.56 -34259525.45 0.2646 0.1173 *

Mars -98510-05-06 03:20 J -34259229.50 -34259229.36 -34259229.22 0.1619 0.0198

Jupiter -98509-01-18 19:54 J -34258971.75 -34258971.67 -34258971.60 0.0513 0.0431

Jupiter -98509-04-17 08:23 J -34258882.29 -34258882.15 -34258882.00 0.0509 0.0036

Venus -98508-01-02 07:54 J -34258622.27 -34258622.17 -34258622.07 0.3783 0.1483

Earth -98508-12-28 15:20 J -34258261.95 -34258261.86 -34258261.76 0.2705 0.1921

Moon -98508-12-28 15:49 J -34258261.93 -34258261.84 -34258261.75 0.2699 0.1939 *

Mars -98507-02-21 12:13 J -34258207.12 -34258206.99 -34258206.86 0.1905 0.0354

Moon -98504-07-06 12:28 J -34256976.03 -34256975.98 -34256975.92 0.2637 0.2323

Earth -98504-07-06 13:11 J -34256976.01 -34256975.95 -34256975.89 0.2632 0.2308 *

Jupiter -98503-06-17 19:25 J -34256629.80 -34256629.69 -34256629.58 0.0516 0.0364

Venus -98503-07-19 02:23 J -34256598.51 -34256598.40 -34256598.29 0.3780 0.0536

Jupiter -98503-09-15 15:49 J -34256539.98 -34256539.84 -34256539.69 0.0520 0.0174

Mars -98501-09-25 10:32 J -34255799.20 -34255799.06 -34255798.92 0.1617 0.0238

Venus -98499-07-17 20:08 J -34255138.69 -34255138.66 -34255138.62 0.3592 0.3479

Saturn -98499-10-20 04:18 J -34255044.32 -34255044.32 -34255044.30 0.0273 0.0272

Saturn -98498-01-16 19:54 J -34254955.78 -34254955.67 -34254955.55 0.0273 0.0187

Saturn -98498-04-15 11:01 J -34254867.18 -34254867.04 -34254866.89 0.0273 0.0105

Saturn -98498-07-13 01:54 J -34254778.57 -34254778.42 -34254778.26 0.0273 0.0024

Mars -98498-07-14 16:18 J -34254776.95 -34254776.82 -34254776.69 0.1907 0.0358

Earth -98498-07-16 17:44 J -34254774.82 -34254774.76 -34254774.71 0.2649 0.2346

Moon -98498-07-16 18:28 J -34254774.77 -34254774.73 -34254774.69 0.2645 0.2477 *

Saturn -98498-10-09 16:32 J -34254689.96 -34254689.81 -34254689.66 0.0273 0.0056

Saturn -98497-01-06 06:42 J -34254601.35 -34254601.22 -34254601.08 0.0273 0.0134

Venus -98497-02-01 21:06 J -34254574.73 -34254574.62 -34254574.50 0.3777 0.0458

Jupiter -98497-02-04 10:18 J -34254572.22 -34254572.07 -34254571.93 0.0510 0.0090

Saturn -98497-04-03 20:52 J -34254512.73 -34254512.63 -34254512.54 0.0273 0.0210

Jupiter -98497-05-03 23:44 J -34254482.60 -34254482.51 -34254482.41 0.0507 0.0385

Moon -98495-12-31 15:06 J -34253511.01 -34253510.87 -34253510.74 0.2695 0.0297

Earth -98495-12-31 15:49 J -34253510.98 -34253510.84 -34253510.71 0.2701 0.0328 *

Venus -98493-01-31 21:06 J -34253114.73 -34253114.62 -34253114.51 0.3595 0.2079

Venus -98492-08-17 16:04 J -34252550.93 -34252550.83 -34252550.72 0.3774 0.1452

Mars -98491-02-15 17:44 J -34252368.88 -34252368.76 -34252368.63 0.1616 0.0667

Jupiter -98491-04-05 19:11 J -34252319.73 -34252319.70 -34252319.67 0.0515 0.0503

Jupiter -98491-07-04 16:18 J -34252229.98 -34252229.82 -34252229.67 0.0519 0.0038

Moon -98491-07-09 09:49 J -34252225.20 -34252225.09 -34252224.98 0.2643 0.1063

Earth -98491-07-09 09:49 J -34252225.20 -34252225.09 -34252224.97 0.2636 0.1047 *

Neptune -98490-07-21 21:06 J -34251847.64 -34251847.62 -34251847.58 0.0089 0.0086

Neptune -98490-10-17 22:47 J -34251759.59 -34251759.55 -34251759.48 0.0089 0.0082

Neptune -98489-01-14 00:28 J -34251671.53 -34251671.48 -34251671.39 0.0089 0.0078

Mars -98489-01-22 14:08 J -34251663.01 -34251662.91 -34251662.81 0.1622 0.1165

Neptune -98489-04-11 02:37 J -34251583.47 -34251583.39 -34251583.31 0.0089 0.0073

Neptune -98489-07-08 04:18 J -34251495.40 -34251495.32 -34251495.22 0.0089 0.0069

Neptune -98489-10-04 05:59 J -34251407.34 -34251407.25 -34251407.14 0.0089 0.0065

Mars -98489-12-03 19:54 J -34251346.78 -34251346.67 -34251346.56 0.1908 0.1100

Neptune -98489-12-31 07:54 J -34251319.27 -34251319.17 -34251319.05 0.0089 0.0061

Neptune -98488-03-29 09:49 J -34251231.20 -34251231.09 -34251230.97 0.0089 0.0056

Neptune -98488-06-25 11:30 J -34251143.13 -34251143.02 -34251142.89 0.0089 0.0052

Venus -98488-08-16 21:35 J -34251090.74 -34251090.60 -34251090.47 0.3598 0.0732

Neptune -98488-09-21 13:25 J -34251055.06 -34251054.94 -34251054.81 0.0089 0.0048

Neptune -98488-12-18 15:20 J -34250966.98 -34250966.86 -34250966.72 0.0089 0.0043

Neptune -98487-03-16 17:16 J -34250878.91 -34250878.78 -34250878.64 0.0089 0.0039

Neptune -98487-06-12 19:11 J -34250790.83 -34250790.70 -34250790.56 0.0089 0.0034

Neptune -98487-09-08 21:06 J -34250702.76 -34250702.62 -34250702.48 0.0089 0.0030

Mars -98487-11-10 03:20 J -34250640.40 -34250640.36 -34250640.31 0.1900 0.1781

Neptune -98487-12-05 22:47 J -34250614.68 -34250614.55 -34250614.40 0.0089 0.0026

Venus -98486-03-03 11:30 J -34250527.11 -34250527.02 -34250526.94 0.3770 0.2481

Neptune -98486-03-04 00:56 J -34250526.61 -34250526.46 -34250526.31 0.0089 0.0021

Neptune -98486-05-31 02:37 J -34250438.53 -34250438.39 -34250438.23 0.0089 0.0017

Neptune -98486-08-27 04:47 J -34250350.45 -34250350.30 -34250350.15 0.0089 0.0012

Neptune -98486-11-23 06:42 J -34250262.37 -34250262.22 -34250262.07 0.0089 0.0008

Jupiter -98486-11-23 12:42 J -34250262.10 -34250261.97 -34250261.84 0.0511 0.0204 *

Neptune -98485-02-19 08:37 J -34250174.29 -34250174.14 -34250173.99 0.0089 0.0003

Jupiter -98485-02-21 02:08 J -34250172.54 -34250172.41 -34250172.29 0.0508 0.0267

Neptune -98485-05-17 10:32 J -34250086.21 -34250086.06 -34250085.91 0.0089 0.0002

Neptune -98485-08-13 12:28 J -34249998.13 -34249997.98 -34249997.83 0.0089 0.0006

Neptune -98485-11-09 14:23 J -34249910.05 -34249909.90 -34249909.74 0.0089 0.0011

Neptune -98484-02-05 16:32 J -34249821.96 -34249821.81 -34249821.66 0.0089 0.0015

Neptune -98484-05-04 18:28 J -34249733.88 -34249733.73 -34249733.58 0.0089 0.0020

Neptune -98484-07-31 20:23 J -34249645.79 -34249645.65 -34249645.50 0.0089 0.0025

Saturn -98484-08-01 11:59 J -34249645.02 -34249645.00 -34249644.97 0.0286 0.0281

Neptune -98484-10-27 22:18 J -34249557.71 -34249557.57 -34249557.42 0.0089 0.0029

Saturn -98484-10-29 03:49 J -34249556.45 -34249556.34 -34249556.23 0.0287 0.0193

Neptune -98483-01-24 00:13 J -34249469.62 -34249469.49 -34249469.34 0.0089 0.0034

Saturn -98483-01-25 20:08 J -34249467.81 -34249467.66 -34249467.52 0.0287 0.0102

Neptune -98483-04-22 02:08 J -34249381.53 -34249381.41 -34249381.26 0.0089 0.0039

Saturn -98483-04-24 12:42 J -34249379.13 -34249378.97 -34249378.82 0.0287 0.0010

Neptune -98483-07-19 04:18 J -34249293.45 -34249293.32 -34249293.18 0.0089 0.0043

Saturn -98483-07-22 05:30 J -34249290.42 -34249290.27 -34249290.12 0.0287 0.0087

Neptune -98483-10-15 06:13 J -34249205.36 -34249205.24 -34249205.10 0.0089 0.0048

Saturn -98483-10-18 22:47 J -34249201.67 -34249201.55 -34249201.43 0.0287 0.0185

Neptune -98482-01-11 08:23 J -34249117.27 -34249117.15 -34249117.02 0.0089 0.0053

Saturn -98482-01-15 16:18 J -34249112.83 -34249112.82 -34249112.79 0.0287 0.0285

Venus -98482-03-02 21:20 J -34249066.74 -34249066.61 -34249066.48 0.3601 0.0553

Neptune -98482-04-09 10:32 J -34249029.17 -34249029.06 -34249028.94 0.0089 0.0057

Neptune -98482-07-06 12:28 J -34248941.08 -34248940.98 -34248940.86 0.0089 0.0062

Mars -98482-07-09 01:25 J -34248938.54 -34248938.44 -34248938.34 0.1615 0.1083

Neptune -98482-10-02 14:23 J -34248852.98 -34248852.90 -34248852.78 0.0089 0.0067

Neptune -98482-12-29 16:47 J -34248764.89 -34248764.80 -34248764.71 0.0089 0.0071

Moon -98481-01-03 15:20 J -34248759.99 -34248759.86 -34248759.74 0.2694 0.1153

Earth -98481-01-03 16:18 J -34248759.94 -34248759.82 -34248759.70 0.2696 0.1343 *

Neptune -98481-03-26 18:42 J -34248676.79 -34248676.72 -34248676.63 0.0089 0.0076

Neptune -98481-06-22 20:52 J -34248588.68 -34248588.63 -34248588.56 0.0089 0.0081

Venus -98481-09-16 06:56 J -34248503.25 -34248503.21 -34248503.18 0.3766 0.3535

Neptune -98481-09-18 22:47 J -34248500.57 -34248500.55 -34248500.49 0.0089 0.0086

Mars -98480-06-13 20:52 J -34248232.76 -34248232.63 -34248232.51 0.1620 0.0705

Jupiter -98479-04-22 16:04 J -34247919.98 -34247919.83 -34247919.67 0.0518 0.0104

Mars -98479-04-25 23:01 J -34247916.56 -34247916.54 -34247916.51 0.1909 0.1865

Jupiter -98479-07-21 11:59 J -34247830.08 -34247830.00 -34247829.91 0.0522 0.0428

Earth -98478-07-12 06:28 J -34247474.36 -34247474.23 -34247474.11 0.2641 0.0207

Moon -98478-07-12 07:11 J -34247474.32 -34247474.20 -34247474.08 0.2645 0.0259 *

Mars -98477-04-01 07:54 J -34247210.27 -34247210.17 -34247210.06 0.1903 0.1109

Venus -98477-09-15 20:52 J -34247042.74 -34247042.63 -34247042.51 0.3604 0.1796

Uranus -98476-01-18 06:13 J -34246918.29 -34246918.24 -34246918.16 0.0143 0.0128

Uranus -98476-04-16 11:16 J -34246830.12 -34246830.03 -34246829.92 0.0143 0.0108

Uranus -98476-07-13 16:18 J -34246741.93 -34246741.82 -34246741.69 0.0143 0.0087

Uranus -98476-10-09 21:20 J -34246653.74 -34246653.61 -34246653.46 0.0143 0.0067

Uranus -98475-01-06 02:37 J -34246565.53 -34246565.39 -34246565.24 0.0143 0.0045

Uranus -98475-04-04 07:54 J -34246477.32 -34246477.17 -34246477.02 0.0144 0.0024

Uranus -98475-07-01 13:11 J -34246389.11 -34246388.95 -34246388.80 0.0144 0.0003

Uranus -98475-09-27 18:28 J -34246300.89 -34246300.73 -34246300.58 0.0144 0.0020

Uranus -98475-12-24 23:44 J -34246212.66 -34246212.51 -34246212.36 0.0144 0.0042

Uranus -98474-03-23 05:01 J -34246124.42 -34246124.29 -34246124.14 0.0144 0.0064

Uranus -98474-06-19 10:47 J -34246036.18 -34246036.05 -34246035.93 0.0144 0.0087

Jupiter -98474-09-11 15:35 J -34245951.96 -34245951.85 -34245951.74 0.0512 0.0315

Uranus -98474-09-15 16:04 J -34245947.93 -34245947.83 -34245947.72 0.0144 0.0109

Jupiter -98474-12-10 04:32 J -34245862.45 -34245862.31 -34245862.17 0.0508 0.0154

Uranus -98474-12-12 21:35 J -34245859.65 -34245859.60 -34245859.53 0.0144 0.0132

Mars -98473-11-28 09:06 J -34245508.17 -34245508.12 -34245508.07 0.1615 0.1488

Venus -98471-04-01 19:54 J -34245018.74 -34245018.67 -34245018.60 0.3608 0.2966

Mars -98471-11-04 03:49 J -34244802.48 -34244802.34 -34244802.20 0.1619 0.0261

Saturn -98469-06-04 20:52 J -34244223.73 -34244223.63 -34244223.53 0.0272 0.0212

Saturn -98469-09-01 11:59 J -34244135.13 -34244135.00 -34244134.86 0.0272 0.0130

Saturn -98469-11-29 03:06 J -34244046.52 -34244046.37 -34244046.22 0.0272 0.0048

Saturn -98468-02-25 17:44 J -34243957.91 -34243957.76 -34243957.61 0.0272 0.0032

Saturn -98468-05-25 07:54 J -34243869.30 -34243869.17 -34243869.03 0.0272 0.0111

Saturn -98468-08-21 22:04 J -34243780.69 -34243780.58 -34243780.47 0.0272 0.0187

Mars -98468-08-22 12:28 J -34243780.10 -34243779.98 -34243779.85 0.1905 0.0426

Saturn -98468-11-18 11:44 J -34243692.04 -34243692.01 -34243691.97 0.0272 0.0262

Jupiter -98467-02-08 16:47 J -34243609.94 -34243609.80 -34243609.66 0.0517 0.0235

Jupiter -98467-05-09 13:11 J -34243520.08 -34243519.95 -34243519.83 0.0521 0.0301

Earth -98465-07-14 02:37 J -34242723.49 -34242723.39 -34242723.28 0.2645 0.1407

Moon -98465-07-14 03:35 J -34242723.45 -34242723.35 -34242723.25 0.2646 0.1550 *

Venus -98463-07-10 17:30 J -34241996.84 -34241996.77 -34241996.71 0.3787 0.3016

Jupiter -98462-06-30 18:13 J -34241641.82 -34241641.74 -34241641.67 0.0513 0.0430

Jupiter -98462-09-28 06:42 J -34241552.36 -34241552.22 -34241552.07 0.0509 0.0036

Moon -98462-12-29 21:06 J -34241459.73 -34241459.62 -34241459.51 0.2698 0.1549

Earth -98462-12-29 21:06 J -34241459.73 -34241459.62 -34241459.51 0.2705 0.1597 *

Mars -98461-03-26 10:47 J -34241372.19 -34241372.05 -34241371.91 0.1617 0.0185

Mars -98458-01-12 16:32 J -34240349.94 -34240349.81 -34240349.68 0.1907 0.0302

Moon -98458-07-07 17:59 J -34240173.82 -34240173.75 -34240173.68 0.2639 0.2157

Earth -98458-07-07 18:28 J -34240173.81 -34240173.73 -34240173.65 0.2633 0.2039 *

Venus -98457-01-24 11:44 J -34239973.10 -34239973.01 -34239972.92 0.3785 0.2116

Jupiter -98456-11-27 17:30 J -34239299.88 -34239299.77 -34239299.66 0.0516 0.0365

Jupiter -98455-02-25 14:08 J -34239210.05 -34239209.91 -34239209.76 0.0520 0.0174

Saturn -98454-03-18 03:35 J -34238824.44 -34238824.35 -34238824.25 0.0287 0.0226

Saturn -98454-06-14 19:40 J -34238735.81 -34238735.68 -34238735.54 0.0287 0.0136

Saturn -98454-09-11 12:13 J -34238647.14 -34238646.99 -34238646.84 0.0287 0.0043

Saturn -98454-12-09 05:01 J -34238558.45 -34238558.29 -34238558.14 0.0287 0.0053

Saturn -98453-03-06 22:04 J -34238469.71 -34238469.58 -34238469.44 0.0287 0.0150

Saturn -98453-06-03 15:35 J -34238380.92 -34238380.85 -34238380.77 0.0287 0.0248

Earth -98452-07-16 22:47 J -34237972.57 -34237972.55 -34237972.53 0.2650 0.2601

Moon -98452-07-16 23:30 J -34237972.54 -34237972.52 -34237972.50 0.2645 0.2583 *

Venus -98452-08-09 05:59 J -34237949.35 -34237949.25 -34237949.14 0.3782 0.1196

Mars -98452-08-16 17:59 J -34237941.88 -34237941.75 -34237941.62 0.1616 0.0617

Jupiter -98450-07-17 09:06 J -34237242.27 -34237242.12 -34237241.98 0.0510 0.0085

Mars -98450-07-23 14:23 J -34237235.99 -34237235.90 -34237235.81 0.1621 0.1219

Jupiter -98450-10-14 22:32 J -34237152.65 -34237152.56 -34237152.47 0.0506 0.0389

Mars -98449-06-03 20:08 J -34236919.78 -34236919.66 -34236919.55 0.1908 0.1043

Moon -98449-12-31 20:52 J -34236708.77 -34236708.63 -34236708.50 0.2694 0.0143

Earth -98449-12-31 21:20 J -34236708.74 -34236708.61 -34236708.47 0.2700 0.0084 *

Mars -98447-05-11 03:20 J -34236213.39 -34236213.36 -34236213.33 0.1900 0.1830

Venus -98446-02-23 00:42 J -34235925.58 -34235925.47 -34235925.36 0.3779 0.0234

Earth -98445-07-09 15:06 J -34235422.99 -34235422.87 -34235422.75 0.2637 0.0786

Moon -98445-07-09 15:20 J -34235422.98 -34235422.86 -34235422.75 0.2643 0.0743 *

Jupiter -98444-09-15 17:30 J -34234989.80 -34234989.77 -34234989.73 0.0515 0.0500

Jupiter -98444-12-14 14:37 J -34234900.04 -34234899.89 -34234899.73 0.0519 0.0040

Mars -98442-01-07 01:40 J -34234511.54 -34234511.43 -34234511.32 0.1615 0.1031

Venus -98442-02-21 20:08 J -34234465.73 -34234465.66 -34234465.59 0.3593 0.3047

Venus -98441-09-07 19:25 J -34233901.80 -34233901.69 -34233901.58 0.3776 0.0744

Mars -98441-12-12 21:06 J -34233805.75 -34233805.62 -34233805.50 0.1620 0.0760

Saturn -98440-10-22 22:47 J -34233491.63 -34233491.55 -34233491.47 0.0273 0.0234

Mars -98440-10-24 23:44 J -34233489.56 -34233489.51 -34233489.47 0.1909 0.1788

Saturn -98439-01-19 13:54 J -34233403.04 -34233402.92 -34233402.78 0.0273 0.0151

Saturn -98439-04-18 05:01 J -34233314.44 -34233314.29 -34233314.14 0.0273 0.0069

Saturn -98439-07-15 19:54 J -34233225.83 -34233225.67 -34233225.52 0.0273 0.0012

Saturn -98439-10-12 10:18 J -34233137.21 -34233137.07 -34233136.93 0.0273 0.0091

Saturn -98438-01-09 00:28 J -34233048.60 -34233048.48 -34233048.36 0.0273 0.0169

Saturn -98438-04-07 14:23 J -34232959.96 -34232959.90 -34232959.84 0.0273 0.0244

Jupiter -98438-05-05 10:47 J -34232932.18 -34232932.05 -34232931.92 0.0511 0.0208

Jupiter -98438-08-02 23:59 J -34232842.63 -34232842.50 -34232842.37 0.0508 0.0263

Mars -98438-10-01 08:23 J -34232783.25 -34232783.15 -34232783.05 0.1903 0.1178

Uranus -98437-06-16 00:28 J -34232524.55 -34232524.48 -34232524.39 0.0136 0.0119

Venus -98437-09-06 20:52 J -34232441.75 -34232441.63 -34232441.51 0.3596 0.1659

Uranus -98437-09-12 05:30 J -34232436.37 -34232436.27 -34232436.15 0.0136 0.0099

Uranus -98437-12-09 10:32 J -34232348.19 -34232348.06 -34232347.93 0.0135 0.0080

Uranus -98436-03-07 15:20 J -34232259.99 -34232259.86 -34232259.71 0.0135 0.0062

Uranus -98436-06-03 20:23 J -34232171.80 -34232171.65 -34232171.50 0.0135 0.0043

Uranus -98436-08-31 01:11 J -34232083.61 -34232083.45 -34232083.29 0.0135 0.0024

Uranus -98436-11-27 05:59 J -34231995.41 -34231995.25 -34231995.09 0.0135 0.0006

Moon -98435-01-03 20:52 J -34231957.74 -34231957.63 -34231957.52 0.2695 0.1643

Earth -98435-01-03 22:04 J -34231957.69 -34231957.58 -34231957.47 0.2695 0.1675 *

Uranus -98435-02-23 10:32 J -34231907.21 -34231907.06 -34231906.90 0.0135 0.0013

Venus -98435-03-24 14:37 J -34231877.99 -34231877.89 -34231877.79 0.3773 0.1756

Uranus -98435-05-22 15:20 J -34231819.02 -34231818.86 -34231818.71 0.0135 0.0031

Uranus -98435-08-18 19:54 J -34231730.82 -34231730.67 -34231730.52 0.0135 0.0048

Uranus -98435-11-15 00:13 J -34231642.61 -34231642.49 -34231642.34 0.0135 0.0067

Uranus -98434-02-11 05:01 J -34231554.41 -34231554.29 -34231554.17 0.0134 0.0083

Uranus -98434-05-10 09:35 J -34231466.20 -34231466.10 -34231466.00 0.0134 0.0101

Uranus -98434-08-06 13:40 J -34231377.99 -34231377.93 -34231377.84 0.0134 0.0118

Mars -98433-05-29 09:20 J -34231081.17 -34231081.11 -34231081.05 0.1615 0.1440

Earth -98432-07-12 11:30 J -34230672.14 -34230672.02 -34230671.90 0.2641 0.0455

Moon -98432-07-12 12:28 J -34230672.10 -34230671.98 -34230671.86 0.2646 0.0541 *

Jupiter -98432-10-02 14:52 J -34230590.04 -34230589.88 -34230589.73 0.0517 0.0097

Jupiter -98432-12-31 10:32 J -34230500.14 -34230500.06 -34230499.97 0.0521 0.0432

Venus -98431-03-23 21:06 J -34230417.75 -34230417.62 -34230417.48 0.3599 0.0339

Mars -98431-05-05 04:04 J -34230375.47 -34230375.33 -34230375.19 0.1619 0.0314

Pluto -98430-05-15 09:20 J -34230000.14 -34230000.11 -34230000.06 0.0060 0.0058

Pluto -98430-08-11 10:47 J -34229912.14 -34229912.05 -34229911.94 0.0060 0.0051

Venus -98430-10-08 09:49 J -34229854.17 -34229854.09 -34229854.02 0.3769 0.2787

Pluto -98430-11-07 11:44 J -34229824.11 -34229824.01 -34229823.85 0.0060 0.0045

Pluto -98429-02-03 13:25 J -34229736.07 -34229735.94 -34229735.77 0.0060 0.0038

Pluto -98429-05-01 14:52 J -34229648.03 -34229647.88 -34229647.69 0.0060 0.0031

Pluto -98429-07-28 16:32 J -34229559.98 -34229559.81 -34229559.61 0.0060 0.0024

Pluto -98429-10-24 17:59 J -34229471.92 -34229471.75 -34229471.54 0.0060 0.0017

Pluto -98428-01-20 19:54 J -34229383.87 -34229383.67 -34229383.48 0.0060 0.0010

Mars -98428-02-20 12:42 J -34229353.09 -34229352.97 -34229352.84 0.1905 0.0489

Pluto -98428-04-18 21:20 J -34229295.81 -34229295.61 -34229295.41 0.0060 0.0003

Pluto -98428-07-15 22:47 J -34229207.75 -34229207.55 -34229207.35 0.0060 0.0004

Pluto -98428-10-12 00:13 J -34229119.68 -34229119.49 -34229119.29 0.0061 0.0012

Pluto -98427-01-08 01:40 J -34229031.61 -34229031.43 -34229031.23 0.0061 0.0019

Pluto -98427-04-06 03:06 J -34228943.54 -34228943.37 -34228943.18 0.0061 0.0026

Pluto -98427-07-03 04:32 J -34228855.46 -34228855.31 -34228855.13 0.0061 0.0033

Pluto -98427-09-29 06:13 J -34228767.38 -34228767.24 -34228767.09 0.0061 0.0040

Pluto -98427-12-26 07:11 J -34228679.29 -34228679.20 -34228679.05 0.0061 0.0048

Jupiter -98426-02-21 13:11 J -34228622.06 -34228621.95 -34228621.84 0.0512 0.0323

Pluto -98426-03-24 08:52 J -34228591.19 -34228591.13 -34228591.02 0.0061 0.0055

Jupiter -98426-05-22 02:08 J -34228532.55 -34228532.41 -34228532.27 0.0509 0.0146

Venus -98426-10-07 20:52 J -34228393.75 -34228393.63 -34228393.50 0.3602 0.0942

Saturn -98425-08-04 06:56 J -34228092.29 -34228092.21 -34228092.13 0.0286 0.0239

Saturn -98425-10-31 23:01 J -34228003.67 -34228003.54 -34228003.41 0.0286 0.0150

Saturn -98424-01-28 15:20 J -34227915.01 -34227914.86 -34227914.71 0.0287 0.0058

Saturn -98424-04-27 07:54 J -34227826.32 -34227826.17 -34227826.01 0.0287 0.0038

Saturn -98424-07-25 00:56 J -34227737.59 -34227737.46 -34227737.32 0.0287 0.0134

Saturn -98424-10-21 18:28 J -34227648.82 -34227648.73 -34227648.64 0.0287 0.0232

Mars -98422-09-25 11:01 J -34226945.18 -34226945.04 -34226944.90 0.1617 0.0131

Venus -98420-04-22 20:23 J -34226369.75 -34226369.65 -34226369.54 0.3605 0.2154

Jupiter -98420-07-21 14:23 J -34226280.04 -34226279.90 -34226279.76 0.0517 0.0241

Jupiter -98420-10-19 10:47 J -34226190.18 -34226190.05 -34226189.93 0.0521 0.0294

Mars -98419-07-13 16:47 J -34225922.94 -34225922.80 -34225922.67 0.1907 0.0242

Earth -98419-07-15 07:54 J -34225921.27 -34225921.17 -34225921.08 0.2646 0.1665

Moon -98419-07-15 08:37 J -34225921.23 -34225921.14 -34225921.04 0.2644 0.1716 *

Moon -98416-12-30 02:37 J -34224657.51 -34224657.39 -34224657.27 0.2697 0.1293

Earth -98416-12-30 02:52 J -34224657.50 -34224657.38 -34224657.27 0.2704 0.1276 *

Venus -98415-11-06 19:25 J -34224345.74 -34224345.69 -34224345.64 0.3609 0.3311

Jupiter -98415-12-10 16:18 J -34224311.90 -34224311.82 -34224311.75 0.0513 0.0432

Jupiter -98414-03-10 04:47 J -34224222.44 -34224222.30 -34224222.15 0.0509 0.0037

Mars -98412-02-14 18:13 J -34223514.87 -34223514.74 -34223514.60 0.1616 0.0563

Moon -98412-07-07 23:16 J -34223371.62 -34223371.53 -34223371.44 0.2640 0.1749

Earth -98412-07-07 23:44 J -34223371.60 -34223371.51 -34223371.42 0.2633 0.1774 *

Venus -98412-07-31 21:35 J -34223347.63 -34223347.60 -34223347.58 0.3789 0.3615

Mars -98410-01-21 14:52 J -34222808.97 -34222808.88 -34222808.80 0.1621 0.1281

Saturn -98410-03-11 23:59 J -34222759.54 -34222759.50 -34222759.44 0.0272 0.0257

Saturn -98410-06-08 15:20 J -34222670.97 -34222670.86 -34222670.73 0.0272 0.0173

Saturn -98410-09-05 06:42 J -34222582.37 -34222582.22 -34222582.08 0.0272 0.0091

Saturn -98410-12-02 21:20 J -34222493.76 -34222493.61 -34222493.45 0.0272 0.0012

Mars -98410-12-03 20:23 J -34222492.76 -34222492.65 -34222492.53 0.1908 0.0969

Saturn -98409-02-29 11:59 J -34222405.15 -34222405.00 -34222404.85 0.0272 0.0070

Saturn -98409-05-28 02:08 J -34222316.54 -34222316.41 -34222316.28 0.0272 0.0147

Saturn -98409-08-24 16:04 J -34222227.91 -34222227.83 -34222227.74 0.0272 0.0223

Jupiter -98408-05-09 14:52 J -34221969.99 -34221969.88 -34221969.77 0.0516 0.0373

Jupiter -98408-08-07 11:44 J -34221880.16 -34221880.01 -34221879.87 0.0520 0.0166

Neptune -98407-01-26 15:06 J -34221707.90 -34221707.87 -34221707.82 0.0088 0.0086

Neptune -98407-04-24 17:30 J -34221619.82 -34221619.77 -34221619.68 0.0088 0.0081

Neptune -98407-07-21 20:08 J -34221531.73 -34221531.66 -34221531.56 0.0088 0.0076

Neptune -98407-10-17 22:47 J -34221443.64 -34221443.55 -34221443.43 0.0088 0.0071

Neptune -98406-01-14 01:25 J -34221355.54 -34221355.44 -34221355.31 0.0088 0.0065

Venus -98406-02-14 15:35 J -34221323.92 -34221323.85 -34221323.78 0.3786 0.2734

Neptune -98406-04-12 04:18 J -34221267.44 -34221267.32 -34221267.19 0.0088 0.0060

Neptune -98406-07-09 06:56 J -34221179.34 -34221179.21 -34221179.08 0.0088 0.0055

Neptune -98406-10-05 09:20 J -34221091.24 -34221091.11 -34221090.96 0.0088 0.0050

Neptune -98405-01-01 11:59 J -34221003.14 -34221003.00 -34221002.85 0.0088 0.0045

Neptune -98405-03-29 14:37 J -34220915.04 -34220914.89 -34220914.74 0.0088 0.0040

Neptune -98405-06-25 17:01 J -34220826.94 -34220826.79 -34220826.63 0.0088 0.0035

Neptune -98405-09-21 19:40 J -34220738.84 -34220738.68 -34220738.52 0.0088 0.0030

Neptune -98405-12-18 22:04 J -34220650.74 -34220650.58 -34220650.41 0.0088 0.0025

Neptune -98404-03-17 00:42 J -34220562.63 -34220562.47 -34220562.31 0.0088 0.0020

Neptune -98404-06-13 03:06 J -34220474.53 -34220474.37 -34220474.20 0.0088 0.0015

Neptune -98404-09-09 05:30 J -34220386.43 -34220386.27 -34220386.10 0.0088 0.0010

Neptune -98404-12-06 08:08 J -34220298.33 -34220298.16 -34220298.00 0.0088 0.0005

Neptune -98403-03-04 10:32 J -34220210.23 -34220210.06 -34220209.89 0.0088 0.0000

Neptune -98403-05-31 12:56 J -34220122.12 -34220121.96 -34220121.79 0.0088 0.0005

Mars -98403-07-08 01:54 J -34220084.53 -34220084.42 -34220084.31 0.1615 0.0982

Neptune -98403-08-27 15:20 J -34220034.02 -34220033.86 -34220033.69 0.0088 0.0010

Neptune -98403-11-23 17:44 J -34219945.92 -34219945.76 -34219945.60 0.0088 0.0015

Jupiter -98403-12-27 07:11 J -34219912.34 -34219912.20 -34219912.06 0.0510 0.0084

Moon -98402-01-02 02:23 J -34219906.54 -34219906.40 -34219906.27 0.2695 0.0333

Earth -98402-01-02 03:06 J -34219906.50 -34219906.37 -34219906.23 0.2700 0.0355 *

Neptune -98402-02-19 20:08 J -34219857.82 -34219857.66 -34219857.50 0.0088 0.0019

Jupiter -98402-03-26 20:37 J -34219822.73 -34219822.64 -34219822.54 0.0506 0.0388

Neptune -98402-05-18 22:18 J -34219769.72 -34219769.57 -34219769.40 0.0088 0.0025

Neptune -98402-08-15 00:56 J -34219681.62 -34219681.46 -34219681.31 0.0088 0.0029

Neptune -98402-11-11 03:06 J -34219593.51 -34219593.37 -34219593.21 0.0088 0.0034

Neptune -98401-02-07 05:30 J -34219505.41 -34219505.27 -34219505.12 0.0088 0.0039

Neptune -98401-05-05 07:40 J -34219417.31 -34219417.18 -34219417.02 0.0088 0.0044

Mars -98401-06-12 21:20 J -34219378.73 -34219378.61 -34219378.49 0.1620 0.0817

Neptune -98401-08-01 10:18 J -34219329.21 -34219329.07 -34219328.93 0.0088 0.0048

Venus -98401-08-30 09:49 J -34219300.19 -34219300.09 -34219299.99 0.3784 0.1833

Neptune -98401-10-28 12:28 J -34219241.10 -34219240.98 -34219240.84 0.0088 0.0053

Neptune -98400-01-24 14:37 J -34219153.00 -34219152.89 -34219152.75 0.0088 0.0058

Neptune -98400-04-22 17:16 J -34219064.90 -34219064.78 -34219064.67 0.0088 0.0062

Mars -98400-04-24 23:30 J -34219062.57 -34219062.52 -34219062.46 0.1909 0.1737

Neptune -98400-07-19 19:11 J -34218976.79 -34218976.70 -34218976.58 0.0088 0.0067

Neptune -98400-10-15 21:20 J -34218888.68 -34218888.61 -34218888.50 0.0088 0.0072

Neptune -98399-01-11 23:44 J -34218800.58 -34218800.51 -34218800.41 0.0088 0.0076

Neptune -98399-04-10 01:54 J -34218712.47 -34218712.42 -34218712.34 0.0088 0.0081

Neptune -98399-07-07 04:18 J -34218624.35 -34218624.32 -34218624.26 0.0088 0.0085

Earth -98399-07-10 20:23 J -34218620.77 -34218620.65 -34218620.53 0.2638 0.0520

Moon -98399-07-10 20:37 J -34218620.75 -34218620.64 -34218620.51 0.2643 0.0544 *

Mars -98398-04-01 08:23 J -34218356.24 -34218356.15 -34218356.05 0.1903 0.1236

Jupiter -98396-02-25 15:20 J -34217659.89 -34217659.86 -34217659.83 0.0515 0.0504

Jupiter -98396-05-26 12:42 J -34217570.13 -34217569.97 -34217569.82 0.0519 0.0040

Saturn -98396-12-22 06:56 J -34217360.25 -34217360.21 -34217360.17 0.0287 0.0272

Venus -98395-03-16 04:18 J -34217276.43 -34217276.32 -34217276.21 0.3781 0.0897

Saturn -98395-03-20 22:47 J -34217271.67 -34217271.55 -34217271.43 0.0287 0.0183

Saturn -98395-06-17 14:52 J -34217183.02 -34217182.88 -34217182.73 0.0287 0.0092

Saturn -98395-09-14 07:40 J -34217094.34 -34217094.18 -34217094.03 0.0287 0.0009

Saturn -98395-12-12 00:28 J -34217005.63 -34217005.48 -34217005.33 0.0287 0.0099

Saturn -98394-03-10 17:44 J -34216916.87 -34216916.76 -34216916.64 0.0287 0.0197

Mars -98394-11-28 09:35 J -34216654.17 -34216654.10 -34216654.03 0.1615 0.1391

Uranus -98392-02-07 13:25 J -34216217.01 -34216216.94 -34216216.87 0.0143 0.0124

Uranus -98392-05-06 18:13 J -34216128.83 -34216128.74 -34216128.63 0.0143 0.0104

Uranus -98392-08-02 23:30 J -34216040.65 -34216040.52 -34216040.40 0.0143 0.0083

Uranus -98392-10-30 04:32 J -34215952.45 -34215952.31 -34215952.17 0.0143 0.0062

Mars -98392-11-03 04:04 J -34215948.46 -34215948.33 -34215948.19 0.1618 0.0367

Uranus -98391-01-26 09:35 J -34215864.24 -34215864.10 -34215863.95 0.0143 0.0041

Uranus -98391-04-24 14:52 J -34215776.03 -34215775.88 -34215775.73 0.0144 0.0020

Uranus -98391-07-21 20:08 J -34215687.82 -34215687.66 -34215687.51 0.0144 0.0002

Jupiter -98391-10-15 09:20 J -34215602.24 -34215602.11 -34215601.97 0.0511 0.0203

Uranus -98391-10-18 01:25 J -34215599.60 -34215599.44 -34215599.29 0.0144 0.0023

Jupiter -98390-01-12 22:32 J -34215512.68 -34215512.56 -34215512.43 0.0507 0.0268

Uranus -98390-01-14 06:42 J -34215511.37 -34215511.22 -34215511.07 0.0144 0.0046

Uranus -98390-04-12 11:59 J -34215423.13 -34215423.00 -34215422.85 0.0144 0.0068

Uranus -98390-07-09 17:30 J -34215334.89 -34215334.77 -34215334.64 0.0144 0.0090

Venus -98390-09-29 23:01 J -34215252.65 -34215252.54 -34215252.43 0.3778 0.0109

Uranus -98390-10-05 23:01 J -34215246.63 -34215246.54 -34215246.44 0.0144 0.0113

Uranus -98389-01-02 04:32 J -34215158.35 -34215158.31 -34215158.25 0.0144 0.0136

Moon -98389-01-05 02:37 J -34215155.49 -34215155.39 -34215155.29 0.2695 0.1800

Earth -98389-01-05 03:49 J -34215155.43 -34215155.34 -34215155.25 0.2695 0.2020 *

Mars -98389-08-21 12:56 J -34214926.09 -34214925.96 -34214925.84 0.1905 0.0550

Earth -98386-07-13 16:47 J -34213869.92 -34213869.80 -34213869.68 0.2642 0.0710

Moon -98386-07-13 17:30 J -34213869.88 -34213869.77 -34213869.65 0.2645 0.0803 *

Venus -98386-09-28 20:08 J -34213792.75 -34213792.66 -34213792.57 0.3594 0.2614

Jupiter -98384-03-14 13:11 J -34213260.11 -34213259.95 -34213259.80 0.0518 0.0096

Venus -98384-04-14 17:44 J -34213228.86 -34213228.76 -34213228.65 0.3775 0.1059

Jupiter -98384-06-12 08:52 J -34213170.21 -34213170.13 -34213170.04 0.0521 0.0435

Earth -98383-12-28 08:23 J -34212606.20 -34212606.15 -34212606.11 0.2708 0.2542

Moon -98383-12-28 08:52 J -34212606.18 -34212606.13 -34212606.07 0.2703 0.2431 *

Mars -98382-03-26 11:16 J -34212518.17 -34212518.03 -34212517.89 0.1617 0.0078

Saturn -98381-10-25 17:01 J -34211938.89 -34211938.79 -34211938.68 0.0273 0.0196

Saturn -98380-01-22 08:23 J -34211850.29 -34211850.15 -34211850.01 0.0273 0.0113

Venus -98380-04-13 20:52 J -34211768.76 -34211768.63 -34211768.51 0.3596 0.1254

Saturn -98380-04-20 23:16 J -34211761.68 -34211761.53 -34211761.38 0.0273 0.0031

Saturn -98380-07-18 13:54 J -34211673.07 -34211672.92 -34211672.77 0.0273 0.0049

Saturn -98380-10-15 04:04 J -34211584.46 -34211584.33 -34211584.19 0.0273 0.0128

Mars -98379-01-11 17:01 J -34211495.92 -34211495.79 -34211495.66 0.1907 0.0163

Saturn -98379-01-11 18:13 J -34211495.84 -34211495.74 -34211495.64 0.0273 0.0204 *

Jupiter -98379-08-03 11:16 J -34211292.14 -34211292.03 -34211291.92 0.0512 0.0326

Venus -98379-10-29 12:56 J -34211205.05 -34211204.96 -34211204.86 0.3771 0.2060

Jupiter -98379-11-01 00:13 J -34211202.63 -34211202.49 -34211202.35 0.0509 0.0142

Venus -98375-10-28 20:52 J -34209744.76 -34209744.63 -34209744.50 0.3600 0.0056

Venus -98373-05-14 08:23 J -34209181.21 -34209181.15 -34209181.09 0.3768 0.3104

Earth -98373-07-15 12:56 J -34209119.04 -34209118.96 -34209118.87 0.2646 0.1919

Moon -98373-07-15 13:54 J -34209119.00 -34209118.92 -34209118.84 0.2644 0.2014 *

Mars -98373-08-15 18:42 J -34209087.86 -34209087.72 -34209087.59 0.1616 0.0510

Jupiter -98373-12-31 13:11 J -34208950.09 -34208949.95 -34208949.81 0.0516 0.0233

Jupiter -98372-03-31 09:20 J -34208860.23 -34208860.11 -34208859.98 0.0520 0.0300

Mars -98371-07-22 15:06 J -34208381.95 -34208381.87 -34208381.79 0.1621 0.1337

Mars -98370-06-03 20:37 J -34208065.76 -34208065.64 -34208065.52 0.1908 0.0905

Moon -98370-12-31 08:08 J -34207855.28 -34207855.16 -34207855.03 0.2696 0.0980

Earth -98370-12-31 08:23 J -34207855.27 -34207855.15 -34207855.02 0.2704 0.0952 *

Venus -98369-05-13 20:37 J -34207720.76 -34207720.64 -34207720.52 0.3603 0.1312

Jupiter -98367-05-22 13:40 J -34206981.99 -34206981.93 -34206981.85 0.0513 0.0442

Jupiter -98367-08-20 02:23 J -34206892.54 -34206892.40 -34206892.25 0.0510 0.0027

Jupiter -98367-11-17 16:18 J -34206802.84 -34206802.82 -34206802.80 0.0506 0.0500

Saturn -98366-05-11 10:18 J -34206628.08 -34206628.07 -34206628.06 0.0286 0.0284

Moon -98366-07-09 04:32 J -34206569.40 -34206569.31 -34206569.21 0.2640 0.1606

Earth -98366-07-09 05:01 J -34206569.40 -34206569.29 -34206569.19 0.2634 0.1505 *

Saturn -98366-08-08 02:08 J -34206539.52 -34206539.41 -34206539.30 0.0286 0.0196

Saturn -98366-11-04 18:13 J -34206450.88 -34206450.74 -34206450.60 0.0286 0.0105

Saturn -98365-02-01 10:47 J -34206362.21 -34206362.05 -34206361.90 0.0287 0.0012

Saturn -98365-04-30 03:35 J -34206273.50 -34206273.35 -34206273.20 0.0287 0.0084

Saturn -98365-07-27 20:52 J -34206184.75 -34206184.63 -34206184.51 0.0287 0.0182

Saturn -98365-10-24 14:23 J -34206095.92 -34206095.90 -34206095.87 0.0287 0.0281

Venus -98364-11-27 19:54 J -34205696.76 -34205696.67 -34205696.58 0.3606 0.2508

Mars -98363-01-06 02:08 J -34205657.52 -34205657.41 -34205657.30 0.1615 0.0927

Mars -98362-12-12 21:35 J -34204951.72 -34204951.60 -34204951.48 0.1620 0.0876

Jupiter -98361-10-19 12:28 J -34204640.09 -34204639.98 -34204639.87 0.0516 0.0379

Mars -98361-10-23 23:59 J -34204635.56 -34204635.50 -34204635.43 0.1909 0.1660

Jupiter -98360-01-17 09:06 J -34204550.26 -34204550.12 -34204549.97 0.0520 0.0160

Mars -98359-09-30 08:37 J -34203929.23 -34203929.14 -34203929.04 0.1903 0.1302

Moon -98356-01-02 07:54 J -34203104.30 -34203104.17 -34203104.04 0.2696 0.0555

Earth -98356-01-02 08:52 J -34203104.26 -34203104.13 -34203104.00 0.2699 0.0685 *

Venus -98355-03-07 19:40 J -34202674.73 -34202674.68 -34202674.63 0.3788 0.3336

Jupiter -98355-06-08 05:16 J -34202582.42 -34202582.28 -34202582.14 0.0510 0.0087

Jupiter -98355-09-05 18:42 J -34202492.81 -34202492.72 -34202492.62 0.0507 0.0386

Mars -98354-05-29 09:49 J -34202227.17 -34202227.09 -34202227.02 0.1614 0.1341

Uranus -98353-04-09 02:08 J -34201911.41 -34201911.41 -34201911.40 0.0136 0.0136

Uranus -98353-07-06 07:11 J -34201823.28 -34201823.20 -34201823.11 0.0136 0.0116

Earth -98353-07-11 01:25 J -34201818.56 -34201818.44 -34201818.31 0.2638 0.0274

Moon -98353-07-11 02:08 J -34201818.54 -34201818.41 -34201818.29 0.2644 0.0168 *

Uranus -98353-10-02 12:13 J -34201735.10 -34201734.99 -34201734.88 0.0136 0.0097

Uranus -98353-12-29 17:16 J -34201646.91 -34201646.78 -34201646.65 0.0135 0.0078

Uranus -98352-03-27 22:04 J -34201558.72 -34201558.58 -34201558.43 0.0135 0.0059

Mars -98352-05-04 04:32 J -34201521.45 -34201521.31 -34201521.17 0.1618 0.0420

Uranus -98352-06-24 02:52 J -34201470.53 -34201470.38 -34201470.22 0.0135 0.0040

Uranus -98352-09-20 07:40 J -34201382.33 -34201382.18 -34201382.02 0.0135 0.0022

Uranus -98352-12-17 12:28 J -34201294.13 -34201293.98 -34201293.82 0.0135 0.0004

Saturn -98351-03-14 18:42 J -34201206.81 -34201206.72 -34201206.62 0.0272 0.0217

Uranus -98351-03-15 17:16 J -34201205.94 -34201205.78 -34201205.62 0.0135 0.0015

Saturn -98351-06-11 10:04 J -34201118.21 -34201118.08 -34201117.94 0.0272 0.0133

Uranus -98351-06-11 21:49 J -34201117.74 -34201117.59 -34201117.43 0.0135 0.0033

Saturn -98351-09-08 01:11 J -34201029.60 -34201029.45 -34201029.30 0.0272 0.0051

Uranus -98351-09-08 02:37 J -34201029.54 -34201029.39 -34201029.25 0.0135 0.0051 *

Uranus -98351-12-05 06:56 J -34200941.33 -34200941.21 -34200941.07 0.0135 0.0069

Saturn -98351-12-05 15:49 J -34200940.99 -34200940.84 -34200940.69 0.0272 0.0029

Uranus -98350-03-03 11:30 J -34200853.13 -34200853.02 -34200852.89 0.0134 0.0086

Saturn -98350-03-04 06:13 J -34200852.38 -34200852.24 -34200852.10 0.0272 0.0108

Uranus -98350-05-30 16:04 J -34200764.92 -34200764.83 -34200764.73 0.0134 0.0103

Saturn -98350-05-31 20:23 J -34200763.76 -34200763.65 -34200763.54 0.0272 0.0184

Uranus -98350-08-26 20:37 J -34200676.70 -34200676.64 -34200676.57 0.0134 0.0120

Saturn -98350-08-28 10:04 J -34200675.12 -34200675.08 -34200675.03 0.0272 0.0260

Venus -98350-09-21 13:40 J -34200651.01 -34200650.93 -34200650.85 0.3786 0.2454

Mars -98349-02-20 13:11 J -34200499.08 -34200498.95 -34200498.83 0.1905 0.0615

Jupiter -98349-08-07 12:42 J -34200329.98 -34200329.97 -34200329.96 0.0515 0.0513

Jupiter -98349-11-05 10:04 J -34200240.24 -34200240.08 -34200239.93 0.0519 0.0029

Venus -98344-04-06 08:08 J -34198627.27 -34198627.16 -34198627.06 0.3783 0.1552

Moon -98343-01-05 08:23 J -34198353.22 -34198353.15 -34198353.08 0.2694 0.2317

Earth -98343-01-05 09:35 J -34198353.16 -34198353.10 -34198353.03 0.2694 0.2358 *

Jupiter -98343-03-27 07:40 J -34198272.31 -34198272.18 -34198272.05 0.0511 0.0203

Jupiter -98343-06-24 20:52 J -34198182.76 -34198182.63 -34198182.51 0.0507 0.0267

Mars -98343-09-24 11:30 J -34198091.16 -34198091.02 -34198090.88 0.1617 0.0038

Mars -98340-07-12 17:01 J -34197068.92 -34197068.79 -34197068.65 0.1907 0.0123

Earth -98340-07-13 22:04 J -34197067.70 -34197067.58 -34197067.47 0.2643 0.0975

Moon -98340-07-13 22:47 J -34197067.66 -34197067.55 -34197067.44 0.2644 0.1016 *

Venus -98339-10-21 02:37 J -34196603.50 -34196603.39 -34196603.28 0.3780 0.0615

Jupiter -98337-08-24 10:47 J -34195930.20 -34195930.05 -34195929.89 0.0518 0.0101

Jupiter -98337-11-22 06:42 J -34195840.30 -34195840.22 -34195840.13 0.0522 0.0431

Saturn -98337-12-25 01:54 J -34195807.51 -34195807.42 -34195807.33 0.0287 0.0229

Earth -98337-12-28 14:08 J -34195803.99 -34195803.91 -34195803.84 0.2708 0.2218

Moon -98337-12-28 14:23 J -34195803.97 -34195803.90 -34195803.83 0.2701 0.2244 *

Pluto -98336-03-07 00:56 J -34195735.51 -34195735.46 -34195735.41 0.0085 0.0077

Saturn -98336-03-23 17:59 J -34195718.89 -34195718.75 -34195718.62 0.0287 0.0139

Pluto -98336-06-03 02:08 J -34195647.50 -34195647.41 -34195647.33 0.0084 0.0064

Saturn -98336-06-20 10:18 J -34195630.22 -34195630.07 -34195629.92 0.0287 0.0046

Pluto -98336-08-30 03:20 J -34195559.46 -34195559.36 -34195559.25 0.0084 0.0051

Saturn -98336-09-17 03:06 J -34195541.53 -34195541.37 -34195541.22 0.0287 0.0049

Pluto -98336-11-26 04:32 J -34195471.42 -34195471.31 -34195471.19 0.0084 0.0038

Saturn -98336-12-14 19:54 J -34195452.80 -34195452.67 -34195452.53 0.0287 0.0146

Pluto -98335-02-22 05:44 J -34195383.38 -34195383.26 -34195383.13 0.0084 0.0025

Saturn -98335-03-13 13:25 J -34195364.01 -34195363.94 -34195363.85 0.0287 0.0245

Pluto -98335-05-21 07:11 J -34195295.33 -34195295.20 -34195295.07 0.0084 0.0012

Pluto -98335-08-17 08:23 J -34195207.28 -34195207.15 -34195207.02 0.0084 0.0001

Pluto -98335-11-13 09:35 J -34195119.23 -34195119.10 -34195118.97 0.0084 0.0013

Pluto -98334-02-09 10:47 J -34195031.17 -34195031.05 -34195030.92 0.0084 0.0026

Pluto -98334-05-08 11:59 J -34194943.11 -34194943.00 -34194942.88 0.0083 0.0038

Pluto -98334-08-04 12:56 J -34194855.05 -34194854.96 -34194854.84 0.0083 0.0051

Pluto -98334-10-31 14:23 J -34194766.98 -34194766.90 -34194766.81 0.0083 0.0063

Pluto -98333-01-27 15:35 J -34194678.90 -34194678.85 -34194678.79 0.0083 0.0076

Mars -98333-02-14 18:42 J -34194660.85 -34194660.72 -34194660.58 0.1616 0.0460

Venus -98333-05-05 21:20 J -34194579.72 -34194579.61 -34194579.50 0.3777 0.0370

Earth -98333-07-06 13:25 J -34194517.98 -34194517.94 -34194517.91 0.2630 0.2506

Jupiter -98331-01-13 10:04 J -34193962.19 -34193962.08 -34193961.97 0.0512 0.0319

Mars -98331-01-20 15:20 J -34193954.93 -34193954.86 -34193954.79 0.1621 0.1395

Jupiter -98331-04-12 23:01 J -34193872.68 -34193872.54 -34193872.40 0.0508 0.0148

Mars -98331-12-02 20:52 J -34193638.75 -34193638.63 -34193638.51 0.1909 0.0838

Venus -98329-05-04 20:08 J -34193119.77 -34193119.66 -34193119.55 0.3594 0.2188

Venus -98328-11-19 16:18 J -34192555.93 -34192555.82 -34192555.72 0.3774 0.1354

Earth -98327-07-16 18:13 J -34192316.81 -34192316.74 -34192316.67 0.2647 0.2175

Moon -98327-07-16 18:56 J -34192316.77 -34192316.71 -34192316.64 0.2644 0.2251 *

Neptune -98325-01-19 19:25 J -34191764.71 -34191764.69 -34191764.66 0.0089 0.0087

Neptune -98325-04-16 21:06 J -34191676.66 -34191676.62 -34191676.56 0.0089 0.0083

Jupiter -98325-06-12 11:16 J -34191620.17 -34191620.03 -34191619.88 0.0517 0.0233

Neptune -98325-07-13 22:47 J -34191588.60 -34191588.55 -34191588.47 0.0089 0.0079

Jupiter -98325-09-10 07:40 J -34191530.30 -34191530.18 -34191530.05 0.0520 0.0302

Neptune -98325-10-10 00:28 J -34191500.54 -34191500.48 -34191500.39 0.0089 0.0075

Neptune -98324-01-06 02:08 J -34191412.48 -34191412.41 -34191412.30 0.0089 0.0071

Neptune -98324-04-04 04:18 J -34191324.41 -34191324.32 -34191324.22 0.0089 0.0066

Neptune -98324-07-01 05:59 J -34191236.35 -34191236.25 -34191236.14 0.0089 0.0062

Mars -98324-07-07 02:23 J -34191230.52 -34191230.40 -34191230.29 0.1615 0.0878

Neptune -98324-09-27 07:40 J -34191148.28 -34191148.18 -34191148.05 0.0089 0.0058

Venus -98324-11-18 20:37 J -34191095.77 -34191095.64 -34191095.51 0.3597 0.0844

Neptune -98324-12-24 09:49 J -34191060.21 -34191060.09 -34191059.97 0.0089 0.0053

Moon -98324-12-31 13:54 J -34191053.06 -34191052.92 -34191052.79 0.2696 0.0633

Earth -98324-12-31 14:08 J -34191053.04 -34191052.91 -34191052.78 0.2703 0.0625 *

Neptune -98323-03-22 11:30 J -34190972.14 -34190972.02 -34190971.89 0.0089 0.0049

Neptune -98323-06-18 13:11 J -34190884.06 -34190883.95 -34190883.81 0.0089 0.0045

Neptune -98323-09-14 15:20 J -34190795.99 -34190795.86 -34190795.73 0.0089 0.0040

Neptune -98323-12-11 17:01 J -34190707.92 -34190707.79 -34190707.65 0.0089 0.0036

Neptune -98322-03-09 18:56 J -34190619.84 -34190619.71 -34190619.57 0.0089 0.0032

Venus -98322-06-05 11:30 J -34190532.11 -34190532.02 -34190531.94 0.3770 0.2374

Neptune -98322-06-05 20:52 J -34190531.77 -34190531.63 -34190531.48 0.0089 0.0027

Mars -98322-06-12 21:49 J -34190524.71 -34190524.59 -34190524.47 0.1620 0.0927

Saturn -98322-08-01 20:08 J -34190474.73 -34190474.66 -34190474.59 0.0273 0.0241

Neptune -98322-09-01 22:47 J -34190443.69 -34190443.55 -34190443.40 0.0089 0.0023

Saturn -98322-10-29 11:30 J -34190386.14 -34190386.02 -34190385.89 0.0273 0.0157

Neptune -98322-11-29 00:42 J -34190355.62 -34190355.47 -34190355.32 0.0089 0.0018

Saturn -98321-01-26 02:37 J -34190297.54 -34190297.39 -34190297.24 0.0273 0.0074

Neptune -98321-02-25 02:37 J -34190267.54 -34190267.39 -34190267.24 0.0089 0.0014

Saturn -98321-04-23 17:30 J -34190208.92 -34190208.77 -34190208.62 0.0273 0.0007

Mars -98321-04-24 00:28 J -34190208.56 -34190208.48 -34190208.41 0.1909 0.1595

Neptune -98321-05-23 04:32 J -34190179.46 -34190179.31 -34190179.16 0.0089 0.0009

Saturn -98321-07-21 07:54 J -34190120.31 -34190120.17 -34190120.02 0.0273 0.0086

Neptune -98321-08-19 06:28 J -34190091.38 -34190091.23 -34190091.08 0.0089 0.0005

Saturn -98321-10-17 22:04 J -34190031.69 -34190031.58 -34190031.45 0.0273 0.0164

Neptune -98321-11-15 08:23 J -34190003.30 -34190003.15 -34190003.00 0.0089 0.0000

Saturn -98320-01-14 11:59 J -34189943.06 -34189943.00 -34189942.92 0.0273 0.0240

Neptune -98320-02-11 10:18 J -34189915.22 -34189915.07 -34189914.92 0.0089 0.0004

Neptune -98320-05-10 12:13 J -34189827.14 -34189826.99 -34189826.84 0.0089 0.0009

Moon -98320-07-09 10:04 J -34189767.19 -34189767.08 -34189766.97 0.2641 0.1187

Earth -98320-07-09 10:04 J -34189767.18 -34189767.08 -34189766.97 0.2634 0.1243 *

Neptune -98320-08-06 14:08 J -34189739.05 -34189738.91 -34189738.75 0.0089 0.0014

Jupiter -98320-11-01 11:59 J -34189652.07 -34189652.00 -34189651.93 0.0513 0.0443

Neptune -98320-11-02 16:18 J -34189650.97 -34189650.82 -34189650.67 0.0089 0.0018

Neptune -98319-01-29 17:59 J -34189562.89 -34189562.75 -34189562.59 0.0089 0.0023

Jupiter -98319-01-30 00:28 J -34189562.63 -34189562.48 -34189562.33 0.0510 0.0021 *

Mars -98319-03-31 08:52 J -34189502.22 -34189502.13 -34189502.04 0.1903 0.1364

Neptune -98319-04-27 20:08 J -34189474.80 -34189474.66 -34189474.51 0.0089 0.0027

Jupiter -98319-04-29 14:08 J -34189472.93 -34189472.91 -34189472.88 0.0506 0.0496

Neptune -98319-07-24 22:04 J -34189386.72 -34189386.58 -34189386.43 0.0089 0.0032

Neptune -98319-10-20 23:59 J -34189298.63 -34189298.50 -34189298.35 0.0089 0.0037

Neptune -98318-01-17 02:08 J -34189210.54 -34189210.41 -34189210.27 0.0089 0.0041

Neptune -98318-04-15 04:04 J -34189122.45 -34189122.33 -34189122.19 0.0089 0.0046

Venus -98318-06-04 20:37 J -34189071.77 -34189071.64 -34189071.51 0.3601 0.0446

Neptune -98318-07-12 05:59 J -34189034.36 -34189034.25 -34189034.11 0.0089 0.0051

Neptune -98318-10-08 08:08 J -34188946.27 -34188946.16 -34188946.03 0.0089 0.0055

Neptune -98317-01-04 10:04 J -34188858.18 -34188858.08 -34188857.95 0.0089 0.0060

Neptune -98317-04-01 12:13 J -34188770.09 -34188769.99 -34188769.88 0.0089 0.0065

Neptune -98317-06-28 14:08 J -34188681.99 -34188681.91 -34188681.80 0.0089 0.0070

Neptune -98317-09-24 16:18 J -34188593.89 -34188593.82 -34188593.72 0.0089 0.0074

Venus -98317-12-19 06:56 J -34188508.26 -34188508.21 -34188508.17 0.3767 0.3422

Neptune -98317-12-21 18:28 J -34188505.79 -34188505.73 -34188505.65 0.0089 0.0079

Neptune -98316-03-19 20:23 J -34188417.68 -34188417.65 -34188417.58 0.0089 0.0084

Neptune -98316-06-15 22:47 J -34188329.56 -34188329.55 -34188329.53 0.0089 0.0088

Mars -98315-11-27 10:04 J -34187800.16 -34187800.08 -34187800.00 0.1615 0.1289

Jupiter -98313-03-31 11:16 J -34187310.14 -34187310.03 -34187309.92 0.0515 0.0371

Jupiter -98313-06-29 08:08 J -34187220.31 -34187220.16 -34187220.02 0.0519 0.0167

Mars -98313-11-02 04:47 J -34187094.43 -34187094.30 -34187094.16 0.1618 0.0478

Venus -98313-12-18 20:08 J -34187047.77 -34187047.66 -34187047.54 0.3604 0.1687

Moon -98310-01-03 13:25 J -34186302.07 -34186301.94 -34186301.81 0.2696 0.0906

Earth -98310-01-03 14:37 J -34186302.02 -34186301.89 -34186301.77 0.2698 0.1017 *

Mars -98310-08-21 13:25 J -34186072.06 -34186071.94 -34186071.82 0.1905 0.0682

Uranus -98309-12-01 15:20 J -34185603.87 -34185603.86 -34185603.83 0.0143 0.0141

Uranus -98308-02-27 20:08 J -34185515.73 -34185515.66 -34185515.57 0.0143 0.0121

Uranus -98308-05-27 01:25 J -34185427.55 -34185427.44 -34185427.33 0.0143 0.0100

Uranus -98308-08-23 06:28 J -34185339.36 -34185339.23 -34185339.10 0.0143 0.0080

Jupiter -98308-11-18 02:52 J -34185252.52 -34185252.38 -34185252.24 0.0511 0.0096

Uranus -98308-11-19 11:30 J -34185251.16 -34185251.02 -34185250.88 0.0143 0.0059

Uranus -98307-02-15 16:47 J -34185162.95 -34185162.80 -34185162.65 0.0143 0.0038

Jupiter -98307-02-15 16:18 J -34185162.92 -34185162.82 -34185162.72 0.0507 0.0377 *

Saturn -98307-05-14 05:01 J -34185075.36 -34185075.29 -34185075.21 0.0286 0.0243

Uranus -98307-05-14 21:49 J -34185074.74 -34185074.59 -34185074.43 0.0144 0.0016

Venus -98307-07-04 19:25 J -34185023.77 -34185023.69 -34185023.61 0.3607 0.2859

Earth -98307-07-12 06:42 J -34185016.34 -34185016.22 -34185016.09 0.2639 0.0045

Moon -98307-07-12 07:11 J -34185016.32 -34185016.20 -34185016.07 0.2644 0.0099 *

Saturn -98307-08-10 21:06 J -34184986.75 -34184986.62 -34184986.49 0.0287 0.0153

Uranus -98307-08-11 03:06 J -34184986.53 -34184986.37 -34184986.21 0.0144 0.0006 *

Uranus -98307-11-07 08:23 J -34184898.30 -34184898.15 -34184897.99 0.0144 0.0027

Saturn -98307-11-07 13:25 J -34184898.09 -34184897.94 -34184897.79 0.0287 0.0061 *

Uranus -98306-02-03 13:40 J -34184810.07 -34184809.93 -34184809.78 0.0144 0.0050

Saturn -98306-02-04 05:59 J -34184809.40 -34184809.25 -34184809.09 0.0287 0.0034

Uranus -98306-05-02 18:56 J -34184721.84 -34184721.71 -34184721.56 0.0144 0.0072

Saturn -98306-05-03 23:01 J -34184720.68 -34184720.54 -34184720.40 0.0287 0.0131

Uranus -98306-07-30 00:28 J -34184633.59 -34184633.48 -34184633.35 0.0144 0.0094

Saturn -98306-07-31 16:18 J -34184631.91 -34184631.82 -34184631.72 0.0287 0.0230

Uranus -98306-10-26 05:59 J -34184545.33 -34184545.25 -34184545.15 0.0144 0.0117

Uranus -98305-01-22 11:30 J -34184457.05 -34184457.02 -34184456.97 0.0144 0.0140

Mars -98303-03-25 11:59 J -34183664.15 -34183664.00 -34183663.86 0.1617 0.0058

Jupiter -98301-04-17 07:40 J -34182910.34 -34182910.18 -34182910.02 0.0518 0.0022

Mars -98300-01-10 17:30 J -34182641.90 -34182641.77 -34182641.64 0.1907 0.0040

Venus -98299-10-12 17:44 J -34182001.83 -34182001.76 -34182001.70 0.3787 0.3061

Moon -98297-01-06 14:08 J -34181550.95 -34181550.91 -34181550.86 0.2695 0.2522

Jupiter -98296-09-06 05:44 J -34180942.39 -34180942.26 -34180942.13 0.0511 0.0206

Jupiter -98296-12-04 18:56 J -34180852.84 -34180852.71 -34180852.59 0.0508 0.0265

Earth -98294-07-15 03:06 J -34180265.48 -34180265.37 -34180265.26 0.2643 0.1228

Moon -98294-07-15 04:04 J -34180265.43 -34180265.33 -34180265.23 0.2643 0.1381 *

Mars -98294-08-15 19:11 J -34180233.84 -34180233.70 -34180233.57 0.1616 0.0405

Venus -98293-04-27 11:59 J -34179978.09 -34179978.00 -34179977.92 0.3785 0.2174

Saturn -98293-12-18 22:04 J -34179742.62 -34179742.58 -34179742.53 0.0272 0.0260

Saturn -98292-03-17 13:40 J -34179654.05 -34179653.93 -34179653.81 0.0272 0.0176

Saturn -98292-06-14 04:47 J -34179565.44 -34179565.30 -34179565.15 0.0272 0.0093

Mars -98292-07-21 15:35 J -34179527.91 -34179527.85 -34179527.79 0.1621 0.1452

Saturn -98292-09-10 19:40 J -34179476.84 -34179476.68 -34179476.53 0.0272 0.0012

Saturn -98292-12-08 10:04 J -34179388.22 -34179388.08 -34179387.93 0.0272 0.0068

Saturn -98291-03-07 00:28 J -34179299.61 -34179299.48 -34179299.35 0.0272 0.0145

Mars -98291-06-02 21:06 J -34179211.74 -34179211.62 -34179211.50 0.1908 0.0774

Saturn -98291-06-03 14:23 J -34179210.98 -34179210.90 -34179210.81 0.0272 0.0221

Moon -98291-12-29 19:54 J -34179001.77 -34179001.67 -34179001.57 0.2700 0.1783

Earth -98291-12-29 19:40 J -34179001.77 -34179001.68 -34179001.58 0.2707 0.1896 *

Jupiter -98289-02-04 08:08 J -34178600.31 -34178600.16 -34178600.00 0.0518 0.0111

Jupiter -98289-05-04 04:18 J -34178510.41 -34178510.32 -34178510.23 0.0522 0.0422

Venus -98288-11-11 06:13 J -34177954.34 -34177954.24 -34177954.13 0.3782 0.1255

Moon -98287-07-07 17:59 J -34177715.81 -34177715.75 -34177715.69 0.2635 0.2274

Earth -98287-07-07 18:42 J -34177715.78 -34177715.72 -34177715.66 0.2631 0.2236 *

Mars -98284-01-05 02:37 J -34176803.51 -34176803.39 -34176803.27 0.1615 0.0827

Jupiter -98284-06-25 08:23 J -34176632.26 -34176632.15 -34176632.04 0.0512 0.0320

Jupiter -98284-09-22 21:06 J -34176542.76 -34176542.62 -34176542.48 0.0508 0.0148

Mars -98283-12-11 22:18 J -34176097.68 -34176097.57 -34176097.46 0.1620 0.0988

Venus -98282-05-28 00:56 J -34175930.58 -34175930.46 -34175930.35 0.3779 0.0339

Mars -98282-10-24 00:28 J -34175781.56 -34175781.48 -34175781.40 0.1910 0.1532

Earth -98281-07-16 23:16 J -34175514.57 -34175514.53 -34175514.48 0.2648 0.2431

Moon -98281-07-17 00:13 J -34175514.53 -34175514.49 -34175514.46 0.2644 0.2487 *

Mars -98280-09-29 09:06 J -34175075.20 -34175075.12 -34175075.04 0.1903 0.1429

Venus -98278-05-26 19:11 J -34174470.76 -34174470.70 -34174470.64 0.3592 0.3153

Saturn -98278-10-01 05:01 J -34174343.33 -34174343.29 -34174343.25 0.0287 0.0276

Jupiter -98278-11-23 08:52 J -34174290.26 -34174290.13 -34174289.99 0.0517 0.0240

Saturn -98278-12-28 20:52 J -34174254.74 -34174254.63 -34174254.52 0.0287 0.0187

Moon -98277-01-01 19:25 J -34174250.83 -34174250.69 -34174250.56 0.2697 0.0411

Earth -98277-01-01 19:54 J -34174250.80 -34174250.67 -34174250.54 0.2703 0.0289 *

Jupiter -98277-02-21 05:16 J -34174200.40 -34174200.28 -34174200.15 0.0521 0.0297

Saturn -98277-03-26 12:56 J -34174166.10 -34174165.96 -34174165.81 0.0287 0.0095

Saturn -98277-06-23 05:30 J -34174077.43 -34174077.27 -34174077.11 0.0287 0.0002

Saturn -98277-09-19 22:18 J -34173988.71 -34173988.57 -34173988.42 0.0287 0.0095

Venus -98277-12-10 19:40 J -34173906.79 -34173906.68 -34173906.57 0.3776 0.0661

Saturn -98277-12-17 15:35 J -34173899.96 -34173899.85 -34173899.73 0.0287 0.0193

Mars -98275-05-28 10:18 J -34173373.16 -34173373.07 -34173372.99 0.1614 0.1241

Earth -98274-07-10 15:20 J -34172964.97 -34172964.86 -34172964.74 0.2635 0.0975

Moon -98274-07-10 15:35 J -34172964.96 -34172964.85 -34172964.74 0.2642 0.1015 *

Mars -98273-05-03 05:01 J -34172667.42 -34172667.29 -34172667.16 0.1618 0.0529

Venus -98273-12-09 20:08 J -34172446.78 -34172446.66 -34172446.55 0.3595 0.1770

Jupiter -98272-04-13 10:47 J -34172322.12 -34172322.05 -34172321.97 0.0513 0.0435

Jupiter -98272-07-11 23:16 J -34172232.67 -34172232.53 -34172232.38 0.0509 0.0032

Jupiter -98272-10-09 12:56 J -34172142.97 -34172142.96 -34172142.94 0.0506 0.0503

Venus -98271-06-26 14:37 J -34171882.99 -34171882.89 -34171882.79 0.3773 0.1658

Mars -98270-02-19 13:25 J -34171645.06 -34171644.94 -34171644.82 0.1906 0.0740

Uranus -98269-04-29 08:52 J -34171210.16 -34171210.13 -34171210.11 0.0136 0.0133

Uranus -98269-07-26 13:40 J -34171122.01 -34171121.93 -34171121.84 0.0136 0.0114

Uranus -98269-10-22 18:42 J -34171033.83 -34171033.72 -34171033.60 0.0136 0.0095

Uranus -98268-01-18 23:44 J -34170945.64 -34170945.51 -34170945.37 0.0135 0.0075

Uranus -98268-04-17 04:32 J -34170857.45 -34170857.31 -34170857.16 0.0135 0.0057

Uranus -98268-07-14 09:20 J -34170769.25 -34170769.11 -34170768.95 0.0135 0.0038

Uranus -98268-10-10 14:23 J -34170681.06 -34170680.90 -34170680.74 0.0135 0.0019

Uranus -98267-01-06 19:11 J -34170592.86 -34170592.70 -34170592.54 0.0135 0.0002

Uranus -98267-04-04 23:44 J -34170504.66 -34170504.51 -34170504.35 0.0135 0.0018

Venus -98267-06-25 20:23 J -34170422.79 -34170422.65 -34170422.52 0.3598 0.0444

Uranus -98267-07-02 04:32 J -34170416.46 -34170416.31 -34170416.16 0.0135 0.0035

Uranus -98267-09-28 09:06 J -34170328.26 -34170328.12 -34170327.97 0.0135 0.0053

Uranus -98267-12-25 13:40 J -34170240.06 -34170239.93 -34170239.79 0.0134 0.0071

Uranus -98266-03-23 18:13 J -34170151.85 -34170151.74 -34170151.62 0.0134 0.0088

Uranus -98266-06-19 22:47 J -34170063.64 -34170063.55 -34170063.45 0.0134 0.0105

Jupiter -98266-09-11 09:20 J -34169980.21 -34169980.11 -34169979.99 0.0516 0.0371

Uranus -98266-09-16 03:06 J -34169975.42 -34169975.37 -34169975.30 0.0134 0.0123

Jupiter -98266-12-10 06:13 J -34169890.38 -34169890.24 -34169890.09 0.0519 0.0169

Venus -98265-01-10 09:49 J -34169859.17 -34169859.09 -34169859.01 0.3769 0.2687

Moon -98264-01-03 19:11 J -34169499.82 -34169499.70 -34169499.58 0.2695 0.1240

Earth -98264-01-03 20:23 J -34169499.77 -34169499.65 -34169499.53 0.2698 0.1355 *

Mars -98264-09-23 12:13 J -34169237.14 -34169236.99 -34169236.85 0.1617 0.0102

Saturn -98263-08-04 14:37 J -34168921.99 -34168921.89 -34168921.78 0.0273 0.0202

Saturn -98263-11-01 05:59 J -34168833.39 -34168833.25 -34168833.11 0.0273 0.0119

Saturn -98262-01-28 20:52 J -34168744.78 -34168744.63 -34168744.48 0.0273 0.0037

Saturn -98262-04-27 11:30 J -34168656.17 -34168656.02 -34168655.87 0.0273 0.0044

Saturn -98262-07-25 01:54 J -34168567.55 -34168567.42 -34168567.28 0.0273 0.0122

Saturn -98262-10-21 15:49 J -34168478.93 -34168478.84 -34168478.73 0.0273 0.0200

Venus -98261-01-09 20:23 J -34168398.78 -34168398.65 -34168398.52 0.3602 0.0832

Mars -98261-07-11 17:44 J -34168214.89 -34168214.76 -34168214.63 0.1907 0.0036

Earth -98261-07-12 11:59 J -34168214.12 -34168214.00 -34168213.88 0.2639 0.0269

Moon -98261-07-12 12:42 J -34168214.10 -34168213.97 -34168213.85 0.2644 0.0412 *

Jupiter -98260-04-30 00:56 J -34167922.60 -34167922.46 -34167922.31 0.0510 0.0097

Venus -98260-07-26 05:30 J -34167835.28 -34167835.27 -34167835.26 0.3766 0.3738

Jupiter -98260-07-28 14:23 J -34167833.00 -34167832.90 -34167832.80 0.0507 0.0375

Venus -98256-07-25 19:54 J -34166374.78 -34166374.67 -34166374.57 0.3605 0.2048

Mars -98254-02-13 19:25 J -34165806.83 -34165806.69 -34165806.55 0.1616 0.0350

Jupiter -98254-06-30 09:20 J -34165670.13 -34165670.11 -34165670.09 0.0515 0.0508

Jupiter -98254-09-28 06:42 J -34165580.38 -34165580.22 -34165580.07 0.0518 0.0033

Mars -98252-01-19 16:04 J -34165100.88 -34165100.83 -34165100.78 0.1621 0.1512

Mars -98252-12-01 21:20 J -34164784.73 -34164784.61 -34164784.48 0.1909 0.0706

Venus -98250-02-08 18:56 J -34164350.77 -34164350.71 -34164350.66 0.3608 0.3205

Jupiter -98248-02-16 03:20 J -34163612.49 -34163612.36 -34163612.22 0.0512 0.0214

Jupiter -98248-05-16 16:32 J -34163522.94 -34163522.81 -34163522.68 0.0508 0.0257

Saturn -98248-05-16 23:30 J -34163522.62 -34163522.52 -34163522.41 0.0287 0.0203

Earth -98248-07-15 08:23 J -34163463.25 -34163463.15 -34163463.05 0.2644 0.1491

Moon -98248-07-15 09:20 J -34163463.21 -34163463.11 -34163463.01 0.2644 0.1515 *

Saturn -98248-08-13 15:49 J -34163433.98 -34163433.84 -34163433.70 0.0287 0.0111

Venus -98248-11-02 21:49 J -34163352.62 -34163352.59 -34163352.57 0.3789 0.3650

Saturn -98248-11-10 08:08 J -34163345.31 -34163345.16 -34163345.00 0.0287 0.0019

Saturn -98247-02-07 00:56 J -34163256.61 -34163256.46 -34163256.30 0.0287 0.0079

Saturn -98247-05-06 18:13 J -34163167.86 -34163167.74 -34163167.61 0.0287 0.0176

Saturn -98247-08-03 11:44 J -34163079.05 -34163079.01 -34163078.96 0.0287 0.0275

Mars -98245-07-06 02:52 J -34162376.50 -34162376.38 -34162376.26 0.1615 0.0773

Earth -98245-12-30 01:25 J -34162199.55 -34162199.44 -34162199.34 0.2707 0.1576

Moon -98245-12-30 01:25 J -34162199.54 -34162199.44 -34162199.33 0.2699 0.1638 *

Mars -98243-06-11 22:32 J -34161670.67 -34161670.56 -34161670.45 0.1620 0.1044

Neptune -98243-07-27 11:59 J -34161625.01 -34161625.00 -34161624.97 0.0088 0.0088

Neptune -98243-10-23 14:37 J -34161536.94 -34161536.89 -34161536.82 0.0088 0.0083

Neptune -98242-01-19 17:01 J -34161448.85 -34161448.79 -34161448.69 0.0088 0.0078

Neptune -98242-04-17 19:40 J -34161360.76 -34161360.68 -34161360.56 0.0088 0.0073

Mars -98242-04-24 00:56 J -34161354.55 -34161354.46 -34161354.38 0.1910 0.1463

Venus -98242-05-19 15:49 J -34161328.91 -34161328.84 -34161328.77 0.3787 0.2779

Neptune -98242-07-14 22:18 J -34161272.66 -34161272.57 -34161272.44 0.0088 0.0068

Jupiter -98242-07-17 05:59 J -34161270.40 -34161270.25 -34161270.10 0.0517 0.0114

Neptune -98242-10-11 00:56 J -34161184.56 -34161184.46 -34161184.32 0.0088 0.0063

Jupiter -98242-10-15 01:54 J -34161180.51 -34161180.42 -34161180.33 0.0521 0.0417

Neptune -98241-01-07 03:49 J -34161096.46 -34161096.34 -34161096.21 0.0088 0.0057

Neptune -98241-04-04 06:28 J -34161008.36 -34161008.23 -34161008.09 0.0088 0.0052

Neptune -98241-07-01 09:06 J -34160920.26 -34160920.12 -34160919.98 0.0088 0.0047

Moon -98241-07-07 23:30 J -34160913.60 -34160913.52 -34160913.44 0.2637 0.2028

Earth -98241-07-07 23:59 J -34160913.58 -34160913.50 -34160913.42 0.2631 0.1968 *

Neptune -98241-09-27 11:30 J -34160832.16 -34160832.02 -34160831.86 0.0088 0.0042

Neptune -98241-12-24 14:08 J -34160744.06 -34160743.91 -34160743.75 0.0088 0.0037

Neptune -98240-03-22 16:47 J -34160655.96 -34160655.80 -34160655.64 0.0088 0.0032

Mars -98240-03-30 09:06 J -34160648.19 -34160648.12 -34160648.04 0.1903 0.1492

Neptune -98240-06-18 19:11 J -34160567.85 -34160567.70 -34160567.53 0.0088 0.0027

Neptune -98240-09-14 21:49 J -34160479.75 -34160479.59 -34160479.43 0.0088 0.0022

Neptune -98240-12-12 00:13 J -34160391.65 -34160391.49 -34160391.32 0.0088 0.0017

Neptune -98239-03-10 02:52 J -34160303.55 -34160303.38 -34160303.22 0.0088 0.0012

Neptune -98239-06-06 05:16 J -34160215.44 -34160215.28 -34160215.11 0.0088 0.0007

Neptune -98239-09-02 07:40 J -34160127.34 -34160127.18 -34160127.01 0.0088 0.0003

Neptune -98239-11-29 10:18 J -34160039.24 -34160039.07 -34160038.91 0.0088 0.0003

Neptune -98238-02-25 12:42 J -34159951.14 -34159950.97 -34159950.81 0.0088 0.0008

Neptune -98238-05-24 15:06 J -34159863.03 -34159862.87 -34159862.71 0.0088 0.0013

Neptune -98238-08-20 17:30 J -34159774.93 -34159774.77 -34159774.61 0.0088 0.0018

Neptune -98238-11-16 19:54 J -34159686.83 -34159686.67 -34159686.51 0.0088 0.0023

Neptune -98237-02-12 22:04 J -34159598.73 -34159598.58 -34159598.41 0.0088 0.0028

Neptune -98237-05-11 00:28 J -34159510.62 -34159510.48 -34159510.32 0.0088 0.0032

Neptune -98237-08-07 03:06 J -34159422.52 -34159422.37 -34159422.22 0.0088 0.0037

Neptune -98237-11-03 05:16 J -34159334.42 -34159334.28 -34159334.13 0.0088 0.0042

Venus -98237-12-02 10:04 J -34159305.17 -34159305.08 -34159304.98 0.3784 0.1885

Jupiter -98237-12-05 06:28 J -34159302.34 -34159302.23 -34159302.12 0.0512 0.0323

Neptune -98236-01-30 07:25 J -34159246.31 -34159246.19 -34159246.04 0.0088 0.0047

Jupiter -98236-03-04 19:11 J -34159212.84 -34159212.70 -34159212.56 0.0509 0.0146

Neptune -98236-04-28 09:49 J -34159158.21 -34159158.09 -34159157.95 0.0088 0.0051

Neptune -98236-07-25 12:13 J -34159070.11 -34159069.99 -34159069.86 0.0088 0.0056

Neptune -98236-10-21 14:23 J -34158982.00 -34158981.90 -34158981.77 0.0088 0.0061

Mars -98236-11-26 10:32 J -34158946.15 -34158946.06 -34158945.97 0.1614 0.1186

Neptune -98235-01-17 16:32 J -34158893.90 -34158893.81 -34158893.68 0.0088 0.0066

Neptune -98235-04-15 19:11 J -34158805.79 -34158805.70 -34158805.60 0.0088 0.0070

Neptune -98235-07-12 21:06 J -34158717.69 -34158717.62 -34158717.51 0.0088 0.0075

Neptune -98235-10-08 23:44 J -34158629.58 -34158629.51 -34158629.43 0.0088 0.0079

Neptune -98234-01-05 01:40 J -34158541.46 -34158541.43 -34158541.36 0.0088 0.0084

Neptune -98234-04-03 04:18 J -34158453.33 -34158453.32 -34158453.30 0.0088 0.0088

Mars -98234-11-02 05:30 J -34158240.41 -34158240.27 -34158240.14 0.1618 0.0591

Saturn -98234-12-22 16:47 J -34158189.88 -34158189.80 -34158189.70 0.0272 0.0220

Saturn -98233-03-20 08:23 J -34158101.29 -34158101.15 -34158101.02 0.0272 0.0137

Saturn -98233-06-16 23:16 J -34158012.68 -34158012.53 -34158012.38 0.0272 0.0055

Saturn -98233-09-13 13:54 J -34157924.07 -34157923.92 -34157923.76 0.0272 0.0027

Saturn -98233-12-11 04:18 J -34157835.46 -34157835.32 -34157835.18 0.0272 0.0105

Saturn -98232-03-09 18:28 J -34157746.84 -34157746.73 -34157746.62 0.0272 0.0182

Saturn -98232-06-06 08:23 J -34157658.20 -34157658.15 -34157658.10 0.0272 0.0257

Moon -98231-01-02 00:42 J -34157448.60 -34157448.47 -34157448.33 0.2697 0.0048

Earth -98231-01-02 01:40 J -34157448.57 -34157448.43 -34157448.30 0.2702 0.0066 *

Venus -98231-06-18 04:32 J -34157281.42 -34157281.31 -34157281.20 0.3781 0.0963

Mars -98231-08-20 13:54 J -34157218.04 -34157217.92 -34157217.80 0.1906 0.0812

Jupiter -98230-05-05 06:28 J -34156960.37 -34156960.23 -34156960.09 0.0517 0.0247

Jupiter -98230-08-03 02:52 J -34156870.50 -34156870.38 -34156870.25 0.0520 0.0288

Earth -98228-07-10 20:37 J -34156162.76 -34156162.64 -34156162.52 0.2635 0.0707

Moon -98228-07-10 20:52 J -34156162.75 -34156162.63 -34156162.51 0.2642 0.0645 *

Mars -98226-04-18 18:13 J -34155515.76 -34155515.74 -34155515.72 0.1614 0.1596

Venus -98225-01-01 23:16 J -34155257.65 -34155257.53 -34155257.42 0.3778 0.0142

Jupiter -98225-09-23 09:06 J -34154992.19 -34154992.12 -34154992.04 0.0513 0.0434

Jupiter -98225-12-21 21:35 J -34154902.74 -34154902.60 -34154902.45 0.0509 0.0033

Uranus -98225-12-21 22:18 J -34154902.60 -34154902.57 -34154902.52 0.0143 0.0137 *

Uranus -98224-03-20 03:20 J -34154814.44 -34154814.36 -34154814.27 0.0143 0.0117

Jupiter -98224-03-21 11:16 J -34154813.03 -34154813.03 -34154813.01 0.0506 0.0504

Mars -98224-03-24 12:28 J -34154810.13 -34154809.98 -34154809.84 0.1617 0.0149

Uranus -98224-06-16 08:23 J -34154726.26 -34154726.15 -34154726.04 0.0143 0.0096

Uranus -98224-09-12 13:11 J -34154638.07 -34154637.95 -34154637.81 0.0143 0.0076

Uranus -98224-12-09 18:28 J -34154549.87 -34154549.73 -34154549.59 0.0143 0.0055

Uranus -98223-03-07 23:44 J -34154461.66 -34154461.51 -34154461.36 0.0143 0.0034

Uranus -98223-06-04 04:47 J -34154373.45 -34154373.30 -34154373.14 0.0144 0.0013

Uranus -98223-08-31 10:04 J -34154285.23 -34154285.08 -34154284.92 0.0144 0.0009

Uranus -98223-11-27 15:20 J -34154197.01 -34154196.86 -34154196.71 0.0144 0.0031

Uranus -98222-02-23 20:37 J -34154108.78 -34154108.64 -34154108.49 0.0144 0.0053

Uranus -98222-05-23 02:08 J -34154020.54 -34154020.41 -34154020.28 0.0144 0.0076

Uranus -98222-08-19 07:25 J -34153932.30 -34153932.19 -34153932.07 0.0144 0.0098

Uranus -98222-11-15 12:42 J -34153844.04 -34153843.97 -34153843.87 0.0144 0.0122

Venus -98222-12-31 19:11 J -34153797.79 -34153797.70 -34153797.61 0.3593 0.2719

Mars -98221-01-10 17:44 J -34153787.89 -34153787.76 -34153787.62 0.1907 0.0110

Uranus -98221-02-11 18:42 J -34153755.73 -34153755.72 -34153755.71 0.0144 0.0144

Venus -98220-07-17 17:59 J -34153233.86 -34153233.75 -34153233.64 0.3775 0.0965

Saturn -98219-10-03 23:30 J -34152790.61 -34152790.52 -34152790.44 0.0287 0.0236

Saturn -98219-12-31 15:20 J -34152701.99 -34152701.86 -34152701.73 0.0287 0.0146

Moon -98218-01-05 00:56 J -34152697.57 -34152697.46 -34152697.35 0.2695 0.1555

Earth -98218-01-05 02:08 J -34152697.51 -34152697.41 -34152697.30 0.2697 0.1699 *

Jupiter -98218-02-21 06:56 J -34152650.31 -34152650.21 -34152650.10 0.0516 0.0378

Saturn -98218-03-30 07:40 J -34152613.33 -34152613.18 -34152613.03 0.0287 0.0053

Jupiter -98218-05-22 04:04 J -34152560.48 -34152560.33 -34152560.18 0.0520 0.0162

Saturn -98218-06-27 00:13 J -34152524.64 -34152524.49 -34152524.33 0.0287 0.0042

Saturn -98218-09-23 17:16 J -34152435.91 -34152435.78 -34152435.64 0.0287 0.0139

Saturn -98218-12-21 10:47 J -34152347.14 -34152347.05 -34152346.96 0.0287 0.0237

Venus -98216-07-16 19:54 J -34151773.79 -34151773.67 -34151773.54 0.3596 0.1354

Earth -98215-07-13 17:16 J -34151411.91 -34151411.78 -34151411.66 0.2640 0.0539

Moon -98215-07-13 17:59 J -34151411.87 -34151411.75 -34151411.63 0.2643 0.0552 *

Mars -98215-08-14 19:25 J -34151379.82 -34151379.69 -34151379.55 0.1616 0.0303

Venus -98214-01-31 13:11 J -34151210.05 -34151209.95 -34151209.86 0.3772 0.1968

Mars -98213-07-20 16:18 J -34150673.86 -34150673.82 -34150673.79 0.1621 0.1567

Jupiter -98213-10-09 23:59 J -34150592.64 -34150592.50 -34150592.36 0.0510 0.0088

Jupiter -98212-01-07 13:25 J -34150503.04 -34150502.94 -34150502.84 0.0507 0.0384

Mars -98212-06-01 21:35 J -34150357.72 -34150357.60 -34150357.47 0.1909 0.0642

Venus -98210-01-30 20:08 J -34149749.80 -34149749.66 -34149749.53 0.3599 0.0059

Venus -98209-08-16 08:23 J -34149186.22 -34149186.15 -34149186.08 0.3768 0.2993

Jupiter -98207-12-10 07:25 J -34148340.20 -34148340.19 -34148340.16 0.0515 0.0508

Jupiter -98206-03-10 05:01 J -34148250.45 -34148250.29 -34148250.14 0.0518 0.0035

Mars -98205-01-05 03:06 J -34147949.49 -34147949.37 -34147949.24 0.1615 0.0719

Venus -98205-08-15 19:54 J -34147725.79 -34147725.67 -34147725.54 0.3602 0.1205

Saturn -98204-05-10 17:16 J -34147457.84 -34147457.78 -34147457.71 0.0272 0.0248

Saturn -98204-08-07 08:37 J -34147369.25 -34147369.14 -34147369.01 0.0272 0.0165

Saturn -98204-11-03 23:59 J -34147280.65 -34147280.50 -34147280.35 0.0272 0.0081

Mars -98204-12-10 22:47 J -34147243.65 -34147243.55 -34147243.44 0.1620 0.1101

Saturn -98203-01-31 14:52 J -34147192.04 -34147191.88 -34147191.73 0.0272 0.0003

Saturn -98203-04-30 05:16 J -34147103.42 -34147103.28 -34147103.13 0.0272 0.0080

Saturn -98203-07-27 19:25 J -34147014.81 -34147014.69 -34147014.56 0.0272 0.0158

Mars -98203-10-23 01:11 J -34146927.54 -34146927.45 -34146927.35 0.1910 0.1388

Saturn -98203-10-24 09:35 J -34146926.18 -34146926.10 -34146926.03 0.0272 0.0233

Earth -98202-07-16 13:25 J -34146661.03 -34146660.94 -34146660.85 0.2644 0.1747

Moon -98202-07-16 14:23 J -34146660.98 -34146660.90 -34146660.82 0.2644 0.1904 *

Jupiter -98201-07-29 01:54 J -34146282.55 -34146282.42 -34146282.29 0.0511 0.0212

Mars -98201-09-28 09:35 J -34146221.17 -34146221.10 -34146221.03 0.1904 0.1561

Jupiter -98201-10-26 14:52 J -34146193.01 -34146192.88 -34146192.75 0.0508 0.0258

Venus -98199-03-01 19:11 J -34145701.80 -34145701.70 -34145701.60 0.3606 0.2391

Moon -98199-12-31 06:56 J -34145397.33 -34145397.21 -34145397.09 0.2699 0.1181

Earth -98199-12-31 06:56 J -34145397.33 -34145397.21 -34145397.09 0.2706 0.1256 *

Mars -98196-05-27 10:47 J -34144519.15 -34144519.05 -34144518.96 0.1614 0.1138

Moon -98195-07-09 05:01 J -34144111.38 -34144111.29 -34144111.20 0.2638 0.1752

Earth -98195-07-09 05:16 J -34144111.38 -34144111.28 -34144111.19 0.2632 0.1700 *

Jupiter -98195-12-27 05:16 J -34143940.44 -34143940.28 -34143940.13 0.0517 0.0102

Jupiter -98194-03-27 01:11 J -34143850.53 -34143850.45 -34143850.36 0.0521 0.0428

Mars -98194-05-03 05:44 J -34143813.40 -34143813.26 -34143813.13 0.1618 0.0645

Venus -98194-09-15 18:13 J -34143677.76 -34143677.74 -34143677.72 0.3609 0.3539

Mars -98191-02-18 13:54 J -34142791.03 -34142790.92 -34142790.80 0.1905 0.0877

Venus -98191-06-09 19:54 J -34142679.72 -34142679.67 -34142679.62 0.3788 0.3374

Saturn -98189-02-21 01:54 J -34142058.49 -34142058.42 -34142058.35 0.0287 0.0253

Jupiter -98189-05-17 04:18 J -34141972.43 -34141972.32 -34141972.21 0.0512 0.0327

Saturn -98189-05-19 17:44 J -34141969.88 -34141969.76 -34141969.63 0.0287 0.0164

Jupiter -98189-08-14 17:01 J -34141882.93 -34141882.79 -34141882.64 0.0509 0.0141

Saturn -98189-08-16 10:04 J -34141881.23 -34141881.08 -34141880.93 0.0287 0.0071

Saturn -98189-11-13 02:37 J -34141792.54 -34141792.39 -34141792.23 0.0287 0.0024

Saturn -98188-02-09 19:40 J -34141703.82 -34141703.68 -34141703.54 0.0287 0.0120

Saturn -98188-05-09 12:56 J -34141615.06 -34141614.96 -34141614.86 0.0287 0.0219

Mars -98187-10-17 18:28 J -34141088.76 -34141088.73 -34141088.69 0.1614 0.1543

Venus -98186-12-24 13:54 J -34140656.00 -34140655.92 -34140655.84 0.3786 0.2500

Moon -98185-01-03 06:28 J -34140646.37 -34140646.23 -34140646.10 0.2696 0.0198

Earth -98185-01-03 07:25 J -34140646.33 -34140646.19 -34140646.06 0.2701 0.0384 *

Uranus -98185-05-19 15:35 J -34140508.89 -34140508.85 -34140508.81 0.0136 0.0130

Uranus -98185-08-15 20:23 J -34140420.73 -34140420.65 -34140420.55 0.0136 0.0111

Mars -98185-09-22 12:42 J -34140383.11 -34140382.97 -34140382.83 0.1617 0.0197

Uranus -98185-11-12 01:25 J -34140332.55 -34140332.44 -34140332.31 0.0135 0.0092

Uranus -98184-02-08 06:28 J -34140244.36 -34140244.23 -34140244.09 0.0135 0.0072

Uranus -98184-05-07 11:30 J -34140156.17 -34140156.02 -34140155.87 0.0135 0.0053

Uranus -98184-08-03 16:18 J -34140067.97 -34140067.82 -34140067.66 0.0135 0.0035

Uranus -98184-10-30 21:06 J -34139979.78 -34139979.62 -34139979.46 0.0135 0.0016

Uranus -98183-01-27 01:54 J -34139891.58 -34139891.42 -34139891.26 0.0135 0.0003

Uranus -98183-04-25 06:42 J -34139803.38 -34139803.22 -34139803.06 0.0135 0.0020

Uranus -98183-07-22 11:16 J -34139715.18 -34139715.03 -34139714.88 0.0135 0.0038

Jupiter -98183-10-15 04:18 J -34139630.45 -34139630.32 -34139630.18 0.0516 0.0249

Uranus -98183-10-18 15:49 J -34139626.98 -34139626.84 -34139626.69 0.0135 0.0056

Pluto -98183-12-16 18:13 J -34139567.79 -34139567.74 -34139567.65 0.0060 0.0056

Jupiter -98182-01-13 00:56 J -34139540.59 -34139540.46 -34139540.33 0.0520 0.0285

Uranus -98182-01-14 20:37 J -34139538.77 -34139538.64 -34139538.51 0.0134 0.0074

Pluto -98182-03-14 19:40 J -34139479.77 -34139479.68 -34139479.55 0.0060 0.0049

Uranus -98182-04-13 00:56 J -34139450.57 -34139450.46 -34139450.34 0.0134 0.0091

Pluto -98182-06-10 21:20 J -34139391.74 -34139391.61 -34139391.46 0.0060 0.0042

Uranus -98182-07-10 05:30 J -34139362.35 -34139362.27 -34139362.17 0.0134 0.0108

Mars -98182-07-11 18:13 J -34139360.88 -34139360.74 -34139360.61 0.1908 0.0172

Earth -98182-07-12 01:54 J -34139360.54 -34139360.42 -34139360.30 0.2636 0.0443

Moon -98182-07-12 02:08 J -34139360.53 -34139360.41 -34139360.29 0.2642 0.0440 *

Pluto -98182-09-06 22:47 J -34139303.70 -34139303.55 -34139303.38 0.0060 0.0036

Uranus -98182-10-06 10:04 J -34139274.13 -34139274.08 -34139274.03 0.0134 0.0125

Pluto -98182-12-04 00:28 J -34139215.65 -34139215.48 -34139215.30 0.0060 0.0028

Pluto -98181-03-01 01:54 J -34139127.60 -34139127.42 -34139127.23 0.0060 0.0022

Pluto -98181-05-28 03:20 J -34139039.54 -34139039.36 -34139039.16 0.0060 0.0015

Pluto -98181-08-24 05:01 J -34138951.48 -34138951.29 -34138951.09 0.0060 0.0007

Pluto -98181-11-20 06:28 J -34138863.42 -34138863.23 -34138863.03 0.0060 0.0001

Pluto -98180-02-16 07:54 J -34138775.36 -34138775.17 -34138774.97 0.0061 0.0007

Pluto -98180-05-15 09:20 J -34138687.29 -34138687.11 -34138686.91 0.0061 0.0014

Venus -98180-07-09 08:23 J -34138632.25 -34138632.15 -34138632.06 0.3783 0.1606

Pluto -98180-08-11 11:01 J -34138599.22 -34138599.04 -34138598.85 0.0061 0.0021

Pluto -98180-11-07 12:28 J -34138511.15 -34138510.98 -34138510.80 0.0061 0.0028

Pluto -98179-02-03 14:08 J -34138423.07 -34138422.91 -34138422.75 0.0061 0.0035

Pluto -98179-05-02 15:06 J -34138334.99 -34138334.87 -34138334.71 0.0061 0.0043

Pluto -98179-07-29 16:32 J -34138246.90 -34138246.81 -34138246.67 0.0061 0.0050

Pluto -98179-10-25 18:13 J -34138158.79 -34138158.74 -34138158.65 0.0061 0.0057

Jupiter -98177-03-05 07:11 J -34137662.27 -34137662.20 -34137662.12 0.0514 0.0437

Jupiter -98177-06-02 19:54 J -34137572.82 -34137572.67 -34137572.52 0.0510 0.0029

Jupiter -98177-08-31 09:35 J -34137483.11 -34137483.10 -34137483.08 0.0506 0.0503

Mars -98175-02-12 19:54 J -34136952.81 -34136952.67 -34136952.53 0.1616 0.0240

Saturn -98175-09-27 19:40 J -34136725.70 -34136725.68 -34136725.64 0.0272 0.0266

Saturn -98175-12-25 11:16 J -34136637.14 -34136637.03 -34136636.91 0.0272 0.0182

Venus -98174-01-23 02:52 J -34136608.49 -34136608.38 -34136608.28 0.3780 0.0688

Saturn -98174-03-24 02:23 J -34136548.54 -34136548.40 -34136548.25 0.0272 0.0099

Saturn -98174-06-20 17:16 J -34136459.93 -34136459.78 -34136459.62 0.0272 0.0019

Saturn -98174-09-17 07:54 J -34136371.32 -34136371.17 -34136371.02 0.0272 0.0062

Saturn -98174-12-14 22:18 J -34136282.70 -34136282.57 -34136282.44 0.0272 0.0140

Saturn -98173-03-12 11:59 J -34136194.08 -34136194.00 -34136193.90 0.0272 0.0217

Mars -98173-11-30 22:04 J -34135930.71 -34135930.58 -34135930.46 0.1909 0.0569

Moon -98172-01-05 06:42 J -34135895.31 -34135895.22 -34135895.13 0.2697 0.1978

Earth -98172-01-05 07:54 J -34135895.26 -34135895.17 -34135895.08 0.2696 0.2036 *

Jupiter -98171-08-03 04:32 J -34135320.41 -34135320.31 -34135320.20 0.0515 0.0384

Jupiter -98171-11-01 01:40 J -34135230.58 -34135230.43 -34135230.28 0.0519 0.0155

Earth -98169-07-13 22:18 J -34134609.68 -34134609.57 -34134609.45 0.2640 0.0793

Moon -98169-07-13 23:16 J -34134609.64 -34134609.53 -34134609.42 0.2643 0.0936 *

Venus -98169-08-07 21:20 J -34134584.72 -34134584.61 -34134584.49 0.3777 0.0301

Mars -98166-07-06 03:20 J -34133522.49 -34133522.36 -34133522.24 0.1615 0.0671

Earth -98166-12-29 12:42 J -34133346.02 -34133345.97 -34133345.93 0.2710 0.2514

Moon -98166-12-29 13:11 J -34133346.01 -34133345.95 -34133345.89 0.2704 0.2403 *

Jupiter -98165-03-21 22:32 J -34133262.71 -34133262.56 -34133262.42 0.0510 0.0086

Jupiter -98165-06-19 11:44 J -34133173.10 -34133173.01 -34133172.91 0.0507 0.0387

Venus -98165-08-06 19:11 J -34133124.80 -34133124.70 -34133124.60 0.3594 0.2296

Mars -98164-06-10 23:01 J -34132816.63 -34132816.54 -34132816.44 0.1619 0.1159

Venus -98163-02-21 16:18 J -34132560.92 -34132560.82 -34132560.71 0.3774 0.1264

Mars -98163-04-23 01:11 J -34132500.54 -34132500.45 -34132500.35 0.1910 0.1335

Mars -98161-03-29 09:35 J -34131794.16 -34131794.10 -34131794.03 0.1903 0.1617

Neptune -98161-07-19 17:30 J -34131681.77 -34131681.77 -34131681.75 0.0089 0.0089

Neptune -98161-10-15 19:25 J -34131593.73 -34131593.69 -34131593.65 0.0089 0.0084

Neptune -98160-01-11 21:06 J -34131505.68 -34131505.62 -34131505.55 0.0089 0.0080

Neptune -98160-04-09 22:47 J -34131417.62 -34131417.55 -34131417.47 0.0089 0.0076

Neptune -98160-07-07 00:28 J -34131329.55 -34131329.48 -34131329.38 0.0089 0.0072

Neptune -98160-10-03 02:08 J -34131241.49 -34131241.41 -34131241.30 0.0089 0.0068

Saturn -98160-10-06 17:16 J -34131237.88 -34131237.78 -34131237.67 0.0287 0.0199

Neptune -98160-12-30 04:18 J -34131153.42 -34131153.32 -34131153.22 0.0089 0.0063

Saturn -98159-01-03 09:20 J -34131149.25 -34131149.11 -34131148.96 0.0287 0.0108

Venus -98159-02-20 19:40 J -34131100.81 -34131100.68 -34131100.55 0.3597 0.0958

Neptune -98159-03-28 05:59 J -34131065.35 -34131065.25 -34131065.13 0.0089 0.0059

Saturn -98159-04-02 01:54 J -34131060.58 -34131060.42 -34131060.27 0.0287 0.0014

Jupiter -98159-05-22 05:01 J -34131010.29 -34131010.29 -34131010.28 0.0515 0.0514

Neptune -98159-06-24 07:40 J -34130977.28 -34130977.18 -34130977.05 0.0089 0.0055

Saturn -98159-06-29 18:42 J -34130971.87 -34130971.72 -34130971.57 0.0287 0.0082

Jupiter -98159-08-20 02:37 J -34130920.55 -34130920.39 -34130920.23 0.0519 0.0028

Neptune -98159-09-20 09:35 J -34130889.21 -34130889.10 -34130888.97 0.0089 0.0051

Saturn -98159-09-26 11:44 J -34130883.13 -34130883.01 -34130882.88 0.0287 0.0180

Neptune -98159-12-17 11:30 J -34130801.14 -34130801.02 -34130800.89 0.0089 0.0046

Saturn -98159-12-24 05:16 J -34130794.30 -34130794.28 -34130794.24 0.0287 0.0280

Neptune -98158-03-15 13:11 J -34130713.07 -34130712.95 -34130712.81 0.0089 0.0042

Neptune -98158-06-11 15:20 J -34130625.00 -34130624.86 -34130624.73 0.0089 0.0037

Venus -98158-09-07 11:30 J -34130537.11 -34130537.02 -34130536.93 0.3771 0.2265

Neptune -98158-09-07 17:01 J -34130536.92 -34130536.79 -34130536.65 0.0089 0.0033

Neptune -98158-12-04 18:56 J -34130448.85 -34130448.71 -34130448.57 0.0089 0.0029

Neptune -98157-03-01 20:52 J -34130360.77 -34130360.63 -34130360.49 0.0089 0.0024

Neptune -98157-05-28 22:32 J -34130272.70 -34130272.56 -34130272.41 0.0089 0.0020

Neptune -98157-08-25 00:42 J -34130184.62 -34130184.47 -34130184.33 0.0089 0.0015

Neptune -98157-11-21 02:23 J -34130096.54 -34130096.40 -34130096.24 0.0089 0.0011

Mars -98157-11-25 11:01 J -34130092.15 -34130092.04 -34130091.94 0.1614 0.1087

Neptune -98156-02-17 04:18 J -34130008.46 -34130008.32 -34130008.16 0.0089 0.0007

Neptune -98156-05-16 06:28 J -34129920.39 -34129920.23 -34129920.08 0.0089 0.0003

Earth -98156-07-16 18:42 J -34129858.80 -34129858.72 -34129858.64 0.2645 0.2008

Moon -98156-07-16 19:25 J -34129858.76 -34129858.69 -34129858.61 0.2643 0.2018 *

Neptune -98156-08-12 08:08 J -34129832.30 -34129832.16 -34129832.00 0.0089 0.0004

Neptune -98156-11-08 10:04 J -34129744.22 -34129744.08 -34129743.92 0.0089 0.0008

Neptune -98155-02-04 12:13 J -34129656.14 -34129655.99 -34129655.84 0.0089 0.0012

Neptune -98155-05-03 13:54 J -34129568.06 -34129567.92 -34129567.76 0.0089 0.0017

Neptune -98155-07-30 16:04 J -34129479.98 -34129479.83 -34129479.68 0.0089 0.0021

Neptune -98155-10-26 17:59 J -34129391.89 -34129391.75 -34129391.60 0.0089 0.0026

Mars -98155-11-01 05:59 J -34129386.38 -34129386.25 -34129386.13 0.1618 0.0699

Neptune -98154-01-22 20:08 J -34129303.81 -34129303.66 -34129303.52 0.0089 0.0030

Neptune -98154-04-20 21:49 J -34129215.72 -34129215.59 -34129215.44 0.0089 0.0035

Neptune -98154-07-17 23:44 J -34129127.63 -34129127.51 -34129127.36 0.0089 0.0040

Venus -98154-09-06 19:54 J -34129076.81 -34129076.67 -34129076.54 0.3600 0.0341

Neptune -98154-10-14 01:54 J -34129039.55 -34129039.42 -34129039.28 0.0089 0.0044

Jupiter -98153-01-09 00:56 J -34128952.59 -34128952.46 -34128952.33 0.0511 0.0201

Neptune -98153-01-10 03:49 J -34128951.46 -34128951.34 -34128951.20 0.0089 0.0049

Neptune -98153-04-07 05:44 J -34128863.37 -34128863.26 -34128863.12 0.0089 0.0054

Jupiter -98153-04-07 13:54 J -34128863.04 -34128862.92 -34128862.79 0.0508 0.0269

Neptune -98153-07-04 08:08 J -34128775.27 -34128775.16 -34128775.04 0.0089 0.0058

Neptune -98153-09-30 10:04 J -34128687.18 -34128687.08 -34128686.97 0.0089 0.0063

Neptune -98153-12-27 11:59 J -34128599.09 -34128599.00 -34128598.89 0.0089 0.0068

Moon -98153-12-31 12:13 J -34128595.11 -34128594.99 -34128594.86 0.2699 0.1029

Earth -98153-12-31 12:42 J -34128595.10 -34128594.97 -34128594.85 0.2705 0.0930 *

Venus -98152-03-23 06:56 J -34128513.27 -34128513.21 -34128513.16 0.3767 0.3304

Neptune -98152-03-25 14:23 J -34128510.99 -34128510.90 -34128510.81 0.0089 0.0072

Neptune -98152-06-21 16:18 J -34128422.89 -34128422.82 -34128422.74 0.0089 0.0077

Mars -98152-08-19 14:08 J -34128364.02 -34128363.91 -34128363.80 0.1906 0.0935

Neptune -98152-09-17 18:13 J -34128334.78 -34128334.74 -34128334.67 0.0089 0.0082

Neptune -98152-12-14 20:08 J -34128246.67 -34128246.66 -34128246.61 0.0089 0.0087

Moon -98149-07-09 10:18 J -34127309.18 -34127309.07 -34127308.97 0.2639 0.1425

Earth -98149-07-09 10:32 J -34127309.17 -34127309.06 -34127308.96 0.2632 0.1438 *

Venus -98148-03-22 19:25 J -34127052.81 -34127052.69 -34127052.57 0.3603 0.1559

Mars -98147-04-17 18:42 J -34126661.77 -34126661.72 -34126661.67 0.1614 0.1493

Jupiter -98147-06-08 03:35 J -34126610.51 -34126610.35 -34126610.20 0.0518 0.0100

Jupiter -98147-09-05 23:30 J -34126520.60 -34126520.52 -34126520.43 0.0521 0.0431

Mars -98145-03-23 12:56 J -34125956.10 -34125955.96 -34125955.82 0.1617 0.0252

Saturn -98145-05-13 11:30 J -34125905.12 -34125905.02 -34125904.92 0.0272 0.0211

Saturn -98145-08-10 02:37 J -34125816.52 -34125816.39 -34125816.24 0.0272 0.0128

Saturn -98145-11-06 17:44 J -34125727.91 -34125727.76 -34125727.60 0.0272 0.0046

Saturn -98144-02-03 08:37 J -34125639.30 -34125639.14 -34125638.99 0.0272 0.0036

Saturn -98144-05-02 22:47 J -34125550.68 -34125550.55 -34125550.41 0.0272 0.0114

Saturn -98144-07-30 12:56 J -34125462.06 -34125461.96 -34125461.85 0.0272 0.0191

Saturn -98144-10-27 02:52 J -34125373.40 -34125373.38 -34125373.35 0.0272 0.0266

Venus -98143-10-06 18:42 J -34125028.80 -34125028.72 -34125028.64 0.3607 0.2740

Mars -98142-01-09 18:28 J -34124933.86 -34124933.73 -34124933.60 0.1908 0.0240

Jupiter -98142-10-28 02:52 J -34124642.49 -34124642.38 -34124642.27 0.0512 0.0324

Jupiter -98141-01-25 15:35 J -34124552.99 -34124552.85 -34124552.71 0.0509 0.0143

Uranus -98140-01-11 05:01 J -34124201.33 -34124201.29 -34124201.23 0.0143 0.0134

Uranus -98140-04-09 10:04 J -34124113.16 -34124113.08 -34124112.98 0.0143 0.0114

Uranus -98140-07-06 15:06 J -34124024.98 -34124024.87 -34124024.75 0.0143 0.0093

Uranus -98140-10-02 20:08 J -34123936.79 -34123936.66 -34123936.52 0.0143 0.0073

Uranus -98140-12-30 01:25 J -34123848.59 -34123848.44 -34123848.30 0.0143 0.0052

Moon -98139-01-03 11:59 J -34123844.13 -34123844.00 -34123843.87 0.2696 0.0694

Earth -98139-01-03 12:56 J -34123844.09 -34123843.96 -34123843.83 0.2701 0.0701 *

Uranus -98139-03-28 06:28 J -34123760.38 -34123760.23 -34123760.08 0.0144 0.0031

Uranus -98139-06-24 11:44 J -34123672.17 -34123672.01 -34123671.86 0.0144 0.0010

Uranus -98139-09-20 16:47 J -34123583.95 -34123583.80 -34123583.64 0.0144 0.0013

Uranus -98139-12-17 22:04 J -34123495.73 -34123495.58 -34123495.42 0.0144 0.0035

Uranus -98138-03-16 03:20 J -34123407.50 -34123407.36 -34123407.21 0.0144 0.0057

Uranus -98138-06-12 08:52 J -34123319.26 -34123319.13 -34123319.00 0.0144 0.0079

Uranus -98138-09-08 14:23 J -34123231.01 -34123230.90 -34123230.79 0.0144 0.0101

Uranus -98138-12-05 19:40 J -34123142.75 -34123142.68 -34123142.59 0.0144 0.0125

Earth -98136-07-12 07:11 J -34122558.33 -34122558.20 -34122558.08 0.2637 0.0198

Moon -98136-07-12 07:40 J -34122558.30 -34122558.18 -34122558.06 0.2642 0.0140 *

Mars -98136-08-13 20:08 J -34122525.80 -34122525.66 -34122525.52 0.1616 0.0187

Jupiter -98135-03-27 03:49 J -34122300.48 -34122300.34 -34122300.20 0.0516 0.0235

Jupiter -98135-06-25 00:13 J -34122210.61 -34122210.49 -34122210.36 0.0520 0.0299

Venus -98134-01-14 17:59 J -34122006.81 -34122006.75 -34122006.69 0.3788 0.3099

Mars -98133-05-31 22:04 J -34121503.70 -34121503.58 -34121503.45 0.1909 0.0509

Saturn -98130-02-23 19:11 J -34120505.79 -34120505.70 -34120505.60 0.0287 0.0219

Saturn -98130-05-23 11:16 J -34120417.16 -34120417.03 -34120416.89 0.0287 0.0128

Jupiter -98130-08-16 05:30 J -34120332.34 -34120332.27 -34120332.20 0.0513 0.0438

Saturn -98130-08-20 03:49 J -34120328.50 -34120328.34 -34120328.19 0.0287 0.0036

Jupiter -98130-11-13 17:59 J -34120242.90 -34120242.75 -34120242.60 0.0510 0.0026

Saturn -98130-11-16 20:23 J -34120239.80 -34120239.65 -34120239.49 0.0287 0.0061

Jupiter -98129-02-11 07:40 J -34120153.20 -34120153.18 -34120153.16 0.0506 0.0500

Saturn -98129-02-13 13:25 J -34120151.06 -34120150.94 -34120150.80 0.0287 0.0159

Saturn -98129-05-12 06:56 J -34120062.27 -34120062.21 -34120062.14 0.0287 0.0258

Venus -98129-07-30 12:13 J -34119983.08 -34119982.99 -34119982.91 0.3785 0.2224

Mars -98126-01-04 03:35 J -34119095.48 -34119095.35 -34119095.22 0.1615 0.0615

Moon -98126-01-06 12:28 J -34119093.06 -34119092.98 -34119092.90 0.2697 0.2174

Earth -98126-01-06 13:40 J -34119092.99 -34119092.93 -34119092.87 0.2696 0.2377 *

Mars -98125-12-09 23:30 J -34118389.61 -34118389.52 -34118389.43 0.1619 0.1218

Mars -98124-10-22 01:40 J -34118073.53 -34118073.43 -34118073.33 0.1910 0.1257

Jupiter -98123-01-13 02:52 J -34117990.49 -34117990.38 -34117990.28 0.0515 0.0382

Venus -98123-02-13 06:28 J -34117959.33 -34117959.23 -34117959.13 0.3782 0.1315

Jupiter -98123-04-12 23:44 J -34117900.66 -34117900.51 -34117900.36 0.0519 0.0155

Earth -98123-07-15 03:35 J -34117807.46 -34117807.35 -34117807.24 0.2641 0.1055

Moon -98123-07-15 04:32 J -34117807.43 -34117807.31 -34117807.20 0.2643 0.1100 *

Mars -98122-09-28 09:49 J -34117367.15 -34117367.09 -34117367.03 0.1904 0.1685

Earth -98120-12-29 18:13 J -34116543.81 -34116543.74 -34116543.66 0.2709 0.2197

Moon -98120-12-29 18:42 J -34116543.80 -34116543.72 -34116543.64 0.2703 0.2166 *

Venus -98118-08-30 00:56 J -34115935.57 -34115935.46 -34115935.35 0.3780 0.0393

Jupiter -98118-09-01 20:52 J -34115932.78 -34115932.63 -34115932.49 0.0511 0.0085

Jupiter -98118-11-30 10:04 J -34115843.17 -34115843.08 -34115842.98 0.0507 0.0388

Mars -98117-05-26 11:16 J -34115665.14 -34115665.03 -34115664.93 0.1614 0.1035

Moon -98116-07-07 18:13 J -34115257.78 -34115257.74 -34115257.69 0.2634 0.2437

Earth -98116-07-07 18:56 J -34115257.76 -34115257.71 -34115257.67 0.2629 0.2438 *

Saturn -98116-09-30 13:54 J -34115173.00 -34115172.92 -34115172.83 0.0272 0.0230

Saturn -98116-12-28 05:16 J -34115084.41 -34115084.28 -34115084.14 0.0272 0.0146

Saturn -98115-03-26 20:23 J -34114995.80 -34114995.65 -34114995.50 0.0272 0.0063

Mars -98115-05-02 06:13 J -34114959.37 -34114959.24 -34114959.11 0.1618 0.0757

Saturn -98115-06-23 11:01 J -34114907.19 -34114907.04 -34114906.88 0.0272 0.0019

Saturn -98115-09-20 01:25 J -34114818.58 -34114818.44 -34114818.29 0.0272 0.0097

Saturn -98115-12-17 15:35 J -34114729.96 -34114729.85 -34114729.73 0.0272 0.0174

Saturn -98114-03-16 05:30 J -34114641.32 -34114641.27 -34114641.21 0.0272 0.0250

Venus -98114-08-28 18:13 J -34114475.80 -34114475.74 -34114475.69 0.3592 0.3261

Mars -98112-02-17 14:23 J -34113937.01 -34113936.90 -34113936.79 0.1906 0.1006

Venus -98112-03-14 19:40 J -34113911.79 -34113911.68 -34113911.56 0.3777 0.0592

Jupiter -98111-01-30 00:28 J -34113590.64 -34113590.48 -34113590.32 0.0518 0.0024

Earth -98110-07-17 23:59 J -34113056.57 -34113056.50 -34113056.44 0.2645 0.2264

Moon -98110-07-18 00:42 J -34113056.52 -34113056.47 -34113056.42 0.2641 0.2393 *

Venus -98108-03-13 18:56 J -34112451.82 -34112451.71 -34112451.59 0.3595 0.1890

Mars -98108-10-16 18:56 J -34112234.77 -34112234.71 -34112234.65 0.1613 0.1444

Venus -98107-09-28 14:37 J -34111887.99 -34111887.89 -34111887.78 0.3773 0.1558

Moon -98106-01-01 17:44 J -34111792.89 -34111792.76 -34111792.62 0.2698 0.0601

Earth -98106-01-01 18:28 J -34111792.86 -34111792.73 -34111792.60 0.2705 0.0606 *

Jupiter -98106-06-20 23:30 J -34111622.65 -34111622.52 -34111622.39 0.0512 0.0197

Jupiter -98106-09-18 12:28 J -34111533.10 -34111532.98 -34111532.85 0.0508 0.0273

Mars -98106-09-22 13:11 J -34111529.09 -34111528.95 -34111528.81 0.1616 0.0308

Moon -98103-07-10 15:35 J -34110506.96 -34110506.85 -34110506.74 0.2640 0.1231

Earth -98103-07-10 15:35 J -34110506.96 -34110506.85 -34110506.73 0.2633 0.1170 *

Mars -98103-07-10 18:28 J -34110506.86 -34110506.73 -34110506.60 0.1908 0.0294 *

Venus -98103-09-27 19:25 J -34110427.82 -34110427.69 -34110427.55 0.3598 0.0565

Venus -98101-04-13 09:49 J -34109864.17 -34109864.09 -34109864.00 0.3770 0.2574

Uranus -98101-06-08 22:18 J -34109807.63 -34109807.57 -34109807.52 0.0136 0.0127

Saturn -98101-07-12 18:56 J -34109773.78 -34109773.71 -34109773.64 0.0287 0.0254

Uranus -98101-09-05 03:06 J -34109719.46 -34109719.37 -34109719.26 0.0136 0.0108

Saturn -98101-10-09 10:47 J -34109685.17 -34109685.05 -34109684.92 0.0287 0.0164

Uranus -98101-12-02 08:08 J -34109631.27 -34109631.16 -34109631.03 0.0135 0.0089

Saturn -98100-01-06 03:06 J -34109596.52 -34109596.37 -34109596.22 0.0287 0.0072

Uranus -98100-02-28 13:11 J -34109543.08 -34109542.95 -34109542.81 0.0135 0.0069

Saturn -98100-04-04 19:40 J -34109507.84 -34109507.68 -34109507.53 0.0287 0.0023

Uranus -98100-05-27 18:13 J -34109454.89 -34109454.74 -34109454.59 0.0135 0.0050

Saturn -98100-07-02 12:28 J -34109419.12 -34109418.98 -34109418.83 0.0287 0.0120

Uranus -98100-08-23 23:01 J -34109366.69 -34109366.54 -34109366.38 0.0135 0.0032

Saturn -98100-09-29 05:44 J -34109330.36 -34109330.26 -34109330.15 0.0287 0.0219

Jupiter -98100-11-18 01:11 J -34109280.60 -34109280.45 -34109280.29 0.0518 0.0105

Uranus -98100-11-20 03:49 J -34109278.50 -34109278.34 -34109278.18 0.0135 0.0013

Jupiter -98099-02-15 21:20 J -34109190.69 -34109190.61 -34109190.52 0.0521 0.0427

Uranus -98099-02-16 08:37 J -34109190.30 -34109190.14 -34109189.98 0.0135 0.0005

Uranus -98099-05-15 13:25 J -34109102.10 -34109101.94 -34109101.79 0.0135 0.0023

Uranus -98099-08-11 17:59 J -34109013.90 -34109013.75 -34109013.60 0.0135 0.0041

Uranus -98099-11-07 22:47 J -34108925.69 -34108925.55 -34108925.41 0.0135 0.0059

Uranus -98098-02-04 03:06 J -34108837.49 -34108837.37 -34108837.23 0.0134 0.0077

Uranus -98098-05-03 07:40 J -34108749.28 -34108749.18 -34108749.06 0.0134 0.0094

Uranus -98098-07-30 12:13 J -34108661.07 -34108660.99 -34108660.90 0.0134 0.0111

Uranus -98098-10-26 16:32 J -34108572.84 -34108572.81 -34108572.75 0.0134 0.0129

Venus -98097-04-12 19:25 J -34108403.82 -34108403.69 -34108403.56 0.3601 0.0712

Mars -98096-02-11 20:23 J -34108098.79 -34108098.65 -34108098.51 0.1615 0.0136

Venus -98096-10-28 05:16 J -34107840.31 -34107840.28 -34107840.25 0.3766 0.3610

Jupiter -98094-04-09 02:08 J -34107312.52 -34107312.41 -34107312.30 0.0512 0.0311

Jupiter -98094-07-07 14:52 J -34107223.02 -34107222.88 -34107222.74 0.0509 0.0156

Mars -98094-11-30 22:32 J -34107076.69 -34107076.56 -34107076.43 0.1909 0.0437

Moon -98093-01-04 17:44 J -34107041.89 -34107041.76 -34107041.63 0.2697 0.0851

Earth -98093-01-04 18:42 J -34107041.84 -34107041.72 -34107041.59 0.2700 0.1038 *

Venus -98092-10-27 18:56 J -34106379.82 -34106379.71 -34106379.60 0.3604 0.1919

Earth -98090-07-13 12:13 J -34105756.11 -34105755.99 -34105755.86 0.2637 0.0091

Moon -98090-07-13 12:56 J -34105756.08 -34105755.96 -34105755.84 0.2642 0.0175 *

Pluto -98089-10-08 11:30 J -34105303.08 -34105303.02 -34105302.94 0.0085 0.0072

Pluto -98088-01-04 12:56 J -34105215.05 -34105214.96 -34105214.86 0.0084 0.0059

Pluto -98088-04-02 14:08 J -34105127.01 -34105126.91 -34105126.79 0.0084 0.0046

Pluto -98088-06-29 15:35 J -34105038.97 -34105038.85 -34105038.73 0.0084 0.0033

Jupiter -98088-09-06 02:08 J -34104970.55 -34104970.41 -34104970.27 0.0517 0.0232

Pluto -98088-09-25 16:47 J -34104950.93 -34104950.80 -34104950.67 0.0084 0.0020

Jupiter -98088-12-04 22:32 J -34104880.68 -34104880.56 -34104880.43 0.0520 0.0304

Pluto -98088-12-22 17:59 J -34104862.88 -34104862.75 -34104862.62 0.0084 0.0007

Pluto -98087-03-20 19:11 J -34104774.83 -34104774.70 -34104774.56 0.0084 0.0006

Pluto -98087-06-16 20:23 J -34104686.77 -34104686.65 -34104686.52 0.0084 0.0019

Mars -98087-07-05 03:49 J -34104668.47 -34104668.34 -34104668.21 0.1615 0.0563

Pluto -98087-09-12 21:35 J -34104598.72 -34104598.60 -34104598.47 0.0084 0.0031

Pluto -98087-12-09 22:47 J -34104510.66 -34104510.55 -34104510.43 0.0083 0.0044

Saturn -98086-02-17 13:25 J -34104440.97 -34104440.94 -34104440.89 0.0272 0.0262

Pluto -98086-03-07 23:44 J -34104422.59 -34104422.51 -34104422.40 0.0083 0.0057

Venus -98086-05-13 18:13 J -34104355.81 -34104355.74 -34104355.67 0.3608 0.3082

Saturn -98086-05-17 05:01 J -34104352.40 -34104352.29 -34104352.17 0.0272 0.0177

Pluto -98086-06-04 01:11 J -34104334.52 -34104334.45 -34104334.37 0.0083 0.0068

Saturn -98086-08-13 20:23 J -34104263.80 -34104263.65 -34104263.51 0.0272 0.0094

Pluto -98086-08-31 02:23 J -34104246.42 -34104246.40 -34104246.36 0.0083 0.0081

Saturn -98086-11-10 11:16 J -34104175.19 -34104175.03 -34104174.88 0.0272 0.0013

Saturn -98085-02-07 01:40 J -34104086.57 -34104086.43 -34104086.28 0.0272 0.0068

Saturn -98085-05-05 16:04 J -34103997.96 -34103997.83 -34103997.70 0.0272 0.0146

Mars -98085-06-09 23:44 J -34103962.60 -34103962.51 -34103962.42 0.1619 0.1272

Saturn -98085-08-02 05:59 J -34103909.33 -34103909.25 -34103909.16 0.0272 0.0223

Mars -98084-04-22 01:54 J -34103646.52 -34103646.42 -34103646.31 0.1910 0.1191

Venus -98083-02-04 22:04 J -34103357.60 -34103357.58 -34103357.56 0.3789 0.3684

Jupiter -98082-01-26 04:04 J -34103002.40 -34103002.33 -34103002.25 0.0513 0.0433

Mars -98082-03-29 10:04 J -34102940.12 -34102940.08 -34102940.03 0.1904 0.1751

Jupiter -98082-04-25 16:47 J -34102912.95 -34102912.80 -34102912.66 0.0510 0.0035

Jupiter -98082-07-24 06:13 J -34102823.24 -34102823.24 -34102823.23 0.0506 0.0505

Moon -98080-01-06 18:13 J -34102290.76 -34102290.74 -34102290.73 0.2697 0.2678

Neptune -98078-04-23 11:30 J -34101454.05 -34101454.02 -34101453.96 0.0089 0.0085

Neptune -98078-07-20 14:08 J -34101365.97 -34101365.91 -34101365.82 0.0089 0.0080

Venus -98078-08-21 16:04 J -34101333.90 -34101333.83 -34101333.76 0.3787 0.2828

Neptune -98078-10-16 16:47 J -34101277.87 -34101277.80 -34101277.69 0.0089 0.0075

Mars -98078-11-25 11:30 J -34101238.13 -34101238.02 -34101237.91 0.1614 0.0980

Neptune -98077-01-12 19:54 J -34101189.78 -34101189.67 -34101189.57 0.0088 0.0069

Neptune -98077-04-09 22:18 J -34101101.68 -34101101.57 -34101101.45 0.0088 0.0064

Neptune -98077-07-07 00:56 J -34101013.58 -34101013.46 -34101013.33 0.0088 0.0059

Earth -98077-07-15 08:52 J -34101005.24 -34101005.13 -34101005.03 0.2642 0.1315

Moon -98077-07-15 09:35 J -34101005.20 -34101005.10 -34101005.00 0.2643 0.1422 *

Neptune -98077-10-03 03:35 J -34100925.48 -34100925.35 -34100925.21 0.0088 0.0054

Neptune -98077-12-30 05:59 J -34100837.38 -34100837.25 -34100837.10 0.0088 0.0049

Neptune -98076-03-28 08:37 J -34100749.28 -34100749.14 -34100748.98 0.0088 0.0044

Neptune -98076-06-24 11:16 J -34100661.17 -34100661.03 -34100660.87 0.0088 0.0039

Jupiter -98076-06-25 02:23 J -34100660.51 -34100660.40 -34100660.29 0.0515 0.0367

Neptune -98076-09-20 13:54 J -34100573.07 -34100572.92 -34100572.76 0.0088 0.0033

Jupiter -98076-09-22 23:16 J -34100570.67 -34100570.53 -34100570.38 0.0519 0.0172

Mars -98076-10-31 06:42 J -34100532.35 -34100532.22 -34100532.10 0.1618 0.0818

Neptune -98076-12-17 16:18 J -34100484.97 -34100484.82 -34100484.65 0.0088 0.0029

Neptune -98075-03-15 18:56 J -34100396.87 -34100396.71 -34100396.54 0.0088 0.0023

Neptune -98075-06-11 21:35 J -34100308.76 -34100308.60 -34100308.43 0.0088 0.0018

Neptune -98075-09-07 23:59 J -34100220.66 -34100220.50 -34100220.33 0.0088 0.0014

Neptune -98075-12-05 02:37 J -34100132.56 -34100132.39 -34100132.22 0.0088 0.0008

Neptune -98074-03-03 05:01 J -34100044.45 -34100044.29 -34100044.12 0.0088 0.0004

Neptune -98074-05-30 07:40 J -34099956.35 -34099956.18 -34099956.02 0.0088 0.0002

Neptune -98074-08-26 10:04 J -34099868.25 -34099868.08 -34099867.92 0.0088 0.0007

Neptune -98074-11-22 12:28 J -34099780.14 -34099779.98 -34099779.81 0.0088 0.0011

Earth -98074-12-30 23:59 J -34099741.60 -34099741.50 -34099741.41 0.2709 0.1881

Moon -98074-12-30 23:59 J -34099741.59 -34099741.50 -34099741.40 0.2702 0.1870 *

Neptune -98073-02-18 14:52 J -34099692.04 -34099691.88 -34099691.71 0.0088 0.0016

Neptune -98073-05-16 17:16 J -34099603.94 -34099603.78 -34099603.62 0.0088 0.0021

Neptune -98073-08-12 19:25 J -34099515.83 -34099515.69 -34099515.52 0.0088 0.0027

Mars -98073-08-18 14:37 J -34099509.99 -34099509.89 -34099509.78 0.1906 0.1073

Neptune -98073-11-08 22:04 J -34099427.73 -34099427.58 -34099427.42 0.0088 0.0031

Neptune -98072-02-05 00:28 J -34099339.63 -34099339.48 -34099339.33 0.0088 0.0036

Venus -98072-03-06 10:18 J -34099310.16 -34099310.07 -34099309.98 0.3784 0.1942

Neptune -98072-05-04 02:37 J -34099251.52 -34099251.39 -34099251.23 0.0088 0.0041

Neptune -98072-07-31 05:01 J -34099163.42 -34099163.29 -34099163.14 0.0088 0.0045

Neptune -98072-10-27 07:25 J -34099075.32 -34099075.19 -34099075.05 0.0088 0.0050

Saturn -98072-11-29 20:23 J -34099041.68 -34099041.65 -34099041.61 0.0287 0.0277

Neptune -98071-01-23 09:49 J -34098987.21 -34098987.09 -34098986.96 0.0088 0.0054

Saturn -98071-02-26 12:13 J -34098953.10 -34098952.99 -34098952.88 0.0287 0.0188

Neptune -98071-04-21 11:59 J -34098899.11 -34098899.00 -34098898.87 0.0088 0.0059

Saturn -98071-05-26 04:18 J -34098864.46 -34098864.32 -34098864.17 0.0287 0.0096

Neptune -98071-07-18 14:23 J -34098811.00 -34098810.90 -34098810.78 0.0088 0.0064

Saturn -98071-08-22 20:52 J -34098775.78 -34098775.63 -34098775.47 0.0287 0.0001

Neptune -98071-10-14 16:32 J -34098722.90 -34098722.81 -34098722.69 0.0088 0.0069

Saturn -98071-11-19 13:40 J -34098687.07 -34098686.93 -34098686.78 0.0287 0.0095

Neptune -98070-01-10 19:11 J -34098634.79 -34098634.70 -34098634.61 0.0088 0.0073

Jupiter -98070-02-11 19:11 J -34098602.85 -34098602.70 -34098602.56 0.0511 0.0085

Saturn -98070-02-16 06:56 J -34098598.32 -34098598.21 -34098598.09 0.0287 0.0194

Neptune -98070-04-08 21:06 J -34098546.68 -34098546.62 -34098546.53 0.0088 0.0078

Jupiter -98070-05-12 08:23 J -34098513.24 -34098513.15 -34098513.05 0.0507 0.0387

Neptune -98070-07-05 23:16 J -34098458.57 -34098458.53 -34098458.45 0.0088 0.0083

Moon -98070-07-08 23:30 J -34098455.57 -34098455.52 -34098455.46 0.2635 0.2307

Earth -98070-07-09 00:13 J -34098455.56 -34098455.49 -34098455.42 0.2629 0.2168 *

Neptune -98070-10-02 01:40 J -34098370.45 -34098370.43 -34098370.39 0.0088 0.0087

Mars -98068-04-16 19:11 J -34097807.76 -34097807.70 -34097807.63 0.1613 0.1392

Venus -98067-09-20 04:47 J -34097286.41 -34097286.30 -34097286.20 0.3781 0.1045

Mars -98066-03-23 13:25 J -34097102.07 -34097101.94 -34097101.80 0.1616 0.0366

Jupiter -98064-04-13 01:25 J -34096350.45 -34096350.44 -34096350.43 0.0514 0.0513

Jupiter -98064-07-11 22:47 J -34096260.71 -34096260.55 -34096260.39 0.0518 0.0027

Earth -98064-07-18 05:01 J -34096254.32 -34096254.29 -34096254.26 0.2646 0.2521

Moon -98064-07-18 05:44 J -34096254.29 -34096254.26 -34096254.23 0.2642 0.2531 *

Mars -98063-01-08 18:56 J -34096079.84 -34096079.71 -34096079.58 0.1908 0.0364

Venus -98061-04-04 23:16 J -34095262.64 -34095262.53 -34095262.42 0.3779 0.0096

Moon -98060-01-01 23:30 J -34094990.66 -34094990.52 -34094990.39 0.2698 0.0373

Earth -98060-01-01 23:59 J -34094990.63 -34094990.50 -34094990.37 0.2704 0.0276 *

Jupiter -98059-11-30 21:49 J -34094292.72 -34094292.59 -34094292.45 0.0512 0.0196

Jupiter -98058-02-28 11:01 J -34094203.16 -34094203.04 -34094202.92 0.0508 0.0275

Venus -98057-04-03 18:13 J -34093802.83 -34093802.74 -34093802.66 0.3593 0.2840

Moon -98057-07-10 21:06 J -34093704.74 -34093704.62 -34093704.51 0.2640 0.0837

Earth -98057-07-10 20:52 J -34093704.74 -34093704.63 -34093704.51 0.2634 0.0901 *

Mars -98057-08-12 20:37 J -34093671.78 -34093671.64 -34093671.50 0.1615 0.0082

Saturn -98057-10-03 07:40 J -34093620.29 -34093620.18 -34093620.07 0.0272 0.0195

Saturn -98057-12-30 22:47 J -34093531.69 -34093531.55 -34093531.40 0.0272 0.0112

Uranus -98056-01-31 11:59 J -34093500.05 -34093500.00 -34093499.94 0.0143 0.0131

Saturn -98056-03-29 13:54 J -34093443.08 -34093442.92 -34093442.77 0.0272 0.0030

Uranus -98056-04-29 16:47 J -34093411.88 -34093411.80 -34093411.70 0.0143 0.0111

Saturn -98056-06-26 04:32 J -34093354.46 -34093354.31 -34093354.16 0.0272 0.0051

Uranus -98056-07-26 21:49 J -34093323.70 -34093323.59 -34093323.46 0.0143 0.0090

Saturn -98056-09-22 18:42 J -34093265.85 -34093265.72 -34093265.58 0.0272 0.0129

Venus -98056-10-19 17:59 J -34093238.86 -34093238.75 -34093238.64 0.3775 0.0876

Uranus -98056-10-23 03:06 J -34093235.51 -34093235.37 -34093235.24 0.0143 0.0070

Saturn -98056-12-20 08:52 J -34093177.23 -34093177.13 -34093177.03 0.0272 0.0206

Uranus -98055-01-19 08:08 J -34093147.31 -34093147.16 -34093147.02 0.0143 0.0049

Uranus -98055-04-17 13:11 J -34093059.10 -34093058.95 -34093058.80 0.0144 0.0027

Uranus -98055-07-14 18:28 J -34092970.89 -34092970.73 -34092970.58 0.0144 0.0007

Uranus -98055-10-10 23:44 J -34092882.67 -34092882.51 -34092882.36 0.0144 0.0016

Uranus -98054-01-07 04:47 J -34092794.45 -34092794.30 -34092794.14 0.0144 0.0038

Uranus -98054-04-05 10:04 J -34092706.21 -34092706.08 -34092705.93 0.0144 0.0060

Mars -98054-05-31 22:32 J -34092649.69 -34092649.56 -34092649.42 0.1909 0.0380

Uranus -98054-07-02 15:35 J -34092617.98 -34092617.85 -34092617.72 0.0144 0.0082

Uranus -98054-09-28 21:06 J -34092529.73 -34092529.62 -34092529.51 0.0144 0.0105

Uranus -98054-12-26 02:23 J -34092441.46 -34092441.40 -34092441.32 0.0144 0.0128

Jupiter -98052-04-29 23:16 J -34091950.68 -34091950.53 -34091950.37 0.0517 0.0106

Jupiter -98052-07-28 19:25 J -34091860.78 -34091860.69 -34091860.60 0.0521 0.0425

Venus -98052-10-18 18:56 J -34091778.83 -34091778.71 -34091778.59 0.3596 0.1479

Venus -98050-05-05 13:11 J -34091215.05 -34091214.95 -34091214.86 0.3772 0.1861

Mars -98047-01-03 04:04 J -34090241.46 -34090241.33 -34090241.20 0.1614 0.0509

Moon -98047-01-04 23:16 J -34090239.65 -34090239.53 -34090239.41 0.2698 0.1321

Earth -98047-01-05 00:28 J -34090239.60 -34090239.48 -34090239.36 0.2699 0.1373 *

Jupiter -98047-09-19 00:42 J -34089982.58 -34089982.47 -34089982.35 0.0513 0.0306

Jupiter -98047-12-17 13:25 J -34089893.07 -34089892.94 -34089892.80 0.0509 0.0162

Venus -98046-05-04 19:11 J -34089754.83 -34089754.70 -34089754.56 0.3599 0.0198

Mars -98046-12-10 00:13 J -34089535.57 -34089535.49 -34089535.41 0.1619 0.1336

Mars -98045-10-21 02:08 J -34089219.52 -34089219.41 -34089219.30 0.1910 0.1125

Venus -98045-11-18 08:23 J -34089191.22 -34089191.15 -34089191.08 0.3769 0.2874

Earth -98044-07-13 17:30 J -34088953.89 -34088953.77 -34088953.65 0.2638 0.0347

Moon -98044-07-13 18:13 J -34088953.86 -34088953.74 -34088953.62 0.2643 0.0381 *

Mars -98043-09-27 10:18 J -34088513.10 -34088513.07 -34088513.03 0.1904 0.1814

Saturn -98042-07-16 11:44 J -34088221.10 -34088221.01 -34088220.91 0.0287 0.0222

Saturn -98042-10-13 03:49 J -34088132.47 -34088132.34 -34088132.20 0.0287 0.0132

Saturn -98041-01-09 20:08 J -34088043.81 -34088043.66 -34088043.51 0.0287 0.0038

Saturn -98041-04-07 12:42 J -34087955.12 -34087954.97 -34087954.81 0.0287 0.0058

Saturn -98041-07-05 05:44 J -34087866.39 -34087866.26 -34087866.12 0.0287 0.0155

Saturn -98041-10-01 23:15 J -34087777.60 -34087777.53 -34087777.46 0.0287 0.0254

Venus -98041-11-17 19:11 J -34087730.83 -34087730.70 -34087730.58 0.3602 0.1081

Jupiter -98040-02-15 23:59 J -34087640.64 -34087640.50 -34087640.36 0.0516 0.0235

Jupiter -98040-05-16 20:37 J -34087550.76 -34087550.64 -34087550.51 0.0520 0.0300

Mars -98038-05-26 11:44 J -34086811.13 -34086811.01 -34086810.90 0.1614 0.0931

Mars -98036-05-01 06:42 J -34086105.34 -34086105.22 -34086105.10 0.1618 0.0869

Mars -98035-03-13 05:30 J -34085789.29 -34085789.27 -34085789.26 0.1911 0.1897

Venus -98035-06-03 18:42 J -34085706.83 -34085706.72 -34085706.62 0.3605 0.2277

Jupiter -98035-07-08 03:35 J -34085672.43 -34085672.35 -34085672.27 0.0513 0.0418

Jupiter -98035-10-05 16:03 J -34085582.98 -34085582.83 -34085582.69 0.0510 0.0046

Mars -98033-02-17 14:51 J -34085082.99 -34085082.88 -34085082.78 0.1906 0.1132

Earth -98031-07-16 13:54 J -34084203.02 -34084202.92 -34084202.82 0.2642 0.1570

Moon -98031-07-16 14:51 J -34084202.98 -34084202.88 -34084202.79 0.2641 0.1664 *

Venus -98030-12-18 17:44 J -34083682.80 -34083682.76 -34083682.72 0.3609 0.3419

Mars -98029-10-15 19:25 J -34083380.76 -34083380.69 -34083380.61 0.1613 0.1340

Jupiter -98029-12-05 00:42 J -34083330.58 -34083330.47 -34083330.35 0.0516 0.0363

Jupiter -98028-03-04 21:49 J -34083240.74 -34083240.59 -34083240.44 0.0519 0.0176

Moon -98028-12-31 05:30 J -34082939.38 -34082939.27 -34082939.16 0.2701 0.1518

Earth -98028-12-31 05:30 J -34082939.38 -34082939.27 -34082939.16 0.2708 0.1559 *

Saturn -98027-02-20 06:56 J -34082888.29 -34082888.21 -34082888.12 0.0272 0.0228

Saturn -98027-05-19 22:32 J -34082799.70 -34082799.56 -34082799.43 0.0272 0.0144

Saturn -98027-08-16 13:25 J -34082711.09 -34082710.94 -34082710.78 0.0272 0.0062

Venus -98027-09-11 20:08 J -34082684.70 -34082684.66 -34082684.62 0.3788 0.3418

Mars -98027-09-21 13:39 J -34082675.06 -34082674.93 -34082674.79 0.1616 0.0422

Saturn -98027-11-13 04:18 J -34082622.47 -34082622.32 -34082622.17 0.0272 0.0019

Saturn -98026-02-09 18:42 J -34082533.86 -34082533.72 -34082533.57 0.0272 0.0099

Saturn -98026-05-09 08:51 J -34082445.24 -34082445.13 -34082445.01 0.0272 0.0177

Saturn -98026-08-05 22:47 J -34082356.60 -34082356.55 -34082356.49 0.0272 0.0252

Moon -98024-07-09 04:47 J -34081653.38 -34081653.30 -34081653.21 0.2636 0.1887

Earth -98024-07-09 05:30 J -34081653.36 -34081653.27 -34081653.19 0.2630 0.1899 *

Mars -98024-07-09 19:11 J -34081652.83 -34081652.70 -34081652.57 0.1908 0.0431

Jupiter -98023-07-24 17:59 J -34081272.89 -34081272.75 -34081272.61 0.0511 0.0077

Jupiter -98023-10-22 07:11 J -34081183.29 -34081183.20 -34081183.10 0.0507 0.0395

Venus -98021-03-27 14:08 J -34080660.99 -34080660.91 -34080660.83 0.3786 0.2554

Mars -98017-02-11 20:51 J -34079244.77 -34079244.63 -34079244.48 0.1615 0.0059

Uranus -98017-06-29 05:01 J -34079106.35 -34079106.29 -34079106.23 0.0136 0.0124

Jupiter -98017-09-23 00:56 J -34079020.49 -34079020.46 -34079020.42 0.0514 0.0496

Uranus -98017-09-25 09:49 J -34079018.18 -34079018.09 -34079017.98 0.0136 0.0105

Jupiter -98017-12-21 22:32 J -34078930.72 -34078930.56 -34078930.41 0.0518 0.0046

Uranus -98017-12-22 14:51 J -34078930.00 -34078929.88 -34078929.75 0.0135 0.0086

Uranus -98016-03-20 19:54 J -34078841.81 -34078841.67 -34078841.53 0.0135 0.0066

Uranus -98016-06-17 00:56 J -34078753.61 -34078753.46 -34078753.31 0.0135 0.0047

Uranus -98016-09-13 05:44 J -34078665.41 -34078665.26 -34078665.10 0.0135 0.0029

Venus -98016-10-11 08:23 J -34078637.25 -34078637.15 -34078637.05 0.3783 0.1667

Uranus -98016-12-10 10:32 J -34078577.22 -34078577.06 -34078576.90 0.0135 0.0011

Uranus -98015-03-08 15:20 J -34078489.02 -34078488.86 -34078488.70 0.0135 0.0008

Uranus -98015-06-04 20:08 J -34078400.82 -34078400.66 -34078400.51 0.0135 0.0026

Uranus -98015-09-01 00:42 J -34078312.61 -34078312.47 -34078312.32 0.0135 0.0044

Uranus -98015-11-28 05:30 J -34078224.41 -34078224.27 -34078224.13 0.0135 0.0062

Mars -98015-11-29 23:01 J -34078222.67 -34078222.54 -34078222.41 0.1909 0.0300

Moon -98014-01-03 05:01 J -34078188.43 -34078188.29 -34078188.16 0.2698 0.0022

Earth -98014-01-03 05:44 J -34078188.40 -34078188.26 -34078188.13 0.2703 0.0057 *

Uranus -98014-02-24 09:49 J -34078136.21 -34078136.09 -34078135.95 0.0134 0.0080

Uranus -98014-05-23 14:37 J -34078048.00 -34078047.89 -34078047.78 0.0134 0.0097

Uranus -98014-08-19 18:56 J -34077959.78 -34077959.71 -34077959.62 0.0134 0.0114

Uranus -98014-11-15 23:15 J -34077871.55 -34077871.53 -34077871.49 0.0134 0.0131

Saturn -98013-12-02 12:42 J -34077489.04 -34077488.97 -34077488.89 0.0287 0.0249

Saturn -98012-03-01 04:32 J -34077400.43 -34077400.31 -34077400.18 0.0287 0.0159

Saturn -98012-05-28 20:51 J -34077311.78 -34077311.63 -34077311.48 0.0287 0.0066

Saturn -98012-08-25 13:25 J -34077223.09 -34077222.94 -34077222.78 0.0287 0.0030

Saturn -98012-11-22 06:27 J -34077134.37 -34077134.23 -34077134.09 0.0287 0.0127

Saturn -98011-02-18 23:44 J -34077045.60 -34077045.51 -34077045.41 0.0287 0.0226

Jupiter -98011-05-12 20:23 J -34076962.78 -34076962.65 -34076962.51 0.0512 0.0193

Earth -98011-07-12 02:08 J -34076902.53 -34076902.41 -34076902.29 0.2634 0.0633

Moon -98011-07-12 02:23 J -34076902.51 -34076902.40 -34076902.28 0.2640 0.0677 *

Jupiter -98011-08-10 09:35 J -34076873.23 -34076873.10 -34076872.98 0.0508 0.0277

Venus -98010-04-27 02:51 J -34076613.49 -34076613.38 -34076613.27 0.3781 0.0752

Mars -98008-07-04 04:18 J -34075814.45 -34075814.32 -34075814.18 0.1614 0.0456

Mars -98006-06-10 00:27 J -34075108.55 -34075108.48 -34075108.41 0.1619 0.1393

Mars -98005-04-21 02:37 J -34074792.51 -34074792.39 -34074792.28 0.1911 0.1056

Jupiter -98005-10-09 21:49 J -34074620.74 -34074620.59 -34074620.43 0.0517 0.0100

Venus -98005-11-09 21:35 J -34074589.71 -34074589.60 -34074589.49 0.3778 0.0194

Jupiter -98004-01-07 17:59 J -34074530.84 -34074530.75 -34074530.67 0.0521 0.0429

Mars -98003-03-28 10:32 J -34074086.08 -34074086.06 -34074086.05 0.1904 0.1877

Moon -98001-01-06 05:01 J -34073437.41 -34073437.29 -34073437.18 0.2698 0.1521

Earth -98001-01-06 06:13 J -34073437.35 -34073437.24 -34073437.14 0.2699 0.1710 *

Venus -98001-11-08 18:13 J -34073129.84 -34073129.74 -34073129.64 0.3594 0.2420

98TH MILLENNIUM BCE

This is a list of transits of Mercury in the 98th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Jupiter	**-97999-02-28 23:15**	**J**	**-34072652.64**	**-34072652.53**	**-34072652.41**	**0.0513**	**0.0304**	
Venus	**-97999-05-26 16:32**	**J**	**-34072565.92**	**-34072565.81**	**-34072565.71**	**0.3774**	**0.1171**	
Jupiter	**-97999-05-29 11:59**	**J**	**-34072563.13**	**-34072563.00**	**-34072562.86**	**0.0509**	**0.0165**	
Mars	**-97999-11-24 11:59**	**J**	**-34072384.12**	**-34072384.00**	**-34072383.89**	**0.1614**	**0.0877**	
Saturn	**-97998-07-10 09:20**	**J**	**-34072156.17**	**-34072156.11**	**-34072156.04**	**0.0272**	**0.0248**	
Earth	**-97998-07-14 22:47**	**J**	**-34072151.67**	**-34072151.55**	**-34072151.43**	**0.2638**	**0.0612**	
Moon	**-97998-07-14 23:30**	**J**	**-34072151.64**	**-34072151.52**	**-34072151.40**	**0.2642**	**0.0735**	*****
Saturn	**-97998-10-07 00:56**	**J**	**-34072067.59**	**-34072067.46**	**-34072067.34**	**0.0272**	**0.0163**	
Saturn	**-97997-01-03 16:03**	**J**	**-34071978.98**	**-34071978.83**	**-34071978.68**	**0.0272**	**0.0080**	
Saturn	**-97997-04-01 06:56**	**J**	**-34071890.37**	**-34071890.21**	**-34071890.06**	**0.0272**	**0.0003**	
Saturn	**-97997-06-28 21:20**	**J**	**-34071801.75**	**-34071801.61**	**-34071801.46**	**0.0272**	**0.0082**	
Saturn	**-97997-09-25 11:44**	**J**	**-34071713.13**	**-34071713.01**	**-34071712.89**	**0.0272**	**0.0159**	
Mars	**-97997-10-30 07:11**	**J**	**-34071678.32**	**-34071678.20**	**-34071678.08**	**0.1618**	**0.0930**	
Saturn	**-97997-12-23 01:39**	**J**	**-34071624.50**	**-34071624.43**	**-34071624.36**	**0.0272**	**0.0235**	
Neptune	**-97996-04-15 17:15**	**J**	**-34071510.80**	**-34071510.78**	**-34071510.73**	**0.0089**	**0.0086**	
Neptune	**-97996-07-12 18:56**	**J**	**-34071422.75**	**-34071422.71**	**-34071422.64**	**0.0089**	**0.0082**	
Mars	**-97996-09-11 05:44**	**J**	**-34071362.30**	**-34071362.26**	**-34071362.23**	**0.1911**	**0.1832**	
Neptune	**-97996-10-08 21:06**	**J**	**-34071334.69**	**-34071334.62**	**-34071334.55**	**0.0089**	**0.0077**	
Neptune	**-97995-01-04 22:47**	**J**	**-34071246.63**	**-34071246.55**	**-34071246.46**	**0.0089**	**0.0073**	
Neptune	**-97995-04-03 00:27**	**J**	**-34071158.56**	**-34071158.48**	**-34071158.38**	**0.0089**	**0.0069**	
Venus	**-97995-05-25 18:56**	**J**	**-34071105.84**	**-34071105.71**	**-34071105.58**	**0.3597**	**0.1080**	
Neptune	**-97995-06-30 02:08**	**J**	**-34071070.49**	**-34071070.41**	**-34071070.30**	**0.0089**	**0.0065**	
Neptune	**-97995-09-26 04:18**	**J**	**-34070982.43**	**-34070982.32**	**-34070982.21**	**0.0089**	**0.0060**	
Neptune	**-97995-12-23 05:59**	**J**	**-34070894.36**	**-34070894.25**	**-34070894.13**	**0.0089**	**0.0056**	
Moon	**-97995-12-29 11:59**	**J**	**-34070888.02**	**-34070888.00**	**-34070887.98**	**0.2707**	**0.2661**	

Neptune -97994-03-21 07:39 J -34070806.29 -34070806.18 -34070806.05 0.0089 0.0052

Neptune -97994-06-17 09:20 J -34070718.22 -34070718.11 -34070717.97 0.0089 0.0048

Mars -97994-08-18 15:06 J -34070655.97 -34070655.87 -34070655.77 0.1906 0.1202

Neptune -97994-09-13 11:30 J -34070630.15 -34070630.02 -34070629.89 0.0089 0.0043

Venus -97994-12-10 11:30 J -34070542.11 -34070542.02 -34070541.92 0.3771 0.2163

Neptune -97994-12-10 13:11 J -34070542.08 -34070541.95 -34070541.81 0.0089 0.0039 *

Neptune -97993-03-07 14:51 J -34070454.00 -34070453.88 -34070453.73 0.0089 0.0035

Neptune -97993-06-03 17:01 J -34070365.93 -34070365.79 -34070365.65 0.0089 0.0030

Jupiter -97993-07-28 22:18 J -34070310.71 -34070310.57 -34070310.43 0.0516 0.0233

Neptune -97993-08-30 18:42 J -34070277.85 -34070277.72 -34070277.57 0.0089 0.0026

Jupiter -97993-10-26 18:42 J -34070220.84 -34070220.72 -34070220.59 0.0520 0.0301

Neptune -97993-11-26 20:51 J -34070189.78 -34070189.63 -34070189.49 0.0089 0.0021

Neptune -97992-02-22 22:32 J -34070101.70 -34070101.56 -34070101.41 0.0089 0.0017

Neptune -97992-05-22 00:27 J -34070013.63 -34070013.48 -34070013.33 0.0089 0.0012

Neptune -97992-08-18 02:23 J -34069925.55 -34069925.40 -34069925.25 0.0089 0.0008

Neptune -97992-11-14 04:18 J -34069837.47 -34069837.32 -34069837.17 0.0089 0.0003

Neptune -97991-02-10 06:13 J -34069749.39 -34069749.24 -34069749.09 0.0089 0.0001

Neptune -97991-05-09 08:08 J -34069661.31 -34069661.16 -34069661.01 0.0089 0.0006

Neptune -97991-08-05 10:03 J -34069573.23 -34069573.08 -34069572.93 0.0089 0.0010

Neptune -97991-11-01 11:59 J -34069485.15 -34069485.00 -34069484.85 0.0089 0.0015

Neptune -97990-01-28 13:54 J -34069397.07 -34069396.92 -34069396.77 0.0089 0.0019

Neptune -97990-04-26 15:49 J -34069308.98 -34069308.84 -34069308.69 0.0089 0.0024

Neptune -97990-07-23 17:44 J -34069220.90 -34069220.76 -34069220.61 0.0089 0.0029

Neptune -97990-10-19 19:39 J -34069132.81 -34069132.68 -34069132.53 0.0089 0.0033

Venus -97990-12-09 19:11 J -34069081.84 -34069081.70 -34069081.57 0.3600 0.0252

Neptune -97989-01-15 21:35 J -34069044.73 -34069044.60 -34069044.45 0.0089 0.0038

Neptune -97989-04-12 23:30 J -34068956.64 -34068956.52 -34068956.37 0.0089 0.0043

Mars -97989-04-15 19:39 J -34068953.76 -34068953.68 -34068953.60 0.1613 0.1293

Neptune -97989-07-10 01:39 J -34068868.55 -34068868.43 -34068868.29 0.0089 0.0047

Neptune -97989-10-06 03:35 J -34068780.46 -34068780.35 -34068780.21 0.0089 0.0052

Neptune -97988-01-02 05:59 J -34068692.37 -34068692.25 -34068692.14 0.0089 0.0056

Neptune -97988-03-31 07:54 J -34068604.28 -34068604.17 -34068604.06 0.0089 0.0061

Venus -97988-06-25 06:56 J -34068518.27 -34068518.21 -34068518.15 0.3767 0.3183

Neptune -97988-06-27 09:49 J -34068516.18 -34068516.09 -34068515.98 0.0089 0.0066

Neptune -97988-09-23 11:44 J -34068428.09 -34068428.01 -34068427.90 0.0089 0.0071

Jupiter -97988-12-18 02:08 J -34068342.49 -34068342.41 -34068342.32 0.0514 0.0413

Neptune -97988-12-20 14:08 J -34068339.99 -34068339.91 -34068339.83 0.0089 0.0075

Jupiter -97987-03-17 14:37 J -34068253.03 -34068252.89 -34068252.74 0.0510 0.0053

Neptune -97987-03-18 16:03 J -34068251.89 -34068251.83 -34068251.76 0.0089 0.0080

Mars -97987-03-22 14:08 J -34068248.05 -34068247.91 -34068247.78 0.1616 0.0476

Neptune -97987-06-14 17:59 J -34068163.78 -34068163.75 -34068163.69 0.0089 0.0085

Earth -97985-07-16 19:11 J -34067400.79 -34067400.70 -34067400.61 0.2643 0.1834

Moon -97985-07-16 20:08 J -34067400.75 -34067400.66 -34067400.58 0.2641 0.1897 *

Mars -97984-01-07 19:25 J -34067225.82 -34067225.69 -34067225.57 0.1908 0.0496

Venus -97984-06-24 18:42 J -34067057.84 -34067057.72 -34067057.60 0.3603 0.1445

Saturn -97983-04-21 12:42 J -34066756.99 -34066756.97 -34066756.94 0.0286 0.0281

Saturn -97983-07-19 04:18 J -34066668.42 -34066668.32 -34066668.20 0.0287 0.0193

Saturn -97983-10-15 20:37 J -34066579.79 -34066579.64 -34066579.50 0.0287 0.0101

Saturn -97982-01-12 12:56 J -34066491.12 -34066490.96 -34066490.81 0.0287 0.0007

Saturn -97982-04-11 05:44 J -34066402.41 -34066402.26 -34066402.11 0.0287 0.0089

Saturn -97982-07-08 22:47 J -34066313.67 -34066313.55 -34066313.43 0.0287 0.0188

Moon -97981-01-01 11:15 J -34066137.15 -34066137.03 -34066136.92 0.2700 0.1295

Earth -97981-01-01 11:15 J -34066137.15 -34066137.03 -34066136.91 0.2708 0.1232 *

Jupiter -97981-05-16 22:47 J -34066000.66 -34066000.55 -34066000.44 0.0515 0.0363

Jupiter -97981-08-14 19:54 J -34065910.82 -34065910.67 -34065910.53 0.0519 0.0174

Venus -97978-01-08 18:13 J -34065033.83 -34065033.74 -34065033.65 0.3606 0.2625

Moon -97978-07-10 10:18 J -34064851.16 -34064851.07 -34064850.98 0.2636 0.1730

Earth -97978-07-10 10:32 J -34064851.15 -34064851.06 -34064850.96 0.2630 0.1634 *

Mars -97978-08-12 21:06 J -34064817.76 -34064817.62 -34064817.48 0.1615 0.0045

Jupiter -97975-01-03 17:15 J -34063942.92 -34063942.78 -34063942.63 0.0511 0.0064

Jupiter -97975-04-03 06:42 J -34063853.31 -34063853.22 -34063853.13 0.0507 0.0409

Mars -97975-05-30 23:15 J -34063795.66 -34063795.53 -34063795.40 0.1910 0.0238

Uranus -97972-02-20 18:42 J -34062798.78 -34062798.72 -34062798.65 0.0143 0.0128

Uranus -97972-05-19 23:30 J -34062710.61 -34062710.52 -34062710.41 0.0143 0.0108

Uranus -97972-08-16 04:32 J -34062622.42 -34062622.31 -34062622.18 0.0143 0.0088

Uranus -97972-11-12 09:49 J -34062534.23 -34062534.09 -34062533.96 0.0143 0.0067

Uranus -97971-02-08 14:51 J -34062446.03 -34062445.88 -34062445.74 0.0143 0.0046

Uranus -97971-05-07 19:54 J -34062357.82 -34062357.67 -34062357.52 0.0144 0.0025

Uranus -97971-08-04 01:11 J -34062269.61 -34062269.45 -34062269.30 0.0144 0.0005

Uranus -97971-10-31 06:13 J -34062181.39 -34062181.24 -34062181.08 0.0144 0.0019

Uranus -97970-01-27 11:30 J -34062093.17 -34062093.02 -34062092.87 0.0144 0.0040

Venus -97970-04-18 18:13 J -34062011.80 -34062011.74 -34062011.68 0.3788 0.3148

Uranus -97970-04-25 17:01 J -34062004.93 -34062004.79 -34062004.65 0.0144 0.0063

Uranus -97970-07-22 22:03 J -34061916.70 -34061916.58 -34061916.44 0.0144 0.0085

Uranus -97970-10-19 03:35 J -34061828.45 -34061828.35 -34061828.24 0.0144 0.0107

Uranus -97969-01-15 08:51 J -34061740.18 -34061740.13 -34061740.05 0.0144 0.0131

Jupiter -97969-03-04 23:30 J -34061690.56 -34061690.52 -34061690.48 0.0515 0.0492

Jupiter -97969-06-02 21:06 J -34061600.78 -34061600.62 -34061600.47 0.0518 0.0051

Mars -97968-01-02 04:32 J -34061387.44 -34061387.31 -34061387.17 0.1614 0.0403

Moon -97968-01-03 10:32 J -34061386.20 -34061386.06 -34061385.93 0.2699 0.0320

Earth -97968-01-03 11:30 J -34061386.16 -34061386.02 -34061385.89 0.2703 0.0391 *

Saturn -97968-02-22 23:59 J -34061335.60 -34061335.50 -34061335.39 0.0272 0.0197

Saturn -97968-05-22 15:20 J -34061247.00 -34061246.86 -34061246.71 0.0272 0.0114

Saturn -97968-08-19 06:27 J -34061158.39 -34061158.23 -34061158.08 0.0272 0.0031

Saturn -97968-11-15 21:06 J -34061069.77 -34061069.62 -34061069.47 0.0272 0.0049

Saturn -97967-02-12 11:30 J -34060981.15 -34060981.02 -34060980.89 0.0272 0.0128

Saturn -97967-05-12 01:39 J -34060892.53 -34060892.43 -34060892.34 0.0272 0.0205

Mars -97967-12-09 00:42 J -34060681.53 -34060681.47 -34060681.41 0.1619 0.1451

Mars -97966-10-21 02:51 J -34060365.49 -34060365.38 -34060365.26 0.1910 0.0981

Earth -97965-07-12 07:25 J -34060100.31 -34060100.19 -34060100.07 0.2635 0.0369

Moon -97965-07-12 07:54 J -34060100.30 -34060100.17 -34060100.05 0.2641 0.0270 *

Venus -97965-11-01 12:27 J -34059988.07 -34059987.98 -34059987.90 0.3785 0.2283

Jupiter -97964-10-22 19:25 J -34059632.82 -34059632.69 -34059632.55 0.0511 0.0183

Jupiter -97963-01-20 08:23 J -34059543.27 -34059543.15 -34059543.02 0.0508 0.0286

Venus -97959-05-18 06:42 J -34057964.32 -34057964.22 -34057964.12 0.3783 0.1381

Mars -97959-05-25 12:13 J -34057957.11 -34057956.99 -34057956.87 0.1614 0.0825

Jupiter -97957-03-21 21:35 J -34057290.76 -34057290.60 -34057290.44 0.0517 0.0082

Mars -97957-04-30 07:25 J -34057251.30 -34057251.19 -34057251.08 0.1618 0.0986

Jupiter -97957-06-19 17:44 J -34057200.84 -34057200.76 -34057200.68 0.0521 0.0447

Mars -97956-03-12 05:59 J -34056935.30 -34056935.25 -34056935.20 0.1911 0.1764

Moon -97955-01-06 10:32 J -34056635.15 -34056635.06 -34056634.96 0.2697 0.1974

Earth -97955-01-06 11:59 J -34056635.09 -34056635.00 -34056634.92 0.2698 0.2048 *

Mars -97954-02-16 15:20 J -34056228.96 -34056228.86 -34056228.76 0.1906 0.1266

Venus -97954-12-02 01:11 J -34055940.56 -34055940.45 -34055940.34 0.3780 0.0462

Saturn -97954-12-06 04:47 J -34055936.39 -34055936.30 -34055936.20 0.0287 0.0222

Saturn -97953-03-03 20:51 J -34055847.77 -34055847.63 -34055847.49 0.0287 0.0131

Saturn -97953-05-31 13:11 J -34055759.10 -34055758.95 -34055758.80 0.0287 0.0037

Saturn -97953-08-28 05:44 J -34055670.41 -34055670.26 -34055670.10 0.0287 0.0060

Saturn -97953-11-24 22:47 J -34055581.67 -34055581.55 -34055581.41 0.0287 0.0157

Saturn -97952-02-21 16:18 J -34055492.88 -34055492.82 -34055492.75 0.0287 0.0257

Earth -97952-07-15 04:03 J -34055349.45 -34055349.33 -34055349.22 0.2639 0.0881

Moon -97952-07-15 04:47 J -34055349.41 -34055349.30 -34055349.18 0.2641 0.0894 *

Jupiter -97952-08-10 22:03 J -34055322.70 -34055322.58 -34055322.46 0.0513 0.0298

Jupiter -97952-11-08 10:47 J -34055233.19 -34055233.05 -34055232.91 0.0509 0.0169

Mars -97950-10-15 19:54 J -34054526.75 -34054526.67 -34054526.58 0.1613 0.1237

Venus -97950-11-30 17:01 J -34054480.83 -34054480.79 -34054480.74 0.3592 0.3381

Earth -97949-12-29 17:01 J -34054085.84 -34054085.79 -34054085.74 0.2712 0.2491

Moon -97949-12-29 17:30 J -34054085.82 -34054085.77 -34054085.73 0.2705 0.2525 *

Venus -97948-06-16 19:54 J -34053916.78 -34053916.67 -34053916.56 0.3777 0.0487

Mars -97948-09-20 14:23 J -34053821.03 -34053820.90 -34053820.77 0.1616 0.0533

Jupiter -97945-01-08 20:51 J -34052980.77 -34052980.63 -34052980.48 0.0516 0.0226

Jupiter -97945-04-07 17:30 J -34052890.89 -34052890.77 -34052890.65 0.0520 0.0307

Mars -97945-07-08 19:39 J -34052798.81 -34052798.68 -34052798.56 0.1908 0.0564

Venus -97944-06-15 17:59 J -34052456.86 -34052456.75 -34052456.63 0.3594 0.2006

Venus -97943-12-31 14:51 J -34051892.99 -34051892.88 -34051892.78 0.3773 0.1462

Jupiter -97940-05-30 00:42 J -34051012.55 -34051012.47 -34051012.38 0.0514 0.0410

Jupiter -97940-08-27 13:25 J -34050923.09 -34050922.94 -34050922.80 0.0510 0.0058

Saturn -97939-07-13 02:23 J -34050603.49 -34050603.40 -34050603.30 0.0273 0.0217

Earth -97939-07-18 00:13 J -34050598.56 -34050598.49 -34050598.41 0.2643 0.2094

Moon -97939-07-18 01:11 J -34050598.51 -34050598.45 -34050598.38 0.2642 0.2212 *

Saturn -97939-10-09 17:59 J -34050514.89 -34050514.75 -34050514.62 0.0273 0.0133

Venus -97939-12-30 18:42 J -34050432.85 -34050432.72 -34050432.59 0.3598 0.0676

Saturn -97938-01-06 08:51 J -34050426.28 -34050426.13 -34050425.97 0.0272 0.0050

Mars -97938-02-10 21:35 J -34050390.74 -34050390.60 -34050390.46 0.1615 0.0090

Saturn -97938-04-04 23:44 J -34050337.67 -34050337.51 -34050337.36 0.0272 0.0031

Saturn -97938-07-02 14:08 J -34050249.05 -34050248.91 -34050248.77 0.0272 0.0111

Saturn -97938-09-29 04:18 J -34050160.43 -34050160.32 -34050160.21 0.0272 0.0188

Saturn -97938-12-26 17:59 J -34050071.77 -34050071.75 -34050071.71 0.0272 0.0264

Venus -97937-07-16 10:03 J -34049869.17 -34049869.08 -34049869.00 0.3770 0.2464

Mars -97936-11-28 23:30 J -34049368.65 -34049368.52 -34049368.39 0.1910 0.0168

Moon -97935-01-01 16:47 J -34049334.93 -34049334.80 -34049334.68 0.2700 0.0864

Earth -97935-01-01 17:01 J -34049334.92 -34049334.79 -34049334.67 0.2707 0.0909 *

Pluto -97935-07-20 02:51 J -34049135.44 -34049135.38 -34049135.28 0.0060 0.0055

Pluto -97935-10-16 04:18 J -34049047.41 -34049047.32 -34049047.18 0.0060 0.0048

Pluto -97934-01-12 05:59 J -34048959.38 -34048959.25 -34048959.09 0.0060 0.0041

Pluto -97934-04-10 07:25 J -34048871.34 -34048871.19 -34048871.01 0.0060 0.0035

Pluto -97934-07-07 09:06 J -34048783.29 -34048783.12 -34048782.94 0.0060 0.0027

Pluto -97934-10-03 10:32 J -34048695.24 -34048695.06 -34048694.86 0.0060 0.0021

Jupiter -97934-10-27 21:20 J -34048670.73 -34048670.61 -34048670.50 0.0515 0.0359

Pluto -97934-12-30 12:13 J -34048607.18 -34048606.99 -34048606.79 0.0060 0.0013

Jupiter -97933-01-25 18:13 J -34048580.89 -34048580.74 -34048580.59 0.0519 0.0177

Pluto -97933-03-27 13:39 J -34048519.12 -34048518.93 -34048518.73 0.0060 0.0007

Pluto -97933-06-23 15:20 J -34048431.06 -34048430.86 -34048430.67 0.0060 0.0001

Venus -97933-07-15 18:42 J -34048408.85 -34048408.72 -34048408.59 0.3601 0.0595

Uranus -97933-07-19 11:15 J -34048405.09 -34048405.03 -34048404.95 0.0136 0.0122

Pluto -97933-09-19 16:47 J -34048343.00 -34048342.80 -34048342.60 0.0061 0.0008

Uranus -97933-10-15 16:18 J -34048316.91 -34048316.82 -34048316.70 0.0136 0.0103

Pluto -97933-12-16 18:13 J -34048254.93 -34048254.74 -34048254.55 0.0061 0.0015

Uranus -97932-01-11 21:20 J -34048228.73 -34048228.61 -34048228.47 0.0135 0.0084

Pluto -97932-03-14 19:39 J -34048166.86 -34048166.68 -34048166.49 0.0061 0.0022

Uranus -97932-04-10 02:23 J -34048140.53 -34048140.40 -34048140.25 0.0135 0.0064

Pluto -97932-06-10 21:06 J -34048078.78 -34048078.62 -34048078.44 0.0061 0.0029

Uranus -97932-07-07 07:25 J -34048052.34 -34048052.19 -34048052.04 0.0135 0.0045

Moon -97932-07-10 15:49 J -34048048.95 -34048048.84 -34048048.73 0.2637 0.1341

Earth -97932-07-10 15:49 J -34048048.94 -34048048.84 -34048048.73 0.2631 0.1364 *

Pluto -97932-09-06 22:47 J -34047990.71 -34047990.55 -34047990.39 0.0061 0.0036

Uranus -97932-10-03 12:13 J -34047964.14 -34047963.99 -34047963.83 0.0135 0.0027

Pluto -97932-12-03 23:44 J -34047902.62 -34047902.51 -34047902.35 0.0061 0.0044

Uranus -97932-12-30 17:15 J -34047875.94 -34047875.78 -34047875.62 0.0135 0.0008

Venus -97931-01-30 05:15 J -34047845.32 -34047845.28 -34047845.23 0.3766 0.3492

Pluto -97931-03-02 01:11 J -34047814.53 -34047814.45 -34047814.31 0.0061 0.0051

Uranus -97931-03-28 22:03 J -34047787.74 -34047787.58 -34047787.42 0.0135 0.0011

Pluto -97931-05-29 02:51 J -34047726.42 -34047726.38 -34047726.30 0.0061 0.0058

Uranus -97931-06-25 02:37 J -34047699.54 -34047699.39 -34047699.23 0.0135 0.0029

Uranus -97931-09-21 07:11 J -34047611.34 -34047611.20 -34047611.04 0.0135 0.0047

Uranus -97931-12-18 11:44 J -34047523.14 -34047523.01 -34047522.86 0.0135 0.0065

Uranus -97930-03-16 16:32 J -34047434.93 -34047434.81 -34047434.68 0.0134 0.0082

Uranus -97930-06-12 20:51 J -34047346.72 -34047346.63 -34047346.51 0.0134 0.0100

Uranus -97930-09-09 01:25 J -34047258.51 -34047258.44 -34047258.35 0.0134 0.0116

Uranus -97930-12-06 05:59 J -34047170.26 -34047170.25 -34047170.23 0.0134 0.0133

Mars -97929-07-03 04:47 J -34046960.44 -34046960.30 -34046960.16 0.1614 0.0350

Jupiter -97928-06-15 16:03 J -34046612.97 -34046612.83 -34046612.69 0.0511 0.0057

Jupiter -97928-09-13 05:30 J -34046523.36 -34046523.27 -34046523.19 0.0507 0.0416

Venus -97927-01-29 18:27 J -34046384.85 -34046384.73 -34046384.62 0.3604 0.1806

Mars -97927-06-09 00:56 J -34046254.51 -34046254.46 -34046254.41 0.1619 0.1509

Mars -97926-04-21 02:51 J -34045938.49 -34045938.38 -34045938.26 0.1911 0.0926

Saturn -97924-04-24 05:01 J -34045204.36 -34045204.29 -34045204.22 0.0286 0.0253

Saturn -97924-07-21 20:51 J -34045115.75 -34045115.63 -34045115.51 0.0286 0.0163

Saturn -97924-10-18 12:56 J -34045027.11 -34045026.96 -34045026.81 0.0287 0.0071

Saturn -97923-01-15 05:30 J -34044938.43 -34044938.27 -34044938.12 0.0287 0.0024

Saturn -97923-04-13 22:18 J -34044849.71 -34044849.57 -34044849.43 0.0287 0.0120

Saturn -97923-07-11 15:35 J -34044760.95 -34044760.85 -34044760.75 0.0287 0.0219

Moon -97922-01-04 16:03 J -34044583.96 -34044583.83 -34044583.70 0.2699 0.0569

Earth -97922-01-04 17:15 J -34044583.91 -34044583.78 -34044583.65 0.2702 0.0728 *

Venus -97922-08-15 17:44 J -34044360.84 -34044360.76 -34044360.69 0.3608 0.2966

Jupiter -97922-08-15 21:35 J -34044360.64 -34044360.60 -34044360.55 0.0514 0.0491

Jupiter -97922-11-13 19:11 J -34044270.86 -34044270.70 -34044270.55 0.0518 0.0051

Mars -97920-11-23 12:27 J -34043530.10 -34043529.98 -34043529.86 0.1614 0.0771

Venus -97919-05-09 22:18 J -34043362.58 -34043362.57 -34043362.55 0.3789 0.3725

Earth -97919-07-13 12:42 J -34043298.10 -34043297.97 -34043297.85 0.2635 0.0126

Moon -97919-07-13 13:11 J -34043298.08 -34043297.95 -34043297.83 0.2641 0.0158 *

Mars -97918-10-30 07:39 J -34042824.29 -34042824.18 -34042824.07 0.1617 0.1043

Mars -97917-09-10 06:27 J -34042508.29 -34042508.23 -34042508.17 0.1912 0.1685

Jupiter -97916-04-03 18:42 J -34042302.85 -34042302.72 -34042302.58 0.0512 0.0170

Jupiter -97916-07-02 07:54 J -34042213.29 -34042213.17 -34042213.05 0.0508 0.0300

Mars -97915-08-17 15:35 J -34041801.94 -34041801.85 -34041801.76 0.1907 0.1331

Neptune -97914-10-22 08:37 J -34041371.16 -34041371.14 -34041371.10 0.0089 0.0087

Venus -97914-11-23 16:18 J -34041338.89 -34041338.82 -34041338.75 0.3787 0.2878

Neptune -97913-01-18 11:15 J -34041283.08 -34041283.03 -34041282.95 0.0089 0.0082

Neptune -97913-04-15 13:39 J -34041194.99 -34041194.93 -34041194.82 0.0089 0.0077

Neptune -97913-07-12 16:47 J -34041106.90 -34041106.80 -34041106.70 0.0089 0.0071

Neptune -97913-10-08 19:25 J -34041018.80 -34041018.69 -34041018.57 0.0088 0.0066

Neptune -97912-01-04 22:03 J -34040930.70 -34040930.58 -34040930.45 0.0088 0.0061

Neptune -97912-04-03 00:27 J -34040842.60 -34040842.48 -34040842.34 0.0088 0.0056

Neptune -97912-06-30 03:06 J -34040754.50 -34040754.37 -34040754.22 0.0088 0.0051

Neptune -97912-09-26 05:44 J -34040666.40 -34040666.26 -34040666.11 0.0088 0.0046

Neptune -97912-12-23 08:23 J -34040578.29 -34040578.15 -34040577.99 0.0088 0.0040

Neptune -97911-03-21 11:01 J -34040490.19 -34040490.04 -34040489.88 0.0088 0.0035

Neptune -97911-06-17 13:25 J -34040402.09 -34040401.94 -34040401.77 0.0088 0.0031

Neptune -97911-09-13 16:03 J -34040313.98 -34040313.83 -34040313.66 0.0088 0.0025

Neptune -97911-12-10 18:42 J -34040225.88 -34040225.72 -34040225.55 0.0088 0.0020

Neptune -97910-03-08 21:06 J -34040137.78 -34040137.62 -34040137.45 0.0088 0.0016

Mars -97910-04-15 20:08 J -34040099.75 -34040099.66 -34040099.56 0.1613 0.1186

Neptune -97910-06-04 23:44 J -34040049.67 -34040049.51 -34040049.34 0.0088 0.0010

Neptune -97910-09-01 02:23 J -34039961.57 -34039961.40 -34039961.23 0.0088 0.0005

Jupiter -97910-09-01 20:08 J -34039960.82 -34039960.66 -34039960.51 0.0517 0.0077

Neptune -97910-11-28 04:47 J -34039873.47 -34039873.30 -34039873.13 0.0088 0.0001

Saturn -97910-11-30 01:25 J -34039871.49 -34039871.44 -34039871.38 0.0272 0.0252

Jupiter -97910-11-30 16:18 J -34039870.89 -34039870.82 -34039870.75 0.0521 0.0453

Moon -97909-01-07 16:32 J -34039832.88 -34039832.81 -34039832.74 0.2698 0.2258

Earth -97909-01-07 17:44 J -34039832.82 -34039832.76 -34039832.70 0.2697 0.2390 *

Neptune -97909-02-24 07:11 J -34039785.36 -34039785.20 -34039785.03 0.0088 0.0006

Saturn -97909-02-26 17:01 J -34039782.91 -34039782.79 -34039782.67 0.0272 0.0167

Neptune -97909-05-22 09:49 J -34039697.26 -34039697.09 -34039696.93 0.0088 0.0010

Saturn -97909-05-25 08:08 J -34039694.30 -34039694.16 -34039694.01 0.0272 0.0084

Neptune -97909-08-18 12:13 J -34039609.15 -34039608.99 -34039608.83 0.0088 0.0015

Saturn -97909-08-21 23:01 J -34039605.69 -34039605.54 -34039605.38 0.0272 0.0008

Neptune -97909-11-14 14:37 J -34039521.05 -34039520.89 -34039520.73 0.0088 0.0020

Saturn -97909-11-18 13:39 J -34039517.07 -34039516.93 -34039516.78 0.0272 0.0079

Neptune -97908-02-10 17:01 J -34039432.94 -34039432.79 -34039432.63 0.0088 0.0024

Saturn -97908-02-15 04:03 J -34039428.45 -34039428.33 -34039428.21 0.0272 0.0157

Mars -97908-03-21 14:37 J -34039394.02 -34039393.89 -34039393.75 0.1616 0.0591

Neptune -97908-05-09 19:25 J -34039344.84 -34039344.69 -34039344.53 0.0088 0.0029

Saturn -97908-05-14 17:59 J -34039339.82 -34039339.75 -34039339.67 0.0272 0.0233

Venus -97908-06-08 10:32 J -34039315.15 -34039315.06 -34039314.97 0.3784 0.2003

Neptune -97908-08-05 21:35 J -34039256.74 -34039256.60 -34039256.43 0.0088 0.0035

Neptune -97908-11-02 00:13 J -34039168.63 -34039168.49 -34039168.34 0.0088 0.0039

Neptune -97907-01-29 02:37 J -34039080.53 -34039080.39 -34039080.24 0.0088 0.0044

Neptune -97907-04-27 04:47 J -34038992.42 -34038992.30 -34038992.15 0.0088 0.0049

Neptune -97907-07-24 07:11 J -34038904.32 -34038904.20 -34038904.06 0.0088 0.0053

Neptune -97907-10-20 09:35 J -34038816.21 -34038816.10 -34038815.97 0.0088 0.0058

Neptune -97906-01-16 11:59 J -34038728.11 -34038728.00 -34038727.88 0.0088 0.0062

Neptune -97906-04-14 14:08 J -34038640.00 -34038639.91 -34038639.79 0.0088 0.0067

Neptune -97906-07-11 16:32 J -34038551.89 -34038551.81 -34038551.71 0.0088 0.0072

Earth -97906-07-16 09:06 J -34038547.23 -34038547.12 -34038547.01 0.2640 0.1136

Moon -97906-07-16 10:03 J -34038547.19 -34038547.08 -34038546.97 0.2640 0.1302 *

Neptune -97906-10-07 18:42 J -34038463.78 -34038463.72 -34038463.62 0.0088 0.0077

Neptune -97905-01-03 21:20 J -34038375.67 -34038375.61 -34038375.55 0.0088 0.0081

Mars -97905-01-07 19:54 J -34038371.79 -34038371.67 -34038371.54 0.1908 0.0639

Neptune -97905-03-31 23:15 J -34038287.55 -34038287.53 -34038287.48 0.0088 0.0086

Jupiter -97904-01-20 21:06 J -34037992.74 -34037992.62 -34037992.50 0.0513 0.0288

Jupiter -97904-04-20 09:49 J -34037903.23 -34037903.09 -34037902.96 0.0509 0.0179

Venus -97903-12-23 05:01 J -34037291.40 -34037291.29 -34037291.19 0.3782 0.1111

Earth -97903-12-30 22:32 J -34037283.63 -34037283.56 -34037283.48 0.2711 0.2179

Moon -97903-12-30 22:47 J -34037283.63 -34037283.55 -34037283.46 0.2704 0.2056 *

Mars -97901-09-05 04:03 J -34036669.35 -34036669.33 -34036669.31 0.1613 0.1591

Moon -97899-07-08 23:30 J -34035997.56 -34035997.52 -34035997.48 0.2631 0.2457

Earth -97899-07-09 00:13 J -34035997.54 -34035997.49 -34035997.44 0.2627 0.2373 *

Mars -97899-08-11 21:49 J -34035963.73 -34035963.59 -34035963.45 0.1615 0.0144

Jupiter -97898-06-20 20:37 J -34035650.78 -34035650.64 -34035650.49 0.0516 0.0208

Jupiter -97898-09-18 17:15 J -34035560.90 -34035560.78 -34035560.66 0.0520 0.0325

Venus -97897-07-07 23:30 J -34035267.63 -34035267.52 -34035267.41 0.3779 0.0178

Mars -97896-05-29 23:44 J -34034941.64 -34034941.51 -34034941.38 0.1910 0.0107

Saturn -97895-09-11 05:15 J -34034472.30 -34034472.28 -34034472.26 0.0287 0.0284

Saturn -97895-12-08 20:51 J -34034383.74 -34034383.63 -34034383.52 0.0287 0.0195

Saturn -97894-03-07 12:56 J -34034295.10 -34034294.96 -34034294.82 0.0287 0.0103

Saturn -97894-06-04 05:15 J -34034206.43 -34034206.28 -34034206.12 0.0287 0.0013

Saturn -97894-08-31 22:03 J -34034117.72 -34034117.58 -34034117.43 0.0287 0.0088

Saturn -97894-11-28 15:20 J -34034028.98 -34034028.86 -34034028.74 0.0287 0.0186

Saturn -97893-02-25 08:51 J -34033940.14 -34033940.13 -34033940.12 0.0287 0.0286

Venus -97893-07-06 17:15 J -34033807.86 -34033807.78 -34033807.71 0.3592 0.2954

Earth -97893-07-18 05:30 J -34033796.32 -34033796.27 -34033796.22 0.2644 0.2353

Moon -97893-07-18 06:13 J -34033796.29 -34033796.24 -34033796.19 0.2641 0.2379 *

Jupiter -97893-11-08 23:44 J -34033682.60 -34033682.51 -34033682.42 0.0514 0.0403

Jupiter -97892-02-06 12:13 J -34033593.14 -34033592.99 -34033592.85 0.0510 0.0063

Venus -97891-01-21 18:13 J -34033243.85 -34033243.74 -34033243.63 0.3776 0.0779

Mars -97889-01-02 05:15 J -34032533.42 -34032533.28 -34032533.14 0.1614 0.0293

Moon -97889-01-02 22:03 J -34032532.71 -34032532.58 -34032532.45 0.2701 0.0709

Earth -97889-01-02 22:32 J -34032532.69 -34032532.56 -34032532.43 0.2706 0.0582 *

Uranus -97888-03-13 01:25 J -34032097.50 -34032097.44 -34032097.36 0.0143 0.0125

Uranus -97888-06-09 06:13 J -34032009.33 -34032009.24 -34032009.13 0.0143 0.0105

Uranus -97888-09-05 11:30 J -34031921.14 -34031921.02 -34031920.90 0.0143 0.0085

Uranus -97888-12-02 16:18 J -34031832.95 -34031832.82 -34031832.68 0.0143 0.0064

Mars -97888-12-08 01:25 J -34031827.47 -34031827.44 -34031827.41 0.1619 0.1571

Venus -97887-01-20 17:59 J -34031783.87 -34031783.75 -34031783.62 0.3595 0.1594

Uranus -97887-02-28 21:20 J -34031744.75 -34031744.61 -34031744.46 0.0143 0.0043

Uranus -97887-05-28 02:37 J -34031656.54 -34031656.39 -34031656.24 0.0144 0.0022

Uranus -97887-08-24 07:54 J -34031568.33 -34031568.17 -34031568.02 0.0144 0.0004

Mars -97887-10-20 03:20 J -34031511.48 -34031511.36 -34031511.24 0.1911 0.0847

Uranus -97887-11-20 12:56 J -34031480.11 -34031479.96 -34031479.80 0.0144 0.0022

Uranus -97886-02-16 18:13 J -34031391.89 -34031391.74 -34031391.59 0.0144 0.0043

Jupiter -97886-04-08 20:08 J -34031340.78 -34031340.66 -34031340.55 0.0515 0.0350

Uranus -97886-05-15 23:30 J -34031303.65 -34031303.52 -34031303.38 0.0144 0.0066

Jupiter -97886-07-07 17:01 J -34031250.93 -34031250.79 -34031250.64 0.0519 0.0185

Moon -97886-07-11 21:06 J -34031246.73 -34031246.62 -34031246.50 0.2638 0.1117

Earth -97886-07-11 21:06 J -34031246.73 -34031246.62 -34031246.50 0.2631 0.1093 *

Venus -97886-08-07 13:11 J -34031220.05 -34031219.95 -34031219.85 0.3773 0.1758

Uranus -97886-08-12 05:01 J -34031215.41 -34031215.29 -34031215.17 0.0144 0.0088

Uranus -97886-11-08 10:18 J -34031127.16 -34031127.07 -34031126.96 0.0144 0.0110

Uranus -97885-02-04 15:35 J -34031038.89 -34031038.85 -34031038.78 0.0144 0.0134

Venus -97882-08-06 18:27 J -34029759.86 -34029759.73 -34029759.59 0.3598 0.0289

Jupiter -97881-11-25 14:37 J -34029283.03 -34029282.89 -34029282.75 0.0511 0.0053

Venus -97880-02-20 08:23 J -34029196.22 -34029196.15 -34029196.07 0.3769 0.2763

Jupiter -97880-02-23 04:03 J -34029193.41 -34029193.33 -34029193.25 0.0508 0.0420

Mars -97880-05-24 12:42 J -34029103.10 -34029102.97 -34029102.85 0.1613 0.0718

Saturn -97880-07-15 19:11 J -34029050.81 -34029050.70 -34029050.58 0.0273 0.0188

Saturn -97880-10-12 10:32 J -34028962.20 -34028962.06 -34028961.91 0.0273 0.0104

Saturn -97879-01-09 01:39 J -34028873.59 -34028873.43 -34028873.28 0.0273 0.0022

Saturn -97879-04-07 16:18 J -34028784.97 -34028784.82 -34028784.67 0.0273 0.0060

Saturn -97879-07-05 06:42 J -34028696.35 -34028696.22 -34028696.09 0.0273 0.0139

Saturn -97879-10-01 20:37 J -34028607.73 -34028607.64 -34028607.55 0.0272 0.0216

Mars -97878-04-30 08:08 J -34028397.27 -34028397.16 -34028397.06 0.1617 0.1105

Mars -97877-03-11 06:27 J -34028081.30 -34028081.23 -34028081.16 0.1911 0.1627

Moon -97876-01-04 21:49 J -34027781.72 -34027781.59 -34027781.47 0.2698 0.1000

Earth -97876-01-04 22:47 J -34027781.67 -34027781.55 -34027781.42 0.2702 0.1059 *

Venus -97876-02-19 18:27 J -34027735.86 -34027735.73 -34027735.60 0.3602 0.0962

Mars -97875-02-15 15:49 J -34027374.93 -34027374.84 -34027374.75 0.1906 0.1400

Jupiter -97874-01-25 20:08 J -34027030.71 -34027030.66 -34027030.61 0.0514 0.0484

Jupiter -97874-04-25 17:30 J -34026940.92 -34026940.77 -34026940.61 0.0518 0.0055

Earth -97873-07-13 17:59 J -34026495.88 -34026495.75 -34026495.63 0.2636 0.0192

Moon -97873-07-13 18:27 J -34026495.85 -34026495.73 -34026495.61 0.2640 0.0277 *

Venus -97871-09-05 17:59 J -34025711.86 -34025711.75 -34025711.65 0.3605 0.2156

Mars -97871-10-14 20:23 J -34025672.75 -34025672.65 -34025672.55 0.1613 0.1136

Jupiter -97869-09-13 17:30 J -34024972.91 -34024972.77 -34024972.64 0.0512 0.0165

Mars -97869-09-19 14:51 J -34024967.01 -34024966.88 -34024966.75 0.1616 0.0646

Jupiter -97869-12-12 06:27 J -34024883.34 -34024883.23 -34024883.11 0.0508 0.0306

Mars -97866-07-08 19:54 J -34023944.79 -34023944.67 -34023944.54 0.1908 0.0693

Venus -97865-03-21 17:01 J -34023687.84 -34023687.79 -34023687.74 0.3609 0.3287

Saturn -97865-04-26 21:20 J -34023651.69 -34023651.61 -34023651.51 0.0286 0.0225

Saturn -97865-07-24 13:11 J -34023563.08 -34023562.95 -34023562.81 0.0286 0.0135

Saturn -97865-10-21 05:30 J -34023474.42 -34023474.27 -34023474.11 0.0286 0.0041

Saturn -97864-01-17 22:03 J -34023385.73 -34023385.58 -34023385.42 0.0286 0.0055

Saturn -97864-04-16 15:06 J -34023297.00 -34023296.87 -34023296.74 0.0287 0.0152

Saturn -97864-07-14 08:23 J -34023208.22 -34023208.15 -34023208.07 0.0287 0.0251

Moon -97863-01-07 22:18 J -34023030.60 -34023030.57 -34023030.54 0.2700 0.2609

Venus -97863-12-14 20:23 J -34022689.69 -34022689.65 -34022689.60 0.3789 0.3459

Jupiter -97862-02-11 18:13 J -34022630.90 -34022630.74 -34022630.58 0.0517 0.0077

Jupiter -97862-05-12 14:23 J -34022540.97 -34022540.90 -34022540.82 0.0521 0.0452

Mars -97861-03-06 04:18 J -34022242.36 -34022242.32 -34022242.28 0.1613 0.1541

Earth -97860-07-16 14:23 J -34021745.00 -34021744.90 -34021744.80 0.2640 0.1398

Moon -97860-07-16 15:20 J -34021744.96 -34021744.86 -34021744.76 0.2641 0.1416 *

Mars -97859-02-09 22:03 J -34021536.72 -34021536.58 -34021536.44 0.1615 0.0197

Venus -97857-06-29 14:37 J -34020665.97 -34020665.89 -34020665.82 0.3786 0.2609

Jupiter -97857-07-02 20:23 J -34020662.77 -34020662.65 -34020662.53 0.0513 0.0276

Jupiter -97857-09-30 09:06 J -34020573.26 -34020573.12 -34020572.99 0.0509 0.0192

Mars -97857-11-27 23:59 J -34020514.63 -34020514.50 -34020514.36 0.1910 0.0061

Earth -97857-12-31 04:18 J -34020481.42 -34020481.32 -34020481.23 0.2710 0.1860

Moon -97857-12-31 04:32 J -34020481.41 -34020481.31 -34020481.22 0.2704 0.1899 *

Moon -97853-07-09 05:01 J -34019195.36 -34019195.29 -34019195.22 0.2633 0.2131

Earth -97853-07-09 05:30 J -34019195.34 -34019195.27 -34019195.19 0.2628 0.2103 *

Venus -97851-01-13 08:37 J -34018642.23 -34018642.14 -34018642.04 0.3784 0.1731

Jupiter -97851-11-30 19:11 J -34018320.85 -34018320.70 -34018320.56 0.0516 0.0204

Saturn -97851-12-02 18:13 J -34018318.82 -34018318.74 -34018318.64 0.0272 0.0222

Jupiter -97850-02-28 15:49 J -34018230.96 -34018230.84 -34018230.72 0.0520 0.0330

Saturn -97850-03-01 09:49 J -34018230.22 -34018230.09 -34018229.95 0.0272 0.0137

Saturn -97850-05-29 00:56 J -34018141.61 -34018141.46 -34018141.31 0.0272 0.0054

Mars -97850-07-03 05:30 J -34018106.41 -34018106.27 -34018106.13 0.1614 0.0238

Saturn -97850-08-25 15:49 J -34018053.00 -34018052.84 -34018052.69 0.0272 0.0028

Saturn -97850-11-22 06:13 J -34017964.38 -34017964.24 -34017964.10 0.0272 0.0107

Saturn -97849-02-18 20:23 J -34017875.75 -34017875.65 -34017875.53 0.0272 0.0185

Saturn -97849-05-17 10:18 J -34017787.10 -34017787.07 -34017787.02 0.0272 0.0261

Uranus -97849-08-08 17:44 J -34017703.82 -34017703.76 -34017703.67 0.0136 0.0120

Uranus -97849-11-04 23:01 J -34017615.64 -34017615.54 -34017615.42 0.0136 0.0100

Uranus -97848-02-01 04:03 J -34017527.45 -34017527.33 -34017527.19 0.0135 0.0081

Uranus -97848-04-30 09:06 J -34017439.26 -34017439.12 -34017438.97 0.0135 0.0062

Uranus -97848-07-27 13:54 J -34017351.06 -34017350.92 -34017350.76 0.0135 0.0043

Uranus -97848-10-23 18:56 J -34017262.87 -34017262.71 -34017262.55 0.0135 0.0024

Uranus -97847-01-19 23:44 J -34017174.67 -34017174.51 -34017174.35 0.0135 0.0006

Uranus -97847-04-18 04:32 J -34017086.47 -34017086.31 -34017086.15 0.0135 0.0013

Mars -97847-04-20 03:35 J -34017084.47 -34017084.35 -34017084.22 0.1911 0.0781

Uranus -97847-07-15 09:20 J -34016998.27 -34016998.11 -34016997.96 0.0135 0.0031

Earth -97847-07-19 10:47 J -34016994.07 -34016994.05 -34016994.04 0.2644 0.2608

Uranus -97847-10-11 13:54 J -34016910.06 -34016909.92 -34016909.77 0.0135 0.0049

Uranus -97846-01-07 18:27 J -34016821.86 -34016821.73 -34016821.59 0.0135 0.0067

Uranus -97846-04-05 23:15 J -34016733.65 -34016733.53 -34016733.41 0.0134 0.0084

Uranus -97846-07-03 03:35 J -34016645.44 -34016645.35 -34016645.24 0.0134 0.0101

Venus -97846-07-30 03:06 J -34016618.48 -34016618.37 -34016618.26 0.3781 0.0821

Uranus -97846-09-29 08:08 J -34016557.23 -34016557.16 -34016557.08 0.0134 0.0118

Jupiter -97845-04-20 22:47 J -34016352.64 -34016352.55 -34016352.46 0.0514 0.0393

Jupiter -97845-07-19 11:01 J -34016263.18 -34016263.04 -34016262.89 0.0510 0.0073

Moon -97843-01-03 03:35 J -34015730.49 -34015730.35 -34015730.22 0.2700 0.0262

Earth -97843-01-03 04:18 J -34015730.46 -34015730.32 -34015730.19 0.2706 0.0263 *

Pluto -97841-02-13 20:37 J -34014958.64 -34014958.64 -34014958.63 0.0085 0.0084

Pluto -97841-05-11 21:49 J -34014870.65 -34014870.59 -34014870.51 0.0085 0.0071

Pluto -97841-08-07 23:01 J -34014782.62 -34014782.54 -34014782.43 0.0084 0.0059

Pluto -97841-11-04 00:27 J -34014694.59 -34014694.48 -34014694.37 0.0084 0.0045

Mars -97841-11-22 12:56 J -34014676.08 -34014675.96 -34014675.83 0.1613 0.0663

Pluto -97840-01-31 01:39 J -34014606.55 -34014606.43 -34014606.30 0.0084 0.0032

Venus -97840-02-11 21:49 J -34014594.70 -34014594.59 -34014594.48 0.3778 0.0136

Pluto -97840-04-29 03:06 J -34014518.50 -34014518.37 -34014518.24 0.0084 0.0020

Earth -97840-07-12 02:23 J -34014444.52 -34014444.40 -34014444.28 0.2632 0.0826

Moon -97840-07-12 02:23 J -34014444.51 -34014444.40 -34014444.28 0.2639 0.0818 *

Pluto -97840-07-26 04:18 J -34014430.45 -34014430.32 -34014430.19 0.0084 0.0007

Pluto -97840-10-22 05:30 J -34014342.40 -34014342.27 -34014342.14 0.0084 0.0006

Pluto -97839-01-18 06:42 J -34014254.35 -34014254.22 -34014254.09 0.0084 0.0019

Pluto -97839-04-16 07:39 J -34014166.29 -34014166.18 -34014166.05 0.0084 0.0032

Pluto -97839-07-13 09:06 J -34014078.23 -34014078.12 -34014078.01 0.0083 0.0044

Jupiter -97839-09-18 19:39 J -34014010.80 -34014010.68 -34014010.56 0.0515 0.0335

Pluto -97839-10-09 10:03 J -34013990.16 -34013990.08 -34013989.97 0.0083 0.0056

Mars -97839-10-29 08:23 J -34013970.25 -34013970.15 -34013970.05 0.1617 0.1164

Jupiter -97839-12-17 16:32 J -34013920.95 -34013920.81 -34013920.66 0.0519 0.0203

Pluto -97838-01-05 11:15 J -34013902.09 -34013902.03 -34013901.94 0.0083 0.0069

Pluto -97838-04-03 12:42 J -34013814.00 -34013813.97 -34013813.94 0.0083 0.0080

Mars -97838-09-10 06:56 J -34013654.29 -34013654.21 -34013654.13 0.1912 0.1550

Venus -97836-02-10 17:15 J -34013134.88 -34013134.78 -34013134.69 0.3593 0.2537

Mars -97836-08-16 16:03 J -34012947.91 -34012947.83 -34012947.75 0.1906 0.1466

Saturn -97836-09-13 21:06 J -34012919.67 -34012919.62 -34012919.55 0.0286 0.0258

Saturn -97836-12-11 12:56 J -34012831.08 -34012830.96 -34012830.83 0.0287 0.0168

Saturn -97835-03-10 05:01 J -34012742.43 -34012742.29 -34012742.13 0.0287 0.0076

Saturn -97835-06-06 21:35 J -34012653.75 -34012653.60 -34012653.44 0.0287 0.0021

Venus -97835-08-28 16:32 J -34012570.92 -34012570.81 -34012570.70 0.3775 0.1066

Saturn -97835-09-03 14:37 J -34012565.04 -34012564.89 -34012564.75 0.0287 0.0117

Saturn -97835-12-01 07:39 J -34012476.28 -34012476.18 -34012476.07 0.0287 0.0216

Jupiter -97833-02-08 01:25 J -34012042.46 -34012042.44 -34012042.42 0.0515 0.0507

Jupiter -97833-05-07 13:39 J -34011953.08 -34011952.93 -34011952.79 0.0511 0.0048

Jupiter -97833-08-05 02:51 J -34011863.46 -34011863.38 -34011863.30 0.0507 0.0427

Neptune -97832-10-14 15:35 J -34011427.86 -34011427.85 -34011427.81 0.0089 0.0087

Neptune -97831-01-10 17:15 J -34011339.81 -34011339.78 -34011339.71 0.0089 0.0083

Neptune -97831-04-08 18:56 J -34011251.76 -34011251.71 -34011251.63 0.0089 0.0079

Mars -97831-04-14 20:37 J -34011245.74 -34011245.64 -34011245.54 0.1613 0.1082

Neptune -97831-07-05 20:51 J -34011163.70 -34011163.63 -34011163.54 0.0089 0.0075

Venus -97831-08-27 17:59 J -34011110.88 -34011110.75 -34011110.62 0.3596 0.1191

Neptune -97831-10-01 22:47 J -34011075.63 -34011075.55 -34011075.46 0.0089 0.0070

Neptune -97831-12-29 00:27 J -34010987.57 -34010987.48 -34010987.37 0.0089 0.0066

Moon -97830-01-06 03:20 J -34010979.48 -34010979.36 -34010979.24 0.2699 0.1209

Earth -97830-01-06 04:32 J -34010979.42 -34010979.31 -34010979.19 0.2701 0.1390 *

Neptune -97830-03-27 02:08 J -34010899.50 -34010899.41 -34010899.29 0.0089 0.0062

Neptune -97830-06-23 04:03 J -34010811.43 -34010811.33 -34010811.21 0.0089 0.0058

Neptune -97830-09-19 05:59 J -34010723.36 -34010723.25 -34010723.13 0.0089 0.0053

Neptune -97830-12-16 07:39 J -34010635.29 -34010635.18 -34010635.05 0.0089 0.0049

Neptune -97829-03-13 09:20 J -34010547.22 -34010547.11 -34010546.97 0.0089 0.0045

Venus -97829-03-13 11:44 J -34010547.11 -34010547.01 -34010546.92 0.3772 0.2060 *

Mars -97829-03-20 15:20 J -34010539.99 -34010539.86 -34010539.74 0.1616 0.0705

Neptune -97829-06-09 11:30 J -34010459.15 -34010459.02 -34010458.89 0.0089 0.0040

Neptune -97829-09-05 13:11 J -34010371.08 -34010370.95 -34010370.81 0.0089 0.0036

Neptune -97829-12-02 14:51 J -34010283.00 -34010282.88 -34010282.73 0.0089 0.0032

Neptune -97828-02-28 17:01 J -34010194.93 -34010194.79 -34010194.65 0.0089 0.0027

Neptune -97828-05-27 18:42 J -34010106.86 -34010106.72 -34010106.57 0.0089 0.0023

Neptune -97828-08-23 20:51 J -34010018.78 -34010018.63 -34010018.49 0.0089 0.0018

Neptune -97828-11-19 22:32 J -34009930.70 -34009930.56 -34009930.41 0.0089 0.0014

Neptune -97827-02-16 00:27 J -34009842.63 -34009842.48 -34009842.33 0.0089 0.0009

Neptune -97827-05-15 02:23 J -34009754.55 -34009754.40 -34009754.25 0.0089 0.0005

Jupiter -97827-07-07 18:56 J -34009700.76 -34009700.71 -34009700.64 0.0514 0.0475

Earth -97827-07-14 23:01 J -34009693.66 -34009693.54 -34009693.42 0.2636 0.0432

Moon -97827-07-14 23:59 J -34009693.63 -34009693.50 -34009693.38 0.2640 0.0486 *

Neptune -97827-08-11 04:18 J -34009666.47 -34009666.32 -34009666.17 0.0089 0.0000

Jupiter -97827-10-05 16:32 J -34009610.97 -34009610.81 -34009610.66 0.0517 0.0063

Neptune -97827-11-07 06:13 J -34009578.39 -34009578.24 -34009578.09 0.0089 0.0004

Mars -97826-01-06 20:23 J -34009517.77 -34009517.65 -34009517.53 0.1909 0.0766

Neptune -97826-02-03 08:08 J -34009490.31 -34009490.16 -34009490.01 0.0089 0.0009

Neptune -97826-05-02 10:03 J -34009402.23 -34009402.08 -34009401.93 0.0089 0.0013

Neptune -97826-07-29 11:59 J -34009314.15 -34009314.00 -34009313.85 0.0089 0.0018

Neptune -97826-10-25 13:54 J -34009226.07 -34009225.92 -34009225.77 0.0089 0.0022

Neptune -97825-01-21 15:49 J -34009137.98 -34009137.84 -34009137.69 0.0089 0.0027

Venus -97825-03-12 18:13 J -34009086.88 -34009086.74 -34009086.61 0.3599 0.0110

Neptune -97825-04-18 17:44 J -34009049.90 -34009049.76 -34009049.61 0.0089 0.0032

Neptune -97825-07-15 19:39 J -34008961.81 -34008961.68 -34008961.54 0.0089 0.0036

Neptune -97825-10-11 21:35 J -34008873.73 -34008873.60 -34008873.46 0.0089 0.0041

Neptune -97824-01-07 23:44 J -34008785.64 -34008785.51 -34008785.38 0.0089 0.0045

Neptune -97824-04-06 01:39 J -34008697.55 -34008697.43 -34008697.30 0.0089 0.0050

Neptune -97824-07-03 03:35 J -34008609.46 -34008609.35 -34008609.22 0.0089 0.0055

Venus -97824-09-27 06:56 J -34008523.28 -34008523.21 -34008523.15 0.3768 0.3060

Neptune -97824-09-29 05:44 J -34008521.37 -34008521.26 -34008521.14 0.0089 0.0059

Neptune -97824-12-26 07:39 J -34008433.28 -34008433.18 -34008433.07 0.0089 0.0064

Neptune -97823-03-24 09:35 J -34008345.18 -34008345.10 -34008344.99 0.0089 0.0069

Neptune -97823-06-20 11:30 J -34008257.09 -34008257.02 -34008256.92 0.0089 0.0074

Neptune -97823-09-16 13:54 J -34008168.99 -34008168.92 -34008168.85 0.0089 0.0078

Neptune -97823-12-13 15:49 J -34008080.88 -34008080.84 -34008080.78 0.0089 0.0083

Neptune -97822-03-11 17:44 J -34007992.76 -34007992.76 -34007992.72 0.0089 0.0088

Mars -97822-09-05 04:32 J -34007815.36 -34007815.31 -34007815.26 0.1612 0.1491

Jupiter -97821-02-24 15:49 J -34007642.97 -34007642.84 -34007642.70 0.0512 0.0162

Saturn -97821-04-20 20:23 J -34007586.72 -34007586.65 -34007586.58 0.0273 0.0244

Jupiter -97821-05-24 05:01 J -34007553.40 -34007553.29 -34007553.17 0.0509 0.0310

Saturn -97821-07-18 11:59 J -34007498.13 -34007498.00 -34007497.87 0.0273 0.0158

Saturn -97821-10-15 03:06 J -34007409.51 -34007409.37 -34007409.21 0.0273 0.0075

Saturn -97820-01-11 18:13 J -34007320.90 -34007320.74 -34007320.59 0.0273 0.0009

Saturn -97820-04-10 08:37 J -34007232.28 -34007232.14 -34007231.99 0.0273 0.0089

Saturn -97820-07-07 23:01 J -34007143.66 -34007143.54 -34007143.42 0.0273 0.0167

Mars -97820-08-10 22:18 J -34007109.71 -34007109.57 -34007109.43 0.1615 0.0257

Venus -97820-09-26 17:59 J -34007062.87 -34007062.75 -34007062.62 0.3603 0.1323

Saturn -97820-10-04 13:11 J -34007055.02 -34007054.95 -34007054.89 0.0273 0.0244

Mars -97817-05-29 00:13 J -34006087.62 -34006087.49 -34006087.36 0.1910 0.0042

Jupiter -97815-07-24 16:47 J -34005300.95 -34005300.80 -34005300.64 0.0517 0.0072

Jupiter -97815-10-22 12:56 J -34005211.03 -34005210.96 -34005210.89 0.0520 0.0457

Venus -97814-04-12 17:30 J -34005038.87 -34005038.77 -34005038.68 0.3606 0.2497

Earth -97814-07-17 19:39 J -34004942.78 -34004942.68 -34004942.59 0.2641 0.1662

Moon -97814-07-17 20:23 J -34004942.73 -34004942.65 -34004942.56 0.2641 0.1821 *

Mars -97810-01-01 05:44 J -34003679.40 -34003679.26 -34003679.12 0.1614 0.0184

Moon -97810-01-01 09:49 J -34003679.20 -34003679.09 -34003678.98 0.2703 0.1480 *

Earth -97810-01-01 09:49 J -34003679.20 -34003679.09 -34003678.98 0.2710 0.1538 *

Jupiter -97810-12-13 18:42 J -34003332.84 -34003332.72 -34003332.59 0.0513 0.0273

Jupiter -97809-03-12 07:39 J -34003243.32 -34003243.18 -34003243.05 0.0509 0.0196

Mars -97808-10-19 03:49 J -34002657.46 -34002657.34 -34002657.21 0.1911 0.0713

Moon -97807-07-10 10:32 J -34002393.15 -34002393.06 -34002392.98 0.2635 0.1932

Earth -97807-07-10 10:47 J -34002393.14 -34002393.05 -34002392.96 0.2628 0.1833 *

Saturn -97806-01-31 22:18 J -34002187.58 -34002187.57 -34002187.54 0.0286 0.0283

Saturn -97806-04-30 14:08 J -34002099.02 -34002098.91 -34002098.80 0.0286 0.0194

Venus -97806-07-21 18:27 J -34002016.78 -34002016.73 -34002016.67 0.3788 0.3194

Saturn -97806-07-28 05:59 J -34002010.39 -34002010.25 -34002010.10 0.0286 0.0103

Saturn -97806-10-24 22:18 J -34001921.72 -34001921.57 -34001921.41 0.0286 0.0011

Saturn -97805-01-21 15:06 J -34001833.02 -34001832.87 -34001832.72 0.0286 0.0087

Saturn -97805-04-19 08:08 J -34001744.28 -34001744.16 -34001744.04 0.0286 0.0184

Saturn -97805-07-17 01:25 J -34001655.45 -34001655.44 -34001655.42 0.0286 0.0284

Uranus -97804-01-04 03:20 J -34001484.36 -34001484.36 -34001484.35 0.0143 0.0142

Uranus -97804-04-02 08:23 J -34001396.23 -34001396.15 -34001396.08 0.0143 0.0122

Uranus -97804-06-29 13:11 J -34001308.05 -34001307.95 -34001307.84 0.0143 0.0102

Uranus -97804-09-25 17:59 J -34001219.87 -34001219.75 -34001219.62 0.0143 0.0082

Uranus -97804-12-22 23:01 J -34001131.67 -34001131.54 -34001131.39 0.0143 0.0061

Uranus -97803-03-21 04:03 J -34001043.47 -34001043.33 -34001043.17 0.0143 0.0041

Jupiter -97803-05-12 17:15 J -34000990.93 -34000990.78 -34000990.63 0.0516 0.0203

Uranus -97803-06-17 09:20 J -34000955.26 -34000955.11 -34000954.96 0.0144 0.0019

Jupiter -97803-08-10 13:54 J -34000901.04 -34000900.92 -34000900.80 0.0520 0.0329

Uranus -97803-09-13 14:37 J -34000867.05 -34000866.89 -34000866.74 0.0144 0.0004

Uranus -97803-12-10 19:39 J -34000778.83 -34000778.68 -34000778.52 0.0144 0.0024

Uranus -97802-03-09 00:56 J -34000690.61 -34000690.46 -34000690.31 0.0144 0.0046

Uranus -97802-06-05 06:13 J -34000602.37 -34000602.24 -34000602.10 0.0144 0.0068

Uranus -97802-09-01 11:44 J -34000514.13 -34000514.01 -34000513.89 0.0144 0.0090

Uranus -97802-11-28 17:01 J -34000425.88 -34000425.79 -34000425.69 0.0144 0.0113

Uranus -97801-02-24 22:32 J -34000337.61 -34000337.56 -34000337.51 0.0144 0.0136

Mars -97801-05-23 13:11 J -34000249.08 -34000248.95 -34000248.82 0.1613 0.0612

Venus -97800-02-03 12:42 J -33999993.06 -33999992.97 -33999992.89 0.3786 0.2335

Mars -97799-04-29 08:37 J -33999543.23 -33999543.14 -33999543.05 0.1617 0.1217

Mars -97798-03-11 07:11 J -33999227.28 -33999227.20 -33999227.11 0.1912 0.1481

Jupiter -97798-10-01 21:49 J -33999022.68 -33999022.59 -33999022.50 0.0514 0.0383

Jupiter -97798-12-30 10:18 J -33998933.22 -33998933.07 -33998932.93 0.0510 0.0083

Moon -97797-01-04 09:06 J -33998928.26 -33998928.12 -33998927.99 0.2700 0.0095

Earth -97797-01-04 09:49 J -33998928.22 -33998928.09 -33998927.95 0.2705 0.0090 *

Mars -97796-02-14 16:18 J -33998520.90 -33998520.82 -33998520.75 0.1907 0.1530

Venus -97795-08-20 06:56 J -33997969.31 -33997969.21 -33997969.11 0.3783 0.1452

Earth -97794-07-13 07:39 J -33997642.30 -33997642.18 -33997642.06 0.2633 0.0560

Moon -97794-07-13 07:54 J -33997642.29 -33997642.17 -33997642.05 0.2639 0.0528 *

Mars -97792-10-13 20:51 J -33996818.73 -33996818.63 -33996818.52 0.1613 0.1030

Saturn -97792-12-05 11:15 J -33996766.14 -33996766.03 -33996765.92 0.0273 0.0192

Jupiter -97791-02-28 17:59 J -33996680.87 -33996680.75 -33996680.63 0.0515 0.0331

Saturn -97791-03-04 02:37 J -33996677.53 -33996677.39 -33996677.25 0.0272 0.0108

Jupiter -97791-05-29 15:06 J -33996591.01 -33996590.87 -33996590.73 0.0519 0.0205

Saturn -97791-05-31 17:44 J -33996588.92 -33996588.76 -33996588.61 0.0272 0.0025

Saturn -97791-08-28 08:23 J -33996500.30 -33996500.15 -33996500.00 0.0272 0.0056

Saturn -97791-11-24 22:47 J -33996411.68 -33996411.55 -33996411.42 0.0272 0.0136

Saturn -97790-02-21 12:56 J -33996323.05 -33996322.96 -33996322.87 0.0272 0.0213

Mars -97790-09-19 15:35 J -33996112.98 -33996112.85 -33996112.73 0.1616 0.0762

Venus -97789-03-05 01:25 J -33995945.55 -33995945.44 -33995945.33 0.3780 0.0542

Mars -97787-07-07 20:37 J -33995090.75 -33995090.64 -33995090.52 0.1909 0.0836

Jupiter -97786-07-21 00:13 J -33994712.52 -33994712.49 -33994712.45 0.0515 0.0498

Jupiter -97786-10-18 12:27 J -33994623.12 -33994622.98 -33994622.84 0.0511 0.0036

Jupiter -97785-01-16 01:39 J -33994533.50 -33994533.43 -33994533.35 0.0507 0.0435

Venus -97785-03-03 16:03 J -33994485.86 -33994485.83 -33994485.81 0.3591 0.3509

Moon -97784-01-06 09:06 J -33994177.23 -33994177.12 -33994177.02 0.2700 0.1692

Earth -97784-01-06 10:18 J -33994177.18 -33994177.07 -33994176.97 0.2700 0.1725 *

Venus -97784-09-18 19:54 J -33993921.78 -33993921.67 -33993921.55 0.3777 0.0418

Mars -97782-03-06 04:47 J -33993388.36 -33993388.30 -33993388.24 0.1612 0.1438

Earth -97781-07-15 04:18 J -33992891.44 -33992891.32 -33992891.20 0.2637 0.0692

Moon -97781-07-15 05:15 J -33992891.40 -33992891.28 -33992891.17 0.2640 0.0803 *

Mars -97780-02-08 22:47 J -33992682.69 -33992682.55 -33992682.41 0.1615 0.0315

Venus -97780-09-17 17:15 J -33992461.89 -33992461.78 -33992461.67 0.3594 0.2125

Jupiter -97780-12-17 18:13 J -33992370.80 -33992370.74 -33992370.66 0.0514 0.0463

Jupiter -97779-03-17 15:49 J -33992280.99 -33992280.84 -33992280.68 0.0518 0.0078

Venus -97778-04-04 14:51 J -33991897.98 -33991897.88 -33991897.77 0.3774 0.1359

Mars -97778-11-28 00:42 J -33991660.61 -33991660.47 -33991660.34 0.1910 0.0123

Saturn -97777-09-16 13:39 J -33991367.01 -33991366.93 -33991366.83 0.0286 0.0228

Saturn -97777-12-14 05:44 J -33991278.40 -33991278.26 -33991278.13 0.0286 0.0137

Saturn -97776-03-12 21:49 J -33991189.74 -33991189.59 -33991189.43 0.0286 0.0044

Saturn -97776-06-09 14:23 J -33991101.05 -33991100.90 -33991100.74 0.0286 0.0052

Saturn -97776-09-06 07:25 J -33991012.33 -33991012.19 -33991012.06 0.0287 0.0149

Saturn -97776-12-04 00:42 J -33990923.55 -33990923.47 -33990923.39 0.0287 0.0248

Venus -97774-04-03 17:44 J -33990437.89 -33990437.76 -33990437.63 0.3597 0.0806

Jupiter -97774-08-06 14:51 J -33990313.01 -33990312.88 -33990312.74 0.0512 0.0153

Jupiter -97774-11-04 03:49 J -33990223.45 -33990223.34 -33990223.22 0.0508 0.0318

Venus -97773-10-18 10:03 J -33989874.17 -33989874.08 -33989873.99 0.3770 0.2347

Mars -97771-07-02 05:59 J -33989252.39 -33989252.25 -33989252.11 0.1614 0.0126

Venus -97769-10-17 17:59 J -33988413.89 -33988413.75 -33988413.62 0.3600 0.0472

Mars -97768-04-19 04:18 J -33988230.45 -33988230.32 -33988230.20 0.1911 0.0643

Earth -97768-07-18 00:42 J -33988140.55 -33988140.47 -33988140.39 0.2641 0.1920

Moon -97768-07-18 01:39 J -33988140.51 -33988140.43 -33988140.35 0.2639 0.1950 *

Jupiter -97767-01-03 15:49 J -33987971.00 -33987970.84 -33987970.69 0.0516 0.0062

Jupiter -97767-04-03 11:44 J -33987881.07 -33987881.01 -33987880.94 0.0520 0.0466

Venus -97767-05-04 05:15 J -33987850.32 -33987850.28 -33987850.23 0.3767 0.3365

Uranus -97765-08-29 00:27 J -33987002.55 -33987002.48 -33987002.39 0.0136 0.0117

Uranus -97765-11-25 05:30 J -33986914.37 -33986914.27 -33986914.15 0.0135 0.0098

Moon -97764-01-01 15:06 J -33986876.98 -33986876.87 -33986876.75 0.2703 0.1267

Earth -97764-01-01 15:35 J -33986876.97 -33986876.85 -33986876.74 0.2709 0.1217 *

Uranus -97764-02-21 10:32 J -33986826.18 -33986826.06 -33986825.92 0.0135 0.0079

Uranus -97764-05-20 15:35 J -33986737.99 -33986737.85 -33986737.70 0.0135 0.0059

Uranus -97764-08-16 20:37 J -33986649.79 -33986649.64 -33986649.48 0.0135 0.0040

Uranus -97764-11-13 01:25 J -33986561.59 -33986561.44 -33986561.28 0.0135 0.0022

Uranus -97763-02-09 06:27 J -33986473.39 -33986473.23 -33986473.07 0.0135 0.0005

Venus -97763-05-03 17:44 J -33986389.88 -33986389.76 -33986389.65 0.3604 0.1680

Uranus -97763-05-08 11:01 J -33986385.19 -33986385.04 -33986384.88 0.0135 0.0015

Uranus -97763-08-04 15:49 J -33986296.99 -33986296.84 -33986296.68 0.0135 0.0033

Uranus -97763-10-31 20:37 J -33986208.79 -33986208.64 -33986208.50 0.0135 0.0051

Uranus -97762-01-28 01:11 J -33986120.59 -33986120.45 -33986120.32 0.0135 0.0069

Saturn -97762-04-24 13:11 J -33986034.04 -33986033.95 -33986033.85 0.0273 0.0214

Uranus -97762-04-26 05:30 J -33986032.38 -33986032.27 -33986032.14 0.0134 0.0087

Jupiter -97762-05-25 17:15 J -33986002.90 -33986002.78 -33986002.66 0.0513 0.0271

Saturn -97762-07-22 04:32 J -33985945.44 -33985945.31 -33985945.16 0.0273 0.0130

Uranus -97762-07-23 10:03 J -33985944.17 -33985944.08 -33985943.97 0.0134 0.0104

Jupiter -97762-08-23 05:59 J -33985913.38 -33985913.25 -33985913.11 0.0510 0.0199

Saturn -97762-10-18 19:54 J -33985856.82 -33985856.67 -33985856.52 0.0273 0.0045

Uranus -97762-10-19 14:37 J -33985855.95 -33985855.89 -33985855.82 0.0134 0.0121

Mars -97762-11-22 13:25 J -33985822.07 -33985821.94 -33985821.81 0.1613 0.0557

Saturn -97761-01-15 10:47 J -33985768.20 -33985768.05 -33985767.90 0.0273 0.0037

Saturn -97761-04-13 01:11 J -33985679.58 -33985679.45 -33985679.31 0.0273 0.0117

Saturn -97761-07-10 15:35 J -33985590.96 -33985590.85 -33985590.75 0.0273 0.0195

Moon -97761-07-10 15:49 J -33985590.94 -33985590.84 -33985590.74 0.2636 0.1532 *

Earth -97761-07-10 16:03 J -33985590.93 -33985590.83 -33985590.73 0.2629 0.1560 *

Saturn -97761-10-07 05:30 J -33985502.28 -33985502.27 -33985502.26 0.0273 0.0272

Mars -97760-10-28 09:06 J -33985116.21 -33985116.12 -33985116.04 0.1617 0.1281

Mars -97759-09-09 07:25 J -33984800.28 -33984800.19 -33984800.10 0.1912 0.1415

Venus -97758-11-17 16:47 J -33984365.87 -33984365.80 -33984365.72 0.3607 0.2834

Mars -97757-08-15 16:32 J -33984093.88 -33984093.81 -33984093.74 0.1907 0.1599

Jupiter -97756-10-22 16:03 J -33983660.98 -33983660.83 -33983660.69 0.0515 0.0196

Jupiter -97755-01-20 12:27 J -33983571.10 -33983570.98 -33983570.86 0.0519 0.0335

Venus -97755-08-11 22:47 J -33983367.56 -33983367.55 -33983367.55 0.3790 0.3770

Mars -97752-04-13 21:06 J -33982391.73 -33982391.62 -33982391.51 0.1613 0.0979

Moon -97751-01-04 14:37 J -33982126.02 -33982125.89 -33982125.75 0.2700 0.0401

Earth -97751-01-04 15:35 J -33982125.98 -33982125.85 -33982125.72 0.2704 0.0404 *

Jupiter -97750-03-13 20:08 J -33981692.75 -33981692.66 -33981692.57 0.0514 0.0382

Mars -97750-03-20 15:49 J -33981685.96 -33981685.84 -33981685.72 0.1616 0.0819

Jupiter -97750-06-11 08:37 J -33981603.28 -33981603.14 -33981603.00 0.0511 0.0084

Venus -97749-02-25 16:32 J -33981343.87 -33981343.81 -33981343.74 0.3787 0.2931

Neptune -97749-04-21 05:44 J -33981288.26 -33981288.26 -33981288.25 0.0089 0.0088

Neptune -97749-07-18 08:08 J -33981200.20 -33981200.16 -33981200.09 0.0089 0.0084

Neptune -97749-10-14 10:47 J -33981112.11 -33981112.05 -33981111.95 0.0089 0.0079

Neptune -97748-01-10 13:54 J -33981024.01 -33981023.92 -33981023.82 0.0089 0.0073

Neptune -97748-04-08 16:18 J -33980935.92 -33980935.82 -33980935.70 0.0089 0.0068

Neptune -97748-07-05 18:56 J -33980847.82 -33980847.71 -33980847.58 0.0089 0.0063

Earth -97748-07-13 12:56 J -33980840.09 -33980839.96 -33980839.84 0.2633 0.0295

Moon -97748-07-13 13:25 J -33980840.07 -33980839.94 -33980839.82 0.2639 0.0294 *

Neptune -97748-10-01 21:35 J -33980759.72 -33980759.60 -33980759.46 0.0089 0.0058

Neptune -97748-12-29 00:13 J -33980671.62 -33980671.49 -33980671.34 0.0089 0.0053

Mars -97747-01-05 20:51 J -33980663.75 -33980663.63 -33980663.52 0.1909 0.0898

Saturn -97747-02-03 15:35 J -33980634.92 -33980634.85 -33980634.78 0.0286 0.0251

Neptune -97747-03-27 02:51 J -33980583.51 -33980583.38 -33980583.23 0.0089 0.0047

Saturn -97747-05-03 07:11 J -33980546.33 -33980546.20 -33980546.08 0.0286 0.0162

Neptune -97747-06-23 05:30 J -33980495.41 -33980495.27 -33980495.11 0.0089 0.0042

Saturn -97747-07-30 23:15 J -33980457.68 -33980457.53 -33980457.38 0.0286 0.0070

Neptune -97747-09-19 07:54 J -33980407.31 -33980407.17 -33980407.00 0.0089 0.0038

Saturn -97747-10-27 15:35 J -33980369.00 -33980368.85 -33980368.70 0.0286 0.0025

Neptune -97747-12-16 10:32 J -33980319.21 -33980319.06 -33980318.89 0.0088 0.0033

Saturn -97746-01-24 08:23 J -33980280.29 -33980280.15 -33980280.01 0.0286 0.0121

Neptune -97746-03-14 13:25 J -33980231.10 -33980230.94 -33980230.78 0.0088 0.0027

Saturn -97746-04-23 01:25 J -33980191.54 -33980191.44 -33980191.34 0.0286 0.0220

Neptune -97746-06-10 15:49 J -33980143.00 -33980142.84 -33980142.67 0.0088 0.0022

Neptune -97746-09-06 18:27 J -33980054.89 -33980054.73 -33980054.56 0.0088 0.0017

Neptune -97746-12-03 20:51 J -33979966.79 -33979966.63 -33979966.46 0.0088 0.0012

Neptune -97745-02-29 23:30 J -33979878.69 -33979878.52 -33979878.35 0.0088 0.0007

Neptune -97745-05-28 01:54 J -33979790.58 -33979790.42 -33979790.25 0.0088 0.0003

Neptune -97745-08-24 04:32 J -33979702.48 -33979702.31 -33979702.14 0.0088 0.0003

Neptune -97745-11-20 06:56 J -33979614.37 -33979614.21 -33979614.04 0.0088 0.0008

Neptune -97744-02-16 09:20 J -33979526.27 -33979526.11 -33979525.94 0.0088 0.0013

Neptune -97744-05-15 11:59 J -33979438.17 -33979438.00 -33979437.84 0.0088 0.0018

Jupiter -97744-08-10 16:03 J -33979350.95 -33979350.83 -33979350.71 0.0515 0.0331

Neptune -97744-08-11 14:23 J -33979350.06 -33979349.90 -33979349.74 0.0088 0.0023

Venus -97744-09-10 10:47 J -33979320.14 -33979320.05 -33979319.96 0.3785 0.2067

Neptune -97744-11-07 16:47 J -33979261.96 -33979261.80 -33979261.64 0.0088 0.0027

Jupiter -97744-11-08 13:11 J -33979261.10 -33979260.95 -33979260.81 0.0519 0.0205

Neptune -97743-02-03 18:56 J -33979173.85 -33979173.71 -33979173.54 0.0088 0.0033

Neptune -97743-05-02 21:20 J -33979085.75 -33979085.61 -33979085.45 0.0088 0.0038

Neptune -97743-07-29 23:59 J -33978997.64 -33978997.50 -33978997.35 0.0088 0.0042

Mars -97743-09-04 05:01 J -33978961.35 -33978961.29 -33978961.22 0.1612 0.1386

Neptune -97743-10-26 02:23 J -33978909.54 -33978909.40 -33978909.26 0.0088 0.0047

Neptune -97742-01-22 04:32 J -33978821.43 -33978821.31 -33978821.17 0.0088 0.0052

Neptune -97742-04-20 06:56 J -33978733.33 -33978733.21 -33978733.07 0.0088 0.0056

Neptune -97742-07-17 09:35 J -33978645.22 -33978645.10 -33978644.98 0.0088 0.0061

Neptune -97742-10-13 11:44 J -33978557.11 -33978557.01 -33978556.90 0.0088 0.0066

Neptune -97741-01-09 13:54 J -33978469.00 -33978468.92 -33978468.81 0.0088 0.0070

Neptune -97741-04-06 16:18 J -33978380.89 -33978380.82 -33978380.73 0.0088 0.0075

Neptune -97741-07-03 18:27 J -33978292.78 -33978292.73 -33978292.65 0.0088 0.0080

Mars -97741-08-09 22:47 J -33978255.68 -33978255.55 -33978255.41 0.1615 0.0371

Neptune -97741-09-29 21:06 J -33978204.67 -33978204.62 -33978204.57 0.0088 0.0084

Jupiter -97739-12-30 23:01 J -33977382.57 -33977382.54 -33977382.49 0.0515 0.0491

Moon -97738-01-07 14:51 J -33977374.98 -33977374.88 -33977374.79 0.2701 0.1849

Earth -97738-01-07 16:03 J -33977374.92 -33977374.83 -33977374.75 0.2700 0.2066 *

Venus -97738-03-27 05:01 J -33977296.39 -33977296.29 -33977296.18 0.3782 0.1179

Jupiter -97738-03-30 11:30 J -33977293.17 -33977293.02 -33977292.88 0.0511 0.0033

Mars -97738-05-29 00:56 J -33977233.60 -33977233.46 -33977233.33 0.1911 0.0188

Jupiter -97738-06-28 00:42 J -33977203.54 -33977203.47 -33977203.40 0.0507 0.0444

Earth -97735-07-16 09:35 J -33976089.22 -33976089.10 -33976088.99 0.2637 0.0956

Moon -97735-07-16 10:18 J -33976089.18 -33976089.07 -33976088.96 0.2641 0.1032 *

Saturn -97733-09-10 12:42 J -33975302.03 -33975301.97 -33975301.90 0.0273 0.0246

Venus -97733-10-09 23:30 J -33975272.63 -33975272.52 -33975272.40 0.3779 0.0300

Saturn -97733-12-08 04:18 J -33975213.44 -33975213.32 -33975213.19 0.0273 0.0161

Saturn -97732-03-06 19:39 J -33975124.83 -33975124.68 -33975124.53 0.0273 0.0077

Jupiter -97732-05-29 16:32 J -33975040.88 -33975040.81 -33975040.74 0.0514 0.0461

Saturn -97732-06-03 10:32 J -33975036.21 -33975036.06 -33975035.90 0.0273 0.0007

Jupiter -97732-08-27 14:08 J -33974951.07 -33974950.91 -33974950.76 0.0518 0.0078

Saturn -97732-08-31 01:11 J -33974947.59 -33974947.45 -33974947.30 0.0272 0.0087

Saturn -97732-11-27 15:35 J -33974858.97 -33974858.85 -33974858.73 0.0272 0.0166

Earth -97732-12-30 21:20 J -33974825.66 -33974825.61 -33974825.56 0.2713 0.2474

Moon -97732-12-30 21:49 J -33974825.65 -33974825.59 -33974825.53 0.2707 0.2389 *

Mars -97732-12-31 06:13 J -33974825.38 -33974825.24 -33974825.10 0.1614 0.0076

Saturn -97731-02-24 05:44 J -33974770.33 -33974770.26 -33974770.20 0.0272 0.0243

Venus -97729-10-08 16:03 J -33973812.90 -33973812.83 -33973812.76 0.3592 0.3081

Mars -97729-10-18 04:32 J -33973803.44 -33973803.31 -33973803.18 0.1911 0.0569

Moon -97728-07-08 23:44 J -33973539.53 -33973539.51 -33973539.49 0.2630 0.2588

Earth -97728-07-09 00:27 J -33973539.50 -33973539.48 -33973539.46 0.2625 0.2578 *

Venus -97727-04-25 18:27 J -33973248.85 -33973248.73 -33973248.62 0.3776 0.0699

Jupiter -97726-01-16 13:39 J -33972983.07 -33972982.93 -33972982.79 0.0512 0.0146

Jupiter -97726-04-16 02:37 J -33972893.50 -33972893.39 -33972893.27 0.0508 0.0324

Venus -97723-04-24 17:01 J -33971788.91 -33971788.79 -33971788.67 0.3595 0.1720

Mars -97722-05-23 13:39 J -33971395.06 -33971394.93 -33971394.79 0.1613 0.0504

Earth -97722-07-19 05:59 J -33971338.32 -33971338.25 -33971338.18 0.2642 0.2178

Moon -97722-07-19 06:42 J -33971338.28 -33971338.22 -33971338.16 0.2638 0.2286 *

Venus -97722-11-09 13:11 J -33971225.05 -33971224.95 -33971224.84 0.3773 0.1655

Uranus -97720-01-24 10:18 J -33970783.10 -33970783.07 -33970783.04 0.0143 0.0139

Uranus -97720-04-22 15:06 J -33970694.95 -33970694.87 -33970694.79 0.0143 0.0119

Mars -97720-04-28 09:20 J -33970689.19 -33970689.11 -33970689.03 0.1617 0.1340

Jupiter -97720-06-15 14:51 J -33970641.04 -33970640.88 -33970640.72 0.0517 0.0050

Uranus -97720-07-19 19:54 J -33970606.77 -33970606.67 -33970606.56 0.0143 0.0099

Jupiter -97720-09-13 11:01 J -33970551.10 -33970551.04 -33970550.98 0.0521 0.0477

Uranus -97720-10-16 00:56 J -33970518.58 -33970518.46 -33970518.33 0.0143 0.0079

Uranus -97719-01-12 05:44 J -33970430.39 -33970430.26 -33970430.11 0.0143 0.0059

Mars -97719-03-10 07:39 J -33970373.27 -33970373.18 -33970373.08 0.1912 0.1345

Uranus -97719-04-10 11:01 J -33970342.19 -33970342.04 -33970341.89 0.0144 0.0037

Uranus -97719-07-07 16:03 J -33970253.98 -33970253.83 -33970253.67 0.0144 0.0016

Uranus -97719-10-03 21:20 J -33970165.77 -33970165.61 -33970165.46 0.0144 0.0006

Uranus -97719-12-31 02:23 J -33970077.55 -33970077.40 -33970077.24 0.0144 0.0028

Moon -97718-01-02 20:37 J -33970074.76 -33970074.64 -33970074.51 0.2702 0.0925

Earth -97718-01-02 21:06 J -33970074.74 -33970074.62 -33970074.49 0.2709 0.0893 *

Uranus -97718-03-29 07:54 J -33969989.32 -33969989.17 -33969989.03 0.0144 0.0049

Saturn -97718-06-23 15:06 J -33969902.87 -33969902.87 -33969902.85 0.0286 0.0285

Uranus -97718-06-25 13:11 J -33969901.09 -33969900.95 -33969900.82 0.0144 0.0071

Saturn -97718-09-20 06:42 J -33969814.33 -33969814.22 -33969814.11 0.0286 0.0196

Uranus -97718-09-21 18:13 J -33969812.85 -33969812.74 -33969812.61 0.0144 0.0094

Venus -97718-11-08 17:30 J -33969764.90 -33969764.77 -33969764.63 0.3598 0.0420

Saturn -97718-12-17 22:32 J -33969725.69 -33969725.56 -33969725.41 0.0286 0.0106

Uranus -97718-12-18 23:44 J -33969724.59 -33969724.51 -33969724.41 0.0144 0.0117

Mars -97717-02-14 16:47 J -33969666.86 -33969666.80 -33969666.74 0.1907 0.1665

Saturn -97717-03-15 15:06 J -33969637.03 -33969636.87 -33969636.72 0.0286 0.0014

Uranus -97717-03-16 05:15 J -33969636.31 -33969636.28 -33969636.23 0.0144 0.0139

Saturn -97717-06-12 07:39 J -33969548.33 -33969548.18 -33969548.03 0.0286 0.0085

Saturn -97717-09-09 00:27 J -33969459.59 -33969459.48 -33969459.35 0.0286 0.0184

Saturn -97717-12-06 17:59 J -33969370.77 -33969370.75 -33969370.72 0.0286 0.0283

Venus -97716-05-25 08:23 J -33969201.23 -33969201.15 -33969201.07 0.3769 0.2644

Moon -97715-07-11 21:06 J -33968788.72 -33968788.62 -33968788.51 0.2636 0.1383

Earth -97715-07-11 21:20 J -33968788.72 -33968788.61 -33968788.50 0.2630 0.1288 *

Jupiter -97715-11-04 16:18 J -33968672.95 -33968672.82 -33968672.70 0.0513 0.0262

Jupiter -97714-02-02 05:01 J -33968583.43 -33968583.29 -33968583.16 0.0509 0.0206

Mars -97713-10-12 21:35 J -33967964.72 -33967964.60 -33967964.49 0.1612 0.0921

Venus -97712-05-24 17:30 J -33967740.90 -33967740.77 -33967740.63 0.3601 0.0840

Mars -97711-09-18 16:18 J -33967258.94 -33967258.82 -33967258.70 0.1616 0.0880

Venus -97711-12-09 03:49 J -33967177.36 -33967177.34 -33967177.31 0.3766 0.3665

Jupiter -97708-04-03 14:51 J -33966331.03 -33966330.88 -33966330.73 0.0515 0.0187

Jupiter -97708-07-02 11:15 J -33966241.14 -33966241.03 -33966240.91 0.0519 0.0343

Mars -97708-07-06 21:06 J -33966236.73 -33966236.62 -33966236.51 0.1909 0.0968

Venus -97707-12-08 17:15 J -33965716.89 -33965716.78 -33965716.67 0.3605 0.2028

Moon -97705-01-05 20:08 J -33965323.79 -33965323.66 -33965323.52 0.2701 0.0589

Earth -97705-01-05 21:20 J -33965323.74 -33965323.61 -33965323.48 0.2704 0.0740 *

Saturn -97703-01-28 14:23 J -33964569.92 -33964569.90 -33964569.87 0.0274 0.0270

Mars -97703-03-05 05:15 J -33964534.35 -33964534.28 -33964534.20 0.1612 0.1336

Saturn -97703-04-27 06:13 J -33964481.35 -33964481.24 -33964481.12 0.0274 0.0183

Saturn -97703-07-24 21:35 J -33964392.74 -33964392.60 -33964392.45 0.0273 0.0099

Jupiter -97703-08-23 18:27 J -33964362.82 -33964362.73 -33964362.64 0.0515 0.0381

Saturn -97703-10-21 12:42 J -33964304.12 -33964303.97 -33964303.81 0.0273 0.0015

Jupiter -97703-11-21 06:56 J -33964273.35 -33964273.21 -33964273.07 0.0511 0.0085

Saturn -97702-01-18 03:35 J -33964215.50 -33964215.35 -33964215.20 0.0273 0.0067

Saturn -97702-04-16 17:59 J -33964126.88 -33964126.75 -33964126.62 0.0273 0.0147

Saturn -97702-07-14 07:54 J -33964038.24 -33964038.17 -33964038.07 0.0273 0.0226

Earth -97702-07-14 18:13 J -33964037.87 -33964037.74 -33964037.62 0.2634 0.0051

Moon -97702-07-14 18:42 J -33964037.84 -33964037.72 -33964037.59 0.2639 0.0111 *

Mars -97701-02-08 23:15 J -33963828.67 -33963828.53 -33963828.39 0.1615 0.0427

Venus -97701-06-23 16:18 J -33963692.88 -33963692.82 -33963692.76 0.3608 0.3164

Mars -97699-11-27 01:11 J -33962806.58 -33962806.45 -33962806.32 0.1910 0.0247

Venus -97698-03-18 20:51 J -33962694.67 -33962694.63 -33962694.60 0.3789 0.3507

Jupiter -97696-01-20 14:51 J -33962021.00 -33962020.88 -33962020.76 0.0514 0.0323

Jupiter -97696-04-20 11:44 J -33961931.15 -33961931.01 -33961930.87 0.0518 0.0211

Venus -97693-10-01 14:37 J -33960670.96 -33960670.89 -33960670.81 0.3786 0.2667

Moon -97692-01-07 20:23 J -33960572.71 -33960572.65 -33960572.58 0.2700 0.2372

Earth -97692-01-07 21:49 J -33960572.65 -33960572.59 -33960572.54 0.2699 0.2406 *

Mars -97692-07-01 06:27 J -33960398.37 -33960398.23 -33960398.09 0.1614 0.0019

Jupiter -97691-06-11 21:20 J -33960052.65 -33960052.61 -33960052.57 0.0515 0.0493

Jupiter -97691-09-09 09:35 J -33959963.25 -33959963.10 -33959962.96 0.0512 0.0029

Jupiter -97691-12-07 23:01 J -33959873.61 -33959873.54 -33959873.47 0.0508 0.0444

Mars -97689-04-18 04:47 J -33959376.43 -33959376.30 -33959376.18 0.1912 0.0512

Earth -97689-07-16 14:37 J -33959286.99 -33959286.89 -33959286.78 0.2638 0.1222

Moon -97689-07-16 15:35 J -33959286.96 -33959286.85 -33959286.74 0.2640 0.1287 *

Saturn -97688-02-06 08:51 J -33959082.22 -33959082.13 -33959082.03 0.0286 0.0216

Saturn -97688-05-06 00:42 J -33958993.60 -33958993.47 -33958993.33 0.0286 0.0126

Saturn -97688-08-02 17:01 J -33958904.95 -33958904.79 -33958904.64 0.0286 0.0034

Saturn -97688-10-30 09:20 J -33958816.26 -33958816.11 -33958815.95 0.0286 0.0063

Saturn -97687-01-27 02:08 J -33958727.53 -33958727.41 -33958727.27 0.0286 0.0160

Pluto -97687-02-20 10:03 J -33958703.10 -33958703.08 -33958703.00 0.0060 0.0058

Venus -97687-04-17 08:51 J -33958647.22 -33958647.13 -33958647.03 0.3784 0.1796

Saturn -97687-04-25 19:39 J -33958638.75 -33958638.68 -33958638.62 0.0286 0.0258

Pluto -97687-05-19 11:44 J -33958615.09 -33958615.01 -33958614.89 0.0060 0.0051

Pluto -97687-08-15 13:11 J -33958527.06 -33958526.95 -33958526.80 0.0060 0.0044

Pluto -97687-11-11 14:51 J -33958439.02 -33958438.88 -33958438.71 0.0060 0.0037

Pluto -97686-02-07 16:18 J -33958350.98 -33958350.82 -33958350.63 0.0060 0.0031

Pluto -97686-05-06 17:59 J -33958262.93 -33958262.75 -33958262.56 0.0060 0.0023

Pluto -97686-08-02 19:25 J -33958174.87 -33958174.69 -33958174.49 0.0060 0.0017

Pluto -97686-10-29 21:06 J -33958086.81 -33958086.62 -33958086.42 0.0060 0.0009

Earth -97685-01-01 02:51 J -33958023.46 -33958023.38 -33958023.30 0.2713 0.2155

Moon -97685-01-01 03:06 J -33958023.44 -33958023.37 -33958023.29 0.2706 0.2177 *

Pluto -97685-01-25 22:32 J -33957998.75 -33957998.56 -33957998.36 0.0060 0.0003

Pluto -97685-04-23 00:13 J -33957910.69 -33957910.49 -33957910.30 0.0060 0.0005

Pluto -97685-07-20 01:25 J -33957822.62 -33957822.44 -33957822.24 0.0061 0.0012

Pluto -97685-10-16 02:51 J -33957734.55 -33957734.38 -33957734.18 0.0061 0.0019

Jupiter -97685-11-08 14:37 J -33957710.96 -33957710.89 -33957710.82 0.0514 0.0461

Pluto -97684-01-12 04:32 J -33957646.48 -33957646.31 -33957646.12 0.0061 0.0026

Jupiter -97684-02-06 11:59 J -33957621.15 -33957621.00 -33957620.84 0.0518 0.0078

Pluto -97684-04-10 05:59 J -33957558.41 -33957558.25 -33957558.07 0.0061 0.0033

Pluto -97684-07-07 07:39 J -33957470.32 -33957470.18 -33957470.03 0.0061 0.0040

Pluto -97684-10-03 09:20 J -33957382.23 -33957382.11 -33957381.99 0.0061 0.0047

Pluto -97684-12-30 10:03 J -33957294.13 -33957294.08 -33957293.96 0.0061 0.0055

Mars -97683-11-21 14:08 J -33956968.05 -33956967.91 -33956967.78 0.1613 0.0448

Moon -97682-07-10 05:01 J -33956737.33 -33956737.29 -33956737.24 0.2631 0.2437

Earth -97682-07-10 05:44 J -33956737.32 -33956737.26 -33956737.20 0.2626 0.2303 *

Venus -97682-11-01 03:20 J -33956623.47 -33956623.36 -33956623.25 0.3781 0.0903

Uranus -97681-06-22 02:23 J -33956389.43 -33956389.40 -33956389.37 0.0136 0.0133

Uranus -97681-09-18 07:11 J -33956301.27 -33956301.20 -33956301.10 0.0136 0.0114

Mars -97681-10-27 09:35 J -33956262.17 -33956262.10 -33956262.03 0.1617 0.1398

Uranus -97681-12-15 12:13 J -33956213.09 -33956212.99 -33956212.86 0.0136 0.0095

Uranus -97680-03-13 17:15 J -33956124.90 -33956124.78 -33956124.63 0.0135 0.0076

Uranus -97680-06-09 22:18 J -33956036.71 -33956036.57 -33956036.42 0.0135 0.0057

Uranus -97680-09-06 03:20 J -33955948.51 -33955948.36 -33955948.20 0.0135 0.0038

Mars -97680-09-08 08:23 J -33955946.25 -33955946.15 -33955946.05 0.1912 0.1265

Uranus -97680-12-03 08:23 J -33955860.31 -33955860.15 -33955859.99 0.0135 0.0019

Uranus -97679-03-01 13:11 J -33955772.11 -33955771.95 -33955771.79 0.0135 0.0003

Uranus -97679-05-28 17:44 J -33955683.91 -33955683.76 -33955683.60 0.0135 0.0018

Jupiter -97679-06-28 12:27 J -33955653.12 -33955652.98 -33955652.84 0.0512 0.0141

Uranus -97679-08-24 22:32 J -33955595.71 -33955595.56 -33955595.41 0.0135 0.0036

Jupiter -97679-09-26 01:25 J -33955563.55 -33955563.44 -33955563.33 0.0509 0.0330

Uranus -97679-11-21 03:06 J -33955507.51 -33955507.37 -33955507.22 0.0135 0.0054

Uranus -97678-02-17 07:39 J -33955419.30 -33955419.18 -33955419.04 0.0135 0.0072

Uranus -97678-05-16 12:27 J -33955331.10 -33955330.98 -33955330.86 0.0134 0.0089

Uranus -97678-08-12 16:47 J -33955242.88 -33955242.80 -33955242.69 0.0134 0.0106

Mars -97678-08-15 17:01 J -33955239.84 -33955239.79 -33955239.74 0.1907 0.1732

Uranus -97678-11-08 21:20 J -33955154.66 -33955154.61 -33955154.54 0.0134 0.0123

Venus -97676-05-16 21:49 J -33954599.70 -33954599.59 -33954599.48 0.3778 0.0085

Earth -97676-07-19 11:01 J -33954536.08 -33954536.04 -33954535.99 0.2642 0.2437

Moon -97676-07-19 11:59 J -33954536.04 -33954536.00 -33954535.96 0.2639 0.2489 *

Saturn -97674-09-14 05:59 J -33953749.34 -33953749.25 -33953749.15 0.0273 0.0214

Saturn -97674-12-11 21:35 J -33953660.73 -33953660.60 -33953660.46 0.0273 0.0128

Saturn -97673-03-09 12:56 J -33953572.12 -33953571.96 -33953571.81 0.0273 0.0045

Mars -97673-04-12 21:35 J -33953537.71 -33953537.60 -33953537.48 0.1613 0.0872

Saturn -97673-06-06 03:49 J -33953483.50 -33953483.34 -33953483.19 0.0273 0.0038

Saturn -97673-09-02 18:13 J -33953394.87 -33953394.74 -33953394.60 0.0273 0.0119

Jupiter -97673-11-25 12:56 J -33953311.12 -33953310.96 -33953310.80 0.0517 0.0051

Saturn -97673-11-30 08:37 J -33953306.24 -33953306.14 -33953306.04 0.0273 0.0197

Moon -97672-01-03 02:23 J -33953272.53 -33953272.40 -33953272.27 0.2701 0.0599

Earth -97672-01-03 02:51 J -33953272.51 -33953272.38 -33953272.25 0.2708 0.0565 *

Jupiter -97672-02-23 09:06 J -33953221.18 -33953221.12 -33953221.06 0.0521 0.0476

Venus -97672-05-15 16:03 J -33953139.92 -33953139.83 -33953139.73 0.3593 0.2664

Mars -97671-03-19 16:32 J -33952831.93 -33952831.81 -33952831.70 0.1616 0.0937

Venus -97671-11-30 16:47 J -33952575.91 -33952575.80 -33952575.70 0.3775 0.0978

Moon -97669-07-12 02:37 J -33951986.50 -33951986.39 -33951986.27 0.2636 0.0956

Earth -97669-07-12 02:37 J -33951986.50 -33951986.39 -33951986.27 0.2630 0.1019 *

Mars -97668-01-04 21:35 J -33951809.71 -33951809.60 -33951809.49 0.1909 0.1043

Neptune -97667-04-14 13:54 J -33951344.92 -33951344.92 -33951344.91 0.0089 0.0088

Jupiter -97667-04-16 14:51 J -33951343.00 -33951342.88 -33951342.76 0.0513 0.0257

Neptune -97667-07-11 15:20 J -33951256.89 -33951256.86 -33951256.80 0.0089 0.0085

Jupiter -97667-07-15 03:35 J -33951253.48 -33951253.35 -33951253.22 0.0509 0.0210

Neptune -97667-10-07 17:15 J -33951168.83 -33951168.78 -33951168.71 0.0089 0.0080

Venus -97667-11-29 17:01 J -33951115.92 -33951115.79 -33951115.66 0.3596 0.1321

Neptune -97666-01-03 18:56 J -33951080.77 -33951080.71 -33951080.62 0.0089 0.0076

Neptune -97666-04-01 20:51 J -33950992.71 -33950992.63 -33950992.54 0.0089 0.0072

Neptune -97666-06-28 22:32 J -33950904.64 -33950904.56 -33950904.46 0.0089 0.0068

Neptune -97666-09-25 00:27 J -33950816.58 -33950816.48 -33950816.38 0.0089 0.0063

Neptune -97666-12-22 02:08 J -33950728.51 -33950728.41 -33950728.29 0.0089 0.0059

Neptune -97665-03-19 03:49 J -33950640.44 -33950640.34 -33950640.21 0.0089 0.0055

Neptune -97665-06-15 05:44 J -33950552.37 -33950552.26 -33950552.13 0.0089 0.0051

Venus -97665-06-15 11:44 J -33950552.11 -33950552.01 -33950551.92 0.3772 0.1943

Neptune -97665-09-11 07:39 J -33950464.30 -33950464.18 -33950464.05 0.0089 0.0046

Neptune -97665-12-08 09:20 J -33950376.23 -33950376.11 -33950375.97 0.0089 0.0042

Neptune -97664-03-06 11:01 J -33950288.16 -33950288.04 -33950287.89 0.0089 0.0038

Neptune -97664-06-02 13:11 J -33950200.09 -33950199.95 -33950199.81 0.0089 0.0033

Neptune -97664-08-29 14:51 J -33950112.01 -33950111.88 -33950111.73 0.0089 0.0029

Mars -97664-09-03 05:30 J -33950107.35 -33950107.27 -33950107.19 0.1612 0.1283

Neptune -97664-11-25 16:47 J -33950023.94 -33950023.80 -33950023.65 0.0089 0.0024

Neptune -97663-02-21 18:42 J -33949935.86 -33949935.72 -33949935.57 0.0089 0.0020

Neptune -97663-05-20 20:37 J -33949847.79 -33949847.64 -33949847.49 0.0089 0.0015

Neptune -97663-08-16 22:32 J -33949759.71 -33949759.56 -33949759.41 0.0089 0.0011

Neptune -97663-11-13 00:13 J -33949671.63 -33949671.49 -33949671.33 0.0089 0.0007

Neptune -97662-02-09 02:08 J -33949583.56 -33949583.41 -33949583.26 0.0089 0.0003

Neptune -97662-05-08 04:03 J -33949495.48 -33949495.33 -33949495.18 0.0089 0.0003

Neptune -97662-08-04 05:59 J -33949407.40 -33949407.25 -33949407.10 0.0089 0.0007

Mars -97662-08-09 23:30 J -33949401.65 -33949401.52 -33949401.38 0.1614 0.0483

Neptune -97662-10-31 07:54 J -33949319.32 -33949319.17 -33949319.02 0.0089 0.0012

Neptune -97661-01-27 09:49 J -33949231.24 -33949231.09 -33949230.94 0.0089 0.0016

Neptune -97661-04-24 11:44 J -33949143.15 -33949143.01 -33949142.86 0.0089 0.0021

Venus -97661-06-14 17:15 J -33949091.91 -33949091.78 -33949091.64 0.3599 0.0099

Neptune -97661-07-21 13:39 J -33949055.07 -33949054.93 -33949054.78 0.0089 0.0025

Jupiter -97661-09-13 13:39 J -33949001.08 -33949000.93 -33949000.78 0.0516 0.0181

Neptune -97661-10-17 15:35 J -33948966.99 -33948966.85 -33948966.70 0.0089 0.0030

Jupiter -97661-12-12 10:03 J -33948911.19 -33948911.08 -33948910.96 0.0520 0.0352

Neptune -97660-01-13 17:30 J -33948878.90 -33948878.77 -33948878.62 0.0089 0.0035

Neptune -97660-04-11 19:25 J -33948790.82 -33948790.69 -33948790.55 0.0089 0.0039

Neptune -97660-07-08 21:20 J -33948702.73 -33948702.61 -33948702.47 0.0089 0.0044

Neptune -97660-10-04 23:30 J -33948614.64 -33948614.52 -33948614.39 0.0089 0.0048

Venus -97660-12-30 06:56 J -33948528.28 -33948528.21 -33948528.14 0.3768 0.2942

Neptune -97659-01-01 01:25 J -33948526.56 -33948526.44 -33948526.31 0.0089 0.0053

Moon -97659-01-06 01:54 J -33948521.55 -33948521.42 -33948521.30 0.2702 0.0978

Earth -97659-01-06 02:51 J -33948521.50 -33948521.38 -33948521.25 0.2703 0.1072 *

Neptune -97659-03-30 03:20 J -33948438.47 -33948438.36 -33948438.23 0.0089 0.0058

Mars -97659-05-28 01:11 J -33948379.58 -33948379.45 -33948379.32 0.1911 0.0316

Neptune -97659-06-26 05:30 J -33948350.37 -33948350.27 -33948350.16 0.0089 0.0062

Saturn -97659-06-26 08:37 J -33948350.21 -33948350.14 -33948350.07 0.0286 0.0250 *

Neptune -97659-09-22 07:25 J -33948262.28 -33948262.19 -33948262.08 0.0089 0.0067

Saturn -97659-09-23 00:13 J -33948261.61 -33948261.49 -33948261.36 0.0286 0.0161

Neptune -97659-12-19 09:20 J -33948174.19 -33948174.11 -33948174.01 0.0089 0.0072

Saturn -97659-12-20 16:18 J -33948172.97 -33948172.82 -33948172.67 0.0286 0.0069

Neptune -97658-03-17 11:44 J -33948086.09 -33948086.01 -33948085.93 0.0089 0.0076

Saturn -97658-03-19 08:51 J -33948084.29 -33948084.13 -33948083.98 0.0286 0.0027

Neptune -97658-06-13 13:25 J -33947997.99 -33947997.94 -33947997.87 0.0089 0.0081

Saturn -97658-06-16 01:25 J -33947995.58 -33947995.44 -33947995.30 0.0286 0.0123

Neptune -97658-09-09 15:35 J -33947909.88 -33947909.85 -33947909.80 0.0089 0.0086

Saturn -97658-09-12 18:27 J -33947906.82 -33947906.73 -33947906.62 0.0286 0.0222

Earth -97656-07-14 23:30 J -33947235.65 -33947235.52 -33947235.40 0.2634 0.0261

Moon -97656-07-14 23:59 J -33947235.62 -33947235.50 -33947235.38 0.2640 0.0245 *

Venus -97656-12-29 17:15 J -33947067.90 -33947067.78 -33947067.65 0.3602 0.1197

Jupiter -97655-02-02 17:30 J -33947032.87 -33947032.77 -33947032.68 0.0514 0.0373

Jupiter -97655-05-03 05:44 J -33946943.40 -33946943.26 -33946943.11 0.0510 0.0093

Mars -97653-12-30 06:56 J -33945971.35 -33945971.21 -33945971.07 0.1614 0.0052

Venus -97650-07-15 16:47 J -33945043.90 -33945043.80 -33945043.70 0.3606 0.2370

Mars -97650-10-18 05:15 J -33944949.41 -33944949.28 -33944949.15 0.1912 0.0429

Jupiter -97649-07-02 13:25 J -33944691.06 -33944690.94 -33944690.81 0.0514 0.0316

Jupiter -97649-09-30 10:32 J -33944601.20 -33944601.06 -33944600.92 0.0518 0.0217

Moon -97646-01-09 02:23 J -33943770.44 -33943770.40 -33943770.36 0.2700 0.2554

Venus -97644-01-28 15:49 J -33943019.87 -33943019.84 -33943019.81 0.3609 0.3491

Saturn -97644-01-31 07:54 J -33943017.25 -33943017.17 -33943017.09 0.0274 0.0237

Saturn -97644-04-29 23:30 J -33942928.65 -33942928.52 -33942928.39 0.0274 0.0151

Saturn -97644-07-27 14:51 J -33942840.03 -33942839.88 -33942839.73 0.0274 0.0066

Saturn -97644-10-24 05:59 J -33942751.41 -33942751.25 -33942751.10 0.0274 0.0018

Jupiter -97644-11-21 19:25 J -33942722.72 -33942722.69 -33942722.65 0.0516 0.0494

Saturn -97643-01-20 20:37 J -33942662.78 -33942662.64 -33942662.50 0.0274 0.0099

Jupiter -97643-02-19 07:39 J -33942633.32 -33942633.18 -33942633.03 0.0512 0.0032

Saturn -97643-04-19 10:47 J -33942574.15 -33942574.05 -33942573.93 0.0273 0.0179

Jupiter -97643-05-19 21:06 J -33942543.69 -33942543.62 -33942543.55 0.0508 0.0443

Mars -97643-05-22 14:23 J -33942541.04 -33942540.90 -33942540.77 0.1613 0.0396

Saturn -97643-07-17 01:11 J -33942485.50 -33942485.45 -33942485.40 0.0273 0.0256

Earth -97643-07-17 19:54 J -33942484.77 -33942484.67 -33942484.57 0.2639 0.1485

Moon -97643-07-17 20:51 J -33942484.73 -33942484.63 -33942484.53 0.2638 0.1621 *

Venus -97642-10-23 18:42 J -33942021.77 -33942021.72 -33942021.66 0.3788 0.3249

Mars -97641-04-27 10:03 J -33941835.14 -33941835.08 -33941835.02 0.1617 0.1460

Mars -97640-03-09 08:23 J -33941519.26 -33941519.15 -33941519.05 0.1912 0.1208

Moon -97639-01-01 08:37 J -33941221.24 -33941221.14 -33941221.04 0.2705 0.1748

Earth -97639-01-01 08:37 J -33941221.24 -33941221.14 -33941221.05 0.2712 0.1836 *

Mars -97638-02-13 17:15 J -33940812.82 -33940812.78 -33940812.74 0.1907 0.1799

Jupiter -97637-04-20 13:25 J -33940381.01 -33940380.94 -33940380.87 0.0513 0.0453

Jupiter -97637-07-19 10:47 J -33940291.20 -33940291.05 -33940290.89 0.0517 0.0083

Uranus -97636-02-13 17:01 J -33940081.83 -33940081.79 -33940081.75 0.0143 0.0136

Venus -97636-05-08 12:56 J -33939998.05 -33939997.96 -33939997.88 0.3786 0.2397

Uranus -97636-05-12 21:49 J -33939993.67 -33939993.59 -33939993.50 0.0143 0.0116

Moon -97636-07-10 10:18 J -33939935.14 -33939935.07 -33939934.99 0.2632 0.2051

Earth -97636-07-10 11:01 J -33939935.12 -33939935.04 -33939934.96 0.2627 0.2032 *

Uranus -97636-08-09 02:37 J -33939905.49 -33939905.39 -33939905.27 0.0143 0.0096

Uranus -97636-11-05 07:39 J -33939817.30 -33939817.18 -33939817.05 0.0143 0.0076

Uranus -97635-02-01 12:42 J -33939729.11 -33939728.97 -33939728.83 0.0143 0.0055

Uranus -97635-04-30 17:44 J -33939640.90 -33939640.76 -33939640.61 0.0144 0.0034

Uranus -97635-07-27 23:01 J -33939552.70 -33939552.54 -33939552.39 0.0144 0.0013

Uranus -97635-10-24 04:03 J -33939464.48 -33939464.33 -33939464.17 0.0144 0.0009

Uranus -97634-01-20 09:20 J -33939376.26 -33939376.11 -33939375.96 0.0144 0.0031

Uranus -97634-04-18 14:23 J -33939288.03 -33939287.90 -33939287.74 0.0144 0.0053

Uranus -97634-07-15 19:39 J -33939199.80 -33939199.68 -33939199.53 0.0144 0.0076

Uranus -97634-10-12 01:11 J -33939111.56 -33939111.45 -33939111.33 0.0144 0.0097

Mars -97634-10-12 21:49 J -33939110.71 -33939110.59 -33939110.47 0.1612 0.0819

Uranus -97633-01-08 06:42 J -33939023.30 -33939023.22 -33939023.13 0.0144 0.0120

Uranus -97633-04-05 12:13 J -33938935.01 -33938934.99 -33938934.96 0.0145 0.0143

Mars -97632-09-17 16:47 J -33938404.91 -33938404.80 -33938404.69 0.1615 0.0993

Jupiter -97632-12-08 10:18 J -33938323.20 -33938323.07 -33938322.93 0.0513 0.0145

Jupiter -97631-03-07 23:30 J -33938233.63 -33938233.52 -33938233.41 0.0509 0.0327

Venus -97631-11-22 07:11 J -33937974.30 -33937974.20 -33937974.10 0.3783 0.1523

Saturn -97630-11-13 11:15 J -33937618.07 -33937618.03 -33937617.97 0.0285 0.0267

Saturn -97629-02-10 02:51 J -33937529.49 -33937529.38 -33937529.26 0.0285 0.0178

Saturn -97629-05-08 18:56 J -33937440.86 -33937440.71 -33937440.57 0.0286 0.0087

Mars -97629-07-05 21:20 J -33937382.71 -33937382.61 -33937382.50 0.1909 0.1098

Saturn -97629-08-05 11:15 J -33937352.19 -33937352.03 -33937351.88 0.0286 0.0011

Saturn -97629-11-02 03:49 J -33937263.49 -33937263.34 -33937263.20 0.0286 0.0103

Saturn -97628-01-29 20:37 J -33937174.74 -33937174.64 -33937174.52 0.0286 0.0201

Moon -97626-01-04 07:54 J -33936470.31 -33936470.17 -33936470.04 0.2702 0.0343

Earth -97626-01-04 08:23 J -33936470.28 -33936470.15 -33936470.01 0.2707 0.0244 *

Jupiter -97625-05-07 10:47 J -33935981.21 -33935981.05 -33935980.89 0.0516 0.0054

Venus -97625-06-07 01:39 J -33935950.54 -33935950.43 -33935950.32 0.3780 0.0636

Jupiter -97625-08-05 06:56 J -33935891.27 -33935891.21 -33935891.15 0.0520 0.0473

Mars -97624-03-04 05:44 J -33935680.34 -33935680.26 -33935680.17 0.1612 0.1231

Earth -97623-07-13 07:54 J -33935184.29 -33935184.17 -33935184.05 0.2631 0.0749

Moon -97623-07-13 08:08 J -33935184.28 -33935184.16 -33935184.04 0.2637 0.0791 *

Mars -97622-02-07 23:44 J -33934974.64 -33934974.51 -33934974.37 0.1614 0.0541

Jupiter -97620-09-26 13:25 J -33934013.07 -33934012.94 -33934012.82 0.0513 0.0255

Mars -97620-11-26 01:39 J -33933952.56 -33933952.43 -33933952.30 0.1911 0.0391

Venus -97620-12-21 20:08 J -33933926.77 -33933926.66 -33933926.55 0.3777 0.0317

Jupiter -97620-12-25 02:08 J -33933923.55 -33933923.41 -33933923.28 0.0510 0.0214

Venus -97616-12-20 16:18 J -33932466.93 -33932466.82 -33932466.72 0.3594 0.2250

Saturn -97615-06-20 07:54 J -33932285.19 -33932285.17 -33932285.12 0.0273 0.0266

Saturn -97615-09-16 23:59 J -33932196.62 -33932196.50 -33932196.38 0.0273 0.0179

Saturn -97615-12-14 15:20 J -33932108.01 -33932107.86 -33932107.71 0.0273 0.0093

Saturn -97614-03-13 06:27 J -33932019.39 -33932019.23 -33932019.08 0.0273 0.0011

Saturn -97614-06-09 21:06 J -33931930.76 -33931930.62 -33931930.47 0.0273 0.0072

Venus -97614-07-07 15:06 J -33931902.98 -33931902.87 -33931902.77 0.3774 0.1258

Saturn -97614-09-06 11:30 J -33931842.14 -33931842.02 -33931841.89 0.0273 0.0152

Saturn -97614-12-04 01:39 J -33931753.50 -33931753.43 -33931753.34 0.0273 0.0230

Moon -97613-01-07 07:25 J -33931719.31 -33931719.19 -33931719.07 0.2701 0.1270

Earth -97613-01-07 08:37 J -33931719.25 -33931719.14 -33931719.02 0.2703 0.1409 *

Jupiter -97613-02-24 11:15 J -33931671.17 -33931671.03 -33931670.88 0.0516 0.0185

Jupiter -97613-05-24 08:08 J -33931581.28 -33931581.16 -33931581.05 0.0520 0.0348

Mars -97613-06-30 07:11 J -33931544.34 -33931544.20 -33931544.06 0.1614 0.0101

Mars -97610-04-18 05:30 J -33930522.41 -33930522.27 -33930522.14 0.1912 0.0368

Venus -97610-07-06 16:47 J -33930442.93 -33930442.80 -33930442.66 0.3597 0.0934

Earth -97610-07-16 04:32 J -33930433.43 -33930433.31 -33930433.18 0.2635 0.0516

Moon -97610-07-16 05:15 J -33930433.40 -33930433.28 -33930433.16 0.2639 0.0650 *

Venus -97608-01-20 10:03 J -33929879.17 -33929879.08 -33929878.99 0.3771 0.2236

Jupiter -97608-07-15 15:49 J -33929702.93 -33929702.84 -33929702.74 0.0514 0.0370

Jupiter -97608-10-13 04:18 J -33929613.46 -33929613.32 -33929613.18 0.0510 0.0095

Venus -97604-01-19 17:15 J -33928418.92 -33928418.78 -33928418.65 0.3600 0.0358

Mars -97604-11-20 14:37 J -33928114.03 -33928113.89 -33928113.75 0.1613 0.0337

Venus -97603-08-06 05:30 J -33927855.33 -33927855.27 -33927855.22 0.3767 0.3241

Mars -97602-10-27 10:18 J -33927408.11 -33927408.07 -33927408.02 0.1617 0.1520

Jupiter -97602-12-13 11:59 J -33927361.13 -33927361.00 -33927360.88 0.0515 0.0313

Jupiter -97601-03-12 09:06 J -33927271.26 -33927271.12 -33927270.98 0.0519 0.0222

Mars -97601-09-07 08:51 J -33927092.24 -33927092.13 -33927092.03 0.1913 0.1130

Saturn -97600-06-29 02:51 J -33926797.48 -33926797.38 -33926797.28 0.0286 0.0212

Saturn -97600-09-25 18:27 J -33926708.86 -33926708.73 -33926708.59 0.0286 0.0122

Saturn -97600-12-23 10:47 J -33926620.21 -33926620.05 -33926619.90 0.0286 0.0029

Saturn -97599-03-22 03:06 J -33926531.52 -33926531.37 -33926531.21 0.0286 0.0068

Saturn -97599-06-18 20:08 J -33926442.79 -33926442.66 -33926442.53 0.0286 0.0165

Venus -97599-08-05 17:01 J -33926394.91 -33926394.79 -33926394.67 0.3603 0.1553

Mars -97599-08-14 17:15 J -33926385.80 -33926385.78 -33926385.75 0.1907 0.1866

Saturn -97599-09-15 13:11 J -33926354.00 -33926353.95 -33926353.88 0.0286 0.0264

Uranus -97597-07-12 08:51 J -33925688.16 -33925688.13 -33925688.07 0.0136 0.0130

Earth -97597-07-18 01:11 J -33925682.54 -33925682.45 -33925682.36 0.2639 0.1747

Moon -97597-07-18 02:08 J -33925682.50 -33925682.41 -33925682.32 0.2638 0.1779 *

Uranus -97597-10-08 13:54 J -33925600.00 -33925599.92 -33925599.81 0.0136 0.0111

Uranus -97596-01-04 19:25 J -33925511.81 -33925511.69 -33925511.57 0.0135 0.0091

Uranus -97596-04-03 00:13 J -33925423.62 -33925423.49 -33925423.35 0.0135 0.0072

Jupiter -97596-05-03 18:27 J -33925392.77 -33925392.73 -33925392.68 0.0515 0.0485

Uranus -97596-06-30 05:15 J -33925335.43 -33925335.28 -33925335.13 0.0135 0.0053

Jupiter -97596-08-01 06:42 J -33925303.37 -33925303.22 -33925303.08 0.0511 0.0027

Uranus -97596-09-26 10:03 J -33925247.23 -33925247.08 -33925246.92 0.0135 0.0035

Jupiter -97596-10-29 19:54 J -33925213.74 -33925213.67 -33925213.60 0.0508 0.0449

Uranus -97596-12-23 15:06 J -33925159.03 -33925158.87 -33925158.71 0.0135 0.0016

Uranus -97595-03-21 19:54 J -33925070.83 -33925070.67 -33925070.51 0.0135 0.0003

Uranus -97595-06-18 00:42 J -33924982.63 -33924982.47 -33924982.31 0.0135 0.0021

Uranus -97595-09-14 05:30 J -33924894.43 -33924894.27 -33924894.12 0.0135 0.0039

Uranus -97595-12-11 10:03 J -33924806.22 -33924806.08 -33924805.94 0.0135 0.0057

Uranus -97594-03-09 14:37 J -33924718.02 -33924717.89 -33924717.76 0.0134 0.0074

Mars -97594-04-12 22:18 J -33924683.70 -33924683.57 -33924683.45 0.1612 0.0763

Uranus -97594-06-05 18:56 J -33924629.81 -33924629.71 -33924629.58 0.0134 0.0093

Uranus -97594-09-01 23:30 J -33924541.59 -33924541.52 -33924541.42 0.0134 0.0110

Uranus -97594-11-29 04:03 J -33924453.37 -33924453.33 -33924453.27 0.0134 0.0127

Pluto -97594-12-14 07:25 J -33924438.24 -33924438.19 -33924438.13 0.0085 0.0076

Moon -97593-01-02 14:08 J -33924419.02 -33924418.91 -33924418.80 0.2704 0.1589

Earth -97593-01-02 14:08 J -33924419.02 -33924418.91 -33924418.80 0.2711 0.1515 *

Venus -97593-02-19 16:18 J -33924370.91 -33924370.82 -33924370.73 0.3607 0.2704

Pluto -97593-03-11 08:37 J -33924350.22 -33924350.14 -33924350.05 0.0084 0.0063

Pluto -97593-06-07 10:03 J -33924262.19 -33924262.08 -33924261.97 0.0084 0.0050

Pluto -97593-09-03 11:01 J -33924174.15 -33924174.04 -33924173.91 0.0084 0.0037

Pluto -97593-11-30 12:27 J -33924086.10 -33924085.98 -33924085.85 0.0084 0.0024

Pluto -97592-02-26 13:39 J -33923998.06 -33923997.93 -33923997.80 0.0084 0.0011

Mars -97592-03-18 17:01 J -33923977.89 -33923977.79 -33923977.68 0.1615 0.1056

Pluto -97592-05-25 15:06 J -33923910.01 -33923909.87 -33923909.74 0.0084 0.0003

Pluto -97592-08-21 16:03 J -33923821.95 -33923821.83 -33923821.69 0.0084 0.0015

Pluto -97592-11-17 17:15 J -33923733.90 -33923733.78 -33923733.65 0.0084 0.0027

Pluto -97591-02-13 18:27 J -33923645.84 -33923645.73 -33923645.61 0.0083 0.0039

Pluto -97591-05-12 19:39 J -33923557.78 -33923557.68 -33923557.57 0.0083 0.0052

Pluto -97591-08-08 20:37 J -33923469.71 -33923469.64 -33923469.54 0.0083 0.0065

Pluto -97591-11-04 22:03 J -33923381.62 -33923381.58 -33923381.52 0.0083 0.0076

Moon -97590-07-11 15:49 J -33923132.93 -33923132.84 -33923132.75 0.2632 0.1834

Earth -97590-07-11 16:18 J -33923132.91 -33923132.82 -33923132.73 0.2627 0.1756 *

Jupiter -97590-10-01 11:59 J -33923051.08 -33923051.00 -33923050.93 0.0513 0.0448

Jupiter -97590-12-30 09:20 J -33922961.26 -33922961.11 -33922960.95 0.0517 0.0089

Mars -97589-01-04 21:49 J -33922955.69 -33922955.59 -33922955.48 0.1909 0.1177

Saturn -97585-02-04 01:25 J -33921464.54 -33921464.44 -33921464.33 0.0274 0.0202

Saturn -97585-05-02 17:01 J -33921375.93 -33921375.79 -33921375.64 0.0274 0.0116

Venus -97585-05-29 17:01 J -33921348.86 -33921348.79 -33921348.73 0.3787 0.2984

Saturn -97585-07-30 08:23 J -33921287.30 -33921287.15 -33921286.99 0.0274 0.0031

Mars -97585-09-02 05:59 J -33921253.34 -33921253.25 -33921253.16 0.1612 0.1179

Saturn -97585-10-26 23:15 J -33921198.68 -33921198.53 -33921198.38 0.0274 0.0051

Neptune -97584-01-16 05:01 J -33921117.31 -33921117.29 -33921117.23 0.0089 0.0086

Saturn -97584-01-23 13:54 J -33921110.05 -33921109.92 -33921109.79 0.0274 0.0132

Neptune -97584-04-14 07:39 J -33921029.23 -33921029.18 -33921029.09 0.0089 0.0081

Saturn -97584-04-22 04:18 J -33921021.42 -33921021.32 -33921021.23 0.0274 0.0211

Jupiter -97584-05-20 08:23 J -33920993.28 -33920993.15 -33920993.01 0.0513 0.0148

Neptune -97584-07-11 10:47 J -33920941.14 -33920941.05 -33920940.96 0.0089 0.0075

Jupiter -97584-08-17 21:35 J -33920903.72 -33920903.60 -33920903.49 0.0509 0.0324

Neptune -97584-10-07 13:25 J -33920853.04 -33920852.94 -33920852.83 0.0089 0.0070

Neptune -97583-01-03 16:03 J -33920764.94 -33920764.83 -33920764.71 0.0089 0.0065

Neptune -97583-04-01 18:27 J -33920676.84 -33920676.73 -33920676.59 0.0089 0.0060

Neptune -97583-06-28 21:06 J -33920588.74 -33920588.62 -33920588.47 0.0089 0.0055

Mars -97583-08-09 00:13 J -33920547.62 -33920547.49 -33920547.36 0.1614 0.0600

Neptune -97583-09-24 23:44 J -33920500.64 -33920500.51 -33920500.35 0.0089 0.0050

Neptune -97583-12-22 02:23 J -33920412.53 -33920412.40 -33920412.24 0.0089 0.0045

Neptune -97582-03-20 05:01 J -33920324.43 -33920324.29 -33920324.13 0.0089 0.0040

Neptune -97582-06-16 07:54 J -33920236.33 -33920236.17 -33920236.01 0.0089 0.0034

Neptune -97582-09-12 10:32 J -33920148.22 -33920148.06 -33920147.90 0.0088 0.0029

Neptune -97582-12-09 12:56 J -33920060.12 -33920059.96 -33920059.79 0.0088 0.0024

Neptune -97581-03-06 15:35 J -33919972.01 -33919971.85 -33919971.68 0.0088 0.0019

Neptune -97581-06-02 18:13 J -33919883.91 -33919883.74 -33919883.58 0.0088 0.0014

Neptune -97581-08-29 20:37 J -33919795.81 -33919795.64 -33919795.47 0.0088 0.0009

Neptune -97581-11-25 23:15 J -33919707.70 -33919707.53 -33919707.37 0.0088 0.0004

Moon -97580-01-04 13:11 J -33919668.08 -33919667.95 -33919667.81 0.2702 0.0077

Earth -97580-01-04 14:08 J -33919668.04 -33919667.91 -33919667.78 0.2707 0.0094 *

Neptune -97580-02-22 01:39 J -33919619.60 -33919619.43 -33919619.26 0.0088 0.0001

Neptune -97580-05-21 04:03 J -33919531.49 -33919531.33 -33919531.16 0.0088 0.0007

Mars -97580-05-27 01:54 J -33919525.55 -33919525.42 -33919525.29 0.1911 0.0449

Neptune -97580-08-17 06:27 J -33919443.39 -33919443.23 -33919443.06 0.0088 0.0012

Neptune -97580-11-13 09:06 J -33919355.28 -33919355.12 -33919354.95 0.0088 0.0016

Venus -97580-12-13 11:01 J -33919325.13 -33919325.04 -33919324.95 0.3785 0.2126

Neptune -97579-02-09 11:30 J -33919267.18 -33919267.02 -33919266.85 0.0088 0.0021

Neptune -97579-05-08 13:54 J -33919179.07 -33919178.92 -33919178.75 0.0088 0.0026

Neptune -97579-08-04 16:18 J -33919090.97 -33919090.82 -33919090.66 0.0088 0.0031

Neptune -97579-10-31 18:42 J -33919002.86 -33919002.72 -33919002.56 0.0088 0.0036

Neptune -97578-01-27 21:06 J -33918914.76 -33918914.62 -33918914.46 0.0088 0.0041

Neptune -97578-04-25 23:30 J -33918826.65 -33918826.52 -33918826.37 0.0088 0.0045

Neptune -97578-07-23 02:08 J -33918738.55 -33918738.41 -33918738.27 0.0088 0.0050

Jupiter -97578-10-18 09:35 J -33918651.26 -33918651.10 -33918650.95 0.0516 0.0048

Neptune -97578-10-19 04:18 J -33918650.44 -33918650.32 -33918650.18 0.0088 0.0055

Neptune -97577-01-15 06:42 J -33918562.33 -33918562.22 -33918562.09 0.0088 0.0059

Jupiter -97577-01-16 05:44 J -33918561.32 -33918561.26 -33918561.21 0.0520 0.0478

Neptune -97577-04-12 09:20 J -33918474.22 -33918474.11 -33918474.00 0.0088 0.0064

Neptune -97577-07-09 11:30 J -33918386.12 -33918386.02 -33918385.91 0.0088 0.0069

Earth -97577-07-13 13:11 J -33918382.07 -33918381.95 -33918381.83 0.2631 0.0481

Moon -97577-07-13 13:25 J -33918382.06 -33918381.94 -33918381.82 0.2638 0.0395 *

Neptune -97577-10-05 13:39 J -33918298.01 -33918297.93 -33918297.83 0.0088 0.0073

Neptune -97576-01-01 16:18 J -33918209.90 -33918209.82 -33918209.75 0.0088 0.0078

Neptune -97576-03-30 18:13 J -33918121.78 -33918121.74 -33918121.67 0.0088 0.0083

Neptune -97576-06-26 20:23 J -33918033.65 -33918033.65 -33918033.60 0.0088 0.0088

Mars -97575-01-23 14:08 J -33917822.94 -33917822.91 -33917822.89 0.1612 0.1585

Venus -97574-06-29 05:15 J -33917301.38 -33917301.28 -33917301.17 0.3782 0.1253

Mars -97574-12-30 07:25 J -33917117.33 -33917117.19 -33917117.05 0.1613 0.0156

Jupiter -97572-03-08 11:01 J -33916683.16 -33916683.04 -33916682.91 0.0514 0.0262

Jupiter -97572-06-05 23:44 J -33916593.64 -33916593.51 -33916593.37 0.0510 0.0209

Mars -97571-10-17 05:30 J -33916095.40 -33916095.27 -33916095.13 0.1912 0.0302

Saturn -97571-11-16 05:44 J -33916065.35 -33916065.26 -33916065.17 0.0285 0.0227

Saturn -97570-02-12 21:20 J -33915976.74 -33915976.61 -33915976.47 0.0285 0.0138

Saturn -97570-05-12 13:25 J -33915888.09 -33915887.94 -33915887.78 0.0285 0.0046

Saturn -97570-08-09 05:59 J -33915799.40 -33915799.25 -33915799.10 0.0286 0.0050

Saturn -97570-11-05 22:47 J -33915710.69 -33915710.55 -33915710.42 0.0286 0.0147

Saturn -97569-02-02 15:49 J -33915621.92 -33915621.84 -33915621.76 0.0286 0.0246

Venus -97568-01-11 23:44 J -33915277.62 -33915277.51 -33915277.40 0.3779 0.0362

Moon -97567-01-07 13:11 J -33914917.06 -33914916.95 -33914916.84 0.2701 0.1620

Earth -97567-01-07 14:23 J -33914917.00 -33914916.90 -33914916.80 0.2702 0.1745 *

Jupiter -97566-08-06 09:06 J -33914341.26 -33914341.12 -33914340.97 0.0515 0.0188

Jupiter -97566-11-04 05:44 J -33914251.37 -33914251.26 -33914251.14 0.0519 0.0343

Venus -97564-01-10 15:06 J -33913817.93 -33913817.87 -33913817.81 0.3592 0.3202

Mars -97564-05-21 14:51 J -33913687.02 -33913686.88 -33913686.74 0.1613 0.0284

Earth -97564-07-16 09:49 J -33913631.21 -33913631.09 -33913630.97 0.2635 0.0775

Moon -97564-07-16 10:47 J -33913631.17 -33913631.05 -33913630.94 0.2638 0.0795 *

Venus -97563-07-28 18:27 J -33913253.84 -33913253.73 -33913253.62 0.3776 0.0594

Mars -97562-04-27 10:32 J -33912981.09 -33912981.06 -33912981.03 0.1617 0.1575

Mars -97561-03-08 09:06 J -33912665.23 -33912665.12 -33912665.01 0.1913 0.1057

Jupiter -97561-12-25 14:08 J -33912373.01 -33912372.91 -33912372.81 0.0515 0.0371

Jupiter -97560-03-25 02:37 J -33912283.53 -33912283.39 -33912283.25 0.0511 0.0095

Venus -97559-07-27 16:03 J -33911793.94 -33911793.83 -33911793.71 0.3595 0.1847

Venus -97557-02-11 13:25 J -33911230.04 -33911229.94 -33911229.84 0.3773 0.1545

Saturn -97556-06-23 02:23 J -33910732.48 -33910732.40 -33910732.31 0.0273 0.0227

Saturn -97556-09-19 17:59 J -33910643.88 -33910643.75 -33910643.61 0.0273 0.0141

Saturn -97556-12-17 09:20 J -33910555.26 -33910555.11 -33910554.96 0.0273 0.0056

Saturn -97555-03-16 00:27 J -33910466.64 -33910466.48 -33910466.33 0.0273 0.0027

Saturn -97555-06-12 15:06 J -33910378.01 -33910377.87 -33910377.73 0.0273 0.0108

Saturn -97555-09-09 05:30 J -33910289.38 -33910289.27 -33910289.16 0.0273 0.0187

Mars -97555-10-11 22:32 J -33910256.69 -33910256.56 -33910256.44 0.1612 0.0706

Saturn -97555-12-06 19:25 J -33910200.72 -33910200.69 -33910200.65 0.0273 0.0264

Jupiter -97554-05-25 09:35 J -33910031.22 -33910031.10 -33910030.97 0.0514 0.0319

Jupiter -97554-08-23 06:42 J -33909941.36 -33909941.22 -33909941.08 0.0518 0.0216

Venus -97553-02-10 16:47 J -33909769.94 -33909769.80 -33909769.67 0.3598 0.0548

Mars -97553-09-16 17:30 J -33909550.87 -33909550.77 -33909550.67 0.1616 0.1115

Uranus -97552-03-05 23:44 J -33909380.56 -33909380.51 -33909380.46 0.0143 0.0133

Uranus -97552-06-02 04:32 J -33909292.39 -33909292.31 -33909292.21 0.0143 0.0113

Mars -97552-07-29 11:59 J -33909235.03 -33909235.00 -33909234.97 0.1913 0.1851

Venus -97552-08-27 08:37 J -33909206.23 -33909206.14 -33909206.06 0.3770 0.2528

Uranus -97552-08-29 09:20 J -33909204.21 -33909204.11 -33909203.99 0.0143 0.0094

Uranus -97552-11-25 14:23 J -33909116.02 -33909115.90 -33909115.76 0.0143 0.0073

Uranus -97551-02-21 19:25 J -33909027.83 -33909027.69 -33909027.54 0.0143 0.0052

Uranus -97551-05-21 00:42 J -33908939.62 -33908939.47 -33908939.32 0.0144 0.0031

Earth -97551-07-19 06:13 J -33908880.31 -33908880.24 -33908880.16 0.2640 0.2007

Moon -97551-07-19 07:11 J -33908880.27 -33908880.20 -33908880.13 0.2639 0.2159 *

Uranus -97551-08-17 05:44 J -33908851.41 -33908851.26 -33908851.11 0.0144 0.0009

Uranus -97551-11-13 10:47 J -33908763.20 -33908763.05 -33908762.89 0.0144 0.0013

Uranus -97550-02-09 16:03 J -33908674.98 -33908674.83 -33908674.68 0.0144 0.0034

Uranus -97550-05-08 21:20 J -33908586.75 -33908586.61 -33908586.46 0.0144 0.0056

Mars -97550-07-05 22:03 J -33908528.67 -33908528.58 -33908528.48 0.1909 0.1245

Uranus -97550-08-05 02:37 J -33908498.51 -33908498.39 -33908498.25 0.0144 0.0078

Uranus -97550-11-01 08:08 J -33908410.27 -33908410.16 -33908410.05 0.0144 0.0101

Uranus -97549-01-28 13:25 J -33908322.01 -33908321.94 -33908321.85 0.0144 0.0124

Jupiter -97549-10-13 16:47 J -33908062.84 -33908062.80 -33908062.75 0.0515 0.0484

Jupiter -97548-01-11 05:01 J -33907973.44 -33907973.29 -33907973.15 0.0511 0.0024

Jupiter -97548-04-10 18:13 J -33907883.81 -33907883.74 -33907883.67 0.0508 0.0449

Venus -97548-08-26 16:47 J -33907745.93 -33907745.80 -33907745.66 0.3601 0.0713

Moon -97547-01-02 19:39 J -33907616.80 -33907616.68 -33907616.56 0.2704 0.1129

Earth -97547-01-02 19:39 J -33907616.79 -33907616.68 -33907616.56 0.2711 0.1201 *

Venus -97546-03-13 03:49 J -33907182.37 -33907182.34 -33907182.30 0.3766 0.3538

Mars -97545-03-03 06:13 J -33906826.33 -33906826.24 -33906826.14 0.1612 0.1125

Moon -97544-07-11 21:20 J -33906330.71 -33906330.61 -33906330.51 0.2634 0.1514

Earth -97544-07-11 21:35 J -33906330.70 -33906330.60 -33906330.50 0.2628 0.1488 *

Mars -97543-02-07 00:27 J -33906120.61 -33906120.48 -33906120.35 0.1614 0.0658

Venus -97542-03-12 16:32 J -33905721.92 -33905721.81 -33905721.70 0.3604 0.1892

Jupiter -97542-03-13 09:49 J -33905721.16 -33905721.09 -33905721.01 0.0514 0.0450

Jupiter -97542-06-11 07:39 J -33905631.34 -33905631.18 -33905631.03 0.0517 0.0089

Saturn -97541-04-04 05:44 J -33905333.32 -33905333.26 -33905333.20 0.0286 0.0260

Saturn -97541-07-01 21:20 J -33905244.73 -33905244.61 -33905244.49 0.0286 0.0171

Saturn -97541-09-28 13:11 J -33905156.09 -33905155.95 -33905155.80 0.0286 0.0079

Mars -97541-11-25 02:08 J -33905098.53 -33905098.41 -33905098.28 0.1911 0.0524

Saturn -97541-12-26 05:30 J -33905067.42 -33905067.27 -33905067.12 0.0286 0.0015

Saturn -97540-03-24 22:03 J -33904978.72 -33904978.58 -33904978.43 0.0286 0.0111

Saturn -97540-06-21 15:06 J -33904889.97 -33904889.87 -33904889.76 0.0286 0.0209

Venus -97537-09-25 15:49 J -33903697.91 -33903697.84 -33903697.77 0.3608 0.3036

Jupiter -97537-10-30 07:25 J -33903663.33 -33903663.19 -33903663.06 0.0512 0.0141

Jupiter -97536-01-27 20:23 J -33903573.76 -33903573.65 -33903573.54 0.0509 0.0330

Mars -97536-07-24 14:08 J -33903395.94 -33903395.91 -33903395.87 0.1612 0.1534

Moon -97534-01-05 18:42 J -33902865.85 -33902865.72 -33902865.58 0.2702 0.0246

Earth -97534-01-05 19:39 J -33902865.81 -33902865.68 -33902865.54 0.2706 0.0432 *

Venus -97534-06-20 21:06 J -33902699.66 -33902699.62 -33902699.59 0.3789 0.3552

Mars -97534-06-30 07:39 J -33902690.32 -33902690.18 -33902690.04 0.1613 0.0210

Mars -97531-04-17 05:59 J -33901668.38 -33901668.25 -33901668.12 0.1912 0.0226

Earth -97531-07-14 18:27 J -33901579.86 -33901579.73 -33901579.61 0.2632 0.0210

Moon -97531-07-14 18:42 J -33901579.84 -33901579.72 -33901579.59 0.2638 0.0232 *

Jupiter -97530-03-30 07:54 J -33901321.33 -33901321.17 -33901321.01 0.0516 0.0044

Jupiter -97530-06-28 04:03 J -33901231.38 -33901231.33 -33901231.27 0.0520 0.0481

Venus -97528-01-03 15:06 J -33900675.95 -33900675.87 -33900675.80 0.3787 0.2717

Saturn -97527-11-10 03:49 J -33900000.39 -33900000.34 -33900000.27 0.0274 0.0251

Saturn -97526-02-06 19:39 J -33899911.80 -33899911.68 -33899911.55 0.0274 0.0164

Saturn -97526-05-06 11:15 J -33899823.18 -33899823.03 -33899822.89 0.0274 0.0079

Saturn -97526-08-03 02:08 J -33899734.56 -33899734.41 -33899734.25 0.0274 0.0009

Saturn -97526-10-30 17:01 J -33899645.93 -33899645.79 -33899645.64 0.0274 0.0087

Saturn -97525-01-27 07:25 J -33899557.30 -33899557.19 -33899557.07 0.0274 0.0167

Saturn -97525-04-24 21:35 J -33899468.66 -33899468.60 -33899468.53 0.0274 0.0246

Jupiter -97525-08-18 09:06 J -33899353.24 -33899353.12 -33899353.00 0.0514 0.0265

Jupiter -97525-11-15 21:49 J -33899263.72 -33899263.59 -33899263.46 0.0510 0.0204

Mars -97525-11-19 15:06 J -33899260.01 -33899259.87 -33899259.73 0.1613 0.0226

Venus -97523-07-20 09:06 J -33898652.21 -33898652.12 -33898652.02 0.3784 0.1864

Mars -97522-09-07 09:20 J -33898238.23 -33898238.11 -33898238.00 0.1913 0.0992

Moon -97521-01-08 18:56 J -33898114.80 -33898114.71 -33898114.62 0.2702 0.2004

Earth -97521-01-08 20:08 J -33898114.75 -33898114.66 -33898114.58 0.2701 0.2082 *

Jupiter -97518-01-16 07:54 J -33897011.32 -33897011.17 -33897011.02 0.0515 0.0180

Jupiter -97518-04-16 04:32 J -33896921.42 -33896921.31 -33896921.20 0.0519 0.0349

Earth -97518-07-17 15:06 J -33896828.99 -33896828.87 -33896828.76 0.2636 0.1041

Moon -97518-07-17 16:03 J -33896828.94 -33896828.83 -33896828.72 0.2638 0.1201 *

Venus -97517-02-03 03:35 J -33896628.46 -33896628.35 -33896628.24 0.3781 0.0976

Mars -97515-04-11 22:47 J -33895829.68 -33895829.55 -33895829.43 0.1612 0.0657

Earth -97514-01-01 01:39 J -33895565.48 -33895565.43 -33895565.38 0.2715 0.2456

Moon -97514-01-01 02:08 J -33895565.48 -33895565.41 -33895565.35 0.2708 0.2345 *

Mars -97513-03-17 17:44 J -33895123.86 -33895123.76 -33895123.66 0.1615 0.1172

Jupiter -97513-06-06 11:44 J -33895043.10 -33895043.01 -33895042.91 0.0515 0.0379

Uranus -97513-08-01 16:03 J -33894986.88 -33894986.83 -33894986.77 0.0136 0.0126

Jupiter -97513-09-04 00:13 J -33894953.63 -33894953.49 -33894953.35 0.0511 0.0087

Uranus -97513-10-28 21:06 J -33894898.71 -33894898.62 -33894898.52 0.0136 0.0107

Uranus -97512-01-25 02:08 J -33894810.53 -33894810.41 -33894810.28 0.0135 0.0087

Mars -97512-01-27 12:13 J -33894808.03 -33894807.99 -33894807.94 0.1913 0.1780

Uranus -97512-04-23 07:11 J -33894722.34 -33894722.20 -33894722.06 0.0135 0.0068

Uranus -97512-07-20 12:13 J -33894634.14 -33894633.99 -33894633.84 0.0135 0.0049

Venus -97512-08-18 22:03 J -33894604.69 -33894604.58 -33894604.47 0.3779 0.0067

Saturn -97512-08-22 08:51 J -33894601.16 -33894601.13 -33894601.08 0.0285 0.0274

Uranus -97512-10-16 17:01 J -33894545.94 -33894545.79 -33894545.63 0.0135 0.0031

Saturn -97512-11-19 00:27 J -33894512.59 -33894512.48 -33894512.36 0.0285 0.0185

Uranus -97511-01-12 22:03 J -33894457.74 -33894457.58 -33894457.42 0.0135 0.0012

Saturn -97511-02-15 16:32 J -33894423.96 -33894423.81 -33894423.67 0.0285 0.0093

Uranus -97511-04-11 02:51 J -33894369.54 -33894369.38 -33894369.22 0.0135 0.0007

Saturn -97511-05-15 08:37 J -33894335.29 -33894335.14 -33894334.98 0.0285 0.0003

Uranus -97511-07-08 07:25 J -33894281.34 -33894281.19 -33894281.03 0.0135 0.0025

Earth -97511-07-10 05:44 J -33894279.29 -33894279.26 -33894279.22 0.2624 0.2511

Saturn -97511-08-12 01:11 J -33894246.59 -33894246.45 -33894246.30 0.0286 0.0096

Uranus -97511-10-04 12:13 J -33894193.14 -33894192.99 -33894192.84 0.0135 0.0043

Saturn -97511-11-08 18:13 J -33894157.86 -33894157.74 -33894157.63 0.0286 0.0194

Uranus -97511-12-31 16:47 J -33894104.93 -33894104.80 -33894104.65 0.0135 0.0061

Mars -97510-01-03 22:18 J -33894101.66 -33894101.57 -33894101.48 0.1910 0.1306

Uranus -97510-03-29 21:35 J -33894016.73 -33894016.60 -33894016.47 0.0134 0.0078

Uranus -97510-06-26 02:08 J -33893928.52 -33893928.41 -33893928.30 0.0134 0.0095

Uranus -97510-09-22 06:42 J -33893840.30 -33893840.22 -33893840.13 0.0134 0.0113

Uranus -97510-12-19 11:15 J -33893752.06 -33893752.03 -33893751.99 0.0134 0.0130

Venus -97508-08-17 15:06 J -33893144.95 -33893144.87 -33893144.78 0.3593 0.2788

Jupiter -97507-11-04 07:11 J -33892701.32 -33892701.20 -33892701.07 0.0514 0.0324

Jupiter -97506-02-02 04:18 J -33892611.46 -33892611.32 -33892611.17 0.0518 0.0210

Venus -97506-03-04 16:47 J -33892580.91 -33892580.80 -33892580.69 0.3776 0.0876

Mars -97506-09-02 06:27 J -33892399.33 -33892399.23 -33892399.12 0.1612 0.1072

Earth -97505-07-19 11:30 J -33892078.08 -33892078.02 -33892077.96 0.2640 0.2266

Moon -97505-07-19 12:13 J -33892078.04 -33892077.99 -33892077.92 0.2638 0.2278 *

Mars -97504-08-08 00:42 J -33891693.60 -33891693.47 -33891693.34 0.1614 0.0712

Neptune -97502-01-09 13:39 J -33891173.96 -33891173.93 -33891173.89 0.0089 0.0086

Venus -97502-03-03 16:03 J -33891120.96 -33891120.83 -33891120.71 0.3596 0.1456

Neptune -97502-04-07 15:20 J -33891085.90 -33891085.86 -33891085.80 0.0089 0.0082

Neptune -97502-07-04 17:01 J -33890997.85 -33890997.79 -33890997.71 0.0089 0.0078

Neptune -97502-09-30 18:42 J -33890909.78 -33890909.72 -33890909.62 0.0089 0.0074

Neptune -97502-12-27 20:37 J -33890821.72 -33890821.64 -33890821.54 0.0089 0.0069

Moon -97501-01-04 00:56 J -33890814.58 -33890814.46 -33890814.34 0.2704 0.0985

Earth -97501-01-04 01:25 J -33890814.57 -33890814.44 -33890814.32 0.2710 0.0871 *

Neptune -97501-03-24 22:18 J -33890733.66 -33890733.57 -33890733.46 0.0089 0.0065

Jupiter -97501-03-25 14:51 J -33890732.92 -33890732.88 -33890732.83 0.0516 0.0488

Mars -97501-05-26 02:23 J -33890671.52 -33890671.40 -33890671.27 0.1911 0.0591

Neptune -97501-06-21 00:13 J -33890645.59 -33890645.49 -33890645.38 0.0089 0.0061

Jupiter -97501-06-23 03:06 J -33890643.52 -33890643.37 -33890643.23 0.0512 0.0025

Neptune -97501-09-17 01:54 J -33890557.52 -33890557.42 -33890557.30 0.0089 0.0057

Venus -97501-09-17 11:44 J -33890557.11 -33890557.01 -33890556.91 0.3772 0.1827

Jupiter -97501-09-20 16:18 J -33890553.88 -33890553.82 -33890553.75 0.0508 0.0448

Neptune -97501-12-14 03:49 J -33890469.45 -33890469.34 -33890469.22 0.0089 0.0052

Neptune -97500-03-12 05:30 J -33890381.38 -33890381.27 -33890381.14 0.0089 0.0048

Neptune -97500-06-08 07:25 J -33890293.31 -33890293.19 -33890293.06 0.0089 0.0044

Neptune -97500-09-04 09:20 J -33890205.24 -33890205.11 -33890204.98 0.0089 0.0039

Neptune -97500-12-01 11:01 J -33890117.17 -33890117.04 -33890116.90 0.0089 0.0035

Neptune -97499-02-27 12:42 J -33890029.10 -33890028.97 -33890028.82 0.0089 0.0031

Neptune -97499-05-26 14:51 J -33889941.02 -33889940.88 -33889940.74 0.0089 0.0026

Neptune -97499-08-22 16:32 J -33889852.95 -33889852.81 -33889852.66 0.0089 0.0022

Neptune -97499-11-18 18:27 J -33889764.87 -33889764.73 -33889764.58 0.0089 0.0017

Neptune -97498-02-14 20:23 J -33889676.80 -33889676.65 -33889676.50 0.0089 0.0013

Neptune -97498-05-13 22:18 J -33889588.72 -33889588.57 -33889588.42 0.0089 0.0008

Moon -97498-07-13 02:51 J -33889528.49 -33889528.38 -33889528.27 0.2635 0.1212

Earth -97498-07-13 02:51 J -33889528.49 -33889528.38 -33889528.27 0.2628 0.1216 *

Neptune -97498-08-10 00:13 J -33889500.64 -33889500.49 -33889500.34 0.0089 0.0004

Neptune -97498-11-06 02:08 J -33889412.56 -33889412.41 -33889412.26 0.0089 0.0002

Neptune -97497-02-02 03:49 J -33889324.48 -33889324.34 -33889324.19 0.0089 0.0006

Neptune -97497-04-30 05:44 J -33889236.41 -33889236.26 -33889236.11 0.0089 0.0010

Saturn -97497-06-25 20:51 J -33889179.74 -33889179.63 -33889179.51 0.0273 0.0188

Neptune -97497-07-27 07:39 J -33889148.33 -33889148.18 -33889148.03 0.0089 0.0014

Venus -97497-09-16 16:32 J -33889096.95 -33889096.81 -33889096.67 0.3599 0.0164

Saturn -97497-09-22 12:27 J -33889091.12 -33889090.98 -33889090.83 0.0273 0.0102

Neptune -97497-10-23 09:35 J -33889060.24 -33889060.10 -33889059.95 0.0089 0.0019

Saturn -97497-12-20 03:35 J -33889002.50 -33889002.35 -33889002.19 0.0273 0.0019

Neptune -97496-01-19 11:30 J -33888972.16 -33888972.02 -33888971.87 0.0089 0.0024

Mars -97496-01-22 14:37 J -33888968.94 -33888968.89 -33888968.84 0.1612 0.1481

Saturn -97496-03-18 18:27 J -33888913.88 -33888913.73 -33888913.58 0.0273 0.0065

Neptune -97496-04-17 13:25 J -33888884.08 -33888883.94 -33888883.79 0.0089 0.0028

Saturn -97496-06-15 09:06 J -33888825.25 -33888825.12 -33888824.99 0.0273 0.0145

Neptune -97496-07-14 15:20 J -33888796.00 -33888795.86 -33888795.71 0.0089 0.0033

Saturn -97496-09-11 23:15 J -33888736.61 -33888736.53 -33888736.44 0.0273 0.0224

Neptune -97496-10-10 17:15 J -33888707.91 -33888707.78 -33888707.64 0.0089 0.0037

Neptune -97495-01-06 19:11 J -33888619.83 -33888619.70 -33888619.56 0.0089 0.0042

Venus -97495-04-03 06:56 J -33888533.28 -33888533.21 -33888533.13 0.3769 0.2819

Neptune -97495-04-04 21:20 J -33888531.74 -33888531.61 -33888531.48 0.0089 0.0046

Neptune -97495-07-01 23:15 J -33888443.65 -33888443.53 -33888443.40 0.0089 0.0051

Jupiter -97495-08-23 07:25 J -33888391.26 -33888391.19 -33888391.12 0.0513 0.0456

Neptune -97495-09-28 00:56 J -33888355.56 -33888355.46 -33888355.33 0.0089 0.0056

Jupiter -97495-11-21 05:01 J -33888301.44 -33888301.29 -33888301.13 0.0517 0.0081

Neptune -97495-12-25 03:20 J -33888267.47 -33888267.36 -33888267.25 0.0089 0.0060

Mars -97495-12-29 07:54 J -33888263.31 -33888263.17 -33888263.03 0.1613 0.0272

Neptune -97494-03-23 05:01 J -33888179.38 -33888179.29 -33888179.17 0.0089 0.0065

Neptune -97494-06-19 06:56 J -33888091.29 -33888091.21 -33888091.10 0.0089 0.0070

Neptune -97494-09-15 09:20 J -33888003.19 -33888003.11 -33888003.03 0.0089 0.0074

Neptune -97494-12-12 11:15 J -33887915.09 -33887915.03 -33887914.96 0.0089 0.0079

Neptune -97493-03-09 13:11 J -33887826.99 -33887826.95 -33887826.89 0.0089 0.0084

Neptune -97493-06-05 15:20 J -33887738.86 -33887738.86 -33887738.84 0.0089 0.0089

Mars -97492-10-16 06:13 J -33887241.37 -33887241.24 -33887241.10 0.1912 0.0157

Venus -97491-04-02 16:32 J -33887072.94 -33887072.81 -33887072.68 0.3602 0.1060

Jupiter -97489-04-11 05:30 J -33886333.41 -33886333.27 -33886333.13 0.0513 0.0141

Jupiter -97489-07-09 18:27 J -33886243.84 -33886243.73 -33886243.62 0.0509 0.0329

Moon -97488-01-06 00:27 J -33886063.61 -33886063.48 -33886063.35 0.2701 0.0733

Earth -97488-01-06 01:25 J -33886063.57 -33886063.44 -33886063.31 0.2705 0.0752 *

Venus -97486-10-17 16:03 J -33885048.93 -33885048.83 -33885048.73 0.3605 0.2233

Mars -97485-05-20 15:20 J -33884833.00 -33884832.86 -33884832.72 0.1613 0.0173

Earth -97485-07-14 23:44 J -33884777.64 -33884777.51 -33884777.39 0.2632 0.0101

Moon -97485-07-15 00:13 J -33884777.61 -33884777.49 -33884777.37 0.2637 0.0129 *

Jupiter -97483-09-09 05:44 J -33883991.41 -33883991.26 -33883991.10 0.0516 0.0048

Jupiter -97483-12-08 02:08 J -33883901.47 -33883901.41 -33883901.35 0.0520 0.0480

Mars -97482-03-08 09:35 J -33883811.22 -33883811.10 -33883810.98 0.1913 0.0918

Saturn -97482-04-08 00:27 J -33883780.57 -33883780.48 -33883780.38 0.0286 0.0218

Saturn -97482-07-05 16:18 J -33883691.96 -33883691.82 -33883691.68 0.0286 0.0127

Saturn -97482-10-02 08:23 J -33883603.30 -33883603.15 -33883603.00 0.0286 0.0034

Saturn -97482-12-30 00:42 J -33883514.62 -33883514.47 -33883514.32 0.0286 0.0061

Saturn -97481-03-27 17:30 J -33883425.90 -33883425.77 -33883425.64 0.0286 0.0158

Saturn -97481-06-24 10:32 J -33883337.12 -33883337.06 -33883336.98 0.0286 0.0257

Venus -97480-05-02 15:20 J -33883024.91 -33883024.86 -33883024.82 0.3609 0.3358

Venus -97477-01-25 19:11 J -33882026.75 -33882026.70 -33882026.65 0.3788 0.3295

Jupiter -97477-01-29 07:54 J -33882023.29 -33882023.17 -33882023.04 0.0513 0.0258

Jupiter -97477-04-27 20:37 J -33881933.77 -33881933.64 -33881933.51 0.0510 0.0210

Mars -97476-10-10 23:01 J -33881402.67 -33881402.54 -33881402.41 0.1612 0.0598

Moon -97475-01-09 00:42 J -33881312.55 -33881312.47 -33881312.40 0.2703 0.2238

Earth -97475-01-09 01:54 J -33881312.48 -33881312.42 -33881312.37 0.2701 0.2421 *

Mars -97474-09-16 17:59 J -33880696.84 -33880696.75 -33880696.66 0.1615 0.1233

Mars -97473-07-28 12:42 J -33880381.03 -33880380.97 -33880380.91 0.1913 0.1709

Earth -97472-07-17 20:23 J -33880026.76 -33880026.65 -33880026.55 0.2637 0.1308

Moon -97472-07-17 21:20 J -33880026.72 -33880026.61 -33880026.51 0.2638 0.1341 *

Venus -97472-08-10 13:11 J -33880003.03 -33880002.95 -33880002.87 0.3786 0.2456

Jupiter -97471-06-28 06:13 J -33879681.39 -33879681.24 -33879681.09 0.0515 0.0179

Mars -97471-07-04 22:32 J -33879674.65 -33879674.56 -33879674.47 0.1910 0.1377

Jupiter -97471-09-26 02:51 J -33879591.49 -33879591.38 -33879591.27 0.0519 0.0351

Earth -97468-01-01 07:11 J -33878763.28 -33878763.20 -33878763.12 0.2714 0.2137

Moon -97468-01-01 07:39 J -33878763.26 -33878763.18 -33878763.10 0.2707 0.2133 *

Uranus -97468-03-26 06:27 J -33878679.28 -33878679.23 -33878679.16 0.0143 0.0130

Uranus -97468-06-22 11:15 J -33878591.12 -33878591.03 -33878590.93 0.0143 0.0110

Uranus -97468-09-18 16:18 J -33878502.93 -33878502.82 -33878502.70 0.0143 0.0090

Saturn -97468-11-12 22:18 J -33878447.66 -33878447.57 -33878447.47 0.0274 0.0212

Uranus -97468-12-15 21:20 J -33878414.74 -33878414.61 -33878414.48 0.0143 0.0069

Saturn -97467-02-09 13:54 J -33878359.05 -33878358.92 -33878358.77 0.0274 0.0126

Uranus -97467-03-14 02:23 J -33878326.54 -33878326.40 -33878326.26 0.0143 0.0048

Saturn -97467-05-09 05:15 J -33878270.43 -33878270.28 -33878270.12 0.0274 0.0041

Uranus -97467-06-10 07:25 J -33878238.34 -33878238.19 -33878238.04 0.0144 0.0027

Saturn -97467-08-05 20:23 J -33878181.81 -33878181.65 -33878181.50 0.0274 0.0043

Uranus -97467-09-06 12:27 J -33878150.13 -33878149.98 -33878149.82 0.0144 0.0007

Saturn -97467-11-02 11:01 J -33878093.18 -33878093.04 -33878092.91 0.0274 0.0124

Uranus -97467-12-03 17:44 J -33878061.91 -33878061.76 -33878061.61 0.0144 0.0016

Saturn -97466-01-30 01:11 J -33878004.54 -33878004.45 -33878004.34 0.0274 0.0204

Venus -97466-02-24 07:25 J -33877979.29 -33877979.19 -33877979.09 0.3784 0.1591

Uranus -97466-03-01 23:01 J -33877973.69 -33877973.54 -33877973.39 0.0144 0.0037

Mars -97466-03-03 06:42 J -33877972.32 -33877972.22 -33877972.11 0.1612 0.1021

Uranus -97466-05-29 04:18 J -33877885.46 -33877885.32 -33877885.18 0.0144 0.0059

Uranus -97466-08-25 09:35 J -33877797.23 -33877797.10 -33877796.97 0.0144 0.0082

Jupiter -97466-11-17 09:49 J -33877713.18 -33877713.09 -33877712.99 0.0515 0.0382

Uranus -97466-11-21 14:51 J -33877708.98 -33877708.88 -33877708.77 0.0144 0.0104

Jupiter -97465-02-14 22:18 J -33877623.72 -33877623.57 -33877623.43 0.0511 0.0084

Uranus -97465-02-17 20:23 J -33877620.72 -33877620.65 -33877620.57 0.0144 0.0127

Moon -97465-07-10 10:32 J -33877477.12 -33877477.06 -33877477.00 0.2629 0.2242

Earth -97465-07-10 11:01 J -33877477.10 -33877477.04 -33877476.97 0.2625 0.2238 *

Mars -97464-02-06 00:56 J -33877266.58 -33877266.46 -33877266.33 0.1614 0.0776

Mars -97462-11-25 02:37 J -33876244.51 -33876244.39 -33876244.26 0.1911 0.0661

Venus -97461-09-09 01:39 J -33875955.54 -33875955.43 -33875955.32 0.3781 0.0713

Jupiter -97459-04-16 05:59 J -33875371.37 -33875371.25 -33875371.12 0.0514 0.0316

Jupiter -97459-07-15 03:06 J -33875281.51 -33875281.37 -33875281.23 0.0518 0.0217

Earth -97459-07-20 16:47 J -33875275.83 -33875275.80 -33875275.77 0.2641 0.2529

Mars -97457-07-23 14:37 J -33874541.95 -33874541.89 -33874541.82 0.1611 0.1431

Moon -97455-01-04 06:27 J -33874012.37 -33874012.23 -33874012.10 0.2703 0.0554

Earth -97455-01-04 06:56 J -33874012.34 -33874012.21 -33874012.08 0.2709 0.0553 *

Venus -97455-03-25 20:23 J -33873931.76 -33873931.65 -33873931.54 0.3778 0.0218

Mars -97455-06-29 08:08 J -33873836.30 -33873836.16 -33873836.02 0.1613 0.0323

Jupiter -97454-09-05 12:27 J -33873403.01 -33873402.98 -33873402.94 0.0516 0.0497

Jupiter -97454-12-04 00:42 J -33873313.62 -33873313.47 -33873313.33 0.0512 0.0034

Jupiter -97453-03-02 13:54 J -33873223.99 -33873223.92 -33873223.85 0.0508 0.0439

Saturn -97453-08-25 03:49 J -33873048.42 -33873048.34 -33873048.25 0.0285 0.0230

Saturn -97453-11-21 19:39 J -33872959.81 -33872959.68 -33872959.55 0.0285 0.0140

Saturn -97452-02-18 11:30 J -33872871.17 -33872871.02 -33872870.86 0.0285 0.0049

Mars -97452-04-16 06:27 J -33872814.37 -33872814.23 -33872814.10 0.1913 0.0091

Saturn -97452-05-18 03:49 J -33872782.49 -33872782.34 -33872782.18 0.0285 0.0048

Moon -97452-07-13 08:08 J -33872726.28 -33872726.16 -33872726.05 0.2636 0.0986

Earth -97452-07-13 08:08 J -33872726.28 -33872726.16 -33872726.04 0.2629 0.0945 *

Saturn -97452-08-14 20:37 J -33872693.77 -33872693.64 -33872693.50 0.0286 0.0143

Saturn -97452-11-11 13:39 J -33872605.01 -33872604.93 -33872604.84 0.0286 0.0242

Venus -97451-03-24 15:06 J -33872471.97 -33872471.87 -33872471.77 0.3594 0.2389

Venus -97450-10-09 15:06 J -33871907.98 -33871907.87 -33871907.76 0.3775 0.1150

Jupiter -97447-02-02 05:01 J -33871061.35 -33871061.29 -33871061.22 0.0513 0.0462

Jupiter -97447-05-03 02:37 J -33870971.54 -33870971.39 -33870971.23 0.0517 0.0077

Venus -97446-10-08 15:49 J -33870447.97 -33870447.84 -33870447.71 0.3597 0.1070

Mars -97446-11-19 15:35 J -33870405.99 -33870405.85 -33870405.70 0.1613 0.0126

Venus -97444-04-24 10:03 J -33869884.17 -33869884.08 -33869883.98 0.3771 0.2118

Mars -97443-09-06 10:03 J -33869384.20 -33869384.08 -33869383.96 0.1913 0.0840

Moon -97442-01-07 05:59 J -33869261.37 -33869261.25 -33869261.12 0.2703 0.0895

Earth -97442-01-07 07:11 J -33869261.33 -33869261.20 -33869261.08 0.2705 0.1088 *

Jupiter -97442-09-22 03:35 J -33869003.49 -33869003.35 -33869003.21 0.0513 0.0144

Jupiter -97442-12-20 16:32 J -33868913.92 -33868913.81 -33868913.70 0.0509 0.0326

Venus -97440-04-23 16:18 J -33868423.96 -33868423.82 -33868423.69 0.3600 0.0207

Pluto -97440-12-20 18:13 J -33868182.78 -33868182.74 -33868182.63 0.0060 0.0056

Pluto -97439-03-18 19:54 J -33868094.76 -33868094.67 -33868094.53 0.0060 0.0049

Pluto -97439-06-14 21:35 J -33868006.72 -33868006.60 -33868006.44 0.0060 0.0042

Earth -97439-07-16 04:47 J -33867975.42 -33867975.30 -33867975.17 0.2633 0.0335

Moon -97439-07-16 05:44 J -33867975.39 -33867975.26 -33867975.14 0.2637 0.0418 *

Pluto -97439-09-10 23:01 J -33867918.68 -33867918.54 -33867918.36 0.0060 0.0035

Venus -97439-11-08 05:30 J -33867860.34 -33867860.27 -33867860.21 0.3768 0.3108

Pluto -97439-12-08 00:42 J -33867830.63 -33867830.47 -33867830.29 0.0060 0.0028

Pluto -97438-03-06 02:08 J -33867742.58 -33867742.41 -33867742.21 0.0060 0.0022

Saturn -97438-04-01 23:59 J -33867715.57 -33867715.50 -33867715.41 0.0273 0.0233

Pluto -97438-06-02 03:49 J -33867654.53 -33867654.34 -33867654.14 0.0060 0.0014

Saturn -97438-06-29 15:49 J -33867626.97 -33867626.84 -33867626.71 0.0273 0.0146

Pluto -97438-08-29 05:15 J -33867566.47 -33867566.28 -33867566.08 0.0060 0.0008

Saturn -97438-09-26 07:11 J -33867538.35 -33867538.20 -33867538.05 0.0273 0.0061

Pluto -97438-11-25 06:56 J -33867478.41 -33867478.21 -33867478.01 0.0060 0.0001

Saturn -97438-12-23 22:18 J -33867449.73 -33867449.57 -33867449.42 0.0273 0.0023

Pluto -97437-02-21 08:23 J -33867390.34 -33867390.15 -33867389.95 0.0060 0.0007

Saturn -97437-03-21 12:56 J -33867361.10 -33867360.96 -33867360.82 0.0273 0.0104

Pluto -97437-05-19 09:49 J -33867302.28 -33867302.09 -33867301.89 0.0061 0.0014

Saturn -97437-06-18 03:20 J -33867272.47 -33867272.36 -33867272.25 0.0273 0.0183

Pluto -97437-08-15 11:15 J -33867214.21 -33867214.03 -33867213.84 0.0061 0.0021

Saturn -97437-09-14 17:30 J -33867183.81 -33867183.77 -33867183.73 0.0273 0.0261

Pluto -97437-11-11 12:42 J -33867126.13 -33867125.97 -33867125.78 0.0061 0.0028

Pluto -97436-02-07 14:08 J -33867038.06 -33867037.91 -33867037.73 0.0061 0.0035

Mars -97436-04-10 23:15 J -33866975.66 -33866975.53 -33866975.40 0.1612 0.0545

Pluto -97436-05-06 15:49 J -33866949.97 -33866949.84 -33866949.69 0.0061 0.0042

Pluto -97436-08-02 17:30 J -33866861.88 -33866861.77 -33866861.65 0.0061 0.0049

Pluto -97436-10-29 18:27 J -33866773.77 -33866773.73 -33866773.63 0.0061 0.0057

Jupiter -97435-02-19 03:20 J -33866661.52 -33866661.36 -33866661.21 0.0516 0.0057

Jupiter -97435-05-19 23:30 J -33866571.58 -33866571.52 -33866571.45 0.0520 0.0471

Venus -97435-11-07 16:03 J -33866399.95 -33866399.83 -33866399.71 0.3603 0.1412

Mars -97434-03-17 18:27 J -33866269.82 -33866269.73 -33866269.65 0.1615 0.1293

Mars -97433-01-27 12:56 J -33865954.03 -33865953.96 -33865953.89 0.1913 0.1639

Mars -97431-01-02 23:01 J -33865247.63 -33865247.54 -33865247.46 0.1909 0.1450

Jupiter -97430-07-11 06:13 J -33864693.36 -33864693.24 -33864693.12 0.0514 0.0259

Jupiter -97430-10-08 18:42 J -33864603.85 -33864603.72 -33864603.58 0.0510 0.0210

Venus -97429-05-23 15:35 J -33864375.94 -33864375.85 -33864375.76 0.3606 0.2569

Uranus -97429-08-21 22:47 J -33864285.61 -33864285.55 -33864285.47 0.0136 0.0123

Uranus -97429-11-18 04:03 J -33864197.43 -33864197.33 -33864197.22 0.0136 0.0103

Uranus -97428-02-14 09:06 J -33864109.24 -33864109.12 -33864108.99 0.0135 0.0084

Uranus -97428-05-13 14:08 J -33864021.05 -33864020.91 -33864020.77 0.0135 0.0065

Uranus -97428-08-09 18:56 J -33863932.86 -33863932.71 -33863932.55 0.0135 0.0046

Uranus -97428-11-05 23:59 J -33863844.66 -33863844.50 -33863844.34 0.0135 0.0027

Uranus -97427-02-02 04:47 J -33863756.46 -33863756.30 -33863756.14 0.0135 0.0009

Uranus -97427-05-01 09:35 J -33863668.25 -33863668.10 -33863667.94 0.0135 0.0011

Uranus -97427-07-28 14:23 J -33863580.05 -33863579.90 -33863579.74 0.0135 0.0028

Mars -97427-09-01 06:56 J -33863545.32 -33863545.21 -33863545.10 0.1611 0.0966

Uranus -97427-10-24 19:11 J -33863491.85 -33863491.70 -33863491.55 0.0135 0.0046

Uranus -97426-01-20 23:44 J -33863403.64 -33863403.51 -33863403.36 0.0135 0.0064

Uranus -97426-04-19 04:18 J -33863315.43 -33863315.32 -33863315.19 0.0134 0.0082

Uranus -97426-07-16 09:06 J -33863227.22 -33863227.12 -33863227.01 0.0134 0.0099

Earth -97426-07-19 01:25 J -33863224.54 -33863224.44 -33863224.34 0.2637 0.1566

Moon -97426-07-19 02:23 J -33863224.49 -33863224.40 -33863224.31 0.2638 0.1700 *

Uranus -97426-10-12 13:25 J -33863139.01 -33863138.94 -33863138.85 0.0134 0.0116

Uranus -97425-01-08 17:59 J -33863050.76 -33863050.75 -33863050.72 0.0134 0.0133

Mars -97425-08-07 01:25 J -33862839.56 -33862839.44 -33862839.32 0.1614 0.0833

Jupiter -97424-12-08 03:49 J -33862351.49 -33862351.34 -33862351.19 0.0515 0.0185

Saturn -97423-01-12 04:03 J -33862316.39 -33862316.33 -33862316.28 0.0286 0.0263

Jupiter -97423-03-08 00:42 J -33862261.59 -33862261.47 -33862261.36 0.0519 0.0346

Saturn -97423-04-10 19:25 J -33862227.80 -33862227.69 -33862227.57 0.0286 0.0174

Saturn -97423-07-08 11:15 J -33862139.17 -33862139.03 -33862138.88 0.0286 0.0083

Saturn -97423-10-05 03:35 J -33862050.50 -33862050.35 -33862050.20 0.0286 0.0012

Saturn -97422-01-01 20:08 J -33861961.80 -33861961.66 -33861961.51 0.0286 0.0108

Moon -97422-01-02 12:56 J -33861961.06 -33861960.96 -33861960.86 0.2707 0.1792

Earth -97422-01-02 12:56 J -33861961.06 -33861960.96 -33861960.87 0.2714 0.1819 *

Saturn -97422-03-31 12:56 J -33861873.06 -33861872.96 -33861872.84 0.0286 0.0206

Mars -97422-05-26 02:51 J -33861817.50 -33861817.38 -33861817.26 0.1911 0.0728

Venus -97421-08-31 17:15 J -33861353.85 -33861353.78 -33861353.72 0.3788 0.3043

Neptune -97420-07-17 01:54 J -33861034.43 -33861034.42 -33861034.39 0.0089 0.0088

Neptune -97420-10-13 04:32 J -33860946.35 -33860946.31 -33860946.23 0.0089 0.0083

Neptune -97419-01-09 07:11 J -33860858.26 -33860858.20 -33860858.10 0.0089 0.0078

Neptune -97419-04-07 09:49 J -33860770.17 -33860770.09 -33860769.97 0.0089 0.0073

Neptune -97419-07-04 12:56 J -33860682.07 -33860681.96 -33860681.85 0.0089 0.0067

Moon -97419-07-11 16:03 J -33860674.91 -33860674.83 -33860674.76 0.2631 0.2084

Earth -97419-07-11 16:32 J -33860674.90 -33860674.81 -33860674.73 0.2625 0.1957 *

Neptune -97419-09-30 15:35 J -33860593.97 -33860593.85 -33860593.73 0.0089 0.0062

Neptune -97419-12-27 17:59 J -33860505.87 -33860505.75 -33860505.61 0.0089 0.0057

Neptune -97418-03-25 20:37 J -33860417.77 -33860417.64 -33860417.49 0.0089 0.0052

Jupiter -97418-04-29 08:51 J -33860383.23 -33860383.13 -33860383.04 0.0515 0.0375

Neptune -97418-06-21 23:15 J -33860329.66 -33860329.53 -33860329.37 0.0089 0.0047

Jupiter -97418-07-27 21:06 J -33860293.76 -33860293.62 -33860293.48 0.0511 0.0090

Neptune -97418-09-18 01:54 J -33860241.56 -33860241.42 -33860241.26 0.0089 0.0042

Neptune -97418-12-15 04:32 J -33860153.46 -33860153.31 -33860153.15 0.0089 0.0036

Mars -97417-01-22 15:06 J -33860114.94 -33860114.87 -33860114.80 0.1611 0.1375

Neptune -97417-03-12 07:11 J -33860065.35 -33860065.20 -33860065.03 0.0089 0.0031

Neptune -97417-06-08 09:35 J -33859977.25 -33859977.10 -33859976.92 0.0089 0.0027

Neptune -97417-09-04 12:13 J -33859889.14 -33859888.99 -33859888.82 0.0089 0.0022

Neptune -97417-12-01 14:51 J -33859801.04 -33859800.88 -33859800.71 0.0089 0.0016

Neptune -97416-02-27 17:30 J -33859712.93 -33859712.77 -33859712.60 0.0088 0.0011

Neptune -97416-05-26 20:08 J -33859624.83 -33859624.66 -33859624.49 0.0088 0.0006

Neptune -97416-08-22 22:32 J -33859536.72 -33859536.56 -33859536.39 0.0088 0.0002

Neptune -97416-11-19 01:11 J -33859448.62 -33859448.45 -33859448.28 0.0088 0.0004

Mars -97416-12-28 08:37 J -33859409.28 -33859409.14 -33859409.00 0.1613 0.0385

Neptune -97415-02-15 03:35 J -33859360.51 -33859360.35 -33859360.18 0.0088 0.0009

Venus -97415-03-17 11:15 J -33859330.12 -33859330.03 -33859329.94 0.3785 0.2193

Neptune -97415-05-14 06:13 J -33859272.41 -33859272.24 -33859272.08 0.0088 0.0014

Neptune -97415-08-10 08:37 J -33859184.30 -33859184.14 -33859183.98 0.0088 0.0019

Neptune -97415-11-06 11:01 J -33859096.20 -33859096.04 -33859095.88 0.0088 0.0024

Neptune -97414-02-02 13:25 J -33859008.09 -33859007.94 -33859007.78 0.0088 0.0028

Neptune -97414-05-01 15:49 J -33858919.99 -33858919.84 -33858919.68 0.0088 0.0033

Neptune -97414-07-28 18:13 J -33858831.88 -33858831.74 -33858831.58 0.0088 0.0038

Neptune -97414-10-24 20:51 J -33858743.78 -33858743.63 -33858743.49 0.0088 0.0043

Neptune -97413-01-20 23:01 J -33858655.67 -33858655.54 -33858655.39 0.0088 0.0048

Neptune -97413-04-18 01:25 J -33858567.56 -33858567.44 -33858567.30 0.0088 0.0053

Neptune -97413-07-15 03:49 J -33858479.46 -33858479.34 -33858479.21 0.0088 0.0057

Neptune -97413-10-11 06:27 J -33858391.35 -33858391.23 -33858391.12 0.0088 0.0062

Mars -97413-10-15 06:56 J -33858387.35 -33858387.21 -33858387.08 0.1912 0.0035

Neptune -97412-01-07 08:37 J -33858303.24 -33858303.14 -33858303.03 0.0088 0.0067

Neptune -97412-04-05 10:47 J -33858215.13 -33858215.05 -33858214.94 0.0088 0.0072

Neptune -97412-07-02 13:25 J -33858127.02 -33858126.94 -33858126.86 0.0088 0.0076

Jupiter -97412-09-26 04:03 J -33858041.45 -33858041.33 -33858041.20 0.0514 0.0316

Neptune -97412-09-28 15:35 J -33858038.91 -33858038.85 -33858038.78 0.0088 0.0081

Jupiter -97412-12-25 01:25 J -33857951.58 -33857951.44 -33857951.30 0.0518 0.0218

Neptune -97412-12-25 17:44 J -33857950.79 -33857950.76 -33857950.70 0.0088 0.0085

Venus -97410-10-01 05:30 J -33857306.37 -33857306.27 -33857306.17 0.3783 0.1327

Moon -97409-01-05 11:59 J -33857210.13 -33857210.00 -33857209.87 0.2703 0.0346

Earth -97409-01-05 12:42 J -33857210.10 -33857209.97 -33857209.84 0.2709 0.0219 *

Saturn -97409-08-19 01:11 J -33856983.50 -33856983.45 -33856983.40 0.0274 0.0258

Saturn -97409-11-15 17:01 J -33856894.91 -33856894.79 -33856894.67 0.0274 0.0171

Saturn -97408-02-12 08:23 J -33856806.29 -33856806.15 -33856806.00 0.0274 0.0086

Saturn -97408-05-11 23:44 J -33856717.67 -33856717.51 -33856717.36 0.0274 0.0005

Saturn -97408-08-08 14:23 J -33856629.04 -33856628.90 -33856628.75 0.0274 0.0082

Saturn -97408-11-05 05:01 J -33856540.41 -33856540.29 -33856540.17 0.0274 0.0162

Saturn -97407-02-01 19:11 J -33856451.76 -33856451.70 -33856451.62 0.0274 0.0241

Jupiter -97406-02-15 10:32 J -33856073.09 -33856073.06 -33856073.02 0.0516 0.0499

Jupiter -97406-05-15 22:47 J -33855983.70 -33855983.55 -33855983.41 0.0512 0.0038

Mars -97406-05-20 15:49 J -33855978.98 -33855978.84 -33855978.70 0.1612 0.0067

Moon -97406-07-14 13:25 J -33855924.06 -33855923.94 -33855923.82 0.2635 0.0617

Earth -97406-07-14 13:25 J -33855924.06 -33855923.94 -33855923.82 0.2629 0.0673 *

Jupiter -97406-08-13 11:59 J -33855894.08 -33855894.00 -33855893.93 0.0508 0.0436

Venus -97404-04-15 23:59 J -33855282.61 -33855282.50 -33855282.39 0.3780 0.0432

Mars -97403-03-07 10:03 J -33854957.20 -33854957.08 -33854956.96 0.1913 0.0783

Venus -97400-04-14 13:54 J -33853822.96 -33853822.92 -33853822.87 0.3591 0.3339

Jupiter -97400-07-15 04:03 J -33853731.41 -33853731.33 -33853731.26 0.0513 0.0453

Jupiter -97400-10-13 01:39 J -33853641.59 -33853641.43 -33853641.28 0.0517 0.0083

Venus -97399-10-30 18:42 J -33853258.83 -33853258.72 -33853258.61 0.3777 0.0500

Mars -97397-10-09 23:30 J -33852548.65 -33852548.52 -33852548.39 0.1612 0.0491

Moon -97396-01-07 11:30 J -33852459.13 -33852459.02 -33852458.90 0.2704 0.1383

Earth -97396-01-07 12:42 J -33852459.08 -33852458.97 -33852458.85 0.2704 0.1422 *

Mars -97395-09-15 18:42 J -33851842.80 -33851842.72 -33851842.65 0.1615 0.1350

Venus -97395-10-29 15:06 J -33851798.98 -33851798.87 -33851798.76 0.3594 0.1987

Jupiter -97394-03-04 01:11 J -33851673.59 -33851673.45 -33851673.31 0.0513 0.0153

Saturn -97394-06-01 07:11 J -33851584.23 -33851584.20 -33851584.16 0.0285 0.0276

Jupiter -97394-06-01 14:08 J -33851584.03 -33851583.91 -33851583.80 0.0509 0.0317

Mars -97394-07-28 13:11 J -33851527.02 -33851526.95 -33851526.87 0.1914 0.1565

Saturn -97394-08-28 22:47 J -33851495.66 -33851495.55 -33851495.44 0.0285 0.0187

Saturn -97394-11-25 14:37 J -33851407.03 -33851406.89 -33851406.75 0.0285 0.0096

Saturn -97393-02-22 06:42 J -33851318.37 -33851318.22 -33851318.06 0.0285 0.0005

Venus -97393-05-15 13:25 J -33851235.04 -33851234.94 -33851234.83 0.3773 0.1436

Saturn -97393-05-20 23:15 J -33851229.68 -33851229.53 -33851229.38 0.0286 0.0093

Earth -97393-07-16 10:03 J -33851173.20 -33851173.08 -33851172.96 0.2633 0.0591

Moon -97393-07-16 10:47 J -33851173.16 -33851173.05 -33851172.93 0.2638 0.0656 *

Saturn -97393-08-17 16:03 J -33851140.94 -33851140.83 -33851140.71 0.0286 0.0191

Mars -97392-07-03 23:01 J -33850820.62 -33850820.54 -33850820.46 0.1910 0.1508

Venus -97389-05-14 15:49 J -33849774.97 -33849774.84 -33849774.71 0.3597 0.0680

Jupiter -97388-08-01 00:56 J -33849331.62 -33849331.46 -33849331.30 0.0516 0.0062

Jupiter -97388-10-29 21:20 J -33849241.68 -33849241.61 -33849241.55 0.0520 0.0465

Venus -97388-11-29 08:37 J -33849211.23 -33849211.14 -33849211.05 0.3770 0.2403

Mars -97387-03-02 07:25 J -33849118.31 -33849118.19 -33849118.08 0.1612 0.0911

Mars -97385-02-06 01:39 J -33848412.55 -33848412.43 -33848412.31 0.1614 0.0891

Uranus -97384-04-15 13:11 J -33847978.00 -33847977.95 -33847977.87 0.0143 0.0127

Uranus -97384-07-12 18:13 J -33847889.83 -33847889.74 -33847889.64 0.0143 0.0107

Uranus -97384-10-08 23:15 J -33847801.65 -33847801.53 -33847801.41 0.0143 0.0086

Venus -97384-11-28 16:03 J -33847750.96 -33847750.83 -33847750.70 0.3600 0.0570

Uranus -97383-01-05 04:18 J -33847713.46 -33847713.32 -33847713.19 0.0143 0.0066

Uranus -97383-04-03 09:06 J -33847625.26 -33847625.12 -33847624.97 0.0143 0.0045

Uranus -97383-06-30 14:23 J -33847537.05 -33847536.90 -33847536.75 0.0144 0.0024

Uranus -97383-09-26 19:25 J -33847448.84 -33847448.69 -33847448.53 0.0144 0.0003

Mars -97383-11-24 03:20 J -33847390.48 -33847390.36 -33847390.24 0.1912 0.0806

Jupiter -97383-12-21 04:03 J -33847363.45 -33847363.33 -33847363.20 0.0514 0.0264

Uranus -97383-12-24 00:42 J -33847360.63 -33847360.47 -33847360.32 0.0144 0.0019

Jupiter -97382-03-20 16:47 J -33847273.93 -33847273.80 -33847273.66 0.0510 0.0205

Uranus -97382-03-22 05:44 J -33847272.40 -33847272.26 -33847272.11 0.0144 0.0041

Venus -97382-06-15 03:49 J -33847187.38 -33847187.34 -33847187.29 0.3767 0.3402

Uranus -97382-06-18 11:01 J -33847184.17 -33847184.04 -33847183.89 0.0144 0.0063

Uranus -97382-09-14 16:18 J -33847095.94 -33847095.82 -33847095.69 0.0144 0.0086

Uranus -97382-12-11 21:49 J -33847007.69 -33847007.59 -33847007.48 0.0144 0.0108

Uranus -97381-03-09 03:06 J -33846919.42 -33846919.37 -33846919.29 0.0145 0.0131

Earth -97380-07-19 06:42 J -33846422.31 -33846422.22 -33846422.13 0.2638 0.1829

Moon -97380-07-19 07:39 J -33846422.27 -33846422.18 -33846422.10 0.2637 0.1900 *

Saturn -97379-04-04 19:11 J -33846162.81 -33846162.70 -33846162.59 0.0273 0.0190

Saturn -97379-07-02 10:47 J -33846074.20 -33846074.05 -33846073.91 0.0273 0.0104

Saturn -97379-09-29 01:54 J -33845985.57 -33845985.42 -33845985.26 0.0273 0.0020

Saturn -97379-12-26 16:47 J -33845896.95 -33845896.80 -33845896.65 0.0273 0.0062

Saturn -97378-03-25 07:25 J -33845808.32 -33845808.19 -33845808.06 0.0273 0.0143

Venus -97378-06-14 15:49 J -33845726.96 -33845726.84 -33845726.73 0.3604 0.1759

Saturn -97378-06-21 21:35 J -33845719.68 -33845719.60 -33845719.51 0.0273 0.0222

Mars -97378-07-23 15:20 J -33845687.94 -33845687.86 -33845687.79 0.1611 0.1325

Moon -97376-01-02 18:13 J -33845158.85 -33845158.74 -33845158.63 0.2706 0.1487

Earth -97376-01-02 18:27 J -33845158.84 -33845158.73 -33845158.62 0.2713 0.1496 *

Jupiter -97376-05-20 01:11 J -33845021.59 -33845021.45 -33845021.30 0.0515 0.0194

Mars -97376-06-28 08:51 J -33844982.27 -33844982.13 -33844982.00 0.1613 0.0440

Jupiter -97376-08-17 22:03 J -33844931.70 -33844931.58 -33844931.46 0.0519 0.0337

Mars -97373-04-15 06:56 J -33843960.34 -33843960.21 -33843960.07 0.1912 0.0085

Moon -97373-07-11 21:20 J -33843872.71 -33843872.61 -33843872.52 0.2632 0.1661

Earth -97373-07-11 21:49 J -33843872.69 -33843872.59 -33843872.50 0.2626 0.1688 *

Venus -97373-12-28 15:06 J -33843702.94 -33843702.87 -33843702.79 0.3607 0.2903

Jupiter -97371-10-09 06:56 J -33843053.30 -33843053.21 -33843053.11 0.0515 0.0376

Jupiter -97370-01-06 19:11 J -33842963.84 -33842963.70 -33842963.55 0.0511 0.0090

Venus -97370-09-22 21:20 J -33842704.64 -33842704.61 -33842704.58 0.3789 0.3605

Mars -97367-11-18 16:18 J -33841551.96 -33841551.82 -33841551.68 0.1612 0.0023

Saturn -97364-01-14 22:47 J -33840763.64 -33840763.55 -33840763.46 0.0286 0.0221

Jupiter -97364-03-08 01:39 J -33840711.55 -33840711.43 -33840711.30 0.0514 0.0323

Venus -97364-04-07 15:20 J -33840680.93 -33840680.86 -33840680.79 0.3787 0.2781

Saturn -97364-04-13 14:23 J -33840675.03 -33840674.90 -33840674.76 0.0286 0.0130

Jupiter -97364-06-05 23:01 J -33840621.68 -33840621.54 -33840621.40 0.0518 0.0211

Saturn -97364-07-11 06:27 J -33840586.38 -33840586.23 -33840586.08 0.0286 0.0037

Mars -97364-09-05 10:32 J -33840530.18 -33840530.06 -33840529.93 0.1913 0.0702

Saturn -97364-10-07 22:47 J -33840497.70 -33840497.55 -33840497.40 0.0286 0.0058

Saturn -97363-01-04 15:35 J -33840408.98 -33840408.85 -33840408.72 0.0286 0.0155

Moon -97363-01-05 17:30 J -33840407.90 -33840407.77 -33840407.63 0.2703 0.0081

Earth -97363-01-05 18:13 J -33840407.87 -33840407.74 -33840407.60 0.2708 0.0145 *

Saturn -97363-04-03 08:37 J -33840320.21 -33840320.14 -33840320.07 0.0286 0.0254

Earth -97360-07-14 18:42 J -33839121.85 -33839121.72 -33839121.60 0.2630 0.0400

Moon -97360-07-14 18:56 J -33839121.83 -33839121.71 -33839121.58 0.2636 0.0437 *

Jupiter -97359-07-28 09:35 J -33838743.14 -33838743.10 -33838743.06 0.0516 0.0490

Venus -97359-10-22 09:20 J -33838657.20 -33838657.11 -33838657.01 0.3784 0.1935

Jupiter -97359-10-25 21:35 J -33838653.74 -33838653.60 -33838653.45 0.0512 0.0029

Jupiter -97358-01-23 10:47 J -33838564.12 -33838564.05 -33838563.98 0.0508 0.0442

Mars -97357-04-09 23:44 J -33838121.64 -33838121.51 -33838121.37 0.1612 0.0435

Mars -97355-03-16 18:56 J -33837415.77 -33837415.71 -33837415.64 0.1615 0.1415

Mars -97354-01-26 13:39 J -33837100.02 -33837099.93 -33837099.85 0.1914 0.1494

Venus -97353-05-07 03:49 J -33836633.45 -33836633.34 -33836633.24 0.3782 0.1063

Jupiter -97353-12-25 02:08 J -33836401.48 -33836401.41 -33836401.34 0.0513 0.0453

Mars -97352-01-01 23:15 J -33836393.60 -33836393.53 -33836393.45 0.1910 0.1588

Jupiter -97352-03-24 23:44 J -33836311.66 -33836311.51 -33836311.35 0.0517 0.0084

Moon -97350-01-08 17:15 J -33835656.89 -33835656.78 -33835656.67 0.2704 0.1558

Earth -97350-01-08 18:27 J -33835656.83 -33835656.73 -33835656.63 0.2704 0.1758 *

Saturn -97350-08-22 19:54 J -33835430.76 -33835430.67 -33835430.57 0.0274 0.0217

Saturn -97350-11-19 11:30 J -33835342.15 -33835342.02 -33835341.88 0.0274 0.0131

Saturn -97349-02-16 02:51 J -33835253.53 -33835253.38 -33835253.22 0.0274 0.0046

Saturn -97349-05-14 17:59 J -33835164.90 -33835164.75 -33835164.60 0.0273 0.0038

Saturn -97349-08-11 08:37 J -33835076.27 -33835076.14 -33835076.00 0.0273 0.0120

Saturn -97349-11-07 23:01 J -33834987.64 -33834987.54 -33834987.43 0.0273 0.0200

Mars -97348-08-31 07:25 J -33834691.30 -33834691.19 -33834691.07 0.1611 0.0860

Venus -97348-11-20 22:18 J -33834609.68 -33834609.57 -33834609.46 0.3779 0.0177

Earth -97347-07-17 15:20 J -33834370.98 -33834370.86 -33834370.74 0.2634 0.0859

Moon -97347-07-17 16:03 J -33834370.94 -33834370.83 -33834370.71 0.2638 0.0977 *

Jupiter -97347-08-13 23:15 J -33834343.66 -33834343.53 -33834343.39 0.0513 0.0155

Jupiter -97347-11-11 12:13 J -33834254.10 -33834253.99 -33834253.88 0.0509 0.0315

Mars -97346-08-07 01:54 J -33833985.53 -33833985.42 -33833985.30 0.1614 0.0950

Pluto -97346-10-13 17:01 J -33833917.84 -33833917.79 -33833917.72 0.0085 0.0074

Pluto -97345-01-09 18:27 J -33833829.82 -33833829.73 -33833829.64 0.0084 0.0061

Pluto -97345-04-06 19:25 J -33833741.78 -33833741.69 -33833741.57 0.0084 0.0048

Pluto -97345-07-03 20:51 J -33833653.75 -33833653.63 -33833653.51 0.0084 0.0035

Uranus -97345-09-11 05:44 J -33833584.33 -33833584.26 -33833584.18 0.0136 0.0119

Pluto -97345-09-29 22:03 J -33833565.70 -33833565.58 -33833565.45 0.0084 0.0022

Uranus -97345-12-08 10:47 J -33833496.15 -33833496.05 -33833495.93 0.0136 0.0100

Pluto -97345-12-26 23:30 J -33833477.65 -33833477.52 -33833477.39 0.0084 0.0010

Uranus -97344-03-06 15:49 J -33833407.96 -33833407.84 -33833407.70 0.0135 0.0081

Pluto -97344-03-25 00:42 J -33833389.60 -33833389.47 -33833389.34 0.0084 0.0003

Uranus -97344-06-02 20:51 J -33833319.77 -33833319.63 -33833319.48 0.0135 0.0062

Pluto -97344-06-21 01:54 J -33833301.55 -33833301.42 -33833301.29 0.0084 0.0016

Uranus -97344-08-30 01:54 J -33833231.57 -33833231.42 -33833231.26 0.0135 0.0042

Pluto -97344-09-17 02:51 J -33833213.49 -33833213.38 -33833213.25 0.0084 0.0029

Venus -97344-11-19 14:08 J -33833149.99 -33833149.91 -33833149.83 0.3592 0.2927

Uranus -97344-11-26 06:56 J -33833143.37 -33833143.21 -33833143.05 0.0135 0.0024

Pluto -97344-12-14 04:18 J -33833125.43 -33833125.32 -33833125.20 0.0083 0.0041

Moon -97343-01-01 00:56 J -33833107.49 -33833107.46 -33833107.42 0.2711 0.2619

Uranus -97343-02-22 11:44 J -33833055.17 -33833055.01 -33833054.85 0.0135 0.0006

Pluto -97343-03-12 05:15 J -33833037.37 -33833037.28 -33833037.17 0.0083 0.0053

Uranus -97343-05-21 16:32 J -33832966.96 -33832966.81 -33832966.65 0.0135 0.0014

Mars -97343-05-25 03:20 J -33832963.47 -33832963.36 -33832963.24 0.1911 0.0864

Pluto -97343-06-08 06:27 J -33832949.30 -33832949.23 -33832949.14 0.0083 0.0065

Uranus -97343-08-17 21:20 J -33832878.76 -33832878.61 -33832878.45 0.0135 0.0032

Pluto -97343-09-04 07:54 J -33832861.21 -33832861.17 -33832861.12 0.0083 0.0077

Uranus -97343-11-14 02:08 J -33832790.56 -33832790.41 -33832790.26 0.0135 0.0049

Uranus -97342-02-10 06:42 J -33832702.35 -33832702.22 -33832702.08 0.0134 0.0067

Uranus -97342-05-09 11:15 J -33832614.14 -33832614.03 -33832613.90 0.0134 0.0085

Venus -97342-06-06 17:01 J -33832585.90 -33832585.79 -33832585.68 0.3776 0.0773

Uranus -97342-08-05 15:49 J -33832525.93 -33832525.84 -33832525.73 0.0134 0.0103

Uranus -97342-11-01 20:37 J -33832437.71 -33832437.64 -33832437.57 0.0134 0.0119

Jupiter -97340-01-10 23:59 J -33832001.66 -33832001.50 -33832001.35 0.0516 0.0054

Jupiter -97340-04-10 20:08 J -33831911.72 -33831911.66 -33831911.59 0.0520 0.0474

Mars -97338-01-21 15:20 J -33831260.94 -33831260.86 -33831260.77 0.1611 0.1273

Venus -97338-06-05 15:06 J -33831125.99 -33831125.87 -33831125.75 0.3595 0.1587

Neptune -97338-07-10 11:30 J -33831091.03 -33831091.02 -33831090.99 0.0089 0.0088

Neptune -97338-10-06 13:11 J -33831002.98 -33831002.95 -33831002.89 0.0089 0.0084

Neptune -97337-01-02 14:51 J -33830914.93 -33830914.88 -33830914.80 0.0089 0.0080

Neptune -97337-03-30 17:01 J -33830826.87 -33830826.79 -33830826.72 0.0089 0.0075

Neptune -97337-06-26 18:42 J -33830738.80 -33830738.72 -33830738.63 0.0089 0.0071

Neptune -97337-09-22 20:23 J -33830650.74 -33830650.65 -33830650.55 0.0089 0.0067

Neptune -97337-12-19 22:03 J -33830562.67 -33830562.58 -33830562.47 0.0089 0.0063

Venus -97337-12-20 11:59 J -33830562.10 -33830562.00 -33830561.90 0.3773 0.1721

Mars -97337-12-27 09:06 J -33830555.26 -33830555.12 -33830554.99 0.1613 0.0495

Neptune -97336-03-17 23:44 J -33830474.61 -33830474.51 -33830474.39 0.0089 0.0059

Neptune -97336-06-14 01:39 J -33830386.54 -33830386.43 -33830386.31 0.0089 0.0054

Neptune -97336-09-10 03:20 J -33830298.47 -33830298.36 -33830298.23 0.0089 0.0050

Neptune -97336-12-07 05:15 J -33830210.40 -33830210.28 -33830210.15 0.0089 0.0046

Neptune -97335-03-05 07:11 J -33830122.33 -33830122.20 -33830122.07 0.0089 0.0041

Neptune -97335-06-01 08:51 J -33830034.26 -33830034.13 -33830033.99 0.0089 0.0037

Jupiter -97335-06-02 01:54 J -33830033.54 -33830033.42 -33830033.30 0.0514 0.0271

Saturn -97335-06-04 01:39 J -33830031.51 -33830031.43 -33830031.34 0.0285 0.0236

Neptune -97335-08-28 10:32 J -33829946.18 -33829946.06 -33829945.91 0.0089 0.0033

Jupiter -97335-08-30 14:23 J -33829944.03 -33829943.90 -33829943.76 0.0510 0.0197

Saturn -97335-08-31 17:15 J -33829942.91 -33829942.78 -33829942.64 0.0285 0.0146

Neptune -97335-11-24 12:42 J -33829858.11 -33829857.97 -33829857.83 0.0089 0.0028

Saturn -97335-11-28 09:20 J -33829854.26 -33829854.11 -33829853.96 0.0286 0.0053

Neptune -97334-02-20 14:23 J -33829770.04 -33829769.90 -33829769.75 0.0089 0.0024

Saturn -97334-02-25 01:39 J -33829765.58 -33829765.43 -33829765.28 0.0286 0.0042

Neptune -97334-05-19 16:18 J -33829681.96 -33829681.82 -33829681.67 0.0089 0.0019

Saturn -97334-05-24 18:13 J -33829676.87 -33829676.74 -33829676.60 0.0286 0.0139

Earth -97334-07-20 11:59 J -33829620.08 -33829620.00 -33829619.93 0.2638 0.2094

Moon -97334-07-20 12:42 J -33829620.03 -33829619.97 -33829619.90 0.2636 0.2169 *

Neptune -97334-08-15 18:13 J -33829593.89 -33829593.74 -33829593.59 0.0089 0.0015

Saturn -97334-08-21 11:15 J -33829588.11 -33829588.03 -33829587.94 0.0286 0.0237

Mars -97334-10-15 07:11 J -33829533.33 -33829533.20 -33829533.06 0.1913 0.0143

Neptune -97334-11-11 20:08 J -33829505.81 -33829505.66 -33829505.51 0.0089 0.0010

Neptune -97333-02-07 22:03 J -33829417.73 -33829417.58 -33829417.43 0.0089 0.0006

Neptune -97333-05-05 23:44 J -33829329.66 -33829329.51 -33829329.36 0.0089 0.0003

Neptune -97333-08-02 01:39 J -33829241.58 -33829241.43 -33829241.28 0.0089 0.0003

Neptune -97333-10-29 03:35 J -33829153.50 -33829153.35 -33829153.20 0.0089 0.0008

Venus -97333-12-19 15:35 J -33829101.98 -33829101.85 -33829101.71 0.3598 0.0322

Neptune -97332-01-25 05:30 J -33829065.42 -33829065.27 -33829065.12 0.0089 0.0012

Neptune -97332-04-23 07:25 J -33828977.34 -33828977.19 -33828977.04 0.0089 0.0017

Neptune -97332-07-20 09:20 J -33828889.26 -33828889.11 -33828888.96 0.0089 0.0021

Neptune -97332-10-16 11:15 J -33828801.17 -33828801.03 -33828800.89 0.0089 0.0026

Neptune -97331-01-12 12:56 J -33828713.09 -33828712.96 -33828712.81 0.0089 0.0031

Neptune -97331-04-10 15:06 J -33828625.01 -33828624.87 -33828624.73 0.0089 0.0035

Venus -97331-07-06 06:56 J -33828538.28 -33828538.21 -33828538.13 0.3769 0.2698

Neptune -97331-07-07 17:01 J -33828536.92 -33828536.79 -33828536.65 0.0089 0.0040

Neptune -97331-10-03 18:42 J -33828448.84 -33828448.72 -33828448.57 0.0089 0.0045

Neptune -97331-12-30 20:51 J -33828360.75 -33828360.63 -33828360.50 0.0089 0.0049

Moon -97330-01-03 23:44 J -33828356.62 -33828356.51 -33828356.39 0.2705 0.1237

Earth -97330-01-03 23:59 J -33828356.61 -33828356.50 -33828356.38 0.2712 0.1176 *

Neptune -97330-03-28 22:47 J -33828272.66 -33828272.55 -33828272.42 0.0089 0.0054

Neptune -97330-06-25 00:56 J -33828184.57 -33828184.46 -33828184.34 0.0089 0.0058

Neptune -97330-09-21 02:51 J -33828096.48 -33828096.38 -33828096.27 0.0089 0.0063

Neptune -97330-12-18 04:47 J -33828008.39 -33828008.30 -33828008.19 0.0089 0.0068

Neptune -97329-03-15 06:56 J -33827920.29 -33827920.21 -33827920.12 0.0089 0.0072

Neptune -97329-06-11 08:51 J -33827832.20 -33827832.13 -33827832.05 0.0089 0.0077

Neptune -97329-09-07 10:47 J -33827744.10 -33827744.05 -33827743.98 0.0089 0.0082

Jupiter -97329-10-29 23:01 J -33827691.69 -33827691.54 -33827691.39 0.0515 0.0198

Neptune -97329-12-04 13:11 J -33827655.99 -33827655.95 -33827655.92 0.0089 0.0086

Jupiter -97328-01-27 19:54 J -33827601.79 -33827601.67 -33827601.55 0.0519 0.0332

Mars -97327-05-19 16:32 J -33827124.95 -33827124.81 -33827124.67 0.1612 0.0061

Venus -97327-07-05 15:49 J -33827077.97 -33827077.84 -33827077.71 0.3601 0.0932

Moon -97327-07-13 02:37 J -33827070.49 -33827070.39 -33827070.29 0.2632 0.1516

Earth -97327-07-13 03:06 J -33827070.48 -33827070.37 -33827070.27 0.2626 0.1412 *

Venus -97325-01-20 02:23 J -33826514.42 -33826514.40 -33826514.38 0.3765 0.3696

Mars -97324-03-06 11:01 J -33826103.17 -33826103.04 -33826102.92 0.1913 0.0631

Jupiter -97323-03-21 05:01 J -33825723.39 -33825723.29 -33825723.20 0.0515 0.0380

Jupiter -97323-06-18 17:15 J -33825633.92 -33825633.78 -33825633.64 0.0511 0.0086

Venus -97321-01-19 15:20 J -33825053.96 -33825053.86 -33825053.75 0.3605 0.2103

Saturn -97320-01-08 22:18 J -33824698.64 -33824698.57 -33824698.49 0.0273 0.0235

Saturn -97320-04-07 14:08 J -33824610.04 -33824609.91 -33824609.78 0.0273 0.0148

Saturn -97320-07-05 05:30 J -33824521.42 -33824521.27 -33824521.12 0.0273 0.0063

Saturn -97320-10-01 20:23 J -33824432.80 -33824432.65 -33824432.49 0.0273 0.0022

Saturn -97320-12-29 11:15 J -33824344.17 -33824344.03 -33824343.89 0.0273 0.0102

Saturn -97319-03-28 01:39 J -33824255.54 -33824255.43 -33824255.32 0.0273 0.0182

Saturn -97319-06-24 15:49 J -33824166.88 -33824166.84 -33824166.80 0.0273 0.0260

Mars -97318-10-10 00:13 J -33823694.63 -33823694.49 -33823694.36 0.1612 0.0380

Moon -97317-01-06 23:01 J -33823605.67 -33823605.54 -33823605.41 0.2704 0.0344

Earth -97317-01-06 23:59 J -33823605.63 -33823605.50 -33823605.37 0.2708 0.0443 *

Jupiter -97317-08-17 23:15 J -33823381.65 -33823381.53 -33823381.41 0.0514 0.0331

Jupiter -97317-11-15 20:23 J -33823291.79 -33823291.65 -33823291.50 0.0518 0.0204

Venus -97316-08-04 14:37 J -33823029.94 -33823029.89 -33823029.83 0.3608 0.3224

Mars -97316-09-14 19:25 J -33822988.75 -33822988.69 -33822988.64 0.1615 0.1474

Mars -97315-07-27 13:54 J -33822673.01 -33822672.92 -33822672.83 0.1914 0.1422

Earth -97314-07-15 23:59 J -33822319.63 -33822319.50 -33822319.38 0.2630 0.0158

Moon -97314-07-16 00:27 J -33822319.61 -33822319.48 -33822319.36 0.2636 0.0068 *

Venus -97313-04-28 19:25 J -33822031.74 -33822031.69 -33822031.64 0.3789 0.3351

Mars -97313-07-02 23:30 J -33821966.58 -33821966.52 -33821966.45 0.1910 0.1653

Jupiter -97311-01-07 07:54 J -33821413.21 -33821413.17 -33821413.13 0.0516 0.0491

Jupiter -97311-04-06 19:54 J -33821323.81 -33821323.67 -33821323.53 0.0512 0.0029

Jupiter -97311-07-05 09:06 J -33821234.19 -33821234.12 -33821234.05 0.0508 0.0442

Mars -97308-03-01 07:54 J -33820264.29 -33820264.17 -33820264.05 0.1611 0.0804

Venus -97308-11-12 13:25 J -33820008.02 -33820007.94 -33820007.86 0.3786 0.2522

Mars -97306-02-05 02:23 J -33819558.51 -33819558.40 -33819558.29 0.1614 0.1011

Saturn -97306-10-22 01:39 J -33819299.47 -33819299.43 -33819299.38 0.0286 0.0269

Saturn -97305-01-18 17:15 J -33819210.90 -33819210.78 -33819210.66 0.0286 0.0179

Saturn -97305-04-16 09:06 J -33819122.27 -33819122.12 -33819121.98 0.0286 0.0088

Jupiter -97305-06-05 23:30 J -33819071.59 -33819071.52 -33819071.45 0.0513 0.0461

Saturn -97305-07-14 01:11 J -33819033.60 -33819033.45 -33819033.29 0.0286 0.0007

Jupiter -97305-09-03 21:20 J -33818981.77 -33818981.61 -33818981.45 0.0517 0.0076

Saturn -97305-10-10 17:44 J -33818944.90 -33818944.76 -33818944.61 0.0286 0.0102

Saturn -97304-01-07 10:32 J -33818856.17 -33818856.06 -33818855.94 0.0286 0.0201

Moon -97304-01-08 23:01 J -33818854.63 -33818854.54 -33818854.46 0.2703 0.2035

Earth -97304-01-09 00:13 J -33818854.57 -33818854.49 -33818854.41 0.2703 0.2094 *

Mars -97304-11-23 03:49 J -33818536.46 -33818536.34 -33818536.23 0.1912 0.0940

Venus -97302-05-29 07:39 J -33817984.28 -33817984.18 -33817984.08 0.3784 0.1668

Earth -97301-07-17 20:37 J -33817568.75 -33817568.64 -33817568.53 0.2635 0.1125

Moon -97301-07-17 21:20 J -33817568.72 -33817568.61 -33817568.49 0.2637 0.1161 *

Uranus -97300-05-05 20:23 J -33817276.72 -33817276.65 -33817276.57 0.0143 0.0123

Uranus -97300-08-02 01:11 J -33817188.55 -33817188.45 -33817188.34 0.0143 0.0103

Uranus -97300-10-29 05:59 J -33817100.36 -33817100.25 -33817100.11 0.0143 0.0083

Jupiter -97299-01-23 22:18 J -33817013.70 -33817013.57 -33817013.43 0.0513 0.0146

Uranus -97299-01-25 11:01 J -33817012.17 -33817012.04 -33817011.89 0.0143 0.0063

Jupiter -97299-04-23 11:15 J -33816924.14 -33816924.03 -33816923.92 0.0509 0.0324

Uranus -97299-04-23 16:03 J -33816923.97 -33816923.83 -33816923.68 0.0143 0.0042 *

Uranus -97299-07-20 21:20 J -33816835.76 -33816835.61 -33816835.46 0.0144 0.0020

Mars -97299-07-22 15:35 J -33816833.93 -33816833.85 -33816833.76 0.1611 0.1221

Uranus -97299-10-17 02:23 J -33816747.55 -33816747.40 -33816747.24 0.0144 0.0003

Uranus -97298-01-13 07:39 J -33816659.33 -33816659.18 -33816659.03 0.0144 0.0023

Uranus -97298-04-11 12:42 J -33816571.11 -33816570.97 -33816570.82 0.0144 0.0045

Uranus -97298-07-08 17:59 J -33816482.88 -33816482.75 -33816482.60 0.0144 0.0067

Uranus -97298-10-04 23:15 J -33816394.64 -33816394.53 -33816394.40 0.0144 0.0090

Uranus -97297-01-01 04:47 J -33816306.39 -33816306.30 -33816306.20 0.0144 0.0112

Earth -97297-01-02 05:59 J -33816305.30 -33816305.25 -33816305.19 0.2716 0.2429

Moon -97297-01-02 06:27 J -33816305.29 -33816305.23 -33816305.18 0.2710 0.2466 *

Uranus -97297-03-29 10:03 J -33816218.12 -33816218.08 -33816218.01 0.0145 0.0135

Mars -97297-06-27 09:20 J -33816128.24 -33816128.11 -33816127.97 0.1613 0.0556

Venus -97297-12-12 01:54 J -33815960.53 -33815960.42 -33815960.31 0.3781 0.0793

Mars -97294-04-15 07:39 J -33815106.31 -33815106.18 -33815106.05 0.1913 0.0201

Moon -97294-07-11 10:32 J -33815019.09 -33815019.06 -33815019.04 0.2627 0.2551

Earth -97294-07-11 11:15 J -33815019.08 -33815019.03 -33815018.99 0.2623 0.2441 *

Jupiter -97293-06-22 22:03 J -33814671.74 -33814671.58 -33814671.42 0.0516 0.0052

Jupiter -97293-09-20 18:27 J -33814581.79 -33814581.73 -33814581.67 0.0520 0.0475

Saturn -97291-05-28 22:32 J -33813966.59 -33813966.56 -33813966.52 0.0274 0.0264

Venus -97291-06-27 20:37 J -33813936.76 -33813936.64 -33813936.53 0.3778 0.0179

Saturn -97291-08-25 14:37 J -33813878.01 -33813877.89 -33813877.77 0.0273 0.0177

Saturn -97291-11-22 05:59 J -33813789.40 -33813789.25 -33813789.10 0.0273 0.0091

Saturn -97290-02-18 21:20 J -33813700.77 -33813700.61 -33813700.46 0.0273 0.0011

Saturn -97290-05-18 11:59 J -33813612.14 -33813612.00 -33813611.85 0.0273 0.0077

Saturn -97290-08-15 02:37 J -33813523.51 -33813523.39 -33813523.26 0.0273 0.0157

Saturn -97290-11-11 17:01 J -33813434.87 -33813434.79 -33813434.72 0.0273 0.0236

Earth -97288-07-20 17:01 J -33812817.84 -33812817.79 -33812817.73 0.2639 0.2361

Moon -97288-07-20 17:59 J -33812817.79 -33812817.75 -33812817.71 0.2636 0.2460 *

Jupiter -97288-11-12 00:13 J -33812703.61 -33812703.49 -33812703.37 0.0514 0.0270

Mars -97288-11-17 16:47 J -33812697.94 -33812697.80 -33812697.66 0.1612 0.0112

Jupiter -97287-02-09 12:42 J -33812614.10 -33812613.97 -33812613.83 0.0510 0.0197

Venus -97287-06-26 14:08 J -33812477.01 -33812476.91 -33812476.81 0.3593 0.2519

Venus -97285-01-11 15:20 J -33811912.97 -33811912.86 -33811912.75 0.3775 0.1050

Mars -97285-09-04 11:01 J -33811676.17 -33811676.04 -33811675.91 0.1914 0.0566

Moon -97284-01-04 05:15 J -33811554.40 -33811554.28 -33811554.15 0.2705 0.0835

Earth -97284-01-04 05:44 J -33811554.39 -33811554.26 -33811554.14 0.2712 0.0854 *

Venus -97281-01-10 15:06 J -33810453.00 -33810452.87 -33810452.74 0.3596 0.1195

Jupiter -97281-04-10 22:03 J -33810361.73 -33810361.58 -33810361.43 0.0515 0.0187

Jupiter -97281-07-09 18:56 J -33810271.82 -33810271.71 -33810271.59 0.0519 0.0343

Moon -97281-07-13 08:08 J -33810268.27 -33810268.16 -33810268.04 0.2633 0.1101

Earth -97281-07-13 08:23 J -33810268.27 -33810268.15 -33810268.04 0.2627 0.1144 *

Venus -97280-07-27 10:18 J -33809889.17 -33809889.07 -33809888.98 0.3772 0.2002

Mars -97278-04-10 00:13 J -33809267.63 -33809267.49 -33809267.35 0.1612 0.0326

Saturn -97276-03-10 04:18 J -33808567.32 -33808567.32 -33808567.31 0.0285 0.0285

Mars -97276-03-15 19:39 J -33808561.73 -33808561.68 -33808561.64 0.1615 0.1531

Saturn -97276-06-06 19:54 J -33808478.78 -33808478.67 -33808478.56 0.0285 0.0196

Venus -97276-07-26 15:35 J -33808428.99 -33808428.85 -33808428.72 0.3599 0.0129

Jupiter -97276-08-31 02:51 J -33808393.47 -33808393.38 -33808393.29 0.0515 0.0385

Saturn -97276-09-03 11:30 J -33808390.16 -33808390.02 -33808389.87 0.0286 0.0106

Jupiter -97276-11-28 15:06 J -33808304.01 -33808303.87 -33808303.73 0.0511 0.0080

Saturn -97276-12-01 03:49 J -33808301.50 -33808301.34 -33808301.19 0.0286 0.0013

Mars -97275-01-25 14:08 J -33808246.00 -33808245.91 -33808245.81 0.1914 0.1350

Saturn -97275-02-27 20:08 J -33808212.81 -33808212.66 -33808212.51 0.0286 0.0084

Saturn -97275-05-27 12:56 J -33808124.08 -33808123.96 -33808123.84 0.0286 0.0182

Saturn -97275-08-24 06:13 J -33808035.26 -33808035.24 -33808035.22 0.0286 0.0282

Venus -97274-02-10 05:30 J -33807865.34 -33807865.27 -33807865.20 0.3768 0.2982

Mars -97273-01-01 23:44 J -33807539.57 -33807539.51 -33807539.46 0.1910 0.1715

Moon -97271-01-07 04:32 J -33806803.44 -33806803.31 -33806803.18 0.2705 0.0628

Earth -97271-01-07 05:44 J -33806803.39 -33806803.26 -33806803.14 0.2707 0.0774 *

Venus -97270-02-09 15:20 J -33806404.98 -33806404.86 -33806404.73 0.3603 0.1283

Jupiter -97269-01-28 21:06 J -33806051.74 -33806051.62 -33806051.50 0.0514 0.0333

Jupiter -97269-04-27 18:27 J -33805961.88 -33805961.73 -33805961.59 0.0517 0.0200

Mars -97269-08-30 08:08 J -33805837.29 -33805837.16 -33805837.04 0.1611 0.0751

Earth -97268-07-16 05:01 J -33805517.41 -33805517.29 -33805517.16 0.2631 0.0168

Moon -97268-07-16 05:44 J -33805517.39 -33805517.26 -33805517.14 0.2637 0.0128 *

Mars -97267-08-06 02:37 J -33805131.50 -33805131.39 -33805131.29 0.1614 0.1067

Venus -97265-08-25 15:06 J -33804380.97 -33804380.87 -33804380.78 0.3606 0.2438

Mars -97264-05-24 04:03 J -33804109.44 -33804109.33 -33804109.22 0.1912 0.1009

Jupiter -97264-06-19 05:59 J -33804083.29 -33804083.25 -33804083.21 0.0516 0.0494

Jupiter -97264-09-16 17:59 J -33803993.89 -33803993.75 -33803993.61 0.0512 0.0032

Jupiter -97264-12-15 07:11 J -33803904.27 -33803904.20 -33803904.13 0.0509 0.0440

Saturn -97261-01-12 17:01 J -33803145.90 -33803145.79 -33803145.68 0.0273 0.0194

Saturn -97261-04-10 08:37 J -33803057.28 -33803057.14 -33803056.99 0.0273 0.0108

Uranus -97261-07-05 07:25 J -33802971.20 -33802971.19 -33802971.16 0.0136 0.0135

Saturn -97261-07-07 23:59 J -33802968.66 -33802968.50 -33802968.35 0.0273 0.0024

Uranus -97261-10-01 12:27 J -33802883.05 -33802882.98 -33802882.88 0.0136 0.0116

Saturn -97261-10-04 14:51 J -33802880.03 -33802879.88 -33802879.73 0.0273 0.0059

Uranus -97261-12-28 17:44 J -33802794.87 -33802794.76 -33802794.64 0.0135 0.0096

Saturn -97260-01-01 05:30 J -33802791.40 -33802791.27 -33802791.14 0.0273 0.0140

Uranus -97260-03-26 22:47 J -33802706.67 -33802706.55 -33802706.41 0.0135 0.0077

Saturn -97260-03-30 19:39 J -33802702.76 -33802702.68 -33802702.59 0.0273 0.0219

Uranus -97260-06-23 04:03 J -33802618.48 -33802618.33 -33802618.19 0.0135 0.0057

Uranus -97260-09-19 08:51 J -33802530.28 -33802530.13 -33802529.97 0.0135 0.0039

Uranus -97260-12-16 13:54 J -33802442.08 -33802441.92 -33802441.76 0.0135 0.0020

Mars -97259-01-20 16:03 J -33802406.93 -33802406.83 -33802406.74 0.1611 0.1165

Venus -97259-03-11 14:08 J -33802356.94 -33802356.91 -33802356.89 0.3609 0.3534

Uranus -97259-03-14 18:42 J -33802353.88 -33802353.72 -33802353.56 0.0135 0.0003

Uranus -97259-06-10 23:30 J -33802265.67 -33802265.52 -33802265.36 0.0135 0.0017

Uranus -97259-09-07 04:18 J -33802177.47 -33802177.32 -33802177.16 0.0135 0.0035

Uranus -97259-12-04 08:51 J -33802089.26 -33802089.13 -33802088.97 0.0135 0.0054

Moon -97258-01-10 04:47 J -33802052.37 -33802052.30 -33802052.23 0.2704 0.2283

Earth -97258-01-10 05:59 J -33802052.31 -33802052.25 -33802052.20 0.2702 0.2438 *

Uranus -97258-03-02 13:39 J -33802001.06 -33802000.93 -33802000.79 0.0134 0.0071

Uranus -97258-05-29 18:27 J -33801912.85 -33801912.73 -33801912.61 0.0134 0.0088

Uranus -97258-08-25 22:47 J -33801824.63 -33801824.55 -33801824.44 0.0134 0.0106

Jupiter -97258-11-16 21:06 J -33801741.68 -33801741.62 -33801741.55 0.0513 0.0467

Uranus -97258-11-22 03:20 J -33801736.41 -33801736.36 -33801736.29 0.0134 0.0123

Mars -97258-12-27 09:49 J -33801701.22 -33801701.09 -33801700.96 0.1613 0.0617

Jupiter -97257-02-14 18:56 J -33801651.87 -33801651.71 -33801651.55 0.0517 0.0070

Venus -97257-12-03 17:30 J -33801358.83 -33801358.77 -33801358.71 0.3788 0.3097

Neptune -97255-04-13 00:56 J -33800863.48 -33800863.46 -33800863.39 0.0089 0.0086

Neptune -97255-07-10 04:03 J -33800775.39 -33800775.33 -33800775.25 0.0089 0.0080

Earth -97255-07-19 01:54 J -33800766.53 -33800766.42 -33800766.32 0.2635 0.1391

Moon -97255-07-19 02:51 J -33800766.48 -33800766.38 -33800766.29 0.2635 0.1555 *

Neptune -97255-10-06 06:42 J -33800687.30 -33800687.22 -33800687.12 0.0089 0.0075

Mars -97255-10-14 07:54 J -33800679.30 -33800679.17 -33800679.04 0.1913 0.0274

Neptune -97254-01-02 09:20 J -33800599.20 -33800599.11 -33800598.99 0.0089 0.0070

Neptune -97254-03-31 11:59 J -33800511.10 -33800511.00 -33800510.87 0.0089 0.0065

Neptune -97254-06-27 14:37 J -33800423.00 -33800422.89 -33800422.75 0.0089 0.0060

Neptune -97254-09-23 17:30 J -33800334.90 -33800334.77 -33800334.63 0.0089 0.0054

Neptune -97254-12-20 20:08 J -33800246.80 -33800246.66 -33800246.51 0.0089 0.0049

Neptune -97253-03-17 22:47 J -33800158.69 -33800158.55 -33800158.40 0.0089 0.0044

Neptune -97253-06-14 01:25 J -33800070.59 -33800070.44 -33800070.28 0.0089 0.0039

Neptune -97253-09-10 04:03 J -33799982.48 -33799982.33 -33799982.17 0.0089 0.0033

Neptune -97253-12-07 06:27 J -33799894.38 -33799894.23 -33799894.06 0.0089 0.0029

Neptune -97252-03-05 09:06 J -33799806.27 -33799806.12 -33799805.95 0.0089 0.0024

Neptune -97252-06-01 11:44 J -33799718.17 -33799718.01 -33799717.84 0.0089 0.0018

Jupiter -97252-07-05 20:37 J -33799683.77 -33799683.64 -33799683.50 0.0513 0.0145

Neptune -97252-08-28 14:23 J -33799630.07 -33799629.90 -33799629.73 0.0089 0.0013

Jupiter -97252-10-03 09:35 J -33799594.21 -33799594.10 -33799593.99 0.0509 0.0325

Neptune -97252-11-24 17:01 J -33799541.96 -33799541.79 -33799541.62 0.0089 0.0008

Moon -97251-01-02 11:44 J -33799503.10 -33799503.01 -33799502.92 0.2708 0.2004

Earth -97251-01-02 11:44 J -33799503.09 -33799503.01 -33799502.93 0.2716 0.2117 *

Neptune -97251-02-20 19:25 J -33799453.85 -33799453.69 -33799453.52 0.0089 0.0004

Neptune -97251-05-19 22:03 J -33799365.75 -33799365.58 -33799365.41 0.0089 0.0002

Venus -97251-06-19 11:30 J -33799335.10 -33799335.02 -33799334.93 0.3785 0.2264

Neptune -97251-08-16 00:27 J -33799277.64 -33799277.48 -33799277.31 0.0088 0.0007

Neptune -97251-11-12 03:06 J -33799189.54 -33799189.37 -33799189.21 0.0088 0.0012

Neptune -97250-02-08 05:30 J -33799101.43 -33799101.27 -33799101.11 0.0088 0.0016

Neptune -97250-05-07 07:54 J -33799013.33 -33799013.17 -33799013.00 0.0088 0.0021

Mars -97250-06-12 23:59 J -33798976.52 -33798976.50 -33798976.47 0.1611 0.1572

Neptune -97250-08-03 10:18 J -33798925.22 -33798925.07 -33798924.90 0.0088 0.0026

Neptune -97250-10-30 12:42 J -33798837.12 -33798836.97 -33798836.81 0.0088 0.0031

Neptune -97249-01-26 15:20 J -33798749.01 -33798748.86 -33798748.71 0.0088 0.0036

Neptune -97249-04-23 17:44 J -33798660.90 -33798660.76 -33798660.61 0.0088 0.0041

Neptune -97249-07-20 20:08 J -33798572.80 -33798572.66 -33798572.52 0.0088 0.0046

Neptune -97249-10-16 22:18 J -33798484.69 -33798484.57 -33798484.42 0.0088 0.0051

Neptune -97248-01-13 00:42 J -33798396.58 -33798396.47 -33798396.33 0.0088 0.0056

Neptune -97248-04-11 03:20 J -33798308.48 -33798308.36 -33798308.24 0.0088 0.0060

Mars -97248-05-18 17:01 J -33798270.93 -33798270.79 -33798270.65 0.1612 0.0169

Neptune -97248-07-08 05:30 J -33798220.37 -33798220.27 -33798220.15 0.0088 0.0065

Moon -97248-07-11 15:49 J -33798216.90 -33798216.84 -33798216.77 0.2628 0.2226

Earth -97248-07-11 16:32 J -33798216.88 -33798216.81 -33798216.74 0.2623 0.2163 *

Neptune -97248-10-04 07:54 J -33798132.26 -33798132.17 -33798132.06 0.0088 0.0069

Neptune -97248-12-31 10:32 J -33798044.15 -33798044.06 -33798043.97 0.0088 0.0074

Neptune -97247-03-29 12:27 J -33797956.04 -33797955.98 -33797955.89 0.0088 0.0079

Neptune -97247-06-25 14:51 J -33797867.92 -33797867.88 -33797867.81 0.0088 0.0083

Neptune -97247-09-21 17:15 J -33797779.79 -33797779.78 -33797779.75 0.0088 0.0088

Saturn -97247-10-24 19:39 J -33797746.76 -33797746.68 -33797746.59 0.0286 0.0231

Saturn -97246-01-21 11:15 J -33797658.16 -33797658.03 -33797657.90 0.0286 0.0140

Saturn -97246-04-20 03:20 J -33797569.52 -33797569.36 -33797569.21 0.0286 0.0048

Saturn -97246-07-17 19:39 J -33797480.84 -33797480.68 -33797480.53 0.0286 0.0048

Saturn -97246-10-14 12:13 J -33797392.12 -33797391.99 -33797391.85 0.0286 0.0145

Jupiter -97246-12-03 19:39 J -33797341.84 -33797341.68 -33797341.52 0.0516 0.0058

Venus -97245-01-03 05:44 J -33797311.36 -33797311.26 -33797311.16 0.3783 0.1403

Saturn -97245-01-11 05:15 J -33797303.36 -33797303.28 -33797303.20 0.0286 0.0243

Jupiter -97245-03-02 16:03 J -33797251.89 -33797251.83 -33797251.76 0.0520 0.0469

Mars -97245-03-05 11:30 J -33797249.15 -33797249.02 -33797248.90 0.1914 0.0495

Earth -97242-07-21 22:18 J -33796015.58 -33796015.57 -33796015.56 0.2639 0.2619

Jupiter -97240-04-23 23:15 J -33795373.65 -33795373.53 -33795373.40 0.0514 0.0260

Venus -97240-07-19 00:13 J -33795287.60 -33795287.49 -33795287.38 0.3780 0.0517

Jupiter -97240-07-22 11:44 J -33795284.14 -33795284.01 -33795283.87 0.0510 0.0208

Mars -97239-10-09 00:42 J -33794840.61 -33794840.47 -33794840.34 0.1611 0.0272

Moon -97238-01-05 10:47 J -33794752.18 -33794752.05 -33794751.92 0.2705 0.0651

Earth -97238-01-05 11:15 J -33794752.16 -33794752.03 -33794751.90 0.2711 0.0529 *

Mars -97237-09-13 19:54 J -33794134.69 -33794134.67 -33794134.65 0.1615 0.1593

Venus -97236-07-17 12:56 J -33793827.99 -33793827.96 -33793827.93 0.3591 0.3471

Mars -97236-07-26 14:23 J -33793819.00 -33793818.90 -33793818.80 0.1914 0.1281

Moon -97235-07-14 13:39 J -33793466.05 -33793465.93 -33793465.81 0.2634 0.0893

Earth -97235-07-14 13:25 J -33793466.05 -33793465.94 -33793465.82 0.2627 0.0872 *

Venus -97234-02-01 18:56 J -33793263.83 -33793263.71 -33793263.60 0.3777 0.0417

Mars -97234-07-02 23:59 J -33793112.54 -33793112.50 -33793112.46 0.1910 0.1786

Jupiter -97234-09-21 20:23 J -33793031.80 -33793031.65 -33793031.50 0.0515 0.0186

Jupiter -97234-12-20 17:15 J -33792941.89 -33792941.78 -33792941.66 0.0519 0.0345

Saturn -97232-05-31 17:01 J -33792413.87 -33792413.79 -33792413.70 0.0273 0.0225

Saturn -97232-08-28 08:37 J -33792325.27 -33792325.14 -33792325.00 0.0273 0.0139

Saturn -97232-11-25 00:13 J -33792236.64 -33792236.49 -33792236.34 0.0273 0.0053

Saturn -97231-02-21 15:20 J -33792148.02 -33792147.86 -33792147.71 0.0273 0.0032

Saturn -97231-05-21 05:59 J -33792059.39 -33792059.25 -33792059.11 0.0273 0.0113

Saturn -97231-08-17 20:23 J -33791970.75 -33791970.65 -33791970.54 0.0273 0.0193

Saturn -97231-11-14 10:32 J -33791882.07 -33791882.06 -33791882.04 0.0273 0.0271

Venus -97230-01-31 14:08 J -33791804.02 -33791803.91 -33791803.80 0.3594 0.2116

Mars -97229-02-29 08:08 J -33791410.28 -33791410.16 -33791410.03 0.1611 0.0698

Venus -97229-08-17 13:39 J -33791240.04 -33791239.93 -33791239.83 0.3774 0.1325

Jupiter -97228-02-10 01:25 J -33791063.53 -33791063.44 -33791063.35 0.0515 0.0382

Jupiter -97228-05-10 13:39 J -33790974.08 -33790973.93 -33790973.79 0.0511 0.0082

Mars -97227-02-04 02:51 J -33790704.48 -33790704.38 -33790704.28 0.1614 0.1129

Moon -97225-01-08 10:03 J -33790001.20 -33790001.08 -33790000.95 0.2704 0.1027

Earth -97225-01-08 11:15 J -33790001.15 -33790001.03 -33790000.91 0.2706 0.1106 *

Venus -97225-08-16 14:51 J -33789780.01 -33789779.88 -33789779.74 0.3597 0.0822

Mars -97225-11-22 04:18 J -33789682.43 -33789682.32 -33789682.21 0.1912 0.1076

Venus -97223-03-03 08:37 J -33789216.23 -33789216.14 -33789216.05 0.3771 0.2288

Jupiter -97222-07-10 20:23 J -33788721.78 -33788721.65 -33788721.53 0.0514 0.0320

Earth -97222-07-17 10:18 J -33788715.19 -33788715.07 -33788714.94 0.2631 0.0409

Moon -97222-07-17 11:01 J -33788715.16 -33788715.04 -33788714.92 0.2636 0.0533 *

Jupiter -97222-10-08 17:44 J -33788631.90 -33788631.76 -33788631.62 0.0518 0.0213

Mars -97220-07-21 16:18 J -33787979.92 -33787979.82 -33787979.73 0.1611 0.1114

Venus -97219-03-02 15:06 J -33787756.00 -33787755.87 -33787755.73 0.3600 0.0437

Mars -97218-06-27 09:49 J -33787274.21 -33787274.09 -33787273.96 0.1613 0.0671

Venus -97218-09-17 03:49 J -33787192.39 -33787192.34 -33787192.28 0.3767 0.3267

Saturn -97217-03-12 21:49 J -33787014.66 -33787014.59 -33787014.52 0.0286 0.0250

Saturn -97217-06-09 13:25 J -33786926.06 -33786925.94 -33786925.82 0.0286 0.0160

Saturn -97217-09-06 05:15 J -33786837.43 -33786837.28 -33786837.13 0.0286 0.0068

Jupiter -97217-11-29 04:03 J -33786753.36 -33786753.33 -33786753.29 0.0516 0.0497

Saturn -97217-12-03 21:35 J -33786748.76 -33786748.60 -33786748.45 0.0286 0.0027

Jupiter -97216-02-26 16:03 J -33786663.97 -33786663.83 -33786663.69 0.0512 0.0035

Uranus -97216-02-26 22:18 J -33786663.58 -33786663.57 -33786663.53 0.0143 0.0140

Saturn -97216-03-02 14:08 J -33786660.05 -33786659.91 -33786659.77 0.0286 0.0124

Uranus -97216-05-26 03:06 J -33786575.44 -33786575.37 -33786575.27 0.0143 0.0120

Jupiter -97216-05-27 05:01 J -33786574.36 -33786574.29 -33786574.21 0.0509 0.0437

Saturn -97216-05-30 06:56 J -33786571.30 -33786571.21 -33786571.10 0.0286 0.0223

Uranus -97216-08-22 08:23 J -33786487.26 -33786487.15 -33786487.04 0.0143 0.0100

Uranus -97216-11-18 13:11 J -33786399.07 -33786398.95 -33786398.82 0.0143 0.0079

Uranus -97215-02-14 18:13 J -33786310.88 -33786310.74 -33786310.60 0.0143 0.0058

Mars -97215-04-14 08:08 J -33786252.29 -33786252.16 -33786252.03 0.1913 0.0340

Uranus -97215-05-13 23:15 J -33786222.68 -33786222.53 -33786222.38 0.0144 0.0038

Uranus -97215-08-10 04:18 J -33786134.47 -33786134.32 -33786134.17 0.0144 0.0016

Uranus -97215-11-06 09:20 J -33786046.26 -33786046.11 -33786045.95 0.0144 0.0007

Uranus -97214-02-02 14:37 J -33785958.04 -33785957.89 -33785957.74 0.0144 0.0027

Uranus -97214-05-01 19:39 J -33785869.82 -33785869.68 -33785869.53 0.0144 0.0049

Uranus -97214-07-29 00:56 J -33785781.59 -33785781.46 -33785781.32 0.0144 0.0071

Venus -97214-09-16 15:06 J -33785731.99 -33785731.87 -33785731.75 0.3604 0.1624

Uranus -97214-10-25 06:13 J -33785693.35 -33785693.24 -33785693.11 0.0144 0.0094

Uranus -97213-01-21 11:44 J -33785605.10 -33785605.01 -33785604.91 0.0144 0.0116

Uranus -97213-04-18 17:01 J -33785516.82 -33785516.79 -33785516.73 0.0145 0.0139

Moon -97212-01-10 10:32 J -33785250.07 -33785250.06 -33785250.04 0.2705 0.2677

Mars -97211-12-12 00:13 J -33784549.53 -33784549.49 -33784549.44 0.1611 0.1521

Jupiter -97210-04-28 19:11 J -33784411.76 -33784411.70 -33784411.63 0.0513 0.0466

Jupiter -97210-07-27 17:01 J -33784321.95 -33784321.79 -33784321.63 0.0516 0.0069

Earth -97209-07-19 06:56 J -33783964.30 -33783964.21 -33783964.11 0.2636 0.1658

Moon -97209-07-19 08:08 J -33783964.26 -33783964.16 -33783964.07 0.2636 0.1678 *

Mars -97209-11-16 17:15 J -33783843.92 -33783843.78 -33783843.64 0.1612 0.0229

Venus -97208-04-01 14:23 J -33783707.98 -33783707.90 -33783707.81 0.3607 0.2756

Mars -97206-09-04 11:44 J -33782822.14 -33782822.01 -33782821.88 0.1914 0.0417

Venus -97206-12-25 21:49 J -33782709.62 -33782709.59 -33782709.57 0.3790 0.3656

Earth -97205-01-03 17:15 J -33782700.88 -33782700.78 -33782700.68 0.2715 0.1796

Moon -97205-01-03 17:15 J -33782700.87 -33782700.78 -33782700.68 0.2708 0.1858 *

Jupiter -97205-12-15 18:56 J -33782353.85 -33782353.71 -33782353.57 0.0514 0.0146

Jupiter -97204-03-15 07:39 J -33782264.29 -33782264.18 -33782264.06 0.0510 0.0325

Saturn -97203-10-18 19:25 J -33781681.75 -33781681.69 -33781681.61 0.0273 0.0244

Saturn -97202-01-15 11:15 J -33781593.15 -33781593.03 -33781592.89 0.0273 0.0156

Saturn -97202-04-14 02:51 J -33781504.53 -33781504.38 -33781504.23 0.0273 0.0070

Saturn -97202-07-11 17:59 J -33781415.91 -33781415.75 -33781415.60 0.0273 0.0014

Moon -97202-07-12 21:20 J -33781414.70 -33781414.61 -33781414.53 0.2629 0.1937

Earth -97202-07-12 21:49 J -33781414.68 -33781414.59 -33781414.50 0.2624 0.1889 *

Saturn -97202-10-08 08:37 J -33781327.28 -33781327.14 -33781326.99 0.0273 0.0096

Saturn -97201-01-04 23:15 J -33781238.65 -33781238.53 -33781238.42 0.0273 0.0176

Saturn -97201-04-02 13:25 J -33781149.99 -33781149.94 -33781149.89 0.0273 0.0254

Venus -97200-07-10 15:35 J -33780685.92 -33780685.85 -33780685.78 0.3787 0.2841

Mars -97199-04-09 00:56 J -33780413.60 -33780413.46 -33780413.33 0.1611 0.0217

Jupiter -97198-05-15 17:30 J -33780011.93 -33780011.77 -33780011.62 0.0516 0.0063

Jupiter -97198-08-13 13:54 J -33779921.98 -33779921.92 -33779921.85 0.0519 0.0464

Mars -97196-01-24 14:51 J -33779391.99 -33779391.88 -33779391.78 0.1914 0.1208

Mars -97194-01-01 00:27 J -33778685.51 -33778685.48 -33778685.46 0.1910 0.1860

Venus -97194-01-24 09:49 J -33778662.19 -33778662.09 -33778662.00 0.3785 0.2007

Jupiter -97193-10-03 21:49 J -33778043.71 -33778043.59 -33778043.47 0.0514 0.0257

Jupiter -97192-01-01 10:18 J -33777954.20 -33777954.07 -33777953.93 0.0510 0.0210

Moon -97192-01-05 16:03 J -33777949.96 -33777949.83 -33777949.69 0.2706 0.0207

Earth -97192-01-05 17:01 J -33777949.92 -33777949.79 -33777949.66 0.2710 0.0207 *

Pluto -97192-10-20 01:54 J -33777662.47 -33777662.42 -33777662.36 0.0060 0.0057

Pluto -97191-01-16 02:51 J -33777574.46 -33777574.38 -33777574.25 0.0060 0.0051

Pluto -97191-04-14 04:32 J -33777486.42 -33777486.31 -33777486.16 0.0060 0.0044

Pluto -97191-07-11 05:59 J -33777398.38 -33777398.25 -33777398.07 0.0060 0.0037

Pluto -97191-10-07 07:39 J -33777310.34 -33777310.18 -33777310.00 0.0060 0.0030

Pluto -97190-01-03 09:06 J -33777222.29 -33777222.12 -33777221.92 0.0060 0.0024

Pluto -97190-04-01 10:47 J -33777134.23 -33777134.05 -33777133.85 0.0060 0.0016

Pluto -97190-06-28 12:13 J -33777046.18 -33777045.99 -33777045.79 0.0060 0.0010

Mars -97190-08-30 08:37 J -33776983.27 -33776983.14 -33776983.01 0.1611 0.0639

Pluto -97190-09-24 13:54 J -33776958.12 -33776957.92 -33776957.72 0.0060 0.0002

Pluto -97190-12-21 15:20 J -33776870.05 -33776869.86 -33776869.66 0.0060 0.0005

Pluto -97189-03-18 16:47 J -33776781.99 -33776781.80 -33776781.60 0.0061 0.0012

Pluto -97189-06-14 18:13 J -33776693.92 -33776693.74 -33776693.54 0.0061 0.0019

Earth -97189-07-14 18:42 J -33776663.84 -33776663.72 -33776663.59 0.2628 0.0604

Moon -97189-07-14 18:56 J -33776663.83 -33776663.71 -33776663.59 0.2635 0.0558 *

Venus -97189-08-09 04:03 J -33776638.44 -33776638.33 -33776638.23 0.3782 0.1143

Pluto -97189-09-10 19:39 J -33776605.84 -33776605.68 -33776605.49 0.0061 0.0026

Pluto -97189-12-07 21:20 J -33776517.77 -33776517.61 -33776517.44 0.0061 0.0033

Pluto -97188-03-05 22:47 J -33776429.69 -33776429.55 -33776429.39 0.0061 0.0040

Pluto -97188-06-02 00:27 J -33776341.60 -33776341.48 -33776341.35 0.0061 0.0047

Saturn -97188-07-30 21:49 J -33776282.60 -33776282.59 -33776282.57 0.0285 0.0283

Mars -97188-08-05 03:06 J -33776277.46 -33776277.37 -33776277.27 0.1613 0.1189

Pluto -97188-08-29 01:25 J -33776253.50 -33776253.44 -33776253.32 0.0061 0.0055

Saturn -97188-10-27 13:11 J -33776194.05 -33776193.95 -33776193.84 0.0286 0.0195

Saturn -97187-01-24 05:01 J -33776105.43 -33776105.29 -33776105.15 0.0286 0.0103

Saturn -97187-04-22 21:06 J -33776016.77 -33776016.62 -33776016.47 0.0286 0.0010

Saturn -97187-07-20 13:25 J -33775928.08 -33775927.94 -33775927.79 0.0286 0.0087

Saturn -97187-10-17 06:13 J -33775839.35 -33775839.24 -33775839.12 0.0286 0.0185

Saturn -97186-01-13 23:30 J -33775750.53 -33775750.52 -33775750.51 0.0286 0.0284

Jupiter -97186-03-03 17:59 J -33775701.90 -33775701.75 -33775701.60 0.0515 0.0191

Jupiter -97186-06-01 15:06 J -33775611.99 -33775611.87 -33775611.76 0.0519 0.0340

Mars -97185-05-23 04:32 J -33775255.42 -33775255.31 -33775255.21 0.1912 0.1145

Venus -97183-02-22 22:32 J -33774614.67 -33774614.56 -33774614.45 0.3779 0.0281

Jupiter -97181-07-23 00:42 J -33773733.57 -33773733.47 -33773733.38 0.0515 0.0370

Jupiter -97181-10-20 12:56 J -33773644.11 -33773643.96 -33773643.82 0.0511 0.0095

Mars -97180-01-19 16:32 J -33773552.92 -33773552.81 -33773552.71 0.1611 0.1060

Moon -97179-01-08 15:49 J -33773198.96 -33773198.84 -33773198.72 0.2704 0.1268

Earth -97179-01-08 17:01 J -33773198.90 -33773198.79 -33773198.68 0.2706 0.1439 *

Venus -97179-02-21 12:56 J -33773155.03 -33773154.96 -33773154.89 0.3592 0.3067

Mars -97179-12-26 10:18 J -33772847.20 -33772847.07 -33772846.94 0.1613 0.0732

Venus -97178-09-08 17:01 J -33772590.90 -33772590.79 -33772590.68 0.3776 0.0667

Uranus -97177-07-25 14:23 J -33772269.92 -33772269.90 -33772269.84 0.0136 0.0131

Uranus -97177-10-21 19:54 J -33772181.76 -33772181.67 -33772181.57 0.0136 0.0111

Uranus -97176-01-18 00:56 J -33772093.57 -33772093.46 -33772093.33 0.0135 0.0091

Uranus -97176-04-16 05:59 J -33772005.38 -33772005.25 -33772005.11 0.0135 0.0072

Uranus -97176-07-13 11:01 J -33771917.18 -33771917.04 -33771916.89 0.0135 0.0053

Earth -97176-07-17 15:35 J -33771912.97 -33771912.85 -33771912.73 0.2632 0.0678

Moon -97176-07-17 16:32 J -33771912.93 -33771912.81 -33771912.69 0.2635 0.0714 *

Uranus -97176-10-09 16:03 J -33771828.98 -33771828.83 -33771828.67 0.0135 0.0034

Mars -97176-10-13 08:23 J -33771825.27 -33771825.15 -33771825.02 0.1913 0.0418

Uranus -97175-01-05 21:06 J -33771740.78 -33771740.62 -33771740.46 0.0135 0.0016

Uranus -97175-04-04 01:54 J -33771652.58 -33771652.42 -33771652.26 0.0135 0.0003

Uranus -97175-07-01 06:42 J -33771564.38 -33771564.22 -33771564.06 0.0135 0.0021

Uranus -97175-09-27 11:30 J -33771476.17 -33771476.02 -33771475.87 0.0135 0.0039

Jupiter -97175-12-20 18:42 J -33771391.85 -33771391.72 -33771391.60 0.0514 0.0319

Uranus -97175-12-24 16:03 J -33771387.96 -33771387.83 -33771387.68 0.0134 0.0058

Jupiter -97174-03-20 16:03 J -33771301.97 -33771301.83 -33771301.69 0.0518 0.0216

Uranus -97174-03-22 20:51 J -33771299.76 -33771299.63 -33771299.49 0.0134 0.0075

Uranus -97174-06-19 01:25 J -33771211.54 -33771211.44 -33771211.32 0.0134 0.0093

Venus -97174-09-07 14:08 J -33771131.03 -33771130.91 -33771130.79 0.3595 0.1721

Uranus -97174-09-15 05:59 J -33771123.33 -33771123.25 -33771123.15 0.0134 0.0110

Uranus -97174-12-12 10:32 J -33771035.10 -33771035.06 -33771035.00 0.0134 0.0127

Neptune -97173-04-05 11:01 J -33770920.06 -33770920.04 -33770919.99 0.0089 0.0086

Saturn -97173-06-03 11:01 J -33770861.15 -33770861.04 -33770860.92 0.0273 0.0188

Neptune -97173-07-02 12:42 J -33770832.01 -33770831.97 -33770831.90 0.0089 0.0082

Saturn -97173-08-31 02:37 J -33770772.53 -33770772.39 -33770772.24 0.0273 0.0102

Neptune -97173-09-28 14:51 J -33770743.95 -33770743.88 -33770743.81 0.0089 0.0077

Saturn -97173-11-27 17:59 J -33770683.91 -33770683.75 -33770683.60 0.0273 0.0018

Neptune -97173-12-25 16:32 J -33770655.89 -33770655.81 -33770655.73 0.0089 0.0073

Saturn -97172-02-24 08:51 J -33770595.28 -33770595.13 -33770594.98 0.0273 0.0066

Neptune -97172-03-23 18:13 J -33770567.82 -33770567.74 -33770567.64 0.0089 0.0069

Venus -97172-03-24 11:59 J -33770567.10 -33770567.00 -33770566.90 0.3773 0.1604

Saturn -97172-05-23 23:30 J -33770506.65 -33770506.52 -33770506.39 0.0273 0.0147

Neptune -97172-06-19 19:54 J -33770479.76 -33770479.67 -33770479.56 0.0089 0.0065

Saturn -97172-08-20 13:54 J -33770418.01 -33770417.92 -33770417.84 0.0273 0.0227

Neptune -97172-09-15 21:35 J -33770391.69 -33770391.60 -33770391.48 0.0089 0.0061

Neptune -97172-12-12 23:30 J -33770303.63 -33770303.52 -33770303.40 0.0089 0.0056

Neptune -97171-03-11 01:11 J -33770215.56 -33770215.45 -33770215.32 0.0089 0.0052

Neptune -97171-06-07 02:51 J -33770127.49 -33770127.38 -33770127.24 0.0089 0.0048

Mars -97171-06-12 00:27 J -33770122.53 -33770122.48 -33770122.43 0.1611 0.1472

Neptune -97171-09-03 05:01 J -33770039.42 -33770039.29 -33770039.16 0.0089 0.0043

Neptune -97171-11-30 06:42 J -33769951.35 -33769951.22 -33769951.09 0.0089 0.0039

Neptune -97170-02-26 08:23 J -33769863.28 -33769863.15 -33769863.01 0.0089 0.0035

Neptune -97170-05-25 10:18 J -33769775.20 -33769775.07 -33769774.93 0.0089 0.0030

Neptune -97170-08-21 12:13 J -33769687.13 -33769686.99 -33769686.85 0.0089 0.0026

Neptune -97170-11-17 13:54 J -33769599.06 -33769598.92 -33769598.77 0.0089 0.0022

Neptune -97169-02-13 15:49 J -33769510.98 -33769510.84 -33769510.69 0.0089 0.0017

Jupiter -97169-05-11 02:51 J -33769423.42 -33769423.38 -33769423.34 0.0516 0.0491

Neptune -97169-05-11 17:44 J -33769422.91 -33769422.76 -33769422.61 0.0089 0.0013

Mars -97169-05-17 17:30 J -33769416.91 -33769416.77 -33769416.63 0.1612 0.0281

Neptune -97169-08-07 19:39 J -33769334.83 -33769334.68 -33769334.53 0.0089 0.0008

Jupiter -97169-08-08 14:37 J -33769334.03 -33769333.89 -33769333.74 0.0512 0.0034

Neptune -97169-11-03 21:20 J -33769246.75 -33769246.61 -33769246.46 0.0089 0.0004

Jupiter -97169-11-06 03:49 J -33769244.41 -33769244.34 -33769244.27 0.0508 0.0441

Neptune -97168-01-30 23:15 J -33769158.68 -33769158.53 -33769158.38 0.0089 0.0001

Venus -97168-03-23 14:37 J -33769107.02 -33769106.89 -33769106.75 0.3598 0.0455

Neptune -97168-04-29 01:11 J -33769070.60 -33769070.45 -33769070.30 0.0089 0.0005

Neptune -97168-07-26 03:06 J -33768982.52 -33768982.37 -33768982.22 0.0089 0.0010

Neptune -97168-10-22 04:47 J -33768894.44 -33768894.30 -33768894.14 0.0089 0.0015

Neptune -97167-01-18 06:56 J -33768806.36 -33768806.21 -33768806.07 0.0089 0.0019

Neptune -97167-04-16 08:37 J -33768718.28 -33768718.14 -33768717.99 0.0089 0.0024

Neptune -97167-07-13 10:47 J -33768630.20 -33768630.05 -33768629.91 0.0089 0.0028

Venus -97167-10-08 07:11 J -33768543.29 -33768543.20 -33768543.12 0.3769 0.2569

Neptune -97167-10-09 12:27 J -33768542.11 -33768541.98 -33768541.83 0.0089 0.0033

Neptune -97166-01-05 14:37 J -33768454.03 -33768453.89 -33768453.75 0.0089 0.0037

Mars -97166-03-05 11:44 J -33768395.14 -33768395.01 -33768394.87 0.1914 0.0360

Neptune -97166-04-03 16:18 J -33768365.94 -33768365.82 -33768365.68 0.0089 0.0042

Neptune -97166-06-30 18:13 J -33768277.86 -33768277.74 -33768277.60 0.0089 0.0047

Neptune -97166-09-26 20:23 J -33768189.77 -33768189.65 -33768189.52 0.0089 0.0051

Neptune -97166-12-23 22:18 J -33768101.68 -33768101.57 -33768101.45 0.0089 0.0056

Neptune -97165-03-20 23:59 J -33768013.59 -33768013.50 -33768013.37 0.0089 0.0061

Neptune -97165-06-17 02:08 J -33767925.50 -33767925.41 -33767925.30 0.0089 0.0065

Neptune -97165-09-13 04:03 J -33767837.41 -33767837.33 -33767837.22 0.0089 0.0070

Neptune -97165-12-10 05:59 J -33767749.31 -33767749.25 -33767749.15 0.0089 0.0075

Neptune -97164-03-08 08:23 J -33767661.21 -33767661.15 -33767661.08 0.0089 0.0079

Neptune -97164-06-04 10:03 J -33767573.11 -33767573.08 -33767573.01 0.0089 0.0084

Neptune -97164-08-31 12:13 J -33767484.99 -33767484.99 -33767484.97 0.0089 0.0089

Earth -97163-07-20 12:13 J -33767162.07 -33767161.99 -33767161.91 0.2636 0.1919

Moon -97163-07-20 13:11 J -33767162.02 -33767161.95 -33767161.88 0.2636 0.2085 *

Venus -97163-10-07 14:51 J -33767083.01 -33767082.88 -33767082.75 0.3601 0.0788

Jupiter -97163-10-08 18:27 J -33767081.80 -33767081.73 -33767081.65 0.0513 0.0453

Jupiter -97162-01-06 16:32 J -33766991.97 -33766991.81 -33766991.66 0.0517 0.0084

Venus -97161-04-23 02:23 J -33766519.43 -33766519.40 -33766519.36 0.3766 0.3553

Mars -97160-10-08 01:11 J -33765986.59 -33765986.45 -33765986.31 0.1611 0.0163

Moon -97159-01-03 22:47 J -33765898.67 -33765898.55 -33765898.44 0.2708 0.1416

Earth -97159-01-03 22:47 J -33765898.66 -33765898.55 -33765898.44 0.2714 0.1480 *

Saturn -97158-03-16 14:51 J -33765461.98 -33765461.88 -33765461.79 0.0286 0.0218

Saturn -97158-06-13 06:27 J -33765373.37 -33765373.23 -33765373.09 0.0286 0.0127

Saturn -97158-09-09 22:32 J -33765284.72 -33765284.56 -33765284.41 0.0286 0.0034

Saturn -97158-12-07 14:51 J -33765196.03 -33765195.88 -33765195.73 0.0286 0.0062

Saturn -97157-03-05 07:25 J -33765107.31 -33765107.19 -33765107.06 0.0286 0.0160

Venus -97157-04-22 14:37 J -33765059.00 -33765058.89 -33765058.78 0.3604 0.1957

Jupiter -97157-05-27 17:15 J -33765023.92 -33765023.78 -33765023.64 0.0513 0.0146

Saturn -97157-06-02 00:42 J -33765018.53 -33765018.47 -33765018.41 0.0286 0.0259

Mars -97157-07-25 15:06 J -33764964.98 -33764964.87 -33764964.76 0.1915 0.1133

Jupiter -97157-08-25 05:59 J -33764934.36 -33764934.25 -33764934.13 0.0510 0.0323

Moon -97156-07-13 02:51 J -33764612.48 -33764612.38 -33764612.29 0.2631 0.1687

Earth -97156-07-13 03:06 J -33764612.47 -33764612.37 -33764612.27 0.2624 0.1612 *

Venus -97152-11-06 13:54 J -33763034.99 -33763034.92 -33763034.85 0.3608 0.3075

Jupiter -97151-10-25 15:49 J -33762682.00 -33762681.84 -33762681.69 0.0515 0.0061

Jupiter -97150-01-23 12:13 J -33762592.05 -33762591.99 -33762591.92 0.0519 0.0466

Mars -97150-02-28 08:51 J -33762556.26 -33762556.13 -33762556.00 0.1611 0.0585

Venus -97149-07-31 19:39 J -33762036.72 -33762036.68 -33762036.63 0.3789 0.3409

Mars -97148-02-03 03:20 J -33761850.44 -33761850.36 -33761850.27 0.1614 0.1249

Moon -97146-01-06 21:35 J -33761147.73 -33761147.60 -33761147.46 0.2705 0.0104

Earth -97146-01-06 22:32 J -33761147.69 -33761147.56 -33761147.43 0.2710 0.0134 *

Mars -97146-11-22 04:47 J -33760828.40 -33760828.30 -33760828.20 0.1912 0.1223

Jupiter -97145-03-15 20:08 J -33760713.78 -33760713.66 -33760713.54 0.0515 0.0257

Jupiter -97145-06-13 08:37 J -33760624.27 -33760624.14 -33760624.00 0.0511 0.0211

Saturn -97144-10-21 13:39 J -33760129.03 -33760128.93 -33760128.83 0.0273 0.0206

Saturn -97143-01-18 05:15 J -33760040.42 -33760040.28 -33760040.14 0.0273 0.0120

Venus -97143-02-14 13:39 J -33760013.00 -33760012.93 -33760012.85 0.3787 0.2588

Saturn -97143-04-16 20:37 J -33759951.80 -33759951.64 -33759951.49 0.0273 0.0035

Saturn -97143-07-14 11:30 J -33759863.17 -33759863.02 -33759862.86 0.0273 0.0049

Earth -97143-07-15 23:59 J -33759861.62 -33759861.50 -33759861.37 0.2628 0.0332

Moon -97143-07-16 00:13 J -33759861.61 -33759861.49 -33759861.36 0.2635 0.0320 *

Saturn -97143-10-11 02:08 J -33759774.54 -33759774.41 -33759774.27 0.0273 0.0131

Saturn -97142-01-07 16:32 J -33759685.90 -33759685.81 -33759685.71 0.0273 0.0210

Mars -97141-07-20 16:32 J -33759125.91 -33759125.81 -33759125.70 0.1611 0.1008

Mars -97139-06-26 10:32 J -33758420.18 -33758420.06 -33758419.94 0.1612 0.0788

Jupiter -97139-08-13 16:03 J -33758371.98 -33758371.83 -33758371.68 0.0514 0.0192

Jupiter -97139-11-11 12:56 J -33758282.08 -33758281.96 -33758281.84 0.0518 0.0338

Venus -97138-08-31 07:54 J -33757989.27 -33757989.17 -33757989.08 0.3784 0.1747

Mars -97136-04-13 08:37 J -33757398.27 -33757398.14 -33757398.01 0.1913 0.0478

Jupiter -97133-01-02 23:01 J -33756403.63 -33756403.54 -33756403.44 0.0515 0.0368

Moon -97133-01-09 21:35 J -33756396.70 -33756396.60 -33756396.50 0.2706 0.1733

Earth -97133-01-09 22:32 J -33756396.66 -33756396.56 -33756396.46 0.2705 0.1774 *

Jupiter -97133-04-01 11:15 J -33756314.17 -33756314.03 -33756313.88 0.0511 0.0099

Venus -97132-03-16 02:08 J -33755965.52 -33755965.41 -33755965.30 0.3781 0.0875

Uranus -97132-03-19 05:44 J -33755962.30 -33755962.26 -33755962.21 0.0143 0.0135

Uranus -97132-06-15 10:32 J -33755874.14 -33755874.06 -33755873.97 0.0143 0.0115

Uranus -97132-09-11 15:20 J -33755785.96 -33755785.86 -33755785.74 0.0143 0.0095

Uranus -97132-12-08 20:23 J -33755697.78 -33755697.65 -33755697.52 0.0143 0.0075

Mars -97132-12-11 00:42 J -33755695.53 -33755695.47 -33755695.40 0.1611 0.1416

Uranus -97131-03-07 01:11 J -33755609.58 -33755609.45 -33755609.30 0.0143 0.0055

Uranus -97131-06-03 06:27 J -33755521.38 -33755521.23 -33755521.08 0.0144 0.0033

Uranus -97131-08-30 11:30 J -33755433.17 -33755433.02 -33755432.87 0.0144 0.0012

Uranus -97131-11-26 16:32 J -33755344.96 -33755344.81 -33755344.65 0.0144 0.0011

Uranus -97130-02-22 21:49 J -33755256.74 -33755256.59 -33755256.44 0.0144 0.0031

Uranus -97130-05-22 03:06 J -33755168.52 -33755168.37 -33755168.23 0.0144 0.0053

Earth -97130-07-18 20:51 J -33755110.75 -33755110.63 -33755110.51 0.2633 0.0940

Moon -97130-07-18 21:49 J -33755110.70 -33755110.59 -33755110.48 0.2635 0.1068 *

Uranus -97130-08-18 08:08 J -33755080.28 -33755080.16 -33755080.02 0.0144 0.0076

Uranus -97130-11-14 13:39 J -33754992.04 -33754991.93 -33754991.81 0.0144 0.0098

Mars -97130-11-16 17:59 J -33754989.89 -33754989.75 -33754989.61 0.1612 0.0343

Uranus -97129-02-10 18:56 J -33754903.79 -33754903.71 -33754903.62 0.0144 0.0120

Uranus -97129-05-09 00:27 J -33754815.50 -33754815.48 -33754815.46 0.0145 0.0143

Saturn -97129-08-02 14:51 J -33754729.95 -33754729.88 -33754729.81 0.0285 0.0251

Saturn -97129-10-30 06:13 J -33754641.36 -33754641.24 -33754641.11 0.0286 0.0161

Saturn -97128-01-26 22:03 J -33754552.72 -33754552.58 -33754552.43 0.0286 0.0069

Saturn -97128-04-25 14:23 J -33754464.06 -33754463.90 -33754463.75 0.0286 0.0026

Saturn -97128-07-23 06:42 J -33754375.35 -33754375.22 -33754375.07 0.0286 0.0123

Saturn -97128-10-19 23:44 J -33754286.61 -33754286.51 -33754286.41 0.0286 0.0221

Jupiter -97127-06-01 16:18 J -33754061.94 -33754061.82 -33754061.69 0.0514 0.0322

Jupiter -97127-08-30 13:54 J -33753972.06 -33753971.92 -33753971.78 0.0518 0.0212

Mars -97127-09-03 12:13 J -33753968.12 -33753967.99 -33753967.85 0.1914 0.0280

Venus -97127-09-29 20:37 J -33753941.75 -33753941.64 -33753941.53 0.3778 0.0067

Moon -97126-01-02 05:30 J -33753847.30 -33753847.27 -33753847.25 0.2712 0.2643

Venus -97123-09-28 13:11 J -33752482.05 -33752481.95 -33752481.86 0.3593 0.2661

Jupiter -97122-10-22 02:08 J -33752093.46 -33752093.41 -33752093.36 0.0516 0.0478

Jupiter -97121-01-19 14:08 J -33752004.06 -33752003.91 -33752003.77 0.0512 0.0023

Venus -97121-04-14 15:20 J -33751917.97 -33751917.86 -33751917.75 0.3775 0.0940

Jupiter -97121-04-18 03:06 J -33751914.43 -33751914.37 -33751914.31 0.0508 0.0454

Mars -97120-04-08 01:25 J -33751559.58 -33751559.44 -33751559.30 0.1611 0.0101

Mars -97117-01-24 15:20 J -33750537.97 -33750537.86 -33750537.75 0.1914 0.1064

Venus -97117-04-13 14:08 J -33750458.04 -33750457.91 -33750457.79 0.3596 0.1345

Earth -97117-07-20 17:30 J -33750359.84 -33750359.77 -33750359.70 0.2637 0.2185

Moon -97117-07-20 18:27 J -33750359.80 -33750359.73 -33750359.67 0.2635 0.2204 *

Venus -97116-10-29 10:18 J -33749894.17 -33749894.07 -33749893.97 0.3772 0.1881

Jupiter -97115-03-20 16:47 J -33749751.87 -33749751.80 -33749751.72 0.0513 0.0450

Jupiter -97115-06-18 14:51 J -33749662.04 -33749661.88 -33749661.72 0.0517 0.0087

Saturn -97114-03-10 12:42 J -33749397.04 -33749396.97 -33749396.89 0.0273 0.0241

Saturn -97114-06-07 04:32 J -33749308.44 -33749308.31 -33749308.18 0.0273 0.0154

Saturn -97114-09-03 20:08 J -33749219.81 -33749219.66 -33749219.51 0.0273 0.0068

Saturn -97114-12-01 11:15 J -33749131.19 -33749131.03 -33749130.88 0.0273 0.0017

Moon -97113-01-05 04:03 J -33749096.45 -33749096.33 -33749096.21 0.2708 0.1231

Earth -97113-01-05 04:18 J -33749096.43 -33749096.32 -33749096.20 0.2714 0.1160 *

Saturn -97113-02-28 02:08 J -33749042.56 -33749042.41 -33749042.27 0.0273 0.0099

Saturn -97113-05-26 16:32 J -33748953.92 -33748953.81 -33748953.70 0.0273 0.0179

Saturn -97113-08-23 06:42 J -33748865.26 -33748865.22 -33748865.17 0.0273 0.0258

Venus -97112-10-28 14:37 J -33748434.03 -33748433.89 -33748433.76 0.3599 0.0111

Mars -97111-08-29 08:51 J -33748129.26 -33748129.13 -33748128.99 0.1611 0.0535

Venus -97110-05-15 05:30 J -33747870.34 -33747870.27 -33747870.20 0.3768 0.2849

Moon -97110-07-14 08:08 J -33747810.27 -33747810.16 -33747810.05 0.2632 0.1310

Earth -97110-07-14 08:23 J -33747810.26 -33747810.15 -33747810.04 0.2625 0.1340 *

Jupiter -97110-11-07 16:03 J -33747693.97 -33747693.83 -33747693.69 0.0513 0.0139

Jupiter -97109-02-05 04:47 J -33747604.41 -33747604.30 -33747604.19 0.0509 0.0330

Mars -97109-08-04 03:49 J -33747423.43 -33747423.34 -33747423.26 0.1613 0.1306

Mars -97108-06-15 17:59 J -33747107.77 -33747107.75 -33747107.73 0.1915 0.1878

Venus -97106-05-14 14:37 J -33746410.02 -33746409.89 -33746409.76 0.3602 0.1136

Mars -97106-05-23 04:47 J -33746401.39 -33746401.30 -33746401.20 0.1912 0.1278

Jupiter -97103-04-06 15:20 J -33745352.02 -33745351.86 -33745351.70 0.0516 0.0044

Jupiter -97103-07-05 11:44 J -33745262.06 -33745262.01 -33745261.95 0.0519 0.0482

Mars -97101-01-19 17:01 J -33744698.91 -33744698.79 -33744698.68 0.1611 0.0954

Venus -97101-11-27 14:08 J -33744386.01 -33744385.91 -33744385.80 0.3605 0.2293

Moon -97100-01-07 03:20 J -33744345.50 -33744345.36 -33744345.23 0.2705 0.0446

Earth -97100-01-07 04:18 J -33744345.46 -33744345.32 -33744345.19 0.2709 0.0460 *

Saturn -97100-12-20 15:49 J -33743997.87 -33743997.84 -33743997.80 0.0285 0.0277

Mars -97100-12-25 10:47 J -33743993.17 -33743993.05 -33743992.93 0.1612 0.0845

Saturn -97099-03-19 07:11 J -33743909.31 -33743909.20 -33743909.08 0.0286 0.0188

Saturn -97099-06-15 23:01 J -33743820.68 -33743820.54 -33743820.39 0.0286 0.0096

Saturn -97099-09-12 15:06 J -33743732.02 -33743731.87 -33743731.71 0.0286 0.0009

Saturn -97099-12-10 07:39 J -33743643.33 -33743643.18 -33743643.03 0.0286 0.0095

Saturn -97098-03-09 00:27 J -33743554.59 -33743554.48 -33743554.36 0.0286 0.0194

Pluto -97098-08-13 02:08 J -33743397.46 -33743397.41 -33743397.35 0.0085 0.0076

Jupiter -97098-08-26 18:42 J -33743383.84 -33743383.72 -33743383.60 0.0514 0.0254

Pluto -97098-11-09 03:35 J -33743309.44 -33743309.35 -33743309.26 0.0084 0.0063

Jupiter -97098-11-24 07:11 J -33743294.33 -33743294.20 -33743294.07 0.0510 0.0213

Pluto -97097-02-05 04:32 J -33743221.40 -33743221.31 -33743221.19 0.0084 0.0051

Pluto -97097-05-03 05:59 J -33743133.36 -33743133.25 -33743133.13 0.0084 0.0037

Earth -97097-07-16 05:15 J -33743059.40 -33743059.28 -33743059.15 0.2629 0.0091

Moon -97097-07-16 05:44 J -33743059.38 -33743059.26 -33743059.13 0.2634 0.0090 *

Pluto -97097-07-30 07:25 J -33743045.32 -33743045.19 -33743045.07 0.0084 0.0024

Mars -97097-10-12 08:51 J -33742971.25 -33742971.13 -33742971.00 0.1914 0.0554

Pluto -97097-10-26 08:37 J -33742957.27 -33742957.14 -33742957.01 0.0084 0.0012

Pluto -97096-01-22 09:49 J -33742869.22 -33742869.09 -33742868.96 0.0084 0.0001

Pluto -97096-04-20 11:01 J -33742781.17 -33742781.04 -33742780.91 0.0084 0.0013

Pluto -97096-07-17 12:13 J -33742693.11 -33742692.99 -33742692.86 0.0084 0.0026

Pluto -97096-10-13 13:11 J -33742605.06 -33742604.95 -33742604.82 0.0083 0.0039

Pluto -97095-01-09 14:37 J -33742516.99 -33742516.89 -33742516.78 0.0083 0.0051

Pluto -97095-04-07 15:35 J -33742428.92 -33742428.85 -33742428.75 0.0083 0.0063

Venus -97095-06-13 13:25 J -33742361.98 -33742361.94 -33742361.90 0.3609 0.3392

Pluto -97095-07-04 16:47 J -33742340.84 -33742340.80 -33742340.74 0.0083 0.0075

Uranus -97093-08-14 21:49 J -33741568.64 -33741568.59 -33741568.52 0.0136 0.0126

Uranus -97093-11-11 03:06 J -33741480.46 -33741480.37 -33741480.26 0.0136 0.0106

Uranus -97092-02-07 08:08 J -33741392.27 -33741392.16 -33741392.03 0.0135 0.0087

Venus -97092-03-07 17:44 J -33741363.81 -33741363.76 -33741363.70 0.3788 0.3159

Uranus -97092-05-06 13:25 J -33741304.08 -33741303.94 -33741303.80 0.0135 0.0067

Mars -97092-06-11 00:56 J -33741268.53 -33741268.46 -33741268.39 0.1611 0.1364

Uranus -97092-08-02 18:27 J -33741215.88 -33741215.73 -33741215.58 0.0135 0.0048

Uranus -97092-10-29 23:15 J -33741127.68 -33741127.53 -33741127.37 0.0135 0.0030

Jupiter -97091-01-23 14:23 J -33741042.04 -33741041.90 -33741041.74 0.0514 0.0188

Uranus -97091-01-26 04:18 J -33741039.48 -33741039.32 -33741039.16 0.0135 0.0011

Jupiter -97091-04-23 11:30 J -33740952.14 -33740952.02 -33740951.90 0.0518 0.0342

Uranus -97091-04-24 09:06 J -33740951.28 -33740951.12 -33740950.95 0.0135 0.0009

Uranus -97091-07-21 14:08 J -33740863.07 -33740862.91 -33740862.76 0.0135 0.0026

Neptune -97091-10-11 21:20 J -33740780.61 -33740780.61 -33740780.59 0.0089 0.0089

Uranus -97091-10-17 18:42 J -33740774.87 -33740774.72 -33740774.56 0.0135 0.0044

Neptune -97090-01-08 00:27 J -33740692.54 -33740692.48 -33740692.43 0.0089 0.0083

Uranus -97090-01-13 23:30 J -33740686.66 -33740686.52 -33740686.38 0.0134 0.0062

Neptune -97090-04-06 02:51 J -33740604.45 -33740604.38 -33740604.29 0.0089 0.0078

Uranus -97090-04-12 04:03 J -33740598.45 -33740598.33 -33740598.19 0.0134 0.0080

Mars -97090-05-17 18:13 J -33740562.88 -33740562.74 -33740562.61 0.1612 0.0399

Neptune -97090-07-03 05:30 J -33740516.35 -33740516.27 -33740516.16 0.0089 0.0073

Uranus -97090-07-09 08:37 J -33740510.24 -33740510.14 -33740510.02 0.0134 0.0097

Neptune -97090-09-29 08:08 J -33740428.25 -33740428.16 -33740428.03 0.0089 0.0068

Uranus -97090-10-05 13:25 J -33740422.02 -33740421.94 -33740421.86 0.0134 0.0114

Neptune -97090-12-26 10:47 J -33740340.15 -33740340.05 -33740339.91 0.0089 0.0063

Uranus -97089-01-01 17:59 J -33740333.77 -33740333.75 -33740333.72 0.0134 0.0131

Neptune -97089-03-23 13:54 J -33740252.05 -33740251.92 -33740251.79 0.0089 0.0057

Neptune -97089-06-19 16:32 J -33740163.94 -33740163.81 -33740163.67 0.0089 0.0052

Neptune -97089-09-15 19:11 J -33740075.84 -33740075.70 -33740075.55 0.0089 0.0047

Neptune -97089-12-12 21:49 J -33739987.74 -33739987.59 -33739987.44 0.0089 0.0042

Neptune -97088-03-11 00:13 J -33739899.63 -33739899.49 -33739899.32 0.0089 0.0037

Neptune -97088-06-07 02:51 J -33739811.53 -33739811.38 -33739811.21 0.0089 0.0032

Neptune -97088-09-03 05:30 J -33739723.42 -33739723.27 -33739723.10 0.0089 0.0027

Neptune -97088-11-30 08:08 J -33739635.32 -33739635.16 -33739634.99 0.0089 0.0022

Moon -97087-01-10 03:06 J -33739594.46 -33739594.37 -33739594.27 0.2707 0.1903

Earth -97087-01-10 04:18 J -33739594.40 -33739594.32 -33739594.24 0.2704 0.2110 *

Neptune -97087-02-26 10:47 J -33739547.21 -33739547.05 -33739546.88 0.0088 0.0016

Mars -97087-03-04 12:42 J -33739541.11 -33739540.97 -33739540.84 0.1914 0.0208

Neptune -97087-05-25 13:25 J -33739459.10 -33739458.94 -33739458.77 0.0088 0.0011

Neptune -97087-08-21 16:03 J -33739371.00 -33739370.83 -33739370.66 0.0088 0.0006

Venus -97087-09-21 11:44 J -33739340.09 -33739340.01 -33739339.92 0.3786 0.2337

Neptune -97087-11-17 18:42 J -33739282.89 -33739282.72 -33739282.56 0.0088 0.0002

Neptune -97086-02-13 21:06 J -33739194.79 -33739194.62 -33739194.45 0.0088 0.0004

Neptune -97086-05-12 23:30 J -33739106.68 -33739106.52 -33739106.35 0.0088 0.0009

Jupiter -97086-06-14 21:35 J -33739073.70 -33739073.60 -33739073.50 0.0516 0.0366

Neptune -97086-08-09 02:08 J -33739018.58 -33739018.41 -33739018.24 0.0088 0.0014

Jupiter -97086-09-12 09:49 J -33738984.23 -33738984.09 -33738983.95 0.0512 0.0100

Neptune -97086-11-05 04:32 J -33738930.47 -33738930.31 -33738930.14 0.0088 0.0019

Neptune -97085-02-01 06:56 J -33738842.36 -33738842.21 -33738842.04 0.0088 0.0024

Neptune -97085-04-29 09:35 J -33738754.26 -33738754.10 -33738753.94 0.0088 0.0029

Neptune -97085-07-26 11:59 J -33738666.15 -33738666.00 -33738665.84 0.0088 0.0033

Saturn -97085-07-27 15:06 J -33738664.91 -33738664.87 -33738664.82 0.0274 0.0261

Neptune -97085-10-22 14:23 J -33738578.04 -33738577.90 -33738577.75 0.0088 0.0038

Saturn -97085-10-24 07:11 J -33738576.32 -33738576.20 -33738576.08 0.0274 0.0173

Neptune -97084-01-18 16:32 J -33738489.94 -33738489.81 -33738489.65 0.0088 0.0044

Saturn -97084-01-20 22:32 J -33738487.70 -33738487.56 -33738487.41 0.0273 0.0087

Neptune -97084-04-16 19:25 J -33738401.83 -33738401.69 -33738401.55 0.0088 0.0048

Saturn -97084-04-19 13:54 J -33738399.08 -33738398.92 -33738398.77 0.0273 0.0004

Neptune -97084-07-13 21:35 J -33738313.72 -33738313.60 -33738313.46 0.0088 0.0053

Saturn -97084-07-17 04:47 J -33738310.45 -33738310.30 -33738310.16 0.0273 0.0081

Earth -97084-07-19 02:08 J -33738308.52 -33738308.41 -33738308.30 0.2633 0.1211

Moon -97084-07-19 03:06 J -33738308.48 -33738308.37 -33738308.27 0.2636 0.1277 *

Neptune -97084-10-09 23:59 J -33738225.62 -33738225.50 -33738225.37 0.0088 0.0057

Saturn -97084-10-13 19:11 J -33738221.82 -33738221.70 -33738221.57 0.0273 0.0163

Neptune -97083-01-06 02:08 J -33738137.51 -33738137.41 -33738137.28 0.0088 0.0063

Saturn -97083-01-10 09:35 J -33738133.17 -33738133.10 -33738133.03 0.0273 0.0241

Neptune -97083-04-04 04:47 J -33738049.40 -33738049.30 -33738049.19 0.0088 0.0067

Neptune -97083-07-01 06:56 J -33737961.29 -33737961.21 -33737961.10 0.0088 0.0072

Neptune -97083-09-27 09:20 J -33737873.18 -33737873.11 -33737873.02 0.0088 0.0076

Neptune -97083-12-24 11:59 J -33737785.06 -33737785.00 -33737784.93 0.0088 0.0081

Neptune -97082-03-22 14:08 J -33737696.94 -33737696.91 -33737696.86 0.0088 0.0085

Venus -97081-04-06 05:59 J -33737316.35 -33737316.25 -33737316.15 0.3783 0.1484

Mars -97081-10-07 01:39 J -33737132.57 -33737132.43 -33737132.29 0.1611 0.0044

Earth -97080-01-02 10:32 J -33737045.12 -33737045.06 -33737045.00 0.2718 0.2406

Moon -97080-01-02 11:01 J -33737045.11 -33737045.04 -33737044.98 0.2711 0.2347 *

Jupiter -97080-11-11 14:37 J -33736732.01 -33736731.89 -33736731.76 0.0513 0.0320

Jupiter -97079-02-09 11:59 J -33736642.14 -33736642.00 -33736641.85 0.0517 0.0213

Mars -97078-07-25 15:35 J -33736110.96 -33736110.85 -33736110.73 0.1915 0.0994

Moon -97077-07-11 15:49 J -33735758.89 -33735758.84 -33735758.78 0.2626 0.2373

Earth -97077-07-11 16:32 J -33735758.86 -33735758.81 -33735758.76 0.2621 0.2369 *

Venus -97076-10-21 00:27 J -33735292.59 -33735292.48 -33735292.37 0.3780 0.0621

Jupiter -97074-04-03 00:42 J -33734763.52 -33734763.47 -33734763.42 0.0516 0.0475

Jupiter -97074-07-01 12:42 J -33734674.12 -33734673.97 -33734673.83 0.0513 0.0015

Jupiter -97074-09-29 01:39 J -33734584.49 -33734584.43 -33734584.36 0.0509 0.0459

Mars -97071-02-27 09:20 J -33733702.24 -33733702.11 -33733701.98 0.1611 0.0475

Earth -97071-07-21 22:47 J -33733557.60 -33733557.55 -33733557.51 0.2637 0.2447

Moon -97071-07-21 23:30 J -33733557.55 -33733557.52 -33733557.50 0.2634 0.2565 *

Venus -97070-05-06 18:56 J -33733268.82 -33733268.71 -33733268.60 0.3777 0.0290

Saturn -97070-08-06 07:25 J -33733177.28 -33733177.19 -33733177.09 0.0285 0.0220

Saturn -97070-11-02 23:01 J -33733088.67 -33733088.54 -33733088.40 0.0285 0.0130

Saturn -97069-01-30 14:51 J -33733000.03 -33732999.88 -33732999.72 0.0286 0.0037

Mars -97069-02-03 04:03 J -33732996.40 -33732996.33 -33732996.25 0.1613 0.1368

Saturn -97069-04-28 07:11 J -33732911.35 -33732911.20 -33732911.05 0.0286 0.0059

Saturn -97069-07-25 23:44 J -33732822.63 -33732822.51 -33732822.37 0.0286 0.0157

Saturn -97069-10-22 16:47 J -33732733.86 -33732733.80 -33732733.73 0.0286 0.0256

Mars -97069-12-14 18:27 J -33732680.77 -33732680.73 -33732680.68 0.1915 0.1795

Jupiter -97068-08-30 14:51 J -33732421.95 -33732421.88 -33732421.80 0.0513 0.0451

Jupiter -97068-11-28 12:56 J -33732332.12 -33732331.96 -33732331.81 0.0517 0.0087

Moon -97067-01-05 09:35 J -33732294.23 -33732294.10 -33732293.98 0.2707 0.0859

Earth -97067-01-05 10:03 J -33732294.21 -33732294.08 -33732293.96 0.2713 0.0830 *

Mars -97067-11-21 05:15 J -33731974.37 -33731974.28 -33731974.19 0.1912 0.1355

Venus -97066-05-05 13:11 J -33731809.06 -33731808.95 -33731808.84 0.3594 0.2259

Venus -97065-11-19 13:39 J -33731245.03 -33731244.93 -33731244.82 0.3774 0.1214

Moon -97064-07-14 13:39 J -33731008.05 -33731007.93 -33731007.82 0.2632 0.1147

Earth -97064-07-14 13:39 J -33731008.04 -33731007.93 -33731007.81 0.2625 0.1062 *

Jupiter -97062-04-19 15:20 J -33730364.00 -33730363.86 -33730363.72 0.0513 0.0126

Jupiter -97062-07-18 04:18 J -33730274.43 -33730274.32 -33730274.22 0.0509 0.0344

Mars -97062-07-20 17:01 J -33730271.90 -33730271.79 -33730271.67 0.1610 0.0900

Venus -97061-11-18 13:54 J -33729785.05 -33729784.92 -33729784.79 0.3597 0.0963

Mars -97060-06-25 11:15 J -33729566.15 -33729566.03 -33729565.92 0.1612 0.0908

Venus -97059-06-05 08:51 J -33729221.23 -33729221.13 -33729221.04 0.3771 0.2166

Mars -97057-04-12 09:06 J -33728544.24 -33728544.12 -33728543.99 0.1913 0.0623

Jupiter -97056-09-16 13:39 J -33728022.08 -33728021.93 -33728021.77 0.0516 0.0042

Jupiter -97056-12-15 10:18 J -33727932.12 -33727932.07 -33727932.02 0.0520 0.0486

Saturn -97055-03-13 06:13 J -33727844.34 -33727844.24 -33727844.14 0.0273 0.0208

Venus -97055-06-04 14:23 J -33727761.03 -33727760.90 -33727760.77 0.3600 0.0286

Saturn -97055-06-09 21:49 J -33727755.73 -33727755.59 -33727755.45 0.0273 0.0121

Saturn -97055-09-06 13:11 J -33727667.10 -33727666.95 -33727666.79 0.0273 0.0035

Saturn -97055-12-04 04:18 J -33727578.47 -33727578.32 -33727578.17 0.0273 0.0049

Moon -97054-01-08 08:51 J -33727543.26 -33727543.13 -33727543.00 0.2706 0.0617

Earth -97054-01-08 09:49 J -33727543.21 -33727543.09 -33727542.96 0.2709 0.0790 *

Saturn -97054-03-02 18:56 J -33727489.84 -33727489.71 -33727489.57 0.0273 0.0130

Saturn -97054-05-30 09:20 J -33727401.20 -33727401.11 -33727401.01 0.0273 0.0210

Venus -97054-12-20 04:03 J -33727197.39 -33727197.33 -33727197.27 0.3767 0.3134

Mars -97053-12-10 01:11 J -33726841.53 -33726841.45 -33726841.37 0.1610 0.1313

Earth -97051-07-17 10:32 J -33726257.18 -33726257.06 -33726256.93 0.2630 0.0228

Moon -97051-07-17 11:15 J -33726257.15 -33726257.03 -33726256.91 0.2634 0.0333 *

Mars -97051-11-15 18:27 J -33726135.87 -33726135.73 -33726135.60 0.1611 0.0456

Jupiter -97050-02-05 17:44 J -33726053.89 -33726053.76 -33726053.64 0.0514 0.0245

Jupiter -97050-05-06 06:13 J -33725964.37 -33725964.24 -33725964.11 0.0510 0.0222

Venus -97050-12-19 14:23 J -33725737.02 -33725736.90 -33725736.78 0.3603 0.1482

Uranus -97048-04-08 12:56 J -33725261.02 -33725260.96 -33725260.91 0.0143 0.0131

Uranus -97048-07-05 17:44 J -33725172.85 -33725172.76 -33725172.67 0.0143 0.0111

Mars -97048-09-02 12:42 J -33725114.10 -33725113.97 -33725113.84 0.1914 0.0140

Uranus -97048-10-01 22:32 J -33725084.67 -33725084.56 -33725084.44 0.0143 0.0091

Uranus -97048-12-29 03:35 J -33724996.48 -33724996.35 -33724996.22 0.0143 0.0071

Uranus -97047-03-27 08:23 J -33724908.29 -33724908.15 -33724908.00 0.0144 0.0050

Uranus -97047-06-23 13:25 J -33724820.09 -33724819.94 -33724819.79 0.0144 0.0029

Uranus -97047-09-19 18:27 J -33724731.88 -33724731.73 -33724731.57 0.0144 0.0009

Uranus -97047-12-16 23:44 J -33724643.66 -33724643.51 -33724643.36 0.0144 0.0014

Uranus -97046-03-15 04:47 J -33724555.45 -33724555.30 -33724555.15 0.0144 0.0036

Uranus -97046-06-11 10:03 J -33724467.22 -33724467.08 -33724466.93 0.0144 0.0057

Uranus -97046-09-07 15:20 J -33724378.99 -33724378.86 -33724378.73 0.0144 0.0080

Uranus -97046-12-04 20:23 J -33724290.74 -33724290.65 -33724290.52 0.0144 0.0103

Uranus -97045-03-02 01:54 J -33724202.49 -33724202.42 -33724202.33 0.0145 0.0125

Venus -97044-07-04 13:54 J -33723713.01 -33723712.92 -33723712.83 0.3606 0.2620

Jupiter -97044-07-05 14:08 J -33723712.06 -33723711.91 -33723711.76 0.0515 0.0170

Jupiter -97044-10-03 11:01 J -33723622.15 -33723622.04 -33723621.92 0.0518 0.0359

Moon -97041-01-11 08:51 J -33722792.19 -33722792.13 -33722792.08 0.2706 0.2418

Earth -97041-01-11 10:03 J -33722792.14 -33722792.08 -33722792.03 0.2704 0.2445 *

Venus -97041-03-28 22:03 J -33722714.60 -33722714.58 -33722714.56 0.3790 0.3713

Mars -97041-04-07 01:54 J -33722705.56 -33722705.42 -33722705.28 0.1611 0.0043

Saturn -97041-12-23 07:54 J -33722445.23 -33722445.17 -33722445.09 0.0285 0.0249

Saturn -97040-03-21 23:30 J -33722356.64 -33722356.52 -33722356.39 0.0286 0.0159

Saturn -97040-06-18 15:20 J -33722268.01 -33722267.86 -33722267.71 0.0286 0.0067

Saturn -97040-09-15 07:25 J -33722179.34 -33722179.19 -33722179.03 0.0286 0.0030

Saturn -97040-12-12 23:59 J -33722090.63 -33722090.50 -33722090.35 0.0286 0.0126

Saturn -97039-03-11 17:01 J -33722001.88 -33722001.79 -33722001.69 0.0286 0.0225

Jupiter -97039-11-24 20:23 J -33721743.75 -33721743.65 -33721743.55 0.0515 0.0360

Mars -97038-01-23 16:03 J -33721683.95 -33721683.83 -33721683.71 0.1915 0.0919

Jupiter -97038-02-22 08:37 J -33721654.29 -33721654.14 -33721654.00 0.0511 0.0105

Earth -97038-07-20 07:25 J -33721506.30 -33721506.19 -33721506.09 0.2634 0.1479

Moon -97038-07-20 08:08 J -33721506.25 -33721506.16 -33721506.06 0.2635 0.1574 *

Venus -97036-10-12 15:49 J -33720690.90 -33720690.84 -33720690.77 0.3787 0.2908

Earth -97034-01-03 16:03 J -33720242.91 -33720242.83 -33720242.75 0.2717 0.2090

Moon -97034-01-03 16:18 J -33720242.90 -33720242.82 -33720242.74 0.2710 0.2101 *

Jupiter -97032-04-23 13:25 J -33719402.07 -33719401.94 -33719401.81 0.0513 0.0312

Jupiter -97032-07-22 10:47 J -33719312.19 -33719312.05 -33719311.91 0.0517 0.0219

Mars -97032-08-28 09:35 J -33719275.24 -33719275.10 -33719274.97 0.1611 0.0420

Moon -97031-07-12 21:20 J -33718956.68 -33718956.61 -33718956.55 0.2628 0.2225

Earth -97031-07-12 21:49 J -33718956.66 -33718956.59 -33718956.51 0.2622 0.2091 *

Venus -97030-04-28 09:49 J -33718667.18 -33718667.09 -33718666.99 0.3785 0.2085

Mars -97030-08-04 04:18 J -33718569.38 -33718569.32 -33718569.25 0.1613 0.1426

Mars -97029-06-14 18:42 J -33718253.77 -33718253.72 -33718253.66 0.1915 0.1727

Mars -97027-05-22 05:30 J -33717547.35 -33717547.27 -33717547.18 0.1913 0.1426

Jupiter -97027-09-12 23:01 J -33717433.59 -33717433.54 -33717433.48 0.0517 0.0473

Jupiter -97027-12-11 11:15 J -33717344.18 -33717344.03 -33717343.89 0.0513 0.0018

Jupiter -97026-03-11 00:13 J -33717254.55 -33717254.49 -33717254.43 0.0509 0.0463

Saturn -97026-07-31 08:23 J -33717112.23 -33717112.15 -33717112.06 0.0274 0.0229

Saturn -97026-10-28 00:13 J -33717023.63 -33717023.49 -33717023.36 0.0274 0.0141

Saturn -97025-01-24 15:35 J -33716935.00 -33716934.85 -33716934.69 0.0274 0.0055

Saturn -97025-04-22 06:42 J -33716846.37 -33716846.22 -33716846.06 0.0273 0.0030

Saturn -97025-07-19 21:20 J -33716757.74 -33716757.61 -33716757.46 0.0273 0.0113

Saturn -97025-10-16 11:59 J -33716669.10 -33716669.00 -33716668.89 0.0273 0.0192

Venus -97025-11-11 04:18 J -33716643.43 -33716643.32 -33716643.22 0.3782 0.1235

Saturn -97024-01-13 02:08 J -33716580.42 -33716580.41 -33716580.39 0.0273 0.0271

Mars -97022-01-18 17:30 J -33715844.89 -33715844.77 -33715844.66 0.1610 0.0843

Moon -97021-01-06 15:06 J -33715492.00 -33715491.87 -33715491.74 0.2706 0.0572

Earth -97021-01-06 15:35 J -33715491.98 -33715491.85 -33715491.72 0.2713 0.0509 *

Mars -97021-12-24 11:30 J -33715139.13 -33715139.02 -33715138.91 0.1612 0.0967

Jupiter -97020-02-09 13:25 J -33715092.02 -33715091.94 -33715091.86 0.0512 0.0445

Jupiter -97020-05-10 11:15 J -33715002.19 -33715002.03 -33715001.87 0.0516 0.0089

Venus -97019-05-27 22:32 J -33714619.67 -33714619.56 -33714619.45 0.3779 0.0359

Moon -97018-07-15 18:56 J -33714205.83 -33714205.71 -33714205.59 0.2632 0.0726

Earth -97018-07-15 18:56 J -33714205.83 -33714205.71 -33714205.59 0.2626 0.0791 *

Mars -97018-10-12 09:20 J -33714117.23 -33714117.11 -33714116.98 0.1914 0.0697

Venus -97015-05-26 11:59 J -33713160.06 -33713160.00 -33713159.94 0.3592 0.3209

Jupiter -97015-09-29 14:08 J -33713034.05 -33713033.91 -33713033.77 0.0514 0.0121

Jupiter -97015-12-28 02:51 J -33712944.49 -33712944.38 -33712944.27 0.0510 0.0349

Venus -97014-12-11 17:15 J -33712595.89 -33712595.78 -33712595.67 0.3776 0.0559

Mars -97013-06-10 01:25 J -33712414.53 -33712414.44 -33712414.36 0.1610 0.1260

Saturn -97011-05-12 08:23 J -33711713.17 -33711713.15 -33711713.11 0.0285 0.0279

Mars -97011-05-16 18:42 J -33711708.86 -33711708.72 -33711708.59 0.1611 0.0512

Saturn -97011-08-08 23:59 J -33711624.61 -33711624.50 -33711624.39 0.0285 0.0190

Saturn -97011-11-05 15:35 J -33711535.99 -33711535.85 -33711535.71 0.0285 0.0099

Saturn -97010-02-02 07:39 J -33711447.34 -33711447.18 -33711447.03 0.0285 0.0007

Saturn -97010-05-01 23:59 J -33711358.65 -33711358.50 -33711358.35 0.0286 0.0091

Saturn -97010-07-29 16:47 J -33711269.92 -33711269.80 -33711269.69 0.0286 0.0189

Venus -97010-12-10 13:11 J -33711136.07 -33711135.95 -33711135.83 0.3594 0.1867

Uranus -97009-09-04 05:30 J -33710867.34 -33710867.27 -33710867.19 0.0136 0.0120

Neptune -97009-10-04 08:51 J -33710837.13 -33710837.13 -33710837.09 0.0089 0.0088

Uranus -97009-12-01 10:32 J -33710779.16 -33710779.06 -33710778.94 0.0135 0.0101

Neptune -97009-12-31 10:32 J -33710749.09 -33710749.06 -33710749.00 0.0089 0.0084

Moon -97008-01-08 14:23 J -33710741.02 -33710740.90 -33710740.78 0.2707 0.1048

Earth -97008-01-08 15:35 J -33710740.97 -33710740.85 -33710740.73 0.2708 0.1124 *

Jupiter -97008-02-26 11:44 J -33710692.17 -33710692.01 -33710691.85 0.0515 0.0041

Uranus -97008-02-27 15:35 J -33710690.97 -33710690.85 -33710690.71 0.0135 0.0082

Mars -97008-03-03 12:56 J -33710687.09 -33710686.96 -33710686.82 0.1915 0.0084

Neptune -97008-03-29 12:13 J -33710661.03 -33710660.99 -33710660.91 0.0089 0.0080

Uranus -97008-05-26 20:51 J -33710602.77 -33710602.63 -33710602.48 0.0135 0.0062

Jupiter -97008-05-27 08:23 J -33710602.20 -33710602.15 -33710602.10 0.0519 0.0485

Neptune -97008-06-25 14:23 J -33710572.97 -33710572.90 -33710572.82 0.0089 0.0075

Venus -97008-06-26 12:13 J -33710572.10 -33710571.99 -33710571.89 0.3773 0.1493

Uranus -97008-08-23 01:54 J -33710514.57 -33710514.42 -33710514.26 0.0135 0.0043

Neptune -97008-09-21 16:03 J -33710484.91 -33710484.83 -33710484.74 0.0089 0.0071

Uranus -97008-11-19 06:56 J -33710426.37 -33710426.21 -33710426.05 0.0135 0.0024

Neptune -97008-12-18 17:44 J -33710396.85 -33710396.76 -33710396.66 0.0089 0.0067

Uranus -97007-02-15 11:44 J -33710338.17 -33710338.01 -33710337.84 0.0135 0.0006

Neptune -97007-03-16 19:25 J -33710308.78 -33710308.69 -33710308.58 0.0089 0.0063

Uranus -97007-05-14 16:47 J -33710249.96 -33710249.80 -33710249.64 0.0135 0.0013

Neptune -97007-06-12 21:06 J -33710220.72 -33710220.62 -33710220.50 0.0089 0.0059

Uranus -97007-08-10 21:20 J -33710161.76 -33710161.61 -33710161.45 0.0135 0.0032

Neptune -97007-09-08 23:01 J -33710132.65 -33710132.54 -33710132.42 0.0089 0.0054

Uranus -97007-11-07 02:08 J -33710073.55 -33710073.41 -33710073.25 0.0135 0.0050

Neptune -97007-12-06 00:42 J -33710044.58 -33710044.47 -33710044.34 0.0089 0.0050

Uranus -97006-02-03 06:56 J -33709985.34 -33709985.21 -33709985.07 0.0134 0.0067

Neptune -97006-03-04 02:23 J -33709956.51 -33709956.40 -33709956.26 0.0089 0.0046

Uranus -97006-05-02 11:44 J -33709897.13 -33709897.01 -33709896.89 0.0134 0.0085

Neptune -97006-05-31 04:03 J -33709868.44 -33709868.33 -33709868.19 0.0089 0.0042

Uranus -97006-07-29 16:18 J -33709808.92 -33709808.82 -33709808.72 0.0134 0.0102

Neptune -97006-08-27 06:13 J -33709780.37 -33709780.24 -33709780.11 0.0089 0.0037

Uranus -97006-10-25 20:51 J -33709720.69 -33709720.63 -33709720.56 0.0134 0.0119

Neptune -97006-11-23 07:54 J -33709692.30 -33709692.17 -33709692.03 0.0089 0.0033

Neptune -97005-02-19 09:49 J -33709604.23 -33709604.09 -33709603.95 0.0089 0.0028

Neptune -97005-05-17 11:30 J -33709516.16 -33709516.02 -33709515.87 0.0089 0.0024

Earth -97005-07-17 15:49 J -33709454.96 -33709454.84 -33709454.71 0.2630 0.0499

Moon -97005-07-17 16:32 J -33709454.93 -33709454.81 -33709454.68 0.2635 0.0516 *

Neptune -97005-08-13 13:25 J -33709428.08 -33709427.94 -33709427.79 0.0089 0.0019

Neptune -97005-11-09 15:20 J -33709340.01 -33709339.86 -33709339.72 0.0089 0.0015

Neptune -97004-02-05 17:01 J -33709251.93 -33709251.79 -33709251.64 0.0089 0.0011

Neptune -97004-05-04 18:56 J -33709163.86 -33709163.71 -33709163.56 0.0089 0.0006

Venus -97004-06-25 13:54 J -33709112.06 -33709111.92 -33709111.79 0.3598 0.0590

Neptune -97004-07-31 20:51 J -33709075.78 -33709075.63 -33709075.48 0.0089 0.0002

Neptune -97004-10-27 22:47 J -33708987.70 -33708987.55 -33708987.40 0.0089 0.0003

Neptune -97003-01-24 00:27 J -33708899.62 -33708899.48 -33708899.33 0.0089 0.0008

Neptune -97003-04-22 02:23 J -33708811.54 -33708811.40 -33708811.25 0.0089 0.0012

Jupiter -97003-07-18 17:01 J -33708723.92 -33708723.79 -33708723.67 0.0514 0.0233

Neptune -97003-07-19 04:18 J -33708723.46 -33708723.32 -33708723.17 0.0089 0.0016

Neptune -97003-10-15 06:13 J -33708635.38 -33708635.24 -33708635.09 0.0089 0.0021

Jupiter -97003-10-16 05:30 J -33708634.40 -33708634.27 -33708634.14 0.0511 0.0235

Venus -97002-01-10 07:11 J -33708548.28 -33708548.20 -33708548.11 0.3770 0.2442

Neptune -97002-01-11 08:08 J -33708547.30 -33708547.16 -33708547.01 0.0089 0.0026

Neptune -97002-04-09 10:03 J -33708459.22 -33708459.08 -33708458.94 0.0089 0.0030

Neptune -97002-07-06 11:44 J -33708371.14 -33708371.01 -33708370.86 0.0089 0.0035

Neptune -97002-10-02 13:54 J -33708283.05 -33708282.92 -33708282.78 0.0089 0.0039

Mars -97002-10-07 02:08 J -33708278.55 -33708278.41 -33708278.27 0.1611 0.0070

Neptune -97002-12-29 15:49 J -33708194.97 -33708194.84 -33708194.70 0.0089 0.0044

Neptune -97001-03-26 17:30 J -33708106.88 -33708106.77 -33708106.63 0.0089 0.0049

Neptune -97001-06-22 19:39 J -33708018.79 -33708018.68 -33708018.55 0.0089 0.0053

Neptune -97001-09-18 21:35 J -33707930.71 -33707930.60 -33707930.48 0.0089 0.0058

Neptune -97001-12-15 23:30 J -33707842.62 -33707842.52 -33707842.40 0.0089 0.0063

97TH MILLENNIUM BCE

This is a list of transits of Mercury in the 97th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Neptune -97000-03-14 01:39 J -33707754.52 -33707754.43 -33707754.33 0.0089 0.0067

Neptune -97000-06-10 03:35 J -33707666.43 -33707666.35 -33707666.25 0.0089 0.0072

Neptune -97000-09-06 05:30 J -33707578.33 -33707578.27 -33707578.18 0.0089 0.0077

Neptune -97000-12-03 07:39 J -33707490.23 -33707490.18 -33707490.11 0.0089 0.0081

Neptune -96999-03-01 09:35 J -33707402.13 -33707402.10 -33707402.05 0.0089 0.0086

Mars -96999-07-24 16:18 J -33707256.94 -33707256.82 -33707256.70 0.1915 0.0851

Venus -96998-01-09 14:08 J -33707088.04 -33707087.91 -33707087.78 0.3601 0.0645

Venus -96997-07-26 02:37 J -33706524.44 -33706524.39 -33706524.35 0.3766 0.3422

Jupiter -96997-12-15 12:42 J -33706382.13 -33706381.97 -33706381.82 0.0515 0.0167

Saturn -96997-12-17 07:11 J -33706380.23 -33706380.20 -33706380.16 0.0273 0.0265

Jupiter -96996-03-15 09:35 J -33706292.21 -33706292.10 -33706291.99 0.0519 0.0364

Saturn -96996-03-15 23:01 J -33706291.65 -33706291.54 -33706291.41 0.0273 0.0177

Saturn -96996-06-12 14:37 J -33706203.03 -33706202.89 -33706202.74 0.0273 0.0090

Saturn -96996-09-09 05:59 J -33706114.40 -33706114.25 -33706114.09 0.0273 0.0005

Saturn -96996-12-06 20:51 J -33706025.77 -33706025.63 -33706025.48 0.0273 0.0079

Moon -96995-01-11 14:37 J -33705989.92 -33705989.89 -33705989.85 0.2706 0.2596

Saturn -96995-03-05 11:30 J -33705937.14 -33705937.02 -33705936.89 0.0273 0.0160

Saturn -96995-06-02 01:54 J -33705848.49 -33705848.42 -33705848.35 0.0273 0.0239

Venus -96993-07-25 13:54 J -33705064.03 -33705063.92 -33705063.80 0.3604 0.1820

Mars -96992-02-26 09:49 J -33704848.23 -33704848.09 -33704847.96 0.1610 0.0368

Earth -96992-07-20 12:42 J -33704704.07 -33704703.97 -33704703.88 0.2634 0.1748

Moon -96992-07-20 13:25 J -33704704.02 -33704703.94 -33704703.85 0.2634 0.1863 *

Jupiter -96991-05-06 19:25 J -33704413.79 -33704413.69 -33704413.59 0.0515 0.0350

Jupiter -96991-08-04 07:25 J -33704324.33 -33704324.19 -33704324.04 0.0511 0.0115

Mars -96990-02-02 04:47 J -33704142.36 -33704142.30 -33704142.25 0.1613 0.1489

Mars -96990-12-14 18:56 J -33703826.77 -33703826.71 -33703826.64 0.1915 0.1657

Moon -96988-01-03 21:35 J -33703440.70 -33703440.60 -33703440.50 0.2709 0.1715

Earth -96988-01-03 21:35 J -33703440.70 -33703440.60 -33703440.50 0.2716 0.1777 *

Mars -96988-11-20 05:44 J -33703120.34 -33703120.26 -33703120.18 0.1912 0.1491

Venus -96987-02-08 13:25 J -33703040.02 -33703039.94 -33703039.87 0.3608 0.2938

Moon -96985-07-13 02:37 J -33702154.48 -33702154.39 -33702154.30 0.2628 0.1813

Earth -96985-07-13 03:06 J -33702154.46 -33702154.37 -33702154.28 0.2622 0.1817 *

Jupiter -96985-10-03 12:56 J -33702072.09 -33702071.96 -33702071.83 0.0514 0.0296

Venus -96985-11-02 20:08 J -33702041.70 -33702041.66 -33702041.62 0.3789 0.3469

Jupiter -96984-01-01 10:18 J -33701982.20 -33701982.07 -33701981.93 0.0517 0.0237

Mars -96983-07-19 17:30 J -33701417.89 -33701417.77 -33701417.65 0.1610 0.0792

Saturn -96982-12-26 23:59 J -33700892.59 -33700892.50 -33700892.40 0.0285 0.0222

Saturn -96981-03-24 15:35 J -33700803.98 -33700803.85 -33700803.71 0.0285 0.0131

Saturn -96981-06-21 07:25 J -33700715.34 -33700715.19 -33700715.03 0.0286 0.0039

Mars -96981-06-24 11:30 J -33700712.12 -33700712.02 -33700711.91 0.1612 0.1021

Saturn -96981-09-17 23:44 J -33700626.66 -33700626.51 -33700626.36 0.0286 0.0058

Saturn -96981-12-15 16:18 J -33700537.94 -33700537.82 -33700537.68 0.0286 0.0156

Saturn -96980-03-14 09:20 J -33700449.17 -33700449.11 -33700449.03 0.0286 0.0255

Jupiter -96979-02-22 22:03 J -33700103.64 -33700103.58 -33700103.52 0.0516 0.0464

Venus -96979-05-19 13:54 J -33700017.99 -33700017.92 -33700017.84 0.3787 0.2659

Jupiter -96979-05-23 10:03 J -33700014.23 -33700014.08 -33700013.94 0.0512 0.0005

Jupiter -96979-08-20 23:01 J -33699924.59 -33699924.54 -33699924.48 0.0509 0.0468

Mars -96978-04-12 09:35 J -33699690.22 -33699690.10 -33699689.98 0.1914 0.0758

Moon -96975-01-06 20:37 J -33698689.77 -33698689.64 -33698689.51 0.2707 0.0266

Earth -96975-01-06 21:20 J -33698689.74 -33698689.61 -33698689.48 0.2712 0.0189 *

Venus -96974-12-03 08:08 J -33697994.26 -33697994.16 -33697994.07 0.3784 0.1821

Mars -96974-12-10 01:39 J -33697987.52 -33697987.43 -33697987.34 0.1610 0.1206

Jupiter -96973-07-22 12:13 J -33697762.07 -33697761.99 -33697761.91 0.0512 0.0436

Jupiter -96973-10-20 10:03 J -33697672.23 -33697672.08 -33697671.92 0.0516 0.0098

Earth -96972-07-16 00:13 J -33697403.61 -33697403.49 -33697403.36 0.2626 0.0514

Moon -96972-07-16 00:27 J -33697403.60 -33697403.48 -33697403.35 0.2633 0.0561 *

Mars -96972-11-14 18:56 J -33697281.84 -33697281.71 -33697281.58 0.1611 0.0572

Mars -96969-09-01 13:25 J -33696260.07 -33696259.94 -33696259.81 0.1915 0.0019

Venus -96968-06-18 02:23 J -33695970.51 -33695970.40 -33695970.29 0.3781 0.0963

Jupiter -96967-03-11 12:27 J -33695704.11 -33695703.98 -33695703.84 0.0514 0.0119

Jupiter -96967-06-09 01:25 J -33695614.54 -33695614.44 -33695614.33 0.0510 0.0353

Saturn -96967-08-03 01:11 J -33695559.55 -33695559.45 -33695559.33 0.0274 0.0198

Saturn -96967-10-30 17:01 J -33695470.93 -33695470.79 -33695470.65 0.0274 0.0110

Saturn -96966-01-27 08:23 J -33695382.31 -33695382.15 -33695382.00 0.0274 0.0025

Saturn -96966-04-25 23:30 J -33695293.67 -33695293.52 -33695293.37 0.0274 0.0060

Saturn -96966-07-23 14:08 J -33695205.04 -33695204.91 -33695204.78 0.0274 0.0141

Saturn -96966-10-20 04:32 J -33695116.40 -33695116.31 -33695116.22 0.0273 0.0221

Uranus -96964-04-28 19:54 J -33694559.73 -33694559.67 -33694559.59 0.0143 0.0127

Uranus -96964-07-26 00:42 J -33694471.56 -33694471.47 -33694471.36 0.0143 0.0107

Uranus -96964-10-22 05:44 J -33694383.37 -33694383.26 -33694383.13 0.0143 0.0087

Uranus -96963-01-18 10:47 J -33694295.18 -33694295.05 -33694294.92 0.0143 0.0066

Uranus -96963-04-16 15:35 J -33694206.99 -33694206.85 -33694206.70 0.0144 0.0046

Uranus -96963-07-13 20:37 J -33694118.78 -33694118.64 -33694118.48 0.0144 0.0025

Uranus -96963-10-10 01:54 J -33694030.58 -33694030.42 -33694030.27 0.0144 0.0003

Venus -96962-01-01 20:51 J -33693946.74 -33693946.63 -33693946.52 0.3779 0.0091

Uranus -96962-01-06 06:56 J -33693942.36 -33693942.21 -33693942.06 0.0144 0.0019

Moon -96962-01-09 19:54 J -33693938.78 -33693938.67 -33693938.55 0.2707 0.1305

Earth -96962-01-09 21:20 J -33693938.73 -33693938.61 -33693938.50 0.2707 0.1462 *

Uranus -96962-04-04 12:13 J -33693854.14 -33693853.99 -33693853.84 0.0144 0.0040

Mars -96962-04-07 02:23 J -33693851.54 -33693851.40 -33693851.26 0.1611 0.0127

Uranus -96962-07-01 17:15 J -33693765.91 -33693765.78 -33693765.64 0.0144 0.0062

Uranus -96962-09-27 22:32 J -33693677.68 -33693677.56 -33693677.43 0.0144 0.0085

Uranus -96962-12-25 04:03 J -33693589.44 -33693589.33 -33693589.23 0.0145 0.0107

Uranus -96961-03-22 09:06 J -33693501.17 -33693501.12 -33693501.04 0.0145 0.0130

Jupiter -96961-08-08 10:18 J -33693362.22 -33693362.07 -33693361.91 0.0515 0.0037

Jupiter -96961-11-06 06:56 J -33693272.26 -33693272.21 -33693272.16 0.0519 0.0489

Mars -96959-01-22 16:32 J -33692829.93 -33692829.81 -33692829.69 0.1915 0.0776

Earth -96959-07-18 21:06 J -33692652.74 -33692652.62 -33692652.50 0.2631 0.0761

Moon -96959-07-18 21:49 J -33692652.70 -33692652.59 -33692652.47 0.2635 0.0900 *

Venus -96959-12-31 12:13 J -33692487.08 -33692486.99 -33692486.91 0.3593 0.2803

Venus -96957-07-17 15:35 J -33691922.96 -33691922.85 -33691922.74 0.3776 0.0829

Jupiter -96956-12-28 15:35 J -33691393.98 -33691393.85 -33691393.72 0.0515 0.0229

Jupiter -96955-03-28 04:03 J -33691304.46 -33691304.33 -33691304.20 0.0511 0.0240

Venus -96953-07-16 13:11 J -33690463.08 -33690462.95 -33690462.83 0.3595 0.1484

Mars -96953-08-27 10:03 J -33690421.22 -33690421.08 -33690420.94 0.1610 0.0309

Saturn -96952-05-15 00:56 J -33690160.53 -33690160.46 -33690160.39 0.0285 0.0250

Saturn -96952-08-11 16:18 J -33690071.94 -33690071.82 -33690071.70 0.0285 0.0161

Saturn -96952-11-08 07:54 J -33689983.31 -33689983.17 -33689983.02 0.0285 0.0069

Venus -96951-01-31 10:32 J -33689899.16 -33689899.06 -33689898.96 0.3772 0.1765

Saturn -96951-02-05 00:13 J -33689894.65 -33689894.49 -33689894.34 0.0285 0.0027

Saturn -96951-05-04 16:32 J -33689805.95 -33689805.81 -33689805.67 0.0285 0.0122

Saturn -96951-08-01 09:20 J -33689717.20 -33689717.11 -33689717.01 0.0285 0.0221

Mars -96951-08-03 05:01 J -33689715.33 -33689715.29 -33689715.26 0.1613 0.1547

Mars -96950-06-14 19:25 J -33689399.77 -33689399.69 -33689399.62 0.1915 0.1582

Jupiter -96949-05-27 10:47 J -33689052.20 -33689052.05 -33689051.90 0.0514 0.0165

Jupiter -96949-08-25 07:54 J -33688962.28 -33688962.17 -33688962.06 0.0518 0.0364

Mars -96948-05-21 05:44 J -33688693.33 -33688693.26 -33688693.18 0.1913 0.1560

Venus -96947-01-30 13:39 J -33688439.06 -33688438.93 -33688438.79 0.3599 0.0234

Earth -96946-07-21 17:44 J -33687901.83 -33687901.76 -33687901.68 0.2635 0.2015

Moon -96946-07-21 18:42 J -33687901.79 -33687901.72 -33687901.64 0.2633 0.2057 *

Venus -96946-08-17 05:30 J -33687875.34 -33687875.27 -33687875.19 0.3769 0.2724

Jupiter -96944-10-16 18:27 J -33687083.83 -33687083.73 -33687083.62 0.0516 0.0339

Pluto -96944-11-15 09:35 J -33687054.16 -33687054.10 -33687054.00 0.0060 0.0054

Jupiter -96943-01-14 06:42 J -33686994.36 -33686994.22 -33686994.08 0.0512 0.0127

Mars -96943-01-17 17:44 J -33686990.88 -33686990.76 -33686990.63 0.1610 0.0737

Pluto -96943-02-11 11:15 J -33686966.14 -33686966.03 -33686965.90 0.0060 0.0047

Pluto -96943-05-10 12:42 J -33686878.10 -33686877.97 -33686877.81 0.0060 0.0040

Pluto -96943-08-06 14:23 J -33686790.06 -33686789.90 -33686789.73 0.0060 0.0034

Pluto -96943-11-02 15:35 J -33686702.01 -33686701.85 -33686701.66 0.0060 0.0027

Moon -96942-01-05 03:06 J -33686638.48 -33686638.37 -33686638.26 0.2708 0.1535

Earth -96942-01-05 03:06 J -33686638.48 -33686638.37 -33686638.26 0.2716 0.1456 *

Pluto -96942-01-29 17:01 J -33686613.96 -33686613.79 -33686613.59 0.0060 0.0020

Pluto -96942-04-27 18:42 J -33686525.90 -33686525.72 -33686525.52 0.0060 0.0013

Pluto -96942-07-24 20:08 J -33686437.85 -33686437.66 -33686437.45 0.0060 0.0007

Venus -96942-08-16 13:54 J -33686415.05 -33686414.92 -33686414.79 0.3602 0.0993

Pluto -96942-10-20 21:49 J -33686349.78 -33686349.59 -33686349.39 0.0060 0.0001

Mars -96942-12-24 11:59 J -33686285.10 -33686285.00 -33686284.89 0.1612 0.1085

Pluto -96941-01-16 23:15 J -33686261.72 -33686261.53 -33686261.33 0.0060 0.0008

Pluto -96941-04-14 00:56 J -33686173.65 -33686173.46 -33686173.27 0.0061 0.0015

Pluto -96941-07-11 02:23 J -33686085.58 -33686085.40 -33686085.21 0.0061 0.0022

Pluto -96941-10-07 03:49 J -33685997.51 -33685997.34 -33685997.16 0.0061 0.0029

Pluto -96940-01-03 05:30 J -33685909.43 -33685909.27 -33685909.11 0.0061 0.0036

Venus -96940-03-02 00:56 J -33685851.47 -33685851.46 -33685851.44 0.3765 0.3704

Pluto -96940-04-01 06:27 J -33685821.34 -33685821.23 -33685821.07 0.0061 0.0044

Pluto -96940-06-28 07:54 J -33685733.25 -33685733.17 -33685733.03 0.0061 0.0051

Pluto -96940-09-24 09:35 J -33685645.14 -33685645.10 -33685645.02 0.0061 0.0058

Moon -96939-07-14 08:08 J -33685352.26 -33685352.16 -33685352.07 0.2629 0.1634

Earth -96939-07-14 08:23 J -33685352.25 -33685352.15 -33685352.04 0.2623 0.1542 *

Mars -96939-10-11 10:03 J -33685263.20 -33685263.08 -33685262.97 0.1914 0.0835

Saturn -96938-12-21 00:13 J -33684827.57 -33684827.49 -33684827.41 0.0274 0.0234

Jupiter -96937-03-15 11:15 J -33684742.16 -33684742.03 -33684741.89 0.0514 0.0293

Saturn -96937-03-18 16:03 J -33684738.96 -33684738.83 -33684738.70 0.0273 0.0146

Jupiter -96937-06-13 08:51 J -33684652.27 -33684652.13 -33684651.99 0.0517 0.0240

Saturn -96937-06-15 07:39 J -33684650.34 -33684650.18 -33684650.03 0.0273 0.0060

Saturn -96937-09-11 22:47 J -33684561.71 -33684561.55 -33684561.40 0.0273 0.0026

Saturn -96937-12-09 13:39 J -33684473.08 -33684472.93 -33684472.79 0.0273 0.0108

Venus -96936-03-01 13:25 J -33684391.04 -33684390.94 -33684390.83 0.3605 0.2148

Saturn -96936-03-08 04:03 J -33684384.44 -33684384.33 -33684384.22 0.0273 0.0189

Saturn -96936-06-04 18:13 J -33684295.76 -33684295.74 -33684295.71 0.0273 0.0268

Mars -96934-06-10 01:39 J -33683560.52 -33683560.43 -33683560.33 0.1610 0.1157

Mars -96932-05-15 19:11 J -33682854.83 -33682854.70 -33682854.57 0.1611 0.0627

Jupiter -96932-08-04 21:06 J -33682773.68 -33682773.62 -33682773.55 0.0516 0.0455

Jupiter -96932-11-02 09:06 J -33682684.27 -33682684.12 -33682683.98 0.0512 0.0010

Jupiter -96931-01-30 22:03 J -33682594.63 -33682594.58 -33682594.53 0.0509 0.0478

Venus -96931-09-15 12:56 J -33682367.02 -33682366.96 -33682366.91 0.3609 0.3253

Moon -96929-01-08 01:54 J -33681887.55 -33681887.42 -33681887.29 0.2708 0.0104

Earth -96929-01-08 02:51 J -33681887.51 -33681887.38 -33681887.25 0.2711 0.0144 *

Mars -96929-03-02 13:25 J -33681833.07 -33681832.94 -33681832.80 0.1915 0.0075

Venus -96928-06-09 18:13 J -33681368.80 -33681368.74 -33681368.69 0.3788 0.3221

Neptune -96926-07-08 19:54 J -33680609.68 -33680609.67 -33680609.62 0.0089 0.0087

Earth -96926-07-17 05:30 J -33680601.39 -33680601.27 -33680601.14 0.2627 0.0246

Moon -96926-07-17 05:59 J -33680601.38 -33680601.25 -33680601.13 0.2633 0.0137 *

Neptune -96926-10-04 22:47 J -33680521.60 -33680521.55 -33680521.47 0.0089 0.0082

Neptune -96925-01-01 01:54 J -33680433.51 -33680433.42 -33680433.34 0.0089 0.0076

Jupiter -96925-01-02 11:44 J -33680432.10 -33680432.01 -33680431.92 0.0513 0.0422

Neptune -96925-03-29 04:18 J -33680345.41 -33680345.32 -33680345.21 0.0089 0.0071

Jupiter -96925-04-01 09:35 J -33680342.25 -33680342.10 -33680341.94 0.0516 0.0113

Neptune -96925-06-25 06:56 J -33680257.31 -33680257.21 -33680257.08 0.0089 0.0066

Uranus -96925-06-28 07:39 J -33680254.19 -33680254.18 -33680254.14 0.0136 0.0134

Neptune -96925-09-21 09:35 J -33680169.21 -33680169.10 -33680168.96 0.0089 0.0061

Uranus -96925-09-24 13:11 J -33680166.04 -33680165.95 -33680165.86 0.0136 0.0114

Mars -96925-10-30 10:03 J -33680130.11 -33680130.08 -33680130.05 0.1610 0.1560

Neptune -96925-12-18 12:13 J -33680081.10 -33680080.99 -33680080.84 0.0089 0.0056

Uranus -96925-12-21 18:13 J -33680077.85 -33680077.74 -33680077.62 0.0135 0.0094

Neptune -96924-03-16 15:20 J -33679993.00 -33679992.86 -33679992.72 0.0089 0.0050

Uranus -96924-03-19 23:15 J -33679989.66 -33679989.53 -33679989.39 0.0135 0.0075

Neptune -96924-06-12 17:59 J -33679904.90 -33679904.75 -33679904.60 0.0089 0.0045

Uranus -96924-06-16 04:18 J -33679901.46 -33679901.32 -33679901.16 0.0135 0.0056

Neptune -96924-09-08 20:37 J -33679816.79 -33679816.64 -33679816.48 0.0089 0.0040

Uranus -96924-09-12 09:20 J -33679813.26 -33679813.11 -33679812.95 0.0135 0.0038

Neptune -96924-12-05 23:15 J -33679728.68 -33679728.53 -33679728.37 0.0089 0.0035

Uranus -96924-12-09 14:23 J -33679725.06 -33679724.90 -33679724.74 0.0135 0.0019

Neptune -96923-03-04 01:54 J -33679640.58 -33679640.42 -33679640.26 0.0089 0.0029

Uranus -96923-03-07 19:25 J -33679636.85 -33679636.69 -33679636.53 0.0135 0.0001

Neptune -96923-05-31 04:18 J -33679552.47 -33679552.32 -33679552.15 0.0089 0.0025

Uranus -96923-06-04 00:13 J -33679548.65 -33679548.49 -33679548.33 0.0135 0.0019

Neptune -96923-08-27 06:56 J -33679464.37 -33679464.21 -33679464.03 0.0089 0.0020

Uranus -96923-08-31 05:01 J -33679460.44 -33679460.29 -33679460.13 0.0135 0.0037

Saturn -96923-10-02 00:42 J -33679428.48 -33679428.47 -33679428.45 0.0285 0.0284

Mars -96923-10-06 02:37 J -33679424.53 -33679424.39 -33679424.25 0.1611 0.0183

Neptune -96923-11-23 09:35 J -33679376.26 -33679376.10 -33679375.92 0.0089 0.0015

Uranus -96923-11-27 09:49 J -33679372.24 -33679372.09 -33679371.94 0.0135 0.0055

Venus -96923-12-24 12:13 J -33679345.08 -33679344.99 -33679344.91 0.3786 0.2407

Saturn -96923-12-29 16:03 J -33679339.94 -33679339.83 -33679339.72 0.0285 0.0195

Neptune -96922-02-19 12:13 J -33679288.15 -33679287.99 -33679287.82 0.0089 0.0009

Uranus -96922-02-23 14:23 J -33679284.03 -33679283.90 -33679283.76 0.0134 0.0073

Saturn -96922-03-28 07:39 J -33679251.32 -33679251.18 -33679251.03 0.0285 0.0103

Neptune -96922-05-18 14:51 J -33679200.05 -33679199.88 -33679199.71 0.0089 0.0004

Uranus -96922-05-22 18:56 J -33679195.81 -33679195.71 -33679195.58 0.0134 0.0091

Saturn -96922-06-24 23:44 J -33679162.66 -33679162.51 -33679162.36 0.0286 0.0009

Neptune -96922-08-14 17:30 J -33679111.94 -33679111.77 -33679111.60 0.0089 0.0001

Uranus -96922-08-18 23:44 J -33679107.60 -33679107.51 -33679107.41 0.0134 0.0108

Saturn -96922-09-21 16:03 J -33679073.98 -33679073.83 -33679073.68 0.0286 0.0087

Neptune -96922-11-10 19:54 J -33679023.83 -33679023.67 -33679023.50 0.0089 0.0006

Uranus -96922-11-15 04:03 J -33679019.37 -33679019.33 -33679019.26 0.0134 0.0125

Saturn -96922-12-19 08:51 J -33678985.25 -33678985.13 -33678985.01 0.0286 0.0185

Neptune -96921-02-06 22:32 J -33678935.73 -33678935.56 -33678935.39 0.0088 0.0011

Saturn -96921-03-17 01:54 J -33678896.42 -33678896.42 -33678896.41 0.0286 0.0285

Neptune -96921-05-05 00:56 J -33678847.62 -33678847.46 -33678847.29 0.0088 0.0016

Neptune -96921-08-01 03:35 J -33678759.52 -33678759.35 -33678759.19 0.0088 0.0021

Neptune -96921-10-28 05:59 J -33678671.41 -33678671.25 -33678671.09 0.0088 0.0026

Neptune -96920-01-24 08:23 J -33678583.30 -33678583.15 -33678582.99 0.0088 0.0031

Neptune -96920-04-22 10:47 J -33678495.20 -33678495.05 -33678494.89 0.0088 0.0036

Neptune -96920-07-19 13:11 J -33678407.09 -33678406.95 -33678406.79 0.0088 0.0040

Mars -96920-07-23 16:47 J -33678402.92 -33678402.80 -33678402.67 0.1916 0.0705

Jupiter -96920-08-21 11:30 J -33678374.16 -33678374.02 -33678373.88 0.0514 0.0110

Neptune -96920-10-15 15:35 J -33678318.98 -33678318.85 -33678318.70 0.0088 0.0045

Jupiter -96920-11-19 00:13 J -33678284.59 -33678284.49 -33678284.38 0.0510 0.0361

Neptune -96919-01-11 18:13 J -33678230.87 -33678230.74 -33678230.60 0.0088 0.0050

Neptune -96919-04-09 20:23 J -33678142.77 -33678142.65 -33678142.51 0.0088 0.0055

Neptune -96919-07-06 22:47 J -33678054.66 -33678054.55 -33678054.42 0.0088 0.0060

Neptune -96919-10-03 01:11 J -33677966.55 -33677966.45 -33677966.33 0.0088 0.0064

Neptune -96919-12-30 03:35 J -33677878.44 -33677878.35 -33677878.24 0.0088 0.0069

Neptune -96918-03-28 05:59 J -33677790.33 -33677790.25 -33677790.15 0.0088 0.0074

Neptune -96918-06-24 08:08 J -33677702.22 -33677702.16 -33677702.07 0.0088 0.0079

Neptune -96918-09-20 10:47 J -33677614.10 -33677614.05 -33677613.99 0.0088 0.0083

Neptune -96918-12-17 12:56 J -33677525.97 -33677525.96 -33677525.92 0.0088 0.0088

Venus -96917-07-09 06:13 J -33677321.34 -33677321.24 -33677321.14 0.3783 0.1566

Moon -96916-01-10 01:39 J -33677136.53 -33677136.43 -33677136.33 0.2706 0.1684

Earth -96916-01-10 02:51 J -33677136.48 -33677136.38 -33677136.28 0.2707 0.1791 *

Jupiter -96913-01-19 09:20 J -33676032.27 -33676032.11 -33676031.95 0.0515 0.0025

Mars -96913-02-26 10:18 J -33675994.21 -33675994.07 -33675993.93 0.1610 0.0254

Jupiter -96913-04-18 05:44 J -33675942.30 -33675942.26 -33675942.22 0.0519 0.0498

Earth -96913-07-19 02:23 J -33675850.51 -33675850.40 -33675850.28 0.2631 0.1033

Moon -96913-07-19 03:20 J -33675850.48 -33675850.36 -33675850.25 0.2634 0.1050 *

Venus -96911-01-23 00:42 J -33675297.58 -33675297.47 -33675297.36 0.3781 0.0708

Mars -96911-02-01 05:15 J -33675288.29 -33675288.28 -33675288.27 0.1613 0.1608

Mars -96911-12-13 19:39 J -33674972.76 -33674972.68 -33674972.59 0.1915 0.1508

Earth -96909-01-03 09:20 J -33674587.12 -33674587.11 -33674587.10 0.2720 0.2698

Mars -96909-11-19 06:13 J -33674266.30 -33674266.24 -33674266.17 0.1913 0.1636

Saturn -96908-05-09 02:08 J -33674095.46 -33674095.41 -33674095.36 0.0274 0.0257

Jupiter -96908-06-09 14:08 J -33674064.04 -33674063.91 -33674063.79 0.0515 0.0226

Saturn -96908-08-05 17:59 J -33674006.87 -33674006.75 -33674006.62 0.0274 0.0168

Jupiter -96908-09-07 02:37 J -33673974.52 -33673974.39 -33673974.26 0.0511 0.0243

Saturn -96908-11-02 09:35 J -33673918.25 -33673918.10 -33673917.95 0.0274 0.0081

Saturn -96907-01-30 00:56 J -33673829.62 -33673829.46 -33673829.30 0.0274 0.0005

Saturn -96907-04-28 15:49 J -33673740.98 -33673740.84 -33673740.69 0.0274 0.0089

Saturn -96907-07-26 06:27 J -33673652.34 -33673652.23 -33673652.11 0.0274 0.0170

Saturn -96907-10-22 20:51 J -33673563.69 -33673563.63 -33673563.57 0.0274 0.0250

Earth -96906-07-12 16:32 J -33673300.83 -33673300.81 -33673300.79 0.2620 0.2578

Venus -96906-08-08 19:11 J -33673273.81 -33673273.70 -33673273.59 0.3778 0.0190

Mars -96904-07-18 17:59 J -33672563.87 -33672563.75 -33672563.62 0.1610 0.0683

Mars -96902-06-24 12:13 J -33671858.09 -33671857.99 -33671857.89 0.1612 0.1143

Venus -96902-08-07 12:13 J -33671814.09 -33671813.99 -33671813.89 0.3593 0.2403

Jupiter -96902-11-07 09:35 J -33671722.26 -33671722.10 -33671721.95 0.0514 0.0158

Jupiter -96901-02-05 06:27 J -33671632.34 -33671632.23 -33671632.12 0.0518 0.0369

Venus -96900-02-21 13:54 J -33671250.03 -33671249.92 -33671249.81 0.3775 0.1100

Earth -96900-07-21 23:01 J -33671099.60 -33671099.54 -33671099.48 0.2635 0.2277

Moon -96900-07-21 23:59 J -33671099.55 -33671099.50 -33671099.45 0.2634 0.2421 *

Mars -96899-04-11 10:03 J -33670836.19 -33670836.08 -33670835.96 0.1914 0.0900

Moon -96896-01-05 08:37 J -33669836.26 -33669836.14 -33669836.02 0.2708 0.1076

Earth -96896-01-05 08:51 J -33669836.25 -33669836.13 -33669836.01 0.2715 0.1135 *

Venus -96896-02-20 12:56 J -33669790.09 -33669789.96 -33669789.83 0.3596 0.1112

Jupiter -96896-03-28 17:01 J -33669753.89 -33669753.79 -33669753.68 0.0516 0.0337

Jupiter -96896-06-26 05:15 J -33669664.42 -33669664.28 -33669664.14 0.0512 0.0130

Venus -96895-09-07 08:51 J -33669226.23 -33669226.13 -33669226.04 0.3771 0.2034

Mars -96895-12-09 02:08 J -33669133.51 -33669133.41 -33669133.31 0.1610 0.1099

Saturn -96893-05-17 17:15 J -33668607.87 -33668607.78 -33668607.68 0.0285 0.0220

Moon -96893-07-14 13:39 J -33668550.04 -33668549.93 -33668549.82 0.2630 0.1262

Earth -96893-07-14 13:54 J -33668550.03 -33668549.92 -33668549.81 0.2624 0.1263 *

Saturn -96893-08-14 08:51 J -33668519.26 -33668519.13 -33668519.00 0.0285 0.0130

Saturn -96893-11-11 00:42 J -33668430.62 -33668430.47 -33668430.32 0.0285 0.0037

Mars -96893-11-13 19:39 J -33668427.81 -33668427.68 -33668427.56 0.1611 0.0691

Saturn -96892-02-07 16:47 J -33668341.95 -33668341.80 -33668341.65 0.0285 0.0058

Saturn -96892-05-07 09:20 J -33668253.24 -33668253.11 -33668252.98 0.0285 0.0155

Saturn -96892-08-04 02:08 J -33668164.47 -33668164.41 -33668164.33 0.0285 0.0254

Venus -96891-09-06 13:39 J -33667766.07 -33667765.93 -33667765.80 0.3599 0.0176

Jupiter -96890-08-26 09:35 J -33667412.23 -33667412.10 -33667411.97 0.0513 0.0291

Mars -96890-09-01 13:54 J -33667406.05 -33667405.92 -33667405.79 0.1915 0.0151

Jupiter -96890-11-24 06:56 J -33667322.34 -33667322.21 -33667322.07 0.0517 0.0241

Venus -96889-03-23 04:03 J -33667202.40 -33667202.33 -33667202.26 0.3768 0.3000

Venus -96885-03-22 13:25 J -33665742.06 -33665741.94 -33665741.81 0.3603 0.1328

Mars -96885-04-30 10:03 J -33665703.12 -33665703.08 -33665703.03 0.1610 0.1513

Jupiter -96884-01-14 20:08 J -33665443.73 -33665443.66 -33665443.59 0.0517 0.0446

Jupiter -96884-04-14 08:08 J -33665354.30 -33665354.16 -33665354.02 0.0513 0.0017

Jupiter -96884-07-12 21:06 J -33665264.65 -33665264.62 -33665264.58 0.0509 0.0489

Moon -96883-01-08 07:25 J -33665085.32 -33665085.19 -33665085.06 0.2708 0.0302

Earth -96883-01-08 08:37 J -33665085.27 -33665085.14 -33665085.01 0.2711 0.0486 *

Mars -96883-04-06 02:51 J -33664997.52 -33664997.38 -33664997.24 0.1611 0.0240

Mars -96880-01-21 17:01 J -33663975.91 -33663975.79 -33663975.66 0.1915 0.0637

Uranus -96880-02-19 22:32 J -33663946.57 -33663946.56 -33663946.55 0.0143 0.0142

Uranus -96880-05-19 03:20 J -33663858.44 -33663858.36 -33663858.29 0.0143 0.0123

Earth -96880-07-17 10:47 J -33663799.17 -33663799.05 -33663798.92 0.2628 0.0040

Moon -96880-07-17 11:15 J -33663799.15 -33663799.03 -33663798.91 0.2634 0.0015 *

Uranus -96880-08-15 08:08 J -33663770.27 -33663770.16 -33663770.06 0.0143 0.0103

Venus -96880-10-06 13:11 J -33663718.05 -33663717.95 -33663717.86 0.3606 0.2472

Uranus -96880-11-11 12:56 J -33663682.08 -33663681.96 -33663681.84 0.0143 0.0082

Uranus -96879-02-07 17:44 J -33663593.89 -33663593.76 -33663593.62 0.0144 0.0062

Uranus -96879-05-06 22:47 J -33663505.69 -33663505.55 -33663505.40 0.0144 0.0041

Uranus -96879-08-03 03:49 J -33663417.49 -33663417.34 -33663417.19 0.0144 0.0020

Uranus -96879-10-30 08:51 J -33663329.28 -33663329.13 -33663328.97 0.0144 0.0003

Saturn -96879-12-23 17:01 J -33663274.89 -33663274.79 -33663274.68 0.0274 0.0203

Uranus -96878-01-26 14:08 J -33663241.07 -33663240.91 -33663240.76 0.0144 0.0023

Saturn -96878-03-22 08:51 J -33663186.27 -33663186.13 -33663185.99 0.0274 0.0115

Uranus -96878-04-24 19:11 J -33663152.84 -33663152.70 -33663152.55 0.0144 0.0045

Jupiter -96878-06-14 10:03 J -33663102.17 -33663102.08 -33663101.99 0.0512 0.0419

Saturn -96878-06-19 00:13 J -33663097.64 -33663097.49 -33663097.33 0.0273 0.0030

Uranus -96878-07-22 00:27 J -33663064.62 -33663064.48 -33663064.34 0.0144 0.0067

Jupiter -96878-09-12 07:54 J -33663012.32 -33663012.17 -33663012.01 0.0516 0.0117

Saturn -96878-09-15 15:20 J -33663009.01 -33663008.86 -33663008.71 0.0273 0.0056

Uranus -96878-10-18 05:44 J -33662976.38 -33662976.26 -33662976.14 0.0144 0.0089

Saturn -96878-12-13 05:59 J -33662920.37 -33662920.25 -33662920.11 0.0273 0.0139

Uranus -96877-01-14 10:47 J -33662888.14 -33662888.05 -33662887.94 0.0145 0.0112

Saturn -96877-03-10 20:37 J -33662831.73 -33662831.64 -33662831.55 0.0273 0.0218

Uranus -96877-04-11 16:18 J -33662799.87 -33662799.82 -33662799.76 0.0145 0.0134

Venus -96877-06-30 22:18 J -33662719.57 -33662719.57 -33662719.56 0.3790 0.3770

Venus -96874-04-22 12:13 J -33661694.01 -33661693.99 -33661693.97 0.3610 0.3554

Mars -96874-08-27 10:32 J -33661567.20 -33661567.06 -33661566.93 0.1610 0.0207

Jupiter -96872-01-31 10:32 J -33661044.20 -33661044.06 -33661043.92 0.0513 0.0100

Jupiter -96872-04-30 23:15 J -33660954.63 -33660954.53 -33660954.43 0.0510 0.0369

Venus -96871-01-14 16:18 J -33660695.89 -33660695.82 -33660695.76 0.3788 0.2971

Mars -96871-06-13 19:54 J -33660545.76 -33660545.67 -33660545.58 0.1916 0.1445

Moon -96870-01-11 07:25 J -33660334.28 -33660334.19 -33660334.10 0.2707 0.2025

Earth -96870-01-11 08:37 J -33660334.22 -33660334.14 -33660334.06 0.2706 0.2129 *

Mars -96869-05-20 06:13 J -33659839.30 -33659839.24 -33659839.18 0.1913 0.1692

Earth -96867-07-20 07:39 J -33659048.29 -33659048.18 -33659048.07 0.2632 0.1298

Moon -96867-07-20 08:37 J -33659048.25 -33659048.14 -33659048.04 0.2633 0.1464 *

Jupiter -96866-07-01 08:37 J -33658702.30 -33658702.14 -33658701.98 0.0515 0.0013

Venus -96866-07-31 10:18 J -33658672.16 -33658672.07 -33658671.98 0.3785 0.2152

Jupiter -96866-09-29 05:15 J -33658612.30 -33658612.28 -33658612.26 0.0519 0.0512

Mars -96864-01-16 18:13 J -33658136.86 -33658136.74 -33658136.61 0.1610 0.0628

Saturn -96864-10-04 17:01 J -33657875.85 -33657875.79 -33657875.72 0.0285 0.0255

Saturn -96863-01-01 08:23 J -33657787.27 -33657787.15 -33657787.02 0.0285 0.0165

Earth -96863-01-03 14:51 J -33657784.94 -33657784.88 -33657784.82 0.2719 0.2389

Moon -96863-01-03 15:06 J -33657784.94 -33657784.87 -33657784.80 0.2712 0.2283 *

Saturn -96863-03-31 00:13 J -33657698.64 -33657698.49 -33657698.34 0.0285 0.0073

Saturn -96863-06-27 16:18 J -33657609.98 -33657609.82 -33657609.67 0.0285 0.0022

Saturn -96863-09-24 08:37 J -33657521.28 -33657521.14 -33657521.00 0.0285 0.0118

Saturn -96863-12-22 01:25 J -33657432.54 -33657432.44 -33657432.34 0.0286 0.0217

Mars -96863-12-23 12:27 J -33657431.07 -33657430.98 -33657430.88 0.1612 0.1202

Jupiter -96861-11-19 13:11 J -33656734.08 -33656733.95 -33656733.82 0.0515 0.0216

Venus -96860-02-13 04:32 J -33656648.42 -33656648.31 -33656648.21 0.3783 0.1312

Jupiter -96860-02-17 01:39 J -33656644.56 -33656644.43 -33656644.31 0.0511 0.0251

Moon -96860-07-12 21:06 J -33656498.67 -33656498.62 -33656498.57 0.2624 0.2410

Earth -96860-07-12 21:49 J -33656498.65 -33656498.59 -33656498.53 0.2620 0.2299 *

Mars -96860-10-10 10:18 J -33656409.18 -33656409.07 -33656408.95 0.1914 0.0976

Mars -96855-06-09 02:23 J -33654706.51 -33654706.40 -33654706.30 0.1610 0.1048

Venus -96855-08-29 22:47 J -33654624.66 -33654624.55 -33654624.44 0.3780 0.0446

Jupiter -96854-04-19 08:23 J -33654392.30 -33654392.15 -33654392.00 0.0514 0.0148

Jupiter -96854-07-18 05:15 J -33654302.38 -33654302.28 -33654302.17 0.0518 0.0378

Earth -96854-07-23 04:18 J -33654297.35 -33654297.32 -33654297.29 0.2636 0.2544

Moon -96854-07-23 05:01 J -33654297.31 -33654297.29 -33654297.26 0.2634 0.2562 *

Mars -96853-05-14 19:39 J -33654000.80 -33654000.68 -33654000.55 0.1611 0.0747

Venus -96851-08-28 11:01 J -33653165.09 -33653165.04 -33653165.00 0.3591 0.3351

Moon -96850-01-06 13:54 J -33653034.04 -33653033.92 -33653033.80 0.2709 0.0935

Earth -96850-01-06 14:23 J -33653034.03 -33653033.90 -33653033.78 0.2715 0.0811 *

Mars -96850-03-02 14:08 J -33652979.04 -33652978.91 -33652978.78 0.1915 0.0222

Pluto -96850-09-08 11:30 J -33652789.09 -33652789.02 -33652788.95 0.0084 0.0072

Pluto -96850-12-05 12:27 J -33652701.06 -33652700.98 -33652700.87 0.0084 0.0060

Pluto -96849-03-02 13:54 J -33652613.02 -33652612.92 -33652612.80 0.0084 0.0046

Venus -96849-03-14 17:30 J -33652600.88 -33652600.77 -33652600.66 0.3777 0.0460

Saturn -96849-05-11 18:42 J -33652542.80 -33652542.72 -33652542.62 0.0275 0.0227

Pluto -96849-05-29 15:20 J -33652524.98 -33652524.86 -33652524.74 0.0084 0.0033

Saturn -96849-08-08 10:47 J -33652454.18 -33652454.05 -33652453.91 0.0274 0.0138

Pluto -96849-08-25 16:32 J -33652436.94 -33652436.81 -33652436.68 0.0084 0.0021

Jupiter -96849-09-07 15:20 J -33652423.96 -33652423.86 -33652423.75 0.0516 0.0335

Saturn -96849-11-05 02:23 J -33652365.55 -33652365.40 -33652365.25 0.0274 0.0050

Pluto -96849-11-21 17:44 J -33652348.89 -33652348.76 -33652348.63 0.0084 0.0008

Jupiter -96849-12-06 03:49 J -33652334.48 -33652334.34 -33652334.20 0.0512 0.0132

Saturn -96848-02-01 17:30 J -33652276.92 -33652276.77 -33652276.61 0.0274 0.0035

Pluto -96848-02-17 18:56 J -33652260.84 -33652260.71 -33652260.57 0.0084 0.0005

Saturn -96848-05-01 08:23 J -33652188.28 -33652188.15 -33652188.01 0.0274 0.0118

Pluto -96848-05-16 20:08 J -33652172.78 -33652172.66 -33652172.53 0.0084 0.0017

Saturn -96848-07-28 23:01 J -33652099.64 -33652099.54 -33652099.44 0.0274 0.0199

Pluto -96848-08-12 21:20 J -33652084.73 -33652084.61 -33652084.48 0.0083 0.0030

Pluto -96848-11-08 22:18 J -33651996.67 -33651996.57 -33651996.44 0.0083 0.0043

Pluto -96847-02-04 23:44 J -33651908.60 -33651908.51 -33651908.40 0.0083 0.0054

Pluto -96847-05-04 00:56 J -33651820.53 -33651820.46 -33651820.38 0.0083 0.0066

Moon -96847-07-15 19:11 J -33651747.82 -33651747.70 -33651747.59 0.2631 0.0985

Earth -96847-07-15 19:11 J -33651747.82 -33651747.70 -33651747.59 0.2624 0.0987 *

Pluto -96847-07-31 02:08 J -33651732.44 -33651732.41 -33651732.36 0.0083 0.0078

Mars -96846-10-30 10:18 J -33651276.12 -33651276.07 -33651276.01 0.1610 0.1458

Venus -96845-03-13 11:59 J -33651141.11 -33651141.00 -33651140.88 0.3594 0.2026

Neptune -96844-07-01 08:23 J -33650666.17 -33650666.15 -33650666.11 0.0089 0.0086

Neptune -96844-09-27 10:03 J -33650578.12 -33650578.08 -33650578.02 0.0089 0.0082

Venus -96844-09-28 12:13 J -33650577.09 -33650576.99 -33650576.89 0.3774 0.1368

Mars -96844-10-05 03:06 J -33650570.51 -33650570.37 -33650570.23 0.1611 0.0299

Neptune -96844-12-24 11:44 J -33650490.07 -33650490.01 -33650489.93 0.0089 0.0078

Neptune -96843-03-22 13:25 J -33650402.01 -33650401.94 -33650401.85 0.0089 0.0074

Neptune -96843-06-18 15:06 J -33650313.94 -33650313.87 -33650313.77 0.0089 0.0070

Neptune -96843-09-14 17:01 J -33650225.88 -33650225.79 -33650225.69 0.0089 0.0065

Neptune -96843-12-11 18:42 J -33650137.82 -33650137.72 -33650137.61 0.0089 0.0061

Jupiter -96842-02-05 08:23 J -33650082.28 -33650082.15 -33650082.01 0.0513 0.0282

Neptune -96842-03-09 20:23 J -33650049.75 -33650049.65 -33650049.53 0.0089 0.0057

Jupiter -96842-05-06 05:44 J -33649992.39 -33649992.26 -33649992.12 0.0517 0.0248

Neptune -96842-06-05 22:03 J -33649961.68 -33649961.58 -33649961.45 0.0089 0.0053

Neptune -96842-09-02 00:13 J -33649873.62 -33649873.49 -33649873.37 0.0089 0.0048

Neptune -96842-11-29 01:54 J -33649785.55 -33649785.42 -33649785.29 0.0089 0.0044

Neptune -96841-02-25 03:35 J -33649697.48 -33649697.35 -33649697.21 0.0089 0.0040

Neptune -96841-05-23 05:30 J -33649609.41 -33649609.27 -33649609.14 0.0089 0.0035

Uranus -96841-07-18 15:20 J -33649552.90 -33649552.86 -33649552.79 0.0136 0.0128

Mars -96841-07-22 17:15 J -33649548.91 -33649548.78 -33649548.65 0.1916 0.0565

Neptune -96841-08-19 07:11 J -33649521.33 -33649521.20 -33649521.06 0.0089 0.0031

Uranus -96841-10-14 20:51 J -33649464.73 -33649464.63 -33649464.53 0.0136 0.0108

Neptune -96841-11-15 08:51 J -33649433.26 -33649433.13 -33649432.98 0.0089 0.0027

Uranus -96840-01-11 01:54 J -33649376.54 -33649376.42 -33649376.29 0.0135 0.0089

Neptune -96840-02-11 10:47 J -33649345.19 -33649345.05 -33649344.90 0.0089 0.0022

Uranus -96840-04-09 06:56 J -33649288.34 -33649288.21 -33649288.06 0.0135 0.0069

Neptune -96840-05-10 12:42 J -33649257.12 -33649256.97 -33649256.83 0.0089 0.0018

Uranus -96840-07-06 11:59 J -33649200.14 -33649200.00 -33649199.84 0.0135 0.0050

Neptune -96840-08-06 14:23 J -33649169.04 -33649168.90 -33649168.75 0.0089 0.0014

Venus -96840-09-27 12:56 J -33649117.09 -33649116.96 -33649116.82 0.3597 0.0733

Uranus -96840-10-02 17:01 J -33649111.94 -33649111.79 -33649111.63 0.0135 0.0031

Neptune -96840-11-02 16:18 J -33649080.97 -33649080.82 -33649080.67 0.0089 0.0009

Uranus -96840-12-29 22:03 J -33649023.74 -33649023.58 -33649023.42 0.0135 0.0013

Neptune -96839-01-29 18:13 J -33648992.89 -33648992.74 -33648992.59 0.0089 0.0005

Uranus -96839-03-28 03:06 J -33648935.54 -33648935.37 -33648935.21 0.0135 0.0007

Neptune -96839-04-27 19:54 J -33648904.81 -33648904.67 -33648904.52 0.0089 0.0002

Uranus -96839-06-24 07:39 J -33648847.33 -33648847.18 -33648847.02 0.0135 0.0025

Neptune -96839-07-24 21:49 J -33648816.74 -33648816.59 -33648816.44 0.0089 0.0004

Uranus -96839-09-20 12:27 J -33648759.12 -33648758.98 -33648758.82 0.0135 0.0043

Neptune -96839-10-20 23:44 J -33648728.66 -33648728.51 -33648728.36 0.0089 0.0009

Uranus -96839-12-17 17:15 J -33648670.92 -33648670.78 -33648670.63 0.0135 0.0060

Neptune -96838-01-17 01:25 J -33648640.58 -33648640.44 -33648640.28 0.0089 0.0014

Uranus -96838-03-15 21:49 J -33648582.71 -33648582.59 -33648582.45 0.0134 0.0079

Venus -96838-04-14 07:11 J -33648553.29 -33648553.20 -33648553.11 0.3770 0.2312

Neptune -96838-04-15 03:35 J -33648552.50 -33648552.35 -33648552.21 0.0089 0.0018

Uranus -96838-06-12 02:37 J -33648494.49 -33648494.39 -33648494.27 0.0134 0.0096

Neptune -96838-07-12 05:15 J -33648464.42 -33648464.28 -33648464.13 0.0089 0.0023

Uranus -96838-09-08 07:11 J -33648406.27 -33648406.20 -33648406.11 0.0134 0.0113

Neptune -96838-10-08 07:11 J -33648376.34 -33648376.20 -33648376.05 0.0089 0.0027

Uranus -96838-12-05 11:44 J -33648318.04 -33648318.01 -33648317.97 0.0134 0.0130

Neptune -96837-01-04 09:06 J -33648288.26 -33648288.12 -33648287.97 0.0089 0.0032

Moon -96837-01-09 12:56 J -33648283.08 -33648282.96 -33648282.83 0.2707 0.0778

Earth -96837-01-09 14:08 J -33648283.04 -33648282.91 -33648282.78 0.2710 0.0808 *

Neptune -96837-04-01 11:01 J -33648200.17 -33648200.04 -33648199.90 0.0089 0.0036

Jupiter -96837-06-26 18:27 J -33648113.80 -33648113.73 -33648113.66 0.0517 0.0445

Neptune -96837-06-28 12:56 J -33648112.09 -33648111.96 -33648111.82 0.0089 0.0041

Jupiter -96837-09-24 06:27 J -33648024.37 -33648024.23 -33648024.08 0.0513 0.0021

Neptune -96837-09-24 14:51 J -33648024.00 -33648023.88 -33648023.74 0.0089 0.0046

Neptune -96837-12-21 16:47 J -33647935.92 -33647935.80 -33647935.67 0.0089 0.0050

Jupiter -96837-12-22 19:39 J -33647934.72 -33647934.68 -33647934.64 0.0509 0.0491

Neptune -96836-03-19 18:42 J -33647847.83 -33647847.72 -33647847.59 0.0089 0.0055

Neptune -96836-06-15 20:51 J -33647759.74 -33647759.63 -33647759.52 0.0089 0.0059

Neptune -96836-09-11 22:47 J -33647671.65 -33647671.55 -33647671.44 0.0089 0.0064

Neptune -96836-12-09 00:27 J -33647583.56 -33647583.48 -33647583.37 0.0089 0.0069

Neptune -96835-03-07 02:51 J -33647495.46 -33647495.38 -33647495.30 0.0089 0.0073

Neptune -96835-06-03 04:47 J -33647407.37 -33647407.30 -33647407.22 0.0089 0.0078

Neptune -96835-08-30 06:27 J -33647319.27 -33647319.23 -33647319.16 0.0089 0.0083

Neptune -96835-11-26 08:23 J -33647231.15 -33647231.15 -33647231.10 0.0089 0.0088

Saturn -96834-02-21 18:42 J -33647143.74 -33647143.72 -33647143.68 0.0284 0.0277

Mars -96834-02-25 10:47 J -33647140.19 -33647140.05 -33647139.91 0.1610 0.0141

Venus -96834-04-13 13:11 J -33647093.08 -33647092.95 -33647092.81 0.3600 0.0495

Saturn -96834-05-21 10:03 J -33647055.19 -33647055.08 -33647054.97 0.0284 0.0189

Earth -96834-07-18 16:03 J -33646996.95 -33646996.83 -33646996.70 0.2628 0.0307

Moon -96834-07-18 16:47 J -33646996.93 -33646996.80 -33646996.68 0.2633 0.0411 *

Saturn -96834-08-18 01:39 J -33646966.57 -33646966.43 -33646966.29 0.0285 0.0098

Saturn -96834-11-14 17:30 J -33646877.92 -33646877.77 -33646877.61 0.0285 0.0009

Saturn -96833-02-11 09:49 J -33646789.23 -33646789.09 -33646788.94 0.0285 0.0092

Saturn -96833-05-10 02:37 J -33646700.51 -33646700.39 -33646700.28 0.0285 0.0189

Venus -96833-10-28 02:23 J -33646529.45 -33646529.40 -33646529.34 0.3767 0.3279

Mars -96832-12-12 20:23 J -33646118.74 -33646118.65 -33646118.56 0.1915 0.1361

Jupiter -96831-11-24 08:23 J -33645772.25 -33645772.15 -33645772.06 0.0512 0.0417

Jupiter -96830-02-22 06:13 J -33645682.40 -33645682.24 -33645682.09 0.0516 0.0117

Mars -96830-11-19 06:42 J -33645412.27 -33645412.22 -33645412.18 0.1913 0.1771

Venus -96829-10-27 13:11 J -33645069.07 -33645068.95 -33645068.83 0.3604 0.1664

Jupiter -96825-07-13 09:20 J -33643714.25 -33643714.11 -33643713.96 0.0514 0.0094

Mars -96825-07-17 18:27 J -33643709.86 -33643709.73 -33643709.60 0.1610 0.0573

Jupiter -96825-10-10 22:18 J -33643624.67 -33643624.57 -33643624.47 0.0510 0.0377

Moon -96824-01-11 13:11 J -33643532.02 -33643531.95 -33643531.88 0.2709 0.2315

Earth -96824-01-11 14:08 J -33643531.96 -33643531.91 -33643531.85 0.2705 0.2470 *

Venus -96823-05-13 12:42 J -33643045.05 -33643044.97 -33643044.89 0.3607 0.2787

Mars -96823-06-23 12:56 J -33643004.05 -33643003.96 -33643003.88 0.1612 0.1263

Earth -96821-07-20 12:56 J -33642246.06 -33642245.96 -33642245.86 0.2632 0.1570

Moon -96821-07-20 13:54 J -33642246.02 -33642245.92 -33642245.82 0.2633 0.1596 *

Venus -96820-02-04 20:23 J -33642046.68 -33642046.65 -33642046.61 0.3789 0.3526

Mars -96820-04-10 10:32 J -33641982.17 -33641982.06 -33641981.95 0.1914 0.1040

Saturn -96820-09-28 17:59 J -33641810.79 -33641810.75 -33641810.69 0.0274 0.0260

Saturn -96820-12-26 10:03 J -33641722.20 -33641722.08 -33641721.95 0.0274 0.0171

Saturn -96819-03-25 01:54 J -33641633.57 -33641633.42 -33641633.27 0.0274 0.0083

Saturn -96819-06-21 17:15 J -33641544.94 -33641544.78 -33641544.63 0.0274 0.0003

Saturn -96819-09-18 08:08 J -33641456.30 -33641456.16 -33641456.01 0.0274 0.0087

Jupiter -96819-12-11 06:56 J -33641372.37 -33641372.21 -33641372.05 0.0515 0.0010

Saturn -96819-12-15 22:47 J -33641367.66 -33641367.55 -33641367.42 0.0273 0.0169

Jupiter -96818-03-11 03:35 J -33641282.37 -33641282.35 -33641282.33 0.0519 0.0514

Saturn -96818-03-14 13:11 J -33641279.00 -33641278.95 -33641278.88 0.0273 0.0249

Earth -96817-01-04 20:23 J -33640982.73 -33640982.65 -33640982.56 0.2719 0.2072

Moon -96817-01-04 20:37 J -33640982.72 -33640982.64 -33640982.55 0.2712 0.2095 *

Mars -96816-12-08 02:23 J -33640279.51 -33640279.40 -33640279.29 0.1610 0.0996

Venus -96815-08-21 14:23 J -33640022.98 -33640022.90 -33640022.83 0.3787 0.2729

Moon -96814-07-14 02:37 J -33639696.47 -33639696.39 -33639696.31 0.2626 0.2037

Earth -96814-07-14 03:20 J -33639696.44 -33639696.36 -33639696.28 0.2621 0.2019 *

Mars -96814-11-13 19:54 J -33639573.79 -33639573.67 -33639573.54 0.1611 0.0804

Jupiter -96813-05-01 11:59 J -33639404.13 -33639404.00 -33639403.87 0.0515 0.0209

Jupiter -96813-07-30 00:27 J -33639314.61 -33639314.48 -33639314.36 0.0511 0.0258

Mars -96811-08-31 14:08 J -33638552.04 -33638551.91 -33638551.77 0.1915 0.0290

Venus -96809-03-06 08:23 J -33637999.24 -33637999.15 -33637999.06 0.3785 0.1898

Jupiter -96807-09-29 07:25 J -33637062.34 -33637062.19 -33637062.03 0.0514 0.0138

Jupiter -96807-12-28 04:32 J -33636972.41 -33636972.31 -33636972.21 0.0518 0.0390

Mars -96806-04-30 10:32 J -33636849.12 -33636849.06 -33636848.99 0.1610 0.1407

Saturn -96805-10-07 09:49 J -33636323.18 -33636323.09 -33636323.00 0.0285 0.0224

Saturn -96804-01-04 01:11 J -33636234.58 -33636234.45 -33636234.31 0.0285 0.0133

Moon -96804-01-06 19:11 J -33636231.83 -33636231.70 -33636231.57 0.2709 0.0490

Earth -96804-01-06 19:54 J -33636231.80 -33636231.67 -33636231.54 0.2714 0.0492 *

Saturn -96804-04-02 17:01 J -33636145.94 -33636145.79 -33636145.64 0.0285 0.0040

Mars -96804-04-05 03:20 J -33636143.50 -33636143.36 -33636143.22 0.1610 0.0353

Saturn -96804-06-30 09:06 J -33636057.27 -33636057.12 -33636056.96 0.0285 0.0055

Venus -96804-09-20 02:37 J -33635975.50 -33635975.39 -33635975.29 0.3782 0.1056

Saturn -96804-09-27 01:39 J -33635968.56 -33635968.43 -33635968.30 0.0285 0.0152

Saturn -96804-12-24 18:27 J -33635879.80 -33635879.73 -33635879.65 0.0285 0.0251

Mars -96801-01-21 17:44 J -33635121.89 -33635121.76 -33635121.63 0.1916 0.0486

Jupiter -96801-02-18 14:37 J -33635094.00 -33635093.89 -33635093.78 0.0516 0.0325

Jupiter -96801-05-18 02:51 J -33635004.52 -33635004.38 -33635004.24 0.0512 0.0141

Moon -96801-07-16 00:27 J -33634945.60 -33634945.48 -33634945.36 0.2632 0.0720

Earth -96801-07-16 00:27 J -33634945.60 -33634945.48 -33634945.36 0.2625 0.0707 *

Venus -96798-04-05 21:06 J -33633951.73 -33633951.62 -33633951.51 0.3779 0.0188

Uranus -96796-03-12 05:44 J -33633245.29 -33633245.26 -33633245.21 0.0143 0.0137

Uranus -96796-06-08 10:32 J -33633157.14 -33633157.06 -33633156.97 0.0143 0.0118

Uranus -96796-09-04 15:20 J -33633068.96 -33633068.86 -33633068.74 0.0143 0.0098

Uranus -96796-12-01 20:08 J -33632980.78 -33632980.66 -33632980.52 0.0143 0.0078

Uranus -96795-02-28 01:11 J -33632892.58 -33632892.45 -33632892.31 0.0144 0.0057

Uranus -96795-05-27 06:13 J -33632804.39 -33632804.24 -33632804.09 0.0144 0.0036

Jupiter -96795-07-18 07:25 J -33632752.33 -33632752.19 -33632752.06 0.0513 0.0273

Uranus -96795-08-23 11:15 J -33632716.18 -33632716.03 -33632715.88 0.0144 0.0015

Mars -96795-08-26 11:01 J -33632713.18 -33632713.04 -33632712.90 0.1610 0.0085

Jupiter -96795-10-16 04:47 J -33632662.44 -33632662.30 -33632662.17 0.0517 0.0257

Uranus -96795-11-19 16:18 J -33632627.97 -33632627.82 -33632627.66 0.0144 0.0007

Uranus -96794-02-15 21:35 J -33632539.76 -33632539.60 -33632539.45 0.0144 0.0029

Venus -96794-04-04 11:01 J -33632492.12 -33632492.04 -33632491.97 0.3592 0.2958

Uranus -96794-05-15 02:37 J -33632451.53 -33632451.39 -33632451.24 0.0144 0.0050

Uranus -96794-08-11 07:39 J -33632363.30 -33632363.18 -33632363.04 0.0144 0.0073

Uranus -96794-11-07 12:56 J -33632275.07 -33632274.96 -33632274.83 0.0144 0.0095

Uranus -96793-02-03 18:27 J -33632186.82 -33632186.73 -33632186.64 0.0145 0.0117

Uranus -96793-05-01 23:30 J -33632098.54 -33632098.52 -33632098.46 0.0145 0.0140

Venus -96793-10-19 15:35 J -33631927.96 -33631927.85 -33631927.74 0.3776 0.0728

Mars -96792-06-12 20:37 J -33631691.74 -33631691.64 -33631691.54 0.1916 0.1294

Moon -96791-01-09 18:42 J -33631480.84 -33631480.72 -33631480.59 0.2707 0.0945

Earth -96791-01-09 19:54 J -33631480.79 -33631480.67 -33631480.55 0.2709 0.1143 *

Saturn -96790-05-15 11:44 J -33630990.11 -33630990.01 -33630989.89 0.0275 0.0195

Mars -96790-05-20 06:56 J -33630985.25 -33630985.21 -33630985.18 0.1913 0.1840

Saturn -96790-08-12 03:35 J -33630901.49 -33630901.35 -33630901.20 0.0275 0.0107

Saturn -96790-11-08 19:11 J -33630812.86 -33630812.70 -33630812.54 0.0274 0.0019

Jupiter -96790-12-07 17:01 J -33630783.86 -33630783.79 -33630783.72 0.0517 0.0445

Saturn -96789-02-05 10:18 J -33630724.22 -33630724.07 -33630723.92 0.0274 0.0066

Jupiter -96789-03-06 04:47 J -33630694.44 -33630694.30 -33630694.15 0.0513 0.0024

Saturn -96789-05-04 01:11 J -33630635.58 -33630635.45 -33630635.32 0.0274 0.0148

Jupiter -96789-06-03 17:59 J -33630604.78 -33630604.75 -33630604.71 0.0510 0.0492

Saturn -96789-07-31 15:35 J -33630546.93 -33630546.85 -33630546.77 0.0274 0.0229

Venus -96789-10-18 11:59 J -33630468.12 -33630468.00 -33630467.87 0.3595 0.1642

Earth -96788-07-18 21:20 J -33630194.73 -33630194.61 -33630194.49 0.2629 0.0577

Moon -96788-07-18 22:03 J -33630194.70 -33630194.58 -33630194.46 0.2632 0.0646 *

Venus -96787-05-05 10:32 J -33629904.16 -33629904.06 -33629903.96 0.3773 0.1638

Mars -96785-01-16 18:42 J -33629282.85 -33629282.72 -33629282.58 0.1610 0.0518

Mars -96784-12-22 13:11 J -33628577.03 -33628576.95 -33628576.87 0.1612 0.1323

Venus -96783-05-04 12:42 J -33628444.10 -33628443.97 -33628443.83 0.3598 0.0391

Jupiter -96783-05-06 07:11 J -33628442.30 -33628442.20 -33628442.10 0.0512 0.0408

Jupiter -96783-08-04 05:01 J -33628352.45 -33628352.29 -33628352.14 0.0515 0.0125

Venus -96782-11-19 05:44 J -33627880.35 -33627880.26 -33627880.18 0.3769 0.2586

Mars -96781-10-09 10:47 J -33627555.15 -33627555.05 -33627554.94 0.1914 0.1113

Venus -96778-11-18 12:56 J -33626420.09 -33626419.96 -33626419.83 0.3601 0.0838

Jupiter -96778-12-24 07:39 J -33626384.32 -33626384.18 -33626384.04 0.0514 0.0094

Jupiter -96777-03-22 20:23 J -33626294.74 -33626294.65 -33626294.55 0.0510 0.0377

Venus -96776-06-04 00:56 J -33625856.49 -33625856.46 -33625856.42 0.3766 0.3557

Mars -96776-06-08 02:37 J -33625852.50 -33625852.39 -33625852.28 0.1610 0.0941

Saturn -96775-02-24 11:59 J -33625591.07 -33625591.00 -33625590.92 0.0284 0.0243

Saturn -96775-05-24 03:20 J -33625502.48 -33625502.36 -33625502.23 0.0284 0.0154

Earth -96775-07-21 18:13 J -33625443.83 -33625443.74 -33625443.66 0.2633 0.1837

Moon -96775-07-21 18:56 J -33625443.78 -33625443.71 -33625443.63 0.2634 0.1992 *

Saturn -96775-08-20 18:56 J -33625413.85 -33625413.71 -33625413.56 0.0284 0.0063

Saturn -96775-11-17 11:01 J -33625325.19 -33625325.04 -33625324.88 0.0285 0.0032

Saturn -96774-02-14 03:20 J -33625236.49 -33625236.36 -33625236.22 0.0285 0.0129

Saturn -96774-05-13 20:08 J -33625147.75 -33625147.66 -33625147.56 0.0285 0.0227

Mars -96774-05-14 20:23 J -33625146.77 -33625146.65 -33625146.53 0.1611 0.0863

Venus -96772-06-03 12:56 J -33624396.07 -33624395.96 -33624395.85 0.3605 0.1999

Moon -96771-01-05 02:08 J -33624180.51 -33624180.41 -33624180.31 0.2711 0.1709

Earth -96771-01-05 02:08 J -33624180.51 -33624180.41 -33624180.31 0.2718 0.1748 *

Mars -96771-03-01 14:37 J -33624125.02 -33624124.89 -33624124.76 0.1915 0.0361

Jupiter -96771-05-23 05:01 J -33624042.45 -33624042.29 -33624042.13 0.0515 0.0010

Jupiter -96771-08-21 01:25 J -33623952.45 -33623952.44 -33623952.41 0.0519 0.0513

Moon -96768-07-14 08:08 J -33622894.25 -33622894.16 -33622894.07 0.2627 0.1852

Earth -96768-07-14 08:37 J -33622894.24 -33622894.14 -33622894.05 0.2621 0.1739 *

Mars -96767-10-29 10:47 J -33622422.12 -33622422.05 -33622421.98 0.1610 0.1354

Venus -96767-12-18 12:13 J -33622372.06 -33622371.99 -33622371.93 0.3608 0.3101

Jupiter -96766-10-12 10:32 J -33622074.18 -33622074.06 -33622073.92 0.0515 0.0205

Jupiter -96765-01-09 23:15 J -33621984.66 -33621984.53 -33621984.41 0.0511 0.0264

Mars -96765-10-04 03:35 J -33621716.48 -33621716.35 -33621716.21 0.1610 0.0416

Venus -96764-09-11 18:27 J -33621373.78 -33621373.73 -33621373.68 0.3789 0.3287

Mars -96762-07-22 17:59 J -33620694.89 -33620694.75 -33620694.62 0.1916 0.0427

Neptune -96761-04-03 18:13 J -33620438.76 -33620438.74 -33620438.68 0.0089 0.0086

Neptune -96761-06-30 21:35 J -33620350.68 -33620350.60 -33620350.53 0.0089 0.0080

Neptune -96761-09-26 23:59 J -33620262.58 -33620262.50 -33620262.40 0.0089 0.0075

Saturn -96761-10-01 11:30 J -33620258.10 -33620258.02 -33620257.93 0.0274 0.0226

Neptune -96761-12-24 02:37 J -33620174.48 -33620174.39 -33620174.27 0.0089 0.0070

Saturn -96761-12-29 03:35 J -33620169.49 -33620169.35 -33620169.21 0.0274 0.0137

Neptune -96760-03-22 05:15 J -33620086.38 -33620086.28 -33620086.14 0.0089 0.0065

Saturn -96760-03-27 19:11 J -33620080.86 -33620080.70 -33620080.55 0.0274 0.0050

Neptune -96760-06-18 07:54 J -33619998.28 -33619998.17 -33619998.02 0.0089 0.0060

Saturn -96760-06-24 10:18 J -33619992.22 -33619992.07 -33619991.91 0.0274 0.0036

Neptune -96760-09-14 11:01 J -33619910.17 -33619910.04 -33619909.90 0.0089 0.0054

Saturn -96760-09-21 01:11 J -33619903.58 -33619903.45 -33619903.31 0.0274 0.0119

Neptune -96760-12-11 13:39 J -33619822.07 -33619821.93 -33619821.78 0.0088 0.0049

Saturn -96760-12-18 15:49 J -33619814.94 -33619814.84 -33619814.73 0.0274 0.0200

Neptune -96759-03-09 16:18 J -33619733.96 -33619733.82 -33619733.66 0.0088 0.0044

Jupiter -96759-03-11 05:30 J -33619732.42 -33619732.27 -33619732.11 0.0514 0.0139

Neptune -96759-06-05 18:56 J -33619645.86 -33619645.71 -33619645.55 0.0088 0.0039

Jupiter -96759-06-09 02:37 J -33619642.49 -33619642.39 -33619642.29 0.0518 0.0389

Neptune -96759-09-01 21:35 J -33619557.75 -33619557.60 -33619557.43 0.0088 0.0033

Neptune -96759-11-29 00:13 J -33619469.64 -33619469.49 -33619469.32 0.0088 0.0028

Moon -96758-01-08 00:42 J -33619429.60 -33619429.47 -33619429.33 0.2708 0.0322

Earth -96758-01-08 01:39 J -33619429.56 -33619429.43 -33619429.30 0.2714 0.0169 *

Neptune -96758-02-25 03:06 J -33619381.54 -33619381.37 -33619381.21 0.0088 0.0023

Venus -96758-03-28 12:27 J -33619350.06 -33619349.98 -33619349.90 0.3786 0.2481

Neptune -96758-05-24 05:44 J -33619293.43 -33619293.26 -33619293.10 0.0088 0.0018

Neptune -96758-08-20 08:23 J -33619205.32 -33619205.15 -33619204.99 0.0088 0.0013

Neptune -96758-11-16 10:47 J -33619117.21 -33619117.05 -33619116.88 0.0088 0.0008

Neptune -96757-02-12 13:25 J -33619029.11 -33619028.94 -33619028.77 0.0088 0.0003

Neptune -96757-05-10 16:03 J -33618941.00 -33618940.83 -33618940.66 0.0088 0.0002

Neptune -96757-08-06 18:27 J -33618852.89 -33618852.73 -33618852.56 0.0088 0.0008

Uranus -96757-08-07 23:01 J -33618851.60 -33618851.54 -33618851.46 0.0136 0.0122

Neptune -96757-11-02 21:06 J -33618764.79 -33618764.62 -33618764.45 0.0088 0.0012

Uranus -96757-11-04 04:03 J -33618763.42 -33618763.33 -33618763.21 0.0136 0.0103

Neptune -96756-01-29 23:30 J -33618676.68 -33618676.52 -33618676.35 0.0088 0.0018

Uranus -96756-01-31 09:35 J -33618675.23 -33618675.10 -33618674.97 0.0135 0.0083

Neptune -96756-04-28 02:08 J -33618588.57 -33618588.41 -33618588.25 0.0088 0.0022

Uranus -96756-04-29 14:37 J -33618587.03 -33618586.89 -33618586.75 0.0135 0.0064

Neptune -96756-07-25 04:32 J -33618500.46 -33618500.31 -33618500.15 0.0088 0.0027

Uranus -96756-07-26 19:39 J -33618498.83 -33618498.68 -33618498.53 0.0135 0.0045

Neptune -96756-10-21 06:56 J -33618412.36 -33618412.21 -33618412.05 0.0088 0.0032

Uranus -96756-10-23 00:42 J -33618410.63 -33618410.47 -33618410.31 0.0135 0.0026

Neptune -96755-01-17 09:35 J -33618324.25 -33618324.10 -33618323.95 0.0088 0.0037

Uranus -96755-01-19 05:30 J -33618322.43 -33618322.27 -33618322.10 0.0135 0.0008

Mars -96755-02-24 11:15 J -33618286.17 -33618286.03 -33618285.89 0.1610 0.0046

Neptune -96755-04-15 11:59 J -33618236.14 -33618236.00 -33618235.85 0.0088 0.0042

Uranus -96755-04-17 10:32 J -33618234.22 -33618234.06 -33618233.90 0.0135 0.0012

Neptune -96755-07-12 14:23 J -33618148.03 -33618147.90 -33618147.75 0.0088 0.0047

Uranus -96755-07-14 15:20 J -33618146.02 -33618145.86 -33618145.70 0.0135 0.0030

Earth -96755-07-17 05:44 J -33618143.39 -33618143.26 -33618143.14 0.2625 0.0433

Moon -96755-07-17 05:59 J -33618143.38 -33618143.25 -33618143.13 0.2632 0.0394 *

Neptune -96755-10-08 16:47 J -33618059.93 -33618059.80 -33618059.66 0.0088 0.0052

Uranus -96755-10-10 20:08 J -33618057.81 -33618057.66 -33618057.51 0.0135 0.0048

Neptune -96754-01-04 19:11 J -33617971.82 -33617971.70 -33617971.56 0.0088 0.0056

Uranus -96754-01-07 00:42 J -33617969.60 -33617969.47 -33617969.32 0.0135 0.0066

Neptune -96754-04-02 21:49 J -33617883.71 -33617883.59 -33617883.47 0.0088 0.0061

Uranus -96754-04-05 05:30 J -33617881.39 -33617881.27 -33617881.14 0.0134 0.0083

Neptune -96754-06-29 23:59 J -33617795.60 -33617795.50 -33617795.38 0.0088 0.0066

Uranus -96754-07-02 10:18 J -33617793.18 -33617793.07 -33617792.97 0.0134 0.0101

Jupiter -96754-07-31 13:11 J -33617764.05 -33617763.95 -33617763.83 0.0516 0.0320

Neptune -96754-09-26 02:23 J -33617707.49 -33617707.40 -33617707.29 0.0088 0.0071

Uranus -96754-09-28 14:37 J -33617704.95 -33617704.89 -33617704.81 0.0134 0.0118

Jupiter -96754-10-29 01:25 J -33617674.58 -33617674.44 -33617674.30 0.0512 0.0146

Neptune -96754-12-23 04:32 J -33617619.38 -33617619.31 -33617619.21 0.0088 0.0076

Neptune -96753-03-20 07:11 J -33617531.26 -33617531.20 -33617531.13 0.0088 0.0080

Neptune -96753-06-16 09:20 J -33617443.14 -33617443.11 -33617443.05 0.0088 0.0085

Venus -96753-10-11 06:27 J -33617326.33 -33617326.23 -33617326.13 0.3784 0.1651

Mars -96753-12-11 20:51 J -33617264.73 -33617264.63 -33617264.53 0.1916 0.1223

Mars -96751-11-18 06:56 J -33616558.22 -33616558.21 -33616558.20 0.1913 0.1902

Jupiter -96748-12-28 05:59 J -33615422.38 -33615422.25 -33615422.11 0.0513 0.0267

Jupiter -96747-03-28 03:35 J -33615332.49 -33615332.35 -33615332.22 0.0517 0.0264

Venus -96747-04-27 00:42 J -33615302.57 -33615302.47 -33615302.36 0.3781 0.0813

Saturn -96746-07-14 11:44 J -33614859.03 -33614859.01 -33614858.98 0.0285 0.0278

Mars -96746-07-17 18:56 J -33614855.84 -33614855.71 -33614855.58 0.1610 0.0463

Saturn -96746-10-11 02:51 J -33614770.48 -33614770.38 -33614770.26 0.0285 0.0190

Saturn -96745-01-07 18:27 J -33614681.87 -33614681.73 -33614681.58 0.0285 0.0098

Moon -96745-01-11 00:13 J -33614678.60 -33614678.49 -33614678.38 0.2709 0.1440

Earth -96745-01-11 01:25 J -33614678.55 -33614678.44 -33614678.33 0.2709 0.1470 *

Saturn -96745-04-05 10:32 J -33614593.22 -33614593.06 -33614592.91 0.0285 0.0010

Saturn -96745-07-03 02:37 J -33614504.53 -33614504.39 -33614504.24 0.0285 0.0091

Saturn -96745-09-29 19:11 J -33614415.81 -33614415.70 -33614415.58 0.0285 0.0189

Mars -96744-06-22 13:25 J -33614150.02 -33614149.94 -33614149.87 0.1612 0.1379

Jupiter -96742-05-19 15:49 J -33613453.91 -33613453.84 -33613453.76 0.0517 0.0435

Earth -96742-07-20 02:37 J -33613392.51 -33613392.39 -33613392.27 0.2629 0.0850

Moon -96742-07-20 03:35 J -33613392.47 -33613392.35 -33613392.24 0.2633 0.0935 *

Jupiter -96742-08-17 03:49 J -33613364.48 -33613364.34 -33613364.19 0.0513 0.0031

Venus -96742-11-10 19:25 J -33613278.81 -33613278.69 -33613278.58 0.3778 0.0168

Jupiter -96742-11-14 17:01 J -33613274.82 -33613274.79 -33613274.77 0.0509 0.0500

Mars -96741-04-09 11:01 J -33613128.14 -33613128.04 -33613127.94 0.1915 0.1179

Venus -96738-11-09 11:01 J -33611819.14 -33611819.04 -33611818.95 0.3593 0.2563

Mars -96737-12-07 02:51 J -33611425.49 -33611425.38 -33611425.26 0.1610 0.0886

Venus -96736-05-26 14:08 J -33611255.02 -33611254.91 -33611254.81 0.3775 0.0996

Jupiter -96736-10-16 05:44 J -33611112.35 -33611112.26 -33611112.15 0.0512 0.0401

Jupiter -96735-01-14 03:49 J -33611022.50 -33611022.34 -33611022.19 0.0515 0.0132

Mars -96735-11-12 20:37 J -33610719.76 -33610719.64 -33610719.53 0.1611 0.0924

Venus -96732-05-25 12:13 J -33609795.12 -33609794.99 -33609794.87 0.3596 0.1265

Mars -96732-08-30 14:51 J -33609698.00 -33609697.88 -33609697.75 0.1915 0.0441

Saturn -96731-02-18 12:56 J -33609526.01 -33609525.96 -33609525.89 0.0275 0.0251

Saturn -96731-05-18 05:15 J -33609437.41 -33609437.28 -33609437.15 0.0275 0.0161

Saturn -96731-08-14 20:51 J -33609348.78 -33609348.63 -33609348.48 0.0275 0.0073

Saturn -96731-11-11 12:13 J -33609260.14 -33609259.99 -33609259.83 0.0275 0.0015

Venus -96731-12-10 08:51 J -33609231.22 -33609231.13 -33609231.03 0.3772 0.1912

Saturn -96730-02-08 03:20 J -33609171.50 -33609171.36 -33609171.22 0.0275 0.0098

Saturn -96730-05-07 17:59 J -33609082.86 -33609082.75 -33609082.63 0.0274 0.0181

Jupiter -96730-06-05 05:59 J -33609054.39 -33609054.25 -33609054.11 0.0514 0.0095

Saturn -96730-08-04 08:37 J -33608994.19 -33608994.14 -33608994.10 0.0274 0.0261

Jupiter -96730-09-02 18:42 J -33608964.82 -33608964.72 -33608964.62 0.0511 0.0377

Earth -96729-07-21 23:15 J -33608641.60 -33608641.53 -33608641.45 0.2633 0.2108

Moon -96729-07-22 00:13 J -33608641.56 -33608641.49 -33608641.42 0.2632 0.2154 *

Mars -96727-04-29 11:01 J -33607995.12 -33607995.04 -33607994.96 0.1610 0.1300

Venus -96727-12-09 12:42 J -33607771.11 -33607770.97 -33607770.84 0.3599 0.0059

Moon -96725-01-06 07:25 J -33607378.30 -33607378.19 -33607378.08 0.2711 0.1447

Earth -96725-01-06 07:39 J -33607378.29 -33607378.18 -33607378.07 0.2717 0.1428 *

Mars -96725-04-04 03:49 J -33607289.47 -33607289.34 -33607289.20 0.1610 0.0473

Venus -96725-06-25 04:03 J -33607207.40 -33607207.33 -33607207.26 0.3768 0.2861

Jupiter -96724-11-02 03:49 J -33606712.50 -33606712.34 -33606712.18 0.0514 0.0004

Mars -96722-01-20 18:13 J -33606267.87 -33606267.74 -33606267.61 0.1916 0.0347

Moon -96722-07-15 13:39 J -33606092.04 -33606091.93 -33606091.83 0.2628 0.1422

Earth -96722-07-15 13:54 J -33606092.02 -33606091.92 -33606091.81 0.2622 0.1457 *

Venus -96721-06-24 12:42 J -33605747.09 -33605746.97 -33605746.84 0.3602 0.1181

Jupiter -96718-03-24 08:37 J -33604744.27 -33604744.14 -33604744.01 0.0515 0.0208

Jupiter -96718-06-21 21:06 J -33604654.74 -33604654.62 -33604654.49 0.0512 0.0261

Saturn -96716-02-27 05:44 J -33604038.36 -33604038.26 -33604038.16 0.0284 0.0206

Saturn -96716-05-26 21:06 J -33603949.76 -33603949.62 -33603949.48 0.0284 0.0116

Saturn -96716-08-23 12:56 J -33603861.11 -33603860.96 -33603860.81 0.0284 0.0023

Mars -96716-08-25 11:30 J -33603859.16 -33603859.02 -33603858.88 0.1610 0.0032

Saturn -96716-11-20 05:01 J -33603772.44 -33603772.29 -33603772.14 0.0285 0.0072

Venus -96715-01-08 12:27 J -33603723.08 -33603722.98 -33603722.88 0.3606 0.2321

Saturn -96715-02-16 21:35 J -33603683.73 -33603683.60 -33603683.48 0.0285 0.0169

Saturn -96715-05-16 14:23 J -33603594.95 -33603594.90 -33603594.85 0.0285 0.0268

Mars -96713-06-11 21:06 J -33602837.73 -33602837.62 -33602837.51 0.1916 0.1151

Moon -96712-01-08 06:27 J -33602627.36 -33602627.23 -33602627.10 0.2708 0.0147

Earth -96712-01-08 07:11 J -33602627.33 -33602627.20 -33602627.07 0.2713 0.0183 *

Uranus -96712-04-01 12:56 J -33602544.01 -33602543.96 -33602543.90 0.0143 0.0133

Uranus -96712-06-28 17:44 J -33602455.85 -33602455.76 -33602455.67 0.0143 0.0113

Jupiter -96712-08-21 03:35 J -33602402.50 -33602402.35 -33602402.19 0.0514 0.0139

Uranus -96712-09-24 22:32 J -33602367.67 -33602367.56 -33602367.44 0.0143 0.0093

Jupiter -96712-11-19 00:42 J -33602312.57 -33602312.47 -33602312.37 0.0518 0.0387

Uranus -96712-12-22 03:35 J -33602279.48 -33602279.35 -33602279.22 0.0143 0.0073

Uranus -96711-03-20 08:23 J -33602191.29 -33602191.15 -33602191.01 0.0144 0.0052

Uranus -96711-06-16 13:25 J -33602103.09 -33602102.94 -33602102.79 0.0144 0.0031

Uranus -96711-09-12 18:27 J -33602014.88 -33602014.73 -33602014.58 0.0144 0.0010

Uranus -96711-12-09 23:30 J -33601926.67 -33601926.52 -33601926.37 0.0144 0.0011

Uranus -96710-03-08 04:32 J -33601838.46 -33601838.31 -33601838.16 0.0144 0.0033

Uranus -96710-06-04 09:49 J -33601750.23 -33601750.09 -33601749.95 0.0144 0.0055

Venus -96710-07-25 11:44 J -33601699.05 -33601699.01 -33601698.97 0.3609 0.3409

Uranus -96710-08-31 15:06 J -33601662.00 -33601661.87 -33601661.74 0.0144 0.0077

Uranus -96710-11-27 20:23 J -33601573.76 -33601573.65 -33601573.54 0.0144 0.0099

Uranus -96709-02-24 01:25 J -33601485.51 -33601485.44 -33601485.34 0.0145 0.0122

Uranus -96709-05-22 07:11 J -33601397.21 -33601397.20 -33601397.19 0.0145 0.0144

Earth -96709-07-17 11:01 J -33601341.17 -33601341.04 -33601340.91 0.2626 0.0157

Moon -96709-07-17 11:30 J -33601341.15 -33601341.02 -33601340.90 0.2631 0.0182 *

Venus -96707-04-18 16:32 J -33600700.87 -33600700.81 -33600700.75 0.3788 0.3044

Jupiter -96706-01-10 11:44 J -33600434.12 -33600434.01 -33600433.90 0.0516 0.0318

Mars -96706-01-15 19:11 J -33600428.83 -33600428.70 -33600428.56 0.1610 0.0407

Jupiter -96706-04-09 23:59 J -33600344.64 -33600344.50 -33600344.36 0.0512 0.0149

Mars -96705-12-21 13:39 J -33599722.99 -33599722.93 -33599722.87 0.1611 0.1444

Saturn -96702-10-05 05:15 J -33598705.39 -33598705.28 -33598705.16 0.0274 0.0191

Mars -96702-10-09 11:15 J -33598701.12 -33598701.03 -33598700.93 0.1915 0.1255

Venus -96702-11-02 10:32 J -33598677.15 -33598677.06 -33598676.97 0.3786 0.2233

Saturn -96701-01-01 21:06 J -33598616.76 -33598616.62 -33598616.47 0.0274 0.0102

Saturn -96701-03-30 12:42 J -33598528.13 -33598527.97 -33598527.82 0.0274 0.0015

Saturn -96701-06-27 03:49 J -33598439.49 -33598439.34 -33598439.19 0.0274 0.0070

Saturn -96701-09-23 18:42 J -33598350.85 -33598350.72 -33598350.60 0.0274 0.0153

Saturn -96701-12-21 09:06 J -33598262.19 -33598262.12 -33598262.04 0.0274 0.0234

Jupiter -96700-06-09 04:03 J -33598092.47 -33598092.33 -33598092.20 0.0513 0.0269

Jupiter -96700-09-07 01:25 J -33598002.57 -33598002.44 -33598002.30 0.0517 0.0262

Moon -96699-01-11 05:59 J -33597876.36 -33597876.25 -33597876.14 0.2710 0.1611

Earth -96699-01-11 07:11 J -33597876.30 -33597876.20 -33597876.10 0.2708 0.1814 *

Mars -96697-06-07 03:06 J -33596998.49 -33596998.37 -33596998.25 0.1610 0.0834

Venus -96696-05-18 04:47 J -33596653.41 -33596653.30 -33596653.20 0.3783 0.1406

Earth -96696-07-20 07:54 J -33596590.28 -33596590.17 -33596590.06 0.2630 0.1120

Moon -96696-07-20 08:51 J -33596590.24 -33596590.13 -33596590.02 0.2633 0.1226 *

Pluto -96696-12-11 16:32 J -33596445.87 -33596445.81 -33596445.70 0.0060 0.0054

Pluto -96695-03-09 17:59 J -33596357.85 -33596357.75 -33596357.60 0.0060 0.0047

Mars -96695-05-13 20:51 J -33596292.74 -33596292.63 -33596292.52 0.1611 0.0979

Pluto -96695-06-05 19:39 J -33596269.81 -33596269.68 -33596269.52 0.0060 0.0040

Pluto -96695-09-01 21:20 J -33596181.77 -33596181.61 -33596181.44 0.0060 0.0033

Jupiter -96695-10-29 14:37 J -33596123.97 -33596123.89 -33596123.82 0.0517 0.0431

Pluto -96695-11-28 22:47 J -33596093.72 -33596093.55 -33596093.36 0.0060 0.0026

Jupiter -96694-01-27 02:23 J -33596034.54 -33596034.40 -33596034.25 0.0513 0.0033

Pluto -96694-02-25 00:27 J -33596005.67 -33596005.48 -33596005.29 0.0060 0.0020

Jupiter -96694-04-26 15:20 J -33595944.87 -33595944.86 -33595944.83 0.0509 0.0503

Pluto -96694-05-24 01:54 J -33595917.61 -33595917.42 -33595917.22 0.0060 0.0013

Pluto -96694-08-20 03:20 J -33595829.55 -33595829.36 -33595829.16 0.0060 0.0006

Pluto -96694-11-16 05:01 J -33595741.49 -33595741.29 -33595741.10 0.0060 0.0002

Pluto -96693-02-12 06:13 J -33595653.43 -33595653.24 -33595653.03 0.0060 0.0009

Pluto -96693-05-10 07:39 J -33595565.36 -33595565.18 -33595564.98 0.0061 0.0016

Pluto -96693-08-06 09:06 J -33595477.29 -33595477.12 -33595476.92 0.0061 0.0023

Pluto -96693-11-02 10:32 J -33595389.21 -33595389.06 -33595388.87 0.0061 0.0030

Earth -96692-01-03 13:54 J -33595326.94 -33595326.92 -33595326.90 0.2721 0.2675

Moon -96692-01-03 14:23 J -33595326.94 -33595326.90 -33595326.86 0.2715 0.2564 *

Pluto -96692-01-29 11:59 J -33595301.13 -33595301.00 -33595300.82 0.0061 0.0037

Mars -96692-02-28 14:51 J -33595271.00 -33595270.88 -33595270.75 0.1916 0.0500

Pluto -96692-04-27 13:25 J -33595213.05 -33595212.94 -33595212.78 0.0061 0.0044

Pluto -96692-07-24 15:06 J -33595124.96 -33595124.87 -33595124.74 0.0061 0.0051

Pluto -96692-10-20 16:32 J -33595036.84 -33595036.81 -33595036.73 0.0061 0.0058

Venus -96691-12-01 23:01 J -33594629.65 -33594629.54 -33594629.43 0.3780 0.0540

Moon -96689-07-12 21:06 J -33594040.65 -33594040.62 -33594040.59 0.2622 0.2531

Earth -96689-07-12 21:49 J -33594040.62 -33594040.59 -33594040.55 0.2618 0.2506 *

Jupiter -96688-03-28 04:18 J -33593782.42 -33593782.32 -33593782.22 0.0512 0.0398

Jupiter -96688-06-26 02:08 J -33593692.56 -33593692.41 -33593692.25 0.0516 0.0137

Mars -96688-10-28 11:15 J -33593568.12 -33593568.03 -33593567.95 0.1610 0.1247

Saturn -96687-07-17 05:30 J -33593306.34 -33593306.27 -33593306.19 0.0284 0.0241

Saturn -96687-10-13 20:51 J -33593217.76 -33593217.63 -33593217.50 0.0285 0.0151

Venus -96687-11-30 09:49 J -33593170.12 -33593170.09 -33593170.07 0.3591 0.3506

Saturn -96686-01-10 12:27 J -33593129.13 -33593128.98 -33593128.83 0.0285 0.0059

Saturn -96686-04-09 04:32 J -33593040.46 -33593040.31 -33593040.16 0.0285 0.0035

Saturn -96686-07-06 20:51 J -33592951.77 -33592951.63 -33592951.49 0.0285 0.0132

Saturn -96686-10-03 13:25 J -33592863.02 -33592862.94 -33592862.84 0.0285 0.0231

Mars -96686-10-04 04:03 J -33592862.46 -33592862.33 -33592862.19 0.1610 0.0528

Venus -96685-06-16 17:30 J -33592605.88 -33592605.77 -33592605.66 0.3777 0.0364

Mars -96683-07-21 18:27 J -33591840.86 -33591840.73 -33591840.60 0.1916 0.0274

Earth -96683-07-23 04:32 J -33591839.36 -33591839.31 -33591839.26 0.2634 0.2372

Moon -96683-07-23 05:30 J -33591839.31 -33591839.27 -33591839.23 0.2631 0.2462 *

Jupiter -96683-11-15 05:01 J -33591724.44 -33591724.29 -33591724.15 0.0514 0.0087

Jupiter -96682-02-12 17:30 J -33591634.86 -33591634.77 -33591634.67 0.0510 0.0384

Venus -96681-06-15 11:01 J -33591146.15 -33591146.04 -33591145.93 0.3594 0.2174

Neptune -96680-12-30 05:59 J -33590583.25 -33590583.25 -33590583.24 0.0089 0.0089

Venus -96680-12-31 12:27 J -33590582.09 -33590581.98 -33590581.88 0.3774 0.1258

Moon -96679-01-06 12:42 J -33590576.08 -33590575.97 -33590575.85 0.2710 0.1174

Earth -96679-01-06 13:11 J -33590576.07 -33590575.95 -33590575.83 0.2717 0.1110 *

Neptune -96679-03-28 07:25 J -33590495.21 -33590495.19 -33590495.13 0.0089 0.0085

Neptune -96679-06-24 09:06 J -33590407.16 -33590407.12 -33590407.04 0.0089 0.0081

Neptune -96679-09-20 11:15 J -33590319.10 -33590319.03 -33590318.96 0.0089 0.0076

Neptune -96679-12-17 12:42 J -33590231.04 -33590230.97 -33590230.88 0.0089 0.0072

Neptune -96678-03-15 14:23 J -33590142.98 -33590142.90 -33590142.80 0.0089 0.0068

Neptune -96678-06-11 16:03 J -33590054.92 -33590054.83 -33590054.72 0.0089 0.0064

Neptune -96678-09-07 17:44 J -33589966.85 -33589966.76 -33589966.64 0.0089 0.0060

Neptune -96678-12-04 19:54 J -33589878.79 -33589878.67 -33589878.56 0.0089 0.0055

Neptune -96677-03-01 21:20 J -33589790.72 -33589790.61 -33589790.48 0.0089 0.0051

Neptune -96677-05-28 23:15 J -33589702.65 -33589702.53 -33589702.40 0.0089 0.0047

Neptune -96677-08-25 00:56 J -33589614.58 -33589614.46 -33589614.33 0.0089 0.0042

Neptune -96677-11-21 02:51 J -33589526.51 -33589526.38 -33589526.25 0.0089 0.0038

Neptune -96676-02-17 04:32 J -33589438.44 -33589438.31 -33589438.17 0.0089 0.0034

Mars -96676-02-23 11:44 J -33589432.15 -33589432.01 -33589431.87 0.1610 0.0084

Jupiter -96676-04-14 02:23 J -33589382.56 -33589382.40 -33589382.24 0.0514 0.0014

Neptune -96676-05-16 06:13 J -33589350.37 -33589350.24 -33589350.09 0.0089 0.0030

Moon -96676-07-15 18:56 J -33589289.82 -33589289.71 -33589289.60 0.2629 0.1283

Earth -96676-07-15 19:11 J -33589289.81 -33589289.70 -33589289.59 0.2622 0.1180 *

Neptune -96676-08-12 08:08 J -33589262.30 -33589262.16 -33589262.02 0.0089 0.0025

Neptune -96676-11-08 09:49 J -33589174.23 -33589174.09 -33589173.94 0.0089 0.0021

Venus -96676-12-30 11:59 J -33589122.13 -33589122.00 -33589121.86 0.3597 0.0889

Neptune -96675-02-04 11:44 J -33589086.15 -33589086.01 -33589085.86 0.0089 0.0016

Neptune -96675-05-03 13:39 J -33588998.08 -33588997.93 -33588997.79 0.0089 0.0012

Neptune -96675-07-30 15:20 J -33588910.00 -33588909.86 -33588909.71 0.0089 0.0008

Neptune -96675-10-26 17:15 J -33588821.93 -33588821.78 -33588821.63 0.0089 0.0003

Neptune -96674-01-22 19:11 J -33588733.85 -33588733.70 -33588733.56 0.0089 0.0003

Neptune -96674-04-20 20:51 J -33588645.78 -33588645.63 -33588645.48 0.0089 0.0006

Venus -96674-07-17 07:25 J -33588558.28 -33588558.19 -33588558.10 0.3771 0.2183

Neptune -96674-07-17 22:47 J -33588557.70 -33588557.55 -33588557.40 0.0089 0.0010

Neptune -96674-10-14 00:42 J -33588469.62 -33588469.47 -33588469.32 0.0089 0.0015

Mars -96674-12-11 21:20 J -33588410.72 -33588410.61 -33588410.49 0.1916 0.1076

Neptune -96673-01-10 02:23 J -33588381.54 -33588381.40 -33588381.25 0.0089 0.0020

Neptune -96673-04-07 04:18 J -33588293.46 -33588293.32 -33588293.17 0.0089 0.0024

Uranus -96673-06-01 01:39 J -33588238.44 -33588238.43 -33588238.42 0.0136 0.0135

Neptune -96673-07-04 06:13 J -33588205.38 -33588205.24 -33588205.09 0.0089 0.0029

Uranus -96673-08-28 06:42 J -33588150.29 -33588150.22 -33588150.13 0.0136 0.0116

Neptune -96673-09-30 08:08 J -33588117.30 -33588117.16 -33588117.02 0.0089 0.0033

Uranus -96673-11-24 11:44 J -33588062.11 -33588062.01 -33588061.88 0.0136 0.0097

Neptune -96673-12-27 09:49 J -33588029.21 -33588029.09 -33588028.94 0.0089 0.0038

Uranus -96672-02-20 17:15 J -33587973.91 -33587973.78 -33587973.65 0.0135 0.0077

Saturn -96672-02-21 06:42 J -33587973.31 -33587973.22 -33587973.12 0.0275 0.0215

Neptune -96672-03-25 11:59 J -33587941.13 -33587941.00 -33587940.86 0.0089 0.0042

Uranus -96672-05-19 22:18 J -33587885.72 -33587885.57 -33587885.42 0.0135 0.0058

Saturn -96672-05-20 22:47 J -33587884.69 -33587884.55 -33587884.41 0.0275 0.0126

Neptune -96672-06-21 13:54 J -33587853.04 -33587852.92 -33587852.79 0.0089 0.0047

Uranus -96672-08-16 03:20 J -33587797.51 -33587797.36 -33587797.20 0.0135 0.0039

Saturn -96672-08-17 14:23 J -33587796.05 -33587795.90 -33587795.74 0.0275 0.0038

Neptune -96672-09-17 15:35 J -33587764.96 -33587764.85 -33587764.71 0.0089 0.0052

Uranus -96672-11-12 08:23 J -33587709.31 -33587709.15 -33587708.99 0.0135 0.0020

Saturn -96672-11-14 05:44 J -33587707.41 -33587707.26 -33587707.11 0.0275 0.0048

Neptune -96672-12-14 17:44 J -33587676.87 -33587676.76 -33587676.64 0.0089 0.0056

Uranus -96671-02-08 13:11 J -33587621.11 -33587620.95 -33587620.78 0.0135 0.0003

Saturn -96671-02-10 20:37 J -33587618.77 -33587618.64 -33587618.50 0.0275 0.0132

Neptune -96671-03-12 19:39 J -33587588.78 -33587588.68 -33587588.56 0.0089 0.0061

Uranus -96671-05-07 17:59 J -33587532.90 -33587532.75 -33587532.58 0.0135 0.0018

Saturn -96671-05-10 11:15 J -33587530.12 -33587530.03 -33587529.94 0.0275 0.0214

Neptune -96671-06-08 21:49 J -33587500.69 -33587500.59 -33587500.49 0.0089 0.0065

Uranus -96671-08-03 22:47 J -33587444.70 -33587444.55 -33587444.39 0.0135 0.0036

Jupiter -96671-09-03 06:56 J -33587414.34 -33587414.21 -33587414.08 0.0515 0.0211

Neptune -96671-09-04 23:30 J -33587412.60 -33587412.52 -33587412.41 0.0089 0.0070

Uranus -96671-10-31 03:35 J -33587356.49 -33587356.35 -33587356.20 0.0135 0.0054

Jupiter -96671-12-01 19:25 J -33587324.82 -33587324.69 -33587324.57 0.0512 0.0259

Neptune -96671-12-02 01:25 J -33587324.51 -33587324.44 -33587324.34 0.0089 0.0075

Uranus -96670-01-27 08:23 J -33587268.28 -33587268.15 -33587268.01 0.0134 0.0071

Neptune -96670-02-28 03:49 J -33587236.41 -33587236.34 -33587236.27 0.0089 0.0079

Uranus -96670-04-25 12:56 J -33587180.07 -33587179.96 -33587179.83 0.0134 0.0089

Neptune -96670-05-27 05:30 J -33587148.30 -33587148.27 -33587148.21 0.0089 0.0084

Venus -96670-07-16 12:27 J -33587098.12 -33587097.98 -33587097.85 0.3600 0.0342

Uranus -96670-07-22 17:44 J -33587091.85 -33587091.76 -33587091.66 0.0134 0.0106

Neptune -96670-08-23 07:39 J -33587060.18 -33587060.18 -33587060.17 0.0089 0.0089

Uranus -96670-10-18 22:32 J -33587003.62 -33587003.56 -33587003.50 0.0134 0.0124

Venus -96668-01-30 02:37 J -33586534.45 -33586534.39 -33586534.33 0.3767 0.3139

Mars -96667-07-16 19:25 J -33586001.82 -33586001.69 -33586001.55 0.1609 0.0351

Moon -96666-01-09 11:59 J -33585825.14 -33585825.00 -33585824.87 0.2709 0.0384

Earth -96666-01-09 12:56 J -33585825.09 -33585824.96 -33585824.83 0.2712 0.0505 *

Mars -96665-06-21 13:54 J -33585295.96 -33585295.92 -33585295.87 0.1611 0.1503

Venus -96664-01-29 12:27 J -33585074.10 -33585073.98 -33585073.86 0.3603 0.1518

Jupiter -96664-01-31 02:23 J -33585072.55 -33585072.40 -33585072.24 0.0513 0.0131

Jupiter -96664-04-30 23:15 J -33584982.62 -33584982.53 -33584982.42 0.0517 0.0394

Mars -96664-05-02 23:59 J -33584980.51 -33584980.50 -33584980.48 0.1916 0.1898

Earth -96663-07-18 16:18 J -33584538.95 -33584538.82 -33584538.69 0.2626 0.0119

Moon -96663-07-18 16:47 J -33584538.92 -33584538.80 -33584538.67 0.2632 0.0264 *

Mars -96662-04-09 11:30 J -33584274.11 -33584274.02 -33584273.93 0.1915 0.1319

Jupiter -96659-06-22 09:35 J -33583104.21 -33583104.10 -33583103.99 0.0517 0.0324

Venus -96659-08-15 11:59 J -33583050.09 -33583050.00 -33583049.91 0.3607 0.2639

Jupiter -96659-09-19 21:49 J -33583014.73 -33583014.59 -33583014.45 0.0513 0.0143

Saturn -96658-12-04 08:37 J -33582574.20 -33582574.14 -33582574.08 0.0284 0.0255

Mars -96658-12-07 03:20 J -33582571.48 -33582571.36 -33582571.24 0.1609 0.0776

Saturn -96657-03-01 23:44 J -33582485.63 -33582485.51 -33582485.38 0.0284 0.0167

Saturn -96657-05-29 15:20 J -33582397.00 -33582396.86 -33582396.71 0.0284 0.0075

Saturn -96657-08-26 07:11 J -33582308.35 -33582308.20 -33582308.04 0.0284 0.0020

Saturn -96657-11-22 23:30 J -33582219.66 -33582219.52 -33582219.38 0.0284 0.0115

Saturn -96656-02-19 16:03 J -33582130.93 -33582130.83 -33582130.72 0.0285 0.0213

Venus -96656-05-09 20:37 J -33582051.67 -33582051.64 -33582051.60 0.3789 0.3594

Mars -96656-11-11 21:06 J -33581865.73 -33581865.62 -33581865.51 0.1611 0.1042

Moon -96653-01-12 11:30 J -33581074.10 -33581074.02 -33581073.93 0.2709 0.2105

Earth -96653-01-12 12:42 J -33581074.05 -33581073.97 -33581073.89 0.2708 0.2152 *

Mars -96653-08-29 15:20 J -33580843.98 -33580843.86 -33580843.73 0.1916 0.0576

Jupiter -96653-11-19 01:54 J -33580762.56 -33580762.42 -33580762.29 0.0513 0.0271

Jupiter -96652-02-16 23:15 J -33580672.66 -33580672.53 -33580672.39 0.0516 0.0258

Venus -96651-11-23 14:37 J -33580027.96 -33580027.89 -33580027.82 0.3787 0.2800

Earth -96650-07-21 13:11 J -33579788.06 -33579787.95 -33579787.85 0.2630 0.1393

Moon -96650-07-21 14:08 J -33579788.02 -33579787.91 -33579787.81 0.2632 0.1446 *

Mars -96648-04-28 11:15 J -33579141.12 -33579141.03 -33579140.94 0.1610 0.1199

Jupiter -96647-04-10 12:42 J -33578794.04 -33578793.97 -33578793.89 0.0517 0.0433

Jupiter -96647-07-09 00:42 J -33578704.61 -33578704.47 -33578704.33 0.0513 0.0031

Jupiter -96647-10-06 13:39 J -33578614.94 -33578614.93 -33578614.91 0.0510 0.0503

Earth -96646-01-04 19:25 J -33578524.75 -33578524.69 -33578524.63 0.2721 0.2361

Moon -96646-01-04 19:39 J -33578524.74 -33578524.68 -33578524.62 0.2714 0.2394 *

Mars -96646-04-04 04:18 J -33578435.45 -33578435.32 -33578435.18 0.1610 0.0586

Venus -96645-06-08 08:37 J -33578004.23 -33578004.14 -33578004.05 0.3785 0.1982

Mars -96643-01-19 18:42 J -33577413.86 -33577413.72 -33577413.59 0.1916 0.0211

Saturn -96643-07-11 07:25 J -33577241.26 -33577241.19 -33577241.11 0.0275 0.0242

Moon -96643-07-14 02:37 J -33577238.45 -33577238.39 -33577238.34 0.2624 0.2342

Earth -96643-07-14 03:20 J -33577238.43 -33577238.36 -33577238.30 0.2619 0.2225 *

Saturn -96643-10-07 23:30 J -33577152.65 -33577152.52 -33577152.39 0.0274 0.0152

Saturn -96642-01-04 15:06 J -33577064.02 -33577063.87 -33577063.71 0.0274 0.0065

Saturn -96642-04-03 06:27 J -33576975.38 -33576975.23 -33576975.07 0.0274 0.0024

Saturn -96642-06-30 21:35 J -33576886.74 -33576886.60 -33576886.46 0.0274 0.0107

Saturn -96642-09-27 12:13 J -33576798.09 -33576797.99 -33576797.87 0.0274 0.0189

Saturn -96642-12-25 02:51 J -33576709.41 -33576709.38 -33576709.36 0.0274 0.0269

Jupiter -96641-09-07 01:54 J -33576452.51 -33576452.42 -33576452.32 0.0512 0.0403

Jupiter -96641-12-05 23:59 J -33576362.65 -33576362.50 -33576362.35 0.0516 0.0131

Venus -96640-12-23 02:51 J -33575980.48 -33575980.38 -33575980.27 0.3782 0.1143

Mars -96639-09-18 19:39 J -33575710.69 -33575710.68 -33575710.67 0.1610 0.1604

Mars -96637-08-24 11:59 J -33575005.14 -33575005.00 -33575004.86 0.1609 0.0144

Jupiter -96635-04-27 03:20 J -33574394.50 -33574394.36 -33574394.22 0.0514 0.0085

Jupiter -96635-07-25 15:49 J -33574304.93 -33574304.84 -33574304.74 0.0510 0.0386

Mars -96634-06-11 21:35 J -33573983.71 -33573983.60 -33573983.48 0.1917 0.1009

Venus -96634-07-08 21:20 J -33573956.72 -33573956.61 -33573956.50 0.3779 0.0290

Moon -96633-01-07 18:13 J -33573773.86 -33573773.74 -33573773.61 0.2709 0.0798

Earth -96633-01-07 18:42 J -33573773.84 -33573773.72 -33573773.59 0.2716 0.0791 *

Venus -96630-07-07 09:49 J -33572497.15 -33572497.09 -33572497.02 0.3592 0.3106

Moon -96630-07-17 00:27 J -33572487.60 -33572487.48 -33572487.36 0.2629 0.0849

Earth -96630-07-17 00:27 J -33572487.60 -33572487.48 -33572487.36 0.2623 0.0905 *

Jupiter -96629-09-24 00:42 J -33572052.63 -33572052.47 -33572052.31 0.0515 0.0010

Venus -96628-01-21 15:49 J -33571932.95 -33571932.84 -33571932.73 0.3776 0.0618

Uranus -96628-04-21 20:37 J -33571842.70 -33571842.64 -33571842.57 0.0143 0.0127

Uranus -96628-07-19 01:25 J -33571754.54 -33571754.44 -33571754.34 0.0143 0.0107

Saturn -96628-07-19 23:44 J -33571753.61 -33571753.51 -33571753.40 0.0284 0.0201

Uranus -96628-10-15 06:13 J -33571666.36 -33571666.24 -33571666.12 0.0143 0.0087

Saturn -96628-10-16 15:06 J -33571665.01 -33571664.87 -33571664.73 0.0285 0.0110

Uranus -96627-01-11 11:01 J -33571578.17 -33571578.04 -33571577.90 0.0143 0.0067

Saturn -96627-01-13 06:56 J -33571576.36 -33571576.21 -33571576.06 0.0285 0.0017

Mars -96627-01-14 19:39 J -33571574.81 -33571574.68 -33571574.54 0.1609 0.0295

Uranus -96627-04-09 16:03 J -33571489.97 -33571489.83 -33571489.69 0.0144 0.0046

Saturn -96627-04-11 23:01 J -33571487.69 -33571487.54 -33571487.39 0.0285 0.0079

Uranus -96627-07-06 20:51 J -33571401.77 -33571401.63 -33571401.47 0.0144 0.0026

Saturn -96627-07-09 15:35 J -33571398.97 -33571398.85 -33571398.73 0.0285 0.0176

Uranus -96627-10-03 02:08 J -33571313.57 -33571313.41 -33571313.26 0.0144 0.0005

Saturn -96627-10-06 08:23 J -33571310.19 -33571310.15 -33571310.11 0.0285 0.0275

Uranus -96627-12-30 07:11 J -33571225.35 -33571225.20 -33571225.05 0.0144 0.0017

Uranus -96626-03-28 12:13 J -33571137.14 -33571136.99 -33571136.84 0.0144 0.0039

Uranus -96626-06-24 17:15 J -33571048.91 -33571048.78 -33571048.63 0.0144 0.0061

Uranus -96626-09-20 22:32 J -33570960.68 -33570960.56 -33570960.43 0.0144 0.0083

Uranus -96626-12-18 03:49 J -33570872.44 -33570872.34 -33570872.23 0.0144 0.0105

Mars -96626-12-21 14:08 J -33570868.94 -33570868.91 -33570868.87 0.1611 0.1562

Uranus -96625-03-15 09:20 J -33570784.18 -33570784.11 -33570784.04 0.0145 0.0128

Mars -96625-11-01 00:27 J -33570553.52 -33570553.48 -33570553.44 0.1916 0.1817

Venus -96624-01-20 11:15 J -33570473.15 -33570473.03 -33570472.91 0.3595 0.1788

Jupiter -96623-02-13 05:44 J -33570084.39 -33570084.26 -33570084.13 0.0515 0.0202

Jupiter -96623-05-13 18:13 J -33569994.86 -33569994.74 -33569994.62 0.0511 0.0266

Venus -96623-08-07 10:47 J -33569909.15 -33569909.05 -33569908.95 0.3773 0.1520

Mars -96623-10-08 11:44 J -33569847.10 -33569847.01 -33569846.92 0.1915 0.1395

Moon -96620-01-09 17:15 J -33569022.90 -33569022.78 -33569022.65 0.2710 0.0707

Earth -96620-01-09 18:27 J -33569022.86 -33569022.73 -33569022.60 0.2712 0.0829 *

Venus -96619-08-06 11:59 J -33568449.14 -33568449.00 -33568448.87 0.3598 0.0520

Mars -96618-06-07 03:35 J -33568144.47 -33568144.35 -33568144.23 0.1609 0.0724

Venus -96617-02-21 05:44 J -33567885.34 -33567885.26 -33567885.17 0.3770 0.2455

Jupiter -96617-07-13 00:56 J -33567742.62 -33567742.46 -33567742.31 0.0513 0.0128

Earth -96617-07-18 21:35 J -33567736.73 -33567736.60 -33567736.48 0.2627 0.0394

Moon -96617-07-18 22:18 J -33567736.70 -33567736.57 -33567736.45 0.2632 0.0393 *

Jupiter -96617-10-10 21:49 J -33567652.68 -33567652.59 -33567652.49 0.0517 0.0398

Mars -96616-05-12 21:20 J -33567438.71 -33567438.61 -33567438.51 0.1611 0.1099

Saturn -96614-11-28 08:23 J -33566509.17 -33566509.15 -33566509.11 0.0275 0.0268

Venus -96613-02-20 12:13 J -33566425.12 -33566424.99 -33566424.86 0.3601 0.0688

Saturn -96613-02-25 00:42 J -33566420.58 -33566420.47 -33566420.34 0.0275 0.0177

Mars -96613-02-28 15:35 J -33566416.97 -33566416.85 -33566416.72 0.1916 0.0645

Saturn -96613-05-23 16:47 J -33566331.95 -33566331.80 -33566331.66 0.0275 0.0088

Saturn -96613-08-20 08:08 J -33566243.31 -33566243.16 -33566243.00 0.0275 0.0003

Saturn -96613-11-16 23:15 J -33566154.67 -33566154.53 -33566154.38 0.0275 0.0085

Saturn -96612-02-13 14:08 J -33566066.03 -33566065.91 -33566065.79 0.0275 0.0168

Saturn -96612-05-13 04:47 J -33565977.36 -33565977.30 -33565977.24 0.0275 0.0249

Venus -96612-09-06 00:56 J -33565861.50 -33565861.46 -33565861.41 0.3766 0.3413

Jupiter -96612-12-02 07:39 J -33565774.29 -33565774.18 -33565774.07 0.0516 0.0327

Jupiter -96611-03-01 19:54 J -33565684.81 -33565684.67 -33565684.53 0.0513 0.0140

Mars -96609-10-27 11:44 J -33564714.11 -33564714.01 -33564713.92 0.1609 0.1140

Venus -96608-09-05 12:13 J -33564401.11 -33564400.99 -33564400.88 0.3604 0.1849

Moon -96607-01-12 17:15 J -33564271.84 -33564271.78 -33564271.71 0.2709 0.2314

Earth -96607-01-12 18:27 J -33564271.78 -33564271.73 -33564271.68 0.2707 0.2486 *

Mars -96607-10-03 04:47 J -33564008.43 -33564008.30 -33564008.17 0.1610 0.0646

Jupiter -96605-05-01 00:42 J -33563432.61 -33563432.47 -33563432.33 0.0512 0.0263

Jupiter -96605-07-29 22:03 J -33563342.71 -33563342.58 -33563342.44 0.0516 0.0265

Mars -96604-07-20 18:56 J -33562986.84 -33562986.71 -33562986.58 0.1916 0.0132

Earth -96604-07-21 18:27 J -33562985.83 -33562985.73 -33562985.64 0.2631 0.1661

Moon -96604-07-21 19:25 J -33562985.78 -33562985.69 -33562985.60 0.2631 0.1814 *

Venus -96602-03-22 11:30 J -33562377.09 -33562377.02 -33562376.95 0.3608 0.2943

Pluto -96602-07-08 19:11 J -33562268.72 -33562268.70 -33562268.68 0.0085 0.0083

Pluto -96602-10-04 20:08 J -33562180.72 -33562180.66 -33562180.57 0.0084 0.0071

Pluto -96602-12-31 21:35 J -33562092.69 -33562092.60 -33562092.50 0.0084 0.0057

Pluto -96601-03-28 22:47 J -33562004.65 -33562004.55 -33562004.43 0.0084 0.0045

Pluto -96601-06-25 00:13 J -33561916.61 -33561916.49 -33561916.36 0.0084 0.0032

Pluto -96601-09-21 01:25 J -33561828.56 -33561828.44 -33561828.31 0.0084 0.0019

Pluto -96601-12-18 02:51 J -33561740.51 -33561740.38 -33561740.25 0.0084 0.0006

Moon -96600-01-05 00:56 J -33561722.55 -33561722.46 -33561722.37 0.2713 0.1950

Earth -96600-01-05 00:56 J -33561722.54 -33561722.46 -33561722.38 0.2720 0.2044 *

Pluto -96600-03-16 04:03 J -33561652.46 -33561652.33 -33561652.20 0.0084 0.0006

Pluto -96600-06-12 05:15 J -33561564.41 -33561564.28 -33561564.15 0.0084 0.0019

Pluto -96600-09-08 06:13 J -33561476.35 -33561476.24 -33561476.11 0.0083 0.0032

Jupiter -96600-09-20 10:32 J -33561464.13 -33561464.06 -33561463.99 0.0518 0.0441

Pluto -96600-12-05 07:39 J -33561388.29 -33561388.18 -33561388.07 0.0083 0.0043

Venus -96600-12-14 18:42 J -33561378.76 -33561378.72 -33561378.67 0.3789 0.3354

Jupiter -96600-12-18 22:32 J -33561374.71 -33561374.56 -33561374.42 0.0514 0.0028

Pluto -96599-03-03 08:51 J -33561300.23 -33561300.13 -33561300.03 0.0083 0.0056

Jupiter -96599-03-18 11:30 J -33561285.05 -33561285.02 -33561284.99 0.0510 0.0496

Mars -96599-03-19 19:54 J -33561283.70 -33561283.67 -33561283.64 0.1610 0.1552

Pluto -96599-05-30 09:49 J -33561212.15 -33561212.09 -33561212.01 0.0083 0.0068

Pluto -96599-08-26 11:01 J -33561124.06 -33561124.04 -33561124.00 0.0083 0.0080

Saturn -96599-12-07 03:06 J -33561021.46 -33561021.37 -33561021.27 0.0284 0.0213

Saturn -96598-03-05 18:27 J -33560932.86 -33560932.73 -33560932.59 0.0284 0.0123

Saturn -96598-06-02 10:03 J -33560844.23 -33560844.08 -33560843.92 0.0284 0.0032

Saturn -96598-08-30 02:08 J -33560755.56 -33560755.41 -33560755.26 0.0284 0.0064

Saturn -96598-11-26 18:42 J -33560666.85 -33560666.72 -33560666.59 0.0284 0.0161

Mars -96597-02-23 12:13 J -33560578.13 -33560577.99 -33560577.85 0.1609 0.0200

Saturn -96597-02-23 11:15 J -33560578.08 -33560578.03 -33560577.96 0.0284 0.0260 *

Moon -96597-07-14 07:54 J -33560436.25 -33560436.17 -33560436.09 0.2625 0.1986

Earth -96597-07-14 08:37 J -33560436.22 -33560436.14 -33560436.06 0.2619 0.1945 *

Neptune -96597-12-29 16:18 J -33560267.85 -33560267.82 -33560267.75 0.0089 0.0085

Neptune -96596-03-27 19:11 J -33560179.76 -33560179.70 -33560179.61 0.0089 0.0080

Neptune -96596-06-23 22:18 J -33560091.66 -33560091.57 -33560091.48 0.0089 0.0074

Neptune -96596-09-20 00:42 J -33560003.56 -33560003.47 -33560003.35 0.0089 0.0069

Neptune -96596-12-17 03:20 J -33559915.46 -33559915.36 -33559915.22 0.0089 0.0064

Neptune -96595-03-15 06:13 J -33559827.36 -33559827.24 -33559827.10 0.0089 0.0058

Neptune -96595-06-11 08:51 J -33559739.25 -33559739.13 -33559738.98 0.0089 0.0053

Neptune -96595-09-07 11:44 J -33559651.15 -33559651.01 -33559650.86 0.0089 0.0048

Neptune -96595-12-04 14:23 J -33559563.04 -33559562.90 -33559562.74 0.0089 0.0043

Mars -96595-12-10 22:03 J -33559556.70 -33559556.58 -33559556.46 0.1916 0.0928

Neptune -96594-03-02 17:01 J -33559474.94 -33559474.79 -33559474.63 0.0089 0.0038

Neptune -96594-05-29 19:39 J -33559386.83 -33559386.68 -33559386.51 0.0088 0.0033

Venus -96594-06-30 12:42 J -33559355.05 -33559354.97 -33559354.89 0.3787 0.2555

Neptune -96594-08-25 22:18 J -33559298.72 -33559298.57 -33559298.40 0.0088 0.0028

Neptune -96594-11-22 00:56 J -33559210.62 -33559210.46 -33559210.29 0.0088 0.0023

Jupiter -96593-02-17 23:44 J -33559122.60 -33559122.51 -33559122.41 0.0511 0.0406

Neptune -96593-02-18 03:49 J -33559122.51 -33559122.34 -33559122.17 0.0088 0.0017 *

Neptune -96593-05-16 06:27 J -33559034.40 -33559034.23 -33559034.06 0.0088 0.0012

Jupiter -96593-05-17 21:49 J -33559032.75 -33559032.59 -33559032.44 0.0515 0.0126

Neptune -96593-08-12 09:06 J -33558946.29 -33558946.12 -33558945.95 0.0088 0.0007

Neptune -96593-11-08 11:30 J -33558858.18 -33558858.02 -33558857.85 0.0088 0.0003

Neptune -96592-02-04 14:08 J -33558770.08 -33558769.91 -33558769.74 0.0088 0.0003

Neptune -96592-05-03 16:47 J -33558681.97 -33558681.80 -33558681.63 0.0088 0.0008

Neptune -96592-07-30 19:11 J -33558593.86 -33558593.70 -33558593.53 0.0088 0.0014

Neptune -96592-10-26 21:49 J -33558505.75 -33558505.59 -33558505.42 0.0088 0.0018

Neptune -96591-01-23 00:13 J -33558417.65 -33558417.49 -33558417.32 0.0088 0.0023

Neptune -96591-04-21 02:37 J -33558329.54 -33558329.39 -33558329.22 0.0088 0.0029

Neptune -96591-07-18 05:15 J -33558241.43 -33558241.28 -33558241.12 0.0088 0.0033

Neptune -96591-10-14 07:54 J -33558153.32 -33558153.17 -33558153.02 0.0088 0.0038

Neptune -96590-01-10 10:18 J -33558065.21 -33558065.07 -33558064.92 0.0088 0.0043

Neptune -96590-04-08 12:42 J -33557977.10 -33557976.97 -33557976.83 0.0088 0.0048

Neptune -96590-07-05 15:06 J -33557889.00 -33557888.87 -33557888.73 0.0088 0.0053

Neptune -96590-10-01 17:30 J -33557800.89 -33557800.77 -33557800.64 0.0088 0.0057

Neptune -96590-12-28 19:39 J -33557712.78 -33557712.68 -33557712.54 0.0088 0.0063

Neptune -96589-03-25 22:32 J -33557624.67 -33557624.56 -33557624.45 0.0088 0.0067

Uranus -96589-06-21 09:20 J -33557537.15 -33557537.11 -33557537.06 0.0136 0.0129

Neptune -96589-06-22 00:42 J -33557536.56 -33557536.47 -33557536.36 0.0088 0.0072

Uranus -96589-09-17 14:23 J -33557448.98 -33557448.90 -33557448.79 0.0136 0.0110

Neptune -96589-09-18 02:51 J -33557448.44 -33557448.38 -33557448.28 0.0088 0.0077

Uranus -96589-12-14 19:39 J -33557360.79 -33557360.68 -33557360.55 0.0136 0.0090

Neptune -96589-12-15 05:30 J -33557360.32 -33557360.27 -33557360.20 0.0088 0.0081

Venus -96588-01-13 06:42 J -33557331.31 -33557331.22 -33557331.12 0.3784 0.1739

Uranus -96588-03-13 00:56 J -33557272.60 -33557272.46 -33557272.32 0.0135 0.0071

Neptune -96588-03-13 07:39 J -33557272.20 -33557272.18 -33557272.12 0.0088 0.0086

Uranus -96588-06-09 05:59 J -33557184.40 -33557184.25 -33557184.10 0.0135 0.0051

Mars -96588-07-15 19:54 J -33557147.81 -33557147.67 -33557147.53 0.1609 0.0242

Uranus -96588-09-05 11:01 J -33557096.20 -33557096.04 -33557095.88 0.0135 0.0032

Jupiter -96588-10-07 01:25 J -33557064.58 -33557064.44 -33557064.30 0.0515 0.0088

Uranus -96588-12-02 16:03 J -33557007.99 -33557007.83 -33557007.67 0.0135 0.0014

Jupiter -96587-01-04 14:08 J -33556975.00 -33556974.91 -33556974.81 0.0511 0.0383

Moon -96587-01-07 23:44 J -33556971.64 -33556971.51 -33556971.38 0.2710 0.0582

Earth -96587-01-08 00:27 J -33556971.61 -33556971.48 -33556971.35 0.2716 0.0467 *

Uranus -96587-02-28 20:51 J -33556919.79 -33556919.63 -33556919.46 0.0135 0.0006

Uranus -96587-05-28 01:54 J -33556831.58 -33556831.42 -33556831.26 0.0135 0.0023

Uranus -96587-08-24 06:27 J -33556743.37 -33556743.23 -33556743.07 0.0135 0.0042

Uranus -96587-11-20 11:15 J -33556655.16 -33556655.03 -33556654.88 0.0135 0.0060

Uranus -96586-02-16 16:03 J -33556566.95 -33556566.83 -33556566.69 0.0134 0.0077

Uranus -96586-05-15 20:51 J -33556478.74 -33556478.63 -33556478.52 0.0134 0.0095

Uranus -96586-08-12 01:25 J -33556390.52 -33556390.44 -33556390.35 0.0134 0.0112

Uranus -96586-11-08 05:59 J -33556302.28 -33556302.25 -33556302.20 0.0134 0.0129

Mars -96585-05-02 00:27 J -33556126.53 -33556126.48 -33556126.43 0.1916 0.1761

Saturn -96584-07-14 01:54 J -33555688.52 -33555688.42 -33555688.31 0.0275 0.0201

Earth -96584-07-17 05:44 J -33555685.38 -33555685.26 -33555685.13 0.2623 0.0631

Moon -96584-07-17 05:59 J -33555685.37 -33555685.25 -33555685.13 0.2630 0.0660 *

Saturn -96584-10-10 17:59 J -33555599.89 -33555599.75 -33555599.61 0.0274 0.0112

Saturn -96583-01-07 09:35 J -33555511.26 -33555511.10 -33555510.95 0.0274 0.0025

Saturn -96583-04-06 00:42 J -33555422.62 -33555422.47 -33555422.32 0.0274 0.0061

Mars -96583-04-08 11:59 J -33555420.09 -33555420.00 -33555419.92 0.1915 0.1458

Saturn -96583-07-03 15:35 J -33555333.98 -33555333.85 -33555333.72 0.0274 0.0145

Venus -96583-07-30 01:11 J -33555307.56 -33555307.45 -33555307.35 0.3781 0.0896

Saturn -96583-09-30 06:13 J -33555245.32 -33555245.24 -33555245.15 0.0274 0.0227

Jupiter -96581-03-05 22:18 J -33554722.73 -33554722.57 -33554722.41 0.0515 0.0012

Mars -96579-12-06 03:49 J -33553717.47 -33553717.34 -33553717.22 0.1609 0.0670

Venus -96577-02-12 19:39 J -33553283.80 -33553283.68 -33553283.57 0.3778 0.0160

Mars -96577-11-10 21:35 J -33553011.70 -33553011.60 -33553011.50 0.1610 0.1157

Jupiter -96576-07-26 04:03 J -33552754.46 -33552754.33 -33552754.20 0.0515 0.0202

Jupiter -96576-10-23 16:32 J -33552664.94 -33552664.81 -33552664.69 0.0511 0.0265

Moon -96574-01-10 22:47 J -33552220.67 -33552220.55 -33552220.42 0.2710 0.1060

Earth -96574-01-10 23:59 J -33552220.62 -33552220.50 -33552220.38 0.2711 0.1160 *

Mars -96574-08-29 15:49 J -33551989.97 -33551989.84 -33551989.72 0.1916 0.0713

Venus -96573-02-11 10:03 J -33551824.17 -33551824.08 -33551823.99 0.3593 0.2713

Venus -96572-08-28 14:08 J -33551260.02 -33551259.91 -33551259.80 0.3775 0.0870

Earth -96571-07-20 02:51 J -33550934.50 -33550934.38 -33550934.26 0.2627 0.0664

Moon -96571-07-20 03:35 J -33550934.47 -33550934.35 -33550934.23 0.2632 0.0807 *

Jupiter -96570-12-23 22:47 J -33550412.71 -33550412.55 -33550412.40 0.0514 0.0131

Jupiter -96569-03-22 19:54 J -33550322.77 -33550322.67 -33550322.57 0.0518 0.0395

Saturn -96569-04-25 03:06 J -33550289.44 -33550289.37 -33550289.29 0.0284 0.0247

Mars -96569-04-27 11:44 J -33550287.11 -33550287.01 -33550286.91 0.1610 0.1089

Saturn -96569-07-22 18:27 J -33550200.86 -33550200.73 -33550200.61 0.0284 0.0158

Saturn -96569-10-19 09:49 J -33550112.23 -33550112.09 -33550111.94 0.0285 0.0067

Saturn -96568-01-16 01:54 J -33550023.58 -33550023.42 -33550023.27 0.0285 0.0028

Saturn -96568-04-14 17:59 J -33549934.88 -33549934.75 -33549934.61 0.0285 0.0125

Saturn -96568-07-12 10:32 J -33549846.15 -33549846.06 -33549845.96 0.0285 0.0223

Venus -96568-08-27 11:15 J -33549800.16 -33549800.03 -33549799.91 0.3596 0.1410

Mars -96567-04-03 05:01 J -33549581.42 -33549581.29 -33549581.17 0.1610 0.0703

Venus -96566-03-14 09:06 J -33549236.22 -33549236.12 -33549236.02 0.3772 0.1785

Mars -96564-01-18 19:25 J -33548559.83 -33548559.69 -33548559.56 0.1917 0.0072

Jupiter -96564-05-14 06:42 J -33548444.33 -33548444.22 -33548444.11 0.0516 0.0318

Jupiter -96564-08-11 18:42 J -33548354.85 -33548354.72 -33548354.58 0.0512 0.0147

Venus -96562-03-13 11:44 J -33547776.15 -33547776.01 -33547775.88 0.3599 0.0174

Venus -96561-09-27 04:03 J -33547212.40 -33547212.33 -33547212.25 0.3769 0.2723

Mars -96560-09-17 20:08 J -33546856.71 -33546856.66 -33546856.61 0.1610 0.1498

Earth -96558-07-22 23:44 J -33546183.60 -33546183.51 -33546183.43 0.2631 0.1933

Moon -96558-07-23 00:42 J -33546183.55 -33546183.47 -33546183.39 0.2631 0.1954 *

Mars -96558-08-24 12:27 J -33546151.12 -33546150.98 -33546150.84 0.1609 0.0255

Jupiter -96558-10-11 23:01 J -33546102.68 -33546102.54 -33546102.40 0.0512 0.0262

Jupiter -96557-01-09 20:23 J -33546012.78 -33546012.65 -33546012.51 0.0516 0.0268

Venus -96557-09-26 11:59 J -33545752.13 -33545752.00 -33545751.87 0.3602 0.1029

Venus -96555-04-12 23:30 J -33545188.54 -33545188.52 -33545188.50 0.3765 0.3687

Mars -96555-06-10 22:18 J -33545129.69 -33545129.57 -33545129.45 0.1916 0.0863

Saturn -96555-12-01 03:06 J -33544956.46 -33544956.37 -33544956.28 0.0275 0.0227

Moon -96554-01-06 06:27 J -33544920.33 -33544920.23 -33544920.13 0.2712 0.1805

Earth -96554-01-06 06:27 J -33544920.33 -33544920.23 -33544920.13 0.2719 0.1727 *

Saturn -96554-02-27 19:11 J -33544867.84 -33544867.70 -33544867.56 0.0275 0.0137

Saturn -96554-05-27 11:01 J -33544779.20 -33544779.04 -33544778.89 0.0275 0.0049

Saturn -96554-08-24 02:23 J -33544690.56 -33544690.40 -33544690.25 0.0275 0.0038

Saturn -96554-11-20 17:15 J -33544601.91 -33544601.78 -33544601.64 0.0275 0.0123

Saturn -96553-02-17 07:54 J -33544513.26 -33544513.17 -33544513.06 0.0275 0.0206

Jupiter -96552-03-02 08:37 J -33544134.21 -33544134.14 -33544134.07 0.0517 0.0443

Jupiter -96552-05-30 20:23 J -33544044.79 -33544044.65 -33544044.50 0.0514 0.0024

Jupiter -96552-08-28 09:20 J -33543955.14 -33543955.11 -33543955.07 0.0510 0.0492

Venus -96551-04-12 11:44 J -33543728.12 -33543728.01 -33543727.91 0.3605 0.2164

Moon -96551-07-15 13:25 J -33543634.03 -33543633.94 -33543633.84 0.2625 0.1725

Earth -96551-07-15 13:54 J -33543634.01 -33543633.92 -33543633.82 0.2620 0.1659 *

Mars -96548-01-13 20:08 J -33542720.80 -33542720.66 -33542720.52 0.1609 0.0183

Jupiter -96546-07-30 22:32 J -33541792.66 -33541792.56 -33541792.46 0.0511 0.0398

Venus -96546-10-27 11:01 J -33541704.10 -33541704.04 -33541703.99 0.3609 0.3250

Jupiter -96546-10-28 20:37 J -33541702.80 -33541702.64 -33541702.49 0.0515 0.0134

Mars -96546-11-01 00:56 J -33541699.52 -33541699.46 -33541699.39 0.1916 0.1675

Uranus -96544-02-12 23:15 J -33541229.54 -33541229.53 -33541229.52 0.0143 0.0142

Uranus -96544-05-12 03:49 J -33541141.41 -33541141.34 -33541141.26 0.0143 0.0123

Uranus -96544-08-08 08:51 J -33541053.24 -33541053.13 -33541053.03 0.0143 0.0103

Mars -96544-10-07 12:13 J -33540993.07 -33540992.99 -33540992.91 0.1915 0.1532

Uranus -96544-11-04 13:25 J -33540965.06 -33540964.94 -33540964.81 0.0143 0.0083

Uranus -96543-01-31 18:27 J -33540876.87 -33540876.73 -33540876.59 0.0143 0.0062

Uranus -96543-04-29 23:15 J -33540788.67 -33540788.53 -33540788.38 0.0144 0.0042

Venus -96543-07-21 16:47 J -33540705.86 -33540705.80 -33540705.74 0.3788 0.3113

Uranus -96543-07-27 04:18 J -33540700.47 -33540700.32 -33540700.16 0.0144 0.0021

Uranus -96543-10-23 09:20 J -33540612.26 -33540612.11 -33540611.95 0.0144 0.0004

Uranus -96542-01-19 14:23 J -33540524.05 -33540523.90 -33540523.74 0.0144 0.0023

Uranus -96542-04-17 19:39 J -33540435.83 -33540435.68 -33540435.53 0.0144 0.0044

Uranus -96542-07-15 00:42 J -33540347.60 -33540347.47 -33540347.32 0.0144 0.0067

Uranus -96542-10-11 05:59 J -33540259.36 -33540259.25 -33540259.12 0.0144 0.0089

Uranus -96541-01-07 11:15 J -33540171.12 -33540171.03 -33540170.92 0.0144 0.0111

Moon -96541-01-09 05:01 J -33540169.42 -33540169.29 -33540169.15 0.2711 0.0169

Earth -96541-01-09 05:59 J -33540169.38 -33540169.25 -33540169.12 0.2715 0.0137 *

Uranus -96541-04-04 16:32 J -33540082.86 -33540082.81 -33540082.74 0.0145 0.0134

Jupiter -96540-03-18 23:01 J -33539734.68 -33539734.54 -33539734.40 0.0515 0.0097

Jupiter -96540-06-16 11:44 J -33539645.11 -33539645.01 -33539644.91 0.0511 0.0374

Saturn -96540-09-12 06:42 J -33539557.28 -33539557.22 -33539557.16 0.0284 0.0259

Saturn -96540-12-09 21:49 J -33539468.71 -33539468.59 -33539468.47 0.0284 0.0170

Saturn -96539-03-08 13:25 J -33539380.09 -33539379.94 -33539379.80 0.0284 0.0079

Saturn -96539-06-05 05:01 J -33539291.44 -33539291.29 -33539291.13 0.0284 0.0017

Mars -96539-06-06 04:03 J -33539290.46 -33539290.33 -33539290.20 0.1609 0.0613

Saturn -96539-09-01 21:20 J -33539202.75 -33539202.61 -33539202.47 0.0284 0.0110

Saturn -96539-11-29 13:54 J -33539114.02 -33539113.92 -33539113.81 0.0284 0.0208

Earth -96538-07-18 11:01 J -33538883.16 -33538883.04 -33538882.91 0.2624 0.0359

Moon -96538-07-18 11:30 J -33538883.15 -33538883.02 -33538882.90 0.2631 0.0291 *

Venus -96537-02-04 10:47 J -33538682.13 -33538682.05 -33538681.96 0.3786 0.2310

Mars -96537-05-11 21:49 J -33538584.68 -33538584.59 -33538584.49 0.1610 0.1221

Mars -96534-02-27 16:03 J -33537562.95 -33537562.83 -33537562.71 0.1916 0.0788

Jupiter -96534-08-16 19:54 J -33537392.83 -33537392.67 -33537392.51 0.0514 0.0008

Jupiter -96534-11-14 16:32 J -33537302.82 -33537302.81 -33537302.79 0.0518 0.0513

Venus -96532-08-20 05:01 J -33536658.39 -33536658.29 -33536658.19 0.3783 0.1493

Mars -96530-10-27 11:59 J -33535860.10 -33535860.00 -33535859.89 0.1609 0.1035

Jupiter -96528-01-05 02:08 J -33535424.54 -33535424.41 -33535424.28 0.0516 0.0207

Moon -96528-01-11 04:32 J -33535418.42 -33535418.31 -33535418.19 0.2709 0.1340

Earth -96528-01-11 05:44 J -33535418.37 -33535418.26 -33535418.15 0.2710 0.1496 *

Jupiter -96528-04-04 14:23 J -33535335.02 -33535334.90 -33535334.77 0.0512 0.0262

Mars -96528-10-02 05:15 J -33535154.41 -33535154.28 -33535154.16 0.1610 0.0762

Venus -96526-03-05 23:15 J -33534634.64 -33534634.53 -33534634.42 0.3781 0.0637

Saturn -96525-04-19 04:47 J -33534224.36 -33534224.30 -33534224.23 0.0275 0.0249

Saturn -96525-07-16 20:51 J -33534135.76 -33534135.63 -33534135.50 0.0275 0.0159

Mars -96525-07-19 19:25 J -33534132.83 -33534132.69 -33534132.56 0.1917 0.0019

Earth -96525-07-20 08:08 J -33534132.28 -33534132.16 -33534132.04 0.2628 0.0936

Moon -96525-07-20 08:51 J -33534132.24 -33534132.13 -33534132.01 0.2631 0.0958 *

Saturn -96525-10-13 12:42 J -33534047.12 -33534046.97 -33534046.82 0.0274 0.0070

Saturn -96524-01-10 04:03 J -33533958.49 -33533958.33 -33533958.17 0.0274 0.0017

Saturn -96524-04-08 19:11 J -33533869.84 -33533869.70 -33533869.56 0.0274 0.0101

Saturn -96524-07-06 09:49 J -33533781.20 -33533781.09 -33533780.97 0.0274 0.0185

Saturn -96524-10-03 00:13 J -33533692.52 -33533692.49 -33533692.45 0.0274 0.0265

Jupiter -96522-06-04 20:08 J -33533082.81 -33533082.66 -33533082.50 0.0513 0.0139

Jupiter -96522-09-02 17:15 J -33532992.88 -33532992.78 -33532992.67 0.0517 0.0387

Venus -96521-09-18 17:44 J -33532610.87 -33532610.76 -33532610.65 0.3778 0.0231

Mars -96520-03-18 20:08 J -33532429.71 -33532429.66 -33532429.60 0.1610 0.1449

Mars -96518-02-22 12:42 J -33531724.11 -33531723.97 -33531723.84 0.1609 0.0312

Venus -96517-09-17 10:03 J -33531151.18 -33531151.08 -33531150.97 0.3594 0.2325

Jupiter -96517-10-24 04:47 J -33531114.41 -33531114.30 -33531114.19 0.0516 0.0320

Jupiter -96516-01-21 17:01 J -33531024.93 -33531024.79 -33531024.65 0.0512 0.0145

Mars -96516-12-09 22:32 J -33530702.68 -33530702.56 -33530702.44 0.1917 0.0787

Venus -96515-04-04 12:27 J -33530587.09 -33530586.98 -33530586.87 0.3775 0.1132

Neptune -96515-09-26 04:47 J -33530412.31 -33530412.30 -33530412.27 0.0089 0.0088

Neptune -96515-12-23 06:27 J -33530324.26 -33530324.23 -33530324.17 0.0089 0.0084

Neptune -96514-03-21 08:08 J -33530236.21 -33530236.16 -33530236.08 0.0089 0.0080

Neptune -96514-06-17 10:03 J -33530148.15 -33530148.08 -33530148.00 0.0089 0.0075

Neptune -96514-09-13 11:44 J -33530060.09 -33530060.01 -33530059.92 0.0089 0.0071

Neptune -96514-12-10 13:25 J -33529972.03 -33529971.94 -33529971.84 0.0089 0.0067

Neptune -96513-03-07 15:06 J -33529883.96 -33529883.87 -33529883.76 0.0089 0.0063

Neptune -96513-06-03 16:47 J -33529795.90 -33529795.80 -33529795.68 0.0089 0.0059

Neptune -96513-08-30 18:42 J -33529707.83 -33529707.72 -33529707.60 0.0089 0.0054

Neptune -96513-11-26 20:23 J -33529619.76 -33529619.65 -33529619.52 0.0089 0.0050

Neptune -96512-02-22 22:03 J -33529531.69 -33529531.58 -33529531.45 0.0089 0.0046

Neptune -96512-05-21 23:44 J -33529443.63 -33529443.51 -33529443.37 0.0089 0.0042

Earth -96512-07-23 04:47 J -33529381.36 -33529381.30 -33529381.23 0.2632 0.2196

Moon -96512-07-23 05:44 J -33529381.31 -33529381.26 -33529381.20 0.2631 0.2364 *

Neptune -96512-08-18 01:39 J -33529355.56 -33529355.43 -33529355.29 0.0089 0.0037

Neptune -96512-11-14 03:20 J -33529267.49 -33529267.36 -33529267.21 0.0089 0.0033

Neptune -96511-02-10 05:15 J -33529179.42 -33529179.28 -33529179.14 0.0089 0.0028

Venus -96511-04-03 11:01 J -33529127.17 -33529127.04 -33529126.91 0.3596 0.1049

Neptune -96511-05-09 07:11 J -33529091.34 -33529091.20 -33529091.06 0.0089 0.0024

Neptune -96511-08-05 08:51 J -33529003.27 -33529003.13 -33529002.98 0.0089 0.0020

Neptune -96511-11-01 10:47 J -33528915.20 -33528915.05 -33528914.91 0.0089 0.0015

Neptune -96510-01-28 12:27 J -33528827.12 -33528826.98 -33528826.83 0.0089 0.0011

Jupiter -96510-03-23 20:37 J -33528772.78 -33528772.64 -33528772.51 0.0513 0.0268

Neptune -96510-04-26 14:23 J -33528739.05 -33528738.90 -33528738.75 0.0089 0.0006

Saturn -96510-04-28 21:49 J -33528736.69 -33528736.59 -33528736.48 0.0284 0.0204

Jupiter -96510-06-21 18:13 J -33528682.88 -33528682.74 -33528682.61 0.0516 0.0262

Neptune -96510-07-23 16:18 J -33528650.97 -33528650.82 -33528650.68 0.0089 0.0003

Saturn -96510-07-26 13:25 J -33528648.08 -33528647.94 -33528647.80 0.0284 0.0113

Venus -96510-10-19 07:25 J -33528563.28 -33528563.19 -33528563.10 0.3771 0.2048

Neptune -96510-10-19 17:59 J -33528562.90 -33528562.75 -33528562.60 0.0089 0.0003

Saturn -96510-10-23 05:01 J -33528559.44 -33528559.29 -33528559.14 0.0285 0.0020

Neptune -96509-01-15 19:54 J -33528474.82 -33528474.67 -33528474.52 0.0089 0.0007

Saturn -96509-01-19 21:06 J -33528470.77 -33528470.62 -33528470.47 0.0285 0.0075

Neptune -96509-04-12 21:35 J -33528386.74 -33528386.60 -33528386.45 0.0089 0.0012

Saturn -96509-04-17 13:25 J -33528382.06 -33528381.94 -33528381.81 0.0285 0.0173

Neptune -96509-07-09 23:30 J -33528298.66 -33528298.52 -33528298.37 0.0089 0.0016

Mars -96509-07-14 20:23 J -33528293.79 -33528293.65 -33528293.51 0.1609 0.0127

Saturn -96509-07-15 06:13 J -33528293.28 -33528293.24 -33528293.19 0.0285 0.0272

Neptune -96509-10-06 01:25 J -33528210.58 -33528210.44 -33528210.29 0.0089 0.0020

Neptune -96508-01-02 03:20 J -33528122.50 -33528122.36 -33528122.22 0.0089 0.0025

Moon -96508-01-06 11:59 J -33528118.12 -33528118.00 -33528117.89 0.2712 0.1344

Earth -96508-01-06 11:59 J -33528118.11 -33528118.00 -33528117.89 0.2719 0.1413 *

Neptune -96508-03-31 05:01 J -33528034.42 -33528034.29 -33528034.14 0.0089 0.0030

Neptune -96508-06-27 06:56 J -33527946.34 -33527946.21 -33527946.07 0.0089 0.0034

Neptune -96508-09-23 08:51 J -33527858.26 -33527858.13 -33527857.99 0.0089 0.0039

Neptune -96508-12-20 10:47 J -33527770.18 -33527770.05 -33527769.91 0.0089 0.0043

Neptune -96507-03-18 12:42 J -33527682.09 -33527681.97 -33527681.84 0.0089 0.0048

Neptune -96507-06-14 14:23 J -33527594.01 -33527593.90 -33527593.76 0.0089 0.0053

Neptune -96507-09-10 16:32 J -33527505.92 -33527505.81 -33527505.69 0.0089 0.0057

Neptune -96507-12-07 18:27 J -33527417.83 -33527417.73 -33527417.61 0.0089 0.0062

Neptune -96506-03-05 20:37 J -33527329.74 -33527329.64 -33527329.54 0.0089 0.0066

Mars -96506-05-02 01:25 J -33527272.52 -33527272.44 -33527272.37 0.1916 0.1602

Neptune -96506-06-01 22:18 J -33527241.65 -33527241.57 -33527241.47 0.0089 0.0071

Neptune -96506-08-29 00:13 J -33527153.55 -33527153.49 -33527153.40 0.0089 0.0076

Venus -96506-10-18 11:30 J -33527103.15 -33527103.02 -33527102.88 0.3600 0.0190

Neptune -96506-11-25 02:37 J -33527065.46 -33527065.39 -33527065.33 0.0089 0.0080

Neptune -96505-02-21 04:18 J -33526977.35 -33526977.32 -33526977.27 0.0089 0.0085

Uranus -96505-07-11 17:15 J -33526835.84 -33526835.78 -33526835.70 0.0136 0.0122

Moon -96505-07-15 18:56 J -33526831.81 -33526831.71 -33526831.60 0.2627 0.1431

Earth -96505-07-15 19:11 J -33526831.80 -33526831.70 -33526831.59 0.2621 0.1381 *

Jupiter -96505-08-12 07:25 J -33526804.26 -33526804.19 -33526804.11 0.0517 0.0436

Uranus -96505-10-07 22:18 J -33526747.66 -33526747.57 -33526747.45 0.0136 0.0103

Jupiter -96505-11-09 19:25 J -33526714.84 -33526714.69 -33526714.55 0.0513 0.0029

Uranus -96504-01-04 03:49 J -33526659.47 -33526659.34 -33526659.21 0.0136 0.0083

Jupiter -96504-02-07 08:23 J -33526625.18 -33526625.15 -33526625.13 0.0510 0.0498

Uranus -96504-04-02 08:51 J -33526571.27 -33526571.13 -33526570.98 0.0135 0.0064

Mars -96504-04-07 12:27 J -33526566.05 -33526565.98 -33526565.91 0.1916 0.1603

Venus -96504-05-04 02:37 J -33526539.46 -33526539.39 -33526539.32 0.3768 0.2991

Uranus -96504-06-29 13:54 J -33526483.07 -33526482.92 -33526482.76 0.0135 0.0045

Uranus -96504-09-25 18:56 J -33526394.87 -33526394.71 -33526394.55 0.0135 0.0026

Uranus -96504-12-22 23:59 J -33526306.66 -33526306.50 -33526306.34 0.0135 0.0007

Uranus -96503-03-21 05:01 J -33526218.46 -33526218.29 -33526218.13 0.0135 0.0012

Uranus -96503-06-17 09:49 J -33526130.25 -33526130.09 -33526129.93 0.0135 0.0030

Uranus -96503-09-13 14:37 J -33526042.04 -33526041.89 -33526041.74 0.0135 0.0048

Uranus -96503-12-10 19:11 J -33525953.83 -33525953.70 -33525953.55 0.0135 0.0066

Uranus -96502-03-08 23:59 J -33525865.62 -33525865.50 -33525865.37 0.0134 0.0084

Uranus -96502-06-05 04:32 J -33525777.40 -33525777.31 -33525777.20 0.0134 0.0102

Uranus -96502-09-01 09:06 J -33525689.18 -33525689.12 -33525689.03 0.0134 0.0119

Venus -96500-05-03 11:44 J -33525079.14 -33525079.01 -33525078.89 0.3603 0.1362

Mars -96500-12-05 04:18 J -33524863.45 -33524863.32 -33524863.19 0.1609 0.0556

Jupiter -96498-01-09 20:51 J -33524462.73 -33524462.63 -33524462.53 0.0511 0.0398

Jupiter -96498-04-09 18:42 J -33524372.87 -33524372.72 -33524372.56 0.0515 0.0135

Mars -96498-11-10 22:18 J -33524157.66 -33524157.57 -33524157.49 0.1610 0.1282

Saturn -96496-12-03 21:49 J -33523403.71 -33523403.59 -33523403.47 0.0275 0.0185

Moon -96495-01-09 10:32 J -33523367.19 -33523367.06 -33523366.93 0.2710 0.0043

Earth -96495-01-09 11:30 J -33523367.15 -33523367.02 -33523366.89 0.2714 0.0197 *

Saturn -96495-03-02 13:39 J -33523315.07 -33523314.93 -33523314.78 0.0275 0.0096

Saturn -96495-05-30 05:15 J -33523226.44 -33523226.28 -33523226.12 0.0275 0.0009

Saturn -96495-08-26 20:23 J -33523137.79 -33523137.65 -33523137.50 0.0275 0.0078

Mars -96495-08-28 16:18 J -33523135.93 -33523135.82 -33523135.70 0.1916 0.0863

Venus -96495-11-17 11:15 J -33523055.13 -33523055.03 -33523054.94 0.3606 0.2476

Saturn -96495-11-23 11:15 J -33523049.15 -33523049.03 -33523048.90 0.0275 0.0162

Saturn -96494-02-20 02:08 J -33522960.48 -33522960.41 -33522960.35 0.0275 0.0243

Jupiter -96493-08-28 21:06 J -33522404.76 -33522404.62 -33522404.48 0.0515 0.0100

Jupiter -96493-11-26 09:49 J -33522315.19 -33522315.09 -33522314.99 0.0511 0.0370

Earth -96492-07-18 16:32 J -33522080.94 -33522080.81 -33522080.69 0.2625 0.0108

Moon -96492-07-18 16:47 J -33522080.93 -33522080.80 -33522080.67 0.2631 0.0063 *

Venus -96492-08-11 21:06 J -33522056.65 -33522056.62 -33522056.60 0.3790 0.3656

Mars -96490-04-27 12:13 J -33521433.10 -33521432.99 -33521432.88 0.1609 0.0981

Venus -96489-06-02 10:32 J -33521031.08 -33521031.06 -33521031.04 0.3610 0.3548

Mars -96488-04-02 05:30 J -33520727.39 -33520727.27 -33520727.15 0.1610 0.0820

Jupiter -96486-01-26 18:42 J -33520062.88 -33520062.72 -33520062.56 0.0514 0.0010

Venus -96486-02-25 14:51 J -33520032.95 -33520032.88 -33520032.81 0.3788 0.2874

Mars -96485-01-18 19:39 J -33519705.81 -33519705.68 -33519705.54 0.1917 0.0099

Moon -96482-01-12 10:18 J -33518616.17 -33518616.07 -33518615.97 0.2710 0.1774

Earth -96482-01-12 11:15 J -33518616.12 -33518616.03 -33518615.93 0.2710 0.1830 *

Jupiter -96481-06-16 23:44 J -33518094.64 -33518094.51 -33518094.38 0.0516 0.0216

Venus -96481-09-10 08:51 J -33518009.22 -33518009.13 -33518009.04 0.3785 0.2071

Jupiter -96481-09-14 11:59 J -33518005.12 -33518005.00 -33518004.87 0.0512 0.0253

Saturn -96481-09-15 01:25 J -33518004.54 -33518004.44 -33518004.35 0.0284 0.0216

Mars -96481-09-16 20:23 J -33518002.71 -33518002.65 -33518002.58 0.1610 0.1395

Saturn -96481-12-12 16:32 J -33517915.94 -33517915.81 -33517915.67 0.0284 0.0126

Saturn -96480-03-11 08:23 J -33517827.31 -33517827.15 -33517827.00 0.0284 0.0035

Saturn -96480-06-08 00:13 J -33517738.64 -33517738.49 -33517738.34 0.0284 0.0061

Saturn -96480-09-04 16:32 J -33517649.93 -33517649.81 -33517649.68 0.0284 0.0158

Saturn -96480-12-02 09:20 J -33517561.17 -33517561.11 -33517561.04 0.0284 0.0257

Earth -96479-07-21 13:25 J -33517330.05 -33517329.94 -33517329.83 0.2629 0.1211

Moon -96479-07-21 14:23 J -33517330.01 -33517329.90 -33517329.80 0.2630 0.1355 *

Mars -96479-08-23 12:56 J -33517297.10 -33517296.96 -33517296.82 0.1609 0.0371

Mars -96476-06-09 22:47 J -33516275.68 -33516275.55 -33516275.42 0.1917 0.0715

Earth -96475-01-04 18:27 J -33516066.76 -33516066.73 -33516066.71 0.2723 0.2647

Moon -96475-01-04 18:42 J -33516066.75 -33516066.72 -33516066.68 0.2715 0.2569 *

Venus -96475-03-27 03:06 J -33515985.47 -33515985.37 -33515985.27 0.3783 0.1237

Jupiter -96475-11-14 17:59 J -33515752.91 -33515752.75 -33515752.60 0.0513 0.0144

Jupiter -96474-02-12 15:06 J -33515662.98 -33515662.87 -33515662.77 0.0517 0.0381

Moon -96472-07-14 02:23 J -33514780.42 -33514780.40 -33514780.38 0.2620 0.2582

Earth -96472-07-14 03:20 J -33514780.41 -33514780.36 -33514780.32 0.2617 0.2430 *

Venus -96470-10-10 21:20 J -33513961.72 -33513961.61 -33513961.50 0.3780 0.0415

Mars -96469-01-13 20:37 J -33513866.78 -33513866.64 -33513866.50 0.1609 0.0070

Jupiter -96469-04-05 02:51 J -33513784.49 -33513784.38 -33513784.27 0.0517 0.0326

Jupiter -96469-07-03 14:51 J -33513695.02 -33513694.88 -33513694.74 0.0513 0.0141

Mars -96467-10-31 01:25 J -33512845.52 -33512845.44 -33512845.36 0.1917 0.1535

Saturn -96466-04-22 23:59 J -33512671.61 -33512671.50 -33512671.40 0.0275 0.0205

Saturn -96466-07-20 15:49 J -33512582.98 -33512582.84 -33512582.69 0.0275 0.0116

Earth -96466-07-24 10:03 J -33512579.12 -33512579.08 -33512579.04 0.2633 0.2465

Moon -96466-07-24 11:01 J -33512579.08 -33512579.04 -33512579.00 0.2631 0.2476 *

Venus -96466-10-09 08:37 J -33512502.19 -33512502.14 -33512502.08 0.3592 0.3270

Saturn -96466-10-17 07:25 J -33512494.34 -33512494.19 -33512494.03 0.0274 0.0028

Saturn -96465-01-13 22:47 J -33512405.70 -33512405.55 -33512405.40 0.0274 0.0058

Saturn -96465-04-11 13:39 J -33512317.06 -33512316.93 -33512316.80 0.0274 0.0143

Saturn -96465-07-09 04:18 J -33512228.40 -33512228.32 -33512228.23 0.0274 0.0224

Mars -96465-10-06 12:42 J -33512139.03 -33512138.97 -33512138.91 0.1915 0.1673

Venus -96464-04-25 16:03 J -33511937.94 -33511937.83 -33511937.72 0.3777 0.0491

Jupiter -96463-09-02 17:59 J -33511442.89 -33511442.75 -33511442.61 0.0512 0.0276

Jupiter -96463-12-01 15:35 J -33511352.98 -33511352.85 -33511352.71 0.0516 0.0253

Moon -96462-01-07 17:15 J -33511315.90 -33511315.78 -33511315.66 0.2712 0.1180

Earth -96462-01-07 17:44 J -33511315.88 -33511315.76 -33511315.64 0.2718 0.1088 *

Uranus -96460-03-05 06:42 J -33510528.25 -33510528.22 -33510528.16 0.0143 0.0136

Venus -96460-04-24 10:03 J -33510478.19 -33510478.08 -33510477.96 0.3594 0.1948

Uranus -96460-06-01 11:30 J -33510440.09 -33510440.02 -33510439.92 0.0143 0.0116

Mars -96460-06-05 04:32 J -33510436.45 -33510436.31 -33510436.18 0.1609 0.0507

Uranus -96460-08-28 16:18 J -33510351.92 -33510351.82 -33510351.70 0.0143 0.0097

Uranus -96460-11-24 21:20 J -33510263.74 -33510263.61 -33510263.48 0.0143 0.0076

Uranus -96459-02-21 02:08 J -33510175.54 -33510175.41 -33510175.26 0.0143 0.0055

Uranus -96459-05-20 07:11 J -33510087.35 -33510087.20 -33510087.05 0.0144 0.0034

Moon -96459-07-17 00:27 J -33510029.59 -33510029.48 -33510029.36 0.2628 0.1072

Earth -96459-07-17 00:42 J -33510029.59 -33510029.47 -33510029.36 0.2621 0.1101 *

Uranus -96459-08-16 12:13 J -33509999.14 -33509998.99 -33509998.84 0.0144 0.0013

Venus -96459-11-09 10:47 J -33509914.15 -33509914.05 -33509913.94 0.3773 0.1390

Uranus -96459-11-12 17:15 J -33509910.93 -33509910.78 -33509910.63 0.0144 0.0008

Uranus -96458-02-08 22:18 J -33509822.72 -33509822.57 -33509822.42 0.0144 0.0030

Uranus -96458-05-08 03:35 J -33509734.50 -33509734.35 -33509734.21 0.0144 0.0051

Mars -96458-05-11 22:18 J -33509730.64 -33509730.57 -33509730.49 0.1610 0.1337

Uranus -96458-08-04 08:37 J -33509646.27 -33509646.14 -33509646.00 0.0144 0.0073

Uranus -96458-10-31 13:54 J -33509558.03 -33509557.92 -33509557.80 0.0144 0.0096

Jupiter -96457-01-23 05:44 J -33509474.33 -33509474.26 -33509474.19 0.0517 0.0437

Uranus -96457-01-27 19:11 J -33509469.78 -33509469.70 -33509469.60 0.0145 0.0118

Jupiter -96457-04-21 17:30 J -33509384.91 -33509384.77 -33509384.62 0.0514 0.0026

Uranus -96457-04-25 00:27 J -33509381.50 -33509381.48 -33509381.43 0.0145 0.0141

Jupiter -96457-07-20 06:27 J -33509295.26 -33509295.23 -33509295.20 0.0510 0.0496

Mars -96455-02-26 16:32 J -33508708.93 -33508708.81 -33508708.70 0.1917 0.0926

Venus -96455-11-08 11:01 J -33508454.18 -33508454.04 -33508453.91 0.3597 0.0696

Venus -96453-05-25 05:44 J -33507890.34 -33507890.26 -33507890.17 0.3770 0.2320

Saturn -96451-02-02 01:25 J -33507272.50 -33507272.44 -33507272.37 0.0284 0.0249

Saturn -96451-05-01 16:47 J -33507183.93 -33507183.80 -33507183.68 0.0284 0.0160

Jupiter -96451-06-21 18:13 J -33507132.84 -33507132.74 -33507132.64 0.0512 0.0406

Saturn -96451-07-29 08:08 J -33507095.30 -33507095.16 -33507095.01 0.0284 0.0068

Jupiter -96451-09-19 16:18 J -33507042.97 -33507042.82 -33507042.66 0.0515 0.0127

Saturn -96451-10-25 23:59 J -33507006.65 -33507006.50 -33507006.34 0.0285 0.0027

Mars -96451-10-26 12:27 J -33507006.09 -33507005.98 -33507005.87 0.1609 0.0926

Saturn -96450-01-22 16:18 J -33506917.96 -33506917.82 -33506917.68 0.0285 0.0122

Saturn -96450-04-21 08:51 J -33506829.23 -33506829.13 -33506829.03 0.0285 0.0221

Moon -96449-01-10 16:03 J -33506564.96 -33506564.83 -33506564.70 0.2710 0.0508

Earth -96449-01-10 17:15 J -33506564.91 -33506564.78 -33506564.65 0.2714 0.0521 *

Venus -96449-05-24 11:30 J -33506430.16 -33506430.02 -33506429.89 0.3600 0.0540

Mars -96449-10-01 05:44 J -33506300.38 -33506300.26 -33506300.14 0.1610 0.0879

Venus -96448-12-09 01:11 J -33505866.51 -33505866.45 -33505866.40 0.3766 0.3267

Pluto -96447-01-06 23:01 J -33505837.59 -33505837.54 -33505837.43 0.0060 0.0055

Pluto -96447-04-05 00:27 J -33505749.57 -33505749.48 -33505749.34 0.0060 0.0048

Pluto -96447-07-02 02:08 J -33505661.53 -33505661.41 -33505661.25 0.0060 0.0041

Pluto -96447-09-28 03:49 J -33505573.49 -33505573.34 -33505573.17 0.0060 0.0034

Pluto -96447-12-25 05:30 J -33505485.45 -33505485.27 -33505485.09 0.0060 0.0027

Pluto -96446-03-23 06:56 J -33505397.39 -33505397.21 -33505397.02 0.0060 0.0021

Pluto -96446-06-19 08:08 J -33505309.34 -33505309.16 -33505308.95 0.0060 0.0014

Mars -96446-07-19 20:08 J -33505278.80 -33505278.66 -33505278.53 0.1917 0.0168

Earth -96446-07-19 21:49 J -33505278.72 -33505278.59 -33505278.47 0.2625 0.0220 *

Moon -96446-07-19 22:18 J -33505278.70 -33505278.57 -33505278.45 0.2630 0.0262 *

Pluto -96446-09-15 09:49 J -33505221.28 -33505221.09 -33505220.89 0.0060 0.0007

Pluto -96446-12-12 11:30 J -33505133.22 -33505133.02 -33505132.82 0.0060 0.0001

Jupiter -96445-02-08 20:08 J -33505074.80 -33505074.66 -33505074.52 0.0514 0.0092

Pluto -96445-03-09 12:42 J -33505045.16 -33505044.97 -33505044.76 0.0060 0.0008

Jupiter -96445-05-08 08:37 J -33504985.23 -33504985.14 -33504985.04 0.0511 0.0378

Pluto -96445-06-05 14:08 J -33504957.09 -33504956.91 -33504956.70 0.0060 0.0015

Pluto -96445-09-01 15:35 J -33504869.02 -33504868.85 -33504868.65 0.0061 0.0022

Pluto -96445-11-28 17:30 J -33504780.95 -33504780.77 -33504780.60 0.0061 0.0028

Pluto -96444-02-24 18:56 J -33504692.87 -33504692.71 -33504692.55 0.0061 0.0035

Pluto -96444-05-23 19:54 J -33504604.78 -33504604.67 -33504604.50 0.0061 0.0043

Pluto -96444-08-19 21:20 J -33504516.69 -33504516.61 -33504516.47 0.0061 0.0050

Pluto -96444-11-15 23:01 J -33504428.58 -33504428.54 -33504428.45 0.0061 0.0057

Venus -96444-12-08 11:15 J -33504406.15 -33504406.03 -33504405.91 0.3604 0.1685

Mars -96441-03-17 20:37 J -33503575.71 -33503575.64 -33503575.56 0.1610 0.1341

Mars -96439-02-21 13:11 J -33502870.08 -33502869.95 -33502869.81 0.1609 0.0431

Jupiter -96439-07-08 17:01 J -33502732.95 -33502732.79 -33502732.63 0.0514 0.0014

Venus -96438-06-24 10:47 J -33502382.13 -33502382.05 -33502381.97 0.3607 0.2789

Saturn -96437-09-09 00:13 J -33501939.56 -33501939.49 -33501939.40 0.0275 0.0234

Saturn -96437-12-06 16:32 J -33501850.94 -33501850.81 -33501850.68 0.0275 0.0143

Mars -96437-12-08 23:01 J -33501848.66 -33501848.54 -33501848.41 0.1917 0.0641

Moon -96436-01-12 15:49 J -33501813.93 -33501813.84 -33501813.75 0.2712 0.1971

Earth -96436-01-12 17:01 J -33501813.87 -33501813.79 -33501813.71 0.2709 0.2163 *

Saturn -96436-03-05 08:23 J -33501762.31 -33501762.15 -33501762.00 0.0275 0.0055

Saturn -96436-06-01 23:44 J -33501673.67 -33501673.51 -33501673.36 0.0275 0.0032

Saturn -96436-08-29 14:37 J -33501585.02 -33501584.89 -33501584.74 0.0275 0.0118

Saturn -96436-11-26 05:30 J -33501496.37 -33501496.27 -33501496.16 0.0274 0.0200

Venus -96435-03-18 19:11 J -33501383.75 -33501383.70 -33501383.66 0.3789 0.3421

Jupiter -96434-11-27 21:49 J -33500764.71 -33500764.59 -33500764.46 0.0516 0.0218

Jupiter -96433-02-25 10:18 J -33500675.20 -33500675.07 -33500674.95 0.0512 0.0250

Earth -96433-07-21 18:42 J -33500527.83 -33500527.72 -33500527.62 0.2629 0.1483

Moon -96433-07-21 19:39 J -33500527.78 -33500527.68 -33500527.58 0.2631 0.1537 *

Neptune -96432-09-25 14:37 J -33500096.94 -33500096.89 -33500096.84 0.0089 0.0084

Neptune -96432-12-22 17:01 J -33500008.85 -33500008.79 -33500008.70 0.0089 0.0079

Neptune -96431-03-20 19:54 J -33499920.75 -33499920.67 -33499920.56 0.0089 0.0074

Neptune -96431-06-16 22:32 J -33499832.65 -33499832.56 -33499832.44 0.0089 0.0069

Neptune -96431-09-13 01:39 J -33499744.55 -33499744.43 -33499744.31 0.0089 0.0063

Neptune -96431-12-10 04:03 J -33499656.45 -33499656.33 -33499656.19 0.0089 0.0058

Neptune -96430-03-08 06:56 J -33499568.34 -33499568.21 -33499568.07 0.0089 0.0053

Neptune -96430-06-04 09:35 J -33499480.24 -33499480.10 -33499479.95 0.0089 0.0047

Mars -96430-07-14 20:51 J -33499439.77 -33499439.63 -33499439.49 0.1609 0.0019

Neptune -96430-08-31 12:13 J -33499392.13 -33499391.99 -33499391.83 0.0089 0.0042

Venus -96430-10-02 12:56 J -33499360.04 -33499359.96 -33499359.88 0.3787 0.2635

Neptune -96430-11-27 15:06 J -33499304.02 -33499303.87 -33499303.71 0.0089 0.0037

Earth -96429-01-05 23:59 J -33499264.57 -33499264.50 -33499264.44 0.2722 0.2331

Moon -96429-01-06 00:13 J -33499264.55 -33499264.49 -33499264.42 0.2715 0.2300 *

Neptune -96429-02-23 17:44 J -33499215.92 -33499215.76 -33499215.60 0.0088 0.0032

Neptune -96429-05-21 20:23 J -33499127.81 -33499127.65 -33499127.48 0.0088 0.0027

Neptune -96429-08-17 23:01 J -33499039.70 -33499039.54 -33499039.37 0.0088 0.0022

Neptune -96429-11-14 01:39 J -33498951.59 -33498951.43 -33498951.26 0.0088 0.0016

Neptune -96428-02-10 04:18 J -33498863.48 -33498863.32 -33498863.15 0.0088 0.0011

Neptune -96428-05-09 06:56 J -33498775.38 -33498775.21 -33498775.04 0.0088 0.0006

Neptune -96428-08-05 09:35 J -33498687.27 -33498687.10 -33498686.93 0.0088 0.0001

Neptune -96428-11-01 12:13 J -33498599.16 -33498598.99 -33498598.82 0.0088 0.0004

Neptune -96427-01-28 14:37 J -33498511.05 -33498510.89 -33498510.72 0.0088 0.0010

Jupiter -96427-04-26 16:47 J -33498422.95 -33498422.80 -33498422.64 0.0513 0.0135

Neptune -96427-04-26 17:15 J -33498422.94 -33498422.78 -33498422.61 0.0088 0.0014 *

Mars -96427-05-01 01:54 J -33498418.51 -33498418.42 -33498418.33 0.1917 0.1457

Neptune -96427-07-23 19:39 J -33498334.84 -33498334.68 -33498334.51 0.0088 0.0019

Jupiter -96427-07-25 13:54 J -33498333.02 -33498332.92 -33498332.81 0.0517 0.0390

Neptune -96427-10-19 22:18 J -33498246.73 -33498246.57 -33498246.40 0.0088 0.0024

Neptune -96426-01-16 00:56 J -33498158.62 -33498158.46 -33498158.30 0.0088 0.0029

Neptune -96426-04-14 03:20 J -33498070.51 -33498070.36 -33498070.20 0.0088 0.0034

Neptune -96426-07-11 05:44 J -33497982.40 -33497982.26 -33497982.10 0.0088 0.0039

Moon -96426-07-15 07:54 J -33497978.24 -33497978.17 -33497978.10 0.2622 0.2151

Earth -96426-07-15 08:37 J -33497978.21 -33497978.14 -33497978.07 0.2618 0.2147 *

Neptune -96426-10-07 08:23 J -33497894.29 -33497894.15 -33497894.00 0.0088 0.0044

Neptune -96425-01-03 10:47 J -33497806.18 -33497806.05 -33497805.91 0.0088 0.0048

Neptune -96425-03-31 13:11 J -33497718.07 -33497717.95 -33497717.81 0.0088 0.0053

Mars -96425-04-06 12:56 J -33497712.02 -33497711.96 -33497711.91 0.1916 0.1741

Neptune -96425-06-27 15:35 J -33497629.96 -33497629.85 -33497629.72 0.0088 0.0058

Neptune -96425-09-23 18:13 J -33497541.85 -33497541.74 -33497541.62 0.0088 0.0063

Neptune -96425-12-20 20:23 J -33497453.74 -33497453.65 -33497453.53 0.0088 0.0068

Neptune -96424-03-18 22:47 J -33497365.63 -33497365.55 -33497365.44 0.0088 0.0073

Venus -96424-04-17 06:56 J -33497336.30 -33497336.21 -33497336.11 0.3784 0.1829

Neptune -96424-06-15 01:11 J -33497277.51 -33497277.45 -33497277.36 0.0088 0.0077

Neptune -96424-09-11 03:49 J -33497189.40 -33497189.34 -33497189.28 0.0088 0.0082

Neptune -96424-12-08 05:59 J -33497101.27 -33497101.25 -33497101.21 0.0088 0.0087

Saturn -96422-06-22 04:32 J -33496540.36 -33496540.31 -33496540.25 0.0284 0.0263

Jupiter -96422-09-16 00:27 J -33496454.58 -33496454.48 -33496454.37 0.0517 0.0334

Saturn -96422-09-18 19:39 J -33496451.79 -33496451.68 -33496451.55 0.0284 0.0175

Jupiter -96422-12-14 12:27 J -33496365.11 -33496364.98 -33496364.84 0.0513 0.0133

Saturn -96422-12-16 11:15 J -33496363.17 -33496363.03 -33496362.88 0.0284 0.0083

Saturn -96421-03-14 03:06 J -33496274.52 -33496274.37 -33496274.22 0.0284 0.0011

Uranus -96421-05-04 20:08 J -33496222.68 -33496222.66 -33496222.63 0.0136 0.0134

Saturn -96421-06-10 19:11 J -33496185.84 -33496185.70 -33496185.55 0.0284 0.0108

Uranus -96421-08-01 01:11 J -33496134.52 -33496134.45 -33496134.35 0.0136 0.0115

Saturn -96421-09-07 11:44 J -33496097.11 -33496097.01 -33496096.90 0.0285 0.0205

Uranus -96421-10-28 06:42 J -33496046.34 -33496046.22 -33496046.10 0.0136 0.0095

Mars -96421-12-04 04:47 J -33496009.44 -33496009.30 -33496009.17 0.1609 0.0447

Uranus -96420-01-24 11:44 J -33495958.14 -33495958.01 -33495957.87 0.0136 0.0076

Uranus -96420-04-22 16:47 J -33495869.94 -33495869.80 -33495869.64 0.0135 0.0057

Uranus -96420-07-19 21:49 J -33495781.74 -33495781.59 -33495781.43 0.0135 0.0038

Uranus -96420-10-16 03:06 J -33495693.53 -33495693.37 -33495693.21 0.0135 0.0018

Uranus -96419-01-12 07:54 J -33495605.33 -33495605.17 -33495605.00 0.0135 0.0003

Uranus -96419-04-10 12:56 J -33495517.12 -33495516.96 -33495516.80 0.0135 0.0019

Uranus -96419-07-07 17:44 J -33495428.91 -33495428.76 -33495428.60 0.0135 0.0037

Uranus -96419-10-03 22:18 J -33495340.70 -33495340.57 -33495340.41 0.0135 0.0056

Venus -96419-11-01 01:11 J -33495312.55 -33495312.45 -33495312.34 0.3782 0.0998

Mars -96419-11-09 22:47 J -33495303.62 -33495303.55 -33495303.48 0.1610 0.1401

Uranus -96419-12-31 03:06 J -33495252.49 -33495252.37 -33495252.23 0.0135 0.0074

Uranus -96418-03-29 08:08 J -33495164.28 -33495164.16 -33495164.05 0.0134 0.0091

Uranus -96418-06-25 12:42 J -33495076.06 -33495075.97 -33495075.87 0.0134 0.0108

Uranus -96418-09-21 17:15 J -33494987.82 -33494987.78 -33494987.72 0.0134 0.0126

Moon -96416-01-07 22:32 J -33494513.68 -33494513.56 -33494513.43 0.2712 0.0787

Earth -96416-01-07 23:15 J -33494513.66 -33494513.53 -33494513.40 0.2718 0.0761 *

Mars -96416-08-27 16:47 J -33494281.91 -33494281.80 -33494281.69 0.1917 0.1002

Jupiter -96415-02-12 15:49 J -33494112.98 -33494112.84 -33494112.71 0.0512 0.0280

Jupiter -96415-05-13 13:25 J -33494023.08 -33494022.94 -33494022.80 0.0516 0.0249

Venus -96413-05-16 19:39 J -33493288.79 -33493288.68 -33493288.57 0.3779 0.0141

Moon -96413-07-17 05:44 J -33493227.37 -33493227.26 -33493227.14 0.2628 0.0889

Earth -96413-07-17 05:59 J -33493227.37 -33493227.25 -33493227.13 0.2621 0.0824 *

Mars -96411-04-26 12:42 J -33492579.09 -33492578.97 -33492578.86 0.1609 0.0875

Jupiter -96410-07-05 03:35 J -33492144.42 -33492144.35 -33492144.27 0.0518 0.0443

Jupiter -96410-10-02 15:35 J -33492055.00 -33492054.85 -33492054.71 0.0514 0.0024

Jupiter -96410-12-31 04:18 J -33491965.35 -33491965.32 -33491965.28 0.0510 0.0493

Mars -96409-04-01 05:59 J -33491873.36 -33491873.25 -33491873.14 0.1609 0.0939

Venus -96409-05-15 08:51 J -33491829.21 -33491829.13 -33491829.05 0.3592 0.2875

Venus -96408-11-30 14:23 J -33491265.01 -33491264.90 -33491264.79 0.3776 0.0751

Saturn -96407-01-27 02:51 J -33491207.44 -33491207.38 -33491207.32 0.0275 0.0252

Saturn -96407-04-25 18:56 J -33491118.83 -33491118.71 -33491118.58 0.0275 0.0162

Saturn -96407-07-23 10:47 J -33491030.20 -33491030.05 -33491029.90 0.0274 0.0073

Saturn -96407-10-20 02:08 J -33490941.56 -33490941.41 -33490941.25 0.0274 0.0017

Saturn -96406-01-16 17:15 J -33490852.92 -33490852.78 -33490852.63 0.0274 0.0100

Mars -96406-01-17 20:08 J -33490851.79 -33490851.66 -33490851.52 0.1917 0.0230

Saturn -96406-04-15 08:08 J -33490764.27 -33490764.16 -33490764.05 0.0274 0.0183

Saturn -96406-07-12 22:32 J -33490675.59 -33490675.56 -33490675.52 0.0274 0.0264

Venus -96404-11-29 10:03 J -33489805.20 -33489805.08 -33489804.95 0.3595 0.1574

Jupiter -96404-12-01 15:35 J -33489802.94 -33489802.85 -33489802.75 0.0511 0.0413

Moon -96403-01-10 21:49 J -33489762.72 -33489762.59 -33489762.46 0.2711 0.0663

Earth -96403-01-10 22:47 J -33489762.67 -33489762.55 -33489762.42 0.2713 0.0849 *

Jupiter -96403-03-01 13:39 J -33489713.08 -33489712.93 -33489712.77 0.0515 0.0121

Venus -96402-06-16 09:06 J -33489241.22 -33489241.12 -33489241.02 0.3772 0.1657

Mars -96402-09-16 20:51 J -33489148.71 -33489148.63 -33489148.55 0.1609 0.1288

Earth -96400-07-20 03:06 J -33488476.50 -33488476.37 -33488476.25 0.2626 0.0483

Moon -96400-07-20 03:49 J -33488476.47 -33488476.34 -33488476.22 0.2630 0.0585 *

Mars -96400-08-22 13:25 J -33488443.07 -33488442.94 -33488442.81 0.1609 0.0485

Venus -96398-06-15 10:47 J -33487781.18 -33487781.05 -33487780.91 0.3598 0.0337

Jupiter -96398-07-21 18:13 J -33487744.88 -33487744.74 -33487744.60 0.0515 0.0093

Jupiter -96398-10-19 06:42 J -33487655.31 -33487655.22 -33487655.12 0.0511 0.0377

Mars -96397-06-08 23:15 J -33487421.66 -33487421.53 -33487421.40 0.1917 0.0570

Venus -96397-12-30 04:18 J -33487217.40 -33487217.32 -33487217.24 0.3769 0.2586

Venus -96393-12-29 11:15 J -33485757.16 -33485757.03 -33485756.90 0.3601 0.0873

Saturn -96392-02-04 19:54 J -33485719.77 -33485719.67 -33485719.56 0.0284 0.0207

Saturn -96392-05-04 11:15 J -33485631.17 -33485631.03 -33485630.89 0.0284 0.0117

Saturn -96392-08-01 02:51 J -33485542.53 -33485542.38 -33485542.22 0.0285 0.0025

Saturn -96392-10-28 18:56 J -33485453.86 -33485453.71 -33485453.56 0.0285 0.0072

Jupiter -96392-12-18 14:23 J -33485403.06 -33485402.90 -33485402.74 0.0514 0.0009

Saturn -96391-01-25 11:15 J -33485365.15 -33485365.03 -33485364.90 0.0285 0.0169

Jupiter -96391-03-18 11:15 J -33485313.05 -33485313.03 -33485313.02 0.0518 0.0514

Saturn -96391-04-24 04:03 J -33485276.38 -33485276.33 -33485276.28 0.0285 0.0268

Venus -96391-07-15 23:30 J -33485193.55 -33485193.52 -33485193.48 0.3765 0.3539

Mars -96390-01-12 21:06 J -33485012.76 -33485012.62 -33485012.48 0.1609 0.0045

Moon -96390-01-13 21:35 J -33485011.65 -33485011.60 -33485011.55 0.2712 0.2480

Earth -96390-01-13 22:32 J -33485011.60 -33485011.56 -33485011.51 0.2709 0.2501 *

Mars -96388-10-30 02:23 J -33483991.50 -33483991.40 -33483991.31 0.1917 0.1377

Venus -96387-07-15 11:01 J -33483733.15 -33483733.04 -33483732.93 0.3605 0.2008

Earth -96387-07-22 23:59 J -33483725.59 -33483725.50 -33483725.41 0.2630 0.1755

Moon -96387-07-23 00:56 J -33483725.55 -33483725.46 -33483725.38 0.2631 0.1876 *

Jupiter -96386-05-09 20:51 J -33483434.76 -33483434.63 -33483434.50 0.0516 0.0208

Jupiter -96386-08-07 09:06 J -33483345.24 -33483345.12 -33483344.99 0.0512 0.0259

Mars -96386-10-06 13:11 J -33483284.99 -33483284.95 -33483284.91 0.1916 0.1817

Earth -96383-01-06 05:30 J -33482462.36 -33482462.27 -33482462.19 0.2721 0.2018

Moon -96383-01-06 05:30 J -33482462.35 -33482462.27 -33482462.18 0.2715 0.2014 *

Venus -96381-01-29 10:18 J -33481709.13 -33481709.07 -33481709.00 0.3608 0.3099

Mars -96381-06-04 05:01 J -33481582.43 -33481582.29 -33481582.16 0.1609 0.0393

Moon -96380-07-15 13:25 J -33481176.02 -33481175.94 -33481175.86 0.2624 0.1991

Earth -96380-07-15 13:54 J -33481176.01 -33481175.92 -33481175.83 0.2618 0.1862 *

Jupiter -96380-10-06 14:51 J -33481093.03 -33481092.88 -33481092.72 0.0513 0.0136

Jupiter -96379-01-04 12:13 J -33481003.09 -33481002.99 -33481002.89 0.0517 0.0390

Mars -96379-05-10 23:01 J -33480876.60 -33480876.54 -33480876.48 0.1610 0.1461

Venus -96379-10-23 17:15 J -33480710.84 -33480710.78 -33480710.73 0.3788 0.3189

Saturn -96378-09-12 19:11 J -33480386.81 -33480386.70 -33480386.58 0.0275 0.0191

Saturn -96378-12-10 11:15 J -33480298.18 -33480298.03 -33480297.88 0.0275 0.0101

Saturn -96377-03-08 02:51 J -33480209.54 -33480209.38 -33480209.22 0.0275 0.0014

Saturn -96377-06-04 17:59 J -33480120.89 -33480120.75 -33480120.60 0.0274 0.0073

Saturn -96377-09-01 09:06 J -33480032.25 -33480032.12 -33480032.00 0.0274 0.0157

Saturn -96377-11-28 23:44 J -33479943.58 -33479943.51 -33479943.44 0.0274 0.0239

Mars -96376-02-25 17:01 J -33479854.90 -33479854.79 -33479854.68 0.1916 0.1073

Uranus -96376-03-25 14:08 J -33479826.95 -33479826.91 -33479826.84 0.0143 0.0131

Uranus -96376-06-21 18:56 J -33479738.79 -33479738.71 -33479738.60 0.0143 0.0111

Uranus -96376-09-17 23:59 J -33479650.61 -33479650.50 -33479650.38 0.0143 0.0091

Uranus -96376-12-15 04:47 J -33479562.43 -33479562.30 -33479562.16 0.0143 0.0070

Uranus -96375-03-13 09:49 J -33479474.23 -33479474.09 -33479473.95 0.0143 0.0050

Uranus -96375-06-09 14:37 J -33479386.03 -33479385.89 -33479385.74 0.0144 0.0029

Uranus -96375-09-05 19:39 J -33479297.83 -33479297.68 -33479297.53 0.0144 0.0008

Uranus -96375-12-03 00:42 J -33479209.62 -33479209.47 -33479209.31 0.0144 0.0014

Jupiter -96374-02-25 22:47 J -33479124.65 -33479124.55 -33479124.44 0.0517 0.0333

Uranus -96374-03-01 05:59 J -33479121.40 -33479121.25 -33479121.10 0.0144 0.0035

Jupiter -96374-05-26 10:47 J -33479035.19 -33479035.05 -33479034.91 0.0513 0.0133

Uranus -96374-05-28 11:01 J -33479033.18 -33479033.04 -33479032.90 0.0144 0.0057

Uranus -96374-08-24 16:03 J -33478944.95 -33478944.83 -33478944.69 0.0144 0.0079

Uranus -96374-11-20 21:20 J -33478856.71 -33478856.61 -33478856.49 0.0144 0.0101

Uranus -96373-02-17 02:37 J -33478768.46 -33478768.39 -33478768.30 0.0145 0.0124

Venus -96373-05-08 11:01 J -33478687.12 -33478687.04 -33478686.95 0.3786 0.2396

Mars -96372-10-25 12:56 J -33478152.08 -33478151.96 -33478151.84 0.1609 0.0815

Moon -96370-01-09 04:03 J -33477711.46 -33477711.33 -33477711.20 0.2711 0.0538

Earth -96370-01-09 04:47 J -33477711.43 -33477711.30 -33477711.17 0.2717 0.0439 *

Mars -96370-10-01 06:13 J -33477446.35 -33477446.24 -33477446.13 0.1609 0.1001

Jupiter -96368-07-25 14:37 J -33476783.02 -33476782.89 -33476782.75 0.0512 0.0271

Jupiter -96368-10-23 12:27 J -33476693.12 -33476692.98 -33476692.84 0.0516 0.0259

Venus -96368-11-22 05:15 J -33476663.38 -33476663.28 -33476663.18 0.3784 0.1583

Earth -96367-07-18 11:15 J -33476425.16 -33476425.03 -33476424.91 0.2622 0.0541

Moon -96367-07-18 11:15 J -33476425.15 -33476425.03 -33476424.90 0.2628 0.0476 *

Mars -96367-07-18 20:23 J -33476424.78 -33476424.65 -33476424.51 0.1917 0.0310

Saturn -96363-06-24 22:32 J -33474987.64 -33474987.56 -33474987.46 0.0284 0.0224

Saturn -96363-09-21 13:54 J -33474899.05 -33474898.92 -33474898.78 0.0284 0.0134

Jupiter -96363-12-15 01:25 J -33474814.50 -33474814.44 -33474814.37 0.0518 0.0449

Saturn -96363-12-19 05:30 J -33474810.42 -33474810.27 -33474810.11 0.0284 0.0041

Jupiter -96362-03-14 13:25 J -33474725.09 -33474724.94 -33474724.80 0.0514 0.0019

Saturn -96362-03-17 21:35 J -33474721.75 -33474721.60 -33474721.45 0.0284 0.0054

Mars -96362-03-17 21:06 J -33474721.71 -33474721.62 -33474721.54 0.1609 0.1235 *

Venus -96362-06-07 23:30 J -33474639.63 -33474639.52 -33474639.41 0.3781 0.0739

Jupiter -96362-06-12 02:08 J -33474635.45 -33474635.41 -33474635.36 0.0510 0.0485

Saturn -96362-06-14 13:54 J -33474633.05 -33474632.92 -33474632.79 0.0285 0.0151

Saturn -96362-09-11 06:27 J -33474544.30 -33474544.23 -33474544.15 0.0285 0.0250

Mars -96360-02-20 13:39 J -33474016.06 -33474015.93 -33474015.79 0.1609 0.0548

Mars -96358-12-08 23:44 J -33472994.64 -33472994.51 -33472994.38 0.1917 0.0492

Moon -96357-01-12 03:20 J -33472960.48 -33472960.36 -33472960.24 0.2712 0.1128

Earth -96357-01-12 04:32 J -33472960.43 -33472960.31 -33472960.20 0.2712 0.1187 *

Venus -96357-12-21 17:59 J -33472615.86 -33472615.75 -33472615.64 0.3778 0.0125

Jupiter -96356-05-13 13:25 J -33472473.03 -33472472.94 -33472472.84 0.0511 0.0415

Jupiter -96356-08-11 11:44 J -33472383.17 -33472383.01 -33472382.86 0.0515 0.0117

Earth -96354-07-21 08:23 J -33471674.27 -33471674.15 -33471674.03 0.2626 0.0757

Moon -96354-07-21 09:06 J -33471674.24 -33471674.12 -33471674.00 0.2630 0.0789 *

Pluto -96354-10-31 04:18 J -33471572.37 -33471572.32 -33471572.25 0.0085 0.0075

Pluto -96353-01-27 05:30 J -33471484.35 -33471484.27 -33471484.17 0.0084 0.0062

Pluto -96353-04-24 06:56 J -33471396.31 -33471396.21 -33471396.10 0.0084 0.0049

Pluto -96353-07-21 08:08 J -33471308.27 -33471308.16 -33471308.04 0.0084 0.0036

Pluto -96353-10-17 09:35 J -33471220.23 -33471220.10 -33471219.98 0.0084 0.0023

Venus -96353-12-20 09:06 J -33471156.22 -33471156.12 -33471156.02 0.3593 0.2485

Pluto -96352-01-13 10:47 J -33471132.18 -33471132.05 -33471131.92 0.0084 0.0011

Pluto -96352-04-11 11:59 J -33471044.13 -33471044.00 -33471043.87 0.0084 0.0002

Pluto -96352-07-08 13:11 J -33470956.08 -33470955.95 -33470955.82 0.0084 0.0014

Pluto -96352-10-04 14:23 J -33470868.02 -33470867.90 -33470867.77 0.0083 0.0027

Pluto -96352-12-31 15:20 J -33470779.96 -33470779.86 -33470779.73 0.0083 0.0040

Pluto -96351-03-29 16:47 J -33470691.90 -33470691.80 -33470691.69 0.0083 0.0051

Pluto -96351-06-25 17:59 J -33470603.83 -33470603.75 -33470603.66 0.0083 0.0063

Venus -96351-07-07 12:42 J -33470592.08 -33470591.97 -33470591.86 0.3775 0.1009

Mars -96351-07-13 21:20 J -33470585.75 -33470585.61 -33470585.47 0.1609 0.0102

Pluto -96351-09-21 19:11 J -33470515.75 -33470515.70 -33470515.64 0.0083 0.0075

Jupiter -96351-12-31 16:18 J -33470414.96 -33470414.82 -33470414.68 0.0515 0.0097

Jupiter -96350-03-31 04:47 J -33470325.39 -33470325.30 -33470325.20 0.0511 0.0373

Neptune -96350-06-23 03:49 J -33470241.36 -33470241.34 -33470241.31 0.0089 0.0087

Neptune -96350-09-19 05:15 J -33470153.31 -33470153.28 -33470153.21 0.0089 0.0083

Neptune -96350-12-16 06:56 J -33470065.26 -33470065.21 -33470065.13 0.0089 0.0079

Neptune -96349-03-13 08:37 J -33469977.20 -33469977.14 -33469977.05 0.0089 0.0075

Neptune -96349-06-09 10:47 J -33469889.14 -33469889.05 -33469888.96 0.0089 0.0070

Neptune -96349-09-05 12:13 J -33469801.08 -33469800.99 -33469800.88 0.0089 0.0066

Neptune -96349-12-02 13:54 J -33469713.01 -33469712.92 -33469712.81 0.0089 0.0062

Saturn -96348-01-29 21:49 J -33469654.69 -33469654.59 -33469654.48 0.0275 0.0209

Neptune -96348-02-28 15:35 J -33469624.95 -33469624.85 -33469624.73 0.0089 0.0058

Saturn -96348-04-28 13:54 J -33469566.06 -33469565.92 -33469565.78 0.0275 0.0119

Mars -96348-04-30 02:23 J -33469564.50 -33469564.40 -33469564.31 0.1917 0.1320

Neptune -96348-05-27 17:15 J -33469536.88 -33469536.78 -33469536.65 0.0089 0.0054

Saturn -96348-07-26 05:30 J -33469477.42 -33469477.27 -33469477.11 0.0274 0.0031

Neptune -96348-08-23 19:11 J -33469448.81 -33469448.70 -33469448.57 0.0089 0.0049

Saturn -96348-10-22 20:51 J -33469388.78 -33469388.63 -33469388.48 0.0274 0.0056

Neptune -96348-11-19 20:51 J -33469360.75 -33469360.63 -33469360.49 0.0089 0.0045

Saturn -96347-01-19 11:44 J -33469300.14 -33469300.01 -33469299.87 0.0274 0.0140

Neptune -96347-02-15 22:32 J -33469272.68 -33469272.56 -33469272.42 0.0089 0.0041

Saturn -96347-04-18 02:23 J -33469211.48 -33469211.40 -33469211.31 0.0274 0.0222

Neptune -96347-05-15 00:27 J -33469184.61 -33469184.48 -33469184.34 0.0089 0.0036

Venus -96347-07-06 10:03 J -33469132.21 -33469132.08 -33469131.95 0.3596 0.1206

Neptune -96347-08-11 02:08 J -33469096.54 -33469096.41 -33469096.26 0.0089 0.0032

Neptune -96347-11-07 04:03 J -33469008.47 -33469008.33 -33469008.19 0.0089 0.0027

Neptune -96346-02-03 05:59 J -33468920.39 -33468920.25 -33468920.11 0.0089 0.0023

Mars -96346-04-06 13:11 J -33468857.97 -33468857.95 -33468857.92 0.1916 0.1881

Neptune -96346-05-02 07:39 J -33468832.32 -33468832.18 -33468832.03 0.0089 0.0019

Neptune -96346-07-29 09:20 J -33468744.25 -33468744.11 -33468743.96 0.0089 0.0015

Neptune -96346-10-25 11:15 J -33468656.18 -33468656.03 -33468655.88 0.0089 0.0010

Venus -96345-01-21 07:39 J -33468568.28 -33468568.18 -33468568.09 0.3771 0.1925

Neptune -96345-01-21 13:11 J -33468568.10 -33468567.95 -33468567.81 0.0089 0.0006 *

Neptune -96345-04-18 14:51 J -33468480.03 -33468479.88 -33468479.73 0.0089 0.0002

Neptune -96345-07-15 16:47 J -33468391.95 -33468391.80 -33468391.65 0.0089 0.0003

Neptune -96345-10-11 18:27 J -33468303.87 -33468303.73 -33468303.58 0.0089 0.0008

Neptune -96344-01-07 20:23 J -33468215.80 -33468215.65 -33468215.50 0.0089 0.0012

Moon -96344-01-14 03:20 J -33468209.39 -33468209.36 -33468209.34 0.2711 0.2649

Neptune -96344-04-05 22:18 J -33468127.72 -33468127.57 -33468127.42 0.0089 0.0017

Jupiter -96344-05-30 11:59 J -33468073.16 -33468073.00 -33468072.84 0.0514 0.0015

Neptune -96344-07-02 23:59 J -33468039.64 -33468039.50 -33468039.35 0.0089 0.0022

Jupiter -96344-08-28 08:51 J -33467983.16 -33467983.13 -33467983.10 0.0518 0.0507

Neptune -96344-09-29 01:54 J -33467951.56 -33467951.42 -33467951.27 0.0089 0.0026

Neptune -96344-12-26 03:49 J -33467863.48 -33467863.34 -33467863.20 0.0089 0.0030

Neptune -96343-03-24 05:44 J -33467775.40 -33467775.26 -33467775.12 0.0089 0.0035

Neptune -96343-06-20 07:25 J -33467687.31 -33467687.19 -33467687.05 0.0089 0.0040

Neptune -96343-09-16 09:20 J -33467599.23 -33467599.11 -33467598.97 0.0089 0.0044

Neptune -96343-12-13 11:15 J -33467511.15 -33467511.03 -33467510.90 0.0089 0.0049

Neptune -96342-03-11 13:11 J -33467423.06 -33467422.95 -33467422.82 0.0089 0.0053

Neptune -96342-06-07 15:06 J -33467334.98 -33467334.87 -33467334.75 0.0089 0.0058

Neptune -96342-09-03 17:15 J -33467246.89 -33467246.78 -33467246.67 0.0089 0.0062

Neptune -96342-11-30 18:56 J -33467158.80 -33467158.71 -33467158.60 0.0089 0.0067

Mars -96342-12-04 05:15 J -33467155.42 -33467155.28 -33467155.15 0.1609 0.0338

Venus -96341-01-20 10:47 J -33467108.19 -33467108.05 -33467107.91 0.3599 0.0027

Neptune -96341-02-26 20:51 J -33467070.71 -33467070.63 -33467070.53 0.0089 0.0072

Neptune -96341-05-24 23:01 J -33466982.61 -33466982.54 -33466982.46 0.0089 0.0076

Earth -96341-07-23 05:15 J -33466923.36 -33466923.28 -33466923.21 0.2630 0.2024

Moon -96341-07-23 05:59 J -33466923.32 -33466923.25 -33466923.17 0.2630 0.2115 *

Neptune -96341-08-21 00:56 J -33466894.51 -33466894.46 -33466894.39 0.0089 0.0081

Neptune -96341-11-17 02:37 J -33466806.41 -33466806.39 -33466806.33 0.0089 0.0086

Venus -96340-08-06 02:37 J -33466544.46 -33466544.39 -33466544.31 0.3768 0.2855

Mars -96340-11-08 23:15 J -33466449.57 -33466449.53 -33466449.49 0.1610 0.1521

Jupiter -96339-10-19 19:11 J -33466104.83 -33466104.70 -33466104.57 0.0516 0.0209

Jupiter -96338-01-17 07:25 J -33466015.31 -33466015.19 -33466015.06 0.0512 0.0258

Moon -96337-01-07 10:47 J -33465660.15 -33465660.05 -33465659.95 0.2714 0.1668

Earth -96337-01-07 11:01 J -33465660.14 -33465660.04 -33465659.94 0.2721 0.1704 *

Uranus -96337-05-25 04:03 J -33465521.37 -33465521.33 -33465521.26 0.0136 0.0127

Uranus -96337-08-21 09:20 J -33465433.20 -33465433.11 -33465433.00 0.0136 0.0107

Mars -96337-08-26 17:15 J -33465427.89 -33465427.78 -33465427.68 0.1917 0.1142

Uranus -96337-11-17 14:51 J -33465345.00 -33465344.88 -33465344.76 0.0136 0.0087

Uranus -96336-02-13 19:54 J -33465256.81 -33465256.67 -33465256.52 0.0136 0.0068

Uranus -96336-05-13 00:56 J -33465168.61 -33465168.46 -33465168.30 0.0135 0.0049

Venus -96336-08-05 10:47 J -33465084.17 -33465084.05 -33465083.92 0.3602 0.1208

Uranus -96336-08-09 06:13 J -33465080.40 -33465080.24 -33465080.08 0.0135 0.0030

Uranus -96336-11-05 11:15 J -33464992.20 -33464992.03 -33464991.87 0.0135 0.0011

Uranus -96335-02-01 16:03 J -33464903.99 -33464903.83 -33464903.67 0.0135 0.0008

Uranus -96335-04-30 20:51 J -33464815.78 -33464815.63 -33464815.46 0.0135 0.0027

Uranus -96335-07-28 01:54 J -33464727.57 -33464727.42 -33464727.27 0.0135 0.0045

Uranus -96335-10-24 06:42 J -33464639.36 -33464639.22 -33464639.08 0.0135 0.0063

Uranus -96334-01-20 11:15 J -33464551.15 -33464551.03 -33464550.89 0.0135 0.0081

Uranus -96334-04-18 16:03 J -33464462.93 -33464462.83 -33464462.72 0.0134 0.0098

Uranus -96334-07-15 20:51 J -33464374.71 -33464374.63 -33464374.55 0.0134 0.0116

Moon -96334-07-16 18:42 J -33464373.82 -33464373.72 -33464373.61 0.2625 0.1567

Earth -96334-07-16 19:11 J -33464373.80 -33464373.70 -33464373.59 0.2619 0.1586 *

Uranus -96334-10-12 01:11 J -33464286.45 -33464286.45 -33464286.42 0.0134 0.0133

Saturn -96334-11-11 22:47 J -33464255.60 -33464255.55 -33464255.48 0.0284 0.0257

Saturn -96333-02-08 13:54 J -33464167.03 -33464166.92 -33464166.79 0.0284 0.0168

Saturn -96333-05-07 05:30 J -33464078.41 -33464078.27 -33464078.12 0.0284 0.0075

Saturn -96333-08-03 21:20 J -33463989.76 -33463989.61 -33463989.46 0.0285 0.0019

Saturn -96333-10-31 13:25 J -33463901.08 -33463900.94 -33463900.79 0.0285 0.0115

Saturn -96332-01-28 05:59 J -33463812.35 -33463812.25 -33463812.14 0.0285 0.0213

Jupiter -96332-03-18 12:27 J -33463763.14 -33463762.98 -33463762.83 0.0513 0.0143

Mars -96332-04-25 13:11 J -33463725.07 -33463724.95 -33463724.83 0.1609 0.0761

Jupiter -96332-06-16 09:49 J -33463673.20 -33463673.09 -33463672.99 0.0517 0.0384

Venus -96330-02-19 10:32 J -33463060.16 -33463060.06 -33463059.96 0.3606 0.2324

Mars -96330-04-01 06:27 J -33463019.33 -33463019.23 -33463019.12 0.1609 0.1060

Venus -96328-11-13 21:20 J -33462061.62 -33462061.61 -33462061.59 0.3790 0.3727

Mars -96327-01-16 20:51 J -33461997.76 -33461997.63 -33461997.50 0.1917 0.0382

Jupiter -96327-08-07 21:49 J -33461794.69 -33461794.59 -33461794.47 0.0517 0.0324

Jupiter -96327-11-05 09:49 J -33461705.22 -33461705.09 -33461704.95 0.0513 0.0143

Venus -96325-09-04 09:49 J -33461036.13 -33461036.09 -33461036.04 0.3609 0.3396

Moon -96324-01-09 09:35 J -33460909.23 -33460909.10 -33460908.97 0.2711 0.0189

Earth -96324-01-09 10:18 J -33460909.20 -33460909.07 -33460908.94 0.2716 0.0130 *

Mars -96323-09-15 21:20 J -33460294.70 -33460294.61 -33460294.52 0.1609 0.1180

Venus -96322-05-30 15:20 J -33460037.93 -33460037.86 -33460037.80 0.3788 0.2950

Earth -96321-07-18 16:32 J -33459622.94 -33459622.81 -33459622.68 0.2623 0.0263

Moon -96321-07-18 16:47 J -33459622.92 -33459622.80 -33459622.67 0.2628 0.0311 *

Mars -96321-08-21 13:54 J -33459589.05 -33459588.92 -33459588.79 0.1609 0.0604

Jupiter -96320-01-04 12:56 J -33459453.10 -33459452.96 -33459452.83 0.0512 0.0270

Jupiter -96320-04-04 10:32 J -33459363.19 -33459363.06 -33459362.92 0.0516 0.0260

Saturn -96319-06-18 21:35 J -33458922.67 -33458922.60 -33458922.52 0.0275 0.0241

Saturn -96319-09-15 13:54 J -33458834.05 -33458833.92 -33458833.79 0.0274 0.0150

Saturn -96319-12-13 05:30 J -33458745.42 -33458745.27 -33458745.11 0.0274 0.0062

Saturn -96318-03-11 21:06 J -33458656.78 -33458656.62 -33458656.47 0.0274 0.0026

Saturn -96318-06-08 12:13 J -33458568.13 -33458567.99 -33458567.85 0.0274 0.0111

Mars -96318-06-08 23:44 J -33458567.64 -33458567.51 -33458567.37 0.1917 0.0427

Saturn -96318-09-05 03:06 J -33458479.48 -33458479.37 -33458479.27 0.0274 0.0195

Venus -96317-12-13 09:20 J -33458014.20 -33458014.11 -33458014.03 0.3785 0.2159

Jupiter -96315-05-26 23:59 J -33457484.56 -33457484.50 -33457484.42 0.0518 0.0446

Jupiter -96315-08-24 11:44 J -33457395.15 -33457395.01 -33457394.86 0.0514 0.0019

Jupiter -96315-11-22 00:42 J -33457305.51 -33457305.47 -33457305.43 0.0510 0.0486

Mars -96313-02-06 05:30 J -33456864.28 -33456864.27 -33456864.25 0.1610 0.1592

Mars -96311-01-11 21:35 J -33456158.74 -33456158.60 -33456158.46 0.1609 0.0162

Moon -96311-01-12 08:51 J -33456158.24 -33456158.13 -33456158.02 0.2713 0.1347

Earth -96311-01-12 10:03 J -33456158.19 -33456158.08 -33456157.97 0.2712 0.1516 *

Venus -96311-06-29 03:20 J -33455990.46 -33455990.36 -33455990.26 0.3783 0.1333

Jupiter -96309-10-23 12:42 J -33455143.07 -33455142.97 -33455142.87 0.0511 0.0404

Mars -96309-10-29 02:51 J -33455137.48 -33455137.38 -33455137.28 0.1917 0.1229

Jupiter -96308-01-21 10:47 J -33455053.20 -33455053.05 -33455052.89 0.0515 0.0129

Earth -96308-07-21 13:39 J -33454872.05 -33454871.93 -33454871.82 0.2627 0.1032

Moon -96308-07-21 14:23 J -33454872.01 -33454871.90 -33454871.79 0.2631 0.1166 *

Venus -96305-01-12 21:49 J -33453966.70 -33453966.59 -33453966.49 0.3780 0.0513

Saturn -96304-03-31 01:11 J -33453523.48 -33453523.45 -33453523.41 0.0284 0.0276

Saturn -96304-06-27 16:18 J -33453434.93 -33453434.82 -33453434.71 0.0284 0.0187

Saturn -96304-09-24 07:39 J -33453346.32 -33453346.18 -33453346.03 0.0284 0.0095

Saturn -96304-12-21 23:30 J -33453257.67 -33453257.52 -33453257.37 0.0285 0.0002

Saturn -96303-03-20 15:35 J -33453168.99 -33453168.85 -33453168.70 0.0285 0.0095

Jupiter -96303-06-12 14:23 J -33453085.04 -33453084.90 -33453084.76 0.0515 0.0101

Saturn -96303-06-17 07:54 J -33453080.28 -33453080.17 -33453080.05 0.0285 0.0193

Jupiter -96303-09-10 02:51 J -33452995.48 -33452995.38 -33452995.28 0.0511 0.0368

Mars -96302-06-04 05:30 J -33452728.41 -33452728.27 -33452728.14 0.1608 0.0281

Venus -96301-01-11 07:39 J -33452507.22 -33452507.18 -33452507.14 0.3591 0.3426

Mars -96300-05-09 23:30 J -33452022.54 -33452022.52 -33452022.49 0.1610 0.1585

Venus -96300-07-28 16:18 J -33451942.93 -33451942.82 -33451942.71 0.3777 0.0384

Mars -96297-02-25 17:30 J -33451000.87 -33451000.77 -33451000.67 0.1917 0.1218

Jupiter -96297-11-09 10:03 J -33450743.24 -33450743.08 -33450742.92 0.0514 0.0017

Jupiter -96296-02-07 06:56 J -33450653.24 -33450653.21 -33450653.18 0.0518 0.0506

Venus -96296-07-27 09:06 J -33450483.23 -33450483.12 -33450483.01 0.3594 0.2105

Earth -96295-07-24 10:18 J -33450121.12 -33450121.07 -33450121.01 0.2631 0.2296

Moon -96295-07-24 11:15 J -33450121.08 -33450121.03 -33450120.97 0.2628 0.2349 *

Venus -96294-02-11 11:01 J -33449919.15 -33449919.04 -33449918.94 0.3774 0.1269

Mars -96293-10-24 13:25 J -33449298.07 -33449297.94 -33449297.82 0.1609 0.0709

Uranus -96292-04-14 22:18 J -33449125.64 -33449125.57 -33449125.49 0.0143 0.0123

Uranus -96292-07-12 03:06 J -33449037.47 -33449037.37 -33449037.26 0.0143 0.0103

Uranus -96292-10-08 07:54 J -33448949.29 -33448949.17 -33448949.04 0.0143 0.0083

Uranus -96291-01-04 12:56 J -33448861.10 -33448860.96 -33448860.83 0.0143 0.0063

Moon -96291-01-07 16:18 J -33448857.93 -33448857.82 -33448857.71 0.2713 0.1472

Earth -96291-01-07 16:32 J -33448857.92 -33448857.81 -33448857.70 0.2720 0.1384 *

Jupiter -96291-03-31 17:15 J -33448774.91 -33448774.78 -33448774.65 0.0516 0.0212

Uranus -96291-04-02 17:44 J -33448772.90 -33448772.76 -33448772.61 0.0143 0.0042

Jupiter -96291-06-29 05:30 J -33448685.39 -33448685.27 -33448685.14 0.0512 0.0257

Uranus -96291-06-29 22:47 J -33448684.70 -33448684.55 -33448684.40 0.0144 0.0021

Uranus -96291-09-26 03:49 J -33448596.50 -33448596.34 -33448596.19 0.0144 0.0003

Mars -96291-09-30 06:42 J -33448592.32 -33448592.22 -33448592.12 0.1609 0.1119

Uranus -96291-12-23 08:51 J -33448508.28 -33448508.13 -33448507.98 0.0144 0.0021

Venus -96290-02-10 10:03 J -33448459.21 -33448459.08 -33448458.95 0.3597 0.0844

Uranus -96290-03-21 13:54 J -33448420.07 -33448419.92 -33448419.77 0.0144 0.0043

Uranus -96290-06-17 18:56 J -33448331.84 -33448331.71 -33448331.57 0.0144 0.0065

Uranus -96290-09-14 00:13 J -33448243.61 -33448243.49 -33448243.36 0.0144 0.0087

Saturn -96290-11-06 00:13 J -33448190.53 -33448190.49 -33448190.43 0.0275 0.0259

Uranus -96290-12-11 05:15 J -33448155.37 -33448155.28 -33448155.17 0.0144 0.0110

Saturn -96289-02-02 16:32 J -33448101.93 -33448101.81 -33448101.68 0.0275 0.0168

Uranus -96289-03-08 10:47 J -33448067.11 -33448067.05 -33448066.98 0.0145 0.0132

Saturn -96289-05-01 08:23 J -33448013.30 -33448013.15 -33448013.00 0.0274 0.0078

Saturn -96289-07-28 23:59 J -33447924.66 -33447924.50 -33447924.35 0.0274 0.0010

Venus -96289-08-27 05:59 J -33447895.34 -33447895.25 -33447895.16 0.3771 0.2183

Saturn -96289-10-25 15:06 J -33447836.02 -33447835.87 -33447835.73 0.0274 0.0095

Saturn -96288-01-22 05:59 J -33447747.37 -33447747.25 -33447747.14 0.0274 0.0178

Saturn -96288-04-20 20:23 J -33447658.69 -33447658.65 -33447658.60 0.0274 0.0260

Moon -96288-07-17 00:13 J -33447571.59 -33447571.49 -33447571.38 0.2625 0.1405

Earth -96288-07-17 00:42 J -33447571.58 -33447571.47 -33447571.36 0.2619 0.1303 *

Mars -96288-07-17 20:51 J -33447570.76 -33447570.63 -33447570.50 0.1917 0.0442

Venus -96285-08-26 10:32 J -33446435.19 -33446435.06 -33446434.92 0.3600 0.0374

Jupiter -96285-08-28 10:03 J -33446433.23 -33446433.08 -33446432.92 0.0513 0.0147

Jupiter -96285-11-26 07:25 J -33446343.29 -33446343.19 -33446343.08 0.0517 0.0379

Venus -96283-03-13 01:11 J -33445871.51 -33445871.45 -33445871.39 0.3767 0.3121

Mars -96283-03-16 21:35 J -33445867.70 -33445867.60 -33445867.51 0.1609 0.1128

Mars -96281-02-20 14:08 J -33445162.04 -33445161.91 -33445161.78 0.1609 0.0662

Jupiter -96279-01-17 20:23 J -33444464.76 -33444464.65 -33444464.54 0.0517 0.0322

Venus -96279-03-12 10:32 J -33444411.18 -33444411.06 -33444410.94 0.3604 0.1521

Jupiter -96279-04-17 08:23 J -33444375.29 -33444375.15 -33444375.01 0.0513 0.0143

Mars -96279-12-08 00:13 J -33444140.62 -33444140.49 -33444140.36 0.1918 0.0343

Moon -96278-01-10 15:06 J -33444107.01 -33444106.87 -33444106.74 0.2712 0.0156

Earth -96278-01-10 16:03 J -33444106.97 -33444106.83 -33444106.70 0.2716 0.0231 *

Earth -96275-07-19 21:49 J -33442820.72 -33442820.59 -33442820.46 0.2623 0.0014

Moon -96275-07-19 22:18 J -33442820.69 -33442820.57 -33442820.44 0.2629 0.0135 *

Saturn -96275-11-14 16:32 J -33442702.90 -33442702.81 -33442702.72 0.0284 0.0219

Saturn -96274-02-11 07:39 J -33442614.31 -33442614.18 -33442614.04 0.0284 0.0129

Saturn -96274-05-10 23:15 J -33442525.68 -33442525.53 -33442525.37 0.0284 0.0037

Mars -96274-08-07 05:44 J -33442437.29 -33442437.26 -33442437.22 0.1610 0.1538

Saturn -96274-08-07 15:20 J -33442437.01 -33442436.86 -33442436.71 0.0285 0.0059

Venus -96274-09-26 10:03 J -33442387.16 -33442387.08 -33442386.99 0.3607 0.2636

Saturn -96274-11-04 07:39 J -33442348.31 -33442348.18 -33442348.05 0.0285 0.0156

Saturn -96273-02-01 00:13 J -33442259.56 -33442259.49 -33442259.42 0.0285 0.0255

Jupiter -96273-06-16 10:18 J -33442123.20 -33442123.07 -33442122.93 0.0512 0.0276

Jupiter -96273-09-14 08:08 J -33442033.29 -33442033.16 -33442033.02 0.0516 0.0254

Mars -96272-07-12 21:49 J -33441731.73 -33441731.59 -33441731.45 0.1608 0.0219

Venus -96271-06-20 19:25 J -33441388.73 -33441388.69 -33441388.65 0.3789 0.3493

Mars -96269-04-29 03:06 J -33440710.48 -33440710.37 -33440710.26 0.1917 0.1157

Jupiter -96268-11-05 23:15 J -33440154.60 -33440154.53 -33440154.46 0.0518 0.0434

Jupiter -96267-02-03 11:01 J -33440065.19 -33440065.04 -33440064.90 0.0514 0.0029

Jupiter -96267-05-03 23:44 J -33439975.54 -33439975.51 -33439975.48 0.0510 0.0497

Neptune -96267-06-22 11:59 J -33439926.05 -33439926.00 -33439925.94 0.0089 0.0084

Neptune -96267-09-18 14:37 J -33439837.95 -33439837.89 -33439837.80 0.0089 0.0079

Neptune -96267-12-15 17:15 J -33439749.86 -33439749.78 -33439749.67 0.0089 0.0074

Neptune -96266-03-13 20:08 J -33439661.76 -33439661.66 -33439661.54 0.0089 0.0068

Neptune -96266-06-09 23:01 J -33439573.65 -33439573.54 -33439573.41 0.0089 0.0063

Neptune -96266-09-06 01:39 J -33439485.55 -33439485.43 -33439485.29 0.0089 0.0058

Neptune -96266-12-03 04:18 J -33439397.44 -33439397.32 -33439397.17 0.0089 0.0053

Venus -96265-01-04 13:25 J -33439365.02 -33439364.94 -33439364.87 0.3787 0.2714

Moon -96265-01-13 14:23 J -33439356.00 -33439355.90 -33439355.80 0.2712 0.1757

Earth -96265-01-13 15:35 J -33439355.94 -33439355.85 -33439355.75 0.2711 0.1847 *

Neptune -96265-02-29 07:11 J -33439309.34 -33439309.20 -33439309.05 0.0089 0.0047

Neptune -96265-05-27 10:03 J -33439221.23 -33439221.08 -33439220.93 0.0089 0.0042

Neptune -96265-08-23 12:42 J -33439133.12 -33439132.97 -33439132.81 0.0088 0.0037

Neptune -96265-11-19 15:20 J -33439045.02 -33439044.86 -33439044.69 0.0088 0.0032

Neptune -96264-02-15 17:59 J -33438956.91 -33438956.75 -33438956.58 0.0088 0.0027

Neptune -96264-05-14 20:37 J -33438868.80 -33438868.64 -33438868.47 0.0088 0.0022

Neptune -96264-08-10 23:15 J -33438780.69 -33438780.53 -33438780.36 0.0088 0.0017

Neptune -96264-11-07 01:54 J -33438692.58 -33438692.42 -33438692.24 0.0088 0.0011

Neptune -96263-02-03 04:32 J -33438604.47 -33438604.31 -33438604.13 0.0088 0.0007

Neptune -96263-05-02 07:11 J -33438516.37 -33438516.20 -33438516.03 0.0088 0.0002

Neptune -96263-07-29 09:49 J -33438428.26 -33438428.09 -33438427.92 0.0088 0.0004

Neptune -96263-10-25 12:27 J -33438340.15 -33438339.98 -33438339.81 0.0088 0.0009

Mars -96263-12-03 05:44 J -33438301.40 -33438301.26 -33438301.12 0.1608 0.0221

Neptune -96262-01-21 14:51 J -33438252.04 -33438251.88 -33438251.71 0.0088 0.0015

Neptune -96262-04-19 17:30 J -33438163.93 -33438163.77 -33438163.60 0.0088 0.0019

Neptune -96262-07-16 19:54 J -33438075.82 -33438075.67 -33438075.50 0.0088 0.0025

Earth -96262-07-22 18:56 J -33438069.82 -33438069.71 -33438069.61 0.2627 0.1305

Moon -96262-07-22 19:39 J -33438069.79 -33438069.68 -33438069.57 0.2630 0.1323 *

Neptune -96262-10-12 22:32 J -33437987.71 -33437987.56 -33437987.40 0.0088 0.0029

Neptune -96261-01-09 00:56 J -33437899.60 -33437899.46 -33437899.30 0.0088 0.0034

Jupiter -96261-04-04 10:47 J -33437813.15 -33437813.05 -33437812.95 0.0511 0.0403

Neptune -96261-04-06 03:20 J -33437811.49 -33437811.36 -33437811.19 0.0088 0.0040

Neptune -96261-07-03 06:13 J -33437723.39 -33437723.24 -33437723.10 0.0088 0.0044

Jupiter -96261-07-03 09:06 J -33437723.27 -33437723.12 -33437722.97 0.0515 0.0129 *

Neptune -96261-09-29 08:37 J -33437635.28 -33437635.14 -33437635.00 0.0088 0.0049

Neptune -96261-12-26 11:01 J -33437547.17 -33437547.04 -33437546.90 0.0088 0.0054

Neptune -96260-03-24 13:25 J -33437459.05 -33437458.94 -33437458.81 0.0088 0.0058

Neptune -96260-06-20 15:49 J -33437370.94 -33437370.84 -33437370.71 0.0088 0.0063

Saturn -96260-06-21 16:03 J -33437369.94 -33437369.83 -33437369.72 0.0274 0.0201

Venus -96260-07-20 07:25 J -33437341.29 -33437341.19 -33437341.10 0.3785 0.1914

Neptune -96260-09-16 18:27 J -33437282.83 -33437282.73 -33437282.62 0.0088 0.0068

Saturn -96260-09-18 08:08 J -33437281.31 -33437281.16 -33437281.02 0.0274 0.0111

Neptune -96260-12-13 20:51 J -33437194.72 -33437194.63 -33437194.53 0.0088 0.0073

Saturn -96260-12-15 23:44 J -33437192.67 -33437192.51 -33437192.35 0.0274 0.0022

Neptune -96259-03-11 23:01 J -33437106.60 -33437106.54 -33437106.45 0.0088 0.0078

Saturn -96259-03-14 15:06 J -33437104.02 -33437103.87 -33437103.72 0.0274 0.0064

Neptune -96259-06-08 01:25 J -33437018.48 -33437018.44 -33437018.37 0.0088 0.0082

Saturn -96259-06-11 05:59 J -33437015.37 -33437015.25 -33437015.12 0.0274 0.0149

Neptune -96259-09-04 04:03 J -33436930.35 -33436930.33 -33436930.30 0.0088 0.0087

Saturn -96259-09-07 20:37 J -33436926.71 -33436926.64 -33436926.55 0.0274 0.0231

Earth -96258-01-05 23:01 J -33436806.57 -33436806.54 -33436806.51 0.2724 0.2623

Moon -96258-01-05 23:15 J -33436806.55 -33436806.53 -33436806.51 0.2717 0.2655 *

Mars -96258-08-26 17:44 J -33436573.85 -33436573.76 -33436573.66 0.1917 0.1290

Jupiter -96256-11-22 12:56 J -33435755.10 -33435754.96 -33435754.82 0.0515 0.0096

Jupiter -96255-02-20 01:25 J -33435665.54 -33435665.44 -33435665.34 0.0511 0.0372

Moon -96255-07-15 07:39 J -33435520.22 -33435520.18 -33435520.13 0.2621 0.2442

Earth -96255-07-15 08:37 J -33435520.20 -33435520.14 -33435520.09 0.2616 0.2355 *

Venus -96254-02-03 01:39 J -33435317.54 -33435317.43 -33435317.33 0.3782 0.1096

Mars -96253-04-24 13:39 J -33434871.06 -33434870.93 -33434870.81 0.1609 0.0652

Uranus -96253-06-14 12:13 J -33434820.06 -33434819.99 -33434819.90 0.0136 0.0119

Uranus -96253-09-10 17:30 J -33434731.87 -33434731.77 -33434731.65 0.0136 0.0100

Uranus -96253-12-07 22:47 J -33434643.68 -33434643.55 -33434643.41 0.0136 0.0080

Uranus -96252-03-06 03:49 J -33434555.48 -33434555.34 -33434555.18 0.0136 0.0061

Uranus -96252-06-02 09:06 J -33434467.27 -33434467.12 -33434466.96 0.0135 0.0041

Uranus -96252-08-29 14:08 J -33434379.07 -33434378.91 -33434378.75 0.0135 0.0022

Uranus -96252-11-25 19:11 J -33434290.86 -33434290.70 -33434290.54 0.0135 0.0004

Uranus -96251-02-22 00:13 J -33434202.65 -33434202.49 -33434202.33 0.0135 0.0015

Mars -96251-03-31 07:11 J -33434165.30 -33434165.20 -33434165.11 0.1609 0.1180

Uranus -96251-05-21 05:01 J -33434114.44 -33434114.29 -33434114.13 0.0135 0.0034

Uranus -96251-08-17 09:49 J -33434026.23 -33434026.09 -33434025.94 0.0135 0.0052

Uranus -96251-11-13 14:37 J -33433938.02 -33433937.89 -33433937.75 0.0135 0.0070

Uranus -96250-02-09 19:25 J -33433849.80 -33433849.69 -33433849.57 0.0135 0.0088

Uranus -96250-05-08 23:59 J -33433761.58 -33433761.50 -33433761.39 0.0134 0.0106

Uranus -96250-08-05 04:47 J -33433673.35 -33433673.30 -33433673.23 0.0134 0.0123

Jupiter -96249-04-21 09:20 J -33433413.27 -33433413.11 -33433412.95 0.0514 0.0002

Earth -96249-07-24 15:35 J -33433318.87 -33433318.85 -33433318.82 0.2631 0.2565

Venus -96249-08-18 19:54 J -33433293.78 -33433293.67 -33433293.56 0.3779 0.0243

Mars -96248-01-15 21:20 J -33433143.74 -33433143.61 -33433143.48 0.1918 0.0523

Moon -96245-01-08 21:49 J -33432055.71 -33432055.59 -33432055.47 0.2713 0.1022

Earth -96245-01-08 22:03 J -33432055.70 -33432055.58 -33432055.46 0.2720 0.1065 *

Saturn -96245-04-02 18:13 J -33431970.82 -33431970.74 -33431970.67 0.0284 0.0243

Saturn -96245-06-30 09:20 J -33431882.23 -33431882.11 -33431881.98 0.0284 0.0153

Venus -96245-08-17 07:54 J -33431834.24 -33431834.17 -33431834.10 0.3592 0.3035

Saturn -96245-09-27 00:56 J -33431793.61 -33431793.46 -33431793.31 0.0285 0.0060

Saturn -96245-12-24 16:47 J -33431704.95 -33431704.80 -33431704.65 0.0285 0.0035

Saturn -96244-03-23 09:06 J -33431616.26 -33431616.12 -33431615.99 0.0285 0.0132

Saturn -96244-06-20 01:25 J -33431527.52 -33431527.44 -33431527.34 0.0285 0.0231

Jupiter -96244-09-10 15:35 J -33431444.98 -33431444.85 -33431444.72 0.0516 0.0212

Mars -96244-09-14 21:35 J -33431440.70 -33431440.60 -33431440.49 0.1609 0.1074

Jupiter -96244-12-09 03:49 J -33431355.46 -33431355.34 -33431355.21 0.0512 0.0254

Venus -96243-03-04 14:37 J -33431270.00 -33431269.89 -33431269.78 0.3776 0.0643

Moon -96242-07-18 05:44 J -33430769.37 -33430769.26 -33430769.14 0.2626 0.1003

Earth -96242-07-18 05:59 J -33430769.37 -33430769.25 -33430769.13 0.2620 0.1023 *

Mars -96242-08-21 14:23 J -33430735.02 -33430734.90 -33430734.77 0.1608 0.0726

Venus -96239-03-03 09:06 J -33429810.24 -33429810.12 -33429810.00 0.3595 0.1741

Mars -96239-06-08 00:27 J -33429713.61 -33429713.48 -33429713.35 0.1918 0.0273

Venus -96238-09-18 09:20 J -33429246.21 -33429246.11 -33429246.01 0.3773 0.1524

Jupiter -96237-02-08 08:23 J -33429103.30 -33429103.15 -33429103.00 0.0513 0.0145

Jupiter -96237-05-08 05:44 J -33429013.36 -33429013.26 -33429013.16 0.0516 0.0380

Mars -96234-02-05 05:59 J -33428010.30 -33428010.25 -33428010.20 0.1609 0.1486

Venus -96234-09-17 10:03 J -33427786.22 -33427786.08 -33427785.95 0.3598 0.0493

Moon -96232-01-10 20:23 J -33427304.78 -33427304.65 -33427304.52 0.2713 0.0376

Earth -96232-01-10 21:35 J -33427304.73 -33427304.60 -33427304.47 0.2715 0.0540 *

Mars -96232-01-10 22:03 J -33427304.72 -33427304.58 -33427304.44 0.1608 0.0276 *

Venus -96232-04-03 04:18 J -33427222.40 -33427222.32 -33427222.23 0.3770 0.2445

Jupiter -96232-06-29 18:27 J -33427134.83 -33427134.73 -33427134.62 0.0517 0.0324

Jupiter -96232-09-27 06:27 J -33427045.36 -33427045.23 -33427045.09 0.0513 0.0143

Saturn -96231-11-08 18:42 J -33426637.81 -33426637.72 -33426637.62 0.0275 0.0219

Saturn -96230-02-05 10:47 J -33426549.19 -33426549.05 -33426548.91 0.0275 0.0129

Saturn -96230-05-05 02:37 J -33426460.55 -33426460.39 -33426460.24 0.0274 0.0040

Saturn -96230-08-01 17:59 J -33426371.91 -33426371.75 -33426371.60 0.0274 0.0047

Mars -96230-10-29 03:20 J -33426283.47 -33426283.36 -33426283.25 0.1917 0.1089

Saturn -96230-10-29 08:51 J -33426283.26 -33426283.13 -33426282.99 0.0274 0.0132 *

Saturn -96229-01-25 23:44 J -33426194.61 -33426194.51 -33426194.42 0.0274 0.0214

Earth -96229-07-20 03:06 J -33426018.49 -33426018.37 -33426018.24 0.2624 0.0289

Moon -96229-07-20 03:35 J -33426018.47 -33426018.35 -33426018.22 0.2630 0.0282 *

Venus -96228-04-02 10:18 J -33425762.20 -33425762.07 -33425761.94 0.3601 0.0700

Venus -96227-10-17 23:30 J -33425198.56 -33425198.52 -33425198.47 0.3766 0.3386

Jupiter -96226-11-27 08:23 J -33424793.28 -33424793.15 -33424793.01 0.0512 0.0277

Jupiter -96225-02-25 06:13 J -33424703.38 -33424703.24 -33424703.10 0.0516 0.0251

Mars -96223-06-03 05:44 J -33423874.39 -33423874.26 -33423874.12 0.1608 0.0170

Venus -96223-10-17 10:18 J -33423738.19 -33423738.07 -33423737.96 0.3604 0.1846

Jupiter -96220-04-17 21:35 J -33422824.67 -33422824.60 -33422824.52 0.0518 0.0433

Jupiter -96220-07-16 09:20 J -33422735.25 -33422735.11 -33422734.96 0.0514 0.0032

Jupiter -96220-10-13 22:18 J -33422645.60 -33422645.57 -33422645.55 0.0510 0.0500

Moon -96219-01-13 20:08 J -33422553.74 -33422553.66 -33422553.57 0.2712 0.2055

Earth -96219-01-13 21:20 J -33422553.69 -33422553.61 -33422553.54 0.2711 0.2183 *

Mars -96218-02-24 17:59 J -33422146.85 -33422146.75 -33422146.66 0.1917 0.1357

Venus -96217-05-02 09:35 J -33421714.17 -33421714.10 -33421714.02 0.3608 0.2932

Earth -96216-07-23 00:13 J -33421267.59 -33421267.49 -33421267.39 0.2628 0.1575

Moon -96216-07-23 00:56 J -33421267.55 -33421267.46 -33421267.36 0.2628 0.1741 *

Saturn -96216-08-20 18:27 J -33421238.76 -33421238.73 -33421238.69 0.0284 0.0274

Saturn -96216-11-17 09:35 J -33421150.21 -33421150.10 -33421149.98 0.0284 0.0185

Saturn -96215-02-14 00:56 J -33421061.60 -33421061.46 -33421061.31 0.0284 0.0094

Saturn -96215-05-13 16:47 J -33420972.96 -33420972.80 -33420972.65 0.0284 0.0007

Saturn -96215-08-10 08:37 J -33420884.28 -33420884.14 -33420883.99 0.0285 0.0096

Saturn -96215-11-07 01:11 J -33420795.56 -33420795.45 -33420795.34 0.0285 0.0194

Venus -96214-01-25 17:30 J -33420715.82 -33420715.77 -33420715.72 0.3789 0.3258

Jupiter -96214-09-15 08:37 J -33420483.24 -33420483.14 -33420483.05 0.0511 0.0407

Mars -96214-10-24 13:54 J -33420444.05 -33420443.92 -33420443.79 0.1609 0.0594

Jupiter -96214-12-14 06:42 J -33420393.37 -33420393.22 -33420393.06 0.0515 0.0126

Earth -96212-01-06 04:32 J -33420004.38 -33420004.31 -33420004.25 0.2723 0.2312

Moon -96212-01-06 04:32 J -33420004.38 -33420004.31 -33420004.23 0.2716 0.2212 *

Mars -96212-09-29 07:25 J -33419738.28 -33419738.19 -33419738.10 0.1609 0.1241

Moon -96209-07-15 13:11 J -33418718.02 -33418717.95 -33418717.88 0.2621 0.2161

Earth -96209-07-15 13:54 J -33418717.99 -33418717.92 -33418717.84 0.2617 0.2069 *

Mars -96209-07-16 21:35 J -33418716.72 -33418716.60 -33418716.47 0.1918 0.0601

Venus -96209-08-10 11:30 J -33418692.10 -33418692.02 -33418691.94 0.3786 0.2480

Uranus -96208-02-06 01:11 J -33418512.48 -33418512.45 -33418512.40 0.0143 0.0137

Jupiter -96208-05-04 12:13 J -33418425.13 -33418424.99 -33418424.85 0.0515 0.0084

Uranus -96208-05-05 05:59 J -33418424.33 -33418424.25 -33418424.16 0.0143 0.0117

Uranus -96208-08-01 10:47 J -33418336.16 -33418336.05 -33418335.94 0.0143 0.0097

Jupiter -96208-08-02 00:42 J -33418335.56 -33418335.47 -33418335.37 0.0511 0.0384

Uranus -96208-10-28 15:35 J -33418247.97 -33418247.85 -33418247.72 0.0143 0.0077

Uranus -96207-01-24 20:23 J -33418159.78 -33418159.65 -33418159.51 0.0143 0.0057

Uranus -96207-04-23 01:25 J -33418071.59 -33418071.44 -33418071.29 0.0143 0.0036

Uranus -96207-07-20 06:27 J -33417983.38 -33417983.23 -33417983.08 0.0144 0.0015

Uranus -96207-10-16 11:15 J -33417895.18 -33417895.03 -33417894.87 0.0144 0.0008

Uranus -96206-01-12 16:18 J -33417806.96 -33417806.82 -33417806.66 0.0144 0.0028

Uranus -96206-04-10 21:35 J -33417718.75 -33417718.60 -33417718.46 0.0144 0.0049

Uranus -96206-07-08 02:37 J -33417630.52 -33417630.39 -33417630.25 0.0144 0.0071

Uranus -96206-10-04 07:39 J -33417542.29 -33417542.18 -33417542.05 0.0144 0.0094

Uranus -96206-12-31 12:56 J -33417454.04 -33417453.96 -33417453.86 0.0144 0.0116

Uranus -96205-03-28 18:27 J -33417365.77 -33417365.73 -33417365.68 0.0145 0.0138

Mars -96204-03-15 22:03 J -33417013.69 -33417013.58 -33417013.48 0.1609 0.1017

Venus -96203-02-24 05:30 J -33416668.37 -33416668.27 -33416668.17 0.3784 0.1670

Mars -96202-02-19 14:51 J -33416308.00 -33416307.88 -33416307.76 0.1609 0.0785

Jupiter -96202-10-02 07:39 J -33416083.34 -33416083.18 -33416083.02 0.0514 0.0005

Saturn -96201-03-27 17:44 J -33415905.81 -33415905.76 -33415905.70 0.0275 0.0254

Saturn -96201-06-24 10:03 J -33415817.21 -33415817.08 -33415816.95 0.0274 0.0163

Saturn -96201-09-21 01:54 J -33415728.57 -33415728.42 -33415728.27 0.0274 0.0074

Saturn -96201-12-18 17:30 J -33415639.93 -33415639.77 -33415639.62 0.0274 0.0015

Saturn -96200-03-17 08:37 J -33415551.28 -33415551.14 -33415551.00 0.0274 0.0100

Saturn -96200-06-13 23:30 J -33415462.63 -33415462.52 -33415462.41 0.0274 0.0183

Saturn -96200-09-10 13:54 J -33415373.95 -33415373.92 -33415373.88 0.0274 0.0265

Mars -96200-12-07 00:42 J -33415286.60 -33415286.47 -33415286.33 0.1918 0.0206

Moon -96199-01-09 03:06 J -33415253.49 -33415253.37 -33415253.24 0.2713 0.0871

Earth -96199-01-09 03:35 J -33415253.47 -33415253.35 -33415253.22 0.2719 0.0744 *

Pluto -96199-02-02 05:44 J -33415229.31 -33415229.26 -33415229.21 0.0060 0.0057

Pluto -96199-05-01 06:42 J -33415141.30 -33415141.22 -33415141.10 0.0060 0.0051

Pluto -96199-07-28 08:08 J -33415053.27 -33415053.16 -33415053.01 0.0060 0.0044

Pluto -96199-10-24 09:49 J -33414965.23 -33414965.09 -33414964.92 0.0060 0.0037

Pluto -96198-01-20 11:30 J -33414877.19 -33414877.02 -33414876.85 0.0060 0.0030

Pluto -96198-04-18 12:42 J -33414789.14 -33414788.97 -33414788.77 0.0060 0.0024

Pluto -96198-07-15 14:08 J -33414701.08 -33414700.91 -33414700.71 0.0060 0.0017

Venus -96198-09-09 23:44 J -33414644.62 -33414644.51 -33414644.40 0.3781 0.0848

Pluto -96198-10-11 15:49 J -33414613.03 -33414612.84 -33414612.64 0.0060 0.0010

Pluto -96197-01-07 17:30 J -33414524.97 -33414524.77 -33414524.57 0.0060 0.0003

Pluto -96197-04-04 18:56 J -33414436.91 -33414436.71 -33414436.51 0.0060 0.0004

Pluto -96197-07-01 20:23 J -33414348.84 -33414348.65 -33414348.45 0.0060 0.0011

Pluto -96197-09-27 21:49 J -33414260.77 -33414260.59 -33414260.39 0.0061 0.0018

Pluto -96197-12-24 23:15 J -33414172.70 -33414172.53 -33414172.34 0.0061 0.0025

Jupiter -96196-02-20 14:23 J -33414115.03 -33414114.90 -33414114.77 0.0516 0.0205

Pluto -96196-03-23 00:42 J -33414084.62 -33414084.47 -33414084.29 0.0061 0.0032

Jupiter -96196-05-21 02:37 J -33414025.51 -33414025.39 -33414025.27 0.0512 0.0261

Pluto -96196-06-19 02:23 J -33413996.54 -33413996.40 -33413996.24 0.0061 0.0039

Moon -96196-07-18 11:30 J -33413967.15 -33413967.02 -33413966.90 0.2627 0.0750

Earth -96196-07-18 11:15 J -33413967.15 -33413967.03 -33413966.91 0.2620 0.0737 *

Pluto -96196-09-15 03:49 J -33413908.46 -33413908.34 -33413908.20 0.0061 0.0046

Pluto -96196-12-12 05:30 J -33413820.36 -33413820.27 -33413820.17 0.0061 0.0053

Pluto -96195-03-10 06:42 J -33413732.22 -33413732.22 -33413732.18 0.0061 0.0061

Mars -96195-08-06 06:13 J -33413583.30 -33413583.24 -33413583.18 0.1609 0.1431

Mars -96193-07-11 22:18 J -33412877.71 -33412877.57 -33412877.43 0.1608 0.0335

Venus -96192-03-25 18:13 J -33412620.85 -33412620.74 -33412620.63 0.3778 0.0061

Mars -96190-04-29 03:35 J -33411856.46 -33411856.35 -33411856.23 0.1918 0.1012

Jupiter -96190-07-21 07:54 J -33411773.33 -33411773.17 -33411773.02 0.0513 0.0131

Jupiter -96190-10-19 05:15 J -33411683.38 -33411683.28 -33411683.18 0.0517 0.0395

Venus -96188-03-24 07:54 J -33411161.26 -33411161.17 -33411161.08 0.3593 0.2659

Venus -96187-10-09 12:42 J -33410597.08 -33410596.97 -33410596.86 0.3775 0.0889

Moon -96186-01-12 01:54 J -33410502.54 -33410502.42 -33410502.29 0.2712 0.0820

Earth -96186-01-12 03:06 J -33410502.49 -33410502.37 -33410502.24 0.2715 0.0868 *

Saturn -96186-04-06 10:47 J -33410418.15 -33410418.05 -33410417.95 0.0284 0.0212

Saturn -96186-07-04 02:08 J -33410329.55 -33410329.41 -33410329.28 0.0284 0.0121

Saturn -96186-09-30 17:44 J -33410240.91 -33410240.76 -33410240.61 0.0285 0.0027

Saturn -96186-12-28 09:35 J -33410152.25 -33410152.10 -33410151.95 0.0285 0.0069

Neptune -96185-03-19 02:37 J -33410070.42 -33410070.39 -33410070.36 0.0089 0.0086

Saturn -96185-03-26 01:54 J -33410063.54 -33410063.42 -33410063.29 0.0285 0.0167

Neptune -96185-06-15 04:18 J -33409982.37 -33409982.32 -33409982.27 0.0089 0.0082

Saturn -96185-06-22 18:42 J -33409974.77 -33409974.72 -33409974.66 0.0285 0.0266

Neptune -96185-09-11 05:59 J -33409894.31 -33409894.25 -33409894.18 0.0089 0.0078

Neptune -96185-12-08 07:25 J -33409806.25 -33409806.19 -33409806.10 0.0089 0.0074

Jupiter -96185-12-09 17:01 J -33409804.89 -33409804.79 -33409804.68 0.0517 0.0321

Neptune -96184-03-06 09:06 J -33409718.19 -33409718.12 -33409718.02 0.0089 0.0070

Jupiter -96184-03-09 05:01 J -33409715.43 -33409715.29 -33409715.15 0.0513 0.0144

Neptune -96184-06-02 10:47 J -33409630.13 -33409630.05 -33409629.94 0.0089 0.0066

Neptune -96184-08-29 12:56 J -33409542.07 -33409541.96 -33409541.86 0.0089 0.0061

Neptune -96184-11-25 14:23 J -33409454.00 -33409453.90 -33409453.78 0.0089 0.0057

Mars -96184-12-02 06:13 J -33409447.38 -33409447.24 -33409447.10 0.1608 0.0112

Neptune -96183-02-21 16:03 J -33409365.94 -33409365.83 -33409365.70 0.0089 0.0053

Neptune -96183-05-20 17:44 J -33409277.87 -33409277.76 -33409277.63 0.0089 0.0049

Earth -96183-07-21 08:23 J -33409216.27 -33409216.15 -33409216.03 0.2624 0.0566

Moon -96183-07-21 09:06 J -33409216.24 -33409216.12 -33409216.00 0.2629 0.0687 *

Neptune -96183-08-16 19:39 J -33409189.80 -33409189.68 -33409189.55 0.0089 0.0044

Venus -96183-10-08 09:06 J -33409137.25 -33409137.12 -33409136.99 0.3596 0.1372

Neptune -96183-11-12 21:20 J -33409101.73 -33409101.61 -33409101.47 0.0089 0.0040

Neptune -96182-02-08 23:01 J -33409013.66 -33409013.54 -33409013.40 0.0089 0.0036

Neptune -96182-05-08 00:42 J -33408925.59 -33408925.47 -33408925.32 0.0089 0.0032

Neptune -96182-08-04 02:37 J -33408837.52 -33408837.39 -33408837.24 0.0089 0.0027

Neptune -96182-10-31 04:32 J -33408749.45 -33408749.31 -33408749.17 0.0089 0.0022

Neptune -96181-01-27 06:13 J -33408661.38 -33408661.24 -33408661.09 0.0089 0.0018

Neptune -96181-04-24 08:08 J -33408573.30 -33408573.16 -33408573.01 0.0089 0.0014

Venus -96181-04-24 07:39 J -33408573.28 -33408573.18 -33408573.08 0.3772 0.1784 *

Neptune -96181-07-21 09:49 J -33408485.23 -33408485.09 -33408484.94 0.0089 0.0010

Mars -96181-09-18 06:13 J -33408426.28 -33408426.24 -33408426.21 0.1917 0.1849

Neptune -96181-10-17 11:44 J -33408397.16 -33408397.01 -33408396.86 0.0089 0.0005

Neptune -96180-01-13 13:39 J -33408309.08 -33408308.93 -33408308.79 0.0089 0.0002

Neptune -96180-04-11 15:20 J -33408221.01 -33408220.86 -33408220.71 0.0089 0.0004

Neptune -96180-07-08 17:15 J -33408132.93 -33408132.78 -33408132.63 0.0089 0.0008

Neptune -96180-10-04 18:56 J -33408044.85 -33408044.71 -33408044.56 0.0089 0.0013

Neptune -96180-12-31 20:51 J -33407956.77 -33407956.63 -33407956.48 0.0089 0.0017

Neptune -96179-03-29 22:47 J -33407868.70 -33407868.55 -33407868.41 0.0089 0.0022

Neptune -96179-06-26 00:27 J -33407780.62 -33407780.48 -33407780.33 0.0089 0.0027

Mars -96179-08-25 18:13 J -33407719.82 -33407719.74 -33407719.65 0.1917 0.1436

Neptune -96179-09-22 02:23 J -33407692.54 -33407692.40 -33407692.26 0.0089 0.0031

Neptune -96179-12-19 04:03 J -33407604.45 -33407604.33 -33407604.18 0.0089 0.0036

Neptune -96178-03-17 06:13 J -33407516.37 -33407516.24 -33407516.10 0.0089 0.0040

Jupiter -96178-05-09 06:56 J -33407463.35 -33407463.21 -33407463.07 0.0511 0.0272

Neptune -96178-06-13 07:54 J -33407428.29 -33407428.17 -33407428.03 0.0089 0.0045

Jupiter -96178-08-07 04:47 J -33407373.44 -33407373.30 -33407373.17 0.0515 0.0256

Neptune -96178-09-09 10:03 J -33407340.20 -33407340.08 -33407339.96 0.0089 0.0049

Neptune -96178-12-06 11:44 J -33407252.12 -33407252.01 -33407251.88 0.0089 0.0054

Neptune -96177-03-03 13:54 J -33407164.03 -33407163.92 -33407163.81 0.0089 0.0058

Venus -96177-04-23 09:49 J -33407113.23 -33407113.09 -33407112.96 0.3599 0.0147

Neptune -96177-05-30 15:35 J -33407075.95 -33407075.85 -33407075.73 0.0089 0.0063

Neptune -96177-08-26 17:30 J -33406987.86 -33406987.77 -33406987.66 0.0089 0.0068

Neptune -96177-11-22 19:39 J -33406899.77 -33406899.68 -33406899.59 0.0089 0.0072

Neptune -96176-02-18 21:20 J -33406811.67 -33406811.61 -33406811.52 0.0089 0.0077

Neptune -96176-05-17 23:15 J -33406723.57 -33406723.53 -33406723.46 0.0089 0.0082

Neptune -96176-08-14 01:25 J -33406635.47 -33406635.44 -33406635.40 0.0089 0.0086

Venus -96176-11-08 02:37 J -33406549.46 -33406549.39 -33406549.31 0.3768 0.2707

Mars -96174-04-24 13:54 J -33406017.05 -33406016.92 -33406016.79 0.1608 0.0543

Moon -96173-01-15 01:54 J -33405751.48 -33405751.42 -33405751.36 0.2713 0.2396

Earth -96173-01-15 02:51 J -33405751.42 -33405751.38 -33405751.33 0.2710 0.2521 *

Jupiter -96173-09-27 19:54 J -33405494.74 -33405494.67 -33405494.59 0.0518 0.0433

Jupiter -96173-12-26 07:54 J -33405405.32 -33405405.17 -33405405.03 0.0515 0.0034

Jupiter -96172-03-25 20:37 J -33405315.66 -33405315.64 -33405315.61 0.0511 0.0502

Mars -96172-03-30 07:39 J -33405311.26 -33405311.18 -33405311.10 0.1609 0.1302

Saturn -96172-08-14 20:08 J -33405173.66 -33405173.66 -33405173.64 0.0275 0.0274

Venus -96172-11-07 10:03 J -33405089.21 -33405089.08 -33405088.95 0.3602 0.1032

Saturn -96172-11-11 12:27 J -33405085.09 -33405084.98 -33405084.86 0.0275 0.0183

Saturn -96171-02-08 04:32 J -33404996.46 -33404996.31 -33404996.16 0.0275 0.0092

Saturn -96171-05-07 20:08 J -33404907.82 -33404907.66 -33404907.50 0.0275 0.0004

Saturn -96171-08-04 11:15 J -33404819.17 -33404819.03 -33404818.88 0.0274 0.0083

Saturn -96171-11-01 02:08 J -33404730.52 -33404730.41 -33404730.28 0.0274 0.0167

Saturn -96170-01-28 16:47 J -33404641.85 -33404641.80 -33404641.73 0.0274 0.0249

Venus -96170-05-24 22:03 J -33404525.60 -33404525.58 -33404525.56 0.3765 0.3652

Earth -96170-07-24 05:15 J -33404465.36 -33404465.28 -33404465.19 0.2628 0.1846

Moon -96170-07-24 06:27 J -33404465.32 -33404465.23 -33404465.15 0.2628 0.1868 *

Mars -96169-01-15 21:49 J -33404289.72 -33404289.59 -33404289.47 0.1918 0.0666

Uranus -96169-04-07 15:06 J -33404206.90 -33404206.87 -33404206.82 0.0136 0.0131

Uranus -96169-07-04 20:08 J -33404118.73 -33404118.66 -33404118.55 0.0136 0.0112

Uranus -96169-10-01 01:39 J -33404030.54 -33404030.43 -33404030.30 0.0136 0.0092

Uranus -96169-12-28 06:42 J -33403942.35 -33403942.22 -33403942.07 0.0136 0.0073

Uranus -96168-03-26 12:13 J -33403854.14 -33403853.99 -33403853.84 0.0135 0.0053

Uranus -96168-06-22 17:15 J -33403765.94 -33403765.78 -33403765.62 0.0135 0.0034

Uranus -96168-09-18 22:18 J -33403677.73 -33403677.57 -33403677.41 0.0135 0.0015

Uranus -96168-12-16 03:20 J -33403589.52 -33403589.36 -33403589.20 0.0135 0.0004

Uranus -96167-03-14 08:08 J -33403501.31 -33403501.16 -33403500.99 0.0135 0.0023

Uranus -96167-06-10 13:11 J -33403413.10 -33403412.95 -33403412.80 0.0135 0.0041

Uranus -96167-09-06 17:59 J -33403324.89 -33403324.75 -33403324.60 0.0135 0.0059

Uranus -96167-12-03 22:32 J -33403236.68 -33403236.56 -33403236.42 0.0135 0.0078

Earth -96166-01-07 10:03 J -33403202.17 -33403202.08 -33403202.00 0.2723 0.1993

Moon -96166-01-07 10:03 J -33403202.16 -33403202.08 -33403201.99 0.2715 0.2041 *

Jupiter -96166-02-25 06:42 J -33403153.31 -33403153.22 -33403153.12 0.0511 0.0405

Uranus -96166-03-02 03:35 J -33403148.46 -33403148.35 -33403148.24 0.0134 0.0095

Venus -96166-05-24 09:49 J -33403065.19 -33403065.09 -33403064.98 0.3605 0.2158

Jupiter -96166-05-26 05:01 J -33403063.44 -33403063.29 -33403063.13 0.0514 0.0126

Uranus -96166-05-29 08:08 J -33403060.24 -33403060.16 -33403060.07 0.0134 0.0113

Uranus -96166-08-25 12:56 J -33402971.99 -33402971.96 -33402971.92 0.0134 0.0130

Mars -96165-09-13 22:03 J -33402586.68 -33402586.58 -33402586.47 0.1609 0.0963

Moon -96163-07-16 18:42 J -33401915.81 -33401915.72 -33401915.63 0.2622 0.1823

Earth -96163-07-16 19:11 J -33401915.79 -33401915.70 -33401915.60 0.2617 0.1789 *

Mars -96163-08-20 14:51 J -33401881.00 -33401880.88 -33401880.76 0.1608 0.0841

Jupiter -96161-10-14 10:47 J -33401095.19 -33401095.05 -33401094.91 0.0515 0.0082

Venus -96161-12-07 09:06 J -33401041.17 -33401041.12 -33401041.06 0.3609 0.3229

Jupiter -96160-01-11 23:15 J -33401005.62 -33401005.53 -33401005.44 0.0511 0.0388

Mars -96160-06-07 00:56 J -33400859.59 -33400859.46 -33400859.32 0.1918 0.0133

Venus -96158-09-01 15:35 J -33400042.91 -33400042.85 -33400042.79 0.3788 0.3029

Saturn -96157-08-23 11:01 J -33399686.10 -33399686.04 -33399685.95 0.0284 0.0243

Saturn -96157-11-20 02:23 J -33399597.53 -33399597.40 -33399597.27 0.0284 0.0153

Saturn -96156-02-16 17:44 J -33399508.91 -33399508.76 -33399508.61 0.0284 0.0061

Saturn -96156-05-16 09:35 J -33399420.25 -33399420.10 -33399419.95 0.0284 0.0034

Saturn -96156-08-13 01:39 J -33399331.56 -33399331.43 -33399331.29 0.0285 0.0131

Saturn -96156-11-09 18:13 J -33399242.83 -33399242.74 -33399242.65 0.0285 0.0229

Mars -96155-02-04 06:27 J -33399156.30 -33399156.23 -33399156.16 0.1609 0.1378

Jupiter -96154-03-14 05:30 J -33398753.43 -33398753.27 -33398753.11 0.0514 0.0002

Moon -96153-01-10 08:23 J -33398451.28 -33398451.15 -33398451.02 0.2714 0.0424

Earth -96153-01-10 09:06 J -33398451.24 -33398451.12 -33398450.99 0.2718 0.0432 *

Mars -96153-01-10 22:32 J -33398450.69 -33398450.56 -33398450.42 0.1608 0.0396

Venus -96152-03-17 09:35 J -33398019.19 -33398019.10 -33398019.02 0.3786 0.2241

Mars -96151-10-28 04:03 J -33397429.45 -33397429.33 -33397429.21 0.1918 0.0929

Earth -96150-07-19 16:32 J -33397164.93 -33397164.81 -33397164.68 0.2621 0.0463

Moon -96150-07-19 16:47 J -33397164.92 -33397164.80 -33397164.68 0.2628 0.0444 *

Jupiter -96149-08-02 13:39 J -33396785.06 -33396784.93 -33396784.80 0.0516 0.0193

Jupiter -96149-10-31 01:54 J -33396695.54 -33396695.42 -33396695.30 0.0512 0.0273

Venus -96147-10-01 03:35 J -33395995.45 -33395995.35 -33395995.25 0.3783 0.1432

Mars -96144-06-02 06:27 J -33395020.37 -33395020.23 -33395020.09 0.1608 0.0061

Jupiter -96143-12-31 06:13 J -33394443.40 -33394443.24 -33394443.08 0.0513 0.0128

Jupiter -96142-03-31 03:35 J -33394353.45 -33394353.35 -33394353.25 0.0517 0.0398

Saturn -96142-03-31 11:30 J -33394353.11 -33394353.02 -33394352.92 0.0275 0.0218

Saturn -96142-06-28 03:35 J -33394264.49 -33394264.35 -33394264.21 0.0274 0.0128

Saturn -96142-09-24 19:25 J -33394175.85 -33394175.69 -33394175.54 0.0274 0.0039

Saturn -96142-12-22 10:47 J -33394087.20 -33394087.05 -33394086.90 0.0274 0.0048

Mars -96141-03-19 06:27 J -33393999.28 -33393999.23 -33393999.18 0.1917 0.1772

Saturn -96141-03-20 01:54 J -33393998.56 -33393998.42 -33393998.29 0.0274 0.0133

Venus -96141-04-15 21:49 J -33393971.70 -33393971.59 -33393971.48 0.3780 0.0607

Saturn -96141-06-16 16:32 J -33393909.90 -33393909.81 -33393909.71 0.0274 0.0216

Moon -96140-01-12 07:39 J -33393700.30 -33393700.18 -33393700.06 0.2712 0.1008

Earth -96140-01-12 08:37 J -33393700.25 -33393700.14 -33393700.02 0.2714 0.1201 *

Mars -96139-02-23 18:27 J -33393292.81 -33393292.73 -33393292.65 0.1917 0.1507

Jupiter -96137-05-21 16:03 J -33392474.94 -33392474.83 -33392474.72 0.0517 0.0312

Earth -96137-07-21 13:39 J -33392414.05 -33392413.93 -33392413.81 0.2625 0.0848

Moon -96137-07-21 14:37 J -33392414.01 -33392413.89 -33392413.78 0.2628 0.0898 *

Jupiter -96137-08-19 04:03 J -33392385.47 -33392385.33 -33392385.20 0.0513 0.0152

Venus -96136-10-30 16:18 J -33391947.93 -33391947.82 -33391947.71 0.3777 0.0286

Mars -96135-10-23 14:23 J -33391590.03 -33391589.90 -33391589.77 0.1608 0.0480

Mars -96133-09-28 07:54 J -33390884.24 -33390884.17 -33390884.09 0.1609 0.1364

Venus -96132-10-29 07:54 J -33390488.27 -33390488.17 -33390488.06 0.3594 0.2284

Jupiter -96131-10-19 06:13 J -33390133.37 -33390133.24 -33390133.09 0.0512 0.0258

Jupiter -96130-01-17 04:18 J -33390043.46 -33390043.32 -33390043.19 0.0516 0.0271

Venus -96130-05-16 11:01 J -33389924.14 -33389924.04 -33389923.93 0.3774 0.1146

Mars -96130-07-16 22:03 J -33389862.70 -33389862.58 -33389862.46 0.1918 0.0743

Saturn -96127-01-10 11:59 J -33388954.04 -33388954.00 -33388953.96 0.0284 0.0271

Saturn -96127-04-09 02:51 J -33388865.49 -33388865.38 -33388865.26 0.0284 0.0183

Saturn -96127-07-06 18:27 J -33388776.88 -33388776.73 -33388776.59 0.0284 0.0091

Saturn -96127-10-03 10:03 J -33388688.23 -33388688.08 -33388687.93 0.0285 0.0004

Saturn -96127-12-31 02:08 J -33388599.55 -33388599.41 -33388599.26 0.0285 0.0100

Saturn -96126-03-29 18:27 J -33388510.83 -33388510.73 -33388510.61 0.0285 0.0199

Venus -96126-05-15 09:06 J -33388464.25 -33388464.12 -33388463.99 0.3597 0.1012

Jupiter -96125-03-09 18:42 J -33388164.79 -33388164.72 -33388164.64 0.0518 0.0427

Mars -96125-03-14 22:18 J -33388159.68 -33388159.57 -33388159.46 0.1609 0.0909

Jupiter -96125-06-07 06:27 J -33388075.37 -33388075.23 -33388075.09 0.0514 0.0035

Jupiter -96125-09-04 19:11 J -33387985.71 -33387985.70 -33387985.68 0.0510 0.0505

Venus -96125-11-29 05:59 J -33387900.34 -33387900.25 -33387900.15 0.3771 0.2043

Uranus -96124-02-26 09:06 J -33387811.17 -33387811.12 -33387811.05 0.0143 0.0130

Uranus -96124-05-25 13:54 J -33387723.00 -33387722.92 -33387722.82 0.0143 0.0110

Earth -96124-07-24 10:32 J -33387663.13 -33387663.06 -33387662.98 0.2629 0.2120

Moon -96124-07-24 11:30 J -33387663.07 -33387663.02 -33387662.96 0.2629 0.2288 *

Uranus -96124-08-21 18:42 J -33387634.83 -33387634.72 -33387634.60 0.0143 0.0090

Uranus -96124-11-17 23:44 J -33387546.64 -33387546.51 -33387546.38 0.0143 0.0070

Uranus -96123-02-14 04:32 J -33387458.45 -33387458.31 -33387458.17 0.0143 0.0049

Mars -96123-02-18 15:20 J -33387453.98 -33387453.86 -33387453.75 0.1608 0.0904

Uranus -96123-05-13 09:35 J -33387370.25 -33387370.10 -33387369.95 0.0143 0.0029

Uranus -96123-08-09 14:23 J -33387282.05 -33387281.90 -33387281.74 0.0144 0.0008

Uranus -96123-11-05 19:25 J -33387193.84 -33387193.69 -33387193.54 0.0144 0.0014

Uranus -96122-02-02 00:27 J -33387105.62 -33387105.48 -33387105.33 0.0144 0.0035

Uranus -96122-05-01 05:30 J -33387017.40 -33387017.27 -33387017.12 0.0144 0.0057

Uranus -96122-07-28 10:32 J -33386929.18 -33386929.06 -33386928.92 0.0144 0.0080

Uranus -96122-10-24 16:03 J -33386840.94 -33386840.83 -33386840.72 0.0144 0.0101

Uranus -96121-01-20 21:06 J -33386752.69 -33386752.62 -33386752.53 0.0144 0.0124

Venus -96121-11-28 09:35 J -33386440.23 -33386440.10 -33386439.96 0.3600 0.0205

Mars -96121-12-06 01:25 J -33386432.58 -33386432.44 -33386432.31 0.1918 0.0052

Moon -96120-01-07 15:35 J -33386399.96 -33386399.85 -33386399.75 0.2715 0.1629

Earth -96120-01-07 15:35 J -33386399.95 -33386399.85 -33386399.75 0.2722 0.1680 *

Venus -96119-06-15 01:11 J -33385876.52 -33385876.45 -33385876.38 0.3767 0.2972

Jupiter -96119-08-07 05:30 J -33385823.37 -33385823.27 -33385823.17 0.0510 0.0398

Jupiter -96119-11-05 03:35 J -33385733.50 -33385733.35 -33385733.19 0.0514 0.0133

Moon -96117-07-17 00:13 J -33385113.59 -33385113.49 -33385113.39 0.2623 0.1599

Earth -96117-07-17 00:42 J -33385113.58 -33385113.47 -33385113.37 0.2618 0.1505 *

Mars -96116-08-05 06:42 J -33384729.30 -33384729.22 -33384729.15 0.1609 0.1327

Venus -96115-06-14 09:49 J -33384416.22 -33384416.09 -33384415.97 0.3603 0.1359

Mars -96114-07-11 22:47 J -33384023.68 -33384023.55 -33384023.41 0.1608 0.0451

Jupiter -96113-03-26 09:06 J -33383765.26 -33383765.12 -33383764.98 0.0516 0.0080

Jupiter -96113-06-23 21:35 J -33383675.69 -33383675.60 -33383675.50 0.0512 0.0391

Saturn -96113-08-17 13:39 J -33383621.00 -33383620.93 -33383620.85 0.0275 0.0240

Saturn -96113-11-14 05:44 J -33383532.38 -33383532.26 -33383532.12 0.0275 0.0149

Saturn -96112-02-10 21:49 J -33383443.75 -33383443.59 -33383443.44 0.0275 0.0059

Saturn -96112-05-10 13:11 J -33383355.10 -33383354.95 -33383354.79 0.0275 0.0030

Saturn -96112-08-07 04:18 J -33383266.45 -33383266.32 -33383266.17 0.0275 0.0115

Saturn -96112-11-03 19:11 J -33383177.80 -33383177.70 -33383177.59 0.0274 0.0199

Mars -96111-04-28 04:03 J -33383002.45 -33383002.33 -33383002.21 0.1918 0.0868

Venus -96110-12-29 09:35 J -33382392.20 -33382392.10 -33382392.01 0.3606 0.2470

Moon -96107-01-10 13:54 J -33381649.05 -33381648.92 -33381648.79 0.2713 0.0262

Earth -96107-01-10 14:51 J -33381649.01 -33381648.88 -33381648.75 0.2718 0.0108 *

Jupiter -96107-08-24 04:03 J -33381423.50 -33381423.33 -33381423.17 0.0513 0.0014

Venus -96107-09-22 19:54 J -33381393.71 -33381393.67 -33381393.64 0.3790 0.3571

Pluto -96106-11-26 12:13 J -33380964.02 -33380963.99 -33380963.93 0.0085 0.0079

Pluto -96105-02-22 13:39 J -33380876.01 -33380875.93 -33380875.85 0.0084 0.0066

Pluto -96105-05-20 14:37 J -33380787.98 -33380787.89 -33380787.77 0.0084 0.0054

Pluto -96105-08-16 16:03 J -33380699.94 -33380699.83 -33380699.71 0.0084 0.0040

Pluto -96105-11-12 17:30 J -33380611.89 -33380611.77 -33380611.64 0.0084 0.0027

Mars -96105-12-01 06:42 J -33380593.36 -33380593.22 -33380593.08 0.1608 0.0031

Pluto -96104-02-08 18:42 J -33380523.85 -33380523.72 -33380523.59 0.0084 0.0015

Pluto -96104-05-07 19:54 J -33380435.80 -33380435.67 -33380435.53 0.0084 0.0003

Venus -96104-07-14 08:37 J -33380368.16 -33380368.14 -33380368.11 0.3610 0.3522

Earth -96104-07-19 21:49 J -33380362.71 -33380362.59 -33380362.46 0.2621 0.0200

Moon -96104-07-19 22:03 J -33380362.70 -33380362.58 -33380362.45 0.2628 0.0162 *

Pluto -96104-08-03 21:06 J -33380347.75 -33380347.62 -33380347.48 0.0084 0.0011

Pluto -96104-10-30 22:32 J -33380259.69 -33380259.56 -33380259.44 0.0084 0.0023

Pluto -96103-01-26 23:30 J -33380171.63 -33380171.52 -33380171.39 0.0083 0.0035

Pluto -96103-04-25 00:42 J -33380083.57 -33380083.47 -33380083.35 0.0083 0.0047

Pluto -96103-07-22 01:54 J -33379995.50 -33379995.42 -33379995.32 0.0083 0.0059

Pluto -96103-10-18 03:06 J -33379907.43 -33379907.37 -33379907.30 0.0083 0.0072

Neptune -96102-03-19 09:35 J -33379755.15 -33379755.10 -33379755.04 0.0089 0.0084

Neptune -96102-06-15 12:13 J -33379667.06 -33379666.99 -33379666.90 0.0089 0.0079

Neptune -96102-09-11 14:51 J -33379578.96 -33379578.88 -33379578.77 0.0089 0.0074

Mars -96102-09-18 06:56 J -33379572.27 -33379572.21 -33379572.15 0.1917 0.1686

Neptune -96102-12-08 17:59 J -33379490.86 -33379490.75 -33379490.64 0.0089 0.0068

Jupiter -96101-01-13 12:13 J -33379455.12 -33379454.99 -33379454.86 0.0516 0.0190

Neptune -96101-03-05 20:37 J -33379402.76 -33379402.64 -33379402.51 0.0089 0.0063

Venus -96101-04-07 13:39 J -33379370.00 -33379369.93 -33379369.86 0.3787 0.2798

Jupiter -96101-04-12 00:27 J -33379365.60 -33379365.48 -33379365.36 0.0513 0.0278

Neptune -96101-06-01 23:15 J -33379314.65 -33379314.53 -33379314.39 0.0089 0.0058

Neptune -96101-08-29 01:54 J -33379226.55 -33379226.42 -33379226.27 0.0089 0.0053

Neptune -96101-11-25 04:32 J -33379138.44 -33379138.31 -33379138.15 0.0089 0.0048

Neptune -96100-02-21 07:39 J -33379050.33 -33379050.18 -33379050.03 0.0089 0.0042

Neptune -96100-05-20 10:18 J -33378962.22 -33378962.07 -33378961.91 0.0089 0.0037

Neptune -96100-08-16 12:56 J -33378874.12 -33378873.96 -33378873.80 0.0089 0.0032

Mars -96100-08-24 18:42 J -33378865.79 -33378865.72 -33378865.65 0.1918 0.1577

Neptune -96100-11-12 15:35 J -33378786.01 -33378785.85 -33378785.68 0.0088 0.0026

Neptune -96099-02-08 18:13 J -33378697.90 -33378697.74 -33378697.57 0.0088 0.0021

Neptune -96099-05-07 20:51 J -33378609.79 -33378609.63 -33378609.46 0.0088 0.0016

Neptune -96099-08-03 23:30 J -33378521.68 -33378521.52 -33378521.35 0.0088 0.0011

Neptune -96099-10-31 02:08 J -33378433.58 -33378433.41 -33378433.24 0.0088 0.0006

Neptune -96098-01-27 04:47 J -33378345.47 -33378345.30 -33378345.13 0.0088 0.0002

Neptune -96098-04-25 07:25 J -33378257.36 -33378257.19 -33378257.02 0.0088 0.0004

Neptune -96098-07-22 10:03 J -33378169.25 -33378169.08 -33378168.91 0.0088 0.0009

Saturn -96098-08-27 03:35 J -33378133.44 -33378133.35 -33378133.25 0.0284 0.0212

Neptune -96098-10-18 12:27 J -33378081.14 -33378080.98 -33378080.81 0.0088 0.0015

Saturn -96098-11-23 18:56 J -33378044.85 -33378044.71 -33378044.58 0.0284 0.0121

Neptune -96097-01-14 15:06 J -33377993.03 -33377992.87 -33377992.70 0.0088 0.0019

Saturn -96097-02-20 10:32 J -33377956.22 -33377956.06 -33377955.91 0.0284 0.0029

Neptune -96097-04-11 17:30 J -33377904.92 -33377904.77 -33377904.60 0.0088 0.0025

Saturn -96097-05-19 02:23 J -33377867.55 -33377867.40 -33377867.25 0.0284 0.0067

Neptune -96097-07-08 20:08 J -33377816.81 -33377816.66 -33377816.50 0.0088 0.0029

Saturn -96097-08-15 18:27 J -33377778.85 -33377778.73 -33377778.60 0.0284 0.0164

Neptune -96097-10-04 22:32 J -33377728.70 -33377728.56 -33377728.39 0.0088 0.0035

Saturn -96097-11-12 11:01 J -33377690.09 -33377690.04 -33377689.98 0.0285 0.0264

Neptune -96096-01-01 00:56 J -33377640.59 -33377640.46 -33377640.29 0.0088 0.0040

Neptune -96096-03-30 03:49 J -33377552.48 -33377552.34 -33377552.19 0.0088 0.0044

Neptune -96096-06-26 06:13 J -33377464.37 -33377464.24 -33377464.10 0.0088 0.0049

Neptune -96096-09-22 08:37 J -33377376.26 -33377376.14 -33377376.00 0.0088 0.0054

Venus -96096-10-22 07:39 J -33377346.27 -33377346.18 -33377346.09 0.3785 0.2006

Neptune -96096-12-19 11:01 J -33377288.15 -33377288.04 -33377287.90 0.0088 0.0059

Neptune -96095-03-17 13:25 J -33377200.04 -33377199.94 -33377199.81 0.0088 0.0064

Mars -96095-04-23 14:37 J -33377163.03 -33377162.89 -33377162.76 0.1608 0.0429

Jupiter -96095-06-12 04:18 J -33377113.48 -33377113.32 -33377113.17 0.0513 0.0128

Neptune -96095-06-13 15:49 J -33377111.93 -33377111.84 -33377111.72 0.0088 0.0068

Neptune -96095-09-09 18:27 J -33377023.81 -33377023.73 -33377023.63 0.0088 0.0073

Jupiter -96095-09-10 01:39 J -33377023.53 -33377023.43 -33377023.33 0.0517 0.0397

Neptune -96095-12-06 20:51 J -33376935.70 -33376935.63 -33376935.54 0.0088 0.0078

Moon -96094-01-13 13:11 J -33376898.06 -33376897.95 -33376897.84 0.2714 0.1501

Earth -96094-01-13 14:23 J -33376898.01 -33376897.90 -33376897.79 0.2713 0.1531 *

Neptune -96094-03-04 23:01 J -33376847.58 -33376847.54 -33376847.46 0.0088 0.0083

Neptune -96094-06-01 01:54 J -33376759.45 -33376759.42 -33376759.39 0.0088 0.0087

Mars -96093-03-29 08:08 J -33376457.22 -33376457.16 -33376457.09 0.1609 0.1425

Earth -96091-07-22 18:56 J -33375611.82 -33375611.71 -33375611.59 0.2625 0.1120

Moon -96091-07-22 19:54 J -33375611.78 -33375611.67 -33375611.56 0.2628 0.1222 *

Mars -96090-01-14 22:32 J -33375435.68 -33375435.56 -33375435.44 0.1918 0.0823

Venus -96090-05-08 01:39 J -33375322.53 -33375322.43 -33375322.32 0.3782 0.1201

Jupiter -96090-11-01 15:20 J -33375144.98 -33375144.86 -33375144.75 0.0517 0.0301

Jupiter -96089-01-30 03:20 J -33375055.50 -33375055.36 -33375055.23 0.0513 0.0165

Mars -96086-09-13 22:32 J -33373732.67 -33373732.56 -33373732.44 0.1609 0.0852

Uranus -96085-04-27 23:01 J -33373505.59 -33373505.54 -33373505.46 0.0136 0.0124

Uranus -96085-07-25 04:32 J -33373417.41 -33373417.31 -33373417.20 0.0136 0.0104

Uranus -96085-10-21 10:03 J -33373329.21 -33373329.08 -33373328.96 0.0136 0.0084

Venus -96085-11-20 20:08 J -33373298.77 -33373298.66 -33373298.55 0.3779 0.0353

Uranus -96084-01-17 15:06 J -33373241.01 -33373240.87 -33373240.72 0.0136 0.0065

Uranus -96084-04-15 20:08 J -33373152.81 -33373152.66 -33373152.50 0.0135 0.0046

Uranus -96084-07-13 01:25 J -33373064.60 -33373064.44 -33373064.28 0.0135 0.0026

Earth -96084-07-15 08:23 J -33373062.17 -33373062.15 -33373062.13 0.2614 0.2566

Mars -96084-08-19 15:35 J -33373026.96 -33373026.85 -33373026.74 0.1608 0.0963

Uranus -96084-10-09 06:27 J -33372976.39 -33372976.23 -33372976.07 0.0135 0.0007

Uranus -96083-01-05 11:30 J -33372888.18 -33372888.02 -33372887.86 0.0135 0.0011

Jupiter -96083-03-31 04:47 J -33372803.44 -33372803.30 -33372803.16 0.0512 0.0254

Saturn -96083-04-03 04:47 J -33372800.42 -33372800.30 -33372800.18 0.0275 0.0185

Uranus -96083-04-03 16:18 J -33372799.97 -33372799.82 -33372799.66 0.0135 0.0030

Jupiter -96083-06-29 02:37 J -33372713.52 -33372713.39 -33372713.25 0.0516 0.0275

Saturn -96083-06-30 20:51 J -33372711.78 -33372711.63 -33372711.48 0.0274 0.0095

Uranus -96083-06-30 21:20 J -33372711.76 -33372711.61 -33372711.46 0.0135 0.0048 *

Uranus -96083-09-27 01:54 J -33372623.55 -33372623.42 -33372623.27 0.0135 0.0067

Saturn -96083-09-27 12:27 J -33372623.14 -33372622.98 -33372622.82 0.0274 0.0006

Uranus -96083-12-24 06:42 J -33372535.33 -33372535.22 -33372535.08 0.0135 0.0085

Saturn -96083-12-25 03:49 J -33372534.49 -33372534.34 -33372534.19 0.0274 0.0081

Uranus -96082-03-22 11:44 J -33372447.11 -33372447.01 -33372446.91 0.0134 0.0102

Saturn -96082-03-23 18:42 J -33372445.84 -33372445.72 -33372445.60 0.0274 0.0165

Uranus -96082-06-18 16:18 J -33372358.88 -33372358.82 -33372358.74 0.0134 0.0120

Saturn -96082-06-20 09:20 J -33372357.17 -33372357.11 -33372357.04 0.0274 0.0247

Mars -96081-06-06 01:39 J -33372005.57 -33372005.43 -33372005.30 0.1918 0.0053

Venus -96081-11-19 06:42 J -33371839.28 -33371839.22 -33371839.16 0.3592 0.3209

Venus -96079-06-06 14:37 J -33371275.00 -33371274.89 -33371274.78 0.3776 0.0516

Earth -96078-07-25 15:49 J -33370860.88 -33370860.84 -33370860.79 0.2629 0.2394

Moon -96078-07-25 16:47 J -33370860.84 -33370860.80 -33370860.75 0.2628 0.2423 *

Jupiter -96078-08-20 17:44 J -33370834.84 -33370834.76 -33370834.67 0.0518 0.0418

Jupiter -96078-11-18 05:30 J -33370745.41 -33370745.27 -33370745.13 0.0514 0.0044

Mars -96076-02-03 06:56 J -33370302.29 -33370302.21 -33370302.13 0.1609 0.1268

Venus -96075-06-05 08:08 J -33369815.28 -33369815.16 -33369815.05 0.3595 0.1909

Moon -96074-01-08 20:37 J -33369597.75 -33369597.64 -33369597.52 0.2715 0.1406

Earth -96074-01-08 21:06 J -33369597.73 -33369597.62 -33369597.51 0.2722 0.1359 *

Mars -96074-01-09 23:15 J -33369596.67 -33369596.53 -33369596.40 0.1608 0.0516

Venus -96074-12-21 09:20 J -33369251.21 -33369251.11 -33369251.00 0.3773 0.1404

Mars -96072-10-27 04:47 J -33368575.43 -33368575.30 -33368575.18 0.1918 0.0778

Jupiter -96071-01-17 05:01 J -33368493.40 -33368493.29 -33368493.19 0.0511 0.0383

Jupiter -96071-04-17 03:20 J -33368403.52 -33368403.36 -33368403.21 0.0515 0.0148

Moon -96071-07-18 05:44 J -33368311.37 -33368311.26 -33368311.15 0.2625 0.1180

Earth -96071-07-18 05:59 J -33368311.36 -33368311.25 -33368311.14 0.2618 0.1222 *

Venus -96070-12-20 09:06 J -33367791.26 -33367791.12 -33367790.99 0.3597 0.0658

Saturn -96068-01-13 03:49 J -33367401.41 -33367401.34 -33367401.26 0.0284 0.0244

Saturn -96068-04-11 18:56 J -33367312.83 -33367312.71 -33367312.58 0.0284 0.0154

Venus -96068-07-06 04:32 J -33367227.40 -33367227.31 -33367227.23 0.3770 0.2306

Saturn -96068-07-09 10:32 J -33367224.21 -33367224.06 -33367223.91 0.0284 0.0062

Saturn -96068-10-06 02:08 J -33367135.56 -33367135.41 -33367135.25 0.0284 0.0034

Saturn -96067-01-02 18:13 J -33367046.87 -33367046.74 -33367046.60 0.0285 0.0131

Saturn -96067-04-01 11:01 J -33366958.13 -33366958.04 -33366957.95 0.0285 0.0229

Jupiter -96066-09-06 08:08 J -33366435.30 -33366435.16 -33366435.02 0.0515 0.0073

Jupiter -96066-12-04 20:37 J -33366345.73 -33366345.64 -33366345.55 0.0511 0.0396

Mars -96065-06-01 06:56 J -33366166.35 -33366166.21 -33366166.07 0.1608 0.0080

Venus -96064-07-05 09:20 J -33365767.24 -33365767.11 -33365766.97 0.3601 0.0544

Venus -96062-01-19 23:44 J -33365203.57 -33365203.51 -33365203.46 0.3766 0.3239

Mars -96062-03-19 06:56 J -33365145.28 -33365145.21 -33365145.14 0.1917 0.1625

Moon -96061-01-11 19:25 J -33364846.82 -33364846.69 -33364846.56 0.2713 0.0210

Earth -96061-01-11 20:23 J -33364846.78 -33364846.65 -33364846.52 0.2717 0.0232 *

Mars -96060-02-22 18:56 J -33364438.77 -33364438.71 -33364438.64 0.1918 0.1653

Jupiter -96059-02-03 02:51 J -33364093.54 -33364093.38 -33364093.22 0.0513 0.0015

Venus -96058-01-19 09:35 J -33363743.22 -33363743.10 -33363742.99 0.3604 0.1683

Earth -96058-07-21 03:06 J -33363560.49 -33363560.37 -33363560.24 0.2622 0.0140

Moon -96058-07-21 03:35 J -33363560.47 -33363560.35 -33363560.22 0.2627 0.0121 *

Mars -96056-10-22 14:37 J -33362736.02 -33362735.89 -33362735.75 0.1608 0.0373

Jupiter -96054-06-25 10:47 J -33362125.18 -33362125.05 -33362124.92 0.0517 0.0188

Saturn -96054-08-21 06:42 J -33362068.32 -33362068.22 -33362068.11 0.0275 0.0208

Jupiter -96054-09-22 23:01 J -33362035.66 -33362035.54 -33362035.42 0.0513 0.0280

Mars -96054-09-28 08:23 J -33362030.20 -33362030.15 -33362030.09 0.1609 0.1486

Saturn -96054-11-17 23:01 J -33361979.68 -33361979.54 -33361979.40 0.0275 0.0116

Saturn -96053-02-14 14:37 J -33361891.04 -33361890.89 -33361890.73 0.0275 0.0028

Saturn -96053-05-13 06:13 J -33361802.39 -33361802.24 -33361802.09 0.0275 0.0061

Venus -96053-08-04 09:06 J -33361719.21 -33361719.12 -33361719.04 0.3607 0.2771

Saturn -96053-08-09 21:06 J -33361713.74 -33361713.62 -33361713.49 0.0275 0.0146

Saturn -96053-11-06 11:44 J -33361625.08 -33361625.01 -33361624.92 0.0275 0.0230

Mars -96051-07-15 22:32 J -33361008.68 -33361008.56 -33361008.44 0.1918 0.0884

Venus -96050-04-29 17:44 J -33360720.80 -33360720.76 -33360720.71 0.3789 0.3341

Moon -96048-01-13 18:56 J -33360095.82 -33360095.71 -33360095.61 0.2715 0.1669

Earth -96048-01-13 19:54 J -33360095.76 -33360095.67 -33360095.57 0.2713 0.1869 *

Jupiter -96048-11-22 02:51 J -33359783.54 -33359783.38 -33359783.22 0.0512 0.0121

Jupiter -96047-02-20 00:13 J -33359693.59 -33359693.49 -33359693.39 0.0516 0.0402

Mars -96046-03-14 22:47 J -33359305.67 -33359305.55 -33359305.43 0.1608 0.0796

Earth -96045-07-23 00:13 J -33358809.59 -33358809.49 -33358809.38 0.2626 0.1396

Moon -96045-07-23 01:11 J -33358809.55 -33358809.45 -33358809.34 0.2629 0.1488 *

Venus -96045-11-12 11:44 J -33358697.09 -33358697.01 -33358696.93 0.3787 0.2567

Mars -96044-02-17 15:49 J -33358599.95 -33358599.84 -33358599.73 0.1608 0.1024

Jupiter -96042-04-13 13:39 J -33357815.04 -33357814.93 -33357814.81 0.0518 0.0299

Jupiter -96042-07-12 01:39 J -33357725.56 -33357725.43 -33357725.29 0.0514 0.0169

Mars -96042-12-06 02:08 J -33357578.55 -33357578.41 -33357578.28 0.1919 0.0127

Earth -96041-01-07 03:35 J -33357546.39 -33357546.35 -33357546.32 0.2725 0.2599

Moon -96041-01-07 04:03 J -33357546.38 -33357546.33 -33357546.29 0.2719 0.2511 *

Uranus -96040-03-18 17:15 J -33357109.86 -33357109.78 -33357109.71 0.0143 0.0123

Uranus -96040-06-14 21:35 J -33357021.69 -33357021.60 -33357021.49 0.0143 0.0104

Uranus -96040-09-11 02:37 J -33356933.51 -33356933.39 -33356933.27 0.0143 0.0083

Uranus -96040-12-08 07:25 J -33356845.32 -33356845.19 -33356845.05 0.0143 0.0063

Uranus -96039-03-06 12:13 J -33356757.13 -33356756.99 -33356756.84 0.0143 0.0043

Venus -96039-05-29 05:44 J -33356673.36 -33356673.26 -33356673.16 0.3784 0.1766

Saturn -96039-06-02 05:01 J -33356669.33 -33356669.29 -33356669.25 0.0283 0.0270

Uranus -96039-06-02 17:15 J -33356668.93 -33356668.78 -33356668.63 0.0143 0.0022

Saturn -96039-08-29 20:08 J -33356580.78 -33356580.66 -33356580.55 0.0284 0.0182

Uranus -96039-08-29 22:18 J -33356580.73 -33356580.57 -33356580.42 0.0144 0.0004 *

Uranus -96039-11-26 03:06 J -33356492.52 -33356492.37 -33356492.21 0.0144 0.0021

Saturn -96039-11-26 11:15 J -33356492.17 -33356492.03 -33356491.89 0.0284 0.0091

Uranus -96038-02-22 08:08 J -33356404.30 -33356404.16 -33356404.01 0.0144 0.0042

Saturn -96038-02-23 02:51 J -33356403.53 -33356403.38 -33356403.22 0.0284 0.0005

Uranus -96038-05-21 13:25 J -33356316.08 -33356315.94 -33356315.80 0.0144 0.0063

Saturn -96038-05-22 18:56 J -33356314.86 -33356314.71 -33356314.57 0.0284 0.0099

Moon -96038-07-16 13:11 J -33356260.01 -33356259.95 -33356259.89 0.2619 0.2297

Earth -96038-07-16 13:54 J -33356259.98 -33356259.92 -33356259.86 0.2615 0.2284 *

Uranus -96038-08-17 18:27 J -33356227.85 -33356227.73 -33356227.60 0.0144 0.0085

Saturn -96038-08-19 11:15 J -33356226.14 -33356226.03 -33356225.92 0.0284 0.0197

Uranus -96038-11-13 23:44 J -33356139.61 -33356139.51 -33356139.40 0.0144 0.0107

Uranus -96037-02-10 05:01 J -33356051.35 -33356051.29 -33356051.22 0.0144 0.0130

Mars -96037-08-04 07:11 J -33355875.29 -33355875.20 -33355875.12 0.1609 0.1215

Jupiter -96036-09-10 02:51 J -33355473.52 -33355473.38 -33355473.24 0.0512 0.0253

Jupiter -96036-12-09 00:42 J -33355383.60 -33355383.47 -33355383.33 0.0515 0.0275

Mars -96035-07-10 23:30 J -33355169.65 -33355169.52 -33355169.39 0.1608 0.0574

Venus -96034-12-12 23:59 J -33354649.61 -33354649.50 -33354649.39 0.3781 0.0950

Mars -96032-04-27 05:01 J -33354148.42 -33354148.29 -33354148.17 0.1918 0.0708

Jupiter -96030-01-30 17:01 J -33353504.88 -33353504.79 -33353504.71 0.0518 0.0408

Jupiter -96030-04-30 04:47 J -33353415.45 -33353415.30 -33353415.16 0.0514 0.0057

Moon -96028-01-09 02:08 J -33352795.53 -33352795.41 -33352795.29 0.2715 0.1101

Earth -96028-01-09 02:37 J -33352795.51 -33352795.39 -33352795.27 0.2721 0.1041 *

Venus -96028-06-27 18:27 J -33352625.84 -33352625.73 -33352625.62 0.3778 0.0162

Mars -96026-12-01 07:11 J -33351739.34 -33351739.20 -33351739.06 0.1608 0.0129

Moon -96025-07-18 11:01 J -33351509.15 -33351509.04 -33351508.92 0.2625 0.1035

Earth -96025-07-18 11:15 J -33351509.15 -33351509.03 -33351508.91 0.2618 0.0936 *

Saturn -96024-01-07 05:15 J -33351336.34 -33351336.28 -33351336.20 0.0275 0.0245

Saturn -96024-04-05 21:49 J -33351247.72 -33351247.59 -33351247.46 0.0275 0.0153

Venus -96024-06-26 06:56 J -33351166.30 -33351166.21 -33351166.13 0.3592 0.2827

Jupiter -96024-06-29 03:20 J -33351163.47 -33351163.36 -33351163.25 0.0511 0.0380

Saturn -96024-07-03 13:39 J -33351159.08 -33351158.93 -33351158.78 0.0275 0.0063

Jupiter -96024-09-27 01:39 J -33351073.58 -33351073.43 -33351073.28 0.0515 0.0151

Saturn -96024-09-30 05:15 J -33351070.44 -33351070.28 -33351070.12 0.0274 0.0025

Saturn -96024-12-27 20:23 J -33350981.79 -33350981.65 -33350981.51 0.0274 0.0112

Saturn -96023-03-26 11:15 J -33350893.13 -33350893.03 -33350892.92 0.0274 0.0196

Mars -96023-09-17 07:25 J -33350718.27 -33350718.19 -33350718.11 0.1918 0.1540

Venus -96022-01-11 12:56 J -33350602.07 -33350601.96 -33350601.85 0.3775 0.0766

Mars -96021-08-23 19:11 J -33350011.75 -33350011.70 -33350011.64 0.1918 0.1725

Neptune -96021-12-14 01:11 J -33349899.48 -33349899.45 -33349899.42 0.0089 0.0086

Neptune -96020-03-12 02:37 J -33349811.43 -33349811.39 -33349811.33 0.0089 0.0082

Neptune -96020-06-08 04:18 J -33349723.38 -33349723.32 -33349723.24 0.0089 0.0078

Neptune -96020-09-04 05:59 J -33349635.32 -33349635.25 -33349635.16 0.0089 0.0074

Neptune -96020-12-01 07:39 J -33349547.26 -33349547.18 -33349547.08 0.0089 0.0070

Neptune -96019-02-27 09:20 J -33349459.19 -33349459.11 -33349459.00 0.0089 0.0066

Neptune -96019-05-26 11:15 J -33349371.13 -33349371.03 -33349370.92 0.0089 0.0061

Neptune -96019-08-22 12:56 J -33349283.07 -33349282.96 -33349282.85 0.0089 0.0057

Neptune -96019-11-18 14:37 J -33349195.00 -33349194.89 -33349194.77 0.0089 0.0053

Venus -96018-01-10 08:08 J -33349142.28 -33349142.16 -33349142.03 0.3595 0.1540

Neptune -96018-02-14 16:18 J -33349106.93 -33349106.82 -33349106.69 0.0089 0.0049

Jupiter -96018-02-16 07:11 J -33349105.34 -33349105.20 -33349105.06 0.0515 0.0063

Neptune -96018-05-13 18:13 J -33349018.87 -33349018.74 -33349018.61 0.0089 0.0044

Jupiter -96018-05-16 19:39 J -33349015.77 -33349015.68 -33349015.59 0.0511 0.0406

Neptune -96018-08-09 19:54 J -33348930.80 -33348930.67 -33348930.54 0.0089 0.0040

Neptune -96018-11-05 21:35 J -33348842.73 -33348842.60 -33348842.46 0.0089 0.0036

Neptune -96017-02-01 23:30 J -33348754.66 -33348754.52 -33348754.38 0.0089 0.0031

Neptune -96017-04-30 01:11 J -33348666.59 -33348666.45 -33348666.31 0.0089 0.0027

Neptune -96017-07-27 02:51 J -33348578.51 -33348578.38 -33348578.23 0.0089 0.0023

Venus -96017-07-27 07:54 J -33348578.27 -33348578.17 -33348578.07 0.3772 0.1655 *

Neptune -96017-10-23 04:47 J -33348490.44 -33348490.30 -33348490.16 0.0089 0.0018

Neptune -96016-01-19 06:27 J -33348402.37 -33348402.23 -33348402.08 0.0089 0.0014

Neptune -96016-04-17 08:23 J -33348314.30 -33348314.15 -33348314.00 0.0089 0.0009

Mars -96016-04-22 15:06 J -33348309.01 -33348308.87 -33348308.74 0.1608 0.0313

Neptune -96016-07-14 10:03 J -33348226.22 -33348226.08 -33348225.93 0.0089 0.0006

Neptune -96016-10-10 11:59 J -33348138.15 -33348138.00 -33348137.85 0.0089 0.0001

Neptune -96015-01-06 13:54 J -33348050.07 -33348049.92 -33348049.78 0.0089 0.0005

Moon -96015-01-12 00:56 J -33348044.59 -33348044.46 -33348044.33 0.2714 0.0415

Earth -96015-01-12 01:54 J -33348044.55 -33348044.42 -33348044.29 0.2717 0.0563 *

Neptune -96015-04-04 15:35 J -33347962.00 -33347961.85 -33347961.70 0.0089 0.0009

Neptune -96015-07-01 17:30 J -33347873.92 -33347873.77 -33347873.62 0.0089 0.0013

Neptune -96015-09-27 19:11 J -33347785.84 -33347785.70 -33347785.55 0.0089 0.0018

Neptune -96015-12-24 21:06 J -33347697.76 -33347697.62 -33347697.47 0.0089 0.0022

Neptune -96014-03-22 22:47 J -33347609.68 -33347609.55 -33347609.40 0.0089 0.0027

Mars -96014-03-29 08:51 J -33347603.17 -33347603.13 -33347603.10 0.1609 0.1550

Neptune -96014-06-19 00:56 J -33347521.60 -33347521.46 -33347521.32 0.0089 0.0031

Neptune -96014-09-15 02:37 J -33347433.52 -33347433.39 -33347433.25 0.0089 0.0036

Neptune -96014-12-12 04:32 J -33347345.44 -33347345.31 -33347345.17 0.0089 0.0040

Neptune -96013-03-09 06:27 J -33347257.36 -33347257.23 -33347257.10 0.0089 0.0045

Neptune -96013-06-05 08:08 J -33347169.27 -33347169.16 -33347169.02 0.0089 0.0050

Venus -96013-07-26 08:51 J -33347118.26 -33347118.13 -33347117.99 0.3598 0.0316

Neptune -96013-09-01 10:18 J -33347081.19 -33347081.07 -33347080.95 0.0089 0.0054

Neptune -96013-11-28 11:59 J -33346993.10 -33346993.00 -33346992.88 0.0089 0.0059

Neptune -96012-02-24 14:08 J -33346905.01 -33346904.91 -33346904.80 0.0089 0.0063

Jupiter -96012-04-17 03:20 J -33346853.36 -33346853.36 -33346853.35 0.0510 0.0509

Neptune -96012-05-23 15:49 J -33346816.92 -33346816.84 -33346816.73 0.0089 0.0068

Jupiter -96012-07-16 02:08 J -33346763.57 -33346763.41 -33346763.25 0.0514 0.0027

Earth -96012-07-21 08:37 J -33346758.27 -33346758.14 -33346758.02 0.2622 0.0386

Moon -96012-07-21 09:06 J -33346758.24 -33346758.12 -33346757.99 0.2627 0.0508 *

Neptune -96012-08-19 17:44 J -33346728.83 -33346728.76 -33346728.66 0.0089 0.0073

Neptune -96012-11-15 19:54 J -33346640.74 -33346640.67 -33346640.59 0.0089 0.0077

Mars -96011-01-13 23:01 J -33346581.66 -33346581.54 -33346581.43 0.1919 0.0970

Venus -96011-02-10 02:51 J -33346554.46 -33346554.38 -33346554.30 0.3769 0.2563

Neptune -96011-02-11 21:35 J -33346552.64 -33346552.60 -33346552.53 0.0089 0.0082

Neptune -96011-05-10 23:59 J -33346464.53 -33346464.50 -33346464.47 0.0089 0.0086

Saturn -96009-01-16 19:54 J -33345848.76 -33345848.67 -33345848.57 0.0284 0.0216

Saturn -96009-04-14 11:15 J -33345760.17 -33345760.03 -33345759.90 0.0284 0.0125

Saturn -96009-07-12 02:37 J -33345671.54 -33345671.39 -33345671.24 0.0284 0.0032

Saturn -96009-10-08 18:27 J -33345582.88 -33345582.73 -33345582.58 0.0284 0.0064

Saturn -96008-01-05 10:47 J -33345494.18 -33345494.05 -33345493.92 0.0284 0.0161

Saturn -96008-04-04 03:06 J -33345405.42 -33345405.37 -33345405.30 0.0285 0.0261

Venus -96007-02-09 09:20 J -33345094.24 -33345094.11 -33345093.98 0.3602 0.0873

Mars -96007-09-12 23:01 J -33344878.66 -33344878.54 -33344878.42 0.1608 0.0739

Jupiter -96007-12-05 09:49 J -33344795.22 -33344795.09 -33344794.96 0.0516 0.0179

Jupiter -96006-03-04 22:03 J -33344705.70 -33344705.58 -33344705.46 0.0512 0.0288

Venus -96006-08-26 22:03 J -33344530.62 -33344530.58 -33344530.54 0.3765 0.3499

Mars -96005-08-18 16:03 J -33344172.93 -33344172.83 -33344172.72 0.1608 0.1087

Moon -96002-01-15 00:27 J -33343293.56 -33343293.48 -33343293.40 0.2715 0.2170

Earth -96002-01-15 01:39 J -33343293.51 -33343293.43 -33343293.36 0.2712 0.2204 *

Mars -96002-06-06 02:08 J -33343151.54 -33343151.41 -33343151.27 0.1918 0.0177

Venus -96002-08-26 09:06 J -33343070.23 -33343070.12 -33343070.01 0.3605 0.1994

Uranus -96001-02-20 02:08 J -33342892.41 -33342892.41 -33342892.40 0.0136 0.0136

Uranus -96001-05-18 07:25 J -33342804.27 -33342804.19 -33342804.10 0.0136 0.0116

Uranus -96001-08-14 12:42 J -33342716.08 -33342715.97 -33342715.85 0.0136 0.0096

Uranus -96001-11-10 17:59 J -33342627.88 -33342627.75 -33342627.61 0.0136 0.0077

96TH MILLENNIUM BCE

This is a list of transits of Mercury in the 96th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Uranus	**-96000-02-06 23:15**	**J**	**-33342539.67**	**-33342539.53**	**-33342539.38**	**0.0136**	**0.0057**	
Jupiter	**-96000-05-04 01:54**	**J**	**-33342453.58**	**-33342453.42**	**-33342453.27**	**0.0512**	**0.0113**	
Uranus	**-96000-05-06 04:32**	**J**	**-33342451.47**	**-33342451.31**	**-33342451.15**	**0.0135**	**0.0038**	
Jupiter	**-96000-08-01 23:15**	**J**	**-33342363.63**	**-33342363.53**	**-33342363.44**	**0.0516**	**0.0410**	
Uranus	**-96000-08-02 09:35**	**J**	**-33342363.26**	**-33342363.10**	**-33342362.94**	**0.0135**	**0.0018**	
Uranus	**-96000-10-29 14:37**	**J**	**-33342275.05**	**-33342274.89**	**-33342274.73**	**0.0135**	**0.0001**	
Uranus	**-95999-01-25 19:39**	**J**	**-33342186.84**	**-33342186.68**	**-33342186.52**	**0.0135**	**0.0019**	
Uranus	**-95999-04-24 00:27**	**J**	**-33342098.63**	**-33342098.48**	**-33342098.32**	**0.0135**	**0.0038**	
Uranus	**-95999-07-21 05:30**	**J**	**-33342010.42**	**-33342010.27**	**-33342010.12**	**0.0135**	**0.0056**	
Earth	**-95999-07-24 05:30**	**J**	**-33342007.36**	**-33342007.27**	**-33342007.17**	**0.2626**	**0.1668**	
Moon	**-95999-07-24 06:27**	**J**	**-33342007.32**	**-33342007.23**	**-33342007.14**	**0.2628**	**0.1744**	*****
Uranus	**-95999-10-17 10:18**	**J**	**-33341922.20**	**-33341922.07**	**-33341921.93**	**0.0135**	**0.0074**	
Uranus	**-95998-01-13 15:06**	**J**	**-33341833.98**	**-33341833.87**	**-33341833.75**	**0.0135**	**0.0092**	
Uranus	**-95998-04-11 19:39**	**J**	**-33341745.76**	**-33341745.68**	**-33341745.58**	**0.0135**	**0.0110**	
Uranus	**-95998-07-09 00:42**	**J**	**-33341657.52**	**-33341657.47**	**-33341657.42**	**0.0134**	**0.0127**	
Mars	**-95997-02-03 07:11**	**J**	**-33341448.29**	**-33341448.20**	**-33341448.10**	**0.1609**	**0.1162**	
Venus	**-95996-03-11 08:37**	**J**	**-33341046.21**	**-33341046.14**	**-33341046.08**	**0.3609**	**0.3063**	
Earth	**-95995-01-07 09:06**	**J**	**-33340744.19**	**-33340744.12**	**-33340744.06**	**0.2725**	**0.2286**	
Moon	**-95995-01-07 09:20**	**J**	**-33340744.18**	**-33340744.11**	**-33340744.05**	**0.2718**	**0.2309**	*****
Mars	**-95995-01-08 23:30**	**J**	**-33340742.64**	**-33340742.52**	**-33340742.39**	**0.1608**	**0.0632**	
Saturn	**-95995-05-27 07:11**	**J**	**-33340604.23**	**-33340604.20**	**-33340604.16**	**0.0276**	**0.0269**	
Saturn	**-95995-08-23 23:30**	**J**	**-33340515.64**	**-33340515.52**	**-33340515.39**	**0.0276**	**0.0176**	
Jupiter	**-95995-09-23 12:13**	**J**	**-33340485.10**	**-33340484.99**	**-33340484.87**	**0.0518**	**0.0296**	
Saturn	**-95995-11-20 15:35**	**J**	**-33340427.00**	**-33340426.85**	**-33340426.70**	**0.0275**	**0.0085**	
Jupiter	**-95995-12-22 00:13**	**J**	**-33340395.62**	**-33340395.49**	**-33340395.35**	**0.0514**	**0.0171**	
Saturn	**-95994-02-17 07:25**	**J**	**-33340338.35**	**-33340338.19**	**-33340338.04**	**0.0275**	**0.0006**	
Saturn	**-95994-05-16 22:47**	**J**	**-33340249.70**	**-33340249.55**	**-33340249.41**	**0.0275**	**0.0091**	

Saturn -95994-08-13 13:39 J -33340161.05 -33340160.93 -33340160.81 0.0275 0.0176

Saturn -95994-11-10 04:18 J -33340072.36 -33340072.32 -33340072.27 0.0275 0.0259

Venus -95994-12-04 15:49 J -33340047.90 -33340047.84 -33340047.78 0.3788 0.3112

Mars -95993-10-26 05:15 J -33339721.41 -33339721.28 -33339721.16 0.1918 0.0638

Moon -95992-07-16 18:42 J -33339457.80 -33339457.72 -33339457.65 0.2621 0.2120

Earth -95992-07-16 19:11 J -33339457.78 -33339457.70 -33339457.62 0.2615 0.1996 *

Jupiter -95988-02-20 01:39 J -33338143.57 -33338143.43 -33338143.28 0.0511 0.0244

Jupiter -95988-05-20 23:30 J -33338053.65 -33338053.52 -33338053.39 0.0515 0.0282

Venus -95988-06-19 09:49 J -33338024.18 -33338024.09 -33338024.01 0.3786 0.2330

Mars -95988-06-25 15:35 J -33338017.87 -33338017.85 -33338017.82 0.1610 0.1573

Mars -95986-06-01 07:25 J -33337312.33 -33337312.19 -33337312.05 0.1608 0.0187

Mars -95983-03-18 07:54 J -33336291.26 -33336291.17 -33336291.08 0.1918 0.1460

Jupiter -95983-07-12 15:20 J -33336174.94 -33336174.86 -33336174.77 0.0519 0.0406

Jupiter -95983-10-10 03:06 J -33336085.51 -33336085.37 -33336085.22 0.0515 0.0059

Venus -95982-01-03 03:49 J -33336000.44 -33336000.34 -33336000.24 0.3783 0.1532

Moon -95982-01-10 07:39 J -33335993.31 -33335993.18 -33335993.06 0.2714 0.0762

Earth -95982-01-10 08:08 J -33335993.29 -33335993.16 -33335993.04 0.2720 0.0721 *

Mars -95981-02-22 19:25 J -33335584.73 -33335584.69 -33335584.65 0.1918 0.1797

Saturn -95980-06-04 21:20 J -33335116.68 -33335116.61 -33335116.53 0.0283 0.0241

Saturn -95980-09-01 12:27 J -33335028.11 -33335027.98 -33335027.85 0.0283 0.0151

Saturn -95980-11-29 03:49 J -33334939.49 -33334939.34 -33334939.19 0.0284 0.0059

Saturn -95979-02-25 19:25 J -33334850.84 -33334850.69 -33334850.53 0.0284 0.0035

Saturn -95979-05-25 11:30 J -33334762.16 -33334762.02 -33334761.88 0.0284 0.0131

Moon -95979-07-19 16:32 J -33334706.93 -33334706.81 -33334706.69 0.2625 0.0597

Earth -95979-07-19 16:32 J -33334706.93 -33334706.81 -33334706.68 0.2619 0.0662 *

Saturn -95979-08-22 03:49 J -33334673.42 -33334673.34 -33334673.24 0.0284 0.0230

Venus -95977-07-18 22:03 J -33333976.68 -33333976.58 -33333976.47 0.3781 0.0721

Mars -95977-10-21 15:20 J -33333882.00 -33333881.86 -33333881.73 0.1608 0.0252

Jupiter -95977-12-09 01:39 J -33333833.54 -33333833.43 -33333833.32 0.0510 0.0378

Jupiter -95976-03-08 23:59 J -33333743.66 -33333743.50 -33333743.35 0.0514 0.0153

Mars -95972-07-14 23:15 J -33332154.64 -33332154.53 -33332154.42 0.1919 0.1044

Venus -95971-02-01 16:32 J -33331952.92 -33331952.81 -33331952.70 0.3778 0.0184

Jupiter -95971-04-30 18:42 J -33331864.73 -33331864.72 -33331864.70 0.0519 0.0514

Jupiter -95971-07-29 06:13 J -33331775.38 -33331775.24 -33331775.10 0.0516 0.0054

Jupiter -95971-10-26 18:42 J -33331685.80 -33331685.72 -33331685.64 0.0512 0.0416

Moon -95969-01-13 06:27 J -33331242.36 -33331242.23 -33331242.11 0.2715 0.0787

Earth -95969-01-13 07:25 J -33331242.31 -33331242.19 -33331242.06 0.2716 0.0892 *

Venus -95967-01-31 06:56 J -33330493.31 -33330493.21 -33330493.11 0.3593 0.2448

Mars -95967-03-13 23:15 J -33330451.65 -33330451.53 -33330451.40 0.1608 0.0683

Earth -95966-07-22 13:54 J -33329956.04 -33329955.92 -33329955.80 0.2623 0.0659

Moon -95966-07-22 14:37 J -33329956.01 -33329955.89 -33329955.77 0.2628 0.0661 *

Venus -95966-08-18 11:15 J -33329929.14 -33329929.03 -33329928.92 0.3775 0.1015

Saturn -95965-01-10 22:32 J -33329783.66 -33329783.56 -33329783.46 0.0275 0.0212

Mars -95965-02-17 16:18 J -33329745.91 -33329745.82 -33329745.72 0.1608 0.1150

Saturn -95965-04-08 14:37 J -33329695.03 -33329694.89 -33329694.74 0.0275 0.0121

Saturn -95965-07-06 06:27 J -33329606.38 -33329606.23 -33329606.07 0.0275 0.0032

Jupiter -95965-09-27 01:54 J -33329523.44 -33329523.42 -33329523.40 0.0510 0.0505

Saturn -95965-10-02 22:03 J -33329517.73 -33329517.58 -33329517.43 0.0275 0.0057

Jupiter -95965-12-26 00:42 J -33329433.63 -33329433.47 -33329433.31 0.0514 0.0029

Saturn -95965-12-30 13:11 J -33329429.08 -33329428.95 -33329428.82 0.0274 0.0142

Saturn -95964-03-29 03:49 J -33329340.42 -33329340.34 -33329340.25 0.0274 0.0226

Mars -95963-12-05 02:37 J -33328724.53 -33328724.39 -33328724.26 0.1919 0.0258

Venus -95962-08-17 08:08 J -33328469.29 -33328469.16 -33328469.03 0.3596 0.1179

Venus -95960-03-03 06:13 J -33327905.34 -33327905.24 -33327905.14 0.3771 0.1907

Jupiter -95959-05-17 08:51 J -33327465.27 -33327465.13 -33327465.00 0.0516 0.0171

Jupiter -95959-08-14 20:51 J -33327375.74 -33327375.63 -33327375.51 0.0512 0.0297

Mars -95958-08-04 07:25 J -33327021.28 -33327021.19 -33327021.09 0.1609 0.1106

Uranus -95956-01-09 20:37 J -33326496.68 -33326496.64 -33326496.59 0.0143 0.0135

Moon -95956-01-15 06:13 J -33326491.31 -33326491.24 -33326491.18 0.2714 0.2355

Earth -95956-01-15 07:11 J -33326491.24 -33326491.20 -33326491.16 0.2712 0.2538 *

Venus -95956-03-02 08:51 J -33326445.27 -33326445.13 -33326445.00 0.3599 0.0114

Uranus -95956-04-08 01:11 J -33326408.53 -33326408.45 -33326408.36 0.0143 0.0116

Uranus -95956-07-05 05:44 J -33326320.36 -33326320.26 -33326320.14 0.0143 0.0096

Mars -95956-07-09 23:59 J -33326315.63 -33326315.50 -33326315.38 0.1608 0.0692

Uranus -95956-10-01 10:32 J -33326232.18 -33326232.06 -33326231.92 0.0143 0.0076

Uranus -95956-12-28 15:35 J -33326143.99 -33326143.85 -33326143.71 0.0143 0.0055

Uranus -95955-03-26 20:23 J -33326055.79 -33326055.65 -33326055.50 0.0143 0.0035

Uranus -95955-06-23 01:25 J -33325967.59 -33325967.44 -33325967.29 0.0144 0.0014

Venus -95955-09-17 01:11 J -33325881.52 -33325881.45 -33325881.37 0.3768 0.2822

Uranus -95955-09-19 06:27 J -33325879.38 -33325879.23 -33325879.08 0.0144 0.0007

Uranus -95955-12-16 11:15 J -33325791.17 -33325791.03 -33325790.87 0.0144 0.0029

Uranus -95954-03-14 16:18 J -33325702.96 -33325702.82 -33325702.67 0.0144 0.0050

Uranus -95954-06-10 21:35 J -33325614.73 -33325614.60 -33325614.47 0.0144 0.0072

Uranus -95954-09-07 02:51 J -33325526.50 -33325526.38 -33325526.27 0.0144 0.0094

Uranus -95954-12-04 07:54 J -33325438.26 -33325438.17 -33325438.07 0.0144 0.0116

Uranus -95953-03-01 12:56 J -33325349.99 -33325349.96 -33325349.90 0.0144 0.0139

Mars -95953-04-26 05:30 J -33325294.40 -33325294.27 -33325294.14 0.1918 0.0555

Earth -95953-07-24 10:47 J -33325205.13 -33325205.05 -33325204.96 0.2627 0.1945

Moon -95953-07-24 11:44 J -33325205.08 -33325205.01 -33325204.93 0.2627 0.2079 *

Jupiter -95953-10-14 01:11 J -33325123.61 -33325123.45 -33325123.29 0.0513 0.0100

Jupiter -95952-01-11 22:32 J -33325033.65 -33325033.56 -33325033.47 0.0517 0.0424

Pluto -95951-05-27 12:13 J -33324533.05 -33324532.99 -33324532.89 0.0060 0.0055

Pluto -95951-08-23 13:54 J -33324445.03 -33324444.92 -33324444.80 0.0060 0.0048

Venus -95951-09-16 09:06 J -33324421.25 -33324421.12 -33324421.00 0.3603 0.1197

Saturn -95951-10-22 21:06 J -33324384.64 -33324384.62 -33324384.58 0.0284 0.0276

Pluto -95951-11-19 15:35 J -33324356.99 -33324356.85 -33324356.71 0.0060 0.0041

Saturn -95950-01-19 12:13 J -33324296.10 -33324295.99 -33324295.88 0.0284 0.0187

Pluto -95950-02-15 16:32 J -33324268.95 -33324268.81 -33324268.63 0.0060 0.0035

Saturn -95950-04-18 03:20 J -33324207.50 -33324207.36 -33324207.21 0.0284 0.0096

Pluto -95950-05-14 18:13 J -33324180.90 -33324180.74 -33324180.55 0.0060 0.0028

Saturn -95950-07-15 18:56 J -33324118.86 -33324118.71 -33324118.56 0.0284 0.0004

Pluto -95950-08-10 19:39 J -33324092.85 -33324092.68 -33324092.48 0.0060 0.0021

Saturn -95950-10-12 11:01 J -33324030.19 -33324030.04 -33324029.90 0.0284 0.0095

Pluto -95950-11-06 21:20 J -33324004.80 -33324004.61 -33324004.41 0.0060 0.0014

Moon -95949-01-08 14:23 J -33323941.99 -33323941.90 -33323941.81 0.2717 0.1900

Earth -95949-01-08 14:23 J -33323941.98 -33323941.90 -33323941.81 0.2724 0.1978 *

Saturn -95949-01-09 03:06 J -33323941.48 -33323941.37 -33323941.25 0.0284 0.0192

Pluto -95949-02-02 22:47 J -33323916.74 -33323916.55 -33323916.35 0.0060 0.0008

Venus -95949-04-01 20:37 J -33323857.64 -33323857.64 -33323857.64 0.3764 0.3763

Pluto -95949-05-01 00:27 J -33323828.68 -33323828.48 -33323828.28 0.0060 0.0001

Pluto -95949-07-28 01:54 J -33323740.62 -33323740.42 -33323740.22 0.0060 0.0006

Pluto -95949-10-24 03:06 J -33323652.55 -33323652.37 -33323652.16 0.0060 0.0014

Mars -95949-12-24 15:49 J -33323590.88 -33323590.84 -33323590.80 0.1609 0.1519

Pluto -95948-01-20 04:32 J -33323564.48 -33323564.31 -33323564.11 0.0061 0.0021

Pluto -95948-04-18 05:59 J -33323476.41 -33323476.25 -33323476.06 0.0061 0.0028

Pluto -95948-07-15 07:25 J -33323388.33 -33323388.19 -33323388.01 0.0061 0.0035

Pluto -95948-10-11 08:51 J -33323300.25 -33323300.13 -33323299.96 0.0061 0.0042

Pluto -95947-01-07 10:32 J -33323212.16 -33323212.06 -33323211.92 0.0061 0.0049

Jupiter -95947-03-05 11:30 J -33323155.14 -33323155.02 -33323154.90 0.0517 0.0285

Pluto -95947-04-05 11:59 J -33323124.05 -33323124.00 -33323123.90 0.0061 0.0056

Jupiter -95947-06-02 23:30 J -33323065.66 -33323065.52 -33323065.39 0.0513 0.0180

Mars -95947-11-30 07:39 J -33322885.32 -33322885.18 -33322885.04 0.1608 0.0246

Moon -95946-07-17 23:59 J -33322655.60 -33322655.50 -33322655.41 0.2622 0.1730

Earth -95946-07-18 00:27 J -33322655.57 -33322655.48 -33322655.38 0.2616 0.1713 *

Venus -95945-04-01 08:37 J -33322397.24 -33322397.14 -33322397.04 0.3606 0.2292

Mars -95944-09-16 08:08 J -33321864.25 -33321864.16 -33321864.07 0.1918 0.1389

Venus -95943-12-25 20:08 J -33321398.68 -33321398.66 -33321398.63 0.3790 0.3639

Mars -95942-08-23 19:54 J -33321157.70 -33321157.67 -33321157.65 0.1918 0.1875

Jupiter -95941-08-02 00:42 J -33320813.61 -33320813.47 -33320813.33 0.0511 0.0234

Jupiter -95941-10-30 22:32 J -33320723.69 -33320723.56 -33320723.43 0.0515 0.0291

Venus -95940-10-16 08:08 J -33320373.21 -33320373.16 -33320373.12 0.3610 0.3356

Neptune -95938-12-14 06:56 J -33319584.26 -33319584.21 -33319584.15 0.0088 0.0084

Neptune -95937-03-11 09:35 J -33319496.17 -33319496.10 -33319496.01 0.0088 0.0079

Mars -95937-04-21 15:20 J -33319454.99 -33319454.86 -33319454.72 0.1608 0.0203

Neptune -95937-06-07 12:13 J -33319408.07 -33319407.99 -33319407.88 0.0088 0.0074

Venus -95937-07-10 13:54 J -33319374.99 -33319374.92 -33319374.85 0.3788 0.2881

Neptune -95937-09-03 15:06 J -33319319.97 -33319319.87 -33319319.75 0.0088 0.0068

Neptune -95937-11-30 17:59 J -33319231.86 -33319231.75 -33319231.62 0.0088 0.0063

Moon -95936-01-10 12:56 J -33319191.09 -33319190.96 -33319190.83 0.2714 0.0507

Earth -95936-01-10 13:39 J -33319191.06 -33319190.93 -33319190.80 0.2720 0.0398 *

Neptune -95936-02-26 20:37 J -33319143.76 -33319143.64 -33319143.50 0.0088 0.0058

Neptune -95936-05-25 23:30 J -33319055.65 -33319055.52 -33319055.37 0.0088 0.0052

Saturn -95936-05-29 23:59 J -33319051.58 -33319051.50 -33319051.42 0.0276 0.0238

Neptune -95936-08-22 02:08 J -33318967.54 -33318967.41 -33318967.25 0.0088 0.0047

Saturn -95936-08-26 16:18 J -33318962.95 -33318962.82 -33318962.68 0.0276 0.0145

Neptune -95936-11-18 04:47 J -33318879.44 -33318879.30 -33318879.13 0.0088 0.0043

Saturn -95936-11-23 08:23 J -33318874.31 -33318874.15 -33318874.00 0.0276 0.0055

Jupiter -95936-12-22 13:54 J -33318845.01 -33318844.92 -33318844.83 0.0519 0.0404

Neptune -95935-02-14 07:39 J -33318791.33 -33318791.18 -33318791.02 0.0088 0.0037

Saturn -95935-02-19 23:59 J -33318785.66 -33318785.50 -33318785.35 0.0275 0.0035

Jupiter -95935-03-22 01:39 J -33318755.57 -33318755.43 -33318755.29 0.0515 0.0060

Neptune -95935-05-13 10:18 J -33318703.22 -33318703.07 -33318702.90 0.0088 0.0032

Saturn -95935-05-19 15:06 J -33318697.00 -33318696.87 -33318696.73 0.0275 0.0121

Neptune -95935-08-09 13:11 J -33318615.11 -33318614.95 -33318614.78 0.0088 0.0026

Saturn -95935-08-16 05:59 J -33318608.34 -33318608.25 -33318608.14 0.0275 0.0206

Neptune -95935-11-05 15:49 J -33318527.00 -33318526.84 -33318526.67 0.0088 0.0021

Neptune -95934-02-01 18:27 J -33318438.90 -33318438.73 -33318438.56 0.0088 0.0016

Neptune -95934-04-30 21:06 J -33318350.79 -33318350.62 -33318350.45 0.0088 0.0011

Neptune -95934-07-27 23:44 J -33318262.68 -33318262.51 -33318262.34 0.0088 0.0006

Neptune -95934-10-24 02:23 J -33318174.57 -33318174.40 -33318174.23 0.0088 0.0001

Neptune -95933-01-20 05:01 J -33318086.46 -33318086.29 -33318086.12 0.0088 0.0004

Neptune -95933-04-17 07:39 J -33317998.35 -33317998.18 -33317998.01 0.0088 0.0009

Neptune -95933-07-14 10:03 J -33317910.24 -33317910.08 -33317909.91 0.0088 0.0014

Earth -95933-07-19 21:49 J -33317904.71 -33317904.59 -33317904.46 0.2620 0.0388

Moon -95933-07-19 22:18 J -33317904.70 -33317904.57 -33317904.45 0.2626 0.0422 *

Neptune -95933-10-10 12:42 J -33317822.13 -33317821.97 -33317821.80 0.0088 0.0019

Neptune -95932-01-06 15:06 J -33317734.02 -33317733.87 -33317733.70 0.0088 0.0025

Mars -95932-01-12 23:15 J -33317727.63 -33317727.53 -33317727.42 0.1919 0.1113

Neptune -95932-04-04 17:44 J -33317645.91 -33317645.76 -33317645.59 0.0088 0.0029

Neptune -95932-07-01 20:08 J -33317557.80 -33317557.66 -33317557.49 0.0088 0.0035

Neptune -95932-09-27 22:47 J -33317469.69 -33317469.55 -33317469.39 0.0088 0.0039

Neptune -95932-12-25 01:25 J -33317381.58 -33317381.44 -33317381.29 0.0088 0.0044

Venus -95931-01-24 07:54 J -33317351.26 -33317351.17 -33317351.08 0.3785 0.2095

Neptune -95931-03-23 03:49 J -33317293.47 -33317293.34 -33317293.19 0.0088 0.0049

Neptune -95931-06-19 06:13 J -33317205.36 -33317205.24 -33317205.10 0.0088 0.0054

Neptune -95931-09-15 08:37 J -33317117.25 -33317117.14 -33317117.00 0.0088 0.0059

Neptune -95931-12-12 11:01 J -33317029.14 -33317029.04 -33317028.91 0.0088 0.0064

Neptune -95930-03-10 13:25 J -33316941.02 -33316940.94 -33316940.82 0.0088 0.0069

Neptune -95930-06-06 16:18 J -33316852.91 -33316852.82 -33316852.73 0.0088 0.0073

Neptune -95930-09-02 18:27 J -33316764.79 -33316764.73 -33316764.64 0.0088 0.0078

Neptune -95930-11-29 20:51 J -33316676.67 -33316676.63 -33316676.56 0.0088 0.0083

Neptune -95929-02-25 23:15 J -33316588.54 -33316588.53 -33316588.49 0.0088 0.0087

Jupiter -95929-05-21 00:27 J -33316503.59 -33316503.48 -33316503.36 0.0510 0.0367

Jupiter -95929-08-18 22:47 J -33316413.70 -33316413.55 -33316413.40 0.0514 0.0161

Mars -95928-09-11 23:30 J -33316024.65 -33316024.52 -33316024.39 0.1608 0.0626

Venus -95926-08-10 02:08 J -33315327.52 -33315327.41 -33315327.31 0.3783 0.1295

Mars -95926-08-18 16:32 J -33315318.90 -33315318.81 -33315318.72 0.1608 0.1206

Jupiter -95924-10-10 17:01 J -33314534.80 -33314534.79 -33314534.77 0.0520 0.0514

Jupiter -95923-01-08 04:32 J -33314445.45 -33314445.31 -33314445.17 0.0516 0.0053

Moon -95923-01-13 11:59 J -33314440.12 -33314440.00 -33314439.88 0.2715 0.1102

Earth -95923-01-13 13:11 J -33314440.07 -33314439.95 -33314439.84 0.2715 0.1220 *

Jupiter -95923-04-07 17:01 J -33314355.87 -33314355.79 -33314355.70 0.0512 0.0418

Mars -95923-06-05 02:51 J -33314297.52 -33314297.38 -33314297.25 0.1919 0.0332

Saturn -95921-06-07 13:54 J -33313564.01 -33313563.92 -33313563.81 0.0283 0.0209

Saturn -95921-09-04 05:01 J -33313475.42 -33313475.29 -33313475.15 0.0283 0.0119

Saturn -95921-12-01 20:37 J -33313386.79 -33313386.64 -33313386.49 0.0283 0.0026

Venus -95920-02-22 20:23 J -33313303.76 -33313303.65 -33313303.54 0.3780 0.0461

Saturn -95920-02-28 12:13 J -33313298.13 -33313297.99 -33313297.83 0.0284 0.0070

Saturn -95920-05-28 04:32 J -33313209.44 -33313209.31 -33313209.19 0.0284 0.0166

Earth -95920-07-22 19:11 J -33313153.82 -33313153.70 -33313153.58 0.2623 0.0933

Moon -95920-07-22 19:54 J -33313153.79 -33313153.67 -33313153.56 0.2628 0.1081 *

Saturn -95920-08-24 20:51 J -33313120.68 -33313120.63 -33313120.57 0.0284 0.0265

Mars -95918-02-02 07:39 J -33312594.28 -33312594.18 -33312594.07 0.1609 0.1050

Jupiter -95917-03-08 23:59 J -33312193.52 -33312193.50 -33312193.47 0.0509 0.0503

Uranus -95917-03-11 10:32 J -33312191.11 -33312191.06 -33312191.00 0.0136 0.0127

Jupiter -95917-06-06 22:47 J -33312103.71 -33312103.55 -33312103.39 0.0513 0.0030

Uranus -95917-06-07 16:03 J -33312102.93 -33312102.83 -33312102.73 0.0136 0.0107

Uranus -95917-09-03 21:06 J -33312014.74 -33312014.62 -33312014.49 0.0136 0.0088

Uranus -95917-12-01 02:23 J -33311926.54 -33311926.40 -33311926.25 0.0136 0.0068

Mars -95916-01-08 00:13 J -33311888.61 -33311888.49 -33311888.37 0.1608 0.0755

Venus -95916-02-21 05:30 J -33311844.31 -33311844.27 -33311844.22 0.3591 0.3380

Uranus -95916-02-27 07:39 J -33311838.33 -33311838.18 -33311838.02 0.0136 0.0049

Uranus -95916-05-26 12:42 J -33311750.12 -33311749.97 -33311749.80 0.0135 0.0030

Uranus -95916-08-22 17:59 J -33311661.91 -33311661.75 -33311661.59 0.0135 0.0010

Uranus -95916-11-18 23:01 J -33311573.70 -33311573.54 -33311573.38 0.0135 0.0009

Uranus -95915-02-15 03:49 J -33311485.49 -33311485.34 -33311485.18 0.0135 0.0027

Uranus -95915-05-14 08:37 J -33311397.28 -33311397.14 -33311396.98 0.0135 0.0046

Uranus -95915-08-10 13:39 J -33311309.07 -33311308.93 -33311308.78 0.0135 0.0064

Venus -95915-09-08 14:51 J -33311279.99 -33311279.88 -33311279.77 0.3777 0.0387

Uranus -95915-11-06 18:27 J -33311220.85 -33311220.73 -33311220.60 0.0135 0.0082

Uranus -95914-02-02 23:15 J -33311132.63 -33311132.53 -33311132.42 0.0135 0.0100

Uranus -95914-05-02 03:49 J -33311044.40 -33311044.34 -33311044.25 0.0135 0.0118

Uranus -95914-07-29 08:51 J -33310956.13 -33310956.13 -33310956.13 0.0134 0.0134

Mars -95914-10-26 05:59 J -33310867.38 -33310867.25 -33310867.12 0.1918 0.0472

Jupiter -95912-10-27 07:39 J -33310135.31 -33310135.18 -33310135.05 0.0517 0.0163

Jupiter -95911-01-24 19:54 J -33310045.78 -33310045.67 -33310045.55 0.0513 0.0305

Venus -95911-09-07 07:11 J -33309820.32 -33309820.20 -33309820.09 0.3594 0.2077

Venus -95909-03-24 09:35 J -33309256.20 -33309256.10 -33309255.99 0.3774 0.1265

Mars -95909-06-24 16:03 J -33309163.88 -33309163.83 -33309163.77 0.1609 0.1462

Mars -95907-05-31 07:54 J -33308458.31 -33308458.17 -33308458.03 0.1608 0.0305

Earth -95907-07-25 16:03 J -33308402.89 -33308402.83 -33308402.76 0.2627 0.2215

Moon -95907-07-25 17:01 J -33308402.85 -33308402.79 -33308402.72 0.2626 0.2242 *

Saturn -95907-10-16 23:01 J -33308319.55 -33308319.54 -33308319.52 0.0275 0.0273

Saturn -95906-01-13 15:20 J -33308230.97 -33308230.86 -33308230.73 0.0275 0.0181

Saturn -95906-04-12 07:39 J -33308142.33 -33308142.18 -33308142.03 0.0275 0.0089

Saturn -95906-07-09 23:30 J -33308053.68 -33308053.52 -33308053.37 0.0275 0.0008

Saturn -95906-10-06 14:37 J -33307965.03 -33307964.89 -33307964.74 0.0275 0.0089

Saturn -95905-01-03 05:44 J -33307876.37 -33307876.26 -33307876.14 0.0275 0.0174

Venus -95905-03-23 07:54 J -33307796.30 -33307796.17 -33307796.03 0.3597 0.0844

Jupiter -95905-03-25 23:15 J -33307793.68 -33307793.53 -33307793.37 0.0512 0.0099

Saturn -95905-03-31 20:23 J -33307787.69 -33307787.65 -33307787.59 0.0274 0.0257

Jupiter -95905-06-23 20:51 J -33307703.72 -33307703.63 -33307703.54 0.0516 0.0426

Mars -95904-03-17 08:23 J -33307437.25 -33307437.15 -33307437.05 0.1918 0.1311

Venus -95904-10-08 04:32 J -33307232.40 -33307232.31 -33307232.22 0.3770 0.2158

Moon -95903-01-08 19:54 J -33307139.77 -33307139.67 -33307139.57 0.2716 0.1748

Earth -95903-01-08 19:54 J -33307139.77 -33307139.67 -33307139.56 0.2724 0.1659 *

Moon -95900-07-18 05:30 J -33305853.38 -33305853.27 -33305853.17 0.2622 0.1509

Earth -95900-07-18 05:59 J -33305853.36 -33305853.25 -33305853.15 0.2616 0.1426 *

Jupiter -95900-08-15 10:18 J -33305825.19 -33305825.07 -33305824.95 0.0517 0.0278

Venus -95900-10-07 08:37 J -33305772.28 -33305772.14 -33305772.01 0.3600 0.0367

Jupiter -95900-11-12 22:18 J -33305735.70 -33305735.57 -33305735.44 0.0513 0.0187

Venus -95898-04-23 23:44 J -33305208.58 -33305208.51 -33305208.45 0.3767 0.3081

Mars -95898-10-21 15:49 J -33305027.98 -33305027.84 -33305027.70 0.1608 0.0138

Venus -95894-04-23 08:37 J -33303748.26 -33303748.14 -33303748.02 0.3603 0.1506

Jupiter -95893-01-12 23:44 J -33303483.65 -33303483.51 -33303483.36 0.0512 0.0225

Jupiter -95893-04-11 21:35 J -33303393.72 -33303393.60 -33303393.47 0.0515 0.0302

Mars -95893-07-13 23:44 J -33303300.61 -33303300.51 -33303300.41 0.1919 0.1189

Saturn -95892-10-25 13:39 J -33302832.00 -33302831.93 -33302831.85 0.0283 0.0245

Saturn -95891-01-22 04:47 J -33302743.43 -33302743.30 -33302743.18 0.0284 0.0155

Saturn -95891-04-20 20:08 J -33302654.81 -33302654.66 -33302654.52 0.0284 0.0063

Saturn -95891-07-18 11:44 J -33302566.16 -33302566.01 -33302565.86 0.0284 0.0031

Saturn -95891-10-15 03:35 J -33302477.48 -33302477.35 -33302477.21 0.0284 0.0128

Moon -95890-01-11 18:27 J -33302388.87 -33302388.73 -33302388.60 0.2715 0.0137

Earth -95890-01-11 19:11 J -33302388.83 -33302388.70 -33302388.57 0.2719 0.0080 *

Saturn -95890-01-11 19:54 J -33302388.75 -33302388.67 -33302388.57 0.0284 0.0227 *

Venus -95889-11-06 08:23 J -33301724.24 -33301724.15 -33301724.06 0.3607 0.2597

Mars -95888-03-12 23:44 J -33301597.64 -33301597.51 -33301597.38 0.1608 0.0570

Jupiter -95888-06-03 12:56 J -33301515.04 -33301514.96 -33301514.86 0.0518 0.0394

Jupiter -95888-09-01 00:42 J -33301425.61 -33301425.47 -33301425.32 0.0515 0.0071

Earth -95887-07-21 03:20 J -33301102.49 -33301102.36 -33301102.24 0.2620 0.0124

Moon -95887-07-21 03:35 J -33301102.47 -33301102.35 -33301102.22 0.2626 0.0049 *

Mars -95886-02-16 17:01 J -33300891.88 -33300891.79 -33300891.71 0.1608 0.1272

Venus -95886-08-01 18:13 J -33300725.78 -33300725.74 -33300725.70 0.3789 0.3414

Mars -95884-12-04 03:06 J -33299870.50 -33299870.37 -33299870.24 0.1919 0.0408

Jupiter -95882-10-31 23:30 J -33299173.64 -33299173.52 -33299173.41 0.0510 0.0358

Jupiter -95881-01-29 21:35 J -33299083.75 -33299083.60 -33299083.45 0.0514 0.0170

Venus -95880-02-14 11:59 J -33298702.07 -33298702.00 -33298701.92 0.3787 0.2652

Mars -95879-08-03 07:54 J -33298167.27 -33298167.17 -33298167.06 0.1608 0.0995

Moon -95877-01-14 17:30 J -33297637.88 -33297637.77 -33297637.66 0.2714 0.1406

Earth -95877-01-14 18:42 J -33297637.83 -33297637.72 -33297637.61 0.2715 0.1547 *

Saturn -95877-06-01 17:01 J -33297498.90 -33297498.79 -33297498.68 0.0276 0.0205

Mars -95877-07-09 00:27 J -33297461.60 -33297461.48 -33297461.36 0.1607 0.0812

Saturn -95877-08-29 09:20 J -33297410.26 -33297410.11 -33297409.97 0.0276 0.0113

Saturn -95877-11-26 01:11 J -33297321.61 -33297321.45 -33297321.30 0.0276 0.0023

Saturn -95876-02-22 16:32 J -33297232.96 -33297232.81 -33297232.65 0.0276 0.0066

Jupiter -95876-03-22 15:20 J -33297204.87 -33297204.86 -33297204.84 0.0520 0.0513

Saturn -95876-05-22 07:39 J -33297144.30 -33297144.18 -33297144.04 0.0275 0.0153

Jupiter -95876-06-20 02:51 J -33297115.52 -33297115.38 -33297115.24 0.0516 0.0053

Saturn -95876-08-18 22:32 J -33297055.63 -33297055.56 -33297055.48 0.0275 0.0237

Jupiter -95876-09-17 15:20 J -33297025.93 -33297025.86 -33297025.77 0.0512 0.0420

Venus -95875-08-31 05:59 J -33296678.34 -33296678.25 -33296678.15 0.3785 0.1866

Mars -95874-04-26 05:59 J -33296440.38 -33296440.25 -33296440.12 0.1919 0.0409

Earth -95874-07-24 00:27 J -33296351.59 -33296351.48 -33296351.37 0.2624 0.1210

Moon -95874-07-24 01:11 J -33296351.56 -33296351.45 -33296351.34 0.2627 0.1225 *

Uranus -95872-01-30 04:18 J -33295795.37 -33295795.32 -33295795.25 0.0143 0.0128

Uranus -95872-04-28 08:51 J -33295707.21 -33295707.13 -33295707.02 0.0143 0.0109

Uranus -95872-07-25 13:39 J -33295619.04 -33295618.93 -33295618.80 0.0143 0.0089

Uranus -95872-10-21 18:27 J -33295530.85 -33295530.73 -33295530.59 0.0143 0.0069

Uranus -95871-01-17 23:30 J -33295442.66 -33295442.52 -33295442.38 0.0143 0.0048

Uranus -95871-04-16 04:18 J -33295354.47 -33295354.32 -33295354.17 0.0143 0.0028

Uranus -95871-07-13 09:06 J -33295266.27 -33295266.12 -33295265.96 0.0144 0.0009

Uranus -95871-10-09 14:08 J -33295178.06 -33295177.91 -33295177.76 0.0144 0.0014

Uranus -95870-01-05 19:11 J -33295089.85 -33295089.70 -33295089.55 0.0144 0.0035

Uranus -95870-04-04 00:13 J -33295001.63 -33295001.49 -33295001.35 0.0144 0.0057

Uranus -95870-07-01 05:30 J -33294913.40 -33294913.27 -33294913.15 0.0144 0.0079

Jupiter -95870-08-19 23:01 J -33294863.57 -33294863.54 -33294863.50 0.0509 0.0492

Uranus -95870-09-27 10:32 J -33294825.17 -33294825.06 -33294824.95 0.0144 0.0100

Jupiter -95870-11-17 21:49 J -33294773.75 -33294773.59 -33294773.43 0.0513 0.0039

Uranus -95870-12-24 15:49 J -33294736.92 -33294736.84 -33294736.76 0.0144 0.0123

Mars -95870-12-24 16:18 J -33294736.88 -33294736.82 -33294736.75 0.1609 0.1408 *

Venus -95869-03-16 00:13 J -33294654.60 -33294654.49 -33294654.38 0.3782 0.1052

Mars -95868-11-29 08:08 J -33294031.29 -33294031.16 -33294031.02 0.1607 0.0365

Moon -95867-07-16 12:56 J -33293801.99 -33293801.96 -33293801.94 0.2617 0.2547

Earth -95867-07-16 13:39 J -33293801.96 -33293801.93 -33293801.89 0.2613 0.2495 *

Mars -95865-09-15 08:51 J -33293010.23 -33293010.13 -33293010.02 0.1918 0.1226

Jupiter -95864-04-08 05:44 J -33292805.39 -33292805.26 -33292805.12 0.0517 0.0165

Jupiter -95864-07-06 18:13 J -33292715.86 -33292715.74 -33292715.63 0.0513 0.0305

Venus -95864-09-29 18:27 J -33292630.84 -33292630.73 -33292630.62 0.3779 0.0262

Saturn -95862-03-14 16:03 J -33292099.88 -33292099.83 -33292099.77 0.0283 0.0263

Saturn -95862-06-11 06:56 J -33292011.32 -33292011.21 -33292011.09 0.0283 0.0175

Saturn -95862-09-07 22:18 J -33291922.72 -33291922.57 -33291922.43 0.0283 0.0084

Saturn -95862-12-05 13:39 J -33291834.08 -33291833.93 -33291833.77 0.0283 0.0011

Saturn -95861-03-03 05:30 J -33291745.41 -33291745.27 -33291745.12 0.0283 0.0105

Saturn -95861-05-30 21:49 J -33291656.70 -33291656.59 -33291656.48 0.0284 0.0203

Earth -95861-07-25 21:20 J -33291600.65 -33291600.61 -33291600.57 0.2628 0.2485

Venus -95860-09-28 05:44 J -33291171.33 -33291171.26 -33291171.18 0.3592 0.2997

Venus -95858-04-15 13:11 J -33290607.06 -33290606.95 -33290606.84 0.3776 0.0637

Mars -95858-04-21 16:03 J -33290600.97 -33290600.83 -33290600.69 0.1608 0.0086

Jupiter -95858-09-05 21:35 J -33290463.76 -33290463.60 -33290463.44 0.0512 0.0097

Jupiter -95858-12-04 18:56 J -33290373.80 -33290373.71 -33290373.62 0.0516 0.0425

Moon -95857-01-10 01:25 J -33290337.56 -33290337.44 -33290337.33 0.2716 0.1275

Earth -95857-01-10 01:39 J -33290337.55 -33290337.43 -33290337.32 0.2723 0.1340 *

Pluto -95857-03-19 20:51 J -33290267.69 -33290267.63 -33290267.57 0.0085 0.0076

Pluto -95857-06-15 21:49 J -33290179.66 -33290179.59 -33290179.49 0.0084 0.0063

Pluto -95857-09-11 23:15 J -33290091.63 -33290091.53 -33290091.42 0.0084 0.0050

Pluto -95857-12-09 00:42 J -33290003.59 -33290003.47 -33290003.36 0.0084 0.0037

Pluto -95856-03-07 01:39 J -33289915.55 -33289915.43 -33289915.29 0.0084 0.0025

Pluto -95856-06-03 03:06 J -33289827.50 -33289827.37 -33289827.24 0.0084 0.0012

Pluto -95856-08-30 04:18 J -33289739.45 -33289739.32 -33289739.19 0.0084 0.0002

Neptune -95856-09-09 23:30 J -33289728.54 -33289728.52 -33289728.48 0.0089 0.0086

Pluto -95856-11-26 05:30 J -33289651.40 -33289651.27 -33289651.14 0.0084 0.0013

Neptune -95856-12-07 01:11 J -33289640.49 -33289640.45 -33289640.39 0.0089 0.0082

Pluto -95855-02-22 06:42 J -33289563.34 -33289563.22 -33289563.09 0.0083 0.0025

Neptune -95855-03-05 02:51 J -33289552.44 -33289552.38 -33289552.31 0.0089 0.0078

Pluto -95855-05-21 07:54 J -33289475.28 -33289475.17 -33289475.05 0.0083 0.0037

Neptune -95855-06-01 04:32 J -33289464.38 -33289464.31 -33289464.22 0.0089 0.0074

Pluto -95855-08-17 09:06 J -33289387.22 -33289387.12 -33289387.01 0.0083 0.0050

Neptune -95855-08-28 05:59 J -33289376.32 -33289376.25 -33289376.14 0.0089 0.0070

Pluto -95855-11-13 10:32 J -33289299.15 -33289299.06 -33289298.98 0.0083 0.0062

Neptune -95855-11-24 08:08 J -33289288.26 -33289288.16 -33289288.07 0.0089 0.0065

Pluto -95854-02-09 11:15 J -33289211.07 -33289211.03 -33289210.96 0.0083 0.0074

Neptune -95854-02-20 09:35 J -33289200.19 -33289200.10 -33289199.99 0.0089 0.0061

Venus -95854-04-14 07:11 J -33289147.33 -33289147.20 -33289147.08 0.3595 0.1722

Neptune -95854-05-19 11:15 J -33289112.13 -33289112.03 -33289111.91 0.0089 0.0057

Moon -95854-07-19 11:01 J -33289051.15 -33289051.04 -33289050.93 0.2623 0.1164

Earth -95854-07-19 11:15 J -33289051.14 -33289051.03 -33289050.91 0.2617 0.1138 *

Neptune -95854-08-15 12:56 J -33289024.06 -33289023.96 -33289023.83 0.0089 0.0053

Neptune -95854-11-11 14:51 J -33288936.00 -33288935.88 -33288935.76 0.0089 0.0048

Mars -95853-01-13 00:13 J -33288873.59 -33288873.49 -33288873.39 0.1919 0.1271

Neptune -95853-02-07 16:32 J -33288847.93 -33288847.81 -33288847.68 0.0089 0.0044

Neptune -95853-05-05 18:13 J -33288759.86 -33288759.74 -33288759.60 0.0089 0.0040

Neptune -95853-08-01 20:08 J -33288671.79 -33288671.66 -33288671.53 0.0089 0.0035

Neptune -95853-10-28 21:49 J -33288583.72 -33288583.59 -33288583.45 0.0089 0.0031

Venus -95853-10-29 07:54 J -33288583.27 -33288583.17 -33288583.07 0.3773 0.1512

Neptune -95852-01-24 23:30 J -33288495.65 -33288495.52 -33288495.37 0.0089 0.0027

Jupiter -95852-01-25 09:06 J -33288495.24 -33288495.12 -33288495.00 0.0518 0.0274

Neptune -95852-04-23 01:25 J -33288407.58 -33288407.44 -33288407.30 0.0089 0.0022

Jupiter -95852-04-24 21:06 J -33288405.76 -33288405.62 -33288405.49 0.0514 0.0193

Neptune -95852-07-20 03:06 J -33288319.51 -33288319.37 -33288319.22 0.0089 0.0018

Neptune -95852-10-16 05:01 J -33288231.43 -33288231.29 -33288231.14 0.0089 0.0013

Neptune -95851-01-12 06:42 J -33288143.36 -33288143.22 -33288143.07 0.0089 0.0009

Neptune -95851-04-10 08:37 J -33288055.29 -33288055.14 -33288054.99 0.0089 0.0005

Neptune -95851-07-07 10:18 J -33287967.21 -33287967.07 -33287966.92 0.0089 0.0003

Neptune -95851-10-03 12:13 J -33287879.14 -33287878.99 -33287878.84 0.0089 0.0004

Neptune -95851-12-30 14:08 J -33287791.06 -33287790.91 -33287790.77 0.0089 0.0009

Neptune -95850-03-28 15:49 J -33287702.98 -33287702.84 -33287702.69 0.0089 0.0013

Neptune -95850-06-24 17:44 J -33287614.91 -33287614.76 -33287614.62 0.0089 0.0018

Neptune -95850-09-20 19:25 J -33287526.83 -33287526.69 -33287526.54 0.0089 0.0022

Neptune -95850-12-17 21:20 J -33287438.75 -33287438.61 -33287438.47 0.0089 0.0027

Neptune -95849-03-14 23:15 J -33287350.67 -33287350.53 -33287350.39 0.0089 0.0031

Neptune -95849-06-11 00:56 J -33287262.59 -33287262.46 -33287262.32 0.0089 0.0036

Neptune -95849-09-07 02:51 J -33287174.51 -33287174.38 -33287174.24 0.0089 0.0041

Mars -95849-09-10 23:59 J -33287170.63 -33287170.50 -33287170.37 0.1608 0.0511

Venus -95849-10-28 07:54 J -33287123.30 -33287123.17 -33287123.03 0.3598 0.0491

Neptune -95849-12-04 04:47 J -33287086.42 -33287086.30 -33287086.17 0.0089 0.0045

Neptune -95848-03-02 06:27 J -33286998.34 -33286998.23 -33286998.09 0.0089 0.0050

Neptune -95848-05-29 08:37 J -33286910.26 -33286910.14 -33286910.02 0.0089 0.0054

Neptune -95848-08-25 10:18 J -33286822.17 -33286822.07 -33286821.95 0.0089 0.0059

Saturn -95848-10-19 16:18 J -33286766.89 -33286766.82 -33286766.74 0.0276 0.0239

Neptune -95848-11-21 12:27 J -33286734.08 -33286733.98 -33286733.87 0.0089 0.0063

Saturn -95847-01-16 08:37 J -33286678.27 -33286678.14 -33286678.00 0.0275 0.0147

Neptune -95847-02-17 14:08 J -33286645.99 -33286645.91 -33286645.80 0.0089 0.0068

Saturn -95847-04-15 00:42 J -33286589.62 -33286589.47 -33286589.31 0.0275 0.0055

Venus -95847-05-15 02:51 J -33286559.46 -33286559.38 -33286559.29 0.3769 0.2415

Neptune -95847-05-16 16:03 J -33286557.90 -33286557.83 -33286557.73 0.0089 0.0073

Saturn -95847-07-12 16:18 J -33286500.97 -33286500.82 -33286500.66 0.0275 0.0035

Neptune -95847-08-12 18:13 J -33286469.81 -33286469.74 -33286469.66 0.0089 0.0077

Mars -95847-08-17 17:15 J -33286464.86 -33286464.78 -33286464.70 0.1608 0.1334

Saturn -95847-10-09 07:39 J -33286412.32 -33286412.18 -33286412.04 0.0275 0.0121

Neptune -95847-11-08 19:54 J -33286381.71 -33286381.67 -33286381.60 0.0089 0.0082

Saturn -95846-01-05 22:32 J -33286323.65 -33286323.56 -33286323.45 0.0275 0.0206

Neptune -95846-02-04 21:49 J -33286293.60 -33286293.59 -33286293.54 0.0089 0.0087

Jupiter -95846-06-24 21:49 J -33286153.73 -33286153.59 -33286153.44 0.0511 0.0225

Jupiter -95846-09-22 19:39 J -33286063.80 -33286063.68 -33286063.55 0.0515 0.0302

Moon -95844-01-11 23:44 J -33285586.64 -33285586.51 -33285586.38 0.2716 0.0068

Earth -95844-01-12 00:42 J -33285586.60 -33285586.47 -33285586.34 0.2719 0.0261 *

Mars -95844-06-04 03:20 J -33285443.49 -33285443.36 -33285443.23 0.1919 0.0479

Venus -95843-05-14 08:23 J -33285099.28 -33285099.15 -33285099.02 0.3601 0.0694

Venus -95842-11-28 22:03 J -33284535.63 -33284535.58 -33284535.53 0.3766 0.3339

Earth -95841-07-21 08:37 J -33284300.27 -33284300.14 -33284300.01 0.2621 0.0190

Moon -95841-07-21 09:06 J -33284300.25 -33284300.12 -33284300.00 0.2627 0.0197 *

Jupiter -95841-11-13 11:44 J -33284185.10 -33284185.01 -33284184.91 0.0518 0.0388

Jupiter -95840-02-10 23:30 J -33284095.66 -33284095.52 -33284095.38 0.0515 0.0076

Mars -95839-02-01 08:08 J -33283740.27 -33283740.16 -33283740.05 0.1608 0.0937

Venus -95838-11-28 08:23 J -33283075.27 -33283075.15 -33283075.04 0.3604 0.1818

Mars -95837-01-08 00:42 J -33283034.58 -33283034.47 -33283034.35 0.1607 0.0878

Mars -95835-10-25 06:27 J -33282013.36 -33282013.23 -33282013.09 0.1919 0.0325

Jupiter -95834-04-12 22:03 J -33281843.69 -33281843.58 -33281843.46 0.0510 0.0352

Jupiter -95834-07-11 20:37 J -33281753.79 -33281753.64 -33281753.49 0.0514 0.0178

Uranus -95833-03-31 18:42 J -33281489.79 -33281489.72 -33281489.63 0.0136 0.0119

Uranus -95833-06-28 00:13 J -33281401.60 -33281401.49 -33281401.38 0.0136 0.0099

Uranus -95833-09-24 05:15 J -33281313.40 -33281313.28 -33281313.13 0.0136 0.0080

Saturn -95833-10-28 06:42 J -33281279.31 -33281279.22 -33281279.12 0.0283 0.0211

Uranus -95833-12-21 10:47 J -33281225.20 -33281225.05 -33281224.90 0.0136 0.0060

Saturn -95832-01-24 21:49 J -33281190.73 -33281190.59 -33281190.45 0.0283 0.0120

Uranus -95832-03-19 15:49 J -33281136.99 -33281136.84 -33281136.68 0.0136 0.0041

Saturn -95832-04-23 13:11 J -33281102.10 -33281101.95 -33281101.80 0.0284 0.0028

Venus -95832-06-13 07:54 J -33281051.25 -33281051.17 -33281051.09 0.3608 0.2893

Uranus -95832-06-15 21:06 J -33281048.78 -33281048.62 -33281048.46 0.0136 0.0021

Saturn -95832-07-21 05:01 J -33281013.44 -33281013.29 -33281013.14 0.0284 0.0067

Uranus -95832-09-12 02:08 J -33280960.57 -33280960.41 -33280960.25 0.0135 0.0003

Saturn -95832-10-17 21:06 J -33280924.75 -33280924.62 -33280924.50 0.0284 0.0164

Uranus -95832-12-09 07:11 J -33280872.36 -33280872.20 -33280872.04 0.0135 0.0017

Saturn -95831-01-14 13:25 J -33280835.99 -33280835.94 -33280835.88 0.0284 0.0264

Moon -95831-01-14 23:15 J -33280835.63 -33280835.53 -33280835.44 0.2715 0.1807

Earth -95831-01-15 00:13 J -33280835.58 -33280835.49 -33280835.39 0.2714 0.1882 *

Uranus -95831-03-07 12:13 J -33280784.15 -33280783.99 -33280783.83 0.0135 0.0035

Uranus -95831-06-03 17:01 J -33280695.93 -33280695.79 -33280695.64 0.0135 0.0053

Uranus -95831-08-30 21:49 J -33280607.72 -33280607.59 -33280607.45 0.0135 0.0072

Uranus -95831-11-27 02:37 J -33280519.50 -33280519.39 -33280519.26 0.0135 0.0090

Uranus -95830-02-23 07:39 J -33280431.28 -33280431.18 -33280431.09 0.0135 0.0107

Uranus -95830-05-22 12:13 J -33280343.04 -33280342.99 -33280342.93 0.0135 0.0125

Mars -95830-06-24 16:32 J -33280309.88 -33280309.81 -33280309.74 0.1609 0.1357

Venus -95829-03-07 16:18 J -33280052.88 -33280052.82 -33280052.77 0.3789 0.3191

Jupiter -95829-09-01 14:37 J -33279874.92 -33279874.89 -33279874.85 0.0519 0.0502

Jupiter -95829-11-30 02:08 J -33279785.55 -33279785.41 -33279785.27 0.0516 0.0042

Jupiter -95828-02-27 14:37 J -33279695.97 -33279695.89 -33279695.81 0.0512 0.0428

Mars -95828-05-30 08:23 J -33279604.28 -33279604.15 -33279604.02 0.1607 0.0423

Earth -95828-07-24 05:44 J -33279549.36 -33279549.26 -33279549.16 0.2625 0.1485

Moon -95828-07-24 06:42 J -33279549.32 -33279549.22 -33279549.13 0.2626 0.1641 *

Mars -95825-03-16 09:06 J -33278583.23 -33278583.12 -33278583.02 0.1918 0.1163

Earth -95824-01-07 08:08 J -33278286.20 -33278286.16 -33278286.12 0.2727 0.2572

Moon -95824-01-07 08:23 J -33278286.20 -33278286.15 -33278286.10 0.2719 0.2491 *

Venus -95824-09-21 10:03 J -33278029.16 -33278029.08 -33278029.00 0.3786 0.2424

Jupiter -95822-01-29 21:49 J -33277533.63 -33277533.59 -33277533.54 0.0509 0.0484

Jupiter -95822-04-29 20:37 J -33277443.80 -33277443.64 -33277443.48 0.0513 0.0046

Moon -95821-07-16 18:13 J -33276999.79 -33276999.74 -33276999.68 0.2617 0.2344

Earth -95821-07-16 19:11 J -33276999.77 -33276999.70 -33276999.64 0.2614 0.2204 *

Mars -95819-10-20 16:18 J -33276173.96 -33276173.82 -33276173.68 0.1607 0.0046

Saturn -95818-03-08 17:30 J -33276034.81 -33276034.77 -33276034.72 0.0276 0.0266

Venus	-95818-04-07 04:03 J	-33276005.42	-33276005.33	-33276005.23	0.3784	0.1635
Saturn	-95818-06-05 10:03 J	-33275946.20	-33275946.08	-33275945.95	0.0276	0.0172
Saturn	-95818-09-02 02:08 J	-33275857.56	-33275857.41	-33275857.25	0.0276	0.0080
Saturn	-95818-11-29 17:59 J	-33275768.90	-33275768.75	-33275768.59	0.0276	0.0012
Saturn	-95817-02-26 09:35 J	-33275680.25	-33275680.10	-33275679.96	0.0276	0.0098
Saturn	-95817-05-25 00:27 J	-33275591.59	-33275591.48	-33275591.36	0.0276	0.0185
Saturn	-95817-08-21 15:20 J	-33275502.89	-33275502.86	-33275502.82	0.0275	0.0268
Jupiter	-95817-09-18 04:03 J	-33275475.46	-33275475.33	-33275475.19	0.0517	0.0165
Jupiter	-95817-12-16 16:32 J	-33275385.93	-33275385.81	-33275385.70	0.0513	0.0304
Mars	-95814-07-14 00:13 J	-33274446.59	-33274446.49	-33274446.40	0.1919	0.1333
Venus	-95813-10-20 22:18 J	-33273981.68	-33273981.57	-33273981.46	0.3781	0.0821
Moon	-95811-01-10 06:42 J	-33273535.34	-33273535.22	-33273535.10	0.2716	0.1125
Earth	-95811-01-10 07:11 J	-33273535.32	-33273535.20	-33273535.08	0.2722	0.1017 *
Jupiter	-95810-02-15 20:37 J	-33273133.80	-33273133.64	-33273133.48	0.0512	0.0088
Jupiter	-95810-05-16 17:44 J	-33273043.84	-33273043.76	-33273043.67	0.0516	0.0434
Mars	-95809-03-12 00:13 J	-33272743.62	-33272743.49	-33272743.36	0.1608	0.0454
Moon	-95808-07-19 16:32 J	-33272248.93	-33272248.81	-33272248.69	0.2624	0.0836
Earth	-95808-07-19 16:32 J	-33272248.93	-33272248.81	-33272248.69	0.2617	0.0858 *
Mars	-95807-02-15 17:30 J	-33272037.84	-33272037.77	-33272037.70	0.1608	0.1395
Venus	-95807-05-06 16:47 J	-33271957.91	-33271957.80	-33271957.69	0.3778	0.0019
Jupiter	-95805-07-07 07:11 J	-33271165.32	-33271165.20	-33271165.09	0.0518	0.0278
Jupiter	-95805-10-04 19:11 J	-33271075.84	-33271075.70	-33271075.57	0.0514	0.0190
Mars	-95805-12-03 03:49 J	-33271016.47	-33271016.34	-33271016.21	0.1920	0.0564
Saturn	-95803-03-17 09:20 J	-33270547.19	-33270547.11	-33270547.02	0.0283	0.0228
Venus	-95803-05-05 05:59 J	-33270498.35	-33270498.25	-33270498.16	0.3593	0.2629
Saturn	-95803-06-14 00:27 J	-33270458.61	-33270458.48	-33270458.35	0.0283	0.0138
Saturn	-95803-09-10 15:49 J	-33270369.99	-33270369.84	-33270369.69	0.0283	0.0046
Saturn	-95803-12-08 07:25 J	-33270281.34	-33270281.19	-33270281.04	0.0283	0.0048
Saturn	-95802-03-06 23:15 J	-33270192.66	-33270192.53	-33270192.39	0.0283	0.0145
Saturn	-95802-06-03 15:35 J	-33270103.92	-33270103.85	-33270103.76	0.0283	0.0243

Venus -95802-11-20 11:30 J -33269934.13 -33269934.02 -33269933.91 0.3775 0.0887

Mars -95800-08-02 08:23 J -33269313.26 -33269313.15 -33269313.03 0.1608 0.0881

Jupiter -95799-12-04 19:54 J -33268823.81 -33268823.67 -33268823.52 0.0511 0.0225

Moon -95798-01-13 05:15 J -33268784.41 -33268784.28 -33268784.15 0.2715 0.0557

Earth -95798-01-13 06:27 J -33268784.36 -33268784.23 -33268784.11 0.2718 0.0585 *

Jupiter -95798-03-04 17:59 J -33268733.88 -33268733.75 -33268733.63 0.0515 0.0301

Mars -95798-07-09 00:56 J -33268607.57 -33268607.46 -33268607.34 0.1607 0.0936

Venus -95798-11-19 06:56 J -33268474.33 -33268474.21 -33268474.08 0.3596 0.1368

Venus -95796-06-05 06:13 J -33267910.34 -33267910.24 -33267910.14 0.3772 0.1766

Mars -95795-04-25 06:42 J -33267586.35 -33267586.22 -33267586.08 0.1919 0.0252

Earth -95795-07-22 13:54 J -33267498.04 -33267497.92 -33267497.79 0.2621 0.0469

Moon -95795-07-22 14:23 J -33267498.02 -33267497.90 -33267497.77 0.2627 0.0549 *

Jupiter -95793-04-25 10:18 J -33266855.16 -33266855.07 -33266854.98 0.0519 0.0386

Jupiter -95793-07-23 22:03 J -33266765.72 -33266765.58 -33266765.44 0.0515 0.0078

Venus -95792-06-04 07:54 J -33266450.31 -33266450.17 -33266450.04 0.3599 0.0154

Venus -95791-12-20 01:25 J -33265886.52 -33265886.44 -33265886.36 0.3768 0.2673

Mars -95791-12-23 16:47 J -33265882.88 -33265882.80 -33265882.72 0.1609 0.1298

Saturn -95789-10-22 10:03 J -33265214.18 -33265214.08 -33265213.97 0.0276 0.0202

Uranus -95789-11-23 07:54 J -33265182.19 -33265182.17 -33265182.14 0.0142 0.0140

Mars -95789-11-28 08:37 J -33265177.27 -33265177.14 -33265177.00 0.1607 0.0488

Saturn -95788-01-19 02:23 J -33265125.54 -33265125.40 -33265125.25 0.0276 0.0110

Uranus -95788-02-19 12:27 J -33265094.05 -33265093.98 -33265093.90 0.0143 0.0121

Saturn -95788-04-17 18:13 J -33265036.89 -33265036.74 -33265036.58 0.0275 0.0020

Uranus -95788-05-18 17:15 J -33265005.88 -33265005.78 -33265005.67 0.0143 0.0101

Saturn -95788-07-15 09:49 J -33264948.24 -33264948.09 -33264947.94 0.0275 0.0069

Uranus -95788-08-14 21:49 J -33264917.70 -33264917.59 -33264917.46 0.0143 0.0081

Saturn -95788-10-12 00:56 J -33264859.58 -33264859.46 -33264859.33 0.0275 0.0156

Uranus -95788-11-11 02:37 J -33264829.52 -33264829.39 -33264829.25 0.0143 0.0061

Saturn -95787-01-08 15:49 J -33264770.91 -33264770.84 -33264770.76 0.0275 0.0240

Uranus -95787-02-07 07:39 J -33264741.33 -33264741.18 -33264741.04 0.0143 0.0041

Uranus -95787-05-06 12:27 J -33264653.13 -33264652.98 -33264652.83 0.0143 0.0020

Uranus -95787-08-02 17:30 J -33264564.93 -33264564.77 -33264564.62 0.0144 0.0004

Jupiter -95787-09-22 20:08 J -33264513.77 -33264513.66 -33264513.54 0.0510 0.0354

Uranus -95787-10-29 22:18 J -33264476.72 -33264476.57 -33264476.42 0.0144 0.0022

Venus -95787-12-19 08:08 J -33264426.29 -33264426.16 -33264426.03 0.3602 0.1017

Jupiter -95787-12-21 18:27 J -33264423.88 -33264423.73 -33264423.58 0.0514 0.0175

Uranus -95786-01-26 03:20 J -33264388.50 -33264388.36 -33264388.21 0.0144 0.0043

Uranus -95786-04-24 08:23 J -33264300.28 -33264300.15 -33264300.01 0.0144 0.0065

Uranus -95786-07-21 13:25 J -33264212.06 -33264211.94 -33264211.81 0.0144 0.0087

Mars -95786-09-15 09:35 J -33264156.21 -33264156.10 -33264155.99 0.1918 0.1074

Uranus -95786-10-17 18:42 J -33264123.82 -33264123.72 -33264123.62 0.0144 0.0109

Uranus -95785-01-13 23:59 J -33264035.56 -33264035.50 -33264035.44 0.0144 0.0131

Moon -95785-01-16 04:47 J -33264033.38 -33264033.30 -33264033.21 0.2717 0.2048

Earth -95785-01-16 05:59 J -33264033.33 -33264033.25 -33264033.18 0.2714 0.2220 *

Venus -95785-07-04 20:37 J -33263862.67 -33263862.64 -33263862.61 0.3765 0.3599

Earth -95782-07-25 11:01 J -33262747.13 -33262747.04 -33262746.95 0.2625 0.1766

Moon -95782-07-25 11:59 J -33262747.09 -33262747.00 -33262746.91 0.2626 0.1812 *

Jupiter -95781-02-12 13:11 J -33262544.98 -33262544.95 -33262544.91 0.0520 0.0499

Jupiter -95781-05-12 00:42 J -33262455.61 -33262455.47 -33262455.33 0.0516 0.0038

Venus -95781-07-04 07:54 J -33262402.27 -33262402.17 -33262402.06 0.3606 0.2124

Jupiter -95781-08-09 13:11 J -33262366.03 -33262365.95 -33262365.87 0.0512 0.0431

Mars -95779-04-20 16:32 J -33261746.95 -33261746.81 -33261746.67 0.1607 0.0042

Earth -95778-01-08 13:39 J -33261484.00 -33261483.93 -33261483.86 0.2726 0.2263

Moon -95778-01-08 13:54 J -33261483.99 -33261483.92 -33261483.85 0.2719 0.2258 *

Venus -95778-03-29 20:23 J -33261403.66 -33261403.65 -33261403.63 0.3790 0.3722

Venus -95775-01-18 07:25 J -33260378.25 -33260378.19 -33260378.13 0.3609 0.3184

Jupiter -95775-07-11 20:23 J -33260203.70 -33260203.65 -33260203.60 0.0509 0.0482

Moon -95775-07-17 23:44 J -33260197.59 -33260197.51 -33260197.42 0.2618 0.1932

Earth -95775-07-18 00:27 J -33260197.57 -33260197.48 -33260197.39 0.2614 0.1919 *

Jupiter -95775-10-09 19:11 J -33260113.86 -33260113.70 -33260113.54 0.0513 0.0051

Mars -95774-01-12 00:42 J -33260019.56 -33260019.47 -33260019.39 0.1919 0.1420

Saturn -95774-08-04 09:20 J -33259815.16 -33259815.11 -33259815.05 0.0283 0.0262

Saturn -95774-11-01 00:13 J -33259726.61 -33259726.49 -33259726.37 0.0283 0.0174

Saturn -95773-01-28 15:20 J -33259638.00 -33259637.86 -33259637.71 0.0283 0.0083

Saturn -95773-04-26 06:56 J -33259549.36 -33259549.21 -33259549.06 0.0284 0.0012

Saturn -95773-07-23 22:47 J -33259460.69 -33259460.55 -33259460.41 0.0284 0.0107

Neptune -95773-09-09 04:03 J -33259413.37 -33259413.33 -33259413.26 0.0088 0.0084

Venus -95773-10-12 14:08 J -33259379.97 -33259379.91 -33259379.84 0.3788 0.2971

Saturn -95773-10-20 14:51 J -33259371.98 -33259371.88 -33259371.77 0.0284 0.0205

Neptune -95773-12-06 07:11 J -33259325.27 -33259325.20 -33259325.12 0.0088 0.0079

Neptune -95772-03-04 09:49 J -33259237.18 -33259237.09 -33259236.98 0.0088 0.0074

Neptune -95772-05-31 12:27 J -33259149.07 -33259148.98 -33259148.85 0.0088 0.0069

Neptune -95772-08-27 15:35 J -33259060.97 -33259060.85 -33259060.73 0.0088 0.0063

Neptune -95772-11-23 18:13 J -33258972.86 -33258972.74 -33258972.60 0.0088 0.0058

Neptune -95771-02-19 20:51 J -33258884.76 -33258884.63 -33258884.48 0.0088 0.0053

Neptune -95771-05-18 23:30 J -33258796.65 -33258796.52 -33258796.36 0.0088 0.0048

Neptune -95771-08-15 02:23 J -33258708.54 -33258708.40 -33258708.24 0.0088 0.0042

Neptune -95771-11-11 05:15 J -33258620.43 -33258620.28 -33258620.12 0.0088 0.0037

Neptune -95770-02-07 07:54 J -33258532.33 -33258532.17 -33258532.00 0.0088 0.0032

Neptune -95770-05-06 10:32 J -33258444.22 -33258444.06 -33258443.89 0.0088 0.0027

Neptune -95770-08-02 13:11 J -33258356.11 -33258355.95 -33258355.78 0.0088 0.0022

Mars -95770-09-11 00:27 J -33258316.61 -33258316.48 -33258316.35 0.1608 0.0397

Neptune -95770-10-29 15:49 J -33258268.00 -33258267.84 -33258267.66 0.0088 0.0017

Neptune -95769-01-25 18:42 J -33258179.89 -33258179.72 -33258179.55 0.0088 0.0011

Jupiter -95769-02-29 03:20 J -33258145.50 -33258145.36 -33258145.23 0.0517 0.0155

Neptune -95769-04-22 21:20 J -33258091.78 -33258091.61 -33258091.44 0.0088 0.0006

Jupiter -95769-05-28 15:35 J -33258055.97 -33258055.85 -33258055.74 0.0513 0.0313

Neptune -95769-07-19 23:59 J -33258003.67 -33258003.50 -33258003.33 0.0088 0.0001

Neptune -95769-10-16 02:37 J -33257915.56 -33257915.39 -33257915.22 0.0088 0.0004

Neptune -95768-01-12 05:01 J -33257827.45 -33257827.29 -33257827.12 0.0088 0.0010

Neptune -95768-04-10 07:39 J -33257739.34 -33257739.18 -33257739.01 0.0088 0.0014

Neptune -95768-07-07 10:18 J -33257651.23 -33257651.07 -33257650.90 0.0088 0.0019

Mars -95768-08-16 17:44 J -33257610.81 -33257610.76 -33257610.70 0.1607 0.1458

Neptune -95768-10-03 12:42 J -33257563.12 -33257562.97 -33257562.80 0.0088 0.0024

Neptune -95768-12-30 15:20 J -33257475.01 -33257474.86 -33257474.70 0.0088 0.0029

Neptune -95767-03-28 17:44 J -33257386.90 -33257386.76 -33257386.59 0.0088 0.0034

Venus -95767-04-28 08:08 J -33257356.25 -33257356.16 -33257356.07 0.3785 0.2195

Neptune -95767-06-24 20:08 J -33257298.79 -33257298.66 -33257298.49 0.0088 0.0040

Neptune -95767-09-20 23:01 J -33257210.68 -33257210.54 -33257210.39 0.0088 0.0044

Neptune -95767-12-18 01:25 J -33257122.57 -33257122.44 -33257122.29 0.0088 0.0049

Neptune -95766-03-16 03:49 J -33257034.46 -33257034.34 -33257034.20 0.0088 0.0054

Neptune -95766-06-12 06:13 J -33256946.35 -33256946.24 -33256946.10 0.0088 0.0059

Neptune -95766-09-08 08:37 J -33256858.24 -33256858.14 -33256858.01 0.0088 0.0064

Neptune -95766-12-05 11:01 J -33256770.12 -33256770.04 -33256769.91 0.0088 0.0069

Moon -95765-01-11 11:59 J -33256733.13 -33256733.00 -33256732.88 0.2717 0.0717

Earth -95765-01-11 12:42 J -33256733.10 -33256732.97 -33256732.85 0.2722 0.0701 *

Neptune -95765-03-02 13:54 J -33256682.01 -33256681.92 -33256681.82 0.0088 0.0073

Neptune -95765-05-29 16:18 J -33256593.89 -33256593.82 -33256593.74 0.0088 0.0078

Mars -95765-06-03 03:49 J -33256589.46 -33256589.34 -33256589.21 0.1919 0.0632

Neptune -95765-08-25 18:27 J -33256505.77 -33256505.73 -33256505.66 0.0088 0.0083

Neptune -95765-11-21 20:51 J -33256417.64 -33256417.63 -33256417.59 0.0088 0.0087

Jupiter -95763-07-28 19:11 J -33255803.86 -33255803.70 -33255803.54 0.0512 0.0081

Jupiter -95763-10-26 16:32 J -33255713.89 -33255713.81 -33255713.73 0.0516 0.0439

Moon -95762-07-20 22:03 J -33255446.71 -33255446.58 -33255446.46 0.2625 0.0611

Earth -95762-07-20 22:03 J -33255446.71 -33255446.58 -33255446.46 0.2618 0.0576 *

Venus -95762-11-12 02:23 J -33255332.51 -33255332.40 -33255332.30 0.3783 0.1405

Mars -95760-01-31 08:37 J -33254886.26 -33254886.14 -33254886.02 0.1608 0.0826

Saturn -95759-03-11 11:01 J -33254482.12 -33254482.04 -33254481.94 0.0276 0.0230

Saturn -95759-06-08 03:35 J -33254393.48 -33254393.35 -33254393.21 0.0276 0.0136

Saturn -95759-09-04 19:39 J -33254304.83 -33254304.68 -33254304.52 0.0276 0.0044

Saturn -95759-12-02 11:30 J -33254216.18 -33254216.02 -33254215.87 0.0276 0.0046

Mars -95758-01-07 01:11 J -33254180.56 -33254180.45 -33254180.34 0.1607 0.0997

Saturn -95758-03-01 02:51 J -33254127.52 -33254127.38 -33254127.25 0.0276 0.0133

Saturn -95758-05-28 17:30 J -33254038.85 -33254038.77 -33254038.67 0.0276 0.0219

Jupiter -95758-12-18 05:15 J -33253835.40 -33253835.28 -33253835.16 0.0518 0.0279

Jupiter -95757-03-16 17:15 J -33253745.91 -33253745.78 -33253745.65 0.0514 0.0187

Venus -95756-05-27 20:37 J -33253308.75 -33253308.64 -33253308.53 0.3780 0.0581

Mars -95756-10-24 06:56 J -33253159.34 -33253159.21 -33253159.07 0.1919 0.0180

Moon -95752-01-13 11:01 J -33251982.17 -33251982.04 -33251981.92 0.2715 0.0721

Earth -95752-01-13 11:59 J -33251982.12 -33251982.00 -33251981.88 0.2718 0.0913 *

Venus -95752-05-26 04:18 J -33251849.33 -33251849.32 -33251849.30 0.3591 0.3562

Jupiter -95751-05-16 18:56 J -33251493.86 -33251493.71 -33251493.56 0.0511 0.0215

Mars -95751-06-23 17:01 J -33251455.88 -33251455.79 -33251455.71 0.1609 0.1244

Jupiter -95751-08-14 16:47 J -33251403.93 -33251403.80 -33251403.67 0.0514 0.0309

Venus -95751-12-11 15:06 J -33251284.98 -33251284.87 -33251284.76 0.3777 0.0270

Uranus -95749-01-23 21:35 J -33250876.63 -33250876.60 -33250876.54 0.0136 0.0131

Uranus -95749-04-21 03:06 J -33250788.46 -33250788.37 -33250788.27 0.0136 0.0111

Mars -95749-05-29 08:51 J -33250750.26 -33250750.13 -33250750.00 0.1607 0.0546

Uranus -95749-07-18 08:23 J -33250700.26 -33250700.15 -33250700.02 0.0136 0.0091

Earth -95749-07-22 19:11 J -33250695.82 -33250695.70 -33250695.58 0.2622 0.0749

Moon -95749-07-22 19:54 J -33250695.79 -33250695.67 -33250695.55 0.2626 0.0833 *

Uranus -95749-10-14 13:54 J -33250612.06 -33250611.92 -33250611.78 0.0136 0.0071

Uranus -95748-01-10 18:56 J -33250523.85 -33250523.71 -33250523.55 0.0136 0.0052

Uranus -95748-04-09 00:13 J -33250435.65 -33250435.49 -33250435.33 0.0136 0.0032

Uranus -95748-07-06 05:15 J -33250347.44 -33250347.28 -33250347.11 0.0136 0.0014

Uranus -95748-10-02 10:32 J -33250259.23 -33250259.06 -33250258.90 0.0135 0.0006

Uranus -95748-12-29 15:20 J -33250171.01 -33250170.86 -33250170.70 0.0135 0.0025

Uranus -95747-03-27 20:23 J -33250082.80 -33250082.65 -33250082.49 0.0135 0.0043

Uranus -95747-06-24 01:11 J -33249994.59 -33249994.45 -33249994.30 0.0135 0.0061

Uranus -95747-09-20 06:13 J -33249906.37 -33249906.24 -33249906.11 0.0135 0.0079

Venus -95747-12-10 05:59 J -33249825.36 -33249825.25 -33249825.14 0.3594 0.2257

Uranus -95747-12-17 11:01 J -33249818.15 -33249818.04 -33249817.93 0.0135 0.0097

Uranus -95746-03-15 15:35 J -33249729.92 -33249729.85 -33249729.76 0.0135 0.0115

Mars -95746-03-16 09:49 J -33249729.20 -33249729.09 -33249728.97 0.1919 0.0996

Uranus -95746-06-11 20:08 J -33249641.67 -33249641.66 -33249641.62 0.0135 0.0133

Jupiter -95746-10-06 08:08 J -33249525.25 -33249525.16 -33249525.07 0.0519 0.0393

Jupiter -95745-01-03 19:54 J -33249435.81 -33249435.67 -33249435.53 0.0515 0.0072

Venus -95745-06-26 09:49 J -33249261.20 -33249261.09 -33249260.99 0.3774 0.1134

Saturn -95745-12-21 12:27 J -33249083.00 -33249082.98 -33249082.95 0.0282 0.0276

Saturn -95744-03-20 03:06 J -33248994.47 -33248994.37 -33248994.25 0.0283 0.0189

Saturn -95744-06-16 18:27 J -33248905.87 -33248905.73 -33248905.59 0.0283 0.0098

Saturn -95744-09-13 09:49 J -33248817.24 -33248817.09 -33248816.94 0.0283 0.0006

Saturn -95744-12-11 01:25 J -33248728.58 -33248728.44 -33248728.29 0.0283 0.0090

Saturn -95743-03-09 17:30 J -33248639.88 -33248639.77 -33248639.65 0.0283 0.0187

Venus -95741-06-25 07:11 J -33247801.34 -33247801.20 -33247801.07 0.3597 0.1016

Mars -95740-10-19 16:47 J -33247319.94 -33247319.80 -33247319.66 0.1607 0.0101

Venus -95739-01-10 04:47 J -33247237.40 -33247237.30 -33247237.21 0.3771 0.2025

Moon -95739-01-16 10:32 J -33247231.11 -33247231.06 -33247231.02 0.2717 0.2538

Earth -95739-01-16 11:30 J -33247231.06 -33247231.02 -33247230.98 0.2713 0.2553 *

Jupiter -95739-03-04 18:13 J -33247183.86 -33247183.74 -33247183.63 0.0510 0.0355

Jupiter -95739-06-02 16:32 J -33247093.96 -33247093.81 -33247093.66 0.0514 0.0173

Mars -95737-08-05 12:13 J -33246299.03 -33246298.99 -33246298.96 0.1917 0.1852

Earth -95736-07-25 16:18 J -33245944.90 -33245944.82 -33245944.74 0.2626 0.2036

Moon -95736-07-25 17:15 J -33245944.85 -33245944.78 -33245944.71 0.2627 0.2179 *

Venus -95735-01-09 07:39 J -33245777.31 -33245777.18 -33245777.04 0.3600 0.0225

Mars -95735-07-13 00:56 J -33245592.54 -33245592.46 -33245592.38 0.1919 0.1493

Jupiter -95734-07-25 11:30 J -33245215.05 -33245215.02 -33245214.98 0.0520 0.0500

Venus -95734-07-26 23:44 J -33245213.58 -33245213.51 -33245213.44 0.3767 0.2929

Jupiter -95734-10-22 23:01 J -33245125.68 -33245125.54 -33245125.40 0.0516 0.0040

Jupiter -95733-01-20 11:30 J -33245036.10 -33245036.02 -33245035.94 0.0512 0.0431

Moon -95732-01-08 19:11 J -33244681.79 -33244681.70 -33244681.61 0.2719 0.1925

Earth -95732-01-08 19:11 J -33244681.79 -33244681.70 -33244681.62 0.2725 0.1948 *

Mars -95730-03-12 00:42 J -33243889.60 -33243889.47 -33243889.33 0.1608 0.0338

Venus -95730-07-26 07:54 J -33243753.29 -33243753.17 -33243753.05 0.3603 0.1335

Saturn -95730-07-29 11:44 J -33243750.06 -33243750.01 -33243749.95 0.0276 0.0257

Saturn -95730-10-26 04:03 J -33243661.45 -33243661.33 -33243661.19 0.0276 0.0164

Saturn -95729-01-22 20:23 J -33243572.80 -33243572.65 -33243572.50 0.0276 0.0071

Saturn -95729-04-20 12:13 J -33243484.15 -33243483.99 -33243483.84 0.0275 0.0019

Saturn -95729-07-18 03:35 J -33243395.49 -33243395.35 -33243395.21 0.0275 0.0106

Moon -95729-07-18 05:15 J -33243395.37 -33243395.28 -33243395.18 0.2620 0.1756 *

Earth -95729-07-18 05:44 J -33243395.36 -33243395.26 -33243395.16 0.2614 0.1632 *

Saturn -95729-10-14 18:42 J -33243306.83 -33243306.72 -33243306.61 0.0275 0.0192

Mars -95728-02-14 18:13 J -33243183.78 -33243183.74 -33243183.70 0.1607 0.1522

Jupiter -95728-12-21 17:59 J -33242873.79 -33242873.75 -33242873.70 0.0509 0.0485

Jupiter -95727-03-21 16:47 J -33242783.96 -33242783.80 -33242783.63 0.0513 0.0048

Mars -95726-12-03 04:18 J -33242162.44 -33242162.32 -33242162.20 0.1920 0.0711

Venus -95724-02-08 07:39 J -33241729.28 -33241729.18 -33241729.08 0.3607 0.2429

Jupiter -95722-08-11 01:39 J -33240815.56 -33240815.43 -33240815.29 0.0517 0.0154

Venus -95722-11-03 18:27 J -33240730.77 -33240730.73 -33240730.69 0.3789 0.3500

Jupiter -95722-11-08 13:54 J -33240726.03 -33240725.92 -33240725.81 0.0513 0.0314

Mars -95721-08-01 08:51 J -33240459.25 -33240459.13 -33240459.01 0.1608 0.0768

Moon -95719-01-11 17:15 J -33239930.90 -33239930.78 -33239930.65 0.2716 0.0507

Earth -95719-01-11 18:13 J -33239930.87 -33239930.74 -33239930.61 0.2721 0.0379 *

Mars -95719-07-08 01:39 J -33239753.54 -33239753.43 -33239753.33 0.1607 0.1061

Venus -95719-08-25 06:56 J -33239705.24 -33239705.21 -33239705.18 0.3610 0.3469

Mars -95716-04-24 07:25 J -33238732.32 -33238732.19 -33238732.05 0.1919 0.0092

Venus -95716-05-19 12:13 J -33238707.06 -33238706.99 -33238706.91 0.3787 0.2746

Earth -95716-07-21 03:20 J -33238644.49 -33238644.36 -33238644.24 0.2618 0.0296

Moon -95716-07-21 03:20 J -33238644.48 -33238644.36 -33238644.23 0.2625 0.0232 *

Jupiter -95715-01-07 17:15 J -33238473.94 -33238473.78 -33238473.62 0.0512 0.0082

Jupiter -95715-04-07 14:51 J -33238383.96 -33238383.88 -33238383.80 0.0516 0.0441

Saturn -95715-08-07 03:20 J -33238262.45 -33238262.36 -33238262.27 0.0283 0.0223

Saturn -95715-11-03 18:13 J -33238173.87 -33238173.74 -33238173.61 0.0283 0.0133

Saturn -95714-01-31 09:35 J -33238085.25 -33238085.10 -33238084.95 0.0283 0.0041

Saturn -95714-04-30 01:11 J -33237996.60 -33237996.45 -33237996.30 0.0283 0.0053

Saturn -95714-07-27 17:01 J -33237907.92 -33237907.79 -33237907.65 0.0284 0.0150

Saturn -95714-10-24 09:20 J -33237819.18 -33237819.11 -33237819.03 0.0284 0.0248

Mars -95712-12-22 17:15 J -33237028.87 -33237028.78 -33237028.69 0.1609 0.1189

Venus -95711-12-03 06:13 J -33236683.33 -33236683.24 -33236683.14 0.3785 0.1969

Jupiter -95710-05-30 04:18 J -33236505.44 -33236505.32 -33236505.20 0.0518 0.0270

Jupiter -95710-08-27 16:18 J -33236415.95 -33236415.82 -33236415.69 0.0514 0.0196

Mars -95710-11-28 09:20 J -33236323.24 -33236323.11 -33236322.98 0.1607 0.0608

Mars -95707-09-14 10:03 J -33235302.20 -33235302.08 -33235301.96 0.1919 0.0924

Moon -95706-01-14 16:18 J -33235179.93 -33235179.82 -33235179.70 0.2717 0.1197

Earth -95706-01-14 17:30 J -33235179.89 -33235179.77 -33235179.66 0.2717 0.1235 *

Venus -95705-06-18 00:27 J -33234659.58 -33234659.48 -33234659.38 0.3782 0.1161

Uranus -95705-12-13 15:49 J -33234480.89 -33234480.84 -33234480.79 0.0142 0.0133

Uranus -95704-03-11 20:23 J -33234392.73 -33234392.65 -33234392.56 0.0143 0.0114

Uranus -95704-06-08 01:11 J -33234304.56 -33234304.45 -33234304.34 0.0143 0.0094

Uranus -95704-09-04 05:44 J -33234216.38 -33234216.26 -33234216.12 0.0143 0.0074

Jupiter -95704-10-26 17:30 J -33234163.92 -33234163.77 -33234163.62 0.0511 0.0211

Uranus -95704-12-01 10:32 J -33234128.19 -33234128.06 -33234127.91 0.0143 0.0054

Jupiter -95703-01-24 15:20 J -33234073.99 -33234073.86 -33234073.74 0.0515 0.0313

Uranus -95703-02-27 15:35 J -33234040.00 -33234039.85 -33234039.71 0.0143 0.0033

Uranus -95703-05-26 20:23 J -33233951.80 -33233951.65 -33233951.50 0.0143 0.0013

Earth -95703-07-24 00:27 J -33233893.59 -33233893.48 -33233893.36 0.2622 0.1028

Moon -95703-07-24 01:25 J -33233893.55 -33233893.44 -33233893.33 0.2626 0.1083 *

Uranus -95703-08-23 01:11 J -33233863.60 -33233863.45 -33233863.29 0.0143 0.0009

Pluto -95703-09-18 18:42 J -33233836.78 -33233836.72 -33233836.61 0.0060 0.0054

Uranus -95703-11-19 06:13 J -33233775.39 -33233775.24 -33233775.09 0.0144 0.0029

Pluto -95703-12-15 20:23 J -33233748.75 -33233748.65 -33233748.51 0.0060 0.0047

Uranus -95702-02-15 11:15 J -33233687.17 -33233687.03 -33233686.89 0.0144 0.0051

Pluto -95702-03-13 21:49 J -33233660.72 -33233660.59 -33233660.43 0.0060 0.0040

Uranus -95702-05-14 16:18 J -33233598.95 -33233598.82 -33233598.69 0.0144 0.0072

Mars -95702-05-15 01:39 J -33233598.44 -33233598.43 -33233598.42 0.1610 0.1602

Pluto -95702-06-09 23:30 J -33233572.67 -33233572.52 -33233572.35 0.0060 0.0033

Uranus -95702-08-10 21:20 J -33233510.72 -33233510.61 -33233510.49 0.0144 0.0094

Pluto -95702-09-06 01:11 J -33233484.62 -33233484.45 -33233484.27 0.0060 0.0027

Uranus -95702-11-07 02:23 J -33233422.48 -33233422.40 -33233422.30 0.0144 0.0116

Pluto -95702-12-03 02:23 J -33233396.57 -33233396.40 -33233396.20 0.0060 0.0020

Uranus -95701-02-03 07:39 J -33233334.21 -33233334.18 -33233334.13 0.0144 0.0138

Pluto -95701-02-29 03:49 J -33233308.52 -33233308.34 -33233308.13 0.0060 0.0014

Pluto -95701-05-27 05:30 J -33233220.46 -33233220.27 -33233220.07 0.0060 0.0006

Pluto -95701-08-23 07:11 J -33233132.40 -33233132.20 -33233132.00 0.0060 0.0001

Pluto -95701-11-19 08:37 J -33233044.34 -33233044.14 -33233043.94 0.0060 0.0008

Pluto -95700-02-15 10:03 J -33232956.27 -33232956.08 -33232955.89 0.0061 0.0015

Saturn -95700-03-14 05:15 J -33232929.39 -33232929.28 -33232929.16 0.0276 0.0190

Mars -95700-04-19 17:01 J -33232892.93 -33232892.79 -33232892.66 0.1607 0.0161

Pluto -95700-05-14 11:15 J -33232868.20 -33232868.03 -33232867.83 0.0061 0.0022

Saturn -95700-06-10 21:35 J -33232840.75 -33232840.60 -33232840.45 0.0276 0.0097

Pluto -95700-08-10 12:42 J -33232780.13 -33232779.97 -33232779.78 0.0061 0.0029

Saturn -95700-09-07 13:25 J -33232752.09 -33232751.94 -33232751.78 0.0276 0.0007

Pluto -95700-11-06 14:08 J -33232692.05 -33232691.91 -33232691.73 0.0061 0.0036

Saturn -95700-12-05 05:01 J -33232663.44 -33232663.29 -33232663.14 0.0276 0.0083

Venus -95699-01-01 18:42 J -33232635.83 -33232635.72 -33232635.61 0.3779 0.0372

Pluto -95699-02-02 15:49 J -33232603.96 -33232603.84 -33232603.69 0.0061 0.0043

Saturn -95699-03-03 20:08 J -33232574.77 -33232574.66 -33232574.53 0.0276 0.0170

Pluto -95699-05-01 17:15 J -33232515.87 -33232515.78 -33232515.65 0.0061 0.0050

Saturn -95699-05-31 11:15 J -33232486.09 -33232486.03 -33232485.98 0.0276 0.0254

Pluto -95699-07-28 18:42 J -33232427.76 -33232427.72 -33232427.63 0.0061 0.0057

Jupiter -95698-03-18 06:27 J -33232195.32 -33232195.23 -33232195.14 0.0519 0.0395

Jupiter -95698-06-15 17:59 J -33232105.89 -33232105.75 -33232105.61 0.0515 0.0070

Mars -95697-02-04 12:27 J -33231872.03 -33231871.98 -33231871.93 0.1918 0.1775

Venus -95696-12-31 04:47 J -33231176.37 -33231176.30 -33231176.24 0.3592 0.3178

Mars -95695-01-11 00:56 J -33231165.53 -33231165.46 -33231165.38 0.1920 0.1561

Venus -95694-07-18 13:25 J -33230612.05 -33230611.94 -33230611.83 0.3776 0.0516

Moon -95693-01-17 16:03 J -33230428.83 -33230428.83 -33230428.82 0.2717 0.2707

Jupiter -95692-08-14 17:01 J -33229853.91 -33229853.79 -33229853.67 0.0510 0.0346

Jupiter -95692-11-12 15:20 J -33229764.01 -33229763.86 -33229763.71 0.0513 0.0181

Neptune -95691-06-06 22:03 J -33229557.61 -33229557.58 -33229557.54 0.0089 0.0086

Neptune -95691-09-02 23:30 J -33229469.56 -33229469.52 -33229469.45 0.0089 0.0082

Mars -95691-09-10 00:56 J -33229462.59 -33229462.46 -33229462.32 0.1607 0.0281

Neptune -95691-11-30 01:11 J -33229381.50 -33229381.45 -33229381.37 0.0089 0.0078

Neptune -95690-02-26 02:51 J -33229293.45 -33229293.38 -33229293.29 0.0089 0.0074

Neptune -95690-05-25 04:32 J -33229205.39 -33229205.31 -33229205.21 0.0089 0.0070

Venus -95690-07-17 05:59 J -33229152.36 -33229152.25 -33229152.13 0.3595 0.1895

Earth -95690-07-26 21:35 J -33229142.66 -33229142.60 -33229142.54 0.2626 0.2311

Moon -95690-07-26 22:32 J -33229142.61 -33229142.56 -33229142.51 0.2626 0.2379 *

Neptune -95690-08-21 06:27 J -33229117.32 -33229117.23 -33229117.13 0.0089 0.0065

Neptune -95690-11-17 08:08 J -33229029.26 -33229029.16 -33229029.05 0.0089 0.0061

Neptune -95689-02-13 09:49 J -33228941.20 -33228941.09 -33228940.98 0.0089 0.0057

Neptune -95689-05-11 11:15 J -33228853.13 -33228853.03 -33228852.90 0.0089 0.0053

Neptune -95689-08-07 12:56 J -33228765.06 -33228764.96 -33228764.82 0.0089 0.0049

Mars -95689-08-15 18:27 J -33228756.75 -33228756.73 -33228756.71 0.1607 0.1583

Neptune -95689-11-03 14:51 J -33228677.00 -33228676.88 -33228676.75 0.0089 0.0044

Neptune -95688-01-30 16:32 J -33228588.93 -33228588.81 -33228588.67 0.0089 0.0040

Venus -95688-01-31 08:08 J -33228588.27 -33228588.16 -33228588.06 0.3773 0.1381

Neptune -95688-04-28 18:13 J -33228500.86 -33228500.74 -33228500.59 0.0089 0.0036

Neptune -95688-07-25 20:08 J -33228412.79 -33228412.66 -33228412.52 0.0089 0.0031

Neptune -95688-10-21 21:49 J -33228324.72 -33228324.59 -33228324.44 0.0089 0.0027

Neptune -95687-01-17 23:44 J -33228236.65 -33228236.51 -33228236.37 0.0089 0.0022

Neptune -95687-04-16 01:39 J -33228148.58 -33228148.43 -33228148.29 0.0089 0.0018

Neptune -95687-07-13 03:20 J -33228060.50 -33228060.36 -33228060.21 0.0089 0.0014

Neptune -95687-10-09 05:01 J -33227972.43 -33227972.29 -33227972.14 0.0089 0.0010

Jupiter -95686-01-04 09:20 J -33227885.14 -33227885.11 -33227885.09 0.0520 0.0508

Neptune -95686-01-05 06:56 J -33227884.36 -33227884.21 -33227884.06 0.0089 0.0005

Moon -95686-01-10 00:27 J -33227879.59 -33227879.48 -33227879.38 0.2718 0.1622

Earth -95686-01-10 00:42 J -33227879.58 -33227879.47 -33227879.37 0.2725 0.1634 *

Neptune -95686-04-03 08:37 J -33227796.28 -33227796.14 -33227795.99 0.0089 0.0003

Jupiter -95686-04-03 20:37 J -33227795.78 -33227795.64 -33227795.49 0.0516 0.0049

Mars -95686-06-03 04:32 J -33227735.43 -33227735.31 -33227735.19 0.1920 0.0790

Neptune -95686-06-30 10:32 J -33227708.21 -33227708.06 -33227707.91 0.0089 0.0004

Jupiter -95686-07-02 09:20 J -33227706.19 -33227706.11 -33227706.03 0.0513 0.0424

Neptune -95686-09-26 12:27 J -33227620.13 -33227619.98 -33227619.84 0.0089 0.0009

Neptune -95686-12-23 14:08 J -33227532.05 -33227531.91 -33227531.76 0.0089 0.0013

Saturn -95686-12-25 06:42 J -33227530.30 -33227530.22 -33227530.14 0.0282 0.0236

Neptune -95685-03-20 16:03 J -33227443.98 -33227443.83 -33227443.69 0.0089 0.0018

Saturn -95685-03-22 21:35 J -33227441.73 -33227441.60 -33227441.47 0.0283 0.0147

Neptune -95685-06-16 17:59 J -33227355.90 -33227355.75 -33227355.61 0.0089 0.0022

Saturn -95685-06-19 12:42 J -33227353.12 -33227352.97 -33227352.82 0.0283 0.0055

Neptune -95685-09-12 19:39 J -33227267.82 -33227267.68 -33227267.54 0.0089 0.0027

Saturn -95685-09-16 04:18 J -33227264.47 -33227264.32 -33227264.17 0.0283 0.0039

Neptune -95685-12-09 21:35 J -33227179.74 -33227179.60 -33227179.46 0.0089 0.0031

Saturn -95685-12-13 20:08 J -33227175.79 -33227175.66 -33227175.52 0.0283 0.0135

Venus -95684-01-30 07:11 J -33227128.34 -33227128.20 -33227128.07 0.3598 0.0670

Neptune -95684-03-07 23:15 J -33227091.66 -33227091.53 -33227091.39 0.0089 0.0036

Saturn -95684-03-12 12:27 J -33227087.07 -33227086.98 -33227086.89 0.0283 0.0233

Neptune -95684-06-04 01:11 J -33227003.58 -33227003.45 -33227003.31 0.0089 0.0041

Neptune -95684-08-31 03:06 J -33226915.49 -33226915.37 -33226915.24 0.0089 0.0045

Neptune -95684-11-27 04:47 J -33226827.41 -33226827.30 -33226827.16 0.0089 0.0050

Neptune -95683-02-23 06:56 J -33226739.33 -33226739.21 -33226739.09 0.0089 0.0054

Neptune -95683-05-22 08:37 J -33226651.24 -33226651.14 -33226651.02 0.0089 0.0059

Moon -95683-07-19 10:47 J -33226593.16 -33226593.05 -33226592.94 0.2622 0.1311

Earth -95683-07-19 11:15 J -33226593.14 -33226593.03 -33226592.92 0.2615 0.1347 *

Venus -95683-08-17 03:06 J -33226564.46 -33226564.37 -33226564.28 0.3770 0.2272

Neptune -95683-08-18 10:47 J -33226563.15 -33226563.05 -33226562.94 0.0089 0.0063

Neptune -95683-11-14 12:27 J -33226475.06 -33226474.98 -33226474.87 0.0089 0.0068

Neptune -95682-02-10 14:23 J -33226386.97 -33226386.90 -33226386.80 0.0089 0.0073

Neptune -95682-05-09 16:32 J -33226298.88 -33226298.81 -33226298.73 0.0089 0.0077

Neptune -95682-08-05 18:13 J -33226210.78 -33226210.74 -33226210.67 0.0089 0.0082

Neptune -95682-11-01 20:08 J -33226122.67 -33226122.66 -33226122.61 0.0089 0.0087

Mars -95681-01-31 09:06 J -33226032.24 -33226032.12 -33226031.99 0.1608 0.0709

Jupiter -95680-06-02 15:49 J -33225543.88 -33225543.84 -33225543.79 0.0509 0.0488

Jupiter -95680-08-31 14:51 J -33225454.04 -33225453.88 -33225453.72 0.0513 0.0044

Mars -95679-01-06 01:54 J -33225326.52 -33225326.42 -33225326.32 0.1607 0.1124

Venus -95679-08-16 07:39 J -33225104.32 -33225104.18 -33225104.05 0.3601 0.0527

Venus -95677-03-01 22:18 J -33224540.63 -33224540.57 -33224540.51 0.3766 0.3185

Mars -95677-10-23 07:54 J -33224305.31 -33224305.17 -33224305.04 0.1919 0.0055

Jupiter -95674-01-20 23:44 J -33223485.64 -33223485.51 -33223485.37 0.0517 0.0157

Jupiter -95674-04-20 11:59 J -33223396.11 -33223396.00 -33223395.88 0.0513 0.0312

Moon -95673-01-12 22:47 J -33223128.68 -33223128.55 -33223128.42 0.2716 0.0130

Earth -95673-01-12 23:44 J -33223128.64 -33223128.51 -33223128.38 0.2721 0.0073 *

Venus -95673-03-01 07:39 J -33223080.30 -33223080.18 -33223080.07 0.3604 0.1648

Mars -95672-06-22 17:30 J -33222601.87 -33222601.77 -33222601.68 0.1608 0.1132

Saturn -95671-08-01 06:13 J -33222197.33 -33222197.24 -33222197.13 0.0276 0.0215

Saturn -95671-10-28 22:47 J -33222108.69 -33222108.55 -33222108.41 0.0276 0.0122

Saturn -95670-01-25 14:37 J -33222020.04 -33222019.89 -33222019.73 0.0276 0.0032

Saturn -95670-04-24 06:27 J -33221931.39 -33221931.23 -33221931.08 0.0275 0.0059

Mars -95670-05-29 09:35 J -33221896.23 -33221896.10 -33221895.98 0.1607 0.0668

Saturn -95670-07-21 21:35 J -33221842.73 -33221842.60 -33221842.46 0.0275 0.0146

Earth -95670-07-22 08:37 J -33221842.27 -33221842.14 -33221842.01 0.2619 0.0006

Moon -95670-07-22 08:51 J -33221842.25 -33221842.13 -33221842.00 0.2625 0.0098 *

Saturn -95670-10-18 12:27 J -33221754.05 -33221753.98 -33221753.89 0.0275 0.0231

Jupiter -95668-06-19 14:51 J -33221144.03 -33221143.88 -33221143.72 0.0512 0.0088

Venus -95668-09-15 07:11 J -33221056.28 -33221056.20 -33221056.11 0.3608 0.2725

Jupiter -95668-09-17 12:27 J -33221054.06 -33221053.98 -33221053.90 0.0516 0.0434

Mars -95667-03-15 10:32 J -33220875.18 -33220875.06 -33220874.94 0.1919 0.0845

Uranus -95665-02-13 05:44 J -33220175.32 -33220175.26 -33220175.19 0.0136 0.0124

Uranus -95665-05-11 11:15 J -33220087.14 -33220087.03 -33220086.92 0.0136 0.0104

Venus -95665-06-09 16:32 J -33220057.86 -33220057.81 -33220057.76 0.3789 0.3275

Uranus -95665-08-07 16:18 J -33219998.94 -33219998.82 -33219998.68 0.0136 0.0084

Uranus -95665-11-03 21:49 J -33219910.73 -33219910.59 -33219910.44 0.0136 0.0064

Uranus -95664-01-31 02:51 J -33219822.53 -33219822.38 -33219822.22 0.0136 0.0045

Uranus -95664-04-29 08:08 J -33219734.32 -33219734.16 -33219734.00 0.0136 0.0025

Uranus -95664-07-26 13:25 J -33219646.11 -33219645.94 -33219645.78 0.0136 0.0007

Uranus -95664-10-22 18:27 J -33219557.89 -33219557.73 -33219557.57 0.0135 0.0013

Uranus -95663-01-18 23:15 J -33219469.68 -33219469.53 -33219469.37 0.0135 0.0032

Uranus -95663-04-17 04:18 J -33219381.47 -33219381.32 -33219381.17 0.0135 0.0050

Uranus -95663-07-14 09:06 J -33219293.25 -33219293.12 -33219292.97 0.0135 0.0068

Uranus -95663-10-10 13:54 J -33219205.03 -33219204.92 -33219204.79 0.0135 0.0086

Jupiter -95663-11-09 02:37 J -33219175.51 -33219175.39 -33219175.27 0.0518 0.0270

Mars -95663-11-13 01:54 J -33219171.46 -33219171.42 -33219171.39 0.1609 0.1548

Uranus -95662-01-06 18:42 J -33219116.81 -33219116.72 -33219116.61 0.0135 0.0104

Jupiter -95662-02-06 14:37 J -33219086.02 -33219085.89 -33219085.76 0.0514 0.0196

Uranus -95662-04-04 23:30 J -33219028.58 -33219028.52 -33219028.45 0.0135 0.0122

Mars -95661-10-18 17:15 J -33218465.92 -33218465.78 -33218465.64 0.1607 0.0220

Moon -95660-01-14 21:49 J -33218377.70 -33218377.59 -33218377.47 0.2718 0.1396

Earth -95660-01-14 23:01 J -33218377.64 -33218377.54 -33218377.43 0.2716 0.1569 *

Venus -95660-12-24 10:32 J -33218034.14 -33218034.06 -33218033.98 0.3786 0.2517

Mars -95658-08-05 12:56 J -33217445.03 -33217444.96 -33217444.90 0.1918 0.1694

Earth -95657-07-24 05:44 J -33217091.37 -33217091.26 -33217091.15 0.2623 0.1302

Moon -95657-07-24 06:42 J -33217091.33 -33217091.22 -33217091.12 0.2626 0.1431 *

Jupiter -95656-04-07 15:20 J -33216834.01 -33216833.86 -33216833.72 0.0511 0.0215

Saturn -95656-05-13 06:56 J -33216798.26 -33216798.21 -33216798.17 0.0283 0.0269

Jupiter -95656-07-06 13:11 J -33216744.07 -33216743.95 -33216743.82 0.0515 0.0311

Mars -95656-07-12 01:25 J -33216738.51 -33216738.44 -33216738.38 0.1920 0.1641

Saturn -95656-08-09 21:35 J -33216709.71 -33216709.60 -33216709.49 0.0283 0.0181

Saturn -95656-11-06 12:42 J -33216621.11 -33216620.97 -33216620.83 0.0283 0.0090

Saturn -95655-02-03 04:03 J -33216532.48 -33216532.33 -33216532.18 0.0283 0.0003

Saturn -95655-05-02 19:54 J -33216443.82 -33216443.67 -33216443.53 0.0283 0.0098

Saturn -95655-07-30 11:59 J -33216355.11 -33216355.00 -33216354.89 0.0284 0.0196

Venus -95654-07-10 04:32 J -33216010.41 -33216010.31 -33216010.22 0.3784 0.1737

Mars -95651-03-11 01:11 J -33215035.59 -33215035.45 -33215035.31 0.1607 0.0222

Jupiter -95651-08-28 05:30 J -33214865.36 -33214865.27 -33214865.18 0.0519 0.0385

Jupiter -95651-11-25 17:01 J -33214775.93 -33214775.79 -33214775.65 0.0515 0.0078

Moon -95650-07-17 18:13 J -33214541.78 -33214541.74 -33214541.70 0.2616 0.2466

Earth -95650-07-17 18:56 J -33214541.76 -33214541.71 -33214541.66 0.2612 0.2419 *

Venus -95648-01-22 22:32 J -33213986.66 -33213986.56 -33213986.45 0.3781 0.0937

Mars -95647-12-02 04:47 J -33213308.41 -33213308.30 -33213308.18 0.1920 0.0867

Jupiter -95644-01-24 15:20 J -33212523.98 -33212523.86 -33212523.74 0.0510 0.0344

Jupiter -95644-04-24 13:39 J -33212434.08 -33212433.93 -33212433.78 0.0514 0.0183

Earth -95644-07-27 02:51 J -33212340.40 -33212340.38 -33212340.36 0.2627 0.2582

Venus -95643-08-08 17:01 J -33211962.90 -33211962.79 -33211962.68 0.3778 0.0102

Mars -95642-08-01 09:20 J -33211605.24 -33211605.11 -33211604.99 0.1608 0.0654

Saturn -95642-12-19 07:11 J -33211465.27 -33211465.20 -33211465.13 0.0276 0.0243

Saturn -95641-03-16 23:30 J -33211376.65 -33211376.52 -33211376.38 0.0276 0.0149

Saturn -95641-06-13 15:49 J -33211287.99 -33211287.84 -33211287.68 0.0276 0.0057

Saturn -95641-09-10 07:39 J -33211199.34 -33211199.18 -33211199.03 0.0276 0.0034

Saturn -95641-12-07 23:01 J -33211110.68 -33211110.54 -33211110.40 0.0276 0.0122

Moon -95640-01-10 05:44 J -33211077.37 -33211077.26 -33211077.15 0.2717 0.1404

Earth -95640-01-10 05:59 J -33211077.36 -33211077.25 -33211077.13 0.2724 0.1319 *

Saturn -95640-03-06 14:08 J -33211022.01 -33211021.91 -33211021.81 0.0276 0.0208

Mars -95640-07-07 02:08 J -33210899.51 -33210899.41 -33210899.32 0.1607 0.1181

Jupiter -95639-06-16 07:25 J -33210555.21 -33210555.19 -33210555.16 0.0520 0.0510

Venus -95639-08-07 04:47 J -33210503.38 -33210503.30 -33210503.21 0.3593 0.2802

Jupiter -95639-09-13 18:56 J -33210465.86 -33210465.71 -33210465.57 0.0516 0.0052

Jupiter -95639-12-12 07:11 J -33210376.28 -33210376.20 -33210376.11 0.0513 0.0420

Venus -95637-02-22 11:44 J -33209939.12 -33209939.01 -33209938.91 0.3775 0.0766

Mars -95637-04-23 07:54 J -33209878.31 -33209878.17 -33209878.04 0.1920 0.0056

Moon -95637-07-19 16:18 J -33209790.94 -33209790.82 -33209790.71 0.2622 0.1167

Earth -95637-07-19 16:32 J -33209790.93 -33209790.81 -33209790.69 0.2616 0.1059 *

Venus -95633-02-21 06:13 J -33208479.37 -33208479.24 -33208479.12 0.3596 0.1539

Jupiter -95633-11-12 14:51 J -33208213.93 -33208213.88 -33208213.83 0.0509 0.0479

Mars -95633-12-21 17:30 J -33208174.86 -33208174.77 -33208174.66 0.1609 0.1078

Jupiter -95632-02-10 13:39 J -33208124.09 -33208123.93 -33208123.77 0.0512 0.0051

Venus -95632-09-07 06:27 J -33207915.33 -33207915.23 -33207915.13 0.3772 0.1626

Mars -95631-11-27 09:49 J -33207469.22 -33207469.09 -33207468.97 0.1607 0.0728

Venus -95628-09-06 06:56 J -33206455.34 -33206455.21 -33206455.07 0.3599 0.0330

Mars -95628-09-13 11:01 J -33206448.17 -33206448.04 -33206447.92 0.1919 0.0757

Moon -95627-01-13 04:18 J -33206326.45 -33206326.32 -33206326.19 0.2717 0.0177

Earth -95627-01-13 05:15 J -33206326.41 -33206326.28 -33206326.15 0.2720 0.0274 *

Jupiter -95627-07-02 21:35 J -33206155.74 -33206155.60 -33206155.47 0.0517 0.0167

Jupiter -95627-09-30 09:35 J -33206066.21 -33206066.10 -33206065.98 0.0514 0.0303

Saturn -95627-09-30 10:18 J -33206066.08 -33206066.07 -33206066.06 0.0282 0.0281 *

Saturn -95627-12-28 00:56 J -33205977.56 -33205977.46 -33205977.35 0.0283 0.0194

Venus -95626-03-24 01:25 J -33205891.52 -33205891.44 -33205891.36 0.3769 0.2524

Saturn -95626-03-26 16:03 J -33205888.97 -33205888.83 -33205888.69 0.0283 0.0103

Saturn -95626-06-23 07:25 J -33205800.34 -33205800.19 -33205800.04 0.0283 0.0010

Saturn -95626-09-19 23:01 J -33205711.68 -33205711.54 -33205711.39 0.0283 0.0085

Saturn -95626-12-17 15:06 J -33205622.98 -33205622.87 -33205622.75 0.0283 0.0182

Saturn -95625-03-15 07:39 J -33205534.20 -33205534.18 -33205534.16 0.0283 0.0281

Earth -95624-07-22 13:54 J -33205040.05 -33205039.92 -33205039.79 0.2619 0.0274

Moon -95624-07-22 14:23 J -33205040.02 -33205039.90 -33205039.77 0.2625 0.0414 *

Mars -95623-05-14 02:08 J -33204744.46 -33204744.41 -33204744.36 0.1609 0.1492

Venus -95622-03-23 07:11 J -33204431.33 -33204431.20 -33204431.06 0.3602 0.0842

Mars -95621-04-18 17:30 J -33204038.91 -33204038.77 -33204038.63 0.1607 0.0279

Venus -95621-10-06 20:37 J -33203867.68 -33203867.64 -33203867.59 0.3765 0.3438

Jupiter -95621-11-29 12:42 J -33203814.13 -33203813.97 -33203813.81 0.0511 0.0091

Uranus -95620-01-02 23:44 J -33203779.57 -33203779.51 -33203779.43 0.0142 0.0126

Jupiter -95620-02-27 10:18 J -33203724.16 -33203724.07 -33203723.99 0.0515 0.0429

Uranus -95620-04-01 04:32 J -33203691.41 -33203691.31 -33203691.21 0.0143 0.0106

Uranus -95620-06-28 09:06 J -33203603.23 -33203603.12 -33203603.00 0.0143 0.0086

Uranus -95620-09-24 13:54 J -33203515.05 -33203514.92 -33203514.78 0.0143 0.0066

Uranus -95620-12-21 18:42 J -33203426.86 -33203426.72 -33203426.58 0.0143 0.0046

Uranus -95619-03-19 23:30 J -33203338.67 -33203338.52 -33203338.37 0.0143 0.0026

Uranus -95619-06-16 04:32 J -33203250.47 -33203250.31 -33203250.16 0.0143 0.0006

Uranus -95619-09-12 09:20 J -33203162.26 -33203162.11 -33203161.96 0.0143 0.0016

Uranus -95619-12-09 14:23 J -33203074.05 -33203073.90 -33203073.75 0.0144 0.0037

Mars -95618-02-03 13:11 J -33203018.02 -33203017.95 -33203017.88 0.1918 0.1616

Uranus -95618-03-07 19:11 J -33202985.83 -33202985.70 -33202985.55 0.0144 0.0059

Uranus -95618-06-04 00:27 J -33202897.61 -33202897.48 -33202897.35 0.0144 0.0080

Uranus -95618-08-31 05:30 J -33202809.37 -33202809.27 -33202809.16 0.0144 0.0102

Uranus -95618-11-27 10:32 J -33202721.12 -33202721.06 -33202720.97 0.0144 0.0125

Venus -95617-10-06 07:11 J -33202407.31 -33202407.20 -33202407.08 0.3605 0.1955

Mars -95616-01-10 01:54 J -33202311.48 -33202311.42 -33202311.37 0.1920 0.1724

Jupiter -95615-04-21 00:42 J -33201845.59 -33201845.47 -33201845.35 0.0518 0.0275

Jupiter -95615-07-19 12:27 J -33201756.11 -33201755.98 -33201755.84 0.0515 0.0192

Moon -95614-01-16 03:20 J -33201575.45 -33201575.36 -33201575.26 0.2717 0.1830

Earth -95614-01-16 04:32 J -33201575.40 -33201575.31 -33201575.21 0.2716 0.1901 *

Saturn -95612-05-07 08:51 J -33200733.17 -33200733.13 -33200733.09 0.0276 0.0265

Saturn -95612-08-04 01:25 J -33200644.57 -33200644.44 -33200644.32 0.0276 0.0171

Mars -95612-09-09 01:25 J -33200608.57 -33200608.44 -33200608.30 0.1607 0.0168

Saturn -95612-10-31 17:30 J -33200555.92 -33200555.77 -33200555.62 0.0276 0.0079

Saturn -95611-01-28 09:20 J -33200467.27 -33200467.11 -33200466.95 0.0276 0.0012

Venus -95611-04-22 06:42 J -33200383.29 -33200383.22 -33200383.15 0.3609 0.3005

Saturn -95611-04-27 00:56 J -33200378.61 -33200378.46 -33200378.32 0.0275 0.0100

Saturn -95611-07-24 16:03 J -33200289.94 -33200289.83 -33200289.72 0.0275 0.0187

Earth -95611-07-25 11:01 J -33200289.14 -33200289.04 -33200288.94 0.2623 0.1582

Moon -95611-07-25 11:59 J -33200289.10 -33200289.00 -33200288.90 0.2626 0.1616 *

Saturn -95611-10-21 06:56 J -33200201.23 -33200201.21 -33200201.19 0.0275 0.0271

Pluto -95609-04-15 04:03 J -33199659.33 -33199659.33 -33199659.33 0.0085 0.0085

Pluto -95609-07-12 05:15 J -33199571.34 -33199571.28 -33199571.21 0.0084 0.0072

Jupiter -95609-09-17 12:42 J -33199504.11 -33199503.97 -33199503.82 0.0511 0.0222

Pluto -95609-10-08 06:42 J -33199483.31 -33199483.22 -33199483.13 0.0084 0.0059

Jupiter -95609-12-16 10:47 J -33199414.18 -33199414.05 -33199413.92 0.0515 0.0303

Pluto -95608-01-04 07:39 J -33199395.28 -33199395.18 -33199395.06 0.0084 0.0047

Venus -95608-01-14 14:37 J -33199384.95 -33199384.89 -33199384.83 0.3788 0.3052

Pluto -95608-04-02 09:06 J -33199307.24 -33199307.12 -33199307.00 0.0084 0.0033

Neptune -95608-06-06 01:25 J -33199242.47 -33199242.44 -33199242.37 0.0088 0.0085

Pluto -95608-06-29 10:18 J -33199219.19 -33199219.07 -33199218.94 0.0084 0.0021

Neptune -95608-09-02 04:47 J -33199154.38 -33199154.30 -33199154.22 0.0088 0.0079

Pluto -95608-09-25 11:30 J -33199131.14 -33199131.02 -33199130.88 0.0084 0.0009

Neptune -95608-11-29 07:25 J -33199066.28 -33199066.19 -33199066.09 0.0088 0.0074

Pluto -95608-12-22 12:56 J -33199043.09 -33199042.96 -33199042.83 0.0084 0.0004

Earth -95607-01-08 12:42 J -33199026.01 -33199025.97 -33199025.93 0.2728 0.2549

Moon -95607-01-08 12:56 J -33199025.99 -33199025.96 -33199025.92 0.2721 0.2583 *

Neptune -95607-02-25 10:03 J -33198978.17 -33198978.08 -33198977.95 0.0088 0.0069

Pluto -95607-03-20 14:08 J -33198955.04 -33198954.91 -33198954.78 0.0084 0.0017

Neptune -95607-05-24 13:11 J -33198890.07 -33198889.95 -33198889.83 0.0088 0.0063

Mars -95607-06-02 05:01 J -33198881.40 -33198881.29 -33198881.17 0.1920 0.0939

Pluto -95607-06-16 15:06 J -33198866.98 -33198866.87 -33198866.74 0.0083 0.0030

Neptune -95607-08-20 15:49 J -33198801.96 -33198801.84 -33198801.70 0.0088 0.0058

Pluto -95607-09-12 16:18 J -33198778.92 -33198778.82 -33198778.69 0.0083 0.0042

Neptune -95607-11-16 18:27 J -33198713.86 -33198713.73 -33198713.58 0.0088 0.0053

Pluto -95607-12-09 17:44 J -33198690.86 -33198690.76 -33198690.66 0.0083 0.0053

Neptune -95606-02-12 21:20 J -33198625.75 -33198625.61 -33198625.45 0.0088 0.0047

Pluto -95606-03-07 18:56 J -33198602.79 -33198602.71 -33198602.63 0.0083 0.0065

Neptune -95606-05-12 00:13 J -33198537.64 -33198537.49 -33198537.33 0.0088 0.0042

Pluto -95606-06-03 20:08 J -33198514.70 -33198514.66 -33198514.61 0.0083 0.0077

Neptune -95606-08-08 02:51 J -33198449.53 -33198449.38 -33198449.22 0.0088 0.0037

Neptune -95606-11-04 05:30 J -33198361.42 -33198361.27 -33198361.10 0.0088 0.0032

Neptune -95605-01-31 08:08 J -33198273.31 -33198273.16 -33198272.98 0.0088 0.0027

Neptune -95605-04-28 11:01 J -33198185.20 -33198185.04 -33198184.87 0.0088 0.0021

Neptune -95605-07-25 13:39 J -33198097.09 -33198096.93 -33198096.76 0.0088 0.0016

Neptune -95605-10-21 16:18 J -33198008.98 -33198008.82 -33198008.64 0.0088 0.0011

Neptune -95604-01-17 18:56 J -33197920.88 -33197920.71 -33197920.53 0.0088 0.0006

Neptune -95604-04-15 21:49 J -33197832.77 -33197832.59 -33197832.42 0.0088 0.0002

Neptune -95604-07-13 00:13 J -33197744.66 -33197744.49 -33197744.31 0.0088 0.0005

Moon -95604-07-17 23:30 J -33197739.58 -33197739.52 -33197739.45 0.2617 0.2227

Earth -95604-07-18 00:13 J -33197739.56 -33197739.49 -33197739.41 0.2612 0.2131 *

Neptune -95604-10-09 02:51 J -33197656.55 -33197656.38 -33197656.21 0.0088 0.0010

Neptune -95603-01-05 05:30 J -33197568.44 -33197568.27 -33197568.10 0.0088 0.0015

Jupiter -95603-02-07 03:35 J -33197535.44 -33197535.35 -33197535.26 0.0519 0.0387

Neptune -95603-04-03 08:08 J -33197480.33 -33197480.16 -33197479.99 0.0088 0.0019

Jupiter -95603-05-07 15:20 J -33197446.00 -33197445.86 -33197445.72 0.0515 0.0077

Neptune -95603-06-30 10:32 J -33197392.22 -33197392.06 -33197391.89 0.0088 0.0025

Venus -95603-07-31 08:37 J -33197361.23 -33197361.14 -33197361.06 0.3786 0.2291

Neptune -95603-09-26 13:11 J -33197304.11 -33197303.95 -33197303.79 0.0088 0.0029

Neptune -95603-12-23 15:35 J -33197216.00 -33197215.85 -33197215.68 0.0088 0.0035

Mars -95602-01-30 09:35 J -33197178.23 -33197178.10 -33197177.97 0.1608 0.0595

Neptune -95602-03-21 18:13 J -33197127.88 -33197127.74 -33197127.58 0.0088 0.0039

Neptune -95602-06-17 20:37 J -33197039.77 -33197039.64 -33197039.48 0.0088 0.0045

Neptune -95602-09-13 23:01 J -33196951.66 -33196951.54 -33196951.38 0.0088 0.0050

Neptune -95602-12-11 01:39 J -33196863.55 -33196863.43 -33196863.29 0.0088 0.0054

Neptune -95601-03-08 04:18 J -33196775.44 -33196775.32 -33196775.19 0.0088 0.0059

Neptune -95601-06-04 06:42 J -33196687.33 -33196687.22 -33196687.10 0.0088 0.0064

Neptune -95601-08-31 09:06 J -33196599.21 -33196599.12 -33196599.00 0.0088 0.0069

Neptune -95601-11-27 11:30 J -33196511.10 -33196511.02 -33196510.91 0.0088 0.0073

Mars -95600-01-05 02:23 J -33196472.48 -33196472.40 -33196472.31 0.1607 0.1248

Neptune -95600-02-23 14:23 J -33196422.98 -33196422.90 -33196422.83 0.0088 0.0078

Neptune -95600-05-22 16:32 J -33196334.86 -33196334.81 -33196334.75 0.0088 0.0083

Neptune -95600-08-18 18:42 J -33196246.72 -33196246.72 -33196246.68 0.0088 0.0088

Mars -95598-10-23 08:23 J -33195451.28 -33195451.15 -33195451.01 0.1920 0.0144

Venus -95597-02-14 02:37 J -33195337.49 -33195337.39 -33195337.29 0.3783 0.1500

Saturn -95597-05-16 01:25 J -33195245.53 -33195245.44 -33195245.36 0.0283 0.0226

Jupiter -95597-07-06 12:56 J -33195194.08 -33195193.96 -33195193.84 0.0510 0.0350

Saturn -95597-08-12 16:03 J -33195156.95 -33195156.83 -33195156.69 0.0283 0.0137

Jupiter -95597-10-04 11:15 J -33195104.18 -33195104.03 -33195103.88 0.0514 0.0178

Saturn -95597-11-09 07:25 J -33195068.34 -33195068.19 -33195068.04 0.0283 0.0045

Saturn -95596-02-05 23:01 J -33194979.69 -33194979.54 -33194979.39 0.0283 0.0050

Saturn -95596-05-05 14:51 J -33194891.01 -33194890.88 -33194890.75 0.0283 0.0146

Saturn -95596-08-02 06:56 J -33194802.28 -33194802.21 -33194802.12 0.0284 0.0245

Moon -95594-01-11 11:01 J -33194275.16 -33194275.04 -33194274.91 0.2717 0.0984

Earth -95594-01-11 11:30 J -33194275.14 -33194275.02 -33194274.90 0.2724 0.1003 *

Mars -95593-06-21 17:44 J -33193747.86 -33193747.76 -33193747.65 0.1608 0.1023

Venus -95592-08-29 20:51 J -33193313.74 -33193313.63 -33193313.52 0.3781 0.0694

Jupiter -95592-11-26 06:27 J -33193225.26 -33193225.23 -33193225.20 0.0520 0.0501

Jupiter -95591-02-23 17:44 J -33193135.90 -33193135.76 -33193135.62 0.0516 0.0042

Jupiter -95591-05-24 06:13 J -33193046.32 -33193046.24 -33193046.16 0.0512 0.0427

Mars -95591-05-28 10:03 J -33193042.20 -33193042.08 -33193041.96 0.1607 0.0788

Moon -95591-07-20 21:49 J -33192988.71 -33192988.59 -33192988.47 0.2622 0.0735

Earth -95591-07-20 21:49 J -33192988.71 -33192988.59 -33192988.46 0.2616 0.0776 *

Mars -95588-03-14 11:01 J -33192021.17 -33192021.04 -33192020.91 0.1919 0.0693

Venus -95586-03-15 15:20 J -33191289.97 -33191289.86 -33191289.75 0.3778 0.0159

Jupiter -95585-04-24 12:56 J -33190884.01 -33190883.96 -33190883.91 0.0509 0.0479

Jupiter -95585-07-23 11:44 J -33190794.17 -33190794.01 -33190793.85 0.0513 0.0052

Mars -95584-11-12 02:23 J -33190317.46 -33190317.40 -33190317.34 0.1609 0.1436

Saturn -95583-12-22 01:54 J -33189912.53 -33189912.42 -33189912.31 0.0276 0.0199

Venus -95582-03-14 04:47 J -33189830.40 -33189830.30 -33189830.19 0.3594 0.2445

Saturn -95582-03-20 18:13 J -33189823.88 -33189823.74 -33189823.59 0.0276 0.0106

Saturn -95582-06-17 10:18 J -33189735.23 -33189735.07 -33189734.91 0.0276 0.0015

Saturn -95582-09-14 01:54 J -33189646.57 -33189646.42 -33189646.27 0.0276 0.0076

Mars -95582-10-18 17:44 J -33189611.89 -33189611.76 -33189611.62 0.1607 0.0339

Saturn -95582-12-11 17:15 J -33189557.90 -33189557.78 -33189557.65 0.0276 0.0162

Moon -95581-01-14 09:35 J -33189524.22 -33189524.10 -33189523.97 0.2718 0.0457

Earth -95581-01-14 10:47 J -33189524.18 -33189524.05 -33189523.92 0.2719 0.0598 *

Uranus -95581-03-04 13:39 J -33189474.00 -33189473.93 -33189473.83 0.0136 0.0117

Saturn -95581-03-09 08:08 J -33189469.22 -33189469.16 -33189469.09 0.0276 0.0248

Uranus -95581-05-31 19:11 J -33189385.81 -33189385.70 -33189385.58 0.0136 0.0096

Uranus -95581-08-28 00:42 J -33189297.61 -33189297.47 -33189297.34 0.0136 0.0076

Venus -95581-09-28 09:49 J -33189266.20 -33189266.09 -33189265.98 0.3774 0.0994

Uranus -95581-11-24 05:44 J -33189209.40 -33189209.26 -33189209.10 0.0136 0.0057

Uranus -95580-02-20 11:01 J -33189121.19 -33189121.04 -33189120.88 0.0136 0.0037

Uranus -95580-05-19 16:03 J -33189032.98 -33189032.83 -33189032.66 0.0136 0.0019

Uranus -95580-08-15 21:20 J -33188944.77 -33188944.61 -33188944.45 0.0136 0.0001

Uranus -95580-11-12 02:23 J -33188856.56 -33188856.40 -33188856.24 0.0135 0.0020

Jupiter -95580-12-12 19:39 J -33188825.81 -33188825.68 -33188825.55 0.0517 0.0168

Uranus -95579-02-08 07:25 J -33188768.35 -33188768.19 -33188768.04 0.0135 0.0038

Jupiter -95579-03-12 07:39 J -33188736.29 -33188736.18 -33188736.06 0.0513 0.0300

Uranus -95579-05-07 12:13 J -33188680.13 -33188679.99 -33188679.84 0.0135 0.0057

Uranus -95579-08-03 17:01 J -33188591.91 -33188591.79 -33188591.65 0.0135 0.0075

Mars -95579-08-04 13:39 J -33188591.01 -33188590.93 -33188590.85 0.1918 0.1536

Uranus -95579-10-30 22:03 J -33188503.69 -33188503.58 -33188503.46 0.0135 0.0093

Uranus -95578-01-27 02:37 J -33188415.47 -33188415.39 -33188415.29 0.0135 0.0111

Uranus -95578-04-25 07:25 J -33188327.22 -33188327.19 -33188327.13 0.0135 0.0129

Earth -95578-07-23 19:11 J -33188237.82 -33188237.70 -33188237.57 0.2620 0.0561

Moon -95578-07-23 19:54 J -33188237.79 -33188237.67 -33188237.55 0.2625 0.0546 *

Mars -95577-07-11 01:39 J -33187884.47 -33187884.43 -33187884.38 0.1920 0.1786

Venus -95577-09-27 06:13 J -33187806.37 -33187806.24 -33187806.11 0.3596 0.1190

Venus -95575-04-14 04:47 J -33187242.40 -33187242.30 -33187242.20 0.3771 0.1874

Jupiter -95573-05-11 11:44 J -33186484.17 -33186484.01 -33186483.85 0.0511 0.0084

Jupiter -95573-08-09 09:06 J -33186394.20 -33186394.12 -33186394.04 0.0515 0.0437

Mars -95572-03-10 01:39 J -33186181.57 -33186181.43 -33186181.29 0.1607 0.0108

Venus -95571-04-13 06:42 J -33185782.35 -33185782.22 -33185782.08 0.3599 0.0074

Venus -95570-10-28 23:44 J -33185218.58 -33185218.51 -33185218.43 0.3768 0.2773

Moon -95568-01-16 09:06 J -33184773.20 -33184773.12 -33184773.04 0.2717 0.2085

Earth -95568-01-16 10:18 J -33184773.15 -33184773.07 -33184773.00 0.2715 0.2234 *

Jupiter -95568-09-30 22:18 J -33184515.69 -33184515.57 -33184515.45 0.0518 0.0285

Saturn -95568-10-03 04:32 J -33184513.38 -33184513.31 -33184513.22 0.0283 0.0240

Mars -95568-12-01 05:30 J -33184454.38 -33184454.27 -33184454.16 0.1920 0.1024

Jupiter -95568-12-29 10:18 J -33184426.21 -33184426.07 -33184425.94 0.0515 0.0182

Saturn -95568-12-30 19:39 J -33184424.81 -33184424.68 -33184424.56 0.0283 0.0150

Saturn -95567-03-29 10:47 J -33184336.20 -33184336.05 -33184335.90 0.0283 0.0058

Saturn -95567-06-26 02:08 J -33184247.56 -33184247.41 -33184247.25 0.0283 0.0036

Saturn -95567-09-22 17:59 J -33184158.88 -33184158.75 -33184158.61 0.0283 0.0132

Saturn -95567-12-20 10:18 J -33184070.16 -33184070.07 -33184069.98 0.0283 0.0230

Venus -95566-10-28 06:56 J -33183758.33 -33183758.21 -33183758.08 0.3603 0.1156

Earth -95565-07-25 16:18 J -33183486.90 -33183486.82 -33183486.73 0.2624 0.1854

Moon -95565-07-25 17:15 J -33183486.86 -33183486.78 -33183486.70 0.2624 0.2014 *

Venus -95564-05-13 19:11 J -33183194.72 -33183194.70 -33183194.68 0.3764 0.3695

Mars -95563-07-31 09:49 J -33182751.22 -33182751.09 -33182750.96 0.1608 0.0538

Moon -95561-01-09 18:13 J -33182223.82 -33182223.74 -33182223.66 0.2720 0.2143

Earth -95561-01-09 18:13 J -33182223.81 -33182223.74 -33182223.67 0.2727 0.2234 *

Jupiter -95561-02-28 10:32 J -33182174.21 -33182174.06 -33182173.91 0.0510 0.0226

Jupiter -95561-05-28 08:37 J -33182084.27 -33182084.14 -33182084.02 0.0514 0.0298

Mars -95561-07-06 02:37 J -33182045.47 -33182045.39 -33182045.31 0.1607 0.1310

Venus -95560-05-13 06:56 J -33181734.32 -33181734.21 -33181734.11 0.3606 0.2251

Mars -95558-04-23 08:37 J -33181024.27 -33181024.14 -33181024.01 0.1920 0.0215

Moon -95558-07-19 05:01 J -33180937.38 -33180937.29 -33180937.20 0.2618 0.1909

Earth -95558-07-19 05:44 J -33180937.35 -33180937.26 -33180937.17 0.2613 0.1838 *

Venus -95557-02-05 18:56 J -33180735.74 -33180735.71 -33180735.68 0.3790 0.3580

Jupiter -95556-07-20 01:25 J -33180205.52 -33180205.44 -33180205.35 0.0520 0.0394

Jupiter -95556-10-17 13:11 J -33180116.09 -33180115.95 -33180115.81 0.0516 0.0070

Venus -95555-11-27 06:13 J -33179710.29 -33179710.24 -33179710.19 0.3610 0.3288

Mars -95554-12-21 18:13 J -33179320.85 -33179320.74 -33179320.64 0.1608 0.0963

Saturn -95553-05-10 04:03 J -33179180.42 -33179180.33 -33179180.23 0.0276 0.0219

Saturn -95553-08-06 20:23 J -33179091.78 -33179091.65 -33179091.50 0.0276 0.0126

Saturn -95553-11-03 12:27 J -33179003.13 -33179002.98 -33179002.82 0.0276 0.0035

Saturn -95552-01-31 04:18 J -33178914.48 -33178914.32 -33178914.17 0.0276 0.0056

Saturn -95552-04-29 19:25 J -33178825.81 -33178825.69 -33178825.55 0.0275 0.0144

Saturn -95552-07-27 10:32 J -33178737.14 -33178737.06 -33178736.97 0.0275 0.0229

Venus -95552-08-21 12:42 J -33178712.04 -33178711.97 -33178711.90 0.3788 0.2833

Mars -95552-11-26 10:18 J -33178615.19 -33178615.07 -33178614.95 0.1607 0.0853

Jupiter -95550-12-17 10:18 J -33177864.18 -33177864.07 -33177863.95 0.0510 0.0358

Jupiter -95549-03-16 08:51 J -33177774.28 -33177774.13 -33177773.98 0.0513 0.0170

Mars -95549-09-12 11:30 J -33177594.15 -33177594.02 -33177593.89 0.1919 0.0604

Moon -95548-01-11 16:32 J -33177472.93 -33177472.81 -33177472.68 0.2717 0.0802

Earth -95548-01-11 17:01 J -33177472.91 -33177472.79 -33177472.66 0.2723 0.0681 *

Venus -95546-03-07 06:42 J -33176688.31 -33176688.22 -33176688.13 0.3785 0.2066

Earth -95545-07-21 03:20 J -33176186.49 -33176186.36 -33176186.24 0.2617 0.0492

Moon -95545-07-21 03:20 J -33176186.48 -33176186.36 -33176186.23 0.2623 0.0510 *

Jupiter -95544-05-08 04:32 J -33175895.34 -33175895.31 -33175895.27 0.0520 0.0504

Mars -95544-05-13 02:23 J -33175890.46 -33175890.40 -33175890.33 0.1609 0.1383

Jupiter -95544-08-05 16:03 J -33175805.98 -33175805.83 -33175805.69 0.0516 0.0046

Jupiter -95544-11-03 04:18 J -33175716.40 -33175716.32 -33175716.24 0.0512 0.0425

Mars -95542-04-18 17:59 J -33175184.88 -33175184.75 -33175184.61 0.1607 0.0401

Venus -95541-09-20 00:42 J -33174664.57 -33174664.47 -33174664.37 0.3782 0.1274

Mars -95539-02-02 13:54 J -33174164.01 -33174163.92 -33174163.83 0.1918 0.1457

Saturn -95538-02-20 05:15 J -33173781.32 -33173781.28 -33173781.24 0.0283 0.0271

Saturn -95538-05-19 19:54 J -33173692.78 -33173692.67 -33173692.56 0.0283 0.0183

Saturn -95538-08-16 11:01 J -33173604.19 -33173604.04 -33173603.90 0.0283 0.0092

Jupiter -95538-10-05 10:18 J -33173554.11 -33173554.07 -33173554.02 0.0509 0.0487

Saturn -95538-11-13 02:23 J -33173515.56 -33173515.40 -33173515.25 0.0283 0.0005

Jupiter -95537-01-03 09:20 J -33173464.27 -33173464.11 -33173463.95 0.0513 0.0044

Mars -95537-01-10 02:08 J -33173457.43 -33173457.41 -33173457.38 0.1920 0.1872

Saturn -95537-02-09 17:59 J -33173426.89 -33173426.75 -33173426.60 0.0283 0.0097

Saturn -95537-05-08 09:49 J -33173338.19 -33173338.09 -33173337.97 0.0284 0.0195

Uranus -95537-10-27 02:51 J -33173166.40 -33173166.38 -33173166.33 0.0142 0.0138

Uranus -95536-01-23 07:39 J -33173078.25 -33173078.18 -33173078.09 0.0142 0.0119

Uranus -95536-04-21 12:13 J -33172990.09 -33172989.99 -33172989.88 0.0143 0.0099

Uranus -95536-07-18 17:01 J -33172901.91 -33172901.79 -33172901.66 0.0143 0.0079

Uranus -95536-10-14 21:35 J -33172813.73 -33172813.60 -33172813.45 0.0143 0.0060

Uranus -95535-01-11 02:37 J -33172725.53 -33172725.39 -33172725.25 0.0143 0.0039

Moon -95535-01-14 15:06 J -33172721.99 -33172721.87 -33172721.74 0.2718 0.0856

Earth -95535-01-14 16:18 J -33172721.94 -33172721.82 -33172721.70 0.2719 0.0921 *

Venus -95535-04-05 18:56 J -33172640.82 -33172640.71 -33172640.60 0.3780 0.0467

Uranus -95535-04-09 07:25 J -33172637.34 -33172637.19 -33172637.04 0.0143 0.0019

Uranus -95535-07-06 12:13 J -33172549.14 -33172548.99 -33172548.83 0.0143 0.0005

Uranus -95535-10-02 17:15 J -33172460.93 -33172460.78 -33172460.63 0.0143 0.0023

Uranus -95535-12-29 22:03 J -33172372.72 -33172372.58 -33172372.43 0.0144 0.0045

Uranus -95534-03-28 03:20 J -33172284.50 -33172284.36 -33172284.23 0.0144 0.0066

Uranus -95534-06-24 08:08 J -33172196.27 -33172196.16 -33172196.03 0.0144 0.0088

Uranus -95534-09-20 13:25 J -33172108.03 -33172107.94 -33172107.84 0.0144 0.0109

Uranus -95534-12-17 18:42 J -33172019.78 -33172019.72 -33172019.66 0.0144 0.0131

Mars -95533-09-08 01:54 J -33171754.56 -33171754.42 -33171754.28 0.1607 0.0046

Jupiter -95532-05-24 18:42 J -33171495.86 -33171495.72 -33171495.59 0.0517 0.0160

Earth -95532-07-24 00:27 J -33171435.60 -33171435.48 -33171435.35 0.2620 0.0840

Moon -95532-07-24 01:11 J -33171435.57 -33171435.45 -33171435.33 0.2626 0.0973 *

Jupiter -95532-08-22 06:42 J -33171406.33 -33171406.22 -33171406.11 0.0513 0.0307

Venus -95531-04-04 03:20 J -33171181.40 -33171181.36 -33171181.31 0.3591 0.3369

Venus -95530-10-20 13:25 J -33170617.05 -33170616.94 -33170616.83 0.3777 0.0389

Mars -95528-06-01 05:30 J -33170027.37 -33170027.27 -33170027.16 0.1920 0.1090

Neptune -95526-03-03 20:23 J -33169386.67 -33169386.65 -33169386.60 0.0089 0.0086

Neptune -95526-05-30 22:03 J -33169298.62 -33169298.58 -33169298.51 0.0089 0.0082

Neptune -95526-08-26 23:44 J -33169210.56 -33169210.51 -33169210.43 0.0089 0.0078

Venus -95526-10-19 05:01 J -33169157.40 -33169157.29 -33169157.18 0.3594 0.2080

Jupiter -95526-10-22 09:49 J -33169154.25 -33169154.09 -33169153.93 0.0512 0.0085

Neptune -95526-11-23 01:25 J -33169122.51 -33169122.44 -33169122.35 0.0089 0.0074

Jupiter -95525-01-20 07:11 J -33169064.28 -33169064.20 -33169064.11 0.0515 0.0437

Neptune -95525-02-19 03:20 J -33169034.45 -33169034.36 -33169034.27 0.0089 0.0069

Neptune -95525-05-17 05:01 J -33168946.39 -33168946.29 -33168946.19 0.0089 0.0065

Neptune -95525-08-13 06:27 J -33168858.32 -33168858.23 -33168858.12 0.0089 0.0061

Neptune -95525-11-09 08:08 J -33168770.26 -33168770.16 -33168770.04 0.0089 0.0057

Neptune -95524-02-05 09:49 J -33168682.19 -33168682.09 -33168681.96 0.0089 0.0053

Neptune -95524-05-04 11:44 J -33168594.13 -33168594.01 -33168593.89 0.0089 0.0048

Venus -95524-05-05 08:08 J -33168593.26 -33168593.16 -33168593.05 0.3773 0.1237

Neptune -95524-07-31 13:25 J -33168506.06 -33168505.94 -33168505.81 0.0089 0.0044

Saturn -95524-09-27 04:18 J -33168448.38 -33168448.32 -33168448.25 0.0276 0.0250

Neptune -95524-10-27 15:06 J -33168417.99 -33168417.87 -33168417.73 0.0089 0.0040

Saturn -95524-12-24 20:51 J -33168359.76 -33168359.63 -33168359.50 0.0276 0.0155

Neptune -95523-01-23 17:01 J -33168329.93 -33168329.79 -33168329.66 0.0089 0.0035

Mars -95523-01-29 10:03 J -33168324.21 -33168324.08 -33168323.95 0.1608 0.0480

Saturn -95523-03-23 13:11 J -33168271.11 -33168270.95 -33168270.80 0.0276 0.0063

Neptune -95523-04-21 18:42 J -33168241.86 -33168241.72 -33168241.58 0.0089 0.0031

Saturn -95523-06-20 05:01 J -33168182.45 -33168182.29 -33168182.14 0.0276 0.0028

Neptune -95523-07-18 20:23 J -33168153.79 -33168153.65 -33168153.51 0.0089 0.0027

Saturn -95523-09-16 20:23 J -33168093.79 -33168093.65 -33168093.51 0.0276 0.0117

Neptune -95523-10-14 22:03 J -33168065.72 -33168065.58 -33168065.43 0.0089 0.0023

Saturn -95523-12-14 11:30 J -33168005.12 -33168005.02 -33168004.91 0.0276 0.0203

Neptune -95522-01-10 23:59 J -33167977.64 -33167977.50 -33167977.36 0.0089 0.0018

Moon -95522-01-17 14:51 J -33167970.93 -33167970.88 -33167970.83 0.2718 0.2470

Earth -95522-01-17 15:49 J -33167970.88 -33167970.84 -33167970.80 0.2714 0.2565 *

Neptune -95522-04-09 01:39 J -33167889.57 -33167889.43 -33167889.28 0.0089 0.0014

Neptune -95522-07-06 03:35 J -33167801.50 -33167801.35 -33167801.21 0.0089 0.0009

Neptune -95522-10-02 05:15 J -33167713.42 -33167713.28 -33167713.13 0.0089 0.0005

Neptune -95522-12-29 07:11 J -33167625.35 -33167625.20 -33167625.06 0.0089 0.0002

Mars -95521-01-05 02:51 J -33167618.45 -33167618.38 -33167618.30 0.1607 0.1372

Neptune -95521-03-26 08:51 J -33167537.28 -33167537.13 -33167536.98 0.0089 0.0004

Neptune -95521-06-22 10:47 J -33167449.20 -33167449.05 -33167448.91 0.0089 0.0009

Neptune -95521-09-18 12:27 J -33167361.12 -33167360.98 -33167360.83 0.0089 0.0013

Neptune -95521-12-15 14:23 J -33167273.05 -33167272.90 -33167272.76 0.0089 0.0018

Jupiter -95520-03-12 20:37 J -33167185.76 -33167185.64 -33167185.53 0.0518 0.0286

Neptune -95520-03-13 16:18 J -33167184.97 -33167184.82 -33167184.68 0.0089 0.0022

Venus -95520-05-04 05:59 J -33167133.38 -33167133.25 -33167133.11 0.3597 0.0849

Neptune -95520-06-09 17:59 J -33167096.89 -33167096.75 -33167096.61 0.0089 0.0027

Jupiter -95520-06-10 08:23 J -33167096.28 -33167096.15 -33167096.02 0.0514 0.0179

Neptune -95520-09-05 19:54 J -33167008.81 -33167008.67 -33167008.53 0.0089 0.0031

Neptune -95520-12-02 21:35 J -33166920.73 -33166920.60 -33166920.46 0.0089 0.0036

Neptune -95519-02-28 23:15 J -33166832.65 -33166832.53 -33166832.38 0.0089 0.0041

Neptune -95519-05-28 01:25 J -33166744.57 -33166744.44 -33166744.31 0.0089 0.0045

Earth -95519-07-26 21:35 J -33166684.67 -33166684.60 -33166684.52 0.2624 0.2135

Moon -95519-07-26 22:47 J -33166684.62 -33166684.55 -33166684.48 0.2624 0.2153 *

Neptune -95519-08-24 03:06 J -33166656.48 -33166656.37 -33166656.23 0.0089 0.0050

Mars -95519-10-22 08:51 J -33166597.26 -33166597.13 -33166596.99 0.1920 0.0296

Venus -95519-11-19 03:06 J -33166569.46 -33166569.37 -33166569.28 0.3770 0.2117

Neptune -95519-11-20 05:15 J -33166568.40 -33166568.28 -33166568.16 0.0089 0.0054

Neptune -95518-02-16 06:56 J -33166480.31 -33166480.21 -33166480.09 0.0089 0.0059

Neptune -95518-05-15 09:06 J -33166392.23 -33166392.12 -33166392.02 0.0089 0.0063

Neptune -95518-08-11 10:47 J -33166304.14 -33166304.05 -33166303.95 0.0089 0.0068

Neptune -95518-11-07 12:42 J -33166216.05 -33166215.97 -33166215.88 0.0089 0.0073

Neptune -95517-02-03 14:51 J -33166127.95 -33166127.88 -33166127.81 0.0089 0.0077

Neptune -95517-05-01 16:32 J -33166039.86 -33166039.81 -33166039.74 0.0089 0.0082

Neptune -95517-07-28 18:27 J -33165951.75 -33165951.73 -33165951.69 0.0089 0.0087

Moon -95515-01-09 23:44 J -33165421.60 -33165421.51 -33165421.43 0.2719 0.1988

Earth -95515-01-09 23:44 J -33165421.60 -33165421.51 -33165421.42 0.2727 0.1919 *

Venus -95515-11-18 06:42 J -33165109.36 -33165109.22 -33165109.09 0.3600 0.0351

Mars -95514-06-21 18:13 J -33164893.85 -33164893.74 -33164893.62 0.1608 0.0907

Jupiter -95514-08-10 09:20 J -33164844.25 -33164844.11 -33164843.96 0.0510 0.0218

Jupiter -95514-11-08 07:25 J -33164754.32 -33164754.19 -33164754.06 0.0514 0.0306

Venus -95513-06-03 22:18 J -33164545.64 -33164545.57 -33164545.51 0.3767 0.3024

Mars -95512-05-27 10:32 J -33164188.17 -33164188.06 -33164187.94 0.1607 0.0912

Moon -95512-07-19 10:32 J -33164135.16 -33164135.06 -33164134.96 0.2619 0.1603

Earth -95512-07-19 11:01 J -33164135.14 -33164135.04 -33164134.93 0.2613 0.1550 *

Mars -95509-03-13 11:59 J -33163167.13 -33163167.00 -33163166.87 0.1920 0.0525

Venus -95509-06-03 06:42 J -33163085.34 -33163085.22 -33163085.09 0.3604 0.1466

Saturn -95509-10-05 23:01 J -33162960.64 -33162960.54 -33162960.43 0.0283 0.0197

Jupiter -95509-12-29 23:15 J -33162875.62 -33162875.53 -33162875.44 0.0519 0.0402

Saturn -95508-01-02 14:08 J -33162872.05 -33162871.91 -33162871.77 0.0283 0.0106

Jupiter -95508-03-29 10:47 J -33162786.19 -33162786.05 -33162785.91 0.0516 0.0062

Saturn -95508-04-01 05:30 J -33162783.42 -33162783.27 -33162783.12 0.0283 0.0014

Saturn -95508-06-28 21:06 J -33162694.77 -33162694.62 -33162694.47 0.0283 0.0082

Saturn -95508-09-25 12:56 J -33162606.07 -33162605.96 -33162605.83 0.0283 0.0179

Saturn -95508-12-23 05:15 J -33162517.30 -33162517.28 -33162517.24 0.0283 0.0278

Mars -95505-11-11 02:37 J -33161463.46 -33161463.39 -33161463.31 0.1609 0.1326

Venus -95504-12-18 06:27 J -33161061.32 -33161061.23 -33161061.14 0.3607 0.2542

Mars -95503-10-17 18:13 J -33160757.87 -33160757.74 -33160757.60 0.1607 0.0462

Moon -95502-01-12 21:49 J -33160670.72 -33160670.59 -33160670.46 0.2718 0.0357

Earth -95502-01-12 22:32 J -33160670.68 -33160670.56 -33160670.43 0.2723 0.0366 *

Jupiter -95502-05-29 08:08 J -33160534.27 -33160534.16 -33160534.05 0.0509 0.0361

Jupiter -95502-08-27 06:42 J -33160444.37 -33160444.22 -33160444.07 0.0513 0.0166

Venus -95501-09-11 16:47 J -33160062.84 -33160062.80 -33160062.75 0.3789 0.3369

Mars -95500-08-03 14:08 J -33159737.00 -33159736.91 -33159736.81 0.1918 0.1380

Earth -95499-07-22 08:37 J -33159384.27 -33159384.14 -33159384.01 0.2617 0.0201

Moon -95499-07-22 08:51 J -33159384.25 -33159384.13 -33159384.00 0.2624 0.0163 *

Venus -95498-07-04 05:44 J -33159037.28 -33159037.26 -33159037.24 0.3611 0.3568

Uranus -95498-12-27 15:49 J -33158860.87 -33158860.84 -33158860.77 0.0137 0.0131

Uranus -95497-03-24 21:20 J -33158772.69 -33158772.61 -33158772.50 0.0136 0.0111

Uranus -95497-06-21 02:51 J -33158684.50 -33158684.38 -33158684.25 0.0136 0.0090

Uranus -95497-09-17 08:08 J -33158596.29 -33158596.16 -33158596.01 0.0136 0.0070

Jupiter -95497-10-18 02:23 J -33158565.42 -33158565.40 -33158565.37 0.0521 0.0511

Uranus -95497-12-14 13:39 J -33158508.08 -33158507.93 -33158507.78 0.0136 0.0050

Jupiter -95496-01-15 13:54 J -33158476.06 -33158475.92 -33158475.78 0.0517 0.0050

Uranus -95496-03-12 18:42 J -33158419.87 -33158419.72 -33158419.56 0.0136 0.0031

Jupiter -95496-04-15 02:08 J -33158386.49 -33158386.41 -33158386.32 0.0513 0.0420

Uranus -95496-06-08 23:59 J -33158331.66 -33158331.50 -33158331.34 0.0136 0.0012

Uranus -95496-09-05 05:01 J -33158243.45 -33158243.29 -33158243.13 0.0136 0.0007

Uranus -95496-12-02 10:03 J -33158155.24 -33158155.08 -33158154.92 0.0135 0.0026

Uranus -95495-02-28 15:06 J -33158067.02 -33158066.87 -33158066.72 0.0135 0.0045

Venus -95495-03-28 10:47 J -33158039.13 -33158039.05 -33158038.97 0.3787 0.2611

Uranus -95495-05-27 19:54 J -33157978.81 -33157978.67 -33157978.52 0.0135 0.0063

Uranus -95495-08-24 00:56 J -33157890.59 -33157890.46 -33157890.33 0.0135 0.0081

Uranus -95495-11-20 05:44 J -33157802.36 -33157802.26 -33157802.15 0.0135 0.0099

Saturn -95494-02-14 06:42 J -33157716.25 -33157716.22 -33157716.18 0.0276 0.0268

Uranus -95494-02-16 10:32 J -33157714.13 -33157714.06 -33157713.98 0.0135 0.0117

Saturn -95494-05-13 23:15 J -33157627.65 -33157627.53 -33157627.40 0.0276 0.0174

Uranus -95494-05-15 15:20 J -33157625.86 -33157625.86 -33157625.85 0.0135 0.0134

Saturn -95494-08-10 15:35 J -33157539.00 -33157538.85 -33157538.69 0.0276 0.0081

Saturn -95494-11-07 07:25 J -33157450.34 -33157450.19 -33157450.03 0.0276 0.0013

Saturn -95493-02-03 23:01 J -33157361.68 -33157361.54 -33157361.39 0.0276 0.0099

Mars -95493-03-09 02:08 J -33157327.54 -33157327.41 -33157327.27 0.1607 0.0052

Saturn -95493-05-02 14:23 J -33157273.02 -33157272.90 -33157272.79 0.0275 0.0186

Saturn -95493-07-30 05:01 J -33157184.31 -33157184.29 -33157184.26 0.0275 0.0270

Jupiter -95490-03-17 07:54 J -33156224.21 -33156224.17 -33156224.14 0.0508 0.0494

Jupiter -95490-06-15 06:42 J -33156134.38 -33156134.22 -33156134.06 0.0512 0.0037

Venus -95490-10-12 04:47 J -33156015.40 -33156015.30 -33156015.21 0.3784 0.1842

Moon -95489-01-15 20:51 J -33155919.75 -33155919.63 -33155919.51 0.2717 0.1076

Earth -95489-01-15 21:49 J -33155919.70 -33155919.59 -33155919.47 0.2718 0.1259 *

Mars -95489-11-30 05:59 J -33155600.35 -33155600.25 -33155600.14 0.1921 0.1174

Earth -95486-07-25 05:59 J -33154633.37 -33154633.25 -33154633.14 0.2621 0.1119

Moon -95486-07-25 06:42 J -33154633.33 -33154633.22 -33154633.11 0.2624 0.1146 *

Jupiter -95485-11-03 16:47 J -33154165.93 -33154165.80 -33154165.67 0.0517 0.0162

Jupiter -95484-02-01 04:47 J -33154076.41 -33154076.30 -33154076.18 0.0514 0.0305

Venus -95484-04-26 22:47 J -33153991.65 -33153991.55 -33153991.44 0.3782 0.1049

Mars -95484-07-30 10:18 J -33153897.20 -33153897.07 -33153896.94 0.1607 0.0422

Mars -95482-07-06 03:20 J -33153191.42 -33153191.36 -33153191.30 0.1606 0.1436

Saturn -95479-02-22 23:30 J -33152228.60 -33152228.52 -33152228.43 0.0283 0.0229

Mars -95479-04-22 09:20 J -33152170.25 -33152170.11 -33152169.98 0.1920 0.0377

Saturn -95479-05-22 14:23 J -33152140.03 -33152139.90 -33152139.77 0.0283 0.0139

Saturn -95479-08-19 05:30 J -33152051.42 -33152051.27 -33152051.12 0.0283 0.0048

Venus -95479-11-10 17:15 J -33151967.89 -33151967.78 -33151967.67 0.3779 0.0230

Saturn -95479-11-15 21:06 J -33151962.77 -33151962.62 -33151962.47 0.0283 0.0047

Saturn -95478-02-12 12:56 J -33151874.09 -33151873.96 -33151873.83 0.0283 0.0143

Jupiter -95478-04-03 07:11 J -33151824.36 -33151824.20 -33151824.05 0.0512 0.0093

Saturn -95478-05-12 05:01 J -33151785.36 -33151785.29 -33151785.21 0.0284 0.0242

Jupiter -95478-07-02 04:47 J -33151734.39 -33151734.30 -33151734.21 0.0515 0.0429

Venus -95475-11-09 03:35 J -33150508.42 -33150508.35 -33150508.27 0.3592 0.2996

Mars -95475-12-20 18:27 J -33150466.84 -33150466.73 -33150466.61 0.1608 0.0851

Venus -95473-05-26 11:44 J -33149944.12 -33149944.01 -33149943.90 0.3776 0.0621

Earth -95473-07-27 02:51 J -33149882.42 -33149882.38 -33149882.33 0.2625 0.2407

Moon -95473-07-27 04:03 J -33149882.35 -33149882.33 -33149882.31 0.2624 0.2581 *

Jupiter -95473-08-22 19:25 J -33149855.80 -33149855.69 -33149855.57 0.0518 0.0278

Jupiter -95473-11-20 07:25 J -33149766.33 -33149766.19 -33149766.06 0.0514 0.0188

Mars -95473-11-25 10:47 J -33149761.16 -33149761.05 -33149760.94 0.1606 0.0974

Mars -95470-09-12 11:59 J -33148740.13 -33148740.00 -33148739.87 0.1920 0.0457

Moon -95469-01-11 05:01 J -33148619.39 -33148619.29 -33148619.18 0.2719 0.1549

Earth -95469-01-11 05:15 J -33148619.39 -33148619.28 -33148619.18 0.2726 0.1611 *

Venus -95469-05-25 05:01 J -33148484.41 -33148484.29 -33148484.17 0.3595 0.1725

Venus -95468-12-10 06:27 J -33147920.33 -33147920.23 -33147920.12 0.3772 0.1487

Jupiter -95466-01-20 07:25 J -33147514.34 -33147514.19 -33147514.04 0.0511 0.0219

Jupiter -95466-04-20 05:30 J -33147424.39 -33147424.27 -33147424.14 0.0514 0.0306

Moon -95466-07-20 16:03 J -33147332.94 -33147332.83 -33147332.72 0.2620 0.1337

Earth -95466-07-20 16:32 J -33147332.93 -33147332.81 -33147332.70 0.2614 0.1263 *

Mars -95465-05-12 02:51 J -33147036.46 -33147036.38 -33147036.30 0.1609 0.1272

Saturn -95465-09-29 23:30 J -33146895.63 -33146895.52 -33146895.41 0.0276 0.0204

Saturn -95465-12-27 15:49 J -33146806.98 -33146806.84 -33146806.69 0.0276 0.0111

Saturn -95464-03-26 07:54 J -33146718.33 -33146718.17 -33146718.01 0.0276 0.0019

Saturn -95464-06-22 23:30 J -33146629.67 -33146629.52 -33146629.36 0.0276 0.0071

Saturn -95464-09-19 14:51 J -33146541.00 -33146540.88 -33146540.75 0.0276 0.0158

Venus -95464-12-09 05:59 J -33146460.38 -33146460.25 -33146460.11 0.3598 0.0507

Saturn -95464-12-17 05:59 J -33146452.32 -33146452.25 -33146452.18 0.0275 0.0244

Mars -95463-04-17 18:27 J -33146330.86 -33146330.73 -33146330.60 0.1607 0.0518

Venus -95462-06-26 01:25 J -33145896.52 -33145896.44 -33145896.35 0.3769 0.2373

Jupiter -95461-06-10 21:35 J -33145545.68 -33145545.60 -33145545.51 0.0519 0.0401

Jupiter -95461-09-08 09:06 J -33145456.26 -33145456.12 -33145455.98 0.0515 0.0062

Mars -95460-02-01 14:37 J -33145309.99 -33145309.89 -33145309.79 0.1919 0.1300

Venus -95458-06-25 06:27 J -33144436.36 -33144436.23 -33144436.10 0.3601 0.0656

Venus -95456-01-08 20:51 J -33143872.69 -33143872.63 -33143872.58 0.3765 0.3282

Moon -95456-01-13 03:20 J -33143868.49 -33143868.36 -33143868.23 0.2718 0.0225

Earth -95456-01-13 04:03 J -33143868.45 -33143868.33 -33143868.20 0.2722 0.0104 *

Jupiter -95455-11-08 06:56 J -33143204.32 -33143204.21 -33143204.09 0.0509 0.0353

Pluto -95454-01-11 00:42 J -33143140.53 -33143140.47 -33143140.36 0.0060 0.0054

Jupiter -95454-02-06 05:44 J -33143114.41 -33143114.26 -33143114.11 0.0513 0.0175

Pluto -95454-04-09 02:23 J -33143052.50 -33143052.40 -33143052.26 0.0060 0.0047

Pluto -95454-07-06 04:03 J -33142964.47 -33142964.33 -33142964.18 0.0060 0.0040

Mars -95454-09-08 02:23 J -33142900.53 -33142900.40 -33142900.26 0.1607 0.0088

Pluto -95454-10-02 05:15 J -33142876.42 -33142876.28 -33142876.10 0.0060 0.0034

Pluto -95454-12-29 06:56 J -33142788.37 -33142788.21 -33142788.02 0.0060 0.0027

Pluto -95453-03-26 08:23 J -33142700.32 -33142700.15 -33142699.95 0.0060 0.0021

Pluto -95453-06-22 10:03 J -33142612.27 -33142612.08 -33142611.88 0.0060 0.0013

Earth -95453-07-22 13:54 J -33142582.05 -33142581.92 -33142581.79 0.2618 0.0085

Moon -95453-07-22 14:08 J -33142582.03 -33142581.91 -33142581.78 0.2624 0.0141 *

Pluto -95453-09-18 11:44 J -33142524.21 -33142524.01 -33142523.82 0.0060 0.0007

Uranus -95453-11-16 10:47 J -33142465.09 -33142465.05 -33142464.98 0.0142 0.0132

Pluto -95453-12-15 13:11 J -33142436.15 -33142435.95 -33142435.75 0.0060 0.0001

Venus -95452-01-08 06:27 J -33142412.34 -33142412.23 -33142412.11 0.3605 0.1774

Uranus -95452-02-12 15:35 J -33142376.93 -33142376.85 -33142376.75 0.0142 0.0112

Pluto -95452-03-13 14:23 J -33142348.09 -33142347.90 -33142347.69 0.0060 0.0008

Uranus -95452-05-11 20:23 J -33142288.76 -33142288.65 -33142288.54 0.0143 0.0092

Pluto -95452-06-09 15:49 J -33142260.02 -33142259.84 -33142259.63 0.0060 0.0015

Uranus -95452-08-08 01:11 J -33142200.58 -33142200.45 -33142200.32 0.0143 0.0072

Pluto -95452-09-05 17:15 J -33142171.95 -33142171.78 -33142171.58 0.0061 0.0022

Uranus -95452-11-04 05:44 J -33142112.40 -33142112.26 -33142112.12 0.0143 0.0052

Pluto -95452-12-02 19:11 J -33142083.88 -33142083.70 -33142083.53 0.0061 0.0028

Uranus -95451-01-31 10:32 J -33142024.20 -33142024.06 -33142023.91 0.0143 0.0032

Pluto -95451-02-28 20:37 J -33141995.80 -33141995.64 -33141995.48 0.0061 0.0035

Uranus -95451-04-29 15:20 J -33141936.00 -33141935.86 -33141935.70 0.0143 0.0012

Pluto -95451-05-27 22:03 J -33141907.72 -33141907.58 -33141907.43 0.0061 0.0042

Uranus -95451-07-26 20:23 J -33141847.80 -33141847.65 -33141847.50 0.0143 0.0010

Pluto -95451-08-23 23:30 J -33141819.63 -33141819.52 -33141819.40 0.0061 0.0049

Uranus -95451-10-23 01:11 J -33141759.59 -33141759.45 -33141759.30 0.0143 0.0031

Pluto -95451-11-20 01:11 J -33141731.52 -33141731.45 -33141731.38 0.0061 0.0056

Uranus -95450-01-19 06:13 J -33141671.38 -33141671.24 -33141671.09 0.0143 0.0052

Uranus -95450-04-17 11:15 J -33141583.16 -33141583.03 -33141582.89 0.0144 0.0074

Saturn -95450-07-13 02:08 J -33141496.47 -33141496.41 -33141496.33 0.0283 0.0246

Uranus -95450-07-14 16:32 J -33141494.93 -33141494.81 -33141494.70 0.0144 0.0095

Saturn -95450-10-09 17:15 J -33141407.91 -33141407.78 -33141407.66 0.0283 0.0156

Uranus -95450-10-10 21:35 J -33141406.68 -33141406.60 -33141406.51 0.0144 0.0117

Saturn -95449-01-06 08:23 J -33141319.30 -33141319.15 -33141319.00 0.0283 0.0064

Uranus -95449-01-07 02:37 J -33141318.42 -33141318.39 -33141318.34 0.0144 0.0139

Jupiter -95449-03-30 00:27 J -33141235.49 -33141235.48 -33141235.47 0.0520 0.0516

Saturn -95449-04-03 23:44 J -33141230.66 -33141230.51 -33141230.36 0.0283 0.0030

Mars -95449-05-31 06:13 J -33141173.33 -33141173.24 -33141173.14 0.1921 0.1252

Jupiter -95449-06-27 11:44 J -33141146.15 -33141146.01 -33141145.87 0.0517 0.0057

Saturn -95449-07-01 15:35 J -33141141.99 -33141141.85 -33141141.71 0.0283 0.0126

Jupiter -95449-09-24 23:59 J -33141056.58 -33141056.50 -33141056.41 0.0513 0.0412

Saturn -95449-09-28 07:39 J -33141053.27 -33141053.18 -33141053.08 0.0283 0.0225

Venus -95447-07-25 05:59 J -33140388.33 -33140388.25 -33140388.17 0.3608 0.2832

Mars -95444-01-28 10:32 J -33139470.19 -33139470.06 -33139469.93 0.1607 0.0362

Venus -95444-04-18 14:51 J -33139389.93 -33139389.88 -33139389.82 0.3788 0.3148

Moon -95443-01-16 02:23 J -33139117.51 -33139117.40 -33139117.29 0.2718 0.1549

Earth -95443-01-16 03:35 J -33139117.46 -33139117.35 -33139117.25 0.2718 0.1591 *

Neptune -95443-03-02 23:01 J -33139071.57 -33139071.54 -33139071.46 0.0088 0.0085

Neptune -95443-05-30 02:08 J -33138983.48 -33138983.41 -33138983.32 0.0088 0.0079

Neptune -95443-08-26 05:01 J -33138895.38 -33138895.29 -33138895.18 0.0088 0.0073

Jupiter -95443-08-27 05:30 J -33138894.29 -33138894.27 -33138894.23 0.0508 0.0497

Neptune -95443-11-22 07:39 J -33138807.27 -33138807.18 -33138807.05 0.0088 0.0068

Jupiter -95443-11-25 04:32 J -33138804.47 -33138804.31 -33138804.15 0.0512 0.0035

Mars -95442-01-04 03:35 J -33138764.40 -33138764.35 -33138764.30 0.1606 0.1499

Neptune -95442-02-18 10:47 J -33138719.17 -33138719.05 -33138718.92 0.0088 0.0063

Neptune -95442-05-17 13:25 J -33138631.06 -33138630.94 -33138630.80 0.0088 0.0058

Neptune -95442-08-13 16:03 J -33138542.95 -33138542.83 -33138542.67 0.0088 0.0053

Neptune -95442-11-09 19:11 J -33138454.85 -33138454.70 -33138454.55 0.0088 0.0047

Neptune -95441-02-05 21:49 J -33138366.74 -33138366.59 -33138366.43 0.0088 0.0042

Neptune -95441-05-04 00:27 J -33138278.63 -33138278.48 -33138278.31 0.0088 0.0037

Neptune -95441-07-31 03:20 J -33138190.52 -33138190.36 -33138190.19 0.0088 0.0031

Neptune -95441-10-27 05:59 J -33138102.41 -33138102.25 -33138102.08 0.0088 0.0026

Neptune -95440-01-23 08:51 J -33138014.30 -33138014.13 -33138013.96 0.0088 0.0021

Neptune -95440-04-21 11:30 J -33137926.19 -33137926.02 -33137925.85 0.0088 0.0016

Neptune -95440-07-18 14:08 J -33137838.08 -33137837.91 -33137837.74 0.0088 0.0011

Earth -95440-07-25 11:15 J -33137831.14 -33137831.03 -33137830.93 0.2622 0.1396

Moon -95440-07-25 12:13 J -33137831.10 -33137830.99 -33137830.89 0.2624 0.1519 *

Neptune -95440-10-14 16:47 J -33137749.97 -33137749.80 -33137749.62 0.0088 0.0006

Mars -95440-10-21 09:35 J -33137743.23 -33137743.10 -33137742.97 0.1920 0.0452

Neptune -95439-01-10 19:25 J -33137661.86 -33137661.69 -33137661.51 0.0088 0.0003

Neptune -95439-04-08 22:03 J -33137573.75 -33137573.58 -33137573.40 0.0088 0.0005

Neptune -95439-07-06 00:42 J -33137485.64 -33137485.47 -33137485.30 0.0088 0.0010

Neptune -95439-10-02 03:20 J -33137397.52 -33137397.36 -33137397.19 0.0088 0.0015

Venus -95439-11-02 08:51 J -33137366.22 -33137366.13 -33137366.05 0.3786 0.2391

Neptune -95439-12-29 05:44 J -33137309.41 -33137309.26 -33137309.08 0.0088 0.0021

Neptune -95438-03-27 08:23 J -33137221.30 -33137221.15 -33137220.98 0.0088 0.0025

Neptune -95438-06-23 11:01 J -33137133.19 -33137133.04 -33137132.87 0.0088 0.0030

Neptune -95438-09-19 13:39 J -33137045.08 -33137044.93 -33137044.77 0.0088 0.0035

Neptune -95438-12-16 16:18 J -33136956.97 -33136956.82 -33136956.67 0.0088 0.0040

Neptune -95437-03-13 18:42 J -33136868.86 -33136868.72 -33136868.57 0.0088 0.0045

Jupiter -95437-04-15 14:37 J -33136836.02 -33136835.89 -33136835.75 0.0518 0.0168

Neptune -95437-06-09 21:06 J -33136780.75 -33136780.62 -33136780.47 0.0088 0.0050

Jupiter -95437-07-14 02:51 J -33136746.50 -33136746.38 -33136746.27 0.0514 0.0300

Neptune -95437-09-05 23:44 J -33136692.64 -33136692.51 -33136692.37 0.0088 0.0054

Neptune -95437-12-03 02:08 J -33136604.52 -33136604.41 -33136604.28 0.0088 0.0059

Neptune -95436-03-01 04:32 J -33136516.41 -33136516.31 -33136516.18 0.0088 0.0064

Neptune -95436-05-28 07:25 J -33136428.30 -33136428.19 -33136428.09 0.0088 0.0069

Neptune -95436-08-24 09:35 J -33136340.18 -33136340.10 -33136340.00 0.0088 0.0074

Neptune -95436-11-20 11:59 J -33136252.06 -33136252.00 -33136251.91 0.0088 0.0079

Neptune -95435-02-16 14:23 J -33136163.94 -33136163.90 -33136163.83 0.0088 0.0083

Saturn -95435-02-17 01:54 J -33136163.50 -33136163.42 -33136163.32 0.0276 0.0223

Neptune -95435-05-15 17:01 J -33136075.80 -33136075.79 -33136075.77 0.0088 0.0088

Saturn -95435-05-16 18:27 J -33136074.87 -33136074.73 -33136074.59 0.0276 0.0129

Mars -95435-06-20 18:42 J -33136039.84 -33136039.72 -33136039.60 0.1608 0.0793

Saturn -95435-08-13 10:32 J -33135986.21 -33135986.06 -33135985.90 0.0276 0.0037

Saturn -95435-11-10 02:23 J -33135897.56 -33135897.40 -33135897.25 0.0276 0.0053

Saturn -95434-02-06 17:44 J -33135808.89 -33135808.76 -33135808.63 0.0275 0.0141

Saturn -95434-05-06 08:37 J -33135720.22 -33135720.14 -33135720.05 0.0275 0.0227

Venus -95433-05-18 02:51 J -33135342.48 -33135342.38 -33135342.28 0.3783 0.1610

Mars -95433-05-26 11:01 J -33135334.14 -33135334.04 -33135333.93 0.1606 0.1036

Moon -95433-07-17 23:15 J -33135281.56 -33135281.53 -33135281.50 0.2614 0.2517

Earth -95433-07-18 00:13 J -33135281.55 -33135281.49 -33135281.44 0.2611 0.2346 *

Jupiter -95431-09-13 04:32 J -33134494.46 -33134494.31 -33134494.15 0.0511 0.0099

Jupiter -95431-12-12 02:23 J -33134404.49 -33134404.40 -33134404.31 0.0515 0.0423

Mars -95430-03-13 12:27 J -33134313.12 -33134312.98 -33134312.85 0.1920 0.0374

Venus -95428-12-01 21:06 J -33133318.73 -33133318.62 -33133318.51 0.3781 0.0814

Mars -95426-11-11 03:06 J -33132609.46 -33132609.37 -33132609.28 0.1609 0.1215

Jupiter -95425-02-02 17:44 J -33132525.88 -33132525.76 -33132525.64 0.0519 0.0279

Jupiter -95425-05-02 05:30 J -33132436.40 -33132436.27 -33132436.13 0.0515 0.0187

Mars -95424-10-16 18:56 J -33131903.84 -33131903.71 -33131903.58 0.1606 0.0585

Moon -95423-01-11 10:18 J -33131817.18 -33131817.07 -33131816.96 0.2719 0.1362

Earth -95423-01-11 10:32 J -33131817.17 -33131817.06 -33131816.94 0.2726 0.1297 *

Venus -95422-06-17 15:35 J -33131294.97 -33131294.85 -33131294.74 0.3778 0.0155

Mars -95421-08-02 14:51 J -33130882.98 -33130882.88 -33130882.77 0.1919 0.1221

Saturn -95421-11-29 02:51 J -33130764.40 -33130764.38 -33130764.35 0.0283 0.0276

Saturn -95420-02-25 17:30 J -33130675.87 -33130675.77 -33130675.65 0.0283 0.0188

Saturn -95420-05-25 08:37 J -33130587.28 -33130587.14 -33130587.00 0.0283 0.0097

Moon -95420-07-20 21:35 J -33130530.72 -33130530.60 -33130530.48 0.2621 0.0938

Earth -95420-07-20 21:49 J -33130530.71 -33130530.59 -33130530.47 0.2614 0.0977 *

Saturn -95420-08-21 23:59 J -33130498.65 -33130498.50 -33130498.35 0.0283 0.0004

Saturn -95420-11-18 15:35 J -33130409.99 -33130409.85 -33130409.70 0.0283 0.0092

Saturn -95419-02-15 07:25 J -33130321.30 -33130321.19 -33130321.07 0.0284 0.0190

Jupiter -95419-07-02 04:47 J -33130184.44 -33130184.30 -33130184.15 0.0510 0.0227

Jupiter -95419-09-30 02:51 J -33130094.50 -33130094.38 -33130094.25 0.0514 0.0299

Venus -95418-06-16 03:49 J -33129835.43 -33129835.34 -33129835.25 0.3593 0.2625

Venus -95417-12-31 10:03 J -33129271.19 -33129271.08 -33129270.97 0.3775 0.0860

Mars -95414-03-09 02:37 J -33128473.53 -33128473.39 -33128473.25 0.1607 0.0137

Jupiter -95414-11-21 20:37 J -33128215.73 -33128215.64 -33128215.55 0.0519 0.0392

Uranus -95413-01-17 00:13 J -33128159.56 -33128159.49 -33128159.42 0.0137 0.0123

Jupiter -95413-02-19 08:08 J -33128126.30 -33128126.16 -33128126.02 0.0515 0.0071

Uranus -95413-04-14 05:44 J -33128071.37 -33128071.26 -33128071.15 0.0136 0.0103

Uranus -95413-07-11 10:47 J -33127983.17 -33127983.05 -33127982.91 0.0136 0.0083

Uranus -95413-10-07 16:18 J -33127894.96 -33127894.82 -33127894.67 0.0136 0.0063

Venus -95413-12-30 05:01 J -33127811.41 -33127811.29 -33127811.16 0.3596 0.1377

Uranus -95412-01-03 21:35 J -33127806.76 -33127806.60 -33127806.44 0.0136 0.0043

Uranus -95412-04-02 02:51 J -33127718.54 -33127718.38 -33127718.22 0.0136 0.0024

Uranus -95412-06-29 07:54 J -33127630.33 -33127630.17 -33127630.00 0.0136 0.0005

Uranus -95412-09-25 12:56 J -33127542.12 -33127541.96 -33127541.79 0.0136 0.0014

Uranus -95412-12-22 17:59 J -33127453.90 -33127453.75 -33127453.59 0.0135 0.0033

Uranus -95411-03-20 23:01 J -33127365.69 -33127365.54 -33127365.39 0.0135 0.0051

Uranus -95411-06-17 03:49 J -33127277.47 -33127277.34 -33127277.19 0.0135 0.0070

Venus -95411-07-17 05:01 J -33127247.39 -33127247.29 -33127247.20 0.3771 0.1734

Uranus -95411-09-13 08:37 J -33127189.25 -33127189.14 -33127189.01 0.0135 0.0089

Uranus -95411-12-10 13:39 J -33127101.02 -33127100.93 -33127100.83 0.0135 0.0106

Moon -95410-01-14 08:37 J -33127066.27 -33127066.14 -33127066.01 0.2718 0.0274

Earth -95410-01-14 09:35 J -33127066.22 -33127066.10 -33127065.97 0.2721 0.0304 *

Uranus -95410-03-08 18:13 J -33127012.79 -33127012.74 -33127012.66 0.0135 0.0124

Mars -95410-11-30 06:27 J -33126746.32 -33126746.23 -33126746.13 0.1921 0.1324

Jupiter -95407-04-20 05:01 J -33125874.40 -33125874.29 -33125874.17 0.0510 0.0354

Venus -95407-07-16 05:59 J -33125787.39 -33125787.25 -33125787.12 0.3599 0.0187

Jupiter -95407-07-19 03:35 J -33125784.50 -33125784.35 -33125784.19 0.0513 0.0175

Earth -95407-07-23 19:11 J -33125779.82 -33125779.70 -33125779.57 0.2618 0.0371

Moon -95407-07-23 19:39 J -33125779.80 -33125779.68 -33125779.55 0.2624 0.0393 *

Saturn -95406-07-07 01:25 J -33125431.49 -33125431.44 -33125431.37 0.0276 0.0256

Saturn -95406-10-03 18:13 J -33125342.87 -33125342.74 -33125342.61 0.0276 0.0161

Saturn -95406-12-31 10:32 J -33125254.21 -33125254.06 -33125253.91 0.0276 0.0068

Venus -95405-01-30 23:59 J -33125223.58 -33125223.50 -33125223.42 0.3768 0.2621

Saturn -95405-03-29 02:23 J -33125165.56 -33125165.40 -33125165.24 0.0276 0.0023

Saturn -95405-06-25 17:59 J -33125076.89 -33125076.75 -33125076.61 0.0275 0.0112

Mars -95405-07-29 10:47 J -33125043.19 -33125043.05 -33125042.92 0.1607 0.0308

Saturn -95405-09-22 09:06 J -33124988.22 -33124988.12 -33124988.01 0.0275 0.0198

Mars -95403-07-05 03:49 J -33124337.37 -33124337.34 -33124337.31 0.1606 0.1557

Jupiter -95402-09-09 23:01 J -33123905.56 -33123905.54 -33123905.52 0.0520 0.0514

Jupiter -95402-12-08 10:03 J -33123816.22 -33123816.08 -33123815.94 0.0516 0.0056

Venus -95401-01-30 06:13 J -33123763.37 -33123763.24 -33123763.11 0.3602 0.0979

Jupiter -95401-03-06 22:18 J -33123726.65 -33123726.57 -33123726.48 0.0513 0.0414

Mars -95400-04-21 09:35 J -33123316.22 -33123316.10 -33123315.97 0.1921 0.0526

Venus -95400-08-15 19:11 J -33123199.73 -33123199.70 -33123199.66 0.3765 0.3535

Moon -95397-01-17 07:54 J -33122315.26 -33122315.17 -33122315.07 0.2720 0.1729

Earth -95397-01-17 09:06 J -33122315.21 -33122315.12 -33122315.03 0.2717 0.1920 *

Venus -95396-08-15 06:13 J -33121739.35 -33121739.24 -33121739.13 0.3606 0.2073

Mars -95396-12-19 18:56 J -33121612.83 -33121612.71 -33121612.59 0.1608 0.0735

Jupiter -95395-02-06 04:47 J -33121564.35 -33121564.30 -33121564.26 0.0508 0.0486

Jupiter -95395-05-07 03:49 J -33121474.50 -33121474.34 -33121474.18 0.0512 0.0044

Earth -95394-07-26 16:32 J -33121028.91 -33121028.81 -33121028.72 0.2622 0.1674

Moon -95394-07-26 17:30 J -33121028.86 -33121028.77 -33121028.68 0.2624 0.1756 *

Mars -95394-11-25 11:15 J -33120907.13 -33120907.03 -33120906.92 0.1606 0.1100

Venus -95393-05-09 19:11 J -33120740.72 -33120740.70 -33120740.67 0.3790 0.3667

Saturn -95391-07-15 19:54 J -33119943.77 -33119943.67 -33119943.57 0.0283 0.0208

Mars -95391-09-11 12:56 J -33119886.09 -33119885.96 -33119885.83 0.1920 0.0286

Saturn -95391-10-12 10:47 J -33119855.18 -33119855.05 -33119854.91 0.0283 0.0117

Saturn -95390-01-09 02:08 J -33119766.56 -33119766.41 -33119766.26 0.0283 0.0024

Earth -95390-01-09 17:15 J -33119765.82 -33119765.78 -33119765.73 0.2729 0.2524

Moon -95390-01-09 17:44 J -33119765.81 -33119765.76 -33119765.71 0.2722 0.2459 *

Venus -95390-03-01 05:30 J -33119715.33 -33119715.27 -33119715.20 0.3609 0.3117

Saturn -95390-04-07 17:44 J -33119677.91 -33119677.76 -33119677.61 0.0283 0.0071

Saturn -95390-07-05 09:49 J -33119589.22 -33119589.09 -33119588.97 0.0283 0.0169

Jupiter -95390-09-26 12:42 J -33119506.10 -33119505.97 -33119505.84 0.0518 0.0172

Saturn -95390-10-02 01:54 J -33119500.46 -33119500.42 -33119500.36 0.0284 0.0268

Jupiter -95390-12-25 00:42 J -33119416.58 -33119416.47 -33119416.35 0.0514 0.0295

Venus -95388-11-23 12:56 J -33118717.02 -33118716.96 -33118716.89 0.3788 0.2929

Moon -95387-07-19 04:47 J -33118479.38 -33118479.30 -33118479.22 0.2615 0.2061

Earth -95387-07-19 05:30 J -33118479.35 -33118479.27 -33118479.19 0.2611 0.2052 *

Mars -95386-05-12 03:20 J -33118182.45 -33118182.36 -33118182.27 0.1609 0.1158

Mars -95384-04-16 19:11 J -33117476.83 -33117476.70 -33117476.58 0.1606 0.0644

Jupiter -95383-02-23 02:37 J -33117164.55 -33117164.39 -33117164.23 0.0511 0.0099

Jupiter -95383-05-24 00:27 J -33117074.57 -33117074.48 -33117074.39 0.0515 0.0421

Venus -95382-06-09 06:56 J -33116693.30 -33116693.21 -33116693.12 0.3785 0.2166

Mars -95381-02-01 15:06 J -33116455.97 -33116455.87 -33116455.76 0.1919 0.1144

Jupiter -95378-07-15 15:49 J -33115195.96 -33115195.84 -33115195.72 0.0519 0.0283

Jupiter -95378-10-13 03:35 J -33115106.48 -33115106.35 -33115106.22 0.0515 0.0183

Moon -95377-01-12 15:35 J -33115014.97 -33115014.85 -33115014.73 0.2719 0.1022

Earth -95377-01-12 16:03 J -33115014.95 -33115014.83 -33115014.71 0.2725 0.0976 *

Mars -95377-10-01 11:44 J -33114752.03 -33114752.01 -33114751.98 0.1610 0.1575

Saturn -95377-11-23 04:32 J -33114699.33 -33114699.31 -33114699.29 0.0276 0.0274

Venus -95377-12-23 00:56 J -33114669.56 -33114669.46 -33114669.36 0.3783 0.1385

Saturn -95376-02-19 21:06 J -33114610.74 -33114610.62 -33114610.50 0.0276 0.0179

Saturn -95376-05-19 13:25 J -33114522.09 -33114521.94 -33114521.79 0.0276 0.0085

Saturn -95376-08-16 05:15 J -33114433.44 -33114433.28 -33114433.12 0.0276 0.0007

Saturn -95376-11-12 20:51 J -33114344.77 -33114344.63 -33114344.48 0.0276 0.0095

Saturn -95375-02-09 11:59 J -33114256.11 -33114256.00 -33114255.88 0.0275 0.0183

Saturn -95375-05-09 02:51 J -33114167.41 -33114167.38 -33114167.34 0.0275 0.0267

Mars -95375-09-07 02:51 J -33114046.51 -33114046.38 -33114046.24 0.1606 0.0202

Moon -95374-07-22 03:06 J -33113728.49 -33113728.37 -33113728.25 0.2622 0.0773

Earth -95374-07-22 03:06 J -33113728.49 -33113728.37 -33113728.24 0.2615 0.0693 *

Jupiter -95372-12-12 02:37 J -33112854.54 -33112854.39 -33112854.25 0.0510 0.0230

Jupiter -95371-03-12 00:42 J -33112764.60 -33112764.47 -33112764.34 0.0514 0.0294

Venus -95371-07-08 19:11 J -33112645.81 -33112645.70 -33112645.59 0.3780 0.0592

Mars -95370-05-31 06:42 J -33112319.31 -33112319.22 -33112319.13 0.1921 0.1397

Uranus -95369-12-06 18:42 J -33111763.78 -33111763.72 -33111763.63 0.0142 0.0125

Uranus -95368-03-04 23:30 J -33111675.61 -33111675.52 -33111675.41 0.0142 0.0105

Uranus -95368-06-01 04:18 J -33111587.44 -33111587.32 -33111587.20 0.0142 0.0085

Uranus -95368-08-28 09:06 J -33111499.26 -33111499.12 -33111498.99 0.0143 0.0065

Uranus -95368-11-24 13:39 J -33111411.07 -33111410.93 -33111410.78 0.0143 0.0045

Uranus -95367-02-20 18:27 J -33111322.87 -33111322.73 -33111322.58 0.0143 0.0025

Uranus -95367-05-19 23:30 J -33111234.68 -33111234.52 -33111234.37 0.0143 0.0005

Venus -95367-07-07 02:23 J -33111186.42 -33111186.40 -33111186.39 0.3591 0.3551

Uranus -95367-08-16 04:18 J -33111146.47 -33111146.32 -33111146.17 0.0143 0.0017

Uranus -95367-11-12 09:06 J -33111058.26 -33111058.12 -33111057.97 0.0143 0.0039

Uranus -95366-02-08 14:08 J -33110970.04 -33110969.91 -33110969.77 0.0143 0.0060

Jupiter -95366-05-03 18:56 J -33110885.80 -33110885.71 -33110885.62 0.0520 0.0393

Uranus -95366-05-07 19:11 J -33110881.82 -33110881.70 -33110881.57 0.0144 0.0081

Jupiter -95366-08-01 06:27 J -33110796.37 -33110796.23 -33110796.09 0.0516 0.0070

Uranus -95366-08-04 00:13 J -33110793.59 -33110793.49 -33110793.37 0.0144 0.0103

Uranus -95366-10-31 05:15 J -33110705.34 -33110705.28 -33110705.19 0.0144 0.0125

Venus -95365-01-22 13:39 J -33110622.04 -33110621.93 -33110621.82 0.3777 0.0276

Mars -95365-01-28 11:01 J -33110616.18 -33110616.04 -33110615.91 0.1607 0.0247

Moon -95364-01-14 14:08 J -33110264.03 -33110263.91 -33110263.78 0.2718 0.0456

Earth -95364-01-14 15:20 J -33110263.99 -33110263.86 -33110263.74 0.2721 0.0625 *

Neptune -95362-11-28 18:56 J -33109215.73 -33109215.71 -33109215.66 0.0089 0.0086

Saturn -95362-12-02 20:23 J -33109211.72 -33109211.65 -33109211.57 0.0283 0.0239

Venus -95361-01-21 04:03 J -33109162.44 -33109162.33 -33109162.22 0.3594 0.2263

Neptune -95361-02-24 20:37 J -33109127.68 -33109127.64 -33109127.57 0.0089 0.0082

Saturn -95361-02-29 11:15 J -33109123.15 -33109123.03 -33109122.90 0.0283 0.0149

Neptune -95361-05-22 22:47 J -33109039.62 -33109039.55 -33109039.49 0.0089 0.0077

Saturn -95361-05-28 02:23 J -33109034.55 -33109034.40 -33109034.25 0.0283 0.0057

Earth -95361-07-24 00:27 J -33108977.60 -33108977.48 -33108977.35 0.2619 0.0649

Moon -95361-07-24 01:11 J -33108977.57 -33108977.45 -33108977.33 0.2623 0.0759 *

Neptune -95361-08-19 00:13 J -33108951.56 -33108951.49 -33108951.41 0.0089 0.0073

Saturn -95361-08-24 17:59 J -33108945.91 -33108945.75 -33108945.60 0.0283 0.0038

Mars -95361-10-20 10:18 J -33108889.20 -33108889.07 -33108888.95 0.1921 0.0612

Pluto -95361-11-03 12:56 J -33108875.02 -33108874.96 -33108874.89 0.0084 0.0074

Neptune -95361-11-15 01:54 J -33108863.50 -33108863.42 -33108863.33 0.0089 0.0069

Saturn -95361-11-21 09:35 J -33108857.23 -33108857.10 -33108856.96 0.0283 0.0134

Pluto -95360-01-30 13:54 J -33108786.99 -33108786.92 -33108786.81 0.0084 0.0062

Neptune -95360-02-11 03:20 J -33108775.44 -33108775.36 -33108775.25 0.0089 0.0065

Saturn -95360-02-18 01:39 J -33108768.51 -33108768.43 -33108768.34 0.0284 0.0232

Pluto -95360-04-28 15:20 J -33108698.96 -33108698.86 -33108698.74 0.0084 0.0049

Neptune -95360-05-10 05:01 J -33108687.38 -33108687.29 -33108687.17 0.0089 0.0061

Pluto -95360-07-25 16:47 J -33108610.92 -33108610.80 -33108610.68 0.0084 0.0036

Neptune -95360-08-06 06:42 J -33108599.32 -33108599.22 -33108599.10 0.0089 0.0057

Venus -95360-08-07 08:23 J -33108598.26 -33108598.15 -33108598.04 0.3774 0.1103

Jupiter -95360-09-30 02:23 J -33108544.51 -33108544.40 -33108544.28 0.0509 0.0361

Pluto -95360-10-21 17:59 J -33108522.87 -33108522.75 -33108522.62 0.0084 0.0023

Neptune -95360-11-02 08:37 J -33108511.25 -33108511.14 -33108511.02 0.0089 0.0052

Jupiter -95360-12-29 01:11 J -33108454.60 -33108454.45 -33108454.30 0.0513 0.0168

Pluto -95359-01-17 19:11 J -33108434.83 -33108434.70 -33108434.56 0.0084 0.0011

Neptune -95359-01-29 10:18 J -33108423.19 -33108423.07 -33108422.94 0.0089 0.0048

Pluto -95359-04-15 20:37 J -33108346.78 -33108346.64 -33108346.51 0.0084 0.0003

Neptune -95359-04-27 11:59 J -33108335.12 -33108335.00 -33108334.87 0.0089 0.0044

Pluto -95359-07-12 21:49 J -33108258.72 -33108258.59 -33108258.46 0.0084 0.0014

Neptune -95359-07-24 13:54 J -33108247.05 -33108246.92 -33108246.79 0.0089 0.0039

Pluto -95359-10-08 23:01 J -33108170.67 -33108170.54 -33108170.42 0.0083 0.0027

Neptune -95359-10-20 15:35 J -33108158.98 -33108158.85 -33108158.72 0.0089 0.0035

Pluto -95358-01-04 23:59 J -33108082.61 -33108082.50 -33108082.37 0.0083 0.0039

Neptune -95358-01-16 17:15 J -33108070.91 -33108070.78 -33108070.64 0.0089 0.0031

Pluto -95358-04-03 01:11 J -33107994.54 -33107994.45 -33107994.34 0.0083 0.0051

Neptune -95358-04-14 18:56 J -33107982.84 -33107982.71 -33107982.57 0.0089 0.0026

Pluto -95358-06-30 02:23 J -33107906.47 -33107906.40 -33107906.31 0.0083 0.0063

Neptune -95358-07-11 20:37 J -33107894.77 -33107894.64 -33107894.49 0.0089 0.0022

Pluto -95358-09-26 03:35 J -33107818.39 -33107818.35 -33107818.29 0.0083 0.0075

Neptune -95358-10-07 22:32 J -33107806.70 -33107806.56 -33107806.42 0.0089 0.0018

Neptune -95357-01-04 00:13 J -33107718.63 -33107718.49 -33107718.34 0.0089 0.0013

Neptune -95357-04-01 02:08 J -33107630.56 -33107630.41 -33107630.27 0.0089 0.0009

Neptune -95357-06-28 03:49 J -33107542.49 -33107542.34 -33107542.19 0.0089 0.0004

Neptune -95357-09-24 05:30 J -33107454.41 -33107454.27 -33107454.12 0.0089 0.0003

Neptune -95357-12-21 07:25 J -33107366.34 -33107366.19 -33107366.04 0.0089 0.0004

Neptune -95356-03-19 09:06 J -33107278.26 -33107278.12 -33107277.97 0.0089 0.0009

Neptune -95356-06-15 11:01 J -33107190.19 -33107190.04 -33107189.89 0.0089 0.0013

Mars -95356-06-19 19:11 J -33107185.83 -33107185.70 -33107185.58 0.1608 0.0680

Venus -95356-08-06 05:15 J -33107138.42 -33107138.28 -33107138.15 0.3597 0.1034

Neptune -95356-09-11 12:42 J -33107102.11 -33107101.97 -33107101.82 0.0089 0.0018

Neptune -95356-12-08 14:37 J -33107014.03 -33107013.89 -33107013.74 0.0089 0.0022

Neptune -95355-03-06 16:18 J -33106925.95 -33106925.82 -33106925.67 0.0089 0.0027

Neptune -95355-06-02 18:13 J -33106837.87 -33106837.74 -33106837.60 0.0089 0.0032

Neptune -95355-08-29 20:08 J -33106749.79 -33106749.66 -33106749.52 0.0089 0.0036

Neptune -95355-11-25 21:49 J -33106661.71 -33106661.59 -33106661.45 0.0089 0.0041

Jupiter -95354-02-19 22:03 J -33106575.61 -33106575.58 -33106575.55 0.0521 0.0504

Venus -95354-02-21 03:20 J -33106574.46 -33106574.36 -33106574.27 0.3770 0.1974

Neptune -95354-02-21 23:59 J -33106573.63 -33106573.50 -33106573.37 0.0089 0.0045

Jupiter -95354-05-20 09:20 J -33106486.25 -33106486.11 -33106485.97 0.0517 0.0046

Neptune -95354-05-21 01:39 J -33106485.55 -33106485.43 -33106485.30 0.0089 0.0050

Mars -95354-05-26 11:30 J -33106480.11 -33106480.02 -33106479.92 0.1606 0.1160

Neptune -95354-08-17 03:49 J -33106397.46 -33106397.34 -33106397.23 0.0089 0.0054

Jupiter -95354-08-17 21:35 J -33106396.68 -33106396.60 -33106396.52 0.0513 0.0424

Neptune -95354-11-13 05:30 J -33106309.38 -33106309.27 -33106309.15 0.0089 0.0059

Neptune -95353-02-09 07:11 J -33106221.29 -33106221.20 -33106221.08 0.0089 0.0064

Neptune -95353-05-07 09:20 J -33106133.20 -33106133.11 -33106133.01 0.0089 0.0068

Neptune -95353-08-03 11:01 J -33106045.11 -33106045.04 -33106044.94 0.0089 0.0073

Neptune -95353-10-30 12:56 J -33105957.02 -33105956.96 -33105956.87 0.0089 0.0078

Neptune -95352-01-26 15:06 J -33105868.92 -33105868.87 -33105868.81 0.0089 0.0082

Neptune -95352-04-24 16:47 J -33105780.81 -33105780.80 -33105780.75 0.0089 0.0087

Moon -95351-01-17 13:25 J -33105513.01 -33105512.94 -33105512.86 0.2720 0.2230

Earth -95351-01-17 14:37 J -33105512.96 -33105512.89 -33105512.82 0.2716 0.2248 *

Mars -95351-03-12 12:56 J -33105459.09 -33105458.96 -33105458.83 0.1920 0.0222

Venus -95350-02-20 05:44 J -33105114.39 -33105114.26 -33105114.12 0.3600 0.0161

Venus -95349-09-05 22:18 J -33104550.64 -33104550.57 -33104550.49 0.3767 0.2869

Jupiter -95348-07-19 02:51 J -33104234.43 -33104234.38 -33104234.34 0.0509 0.0487

Earth -95348-07-26 21:49 J -33104226.67 -33104226.59 -33104226.51 0.2623 0.1952

Moon -95348-07-26 22:47 J -33104226.63 -33104226.55 -33104226.47 0.2624 0.2055 *

Jupiter -95348-10-17 01:54 J -33104144.58 -33104144.42 -33104144.26 0.0512 0.0044

Saturn -95347-07-09 20:08 J -33103878.75 -33103878.66 -33103878.55 0.0276 0.0214

Saturn -95347-10-06 12:42 J -33103790.11 -33103789.97 -33103789.82 0.0276 0.0120

Mars -95347-11-10 03:35 J -33103755.45 -33103755.35 -33103755.25 0.1609 0.1102

Saturn -95346-01-03 04:47 J -33103701.45 -33103701.30 -33103701.14 0.0276 0.0029

Saturn -95346-04-01 20:37 J -33103612.79 -33103612.64 -33103612.49 0.0275 0.0063

Saturn -95346-06-29 11:59 J -33103524.13 -33103524.00 -33103523.87 0.0275 0.0151

Saturn -95346-09-26 03:06 J -33103435.45 -33103435.37 -33103435.29 0.0275 0.0236

Venus -95345-09-05 05:59 J -33103090.37 -33103090.25 -33103090.12 0.3603 0.1289

Mars -95345-10-15 19:25 J -33103049.82 -33103049.69 -33103049.57 0.1606 0.0704

Earth -95344-01-09 22:47 J -33102963.62 -33102963.55 -33102963.48 0.2728 0.2213

Moon -95344-01-09 23:01 J -33102963.61 -33102963.54 -33102963.47 0.2722 0.2222 *

Jupiter -95342-03-08 11:30 J -33102176.16 -33102176.02 -33102175.89 0.0517 0.0168

Jupiter -95342-06-05 23:30 J -33102086.64 -33102086.52 -33102086.41 0.0514 0.0299

Mars -95342-08-02 15:35 J -33102028.96 -33102028.85 -33102028.74 0.1919 0.1061

Moon -95341-07-19 10:18 J -33101677.15 -33101677.07 -33101676.98 0.2617 0.1888

Earth -95341-07-19 11:01 J -33101677.14 -33101677.04 -33101676.95 0.2612 0.1761 *

Venus -95339-03-22 05:44 J -33101066.36 -33101066.26 -33101066.16 0.3607 0.2359

Mars -95337-04-01 11:59 J -33100325.04 -33100325.00 -33100324.96 0.1610 0.1521

Venus -95337-12-14 17:15 J -33100067.82 -33100067.78 -33100067.74 0.3789 0.3451

Jupiter -95336-08-05 01:54 J -33099834.58 -33099834.42 -33099834.26 0.0511 0.0087

Jupiter -95336-11-02 23:44 J -33099744.60 -33099744.51 -33099744.43 0.0515 0.0433

Mars -95335-03-08 03:06 J -33099619.50 -33099619.37 -33099619.23 0.1607 0.0257

Venus -95334-10-06 05:01 J -33099042.33 -33099042.29 -33099042.24 0.3610 0.3397

Saturn -95332-04-20 22:18 J -33098479.62 -33098479.57 -33098479.51 0.0283 0.0262

Saturn -95332-07-18 13:11 J -33098391.07 -33098390.95 -33098390.83 0.0283 0.0172

Saturn -95332-10-15 04:03 J -33098302.47 -33098302.33 -33098302.18 0.0283 0.0081

Saturn -95331-01-11 19:39 J -33098213.84 -33098213.68 -33098213.53 0.0283 0.0015

Moon -95331-01-12 20:51 J -33098212.75 -33098212.63 -33098212.50 0.2719 0.0722

Earth -95331-01-12 21:35 J -33098212.72 -33098212.60 -33098212.47 0.2724 0.0656 *

Saturn -95331-04-10 11:15 J -33098125.17 -33098125.03 -33098124.89 0.0283 0.0110

Venus -95331-06-30 11:01 J -33098044.11 -33098044.04 -33098043.96 0.3787 0.2709

Saturn -95331-07-08 03:20 J -33098036.46 -33098036.36 -33098036.25 0.0284 0.0208

Mars -95331-11-29 07:11 J -33097892.28 -33097892.20 -33097892.12 0.1921 0.1484

Jupiter -95331-12-25 14:08 J -33097866.03 -33097865.91 -33097865.80 0.0519 0.0284

Jupiter -95330-03-25 01:54 J -33097776.56 -33097776.42 -33097776.29 0.0515 0.0181

Uranus -95329-02-06 07:39 J -33097458.25 -33097458.18 -33097458.08 0.0137 0.0117

Uranus -95329-05-04 13:11 J -33097370.06 -33097369.95 -33097369.83 0.0136 0.0097

Uranus -95329-07-31 18:42 J -33097281.86 -33097281.72 -33097281.58 0.0136 0.0077

Uranus -95329-10-27 23:44 J -33097193.65 -33097193.51 -33097193.35 0.0136 0.0057

Uranus -95328-01-24 05:15 J -33097105.44 -33097105.28 -33097105.12 0.0136 0.0037

Uranus -95328-04-22 10:32 J -33097017.23 -33097017.06 -33097016.90 0.0136 0.0018

Uranus -95328-07-19 15:35 J -33096929.01 -33096928.85 -33096928.69 0.0136 0.0001

Moon -95328-07-22 08:37 J -33096926.27 -33096926.14 -33096926.02 0.2622 0.0341

Earth -95328-07-22 08:37 J -33096926.27 -33096926.14 -33096926.02 0.2615 0.0407 *

Uranus -95328-10-15 20:37 J -33096840.80 -33096840.64 -33096840.48 0.0136 0.0020

Uranus -95327-01-12 01:39 J -33096752.58 -33096752.43 -33096752.27 0.0136 0.0039

Uranus -95327-04-10 06:42 J -33096664.36 -33096664.22 -33096664.07 0.0135 0.0058

Uranus -95327-07-07 11:30 J -33096576.14 -33096576.02 -33096575.88 0.0135 0.0076

Uranus -95327-10-03 16:18 J -33096487.92 -33096487.82 -33096487.69 0.0135 0.0095

Uranus -95327-12-30 21:20 J -33096399.69 -33096399.61 -33096399.52 0.0135 0.0112

Uranus -95326-03-29 01:54 J -33096311.45 -33096311.42 -33096311.36 0.0135 0.0130

Mars -95326-07-29 11:15 J -33096189.17 -33096189.03 -33096188.89 0.1607 0.0188

Venus -95325-01-14 05:01 J -33096020.38 -33096020.29 -33096020.20 0.3784 0.1940

Jupiter -95324-05-24 00:42 J -33095524.61 -33095524.47 -33095524.32 0.0510 0.0229

Jupiter -95324-08-21 23:01 J -33095434.67 -33095434.54 -33095434.41 0.0514 0.0295

Mars -95321-04-20 10:18 J -33094462.19 -33094462.07 -33094461.94 0.1921 0.0682

Venus -95320-07-29 23:15 J -33093996.64 -33093996.53 -33093996.43 0.3782 0.1163

Jupiter -95319-10-13 17:01 J -33093555.87 -33093555.79 -33093555.70 0.0520 0.0396

Jupiter -95318-01-11 04:32 J -33093466.45 -33093466.31 -33093466.17 0.0516 0.0069

Moon -95318-01-15 19:39 J -33093461.80 -33093461.68 -33093461.55 0.2719 0.0872

Earth -95318-01-15 20:51 J -33093461.75 -33093461.63 -33093461.51 0.2720 0.0948 *

Saturn -95318-11-26 23:01 J -33093146.62 -33093146.54 -33093146.45 0.0276 0.0232

Saturn -95317-02-23 15:35 J -33093057.99 -33093057.85 -33093057.71 0.0276 0.0138

Saturn -95317-05-22 07:39 J -33092969.33 -33092969.18 -33092969.02 0.0276 0.0045

Saturn -95317-08-18 23:30 J -33092880.68 -33092880.52 -33092880.37 0.0276 0.0046

Saturn -95317-11-15 14:51 J -33092792.01 -33092791.88 -33092791.74 0.0276 0.0134

Mars -95317-12-18 19:25 J -33092758.81 -33092758.69 -33092758.56 0.1608 0.0619

Saturn -95316-02-12 05:59 J -33092703.34 -33092703.25 -33092703.16 0.0275 0.0220

Earth -95315-07-25 05:59 J -33092175.37 -33092175.25 -33092175.13 0.2619 0.0929

Moon -95315-07-25 06:42 J -33092175.34 -33092175.22 -33092175.10 0.2623 0.0945 *

Mars -95315-11-24 11:59 J -33092053.09 -33092053.00 -33092052.91 0.1606 0.1225

Venus -95314-02-12 17:30 J -33091972.88 -33091972.77 -33091972.66 0.3779 0.0346

Jupiter -95312-03-12 00:27 J -33091214.59 -33091214.48 -33091214.36 0.0509 0.0361

Jupiter -95312-06-09 23:15 J -33091124.68 -33091124.53 -33091124.38 0.0513 0.0166

Mars -95312-09-10 13:25 J -33091032.07 -33091031.94 -33091031.80 0.1920 0.0133

Venus -95310-02-11 02:37 J -33090513.46 -33090513.39 -33090513.33 0.3592 0.3178

Venus -95309-08-28 11:59 J -33089949.11 -33089949.00 -33089948.89 0.3776 0.0486

Mars -95307-05-11 03:35 J -33089328.45 -33089328.35 -33089328.24 0.1608 0.1050

Jupiter -95307-08-01 20:23 J -33089245.68 -33089245.65 -33089245.62 0.0521 0.0504

Jupiter -95307-10-30 07:39 J -33089156.32 -33089156.18 -33089156.04 0.0517 0.0044

Jupiter -95306-01-27 19:54 J -33089066.75 -33089066.67 -33089066.59 0.0513 0.0425

Moon -95305-01-18 19:11 J -33088710.76 -33088710.70 -33088710.64 0.2719 0.2399

Earth -95305-01-18 20:08 J -33088710.69 -33088710.66 -33088710.62 0.2716 0.2588 *

Mars -95305-04-15 19:39 J -33088622.81 -33088622.68 -33088622.56 0.1606 0.0766

Venus -95305-08-27 04:03 J -33088489.45 -33088489.33 -33088489.21 0.3595 0.1908

Venus -95303-03-14 06:42 J -33087925.32 -33087925.22 -33087925.11 0.3773 0.1343

Saturn -95303-12-05 13:39 J -33087659.03 -33087658.93 -33087658.82 0.0283 0.0203

Mars -95302-01-31 15:49 J -33087601.96 -33087601.84 -33087601.72 0.1919 0.0986

Saturn -95302-03-04 04:32 J -33087570.44 -33087570.31 -33087570.17 0.0283 0.0113

Saturn -95302-05-31 19:54 J -33087481.82 -33087481.67 -33087481.52 0.0283 0.0020

Earth -95302-07-28 03:06 J -33087424.43 -33087424.37 -33087424.31 0.2623 0.2227

Moon -95302-07-28 04:03 J -33087424.39 -33087424.33 -33087424.28 0.2623 0.2340 *

Saturn -95302-08-28 11:30 J -33087393.17 -33087393.02 -33087392.88 0.0283 0.0076

Saturn -95302-11-25 03:20 J -33087304.48 -33087304.36 -33087304.24 0.0283 0.0173

Saturn -95301-02-21 19:39 J -33087215.72 -33087215.68 -33087215.64 0.0284 0.0272

Jupiter -95301-12-29 00:27 J -33086904.52 -33086904.48 -33086904.44 0.0508 0.0491

Jupiter -95300-03-28 23:30 J -33086814.68 -33086814.52 -33086814.36 0.0512 0.0039

Venus -95299-03-13 05:01 J -33086465.42 -33086465.29 -33086465.16 0.3598 0.0696

Moon -95298-01-11 04:03 J -33086161.42 -33086161.33 -33086161.23 0.2721 0.1846

Earth -95298-01-11 04:18 J -33086161.41 -33086161.32 -33086161.23 0.2728 0.1902 *

Venus -95298-09-28 01:39 J -33085901.52 -33085901.43 -33085901.34 0.3770 0.2214

Mars -95298-10-01 12:13 J -33085898.04 -33085897.99 -33085897.94 0.1610 0.1466

Mars -95296-09-06 03:20 J -33085192.49 -33085192.36 -33085192.22 0.1606 0.0313

Moon -95295-07-20 15:49 J -33084874.95 -33084874.84 -33084874.73 0.2618 0.1465

Earth -95295-07-20 16:18 J -33084874.93 -33084874.82 -33084874.71 0.2612 0.1470 *

Jupiter -95295-08-18 10:32 J -33084846.19 -33084846.06 -33084845.93 0.0518 0.0157

Jupiter -95295-11-15 22:32 J -33084756.67 -33084756.56 -33084756.44 0.0514 0.0310

Venus -95294-09-27 05:30 J -33084441.40 -33084441.27 -33084441.13 0.3601 0.0492

Mars -95293-06-22 17:59 J -33084171.78 -33084171.75 -33084171.72 0.1918 0.1860

Venus -95292-04-12 20:51 J -33083877.69 -33083877.63 -33083877.57 0.3766 0.3117

Mars -95291-05-30 07:11 J -33083465.27 -33083465.20 -33083465.12 0.1921 0.1548

Jupiter -95288-01-14 23:59 J -33082504.66 -33082504.50 -33082504.34 0.0511 0.0087

Venus -95288-04-12 05:30 J -33082417.38 -33082417.27 -33082417.14 0.3604 0.1587

Jupiter -95288-04-14 21:49 J -33082414.67 -33082414.59 -33082414.50 0.0515 0.0435

Saturn -95288-04-14 21:49 J -33082414.62 -33082414.59 -33082414.55 0.0276 0.0269 *

Saturn -95288-07-12 14:37 J -33082326.01 -33082325.89 -33082325.76 0.0276 0.0173

Saturn -95288-10-09 06:56 J -33082237.36 -33082237.21 -33082237.06 0.0276 0.0080

Saturn -95287-01-05 23:01 J -33082148.70 -33082148.54 -33082148.39 0.0275 0.0014

Saturn -95287-04-04 14:23 J -33082060.04 -33082059.90 -33082059.75 0.0275 0.0101

Saturn -95287-07-02 05:44 J -33081971.37 -33081971.26 -33081971.15 0.0275 0.0188

Saturn -95287-09-28 20:37 J -33081882.65 -33081882.64 -33081882.62 0.0275 0.0273

Mars -95286-01-27 11:30 J -33081762.16 -33081762.02 -33081761.88 0.1607 0.0129

Moon -95285-01-14 02:23 J -33081410.53 -33081410.40 -33081410.27 0.2718 0.0433

Earth -95285-01-14 03:06 J -33081410.50 -33081410.37 -33081410.24 0.2724 0.0338 *

Uranus -95285-09-29 22:18 J -33081150.61 -33081150.57 -33081150.53 0.0142 0.0136

Uranus -95285-12-27 02:37 J -33081062.46 -33081062.39 -33081062.29 0.0142 0.0118

Uranus -95284-03-25 07:25 J -33080974.29 -33080974.19 -33080974.08 0.0142 0.0098

Uranus -95284-06-21 12:13 J -33080886.11 -33080885.99 -33080885.87 0.0142 0.0078

Uranus -95284-09-17 17:01 J -33080797.93 -33080797.79 -33080797.66 0.0143 0.0058

Uranus -95284-12-14 21:35 J -33080709.74 -33080709.60 -33080709.45 0.0143 0.0038

Uranus -95283-03-13 02:23 J -33080621.54 -33080621.40 -33080621.25 0.0143 0.0018

Jupiter -95283-06-06 12:56 J -33080536.08 -33080535.96 -33080535.84 0.0519 0.0277

Uranus -95283-06-09 07:25 J -33080533.34 -33080533.19 -33080533.04 0.0143 0.0004

Jupiter -95283-09-04 00:27 J -33080446.61 -33080446.48 -33080446.34 0.0515 0.0188

Uranus -95283-09-05 12:13 J -33080445.14 -33080444.99 -33080444.84 0.0143 0.0024

Venus -95283-10-27 05:15 J -33080393.37 -33080393.28 -33080393.19 0.3608 0.2648

Uranus -95283-12-02 17:15 J -33080356.93 -33080356.78 -33080356.64 0.0143 0.0045

Uranus -95282-02-28 22:03 J -33080268.71 -33080268.58 -33080268.44 0.0143 0.0067

Uranus -95282-05-28 03:06 J -33080180.48 -33080180.37 -33080180.24 0.0144 0.0088

Earth -95282-07-23 13:54 J -33080124.05 -33080123.92 -33080123.79 0.2616 0.0119

Moon -95282-07-23 14:08 J -33080124.04 -33080123.91 -33080123.78 0.2622 0.0158 *

Uranus -95282-08-24 08:23 J -33080092.25 -33080092.15 -33080092.05 0.0144 0.0110

Mars -95282-10-20 10:47 J -33080035.18 -33080035.05 -33080034.93 0.1921 0.0763

Uranus -95282-11-20 13:25 J -33080003.99 -33080003.94 -33080003.88 0.0144 0.0132

Venus -95280-07-21 15:20 J -33079394.91 -33079394.86 -33079394.81 0.3789 0.3236

Neptune -95279-11-27 21:06 J -33078900.66 -33078900.62 -33078900.55 0.0088 0.0084

Neptune -95278-02-23 23:59 J -33078812.56 -33078812.50 -33078812.40 0.0088 0.0078

Neptune -95278-05-23 03:06 J -33078724.46 -33078724.37 -33078724.27 0.0088 0.0073

Neptune -95278-08-19 05:44 J -33078636.36 -33078636.26 -33078636.13 0.0088 0.0068

Neptune -95278-11-15 08:23 J -33078548.25 -33078548.15 -33078548.01 0.0088 0.0063

Neptune -95277-02-11 11:30 J -33078460.15 -33078460.02 -33078459.88 0.0088 0.0057

Neptune -95277-05-09 14:08 J -33078372.04 -33078371.91 -33078371.76 0.0088 0.0052

Mars -95277-06-18 19:39 J -33078331.81 -33078331.68 -33078331.55 0.1608 0.0563

Neptune -95277-08-05 17:01 J -33078283.93 -33078283.79 -33078283.63 0.0088 0.0046

Neptune -95277-11-01 19:39 J -33078195.82 -33078195.68 -33078195.51 0.0088 0.0041

Jupiter -95277-11-02 23:59 J -33078194.64 -33078194.50 -33078194.35 0.0510 0.0217

Neptune -95276-01-28 22:32 J -33078107.71 -33078107.56 -33078107.39 0.0088 0.0036

Jupiter -95276-01-31 22:18 J -33078104.70 -33078104.57 -33078104.44 0.0514 0.0308

Neptune -95276-04-27 01:25 J -33078019.60 -33078019.44 -33078019.28 0.0088 0.0030

Neptune -95276-07-24 04:03 J -33077931.49 -33077931.33 -33077931.16 0.0088 0.0025

Neptune -95276-10-20 06:42 J -33077843.38 -33077843.22 -33077843.04 0.0088 0.0021

Neptune -95275-01-16 09:35 J -33077755.27 -33077755.10 -33077754.93 0.0088 0.0015

Neptune -95275-04-14 12:13 J -33077667.16 -33077666.99 -33077666.82 0.0088 0.0010

Mars -95275-05-25 12:13 J -33077626.08 -33077625.99 -33077625.91 0.1606 0.1285

Neptune -95275-07-11 14:51 J -33077579.05 -33077578.88 -33077578.70 0.0088 0.0005

Neptune -95275-10-07 17:44 J -33077490.94 -33077490.76 -33077490.59 0.0088 0.0002

Neptune -95274-01-03 20:23 J -33077402.82 -33077402.65 -33077402.48 0.0088 0.0006

Venus -95274-02-04 09:06 J -33077371.20 -33077371.12 -33077371.04 0.3786 0.2488

Neptune -95274-04-01 23:01 J -33077314.71 -33077314.54 -33077314.37 0.0088 0.0011

Neptune -95274-06-29 01:39 J -33077226.60 -33077226.43 -33077226.27 0.0088 0.0016

Neptune -95274-09-25 04:03 J -33077138.49 -33077138.33 -33077138.16 0.0088 0.0021

Neptune -95274-12-22 06:42 J -33077050.38 -33077050.22 -33077050.05 0.0088 0.0026

Neptune -95273-03-19 09:20 J -33076962.27 -33076962.11 -33076961.95 0.0088 0.0031

Saturn -95273-04-23 14:51 J -33076926.96 -33076926.88 -33076926.79 0.0283 0.0230

Neptune -95273-06-15 11:59 J -33076874.16 -33076874.00 -33076873.85 0.0088 0.0036

Saturn -95273-07-21 05:44 J -33076838.39 -33076838.26 -33076838.13 0.0283 0.0140

Neptune -95273-09-11 14:23 J -33076786.05 -33076785.90 -33076785.75 0.0088 0.0041

Saturn -95273-10-17 21:06 J -33076749.77 -33076749.62 -33076749.48 0.0283 0.0047

Neptune -95273-12-08 17:01 J -33076697.93 -33076697.79 -33076697.65 0.0088 0.0046

Saturn -95272-01-14 12:27 J -33076661.13 -33076660.98 -33076660.83 0.0283 0.0048

Moon -95272-01-16 01:11 J -33076659.57 -33076659.45 -33076659.33 0.2720 0.1145

Earth -95272-01-16 02:23 J -33076659.52 -33076659.40 -33076659.29 0.2720 0.1276 *

Neptune -95272-03-06 19:25 J -33076609.82 -33076609.69 -33076609.55 0.0088 0.0051

Mars -95272-03-11 13:39 J -33076605.06 -33076604.93 -33076604.79 0.1920 0.0077

Saturn -95272-04-13 04:18 J -33076572.45 -33076572.32 -33076572.19 0.0283 0.0145

Neptune -95272-06-02 21:49 J -33076521.71 -33076521.59 -33076521.45 0.0088 0.0056

Saturn -95272-07-10 20:23 J -33076483.72 -33076483.65 -33076483.57 0.0284 0.0245

Neptune -95272-08-30 00:13 J -33076433.60 -33076433.49 -33076433.35 0.0088 0.0061

Neptune -95272-11-26 02:37 J -33076345.48 -33076345.39 -33076345.26 0.0088 0.0066

Neptune -95271-02-22 05:30 J -33076257.37 -33076257.27 -33076257.17 0.0088 0.0070

Jupiter -95271-03-25 15:35 J -33076225.94 -33076225.85 -33076225.76 0.0520 0.0393

Neptune -95271-05-21 07:54 J -33076169.25 -33076169.17 -33076169.08 0.0088 0.0075

Jupiter -95271-06-23 03:06 J -33076136.51 -33076136.37 -33076136.23 0.0516 0.0069

Neptune -95271-08-17 10:18 J -33076081.13 -33076081.07 -33076080.99 0.0088 0.0079

Neptune -95271-11-13 12:27 J -33075993.01 -33075992.98 -33075992.91 0.0088 0.0085

Earth -95269-07-25 11:15 J -33075373.14 -33075373.03 -33075372.92 0.2620 0.1208

Moon -95269-07-25 11:59 J -33075373.10 -33075373.00 -33075372.89 0.2624 0.1364 *

Venus -95269-08-20 03:06 J -33075347.47 -33075347.37 -33075347.27 0.3784 0.1719

Mars -95268-11-09 04:03 J -33074901.44 -33074901.33 -33074901.23 0.1608 0.0989

Mars -95266-10-15 19:54 J -33074195.79 -33074195.67 -33074195.55 0.1606 0.0827

Jupiter -95265-08-21 23:01 J -33073884.66 -33073884.54 -33073884.42 0.0509 0.0356

Jupiter -95265-11-19 21:35 J -33073794.75 -33073794.60 -33073794.45 0.0513 0.0169

Venus -95263-03-05 21:20 J -33073323.72 -33073323.61 -33073323.50 0.3781 0.0926

Mars -95263-08-01 16:03 J -33073174.95 -33073174.83 -33073174.71 0.1919 0.0908

Earth -95262-07-18 23:59 J -33072823.52 -33072823.50 -33072823.48 0.2609 0.2560

Jupiter -95259-01-11 18:42 J -33071915.75 -33071915.72 -33071915.69 0.0521 0.0505

Jupiter -95259-04-11 05:59 J -33071826.39 -33071826.25 -33071826.11 0.0517 0.0046

Jupiter -95259-07-09 18:13 J -33071736.82 -33071736.74 -33071736.66 0.0513 0.0425

Saturn -95259-11-29 17:01 J -33071593.90 -33071593.79 -33071593.67 0.0276 0.0194

Saturn -95258-02-26 09:35 J -33071505.25 -33071505.10 -33071504.95 0.0276 0.0099

Mars -95258-04-01 12:27 J -33071471.04 -33071470.98 -33071470.92 0.1609 0.1410

Saturn -95258-05-26 01:39 J -33071416.59 -33071416.43 -33071416.28 0.0276 0.0010

Saturn -95258-08-22 17:15 J -33071327.93 -33071327.78 -33071327.63 0.0276 0.0083

Venus -95258-09-19 15:35 J -33071299.96 -33071299.85 -33071299.74 0.3778 0.0155

Saturn -95258-11-19 08:37 J -33071239.26 -33071239.14 -33071239.02 0.0276 0.0171

Saturn -95257-02-15 23:30 J -33071150.57 -33071150.52 -33071150.46 0.0275 0.0256

Mars -95256-03-07 03:49 J -33070765.48 -33070765.34 -33070765.21 0.1606 0.0379

Earth -95256-07-28 08:23 J -33070622.18 -33070622.15 -33070622.11 0.2624 0.2508

Moon -95256-07-28 09:20 J -33070622.14 -33070622.11 -33070622.08 0.2622 0.2546 *

Venus -95254-09-18 02:51 J -33069840.47 -33069840.38 -33069840.30 0.3593 0.2814

Mars -95254-12-22 18:27 J -33069744.78 -33069744.73 -33069744.68 0.1918 0.1767

Jupiter -95253-06-09 22:47 J -33069574.60 -33069574.55 -33069574.51 0.0508 0.0488

Jupiter -95253-09-07 21:49 J -33069484.75 -33069484.59 -33069484.43 0.0512 0.0042

Moon -95252-01-11 09:35 J -33069359.20 -33069359.10 -33069359.00 0.2720 0.1686

Earth -95252-01-11 09:49 J -33069359.20 -33069359.09 -33069358.99 0.2727 0.1585 *

Venus -95252-04-04 10:18 J -33069276.18 -33069276.07 -33069275.96 0.3775 0.0726

Mars -95252-11-28 07:39 J -33069038.25 -33069038.18 -33069038.11 0.1921 0.1632

Moon -95249-07-20 21:20 J -33068072.72 -33068072.61 -33068072.50 0.2619 0.1276

Earth -95249-07-20 21:49 J -33068072.71 -33068072.59 -33068072.48 0.2613 0.1184 *

Venus -95248-04-03 04:03 J -33067816.46 -33067816.33 -33067816.21 0.3596 0.1570

Jupiter -95247-01-28 08:51 J -33067516.26 -33067516.13 -33067515.99 0.0518 0.0156

Jupiter -95247-04-27 21:06 J -33067426.74 -33067426.62 -33067426.51 0.0514 0.0312

Mars -95247-07-28 11:44 J -33067335.15 -33067335.01 -33067334.88 0.1607 0.0081

Venus -95247-10-19 05:01 J -33067252.39 -33067252.29 -33067252.19 0.3772 0.1578

Uranus -95246-11-30 10:18 J -33066845.11 -33066845.07 -33066845.02 0.0137 0.0130

Uranus -95245-02-26 15:35 J -33066756.94 -33066756.85 -33066756.74 0.0137 0.0110

Uranus -95245-05-24 21:06 J -33066668.74 -33066668.62 -33066668.49 0.0136 0.0090

Uranus -95245-08-21 02:37 J -33066580.53 -33066580.39 -33066580.25 0.0136 0.0070

Uranus -95245-11-17 07:39 J -33066492.32 -33066492.18 -33066492.02 0.0136 0.0051

Uranus -95244-02-13 13:11 J -33066404.11 -33066403.95 -33066403.79 0.0136 0.0030

Uranus -95244-05-12 18:13 J -33066315.90 -33066315.74 -33066315.57 0.0136 0.0012

Uranus -95244-08-08 23:30 J -33066227.68 -33066227.52 -33066227.36 0.0136 0.0008

Saturn -95244-09-10 15:49 J -33066194.89 -33066194.84 -33066194.78 0.0282 0.0259

Uranus -95244-11-05 04:32 J -33066139.47 -33066139.31 -33066139.15 0.0136 0.0027

Saturn -95244-12-08 06:27 J -33066106.34 -33066106.23 -33066106.11 0.0283 0.0170

Uranus -95243-02-01 09:35 J -33066051.25 -33066051.10 -33066050.94 0.0136 0.0046

Saturn -95243-03-06 21:35 J -33066017.75 -33066017.60 -33066017.46 0.0283 0.0078

Uranus -95243-04-30 14:37 J -33065963.03 -33065962.89 -33065962.75 0.0135 0.0064

Saturn -95243-06-03 12:56 J -33065929.12 -33065928.96 -33065928.81 0.0283 0.0017

Uranus -95243-07-27 19:39 J -33065874.81 -33065874.68 -33065874.56 0.0135 0.0083

Saturn -95243-08-31 04:32 J -33065840.45 -33065840.31 -33065840.17 0.0283 0.0111

Venus -95243-10-18 05:01 J -33065792.43 -33065792.29 -33065792.16 0.3599 0.0367

Uranus -95243-10-24 00:13 J -33065786.58 -33065786.49 -33065786.37 0.0135 0.0101

Saturn -95243-11-27 20:37 J -33065751.75 -33065751.64 -33065751.54 0.0283 0.0209

Uranus -95242-01-20 05:01 J -33065698.35 -33065698.29 -33065698.20 0.0135 0.0119

Mars -95242-04-20 11:01 J -33065608.16 -33065608.04 -33065607.92 0.1921 0.0837

Venus -95241-05-03 23:59 J -33065228.58 -33065228.50 -33065228.41 0.3769 0.2461

Jupiter -95241-06-26 21:49 J -33065174.75 -33065174.59 -33065174.43 0.0511 0.0090

Jupiter -95241-09-24 19:39 J -33065084.76 -33065084.68 -33065084.59 0.0515 0.0431

Moon -95239-01-14 07:54 J -33064608.30 -33064608.17 -33064608.04 0.2719 0.0091

Earth -95239-01-14 08:37 J -33064608.27 -33064608.14 -33064608.01 0.2723 0.0036 *

Mars -95238-12-18 19:54 J -33063904.80 -33063904.67 -33063904.54 0.1607 0.0509

Venus -95237-05-03 05:30 J -33063768.41 -33063768.27 -33063768.14 0.3602 0.0796

Earth -95236-07-23 19:11 J -33063321.83 -33063321.70 -33063321.57 0.2616 0.0177

Moon -95236-07-23 19:39 J -33063321.80 -33063321.68 -33063321.55 0.2622 0.0282 *

Jupiter -95236-11-16 11:59 J -33063206.12 -33063206.00 -33063205.88 0.0519 0.0267

Venus -95236-11-17 19:11 J -33063204.75 -33063204.70 -33063204.65 0.3765 0.3363

Mars -95236-11-23 12:27 J -33063199.06 -33063198.98 -33063198.91 0.1606 0.1347

Jupiter -95235-02-13 23:44 J -33063116.64 -33063116.51 -33063116.38 0.0515 0.0198

Mars -95233-09-09 13:54 J -33062178.06 -33062177.92 -33062177.79 0.1921 0.0029

Venus -95232-11-17 05:15 J -33061744.39 -33061744.28 -33061744.16 0.3605 0.1881

Jupiter -95229-04-14 22:18 J -33060864.72 -33060864.57 -33060864.42 0.0510 0.0214

Saturn -95229-04-17 15:49 J -33060861.92 -33060861.84 -33060861.75 0.0276 0.0231

Jupiter -95229-07-13 20:37 J -33060774.77 -33060774.64 -33060774.51 0.0514 0.0310

Saturn -95229-07-15 08:23 J -33060773.28 -33060773.15 -33060773.01 0.0276 0.0136

Venus -95229-08-11 19:39 J -33060745.69 -33060745.68 -33060745.67 0.3790 0.3751

Saturn -95229-10-12 00:42 J -33060684.63 -33060684.47 -33060684.32 0.0276 0.0043

Saturn -95228-01-08 16:32 J -33060595.97 -33060595.81 -33060595.66 0.0275 0.0048

Saturn -95228-04-07 07:54 J -33060507.30 -33060507.17 -33060507.03 0.0275 0.0136

Mars -95228-05-10 04:03 J -33060474.44 -33060474.33 -33060474.22 0.1608 0.0935

Saturn -95228-07-04 23:01 J -33060418.62 -33060418.54 -33060418.45 0.0275 0.0223

Moon -95226-01-17 06:42 J -33059857.33 -33059857.22 -33059857.11 0.2720 0.1478

Earth -95226-01-17 07:54 J -33059857.28 -33059857.17 -33059857.07 0.2719 0.1602 *

Mars -95226-04-15 20:08 J -33059768.78 -33059768.66 -33059768.55 0.1606 0.0887

Venus -95226-06-03 05:01 J -33059720.37 -33059720.29 -33059720.22 0.3609 0.2933

Jupiter -95224-09-04 14:37 J -33058895.98 -33058895.89 -33058895.80 0.0520 0.0385

Jupiter -95224-12-03 02:08 J -33058806.55 -33058806.41 -33058806.27 0.0516 0.0078

Mars -95223-01-30 16:32 J -33058747.93 -33058747.81 -33058747.69 0.1920 0.0822

Venus -95223-02-25 13:25 J -33058722.01 -33058721.94 -33058721.88 0.3788 0.3022

Earth -95223-07-26 16:32 J -33058570.91 -33058570.81 -33058570.71 0.2620 0.1492

Moon -95223-07-26 17:30 J -33058570.88 -33058570.77 -33058570.67 0.2624 0.1507 *

Mars -95219-09-30 12:42 J -33057044.04 -33057043.97 -33057043.90 0.1609 0.1353

Venus -95218-09-11 07:11 J -33056698.29 -33056698.20 -33056698.11 0.3786 0.2272

Jupiter -95217-02-01 22:18 J -33056554.69 -33056554.57 -33056554.45 0.0509 0.0343

Jupiter -95217-05-01 21:06 J -33056464.77 -33056464.62 -33056464.47 0.0513 0.0184

Mars -95217-09-05 03:49 J -33056338.47 -33056338.34 -33056338.20 0.1606 0.0440

Moon -95216-07-19 04:32 J -33056021.37 -33056021.31 -33056021.25 0.2614 0.2324

Earth -95216-07-19 05:15 J -33056021.34 -33056021.28 -33056021.21 0.2610 0.2264 *

Saturn -95214-04-27 07:11 J -33055374.30 -33055374.20 -33055374.09 0.0283 0.0200

Mars -95214-06-22 18:42 J -33055317.78 -33055317.72 -33055317.66 0.1918 0.1692

Saturn -95214-07-24 22:03 J -33055285.71 -33055285.58 -33055285.44 0.0283 0.0109

Saturn -95214-10-21 13:25 J -33055197.09 -33055196.94 -33055196.79 0.0283 0.0015

Saturn -95213-01-18 05:01 J -33055108.44 -33055108.29 -33055108.14 0.0283 0.0081

Saturn -95213-04-15 20:51 J -33055019.74 -33055019.63 -33055019.51 0.0283 0.0179

Saturn -95213-07-13 13:11 J -33054930.97 -33054930.95 -33054930.92 0.0284 0.0278

Venus -95212-03-27 01:11 J -33054674.55 -33054674.45 -33054674.35 0.3783 0.1501

Mars -95212-05-29 07:54 J -33054611.23 -33054611.17 -33054611.11 0.1922 0.1709

Jupiter -95212-06-23 17:15 J -33054585.81 -33054585.78 -33054585.74 0.0521 0.0500

Jupiter -95212-09-21 04:32 J -33054496.45 -33054496.31 -33054496.17 0.0517 0.0042

Jupiter -95212-12-19 16:47 J -33054406.87 -33054406.80 -33054406.72 0.0513 0.0428

Mars -95207-01-26 11:59 J -33052908.14 -33052908.00 -33052907.86 0.1607 0.0032

Venus -95207-10-10 19:25 J -33052650.80 -33052650.69 -33052650.58 0.3780 0.0706

Moon -95206-01-12 14:51 J -33052556.99 -33052556.88 -33052556.76 0.2720 0.1213

Earth -95206-01-12 15:20 J -33052556.98 -33052556.86 -33052556.75 0.2727 0.1266 *

Pluto -95206-05-05 06:42 J -33052444.28 -33052444.22 -33052444.13 0.0060 0.0055

Pluto -95206-08-01 08:23 J -33052356.26 -33052356.15 -33052356.03 0.0060 0.0048

Pluto -95206-10-28 09:35 J -33052268.22 -33052268.10 -33052267.94 0.0060 0.0042

Jupiter -95206-11-20 21:20 J -33052244.66 -33052244.61 -33052244.56 0.0508 0.0482

Pluto -95205-01-24 11:01 J -33052180.18 -33052180.04 -33052179.86 0.0060 0.0036

Jupiter -95205-02-18 20:23 J -33052154.81 -33052154.65 -33052154.49 0.0512 0.0046

Pluto -95205-04-21 12:42 J -33052092.13 -33052091.97 -33052091.78 0.0060 0.0028

Pluto -95205-07-18 14:23 J -33052004.08 -33052003.90 -33052003.71 0.0060 0.0022

Pluto -95205-10-14 15:35 J -33051916.03 -33051915.85 -33051915.64 0.0060 0.0015

Pluto -95204-01-10 17:15 J -33051827.97 -33051827.78 -33051827.58 0.0060 0.0008

Pluto -95204-04-08 18:56 J -33051739.91 -33051739.71 -33051739.51 0.0060 0.0001

Pluto -95204-07-05 20:23 J -33051651.84 -33051651.65 -33051651.45 0.0060 0.0006

Pluto -95204-10-01 21:49 J -33051563.78 -33051563.59 -33051563.39 0.0060 0.0013

Pluto -95204-12-28 23:15 J -33051475.71 -33051475.53 -33051475.34 0.0061 0.0020

Pluto -95203-03-27 00:42 J -33051387.64 -33051387.47 -33051387.28 0.0061 0.0027

Pluto -95203-06-23 02:08 J -33051299.56 -33051299.41 -33051299.23 0.0061 0.0034

Moon -95203-07-22 02:51 J -33051270.50 -33051270.38 -33051270.26 0.2619 0.0898

Earth -95203-07-22 03:06 J -33051270.49 -33051270.37 -33051270.25 0.2613 0.0894 *

Pluto -95203-09-19 03:35 J -33051211.48 -33051211.35 -33051211.19 0.0061 0.0041

Mars -95203-10-19 11:15 J -33051181.15 -33051181.03 -33051180.91 0.1921 0.0915

Pluto -95203-12-16 05:01 J -33051123.39 -33051123.29 -33051123.15 0.0061 0.0048

Pluto -95202-03-14 06:27 J -33051035.29 -33051035.23 -33051035.12 0.0061 0.0055

Venus -95201-04-25 13:54 J -33050627.03 -33050626.92 -33050626.81 0.3777 0.0118

Uranus -95201-10-20 06:13 J -33050449.30 -33050449.24 -33050449.18 0.0142 0.0129

Uranus -95200-01-16 10:32 J -33050361.14 -33050361.06 -33050360.96 0.0142 0.0110

Uranus -95200-04-14 15:20 J -33050272.97 -33050272.86 -33050272.74 0.0142 0.0091

Jupiter -95200-07-10 07:25 J -33050186.33 -33050186.19 -33050186.06 0.0518 0.0155

Uranus -95200-07-11 20:08 J -33050184.79 -33050184.66 -33050184.53 0.0142 0.0071

Saturn -95200-09-04 17:59 J -33050129.81 -33050129.75 -33050129.68 0.0277 0.0253

Jupiter -95200-10-07 19:25 J -33050096.80 -33050096.69 -33050096.58 0.0514 0.0313

Uranus -95200-10-08 00:42 J -33050096.60 -33050096.47 -33050096.32 0.0143 0.0051 *

Saturn -95200-12-02 10:32 J -33050041.18 -33050041.06 -33050040.92 0.0276 0.0158

Uranus -95199-01-04 05:30 J -33050008.41 -33050008.27 -33050008.12 0.0143 0.0031

Saturn -95199-03-01 03:06 J -33049952.53 -33049952.37 -33049952.22 0.0276 0.0063

Uranus -95199-04-02 10:18 J -33049920.22 -33049920.07 -33049919.92 0.0143 0.0011

Saturn -95199-05-28 18:56 J -33049863.86 -33049863.71 -33049863.55 0.0276 0.0029

Uranus -95199-06-29 15:20 J -33049832.01 -33049831.86 -33049831.71 0.0143 0.0011

Saturn -95199-08-25 10:32 J -33049775.20 -33049775.06 -33049774.92 0.0276 0.0118

Uranus -95199-09-25 20:08 J -33049743.81 -33049743.66 -33049743.51 0.0143 0.0031

Saturn -95199-11-22 01:39 J -33049686.53 -33049686.43 -33049686.32 0.0276 0.0205

Uranus -95199-12-23 01:11 J -33049655.59 -33049655.45 -33049655.31 0.0143 0.0053

Uranus -95198-03-21 06:13 J -33049567.37 -33049567.24 -33049567.11 0.0143 0.0074

Uranus -95198-06-17 11:01 J -33049479.15 -33049479.04 -33049478.92 0.0144 0.0096

Mars -95198-06-18 20:08 J -33049477.79 -33049477.66 -33049477.53 0.1607 0.0448

Uranus -95198-09-13 16:18 J -33049390.91 -33049390.82 -33049390.73 0.0144 0.0117

Uranus -95198-12-10 21:20 J -33049302.64 -33049302.61 -33049302.57 0.0144 0.0139

Venus -95197-04-24 02:51 J -33049167.48 -33049167.38 -33049167.28 0.3593 0.2459

Neptune -95197-08-24 17:59 J -33049044.78 -33049044.75 -33049044.71 0.0089 0.0085

Neptune -95197-11-20 19:39 J -33048956.73 -33048956.68 -33048956.62 0.0089 0.0081

Neptune -95196-02-16 21:06 J -33048868.68 -33048868.62 -33048868.54 0.0089 0.0077

Neptune -95196-05-15 22:47 J -33048780.62 -33048780.55 -33048780.46 0.0089 0.0073

Mars -95196-05-24 12:42 J -33048772.03 -33048771.97 -33048771.90 0.1606 0.1411

Neptune -95196-08-12 00:27 J -33048692.56 -33048692.48 -33048692.38 0.0089 0.0069

Neptune -95196-11-08 02:23 J -33048604.50 -33048604.40 -33048604.30 0.0089 0.0064

Venus -95196-11-09 08:37 J -33048603.25 -33048603.14 -33048603.04 0.3774 0.0966

Neptune -95195-02-04 04:03 J -33048516.43 -33048516.33 -33048516.23 0.0089 0.0060

Neptune -95195-05-03 05:30 J -33048428.37 -33048428.27 -33048428.15 0.0089 0.0056

Neptune -95195-07-30 07:11 J -33048340.31 -33048340.20 -33048340.07 0.0089 0.0052

Neptune -95195-10-26 08:51 J -33048252.24 -33048252.13 -33048252.00 0.0089 0.0048

Neptune -95194-01-22 10:47 J -33048164.17 -33048164.05 -33048163.92 0.0089 0.0043

Neptune -95194-04-20 12:27 J -33048076.11 -33048075.98 -33048075.85 0.0089 0.0039

Neptune -95194-07-17 14:08 J -33047988.04 -33047987.91 -33047987.77 0.0089 0.0035

Neptune -95194-10-13 16:03 J -33047899.97 -33047899.83 -33047899.70 0.0089 0.0030

Jupiter -95194-12-07 20:23 J -33047844.81 -33047844.65 -33047844.49 0.0511 0.0084

Neptune -95193-01-09 17:44 J -33047811.90 -33047811.76 -33047811.62 0.0089 0.0026

Moon -95193-01-15 13:11 J -33047806.08 -33047805.95 -33047805.82 0.2720 0.0142

Earth -95193-01-15 14:08 J -33047806.03 -33047805.91 -33047805.78 0.2723 0.0325 *

Jupiter -95193-03-06 17:59 J -33047754.82 -33047754.75 -33047754.66 0.0514 0.0435

Mars -95193-03-10 14:23 J -33047751.04 -33047750.90 -33047750.77 0.1921 0.0115

Neptune -95193-04-06 19:25 J -33047723.83 -33047723.69 -33047723.55 0.0089 0.0022

Neptune -95193-07-03 21:06 J -33047635.76 -33047635.62 -33047635.47 0.0089 0.0017

Neptune -95193-09-29 22:47 J -33047547.69 -33047547.55 -33047547.40 0.0089 0.0013

Neptune -95193-12-27 00:42 J -33047459.62 -33047459.47 -33047459.32 0.0089 0.0008

Neptune -95192-03-25 02:23 J -33047371.54 -33047371.40 -33047371.25 0.0089 0.0004

Neptune -95192-06-21 04:18 J -33047283.47 -33047283.32 -33047283.18 0.0089 0.0002

Neptune -95192-09-17 05:59 J -33047195.40 -33047195.25 -33047195.10 0.0089 0.0005

Venus -95192-11-08 04:03 J -33047143.46 -33047143.33 -33047143.20 0.3597 0.1224

Neptune -95192-12-14 07:39 J -33047107.32 -33047107.18 -33047107.03 0.0089 0.0010

Neptune -95191-03-12 09:35 J -33047019.24 -33047019.10 -33047018.95 0.0089 0.0014

Neptune -95191-06-08 11:30 J -33046931.17 -33046931.02 -33046930.88 0.0089 0.0018

Neptune -95191-09-04 13:11 J -33046843.09 -33046842.95 -33046842.81 0.0089 0.0023

Neptune -95191-12-01 15:06 J -33046755.01 -33046754.87 -33046754.73 0.0089 0.0027

Neptune -95190-02-27 16:47 J -33046666.93 -33046666.80 -33046666.66 0.0089 0.0032

Venus -95190-05-26 03:20 J -33046579.46 -33046579.36 -33046579.26 0.3771 0.1820

Neptune -95190-05-26 18:42 J -33046578.85 -33046578.72 -33046578.58 0.0089 0.0036

Earth -95190-07-25 00:27 J -33046519.60 -33046519.48 -33046519.35 0.2617 0.0462

Moon -95190-07-25 01:11 J -33046519.58 -33046519.45 -33046519.33 0.2623 0.0454 *

Neptune -95190-08-22 20:23 J -33046490.77 -33046490.65 -33046490.51 0.0089 0.0041

Neptune -95190-11-18 22:18 J -33046402.69 -33046402.57 -33046402.44 0.0089 0.0046

Neptune -95189-02-15 00:13 J -33046314.61 -33046314.49 -33046314.36 0.0089 0.0050

Neptune -95189-05-13 01:54 J -33046226.52 -33046226.42 -33046226.29 0.0089 0.0055

Neptune -95189-08-09 04:03 J -33046138.44 -33046138.33 -33046138.22 0.0089 0.0059

Neptune -95189-11-05 05:44 J -33046050.35 -33046050.26 -33046050.15 0.0089 0.0064

Mars -95189-11-08 04:18 J -33046047.43 -33046047.32 -33046047.20 0.1608 0.0877

Neptune -95188-02-01 07:39 J -33045962.26 -33045962.18 -33045962.07 0.0089 0.0069

Jupiter -95188-04-28 10:32 J -33045876.18 -33045876.06 -33045875.94 0.0519 0.0265

Neptune -95188-04-30 09:35 J -33045874.17 -33045874.10 -33045874.01 0.0089 0.0073

Jupiter -95188-07-26 22:18 J -33045786.70 -33045786.57 -33045786.44 0.0515 0.0201

Neptune -95188-07-27 11:30 J -33045786.08 -33045786.02 -33045785.94 0.0089 0.0078

Neptune -95188-10-23 13:11 J -33045697.98 -33045697.95 -33045697.87 0.0089 0.0083

Neptune -95187-01-19 15:20 J -33045609.87 -33045609.86 -33045609.82 0.0089 0.0087

Mars -95187-10-14 20:23 J -33045341.76 -33045341.65 -33045341.54 0.1606 0.0951

Venus -95186-05-25 04:47 J -33045119.43 -33045119.30 -33045119.16 0.3600 0.0101

Saturn -95185-09-13 08:23 J -33044642.24 -33044642.15 -33044642.07 0.0282 0.0227

Venus -95185-12-08 22:32 J -33044555.64 -33044555.56 -33044555.49 0.3767 0.2708

Saturn -95185-12-10 23:01 J -33044553.67 -33044553.54 -33044553.41 0.0282 0.0138

Saturn -95184-03-09 14:08 J -33044465.06 -33044464.91 -33044464.76 0.0283 0.0046

Saturn -95184-06-06 05:30 J -33044376.42 -33044376.27 -33044376.12 0.0283 0.0049

Mars -95184-07-31 16:47 J -33044320.92 -33044320.80 -33044320.67 0.1920 0.0749

Saturn -95184-09-02 21:20 J -33044287.74 -33044287.61 -33044287.48 0.0283 0.0146

Saturn -95184-11-30 13:11 J -33044199.02 -33044198.95 -33044198.86 0.0283 0.0245

Jupiter -95182-09-25 20:23 J -33043534.80 -33043534.65 -33043534.50 0.0510 0.0215

Jupiter -95182-12-24 18:42 J -33043444.85 -33043444.72 -33043444.60 0.0514 0.0309

Venus -95181-12-08 05:01 J -33043095.41 -33043095.29 -33043095.16 0.3603 0.1102

Moon -95180-01-17 12:13 J -33043055.08 -33043054.99 -33043054.89 0.2720 0.1835

Earth -95180-01-17 13:25 J -33043055.03 -33043054.94 -33043054.85 0.2719 0.1933 *

Mars -95179-03-31 12:42 J -33042617.04 -33042616.97 -33042616.89 0.1609 0.1301

Venus -95179-06-24 17:44 J -33042531.79 -33042531.76 -33042531.73 0.3764 0.3614

Mars -95177-03-06 04:03 J -33041911.46 -33041911.33 -33041911.20 0.1606 0.0494

Earth -95177-07-26 21:49 J -33041768.68 -33041768.59 -33041768.49 0.2621 0.1772

Moon -95177-07-26 22:47 J -33041768.63 -33041768.55 -33041768.46 0.2622 0.1934 *

Jupiter -95176-02-14 13:39 J -33041566.02 -33041565.93 -33041565.83 0.0520 0.0375

Jupiter -95176-05-15 01:11 J -33041476.59 -33041476.45 -33041476.31 0.0516 0.0088

Venus -95175-06-24 05:01 J -33041071.40 -33041071.29 -33041071.19 0.3606 0.2176

Mars -95175-12-21 18:56 J -33040890.78 -33040890.71 -33040890.64 0.1918 0.1618

Moon -95173-01-10 22:03 J -33040505.63 -33040505.58 -33040505.52 0.2723 0.2418

Earth -95173-01-10 22:03 J -33040505.63 -33040505.58 -33040505.53 0.2730 0.2498 *

Mars -95173-11-27 08:08 J -33040184.21 -33040184.16 -33040184.11 0.1922 0.1779

Venus -95172-03-18 17:44 J -33040072.80 -33040072.76 -33040072.73 0.3790 0.3541

Saturn -95170-04-21 09:20 J -33039309.22 -33039309.11 -33039308.99 0.0276 0.0195

Jupiter -95170-07-14 20:37 J -33039224.76 -33039224.64 -33039224.51 0.0509 0.0341

Saturn -95170-07-19 01:54 J -33039220.57 -33039220.42 -33039220.27 0.0276 0.0100

Moon -95170-07-20 09:49 J -33039219.16 -33039219.09 -33039219.01 0.2615 0.2098

Earth -95170-07-20 10:47 J -33039219.14 -33039219.05 -33039218.97 0.2610 0.1972 *

Jupiter -95170-10-12 19:25 J -33039134.84 -33039134.69 -33039134.54 0.0513 0.0186

Saturn -95170-10-15 17:59 J -33039131.91 -33039131.75 -33039131.59 0.0276 0.0008

Venus -95169-01-08 04:32 J -33039047.37 -33039047.31 -33039047.26 0.3610 0.3212

Saturn -95169-01-12 09:35 J -33039043.24 -33039043.10 -33039042.95 0.0275 0.0083

Saturn -95169-04-10 00:56 J -33038954.58 -33038954.46 -33038954.33 0.0275 0.0171

Saturn -95169-07-07 16:03 J -33038865.88 -33038865.83 -33038865.77 0.0275 0.0256

Mars -95168-07-27 12:13 J -33038481.13 -33038480.99 -33038480.86 0.1606 0.0073

Venus -95167-10-02 11:15 J -33038049.10 -33038049.03 -33038048.95 0.3787 0.2812

Jupiter -95165-12-03 16:18 J -33037255.86 -33037255.82 -33037255.77 0.0521 0.0491

Jupiter -95164-03-03 03:35 J -33037166.49 -33037166.35 -33037166.21 0.0517 0.0032

Jupiter -95164-05-31 15:49 J -33037076.91 -33037076.84 -33037076.76 0.0513 0.0437

Mars -95163-04-19 11:30 J -33036754.14 -33036754.02 -33036753.91 0.1922 0.0989

Uranus -95162-12-20 17:30 J -33036143.82 -33036143.77 -33036143.69 0.0137 0.0125

Uranus -95161-03-17 23:01 J -33036055.64 -33036055.54 -33036055.42 0.0137 0.0104

Venus -95161-04-17 05:15 J -33036025.37 -33036025.28 -33036025.19 0.3785 0.2051

Uranus -95161-06-14 04:18 J -33035967.44 -33035967.32 -33035967.18 0.0136 0.0085

Uranus -95161-09-10 09:49 J -33035879.23 -33035879.09 -33035878.94 0.0136 0.0064

Uranus -95161-12-07 15:20 J -33035791.02 -33035790.86 -33035790.71 0.0136 0.0044

Moon -95160-01-12 20:23 J -33035754.77 -33035754.65 -33035754.53 0.2720 0.1068

Earth -95160-01-12 20:51 J -33035754.75 -33035754.63 -33035754.51 0.2726 0.0951 *

Uranus -95160-03-05 20:37 J -33035702.80 -33035702.64 -33035702.48 0.0136 0.0025

Uranus -95160-06-02 01:39 J -33035614.59 -33035614.43 -33035614.26 0.0136 0.0007

Uranus -95160-08-29 06:56 J -33035526.37 -33035526.21 -33035526.05 0.0136 0.0014

Uranus -95160-11-25 11:59 J -33035438.16 -33035438.00 -33035437.84 0.0136 0.0033

Uranus -95159-02-21 17:01 J -33035349.94 -33035349.79 -33035349.64 0.0136 0.0051

Uranus -95159-05-20 22:03 J -33035261.72 -33035261.58 -33035261.44 0.0135 0.0070

Uranus -95159-08-17 02:51 J -33035173.49 -33035173.38 -33035173.25 0.0135 0.0088

Uranus -95159-11-13 07:39 J -33035085.27 -33035085.18 -33035085.07 0.0135 0.0107

Mars -95159-12-17 20:23 J -33035050.79 -33035050.65 -33035050.52 0.1607 0.0389

Uranus -95158-02-09 12:42 J -33034997.03 -33034996.97 -33034996.90 0.0135 0.0124

Jupiter -95158-05-02 20:37 J -33034914.70 -33034914.64 -33034914.58 0.0508 0.0469

Jupiter -95158-07-31 19:54 J -33034824.83 -33034824.67 -33034824.51 0.0512 0.0061

Moon -95157-07-22 08:23 J -33034468.27 -33034468.15 -33034468.02 0.2620 0.0599

Earth -95157-07-22 08:23 J -33034468.27 -33034468.15 -33034468.02 0.2614 0.0603 *

Mars -95157-11-22 12:56 J -33034345.01 -33034344.96 -33034344.90 0.1606 0.1476

Venus -95156-10-31 23:15 J -33034001.63 -33034001.53 -33034001.42 0.3782 0.1283

Saturn -95155-01-31 08:37 J -33033910.19 -33033910.14 -33033910.08 0.0283 0.0260

Saturn -95155-04-29 23:15 J -33033821.65 -33033821.53 -33033821.41 0.0283 0.0171

Saturn -95155-07-27 14:23 J -33033733.05 -33033732.90 -33033732.76 0.0283 0.0079

Saturn -95155-10-24 05:30 J -33033644.42 -33033644.27 -33033644.11 0.0283 0.0018

Saturn -95154-01-20 21:20 J -33033555.75 -33033555.61 -33033555.47 0.0283 0.0112

Saturn -95154-04-19 13:11 J -33033467.05 -33033466.95 -33033466.84 0.0283 0.0210

Mars -95154-09-09 14:37 J -33033324.02 -33033323.89 -33033323.75 0.1921 0.0188

Jupiter -95153-12-20 06:13 J -33032856.37 -33032856.24 -33032856.10 0.0518 0.0148

Jupiter -95152-03-19 18:13 J -33032766.85 -33032766.74 -33032766.62 0.0514 0.0320

Venus -95150-05-17 17:44 J -33031977.87 -33031977.76 -33031977.65 0.3779 0.0481

Mars -95149-05-09 04:32 J -33031620.42 -33031620.31 -33031620.19 0.1608 0.0819

Moon -95147-01-15 18:42 J -33031003.85 -33031003.72 -33031003.60 0.2720 0.0611

Earth -95147-01-15 19:39 J -33031003.80 -33031003.68 -33031003.55 0.2722 0.0649 *

Mars -95147-04-14 20:37 J -33030914.75 -33030914.64 -33030914.53 0.1606 0.1012

Venus -95146-05-16 01:25 J -33030518.49 -33030518.44 -33030518.40 0.3591 0.3373

Jupiter -95146-05-19 19:11 J -33030514.86 -33030514.70 -33030514.54 0.0510 0.0076

Jupiter -95146-08-17 17:01 J -33030424.87 -33030424.79 -33030424.71 0.0514 0.0442

Venus -95145-11-30 12:13 J -33029954.10 -33029953.99 -33029953.88 0.3776 0.0359

Mars -95144-01-29 17:01 J -33029893.91 -33029893.79 -33029893.66 0.1920 0.0671

Earth -95144-07-25 05:59 J -33029717.37 -33029717.25 -33029717.13 0.2617 0.0740

Moon -95144-07-25 06:27 J -33029717.35 -33029717.23 -33029717.11 0.2623 0.0842 *

Saturn -95141-09-07 11:30 J -33028577.12 -33028577.02 -33028576.93 0.0277 0.0218

Jupiter -95141-10-08 08:51 J -33028546.25 -33028546.13 -33028546.01 0.0520 0.0264

Venus -95141-11-29 02:51 J -33028494.49 -33028494.38 -33028494.27 0.3594 0.2108

Saturn -95141-12-05 04:03 J -33028488.48 -33028488.33 -33028488.19 0.0277 0.0123

Jupiter -95140-01-05 20:37 J -33028456.77 -33028456.64 -33028456.50 0.0516 0.0204

Saturn -95140-03-03 20:08 J -33028399.82 -33028399.66 -33028399.50 0.0276 0.0029

Saturn -95140-05-31 11:59 J -33028311.15 -33028311.00 -33028310.85 0.0276 0.0062

Saturn -95140-08-28 03:20 J -33028222.48 -33028222.36 -33028222.23 0.0276 0.0151

Mars -95140-09-29 12:56 J -33028190.04 -33028189.96 -33028189.87 0.1609 0.1243

Saturn -95140-11-24 18:27 J -33028133.80 -33028133.73 -33028133.65 0.0276 0.0237

Venus -95139-06-16 06:56 J -33027930.32 -33027930.21 -33027930.11 0.3773 0.1202

Mars -95138-09-05 04:18 J -33027484.45 -33027484.32 -33027484.19 0.1606 0.0559

Venus -95135-06-15 04:03 J -33026470.46 -33026470.33 -33026470.20 0.3597 0.0887

Mars -95135-06-21 19:25 J -33026463.77 -33026463.69 -33026463.61 0.1918 0.1536

Moon -95134-01-18 17:59 J -33026252.83 -33026252.75 -33026252.67 0.2721 0.2127

Earth -95134-01-18 18:56 J -33026252.78 -33026252.71 -33026252.64 0.2718 0.2275 *

Jupiter -95134-03-07 19:11 J -33026204.85 -33026204.70 -33026204.55 0.0509 0.0208

Jupiter -95134-06-05 17:15 J -33026114.90 -33026114.78 -33026114.65 0.0513 0.0314

Venus -95134-12-31 01:39 J -33025906.52 -33025906.43 -33025906.33 0.3770 0.2068

Mars -95133-05-28 08:23 J -33025757.18 -33025757.15 -33025757.12 0.1922 0.1855

Earth -95131-07-28 03:06 J -33024966.44 -33024966.37 -33024966.29 0.2621 0.2053

Moon -95131-07-28 04:18 J -33024966.40 -33024966.32 -33024966.25 0.2621 0.2085 *

Venus -95130-12-30 04:47 J -33024446.44 -33024446.30 -33024446.17 0.3600 0.0287

Jupiter -95129-07-27 12:13 J -33024236.09 -33024235.99 -33024235.90 0.0520 0.0373

Jupiter -95129-10-24 23:44 J -33024146.65 -33024146.51 -33024146.37 0.0516 0.0091

Mars -95128-01-25 12:27 J -33024054.12 -33024053.98 -33024053.85 0.1606 0.0122

Venus -95128-07-15 20:51 J -33023882.70 -33023882.63 -33023882.56 0.3766 0.2951

Earth -95127-01-11 03:20 J -33023703.43 -33023703.36 -33023703.28 0.2730 0.2188

Moon -95127-01-11 03:35 J -33023703.42 -33023703.35 -33023703.28 0.2722 0.2209 *

Saturn -95126-09-17 00:27 J -33023089.58 -33023089.48 -33023089.37 0.0282 0.0197

Saturn -95126-12-14 15:20 J -33023001.00 -33023000.86 -33023000.72 0.0282 0.0107

Saturn -95125-03-12 06:27 J -33022912.38 -33022912.23 -33022912.07 0.0283 0.0016

Saturn -95125-06-08 22:03 J -33022823.73 -33022823.58 -33022823.43 0.0283 0.0081

Saturn -95125-09-05 13:54 J -33022735.04 -33022734.92 -33022734.80 0.0283 0.0179

Saturn -95125-12-03 05:59 J -33022646.27 -33022646.25 -33022646.22 0.0283 0.0278

Venus -95124-07-15 04:47 J -33022422.42 -33022422.30 -33022422.17 0.3604 0.1403

Moon -95124-07-20 15:20 J -33022416.95 -33022416.86 -33022416.76 0.2615 0.1708

Earth -95124-07-20 16:03 J -33022416.93 -33022416.83 -33022416.73 0.2611 0.1682 *

Mars -95124-10-18 11:44 J -33022327.12 -33022327.01 -33022326.89 0.1922 0.1075

Jupiter -95123-12-24 18:56 J -33021894.83 -33021894.71 -33021894.59 0.0509 0.0339

Jupiter -95122-03-24 17:30 J -33021804.92 -33021804.77 -33021804.62 0.0513 0.0187

Mars -95119-06-17 20:23 J -33020623.78 -33020623.65 -33020623.51 0.1607 0.0334

Venus -95118-01-29 04:47 J -33020398.40 -33020398.30 -33020398.21 0.3607 0.2469

Jupiter -95117-05-15 15:35 J -33019925.90 -33019925.85 -33019925.80 0.0521 0.0482

Mars -95117-05-23 13:11 J -33019917.99 -33019917.95 -33019917.91 0.1605 0.1535

Jupiter -95117-08-13 02:51 J -33019836.53 -33019836.38 -33019836.24 0.0517 0.0025

Uranus -95117-08-13 09:35 J -33019836.10 -33019836.10 -33019836.10 0.0142 0.0142

Uranus -95117-11-09 13:54 J -33019747.99 -33019747.92 -33019747.84 0.0142 0.0123

Jupiter -95117-11-10 14:51 J -33019746.94 -33019746.88 -33019746.80 0.0513 0.0449

Uranus -95116-02-05 18:42 J -33019659.82 -33019659.72 -33019659.62 0.0142 0.0104

Uranus -95116-05-04 23:01 J -33019571.65 -33019571.54 -33019571.41 0.0142 0.0084

Uranus -95116-08-01 03:49 J -33019483.47 -33019483.34 -33019483.20 0.0142 0.0064

Venus -95116-10-23 15:35 J -33019399.90 -33019399.85 -33019399.80 0.3789 0.3332

Uranus -95116-10-28 08:37 J -33019395.28 -33019395.14 -33019395.00 0.0143 0.0044

Uranus -95115-01-24 13:25 J -33019307.09 -33019306.94 -33019306.79 0.0143 0.0024

Uranus -95115-04-22 18:13 J -33019218.89 -33019218.74 -33019218.59 0.0143 0.0004

Uranus -95115-07-19 23:01 J -33019130.69 -33019130.54 -33019130.39 0.0143 0.0017

Uranus -95115-10-16 03:49 J -33019042.48 -33019042.34 -33019042.19 0.0143 0.0039

Uranus -95114-01-12 08:51 J -33018954.27 -33018954.13 -33018953.99 0.0143 0.0059

Moon -95114-01-14 01:25 J -33018952.56 -33018952.44 -33018952.31 0.2721 0.0646

Earth -95114-01-14 02:08 J -33018952.53 -33018952.41 -33018952.28 0.2726 0.0637 *

Mars -95114-03-10 14:37 J -33018897.02 -33018896.89 -33018896.75 0.1921 0.0250

Uranus -95114-04-10 13:54 J -33018866.04 -33018865.92 -33018865.79 0.0143 0.0081

Neptune -95114-05-28 16:32 J -33018817.82 -33018817.81 -33018817.78 0.0088 0.0088

Uranus -95114-07-07 18:42 J -33018777.81 -33018777.72 -33018777.60 0.0144 0.0103

Neptune -95114-08-24 19:25 J -33018729.74 -33018729.69 -33018729.62 0.0088 0.0083

Uranus -95114-10-03 23:59 J -33018689.57 -33018689.50 -33018689.42 0.0144 0.0124

Neptune -95114-11-20 22:03 J -33018641.64 -33018641.58 -33018641.48 0.0088 0.0078

Neptune -95113-02-17 01:11 J -33018553.54 -33018553.45 -33018553.34 0.0088 0.0072

Neptune -95113-05-15 03:49 J -33018465.44 -33018465.34 -33018465.21 0.0088 0.0067

Neptune -95113-08-11 06:42 J -33018377.33 -33018377.22 -33018377.08 0.0088 0.0061

Venus -95113-08-14 04:03 J -33018374.37 -33018374.33 -33018374.30 0.3611 0.3484

Neptune -95113-11-07 09:49 J -33018289.22 -33018289.09 -33018288.95 0.0088 0.0056

Neptune -95112-02-03 12:27 J -33018201.11 -33018200.98 -33018200.83 0.0088 0.0051

Pluto -95112-02-25 20:37 J -33018178.69 -33018178.64 -33018178.57 0.0084 0.0075

Neptune -95112-05-02 15:06 J -33018113.01 -33018112.87 -33018112.71 0.0088 0.0046

Pluto -95112-05-24 22:03 J -33018090.67 -33018090.58 -33018090.49 0.0084 0.0061

Neptune -95112-07-29 17:59 J -33018024.90 -33018024.75 -33018024.59 0.0088 0.0040

Pluto -95112-08-20 23:01 J -33018002.63 -33018002.54 -33018002.42 0.0084 0.0050

Neptune -95112-10-25 20:51 J -33017936.79 -33017936.63 -33017936.47 0.0088 0.0035

Pluto -95112-11-17 00:27 J -33017914.59 -33017914.48 -33017914.35 0.0084 0.0036

Neptune -95111-01-21 23:30 J -33017848.67 -33017848.52 -33017848.35 0.0088 0.0030

Saturn -95111-01-25 09:49 J -33017845.14 -33017845.09 -33017845.03 0.0276 0.0257

Pluto -95111-02-13 01:39 J -33017826.55 -33017826.43 -33017826.29 0.0084 0.0024

Neptune -95111-04-20 02:23 J -33017760.56 -33017760.40 -33017760.23 0.0088 0.0024

Saturn -95111-04-24 02:37 J -33017756.52 -33017756.39 -33017756.26 0.0276 0.0161

Pluto -95111-05-12 03:06 J -33017738.50 -33017738.37 -33017738.24 0.0084 0.0011

Neptune -95111-07-17 05:01 J -33017672.45 -33017672.29 -33017672.11 0.0088 0.0019

Saturn -95111-07-21 18:56 J -33017667.86 -33017667.71 -33017667.55 0.0276 0.0067

Earth -95111-07-23 13:54 J -33017666.05 -33017665.92 -33017665.80 0.2614 0.0327

Moon -95111-07-23 13:54 J -33017666.04 -33017665.92 -33017665.79 0.2621 0.0329 *

Pluto -95111-08-08 04:18 J -33017650.45 -33017650.32 -33017650.19 0.0084 0.0002

Jupiter -95111-10-12 18:56 J -33017584.77 -33017584.71 -33017584.64 0.0508 0.0466

Neptune -95111-10-13 07:54 J -33017584.34 -33017584.17 -33017584.00 0.0088 0.0014

Saturn -95111-10-18 11:01 J -33017579.20 -33017579.04 -33017578.88 0.0276 0.0026

Pluto -95111-11-04 05:30 J -33017562.40 -33017562.27 -33017562.14 0.0084 0.0014

Neptune -95110-01-09 10:32 J -33017496.23 -33017496.06 -33017495.89 0.0088 0.0009

Jupiter -95110-01-10 18:13 J -33017494.90 -33017494.74 -33017494.58 0.0512 0.0063

Saturn -95110-01-15 02:37 J -33017490.53 -33017490.39 -33017490.25 0.0276 0.0115

Pluto -95110-01-31 06:42 J -33017474.34 -33017474.22 -33017474.09 0.0083 0.0026

Neptune -95110-04-07 13:11 J -33017408.12 -33017407.95 -33017407.77 0.0088 0.0004

Saturn -95110-04-13 17:59 J -33017401.86 -33017401.75 -33017401.65 0.0275 0.0203

Pluto -95110-04-29 07:54 J -33017386.28 -33017386.17 -33017386.05 0.0083 0.0038

Venus -95110-05-09 09:20 J -33017376.18 -33017376.11 -33017376.03 0.3787 0.2596

Neptune -95110-07-04 16:03 J -33017320.01 -33017319.83 -33017319.66 0.0088 0.0003

Pluto -95110-07-26 09:06 J -33017298.22 -33017298.12 -33017298.01 0.0083 0.0050

Neptune -95110-09-30 18:27 J -33017231.89 -33017231.73 -33017231.55 0.0088 0.0007

Pluto -95110-10-22 10:18 J -33017210.15 -33017210.07 -33017209.98 0.0083 0.0062

Mars -95110-11-08 04:47 J -33017193.42 -33017193.30 -33017193.18 0.1608 0.0762

Neptune -95110-12-27 21:06 J -33017143.78 -33017143.62 -33017143.44 0.0088 0.0012

Pluto -95109-01-18 11:30 J -33017122.07 -33017122.02 -33017121.96 0.0083 0.0074

Neptune -95109-03-24 23:44 J -33017055.67 -33017055.51 -33017055.33 0.0088 0.0017

Neptune -95109-06-21 02:23 J -33016967.56 -33016967.40 -33016967.23 0.0088 0.0022

Neptune -95109-09-17 05:01 J -33016879.45 -33016879.29 -33016879.12 0.0088 0.0027

Neptune -95109-12-14 07:25 J -33016791.33 -33016791.19 -33016791.02 0.0088 0.0033

Neptune -95108-03-12 10:03 J -33016703.22 -33016703.08 -33016702.91 0.0088 0.0037

Neptune -95108-06-08 12:42 J -33016615.11 -33016614.97 -33016614.81 0.0088 0.0042

Neptune -95108-09-04 15:06 J -33016527.00 -33016526.87 -33016526.71 0.0088 0.0048

Mars -95108-10-13 20:51 J -33016487.74 -33016487.63 -33016487.53 0.1606 0.1072

Neptune -95108-12-01 17:59 J -33016438.88 -33016438.75 -33016438.61 0.0088 0.0052

Neptune -95107-02-27 20:23 J -33016350.77 -33016350.65 -33016350.51 0.0088 0.0057

Neptune -95107-05-26 22:47 J -33016262.66 -33016262.55 -33016262.42 0.0088 0.0062

Neptune -95107-08-23 01:25 J -33016174.54 -33016174.44 -33016174.32 0.0088 0.0066

Neptune -95107-11-19 03:49 J -33016086.43 -33016086.34 -33016086.23 0.0088 0.0071

Neptune -95106-02-15 06:13 J -33015998.31 -33015998.24 -33015998.14 0.0088 0.0076

Neptune -95106-05-14 08:51 J -33015910.19 -33015910.13 -33015910.06 0.0088 0.0081

Neptune -95106-08-10 11:15 J -33015822.06 -33015822.03 -33015821.98 0.0088 0.0086

Jupiter -95105-06-01 05:15 J -33015526.41 -33015526.28 -33015526.14 0.0518 0.0139

Mars -95105-07-30 17:30 J -33015466.90 -33015466.77 -33015466.64 0.1920 0.0587

Jupiter -95105-08-29 17:15 J -33015436.89 -33015436.78 -33015436.67 0.0514 0.0328

Venus -95105-11-22 03:20 J -33015352.45 -33015352.36 -33015352.26 0.3784 0.1835

Moon -95101-01-17 00:13 J -33014201.61 -33014201.49 -33014201.37 0.2720 0.0767

Earth -95101-01-17 01:11 J -33014201.57 -33014201.45 -33014201.33 0.2722 0.0973 *

Mars -95100-03-30 13:11 J -33013763.04 -33013762.95 -33013762.86 0.1609 0.1188

Venus -95099-06-07 21:35 J -33013328.71 -33013328.60 -33013328.49 0.3781 0.1047

Jupiter -95099-10-29 18:27 J -33013184.89 -33013184.73 -33013184.57 0.0511 0.0064

Jupiter -95098-01-27 16:18 J -33013094.89 -33013094.82 -33013094.74 0.0515 0.0456

Mars -95098-03-06 04:32 J -33013057.43 -33013057.31 -33013057.18 0.1606 0.0620

Earth -95098-07-26 11:15 J -33012915.15 -33012915.03 -33012914.91 0.2618 0.1024

Moon -95098-07-26 11:59 J -33012915.11 -33012915.00 -33012914.88 0.2622 0.1087 *

Saturn -95096-02-03 00:27 J -33012357.56 -33012357.48 -33012357.39 0.0282 0.0232

Saturn -95096-05-02 15:20 J -33012268.99 -33012268.86 -33012268.73 0.0283 0.0142

Saturn -95096-07-30 06:27 J -33012180.38 -33012180.23 -33012180.08 0.0283 0.0050

Saturn -95096-10-26 21:49 J -33012091.74 -33012091.59 -33012091.44 0.0283 0.0046

Mars -95096-12-20 19:39 J -33012036.76 -33012036.68 -33012036.59 0.1918 0.1452

Saturn -95095-01-23 13:25 J -33012003.07 -33012002.94 -33012002.80 0.0283 0.0142

Saturn -95095-04-22 05:30 J -33011914.35 -33011914.27 -33011914.19 0.0283 0.0241

Venus -95094-12-22 15:49 J -33011304.95 -33011304.84 -33011304.73 0.3778 0.0270

Jupiter -95093-03-20 08:08 J -33011216.28 -33011216.16 -33011216.04 0.0519 0.0254

Jupiter -95093-06-17 19:54 J -33011126.80 -33011126.67 -33011126.54 0.0515 0.0212

Mars -95091-08-20 21:49 J -33010332.60 -33010332.59 -33010332.58 0.1610 0.1603

Venus -95090-12-21 01:39 J -33009845.51 -33009845.43 -33009845.36 0.3592 0.3010

Mars -95089-07-26 12:42 J -33009627.11 -33009626.97 -33009626.84 0.1606 0.0175

Moon -95088-01-18 23:44 J -33009450.55 -33009450.51 -33009450.48 0.2722 0.2592

Earth -95088-01-19 00:42 J -33009450.51 -33009450.47 -33009450.44 0.2717 0.2609 *

Venus -95088-07-07 10:32 J -33009281.17 -33009281.06 -33009280.95 0.3775 0.0599

Jupiter -95087-08-17 17:59 J -33008874.90 -33008874.75 -33008874.60 0.0509 0.0198

Jupiter -95087-11-15 16:03 J -33008784.95 -33008784.83 -33008784.70 0.0513 0.0323

Earth -95085-07-28 08:37 J -33008164.20 -33008164.14 -33008164.09 0.2622 0.2333

Moon -95085-07-28 09:35 J -33008164.14 -33008164.10 -33008164.06 0.2622 0.2492 *

Mars -95084-04-18 11:59 J -33007900.11 -33007900.00 -33007899.89 0.1922 0.1144

Venus -95084-07-06 03:06 J -33007821.49 -33007821.37 -33007821.25 0.3595 0.1758

Venus -95082-01-21 05:15 J -33007257.39 -33007257.28 -33007257.18 0.3772 0.1438

Saturn -95082-09-11 04:18 J -33007024.43 -33007024.32 -33007024.20 0.0277 0.0185

Saturn -95082-12-08 20:51 J -33006935.78 -33006935.63 -33006935.48 0.0277 0.0090

Jupiter -95081-01-07 10:47 J -33006906.15 -33006906.05 -33006905.96 0.0521 0.0372

Moon -95081-01-12 08:51 J -33006901.22 -33006901.13 -33006901.03 0.2722 0.1840

Earth -95081-01-12 08:51 J -33006901.22 -33006901.13 -33006901.04 0.2729 0.1875 *

Saturn -95081-03-06 12:56 J -33006847.12 -33006846.96 -33006846.80 0.0277 0.0005

Jupiter -95081-04-05 22:18 J -33006816.71 -33006816.57 -33006816.43 0.0517 0.0094

Saturn -95081-06-03 04:47 J -33006758.45 -33006758.30 -33006758.15 0.0276 0.0094

Saturn -95081-08-30 20:08 J -33006669.78 -33006669.66 -33006669.55 0.0276 0.0182

Saturn -95081-11-27 11:15 J -33006581.06 -33006581.03 -33006581.00 0.0276 0.0268

Mars -95080-12-16 20:37 J -33006196.77 -33006196.64 -33006196.50 0.1607 0.0276

Venus -95078-01-20 04:03 J -33005797.46 -33005797.33 -33005797.19 0.3598 0.0553

Moon -95078-07-21 21:06 J -33005614.73 -33005614.62 -33005614.52 0.2617 0.1503

Earth -95078-07-21 21:35 J -33005614.71 -33005614.60 -33005614.49 0.2611 0.1392 *

Mars -95078-11-22 13:25 J -33005490.94 -33005490.94 -33005490.93 0.1605 0.1602

Uranus -95077-01-10 01:11 J -33005442.52 -33005442.45 -33005442.36 0.0137 0.0119

Uranus -95077-04-07 06:42 J -33005354.33 -33005354.22 -33005354.10 0.0137 0.0098

Uranus -95077-07-04 11:59 J -33005266.12 -33005266.00 -33005265.85 0.0136 0.0079

Venus -95077-08-06 00:13 J -33005233.58 -33005233.49 -33005233.40 0.3769 0.2307

Uranus -95077-09-30 17:30 J -33005177.91 -33005177.77 -33005177.62 0.0136 0.0058

Uranus -95077-12-27 23:01 J -33005089.70 -33005089.54 -33005089.39 0.0136 0.0039

Uranus -95076-03-26 04:03 J -33005001.49 -33005001.33 -33005001.16 0.0136 0.0019

Uranus -95076-06-22 09:20 J -33004913.27 -33004913.11 -33004912.94 0.0136 0.0002

Uranus -95076-09-18 14:37 J -33004825.05 -33004824.89 -33004824.73 0.0136 0.0020

Uranus -95076-12-15 19:39 J -33004736.84 -33004736.68 -33004736.52 0.0136 0.0038

Uranus -95075-03-14 00:27 J -33004648.62 -33004648.48 -33004648.32 0.0135 0.0058

Jupiter -95075-06-05 17:44 J -33004564.88 -33004564.76 -33004564.63 0.0508 0.0330

Uranus -95075-06-10 05:30 J -33004560.39 -33004560.27 -33004560.13 0.0135 0.0076

Jupiter -95075-09-03 16:18 J -33004474.96 -33004474.82 -33004474.67 0.0512 0.0195

Uranus -95075-09-06 10:18 J -33004472.17 -33004472.07 -33004471.94 0.0135 0.0095

Mars -95075-09-08 15:06 J -33004470.00 -33004469.87 -33004469.73 0.1921 0.0337

Uranus -95075-12-03 15:20 J -33004383.94 -33004383.86 -33004383.76 0.0135 0.0112

Uranus -95074-03-01 20:08 J -33004295.69 -33004295.66 -33004295.61 0.0135 0.0130

Venus -95073-08-05 04:32 J -33003773.44 -33003773.31 -33003773.18 0.3601 0.0601

Venus -95071-02-19 19:25 J -33003209.75 -33003209.69 -33003209.64 0.3765 0.3200

Mars -95070-05-09 05:01 J -33002766.42 -33002766.29 -33002766.17 0.1608 0.0709

Jupiter -95070-10-26 13:54 J -33002595.97 -33002595.92 -33002595.87 0.0522 0.0481

Jupiter -95069-01-24 01:11 J -33002506.59 -33002506.45 -33002506.31 0.0518 0.0020

Jupiter -95069-04-22 13:25 J -33002417.00 -33002416.94 -33002416.87 0.0514 0.0451

Moon -95068-01-14 06:56 J -33002150.34 -33002150.21 -33002150.09 0.2721 0.0459

Earth -95068-01-14 07:39 J -33002150.31 -33002150.18 -33002150.05 0.2725 0.0315 *

Mars -95068-04-13 21:06 J -33002060.72 -33002060.62 -33002060.52 0.1605 0.1135

Venus -95067-02-19 04:32 J -33001749.42 -33001749.31 -33001749.19 0.3605 0.1700

Saturn -95067-06-23 02:23 J -33001625.46 -33001625.40 -33001625.34 0.0282 0.0255

Saturn -95067-09-19 16:47 J -33001536.92 -33001536.80 -33001536.68 0.0282 0.0166

Saturn -95067-12-17 07:39 J -33001448.32 -33001448.18 -33001448.03 0.0282 0.0075

Saturn -95066-03-15 23:01 J -33001359.69 -33001359.54 -33001359.39 0.0282 0.0019

Saturn -95066-06-12 14:37 J -33001271.03 -33001270.89 -33001270.75 0.0283 0.0114

Saturn -95066-09-09 06:27 J -33001182.33 -33001182.23 -33001182.13 0.0283 0.0212

Mars -95065-01-29 17:44 J -33001039.89 -33001039.76 -33001039.63 0.1920 0.0513

Earth -95065-07-23 19:11 J -33000863.83 -33000863.70 -33000863.57 0.2615 0.0028

Moon -95065-07-23 19:25 J -33000863.82 -33000863.69 -33000863.56 0.2622 0.0054 *

Jupiter -95063-03-24 17:15 J -33000254.84 -33000254.78 -33000254.71 0.0508 0.0463

Jupiter -95063-06-22 16:32 J -33000164.97 -33000164.81 -33000164.65 0.0512 0.0066

Venus -95062-09-05 04:18 J -32999725.41 -32999725.32 -32999725.24 0.3608 0.2750

Mars -95061-09-28 13:25 J -32999336.04 -32999335.94 -32999335.85 0.1609 0.1131

Venus -95059-05-30 13:39 J -32998726.99 -32998726.93 -32998726.87 0.3788 0.3119

Mars -95059-09-04 04:47 J -32998630.42 -32998630.30 -32998630.17 0.1606 0.0677

Jupiter -95058-11-12 04:18 J -32998196.45 -32998196.32 -32998196.18 0.0518 0.0130

Jupiter -95057-02-09 16:18 J -32998106.92 -32998106.82 -32998106.71 0.0514 0.0338

Mars -95056-06-20 19:54 J -32997609.76 -32997609.67 -32997609.58 0.1919 0.1382

Moon -95055-01-17 05:44 J -32997399.37 -32997399.26 -32997399.15 0.2721 0.1263

Earth -95055-01-17 06:42 J -32997399.33 -32997399.22 -32997399.10 0.2721 0.1297 *

Venus -95054-12-14 07:25 J -32996703.27 -32996703.19 -32996703.10 0.3786 0.2381

Saturn -95052-01-28 03:06 J -32996292.46 -32996292.37 -32996292.27 0.0276 0.0223

Saturn -95052-04-26 19:39 J -32996203.82 -32996203.68 -32996203.53 0.0276 0.0127

Saturn -95052-07-24 11:59 J -32996115.16 -32996115.00 -32996114.84 0.0276 0.0033

Earth -95052-07-26 16:32 J -32996112.92 -32996112.81 -32996112.70 0.2618 0.1308

Moon -95052-07-26 17:30 J -32996112.88 -32996112.77 -32996112.66 0.2621 0.1384 *

Saturn -95052-10-21 03:49 J -32996026.49 -32996026.34 -32996026.18 0.0276 0.0059

Saturn -95051-01-17 19:25 J -32995937.82 -32995937.69 -32995937.56 0.0276 0.0148

Mars -95051-02-18 22:03 J -32995905.62 -32995905.58 -32995905.55 0.1610 0.1550

Jupiter -95051-04-10 17:01 J -32995854.95 -32995854.79 -32995854.63 0.0511 0.0061

Saturn -95051-04-16 10:32 J -32995849.13 -32995849.06 -32995848.98 0.0275 0.0235

Jupiter -95051-07-09 14:37 J -32995764.95 -32995764.89 -32995764.81 0.0515 0.0459

Mars -95049-01-25 12:56 J -32995200.10 -32995199.96 -32995199.83 0.1606 0.0236

Venus -95048-06-29 01:25 J -32994679.53 -32994679.44 -32994679.34 0.3783 0.1619

Jupiter -95046-08-31 07:11 J -32993886.32 -32993886.20 -32993886.08 0.0519 0.0245

Jupiter -95046-11-28 18:42 J -32993796.84 -32993796.72 -32993796.59 0.0515 0.0221

Earth -95045-07-19 05:01 J -32993563.32 -32993563.29 -32993563.25 0.2608 0.2479

Mars -95045-10-17 12:13 J -32993473.09 -32993472.99 -32993472.88 0.1922 0.1226

Venus -95042-01-12 19:39 J -32992655.78 -32992655.68 -32992655.57 0.3780 0.0832

Mars -95040-06-16 20:51 J -32991769.76 -32991769.63 -32991769.49 0.1607 0.0214

Jupiter -95039-01-27 17:15 J -32991544.93 -32991544.78 -32991544.63 0.0510 0.0187

Jupiter -95039-04-27 15:35 J -32991454.97 -32991454.85 -32991454.73 0.0514 0.0336

Earth -95039-07-29 13:54 J -32991361.93 -32991361.92 -32991361.92 0.2622 0.2611

Saturn -95037-02-06 16:32 J -32990804.91 -32990804.81 -32990804.70 0.0282 0.0202

Saturn -95037-05-05 07:25 J -32990716.33 -32990716.19 -32990716.05 0.0282 0.0112

Venus -95037-07-28 14:08 J -32990632.02 -32990631.91 -32990631.80 0.3778 0.0014

Saturn -95037-08-01 22:32 J -32990627.71 -32990627.56 -32990627.41 0.0283 0.0019

Saturn -95037-10-29 13:54 J -32990539.06 -32990538.92 -32990538.77 0.0283 0.0077

Saturn -95036-01-26 05:44 J -32990450.38 -32990450.26 -32990450.14 0.0283 0.0174

Saturn -95036-04-24 21:49 J -32990361.62 -32990361.59 -32990361.54 0.0283 0.0273

Moon -95035-01-12 14:08 J -32990099.01 -32990098.91 -32990098.80 0.2722 0.1571

Earth -95035-01-12 14:23 J -32990099.00 -32990098.90 -32990098.79 0.2729 0.1557 *

Mars -95035-03-09 15:20 J -32990042.99 -32990042.86 -32990042.72 0.1921 0.0418

Jupiter -95034-06-19 09:49 J -32989576.18 -32989576.09 -32989575.99 0.0520 0.0360

Jupiter -95034-09-16 21:20 J -32989486.75 -32989486.61 -32989486.47 0.0516 0.0103

Venus -95033-07-27 01:39 J -32989172.52 -32989172.43 -32989172.33 0.3593 0.2653

Uranus -95033-09-02 17:01 J -32989134.82 -32989134.79 -32989134.74 0.0142 0.0136

Uranus -95033-11-29 21:35 J -32989046.67 -32989046.60 -32989046.51 0.0142 0.0117

Neptune -95032-02-22 15:06 J -32988961.87 -32988961.87 -32988961.84 0.0089 0.0089

Uranus -95032-02-26 02:08 J -32988958.51 -32988958.41 -32988958.29 0.0142 0.0098

Neptune -95032-05-21 17:01 J -32988873.83 -32988873.79 -32988873.74 0.0089 0.0084

Uranus -95032-05-25 06:56 J -32988870.33 -32988870.21 -32988870.09 0.0142 0.0078

Moon -95032-07-22 02:37 J -32988812.51 -32988812.39 -32988812.27 0.2618 0.1054

Earth -95032-07-22 02:51 J -32988812.50 -32988812.38 -32988812.26 0.2612 0.1099 *

Neptune -95032-08-17 18:42 J -32988785.78 -32988785.72 -32988785.66 0.0089 0.0080

Uranus -95032-08-21 11:30 J -32988782.15 -32988782.02 -32988781.88 0.0142 0.0058

Neptune -95032-11-13 20:08 J -32988697.72 -32988697.66 -32988697.58 0.0089 0.0076

Uranus -95032-11-17 16:18 J -32988693.96 -32988693.82 -32988693.67 0.0143 0.0038

Neptune -95031-02-09 21:49 J -32988609.66 -32988609.59 -32988609.50 0.0089 0.0072

Venus -95031-02-11 08:37 J -32988608.24 -32988608.14 -32988608.03 0.3774 0.0832

Uranus -95031-02-13 21:06 J -32988605.77 -32988605.62 -32988605.47 0.0143 0.0018

Neptune -95031-05-08 23:30 J -32988521.60 -32988521.52 -32988521.42 0.0089 0.0068

Uranus -95031-05-13 01:54 J -32988517.57 -32988517.42 -32988517.27 0.0143 0.0003

Neptune -95031-08-05 00:56 J -32988433.54 -32988433.46 -32988433.34 0.0089 0.0064

Uranus -95031-08-09 06:42 J -32988429.37 -32988429.22 -32988429.07 0.0143 0.0024

Neptune -95031-11-01 02:51 J -32988345.48 -32988345.38 -32988345.27 0.0089 0.0059

Uranus -95031-11-05 11:44 J -32988341.16 -32988341.01 -32988340.87 0.0143 0.0045

Mars -95031-11-07 05:15 J -32988339.41 -32988339.28 -32988339.16 0.1608 0.0646

Neptune -95030-01-28 04:32 J -32988257.41 -32988257.31 -32988257.19 0.0089 0.0055

Uranus -95030-02-01 16:32 J -32988252.94 -32988252.81 -32988252.67 0.0143 0.0066

Neptune -95030-04-26 06:13 J -32988169.35 -32988169.24 -32988169.12 0.0089 0.0051

Uranus -95030-04-30 21:20 J -32988164.72 -32988164.61 -32988164.48 0.0143 0.0088

Neptune -95030-07-23 07:54 J -32988081.28 -32988081.17 -32988081.04 0.0089 0.0047

Uranus -95030-07-28 02:37 J -32988076.48 -32988076.39 -32988076.29 0.0144 0.0109

Neptune -95030-10-19 09:49 J -32987993.22 -32987993.09 -32987992.97 0.0089 0.0042

Uranus -95030-10-24 07:39 J -32987988.23 -32987988.18 -32987988.11 0.0144 0.0131

Neptune -95029-01-15 11:15 J -32987905.15 -32987905.03 -32987904.89 0.0089 0.0038

Neptune -95029-04-12 12:56 J -32987817.08 -32987816.96 -32987816.82 0.0089 0.0034

Neptune -95029-07-09 14:51 J -32987729.01 -32987728.88 -32987728.74 0.0089 0.0029

Neptune -95029-10-05 16:32 J -32987640.94 -32987640.81 -32987640.67 0.0089 0.0025

Mars -95029-10-12 21:20 J -32987633.70 -32987633.61 -32987633.52 0.1605 0.1200

Neptune -95028-01-01 18:13 J -32987552.87 -32987552.74 -32987552.59 0.0089 0.0021

Neptune -95028-03-30 20:08 J -32987464.80 -32987464.66 -32987464.52 0.0089 0.0016

Neptune -95028-06-26 21:49 J -32987376.73 -32987376.59 -32987376.44 0.0089 0.0012

Neptune -95028-09-22 23:30 J -32987288.66 -32987288.52 -32987288.37 0.0089 0.0008

Jupiter -95028-11-15 16:47 J -32987234.93 -32987234.80 -32987234.67 0.0508 0.0320

Neptune -95028-12-20 01:25 J -32987200.59 -32987200.44 -32987200.30 0.0089 0.0003

Venus -95027-02-10 03:06 J -32987148.50 -32987148.37 -32987148.24 0.3596 0.1413

Jupiter -95027-02-13 15:20 J -32987145.01 -32987144.86 -32987144.71 0.0512 0.0204

Neptune -95027-03-18 03:06 J -32987112.51 -32987112.37 -32987112.22 0.0089 0.0002

Neptune -95027-06-14 05:01 J -32987024.44 -32987024.29 -32987024.15 0.0089 0.0006

Neptune -95027-09-10 06:42 J -32986936.37 -32986936.22 -32986936.07 0.0089 0.0010

Neptune -95027-12-07 08:23 J -32986848.29 -32986848.15 -32986848.00 0.0089 0.0015

Neptune -95026-03-05 10:18 J -32986760.21 -32986760.07 -32986759.93 0.0089 0.0019

Neptune -95026-06-01 11:59 J -32986672.14 -32986672.00 -32986671.85 0.0089 0.0024

Mars -95026-07-30 17:59 J -32986612.88 -32986612.75 -32986612.62 0.1920 0.0433

Venus -95026-08-28 03:35 J -32986584.45 -32986584.35 -32986584.25 0.3771 0.1673

Neptune -95026-08-28 13:54 J -32986584.06 -32986583.92 -32986583.78 0.0089 0.0028

Neptune -95026-11-24 15:35 J -32986495.98 -32986495.85 -32986495.71 0.0089 0.0033

Neptune -95025-02-20 17:30 J -32986407.90 -32986407.77 -32986407.63 0.0089 0.0037

Neptune -95025-05-18 19:11 J -32986319.82 -32986319.70 -32986319.56 0.0089 0.0042

Neptune -95025-08-14 21:20 J -32986231.74 -32986231.61 -32986231.49 0.0089 0.0046

Neptune -95025-11-10 23:01 J -32986143.66 -32986143.54 -32986143.41 0.0089 0.0051

Neptune -95024-02-07 00:42 J -32986055.57 -32986055.47 -32986055.34 0.0089 0.0056

Neptune -95024-05-06 02:37 J -32985967.49 -32985967.39 -32985967.27 0.0089 0.0060

Neptune -95024-08-02 04:32 J -32985879.40 -32985879.31 -32985879.20 0.0089 0.0065

Neptune -95024-10-29 06:42 J -32985791.31 -32985791.22 -32985791.13 0.0089 0.0069

Neptune -95023-01-25 08:23 J -32985703.22 -32985703.15 -32985703.06 0.0089 0.0074

Neptune -95023-04-23 10:03 J -32985615.13 -32985615.08 -32985614.99 0.0089 0.0079

Saturn -95023-06-17 04:18 J -32985560.38 -32985560.32 -32985560.25 0.0277 0.0249

Neptune -95023-07-20 12:13 J -32985527.03 -32985526.99 -32985526.93 0.0089 0.0083

Saturn -95023-09-13 21:06 J -32985471.75 -32985471.62 -32985471.48 0.0277 0.0153

Neptune -95023-10-16 14:08 J -32985438.92 -32985438.91 -32985438.88 0.0089 0.0088

Saturn -95023-12-11 13:39 J -32985383.09 -32985382.93 -32985382.78 0.0277 0.0058

Moon -95022-01-15 12:27 J -32985348.11 -32985347.98 -32985347.85 0.2720 0.0094

Earth -95022-01-15 13:11 J -32985348.08 -32985347.95 -32985347.82 0.2725 0.0064 *

Saturn -95022-03-10 05:44 J -32985294.42 -32985294.26 -32985294.11 0.0277 0.0036

Jupiter -95022-04-07 12:27 J -32985266.03 -32985265.98 -32985265.93 0.0522 0.0479

Saturn -95022-06-06 21:20 J -32985205.75 -32985205.61 -32985205.47 0.0277 0.0125

Jupiter -95022-07-05 23:44 J -32985176.65 -32985176.51 -32985176.37 0.0518 0.0020

Venus -95022-08-27 04:03 J -32985124.47 -32985124.33 -32985124.20 0.3599 0.0241

Saturn -95022-09-03 12:27 J -32985117.07 -32985116.98 -32985116.88 0.0276 0.0214

Jupiter -95022-10-03 11:59 J -32985087.06 -32985087.00 -32985086.93 0.0514 0.0452

Mars -95021-03-29 13:39 J -32984909.03 -32984908.93 -32984908.83 0.1609 0.1075

Venus -95020-03-12 22:32 J -32984560.64 -32984560.56 -32984560.48 0.3768 0.2547

Mars -95019-03-05 05:15 J -32984203.41 -32984203.28 -32984203.16 0.1606 0.0743

Earth -95019-07-25 00:27 J -32984061.61 -32984061.48 -32984061.35 0.2615 0.0261

Moon -95019-07-25 00:56 J -32984061.59 -32984061.46 -32984061.34 0.2621 0.0247 *

Mars -95017-12-19 20:23 J -32983182.75 -32983182.65 -32983182.55 0.1919 0.1291

Venus -95016-03-12 04:18 J -32983100.45 -32983100.32 -32983100.19 0.3602 0.0904

Jupiter -95016-09-03 16:18 J -32982924.89 -32982924.82 -32982924.74 0.0507 0.0452

Jupiter -95016-12-02 15:20 J -32982835.02 -32982834.86 -32982834.70 0.0511 0.0074

Venus -95015-09-26 17:44 J -32982536.80 -32982536.76 -32982536.72 0.3764 0.3441

Mars -95012-08-19 22:03 J -32981478.63 -32981478.58 -32981478.53 0.1610 0.1497

Venus -95011-09-26 04:18 J -32981076.43 -32981076.32 -32981076.21 0.3606 0.1993

Jupiter -95010-04-24 02:37 J -32980866.52 -32980866.39 -32980866.25 0.0519 0.0130

Jupiter -95010-07-22 14:51 J -32980776.99 -32980776.88 -32980776.78 0.0515 0.0339

Mars -95010-07-26 12:56 J -32980773.09 -32980772.96 -32980772.82 0.1606 0.0288

Moon -95009-01-18 11:15 J -32980597.14 -32980597.03 -32980596.92 0.2722 0.1442

Earth -95009-01-18 12:13 J -32980597.09 -32980596.99 -32980596.88 0.2720 0.1627 *

Venus -95008-06-20 17:59 J -32980077.78 -32980077.75 -32980077.72 0.3790 0.3633

Saturn -95008-06-25 18:42 J -32980072.81 -32980072.72 -32980072.63 0.0282 0.0223

Saturn -95008-09-22 09:20 J -32979984.24 -32979984.11 -32979983.98 0.0282 0.0134

Saturn -95008-12-20 00:13 J -32979895.63 -32979895.49 -32979895.34 0.0282 0.0043

Saturn -95007-03-18 15:35 J -32979807.00 -32979806.85 -32979806.70 0.0282 0.0052

Saturn -95007-06-15 07:11 J -32979718.33 -32979718.20 -32979718.06 0.0282 0.0148

Saturn -95007-09-11 23:15 J -32979629.60 -32979629.53 -32979629.45 0.0283 0.0246

Earth -95006-07-27 21:49 J -32979310.69 -32979310.59 -32979310.48 0.2619 0.1589

Moon -95006-07-27 22:47 J -32979310.64 -32979310.55 -32979310.45 0.2622 0.1713 *

Venus -95005-04-11 03:49 J -32979052.42 -32979052.34 -32979052.27 0.3609 0.3021

Mars -95005-04-17 12:27 J -32979046.07 -32979045.98 -32979045.88 0.1922 0.1298

Jupiter -95004-09-20 15:06 J -32978525.03 -32978524.87 -32978524.70 0.0510 0.0060

Jupiter -95004-12-19 12:56 J -32978435.02 -32978434.96 -32978434.89 0.0514 0.0459

Venus -95002-01-04 11:44 J -32978054.08 -32978054.01 -32978053.94 0.3787 0.2905

Moon -95002-01-10 21:49 J -32978047.62 -32978047.59 -32978047.57 0.2725 0.2666

Mars -95001-12-15 21:06 J -32977342.76 -32977342.62 -32977342.48 0.1607 0.0155

95TH MILLENNIUM BCE

This is a list of transits of Mercury in the 95th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Moon -94999-07-20 09:35 J -32976761.16 -32976761.10 -32976761.03 0.2612 0.2217

Earth -94999-07-20 10:32 J -32976761.13 -32976761.06 -32976760.99 0.2609 0.2187 *

Jupiter -94998-02-10 05:59 J -32976556.37 -32976556.25 -32976556.13 0.0520 0.0239

Jupiter -94998-05-10 17:44 J -32976466.89 -32976466.76 -32976466.63 0.0516 0.0227

Venus -94997-07-20 05:44 J -32976030.35 -32976030.26 -32976030.18 0.3785 0.2163

Mars -94996-09-07 15:35 J -32975615.98 -32975615.85 -32975615.72 0.1922 0.0484

Uranus -94994-11-03 02:37 J -32974829.40 -32974829.39 -32974829.35 0.0137 0.0135

Uranus -94993-01-30 08:23 J -32974741.23 -32974741.15 -32974741.05 0.0137 0.0114

Saturn -94993-01-31 20:08 J -32974739.77 -32974739.66 -32974739.54 0.0277 0.0189

Uranus -94993-04-27 13:54 J -32974653.04 -32974652.92 -32974652.80 0.0137 0.0094

Saturn -94993-04-29 12:42 J -32974651.12 -32974650.97 -32974650.82 0.0276 0.0093

Uranus -94993-07-24 19:25 J -32974564.83 -32974564.69 -32974564.55 0.0136 0.0074

Saturn -94993-07-27 05:01 J -32974562.45 -32974562.29 -32974562.14 0.0276 0.0007

Uranus -94993-10-21 00:42 J -32974476.62 -32974476.47 -32974476.31 0.0136 0.0054

Saturn -94993-10-23 20:37 J -32974473.78 -32974473.64 -32974473.49 0.0276 0.0092

Uranus -94992-01-17 05:59 J -32974388.40 -32974388.25 -32974388.09 0.0136 0.0034

Saturn -94992-01-20 12:13 J -32974385.11 -32974384.99 -32974384.87 0.0276 0.0180

Uranus -94992-04-15 11:15 J -32974300.19 -32974300.03 -32974299.86 0.0136 0.0015

Saturn -94992-04-19 03:06 J -32974296.40 -32974296.37 -32974296.32 0.0276 0.0267

Jupiter -94992-07-09 15:35 J -32974215.00 -32974214.85 -32974214.70 0.0510 0.0184

Uranus -94992-07-12 16:32 J -32974211.97 -32974211.81 -32974211.65 0.0136 0.0005

Jupiter -94992-10-07 13:54 J -32974125.04 -32974124.92 -32974124.80 0.0514 0.0338

Uranus -94992-10-08 21:49 J -32974123.76 -32974123.59 -32974123.43 0.0136 0.0024

Uranus -94991-01-05 02:51 J -32974035.54 -32974035.38 -32974035.23 0.0136 0.0043

Venus -94991-02-02 23:44 J -32974006.61 -32974006.51 -32974006.41 0.3782 0.1389

Uranus -94991-04-03 07:39 J -32973947.31 -32973947.18 -32973947.03 0.0135 0.0062

Mars -94991-05-08 05:30 J -32973912.40 -32973912.27 -32973912.15 0.1608 0.0592

Uranus -94991-06-30 12:42 J -32973859.09 -32973858.97 -32973858.83 0.0135 0.0080

Uranus -94991-09-26 17:44 J -32973770.86 -32973770.76 -32973770.65 0.0135 0.0098

Uranus -94991-12-23 22:32 J -32973682.63 -32973682.56 -32973682.47 0.0135 0.0116

Uranus -94990-03-22 03:20 J -32973594.36 -32973594.36 -32973594.33 0.0135 0.0134

Moon -94989-01-13 19:25 J -32973296.80 -32973296.69 -32973296.58 0.2722 0.1325

Earth -94989-01-13 19:54 J -32973296.78 -32973296.67 -32973296.56 0.2728 0.1244 *

Mars -94989-04-12 21:35 J -32973206.68 -32973206.60 -32973206.51 0.1605 0.1260

Jupiter -94987-11-29 08:51 J -32972246.23 -32972246.13 -32972246.03 0.0520 0.0353

Mars -94986-01-28 18:27 J -32972185.87 -32972185.73 -32972185.60 0.1921 0.0348

Jupiter -94986-02-26 20:23 J -32972156.79 -32972156.65 -32972156.52 0.0516 0.0111

Moon -94986-07-23 08:08 J -32972010.28 -32972010.16 -32972010.04 0.2619 0.0904

Earth -94986-07-23 08:23 J -32972010.28 -32972010.15 -32972010.03 0.2612 0.0804 *

Venus -94986-08-19 17:59 J -32971982.86 -32971982.75 -32971982.64 0.3780 0.0598

Venus -94982-08-18 00:13 J -32970523.50 -32970523.49 -32970523.48 0.3591 0.3569

Mars -94982-09-28 13:54 J -32970482.03 -32970481.92 -32970481.82 0.1609 0.1018

Venus -94980-03-04 12:27 J -32969959.09 -32969958.98 -32969958.87 0.3777 0.0228

Jupiter -94980-04-27 15:49 J -32969904.97 -32969904.84 -32969904.71 0.0509 0.0311

Jupiter -94980-07-26 14:23 J -32969815.04 -32969814.90 -32969814.75 0.0513 0.0214

Mars -94980-09-03 05:15 J -32969776.40 -32969776.28 -32969776.16 0.1606 0.0802

Saturn -94979-11-12 18:27 J -32969340.78 -32969340.73 -32969340.67 0.0282 0.0260

Saturn -94978-02-09 08:51 J -32969252.24 -32969252.13 -32969252.01 0.0282 0.0171

Saturn -94978-05-08 23:44 J -32969163.65 -32969163.51 -32969163.36 0.0282 0.0081

Saturn -94978-08-05 15:06 J -32969075.02 -32969074.87 -32969074.72 0.0283 0.0014

Saturn -94978-11-02 06:27 J -32968986.37 -32968986.23 -32968986.08 0.0283 0.0110

Saturn -94977-01-29 22:32 J -32968897.67 -32968897.56 -32968897.46 0.0283 0.0207

Mars -94977-06-19 20:37 J -32968755.75 -32968755.64 -32968755.53 0.1919 0.1219

Moon -94976-01-15 17:44 J -32968545.89 -32968545.76 -32968545.63 0.2721 0.0224

Earth -94976-01-15 18:42 J -32968545.85 -32968545.72 -32968545.59 0.2724 0.0338 *

Venus -94976-03-03 01:54 J -32968499.52 -32968499.42 -32968499.31 0.3594 0.2301

Jupiter -94975-09-17 11:44 J -32967936.07 -32967936.01 -32967935.95 0.0521 0.0467

Venus -94975-09-18 06:56 J -32967935.31 -32967935.21 -32967935.10 0.3774 0.1054

Jupiter -94975-12-15 23:01 J -32967846.68 -32967846.54 -32967846.40 0.0517 0.0014

Jupiter -94974-03-15 11:15 J -32967757.09 -32967757.03 -32967756.97 0.0513 0.0462

Earth -94973-07-25 05:59 J -32967259.38 -32967259.25 -32967259.13 0.2616 0.0551

Moon -94973-07-25 06:27 J -32967259.35 -32967259.23 -32967259.11 0.2621 0.0678 *

Mars -94972-02-17 22:18 J -32967051.63 -32967051.57 -32967051.51 0.1610 0.1439

Venus -94971-09-17 03:06 J -32966475.50 -32966475.37 -32966475.24 0.3597 0.1078

Mars -94970-01-24 13:11 J -32966346.08 -32966345.95 -32966345.81 0.1606 0.0355

Venus -94969-04-03 01:54 J -32965911.52 -32965911.42 -32965911.32 0.3770 0.1911

Jupiter -94968-02-13 15:20 J -32965594.94 -32965594.86 -32965594.78 0.0507 0.0443

Jupiter -94968-05-14 14:23 J -32965505.06 -32965504.90 -32965504.74 0.0511 0.0083

Mars -94966-10-17 12:56 J -32964619.05 -32964618.96 -32964618.87 0.1922 0.1379

Venus -94965-04-02 03:49 J -32964451.48 -32964451.34 -32964451.21 0.3600 0.0092

Saturn -94964-06-19 21:20 J -32964007.71 -32964007.61 -32964007.51 0.0277 0.0216

Saturn -94964-09-16 14:08 J -32963919.06 -32963918.91 -32963918.77 0.0277 0.0119

Venus -94964-10-17 20:51 J -32963887.70 -32963887.63 -32963887.55 0.3767 0.2786

Saturn -94964-12-14 06:27 J -32963830.39 -32963830.23 -32963830.07 0.0277 0.0025

Moon -94963-01-18 16:47 J -32963794.89 -32963794.80 -32963794.71 0.2723 0.1904

Earth -94963-01-18 17:59 J -32963794.84 -32963794.75 -32963794.66 0.2720 0.1958 *

Saturn -94963-03-12 22:18 J -32963741.72 -32963741.57 -32963741.41 0.0277 0.0068

Saturn -94963-06-09 13:54 J -32963653.04 -32963652.92 -32963652.79 0.0277 0.0158

Saturn -94963-09-06 05:15 J -32963564.35 -32963564.28 -32963564.21 0.0277 0.0245

Jupiter -94963-10-04 01:11 J -32963536.59 -32963536.45 -32963536.32 0.0519 0.0129

Jupiter -94962-01-01 13:11 J -32963447.06 -32963446.95 -32963446.84 0.0515 0.0340

Mars -94961-06-15 21:20 J -32962915.75 -32962915.61 -32962915.47 0.1607 0.0095

Earth -94960-07-28 03:20 J -32962508.45 -32962508.36 -32962508.28 0.2620 0.1869

Moon -94960-07-28 04:18 J -32962508.41 -32962508.32 -32962508.24 0.2622 0.1927 *

Venus -94960-10-17 04:03 J -32962427.46 -32962427.33 -32962427.20 0.3603 0.1209

Venus -94958-05-03 16:18 J -32961863.84 -32961863.82 -32961863.80 0.3763 0.3689

Pluto -94958-08-27 11:15 J -32961748.03 -32961748.03 -32961747.96 0.0060 0.0059

Pluto -94958-11-23 13:11 J -32961660.03 -32961659.95 -32961659.84 0.0060 0.0052

Pluto -94957-02-19 14:51 J -32961572.00 -32961571.88 -32961571.75 0.0060 0.0045

Pluto -94957-05-17 15:49 J -32961483.97 -32961483.84 -32961483.67 0.0060 0.0039

Pluto -94957-08-13 17:30 J -32961395.92 -32961395.77 -32961395.59 0.0060 0.0032

Pluto -94957-11-09 19:11 J -32961307.87 -32961307.70 -32961307.51 0.0060 0.0025

Earth -94956-01-11 02:37 J -32961245.44 -32961245.39 -32961245.33 0.2732 0.2469

Moon -94956-01-11 03:06 J -32961245.42 -32961245.37 -32961245.32 0.2725 0.2496 *

Pluto -94956-02-05 20:51 J -32961219.82 -32961219.63 -32961219.44 0.0060 0.0019

Jupiter -94956-03-02 14:08 J -32961195.07 -32961194.91 -32961194.74 0.0510 0.0050

Mars -94956-03-08 16:03 J -32961188.96 -32961188.83 -32961188.71 0.1922 0.0570

Pluto -94956-05-04 22:03 J -32961131.76 -32961131.58 -32961131.38 0.0060 0.0012

Jupiter -94956-05-31 11:59 J -32961105.06 -32961105.00 -32961104.94 0.0514 0.0468

Pluto -94956-07-31 23:44 J -32961043.70 -32961043.51 -32961043.31 0.0060 0.0005

Pluto -94956-10-28 01:11 J -32960955.64 -32960955.45 -32960955.25 0.0060 0.0002

Pluto -94955-01-24 02:51 J -32960867.58 -32960867.38 -32960867.19 0.0060 0.0009

Pluto -94955-04-22 04:03 J -32960779.51 -32960779.33 -32960779.13 0.0061 0.0016

Pluto -94955-07-19 05:30 J -32960691.44 -32960691.27 -32960691.07 0.0061 0.0023

Pluto -94955-10-15 06:56 J -32960603.37 -32960603.21 -32960603.02 0.0061 0.0030

Pluto -94954-01-11 08:23 J -32960515.29 -32960515.15 -32960514.97 0.0061 0.0037

Pluto -94954-04-09 09:49 J -32960427.20 -32960427.09 -32960426.93 0.0061 0.0044

Venus -94954-05-03 03:49 J -32960403.44 -32960403.34 -32960403.24 0.3607 0.2275

Pluto -94954-07-06 11:15 J -32960339.11 -32960339.03 -32960338.90 0.0061 0.0051

Pluto -94954-10-02 12:42 J -32960251.00 -32960250.97 -32960250.88 0.0061 0.0058

Moon -94953-07-20 15:20 J -32959958.94 -32959958.86 -32959958.78 0.2614 0.1998

Earth -94953-07-20 15:49 J -32959958.92 -32959958.84 -32959958.75 0.2609 0.1892 *

Mars -94952-11-06 05:30 J -32959485.40 -32959485.27 -32959485.14 0.1607 0.0533

Venus -94951-01-25 16:03 J -32959404.87 -32959404.83 -32959404.79 0.3789 0.3424

Jupiter -94951-07-23 04:03 J -32959226.45 -32959226.33 -32959226.20 0.0520 0.0242

Jupiter -94951-10-20 16:03 J -32959136.96 -32959136.83 -32959136.71 0.0516 0.0226

Mars -94950-10-12 21:49 J -32958779.67 -32958779.59 -32958779.51 0.1605 0.1324

Neptune -94949-02-22 14:51 J -32958646.90 -32958646.88 -32958646.83 0.0088 0.0087

Saturn -94949-03-31 20:51 J -32958608.64 -32958608.63 -32958608.60 0.0281 0.0278

Neptune -94949-05-20 18:13 J -32958558.81 -32958558.74 -32958558.67 0.0088 0.0081

Saturn -94949-06-28 11:15 J -32958520.13 -32958520.03 -32958519.92 0.0281 0.0190

Neptune -94949-08-16 20:37 J -32958470.71 -32958470.64 -32958470.53 0.0088 0.0076

Uranus -94949-09-23 00:42 J -32958433.52 -32958433.47 -32958433.41 0.0142 0.0130

Saturn -94949-09-25 02:08 J -32958431.55 -32958431.41 -32958431.27 0.0282 0.0100

Neptune -94949-11-12 23:30 J -32958382.61 -32958382.52 -32958382.40 0.0088 0.0071

Venus -94949-11-16 03:06 J -32958379.42 -32958379.37 -32958379.31 0.3610 0.3293

Uranus -94949-12-20 05:15 J -32958345.37 -32958345.28 -32958345.19 0.0142 0.0111

Saturn -94949-12-22 17:15 J -32958342.93 -32958342.78 -32958342.63 0.0282 0.0008

Neptune -94948-02-09 02:37 J -32958294.51 -32958294.39 -32958294.27 0.0088 0.0065

Uranus -94948-03-18 09:35 J -32958257.20 -32958257.10 -32958256.97 0.0142 0.0093

Saturn -94948-03-21 08:37 J -32958254.29 -32958254.14 -32958253.99 0.0282 0.0087

Neptune -94948-05-08 05:15 J -32958206.40 -32958206.28 -32958206.14 0.0088 0.0060

Uranus -94948-06-14 14:23 J -32958169.02 -32958168.90 -32958168.77 0.0142 0.0072

Saturn -94948-06-18 00:13 J -32958165.60 -32958165.49 -32958165.37 0.0282 0.0185

Neptune -94948-08-04 07:54 J -32958118.29 -32958118.17 -32958118.02 0.0088 0.0055

Uranus -94948-09-10 19:11 J -32958080.84 -32958080.70 -32958080.56 0.0142 0.0052

Neptune -94948-10-31 10:47 J -32958030.18 -32958030.05 -32958029.89 0.0088 0.0049

Uranus -94948-12-07 23:44 J -32957992.65 -32957992.51 -32957992.36 0.0143 0.0033

Neptune -94947-01-27 13:54 J -32957942.07 -32957941.92 -32957941.77 0.0088 0.0044

Uranus -94947-03-06 04:32 J -32957904.46 -32957904.31 -32957904.16 0.0143 0.0013

Neptune -94947-04-25 16:32 J -32957853.96 -32957853.81 -32957853.65 0.0088 0.0039

Uranus -94947-06-02 09:20 J -32957816.26 -32957816.11 -32957815.95 0.0143 0.0010

Neptune -94947-07-22 19:11 J -32957765.85 -32957765.70 -32957765.53 0.0088 0.0034

Mars -94947-07-29 18:27 J -32957758.86 -32957758.73 -32957758.59 0.1921 0.0283

Uranus -94947-08-29 14:23 J -32957728.05 -32957727.90 -32957727.75 0.0143 0.0029

Neptune -94947-10-18 22:03 J -32957677.74 -32957677.58 -32957677.41 0.0088 0.0028

Uranus -94947-11-25 19:11 J -32957639.84 -32957639.70 -32957639.56 0.0143 0.0050

Neptune -94946-01-15 00:56 J -32957589.63 -32957589.46 -32957589.29 0.0088 0.0023

Uranus -94946-02-21 23:59 J -32957551.62 -32957551.50 -32957551.36 0.0143 0.0072

Neptune -94946-04-13 03:35 J -32957501.52 -32957501.35 -32957501.18 0.0088 0.0018

Uranus -94946-05-21 05:01 J -32957463.40 -32957463.29 -32957463.17 0.0143 0.0093

Neptune -94946-07-10 06:13 J -32957413.40 -32957413.24 -32957413.06 0.0088 0.0013

Venus -94946-08-11 09:49 J -32957381.16 -32957381.09 -32957381.02 0.3787 0.2693

Uranus -94946-08-17 10:03 J -32957375.16 -32957375.08 -32957374.98 0.0144 0.0114

Neptune -94946-10-06 09:06 J -32957325.29 -32957325.12 -32957324.95 0.0088 0.0007

Uranus -94946-11-13 15:20 J -32957286.91 -32957286.86 -32957286.81 0.0144 0.0136

Neptune -94945-01-02 11:44 J -32957237.18 -32957237.01 -32957236.84 0.0088 0.0002

Neptune -94945-03-30 14:23 J -32957149.07 -32957148.90 -32957148.72 0.0088 0.0003

Neptune -94945-06-26 17:01 J -32957060.96 -32957060.79 -32957060.61 0.0088 0.0009

Neptune -94945-09-22 19:39 J -32956972.84 -32956972.68 -32956972.51 0.0088 0.0014

Jupiter -94945-12-19 13:54 J -32956885.08 -32956884.92 -32956884.77 0.0509 0.0183

Neptune -94945-12-19 22:18 J -32956884.73 -32956884.57 -32956884.40 0.0088 0.0019

Neptune -94944-03-18 00:56 J -32956796.62 -32956796.46 -32956796.29 0.0088 0.0024

Jupiter -94944-03-19 11:59 J -32956795.12 -32956795.00 -32956794.88 0.0513 0.0338

Neptune -94944-06-14 03:35 J -32956708.51 -32956708.35 -32956708.18 0.0088 0.0029

Neptune -94944-09-10 06:13 J -32956620.39 -32956620.24 -32956620.08 0.0088 0.0033

Neptune -94944-12-07 08:51 J -32956532.28 -32956532.13 -32956531.98 0.0088 0.0038

Moon -94943-01-14 00:42 J -32956494.59 -32956494.47 -32956494.35 0.2721 0.0934

Earth -94943-01-14 01:25 J -32956494.56 -32956494.44 -32956494.32 0.2728 0.0928 *

Neptune -94943-03-05 11:15 J -32956444.17 -32956444.03 -32956443.87 0.0088 0.0044

Neptune -94943-06-01 13:54 J -32956356.05 -32956355.92 -32956355.77 0.0088 0.0048

Neptune -94943-08-28 16:18 J -32956267.94 -32956267.82 -32956267.67 0.0088 0.0054

Neptune -94943-11-24 18:56 J -32956179.83 -32956179.71 -32956179.57 0.0088 0.0058

Neptune -94942-02-20 21:20 J -32956091.71 -32956091.61 -32956091.48 0.0088 0.0064

Mars -94942-03-29 13:54 J -32956055.03 -32956054.92 -32956054.81 0.1609 0.0964

Neptune -94942-05-19 23:44 J -32956003.60 -32956003.51 -32956003.38 0.0088 0.0069

Neptune -94942-08-16 02:37 J -32955915.48 -32955915.39 -32955915.29 0.0088 0.0073

Neptune -94942-11-12 05:01 J -32955827.36 -32955827.29 -32955827.20 0.0088 0.0078

Neptune -94941-02-08 07:25 J -32955739.23 -32955739.19 -32955739.12 0.0088 0.0083

Neptune -94941-05-06 09:49 J -32955651.10 -32955651.09 -32955651.05 0.0088 0.0087

Venus -94940-02-24 03:49 J -32955357.44 -32955357.34 -32955357.25 0.3784 0.1943

Mars -94940-03-04 05:30 J -32955349.39 -32955349.27 -32955349.15 0.1605 0.0860

Moon -94940-07-23 13:39 J -32955208.06 -32955207.93 -32955207.81 0.2619 0.0466

Earth -94940-07-23 13:39 J -32955208.06 -32955207.93 -32955207.80 0.2613 0.0515 *

Jupiter -94939-05-11 07:25 J -32954916.29 -32954916.19 -32954916.08 0.0521 0.0350

Jupiter -94939-08-08 18:56 J -32954826.85 -32954826.71 -32954826.57 0.0517 0.0116

Mars -94938-12-19 20:51 J -32954328.74 -32954328.63 -32954328.52 0.1919 0.1140

Venus -94935-09-09 21:49 J -32953333.69 -32953333.59 -32953333.49 0.3782 0.1169

Saturn -94935-11-06 20:23 J -32953275.71 -32953275.65 -32953275.57 0.0277 0.0252

Saturn -94934-02-03 13:25 J -32953187.07 -32953186.94 -32953186.81 0.0277 0.0154

Saturn -94934-05-03 05:44 J -32953098.41 -32953098.26 -32953098.10 0.0277 0.0060

Saturn -94934-07-30 22:03 J -32953009.74 -32953009.58 -32953009.43 0.0276 0.0035

Saturn -94934-10-27 13:39 J -32952921.07 -32952920.93 -32952920.79 0.0276 0.0125

Saturn -94933-01-24 05:01 J -32952832.38 -32952832.29 -32952832.19 0.0276 0.0213

Mars -94933-08-18 22:32 J -32952624.63 -32952624.56 -32952624.49 0.1610 0.1384

Jupiter -94933-10-07 13:54 J -32952575.05 -32952574.92 -32952574.79 0.0509 0.0310

Jupiter -94932-01-05 12:42 J -32952485.12 -32952484.97 -32952484.83 0.0512 0.0215

Mars -94931-07-25 13:25 J -32951919.07 -32951918.94 -32951918.80 0.1606 0.0411

Moon -94930-01-16 23:15 J -32951743.66 -32951743.53 -32951743.41 0.2722 0.0537

Earth -94930-01-17 00:13 J -32951743.61 -32951743.49 -32951743.36 0.2723 0.0659 *

Venus -94929-03-25 16:03 J -32951309.94 -32951309.83 -32951309.72 0.3779 0.0388

Jupiter -94927-02-27 10:32 J -32950606.12 -32950606.06 -32950606.00 0.0521 0.0461

Jupiter -94927-05-27 21:49 J -32950516.73 -32950516.59 -32950516.45 0.0517 0.0012

Earth -94927-07-26 11:15 J -32950457.15 -32950457.03 -32950456.91 0.2616 0.0835

Moon -94927-07-26 11:59 J -32950457.12 -32950457.00 -32950456.88 0.2621 0.0833 *

Jupiter -94927-08-25 09:49 J -32950427.14 -32950427.09 -32950427.03 0.0513 0.0469

Mars -94926-04-17 12:56 J -32950192.04 -32950191.96 -32950191.87 0.1923 0.1455

Venus -94925-03-24 00:27 J -32949850.54 -32949850.48 -32949850.42 0.3592 0.3217

Venus -94924-10-09 10:32 J -32949286.17 -32949286.06 -32949285.95 0.3776 0.0451

Mars -94922-12-15 21:35 J -32948488.74 -32948488.60 -32948488.46 0.1607 0.0036

Jupiter -94921-07-26 13:54 J -32948265.00 -32948264.92 -32948264.83 0.0508 0.0437

Jupiter -94921-10-24 13:11 J -32948175.11 -32948174.95 -32948174.79 0.0512 0.0090

Venus -94920-10-08 02:08 J -32947826.53 -32947826.41 -32947826.30 0.3595 0.1955

Saturn -94920-11-15 11:15 J -32947788.12 -32947788.03 -32947787.94 0.0282 0.0226

Saturn -94919-02-12 01:54 J -32947699.55 -32947699.42 -32947699.29 0.0282 0.0137

Saturn -94919-05-11 16:47 J -32947610.95 -32947610.80 -32947610.65 0.0282 0.0045

Saturn -94919-08-08 07:54 J -32947522.31 -32947522.17 -32947522.01 0.0282 0.0050

Saturn -94919-11-04 23:30 J -32947433.65 -32947433.52 -32947433.38 0.0283 0.0146

Saturn -94918-02-01 15:35 J -32947344.92 -32947344.85 -32947344.77 0.0283 0.0244

Venus -94918-04-25 05:15 J -32947262.38 -32947262.28 -32947262.17 0.3773 0.1286

Moon -94917-01-19 22:18 J -32946992.65 -32946992.57 -32946992.49 0.2722 0.2127

Earth -94917-01-19 23:30 J -32946992.59 -32946992.52 -32946992.46 0.2719 0.2289 *

Mars -94917-09-06 16:18 J -32946761.95 -32946761.82 -32946761.69 0.1922 0.0649

Jupiter -94915-03-16 00:27 J -32946206.62 -32946206.48 -32946206.34 0.0518 0.0117

Jupiter -94915-06-13 12:27 J -32946117.09 -32946116.98 -32946116.88 0.0514 0.0350

Venus -94914-04-24 03:06 J -32945802.51 -32945802.37 -32945802.24 0.3598 0.0758

Earth -94914-07-29 08:37 J -32945706.21 -32945706.14 -32945706.07 0.2620 0.2152

Moon -94914-07-29 09:35 J -32945706.16 -32945706.10 -32945706.04 0.2621 0.2302 *

Venus -94913-11-08 00:13 J -32945238.58 -32945238.49 -32945238.40 0.3769 0.2146

Mars -94912-05-07 05:44 J -32945058.39 -32945058.26 -32945058.13 0.1607 0.0474

Moon -94910-01-12 08:08 J -32944443.24 -32944443.16 -32944443.08 0.2724 0.2073

Earth -94910-01-12 08:08 J -32944443.23 -32944443.16 -32944443.08 0.2731 0.2157 *

Mars -94910-04-12 22:03 J -32944352.65 -32944352.58 -32944352.51 0.1605 0.1386

Uranus -94910-11-23 10:03 J -32944128.12 -32944128.08 -32944128.01 0.0137 0.0130

Uranus -94909-02-19 15:49 J -32944039.93 -32944039.84 -32944039.73 0.0137 0.0109

Uranus -94909-05-17 21:20 J -32943951.73 -32943951.61 -32943951.48 0.0137 0.0089

Jupiter -94909-08-12 13:11 J -32943865.11 -32943864.95 -32943864.79 0.0510 0.0041

Uranus -94909-08-14 02:37 J -32943863.52 -32943863.39 -32943863.24 0.0136 0.0069

Venus -94909-11-07 03:35 J -32943778.48 -32943778.35 -32943778.21 0.3601 0.0404

Uranus -94909-11-10 08:08 J -32943775.31 -32943775.16 -32943775.00 0.0136 0.0049

Jupiter -94909-11-10 10:47 J -32943775.10 -32943775.05 -32943774.99 0.0514 0.0476 *

Uranus -94908-02-06 13:25 J -32943687.10 -32943686.94 -32943686.77 0.0136 0.0029

Uranus -94908-05-05 18:42 J -32943598.88 -32943598.72 -32943598.55 0.0136 0.0010

Uranus -94908-08-01 23:59 J -32943510.66 -32943510.50 -32943510.34 0.0136 0.0010

Uranus -94908-10-29 05:01 J -32943422.44 -32943422.29 -32943422.13 0.0136 0.0029

Uranus -94907-01-25 10:18 J -32943334.22 -32943334.07 -32943333.92 0.0136 0.0048

Mars -94907-01-27 18:56 J -32943331.85 -32943331.71 -32943331.58 0.1921 0.0199

Uranus -94907-04-23 15:06 J -32943246.00 -32943245.87 -32943245.72 0.0135 0.0067

Venus -94907-05-24 19:25 J -32943214.76 -32943214.69 -32943214.63 0.3766 0.3029

Uranus -94907-07-20 20:08 J -32943157.78 -32943157.66 -32943157.53 0.0135 0.0085

Moon -94907-07-21 20:37 J -32943156.74 -32943156.64 -32943156.54 0.2615 0.1646

Earth -94907-07-21 21:20 J -32943156.71 -32943156.61 -32943156.51 0.2610 0.1599 *

Uranus -94907-10-17 00:56 J -32943069.55 -32943069.46 -32943069.34 0.0135 0.0104

Uranus -94906-01-13 05:59 J -32942981.31 -32942981.25 -32942981.17 0.0135 0.0121

Saturn -94905-06-22 14:23 J -32942455.02 -32942454.90 -32942454.77 0.0278 0.0182

Saturn -94905-09-19 07:11 J -32942366.35 -32942366.20 -32942366.05 0.0277 0.0085

Saturn -94905-12-16 23:15 J -32942277.68 -32942277.53 -32942277.37 0.0277 0.0011

Saturn -94904-03-15 15:06 J -32942189.01 -32942188.87 -32942188.72 0.0277 0.0101

Saturn -94904-06-12 06:42 J -32942100.33 -32942100.22 -32942100.11 0.0277 0.0190

Jupiter -94903-01-02 02:37 J -32941896.52 -32941896.39 -32941896.27 0.0520 0.0241

Jupiter -94903-04-01 14:23 J -32941807.03 -32941806.90 -32941806.77 0.0516 0.0226

Venus -94903-05-24 03:49 J -32941754.46 -32941754.34 -32941754.22 0.3604 0.1505

Mars -94903-09-27 14:08 J -32941628.02 -32941627.91 -32941627.80 0.1608 0.0905

Mars -94901-09-02 05:44 J -32940922.37 -32940922.26 -32940922.14 0.1605 0.0926

Mars -94898-06-19 21:20 J -32939901.73 -32939901.61 -32939901.50 0.1919 0.1058

Venus -94898-12-08 03:20 J -32939730.45 -32939730.36 -32939730.26 0.3608 0.2558

Moon -94897-01-15 06:13 J -32939692.36 -32939692.24 -32939692.11 0.2721 0.0728

Earth -94897-01-15 06:56 J -32939692.34 -32939692.21 -32939692.09 0.2727 0.0609 *

Jupiter -94897-05-31 12:56 J -32939555.12 -32939554.96 -32939554.81 0.0509 0.0172

Jupiter -94897-08-29 11:01 J -32939465.15 -32939465.04 -32939464.92 0.0513 0.0348

Venus -94895-09-01 13:54 J -32938731.97 -32938731.92 -32938731.86 0.3789 0.3223

Earth -94894-07-24 19:11 J -32938405.83 -32938405.70 -32938405.57 0.2613 0.0232

Moon -94894-07-24 19:11 J -32938405.82 -32938405.70 -32938405.57 0.2619 0.0267 *

Mars -94893-02-17 22:32 J -32938197.63 -32938197.56 -32938197.48 0.1610 0.1331

Venus -94892-06-23 02:51 J -32937706.40 -32937706.38 -32937706.37 0.3611 0.3559

Jupiter -94892-10-21 05:30 J -32937586.37 -32937586.27 -32937586.17 0.0521 0.0354

Jupiter -94891-01-18 17:01 J -32937496.93 -32937496.79 -32937496.65 0.0517 0.0112

Mars -94891-01-23 13:39 J -32937492.06 -32937491.93 -32937491.80 0.1606 0.0472

Saturn -94890-04-04 13:54 J -32937055.99 -32937055.92 -32937055.84 0.0281 0.0243

Saturn -94890-07-02 04:32 J -32936967.43 -32936967.31 -32936967.19 0.0281 0.0154

Saturn -94890-09-28 19:25 J -32936878.84 -32936878.69 -32936878.55 0.0281 0.0063

Saturn -94890-12-26 10:32 J -32936790.21 -32936790.06 -32936789.91 0.0282 0.0030

Venus -94889-03-17 07:54 J -32936708.25 -32936708.17 -32936708.09 0.3786 0.2481

Saturn -94889-03-24 01:54 J -32936701.55 -32936701.42 -32936701.28 0.0282 0.0126

Saturn -94889-06-20 17:59 J -32936612.85 -32936612.75 -32936612.66 0.0282 0.0223

Mars -94887-10-16 13:25 J -32935765.02 -32935764.94 -32935764.86 0.1922 0.1533

Jupiter -94885-03-19 12:13 J -32935245.12 -32935244.99 -32935244.86 0.0508 0.0309

Jupiter -94885-06-17 10:47 J -32935155.19 -32935155.05 -32935154.90 0.0512 0.0215

Moon -94884-01-17 04:32 J -32934941.43 -32934941.31 -32934941.18 0.2723 0.0914

Earth -94884-01-17 05:44 J -32934941.38 -32934941.26 -32934941.14 0.2723 0.0989 *

Venus -94884-10-01 01:54 J -32934684.52 -32934684.42 -32934684.33 0.3784 0.1734

Mars -94882-06-15 21:49 J -32934061.73 -32934061.59 -32934061.46 0.1606 0.0050

Earth -94881-07-26 16:32 J -32933654.92 -32933654.81 -32933654.69 0.2617 0.1122

Moon -94881-07-26 17:15 J -32933654.89 -32933654.78 -32933654.67 0.2622 0.1277 *

Jupiter -94880-08-09 08:51 J -32933276.19 -32933276.13 -32933276.06 0.0522 0.0461

Jupiter -94880-11-06 20:08 J -32933186.80 -32933186.66 -32933186.52 0.0518 0.0012

Jupiter -94879-02-04 08:23 J -32933097.20 -32933097.15 -32933097.09 0.0514 0.0471

Venus -94878-04-16 19:54 J -32932660.77 -32932660.67 -32932660.56 0.3781 0.0956

Mars -94877-03-07 16:18 J -32932334.94 -32932334.82 -32932334.69 0.1922 0.0714

Saturn -94876-11-09 14:23 J -32931723.00 -32931722.90 -32931722.80 0.0277 0.0213

Saturn -94875-02-06 06:56 J -32931634.35 -32931634.21 -32931634.06 0.0277 0.0117

Saturn -94875-05-05 23:15 J -32931545.68 -32931545.53 -32931545.37 0.0277 0.0024

Saturn -94875-08-02 15:20 J -32931457.01 -32931456.86 -32931456.71 0.0277 0.0070

Saturn -94875-10-30 06:56 J -32931368.33 -32931368.21 -32931368.08 0.0276 0.0160

Saturn -94874-01-26 22:03 J -32931279.64 -32931279.58 -32931279.51 0.0276 0.0248

Jupiter -94873-01-06 11:59 J -32930935.08 -32930935.00 -32930934.91 0.0507 0.0438

Jupiter -94873-04-05 11:15 J -32930845.19 -32930845.03 -32930844.87 0.0511 0.0089

Venus -94873-10-30 14:23 J -32930637.01 -32930636.90 -32930636.79 0.3778 0.0163

Mars -94873-11-05 05:59 J -32930631.38 -32930631.25 -32930631.12 0.1607 0.0415

Moon -94871-01-20 04:03 J -32930190.37 -32930190.33 -32930190.29 0.2722 0.2550

Earth -94871-01-20 05:01 J -32930190.32 -32930190.29 -32930190.26 0.2719 0.2620 *

Mars -94871-10-11 22:18 J -32929925.63 -32929925.57 -32929925.51 0.1605 0.1448

Venus -94869-10-29 00:42 J -32929177.56 -32929177.47 -32929177.39 0.3593 0.2860

Mars -94868-07-28 19:11 J -32928904.83 -32928904.70 -32928904.56 0.1921 0.0124

Earth -94868-07-29 13:54 J -32928903.96 -32928903.92 -32928903.88 0.2621 0.2432

Moon -94868-07-29 14:51 J -32928903.92 -32928903.88 -32928903.84 0.2620 0.2452 *

Jupiter -94868-08-25 23:01 J -32928876.68 -32928876.54 -32928876.40 0.0518 0.0113

Neptune -94868-11-19 14:37 J -32928790.92 -32928790.89 -32928790.87 0.0089 0.0087

Jupiter -94868-11-23 11:01 J -32928787.14 -32928787.04 -32928786.94 0.0515 0.0354

Neptune -94867-02-15 16:03 J -32928702.87 -32928702.83 -32928702.78 0.0089 0.0083

Neptune -94867-05-14 17:44 J -32928614.82 -32928614.76 -32928614.69 0.0089 0.0079

Venus -94867-05-16 08:51 J -32928613.24 -32928613.13 -32928613.02 0.3775 0.0672

Neptune -94867-08-10 19:11 J -32928526.76 -32928526.70 -32928526.61 0.0089 0.0075

Neptune -94867-11-06 20:51 J -32928438.70 -32928438.63 -32928438.53 0.0089 0.0071

Neptune -94866-02-02 22:32 J -32928350.64 -32928350.56 -32928350.46 0.0089 0.0067

Neptune -94866-05-02 00:27 J -32928262.58 -32928262.48 -32928262.38 0.0089 0.0062

Neptune -94866-07-29 02:08 J -32928174.52 -32928174.41 -32928174.30 0.0089 0.0058

Neptune -94866-10-25 03:35 J -32928086.45 -32928086.35 -32928086.23 0.0089 0.0054

Neptune -94865-01-21 05:15 J -32927998.39 -32927998.28 -32927998.15 0.0089 0.0050

Neptune -94865-04-18 07:11 J -32927910.32 -32927910.20 -32927910.08 0.0089 0.0045

Neptune -94865-07-15 08:51 J -32927822.26 -32927822.13 -32927822.00 0.0089 0.0041

Neptune -94865-10-11 10:18 J -32927734.19 -32927734.07 -32927733.93 0.0089 0.0037

Uranus -94865-10-13 08:08 J -32927732.22 -32927732.16 -32927732.08 0.0142 0.0125

Neptune -94864-01-07 11:59 J -32927646.12 -32927646.00 -32927645.85 0.0089 0.0033

Uranus -94864-01-09 12:42 J -32927644.06 -32927643.97 -32927643.87 0.0142 0.0106

Moon -94864-01-12 13:25 J -32927641.03 -32927640.94 -32927640.85 0.2723 0.1931

Earth -94864-01-12 13:39 J -32927641.02 -32927640.93 -32927640.84 0.2730 0.1842 *

Neptune -94864-04-05 13:54 J -32927558.05 -32927557.92 -32927557.78 0.0089 0.0028

Uranus -94864-04-07 17:15 J -32927555.89 -32927555.78 -32927555.65 0.0142 0.0086

Pluto -94864-06-20 03:20 J -32927482.38 -32927482.36 -32927482.33 0.0085 0.0083

Neptune -94864-07-02 15:35 J -32927469.98 -32927469.85 -32927469.70 0.0089 0.0024

Uranus -94864-07-04 22:03 J -32927467.71 -32927467.58 -32927467.45 0.0142 0.0067

Pluto -94864-09-16 04:47 J -32927394.37 -32927394.30 -32927394.23 0.0084 0.0070

Neptune -94864-09-28 17:15 J -32927381.91 -32927381.78 -32927381.63 0.0089 0.0020

Uranus -94864-10-01 02:37 J -32927379.53 -32927379.39 -32927379.24 0.0142 0.0047

Pluto -94864-12-13 05:44 J -32927306.34 -32927306.26 -32927306.15 0.0084 0.0058

Neptune -94864-12-25 19:11 J -32927293.84 -32927293.70 -32927293.56 0.0089 0.0015

Uranus -94864-12-28 07:25 J -32927291.34 -32927291.19 -32927291.04 0.0143 0.0027

Pluto -94863-03-11 07:11 J -32927218.31 -32927218.20 -32927218.08 0.0084 0.0044

Neptune -94863-03-23 20:51 J -32927205.77 -32927205.63 -32927205.48 0.0089 0.0011

Uranus -94863-03-26 12:13 J -32927203.14 -32927202.99 -32927202.84 0.0143 0.0006

Mars -94863-03-28 14:23 J -32927201.02 -32927200.90 -32927200.79 0.1608 0.0847

Venus -94863-05-15 02:08 J -32927153.54 -32927153.41 -32927153.29 0.3596 0.1618

Pluto -94863-06-07 08:23 J -32927130.26 -32927130.15 -32927130.02 0.0084 0.0032

Neptune -94863-06-19 22:32 J -32927117.70 -32927117.56 -32927117.41 0.0089 0.0007

Uranus -94863-06-22 17:01 J -32927114.94 -32927114.79 -32927114.64 0.0143 0.0014

Pluto -94863-09-03 09:49 J -32927042.22 -32927042.09 -32927041.96 0.0084 0.0019

Neptune -94863-09-16 00:27 J -32927029.63 -32927029.48 -32927029.33 0.0089 0.0002

Uranus -94863-09-18 21:49 J -32927026.73 -32927026.59 -32927026.44 0.0143 0.0035

Pluto -94863-11-30 11:01 J -32926954.17 -32926954.04 -32926953.91 0.0084 0.0007

Neptune -94863-12-13 02:08 J -32926941.55 -32926941.41 -32926941.26 0.0089 0.0003

Uranus -94863-12-16 02:37 J -32926938.52 -32926938.39 -32926938.24 0.0143 0.0056

Pluto -94862-02-26 12:13 J -32926866.12 -32926865.99 -32926865.86 0.0084 0.0006

Neptune -94862-03-11 04:03 J -32926853.48 -32926853.33 -32926853.19 0.0089 0.0007

Uranus -94862-03-14 07:39 J -32926850.31 -32926850.18 -32926850.05 0.0143 0.0077

Pluto -94862-05-25 13:25 J -32926778.07 -32926777.94 -32926777.81 0.0084 0.0018

Neptune -94862-06-07 05:44 J -32926765.41 -32926765.26 -32926765.11 0.0089 0.0011

Uranus -94862-06-10 12:27 J -32926762.08 -32926761.98 -32926761.86 0.0143 0.0099

Pluto -94862-08-21 14:37 J -32926690.01 -32926689.89 -32926689.76 0.0083 0.0030

Neptune -94862-09-03 07:25 J -32926677.33 -32926677.19 -32926677.04 0.0089 0.0016

Uranus -94862-09-06 17:44 J -32926673.84 -32926673.76 -32926673.68 0.0144 0.0120

Pluto -94862-11-17 15:49 J -32926601.95 -32926601.84 -32926601.72 0.0083 0.0042

Venus -94862-11-30 03:35 J -32926589.45 -32926589.35 -32926589.24 0.3772 0.1518

Neptune -94862-11-30 09:20 J -32926589.25 -32926589.11 -32926588.97 0.0089 0.0020 *

Uranus -94862-12-03 22:47 J -32926585.57 -32926585.55 -32926585.52 0.0144 0.0142

Jupiter -94861-01-23 11:30 J -32926535.18 -32926535.02 -32926534.85 0.0510 0.0038

Pluto -94861-02-13 17:01 J -32926513.88 -32926513.79 -32926513.69 0.0083 0.0054

Neptune -94861-02-26 11:01 J -32926501.18 -32926501.04 -32926500.89 0.0089 0.0025

Mars -94861-03-03 05:59 J -32926495.35 -32926495.25 -32926495.14 0.1605 0.0989

Jupiter -94861-04-22 09:20 J -32926445.16 -32926445.11 -32926445.05 0.0514 0.0481

Pluto -94861-05-11 18:13 J -32926425.81 -32926425.74 -32926425.66 0.0083 0.0066

Neptune -94861-05-24 12:56 J -32926413.10 -32926412.96 -32926412.82 0.0089 0.0029

Moon -94861-07-22 02:08 J -32926354.52 -32926354.41 -32926354.30 0.2616 0.1368

Earth -94861-07-22 02:51 J -32926354.50 -32926354.38 -32926354.27 0.2610 0.1304 *

Pluto -94861-08-07 19:25 J -32926337.73 -32926337.69 -32926337.65 0.0083 0.0078

Neptune -94861-08-20 14:37 J -32926325.02 -32926324.89 -32926324.75 0.0089 0.0034

Saturn -94861-08-21 13:54 J -32926323.93 -32926323.92 -32926323.89 0.0281 0.0278

Neptune -94861-11-16 16:18 J -32926236.94 -32926236.82 -32926236.67 0.0089 0.0039

Saturn -94861-11-18 04:18 J -32926235.42 -32926235.32 -32926235.21 0.0282 0.0190

Neptune -94860-02-12 18:13 J -32926148.86 -32926148.74 -32926148.60 0.0089 0.0043

Saturn -94860-02-14 19:11 J -32926146.84 -32926146.70 -32926146.56 0.0282 0.0100

Neptune -94860-05-11 19:54 J -32926060.78 -32926060.67 -32926060.53 0.0089 0.0048

Saturn -94860-05-14 10:03 J -32926058.23 -32926058.08 -32926057.92 0.0282 0.0010

Neptune -94860-08-07 22:03 J -32925972.70 -32925972.58 -32925972.46 0.0089 0.0052

Saturn -94860-08-11 01:25 J -32925969.58 -32925969.44 -32925969.29 0.0282 0.0088

Neptune -94860-11-03 23:44 J -32925884.61 -32925884.51 -32925884.39 0.0089 0.0057

Saturn -94860-11-07 17:01 J -32925880.90 -32925880.79 -32925880.67 0.0282 0.0186

Neptune -94859-01-31 01:54 J -32925796.53 -32925796.42 -32925796.31 0.0089 0.0061

Neptune -94859-04-29 03:35 J -32925708.44 -32925708.35 -32925708.24 0.0089 0.0066

Neptune -94859-07-26 05:15 J -32925620.35 -32925620.28 -32925620.17 0.0089 0.0071

Neptune -94859-10-22 07:25 J -32925532.26 -32925532.19 -32925532.11 0.0089 0.0075

Mars -94859-12-18 21:35 J -32925474.72 -32925474.60 -32925474.48 0.1919 0.0976

Neptune -94858-01-18 09:06 J -32925444.17 -32925444.12 -32925444.04 0.0089 0.0080

Neptune -94858-04-16 11:15 J -32925356.07 -32925356.03 -32925355.98 0.0089 0.0084

Venus -94858-11-29 02:51 J -32925129.51 -32925129.38 -32925129.24 0.3599 0.0442

Jupiter -94856-06-14 01:54 J -32924566.55 -32924566.42 -32924566.30 0.0519 0.0230

Venus -94856-06-14 22:32 J -32924565.64 -32924565.56 -32924565.47 0.3768 0.2386

Jupiter -94856-09-11 13:25 J -32924477.06 -32924476.94 -32924476.81 0.0516 0.0237

Mars -94854-08-18 22:47 J -32923770.63 -32923770.55 -32923770.46 0.1609 0.1272

Venus -94852-06-14 03:35 J -32923105.49 -32923105.35 -32923105.22 0.3602 0.0717

Mars -94852-07-24 13:54 J -32923065.05 -32923064.92 -32923064.79 0.1606 0.0533

Moon -94851-01-15 11:30 J -32922890.14 -32922890.02 -32922889.89 0.2722 0.0297

Earth -94851-01-15 12:27 J -32922890.11 -32922889.98 -32922889.86 0.2726 0.0291 *

Venus -94851-12-29 17:44 J -32922541.81 -32922541.76 -32922541.70 0.3765 0.3276

Jupiter -94850-11-11 11:30 J -32922225.17 -32922225.02 -32922224.86 0.0509 0.0166

Jupiter -94849-02-09 09:49 J -32922135.20 -32922135.09 -32922134.98 0.0513 0.0354

Mars -94849-05-09 23:30 J -32922044.55 -32922044.52 -32922044.49 0.1918 0.1862

Earth -94848-07-25 00:27 J -32921603.61 -32921603.48 -32921603.35 0.2614 0.0064

Moon -94848-07-25 00:56 J -32921603.59 -32921603.46 -32921603.34 0.2620 0.0161 *

Mars -94847-04-16 13:25 J -32921338.01 -32921337.94 -32921337.86 0.1923 0.1606

Venus -94847-12-29 03:35 J -32921081.47 -32921081.35 -32921081.24 0.3605 0.1800

Saturn -94846-03-29 14:51 J -32920990.95 -32920990.88 -32920990.80 0.0278 0.0243

Saturn -94846-06-26 07:54 J -32920902.31 -32920902.17 -32920902.03 0.0278 0.0145

Saturn -94846-09-23 00:27 J -32920813.64 -32920813.48 -32920813.33 0.0277 0.0049

Saturn -94846-12-20 16:32 J -32920724.97 -32920724.81 -32920724.65 0.0277 0.0044

Saturn -94845-03-18 08:08 J -32920636.29 -32920636.16 -32920636.02 0.0277 0.0136

Saturn -94845-06-14 23:30 J -32920547.60 -32920547.52 -32920547.42 0.0277 0.0225

Jupiter -94844-04-02 03:49 J -32920256.44 -32920256.34 -32920256.24 0.0521 0.0354

Jupiter -94844-06-30 15:20 J -32920167.00 -32920166.86 -32920166.72 0.0517 0.0111

Venus -94844-09-22 18:27 J -32920082.75 -32920082.73 -32920082.72 0.3790 0.3734

Mars -94843-12-14 22:03 J -32919634.72 -32919634.58 -32919634.44 0.1606 0.0089

Venus -94841-07-14 03:06 J -32919057.45 -32919057.37 -32919057.29 0.3609 0.2833

Moon -94838-01-18 10:18 J -32918139.19 -32918139.07 -32918138.96 0.2722 0.1150

Earth -94838-01-18 11:15 J -32918139.14 -32918139.03 -32918138.91 0.2722 0.1322 *

Venus -94838-04-08 11:59 J -32918059.06 -32918059.00 -32918058.93 0.3788 0.3012

Jupiter -94838-08-30 11:15 J -32917915.16 -32917915.03 -32917914.90 0.0508 0.0298

Mars -94838-09-06 16:47 J -32917907.92 -32917907.80 -32917907.68 0.1922 0.0803

Jupiter -94838-11-28 09:49 J -32917825.23 -32917825.09 -32917824.95 0.0512 0.0224

Earth -94835-07-27 22:03 J -32916852.69 -32916852.58 -32916852.48 0.2617 0.1406

Moon -94835-07-27 22:47 J -32916852.66 -32916852.55 -32916852.44 0.2621 0.1420 *

Mars -94833-05-06 06:13 J -32916204.38 -32916204.24 -32916204.11 0.1607 0.0362

Venus -94833-10-22 05:59 J -32916035.34 -32916035.25 -32916035.17 0.3785 0.2274

Jupiter -94832-01-19 06:56 J -32915946.27 -32915946.21 -32915946.15 0.0522 0.0467

Jupiter -94832-04-18 18:13 J -32915856.88 -32915856.74 -32915856.60 0.0518 0.0013

Jupiter -94832-07-17 06:27 J -32915767.29 -32915767.23 -32915767.17 0.0514 0.0465

Saturn -94831-04-07 07:39 J -32915503.28 -32915503.18 -32915503.08 0.0281 0.0204

Mars -94831-04-11 22:32 J -32915498.60 -32915498.56 -32915498.51 0.1605 0.1512

Saturn -94831-07-04 22:18 J -32915414.71 -32915414.57 -32915414.44 0.0281 0.0115

Saturn -94831-10-01 13:11 J -32915326.10 -32915325.95 -32915325.80 0.0281 0.0023

Saturn -94831-12-29 04:32 J -32915237.46 -32915237.31 -32915237.17 0.0282 0.0072

Saturn -94830-03-27 20:08 J -32915148.79 -32915148.66 -32915148.54 0.0282 0.0168

Saturn -94830-06-24 11:59 J -32915060.05 -32915060.00 -32915059.95 0.0282 0.0266

Mars -94828-01-26 19:25 J -32914477.82 -32914477.69 -32914477.55 0.1921 0.0044

Moon -94828-07-20 09:20 J -32914303.16 -32914303.11 -32914303.07 0.2611 0.2437

Earth -94828-07-20 10:18 J -32914303.12 -32914303.07 -32914303.03 0.2607 0.2406 *

Venus -94827-05-07 23:59 J -32914011.60 -32914011.50 -32914011.40 0.3783 0.1512

Jupiter -94826-06-18 10:03 J -32913605.16 -32913605.08 -32913604.99 0.0507 0.0437

Jupiter -94826-09-16 09:20 J -32913515.27 -32913515.11 -32913514.95 0.0511 0.0088

Uranus -94826-12-13 17:15 J -32913426.84 -32913426.78 -32913426.71 0.0137 0.0125

Uranus -94825-03-10 22:47 J -32913338.65 -32913338.55 -32913338.44 0.0137 0.0105

Uranus -94825-06-07 04:18 J -32913250.44 -32913250.32 -32913250.18 0.0137 0.0085

Uranus -94825-09-03 09:49 J -32913162.23 -32913162.09 -32913161.94 0.0136 0.0064

Uranus -94825-11-30 15:06 J -32913074.02 -32913073.87 -32913073.71 0.0136 0.0045

Uranus -94824-02-26 20:23 J -32912985.80 -32912985.65 -32912985.48 0.0136 0.0026

Uranus -94824-05-26 01:54 J -32912897.59 -32912897.42 -32912897.26 0.0136 0.0006

Uranus -94824-08-22 06:56 J -32912809.37 -32912809.21 -32912809.04 0.0136 0.0014

Mars -94824-09-26 14:37 J -32912774.01 -32912773.89 -32912773.77 0.1608 0.0790

Uranus -94824-11-18 12:13 J -32912721.15 -32912720.99 -32912720.83 0.0136 0.0033

Uranus -94823-02-14 17:15 J -32912632.93 -32912632.78 -32912632.63 0.0136 0.0052

Uranus -94823-05-13 22:18 J -32912544.71 -32912544.57 -32912544.43 0.0136 0.0070

Uranus -94823-08-10 03:20 J -32912456.48 -32912456.36 -32912456.24 0.0135 0.0089

Uranus -94823-11-06 08:08 J -32912368.25 -32912368.16 -32912368.06 0.0135 0.0107

Uranus -94822-02-02 12:56 J -32912280.01 -32912279.96 -32912279.89 0.0135 0.0125

Mars -94822-09-02 06:13 J -32912068.34 -32912068.24 -32912068.13 0.1605 0.1046

Venus -94822-11-21 18:13 J -32911987.85 -32911987.74 -32911987.63 0.3780 0.0736

Jupiter -94820-02-04 21:20 J -32911546.75 -32911546.61 -32911546.47 0.0519 0.0115

Jupiter -94820-05-05 09:20 J -32911457.21 -32911457.11 -32911457.01 0.0515 0.0354

Mars -94819-06-18 21:49 J -32911047.71 -32911047.59 -32911047.47 0.1920 0.0905

Moon -94818-01-13 18:56 J -32910838.82 -32910838.71 -32910838.60 0.2723 0.1472

Earth -94818-01-13 19:11 J -32910838.81 -32910838.70 -32910838.60 0.2730 0.1534 *

Saturn -94817-08-15 15:06 J -32910258.89 -32910258.87 -32910258.83 0.0277 0.0273

Saturn -94817-11-12 08:08 J -32910170.28 -32910170.16 -32910170.03 0.0277 0.0174

Saturn -94816-02-09 00:56 J -32910081.62 -32910081.46 -32910081.31 0.0277 0.0078

Saturn -94816-05-08 17:01 J -32909992.94 -32909992.79 -32909992.63 0.0277 0.0018

Venus -94816-06-06 12:27 J -32909964.09 -32909963.98 -32909963.86 0.3777 0.0173

Saturn -94816-08-05 08:51 J -32909904.27 -32909904.13 -32909903.98 0.0277 0.0108

Saturn -94816-11-02 00:27 J -32909815.59 -32909815.48 -32909815.37 0.0276 0.0197

Moon -94815-07-23 07:54 J -32909552.29 -32909552.17 -32909552.06 0.2616 0.1064

Earth -94815-07-23 08:08 J -32909552.28 -32909552.16 -32909552.04 0.2611 0.1008 *

Mars -94814-02-16 23:01 J -32909343.63 -32909343.54 -32909343.45 0.1609 0.1217

Jupiter -94814-07-05 09:35 J -32909205.27 -32909205.10 -32909204.94 0.0510 0.0040

Jupiter -94814-10-03 07:25 J -32909115.25 -32909115.19 -32909115.14 0.0514 0.0477

Mars -94812-01-22 14:08 J -32908638.04 -32908637.91 -32908637.78 0.1606 0.0593

Venus -94812-06-05 00:56 J -32908504.56 -32908504.46 -32908504.37 0.3594 0.2506

Venus -94811-12-21 07:11 J -32907940.31 -32907940.20 -32907940.09 0.3774 0.0903

Mars -94810-11-08 23:59 J -32907617.55 -32907617.50 -32907617.45 0.1918 0.1772

Jupiter -94809-11-24 00:13 J -32907236.61 -32907236.49 -32907236.36 0.0520 0.0228

Jupiter -94808-02-21 11:59 J -32907147.13 -32907147.00 -32907146.87 0.0516 0.0238

Mars -94808-10-15 13:54 J -32906910.98 -32906910.92 -32906910.86 0.1923 0.1688

Venus -94807-12-20 02:08 J -32906480.54 -32906480.41 -32906480.28 0.3596 0.1281

Moon -94805-01-16 16:47 J -32906087.92 -32906087.80 -32906087.67 0.2723 0.0170

Earth -94805-01-16 17:44 J -32906087.88 -32906087.76 -32906087.63 0.2726 0.0087 *

Venus -94805-07-06 01:54 J -32905916.51 -32905916.42 -32905916.32 0.3771 0.1758

Mars -94803-06-14 22:18 J -32905207.71 -32905207.57 -32905207.44 0.1606 0.0150

Jupiter -94802-04-23 09:35 J -32904895.25 -32904895.10 -32904894.94 0.0509 0.0167

Jupiter -94802-07-22 07:54 J -32904805.28 -32904805.17 -32904805.05 0.0513 0.0355

Earth -94802-07-26 05:59 J -32904801.38 -32904801.25 -32904801.13 0.2614 0.0370

Moon -94802-07-26 06:13 J -32904801.36 -32904801.24 -32904801.11 0.2621 0.0389 *

Saturn -94802-08-25 07:39 J -32904771.25 -32904771.18 -32904771.10 0.0281 0.0239

Saturn -94802-11-21 22:03 J -32904682.70 -32904682.58 -32904682.45 0.0282 0.0150

Saturn -94801-02-18 12:56 J -32904594.11 -32904593.96 -32904593.81 0.0282 0.0059

Saturn -94801-05-17 04:03 J -32904505.48 -32904505.33 -32904505.18 0.0282 0.0035

Venus -94801-07-05 02:51 J -32904456.51 -32904456.38 -32904456.24 0.3600 0.0113

Saturn -94801-08-13 19:39 J -32904416.82 -32904416.68 -32904416.55 0.0282 0.0131

Saturn -94801-11-10 11:15 J -32904328.11 -32904328.03 -32904327.93 0.0282 0.0228

Venus -94799-01-19 21:06 J -32903892.70 -32903892.62 -32903892.54 0.3767 0.2625

Mars -94798-03-07 17:01 J -32903480.91 -32903480.79 -32903480.67 0.1922 0.0882

Jupiter -94797-09-12 03:06 J -32902926.47 -32902926.37 -32902926.27 0.0521 0.0343

Jupiter -94797-12-10 14:23 J -32902837.03 -32902836.90 -32902836.76 0.0517 0.0122

Venus -94795-01-19 03:20 J -32902432.49 -32902432.36 -32902432.23 0.3603 0.1016

Venus -94794-08-05 16:18 J -32901868.86 -32901868.82 -32901868.78 0.3764 0.3516

Mars -94794-11-05 06:27 J -32901777.36 -32901777.23 -32901777.10 0.1607 0.0296

Moon -94792-01-18 15:49 J -32901336.95 -32901336.84 -32901336.74 0.2722 0.1596

Earth -94792-01-18 16:47 J -32901336.90 -32901336.80 -32901336.69 0.2722 0.1652 *

Mars -94792-10-10 22:47 J -32901071.57 -32901071.55 -32901071.52 0.1605 0.1578

Jupiter -94790-02-09 09:49 J -32900585.23 -32900585.09 -32900584.96 0.0508 0.0294

Jupiter -94790-05-10 08:23 J -32900495.29 -32900495.15 -32900495.01 0.0512 0.0228

Venus -94790-08-05 03:06 J -32900408.48 -32900408.37 -32900408.26 0.3606 0.2086

Mars -94789-07-27 19:39 J -32900050.81 -32900050.68 -32900050.54 0.1921 0.0065

Earth -94789-07-28 03:20 J -32900050.46 -32900050.36 -32900050.27 0.2618 0.1687

Moon -94789-07-28 04:18 J -32900050.41 -32900050.32 -32900050.23 0.2620 0.1828 *

Saturn -94787-04-01 08:51 J -32899438.23 -32899438.13 -32899438.01 0.0278 0.0203

Venus -94787-04-29 16:18 J -32899409.85 -32899409.82 -32899409.78 0.3789 0.3527

Saturn -94787-06-29 01:39 J -32899349.57 -32899349.43 -32899349.28 0.0278 0.0106

Saturn -94787-09-25 18:13 J -32899260.90 -32899260.74 -32899260.58 0.0277 0.0011

Saturn -94787-12-23 10:03 J -32899172.22 -32899172.08 -32899171.93 0.0277 0.0083

Saturn -94786-03-22 01:54 J -32899083.54 -32899083.42 -32899083.30 0.0277 0.0173

Saturn -94786-06-18 17:15 J -32898994.83 -32898994.78 -32898994.73 0.0277 0.0261

Moon -94785-01-12 02:23 J -32898787.42 -32898787.40 -32898787.39 0.2726 0.2697

Jupiter -94785-07-01 05:15 J -32898616.34 -32898616.28 -32898616.22 0.0522 0.0468

Jupiter -94785-09-28 16:18 J -32898526.96 -32898526.82 -32898526.68 0.0518 0.0011

Neptune -94785-11-18 13:39 J -32898475.96 -32898475.93 -32898475.86 0.0088 0.0085

Jupiter -94785-12-27 04:32 J -32898437.37 -32898437.31 -32898437.25 0.0514 0.0463

Neptune -94784-02-14 16:18 J -32898387.87 -32898387.82 -32898387.72 0.0088 0.0080

Venus -94784-02-18 02:37 J -32898384.45 -32898384.39 -32898384.32 0.3610 0.3106

Mars -94784-03-27 14:37 J -32898347.01 -32898346.89 -32898346.77 0.1608 0.0735

Neptune -94784-05-13 19:39 J -32898299.77 -32898299.68 -32898299.58 0.0088 0.0074

Neptune -94784-08-09 22:18 J -32898211.67 -32898211.57 -32898211.45 0.0088 0.0069

Neptune -94784-11-06 00:56 J -32898123.56 -32898123.46 -32898123.32 0.0088 0.0064

Neptune -94783-02-02 04:03 J -32898035.45 -32898035.33 -32898035.19 0.0088 0.0058

Neptune -94783-05-01 06:56 J -32897947.34 -32897947.21 -32897947.06 0.0088 0.0052

Neptune -94783-07-28 09:35 J -32897859.23 -32897859.10 -32897858.94 0.0088 0.0048

Neptune -94783-10-24 12:42 J -32897771.12 -32897770.97 -32897770.82 0.0088 0.0042

Neptune -94782-01-20 15:20 J -32897683.01 -32897682.86 -32897682.70 0.0088 0.0037

Mars -94782-03-03 06:27 J -32897641.33 -32897641.23 -32897641.13 0.1605 0.1112

Neptune -94782-04-18 17:59 J -32897594.90 -32897594.75 -32897594.58 0.0088 0.0032

Neptune -94782-07-15 20:51 J -32897506.79 -32897506.63 -32897506.46 0.0088 0.0026

Moon -94782-07-21 14:51 J -32897500.95 -32897500.88 -32897500.82 0.2612 0.2271

Earth -94782-07-21 15:35 J -32897500.92 -32897500.85 -32897500.77 0.2608 0.2107 *

Neptune -94782-10-11 23:44 J -32897418.68 -32897418.51 -32897418.34 0.0088 0.0021

Venus -94782-11-13 10:03 J -32897386.15 -32897386.08 -32897386.01 0.3787 0.2803

Neptune -94781-01-08 02:23 J -32897330.57 -32897330.40 -32897330.22 0.0088 0.0016

Neptune -94781-04-05 05:15 J -32897242.45 -32897242.28 -32897242.11 0.0088 0.0010

Neptune -94781-07-02 07:54 J -32897154.34 -32897154.17 -32897154.00 0.0088 0.0005

Uranus -94781-08-06 11:01 J -32897119.06 -32897119.04 -32897119.00 0.0142 0.0139

Neptune -94781-09-28 10:32 J -32897066.23 -32897066.06 -32897065.88 0.0088 0.0002

Uranus -94781-11-02 15:35 J -32897030.92 -32897030.85 -32897030.77 0.0142 0.0120

Neptune -94781-12-25 13:11 J -32896978.12 -32896977.95 -32896977.77 0.0088 0.0006

Uranus -94780-01-29 20:08 J -32896942.76 -32896942.66 -32896942.55 0.0142 0.0101

Neptune -94780-03-23 15:49 J -32896890.00 -32896889.84 -32896889.66 0.0088 0.0011

Uranus -94780-04-28 00:42 J -32896854.59 -32896854.47 -32896854.34 0.0142 0.0081

Neptune -94780-06-19 18:27 J -32896801.89 -32896801.73 -32896801.55 0.0088 0.0016

Uranus -94780-07-25 05:30 J -32896766.41 -32896766.27 -32896766.14 0.0142 0.0062

Neptune -94780-09-15 21:06 J -32896713.78 -32896713.62 -32896713.44 0.0088 0.0021

Uranus -94780-10-21 10:03 J -32896678.22 -32896678.08 -32896677.94 0.0142 0.0042

Neptune -94780-12-12 23:44 J -32896625.66 -32896625.51 -32896625.34 0.0088 0.0026

Mars -94780-12-17 22:18 J -32896620.70 -32896620.57 -32896620.45 0.1920 0.0816

Uranus -94779-01-17 14:51 J -32896590.03 -32896589.88 -32896589.73 0.0143 0.0022

Neptune -94779-03-11 02:23 J -32896537.55 -32896537.40 -32896537.23 0.0088 0.0031

Uranus -94779-04-15 19:39 J -32896501.83 -32896501.68 -32896501.53 0.0143 0.0004

Neptune -94779-06-07 05:01 J -32896449.44 -32896449.29 -32896449.13 0.0088 0.0036

Uranus -94779-07-13 00:13 J -32896413.63 -32896413.49 -32896413.33 0.0143 0.0020

Neptune -94779-09-03 07:39 J -32896361.33 -32896361.18 -32896361.02 0.0088 0.0041

Uranus -94779-10-09 05:15 J -32896325.43 -32896325.28 -32896325.14 0.0143 0.0040

Jupiter -94779-11-28 09:06 J -32896275.20 -32896275.12 -32896275.03 0.0507 0.0428

Neptune -94779-11-30 10:18 J -32896273.21 -32896273.07 -32896272.92 0.0088 0.0045

Uranus -94778-01-05 10:03 J -32896237.21 -32896237.08 -32896236.94 0.0143 0.0061

Jupiter -94778-02-26 08:23 J -32896185.31 -32896185.15 -32896185.00 0.0511 0.0098

Neptune -94778-02-26 12:42 J -32896185.10 -32896184.97 -32896184.82 0.0088 0.0051 *

Uranus -94778-04-03 14:51 J -32896149.00 -32896148.88 -32896148.75 0.0143 0.0082

Neptune -94778-05-25 15:20 J -32896096.98 -32896096.86 -32896096.72 0.0088 0.0055

Uranus -94778-06-30 19:54 J -32896060.77 -32896060.67 -32896060.56 0.0143 0.0104

Neptune -94778-08-21 17:44 J -32896008.87 -32896008.76 -32896008.62 0.0088 0.0061

Uranus -94778-09-27 01:11 J -32895972.53 -32895972.45 -32895972.38 0.0144 0.0125

Neptune -94778-11-17 20:23 J -32895920.75 -32895920.65 -32895920.53 0.0088 0.0065

Neptune -94777-02-13 22:47 J -32895832.63 -32895832.55 -32895832.43 0.0088 0.0070

Neptune -94777-05-12 01:39 J -32895744.52 -32895744.43 -32895744.34 0.0088 0.0075

Neptune -94777-08-08 04:03 J -32895656.39 -32895656.33 -32895656.25 0.0088 0.0080

Neptune -94777-11-04 06:27 J -32895568.27 -32895568.23 -32895568.17 0.0088 0.0085

Venus -94776-05-29 04:03 J -32895362.42 -32895362.33 -32895362.24 0.3785 0.2058

Mars -94775-08-17 23:15 J -32894916.63 -32894916.53 -32894916.44 0.1609 0.1163

Jupiter -94773-07-17 19:11 J -32894216.84 -32894216.70 -32894216.57 0.0519 0.0123

Mars -94773-07-23 14:23 J -32894211.03 -32894210.90 -32894210.77 0.1605 0.0652

Jupiter -94773-10-15 07:11 J -32894127.31 -32894127.20 -32894127.10 0.0515 0.0346

Saturn -94772-01-11 11:01 J -32894039.10 -32894039.04 -32894038.97 0.0281 0.0252

Moon -94772-01-14 00:13 J -32894036.60 -32894036.49 -32894036.38 0.2723 0.1303

Earth -94772-01-14 00:27 J -32894036.59 -32894036.48 -32894036.36 0.2729 0.1217 *

Saturn -94772-04-10 01:25 J -32893950.56 -32893950.44 -32893950.32 0.0281 0.0163

Saturn -94772-07-07 16:18 J -32893861.97 -32893861.82 -32893861.68 0.0281 0.0073

Saturn -94772-10-04 07:25 J -32893773.35 -32893773.19 -32893773.04 0.0281 0.0022

Saturn -94772-12-31 22:47 J -32893684.69 -32893684.55 -32893684.41 0.0282 0.0116

Saturn -94771-03-30 14:23 J -32893596.00 -32893595.90 -32893595.80 0.0282 0.0213

Venus -94771-12-12 22:03 J -32893338.68 -32893338.58 -32893338.48 0.3782 0.1294

Mars -94770-05-09 23:59 J -32893190.56 -32893190.50 -32893190.44 0.1918 0.1710

Moon -94769-07-23 13:25 J -32892750.06 -32892749.94 -32892749.81 0.2617 0.0685

Earth -94769-07-23 13:25 J -32892750.06 -32892749.94 -32892749.81 0.2611 0.0725 *

Mars -94768-04-15 14:08 J -32892483.96 -32892483.91 -32892483.86 0.1923 0.1761

Jupiter -94767-12-15 07:25 J -32891875.35 -32891875.19 -32891875.03 0.0510 0.0041

Jupiter -94766-03-15 05:15 J -32891785.34 -32891785.28 -32891785.22 0.0514 0.0474

Mars -94765-01-08 07:54 J -32891486.19 -32891486.17 -32891486.15 0.1611 0.1580

Venus -94765-06-27 16:18 J -32891314.93 -32891314.82 -32891314.71 0.3779 0.0511

Mars -94764-12-13 22:18 J -32890780.70 -32890780.57 -32890780.43 0.1606 0.0212

Jupiter -94761-05-05 22:18 J -32889906.69 -32889906.57 -32889906.44 0.0520 0.0232

Venus -94761-06-25 23:15 J -32889855.57 -32889855.53 -32889855.49 0.3592 0.3417

Jupiter -94761-08-03 10:03 J -32889817.21 -32889817.08 -32889816.95 0.0516 0.0235

Venus -94759-01-11 10:47 J -32889291.16 -32889291.05 -32889290.94 0.3776 0.0317

Moon -94759-01-16 22:18 J -32889285.70 -32889285.57 -32889285.44 0.2722 0.0333

Earth -94759-01-16 23:15 J -32889285.65 -32889285.53 -32889285.40 0.2725 0.0363 *

Mars -94759-09-05 17:15 J -32889053.90 -32889053.78 -32889053.67 0.1923 0.0953

Saturn -94758-08-19 09:49 J -32888706.17 -32888706.09 -32888706.00 0.0277 0.0230

Saturn -94758-11-16 02:37 J -32888617.53 -32888617.39 -32888617.24 0.0277 0.0132

Saturn -94757-02-12 19:11 J -32888528.86 -32888528.70 -32888528.54 0.0277 0.0037

Saturn -94757-05-11 11:15 J -32888440.18 -32888440.03 -32888439.87 0.0277 0.0057

Saturn -94757-08-08 03:06 J -32888351.50 -32888351.37 -32888351.24 0.0277 0.0148

Saturn -94757-11-04 18:13 J -32888262.81 -32888262.74 -32888262.65 0.0277 0.0237

Earth -94756-07-26 11:15 J -32887999.16 -32887999.03 -32887998.91 0.2615 0.0643

Moon -94756-07-26 11:44 J -32887999.14 -32887999.01 -32887998.89 0.2620 0.0695 *

Venus -94755-01-10 00:56 J -32887831.57 -32887831.46 -32887831.35 0.3594 0.2155

Jupiter -94755-10-03 07:25 J -32887565.34 -32887565.19 -32887565.03 0.0509 0.0170

Jupiter -94754-01-01 05:44 J -32887475.37 -32887475.26 -32887475.14 0.0513 0.0350

Mars -94754-05-06 06:42 J -32887350.36 -32887350.22 -32887350.09 0.1607 0.0245

Venus -94754-07-28 05:30 J -32887267.38 -32887267.27 -32887267.16 0.3773 0.1136

Venus -94750-07-27 02:08 J -32885807.54 -32885807.41 -32885807.28 0.3597 0.0949

Mars -94749-01-26 20:08 J -32885623.79 -32885623.66 -32885623.52 0.1922 0.0128

Jupiter -94749-02-23 01:25 J -32885596.54 -32885596.44 -32885596.34 0.0521 0.0344

Jupiter -94749-05-22 12:42 J -32885507.10 -32885506.97 -32885506.83 0.0517 0.0121

Venus -94748-02-10 00:27 J -32885243.58 -32885243.48 -32885243.39 0.3770 0.1992

Moon -94746-01-19 21:20 J -32884534.70 -32884534.61 -32884534.51 0.2724 0.1798

Earth -94746-01-19 22:18 J -32884534.65 -32884534.57 -32884534.48 0.2721 0.1980 *

Mars -94745-09-25 14:51 J -32883920.00 -32883919.88 -32883919.75 0.1608 0.0676

Venus -94744-02-09 02:51 J -32883783.52 -32883783.38 -32883783.25 0.3601 0.0211

Jupiter -94743-07-22 07:25 J -32883255.32 -32883255.19 -32883255.05 0.0508 0.0298

Earth -94743-07-29 08:37 J -32883248.22 -32883248.14 -32883248.06 0.2618 0.1971

Moon -94743-07-29 09:35 J -32883248.18 -32883248.10 -32883248.02 0.2619 0.2042 *

Venus -94743-08-26 19:25 J -32883219.76 -32883219.69 -32883219.61 0.3766 0.2868

Saturn -94743-08-28 01:39 J -32883218.53 -32883218.43 -32883218.32 0.0281 0.0197

Mars -94743-09-01 06:42 J -32883214.31 -32883214.22 -32883214.12 0.1605 0.1173

Jupiter -94743-10-20 06:13 J -32883165.38 -32883165.24 -32883165.09 0.0512 0.0226

Saturn -94743-11-24 16:18 J -32883129.96 -32883129.82 -32883129.68 0.0282 0.0107

Saturn -94742-02-21 07:11 J -32883041.35 -32883041.20 -32883041.04 0.0282 0.0017

Saturn -94742-05-20 22:32 J -32882952.71 -32882952.56 -32882952.41 0.0282 0.0080

Saturn -94742-08-17 14:08 J -32882864.03 -32882863.91 -32882863.79 0.0282 0.0176

Saturn -94742-11-14 06:13 J -32882775.28 -32882775.24 -32882775.21 0.0282 0.0275

Uranus -94741-01-03 00:42 J -32882725.54 -32882725.47 -32882725.39 0.0137 0.0120

Uranus -94741-03-31 06:13 J -32882637.35 -32882637.24 -32882637.12 0.0137 0.0100

Uranus -94741-06-27 11:30 J -32882549.14 -32882549.02 -32882548.87 0.0137 0.0080

Uranus -94741-09-23 17:01 J -32882460.93 -32882460.79 -32882460.63 0.0136 0.0060

Uranus -94741-12-20 22:32 J -32882372.72 -32882372.56 -32882372.40 0.0136 0.0040

Uranus -94740-03-19 03:49 J -32882284.50 -32882284.34 -32882284.17 0.0136 0.0020

Uranus -94740-06-15 09:06 J -32882196.28 -32882196.12 -32882195.95 0.0136 0.0001

Mars -94740-06-17 22:18 J -32882193.69 -32882193.57 -32882193.44 0.1920 0.0745

Uranus -94740-09-11 14:23 J -32882108.06 -32882107.90 -32882107.74 0.0136 0.0019

Uranus -94740-12-08 19:25 J -32882019.84 -32882019.69 -32882019.53 0.0136 0.0038

Moon -94739-01-12 07:39 J -32881985.24 -32881985.18 -32881985.12 0.2725 0.2404

Earth -94739-01-12 07:25 J -32881985.24 -32881985.19 -32881985.13 0.2733 0.2441 *

Uranus -94739-03-07 00:27 J -32881931.62 -32881931.48 -32881931.33 0.0136 0.0057

Uranus -94739-06-03 05:30 J -32881843.40 -32881843.27 -32881843.13 0.0136 0.0075

Venus -94739-08-26 03:06 J -32881759.50 -32881759.37 -32881759.25 0.3604 0.1314

Uranus -94739-08-30 10:32 J -32881755.17 -32881755.06 -32881754.94 0.0135 0.0094

Uranus -94739-11-26 15:35 J -32881666.94 -32881666.85 -32881666.76 0.0135 0.0112

Uranus -94738-02-22 20:23 J -32881578.69 -32881578.65 -32881578.60 0.0135 0.0130

Jupiter -94738-12-12 04:18 J -32881286.38 -32881286.32 -32881286.26 0.0522 0.0458

Jupiter -94737-03-10 15:20 J -32881197.00 -32881196.86 -32881196.71 0.0518 0.0015

Venus -94737-03-11 14:51 J -32881195.88 -32881195.88 -32881195.88 0.3763 0.3759

Jupiter -94737-06-08 03:35 J -32881107.40 -32881107.35 -32881107.29 0.0514 0.0471

Moon -94736-07-21 20:23 J -32880698.75 -32880698.65 -32880698.56 0.2612 0.1824

Earth -94736-07-21 21:06 J -32880698.71 -32880698.62 -32880698.53 0.2608 0.1812 *

Mars -94735-02-15 23:30 J -32880489.62 -32880489.52 -32880489.43 0.1609 0.1103

Mars -94733-01-22 14:37 J -32879784.01 -32879783.89 -32879783.76 0.1605 0.0718

Venus -94733-03-11 02:51 J -32879735.48 -32879735.38 -32879735.28 0.3607 0.2366

Jupiter -94731-05-10 07:25 J -32878945.28 -32878945.19 -32878945.10 0.0507 0.0426

Jupiter -94731-08-08 06:42 J -32878855.38 -32878855.22 -32878855.06 0.0511 0.0100

Mars -94731-11-08 00:42 J -32878763.54 -32878763.47 -32878763.40 0.1918 0.1613

Venus -94731-12-04 14:23 J -32878736.95 -32878736.90 -32878736.85 0.3789 0.3321

Mars -94729-10-14 14:23 J -32878056.94 -32878056.90 -32878056.87 0.1923 0.1841

Saturn -94728-01-05 10:18 J -32877974.12 -32877974.07 -32877974.01 0.0278 0.0259

Saturn -94728-04-04 03:20 J -32877885.49 -32877885.36 -32877885.23 0.0278 0.0161

Saturn -94728-07-01 19:54 J -32877796.82 -32877796.67 -32877796.51 0.0278 0.0065

Venus -94728-09-25 02:08 J -32877711.45 -32877711.41 -32877711.36 0.3611 0.3374

Saturn -94728-09-28 12:13 J -32877708.15 -32877707.99 -32877707.83 0.0277 0.0030

Saturn -94728-12-26 04:03 J -32877619.47 -32877619.33 -32877619.19 0.0277 0.0122

Saturn -94727-03-24 19:39 J -32877530.78 -32877530.68 -32877530.58 0.0277 0.0212

Moon -94726-01-15 05:15 J -32877234.40 -32877234.28 -32877234.15 0.2723 0.0941

Earth -94726-01-15 05:59 J -32877234.37 -32877234.25 -32877234.13 0.2729 0.0901 *

Mars -94726-07-09 07:54 J -32877059.21 -32877059.17 -32877059.13 0.1610 0.1526

Jupiter -94726-12-28 17:15 J -32876886.91 -32876886.78 -32876886.64 0.0519 0.0125

Jupiter -94725-03-27 05:15 J -32876797.39 -32876797.28 -32876797.17 0.0515 0.0343

Venus -94725-06-19 08:08 J -32876713.24 -32876713.16 -32876713.08 0.3786 0.2592

Mars -94724-06-13 22:32 J -32876353.69 -32876353.56 -32876353.42 0.1606 0.0270

Earth -94723-07-24 18:56 J -32875947.84 -32875947.71 -32875947.58 0.2612 0.0426

Moon -94723-07-24 18:56 J -32875947.83 -32875947.71 -32875947.58 0.2619 0.0487 *

Venus -94719-01-03 02:08 J -32874689.50 -32874689.41 -32874689.31 0.3784 0.1841

Mars -94719-03-06 17:30 J -32874626.88 -32874626.77 -32874626.66 0.1923 0.1037

Jupiter -94719-05-27 06:27 J -32874545.40 -32874545.23 -32874545.07 0.0510 0.0034

Jupiter -94719-08-25 04:03 J -32874455.37 -32874455.33 -32874455.27 0.0514 0.0483

Mars -94715-11-04 06:42 J -32872923.35 -32872923.22 -32872923.08 0.1607 0.0183

Venus -94714-07-19 20:23 J -32872665.76 -32872665.65 -32872665.55 0.3781 0.1080

Jupiter -94714-10-16 20:08 J -32872576.79 -32872576.66 -32872576.54 0.0520 0.0241

Jupiter -94713-01-14 07:39 J -32872487.30 -32872487.18 -32872487.05 0.0516 0.0226

Saturn -94713-01-15 05:01 J -32872486.38 -32872486.29 -32872486.18 0.0281 0.0210

Moon -94713-01-18 03:49 J -32872483.47 -32872483.34 -32872483.21 0.2722 0.0497

Earth -94713-01-18 04:47 J -32872483.42 -32872483.30 -32872483.17 0.2725 0.0686 *

Saturn -94713-04-12 19:39 J -32872397.81 -32872397.68 -32872397.54 0.0281 0.0121

Saturn -94713-07-10 10:47 J -32872309.20 -32872309.05 -32872308.90 0.0281 0.0029

Saturn -94713-10-07 01:54 J -32872220.57 -32872220.42 -32872220.27 0.0282 0.0066

Saturn -94712-01-03 17:30 J -32872131.90 -32872131.77 -32872131.65 0.0282 0.0162

Saturn -94712-04-02 09:20 J -32872043.17 -32872043.11 -32872043.05 0.0282 0.0260

Earth -94710-07-27 16:32 J -32871196.93 -32871196.81 -32871196.69 0.2615 0.0927

Moon -94710-07-27 17:15 J -32871196.90 -32871196.78 -32871196.66 0.2620 0.1025 *

Mars -94710-07-27 20:08 J -32871196.79 -32871196.66 -32871196.52 0.1922 0.0199 *

Pluto -94709-03-16 17:30 J -32870963.81 -32870963.77 -32870963.69 0.0060 0.0057

Pluto -94709-06-12 19:11 J -32870875.79 -32870875.70 -32870875.58 0.0060 0.0050

Pluto -94709-09-08 20:23 J -32870787.76 -32870787.65 -32870787.49 0.0060 0.0044

Pluto -94709-12-05 22:03 J -32870699.72 -32870699.58 -32870699.41 0.0060 0.0037

Venus -94708-02-01 14:37 J -32870642.00 -32870641.89 -32870641.78 0.3778 0.0278

Pluto -94708-03-03 23:30 J -32870611.68 -32870611.52 -32870611.34 0.0060 0.0031

Pluto -94708-05-31 01:11 J -32870523.63 -32870523.45 -32870523.26 0.0060 0.0024

Pluto -94708-08-27 02:23 J -32870435.57 -32870435.40 -32870435.19 0.0060 0.0018

Pluto -94708-11-23 04:03 J -32870347.51 -32870347.33 -32870347.13 0.0060 0.0010

Pluto -94707-02-19 05:44 J -32870259.45 -32870259.26 -32870259.06 0.0060 0.0003

Jupiter -94707-03-15 05:15 J -32870235.43 -32870235.28 -32870235.12 0.0509 0.0173

Pluto -94707-05-18 07:11 J -32870171.39 -32870171.20 -32870171.00 0.0060 0.0004

Jupiter -94707-06-13 03:35 J -32870145.46 -32870145.35 -32870145.23 0.0513 0.0346

Pluto -94707-08-14 08:37 J -32870083.33 -32870083.14 -32870082.94 0.0060 0.0011

Pluto -94707-11-10 10:03 J -32869995.26 -32869995.08 -32869994.88 0.0061 0.0018

Pluto -94706-02-06 11:30 J -32869907.19 -32869907.02 -32869906.83 0.0061 0.0025

Pluto -94706-05-05 12:56 J -32869819.11 -32869818.96 -32869818.77 0.0061 0.0032

Pluto -94706-08-01 14:23 J -32869731.03 -32869730.90 -32869730.73 0.0061 0.0039

Pluto -94706-10-28 15:49 J -32869642.95 -32869642.84 -32869642.69 0.0061 0.0046

Pluto -94705-01-24 17:59 J -32869554.85 -32869554.75 -32869554.65 0.0061 0.0052

Mars -94705-03-26 15:06 J -32869492.99 -32869492.87 -32869492.74 0.1608 0.0618

Pluto -94705-04-21 18:42 J -32869466.73 -32869466.72 -32869466.65 0.0061 0.0060

Venus -94704-01-30 23:30 J -32869182.59 -32869182.52 -32869182.45 0.3592 0.3055

Mars -94703-03-02 06:56 J -32868787.30 -32868787.21 -32868787.12 0.1605 0.1235

Neptune -94703-08-16 13:39 J -32868619.95 -32868619.93 -32868619.89 0.0089 0.0086

Venus -94703-08-18 09:06 J -32868618.23 -32868618.12 -32868618.01 0.3775 0.0534

Neptune -94703-11-12 15:20 J -32868531.90 -32868531.86 -32868531.80 0.0089 0.0082

Neptune -94702-02-08 16:47 J -32868443.85 -32868443.80 -32868443.72 0.0089 0.0078

Neptune -94702-05-07 18:27 J -32868355.79 -32868355.73 -32868355.64 0.0089 0.0074

Neptune -94702-08-03 20:23 J -32868267.73 -32868267.65 -32868267.56 0.0089 0.0069

Jupiter -94702-08-04 23:15 J -32868266.63 -32868266.53 -32868266.42 0.0521 0.0350

Neptune -94702-10-30 22:03 J -32868179.67 -32868179.58 -32868179.48 0.0089 0.0065

Jupiter -94702-11-02 10:47 J -32868177.19 -32868177.05 -32868176.91 0.0517 0.0115

Neptune -94701-01-26 23:30 J -32868091.61 -32868091.52 -32868091.41 0.0089 0.0061

Neptune -94701-04-24 01:11 J -32868003.55 -32868003.45 -32868003.33 0.0089 0.0057

Neptune -94701-07-21 03:06 J -32867915.48 -32867915.37 -32867915.25 0.0089 0.0052

Neptune -94701-10-17 04:47 J -32867827.42 -32867827.30 -32867827.18 0.0089 0.0048

Mars -94701-12-16 22:47 J -32867766.68 -32867766.55 -32867766.42 0.1920 0.0658

Neptune -94700-01-13 06:13 J -32867739.35 -32867739.24 -32867739.10 0.0089 0.0044

Moon -94700-01-20 02:51 J -32867732.44 -32867732.38 -32867732.31 0.2725 0.2299

Earth -94700-01-20 03:49 J -32867732.40 -32867732.34 -32867732.27 0.2721 0.2308 *

Neptune -94700-04-11 07:54 J -32867651.29 -32867651.17 -32867651.03 0.0089 0.0040

Neptune -94700-07-08 09:49 J -32867563.22 -32867563.09 -32867562.96 0.0089 0.0035

Neptune -94700-10-04 11:30 J -32867475.15 -32867475.02 -32867474.88 0.0089 0.0031

Neptune -94700-12-31 13:11 J -32867387.08 -32867386.95 -32867386.81 0.0089 0.0027

Neptune -94699-03-29 15:06 J -32867299.01 -32867298.87 -32867298.73 0.0089 0.0022

Neptune -94699-06-25 16:47 J -32867210.94 -32867210.80 -32867210.66 0.0089 0.0018

Venus -94699-08-17 01:11 J -32867158.57 -32867158.45 -32867158.34 0.3595 0.1817

Saturn -94699-08-22 04:47 J -32867153.41 -32867153.30 -32867153.17 0.0277 0.0184

Neptune -94699-09-21 18:27 J -32867122.87 -32867122.73 -32867122.59 0.0089 0.0013

Saturn -94699-11-18 21:35 J -32867064.75 -32867064.60 -32867064.45 0.0277 0.0087

Neptune -94699-12-18 20:08 J -32867034.80 -32867034.66 -32867034.51 0.0089 0.0009

Saturn -94698-02-15 13:54 J -32866976.08 -32866975.92 -32866975.76 0.0277 0.0008

Neptune -94698-03-16 21:49 J -32866946.73 -32866946.59 -32866946.44 0.0089 0.0006

Saturn -94698-05-15 05:44 J -32866887.40 -32866887.26 -32866887.11 0.0277 0.0100

Neptune -94698-06-12 23:44 J -32866858.66 -32866858.51 -32866858.37 0.0089 0.0001

Saturn -94698-08-11 21:20 J -32866798.72 -32866798.61 -32866798.49 0.0277 0.0190

Neptune -94698-09-09 01:25 J -32866770.58 -32866770.44 -32866770.29 0.0089 0.0004

Neptune -94698-12-06 03:06 J -32866682.51 -32866682.37 -32866682.22 0.0089 0.0009

Venus -94697-03-03 03:49 J -32866594.44 -32866594.34 -32866594.23 0.3772 0.1368

Neptune -94697-03-03 05:01 J -32866594.44 -32866594.29 -32866594.15 0.0089 0.0013 *

Neptune -94697-05-30 06:42 J -32866506.36 -32866506.22 -32866506.07 0.0089 0.0018

Earth -94697-07-29 13:54 J -32866445.98 -32866445.92 -32866445.86 0.2619 0.2249

Moon -94697-07-29 14:51 J -32866445.93 -32866445.88 -32866445.83 0.2620 0.2374 *

Neptune -94697-08-26 08:37 J -32866418.28 -32866418.14 -32866418.00 0.0089 0.0022

Uranus -94697-08-26 18:27 J -32866417.77 -32866417.73 -32866417.68 0.0142 0.0134

Neptune -94697-11-22 10:18 J -32866330.21 -32866330.07 -32866329.93 0.0089 0.0027

Uranus -94697-11-22 23:01 J -32866329.62 -32866329.54 -32866329.45 0.0142 0.0115

Neptune -94696-02-18 12:13 J -32866242.13 -32866241.99 -32866241.85 0.0089 0.0031

Uranus -94696-02-19 03:20 J -32866241.45 -32866241.36 -32866241.24 0.0142 0.0096

Neptune -94696-05-17 13:54 J -32866154.05 -32866153.92 -32866153.78 0.0089 0.0036

Uranus -94696-05-18 08:08 J -32866153.28 -32866153.16 -32866153.03 0.0142 0.0076

Neptune -94696-08-13 15:49 J -32866065.97 -32866065.84 -32866065.71 0.0089 0.0040

Uranus -94696-08-14 12:42 J -32866065.10 -32866064.97 -32866064.83 0.0142 0.0057

Mars -94696-08-16 23:30 J -32866062.62 -32866062.52 -32866062.41 0.1609 0.1047

Neptune -94696-11-09 17:30 J -32865977.89 -32865977.77 -32865977.64 0.0089 0.0045

Uranus -94696-11-10 17:30 J -32865976.91 -32865976.77 -32865976.63 0.0142 0.0037

Jupiter -94695-01-01 05:01 J -32865925.42 -32865925.29 -32865925.15 0.0508 0.0304

Neptune -94695-02-05 19:25 J -32865889.81 -32865889.69 -32865889.56 0.0089 0.0049

Uranus -94695-02-06 22:18 J -32865888.72 -32865888.57 -32865888.42 0.0143 0.0017

Jupiter -94695-04-01 03:49 J -32865835.48 -32865835.34 -32865835.19 0.0512 0.0219

Neptune -94695-05-04 21:06 J -32865801.73 -32865801.62 -32865801.49 0.0089 0.0054

Uranus -94695-05-06 02:51 J -32865800.53 -32865800.38 -32865800.22 0.0143 0.0006

Neptune -94695-07-31 23:01 J -32865713.64 -32865713.54 -32865713.42 0.0089 0.0058

Uranus -94695-08-02 07:39 J -32865712.32 -32865712.18 -32865712.03 0.0143 0.0025

Neptune -94695-10-28 00:42 J -32865625.56 -32865625.47 -32865625.35 0.0089 0.0063

Uranus -94695-10-29 12:27 J -32865624.12 -32865623.98 -32865623.83 0.0143 0.0045

Neptune -94694-01-24 02:51 J -32865537.47 -32865537.38 -32865537.28 0.0089 0.0067

Uranus -94694-01-25 17:30 J -32865535.90 -32865535.77 -32865535.63 0.0143 0.0066

Neptune -94694-04-22 04:32 J -32865449.38 -32865449.31 -32865449.21 0.0089 0.0072

Uranus -94694-04-23 22:18 J -32865447.68 -32865447.57 -32865447.44 0.0143 0.0087

Neptune -94694-07-19 06:27 J -32865361.29 -32865361.23 -32865361.15 0.0089 0.0077

Uranus -94694-07-21 03:20 J -32865359.45 -32865359.36 -32865359.26 0.0143 0.0109

Mars -94694-07-23 14:51 J -32865357.00 -32865356.88 -32865356.76 0.1605 0.0778

Neptune -94694-10-15 08:23 J -32865273.20 -32865273.15 -32865273.08 0.0089 0.0081

Uranus -94694-10-17 08:08 J -32865271.21 -32865271.16 -32865271.08 0.0144 0.0131

Neptune -94693-01-11 10:18 J -32865185.10 -32865185.07 -32865185.03 0.0089 0.0086

Earth -94693-01-13 12:56 J -32865183.04 -32865182.96 -32865182.89 0.2732 0.2133

Moon -94693-01-13 12:56 J -32865183.03 -32865182.96 -32865182.88 0.2725 0.2129 *

Venus -94693-03-02 02:08 J -32865134.55 -32865134.41 -32865134.28 0.3598 0.0628

Venus -94692-09-16 22:47 J -32864570.64 -32864570.55 -32864570.46 0.3769 0.2222

Mars -94691-05-09 00:56 J -32864336.54 -32864336.46 -32864336.38 0.1918 0.1534

Jupiter -94690-05-24 02:23 J -32863956.46 -32863956.40 -32863956.33 0.0522 0.0461

Moon -94690-07-23 01:54 J -32863896.52 -32863896.42 -32863896.32 0.2614 0.1640

Earth -94690-07-23 02:37 J -32863896.50 -32863896.39 -32863896.29 0.2609 0.1510 *

Jupiter -94690-08-21 13:39 J -32863867.07 -32863866.93 -32863866.79 0.0518 0.0001

Jupiter -94690-11-19 01:54 J -32863777.48 -32863777.42 -32863777.37 0.0514 0.0469

Mars -94689-04-14 14:37 J -32863629.90 -32863629.89 -32863629.89 0.1924 0.1919

Venus -94688-09-16 02:37 J -32863110.52 -32863110.39 -32863110.25 0.3602 0.0519

Mars -94686-01-07 08:08 J -32862632.21 -32862632.16 -32862632.10 0.1610 0.1469

Venus -94686-04-02 17:59 J -32862546.81 -32862546.75 -32862546.69 0.3765 0.3105

Mars -94685-12-12 22:47 J -32861926.68 -32861926.55 -32861926.41 0.1606 0.0329

Saturn -94684-06-03 05:30 J -32861754.33 -32861754.27 -32861754.19 0.0281 0.0243

Saturn -94684-08-30 20:08 J -32861665.79 -32861665.66 -32861665.54 0.0281 0.0154

Jupiter -94684-10-20 05:01 J -32861615.38 -32861615.29 -32861615.21 0.0507 0.0432

Saturn -94684-11-27 10:47 J -32861577.19 -32861577.05 -32861576.90 0.0282 0.0063

Jupiter -94683-01-18 04:18 J -32861525.48 -32861525.32 -32861525.16 0.0511 0.0094

Saturn -94683-02-24 01:54 J -32861488.57 -32861488.42 -32861488.27 0.0282 0.0031

Saturn -94683-05-23 17:15 J -32861399.91 -32861399.78 -32861399.64 0.0282 0.0127

Saturn -94683-08-20 08:51 J -32861311.21 -32861311.13 -32861311.03 0.0282 0.0225

Venus -94682-04-02 02:37 J -32861086.51 -32861086.39 -32861086.27 0.3605 0.1600

Moon -94680-01-15 10:47 J -32860432.18 -32860432.05 -32860431.93 0.2723 0.0672

Earth -94680-01-15 11:30 J -32860432.15 -32860432.02 -32860431.90 0.2728 0.0581 *

Mars -94680-09-04 17:44 J -32860199.86 -32860199.76 -32860199.65 0.1923 0.1118

Jupiter -94678-06-09 16:18 J -32859556.95 -32859556.82 -32859556.68 0.0519 0.0116

Jupiter -94678-09-07 04:18 J -32859467.43 -32859467.32 -32859467.22 0.0515 0.0351

Earth -94677-07-25 00:13 J -32859145.62 -32859145.49 -32859145.36 0.2612 0.0157

Moon -94677-07-25 00:27 J -32859145.61 -32859145.48 -32859145.35 0.2619 0.0089 *

Venus -94677-10-16 02:23 J -32859062.49 -32859062.40 -32859062.31 0.3609 0.2643

Mars -94675-05-05 06:56 J -32858496.34 -32858496.21 -32858496.07 0.1607 0.0126

Venus -94674-07-11 12:27 J -32858064.04 -32858063.98 -32858063.92 0.3788 0.3113

Jupiter -94672-11-06 04:32 J -32857215.47 -32857215.31 -32857215.15 0.0510 0.0033

Jupiter -94671-02-04 02:23 J -32857125.45 -32857125.40 -32857125.34 0.0514 0.0483

Mars -94670-01-25 20:37 J -32856769.77 -32856769.64 -32856769.50 0.1922 0.0281

Saturn -94669-01-09 05:01 J -32856421.38 -32856421.29 -32856421.18 0.0278 0.0215

Saturn -94669-04-06 22:03 J -32856332.72 -32856332.58 -32856332.43 0.0278 0.0117

Saturn -94669-07-04 14:37 J -32856244.05 -32856243.89 -32856243.74 0.0277 0.0022

Saturn -94669-10-01 06:42 J -32856155.37 -32856155.22 -32856155.07 0.0277 0.0073

Saturn -94669-12-28 22:18 J -32856066.69 -32856066.57 -32856066.44 0.0277 0.0164

Venus -94668-01-24 06:13 J -32856040.32 -32856040.24 -32856040.15 0.3786 0.2380

Saturn -94668-03-27 13:39 J -32855977.98 -32855977.93 -32855977.86 0.0277 0.0253

Moon -94667-01-18 09:20 J -32855681.23 -32855681.11 -32855680.99 0.2723 0.0957

Earth -94667-01-18 10:18 J -32855681.19 -32855681.07 -32855680.95 0.2724 0.1010 *

Jupiter -94666-03-28 18:13 J -32855246.86 -32855246.74 -32855246.61 0.0520 0.0243

Jupiter -94666-06-26 05:59 J -32855157.38 -32855157.25 -32855157.12 0.0516 0.0223

Mars -94666-09-25 15:20 J -32855065.99 -32855065.86 -32855065.73 0.1608 0.0558

Earth -94664-07-27 21:49 J -32854394.70 -32854394.59 -32854394.47 0.2616 0.1212

Moon -94664-07-27 22:47 J -32854394.66 -32854394.55 -32854394.44 0.2619 0.1247 *

Mars -94664-08-31 07:11 J -32854360.28 -32854360.20 -32854360.12 0.1605 0.1301

Venus -94663-08-10 00:13 J -32854016.59 -32854016.49 -32854016.39 0.3783 0.1629

Mars -94661-06-16 23:01 J -32853339.67 -32853339.54 -32853339.41 0.1920 0.0580

Jupiter -94660-08-25 04:03 J -32852905.48 -32852905.33 -32852905.17 0.0509 0.0166

Jupiter -94660-11-23 02:37 J -32852815.51 -32852815.39 -32852815.28 0.0513 0.0354

Uranus -94658-10-27 02:08 J -32852112.41 -32852112.41 -32852112.41 0.0137 0.0137

Uranus -94657-01-23 07:39 J -32852024.26 -32852024.18 -32852024.09 0.0137 0.0116

Venus -94657-02-23 18:27 J -32851992.84 -32851992.73 -32851992.62 0.3780 0.0855

Uranus -94657-04-20 13:11 J -32851936.06 -32851935.95 -32851935.83 0.0137 0.0096

Uranus -94657-07-17 18:42 J -32851847.86 -32851847.72 -32851847.58 0.0137 0.0076

Uranus -94657-10-13 23:59 J -32851759.65 -32851759.50 -32851759.34 0.0136 0.0056

Uranus -94656-01-10 05:15 J -32851671.43 -32851671.28 -32851671.11 0.0136 0.0037

Mars -94656-02-14 23:44 J -32851635.61 -32851635.51 -32851635.40 0.1609 0.0991

Uranus -94656-04-08 10:47 J -32851583.21 -32851583.05 -32851582.89 0.0136 0.0016

Uranus -94656-07-05 16:03 J -32851495.00 -32851494.83 -32851494.67 0.0136 0.0003

Uranus -94656-10-01 21:06 J -32851406.78 -32851406.62 -32851406.45 0.0136 0.0023

Uranus -94656-12-29 02:08 J -32851318.56 -32851318.41 -32851318.24 0.0136 0.0042

Uranus -94655-03-27 07:25 J -32851230.33 -32851230.19 -32851230.04 0.0136 0.0060

Uranus -94655-06-23 12:27 J -32851142.11 -32851141.98 -32851141.85 0.0136 0.0079

Uranus -94655-09-19 17:15 J -32851053.88 -32851053.78 -32851053.66 0.0135 0.0097

Saturn -94655-10-21 09:06 J -32851022.18 -32851022.12 -32851022.06 0.0281 0.0255

Uranus -94655-12-16 22:03 J -32850965.65 -32850965.58 -32850965.48 0.0135 0.0116

Jupiter -94654-01-14 21:06 J -32850936.72 -32850936.62 -32850936.52 0.0521 0.0359

Saturn -94654-01-17 23:30 J -32850933.64 -32850933.52 -32850933.40 0.0281 0.0167

Moon -94654-01-21 08:37 J -32850930.20 -32850930.14 -32850930.09 0.2724 0.2459

Earth -94654-01-21 09:20 J -32850930.13 -32850930.11 -32850930.08 0.2720 0.2642 *

Mars -94654-01-21 15:06 J -32850929.99 -32850929.87 -32850929.75 0.1605 0.0839

Uranus -94654-03-15 03:06 J -32850877.39 -32850877.37 -32850877.33 0.0135 0.0133

Jupiter -94654-04-14 08:23 J -32850847.29 -32850847.15 -32850847.01 0.0517 0.0106

Saturn -94654-04-16 14:08 J -32850845.05 -32850844.91 -32850844.76 0.0281 0.0076

Saturn -94654-07-14 05:15 J -32850756.43 -32850756.28 -32850756.13 0.0282 0.0017

Saturn -94654-10-10 20:37 J -32850667.78 -32850667.64 -32850667.50 0.0282 0.0113

Saturn -94653-01-07 12:13 J -32850579.09 -32850578.99 -32850578.88 0.0282 0.0210

Venus -94652-09-08 12:42 J -32849969.08 -32849968.97 -32849968.86 0.3778 0.0147

Mars -94652-11-07 01:11 J -32849909.54 -32849909.45 -32849909.36 0.1919 0.1463

Earth -94651-07-30 19:11 J -32849643.73 -32849643.70 -32849643.67 0.2620 0.2532

Jupiter -94648-06-13 02:51 J -32848595.51 -32848595.38 -32848595.25 0.0508 0.0307

Venus -94648-09-06 23:44 J -32848509.60 -32848509.51 -32848509.42 0.3593 0.2703

Jupiter -94648-09-11 01:39 J -32848505.58 -32848505.43 -32848505.28 0.0511 0.0215

Moon -94647-01-13 18:13 J -32848380.84 -32848380.74 -32848380.64 0.2725 0.1780

Earth -94647-01-13 18:13 J -32848380.83 -32848380.74 -32848380.64 0.2732 0.1821 *

Mars -94647-07-08 08:23 J -32848205.21 -32848205.15 -32848205.09 0.1610 0.1414

Venus -94646-03-25 07:25 J -32847945.30 -32847945.19 -32847945.08 0.3774 0.0761

Mars -94645-06-12 23:01 J -32847499.67 -32847499.54 -32847499.41 0.1606 0.0383

Moon -94644-07-23 07:39 J -32847094.30 -32847094.18 -32847094.07 0.2615 0.1194

Earth -94644-07-23 07:54 J -32847094.28 -32847094.17 -32847094.05 0.2609 0.1217 *

Jupiter -94643-11-03 00:13 J -32846626.54 -32846626.49 -32846626.42 0.0522 0.0468

Jupiter -94642-01-31 11:30 J -32846537.16 -32846537.02 -32846536.88 0.0518 0.0006

Venus -94642-03-24 00:56 J -32846485.58 -32846485.46 -32846485.33 0.3596 0.1492

Jupiter -94642-04-30 23:44 J -32846447.57 -32846447.51 -32846447.45 0.0514 0.0463

Venus -94641-10-08 02:08 J -32845921.51 -32845921.41 -32845921.31 0.3771 0.1594

Mars -94640-03-05 17:59 J -32845772.86 -32845772.75 -32845772.65 0.1923 0.1186

Saturn -94640-05-28 07:11 J -32845689.28 -32845689.20 -32845689.11 0.0278 0.0235

Saturn -94640-08-25 00:13 J -32845600.63 -32845600.49 -32845600.35 0.0277 0.0137

Saturn -94640-11-21 16:47 J -32845511.96 -32845511.80 -32845511.65 0.0277 0.0042

Saturn -94639-02-18 08:51 J -32845423.29 -32845423.13 -32845422.98 0.0277 0.0052

Saturn -94639-05-18 00:42 J -32845334.61 -32845334.47 -32845334.34 0.0277 0.0144

Saturn -94639-08-14 16:03 J -32845245.91 -32845245.83 -32845245.75 0.0277 0.0233

Venus -94637-10-07 01:54 J -32844461.55 -32844461.42 -32844461.28 0.3599 0.0325

Jupiter -94636-04-01 02:23 J -32844285.47 -32844285.40 -32844285.31 0.0507 0.0439

Jupiter -94636-06-30 01:39 J -32844195.59 -32844195.43 -32844195.27 0.0511 0.0088

Mars -94636-11-03 07:11 J -32844069.33 -32844069.20 -32844069.06 0.1607 0.0066

Venus -94635-04-23 21:06 J -32843897.70 -32843897.62 -32843897.53 0.3768 0.2458

Moon -94634-01-16 16:03 J -32843629.95 -32843629.83 -32843629.70 0.2723 0.0357

Earth -94634-01-16 17:01 J -32843629.92 -32843629.79 -32843629.67 0.2728 0.0268 *

Venus -94631-04-23 02:23 J -32842437.53 -32842437.40 -32842437.27 0.3602 0.0810

Earth -94631-07-26 05:44 J -32842343.39 -32842343.26 -32842343.13 0.2613 0.0162

Moon -94631-07-26 05:59 J -32842343.38 -32842343.25 -32842343.12 0.2619 0.0123 *

Mars -94631-07-26 21:06 J -32842342.76 -32842342.62 -32842342.49 0.1922 0.0368

Jupiter -94631-11-19 14:23 J -32842227.03 -32842226.90 -32842226.76 0.0519 0.0120

Jupiter -94630-02-17 02:23 J -32842137.50 -32842137.40 -32842137.30 0.0515 0.0348

Venus -94630-11-07 16:18 J -32841873.87 -32841873.82 -32841873.77 0.3764 0.3339

Mars -94626-03-26 15:35 J -32840638.98 -32840638.85 -32840638.72 0.1608 0.0499

Venus -94626-11-07 02:23 J -32840413.51 -32840413.40 -32840413.29 0.3606 0.1885

Saturn -94625-06-05 23:59 J -32840201.60 -32840201.50 -32840201.39 0.0281 0.0199

Saturn -94625-09-02 14:37 J -32840113.03 -32840112.89 -32840112.75 0.0282 0.0109

Saturn -94625-11-30 05:30 J -32840024.42 -32840024.27 -32840024.12 0.0282 0.0017

Saturn -94624-02-26 20:37 J -32839935.78 -32839935.64 -32839935.49 0.0282 0.0079

Mars -94624-03-01 07:25 J -32839933.26 -32839933.19 -32839933.11 0.1605 0.1365

Jupiter -94624-04-18 01:54 J -32839885.58 -32839885.42 -32839885.25 0.0510 0.0041

Saturn -94624-05-26 12:13 J -32839847.11 -32839846.99 -32839846.87 0.0282 0.0175

Jupiter -94624-07-16 23:59 J -32839795.56 -32839795.50 -32839795.44 0.0514 0.0476

Saturn -94624-08-23 04:03 J -32839758.36 -32839758.33 -32839758.29 0.0282 0.0273

Venus -94623-08-01 16:47 J -32839414.83 -32839414.80 -32839414.77 0.3790 0.3622

Mars -94622-12-16 23:30 J -32838912.66 -32838912.52 -32838912.39 0.1920 0.0499

Moon -94621-01-19 14:51 J -32838879.00 -32838878.88 -32838878.77 0.2725 0.1196

Earth -94621-01-19 15:49 J -32838878.95 -32838878.84 -32838878.73 0.2724 0.1338 *

Neptune -94620-05-19 09:49 J -32838393.10 -32838393.09 -32838393.06 0.0088 0.0088

Venus -94620-05-23 01:54 J -32838389.50 -32838389.42 -32838389.34 0.3609 0.2910

Neptune -94620-08-15 12:27 J -32838305.02 -32838304.98 -32838304.90 0.0088 0.0083

Neptune -94620-11-11 15:35 J -32838216.92 -32838216.85 -32838216.75 0.0088 0.0077

Neptune -94619-02-07 18:27 J -32838128.82 -32838128.73 -32838128.62 0.0088 0.0072

Neptune -94619-05-06 21:06 J -32838040.72 -32838040.62 -32838040.49 0.0088 0.0067

Neptune -94619-08-03 00:13 J -32837952.61 -32837952.49 -32837952.36 0.0088 0.0061

Jupiter -94619-09-07 17:15 J -32837916.90 -32837916.78 -32837916.65 0.0520 0.0234

Neptune -94619-10-30 02:51 J -32837864.50 -32837864.38 -32837864.23 0.0088 0.0056

Jupiter -94619-12-06 04:47 J -32837827.42 -32837827.30 -32837827.17 0.0516 0.0232

Neptune -94618-01-26 05:44 J -32837776.39 -32837776.26 -32837776.10 0.0088 0.0051

Neptune -94618-04-24 08:51 J -32837688.28 -32837688.13 -32837687.98 0.0088 0.0045

Neptune -94618-07-21 11:30 J -32837600.17 -32837600.02 -32837599.86 0.0088 0.0040

Earth -94618-07-29 03:20 J -32837592.47 -32837592.36 -32837592.26 0.2616 0.1502

Moon -94618-07-29 04:03 J -32837592.42 -32837592.33 -32837592.23 0.2620 0.1658 *

Neptune -94618-10-17 14:08 J -32837512.06 -32837511.91 -32837511.74 0.0088 0.0035

Neptune -94617-01-13 17:01 J -32837423.95 -32837423.79 -32837423.62 0.0088 0.0029

Venus -94617-02-15 10:32 J -32837391.13 -32837391.06 -32837391.00 0.3787 0.2908

Neptune -94617-04-10 19:54 J -32837335.83 -32837335.67 -32837335.50 0.0088 0.0024

Neptune -94617-07-07 22:32 J -32837247.72 -32837247.56 -32837247.38 0.0088 0.0019

Mars -94617-08-15 23:59 J -32837208.61 -32837208.50 -32837208.39 0.1609 0.0932

Neptune -94617-10-04 01:25 J -32837159.61 -32837159.44 -32837159.27 0.0088 0.0013

Neptune -94617-12-31 04:03 J -32837071.50 -32837071.33 -32837071.15 0.0088 0.0009

Neptune -94616-03-29 06:56 J -32836983.38 -32836983.21 -32836983.04 0.0088 0.0003

Neptune -94616-06-25 09:35 J -32836895.27 -32836895.10 -32836894.93 0.0088 0.0002

Neptune -94616-09-21 12:13 J -32836807.16 -32836806.99 -32836806.82 0.0088 0.0007

Neptune -94616-12-18 14:51 J -32836719.05 -32836718.88 -32836718.70 0.0088 0.0013

Pluto -94615-01-08 11:15 J -32836698.07 -32836698.03 -32836697.97 0.0084 0.0078

Neptune -94615-03-16 17:30 J -32836630.93 -32836630.77 -32836630.60 0.0088 0.0018

Pluto -94615-04-06 12:42 J -32836610.05 -32836609.97 -32836609.88 0.0084 0.0065

Neptune -94615-06-12 20:08 J -32836542.82 -32836542.66 -32836542.49 0.0088 0.0023

Pluto -94615-07-03 13:54 J -32836522.02 -32836521.92 -32836521.81 0.0084 0.0052

Mars -94615-07-22 15:20 J -32836502.98 -32836502.86 -32836502.75 0.1605 0.0902

Neptune -94615-09-08 22:47 J -32836454.71 -32836454.55 -32836454.38 0.0088 0.0028

Pluto -94615-09-29 15:06 J -32836433.98 -32836433.87 -32836433.75 0.0084 0.0040

Neptune -94615-12-06 01:25 J -32836366.59 -32836366.44 -32836366.27 0.0088 0.0033

Pluto -94615-12-26 16:18 J -32836345.94 -32836345.82 -32836345.69 0.0084 0.0027

Neptune -94614-03-04 04:03 J -32836278.48 -32836278.33 -32836278.17 0.0088 0.0038

Pluto -94614-03-24 17:44 J -32836257.89 -32836257.76 -32836257.63 0.0084 0.0014

Neptune -94614-05-31 06:42 J -32836190.36 -32836190.22 -32836190.07 0.0088 0.0043

Pluto -94614-06-20 18:56 J -32836169.84 -32836169.71 -32836169.58 0.0084 0.0002

Neptune -94614-08-27 09:20 J -32836102.25 -32836102.11 -32836101.96 0.0088 0.0048

Pluto -94614-09-16 20:08 J -32836081.79 -32836081.66 -32836081.53 0.0084 0.0011

Neptune -94614-11-23 11:44 J -32836014.13 -32836014.01 -32836013.86 0.0088 0.0053

Pluto -94614-12-13 21:20 J -32835993.73 -32835993.61 -32835993.48 0.0083 0.0023

Neptune -94613-02-19 14:23 J -32835926.02 -32835925.90 -32835925.76 0.0088 0.0058

Pluto -94613-03-10 22:32 J -32835905.68 -32835905.56 -32835905.44 0.0083 0.0035

Neptune -94613-05-17 16:47 J -32835837.90 -32835837.80 -32835837.67 0.0088 0.0063

Pluto -94613-06-06 23:30 J -32835817.61 -32835817.52 -32835817.40 0.0083 0.0048

Neptune -94613-08-13 19:25 J -32835749.79 -32835749.69 -32835749.57 0.0088 0.0068

Pluto -94613-09-03 00:42 J -32835729.55 -32835729.47 -32835729.36 0.0083 0.0059

Uranus -94613-09-16 01:54 J -32835716.48 -32835716.42 -32835716.36 0.0142 0.0129

Neptune -94613-11-09 21:49 J -32835661.67 -32835661.59 -32835661.48 0.0088 0.0073

Pluto -94613-11-30 01:54 J -32835641.47 -32835641.42 -32835641.34 0.0083 0.0071

Uranus -94613-12-13 06:27 J -32835628.32 -32835628.23 -32835628.14 0.0142 0.0110

Jupiter -94612-02-04 02:08 J -32835575.56 -32835575.41 -32835575.25 0.0509 0.0167

Neptune -94612-02-06 00:13 J -32835573.55 -32835573.49 -32835573.39 0.0088 0.0078

Pluto -94612-02-26 03:20 J -32835553.36 -32835553.36 -32835553.35 0.0083 0.0083

Uranus -94612-03-11 10:47 J -32835540.16 -32835540.05 -32835539.93 0.0142 0.0091

Jupiter -94612-05-05 00:27 J -32835485.59 -32835485.48 -32835485.36 0.0513 0.0354

Neptune -94612-05-05 03:20 J -32835485.42 -32835485.36 -32835485.30 0.0088 0.0082 *

Mars -94612-05-08 01:25 J -32835482.53 -32835482.44 -32835482.34 0.1919 0.1378

Uranus -94612-06-07 15:35 J -32835451.98 -32835451.85 -32835451.73 0.0142 0.0072

Neptune -94612-08-01 05:30 J -32835397.29 -32835397.27 -32835397.23 0.0088 0.0087

Venus -94612-08-31 04:18 J -32835367.41 -32835367.32 -32835367.23 0.3785 0.2173

Uranus -94612-09-03 19:54 J -32835363.80 -32835363.67 -32835363.52 0.0142 0.0053

Uranus -94612-12-01 00:42 J -32835275.61 -32835275.47 -32835275.32 0.0142 0.0032

Uranus -94611-02-27 05:30 J -32835187.42 -32835187.27 -32835187.12 0.0143 0.0012

Uranus -94611-05-26 10:18 J -32835099.22 -32835099.07 -32835098.92 0.0143 0.0009

Moon -94611-07-21 14:23 J -32835042.94 -32835042.90 -32835042.85 0.2609 0.2392

Earth -94611-07-21 15:20 J -32835042.91 -32835042.86 -32835042.80 0.2606 0.2321 *

Uranus -94611-08-22 15:06 J -32835011.02 -32835010.87 -32835010.72 0.0143 0.0029

Saturn -94611-10-15 07:11 J -32834957.24 -32834957.20 -32834957.15 0.0278 0.0267

Uranus -94611-11-18 19:39 J -32834922.81 -32834922.68 -32834922.53 0.0143 0.0051

Saturn -94610-01-12 00:13 J -32834868.61 -32834868.49 -32834868.36 0.0277 0.0168

Uranus -94610-02-15 00:42 J -32834834.60 -32834834.47 -32834834.33 0.0143 0.0071

Saturn -94610-04-10 17:01 J -32834779.94 -32834779.79 -32834779.64 0.0277 0.0071

Uranus -94610-05-14 05:30 J -32834746.38 -32834746.27 -32834746.14 0.0143 0.0092

Saturn -94610-07-08 09:20 J -32834691.27 -32834691.11 -32834690.95 0.0277 0.0024

Uranus -94610-08-10 10:32 J -32834658.14 -32834658.06 -32834657.96 0.0143 0.0114

Saturn -94610-10-05 01:11 J -32834602.59 -32834602.45 -32834602.30 0.0277 0.0116

Uranus -94610-11-06 15:35 J -32834569.89 -32834569.85 -32834569.79 0.0144 0.0135

Saturn -94609-01-01 16:47 J -32834513.90 -32834513.80 -32834513.69 0.0277 0.0207

Mars -94607-01-06 08:37 J -32833778.21 -32833778.14 -32833778.07 0.1610 0.1359

Jupiter -94607-06-26 19:11 J -32833606.79 -32833606.70 -32833606.59 0.0521 0.0360

Jupiter -94607-09-24 06:42 J -32833517.36 -32833517.22 -32833517.08 0.0517 0.0103

Venus -94606-03-16 22:18 J -32833343.67 -32833343.57 -32833343.46 0.3782 0.1421

Mars -94606-12-12 23:15 J -32833072.66 -32833072.53 -32833072.39 0.1606 0.0449

Moon -94601-01-14 23:30 J -32831578.62 -32831578.52 -32831578.42 0.2724 0.1601

Earth -94601-01-14 23:44 J -32831578.61 -32831578.51 -32831578.40 0.2731 0.1501 *

Mars -94601-09-03 18:27 J -32831345.83 -32831345.73 -32831345.63 0.1923 0.1275

Venus -94601-09-29 16:32 J -32831319.92 -32831319.81 -32831319.70 0.3780 0.0643

Jupiter -94601-11-23 01:39 J -32831265.56 -32831265.43 -32831265.29 0.0508 0.0299

Jupiter -94600-02-21 00:27 J -32831175.62 -32831175.48 -32831175.33 0.0512 0.0224

Moon -94598-07-24 12:56 J -32830292.07 -32830291.96 -32830291.84 0.2616 0.1020

Earth -94598-07-24 13:25 J -32830292.06 -32830291.94 -32830291.82 0.2609 0.0920 *

Mars -94596-05-04 07:25 J -32829642.33 -32829642.19 -32829642.05 0.1606 0.0019

Saturn -94596-10-24 03:06 J -32829469.46 -32829469.37 -32829469.27 0.0281 0.0214

Saturn -94595-01-20 17:44 J -32829380.89 -32829380.76 -32829380.62 0.0281 0.0124

Jupiter -94595-04-14 22:03 J -32829296.63 -32829296.58 -32829296.52 0.0522 0.0475

Venus -94595-04-15 11:01 J -32829296.15 -32829296.04 -32829295.93 0.3777 0.0163

Saturn -94595-04-19 08:37 J -32829292.29 -32829292.14 -32829291.99 0.0282 0.0032

Jupiter -94595-07-13 09:20 J -32829207.26 -32829207.11 -32829206.97 0.0518 0.0022

Saturn -94595-07-16 23:44 J -32829203.65 -32829203.51 -32829203.36 0.0282 0.0064

Jupiter -94595-10-10 21:20 J -32829117.67 -32829117.61 -32829117.54 0.0514 0.0454

Saturn -94595-10-13 15:20 J -32829114.98 -32829114.86 -32829114.73 0.0282 0.0160

Saturn -94594-01-10 07:11 J -32829026.26 -32829026.20 -32829026.14 0.0282 0.0258

Mars -94591-01-24 21:06 J -32827915.75 -32827915.62 -32827915.49 0.1922 0.0435

Venus -94591-04-13 23:44 J -32827836.61 -32827836.51 -32827836.41 0.3594 0.2370

Venus -94590-10-30 05:44 J -32827272.37 -32827272.26 -32827272.16 0.3773 0.0994

Jupiter -94589-09-11 00:13 J -32826955.57 -32826955.49 -32826955.41 0.0507 0.0442

Jupiter -94589-12-09 23:30 J -32826865.68 -32826865.52 -32826865.36 0.0510 0.0083

Moon -94588-01-16 21:35 J -32826827.73 -32826827.60 -32826827.47 0.2723 0.0029

Earth -94588-01-16 22:32 J -32826827.69 -32826827.56 -32826827.44 0.2727 0.0091 *

Mars -94587-09-24 15:49 J -32826211.98 -32826211.84 -32826211.71 0.1608 0.0444

Venus -94586-10-29 01:11 J -32825812.58 -32825812.45 -32825812.32 0.3597 0.1162

Earth -94585-07-26 11:01 J -32825541.16 -32825541.04 -32825540.91 0.2613 0.0450

Moon -94585-07-26 11:30 J -32825541.14 -32825541.02 -32825540.89 0.2618 0.0573 *

Mars -94585-08-30 07:39 J -32825506.24 -32825506.18 -32825506.12 0.1604 0.1423

Venus -94584-05-15 00:27 J -32825248.58 -32825248.48 -32825248.38 0.3770 0.1825

Jupiter -94583-05-01 12:13 J -32824897.12 -32824896.99 -32824896.85 0.0520 0.0127

Jupiter -94583-07-30 00:13 J -32824807.60 -32824807.49 -32824807.38 0.0516 0.0342

Mars -94582-06-16 23:30 J -32824485.65 -32824485.52 -32824485.38 0.1921 0.0426

Saturn -94581-05-31 02:51 J -32824136.50 -32824136.38 -32824136.26 0.0277 0.0187

Saturn -94581-08-27 19:39 J -32824047.83 -32824047.68 -32824047.53 0.0277 0.0090

Saturn -94581-11-24 11:59 J -32823959.16 -32823959.00 -32823958.84 0.0277 0.0006

Saturn -94580-02-21 03:49 J -32823870.48 -32823870.34 -32823870.19 0.0277 0.0098

Venus -94580-05-14 01:54 J -32823788.56 -32823788.42 -32823788.29 0.3600 0.0060

Saturn -94580-05-20 19:25 J -32823781.80 -32823781.69 -32823781.57 0.0277 0.0189

Saturn -94580-08-17 10:47 J -32823693.05 -32823693.05 -32823693.05 0.0277 0.0277

Venus -94579-11-28 19:25 J -32823224.76 -32823224.69 -32823224.61 0.3767 0.2696

Mars -94577-02-15 00:13 J -32822781.61 -32822781.49 -32822781.38 0.1609 0.0875

Jupiter -94577-09-27 23:30 J -32822555.68 -32822555.52 -32822555.36 0.0510 0.0047

Jupiter -94577-12-26 21:35 J -32822465.66 -32822465.60 -32822465.54 0.0513 0.0469

Moon -94575-01-19 20:08 J -32822076.76 -32822076.66 -32822076.55 0.2725 0.1566

Earth -94575-01-19 21:20 J -32822076.71 -32822076.61 -32822076.51 0.2723 0.1668 *

Mars -94575-01-20 15:35 J -32822075.96 -32822075.85 -32822075.74 0.1605 0.0965

Venus -94575-11-28 02:08 J -32821764.54 -32821764.41 -32821764.28 0.3603 0.1107

Uranus -94574-11-16 08:51 J -32821411.15 -32821411.13 -32821411.08 0.0137 0.0133

Uranus -94573-02-12 14:37 J -32821322.98 -32821322.89 -32821322.79 0.0137 0.0112

Uranus -94573-05-10 20:08 J -32821234.78 -32821234.66 -32821234.53 0.0137 0.0092

Venus -94573-06-13 14:51 J -32821200.91 -32821200.88 -32821200.85 0.3763 0.3579

Uranus -94573-08-07 01:39 J -32821146.57 -32821146.43 -32821146.28 0.0137 0.0072

Uranus -94573-11-03 07:11 J -32821058.35 -32821058.20 -32821058.05 0.0136 0.0052

Mars -94573-11-06 02:08 J -32821055.52 -32821055.41 -32821055.31 0.1919 0.1288

Uranus -94572-01-30 12:27 J -32820970.14 -32820969.98 -32820969.82 0.0136 0.0032

Uranus -94572-04-28 17:44 J -32820881.92 -32820881.76 -32820881.59 0.0136 0.0012

Uranus -94572-07-25 23:01 J -32820793.70 -32820793.54 -32820793.37 0.0136 0.0007

Earth -94572-07-29 08:37 J -32820790.23 -32820790.14 -32820790.05 0.2617 0.1789

Moon -94572-07-29 09:35 J -32820790.19 -32820790.10 -32820790.01 0.2620 0.1812 *

Uranus -94572-10-22 04:18 J -32820705.48 -32820705.32 -32820705.16 0.0136 0.0026

Uranus -94571-01-18 09:20 J -32820617.26 -32820617.11 -32820616.95 0.0136 0.0045

Jupiter -94571-02-17 15:20 J -32820586.98 -32820586.86 -32820586.73 0.0520 0.0237

Uranus -94571-04-16 14:23 J -32820529.04 -32820528.90 -32820528.75 0.0136 0.0064

Jupiter -94571-05-18 03:06 J -32820497.50 -32820497.37 -32820497.25 0.0516 0.0228

Uranus -94571-07-13 19:25 J -32820440.81 -32820440.69 -32820440.56 0.0136 0.0083

Uranus -94571-10-10 00:27 J -32820352.58 -32820352.48 -32820352.37 0.0135 0.0101

Uranus -94570-01-06 05:01 J -32820264.35 -32820264.29 -32820264.20 0.0135 0.0120

Venus -94569-06-13 01:54 J -32819740.52 -32819740.42 -32819740.31 0.3607 0.2169

Earth -94568-01-12 06:42 J -32819527.22 -32819527.22 -32819527.21 0.2734 0.2719

Mars -94568-07-07 08:51 J -32819351.21 -32819351.13 -32819351.06 0.1610 0.1300

Venus -94566-03-08 14:51 J -32818741.93 -32818741.88 -32818741.84 0.3789 0.3423

Saturn -94566-03-13 03:49 J -32818737.40 -32818737.34 -32818737.26 0.0281 0.0245

Saturn -94566-06-09 18:13 J -32818648.86 -32818648.74 -32818648.61 0.0281 0.0156

Mars -94566-06-12 23:30 J -32818645.65 -32818645.52 -32818645.39 0.1606 0.0509

Saturn -94566-09-06 09:06 J -32818560.27 -32818560.12 -32818559.97 0.0282 0.0064

Saturn -94566-12-04 00:13 J -32818471.64 -32818471.49 -32818471.34 0.0282 0.0030

Saturn -94565-03-01 15:35 J -32818382.99 -32818382.85 -32818382.72 0.0282 0.0125

Saturn -94565-05-29 07:11 J -32818294.29 -32818294.20 -32818294.10 0.0282 0.0223

Jupiter -94565-07-16 23:30 J -32818245.67 -32818245.52 -32818245.36 0.0509 0.0175

Moon -94565-07-21 20:08 J -32818240.74 -32818240.66 -32818240.59 0.2611 0.2097

Earth -94565-07-21 20:51 J -32818240.71 -32818240.63 -32818240.55 0.2606 0.2023 *

Jupiter -94565-10-14 22:03 J -32818155.70 -32818155.58 -32818155.46 0.0513 0.0345

Venus -94564-12-28 01:25 J -32817716.50 -32817716.44 -32817716.38 0.3610 0.3176

Mars -94561-03-04 18:42 J -32816918.82 -32816918.72 -32816918.63 0.1923 0.1351

Venus -94561-09-21 08:23 J -32816718.22 -32816718.15 -32816718.07 0.3787 0.2709

Jupiter -94560-12-06 18:13 J -32816276.84 -32816276.74 -32816276.63 0.0521 0.0352

Jupiter -94559-03-06 05:44 J -32816187.40 -32816187.26 -32816187.13 0.0517 0.0112

Mars -94557-11-02 07:39 J -32815215.32 -32815215.18 -32815215.04 0.1606 0.0063

Moon -94555-01-15 04:47 J -32814776.41 -32814776.30 -32814776.18 0.2724 0.1151

Earth -94555-01-15 05:15 J -32814776.39 -32814776.28 -32814776.17 0.2730 0.1189 *

Venus -94555-04-07 02:23 J -32814694.49 -32814694.40 -32814694.31 0.3784 0.1963

Jupiter -94553-05-04 23:44 J -32813935.64 -32813935.51 -32813935.38 0.0508 0.0301

Jupiter -94553-08-02 22:32 J -32813845.70 -32813845.56 -32813845.41 0.0512 0.0222

Moon -94552-07-24 18:27 J -32813489.85 -32813489.73 -32813489.60 0.2616 0.0613

Earth -94552-07-24 18:42 J -32813489.84 -32813489.72 -32813489.59 0.2610 0.0630 *

Mars -94552-07-25 21:20 J -32813488.74 -32813488.61 -32813488.48 0.1922 0.0521

Saturn -94552-10-18 02:37 J -32813404.48 -32813404.39 -32813404.29 0.0277 0.0219

Saturn -94551-01-14 19:39 J -32813315.83 -32813315.68 -32813315.54 0.0277 0.0122

Saturn -94551-04-13 11:59 J -32813227.16 -32813227.00 -32813226.84 0.0277 0.0026

Saturn -94551-07-11 04:03 J -32813138.48 -32813138.33 -32813138.17 0.0277 0.0069

Saturn -94551-10-07 19:54 J -32813049.79 -32813049.67 -32813049.54 0.0277 0.0160

Saturn -94550-01-04 11:15 J -32812961.09 -32812961.03 -32812960.96 0.0277 0.0249

Venus -94550-10-21 20:23 J -32812670.75 -32812670.65 -32812670.54 0.3782 0.1213

Jupiter -94548-09-24 20:23 J -32811966.70 -32811966.65 -32811966.59 0.0522 0.0475

Jupiter -94548-12-23 07:39 J -32811877.32 -32811877.18 -32811877.04 0.0518 0.0019

Jupiter -94547-03-22 19:39 J -32811787.75 -32811787.68 -32811787.61 0.0514 0.0453

Mars -94547-03-25 15:49 J -32811784.97 -32811784.84 -32811784.71 0.1607 0.0385

Mars -94545-02-29 07:54 J -32811079.21 -32811079.17 -32811079.12 0.1604 0.1492

Venus -94544-05-06 14:51 J -32810646.99 -32810646.88 -32810646.77 0.3779 0.0432

Mars -94543-12-15 23:59 J -32810058.63 -32810058.50 -32810058.36 0.1921 0.0337

Moon -94542-01-18 02:51 J -32810025.50 -32810025.38 -32810025.25 0.2725 0.0244

Earth -94542-01-18 04:03 J -32810025.46 -32810025.33 -32810025.21 0.2727 0.0400 *

Jupiter -94541-02-21 23:01 J -32809625.62 -32809625.54 -32809625.45 0.0507 0.0434

Jupiter -94541-05-21 22:32 J -32809535.72 -32809535.56 -32809535.40 0.0511 0.0091

Venus -94540-05-04 22:18 J -32809187.62 -32809187.57 -32809187.51 0.3592 0.3269

Earth -94539-07-27 16:32 J -32808738.94 -32808738.81 -32808738.69 0.2614 0.0740

Moon -94539-07-27 17:01 J -32808738.91 -32808738.79 -32808738.66 0.2619 0.0743 *

Venus -94539-11-20 09:20 J -32808623.22 -32808623.11 -32808623.00 0.3776 0.0403

Neptune -94538-02-14 11:44 J -32808537.02 -32808537.01 -32808536.99 0.0089 0.0088

Neptune -94538-05-13 13:11 J -32808448.98 -32808448.95 -32808448.90 0.0089 0.0084

Neptune -94538-08-09 14:51 J -32808360.93 -32808360.88 -32808360.81 0.0089 0.0080

Mars -94538-08-16 00:13 J -32808354.60 -32808354.49 -32808354.37 0.1609 0.0820

Neptune -94538-11-05 16:18 J -32808272.88 -32808272.82 -32808272.73 0.0089 0.0076

Neptune -94537-02-01 17:59 J -32808184.82 -32808184.75 -32808184.65 0.0089 0.0072

Neptune -94537-04-29 19:39 J -32808096.76 -32808096.68 -32808096.58 0.0089 0.0068

Neptune -94537-07-26 21:35 J -32808008.70 -32808008.60 -32808008.50 0.0089 0.0063

Saturn -94537-07-30 06:56 J -32808005.26 -32808005.21 -32808005.16 0.0281 0.0261

Neptune -94537-10-22 23:01 J -32807920.64 -32807920.54 -32807920.42 0.0089 0.0059

Saturn -94537-10-26 21:06 J -32807916.73 -32807916.62 -32807916.50 0.0281 0.0173

Neptune -94536-01-19 00:42 J -32807832.57 -32807832.47 -32807832.35 0.0089 0.0055

Saturn -94536-01-23 11:59 J -32807828.14 -32807828.00 -32807827.86 0.0282 0.0081

Neptune -94536-04-17 02:23 J -32807744.51 -32807744.40 -32807744.27 0.0089 0.0051

Saturn -94536-04-22 02:51 J -32807739.53 -32807739.38 -32807739.22 0.0282 0.0015

Neptune -94536-07-14 04:18 J -32807656.44 -32807656.32 -32807656.20 0.0089 0.0046

Saturn -94536-07-19 18:13 J -32807650.88 -32807650.74 -32807650.60 0.0282 0.0108

Mars -94536-07-21 15:49 J -32807648.95 -32807648.84 -32807648.74 0.1605 0.1026

Neptune -94536-10-10 05:59 J -32807568.38 -32807568.25 -32807568.12 0.0089 0.0042

Jupiter -94536-10-11 10:18 J -32807567.21 -32807567.07 -32807566.94 0.0519 0.0134

Saturn -94536-10-16 09:49 J -32807562.19 -32807562.09 -32807561.98 0.0282 0.0206

Neptune -94535-01-06 07:25 J -32807480.31 -32807480.19 -32807480.05 0.0089 0.0038

Jupiter -94535-01-08 22:03 J -32807477.69 -32807477.58 -32807477.47 0.0515 0.0334

Neptune -94535-04-04 09:06 J -32807392.24 -32807392.12 -32807391.98 0.0089 0.0034

Neptune -94535-07-01 11:01 J -32807304.17 -32807304.04 -32807303.90 0.0089 0.0029

Neptune -94535-09-27 12:42 J -32807216.11 -32807215.97 -32807215.83 0.0089 0.0025

Venus -94535-11-18 23:59 J -32807163.62 -32807163.50 -32807163.39 0.3595 0.2034

Neptune -94535-12-24 14:23 J -32807128.04 -32807127.90 -32807127.75 0.0089 0.0021

Neptune -94534-03-22 16:18 J -32807039.97 -32807039.82 -32807039.68 0.0089 0.0016

Neptune -94534-06-18 17:59 J -32806951.89 -32806951.75 -32806951.61 0.0089 0.0012

Neptune -94534-09-14 19:39 J -32806863.82 -32806863.68 -32806863.53 0.0089 0.0007

Neptune -94534-12-11 21:20 J -32806775.75 -32806775.61 -32806775.46 0.0089 0.0004

Neptune -94533-03-08 23:15 J -32806687.68 -32806687.53 -32806687.39 0.0089 0.0002

Mars -94533-05-07 02:08 J -32806628.52 -32806628.41 -32806628.31 0.1919 0.1224

Neptune -94533-06-05 00:56 J -32806599.60 -32806599.46 -32806599.31 0.0089 0.0006

Venus -94533-06-05 04:03 J -32806599.44 -32806599.33 -32806599.23 0.3772 0.1221 *

Neptune -94533-09-01 02:37 J -32806511.53 -32806511.39 -32806511.24 0.0089 0.0011

Neptune -94533-11-28 04:32 J -32806423.46 -32806423.31 -32806423.17 0.0089 0.0015

Neptune -94532-02-24 06:13 J -32806335.38 -32806335.24 -32806335.09 0.0089 0.0020

Neptune -94532-05-23 08:08 J -32806247.30 -32806247.16 -32806247.02 0.0089 0.0024

Neptune -94532-08-19 09:49 J -32806159.23 -32806159.09 -32806158.95 0.0089 0.0029

Neptune -94532-11-15 11:30 J -32806071.15 -32806071.02 -32806070.88 0.0089 0.0033

Neptune -94531-02-11 13:11 J -32805983.07 -32805982.95 -32805982.80 0.0089 0.0038

Neptune -94531-05-10 15:06 J -32805894.99 -32805894.87 -32805894.73 0.0089 0.0042

Neptune -94531-08-06 17:01 J -32805806.91 -32805806.79 -32805806.66 0.0089 0.0047

Neptune -94531-11-02 18:56 J -32805718.83 -32805718.71 -32805718.59 0.0089 0.0051

Neptune -94530-01-29 20:37 J -32805630.75 -32805630.64 -32805630.52 0.0089 0.0056

Neptune -94530-04-27 22:32 J -32805542.66 -32805542.56 -32805542.45 0.0089 0.0060

Neptune -94530-07-25 00:13 J -32805454.58 -32805454.49 -32805454.38 0.0089 0.0065

Neptune -94530-10-21 02:08 J -32805366.49 -32805366.41 -32805366.31 0.0089 0.0070

Neptune -94529-01-17 04:03 J -32805278.40 -32805278.33 -32805278.24 0.0089 0.0074

Moon -94529-01-21 01:54 J -32805274.51 -32805274.42 -32805274.33 0.2724 0.1884

Earth -94529-01-21 02:51 J -32805274.46 -32805274.38 -32805274.29 0.2723 0.2001 *

Jupiter -94529-03-09 21:20 J -32805225.77 -32805225.61 -32805225.45 0.0509 0.0050

Neptune -94529-04-14 05:44 J -32805190.31 -32805190.26 -32805190.17 0.0089 0.0079

Venus -94529-06-04 01:11 J -32805139.59 -32805139.45 -32805139.32 0.3598 0.0839

Jupiter -94529-06-07 19:25 J -32805135.76 -32805135.69 -32805135.63 0.0513 0.0465

Neptune -94529-07-11 07:54 J -32805102.21 -32805102.17 -32805102.11 0.0089 0.0083

Uranus -94529-10-06 09:06 J -32805015.18 -32805015.12 -32805015.05 0.0142 0.0125

Neptune -94529-10-07 09:49 J -32805014.10 -32805014.09 -32805014.06 0.0089 0.0088

Uranus -94528-01-02 13:25 J -32804927.03 -32804926.94 -32804926.83 0.0142 0.0106

Mars -94528-01-05 08:51 J -32804924.21 -32804924.13 -32804924.04 0.1610 0.1244

Uranus -94528-03-31 17:59 J -32804838.86 -32804838.75 -32804838.63 0.0142 0.0087

Uranus -94528-06-27 22:32 J -32804750.68 -32804750.56 -32804750.42 0.0142 0.0068

Uranus -94528-09-24 03:20 J -32804662.50 -32804662.36 -32804662.22 0.0142 0.0047

Venus -94528-12-19 22:47 J -32804575.64 -32804575.55 -32804575.45 0.3769 0.2059

Uranus -94528-12-21 07:54 J -32804574.31 -32804574.17 -32804574.02 0.0142 0.0028

Uranus -94527-03-19 12:42 J -32804486.12 -32804485.97 -32804485.82 0.0143 0.0007

Uranus -94527-06-15 17:30 J -32804397.92 -32804397.77 -32804397.62 0.0143 0.0013

Uranus -94527-09-11 22:18 J -32804309.72 -32804309.57 -32804309.42 0.0143 0.0034

Uranus -94527-12-09 03:06 J -32804221.51 -32804221.37 -32804221.23 0.0143 0.0055

Mars -94527-12-11 23:44 J -32804218.64 -32804218.51 -32804218.38 0.1605 0.0570

Uranus -94526-03-07 07:54 J -32804133.29 -32804133.17 -32804133.03 0.0143 0.0076

Uranus -94526-06-03 12:42 J -32804045.07 -32804044.97 -32804044.84 0.0143 0.0098

Earth -94526-07-30 13:54 J -32803987.99 -32803987.92 -32803987.84 0.2617 0.2070

Moon -94526-07-30 14:51 J -32803987.94 -32803987.88 -32803987.81 0.2619 0.2236 *

Uranus -94526-08-30 17:59 J -32803956.83 -32803956.75 -32803956.66 0.0143 0.0118

Uranus -94526-11-26 22:47 J -32803868.57 -32803868.55 -32803868.51 0.0144 0.0141

Jupiter -94524-07-30 13:11 J -32803257.07 -32803256.95 -32803256.82 0.0521 0.0244

Jupiter -94524-10-28 00:56 J -32803167.59 -32803167.46 -32803167.33 0.0517 0.0222

Venus -94524-12-19 01:39 J -32803115.56 -32803115.43 -32803115.29 0.3601 0.0311

Moon -94522-01-13 12:13 J -32802725.05 -32802724.99 -32802724.92 0.2727 0.2330

Earth -94522-01-13 12:13 J -32802725.05 -32802724.99 -32802724.93 0.2734 0.2412 *

Saturn -94522-03-07 05:15 J -32802672.36 -32802672.28 -32802672.19 0.0278 0.0238

Saturn -94522-06-03 22:18 J -32802583.71 -32802583.57 -32802583.43 0.0277 0.0139

Venus -94522-07-05 17:59 J -32802551.82 -32802551.75 -32802551.68 0.3766 0.2929

Saturn -94522-08-31 14:51 J -32802495.04 -32802494.88 -32802494.72 0.0277 0.0043

Mars -94522-09-03 18:42 J -32802491.81 -32802491.72 -32802491.63 0.1924 0.1425

Saturn -94522-11-28 06:56 J -32802406.36 -32802406.21 -32802406.05 0.0277 0.0052

Saturn -94521-02-24 22:47 J -32802317.68 -32802317.55 -32802317.41 0.0277 0.0143

Saturn -94521-05-23 14:08 J -32802228.98 -32802228.91 -32802228.82 0.0277 0.0233

Moon -94519-07-23 01:39 J -32801438.53 -32801438.43 -32801438.34 0.2612 0.1826

Earth -94519-07-23 02:23 J -32801438.50 -32801438.40 -32801438.31 0.2607 0.1724 *

Venus -94518-07-05 01:54 J -32801091.54 -32801091.42 -32801091.30 0.3604 0.1401

Jupiter -94518-12-27 21:06 J -32800915.77 -32800915.62 -32800915.47 0.0508 0.0180

Jupiter -94517-03-26 19:39 J -32800825.80 -32800825.68 -32800825.56 0.0512 0.0339

Mars -94517-05-03 07:54 J -32800788.31 -32800788.17 -32800788.04 0.1606 0.0125

Venus -94512-01-18 01:39 J -32799067.53 -32799067.43 -32799067.33 0.3608 0.2445

Mars -94512-01-23 21:49 J -32799061.72 -32799061.59 -32799061.46 0.1923 0.0607

Jupiter -94512-05-18 16:32 J -32798946.91 -32798946.81 -32798946.71 0.0521 0.0354

Jupiter -94512-08-16 03:49 J -32798857.48 -32798857.34 -32798857.20 0.0517 0.0109

Venus -94510-10-13 12:42 J -32798069.02 -32798068.97 -32798068.91 0.3788 0.3221

Moon -94509-01-16 10:18 J -32797974.19 -32797974.07 -32797973.95 0.2724 0.1001

Earth -94509-01-16 10:47 J -32797974.17 -32797974.05 -32797973.93 0.2730 0.0873 *

Mars -94508-09-23 16:03 J -32797357.96 -32797357.83 -32797357.69 0.1607 0.0326

Saturn -94507-03-15 21:49 J -32797184.68 -32797184.59 -32797184.48 0.0281 0.0203

Saturn -94507-06-12 12:27 J -32797096.11 -32797095.98 -32797095.84 0.0282 0.0113

Venus -94507-08-04 00:56 J -32797043.50 -32797043.46 -32797043.42 0.3611 0.3438

Saturn -94507-09-09 03:20 J -32797007.51 -32797007.36 -32797007.21 0.0282 0.0021

Saturn -94507-12-06 18:27 J -32796918.87 -32796918.73 -32796918.58 0.0282 0.0075

Saturn -94506-03-05 10:03 J -32796830.20 -32796830.08 -32796829.96 0.0282 0.0171

Saturn -94506-06-02 01:54 J -32796741.46 -32796741.42 -32796741.38 0.0282 0.0270

Moon -94506-07-26 00:13 J -32796687.62 -32796687.49 -32796687.36 0.2617 0.0346

Earth -94506-07-26 00:13 J -32796687.62 -32796687.49 -32796687.36 0.2610 0.0341 *

Mars -94506-08-30 08:08 J -32796652.19 -32796652.16 -32796652.12 0.1604 0.1555

Jupiter -94506-10-15 20:51 J -32796605.75 -32796605.63 -32796605.49 0.0508 0.0310

Jupiter -94505-01-13 19:54 J -32796515.81 -32796515.67 -32796515.52 0.0512 0.0214

Venus -94504-04-28 06:27 J -32796045.31 -32796045.23 -32796045.15 0.3786 0.2501

Mars -94503-06-16 00:13 J -32795631.62 -32795631.49 -32795631.35 0.1921 0.0260

Jupiter -94500-03-06 19:25 J -32794636.74 -32794636.69 -32794636.63 0.0522 0.0467

Jupiter -94500-06-04 06:27 J -32794547.37 -32794547.23 -32794547.08 0.0518 0.0017

Jupiter -94500-09-01 18:42 J -32794457.78 -32794457.72 -32794457.66 0.0514 0.0461

Venus -94499-11-12 00:27 J -32794021.57 -32794021.48 -32794021.38 0.3783 0.1755

Mars -94498-02-14 00:27 J -32793927.59 -32793927.48 -32793927.36 0.1608 0.0759

Moon -94496-01-18 08:23 J -32793223.28 -32793223.15 -32793223.03 0.2725 0.0669

Earth -94496-01-18 09:20 J -32793223.23 -32793223.11 -32793222.98 0.2726 0.0715 *

Mars -94496-01-19 16:03 J -32793221.93 -32793221.83 -32793221.73 0.1605 0.1092

Jupiter -94494-08-03 21:06 J -32792295.70 -32792295.62 -32792295.54 0.0507 0.0436

Jupiter -94494-11-01 20:23 J -32792205.81 -32792205.65 -32792205.49 0.0511 0.0091

Mars -94494-11-06 02:37 J -32792201.50 -32792201.39 -32792201.28 0.1919 0.1126

Venus -94493-05-27 18:42 J -32791997.83 -32791997.72 -32791997.61 0.3781 0.0987

Saturn -94493-07-24 04:47 J -32791940.33 -32791940.30 -32791940.27 0.0277 0.0272

Earth -94493-07-27 21:49 J -32791936.71 -32791936.59 -32791936.47 0.2614 0.1022

Moon -94493-07-27 22:32 J -32791936.68 -32791936.56 -32791936.45 0.2619 0.1152 *

Saturn -94493-10-20 21:49 J -32791851.71 -32791851.59 -32791851.46 0.0277 0.0173

Saturn -94492-01-17 14:37 J -32791763.04 -32791762.89 -32791762.74 0.0277 0.0076

Saturn -94492-04-16 06:56 J -32791674.37 -32791674.21 -32791674.05 0.0277 0.0020

Saturn -94492-07-13 22:47 J -32791585.69 -32791585.55 -32791585.40 0.0277 0.0113

Saturn -94492-10-10 14:37 J -32791497.00 -32791496.89 -32791496.79 0.0277 0.0203

Uranus -94490-12-06 15:35 J -32790709.89 -32790709.85 -32790709.79 0.0137 0.0130

Uranus -94489-03-03 21:06 J -32790621.71 -32790621.62 -32790621.51 0.0137 0.0110

Uranus -94489-05-31 02:51 J -32790533.50 -32790533.38 -32790533.25 0.0137 0.0089

Mars -94489-07-06 09:06 J -32790497.21 -32790497.12 -32790497.03 0.1610 0.1189

Uranus -94489-08-27 08:23 J -32790445.29 -32790445.15 -32790445.01 0.0137 0.0069

Uranus -94489-11-23 13:39 J -32790357.08 -32790356.93 -32790356.77 0.0136 0.0049

Uranus -94488-02-19 19:11 J -32790268.86 -32790268.70 -32790268.54 0.0136 0.0029

Jupiter -94488-03-23 08:37 J -32790237.27 -32790237.14 -32790237.00 0.0519 0.0131

Uranus -94488-05-19 00:27 J -32790180.65 -32790180.48 -32790180.32 0.0136 0.0010

Jupiter -94488-06-20 20:23 J -32790147.76 -32790147.65 -32790147.54 0.0515 0.0335

Uranus -94488-08-15 05:44 J -32790092.43 -32790092.26 -32790092.10 0.0136 0.0010

Uranus -94488-11-11 10:47 J -32790004.21 -32790004.05 -32790003.89 0.0136 0.0029

Venus -94488-12-11 12:56 J -32789974.07 -32789973.96 -32789973.85 0.3778 0.0230

Uranus -94487-02-07 16:03 J -32789915.98 -32789915.83 -32789915.68 0.0136 0.0048

Uranus -94487-05-06 20:51 J -32789827.76 -32789827.63 -32789827.48 0.0136 0.0067

Mars -94487-06-11 23:59 J -32789791.63 -32789791.50 -32789791.37 0.1605 0.0631

Uranus -94487-08-03 01:54 J -32789739.53 -32789739.42 -32789739.28 0.0136 0.0086

Uranus -94487-10-30 06:56 J -32789651.30 -32789651.21 -32789651.10 0.0135 0.0104

Uranus -94486-01-26 11:59 J -32789563.06 -32789563.00 -32789562.93 0.0135 0.0122

Venus -94484-12-09 22:32 J -32788514.64 -32788514.56 -32788514.48 0.3593 0.2919

Moon -94483-01-21 07:25 J -32788472.26 -32788472.19 -32788472.11 0.2725 0.2206

Earth -94483-01-21 08:23 J -32788472.21 -32788472.15 -32788472.08 0.2722 0.2330 *

Mars -94482-03-04 19:11 J -32788064.78 -32788064.70 -32788064.62 0.1923 0.1509

Venus -94482-06-27 07:39 J -32787950.29 -32787950.18 -32787950.07 0.3775 0.0623

Jupiter -94482-08-20 20:23 J -32787895.81 -32787895.65 -32787895.49 0.0510 0.0041

Jupiter -94482-11-18 18:27 J -32787805.79 -32787805.73 -32787805.67 0.0513 0.0475

Earth -94480-07-30 19:11 J -32787185.75 -32787185.70 -32787185.64 0.2618 0.2357

Moon -94480-07-30 20:23 J -32787185.70 -32787185.65 -32787185.60 0.2617 0.2380 *

Mars -94480-11-26 17:44 J -32787066.76 -32787066.76 -32787066.76 0.1612 0.1610

Venus -94478-06-25 23:59 J -32786490.62 -32786490.50 -32786490.37 0.3596 0.1694

Saturn -94478-08-03 00:27 J -32786452.57 -32786452.48 -32786452.39 0.0281 0.0223

Saturn -94478-10-30 14:51 J -32786364.01 -32786363.88 -32786363.75 0.0282 0.0133

Mars -94478-11-02 08:08 J -32786361.30 -32786361.16 -32786361.03 0.1606 0.0185

Saturn -94477-01-27 05:44 J -32786275.41 -32786275.26 -32786275.11 0.0282 0.0040

Saturn -94477-04-24 20:51 J -32786186.78 -32786186.63 -32786186.48 0.0282 0.0054

Saturn -94477-07-22 12:13 J -32786098.11 -32786097.99 -32786097.86 0.0282 0.0151

Saturn -94477-10-19 04:03 J -32786009.40 -32786009.33 -32786009.26 0.0282 0.0249

Jupiter -94476-01-09 11:15 J -32785927.15 -32785927.03 -32785926.90 0.0520 0.0248

Venus -94476-01-10 02:23 J -32785926.51 -32785926.40 -32785926.30 0.3771 0.1444

Moon -94476-01-13 17:30 J -32785922.84 -32785922.77 -32785922.69 0.2726 0.2153

Earth -94476-01-13 17:44 J -32785922.84 -32785922.76 -32785922.69 0.2733 0.2103 *

Jupiter -94476-04-08 22:47 J -32785837.68 -32785837.55 -32785837.42 0.0516 0.0217

Moon -94473-07-23 06:56 J -32784636.31 -32784636.21 -32784636.10 0.2613 0.1467

Earth -94473-07-23 07:39 J -32784636.29 -32784636.18 -32784636.07 0.2608 0.1430 *

Mars -94473-07-24 21:49 J -32784634.71 -32784634.59 -32784634.46 0.1923 0.0676

Venus -94472-01-09 01:11 J -32784466.59 -32784466.45 -32784466.32 0.3599 0.0523

Venus -94471-07-26 21:20 J -32783902.70 -32783902.61 -32783902.52 0.3768 0.2294

Jupiter -94470-06-08 19:11 J -32783585.86 -32783585.70 -32783585.55 0.0508 0.0182

Jupiter -94470-09-06 17:30 J -32783495.89 -32783495.77 -32783495.65 0.0512 0.0337

Mars -94468-03-24 16:18 J -32782930.95 -32782930.82 -32782930.68 0.1607 0.0263

Venus -94467-07-26 01:39 J -32782442.57 -32782442.43 -32782442.30 0.3602 0.0622

Venus -94465-02-09 16:32 J -32781878.87 -32781878.81 -32781878.75 0.3765 0.3169

Jupiter -94465-10-28 14:23 J -32781617.00 -32781616.90 -32781616.80 0.0522 0.0360

Jupiter -94464-01-26 01:39 J -32781527.56 -32781527.43 -32781527.29 0.0518 0.0105

Mars -94464-12-15 00:42 J -32781204.61 -32781204.47 -32781204.34 0.1922 0.0175

Moon -94463-01-16 15:20 J -32781171.98 -32781171.86 -32781171.73 0.2725 0.0562

Earth -94463-01-16 16:03 J -32781171.95 -32781171.83 -32781171.70 0.2729 0.0560 *

Saturn -94463-03-10 00:42 J -32781119.58 -32781119.47 -32781119.35 0.0277 0.0191

Saturn -94463-06-06 17:30 J -32781030.92 -32781030.77 -32781030.62 0.0277 0.0093

Saturn -94463-09-03 09:49 J -32780942.24 -32780942.09 -32780941.93 0.0277 0.0007

Saturn -94463-12-01 01:54 J -32780853.57 -32780853.42 -32780853.27 0.0277 0.0096

Saturn -94462-02-27 17:30 J -32780764.88 -32780764.77 -32780764.65 0.0277 0.0187

Saturn -94462-05-27 08:51 J -32780676.14 -32780676.13 -32780676.11 0.0277 0.0275

Venus -94461-02-09 01:39 J -32780418.55 -32780418.43 -32780418.31 0.3605 0.1690

Pluto -94461-10-04 22:32 J -32780179.59 -32780179.56 -32780179.50 0.0060 0.0058

Pluto -94461-12-31 23:44 J -32780091.58 -32780091.51 -32780091.39 0.0060 0.0052

Pluto -94460-03-30 01:25 J -32780003.55 -32780003.44 -32780003.29 0.0060 0.0045

Pluto -94460-06-26 03:06 J -32779915.51 -32779915.37 -32779915.21 0.0060 0.0038

Earth -94460-07-26 05:30 J -32779885.40 -32779885.27 -32779885.14 0.2611 0.0058

Moon -94460-07-26 05:44 J -32779885.39 -32779885.26 -32779885.13 0.2617 0.0064 *

Pluto -94460-09-22 04:18 J -32779827.47 -32779827.32 -32779827.13 0.0060 0.0032

Pluto -94460-12-19 05:59 J -32779739.42 -32779739.25 -32779739.06 0.0060 0.0025

Pluto -94459-03-17 07:25 J -32779651.37 -32779651.19 -32779650.99 0.0060 0.0019

Pluto -94459-06-13 09:06 J -32779563.31 -32779563.12 -32779562.92 0.0060 0.0012

Mars -94459-08-15 00:42 J -32779500.59 -32779500.47 -32779500.35 0.1608 0.0700

Pluto -94459-09-09 10:32 J -32779475.25 -32779475.06 -32779474.86 0.0060 0.0005

Venus -94459-11-03 17:01 J -32779419.80 -32779419.79 -32779419.77 0.3790 0.3726

Pluto -94459-12-06 12:13 J -32779387.19 -32779386.99 -32779386.79 0.0060 0.0002

Pluto -94458-03-04 13:39 J -32779299.12 -32779298.93 -32779298.73 0.0060 0.0009

Jupiter -94458-03-27 18:42 J -32779275.85 -32779275.72 -32779275.59 0.0507 0.0313

Pluto -94458-05-31 15:06 J -32779211.06 -32779210.87 -32779210.68 0.0060 0.0016

Jupiter -94458-06-25 17:44 J -32779185.91 -32779185.76 -32779185.61 0.0511 0.0209

Pluto -94458-08-27 16:32 J -32779122.99 -32779122.81 -32779122.62 0.0061 0.0023

Pluto -94458-11-23 17:59 J -32779034.91 -32779034.75 -32779034.57 0.0061 0.0030

Pluto -94457-02-19 19:11 J -32778946.83 -32778946.70 -32778946.52 0.0061 0.0037

Pluto -94457-05-17 20:37 J -32778858.75 -32778858.64 -32778858.48 0.0061 0.0044

Mars -94457-07-20 16:18 J -32778794.92 -32778794.82 -32778794.73 0.1605 0.1153

Pluto -94457-08-13 22:18 J -32778770.66 -32778770.57 -32778770.44 0.0061 0.0051

Pluto -94457-11-09 23:44 J -32778682.55 -32778682.51 -32778682.43 0.0061 0.0058

Venus -94456-08-25 01:11 J -32778394.53 -32778394.45 -32778394.36 0.3609 0.2721

Neptune -94455-02-13 09:06 J -32778222.16 -32778222.12 -32778222.06 0.0089 0.0085

Neptune -94455-05-12 11:59 J -32778134.07 -32778134.00 -32778133.92 0.0088 0.0080

Neptune -94455-08-08 14:37 J -32778045.97 -32778045.89 -32778045.78 0.0088 0.0075

Neptune -94455-11-04 17:44 J -32777957.86 -32777957.76 -32777957.64 0.0088 0.0069

Neptune -94454-01-31 20:37 J -32777869.75 -32777869.64 -32777869.51 0.0088 0.0063

Neptune -94454-04-29 23:15 J -32777781.64 -32777781.53 -32777781.38 0.0088 0.0059

Mars -94454-05-07 02:51 J -32777774.49 -32777774.38 -32777774.26 0.1919 0.1048

Neptune -94454-07-27 02:23 J -32777693.53 -32777693.40 -32777693.25 0.0088 0.0053

Neptune -94454-10-23 05:01 J -32777605.42 -32777605.29 -32777605.13 0.0088 0.0048

Neptune -94453-01-19 07:54 J -32777517.31 -32777517.17 -32777517.01 0.0088 0.0042

Neptune -94453-04-16 10:47 J -32777429.20 -32777429.05 -32777428.88 0.0088 0.0037

Venus -94453-05-19 10:47 J -32777396.11 -32777396.05 -32777395.99 0.3788 0.3018

Neptune -94453-07-13 13:39 J -32777341.09 -32777340.93 -32777340.76 0.0088 0.0032

Jupiter -94453-08-16 17:44 J -32777306.82 -32777306.76 -32777306.70 0.0523 0.0469

Neptune -94453-10-09 16:18 J -32777252.98 -32777252.82 -32777252.64 0.0088 0.0027

Jupiter -94453-11-14 04:47 J -32777217.44 -32777217.30 -32777217.16 0.0519 0.0008

Neptune -94452-01-05 19:11 J -32777164.87 -32777164.70 -32777164.53 0.0088 0.0021

Jupiter -94452-02-11 16:47 J -32777127.86 -32777127.80 -32777127.73 0.0515 0.0460

Neptune -94452-04-03 22:03 J -32777076.75 -32777076.58 -32777076.41 0.0088 0.0016

Neptune -94452-07-01 00:42 J -32776988.64 -32776988.47 -32776988.29 0.0088 0.0011

Neptune -94452-09-27 03:35 J -32776900.53 -32776900.35 -32776900.18 0.0088 0.0006

Neptune -94452-12-24 06:13 J -32776812.41 -32776812.24 -32776812.07 0.0088 0.0001

Neptune -94451-03-22 08:51 J -32776724.30 -32776724.13 -32776723.96 0.0088 0.0005

Neptune -94451-06-18 11:30 J -32776636.19 -32776636.02 -32776635.84 0.0088 0.0010

Neptune -94451-09-14 14:08 J -32776548.07 -32776547.91 -32776547.73 0.0088 0.0015

Neptune -94451-12-11 16:47 J -32776459.96 -32776459.80 -32776459.63 0.0088 0.0020

Moon -94450-01-19 13:54 J -32776421.05 -32776420.92 -32776420.80 0.2724 0.0836

Earth -94450-01-19 14:51 J -32776421.00 -32776420.88 -32776420.76 0.2725 0.1036 *

Neptune -94450-03-09 19:25 J -32776371.85 -32776371.69 -32776371.52 0.0088 0.0026

Neptune -94450-06-05 22:03 J -32776283.73 -32776283.58 -32776283.41 0.0088 0.0031

Neptune -94450-09-02 00:42 J -32776195.62 -32776195.47 -32776195.31 0.0088 0.0036

Neptune -94450-11-29 03:20 J -32776107.50 -32776107.36 -32776107.20 0.0088 0.0041

Mars -94449-01-05 09:20 J -32776070.21 -32776070.11 -32776070.02 0.1610 0.1129

Neptune -94449-02-25 05:59 J -32776019.39 -32776019.25 -32776019.10 0.0088 0.0045

Neptune -94449-05-23 08:23 J -32775931.28 -32775931.15 -32775931.00 0.0088 0.0051

Neptune -94449-08-19 11:01 J -32775843.16 -32775843.04 -32775842.90 0.0088 0.0056

Neptune -94449-11-15 13:39 J -32775755.04 -32775754.93 -32775754.80 0.0088 0.0060

Saturn -94449-12-20 01:11 J -32775720.51 -32775720.45 -32775720.38 0.0281 0.0252

Neptune -94448-02-11 16:03 J -32775666.93 -32775666.83 -32775666.70 0.0088 0.0066

Saturn -94448-03-18 15:35 J -32775631.97 -32775631.85 -32775631.73 0.0281 0.0164

Neptune -94448-05-10 18:27 J -32775578.81 -32775578.73 -32775578.61 0.0088 0.0071

Saturn -94448-06-15 06:13 J -32775543.38 -32775543.24 -32775543.09 0.0282 0.0073

Neptune -94448-08-06 21:35 J -32775490.69 -32775490.60 -32775490.51 0.0088 0.0075

Saturn -94448-09-11 21:20 J -32775454.76 -32775454.61 -32775454.46 0.0282 0.0021

Neptune -94448-11-02 23:59 J -32775402.57 -32775402.50 -32775402.43 0.0088 0.0080

Venus -94448-12-03 04:32 J -32775372.39 -32775372.31 -32775372.22 0.3785 0.2297

Saturn -94448-12-09 12:42 J -32775366.11 -32775365.97 -32775365.83 0.0282 0.0117

Mars -94448-12-11 00:13 J -32775364.61 -32775364.49 -32775364.37 0.1605 0.0695

Neptune -94447-01-30 02:23 J -32775314.44 -32775314.40 -32775314.35 0.0088 0.0085

Saturn -94447-03-08 04:03 J -32775277.42 -32775277.33 -32775277.22 0.0282 0.0216

Earth -94447-07-29 03:06 J -32775134.48 -32775134.37 -32775134.26 0.2614 0.1316

Moon -94447-07-29 04:03 J -32775134.44 -32775134.33 -32775134.23 0.2619 0.1357 *

Jupiter -94446-01-13 18:27 J -32774965.81 -32774965.73 -32774965.65 0.0507 0.0443

Jupiter -94446-04-13 17:59 J -32774875.91 -32774875.75 -32774875.59 0.0510 0.0083

Uranus -94445-07-30 11:44 J -32774402.03 -32774402.01 -32774401.99 0.0142 0.0140

Uranus -94445-10-26 16:18 J -32774313.90 -32774313.82 -32774313.75 0.0142 0.0121

Uranus -94444-01-22 20:37 J -32774225.74 -32774225.64 -32774225.53 0.0142 0.0102

Uranus -94444-04-21 01:11 J -32774137.57 -32774137.45 -32774137.33 0.0142 0.0083

Uranus -94444-07-18 05:44 J -32774049.39 -32774049.26 -32774049.12 0.0142 0.0063

Uranus -94444-10-14 10:32 J -32773961.21 -32773961.06 -32773960.92 0.0142 0.0044

Uranus -94443-01-10 15:06 J -32773873.02 -32773872.87 -32773872.72 0.0142 0.0024

Uranus -94443-04-08 19:54 J -32773784.82 -32773784.67 -32773784.52 0.0143 0.0004

Uranus -94443-07-06 00:27 J -32773696.62 -32773696.48 -32773696.32 0.0143 0.0018

Mars -94443-09-02 19:25 J -32773637.76 -32773637.69 -32773637.62 0.1923 0.1588

Uranus -94443-10-02 05:15 J -32773608.42 -32773608.28 -32773608.13 0.0143 0.0038

Uranus -94443-12-29 10:03 J -32773520.21 -32773520.08 -32773519.93 0.0143 0.0059

Uranus -94442-03-27 15:06 J -32773431.99 -32773431.87 -32773431.74 0.0143 0.0080

Venus -94442-06-18 22:47 J -32773348.65 -32773348.55 -32773348.46 0.3783 0.1547

Uranus -94442-06-23 19:54 J -32773343.77 -32773343.67 -32773343.55 0.0143 0.0101

Uranus -94442-09-20 00:56 J -32773255.53 -32773255.46 -32773255.37 0.0143 0.0123

Jupiter -94441-09-02 07:39 J -32772907.31 -32772907.18 -32772907.04 0.0519 0.0122

Jupiter -94441-11-30 19:25 J -32772817.79 -32772817.69 -32772817.58 0.0515 0.0345

Mars -94440-05-27 17:59 J -32772639.78 -32772639.75 -32772639.72 0.1611 0.1553

Moon -94440-07-21 14:08 J -32772584.93 -32772584.91 -32772584.90 0.2608 0.2567

Earth -94440-07-21 15:06 J -32772584.90 -32772584.87 -32772584.85 0.2605 0.2544 *

Mars -94438-05-03 08:23 J -32771934.29 -32771934.15 -32771934.02 0.1606 0.0245

Moon -94437-01-22 13:11 J -32771669.98 -32771669.95 -32771669.92 0.2726 0.2639

Earth -94437-01-22 13:54 J -32771669.94 -32771669.92 -32771669.89 0.2721 0.2663 *

Venus -94436-01-01 16:47 J -32771324.90 -32771324.80 -32771324.69 0.3780 0.0781

Jupiter -94434-01-30 18:27 J -32770565.90 -32770565.73 -32770565.57 0.0510 0.0044

Jupiter -94434-04-30 16:32 J -32770475.87 -32770475.81 -32770475.75 0.0513 0.0474

Saturn -94434-07-27 23:44 J -32770387.59 -32770387.51 -32770387.41 0.0277 0.0227

Saturn -94434-10-24 16:47 J -32770298.94 -32770298.80 -32770298.66 0.0277 0.0128

Saturn -94433-01-21 09:20 J -32770210.27 -32770210.11 -32770209.95 0.0277 0.0032

Mars -94433-01-23 22:18 J -32770207.69 -32770207.57 -32770207.44 0.1923 0.0765

Saturn -94433-04-19 01:25 J -32770121.59 -32770121.44 -32770121.28 0.0277 0.0063

Saturn -94433-07-16 17:15 J -32770032.90 -32770032.78 -32770032.65 0.0277 0.0154

Saturn -94433-10-13 08:51 J -32769944.20 -32769944.13 -32769944.06 0.0276 0.0244

Venus -94431-07-18 11:15 J -32769301.14 -32769301.03 -32769300.92 0.3777 0.0021

Moon -94430-01-14 23:01 J -32769120.64 -32769120.54 -32769120.45 0.2725 0.1750

Earth -94430-01-14 23:01 J -32769120.63 -32769120.54 -32769120.44 0.2733 0.1792 *

Jupiter -94429-06-21 10:03 J -32768597.20 -32768597.08 -32768596.96 0.0520 0.0244

Jupiter -94429-09-18 21:35 J -32768507.73 -32768507.60 -32768507.48 0.0516 0.0220

Mars -94429-09-22 16:32 J -32768503.95 -32768503.81 -32768503.67 0.1607 0.0203

Venus -94427-07-16 22:47 J -32767841.65 -32767841.55 -32767841.46 0.3594 0.2575

Moon -94427-07-24 12:42 J -32767834.09 -32767833.97 -32767833.86 0.2613 0.1232

Earth -94427-07-24 13:11 J -32767834.07 -32767833.95 -32767833.84 0.2608 0.1134 *

Venus -94425-02-01 05:44 J -32767277.36 -32767277.26 -32767277.15 0.3774 0.0853

Mars -94424-06-15 00:56 J -32766777.60 -32766777.46 -32766777.33 0.1921 0.0100

Jupiter -94423-11-18 18:13 J -32766255.90 -32766255.74 -32766255.59 0.0509 0.0172

Jupiter -94422-02-16 16:47 J -32766165.92 -32766165.80 -32766165.68 0.0512 0.0348

Venus -94421-01-31 00:13 J -32765817.62 -32765817.49 -32765817.37 0.3597 0.1361

Venus -94420-08-17 00:42 J -32765253.57 -32765253.47 -32765253.37 0.3771 0.1671

Mars -94419-02-13 00:56 J -32765073.59 -32765073.46 -32765073.34 0.1608 0.0644

Saturn -94419-05-09 03:06 J -32764988.39 -32764988.37 -32764988.33 0.0281 0.0275

Saturn -94419-08-05 17:30 J -32764899.88 -32764899.77 -32764899.66 0.0282 0.0187

Saturn -94419-11-02 08:08 J -32764811.30 -32764811.16 -32764811.02 0.0282 0.0096

Saturn -94418-01-29 23:01 J -32764722.69 -32764722.54 -32764722.38 0.0282 0.0009

Saturn -94418-04-28 14:23 J -32764634.04 -32764633.90 -32764633.76 0.0282 0.0094

Saturn -94418-07-26 05:59 J -32764545.36 -32764545.25 -32764545.14 0.0282 0.0191

Moon -94417-01-17 20:37 J -32764369.76 -32764369.64 -32764369.51 0.2725 0.0404

Earth -94417-01-17 21:35 J -32764369.73 -32764369.60 -32764369.47 0.2729 0.0236 *

Mars -94417-01-19 16:32 J -32764367.90 -32764367.81 -32764367.72 0.1604 0.1216

Jupiter -94417-04-09 12:42 J -32764287.07 -32764286.97 -32764286.87 0.0521 0.0360

Jupiter -94417-07-07 23:59 J -32764197.64 -32764197.50 -32764197.36 0.0518 0.0102

Venus -94416-08-16 00:56 J -32763793.59 -32763793.46 -32763793.32 0.3600 0.0204

Mars -94415-11-05 03:06 J -32763347.49 -32763347.37 -32763347.25 0.1920 0.0973

Venus -94414-03-02 19:39 J -32763229.76 -32763229.68 -32763229.60 0.3767 0.2526

Earth -94414-07-27 11:01 J -32763083.17 -32763083.04 -32763082.92 0.2611 0.0263

Moon -94414-07-27 11:15 J -32763083.16 -32763083.03 -32763082.90 0.2618 0.0305 *

Jupiter -94411-09-06 16:47 J -32761945.92 -32761945.80 -32761945.66 0.0507 0.0312

Jupiter -94411-12-05 15:49 J -32761855.98 -32761855.84 -32761855.69 0.0511 0.0210

Venus -94410-03-02 01:25 J -32761769.57 -32761769.44 -32761769.31 0.3603 0.0913

Mars -94410-07-06 09:35 J -32761643.20 -32761643.10 -32761643.00 0.1610 0.1073

Venus -94409-09-15 14:51 J -32761205.92 -32761205.88 -32761205.83 0.3764 0.3403

Mars -94408-06-11 00:27 J -32760937.60 -32760937.48 -32760937.36 0.1605 0.0756

Uranus -94406-12-26 22:18 J -32760008.62 -32760008.57 -32760008.50 0.0137 0.0127

Jupiter -94405-01-27 15:49 J -32759976.90 -32759976.84 -32759976.78 0.0523 0.0473

Uranus -94405-03-24 03:49 J -32759920.43 -32759920.34 -32759920.22 0.0137 0.0107

Mars -94405-03-27 05:01 J -32759917.32 -32759917.29 -32759917.26 0.1918 0.1862

Jupiter -94405-04-26 02:51 J -32759887.52 -32759887.38 -32759887.24 0.0519 0.0012

Uranus -94405-06-20 09:35 J -32759832.22 -32759832.10 -32759831.97 0.0137 0.0086

Jupiter -94405-07-24 14:51 J -32759797.94 -32759797.88 -32759797.81 0.0515 0.0457

Venus -94405-09-15 01:25 J -32759745.55 -32759745.44 -32759745.33 0.3606 0.1974

Uranus -94405-09-16 15:06 J -32759744.01 -32759743.87 -32759743.72 0.0137 0.0066

Uranus -94405-12-13 20:37 J -32759655.80 -32759655.64 -32759655.49 0.0136 0.0046

Saturn -94405-12-14 02:37 J -32759655.46 -32759655.39 -32759655.32 0.0278 0.0245

Moon -94404-01-19 19:25 J -32759618.81 -32759618.69 -32759618.58 0.2725 0.1329

Earth -94404-01-19 20:23 J -32759618.76 -32759618.65 -32759618.54 0.2725 0.1359 *

Uranus -94404-03-12 01:54 J -32759567.58 -32759567.42 -32759567.26 0.0136 0.0026

Saturn -94404-03-12 19:39 J -32759566.82 -32759566.68 -32759566.54 0.0278 0.0146

Uranus -94404-06-08 07:11 J -32759479.36 -32759479.20 -32759479.03 0.0136 0.0007

Saturn -94404-06-09 12:13 J -32759478.15 -32759477.99 -32759477.83 0.0277 0.0049

Uranus -94404-09-04 12:27 J -32759391.14 -32759390.98 -32759390.82 0.0136 0.0013

Saturn -94404-09-06 04:32 J -32759389.47 -32759389.31 -32759389.16 0.0277 0.0046

Uranus -94404-12-01 17:44 J -32759302.92 -32759302.76 -32759302.60 0.0136 0.0032

Saturn -94404-12-03 20:23 J -32759300.79 -32759300.65 -32759300.52 0.0277 0.0138

Uranus -94403-02-27 22:47 J -32759214.70 -32759214.55 -32759214.40 0.0136 0.0051

Saturn -94403-03-02 11:44 J -32759212.09 -32759212.01 -32759211.92 0.0277 0.0228

Mars -94403-03-03 19:39 J -32759210.75 -32759210.68 -32759210.62 0.1924 0.1663

Uranus -94403-05-27 03:49 J -32759126.47 -32759126.34 -32759126.20 0.0136 0.0070

Uranus -94403-08-23 08:51 J -32759038.25 -32759038.13 -32759038.00 0.0136 0.0088

Uranus -94403-11-19 13:54 J -32758950.01 -32758949.92 -32758949.82 0.0135 0.0107

Uranus -94402-02-15 18:56 J -32758861.77 -32758861.71 -32758861.65 0.0135 0.0125

Venus -94402-06-10 15:06 J -32758746.91 -32758746.87 -32758746.83 0.3789 0.3524

Earth -94401-07-29 08:37 J -32758332.24 -32758332.14 -32758332.04 0.2615 0.1599

Moon -94401-07-29 09:35 J -32758332.20 -32758332.10 -32758332.01 0.2618 0.1699 *

Mars -94401-11-25 18:13 J -32758212.79 -32758212.74 -32758212.69 0.1611 0.1495

Venus -94399-04-01 00:42 J -32757721.54 -32757721.47 -32757721.40 0.3610 0.2977

Jupiter -94399-06-25 16:18 J -32757635.89 -32757635.82 -32757635.73 0.0506 0.0444

Jupiter -94399-09-23 15:49 J -32757546.00 -32757545.84 -32757545.68 0.0510 0.0081

Mars -94399-11-01 08:37 J -32757507.28 -32757507.14 -32757507.01 0.1606 0.0307

Venus -94397-12-24 08:51 J -32756723.20 -32756723.13 -32756723.06 0.3787 0.2815

Moon -94394-07-22 19:25 J -32755782.73 -32755782.69 -32755782.64 0.2608 0.2424

Earth -94394-07-22 20:23 J -32755782.71 -32755782.65 -32755782.58 0.2605 0.2241 *

Mars -94394-07-24 22:47 J -32755780.67 -32755780.55 -32755780.43 0.1923 0.0847

Jupiter -94393-02-13 05:59 J -32755577.39 -32755577.25 -32755577.11 0.0520 0.0123

Jupiter -94393-05-12 17:44 J -32755487.86 -32755487.76 -32755487.65 0.0516 0.0344

Venus -94391-07-10 02:51 J -32754699.47 -32754699.38 -32754699.29 0.3784 0.2088

Saturn -94390-12-23 18:27 J -32754167.82 -32754167.73 -32754167.63 0.0281 0.0216

Saturn -94389-03-21 08:51 J -32754079.26 -32754079.13 -32754078.99 0.0281 0.0126

Mars -94389-03-23 16:47 J -32754076.94 -32754076.80 -32754076.66 0.1607 0.0142

Saturn -94389-06-17 23:44 J -32753990.66 -32753990.51 -32753990.36 0.0282 0.0034

Saturn -94389-09-14 14:51 J -32753902.03 -32753901.88 -32753901.73 0.0282 0.0061

Saturn -94389-12-12 06:13 J -32753813.36 -32753813.24 -32753813.11 0.0282 0.0157

Saturn -94388-03-10 21:49 J -32753724.64 -32753724.59 -32753724.52 0.0282 0.0256

Jupiter -94387-07-12 15:49 J -32753236.00 -32753235.84 -32753235.67 0.0509 0.0049

Jupiter -94387-10-10 14:08 J -32753145.97 -32753145.91 -32753145.85 0.0513 0.0469

Venus -94385-01-23 20:51 J -32752675.73 -32752675.63 -32752675.53 0.3782 0.1328

Mars -94385-12-14 01:11 J -32752350.58 -32752350.45 -32752350.31 0.1921 0.0034

Moon -94384-01-15 04:18 J -32752318.43 -32752318.32 -32752318.22 0.2726 0.1517

Earth -94384-01-15 04:32 J -32752318.42 -32752318.31 -32752318.21 0.2732 0.1480 *

Jupiter -94382-12-02 09:06 J -32751267.25 -32751267.12 -32751267.00 0.0521 0.0235

Jupiter -94381-02-29 20:37 J -32751177.77 -32751177.64 -32751177.52 0.0517 0.0230

Moon -94381-07-24 18:13 J -32751031.86 -32751031.74 -32751031.61 0.2615 0.0793

Earth -94381-07-24 18:27 J -32751031.85 -32751031.73 -32751031.60 0.2608 0.0838 *

Venus -94380-08-08 15:06 J -32750651.98 -32750651.87 -32750651.76 0.3779 0.0555

Mars -94380-08-14 01:11 J -32750646.58 -32750646.45 -32750646.33 0.1608 0.0582

Mars -94378-07-20 16:47 J -32749940.88 -32749940.80 -32749940.72 0.1604 0.1281

Venus -94376-08-06 21:06 J -32749192.65 -32749192.62 -32749192.58 0.3592 0.3480

Jupiter -94375-04-30 16:18 J -32748925.98 -32748925.82 -32748925.67 0.0509 0.0172

Mars -94375-05-06 03:35 J -32748920.47 -32748920.35 -32748920.23 0.1920 0.0886

Jupiter -94375-07-29 14:51 J -32748836.00 -32748835.88 -32748835.76 0.0512 0.0348

Saturn -94375-07-30 18:27 J -32748834.84 -32748834.73 -32748834.60 0.0277 0.0183

Saturn -94375-10-27 11:15 J -32748746.18 -32748746.03 -32748745.87 0.0277 0.0086

Saturn -94374-01-24 03:49 J -32748657.50 -32748657.34 -32748657.18 0.0277 0.0011

Venus -94374-02-22 09:35 J -32748628.21 -32748628.10 -32748627.99 0.3776 0.0261

Saturn -94374-04-22 19:39 J -32748568.82 -32748568.68 -32748568.53 0.0277 0.0104

Saturn -94374-07-20 11:30 J -32748480.13 -32748480.02 -32748479.91 0.0276 0.0194

Neptune -94374-11-11 11:15 J -32748366.05 -32748366.03 -32748365.99 0.0089 0.0086

Neptune -94373-02-07 12:56 J -32748278.00 -32748277.96 -32748277.90 0.0089 0.0082

Neptune -94373-05-05 14:23 J -32748189.95 -32748189.90 -32748189.82 0.0089 0.0078

Neptune -94373-08-01 16:03 J -32748101.90 -32748101.83 -32748101.74 0.0089 0.0074

Neptune -94373-10-28 17:44 J -32748013.84 -32748013.76 -32748013.66 0.0089 0.0070

Neptune -94372-01-24 19:11 J -32747925.78 -32747925.70 -32747925.59 0.0089 0.0066

Neptune -94372-04-22 21:06 J -32747837.72 -32747837.62 -32747837.51 0.0089 0.0061

Neptune -94372-07-19 22:47 J -32747749.65 -32747749.55 -32747749.44 0.0089 0.0057

Neptune -94372-10-16 00:13 J -32747661.59 -32747661.49 -32747661.36 0.0089 0.0053

Neptune -94371-01-12 01:54 J -32747573.53 -32747573.42 -32747573.29 0.0089 0.0049

Moon -94371-01-18 02:08 J -32747567.54 -32747567.41 -32747567.28 0.2725 0.0058

Earth -94371-01-18 03:06 J -32747567.50 -32747567.37 -32747567.24 0.2728 0.0091 *

Neptune -94371-04-10 03:49 J -32747485.46 -32747485.34 -32747485.21 0.0089 0.0044

Neptune -94371-07-07 05:30 J -32747397.39 -32747397.27 -32747397.14 0.0089 0.0040

Neptune -94371-10-03 07:11 J -32747309.33 -32747309.20 -32747309.07 0.0089 0.0036

Neptune -94371-12-30 08:37 J -32747221.26 -32747221.14 -32747220.99 0.0089 0.0032

Mars -94370-01-04 09:35 J -32747216.20 -32747216.10 -32747215.99 0.1609 0.1015

Venus -94370-02-20 22:47 J -32747168.65 -32747168.55 -32747168.44 0.3595 0.2239

Neptune -94370-03-28 10:32 J -32747133.19 -32747133.06 -32747132.92 0.0089 0.0027

Neptune -94370-06-24 12:13 J -32747045.12 -32747044.99 -32747044.84 0.0089 0.0023

Jupiter -94370-09-20 11:30 J -32746957.12 -32746957.02 -32746956.92 0.0521 0.0354

Neptune -94370-09-20 14:08 J -32746957.05 -32746956.91 -32746956.77 0.0089 0.0018 *

Neptune -94370-12-17 15:49 J -32746868.98 -32746868.84 -32746868.70 0.0089 0.0014

Jupiter -94370-12-18 22:47 J -32746867.69 -32746867.55 -32746867.41 0.0517 0.0108

Neptune -94369-03-14 17:30 J -32746780.91 -32746780.77 -32746780.62 0.0089 0.0010

Neptune -94369-06-10 19:11 J -32746692.84 -32746692.70 -32746692.55 0.0089 0.0006

Neptune -94369-09-06 21:06 J -32746604.77 -32746604.62 -32746604.48 0.0089 0.0002

Venus -94369-09-07 04:03 J -32746604.43 -32746604.33 -32746604.22 0.3773 0.1062

Neptune -94369-12-03 22:47 J -32746516.70 -32746516.55 -32746516.40 0.0089 0.0004

Mars -94369-12-10 00:42 J -32746510.59 -32746510.47 -32746510.35 0.1605 0.0821

Neptune -94368-03-02 00:27 J -32746428.62 -32746428.48 -32746428.33 0.0089 0.0008

Neptune -94368-05-29 02:08 J -32746340.55 -32746340.41 -32746340.26 0.0089 0.0013

Earth -94368-07-27 16:18 J -32746280.95 -32746280.82 -32746280.69 0.2612 0.0541

Moon -94368-07-27 16:47 J -32746280.93 -32746280.80 -32746280.68 0.2618 0.0544 *

Neptune -94368-08-25 04:03 J -32746252.47 -32746252.33 -32746252.19 0.0089 0.0017

Neptune -94368-11-21 05:44 J -32746164.40 -32746164.26 -32746164.11 0.0089 0.0022

Neptune -94367-02-17 07:39 J -32746076.32 -32746076.18 -32746076.04 0.0089 0.0026

Neptune -94367-05-16 09:20 J -32745988.24 -32745988.11 -32745987.97 0.0089 0.0031

Pluto -94367-07-29 17:44 J -32745913.78 -32745913.76 -32745913.72 0.0085 0.0082

Neptune -94367-08-12 11:15 J -32745900.16 -32745900.03 -32745899.89 0.0089 0.0035

Pluto -94367-10-25 19:11 J -32745825.77 -32745825.70 -32745825.62 0.0084 0.0069

Neptune -94367-11-08 12:56 J -32745812.09 -32745811.96 -32745811.82 0.0089 0.0040

Pluto -94366-01-21 20:23 J -32745737.74 -32745737.65 -32745737.55 0.0084 0.0056

Neptune -94366-02-04 14:51 J -32745724.01 -32745723.88 -32745723.75 0.0089 0.0044

Pluto -94366-04-19 21:49 J -32745649.70 -32745649.59 -32745649.48 0.0084 0.0044

Neptune -94366-05-03 16:32 J -32745635.93 -32745635.81 -32745635.68 0.0089 0.0049

Pluto -94366-07-16 23:01 J -32745561.66 -32745561.54 -32745561.42 0.0084 0.0031

Neptune -94366-07-30 18:27 J -32745547.84 -32745547.73 -32745547.61 0.0089 0.0053

Mars -94366-09-26 05:30 J -32745490.32 -32745490.27 -32745490.22 0.1917 0.1782

Pluto -94366-10-13 00:13 J -32745473.62 -32745473.49 -32745473.36 0.0084 0.0019

Neptune -94366-10-26 20:08 J -32745459.76 -32745459.66 -32745459.54 0.0089 0.0058

Pluto -94365-01-09 01:25 J -32745385.57 -32745385.44 -32745385.30 0.0084 0.0007

Neptune -94365-01-22 21:49 J -32745371.68 -32745371.59 -32745371.47 0.0089 0.0063

Pluto -94365-04-06 02:37 J -32745297.52 -32745297.39 -32745297.25 0.0084 0.0007

Neptune -94365-04-19 23:59 J -32745283.59 -32745283.50 -32745283.40 0.0089 0.0067

Pluto -94365-07-03 03:49 J -32745209.46 -32745209.34 -32745209.21 0.0084 0.0019

Neptune -94365-07-17 01:39 J -32745195.50 -32745195.43 -32745195.33 0.0089 0.0072

Venus -94365-09-06 00:13 J -32745144.62 -32745144.49 -32745144.36 0.3598 0.1041

Pluto -94365-09-29 05:01 J -32745121.41 -32745121.29 -32745121.16 0.0083 0.0031

Neptune -94365-10-13 03:49 J -32745107.41 -32745107.34 -32745107.26 0.0089 0.0076

Pluto -94365-12-26 06:27 J -32745033.35 -32745033.23 -32745033.12 0.0083 0.0043

Neptune -94364-01-09 05:30 J -32745019.32 -32745019.27 -32745019.20 0.0089 0.0081

Pluto -94364-03-24 07:11 J -32744945.28 -32744945.20 -32744945.08 0.0083 0.0056

Neptune -94364-04-07 07:11 J -32744931.22 -32744931.20 -32744931.14 0.0089 0.0086

Pluto -94364-06-20 08:23 J -32744857.21 -32744857.15 -32744857.06 0.0083 0.0067

Mars -94364-09-01 19:54 J -32744783.72 -32744783.67 -32744783.61 0.1924 0.1751

Pluto -94364-09-16 09:35 J -32744769.12 -32744769.10 -32744769.04 0.0083 0.0079

Jupiter -94363-02-16 16:03 J -32744615.96 -32744615.83 -32744615.70 0.0508 0.0301

Venus -94363-03-23 23:01 J -32744580.64 -32744580.54 -32744580.44 0.3770 0.1898

Jupiter -94363-05-17 15:06 J -32744526.01 -32744525.87 -32744525.72 0.0511 0.0222

Mars -94361-05-26 18:13 J -32743785.79 -32743785.74 -32743785.68 0.1611 0.1441

Uranus -94361-08-19 18:42 J -32743700.75 -32743700.72 -32743700.68 0.0142 0.0136

Uranus -94361-11-15 23:01 J -32743612.61 -32743612.54 -32743612.45 0.0142 0.0118

Uranus -94360-02-12 03:49 J -32743524.45 -32743524.34 -32743524.24 0.0142 0.0098

Uranus -94360-05-11 08:08 J -32743436.27 -32743436.16 -32743436.03 0.0142 0.0079

Saturn -94360-05-11 19:54 J -32743435.74 -32743435.67 -32743435.59 0.0281 0.0242

Uranus -94360-08-07 12:56 J -32743348.09 -32743347.96 -32743347.83 0.0142 0.0059

Saturn -94360-08-08 10:18 J -32743347.19 -32743347.07 -32743346.94 0.0282 0.0153

Uranus -94360-11-03 17:30 J -32743259.91 -32743259.77 -32743259.63 0.0142 0.0040

Saturn -94360-11-05 00:56 J -32743258.60 -32743258.46 -32743258.31 0.0282 0.0061

Uranus -94359-01-30 22:03 J -32743171.72 -32743171.58 -32743171.43 0.0142 0.0021

Saturn -94359-02-01 16:03 J -32743169.98 -32743169.83 -32743169.68 0.0282 0.0034

Venus -94359-03-23 00:42 J -32743120.60 -32743120.47 -32743120.33 0.3601 0.0146

Uranus -94359-04-29 02:51 J -32743083.53 -32743083.38 -32743083.23 0.0143 0.0003

Saturn -94359-05-01 07:25 J -32743081.32 -32743081.19 -32743081.05 0.0282 0.0130

Mars -94359-05-02 08:37 J -32743080.27 -32743080.14 -32743080.00 0.1606 0.0364

Uranus -94359-07-26 07:39 J -32742995.33 -32742995.18 -32742995.03 0.0143 0.0021

Saturn -94359-07-28 23:15 J -32742992.62 -32742992.53 -32742992.44 0.0282 0.0229

Uranus -94359-10-22 12:27 J -32742907.12 -32742906.98 -32742906.83 0.0143 0.0042

Uranus -94358-01-18 17:15 J -32742818.91 -32742818.78 -32742818.64 0.0143 0.0063

Moon -94358-01-21 00:56 J -32742816.57 -32742816.46 -32742816.35 0.2726 0.1504

Earth -94358-01-21 01:54 J -32742816.52 -32742816.42 -32742816.32 0.2724 0.1690 *

Uranus -94358-04-16 22:03 J -32742730.69 -32742730.58 -32742730.45 0.0143 0.0084

Jupiter -94358-07-09 14:23 J -32742646.96 -32742646.90 -32742646.84 0.0522 0.0470

Uranus -94358-07-14 03:06 J -32742642.46 -32742642.37 -32742642.26 0.0143 0.0105

Jupiter -94358-10-07 01:25 J -32742557.58 -32742557.44 -32742557.30 0.0519 0.0015

Venus -94358-10-07 17:59 J -32742556.82 -32742556.75 -32742556.67 0.3766 0.2755

Uranus -94358-10-10 08:08 J -32742554.22 -32742554.16 -32742554.08 0.0143 0.0127

Jupiter -94357-01-04 13:11 J -32742468.01 -32742467.95 -32742467.88 0.0515 0.0458

Earth -94355-07-30 13:54 J -32741530.01 -32741529.92 -32741529.83 0.2616 0.1885

Moon -94355-07-30 14:51 J -32741529.96 -32741529.88 -32741529.80 0.2617 0.1999 *

Mars -94354-01-22 22:47 J -32741353.67 -32741353.55 -32741353.43 0.1923 0.0917

Venus -94354-10-07 01:11 J -32741096.58 -32741096.45 -32741096.33 0.3604 0.1203

Venus -94352-04-22 13:25 J -32740532.97 -32740532.94 -32740532.92 0.3763 0.3641

Jupiter -94352-12-05 14:51 J -32740305.96 -32740305.88 -32740305.80 0.0506 0.0440

Moon -94351-01-13 11:59 J -32740267.04 -32740267.00 -32740266.97 0.2728 0.2594

Earth -94351-01-13 11:30 J -32740267.03 -32740267.02 -32740267.00 0.2736 0.2691 *

Jupiter -94351-03-05 14:08 J -32740216.07 -32740215.91 -32740215.74 0.0510 0.0085

Mars -94350-09-22 17:01 J -32739649.93 -32739649.79 -32739649.66 0.1607 0.0087

Venus -94348-04-22 00:56 J -32739072.57 -32739072.46 -32739072.36 0.3607 0.2241

Moon -94348-07-23 01:11 J -32738980.54 -32738980.45 -32738980.37 0.2609 0.1958

Earth -94348-07-23 01:54 J -32738980.50 -32738980.42 -32738980.33 0.2605 0.1939 *

Jupiter -94346-07-26 04:03 J -32738247.46 -32738247.33 -32738247.19 0.0520 0.0126

Jupiter -94346-10-23 16:03 J -32738157.94 -32738157.83 -32738157.73 0.0516 0.0343

Saturn -94346-12-17 20:51 J -32738102.73 -32738102.63 -32738102.51 0.0278 0.0204

Venus -94345-01-15 13:11 J -32738074.00 -32738073.95 -32738073.90 0.3788 0.3325

Saturn -94345-03-15 13:54 J -32738014.07 -32738013.92 -32738013.77 0.0278 0.0105

Saturn -94345-06-12 06:27 J -32737925.39 -32737925.23 -32737925.07 0.0277 0.0010

Mars -94345-06-14 01:25 J -32737923.57 -32737923.44 -32737923.30 0.1922 0.0072

Saturn -94345-09-08 22:32 J -32737836.71 -32737836.56 -32737836.41 0.0277 0.0085

Saturn -94345-12-06 14:08 J -32737748.02 -32737747.91 -32737747.79 0.0277 0.0177

Saturn -94344-03-05 05:30 J -32737659.30 -32737659.27 -32737659.22 0.0277 0.0266

Venus -94343-11-06 00:13 J -32737048.54 -32737048.49 -32737048.43 0.3611 0.3239

Mars -94340-02-12 01:25 J -32736219.57 -32736219.44 -32736219.31 0.1608 0.0522

Venus -94340-07-31 06:56 J -32736050.29 -32736050.21 -32736050.13 0.3786 0.2611

Jupiter -94340-12-22 14:08 J -32735906.07 -32735905.91 -32735905.75 0.0509 0.0045

Jupiter -94339-03-22 12:13 J -32735816.05 -32735815.99 -32735815.92 0.0513 0.0469

Moon -94338-01-16 09:20 J -32735516.22 -32735516.11 -32735515.99 0.2726 0.1233

Earth -94338-01-16 10:03 J -32735516.20 -32735516.08 -32735515.97 0.2732 0.1166 *

Mars -94338-01-18 17:01 J -32735513.86 -32735513.79 -32735513.71 0.1604 0.1347

Mars -94336-11-04 04:03 J -32734493.46 -32734493.33 -32734493.21 0.1920 0.0794

Moon -94335-07-25 23:44 J -32734229.63 -32734229.51 -32734229.38 0.2616 0.0633

Earth -94335-07-25 23:59 J -32734229.63 -32734229.50 -32734229.37 0.2609 0.0539 *

Venus -94334-02-14 00:56 J -32734026.56 -32734026.46 -32734026.37 0.3784 0.1879

Jupiter -94334-05-14 07:25 J -32733937.31 -32733937.19 -32733937.07 0.0521 0.0235

Jupiter -94334-08-11 18:56 J -32733847.84 -32733847.71 -32733847.58 0.0517 0.0230

Mars -94331-07-05 09:49 J -32732789.19 -32732789.09 -32732788.98 0.1609 0.0955

Saturn -94331-09-28 21:06 J -32732703.66 -32732703.62 -32732703.58 0.0281 0.0269

Saturn -94331-12-26 11:15 J -32732615.14 -32732615.03 -32732614.91 0.0281 0.0181

Saturn -94330-03-25 01:54 J -32732526.56 -32732526.42 -32732526.28 0.0281 0.0090

Saturn -94330-06-21 16:47 J -32732437.95 -32732437.80 -32732437.65 0.0281 0.0006

Saturn -94330-09-18 07:54 J -32732349.31 -32732349.17 -32732349.02 0.0282 0.0099

Saturn -94330-12-15 23:30 J -32732260.63 -32732260.52 -32732260.41 0.0282 0.0196

Mars -94329-06-10 00:56 J -32732083.58 -32732083.46 -32732083.35 0.1605 0.0884

Venus -94329-08-29 18:56 J -32732002.81 -32732002.71 -32732002.60 0.3781 0.1118

Jupiter -94328-10-10 13:54 J -32731596.07 -32731595.92 -32731595.76 0.0508 0.0176

Jupiter -94327-01-08 12:42 J -32731506.09 -32731505.97 -32731505.85 0.0512 0.0344

Mars -94326-03-27 05:44 J -32731063.32 -32731063.26 -32731063.20 0.1918 0.1701

Moon -94325-01-19 07:39 J -32730765.31 -32730765.18 -32730765.06 0.2724 0.0266

Earth -94325-01-19 08:37 J -32730765.27 -32730765.14 -32730765.02 0.2728 0.0413 *

Mars -94324-03-02 20:08 J -32730356.70 -32730356.66 -32730356.62 0.1924 0.1826

Venus -94323-03-15 13:11 J -32729979.06 -32729978.95 -32729978.84 0.3778 0.0361

Jupiter -94322-03-02 10:32 J -32729627.16 -32729627.06 -32729626.95 0.0522 0.0346

Jupiter -94322-05-30 21:49 J -32729537.73 -32729537.59 -32729537.45 0.0518 0.0117

Earth -94322-07-28 21:35 J -32729478.72 -32729478.60 -32729478.47 0.2612 0.0836

Moon -94322-07-28 22:18 J -32729478.69 -32729478.57 -32729478.45 0.2617 0.0952 *

Mars -94322-11-25 18:27 J -32729358.79 -32729358.73 -32729358.66 0.1611 0.1383

Uranus -94321-01-16 04:47 J -32729307.35 -32729307.30 -32729307.22 0.0137 0.0125

Uranus -94321-04-13 10:32 J -32729219.16 -32729219.06 -32729218.95 0.0137 0.0104

Uranus -94321-07-10 16:03 J -32729130.95 -32729130.83 -32729130.69 0.0137 0.0084

Uranus -94321-10-06 21:35 J -32729042.74 -32729042.60 -32729042.45 0.0137 0.0063

Uranus -94320-01-03 03:06 J -32728954.53 -32728954.37 -32728954.21 0.0136 0.0043

Uranus -94320-04-01 08:23 J -32728866.31 -32728866.15 -32728865.98 0.0136 0.0024

Uranus -94320-06-28 13:54 J -32728778.09 -32728777.92 -32728777.76 0.0136 0.0006

Uranus -94320-09-24 18:56 J -32728689.87 -32728689.71 -32728689.54 0.0136 0.0016

Mars -94320-10-31 09:06 J -32728653.26 -32728653.12 -32728652.99 0.1606 0.0432

Uranus -94320-12-22 00:13 J -32728601.65 -32728601.49 -32728601.33 0.0136 0.0034

Venus -94319-03-13 21:20 J -32728519.67 -32728519.61 -32728519.54 0.3593 0.3137

Uranus -94319-03-20 05:15 J -32728513.42 -32728513.28 -32728513.12 0.0136 0.0054

Uranus -94319-06-16 10:32 J -32728425.20 -32728425.06 -32728424.92 0.0136 0.0072

Uranus -94319-09-12 15:20 J -32728336.97 -32728336.86 -32728336.73 0.0135 0.0091

Uranus -94319-12-09 20:23 J -32728248.74 -32728248.65 -32728248.55 0.0135 0.0109

Uranus -94318-03-08 01:11 J -32728160.49 -32728160.45 -32728160.38 0.0135 0.0128

Venus -94318-09-29 07:39 J -32727955.29 -32727955.18 -32727955.07 0.3775 0.0468

Saturn -94316-05-05 19:25 J -32727370.76 -32727370.69 -32727370.60 0.0277 0.0243

Jupiter -94316-07-29 14:08 J -32727286.04 -32727285.91 -32727285.77 0.0508 0.0300

Saturn -94316-08-02 12:42 J -32727282.11 -32727281.97 -32727281.83 0.0277 0.0143

Jupiter -94316-10-27 13:25 J -32727196.09 -32727195.94 -32727195.80 0.0511 0.0223

Saturn -94316-10-30 05:15 J -32727193.43 -32727193.28 -32727193.12 0.0277 0.0046

Saturn -94315-01-26 21:35 J -32727104.75 -32727104.60 -32727104.44 0.0277 0.0049

Saturn -94315-04-25 13:25 J -32727016.07 -32727015.94 -32727015.80 0.0277 0.0142

Saturn -94315-07-23 05:01 J -32726927.37 -32726927.29 -32726927.20 0.0276 0.0232

Mars -94315-07-23 23:15 J -32726926.65 -32726926.53 -32726926.42 0.1923 0.1003

Venus -94314-09-27 23:01 J -32726495.66 -32726495.54 -32726495.42 0.3595 0.1899

Moon -94312-01-21 06:27 J -32726014.32 -32726014.23 -32726014.15 0.2727 0.1981

Earth -94312-01-21 07:25 J -32726014.28 -32726014.19 -32726014.11 0.2724 0.2014 *

Venus -94312-04-14 02:23 J -32725931.50 -32725931.40 -32725931.29 0.3772 0.1286

Jupiter -94311-12-19 13:11 J -32725317.01 -32725316.95 -32725316.88 0.0522 0.0463

Jupiter -94310-03-19 00:13 J -32725227.63 -32725227.49 -32725227.35 0.0518 0.0005

Mars -94310-03-23 17:15 J -32725222.92 -32725222.78 -32725222.65 0.1607 0.0050

Jupiter -94310-06-16 12:13 J -32725138.05 -32725137.99 -32725137.93 0.0515 0.0464

Earth -94309-07-30 19:11 J -32724727.77 -32724727.70 -32724727.63 0.2616 0.2173

Moon -94309-07-30 20:23 J -32724727.72 -32724727.65 -32724727.59 0.2618 0.2252 *

Venus -94308-04-12 23:59 J -32724471.63 -32724471.50 -32724471.37 0.3598 0.0731

Venus -94307-10-28 21:20 J -32723907.70 -32723907.61 -32723907.52 0.3769 0.2123

Mars -94306-12-14 01:54 J -32723496.55 -32723496.42 -32723496.28 0.1922 0.0157

Earth -94305-01-14 17:01 J -32723464.85 -32723464.79 -32723464.73 0.2735 0.2380

Moon -94305-01-14 17:15 J -32723464.84 -32723464.78 -32723464.72 0.2728 0.2401 *

Jupiter -94304-05-17 13:54 J -32722976.00 -32722975.92 -32722975.83 0.0507 0.0429

Jupiter -94304-08-15 13:39 J -32722886.09 -32722885.93 -32722885.77 0.0510 0.0097

Venus -94303-10-28 00:42 J -32722447.61 -32722447.47 -32722447.34 0.3602 0.0408

Moon -94302-07-24 06:42 J -32722178.31 -32722178.22 -32722178.12 0.2611 0.1762

Earth -94302-07-24 07:25 J -32722178.29 -32722178.19 -32722178.09 0.2606 0.1642 *

Venus -94301-05-13 16:32 J -32721883.88 -32721883.81 -32721883.75 0.3765 0.2988

Saturn -94301-05-14 12:13 J -32721883.08 -32721882.99 -32721882.89 0.0281 0.0211

Saturn -94301-08-11 02:37 J -32721794.52 -32721794.39 -32721794.25 0.0282 0.0121

Mars -94301-08-13 01:25 J -32721792.57 -32721792.44 -32721792.31 0.1608 0.0466

Saturn -94301-11-07 17:30 J -32721705.92 -32721705.77 -32721705.62 0.0282 0.0028

Saturn -94300-02-04 08:37 J -32721617.29 -32721617.14 -32721616.99 0.0282 0.0067

Saturn -94300-05-03 23:59 J -32721528.62 -32721528.50 -32721528.37 0.0282 0.0164

Saturn -94300-07-31 15:49 J -32721439.89 -32721439.84 -32721439.78 0.0282 0.0263

Mars -94299-07-19 17:15 J -32721086.84 -32721086.78 -32721086.72 0.1604 0.1408

Jupiter -94298-01-05 02:51 J -32720917.51 -32720917.38 -32720917.24 0.0520 0.0120

Jupiter -94298-04-04 14:37 J -32720827.99 -32720827.89 -32720827.78 0.0516 0.0346

Venus -94297-05-13 00:42 J -32720423.59 -32720423.47 -32720423.35 0.3605 0.1483

Mars -94296-05-05 04:03 J -32720066.46 -32720066.33 -32720066.21 0.1920 0.0730

Moon -94292-01-16 14:51 J -32718714.01 -32718713.88 -32718713.76 0.2725 0.0878

Earth -94292-01-16 15:20 J -32718713.98 -32718713.86 -32718713.74 0.2731 0.0846 *

Jupiter -94292-06-03 12:42 J -32718576.13 -32718575.97 -32718575.80 0.0509 0.0040

Jupiter -94292-09-01 10:47 J -32718486.10 -32718486.05 -32718485.99 0.0513 0.0474

Venus -94292-11-27 00:27 J -32718399.57 -32718399.48 -32718399.39 0.3608 0.2511

Mars -94291-01-03 10:03 J -32718362.19 -32718362.08 -32718361.97 0.1609 0.0897

Neptune -94291-08-14 05:15 J -32718139.29 -32718139.28 -32718139.24 0.0088 0.0088

Neptune -94291-11-10 08:08 J -32718051.21 -32718051.16 -32718051.08 0.0088 0.0083

Neptune -94290-02-06 11:15 J -32717963.11 -32717963.03 -32717962.94 0.0088 0.0077

Neptune -94290-05-05 14:08 J -32717875.00 -32717874.91 -32717874.80 0.0088 0.0072

Neptune -94290-08-01 16:47 J -32717786.90 -32717786.80 -32717786.66 0.0088 0.0067

Neptune -94290-10-28 19:54 J -32717698.79 -32717698.67 -32717698.53 0.0088 0.0061

Mars -94290-12-10 01:11 J -32717656.56 -32717656.45 -32717656.34 0.1605 0.0946

Neptune -94289-01-24 22:47 J -32717610.68 -32717610.55 -32717610.40 0.0088 0.0055

Neptune -94289-04-22 01:54 J -32717522.57 -32717522.42 -32717522.28 0.0088 0.0050

Neptune -94289-07-19 04:32 J -32717434.46 -32717434.31 -32717434.15 0.0088 0.0045

Moon -94289-07-26 05:15 J -32717427.41 -32717427.28 -32717427.15 0.2616 0.0180

Earth -94289-07-26 05:15 J -32717427.41 -32717427.28 -32717427.15 0.2609 0.0260 *

Venus -94289-08-21 11:15 J -32717401.09 -32717401.03 -32717400.98 0.3788 0.3130

Neptune -94289-10-15 07:11 J -32717346.34 -32717346.20 -32717346.03 0.0088 0.0040

Neptune -94288-01-11 10:18 J -32717258.23 -32717258.07 -32717257.91 0.0088 0.0034

Neptune -94288-04-09 12:56 J -32717170.12 -32717169.96 -32717169.79 0.0088 0.0029

Neptune -94288-07-06 15:49 J -32717082.00 -32717081.84 -32717081.67 0.0088 0.0023

Neptune -94288-10-02 18:27 J -32716993.89 -32716993.73 -32716993.55 0.0088 0.0019

Neptune -94288-12-29 21:20 J -32716905.78 -32716905.61 -32716905.43 0.0088 0.0013

Neptune -94287-03-28 00:13 J -32716817.66 -32716817.49 -32716817.32 0.0088 0.0008

Neptune -94287-06-24 02:51 J -32716729.55 -32716729.38 -32716729.20 0.0088 0.0003

Neptune -94287-09-20 05:44 J -32716641.44 -32716641.26 -32716641.09 0.0088 0.0003

Saturn -94287-09-22 21:49 J -32716638.64 -32716638.59 -32716638.54 0.0278 0.0264

Mars -94287-09-25 06:13 J -32716636.31 -32716636.24 -32716636.17 0.1918 0.1608

Jupiter -94287-10-24 05:44 J -32716607.38 -32716607.26 -32716607.14 0.0521 0.0236

Neptune -94287-12-17 08:23 J -32716553.32 -32716553.15 -32716552.98 0.0088 0.0008

Saturn -94287-12-20 14:51 J -32716550.00 -32716549.88 -32716549.75 0.0278 0.0165

Jupiter -94286-01-21 17:15 J -32716517.91 -32716517.78 -32716517.65 0.0517 0.0230

Neptune -94286-03-15 11:01 J -32716465.21 -32716465.04 -32716464.87 0.0088 0.0013

Saturn -94286-03-19 07:39 J -32716461.33 -32716461.18 -32716461.02 0.0278 0.0067

Neptune -94286-06-11 13:39 J -32716377.10 -32716376.93 -32716376.76 0.0088 0.0018

Venus -94286-06-12 23:44 J -32716375.54 -32716375.51 -32716375.48 0.3612 0.3494

Saturn -94286-06-15 23:59 J -32716372.65 -32716372.50 -32716372.34 0.0277 0.0030

Neptune -94286-09-07 16:18 J -32716288.98 -32716288.82 -32716288.65 0.0088 0.0023

Saturn -94286-09-12 16:03 J -32716283.97 -32716283.83 -32716283.69 0.0277 0.0123

Neptune -94286-12-04 18:56 J -32716200.87 -32716200.71 -32716200.54 0.0088 0.0028

Saturn -94286-12-10 07:39 J -32716195.27 -32716195.18 -32716195.08 0.0277 0.0214

Neptune -94285-03-01 21:35 J -32716112.75 -32716112.60 -32716112.44 0.0088 0.0033

Neptune -94285-05-29 00:13 J -32716024.64 -32716024.49 -32716024.33 0.0088 0.0038

Neptune -94285-08-25 02:37 J -32715936.52 -32715936.39 -32715936.23 0.0088 0.0044

Mars -94285-08-31 20:23 J -32715929.67 -32715929.65 -32715929.63 0.1925 0.1903

Neptune -94285-11-21 05:15 J -32715848.41 -32715848.28 -32715848.12 0.0088 0.0049

Neptune -94284-02-17 07:54 J -32715760.29 -32715760.17 -32715760.02 0.0088 0.0054

Neptune -94284-05-16 10:32 J -32715672.18 -32715672.06 -32715671.92 0.0088 0.0058

Neptune -94284-08-12 12:56 J -32715584.06 -32715583.96 -32715583.83 0.0088 0.0064

Neptune -94284-11-08 15:35 J -32715495.94 -32715495.85 -32715495.73 0.0088 0.0068

Neptune -94283-02-04 18:27 J -32715407.82 -32715407.73 -32715407.64 0.0088 0.0073

Venus -94283-03-07 05:01 J -32715377.37 -32715377.29 -32715377.21 0.3786 0.2407

Neptune -94283-05-03 20:51 J -32715319.70 -32715319.63 -32715319.54 0.0088 0.0078

Neptune -94283-07-30 23:15 J -32715231.57 -32715231.53 -32715231.46 0.0088 0.0083

Neptune -94283-10-27 01:39 J -32715143.43 -32715143.43 -32715143.39 0.0088 0.0088

Mars -94282-05-26 18:42 J -32714931.79 -32714931.72 -32714931.65 0.1611 0.1326

Jupiter -94280-03-22 12:27 J -32714266.13 -32714265.98 -32714265.82 0.0508 0.0170

Mars -94280-05-01 09:06 J -32714226.25 -32714226.12 -32714225.98 0.1606 0.0492

Jupiter -94280-06-20 11:01 J -32714176.15 -32714176.04 -32714175.92 0.0512 0.0348

Moon -94279-01-19 12:56 J -32713963.08 -32713962.96 -32713962.83 0.2726 0.0640

Earth -94279-01-19 14:08 J -32713963.04 -32713962.91 -32713962.79 0.2727 0.0739 *

Venus -94278-09-20 23:01 J -32713353.64 -32713353.54 -32713353.45 0.3783 0.1675

Uranus -94277-09-09 01:39 J -32712999.47 -32712999.43 -32712999.37 0.0142 0.0133

Uranus -94277-12-06 06:13 J -32712911.32 -32712911.24 -32712911.15 0.0142 0.0114

Uranus -94276-03-04 10:47 J -32712823.16 -32712823.05 -32712822.94 0.0142 0.0095

Uranus -94276-05-31 15:20 J -32712734.98 -32712734.86 -32712734.73 0.0142 0.0075

Earth -94276-07-29 03:06 J -32712676.49 -32712676.37 -32712676.25 0.2613 0.1126

Moon -94276-07-29 03:49 J -32712676.45 -32712676.34 -32712676.22 0.2617 0.1137 *

Uranus -94276-08-27 19:54 J -32712646.80 -32712646.67 -32712646.53 0.0142 0.0056

Uranus -94276-11-24 00:27 J -32712558.62 -32712558.48 -32712558.33 0.0142 0.0036

Mars -94275-01-21 23:44 J -32712499.62 -32712499.51 -32712499.40 0.1923 0.1093

Uranus -94275-02-20 05:15 J -32712470.43 -32712470.28 -32712470.13 0.0142 0.0016

Uranus -94275-05-19 10:03 J -32712382.23 -32712382.08 -32712381.93 0.0143 0.0005

Jupiter -94275-08-12 08:51 J -32712297.23 -32712297.13 -32712297.02 0.0522 0.0346

Uranus -94275-08-15 14:51 J -32712294.03 -32712293.88 -32712293.74 0.0143 0.0025

Jupiter -94275-11-09 20:23 J -32712207.79 -32712207.65 -32712207.52 0.0518 0.0119

Uranus -94275-11-11 19:25 J -32712205.83 -32712205.69 -32712205.54 0.0143 0.0046

Uranus -94274-02-08 00:27 J -32712117.61 -32712117.48 -32712117.35 0.0143 0.0066

Uranus -94274-05-07 05:15 J -32712029.40 -32712029.28 -32712029.16 0.0143 0.0087

Uranus -94274-08-03 10:18 J -32711941.17 -32711941.07 -32711940.97 0.0143 0.0109

Uranus -94274-10-30 15:06 J -32711852.92 -32711852.87 -32711852.80 0.0143 0.0131

Venus -94272-04-05 17:01 J -32711329.89 -32711329.79 -32711329.68 0.3780 0.0915

Saturn -94272-10-01 13:39 J -32711151.01 -32711150.93 -32711150.86 0.0281 0.0237

Saturn -94272-12-29 03:49 J -32711062.46 -32711062.34 -32711062.21 0.0281 0.0148

Saturn -94271-03-27 18:27 J -32710973.87 -32710973.73 -32710973.58 0.0281 0.0057

Saturn -94271-06-24 09:35 J -32710885.25 -32710885.10 -32710884.95 0.0281 0.0037

Saturn -94271-09-21 00:42 J -32710796.60 -32710796.47 -32710796.33 0.0282 0.0133

Mars -94271-09-21 17:30 J -32710795.91 -32710795.77 -32710795.63 0.1607 0.0047

Saturn -94271-12-18 16:32 J -32710707.90 -32710707.81 -32710707.73 0.0282 0.0231

Jupiter -94268-01-08 12:13 J -32709956.12 -32709955.99 -32709955.86 0.0507 0.0301

Jupiter -94268-04-08 11:15 J -32709866.17 -32709866.03 -32709865.88 0.0511 0.0221

Venus -94267-10-20 11:30 J -32709306.13 -32709306.02 -32709305.91 0.3777 0.0154

Moon -94266-01-22 11:59 J -32709212.08 -32709212.00 -32709211.93 0.2727 0.2182

Earth -94266-01-22 12:56 J -32709212.02 -32709211.96 -32709211.90 0.2723 0.2349 *

Mars -94266-06-14 02:08 J -32709069.55 -32709069.41 -32709069.28 0.1922 0.0233

Jupiter -94263-05-31 12:13 J -32707987.05 -32707986.99 -32707986.92 0.0523 0.0454

Earth -94263-08-01 00:42 J -32707925.51 -32707925.47 -32707925.43 0.2617 0.2457

Moon -94263-08-01 01:39 J -32707925.45 -32707925.43 -32707925.42 0.2618 0.2593 *

Jupiter -94263-08-28 23:15 J -32707897.67 -32707897.53 -32707897.39 0.0519 0.0013

Venus -94263-10-18 21:35 J -32707846.69 -32707846.60 -32707846.51 0.3593 0.2791

Jupiter -94263-11-26 11:15 J -32707808.08 -32707808.03 -32707807.97 0.0515 0.0475

Mars -94261-02-12 01:39 J -32707365.56 -32707365.43 -32707365.29 0.1608 0.0405

Venus -94261-05-05 05:59 J -32707282.36 -32707282.25 -32707282.14 0.3774 0.0681

Moon -94259-01-14 22:18 J -32706662.65 -32706662.57 -32706662.48 0.2728 0.2001

Earth -94259-01-14 22:18 J -32706662.65 -32706662.57 -32706662.49 0.2734 0.2077 *

Mars -94259-01-17 17:30 J -32706659.82 -32706659.77 -32706659.72 0.1604 0.1476

Venus -94257-05-03 23:01 J -32705822.66 -32705822.54 -32705822.42 0.3596 0.1578

Saturn -94257-05-08 13:11 J -32705818.05 -32705817.95 -32705817.83 0.0277 0.0205

Saturn -94257-08-05 06:13 J -32705729.38 -32705729.24 -32705729.09 0.0277 0.0106

Jupiter -94257-10-27 12:13 J -32705646.07 -32705645.99 -32705645.90 0.0506 0.0427

Saturn -94257-11-01 22:47 J -32705640.71 -32705640.55 -32705640.39 0.0277 0.0011

Mars -94257-11-03 04:32 J -32705639.44 -32705639.31 -32705639.18 0.1920 0.0633

Jupiter -94256-01-25 11:44 J -32705556.16 -32705556.01 -32705555.85 0.0510 0.0100

Saturn -94256-01-29 15:06 J -32705552.02 -32705551.87 -32705551.72 0.0277 0.0086

Saturn -94256-04-28 06:42 J -32705463.33 -32705463.22 -32705463.10 0.0277 0.0178

Moon -94256-07-24 12:13 J -32705376.10 -32705375.99 -32705375.88 0.2612 0.1364

Earth -94256-07-24 12:42 J -32705376.08 -32705375.97 -32705375.85 0.2606 0.1345 *

Saturn -94256-07-25 22:18 J -32705374.61 -32705374.57 -32705374.53 0.0276 0.0267

Venus -94256-11-19 00:42 J -32705258.57 -32705258.47 -32705258.36 0.3771 0.1508

Mars -94252-07-04 10:18 J -32703935.19 -32703935.07 -32703934.96 0.1609 0.0842

Venus -94252-11-17 23:59 J -32703798.64 -32703798.50 -32703798.36 0.3599 0.0418

Jupiter -94251-06-17 01:54 J -32703587.56 -32703587.42 -32703587.28 0.0520 0.0111

Jupiter -94251-09-14 13:39 J -32703498.03 -32703497.93 -32703497.83 0.0516 0.0354

Venus -94250-06-04 19:39 J -32703234.76 -32703234.68 -32703234.59 0.3768 0.2357

Mars -94250-06-10 01:25 J -32703229.55 -32703229.44 -32703229.34 0.1605 0.1009

Mars -94247-03-26 06:27 J -32702209.31 -32702209.23 -32702209.15 0.1918 0.1538

Moon -94246-01-17 20:08 J -32701911.78 -32701911.66 -32701911.53 0.2725 0.0648

Earth -94246-01-17 20:51 J -32701911.76 -32701911.63 -32701911.51 0.2731 0.0527 *

Venus -94246-06-04 00:27 J -32701774.61 -32701774.48 -32701774.35 0.3602 0.0702

Jupiter -94245-11-13 11:59 J -32701246.16 -32701246.00 -32701245.83 0.0509 0.0029

Venus -94245-12-18 14:51 J -32701210.93 -32701210.88 -32701210.82 0.3764 0.3224

Jupiter -94244-02-11 10:18 J -32701156.12 -32701156.07 -32701156.02 0.0513 0.0487

Earth -94243-07-27 10:47 J -32700625.18 -32700625.05 -32700624.92 0.2610 0.0059

Moon -94243-07-27 11:01 J -32700625.17 -32700625.04 -32700624.92 0.2616 0.0090 *

Mars -94243-11-24 18:56 J -32700504.79 -32700504.71 -32700504.63 0.1611 0.1268

Saturn -94242-02-18 14:08 J -32700418.95 -32700418.91 -32700418.87 0.0281 0.0269

Saturn -94242-05-18 04:18 J -32700330.43 -32700330.32 -32700330.20 0.0281 0.0181

Saturn -94242-08-14 18:56 J -32700241.85 -32700241.71 -32700241.57 0.0281 0.0090

Saturn -94242-11-11 09:49 J -32700153.24 -32700153.09 -32700152.94 0.0282 0.0005

Saturn -94241-02-08 00:56 J -32700064.60 -32700064.46 -32700064.32 0.0282 0.0099

Saturn -94241-05-06 16:32 J -32699975.92 -32699975.81 -32699975.70 0.0282 0.0197

Mars -94241-10-30 09:20 J -32699799.24 -32699799.11 -32699798.98 0.1605 0.0553

Venus -94241-12-18 00:27 J -32699750.59 -32699750.48 -32699750.36 0.3606 0.1764

Jupiter -94239-04-05 04:47 J -32699277.43 -32699277.30 -32699277.18 0.0521 0.0228

Jupiter -94239-07-03 16:03 J -32699187.95 -32699187.83 -32699187.70 0.0517 0.0238

Venus -94238-09-12 15:35 J -32698751.88 -32698751.85 -32698751.83 0.3790 0.3636

Uranus -94237-02-05 11:44 J -32698606.08 -32698606.01 -32698605.93 0.0137 0.0121

Uranus -94237-05-03 17:15 J -32698517.88 -32698517.78 -32698517.66 0.0137 0.0101

Uranus -94237-07-30 22:47 J -32698429.68 -32698429.55 -32698429.41 0.0137 0.0081

Uranus -94237-10-27 04:18 J -32698341.46 -32698341.32 -32698341.16 0.0137 0.0060

Uranus -94236-01-23 09:49 J -32698253.25 -32698253.09 -32698252.93 0.0136 0.0040

Uranus -94236-04-21 15:06 J -32698165.03 -32698164.87 -32698164.70 0.0136 0.0021

Uranus -94236-07-18 20:37 J -32698076.81 -32698076.64 -32698076.48 0.0136 0.0003

Mars -94236-07-22 23:44 J -32698072.62 -32698072.51 -32698072.41 0.1924 0.1159

Uranus -94236-10-15 01:39 J -32697988.59 -32697988.43 -32697988.26 0.0136 0.0019

Uranus -94235-01-11 06:56 J -32697900.36 -32697900.21 -32697900.05 0.0136 0.0038

Uranus -94235-04-09 11:59 J -32697812.14 -32697812.00 -32697811.84 0.0136 0.0057

Venus -94235-07-03 23:59 J -32697726.58 -32697726.50 -32697726.41 0.3609 0.2781

Uranus -94235-07-06 17:01 J -32697723.91 -32697723.79 -32697723.64 0.0136 0.0076

Uranus -94235-10-02 22:18 J -32697635.68 -32697635.57 -32697635.45 0.0135 0.0094

Uranus -94235-12-30 03:06 J -32697547.45 -32697547.37 -32697547.27 0.0135 0.0112

Uranus -94234-03-28 08:08 J -32697459.19 -32697459.16 -32697459.11 0.0135 0.0130

Moon -94233-01-20 18:27 J -32697160.85 -32697160.73 -32697160.61 0.2727 0.0964

Earth -94233-01-20 19:25 J -32697160.80 -32697160.69 -32697160.57 0.2727 0.1062 *

Jupiter -94233-09-01 11:15 J -32696936.18 -32696936.03 -32696935.87 0.0508 0.0163

Jupiter -94233-11-30 09:49 J -32696846.20 -32696846.09 -32696845.97 0.0512 0.0354

Venus -94232-03-28 09:06 J -32696728.18 -32696728.12 -32696728.05 0.3787 0.2931

Mars -94231-03-22 17:44 J -32696368.90 -32696368.76 -32696368.63 0.1607 0.0112

Earth -94230-07-30 08:23 J -32695874.25 -32695874.15 -32695874.04 0.2613 0.1412

Moon -94230-07-30 09:20 J -32695874.21 -32695874.11 -32695874.01 0.2618 0.1576 *

Saturn -94228-09-25 15:06 J -32695085.95 -32695085.87 -32695085.77 0.0278 0.0228

Saturn -94228-12-23 08:08 J -32694997.30 -32694997.16 -32694997.01 0.0278 0.0129

Jupiter -94227-01-22 07:25 J -32694967.29 -32694967.19 -32694967.09 0.0522 0.0345

Saturn -94227-03-22 00:56 J -32694908.62 -32694908.46 -32694908.30 0.0278 0.0031

Jupiter -94227-04-21 18:42 J -32694877.86 -32694877.72 -32694877.58 0.0518 0.0119

Saturn -94227-06-18 17:15 J -32694819.94 -32694819.78 -32694819.63 0.0278 0.0064

Saturn -94227-09-15 09:06 J -32694731.25 -32694731.12 -32694730.99 0.0277 0.0157

Venus -94227-10-12 03:06 J -32694704.46 -32694704.37 -32694704.29 0.3785 0.2208

Saturn -94227-12-13 00:42 J -32694642.54 -32694642.47 -32694642.40 0.0277 0.0248

Mars -94227-12-13 02:37 J -32694642.53 -32694642.39 -32694642.26 0.1923 0.0325 *

Moon -94223-07-22 19:11 J -32693324.71 -32693324.70 -32693324.69 0.2606 0.2587

Earth -94223-07-22 20:08 J -32693324.70 -32693324.66 -32693324.62 0.2604 0.2467 *

Mars -94222-08-13 01:54 J -32692938.55 -32692938.42 -32692938.29 0.1608 0.0343

Venus -94221-04-26 21:06 J -32692680.72 -32692680.62 -32692680.52 0.3782 0.1460

Jupiter -94221-06-20 11:01 J -32692626.17 -32692626.04 -32692625.91 0.0507 0.0293

Jupiter -94221-09-18 10:03 J -32692536.23 -32692536.08 -32692535.94 0.0511 0.0227

Moon -94220-01-22 17:30 J -32692409.80 -32692409.77 -32692409.74 0.2726 0.2634

Earth -94220-01-22 18:27 J -32692409.75 -32692409.73 -32692409.71 0.2723 0.2681 *

Mars -94220-07-18 17:44 J -32692232.79 -32692232.76 -32692232.72 0.1604 0.1539

Mars -94217-05-04 04:47 J -32691212.43 -32691212.30 -32691212.16 0.1920 0.0555

Jupiter -94216-11-10 10:47 J -32690657.12 -32690657.05 -32690656.99 0.0523 0.0454

Venus -94216-11-10 15:20 J -32690656.97 -32690656.86 -32690656.75 0.3779 0.0698

Jupiter -94215-02-07 21:49 J -32690567.73 -32690567.59 -32690567.45 0.0519 0.0010

Jupiter -94215-05-08 09:49 J -32690478.14 -32690478.09 -32690478.04 0.0515 0.0477

Moon -94213-01-16 03:35 J -32689860.44 -32689860.35 -32689860.26 0.2727 0.1860

Earth -94213-01-16 03:49 J -32689860.43 -32689860.34 -32689860.24 0.2734 0.1762 *

Saturn -94213-10-04 05:59 J -32689598.35 -32689598.25 -32689598.16 0.0281 0.0206

Saturn -94213-12-31 20:08 J -32689509.79 -32689509.66 -32689509.52 0.0281 0.0117

Mars -94212-01-02 10:32 J -32689508.18 -32689508.06 -32689507.94 0.1609 0.0777

Saturn -94212-03-30 11:01 J -32689421.19 -32689421.04 -32689420.89 0.0281 0.0024

Saturn -94212-06-27 01:54 J -32689332.56 -32689332.42 -32689332.27 0.0281 0.0071

Pluto -94212-07-22 04:18 J -32689307.38 -32689307.32 -32689307.21 0.0060 0.0054

Saturn -94212-09-23 17:15 J -32689243.90 -32689243.78 -32689243.65 0.0281 0.0167

Pluto -94212-10-18 06:13 J -32689219.35 -32689219.24 -32689219.12 0.0060 0.0047

Saturn -94212-12-21 08:51 J -32689155.17 -32689155.13 -32689155.07 0.0282 0.0266

Pluto -94211-01-14 07:11 J -32689131.32 -32689131.20 -32689131.03 0.0060 0.0041

Pluto -94211-04-12 08:51 J -32689043.27 -32689043.13 -32689042.95 0.0060 0.0034

Pluto -94211-07-09 10:32 J -32688955.23 -32688955.06 -32688954.88 0.0060 0.0027

Pluto -94211-10-05 11:44 J -32688867.18 -32688867.01 -32688866.81 0.0060 0.0021

Mars -94211-12-09 01:39 J -32688802.53 -32688802.43 -32688802.33 0.1605 0.1076

Pluto -94210-01-01 13:25 J -32688779.12 -32688778.94 -32688778.74 0.0060 0.0014

Pluto -94210-03-30 15:06 J -32688691.06 -32688690.87 -32688690.67 0.0060 0.0007

Venus -94210-05-27 09:35 J -32688633.21 -32688633.10 -32688632.98 0.3776 0.0186

Pluto -94210-06-26 16:32 J -32688603.00 -32688602.81 -32688602.61 0.0060 0.0002

Moon -94210-07-25 17:44 J -32688573.88 -32688573.76 -32688573.64 0.2613 0.1122

Earth -94210-07-25 18:13 J -32688573.86 -32688573.74 -32688573.62 0.2607 0.1048 *

Pluto -94210-09-22 17:59 J -32688514.94 -32688514.75 -32688514.55 0.0060 0.0007

Pluto -94210-12-19 19:25 J -32688426.87 -32688426.69 -32688426.49 0.0060 0.0014

Pluto -94209-03-16 20:51 J -32688338.80 -32688338.63 -32688338.43 0.0061 0.0021

Jupiter -94209-04-08 10:32 J -32688316.15 -32688316.06 -32688315.97 0.0506 0.0425

Neptune -94209-05-11 09:35 J -32688283.11 -32688283.10 -32688283.07 0.0089 0.0088

Pluto -94209-06-12 22:47 J -32688250.73 -32688250.55 -32688250.38 0.0061 0.0027

Jupiter -94209-07-07 10:03 J -32688226.24 -32688226.08 -32688225.92 0.0510 0.0099

Neptune -94209-08-07 11:01 J -32688195.07 -32688195.04 -32688194.98 0.0089 0.0084

Pluto -94209-09-08 23:59 J -32688162.65 -32688162.50 -32688162.33 0.0061 0.0034

Neptune -94209-11-03 12:42 J -32688107.02 -32688106.97 -32688106.90 0.0089 0.0080

Pluto -94209-12-06 01:25 J -32688074.57 -32688074.44 -32688074.28 0.0061 0.0041

Neptune -94208-01-30 14:08 J -32688018.96 -32688018.91 -32688018.82 0.0089 0.0076

Pluto -94208-03-04 02:51 J -32687986.48 -32687986.38 -32687986.24 0.0061 0.0048

Neptune -94208-04-28 16:18 J -32687930.91 -32687930.82 -32687930.74 0.0089 0.0071

Pluto -94208-05-31 04:18 J -32687898.38 -32687898.32 -32687898.22 0.0061 0.0055

Neptune -94208-07-25 17:44 J -32687842.85 -32687842.76 -32687842.66 0.0089 0.0067

Mars -94208-09-24 06:56 J -32687782.30 -32687782.21 -32687782.12 0.1918 0.1444

Neptune -94208-10-21 19:11 J -32687754.79 -32687754.70 -32687754.59 0.0089 0.0063

Neptune -94207-01-17 20:51 J -32687666.73 -32687666.63 -32687666.51 0.0089 0.0059

Neptune -94207-04-15 22:32 J -32687578.66 -32687578.56 -32687578.44 0.0089 0.0055

Neptune -94207-07-13 00:27 J -32687490.60 -32687490.48 -32687490.37 0.0089 0.0050

Neptune -94207-10-09 01:54 J -32687402.53 -32687402.42 -32687402.29 0.0089 0.0046

Neptune -94206-01-05 03:35 J -32687314.47 -32687314.35 -32687314.22 0.0089 0.0042

Neptune -94206-04-03 05:15 J -32687226.40 -32687226.28 -32687226.14 0.0089 0.0038

Venus -94206-05-25 21:49 J -32687173.69 -32687173.59 -32687173.49 0.3594 0.2452

Neptune -94206-06-30 07:11 J -32687138.34 -32687138.20 -32687138.07 0.0089 0.0033

Neptune -94206-09-26 08:37 J -32687050.27 -32687050.14 -32687050.00 0.0089 0.0029

Neptune -94206-12-23 10:18 J -32686962.20 -32686962.07 -32686961.92 0.0089 0.0025

Neptune -94205-03-20 12:13 J -32686874.13 -32686873.99 -32686873.85 0.0089 0.0020

Neptune -94205-06-16 13:54 J -32686786.06 -32686785.92 -32686785.78 0.0089 0.0016

Neptune -94205-09-12 15:35 J -32686697.99 -32686697.85 -32686697.71 0.0089 0.0011

Neptune -94205-12-09 17:15 J -32686609.92 -32686609.78 -32686609.63 0.0089 0.0007

Venus -94205-12-10 04:18 J -32686609.43 -32686609.32 -32686609.21 0.3773 0.0899

Neptune -94204-03-07 18:56 J -32686521.85 -32686521.71 -32686521.56 0.0089 0.0004

Neptune -94204-06-03 20:51 J -32686433.78 -32686433.63 -32686433.49 0.0089 0.0002

Neptune -94204-08-30 22:32 J -32686345.70 -32686345.56 -32686345.41 0.0089 0.0006

Neptune -94204-11-27 00:13 J -32686257.63 -32686257.49 -32686257.34 0.0089 0.0011

Jupiter -94204-11-27 00:56 J -32686257.60 -32686257.46 -32686257.32 0.0520 0.0103 *

Neptune -94203-02-23 02:08 J -32686169.56 -32686169.41 -32686169.27 0.0089 0.0015

Jupiter -94203-02-24 12:42 J -32686168.07 -32686167.97 -32686167.87 0.0516 0.0364

Neptune -94203-05-22 03:49 J -32686081.48 -32686081.34 -32686081.20 0.0089 0.0020

Mars -94203-05-25 19:11 J -32686077.79 -32686077.70 -32686077.62 0.1611 0.1211

Neptune -94203-08-18 05:44 J -32685993.40 -32685993.26 -32685993.12 0.0089 0.0024

Neptune -94203-11-14 07:11 J -32685905.33 -32685905.20 -32685905.05 0.0089 0.0029

Neptune -94202-02-10 09:06 J -32685817.25 -32685817.12 -32685816.98 0.0089 0.0033

Neptune -94202-05-09 10:47 J -32685729.17 -32685729.05 -32685728.91 0.0089 0.0038

Neptune -94202-08-05 12:42 J -32685641.09 -32685640.97 -32685640.83 0.0089 0.0042

Neptune -94202-11-01 14:23 J -32685553.01 -32685552.90 -32685552.76 0.0089 0.0047

Neptune -94201-01-28 16:32 J -32685464.93 -32685464.81 -32685464.69 0.0089 0.0051

Neptune -94201-04-25 18:13 J -32685376.85 -32685376.74 -32685376.62 0.0089 0.0056

Mars -94201-04-30 09:35 J -32685372.22 -32685372.10 -32685371.97 0.1605 0.0619

Neptune -94201-07-22 19:54 J -32685288.77 -32685288.67 -32685288.55 0.0089 0.0061

Neptune -94201-10-18 21:49 J -32685200.68 -32685200.59 -32685200.48 0.0089 0.0065

Venus -94201-12-08 23:01 J -32685149.67 -32685149.54 -32685149.41 0.3597 0.1257

Neptune -94200-01-14 23:30 J -32685112.60 -32685112.52 -32685112.41 0.0089 0.0070

Moon -94200-01-18 01:25 J -32685109.56 -32685109.44 -32685109.31 0.2725 0.0238

Earth -94200-01-18 02:23 J -32685109.53 -32685109.40 -32685109.28 0.2730 0.0236 *

Neptune -94200-04-13 01:39 J -32685024.51 -32685024.43 -32685024.35 0.0089 0.0074

Neptune -94200-07-10 03:20 J -32684936.42 -32684936.36 -32684936.28 0.0089 0.0079

Neptune -94200-10-06 05:01 J -32684848.32 -32684848.29 -32684848.22 0.0089 0.0084

Neptune -94199-01-02 07:11 J -32684760.21 -32684760.20 -32684760.18 0.0089 0.0088

Venus -94199-06-25 23:01 J -32684585.64 -32684585.54 -32684585.44 0.3770 0.1740

Saturn -94198-02-12 13:39 J -32684353.97 -32684353.93 -32684353.89 0.0278 0.0268

Saturn -94198-05-12 06:56 J -32684265.34 -32684265.21 -32684265.09 0.0278 0.0168

Saturn -94198-08-08 23:44 J -32684176.67 -32684176.51 -32684176.36 0.0277 0.0070

Saturn -94198-11-05 16:03 J -32684087.99 -32684087.83 -32684087.67 0.0277 0.0027

Saturn -94197-02-02 08:08 J -32683999.30 -32683999.16 -32683999.02 0.0277 0.0121

Jupiter -94197-04-25 10:32 J -32683916.23 -32683916.06 -32683915.90 0.0509 0.0028

Saturn -94197-04-30 23:44 J -32683910.60 -32683910.51 -32683910.41 0.0277 0.0212

Jupiter -94197-07-24 08:37 J -32683826.18 -32683826.14 -32683826.09 0.0513 0.0490

Earth -94197-07-27 16:03 J -32683822.95 -32683822.83 -32683822.70 0.2610 0.0352

Moon -94197-07-27 16:32 J -32683822.94 -32683822.81 -32683822.68 0.2616 0.0433 *

Mars -94196-01-21 00:13 J -32683645.59 -32683645.49 -32683645.39 0.1924 0.1252

Venus -94195-06-24 23:59 J -32683125.64 -32683125.50 -32683125.37 0.3600 0.0117

Venus -94193-01-09 18:13 J -32682561.82 -32682561.74 -32682561.66 0.3766 0.2585

Uranus -94193-09-29 08:37 J -32682298.19 -32682298.14 -32682298.07 0.0142 0.0130

Uranus -94193-12-26 13:11 J -32682210.03 -32682209.95 -32682209.85 0.0142 0.0111

Uranus -94192-03-24 17:44 J -32682121.87 -32682121.76 -32682121.64 0.0142 0.0091

Uranus -94192-06-20 22:18 J -32682033.69 -32682033.57 -32682033.44 0.0142 0.0072

Jupiter -94192-09-15 03:49 J -32681947.47 -32681947.34 -32681947.22 0.0521 0.0219

Uranus -94192-09-17 02:51 J -32681945.51 -32681945.38 -32681945.24 0.0142 0.0052

Mars -94192-09-20 17:44 J -32681941.89 -32681941.76 -32681941.62 0.1606 0.0167

Jupiter -94192-12-13 15:06 J -32681857.99 -32681857.87 -32681857.74 0.0517 0.0246

Uranus -94192-12-14 07:39 J -32681857.33 -32681857.18 -32681857.04 0.0142 0.0032

Uranus -94191-03-12 12:13 J -32681769.14 -32681768.99 -32681768.84 0.0142 0.0013

Uranus -94191-06-08 17:01 J -32681680.94 -32681680.79 -32681680.64 0.0143 0.0008

Uranus -94191-09-04 21:49 J -32681592.74 -32681592.59 -32681592.44 0.0143 0.0028

Uranus -94191-12-02 02:37 J -32681504.53 -32681504.39 -32681504.25 0.0143 0.0049

Uranus -94190-02-28 07:25 J -32681416.32 -32681416.19 -32681416.06 0.0143 0.0070

Uranus -94190-05-27 12:13 J -32681328.10 -32681327.99 -32681327.87 0.0143 0.0091

Uranus -94190-08-23 17:15 J -32681239.87 -32681239.78 -32681239.68 0.0143 0.0112

Uranus -94190-11-19 22:03 J -32681151.62 -32681151.58 -32681151.52 0.0143 0.0134

Venus -94189-01-09 00:13 J -32681101.62 -32681101.49 -32681101.36 0.3603 0.0996

Venus -94188-07-25 13:25 J -32680537.98 -32680537.94 -32680537.90 0.3763 0.3458

Moon -94187-01-20 23:59 J -32680358.62 -32680358.50 -32680358.39 0.2727 0.1229

Earth -94187-01-21 00:56 J -32680358.57 -32680358.46 -32680358.35 0.2726 0.1385 *

Mars -94187-06-13 02:37 J -32680215.52 -32680215.39 -32680215.25 0.1922 0.0401

Jupiter -94185-02-12 10:32 J -32679606.22 -32679606.06 -32679605.90 0.0508 0.0151

Jupiter -94185-05-12 09:06 J -32679516.22 -32679516.12 -32679516.00 0.0512 0.0368

Venus -94184-07-25 00:13 J -32679077.60 -32679077.49 -32679077.38 0.3607 0.2043

Earth -94184-07-30 13:54 J -32679072.02 -32679071.92 -32679071.83 0.2614 0.1702

Moon -94184-07-30 14:37 J -32679071.98 -32679071.89 -32679071.79 0.2618 0.1715 *

Saturn -94183-02-21 05:59 J -32678866.32 -32678866.25 -32678866.17 0.0281 0.0240

Saturn -94183-05-20 20:23 J -32678777.78 -32678777.65 -32678777.53 0.0281 0.0151

Saturn -94183-08-17 10:47 J -32678689.19 -32678689.05 -32678688.90 0.0281 0.0060

Saturn -94183-11-14 01:54 J -32678600.57 -32678600.42 -32678600.27 0.0282 0.0035

Saturn -94182-02-10 17:01 J -32678511.92 -32678511.79 -32678511.65 0.0282 0.0131

Mars -94182-02-11 02:08 J -32678511.54 -32678511.41 -32678511.28 0.1608 0.0283

Saturn -94182-05-10 08:37 J -32678423.22 -32678423.14 -32678423.05 0.0282 0.0229

Venus -94181-04-18 13:25 J -32678078.98 -32678078.94 -32678078.89 0.3789 0.3438

Mars -94180-01-16 17:59 J -32677805.75 -32677805.75 -32677805.75 0.1604 0.1604

Jupiter -94180-07-04 06:42 J -32677637.33 -32677637.22 -32677637.12 0.0522 0.0334

Jupiter -94180-10-01 17:44 J -32677547.89 -32677547.76 -32677547.62 0.0518 0.0129

Venus -94178-02-07 23:44 J -32677053.58 -32677053.51 -32677053.44 0.3611 0.3043

Mars -94178-11-03 05:01 J -32676785.42 -32676785.29 -32676785.15 0.1921 0.0477

Moon -94177-07-23 00:42 J -32676522.54 -32676522.47 -32676522.40 0.2608 0.2203

Earth -94177-07-23 01:39 J -32676522.51 -32676522.43 -32676522.36 0.2604 0.2164 *

Venus -94176-11-02 07:11 J -32676055.27 -32676055.20 -32676055.12 0.3787 0.2730

Jupiter -94174-12-01 09:49 J -32675296.22 -32675296.09 -32675295.95 0.0507 0.0284

Jupiter -94173-02-29 08:51 J -32675206.27 -32675206.13 -32675205.98 0.0511 0.0236

Mars -94173-07-03 10:47 J -32675081.18 -32675081.05 -32675080.93 0.1609 0.0721

Mars -94171-06-09 01:54 J -32674375.52 -32674375.42 -32674375.32 0.1604 0.1138

Venus -94170-05-19 01:11 J -32674031.54 -32674031.45 -32674031.36 0.3784 0.2004

Saturn -94169-09-28 08:23 J -32673533.27 -32673533.15 -32673533.04 0.0278 0.0194

Saturn -94169-12-26 01:11 J -32673444.60 -32673444.45 -32673444.29 0.0278 0.0095

Saturn -94168-03-24 17:44 J -32673355.91 -32673355.76 -32673355.60 0.0278 0.0008

Mars -94168-03-25 07:11 J -32673355.29 -32673355.20 -32673355.10 0.1919 0.1359

Jupiter -94168-04-22 09:06 J -32673327.18 -32673327.12 -32673327.05 0.0523 0.0453

Saturn -94168-06-21 10:03 J -32673267.23 -32673267.08 -32673266.93 0.0278 0.0098

Jupiter -94168-07-20 20:23 J -32673237.80 -32673237.65 -32673237.51 0.0519 0.0020

Saturn -94168-09-18 01:39 J -32673178.53 -32673178.43 -32673178.31 0.0278 0.0191

Jupiter -94168-10-18 08:23 J -32673148.20 -32673148.15 -32673148.10 0.0516 0.0479

Moon -94167-01-16 08:51 J -32673058.24 -32673058.13 -32673058.02 0.2726 0.1400

Earth -94167-01-16 09:20 J -32673058.22 -32673058.11 -32673058.01 0.2733 0.1454 *

Venus -94165-12-01 19:11 J -32672007.80 -32672007.70 -32672007.60 0.3781 0.1254

Moon -94164-07-25 23:15 J -32671771.65 -32671771.53 -32671771.40 0.2613 0.0782

Earth -94164-07-25 23:44 J -32671771.64 -32671771.51 -32671771.39 0.2607 0.0751 *

Mars -94164-11-23 19:25 J -32671650.79 -32671650.69 -32671650.60 0.1611 0.1151

Jupiter -94162-09-19 09:20 J -32670986.20 -32670986.11 -32670986.01 0.0506 0.0415

Mars -94162-10-30 09:49 J -32670945.21 -32670945.09 -32670944.96 0.1605 0.0682

Jupiter -94162-12-18 08:51 J -32670896.29 -32670896.13 -32670895.97 0.0509 0.0108

Venus -94159-06-17 13:25 J -32669984.05 -32669983.94 -32669983.83 0.3778 0.0487

Mars -94157-07-22 00:27 J -32669218.57 -32669218.48 -32669218.38 0.1924 0.1334

Jupiter -94156-05-08 23:15 J -32668927.66 -32668927.53 -32668927.39 0.0520 0.0104

Jupiter -94156-08-06 11:15 J -32668838.13 -32668838.03 -32668837.93 0.0516 0.0366

Venus -94155-06-15 20:08 J -32668524.70 -32668524.66 -32668524.61 0.3592 0.3356

Moon -94154-01-19 06:42 J -32668307.34 -32668307.22 -32668307.09 0.2727 0.0119

Earth -94154-01-19 07:39 J -32668307.30 -32668307.18 -32668307.05 0.2729 0.0129 *

Mars -94154-04-16 04:03 J -32668220.36 -32668220.33 -32668220.31 0.1612 0.1578

Saturn -94154-07-11 07:54 J -32668134.22 -32668134.17 -32668134.12 0.0280 0.0263

Saturn -94154-10-07 22:03 J -32668045.69 -32668045.58 -32668045.46 0.0280 0.0175

Venus -94153-01-01 07:54 J -32667960.28 -32667960.17 -32667960.06 0.3776 0.0321

Saturn -94153-01-04 12:27 J -32667957.12 -32667956.98 -32667956.83 0.0281 0.0085

Uranus -94153-02-25 18:13 J -32667904.81 -32667904.74 -32667904.65 0.0137 0.0119

Saturn -94153-04-02 03:20 J -32667868.51 -32667868.36 -32667868.21 0.0281 0.0009

Uranus -94153-05-23 23:59 J -32667816.61 -32667816.50 -32667816.38 0.0137 0.0098

Saturn -94153-06-29 18:27 J -32667779.87 -32667779.73 -32667779.59 0.0281 0.0104

Uranus -94153-08-20 05:30 J -32667728.40 -32667728.27 -32667728.13 0.0137 0.0078

Saturn -94153-09-26 09:49 J -32667691.19 -32667691.09 -32667690.98 0.0281 0.0201

Uranus -94153-11-16 11:01 J -32667640.19 -32667640.04 -32667639.89 0.0136 0.0057

Uranus -94152-02-12 16:32 J -32667551.97 -32667551.81 -32667551.65 0.0136 0.0038

Mars -94152-03-21 17:59 J -32667514.88 -32667514.75 -32667514.61 0.1606 0.0232

Uranus -94152-05-11 21:49 J -32667463.75 -32667463.59 -32667463.42 0.0136 0.0018

Uranus -94152-08-08 03:06 J -32667375.53 -32667375.37 -32667375.20 0.0136 0.0003

Uranus -94152-11-04 08:23 J -32667287.31 -32667287.15 -32667286.98 0.0136 0.0021

Uranus -94151-01-31 13:39 J -32667199.09 -32667198.93 -32667198.77 0.0136 0.0040

Uranus -94151-04-29 18:42 J -32667110.86 -32667110.72 -32667110.57 0.0136 0.0059

Uranus -94151-07-26 23:59 J -32667022.63 -32667022.50 -32667022.37 0.0136 0.0078

Earth -94151-07-28 21:35 J -32667020.73 -32667020.60 -32667020.48 0.2611 0.0635

Moon -94151-07-28 22:03 J -32667020.70 -32667020.58 -32667020.45 0.2617 0.0658 *

Uranus -94151-10-23 04:47 J -32666934.40 -32666934.30 -32666934.18 0.0135 0.0097

Uranus -94150-01-19 10:03 J -32666846.16 -32666846.08 -32666846.00 0.0135 0.0115

Uranus -94150-04-17 14:37 J -32666757.90 -32666757.89 -32666757.85 0.0135 0.0133

Jupiter -94150-10-06 08:37 J -32666586.30 -32666586.14 -32666585.97 0.0509 0.0025

Venus -94150-12-30 21:49 J -32666500.70 -32666500.59 -32666500.47 0.3595 0.2122

Jupiter -94149-01-04 06:42 J -32666496.25 -32666496.22 -32666496.17 0.0513 0.0491

Venus -94148-07-17 02:37 J -32665936.50 -32665936.39 -32665936.28 0.3772 0.1123

Mars -94148-12-12 03:06 J -32665788.50 -32665788.37 -32665788.24 0.1922 0.0484

Jupiter -94144-02-25 02:37 J -32664617.51 -32664617.39 -32664617.26 0.0521 0.0212

Jupiter -94144-05-25 14:08 J -32664528.03 -32664527.91 -32664527.78 0.0517 0.0254

Venus -94144-07-15 23:01 J -32664476.67 -32664476.54 -32664476.41 0.3598 0.0940

Mars -94143-08-12 02:23 J -32664084.53 -32664084.40 -32664084.26 0.1607 0.0220

Venus -94142-01-30 21:35 J -32663912.70 -32663912.60 -32663912.51 0.3769 0.1963

Moon -94141-01-22 05:30 J -32663556.38 -32663556.27 -32663556.17 0.2726 0.1640

Earth -94141-01-22 06:27 J -32663556.33 -32663556.23 -32663556.13 0.2726 0.1708 *

Saturn -94139-02-15 06:42 J -32662801.30 -32662801.22 -32662801.13 0.0278 0.0233

Saturn -94139-05-14 23:59 J -32662712.64 -32662712.50 -32662712.36 0.0278 0.0133

Saturn -94139-08-11 16:47 J -32662623.96 -32662623.80 -32662623.65 0.0278 0.0036

Saturn -94139-11-08 08:51 J -32662535.28 -32662535.13 -32662534.97 0.0277 0.0062

Venus -94138-01-29 23:44 J -32662452.64 -32662452.51 -32662452.37 0.3601 0.0217

Saturn -94138-02-05 00:56 J -32662446.59 -32662446.46 -32662446.33 0.0277 0.0154

Mars -94138-05-04 05:30 J -32662358.40 -32662358.27 -32662358.13 0.1921 0.0385

Saturn -94138-05-04 16:32 J -32662357.88 -32662357.81 -32662357.74 0.0277 0.0245

Jupiter -94138-07-25 08:51 J -32662276.28 -32662276.13 -32662275.97 0.0508 0.0148

Earth -94138-07-31 19:11 J -32662269.78 -32662269.70 -32662269.62 0.2614 0.1986

Moon -94138-07-31 20:08 J -32662269.73 -32662269.66 -32662269.59 0.2616 0.2142 *

Jupiter -94138-10-23 07:39 J -32662186.29 -32662186.18 -32662186.07 0.0512 0.0370

Venus -94137-08-15 16:32 J -32661888.88 -32661888.81 -32661888.73 0.3766 0.2817

Earth -94134-01-14 16:18 J -32661006.84 -32661006.82 -32661006.79 0.2736 0.2666

Moon -94134-01-14 16:32 J -32661006.84 -32661006.81 -32661006.77 0.2730 0.2602 *

Mars -94133-01-02 10:47 J -32660654.17 -32660654.05 -32660653.92 0.1609 0.0661

Venus -94133-08-14 23:59 J -32660428.62 -32660428.50 -32660428.37 0.3604 0.1280

Jupiter -94133-12-14 05:30 J -32660307.37 -32660307.27 -32660307.16 0.0522 0.0326

Jupiter -94132-03-13 16:47 J -32660217.93 -32660217.80 -32660217.66 0.0518 0.0137

Mars -94132-12-08 02:08 J -32659948.50 -32659948.41 -32659948.32 0.1604 0.1204

Venus -94131-03-01 11:59 J -32659865.02 -32659865.00 -32659864.98 0.3762 0.3692

Moon -94131-07-24 06:13 J -32659720.32 -32659720.24 -32659720.16 0.2609 0.2013

Earth -94131-07-24 06:56 J -32659720.30 -32659720.21 -32659720.12 0.2605 0.1861 *

Mars -94129-09-23 07:25 J -32658928.29 -32658928.19 -32658928.08 0.1918 0.1281

Venus -94127-02-28 23:44 J -32658404.61 -32658404.51 -32658404.41 0.3608 0.2314

Neptune -94126-05-11 04:47 J -32657968.34 -32657968.30 -32657968.24 0.0089 0.0085

Jupiter -94126-05-13 09:06 J -32657966.26 -32657966.12 -32657965.98 0.0507 0.0274

Neptune -94126-08-07 07:25 J -32657880.24 -32657880.19 -32657880.09 0.0089 0.0080

Jupiter -94126-08-11 08:08 J -32657876.30 -32657876.16 -32657876.02 0.0511 0.0247

Neptune -94126-11-03 10:47 J -32657792.14 -32657792.05 -32657791.95 0.0089 0.0074

Neptune -94125-01-30 13:25 J -32657704.03 -32657703.94 -32657703.81 0.0089 0.0069

Neptune -94125-04-27 16:18 J -32657615.93 -32657615.82 -32657615.68 0.0089 0.0064

Neptune -94125-07-24 19:25 J -32657527.82 -32657527.69 -32657527.55 0.0088 0.0058

Neptune -94125-10-20 22:03 J -32657439.70 -32657439.58 -32657439.42 0.0088 0.0053

Venus -94125-11-23 11:30 J -32657406.07 -32657406.02 -32657405.97 0.3788 0.3243

Neptune -94124-01-17 01:11 J -32657351.59 -32657351.45 -32657351.30 0.0088 0.0047

Saturn -94124-02-23 22:03 J -32657313.68 -32657313.58 -32657313.49 0.0281 0.0211

Neptune -94124-04-15 04:03 J -32657263.48 -32657263.33 -32657263.17 0.0088 0.0042

Saturn -94124-05-23 12:27 J -32657225.12 -32657224.98 -32657224.85 0.0281 0.0121

Mars -94124-05-24 19:25 J -32657223.79 -32657223.69 -32657223.59 0.1610 0.1094

Neptune -94124-07-12 06:42 J -32657175.37 -32657175.22 -32657175.05 0.0088 0.0037

Saturn -94124-08-20 03:06 J -32657136.52 -32657136.37 -32657136.22 0.0281 0.0029

Neptune -94124-10-08 09:49 J -32657087.25 -32657087.09 -32657086.93 0.0088 0.0031

Saturn -94124-11-16 17:59 J -32657047.89 -32657047.75 -32657047.60 0.0281 0.0066

Neptune -94123-01-04 12:27 J -32656999.14 -32656998.98 -32656998.81 0.0088 0.0026

Saturn -94123-02-13 09:20 J -32656959.23 -32656959.11 -32656958.98 0.0282 0.0162

Neptune -94123-04-02 15:20 J -32656911.03 -32656910.86 -32656910.69 0.0088 0.0020

Saturn -94123-05-13 00:56 J -32656870.51 -32656870.46 -32656870.40 0.0282 0.0261

Neptune -94123-06-29 17:59 J -32656822.91 -32656822.75 -32656822.57 0.0088 0.0016

Neptune -94123-09-25 20:51 J -32656734.80 -32656734.63 -32656734.45 0.0088 0.0010

Neptune -94123-12-22 23:44 J -32656646.68 -32656646.51 -32656646.34 0.0088 0.0005

Neptune -94122-03-21 02:23 J -32656558.57 -32656558.40 -32656558.22 0.0088 0.0002

Mars -94122-04-30 10:03 J -32656518.20 -32656518.08 -32656517.96 0.1605 0.0739

Neptune -94122-06-17 05:15 J -32656470.46 -32656470.28 -32656470.11 0.0088 0.0006

Neptune -94122-09-13 07:54 J -32656382.34 -32656382.17 -32656382.00 0.0088 0.0011

Venus -94122-09-14 23:15 J -32656380.58 -32656380.53 -32656380.48 0.3612 0.3299

Neptune -94122-12-10 10:32 J -32656294.23 -32656294.06 -32656293.89 0.0088 0.0016

Moon -94121-01-17 14:23 J -32656256.02 -32656255.90 -32656255.79 0.2726 0.1244

Earth -94121-01-17 14:37 J -32656256.00 -32656255.89 -32656255.77 0.2733 0.1136 *

Neptune -94121-03-07 13:11 J -32656206.11 -32656205.95 -32656205.78 0.0088 0.0021

Neptune -94121-06-03 15:49 J -32656118.00 -32656117.84 -32656117.67 0.0088 0.0026

Neptune -94121-08-30 18:27 J -32656029.88 -32656029.73 -32656029.56 0.0088 0.0031

Jupiter -94121-10-02 08:37 J -32655997.22 -32655997.14 -32655997.07 0.0523 0.0440

Neptune -94121-11-26 21:06 J -32655941.77 -32655941.62 -32655941.46 0.0088 0.0037

Jupiter -94121-12-30 19:25 J -32655907.83 -32655907.69 -32655907.55 0.0519 0.0025

Neptune -94120-02-22 23:44 J -32655853.65 -32655853.51 -32655853.35 0.0088 0.0042

Jupiter -94120-03-30 07:25 J -32655818.23 -32655818.19 -32655818.14 0.0515 0.0489

Neptune -94120-05-22 02:23 J -32655765.54 -32655765.40 -32655765.25 0.0088 0.0046

Neptune -94120-08-18 04:47 J -32655677.42 -32655677.30 -32655677.15 0.0088 0.0052

Neptune -94120-11-14 07:25 J -32655589.31 -32655589.19 -32655589.05 0.0088 0.0057

Neptune -94119-02-10 10:03 J -32655501.19 -32655501.08 -32655500.95 0.0088 0.0062

Neptune -94119-05-09 12:27 J -32655413.07 -32655412.98 -32655412.85 0.0088 0.0067

Venus -94119-06-09 05:15 J -32655382.36 -32655382.28 -32655382.20 0.3786 0.2528

Neptune -94119-08-05 15:06 J -32655324.95 -32655324.87 -32655324.75 0.0088 0.0072

Neptune -94119-11-01 17:59 J -32655236.83 -32655236.75 -32655236.66 0.0088 0.0076

Neptune -94118-01-28 20:23 J -32655148.71 -32655148.65 -32655148.58 0.0088 0.0081

Neptune -94118-04-26 22:47 J -32655060.57 -32655060.55 -32655060.50 0.0088 0.0086

Pluto -94118-05-16 01:25 J -32655041.49 -32655041.44 -32655041.36 0.0084 0.0074

Moon -94118-07-27 05:01 J -32654969.42 -32654969.29 -32654969.16 0.2614 0.0434

Earth -94118-07-27 05:01 J -32654969.42 -32654969.29 -32654969.16 0.2608 0.0456 *

Pluto -94118-08-12 02:51 J -32654953.46 -32654953.38 -32654953.28 0.0084 0.0060

Pluto -94118-11-08 04:18 J -32654865.43 -32654865.32 -32654865.21 0.0084 0.0048

Mars -94117-01-21 00:42 J -32654791.56 -32654791.47 -32654791.38 0.1924 0.1407

Pluto -94117-02-04 05:30 J -32654777.39 -32654777.27 -32654777.15 0.0084 0.0035

Pluto -94117-05-02 06:42 J -32654689.34 -32654689.22 -32654689.09 0.0084 0.0023

Pluto -94117-07-29 07:54 J -32654601.30 -32654601.17 -32654601.03 0.0084 0.0011

Pluto -94117-10-25 09:20 J -32654513.25 -32654513.11 -32654512.98 0.0084 0.0003

Pluto -94116-01-21 10:18 J -32654425.19 -32654425.07 -32654424.93 0.0084 0.0015

Pluto -94116-04-19 11:30 J -32654337.14 -32654337.02 -32654336.89 0.0083 0.0027

Pluto -94116-07-16 12:56 J -32654249.08 -32654248.96 -32654248.85 0.0083 0.0039

Pluto -94116-10-12 14:08 J -32654161.02 -32654160.91 -32654160.81 0.0083 0.0051

Pluto -94115-01-08 15:20 J -32654072.95 -32654072.86 -32654072.78 0.0083 0.0063

Pluto -94115-04-06 16:32 J -32653984.87 -32653984.81 -32653984.76 0.0083 0.0074

Mars -94115-10-15 04:18 J -32653793.37 -32653793.32 -32653793.28 0.1612 0.1519

Jupiter -94114-03-01 08:23 J -32653656.24 -32653656.15 -32653656.05 0.0506 0.0405

Jupiter -94114-05-30 07:54 J -32653566.33 -32653566.17 -32653566.01 0.0509 0.0117

Venus -94114-12-23 23:15 J -32653358.63 -32653358.53 -32653358.44 0.3783 0.1797

Mars -94113-09-19 18:13 J -32653087.87 -32653087.74 -32653087.60 0.1606 0.0292

Saturn -94110-07-05 07:54 J -32652069.22 -32652069.17 -32652069.11 0.0279 0.0261

Saturn -94110-10-02 01:11 J -32651980.58 -32651980.45 -32651980.32 0.0279 0.0160

Saturn -94110-12-29 17:59 J -32651891.90 -32651891.75 -32651891.59 0.0278 0.0061

Saturn -94109-03-27 10:32 J -32651803.22 -32651803.06 -32651802.90 0.0278 0.0036

Saturn -94109-06-24 02:37 J -32651714.52 -32651714.39 -32651714.25 0.0278 0.0131

Saturn -94109-09-20 18:13 J -32651625.82 -32651625.74 -32651625.64 0.0278 0.0223

Jupiter -94109-10-18 21:49 J -32651597.73 -32651597.59 -32651597.45 0.0521 0.0101

Uranus -94109-10-19 15:49 J -32651596.90 -32651596.84 -32651596.77 0.0142 0.0126

Uranus -94108-01-15 20:08 J -32651508.75 -32651508.66 -32651508.56 0.0142 0.0107

Jupiter -94108-01-16 09:35 J -32651508.19 -32651508.10 -32651508.00 0.0517 0.0368

Moon -94108-01-19 12:13 J -32651505.12 -32651504.99 -32651504.87 0.2727 0.0410

Earth -94108-01-19 13:11 J -32651505.08 -32651504.95 -32651504.82 0.2729 0.0431 *

Uranus -94108-04-14 00:42 J -32651420.58 -32651420.47 -32651420.35 0.0142 0.0088

Mars -94108-06-12 03:20 J -32651361.49 -32651361.36 -32651361.23 0.1923 0.0569

Venus -94108-07-08 17:15 J -32651334.88 -32651334.78 -32651334.67 0.3780 0.1056

Uranus -94108-07-11 05:15 J -32651332.40 -32651332.28 -32651332.14 0.0142 0.0069

Uranus -94108-10-07 09:49 J -32651244.22 -32651244.09 -32651243.94 0.0142 0.0049

Uranus -94107-01-03 14:37 J -32651156.04 -32651155.89 -32651155.74 0.0142 0.0029

Uranus -94107-04-01 19:11 J -32651067.85 -32651067.70 -32651067.55 0.0142 0.0010

Uranus -94107-06-28 23:59 J -32650979.65 -32650979.50 -32650979.35 0.0143 0.0012

Uranus -94107-09-25 04:47 J -32650891.45 -32650891.30 -32650891.15 0.0143 0.0032

Uranus -94107-12-22 09:35 J -32650803.24 -32650803.10 -32650802.96 0.0143 0.0053

Uranus -94106-03-20 14:23 J -32650715.03 -32650714.90 -32650714.77 0.0143 0.0074

Uranus -94106-06-16 19:11 J -32650626.81 -32650626.70 -32650626.58 0.0143 0.0095

Uranus -94106-09-13 00:13 J -32650538.57 -32650538.49 -32650538.40 0.0143 0.0116

Uranus -94106-12-10 05:15 J -32650450.32 -32650450.28 -32650450.24 0.0143 0.0138

Earth -94105-07-29 02:51 J -32650218.50 -32650218.38 -32650218.25 0.2611 0.0933

Moon -94105-07-29 03:35 J -32650218.47 -32650218.35 -32650218.23 0.2617 0.1011 *

Mars -94103-02-10 02:37 J -32649657.52 -32649657.39 -32649657.25 0.1607 0.0159

Venus -94102-01-22 11:44 J -32649311.12 -32649311.01 -32649310.90 0.3778 0.0267

Jupiter -94102-03-18 07:39 J -32649256.34 -32649256.18 -32649256.01 0.0508 0.0017

Jupiter -94102-06-16 05:44 J -32649166.29 -32649166.26 -32649166.22 0.0512 0.0499

Mars -94099-11-02 05:59 J -32647931.38 -32647931.25 -32647931.11 0.1921 0.0295

Venus -94098-01-20 20:37 J -32647851.72 -32647851.64 -32647851.57 0.3593 0.3009

Jupiter -94097-08-07 00:56 J -32647287.58 -32647287.46 -32647287.33 0.0522 0.0213

Venus -94097-08-07 06:13 J -32647287.35 -32647287.24 -32647287.13 0.3775 0.0529 *

Jupiter -94097-11-04 12:27 J -32647198.10 -32647197.98 -32647197.85 0.0518 0.0255

Moon -94095-01-22 11:01 J -32646754.13 -32646754.04 -32646753.95 0.2727 0.1871

Earth -94095-01-22 11:59 J -32646754.08 -32646754.00 -32646753.92 0.2725 0.2039 *

Saturn -94095-07-14 00:13 J -32646581.57 -32646581.49 -32646581.41 0.0280 0.0231

Saturn -94095-10-10 14:23 J -32646493.02 -32646492.90 -32646492.77 0.0280 0.0143

Saturn -94094-01-07 05:01 J -32646404.44 -32646404.29 -32646404.15 0.0280 0.0052

Saturn -94094-04-05 19:54 J -32646315.82 -32646315.67 -32646315.52 0.0281 0.0042

Saturn -94094-07-03 11:01 J -32646227.17 -32646227.04 -32646226.91 0.0281 0.0138

Mars -94094-07-03 11:01 J -32646227.16 -32646227.04 -32646226.91 0.1609 0.0600 *

Saturn -94094-09-30 02:23 J -32646138.47 -32646138.40 -32646138.31 0.0281 0.0236

Venus -94093-08-05 22:03 J -32645827.70 -32645827.58 -32645827.46 0.3596 0.1792

Mars -94092-06-08 02:23 J -32645521.48 -32645521.40 -32645521.32 0.1604 0.1268

Earth -94092-08-01 00:27 J -32645467.54 -32645467.48 -32645467.42 0.2615 0.2275

Moon -94092-08-01 01:39 J -32645467.49 -32645467.43 -32645467.38 0.2615 0.2329 *

Venus -94091-02-21 00:56 J -32645263.56 -32645263.46 -32645263.35 0.3771 0.1348

Jupiter -94090-01-04 07:11 J -32644946.35 -32644946.20 -32644946.04 0.0508 0.0146

Jupiter -94090-04-04 05:59 J -32644856.36 -32644856.25 -32644856.14 0.0512 0.0371

Mars -94089-03-24 07:54 J -32644501.28 -32644501.17 -32644501.06 0.1919 0.1196

Moon -94088-01-14 21:49 J -32644204.65 -32644204.59 -32644204.53 0.2728 0.2351

Earth -94088-01-14 21:49 J -32644204.65 -32644204.59 -32644204.53 0.2736 0.2359 *

Venus -94087-02-19 23:01 J -32643803.67 -32643803.54 -32643803.40 0.3599 0.0629

Venus -94086-09-06 19:54 J -32643239.76 -32643239.67 -32643239.58 0.3768 0.2185

Jupiter -94085-05-26 04:18 J -32642977.42 -32642977.32 -32642977.21 0.0522 0.0321

Moon -94085-07-24 11:44 J -32642918.12 -32642918.01 -32642917.91 0.2610 0.1572

Earth -94085-07-24 12:27 J -32642918.08 -32642917.98 -32642917.87 0.2605 0.1558 *

Jupiter -94085-08-23 15:35 J -32642887.98 -32642887.85 -32642887.71 0.0518 0.0145

Mars -94085-11-22 19:39 J -32642796.78 -32642796.68 -32642796.58 0.1610 0.1034

Mars -94083-10-29 10:32 J -32642091.18 -32642091.06 -32642090.95 0.1605 0.0809

Venus -94082-09-05 23:44 J -32641779.65 -32641779.51 -32641779.38 0.3602 0.0499

Saturn -94080-02-17 23:59 J -32641248.61 -32641248.50 -32641248.39 0.0278 0.0198

Venus -94080-03-22 15:06 J -32641215.94 -32641215.87 -32641215.81 0.3764 0.3046

Saturn -94080-05-17 17:01 J -32641159.94 -32641159.79 -32641159.64 0.0278 0.0098

Saturn -94080-08-14 09:35 J -32641071.26 -32641071.10 -32641070.94 0.0278 0.0005

Saturn -94080-11-11 01:54 J -32640982.57 -32640982.42 -32640982.27 0.0277 0.0095

Saturn -94079-02-07 17:44 J -32640893.87 -32640893.76 -32640893.64 0.0277 0.0187

Jupiter -94079-10-23 07:25 J -32640636.33 -32640636.19 -32640636.05 0.0507 0.0271

Jupiter -94078-01-21 06:27 J -32640546.37 -32640546.23 -32640546.09 0.0511 0.0249

Mars -94078-07-22 00:56 J -32640364.54 -32640364.46 -32640364.37 0.1924 0.1495

Venus -94076-03-21 23:44 J -32639755.63 -32639755.51 -32639755.39 0.3606 0.1557

Moon -94075-01-17 19:25 J -32639453.81 -32639453.69 -32639453.57 0.2727 0.0841

Earth -94075-01-17 20:08 J -32639453.78 -32639453.66 -32639453.54 0.2732 0.0826 *

Mars -94075-04-15 04:18 J -32639366.37 -32639366.32 -32639366.27 0.1612 0.1464

Venus -94074-12-15 15:49 J -32638756.85 -32638756.84 -32638756.83 0.3790 0.3742

Jupiter -94073-03-14 07:25 J -32638667.26 -32638667.19 -32638667.11 0.0523 0.0433

Mars -94073-03-20 18:27 J -32638660.86 -32638660.73 -32638660.59 0.1606 0.0352

Jupiter -94073-06-11 18:27 J -32638577.87 -32638577.73 -32638577.59 0.0519 0.0028

Jupiter -94073-09-09 06:27 J -32638488.26 -32638488.23 -32638488.19 0.0515 0.0496

Earth -94072-07-27 10:32 J -32638167.19 -32638167.06 -32638166.93 0.2608 0.0155

Moon -94072-07-27 10:32 J -32638167.18 -32638167.06 -32638166.93 0.2615 0.0211 *

Venus -94071-10-05 23:30 J -32637731.61 -32637731.52 -32637731.43 0.3609 0.2581

Uranus -94070-12-19 19:25 J -32637291.70 -32637291.69 -32637291.67 0.0137 0.0136

Uranus -94069-03-17 01:11 J -32637203.54 -32637203.45 -32637203.36 0.0137 0.0115

Uranus -94069-06-13 06:42 J -32637115.34 -32637115.22 -32637115.10 0.0137 0.0095

Uranus -94069-09-09 12:13 J -32637027.13 -32637026.99 -32637026.85 0.0137 0.0075

Uranus -94069-12-06 17:44 J -32636938.91 -32636938.76 -32636938.61 0.0136 0.0054

Mars -94069-12-11 03:49 J -32636934.47 -32636934.34 -32636934.21 0.1923 0.0652

Uranus -94068-03-04 23:15 J -32636850.69 -32636850.53 -32636850.37 0.0136 0.0034

Uranus -94068-06-01 04:32 J -32636762.47 -32636762.31 -32636762.14 0.0136 0.0015

Venus -94068-06-30 09:35 J -32636733.16 -32636733.10 -32636733.04 0.3787 0.3044

Uranus -94068-08-28 09:49 J -32636674.25 -32636674.09 -32636673.92 0.0136 0.0006

Uranus -94068-11-24 15:06 J -32636586.03 -32636585.87 -32636585.70 0.0136 0.0025

Uranus -94067-02-20 20:23 J -32636497.80 -32636497.65 -32636497.49 0.0136 0.0043

Uranus -94067-05-20 01:25 J -32636409.58 -32636409.44 -32636409.29 0.0136 0.0063

Jupiter -94067-08-11 07:25 J -32636326.29 -32636326.19 -32636326.09 0.0506 0.0397

Uranus -94067-08-16 06:42 J -32636321.35 -32636321.22 -32636321.09 0.0136 0.0081

Jupiter -94067-11-09 06:56 J -32636236.37 -32636236.21 -32636236.05 0.0510 0.0126

Uranus -94067-11-12 11:44 J -32636233.12 -32636233.01 -32636232.90 0.0135 0.0100

Uranus -94066-02-08 16:47 J -32636144.88 -32636144.80 -32636144.72 0.0135 0.0118

Saturn -94066-12-01 00:13 J -32635849.53 -32635849.49 -32635849.45 0.0280 0.0268

Saturn -94065-02-27 14:08 J -32635761.02 -32635760.91 -32635760.79 0.0281 0.0180

Venus -94065-04-20 22:32 J -32635707.58 -32635707.56 -32635707.54 0.3613 0.3543

Saturn -94065-05-26 04:32 J -32635672.45 -32635672.31 -32635672.17 0.0281 0.0090

Saturn -94065-08-22 19:25 J -32635583.84 -32635583.69 -32635583.54 0.0281 0.0005

Saturn -94065-11-19 10:18 J -32635495.21 -32635495.07 -32635494.92 0.0281 0.0099

Saturn -94064-02-16 01:54 J -32635406.53 -32635406.42 -32635406.31 0.0281 0.0196

Mars -94064-08-11 02:51 J -32635230.52 -32635230.38 -32635230.25 0.1607 0.0103

Venus -94062-01-14 03:20 J -32634709.44 -32634709.36 -32634709.27 0.3785 0.2327

Moon -94062-01-20 17:30 J -32634702.89 -32634702.77 -32634702.64 0.2726 0.0559

Earth -94062-01-20 18:42 J -32634702.84 -32634702.72 -32634702.60 0.2728 0.0755 *

Jupiter -94061-03-30 21:06 J -32634267.75 -32634267.62 -32634267.48 0.0520 0.0090

Jupiter -94061-06-28 08:51 J -32634178.22 -32634178.13 -32634178.03 0.0516 0.0379

Mars -94059-05-03 05:59 J -32633504.38 -32633504.25 -32633504.11 0.1921 0.0229

Earth -94059-07-30 08:23 J -32633416.27 -32633416.15 -32633416.04 0.2612 0.1219

Moon -94059-07-30 09:06 J -32633416.24 -32633416.12 -32633416.01 0.2617 0.1296 *

Venus -94057-07-29 21:20 J -32632685.71 -32632685.61 -32632685.51 0.3783 0.1592

Jupiter -94055-08-28 06:42 J -32631926.38 -32631926.22 -32631926.05 0.0508 0.0006

Jupiter -94055-11-26 04:47 J -32631836.31 -32631836.30 -32631836.28 0.0512 0.0508

Mars -94054-01-01 11:15 J -32631800.16 -32631800.03 -32631799.90 0.1609 0.0539

Mars -94053-12-07 02:37 J -32631094.46 -32631094.39 -32631094.31 0.1604 0.1333

Venus -94051-02-12 15:35 J -32630661.96 -32630661.85 -32630661.74 0.3780 0.0832

Saturn -94051-07-08 00:42 J -32630516.56 -32630516.47 -32630516.37 0.0279 0.0227

Saturn -94051-10-04 17:59 J -32630427.89 -32630427.75 -32630427.60 0.0279 0.0126

Saturn -94050-01-01 10:47 J -32630339.21 -32630339.05 -32630338.89 0.0278 0.0028

Saturn -94050-03-31 03:20 J -32630250.52 -32630250.36 -32630250.21 0.0278 0.0069

Saturn -94050-06-27 19:11 J -32630161.82 -32630161.70 -32630161.57 0.0278 0.0163

Mars -94050-09-23 08:23 J -32630074.26 -32630074.15 -32630074.03 0.1919 0.1100

Saturn -94050-09-24 10:47 J -32630073.10 -32630073.05 -32630072.98 0.0278 0.0255

Jupiter -94049-01-17 23:30 J -32629957.65 -32629957.52 -32629957.39 0.0522 0.0211

Moon -94049-01-23 16:32 J -32629951.87 -32629951.81 -32629951.75 0.2729 0.2361

Earth -94049-01-23 17:30 J -32629951.83 -32629951.77 -32629951.71 0.2724 0.2367 *

Jupiter -94049-04-16 11:01 J -32629868.16 -32629868.04 -32629867.92 0.0518 0.0256

Earth -94046-08-02 05:59 J -32628665.28 -32628665.25 -32628665.23 0.2616 0.2559

Venus -94046-08-29 09:49 J -32628638.20 -32628638.09 -32628637.97 0.3777 0.0165

Mars -94045-05-23 19:54 J -32628369.78 -32628369.67 -32628369.56 0.1610 0.0974

Neptune -94044-02-05 09:35 J -32628112.13 -32628112.10 -32628112.06 0.0089 0.0085

Neptune -94044-05-04 11:15 J -32628024.08 -32628024.03 -32628023.97 0.0089 0.0081

Neptune -94044-07-31 12:42 J -32627936.03 -32627935.97 -32627935.89 0.0089 0.0077

Neptune -94044-10-27 14:23 J -32627847.97 -32627847.90 -32627847.82 0.0089 0.0073

Neptune -94043-01-23 15:49 J -32627759.92 -32627759.84 -32627759.74 0.0089 0.0069

Neptune -94043-04-21 17:30 J -32627671.86 -32627671.77 -32627671.66 0.0089 0.0065

Mars -94043-04-29 10:32 J -32627664.17 -32627664.06 -32627663.94 0.1605 0.0872

Jupiter -94043-06-16 06:27 J -32627616.39 -32627616.23 -32627616.07 0.0507 0.0133

Neptune -94043-07-18 19:11 J -32627583.79 -32627583.70 -32627583.59 0.0089 0.0061

Jupiter -94043-09-14 05:01 J -32627526.40 -32627526.29 -32627526.18 0.0511 0.0381

Neptune -94043-10-14 21:06 J -32627495.73 -32627495.62 -32627495.51 0.0089 0.0056

Neptune -94042-01-10 22:32 J -32627407.67 -32627407.56 -32627407.44 0.0089 0.0052

Moon -94042-01-16 03:20 J -32627402.45 -32627402.36 -32627402.28 0.2728 0.2034

Earth -94042-01-16 03:06 J -32627402.45 -32627402.37 -32627402.28 0.2736 0.2048 *

Neptune -94042-04-09 00:13 J -32627319.61 -32627319.49 -32627319.37 0.0089 0.0048

Neptune -94042-07-06 01:39 J -32627231.54 -32627231.43 -32627231.29 0.0089 0.0044

Venus -94042-08-27 20:37 J -32627178.73 -32627178.64 -32627178.54 0.3594 0.2671

Neptune -94042-10-02 03:35 J -32627143.48 -32627143.35 -32627143.22 0.0089 0.0039

Neptune -94042-12-29 05:15 J -32627055.41 -32627055.28 -32627055.15 0.0089 0.0035

Neptune -94041-03-26 06:42 J -32626967.34 -32626967.22 -32626967.08 0.0089 0.0031

Neptune -94041-06-22 08:23 J -32626879.28 -32626879.15 -32626879.00 0.0089 0.0027

Neptune -94041-09-18 10:18 J -32626791.21 -32626791.07 -32626790.93 0.0089 0.0022

Neptune -94041-12-15 11:59 J -32626703.14 -32626703.00 -32626702.86 0.0089 0.0018

Neptune -94040-03-13 13:39 J -32626615.07 -32626614.93 -32626614.78 0.0089 0.0013

Venus -94040-03-14 04:32 J -32626614.42 -32626614.31 -32626614.20 0.3774 0.0749

Neptune -94040-06-09 15:20 J -32626527.00 -32626526.86 -32626526.71 0.0089 0.0009

Neptune -94040-09-05 17:15 J -32626438.93 -32626438.78 -32626438.64 0.0089 0.0005

Neptune -94040-12-02 18:56 J -32626350.86 -32626350.71 -32626350.57 0.0089 0.0001

Neptune -94039-02-28 20:37 J -32626262.78 -32626262.64 -32626262.49 0.0089 0.0004

Neptune -94039-05-27 22:18 J -32626174.71 -32626174.57 -32626174.42 0.0089 0.0009

Moon -94039-07-25 17:15 J -32626115.89 -32626115.78 -32626115.67 0.2611 0.1390

Earth -94039-07-25 17:59 J -32626115.87 -32626115.75 -32626115.64 0.2605 0.1260 *

Neptune -94039-08-24 00:13 J -32626086.64 -32626086.49 -32626086.35 0.0089 0.0013

Neptune -94039-11-20 01:54 J -32625998.56 -32625998.42 -32625998.28 0.0089 0.0018

Mars -94038-01-20 01:25 J -32625937.51 -32625937.44 -32625937.36 0.1924 0.1585

Neptune -94038-02-16 03:35 J -32625910.49 -32625910.35 -32625910.20 0.0089 0.0022

Neptune -94038-05-15 05:15 J -32625822.41 -32625822.28 -32625822.13 0.0089 0.0027

Neptune -94038-08-11 07:11 J -32625734.33 -32625734.20 -32625734.06 0.0089 0.0031

Jupiter -94038-11-06 02:37 J -32625647.50 -32625647.39 -32625647.28 0.0523 0.0323

Neptune -94038-11-07 08:51 J -32625646.26 -32625646.13 -32625645.99 0.0089 0.0036

Neptune -94037-02-03 10:47 J -32625558.18 -32625558.05 -32625557.92 0.0089 0.0040

Jupiter -94037-02-03 13:54 J -32625558.05 -32625557.92 -32625557.78 0.0519 0.0142 *

Neptune -94037-05-01 12:27 J -32625470.10 -32625469.98 -32625469.84 0.0089 0.0045

Neptune -94037-07-28 14:23 J -32625382.02 -32625381.90 -32625381.77 0.0089 0.0049

Neptune -94037-10-24 16:03 J -32625293.94 -32625293.83 -32625293.70 0.0089 0.0054

Neptune -94036-01-20 17:44 J -32625205.85 -32625205.76 -32625205.63 0.0089 0.0059

Venus -94036-03-12 22:03 J -32625154.71 -32625154.58 -32625154.45 0.3597 0.1474

Neptune -94036-04-18 19:54 J -32625117.77 -32625117.67 -32625117.56 0.0089 0.0063

Neptune -94036-07-15 21:35 J -32625029.68 -32625029.60 -32625029.49 0.0089 0.0068

Saturn -94036-07-16 16:32 J -32625028.91 -32625028.81 -32625028.70 0.0280 0.0199

Neptune -94036-10-11 23:30 J -32624941.60 -32624941.52 -32624941.43 0.0089 0.0072

Saturn -94036-10-13 06:56 J -32624940.34 -32624940.21 -32624940.07 0.0280 0.0109

Mars -94036-10-14 04:32 J -32624939.37 -32624939.31 -32624939.24 0.1612 0.1402

Neptune -94035-01-08 01:11 J -32624853.51 -32624853.45 -32624853.36 0.0089 0.0077

Saturn -94035-01-09 21:35 J -32624851.75 -32624851.60 -32624851.45 0.0280 0.0017

Neptune -94035-04-06 03:06 J -32624765.41 -32624765.37 -32624765.30 0.0089 0.0082

Saturn -94035-04-08 12:27 J -32624763.12 -32624762.98 -32624762.83 0.0281 0.0077

Neptune -94035-07-03 05:01 J -32624677.31 -32624677.29 -32624677.24 0.0089 0.0086

Saturn -94035-07-06 03:49 J -32624674.46 -32624674.34 -32624674.22 0.0281 0.0173

Venus -94035-09-27 23:15 J -32624590.63 -32624590.53 -32624590.43 0.3771 0.1566

Saturn -94035-10-02 19:25 J -32624585.72 -32624585.69 -32624585.65 0.0281 0.0271

Mars -94034-09-19 18:56 J -32624233.85 -32624233.71 -32624233.58 0.1606 0.0419

Jupiter -94031-04-04 05:44 J -32623306.40 -32623306.26 -32623306.12 0.0507 0.0268

Jupiter -94031-07-03 04:47 J -32623216.44 -32623216.30 -32623216.16 0.0510 0.0251

Venus -94031-09-26 23:01 J -32623130.68 -32623130.54 -32623130.40 0.3600 0.0316

Moon -94029-01-19 00:42 J -32622651.59 -32622651.47 -32622651.35 0.2727 0.0618

Earth -94029-01-19 01:25 J -32622651.56 -32622651.44 -32622651.31 0.2732 0.0513 *

Venus -94029-04-12 18:13 J -32622566.82 -32622566.74 -32622566.65 0.3767 0.2414

Mars -94029-06-11 04:03 J -32622507.46 -32622507.33 -32622507.21 0.1923 0.0730

Earth -94026-07-28 15:49 J -32621364.97 -32621364.84 -32621364.70 0.2609 0.0170

Moon -94026-07-28 16:03 J -32621364.96 -32621364.83 -32621364.70 0.2616 0.0226 *

Jupiter -94026-08-25 05:59 J -32621337.32 -32621337.25 -32621337.17 0.0523 0.0431

Jupiter -94026-11-22 17:01 J -32621247.93 -32621247.79 -32621247.64 0.0520 0.0037

Jupiter -94025-02-20 05:15 J -32621158.31 -32621158.28 -32621158.25 0.0516 0.0501

Venus -94025-04-11 23:15 J -32621106.66 -32621106.53 -32621106.39 0.3603 0.0783

Uranus -94025-08-12 18:27 J -32620983.74 -32620983.73 -32620983.72 0.0142 0.0141

Uranus -94025-11-08 22:47 J -32620895.62 -32620895.55 -32620895.47 0.0142 0.0122

Uranus -94024-02-05 03:06 J -32620807.46 -32620807.37 -32620807.26 0.0142 0.0104

Mars -94024-02-09 03:06 J -32620803.51 -32620803.37 -32620803.24 0.1607 0.0044

Uranus -94024-05-04 07:54 J -32620719.29 -32620719.17 -32620719.05 0.0142 0.0084

Uranus -94024-07-31 12:13 J -32620631.11 -32620630.99 -32620630.85 0.0142 0.0065

Venus -94024-10-27 13:25 J -32620542.99 -32620542.94 -32620542.88 0.3763 0.3274

Uranus -94024-10-27 17:01 J -32620542.93 -32620542.79 -32620542.65 0.0142 0.0045 *

Uranus -94023-01-23 21:35 J -32620454.75 -32620454.60 -32620454.45 0.0142 0.0025

Uranus -94023-04-22 02:23 J -32620366.55 -32620366.40 -32620366.26 0.0142 0.0007

Uranus -94023-07-19 06:56 J -32620278.36 -32620278.21 -32620278.06 0.0143 0.0015

Uranus -94023-10-15 11:44 J -32620190.15 -32620190.01 -32620189.86 0.0143 0.0036

Uranus -94022-01-11 16:32 J -32620101.95 -32620101.81 -32620101.67 0.0143 0.0056

Uranus -94022-04-09 21:20 J -32620013.73 -32620013.61 -32620013.48 0.0143 0.0077

Uranus -94022-07-07 02:08 J -32619925.51 -32619925.41 -32619925.29 0.0143 0.0099

Uranus -94022-10-03 07:11 J -32619837.28 -32619837.20 -32619837.11 0.0143 0.0120

Saturn -94022-11-24 23:44 J -32619784.55 -32619784.51 -32619784.45 0.0279 0.0264

Uranus -94022-12-30 11:59 J -32619749.01 -32619749.00 -32619748.96 0.0143 0.0142

Saturn -94021-02-21 17:15 J -32619695.91 -32619695.78 -32619695.65 0.0278 0.0162

Saturn -94021-05-20 10:03 J -32619607.23 -32619607.08 -32619606.92 0.0278 0.0063

Saturn -94021-08-17 02:37 J -32619518.54 -32619518.39 -32619518.23 0.0278 0.0035

Saturn -94021-11-13 18:42 J -32619429.85 -32619429.72 -32619429.57 0.0278 0.0130

Saturn -94020-02-10 10:32 J -32619341.15 -32619341.06 -32619340.96 0.0277 0.0222

Venus -94020-10-26 23:30 J -32619082.64 -32619082.52 -32619082.41 0.3607 0.1838

Mars -94020-11-01 06:42 J -32619077.36 -32619077.22 -32619077.09 0.1921 0.0135

Jupiter -94019-01-21 05:44 J -32618996.36 -32618996.26 -32618996.16 0.0506 0.0395

Jupiter -94019-04-21 05:15 J -32618906.44 -32618906.28 -32618906.12 0.0510 0.0128

Venus -94017-07-21 13:54 J -32618083.96 -32618083.92 -32618083.89 0.3789 0.3547

Moon -94016-01-20 23:01 J -32617900.66 -32617900.54 -32617900.42 0.2727 0.1035

Earth -94016-01-20 23:59 J -32617900.61 -32617900.50 -32617900.38 0.2728 0.1077 *

Mars -94015-07-02 11:30 J -32617373.15 -32617373.02 -32617372.89 0.1608 0.0480

Venus -94014-05-12 23:01 J -32617058.62 -32617058.54 -32617058.46 0.3610 0.2837

Jupiter -94014-09-10 20:08 J -32616937.80 -32616937.66 -32616937.53 0.0520 0.0084

Jupiter -94014-12-09 07:39 J -32616848.27 -32616848.18 -32616848.08 0.0516 0.0385

Mars -94013-06-07 02:51 J -32616667.44 -32616667.38 -32616667.31 0.1604 0.1398

Earth -94013-07-30 13:39 J -32616614.03 -32616613.93 -32616613.82 0.2612 0.1511

Moon -94013-07-30 14:37 J -32616613.99 -32616613.89 -32616613.79 0.2616 0.1564 *

Venus -94011-02-04 07:39 J -32616060.25 -32616060.18 -32616060.11 0.3787 0.2846

Mars -94010-03-24 08:37 J -32615647.26 -32615647.14 -32615647.03 0.1919 0.1029

Jupiter -94007-02-07 05:30 J -32614596.43 -32614596.27 -32614596.11 0.0509 0.0004

Saturn -94007-12-03 16:32 J -32614296.89 -32614296.81 -32614296.73 0.0280 0.0235

Saturn -94006-03-02 06:42 J -32614208.34 -32614208.22 -32614208.09 0.0280 0.0146

Saturn -94006-05-29 21:20 J -32614119.76 -32614119.61 -32614119.47 0.0281 0.0055

Moon -94006-07-24 00:13 J -32614064.52 -32614064.49 -32614064.47 0.2605 0.2555

Earth -94006-07-24 01:11 J -32614064.50 -32614064.45 -32614064.40 0.2603 0.2382 *

Venus -94006-08-21 01:25 J -32614036.53 -32614036.44 -32614036.35 0.3785 0.2127

Saturn -94006-08-26 11:59 J -32614031.15 -32614031.00 -32614030.85 0.0281 0.0039

Mars -94006-11-22 20:08 J -32613942.77 -32613942.66 -32613942.55 0.1610 0.0915

Saturn -94006-11-23 03:06 J -32613942.50 -32613942.37 -32613942.23 0.0281 0.0134

Saturn -94005-02-19 18:42 J -32613853.81 -32613853.72 -32613853.64 0.0281 0.0232

Mars -94004-10-28 10:47 J -32613237.16 -32613237.05 -32613236.93 0.1605 0.0935

Moon -94003-01-23 22:03 J -32613149.62 -32613149.58 -32613149.53 0.2729 0.2527

Earth -94003-01-23 23:01 J -32613149.56 -32613149.54 -32613149.53 0.2724 0.2698 *

Jupiter -94002-06-29 22:47 J -32612627.67 -32612627.55 -32612627.42 0.0521 0.0198

Jupiter -94002-09-27 10:18 J -32612538.19 -32612538.07 -32612537.95 0.0517 0.0267

94TH MILLENNIUM BCE

This is a list of transits of Mercury in the 94th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Venus -94000-03-05 19:25 J -32612012.79 -32612012.69 -32612012.58 0.3782 0.1393

Mars -93999-07-21 01:25 J -32611510.51 -32611510.44 -32611510.37 0.1925 0.1650

Moon -93996-01-16 08:23 J -32610600.24 -32610600.15 -32610600.05 0.2728 0.1717

Earth -93996-01-16 08:37 J -32610600.24 -32610600.14 -32610600.04 0.2735 0.1734 *

Mars -93996-04-14 04:47 J -32610512.37 -32610512.30 -32610512.23 0.1612 0.1346

Jupiter -93996-11-26 05:15 J -32610286.44 -32610286.28 -32610286.12 0.0507 0.0126

Jupiter -93995-02-24 03:49 J -32610196.44 -32610196.34 -32610196.23 0.0511 0.0390

Venus -93995-09-19 13:39 J -32609989.04 -32609988.93 -32609988.82 0.3779 0.0633

Mars -93994-03-20 18:56 J -32609806.84 -32609806.71 -32609806.58 0.1606 0.0477

Moon -93993-07-25 23:01 J -32609313.66 -32609313.54 -32609313.42 0.2612 0.0920

Earth -93993-07-25 23:15 J -32609313.65 -32609313.53 -32609313.40 0.2606 0.0961 *

Saturn -93992-07-10 17:59 J -32608963.87 -32608963.75 -32608963.63 0.0279 0.0191

Saturn -93992-10-07 11:01 J -32608875.19 -32608875.04 -32608874.89 0.0279 0.0091

Saturn -93991-01-04 03:49 J -32608786.50 -32608786.34 -32608786.18 0.0279 0.0008

Saturn -93991-04-02 20:08 J -32608697.81 -32608697.66 -32608697.52 0.0278 0.0104

Saturn -93991-06-30 11:59 J -32608609.11 -32608609.00 -32608608.89 0.0278 0.0197

Venus -93991-09-17 19:11 J -32608529.71 -32608529.70 -32608529.69 0.3592 0.3571

Jupiter -93990-04-18 00:56 J -32608317.56 -32608317.46 -32608317.35 0.0523 0.0323

Jupiter -93990-07-16 12:13 J -32608228.12 -32608227.99 -32608227.85 0.0519 0.0144

Mars -93990-12-11 04:32 J -32608080.44 -32608080.31 -32608080.19 0.1924 0.0823

Venus -93989-04-04 08:08 J -32607965.27 -32607965.16 -32607965.05 0.3776 0.0175

Uranus -93985-01-09 01:39 J -32606590.45 -32606590.43 -32606590.38 0.0137 0.0134

Venus -93985-04-02 20:51 J -32606505.74 -32606505.63 -32606505.53 0.3595 0.2347

Uranus -93985-04-06 07:25 J -32606502.27 -32606502.19 -32606502.08 0.0137 0.0113

Uranus -93985-07-03 12:56 J -32606414.07 -32606413.96 -32606413.82 0.0137 0.0093

Mars -93985-08-10 03:20 J -32606376.50 -32606376.36 -32606376.23 0.1607 0.0036

Uranus -93985-09-29 18:56 J -32606325.85 -32606325.71 -32606325.57 0.0137 0.0072

Uranus -93985-12-27 00:27 J -32606237.64 -32606237.48 -32606237.33 0.0136 0.0052

Uranus -93984-03-25 05:44 J -32606149.42 -32606149.26 -32606149.10 0.0136 0.0032

Uranus -93984-06-21 11:15 J -32606061.20 -32606061.03 -32606060.87 0.0136 0.0012

Jupiter -93984-09-14 05:01 J -32605976.43 -32605976.29 -32605976.15 0.0506 0.0256

Uranus -93984-09-17 16:32 J -32605972.98 -32605972.81 -32605972.65 0.0136 0.0008

Venus -93984-10-19 02:51 J -32605941.49 -32605941.38 -32605941.28 0.3773 0.0970

Jupiter -93984-12-13 03:49 J -32605886.47 -32605886.34 -32605886.20 0.0510 0.0262

Uranus -93984-12-14 21:49 J -32605884.75 -32605884.59 -32605884.43 0.0136 0.0027

Moon -93983-01-19 06:13 J -32605849.37 -32605849.24 -32605849.12 0.2727 0.0285

Earth -93983-01-19 06:56 J -32605849.33 -32605849.21 -32605849.08 0.2731 0.0188 *

Uranus -93983-03-13 02:51 J -32605796.53 -32605796.38 -32605796.22 0.0136 0.0046

Uranus -93983-06-09 08:08 J -32605708.30 -32605708.16 -32605708.01 0.0136 0.0065

Uranus -93983-09-05 13:11 J -32605620.07 -32605619.95 -32605619.82 0.0136 0.0084

Uranus -93983-12-02 18:13 J -32605531.84 -32605531.74 -32605531.63 0.0135 0.0102

Uranus -93982-02-28 23:15 J -32605443.59 -32605443.53 -32605443.45 0.0135 0.0120

Mars -93980-05-02 06:56 J -32604650.35 -32604650.21 -32604650.07 0.1921 0.0048

Earth -93980-07-28 21:20 J -32604562.74 -32604562.61 -32604562.48 0.2609 0.0437

Moon -93980-07-28 21:35 J -32604562.73 -32604562.60 -32604562.47 0.2615 0.0403 *

Venus -93980-10-17 22:03 J -32604481.71 -32604481.58 -32604481.45 0.3598 0.1155

Jupiter -93978-02-04 04:03 J -32604007.40 -32604007.33 -32604007.25 0.0524 0.0435

Jupiter -93978-05-04 15:20 J -32603918.00 -32603917.86 -32603917.72 0.0520 0.0031

Venus -93978-05-04 21:35 J -32603917.70 -32603917.60 -32603917.50 0.3770 0.1790

Jupiter -93978-08-02 03:20 J -32603828.39 -32603828.36 -32603828.33 0.0516 0.0498

Saturn -93977-04-21 19:11 J -32603564.75 -32603564.70 -32603564.63 0.0280 0.0252

Saturn -93977-07-19 09:20 J -32603476.22 -32603476.11 -32603475.98 0.0280 0.0164

Saturn -93977-10-15 23:59 J -32603387.65 -32603387.50 -32603387.36 0.0280 0.0073

Saturn -93976-01-12 14:37 J -32603299.04 -32603298.89 -32603298.74 0.0280 0.0020

Saturn -93976-04-11 05:44 J -32603210.40 -32603210.26 -32603210.12 0.0280 0.0115

Saturn -93976-07-08 20:51 J -32603121.72 -32603121.63 -32603121.52 0.0281 0.0212

Mars -93976-12-31 11:44 J -32602946.14 -32602946.01 -32602945.88 0.1608 0.0416

Venus -93974-05-03 22:47 J -32602457.68 -32602457.55 -32602457.41 0.3601 0.0063

Mars -93974-12-07 03:20 J -32602240.42 -32602240.36 -32602240.31 0.1604 0.1467

Venus -93973-11-17 16:47 J -32601893.88 -32601893.80 -32601893.72 0.3766 0.2640

Jupiter -93972-07-03 03:49 J -32601666.44 -32601666.34 -32601666.23 0.0506 0.0393

Jupiter -93972-10-01 03:20 J -32601576.51 -32601576.36 -32601576.20 0.0509 0.0130

Mars -93971-09-22 09:06 J -32601220.24 -32601220.12 -32601220.00 0.1919 0.0935

Moon -93970-01-22 04:32 J -32601098.42 -32601098.31 -32601098.20 0.2729 0.1242

Earth -93970-01-22 05:30 J -32601098.38 -32601098.27 -32601098.16 0.2727 0.1403 *

Venus -93969-11-16 23:15 J -32600433.66 -32600433.53 -32600433.41 0.3604 0.1069

Venus -93967-06-03 11:59 J -32599870.04 -32599870.00 -32599869.96 0.3762 0.3504

Earth -93967-07-31 19:11 J -32599811.80 -32599811.70 -32599811.61 0.2613 0.1800

Moon -93967-07-31 20:08 J -32599811.75 -32599811.66 -32599811.58 0.2616 0.1952 *

Jupiter -93966-02-20 18:27 J -32599607.87 -32599607.73 -32599607.59 0.0521 0.0082

Jupiter -93966-05-21 06:13 J -32599518.33 -32599518.24 -32599518.14 0.0517 0.0387

Mars -93966-05-23 20:08 J -32599515.77 -32599515.66 -32599515.54 0.1610 0.0858

Mars -93964-04-28 11:01 J -32598810.14 -32598810.04 -32598809.93 0.1605 0.1001

Pluto -93963-02-09 07:54 J -32598523.18 -32598523.17 -32598523.11 0.0060 0.0059

Pluto -93963-05-08 09:49 J -32598435.18 -32598435.09 -32598434.99 0.0060 0.0052

Venus -93963-06-02 23:01 J -32598409.65 -32598409.54 -32598409.43 0.3607 0.2103

Pluto -93963-08-04 10:47 J -32598347.15 -32598347.05 -32598346.89 0.0060 0.0046

Pluto -93963-10-31 12:27 J -32598259.11 -32598258.98 -32598258.81 0.0060 0.0039

Saturn -93963-11-27 17:30 J -32598231.86 -32598231.77 -32598231.67 0.0279 0.0225

Pluto -93962-01-27 14:23 J -32598171.06 -32598170.90 -32598170.73 0.0060 0.0032

Saturn -93962-02-24 10:47 J -32598143.19 -32598143.05 -32598142.91 0.0278 0.0124

Pluto -93962-04-25 15:20 J -32598083.02 -32598082.86 -32598082.66 0.0060 0.0027

Saturn -93962-05-24 03:35 J -32598054.51 -32598054.35 -32598054.19 0.0278 0.0025

Pluto -93962-07-22 17:01 J -32597994.96 -32597994.79 -32597994.59 0.0060 0.0019

Saturn -93962-08-20 19:54 J -32597965.82 -32597965.67 -32597965.51 0.0278 0.0072

Pluto -93962-10-18 18:42 J -32597906.91 -32597906.72 -32597906.52 0.0060 0.0012

Neptune -93962-11-09 01:11 J -32597885.46 -32597885.45 -32597885.40 0.0089 0.0088

Saturn -93962-11-17 11:59 J -32597877.12 -32597877.00 -32597876.87 0.0278 0.0166

Pluto -93961-01-14 20:23 J -32597818.85 -32597818.65 -32597818.46 0.0060 0.0006

Neptune -93961-02-05 04:18 J -32597797.37 -32597797.32 -32597797.24 0.0089 0.0082

Mars -93961-02-12 10:47 J -32597790.09 -32597790.05 -32597790.02 0.1916 0.1850

Saturn -93961-02-14 03:49 J -32597788.40 -32597788.34 -32597788.28 0.0278 0.0257

Pluto -93961-04-11 21:49 J -32597730.79 -32597730.59 -32597730.39 0.0060 0.0001

Neptune -93961-05-03 07:11 J -32597709.27 -32597709.20 -32597709.10 0.0089 0.0076

Pluto -93961-07-08 23:01 J -32597642.72 -32597642.54 -32597642.33 0.0060 0.0009

Neptune -93961-07-30 10:18 J -32597621.17 -32597621.07 -32597620.96 0.0089 0.0071

Pluto -93961-10-05 00:42 J -32597554.66 -32597554.47 -32597554.27 0.0060 0.0015

Neptune -93961-10-26 12:56 J -32597533.06 -32597532.96 -32597532.82 0.0088 0.0066

Pluto -93960-01-01 02:08 J -32597466.59 -32597466.41 -32597466.22 0.0060 0.0022

Neptune -93960-01-22 16:18 J -32597444.95 -32597444.82 -32597444.69 0.0088 0.0060

Venus -93960-02-25 11:59 J -32597411.05 -32597411.00 -32597410.96 0.3788 0.3354

Pluto -93960-03-30 03:35 J -32597378.51 -32597378.35 -32597378.17 0.0061 0.0029

Neptune -93960-04-20 18:56 J -32597356.84 -32597356.71 -32597356.56 0.0088 0.0055

Pluto -93960-06-26 04:47 J -32597290.44 -32597290.30 -32597290.12 0.0061 0.0036

Neptune -93960-07-17 21:35 J -32597268.73 -32597268.60 -32597268.43 0.0088 0.0050

Jupiter -93960-07-20 03:35 J -32597266.51 -32597266.35 -32597266.18 0.0509 0.0009

Moon -93960-07-24 05:44 J -32597262.34 -32597262.26 -32597262.19 0.2606 0.2132

Earth -93960-07-24 06:27 J -32597262.30 -32597262.23 -32597262.15 0.2603 0.2083 *

Pluto -93960-09-22 06:13 J -32597202.35 -32597202.24 -32597202.07 0.0061 0.0043

Neptune -93960-10-14 00:42 J -32597180.61 -32597180.47 -32597180.31 0.0088 0.0044

Pluto -93960-12-19 07:39 J -32597114.26 -32597114.18 -32597114.04 0.0061 0.0050

Neptune -93959-01-10 03:35 J -32597092.50 -32597092.35 -32597092.18 0.0088 0.0039

Mars -93959-01-19 01:54 J -32597083.47 -32597083.42 -32597083.36 0.1925 0.1744

Pluto -93959-03-17 09:06 J -32597026.16 -32597026.12 -32597026.01 0.0061 0.0057

Neptune -93959-04-08 06:27 J -32597004.39 -32597004.23 -32597004.06 0.0088 0.0033

Neptune -93959-07-05 09:20 J -32596916.27 -32596916.11 -32596915.94 0.0088 0.0028

Neptune -93959-10-01 12:13 J -32596828.16 -32596827.99 -32596827.82 0.0088 0.0022

Neptune -93959-12-28 14:51 J -32596740.04 -32596739.88 -32596739.70 0.0088 0.0018

Neptune -93958-03-26 17:44 J -32596651.93 -32596651.76 -32596651.58 0.0088 0.0012

Neptune -93958-06-22 20:37 J -32596563.81 -32596563.64 -32596563.47 0.0088 0.0007

Neptune -93958-09-18 23:30 J -32596475.70 -32596475.52 -32596475.35 0.0088 0.0002

Neptune -93958-12-16 02:08 J -32596387.58 -32596387.41 -32596387.24 0.0088 0.0004

Venus -93958-12-17 22:32 J -32596385.63 -32596385.56 -32596385.50 0.3611 0.3093

Neptune -93957-03-13 04:47 J -32596299.47 -32596299.30 -32596299.12 0.0088 0.0009

Neptune -93957-06-09 07:25 J -32596211.35 -32596211.19 -32596211.01 0.0088 0.0015

Neptune -93957-09-05 10:18 J -32596123.24 -32596123.07 -32596122.90 0.0088 0.0019

Mars -93957-10-13 04:47 J -32596085.37 -32596085.30 -32596085.22 0.1612 0.1290

Neptune -93957-12-02 12:56 J -32596035.12 -32596034.96 -32596034.79 0.0088 0.0025

Neptune -93956-02-28 15:35 J -32595947.01 -32595946.85 -32595946.68 0.0088 0.0030

Neptune -93956-05-27 18:13 J -32595858.89 -32595858.74 -32595858.58 0.0088 0.0035

Neptune -93956-08-23 20:51 J -32595770.78 -32595770.63 -32595770.47 0.0088 0.0040

Neptune -93956-11-19 23:30 J -32595682.66 -32595682.52 -32595682.37 0.0088 0.0045

Neptune -93955-02-16 02:08 J -32595594.54 -32595594.41 -32595594.26 0.0088 0.0050

Neptune -93955-05-15 04:47 J -32595506.43 -32595506.30 -32595506.16 0.0088 0.0055

Neptune -93955-08-11 07:25 J -32595418.31 -32595418.19 -32595418.06 0.0088 0.0060

Venus -93955-09-11 05:44 J -32595387.34 -32595387.26 -32595387.19 0.3786 0.2655

Mars -93955-09-18 19:11 J -32595379.83 -32595379.70 -32595379.57 0.1606 0.0539

Neptune -93955-11-07 10:03 J -32595330.19 -32595330.08 -32595329.96 0.0088 0.0065

Jupiter -93955-12-09 21:35 J -32595297.73 -32595297.60 -32595297.47 0.0521 0.0194

Neptune -93954-02-03 12:27 J -32595242.07 -32595241.98 -32595241.87 0.0088 0.0070

Jupiter -93954-03-09 09:06 J -32595208.24 -32595208.12 -32595208.00 0.0517 0.0271

Neptune -93954-05-02 15:06 J -32595153.95 -32595153.87 -32595153.77 0.0088 0.0075

Neptune -93954-07-29 17:30 J -32595065.83 -32595065.77 -32595065.68 0.0088 0.0080

Neptune -93954-10-25 19:54 J -32594977.70 -32594977.67 -32594977.60 0.0088 0.0085

Moon -93950-01-17 13:39 J -32593798.04 -32593797.93 -32593797.83 0.2728 0.1515

Earth -93950-01-17 13:54 J -32593798.02 -32593797.92 -32593797.81 0.2734 0.1426 *

Mars -93950-06-11 04:32 J -32593653.43 -32593653.31 -32593653.19 0.1923 0.0899

Venus -93949-03-26 23:30 J -32593363.61 -32593363.52 -32593363.42 0.3784 0.1927

Jupiter -93948-05-08 03:49 J -32592956.50 -32592956.34 -32592956.18 0.0508 0.0122

Jupiter -93948-08-06 02:23 J -32592866.50 -32592866.40 -32592866.29 0.0512 0.0395

Saturn -93948-12-06 09:35 J -32592744.21 -32592744.10 -32592744.00 0.0280 0.0200

Saturn -93947-03-04 23:44 J -32592655.64 -32592655.51 -32592655.37 0.0280 0.0110

Saturn -93947-06-01 14:23 J -32592567.05 -32592566.90 -32592566.75 0.0281 0.0018

Moon -93947-07-27 04:32 J -32592511.43 -32592511.31 -32592511.18 0.2613 0.0752

Earth -93947-07-27 04:47 J -32592511.43 -32592511.30 -32592511.17 0.2606 0.0657 *

Saturn -93947-08-29 05:15 J -32592478.43 -32592478.28 -32592478.14 0.0281 0.0076

Saturn -93947-11-25 20:23 J -32592389.77 -32592389.65 -32592389.53 0.0281 0.0173

Saturn -93946-02-22 11:59 J -32592301.04 -32592301.00 -32592300.96 0.0281 0.0271

Mars -93945-02-09 03:35 J -32591949.49 -32591949.35 -32591949.22 0.1607 0.0095

Venus -93944-10-10 17:44 J -32591339.87 -32591339.76 -32591339.66 0.3781 0.1193

Jupiter -93943-09-28 00:27 J -32590987.59 -32590987.48 -32590987.37 0.0522 0.0309

Jupiter -93943-12-26 11:44 J -32590898.15 -32590898.01 -32590897.88 0.0518 0.0155

Uranus -93941-09-02 01:25 J -32590282.47 -32590282.44 -32590282.41 0.0142 0.0138

Mars -93941-10-31 07:11 J -32590223.34 -32590223.20 -32590223.06 0.1922 0.0034

Uranus -93941-11-29 05:30 J -32590194.33 -32590194.27 -32590194.18 0.0142 0.0120

Uranus -93940-02-25 10:18 J -32590106.17 -32590106.07 -32590105.97 0.0142 0.0100

Uranus -93940-05-24 14:37 J -32590018.00 -32590017.89 -32590017.76 0.0142 0.0081

Uranus -93940-08-20 19:11 J -32589929.83 -32589929.70 -32589929.56 0.0142 0.0062

Uranus -93940-11-16 23:44 J -32589841.64 -32589841.51 -32589841.36 0.0142 0.0042

Uranus -93939-02-13 04:32 J -32589753.46 -32589753.31 -32589753.16 0.0142 0.0022

Uranus -93939-05-12 09:06 J -32589665.27 -32589665.12 -32589664.97 0.0143 0.0004

Uranus -93939-08-08 13:54 J -32589577.07 -32589576.92 -32589576.77 0.0143 0.0018

Uranus -93939-11-04 18:42 J -32589488.87 -32589488.72 -32589488.58 0.0143 0.0039

Uranus -93938-01-31 23:15 J -32589400.66 -32589400.53 -32589400.38 0.0143 0.0060

Venus -93938-04-26 11:59 J -32589316.11 -32589316.00 -32589315.89 0.3778 0.0420

Uranus -93938-04-30 04:18 J -32589312.44 -32589312.32 -32589312.19 0.0143 0.0081

Uranus -93938-07-27 08:51 J -32589224.22 -32589224.13 -32589224.01 0.0143 0.0103

Uranus -93938-10-23 13:54 J -32589135.98 -32589135.92 -32589135.83 0.0143 0.0123

Moon -93937-01-20 11:30 J -32589047.15 -32589047.02 -32589046.89 0.2727 0.0066

Earth -93937-01-20 12:27 J -32589047.11 -32589046.98 -32589046.85 0.2731 0.0139 *

Jupiter -93936-02-24 03:35 J -32588646.49 -32588646.35 -32588646.20 0.0506 0.0250

Jupiter -93936-05-25 02:37 J -32588556.52 -32588556.39 -32588556.25 0.0510 0.0269

Mars -93936-07-01 11:59 J -32588519.13 -32588519.00 -32588518.87 0.1608 0.0356

Venus -93934-04-24 19:11 J -32587856.75 -32587856.70 -32587856.64 0.3592 0.3238

Mars -93934-06-07 03:20 J -32587813.39 -32587813.36 -32587813.32 0.1604 0.1530

Earth -93934-07-30 02:51 J -32587760.51 -32587760.38 -32587760.26 0.2610 0.0736

Moon -93934-07-30 03:20 J -32587760.48 -32587760.36 -32587760.24 0.2615 0.0859 *

Saturn -93933-04-15 17:59 J -32587499.81 -32587499.75 -32587499.69 0.0279 0.0256

Saturn -93933-07-13 11:15 J -32587411.16 -32587411.03 -32587410.89 0.0279 0.0154

Saturn -93933-10-10 04:18 J -32587322.48 -32587322.32 -32587322.16 0.0279 0.0054

Venus -93933-11-09 06:27 J -32587292.34 -32587292.23 -32587292.12 0.3775 0.0386

Saturn -93932-01-06 20:51 J -32587233.78 -32587233.63 -32587233.47 0.0279 0.0044

Saturn -93932-04-05 13:11 J -32587145.09 -32587144.95 -32587144.81 0.0278 0.0139

Saturn -93932-07-03 04:47 J -32587056.37 -32587056.30 -32587056.21 0.0278 0.0233

Mars -93931-03-23 09:20 J -32586793.23 -32586793.11 -32586792.98 0.1920 0.0849

Jupiter -93931-07-17 02:37 J -32586677.46 -32586677.39 -32586677.32 0.0524 0.0434

Jupiter -93931-10-14 13:39 J -32586588.07 -32586587.93 -32586587.79 0.0520 0.0029

Jupiter -93930-01-12 01:39 J -32586498.46 -32586498.43 -32586498.39 0.0516 0.0497

Venus -93929-11-07 20:51 J -32585832.74 -32585832.63 -32585832.51 0.3596 0.2020

Venus -93927-05-26 01:11 J -32585268.56 -32585268.45 -32585268.35 0.3772 0.1190

Mars -93927-11-21 20:23 J -32585088.76 -32585088.65 -32585088.53 0.1610 0.0796

Mars -93925-10-27 11:30 J -32584383.13 -32584383.02 -32584382.92 0.1605 0.1066

Jupiter -93925-12-13 03:06 J -32584336.47 -32584336.37 -32584336.26 0.0505 0.0381

Moon -93924-01-22 10:03 J -32584296.18 -32584296.08 -32584295.98 0.2730 0.1650

Earth -93924-01-22 11:01 J -32584296.13 -32584296.04 -32584295.94 0.2727 0.1732 *

Jupiter -93924-03-13 02:37 J -32584246.55 -32584246.39 -32584246.23 0.0509 0.0139

Venus -93923-05-24 22:03 J -32583808.71 -32583808.58 -32583808.45 0.3598 0.0845

Mars -93922-08-13 11:01 J -32583363.09 -32583363.04 -32583362.99 0.1917 0.1764

Venus -93922-12-09 19:54 J -32583244.76 -32583244.67 -32583244.57 0.3768 0.2012

Earth -93921-08-01 00:27 J -32583009.56 -32583009.48 -32583009.40 0.2613 0.2090

Moon -93921-08-01 01:25 J -32583009.51 -32583009.44 -32583009.37 0.2616 0.2128 *

Mars -93920-07-20 02:08 J -32582656.44 -32582656.41 -32582656.37 0.1925 0.1828

Jupiter -93919-08-02 16:32 J -32582277.95 -32582277.81 -32582277.67 0.0521 0.0087

Jupiter -93919-10-31 04:18 J -32582188.41 -32582188.32 -32582188.23 0.0517 0.0381

Saturn -93918-04-25 12:42 J -32582012.07 -32582011.97 -32582011.88 0.0280 0.0214

Saturn -93918-07-23 02:51 J -32581923.51 -32581923.38 -32581923.25 0.0280 0.0125

Saturn -93918-10-19 17:15 J -32581834.93 -32581834.78 -32581834.63 0.0280 0.0034

Venus -93918-12-08 22:47 J -32581784.69 -32581784.55 -32581784.42 0.3602 0.0298

Earth -93917-01-15 21:06 J -32581746.65 -32581746.62 -32581746.59 0.2738 0.2638

Moon -93917-01-15 21:35 J -32581746.62 -32581746.60 -32581746.58 0.2731 0.2663 *

Saturn -93917-01-16 08:08 J -32581746.31 -32581746.16 -32581746.01 0.0280 0.0060

Mars -93917-04-13 05:01 J -32581658.37 -32581658.29 -32581658.20 0.1611 0.1230

Saturn -93917-04-13 23:15 J -32581657.66 -32581657.53 -32581657.40 0.0280 0.0155

Saturn -93917-07-11 14:51 J -32581568.95 -32581568.88 -32581568.82 0.0281 0.0253

Venus -93916-06-24 15:06 J -32581220.94 -32581220.87 -32581220.80 0.3765 0.2865

Mars -93915-03-19 19:25 J -32580952.81 -32580952.69 -32580952.56 0.1605 0.0607

Moon -93914-07-25 11:15 J -32580460.12 -32580460.03 -32580459.94 0.2608 0.1871

Earth -93914-07-25 11:59 J -32580460.09 -32580460.00 -32580459.90 0.2604 0.1779 *

Jupiter -93913-12-30 01:54 J -32579936.59 -32579936.42 -32579936.26 0.0508 0.0008

Venus -93912-06-23 23:01 J -32579760.67 -32579760.54 -32579760.42 0.3605 0.1350

Mars -93911-12-10 05:01 J -32579226.40 -32579226.29 -32579226.17 0.1924 0.0987

Venus -93910-01-08 10:32 J -32579197.07 -32579197.06 -32579197.05 0.3761 0.3737

Jupiter -93907-05-21 19:54 J -32577967.80 -32577967.67 -32577967.54 0.0522 0.0196

Jupiter -93907-08-19 07:11 J -32577878.31 -32577878.20 -32577878.07 0.0518 0.0271

Venus -93906-01-07 22:32 J -32577736.65 -32577736.56 -32577736.46 0.3608 0.2372

Mars -93906-08-10 03:49 J -32577522.48 -32577522.34 -32577522.21 0.1607 0.0156

Moon -93904-01-17 18:56 J -32576995.83 -32576995.71 -32576995.60 0.2728 0.1098

Earth -93904-01-17 19:25 J -32576995.81 -32576995.69 -32576995.58 0.2734 0.1113 *

Venus -93904-10-02 09:49 J -32576738.15 -32576738.09 -32576738.03 0.3788 0.3164

Saturn -93904-11-30 11:30 J -32576679.14 -32576679.02 -32576678.89 0.0279 0.0185

Saturn -93903-02-27 04:32 J -32576590.46 -32576590.31 -32576590.15 0.0278 0.0085

Saturn -93903-05-26 21:20 J -32576501.77 -32576501.61 -32576501.45 0.0278 0.0015

Saturn -93903-08-23 13:39 J -32576413.07 -32576412.93 -32576412.78 0.0278 0.0110

Saturn -93903-11-20 05:30 J -32576324.37 -32576324.27 -32576324.16 0.0278 0.0204

Uranus -93901-01-29 08:23 J -32575889.18 -32575889.15 -32575889.09 0.0137 0.0131

Uranus -93901-04-26 14:08 J -32575801.00 -32575800.91 -32575800.80 0.0137 0.0110

Mars -93901-05-01 07:39 J -32575796.32 -32575796.18 -32575796.05 0.1922 0.0132

Uranus -93901-07-23 19:39 J -32575712.79 -32575712.68 -32575712.54 0.0137 0.0090

Venus -93901-07-23 22:03 J -32575712.63 -32575712.58 -32575712.54 0.3612 0.3345 *

Moon -93901-07-27 10:03 J -32575709.21 -32575709.08 -32575708.95 0.2613 0.0319

Earth -93901-07-27 10:18 J -32575709.20 -32575709.07 -32575708.94 0.2607 0.0362 *

Jupiter -93901-10-18 01:54 J -32575626.58 -32575626.42 -32575626.26 0.0507 0.0124

Uranus -93901-10-20 01:11 J -32575624.58 -32575624.45 -32575624.29 0.0136 0.0070

Jupiter -93900-01-16 00:27 J -32575536.58 -32575536.48 -32575536.38 0.0511 0.0392

Uranus -93900-01-16 06:56 J -32575536.36 -32575536.21 -32575536.05 0.0136 0.0049

Uranus -93900-04-14 12:27 J -32575448.14 -32575447.98 -32575447.82 0.0136 0.0029

Uranus -93900-07-11 17:44 J -32575359.92 -32575359.76 -32575359.59 0.0136 0.0010

Uranus -93900-10-07 23:01 J -32575271.70 -32575271.54 -32575271.37 0.0136 0.0011

Uranus -93899-01-04 04:18 J -32575183.47 -32575183.32 -32575183.15 0.0136 0.0030

Uranus -93899-04-02 09:35 J -32575095.25 -32575095.10 -32575094.94 0.0136 0.0049

Uranus -93899-06-29 14:37 J -32575007.02 -32575006.89 -32575006.74 0.0136 0.0068

Uranus -93899-09-25 19:39 J -32574918.79 -32574918.68 -32574918.54 0.0135 0.0087

Uranus -93899-12-23 00:56 J -32574830.56 -32574830.46 -32574830.35 0.0135 0.0105

Uranus -93898-03-21 05:44 J -32574742.31 -32574742.26 -32574742.18 0.0135 0.0123

Venus -93898-04-18 03:35 J -32574714.43 -32574714.35 -32574714.26 0.3786 0.2457

Mars -93897-12-30 12:13 J -32574092.13 -32574091.99 -32574091.86 0.1608 0.0301

Jupiter -93895-03-09 22:47 J -32573657.65 -32573657.55 -32573657.43 0.0522 0.0309

Jupiter -93895-06-07 10:03 J -32573568.21 -32573568.08 -32573567.94 0.0518 0.0156

Mars -93895-12-06 03:35 J -32573386.35 -32573386.35 -32573386.34 0.1604 0.1596

Venus -93893-10-31 21:35 J -32572690.69 -32572690.60 -32572690.50 0.3783 0.1727

Mars -93892-09-21 09:35 J -32572366.22 -32572366.10 -32572365.97 0.1920 0.0772

Moon -93891-01-20 17:01 J -32572244.92 -32572244.79 -32572244.67 0.2728 0.0327

Earth -93891-01-20 17:59 J -32572244.88 -32572244.75 -32572244.63 0.2730 0.0465 *

Jupiter -93889-08-06 01:54 J -32571316.57 -32571316.42 -32571316.28 0.0507 0.0250

Saturn -93889-09-11 12:42 J -32571280.03 -32571279.97 -32571279.90 0.0280 0.0249

Jupiter -93889-11-04 00:56 J -32571226.60 -32571226.46 -32571226.32 0.0511 0.0269

Saturn -93889-12-09 02:51 J -32571191.50 -32571191.38 -32571191.26 0.0280 0.0161

Saturn -93888-03-07 17:15 J -32571102.93 -32571102.78 -32571102.64 0.0280 0.0070

Saturn -93888-06-04 07:54 J -32571014.32 -32571014.17 -32571014.02 0.0281 0.0023

Earth -93888-07-30 08:08 J -32570958.28 -32570958.16 -32570958.04 0.2610 0.1026

Moon -93888-07-30 08:51 J -32570958.25 -32570958.13 -32570958.01 0.2615 0.1029 *

Saturn -93888-08-31 22:47 J -32570925.68 -32570925.55 -32570925.41 0.0281 0.0118

Saturn -93888-11-28 14:08 J -32570837.00 -32570836.91 -32570836.81 0.0281 0.0215

Venus -93887-05-17 15:49 J -32570666.95 -32570666.84 -32570666.74 0.3780 0.0977

Mars -93887-05-22 20:37 J -32570661.76 -32570661.64 -32570661.52 0.1610 0.0737

Mars -93885-04-27 11:30 J -32569956.11 -32569956.02 -32569955.92 0.1604 0.1127

Jupiter -93884-12-27 01:54 J -32569347.50 -32569347.42 -32569347.34 0.0523 0.0422

Jupiter -93883-03-26 12:56 J -32569258.10 -32569257.96 -32569257.82 0.0519 0.0042

Jupiter -93883-06-24 00:42 J -32569168.49 -32569168.47 -32569168.44 0.0515 0.0507

Mars -93882-02-11 11:30 J -32568936.09 -32568936.02 -32568935.96 0.1917 0.1679

Venus -93882-12-01 10:03 J -32568643.19 -32568643.08 -32568642.97 0.3777 0.0221

Mars -93880-01-18 02:23 J -32568229.41 -32568229.40 -32568229.38 0.1925 0.1903

Neptune -93880-08-06 07:54 J -32568029.19 -32568029.17 -32568029.13 0.0089 0.0087

Neptune -93880-11-02 09:20 J -32567941.14 -32567941.11 -32567941.04 0.0089 0.0083

Neptune -93879-01-29 11:01 J -32567853.09 -32567853.04 -32567852.96 0.0089 0.0079

Neptune -93879-04-27 12:56 J -32567765.03 -32567764.96 -32567764.88 0.0089 0.0074

Neptune -93879-07-24 14:23 J -32567676.98 -32567676.90 -32567676.81 0.0089 0.0070

Neptune -93879-10-20 16:03 J -32567588.92 -32567588.83 -32567588.73 0.0089 0.0066

Neptune -93878-01-16 17:30 J -32567500.86 -32567500.77 -32567500.66 0.0089 0.0062

Moon -93878-01-23 15:35 J -32567493.94 -32567493.85 -32567493.76 0.2729 0.1933

Earth -93878-01-23 16:32 J -32567493.89 -32567493.81 -32567493.73 0.2726 0.2061 *

Neptune -93878-04-14 19:11 J -32567412.80 -32567412.70 -32567412.58 0.0089 0.0058

Neptune -93878-07-11 20:51 J -32567324.74 -32567324.63 -32567324.51 0.0089 0.0054

Neptune -93878-10-07 22:32 J -32567236.67 -32567236.56 -32567236.44 0.0089 0.0049

Mars -93878-10-13 05:15 J -32567231.37 -32567231.28 -32567231.18 0.1612 0.1169

Venus -93878-11-29 19:25 J -32567183.77 -32567183.69 -32567183.61 0.3593 0.2902

Neptune -93877-01-04 00:13 J -32567148.61 -32567148.49 -32567148.36 0.0089 0.0045

Neptune -93877-04-01 01:54 J -32567060.54 -32567060.42 -32567060.29 0.0089 0.0041

Jupiter -93877-05-25 01:39 J -32567006.54 -32567006.43 -32567006.32 0.0505 0.0377

Neptune -93877-06-28 03:20 J -32566972.48 -32566972.36 -32566972.22 0.0089 0.0037

Jupiter -93877-08-23 01:11 J -32566916.61 -32566916.45 -32566916.29 0.0509 0.0144

Neptune -93877-09-24 05:15 J -32566884.41 -32566884.28 -32566884.15 0.0089 0.0032

Neptune -93877-12-21 06:56 J -32566796.35 -32566796.21 -32566796.07 0.0089 0.0028

Neptune -93876-03-19 08:37 J -32566708.28 -32566708.14 -32566708.00 0.0089 0.0024

Neptune -93876-06-15 10:18 J -32566620.21 -32566620.07 -32566619.93 0.0089 0.0019

Venus -93876-06-16 04:47 J -32566619.42 -32566619.30 -32566619.19 0.3774 0.0611

Neptune -93876-09-11 11:59 J -32566532.14 -32566532.00 -32566531.86 0.0089 0.0015

Mars -93876-09-17 19:39 J -32566525.80 -32566525.68 -32566525.55 0.1605 0.0670

Neptune -93876-12-08 13:39 J -32566444.07 -32566443.93 -32566443.78 0.0089 0.0011

Neptune -93875-03-06 15:20 J -32566356.00 -32566355.86 -32566355.71 0.0089 0.0007

Neptune -93875-06-02 17:15 J -32566267.93 -32566267.78 -32566267.64 0.0089 0.0003

Earth -93875-08-02 05:44 J -32566207.31 -32566207.26 -32566207.20 0.2614 0.2377

Moon -93875-08-02 06:42 J -32566207.24 -32566207.22 -32566207.19 0.2616 0.2542 *

Neptune -93875-08-29 18:56 J -32566179.86 -32566179.71 -32566179.57 0.0089 0.0003

Neptune -93875-11-25 20:37 J -32566091.79 -32566091.64 -32566091.50 0.0089 0.0007

Neptune -93874-02-21 22:18 J -32566003.71 -32566003.57 -32566003.42 0.0089 0.0011

Saturn -93874-04-19 11:44 J -32565947.10 -32565947.01 -32565946.90 0.0279 0.0216

Neptune -93874-05-20 23:59 J -32565915.64 -32565915.50 -32565915.35 0.0089 0.0016

Saturn -93874-07-17 05:15 J -32565858.43 -32565858.28 -32565858.14 0.0279 0.0114

Neptune -93874-08-17 01:54 J -32565827.56 -32565827.42 -32565827.28 0.0089 0.0020

Saturn -93874-10-13 22:03 J -32565769.74 -32565769.58 -32565769.42 0.0279 0.0014

Neptune -93874-11-13 03:35 J -32565739.49 -32565739.35 -32565739.21 0.0089 0.0025

Saturn -93873-01-10 14:37 J -32565681.04 -32565680.89 -32565680.74 0.0279 0.0083

Neptune -93873-02-09 05:15 J -32565651.41 -32565651.28 -32565651.14 0.0089 0.0029

Saturn -93873-04-08 06:42 J -32565592.34 -32565592.22 -32565592.10 0.0278 0.0177

Neptune -93873-05-07 06:56 J -32565563.34 -32565563.21 -32565563.07 0.0089 0.0034

Saturn -93873-07-05 22:18 J -32565503.60 -32565503.57 -32565503.53 0.0278 0.0270

Neptune -93873-08-03 08:51 J -32565475.26 -32565475.13 -32565474.99 0.0089 0.0038

Neptune -93873-10-30 10:32 J -32565387.18 -32565387.06 -32565386.92 0.0089 0.0043

Neptune -93872-01-26 12:13 J -32565299.10 -32565298.99 -32565298.85 0.0089 0.0048

Neptune -93872-04-24 14:08 J -32565211.02 -32565210.91 -32565210.78 0.0089 0.0052

Venus -93872-06-14 21:06 J -32565159.74 -32565159.62 -32565159.50 0.3596 0.1698

Neptune -93872-07-21 15:49 J -32565122.94 -32565122.84 -32565122.71 0.0089 0.0057

Neptune -93872-10-17 17:59 J -32565034.85 -32565034.75 -32565034.64 0.0089 0.0061

Jupiter -93871-01-12 14:51 J -32564948.02 -32564947.88 -32564947.75 0.0521 0.0089

Neptune -93871-01-13 19:39 J -32564946.77 -32564946.68 -32564946.57 0.0089 0.0066

Moon -93871-01-16 02:37 J -32564944.46 -32564944.39 -32564944.32 0.2730 0.2241

Earth -93871-01-16 02:37 J -32564944.45 -32564944.39 -32564944.33 0.2737 0.2327 *

Neptune -93871-04-11 21:35 J -32564858.68 -32564858.60 -32564858.51 0.0089 0.0070

Jupiter -93871-04-12 02:23 J -32564858.49 -32564858.40 -32564858.30 0.0517 0.0380

Mars -93871-06-10 05:15 J -32564799.39 -32564799.28 -32564799.16 0.1924 0.1072

Neptune -93871-07-08 23:15 J -32564770.60 -32564770.53 -32564770.44 0.0089 0.0075

Neptune -93871-10-05 00:56 J -32564682.50 -32564682.46 -32564682.38 0.0089 0.0080

Venus -93871-12-30 23:30 J -32564595.63 -32564595.52 -32564595.42 0.3771 0.1406

Neptune -93870-01-01 03:06 J -32564594.41 -32564594.37 -32564594.32 0.0089 0.0084

Neptune -93870-03-30 05:01 J -32564506.29 -32564506.29 -32564506.28 0.0089 0.0089

Pluto -93869-03-01 08:08 J -32564169.22 -32564169.16 -32564169.09 0.0084 0.0073

Pluto -93869-05-28 09:06 J -32564081.20 -32564081.12 -32564081.01 0.0084 0.0061

Pluto -93869-08-24 10:32 J -32563993.16 -32563993.06 -32563992.94 0.0084 0.0048

Pluto -93869-11-20 11:44 J -32563905.12 -32563905.01 -32563904.88 0.0084 0.0035

Pluto -93868-02-16 13:11 J -32563817.07 -32563816.95 -32563816.82 0.0084 0.0022

Mars -93868-03-04 14:08 J -32563800.92 -32563800.91 -32563800.89 0.1613 0.1595

Pluto -93868-05-15 14:23 J -32563729.03 -32563728.90 -32563728.76 0.0084 0.0010

Moon -93868-07-25 16:47 J -32563657.90 -32563657.80 -32563657.69 0.2610 0.1557

Earth -93868-07-25 17:30 J -32563657.88 -32563657.77 -32563657.66 0.2604 0.1477 *

Pluto -93868-08-11 15:35 J -32563640.98 -32563640.85 -32563640.71 0.0084 0.0004

Pluto -93868-11-07 17:01 J -32563552.92 -32563552.79 -32563552.66 0.0084 0.0015

Pluto -93867-02-03 18:13 J -32563464.87 -32563464.74 -32563464.62 0.0083 0.0027

Pluto -93867-05-02 19:11 J -32563376.81 -32563376.70 -32563376.58 0.0083 0.0039

Pluto -93867-07-29 20:23 J -32563288.75 -32563288.65 -32563288.54 0.0083 0.0051

Pluto -93867-10-25 21:35 J -32563200.68 -32563200.60 -32563200.51 0.0083 0.0063

Venus -93867-12-29 22:03 J -32563135.72 -32563135.58 -32563135.45 0.3599 0.0540

Pluto -93866-01-21 22:32 J -32563112.60 -32563112.56 -32563112.49 0.0083 0.0075

Mars -93866-02-08 04:03 J -32563095.47 -32563095.33 -32563095.20 0.1607 0.0217

Jupiter -93865-06-11 00:56 J -32562606.63 -32562606.46 -32562606.30 0.0508 0.0014

Venus -93865-07-15 18:27 J -32562571.82 -32562571.73 -32562571.64 0.3767 0.2239

Mars -93862-10-31 07:54 J -32561369.30 -32561369.17 -32561369.03 0.1922 0.0218

Venus -93861-07-14 22:32 J -32561111.69 -32561111.56 -32561111.43 0.3603 0.0566

Jupiter -93860-10-31 17:44 J -32560637.89 -32560637.76 -32560637.64 0.0522 0.0204

Jupiter -93859-01-29 05:15 J -32560548.41 -32560548.28 -32560548.16 0.0518 0.0263

Venus -93859-01-29 13:39 J -32560548.00 -32560547.93 -32560547.87 0.3764 0.3096

Saturn -93859-01-29 16:18 J -32560547.87 -32560547.82 -32560547.77 0.0279 0.0262 *

Saturn -93859-04-28 06:13 J -32560459.35 -32560459.24 -32560459.13 0.0280 0.0174

Saturn -93859-07-25 20:37 J -32560370.79 -32560370.64 -32560370.50 0.0280 0.0084

Saturn -93859-10-22 11:15 J -32560282.18 -32560282.03 -32560281.88 0.0280 0.0012

Moon -93858-01-19 00:13 J -32560193.61 -32560193.49 -32560193.37 0.2727 0.0934

Earth -93858-01-19 00:56 J -32560193.59 -32560193.46 -32560193.34 0.2733 0.0803 *

Saturn -93858-01-19 02:08 J -32560193.55 -32560193.41 -32560193.27 0.0280 0.0103 *

Saturn -93858-04-17 17:15 J -32560104.88 -32560104.78 -32560104.67 0.0280 0.0199

Mars -93857-06-30 12:27 J -32559665.12 -32559664.98 -32559664.85 0.1608 0.0235

Uranus -93857-09-22 07:54 J -32559581.19 -32559581.17 -32559581.12 0.0142 0.0136

Uranus -93857-12-19 12:27 J -32559493.05 -32559492.98 -32559492.89 0.0142 0.0117

Uranus -93856-03-17 17:01 J -32559404.89 -32559404.79 -32559404.68 0.0142 0.0098

Uranus -93856-06-13 21:35 J -32559316.72 -32559316.60 -32559316.48 0.0142 0.0078

Uranus -93856-09-10 01:54 J -32559228.54 -32559228.42 -32559228.28 0.0142 0.0060

Uranus -93856-12-07 06:42 J -32559140.36 -32559140.22 -32559140.08 0.0142 0.0039

Venus -93855-01-28 22:47 J -32559087.67 -32559087.55 -32559087.44 0.3606 0.1628

Uranus -93855-03-05 11:15 J -32559052.18 -32559052.03 -32559051.88 0.0142 0.0020

Uranus -93855-06-01 16:03 J -32558963.98 -32558963.83 -32558963.68 0.0143 0.0003

Earth -93855-07-28 15:35 J -32558906.98 -32558906.85 -32558906.72 0.2607 0.0083

Moon -93855-07-28 15:49 J -32558906.97 -32558906.84 -32558906.72 0.2613 0.0134 *

Uranus -93855-08-28 20:37 J -32558875.79 -32558875.64 -32558875.49 0.0143 0.0021

Uranus -93855-11-25 01:25 J -32558787.58 -32558787.44 -32558787.30 0.0143 0.0041

Uranus -93854-02-21 06:13 J -32558699.37 -32558699.24 -32558699.10 0.0143 0.0062

Uranus -93854-05-20 11:01 J -32558611.16 -32558611.04 -32558610.91 0.0143 0.0083

Uranus -93854-08-16 15:49 J -32558522.94 -32558522.84 -32558522.73 0.0143 0.0105

Uranus -93854-11-12 20:51 J -32558434.70 -32558434.63 -32558434.56 0.0143 0.0126

Jupiter -93853-03-29 23:44 J -32558296.66 -32558296.51 -32558296.34 0.0507 0.0125

Jupiter -93853-06-27 22:32 J -32558206.66 -32558206.56 -32558206.46 0.0511 0.0390

Venus -93853-10-23 14:08 J -32558088.93 -32558088.91 -32558088.88 0.3789 0.3662

Mars -93852-03-22 10:03 J -32557939.21 -32557939.08 -32557938.95 0.1920 0.0681

Venus -93850-08-14 22:18 J -32557063.66 -32557063.57 -32557063.48 0.3609 0.2632

Jupiter -93848-08-19 20:51 J -32556327.73 -32556327.63 -32556327.51 0.0523 0.0313

Jupiter -93848-11-17 08:08 J -32556238.29 -32556238.16 -32556238.02 0.0519 0.0153

Mars -93848-11-20 20:51 J -32556234.75 -32556234.63 -32556234.51 0.1609 0.0674

Venus -93847-05-09 07:54 J -32556065.24 -32556065.17 -32556065.10 0.3787 0.2970

Mars -93846-10-27 11:59 J -32555529.09 -32555529.00 -32555528.91 0.1604 0.1197

Moon -93845-01-21 22:18 J -32555442.70 -32555442.57 -32555442.45 0.2729 0.0724

Earth -93845-01-21 23:15 J -32555442.65 -32555442.53 -32555442.41 0.2730 0.0774 *

Saturn -93845-09-05 12:27 J -32555215.05 -32555214.98 -32555214.89 0.0279 0.0244

Saturn -93845-12-03 05:59 J -32555126.39 -32555126.25 -32555126.11 0.0279 0.0142

Venus -93844-02-27 21:35 J -32555039.61 -32555039.60 -32555039.59 0.3613 0.3593

Saturn -93844-03-01 23:01 J -32555037.70 -32555037.54 -32555037.38 0.0279 0.0042

Saturn -93844-05-29 15:35 J -32554949.01 -32554948.85 -32554948.70 0.0278 0.0056

Saturn -93844-08-26 07:39 J -32554860.31 -32554860.18 -32554860.04 0.0278 0.0151

Saturn -93844-11-22 23:30 J -32554771.59 -32554771.52 -32554771.44 0.0278 0.0244

Mars -93843-08-12 11:59 J -32554509.08 -32554509.00 -32554508.93 0.1917 0.1589

Earth -93842-07-31 13:25 J -32554156.05 -32554155.94 -32554155.82 0.2611 0.1320

Moon -93842-07-31 14:23 J -32554156.01 -32554155.90 -32554155.80 0.2616 0.1467 *

Venus -93842-11-23 01:39 J -32554041.51 -32554041.43 -32554041.34 0.3785 0.2261

Jupiter -93841-01-16 23:30 J -32553986.66 -32553986.52 -32553986.37 0.0506 0.0254

Jupiter -93841-04-15 22:47 J -32553896.69 -32553896.55 -32553896.41 0.0510 0.0265

Mars -93838-04-13 05:30 J -32552804.37 -32552804.27 -32552804.17 0.1611 0.1112

Mars -93836-03-18 19:54 J -32552098.79 -32552098.67 -32552098.55 0.1605 0.0732

Venus -93836-06-07 19:54 J -32552017.77 -32552017.67 -32552017.58 0.3782 0.1530

Jupiter -93836-06-08 00:13 J -32552017.57 -32552017.49 -32552017.41 0.0524 0.0423

Jupiter -93836-09-05 11:15 J -32551928.17 -32551928.03 -32551927.89 0.0520 0.0040

Jupiter -93836-12-03 23:15 J -32551838.56 -32551838.53 -32551838.51 0.0516 0.0507

Moon -93832-01-23 21:06 J -32550691.69 -32550691.62 -32550691.55 0.2729 0.2285

Earth -93832-01-23 22:03 J -32550691.64 -32550691.58 -32550691.52 0.2726 0.2387 *

Mars -93832-12-09 05:44 J -32550372.37 -32550372.26 -32550372.15 0.1924 0.1153

Venus -93831-12-22 13:54 J -32549994.02 -32549993.92 -32549993.81 0.3779 0.0779

Saturn -93830-09-15 06:27 J -32549727.32 -32549727.23 -32549727.13 0.0280 0.0208

Jupiter -93830-11-04 23:30 J -32549676.63 -32549676.52 -32549676.41 0.0506 0.0380

Saturn -93830-12-12 20:37 J -32549638.77 -32549638.64 -32549638.50 0.0280 0.0119

Jupiter -93829-02-02 23:01 J -32549586.69 -32549586.54 -32549586.38 0.0509 0.0141

Saturn -93829-03-10 11:15 J -32549550.18 -32549550.03 -32549549.88 0.0280 0.0027

Saturn -93829-06-07 01:54 J -32549461.56 -32549461.42 -32549461.27 0.0281 0.0068

Mars -93829-09-02 14:23 J -32549373.94 -32549373.90 -32549373.87 0.1613 0.1539

Saturn -93829-09-03 17:01 J -32549372.91 -32549372.79 -32549372.66 0.0281 0.0163

Saturn -93829-12-01 08:37 J -32549284.19 -32549284.14 -32549284.08 0.0281 0.0260

Mars -93827-08-09 04:03 J -32548668.46 -32548668.33 -32548668.19 0.1606 0.0278

Moon -93825-01-17 07:54 J -32548142.25 -32548142.17 -32548142.09 0.2729 0.2086

Earth -93825-01-17 07:54 J -32548142.25 -32548142.17 -32548142.08 0.2737 0.2020 *

Venus -93825-07-07 08:23 J -32547970.26 -32547970.15 -32547970.04 0.3776 0.0008

Jupiter -93824-06-24 13:54 J -32547618.05 -32547617.92 -32547617.78 0.0521 0.0079

Jupiter -93824-09-22 01:39 J -32547528.52 -32547528.43 -32547528.34 0.0517 0.0389

Mars -93822-05-01 08:08 J -32546942.30 -32546942.16 -32546942.03 0.1922 0.0286

Moon -93822-07-26 22:18 J -32546855.68 -32546855.57 -32546855.45 0.2610 0.1216

Earth -93822-07-26 23:01 J -32546855.66 -32546855.54 -32546855.42 0.2605 0.1171 *

Venus -93821-07-05 19:39 J -32546510.77 -32546510.68 -32546510.58 0.3594 0.2568

Venus -93819-01-21 03:06 J -32545946.48 -32545946.37 -32545946.27 0.3773 0.0822

Jupiter -93818-11-21 23:15 J -32545276.69 -32545276.53 -32545276.37 0.0508 0.0016

Mars -93818-12-30 12:42 J -32545238.11 -32545237.97 -32545237.84 0.1608 0.0175

Uranus -93817-02-18 15:06 J -32545187.92 -32545187.87 -32545187.81 0.0137 0.0128

Uranus -93817-05-16 20:37 J -32545099.73 -32545099.64 -32545099.53 0.0137 0.0108

Uranus -93817-08-13 02:23 J -32545011.52 -32545011.40 -32545011.27 0.0137 0.0087

Uranus -93817-11-09 07:54 J -32544923.31 -32544923.17 -32544923.02 0.0136 0.0067

Uranus -93816-02-05 13:25 J -32544835.09 -32544834.94 -32544834.78 0.0136 0.0047

Uranus -93816-05-04 18:56 J -32544746.87 -32544746.71 -32544746.54 0.0136 0.0027

Uranus -93816-08-01 00:27 J -32544658.65 -32544658.48 -32544658.32 0.0136 0.0007

Uranus -93816-10-28 05:44 J -32544570.43 -32544570.26 -32544570.10 0.0136 0.0013

Venus -93815-01-19 21:06 J -32544486.75 -32544486.62 -32544486.49 0.3597 0.1375

Saturn -93815-01-23 12:42 J -32544482.99 -32544482.97 -32544482.95 0.0279 0.0276

Uranus -93815-01-24 11:01 J -32544482.20 -32544482.04 -32544481.88 0.0136 0.0032

Saturn -93815-04-22 06:13 J -32544394.36 -32544394.24 -32544394.11 0.0279 0.0173

Uranus -93815-04-22 16:18 J -32544393.97 -32544393.82 -32544393.67 0.0136 0.0051

Uranus -93815-07-19 21:20 J -32544305.75 -32544305.61 -32544305.47 0.0136 0.0070

Saturn -93815-07-19 23:15 J -32544305.68 -32544305.53 -32544305.37 0.0279 0.0072 *

Uranus -93815-10-16 02:23 J -32544217.52 -32544217.40 -32544217.27 0.0135 0.0089

Saturn -93815-10-16 16:03 J -32544216.99 -32544216.83 -32544216.67 0.0279 0.0028

Uranus -93814-01-12 07:39 J -32544129.28 -32544129.18 -32544129.08 0.0135 0.0107

Saturn -93814-01-13 08:23 J -32544128.29 -32544128.15 -32544128.00 0.0279 0.0124

Uranus -93814-04-10 12:27 J -32544041.03 -32544040.98 -32544040.91 0.0135 0.0125

Saturn -93814-04-12 00:27 J -32544039.57 -32544039.48 -32544039.38 0.0278 0.0217

Venus -93814-08-06 21:49 J -32543922.69 -32543922.59 -32543922.49 0.3770 0.1623

Mars -93813-09-20 10:32 J -32543512.19 -32543512.06 -32543511.92 0.1920 0.0587

Moon -93812-01-19 05:30 J -32543391.39 -32543391.27 -32543391.14 0.2728 0.0479

Earth -93812-01-19 06:13 J -32543391.36 -32543391.24 -32543391.11 0.2733 0.0482 *

Jupiter -93812-04-12 15:49 J -32543307.96 -32543307.84 -32543307.71 0.0522 0.0206

Jupiter -93812-07-11 03:20 J -32543218.48 -32543218.36 -32543218.24 0.0518 0.0261

Venus -93810-08-05 22:03 J -32542462.72 -32542462.58 -32542462.45 0.3600 0.0268

Earth -93809-07-28 21:06 J -32542104.75 -32542104.62 -32542104.49 0.2608 0.0235

Moon -93809-07-28 21:20 J -32542104.74 -32542104.61 -32542104.48 0.2614 0.0273 *

Venus -93808-02-19 16:47 J -32541898.88 -32541898.80 -32541898.71 0.3766 0.2463

Mars -93808-05-21 21:06 J -32541807.74 -32541807.62 -32541807.49 0.1609 0.0613

Mars -93806-04-27 12:13 J -32541102.08 -32541101.99 -32541101.91 0.1604 0.1261

Jupiter -93806-09-09 22:47 J -32540966.71 -32540966.55 -32540966.38 0.0507 0.0116

Jupiter -93806-12-08 21:20 J -32540876.70 -32540876.61 -32540876.50 0.0511 0.0399

Venus -93804-02-18 22:18 J -32540438.70 -32540438.57 -32540438.44 0.3604 0.0861

Mars -93803-02-10 12:13 J -32540082.07 -32540081.99 -32540081.91 0.1917 0.1505

Venus -93803-09-05 11:59 J -32539875.05 -32539875.00 -32539874.95 0.3763 0.3324

Jupiter -93800-01-29 18:42 J -32538997.82 -32538997.72 -32538997.61 0.0523 0.0321

Saturn -93800-02-01 10:03 J -32538995.17 -32538995.08 -32538994.99 0.0280 0.0221

Jupiter -93800-04-29 05:59 J -32538908.38 -32538908.25 -32538908.11 0.0519 0.0143

Saturn -93800-05-01 00:13 J -32538906.62 -32538906.49 -32538906.36 0.0280 0.0132

Saturn -93800-07-28 14:37 J -32538818.04 -32538817.89 -32538817.74 0.0280 0.0041

Saturn -93800-10-25 05:15 J -32538729.42 -32538729.28 -32538729.13 0.0280 0.0053

Saturn -93799-01-21 20:23 J -32538640.78 -32538640.65 -32538640.52 0.0280 0.0148

Moon -93799-01-22 03:35 J -32538640.47 -32538640.35 -32538640.23 0.2729 0.0907

Earth -93799-01-22 04:47 J -32538640.42 -32538640.30 -32538640.18 0.2729 0.1100 *

Saturn -93799-04-20 11:44 J -32538552.08 -32538552.01 -32538551.93 0.0280 0.0246

Venus -93799-09-04 22:18 J -32538414.68 -32538414.57 -32538414.46 0.3607 0.1896

Mars -93799-10-12 05:44 J -32538377.36 -32538377.26 -32538377.16 0.1611 0.1049

Neptune -93797-08-05 01:11 J -32537714.50 -32537714.45 -32537714.40 0.0089 0.0084

Mars -93797-09-16 20:08 J -32537671.78 -32537671.66 -32537671.54 0.1605 0.0799

Neptune -93797-11-01 03:49 J -32537626.41 -32537626.34 -32537626.25 0.0089 0.0079

Neptune -93796-01-28 06:27 J -32537538.30 -32537538.23 -32537538.11 0.0089 0.0074

Neptune -93796-04-26 09:49 J -32537450.20 -32537450.09 -32537449.97 0.0089 0.0068

Venus -93796-05-30 12:13 J -32537416.03 -32537415.99 -32537415.95 0.3789 0.3469

Neptune -93796-07-23 12:27 J -32537362.09 -32537361.98 -32537361.84 0.0089 0.0063

Earth -93796-07-31 18:56 J -32537353.81 -32537353.71 -32537353.61 0.2611 0.1605

Moon -93796-07-31 19:39 J -32537353.78 -32537353.68 -32537353.58 0.2616 0.1630 *

Neptune -93796-10-19 15:35 J -32537273.98 -32537273.85 -32537273.71 0.0089 0.0057

Neptune -93795-01-15 18:27 J -32537185.86 -32537185.73 -32537185.58 0.0089 0.0052

Neptune -93795-04-13 21:20 J -32537097.75 -32537097.61 -32537097.45 0.0089 0.0046

Neptune -93795-07-11 00:13 J -32537009.64 -32537009.49 -32537009.32 0.0088 0.0041

Neptune -93795-10-07 03:06 J -32536921.52 -32536921.37 -32536921.20 0.0088 0.0036

Neptune -93794-01-03 06:13 J -32536833.41 -32536833.24 -32536833.08 0.0088 0.0030

Neptune -93794-04-01 08:51 J -32536745.29 -32536745.13 -32536744.96 0.0088 0.0025

Neptune -93794-06-28 11:44 J -32536657.18 -32536657.01 -32536656.84 0.0088 0.0019

Jupiter -93794-06-28 21:35 J -32536656.74 -32536656.60 -32536656.46 0.0506 0.0255

Neptune -93794-09-24 14:23 J -32536569.06 -32536568.90 -32536568.72 0.0088 0.0015

Jupiter -93794-09-26 20:37 J -32536566.77 -32536566.64 -32536566.50 0.0510 0.0263

Neptune -93794-12-21 17:30 J -32536480.95 -32536480.77 -32536480.60 0.0088 0.0009

Neptune -93793-03-18 20:08 J -32536392.83 -32536392.66 -32536392.48 0.0088 0.0004

Venus -93793-03-20 21:49 J -32536390.67 -32536390.59 -32536390.51 0.3611 0.2887

Neptune -93793-06-14 23:01 J -32536304.72 -32536304.54 -32536304.37 0.0088 0.0002

Neptune -93793-09-11 01:39 J -32536216.60 -32536216.43 -32536216.25 0.0088 0.0007

Neptune -93793-12-08 04:18 J -32536128.48 -32536128.32 -32536128.14 0.0088 0.0013

Neptune -93792-03-06 07:11 J -32536040.37 -32536040.20 -32536040.03 0.0088 0.0017

Neptune -93792-06-02 09:49 J -32535952.25 -32535952.09 -32535951.92 0.0088 0.0023

Mars -93792-06-09 05:59 J -32535945.36 -32535945.25 -32535945.15 0.1924 0.1234

Neptune -93792-08-29 12:27 J -32535864.14 -32535863.98 -32535863.81 0.0088 0.0028

Neptune -93792-11-25 15:20 J -32535776.02 -32535775.86 -32535775.70 0.0088 0.0033

Neptune -93791-02-21 17:59 J -32535687.90 -32535687.75 -32535687.59 0.0088 0.0038

Neptune -93791-05-20 20:37 J -32535599.79 -32535599.64 -32535599.49 0.0088 0.0043

Neptune -93791-08-16 23:01 J -32535511.67 -32535511.54 -32535511.38 0.0088 0.0048

Neptune -93791-11-13 01:39 J -32535423.55 -32535423.43 -32535423.28 0.0088 0.0053

Venus -93791-12-14 05:59 J -32535392.32 -32535392.25 -32535392.18 0.3786 0.2775

Neptune -93790-02-09 04:18 J -32535335.43 -32535335.32 -32535335.18 0.0088 0.0058

Neptune -93790-05-08 07:11 J -32535247.32 -32535247.20 -32535247.08 0.0088 0.0063

Neptune -93790-08-04 09:49 J -32535159.20 -32535159.09 -32535158.98 0.0088 0.0068

Neptune -93790-10-31 12:13 J -32535071.08 -32535070.99 -32535070.89 0.0088 0.0073

Neptune -93789-01-27 14:51 J -32534982.95 -32534982.88 -32534982.79 0.0088 0.0078

Mars -93789-03-03 14:23 J -32534946.95 -32534946.90 -32534946.85 0.1613 0.1483

Neptune -93789-04-24 17:15 J -32534894.82 -32534894.78 -32534894.71 0.0088 0.0083

Neptune -93789-07-21 19:39 J -32534806.68 -32534806.68 -32534806.64 0.0088 0.0088

Moon -93789-07-24 05:15 J -32534804.34 -32534804.28 -32534804.23 0.2605 0.2326

Earth -93789-07-24 06:13 J -32534804.30 -32534804.24 -32534804.18 0.2602 0.2305 *

Jupiter -93789-11-17 22:03 J -32534687.65 -32534687.58 -32534687.50 0.0524 0.0430

Jupiter -93788-02-15 09:06 J -32534598.26 -32534598.12 -32534597.98 0.0520 0.0034

Jupiter -93788-05-15 21:06 J -32534508.65 -32534508.62 -32534508.59 0.0516 0.0502

Mars -93787-02-07 04:32 J -32534241.45 -32534241.31 -32534241.18 0.1606 0.0344

Moon -93786-01-25 02:37 J -32533889.41 -32533889.39 -32533889.36 0.2730 0.2669

Earth -93786-01-25 03:35 J -32533889.36 -32533889.35 -32533889.35 0.2725 0.2712 *

Saturn -93786-09-09 07:39 J -32533662.29 -32533662.18 -32533662.06 0.0279 0.0197

Saturn -93786-12-07 00:56 J -32533573.61 -32533573.46 -32533573.31 0.0279 0.0096

Saturn -93785-03-04 17:44 J -32533484.92 -32533484.76 -32533484.60 0.0279 0.0004

Saturn -93785-06-01 10:03 J -32533396.22 -32533396.08 -32533395.93 0.0278 0.0101

Venus -93785-06-28 23:59 J -32533368.60 -32533368.50 -32533368.41 0.3784 0.2061

Saturn -93785-08-29 02:08 J -32533307.52 -32533307.41 -32533307.30 0.0278 0.0195

Mars -93783-10-30 08:37 J -32532515.27 -32532515.14 -32532515.00 0.1922 0.0384

Jupiter -93782-04-16 21:06 J -32532346.72 -32532346.62 -32532346.51 0.0505 0.0385

Jupiter -93782-07-15 20:51 J -32532256.79 -32532256.63 -32532256.48 0.0509 0.0137

Venus -93779-01-12 17:59 J -32531344.85 -32531344.75 -32531344.65 0.3781 0.1319

Moon -93779-01-17 13:11 J -32531340.05 -32531339.95 -32531339.85 0.2729 0.1671

Earth -93779-01-17 13:25 J -32531340.04 -32531339.94 -32531339.85 0.2736 0.1714 *

Mars -93778-06-30 12:42 J -32530811.10 -32530810.97 -32530810.83 0.1608 0.0116

Jupiter -93777-12-04 12:13 J -32530288.13 -32530287.99 -32530287.85 0.0521 0.0080

Jupiter -93776-03-03 23:59 J -32530198.60 -32530198.50 -32530198.41 0.0517 0.0387

Moon -93776-07-27 04:03 J -32530053.45 -32530053.33 -32530053.21 0.2611 0.0957

Earth -93776-07-27 04:32 J -32530053.44 -32530053.31 -32530053.19 0.2605 0.0874 *

Venus -93774-07-29 12:13 J -32529321.10 -32529320.99 -32529320.88 0.3778 0.0560

Mars -93773-03-21 10:47 J -32529085.19 -32529085.05 -32529084.92 0.1920 0.0518

Uranus -93773-10-12 14:51 J -32528879.92 -32528879.88 -32528879.83 0.0142 0.0133

Uranus -93772-01-08 19:25 J -32528791.77 -32528791.69 -32528791.60 0.0142 0.0114

Uranus -93772-04-06 23:44 J -32528703.61 -32528703.51 -32528703.40 0.0142 0.0095

Uranus -93772-07-04 04:18 J -32528615.44 -32528615.32 -32528615.19 0.0142 0.0076

Uranus -93772-09-30 08:51 J -32528527.26 -32528527.13 -32528526.99 0.0142 0.0056

Uranus -93772-12-27 13:25 J -32528439.08 -32528438.94 -32528438.80 0.0142 0.0037

Uranus -93771-03-25 17:59 J -32528350.89 -32528350.75 -32528350.60 0.0142 0.0017

Saturn -93771-06-21 10:32 J -32528263.11 -32528263.06 -32528263.00 0.0280 0.0253

Uranus -93771-06-21 22:47 J -32528262.70 -32528262.55 -32528262.40 0.0143 0.0004

Saturn -93771-09-18 00:42 J -32528174.59 -32528174.47 -32528174.35 0.0280 0.0165

Uranus -93771-09-18 03:20 J -32528174.50 -32528174.36 -32528174.21 0.0143 0.0024 *

Uranus -93771-12-15 08:08 J -32528086.30 -32528086.16 -32528086.02 0.0143 0.0044

Saturn -93771-12-15 14:51 J -32528086.02 -32528085.88 -32528085.73 0.0280 0.0075 *

Uranus -93770-03-13 12:56 J -32527998.09 -32527997.96 -32527997.82 0.0143 0.0065

Saturn -93770-03-14 05:30 J -32527997.42 -32527997.27 -32527997.12 0.0280 0.0019

Jupiter -93770-05-03 20:51 J -32527946.79 -32527946.63 -32527946.47 0.0508 0.0010

Uranus -93770-06-09 17:30 J -32527909.88 -32527909.77 -32527909.64 0.0143 0.0087

Saturn -93770-06-10 20:23 J -32527908.78 -32527908.65 -32527908.51 0.0281 0.0113

Venus -93770-07-27 18:13 J -32527861.78 -32527861.74 -32527861.71 0.3592 0.3459

Uranus -93770-09-05 22:32 J -32527821.65 -32527821.56 -32527821.45 0.0143 0.0107

Saturn -93770-09-07 11:44 J -32527820.11 -32527820.01 -32527819.91 0.0281 0.0210

Uranus -93770-12-03 03:20 J -32527733.41 -32527733.36 -32527733.28 0.0143 0.0129

Mars -93769-11-19 21:20 J -32527380.74 -32527380.61 -32527380.48 0.1609 0.0552

Venus -93768-02-11 06:42 J -32527297.33 -32527297.22 -32527297.11 0.3775 0.0237

Mars -93767-10-26 12:27 J -32526675.06 -32526674.98 -32526674.91 0.1604 0.1325

Moon -93766-01-20 10:47 J -32526589.18 -32526589.05 -32526588.92 0.2729 0.0329

Earth -93766-01-20 11:44 J -32526589.14 -32526589.01 -32526588.89 0.2732 0.0174 *

Jupiter -93765-09-22 15:06 J -32525978.00 -32525977.87 -32525977.74 0.0522 0.0196

Jupiter -93765-12-21 02:23 J -32525888.52 -32525888.40 -32525888.28 0.0518 0.0270

Venus -93764-02-09 19:54 J -32525837.78 -32525837.67 -32525837.56 0.3595 0.2237

Mars -93764-08-11 12:42 J -32525655.07 -32525654.97 -32525654.88 0.1918 0.1420

Earth -93763-07-30 02:23 J -32525302.52 -32525302.40 -32525302.27 0.2608 0.0537

Moon -93763-07-30 02:51 J -32525302.50 -32525302.38 -32525302.25 0.2615 0.0588 *

Venus -93763-08-28 01:11 J -32525273.55 -32525273.45 -32525273.34 0.3772 0.1035

Mars -93759-04-12 05:59 J -32523950.36 -32523950.25 -32523950.15 0.1611 0.0992

Venus -93759-08-26 21:06 J -32523813.75 -32523813.62 -32523813.49 0.3598 0.1064

Jupiter -93758-02-19 21:06 J -32523636.78 -32523636.62 -32523636.46 0.0507 0.0115

Jupiter -93758-05-20 19:39 J -32523546.77 -32523546.68 -32523546.58 0.0511 0.0399

Venus -93757-03-12 20:08 J -32523249.76 -32523249.66 -32523249.56 0.3769 0.1844

Mars -93757-03-17 20:23 J -32523244.76 -32523244.65 -32523244.53 0.1605 0.0862

Saturn -93756-01-26 07:39 J -32522930.27 -32522930.18 -32522930.09 0.0279 0.0230

Saturn -93756-04-25 00:56 J -32522841.60 -32522841.46 -32522841.31 0.0279 0.0127

Saturn -93756-07-22 17:59 J -32522752.91 -32522752.75 -32522752.59 0.0279 0.0027

Saturn -93756-10-19 10:32 J -32522664.21 -32522664.06 -32522663.90 0.0279 0.0071

Saturn -93755-01-16 02:37 J -32522575.51 -32522575.39 -32522575.26 0.0278 0.0167

Saturn -93755-04-14 18:27 J -32522486.77 -32522486.73 -32522486.67 0.0278 0.0260

Moon -93753-01-23 09:06 J -32521838.23 -32521838.12 -32521838.01 0.2729 0.1384

Earth -93753-01-23 10:18 J -32521838.18 -32521838.07 -32521837.97 0.2729 0.1424 *

Venus -93753-03-11 21:49 J -32521789.72 -32521789.59 -32521789.45 0.3601 0.0066

Jupiter -93753-07-11 17:01 J -32521667.89 -32521667.79 -32521667.68 0.0523 0.0322

Jupiter -93753-10-09 04:18 J -32521578.46 -32521578.32 -32521578.19 0.0519 0.0142

Mars -93753-12-08 06:27 J -32521518.33 -32521518.23 -32521518.14 0.1924 0.1328

Venus -93752-09-26 15:06 J -32521225.94 -32521225.87 -32521225.79 0.3765 0.2688

Earth -93750-08-02 00:13 J -32520551.57 -32520551.49 -32520551.40 0.2612 0.1898

Moon -93750-08-02 01:11 J -32520551.53 -32520551.45 -32520551.37 0.2614 0.2018 *

Mars -93750-09-02 14:37 J -32520519.95 -32520519.89 -32520519.82 0.1613 0.1421

Mars -93748-08-08 04:47 J -32519814.44 -32519814.30 -32519814.17 0.1606 0.0408

Venus -93748-09-25 22:03 J -32519765.70 -32519765.58 -32519765.45 0.3605 0.1144

Jupiter -93747-12-08 20:23 J -32519326.79 -32519326.65 -32519326.50 0.0506 0.0247

Jupiter -93746-03-08 19:39 J -32519236.82 -32519236.68 -32519236.54 0.0510 0.0271

Venus -93746-04-12 10:32 J -32519202.09 -32519202.06 -32519202.02 0.3762 0.3553

Mars -93743-04-30 08:51 J -32518088.26 -32518088.13 -32518088.00 0.1922 0.0463

Moon -93743-07-25 10:47 J -32518002.12 -32518002.05 -32518001.98 0.2606 0.2177

Earth -93743-07-25 11:44 J -32518002.10 -32518002.01 -32518001.93 0.2602 0.1998 *

Venus -93742-04-11 21:49 J -32517741.69 -32517741.59 -32517741.48 0.3608 0.2157

Saturn -93742-11-08 14:08 J -32517530.95 -32517530.91 -32517530.87 0.0280 0.0266

Saturn -93741-02-05 04:03 J -32517442.44 -32517442.33 -32517442.21 0.0280 0.0178

Jupiter -93741-04-29 19:54 J -32517357.74 -32517357.67 -32517357.60 0.0524 0.0438

Saturn -93741-05-03 18:27 J -32517353.87 -32517353.73 -32517353.59 0.0280 0.0088

Jupiter -93741-07-28 06:56 J -32517268.35 -32517268.21 -32517268.07 0.0520 0.0026

Saturn -93741-07-31 09:06 J -32517265.27 -32517265.12 -32517264.97 0.0280 0.0009

Jupiter -93741-10-25 18:42 J -32517178.75 -32517178.72 -32517178.67 0.0516 0.0492

Saturn -93741-10-27 23:59 J -32517176.64 -32517176.50 -32517176.36 0.0280 0.0100

Saturn -93740-01-24 14:51 J -32517087.98 -32517087.88 -32517087.76 0.0280 0.0197

Venus -93739-01-04 10:18 J -32516743.12 -32516743.07 -32516743.02 0.3788 0.3278

Mars -93739-12-29 13:11 J -32516384.09 -32516383.95 -32516383.82 0.1607 0.0066

Venus -93737-10-25 21:20 J -32515717.67 -32515717.61 -32515717.55 0.3612 0.3140

Jupiter -93735-09-26 18:56 J -32515016.81 -32515016.71 -32515016.60 0.0505 0.0387

Jupiter -93735-12-25 18:27 J -32514926.88 -32514926.73 -32514926.57 0.0509 0.0134

Venus -93734-07-21 04:03 J -32514719.41 -32514719.33 -32514719.25 0.3786 0.2578

Mars -93734-09-20 11:15 J -32514658.17 -32514658.03 -32514657.90 0.1920 0.0422

Moon -93733-01-18 18:27 J -32514537.83 -32514537.73 -32514537.62 0.2729 0.1461

Earth -93733-01-18 18:42 J -32514537.82 -32514537.72 -32514537.61 0.2736 0.1401 *

Uranus -93733-03-09 21:35 J -32514486.65 -32514486.60 -32514486.52 0.0137 0.0126

Uranus -93733-06-06 03:20 J -32514398.46 -32514398.36 -32514398.24 0.0137 0.0105

Uranus -93733-09-02 08:51 J -32514310.25 -32514310.13 -32514309.99 0.0137 0.0085

Uranus -93733-11-29 14:23 J -32514222.03 -32514221.90 -32514221.74 0.0136 0.0065

Uranus -93732-02-25 20:08 J -32514133.82 -32514133.66 -32514133.50 0.0136 0.0044

Uranus -93732-05-25 01:39 J -32514045.60 -32514045.43 -32514045.27 0.0136 0.0024

Uranus -93732-08-21 06:56 J -32513957.37 -32513957.21 -32513957.04 0.0136 0.0005

Uranus -93732-11-17 12:27 J -32513869.15 -32513868.98 -32513868.82 0.0136 0.0015

Uranus -93731-02-13 17:30 J -32513780.92 -32513780.77 -32513780.60 0.0136 0.0035

Uranus -93731-05-12 22:47 J -32513692.70 -32513692.55 -32513692.40 0.0136 0.0054

Uranus -93731-08-09 03:49 J -32513604.47 -32513604.34 -32513604.19 0.0136 0.0073

Uranus -93731-11-05 09:06 J -32513516.24 -32513516.12 -32513516.00 0.0135 0.0091

Uranus -93730-02-01 14:08 J -32513428.00 -32513427.91 -32513427.81 0.0135 0.0109

Uranus -93730-04-30 19:11 J -32513339.75 -32513339.70 -32513339.65 0.0135 0.0127

Moon -93730-07-28 09:49 J -32513251.22 -32513251.09 -32513250.97 0.2611 0.0538

Earth -93730-07-28 09:49 J -32513251.22 -32513251.09 -32513250.96 0.2605 0.0572 *

Jupiter -93729-05-16 10:03 J -32512958.22 -32512958.08 -32512957.94 0.0521 0.0087

Mars -93729-05-20 21:20 J -32512953.73 -32512953.61 -32512953.48 0.1609 0.0496

Jupiter -93729-08-13 21:49 J -32512868.69 -32512868.59 -32512868.50 0.0517 0.0381

Venus -93728-02-02 22:03 J -32512695.68 -32512695.58 -32512695.49 0.3783 0.1856

Mars -93727-04-26 12:42 J -32512248.04 -32512247.97 -32512247.91 0.1604 0.1391

Saturn -93727-06-15 09:35 J -32512198.16 -32512198.10 -32512198.03 0.0279 0.0251

Saturn -93727-09-12 03:06 J -32512109.51 -32512109.37 -32512109.23 0.0279 0.0149

Saturn -93727-12-09 20:08 J -32512020.82 -32512020.66 -32512020.50 0.0279 0.0048

Saturn -93726-03-08 12:42 J -32511932.12 -32511931.97 -32511931.81 0.0278 0.0050

Saturn -93726-06-05 05:01 J -32511843.42 -32511843.29 -32511843.16 0.0278 0.0146

Saturn -93726-09-01 20:51 J -32511754.70 -32511754.63 -32511754.55 0.0278 0.0239

Mars -93724-02-09 12:56 J -32511228.06 -32511227.96 -32511227.86 0.1918 0.1332

Venus -93723-08-19 16:03 J -32510671.93 -32510671.83 -32510671.72 0.3781 0.1116

Jupiter -93723-10-13 18:27 J -32510616.89 -32510616.73 -32510616.57 0.0508 0.0004

Moon -93720-01-20 16:03 J -32509786.96 -32509786.83 -32509786.70 0.2729 0.0110

Earth -93720-01-20 17:01 J -32509786.91 -32509786.79 -32509786.66 0.2732 0.0159 *

Mars -93720-10-11 06:13 J -32509523.35 -32509523.24 -32509523.14 0.1611 0.0932

Mars -93718-09-16 20:37 J -32508817.75 -32508817.64 -32508817.53 0.1605 0.0925

Venus -93717-03-04 10:18 J -32508648.18 -32508648.07 -32508647.96 0.3778 0.0382

Jupiter -93717-03-04 13:11 J -32508648.08 -32508647.95 -32508647.82 0.0522 0.0199 *

Jupiter -93717-06-02 00:27 J -32508558.60 -32508558.48 -32508558.35 0.0518 0.0267

Earth -93717-07-30 07:54 J -32508500.29 -32508500.17 -32508500.05 0.2609 0.0826

Moon -93717-07-30 08:23 J -32508500.27 -32508500.15 -32508500.03 0.2615 0.0852 *

Neptune -93715-02-04 06:27 J -32507946.24 -32507946.23 -32507946.21 0.0089 0.0088

Neptune -93715-05-03 08:08 J -32507858.20 -32507858.16 -32507858.12 0.0089 0.0084

Neptune -93715-07-30 09:35 J -32507770.15 -32507770.10 -32507770.03 0.0089 0.0080

Neptune -93715-10-26 11:15 J -32507682.10 -32507682.03 -32507681.96 0.0089 0.0076

Pluto -93715-11-26 13:39 J -32507650.98 -32507650.93 -32507650.85 0.0060 0.0056

Neptune -93714-01-22 12:42 J -32507594.04 -32507593.97 -32507593.88 0.0089 0.0072

Pluto -93714-02-22 14:51 J -32507562.96 -32507562.88 -32507562.75 0.0060 0.0050

Neptune -93714-04-20 14:23 J -32507505.98 -32507505.90 -32507505.80 0.0089 0.0068

Pluto -93714-05-21 16:32 J -32507474.93 -32507474.81 -32507474.66 0.0060 0.0043

Neptune -93714-07-17 15:49 J -32507417.92 -32507417.84 -32507417.73 0.0089 0.0064

Pluto -93714-08-17 18:13 J -32507386.89 -32507386.74 -32507386.58 0.0060 0.0036

Neptune -93714-10-13 17:44 J -32507329.86 -32507329.76 -32507329.65 0.0089 0.0059

Pluto -93714-11-13 19:25 J -32507298.84 -32507298.69 -32507298.50 0.0060 0.0030

Neptune -93713-01-09 19:25 J -32507241.80 -32507241.69 -32507241.58 0.0089 0.0055

Pluto -93713-02-09 21:06 J -32507210.79 -32507210.62 -32507210.43 0.0060 0.0023

Venus -93713-03-02 18:27 J -32507188.80 -32507188.73 -32507188.67 0.3593 0.3125

Neptune -93713-04-06 20:51 J -32507153.74 -32507153.63 -32507153.51 0.0089 0.0051

Pluto -93713-05-07 22:47 J -32507122.74 -32507122.55 -32507122.36 0.0060 0.0016

Mars -93713-06-08 06:27 J -32507091.32 -32507091.23 -32507091.14 0.1924 0.1402

Neptune -93713-07-03 22:32 J -32507065.67 -32507065.56 -32507065.43 0.0089 0.0047

Pluto -93713-08-03 23:59 J -32507034.68 -32507034.50 -32507034.29 0.0060 0.0010

Neptune -93713-09-29 23:59 J -32506977.61 -32506977.50 -32506977.36 0.0089 0.0043

Pluto -93713-10-31 01:39 J -32506946.62 -32506946.43 -32506946.23 0.0060 0.0003

Neptune -93713-12-27 01:54 J -32506889.55 -32506889.42 -32506889.29 0.0089 0.0038

Pluto -93712-01-27 03:06 J -32506858.56 -32506858.37 -32506858.17 0.0060 0.0004

Neptune -93712-03-25 03:35 J -32506801.48 -32506801.35 -32506801.22 0.0089 0.0034

Pluto -93712-04-25 04:32 J -32506770.50 -32506770.31 -32506770.11 0.0060 0.0011

Neptune -93712-06-21 05:15 J -32506713.41 -32506713.28 -32506713.14 0.0089 0.0030

Saturn -93712-06-24 04:47 J -32506710.39 -32506710.30 -32506710.20 0.0280 0.0210

Pluto -93712-07-22 05:59 J -32506682.43 -32506682.25 -32506682.05 0.0060 0.0018

Neptune -93712-09-17 06:56 J -32506625.35 -32506625.21 -32506625.07 0.0089 0.0025

Venus -93712-09-18 04:47 J -32506624.41 -32506624.30 -32506624.19 0.3775 0.0453

Saturn -93712-09-20 18:56 J -32506621.84 -32506621.71 -32506621.57 0.0280 0.0120

Pluto -93712-10-18 07:25 J -32506594.36 -32506594.19 -32506594.00 0.0061 0.0025

Neptune -93712-12-14 08:37 J -32506537.28 -32506537.14 -32506537.00 0.0089 0.0021

Saturn -93712-12-18 09:20 J -32506533.26 -32506533.11 -32506532.96 0.0280 0.0029

Pluto -93711-01-14 08:51 J -32506506.28 -32506506.13 -32506505.94 0.0061 0.0032

Neptune -93711-03-12 10:18 J -32506449.21 -32506449.07 -32506448.93 0.0089 0.0017

Saturn -93711-03-17 00:13 J -32506444.64 -32506444.49 -32506444.35 0.0280 0.0065

Pluto -93711-04-12 10:47 J -32506418.20 -32506418.05 -32506417.90 0.0061 0.0038

Neptune -93711-06-08 11:59 J -32506361.14 -32506361.00 -32506360.85 0.0089 0.0012

Saturn -93711-06-13 15:06 J -32506355.99 -32506355.87 -32506355.74 0.0281 0.0161

Pluto -93711-07-09 11:59 J -32506330.12 -32506330.00 -32506329.86 0.0061 0.0045

Jupiter -93711-08-01 18:27 J -32506306.89 -32506306.73 -32506306.57 0.0507 0.0123

Neptune -93711-09-04 13:39 J -32506273.07 -32506272.93 -32506272.78 0.0089 0.0008

Saturn -93711-09-10 06:27 J -32506267.28 -32506267.23 -32506267.16 0.0281 0.0259

Pluto -93711-10-05 13:25 J -32506242.02 -32506241.94 -32506241.82 0.0061 0.0052

Jupiter -93711-10-30 17:15 J -32506216.88 -32506216.78 -32506216.68 0.0511 0.0392

Neptune -93711-12-01 15:20 J -32506185.00 -32506184.86 -32506184.71 0.0089 0.0004

Pluto -93710-01-01 15:06 J -32506153.90 -32506153.87 -32506153.81 0.0061 0.0059

Neptune -93710-02-27 17:15 J -32506096.93 -32506096.78 -32506096.64 0.0089 0.0003

Mars -93710-03-03 14:51 J -32506092.95 -32506092.88 -32506092.81 0.1613 0.1363

Neptune -93710-05-26 18:56 J -32506008.86 -32506008.71 -32506008.57 0.0089 0.0006

Neptune -93710-08-22 20:37 J -32505920.78 -32505920.64 -32505920.50 0.0089 0.0010

Neptune -93710-11-18 22:18 J -32505832.71 -32505832.57 -32505832.42 0.0089 0.0014

Neptune -93709-02-14 23:59 J -32505744.64 -32505744.50 -32505744.35 0.0089 0.0019

Neptune -93709-05-13 01:54 J -32505656.56 -32505656.42 -32505656.28 0.0089 0.0023

Neptune -93709-08-09 03:20 J -32505568.49 -32505568.36 -32505568.21 0.0089 0.0028

Neptune -93709-11-05 05:15 J -32505480.41 -32505480.28 -32505480.14 0.0089 0.0032

Neptune -93708-02-01 06:56 J -32505392.34 -32505392.21 -32505392.07 0.0089 0.0037

Mars -93708-02-06 04:47 J -32505387.43 -32505387.30 -32505387.16 0.1606 0.0471

Neptune -93708-04-30 08:51 J -32505304.26 -32505304.13 -32505304.00 0.0089 0.0041

Neptune -93708-07-27 10:32 J -32505216.18 -32505216.06 -32505215.93 0.0089 0.0046

Venus -93708-09-16 20:08 J -32505164.78 -32505164.66 -32505164.55 0.3596 0.1916

Neptune -93708-10-23 12:27 J -32505128.10 -32505127.98 -32505127.86 0.0089 0.0050

Neptune -93707-01-19 14:08 J -32505040.02 -32505039.91 -32505039.79 0.0089 0.0055

Moon -93707-01-23 14:37 J -32505035.99 -32505035.89 -32505035.78 0.2730 0.1561

Earth -93707-01-23 15:35 J -32505035.94 -32505035.85 -32505035.75 0.2728 0.1748 *

Neptune -93707-04-17 16:03 J -32504951.94 -32504951.83 -32504951.72 0.0089 0.0059

Neptune -93707-07-14 17:44 J -32504863.85 -32504863.76 -32504863.65 0.0089 0.0064

Neptune -93707-10-10 19:25 J -32504775.77 -32504775.69 -32504775.58 0.0089 0.0069

Neptune -93706-01-06 21:35 J -32504687.68 -32504687.60 -32504687.51 0.0089 0.0073

Venus -93706-04-03 23:30 J -32504600.62 -32504600.52 -32504600.41 0.3771 0.1246

Neptune -93706-04-04 23:15 J -32504599.59 -32504599.53 -32504599.45 0.0089 0.0078

Neptune -93706-07-02 01:11 J -32504511.50 -32504511.45 -32504511.39 0.0089 0.0082

Neptune -93706-09-28 02:51 J -32504423.39 -32504423.38 -32504423.34 0.0089 0.0087

Jupiter -93706-12-22 16:03 J -32504337.94 -32504337.83 -32504337.72 0.0523 0.0313

Jupiter -93705-03-21 03:20 J -32504248.50 -32504248.36 -32504248.23 0.0519 0.0150

Earth -93704-08-02 05:44 J -32503749.33 -32503749.26 -32503749.19 0.2612 0.2188

Moon -93704-08-02 06:42 J -32503749.28 -32503749.22 -32503749.16 0.2614 0.2286 *

Mars -93704-10-29 09:06 J -32503661.25 -32503661.12 -32503660.99 0.1923 0.0547

Venus -93702-04-02 21:06 J -32503140.76 -32503140.62 -32503140.49 0.3599 0.0769

Venus -93701-10-17 18:27 J -32502576.82 -32502576.73 -32502576.64 0.3768 0.2061

Earth -93700-01-16 02:08 J -32502486.45 -32502486.41 -32502486.38 0.2739 0.2602

Moon -93700-01-16 02:23 J -32502486.45 -32502486.40 -32502486.36 0.2731 0.2534 *

Jupiter -93699-05-20 18:27 J -32501996.87 -32501996.73 -32501996.58 0.0506 0.0248

Mars -93699-06-29 13:11 J -32501957.08 -32501956.95 -32501956.81 0.1607 0.0025

Jupiter -93699-08-18 17:44 J -32501906.90 -32501906.76 -32501906.62 0.0510 0.0270

Saturn -93697-01-30 02:51 J -32501377.50 -32501377.38 -32501377.25 0.0279 0.0181

Saturn -93697-04-27 20:08 J -32501288.81 -32501288.66 -32501288.50 0.0279 0.0080

Saturn -93697-07-25 12:56 J -32501200.12 -32501199.96 -32501199.80 0.0279 0.0020

Moon -93697-07-25 16:18 J -32501199.92 -32501199.82 -32501199.72 0.2606 0.1708 *

Earth -93697-07-25 17:01 J -32501199.89 -32501199.79 -32501199.69 0.2603 0.1696 *

Venus -93697-10-16 21:49 J -32501116.73 -32501116.59 -32501116.46 0.3602 0.0368

Saturn -93697-10-22 05:15 J -32501111.42 -32501111.28 -32501111.13 0.0278 0.0117

Saturn -93696-01-18 21:20 J -32501022.71 -32501022.61 -32501022.50 0.0278 0.0211

Venus -93695-05-03 13:39 J -32500553.00 -32500552.93 -32500552.86 0.3764 0.2910

Mars -93694-03-21 11:30 J -32500231.15 -32500231.02 -32500230.88 0.1921 0.0335

Jupiter -93694-10-10 18:13 J -32500027.81 -32500027.74 -32500027.66 0.0524 0.0438

Jupiter -93693-01-08 05:01 J -32499938.43 -32499938.29 -32499938.15 0.0520 0.0028

Jupiter -93693-04-06 17:01 J -32499848.83 -32499848.79 -32499848.75 0.0516 0.0490

Venus -93691-05-02 21:49 J -32499092.72 -32499092.59 -32499092.47 0.3606 0.1405

Mars -93690-11-19 21:49 J -32498526.72 -32498526.59 -32498526.46 0.1609 0.0430

Uranus -93689-11-01 21:35 J -32498178.65 -32498178.60 -32498178.54 0.0142 0.0131

Venus -93688-01-25 14:37 J -32498093.89 -32498093.89 -32498093.88 0.3790 0.3771

Uranus -93688-01-29 01:54 J -32498090.50 -32498090.42 -32498090.32 0.0142 0.0112

Uranus -93688-04-27 06:27 J -32498002.33 -32498002.23 -32498002.11 0.0142 0.0093

Uranus -93688-07-24 11:01 J -32497914.16 -32497914.04 -32497913.91 0.0142 0.0074

Uranus -93688-10-20 15:35 J -32497825.99 -32497825.85 -32497825.71 0.0142 0.0054

Mars -93688-10-25 12:56 J -32497821.02 -32497820.96 -32497820.91 0.1604 0.1459

Uranus -93687-01-16 20:08 J -32497737.80 -32497737.66 -32497737.52 0.0142 0.0034

Moon -93687-01-18 23:44 J -32497735.63 -32497735.51 -32497735.40 0.2729 0.1131

Earth -93687-01-19 00:13 J -32497735.61 -32497735.49 -32497735.38 0.2735 0.1084 *

Jupiter -93687-03-08 17:44 J -32497686.86 -32497686.76 -32497686.64 0.0505 0.0380

Uranus -93687-04-15 00:42 J -32497649.62 -32497649.47 -32497649.32 0.0142 0.0015

Jupiter -93687-06-06 17:30 J -32497596.93 -32497596.77 -32497596.61 0.0509 0.0140

Uranus -93687-07-12 05:30 J -32497561.42 -32497561.27 -32497561.12 0.0143 0.0006

Uranus -93687-10-08 10:03 J -32497473.22 -32497473.08 -32497472.93 0.0143 0.0026

Uranus -93686-01-04 14:51 J -32497385.02 -32497384.88 -32497384.74 0.0143 0.0046

Uranus -93686-04-02 19:39 J -32497296.81 -32497296.68 -32497296.55 0.0143 0.0067

Uranus -93686-06-30 00:27 J -32497208.60 -32497208.48 -32497208.36 0.0143 0.0088

Uranus -93686-09-26 05:15 J -32497120.37 -32497120.28 -32497120.18 0.0143 0.0109

Venus -93686-11-16 21:35 J -32497068.70 -32497068.60 -32497068.51 0.3609 0.2420

Uranus -93686-12-23 10:18 J -32497032.13 -32497032.07 -32497032.01 0.0143 0.0131

Mars -93685-08-10 13:25 J -32496801.05 -32496800.94 -32496800.84 0.1918 0.1245

Moon -93684-07-28 15:20 J -32496448.99 -32496448.86 -32496448.73 0.2613 0.0344

Earth -93684-07-28 15:20 J -32496448.99 -32496448.86 -32496448.73 0.2606 0.0271 *

Venus -93683-08-11 08:23 J -32496070.21 -32496070.15 -32496070.09 0.3787 0.3090

Saturn -93683-11-11 08:08 J -32495978.25 -32495978.16 -32495978.07 0.0280 0.0224

Saturn -93682-02-07 22:18 J -32495889.70 -32495889.57 -32495889.44 0.0280 0.0135

Saturn -93682-05-07 12:42 J -32495801.12 -32495800.97 -32495800.82 0.0280 0.0043

Saturn -93682-08-04 03:20 J -32495712.51 -32495712.36 -32495712.21 0.0280 0.0051

Jupiter -93682-10-27 07:54 J -32495628.31 -32495628.17 -32495628.04 0.0521 0.0097

Saturn -93682-10-31 18:27 J -32495623.86 -32495623.73 -32495623.60 0.0280 0.0146

Jupiter -93681-01-24 19:25 J -32495538.79 -32495538.69 -32495538.59 0.0517 0.0371

Saturn -93681-01-28 09:49 J -32495535.16 -32495535.09 -32495535.02 0.0281 0.0244

Mars -93680-04-11 06:13 J -32495096.35 -32495096.24 -32495096.12 0.1611 0.0872

Venus -93680-06-01 20:51 J -32495044.68 -32495044.63 -32495044.59 0.3613 0.3383

Mars -93678-03-17 20:51 J -32494390.73 -32494390.63 -32494390.52 0.1605 0.0995

Venus -93677-02-25 02:08 J -32494046.49 -32494046.41 -32494046.33 0.3785 0.2383

Jupiter -93675-03-25 16:18 J -32493286.99 -32493286.82 -32493286.66 0.0508 0.0002

Jupiter -93675-06-23 14:37 J -32493196.89 -32493196.89 -32493196.89 0.0512 0.0511

Moon -93674-01-21 21:35 J -32492984.73 -32492984.60 -32492984.48 0.2729 0.0308

Earth -93674-01-21 22:32 J -32492984.69 -32492984.56 -32492984.44 0.2731 0.0475 *

Mars -93674-12-08 06:56 J -32492664.29 -32492664.21 -32492664.13 0.1925 0.1491

Venus -93672-09-09 20:08 J -32492022.76 -32492022.66 -32492022.57 0.3783 0.1661

Earth -93671-07-31 13:25 J -32491698.06 -32491697.94 -32491697.83 0.2609 0.1123

Moon -93671-07-31 13:54 J -32491698.03 -32491697.92 -32491697.81 0.2614 0.1229 *

Mars -93671-09-01 15:06 J -32491665.95 -32491665.87 -32491665.80 0.1613 0.1305

Jupiter -93670-08-15 11:01 J -32491318.17 -32491318.04 -32491317.92 0.0522 0.0207

Jupiter -93670-11-12 22:18 J -32491228.69 -32491228.57 -32491228.44 0.0518 0.0260

Mars -93669-08-07 05:01 J -32490960.42 -32490960.29 -32490960.16 0.1606 0.0532

Saturn -93668-06-18 05:15 J -32490645.39 -32490645.28 -32490645.16 0.0279 0.0201

Saturn -93668-09-14 22:32 J -32490556.71 -32490556.56 -32490556.41 0.0279 0.0100

Saturn -93668-12-12 15:20 J -32490468.01 -32490467.86 -32490467.69 0.0279 0.0009

Saturn -93667-03-11 07:54 J -32490379.32 -32490379.17 -32490379.02 0.0278 0.0098

Saturn -93667-06-07 23:59 J -32490290.61 -32490290.50 -32490290.39 0.0278 0.0192

Venus -93666-03-26 14:23 J -32489999.01 -32489998.90 -32489998.80 0.3780 0.0921

Mars -93664-04-29 09:35 J -32489234.23 -32489234.10 -32489233.97 0.1923 0.0631

Jupiter -93663-01-11 16:03 J -32488976.99 -32488976.83 -32488976.67 0.0507 0.0129

Jupiter -93663-04-11 14:37 J -32488886.99 -32488886.89 -32488886.78 0.0511 0.0386

Moon -93661-01-24 20:08 J -32488233.74 -32488233.66 -32488233.58 0.2731 0.2054

Earth -93661-01-24 21:06 J -32488233.70 -32488233.62 -32488233.54 0.2727 0.2072 *

Venus -93661-10-09 08:37 J -32487975.25 -32487975.14 -32487975.03 0.3777 0.0167

Mars -93660-12-28 13:25 J -32487530.08 -32487529.94 -32487529.80 0.1607 0.0077

Jupiter -93658-06-03 14:08 J -32487008.02 -32487007.91 -32487007.80 0.0523 0.0317

Earth -93658-08-03 11:01 J -32486947.08 -32486947.04 -32486947.00 0.2613 0.2481

Moon -93658-08-03 12:13 J -32486947.01 -32486946.99 -32486946.98 0.2614 0.2578 *

Jupiter -93658-09-01 01:25 J -32486918.58 -32486918.44 -32486918.31 0.0519 0.0147

Venus -93657-10-07 18:42 J -32486515.81 -32486515.72 -32486515.64 0.3594 0.2794

Venus -93655-04-25 03:06 J -32485951.48 -32485951.37 -32485951.26 0.3774 0.0646

Mars -93655-09-19 11:44 J -32485804.15 -32485804.01 -32485803.87 0.1921 0.0255

Earth -93654-01-17 07:25 J -32485684.25 -32485684.19 -32485684.12 0.2738 0.2297

Moon -93654-01-17 07:39 J -32485684.24 -32485684.18 -32485684.12 0.2731 0.2313 *

Saturn -93653-03-30 09:06 J -32485246.18 -32485246.12 -32485246.06 0.0280 0.0254

Saturn -93653-06-26 23:01 J -32485157.65 -32485157.54 -32485157.42 0.0280 0.0166

Saturn -93653-09-23 13:25 J -32485069.08 -32485068.94 -32485068.80 0.0280 0.0075

Saturn -93653-12-21 04:03 J -32484980.48 -32484980.33 -32484980.18 0.0280 0.0019

Saturn -93652-03-19 18:56 J -32484891.85 -32484891.71 -32484891.57 0.0281 0.0113

Saturn -93652-06-16 10:03 J -32484803.18 -32484803.08 -32484802.98 0.0281 0.0210

Jupiter -93652-10-30 15:49 J -32484666.99 -32484666.84 -32484666.70 0.0506 0.0257

Jupiter -93651-01-28 15:06 J -32484577.01 -32484576.87 -32484576.73 0.0510 0.0261

Venus -93651-04-23 19:54 J -32484491.79 -32484491.67 -32484491.54 0.3597 0.1610

Moon -93651-07-26 22:03 J -32484397.69 -32484397.58 -32484397.48 0.2608 0.1519

Earth -93651-07-26 22:32 J -32484397.67 -32484397.56 -32484397.45 0.2603 0.1385 *

Mars -93650-05-20 21:49 J -32484099.72 -32484099.59 -32484099.45 0.1609 0.0372

Venus -93650-11-08 21:49 J -32483927.69 -32483927.59 -32483927.48 0.3770 0.1452

Uranus -93649-03-30 04:18 J -32483785.38 -32483785.32 -32483785.24 0.0137 0.0123

Uranus -93649-06-26 10:03 J -32483697.19 -32483697.08 -32483696.96 0.0137 0.0102

Uranus -93649-09-22 15:35 J -32483608.98 -32483608.85 -32483608.71 0.0137 0.0082

Uranus -93649-12-19 21:06 J -32483520.76 -32483520.62 -32483520.46 0.0136 0.0062

Uranus -93648-03-18 02:37 J -32483432.54 -32483432.39 -32483432.22 0.0136 0.0042

Mars -93648-04-25 13:11 J -32483393.99 -32483393.95 -32483393.91 0.1604 0.1522

Uranus -93648-06-14 08:08 J -32483344.32 -32483344.16 -32483343.99 0.0136 0.0022

Uranus -93648-09-10 13:39 J -32483256.10 -32483255.93 -32483255.77 0.0136 0.0002

Uranus -93648-12-07 18:56 J -32483167.87 -32483167.71 -32483167.54 0.0136 0.0018

Uranus -93647-03-06 00:13 J -32483079.65 -32483079.49 -32483079.33 0.0136 0.0037

Uranus -93647-06-02 05:30 J -32482991.42 -32482991.27 -32482991.12 0.0136 0.0056

Uranus -93647-08-29 10:32 J -32482903.19 -32482903.06 -32482902.92 0.0136 0.0075

Uranus -93647-11-25 15:35 J -32482814.96 -32482814.85 -32482814.73 0.0135 0.0094

Uranus -93646-02-21 20:51 J -32482726.72 -32482726.63 -32482726.54 0.0135 0.0112

Jupiter -93646-03-22 17:15 J -32482697.86 -32482697.78 -32482697.70 0.0524 0.0430

Uranus -93646-05-21 01:25 J -32482638.46 -32482638.44 -32482638.38 0.0135 0.0131

Jupiter -93646-06-20 04:03 J -32482608.47 -32482608.33 -32482608.19 0.0520 0.0031

Jupiter -93646-09-17 16:03 J -32482518.87 -32482518.83 -32482518.80 0.0516 0.0497

Venus -93646-11-07 20:51 J -32482467.76 -32482467.63 -32482467.49 0.3600 0.0475

Mars -93645-02-09 13:39 J -32482374.04 -32482373.93 -32482373.82 0.1918 0.1158

Venus -93644-05-24 16:47 J -32481903.89 -32481903.80 -32481903.71 0.3767 0.2283

Moon -93641-01-20 05:01 J -32480933.42 -32480933.29 -32480933.17 0.2729 0.0825

Earth -93641-01-20 05:44 J -32480933.39 -32480933.26 -32480933.14 0.2735 0.0774 *

Mars -93641-10-10 06:27 J -32480669.34 -32480669.23 -32480669.11 0.1611 0.0810

Venus -93640-05-23 21:35 J -32480443.74 -32480443.60 -32480443.47 0.3603 0.0644

Jupiter -93640-08-18 15:35 J -32480356.95 -32480356.85 -32480356.74 0.0505 0.0383

Jupiter -93640-11-16 15:20 J -32480267.01 -32480266.86 -32480266.70 0.0509 0.0139

Mars -93639-09-15 21:06 J -32479963.72 -32479963.62 -32479963.51 0.1605 0.1058

Saturn -93639-11-05 04:47 J -32479913.38 -32479913.30 -32479913.21 0.0279 0.0236

Venus -93639-12-08 11:59 J -32479880.06 -32479880.00 -32479879.94 0.3763 0.3134

Saturn -93638-02-01 22:18 J -32479824.71 -32479824.57 -32479824.43 0.0279 0.0133

Saturn -93638-05-01 15:20 J -32479736.02 -32479735.86 -32479735.70 0.0279 0.0032

Saturn -93638-07-29 07:54 J -32479647.32 -32479647.17 -32479647.01 0.0278 0.0066

Earth -93638-07-29 20:51 J -32479646.77 -32479646.63 -32479646.50 0.2606 0.0081

Moon -93638-07-29 20:51 J -32479646.76 -32479646.63 -32479646.50 0.2613 0.0120 *

Saturn -93638-10-25 23:59 J -32479558.62 -32479558.50 -32479558.36 0.0278 0.0163

Saturn -93637-01-22 16:03 J -32479469.89 -32479469.83 -32479469.77 0.0278 0.0255

Venus -93635-12-07 21:20 J -32478419.72 -32478419.61 -32478419.49 0.3607 0.1680

Jupiter -93634-04-08 06:13 J -32478298.38 -32478298.24 -32478298.11 0.0521 0.0096

Mars -93634-06-08 07:11 J -32478237.27 -32478237.20 -32478237.12 0.1925 0.1576

Jupiter -93634-07-06 17:44 J -32478208.86 -32478208.76 -32478208.66 0.0517 0.0370

Neptune -93632-02-02 21:20 J -32477631.63 -32477631.61 -32477631.55 0.0089 0.0087

Neptune -93632-05-02 00:27 J -32477543.54 -32477543.48 -32477543.39 0.0089 0.0081

Neptune -93632-07-29 03:20 J -32477455.43 -32477455.36 -32477455.25 0.0089 0.0076

Venus -93632-09-01 12:42 J -32477421.00 -32477420.97 -32477420.94 0.3789 0.3589

Neptune -93632-10-25 06:27 J -32477367.33 -32477367.23 -32477367.11 0.0089 0.0070

Neptune -93631-01-21 09:20 J -32477279.22 -32477279.11 -32477278.98 0.0089 0.0065

Mars -93631-03-02 15:20 J -32477238.95 -32477238.86 -32477238.78 0.1613 0.1245

Neptune -93631-04-19 12:27 J -32477191.11 -32477190.98 -32477190.84 0.0089 0.0059

Neptune -93631-07-16 15:20 J -32477102.99 -32477102.86 -32477102.71 0.0089 0.0054

Neptune -93631-10-12 17:59 J -32477014.88 -32477014.75 -32477014.59 0.0089 0.0049

Neptune -93630-01-08 21:06 J -32476926.77 -32476926.62 -32476926.46 0.0089 0.0043

Neptune -93630-04-06 23:59 J -32476838.65 -32476838.50 -32476838.33 0.0089 0.0037

Neptune -93630-07-04 02:37 J -32476750.54 -32476750.39 -32476750.21 0.0089 0.0033

Neptune -93630-09-30 05:44 J -32476662.42 -32476662.26 -32476662.09 0.0088 0.0027

Neptune -93630-12-27 08:37 J -32476574.31 -32476574.14 -32476573.97 0.0088 0.0021

Mars -93629-02-06 05:15 J -32476533.40 -32476533.28 -32476533.15 0.1606 0.0598

Neptune -93629-03-24 11:30 J -32476486.19 -32476486.02 -32476485.85 0.0088 0.0016

Neptune -93629-06-20 14:23 J -32476398.08 -32476397.90 -32476397.73 0.0088 0.0011

Venus -93629-06-22 21:06 J -32476395.71 -32476395.62 -32476395.53 0.3610 0.2675

Neptune -93629-09-16 17:01 J -32476309.96 -32476309.79 -32476309.61 0.0088 0.0006

Neptune -93629-12-13 19:54 J -32476221.84 -32476221.67 -32476221.50 0.0088 0.0000

Moon -93628-01-22 03:06 J -32476182.50 -32476182.37 -32476182.25 0.2729 0.0734

Earth -93628-01-22 04:03 J -32476182.45 -32476182.33 -32476182.21 0.2731 0.0802 *

Neptune -93628-03-11 22:32 J -32476133.73 -32476133.56 -32476133.38 0.0088 0.0006

Neptune -93628-06-08 01:25 J -32476045.61 -32476045.44 -32476045.27 0.0088 0.0010

Neptune -93628-09-04 04:03 J -32475957.50 -32475957.33 -32475957.15 0.0088 0.0016

Jupiter -93628-09-04 15:06 J -32475957.03 -32475956.87 -32475956.70 0.0508 0.0012

Neptune -93628-12-01 06:56 J -32475869.38 -32475869.21 -32475869.04 0.0088 0.0021

Neptune -93627-02-27 09:35 J -32475781.26 -32475781.10 -32475780.93 0.0088 0.0026

Neptune -93627-05-26 11:59 J -32475693.15 -32475693.00 -32475692.82 0.0088 0.0032

Neptune -93627-08-22 14:51 J -32475605.03 -32475604.88 -32475604.72 0.0088 0.0036

Neptune -93627-11-18 17:30 J -32475516.91 -32475516.77 -32475516.61 0.0088 0.0041

Neptune -93626-02-14 20:08 J -32475428.79 -32475428.66 -32475428.50 0.0088 0.0047

Venus -93626-03-18 06:13 J -32475397.30 -32475397.24 -32475397.17 0.3787 0.2901

Neptune -93626-05-13 22:47 J -32475340.68 -32475340.55 -32475340.40 0.0088 0.0052

Neptune -93626-08-10 01:25 J -32475252.56 -32475252.44 -32475252.30 0.0088 0.0057

Neptune -93626-11-06 04:03 J -32475164.44 -32475164.33 -32475164.20 0.0088 0.0062

Neptune -93625-02-02 06:42 J -32475076.32 -32475076.22 -32475076.10 0.0088 0.0067

Neptune -93625-04-30 09:20 J -32474988.20 -32474988.11 -32474988.00 0.0088 0.0071

Neptune -93625-07-27 11:44 J -32474900.07 -32474900.01 -32474899.91 0.0088 0.0077

Earth -93625-07-31 18:42 J -32474895.83 -32474895.72 -32474895.61 0.2610 0.1414

Moon -93625-07-31 19:25 J -32474895.79 -32474895.69 -32474895.58 0.2613 0.1435 *

Neptune -93625-10-23 14:23 J -32474811.95 -32474811.90 -32474811.82 0.0088 0.0082

Mars -93625-10-28 09:49 J -32474807.21 -32474807.09 -32474806.96 0.1923 0.0723

Neptune -93624-01-19 17:15 J -32474723.81 -32474723.78 -32474723.74 0.0088 0.0086

Saturn -93624-08-17 11:59 J -32474514.03 -32474514.00 -32474513.96 0.0280 0.0271

Saturn -93624-11-14 01:54 J -32474425.52 -32474425.42 -32474425.30 0.0280 0.0183

Saturn -93623-02-10 16:18 J -32474336.96 -32474336.82 -32474336.68 0.0280 0.0092

Saturn -93623-05-10 06:56 J -32474248.36 -32474248.21 -32474248.06 0.0280 0.0006

Saturn -93623-08-06 21:35 J -32474159.74 -32474159.60 -32474159.45 0.0280 0.0096

Saturn -93623-11-03 12:56 J -32474071.07 -32474070.96 -32474070.85 0.0281 0.0193

Jupiter -93622-01-25 08:51 J -32473988.26 -32473988.13 -32473988.01 0.0522 0.0214

Jupiter -93622-04-24 20:08 J -32473898.78 -32473898.66 -32473898.54 0.0518 0.0251

Pluto -93621-09-19 13:39 J -32473384.95 -32473384.93 -32473384.88 0.0085 0.0082

Venus -93621-10-01 00:13 J -32473373.58 -32473373.49 -32473373.41 0.3784 0.2194

Pluto -93621-12-16 15:06 J -32473296.94 -32473296.87 -32473296.79 0.0084 0.0069

Pluto -93620-03-14 16:32 J -32473208.91 -32473208.81 -32473208.71 0.0084 0.0056

Pluto -93620-06-10 17:44 J -32473120.87 -32473120.76 -32473120.64 0.0084 0.0043

Mars -93620-06-28 13:39 J -32473103.06 -32473102.93 -32473102.79 0.1607 0.0144

Pluto -93620-09-06 18:56 J -32473032.83 -32473032.71 -32473032.58 0.0084 0.0031

Pluto -93620-12-03 20:23 J -32472944.78 -32472944.65 -32472944.52 0.0084 0.0018

Pluto -93619-03-01 21:35 J -32472856.73 -32472856.60 -32472856.47 0.0084 0.0006

Pluto -93619-05-28 22:47 J -32472768.68 -32472768.55 -32472768.42 0.0084 0.0006

Pluto -93619-08-24 23:59 J -32472680.63 -32472680.50 -32472680.37 0.0084 0.0019

Pluto -93619-11-21 01:11 J -32472592.57 -32472592.45 -32472592.32 0.0083 0.0031

Pluto -93618-02-17 02:23 J -32472504.51 -32472504.40 -32472504.28 0.0083 0.0043

Pluto -93618-05-16 03:35 J -32472416.44 -32472416.35 -32472416.25 0.0083 0.0055

Earth -93618-07-25 05:44 J -32472346.29 -32472346.26 -32472346.24 0.2600 0.2531

Pluto -93618-08-12 04:47 J -32472328.37 -32472328.30 -32472328.22 0.0083 0.0066

Pluto -93618-11-08 05:59 J -32472240.29 -32472240.25 -32472240.21 0.0083 0.0078

Jupiter -93616-06-23 13:54 J -32471647.08 -32471646.92 -32471646.76 0.0507 0.0132

Jupiter -93616-09-21 12:42 J -32471557.08 -32471556.97 -32471556.87 0.0510 0.0382

Moon -93615-01-25 01:39 J -32471431.50 -32471431.43 -32471431.36 0.2731 0.2241

Earth -93615-01-25 02:37 J -32471431.45 -32471431.39 -32471431.33 0.2727 0.2405 *

Mars -93615-03-20 12:13 J -32471377.13 -32471376.99 -32471376.85 0.1921 0.0164

Venus -93615-04-16 18:13 J -32471349.84 -32471349.74 -32471349.64 0.3782 0.1459

Jupiter -93611-11-13 11:59 J -32469678.11 -32469678.00 -32469677.89 0.0523 0.0325

Mars -93611-11-18 22:03 J -32469672.71 -32469672.58 -32469672.44 0.1609 0.0308

Jupiter -93610-02-10 23:01 J -32469588.67 -32469588.54 -32469588.40 0.0520 0.0140

Venus -93610-10-31 12:27 J -32469326.09 -32469325.98 -32469325.87 0.3779 0.0715

Saturn -93609-03-24 07:25 J -32469181.24 -32469181.19 -32469181.11 0.0279 0.0254

Saturn -93609-06-21 00:56 J -32469092.59 -32469092.46 -32469092.32 0.0279 0.0151

Saturn -93609-09-17 18:13 J -32469003.90 -32469003.74 -32469003.58 0.0279 0.0050

Mars -93609-10-24 13:25 J -32468966.95 -32468966.94 -32468966.93 0.1604 0.1592

Saturn -93609-12-15 10:47 J -32468915.20 -32468915.05 -32468914.89 0.0278 0.0049

Moon -93608-01-17 12:42 J -32468882.05 -32468881.97 -32468881.88 0.2731 0.1932

Earth -93608-01-17 12:56 J -32468882.05 -32468881.96 -32468881.88 0.2738 0.1995 *

Saturn -93608-03-14 03:06 J -32468826.50 -32468826.37 -32468826.23 0.0278 0.0145

Saturn -93608-06-10 18:56 J -32468737.78 -32468737.71 -32468737.63 0.0278 0.0239

Mars -93606-08-10 14:08 J -32467947.03 -32467946.91 -32467946.80 0.1918 0.1072

Moon -93605-07-27 03:35 J -32467595.47 -32467595.35 -32467595.23 0.2609 0.1084

Earth -93605-07-27 04:03 J -32467595.45 -32467595.33 -32467595.21 0.2603 0.1086 *

Uranus -93605-11-22 04:32 J -32467477.37 -32467477.31 -32467477.25 0.0142 0.0128

Uranus -93604-02-18 08:51 J -32467389.22 -32467389.13 -32467389.04 0.0142 0.0109

Jupiter -93604-04-11 13:25 J -32467337.08 -32467336.94 -32467336.80 0.0506 0.0262

Venus -93604-05-16 06:42 J -32467302.33 -32467302.22 -32467302.10 0.3776 0.0161

Uranus -93604-05-17 13:11 J -32467301.06 -32467300.95 -32467300.83 0.0142 0.0090

Jupiter -93604-07-10 12:42 J -32467247.11 -32467246.97 -32467246.83 0.0510 0.0256

Uranus -93604-08-13 17:44 J -32467212.88 -32467212.76 -32467212.63 0.0142 0.0071

Uranus -93604-11-09 22:18 J -32467124.71 -32467124.57 -32467124.43 0.0142 0.0052

Uranus -93603-02-06 02:51 J -32467036.52 -32467036.38 -32467036.24 0.0142 0.0032

Uranus -93603-05-05 07:25 J -32466948.34 -32466948.19 -32466948.04 0.0143 0.0012

Uranus -93603-08-01 12:13 J -32466860.14 -32466859.99 -32466859.84 0.0143 0.0009

Uranus -93603-10-28 16:47 J -32466771.94 -32466771.80 -32466771.65 0.0143 0.0029

Uranus -93602-01-24 21:35 J -32466683.74 -32466683.60 -32466683.46 0.0143 0.0049

Uranus -93602-04-23 02:08 J -32466595.53 -32466595.41 -32466595.27 0.0143 0.0071

Uranus -93602-07-20 06:56 J -32466507.31 -32466507.21 -32466507.08 0.0143 0.0092

Uranus -93602-10-16 11:59 J -32466419.09 -32466419.00 -32466418.90 0.0143 0.0112

Uranus -93601-01-12 16:47 J -32466330.84 -32466330.80 -32466330.74 0.0143 0.0134

Mars -93601-04-10 06:42 J -32466242.34 -32466242.22 -32466242.10 0.1611 0.0752

Venus -93600-05-14 18:42 J -32465842.82 -32465842.72 -32465842.62 0.3595 0.2472

Mars -93599-03-16 21:20 J -32465536.71 -32465536.61 -32465536.51 0.1605 0.1119

Jupiter -93599-09-01 15:20 J -32465367.93 -32465367.86 -32465367.79 0.0524 0.0435

Venus -93599-11-30 01:25 J -32465278.55 -32465278.44 -32465278.33 0.3773 0.0854

Jupiter -93599-11-30 02:08 J -32465278.55 -32465278.41 -32465278.27 0.0520 0.0028 *

Jupiter -93598-02-27 13:54 J -32465188.95 -32465188.92 -32465188.87 0.0516 0.0495

Moon -93595-01-20 10:18 J -32464131.20 -32464131.07 -32464130.95 0.2729 0.0574

Earth -93595-01-20 11:01 J -32464131.16 -32464131.04 -32464130.92 0.2734 0.0454 *

Venus -93595-11-28 19:54 J -32463818.79 -32463818.67 -32463818.54 0.3598 0.1304

Mars -93595-12-07 07:25 J -32463810.25 -32463810.19 -32463810.12 0.1925 0.1656

Saturn -93594-04-03 03:06 J -32463693.46 -32463693.37 -32463693.28 0.0280 0.0212

Saturn -93594-06-30 17:15 J -32463604.91 -32463604.78 -32463604.65 0.0280 0.0122

Saturn -93594-09-27 07:39 J -32463516.33 -32463516.18 -32463516.03 0.0280 0.0031

Saturn -93594-12-24 22:18 J -32463427.72 -32463427.57 -32463427.42 0.0280 0.0063

Saturn -93593-03-22 13:11 J -32463339.07 -32463338.95 -32463338.82 0.0281 0.0160

Venus -93593-06-14 20:08 J -32463254.76 -32463254.66 -32463254.55 0.3769 0.1677

Saturn -93593-06-19 04:47 J -32463250.36 -32463250.30 -32463250.24 0.0281 0.0257

Jupiter -93592-01-28 12:56 J -32463027.06 -32463026.96 -32463026.85 0.0505 0.0391

Jupiter -93592-04-28 12:42 J -32462937.13 -32462936.97 -32462936.81 0.0509 0.0130

Earth -93592-07-30 02:08 J -32462844.54 -32462844.41 -32462844.28 0.2607 0.0336

Moon -93592-07-30 02:23 J -32462844.53 -32462844.40 -32462844.27 0.2613 0.0277 *

Mars -93592-08-31 15:20 J -32462811.95 -32462811.86 -32462811.77 0.1613 0.1187

Mars -93590-08-07 05:30 J -32462106.39 -32462106.27 -32462106.14 0.1606 0.0659

Venus -93589-06-13 20:51 J -32461794.76 -32461794.63 -32461794.49 0.3601 0.0182

Venus -93588-12-29 15:20 J -32461230.95 -32461230.86 -32461230.78 0.3766 0.2503

Jupiter -93587-09-18 05:01 J -32460968.42 -32460968.29 -32460968.15 0.0521 0.0089

Jupiter -93587-12-16 16:47 J -32460878.90 -32460878.80 -32460878.71 0.0517 0.0378

Mars -93585-04-28 10:03 J -32460380.20 -32460380.08 -32460379.95 0.1923 0.0798

Venus -93584-12-28 21:20 J -32459770.74 -32459770.61 -32459770.48 0.3604 0.0919

Mars -93582-01-22 00:13 J -32459381.49 -32459381.49 -32459381.49 0.1615 0.1615

Moon -93582-01-23 08:23 J -32459380.27 -32459380.15 -32459380.03 0.2731 0.1010

Earth -93582-01-23 09:20 J -32459380.22 -32459380.11 -32459379.99 0.2730 0.1126 *

Venus -93582-07-15 10:32 J -32459207.11 -32459207.06 -32459207.01 0.3762 0.3361

Mars -93581-12-27 13:54 J -32458676.05 -32458675.92 -32458675.78 0.1607 0.0206

Jupiter -93580-02-14 12:56 J -32458627.12 -32458626.96 -32458626.79 0.0508 0.0014

Saturn -93580-11-08 00:27 J -32458360.60 -32458360.48 -32458360.36 0.0279 0.0186

Saturn -93579-02-04 17:44 J -32458271.92 -32458271.76 -32458271.61 0.0279 0.0085

Saturn -93579-05-04 10:32 J -32458183.22 -32458183.06 -32458182.90 0.0278 0.0015

Saturn -93579-08-01 02:51 J -32458094.52 -32458094.38 -32458094.23 0.0278 0.0112

Earth -93579-08-02 00:13 J -32458093.59 -32458093.49 -32458093.40 0.2610 0.1711

Moon -93579-08-02 00:56 J -32458093.54 -32458093.46 -32458093.37 0.2614 0.1884 *

Saturn -93579-10-28 18:56 J -32458005.81 -32458005.71 -32458005.60 0.0278 0.0207

Venus -93578-07-14 21:06 J -32457746.73 -32457746.62 -32457746.51 0.3608 0.1947

Mars -93576-09-18 12:42 J -32456950.11 -32456949.97 -32456949.83 0.1921 0.0069

Venus -93575-04-08 10:32 J -32456748.10 -32456748.06 -32456748.01 0.3789 0.3402

Jupiter -93575-07-07 07:25 J -32456658.32 -32456658.19 -32456658.07 0.0522 0.0212

Jupiter -93575-10-04 18:42 J -32456568.85 -32456568.72 -32456568.60 0.0518 0.0252

Venus -93572-01-27 20:37 J -32455722.71 -32455722.64 -32455722.56 0.3611 0.2930

Moon -93572-07-25 10:03 J -32455544.13 -32455544.08 -32455544.02 0.2603 0.2325

Earth -93572-07-25 11:01 J -32455544.10 -32455544.04 -32455543.97 0.2601 0.2227 *

Mars -93571-05-19 22:18 J -32455245.70 -32455245.57 -32455245.43 0.1609 0.0246

Venus -93570-10-23 04:18 J -32454724.39 -32454724.32 -32454724.24 0.3786 0.2708

Moon -93569-01-26 07:11 J -32454629.21 -32454629.20 -32454629.19 0.2731 0.2710

Jupiter -93569-12-03 12:42 J -32454317.13 -32454316.97 -32454316.81 0.0507 0.0124

Jupiter -93568-03-03 11:44 J -32454227.12 -32454227.01 -32454226.91 0.0511 0.0391

Mars -93566-02-08 14:23 J -32453520.02 -32453519.90 -32453519.78 0.1918 0.0987

Uranus -93565-04-19 11:01 J -32453084.11 -32453084.04 -32453083.95 0.0137 0.0120

Uranus -93565-07-16 16:47 J -32452995.91 -32452995.80 -32452995.68 0.0137 0.0099

Saturn -93565-08-20 05:30 J -32452961.34 -32452961.27 -32452961.18 0.0280 0.0232

Uranus -93565-10-12 22:18 J -32452907.70 -32452907.57 -32452907.43 0.0137 0.0079

Saturn -93565-11-16 19:39 J -32452872.80 -32452872.68 -32452872.55 0.0280 0.0142

Uranus -93564-01-09 03:49 J -32452819.48 -32452819.34 -32452819.18 0.0136 0.0059

Saturn -93564-02-13 10:03 J -32452784.23 -32452784.08 -32452783.93 0.0280 0.0050

Uranus -93564-04-07 09:20 J -32452731.26 -32452731.11 -32452730.94 0.0136 0.0039

Venus -93564-05-07 22:18 J -32452700.66 -32452700.57 -32452700.48 0.3784 0.1995

Saturn -93564-05-13 00:42 J -32452695.62 -32452695.47 -32452695.32 0.0280 0.0044

Uranus -93564-07-04 14:51 J -32452643.04 -32452642.88 -32452642.71 0.0136 0.0018

Saturn -93564-08-09 15:49 J -32452606.97 -32452606.84 -32452606.71 0.0281 0.0140

Uranus -93564-09-30 20:23 J -32452554.82 -32452554.65 -32452554.49 0.0136 0.0003

Saturn -93564-11-06 06:56 J -32452518.28 -32452518.21 -32452518.12 0.0281 0.0238

Uranus -93564-12-28 01:39 J -32452466.60 -32452466.43 -32452466.27 0.0136 0.0021

Uranus -93563-03-26 06:56 J -32452378.37 -32452378.21 -32452378.05 0.0136 0.0040

Jupiter -93563-04-25 10:03 J -32452348.18 -32452348.08 -32452347.97 0.0523 0.0329

Uranus -93563-06-22 11:59 J -32452290.14 -32452290.00 -32452289.85 0.0136 0.0059

Jupiter -93563-07-23 21:06 J -32452258.75 -32452258.62 -32452258.48 0.0519 0.0133

Uranus -93563-09-18 17:15 J -32452201.91 -32452201.78 -32452201.65 0.0136 0.0078

Uranus -93563-12-15 22:03 J -32452113.68 -32452113.58 -32452113.45 0.0135 0.0097

Moon -93562-01-18 17:59 J -32452079.85 -32452079.75 -32452079.66 0.2731 0.1781

Earth -93562-01-18 18:13 J -32452079.84 -32452079.74 -32452079.64 0.2737 0.1683 *

Uranus -93562-03-14 03:20 J -32452025.44 -32452025.36 -32452025.27 0.0135 0.0115

Uranus -93562-06-10 08:23 J -32451937.17 -32451937.15 -32451937.12 0.0135 0.0133

Mars -93562-10-10 06:56 J -32451815.33 -32451815.21 -32451815.09 0.1610 0.0688

Mars -93560-09-14 21:35 J -32451109.69 -32451109.60 -32451109.50 0.1604 0.1189

Moon -93559-07-28 09:06 J -32450793.24 -32450793.12 -32450793.00 0.2611 0.0861

Earth -93559-07-28 09:35 J -32450793.23 -32450793.10 -32450792.98 0.2604 0.0787 *

Venus -93559-11-21 16:18 J -32450676.92 -32450676.82 -32450676.72 0.3781 0.1261

Mars -93557-06-30 16:03 J -32450089.84 -32450089.83 -32450089.83 0.1915 0.1912

Jupiter -93557-09-21 11:15 J -32450007.17 -32450007.03 -32450006.89 0.0506 0.0263

Jupiter -93557-12-20 10:32 J -32449917.20 -32449917.06 -32449916.92 0.0509 0.0254

Mars -93555-06-07 07:39 J -32449383.23 -32449383.18 -32449383.12 0.1925 0.1740

Venus -93553-06-06 10:32 J -32448653.17 -32448653.06 -32448652.95 0.3778 0.0511

Mars -93552-03-01 15:35 J -32448384.94 -32448384.85 -32448384.76 0.1612 0.1127

Jupiter -93551-02-11 13:11 J -32448038.02 -32448037.95 -32448037.88 0.0525 0.0441

Jupiter -93551-05-11 23:59 J -32447948.63 -32447948.50 -32447948.36 0.0521 0.0026

Jupiter -93551-08-09 11:59 J -32447859.04 -32447859.00 -32447858.96 0.0517 0.0488

Neptune -93551-11-01 06:13 J -32447775.26 -32447775.24 -32447775.19 0.0089 0.0086

Neptune -93550-01-28 07:54 J -32447687.21 -32447687.17 -32447687.11 0.0089 0.0082

Mars -93550-02-05 05:44 J -32447679.38 -32447679.26 -32447679.13 0.1606 0.0726

Saturn -93550-03-28 03:20 J -32447628.47 -32447628.36 -32447628.25 0.0279 0.0204

Neptune -93550-04-26 09:20 J -32447599.16 -32447599.11 -32447599.03 0.0089 0.0078

Saturn -93550-06-24 20:37 J -32447539.79 -32447539.64 -32447539.49 0.0279 0.0102

Neptune -93550-07-23 11:01 J -32447511.10 -32447511.04 -32447510.95 0.0089 0.0074

Saturn -93550-09-21 13:25 J -32447451.10 -32447450.94 -32447450.78 0.0279 0.0003

Neptune -93550-10-19 12:56 J -32447423.05 -32447422.96 -32447422.87 0.0089 0.0069

Saturn -93550-12-19 05:59 J -32447362.40 -32447362.25 -32447362.10 0.0278 0.0096

Neptune -93549-01-15 14:23 J -32447334.99 -32447334.90 -32447334.80 0.0089 0.0065

Moon -93549-01-21 15:35 J -32447328.98 -32447328.85 -32447328.72 0.2729 0.0178

Earth -93549-01-21 16:18 J -32447328.94 -32447328.82 -32447328.69 0.2733 0.0166 *

Saturn -93549-03-16 21:49 J -32447273.69 -32447273.59 -32447273.47 0.0278 0.0192

Neptune -93549-04-12 16:03 J -32447246.93 -32447246.83 -32447246.72 0.0089 0.0061

Venus -93549-06-04 17:15 J -32447193.83 -32447193.78 -32447193.73 0.3593 0.3361

Neptune -93549-07-09 17:30 J -32447158.87 -32447158.77 -32447158.65 0.0089 0.0057

Neptune -93549-10-05 19:11 J -32447070.80 -32447070.70 -32447070.58 0.0089 0.0053

Neptune -93548-01-01 21:06 J -32446982.74 -32446982.62 -32446982.50 0.0089 0.0048

Neptune -93548-03-30 22:32 J -32446894.68 -32446894.56 -32446894.43 0.0089 0.0044

Neptune -93548-06-27 00:13 J -32446806.61 -32446806.49 -32446806.36 0.0089 0.0040

Neptune -93548-09-23 01:39 J -32446718.55 -32446718.43 -32446718.29 0.0089 0.0036

Neptune -93548-12-20 03:35 J -32446630.48 -32446630.35 -32446630.21 0.0089 0.0031

Venus -93548-12-21 05:01 J -32446629.40 -32446629.29 -32446629.18 0.3775 0.0279

Neptune -93547-03-18 05:15 J -32446542.42 -32446542.28 -32446542.14 0.0089 0.0027

Neptune -93547-06-14 06:56 J -32446454.35 -32446454.21 -32446454.07 0.0089 0.0022

Neptune -93547-09-10 08:37 J -32446366.28 -32446366.14 -32446366.00 0.0089 0.0018

Neptune -93547-12-07 10:18 J -32446278.21 -32446278.07 -32446277.93 0.0089 0.0014

Neptune -93546-03-05 11:59 J -32446190.14 -32446190.00 -32446189.86 0.0089 0.0009

Neptune -93546-06-01 13:39 J -32446102.07 -32446101.93 -32446101.78 0.0089 0.0005

Earth -93546-07-31 07:39 J -32446042.31 -32446042.18 -32446042.05 0.2607 0.0625

Moon -93546-07-31 08:08 J -32446042.29 -32446042.16 -32446042.04 0.2613 0.0732 *

Neptune -93546-08-28 15:20 J -32446014.00 -32446013.86 -32446013.71 0.0089 0.0002

Mars -93546-10-28 10:32 J -32445953.18 -32445953.06 -32445952.94 0.1923 0.0893

Neptune -93546-11-24 17:01 J -32445925.93 -32445925.79 -32445925.64 0.0089 0.0005

Neptune -93545-02-20 18:42 J -32445837.86 -32445837.72 -32445837.57 0.0089 0.0009

Neptune -93545-05-18 20:23 J -32445749.79 -32445749.65 -32445749.50 0.0089 0.0013

Jupiter -93545-07-10 10:47 J -32445697.15 -32445697.05 -32445696.95 0.0505 0.0394

Neptune -93545-08-14 22:18 J -32445661.71 -32445661.57 -32445661.43 0.0089 0.0017

Jupiter -93545-10-08 10:32 J -32445607.22 -32445607.06 -32445606.90 0.0508 0.0126

Neptune -93545-11-10 23:59 J -32445573.64 -32445573.50 -32445573.36 0.0089 0.0021

Neptune -93544-02-07 01:39 J -32445485.56 -32445485.43 -32445485.29 0.0089 0.0026

Neptune -93544-05-06 03:35 J -32445397.49 -32445397.35 -32445397.22 0.0089 0.0030

Neptune -93544-08-02 05:01 J -32445309.41 -32445309.29 -32445309.14 0.0089 0.0035

Neptune -93544-10-29 06:56 J -32445221.34 -32445221.21 -32445221.07 0.0089 0.0039

Venus -93544-12-19 18:56 J -32445169.82 -32445169.71 -32445169.60 0.3595 0.2148

Neptune -93543-01-25 08:37 J -32445133.26 -32445133.14 -32445133.00 0.0089 0.0044

Neptune -93543-04-23 10:32 J -32445045.18 -32445045.06 -32445044.93 0.0089 0.0048

Neptune -93543-07-20 12:13 J -32444957.10 -32444956.99 -32444956.87 0.0089 0.0053

Mars -93543-07-23 00:27 J -32444954.51 -32444954.48 -32444954.45 0.1614 0.1558

Neptune -93543-10-16 14:08 J -32444869.02 -32444868.91 -32444868.80 0.0089 0.0057

Neptune -93542-01-12 15:49 J -32444780.94 -32444780.84 -32444780.73 0.0089 0.0062

Neptune -93542-04-10 17:30 J -32444692.85 -32444692.77 -32444692.66 0.0089 0.0067

Venus -93542-07-06 23:44 J -32444605.62 -32444605.51 -32444605.40 0.3772 0.1070

Neptune -93542-07-07 19:25 J -32444604.77 -32444604.69 -32444604.59 0.0089 0.0071

Neptune -93542-10-03 21:06 J -32444516.68 -32444516.62 -32444516.53 0.0089 0.0076

Neptune -93542-12-30 23:15 J -32444428.59 -32444428.53 -32444428.47 0.0089 0.0080

Neptune -93541-03-28 00:56 J -32444340.49 -32444340.46 -32444340.41 0.0089 0.0085

Mars -93541-06-27 14:08 J -32444249.05 -32444248.91 -32444248.78 0.1607 0.0268

Jupiter -93539-02-28 03:20 J -32443638.50 -32443638.36 -32443638.23 0.0521 0.0093

Jupiter -93539-05-28 14:51 J -32443548.98 -32443548.88 -32443548.78 0.0517 0.0375

Venus -93538-07-05 20:08 J -32443145.79 -32443145.66 -32443145.53 0.3599 0.0990

Venus -93536-01-19 18:42 J -32442581.82 -32442581.72 -32442581.63 0.3768 0.1892

Moon -93536-01-23 13:54 J -32442578.03 -32442577.92 -32442577.81 0.2732 0.1308

Earth -93536-01-23 14:51 J -32442577.99 -32442577.88 -32442577.77 0.2730 0.1443 *

Mars -93536-03-19 12:42 J -32442523.11 -32442522.97 -32442522.83 0.1921 0.0012

Saturn -93535-01-07 06:42 J -32442229.26 -32442229.22 -32442229.16 0.0280 0.0260

Saturn -93535-04-05 20:51 J -32442140.75 -32442140.63 -32442140.52 0.0280 0.0171

Saturn -93535-07-03 11:01 J -32442052.18 -32442052.04 -32442051.90 0.0280 0.0081

Saturn -93535-09-30 01:39 J -32441963.58 -32441963.43 -32441963.28 0.0280 0.0014

Saturn -93535-12-27 16:18 J -32441874.95 -32441874.82 -32441874.68 0.0280 0.0108

Saturn -93534-03-26 07:25 J -32441786.29 -32441786.19 -32441786.08 0.0281 0.0205

Jupiter -93533-07-27 10:18 J -32441297.23 -32441297.07 -32441296.90 0.0508 0.0015

Earth -93533-08-02 05:30 J -32441291.35 -32441291.27 -32441291.19 0.2611 0.2001

Moon -93533-08-02 06:27 J -32441291.31 -32441291.23 -32441291.15 0.2614 0.2018 *

Jupiter -93533-10-25 08:51 J -32441207.14 -32441207.13 -32441207.11 0.0512 0.0509

Venus -93532-01-18 20:51 J -32441121.77 -32441121.63 -32441121.49 0.3602 0.0131

Mars -93532-11-17 22:32 J -32440818.70 -32440818.56 -32440818.43 0.1609 0.0183

Venus -93531-08-05 13:39 J -32440558.00 -32440557.93 -32440557.85 0.3765 0.2730

Jupiter -93528-12-17 06:13 J -32439328.36 -32439328.24 -32439328.11 0.0522 0.0205

Jupiter -93527-03-16 17:30 J -32439238.89 -32439238.77 -32439238.64 0.0518 0.0261

Venus -93527-08-04 21:06 J -32439097.75 -32439097.62 -32439097.50 0.3605 0.1195

Mars -93527-08-09 14:51 J -32439093.00 -32439092.88 -32439092.76 0.1919 0.0897

Moon -93526-07-26 15:49 J -32438741.93 -32438741.84 -32438741.76 0.2605 0.1976

Earth -93526-07-26 16:32 J -32438741.90 -32438741.81 -32438741.72 0.2601 0.1920 *

Venus -93525-02-19 09:06 J -32438534.15 -32438534.12 -32438534.09 0.3761 0.3590

Mars -93522-04-10 07:11 J -32437388.33 -32437388.20 -32437388.08 0.1610 0.0628

Venus -93521-02-18 20:51 J -32437073.73 -32437073.63 -32437073.53 0.3609 0.2210

Jupiter -93521-05-15 10:32 J -32436987.22 -32436987.06 -32436986.90 0.0507 0.0126

Jupiter -93521-08-13 09:35 J -32436897.20 -32436897.10 -32436897.00 0.0511 0.0389

Saturn -93521-08-14 02:08 J -32436896.48 -32436896.41 -32436896.32 0.0279 0.0242

Saturn -93521-11-10 19:39 J -32436807.82 -32436807.68 -32436807.54 0.0279 0.0138

Uranus -93521-12-12 11:01 J -32436776.09 -32436776.04 -32436775.96 0.0142 0.0126

Saturn -93520-02-07 12:42 J -32436719.13 -32436718.97 -32436718.81 0.0278 0.0038

Uranus -93520-03-10 15:20 J -32436687.94 -32436687.86 -32436687.75 0.0142 0.0107

Mars -93520-03-15 21:49 J -32436682.67 -32436682.59 -32436682.50 0.1604 0.1254

Saturn -93520-05-07 05:30 J -32436630.43 -32436630.27 -32436630.12 0.0278 0.0061

Uranus -93520-06-06 19:54 J -32436599.78 -32436599.67 -32436599.55 0.0142 0.0088

Saturn -93520-08-03 21:49 J -32436541.72 -32436541.59 -32436541.46 0.0278 0.0157

Uranus -93520-09-03 00:27 J -32436511.60 -32436511.48 -32436511.35 0.0142 0.0068

Saturn -93520-10-31 13:25 J -32436452.99 -32436452.94 -32436452.86 0.0278 0.0251

Uranus -93520-11-30 05:01 J -32436423.43 -32436423.29 -32436423.15 0.0142 0.0049

Uranus -93519-02-26 09:35 J -32436335.24 -32436335.10 -32436334.95 0.0142 0.0029

Uranus -93519-05-25 14:08 J -32436247.05 -32436246.91 -32436246.76 0.0143 0.0010

Uranus -93519-08-21 18:56 J -32436158.86 -32436158.71 -32436158.56 0.0143 0.0011

Venus -93519-11-13 08:37 J -32436075.19 -32436075.14 -32436075.09 0.3788 0.3213

Uranus -93519-11-17 23:30 J -32436070.66 -32436070.52 -32436070.37 0.0143 0.0032

Uranus -93518-02-14 04:18 J -32435982.46 -32435982.32 -32435982.18 0.0143 0.0052

Uranus -93518-05-13 09:06 J -32435894.25 -32435894.12 -32435893.99 0.0143 0.0073

Uranus -93518-08-09 13:54 J -32435806.03 -32435805.92 -32435805.80 0.0143 0.0094

Uranus -93518-11-05 18:42 J -32435717.80 -32435717.72 -32435717.62 0.0143 0.0115

Mars -93518-12-30 16:32 J -32435662.85 -32435662.81 -32435662.77 0.1915 0.1818

Uranus -93517-02-01 23:44 J -32435629.55 -32435629.51 -32435629.46 0.0143 0.0136

Moon -93516-01-18 23:15 J -32435277.64 -32435277.53 -32435277.42 0.2730 0.1333

Earth -93516-01-18 23:30 J -32435277.62 -32435277.52 -32435277.41 0.2737 0.1375 *

Venus -93516-09-03 20:08 J -32435049.72 -32435049.66 -32435049.60 0.3612 0.3180

Jupiter -93516-10-05 08:37 J -32435018.24 -32435018.14 -32435018.03 0.0523 0.0326

Mars -93516-12-06 08:23 J -32434956.19 -32434956.15 -32434956.12 0.1925 0.1835

Jupiter -93515-01-02 19:39 J -32434928.81 -32434928.68 -32434928.54 0.0519 0.0137

Venus -93513-05-29 02:23 J -32434051.48 -32434051.40 -32434051.32 0.3785 0.2515

Moon -93513-07-28 14:37 J -32433991.02 -32433990.89 -32433990.76 0.2611 0.0496

Earth -93513-07-28 14:51 J -32433991.01 -32433990.88 -32433990.75 0.2604 0.0488 *

Mars -93513-08-30 15:49 J -32433957.94 -32433957.84 -32433957.74 0.1612 0.1065

Mars -93511-08-06 05:59 J -32433252.37 -32433252.25 -32433252.13 0.1605 0.0791

Jupiter -93509-03-03 10:18 J -32432677.21 -32432677.07 -32432676.93 0.0506 0.0255

Jupiter -93509-06-01 09:35 J -32432587.24 -32432587.10 -32432586.96 0.0510 0.0263

Venus -93508-12-12 20:23 J -32432027.75 -32432027.65 -32432027.55 0.3783 0.1798

Mars -93506-04-28 10:47 J -32431526.17 -32431526.05 -32431525.93 0.1923 0.0970

Saturn -93506-08-23 22:47 J -32431408.65 -32431408.55 -32431408.44 0.0280 0.0194

Saturn -93506-11-20 12:56 J -32431320.09 -32431319.96 -32431319.82 0.0280 0.0104

Saturn -93505-02-17 03:35 J -32431231.50 -32431231.35 -32431231.20 0.0280 0.0013

Saturn -93505-05-15 18:13 J -32431142.88 -32431142.74 -32431142.59 0.0281 0.0084

Saturn -93505-08-12 09:20 J -32431054.22 -32431054.11 -32431053.99 0.0281 0.0181

Saturn -93505-11-09 00:56 J -32430965.47 -32430965.46 -32430965.45 0.0281 0.0279

Jupiter -93504-07-24 11:30 J -32430708.09 -32430708.02 -32430707.95 0.0524 0.0442

Jupiter -93504-10-21 22:18 J -32430618.71 -32430618.57 -32430618.43 0.0520 0.0018

Jupiter -93503-01-19 10:03 J -32430529.12 -32430529.08 -32430529.03 0.0516 0.0485

Mars -93503-01-21 00:42 J -32430527.52 -32430527.47 -32430527.43 0.1614 0.1500

Moon -93503-01-21 20:51 J -32430526.75 -32430526.63 -32430526.50 0.2730 0.0050

Earth -93503-01-21 21:49 J -32430526.72 -32430526.59 -32430526.46 0.2733 0.0177 *

Venus -93502-06-28 14:37 J -32430004.00 -32430003.89 -32430003.79 0.3780 0.1064

Mars -93502-12-27 14:23 J -32429822.04 -32429821.90 -32429821.77 0.1607 0.0333

Earth -93500-07-31 12:56 J -32429240.08 -32429239.96 -32429239.83 0.2608 0.0924

Moon -93500-07-31 13:39 J -32429240.05 -32429239.93 -32429239.81 0.2613 0.0941 *

Jupiter -93498-12-21 08:51 J -32428367.23 -32428367.13 -32428367.03 0.0505 0.0393

Jupiter -93497-03-20 08:37 J -32428277.30 -32428277.14 -32428276.98 0.0508 0.0126

Mars -93497-09-17 13:11 J -32428096.08 -32428095.95 -32428095.81 0.1921 0.0102

Venus -93496-01-11 08:51 J -32427980.24 -32427980.13 -32427980.02 0.3777 0.0296

Venus -93492-01-09 17:30 J -32426520.84 -32426520.77 -32426520.70 0.3593 0.3026

Mars -93492-05-18 22:47 J -32426391.69 -32426391.55 -32426391.42 0.1608 0.0127

Jupiter -93492-08-10 01:11 J -32426308.58 -32426308.45 -32426308.31 0.0522 0.0096

Jupiter -93492-11-07 12:56 J -32426219.06 -32426218.96 -32426218.87 0.0518 0.0371

Saturn -93491-01-01 05:01 J -32426164.35 -32426164.29 -32426164.23 0.0279 0.0260

Saturn -93491-03-30 22:32 J -32426075.69 -32426075.56 -32426075.43 0.0279 0.0157

Saturn -93491-06-27 15:35 J -32425987.01 -32425986.85 -32425986.69 0.0279 0.0055

Venus -93491-07-28 03:20 J -32425956.47 -32425956.36 -32425956.25 0.3774 0.0484

Saturn -93491-09-24 08:23 J -32425898.31 -32425898.15 -32425897.99 0.0279 0.0044

Saturn -93491-12-22 00:42 J -32425809.61 -32425809.47 -32425809.33 0.0278 0.0141

Moon -93490-01-24 19:11 J -32425775.80 -32425775.70 -32425775.60 0.2731 0.1686

Earth -93490-01-24 20:23 J -32425775.75 -32425775.65 -32425775.56 0.2729 0.1769 *

Saturn -93490-03-20 16:47 J -32425720.89 -32425720.80 -32425720.72 0.0278 0.0235

Mars -93487-02-07 15:06 J -32424665.99 -32424665.87 -32424665.74 0.1919 0.0813

Venus -93487-07-26 18:56 J -32424496.83 -32424496.71 -32424496.59 0.3596 0.1833

Earth -93487-08-03 10:47 J -32424489.10 -32424489.05 -32424488.99 0.2611 0.2293

Moon -93487-08-03 11:44 J -32424489.05 -32424489.01 -32424488.97 0.2613 0.2460 *

Jupiter -93485-01-07 08:23 J -32423967.32 -32423967.15 -32423966.99 0.0507 0.0004

Venus -93485-02-10 22:03 J -32423932.68 -32423932.58 -32423932.47 0.3771 0.1288

Jupiter -93485-04-06 06:56 J -32423877.23 -32423877.21 -32423877.20 0.0511 0.0507

Earth -93483-01-17 06:56 J -32423226.25 -32423226.21 -32423226.17 0.2740 0.2579

Moon -93483-01-17 07:11 J -32423226.25 -32423226.20 -32423226.15 0.2733 0.2502 *

Mars -93483-10-09 07:25 J -32422961.32 -32422961.19 -32422961.07 0.1610 0.0569

Venus -93481-02-09 20:08 J -32422472.79 -32422472.66 -32422472.53 0.3599 0.0683

Uranus -93481-05-09 17:30 J -32422382.84 -32422382.77 -32422382.67 0.0137 0.0117

Uranus -93481-08-05 23:30 J -32422294.64 -32422294.52 -32422294.40 0.0137 0.0096

Mars -93481-09-13 22:03 J -32422255.66 -32422255.58 -32422255.50 0.1604 0.1318

Uranus -93481-11-02 05:01 J -32422206.43 -32422206.29 -32422206.15 0.0137 0.0076

Uranus -93480-01-29 10:32 J -32422118.21 -32422118.06 -32422117.90 0.0136 0.0055

Uranus -93480-04-27 16:03 J -32422029.99 -32422029.83 -32422029.67 0.0136 0.0035

Jupiter -93480-05-29 04:32 J -32421998.44 -32421998.31 -32421998.19 0.0523 0.0207

Uranus -93480-07-24 21:35 J -32421941.77 -32421941.60 -32421941.44 0.0136 0.0016

Moon -93480-07-26 21:20 J -32421939.70 -32421939.61 -32421939.51 0.2607 0.1739

Earth -93480-07-26 22:03 J -32421939.68 -32421939.58 -32421939.47 0.2602 0.1608 *

Jupiter -93480-08-26 15:49 J -32421908.96 -32421908.84 -32421908.72 0.0519 0.0258

Venus -93480-08-26 17:01 J -32421908.88 -32421908.79 -32421908.70 0.3767 0.2108 *

Uranus -93480-10-21 02:51 J -32421853.54 -32421853.38 -32421853.21 0.0136 0.0005

Uranus -93479-01-17 08:08 J -32421765.32 -32421765.16 -32421764.99 0.0136 0.0024

Uranus -93479-04-15 13:25 J -32421677.09 -32421676.94 -32421676.78 0.0136 0.0043

Uranus -93479-07-12 18:42 J -32421588.86 -32421588.72 -32421588.57 0.0136 0.0062

Uranus -93479-10-08 23:44 J -32421500.63 -32421500.51 -32421500.37 0.0136 0.0081

Uranus -93478-01-05 05:01 J -32421412.40 -32421412.29 -32421412.18 0.0135 0.0099

Uranus -93478-04-03 09:49 J -32421324.16 -32421324.09 -32421324.00 0.0135 0.0118

Mars -93478-06-30 16:32 J -32421235.86 -32421235.81 -32421235.75 0.1916 0.1746

Saturn -93476-01-10 00:13 J -32420676.58 -32420676.49 -32420676.41 0.0280 0.0222

Saturn -93476-04-08 14:08 J -32420588.04 -32420587.91 -32420587.78 0.0280 0.0133

Mars -93476-06-06 08:23 J -32420529.17 -32420529.15 -32420529.14 0.1925 0.1903

Saturn -93476-07-06 04:32 J -32420499.46 -32420499.31 -32420499.17 0.0280 0.0041

Venus -93476-08-25 20:37 J -32420448.77 -32420448.64 -32420448.50 0.3603 0.0419

Saturn -93476-10-02 19:11 J -32420410.85 -32420410.70 -32420410.55 0.0280 0.0053

Saturn -93476-12-30 10:03 J -32420322.21 -32420322.08 -32420321.95 0.0280 0.0149

Saturn -93475-03-29 01:11 J -32420233.51 -32420233.45 -32420233.37 0.0281 0.0247

Venus -93474-03-12 12:13 J -32419885.06 -32419884.99 -32419884.92 0.3764 0.2952

Jupiter -93474-10-26 08:08 J -32419657.32 -32419657.16 -32419657.00 0.0507 0.0132

Jupiter -93473-01-24 07:11 J -32419567.31 -32419567.20 -32419567.10 0.0511 0.0383

Mars -93473-02-29 16:03 J -32419530.94 -32419530.83 -32419530.73 0.1612 0.1007

Mars -93471-02-04 06:13 J -32418825.35 -32418825.24 -32418825.12 0.1605 0.0854

Moon -93470-01-20 04:32 J -32418475.42 -32418475.31 -32418475.20 0.2729 0.1183

Earth -93470-01-20 05:01 J -32418475.41 -32418475.29 -32418475.18 0.2736 0.1061 *

Venus -93470-03-11 20:51 J -32418424.76 -32418424.63 -32418424.51 0.3606 0.1467

Jupiter -93468-03-17 07:39 J -32417688.29 -32417688.18 -32417688.07 0.0523 0.0318

Jupiter -93468-06-14 18:42 J -32417598.85 -32417598.72 -32417598.58 0.0519 0.0145

Neptune -93468-10-30 20:51 J -32417460.67 -32417460.63 -32417460.55 0.0089 0.0084

Venus -93468-12-04 12:56 J -32417425.98 -32417425.96 -32417425.94 0.3789 0.3708

Neptune -93467-01-26 23:59 J -32417372.57 -32417372.50 -32417372.40 0.0089 0.0078

Neptune -93467-04-25 02:51 J -32417284.46 -32417284.38 -32417284.26 0.0089 0.0073

Neptune -93467-07-22 05:59 J -32417196.35 -32417196.25 -32417196.12 0.0089 0.0067

Moon -93467-07-29 20:23 J -32417188.78 -32417188.65 -32417188.52 0.2611 0.0187

Earth -93467-07-29 20:23 J -32417188.78 -32417188.65 -32417188.52 0.2605 0.0180 *

Neptune -93467-10-18 08:51 J -32417108.24 -32417108.13 -32417107.99 0.0089 0.0062

Mars -93467-10-27 11:01 J -32417099.15 -32417099.04 -32417098.92 0.1924 0.1058

Neptune -93466-01-14 11:59 J -32417020.13 -32417020.00 -32417019.86 0.0089 0.0056

Neptune -93466-04-12 14:51 J -32416932.02 -32416931.88 -32416931.73 0.0089 0.0051

Neptune -93466-07-09 17:30 J -32416843.91 -32416843.77 -32416843.60 0.0089 0.0046

Pluto -93466-09-12 18:56 J -32416778.78 -32416778.71 -32416778.61 0.0060 0.0054

Neptune -93466-10-05 20:37 J -32416755.79 -32416755.64 -32416755.47 0.0089 0.0040

Pluto -93466-12-09 20:37 J -32416690.75 -32416690.64 -32416690.51 0.0060 0.0047

Neptune -93465-01-01 23:30 J -32416667.68 -32416667.52 -32416667.35 0.0089 0.0034

Pluto -93465-03-06 21:49 J -32416602.71 -32416602.59 -32416602.43 0.0060 0.0041

Neptune -93465-03-30 02:37 J -32416579.56 -32416579.39 -32416579.23 0.0089 0.0029

Pluto -93465-06-02 23:30 J -32416514.67 -32416514.52 -32416514.35 0.0060 0.0034

Neptune -93465-06-26 05:15 J -32416491.44 -32416491.28 -32416491.11 0.0088 0.0024

Pluto -93465-08-30 00:42 J -32416426.62 -32416426.47 -32416426.27 0.0060 0.0028

Neptune -93465-09-22 08:08 J -32416403.33 -32416403.16 -32416402.98 0.0088 0.0018

Venus -93465-09-24 20:23 J -32416400.74 -32416400.65 -32416400.55 0.3610 0.2470

Pluto -93465-11-26 02:23 J -32416338.57 -32416338.40 -32416338.20 0.0060 0.0021

Neptune -93465-12-19 11:01 J -32416315.21 -32416315.04 -32416314.87 0.0088 0.0013

Pluto -93464-02-22 04:03 J -32416250.52 -32416250.33 -32416250.13 0.0060 0.0014

Neptune -93464-03-17 13:54 J -32416227.10 -32416226.92 -32416226.75 0.0088 0.0008

Pluto -93464-05-21 05:30 J -32416162.46 -32416162.27 -32416162.07 0.0060 0.0008

Neptune -93464-06-13 16:32 J -32416138.98 -32416138.81 -32416138.63 0.0088 0.0004

Mars -93464-07-22 00:42 J -32416100.52 -32416100.47 -32416100.41 0.1614 0.1441

Pluto -93464-08-17 07:11 J -32416074.40 -32416074.20 -32416074.01 0.0060 0.0001

Neptune -93464-09-09 19:25 J -32416050.86 -32416050.69 -32416050.51 0.0088 0.0003

Pluto -93464-11-13 08:23 J -32415986.34 -32415986.15 -32415985.94 0.0060 0.0007

Neptune -93464-12-06 22:03 J -32415962.75 -32415962.58 -32415962.40 0.0088 0.0009

Pluto -93463-02-09 10:03 J -32415898.27 -32415898.08 -32415897.89 0.0060 0.0013

Neptune -93463-03-05 00:56 J -32415874.63 -32415874.46 -32415874.29 0.0088 0.0013

Pluto -93463-05-08 11:30 J -32415810.20 -32415810.02 -32415809.83 0.0060 0.0020

Neptune -93463-06-01 03:35 J -32415786.51 -32415786.35 -32415786.17 0.0088 0.0019

Pluto -93463-08-04 12:42 J -32415722.13 -32415721.97 -32415721.78 0.0061 0.0027

Neptune -93463-08-28 06:27 J -32415698.40 -32415698.23 -32415698.06 0.0088 0.0024

Pluto -93463-10-31 14:08 J -32415634.05 -32415633.91 -32415633.73 0.0061 0.0034

Neptune -93463-11-24 08:51 J -32415610.28 -32415610.13 -32415609.95 0.0088 0.0030

Pluto -93462-01-27 16:03 J -32415545.97 -32415545.83 -32415545.68 0.0061 0.0040

Neptune -93462-02-20 11:44 J -32415522.16 -32415522.01 -32415521.84 0.0088 0.0034

Pluto -93462-04-25 17:30 J -32415457.89 -32415457.77 -32415457.64 0.0061 0.0047

Neptune -93462-05-19 14:23 J -32415434.04 -32415433.90 -32415433.73 0.0088 0.0040

Venus -93462-06-20 06:42 J -32415402.28 -32415402.22 -32415402.16 0.3787 0.3022

Mars -93462-06-27 14:37 J -32415395.03 -32415394.89 -32415394.76 0.1607 0.0397

Pluto -93462-07-22 18:56 J -32415369.79 -32415369.71 -32415369.61 0.0061 0.0054

Jupiter -93462-08-14 08:08 J -32415347.30 -32415347.16 -32415347.01 0.0506 0.0257

Neptune -93462-08-15 17:01 J -32415345.92 -32415345.79 -32415345.63 0.0088 0.0045

Saturn -93462-08-17 21:20 J -32415343.73 -32415343.61 -32415343.49 0.0279 0.0195

Neptune -93462-11-11 19:54 J -32415257.81 -32415257.67 -32415257.52 0.0088 0.0049

Jupiter -93462-11-12 07:39 J -32415257.32 -32415257.18 -32415257.04 0.0510 0.0262

Saturn -93462-11-14 14:37 J -32415255.04 -32415254.89 -32415254.74 0.0278 0.0093

Neptune -93461-02-07 22:32 J -32415169.69 -32415169.56 -32415169.42 0.0088 0.0054

Saturn -93461-02-11 07:25 J -32415166.35 -32415166.19 -32415166.03 0.0278 0.0009

Neptune -93461-05-06 01:11 J -32415081.57 -32415081.45 -32415081.32 0.0088 0.0060

Saturn -93461-05-09 23:59 J -32415077.64 -32415077.50 -32415077.35 0.0278 0.0105

Neptune -93461-08-02 03:49 J -32414993.45 -32414993.34 -32414993.22 0.0088 0.0065

Saturn -93461-08-06 16:03 J -32414988.93 -32414988.83 -32414988.72 0.0278 0.0200

Neptune -93461-10-29 06:27 J -32414905.33 -32414905.23 -32414905.12 0.0088 0.0070

Neptune -93460-01-25 08:51 J -32414817.20 -32414817.13 -32414817.02 0.0088 0.0075

Neptune -93460-04-23 11:30 J -32414729.08 -32414729.02 -32414728.93 0.0088 0.0080

Neptune -93460-07-20 14:08 J -32414640.94 -32414640.91 -32414640.85 0.0088 0.0085

Venus -93459-04-10 19:39 J -32414376.72 -32414376.68 -32414376.64 0.3613 0.3417

Moon -93457-01-23 02:08 J -32413724.53 -32413724.41 -32413724.28 0.2731 0.0475

Earth -93457-01-23 03:20 J -32413724.49 -32413724.36 -32413724.24 0.2732 0.0505 *

Mars -93457-03-18 13:39 J -32413669.07 -32413668.93 -32413668.79 0.1922 0.0185

Venus -93456-01-03 00:27 J -32413378.56 -32413378.48 -32413378.39 0.3785 0.2323

Jupiter -93456-01-03 10:18 J -32413378.14 -32413378.07 -32413378.00 0.0524 0.0436

Jupiter -93456-04-02 21:06 J -32413288.76 -32413288.62 -32413288.48 0.0520 0.0023

Jupiter -93456-07-01 08:51 J -32413199.17 -32413199.13 -32413199.09 0.0516 0.0489

Earth -93454-08-01 18:27 J -32412437.85 -32412437.73 -32412437.62 0.2608 0.1215

Moon -93454-08-01 19:11 J -32412437.81 -32412437.70 -32412437.59 0.2614 0.1324 *

Mars -93453-11-16 23:01 J -32411964.68 -32411964.54 -32411964.41 0.1608 0.0056

Venus -93451-07-19 18:27 J -32411354.83 -32411354.73 -32411354.63 0.3782 0.1601

Jupiter -93450-06-02 07:39 J -32411037.28 -32411037.18 -32411037.06 0.0505 0.0386

Jupiter -93450-08-31 07:39 J -32410947.34 -32410947.18 -32410947.02 0.0509 0.0136

Mars -93448-08-08 15:35 J -32410238.98 -32410238.85 -32410238.72 0.1919 0.0726

Saturn -93447-05-30 01:25 J -32409944.50 -32409944.44 -32409944.37 0.0280 0.0249

Saturn -93447-08-26 15:35 J -32409855.97 -32409855.85 -32409855.73 0.0280 0.0160

Saturn -93447-11-23 05:59 J -32409767.40 -32409767.25 -32409767.11 0.0280 0.0069

Saturn -93446-02-19 20:23 J -32409678.80 -32409678.65 -32409678.50 0.0281 0.0026

Saturn -93446-05-19 11:15 J -32409590.16 -32409590.03 -32409589.89 0.0281 0.0122

Saturn -93446-08-16 02:37 J -32409501.48 -32409501.39 -32409501.30 0.0281 0.0219

Venus -93445-02-02 12:42 J -32409331.08 -32409330.97 -32409330.86 0.3779 0.0854

Jupiter -93444-01-19 23:44 J -32408978.65 -32408978.51 -32408978.37 0.0521 0.0095

Moon -93444-01-25 00:42 J -32408973.55 -32408973.47 -32408973.38 0.2731 0.1946

Earth -93444-01-25 01:39 J -32408973.50 -32408973.43 -32408973.35 0.2729 0.2099 *

Jupiter -93444-04-19 11:15 J -32408889.13 -32408889.03 -32408888.93 0.0517 0.0371

Mars -93443-04-09 07:25 J -32408534.31 -32408534.19 -32408534.06 0.1610 0.0507

Mars -93441-03-14 22:18 J -32407828.63 -32407828.57 -32407828.50 0.1604 0.1387

Earth -93441-08-03 16:18 J -32407686.84 -32407686.82 -32407686.81 0.2612 0.2581

Venus -93440-08-18 07:11 J -32407307.31 -32407307.20 -32407307.09 0.3776 0.0157

Mars -93439-12-29 17:15 J -32406808.85 -32406808.78 -32406808.71 0.1916 0.1646

Jupiter -93438-06-19 06:42 J -32406637.39 -32406637.22 -32406637.06 0.0507 0.0002

Jupiter -93438-09-17 05:01 J -32406547.29 -32406547.29 -32406547.27 0.0511 0.0509

Moon -93437-01-18 12:13 J -32406424.05 -32406423.99 -32406423.92 0.2732 0.2291

Earth -93437-01-18 12:13 J -32406424.05 -32406423.99 -32406423.92 0.2739 0.2273 *

Uranus -93437-10-05 13:39 J -32406162.93 -32406162.93 -32406162.92 0.0142 0.0141

Uranus -93436-01-01 17:59 J -32406074.81 -32406074.75 -32406074.67 0.0142 0.0123

Uranus -93436-03-30 22:18 J -32405986.66 -32405986.57 -32405986.46 0.0142 0.0104

Uranus -93436-06-27 02:37 J -32405898.49 -32405898.39 -32405898.26 0.0142 0.0085

Venus -93436-08-16 17:44 J -32405847.85 -32405847.76 -32405847.67 0.3594 0.2699

Uranus -93436-09-23 07:25 J -32405810.32 -32405810.19 -32405810.06 0.0142 0.0065

Uranus -93436-12-20 11:59 J -32405722.14 -32405722.00 -32405721.86 0.0142 0.0046

Uranus -93435-03-18 16:32 J -32405633.96 -32405633.81 -32405633.67 0.0142 0.0026

Uranus -93435-06-14 21:06 J -32405545.77 -32405545.62 -32405545.47 0.0143 0.0006

Uranus -93435-09-11 01:39 J -32405457.57 -32405457.43 -32405457.28 0.0143 0.0015

Uranus -93435-12-08 06:27 J -32405369.37 -32405369.23 -32405369.08 0.0143 0.0035

Venus -93434-03-04 01:39 J -32405283.54 -32405283.43 -32405283.32 0.3773 0.0694

Uranus -93434-03-06 11:15 J -32405281.17 -32405281.03 -32405280.89 0.0143 0.0055

Uranus -93434-06-02 16:03 J -32405192.96 -32405192.83 -32405192.70 0.0143 0.0076

Moon -93434-07-28 02:51 J -32405137.49 -32405137.38 -32405137.27 0.2607 0.1319

Earth -93434-07-28 03:35 J -32405137.46 -32405137.35 -32405137.24 0.2602 0.1304 *

Uranus -93434-08-29 20:51 J -32405104.74 -32405104.63 -32405104.52 0.0143 0.0097

Mars -93434-08-30 16:03 J -32405103.94 -32405103.83 -32405103.72 0.1612 0.0949

Uranus -93434-11-26 01:39 J -32405016.51 -32405016.43 -32405016.34 0.0143 0.0119

Uranus -93433-02-22 06:42 J -32404928.25 -32404928.22 -32404928.19 0.0143 0.0140

Jupiter -93433-11-08 02:37 J -32404668.52 -32404668.39 -32404668.26 0.0523 0.0210

Saturn -93432-01-03 23:44 J -32404611.61 -32404611.51 -32404611.40 0.0279 0.0216

Jupiter -93432-02-05 13:54 J -32404579.04 -32404578.92 -32404578.80 0.0519 0.0256

Saturn -93432-04-02 17:15 J -32404522.93 -32404522.78 -32404522.63 0.0279 0.0112

Saturn -93432-06-30 10:18 J -32404434.24 -32404434.07 -32404433.91 0.0279 0.0014

Mars -93432-08-05 06:27 J -32404398.34 -32404398.23 -32404398.12 0.1605 0.0917

Saturn -93432-09-27 02:51 J -32404345.53 -32404345.38 -32404345.23 0.0279 0.0087

Saturn -93432-12-24 18:56 J -32404256.83 -32404256.71 -32404256.59 0.0278 0.0183

Saturn -93431-03-23 10:32 J -32404168.06 -32404168.06 -32404168.03 0.0278 0.0277

Venus -93430-03-02 19:11 J -32403823.83 -32403823.70 -32403823.58 0.3597 0.1524

Venus -93429-09-16 20:23 J -32403259.75 -32403259.65 -32403259.55 0.3770 0.1500

Mars -93427-04-27 11:30 J -32402672.13 -32402672.02 -32402671.91 0.1924 0.1142

Jupiter -93426-04-07 06:27 J -32402327.39 -32402327.23 -32402327.07 0.0506 0.0130

Jupiter -93426-07-06 05:15 J -32402237.38 -32402237.28 -32402237.17 0.0510 0.0383

Venus -93425-09-15 20:08 J -32401799.80 -32401799.66 -32401799.53 0.3600 0.0399

Mars -93424-01-20 00:56 J -32401673.52 -32401673.46 -32401673.39 0.1614 0.1382

Moon -93424-01-20 09:49 J -32401673.21 -32401673.09 -32401672.97 0.2730 0.0747

Earth -93424-01-20 10:18 J -32401673.19 -32401673.07 -32401672.95 0.2736 0.0751 *

Venus -93423-04-02 15:20 J -32401235.95 -32401235.86 -32401235.77 0.3766 0.2328

Mars -93423-12-26 14:37 J -32400968.02 -32400967.89 -32400967.75 0.1607 0.0460

Earth -93421-07-30 01:54 J -32400386.55 -32400386.42 -32400386.29 0.2605 0.0125

Moon -93421-07-30 02:08 J -32400386.54 -32400386.41 -32400386.28 0.2612 0.0118 *

Jupiter -93421-08-27 05:59 J -32400358.36 -32400358.25 -32400358.14 0.0524 0.0320

Jupiter -93421-11-24 17:01 J -32400268.92 -32400268.79 -32400268.66 0.0520 0.0144

Venus -93419-04-01 20:23 J -32399775.78 -32399775.65 -32399775.52 0.3604 0.0689

Mars -93418-09-17 13:54 J -32399242.06 -32399241.92 -32399241.79 0.1922 0.0269

Saturn -93418-10-17 03:06 J -32399212.39 -32399212.37 -32399212.34 0.0279 0.0274

Venus -93418-10-17 10:32 J -32399212.12 -32399212.06 -32399212.00 0.3763 0.3170

Saturn -93417-01-13 16:47 J -32399123.90 -32399123.80 -32399123.68 0.0280 0.0187

Saturn -93417-04-11 06:56 J -32399035.34 -32399035.21 -32399035.06 0.0280 0.0097

Saturn -93417-07-08 21:35 J -32398946.75 -32398946.60 -32398946.45 0.0280 0.0005

Saturn -93417-10-05 12:13 J -32398858.13 -32398857.99 -32398857.84 0.0280 0.0091

Saturn -93416-01-02 03:20 J -32398769.47 -32398769.36 -32398769.25 0.0280 0.0188

Jupiter -93414-01-24 05:59 J -32398017.39 -32398017.25 -32398017.11 0.0506 0.0260

Jupiter -93414-04-24 05:30 J -32397927.41 -32397927.27 -32397927.13 0.0509 0.0258

Venus -93414-10-16 20:23 J -32397751.76 -32397751.65 -32397751.53 0.3607 0.1734

Mars -93413-05-17 23:15 J -32397537.67 -32397537.53 -32397537.40 0.1608 0.0051

Moon -93411-01-23 07:39 J -32396922.31 -32396922.18 -32396922.06 0.2731 0.0617

Earth -93411-01-23 08:37 J -32396922.26 -32396922.14 -32396922.02 0.2732 0.0821 *

Venus -93411-07-11 11:01 J -32396753.08 -32396753.04 -32396753.00 0.3789 0.3522

Jupiter -93409-06-15 09:20 J -32396048.19 -32396048.11 -32396048.04 0.0524 0.0429

Jupiter -93409-09-12 20:08 J -32395958.80 -32395958.66 -32395958.52 0.0521 0.0032

Jupiter -93409-12-11 07:54 J -32395869.20 -32395869.17 -32395869.14 0.0517 0.0498

Mars -93408-02-06 15:49 J -32395811.97 -32395811.84 -32395811.71 0.1919 0.0637

Venus -93408-05-01 19:54 J -32395727.76 -32395727.67 -32395727.58 0.3611 0.2711

Earth -93408-08-01 23:59 J -32395635.61 -32395635.50 -32395635.40 0.2609 0.1519

Moon -93408-08-02 00:42 J -32395635.58 -32395635.47 -32395635.37 0.2614 0.1576 *

Venus -93405-01-25 04:47 J -32394729.37 -32394729.30 -32394729.23 0.3786 0.2833

Mars -93404-10-08 07:39 J -32394107.31 -32394107.18 -32394107.05 0.1610 0.0444

Saturn -93403-05-23 22:18 J -32393879.63 -32393879.57 -32393879.50 0.0279 0.0255

Saturn -93403-08-20 15:49 J -32393790.97 -32393790.84 -32393790.70 0.0279 0.0151

Jupiter -93403-11-12 05:59 J -32393707.36 -32393707.25 -32393707.14 0.0505 0.0385

Saturn -93403-11-17 09:06 J -32393702.28 -32393702.12 -32393701.96 0.0278 0.0050

Jupiter -93402-02-10 05:44 J -32393617.41 -32393617.26 -32393617.10 0.0509 0.0136

Saturn -93402-02-14 01:39 J -32393613.58 -32393613.43 -32393613.27 0.0278 0.0050

Saturn -93402-05-13 18:13 J -32393524.88 -32393524.74 -32393524.61 0.0278 0.0146

Saturn -93402-08-10 10:03 J -32393436.15 -32393436.08 -32393436.00 0.0278 0.0241

Mars -93402-09-13 22:32 J -32393401.61 -32393401.56 -32393401.50 0.1604 0.1450

Moon -93401-07-25 09:35 J -32393086.14 -32393086.10 -32393086.06 0.2602 0.2482

Earth -93401-07-25 10:32 J -32393086.10 -32393086.06 -32393086.02 0.2599 0.2453 *

Venus -93400-08-09 22:32 J -32392705.65 -32392705.56 -32392705.47 0.3784 0.2130

Mars -93399-06-29 17:30 J -32392381.85 -32392381.77 -32392381.69 0.1916 0.1565

Moon -93398-01-26 06:27 J -32392171.29 -32392171.23 -32392171.17 0.2732 0.2408

Earth -93398-01-26 07:11 J -32392171.25 -32392171.20 -32392171.14 0.2728 0.2425 *

Uranus -93397-03-02 18:42 J -32391769.74 -32391769.72 -32391769.69 0.0137 0.0134

Uranus -93397-05-30 00:13 J -32391681.57 -32391681.49 -32391681.38 0.0137 0.0114

Jupiter -93397-07-01 22:32 J -32391648.69 -32391648.56 -32391648.42 0.0521 0.0089

Uranus -93397-08-26 06:13 J -32391593.36 -32391593.24 -32391593.12 0.0137 0.0093

Jupiter -93397-09-29 10:03 J -32391559.17 -32391559.08 -32391558.98 0.0517 0.0377

Uranus -93397-11-22 11:44 J -32391505.15 -32391505.01 -32391504.87 0.0137 0.0073

Uranus -93396-02-18 17:15 J -32391416.93 -32391416.78 -32391416.62 0.0136 0.0052

Uranus -93396-05-17 22:47 J -32391328.71 -32391328.55 -32391328.39 0.0136 0.0032

Uranus -93396-08-14 04:18 J -32391240.49 -32391240.32 -32391240.16 0.0136 0.0013

Uranus -93396-11-10 09:35 J -32391152.26 -32391152.10 -32391151.93 0.0136 0.0007

Uranus -93395-02-06 14:51 J -32391064.04 -32391063.88 -32391063.71 0.0136 0.0027

Uranus -93395-05-05 20:08 J -32390975.81 -32390975.66 -32390975.50 0.0136 0.0046

Uranus -93395-08-02 01:25 J -32390887.58 -32390887.44 -32390887.29 0.0136 0.0065

Uranus -93395-10-29 06:27 J -32390799.35 -32390799.23 -32390799.09 0.0136 0.0083

Uranus -93394-01-25 11:44 J -32390711.11 -32390711.01 -32390710.90 0.0135 0.0102

Venus -93394-02-23 16:32 J -32390681.91 -32390681.81 -32390681.70 0.3781 0.1409

Mars -93394-02-28 16:18 J -32390676.93 -32390676.82 -32390676.71 0.1612 0.0886

Uranus -93394-04-23 16:32 J -32390622.87 -32390622.81 -32390622.72 0.0135 0.0121

Mars -93392-02-03 06:42 J -32389971.33 -32389971.22 -32389971.11 0.1605 0.0985

Moon -93391-01-18 17:44 J -32389621.85 -32389621.76 -32389621.68 0.2731 0.1946

Earth -93391-01-18 17:44 J -32389621.85 -32389621.76 -32389621.68 0.2739 0.1961 *

Jupiter -93391-11-29 05:44 J -32389307.42 -32389307.26 -32389307.09 0.0508 0.0017

Venus -93389-09-08 10:47 J -32388658.16 -32388658.05 -32388657.94 0.3778 0.0664

Saturn -93388-06-01 17:44 J -32388391.84 -32388391.76 -32388391.66 0.0280 0.0217

Moon -93388-07-28 08:37 J -32388335.26 -32388335.14 -32388335.02 0.2608 0.1123

Earth -93388-07-28 09:06 J -32388335.24 -32388335.12 -32388335.00 0.2603 0.0996 *

Saturn -93388-08-29 07:54 J -32388303.30 -32388303.17 -32388303.03 0.0280 0.0127

Mars -93388-10-26 11:44 J -32388245.11 -32388245.01 -32388244.90 0.1924 0.1230

Saturn -93388-11-25 22:18 J -32388214.72 -32388214.57 -32388214.42 0.0280 0.0035

Saturn -93387-02-22 12:56 J -32388126.10 -32388125.96 -32388125.81 0.0281 0.0060

Saturn -93387-05-22 04:03 J -32388037.46 -32388037.33 -32388037.21 0.0281 0.0157

Saturn -93387-08-18 19:11 J -32387948.75 -32387948.70 -32387948.63 0.0281 0.0255

Neptune -93386-05-02 04:32 J -32387692.31 -32387692.31 -32387692.27 0.0089 0.0088

Neptune -93386-07-29 06:27 J -32387604.27 -32387604.23 -32387604.18 0.0089 0.0083

Neptune -93386-10-25 08:08 J -32387516.22 -32387516.16 -32387516.10 0.0089 0.0079

Neptune -93385-01-21 09:35 J -32387428.17 -32387428.10 -32387428.02 0.0089 0.0075

Neptune -93385-04-18 11:01 J -32387340.11 -32387340.04 -32387339.94 0.0089 0.0071

Jupiter -93385-04-20 01:25 J -32387338.57 -32387338.44 -32387338.31 0.0522 0.0205

Neptune -93385-07-15 12:42 J -32387252.05 -32387251.97 -32387251.87 0.0089 0.0067

Jupiter -93385-07-18 12:42 J -32387249.09 -32387248.97 -32387248.85 0.0518 0.0259

Mars -93385-07-21 01:11 J -32387246.53 -32387246.45 -32387246.38 0.1614 0.1323

Neptune -93385-10-11 14:08 J -32387163.99 -32387163.91 -32387163.79 0.0089 0.0063

Neptune -93384-01-07 15:49 J -32387075.93 -32387075.84 -32387075.72 0.0089 0.0059

Neptune -93384-04-05 17:44 J -32386987.87 -32386987.76 -32386987.65 0.0089 0.0054

Neptune -93384-07-02 19:11 J -32386899.81 -32386899.70 -32386899.57 0.0089 0.0050

Neptune -93384-09-28 20:51 J -32386811.74 -32386811.63 -32386811.50 0.0089 0.0046

Neptune -93384-12-25 22:32 J -32386723.68 -32386723.56 -32386723.43 0.0089 0.0041

Neptune -93383-03-24 00:13 J -32386635.62 -32386635.49 -32386635.36 0.0089 0.0037

Venus -93383-03-25 05:15 J -32386634.39 -32386634.28 -32386634.17 0.3775 0.0127

Neptune -93383-06-20 01:54 J -32386547.55 -32386547.42 -32386547.28 0.0089 0.0033

Mars -93383-06-26 15:06 J -32386541.00 -32386540.87 -32386540.75 0.1606 0.0526

Neptune -93383-09-16 03:20 J -32386459.48 -32386459.36 -32386459.21 0.0089 0.0029

Neptune -93383-12-13 05:15 J -32386371.42 -32386371.28 -32386371.14 0.0089 0.0024

Neptune -93382-03-11 06:56 J -32386283.35 -32386283.21 -32386283.07 0.0089 0.0020

Neptune -93382-06-07 08:37 J -32386195.28 -32386195.14 -32386195.00 0.0089 0.0015

Neptune -93382-09-03 10:18 J -32386107.21 -32386107.07 -32386106.93 0.0089 0.0011

Neptune -93382-11-30 11:59 J -32386019.14 -32386019.00 -32386018.86 0.0089 0.0007

Neptune -93381-02-26 13:39 J -32385931.07 -32385930.93 -32385930.78 0.0089 0.0003

Neptune -93381-05-24 15:20 J -32385843.00 -32385842.86 -32385842.71 0.0089 0.0003

Neptune -93381-08-20 17:01 J -32385754.93 -32385754.79 -32385754.64 0.0089 0.0007

Neptune -93381-11-16 18:42 J -32385666.86 -32385666.72 -32385666.57 0.0089 0.0011

Neptune -93380-02-12 20:23 J -32385578.79 -32385578.65 -32385578.50 0.0089 0.0016

Neptune -93380-05-11 22:18 J -32385490.71 -32385490.57 -32385490.43 0.0089 0.0020

Neptune -93380-08-07 23:59 J -32385402.64 -32385402.50 -32385402.36 0.0089 0.0024

Neptune -93380-11-04 01:39 J -32385314.56 -32385314.43 -32385314.29 0.0089 0.0029

Neptune -93379-01-31 03:20 J -32385226.49 -32385226.36 -32385226.22 0.0089 0.0033

Venus -93379-03-23 17:44 J -32385174.86 -32385174.76 -32385174.66 0.3595 0.2387

Neptune -93379-04-29 05:01 J -32385138.41 -32385138.29 -32385138.15 0.0089 0.0038

Neptune -93379-07-26 06:56 J -32385050.33 -32385050.21 -32385050.08 0.0089 0.0042

Jupiter -93379-09-17 04:47 J -32384997.46 -32384997.30 -32384997.13 0.0506 0.0126

Neptune -93379-10-22 08:37 J -32384962.26 -32384962.14 -32384962.01 0.0089 0.0047

Jupiter -93379-12-16 03:49 J -32384907.44 -32384907.34 -32384907.24 0.0510 0.0387

Neptune -93378-01-18 10:32 J -32384874.18 -32384874.06 -32384873.94 0.0089 0.0051

Moon -93378-01-21 15:06 J -32384871.00 -32384870.87 -32384870.75 0.2731 0.0562

Earth -93378-01-21 15:49 J -32384870.97 -32384870.84 -32384870.72 0.2735 0.0429 *

Mars -93378-03-18 14:08 J -32384815.04 -32384814.91 -32384814.77 0.1922 0.0353

Neptune -93378-04-16 11:59 J -32384786.10 -32384786.00 -32384785.87 0.0089 0.0056

Neptune -93378-07-13 14:08 J -32384698.02 -32384697.91 -32384697.80 0.0089 0.0060

Venus -93378-10-08 23:59 J -32384610.61 -32384610.50 -32384610.40 0.3772 0.0909

Neptune -93378-10-09 15:49 J -32384609.93 -32384609.84 -32384609.73 0.0089 0.0065

Neptune -93377-01-05 17:44 J -32384521.85 -32384521.76 -32384521.67 0.0089 0.0069

Neptune -93377-04-02 19:25 J -32384433.76 -32384433.69 -32384433.60 0.0089 0.0074

Neptune -93377-06-29 21:06 J -32384345.67 -32384345.62 -32384345.54 0.0089 0.0079

Neptune -93377-09-25 23:01 J -32384257.58 -32384257.54 -32384257.48 0.0089 0.0083

Neptune -93377-12-23 00:42 J -32384169.47 -32384169.47 -32384169.43 0.0089 0.0088

Earth -93375-07-31 07:25 J -32383584.32 -32383584.19 -32383584.06 0.2606 0.0430

Moon -93375-07-31 07:39 J -32383584.31 -32383584.18 -32383584.05 0.2612 0.0508 *

Venus -93374-10-07 19:11 J -32383150.83 -32383150.70 -32383150.57 0.3598 0.1215

Saturn -93374-10-11 00:27 J -32383147.49 -32383147.48 -32383147.47 0.0280 0.0278

Mars -93374-11-16 23:15 J -32383110.66 -32383110.53 -32383110.39 0.1608 0.0076

Saturn -93373-01-07 17:59 J -32383058.87 -32383058.75 -32383058.62 0.0279 0.0174

Jupiter -93373-02-07 04:03 J -32383028.43 -32383028.33 -32383028.22 0.0524 0.0322

Saturn -93373-04-05 11:15 J -32382970.18 -32382970.03 -32382969.87 0.0279 0.0071

Jupiter -93373-05-06 15:20 J -32382939.00 -32382938.86 -32382938.73 0.0520 0.0143

Saturn -93373-07-03 04:18 J -32382881.48 -32382881.32 -32382881.17 0.0279 0.0030

Saturn -93373-09-29 20:37 J -32382792.78 -32382792.64 -32382792.50 0.0279 0.0127

Saturn -93373-12-27 12:42 J -32382704.06 -32382703.97 -32382703.87 0.0278 0.0222

Venus -93372-04-23 18:42 J -32382586.82 -32382586.72 -32382586.62 0.3769 0.1716

Pluto -93372-07-06 20:23 J -32382512.68 -32382512.65 -32382512.59 0.0085 0.0080

Pluto -93372-10-02 21:49 J -32382424.66 -32382424.59 -32382424.50 0.0084 0.0067

Pluto -93372-12-29 23:15 J -32382336.63 -32382336.53 -32382336.43 0.0084 0.0054

Pluto -93371-03-28 00:27 J -32382248.59 -32382248.48 -32382248.36 0.0084 0.0041

Pluto -93371-06-24 01:39 J -32382160.55 -32382160.43 -32382160.30 0.0084 0.0029

Pluto -93371-09-20 03:06 J -32382072.50 -32382072.37 -32382072.24 0.0084 0.0016

Pluto -93371-12-17 04:18 J -32381984.45 -32381984.32 -32381984.19 0.0084 0.0004

Pluto -93370-03-15 05:30 J -32381896.40 -32381896.27 -32381896.14 0.0084 0.0008

Pluto -93370-06-11 06:42 J -32381808.34 -32381808.22 -32381808.09 0.0084 0.0020

Pluto -93370-09-07 07:54 J -32381720.29 -32381720.17 -32381720.04 0.0083 0.0033

Pluto -93370-12-04 09:06 J -32381632.23 -32381632.12 -32381632.00 0.0083 0.0045

Pluto -93369-03-01 10:18 J -32381544.16 -32381544.07 -32381543.97 0.0083 0.0056

Pluto -93369-05-28 11:30 J -32381456.09 -32381456.02 -32381455.94 0.0083 0.0068

Mars -93369-08-07 16:03 J -32381384.96 -32381384.83 -32381384.69 0.1919 0.0557

Pluto -93369-08-24 12:42 J -32381368.00 -32381367.97 -32381367.93 0.0083 0.0080

Venus -93368-04-22 19:54 J -32381126.81 -32381126.67 -32381126.54 0.3601 0.0142

Jupiter -93367-07-06 04:18 J -32380687.46 -32380687.32 -32380687.17 0.0505 0.0255

Jupiter -93367-10-04 03:49 J -32380597.48 -32380597.34 -32380597.20 0.0509 0.0261

Venus -93367-11-07 13:54 J -32380563.01 -32380562.92 -32380562.84 0.3765 0.2547

Moon -93365-01-24 12:56 J -32380120.07 -32380119.96 -32380119.84 0.2731 0.1112

Earth -93365-01-24 14:08 J -32380120.03 -32380119.91 -32380119.80 0.2731 0.1140 *

Mars -93364-04-08 07:54 J -32379680.30 -32379680.17 -32379680.04 0.1610 0.0386

Venus -93363-11-06 20:08 J -32379102.79 -32379102.66 -32379102.53 0.3605 0.0969

Mars -93362-03-14 22:47 J -32378974.59 -32378974.55 -32378974.51 0.1604 0.1515

Earth -93362-08-03 05:15 J -32378833.37 -32378833.28 -32378833.19 0.2609 0.1812

Moon -93362-08-03 06:13 J -32378833.33 -32378833.24 -32378833.15 0.2612 0.1887 *

Jupiter -93362-11-26 07:25 J -32378718.26 -32378718.19 -32378718.11 0.0525 0.0431

Jupiter -93361-02-23 18:27 J -32378628.87 -32378628.73 -32378628.59 0.0521 0.0031

Jupiter -93361-05-23 06:13 J -32378539.27 -32378539.24 -32378539.20 0.0517 0.0499

Venus -93361-05-23 09:06 J -32378539.17 -32378539.12 -32378539.07 0.3762 0.3394

Mars -93360-12-28 17:44 J -32377954.85 -32377954.76 -32377954.67 0.1916 0.1480

Saturn -93359-10-19 19:25 J -32377659.75 -32377659.69 -32377659.61 0.0279 0.0241

Saturn -93358-01-16 09:35 J -32377571.22 -32377571.10 -32377570.98 0.0279 0.0153

Saturn -93358-04-14 23:44 J -32377482.66 -32377482.51 -32377482.37 0.0280 0.0062

Saturn -93358-07-12 14:08 J -32377394.05 -32377393.91 -32377393.76 0.0280 0.0033

Saturn -93358-10-09 05:01 J -32377305.42 -32377305.29 -32377305.15 0.0280 0.0127

Saturn -93357-01-05 20:08 J -32377216.74 -32377216.66 -32377216.57 0.0280 0.0225

Venus -93357-05-22 20:08 J -32377078.77 -32377078.66 -32377078.55 0.3608 0.1991

Jupiter -93355-04-24 03:49 J -32376377.44 -32376377.34 -32376377.23 0.0505 0.0386

Jupiter -93355-07-23 03:49 J -32376287.50 -32376287.34 -32376287.18 0.0508 0.0134

Moon -93355-07-26 15:06 J -32376283.93 -32376283.87 -32376283.81 0.2603 0.2319

Earth -93355-07-26 16:03 J -32376283.90 -32376283.83 -32376283.75 0.2600 0.2140 *

Mars -93355-08-29 16:32 J -32376249.92 -32376249.81 -32376249.70 0.1612 0.0825

Venus -93354-02-15 09:06 J -32376080.17 -32376080.12 -32376080.07 0.3788 0.3337

Mars -93353-08-04 06:56 J -32375544.31 -32375544.21 -32375544.11 0.1605 0.1048

Uranus -93353-10-25 20:23 J -32375461.67 -32375461.65 -32375461.61 0.0142 0.0139

Uranus -93352-01-22 00:42 J -32375373.53 -32375373.47 -32375373.38 0.0142 0.0120

Moon -93352-01-26 11:59 J -32375369.03 -32375369.00 -32375368.96 0.2733 0.2599

Uranus -93352-04-20 05:15 J -32375285.38 -32375285.28 -32375285.17 0.0142 0.0101

Uranus -93352-07-17 09:35 J -32375197.21 -32375197.10 -32375196.97 0.0142 0.0082

Uranus -93352-10-13 14:08 J -32375109.04 -32375108.91 -32375108.77 0.0142 0.0063

Venus -93352-12-06 19:25 J -32375054.76 -32375054.69 -32375054.62 0.3612 0.2960

Uranus -93351-01-09 18:42 J -32375020.86 -32375020.72 -32375020.58 0.0142 0.0043

Uranus -93351-04-07 23:15 J -32374932.67 -32374932.53 -32374932.38 0.0142 0.0023

Uranus -93351-07-05 04:03 J -32374844.48 -32374844.33 -32374844.18 0.0143 0.0004

Uranus -93351-10-01 08:37 J -32374756.29 -32374756.14 -32374755.99 0.0143 0.0017

Uranus -93351-12-28 13:11 J -32374668.09 -32374667.95 -32374667.80 0.0143 0.0038

Uranus -93350-03-26 18:13 J -32374579.88 -32374579.74 -32374579.61 0.0143 0.0058

Uranus -93350-06-22 22:47 J -32374491.67 -32374491.55 -32374491.42 0.0143 0.0079

Uranus -93350-09-19 03:35 J -32374403.45 -32374403.35 -32374403.23 0.0143 0.0101

Jupiter -93350-12-12 21:35 J -32374318.74 -32374318.60 -32374318.46 0.0522 0.0080

Uranus -93350-12-16 08:37 J -32374315.22 -32374315.14 -32374315.06 0.0143 0.0122

Jupiter -93349-03-11 09:06 J -32374229.21 -32374229.12 -32374229.02 0.0518 0.0386

Uranus -93349-03-13 13:39 J -32374226.94 -32374226.93 -32374226.92 0.0143 0.0143

Venus -93349-08-31 02:51 J -32374056.46 -32374056.38 -32374056.31 0.3786 0.2649

Mars -93348-04-26 11:59 J -32373818.10 -32373818.00 -32373817.90 0.1924 0.1309

Moon -93345-01-19 23:01 J -32372819.64 -32372819.54 -32372819.44 0.2731 0.1655

Earth -93345-01-19 23:01 J -32372819.64 -32372819.54 -32372819.44 0.2738 0.1652 *

Mars -93345-01-20 01:25 J -32372819.52 -32372819.44 -32372819.36 0.1614 0.1262 *

Saturn -93344-05-26 16:18 J -32372326.92 -32372326.82 -32372326.71 0.0279 0.0214

Saturn -93344-08-23 09:49 J -32372238.24 -32372238.09 -32372237.94 0.0279 0.0111

Saturn -93344-11-20 02:51 J -32372149.54 -32372149.38 -32372149.22 0.0279 0.0010

Mars -93344-12-25 15:06 J -32372113.99 -32372113.87 -32372113.74 0.1606 0.0589

Saturn -93343-02-16 19:25 J -32372060.84 -32372060.69 -32372060.53 0.0278 0.0089

Venus -93343-03-16 20:37 J -32372032.73 -32372032.64 -32372032.54 0.3783 0.1938

Jupiter -93343-05-11 04:03 J -32371977.49 -32371977.33 -32371977.16 0.0508 0.0011

Saturn -93343-05-16 11:44 J -32371972.12 -32371972.01 -32371971.89 0.0278 0.0185

Moon -93342-07-29 14:08 J -32371533.03 -32371532.91 -32371532.78 0.2609 0.0660

Earth -93342-07-29 14:37 J -32371533.02 -32371532.89 -32371532.77 0.2603 0.0698 *

Mars -93339-09-16 14:37 J -32370388.02 -32370387.89 -32370387.76 0.1922 0.0443

Venus -93338-09-30 14:51 J -32370008.99 -32370008.88 -32370008.78 0.3780 0.1213

Jupiter -93338-10-01 00:27 J -32370008.61 -32370008.48 -32370008.36 0.0522 0.0197

Jupiter -93338-12-29 11:30 J -32369919.14 -32369919.02 -32369918.90 0.0518 0.0267

Mars -93334-05-17 23:30 J -32368683.65 -32368683.52 -32368683.38 0.1608 0.0132

Moon -93332-01-21 20:23 J -32368068.78 -32368068.65 -32368068.53 0.2731 0.0209

Earth -93332-01-21 21:06 J -32368068.74 -32368068.62 -32368068.49 0.2735 0.0142 *

Venus -93332-04-15 09:06 J -32367985.23 -32367985.12 -32367985.01 0.3778 0.0451

Jupiter -93331-02-27 04:03 J -32367667.49 -32367667.33 -32367667.17 0.0507 0.0114

Jupiter -93331-05-28 03:06 J -32367577.47 -32367577.37 -32367577.27 0.0510 0.0399

Mars -93329-02-06 16:32 J -32366957.95 -32366957.81 -32366957.68 0.1920 0.0467

Saturn -93329-03-07 20:08 J -32366927.68 -32366927.66 -32366927.63 0.0280 0.0274

Saturn -93329-06-04 10:03 J -32366839.19 -32366839.08 -32366838.97 0.0280 0.0185

Earth -93329-07-31 12:42 J -32366782.09 -32366781.97 -32366781.84 0.2606 0.0725

Moon -93329-07-31 13:11 J -32366782.08 -32366781.95 -32366781.83 0.2613 0.0702 *

Saturn -93329-09-01 00:13 J -32366750.63 -32366750.49 -32366750.35 0.0280 0.0095

Saturn -93329-11-28 14:37 J -32366662.04 -32366661.89 -32366661.74 0.0280 0.0002

Saturn -93328-02-25 05:15 J -32366573.42 -32366573.28 -32366573.13 0.0280 0.0093

Venus -93328-04-13 16:18 J -32366525.88 -32366525.82 -32366525.77 0.3593 0.3272

Saturn -93328-05-24 20:23 J -32366484.76 -32366484.65 -32366484.54 0.0281 0.0190

Venus -93327-10-30 03:35 J -32365961.46 -32365961.35 -32365961.24 0.3774 0.0329

Jupiter -93326-07-20 03:06 J -32365698.47 -32365698.37 -32365698.25 0.0523 0.0314

Jupiter -93326-10-17 14:08 J -32365609.04 -32365608.91 -32365608.77 0.0520 0.0150

Mars -93325-10-07 08:08 J -32365253.29 -32365253.16 -32365253.03 0.1610 0.0320

Mars -93323-09-12 23:01 J -32364547.55 -32364547.54 -32364547.52 0.1604 0.1585

Venus -93323-10-28 17:59 J -32364501.86 -32364501.75 -32364501.64 0.3596 0.2069

Venus -93321-05-14 22:18 J -32363937.68 -32363937.57 -32363937.47 0.3771 0.1120

Mars -93320-06-28 18:13 J -32363527.84 -32363527.74 -32363527.65 0.1916 0.1388

Jupiter -93320-12-16 03:06 J -32363357.51 -32363357.37 -32363357.22 0.0505 0.0248

Moon -93319-01-24 18:42 J -32363317.84 -32363317.72 -32363317.61 0.2732 0.1297

Earth -93319-01-24 19:39 J -32363317.79 -32363317.68 -32363317.58 0.2731 0.1471 *

Jupiter -93319-03-16 02:37 J -32363267.53 -32363267.39 -32363267.25 0.0509 0.0268

Venus -93317-05-13 18:56 J -32362477.84 -32362477.71 -32362477.57 0.3599 0.0925

Earth -93316-08-03 10:47 J -32362031.13 -32362031.05 -32362030.98 0.2610 0.2106

Moon -93316-08-03 11:44 J -32362031.07 -32362031.01 -32362030.95 0.2612 0.2246 *

Venus -93316-11-28 17:01 J -32361913.88 -32361913.79 -32361913.69 0.3768 0.1928

Mars -93315-02-27 16:47 J -32361822.92 -32361822.80 -32361822.69 0.1612 0.0768

Saturn -93315-10-13 18:13 J -32361594.82 -32361594.74 -32361594.66 0.0280 0.0239

Saturn -93314-01-10 11:44 J -32361506.15 -32361506.01 -32361505.87 0.0279 0.0134

Saturn -93314-04-09 04:47 J -32361417.45 -32361417.30 -32361417.13 0.0279 0.0034

Jupiter -93314-05-08 05:59 J -32361388.33 -32361388.25 -32361388.17 0.0525 0.0431

Saturn -93314-07-06 21:35 J -32361328.75 -32361328.60 -32361328.44 0.0279 0.0068

Jupiter -93314-08-05 16:47 J -32361298.94 -32361298.80 -32361298.66 0.0521 0.0031

Saturn -93314-10-03 13:54 J -32361240.04 -32361239.92 -32361239.79 0.0279 0.0165

Jupiter -93314-11-03 04:32 J -32361209.34 -32361209.31 -32361209.27 0.0517 0.0500

Saturn -93314-12-31 05:59 J -32361151.30 -32361151.25 -32361151.19 0.0279 0.0259

Mars -93313-02-03 07:11 J -32361117.30 -32361117.20 -32361117.10 0.1605 0.1114

Uranus -93313-03-23 01:25 J -32361068.48 -32361068.44 -32361068.39 0.0137 0.0131

Uranus -93313-06-19 06:56 J -32360980.30 -32360980.21 -32360980.10 0.0137 0.0111

Uranus -93313-09-15 12:42 J -32360892.09 -32360891.97 -32360891.84 0.0137 0.0090

Uranus -93313-12-12 18:27 J -32360803.87 -32360803.73 -32360803.59 0.0136 0.0070

Uranus -93312-03-10 23:59 J -32360715.65 -32360715.50 -32360715.34 0.0136 0.0049

Uranus -93312-06-07 05:30 J -32360627.43 -32360627.27 -32360627.11 0.0136 0.0029

Uranus -93312-09-03 11:01 J -32360539.21 -32360539.04 -32360538.88 0.0136 0.0010

Venus -93312-11-27 19:39 J -32360453.81 -32360453.68 -32360453.54 0.3602 0.0183

Uranus -93312-11-30 16:18 J -32360450.99 -32360450.82 -32360450.65 0.0136 0.0010

Uranus -93311-02-26 21:35 J -32360362.76 -32360362.60 -32360362.43 0.0136 0.0029

Uranus -93311-05-26 02:51 J -32360274.53 -32360274.38 -32360274.22 0.0136 0.0049

Uranus -93311-08-22 08:08 J -32360186.30 -32360186.16 -32360186.02 0.0136 0.0067

Uranus -93311-11-18 13:11 J -32360098.07 -32360097.95 -32360097.82 0.0135 0.0086

Uranus -93310-02-14 18:27 J -32360009.83 -32360009.73 -32360009.63 0.0135 0.0105

Uranus -93310-05-13 23:15 J -32359921.58 -32359921.53 -32359921.45 0.0135 0.0123

Venus -93310-06-14 12:13 J -32359890.07 -32359889.99 -32359889.91 0.3764 0.2764

Moon -93309-07-26 20:37 J -32359481.73 -32359481.64 -32359481.55 0.2604 0.1870

Earth -93309-07-26 21:35 J -32359481.69 -32359481.60 -32359481.50 0.2600 0.1833 *

Mars -93309-10-25 12:27 J -32359391.07 -32359390.98 -32359390.89 0.1924 0.1400

Jupiter -93308-10-04 02:37 J -32359047.50 -32359047.39 -32359047.28 0.0504 0.0378

Jupiter -93307-01-02 02:23 J -32358957.55 -32358957.40 -32358957.24 0.0508 0.0141

Venus -93306-06-13 19:54 J -32358429.79 -32358429.67 -32358429.54 0.3606 0.1242

Mars -93306-07-21 01:25 J -32358392.53 -32358392.44 -32358392.35 0.1614 0.1205

Venus -93305-12-28 07:39 J -32357866.21 -32357866.18 -32357866.15 0.3760 0.3618

Mars -93304-06-25 15:20 J -32357686.99 -32357686.86 -32357686.74 0.1606 0.0648

Neptune -93303-04-30 17:30 J -32357377.80 -32357377.77 -32357377.71 0.0089 0.0086

Neptune -93303-07-27 20:51 J -32357289.70 -32357289.63 -32357289.55 0.0089 0.0080

Neptune -93303-10-23 23:30 J -32357201.60 -32357201.52 -32357201.41 0.0089 0.0075

Neptune -93302-01-20 02:51 J -32357113.49 -32357113.38 -32357113.27 0.0089 0.0069

Neptune -93302-04-18 05:30 J -32357025.38 -32357025.27 -32357025.13 0.0089 0.0064

Jupiter -93302-05-24 19:54 J -32356988.80 -32356988.67 -32356988.53 0.0522 0.0082

Neptune -93302-07-15 08:23 J -32356937.27 -32356937.15 -32356937.00 0.0089 0.0059

Jupiter -93302-08-22 07:25 J -32356899.28 -32356899.19 -32356899.09 0.0518 0.0387

Neptune -93302-10-11 11:30 J -32356849.16 -32356849.02 -32356848.87 0.0089 0.0053

Neptune -93301-01-07 14:08 J -32356761.04 -32356760.91 -32356760.74 0.0089 0.0048

Neptune -93301-04-04 17:30 J -32356672.93 -32356672.77 -32356672.62 0.0089 0.0042

Neptune -93301-07-01 20:08 J -32356584.81 -32356584.66 -32356584.49 0.0089 0.0037

Neptune -93301-09-27 23:01 J -32356496.70 -32356496.54 -32356496.37 0.0089 0.0031

Neptune -93301-12-25 01:54 J -32356408.58 -32356408.42 -32356408.25 0.0089 0.0026

Venus -93301-12-27 19:39 J -32356405.78 -32356405.68 -32356405.58 0.3609 0.2247

Neptune -93300-03-23 04:47 J -32356320.47 -32356320.30 -32356320.12 0.0089 0.0021

Neptune -93300-06-19 07:39 J -32356232.35 -32356232.18 -32356232.00 0.0089 0.0015

Neptune -93300-09-15 10:32 J -32356144.23 -32356144.06 -32356143.88 0.0089 0.0010

Saturn -93300-10-22 11:44 J -32356107.10 -32356107.01 -32356106.91 0.0279 0.0209

Neptune -93300-12-12 13:25 J -32356056.12 -32356055.94 -32356055.77 0.0089 0.0005

Saturn -93299-01-19 01:39 J -32356018.56 -32356018.43 -32356018.29 0.0279 0.0120

Moon -93299-01-20 04:03 J -32356017.44 -32356017.33 -32356017.22 0.2731 0.1417

Earth -93299-01-20 04:32 J -32356017.42 -32356017.31 -32356017.21 0.2738 0.1346 *

Neptune -93299-03-10 16:03 J -32355968.00 -32355967.83 -32355967.65 0.0089 0.0002

Mars -93299-03-17 14:37 J -32355961.02 -32355960.89 -32355960.76 0.1922 0.0513

Saturn -93299-04-17 16:03 J -32355929.98 -32355929.83 -32355929.68 0.0280 0.0028

Neptune -93299-06-06 18:56 J -32355879.88 -32355879.71 -32355879.53 0.0089 0.0006

Saturn -93299-07-15 06:42 J -32355841.37 -32355841.22 -32355841.07 0.0280 0.0066

Neptune -93299-09-02 21:35 J -32355791.77 -32355791.60 -32355791.42 0.0088 0.0012

Saturn -93299-10-11 21:35 J -32355752.72 -32355752.60 -32355752.48 0.0280 0.0162

Neptune -93299-11-30 00:27 J -32355703.65 -32355703.48 -32355703.31 0.0088 0.0016

Saturn -93298-01-08 12:42 J -32355664.02 -32355663.97 -32355663.91 0.0280 0.0260

Neptune -93298-02-26 03:06 J -32355615.53 -32355615.37 -32355615.19 0.0088 0.0022

Neptune -93298-05-25 05:59 J -32355527.41 -32355527.25 -32355527.08 0.0088 0.0027

Neptune -93298-08-21 08:23 J -32355439.30 -32355439.15 -32355438.97 0.0088 0.0033

Venus -93298-09-22 06:56 J -32355407.26 -32355407.21 -32355407.15 0.3787 0.3154

Neptune -93298-11-17 11:15 J -32355351.18 -32355351.03 -32355350.86 0.0088 0.0037

Neptune -93297-02-13 13:54 J -32355263.06 -32355262.92 -32355262.76 0.0088 0.0043

Neptune -93297-05-11 16:32 J -32355174.94 -32355174.81 -32355174.65 0.0088 0.0048

Neptune -93297-08-07 19:11 J -32355086.82 -32355086.70 -32355086.55 0.0088 0.0053

Neptune -93297-11-03 22:03 J -32354998.70 -32354998.58 -32354998.44 0.0088 0.0057

Neptune -93296-01-31 00:42 J -32354910.58 -32354910.47 -32354910.34 0.0088 0.0063

Neptune -93296-04-29 03:20 J -32354822.46 -32354822.36 -32354822.24 0.0088 0.0067

Neptune -93296-07-26 05:44 J -32354734.34 -32354734.26 -32354734.15 0.0088 0.0073

Moon -93296-07-29 19:54 J -32354730.80 -32354730.67 -32354730.54 0.2610 0.0473

Earth -93296-07-29 20:08 J -32354730.79 -32354730.66 -32354730.53 0.2603 0.0393 *

Jupiter -93296-10-21 02:08 J -32354647.57 -32354647.41 -32354647.24 0.0507 0.0015

Neptune -93296-10-22 08:23 J -32354646.21 -32354646.15 -32354646.05 0.0088 0.0078

Neptune -93295-01-18 11:01 J -32354558.08 -32354558.04 -32354557.96 0.0088 0.0083

Neptune -93295-04-16 13:39 J -32354469.94 -32354469.93 -32354469.89 0.0088 0.0087

Venus -93295-07-13 18:56 J -32354381.76 -32354381.71 -32354381.65 0.3613 0.3209

Mars -93295-11-15 23:44 J -32354256.64 -32354256.51 -32354256.37 0.1608 0.0195

Venus -93292-04-07 00:56 J -32353383.55 -32353383.46 -32353383.38 0.3785 0.2459

Jupiter -93290-03-12 23:15 J -32352678.66 -32352678.53 -32352678.40 0.0523 0.0190

Jupiter -93290-06-10 10:32 J -32352589.17 -32352589.06 -32352588.94 0.0519 0.0275

Mars -93290-08-07 17:01 J -32352530.93 -32352530.79 -32352530.66 0.1920 0.0378

Venus -93287-10-21 18:42 J -32351359.81 -32351359.72 -32351359.62 0.3782 0.1746

Moon -93286-01-23 01:39 J -32351266.56 -32351266.43 -32351266.30 0.2730 0.0094

Earth -93286-01-23 02:37 J -32351266.52 -32351266.39 -32351266.26 0.2734 0.0207 *

Mars -93285-04-07 08:23 J -32350826.29 -32350826.15 -32350826.02 0.1610 0.0262

Saturn -93285-05-29 10:03 J -32350774.20 -32350774.08 -32350773.95 0.0279 0.0175

Saturn -93285-08-26 03:20 J -32350685.51 -32350685.36 -32350685.20 0.0279 0.0073

Saturn -93285-11-22 20:23 J -32350596.81 -32350596.65 -32350596.49 0.0279 0.0028

Saturn -93284-02-19 12:56 J -32350508.10 -32350507.96 -32350507.82 0.0278 0.0126

Saturn -93284-05-19 05:01 J -32350419.38 -32350419.29 -32350419.19 0.0278 0.0222

Jupiter -93284-08-09 02:23 J -32350337.56 -32350337.40 -32350337.24 0.0506 0.0112

Jupiter -93284-11-07 01:25 J -32350247.54 -32350247.44 -32350247.34 0.0510 0.0401

Earth -93283-08-01 18:13 J -32349979.86 -32349979.74 -32349979.62 0.2607 0.1021

Moon -93283-08-01 18:42 J -32349979.84 -32349979.72 -32349979.60 0.2612 0.1142 *

Venus -93281-05-06 12:56 J -32349336.07 -32349335.96 -32349335.86 0.3780 0.1008

Mars -93281-12-27 18:42 J -32349100.82 -32349100.72 -32349100.62 0.1916 0.1299

Jupiter -93279-12-30 02:08 J -32348368.52 -32348368.41 -32348368.29 0.0523 0.0305

Jupiter -93278-03-29 13:11 J -32348279.08 -32348278.95 -32348278.81 0.0520 0.0158

Mars -93276-08-28 17:01 J -32347395.91 -32347395.79 -32347395.67 0.1611 0.0705

Venus -93276-11-20 07:11 J -32347312.31 -32347312.20 -32347312.09 0.3777 0.0277

Mars -93274-08-04 07:25 J -32346690.28 -32346690.19 -32346690.10 0.1605 0.1179

Moon -93273-01-25 23:59 J -32346515.59 -32346515.50 -32346515.40 0.2733 0.1739

Earth -93273-01-26 00:56 J -32346515.55 -32346515.46 -32346515.36 0.2730 0.1796 *

Jupiter -93272-05-28 02:23 J -32346027.55 -32346027.40 -32346027.25 0.0506 0.0237

Jupiter -93272-08-26 01:39 J -32345937.56 -32345937.43 -32345937.29 0.0509 0.0280

Venus -93272-11-18 16:32 J -32345852.89 -32345852.81 -32345852.73 0.3594 0.2944

Saturn -93270-03-11 12:13 J -32345375.06 -32345374.99 -32345374.92 0.0279 0.0244

Venus -93270-06-06 01:54 J -32345288.53 -32345288.42 -32345288.31 0.3773 0.0543

Saturn -93270-06-08 01:54 J -32345286.54 -32345286.42 -32345286.29 0.0280 0.0155

Earth -93270-08-04 16:03 J -32345228.88 -32345228.83 -32345228.78 0.2610 0.2397

Moon -93270-08-04 17:01 J -32345228.83 -32345228.79 -32345228.74 0.2612 0.2453 *

Saturn -93270-09-04 16:03 J -32345197.97 -32345197.83 -32345197.68 0.0280 0.0065

Saturn -93270-12-02 06:42 J -32345109.37 -32345109.22 -32345109.07 0.0280 0.0030

Saturn -93269-02-28 21:20 J -32345020.74 -32345020.61 -32345020.47 0.0280 0.0126

Mars -93269-04-25 12:27 J -32344964.06 -32344963.98 -32344963.89 0.1924 0.1478

Saturn -93269-05-27 12:42 J -32344932.06 -32344931.97 -32344931.88 0.0281 0.0223

Uranus -93269-11-15 03:20 J -32344760.40 -32344760.36 -32344760.32 0.0142 0.0136

Uranus -93268-02-11 07:25 J -32344672.26 -32344672.19 -32344672.10 0.0142 0.0118

Uranus -93268-05-10 11:59 J -32344584.10 -32344584.00 -32344583.89 0.0142 0.0098

Uranus -93268-08-06 16:32 J -32344495.93 -32344495.81 -32344495.69 0.0142 0.0079

Uranus -93268-11-02 20:51 J -32344407.76 -32344407.63 -32344407.49 0.0142 0.0060

Uranus -93267-01-30 01:25 J -32344319.57 -32344319.44 -32344319.29 0.0142 0.0041

Uranus -93267-04-28 06:13 J -32344231.39 -32344231.24 -32344231.10 0.0142 0.0020

Uranus -93267-07-25 10:47 J -32344143.20 -32344143.05 -32344142.90 0.0143 0.0000

Jupiter -93267-10-18 05:15 J -32344058.36 -32344058.28 -32344058.20 0.0524 0.0419

Uranus -93267-10-21 15:20 J -32344055.00 -32344054.86 -32344054.71 0.0143 0.0020

Jupiter -93266-01-15 16:03 J -32343968.97 -32343968.83 -32343968.69 0.0521 0.0043

Uranus -93266-01-17 20:08 J -32343966.80 -32343966.66 -32343966.52 0.0143 0.0040

Earth -93266-01-18 11:59 J -32343966.05 -32343966.00 -32343965.96 0.2740 0.2548

Moon -93266-01-18 12:13 J -32343966.03 -32343965.99 -32343965.95 0.2734 0.2577 *

Mars -93266-01-19 01:39 J -32343965.52 -32343965.43 -32343965.34 0.1614 0.1145

Jupiter -93266-04-15 03:35 J -32343879.37 -32343879.35 -32343879.32 0.0517 0.0508

Uranus -93266-04-16 00:56 J -32343878.60 -32343878.46 -32343878.33 0.0143 0.0061

Venus -93266-06-04 17:59 J -32343828.87 -32343828.75 -32343828.63 0.3597 0.1758

Uranus -93266-07-13 05:30 J -32343790.38 -32343790.27 -32343790.14 0.0143 0.0083

Uranus -93266-10-09 10:32 J -32343702.16 -32343702.06 -32343701.95 0.0143 0.0103

Uranus -93265-01-05 15:20 J -32343613.93 -32343613.86 -32343613.78 0.0143 0.0125

Venus -93265-12-19 20:37 J -32343264.75 -32343264.64 -32343264.54 0.3770 0.1327

Mars -93265-12-24 15:35 J -32343259.97 -32343259.85 -32343259.73 0.1606 0.0716

Moon -93263-07-28 02:23 J -32342679.50 -32342679.40 -32342679.30 0.2605 0.1643

Earth -93263-07-28 03:06 J -32342679.48 -32342679.37 -32342679.26 0.2601 0.1526 *

Venus -93261-12-18 18:56 J -32341804.84 -32341804.71 -32341804.57 0.3600 0.0625

Jupiter -93260-03-16 01:39 J -32341717.55 -32341717.43 -32341717.32 0.0504 0.0370

Jupiter -93260-06-14 01:25 J -32341627.60 -32341627.44 -32341627.29 0.0508 0.0149

Mars -93260-09-15 15:06 J -32341534.00 -32341533.87 -32341533.74 0.1922 0.0614

Venus -93259-07-05 15:35 J -32341240.95 -32341240.85 -32341240.76 0.3767 0.2147

Mars -93257-06-10 10:32 J -32340535.09 -32340535.06 -32340535.04 0.1616 0.1579

Saturn -93256-10-16 11:30 J -32340042.13 -32340042.02 -32340041.91 0.0280 0.0202

Saturn -93255-01-13 04:47 J -32339953.45 -32339953.30 -32339953.14 0.0280 0.0099

Saturn -93255-04-11 22:03 J -32339864.74 -32339864.58 -32339864.42 0.0279 0.0006

Mars -93255-05-16 23:59 J -32339829.64 -32339829.50 -32339829.37 0.1608 0.0257

Venus -93255-07-04 19:39 J -32339780.82 -32339780.68 -32339780.55 0.3603 0.0476

Saturn -93255-07-09 14:37 J -32339776.04 -32339775.89 -32339775.74 0.0279 0.0103

Saturn -93255-10-06 06:56 J -32339687.32 -32339687.21 -32339687.10 0.0279 0.0199

Jupiter -93255-11-03 18:27 J -32339658.87 -32339658.73 -32339658.59 0.0522 0.0079

Jupiter -93254-02-01 05:59 J -32339569.34 -32339569.25 -32339569.16 0.0518 0.0388

Venus -93253-01-19 10:47 J -32339217.12 -32339217.05 -32339216.99 0.3763 0.2986

Moon -93253-01-21 09:06 J -32339215.23 -32339215.12 -32339215.00 0.2731 0.1040

Earth -93253-01-21 09:49 J -32339215.21 -32339215.09 -32339214.98 0.2737 0.1034 *

Mars -93250-02-05 17:15 J -32338103.92 -32338103.78 -32338103.65 0.1920 0.0298

Moon -93250-07-31 01:25 J -32337928.57 -32337928.44 -32337928.31 0.2611 0.0029

Earth -93250-07-31 01:25 J -32337928.57 -32337928.44 -32337928.30 0.2604 0.0104 *

Venus -93249-01-18 19:39 J -32337756.80 -32337756.68 -32337756.56 0.3606 0.1510

Jupiter -93248-01-02 00:56 J -32337407.48 -32337407.46 -32337407.44 0.0503 0.0499

Jupiter -93248-04-02 01:11 J -32337317.62 -32337317.45 -32337317.29 0.0507 0.0021

Venus -93247-10-13 11:15 J -32336758.05 -32336758.03 -32336758.00 0.3789 0.3648

Mars -93246-10-07 08:23 J -32336399.28 -32336399.15 -32336399.01 0.1609 0.0200

Venus -93244-08-03 19:11 J -32335732.79 -32335732.70 -32335732.60 0.3610 0.2505

Jupiter -93243-08-22 21:35 J -32335348.72 -32335348.60 -32335348.47 0.0523 0.0191

Jupiter -93243-11-20 09:06 J -32335259.24 -32335259.12 -32335259.00 0.0519 0.0276

Venus -93241-04-28 05:01 J -32334734.35 -32334734.29 -32334734.22 0.3787 0.2966

Mars -93241-06-27 18:42 J -32334673.83 -32334673.72 -32334673.61 0.1917 0.1225

Saturn -93241-07-28 14:08 J -32334642.95 -32334642.91 -32334642.86 0.0279 0.0265

Saturn -93241-10-25 04:03 J -32334554.44 -32334554.33 -32334554.22 0.0279 0.0177

Saturn -93240-01-21 17:59 J -32334465.89 -32334465.75 -32334465.61 0.0279 0.0088

Moon -93240-01-23 07:11 J -32334464.33 -32334464.20 -32334464.08 0.2731 0.0421

Earth -93240-01-23 07:54 J -32334464.29 -32334464.17 -32334464.04 0.2733 0.0533 *

Saturn -93240-04-20 08:23 J -32334377.30 -32334377.15 -32334377.00 0.0279 0.0007

Saturn -93240-07-17 23:01 J -32334288.68 -32334288.54 -32334288.40 0.0280 0.0100

Saturn -93240-10-14 14:08 J -32334200.02 -32334199.91 -32334199.80 0.0280 0.0196

Venus -93238-02-17 18:27 J -32333708.76 -32333708.73 -32333708.69 0.3614 0.3450

Earth -93237-08-01 23:44 J -32333177.63 -32333177.51 -32333177.40 0.2607 0.1325

Moon -93237-08-02 00:27 J -32333177.59 -32333177.48 -32333177.37 0.2612 0.1328 *

Jupiter -93236-01-19 00:42 J -32333007.63 -32333007.47 -32333007.31 0.0506 0.0110

Mars -93236-02-26 17:01 J -32332968.91 -32332968.79 -32332968.67 0.1611 0.0644

Jupiter -93236-04-18 23:44 J -32332917.61 -32332917.51 -32332917.41 0.0510 0.0402

Venus -93236-11-11 23:01 J -32332710.63 -32332710.54 -32332710.46 0.3784 0.2272

Mars -93234-02-02 07:39 J -32332263.27 -32332263.18 -32332263.10 0.1605 0.1245

Jupiter -93231-06-11 01:11 J -32331038.56 -32331038.45 -32331038.34 0.0524 0.0299

Jupiter -93231-09-08 12:13 J -32330949.12 -32330948.99 -32330948.86 0.0520 0.0165

Venus -93230-05-28 17:01 J -32330686.89 -32330686.79 -32330686.69 0.3781 0.1554

Mars -93230-10-25 12:56 J -32330537.04 -32330536.96 -32330536.88 0.1925 0.1566

Uranus -93229-04-12 08:08 J -32330367.21 -32330367.16 -32330367.10 0.0137 0.0128

Uranus -93229-07-09 13:39 J -32330279.02 -32330278.93 -32330278.81 0.0137 0.0108

Uranus -93229-10-05 19:25 J -32330190.81 -32330190.69 -32330190.55 0.0137 0.0087

Uranus -93228-01-02 01:11 J -32330102.59 -32330102.45 -32330102.30 0.0136 0.0066

Uranus -93228-03-31 06:42 J -32330014.37 -32330014.22 -32330014.06 0.0136 0.0046

Uranus -93228-06-27 12:13 J -32329926.15 -32329925.99 -32329925.82 0.0136 0.0026

Uranus -93228-09-23 17:44 J -32329837.93 -32329837.76 -32329837.59 0.0136 0.0006

Uranus -93228-12-20 23:01 J -32329749.70 -32329749.54 -32329749.37 0.0136 0.0014

Moon -93227-01-26 05:30 J -32329713.36 -32329713.27 -32329713.18 0.2734 0.1987

Earth -93227-01-26 06:27 J -32329713.31 -32329713.23 -32329713.15 0.2730 0.2119 *

Uranus -93227-03-19 04:18 J -32329661.47 -32329661.32 -32329661.15 0.0136 0.0033

Uranus -93227-06-15 09:49 J -32329573.24 -32329573.09 -32329572.94 0.0136 0.0052

Mars -93227-07-20 01:54 J -32329538.52 -32329538.42 -32329538.32 0.1613 0.1084

Uranus -93227-09-11 14:51 J -32329485.01 -32329484.88 -32329484.73 0.0136 0.0071

Uranus -93227-12-08 20:08 J -32329396.78 -32329396.66 -32329396.53 0.0135 0.0089

Saturn -93226-03-05 09:35 J -32329310.17 -32329310.10 -32329310.01 0.0280 0.0244

Uranus -93226-03-07 00:56 J -32329308.54 -32329308.46 -32329308.35 0.0135 0.0109

Saturn -93226-06-02 03:20 J -32329221.50 -32329221.36 -32329221.21 0.0279 0.0139

Uranus -93226-06-03 06:13 J -32329220.29 -32329220.24 -32329220.18 0.0135 0.0126

Saturn -93226-08-29 20:37 J -32329132.80 -32329132.64 -32329132.48 0.0279 0.0036

Saturn -93226-11-26 13:25 J -32329044.09 -32329043.94 -32329043.78 0.0279 0.0065

Saturn -93225-02-23 05:59 J -32328955.38 -32328955.25 -32328955.12 0.0279 0.0162

Saturn -93225-05-21 22:03 J -32328866.64 -32328866.58 -32328866.52 0.0278 0.0257

Mars -93225-06-24 15:49 J -32328832.96 -32328832.84 -32328832.72 0.1606 0.0780

Jupiter -93225-11-07 00:42 J -32328697.62 -32328697.47 -32328697.32 0.0505 0.0235

Venus -93225-12-11 11:01 J -32328663.14 -32328663.04 -32328662.93 0.3779 0.0820

Jupiter -93224-02-05 00:13 J -32328607.63 -32328607.49 -32328607.36 0.0509 0.0282

Neptune -93221-01-27 04:47 J -32327521.33 -32327521.30 -32327521.26 0.0089 0.0085

Neptune -93221-04-24 06:13 J -32327433.29 -32327433.24 -32327433.18 0.0089 0.0081

Neptune -93221-07-21 07:39 J -32327345.23 -32327345.18 -32327345.10 0.0089 0.0077

Neptune -93221-10-17 09:20 J -32327257.18 -32327257.11 -32327257.02 0.0089 0.0073

Neptune -93220-01-13 10:47 J -32327169.12 -32327169.05 -32327168.95 0.0089 0.0069

Moon -93220-01-18 17:15 J -32327163.85 -32327163.78 -32327163.70 0.2733 0.2154

Earth -93220-01-18 17:15 J -32327163.85 -32327163.78 -32327163.71 0.2740 0.2244 *

Mars -93220-03-16 15:35 J -32327106.98 -32327106.85 -32327106.73 0.1923 0.0699

Neptune -93220-04-11 12:27 J -32327081.06 -32327080.98 -32327080.87 0.0089 0.0065

Neptune -93220-07-08 14:23 J -32326993.00 -32326992.90 -32326992.80 0.0089 0.0060

Neptune -93220-10-04 15:49 J -32326904.94 -32326904.84 -32326904.73 0.0089 0.0056

Neptune -93220-12-31 17:30 J -32326816.88 -32326816.77 -32326816.65 0.0089 0.0052

Neptune -93219-03-29 18:56 J -32326728.82 -32326728.71 -32326728.58 0.0089 0.0048

Jupiter -93219-03-30 04:18 J -32326728.41 -32326728.32 -32326728.24 0.0525 0.0412

Neptune -93219-06-25 20:51 J -32326640.75 -32326640.63 -32326640.51 0.0089 0.0043

Venus -93219-06-27 05:30 J -32326639.38 -32326639.27 -32326639.16 0.3776 0.0047

Jupiter -93219-06-27 14:51 J -32326639.01 -32326638.88 -32326638.74 0.0521 0.0052

Neptune -93219-09-21 22:32 J -32326552.69 -32326552.56 -32326552.43 0.0089 0.0039

Jupiter -93219-09-25 02:37 J -32326549.39 -32326549.39 -32326549.38 0.0517 0.0516

Neptune -93219-12-18 23:59 J -32326464.62 -32326464.50 -32326464.36 0.0089 0.0035

Neptune -93218-03-17 01:39 J -32326376.56 -32326376.43 -32326376.29 0.0089 0.0031

Neptune -93218-06-13 03:20 J -32326288.49 -32326288.36 -32326288.22 0.0089 0.0026

Neptune -93218-09-09 05:01 J -32326200.42 -32326200.29 -32326200.15 0.0089 0.0022

Neptune -93218-12-06 06:42 J -32326112.36 -32326112.22 -32326112.08 0.0089 0.0018

Mars -93218-12-10 10:47 J -32326108.09 -32326108.05 -32326108.01 0.1616 0.1518

Neptune -93217-03-03 08:23 J -32326024.29 -32326024.15 -32326024.01 0.0089 0.0013

Pluto -93217-04-01 23:59 J -32325994.56 -32325994.50 -32325994.41 0.0060 0.0055

Neptune -93217-05-30 10:03 J -32325936.22 -32325936.08 -32325935.93 0.0089 0.0009

Pluto -93217-06-29 01:11 J -32325906.54 -32325906.45 -32325906.31 0.0060 0.0049

Moon -93217-07-28 08:08 J -32325877.28 -32325877.16 -32325877.05 0.2607 0.1269

Earth -93217-07-28 08:37 J -32325877.26 -32325877.14 -32325877.02 0.2601 0.1218 *

Neptune -93217-08-26 11:44 J -32325848.15 -32325848.01 -32325847.86 0.0089 0.0005

Pluto -93217-09-25 02:51 J -32325818.50 -32325818.38 -32325818.22 0.0060 0.0042

Neptune -93217-11-22 13:25 J -32325760.08 -32325759.94 -32325759.79 0.0089 0.0002

Pluto -93217-12-22 04:47 J -32325730.46 -32325730.30 -32325730.14 0.0060 0.0035

Neptune -93216-02-18 15:06 J -32325672.01 -32325671.87 -32325671.72 0.0089 0.0005

Pluto -93216-03-20 05:44 J -32325642.41 -32325642.26 -32325642.07 0.0060 0.0029

Neptune -93216-05-17 17:01 J -32325583.94 -32325583.79 -32325583.65 0.0089 0.0009

Pluto -93216-06-16 07:25 J -32325554.36 -32325554.19 -32325554.00 0.0060 0.0022

Neptune -93216-08-13 18:42 J -32325495.87 -32325495.72 -32325495.58 0.0089 0.0013

Pluto -93216-09-12 09:06 J -32325466.31 -32325466.12 -32325465.93 0.0060 0.0016

Neptune -93216-11-09 20:23 J -32325407.79 -32325407.65 -32325407.51 0.0089 0.0018

Mars -93216-11-15 00:13 J -32325402.62 -32325402.49 -32325402.36 0.1608 0.0322

Pluto -93216-12-09 10:18 J -32325378.25 -32325378.07 -32325377.86 0.0060 0.0010

Neptune -93215-02-05 22:03 J -32325319.72 -32325319.58 -32325319.44 0.0089 0.0022

Pluto -93215-03-07 11:59 J -32325290.19 -32325290.00 -32325289.80 0.0060 0.0003

Neptune -93215-05-04 23:44 J -32325231.65 -32325231.51 -32325231.37 0.0089 0.0027

Pluto -93215-06-03 13:39 J -32325202.13 -32325201.93 -32325201.74 0.0060 0.0005

Venus -93215-06-25 16:47 J -32325179.90 -32325179.80 -32325179.71 0.3595 0.2623

Neptune -93215-08-01 01:25 J -32325143.57 -32325143.44 -32325143.30 0.0089 0.0031

Pluto -93215-08-30 14:51 J -32325114.06 -32325113.88 -32325113.68 0.0060 0.0012

Neptune -93215-10-28 03:06 J -32325055.49 -32325055.37 -32325055.23 0.0089 0.0036

Pluto -93215-11-26 16:18 J -32325026.00 -32325025.82 -32325025.62 0.0060 0.0019

Neptune -93214-01-24 05:01 J -32324967.42 -32324967.29 -32324967.16 0.0089 0.0040

Pluto -93214-02-22 17:44 J -32324937.92 -32324937.76 -32324937.57 0.0061 0.0025

Neptune -93214-04-22 06:42 J -32324879.34 -32324879.22 -32324879.09 0.0089 0.0045

Pluto -93214-05-21 19:25 J -32324849.85 -32324849.69 -32324849.52 0.0061 0.0032

Neptune -93214-07-19 08:23 J -32324791.26 -32324791.15 -32324791.02 0.0089 0.0049

Pluto -93214-08-17 20:51 J -32324761.77 -32324761.63 -32324761.47 0.0061 0.0039

Neptune -93214-10-15 10:03 J -32324703.18 -32324703.08 -32324702.95 0.0089 0.0054

Pluto -93214-11-13 22:18 J -32324673.68 -32324673.57 -32324673.43 0.0061 0.0046

Venus -93213-01-11 00:13 J -32324615.60 -32324615.49 -32324615.38 0.3773 0.0750

Neptune -93213-01-11 11:59 J -32324615.10 -32324615.00 -32324614.88 0.0089 0.0058

Pluto -93213-02-09 23:44 J -32324585.59 -32324585.51 -32324585.40 0.0061 0.0053

Neptune -93213-04-08 13:39 J -32324527.02 -32324526.93 -32324526.81 0.0089 0.0063

Pluto -93213-05-08 01:11 J -32324497.46 -32324497.45 -32324497.39 0.0061 0.0060

Neptune -93213-07-05 15:35 J -32324438.94 -32324438.85 -32324438.75 0.0089 0.0067

Jupiter -93213-08-26 00:42 J -32324387.59 -32324387.47 -32324387.36 0.0505 0.0360

Neptune -93213-10-01 17:15 J -32324350.85 -32324350.78 -32324350.68 0.0089 0.0072

Jupiter -93213-11-24 00:27 J -32324297.63 -32324297.48 -32324297.32 0.0508 0.0159

Neptune -93213-12-28 19:25 J -32324262.76 -32324262.69 -32324262.62 0.0089 0.0076

Neptune -93212-03-26 21:06 J -32324174.67 -32324174.62 -32324174.56 0.0089 0.0081

Neptune -93212-06-22 22:47 J -32324086.57 -32324086.55 -32324086.50 0.0089 0.0086

Saturn -93211-03-14 04:03 J -32323822.42 -32323822.33 -32323822.24 0.0279 0.0214

Saturn -93211-06-10 17:59 J -32323733.88 -32323733.75 -32323733.62 0.0279 0.0124

Mars -93211-08-06 17:30 J -32323676.91 -32323676.77 -32323676.63 0.1920 0.0207

Saturn -93211-09-07 08:08 J -32323645.30 -32323645.16 -32323645.01 0.0280 0.0033

Saturn -93211-12-04 22:47 J -32323556.70 -32323556.55 -32323556.40 0.0280 0.0061

Saturn -93210-03-03 13:39 J -32323468.06 -32323467.93 -32323467.81 0.0280 0.0157

Saturn -93210-05-31 04:47 J -32323379.36 -32323379.30 -32323379.24 0.0280 0.0255

Venus -93209-01-09 18:13 J -32323155.87 -32323155.74 -32323155.62 0.3598 0.1452

Venus -93208-07-26 18:56 J -32322591.81 -32322591.71 -32322591.61 0.3769 0.1538

Jupiter -93207-01-16 07:11 J -32322418.20 -32322418.20 -32322418.20 0.0526 0.0525

Moon -93207-01-21 14:37 J -32322413.01 -32322412.89 -32322412.77 0.2731 0.0861

Earth -93207-01-21 15:06 J -32322412.99 -32322412.87 -32322412.75 0.2737 0.0722 *

Jupiter -93207-04-15 17:44 J -32322328.90 -32322328.76 -32322328.62 0.0522 0.0068

Jupiter -93207-07-14 05:15 J -32322239.37 -32322239.28 -32322239.19 0.0518 0.0399

Mars -93206-04-07 08:37 J -32321972.28 -32321972.14 -32321972.01 0.1609 0.0135

Venus -93204-07-25 18:56 J -32321131.85 -32321131.71 -32321131.57 0.3601 0.0329

Moon -93204-07-31 06:56 J -32321126.34 -32321126.21 -32321126.08 0.2611 0.0179

Earth -93204-07-31 06:56 J -32321126.34 -32321126.21 -32321126.08 0.2604 0.0217 *

Venus -93202-02-09 13:54 J -32320568.01 -32320567.92 -32320567.83 0.3766 0.2366

Mars -93202-12-27 19:11 J -32320246.81 -32320246.70 -32320246.58 0.1917 0.1127

Jupiter -93201-06-13 23:44 J -32320077.54 -32320077.51 -32320077.47 0.0503 0.0491

Jupiter -93201-09-12 00:13 J -32319987.66 -32319987.49 -32319987.33 0.0507 0.0032

Venus -93198-02-08 19:25 J -32319107.82 -32319107.69 -32319107.56 0.3604 0.0748

Saturn -93197-07-22 10:32 J -32318578.09 -32318578.06 -32318578.02 0.0280 0.0272

Venus -93197-08-25 09:06 J -32318544.17 -32318544.12 -32318544.06 0.3762 0.3209

Mars -93197-08-27 17:15 J -32318541.91 -32318541.78 -32318541.66 0.1611 0.0585

Saturn -93197-10-19 04:32 J -32318489.44 -32318489.31 -32318489.18 0.0280 0.0166

Saturn -93196-01-15 21:49 J -32318400.75 -32318400.59 -32318400.43 0.0280 0.0063

Saturn -93196-04-14 14:51 J -32318312.04 -32318311.88 -32318311.72 0.0280 0.0039

Saturn -93196-07-12 07:25 J -32318223.33 -32318223.19 -32318223.05 0.0279 0.0137

Saturn -93196-10-08 23:44 J -32318134.60 -32318134.51 -32318134.43 0.0279 0.0233

Jupiter -93195-02-01 20:08 J -32318018.79 -32318018.66 -32318018.53 0.0523 0.0189

Jupiter -93195-05-02 07:25 J -32317929.30 -32317929.19 -32317929.07 0.0519 0.0277

Mars -93195-08-03 07:54 J -32317836.25 -32317836.17 -32317836.10 0.1604 0.1310

Moon -93194-01-24 12:27 J -32317662.10 -32317661.98 -32317661.86 0.2733 0.0777

Earth -93194-01-24 13:25 J -32317662.06 -32317661.94 -32317661.82 0.2733 0.0843 *

Venus -93193-08-24 19:25 J -32317083.81 -32317083.69 -32317083.58 0.3608 0.1775

Earth -93191-08-03 05:01 J -32316375.39 -32316375.29 -32316375.19 0.2608 0.1615

Moon -93191-08-03 05:59 J -32316375.35 -32316375.25 -32316375.16 0.2612 0.1781 *

Mars -93190-04-25 13:11 J -32316110.02 -32316109.95 -32316109.88 0.1925 0.1649

Venus -93190-05-20 09:20 J -32316085.15 -32316085.11 -32316085.07 0.3788 0.3464

Jupiter -93189-06-30 23:44 J -32315677.67 -32315677.51 -32315677.34 0.0506 0.0100

Jupiter -93189-09-28 22:47 J -32315587.64 -32315587.55 -32315587.46 0.0509 0.0412

Mars -93187-01-18 01:54 J -32315111.52 -32315111.42 -32315111.31 0.1613 0.1025

Venus -93187-03-10 18:56 J -32315059.80 -32315059.71 -32315059.63 0.3611 0.2753

Mars -93186-12-24 16:03 J -32314405.95 -32314405.83 -32314405.72 0.1606 0.0844

Venus -93185-12-03 03:06 J -32314061.44 -32314061.37 -32314061.30 0.3786 0.2782

Uranus -93185-12-05 09:49 J -32314059.12 -32314059.09 -32314059.03 0.0142 0.0134

Uranus -93184-03-03 14:23 J -32313970.98 -32313970.90 -32313970.81 0.0142 0.0115

Uranus -93184-05-30 18:42 J -32313882.82 -32313882.72 -32313882.60 0.0142 0.0096

Moon -93184-07-26 14:37 J -32313825.92 -32313825.89 -32313825.86 0.2600 0.2515

Earth -93184-07-26 15:35 J -32313825.90 -32313825.85 -32313825.80 0.2599 0.2367 *

Uranus -93184-08-26 23:30 J -32313794.65 -32313794.52 -32313794.40 0.0142 0.0076

Jupiter -93184-11-20 23:30 J -32313708.63 -32313708.52 -32313708.41 0.0524 0.0301

Uranus -93184-11-23 03:49 J -32313706.47 -32313706.34 -32313706.20 0.0142 0.0057

Jupiter -93183-02-18 10:32 J -32313619.19 -32313619.06 -32313618.93 0.0520 0.0164

Uranus -93183-02-19 08:23 J -32313618.29 -32313618.15 -32313618.00 0.0142 0.0037

Uranus -93183-05-18 12:56 J -32313530.10 -32313529.96 -32313529.81 0.0142 0.0018

Uranus -93183-08-14 17:44 J -32313441.91 -32313441.76 -32313441.62 0.0143 0.0005

Uranus -93183-11-10 22:18 J -32313353.72 -32313353.57 -32313353.42 0.0143 0.0023

Uranus -93182-02-07 02:51 J -32313265.52 -32313265.38 -32313265.23 0.0143 0.0044

Uranus -93182-05-06 07:39 J -32313177.31 -32313177.18 -32313177.04 0.0143 0.0064

Saturn -93182-08-01 06:13 J -32313090.31 -32313090.24 -32313090.16 0.0278 0.0234

Uranus -93182-08-02 12:27 J -32313089.10 -32313088.98 -32313088.85 0.0143 0.0085

Saturn -93182-10-28 20:08 J -32313001.78 -32313001.66 -32313001.53 0.0279 0.0145

Uranus -93182-10-29 17:15 J -32313000.87 -32313000.78 -32313000.67 0.0143 0.0106

Saturn -93181-01-25 10:18 J -32312913.21 -32312913.07 -32312912.92 0.0279 0.0055

Uranus -93181-01-25 22:03 J -32312912.63 -32312912.58 -32312912.50 0.0143 0.0128

Moon -93181-01-27 11:01 J -32312911.10 -32312911.04 -32312910.98 0.2733 0.2364

Earth -93181-01-27 11:59 J -32312911.06 -32312911.00 -32312910.95 0.2729 0.2445 *

Saturn -93181-04-23 00:42 J -32312824.62 -32312824.47 -32312824.32 0.0279 0.0039

Saturn -93181-07-20 15:35 J -32312735.99 -32312735.85 -32312735.72 0.0279 0.0134

Mars -93181-09-14 15:35 J -32312679.97 -32312679.85 -32312679.72 0.1923 0.0775

Saturn -93181-10-17 06:27 J -32312647.31 -32312647.23 -32312647.14 0.0280 0.0231

Venus -93179-06-18 21:06 J -32312037.71 -32312037.62 -32312037.53 0.3783 0.2079

Mars -93178-06-10 10:47 J -32311681.10 -32311681.05 -32311680.99 0.1616 0.1461

Jupiter -93177-04-18 23:01 J -32311367.68 -32311367.54 -32311367.39 0.0505 0.0232

Jupiter -93177-07-17 22:32 J -32311277.69 -32311277.56 -32311277.42 0.0509 0.0284

Mars -93176-05-16 00:13 J -32310975.62 -32310975.49 -32310975.35 0.1607 0.0387

Moon -93174-01-19 22:32 J -32310361.65 -32310361.56 -32310361.48 0.2733 0.2014

Earth -93174-01-19 22:32 J -32310361.64 -32310361.56 -32310361.47 0.2739 0.1933 *

Venus -93173-01-02 15:06 J -32310013.97 -32310013.87 -32310013.77 0.3781 0.1354

Jupiter -93172-09-09 02:51 J -32309398.46 -32309398.38 -32309398.29 0.0525 0.0408

Jupiter -93172-12-07 13:54 J -32309309.06 -32309308.92 -32309308.79 0.0521 0.0056

Mars -93171-02-04 17:59 J -32309249.89 -32309249.75 -32309249.61 0.1921 0.0123

Moon -93171-07-29 13:39 J -32309075.05 -32309074.93 -32309074.81 0.2608 0.0956

Earth -93171-07-29 14:08 J -32309075.04 -32309074.91 -32309074.79 0.2602 0.0910 *

Venus -93168-07-18 09:20 J -32307990.22 -32307990.11 -32307990.00 0.3778 0.0608

Saturn -93167-03-08 02:51 J -32307757.48 -32307757.38 -32307757.26 0.0280 0.0207

Saturn -93167-06-04 20:37 J -32307668.79 -32307668.64 -32307668.49 0.0279 0.0102

Saturn -93167-09-01 13:39 J -32307580.09 -32307579.93 -32307579.77 0.0279 0.0003

Mars -93167-10-06 08:51 J -32307545.27 -32307545.13 -32307545.00 0.1609 0.0071

Saturn -93167-11-29 06:27 J -32307491.38 -32307491.23 -32307491.08 0.0279 0.0100

Saturn -93166-02-25 22:47 J -32307402.66 -32307402.55 -32307402.44 0.0279 0.0196

Jupiter -93165-02-05 23:01 J -32307057.66 -32307057.54 -32307057.42 0.0504 0.0357

Jupiter -93165-05-05 22:47 J -32306967.70 -32306967.55 -32306967.39 0.0508 0.0162

Venus -93164-07-16 15:06 J -32306530.90 -32306530.87 -32306530.84 0.3593 0.3507

Venus -93162-02-01 03:49 J -32305966.45 -32305966.34 -32305966.23 0.3775 0.0183

Mars -93162-06-27 19:39 J -32305819.80 -32305819.68 -32305819.57 0.1917 0.1045

Moon -93161-01-22 19:54 J -32305610.80 -32305610.67 -32305610.55 0.2731 0.0404

Earth -93161-01-22 20:37 J -32305610.76 -32305610.64 -32305610.52 0.2736 0.0406 *

Jupiter -93160-06-28 06:13 J -32305088.26 -32305088.24 -32305088.22 0.0526 0.0518

Jupiter -93160-09-25 16:47 J -32304998.94 -32304998.80 -32304998.66 0.0522 0.0061

Jupiter -93160-12-24 04:18 J -32304909.41 -32304909.32 -32304909.24 0.0518 0.0406

Venus -93158-01-30 16:47 J -32304506.90 -32304506.80 -32304506.69 0.3595 0.2307

Earth -93158-08-01 12:27 J -32304324.11 -32304323.98 -32304323.85 0.2605 0.0520

Moon -93158-08-01 12:42 J -32304324.10 -32304323.97 -32304323.84 0.2611 0.0579 *

Mars -93157-02-26 17:30 J -32304114.90 -32304114.77 -32304114.64 0.1611 0.0520

Venus -93157-08-16 22:18 J -32303942.67 -32303942.57 -32303942.46 0.3772 0.0955

Mars -93155-02-01 08:08 J -32303409.23 -32303409.16 -32303409.09 0.1604 0.1379

Jupiter -93154-11-24 22:47 J -32302747.59 -32302747.55 -32302747.50 0.0504 0.0482

Jupiter -93153-02-22 23:01 J -32302657.70 -32302657.54 -32302657.37 0.0507 0.0039

Venus -93153-08-15 17:59 J -32302482.88 -32302482.75 -32302482.61 0.3598 0.1154

Saturn -93153-12-18 06:13 J -32302358.26 -32302358.24 -32302358.20 0.0279 0.0270

Saturn -93152-03-16 20:08 J -32302269.77 -32302269.66 -32302269.55 0.0279 0.0182

Saturn -93152-06-13 10:03 J -32302181.21 -32302181.08 -32302180.94 0.0279 0.0092

Saturn -93152-09-10 00:27 J -32302092.63 -32302092.48 -32302092.33 0.0280 0.0000

Saturn -93152-12-07 15:06 J -32302004.01 -32302003.87 -32302003.73 0.0280 0.0095

Venus -93151-03-02 17:15 J -32301918.88 -32301918.78 -32301918.68 0.3768 0.1751

Saturn -93151-03-06 05:59 J -32301915.36 -32301915.25 -32301915.14 0.0280 0.0191

Mars -93151-10-24 13:25 J -32301682.99 -32301682.94 -32301682.88 0.1925 0.1736

Moon -93148-01-24 17:44 J -32300859.87 -32300859.76 -32300859.64 0.2733 0.0986

Earth -93148-01-24 18:56 J -32300859.83 -32300859.71 -32300859.60 0.2732 0.1169 *

Jupiter -93148-07-14 19:39 J -32300688.81 -32300688.68 -32300688.55 0.0523 0.0176

Mars -93148-07-19 02:08 J -32300684.52 -32300684.41 -32300684.30 0.1613 0.0965

Jupiter -93148-10-12 06:56 J -32300599.33 -32300599.21 -32300599.10 0.0519 0.0289

Venus -93147-03-01 18:56 J -32300458.85 -32300458.71 -32300458.58 0.3602 0.0108

Mars -93146-06-24 16:18 J -32299978.93 -32299978.82 -32299978.71 0.1606 0.0910

Venus -93146-09-16 12:27 J -32299895.07 -32299894.98 -32299894.90 0.3765 0.2584

Uranus -93145-05-02 15:06 J -32299665.94 -32299665.87 -32299665.80 0.0137 0.0124

Uranus -93145-07-29 20:37 J -32299577.74 -32299577.64 -32299577.52 0.0137 0.0104

Earth -93145-08-03 10:32 J -32299573.15 -32299573.06 -32299572.97 0.2608 0.1915

Moon -93145-08-03 11:15 J -32299573.11 -32299573.03 -32299572.94 0.2612 0.1936 *

Uranus -93145-10-26 02:37 J -32299489.53 -32299489.39 -32299489.26 0.0137 0.0083

Uranus -93144-01-22 08:08 J -32299401.31 -32299401.16 -32299401.01 0.0136 0.0063

Uranus -93144-04-20 13:39 J -32299313.09 -32299312.93 -32299312.77 0.0136 0.0042

Uranus -93144-07-17 19:11 J -32299224.86 -32299224.70 -32299224.53 0.0136 0.0022

Uranus -93144-10-14 00:42 J -32299136.64 -32299136.47 -32299136.30 0.0136 0.0003

Uranus -93143-01-10 05:59 J -32299048.41 -32299048.25 -32299048.08 0.0136 0.0017

Uranus -93143-04-08 11:15 J -32298960.18 -32298960.03 -32298959.86 0.0136 0.0036

Uranus -93143-07-05 16:32 J -32298871.96 -32298871.81 -32298871.65 0.0136 0.0056

Uranus -93143-10-01 21:49 J -32298783.72 -32298783.59 -32298783.45 0.0136 0.0074

Uranus -93143-12-29 02:51 J -32298695.49 -32298695.38 -32298695.25 0.0135 0.0093

Uranus -93142-03-27 08:08 J -32298607.25 -32298607.16 -32298607.06 0.0135 0.0111

Uranus -93142-06-23 12:56 J -32298518.99 -32298518.96 -32298518.90 0.0135 0.0130

Venus -93142-09-15 19:11 J -32298434.83 -32298434.70 -32298434.57 0.3605 0.1020

Jupiter -93142-12-11 22:47 J -32298347.71 -32298347.55 -32298347.39 0.0506 0.0090

Jupiter -93141-03-10 21:35 J -32298257.68 -32298257.60 -32298257.50 0.0510 0.0421

Mars -93141-03-15 16:03 J -32298252.95 -32298252.83 -32298252.71 0.1923 0.0865

Venus -93140-04-01 07:39 J -32297871.22 -32297871.18 -32297871.13 0.3761 0.3429

Neptune -93139-10-29 13:54 J -32297294.92 -32297294.92 -32297294.89 0.0089 0.0088

Mars -93139-12-09 11:01 J -32297254.11 -32297254.04 -32297253.98 0.1616 0.1404

Neptune -93138-01-25 17:01 J -32297206.84 -32297206.79 -32297206.72 0.0089 0.0083

Neptune -93138-04-23 19:54 J -32297118.74 -32297118.67 -32297118.57 0.0089 0.0077

Neptune -93138-07-20 23:01 J -32297030.63 -32297030.54 -32297030.43 0.0089 0.0072

Saturn -93138-07-26 03:35 J -32297025.43 -32297025.35 -32297025.26 0.0280 0.0237

Moon -93138-07-27 20:08 J -32297023.74 -32297023.66 -32297023.58 0.2603 0.2087

Earth -93138-07-27 21:06 J -32297023.70 -32297023.62 -32297023.54 0.2599 0.2056 *

Neptune -93138-10-17 01:54 J -32296942.52 -32296942.42 -32296942.29 0.0089 0.0066

Saturn -93138-10-22 21:20 J -32296936.75 -32296936.61 -32296936.47 0.0280 0.0132

Neptune -93137-01-13 05:01 J -32296854.41 -32296854.29 -32296854.16 0.0089 0.0061

Saturn -93137-01-19 14:37 J -32296848.05 -32296847.89 -32296847.73 0.0280 0.0028

Neptune -93137-04-10 07:39 J -32296766.30 -32296766.18 -32296766.02 0.0089 0.0056

Saturn -93137-04-17 07:25 J -32296759.34 -32296759.19 -32296759.03 0.0280 0.0073

Neptune -93137-07-07 11:01 J -32296678.19 -32296678.04 -32296677.89 0.0089 0.0050

Saturn -93137-07-14 23:59 J -32296670.62 -32296670.50 -32296670.37 0.0280 0.0171

Neptune -93137-10-03 13:39 J -32296590.07 -32296589.93 -32296589.76 0.0089 0.0045

Saturn -93137-10-11 16:03 J -32296581.87 -32296581.83 -32296581.78 0.0279 0.0267

Mars -93137-11-14 00:27 J -32296548.61 -32296548.48 -32296548.35 0.1607 0.0447

Neptune -93137-12-30 16:47 J -32296501.96 -32296501.80 -32296501.64 0.0089 0.0039

Neptune -93136-03-28 19:39 J -32296413.84 -32296413.68 -32296413.51 0.0089 0.0034

Venus -93136-03-31 18:56 J -32296410.82 -32296410.71 -32296410.60 0.3609 0.2026

Jupiter -93136-05-02 21:49 J -32296378.70 -32296378.59 -32296378.47 0.0524 0.0300

Neptune -93136-06-24 22:18 J -32296325.73 -32296325.57 -32296325.39 0.0089 0.0029

Jupiter -93136-07-31 09:06 J -32296289.26 -32296289.12 -32296288.99 0.0520 0.0166

Neptune -93136-09-21 01:25 J -32296237.61 -32296237.44 -32296237.27 0.0089 0.0023

Neptune -93136-12-18 04:18 J -32296149.49 -32296149.32 -32296149.15 0.0089 0.0018

Moon -93135-01-27 16:32 J -32296108.82 -32296108.81 -32296108.79 0.2733 0.2703

Neptune -93135-03-16 06:56 J -32296061.38 -32296061.21 -32296061.03 0.0089 0.0013

Neptune -93135-06-12 09:49 J -32295973.26 -32295973.09 -32295972.91 0.0089 0.0008

Neptune -93135-09-08 12:42 J -32295885.14 -32295884.97 -32295884.79 0.0089 0.0003

Neptune -93135-12-05 15:35 J -32295797.02 -32295796.85 -32295796.67 0.0089 0.0004

Neptune -93134-03-03 18:27 J -32295708.91 -32295708.73 -32295708.56 0.0088 0.0009

Neptune -93134-05-30 21:06 J -32295620.79 -32295620.62 -32295620.44 0.0088 0.0014

Neptune -93134-08-26 23:44 J -32295532.67 -32295532.51 -32295532.33 0.0088 0.0020

Neptune -93134-11-23 02:37 J -32295444.55 -32295444.39 -32295444.22 0.0088 0.0025

Venus -93134-12-25 07:25 J -32295412.24 -32295412.19 -32295412.14 0.3788 0.3281

Neptune -93133-02-19 05:15 J -32295356.44 -32295356.28 -32295356.11 0.0088 0.0030

Neptune -93133-05-17 08:08 J -32295268.32 -32295268.16 -32295268.00 0.0088 0.0035

Neptune -93133-08-13 10:32 J -32295180.20 -32295180.06 -32295179.89 0.0088 0.0041

Neptune -93133-11-09 13:25 J -32295092.08 -32295091.94 -32295091.78 0.0088 0.0045

Neptune -93132-02-05 16:03 J -32295003.96 -32295003.83 -32295003.68 0.0088 0.0050

Neptune -93132-05-04 18:42 J -32294915.84 -32294915.72 -32294915.57 0.0088 0.0056

Neptune -93132-07-31 21:20 J -32294827.72 -32294827.61 -32294827.47 0.0088 0.0061

Mars   -93132-08-05 17:59 J -32294822.88 -32294822.75 -32294822.61 0.1920 0.0068

Neptune -93132-10-27 23:59 J -32294739.60 -32294739.50 -32294739.37 0.0088 0.0066

Neptune -93131-01-24 02:37 J -32294651.48 -32294651.39 -32294651.27 0.0088 0.0071

Neptune -93131-04-22 05:15 J -32294563.35 -32294563.28 -32294563.18 0.0088 0.0076

Neptune -93131-07-19 07:54 J -32294475.22 -32294475.17 -32294475.09 0.0088 0.0081

Neptune -93131-10-15 10:32 J -32294387.09 -32294387.06 -32294387.00 0.0088 0.0085

Venus   -93131-10-15 18:27 J -32294386.80 -32294386.73 -32294386.66 0.3612 0.2998

Jupiter -93130-09-29 22:18 J -32294037.72 -32294037.57 -32294037.42 0.0505 0.0219

Jupiter -93130-12-28 21:35 J -32293947.73 -32293947.60 -32293947.46 0.0508 0.0295

Moon   -93128-01-20 03:35 J -32293559.45 -32293559.35 -32293559.25 0.2732 0.1588

Earth   -93128-01-20 04:03 J -32293559.43 -32293559.33 -32293559.24 0.2739 0.1628 *

Venus   -93128-07-10 01:11 J -32293388.53 -32293388.45 -32293388.37 0.3785 0.2593

Mars   -93127-04-06 09:06 J -32293118.26 -32293118.12 -32293117.99 0.1609 0.0050

Moon   -93125-07-29 19:11 J -32292272.83 -32292272.70 -32292272.57 0.2608 0.0663

Earth   -93125-07-29 19:39 J -32292272.81 -32292272.68 -32292272.55 0.2602 0.0596 *

Jupiter -93124-02-19 01:11 J -32292068.53 -32292068.45 -32292068.37 0.0525 0.0411

Jupiter -93124-05-19 11:59 J -32291979.14 -32291979.00 -32291978.86 0.0522 0.0052

Pluto   -93123-01-25 03:35 J -32291728.38 -32291728.35 -32291728.31 0.0085 0.0081

Pluto   -93123-04-23 04:47 J -32291640.37 -32291640.30 -32291640.22 0.0084 0.0068

Pluto   -93123-07-20 06:13 J -32291552.34 -32291552.24 -32291552.14 0.0084 0.0056

Saturn   -93123-08-03 22:47 J -32291537.65 -32291537.55 -32291537.45 0.0278 0.0200

Pluto   -93123-10-16 07:25 J -32291464.30 -32291464.19 -32291464.07 0.0084 0.0043

Saturn   -93123-10-31 12:42 J -32291449.11 -32291448.97 -32291448.84 0.0279 0.0111

Mars -93123-12-26 19:54 J -32291392.79 -32291392.67 -32291392.55 0.1918 0.0956

Pluto -93122-01-12 08:37 J -32291376.26 -32291376.14 -32291376.01 0.0084 0.0031

Venus -93122-01-23 19:11 J -32291364.80 -32291364.70 -32291364.61 0.3783 0.1885

Saturn -93122-01-28 02:51 J -32291360.53 -32291360.38 -32291360.23 0.0279 0.0020

Pluto -93122-04-10 10:03 J -32291288.21 -32291288.08 -32291287.95 0.0084 0.0018

Saturn -93122-04-26 17:15 J -32291271.92 -32291271.78 -32291271.63 0.0279 0.0074

Pluto -93122-07-07 11:15 J -32291200.16 -32291200.03 -32291199.90 0.0084 0.0006

Saturn -93122-07-24 08:08 J -32291183.28 -32291183.16 -32291183.04 0.0279 0.0169

Pluto -93122-10-03 12:27 J -32291112.11 -32291111.98 -32291111.85 0.0084 0.0006

Saturn -93122-10-20 23:15 J -32291094.57 -32291094.53 -32291094.49 0.0279 0.0267

Pluto -93122-12-30 13:39 J -32291024.06 -32291023.93 -32291023.80 0.0084 0.0018

Pluto -93121-03-27 14:51 J -32290936.00 -32290935.88 -32290935.75 0.0083 0.0030

Pluto -93121-06-23 16:03 J -32290847.94 -32290847.83 -32290847.71 0.0083 0.0042

Pluto -93121-09-19 17:15 J -32290759.88 -32290759.78 -32290759.68 0.0083 0.0054

Pluto -93121-12-16 18:27 J -32290671.80 -32290671.73 -32290671.65 0.0083 0.0066

Pluto -93120-03-14 19:25 J -32290583.72 -32290583.69 -32290583.63 0.0083 0.0078

Jupiter -93118-07-18 21:20 J -32289727.72 -32289727.61 -32289727.49 0.0504 0.0353

Mars -93118-08-27 17:30 J -32289687.89 -32289687.77 -32289687.64 0.1611 0.0462

Jupiter -93118-10-16 21:20 J -32289637.77 -32289637.61 -32289637.46 0.0508 0.0164

Venus -93117-08-08 13:11 J -32289341.05 -32289340.95 -32289340.84 0.3780 0.1158

Mars -93116-08-02 08:23 J -32288982.21 -32288982.15 -32288982.10 0.1604 0.1443

Moon -93115-01-23 01:11 J -32288808.58 -32288808.45 -32288808.33 0.2732 0.0254

Earth -93115-01-23 01:54 J -32288808.54 -32288808.42 -32288808.29 0.2736 0.0118 *

Mars -93113-05-17 21:20 J -32287962.62 -32287962.61 -32287962.59 0.1914 0.1891

Jupiter -93113-12-08 04:47 J -32287758.32 -32287758.30 -32287758.28 0.0526 0.0517

Jupiter -93112-03-07 15:20 J -32287669.00 -32287668.86 -32287668.72 0.0522 0.0058

Jupiter -93112-06-05 02:51 J -32287579.46 -32287579.38 -32287579.29 0.0518 0.0410

Earth -93112-08-01 17:59 J -32287521.88 -32287521.75 -32287521.63 0.2605 0.0828

Moon -93112-08-01 18:27 J -32287521.86 -32287521.73 -32287521.61 0.2611 0.0875 *

Venus -93111-02-22 07:25 J -32287317.30 -32287317.19 -32287317.08 0.3777 0.0435

Mars -93111-04-24 13:39 J -32287255.97 -32287255.93 -32287255.89 0.1926 0.1817

Saturn -93109-12-12 02:23 J -32286293.42 -32286293.40 -32286293.37 0.0280 0.0276

Mars -93108-01-17 02:23 J -32286257.51 -32286257.40 -32286257.29 0.1613 0.0903

Saturn -93108-03-10 20:08 J -32286204.78 -32286204.66 -32286204.52 0.0280 0.0170

Saturn -93108-06-07 13:39 J -32286116.08 -32286115.93 -32286115.77 0.0280 0.0066

Saturn -93108-09-04 06:42 J -32286027.37 -32286027.22 -32286027.06 0.0279 0.0038

Saturn -93108-12-01 23:30 J -32285938.66 -32285938.52 -32285938.38 0.0279 0.0136

Venus -93107-02-20 15:20 J -32285857.92 -32285857.86 -32285857.79 0.3593 0.3181

Saturn -93107-02-28 15:35 J -32285849.93 -32285849.85 -32285849.76 0.0279 0.0232

Mars -93107-12-23 16:32 J -32285551.92 -32285551.81 -32285551.71 0.1606 0.0976

Jupiter -93106-05-06 21:06 J -32285417.66 -32285417.62 -32285417.57 0.0503 0.0480

Jupiter -93106-08-04 21:20 J -32285327.77 -32285327.61 -32285327.44 0.0507 0.0042

Venus -93106-09-08 02:08 J -32285293.53 -32285293.41 -32285293.30 0.3774 0.0390

Moon -93102-01-25 23:15 J -32284057.64 -32284057.53 -32284057.43 0.2733 0.1445

Earth -93102-01-26 00:13 J -32284057.59 -32284057.49 -32284057.38 0.2732 0.1490 *

Venus -93102-09-06 17:01 J -32283833.90 -32283833.79 -32283833.67 0.3596 0.1991

Mars -93102-09-14 16:18 J -32283825.93 -32283825.82 -32283825.70 0.1923 0.0957

Jupiter -93101-12-24 18:27 J -32283358.86 -32283358.73 -32283358.60 0.0523 0.0170

Uranus -93101-12-25 16:47 J -32283357.84 -32283357.80 -32283357.74 0.0142 0.0131

Venus -93100-03-23 20:37 J -32283269.74 -32283269.64 -32283269.53 0.3771 0.1165

Uranus -93100-03-23 21:20 J -32283269.70 -32283269.61 -32283269.52 0.0142 0.0112 *

Jupiter -93100-03-24 05:44 J -32283269.38 -32283269.26 -32283269.15 0.0519 0.0295

Uranus -93100-06-20 01:39 J -32283181.53 -32283181.43 -32283181.31 0.0142 0.0093

Uranus -93100-09-16 06:13 J -32283093.36 -32283093.24 -32283093.11 0.0142 0.0074

Uranus -93100-12-13 10:32 J -32283005.19 -32283005.06 -32283004.92 0.0142 0.0055

Uranus -93099-03-11 15:20 J -32282917.01 -32282916.86 -32282916.72 0.0142 0.0035

Uranus -93099-06-07 19:54 J -32282828.82 -32282828.67 -32282828.52 0.0143 0.0015

Mars -93099-06-09 11:15 J -32282827.11 -32282827.03 -32282826.96 0.1615 0.1344

Earth -93099-08-04 15:49 J -32282770.90 -32282770.84 -32282770.77 0.2609 0.2207

Moon -93099-08-04 16:47 J -32282770.85 -32282770.80 -32282770.75 0.2612 0.2352 *

Uranus -93099-09-04 00:27 J -32282740.63 -32282740.48 -32282740.33 0.0143 0.0006

Uranus -93099-12-01 05:01 J -32282652.43 -32282652.29 -32282652.14 0.0143 0.0026

Uranus -93098-02-27 09:49 J -32282564.23 -32282564.09 -32282563.95 0.0143 0.0046

Uranus -93098-05-26 14:37 J -32282476.02 -32282475.89 -32282475.76 0.0143 0.0067

Uranus -93098-08-22 19:11 J -32282387.81 -32282387.70 -32282387.57 0.0143 0.0088

Uranus -93098-11-18 23:59 J -32282299.58 -32282299.50 -32282299.39 0.0143 0.0110

Uranus -93097-02-15 05:01 J -32282211.34 -32282211.29 -32282211.22 0.0143 0.0131

Mars -93097-05-15 00:42 J -32282121.60 -32282121.47 -32282121.34 0.1607 0.0513

Venus -93096-03-22 17:59 J -32281809.88 -32281809.75 -32281809.61 0.3600 0.0859

Venus -93095-10-07 15:35 J -32281245.94 -32281245.85 -32281245.75 0.3767 0.1963

Jupiter -93094-05-23 21:35 J -32281017.77 -32281017.60 -32281017.44 0.0506 0.0084

Jupiter -93094-08-21 20:37 J -32280927.73 -32280927.64 -32280927.56 0.0510 0.0428

Saturn -93094-12-21 22:47 J -32280805.63 -32280805.55 -32280805.48 0.0279 0.0237

Saturn -93093-03-19 12:27 J -32280717.10 -32280716.98 -32280716.85 0.0279 0.0149

Saturn -93093-06-16 02:37 J -32280628.54 -32280628.39 -32280628.25 0.0279 0.0058

Saturn -93093-09-12 17:01 J -32280539.94 -32280539.79 -32280539.64 0.0279 0.0035

Saturn -93093-12-10 07:39 J -32280451.31 -32280451.18 -32280451.05 0.0280 0.0130

Mars -93092-02-03 18:27 J -32280395.87 -32280395.73 -32280395.59 0.1921 0.0055

Saturn -93092-03-08 22:32 J -32280362.64 -32280362.56 -32280362.47 0.0280 0.0227

Moon -93092-07-28 01:39 J -32280221.51 -32280221.43 -32280221.34 0.2604 0.1915

Earth -93092-07-28 02:37 J -32280221.49 -32280221.39 -32280221.29 0.2599 0.1744 *

Venus -93091-10-06 18:42 J -32279785.85 -32279785.72 -32279785.58 0.3603 0.0249

Venus -93089-04-22 10:47 J -32279222.12 -32279222.05 -32279221.98 0.3764 0.2797

Jupiter -93089-10-12 21:20 J -32279048.72 -32279048.61 -32279048.49 0.0524 0.0285

Jupiter -93088-01-10 08:23 J -32278959.28 -32278959.15 -32278959.02 0.0520 0.0178

Mars -93088-10-05 09:20 J -32278691.25 -32278691.11 -32278690.98 0.1609 0.0079

Venus -93085-04-21 18:42 J -32277761.84 -32277761.72 -32277761.59 0.3606 0.1282

Venus -93084-11-06 06:13 J -32277198.27 -32277198.24 -32277198.22 0.3760 0.3648

Mars -93083-06-26 20:08 J -32276965.78 -32276965.66 -32276965.53 0.1918 0.0869

Venus -93082-01-15 11:44 J -32276763.02 -32276763.01 -32276763.00 0.3789 0.3767

Moon -93082-01-21 09:06 J -32276757.23 -32276757.12 -32276757.02 0.2732 0.1398

Earth -93082-01-21 09:20 J -32276757.22 -32276757.11 -32276757.00 0.2739 0.1312 *

Jupiter -93082-03-11 21:20 J -32276707.76 -32276707.61 -32276707.46 0.0505 0.0211

Jupiter -93082-06-09 20:37 J -32276617.77 -32276617.64 -32276617.51 0.0509 0.0302

Venus -93080-11-05 18:27 J -32275737.83 -32275737.73 -32275737.62 0.3610 0.2286

Saturn -93079-07-28 20:37 J -32275472.75 -32275472.64 -32275472.53 0.0280 0.0201

Moon -93079-07-31 00:56 J -32275470.59 -32275470.46 -32275470.33 0.2609 0.0277

Earth -93079-07-31 01:11 J -32275470.59 -32275470.45 -32275470.32 0.2603 0.0303 *

Saturn -93079-10-25 14:08 J -32275384.06 -32275383.91 -32275383.75 0.0280 0.0096

Saturn -93078-01-22 07:25 J -32275295.35 -32275295.19 -32275295.03 0.0280 0.0008

Mars -93078-02-25 17:44 J -32275260.89 -32275260.76 -32275260.63 0.1611 0.0400

Saturn -93078-04-21 00:13 J -32275206.63 -32275206.49 -32275206.34 0.0280 0.0108

Saturn -93078-07-18 16:32 J -32275117.91 -32275117.81 -32275117.70 0.0280 0.0206

Venus -93077-07-31 05:30 J -32274739.33 -32274739.27 -32274739.21 0.3787 0.3097

Jupiter -93077-07-31 23:44 J -32274738.59 -32274738.51 -32274738.43 0.0525 0.0409

Jupiter -93077-10-29 10:32 J -32274649.20 -32274649.06 -32274648.92 0.0522 0.0053

Mars -93076-01-31 08:23 J -32274555.19 -32274555.15 -32274555.10 0.1604 0.1508

Venus -93074-05-22 17:44 J -32273713.81 -32273713.76 -32273713.70 0.3613 0.3231

Mars -93074-11-16 21:35 J -32273535.64 -32273535.60 -32273535.56 0.1914 0.1812

Mars -93072-10-23 14:08 J -32272828.93 -32272828.91 -32272828.90 0.1925 0.1905

Venus -93071-02-13 23:15 J -32272715.61 -32272715.53 -32272715.45 0.3784 0.2402

Jupiter -93071-12-28 20:37 J -32272397.76 -32272397.64 -32272397.51 0.0504 0.0341

Jupiter -93070-03-28 20:37 J -32272307.80 -32272307.64 -32272307.49 0.0507 0.0176

Moon -93069-01-24 06:27 J -32272006.36 -32272006.23 -32272006.11 0.2733 0.0199

Earth -93069-01-24 07:25 J -32272006.32 -32272006.19 -32272006.07 0.2735 0.0231 *

Mars -93069-07-18 02:23 J -32271830.51 -32271830.40 -32271830.28 0.1613 0.0846

Mars -93067-06-23 16:32 J -32271124.91 -32271124.81 -32271124.70 0.1606 0.1037

Earth -93066-08-02 23:15 J -32270719.64 -32270719.53 -32270719.41 0.2606 0.1128

Moon -93066-08-02 23:59 J -32270719.62 -32270719.50 -32270719.39 0.2612 0.1179 *

Venus -93066-08-30 17:15 J -32270691.88 -32270691.78 -32270691.68 0.3782 0.1691

Jupiter -93065-05-20 02:51 J -32270428.39 -32270428.38 -32270428.36 0.0526 0.0521

Jupiter -93065-08-17 13:25 J -32270339.07 -32270338.94 -32270338.80 0.0523 0.0063

Jupiter -93065-11-15 01:11 J -32270249.54 -32270249.45 -32270249.37 0.0519 0.0407

Saturn -93064-05-10 01:39 J -32270073.48 -32270073.43 -32270073.37 0.0278 0.0253

Saturn -93064-08-06 15:20 J -32269984.97 -32269984.86 -32269984.74 0.0278 0.0165

Saturn -93064-11-03 05:30 J -32269896.42 -32269896.27 -32269896.13 0.0278 0.0076

Saturn -93063-01-30 19:39 J -32269807.83 -32269807.68 -32269807.53 0.0279 0.0017

Saturn -93063-04-29 10:18 J -32269719.21 -32269719.07 -32269718.93 0.0279 0.0111

Saturn -93063-07-27 01:11 J -32269630.55 -32269630.45 -32269630.35 0.0279 0.0207

Mars -93062-03-15 16:32 J -32269398.93 -32269398.81 -32269398.70 0.1923 0.1028

Uranus -93061-05-22 22:03 J -32268964.65 -32268964.58 -32268964.49 0.0137 0.0120

Uranus -93061-08-19 03:35 J -32268876.45 -32268876.35 -32268876.22 0.0137 0.0100

Uranus -93061-11-15 09:35 J -32268788.24 -32268788.10 -32268787.96 0.0137 0.0079

Uranus -93060-02-11 15:06 J -32268700.02 -32268699.87 -32268699.71 0.0136 0.0059

Venus -93060-03-15 11:30 J -32268668.13 -32268668.02 -32268667.92 0.3779 0.0966

Uranus -93060-05-10 20:37 J -32268611.80 -32268611.64 -32268611.47 0.0136 0.0039

Uranus -93060-08-07 02:08 J -32268523.57 -32268523.41 -32268523.24 0.0136 0.0019

Uranus -93060-11-03 07:39 J -32268435.35 -32268435.18 -32268435.01 0.0136 0.0002

Mars -93060-12-08 11:15 J -32268400.11 -32268400.03 -32268399.95 0.1615 0.1283

Uranus -93059-01-30 13:11 J -32268347.12 -32268346.95 -32268346.79 0.0136 0.0021

Uranus -93059-04-28 18:13 J -32268258.89 -32268258.74 -32268258.57 0.0136 0.0041

Uranus -93059-07-25 23:30 J -32268170.66 -32268170.52 -32268170.36 0.0136 0.0060

Jupiter -93059-10-16 19:25 J -32268087.73 -32268087.69 -32268087.63 0.0503 0.0476

Uranus -93059-10-22 04:47 J -32268082.43 -32268082.30 -32268082.16 0.0135 0.0079

Jupiter -93058-01-14 19:54 J -32267997.84 -32267997.67 -32267997.51 0.0507 0.0044

Uranus -93058-01-18 09:49 J -32267994.19 -32267994.09 -32267993.96 0.0135 0.0098

Uranus -93058-04-16 15:06 J -32267905.94 -32267905.87 -32267905.78 0.0135 0.0116

Uranus -93058-07-13 20:23 J -32267817.67 -32267817.65 -32267817.63 0.0135 0.0134

Mars -93058-11-14 00:56 J -32267694.59 -32267694.46 -32267694.33 0.1607 0.0577

Neptune -93057-07-27 02:51 J -32267438.39 -32267438.38 -32267438.34 0.0089 0.0087

Neptune -93057-10-23 04:32 J -32267350.35 -32267350.31 -32267350.26 0.0089 0.0083

Neptune -93056-01-19 05:59 J -32267262.30 -32267262.25 -32267262.18 0.0089 0.0079

Moon -93056-01-26 04:47 J -32267255.40 -32267255.30 -32267255.20 0.2733 0.1629

Earth -93056-01-26 05:44 J -32267255.36 -32267255.26 -32267255.17 0.2731 0.1814 *

Neptune -93056-04-17 07:39 J -32267174.25 -32267174.18 -32267174.10 0.0089 0.0075

Neptune -93056-07-14 09:06 J -32267086.19 -32267086.12 -32267086.02 0.0089 0.0071

Neptune -93056-10-10 10:32 J -32266998.13 -32266998.06 -32266997.95 0.0089 0.0067

Neptune -93055-01-06 12:27 J -32266910.07 -32266909.98 -32266909.88 0.0089 0.0062

Neptune -93055-04-04 14:08 J -32266822.01 -32266821.91 -32266821.80 0.0089 0.0058

Neptune -93055-07-01 15:35 J -32266733.95 -32266733.85 -32266733.73 0.0089 0.0054

Neptune -93055-09-27 17:15 J -32266645.89 -32266645.78 -32266645.66 0.0089 0.0050

Venus -93055-09-29 05:44 J -32266644.37 -32266644.26 -32266644.15 0.3776 0.0211

Neptune -93055-12-24 18:42 J -32266557.83 -32266557.72 -32266557.59 0.0089 0.0046

Neptune -93054-03-22 20:37 J -32266469.76 -32266469.64 -32266469.51 0.0089 0.0041

Neptune -93054-06-18 22:03 J -32266381.70 -32266381.58 -32266381.44 0.0089 0.0037

Neptune -93054-09-14 23:44 J -32266293.63 -32266293.51 -32266293.37 0.0089 0.0033

Neptune -93054-12-12 01:39 J -32266205.57 -32266205.43 -32266205.30 0.0089 0.0028

Neptune -93053-03-09 03:06 J -32266117.50 -32266117.37 -32266117.23 0.0089 0.0024

Neptune -93053-06-05 04:47 J -32266029.44 -32266029.30 -32266029.16 0.0089 0.0020

Jupiter -93053-06-05 17:01 J -32266028.92 -32266028.79 -32266028.66 0.0523 0.0171

Mars -93053-08-04 18:56 J -32265968.85 -32265968.71 -32265968.58 0.1921 0.0151

Earth -93053-08-04 21:20 J -32265968.64 -32265968.61 -32265968.58 0.2609 0.2507 *

Moon -93053-08-04 22:18 J -32265968.58 -32265968.57 -32265968.55 0.2610 0.2583 *

Neptune -93053-09-01 06:27 J -32265941.37 -32265941.23 -32265941.08 0.0089 0.0015

Jupiter -93053-09-03 04:18 J -32265939.44 -32265939.32 -32265939.21 0.0520 0.0296

Neptune -93053-11-28 08:08 J -32265853.30 -32265853.16 -32265853.01 0.0089 0.0011

Neptune -93052-02-24 09:49 J -32265765.23 -32265765.09 -32265764.94 0.0089 0.0007

Neptune -93052-05-23 11:30 J -32265677.16 -32265677.02 -32265676.87 0.0089 0.0003

Neptune -93052-08-19 13:11 J -32265589.09 -32265588.95 -32265588.80 0.0089 0.0003

Neptune -93052-11-15 15:06 J -32265501.02 -32265500.87 -32265500.73 0.0089 0.0007

Neptune -93051-02-11 16:32 J -32265412.95 -32265412.81 -32265412.66 0.0089 0.0012

Neptune -93051-05-10 18:13 J -32265324.88 -32265324.74 -32265324.59 0.0089 0.0016

Neptune -93051-08-06 20:08 J -32265236.80 -32265236.66 -32265236.52 0.0089 0.0020

Venus -93051-09-27 15:35 J -32265184.93 -32265184.85 -32265184.76 0.3594 0.2859

Neptune -93051-11-02 21:35 J -32265148.73 -32265148.60 -32265148.45 0.0089 0.0025

Neptune -93050-01-29 23:30 J -32265060.65 -32265060.52 -32265060.38 0.0089 0.0029

Neptune -93050-04-28 01:11 J -32264972.58 -32264972.45 -32264972.31 0.0089 0.0034

Neptune -93050-07-25 02:51 J -32264884.50 -32264884.38 -32264884.24 0.0089 0.0038

Neptune -93050-10-21 04:32 J -32264796.43 -32264796.31 -32264796.17 0.0089 0.0043

Saturn -93050-12-15 19:54 J -32264740.75 -32264740.67 -32264740.58 0.0280 0.0237

Neptune -93049-01-17 06:27 J -32264708.35 -32264708.23 -32264708.10 0.0089 0.0047

Moon -93049-01-19 17:01 J -32264705.84 -32264705.79 -32264705.74 0.2734 0.2474

Earth -93049-01-19 16:47 J -32264705.84 -32264705.80 -32264705.75 0.2741 0.2516 *

Saturn -93049-03-13 13:39 J -32264652.07 -32264651.93 -32264651.78 0.0280 0.0131

Venus -93049-04-14 00:13 J -32264620.60 -32264620.49 -32264620.38 0.3773 0.0582

Neptune -93049-04-14 08:08 J -32264620.27 -32264620.16 -32264620.03 0.0089 0.0052

Saturn -93049-06-10 07:11 J -32264563.36 -32264563.20 -32264563.04 0.0280 0.0028

Neptune -93049-07-11 10:03 J -32264532.19 -32264532.08 -32264531.96 0.0089 0.0056

Saturn -93049-09-06 23:59 J -32264474.65 -32264474.50 -32264474.34 0.0279 0.0074

Neptune -93049-10-07 11:30 J -32264444.11 -32264444.02 -32264443.90 0.0089 0.0061

Saturn -93049-12-04 16:32 J -32264385.93 -32264385.81 -32264385.68 0.0279 0.0172

Neptune -93048-01-03 13:25 J -32264356.03 -32264355.94 -32264355.83 0.0089 0.0065

Saturn -93048-03-03 08:37 J -32264297.17 -32264297.14 -32264297.09 0.0279 0.0268

Neptune -93048-04-01 15:06 J -32264267.94 -32264267.87 -32264267.76 0.0089 0.0070

Mars -93048-04-05 09:20 J -32264264.24 -32264264.11 -32264263.97 0.1609 0.0121

Neptune -93048-06-28 17:15 J -32264179.86 -32264179.78 -32264179.70 0.0089 0.0074

Neptune -93048-09-24 18:42 J -32264091.77 -32264091.72 -32264091.64 0.0089 0.0079

Neptune -93048-12-21 20:51 J -32264003.68 -32264003.63 -32264003.58 0.0089 0.0083

Neptune -93047-03-19 22:32 J -32263915.57 -32263915.56 -32263915.53 0.0089 0.0088

Jupiter -93047-11-02 19:39 J -32263687.84 -32263687.68 -32263687.51 0.0506 0.0084

Jupiter -93046-01-31 18:42 J -32263597.80 -32263597.72 -32263597.63 0.0510 0.0428

Moon -93046-07-29 07:11 J -32263419.31 -32263419.20 -32263419.09 0.2605 0.1446

Earth -93046-07-29 08:08 J -32263419.27 -32263419.16 -32263419.05 0.2600 0.1436 *

Venus -93045-04-12 17:01 J -32263160.91 -32263160.79 -32263160.67 0.3597 0.1692

Venus -93044-10-28 18:56 J -32262596.81 -32262596.71 -32262596.60 0.3770 0.1364

Mars -93044-12-25 20:37 J -32262538.77 -32262538.64 -32262538.51 0.1918 0.0779

Jupiter -93041-03-24 20:08 J -32261718.78 -32261718.66 -32261718.55 0.0524 0.0281

Jupiter -93041-06-22 07:11 J -32261629.33 -32261629.20 -32261629.07 0.0520 0.0182

Venus -93040-10-27 17:59 J -32261136.88 -32261136.75 -32261136.61 0.3601 0.0562

Mars -93039-08-26 17:59 J -32260833.88 -32260833.75 -32260833.62 0.1611 0.0336

Venus -93038-05-14 13:54 J -32260573.01 -32260572.92 -32260572.82 0.3766 0.2184

Mars -93037-08-01 08:37 J -32260128.16 -32260128.14 -32260128.11 0.1604 0.1576

Moon -93036-01-21 14:08 J -32259955.02 -32259954.91 -32259954.79 0.2732 0.1024

Earth -93036-01-21 14:37 J -32259955.00 -32259954.89 -32259954.77 0.2738 0.1004 *

Jupiter -93035-08-21 19:39 J -32259377.83 -32259377.68 -32259377.52 0.0505 0.0208

Jupiter -93035-11-19 19:11 J -32259287.83 -32259287.70 -32259287.57 0.0509 0.0307

Saturn -93035-12-24 15:20 J -32259252.95 -32259252.86 -32259252.76 0.0279 0.0202

Saturn -93034-03-23 05:15 J -32259164.41 -32259164.28 -32259164.14 0.0279 0.0113

Venus -93034-05-13 18:27 J -32259112.86 -32259112.73 -32259112.60 0.3604 0.0515

Mars -93034-05-17 22:03 J -32259108.64 -32259108.58 -32259108.52 0.1914 0.1721

Saturn -93034-06-19 19:25 J -32259075.84 -32259075.69 -32259075.54 0.0279 0.0021

Saturn -93034-09-16 09:49 J -32258987.23 -32258987.09 -32258986.94 0.0279 0.0073

Saturn -93034-12-14 00:27 J -32258898.59 -32258898.48 -32258898.35 0.0279 0.0169

Saturn -93033-03-11 15:35 J -32258809.89 -32258809.85 -32258809.80 0.0280 0.0266

Earth -93033-07-31 06:27 J -32258668.36 -32258668.23 -32258668.09 0.2603 0.0087

Moon -93033-07-31 06:42 J -32258668.35 -32258668.22 -32258668.09 0.2609 0.0057 *

Venus -93033-11-27 09:06 J -32258549.18 -32258549.12 -32258549.05 0.3762 0.3017

Jupiter -93029-01-11 23:01 J -32257408.62 -32257408.54 -32257408.45 0.0525 0.0396

Mars -93029-01-17 02:37 J -32257403.50 -32257403.39 -32257403.27 0.1613 0.0783

Jupiter -93029-04-10 09:49 J -32257319.22 -32257319.09 -32257318.95 0.0521 0.0067

Venus -93029-11-26 18:27 J -32257088.85 -32257088.73 -32257088.61 0.3607 0.1544

Mars -93028-12-22 16:47 J -32256697.89 -32256697.80 -32256697.70 0.1605 0.1107

Venus -93026-08-22 09:49 J -32256090.12 -32256090.09 -32256090.06 0.3789 0.3588

Moon -93023-01-24 11:44 J -32255204.13 -32255204.01 -32255203.88 0.2733 0.0372

Earth -93023-01-24 12:42 J -32255204.09 -32255203.97 -32255203.84 0.2735 0.0562 *

Jupiter -93023-06-09 19:25 J -32255067.81 -32255067.69 -32255067.56 0.0504 0.0334

Venus -93023-06-12 18:13 J -32255064.84 -32255064.74 -32255064.65 0.3611 0.2532

Jupiter -93023-09-07 19:11 J -32254977.85 -32254977.70 -32254977.54 0.0508 0.0183

Mars -93023-09-13 17:01 J -32254971.90 -32254971.79 -32254971.68 0.1924 0.1126

Venus -93020-03-07 03:35 J -32254066.42 -32254066.35 -32254066.29 0.3786 0.2916

Saturn -93020-05-03 20:08 J -32254008.71 -32254008.66 -32254008.62 0.0281 0.0270

Mars -93020-06-08 11:30 J -32253973.11 -32253973.02 -32253972.94 0.1615 0.1225

Saturn -93020-07-31 13:54 J -32253920.05 -32253919.92 -32253919.78 0.0281 0.0163

Earth -93020-08-03 04:47 J -32253917.41 -32253917.30 -32253917.19 0.2606 0.1422

Moon -93020-08-03 05:30 J -32253917.38 -32253917.27 -32253917.17 0.2612 0.1517 *

Saturn -93020-10-28 07:25 J -32253831.35 -32253831.19 -32253831.03 0.0280 0.0058

Saturn -93019-01-25 00:42 J -32253742.63 -32253742.47 -32253742.31 0.0280 0.0045

Saturn -93019-04-23 17:15 J -32253653.91 -32253653.78 -32253653.64 0.0280 0.0144

Saturn -93019-07-21 09:35 J -32253565.17 -32253565.10 -32253565.02 0.0280 0.0241

Mars -93018-05-15 01:11 J -32253267.58 -32253267.45 -32253267.33 0.1607 0.0639

Jupiter -93018-10-31 01:25 J -32253098.46 -32253098.44 -32253098.42 0.0526 0.0520

Venus -93018-12-27 17:15 J -32253040.81 -32253040.78 -32253040.75 0.3614 0.3467

Jupiter -93017-01-28 11:59 J -32253009.14 -32253009.00 -32253008.86 0.0523 0.0061

Jupiter -93017-04-26 23:30 J -32252919.61 -32252919.52 -32252919.43 0.0519 0.0407

Uranus -93016-01-14 23:59 J -32252656.56 -32252656.50 -32252656.44 0.0142 0.0127

Uranus -93016-04-13 04:03 J -32252568.41 -32252568.33 -32252568.22 0.0142 0.0109

Uranus -93016-07-10 08:51 J -32252480.24 -32252480.13 -32252480.02 0.0142 0.0089

Uranus -93016-10-06 13:11 J -32252392.07 -32252391.95 -32252391.82 0.0142 0.0070

Uranus -93015-01-02 17:44 J -32252303.90 -32252303.76 -32252303.62 0.0142 0.0051

Uranus -93015-03-31 22:03 J -32252215.72 -32252215.58 -32252215.43 0.0142 0.0032

Uranus -93015-06-28 02:51 J -32252127.53 -32252127.38 -32252127.23 0.0143 0.0011

Venus -93015-09-20 21:20 J -32252042.70 -32252042.61 -32252042.52 0.3784 0.2218

Uranus -93015-09-24 07:25 J -32252039.34 -32252039.19 -32252039.04 0.0143 0.0009

Uranus -93015-12-21 11:59 J -32251951.14 -32251951.00 -32251950.85 0.0143 0.0030

Uranus -93014-03-19 16:47 J -32251862.94 -32251862.80 -32251862.66 0.0143 0.0050

Uranus -93014-06-15 21:35 J -32251774.73 -32251774.60 -32251774.47 0.0143 0.0071

Uranus -93014-09-12 02:23 J -32251686.51 -32251686.40 -32251686.29 0.0143 0.0091

Uranus -93014-12-09 07:11 J -32251598.29 -32251598.20 -32251598.11 0.0143 0.0113

Mars -93013-02-03 18:56 J -32251541.84 -32251541.71 -32251541.57 0.1921 0.0229

Uranus -93013-03-06 11:59 J -32251510.05 -32251510.00 -32251509.94 0.0144 0.0134

Jupiter -93011-03-28 18:42 J -32250757.78 -32250757.72 -32250757.65 0.0503 0.0465

Jupiter -93011-06-26 18:56 J -32250667.87 -32250667.71 -32250667.54 0.0506 0.0054

Moon -93010-01-27 10:18 J -32250453.15 -32250453.07 -32250452.99 0.2734 0.2125

Earth -93010-01-27 11:01 J -32250453.11 -32250453.04 -32250452.96 0.2731 0.2141 *

Venus -93009-04-05 15:20 J -32250018.96 -32250018.86 -32250018.76 0.3781 0.1499

Mars -93009-10-04 09:35 J -32249837.24 -32249837.10 -32249836.97 0.1609 0.0179

Jupiter -93006-11-16 14:51 J -32248699.01 -32248698.88 -32248698.75 0.0524 0.0176

Jupiter -93005-02-14 02:08 J -32248609.52 -32248609.41 -32248609.29 0.0520 0.0291

Saturn -93005-05-12 18:42 J -32248520.81 -32248520.72 -32248520.63 0.0278 0.0216

Saturn -93005-08-09 08:23 J -32248432.28 -32248432.15 -32248432.02 0.0278 0.0128

Saturn -93005-11-05 22:32 J -32248343.71 -32248343.56 -32248343.41 0.0278 0.0037

Saturn -93004-02-02 12:56 J -32248255.11 -32248254.96 -32248254.82 0.0279 0.0056

Saturn -93004-05-02 03:35 J -32248166.48 -32248166.35 -32248166.22 0.0279 0.0151

Mars -93004-06-25 20:51 J -32248111.76 -32248111.63 -32248111.50 0.1918 0.0704

Saturn -93004-07-29 18:27 J -32248077.79 -32248077.73 -32248077.66 0.0279 0.0248

Venus -93004-10-20 09:35 J -32247995.21 -32247995.10 -32247994.99 0.3778 0.0766

Earth -93003-01-19 22:03 J -32247903.65 -32247903.58 -32247903.50 0.2741 0.2211

Moon -93003-01-19 22:18 J -32247903.64 -32247903.57 -32247903.50 0.2733 0.2223 *

93RD MILLENNIUM BCE

This is a list of transits of Mercury in the 93rd millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Moon	**-93000-07-29 12:56**	**J**	**-32246617.07**	**-32246616.96**	**-32246616.84**	**0.2605**	**0.1271**	
Earth	**-93000-07-29 13:39**	**J**	**-32246617.05**	**-32246616.93**	**-32246616.81**	**0.2600**	**0.1127**	*
Mars	**-92999-02-24 18:13**	**J**	**-32246406.88**	**-32246406.74**	**-32246406.61**	**0.1611**	**0.0276**	
Jupiter	**-92999-04-14 17:59**	**J**	**-32246357.91**	**-32246357.75**	**-32246357.58**	**0.0506**	**0.0082**	
Jupiter	**-92999-07-13 17:01**	**J**	**-32246267.87**	**-32246267.79**	**-32246267.70**	**0.0509**	**0.0428**	
Venus	**-92998-05-06 04:03**	**J**	**-32245971.45**	**-32245971.33**	**-32245971.22**	**0.3775**	**0.0134**	
Mars	**-92995-11-15 22:32**	**J**	**-32244681.63**	**-32244681.56**	**-32244681.48**	**0.1915**	**0.1621**	
Venus	**-92994-05-04 15:49**	**J**	**-32244511.94**	**-32244511.84**	**-32244511.75**	**0.3595**	**0.2552**	
Jupiter	**-92994-09-04 18:27**	**J**	**-32244388.85**	**-32244388.73**	**-32244388.62**	**0.0525**	**0.0284**	
Jupiter	**-92994-12-03 05:30**	**J**	**-32244299.40**	**-32244299.27**	**-32244299.14**	**0.0521**	**0.0181**	
Venus	**-92993-11-18 22:32**	**J**	**-32243947.67**	**-32243947.56**	**-32243947.45**	**0.3772**	**0.0772**	
Saturn	**-92991-12-18 14:08**	**J**	**-32243188.03**	**-32243187.91**	**-32243187.80**	**0.0280**	**0.0196**	
Moon	**-92990-01-22 19:25**	**J**	**-32243152.81**	**-32243152.69**	**-32243152.57**	**0.2733**	**0.0762**	
Earth	**-92990-01-22 20:08**	**J**	**-32243152.78**	**-32243152.66**	**-32243152.54**	**0.2737**	**0.0691**	*
Saturn	**-92990-03-17 07:39**	**J**	**-32243099.33**	**-32243099.18**	**-32243099.03**	**0.0280**	**0.0090**	
Saturn	**-92990-06-14 00:56**	**J**	**-32243010.62**	**-32243010.46**	**-32243010.30**	**0.0280**	**0.0014**	
Mars	**-92990-07-18 02:51**	**J**	**-32242976.50**	**-32242976.38**	**-32242976.26**	**0.1613**	**0.0720**	
Saturn	**-92990-09-10 17:30**	**J**	**-32242921.91**	**-32242921.77**	**-32242921.62**	**0.0280**	**0.0114**	
Saturn	**-92990-12-08 10:03**	**J**	**-32242833.18**	**-32242833.08**	**-32242832.98**	**0.0279**	**0.0211**	
Venus	**-92989-11-17 17:01**	**J**	**-32242487.92**	**-32242487.79**	**-32242487.66**	**0.3598**	**0.1391**	

Mars -92988-06-22 17:01 J -32242270.88 -32242270.79 -32242270.69 0.1605 0.1171

Jupiter -92987-01-31 17:44 J -32242047.91 -32242047.76 -32242047.60 0.0505 0.0208

Jupiter -92987-05-01 17:15 J -32241957.91 -32241957.78 -32241957.65 0.0509 0.0306

Venus -92987-06-04 17:15 J -32241923.88 -32241923.78 -32241923.67 0.3769 0.1579

Earth -92987-08-01 11:59 J -32241866.13 -32241866.00 -32241865.87 0.2603 0.0315

Moon -92987-08-01 12:13 J -32241866.12 -32241865.99 -32241865.86 0.2610 0.0409 *

Mars -92983-03-14 17:15 J -32240544.88 -32240544.78 -32240544.67 0.1923 0.1209

Venus -92983-06-03 17:59 J -32240463.89 -32240463.75 -32240463.62 0.3601 0.0280

Jupiter -92982-06-23 21:35 J -32240078.69 -32240078.60 -32240078.51 0.0525 0.0394

Jupiter -92982-09-21 08:23 J -32239989.29 -32239989.15 -32239989.01 0.0521 0.0068

Venus -92982-12-19 12:27 J -32239900.07 -32239899.98 -32239899.89 0.3765 0.2390

Mars -92981-12-07 11:44 J -32239546.10 -32239546.01 -32239545.92 0.1615 0.1164

Mars -92979-11-13 01:25 J -32238840.56 -32238840.44 -32238840.32 0.1607 0.0706

Venus -92978-12-18 18:13 J -32238439.87 -32238439.74 -32238439.61 0.3605 0.0787

Moon -92977-01-25 17:15 J -32238401.90 -32238401.78 -32238401.66 0.2732 0.0817

Earth -92977-01-25 18:13 J -32238401.86 -32238401.74 -32238401.62 0.2734 0.0870 *

Uranus -92977-03-15 23:15 J -32238351.53 -32238351.53 -32238351.51 0.0137 0.0137

Uranus -92977-06-12 05:01 J -32238263.37 -32238263.29 -32238263.19 0.0137 0.0116

Uranus -92977-09-08 11:01 J -32238175.16 -32238175.04 -32238174.92 0.0137 0.0095

Uranus -92977-12-05 16:32 J -32238086.94 -32238086.81 -32238086.66 0.0137 0.0074

Uranus -92976-03-03 22:03 J -32237998.72 -32237998.58 -32237998.41 0.0136 0.0055

Uranus -92976-05-31 03:49 J -32237910.50 -32237910.34 -32237910.17 0.0136 0.0034

Venus -92976-07-04 07:39 J -32237876.23 -32237876.18 -32237876.12 0.3761 0.3236

Uranus -92976-08-27 09:20 J -32237822.28 -32237822.11 -32237821.94 0.0136 0.0014

Saturn -92976-09-29 18:42 J -32237788.77 -32237788.72 -32237788.65 0.0278 0.0252

Jupiter -92976-11-19 17:30 J -32237737.89 -32237737.77 -32237737.64 0.0504 0.0334

Uranus -92976-11-23 14:51 J -32237734.05 -32237733.88 -32237733.71 0.0136 0.0006

Saturn -92976-12-27 08:37 J -32237700.26 -32237700.14 -32237700.02 0.0279 0.0163

Jupiter -92975-02-17 17:30 J -32237647.92 -32237647.77 -32237647.62 0.0508 0.0183

Uranus -92975-02-19 20:08 J -32237645.82 -32237645.66 -32237645.49 0.0136 0.0026

Saturn -92975-03-25 22:32 J -32237611.70 -32237611.56 -32237611.42 0.0279 0.0073

Uranus -92975-05-19 01:25 J -32237557.59 -32237557.44 -32237557.28 0.0136 0.0045

Saturn -92975-06-22 12:42 J -32237523.11 -32237522.97 -32237522.82 0.0279 0.0021

Uranus -92975-08-15 06:42 J -32237469.36 -32237469.22 -32237469.07 0.0136 0.0064

Saturn -92975-09-19 03:20 J -32237434.50 -32237434.36 -32237434.22 0.0279 0.0113

Uranus -92975-11-11 11:59 J -32237381.12 -32237381.00 -32237380.86 0.0135 0.0083

Saturn -92975-12-16 18:13 J -32237345.84 -32237345.74 -32237345.64 0.0279 0.0210

Uranus -92974-02-07 17:01 J -32237292.89 -32237292.79 -32237292.67 0.0135 0.0102

Uranus -92974-05-06 22:32 J -32237204.64 -32237204.56 -32237204.49 0.0135 0.0120

Neptune -92974-07-26 12:56 J -32237123.99 -32237123.96 -32237123.90 0.0089 0.0086

Earth -92974-08-04 10:18 J -32237115.17 -32237115.07 -32237114.98 0.2607 0.1723

Moon -92974-08-04 11:01 J -32237115.13 -32237115.04 -32237114.94 0.2611 0.1754 *

Mars -92974-08-04 19:25 J -32237114.83 -32237114.69 -32237114.56 0.1921 0.0312

Neptune -92974-10-22 15:49 J -32237035.89 -32237035.84 -32237035.75 0.0089 0.0081

Neptune -92973-01-18 19:11 J -32236947.79 -32236947.70 -32236947.60 0.0089 0.0075

Neptune -92973-04-15 21:49 J -32236859.68 -32236859.59 -32236859.46 0.0089 0.0070

Neptune -92973-07-13 01:11 J -32236771.57 -32236771.45 -32236771.32 0.0089 0.0064

Neptune -92973-10-09 03:49 J -32236683.46 -32236683.34 -32236683.19 0.0089 0.0059

Neptune -92972-01-05 06:56 J -32236595.34 -32236595.21 -32236595.06 0.0089 0.0053

Neptune -92972-04-03 09:49 J -32236507.23 -32236507.09 -32236506.93 0.0089 0.0048

Neptune -92972-06-30 12:56 J -32236419.11 -32236418.96 -32236418.80 0.0089 0.0042

Venus -92972-07-03 18:13 J -32236415.85 -32236415.74 -32236415.62 0.3608 0.1805

Neptune -92972-09-26 15:49 J -32236331.00 -32236330.84 -32236330.67 0.0089 0.0037

Neptune -92972-12-23 18:42 J -32236242.88 -32236242.72 -32236242.55 0.0089 0.0031

Neptune -92971-03-21 21:35 J -32236154.76 -32236154.60 -32236154.42 0.0089 0.0026

Mars -92971-04-29 20:23 J -32236115.66 -32236115.65 -32236115.63 0.1618 0.1604

Neptune -92971-06-18 00:27 J -32236066.65 -32236066.48 -32236066.30 0.0089 0.0021

Neptune -92971-09-14 03:20 J -32235978.53 -32235978.36 -32235978.18 0.0089 0.0015

Neptune -92971-12-11 06:13 J -32235890.41 -32235890.24 -32235890.06 0.0089 0.0010

Neptune -92970-03-09 09:06 J -32235802.29 -32235802.12 -32235801.94 0.0089 0.0004

Jupiter -92970-04-12 00:42 J -32235768.50 -32235768.47 -32235768.44 0.0526 0.0507

Neptune -92970-06-05 11:59 J -32235714.18 -32235714.00 -32235713.83 0.0089 0.0001

Jupiter -92970-07-10 11:15 J -32235679.17 -32235679.03 -32235678.89 0.0522 0.0049

Neptune -92970-09-01 14:37 J -32235626.06 -32235625.89 -32235625.71 0.0089 0.0007

Jupiter -92970-10-07 22:47 J -32235589.63 -32235589.55 -32235589.47 0.0518 0.0418

Neptune -92970-11-28 17:30 J -32235537.94 -32235537.77 -32235537.59 0.0089 0.0011

Neptune -92969-02-24 20:23 J -32235449.82 -32235449.65 -32235449.48 0.0089 0.0017

Venus -92969-03-28 07:39 J -32235417.22 -32235417.18 -32235417.13 0.3788 0.3412

Mars -92969-04-04 09:49 J -32235410.23 -32235410.09 -32235409.96 0.1609 0.0245

Neptune -92969-05-22 23:01 J -32235361.71 -32235361.54 -32235361.37 0.0089 0.0022

Neptune -92969-08-19 01:39 J -32235273.59 -32235273.43 -32235273.26 0.0088 0.0027

Pluto -92969-10-21 05:01 J -32235210.34 -32235210.29 -32235210.20 0.0060 0.0056

Neptune -92969-11-15 04:18 J -32235185.47 -32235185.32 -32235185.15 0.0088 0.0033

Pluto -92968-01-17 06:42 J -32235122.32 -32235122.22 -32235122.10 0.0060 0.0049

Neptune -92968-02-11 07:11 J -32235097.35 -32235097.20 -32235097.04 0.0088 0.0037

Pluto -92968-04-15 07:54 J -32235034.28 -32235034.17 -32235034.01 0.0060 0.0043

Neptune -92968-05-10 09:49 J -32235009.23 -32235009.09 -32235008.93 0.0088 0.0043

Pluto -92968-07-12 09:35 J -32234946.24 -32234946.10 -32234945.93 0.0060 0.0036

Neptune -92968-08-06 12:42 J -32234921.11 -32234920.97 -32234920.82 0.0088 0.0048

Pluto -92968-10-08 11:15 J -32234858.20 -32234858.03 -32234857.85 0.0060 0.0029

Neptune -92968-11-02 15:20 J -32234832.99 -32234832.86 -32234832.72 0.0088 0.0053

Pluto -92967-01-04 12:27 J -32234770.15 -32234769.98 -32234769.78 0.0060 0.0023

Neptune -92967-01-29 17:59 J -32234744.87 -32234744.75 -32234744.61 0.0088 0.0058

Pluto -92967-04-02 14:08 J -32234682.09 -32234681.91 -32234681.71 0.0060 0.0016

Neptune -92967-04-27 20:37 J -32234656.75 -32234656.64 -32234656.51 0.0088 0.0063

Pluto -92967-06-29 15:49 J -32234594.04 -32234593.84 -32234593.65 0.0060 0.0010

Neptune -92967-07-24 23:15 J -32234568.63 -32234568.53 -32234568.41 0.0088 0.0068

Moon -92967-07-27 19:25 J -32234565.73 -32234565.69 -32234565.65 0.2600 0.2440

Earth -92967-07-27 20:23 J -32234565.71 -32234565.65 -32234565.58 0.2598 0.2289 *

Pluto -92967-09-25 17:15 J -32234505.98 -32234505.78 -32234505.58 0.0060 0.0003

Neptune -92967-10-21 01:54 J -32234480.50 -32234480.42 -32234480.31 0.0088 0.0073

Pluto -92967-12-22 18:42 J -32234417.91 -32234417.72 -32234417.52 0.0060 0.0004

Neptune -92966-01-17 04:32 J -32234392.38 -32234392.31 -32234392.22 0.0088 0.0078

Venus -92966-01-17 17:44 J -32234391.84 -32234391.76 -32234391.68 0.3612 0.2776

Pluto -92966-03-20 20:08 J -32234329.85 -32234329.66 -32234329.46 0.0060 0.0011

Neptune -92966-04-15 07:11 J -32234304.25 -32234304.20 -32234304.13 0.0088 0.0083

Pluto -92966-06-16 21:35 J -32234241.78 -32234241.60 -32234241.40 0.0060 0.0018

Neptune -92966-07-12 09:49 J -32234216.10 -32234216.09 -32234216.06 0.0088 0.0088

Pluto -92966-09-12 23:01 J -32234153.71 -32234153.54 -32234153.35 0.0061 0.0025

Pluto -92966-12-10 00:13 J -32234065.63 -32234065.49 -32234065.30 0.0061 0.0032

Pluto -92965-03-07 02:08 J -32233977.56 -32233977.41 -32233977.25 0.0061 0.0038

Pluto -92965-06-03 03:35 J -32233889.47 -32233889.35 -32233889.21 0.0061 0.0045

Pluto -92965-08-30 05:01 J -32233801.38 -32233801.29 -32233801.17 0.0061 0.0052

Pluto -92965-11-26 06:27 J -32233713.26 -32233713.23 -32233713.16 0.0061 0.0059

Mars -92965-12-24 21:20 J -32233684.74 -32233684.61 -32233684.48 0.1918 0.0601

Moon -92964-01-27 15:49 J -32233650.90 -32233650.84 -32233650.77 0.2735 0.2312

Earth -92964-01-27 16:32 J -32233650.86 -32233650.81 -32233650.76 0.2730 0.2471 *

Jupiter -92964-09-07 17:15 J -32233427.84 -32233427.78 -32233427.71 0.0503 0.0460

Venus -92964-10-12 01:25 J -32233393.51 -32233393.44 -32233393.36 0.3786 0.2733

Jupiter -92964-12-06 17:44 J -32233337.93 -32233337.76 -32233337.60 0.0507 0.0060

Saturn -92961-05-06 13:39 J -32232456.01 -32232455.93 -32232455.83 0.0281 0.0230

Saturn -92961-08-03 07:39 J -32232367.32 -32232367.18 -32232367.03 0.0280 0.0123

Saturn -92961-10-31 01:11 J -32232278.61 -32232278.45 -32232278.29 0.0280 0.0019

Saturn -92960-01-27 17:59 J -32232189.90 -32232189.75 -32232189.59 0.0280 0.0084

Saturn -92960-04-26 10:32 J -32232101.17 -32232101.06 -32232100.93 0.0280 0.0183

Saturn -92960-07-24 02:51 J -32232012.39 -32232012.38 -32232012.37 0.0280 0.0279

Mars -92960-08-25 18:13 J -32231979.87 -32231979.74 -32231979.60 0.1610 0.0215

Venus -92958-04-27 19:25 J -32231369.78 -32231369.69 -32231369.60 0.3783 0.2030

Jupiter -92958-04-28 13:25 J -32231369.07 -32231368.94 -32231368.81 0.0523 0.0176

Jupiter -92958-07-27 00:27 J -32231279.59 -32231279.48 -32231279.36 0.0520 0.0291

Moon -92957-01-21 03:35 J -32231101.44 -32231101.35 -32231101.26 0.2733 0.1853

Earth -92957-01-21 03:35 J -32231101.44 -32231101.35 -32231101.26 0.2741 0.1903 *

Mars -92955-05-16 22:32 J -32230254.64 -32230254.56 -32230254.48 0.1915 0.1553

Moon -92954-07-30 18:42 J -32229814.84 -32229814.72 -32229814.59 0.2606 0.0799

Earth -92954-07-30 19:11 J -32229814.83 -32229814.70 -32229814.58 0.2601 0.0816 *

Venus -92953-11-10 13:25 J -32229346.04 -32229345.94 -32229345.84 0.3780 0.1310

Jupiter -92952-09-24 17:15 J -32229027.95 -32229027.78 -32229027.62 0.0505 0.0071

Jupiter -92952-12-23 16:03 J -32228937.90 -32228937.83 -32228937.74 0.0509 0.0439

Mars -92950-01-16 03:06 J -32228549.50 -32228549.37 -32228549.25 0.1613 0.0662

Mars -92949-12-21 17:15 J -32227843.87 -32227843.78 -32227843.69 0.1605 0.1235

Venus -92947-05-27 07:39 J -32227322.29 -32227322.18 -32227322.07 0.3777 0.0578

Jupiter -92946-02-14 16:18 J -32227058.93 -32227058.82 -32227058.71 0.0525 0.0291

Saturn -92946-02-16 22:18 J -32227056.61 -32227056.57 -32227056.53 0.0278 0.0264

Jupiter -92946-05-15 03:20 J -32226969.49 -32226969.36 -32226969.23 0.0521 0.0174

Saturn -92946-05-16 11:59 J -32226968.11 -32226968.00 -32226967.89 0.0278 0.0177

Saturn -92946-08-13 01:54 J -32226879.56 -32226879.42 -32226879.28 0.0278 0.0088

Saturn -92946-11-09 16:03 J -32226790.98 -32226790.83 -32226790.68 0.0279 0.0005

Saturn -92945-02-06 06:27 J -32226702.37 -32226702.23 -32226702.09 0.0279 0.0098

Saturn -92945-05-04 21:20 J -32226613.72 -32226613.61 -32226613.50 0.0279 0.0194

Moon -92944-01-23 00:42 J -32226350.60 -32226350.47 -32226350.35 0.2733 0.0493

Earth -92944-01-23 01:25 J -32226350.56 -32226350.44 -32226350.31 0.2737 0.0376 *

Mars -92944-09-12 17:15 J -32226117.88 -32226117.78 -32226117.67 0.1924 0.1288

Venus -92943-05-25 14:08 J -32225862.95 -32225862.91 -32225862.87 0.3593 0.3431

Venus -92942-12-11 02:08 J -32225298.52 -32225298.41 -32225298.30 0.3774 0.0213

Mars -92941-06-07 11:44 J -32225119.10 -32225119.01 -32225118.91 0.1615 0.1105

Earth -92941-08-01 17:30 J -32225063.90 -32225063.77 -32225063.64 0.2604 0.0621

Moon -92941-08-01 17:44 J -32225063.89 -32225063.76 -32225063.63 0.2610 0.0569 *

Jupiter -92940-07-13 16:03 J -32224717.98 -32224717.83 -32224717.68 0.0505 0.0208

Jupiter -92940-10-11 15:20 J -32224627.99 -32224627.86 -32224627.73 0.0508 0.0305

Mars -92939-05-14 01:25 J -32224413.56 -32224413.44 -32224413.32 0.1607 0.0769

Venus -92938-12-09 15:49 J -32223838.95 -32223838.84 -32223838.73 0.3596 0.2239

Venus -92936-06-25 20:51 J -32223274.74 -32223274.63 -32223274.52 0.3771 0.0979

Jupiter -92935-12-03 19:39 J -32222748.76 -32222748.68 -32222748.59 0.0526 0.0399

Mars -92934-02-02 19:54 J -32222687.81 -32222687.67 -32222687.54 0.1922 0.0408

Jupiter -92934-03-03 06:27 J -32222659.36 -32222659.23 -32222659.09 0.0522 0.0065

Uranus -92932-02-04 06:56 J -32221955.27 -32221955.21 -32221955.14 0.0142 0.0124

Uranus -92932-05-03 11:15 J -32221867.12 -32221867.03 -32221866.93 0.0142 0.0105

Venus -92932-06-24 17:01 J -32221814.92 -32221814.79 -32221814.66 0.3599 0.1095

Uranus -92932-07-30 15:35 J -32221778.95 -32221778.85 -32221778.72 0.0142 0.0086

Saturn -92932-09-23 14:23 J -32221723.95 -32221723.90 -32221723.83 0.0280 0.0259

Uranus -92932-10-26 20:23 J -32221690.78 -32221690.65 -32221690.53 0.0142 0.0067

Mars -92932-10-28 20:51 J -32221688.67 -32221688.63 -32221688.60 0.1617 0.1541

Saturn -92932-12-21 08:23 J -32221635.28 -32221635.15 -32221635.01 0.0280 0.0152

Uranus -92931-01-23 00:42 J -32221602.61 -32221602.47 -32221602.33 0.0142 0.0047

Moon -92931-01-25 22:32 J -32221599.67 -32221599.56 -32221599.44 0.2734 0.1059

Earth -92931-01-25 23:44 J -32221599.63 -32221599.51 -32221599.40 0.2733 0.1197 *

Saturn -92931-03-20 01:54 J -32221546.58 -32221546.42 -32221546.26 0.0280 0.0047

Uranus -92931-04-21 05:15 J -32221514.42 -32221514.28 -32221514.13 0.0142 0.0027

Saturn -92931-06-16 18:56 J -32221457.86 -32221457.71 -32221457.55 0.0280 0.0056

Uranus -92931-07-18 09:49 J -32221426.24 -32221426.09 -32221425.94 0.0143 0.0007

Saturn -92931-09-13 11:30 J -32221369.14 -32221369.02 -32221368.88 0.0280 0.0156

Uranus -92931-10-14 14:23 J -32221338.04 -32221337.90 -32221337.75 0.0143 0.0013

Saturn -92931-12-11 03:49 J -32221280.40 -32221280.34 -32221280.27 0.0279 0.0252

Venus -92930-01-09 15:49 J -32221250.94 -32221250.84 -32221250.74 0.3768 0.1784

Uranus -92930-01-10 19:11 J -32221249.85 -32221249.70 -32221249.56 0.0143 0.0033

Uranus -92930-04-08 23:44 J -32221161.64 -32221161.51 -32221161.37 0.0143 0.0054

Uranus -92930-07-06 04:32 J -32221073.44 -32221073.31 -32221073.18 0.0143 0.0074

Uranus -92930-10-02 09:06 J -32220985.22 -32220985.12 -32220985.00 0.0143 0.0096

Mars -92930-10-04 10:03 J -32220983.22 -32220983.08 -32220982.95 0.1608 0.0310

Uranus -92930-12-29 14:08 J -32220896.99 -32220896.91 -32220896.82 0.0143 0.0116

Uranus -92929-03-26 18:56 J -32220808.74 -32220808.71 -32220808.66 0.0144 0.0138

Jupiter -92928-05-01 15:35 J -32220407.97 -32220407.85 -32220407.73 0.0504 0.0336

Jupiter -92928-07-30 15:20 J -32220318.01 -32220317.86 -32220317.70 0.0507 0.0181

Earth -92928-08-04 15:35 J -32220312.93 -32220312.85 -32220312.77 0.2607 0.2017

Moon -92928-08-04 16:32 J -32220312.88 -32220312.81 -32220312.74 0.2610 0.2185 *

Venus -92926-01-08 17:44 J -32219790.89 -32219790.76 -32219790.62 0.3602 0.0052

Mars -92925-06-24 21:35 J -32219257.74 -32219257.60 -32219257.47 0.1918 0.0521

Venus -92925-07-25 10:47 J -32219227.13 -32219227.05 -32219226.97 0.3764 0.2607

Jupiter -92923-09-21 23:01 J -32218438.57 -32218438.54 -32218438.50 0.0526 0.0508

Jupiter -92923-12-20 09:35 J -32218349.23 -32218349.10 -32218348.96 0.0522 0.0051

Jupiter -92922-03-19 21:06 J -32218259.70 -32218259.62 -32218259.54 0.0518 0.0418

Venus -92921-07-24 17:59 J -32217766.88 -32217766.75 -32217766.62 0.3606 0.1056

Moon -92921-07-28 00:56 J -32217763.54 -32217763.46 -32217763.38 0.2601 0.2054

Earth -92921-07-28 01:54 J -32217763.50 -32217763.42 -32217763.33 0.2598 0.1975 *

Mars -92920-02-23 18:27 J -32217552.86 -32217552.73 -32217552.59 0.1610 0.0151

Venus -92919-02-08 06:13 J -32217203.28 -32217203.24 -32217203.20 0.3760 0.3456

Saturn -92917-10-02 12:13 J -32216236.08 -32216235.99 -32216235.89 0.0278 0.0212

Saturn -92917-12-30 02:08 J -32216147.54 -32216147.41 -32216147.28 0.0279 0.0122

Jupiter -92916-02-17 15:06 J -32216097.93 -32216097.87 -32216097.80 0.0503 0.0463

Saturn -92916-03-28 16:18 J -32216058.97 -32216058.82 -32216058.68 0.0279 0.0032

Jupiter -92916-05-18 15:35 J -32216008.02 -32216007.85 -32216007.69 0.0507 0.0056

Saturn -92916-06-25 06:27 J -32215970.37 -32215970.23 -32215970.08 0.0279 0.0063

Saturn -92916-09-21 21:06 J -32215881.74 -32215881.62 -32215881.49 0.0279 0.0157

Mars -92916-11-14 23:15 J -32215827.62 -32215827.53 -32215827.44 0.1915 0.1451

Saturn -92916-12-19 11:59 J -32215793.05 -32215793.00 -32215792.93 0.0279 0.0255

Venus -92915-02-07 17:59 J -32215742.86 -32215742.75 -32215742.65 0.3609 0.2065

Venus -92913-11-02 05:44 J -32214744.31 -32214744.26 -32214744.21 0.3787 0.3231

Moon -92911-01-21 08:37 J -32214299.24 -32214299.14 -32214299.04 0.2734 0.1681

Earth -92911-01-21 08:51 J -32214299.23 -32214299.13 -32214299.03 0.2740 0.1593 *

Mars -92911-07-17 03:06 J -32214122.49 -32214122.37 -32214122.25 0.1612 0.0601

Jupiter -92911-10-08 12:27 J -32214039.11 -32214038.98 -32214038.84 0.0523 0.0166

Jupiter -92910-01-05 23:44 J -32213949.62 -32213949.51 -32213949.39 0.0519 0.0301

Venus -92910-08-24 17:15 J -32213718.85 -32213718.78 -32213718.71 0.3613 0.3018

Mars -92909-06-21 17:30 J -32213416.85 -32213416.77 -32213416.69 0.1605 0.1301

Moon -92908-07-31 00:27 J -32213012.61 -32213012.48 -32213012.36 0.2608 0.0590

Earth -92908-07-31 00:42 J -32213012.60 -32213012.47 -32213012.34 0.2601 0.0514 *

Venus -92907-05-18 23:30 J -32212720.60 -32212720.52 -32212720.44 0.3785 0.2547

Jupiter -92904-03-06 15:35 J -32211698.01 -32211697.85 -32211697.68 0.0506 0.0068

Mars -92904-03-13 17:44 J -32211690.85 -32211690.76 -32211690.66 0.1924 0.1379

Jupiter -92904-06-04 14:37 J -32211607.97 -32211607.89 -32211607.81 0.0509 0.0441

Saturn -92902-05-10 08:23 J -32210903.28 -32210903.15 -32210903.03 0.0281 0.0185

Saturn -92902-08-07 01:54 J -32210814.57 -32210814.42 -32210814.26 0.0280 0.0079

Saturn -92902-11-03 19:11 J -32210725.86 -32210725.70 -32210725.54 0.0280 0.0025

Venus -92902-12-02 17:30 J -32210696.87 -32210696.77 -32210696.68 0.3782 0.1843

Mars -92902-12-07 11:59 J -32210692.10 -32210692.00 -32210691.90 0.1615 0.1045

Saturn -92901-01-31 11:59 J -32210637.14 -32210637.00 -32210636.85 0.0280 0.0126

Saturn -92901-04-29 04:18 J -32210548.40 -32210548.32 -32210548.22 0.0280 0.0224

Mars -92900-11-12 01:39 J -32209986.54 -32209986.43 -32209986.31 0.1607 0.0834

Jupiter -92899-07-27 14:37 J -32209729.00 -32209728.89 -32209728.78 0.0524 0.0291

Jupiter -92899-10-25 01:39 J -32209639.56 -32209639.43 -32209639.30 0.0521 0.0172

Moon -92898-01-24 05:59 J -32209548.37 -32209548.25 -32209548.12 0.2732 0.0117

Earth -92898-01-24 06:56 J -32209548.34 -32209548.21 -32209548.09 0.2737 0.0102 *

Venus -92896-06-17 11:44 J -32208673.12 -32208673.01 -32208672.91 0.3779 0.1124

Earth -92895-08-02 23:01 J -32208261.66 -32208261.54 -32208261.42 0.2604 0.0921

Moon -92895-08-02 23:30 J -32208261.64 -32208261.52 -32208261.41 0.2610 0.1037 *

Mars -92895-08-03 19:54 J -32208260.80 -32208260.67 -32208260.53 0.1921 0.0482

Uranus -92893-04-05 06:27 J -32207650.26 -32207650.23 -32207650.17 0.0137 0.0132

Uranus -92893-07-02 12:27 J -32207562.07 -32207561.98 -32207561.88 0.0137 0.0111

Uranus -92893-09-28 18:13 J -32207473.86 -32207473.74 -32207473.61 0.0137 0.0090

Jupiter -92893-12-23 15:06 J -32207388.03 -32207387.87 -32207387.72 0.0505 0.0198

Uranus -92893-12-25 23:44 J -32207385.64 -32207385.51 -32207385.35 0.0136 0.0070

Jupiter -92892-03-23 14:23 J -32207298.02 -32207297.90 -32207297.77 0.0508 0.0315

Uranus -92892-03-24 05:30 J -32207297.42 -32207297.27 -32207297.11 0.0136 0.0049

Neptune -92892-04-23 02:37 J -32207267.42 -32207267.39 -32207267.34 0.0089 0.0085

Mars -92892-04-28 20:51 J -32207261.68 -32207261.63 -32207261.58 0.1617 0.1484

Uranus -92892-06-20 11:01 J -32207209.20 -32207209.04 -32207208.87 0.0136 0.0029

Neptune -92892-07-20 04:18 J -32207179.37 -32207179.32 -32207179.26 0.0089 0.0081

Uranus -92892-09-16 16:32 J -32207120.97 -32207120.81 -32207120.64 0.0136 0.0010

Neptune -92892-10-16 05:44 J -32207091.32 -32207091.26 -32207091.18 0.0089 0.0077

Uranus -92892-12-13 22:03 J -32207032.74 -32207032.58 -32207032.41 0.0136 0.0011

Neptune -92891-01-12 07:11 J -32207003.27 -32207003.20 -32207003.11 0.0089 0.0073

Uranus -92891-03-12 03:35 J -32206944.52 -32206944.35 -32206944.19 0.0136 0.0030

Neptune -92891-04-10 08:51 J -32206915.21 -32206915.13 -32206915.03 0.0089 0.0069

Uranus -92891-06-08 08:37 J -32206856.29 -32206856.14 -32206855.98 0.0136 0.0050

Neptune -92891-07-07 10:18 J -32206827.15 -32206827.07 -32206826.96 0.0089 0.0065

Uranus -92891-09-04 13:54 J -32206768.05 -32206767.92 -32206767.77 0.0136 0.0069

Neptune -92891-10-03 12:13 J -32206739.09 -32206738.99 -32206738.89 0.0089 0.0060

Uranus -92891-12-01 19:11 J -32206679.82 -32206679.70 -32206679.57 0.0135 0.0087

Neptune -92891-12-30 13:39 J -32206651.03 -32206650.93 -32206650.81 0.0089 0.0056

Venus -92890-01-01 05:59 J -32206649.36 -32206649.25 -32206649.14 0.3776 0.0374

Uranus -92890-02-28 00:13 J -32206591.58 -32206591.49 -32206591.38 0.0135 0.0106

Neptune -92890-03-28 15:20 J -32206562.97 -32206562.86 -32206562.74 0.0089 0.0052

Mars -92890-04-04 10:03 J -32206556.21 -32206556.08 -32206555.94 0.1608 0.0372

Uranus -92890-05-27 05:30 J -32206503.32 -32206503.27 -32206503.20 0.0135 0.0124

Neptune -92890-06-24 16:47 J -32206474.91 -32206474.80 -32206474.67 0.0089 0.0048

Neptune -92890-09-20 18:27 J -32206386.85 -32206386.73 -32206386.60 0.0089 0.0044

Neptune -92890-12-17 20:08 J -32206298.78 -32206298.66 -32206298.53 0.0089 0.0039

Neptune -92889-03-14 21:49 J -32206210.72 -32206210.59 -32206210.46 0.0089 0.0035

Neptune -92889-06-10 23:30 J -32206122.65 -32206122.52 -32206122.38 0.0089 0.0031

Neptune -92889-09-07 01:11 J -32206034.59 -32206034.45 -32206034.31 0.0089 0.0026

Neptune -92889-12-04 02:51 J -32205946.52 -32205946.38 -32205946.24 0.0089 0.0022

Neptune -92888-03-02 04:32 J -32205858.45 -32205858.31 -32205858.17 0.0089 0.0018

Neptune -92888-05-29 05:59 J -32205770.38 -32205770.25 -32205770.10 0.0089 0.0014

Neptune -92888-08-25 07:54 J -32205682.32 -32205682.17 -32205682.03 0.0089 0.0009

Neptune -92888-11-21 09:35 J -32205594.25 -32205594.10 -32205593.96 0.0089 0.0005

Neptune -92887-02-17 11:15 J -32205506.18 -32205506.03 -32205505.89 0.0089 0.0002

Saturn -92887-02-19 15:49 J -32205503.92 -32205503.84 -32205503.75 0.0278 0.0224

Jupiter -92887-05-15 17:30 J -32205418.85 -32205418.77 -32205418.68 0.0526 0.0407

Neptune -92887-05-16 12:56 J -32205418.11 -32205417.96 -32205417.82 0.0089 0.0004

Saturn -92887-05-19 05:30 J -32205415.39 -32205415.27 -32205415.14 0.0278 0.0136

Neptune -92887-08-12 14:37 J -32205330.04 -32205329.89 -32205329.75 0.0089 0.0009

Jupiter -92887-08-13 04:18 J -32205329.46 -32205329.32 -32205329.18 0.0522 0.0056

Saturn -92887-08-15 19:39 J -32205326.83 -32205326.68 -32205326.54 0.0278 0.0045

Neptune -92887-11-08 16:18 J -32205241.96 -32205241.82 -32205241.68 0.0089 0.0013

Saturn -92887-11-12 09:49 J -32205238.23 -32205238.09 -32205237.94 0.0279 0.0048

Venus -92887-12-30 14:23 J -32205189.97 -32205189.90 -32205189.83 0.3594 0.3110

Neptune -92886-02-04 17:59 J -32205153.89 -32205153.75 -32205153.61 0.0089 0.0018

Saturn -92886-02-09 00:27 J -32205149.61 -32205149.48 -32205149.35 0.0279 0.0143

Neptune -92886-05-03 19:39 J -32205065.82 -32205065.68 -32205065.54 0.0089 0.0022

Saturn -92886-05-08 15:20 J -32205060.93 -32205060.86 -32205060.78 0.0279 0.0240

Neptune -92886-07-30 21:20 J -32204977.74 -32204977.61 -32204977.47 0.0089 0.0027

Neptune -92886-10-26 23:01 J -32204889.67 -32204889.54 -32204889.40 0.0089 0.0031

Mars -92886-12-24 21:49 J -32204830.72 -32204830.59 -32204830.45 0.1919 0.0433

Neptune -92885-01-23 00:42 J -32204801.59 -32204801.47 -32204801.33 0.0089 0.0036

Moon -92885-01-27 04:03 J -32204797.44 -32204797.33 -32204797.22 0.2735 0.1403

Earth -92885-01-27 05:01 J -32204797.39 -32204797.29 -32204797.19 0.2733 0.1514 *

Neptune -92885-04-20 02:37 J -32204713.52 -32204713.39 -32204713.26 0.0089 0.0040

Venus -92885-07-17 00:27 J -32204625.59 -32204625.48 -32204625.37 0.3773 0.0398

Neptune -92885-07-17 04:03 J -32204625.44 -32204625.33 -32204625.19 0.0089 0.0045 *

Neptune -92885-10-13 05:59 J -32204537.36 -32204537.25 -32204537.12 0.0089 0.0049

Neptune -92884-01-09 07:39 J -32204449.28 -32204449.18 -32204449.05 0.0089 0.0054

Neptune -92884-04-07 09:35 J -32204361.20 -32204361.10 -32204360.98 0.0089 0.0058

Neptune -92884-07-04 11:15 J -32204273.12 -32204273.03 -32204272.92 0.0089 0.0063

Neptune -92884-09-30 13:11 J -32204185.04 -32204184.95 -32204184.85 0.0089 0.0067

Neptune -92884-12-27 14:51 J -32204096.96 -32204096.88 -32204096.78 0.0089 0.0072

Neptune -92883-03-25 16:47 J -32204008.87 -32204008.80 -32204008.72 0.0089 0.0076

Neptune -92883-06-21 18:27 J -32203920.78 -32203920.73 -32203920.66 0.0089 0.0081

Neptune -92883-09-17 20:08 J -32203832.68 -32203832.66 -32203832.61 0.0089 0.0086

Earth -92882-08-05 21:06 J -32203510.68 -32203510.62 -32203510.56 0.2608 0.2318

Moon -92882-08-05 22:03 J -32203510.63 -32203510.58 -32203510.52 0.2610 0.2343 *

Venus -92881-07-15 16:03 J -32203165.95 -32203165.83 -32203165.72 0.3597 0.1932

Mars -92881-08-24 18:42 J -32203125.86 -32203125.72 -32203125.59 0.1610 0.0087

Jupiter -92881-10-11 13:39 J -32203078.06 -32203077.93 -32203077.81 0.0504 0.0336

Jupiter -92880-01-09 13:25 J -32202988.09 -32202987.94 -32202987.78 0.0507 0.0179

Venus -92879-01-30 19:11 J -32202601.80 -32202601.70 -32202601.59 0.3770 0.1190

Mars -92876-05-15 23:30 J -32201400.62 -32201400.52 -32201400.42 0.1915 0.1364

Venus -92875-01-29 17:01 J -32201141.92 -32201141.79 -32201141.65 0.3600 0.0802

Jupiter -92875-03-03 21:06 J -32201108.65 -32201108.62 -32201108.60 0.0527 0.0515

Jupiter -92875-06-01 07:39 J -32201019.32 -32201019.18 -32201019.04 0.0523 0.0055

Moon -92875-07-29 06:42 J -32200961.32 -32200961.22 -32200961.12 0.2602 0.1742

Earth -92875-07-29 07:39 J -32200961.29 -32200961.18 -32200961.08 0.2599 0.1661 *

Pluto -92875-08-15 10:47 J -32200944.08 -32200944.05 -32200944.02 0.0085 0.0082

Jupiter -92875-08-29 19:11 J -32200929.79 -32200929.70 -32200929.62 0.0519 0.0412

Pluto -92875-11-11 11:44 J -32200856.07 -32200856.01 -32200855.93 0.0084 0.0070

Pluto -92874-02-07 13:11 J -32200768.04 -32200767.95 -32200767.85 0.0084 0.0057

Pluto -92874-05-06 14:23 J -32200680.01 -32200679.90 -32200679.78 0.0084 0.0044

Pluto -92874-08-02 15:35 J -32200591.96 -32200591.85 -32200591.72 0.0084 0.0032

Venus -92874-08-16 14:08 J -32200578.00 -32200577.91 -32200577.81 0.3767 0.1995

Pluto -92874-10-29 17:01 J -32200503.92 -32200503.79 -32200503.66 0.0084 0.0019

Pluto -92873-01-25 18:13 J -32200415.87 -32200415.74 -32200415.61 0.0084 0.0007

Pluto -92873-04-22 19:25 J -32200327.82 -32200327.69 -32200327.56 0.0084 0.0005

Pluto -92873-07-19 20:37 J -32200239.76 -32200239.64 -32200239.51 0.0084 0.0017

Saturn -92873-09-26 09:35 J -32200171.20 -32200171.10 -32200170.99 0.0280 0.0211

Pluto -92873-10-15 21:49 J -32200151.71 -32200151.59 -32200151.46 0.0083 0.0029

Saturn -92873-12-24 03:20 J -32200082.51 -32200082.36 -32200082.21 0.0280 0.0104

Pluto -92872-01-11 23:01 J -32200063.65 -32200063.54 -32200063.42 0.0083 0.0041

Saturn -92872-03-22 20:37 J -32199993.80 -32199993.64 -32199993.48 0.0280 0.0006

Pluto -92872-04-10 00:13 J -32199975.58 -32199975.49 -32199975.38 0.0083 0.0053

Saturn -92872-06-19 13:39 J -32199905.08 -32199904.93 -32199904.78 0.0280 0.0101

Pluto -92872-07-07 01:25 J -32199887.51 -32199887.44 -32199887.35 0.0083 0.0065

Saturn -92872-09-16 05:59 J -32199816.35 -32199816.25 -32199816.13 0.0280 0.0200

Pluto -92872-10-03 02:23 J -32199799.43 -32199799.40 -32199799.34 0.0083 0.0077

Mars -92871-01-15 03:20 J -32199695.48 -32199695.36 -32199695.23 0.1612 0.0536

Venus -92870-08-15 17:44 J -32199117.90 -32199117.76 -32199117.63 0.3603 0.0307

Mars -92870-12-21 17:44 J -32198989.83 -32198989.76 -32198989.69 0.1605 0.1369

Jupiter -92869-07-30 12:56 J -32198768.02 -32198767.96 -32198767.90 0.0503 0.0466

Jupiter -92869-10-28 13:11 J -32198678.11 -32198677.95 -32198677.78 0.0506 0.0054

Venus -92868-03-01 09:20 J -32198554.18 -32198554.11 -32198554.04 0.3763 0.2826

Moon -92865-01-22 13:39 J -32197497.04 -32197496.93 -32197496.82 0.2733 0.1259

Earth -92865-01-22 14:08 J -32197497.02 -32197496.91 -32197496.80 0.2740 0.1289 *

Mars -92865-09-11 18:13 J -32197263.83 -32197263.74 -32197263.66 0.1924 0.1469

Venus -92864-02-28 17:44 J -32197093.88 -32197093.76 -32197093.63 0.3607 0.1325

Jupiter -92863-03-20 10:47 J -32196709.18 -32196709.05 -32196708.92 0.0524 0.0167

Jupiter -92863-06-17 22:03 J -32196619.70 -32196619.58 -32196619.47 0.0520 0.0298

Venus -92863-09-15 04:47 J -32196530.32 -32196530.30 -32196530.28 0.3759 0.3675

Mars -92862-06-07 11:59 J -32196265.10 -32196265.00 -32196264.89 0.1615 0.0985

Moon -92862-08-01 05:59 J -32196210.38 -32196210.25 -32196210.12 0.2608 0.0194

Earth -92862-08-01 06:13 J -32196210.38 -32196210.24 -32196210.11 0.2602 0.0214 *

Venus -92862-11-24 10:03 J -32196095.09 -32196095.08 -32196095.06 0.3789 0.3721

Mars -92860-05-13 01:54 J -32195559.53 -32195559.42 -32195559.30 0.1606 0.0901

Venus -92859-09-14 17:30 J -32195069.87 -32195069.77 -32195069.67 0.3610 0.2312

Saturn -92858-07-09 16:32 J -32194771.86 -32194771.81 -32194771.75 0.0278 0.0256

Saturn -92858-10-06 06:13 J -32194683.36 -32194683.24 -32194683.13 0.0278 0.0169

Saturn -92857-01-02 20:08 J -32194594.80 -32194594.66 -32194594.52 0.0279 0.0079

Saturn -92857-03-31 10:18 J -32194506.22 -32194506.07 -32194505.92 0.0279 0.0013

Saturn -92857-06-28 00:42 J -32194417.61 -32194417.47 -32194417.33 0.0279 0.0108

Jupiter -92857-08-16 13:11 J -32194368.11 -32194367.95 -32194367.78 0.0506 0.0074

Saturn -92857-09-24 15:35 J -32194328.95 -32194328.85 -32194328.75 0.0279 0.0204

Jupiter -92857-11-14 12:13 J -32194278.07 -32194277.99 -32194277.90 0.0509 0.0437

Venus -92856-06-09 03:49 J -32194071.40 -32194071.34 -32194071.28 0.3787 0.3049

Mars -92855-02-01 20:23 J -32193833.78 -32193833.65 -32193833.52 0.1922 0.0574

Venus -92853-03-30 16:47 J -32193045.86 -32193045.80 -32193045.75 0.3614 0.3254

Mars -92853-10-27 20:51 J -32192834.68 -32192834.63 -32192834.56 0.1617 0.1425

Moon -92852-01-24 11:15 J -32192746.15 -32192746.03 -32192745.90 0.2733 0.0125

Earth -92852-01-24 12:13 J -32192746.12 -32192745.99 -32192745.87 0.2736 0.0258 *

Jupiter -92851-01-06 13:54 J -32192399.04 -32192398.92 -32192398.81 0.0524 0.0282

Jupiter -92851-04-06 00:42 J -32192309.60 -32192309.47 -32192309.34 0.0520 0.0182

Mars -92851-10-03 10:18 J -32192129.20 -32192129.07 -32192128.94 0.1608 0.0436

Venus -92851-12-23 21:35 J -32192047.68 -32192047.60 -32192047.51 0.3784 0.2363

Earth -92849-08-03 04:18 J -32191459.43 -32191459.32 -32191459.20 0.2605 0.1224

Moon -92849-08-03 05:01 J -32191459.40 -32191459.29 -32191459.17 0.2610 0.1236 *

Uranus -92849-11-28 09:49 J -32191342.11 -32191342.09 -32191342.05 0.0142 0.0138

Uranus -92848-02-24 14:08 J -32191253.98 -32191253.91 -32191253.83 0.0142 0.0120

Uranus -92848-05-23 18:27 J -32191165.82 -32191165.73 -32191165.62 0.0142 0.0101

Uranus -92848-08-19 23:01 J -32191077.66 -32191077.54 -32191077.42 0.0142 0.0082

Uranus -92848-11-16 03:20 J -32190989.48 -32190989.36 -32190989.22 0.0142 0.0063

Uranus -92847-02-12 07:54 J -32190901.31 -32190901.17 -32190901.03 0.0142 0.0043

Uranus -92847-05-11 12:27 J -32190813.12 -32190812.98 -32190812.83 0.0143 0.0023

Uranus -92847-08-07 17:01 J -32190724.94 -32190724.79 -32190724.64 0.0143 0.0004

Uranus -92847-11-03 21:35 J -32190636.74 -32190636.60 -32190636.45 0.0143 0.0017

Uranus -92846-01-31 02:23 J -32190548.55 -32190548.40 -32190548.26 0.0143 0.0037

Uranus -92846-04-29 06:56 J -32190460.34 -32190460.21 -32190460.07 0.0143 0.0058

Mars -92846-06-24 22:18 J -32190403.71 -32190403.57 -32190403.44 0.1919 0.0350

Uranus -92846-07-26 11:44 J -32190372.13 -32190372.01 -32190371.88 0.0143 0.0079

Uranus -92846-10-22 16:32 J -32190283.91 -32190283.81 -32190283.70 0.0143 0.0100

Uranus -92845-01-18 21:20 J -32190195.69 -32190195.61 -32190195.53 0.0144 0.0121

Uranus -92845-04-16 02:23 J -32190107.42 -32190107.40 -32190107.38 0.0144 0.0142

Jupiter -92845-06-04 13:11 J -32190058.10 -32190057.95 -32190057.80 0.0505 0.0198

Venus -92845-07-08 15:35 J -32190023.94 -32190023.85 -32190023.75 0.3781 0.1653

Jupiter -92845-09-02 12:42 J -32189968.10 -32189967.97 -32189967.84 0.0508 0.0315

Saturn -92843-02-13 09:06 J -32189439.19 -32189439.12 -32189439.04 0.0281 0.0245

Saturn -92843-05-13 03:06 J -32189350.51 -32189350.37 -32189350.23 0.0280 0.0138

Saturn -92843-08-09 20:37 J -32189261.80 -32189261.64 -32189261.48 0.0280 0.0033

Saturn -92843-11-06 13:39 J -32189173.08 -32189172.93 -32189172.77 0.0280 0.0070

Saturn -92842-02-03 06:27 J -32189084.36 -32189084.23 -32189084.11 0.0280 0.0169

Saturn -92842-05-02 22:32 J -32188995.59 -32188995.56 -32188995.51 0.0280 0.0267

Mars -92841-02-23 18:42 J -32188698.85 -32188698.72 -32188698.58 0.1610 0.0056

Jupiter -92840-10-25 15:49 J -32188088.92 -32188088.84 -32188088.75 0.0525 0.0408

Venus -92839-01-22 09:49 J -32188000.20 -32188000.09 -32187999.98 0.3779 0.0918

Jupiter -92839-01-23 02:37 J -32187999.53 -32187999.39 -32187999.25 0.0522 0.0054

Moon -92839-01-27 09:20 J -32187995.20 -32187995.11 -32187995.01 0.2735 0.1750

Earth -92839-01-27 10:32 J -32187995.16 -32187995.06 -32187994.97 0.2732 0.1838 *

Mars -92837-11-13 23:44 J -32186973.61 -32186973.51 -32186973.41 0.1915 0.1284

Venus -92834-08-08 04:18 J -32185976.43 -32185976.32 -32185976.21 0.3776 0.0201

Jupiter -92833-03-23 12:27 J -32185748.10 -32185747.98 -32185747.85 0.0504 0.0329

Jupiter -92833-06-21 12:27 J -32185658.13 -32185657.98 -32185657.83 0.0507 0.0187

Earth -92832-01-19 21:49 J -32185445.64 -32185445.59 -32185445.54 0.2742 0.2482

Moon -92832-01-19 22:03 J -32185445.64 -32185445.58 -32185445.52 0.2736 0.2390 *

Mars -92832-07-16 03:35 J -32185268.48 -32185268.35 -32185268.22 0.1612 0.0477

Mars -92830-06-21 17:59 J -32184562.81 -32184562.75 -32184562.69 0.1605 0.1434

Venus -92830-08-06 14:37 J -32184516.97 -32184516.89 -32184516.80 0.3595 0.2791

Moon -92829-07-29 12:27 J -32184159.09 -32184158.98 -32184158.87 0.2604 0.1453

Earth -92829-07-29 13:11 J -32184159.07 -32184158.95 -32184158.84 0.2599 0.1347 *

Saturn -92829-11-25 19:54 J -32184039.69 -32184039.67 -32184039.63 0.0278 0.0270

Venus -92828-02-20 22:47 J -32183952.66 -32183952.55 -32183952.44 0.3772 0.0604

Saturn -92828-02-22 09:35 J -32183951.21 -32183951.10 -32183950.99 0.0278 0.0182

Saturn -92828-05-21 23:30 J -32183862.66 -32183862.52 -32183862.38 0.0278 0.0093

Jupiter -92828-08-13 18:56 J -32183778.72 -32183778.71 -32183778.70 0.0527 0.0522

Saturn -92828-08-18 13:39 J -32183774.08 -32183773.93 -32183773.78 0.0279 0.0001

Jupiter -92828-11-11 05:15 J -32183689.41 -32183689.28 -32183689.14 0.0523 0.0067

Saturn -92828-11-15 04:03 J -32183685.47 -32183685.33 -32183685.19 0.0279 0.0093

Jupiter -92827-02-08 16:47 J -32183599.88 -32183599.80 -32183599.71 0.0519 0.0403

Saturn -92827-02-11 18:56 J -32183596.82 -32183596.71 -32183596.60 0.0279 0.0189

Mars -92825-03-12 18:13 J -32182836.82 -32182836.74 -32182836.66 0.1925 0.1543

Venus -92824-02-19 16:03 J -32182492.95 -32182492.83 -32182492.70 0.3598 0.1627

Venus -92823-09-06 17:30 J -32181928.87 -32181928.77 -32181928.66 0.3769 0.1400

Mars -92823-12-06 12:13 J -32181838.09 -32181837.99 -32181837.88 0.1615 0.0922

Jupiter -92821-01-10 10:47 J -32181438.10 -32181438.05 -32181437.99 0.0503 0.0468

Jupiter -92821-04-09 11:15 J -32181348.20 -32181348.03 -32181347.87 0.0506 0.0050

Mars -92821-11-11 02:08 J -32181132.52 -32181132.41 -32181132.30 0.1606 0.0966

Moon -92819-01-22 18:56 J -32180694.82 -32180694.71 -32180694.59 0.2733 0.1115

Earth -92819-01-22 19:39 J -32180694.80 -32180694.68 -32180694.57 0.2739 0.0975 *

Venus -92819-09-05 17:01 J -32180468.92 -32180468.79 -32180468.65 0.3601 0.0509

Venus -92817-03-22 12:27 J -32179905.07 -32179904.98 -32179904.88 0.3766 0.2212

Moon -92816-08-01 11:30 J -32179408.15 -32179408.02 -32179407.89 0.2608 0.0081

Earth -92816-08-01 11:30 J -32179408.15 -32179408.02 -32179407.88 0.2602 0.0124 *

Mars -92816-08-02 20:37 J -32179406.76 -32179406.64 -32179406.51 0.1922 0.0666

Jupiter -92816-08-30 08:37 J -32179379.27 -32179379.14 -32179379.01 0.0524 0.0174

Jupiter -92816-11-27 19:54 J -32179289.79 -32179289.67 -32179289.56 0.0520 0.0291

Saturn -92814-07-03 11:01 J -32178707.08 -32178707.04 -32178706.98 0.0281 0.0268

Saturn -92814-09-30 05:01 J -32178618.42 -32178618.29 -32178618.15 0.0280 0.0161

Saturn -92814-12-27 22:47 J -32178529.71 -32178529.55 -32178529.39 0.0280 0.0055

Venus -92813-03-21 17:30 J -32178444.91 -32178444.77 -32178444.64 0.3604 0.0561

Saturn -92813-03-25 15:49 J -32178441.00 -32178440.84 -32178440.68 0.0280 0.0048

Mars -92813-04-27 21:06 J -32178407.69 -32178407.62 -32178407.55 0.1617 0.1364

Saturn -92813-06-22 08:37 J -32178352.27 -32178352.14 -32178352.01 0.0280 0.0148

Saturn -92813-09-19 00:56 J -32178263.53 -32178263.46 -32178263.38 0.0280 0.0246

Venus -92812-10-06 07:39 J -32177881.24 -32177881.18 -32177881.11 0.3762 0.3044

Mars -92811-04-03 10:32 J -32177702.19 -32177702.06 -32177701.93 0.1608 0.0500

Jupiter -92809-01-27 10:47 J -32177038.21 -32177038.05 -32177037.88 0.0505 0.0079

Neptune -92809-04-21 11:44 J -32176953.05 -32176953.01 -32176952.94 0.0089 0.0084

Uranus -92809-04-25 13:54 J -32176948.97 -32176948.92 -32176948.85 0.0137 0.0127

Jupiter -92809-04-26 09:49 J -32176948.17 -32176948.09 -32176948.00 0.0509 0.0431

Neptune -92809-07-18 14:37 J -32176864.95 -32176864.89 -32176864.79 0.0089 0.0079

Uranus -92809-07-22 19:39 J -32176860.78 -32176860.68 -32176860.56 0.0137 0.0106

Neptune -92809-10-14 17:59 J -32176776.84 -32176776.75 -32176776.64 0.0089 0.0073

Uranus -92809-10-19 01:39 J -32176772.56 -32176772.43 -32176772.30 0.0137 0.0085

Neptune -92808-01-10 20:37 J -32176688.73 -32176688.64 -32176688.50 0.0089 0.0068

Uranus -92808-01-15 07:11 J -32176684.34 -32176684.20 -32176684.05 0.0136 0.0065

Neptune -92808-04-08 23:59 J -32176600.62 -32176600.50 -32176600.36 0.0089 0.0062

Uranus -92808-04-13 12:42 J -32176596.12 -32176595.97 -32176595.80 0.0136 0.0045

Neptune -92808-07-06 02:37 J -32176512.51 -32176512.39 -32176512.23 0.0089 0.0057

Uranus -92808-07-10 18:27 J -32176507.90 -32176507.73 -32176507.56 0.0136 0.0024

Neptune -92808-10-02 05:59 J -32176424.39 -32176424.25 -32176424.10 0.0089 0.0051

Venus -92808-10-05 17:30 J -32176420.89 -32176420.77 -32176420.65 0.3608 0.1586

Uranus -92808-10-06 23:59 J -32176419.67 -32176419.50 -32176419.33 0.0136 0.0004

Neptune -92808-12-29 08:37 J -32176336.28 -32176336.14 -32176335.97 0.0089 0.0046

Uranus -92807-01-03 05:15 J -32176331.44 -32176331.28 -32176331.11 0.0136 0.0016

Neptune -92807-03-27 11:44 J -32176248.16 -32176248.01 -32176247.84 0.0089 0.0040

Uranus -92807-04-01 10:47 J -32176243.21 -32176243.05 -32176242.89 0.0136 0.0035

Neptune -92807-06-23 14:37 J -32176160.04 -32176159.89 -32176159.71 0.0089 0.0035

Uranus -92807-06-28 15:49 J -32176154.98 -32176154.84 -32176154.67 0.0136 0.0055

Neptune -92807-09-19 17:44 J -32176071.92 -32176071.76 -32176071.59 0.0089 0.0029

Uranus -92807-09-24 21:06 J -32176066.75 -32176066.62 -32176066.47 0.0136 0.0074

Neptune -92807-12-16 20:37 J -32175983.81 -32175983.64 -32175983.47 0.0089 0.0023

Uranus -92807-12-22 02:37 J -32175978.51 -32175978.39 -32175978.27 0.0135 0.0092

Mars -92807-12-23 22:32 J -32175976.70 -32175976.56 -32175976.42 0.1919 0.0256

Moon -92806-01-25 16:32 J -32175943.93 -32175943.81 -32175943.69 0.2735 0.0538

Earth -92806-01-25 17:30 J -32175943.89 -32175943.77 -32175943.64 0.2735 0.0573 *

Neptune -92806-03-14 23:30 J -32175895.69 -32175895.52 -32175895.34 0.0089 0.0018

Uranus -92806-03-20 07:39 J -32175890.27 -32175890.18 -32175890.08 0.0135 0.0111

Neptune -92806-06-11 02:23 J -32175807.57 -32175807.40 -32175807.22 0.0089 0.0013

Uranus -92806-06-16 12:42 J -32175802.01 -32175801.97 -32175801.91 0.0135 0.0129

Neptune -92806-09-07 05:15 J -32175719.45 -32175719.28 -32175719.10 0.0089 0.0007

Neptune -92806-12-04 08:08 J -32175631.34 -32175631.16 -32175630.98 0.0089 0.0002

Neptune -92805-03-01 11:01 J -32175543.22 -32175543.04 -32175542.87 0.0089 0.0003

Neptune -92805-05-28 13:39 J -32175455.10 -32175454.93 -32175454.75 0.0089 0.0009

Venus -92805-06-30 08:08 J -32175422.19 -32175422.16 -32175422.12 0.3788 0.3540

Neptune -92805-08-24 16:32 J -32175366.98 -32175366.81 -32175366.63 0.0089 0.0014

Neptune -92805-11-20 19:11 J -32175278.86 -32175278.70 -32175278.52 0.0089 0.0019

Neptune -92804-02-16 22:03 J -32175190.74 -32175190.58 -32175190.41 0.0089 0.0024

Neptune -92804-05-16 00:42 J -32175102.62 -32175102.47 -32175102.30 0.0089 0.0030

Jupiter -92804-06-18 11:59 J -32175069.12 -32175069.00 -32175068.89 0.0525 0.0285

Neptune -92804-08-12 03:35 J -32175014.51 -32175014.35 -32175014.19 0.0089 0.0035

Jupiter -92804-09-15 22:47 J -32174979.68 -32174979.55 -32174979.41 0.0521 0.0179

Neptune -92804-11-08 06:13 J -32174926.39 -32174926.24 -32174926.08 0.0089 0.0040

Neptune -92803-02-04 09:06 J -32174838.27 -32174838.12 -32174837.97 0.0088 0.0045

Neptune -92803-05-03 11:44 J -32174750.15 -32174750.01 -32174749.86 0.0088 0.0050

Neptune -92803-07-30 14:08 J -32174662.03 -32174661.91 -32174661.76 0.0088 0.0056

Earth -92803-08-04 09:49 J -32174657.19 -32174657.09 -32174656.98 0.2605 0.1522

Moon -92803-08-04 10:32 J -32174657.16 -32174657.06 -32174656.96 0.2610 0.1655 *

Neptune -92803-10-26 16:47 J -32174573.91 -32174573.80 -32174573.66 0.0088 0.0061

Neptune -92802-01-22 19:25 J -32174485.78 -32174485.69 -32174485.55 0.0088 0.0066

Neptune -92802-04-20 22:03 J -32174397.66 -32174397.58 -32174397.46 0.0088 0.0071

Venus -92802-04-21 17:01 J -32174396.88 -32174396.79 -32174396.70 0.3611 0.2552

Neptune -92802-07-18 00:42 J -32174309.54 -32174309.47 -32174309.36 0.0088 0.0076

Mars -92802-08-24 19:11 J -32174271.84 -32174271.70 -32174271.57 0.1610 0.0069

Neptune -92802-10-14 03:20 J -32174221.41 -32174221.36 -32174221.27 0.0088 0.0081

Neptune -92801-01-10 05:59 J -32174133.27 -32174133.25 -32174133.18 0.0088 0.0086

Venus -92799-01-14 01:54 J -32173398.49 -32173398.42 -32173398.35 0.3786 0.2865

Saturn -92799-07-12 10:32 J -32173219.15 -32173219.06 -32173218.97 0.0278 0.0214

Saturn -92799-10-09 00:13 J -32173130.62 -32173130.49 -32173130.36 0.0279 0.0125

Saturn -92798-01-05 14:08 J -32173042.05 -32173041.91 -32173041.76 0.0279 0.0035

Saturn -92798-04-04 04:32 J -32172953.45 -32172953.31 -32172953.16 0.0279 0.0060

Saturn -92798-07-01 19:11 J -32172864.82 -32172864.70 -32172864.57 0.0279 0.0155

Saturn -92798-09-28 10:03 J -32172776.14 -32172776.08 -32172776.01 0.0279 0.0252

Jupiter -92798-11-15 10:32 J -32172728.21 -32172728.06 -32172727.91 0.0505 0.0206

Jupiter -92797-02-13 10:03 J -32172638.20 -32172638.08 -32172637.95 0.0508 0.0308

Mars -92797-05-15 00:13 J -32172546.60 -32172546.49 -32172546.38 0.1916 0.1190

Venus -92797-11-04 16:03 J -32172372.86 -32172372.83 -32172372.80 0.3615 0.3490

Earth -92796-07-27 19:54 J -32172107.70 -32172107.67 -32172107.64 0.2597 0.2517

Venus -92794-07-30 19:39 J -32171374.76 -32171374.68 -32171374.59 0.3783 0.2177

Moon -92793-01-28 14:51 J -32171192.96 -32171192.88 -32171192.80 0.2735 0.2025

Earth -92793-01-28 15:49 J -32171192.91 -32171192.84 -32171192.76 0.2732 0.2162 *

Mars -92792-01-14 03:35 J -32170841.48 -32170841.35 -32170841.22 0.1612 0.0416

Jupiter -92792-04-06 15:06 J -32170758.96 -32170758.87 -32170758.79 0.0525 0.0399

Jupiter -92792-07-05 01:39 J -32170669.57 -32170669.43 -32170669.29 0.0522 0.0063

Mars -92791-12-20 18:13 J -32170135.79 -32170135.74 -32170135.70 0.1605 0.1503

Venus -92788-02-12 13:54 J -32169351.02 -32169350.92 -32169350.82 0.3781 0.1462

Moon -92786-01-21 03:06 J -32168643.44 -32168643.37 -32168643.30 0.2735 0.2211

Earth -92786-01-21 03:06 J -32168643.44 -32168643.37 -32168643.29 0.2742 0.2174 *

Jupiter -92786-09-03 10:18 J -32168418.19 -32168418.07 -32168417.94 0.0504 0.0331

Mars -92786-09-11 18:42 J -32168409.79 -32168409.72 -32168409.65 0.1925 0.1640

Jupiter -92786-12-02 10:32 J -32168328.22 -32168328.06 -32168327.91 0.0507 0.0186

Saturn -92784-02-16 04:32 J -32167886.42 -32167886.31 -32167886.19 0.0280 0.0195

Saturn -92784-05-15 22:18 J -32167797.72 -32167797.57 -32167797.41 0.0280 0.0089

Saturn -92784-08-12 15:49 J -32167709.00 -32167708.84 -32167708.68 0.0280 0.0016

Saturn -92784-11-09 08:37 J -32167620.28 -32167620.14 -32167619.99 0.0280 0.0117

Saturn -92783-02-06 00:56 J -32167531.55 -32167531.46 -32167531.35 0.0280 0.0216

Mars -92783-06-06 12:27 J -32167411.09 -32167410.98 -32167410.87 0.1614 0.0863

Moon -92783-07-30 17:59 J -32167356.87 -32167356.75 -32167356.63 0.2605 0.1048

Earth -92783-07-30 18:42 J -32167356.85 -32167356.72 -32167356.60 0.2600 0.1035 *

Venus -92783-08-29 08:08 J -32167327.27 -32167327.16 -32167327.06 0.3778 0.0738

Mars -92781-05-12 02:23 J -32166705.51 -32166705.40 -32166705.30 0.1606 0.1028

Jupiter -92780-01-23 17:15 J -32166448.79 -32166448.78 -32166448.77 0.0526 0.0522

Jupiter -92780-04-23 03:49 J -32166359.48 -32166359.34 -32166359.21 0.0523 0.0067

Jupiter -92780-07-21 15:06 J -32166269.96 -32166269.87 -32166269.78 0.0519 0.0401

Venus -92777-03-14 02:23 J -32165303.51 -32165303.40 -32165303.29 0.3775 0.0119

Mars -92776-01-31 20:51 J -32164979.76 -32164979.63 -32164979.50 0.1922 0.0741

Jupiter -92774-06-22 09:35 J -32164108.16 -32164108.10 -32164108.03 0.0503 0.0461

Jupiter -92774-09-20 10:03 J -32164018.24 -32164018.08 -32164017.91 0.0506 0.0058

Mars -92774-10-27 21:20 J -32163980.69 -32163980.61 -32163980.54 0.1617 0.1305

Moon -92773-01-24 00:27 J -32163892.61 -32163892.48 -32163892.36 0.2733 0.0655

Earth -92773-01-24 00:56 J -32163892.58 -32163892.46 -32163892.34 0.2739 0.0661 *

Venus -92773-03-12 14:51 J -32163843.98 -32163843.88 -32163843.78 0.3596 0.2479

Venus -92772-09-27 21:06 J -32163279.73 -32163279.62 -32163279.51 0.3772 0.0808

Mars -92772-10-02 10:47 J -32163275.18 -32163275.05 -32163274.93 0.1608 0.0565

Earth -92770-08-02 17:01 J -32162605.92 -32162605.79 -32162605.66 0.2603 0.0420

Moon -92770-08-02 17:15 J -32162605.91 -32162605.78 -32162605.65 0.2609 0.0425 *

Saturn -92770-11-29 13:39 J -32162487.00 -32162486.93 -32162486.84 0.0278 0.0229

Saturn -92769-02-26 03:35 J -32162398.48 -32162398.35 -32162398.23 0.0279 0.0140

Saturn -92769-05-24 17:30 J -32162309.91 -32162309.77 -32162309.62 0.0279 0.0049

Saturn -92769-08-21 07:54 J -32162221.32 -32162221.17 -32162221.03 0.0279 0.0045

Saturn -92769-11-17 22:18 J -32162132.69 -32162132.57 -32162132.44 0.0279 0.0140

Jupiter -92768-02-09 06:27 J -32162049.36 -32162049.23 -32162049.10 0.0524 0.0183

Saturn -92768-02-14 13:11 J -32162044.02 -32162043.95 -32162043.87 0.0279 0.0237

Jupiter -92768-05-09 17:30 J -32161959.88 -32161959.77 -32161959.65 0.0520 0.0283

Venus -92768-09-26 16:03 J -32161819.95 -32161819.83 -32161819.70 0.3599 0.1331

Mars -92767-06-23 22:47 J -32161549.69 -32161549.55 -32161549.41 0.1919 0.0173

Venus -92766-04-13 15:49 J -32161255.94 -32161255.84 -32161255.73 0.3768 0.1610

Uranus -92765-12-18 16:47 J -32160640.83 -32160640.80 -32160640.75 0.0142 0.0135

Uranus -92764-03-16 21:20 J -32160552.69 -32160552.61 -32160552.53 0.0142 0.0116

Uranus -92764-06-13 01:39 J -32160464.53 -32160464.43 -32160464.32 0.0142 0.0097

Uranus -92764-09-09 05:59 J -32160376.37 -32160376.25 -32160376.12 0.0142 0.0078

Uranus -92764-12-06 10:18 J -32160288.19 -32160288.07 -32160287.93 0.0142 0.0059

Uranus -92763-03-04 14:51 J -32160200.01 -32160199.88 -32160199.73 0.0142 0.0040

Uranus -92763-05-31 19:39 J -32160111.83 -32160111.68 -32160111.54 0.0143 0.0020

Uranus -92763-08-27 23:59 J -32160023.64 -32160023.50 -32160023.35 0.0143 0.0005

Uranus -92763-11-24 04:47 J -32159935.45 -32159935.30 -32159935.16 0.0143 0.0021

Uranus -92762-02-20 09:20 J -32159847.25 -32159847.11 -32159846.97 0.0143 0.0041

Mars -92762-02-22 19:11 J -32159844.83 -32159844.70 -32159844.56 0.1610 0.0110

Venus -92762-04-12 16:47 J -32159795.93 -32159795.80 -32159795.66 0.3602 0.0244

Uranus -92762-05-19 14:08 J -32159759.05 -32159758.91 -32159758.78 0.0143 0.0062

Jupiter -92762-07-09 08:37 J -32159708.30 -32159708.14 -32159707.97 0.0505 0.0082

Uranus -92762-08-15 18:42 J -32159670.84 -32159670.72 -32159670.59 0.0143 0.0083

Jupiter -92762-10-07 07:54 J -32159618.26 -32159618.17 -32159618.09 0.0509 0.0428

Uranus -92762-11-11 23:30 J -32159582.62 -32159582.52 -32159582.41 0.0143 0.0104

Uranus -92761-02-08 04:18 J -32159494.39 -32159494.32 -32159494.24 0.0144 0.0125

Venus -92761-10-27 11:01 J -32159232.13 -32159232.04 -32159231.96 0.3765 0.2420

Moon -92760-01-25 22:03 J -32159141.71 -32159141.58 -32159141.46 0.2735 0.0699

Earth -92760-01-25 23:01 J -32159141.66 -32159141.54 -32159141.42 0.2735 0.0896 *

Mars -92758-11-14 00:42 J -32158119.58 -32158119.47 -32158119.35 0.1916 0.1092

Earth -92757-08-04 15:20 J -32157854.95 -32157854.86 -32157854.77 0.2606 0.1824

Moon -92757-08-04 16:03 J -32157854.92 -32157854.83 -32157854.74 0.2611 0.1870 *

Venus -92757-10-26 17:15 J -32157771.91 -32157771.78 -32157771.65 0.3605 0.0830

Jupiter -92757-11-28 09:35 J -32157739.21 -32157739.10 -32157738.98 0.0525 0.0294

Jupiter -92756-02-25 20:37 J -32157649.77 -32157649.64 -32157649.51 0.0521 0.0170

Venus -92755-05-13 06:13 J -32157208.29 -32157208.24 -32157208.18 0.3761 0.3258

Saturn -92755-07-06 06:56 J -32157154.31 -32157154.21 -32157154.10 0.0280 0.0216

Saturn -92755-10-03 00:42 J -32157065.61 -32157065.47 -32157065.31 0.0280 0.0109

Saturn -92755-12-30 18:13 J -32156976.90 -32156976.74 -32156976.58 0.0280 0.0004

Saturn -92754-03-29 11:15 J -32156888.18 -32156888.03 -32156887.88 0.0280 0.0098

Saturn -92754-06-26 03:49 J -32156799.45 -32156799.34 -32156799.23 0.0280 0.0197

Mars -92753-07-15 03:49 J -32156414.47 -32156414.34 -32156414.21 0.1612 0.0351

Venus -92751-05-12 17:01 J -32155747.90 -32155747.79 -32155747.67 0.3609 0.1832

Mars -92751-06-20 18:13 J -32155708.76 -32155708.74 -32155708.71 0.1605 0.1570

Jupiter -92750-04-27 08:08 J -32155398.31 -32155398.16 -32155398.01 0.0504 0.0211

Jupiter -92750-07-26 07:39 J -32155308.31 -32155308.18 -32155308.05 0.0508 0.0302

Moon -92750-07-29 00:27 J -32155305.55 -32155305.48 -32155305.41 0.2600 0.2224

Earth -92750-07-29 01:25 J -32155305.51 -32155305.44 -32155305.37 0.2597 0.2200 *

Venus -92748-02-04 06:13 J -32154749.29 -32154749.24 -32154749.20 0.3787 0.3361

Moon -92747-01-28 20:23 J -32154390.70 -32154390.65 -32154390.59 0.2735 0.2450

Earth -92747-01-28 21:20 J -32154390.66 -32154390.61 -32154390.56 0.2731 0.2485 *

Mars -92746-03-12 18:56 J -32153982.77 -32153982.71 -32153982.65 0.1924 0.1722

Venus -92746-11-26 16:32 J -32153723.89 -32153723.81 -32153723.73 0.3612 0.2795

Jupiter -92745-09-16 12:56 J -32153429.04 -32153428.96 -32153428.87 0.0526 0.0404

Jupiter -92745-12-14 23:44 J -32153339.65 -32153339.51 -32153339.37 0.0522 0.0058

Mars -92744-12-05 12:27 J -32152984.09 -32152983.98 -32152983.86 0.1614 0.0802

Venus -92743-08-20 23:59 J -32152725.58 -32152725.50 -32152725.43 0.3785 0.2684

Mars -92742-11-11 02:37 J -32152278.49 -32152278.39 -32152278.29 0.1606 0.1098

Moon -92740-01-21 08:23 J -32151841.24 -32151841.15 -32151841.06 0.2734 0.1854

Earth -92740-01-21 08:23 J -32151841.23 -32151841.15 -32151841.06 0.2741 0.1873 *

Saturn -92740-04-17 14:51 J -32151754.93 -32151754.88 -32151754.82 0.0278 0.0258

Saturn -92740-07-15 04:32 J -32151666.42 -32151666.31 -32151666.19 0.0278 0.0170

Saturn -92740-10-11 18:27 J -32151577.87 -32151577.73 -32151577.59 0.0279 0.0080

Saturn -92739-01-08 08:37 J -32151489.29 -32151489.14 -32151488.99 0.0279 0.0013

Saturn -92739-04-06 23:01 J -32151400.68 -32151400.54 -32151400.40 0.0279 0.0107

Saturn -92739-07-04 13:39 J -32151312.03 -32151311.93 -32151311.82 0.0279 0.0204

Jupiter -92738-02-13 07:39 J -32151088.30 -32151088.18 -32151088.05 0.0504 0.0339

Jupiter -92738-05-14 07:39 J -32150998.33 -32150998.18 -32150998.02 0.0507 0.0178

Venus -92737-03-05 17:44 J -32150701.85 -32150701.76 -32150701.66 0.3783 0.1992

Moon -92737-07-30 23:30 J -32150554.64 -32150554.52 -32150554.39 0.2605 0.0842

Earth -92737-07-31 00:13 J -32150554.62 -32150554.49 -32150554.37 0.2600 0.0729 *

Mars -92737-08-01 21:06 J -32150552.74 -32150552.62 -32150552.49 0.1922 0.0835

Mars -92734-04-27 21:20 J -32149553.69 -32149553.61 -32149553.52 0.1617 0.1247

Jupiter -92733-07-05 16:18 J -32149118.85 -32149118.82 -32149118.80 0.0527 0.0515

Jupiter -92733-10-03 02:37 J -32149029.52 -32149029.39 -32149029.25 0.0523 0.0058

Jupiter -92733-12-31 14:08 J -32148940.00 -32148939.91 -32148939.83 0.0519 0.0409

Mars -92732-04-02 10:47 J -32148848.17 -32148848.05 -32148847.92 0.1608 0.0631

Venus -92732-09-19 11:59 J -32148678.11 -32148678.00 -32148677.90 0.3780 0.1272

Neptune -92728-10-22 00:56 J -32147184.48 -32147184.46 -32147184.44 0.0089 0.0087

Mars -92728-12-22 23:15 J -32147122.67 -32147122.53 -32147122.39 0.1919 0.0079

Neptune -92727-01-18 02:23 J -32147096.44 -32147096.40 -32147096.35 0.0089 0.0083

Moon -92727-01-24 05:30 J -32147090.39 -32147090.27 -32147090.14 0.2734 0.0490

Earth -92727-01-24 06:27 J -32147090.36 -32147090.23 -32147090.11 0.2738 0.0358 *

Neptune -92727-04-16 03:49 J -32147008.39 -32147008.34 -32147008.27 0.0089 0.0079

Neptune -92727-07-13 05:15 J -32146920.34 -32146920.28 -32146920.20 0.0089 0.0075

Neptune -92727-10-09 06:56 J -32146832.29 -32146832.21 -32146832.12 0.0089 0.0071

Jupiter -92727-12-02 07:25 J -32146778.25 -32146778.19 -32146778.12 0.0503 0.0464

Neptune -92726-01-05 08:23 J -32146744.23 -32146744.15 -32146744.05 0.0089 0.0067

Jupiter -92726-03-02 07:54 J -32146688.33 -32146688.17 -32146688.00 0.0506 0.0055

Neptune -92726-04-03 10:03 J -32146656.17 -32146656.08 -32146655.97 0.0089 0.0063

Venus -92726-04-05 06:13 J -32146654.35 -32146654.24 -32146654.13 0.3777 0.0528

Neptune -92726-06-30 11:30 J -32146568.11 -32146568.02 -32146567.90 0.0089 0.0059

Neptune -92726-09-26 13:25 J -32146480.05 -32146479.94 -32146479.83 0.0089 0.0054

Saturn -92726-11-23 06:13 J -32146422.30 -32146422.24 -32146422.16 0.0280 0.0252

Neptune -92726-12-23 14:51 J -32146391.99 -32146391.88 -32146391.76 0.0089 0.0050

Saturn -92725-02-20 00:13 J -32146333.63 -32146333.49 -32146333.35 0.0280 0.0144

Neptune -92725-03-20 16:32 J -32146303.93 -32146303.81 -32146303.69 0.0089 0.0046

Uranus -92725-05-15 21:35 J -32146247.68 -32146247.60 -32146247.52 0.0137 0.0121

Saturn -92725-05-18 17:59 J -32146244.92 -32146244.75 -32146244.59 0.0280 0.0039

Neptune -92725-06-16 17:59 J -32146215.86 -32146215.75 -32146215.62 0.0089 0.0042

Uranus -92725-08-12 03:20 J -32146159.47 -32146159.36 -32146159.24 0.0137 0.0100

Saturn -92725-08-15 11:01 J -32146156.20 -32146156.04 -32146155.88 0.0280 0.0064

Neptune -92725-09-12 19:39 J -32146127.80 -32146127.68 -32146127.55 0.0089 0.0038

Uranus -92725-11-08 08:51 J -32146071.26 -32146071.13 -32146070.98 0.0137 0.0080

Saturn -92725-11-12 03:35 J -32146067.47 -32146067.35 -32146067.21 0.0280 0.0165

Neptune -92725-12-09 21:20 J -32146039.74 -32146039.61 -32146039.47 0.0089 0.0033

Uranus -92724-02-04 14:37 J -32145983.04 -32145982.89 -32145982.73 0.0136 0.0059

Saturn -92724-02-08 19:54 J -32145978.71 -32145978.67 -32145978.61 0.0280 0.0263

Neptune -92724-03-07 23:01 J -32145951.67 -32145951.54 -32145951.40 0.0089 0.0029

Uranus -92724-05-03 20:08 J -32145894.81 -32145894.66 -32145894.49 0.0136 0.0040

Neptune -92724-06-04 00:27 J -32145863.61 -32145863.48 -32145863.33 0.0089 0.0025

Uranus -92724-07-31 01:54 J -32145806.59 -32145806.42 -32145806.25 0.0136 0.0019

Earth -92724-08-02 22:32 J -32145803.69 -32145803.56 -32145803.43 0.2603 0.0717

Moon -92724-08-02 23:01 J -32145803.67 -32145803.54 -32145803.42 0.2609 0.0800 *

Neptune -92724-08-31 02:23 J -32145775.54 -32145775.40 -32145775.26 0.0089 0.0020

Uranus -92724-10-27 07:25 J -32145718.36 -32145718.19 -32145718.02 0.0136 0.0001

Neptune -92724-11-27 03:49 J -32145687.47 -32145687.34 -32145687.19 0.0089 0.0016

Uranus -92723-01-23 12:42 J -32145630.13 -32145629.97 -32145629.80 0.0136 0.0021

Neptune -92723-02-23 05:30 J -32145599.41 -32145599.27 -32145599.12 0.0089 0.0012

Uranus -92723-04-21 18:13 J -32145541.90 -32145541.74 -32145541.58 0.0136 0.0040

Neptune -92723-05-22 07:11 J -32145511.34 -32145511.20 -32145511.05 0.0089 0.0008

Uranus -92723-07-18 23:15 J -32145453.67 -32145453.53 -32145453.37 0.0136 0.0060

Neptune -92723-08-18 08:51 J -32145423.27 -32145423.13 -32145422.98 0.0089 0.0004

Mars -92723-08-23 19:25 J -32145417.83 -32145417.69 -32145417.56 0.1610 0.0167

Uranus -92723-10-15 04:32 J -32145365.43 -32145365.31 -32145365.16 0.0136 0.0079

Neptune -92723-11-14 10:32 J -32145335.20 -32145335.06 -32145334.91 0.0089 0.0003

Uranus -92722-01-11 10:03 J -32145277.19 -32145277.08 -32145276.97 0.0135 0.0097

Neptune -92722-02-10 12:13 J -32145247.13 -32145246.99 -32145246.84 0.0089 0.0006

Venus -92722-04-03 13:11 J -32145194.99 -32145194.95 -32145194.90 0.3594 0.3365

Uranus -92722-04-09 15:06 J -32145188.95 -32145188.87 -32145188.78 0.0135 0.0115

Neptune -92722-05-09 13:54 J -32145159.06 -32145158.92 -32145158.77 0.0089 0.0011

Uranus -92722-07-06 20:23 J -32145100.67 -32145100.65 -32145100.63 0.0135 0.0134

Neptune -92722-08-05 15:35 J -32145070.99 -32145070.85 -32145070.70 0.0089 0.0015

Neptune -92722-11-01 17:15 J -32144982.91 -32144982.78 -32144982.63 0.0089 0.0020

Neptune -92721-01-28 18:56 J -32144894.84 -32144894.71 -32144894.56 0.0089 0.0024

Neptune -92721-04-25 20:51 J -32144806.77 -32144806.63 -32144806.49 0.0089 0.0028

Jupiter -92721-07-22 04:47 J -32144719.43 -32144719.30 -32144719.17 0.0524 0.0183

Neptune -92721-07-22 22:32 J -32144718.69 -32144718.56 -32144718.42 0.0089 0.0033

Neptune -92721-10-19 00:13 J -32144630.62 -32144630.49 -32144630.35 0.0089 0.0037

Venus -92721-10-19 00:42 J -32144630.58 -32144630.47 -32144630.36 0.3774 0.0233 *

Jupiter -92721-10-19 15:49 J -32144629.95 -32144629.84 -32144629.72 0.0520 0.0282

Neptune -92720-01-15 01:54 J -32144542.54 -32144542.42 -32144542.29 0.0089 0.0042

Pluto -92720-02-12 10:32 J -32144514.08 -32144514.06 -32144514.04 0.0060 0.0059

Neptune -92720-04-13 03:49 J -32144454.46 -32144454.34 -32144454.22 0.0089 0.0046

Pluto -92720-05-11 11:30 J -32144426.09 -32144426.02 -32144425.91 0.0060 0.0053

Neptune -92720-07-10 05:15 J -32144366.39 -32144366.28 -32144366.15 0.0089 0.0051

Pluto -92720-08-07 13:11 J -32144338.06 -32144337.95 -32144337.82 0.0060 0.0046

Neptune -92720-10-06 07:11 J -32144278.31 -32144278.20 -32144278.08 0.0089 0.0055

Pluto -92720-11-03 14:23 J -32144250.02 -32144249.90 -32144249.73 0.0060 0.0040

Neptune -92719-01-02 08:51 J -32144190.23 -32144190.13 -32144190.01 0.0089 0.0060

Pluto -92719-01-30 16:03 J -32144161.98 -32144161.83 -32144161.65 0.0060 0.0033

Neptune -92719-03-31 10:47 J -32144102.15 -32144102.05 -32144101.95 0.0089 0.0064

Pluto -92719-04-28 17:15 J -32144073.93 -32144073.78 -32144073.58 0.0060 0.0027

Neptune -92719-06-27 12:27 J -32144014.06 -32144013.98 -32144013.88 0.0089 0.0069

Pluto -92719-07-25 18:56 J -32143985.88 -32143985.71 -32143985.51 0.0060 0.0020

Neptune -92719-09-23 14:08 J -32143925.98 -32143925.91 -32143925.81 0.0089 0.0074

Pluto -92719-10-21 20:37 J -32143897.83 -32143897.64 -32143897.44 0.0060 0.0013

Neptune -92719-12-20 16:03 J -32143837.89 -32143837.83 -32143837.75 0.0089 0.0078

Pluto -92718-01-17 22:18 J -32143809.77 -32143809.57 -32143809.38 0.0060 0.0007

Neptune -92718-03-18 17:44 J -32143749.80 -32143749.76 -32143749.69 0.0089 0.0083

Pluto -92718-04-15 23:44 J -32143721.71 -32143721.51 -32143721.31 0.0060 0.0000

Mars -92718-05-15 00:42 J -32143692.59 -32143692.47 -32143692.35 0.1916 0.1023

Neptune -92718-06-14 19:39 J -32143661.70 -32143661.68 -32143661.64 0.0089 0.0087

Pluto -92718-07-13 01:11 J -32143633.64 -32143633.45 -32143633.25 0.0060 0.0007

Pluto -92718-10-09 02:37 J -32143545.58 -32143545.39 -32143545.19 0.0060 0.0014

Pluto -92717-01-05 04:03 J -32143457.51 -32143457.33 -32143457.14 0.0061 0.0021

Pluto -92717-04-02 05:15 J -32143369.44 -32143369.28 -32143369.08 0.0061 0.0028

Pluto -92717-06-29 07:11 J -32143281.36 -32143281.20 -32143281.03 0.0061 0.0034

Pluto -92717-09-25 08:37 J -32143193.28 -32143193.14 -32143192.99 0.0061 0.0041

Venus -92717-10-17 14:51 J -32143170.99 -32143170.88 -32143170.77 0.3596 0.2176

Pluto -92717-12-22 10:03 J -32143105.19 -32143105.08 -32143104.95 0.0061 0.0048

Pluto -92716-03-20 11:30 J -32143017.09 -32143017.02 -32143016.92 0.0061 0.0055

Venus -92715-05-04 19:25 J -32142606.80 -32142606.69 -32142606.58 0.3771 0.1013

Jupiter -92715-12-19 07:25 J -32142378.35 -32142378.19 -32142378.02 0.0505 0.0076

Moon -92714-01-27 03:20 J -32142339.47 -32142339.36 -32142339.25 0.2735 0.1186

Earth -92714-01-27 04:32 J -32142339.43 -32142339.31 -32142339.20 0.2735 0.1222 *

Jupiter -92714-03-19 06:42 J -32142288.30 -32142288.22 -32142288.14 0.0509 0.0435

Mars -92713-01-14 04:03 J -32141987.46 -32141987.33 -32141987.20 0.1612 0.0289

Venus -92711-05-03 16:03 J -32141146.96 -32141146.83 -32141146.70 0.3599 0.1044

Earth -92711-08-05 20:51 J -32141052.71 -32141052.63 -32141052.56 0.2606 0.2127

Moon -92711-08-05 21:35 J -32141052.66 -32141052.60 -32141052.53 0.2610 0.2229 *

Saturn -92711-09-04 17:59 J -32141022.77 -32141022.75 -32141022.73 0.0278 0.0275

Saturn -92711-12-02 07:25 J -32140934.29 -32140934.19 -32140934.08 0.0279 0.0187

Saturn -92710-02-28 21:20 J -32140845.75 -32140845.61 -32140845.47 0.0279 0.0097

Saturn -92710-05-28 11:30 J -32140757.17 -32140757.02 -32140756.87 0.0279 0.0005

Saturn -92710-08-25 01:54 J -32140668.56 -32140668.42 -32140668.28 0.0279 0.0090

Venus -92710-11-18 14:08 J -32140583.00 -32140582.91 -32140582.81 0.3767 0.1815

Saturn -92710-11-21 16:32 J -32140579.92 -32140579.81 -32140579.69 0.0279 0.0186

Jupiter -92709-05-10 07:39 J -32140409.29 -32140409.18 -32140409.07 0.0525 0.0300

Jupiter -92709-08-07 18:27 J -32140319.86 -32140319.73 -32140319.60 0.0521 0.0163

Mars -92707-09-10 19:11 J -32139555.75 -32139555.70 -32139555.66 0.1925 0.1803

Venus -92706-11-17 16:47 J -32139122.94 -32139122.80 -32139122.67 0.3603 0.0089

Venus -92704-06-03 09:20 J -32138559.19 -32138559.11 -32138559.03 0.3764 0.2631

Mars -92704-06-05 12:42 J -32138557.08 -32138556.97 -32138556.85 0.1614 0.0739

Moon -92704-07-29 05:59 J -32138503.33 -32138503.25 -32138503.17 0.2601 0.2065

Earth -92704-07-29 06:56 J -32138503.30 -32138503.21 -32138503.12 0.2597 0.1887 *

Jupiter -92703-10-07 05:59 J -32138068.40 -32138068.25 -32138068.10 0.0504 0.0213

Jupiter -92702-01-05 05:30 J -32137978.40 -32137978.27 -32137978.13 0.0508 0.0300

Mars -92702-05-12 02:51 J -32137851.48 -32137851.38 -32137851.29 0.1606 0.1163

Moon -92701-01-30 02:08 J -32137588.43 -32137588.41 -32137588.39 0.2737 0.2680

Venus -92700-06-02 17:01 J -32137098.92 -32137098.79 -32137098.67 0.3606 0.1093

Venus -92699-12-18 04:47 J -32136535.34 -32136535.30 -32136535.26 0.3760 0.3472

Mars -92697-01-31 21:49 J -32136125.71 -32136125.59 -32136125.47 0.1923 0.0932

Jupiter -92697-02-27 10:47 J -32136099.13 -32136099.05 -32136098.96 0.0526 0.0412

Jupiter -92697-05-26 21:35 J -32136009.74 -32136009.60 -32136009.46 0.0522 0.0050

Jupiter -92697-08-24 09:06 J -32135920.12 -32135920.12 -32135920.11 0.0518 0.0518

Saturn -92696-04-11 09:06 J -32135690.16 -32135690.12 -32135690.08 0.0281 0.0270

Saturn -92696-07-09 03:06 J -32135601.50 -32135601.37 -32135601.24 0.0280 0.0162

Saturn -92696-10-05 20:37 J -32135512.80 -32135512.64 -32135512.48 0.0280 0.0057

Saturn -92695-01-02 13:54 J -32135424.08 -32135423.92 -32135423.76 0.0280 0.0047

Saturn -92695-04-01 06:42 J -32135335.36 -32135335.22 -32135335.09 0.0280 0.0148

Saturn -92695-06-28 23:01 J -32135246.61 -32135246.54 -32135246.46 0.0280 0.0246

Mars -92695-10-26 21:35 J -32135126.68 -32135126.60 -32135126.51 0.1617 0.1182

Venus -92695-12-17 16:32 J -32135074.91 -32135074.81 -32135074.70 0.3610 0.2083

Moon -92694-01-22 13:39 J -32135039.03 -32135038.93 -32135038.83 0.2734 0.1592

Earth -92694-01-22 13:54 J -32135039.02 -32135038.92 -32135038.82 0.2741 0.1566 *

Mars -92693-10-01 11:15 J -32134421.16 -32134421.03 -32134420.91 0.1608 0.0698

Venus -92692-09-11 04:03 J -32134076.38 -32134076.33 -32134076.27 0.3787 0.3189

Jupiter -92691-07-26 05:15 J -32133758.40 -32133758.28 -32133758.15 0.0503 0.0343

Moon -92691-08-01 05:15 J -32133752.41 -32133752.28 -32133752.15 0.2606 0.0383

Earth -92691-08-01 05:44 J -32133752.40 -32133752.26 -32133752.13 0.2600 0.0422 *

Jupiter -92691-10-24 05:15 J -32133668.43 -32133668.28 -32133668.12 0.0507 0.0173

Venus -92689-07-02 16:03 J -32133050.90 -32133050.83 -32133050.76 0.3613 0.3033

Mars -92688-06-22 23:30 J -32132695.66 -32132695.52 -32132695.38 0.1919 0.0013

Venus -92686-03-27 22:03 J -32132052.66 -32132052.58 -32132052.50 0.3785 0.2504

Jupiter -92686-12-16 14:08 J -32131788.92 -32131788.91 -32131788.89 0.0527 0.0521

Jupiter -92685-03-15 00:42 J -32131699.61 -32131699.47 -32131699.33 0.0523 0.0062

Jupiter -92685-06-12 12:13 J -32131610.08 -32131609.99 -32131609.91 0.0519 0.0405

Mars -92683-02-21 19:39 J -32130990.82 -32130990.68 -32130990.55 0.1609 0.0234

Moon -92681-01-25 10:47 J -32130288.18 -32130288.05 -32130287.93 0.2735 0.0095

Earth -92681-01-25 11:44 J -32130288.14 -32130288.01 -32130287.89 0.2738 0.0047 *

Saturn -92681-04-20 08:51 J -32130202.22 -32130202.13 -32130202.04 0.0278 0.0215

Saturn -92681-07-17 22:32 J -32130113.69 -32130113.56 -32130113.43 0.0278 0.0126

Venus -92681-10-10 15:49 J -32130028.93 -32130028.84 -32130028.74 0.3782 0.1808

Saturn -92681-10-14 12:27 J -32130025.12 -32130024.98 -32130024.83 0.0279 0.0036

Uranus -92680-01-07 23:59 J -32129939.54 -32129939.50 -32129939.44 0.0142 0.0131

Saturn -92680-01-11 02:51 J -32129936.53 -32129936.38 -32129936.23 0.0279 0.0059

Uranus -92680-04-06 04:32 J -32129851.40 -32129851.31 -32129851.22 0.0142 0.0112

Saturn -92680-04-09 17:15 J -32129847.90 -32129847.78 -32129847.65 0.0279 0.0155

Uranus -92680-07-03 08:51 J -32129763.24 -32129763.13 -32129763.02 0.0142 0.0093

Saturn -92680-07-07 08:08 J -32129759.21 -32129759.16 -32129759.09 0.0279 0.0252

Uranus -92680-09-29 13:11 J -32129675.07 -32129674.95 -32129674.82 0.0142 0.0074

Uranus -92680-12-26 17:44 J -32129586.90 -32129586.76 -32129586.63 0.0142 0.0055

Uranus -92679-03-24 22:03 J -32129498.72 -32129498.58 -32129498.43 0.0142 0.0036

Jupiter -92679-05-14 04:47 J -32129448.36 -32129448.30 -32129448.25 0.0503 0.0473

Uranus -92679-06-21 02:37 J -32129410.53 -32129410.39 -32129410.24 0.0143 0.0016

Jupiter -92679-08-12 05:15 J -32129358.45 -32129358.28 -32129358.12 0.0506 0.0046

Uranus -92679-09-17 07:11 J -32129322.34 -32129322.20 -32129322.05 0.0143 0.0007

Mars -92679-11-13 01:25 J -32129265.57 -32129265.44 -32129265.32 0.1916 0.0921

Uranus -92679-12-14 11:59 J -32129234.15 -32129234.00 -32129233.86 0.0143 0.0025

Uranus -92678-03-12 16:32 J -32129145.95 -32129145.81 -32129145.67 0.0143 0.0045

Uranus -92678-06-08 21:06 J -32129057.75 -32129057.62 -32129057.48 0.0143 0.0066

Earth -92678-08-04 04:03 J -32129001.45 -32129001.33 -32129001.21 0.2603 0.1024

Moon -92678-08-04 04:32 J -32129001.43 -32129001.31 -32129001.19 0.2610 0.1022 *

Uranus -92678-09-05 01:54 J -32128969.53 -32128969.42 -32128969.30 0.0143 0.0087

Uranus -92678-12-02 06:42 J -32128881.31 -32128881.22 -32128881.12 0.0143 0.0108

Uranus -92677-02-28 11:30 J -32128793.08 -32128793.02 -32128792.95 0.0144 0.0129

Venus -92675-04-26 10:03 J -32128005.18 -32128005.08 -32128004.97 0.3779 0.1078

Mars -92674-07-15 04:03 J -32127560.46 -32127560.33 -32127560.19 0.1612 0.0233

Jupiter -92673-01-02 03:49 J -32127389.47 -32127389.34 -32127389.21 0.0524 0.0175

Jupiter -92673-03-31 14:51 J -32127299.99 -32127299.88 -32127299.76 0.0520 0.0289

Venus -92670-11-10 04:18 J -32125981.43 -32125981.32 -32125981.21 0.3776 0.0357

Mars -92669-04-04 02:23 J -32125835.42 -32125835.40 -32125835.38 0.1912 0.1881

Moon -92668-01-27 08:51 J -32125537.24 -32125537.13 -32125537.02 0.2735 0.1353

Earth -92668-01-27 09:49 J -32125537.19 -32125537.09 -32125536.99 0.2734 0.1542 *

Mars -92667-03-11 19:39 J -32125128.70 -32125128.68 -32125128.67 0.1925 0.1898

Jupiter -92667-05-31 05:15 J -32125048.44 -32125048.28 -32125048.11 0.0505 0.0078

Jupiter -92667-08-29 04:32 J -32124958.39 -32124958.31 -32124958.22 0.0509 0.0432

Saturn -92667-11-26 02:08 J -32124869.52 -32124869.41 -32124869.29 0.0280 0.0199

Saturn -92666-02-22 19:54 J -32124780.82 -32124780.67 -32124780.51 0.0280 0.0093

Saturn -92666-05-22 13:11 J -32124692.11 -32124691.95 -32124691.78 0.0280 0.0014

Saturn -92666-08-19 06:13 J -32124603.38 -32124603.24 -32124603.09 0.0280 0.0113

Venus -92666-11-08 13:25 J -32124522.01 -32124521.94 -32124521.87 0.3594 0.3046

Saturn -92666-11-15 22:47 J -32124514.65 -32124514.55 -32124514.45 0.0279 0.0212

Earth -92665-08-06 02:08 J -32124250.45 -32124250.41 -32124250.36 0.2607 0.2423

Moon -92665-08-06 03:06 J -32124250.39 -32124250.37 -32124250.34 0.2608 0.2544 *

Mars -92665-12-04 12:56 J -32124130.08 -32124129.96 -32124129.84 0.1614 0.0676

Venus -92664-05-25 23:01 J -32123957.66 -32123957.54 -32123957.43 0.3773 0.0454

Mars -92663-11-10 02:51 J -32123424.46 -32123424.38 -32123424.29 0.1606 0.1230

Jupiter -92662-10-21 06:13 J -32123079.35 -32123079.24 -32123079.13 0.0525 0.0298

Jupiter -92661-01-18 17:01 J -32122989.92 -32122989.79 -32122989.66 0.0521 0.0164

Moon -92661-01-20 21:49 J -32122987.62 -32122987.59 -32122987.57 0.2736 0.2658

Venus -92660-05-24 14:51 J -32122497.99 -32122497.88 -32122497.76 0.3597 0.1881

Venus -92659-12-09 17:44 J -32121933.87 -32121933.76 -32121933.66 0.3769 0.1217

Moon -92658-07-30 11:30 J -32121701.12 -32121701.02 -32121700.91 0.2602 0.1598

Earth -92658-07-30 12:27 J -32121701.09 -32121700.98 -32121700.87 0.2598 0.1573 *

Mars -92658-08-01 21:49 J -32121698.71 -32121698.59 -32121698.48 0.1922 0.1004

Jupiter -92655-03-19 04:47 J -32120738.45 -32120738.30 -32120738.14 0.0504 0.0207

Mars -92655-04-26 21:49 J -32120699.69 -32120699.59 -32120699.50 0.1617 0.1124

Jupiter -92655-06-17 04:32 J -32120648.44 -32120648.31 -32120648.18 0.0508 0.0307

Venus -92655-12-08 16:03 J -32120473.97 -32120473.83 -32120473.70 0.3600 0.0762

Mars -92653-04-01 11:15 J -32119994.15 -32119994.03 -32119993.91 0.1608 0.0760

Venus -92653-06-24 12:42 J -32119910.07 -32119909.97 -32119909.88 0.3766 0.2022

Saturn -92652-09-07 11:30 J -32119470.10 -32119470.02 -32119469.95 0.0279 0.0235

Saturn -92652-12-05 01:11 J -32119381.58 -32119381.45 -32119381.33 0.0279 0.0146

Saturn -92651-03-03 15:06 J -32119293.01 -32119292.87 -32119292.72 0.0279 0.0055

Saturn -92651-05-31 05:15 J -32119204.42 -32119204.28 -32119204.13 0.0279 0.0039

Saturn -92651-08-27 19:54 J -32119115.80 -32119115.67 -32119115.54 0.0279 0.0134

Saturn -92651-11-24 10:47 J -32119027.13 -32119027.05 -32119026.97 0.0279 0.0231

Jupiter -92650-08-09 08:51 J -32118769.21 -32118769.13 -32118769.04 0.0526 0.0416

Jupiter -92650-11-06 19:39 J -32118679.82 -32118679.68 -32118679.55 0.0522 0.0046

Jupiter -92649-02-04 07:11 J -32118590.22 -32118590.20 -32118590.18 0.0518 0.0511

Venus -92649-06-23 16:32 J -32118449.94 -32118449.81 -32118449.67 0.3604 0.0321

Mars -92649-12-21 23:59 J -32118268.64 -32118268.50 -32118268.37 0.1920 0.0114

Moon -92648-01-22 18:42 J -32118236.82 -32118236.72 -32118236.61 0.2734 0.1306

Earth -92648-01-22 19:11 J -32118236.81 -32118236.70 -32118236.59 0.2740 0.1253 *

Venus -92647-01-08 07:54 J -32117886.25 -32117886.17 -32117886.10 0.3762 0.2846

Mars -92646-09-17 06:42 J -32117269.25 -32117269.22 -32117269.19 0.1619 0.1563

Moon -92645-08-01 11:01 J -32116950.17 -32116950.04 -32116949.91 0.2607 0.0190

Earth -92645-08-01 11:01 J -32116950.17 -32116950.04 -32116949.90 0.2601 0.0124 *

Neptune -92645-10-20 07:11 J -32116870.21 -32116870.20 -32116870.17 0.0089 0.0088

Neptune -92644-01-16 10:03 J -32116782.12 -32116782.08 -32116782.00 0.0089 0.0083

Neptune -92644-04-14 13:25 J -32116694.02 -32116693.94 -32116693.84 0.0089 0.0077

Neptune -92644-07-11 16:03 J -32116605.91 -32116605.83 -32116605.70 0.0089 0.0072

Mars -92644-08-22 19:54 J -32116563.81 -32116563.67 -32116563.54 0.1610 0.0302

Neptune -92644-10-07 19:25 J -32116517.80 -32116517.69 -32116517.56 0.0089 0.0066

Neptune -92643-01-03 22:03 J -32116429.69 -32116429.58 -32116429.43 0.0089 0.0061

Jupiter -92643-01-05 03:20 J -32116428.48 -32116428.36 -32116428.24 0.0503 0.0345

Venus -92643-01-07 16:32 J -32116425.93 -32116425.81 -32116425.68 0.3607 0.1354

Neptune -92643-04-02 01:25 J -32116341.57 -32116341.44 -32116341.29 0.0089 0.0055

Jupiter -92643-04-05 03:20 J -32116338.51 -32116338.36 -32116338.20 0.0507 0.0170

Neptune -92643-06-29 04:18 J -32116253.46 -32116253.32 -32116253.16 0.0089 0.0049

Neptune -92643-09-25 07:25 J -32116165.34 -32116165.19 -32116165.03 0.0089 0.0044

Neptune -92643-12-22 10:03 J -32116077.22 -32116077.08 -32116076.90 0.0089 0.0039

Neptune -92642-03-20 13:11 J -32115989.11 -32115988.95 -32115988.78 0.0089 0.0033

Neptune -92642-06-16 16:03 J -32115900.99 -32115900.83 -32115900.65 0.0089 0.0028

Venus -92642-07-25 03:20 J -32115862.38 -32115862.36 -32115862.35 0.3759 0.3695

Neptune -92642-09-12 19:11 J -32115812.87 -32115812.70 -32115812.53 0.0089 0.0022

Neptune -92642-12-09 22:03 J -32115724.75 -32115724.58 -32115724.40 0.0089 0.0016

Neptune -92641-03-07 00:56 J -32115636.63 -32115636.46 -32115636.28 0.0089 0.0011

Uranus -92641-03-08 23:15 J -32115634.54 -32115634.53 -32115634.52 0.0137 0.0136

Neptune -92641-06-03 03:49 J -32115548.51 -32115548.34 -32115548.16 0.0088 0.0006

Uranus -92641-06-05 04:47 J -32115546.38 -32115546.30 -32115546.20 0.0137 0.0116

Neptune -92641-08-30 06:42 J -32115460.39 -32115460.22 -32115460.04 0.0088 0.0001

Uranus -92641-09-01 10:47 J -32115458.17 -32115458.05 -32115457.92 0.0137 0.0095

Venus -92641-10-02 08:23 J -32115427.17 -32115427.15 -32115427.12 0.3789 0.3679

Neptune -92641-11-26 09:35 J -32115372.28 -32115372.10 -32115371.92 0.0088 0.0005

Uranus -92641-11-28 16:18 J -32115369.95 -32115369.82 -32115369.67 0.0137 0.0075

Neptune -92640-02-22 12:13 J -32115284.16 -32115283.99 -32115283.81 0.0088 0.0011

Uranus -92640-02-24 22:18 J -32115281.73 -32115281.57 -32115281.42 0.0136 0.0054

Neptune -92640-05-21 15:06 J -32115196.04 -32115195.87 -32115195.69 0.0088 0.0016

Uranus -92640-05-24 03:49 J -32115193.50 -32115193.34 -32115193.18 0.0136 0.0033

Neptune -92640-08-17 17:59 J -32115107.92 -32115107.75 -32115107.58 0.0088 0.0021

Uranus -92640-08-20 09:20 J -32115105.28 -32115105.11 -32115104.94 0.0136 0.0014

Neptune -92640-11-13 20:37 J -32115019.80 -32115019.64 -32115019.46 0.0088 0.0026

Uranus -92640-11-16 14:51 J -32115017.05 -32115016.88 -32115016.71 0.0136 0.0006

Neptune -92639-02-09 23:15 J -32114931.68 -32114931.53 -32114931.35 0.0088 0.0032

Uranus -92639-02-12 20:08 J -32114928.82 -32114928.66 -32114928.49 0.0136 0.0026

Neptune -92639-05-09 02:08 J -32114843.56 -32114843.41 -32114843.24 0.0088 0.0037

Uranus -92639-05-12 01:39 J -32114840.59 -32114840.43 -32114840.27 0.0136 0.0045

Mars -92639-05-14 01:39 J -32114838.56 -32114838.43 -32114838.30 0.1916 0.0831

Neptune -92639-08-05 05:01 J -32114755.44 -32114755.29 -32114755.13 0.0088 0.0042

Uranus -92639-08-08 06:42 J -32114752.35 -32114752.22 -32114752.06 0.0136 0.0065

Neptune -92639-11-01 07:39 J -32114667.32 -32114667.18 -32114667.03 0.0088 0.0047

Uranus -92639-11-04 11:59 J -32114664.12 -32114664.00 -32114663.86 0.0136 0.0084

Neptune -92638-01-28 10:32 J -32114579.20 -32114579.06 -32114578.92 0.0088 0.0052

Uranus -92638-01-31 17:30 J -32114575.88 -32114575.77 -32114575.67 0.0135 0.0102

Neptune -92638-04-26 13:11 J -32114491.08 -32114490.95 -32114490.81 0.0088 0.0057

Uranus -92638-04-29 22:18 J -32114487.63 -32114487.57 -32114487.49 0.0135 0.0121

Neptune -92638-07-23 16:03 J -32114402.96 -32114402.83 -32114402.71 0.0088 0.0062

Venus -92638-07-24 16:18 J -32114401.92 -32114401.82 -32114401.72 0.3611 0.2331

Jupiter -92638-08-25 22:32 J -32114369.70 -32114369.56 -32114369.42 0.0523 0.0069

Neptune -92638-10-19 18:42 J -32114314.83 -32114314.72 -32114314.61 0.0088 0.0067

Jupiter -92638-11-23 10:03 J -32114280.17 -32114280.08 -32114279.99 0.0519 0.0398

Neptune -92637-01-15 21:20 J -32114226.71 -32114226.61 -32114226.51 0.0088 0.0072

Neptune -92637-04-12 23:59 J -32114138.58 -32114138.50 -32114138.42 0.0088 0.0077

Saturn -92637-04-14 05:01 J -32114137.39 -32114137.29 -32114137.19 0.0281 0.0218

Neptune -92637-07-10 02:37 J -32114050.45 -32114050.39 -32114050.33 0.0088 0.0082

Saturn -92637-07-11 22:47 J -32114048.70 -32114048.55 -32114048.40 0.0280 0.0111

Neptune -92637-10-06 05:15 J -32113962.31 -32113962.28 -32113962.25 0.0088 0.0087

Saturn -92637-10-08 16:18 J -32113959.98 -32113959.82 -32113959.66 0.0280 0.0007

Saturn -92636-01-05 09:06 J -32113871.26 -32113871.12 -32113870.96 0.0280 0.0097

Saturn -92636-04-04 01:54 J -32113782.53 -32113782.42 -32113782.31 0.0280 0.0196

Moon -92635-01-25 16:03 J -32113485.95 -32113485.83 -32113485.70 0.2734 0.0149

Earth -92635-01-25 17:01 J -32113485.91 -32113485.79 -32113485.66 0.2737 0.0286 *

Venus -92635-04-18 02:08 J -32113403.47 -32113403.41 -32113403.34 0.3786 0.3007

Mars -92634-01-13 04:32 J -32113133.45 -32113133.31 -32113133.18 0.1612 0.0164

Venus -92632-02-06 15:35 J -32112377.90 -32112377.85 -32112377.80 0.3614 0.3268

Earth -92632-08-04 09:35 J -32112199.22 -32112199.10 -32112198.99 0.2604 0.1325

Moon -92632-08-04 10:03 J -32112199.19 -32112199.08 -32112198.97 0.2610 0.1442 *

Jupiter -92632-10-24 02:23 J -32112118.45 -32112118.40 -32112118.34 0.0502 0.0475

Jupiter -92631-01-22 03:06 J -32112028.54 -32112028.37 -32112028.21 0.0506 0.0044

Mars -92630-10-04 02:51 J -32111408.42 -32111408.38 -32111408.33 0.1912 0.1784

Venus -92630-11-01 19:54 J -32111379.75 -32111379.67 -32111379.58 0.3784 0.2327

Pluto -92626-03-05 18:56 J -32110159.76 -32110159.71 -32110159.65 0.0084 0.0075

Pluto -92626-06-01 20:08 J -32110071.74 -32110071.66 -32110071.56 0.0084 0.0062

Jupiter -92626-06-14 01:54 J -32110059.55 -32110059.42 -32110059.29 0.0524 0.0180

Pluto -92626-08-28 21:35 J -32109983.71 -32109983.60 -32109983.49 0.0084 0.0050

Jupiter -92626-09-11 12:56 J -32109970.08 -32109969.96 -32109969.84 0.0520 0.0285

Pluto -92626-11-24 22:47 J -32109895.66 -32109895.55 -32109895.43 0.0084 0.0037

Pluto -92625-02-20 23:59 J -32109807.62 -32109807.50 -32109807.37 0.0084 0.0025

Pluto -92625-05-19 01:25 J -32109719.57 -32109719.44 -32109719.31 0.0084 0.0013

Mars -92625-06-04 13:11 J -32109703.08 -32109702.95 -32109702.83 0.1614 0.0615

Pluto -92625-08-15 02:37 J -32109631.52 -32109631.39 -32109631.26 0.0084 0.0001

Pluto -92625-11-11 03:49 J -32109543.47 -32109543.34 -32109543.21 0.0084 0.0012

Pluto -92624-02-07 05:01 J -32109455.41 -32109455.29 -32109455.16 0.0083 0.0024

Pluto -92624-05-06 05:59 J -32109367.36 -32109367.25 -32109367.12 0.0083 0.0037

Venus -92624-05-17 14:08 J -32109356.01 -32109355.91 -32109355.82 0.3781 0.1621

Pluto -92624-08-02 07:11 J -32109279.29 -32109279.20 -32109279.08 0.0083 0.0048

Pluto -92624-10-29 08:37 J -32109191.23 -32109191.14 -32109191.05 0.0083 0.0060

Pluto -92623-01-25 09:49 J -32109103.15 -32109103.09 -32109103.02 0.0083 0.0071

Mars -92623-05-11 03:20 J -32108997.44 -32108997.36 -32108997.29 0.1606 0.1298

Saturn -92622-01-25 12:56 J -32108738.00 -32108737.96 -32108737.91 0.0278 0.0262

Moon -92622-01-28 14:23 J -32108734.99 -32108734.90 -32108734.81 0.2736 0.1824

Earth -92622-01-28 15:20 J -32108734.96 -32108734.86 -32108734.77 0.2733 0.1864 *

Saturn -92622-04-24 02:23 J -32108649.51 -32108649.40 -32108649.28 0.0278 0.0174

Saturn -92622-07-21 16:18 J -32108560.96 -32108560.82 -32108560.68 0.0279 0.0084

Saturn -92622-10-18 06:27 J -32108472.38 -32108472.23 -32108472.08 0.0279 0.0009

Saturn -92621-01-14 20:51 J -32108383.77 -32108383.63 -32108383.49 0.0279 0.0103

Saturn -92621-04-12 11:30 J -32108295.12 -32108295.02 -32108294.91 0.0279 0.0200

Jupiter -92620-11-10 02:37 J -32107718.55 -32107718.39 -32107718.22 0.0505 0.0086

Jupiter -92619-02-08 01:54 J -32107628.51 -32107628.42 -32107628.33 0.0509 0.0424

Venus -92619-12-01 08:08 J -32107332.26 -32107332.16 -32107332.05 0.3778 0.0898

Mars -92618-01-30 22:18 J -32107271.69 -32107271.57 -32107271.46 0.1923 0.1100

Mars -92616-10-25 21:49 J -32106272.68 -32106272.59 -32106272.49 0.1616 0.1064

Earth -92615-01-21 02:51 J -32106185.43 -32106185.38 -32106185.33 0.2743 0.2448

Moon -92615-01-21 03:06 J -32106185.42 -32106185.37 -32106185.32 0.2736 0.2482 *

Jupiter -92614-04-02 05:01 J -32105749.40 -32105749.29 -32105749.18 0.0525 0.0292

Jupiter -92614-06-30 15:49 J -32105659.97 -32105659.84 -32105659.71 0.0521 0.0171

Mars -92614-10-01 11:30 J -32105567.14 -32105567.02 -32105566.90 0.1607 0.0825

Venus -92613-06-16 02:37 J -32105308.50 -32105308.39 -32105308.28 0.3775 0.0141

Moon -92612-07-30 17:15 J -32104898.89 -32104898.78 -32104898.67 0.2603 0.1397

Earth -92612-07-30 17:59 J -32104898.87 -32104898.75 -32104898.63 0.2598 0.1259 *

Venus -92609-06-14 13:39 J -32103849.02 -32103848.93 -32103848.84 0.3595 0.2734

Mars -92609-06-22 00:13 J -32103841.63 -32103841.49 -32103841.35 0.1920 0.0187

Jupiter -92608-08-29 02:37 J -32103408.54 -32103408.39 -32103408.24 0.0504 0.0210

Saturn -92608-09-01 03:49 J -32103405.40 -32103405.34 -32103405.27 0.0280 0.0256

Jupiter -92608-11-27 02:23 J -32103318.53 -32103318.40 -32103318.27 0.0508 0.0304

Saturn -92608-11-28 21:49 J -32103316.73 -32103316.59 -32103316.45 0.0280 0.0148

Venus -92608-12-30 21:20 J -32103284.72 -32103284.61 -32103284.50 0.3772 0.0644

Saturn -92607-02-25 15:20 J -32103228.02 -32103227.86 -32103227.70 0.0280 0.0043

Saturn -92607-05-25 08:37 J -32103139.30 -32103139.14 -32103138.98 0.0280 0.0061

Saturn -92607-08-22 01:25 J -32103050.57 -32103050.44 -32103050.31 0.0279 0.0161

Saturn -92607-11-18 17:44 J -32102961.81 -32102961.76 -32102961.70 0.0279 0.0259

Mars -92606-03-18 06:56 J -32102842.26 -32102842.21 -32102842.17 0.1619 0.1505

Mars -92604-02-20 19:54 J -32102136.80 -32102136.67 -32102136.53 0.1609 0.0363

Venus -92604-12-29 15:06 J -32101824.99 -32101824.87 -32101824.75 0.3598 0.1577

Jupiter -92602-01-19 07:25 J -32101439.27 -32101439.19 -32101439.10 0.0526 0.0413

Moon -92602-01-23 23:59 J -32101434.62 -32101434.50 -32101434.39 0.2735 0.0967

Earth -92602-01-24 00:27 J -32101434.59 -32101434.48 -32101434.36 0.2740 0.0945 *

Jupiter -92602-04-18 18:13 J -32101349.88 -32101349.74 -32101349.60 0.0522 0.0048

Venus -92602-07-16 16:03 J -32101260.94 -32101260.83 -32101260.73 0.3768 0.1421

Jupiter -92602-07-17 05:44 J -32101260.28 -32101260.26 -32101260.25 0.0518 0.0513

Mars -92600-11-12 01:54 J -32100411.55 -32100411.42 -32100411.29 0.1916 0.0748

Moon -92599-08-02 16:32 J -32100147.94 -32100147.81 -32100147.67 0.2608 0.0298

Earth -92599-08-02 16:32 J -32100147.94 -32100147.81 -32100147.67 0.2601 0.0211 *

Venus -92598-07-15 16:03 J -32099800.97 -32099800.83 -32099800.70 0.3601 0.0482

Uranus -92596-01-28 06:56 J -32099238.26 -32099238.21 -32099238.14 0.0142 0.0128

Venus -92596-01-29 11:01 J -32099237.13 -32099237.04 -32099236.95 0.3765 0.2235

Uranus -92596-04-26 11:15 J -32099150.11 -32099150.03 -32099149.93 0.0142 0.0109

Jupiter -92596-06-17 02:08 J -32099098.53 -32099098.41 -32099098.29 0.0504 0.0338

Uranus -92596-07-23 15:49 J -32099061.95 -32099061.84 -32099061.73 0.0142 0.0090

Jupiter -92596-09-15 02:08 J -32099008.56 -32099008.41 -32099008.25 0.0507 0.0179

Uranus -92596-10-19 20:08 J -32098973.78 -32098973.66 -32098973.53 0.0142 0.0071

Uranus -92595-01-16 00:42 J -32098885.61 -32098885.47 -32098885.33 0.0142 0.0051

Uranus -92595-04-14 05:15 J -32098797.43 -32098797.28 -32098797.14 0.0142 0.0032

Uranus -92595-07-11 09:49 J -32098709.24 -32098709.09 -32098708.95 0.0143 0.0013

Mars -92595-07-14 04:32 J -32098706.44 -32098706.31 -32098706.17 0.1611 0.0100

Uranus -92595-10-07 14:23 J -32098621.05 -32098620.90 -32098620.76 0.0143 0.0009

Uranus -92594-01-03 18:56 J -32098532.86 -32098532.71 -32098532.57 0.0143 0.0028

Uranus -92594-04-01 23:30 J -32098444.66 -32098444.52 -32098444.38 0.0143 0.0049

Uranus -92594-06-29 04:18 J -32098356.45 -32098356.32 -32098356.19 0.0143 0.0069

Uranus -92594-09-25 08:51 J -32098268.24 -32098268.13 -32098268.01 0.0143 0.0090

Uranus -92594-12-22 13:39 J -32098180.02 -32098179.93 -32098179.83 0.0143 0.0112

Uranus -92593-03-19 18:27 J -32098091.77 -32098091.73 -32098091.66 0.0144 0.0133

Saturn -92593-09-10 04:32 J -32097917.41 -32097917.31 -32097917.20 0.0279 0.0197

Saturn -92593-12-07 18:27 J -32097828.87 -32097828.73 -32097828.60 0.0279 0.0107

Venus -92592-01-28 16:32 J -32097776.95 -32097776.81 -32097776.68 0.3605 0.0607

Saturn -92592-03-06 08:23 J -32097740.29 -32097740.15 -32097740.00 0.0279 0.0017

Saturn -92592-06-02 22:47 J -32097651.69 -32097651.55 -32097651.40 0.0279 0.0080

Saturn -92592-08-30 13:25 J -32097563.05 -32097562.94 -32097562.82 0.0279 0.0176

Saturn -92592-11-27 04:18 J -32097474.34 -32097474.32 -32097474.28 0.0280 0.0275

Venus -92591-08-15 06:13 J -32097213.30 -32097213.24 -32097213.17 0.3761 0.3065

Jupiter -92590-02-04 20:51 J -32097039.77 -32097039.63 -32097039.49 0.0523 0.0071

Mars -92590-04-04 03:20 J -32096981.42 -32096981.36 -32096981.30 0.1913 0.1693

Jupiter -92590-05-05 08:08 J -32096950.25 -32096950.16 -32096950.07 0.0519 0.0394

Moon -92589-01-26 21:35 J -32096683.73 -32096683.60 -32096683.48 0.2734 0.0513

Earth -92589-01-26 22:32 J -32096683.69 -32096683.56 -32096683.44 0.2737 0.0607 *

Venus -92587-08-14 16:18 J -32095752.94 -32095752.82 -32095752.70 0.3608 0.1608

Earth -92586-08-05 14:51 J -32095396.98 -32095396.88 -32095396.77 0.2604 0.1626

Moon -92586-08-05 15:35 J -32095396.95 -32095396.85 -32095396.74 0.2609 0.1633 *

Mars -92586-12-04 13:25 J -32095276.07 -32095275.94 -32095275.82 0.1614 0.0553

Jupiter -92584-04-05 00:27 J -32094788.53 -32094788.48 -32094788.42 0.0502 0.0475

Venus -92584-05-09 06:27 J -32094754.27 -32094754.23 -32094754.19 0.3788 0.3501

Jupiter -92584-07-04 01:11 J -32094698.62 -32094698.45 -32094698.29 0.0506 0.0044

Mars -92584-11-09 03:20 J -32094570.43 -32094570.36 -32094570.29 0.1606 0.1364

Venus -92581-02-28 15:49 J -32093728.93 -32093728.84 -32093728.74 0.3612 0.2581

Moon -92579-07-28 23:30 J -32092847.54 -32092847.52 -32092847.49 0.2598 0.2543

Earth -92579-07-29 00:42 J -32092847.51 -32092847.47 -32092847.42 0.2596 0.2434 *

Mars -92579-07-31 22:32 J -32092844.67 -32092844.56 -32092844.45 0.1923 0.1190

Venus -92579-11-23 00:13 J -32092730.56 -32092730.49 -32092730.42 0.3785 0.2829

Jupiter -92579-11-23 23:44 J -32092729.64 -32092729.51 -32092729.38 0.0524 0.0186

Saturn -92578-01-19 06:27 J -32092673.26 -32092673.23 -32092673.20 0.0281 0.0276

Jupiter -92578-02-21 11:01 J -32092640.16 -32092640.04 -32092639.93 0.0521 0.0280

Saturn -92578-04-18 00:27 J -32092584.61 -32092584.48 -32092584.35 0.0281 0.0168

Saturn -92578-07-15 18:13 J -32092495.90 -32092495.74 -32092495.58 0.0280 0.0061

Saturn -92578-10-12 11:30 J -32092407.18 -32092407.02 -32092406.86 0.0280 0.0043

Saturn -92577-01-09 04:18 J -32092318.45 -32092318.32 -32092318.18 0.0280 0.0144

Saturn -92577-04-06 20:37 J -32092229.71 -32092229.64 -32092229.56 0.0280 0.0243

Moon -92576-01-28 19:54 J -32091932.76 -32091932.67 -32091932.59 0.2737 0.2053

Earth -92576-01-28 20:37 J -32091932.71 -32091932.64 -32091932.57 0.2733 0.2186 *

Mars -92576-04-25 22:03 J -32091845.68 -32091845.58 -32091845.47 0.1616 0.1001

Venus -92576-09-13 15:06 J -32091704.90 -32091704.87 -32091704.84 0.3616 0.3501

Mars -92574-04-01 11:44 J -32091140.12 -32091140.01 -32091139.90 0.1607 0.0893

Venus -92573-06-07 18:13 J -32090706.83 -32090706.74 -32090706.65 0.3783 0.2138

Jupiter -92572-04-22 00:42 J -32090388.64 -32090388.47 -32090388.31 0.0505 0.0087

Jupiter -92572-07-20 23:44 J -32090298.59 -32090298.51 -32090298.41 0.0508 0.0422

Mars -92570-12-22 00:42 J -32089414.61 -32089414.47 -32089414.34 0.1920 0.0284

Moon -92569-01-22 08:08 J -32089383.24 -32089383.16 -32089383.08 0.2736 0.2062

Earth -92569-01-22 08:08 J -32089383.24 -32089383.16 -32089383.09 0.2743 0.2151 *

Venus -92568-12-22 12:13 J -32088683.09 -32088682.99 -32088682.89 0.3780 0.1427

Jupiter -92567-09-12 03:06 J -32088419.48 -32088419.37 -32088419.26 0.0525 0.0296

Mars -92567-09-16 06:56 J -32088415.26 -32088415.21 -32088415.15 0.1619 0.1444

Jupiter -92567-12-10 13:54 J -32088330.05 -32088329.92 -32088329.78 0.0521 0.0168

Moon -92566-07-31 23:01 J -32088096.66 -32088096.54 -32088096.42 0.2604 0.0975

Earth -92566-07-31 23:30 J -32088096.64 -32088096.52 -32088096.39 0.2599 0.0947 *

Mars -92565-08-21 20:08 J -32087709.79 -32087709.66 -32087709.53 0.1609 0.0429

Saturn -92563-01-28 06:13 J -32087185.32 -32087185.24 -32087185.15 0.0278 0.0223

Saturn -92563-04-26 19:54 J -32087096.80 -32087096.67 -32087096.54 0.0278 0.0134

Neptune -92563-07-18 23:59 J -32087013.52 -32087013.50 -32087013.45 0.0089 0.0086

Saturn -92563-07-24 09:49 J -32087008.23 -32087008.09 -32087007.94 0.0279 0.0043

Neptune -92563-10-15 01:39 J -32086925.47 -32086925.43 -32086925.37 0.0089 0.0082

Saturn -92563-10-20 23:59 J -32086919.64 -32086919.50 -32086919.35 0.0279 0.0051

Neptune -92562-01-11 03:06 J -32086837.42 -32086837.37 -32086837.29 0.0089 0.0078

Saturn -92562-01-17 14:37 J -32086831.02 -32086830.89 -32086830.76 0.0279 0.0146

Neptune -92562-04-09 04:47 J -32086749.37 -32086749.30 -32086749.21 0.0089 0.0074

Saturn -92562-04-16 05:30 J -32086742.34 -32086742.27 -32086742.20 0.0279 0.0243

Neptune -92562-07-06 06:13 J -32086661.31 -32086661.24 -32086661.14 0.0089 0.0070

Venus -92562-07-08 06:27 J -32086659.34 -32086659.23 -32086659.12 0.3777 0.0691

Neptune -92562-10-02 08:08 J -32086573.25 -32086573.16 -32086573.07 0.0089 0.0065

Neptune -92562-12-29 09:35 J -32086485.20 -32086485.10 -32086484.99 0.0089 0.0061

Neptune -92561-03-26 11:01 J -32086397.14 -32086397.04 -32086396.92 0.0089 0.0057

Neptune -92561-06-22 12:42 J -32086309.08 -32086308.97 -32086308.85 0.0089 0.0053

Neptune -92561-09-18 14:08 J -32086221.01 -32086220.91 -32086220.78 0.0089 0.0049

Neptune -92561-12-15 16:03 J -32086132.95 -32086132.83 -32086132.71 0.0089 0.0044

Jupiter -92560-02-07 23:59 J -32086078.65 -32086078.50 -32086078.34 0.0504 0.0216

Neptune -92560-03-13 17:30 J -32086044.89 -32086044.77 -32086044.64 0.0089 0.0040

Jupiter -92560-05-08 23:44 J -32085988.64 -32085988.51 -32085988.37 0.0508 0.0298

Mars -92560-05-13 02:23 J -32085984.53 -32085984.40 -32085984.27 0.1917 0.0655

Neptune -92560-06-09 19:11 J -32085956.83 -32085956.70 -32085956.57 0.0089 0.0036

Neptune -92560-09-05 20:37 J -32085868.76 -32085868.64 -32085868.50 0.0089 0.0032

Neptune -92560-12-02 22:32 J -32085780.70 -32085780.56 -32085780.43 0.0089 0.0027

Neptune -92559-02-28 23:59 J -32085692.63 -32085692.50 -32085692.36 0.0089 0.0023

Neptune -92559-05-28 01:39 J -32085604.57 -32085604.43 -32085604.29 0.0089 0.0019

Neptune -92559-08-24 03:20 J -32085516.50 -32085516.36 -32085516.22 0.0089 0.0014

Neptune -92559-11-20 05:01 J -32085428.43 -32085428.29 -32085428.15 0.0089 0.0010

Neptune -92558-02-16 06:42 J -32085340.36 -32085340.22 -32085340.08 0.0089 0.0006

Neptune -92558-05-15 08:23 J -32085252.30 -32085252.15 -32085252.01 0.0089 0.0002

Neptune -92558-08-11 10:03 J -32085164.23 -32085164.08 -32085163.94 0.0089 0.0003

Neptune -92558-11-07 11:44 J -32085076.16 -32085076.01 -32085075.87 0.0089 0.0008

Neptune -92557-02-03 13:25 J -32084988.08 -32084987.94 -32084987.80 0.0089 0.0012

Uranus -92557-03-29 06:56 J -32084933.26 -32084933.21 -32084933.16 0.0137 0.0130

Neptune -92557-05-01 14:51 J -32084900.01 -32084899.88 -32084899.73 0.0089 0.0017

Uranus -92557-06-25 12:27 J -32084845.07 -32084844.98 -32084844.87 0.0137 0.0110

Neptune -92557-07-28 16:47 J -32084811.94 -32084811.80 -32084811.66 0.0089 0.0021

Uranus -92557-09-21 18:27 J -32084756.86 -32084756.73 -32084756.60 0.0137 0.0089

Neptune -92557-10-24 18:27 J -32084723.87 -32084723.73 -32084723.59 0.0089 0.0025

Uranus -92557-12-18 23:59 J -32084668.64 -32084668.50 -32084668.34 0.0137 0.0069

Neptune -92556-01-20 20:08 J -32084635.79 -32084635.66 -32084635.52 0.0089 0.0030

Venus -92556-01-21 00:56 J -32084635.57 -32084635.46 -32084635.35 0.3774 0.0073 *

Moon -92556-01-24 05:01 J -32084632.41 -32084632.29 -32084632.17 0.2734 0.0780

Earth -92556-01-24 05:44 J -32084632.38 -32084632.26 -32084632.14 0.2739 0.0640 *

Uranus -92556-03-17 05:59 J -32084580.41 -32084580.25 -32084580.10 0.0136 0.0048

Neptune -92556-04-18 21:49 J -32084547.72 -32084547.59 -32084547.45 0.0089 0.0034

Uranus -92556-06-13 11:30 J -32084492.19 -32084492.02 -32084491.86 0.0136 0.0028

Neptune -92556-07-15 23:30 J -32084459.64 -32084459.52 -32084459.38 0.0089 0.0039

Uranus -92556-09-09 17:01 J -32084403.96 -32084403.79 -32084403.62 0.0136 0.0008

Neptune -92556-10-12 01:25 J -32084371.57 -32084371.44 -32084371.32 0.0089 0.0043

Uranus -92556-12-06 22:32 J -32084315.73 -32084315.56 -32084315.40 0.0136 0.0012

Neptune -92555-01-08 02:51 J -32084283.49 -32084283.38 -32084283.25 0.0089 0.0048

Mars -92555-01-12 04:47 J -32084279.44 -32084279.30 -32084279.17 0.1611 0.0036

Uranus -92555-03-05 03:49 J -32084227.50 -32084227.34 -32084227.18 0.0136 0.0032

Neptune -92555-04-06 04:47 J -32084195.41 -32084195.30 -32084195.18 0.0089 0.0052

Uranus -92555-06-01 09:06 J -32084139.27 -32084139.12 -32084138.96 0.0136 0.0051

Jupiter -92555-07-01 06:27 J -32084109.31 -32084109.23 -32084109.14 0.0526 0.0406

Neptune -92555-07-03 06:27 J -32084107.33 -32084107.23 -32084107.11 0.0089 0.0057

Uranus -92555-08-28 14:23 J -32084051.04 -32084050.90 -32084050.75 0.0136 0.0070

Jupiter -92555-09-28 17:01 J -32084019.93 -32084019.79 -32084019.65 0.0522 0.0055

Neptune -92555-09-29 08:23 J -32084019.25 -32084019.15 -32084019.04 0.0089 0.0061

Uranus -92555-11-24 19:39 J -32083962.80 -32083962.68 -32083962.55 0.0136 0.0089

Neptune -92555-12-26 10:03 J -32083931.17 -32083931.08 -32083930.98 0.0089 0.0066

Uranus -92554-02-21 00:42 J -32083874.56 -32083874.47 -32083874.36 0.0135 0.0108

Neptune -92554-03-24 11:59 J -32083843.09 -32083843.00 -32083842.91 0.0089 0.0070

Uranus -92554-05-20 06:13 J -32083786.30 -32083786.24 -32083786.19 0.0135 0.0126

Neptune -92554-06-20 13:39 J -32083755.00 -32083754.93 -32083754.85 0.0089 0.0075

Neptune -92554-09-16 15:06 J -32083666.91 -32083666.87 -32083666.79 0.0089 0.0080

Neptune -92554-12-13 17:15 J -32083578.82 -32083578.78 -32083578.73 0.0089 0.0084

Neptune -92553-03-10 18:56 J -32083490.71 -32083490.71 -32083490.69 0.0089 0.0089

Earth -92553-08-02 22:03 J -32083345.71 -32083345.58 -32083345.45 0.2602 0.0508

Moon -92553-08-02 22:18 J -32083345.70 -32083345.57 -32083345.44 0.2608 0.0460 *

Venus -92552-01-19 13:54 J -32083176.02 -32083175.92 -32083175.82 0.3596 0.2423

Venus -92551-08-06 19:39 J -32082611.79 -32082611.68 -32082611.57 0.3771 0.0843

Mars -92551-10-03 03:35 J -32082554.42 -32082554.35 -32082554.27 0.1913 0.1607

Saturn -92549-09-03 23:01 J -32081852.64 -32081852.54 -32081852.42 0.0280 0.0207

Jupiter -92549-11-26 23:59 J -32081768.62 -32081768.50 -32081768.38 0.0503 0.0340

Saturn -92549-12-01 17:01 J -32081763.94 -32081763.79 -32081763.64 0.0280 0.0100

Jupiter -92548-02-25 00:13 J -32081678.65 -32081678.49 -32081678.34 0.0507 0.0176

Saturn -92548-02-28 10:32 J -32081675.22 -32081675.06 -32081674.90 0.0280 0.0007

Saturn -92548-05-28 03:20 J -32081586.50 -32081586.36 -32081586.21 0.0280 0.0108

Saturn -92548-08-24 20:08 J -32081497.77 -32081497.66 -32081497.56 0.0279 0.0207

Venus -92547-08-05 15:06 J -32081152.00 -32081151.87 -32081151.74 0.3599 0.1280

Mars -92546-06-04 13:25 J -32080849.07 -32080848.94 -32080848.81 0.1614 0.0491

Venus -92545-02-20 14:23 J -32080588.00 -32080587.90 -32080587.80 0.3767 0.1632

Mars -92544-05-10 03:35 J -32080143.41 -32080143.35 -32080143.29 0.1605 0.1428

Moon -92543-01-27 02:51 J -32079881.50 -32079881.38 -32079881.26 0.2735 0.0831

Earth -92543-01-27 03:49 J -32079881.46 -32079881.34 -32079881.22 0.2736 0.0921 *

Jupiter -92543-04-19 09:06 J -32079799.12 -32079799.12 -32079799.10 0.0527 0.0524

Jupiter -92543-07-17 19:39 J -32079709.82 -32079709.68 -32079709.55 0.0523 0.0068

Jupiter -92543-10-15 06:42 J -32079620.30 -32079620.22 -32079620.13 0.0519 0.0398

Venus -92541-02-19 15:49 J -32079127.97 -32079127.84 -32079127.70 0.3602 0.0207

Earth -92540-08-05 20:23 J -32078594.74 -32078594.65 -32078594.56 0.2605 0.1927

Moon -92540-08-05 21:20 J -32078594.69 -32078594.61 -32078594.54 0.2608 0.2099 *

Venus -92540-09-05 09:35 J -32078564.19 -32078564.10 -32078564.02 0.3764 0.2447

Mars -92539-01-29 22:47 J -32078417.65 -32078417.55 -32078417.45 0.1923 0.1269

Jupiter -92537-09-14 23:30 J -32077458.58 -32077458.52 -32077458.46 0.0503 0.0468

Mars -92537-10-24 22:18 J -32077418.68 -32077418.57 -32077418.46 0.1616 0.0938

Jupiter -92537-12-13 23:59 J -32077368.66 -32077368.50 -32077368.33 0.0506 0.0051

Venus -92536-09-04 16:03 J -32077103.96 -32077103.83 -32077103.69 0.3606 0.0871

Mars -92535-09-30 11:59 J -32076713.11 -32076713.00 -32076712.89 0.1607 0.0959

Venus -92534-03-22 04:47 J -32076540.35 -32076540.30 -32076540.24 0.3760 0.3279

Saturn -92534-06-17 07:54 J -32076453.23 -32076453.17 -32076453.11 0.0278 0.0249

Saturn -92534-09-13 21:20 J -32076364.72 -32076364.61 -32076364.49 0.0279 0.0161

Saturn -92534-12-11 11:15 J -32076276.17 -32076276.03 -32076275.88 0.0279 0.0070

Saturn -92533-03-09 01:25 J -32076187.58 -32076187.44 -32076187.29 0.0279 0.0025

Saturn -92533-06-05 15:49 J -32076098.97 -32076098.84 -32076098.70 0.0279 0.0119

Moon -92533-07-29 05:15 J -32076045.35 -32076045.28 -32076045.22 0.2598 0.2254

Earth -92533-07-29 06:13 J -32076045.31 -32076045.24 -32076045.16 0.2596 0.2120 *

Saturn -92533-09-02 06:42 J -32076010.31 -32076010.22 -32076010.12 0.0279 0.0216

Jupiter -92531-05-05 22:18 J -32075399.70 -32075399.57 -32075399.44 0.0524 0.0184

Jupiter -92531-08-03 09:20 J -32075310.23 -32075310.11 -32075309.99 0.0520 0.0280

Moon -92530-01-30 01:11 J -32075130.50 -32075130.45 -32075130.40 0.2737 0.2450

Earth -92530-01-30 02:08 J -32075130.46 -32075130.41 -32075130.37 0.2733 0.2511 *

Venus -92530-03-21 16:03 J -32075079.95 -32075079.83 -32075079.72 0.3609 0.1862

Mars -92530-06-22 00:56 J -32074987.60 -32074987.46 -32074987.33 0.1920 0.0369

Venus -92528-12-14 04:32 J -32074081.36 -32074081.31 -32074081.26 0.3787 0.3325

Mars -92527-03-17 07:11 J -32073988.26 -32073988.20 -32073988.13 0.1619 0.1382

Mars -92525-02-20 20:23 J -32073282.78 -32073282.65 -32073282.52 0.1609 0.0494

Jupiter -92525-10-01 22:47 J -32073058.71 -32073058.55 -32073058.38 0.0505 0.0086

Venus -92525-10-04 15:20 J -32073055.94 -32073055.86 -32073055.77 0.3613 0.2820

Jupiter -92525-12-30 22:03 J -32072968.66 -32072968.58 -32072968.49 0.0508 0.0424

Moon -92523-01-22 13:11 J -32072581.03 -32072580.95 -32072580.86 0.2736 0.1925

Earth -92523-01-22 13:25 J -32072581.03 -32072580.94 -32072580.85 0.2742 0.1843 *

Venus -92522-06-29 22:18 J -32072057.65 -32072057.57 -32072057.49 0.3785 0.2646

Mars -92521-11-11 02:51 J -32071557.52 -32071557.38 -32071557.25 0.1917 0.0557

Moon -92520-08-01 04:47 J -32071294.43 -32071294.30 -32071294.18 0.2606 0.0684

Earth -92520-08-01 05:01 J -32071294.42 -32071294.29 -32071294.16 0.2599 0.0635 *

Saturn -92519-01-22 01:39 J -32071120.52 -32071120.43 -32071120.33 0.0281 0.0228

Jupiter -92519-02-22 01:11 J -32071089.56 -32071089.45 -32071089.34 0.0526 0.0300

Saturn -92519-04-20 19:39 J -32071031.83 -32071031.68 -32071031.53 0.0281 0.0120

Jupiter -92519-05-22 11:59 J -32071000.13 -32071000.00 -32070999.86 0.0522 0.0164

Saturn -92519-07-18 13:11 J -32070943.11 -32070942.95 -32070942.79 0.0280 0.0015

Saturn -92519-10-15 06:13 J -32070854.39 -32070854.24 -32070854.09 0.0280 0.0089

Saturn -92518-01-11 22:47 J -32070765.66 -32070765.55 -32070765.43 0.0280 0.0190

Venus -92516-01-12 16:18 J -32070033.91 -32070033.82 -32070033.73 0.3782 0.1951

Mars -92516-07-13 05:01 J -32069852.43 -32069852.29 -32069852.16 0.1611 0.0039

Jupiter -92513-07-20 22:18 J -32068748.72 -32068748.57 -32068748.42 0.0504 0.0214

Jupiter -92513-10-18 22:03 J -32068658.71 -32068658.58 -32068658.45 0.0507 0.0298

Uranus -92513-11-21 10:03 J -32068625.08 -32068625.08 -32068625.07 0.0142 0.0142

Uranus -92512-02-17 14:23 J -32068536.96 -32068536.90 -32068536.82 0.0142 0.0123

Uranus -92512-05-16 18:42 J -32068448.81 -32068448.72 -32068448.62 0.0142 0.0104

Uranus -92512-08-12 23:01 J -32068360.65 -32068360.54 -32068360.42 0.0142 0.0086

Uranus -92512-11-09 03:35 J -32068272.48 -32068272.35 -32068272.22 0.0142 0.0066

Uranus -92511-02-05 07:54 J -32068184.30 -32068184.17 -32068184.03 0.0142 0.0047

Mars -92511-04-03 04:03 J -32068127.42 -32068127.33 -32068127.25 0.1913 0.1519

Uranus -92511-05-04 12:27 J -32068096.12 -32068095.98 -32068095.83 0.0143 0.0027

Venus -92511-07-29 10:18 J -32068010.17 -32068010.07 -32068009.96 0.3779 0.1239

Uranus -92511-07-31 17:01 J -32068007.94 -32068007.79 -32068007.64 0.0143 0.0007

Uranus -92511-10-27 21:35 J -32067919.75 -32067919.60 -32067919.45 0.0143 0.0013

Uranus -92510-01-24 02:08 J -32067831.55 -32067831.41 -32067831.26 0.0143 0.0033

Moon -92510-01-25 10:32 J -32067830.19 -32067830.06 -32067829.94 0.2734 0.0349

Earth -92510-01-25 11:15 J -32067830.16 -32067830.03 -32067829.91 0.2739 0.0331 *

Uranus -92510-04-22 06:42 J -32067743.35 -32067743.22 -32067743.07 0.0143 0.0054

Uranus -92510-07-19 11:30 J -32067655.14 -32067655.02 -32067654.89 0.0143 0.0074

Uranus -92510-10-15 16:18 J -32067566.93 -32067566.82 -32067566.70 0.0143 0.0095

Uranus -92509-01-11 21:06 J -32067478.70 -32067478.62 -32067478.53 0.0143 0.0116

Uranus -92509-04-09 01:54 J -32067390.45 -32067390.42 -32067390.37 0.0144 0.0138

Jupiter -92508-12-11 04:32 J -32066779.39 -32066779.31 -32066779.22 0.0526 0.0410

Jupiter -92507-03-10 15:20 J -32066690.00 -32066689.86 -32066689.72 0.0523 0.0053

Earth -92507-08-04 03:35 J -32066543.48 -32066543.35 -32066543.22 0.2602 0.0816

Moon -92507-08-04 03:49 J -32066543.46 -32066543.34 -32066543.21 0.2608 0.0897 *

Mars -92507-12-03 13:39 J -32066422.06 -32066421.93 -32066421.80 0.1613 0.0425

Venus -92505-02-12 04:47 J -32065986.41 -32065986.30 -32065986.19 0.3776 0.0513

Saturn -92505-11-03 09:35 J -32065721.12 -32065721.10 -32065721.07 0.0278 0.0273

Mars -92505-11-08 03:49 J -32065716.38 -32065716.34 -32065716.29 0.1605 0.1501

Saturn -92504-01-30 23:01 J -32065632.64 -32065632.54 -32065632.43 0.0278 0.0186

Saturn -92504-04-29 12:56 J -32065544.10 -32065543.96 -32065543.82 0.0278 0.0096

Saturn -92504-07-27 02:51 J -32065455.52 -32065455.38 -32065455.23 0.0278 0.0009

Saturn -92504-10-23 17:15 J -32065366.92 -32065366.78 -32065366.64 0.0279 0.0090

Saturn -92503-01-20 07:54 J -32065278.28 -32065278.17 -32065278.06 0.0279 0.0186

Venus -92501-02-10 12:27 J -32064527.03 -32064526.98 -32064526.93 0.3594 0.3294

Jupiter -92501-05-08 21:35 J -32064438.72 -32064438.60 -32064438.47 0.0503 0.0344

Jupiter -92501-08-06 21:49 J -32064348.74 -32064348.59 -32064348.43 0.0507 0.0171

Mars -92500-07-30 23:01 J -32063990.63 -32063990.54 -32063990.44 0.1923 0.1364

Venus -92500-08-27 23:15 J -32063962.64 -32063962.53 -32063962.42 0.3773 0.0282

Moon -92497-01-28 08:08 J -32063079.27 -32063079.16 -32063079.04 0.2737 0.1081

Earth -92497-01-28 09:06 J -32063079.23 -32063079.12 -32063079.00 0.2735 0.1243 *

Mars -92497-04-24 22:18 J -32062991.68 -32062991.57 -32062991.45 0.1616 0.0880

Venus -92496-08-26 13:54 J -32062503.03 -32062502.92 -32062502.80 0.3597 0.2123

Jupiter -92496-09-29 08:08 J -32062469.18 -32062469.16 -32062469.14 0.0527 0.0518

Jupiter -92496-12-27 18:27 J -32062379.87 -32062379.73 -32062379.59 0.0523 0.0060

Jupiter -92495-03-27 05:44 J -32062290.34 -32062290.26 -32062290.17 0.0519 0.0406

Mars -92495-03-31 12:13 J -32062286.10 -32062285.99 -32062285.89 0.1607 0.1026

Venus -92494-03-13 17:59 J -32061938.86 -32061938.75 -32061938.65 0.3770 0.1046

Earth -92494-08-07 01:54 J -32061792.49 -32061792.42 -32061792.36 0.2605 0.2229

Moon -92494-08-07 02:51 J -32061792.45 -32061792.38 -32061792.32 0.2609 0.2251 *

Mars -92491-12-21 01:11 J -32060560.58 -32060560.45 -32060560.31 0.1920 0.0462

Venus -92490-03-12 15:06 J -32060479.00 -32060478.87 -32060478.74 0.3600 0.0993

Saturn -92490-06-10 23:44 J -32060388.54 -32060388.51 -32060388.46 0.0280 0.0270

Saturn -92490-09-07 17:59 J -32060299.88 -32060299.75 -32060299.61 0.0280 0.0161

Saturn -92490-12-05 11:44 J -32060211.17 -32060211.01 -32060210.85 0.0280 0.0054

Jupiter -92489-02-25 21:20 J -32060128.66 -32060128.61 -32060128.55 0.0502 0.0469

Saturn -92489-03-03 05:01 J -32060122.45 -32060122.29 -32060122.13 0.0280 0.0050

Jupiter -92489-05-25 22:03 J -32060038.75 -32060038.58 -32060038.41 0.0506 0.0049

Saturn -92489-05-30 21:49 J -32060033.72 -32060033.59 -32060033.45 0.0280 0.0151

Saturn -92489-08-27 14:23 J -32059944.97 -32059944.90 -32059944.83 0.0279 0.0250

Venus -92489-09-26 12:42 J -32059915.06 -32059914.97 -32059914.87 0.3767 0.1839

Mars -92488-09-15 07:25 J -32059561.27 -32059561.19 -32059561.12 0.1619 0.1322

Moon -92487-07-30 11:01 J -32059243.14 -32059243.04 -32059242.95 0.2600 0.1851

Earth -92487-07-30 11:44 J -32059243.10 -32059243.01 -32059242.91 0.2597 0.1802 *

Mars -92486-08-21 20:37 J -32058855.77 -32058855.64 -32058855.52 0.1609 0.0557

Venus -92485-09-25 15:49 J -32058454.98 -32058454.84 -32058454.71 0.3603 0.0103

Jupiter -92484-10-15 21:06 J -32058069.75 -32058069.62 -32058069.49 0.0524 0.0178

Jupiter -92483-01-13 08:08 J -32057980.27 -32057980.16 -32057980.04 0.0520 0.0285

Venus -92483-04-12 07:54 J -32057891.25 -32057891.17 -32057891.09 0.3763 0.2658

Mars -92481-05-12 02:51 J -32057130.52 -32057130.38 -32057130.25 0.1917 0.0485

Neptune -92480-07-17 05:15 J -32056699.30 -32056699.28 -32056699.23 0.0089 0.0087

Neptune -92480-10-13 08:37 J -32056611.20 -32056611.14 -32056611.06 0.0089 0.0081

Neptune -92479-01-09 11:30 J -32056523.10 -32056523.02 -32056522.91 0.0089 0.0076

Neptune -92479-04-07 14:37 J -32056434.99 -32056434.89 -32056434.77 0.0089 0.0070

Venus -92479-04-11 15:49 J -32056430.97 -32056430.84 -32056430.71 0.3607 0.1115

Neptune -92479-07-04 17:30 J -32056346.88 -32056346.77 -32056346.63 0.0089 0.0065

Neptune -92479-09-30 20:37 J -32056258.76 -32056258.64 -32056258.50 0.0089 0.0059

Neptune -92479-12-27 23:30 J -32056170.65 -32056170.52 -32056170.36 0.0089 0.0054

Neptune -92478-03-26 02:37 J -32056082.53 -32056082.39 -32056082.23 0.0089 0.0048

Neptune -92478-06-22 05:30 J -32055994.42 -32055994.27 -32055994.10 0.0089 0.0043

Neptune -92478-09-18 08:37 J -32055906.30 -32055906.14 -32055905.97 0.0089 0.0037

Venus -92478-10-27 03:20 J -32055867.40 -32055867.36 -32055867.32 0.3759 0.3492

Neptune -92478-12-15 11:30 J -32055818.18 -32055818.02 -32055817.85 0.0089 0.0032

Moon -92477-01-23 18:27 J -32055778.83 -32055778.73 -32055778.63 0.2735 0.1496

Earth -92477-01-23 18:42 J -32055778.82 -32055778.72 -32055778.61 0.2742 0.1533 *

Neptune -92477-03-12 14:37 J -32055730.06 -32055729.89 -32055729.72 0.0089 0.0026

Jupiter -92477-03-13 21:49 J -32055728.75 -32055728.59 -32055728.42 0.0505 0.0076

Neptune -92477-06-08 17:30 J -32055641.94 -32055641.77 -32055641.60 0.0089 0.0021

Jupiter -92477-06-11 21:06 J -32055638.70 -32055638.62 -32055638.53 0.0509 0.0434

Neptune -92477-09-04 20:23 J -32055553.82 -32055553.65 -32055553.47 0.0089 0.0015

Neptune -92477-12-01 23:15 J -32055465.70 -32055465.53 -32055465.35 0.0089 0.0010

Mars -92476-01-11 05:15 J -32055425.42 -32055425.28 -32055425.15 0.1611 0.0109

Neptune -92476-02-28 02:08 J -32055377.58 -32055377.41 -32055377.23 0.0089 0.0004

Neptune -92476-05-27 05:01 J -32055289.47 -32055289.29 -32055289.11 0.0089 0.0001

Neptune -92476-08-23 07:54 J -32055201.35 -32055201.17 -32055200.99 0.0089 0.0006

Neptune -92476-11-19 10:47 J -32055113.23 -32055113.05 -32055112.88 0.0088 0.0012

Neptune -92475-02-15 13:39 J -32055025.11 -32055024.93 -32055024.76 0.0088 0.0017

Neptune -92475-05-14 16:18 J -32054936.99 -32054936.82 -32054936.65 0.0088 0.0022

Saturn -92475-06-20 00:13 J -32054900.57 -32054900.49 -32054900.39 0.0278 0.0216

Neptune -92475-08-10 18:56 J -32054848.87 -32054848.71 -32054848.53 0.0088 0.0028

Saturn -92475-09-16 13:54 J -32054812.04 -32054811.92 -32054811.78 0.0279 0.0127

Neptune -92475-11-06 21:49 J -32054760.75 -32054760.59 -32054760.42 0.0088 0.0033

Saturn -92475-12-14 04:03 J -32054723.48 -32054723.33 -32054723.19 0.0279 0.0035

Neptune -92474-02-03 00:42 J -32054672.62 -32054672.47 -32054672.31 0.0088 0.0038

Saturn -92474-03-12 18:13 J -32054634.88 -32054634.74 -32054634.59 0.0279 0.0060

Neptune -92474-05-02 03:06 J -32054584.50 -32054584.37 -32054584.20 0.0088 0.0044

Saturn -92474-06-09 08:51 J -32054546.26 -32054546.13 -32054546.01 0.0279 0.0156

Neptune -92474-07-29 05:59 J -32054496.38 -32054496.25 -32054496.09 0.0088 0.0048

Moon -92474-08-02 10:18 J -32054492.20 -32054492.07 -32054491.94 0.2606 0.0370

Earth -92474-08-02 10:32 J -32054492.19 -32054492.06 -32054491.93 0.2600 0.0325 *

Saturn -92474-09-05 23:30 J -32054457.57 -32054457.52 -32054457.45 0.0279 0.0254

Neptune -92474-10-25 08:37 J -32054408.26 -32054408.14 -32054407.99 0.0088 0.0054

Venus -92474-10-26 15:35 J -32054406.95 -32054406.85 -32054406.74 0.3610 0.2110

Neptune -92473-01-21 11:30 J -32054320.14 -32054320.02 -32054319.88 0.0088 0.0059

Neptune -92473-04-18 14:08 J -32054232.02 -32054231.91 -32054231.78 0.0088 0.0064

Uranus -92473-04-18 14:23 J -32054231.96 -32054231.90 -32054231.82 0.0137 0.0124 *

Neptune -92473-07-15 16:47 J -32054143.89 -32054143.80 -32054143.68 0.0088 0.0069

Uranus -92473-07-15 20:23 J -32054143.76 -32054143.65 -32054143.54 0.0137 0.0103 *

Neptune -92473-10-11 19:25 J -32054055.77 -32054055.69 -32054055.58 0.0088 0.0074

Uranus -92473-10-12 01:54 J -32054055.54 -32054055.42 -32054055.27 0.0137 0.0083

Neptune -92472-01-07 22:03 J -32053967.64 -32053967.58 -32053967.49 0.0088 0.0079

Uranus -92472-01-08 07:54 J -32053967.32 -32053967.17 -32053967.02 0.0137 0.0062

Neptune -92472-04-06 00:42 J -32053879.51 -32053879.47 -32053879.40 0.0088 0.0084

Uranus -92472-04-06 13:25 J -32053879.10 -32053878.94 -32053878.78 0.0136 0.0042

Neptune -92472-07-03 03:35 J -32053791.35 -32053791.35 -32053791.34 0.0088 0.0088

Uranus -92472-07-03 19:11 J -32053790.87 -32053790.70 -32053790.54 0.0136 0.0022

Jupiter -92472-08-03 23:59 J -32053759.61 -32053759.50 -32053759.39 0.0525 0.0295

Pluto -92472-09-02 16:32 J -32053729.86 -32053729.81 -32053729.72 0.0060 0.0056

Uranus -92472-09-30 00:42 J -32053702.64 -32053702.47 -32053702.31 0.0136 0.0004

Mars -92472-10-02 04:32 J -32053700.40 -32053700.31 -32053700.22 0.1913 0.1416

Jupiter -92472-11-01 10:47 J -32053670.18 -32053670.05 -32053669.92 0.0521 0.0167

Pluto -92472-11-29 17:44 J -32053641.84 -32053641.76 -32053641.62 0.0060 0.0050

Uranus -92472-12-27 05:59 J -32053614.41 -32053614.25 -32053614.08 0.0136 0.0018

Pluto -92471-02-25 19:25 J -32053553.81 -32053553.69 -32053553.53 0.0060 0.0043

Uranus -92471-03-25 11:15 J -32053526.18 -32053526.03 -32053525.86 0.0136 0.0038

Pluto -92471-05-24 21:20 J -32053465.76 -32053465.61 -32053465.45 0.0060 0.0036

Uranus -92471-06-21 16:47 J -32053437.95 -32053437.80 -32053437.65 0.0136 0.0057

Venus -92471-07-21 02:37 J -32053408.45 -32053408.39 -32053408.33 0.3786 0.3149

Pluto -92471-08-20 22:32 J -32053377.72 -32053377.56 -32053377.38 0.0060 0.0030

Uranus -92471-09-17 22:03 J -32053349.71 -32053349.58 -32053349.44 0.0136 0.0076

Pluto -92471-11-17 00:13 J -32053289.67 -32053289.49 -32053289.31 0.0060 0.0023

Uranus -92471-12-15 03:20 J -32053261.48 -32053261.36 -32053261.24 0.0136 0.0095

Pluto -92470-02-13 01:25 J -32053201.61 -32053201.44 -32053201.24 0.0060 0.0017

Uranus -92470-03-13 08:23 J -32053173.23 -32053173.15 -32053173.05 0.0135 0.0113

Pluto -92470-05-12 03:06 J -32053113.56 -32053113.37 -32053113.17 0.0060 0.0010

Uranus -92470-06-09 13:39 J -32053084.96 -32053084.93 -32053084.89 0.0135 0.0132

Pluto -92470-08-08 04:47 J -32053025.50 -32053025.30 -32053025.10 0.0060 0.0003

Pluto -92470-11-04 06:13 J -32052937.44 -32052937.24 -32052937.04 0.0060 0.0003

Pluto -92469-01-31 07:25 J -32052849.37 -32052849.19 -32052848.98 0.0060 0.0011

Pluto -92469-04-28 09:06 J -32052761.30 -32052761.12 -32052760.92 0.0061 0.0017

Pluto -92469-07-25 10:32 J -32052673.23 -32052673.06 -32052672.87 0.0061 0.0024

Pluto -92469-10-21 11:59 J -32052585.16 -32052585.00 -32052584.82 0.0061 0.0031

Pluto -92468-01-17 13:11 J -32052497.08 -32052496.95 -32052496.77 0.0061 0.0038

Pluto -92468-04-15 14:37 J -32052408.99 -32052408.89 -32052408.73 0.0061 0.0045

Venus -92468-05-11 14:51 J -32052382.95 -32052382.88 -32052382.81 0.3614 0.3043

Pluto -92468-07-12 16:47 J -32052320.90 -32052320.80 -32052320.69 0.0061 0.0051

Pluto -92468-10-08 18:13 J -32052232.79 -32052232.74 -32052232.68 0.0061 0.0058

Mars -92467-06-03 13:54 J -32051995.05 -32051994.92 -32051994.79 0.1613 0.0362

Jupiter -92466-12-31 20:51 J -32051418.78 -32051418.63 -32051418.48 0.0504 0.0210

Venus -92465-02-03 20:23 J -32051384.73 -32051384.65 -32051384.57 0.3784 0.2464

Jupiter -92465-03-30 20:37 J -32051328.77 -32051328.64 -32051328.51 0.0507 0.0302

Mars -92465-05-09 04:03 J -32051289.35 -32051289.33 -32051289.30 0.1605 0.1567

Moon -92464-01-25 15:49 J -32051027.97 -32051027.84 -32051027.72 0.2735 0.0172

Earth -92464-01-25 16:32 J -32051027.93 -32051027.81 -32051027.68 0.2739 0.0038 *

Earth -92461-08-04 09:06 J -32049741.24 -32049741.12 -32049741.00 0.2603 0.1122

Moon -92461-08-04 09:35 J -32049741.21 -32049741.10 -32049740.98 0.2608 0.1163 *

Saturn -92460-01-24 20:08 J -32049567.78 -32049567.66 -32049567.54 0.0281 0.0183

Mars -92460-01-28 23:30 J -32049563.60 -32049563.52 -32049563.43 0.1924 0.1461

Saturn -92460-04-23 13:54 J -32049479.07 -32049478.92 -32049478.76 0.0281 0.0076

Jupiter -92460-05-23 02:51 J -32049449.46 -32049449.38 -32049449.30 0.0527 0.0412

Saturn -92460-07-21 07:25 J -32049390.35 -32049390.19 -32049390.03 0.0280 0.0030

Venus -92460-08-19 14:23 J -32049361.00 -32049360.90 -32049360.80 0.3781 0.1766

Jupiter -92460-08-20 13:25 J -32049360.08 -32049359.94 -32049359.80 0.0523 0.0051

Saturn -92460-10-18 00:13 J -32049301.63 -32049301.49 -32049301.34 0.0280 0.0132

Jupiter -92460-11-18 01:11 J -32049270.46 -32049270.45 -32049270.45 0.0519 0.0517

Saturn -92459-01-14 16:47 J -32049212.88 -32049212.80 -32049212.71 0.0280 0.0231

Mars -92458-10-24 22:47 J -32048564.67 -32048564.55 -32048564.44 0.1616 0.0814

Mars -92456-09-29 12:27 J -32047859.08 -32047858.98 -32047858.88 0.1607 0.1094

Venus -92454-03-05 08:37 J -32047337.25 -32047337.14 -32047337.04 0.3779 0.1049

Jupiter -92454-10-19 20:08 J -32047108.78 -32047108.66 -32047108.53 0.0503 0.0339

Jupiter -92453-01-17 20:23 J -32047018.81 -32047018.65 -32047018.50 0.0506 0.0175

Moon -92451-01-28 13:39 J -32046277.04 -32046276.93 -32046276.83 0.2737 0.1511

Earth -92451-01-28 14:37 J -32046276.99 -32046276.89 -32046276.79 0.2735 0.1558 *

Mars -92451-06-21 01:25 J -32046133.57 -32046133.44 -32046133.31 0.1920 0.0541

Venus -92449-09-18 02:51 J -32045313.49 -32045313.38 -32045313.27 0.3776 0.0307

Jupiter -92448-03-11 06:13 J -32045139.25 -32045139.24 -32045139.22 0.0528 0.0521

Mars -92448-03-16 07:25 J -32045134.27 -32045134.19 -32045134.11 0.1619 0.1263

Jupiter -92448-06-08 16:47 J -32045049.94 -32045049.80 -32045049.67 0.0524 0.0062

Earth -92448-08-07 07:25 J -32044990.22 -32044990.19 -32044990.17 0.2606 0.2532

Jupiter -92448-09-06 04:03 J -32044960.41 -32044960.33 -32044960.24 0.0520 0.0405

Mars -92446-02-19 20:51 J -32044428.76 -32044428.63 -32044428.51 0.1609 0.0625

Saturn -92446-11-07 02:23 J -32044168.48 -32044168.40 -32044168.33 0.0278 0.0239

Saturn -92445-02-03 15:49 J -32044079.96 -32044079.84 -32044079.72 0.0278 0.0151

Saturn -92445-05-02 05:30 J -32043991.41 -32043991.27 -32043991.12 0.0278 0.0061

Saturn -92445-07-29 19:39 J -32043902.83 -32043902.68 -32043902.53 0.0278 0.0033

Venus -92445-09-16 12:42 J -32043854.05 -32043853.97 -32043853.90 0.3595 0.2984

Saturn -92445-10-26 10:03 J -32043814.21 -32043814.08 -32043813.94 0.0279 0.0128

Earth -92444-01-21 02:37 J -32043727.41 -32043727.39 -32043727.38 0.2744 0.2719

Moon -92444-01-21 02:51 J -32043727.41 -32043727.38 -32043727.35 0.2738 0.2642 *

Saturn -92444-01-23 00:56 J -32043725.55 -32043725.46 -32043725.38 0.0279 0.0224

Venus -92443-04-03 21:20 J -32043289.72 -32043289.61 -32043289.49 0.3772 0.0484

Jupiter -92442-08-07 19:11 J -32042798.75 -32042798.70 -32042798.63 0.0502 0.0470

Jupiter -92442-11-05 19:54 J -32042708.83 -32042708.67 -32042708.50 0.0506 0.0048

Mars -92442-11-11 03:20 J -32042703.49 -32042703.36 -32042703.22 0.1917 0.0383

Moon -92441-07-30 16:32 J -32042440.91 -32042440.81 -32042440.70 0.2602 0.1637

Earth -92441-07-30 17:30 J -32042440.88 -32042440.77 -32042440.66 0.2597 0.1484 *

Venus -92439-04-02 13:54 J -32041830.03 -32041829.92 -32041829.80 0.3598 0.1832

Venus -92438-10-18 16:03 J -32041265.93 -32041265.83 -32041265.72 0.3769 0.1241

Mars -92437-07-12 05:15 J -32040998.41 -32040998.28 -32040998.14 0.1611 0.0162

Jupiter -92436-03-27 20:08 J -32040739.79 -32040739.66 -32040739.53 0.0524 0.0172

Jupiter -92436-06-25 07:11 J -32040650.32 -32040650.20 -32040650.09 0.0521 0.0293

Venus -92434-10-17 15:06 J -32039806.01 -32039805.87 -32039805.74 0.3601 0.0713

Mars -92432-04-02 04:47 J -32039273.40 -32039273.30 -32039273.20 0.1913 0.1337

Venus -92432-05-03 11:15 J -32039242.13 -32039242.03 -32039241.94 0.3766 0.2048

Moon -92431-01-23 23:44 J -32038976.62 -32038976.51 -32038976.40 0.2734 0.1326

Earth -92431-01-24 00:13 J -32038976.60 -32038976.49 -32038976.38 0.2741 0.1222 *

Saturn -92431-06-13 18:13 J -32038835.83 -32038835.74 -32038835.63 0.0280 0.0226

Saturn -92431-09-10 12:13 J -32038747.13 -32038746.99 -32038746.83 0.0280 0.0118

Saturn -92431-12-08 05:59 J -32038658.41 -32038658.25 -32038658.09 0.0280 0.0011

Saturn -92430-03-06 23:01 J -32038569.69 -32038569.54 -32038569.38 0.0280 0.0093

Saturn -92430-06-03 15:49 J -32038480.95 -32038480.84 -32038480.72 0.0280 0.0193

Jupiter -92430-08-24 20:08 J -32038398.83 -32038398.66 -32038398.50 0.0505 0.0076

Jupiter -92430-11-22 19:25 J -32038308.77 -32038308.69 -32038308.60 0.0509 0.0434

Uranus -92429-12-11 17:15 J -32037923.80 -32037923.78 -32037923.74 0.0142 0.0138

Uranus -92428-03-09 21:35 J -32037835.67 -32037835.60 -32037835.52 0.0142 0.0119

Venus -92428-05-02 15:20 J -32037781.99 -32037781.86 -32037781.72 0.3604 0.0366

Uranus -92428-06-06 01:54 J -32037747.52 -32037747.42 -32037747.31 0.0142 0.0100

Moon -92428-08-02 15:49 J -32037689.97 -32037689.84 -32037689.70 0.2606 0.0075

Earth -92428-08-02 16:03 J -32037689.96 -32037689.83 -32037689.69 0.2600 0.0058 *

Uranus -92428-09-02 06:13 J -32037659.35 -32037659.24 -32037659.11 0.0142 0.0081

Uranus -92428-11-29 10:32 J -32037571.18 -32037571.06 -32037570.92 0.0142 0.0063

Mars -92428-12-02 13:54 J -32037568.05 -32037567.92 -32037567.78 0.1613 0.0304

Uranus -92427-02-25 15:06 J -32037483.00 -32037482.87 -32037482.73 0.0142 0.0043

Uranus -92427-05-24 19:39 J -32037394.82 -32037394.68 -32037394.53 0.0143 0.0023

Uranus -92427-08-21 00:13 J -32037306.64 -32037306.49 -32037306.34 0.0143 0.0003

Uranus -92427-11-17 04:47 J -32037218.44 -32037218.30 -32037218.15 0.0143 0.0017

Venus -92427-11-17 06:13 J -32037218.31 -32037218.24 -32037218.16 0.3762 0.2867 *

Uranus -92426-02-13 09:20 J -32037130.25 -32037130.11 -32037129.96 0.0143 0.0038

Uranus -92426-05-12 14:08 J -32037042.05 -32037041.91 -32037041.78 0.0143 0.0058

Uranus -92426-08-08 18:42 J -32036953.84 -32036953.72 -32036953.59 0.0143 0.0079

Uranus -92426-11-04 23:30 J -32036865.62 -32036865.52 -32036865.41 0.0143 0.0100

Uranus -92425-02-01 04:18 J -32036777.39 -32036777.32 -32036777.23 0.0144 0.0121

Uranus -92425-04-29 09:06 J -32036689.13 -32036689.12 -32036689.09 0.0144 0.0142

Jupiter -92424-01-13 23:01 J -32036429.65 -32036429.54 -32036429.43 0.0525 0.0288

Jupiter -92424-04-13 09:49 J -32036340.22 -32036340.09 -32036339.96 0.0521 0.0174

Venus -92423-11-16 15:35 J -32035757.98 -32035757.85 -32035757.73 0.3608 0.1375

Venus -92421-06-02 01:54 J -32035194.44 -32035194.42 -32035194.41 0.3758 0.3711

Mars -92421-07-29 23:30 J -32035136.60 -32035136.52 -32035136.43 0.1924 0.1533

Venus -92420-08-11 06:56 J -32034759.24 -32034759.21 -32034759.18 0.3788 0.3634

Moon -92418-01-26 21:06 J -32034225.75 -32034225.62 -32034225.50 0.2736 0.0293

Earth -92418-01-26 22:03 J -32034225.71 -32034225.58 -32034225.46 0.2738 0.0323 *

Mars -92418-04-24 22:47 J -32034137.67 -32034137.55 -32034137.43 0.1616 0.0753

Jupiter -92418-06-12 19:54 J -32034088.83 -32034088.67 -32034088.52 0.0504 0.0201

Jupiter -92418-09-10 19:39 J -32033998.81 -32033998.68 -32033998.55 0.0508 0.0312

Venus -92417-06-01 15:06 J -32033733.97 -32033733.87 -32033733.77 0.3611 0.2348

Saturn -92416-03-26 03:06 J -32033436.40 -32033436.37 -32033436.35 0.0278 0.0271

Mars -92416-03-30 12:27 J -32033432.07 -32033431.98 -32033431.88 0.1607 0.1159

Saturn -92416-06-22 16:32 J -32033347.92 -32033347.81 -32033347.70 0.0278 0.0184

Saturn -92416-09-19 06:13 J -32033259.38 -32033259.24 -32033259.10 0.0279 0.0093

Saturn -92416-12-16 20:08 J -32033170.80 -32033170.66 -32033170.51 0.0279 0.0008

Saturn -92415-03-15 10:32 J -32033082.20 -32033082.06 -32033081.92 0.0279 0.0094

Saturn -92415-06-12 01:11 J -32032993.56 -32032993.45 -32032993.34 0.0279 0.0190

Earth -92415-08-05 14:37 J -32032939.00 -32032938.89 -32032938.78 0.2603 0.1429

Moon -92415-08-05 15:20 J -32032938.97 -32032938.86 -32032938.76 0.2608 0.1508 *

Venus -92414-02-25 00:42 J -32032735.54 -32032735.47 -32032735.41 0.3786 0.2973

Jupiter -92413-11-02 01:54 J -32032119.50 -32032119.42 -32032119.33 0.0526 0.0403

Jupiter -92412-01-30 12:27 J -32032030.12 -32032029.98 -32032029.84 0.0522 0.0057

Venus -92412-12-16 14:23 J -32031709.96 -32031709.90 -32031709.85 0.3615 0.3276

Mars -92412-12-20 01:54 J -32031706.55 -32031706.42 -32031706.29 0.1921 0.0638

Venus -92409-09-09 18:27 J -32030711.82 -32030711.73 -32030711.64 0.3783 0.2285

Mars -92409-09-14 07:39 J -32030707.26 -32030707.18 -32030707.09 0.1618 0.1198

Mars -92407-08-20 21:06 J -32030001.75 -32030001.62 -32030001.50 0.1609 0.0692

Jupiter -92406-03-31 18:56 J -32029778.84 -32029778.71 -32029778.59 0.0503 0.0333

Jupiter -92406-06-29 18:56 J -32029688.86 -32029688.71 -32029688.55 0.0506 0.0181

Moon -92405-01-29 18:56 J -32029474.80 -32029474.71 -32029474.61 0.2737 0.1710

Earth -92405-01-29 20:08 J -32029474.75 -32029474.66 -32029474.58 0.2735 0.1890 *

Venus -92403-03-26 12:27 J -32028688.08 -32028687.98 -32028687.88 0.3781 0.1581

Mars -92402-05-12 03:49 J -32028276.48 -32028276.34 -32028276.20 0.1917 0.0289

Saturn -92402-10-31 19:54 J -32028103.74 -32028103.67 -32028103.59 0.0281 0.0251

Saturn -92401-01-28 13:54 J -32028015.05 -32028014.92 -32028014.77 0.0281 0.0142

Saturn -92401-04-26 07:54 J -32027926.33 -32027926.17 -32027926.01 0.0281 0.0035

Saturn -92401-07-24 01:11 J -32027837.61 -32027837.45 -32027837.30 0.0281 0.0070

Jupiter -92401-08-21 04:32 J -32027809.32 -32027809.31 -32027809.29 0.0528 0.0522

Saturn -92401-10-20 17:59 J -32027748.88 -32027748.75 -32027748.63 0.0280 0.0171

Jupiter -92401-11-18 15:06 J -32027720.01 -32027719.87 -32027719.73 0.0524 0.0063

Saturn -92400-01-17 10:18 J -32027660.10 -32027660.07 -32027660.03 0.0280 0.0270

Jupiter -92400-02-16 02:23 J -32027630.48 -32027630.40 -32027630.31 0.0520 0.0404

Neptune -92398-01-16 22:03 J -32026930.58 -32026930.58 -32026930.58 0.0089 0.0089

Moon -92398-01-22 07:54 J -32026925.23 -32026925.17 -32026925.11 0.2737 0.2401

Earth -92398-01-22 07:54 J -32026925.23 -32026925.17 -32026925.12 0.2744 0.2420 *

Neptune -92398-04-14 23:15 J -32026842.56 -32026842.53 -32026842.48 0.0089 0.0085

Neptune -92398-07-12 00:56 J -32026754.51 -32026754.46 -32026754.40 0.0089 0.0081

Neptune -92398-10-08 02:23 J -32026666.46 -32026666.40 -32026666.32 0.0089 0.0077

Venus -92398-10-10 06:42 J -32026664.33 -32026664.22 -32026664.11 0.3778 0.0860

Neptune -92397-01-04 04:18 J -32026578.40 -32026578.32 -32026578.24 0.0089 0.0072

Mars -92397-01-11 05:30 J -32026571.40 -32026571.27 -32026571.13 0.1611 0.0233

Neptune -92397-04-01 05:44 J -32026490.35 -32026490.26 -32026490.17 0.0089 0.0068

Neptune -92397-06-28 07:11 J -32026402.29 -32026402.20 -32026402.10 0.0089 0.0064

Neptune -92397-09-24 08:51 J -32026314.23 -32026314.13 -32026314.02 0.0089 0.0060

Neptune -92397-12-21 10:18 J -32026226.17 -32026226.07 -32026225.95 0.0089 0.0056

Neptune -92396-03-19 11:44 J -32026138.11 -32026138.01 -32026137.88 0.0089 0.0052

Neptune -92396-06-15 13:39 J -32026050.05 -32026049.93 -32026049.81 0.0089 0.0047

Neptune -92396-09-11 15:06 J -32025961.99 -32025961.87 -32025961.74 0.0089 0.0043

Neptune -92396-12-08 16:47 J -32025873.92 -32025873.80 -32025873.67 0.0089 0.0039

Neptune -92395-03-06 18:13 J -32025785.86 -32025785.74 -32025785.60 0.0089 0.0035

Neptune -92395-06-02 19:54 J -32025697.80 -32025697.67 -32025697.53 0.0089 0.0031

Moon -92395-07-31 22:03 J -32025638.69 -32025638.58 -32025638.46 0.2603 0.1172

Earth -92395-07-31 23:01 J -32025638.66 -32025638.54 -32025638.42 0.2597 0.1172 *

Neptune -92395-08-29 21:35 J -32025609.73 -32025609.60 -32025609.46 0.0089 0.0026

Neptune -92395-11-25 23:15 J -32025521.67 -32025521.53 -32025521.39 0.0089 0.0022

Jupiter -92394-01-17 18:13 J -32025468.80 -32025468.74 -32025468.68 0.0502 0.0462

Neptune -92394-02-22 00:56 J -32025433.60 -32025433.46 -32025433.32 0.0089 0.0017

Jupiter -92394-04-17 18:42 J -32025378.88 -32025378.72 -32025378.55 0.0505 0.0054

Neptune -92394-05-21 02:37 J -32025345.53 -32025345.39 -32025345.25 0.0089 0.0013

Neptune -92394-08-17 04:18 J -32025257.47 -32025257.32 -32025257.18 0.0089 0.0009

Neptune -92394-11-13 05:44 J -32025169.40 -32025169.26 -32025169.11 0.0089 0.0005

Neptune -92393-02-09 07:25 J -32025081.33 -32025081.19 -32025081.04 0.0089 0.0002

Neptune -92393-05-07 09:06 J -32024993.26 -32024993.12 -32024992.97 0.0089 0.0005

Neptune -92393-08-03 10:47 J -32024905.19 -32024905.05 -32024904.91 0.0089 0.0009

Mars -92393-10-01 05:15 J -32024846.39 -32024846.28 -32024846.17 0.1914 0.1238

Neptune -92393-10-30 12:27 J -32024817.12 -32024816.98 -32024816.84 0.0089 0.0013

Neptune -92392-01-26 14:08 J -32024729.05 -32024728.91 -32024728.77 0.0089 0.0018

Neptune -92392-04-24 15:49 J -32024640.98 -32024640.84 -32024640.70 0.0089 0.0022

Venus -92392-04-25 01:11 J -32024640.56 -32024640.45 -32024640.34 0.3775 0.0150

Neptune -92392-07-21 17:30 J -32024552.90 -32024552.77 -32024552.63 0.0089 0.0026

Neptune -92392-10-17 19:11 J -32024464.83 -32024464.70 -32024464.56 0.0089 0.0031

Neptune -92391-01-13 20:51 J -32024376.76 -32024376.63 -32024376.49 0.0089 0.0035

Neptune -92391-04-11 22:32 J -32024288.68 -32024288.56 -32024288.42 0.0089 0.0040

Neptune -92391-07-09 00:27 J -32024200.61 -32024200.48 -32024200.35 0.0089 0.0044

Neptune -92391-10-05 01:54 J -32024112.53 -32024112.42 -32024112.29 0.0089 0.0049

Neptune -92390-01-01 03:49 J -32024024.45 -32024024.34 -32024024.22 0.0089 0.0053

Neptune -92390-03-30 05:30 J -32023936.37 -32023936.27 -32023936.15 0.0089 0.0058

Neptune -92390-06-26 07:25 J -32023848.29 -32023848.19 -32023848.09 0.0089 0.0062

Neptune -92390-09-22 09:06 J -32023760.21 -32023760.12 -32023760.02 0.0089 0.0067

Neptune -92390-12-19 10:32 J -32023672.13 -32023672.06 -32023671.96 0.0089 0.0072

Neptune -92389-03-16 12:42 J -32023584.04 -32023583.97 -32023583.89 0.0089 0.0076

Uranus -92389-05-08 22:32 J -32023530.65 -32023530.56 -32023530.47 0.0137 0.0117

Neptune -92389-06-12 14:08 J -32023495.95 -32023495.91 -32023495.83 0.0089 0.0081

Uranus -92389-08-05 04:03 J -32023442.44 -32023442.33 -32023442.20 0.0137 0.0097

Jupiter -92389-09-06 18:27 J -32023409.86 -32023409.73 -32023409.60 0.0525 0.0174

Neptune -92389-09-08 16:18 J -32023407.85 -32023407.82 -32023407.78 0.0089 0.0085

Uranus -92389-11-01 09:49 J -32023354.22 -32023354.09 -32023353.94 0.0137 0.0076

Jupiter -92389-12-05 05:30 J -32023320.39 -32023320.27 -32023320.16 0.0521 0.0292

Uranus -92388-01-28 15:35 J -32023266.00 -32023265.85 -32023265.69 0.0137 0.0055

Venus -92388-04-23 12:42 J -32023181.06 -32023180.97 -32023180.88 0.3596 0.2685

Uranus -92388-04-26 21:06 J -32023177.77 -32023177.62 -32023177.45 0.0136 0.0036

Mars -92388-06-02 14:08 J -32023141.04 -32023140.91 -32023140.78 0.1613 0.0235

Uranus -92388-07-24 02:51 J -32023089.55 -32023089.38 -32023089.21 0.0136 0.0015

Uranus -92388-10-20 08:23 J -32023001.32 -32023001.15 -32023000.98 0.0136 0.0005

Uranus -92387-01-16 13:54 J -32022913.09 -32022912.92 -32022912.76 0.0136 0.0025

Uranus -92387-04-14 19:11 J -32022824.85 -32022824.70 -32022824.54 0.0136 0.0044

Uranus -92387-07-12 00:27 J -32022736.62 -32022736.48 -32022736.33 0.0136 0.0063

Uranus -92387-10-08 05:44 J -32022648.38 -32022648.26 -32022648.12 0.0136 0.0082

Venus -92387-11-08 19:39 J -32022616.79 -32022616.68 -32022616.57 0.3771 0.0656

Saturn -92387-11-09 18:27 J -32022615.82 -32022615.73 -32022615.63 0.0278 0.0206

Uranus -92386-01-04 11:15 J -32022560.14 -32022560.03 -32022559.92 0.0136 0.0101

Saturn -92386-02-06 08:08 J -32022527.29 -32022527.16 -32022527.03 0.0278 0.0117

Uranus -92386-04-02 16:18 J -32022471.89 -32022471.82 -32022471.74 0.0135 0.0120

Saturn -92386-05-05 22:03 J -32022438.73 -32022438.58 -32022438.43 0.0278 0.0026

Saturn -92386-08-02 12:13 J -32022350.14 -32022349.99 -32022349.85 0.0278 0.0068

Saturn -92386-10-30 02:37 J -32022261.51 -32022261.39 -32022261.27 0.0278 0.0163

Moon -92385-01-25 05:01 J -32022174.41 -32022174.29 -32022174.17 0.2735 0.0917

Earth -92385-01-25 05:30 J -32022174.39 -32022174.27 -32022174.16 0.2741 0.0916 *

Saturn -92385-01-26 17:15 J -32022172.82 -32022172.78 -32022172.72 0.0279 0.0261

Venus -92383-11-07 14:08 J -32021157.04 -32021156.91 -32021156.79 0.3599 0.1534

Jupiter -92382-02-03 18:13 J -32021068.91 -32021068.74 -32021068.58 0.0505 0.0075

Jupiter -92382-05-04 17:30 J -32020978.85 -32020978.77 -32020978.68 0.0508 0.0433

Moon -92382-08-03 21:35 J -32020887.73 -32020887.60 -32020887.46 0.2607 0.0270

Earth -92382-08-03 21:35 J -32020887.73 -32020887.60 -32020887.47 0.2600 0.0300 *

Mars -92381-01-28 23:59 J -32020709.57 -32020709.50 -32020709.42 0.1924 0.1632

Venus -92381-05-24 14:37 J -32020593.00 -32020592.89 -32020592.79 0.3768 0.1449

Mars -92379-10-23 23:01 J -32019710.66 -32019710.54 -32019710.42 0.1616 0.0690

Pluto -92378-06-28 02:08 J -32019463.45 -32019463.41 -32019463.37 0.0085 0.0080

Pluto -92378-09-24 03:06 J -32019375.43 -32019375.37 -32019375.28 0.0084 0.0068

Pluto -92378-12-21 04:47 J -32019287.40 -32019287.30 -32019287.20 0.0084 0.0055

Pluto -92377-03-18 05:44 J -32019199.36 -32019199.26 -32019199.14 0.0084 0.0043

Venus -92377-05-23 14:51 J -32019133.01 -32019132.88 -32019132.74 0.3602 0.0435

Pluto -92377-06-14 07:11 J -32019111.32 -32019111.20 -32019111.07 0.0084 0.0030

Jupiter -92377-06-25 21:49 J -32019099.70 -32019099.59 -32019099.48 0.0526 0.0283

Pluto -92377-09-10 08:23 J -32019023.27 -32019023.15 -32019023.02 0.0084 0.0018

Jupiter -92377-09-23 08:37 J -32019010.27 -32019010.14 -32019010.01 0.0522 0.0181

Mars -92377-09-28 12:42 J -32019005.05 -32019004.97 -32019004.88 0.1607 0.1227

Pluto -92377-12-07 09:49 J -32018935.23 -32018935.09 -32018934.96 0.0084 0.0006

Pluto -92376-03-05 11:01 J -32018847.17 -32018847.04 -32018846.91 0.0084 0.0007

Pluto -92376-06-01 12:13 J -32018759.12 -32018758.99 -32018758.86 0.0084 0.0019

Pluto -92376-08-28 13:11 J -32018671.06 -32018670.95 -32018670.82 0.0083 0.0032

Pluto -92376-11-24 14:23 J -32018583.00 -32018582.90 -32018582.78 0.0083 0.0043

Venus -92376-12-08 09:35 J -32018569.19 -32018569.10 -32018569.01 0.3764 0.2249

Pluto -92375-02-20 15:35 J -32018494.94 -32018494.85 -32018494.74 0.0083 0.0055

Pluto -92375-05-19 17:01 J -32018406.87 -32018406.79 -32018406.71 0.0083 0.0066

Pluto -92375-08-15 17:59 J -32018318.78 -32018318.75 -32018318.70 0.0083 0.0078

Moon -92372-01-27 02:23 J -32017423.53 -32017423.40 -32017423.28 0.2737 0.0446

Earth -92372-01-27 03:20 J -32017423.48 -32017423.36 -32017423.24 0.2738 0.0632 *

Saturn -92372-06-16 12:13 J -32017283.11 -32017282.99 -32017282.86 0.0281 0.0184

Mars -92372-06-20 02:08 J -32017279.53 -32017279.41 -32017279.28 0.1921 0.0724

Saturn -92372-09-13 06:13 J -32017194.40 -32017194.24 -32017194.08 0.0280 0.0076

Venus -92372-12-07 15:20 J -32017109.00 -32017108.86 -32017108.73 0.3605 0.0626

Saturn -92372-12-10 23:30 J -32017105.68 -32017105.52 -32017105.35 0.0280 0.0030

Saturn -92371-03-09 16:32 J -32017016.95 -32017016.81 -32017016.66 0.0280 0.0132

Saturn -92371-06-06 09:06 J -32016928.20 -32016928.12 -32016928.02 0.0280 0.0232

Jupiter -92371-11-22 18:13 J -32016758.90 -32016758.74 -32016758.59 0.0504 0.0199

Jupiter -92370-02-20 17:59 J -32016668.88 -32016668.75 -32016668.62 0.0508 0.0313

Venus -92370-06-24 04:47 J -32016545.36 -32016545.30 -32016545.23 0.3761 0.3081

Mars -92369-03-15 07:54 J -32016280.26 -32016280.17 -32016280.08 0.1618 0.1138

Earth -92369-08-05 20:08 J -32016136.76 -32016136.66 -32016136.57 0.2604 0.1735

Moon -92369-08-05 20:51 J -32016136.73 -32016136.63 -32016136.54 0.2609 0.1818 *

Mars -92367-02-18 21:06 J -32015574.73 -32015574.62 -32015574.50 0.1609 0.0758

Venus -92366-06-23 15:20 J -32015084.98 -32015084.86 -32015084.75 0.3609 0.1631

Jupiter -92365-04-14 00:56 J -32014789.55 -32014789.46 -32014789.37 0.0526 0.0396

Jupiter -92365-07-12 11:30 J -32014700.16 -32014700.02 -32014699.88 0.0522 0.0065

Venus -92363-03-18 05:01 J -32014086.33 -32014086.29 -32014086.25 0.3788 0.3464

Mars -92363-11-10 04:03 J -32013849.47 -32013849.33 -32013849.19 0.1918 0.0204

Moon -92362-07-30 04:32 J -32013587.36 -32013587.31 -32013587.27 0.2597 0.2405

Earth -92362-07-30 05:30 J -32013587.32 -32013587.27 -32013587.22 0.2595 0.2359 *

Venus -92360-01-06 14:37 J -32013060.98 -32013060.89 -32013060.80 0.3612 0.2588

Mars -92360-08-05 16:47 J -32012849.82 -32012849.80 -32012849.77 0.1621 0.1581

Moon -92359-01-30 00:27 J -32012672.55 -32012672.48 -32012672.40 0.2737 0.2192

Earth -92359-01-30 01:25 J -32012672.51 -32012672.44 -32012672.37 0.2734 0.2210 *

Jupiter -92359-09-10 17:44 J -32012448.88 -32012448.76 -32012448.63 0.0503 0.0324

Jupiter -92359-12-09 17:59 J -32012358.90 -32012358.75 -32012358.59 0.0507 0.0192

Mars -92358-07-12 05:44 J -32012144.39 -32012144.26 -32012144.13 0.1611 0.0291

Venus -92358-10-01 22:32 J -32012062.63 -32012062.56 -32012062.48 0.3785 0.2798

Saturn -92357-03-28 18:56 J -32011883.78 -32011883.71 -32011883.64 0.0278 0.0241

Saturn -92357-06-25 08:23 J -32011795.27 -32011795.15 -32011795.03 0.0278 0.0152

Saturn -92357-09-21 22:18 J -32011706.72 -32011706.57 -32011706.43 0.0278 0.0062

Saturn -92357-12-19 12:13 J -32011618.13 -32011617.99 -32011617.84 0.0279 0.0032

Saturn -92356-03-18 02:37 J -32011529.52 -32011529.39 -32011529.25 0.0279 0.0127

Saturn -92356-06-14 17:30 J -32011440.86 -32011440.77 -32011440.68 0.0279 0.0224

Venus -92355-07-23 13:54 J -32011036.95 -32011036.92 -32011036.90 0.3616 0.3506

Jupiter -92353-02-01 03:49 J -32010479.36 -32010479.34 -32010479.30 0.0527 0.0510

Mars -92353-04-01 05:30 J -32010419.38 -32010419.27 -32010419.15 0.1914 0.1147

Jupiter -92353-04-30 14:23 J -32010390.04 -32010389.90 -32010389.77 0.0523 0.0054

Jupiter -92353-07-29 01:25 J -32010300.52 -32010300.44 -32010300.35 0.0519 0.0414

Moon -92352-01-22 13:11 J -32010123.03 -32010122.95 -32010122.88 0.2736 0.2131

Earth -92352-01-22 13:11 J -32010123.03 -32010122.95 -32010122.88 0.2743 0.2118 *

Venus -92352-04-16 16:32 J -32010038.90 -32010038.81 -32010038.72 0.3783 0.2103

Moon -92349-08-01 03:49 J -32008836.46 -32008836.34 -32008836.22 0.2603 0.1006

Earth -92349-08-01 04:32 J -32008836.44 -32008836.31 -32008836.19 0.2598 0.0860 *

Mars -92349-12-01 14:23 J -32008714.03 -32008713.90 -32008713.77 0.1613 0.0169

Jupiter -92347-06-29 16:47 J -32008138.86 -32008138.80 -32008138.72 0.0502 0.0455

Jupiter -92347-09-27 17:30 J -32008048.93 -32008048.77 -32008048.60 0.0505 0.0062

Venus -92347-10-31 10:32 J -32008015.16 -32008015.06 -32008014.95 0.3780 0.1400

Uranus -92344-01-01 00:56 J -32007222.50 -32007222.46 -32007222.40 0.0142 0.0132

Uranus -92344-03-30 05:15 J -32007134.36 -32007134.28 -32007134.19 0.0142 0.0113

Uranus -92344-06-26 09:35 J -32007046.20 -32007046.10 -32007045.99 0.0142 0.0094

Uranus -92344-09-22 13:54 J -32006958.04 -32006957.92 -32006957.79 0.0142 0.0075

Uranus -92344-12-19 18:27 J -32006869.86 -32006869.73 -32006869.59 0.0142 0.0056

Uranus -92343-03-17 22:47 J -32006781.68 -32006781.55 -32006781.40 0.0142 0.0037

Uranus -92343-06-14 03:20 J -32006693.50 -32006693.36 -32006693.21 0.0143 0.0017

Uranus -92343-09-10 07:54 J -32006605.31 -32006605.17 -32006605.02 0.0143 0.0004

Saturn -92343-11-03 13:25 J -32006551.04 -32006550.94 -32006550.83 0.0281 0.0212

Uranus -92343-12-07 12:27 J -32006517.12 -32006516.98 -32006516.83 0.0143 0.0024

Saturn -92342-01-31 07:25 J -32006462.34 -32006462.19 -32006462.03 0.0281 0.0103

Uranus -92342-03-05 17:15 J -32006428.92 -32006428.78 -32006428.64 0.0143 0.0044

Saturn -92342-04-30 01:11 J -32006373.62 -32006373.45 -32006373.29 0.0281 0.0006

Uranus -92342-06-01 21:49 J -32006340.72 -32006340.59 -32006340.45 0.0143 0.0065

Saturn -92342-07-27 18:13 J -32006284.89 -32006284.74 -32006284.59 0.0281 0.0108

Mars -92342-07-30 00:27 J -32006282.54 -32006282.48 -32006282.42 0.1924 0.1724

Uranus -92342-08-29 02:23 J -32006252.51 -32006252.40 -32006252.27 0.0143 0.0086

Saturn -92342-10-24 11:01 J -32006196.14 -32006196.04 -32006195.93 0.0280 0.0208

Uranus -92342-11-25 07:11 J -32006164.29 -32006164.20 -32006164.09 0.0143 0.0107

Jupiter -92341-02-17 16:47 J -32006079.93 -32006079.80 -32006079.67 0.0525 0.0173

Uranus -92341-02-21 11:59 J -32006076.06 -32006076.00 -32006075.92 0.0144 0.0128

Venus -92341-05-16 04:47 J -32005991.40 -32005991.30 -32005991.19 0.3777 0.0683

Jupiter -92341-05-17 03:49 J -32005990.45 -32005990.34 -32005990.22 0.0521 0.0293

Moon -92339-01-25 10:03 J -32005372.20 -32005372.08 -32005371.96 0.2736 0.0698

Earth -92339-01-25 10:47 J -32005372.17 -32005372.05 -32005371.93 0.2740 0.0606 *

Mars -92339-04-23 23:15 J -32005283.66 -32005283.53 -32005283.41 0.1615 0.0625

Mars -92337-03-29 13:11 J -32004578.03 -32004577.95 -32004577.88 0.1607 0.1298

Venus -92337-05-14 11:15 J -32004532.05 -32004532.03 -32004532.02 0.3593 0.3558

Earth -92336-08-04 03:06 J -32004085.50 -32004085.37 -32004085.24 0.2601 0.0607

Moon -92336-08-04 03:20 J -32004085.49 -32004085.36 -32004085.23 0.2607 0.0707 *

Venus -92336-11-29 23:15 J -32003967.64 -32003967.53 -32003967.42 0.3774 0.0150

Jupiter -92335-07-16 17:15 J -32003738.95 -32003738.78 -32003738.62 0.0504 0.0067

Jupiter -92335-10-14 16:18 J -32003648.89 -32003648.82 -32003648.73 0.0508 0.0441

Mars -92333-12-19 02:37 J -32002852.51 -32002852.39 -32002852.26 0.1921 0.0819

Venus -92332-11-28 12:56 J -32002508.07 -32002507.96 -32002507.86 0.3596 0.2381

Venus -92330-06-15 17:59 J -32001943.86 -32001943.75 -32001943.64 0.3770 0.0857

Mars -92330-09-14 07:54 J -32001853.26 -32001853.17 -32001853.07 0.1618 0.1077

Jupiter -92330-12-06 20:08 J -32001769.77 -32001769.66 -32001769.55 0.0526 0.0284

Jupiter -92329-03-05 06:56 J -32001680.34 -32001680.21 -32001680.08 0.0522 0.0180

Saturn -92328-08-15 21:06 J -32001151.66 -32001151.62 -32001151.57 0.0277 0.0261

Mars -92328-08-19 21:20 J -32001147.72 -32001147.61 -32001147.49 0.1608 0.0825

Saturn -92328-11-12 10:32 J -32001063.17 -32001063.06 -32001062.94 0.0277 0.0174

Saturn -92327-02-09 00:13 J -32000974.63 -32000974.49 -32000974.35 0.0278 0.0084

Saturn -92327-05-08 14:08 J -32000886.05 -32000885.91 -32000885.76 0.0278 0.0012

Saturn -92327-08-05 04:32 J -32000797.45 -32000797.31 -32000797.17 0.0278 0.0102

Saturn -92327-11-01 18:56 J -32000708.81 -32000708.71 -32000708.60 0.0278 0.0198

Moon -92326-01-28 07:39 J -32000621.30 -32000621.18 -32000621.06 0.2736 0.0897

Earth -92326-01-28 08:37 J -32000621.26 -32000621.14 -32000621.02 0.2737 0.0944 *

Venus -92326-06-14 14:08 J -32000484.04 -32000483.91 -32000483.78 0.3599 0.1244

Venus -92325-12-29 12:56 J -31999920.06 -31999919.96 -31999919.86 0.3767 0.1648

Jupiter -92323-05-04 16:32 J -31999428.97 -31999428.81 -31999428.66 0.0504 0.0197

Mars -92323-05-11 04:32 J -31999422.45 -31999422.31 -31999422.17 0.1918 0.0120

Jupiter -92323-08-02 16:18 J -31999338.95 -31999338.82 -31999338.69 0.0507 0.0314

Earth -92323-08-07 01:25 J -31999334.52 -31999334.44 -31999334.36 0.2604 0.2035

Moon -92323-08-07 02:23 J -31999334.48 -31999334.40 -31999334.33 0.2608 0.2088 *

Venus -92321-12-28 14:51 J -31998460.02 -31998459.88 -31998459.75 0.3603 0.0170

Mars -92320-02-03 17:01 J -31998422.83 -31998422.79 -31998422.75 0.1621 0.1521

Venus -92319-07-15 07:54 J -31997896.25 -31997896.17 -31997896.08 0.3763 0.2467

Mars -92318-01-10 05:59 J -31997717.39 -31997717.25 -31997717.12 0.1610 0.0358

Jupiter -92318-09-24 23:44 J -31997459.60 -31997459.51 -31997459.42 0.0527 0.0392

Jupiter -92318-12-23 10:18 J -31997370.21 -31997370.07 -31997369.93 0.0523 0.0070

Moon -92316-07-30 10:03 J -31996785.15 -31996785.08 -31996785.01 0.2599 0.2193

Earth -92316-07-30 11:01 J -31996785.12 -31996785.04 -31996784.95 0.2595 0.2035 *

Neptune -92315-04-13 03:20 J -31996528.39 -31996528.36 -31996528.31 0.0089 0.0086

Neptune -92315-07-10 06:13 J -31996440.30 -31996440.24 -31996440.15 0.0089 0.0081

Venus -92315-07-14 15:06 J -31996436.00 -31996435.87 -31996435.74 0.3606 0.0883

Neptune -92315-10-06 09:20 J -31996352.19 -31996352.11 -31996352.00 0.0089 0.0075

Neptune -92314-01-02 12:13 J -31996264.08 -31996263.99 -31996263.86 0.0089 0.0070

Neptune -92314-03-31 15:35 J -31996175.97 -31996175.85 -31996175.72 0.0089 0.0064

Neptune -92314-06-27 18:13 J -31996087.85 -31996087.74 -31996087.58 0.0089 0.0059

Neptune -92314-09-23 21:35 J -31995999.74 -31995999.60 -31995999.45 0.0089 0.0053

Mars -92314-10-01 05:59 J -31995992.37 -31995992.25 -31995992.14 0.1914 0.1059

Neptune -92314-12-21 00:13 J -31995911.62 -31995911.49 -31995911.32 0.0089 0.0048

Venus -92313-01-29 03:20 J -31995872.41 -31995872.36 -31995872.31 0.3760 0.3297

Moon -92313-01-31 05:59 J -31995870.30 -31995870.25 -31995870.19 0.2739 0.2382

Earth -92313-01-31 06:42 J -31995870.26 -31995870.22 -31995870.17 0.2733 0.2535 *

Neptune -92313-03-18 03:35 J -31995823.50 -31995823.35 -31995823.19 0.0089 0.0042

Saturn -92313-03-22 11:44 J -31995819.08 -31995819.01 -31995818.94 0.0281 0.0254

Neptune -92313-06-14 06:27 J -31995735.39 -31995735.23 -31995735.06 0.0089 0.0036

Saturn -92313-06-19 05:44 J -31995730.39 -31995730.26 -31995730.11 0.0281 0.0145

Neptune -92313-09-10 09:35 J -31995647.27 -31995647.10 -31995646.93 0.0089 0.0031

Saturn -92313-09-15 23:30 J -31995641.68 -31995641.52 -31995641.35 0.0281 0.0039

Neptune -92313-12-07 12:13 J -31995559.15 -31995558.99 -31995558.81 0.0088 0.0026

Saturn -92313-12-13 17:01 J -31995552.95 -31995552.79 -31995552.64 0.0280 0.0067

Neptune -92312-03-05 15:20 J -31995471.03 -31995470.86 -31995470.68 0.0088 0.0020

Saturn -92312-03-12 09:49 J -31995464.21 -31995464.09 -31995463.96 0.0280 0.0170

Neptune -92312-06-01 18:13 J -31995382.91 -31995382.74 -31995382.56 0.0088 0.0015

Saturn -92312-06-09 02:23 J -31995375.44 -31995375.40 -31995375.35 0.0280 0.0269

Neptune -92312-08-28 21:06 J -31995294.79 -31995294.62 -31995294.44 0.0088 0.0010

Neptune -92312-11-25 00:13 J -31995206.67 -31995206.49 -31995206.32 0.0088 0.0004

Jupiter -92311-02-20 16:18 J -31995118.95 -31995118.82 -31995118.69 0.0503 0.0321

Neptune -92311-02-21 03:06 J -31995118.55 -31995118.37 -31995118.20 0.0088 0.0002

Neptune -92311-05-20 05:44 J -31995030.43 -31995030.26 -31995030.08 0.0088 0.0008

Jupiter -92311-05-21 16:32 J -31995028.96 -31995028.81 -31995028.66 0.0506 0.0193

Neptune -92311-08-16 08:37 J -31994942.31 -31994942.14 -31994941.96 0.0088 0.0013

Neptune -92311-11-12 11:30 J -31994854.19 -31994854.02 -31994853.84 0.0088 0.0018

Neptune -92310-02-08 14:08 J -31994766.07 -31994765.91 -31994765.73 0.0088 0.0024

Neptune -92310-05-07 17:01 J -31994677.95 -31994677.79 -31994677.61 0.0088 0.0029

Neptune -92310-08-03 19:54 J -31994589.82 -31994589.67 -31994589.50 0.0088 0.0034

Neptune -92310-10-30 22:47 J -31994501.70 -31994501.55 -31994501.39 0.0088 0.0039

Neptune -92309-01-27 01:39 J -31994413.58 -31994413.43 -31994413.28 0.0088 0.0044

Venus -92309-01-28 14:51 J -31994411.99 -31994411.88 -31994411.77 0.3610 0.1879

Neptune -92309-04-24 04:03 J -31994325.46 -31994325.33 -31994325.17 0.0088 0.0050

Mars -92309-06-01 14:37 J -31994287.03 -31994286.89 -31994286.76 0.1613 0.0108

Neptune -92309-07-21 06:56 J -31994237.34 -31994237.21 -31994237.07 0.0088 0.0054

Neptune -92309-10-17 09:35 J -31994149.21 -31994149.10 -31994148.96 0.0088 0.0060

Neptune -92308-01-13 12:13 J -31994061.09 -31994060.99 -31994060.86 0.0088 0.0065

Neptune -92308-04-11 15:06 J -31993972.97 -31993972.87 -31993972.76 0.0088 0.0070

Neptune -92308-07-08 17:44 J -31993884.84 -31993884.76 -31993884.66 0.0088 0.0075

Neptune -92308-10-04 20:23 J -31993796.71 -31993796.65 -31993796.56 0.0088 0.0080

Neptune -92308-12-31 23:01 J -31993708.57 -31993708.54 -31993708.48 0.0088 0.0085

Venus -92307-10-23 02:51 J -31993413.43 -31993413.38 -31993413.33 0.3787 0.3291

Moon -92306-01-23 18:27 J -31993320.83 -31993320.73 -31993320.64 0.2736 0.1779

Earth -92306-01-23 18:27 J -31993320.82 -31993320.73 -31993320.64 0.2743 0.1809 *

Jupiter -92306-07-14 02:51 J -31993149.41 -31993149.38 -31993149.34 0.0527 0.0503

Jupiter -92306-10-11 13:11 J -31993060.08 -31993059.95 -31993059.81 0.0523 0.0048

Jupiter -92305-01-09 00:27 J -31992970.56 -31992970.48 -31992970.39 0.0520 0.0421

Uranus -92305-03-02 00:13 J -31992917.52 -31992917.49 -31992917.43 0.0137 0.0132

Uranus -92305-05-29 05:59 J -31992829.33 -31992829.25 -31992829.14 0.0137 0.0111

Uranus -92305-08-25 11:59 J -31992741.12 -31992741.00 -31992740.87 0.0137 0.0090

Uranus -92305-11-21 17:59 J -31992652.90 -31992652.75 -31992652.61 0.0137 0.0069

Uranus -92304-02-17 23:30 J -31992564.68 -31992564.52 -31992564.36 0.0137 0.0049

Uranus -92304-05-17 05:01 J -31992476.45 -31992476.29 -31992476.12 0.0136 0.0029

Uranus -92304-08-13 10:47 J -31992388.22 -31992388.05 -31992387.88 0.0136 0.0009

Venus -92304-08-13 14:08 J -31992387.99 -31992387.91 -31992387.83 0.3613 0.2827 *

Uranus -92304-11-09 16:18 J -31992299.99 -31992299.82 -31992299.65 0.0136 0.0012

Uranus -92303-02-05 21:35 J -31992211.76 -31992211.60 -31992211.43 0.0136 0.0031

Uranus -92303-05-05 02:51 J -31992123.52 -31992123.38 -31992123.21 0.0136 0.0051

Uranus -92303-08-01 08:23 J -31992035.29 -31992035.15 -31992035.00 0.0136 0.0070

Moon -92303-08-02 09:35 J -31992034.23 -31992034.10 -31992033.97 0.2604 0.0527

Earth -92303-08-02 10:03 J -31992034.22 -31992034.08 -31992033.95 0.2598 0.0552 *

Uranus -92303-10-28 13:39 J -31991947.05 -31991946.93 -31991946.80 0.0136 0.0089

Uranus -92302-01-24 18:42 J -31991858.81 -31991858.72 -31991858.61 0.0135 0.0108

Mars -92302-01-28 00:42 J -31991855.52 -31991855.47 -31991855.43 0.1924 0.1804

Uranus -92302-04-22 23:59 J -31991770.55 -31991770.50 -31991770.43 0.0135 0.0126

Venus -92301-05-07 20:37 J -31991389.71 -31991389.64 -31991389.56 0.3785 0.2618

Mars -92300-10-22 23:15 J -31990856.65 -31990856.53 -31990856.40 0.1615 0.0562

Jupiter -92300-12-09 15:49 J -31990808.91 -31990808.84 -31990808.76 0.0502 0.0446

Jupiter -92299-03-09 16:32 J -31990718.97 -31990718.81 -31990718.64 0.0506 0.0071

Saturn -92298-04-01 10:32 J -31990331.14 -31990331.06 -31990330.96 0.0278 0.0211

Saturn -92298-06-29 00:13 J -31990242.62 -31990242.49 -31990242.35 0.0278 0.0122

Saturn -92298-09-25 14:08 J -31990154.06 -31990153.91 -31990153.76 0.0278 0.0030

Mars -92298-09-28 13:11 J -31990151.02 -31990150.95 -31990150.88 0.1606 0.1365

Saturn -92298-12-23 04:18 J -31990065.46 -31990065.32 -31990065.17 0.0278 0.0064

Saturn -92297-03-20 18:42 J -31989976.84 -31989976.72 -31989976.60 0.0279 0.0159

Saturn -92297-06-17 09:20 J -31989888.16 -31989888.11 -31989888.05 0.0279 0.0257

Venus -92296-11-21 14:37 J -31989365.98 -31989365.89 -31989365.80 0.3782 0.1923

Jupiter -92294-07-30 16:18 J -31988749.95 -31988749.82 -31988749.69 0.0524 0.0161

Jupiter -92294-10-28 03:06 J -31988660.48 -31988660.37 -31988660.25 0.0521 0.0305

Moon -92293-01-26 15:20 J -31988569.99 -31988569.86 -31988569.74 0.2736 0.0396

Earth -92293-01-26 16:03 J -31988569.95 -31988569.83 -31988569.70 0.2740 0.0299 *

Mars -92293-06-19 02:51 J -31988425.50 -31988425.38 -31988425.26 0.1922 0.0906

Mars -92290-03-15 08:08 J -31987426.26 -31987426.16 -31987426.05 0.1618 0.1013

Venus -92290-06-07 08:51 J -31987342.24 -31987342.13 -31987342.03 0.3779 0.1211

Earth -92290-08-05 08:37 J -31987283.27 -31987283.14 -31987283.02 0.2601 0.0913

Moon -92290-08-05 08:51 J -31987283.25 -31987283.13 -31987283.00 0.2608 0.0873 *

Mars -92288-02-17 21:35 J -31986720.71 -31986720.60 -31986720.48 0.1608 0.0892

Jupiter -92288-12-26 16:03 J -31986408.99 -31986408.83 -31986408.66 0.0504 0.0058

Jupiter -92287-03-26 15:20 J -31986318.93 -31986318.86 -31986318.78 0.0508 0.0449

Venus -92285-12-21 03:06 J -31985318.48 -31985318.37 -31985318.26 0.3776 0.0475

Saturn -92284-11-06 06:42 J -31984998.35 -31984998.22 -31984998.09 0.0281 0.0174

Mars -92284-11-09 05:01 J -31984995.43 -31984995.29 -31984995.15 0.1918 0.0044

Saturn -92283-02-03 00:27 J -31984909.63 -31984909.48 -31984909.32 0.0281 0.0066

Saturn -92283-05-02 17:59 J -31984820.91 -31984820.75 -31984820.59 0.0281 0.0041

Saturn -92283-07-30 11:01 J -31984732.17 -31984732.04 -31984731.90 0.0281 0.0144

Saturn -92283-10-27 03:49 J -31984643.41 -31984643.34 -31984643.26 0.0281 0.0244

Jupiter -92282-05-18 18:42 J -31984439.84 -31984439.72 -31984439.61 0.0526 0.0283

Jupiter -92282-08-16 05:30 J -31984350.40 -31984350.27 -31984350.14 0.0522 0.0181

Mars -92281-08-04 17:15 J -31983995.84 -31983995.78 -31983995.73 0.1621 0.1460

Venus -92281-12-19 11:30 J -31983859.08 -31983859.02 -31983858.97 0.3594 0.3247

Moon -92280-01-28 12:56 J -31983819.07 -31983818.96 -31983818.84 0.2736 0.1101

Earth -92280-01-28 13:54 J -31983819.03 -31983818.92 -31983818.80 0.2737 0.1266 *

Venus -92279-07-06 21:35 J -31983294.71 -31983294.60 -31983294.49 0.3773 0.0292

Mars -92279-07-11 06:13 J -31983290.37 -31983290.24 -31983290.11 0.1610 0.0425

Earth -92277-08-07 06:56 J -31982532.26 -31982532.21 -31982532.15 0.2604 0.2335

Moon -92277-08-07 07:54 J -31982532.20 -31982532.17 -31982532.13 0.2607 0.2491 *

Jupiter -92276-10-14 15:35 J -31982099.00 -31982098.85 -31982098.69 0.0503 0.0185

Jupiter -92275-01-12 15:20 J -31982008.98 -31982008.86 -31982008.73 0.0507 0.0324

Venus -92275-07-05 12:56 J -31981835.07 -31981834.96 -31981834.84 0.3597 0.2079

Mars -92274-04-01 06:13 J -31981565.36 -31981565.24 -31981565.11 0.1914 0.0966

Venus -92273-01-20 16:18 J -31981270.93 -31981270.82 -31981270.71 0.3769 0.1060

Jupiter -92270-03-06 22:03 J -31980129.67 -31980129.58 -31980129.49 0.0527 0.0394

Jupiter -92270-06-04 08:37 J -31980040.28 -31980040.14 -31980040.00 0.0523 0.0068

Moon -92270-07-31 15:35 J -31979982.94 -31979982.85 -31979982.75 0.2599 0.1783

Earth -92270-07-31 16:47 J -31979982.90 -31979982.80 -31979982.70 0.2596 0.1718 *

Mars -92270-12-01 14:51 J -31979860.02 -31979859.88 -31979859.75 0.1613 0.0054

Venus -92269-01-19 14:08 J -31979811.04 -31979810.91 -31979810.78 0.3600 0.0960

Saturn -92269-08-18 13:11 J -31979599.03 -31979598.95 -31979598.87 0.0277 0.0230

Saturn -92269-11-15 02:37 J -31979510.51 -31979510.39 -31979510.26 0.0277 0.0142

Saturn -92268-02-11 16:32 J -31979421.96 -31979421.81 -31979421.67 0.0277 0.0052

Saturn -92268-05-11 06:27 J -31979333.38 -31979333.23 -31979333.08 0.0278 0.0041

Venus -92268-08-05 11:15 J -31979247.13 -31979247.03 -31979246.93 0.3766 0.1855

Saturn -92268-08-07 20:51 J -31979244.76 -31979244.63 -31979244.50 0.0278 0.0136

Saturn -92268-11-04 11:30 J -31979156.10 -31979156.02 -31979155.94 0.0278 0.0232

Jupiter -92264-08-02 14:37 J -31977789.02 -31977788.89 -31977788.75 0.0502 0.0317

Venus -92264-08-04 14:37 J -31977787.02 -31977786.89 -31977786.75 0.3604 0.0118

Jupiter -92264-10-31 14:51 J -31977699.03 -31977698.88 -31977698.73 0.0506 0.0196

Mars -92263-07-29 00:56 J -31977428.47 -31977428.46 -31977428.44 0.1924 0.1899

Venus -92262-02-19 06:27 J -31977223.31 -31977223.23 -31977223.15 0.3762 0.2675

Uranus -92260-01-21 08:23 J -31976521.21 -31976521.15 -31976521.08 0.0142 0.0127

Moon -92260-01-23 23:30 J -31976518.62 -31976518.52 -31976518.42 0.2736 0.1574

Earth -92260-01-23 23:44 J -31976518.61 -31976518.51 -31976518.41 0.2743 0.1503 *

Uranus -92260-04-19 12:42 J -31976433.06 -31976432.97 -31976432.87 0.0142 0.0108

Mars -92260-04-22 23:30 J -31976429.65 -31976429.52 -31976429.39 0.1615 0.0499

Uranus -92260-07-16 17:01 J -31976344.90 -31976344.79 -31976344.67 0.0142 0.0089

Uranus -92260-10-12 21:20 J -31976256.73 -31976256.61 -31976256.48 0.0142 0.0070

Uranus -92259-01-09 01:54 J -31976168.55 -31976168.42 -31976168.28 0.0142 0.0051

Uranus -92259-04-07 06:27 J -31976080.37 -31976080.23 -31976080.09 0.0142 0.0031

Uranus -92259-07-04 11:01 J -31975992.19 -31975992.04 -31975991.90 0.0143 0.0012

Uranus -92259-09-30 15:20 J -31975904.00 -31975903.86 -31975903.71 0.0143 0.0010

Jupiter -92259-12-24 01:39 J -31975819.47 -31975819.43 -31975819.39 0.0528 0.0500

Uranus -92259-12-27 20:08 J -31975815.81 -31975815.66 -31975815.52 0.0143 0.0029

Venus -92258-02-18 14:51 J -31975763.01 -31975762.88 -31975762.75 0.3607 0.1144

Jupiter -92258-03-23 11:59 J -31975730.14 -31975730.00 -31975729.86 0.0524 0.0042

Uranus -92258-03-26 00:42 J -31975727.61 -31975727.47 -31975727.33 0.0143 0.0049

Mars -92258-03-29 13:25 J -31975724.00 -31975723.94 -31975723.88 0.1606 0.1431

Jupiter -92258-06-20 23:15 J -31975640.60 -31975640.53 -31975640.45 0.0520 0.0426

Uranus -92258-06-22 05:15 J -31975639.40 -31975639.28 -31975639.14 0.0143 0.0070

Uranus -92258-09-18 10:03 J -31975551.19 -31975551.08 -31975550.96 0.0143 0.0091

Uranus -92258-12-15 14:51 J -31975462.97 -31975462.88 -31975462.79 0.0143 0.0112

Uranus -92257-03-12 19:39 J -31975374.73 -31975374.68 -31975374.62 0.0144 0.0133

Moon -92257-08-02 15:20 J -31975231.99 -31975231.86 -31975231.73 0.2605 0.0305

Earth -92257-08-02 15:35 J -31975231.99 -31975231.85 -31975231.72 0.2599 0.0231 *

Venus -92257-09-04 01:54 J -31975199.46 -31975199.42 -31975199.38 0.3759 0.3512

Venus -92256-11-13 07:11 J -31974764.20 -31974764.20 -31974764.19 0.3788 0.3775

Saturn -92254-03-26 05:01 J -31974266.39 -31974266.29 -31974266.18 0.0281 0.0216

Saturn -92254-06-22 23:01 J -31974177.69 -31974177.54 -31974177.38 0.0281 0.0107

Saturn -92254-09-19 16:47 J -31974088.96 -31974088.80 -31974088.64 0.0281 0.0002

Saturn -92254-12-17 10:03 J -31974000.23 -31974000.08 -31973999.93 0.0280 0.0104

Mars -92254-12-19 03:20 J -31973998.48 -31973998.36 -31973998.24 0.1921 0.0999

Saturn -92253-03-15 02:51 J -31973911.48 -31973911.38 -31973911.27 0.0280 0.0206

Venus -92253-09-03 14:23 J -31973739.00 -31973738.90 -31973738.79 0.3611 0.2126

Jupiter -92252-05-21 14:23 J -31973478.98 -31973478.90 -31973478.82 0.0502 0.0442

Jupiter -92252-08-19 15:06 J -31973389.04 -31973388.87 -31973388.71 0.0505 0.0074

Mars -92251-09-13 08:23 J -31972999.26 -31972999.15 -31972999.04 0.1618 0.0951

Venus -92250-05-30 00:56 J -31972740.52 -31972740.46 -31972740.40 0.3786 0.3116

Mars -92249-08-18 21:49 J -31972293.70 -31972293.59 -31972293.48 0.1608 0.0956

Moon -92247-01-26 20:37 J -31971767.77 -31971767.64 -31971767.52 0.2736 0.0079

Earth -92247-01-26 21:35 J -31971767.73 -31971767.60 -31971767.48 0.2739 0.0104 *

Venus -92247-03-20 13:39 J -31971714.99 -31971714.93 -31971714.86 0.3615 0.3060

Jupiter -92246-01-09 15:06 J -31971420.00 -31971419.87 -31971419.74 0.0525 0.0154

Jupiter -92246-04-09 02:08 J -31971330.52 -31971330.41 -31971330.30 0.0521 0.0311

Venus -92245-12-12 18:42 J -31970716.80 -31970716.72 -31970716.64 0.3784 0.2441

Mars -92244-05-10 05:01 J -31970568.43 -31970568.29 -31970568.15 0.1918 0.0066

Earth -92244-08-05 14:08 J -31970481.03 -31970480.91 -31970480.80 0.2602 0.1223

Moon -92244-08-05 14:23 J -31970481.01 -31970480.90 -31970480.78 0.2608 0.1346 *

Mars -92241-02-03 17:30 J -31969568.84 -31969568.77 -31969568.71 0.1621 0.1397

Jupiter -92240-06-07 15:06 J -31969079.04 -31969078.87 -31969078.71 0.0505 0.0051

Jupiter -92240-09-05 14:23 J -31968988.97 -31968988.90 -31968988.83 0.0508 0.0458

Saturn -92239-01-05 13:11 J -31968866.98 -31968866.95 -31968866.90 0.0277 0.0267

Mars -92239-01-09 06:27 J -31968863.36 -31968863.23 -31968863.11 0.1610 0.0493

Saturn -92239-04-04 02:37 J -31968778.50 -31968778.39 -31968778.28 0.0278 0.0179

Venus -92239-06-28 12:42 J -31968693.06 -31968692.97 -31968692.87 0.3781 0.1741

Saturn -92239-07-01 16:18 J -31968689.96 -31968689.82 -31968689.68 0.0278 0.0089

Saturn -92239-09-28 06:13 J -31968601.39 -31968601.24 -31968601.09 0.0278 0.0004

Saturn -92239-12-25 20:23 J -31968512.79 -31968512.65 -31968512.51 0.0278 0.0097

Saturn -92238-03-24 11:01 J -31968424.15 -31968424.04 -31968423.94 0.0279 0.0193

Mars -92235-09-30 06:56 J -31967138.34 -31967138.21 -31967138.09 0.1915 0.0861

Jupiter -92235-10-28 18:13 J -31967109.86 -31967109.74 -31967109.63 0.0525 0.0268

Jupiter -92234-01-26 05:01 J -31967020.42 -31967020.29 -31967020.16 0.0522 0.0195

Moon -92234-01-29 18:27 J -31967016.83 -31967016.73 -31967016.63 0.2738 0.1503

Earth -92234-01-29 19:25 J -31967016.79 -31967016.69 -31967016.59 0.2736 0.1586 *

Neptune -92234-10-13 20:51 J -31966759.63 -31966759.63 -31966759.60 0.0089 0.0088

Neptune -92233-01-09 22:32 J -31966671.59 -31966671.56 -31966671.51 0.0089 0.0084

Venus -92233-01-12 06:56 J -31966669.32 -31966669.21 -31966669.10 0.3778 0.1020

Neptune -92233-04-06 23:59 J -31966583.55 -31966583.50 -31966583.43 0.0089 0.0080

Neptune -92233-07-04 01:25 J -31966495.49 -31966495.44 -31966495.35 0.0089 0.0076

Neptune -92233-09-30 03:06 J -31966407.44 -31966407.37 -31966407.28 0.0089 0.0072

Neptune -92233-12-27 05:01 J -31966319.38 -31966319.29 -31966319.20 0.0089 0.0067

Neptune -92232-03-25 06:27 J -31966231.33 -31966231.23 -31966231.13 0.0089 0.0063

Neptune -92232-06-21 07:54 J -31966143.27 -31966143.17 -31966143.06 0.0089 0.0059

Neptune -92232-09-17 09:20 J -31966055.21 -31966055.11 -31966054.99 0.0089 0.0055

Neptune -92232-12-14 11:01 J -31965967.15 -31965967.04 -31965966.92 0.0089 0.0051

Neptune -92231-03-12 12:27 J -31965879.08 -31965878.98 -31965878.85 0.0089 0.0047

Neptune -92231-06-08 14:23 J -31965791.02 -31965790.90 -31965790.78 0.0089 0.0042

Neptune -92231-09-04 15:49 J -31965702.96 -31965702.84 -31965702.71 0.0089 0.0038

Neptune -92231-12-01 17:30 J -31965614.90 -31965614.77 -31965614.64 0.0089 0.0034

Neptune -92230-02-27 19:11 J -31965526.83 -31965526.70 -31965526.57 0.0089 0.0029

Neptune -92230-05-26 20:51 J -31965438.77 -31965438.63 -31965438.50 0.0089 0.0025

Mars -92230-06-01 15:06 J -31965433.01 -31965432.87 -31965432.74 0.1613 0.0055

Neptune -92230-08-22 22:18 J -31965350.70 -31965350.57 -31965350.43 0.0089 0.0021

Neptune -92230-11-18 23:59 J -31965262.64 -31965262.50 -31965262.36 0.0089 0.0016

Neptune -92229-02-15 01:39 J -31965174.57 -31965174.43 -31965174.29 0.0089 0.0012

Neptune -92229-05-13 03:20 J -31965086.50 -31965086.36 -31965086.22 0.0089 0.0008

Neptune -92229-08-09 05:01 J -31964998.44 -31964998.29 -31964998.15 0.0089 0.0004

Neptune -92229-11-05 06:42 J -31964910.37 -31964910.22 -31964910.08 0.0089 0.0003

Neptune -92228-02-01 08:08 J -31964822.30 -31964822.16 -31964822.01 0.0089 0.0006

Jupiter -92228-03-26 14:37 J -31964769.05 -31964768.89 -31964768.73 0.0503 0.0177

Neptune -92228-04-30 09:49 J -31964734.23 -31964734.09 -31964733.94 0.0089 0.0010

Jupiter -92228-06-24 14:23 J -31964679.02 -31964678.90 -31964678.78 0.0507 0.0333

Neptune -92228-07-27 11:30 J -31964646.16 -31964646.02 -31964645.87 0.0089 0.0014

Venus -92228-07-28 01:25 J -31964645.55 -31964645.44 -31964645.33 0.3775 0.0298

Neptune -92228-10-23 13:11 J -31964558.09 -31964557.95 -31964557.81 0.0089 0.0019

Neptune -92227-01-19 14:51 J -31964470.02 -31964469.88 -31964469.74 0.0089 0.0023

Earth -92227-01-22 07:39 J -31964467.21 -31964467.18 -31964467.16 0.2745 0.2689

Moon -92227-01-22 07:54 J -31964467.18 -31964467.17 -31964467.16 0.2738 0.2720 *

Neptune -92227-04-17 16:32 J -31964381.94 -31964381.81 -31964381.67 0.0089 0.0027

Neptune -92227-07-14 18:13 J -31964293.87 -31964293.74 -31964293.60 0.0089 0.0032

Neptune -92227-10-10 19:54 J -31964205.80 -31964205.67 -31964205.53 0.0089 0.0036

Neptune -92226-01-06 21:35 J -31964117.72 -31964117.60 -31964117.47 0.0089 0.0041

Neptune -92226-04-04 23:30 J -31964029.65 -31964029.52 -31964029.40 0.0089 0.0045

Neptune -92226-07-02 00:56 J -31963941.57 -31963941.46 -31963941.33 0.0089 0.0050

Neptune -92226-09-28 02:51 J -31963853.49 -31963853.38 -31963853.26 0.0089 0.0054

Neptune -92226-12-25 04:32 J -31963765.41 -31963765.31 -31963765.20 0.0089 0.0059

Mars -92225-02-20 07:54 J -31963708.20 -31963708.17 -31963708.13 0.1910 0.1838

Neptune -92225-03-22 06:27 J -31963677.33 -31963677.23 -31963677.13 0.0089 0.0063

Neptune -92225-06-18 07:54 J -31963589.25 -31963589.17 -31963589.07 0.0089 0.0068

Saturn -92225-08-12 05:15 J -31963534.35 -31963534.28 -31963534.20 0.0282 0.0248

Neptune -92225-09-14 09:35 J -31963501.17 -31963501.10 -31963501.00 0.0089 0.0073

Saturn -92225-11-08 23:44 J -31963445.66 -31963445.51 -31963445.37 0.0282 0.0138

Neptune -92225-12-11 11:30 J -31963413.08 -31963413.02 -31963412.94 0.0089 0.0077

Saturn -92224-02-05 17:30 J -31963356.93 -31963356.77 -31963356.61 0.0281 0.0030

Neptune -92224-03-09 13:11 J -31963324.99 -31963324.95 -31963324.88 0.0089 0.0082

Saturn -92224-05-05 10:47 J -31963268.20 -31963268.05 -31963267.89 0.0281 0.0076

Neptune -92224-06-05 15:06 J -31963236.90 -31963236.87 -31963236.83 0.0089 0.0086

Venus -92224-07-26 11:44 J -31963186.09 -31963186.01 -31963185.94 0.3595 0.2938

Moon -92224-07-31 21:20 J -31963180.72 -31963180.61 -31963180.50 0.2600 0.1508

Earth -92224-07-31 22:18 J -31963180.68 -31963180.57 -31963180.46 0.2596 0.1396 *

Saturn -92224-08-02 03:49 J -31963179.46 -31963179.34 -31963179.21 0.0281 0.0179

Saturn -92224-10-29 20:23 J -31963090.66 -31963090.65 -31963090.63 0.0281 0.0279

Pluto -92224-12-25 23:01 J -31963033.60 -31963033.54 -31963033.47 0.0060 0.0056

Pluto -92223-03-24 00:13 J -31962945.58 -31962945.49 -31962945.36 0.0060 0.0050

Pluto -92223-06-20 01:54 J -31962857.55 -31962857.42 -31962857.28 0.0060 0.0043

Jupiter -92223-08-16 20:37 J -31962799.73 -31962799.64 -31962799.55 0.0527 0.0392

Pluto -92223-09-16 03:06 J -31962769.51 -31962769.37 -31962769.20 0.0060 0.0037

Jupiter -92223-11-14 07:11 J -31962710.34 -31962710.20 -31962710.06 0.0523 0.0070

Pluto -92223-12-13 04:47 J -31962681.46 -31962681.30 -31962681.12 0.0060 0.0030

Venus -92222-02-10 19:54 J -31962621.78 -31962621.67 -31962621.56 0.3772 0.0484

Pluto -92222-03-11 06:27 J -31962593.41 -31962593.23 -31962593.05 0.0060 0.0024

Pluto -92222-06-07 07:39 J -31962505.36 -31962505.18 -31962504.98 0.0060 0.0017

Pluto -92222-09-03 09:20 J -31962417.30 -31962417.11 -31962416.91 0.0060 0.0010

Pluto -92222-11-30 11:01 J -31962329.24 -31962329.04 -31962328.85 0.0060 0.0004

Pluto -92221-02-26 12:27 J -31962241.18 -31962240.98 -31962240.78 0.0060 0.0003

Uranus -92221-03-22 08:23 J -31962216.21 -31962216.15 -31962216.07 0.0137 0.0124

Pluto -92221-05-24 13:54 J -31962153.11 -31962152.92 -31962152.72 0.0060 0.0010

Uranus -92221-06-18 14:23 J -31962128.01 -31962127.90 -31962127.79 0.0137 0.0103

Pluto -92221-08-20 15:20 J -31962065.05 -31962064.86 -31962064.67 0.0061 0.0017

Uranus -92221-09-14 19:54 J -31962039.79 -31962039.67 -31962039.52 0.0137 0.0083

Mars -92221-10-21 23:44 J -31962002.64 -31962002.51 -31962002.38 0.1615 0.0432

Pluto -92221-11-16 16:32 J -31961976.97 -31961976.81 -31961976.61 0.0061 0.0024

Uranus -92221-12-12 01:54 J -31961951.57 -31961951.42 -31961951.27 0.0137 0.0062

Pluto -92220-02-12 17:59 J -31961888.90 -31961888.75 -31961888.56 0.0061 0.0031

Uranus -92220-03-10 07:25 J -31961863.34 -31961863.19 -31961863.02 0.0136 0.0042

Pluto -92220-05-11 19:54 J -31961800.82 -31961800.67 -31961800.51 0.0061 0.0037

Uranus -92220-06-06 13:11 J -31961775.12 -31961774.95 -31961774.78 0.0136 0.0021

Pluto -92220-08-07 21:20 J -31961712.74 -31961712.61 -31961712.47 0.0061 0.0044

Uranus -92220-09-02 18:42 J -31961686.89 -31961686.72 -31961686.55 0.0136 0.0002

Pluto -92220-11-03 22:47 J -31961624.65 -31961624.55 -31961624.43 0.0061 0.0051

Uranus -92220-11-30 00:13 J -31961598.65 -31961598.49 -31961598.32 0.0136 0.0019

Pluto -92219-01-31 00:13 J -31961536.53 -31961536.49 -31961536.42 0.0061 0.0058

Uranus -92219-02-26 05:44 J -31961510.42 -31961510.26 -31961510.10 0.0136 0.0038

Uranus -92219-05-25 11:01 J -31961422.19 -31961422.04 -31961421.88 0.0136 0.0058

Uranus -92219-08-21 16:18 J -31961333.95 -31961333.82 -31961333.68 0.0136 0.0077

Mars -92219-09-27 13:39 J -31961296.97 -31961296.93 -31961296.88 0.1606 0.1502

Uranus -92219-11-17 21:35 J -31961245.71 -31961245.60 -31961245.48 0.0136 0.0096

Venus -92218-02-09 13:11 J -31961162.07 -31961161.95 -31961161.83 0.3598 0.1783

Uranus -92218-02-14 02:51 J -31961157.46 -31961157.38 -31961157.29 0.0135 0.0114

Uranus -92218-05-13 08:08 J -31961069.18 -31961069.16 -31961069.13 0.0135 0.0133

Venus -92217-08-26 14:37 J -31960597.99 -31960597.89 -31960597.78 0.3769 0.1269

Jupiter -92216-01-12 13:54 J -31960459.05 -31960458.92 -31960458.78 0.0502 0.0305

Jupiter -92216-04-12 14:08 J -31960369.06 -31960368.91 -31960368.76 0.0506 0.0207

Moon -92214-01-25 04:32 J -31959716.42 -31959716.31 -31959716.20 0.2736 0.1180

Earth -92214-01-25 05:01 J -31959716.40 -31959716.29 -31959716.18 0.2742 0.1200 *

Mars -92214-06-19 03:35 J -31959571.46 -31959571.35 -31959571.24 0.1922 0.1085

Venus -92213-08-25 13:54 J -31959138.05 -31959137.92 -31959137.78 0.3601 0.0687

Venus -92211-03-12 09:35 J -31958574.19 -31958574.10 -31958574.00 0.3765 0.2068

Mars -92211-03-14 08:37 J -31958572.25 -31958572.14 -31958572.03 0.1618 0.0889

Jupiter -92211-06-04 23:59 J -31958489.54 -31958489.50 -31958489.47 0.0528 0.0504

Moon -92211-08-03 20:51 J -31958429.76 -31958429.63 -31958429.49 0.2606 0.0139

Earth -92211-08-03 21:06 J -31958429.76 -31958429.62 -31958429.49 0.2599 0.0099 *

Jupiter -92211-09-02 10:18 J -31958400.21 -31958400.07 -31958399.93 0.0524 0.0044

Jupiter -92211-11-30 21:35 J -31958310.68 -31958310.60 -31958310.52 0.0520 0.0424

Saturn -92210-08-22 05:15 J -31958046.38 -31958046.28 -31958046.17 0.0277 0.0197

Saturn -92210-11-18 18:56 J -31957957.85 -31957957.71 -31957957.58 0.0277 0.0108

Saturn -92209-02-15 08:37 J -31957869.28 -31957869.14 -31957868.99 0.0277 0.0019

Mars -92209-02-17 22:03 J -31957866.68 -31957866.58 -31957866.47 0.1608 0.1027

Saturn -92209-05-13 22:47 J -31957780.69 -31957780.55 -31957780.41 0.0278 0.0076

Saturn -92209-08-10 13:11 J -31957692.07 -31957691.95 -31957691.83 0.0278 0.0171

Saturn -92209-11-07 03:49 J -31957603.37 -31957603.34 -31957603.30 0.0278 0.0268

Venus -92207-03-11 14:23 J -31957114.03 -31957113.90 -31957113.76 0.3605 0.0393

Venus -92206-09-26 05:01 J -31956550.37 -31956550.29 -31956550.22 0.3761 0.2886

Jupiter -92205-10-31 12:56 J -31956149.04 -31956148.96 -31956148.88 0.0501 0.0438

Mars -92205-11-08 05:44 J -31956141.40 -31956141.26 -31956141.12 0.1918 0.0178

Jupiter -92204-01-29 13:25 J -31956059.10 -31956058.94 -31956058.77 0.0505 0.0077

Mars -92202-08-04 17:30 J -31955141.84 -31955141.77 -31955141.70 0.1621 0.1336

Venus -92202-09-25 14:37 J -31955090.02 -31955089.89 -31955089.77 0.3608 0.1403

Moon -92201-01-28 01:54 J -31954965.54 -31954965.42 -31954965.29 0.2736 0.0201

Earth -92201-01-28 02:51 J -31954965.51 -31954965.38 -31954965.26 0.2739 0.0338 *

Venus -92200-04-11 00:27 J -31954526.49 -31954526.48 -31954526.47 0.3757 0.3727

Mars -92200-07-10 06:27 J -31954436.35 -31954436.23 -31954436.10 0.1610 0.0557

Venus -92199-06-20 05:15 J -31954091.31 -31954091.28 -31954091.25 0.3788 0.3602

Jupiter -92199-06-21 13:39 J -31954090.06 -31954089.93 -31954089.79 0.0525 0.0153

Jupiter -92199-09-19 00:56 J -31954000.57 -31954000.46 -31954000.35 0.0521 0.0314

Earth -92198-08-06 19:39 J -31953678.79 -31953678.68 -31953678.58 0.2602 0.1532

Moon -92198-08-06 20:08 J -31953678.76 -31953678.66 -31953678.55 0.2607 0.1536 *

Venus -92196-04-10 13:54 J -31953066.02 -31953065.92 -31953065.82 0.3612 0.2360

Saturn -92195-03-28 22:18 J -31952713.69 -31952713.57 -31952713.44 0.0281 0.0178

Mars -92195-03-31 06:56 J -31952711.33 -31952711.21 -31952711.08 0.1914 0.0786

Saturn -92195-06-25 16:18 J -31952624.97 -31952624.82 -31952624.66 0.0281 0.0069

Saturn -92195-09-22 10:03 J -31952536.24 -31952536.08 -31952535.92 0.0281 0.0038

Saturn -92195-12-20 03:06 J -31952447.51 -31952447.37 -31952447.23 0.0281 0.0142

Saturn -92194-03-18 19:54 J -31952358.75 -31952358.67 -31952358.59 0.0280 0.0242

Venus -92193-01-03 23:01 J -31952067.61 -31952067.54 -31952067.48 0.3785 0.2941

Jupiter -92193-11-17 13:25 J -31951749.11 -31951748.94 -31951748.77 0.0504 0.0047

Jupiter -92192-02-15 12:42 J -31951659.03 -31951658.97 -31951658.90 0.0508 0.0460

Venus -92191-10-25 13:11 J -31951042.00 -31951041.95 -31951041.90 0.3616 0.3288

Mars -92191-11-30 15:06 J -31951006.00 -31951005.87 -31951005.73 0.1612 0.0098

Moon -92188-01-29 23:59 J -31950214.60 -31950214.50 -31950214.41 0.2739 0.1814

Earth -92188-01-30 00:42 J -31950214.55 -31950214.47 -31950214.38 0.2736 0.1909 *

Venus -92188-07-19 16:47 J -31950043.88 -31950043.80 -31950043.71 0.3783 0.2261

Jupiter -92187-04-09 17:01 J -31949779.91 -31949779.79 -31949779.67 0.0526 0.0263

Jupiter -92187-07-08 03:49 J -31949690.47 -31949690.34 -31949690.21 0.0522 0.0200

Mars -92186-08-21 08:23 J -31949281.21 -31949281.15 -31949281.10 0.1911 0.1747

Venus -92182-02-02 11:01 J -31948020.14 -31948020.04 -31948019.94 0.3780 0.1555

Moon -92181-01-23 13:11 J -31947665.02 -31947664.95 -31947664.89 0.2738 0.2282

Earth -92181-01-23 12:56 J -31947665.02 -31947664.96 -31947664.90 0.2745 0.2386 *

Mars -92181-04-21 23:59 J -31947575.63 -31947575.50 -31947575.37 0.1615 0.0372

Jupiter -92181-09-05 13:11 J -31947439.10 -31947438.95 -31947438.79 0.0504 0.0171

Jupiter -92181-12-04 12:56 J -31947349.07 -31947348.96 -31947348.83 0.0507 0.0341

Saturn -92180-01-08 05:30 J -31947314.34 -31947314.27 -31947314.19 0.0277 0.0234

Saturn -92180-04-06 18:56 J -31947225.83 -31947225.71 -31947225.59 0.0278 0.0146

Saturn -92180-07-04 08:37 J -31947137.28 -31947137.14 -31947137.00 0.0278 0.0055

Saturn -92180-09-30 22:32 J -31947048.71 -31947048.56 -31947048.41 0.0278 0.0037

Saturn -92180-12-28 12:42 J -31946960.10 -31946959.97 -31946959.83 0.0278 0.0132

Saturn -92179-03-27 03:20 J -31946871.44 -31946871.36 -31946871.27 0.0278 0.0228

Mars -92179-03-28 13:54 J -31946869.94 -31946869.92 -31946869.89 0.1606 0.1570

Moon -92178-08-02 03:06 J -31946378.49 -31946378.37 -31946378.25 0.2602 0.1164

Earth -92178-08-02 03:49 J -31946378.46 -31946378.34 -31946378.22 0.2597 0.1081 *

Venus -92177-08-18 05:15 J -31945996.39 -31945996.28 -31945996.18 0.3777 0.0842

Uranus -92177-11-14 11:59 J -31945908.02 -31945908.00 -31945907.97 0.0142 0.0139

Uranus -92176-02-10 16:03 J -31945819.89 -31945819.83 -31945819.75 0.0142 0.0121

Uranus -92176-05-09 20:23 J -31945731.74 -31945731.65 -31945731.54 0.0142 0.0102

Uranus -92176-08-06 00:56 J -31945643.58 -31945643.46 -31945643.34 0.0142 0.0083

Uranus -92176-11-02 05:15 J -31945555.41 -31945555.28 -31945555.15 0.0142 0.0064

Jupiter -92175-01-26 20:08 J -31945469.75 -31945469.66 -31945469.57 0.0527 0.0377

Uranus -92175-01-29 09:49 J -31945467.23 -31945467.09 -31945466.95 0.0142 0.0044

Jupiter -92175-04-26 06:42 J -31945380.36 -31945380.22 -31945380.08 0.0523 0.0084

Uranus -92175-04-27 14:08 J -31945379.05 -31945378.91 -31945378.76 0.0142 0.0025

Uranus -92175-07-24 18:42 J -31945290.86 -31945290.72 -31945290.57 0.0143 0.0005

Uranus -92175-10-20 23:15 J -31945202.67 -31945202.53 -31945202.38 0.0143 0.0015

Mars -92175-12-18 04:03 J -31945144.44 -31945144.33 -31945144.22 0.1922 0.1186

Uranus -92174-01-17 03:49 J -31945114.48 -31945114.34 -31945114.19 0.0143 0.0036

Uranus -92174-04-15 08:23 J -31945026.28 -31945026.15 -31945026.01 0.0143 0.0056

Uranus -92174-07-12 13:11 J -31944938.07 -31944937.95 -31944937.82 0.0143 0.0077

Uranus -92174-10-08 17:59 J -31944849.86 -31944849.75 -31944849.64 0.0143 0.0097

Uranus -92173-01-04 22:32 J -31944761.63 -31944761.56 -31944761.47 0.0143 0.0119

Uranus -92173-04-02 03:35 J -31944673.38 -31944673.35 -31944673.32 0.0144 0.0140

Mars -92172-09-12 08:51 J -31944145.25 -31944145.13 -31944145.02 0.1618 0.0822

Venus -92171-03-03 23:30 J -31943972.63 -31943972.52 -31943972.41 0.3774 0.0141

Mars -92170-08-18 22:18 J -31943439.67 -31943439.57 -31943439.47 0.1608 0.1095

Jupiter -92169-06-24 12:56 J -31943129.09 -31943128.96 -31943128.82 0.0502 0.0297

Jupiter -92169-09-22 12:56 J -31943039.10 -31943038.96 -31943038.80 0.0506 0.0216

Moon -92168-01-25 09:49 J -31942914.21 -31942914.09 -31942913.98 0.2736 0.1031

Earth -92168-01-25 10:18 J -31942914.18 -31942914.07 -31942913.95 0.2742 0.0890 *

Venus -92167-03-02 11:44 J -31942513.10 -31942513.01 -31942512.91 0.3596 0.2631

Saturn -92166-08-15 22:18 J -31941981.67 -31941981.57 -31941981.46 0.0282 0.0211

Venus -92166-09-17 18:13 J -31941948.85 -31941948.74 -31941948.63 0.3771 0.0679

Saturn -92166-11-12 16:32 J -31941892.96 -31941892.81 -31941892.66 0.0282 0.0101

Saturn -92165-02-09 10:18 J -31941804.23 -31941804.07 -31941803.91 0.0282 0.0007

Saturn -92165-05-08 03:35 J -31941715.49 -31941715.35 -31941715.20 0.0281 0.0112

Mars -92165-05-09 05:59 J -31941714.39 -31941714.25 -31941714.11 0.1918 0.0261

Moon -92165-08-04 02:37 J -31941627.52 -31941627.39 -31941627.26 0.2606 0.0363

Earth -92165-08-04 02:37 J -31941627.52 -31941627.39 -31941627.26 0.2600 0.0399 *

Saturn -92165-08-04 20:37 J -31941626.74 -31941626.64 -31941626.54 0.0281 0.0214

Jupiter -92164-11-14 22:32 J -31941159.60 -31941159.56 -31941159.52 0.0528 0.0501

Jupiter -92163-02-12 08:51 J -31941070.27 -31941070.13 -31941069.99 0.0524 0.0042

Jupiter -92163-05-12 20:08 J -31940980.74 -31940980.66 -31940980.58 0.0520 0.0425

Mars -92162-02-02 17:44 J -31940714.84 -31940714.76 -31940714.68 0.1620 0.1273

Venus -92162-09-16 13:11 J -31940489.08 -31940488.95 -31940488.83 0.3599 0.1494

Mars -92160-01-08 06:42 J -31940009.34 -31940009.22 -31940009.09 0.1610 0.0628

Venus -92160-04-02 12:56 J -31939925.06 -31939924.96 -31939924.85 0.3768 0.1473

Jupiter -92157-04-12 12:13 J -31938819.08 -31938818.99 -31938818.90 0.0501 0.0425

Jupiter -92157-07-11 12:42 J -31938729.13 -31938728.97 -31938728.80 0.0505 0.0090

Venus -92156-04-01 13:54 J -31938465.06 -31938464.92 -31938464.79 0.3602 0.0404

Mars -92156-09-29 07:39 J -31938284.32 -31938284.18 -31938284.05 0.1915 0.0685

Moon -92155-01-28 07:11 J -31938163.32 -31938163.20 -31938163.08 0.2737 0.0603

Earth -92155-01-28 08:08 J -31938163.28 -31938163.16 -31938163.04 0.2739 0.0650 *

Venus -92155-10-17 08:08 J -31937901.25 -31937901.16 -31937901.07 0.3764 0.2268

Earth -92152-08-07 01:11 J -31936876.55 -31936876.45 -31936876.36 0.2603 0.1838

Moon -92152-08-07 01:54 J -31936876.50 -31936876.42 -31936876.34 0.2607 0.1982 *

Jupiter -92152-12-01 11:59 J -31936760.13 -31936760.00 -31936759.87 0.0525 0.0156

Jupiter -92151-02-28 23:01 J -31936670.65 -31936670.54 -31936670.43 0.0521 0.0310

Saturn -92151-05-28 08:23 J -31936582.20 -31936582.15 -31936582.08 0.0277 0.0250

Mars -92151-05-31 15:20 J -31936578.99 -31936578.86 -31936578.73 0.1612 0.0156

Saturn -92151-08-24 21:49 J -31936493.71 -31936493.59 -31936493.47 0.0277 0.0162

Venus -92151-10-16 14:08 J -31936441.04 -31936440.91 -31936440.77 0.3606 0.0660

Saturn -92151-11-21 11:30 J -31936405.16 -31936405.02 -31936404.88 0.0277 0.0073

Neptune -92150-01-08 00:42 J -31936357.50 -31936357.47 -31936357.41 0.0089 0.0086

Saturn -92150-02-18 01:25 J -31936316.59 -31936316.44 -31936316.30 0.0277 0.0021

Neptune -92150-04-06 04:03 J -31936269.40 -31936269.33 -31936269.25 0.0089 0.0080

Saturn -92150-05-17 15:20 J -31936227.99 -31936227.86 -31936227.72 0.0277 0.0114

Neptune -92150-07-03 06:56 J -31936181.29 -31936181.21 -31936181.10 0.0089 0.0075

Saturn -92150-08-14 05:59 J -31936139.35 -31936139.25 -31936139.15 0.0278 0.0209

Neptune -92150-09-29 10:03 J -31936093.18 -31936093.08 -31936092.96 0.0089 0.0069

Neptune -92150-12-26 12:56 J -31936005.07 -31936004.96 -31936004.82 0.0089 0.0064

Neptune -92149-03-23 16:03 J -31935916.96 -31935916.83 -31935916.68 0.0089 0.0058

Venus -92149-05-02 03:20 J -31935877.42 -31935877.36 -31935877.29 0.3760 0.3099

Neptune -92149-06-19 18:56 J -31935828.84 -31935828.71 -31935828.55 0.0089 0.0053

Neptune -92149-09-15 22:03 J -31935740.72 -31935740.58 -31935740.42 0.0089 0.0047

Neptune -92149-12-13 00:56 J -31935652.60 -31935652.46 -31935652.29 0.0089 0.0042

Neptune -92148-03-11 04:03 J -31935564.49 -31935564.33 -31935564.16 0.0089 0.0036

Neptune -92148-06-07 06:56 J -31935476.37 -31935476.21 -31935476.03 0.0089 0.0031

Neptune -92148-09-03 10:03 J -31935388.25 -31935388.08 -31935387.91 0.0089 0.0025

Neptune -92148-11-30 12:56 J -31935300.13 -31935299.96 -31935299.78 0.0089 0.0020

Neptune -92147-02-26 15:49 J -31935212.01 -31935211.84 -31935211.66 0.0089 0.0014

Neptune -92147-05-25 18:56 J -31935123.89 -31935123.71 -31935123.53 0.0088 0.0009

Neptune -92147-08-21 21:49 J -31935035.77 -31935035.59 -31935035.41 0.0088 0.0003

Neptune -92147-11-18 00:42 J -31934947.65 -31934947.47 -31934947.29 0.0088 0.0002

Neptune -92146-02-14 03:35 J -31934859.53 -31934859.35 -31934859.18 0.0088 0.0008

Mars -92146-02-19 08:37 J -31934854.20 -31934854.14 -31934854.07 0.1910 0.1651

Neptune -92146-05-13 06:27 J -31934771.41 -31934771.23 -31934771.06 0.0088 0.0013

Neptune -92146-08-09 09:06 J -31934683.29 -31934683.12 -31934682.94 0.0088 0.0018

Neptune -92146-11-05 11:59 J -31934595.16 -31934595.00 -31934594.83 0.0088 0.0024

Neptune -92145-02-01 14:51 J -31934507.04 -31934506.88 -31934506.71 0.0088 0.0029

Jupiter -92145-04-29 11:59 J -31934419.17 -31934419.00 -31934418.84 0.0504 0.0045

Neptune -92145-04-29 17:44 J -31934418.92 -31934418.76 -31934418.60 0.0088 0.0034 *

Venus -92145-05-01 14:08 J -31934417.03 -31934416.91 -31934416.80 0.3609 0.1643

Neptune -92145-07-26 20:08 J -31934330.80 -31934330.66 -31934330.49 0.0088 0.0040

Jupiter -92145-07-28 11:15 J -31934329.10 -31934329.03 -31934328.97 0.0508 0.0462

Moon -92145-07-30 09:20 J -31934327.16 -31934327.11 -31934327.07 0.2595 0.2445

Earth -92145-07-30 10:18 J -31934327.13 -31934327.07 -31934327.00 0.2594 0.2268 *

Neptune -92145-10-22 23:01 J -31934242.68 -31934242.54 -31934242.38 0.0088 0.0045

Neptune -92144-01-19 01:54 J -31934154.56 -31934154.42 -31934154.27 0.0088 0.0050

Neptune -92144-04-17 04:47 J -31934066.43 -31934066.30 -31934066.16 0.0088 0.0055

Neptune -92144-07-14 07:25 J -31933978.31 -31933978.19 -31933978.06 0.0088 0.0060

Neptune -92144-10-10 10:18 J -31933890.18 -31933890.07 -31933889.95 0.0088 0.0065

Neptune -92143-01-06 12:42 J -31933802.06 -31933801.97 -31933801.85 0.0088 0.0070

Neptune -92143-04-04 15:20 J -31933713.93 -31933713.86 -31933713.75 0.0088 0.0076

Neptune -92143-07-01 17:59 J -31933625.80 -31933625.75 -31933625.66 0.0088 0.0081

Neptune -92143-09-27 20:37 J -31933537.66 -31933537.64 -31933537.57 0.0088 0.0086

Venus -92142-01-25 03:20 J -31933418.40 -31933418.36 -31933418.32 0.3787 0.3431

Moon -92142-01-31 05:15 J -31933412.36 -31933412.28 -31933412.20 0.2739 0.2107

Earth -92142-01-31 06:13 J -31933412.31 -31933412.24 -31933412.17 0.2735 0.2226 *

Mars -92142-10-21 23:59 J -31933148.63 -31933148.50 -31933148.36 0.1615 0.0308

Jupiter -92140-09-19 15:20 J -31932449.97 -31932449.86 -31932449.74 0.0526 0.0264

Venus -92140-11-15 13:25 J -31932393.03 -31932392.94 -31932392.84 0.3613 0.2601

Jupiter -92140-12-18 02:23 J -31932360.53 -31932360.40 -31932360.27 0.0522 0.0201

Uranus -92137-04-11 16:18 J -31931514.89 -31931514.82 -31931514.72 0.0137 0.0117

Uranus -92137-07-08 22:18 J -31931426.69 -31931426.57 -31931426.44 0.0137 0.0096

Venus -92137-08-09 21:06 J -31931394.69 -31931394.62 -31931394.55 0.3785 0.2765

Uranus -92137-10-05 04:18 J -31931338.47 -31931338.32 -31931338.18 0.0137 0.0075

Uranus -92136-01-01 09:49 J -31931250.24 -31931250.09 -31931249.93 0.0137 0.0055

Saturn -92136-01-01 21:35 J -31931249.67 -31931249.60 -31931249.52 0.0282 0.0249

Uranus -92136-03-30 15:35 J -31931162.01 -31931161.85 -31931161.68 0.0136 0.0034

Saturn -92136-03-31 16:03 J -31931160.98 -31931160.83 -31931160.69 0.0281 0.0138

Uranus -92136-06-26 21:06 J -31931073.78 -31931073.62 -31931073.45 0.0136 0.0015

Saturn -92136-06-28 09:49 J -31931072.25 -31931072.09 -31931071.93 0.0281 0.0029

Uranus -92136-09-23 02:51 J -31930985.55 -31930985.38 -31930985.21 0.0136 0.0006

Saturn -92136-09-25 03:20 J -31930983.52 -31930983.36 -31930983.21 0.0281 0.0077

Uranus -92136-12-20 08:08 J -31930897.32 -31930897.16 -31930896.99 0.0136 0.0026

Saturn -92136-12-22 20:23 J -31930894.77 -31930894.65 -31930894.53 0.0281 0.0180

Moon -92135-01-23 18:13 J -31930862.82 -31930862.74 -31930862.67 0.2738 0.2130

Earth -92135-01-23 18:13 J -31930862.82 -31930862.74 -31930862.66 0.2744 0.2080 *

Uranus -92135-03-18 13:39 J -31930809.08 -31930808.93 -31930808.77 0.0136 0.0045

Saturn -92135-03-21 12:56 J -31930805.96 -31930805.96 -31930805.95 0.0281 0.0280

Uranus -92135-06-14 18:56 J -31930720.85 -31930720.71 -31930720.56 0.0136 0.0065

Mars -92135-06-18 04:18 J -31930717.42 -31930717.32 -31930717.22 0.1922 0.1268

Uranus -92135-09-11 00:27 J -31930632.61 -31930632.48 -31930632.35 0.0136 0.0084

Uranus -92135-12-08 05:30 J -31930544.36 -31930544.27 -31930544.15 0.0135 0.0103

Uranus -92134-03-06 10:47 J -31930456.11 -31930456.05 -31930455.97 0.0135 0.0121

Venus -92134-06-01 12:27 J -31930369.00 -31930368.98 -31930368.95 0.3617 0.3507

Jupiter -92133-02-16 11:30 J -31930109.17 -31930109.02 -31930108.85 0.0503 0.0170

Jupiter -92133-05-16 11:30 J -31930019.14 -31930019.02 -31930018.90 0.0507 0.0341

Mars -92132-03-13 08:51 J -31929718.24 -31929718.13 -31929718.01 0.1618 0.0760

Moon -92132-08-02 08:51 J -31929576.26 -31929576.13 -31929576.00 0.2603 0.0781

Earth -92132-08-02 09:20 J -31929576.24 -31929576.11 -31929575.98 0.2597 0.0764 *

Venus -92131-02-23 14:51 J -31929370.97 -31929370.88 -31929370.78 0.3782 0.2082

Mars -92130-02-16 22:32 J -31929012.65 -31929012.56 -31929012.47 0.1608 0.1162

Pluto -92130-10-20 10:03 J -31928767.12 -31928767.08 -31928767.03 0.0084 0.0079

Pluto -92129-01-16 11:15 J -31928679.10 -31928679.03 -31928678.94 0.0084 0.0066

Pluto -92129-04-13 12:42 J -31928591.07 -31928590.97 -31928590.86 0.0084 0.0054

Pluto -92129-07-10 13:54 J -31928503.03 -31928502.92 -31928502.80 0.0084 0.0041

Pluto -92129-10-06 15:06 J -31928414.98 -31928414.87 -31928414.74 0.0084 0.0029

Pluto -92128-01-02 16:32 J -31928326.94 -31928326.81 -31928326.68 0.0084 0.0016

Pluto -92128-03-31 17:44 J -31928238.89 -31928238.76 -31928238.62 0.0084 0.0005

Pluto -92128-06-27 18:56 J -31928150.84 -31928150.71 -31928150.57 0.0084 0.0009

Jupiter -92128-07-08 18:42 J -31928139.81 -31928139.72 -31928139.62 0.0527 0.0374

Pluto -92128-09-23 20:23 J -31928062.78 -31928062.65 -31928062.52 0.0083 0.0020

Jupiter -92128-10-06 05:15 J -31928050.41 -31928050.28 -31928050.14 0.0523 0.0089

Pluto -92128-12-20 21:35 J -31927974.72 -31927974.60 -31927974.48 0.0083 0.0032

Pluto -92127-03-18 22:47 J -31927886.66 -31927886.55 -31927886.44 0.0083 0.0044

Pluto -92127-06-14 23:59 J -31927798.60 -31927798.50 -31927798.40 0.0083 0.0055

Pluto -92127-09-11 00:56 J -31927710.53 -31927710.46 -31927710.37 0.0083 0.0067

Pluto -92127-12-08 02:08 J -31927622.44 -31927622.41 -31927622.36 0.0083 0.0079

Venus -92126-09-09 09:06 J -31927347.22 -31927347.12 -31927347.02 0.3779 0.1368

Mars -92126-11-08 06:13 J -31927287.38 -31927287.24 -31927287.10 0.1919 0.0348

Mars -92123-08-03 17:44 J -31926287.84 -31926287.76 -31926287.67 0.1620 0.1212

Moon -92122-01-26 15:06 J -31926111.99 -31926111.87 -31926111.75 0.2735 0.0562

Earth -92122-01-26 15:49 J -31926111.96 -31926111.84 -31926111.72 0.2741 0.0576 *

Jupiter -92122-12-05 11:15 J -31925799.16 -31925799.03 -31925798.89 0.0503 0.0294

Saturn -92121-01-11 21:49 J -31925761.68 -31925761.59 -31925761.49 0.0277 0.0199

Jupiter -92121-03-04 11:30 J -31925709.16 -31925709.02 -31925708.87 0.0506 0.0220

Saturn -92121-04-09 11:15 J -31925673.16 -31925673.03 -31925672.89 0.0277 0.0111

Saturn -92121-07-07 01:11 J -31925584.60 -31925584.45 -31925584.30 0.0278 0.0019

Mars -92121-07-09 06:56 J -31925582.33 -31925582.21 -31925582.09 0.1610 0.0690

Saturn -92121-10-03 15:06 J -31925496.01 -31925495.87 -31925495.72 0.0278 0.0075

Saturn -92121-12-31 05:30 J -31925407.39 -31925407.27 -31925407.15 0.0278 0.0169

Venus -92120-03-25 03:20 J -31925323.47 -31925323.36 -31925323.25 0.3776 0.0642

Saturn -92120-03-29 20:08 J -31925318.70 -31925318.66 -31925318.62 0.0278 0.0266

Earth -92119-08-05 08:08 J -31924825.29 -31924825.16 -31924825.03 0.2600 0.0707

Moon -92119-08-05 08:08 J -31924825.28 -31924825.16 -31924825.03 0.2606 0.0738 *

Venus -92116-03-23 10:18 J -31923864.10 -31923864.07 -31923864.04 0.3594 0.3506

Mars -92116-03-30 07:54 J -31923857.30 -31923857.17 -31923857.03 0.1915 0.0589

Jupiter -92116-04-26 22:03 J -31923829.63 -31923829.58 -31923829.53 0.0528 0.0487

Jupiter -92116-07-25 08:23 J -31923740.29 -31923740.15 -31923740.02 0.0524 0.0030

Jupiter -92116-10-22 19:39 J -31923650.76 -31923650.68 -31923650.61 0.0520 0.0438

Venus -92115-10-08 21:49 J -31923299.70 -31923299.59 -31923299.48 0.3773 0.0106

Mars -92112-11-29 15:35 J -31922151.98 -31922151.85 -31922151.71 0.1612 0.0227

Venus -92111-10-07 11:59 J -31921840.10 -31921840.00 -31921839.89 0.3597 0.2329

Jupiter -92110-09-23 11:01 J -31921489.13 -31921489.04 -31921488.95 0.0502 0.0419

Jupiter -92110-12-22 11:30 J -31921399.18 -31921399.02 -31921398.85 0.0505 0.0097

Moon -92109-01-29 12:27 J -31921361.10 -31921360.98 -31921360.86 0.2739 0.0784

Earth -92109-01-29 13:25 J -31921361.05 -31921360.94 -31921360.82 0.2738 0.0974 *

Venus -92109-04-23 16:32 J -31921275.92 -31921275.81 -31921275.70 0.3770 0.0879

Saturn -92107-08-18 15:49 J -31920428.97 -31920428.84 -31920428.71 0.0282 0.0172

Mars -92107-08-20 09:06 J -31920427.20 -31920427.12 -31920427.04 0.1911 0.1556

Saturn -92107-11-15 09:49 J -31920340.25 -31920340.09 -31920339.93 0.0282 0.0062

Saturn -92106-02-12 03:20 J -31920251.51 -31920251.36 -31920251.19 0.0282 0.0046

Saturn -92106-05-11 20:37 J -31920162.77 -31920162.64 -31920162.50 0.0281 0.0150

Earth -92106-08-08 06:27 J -31920074.30 -31920074.23 -31920074.15 0.2603 0.2140

Moon -92106-08-08 07:25 J -31920074.26 -31920074.19 -31920074.12 0.2607 0.2182 *

Saturn -92106-08-08 13:25 J -31920074.00 -31920073.94 -31920073.86 0.0281 0.0251

Venus -92105-04-22 12:56 J -31919816.08 -31919815.96 -31919815.83 0.3600 0.1218

Jupiter -92104-05-13 10:32 J -31919430.20 -31919430.06 -31919429.93 0.0525 0.0155

Jupiter -92104-08-10 21:20 J -31919340.71 -31919340.61 -31919340.49 0.0521 0.0312

Venus -92104-11-07 11:30 J -31919252.13 -31919252.02 -31919251.92 0.3766 0.1671

Mars -92102-04-22 00:13 J -31918721.62 -31918721.49 -31918721.35 0.1615 0.0240

Venus -92100-11-06 13:39 J -31917792.06 -31917791.93 -31917791.79 0.3603 0.0173

Moon -92099-07-31 14:51 J -31917524.96 -31917524.88 -31917524.79 0.2597 0.1982

Earth -92099-07-31 15:49 J -31917524.92 -31917524.84 -31917524.75 0.2595 0.1954 *

Venus -92098-05-24 06:27 J -31917228.31 -31917228.23 -31917228.14 0.3763 0.2479

Jupiter -92098-10-10 11:15 J -31917089.20 -31917089.03 -31917088.87 0.0504 0.0033

Jupiter -92097-01-08 10:32 J -31916999.12 -31916999.06 -31916999.01 0.0508 0.0473

Moon -92096-01-31 10:47 J -31916610.10 -31916610.05 -31916610.00 0.2738 0.2492

Earth -92096-01-31 11:30 J -31916610.06 -31916610.02 -31916609.97 0.2735 0.2550 *

Mars -92096-12-17 04:47 J -31916290.40 -31916290.30 -31916290.21 0.1922 0.1365

Venus -92094-05-23 13:54 J -31915768.05 -31915767.92 -31915767.79 0.3607 0.0903

Mars -92093-09-11 09:06 J -31915291.24 -31915291.12 -31915291.00 0.1617 0.0697

Uranus -92093-12-04 19:11 J -31915206.73 -31915206.70 -31915206.64 0.0141 0.0135

Venus -92093-12-07 01:54 J -31915204.47 -31915204.42 -31915204.37 0.3759 0.3307

Jupiter -92092-03-01 13:25 J -31915120.05 -31915119.94 -31915119.82 0.0526 0.0269

Uranus -92092-03-02 23:30 J -31915118.59 -31915118.52 -31915118.43 0.0142 0.0116

Jupiter -92092-05-30 00:27 J -31915030.61 -31915030.48 -31915030.36 0.0523 0.0196

Uranus -92092-05-30 03:49 J -31915030.44 -31915030.34 -31915030.23 0.0142 0.0097 *

Saturn -92092-05-31 01:11 J -31915029.54 -31915029.45 -31915029.36 0.0277 0.0213

Uranus -92092-08-26 08:23 J -31914942.27 -31914942.15 -31914942.03 0.0142 0.0078

Saturn -92092-08-27 14:37 J -31914941.02 -31914940.89 -31914940.76 0.0277 0.0125

Uranus -92092-11-22 12:42 J -31914854.10 -31914853.97 -31914853.83 0.0142 0.0059

Saturn -92092-11-24 04:18 J -31914852.47 -31914852.32 -31914852.17 0.0277 0.0035

Uranus -92091-02-18 17:15 J -31914765.92 -31914765.78 -31914765.64 0.0142 0.0039

Saturn -92091-02-20 18:13 J -31914763.88 -31914763.74 -31914763.59 0.0277 0.0058

Uranus -92091-05-17 21:35 J -31914677.74 -31914677.60 -31914677.45 0.0142 0.0020

Saturn -92091-05-20 08:23 J -31914675.27 -31914675.15 -31914675.02 0.0277 0.0153

Uranus -92091-08-14 02:08 J -31914589.56 -31914589.41 -31914589.26 0.0143 0.0001

Saturn -92091-08-16 23:01 J -31914586.60 -31914586.54 -31914586.47 0.0278 0.0249

Mars -92091-08-17 22:47 J -31914585.64 -31914585.55 -31914585.47 0.1608 0.1230

Uranus -92091-11-10 06:42 J -31914501.36 -31914501.22 -31914501.07 0.0143 0.0020

Uranus -92090-02-06 11:15 J -31914413.17 -31914413.03 -31914412.88 0.0143 0.0041

Uranus -92090-05-05 15:49 J -31914324.97 -31914324.84 -31914324.70 0.0143 0.0061

Uranus -92090-08-01 20:37 J -31914236.76 -31914236.64 -31914236.52 0.0143 0.0082

Uranus -92090-10-29 01:25 J -31914148.54 -31914148.44 -31914148.34 0.0143 0.0102

Moon -92089-01-24 23:15 J -31914060.63 -31914060.53 -31914060.44 0.2737 0.1760

Earth -92089-01-24 23:30 J -31914060.61 -31914060.52 -31914060.43 0.2744 0.1780 *

Uranus -92089-01-25 05:59 J -31914060.31 -31914060.25 -31914060.17 0.0143 0.0124

Venus -92089-12-06 13:39 J -31913744.04 -31913743.93 -31913743.82 0.3610 0.1887

Mars -92086-05-09 06:42 J -31912860.36 -31912860.22 -31912860.09 0.1919 0.0445

Jupiter -92086-07-29 10:03 J -31912779.24 -31912779.08 -31912778.92 0.0503 0.0166

Moon -92086-08-03 14:23 J -31912774.03 -31912773.90 -31912773.77 0.2604 0.0549

Earth -92086-08-03 14:51 J -31912774.01 -31912773.88 -31912773.75 0.2598 0.0448 *

Venus -92086-09-01 01:25 J -31912745.50 -31912745.44 -31912745.39 0.3787 0.3259

Jupiter -92086-10-27 09:49 J -31912689.21 -31912689.09 -31912688.97 0.0507 0.0343

Mars -92083-02-01 17:59 J -31911860.84 -31911860.75 -31911860.66 0.1620 0.1149

Venus -92083-06-22 13:11 J -31911720.03 -31911719.95 -31911719.87 0.3614 0.2833

Mars -92081-01-08 07:11 J -31911155.32 -31911155.20 -31911155.08 0.1610 0.0758

Jupiter -92081-12-18 17:01 J -31910809.88 -31910809.79 -31910809.69 0.0527 0.0377

Venus -92080-03-16 19:11 J -31910721.78 -31910721.70 -31910721.62 0.3784 0.2587

Jupiter -92080-03-18 03:35 J -31910720.48 -31910720.35 -31910720.21 0.0523 0.0087

Saturn -92077-01-05 15:35 J -31909696.96 -31909696.85 -31909696.74 0.0282 0.0206

Saturn -92077-04-03 09:35 J -31909608.25 -31909608.10 -31909607.94 0.0282 0.0097

Saturn -92077-07-01 03:35 J -31909519.52 -31909519.35 -31909519.19 0.0281 0.0013

Saturn -92077-09-27 20:51 J -31909430.78 -31909430.63 -31909430.48 0.0281 0.0117

Mars -92077-09-28 08:23 J -31909430.29 -31909430.15 -31909430.02 0.1915 0.0505

Saturn -92077-12-25 13:39 J -31909342.02 -31909341.93 -31909341.83 0.0281 0.0219

Moon -92076-01-26 20:23 J -31909309.77 -31909309.65 -31909309.53 0.2736 0.0416

Earth -92076-01-26 21:06 J -31909309.75 -31909309.62 -31909309.50 0.2741 0.0267 *

Venus -92075-09-30 13:11 J -31908698.05 -31908697.95 -31908697.86 0.3782 0.1901

Jupiter -92074-05-17 09:35 J -31908469.24 -31908469.10 -31908468.96 0.0502 0.0292

Mars -92074-06-25 03:06 J -31908430.39 -31908430.37 -31908430.35 0.1623 0.1594

Jupiter -92074-08-15 09:49 J -31908379.24 -31908379.09 -31908378.94 0.0506 0.0219

Earth -92073-08-05 13:39 J -31908023.06 -31908022.93 -31908022.81 0.2600 0.1019

Moon -92073-08-05 14:08 J -31908023.03 -31908022.91 -31908022.79 0.2606 0.1090 *

Mars -92072-05-30 15:49 J -31907724.97 -31907724.84 -31907724.71 0.1612 0.0291

Venus -92069-04-15 07:11 J -31906674.30 -31906674.20 -31906674.09 0.3779 0.1186

Neptune -92069-07-09 19:39 J -31906588.68 -31906588.68 -31906588.64 0.0089 0.0088

Neptune -92069-10-05 21:35 J -31906500.64 -31906500.60 -31906500.55 0.0089 0.0083

Jupiter -92069-10-06 20:23 J -31906499.69 -31906499.65 -31906499.59 0.0528 0.0486

Neptune -92068-01-01 23:01 J -31906412.59 -31906412.54 -31906412.47 0.0089 0.0079

Jupiter -92068-01-04 06:56 J -31906410.35 -31906410.21 -31906410.08 0.0524 0.0028

Neptune -92068-03-31 00:42 J -31906324.54 -31906324.47 -31906324.40 0.0089 0.0075

Jupiter -92068-04-03 18:13 J -31906320.81 -31906320.74 -31906320.67 0.0520 0.0440

Neptune -92068-06-27 02:08 J -31906236.49 -31906236.41 -31906236.32 0.0089 0.0071

Neptune -92068-09-23 03:35 J -31906148.43 -31906148.35 -31906148.25 0.0089 0.0067

Neptune -92068-12-20 05:15 J -31906060.37 -31906060.28 -31906060.18 0.0089 0.0063

Mars -92067-02-18 09:35 J -31906000.19 -31906000.10 -31906000.01 0.1911 0.1464

Neptune -92067-03-18 06:42 J -31905972.31 -31905972.22 -31905972.10 0.0089 0.0059

Neptune -92067-06-14 08:37 J -31905884.25 -31905884.14 -31905884.03 0.0089 0.0054

Neptune -92067-09-10 10:03 J -31905796.19 -31905796.08 -31905795.96 0.0089 0.0050

Neptune -92067-12-07 11:30 J -31905708.13 -31905708.02 -31905707.89 0.0089 0.0046

Neptune -92066-03-05 13:11 J -31905620.07 -31905619.95 -31905619.82 0.0089 0.0042

Neptune -92066-06-01 14:51 J -31905532.01 -31905531.88 -31905531.75 0.0089 0.0037

Neptune -92066-08-28 16:32 J -31905443.94 -31905443.81 -31905443.68 0.0089 0.0033

Neptune -92066-11-24 17:59 J -31905355.88 -31905355.75 -31905355.61 0.0089 0.0029

Neptune -92065-02-20 19:25 J -31905267.82 -31905267.69 -31905267.54 0.0089 0.0025

Neptune -92065-05-18 21:20 J -31905179.75 -31905179.61 -31905179.47 0.0089 0.0020

Neptune -92065-08-14 22:47 J -31905091.68 -31905091.55 -31905091.40 0.0089 0.0016

Neptune -92065-11-11 00:27 J -31905003.62 -31905003.48 -31905003.34 0.0089 0.0012

Neptune -92064-02-07 02:08 J -31904915.55 -31904915.41 -31904915.27 0.0089 0.0007

Neptune -92064-05-06 03:49 J -31904827.48 -31904827.34 -31904827.20 0.0089 0.0003

Neptune -92064-08-02 05:30 J -31904739.41 -31904739.27 -31904739.13 0.0089 0.0002

Neptune -92064-10-29 07:11 J -31904651.34 -31904651.20 -31904651.06 0.0089 0.0006

Venus -92064-10-30 01:39 J -31904650.54 -31904650.43 -31904650.32 0.3776 0.0473

Neptune -92063-01-25 08:37 J -31904563.28 -31904563.14 -31904562.99 0.0089 0.0011

Moon -92063-01-29 17:59 J -31904558.86 -31904558.75 -31904558.64 0.2738 0.1263

Earth -92063-01-29 18:56 J -31904558.82 -31904558.71 -31904558.60 0.2737 0.1290 *

Neptune -92063-04-23 10:18 J -31904475.21 -31904475.07 -31904474.92 0.0089 0.0015

Neptune -92063-07-20 11:59 J -31904387.13 -31904387.00 -31904386.85 0.0089 0.0019

Neptune -92063-10-16 13:39 J -31904299.06 -31904298.93 -31904298.78 0.0089 0.0024

Saturn -92063-10-18 01:39 J -31904297.49 -31904297.43 -31904297.37 0.0277 0.0248

Mars -92063-10-21 00:27 J -31904294.61 -31904294.48 -31904294.35 0.1615 0.0173

Neptune -92062-01-12 15:20 J -31904210.99 -31904210.86 -31904210.72 0.0089 0.0028

Saturn -92062-01-14 14:51 J -31904209.00 -31904208.88 -31904208.76 0.0277 0.0161

Jupiter -92062-03-05 09:06 J -31904159.21 -31904159.12 -31904159.02 0.0502 0.0418

Neptune -92062-04-10 17:01 J -31904122.92 -31904122.79 -31904122.65 0.0089 0.0033

Saturn -92062-04-13 04:32 J -31904120.46 -31904120.31 -31904120.17 0.0277 0.0071

Jupiter -92062-06-03 09:49 J -31904069.25 -31904069.09 -31904068.93 0.0505 0.0097

Neptune -92062-07-07 18:42 J -31904034.84 -31904034.72 -31904034.58 0.0089 0.0037

Saturn -92062-07-10 18:13 J -31904031.88 -31904031.74 -31904031.59 0.0278 0.0022

Neptune -92062-10-03 20:23 J -31903946.77 -31903946.65 -31903946.51 0.0089 0.0042

Saturn -92062-10-07 08:23 J -31903943.28 -31903943.15 -31903943.01 0.0278 0.0115

Neptune -92062-12-30 22:03 J -31903858.69 -31903858.58 -31903858.45 0.0089 0.0046

Saturn -92061-01-03 22:47 J -31903854.64 -31903854.55 -31903854.45 0.0278 0.0210

Neptune -92061-03-27 23:44 J -31903770.62 -31903770.51 -31903770.38 0.0089 0.0051

Neptune -92061-06-24 01:39 J -31903682.54 -31903682.43 -31903682.31 0.0089 0.0055

Neptune -92061-09-20 03:06 J -31903594.46 -31903594.37 -31903594.25 0.0089 0.0060

Neptune -92061-12-17 05:01 J -31903506.38 -31903506.29 -31903506.18 0.0089 0.0064

Neptune -92060-03-15 06:42 J -31903418.30 -31903418.22 -31903418.12 0.0089 0.0069

Neptune -92060-06-11 08:37 J -31903330.22 -31903330.14 -31903330.05 0.0089 0.0073

Earth -92060-08-08 11:59 J -31903272.04 -31903272.00 -31903271.96 0.2604 0.2439

Moon -92060-08-08 12:56 J -31903271.98 -31903271.96 -31903271.94 0.2607 0.2569 *

Neptune -92060-09-07 10:03 J -31903242.13 -31903242.08 -31903241.99 0.0089 0.0078

Venus -92060-10-28 10:32 J -31903191.12 -31903191.06 -31903191.00 0.3595 0.3193

Neptune -92060-12-04 11:59 J -31903154.04 -31903154.00 -31903153.93 0.0089 0.0082

Neptune -92059-03-02 13:39 J -31903065.94 -31903065.93 -31903065.88 0.0089 0.0087

Venus -92058-05-15 20:08 J -31902626.77 -31902626.66 -31902626.55 0.3772 0.0308

Jupiter -92057-10-23 09:49 J -31902100.22 -31902100.09 -31902099.96 0.0525 0.0141

Jupiter -92056-01-20 20:51 J -31902010.74 -31902010.63 -31902010.52 0.0521 0.0323

Mars -92056-06-17 05:01 J -31901863.38 -31901863.29 -31901863.20 0.1923 0.1454

Venus -92054-05-14 11:59 J -31901167.11 -31901167.00 -31901166.89 0.3598 0.2042

Uranus -92053-02-03 18:42 J -31900901.76 -31900901.72 -31900901.66 0.0137 0.0130

Mars -92053-03-12 09:20 J -31900864.23 -31900864.11 -31900863.99 0.1617 0.0631

Uranus -92053-05-02 00:42 J -31900813.57 -31900813.47 -31900813.36 0.0137 0.0109

Uranus -92053-07-29 06:27 J -31900725.35 -31900725.23 -31900725.09 0.0137 0.0088

Moon -92053-07-31 20:37 J -31900722.74 -31900722.64 -31900722.54 0.2599 0.1804

Earth -92053-07-31 21:35 J -31900722.71 -31900722.60 -31900722.50 0.2595 0.1632 *

Uranus -92053-10-25 12:13 J -31900637.13 -31900636.99 -31900636.83 0.0137 0.0068

Venus -92053-11-28 14:51 J -31900602.99 -31900602.88 -31900602.77 0.3769 0.1077

Uranus -92052-01-21 17:59 J -31900548.90 -31900548.75 -31900548.58 0.0137 0.0047

Uranus -92052-04-19 23:44 J -31900460.67 -31900460.51 -31900460.34 0.0136 0.0027

Uranus -92052-07-17 05:15 J -31900372.44 -31900372.28 -31900372.11 0.0136 0.0008

Uranus -92052-10-13 11:01 J -31900284.21 -31900284.04 -31900283.87 0.0136 0.0014

Uranus -92051-01-09 16:32 J -31900195.98 -31900195.81 -31900195.65 0.0136 0.0033

Mars -92051-02-15 23:01 J -31900158.62 -31900158.54 -31900158.46 0.1608 0.1301

Uranus -92051-04-07 21:49 J -31900107.74 -31900107.59 -31900107.43 0.0136 0.0053

Uranus -92051-07-05 03:20 J -31900019.50 -31900019.36 -31900019.22 0.0136 0.0072

Uranus -92051-10-01 08:37 J -31899931.26 -31899931.14 -31899931.02 0.0136 0.0091

Uranus -92051-12-28 13:54 J -31899843.01 -31899842.92 -31899842.82 0.0135 0.0110

Jupiter -92050-03-22 09:49 J -31899759.26 -31899759.09 -31899758.92 0.0504 0.0027

Uranus -92050-03-26 18:56 J -31899754.75 -31899754.71 -31899754.65 0.0135 0.0129

Jupiter -92050-06-20 09:06 J -31899669.17 -31899669.12 -31899669.06 0.0508 0.0478

Venus -92049-11-27 12:56 J -31899143.09 -31899142.96 -31899142.82 0.3601 0.0933

Saturn -92048-05-24 14:51 J -31898964.95 -31898964.88 -31898964.79 0.0282 0.0243

Saturn -92048-08-21 09:20 J -31898876.25 -31898876.11 -31898875.96 0.0282 0.0131

Saturn -92048-11-18 03:20 J -31898787.52 -31898787.36 -31898787.20 0.0282 0.0022

Saturn -92047-02-14 20:51 J -31898698.78 -31898698.63 -31898698.48 0.0282 0.0085

Saturn -92047-05-14 13:54 J -31898610.03 -31898609.92 -31898609.80 0.0281 0.0189

Venus -92047-06-14 09:49 J -31898579.19 -31898579.09 -31898578.99 0.3765 0.1870

Mars -92047-11-07 07:11 J -31898433.34 -31898433.20 -31898433.07 0.1919 0.0543

Jupiter -92045-08-11 11:59 J -31897790.11 -31897790.00 -31897789.88 0.0526 0.0268

Jupiter -92045-11-08 22:47 J -31897700.68 -31897700.55 -31897700.42 0.0522 0.0195

Mars -92044-08-02 18:13 J -31897433.84 -31897433.74 -31897433.64 0.1620 0.1084

Moon -92043-01-25 04:32 J -31897258.42 -31897258.31 -31897258.21 0.2736 0.1531

Earth -92043-01-25 04:47 J -31897258.40 -31897258.30 -31897258.20 0.2743 0.1477 *

Venus -92043-06-13 13:39 J -31897119.07 -31897118.93 -31897118.80 0.3604 0.0160

Mars -92042-07-09 07:25 J -31896728.30 -31896728.19 -31896728.07 0.1609 0.0828

Venus -92042-12-29 05:01 J -31896555.37 -31896555.29 -31896555.21 0.3762 0.2684

Moon -92040-08-03 20:08 J -31895971.80 -31895971.66 -31895971.53 0.2604 0.0135

Earth -92040-08-03 20:23 J -31895971.78 -31895971.65 -31895971.51 0.2598 0.0138 *

Jupiter -92038-01-08 09:20 J -31895449.27 -31895449.11 -31895448.95 0.0503 0.0155

Jupiter -92038-04-08 08:51 J -31895359.24 -31895359.13 -31895359.01 0.0507 0.0354

Venus -92038-12-28 13:39 J -31895095.06 -31895094.93 -31895094.80 0.3608 0.1157

Mars -92037-03-29 08:37 J -31895003.27 -31895003.14 -31895003.00 0.1915 0.0406

Venus -92036-07-14 00:27 J -31894531.52 -31894531.48 -31894531.45 0.3758 0.3523

Venus -92035-09-22 05:44 J -31894096.28 -31894096.26 -31894096.25 0.3788 0.3748

Mars -92035-12-24 03:20 J -31894003.40 -31894003.36 -31894003.32 0.1623 0.1534

Saturn -92033-03-06 04:47 J -31893565.33 -31893565.30 -31893565.25 0.0277 0.0262

Jupiter -92033-05-30 15:06 J -31893479.96 -31893479.87 -31893479.78 0.0527 0.0383

Saturn -92033-06-02 18:13 J -31893476.85 -31893476.74 -31893476.63 0.0277 0.0175

Jupiter -92033-08-28 01:39 J -31893390.57 -31893390.43 -31893390.29 0.0524 0.0079

Saturn -92033-08-30 07:39 J -31893388.32 -31893388.18 -31893388.04 0.0277 0.0086

Saturn -92033-11-26 21:35 J -31893299.75 -31893299.60 -31893299.45 0.0277 0.0007

Mars -92033-11-28 16:03 J -31893297.96 -31893297.83 -31893297.70 0.1612 0.0359

Saturn -92032-02-23 11:30 J -31893211.16 -31893211.02 -31893210.88 0.0277 0.0099

Saturn -92032-05-23 01:54 J -31893122.52 -31893122.42 -31893122.31 0.0277 0.0194

Venus -92032-07-13 13:25 J -31893071.05 -31893070.94 -31893070.84 0.3611 0.2133

Moon -92030-01-28 01:25 J -31892507.56 -31892507.44 -31892507.31 0.2738 0.0068

Earth -92030-01-28 02:23 J -31892507.52 -31892507.40 -31892507.28 0.2740 0.0046 *

Venus -92029-04-06 23:15 J -31892072.59 -31892072.53 -31892072.46 0.3786 0.3089

Mars -92028-08-19 10:03 J -31891573.18 -31891573.08 -31891572.99 0.1911 0.1368

Earth -92027-08-06 19:11 J -31891220.82 -31891220.70 -31891220.59 0.2601 0.1326

Moon -92027-08-06 19:39 J -31891220.79 -31891220.68 -31891220.57 0.2607 0.1346 *

Jupiter -92027-10-27 07:54 J -31891139.31 -31891139.17 -31891139.03 0.0502 0.0291

Jupiter -92026-01-25 08:08 J -31891049.31 -31891049.16 -31891049.01 0.0506 0.0221

Venus -92026-01-27 12:27 J -31891047.04 -31891046.98 -31891046.91 0.3615 0.3063

Venus -92024-10-21 17:15 J -31890048.87 -31890048.78 -31890048.70 0.3783 0.2416

Mars -92023-04-21 00:42 J -31889867.61 -31889867.47 -31889867.34 0.1614 0.0120

Jupiter -92021-03-18 18:42 J -31889169.77 -31889169.72 -31889169.68 0.0528 0.0490

Jupiter -92021-06-16 05:01 J -31889080.43 -31889080.29 -31889080.15 0.0525 0.0031

Jupiter -92021-09-13 16:18 J -31888990.89 -31888990.82 -31888990.74 0.0521 0.0436

Saturn -92019-10-11 15:35 J -31888232.89 -31888232.85 -31888232.81 0.0282 0.0273

Saturn -92018-01-08 10:03 J -31888144.21 -31888144.08 -31888143.95 0.0282 0.0161

Saturn -92018-04-07 04:03 J -31888055.49 -31888055.33 -31888055.17 0.0282 0.0051

Venus -92018-05-07 11:15 J -31888025.13 -31888025.03 -31888024.94 0.3781 0.1716

Saturn -92018-07-04 21:35 J -31887966.75 -31887966.60 -31887966.44 0.0281 0.0056

Saturn -92018-10-01 14:51 J -31887878.01 -31887877.88 -31887877.75 0.0281 0.0160

Saturn -92018-12-29 07:25 J -31887789.23 -31887789.19 -31887789.12 0.0281 0.0262

Moon -92017-01-30 23:15 J -31887756.64 -31887756.53 -31887756.42 0.2738 0.1414

Earth -92017-01-31 00:13 J -31887756.59 -31887756.49 -31887756.39 0.2737 0.1611 *

Mars -92017-12-16 05:15 J -31887436.36 -31887436.28 -31887436.20 0.1922 0.1547

Jupiter -92015-08-15 07:11 J -31886829.29 -31886829.20 -31886829.10 0.0501 0.0418

Jupiter -92015-11-13 07:54 J -31886739.33 -31886739.17 -31886739.01 0.0505 0.0095

Mars -92014-09-11 09:35 J -31886437.23 -31886437.10 -31886436.98 0.1617 0.0569

Venus -92013-11-20 05:15 J -31886001.38 -31886001.28 -31886001.17 0.3778 0.1012

Mars -92012-08-16 23:15 J -31885731.60 -31885731.53 -31885731.46 0.1607 0.1368

Earth -92010-01-23 12:42 J -31885207.00 -31885206.97 -31885206.95 0.2746 0.2658

Moon -92010-01-23 12:56 J -31885207.00 -31885206.96 -31885206.93 0.2739 0.2587 *

Jupiter -92009-04-04 08:08 J -31884770.29 -31884770.16 -31884770.02 0.0525 0.0143

Jupiter -92009-07-02 19:11 J -31884680.80 -31884680.70 -31884680.59 0.0521 0.0323

Uranus -92009-12-25 03:20 J -31884505.42 -31884505.36 -31884505.30 0.0142 0.0128

Uranus -92008-03-23 07:25 J -31884417.27 -31884417.19 -31884417.09 0.0142 0.0109

Uranus -92008-06-19 11:44 J -31884329.12 -31884329.01 -31884328.89 0.0142 0.0091

Uranus -92008-09-15 16:03 J -31884240.95 -31884240.83 -31884240.70 0.0142 0.0072

Uranus -92008-12-12 20:37 J -31884152.78 -31884152.64 -31884152.51 0.0142 0.0052

Uranus -92007-03-11 00:56 J -31884064.60 -31884064.46 -31884064.31 0.0142 0.0033

Mars -92007-05-08 07:11 J -31884006.33 -31884006.20 -31884006.07 0.1919 0.0624

Venus -92007-06-05 23:44 J -31883977.62 -31883977.51 -31883977.40 0.3775 0.0265

Uranus -92007-06-07 05:30 J -31883976.42 -31883976.27 -31883976.12 0.0142 0.0013

Moon -92007-08-02 02:08 J -31883920.52 -31883920.41 -31883920.29 0.2600 0.1326

Earth -92007-08-02 03:06 J -31883920.49 -31883920.37 -31883920.26 0.2596 0.1316 *

Uranus -92007-09-03 10:03 J -31883888.23 -31883888.08 -31883887.94 0.0143 0.0007

Uranus -92007-11-30 14:37 J -31883800.04 -31883799.89 -31883799.75 0.0143 0.0027

Uranus -92006-02-26 19:11 J -31883711.84 -31883711.70 -31883711.56 0.0143 0.0047

Uranus -92006-05-25 23:44 J -31883623.64 -31883623.51 -31883623.38 0.0143 0.0068

Uranus -92006-08-22 04:18 J -31883535.43 -31883535.32 -31883535.19 0.0143 0.0089

Uranus -92006-11-18 09:06 J -31883447.21 -31883447.12 -31883447.02 0.0143 0.0109

Uranus -92005-02-14 13:54 J -31883358.97 -31883358.92 -31883358.85 0.0143 0.0130

Mars -92004-01-31 18:27 J -31883006.83 -31883006.73 -31883006.63 0.1620 0.1020

Saturn -92004-10-20 18:42 J -31882744.81 -31882744.72 -31882744.62 0.0277 0.0209

Saturn -92003-01-17 08:08 J -31882656.29 -31882656.16 -31882656.03 0.0277 0.0120

Saturn -92003-04-15 21:49 J -31882567.74 -31882567.59 -31882567.44 0.0277 0.0030

Venus -92003-06-04 10:47 J -31882518.13 -31882518.05 -31882517.97 0.3595 0.2896

Saturn -92003-07-13 11:44 J -31882479.15 -31882479.01 -31882478.86 0.0277 0.0063

Jupiter -92003-09-01 07:39 J -31882429.34 -31882429.18 -31882429.01 0.0504 0.0030

Saturn -92003-10-10 02:08 J -31882390.54 -31882390.41 -31882390.29 0.0278 0.0158

Jupiter -92003-11-30 07:11 J -31882339.25 -31882339.20 -31882339.15 0.0508 0.0477

Saturn -92002-01-06 16:32 J -31882301.87 -31882301.81 -31882301.75 0.0278 0.0254

Mars -92002-01-07 07:39 J -31882301.29 -31882301.18 -31882301.07 0.1610 0.0896

Venus -92002-12-20 18:27 J -31881953.84 -31881953.73 -31881953.62 0.3771 0.0512

92ND MILLENNIUM BCE

This is a list of transits of Mercury in the 92nd millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Mars	-91998-09-28 09:20	J	-31880576.25	-31880576.11	-31880575.98	0.1916	0.0307	
Venus	-91998-12-19 11:59	J	-31880494.12	-31880494.00	-31880493.88	0.3599	0.1752	
Jupiter	-91997-01-22 11:15	J	-31880460.15	-31880460.03	-31880459.91	0.0526	0.0256	
Moon	-91997-01-26 09:35	J	-31880456.21	-31880456.10	-31880455.98	0.2736	0.1200	
Earth	-91997-01-26 10:03	J	-31880456.19	-31880456.08	-31880455.97	0.2743	0.1169	*
Jupiter	-91997-04-20 22:03	J	-31880370.71	-31880370.58	-31880370.45	0.0522	0.0207	
Venus	-91996-07-05 13:11	J	-31879930.06	-31879929.95	-31879929.84	0.3768	0.1277	
Mars	-91995-06-24 03:20	J	-31879576.41	-31879576.36	-31879576.30	0.1623	0.1470	
Moon	-91994-08-05 01:54	J	-31879169.55	-31879169.42	-31879169.29	0.2604	0.0105	
Earth	-91994-08-05 01:54	J	-31879169.55	-31879169.42	-31879169.28	0.2598	0.0187	*
Mars	-91993-05-29 16:18	J	-31878870.95	-31878870.82	-31878870.69	0.1612	0.0427	
Venus	-91992-07-04 12:56	J	-31878470.09	-31878469.96	-31878469.82	0.3602	0.0653	
Jupiter	-91991-06-20 07:39	J	-31878119.34	-31878119.18	-31878119.02	0.0503	0.0152	
Jupiter	-91991-09-18 07:25	J	-31878029.30	-31878029.19	-31878029.07	0.0507	0.0356	
Venus	-91990-01-19 08:08	J	-31877906.25	-31877906.16	-31877906.06	0.3764	0.2079	
Saturn	-91989-05-27 09:20	J	-31877412.23	-31877412.11	-31877411.99	0.0282	0.0198	
Saturn	-91989-08-24 03:35	J	-31877323.51	-31877323.35	-31877323.19	0.0282	0.0087	
Saturn	-91989-11-20 21:20	J	-31877234.77	-31877234.61	-31877234.45	0.0282	0.0022	
Mars	-91988-02-17 10:18	J	-31877146.17	-31877146.07	-31877145.96	0.1911	0.1276	
Saturn	-91988-02-17 14:37	J	-31877146.03	-31877145.89	-31877145.74	0.0281	0.0128	*
Saturn	-91988-05-17 07:39	J	-31877057.26	-31877057.18	-31877057.08	0.0281	0.0230	
Venus	-91986-01-18 13:25	J	-31876446.08	-31876445.94	-31876445.81	0.3605	0.0404	

Neptune -91986-10-04 22:03 J -31876186.60 -31876186.58 -31876186.52 0.0089 0.0086

Jupiter -91986-11-10 13:25 J -31876150.03 -31876149.94 -31876149.84 0.0527 0.0383

Neptune -91985-01-01 01:25 J -31876098.51 -31876098.44 -31876098.36 0.0089 0.0080

Jupiter -91985-02-07 23:59 J -31876060.63 -31876060.50 -31876060.36 0.0523 0.0079

Neptune -91985-03-29 04:18 J -31876010.40 -31876010.32 -31876010.21 0.0089 0.0075

Neptune -91985-06-25 07:25 J -31875922.29 -31875922.19 -31875922.07 0.0089 0.0069

Venus -91985-08-04 03:35 J -31875882.43 -31875882.35 -31875882.28 0.3761 0.2899

Neptune -91985-09-21 10:18 J -31875834.18 -31875834.07 -31875833.93 0.0089 0.0064

Neptune -91985-12-18 13:25 J -31875746.06 -31875745.94 -31875745.79 0.0089 0.0058

Moon -91984-01-28 06:42 J -31875705.34 -31875705.22 -31875705.09 0.2738 0.0214

Earth -91984-01-28 07:39 J -31875705.30 -31875705.18 -31875705.06 0.2740 0.0364 *

Neptune -91984-03-16 16:18 J -31875657.95 -31875657.82 -31875657.66 0.0089 0.0053

Neptune -91984-06-12 19:39 J -31875569.83 -31875569.68 -31875569.52 0.0089 0.0047

Neptune -91984-09-08 22:32 J -31875481.71 -31875481.56 -31875481.39 0.0089 0.0041

Mars -91984-10-20 00:56 J -31875440.60 -31875440.46 -31875440.33 0.1614 0.0049

Neptune -91984-12-06 01:39 J -31875393.59 -31875393.43 -31875393.26 0.0089 0.0036

Neptune -91983-03-04 04:32 J -31875305.47 -31875305.31 -31875305.14 0.0089 0.0030

Neptune -91983-05-31 07:39 J -31875217.35 -31875217.18 -31875217.01 0.0089 0.0025

Neptune -91983-08-27 10:32 J -31875129.23 -31875129.06 -31875128.88 0.0089 0.0019

Neptune -91983-11-23 13:25 J -31875041.11 -31875040.94 -31875040.76 0.0088 0.0014

Neptune -91982-02-19 16:18 J -31874952.99 -31874952.82 -31874952.64 0.0088 0.0009

Neptune -91982-05-18 19:25 J -31874864.87 -31874864.69 -31874864.52 0.0088 0.0004

Neptune -91982-08-14 22:18 J -31874776.75 -31874776.57 -31874776.40 0.0088 0.0003

Neptune -91982-11-11 01:11 J -31874688.63 -31874688.45 -31874688.28 0.0088 0.0008

Neptune -91981-02-07 03:49 J -31874600.51 -31874600.34 -31874600.16 0.0088 0.0013

Neptune -91981-05-05 06:42 J -31874512.39 -31874512.22 -31874512.04 0.0088 0.0018

Neptune -91981-08-01 09:35 J -31874424.27 -31874424.10 -31874423.93 0.0088 0.0024

Venus -91981-08-03 13:25 J -31874422.07 -31874421.94 -31874421.82 0.3609 0.1411

Earth -91981-08-07 00:27 J -31874418.58 -31874418.48 -31874418.37 0.2601 0.1631

Moon -91981-08-07 01:11 J -31874418.55 -31874418.45 -31874418.35 0.2607 0.1745 *

Neptune -91981-10-28 12:27 J -31874336.14 -31874335.98 -31874335.81 0.0088 0.0029

Neptune -91980-01-24 15:06 J -31874248.02 -31874247.87 -31874247.70 0.0088 0.0034

Neptune -91980-04-22 17:59 J -31874159.90 -31874159.75 -31874159.59 0.0088 0.0040

Neptune -91980-07-19 20:51 J -31874071.78 -31874071.63 -31874071.48 0.0088 0.0045

Neptune -91980-10-15 23:44 J -31873983.66 -31873983.51 -31873983.37 0.0088 0.0050

Neptune -91979-01-12 02:08 J -31873895.53 -31873895.41 -31873895.26 0.0088 0.0055

Venus -91979-02-17 23:01 J -31873858.55 -31873858.54 -31873858.54 0.3757 0.3741

Jupiter -91979-04-08 06:56 J -31873809.35 -31873809.21 -31873809.07 0.0502 0.0281

Neptune -91979-04-10 04:47 J -31873807.41 -31873807.30 -31873807.15 0.0088 0.0061

Jupiter -91979-07-07 07:11 J -31873719.35 -31873719.20 -31873719.05 0.0506 0.0230

Neptune -91979-07-07 07:39 J -31873719.28 -31873719.18 -31873719.05 0.0088 0.0066 *

Neptune -91979-10-03 10:18 J -31873631.16 -31873631.07 -31873630.95 0.0088 0.0071

Neptune -91979-12-30 13:11 J -31873543.03 -31873542.95 -31873542.85 0.0088 0.0076

Neptune -91978-03-28 15:49 J -31873454.89 -31873454.84 -31873454.76 0.0088 0.0081

Venus -91978-04-29 03:35 J -31873423.38 -31873423.35 -31873423.32 0.3788 0.3577

Neptune -91978-06-24 18:27 J -31873366.75 -31873366.73 -31873366.67 0.0088 0.0086

Mars -91977-06-16 05:44 J -31873009.33 -31873009.26 -31873009.19 0.1923 0.1636

Venus -91975-02-17 12:56 J -31872398.06 -31872397.96 -31872397.86 0.3612 0.2371

Pluto -91975-04-19 05:15 J -31872337.34 -31872337.28 -31872337.21 0.0060 0.0056

Pluto -91975-07-16 06:13 J -31872249.32 -31872249.24 -31872249.11 0.0060 0.0050

Pluto -91975-10-12 08:08 J -31872161.29 -31872161.16 -31872161.02 0.0060 0.0043

Pluto -91974-01-08 09:06 J -31872073.25 -31872073.12 -31872072.94 0.0060 0.0037

Saturn -91974-03-09 22:18 J -31872012.65 -31872012.57 -31872012.49 0.0277 0.0222

Mars -91974-03-12 09:35 J -31872010.22 -31872010.10 -31872009.97 0.1617 0.0503

Pluto -91974-04-06 10:47 J -31871985.21 -31871985.05 -31871984.87 0.0060 0.0031

Saturn -91974-06-06 11:44 J -31871924.14 -31871924.01 -31871923.89 0.0277 0.0134

Pluto -91974-07-03 12:13 J -31871897.16 -31871896.99 -31871896.79 0.0060 0.0024

Earth -91974-07-31 09:35 J -31871869.13 -31871869.10 -31871869.07 0.2593 0.2508

Jupiter -91974-08-29 16:32 J -31871839.85 -31871839.81 -31871839.77 0.0528 0.0497

Saturn -91974-09-03 01:11 J -31871835.59 -31871835.45 -31871835.30 0.0277 0.0044

Pluto -91974-09-29 13:54 J -31871809.10 -31871808.92 -31871808.72 0.0060 0.0017

Jupiter -91974-11-27 02:51 J -31871750.52 -31871750.38 -31871750.24 0.0524 0.0038

Saturn -91974-11-30 15:06 J -31871747.01 -31871746.87 -31871746.72 0.0277 0.0050

Pluto -91974-12-26 15:20 J -31871721.05 -31871720.86 -31871720.66 0.0060 0.0011

Jupiter -91973-02-24 14:08 J -31871660.99 -31871660.91 -31871660.83 0.0521 0.0428

Saturn -91973-02-27 05:15 J -31871658.40 -31871658.28 -31871658.15 0.0277 0.0144

Pluto -91973-03-23 17:01 J -31871632.99 -31871632.79 -31871632.59 0.0060 0.0004

Saturn -91973-05-25 19:54 J -31871569.74 -31871569.67 -31871569.60 0.0278 0.0240

Pluto -91973-06-19 18:27 J -31871544.93 -31871544.73 -31871544.53 0.0060 0.0003

Pluto -91973-09-15 19:54 J -31871456.86 -31871456.67 -31871456.47 0.0060 0.0010

Venus -91973-11-11 21:20 J -31871399.68 -31871399.61 -31871399.54 0.3785 0.2916

Pluto -91973-12-12 21:20 J -31871368.79 -31871368.61 -31871368.41 0.0061 0.0017

Mars -91972-02-14 23:30 J -31871304.58 -31871304.52 -31871304.46 0.1607 0.1439

Pluto -91972-03-10 22:32 J -31871280.72 -31871280.56 -31871280.36 0.0061 0.0024

Pluto -91972-06-07 00:27 J -31871192.65 -31871192.48 -31871192.31 0.0061 0.0030

Pluto -91972-09-03 01:54 J -31871104.57 -31871104.42 -31871104.26 0.0061 0.0037

Pluto -91972-11-30 03:06 J -31871016.49 -31871016.37 -31871016.22 0.0061 0.0044

Moon -91971-01-31 04:47 J -31870954.39 -31870954.30 -31870954.21 0.2739 0.1899

Earth -91971-01-31 05:44 J -31870954.35 -31870954.26 -31870954.18 0.2736 0.1927 *

Pluto -91971-02-26 04:32 J -31870928.39 -31870928.31 -31870928.18 0.0061 0.0051

Pluto -91971-05-25 05:59 J -31870840.28 -31870840.25 -31870840.16 0.0061 0.0058

Venus -91970-09-03 11:59 J -31870374.05 -31870374.00 -31870373.95 0.3616 0.3286

Uranus -91969-02-24 03:06 J -31870200.44 -31870200.37 -31870200.29 0.0137 0.0122

Uranus -91969-05-22 08:51 J -31870112.24 -31870112.13 -31870112.01 0.0137 0.0101

Uranus -91969-08-18 14:51 J -31870024.02 -31870023.88 -31870023.74 0.0137 0.0080

Uranus -91969-11-14 20:23 J -31869935.79 -31869935.65 -31869935.49 0.0137 0.0060

Uranus -91968-02-11 02:08 J -31869847.57 -31869847.41 -31869847.24 0.0137 0.0039

Uranus -91968-05-10 07:54 J -31869759.33 -31869759.17 -31869759.00 0.0136 0.0019

Uranus -91968-08-06 13:39 J -31869671.10 -31869670.93 -31869670.76 0.0136 0.0003

Uranus -91968-11-02 19:11 J -31869582.87 -31869582.70 -31869582.54 0.0136 0.0021

Mars -91968-11-06 07:54 J -31869579.30 -31869579.17 -31869579.04 0.1919 0.0729

Jupiter -91967-01-25 05:15 J -31869499.37 -31869499.28 -31869499.18 0.0501 0.0418

Uranus -91967-01-30 00:27 J -31869494.63 -31869494.48 -31869494.31 0.0136 0.0041

Jupiter -91967-04-25 05:59 J -31869409.41 -31869409.25 -31869409.09 0.0505 0.0095

Uranus -91967-04-28 05:59 J -31869406.39 -31869406.25 -31869406.10 0.0136 0.0060

Venus -91967-05-28 15:20 J -31869375.95 -31869375.86 -31869375.78 0.3783 0.2238

Uranus -91967-07-25 11:15 J -31869318.16 -31869318.03 -31869317.89 0.0136 0.0080

Uranus -91967-10-21 16:32 J -31869229.91 -31869229.81 -31869229.69 0.0136 0.0099

Uranus -91966-01-17 21:49 J -31869141.66 -31869141.59 -31869141.50 0.0135 0.0118

Mars -91965-08-01 18:27 J -31868579.83 -31868579.73 -31868579.62 0.1620 0.0960

Moon -91964-01-23 17:59 J -31868404.81 -31868404.75 -31868404.69 0.2738 0.2392

Earth -91964-01-23 17:59 J -31868404.81 -31868404.75 -31868404.69 0.2746 0.2357 *

Mars -91963-07-08 07:54 J -31867874.28 -31867874.17 -31867874.07 0.1609 0.0962

Jupiter -91962-09-15 06:13 J -31867440.37 -31867440.24 -31867440.11 0.0526 0.0148

Venus -91962-12-12 09:20 J -31867352.21 -31867352.11 -31867352.01 0.3780 0.1535

Jupiter -91962-12-13 17:15 J -31867350.89 -31867350.78 -31867350.67 0.0522 0.0317

Moon -91961-08-02 07:54 J -31867118.29 -31867118.17 -31867118.05 0.2601 0.1143

Earth -91961-08-02 08:37 J -31867118.26 -31867118.14 -31867118.01 0.2596 0.0990 *

Saturn -91960-10-14 10:32 J -31866680.16 -31866680.06 -31866679.96 0.0282 0.0225

Saturn -91959-01-11 04:47 J -31866591.44 -31866591.30 -31866591.14 0.0282 0.0114

Saturn -91959-04-09 22:47 J -31866502.71 -31866502.55 -31866502.39 0.0282 0.0005

Saturn -91959-07-07 16:03 J -31866413.97 -31866413.83 -31866413.67 0.0281 0.0102

Saturn -91959-10-04 09:06 J -31866325.22 -31866325.12 -31866325.01 0.0281 0.0205

Mars -91958-03-29 09:20 J -31866149.25 -31866149.11 -31866148.97 0.1916 0.0226

Venus -91956-06-27 03:35 J -31865328.46 -31865328.35 -31865328.24 0.3777 0.0809

Mars -91956-12-23 03:35 J -31865149.41 -31865149.35 -31865149.29 0.1623 0.1409

Jupiter -91955-02-11 05:30 J -31865099.43 -31865099.27 -31865099.10 0.0504 0.0034

Jupiter -91955-05-12 05:01 J -31865009.34 -31865009.29 -31865009.23 0.0507 0.0473

Mars -91954-11-28 16:18 J -31864443.94 -31864443.82 -31864443.69 0.1612 0.0493

Moon -91951-01-26 14:51 J -31863654.00 -31863653.88 -31863653.77 0.2737 0.0895

Earth -91951-01-26 15:20 J -31863653.98 -31863653.86 -31863653.74 0.2742 0.0858 *

Venus -91950-01-10 22:03 J -31863304.69 -31863304.58 -31863304.47 0.3774 0.0080

Jupiter -91950-07-04 09:35 J -31863130.22 -31863130.10 -31863129.98 0.0526 0.0259

Jupiter -91950-10-01 20:23 J -31863040.78 -31863040.65 -31863040.52 0.0522 0.0205

Mars -91949-08-18 10:47 J -31862719.16 -31862719.05 -31862718.94 0.1912 0.1179

Earth -91948-08-05 07:25 J -31862367.32 -31862367.19 -31862367.06 0.2599 0.0489

Moon -91948-08-05 07:39 J -31862367.31 -31862367.18 -31862367.05 0.2605 0.0584 *

Venus -91946-01-09 10:47 J -31861845.14 -31861845.05 -31861844.95 0.3596 0.2595

Venus -91945-07-26 16:47 J -31861280.91 -31861280.80 -31861280.69 0.3770 0.0706

Saturn -91945-07-26 23:01 J -31861280.59 -31861280.54 -31861280.48 0.0277 0.0254

Saturn -91945-10-23 12:13 J -31861192.10 -31861191.99 -31861191.87 0.0277 0.0167

Saturn -91944-01-20 01:54 J -31861103.56 -31861103.42 -31861103.28 0.0277 0.0077

Saturn -91944-04-18 15:35 J -31861014.99 -31861014.85 -31861014.70 0.0277 0.0017

Mars -91944-04-20 00:56 J -31861013.59 -31861013.46 -31861013.32 0.1614 0.0058

Saturn -91944-07-16 05:44 J -31860926.40 -31860926.26 -31860926.12 0.0278 0.0108

Saturn -91944-10-12 20:08 J -31860837.76 -31860837.66 -31860837.56 0.0278 0.0204

Jupiter -91944-11-30 05:15 J -31860789.44 -31860789.28 -31860789.12 0.0503 0.0157

Jupiter -91943-02-28 05:01 J -31860699.40 -31860699.29 -31860699.17 0.0507 0.0352

Venus -91941-07-25 11:59 J -31859821.12 -31859821.00 -31859820.87 0.3599 0.1466

Venus -91939-02-09 11:30 J -31859257.12 -31859257.02 -31859256.91 0.3767 0.1481

Moon -91938-01-29 11:59 J -31858903.12 -31858903.00 -31858902.88 0.2737 0.0598

Earth -91938-01-29 13:11 J -31858903.07 -31858902.95 -31858902.83 0.2739 0.0683 *

Jupiter -91938-04-22 12:42 J -31858820.06 -31858819.97 -31858819.87 0.0527 0.0372

Jupiter -91938-07-20 23:15 J -31858730.67 -31858730.53 -31858730.40 0.0523 0.0089

Mars -91938-12-16 06:13 J -31858582.30 -31858582.24 -31858582.19 0.1923 0.1738

Venus -91935-02-08 12:56 J -31857797.10 -31857796.96 -31857796.83 0.3603 0.0383

Earth -91935-08-08 05:59 J -31857616.34 -31857616.25 -31857616.16 0.2602 0.1935

Moon -91935-08-08 06:42 J -31857616.30 -31857616.22 -31857616.13 0.2606 0.1948 *

Mars -91935-09-10 09:49 J -31857583.22 -31857583.09 -31857582.96 0.1617 0.0436

Venus -91934-08-26 06:42 J -31857233.31 -31857233.22 -31857233.13 0.3763 0.2284

Mars -91933-08-15 23:44 J -31856877.56 -31856877.51 -31856877.47 0.1607 0.1508

Jupiter -91932-09-18 05:01 J -31856479.42 -31856479.29 -31856479.15 0.0502 0.0281

Jupiter -91932-12-17 05:30 J -31856389.42 -31856389.27 -31856389.13 0.0506 0.0231

Saturn -91930-03-03 09:35 J -31855948.15 -31855948.10 -31855948.03 0.0282 0.0262

Saturn -91930-05-31 04:03 J -31855859.46 -31855859.33 -31855859.18 0.0282 0.0150

Venus -91930-08-25 13:11 J -31855773.08 -31855772.95 -31855772.82 0.3606 0.0665

Saturn -91930-08-27 22:18 J -31855770.73 -31855770.57 -31855770.41 0.0282 0.0040

Saturn -91930-11-24 15:49 J -31855681.99 -31855681.84 -31855681.68 0.0282 0.0069

Saturn -91929-02-21 09:20 J -31855593.24 -31855593.11 -31855592.99 0.0281 0.0173

Saturn -91929-05-20 02:08 J -31855504.44 -31855504.41 -31855504.38 0.0281 0.0274

Venus -91928-03-11 01:54 J -31855209.48 -31855209.42 -31855209.36 0.3760 0.3109

Mars -91928-05-07 08:08 J -31855152.29 -31855152.16 -31855152.04 0.1919 0.0814

Moon -91928-07-31 14:08 J -31855066.97 -31855066.91 -31855066.85 0.2596 0.2308

Earth -91928-07-31 15:06 J -31855066.94 -31855066.87 -31855066.80 0.2594 0.2187 *

Jupiter -91926-02-08 14:51 J -31854509.92 -31854509.88 -31854509.83 0.0528 0.0497

Jupiter -91926-05-09 01:11 J -31854420.58 -31854420.45 -31854420.31 0.0524 0.0040

Jupiter -91926-08-06 12:27 J -31854331.06 -31854330.98 -31854330.90 0.0520 0.0427

Mars -91925-01-31 18:42 J -31854152.83 -31854152.72 -31854152.61 0.1620 0.0895

Moon -91925-02-01 10:18 J -31854152.15 -31854152.07 -31854152.00 0.2740 0.2108

Earth -91925-02-01 11:01 J -31854152.11 -31854152.04 -31854151.97 0.2736 0.2249 *

Uranus -91925-10-18 06:27 J -31853892.23 -31853892.23 -31853892.22 0.0141 0.0141

Uranus -91924-01-14 10:47 J -31853804.12 -31853804.05 -31853803.98 0.0142 0.0123

Venus -91924-03-10 12:56 J -31853749.07 -31853748.96 -31853748.84 0.3610 0.1660

Uranus -91924-04-12 15:06 J -31853715.97 -31853715.87 -31853715.77 0.0142 0.0104

Uranus -91924-07-09 19:25 J -31853627.81 -31853627.69 -31853627.58 0.0142 0.0085

Uranus -91924-10-05 23:44 J -31853539.64 -31853539.51 -31853539.38 0.0142 0.0066

Uranus -91923-01-02 04:03 J -31853451.47 -31853451.33 -31853451.19 0.0142 0.0047

Mars -91923-01-06 08:08 J -31853447.27 -31853447.16 -31853447.06 0.1609 0.1032

Uranus -91923-03-31 08:23 J -31853363.29 -31853363.15 -31853363.00 0.0142 0.0028

Uranus -91923-06-27 12:56 J -31853275.10 -31853274.96 -31853274.81 0.0142 0.0008

Uranus -91923-09-23 17:30 J -31853186.92 -31853186.77 -31853186.62 0.0143 0.0012

Uranus -91923-12-20 22:03 J -31853098.72 -31853098.58 -31853098.44 0.0143 0.0032

Uranus -91922-03-19 02:37 J -31853010.53 -31853010.39 -31853010.25 0.0143 0.0052

Uranus -91922-06-15 07:11 J -31852922.32 -31852922.20 -31852922.07 0.0143 0.0073

Uranus -91922-09-11 11:59 J -31852834.11 -31852834.00 -31852833.89 0.0143 0.0094

Venus -91922-12-04 01:39 J -31852750.47 -31852750.43 -31852750.39 0.3787 0.3408

Uranus -91922-12-08 16:32 J -31852745.89 -31852745.81 -31852745.71 0.0143 0.0115

Uranus -91921-03-05 21:20 J -31852657.65 -31852657.61 -31852657.56 0.0143 0.0136

Jupiter -91920-07-07 04:18 J -31852169.41 -31852169.32 -31852169.22 0.0501 0.0410

Jupiter -91920-10-05 05:01 J -31852079.45 -31852079.29 -31852079.13 0.0505 0.0104

Venus -91919-09-24 12:27 J -31851725.07 -31851724.98 -31851724.89 0.3613 0.2607

Mars -91919-09-27 09:49 J -31851722.23 -31851722.09 -31851721.95 0.1916 0.0126

Moon -91918-01-24 23:15 J -31851602.61 -31851602.53 -31851602.45 0.2738 0.1974

Earth -91918-01-24 23:15 J -31851602.61 -31851602.53 -31851602.45 0.2745 0.2056 *

Venus -91916-06-18 19:25 J -31850726.76 -31850726.69 -31850726.62 0.3784 0.2740

Mars -91916-06-23 03:49 J -31850722.42 -31850722.34 -31850722.27 0.1623 0.1348

Saturn -91916-12-14 02:37 J -31850548.42 -31850548.39 -31850548.36 0.0277 0.0268

Saturn -91915-03-12 15:49 J -31850459.95 -31850459.84 -31850459.73 0.0277 0.0181

Saturn -91915-06-09 05:15 J -31850371.41 -31850371.28 -31850371.14 0.0277 0.0091

Moon -91915-08-03 13:39 J -31850316.06 -31850315.93 -31850315.80 0.2602 0.0681

Earth -91915-08-03 14:08 J -31850316.04 -31850315.91 -31850315.77 0.2596 0.0676 *

Saturn -91915-09-05 19:11 J -31850282.85 -31850282.70 -31850282.56 0.0277 0.0007

Saturn -91915-12-03 09:06 J -31850194.26 -31850194.12 -31850193.98 0.0277 0.0094

Jupiter -91914-02-25 04:03 J -31850110.46 -31850110.33 -31850110.20 0.0525 0.0156

Saturn -91914-03-01 23:15 J -31850105.63 -31850105.53 -31850105.41 0.0277 0.0190

Jupiter -91914-05-25 15:06 J -31850020.98 -31850020.87 -31850020.76 0.0522 0.0308

Mars -91914-05-29 16:32 J -31850016.93 -31850016.81 -31850016.68 0.1611 0.0558

Venus -91913-04-09 11:30 J -31849701.05 -31849701.02 -31849701.00 0.3617 0.3509

Venus -91910-01-02 13:25 J -31848703.03 -31848702.94 -31848702.85 0.3782 0.2057

Mars -91909-02-17 11:15 J -31848292.15 -31848292.03 -31848291.92 0.1912 0.1085

Jupiter -91908-07-24 03:35 J -31847769.52 -31847769.35 -31847769.18 0.0504 0.0033

Jupiter -91908-10-22 03:06 J -31847679.43 -31847679.37 -31847679.31 0.0507 0.0471

Moon -91905-01-27 19:54 J -31846851.79 -31846851.67 -31846851.55 0.2738 0.0683

Earth -91905-01-27 20:37 J -31846851.76 -31846851.64 -31846851.52 0.2742 0.0551 *

Venus -91905-07-18 07:25 J -31846679.29 -31846679.19 -31846679.08 0.3779 0.1353

Mars -91905-10-19 01:11 J -31846586.58 -31846586.45 -31846586.31 0.1614 0.0096

Neptune -91904-04-05 18:42 J -31846417.73 -31846417.72 -31846417.69 0.0089 0.0087

Neptune -91904-07-02 20:23 J -31846329.69 -31846329.65 -31846329.60 0.0089 0.0083

Neptune -91904-09-28 21:49 J -31846241.64 -31846241.59 -31846241.52 0.0089 0.0079

Neptune -91904-12-25 23:15 J -31846153.59 -31846153.53 -31846153.45 0.0089 0.0075

Neptune -91903-03-24 00:42 J -31846065.54 -31846065.47 -31846065.37 0.0089 0.0071

Neptune -91903-06-20 02:23 J -31845977.48 -31845977.40 -31845977.30 0.0089 0.0067

Neptune -91903-09-16 03:49 J -31845889.42 -31845889.34 -31845889.23 0.0089 0.0063

Neptune -91903-12-13 05:44 J -31845801.36 -31845801.26 -31845801.15 0.0089 0.0058

Jupiter -91903-12-14 07:25 J -31845800.31 -31845800.19 -31845800.07 0.0527 0.0267

Neptune -91902-03-11 07:11 J -31845713.30 -31845713.20 -31845713.08 0.0089 0.0054

Jupiter -91902-03-13 18:13 J -31845710.87 -31845710.74 -31845710.61 0.0523 0.0197

Neptune -91902-06-07 08:37 J -31845625.24 -31845625.14 -31845625.01 0.0089 0.0050

Earth -91902-08-06 12:56 J -31845565.08 -31845564.96 -31845564.83 0.2599 0.0809

Moon -91902-08-06 13:11 J -31845565.07 -31845564.95 -31845564.82 0.2606 0.0755 *

Neptune -91902-09-03 10:18 J -31845537.18 -31845537.07 -31845536.94 0.0089 0.0046

Neptune -91902-11-30 11:59 J -31845449.12 -31845449.00 -31845448.87 0.0089 0.0041

Neptune -91901-02-26 13:39 J -31845361.06 -31845360.93 -31845360.80 0.0089 0.0037

Neptune -91901-05-24 15:06 J -31845273.00 -31845272.87 -31845272.73 0.0089 0.0033

Neptune -91901-08-20 16:47 J -31845184.93 -31845184.80 -31845184.66 0.0089 0.0028

Saturn -91901-10-17 06:13 J -31845127.37 -31845127.24 -31845127.11 0.0282 0.0173

Neptune -91901-11-16 18:27 J -31845096.87 -31845096.73 -31845096.59 0.0089 0.0024

Saturn -91900-01-14 00:13 J -31845038.65 -31845038.49 -31845038.33 0.0282 0.0063

Neptune -91900-02-12 19:54 J -31845008.80 -31845008.67 -31845008.53 0.0089 0.0020

Saturn -91900-04-12 17:59 J -31844949.91 -31844949.75 -31844949.59 0.0281 0.0045

Neptune -91900-05-11 21:35 J -31844920.74 -31844920.60 -31844920.46 0.0089 0.0016

Saturn -91900-07-10 11:15 J -31844861.17 -31844861.03 -31844860.90 0.0281 0.0150

Neptune -91900-08-07 23:15 J -31844832.67 -31844832.53 -31844832.39 0.0089 0.0011

Saturn -91900-10-07 04:03 J -31844772.39 -31844772.33 -31844772.26 0.0281 0.0253

Neptune -91900-11-04 00:56 J -31844744.60 -31844744.46 -31844744.32 0.0089 0.0007

Neptune -91899-01-31 02:37 J -31844656.53 -31844656.39 -31844656.25 0.0089 0.0003

Venus -91899-02-01 01:54 J -31844655.53 -31844655.42 -31844655.31 0.3776 0.0629

Neptune -91899-04-29 04:18 J -31844568.47 -31844568.32 -31844568.18 0.0089 0.0003

Neptune -91899-07-26 05:44 J -31844480.40 -31844480.26 -31844480.11 0.0089 0.0007

Neptune -91899-10-22 07:25 J -31844392.33 -31844392.19 -31844392.04 0.0089 0.0011

Neptune -91898-01-18 09:06 J -31844304.26 -31844304.12 -31844303.98 0.0089 0.0015

Neptune -91898-04-16 10:47 J -31844216.19 -31844216.05 -31844215.91 0.0089 0.0020

Mars -91898-06-16 06:13 J -31844155.28 -31844155.24 -31844155.20 0.1923 0.1815

Neptune -91898-07-13 12:27 J -31844128.12 -31844127.98 -31844127.84 0.0089 0.0024

Neptune -91898-10-09 13:54 J -31844040.04 -31844039.92 -31844039.77 0.0089 0.0029

Neptune -91897-01-05 15:49 J -31843951.97 -31843951.84 -31843951.70 0.0089 0.0033

Neptune -91897-04-02 17:30 J -31843863.90 -31843863.77 -31843863.64 0.0089 0.0037

Neptune -91897-06-29 19:11 J -31843775.82 -31843775.70 -31843775.57 0.0089 0.0042

Neptune -91897-09-25 20:51 J -31843687.75 -31843687.63 -31843687.50 0.0089 0.0046

Neptune -91897-12-22 22:32 J -31843599.67 -31843599.56 -31843599.44 0.0089 0.0051

Neptune -91896-03-21 00:27 J -31843511.59 -31843511.48 -31843511.37 0.0089 0.0055

Jupiter -91896-05-12 03:06 J -31843459.53 -31843459.37 -31843459.21 0.0503 0.0161

Neptune -91896-06-17 01:54 J -31843423.52 -31843423.42 -31843423.30 0.0089 0.0060

Jupiter -91896-08-10 02:51 J -31843369.50 -31843369.38 -31843369.26 0.0506 0.0347

Neptune -91896-09-13 03:49 J -31843335.44 -31843335.34 -31843335.24 0.0089 0.0064

Neptune -91896-12-10 05:15 J -31843247.36 -31843247.28 -31843247.17 0.0089 0.0069

Venus -91895-01-30 09:20 J -31843196.14 -31843196.11 -31843196.07 0.3594 0.3460

Neptune -91895-03-08 07:11 J -31843159.27 -31843159.20 -31843159.11 0.0089 0.0073

Mars -91895-03-11 10:03 J -31843156.21 -31843156.08 -31843155.95 0.1617 0.0375

Neptune -91895-06-04 08:51 J -31843071.19 -31843071.13 -31843071.05 0.0089 0.0078

Neptune -91895-08-31 10:47 J -31842983.10 -31842983.05 -31842982.99 0.0089 0.0082

Neptune -91895-11-27 12:27 J -31842895.00 -31842894.98 -31842894.94 0.0089 0.0087

Venus -91894-08-17 20:23 J -31842631.76 -31842631.65 -31842631.54 0.3773 0.0154

Mars -91893-02-14 23:44 J -31842450.53 -31842450.51 -31842450.48 0.1607 0.1576

Moon -91892-01-29 17:30 J -31842100.89 -31842100.77 -31842100.65 0.2738 0.0877

Earth -91892-01-29 18:27 J -31842100.85 -31842100.73 -31842100.62 0.2739 0.0995 *

Jupiter -91891-10-02 10:47 J -31841490.14 -31841490.05 -31841489.95 0.0527 0.0377

Jupiter -91891-12-30 21:20 J -31841400.75 -31841400.61 -31841400.47 0.0524 0.0085

Venus -91890-08-16 11:01 J -31841172.15 -31841172.04 -31841171.94 0.3597 0.2297

Earth -91889-08-08 11:30 J -31840814.08 -31840814.02 -31840813.95 0.2602 0.2240

Moon -91889-08-08 12:27 J -31840814.03 -31840813.98 -31840813.93 0.2605 0.2409 *

Mars -91889-11-05 08:23 J -31840725.27 -31840725.15 -31840725.03 0.1920 0.0905

Venus -91888-03-02 15:06 J -31840607.98 -31840607.87 -31840607.76 0.3769 0.0900

Saturn -91886-07-30 17:01 J -31839727.88 -31839727.79 -31839727.70 0.0277 0.0211

Mars -91886-08-01 18:56 J -31839725.82 -31839725.71 -31839725.60 0.1619 0.0830

Saturn -91886-10-27 06:13 J -31839639.37 -31839639.24 -31839639.11 0.0277 0.0123

Uranus -91886-12-18 05:15 J -31839587.30 -31839587.28 -31839587.25 0.0137 0.0136

Saturn -91885-01-23 19:54 J -31839550.81 -31839550.67 -31839550.52 0.0277 0.0032

Uranus -91885-03-15 11:15 J -31839499.12 -31839499.03 -31839498.93 0.0137 0.0114

Saturn -91885-04-21 09:49 J -31839462.23 -31839462.09 -31839461.94 0.0277 0.0061

Uranus -91885-06-11 17:01 J -31839410.90 -31839410.79 -31839410.65 0.0137 0.0093

Saturn -91885-07-18 23:59 J -31839373.62 -31839373.50 -31839373.37 0.0278 0.0156

Uranus -91885-09-07 23:01 J -31839322.68 -31839322.54 -31839322.39 0.0137 0.0072

Saturn -91885-10-15 14:23 J -31839284.95 -31839284.90 -31839284.83 0.0278 0.0253

Uranus -91885-12-05 04:47 J -31839234.45 -31839234.30 -31839234.14 0.0137 0.0051

Jupiter -91884-02-28 02:23 J -31839149.53 -31839149.40 -31839149.26 0.0502 0.0289

Venus -91884-03-01 12:13 J -31839148.12 -31839147.99 -31839147.86 0.3600 0.1180

Uranus -91884-03-03 10:32 J -31839146.22 -31839146.06 -31839145.89 0.0137 0.0031

Jupiter -91884-05-29 02:51 J -31839059.53 -31839059.38 -31839059.23 0.0506 0.0224

Uranus -91884-05-30 16:18 J -31839057.99 -31839057.82 -31839057.65 0.0136 0.0011

Mars -91884-07-07 08:23 J -31839020.25 -31839020.15 -31839020.06 0.1609 0.1101

Uranus -91884-08-26 21:49 J -31838969.76 -31838969.59 -31838969.42 0.0136 0.0010

Uranus -91884-11-23 03:20 J -31838881.52 -31838881.36 -31838881.19 0.0136 0.0029

Uranus -91883-02-19 08:51 J -31838793.28 -31838793.13 -31838792.97 0.0136 0.0049

Uranus -91883-05-18 14:23 J -31838705.05 -31838704.90 -31838704.76 0.0136 0.0068

Uranus -91883-08-14 19:25 J -31838616.80 -31838616.69 -31838616.55 0.0136 0.0088

Venus -91883-09-16 10:03 J -31838584.19 -31838584.08 -31838583.98 0.3766 0.1690

Uranus -91883-11-11 00:56 J -31838528.56 -31838528.46 -31838528.35 0.0136 0.0107

Uranus -91882-02-07 05:59 J -31838440.30 -31838440.25 -31838440.17 0.0136 0.0126

Moon -91882-08-01 19:39 J -31838264.77 -31838264.68 -31838264.59 0.2596 0.1986

Earth -91882-08-01 20:51 J -31838264.73 -31838264.63 -31838264.54 0.2594 0.1866 *

Pluto -91881-02-11 17:59 J -31838070.78 -31838070.75 -31838070.68 0.0084 0.0078

Pluto -91881-05-09 19:39 J -31837982.76 -31837982.68 -31837982.60 0.0084 0.0065

Pluto -91881-08-05 20:51 J -31837894.73 -31837894.63 -31837894.52 0.0084 0.0052

Pluto -91881-11-01 22:03 J -31837806.69 -31837806.58 -31837806.46 0.0084 0.0040

Pluto -91880-01-28 23:30 J -31837718.64 -31837718.52 -31837718.39 0.0084 0.0027

Pluto -91880-04-27 00:42 J -31837630.60 -31837630.47 -31837630.34 0.0084 0.0015

Pluto -91880-07-24 01:54 J -31837542.55 -31837542.42 -31837542.28 0.0084 0.0004

Pluto -91880-10-20 03:06 J -31837454.49 -31837454.37 -31837454.23 0.0084 0.0010

Pluto -91879-01-16 04:18 J -31837366.44 -31837366.32 -31837366.18 0.0083 0.0022

Moon -91879-02-01 15:35 J -31837349.89 -31837349.85 -31837349.80 0.2741 0.2536

Earth -91879-02-01 16:18 J -31837349.86 -31837349.82 -31837349.78 0.2735 0.2574 *

Mars -91879-03-28 10:18 J -31837295.21 -31837295.07 -31837294.93 0.1916 0.0032

Pluto -91879-04-14 05:30 J -31837278.38 -31837278.27 -31837278.14 0.0083 0.0034

Pluto -91879-07-11 06:42 J -31837190.32 -31837190.22 -31837190.10 0.0083 0.0045

Jupiter -91879-07-21 13:54 J -31837179.96 -31837179.92 -31837179.87 0.0528 0.0489

Venus -91879-09-15 12:42 J -31837124.10 -31837123.97 -31837123.83 0.3604 0.0117

Pluto -91879-10-07 07:54 J -31837102.26 -31837102.17 -31837102.06 0.0083 0.0057

Jupiter -91879-10-19 00:13 J -31837090.62 -31837090.49 -31837090.35 0.0524 0.0033

Pluto -91878-01-03 09:20 J -31837014.18 -31837014.11 -31837014.04 0.0083 0.0068

Jupiter -91878-01-16 11:30 J -31837001.09 -31837001.02 -31837000.94 0.0520 0.0435

Pluto -91878-04-01 10:18 J -31836926.09 -31836926.07 -31836926.03 0.0083 0.0080

Venus -91877-04-01 05:01 J -31836560.37 -31836560.29 -31836560.20 0.3762 0.2493

Mars -91877-12-22 03:49 J -31836295.41 -31836295.34 -31836295.26 0.1622 0.1283

Mars -91875-11-27 16:47 J -31835589.92 -31835589.80 -31835589.67 0.1611 0.0630

Venus -91873-03-31 12:56 J -31835100.09 -31835099.96 -31835099.83 0.3607 0.0921

Jupiter -91873-12-17 02:08 J -31834839.50 -31834839.41 -31834839.31 0.0501 0.0412

Moon -91872-01-25 04:18 J -31834800.41 -31834800.32 -31834800.23 0.2738 0.1824

Earth -91872-01-25 04:32 J -31834800.41 -31834800.31 -31834800.22 0.2745 0.1749 *

Jupiter -91872-03-17 02:51 J -31834749.54 -31834749.38 -31834749.21 0.0505 0.0103

Venus -91872-10-16 00:27 J -31834536.53 -31834536.48 -31834536.43 0.3759 0.3319

Saturn -91871-03-06 05:01 J -31834395.39 -31834395.29 -31834395.17 0.0282 0.0211

Saturn -91871-06-02 23:30 J -31834306.67 -31834306.52 -31834306.36 0.0282 0.0099

Saturn -91871-08-30 17:30 J -31834217.94 -31834217.77 -31834217.61 0.0281 0.0011

Saturn -91871-11-27 10:47 J -31834129.19 -31834129.05 -31834128.90 0.0281 0.0117

Saturn -91870-02-24 03:49 J -31834040.43 -31834040.34 -31834040.24 0.0281 0.0220

Mars -91870-08-18 11:30 J -31833865.14 -31833865.02 -31833864.90 0.1912 0.0992

Moon -91869-08-03 19:25 J -31833513.82 -31833513.69 -31833513.56 0.2603 0.0414

Earth -91869-08-03 19:39 J -31833513.81 -31833513.68 -31833513.54 0.2597 0.0366 *

Venus -91868-10-15 12:42 J -31833076.08 -31833075.97 -31833075.86 0.3611 0.1904

Jupiter -91867-08-07 02:23 J -31832780.53 -31832780.40 -31832780.27 0.0525 0.0157

Jupiter -91867-11-04 13:25 J -31832691.05 -31832690.94 -31832690.83 0.0521 0.0307

Mars -91865-04-19 01:25 J -31832159.57 -31832159.44 -31832159.31 0.1614 0.0157

Venus -91865-07-09 23:44 J -31832077.56 -31832077.51 -31832077.46 0.3786 0.3235

Venus -91862-05-01 11:59 J -31831052.08 -31831052.00 -31831051.92 0.3615 0.2833

Jupiter -91860-01-03 02:23 J -31830439.56 -31830439.40 -31830439.23 0.0504 0.0028

Jupiter -91860-04-03 01:54 J -31830349.47 -31830349.42 -31830349.37 0.0507 0.0479

Venus -91859-01-23 17:30 J -31830053.85 -31830053.77 -31830053.69 0.3784 0.2564

Moon -91859-01-28 01:11 J -31830049.57 -31830049.45 -31830049.33 0.2737 0.0268

Earth -91859-01-28 01:54 J -31830049.54 -31830049.42 -31830049.29 0.2742 0.0257 *

Mars -91859-12-15 06:42 J -31829728.23 -31829728.22 -31829728.21 0.1923 0.1914

Saturn -91857-12-16 20:08 J -31828995.74 -31828995.66 -31828995.58 0.0277 0.0227

Saturn -91856-03-15 09:35 J -31828907.23 -31828907.10 -31828906.97 0.0277 0.0138

Saturn -91856-06-11 23:15 J -31828818.68 -31828818.53 -31828818.39 0.0277 0.0048

Earth -91856-08-06 18:27 J -31828762.85 -31828762.73 -31828762.61 0.2600 0.1115

Moon -91856-08-06 18:42 J -31828762.83 -31828762.72 -31828762.60 0.2606 0.1214 *

Saturn -91856-09-08 12:56 J -31828730.10 -31828729.96 -31828729.81 0.0277 0.0046

Mars -91856-09-09 10:03 J -31828729.21 -31828729.08 -31828728.95 0.1616 0.0311

Saturn -91856-12-06 03:06 J -31828641.49 -31828641.37 -31828641.24 0.0278 0.0141

Saturn -91855-03-04 17:30 J -31828552.84 -31828552.77 -31828552.68 0.0278 0.0237

Jupiter -91855-05-26 05:15 J -31828470.39 -31828470.28 -31828470.16 0.0526 0.0274

Jupiter -91855-08-23 16:03 J -31828380.96 -31828380.83 -31828380.70 0.0523 0.0189

Venus -91854-08-09 11:30 J -31828030.11 -31828030.02 -31828029.92 0.3781 0.1875

Mars -91849-05-06 08:51 J -31826298.25 -31826298.13 -31826298.01 0.1920 0.1001

Jupiter -91849-10-22 00:56 J -31826129.62 -31826129.46 -31826129.30 0.0503 0.0163

Jupiter -91848-01-20 00:42 J -31826039.58 -31826039.47 -31826039.34 0.0506 0.0345

Venus -91848-02-22 05:44 J -31826006.37 -31826006.26 -31826006.16 0.3778 0.1162

Mars -91846-01-30 19:11 J -31825298.82 -31825298.70 -31825298.59 0.1619 0.0767

Moon -91846-01-30 22:47 J -31825298.66 -31825298.55 -31825298.44 0.2740 0.1176 *

Earth -91846-01-30 23:44 J -31825298.62 -31825298.51 -31825298.40 0.2738 0.1310 *

Mars -91844-01-05 08:23 J -31824593.24 -31824593.15 -31824593.05 0.1609 0.1168

Jupiter -91843-03-14 08:37 J -31824160.23 -31824160.14 -31824160.05 0.0528 0.0385

Jupiter -91843-06-11 19:11 J -31824070.84 -31824070.70 -31824070.57 0.0524 0.0077

Earth -91843-08-09 17:01 J -31824011.81 -31824011.79 -31824011.77 0.2603 0.2550

Moon -91843-08-09 17:59 J -31824011.76 -31824011.75 -31824011.73 0.2605 0.2575

Venus -91843-09-07 23:59 J -31823982.61 -31823982.50 -31823982.39 0.3775 0.0444

Saturn -91842-07-24 07:39 J -31823663.27 -31823663.18 -31823663.09 0.0282 0.0231

Saturn -91842-10-21 01:54 J -31823574.56 -31823574.42 -31823574.27 0.0282 0.0120

Saturn -91841-01-17 19:54 J -31823485.83 -31823485.67 -31823485.50 0.0282 0.0011

Saturn -91841-04-15 13:25 J -31823397.09 -31823396.94 -31823396.79 0.0281 0.0097

Saturn -91841-07-13 06:27 J -31823308.34 -31823308.23 -31823308.11 0.0281 0.0201

Uranus -91841-11-07 14:37 J -31823190.93 -31823190.89 -31823190.85 0.0141 0.0134

Uranus -91840-02-03 18:42 J -31823102.80 -31823102.72 -31823102.63 0.0142 0.0116

Uranus -91840-05-02 23:01 J -31823014.64 -31823014.54 -31823014.43 0.0142 0.0097

Uranus -91840-07-30 03:20 J -31822926.48 -31822926.36 -31822926.24 0.0142 0.0078

Mars -91840-09-26 10:32 J -31822868.20 -31822868.06 -31822867.92 0.1916 0.0060

Uranus -91840-10-26 07:39 J -31822838.31 -31822838.18 -31822838.04 0.0142 0.0059

Uranus -91839-01-22 11:59 J -31822750.13 -31822750.00 -31822749.85 0.0142 0.0040

Uranus -91839-04-20 16:32 J -31822661.95 -31822661.81 -31822661.67 0.0142 0.0020

Uranus -91839-07-17 21:06 J -31822573.77 -31822573.62 -31822573.48 0.0142 0.0004

Venus -91839-09-06 09:35 J -31822523.16 -31822523.10 -31822523.03 0.3595 0.3155

Uranus -91839-10-14 01:25 J -31822485.58 -31822485.44 -31822485.29 0.0143 0.0020

Uranus -91838-01-10 05:59 J -31822397.39 -31822397.25 -31822397.10 0.0143 0.0040

Uranus -91838-04-08 10:32 J -31822309.19 -31822309.06 -31822308.92 0.0143 0.0060

Uranus -91838-07-05 15:20 J -31822220.98 -31822220.86 -31822220.74 0.0143 0.0080

Uranus -91838-10-01 19:54 J -31822132.77 -31822132.67 -31822132.56 0.0143 0.0101

Uranus -91838-12-29 00:27 J -31822044.54 -31822044.48 -31822044.39 0.0143 0.0123

Venus -91837-03-23 18:42 J -31821958.83 -31821958.72 -31821958.61 0.3772 0.0340

Uranus -91837-03-26 05:30 J -31821956.27 -31821956.27 -31821956.26 0.0144 0.0143

Mars -91837-06-22 04:03 J -31821868.41 -31821868.33 -31821868.24 0.1622 0.1220

Jupiter -91837-08-10 00:13 J -31821819.63 -31821819.49 -31821819.35 0.0502 0.0292

Jupiter -91837-11-08 00:27 J -31821729.63 -31821729.48 -31821729.33 0.0505 0.0219

Moon -91836-08-02 01:25 J -31821462.55 -31821462.44 -31821462.34 0.2597 0.1623

Earth -91836-08-02 02:23 J -31821462.51 -31821462.40 -31821462.30 0.2594 0.1547 *

Mars -91835-05-28 17:01 J -31821162.91 -31821162.79 -31821162.67 0.1611 0.0693

Venus -91833-03-22 11:01 J -31820499.15 -31820499.04 -31820498.92 0.3598 0.2006

Venus -91832-10-07 13:25 J -31819935.05 -31819934.94 -31819934.84 0.3769 0.1095

Jupiter -91832-12-31 11:59 J -31819850.04 -31819850.00 -31819849.95 0.0528 0.0494

Jupiter -91831-03-30 22:18 J -31819760.71 -31819760.57 -31819760.43 0.0525 0.0036

Jupiter -91831-06-28 09:35 J -31819671.18 -31819671.10 -31819671.02 0.0521 0.0430

Mars -91830-02-16 11:59 J -31819438.13 -31819438.00 -31819437.88 0.1913 0.0897

Venus -91828-10-06 12:13 J -31818475.13 -31818474.99 -31818474.86 0.3601 0.0905

Saturn -91827-05-05 21:35 J -31818263.65 -31818263.60 -31818263.54 0.0277 0.0255

Saturn -91827-08-02 10:47 J -31818175.16 -31818175.05 -31818174.93 0.0277 0.0167

Saturn -91827-10-30 00:13 J -31818086.63 -31818086.49 -31818086.35 0.0277 0.0078

Moon -91826-01-26 09:20 J -31817998.21 -31817998.11 -31817998.00 0.2738 0.1411

Earth -91826-01-26 09:49 J -31817998.20 -31817998.09 -31817997.99 0.2744 0.1446 *

Saturn -91826-01-26 14:08 J -31817998.06 -31817997.91 -31817997.76 0.0277 0.0015 *

Venus -91826-04-23 08:23 J -31817911.25 -31817911.15 -31817911.05 0.3765 0.1888

Saturn -91826-04-25 04:03 J -31817909.46 -31817909.33 -31817909.19 0.0277 0.0109

Saturn -91826-07-22 18:27 J -31817820.83 -31817820.73 -31817820.63 0.0278 0.0204

Mars -91826-10-19 01:39 J -31817732.56 -31817732.43 -31817732.30 0.1614 0.0225

Jupiter -91825-05-28 23:30 J -31817509.61 -31817509.52 -31817509.43 0.0501 0.0421

Jupiter -91825-08-27 00:13 J -31817419.65 -31817419.49 -31817419.32 0.0505 0.0094

Moon -91823-08-05 01:11 J -31816711.59 -31816711.45 -31816711.32 0.2604 0.0099

Earth -91823-08-05 01:25 J -31816711.58 -31816711.44 -31816711.31 0.2597 0.0093 *

Venus -91822-04-22 12:27 J -31816451.11 -31816450.98 -31816450.84 0.3605 0.0164

Neptune -91821-06-30 19:25 J -31816015.72 -31816015.69 -31816015.64 0.0089 0.0086

Mars -91821-07-08 12:56 J -31816007.98 -31816007.96 -31816007.93 0.1908 0.1875

Neptune -91821-09-26 22:18 J -31815927.62 -31815927.57 -31815927.48 0.0089 0.0081

Venus -91821-11-06 03:35 J -31815887.43 -31815887.35 -31815887.27 0.3761 0.2697

Neptune -91821-12-24 01:39 J -31815839.52 -31815839.43 -31815839.33 0.0089 0.0075

Neptune -91820-03-22 04:18 J -31815751.41 -31815751.32 -31815751.18 0.0089 0.0070

Neptune -91820-06-18 07:39 J -31815663.29 -31815663.18 -31815663.04 0.0089 0.0064

Neptune -91820-09-14 10:47 J -31815575.18 -31815575.05 -31815574.91 0.0089 0.0058

Neptune -91820-12-11 13:39 J -31815487.06 -31815486.93 -31815486.77 0.0089 0.0053

Jupiter -91819-01-17 01:25 J -31815450.57 -31815450.44 -31815450.31 0.0525 0.0149

Neptune -91819-03-09 17:01 J -31815398.94 -31815398.79 -31815398.64 0.0089 0.0047

Jupiter -91819-04-16 12:13 J -31815361.09 -31815360.99 -31815360.87 0.0522 0.0315

Neptune -91819-06-05 19:39 J -31815310.83 -31815310.68 -31815310.51 0.0089 0.0042

Neptune -91819-09-01 23:01 J -31815222.71 -31815222.54 -31815222.38 0.0089 0.0036

Neptune -91819-11-29 01:39 J -31815134.59 -31815134.43 -31815134.25 0.0088 0.0031

Neptune -91818-02-25 04:32 J -31815046.47 -31815046.31 -31815046.12 0.0088 0.0026

Neptune -91818-05-24 07:39 J -31814958.35 -31814958.18 -31814958.00 0.0088 0.0020

Neptune -91818-08-20 10:32 J -31814870.23 -31814870.06 -31814869.88 0.0088 0.0015

Neptune -91818-11-16 13:39 J -31814782.11 -31814781.93 -31814781.75 0.0088 0.0009

Neptune -91817-02-12 16:32 J -31814693.99 -31814693.81 -31814693.63 0.0088 0.0003

Neptune -91817-05-10 19:25 J -31814605.86 -31814605.69 -31814605.51 0.0088 0.0002

Neptune -91817-08-06 22:18 J -31814517.74 -31814517.57 -31814517.39 0.0088 0.0008

Neptune -91817-11-03 01:11 J -31814429.62 -31814429.45 -31814429.27 0.0088 0.0013

Venus -91817-11-05 12:42 J -31814427.10 -31814426.97 -31814426.85 0.3608 0.1178

Neptune -91816-01-30 04:03 J -31814341.50 -31814341.33 -31814341.16 0.0088 0.0018

Mars -91816-03-10 10:32 J -31814302.20 -31814302.06 -31814301.93 0.1616 0.0246

Neptune -91816-04-28 06:56 J -31814253.38 -31814253.21 -31814253.04 0.0088 0.0023

Neptune -91816-07-25 09:49 J -31814165.26 -31814165.09 -31814164.92 0.0088 0.0029

Neptune -91816-10-21 12:27 J -31814077.13 -31814076.98 -31814076.81 0.0088 0.0034

Neptune -91815-01-17 15:06 J -31813989.01 -31813988.87 -31813988.70 0.0088 0.0040

Neptune -91815-04-15 17:59 J -31813900.89 -31813900.75 -31813900.59 0.0088 0.0045

Venus -91815-05-22 23:01 J -31813863.58 -31813863.54 -31813863.51 0.3757 0.3534

Neptune -91815-07-12 20:51 J -31813812.77 -31813812.63 -31813812.48 0.0088 0.0050

Neptune -91815-10-08 23:44 J -31813724.64 -31813724.51 -31813724.37 0.0088 0.0055

Neptune -91814-01-05 02:08 J -31813636.52 -31813636.41 -31813636.26 0.0088 0.0061

Neptune -91814-04-03 05:01 J -31813548.39 -31813548.29 -31813548.16 0.0088 0.0065

Neptune -91814-06-30 07:39 J -31813460.26 -31813460.18 -31813460.06 0.0088 0.0071

Venus -91814-08-01 04:03 J -31813428.35 -31813428.33 -31813428.31 0.3788 0.3720

Neptune -91814-09-26 10:32 J -31813372.14 -31813372.06 -31813371.96 0.0088 0.0076

Neptune -91814-12-23 13:11 J -31813284.00 -31813283.95 -31813283.86 0.0088 0.0081

Moon -91813-01-29 06:27 J -31813247.35 -31813247.23 -31813247.10 0.2737 0.0106

Earth -91813-01-29 07:25 J -31813247.32 -31813247.19 -31813247.07 0.2741 0.0106 *

Neptune -91813-03-20 15:49 J -31813195.86 -31813195.84 -31813195.78 0.0088 0.0086

Jupiter -91813-06-15 00:13 J -31813109.65 -31813109.49 -31813109.32 0.0504 0.0031

Jupiter -91813-09-12 23:44 J -31813019.56 -31813019.51 -31813019.45 0.0508 0.0477

Saturn -91813-12-10 06:27 J -31812931.27 -31812931.23 -31812931.18 0.0282 0.0270

Saturn -91812-03-09 01:11 J -31812842.59 -31812842.45 -31812842.31 0.0282 0.0157

Saturn -91812-06-05 19:11 J -31812753.86 -31812753.70 -31812753.54 0.0281 0.0047

Saturn -91812-09-02 12:56 J -31812665.12 -31812664.96 -31812664.80 0.0281 0.0061

Saturn -91812-11-30 06:13 J -31812576.37 -31812576.24 -31812576.11 0.0281 0.0166

Saturn -91811-02-26 23:01 J -31812487.58 -31812487.54 -31812487.49 0.0281 0.0269

Venus -91811-05-22 12:13 J -31812403.10 -31812402.99 -31812402.89 0.3612 0.2138

Earth -91810-08-07 23:59 J -31811960.61 -31811960.50 -31811960.39 0.2600 0.1425

Moon -91810-08-08 00:27 J -31811960.58 -31811960.48 -31811960.37 0.2605 0.1447 *

Mars -91810-11-05 09:20 J -31811871.23 -31811871.11 -31811871.00 0.1920 0.1098

Venus -91808-02-13 21:49 J -31811404.65 -31811404.59 -31811404.53 0.3785 0.3063

Jupiter -91808-11-05 03:35 J -31811140.46 -31811140.35 -31811140.23 0.0526 0.0275

Jupiter -91807-02-02 14:23 J -31811051.03 -31811050.90 -31811050.77 0.0522 0.0188

Mars -91807-07-31 19:11 J -31810871.82 -31810871.70 -31810871.58 0.1619 0.0702

Venus -91806-12-06 11:15 J -31810379.09 -31810379.03 -31810378.96 0.3616 0.3060

Mars -91805-07-06 08:37 J -31810166.22 -31810166.14 -31810166.05 0.1609 0.1240

Venus -91803-08-30 15:35 J -31809380.93 -31809380.85 -31809380.76 0.3783 0.2389

Uranus -91801-01-07 13:25 J -31808885.99 -31808885.94 -31808885.86 0.0137 0.0128

Jupiter -91801-04-02 23:44 J -31808799.67 -31808799.51 -31808799.35 0.0503 0.0157

Uranus -91801-04-04 19:25 J -31808797.78 -31808797.69 -31808797.57 0.0137 0.0106

Jupiter -91801-07-01 23:44 J -31808709.63 -31808709.51 -31808709.40 0.0506 0.0352

Uranus -91801-07-02 01:25 J -31808709.56 -31808709.44 -31808709.30 0.0137 0.0085 *

Uranus -91801-09-28 07:25 J -31808621.34 -31808621.19 -31808621.04 0.0137 0.0064

Uranus -91801-12-25 13:11 J -31808533.11 -31808532.95 -31808532.79 0.0137 0.0043

Moon -91800-01-31 04:03 J -31808496.43 -31808496.33 -31808496.23 0.2741 0.1576

Earth -91800-01-31 05:01 J -31808496.38 -31808496.29 -31808496.19 0.2738 0.1631 *

Uranus -91800-03-23 18:56 J -31808444.88 -31808444.71 -31808444.54 0.0137 0.0023

Mars -91800-03-27 11:01 J -31808441.18 -31808441.04 -31808440.90 0.1917 0.0161

Uranus -91800-06-20 00:27 J -31808356.64 -31808356.48 -31808356.31 0.0136 0.0005

Uranus -91800-09-16 06:13 J -31808268.41 -31808268.24 -31808268.07 0.0136 0.0018

Uranus -91800-12-13 11:44 J -31808180.17 -31808180.01 -31808179.85 0.0136 0.0037

Uranus -91799-03-11 17:01 J -31808091.93 -31808091.79 -31808091.63 0.0136 0.0057

Uranus -91799-06-07 22:32 J -31808003.69 -31808003.56 -31808003.42 0.0136 0.0076

Uranus -91799-09-04 03:49 J -31807915.45 -31807915.34 -31807915.22 0.0136 0.0096

Uranus -91799-12-01 09:06 J -31807827.20 -31807827.12 -31807827.02 0.0136 0.0114

Uranus -91798-02-27 14:23 J -31807738.92 -31807738.90 -31807738.86 0.0136 0.0133

Saturn -91798-09-23 00:27 J -31807531.50 -31807531.48 -31807531.45 0.0277 0.0273

Saturn -91798-12-20 13:39 J -31807443.03 -31807442.93 -31807442.82 0.0277 0.0185

Mars -91798-12-22 04:18 J -31807441.41 -31807441.32 -31807441.23 0.1622 0.1159

Venus -91797-03-15 09:35 J -31807357.19 -31807357.10 -31807357.00 0.3780 0.1698

Saturn -91797-03-18 03:20 J -31807354.50 -31807354.36 -31807354.22 0.0277 0.0095

Saturn -91797-06-14 17:01 J -31807265.94 -31807265.79 -31807265.64 0.0277 0.0003

Saturn -91797-09-11 06:56 J -31807177.35 -31807177.21 -31807177.07 0.0278 0.0091

Saturn -91797-12-08 21:20 J -31807088.72 -31807088.61 -31807088.50 0.0278 0.0187

Jupiter -91796-08-24 06:27 J -31806830.31 -31806830.23 -31806830.14 0.0527 0.0391

Jupiter -91796-11-21 17:01 J -31806740.93 -31806740.79 -31806740.65 0.0524 0.0069

Mars -91796-11-26 17:15 J -31806735.90 -31806735.78 -31806735.66 0.1611 0.0762

Earth -91793-01-24 17:44 J -31805946.79 -31805946.76 -31805946.73 0.2747 0.2627

Moon -91793-01-24 17:59 J -31805946.79 -31805946.75 -31805946.70 0.2740 0.2529 *

Venus -91792-09-29 03:49 J -31805333.44 -31805333.34 -31805333.23 0.3777 0.0981

Mars -91791-08-17 12:27 J -31805011.11 -31805010.98 -31805010.86 0.1912 0.0805

Moon -91790-08-03 07:11 J -31804660.32 -31804660.20 -31804660.09 0.2599 0.1355

Earth -91790-08-03 07:54 J -31804660.29 -31804660.17 -31804660.05 0.2595 0.1220 *

Jupiter -91789-01-20 22:03 J -31804489.72 -31804489.58 -31804489.44 0.0502 0.0294

Jupiter -91789-04-19 22:18 J -31804399.71 -31804399.57 -31804399.42 0.0505 0.0217

Mars -91788-05-13 13:11 J -31804010.96 -31804010.95 -31804010.93 0.1626 0.1610

Venus -91786-04-14 22:18 J -31803309.68 -31803309.57 -31803309.46 0.3774 0.0242

Mars -91786-04-19 01:54 J -31803305.56 -31803305.42 -31803305.29 0.1614 0.0294

Jupiter -91784-06-12 09:49 J -31802520.13 -31802520.09 -31802520.05 0.0529 0.0503

Jupiter -91784-09-09 20:08 J -31802430.80 -31802430.66 -31802430.52 0.0525 0.0044

Jupiter -91784-12-08 07:11 J -31802341.28 -31802341.20 -31802341.11 0.0521 0.0422

Saturn -91783-07-27 03:49 J -31802110.47 -31802110.34 -31802110.21 0.0282 0.0176

Saturn -91783-10-23 22:03 J -31802021.74 -31802021.58 -31802021.42 0.0282 0.0065

Saturn -91782-01-20 15:49 J -31801933.00 -31801932.84 -31801932.68 0.0282 0.0044

Venus -91782-04-13 09:49 J -31801850.18 -31801850.09 -31801850.01 0.3596 0.2865

Saturn -91782-04-19 08:51 J -31801844.26 -31801844.13 -31801843.99 0.0281 0.0150

Saturn -91782-07-17 01:54 J -31801755.48 -31801755.42 -31801755.35 0.0281 0.0252

Mars -91781-01-07 13:25 J -31801580.99 -31801580.94 -31801580.90 0.1908 0.1787

Venus -91781-10-28 16:47 J -31801285.91 -31801285.80 -31801285.69 0.3771 0.0517

Moon -91780-01-26 14:37 J -31801196.00 -31801195.89 -31801195.78 0.2737 0.1257

Earth -91780-01-26 15:06 J -31801195.98 -31801195.87 -31801195.76 0.2744 0.1135 *

Jupiter -91778-11-08 21:06 J -31800179.70 -31800179.62 -31800179.53 0.0501 0.0424

Jupiter -91777-02-06 22:03 J -31800089.75 -31800089.58 -31800089.42 0.0504 0.0090

Moon -91777-08-05 06:42 J -31799909.35 -31799909.22 -31799909.09 0.2604 0.0267

Earth -91777-08-05 06:56 J -31799909.35 -31799909.21 -31799909.08 0.2598 0.0286 *

Mars -91777-09-08 10:32 J -31799875.19 -31799875.06 -31799874.93 0.1616 0.0176

Venus -91777-10-27 11:01 J -31799826.16 -31799826.04 -31799825.92 0.3599 0.1719

Venus -91775-05-14 11:44 J -31799262.12 -31799262.01 -31799261.91 0.3768 0.1294

Jupiter -91772-06-28 23:30 J -31798120.65 -31798120.52 -31798120.39 0.0526 0.0156

Jupiter -91772-09-26 10:18 J -31798031.18 -31798031.07 -31798030.96 0.0522 0.0310

Venus -91771-05-13 11:59 J -31797802.14 -31797802.00 -31797801.87 0.3602 0.0644

Mars -91770-05-06 09:20 J -31797444.22 -31797444.11 -31797444.00 0.1921 0.1181

Venus -91770-11-28 06:42 J -31797238.31 -31797238.22 -31797238.13 0.3764 0.2087

Saturn -91768-05-08 15:20 J -31796710.95 -31796710.86 -31796710.77 0.0277 0.0212

Saturn -91768-08-05 04:47 J -31796622.43 -31796622.30 -31796622.17 0.0277 0.0123

Saturn -91768-11-01 18:13 J -31796533.88 -31796533.74 -31796533.59 0.0277 0.0033

Saturn -91767-01-29 08:08 J -31796445.30 -31796445.16 -31796445.01 0.0277 0.0061

Moon -91767-01-29 11:44 J -31796445.13 -31796445.01 -31796444.89 0.2738 0.0368 *

Earth -91767-01-29 12:42 J -31796445.09 -31796444.97 -31796444.85 0.2741 0.0389 *

Mars -91767-01-29 19:25 J -31796444.81 -31796444.69 -31796444.57 0.1619 0.0636

Saturn -91767-04-27 22:18 J -31796356.69 -31796356.57 -31796356.44 0.0278 0.0156

Saturn -91767-07-25 12:42 J -31796268.02 -31796267.97 -31796267.90 0.0278 0.0253

Jupiter -91766-11-25 21:35 J -31795779.77 -31795779.60 -31795779.43 0.0504 0.0038

Venus -91766-11-27 12:13 J -31795778.12 -31795777.99 -31795777.85 0.3606 0.0421

Mars -91765-01-05 08:51 J -31795739.20 -31795739.13 -31795739.05 0.1609 0.1307

Jupiter -91765-02-23 21:06 J -31795689.68 -31795689.62 -31795689.56 0.0507 0.0467

Venus -91764-06-13 01:54 J -31795214.49 -31795214.42 -31795214.35 0.3760 0.2908

Earth -91764-08-08 05:30 J -31795158.37 -31795158.27 -31795158.17 0.2601 0.1731

Moon -91764-08-08 06:13 J -31795158.33 -31795158.24 -31795158.15 0.2605 0.1831 *

Mars -91761-09-25 11:30 J -31794014.16 -31794014.02 -31794013.88 0.1917 0.0260

Jupiter -91760-04-17 02:37 J -31793810.51 -31793810.39 -31793810.27 0.0526 0.0268

Venus -91760-06-12 12:13 J -31793754.11 -31793753.99 -31793753.87 0.3609 0.1417

Jupiter -91760-07-15 13:11 J -31793721.07 -31793720.95 -31793720.82 0.0523 0.0195

Venus -91759-12-27 21:35 J -31793190.61 -31793190.60 -31793190.60 0.3756 0.3744

Mars -91758-06-22 04:18 J -31793014.41 -31793014.32 -31793014.22 0.1622 0.1094

Venus -91757-03-07 02:08 J -31792755.45 -31792755.41 -31792755.38 0.3787 0.3553

Earth -91757-07-31 14:08 J -31792608.95 -31792608.91 -31792608.86 0.2593 0.2434

Uranus -91757-11-27 22:18 J -31792489.62 -31792489.57 -31792489.50 0.0141 0.0127

Uranus -91756-02-24 02:37 J -31792401.48 -31792401.39 -31792401.30 0.0142 0.0109

Uranus -91756-05-23 06:42 J -31792313.32 -31792313.22 -31792313.10 0.0142 0.0091

Mars -91756-05-27 17:30 J -31792308.89 -31792308.77 -31792308.66 0.1611 0.0831

Uranus -91756-08-19 11:01 J -31792225.16 -31792225.04 -31792224.91 0.0142 0.0072

Uranus -91756-11-15 15:35 J -31792136.99 -31792136.85 -31792136.72 0.0142 0.0052

Uranus -91755-02-11 19:54 J -31792048.81 -31792048.67 -31792048.53 0.0142 0.0033

Uranus -91755-05-11 00:27 J -31791960.63 -31791960.48 -31791960.34 0.0142 0.0014

Uranus -91755-08-07 04:47 J -31791872.44 -31791872.30 -31791872.15 0.0142 0.0007

Uranus -91755-11-03 09:20 J -31791784.25 -31791784.11 -31791783.96 0.0143 0.0026

Venus -91755-12-27 11:44 J -31791730.11 -31791730.01 -31791729.91 0.3613 0.2372

Uranus -91754-01-30 13:54 J -31791696.06 -31791695.92 -31791695.78 0.0143 0.0046

Moon -91754-02-01 09:35 J -31791694.19 -31791694.10 -31791694.01 0.2740 0.1783

Earth -91754-02-01 10:32 J -31791694.15 -31791694.06 -31791693.98 0.2737 0.1953 *

Uranus -91754-04-28 18:27 J -31791607.86 -31791607.73 -31791607.60 0.0143 0.0067

Uranus -91754-07-25 23:01 J -31791519.65 -31791519.54 -31791519.42 0.0143 0.0087

Jupiter -91754-09-13 21:20 J -31791469.77 -31791469.61 -31791469.45 0.0503 0.0161

Uranus -91754-10-22 03:35 J -31791431.44 -31791431.35 -31791431.24 0.0143 0.0108

Jupiter -91754-12-12 21:20 J -31791379.72 -31791379.61 -31791379.49 0.0507 0.0348

Saturn -91754-12-14 02:37 J -31791378.49 -31791378.39 -31791378.28 0.0282 0.0215

Uranus -91753-01-18 08:37 J -31791343.20 -31791343.14 -31791343.08 0.0143 0.0129

Saturn -91753-03-11 21:06 J -31791289.77 -31791289.62 -31791289.47 0.0281 0.0103

Saturn -91753-06-08 15:06 J -31791201.04 -31791200.87 -31791200.71 0.0281 0.0009

Saturn -91753-09-05 08:23 J -31791112.29 -31791112.15 -31791112.00 0.0281 0.0113

Saturn -91753-12-03 01:25 J -31791023.53 -31791023.44 -31791023.33 0.0281 0.0217

Venus -91752-09-20 19:39 J -31790731.74 -31790731.68 -31790731.61 0.3785 0.2899

Mars -91751-02-15 12:42 J -31790584.10 -31790583.97 -31790583.84 0.1913 0.0709

Venus -91749-07-12 10:47 J -31789706.10 -31789706.05 -31789706.00 0.3617 0.3283

Mars -91749-11-11 13:25 J -31789583.98 -31789583.94 -31789583.90 0.1625 0.1546

Jupiter -91748-02-03 05:01 J -31789500.38 -31789500.29 -31789500.20 0.0527 0.0390

Jupiter -91748-05-03 15:20 J -31789410.99 -31789410.86 -31789410.72 0.0523 0.0072

Moon -91747-01-24 23:01 J -31789144.60 -31789144.54 -31789144.47 0.2740 0.2327

Earth -91747-01-24 23:01 J -31789144.60 -31789144.54 -31789144.48 0.2746 0.2324 *

Mars -91747-10-18 02:08 J -31788878.55 -31788878.41 -31788878.28 0.1613 0.0362

Venus -91746-04-06 13:39 J -31788708.02 -31788707.93 -31788707.84 0.3782 0.2213

Moon -91744-08-03 12:42 J -31787858.09 -31787857.97 -31787857.84 0.2601 0.0904

Earth -91744-08-03 13:25 J -31787858.06 -31787857.94 -31787857.81 0.2595 0.0905 *

Jupiter -91742-07-02 20:37 J -31787159.77 -31787159.64 -31787159.50 0.0502 0.0289

Mars -91742-07-08 13:54 J -31787153.99 -31787153.92 -31787153.86 0.1908 0.1684

Jupiter -91742-09-30 21:06 J -31787069.76 -31787069.62 -31787069.47 0.0506 0.0223

Venus -91741-10-20 07:39 J -31786684.28 -31786684.18 -31786684.08 0.3779 0.1522

Neptune -91740-12-31 17:30 J -31786246.79 -31786246.77 -31786246.74 0.0089 0.0087

Neptune -91739-03-29 18:56 J -31786158.75 -31786158.71 -31786158.66 0.0089 0.0083

Neptune -91739-06-25 20:23 J -31786070.70 -31786070.65 -31786070.58 0.0089 0.0079

Neptune -91739-09-21 22:03 J -31785982.65 -31785982.58 -31785982.50 0.0089 0.0075

Saturn -91739-09-25 17:59 J -31785978.82 -31785978.75 -31785978.67 0.0277 0.0232

Neptune -91739-12-18 23:30 J -31785894.59 -31785894.52 -31785894.43 0.0089 0.0071

Saturn -91739-12-23 07:25 J -31785890.32 -31785890.19 -31785890.07 0.0277 0.0144

Neptune -91738-03-17 00:56 J -31785806.54 -31785806.46 -31785806.35 0.0089 0.0067

Saturn -91738-03-21 20:51 J -31785801.77 -31785801.63 -31785801.48 0.0277 0.0053

Neptune -91738-06-13 02:51 J -31785718.48 -31785718.38 -31785718.28 0.0089 0.0062

Saturn -91738-06-18 10:47 J -31785713.20 -31785713.05 -31785712.90 0.0278 0.0040

Neptune -91738-09-09 04:18 J -31785630.42 -31785630.32 -31785630.21 0.0089 0.0058

Saturn -91738-09-15 00:42 J -31785624.59 -31785624.47 -31785624.33 0.0278 0.0136

Neptune -91738-12-06 05:44 J -31785542.36 -31785542.26 -31785542.14 0.0089 0.0054

Saturn -91738-12-12 15:20 J -31785535.94 -31785535.86 -31785535.78 0.0278 0.0232

Neptune -91737-03-03 07:25 J -31785454.30 -31785454.19 -31785454.07 0.0089 0.0050

Mars -91737-03-09 10:47 J -31785448.19 -31785448.05 -31785447.92 0.1616 0.0115

Neptune -91737-05-30 08:51 J -31785366.24 -31785366.13 -31785366.00 0.0089 0.0046

Neptune -91737-08-26 10:47 J -31785278.18 -31785278.05 -31785277.93 0.0089 0.0041

Jupiter -91737-11-22 07:54 J -31785190.20 -31785190.17 -31785190.13 0.0528 0.0506

Neptune -91737-11-22 12:13 J -31785190.11 -31785189.99 -31785189.86 0.0089 0.0037

Neptune -91736-02-18 13:39 J -31785102.05 -31785101.93 -31785101.79 0.0089 0.0033

Jupiter -91736-02-19 18:13 J -31785100.88 -31785100.74 -31785100.61 0.0525 0.0049

Neptune -91736-05-17 15:20 J -31785013.99 -31785013.86 -31785013.72 0.0089 0.0029

Jupiter -91736-05-20 05:15 J -31785011.36 -31785011.28 -31785011.20 0.0521 0.0416

Neptune -91736-08-13 17:01 J -31784925.92 -31784925.79 -31784925.65 0.0089 0.0024

Neptune -91736-11-09 18:42 J -31784837.86 -31784837.72 -31784837.58 0.0089 0.0020

Neptune -91735-02-05 20:08 J -31784749.79 -31784749.66 -31784749.51 0.0089 0.0016

Neptune -91735-05-04 21:49 J -31784661.73 -31784661.59 -31784661.44 0.0089 0.0011

Venus -91735-05-06 02:08 J -31784660.52 -31784660.41 -31784660.31 0.3776 0.0804

Neptune -91735-07-31 23:30 J -31784573.66 -31784573.52 -31784573.38 0.0089 0.0007

Neptune -91735-10-28 01:11 J -31784485.59 -31784485.45 -31784485.31 0.0089 0.0002

Neptune -91734-01-24 02:51 J -31784397.52 -31784397.38 -31784397.24 0.0089 0.0002

Moon -91734-01-27 19:54 J -31784393.79 -31784393.67 -31784393.56 0.2737 0.0824

Earth -91734-01-27 20:23 J -31784393.77 -31784393.65 -31784393.53 0.2743 0.0830 *

Neptune -91734-04-22 04:32 J -31784309.45 -31784309.31 -31784309.17 0.0089 0.0007

Neptune -91734-07-19 06:13 J -31784221.38 -31784221.24 -31784221.10 0.0089 0.0011

Neptune -91734-10-15 07:39 J -31784133.32 -31784133.18 -31784133.03 0.0089 0.0016

Neptune -91733-01-11 09:20 J -31784045.24 -31784045.11 -31784044.97 0.0089 0.0020

Neptune -91733-04-08 11:01 J -31783957.17 -31783957.04 -31783956.90 0.0089 0.0024

Neptune -91733-07-05 12:42 J -31783869.10 -31783868.97 -31783868.83 0.0089 0.0029

Neptune -91733-10-01 14:23 J -31783781.03 -31783780.90 -31783780.76 0.0089 0.0033

Neptune -91733-12-28 16:03 J -31783692.96 -31783692.83 -31783692.69 0.0089 0.0038

Neptune -91732-03-26 17:44 J -31783604.88 -31783604.76 -31783604.63 0.0089 0.0042

Neptune -91732-06-22 19:25 J -31783516.81 -31783516.69 -31783516.56 0.0089 0.0047

Neptune -91732-09-18 21:06 J -31783428.73 -31783428.62 -31783428.49 0.0089 0.0051

Neptune -91732-12-15 22:47 J -31783340.65 -31783340.55 -31783340.43 0.0089 0.0056

Neptune -91731-03-14 00:27 J -31783252.57 -31783252.48 -31783252.36 0.0089 0.0060

Neptune -91731-06-10 02:08 J -31783164.49 -31783164.41 -31783164.30 0.0089 0.0065

Moon -91731-08-06 12:27 J -31783107.11 -31783106.98 -31783106.85 0.2604 0.0566

Earth -91731-08-06 12:27 J -31783107.11 -31783106.98 -31783106.85 0.2598 0.0593 *

Neptune -91731-09-06 04:03 J -31783076.41 -31783076.33 -31783076.23 0.0089 0.0069

Mars -91731-11-04 09:49 J -31783017.19 -31783017.09 -31783016.98 0.1921 0.1284

Neptune -91731-12-03 05:30 J -31782988.33 -31782988.27 -31782988.17 0.0089 0.0074

Neptune -91730-03-01 07:25 J -31782900.25 -31782900.19 -31782900.11 0.0089 0.0078

Jupiter -91730-04-20 18:56 J -31782849.79 -31782849.71 -31782849.62 0.0501 0.0426

Neptune -91730-05-28 09:06 J -31782812.16 -31782812.12 -31782812.05 0.0089 0.0083

Jupiter -91730-07-19 19:54 J -31782759.84 -31782759.67 -31782759.51 0.0504 0.0087

Neptune -91730-08-24 11:01 J -31782724.06 -31782724.04 -31782724.00 0.0089 0.0087

Venus -91730-11-19 20:23 J -31782636.76 -31782636.65 -31782636.53 0.3773 0.0161

Mars -91728-07-30 19:39 J -31782017.81 -31782017.68 -31782017.56 0.1619 0.0576

Pluto -91727-05-15 11:01 J -31781729.04 -31781729.04 -31781729.02 0.0060 0.0060

Pluto -91727-08-11 12:27 J -31781641.06 -31781640.98 -31781640.89 0.0060 0.0053

Pluto -91727-11-07 13:39 J -31781553.03 -31781552.93 -31781552.79 0.0060 0.0047

Pluto -91726-02-03 15:20 J -31781465.00 -31781464.86 -31781464.71 0.0060 0.0040

Pluto -91726-05-02 16:32 J -31781376.95 -31781376.81 -31781376.63 0.0060 0.0034

Mars -91726-07-06 09:06 J -31781312.19 -31781312.12 -31781312.05 0.1609 0.1373

Pluto -91726-07-29 18:13 J -31781288.91 -31781288.74 -31781288.56 0.0060 0.0027

Pluto -91726-10-25 19:25 J -31781200.86 -31781200.69 -31781200.49 0.0060 0.0021

Venus -91726-11-18 09:49 J -31781177.18 -31781177.09 -31781176.99 0.3597 0.2565

Pluto -91725-01-21 21:06 J -31781112.80 -31781112.62 -31781112.42 0.0060 0.0014

Pluto -91725-04-18 22:47 J -31781024.74 -31781024.55 -31781024.35 0.0060 0.0007

Pluto -91725-07-16 00:13 J -31780936.68 -31780936.49 -31780936.29 0.0060 0.0001

Pluto -91725-10-12 01:39 J -31780848.62 -31780848.43 -31780848.23 0.0060 0.0006

Jupiter -91725-12-08 21:06 J -31780790.75 -31780790.62 -31780790.49 0.0526 0.0164

Pluto -91724-01-08 03:06 J -31780760.56 -31780760.37 -31780760.17 0.0061 0.0013

Jupiter -91724-03-08 08:08 J -31780701.27 -31780701.16 -31780701.05 0.0522 0.0302

Pluto -91724-04-06 04:32 J -31780672.49 -31780672.31 -31780672.11 0.0061 0.0020

Saturn -91724-05-02 05:30 J -31780646.36 -31780646.27 -31780646.17 0.0282 0.0233

Venus -91724-06-04 15:06 J -31780612.98 -31780612.87 -31780612.76 0.3770 0.0710

Pluto -91724-07-03 05:44 J -31780584.41 -31780584.26 -31780584.06 0.0061 0.0027

Saturn -91724-07-29 23:59 J -31780557.65 -31780557.50 -31780557.35 0.0282 0.0121

Pluto -91724-09-29 07:39 J -31780496.34 -31780496.18 -31780496.01 0.0061 0.0033

Saturn -91724-10-26 17:59 J -31780468.91 -31780468.75 -31780468.59 0.0282 0.0011

Pluto -91724-12-26 09:06 J -31780408.26 -31780408.12 -31780407.96 0.0061 0.0040

Saturn -91723-01-23 11:30 J -31780380.17 -31780380.02 -31780379.87 0.0281 0.0096

Pluto -91723-03-24 10:32 J -31780320.17 -31780320.06 -31780319.92 0.0061 0.0047

Saturn -91723-04-22 04:32 J -31780291.41 -31780291.31 -31780291.19 0.0281 0.0201

Pluto -91723-06-20 11:44 J -31780232.07 -31780232.01 -31780231.89 0.0061 0.0054

Pluto -91723-09-16 13:39 J -31780143.93 -31780143.93 -31780143.91 0.0061 0.0061

Moon -91721-01-30 17:01 J -31779642.91 -31779642.79 -31779642.67 0.2740 0.0517

Earth -91721-01-30 17:59 J -31779642.87 -31779642.75 -31779642.63 0.2740 0.0705 *

Mars -91721-03-26 11:30 J -31779587.16 -31779587.02 -31779586.88 0.1917 0.0337

Venus -91720-06-03 11:01 J -31779153.16 -31779153.04 -31779152.91 0.3600 0.1440

Venus -91719-12-19 10:03 J -31778589.18 -31778589.08 -31778588.98 0.3766 0.1489

Mars -91719-12-21 04:32 J -31778587.41 -31778587.31 -31778587.21 0.1622 0.1030

Jupiter -91718-05-07 19:11 J -31778449.86 -31778449.70 -31778449.53 0.0503 0.0044

Jupiter -91718-08-05 18:56 J -31778359.78 -31778359.71 -31778359.65 0.0507 0.0463

Earth -91718-08-09 11:01 J -31778356.12 -31778356.04 -31778355.96 0.2601 0.2043

Moon -91718-08-09 11:44 J -31778356.08 -31778356.01 -31778355.93 0.2606 0.2125 *

Uranus -91717-01-27 21:49 J -31778184.66 -31778184.59 -31778184.49 0.0137 0.0119

Uranus -91717-04-25 04:03 J -31778096.45 -31778096.33 -31778096.21 0.0137 0.0098

Uranus -91717-07-22 09:35 J -31778008.23 -31778008.10 -31778007.94 0.0137 0.0077

Uranus -91717-10-18 15:35 J -31777920.00 -31777919.85 -31777919.69 0.0137 0.0056

Mars -91717-11-25 17:44 J -31777881.88 -31777881.76 -31777881.65 0.1611 0.0900

Uranus -91716-01-14 21:35 J -31777831.77 -31777831.60 -31777831.44 0.0137 0.0035

Uranus -91716-04-13 03:20 J -31777743.53 -31777743.36 -31777743.20 0.0137 0.0015

Uranus -91716-07-10 08:51 J -31777655.30 -31777655.13 -31777654.96 0.0136 0.0006

Uranus -91716-10-06 14:23 J -31777567.06 -31777566.90 -31777566.73 0.0136 0.0026

Uranus -91715-01-02 19:54 J -31777478.82 -31777478.67 -31777478.51 0.0136 0.0045

Uranus -91715-04-01 01:11 J -31777390.58 -31777390.45 -31777390.29 0.0136 0.0066

Uranus -91715-06-28 06:42 J -31777302.34 -31777302.22 -31777302.08 0.0136 0.0084

Uranus -91715-09-24 12:13 J -31777214.10 -31777213.99 -31777213.88 0.0136 0.0103

Venus -91715-12-18 11:44 J -31777129.14 -31777129.01 -31777128.87 0.3603 0.0362

Uranus -91715-12-21 17:30 J -31777125.84 -31777125.77 -31777125.70 0.0136 0.0122

Venus -91713-07-04 05:01 J -31776565.37 -31776565.29 -31776565.20 0.3763 0.2298

Jupiter -91713-09-27 00:27 J -31776480.59 -31776480.48 -31776480.36 0.0527 0.0274

Jupiter -91713-12-25 11:15 J -31776391.16 -31776391.03 -31776390.90 0.0523 0.0189

Mars -91712-08-16 13:11 J -31776157.08 -31776156.95 -31776156.82 0.1913 0.0610

Moon -91711-08-01 18:56 J -31775806.79 -31775806.71 -31775806.64 0.2595 0.2143

Earth -91711-08-01 19:54 J -31775806.75 -31775806.67 -31775806.59 0.2593 0.2107 *

Saturn -91709-02-12 19:39 J -31775246.72 -31775246.68 -31775246.63 0.0277 0.0258

Saturn -91709-05-11 08:51 J -31775158.24 -31775158.13 -31775158.01 0.0277 0.0170

Mars -91709-05-12 13:39 J -31775156.98 -31775156.93 -31775156.88 0.1625 0.1482

Venus -91709-07-03 11:59 J -31775105.13 -31775105.00 -31775104.86 0.3607 0.0677

Saturn -91709-08-07 22:32 J -31775069.70 -31775069.56 -31775069.42 0.0277 0.0081

Saturn -91709-11-04 12:13 J -31774981.14 -31774980.99 -31774980.85 0.0277 0.0013

Saturn -91708-02-01 02:08 J -31774892.55 -31774892.41 -31774892.27 0.0277 0.0106

Moon -91708-02-01 14:51 J -31774891.94 -31774891.88 -31774891.81 0.2740 0.2247

Earth -91708-02-01 15:49 J -31774891.90 -31774891.84 -31774891.77 0.2737 0.2275 *

Saturn -91708-04-30 16:18 J -31774803.92 -31774803.82 -31774803.71 0.0278 0.0202

Venus -91707-01-18 00:27 J -31774541.54 -31774541.48 -31774541.42 0.3759 0.3116

Mars -91707-04-18 02:08 J -31774451.54 -31774451.41 -31774451.28 0.1613 0.0427

Jupiter -91706-02-23 18:42 J -31774139.88 -31774139.72 -31774139.56 0.0503 0.0169

Jupiter -91706-05-24 18:42 J -31774049.84 -31774049.72 -31774049.60 0.0506 0.0339

Venus -91703-01-17 11:44 J -31773081.12 -31773081.01 -31773080.89 0.3610 0.1668

Mars -91702-01-06 14:23 J -31772726.98 -31772726.90 -31772726.82 0.1908 0.1586

Moon -91701-01-26 04:03 J -31772342.41 -31772342.33 -31772342.25 0.2739 0.2029

Earth -91701-01-26 04:18 J -31772342.40 -31772342.32 -31772342.24 0.2746 0.2022 *

Jupiter -91701-07-16 03:49 J -31772170.43 -31772170.34 -31772170.24 0.0528 0.0385

Venus -91701-10-11 23:59 J -31772082.54 -31772082.50 -31772082.45 0.3787 0.3389

Jupiter -91701-10-13 14:23 J -31772081.04 -31772080.90 -31772080.77 0.0524 0.0076

Venus -91698-08-03 11:15 J -31771057.12 -31771057.03 -31771056.94 0.3614 0.2605

Moon -91698-08-04 18:27 J -31771055.86 -31771055.73 -31771055.60 0.2601 0.0727

Earth -91698-08-04 18:56 J -31771055.84 -31771055.71 -31771055.57 0.2596 0.0587 *

Mars -91698-09-08 11:01 J -31771021.18 -31771021.04 -31771020.91 0.1616 0.0052

Venus -91695-04-27 17:44 J -31770058.83 -31770058.76 -31770058.68 0.3784 0.2725

Saturn -91695-09-19 04:18 J -31769914.36 -31769914.32 -31769914.28 0.0282 0.0273

Jupiter -91695-12-12 18:27 J -31769829.87 -31769829.73 -31769829.59 0.0502 0.0293

Saturn -91695-12-16 22:47 J -31769825.68 -31769825.55 -31769825.41 0.0281 0.0160

Jupiter -91694-03-12 18:56 J -31769739.86 -31769739.71 -31769739.56 0.0506 0.0219

Saturn -91694-03-15 17:01 J -31769736.95 -31769736.79 -31769736.63 0.0281 0.0050

Saturn -91694-06-12 10:47 J -31769648.21 -31769648.05 -31769647.90 0.0281 0.0059

Saturn -91694-09-09 04:03 J -31769559.46 -31769559.33 -31769559.20 0.0281 0.0164

Saturn -91694-12-06 20:51 J -31769470.67 -31769470.63 -31769470.58 0.0281 0.0267

Venus -91692-02-16 10:18 J -31769033.10 -31769033.07 -31769033.04 0.3618 0.3506

Mars -91691-05-05 10:03 J -31768590.17 -31768590.08 -31768589.98 0.1921 0.1369

Venus -91690-11-11 11:44 J -31768035.10 -31768035.01 -31768034.92 0.3781 0.2039

Jupiter -91689-05-04 06:42 J -31767860.26 -31767860.22 -31767860.19 0.0528 0.0503

Jupiter -91689-08-01 16:47 J -31767770.94 -31767770.80 -31767770.66 0.0524 0.0047

Jupiter -91689-10-30 03:49 J -31767681.42 -31767681.34 -31767681.26 0.0521 0.0417

Moon -91688-01-28 01:11 J -31767591.57 -31767591.45 -31767591.33 0.2738 0.0640

Earth -91688-01-28 01:39 J -31767591.55 -31767591.43 -31767591.31 0.2743 0.0522 *

Mars -91688-01-28 19:39 J -31767590.80 -31767590.68 -31767590.55 0.1619 0.0510

Mars -91686-01-04 09:20 J -31766885.16 -31766885.11 -31766885.05 0.1608 0.1446

Earth -91685-08-06 17:59 J -31766304.88 -31766304.75 -31766304.63 0.2598 0.0902

Moon -91685-08-06 18:13 J -31766304.86 -31766304.74 -31766304.62 0.2604 0.0992 *

Venus -91684-05-27 05:59 J -31766011.36 -31766011.25 -31766011.15 0.3779 0.1337

Jupiter -91683-09-30 17:44 J -31765519.85 -31765519.76 -31765519.67 0.0501 0.0420

Jupiter -91683-12-29 18:42 J -31765429.89 -31765429.72 -31765429.56 0.0505 0.0094

Mars -91682-09-25 12:13 J -31765160.13 -31765159.99 -31765159.86 0.1917 0.0446

Saturn -91680-09-28 11:15 J -31764426.14 -31764426.03 -31764425.93 0.0277 0.0194

Saturn -91680-12-26 00:27 J -31764337.61 -31764337.48 -31764337.34 0.0277 0.0104

Saturn -91679-03-24 14:08 J -31764249.05 -31764248.91 -31764248.76 0.0278 0.0014

Saturn -91679-06-21 04:03 J -31764160.47 -31764160.33 -31764160.18 0.0278 0.0083

Mars -91679-06-21 04:47 J -31764160.41 -31764160.30 -31764160.20 0.1622 0.0967 *

Saturn -91679-09-17 18:27 J -31764071.84 -31764071.73 -31764071.62 0.0278 0.0178

Venus -91679-12-11 00:13 J -31763987.60 -31763987.49 -31763987.38 0.3775 0.0610

Saturn -91679-12-15 08:51 J -31763983.14 -31763983.13 -31763983.11 0.0278 0.0276

Jupiter -91677-05-20 19:25 J -31763460.82 -31763460.69 -31763460.56 0.0526 0.0165

Mars -91677-05-26 17:44 J -31763454.87 -31763454.76 -31763454.65 0.1611 0.0966

Jupiter -91677-08-18 06:13 J -31763371.35 -31763371.24 -31763371.12 0.0522 0.0299

Moon -91675-01-30 22:18 J -31762840.69 -31762840.57 -31762840.45 0.2740 0.0977

Earth -91675-01-30 23:15 J -31762840.64 -31762840.53 -31762840.41 0.2740 0.1021 *

Venus -91675-12-09 08:23 J -31762528.19 -31762528.15 -31762528.11 0.3595 0.3432

Venus -91673-06-25 18:42 J -31761963.83 -31761963.72 -31761963.61 0.3772 0.0160

Uranus -91673-09-21 02:08 J -31761876.43 -31761876.41 -31761876.37 0.0141 0.0139

Uranus -91673-12-18 06:13 J -31761788.30 -31761788.24 -31761788.15 0.0141 0.0121

Mars -91672-02-14 13:25 J -31761730.07 -31761729.94 -31761729.80 0.1913 0.0522

Uranus -91672-03-16 10:32 J -31761700.15 -31761700.06 -31761699.95 0.0142 0.0102

Uranus -91672-06-12 15:06 J -31761611.99 -31761611.87 -31761611.75 0.0142 0.0083

Earth -91672-08-09 16:32 J -31761553.86 -31761553.81 -31761553.76 0.2601 0.2351

Moon -91672-08-09 17:15 J -31761553.82 -31761553.78 -31761553.73 0.2606 0.2430 *

Uranus -91672-09-08 19:25 J -31761523.82 -31761523.69 -31761523.56 0.0142 0.0064

Uranus -91672-12-05 23:44 J -31761435.65 -31761435.51 -31761435.37 0.0142 0.0045

Uranus -91671-03-04 04:03 J -31761347.47 -31761347.33 -31761347.18 0.0142 0.0026

Uranus -91671-05-31 08:37 J -31761259.29 -31761259.14 -31761259.00 0.0142 0.0007

Uranus -91671-08-27 12:56 J -31761171.10 -31761170.96 -31761170.81 0.0142 0.0014

Jupiter -91671-10-17 17:15 J -31761119.94 -31761119.78 -31761119.61 0.0503 0.0043

Uranus -91671-11-23 17:30 J -31761082.91 -31761082.77 -31761082.63 0.0143 0.0034

Jupiter -91670-01-15 16:47 J -31761029.86 -31761029.80 -31761029.73 0.0507 0.0463

Uranus -91670-02-19 22:03 J -31760994.72 -31760994.58 -31760994.44 0.0143 0.0054

Uranus -91670-05-19 02:37 J -31760906.51 -31760906.39 -31760906.26 0.0143 0.0075

Uranus -91670-08-15 07:11 J -31760818.30 -31760818.20 -31760818.08 0.0143 0.0095

Uranus -91670-11-11 11:44 J -31760730.08 -31760730.01 -31760729.91 0.0143 0.0117

Mars -91670-11-11 13:39 J -31760729.99 -31760729.93 -31760729.86 0.1625 0.1422 *

Uranus -91669-02-07 16:32 J -31760641.84 -31760641.81 -31760641.76 0.0143 0.0137

Venus -91669-06-24 10:03 J -31760504.19 -31760504.08 -31760503.98 0.3598 0.2270

Mars -91668-10-17 02:23 J -31760024.53 -31760024.40 -31760024.27 0.1613 0.0492

Venus -91667-01-09 13:25 J -31759940.05 -31759939.94 -31759939.83 0.3769 0.0906

Jupiter -91665-03-08 22:32 J -31759150.68 -31759150.56 -31759150.45 0.0527 0.0280

Saturn -91665-05-05 01:25 J -31759093.56 -31759093.44 -31759093.31 0.0282 0.0179

Jupiter -91665-06-06 09:06 J -31759061.25 -31759061.12 -31759060.99 0.0523 0.0183

Saturn -91665-08-01 19:39 J -31759004.84 -31759004.68 -31759004.52 0.0282 0.0068

Moon -91665-08-02 00:27 J -31759004.57 -31759004.48 -31759004.39 0.2597 0.1947 *

Earth -91665-08-02 01:25 J -31759004.54 -31759004.44 -31759004.34 0.2593 0.1783 *

Saturn -91665-10-29 13:25 J -31758916.10 -31758915.94 -31758915.77 0.0282 0.0042

Saturn -91664-01-26 06:56 J -31758827.35 -31758827.21 -31758827.07 0.0281 0.0147

Saturn -91664-04-24 23:44 J -31758738.57 -31758738.51 -31758738.43 0.0281 0.0251

Venus -91663-01-08 11:01 J -31758480.17 -31758480.04 -31758479.91 0.3601 0.1158

Mars -91663-07-07 14:23 J -31758299.98 -31758299.90 -31758299.81 0.1909 0.1508

Moon -91662-02-02 20:37 J -31758089.70 -31758089.64 -31758089.59 0.2741 0.2445

Earth -91662-02-02 21:06 J -31758089.65 -31758089.62 -31758089.58 0.2736 0.2597 *

Venus -91662-07-26 08:23 J -31757916.25 -31757916.15 -31757916.05 0.3765 0.1694

Jupiter -91659-08-05 16:32 J -31756809.96 -31756809.81 -31756809.65 0.0502 0.0171

Jupiter -91659-11-03 16:32 J -31756719.92 -31756719.81 -31756719.68 0.0506 0.0338

Mars -91658-03-09 11:01 J -31756594.17 -31756594.04 -31756593.90 0.1616 0.0039

Venus -91658-07-25 11:44 J -31756456.15 -31756456.01 -31756455.88 0.3604 0.0131

Venus -91656-02-08 03:35 J -31755892.43 -31755892.35 -31755892.26 0.3762 0.2502

Neptune -91656-03-27 16:18 J -31755844.83 -31755844.82 -31755844.76 0.0089 0.0087

Neptune -91656-06-23 19:39 J -31755756.74 -31755756.68 -31755756.59 0.0089 0.0081

Neptune -91656-09-19 22:47 J -31755668.63 -31755668.55 -31755668.44 0.0088 0.0075

Neptune -91656-12-17 01:39 J -31755580.52 -31755580.43 -31755580.30 0.0088 0.0070

Moon -91655-01-26 09:20 J -31755540.20 -31755540.11 -31755540.01 0.2738 0.1712

Earth -91655-01-26 09:35 J -31755540.20 -31755540.10 -31755540.01 0.2745 0.1722 *

Neptune -91655-03-15 05:01 J -31755492.41 -31755492.29 -31755492.16 0.0088 0.0064

Neptune -91655-06-11 07:54 J -31755404.29 -31755404.17 -31755404.02 0.0088 0.0058

Neptune -91655-09-07 11:01 J -31755316.18 -31755316.04 -31755315.89 0.0088 0.0053

Neptune -91655-12-04 13:54 J -31755228.06 -31755227.92 -31755227.75 0.0088 0.0048

Neptune -91654-03-02 17:01 J -31755139.94 -31755139.79 -31755139.62 0.0088 0.0042

Neptune -91654-05-29 19:54 J -31755051.82 -31755051.67 -31755051.49 0.0088 0.0037

Neptune -91654-08-25 23:01 J -31754963.70 -31754963.54 -31754963.36 0.0088 0.0031

Neptune -91654-11-22 01:54 J -31754875.58 -31754875.42 -31754875.24 0.0088 0.0026

Jupiter -91654-12-27 01:54 J -31754840.51 -31754840.42 -31754840.33 0.0528 0.0390

Neptune -91653-02-18 05:01 J -31754787.46 -31754787.29 -31754787.11 0.0088 0.0020

Jupiter -91653-03-25 12:27 J -31754751.12 -31754750.98 -31754750.85 0.0524 0.0072

Neptune -91653-05-16 07:54 J -31754699.34 -31754699.17 -31754698.99 0.0088 0.0015

Neptune -91653-08-12 11:01 J -31754611.22 -31754611.04 -31754610.86 0.0088 0.0009

Neptune -91653-11-08 13:54 J -31754523.10 -31754522.92 -31754522.74 0.0088 0.0003

Neptune -91652-02-04 16:47 J -31754434.98 -31754434.80 -31754434.62 0.0088 0.0002

Venus -91652-02-07 11:44 J -31754432.14 -31754432.01 -31754431.88 0.3608 0.0933

Neptune -91652-05-03 19:39 J -31754346.86 -31754346.68 -31754346.50 0.0088 0.0007

Neptune -91652-07-30 22:32 J -31754258.73 -31754258.56 -31754258.38 0.0088 0.0013

Moon -91652-08-04 23:59 J -31754253.63 -31754253.50 -31754253.36 0.2602 0.0255

Earth -91652-08-05 00:42 J -31754253.61 -31754253.47 -31754253.34 0.2596 0.0282 *

Neptune -91652-10-27 01:11 J -31754170.61 -31754170.45 -31754170.27 0.0088 0.0019

Mars -91652-11-03 10:32 J -31754163.15 -31754163.06 -31754162.97 0.1921 0.1464

Neptune -91651-01-23 04:03 J -31754082.49 -31754082.33 -31754082.15 0.0088 0.0024

Neptune -91651-04-21 06:56 J -31753994.37 -31753994.21 -31753994.04 0.0088 0.0029

Neptune -91651-07-18 10:03 J -31753906.25 -31753906.08 -31753905.92 0.0088 0.0034

Venus -91651-08-24 23:01 J -31753868.59 -31753868.54 -31753868.49 0.3758 0.3329

Neptune -91651-10-14 12:27 J -31753818.12 -31753817.98 -31753817.81 0.0088 0.0040

Neptune -91650-01-10 15:20 J -31753730.00 -31753729.86 -31753729.70 0.0088 0.0045

Saturn -91650-02-15 12:56 J -31753694.04 -31753693.96 -31753693.87 0.0277 0.0218

Neptune -91650-04-08 18:13 J -31753641.88 -31753641.74 -31753641.59 0.0088 0.0050

Saturn -91650-05-15 02:23 J -31753605.53 -31753605.40 -31753605.27 0.0277 0.0129

Neptune -91650-07-05 21:06 J -31753553.75 -31753553.62 -31753553.48 0.0088 0.0055

Saturn -91650-08-11 15:49 J -31753516.98 -31753516.84 -31753516.69 0.0277 0.0039

Neptune -91650-10-01 23:59 J -31753465.63 -31753465.50 -31753465.37 0.0088 0.0060

Saturn -91650-11-08 05:44 J -31753428.41 -31753428.26 -31753428.12 0.0277 0.0055

Neptune -91650-12-29 02:23 J -31753377.50 -31753377.40 -31753377.27 0.0088 0.0065

Saturn -91649-02-04 19:54 J -31753339.80 -31753339.67 -31753339.55 0.0277 0.0150

Neptune -91649-03-26 05:01 J -31753289.37 -31753289.29 -31753289.17 0.0088 0.0071

Saturn -91649-05-03 10:18 J -31753251.14 -31753251.07 -31753251.00 0.0278 0.0246

Neptune -91649-06-22 07:54 J -31753201.25 -31753201.17 -31753201.07 0.0088 0.0076

Mars -91649-07-29 19:54 J -31753163.79 -31753163.67 -31753163.54 0.1619 0.0442

Neptune -91649-09-18 10:32 J -31753113.11 -31753113.06 -31753112.97 0.0088 0.0081

Neptune -91649-12-15 13:25 J -31753024.97 -31753024.94 -31753024.89 0.0088 0.0085

Jupiter -91647-05-24 15:49 J -31752499.97 -31752499.84 -31752499.70 0.0502 0.0299

Mars -91647-07-05 09:35 J -31752458.14 -31752458.10 -31752458.06 0.1608 0.1515

Jupiter -91647-08-22 16:18 J -31752409.97 -31752409.82 -31752409.67 0.0505 0.0212

Venus -91647-08-24 11:30 J -31752408.13 -31752408.02 -31752407.91 0.3611 0.1907

Venus -91644-05-18 22:03 J -31751409.63 -31751409.58 -31751409.53 0.3786 0.3219

Moon -91642-01-29 06:13 J -31750789.36 -31750789.24 -31750789.12 0.2739 0.0292

Earth -91642-01-29 06:56 J -31750789.33 -31750789.21 -31750789.09 0.2742 0.0214 *

Mars -91642-03-26 12:27 J -31750733.11 -31750732.98 -31750732.84 0.1917 0.0540

Jupiter -91642-10-15 05:15 J -31750530.32 -31750530.28 -31750530.23 0.0529 0.0500

Jupiter -91641-01-12 15:35 J -31750440.99 -31750440.85 -31750440.71 0.0525 0.0041

Venus -91641-03-09 10:47 J -31750384.13 -31750384.05 -31750383.97 0.3615 0.2837

Jupiter -91641-04-11 02:37 J -31750351.47 -31750351.39 -31750351.31 0.0521 0.0424

Mars -91640-12-20 04:47 J -31749733.40 -31749733.30 -31749733.19 0.1622 0.0903

Earth -91639-08-07 23:30 J -31749502.64 -31749502.52 -31749502.40 0.2599 0.1215

Moon -91639-08-07 23:59 J -31749502.62 -31749502.50 -31749502.39 0.2605 0.1194 *

Venus -91639-12-02 15:49 J -31749385.92 -31749385.84 -31749385.76 0.3783 0.2552

Mars -91638-11-25 17:59 J -31749027.85 -31749027.75 -31749027.64 0.1611 0.1038

Saturn -91636-09-21 23:59 J -31748361.60 -31748361.50 -31748361.39 0.0282 0.0220

Saturn -91636-12-19 18:27 J -31748272.88 -31748272.73 -31748272.58 0.0281 0.0108

Jupiter -91635-03-12 15:35 J -31748189.94 -31748189.85 -31748189.76 0.0501 0.0424

Saturn -91635-03-18 12:27 J -31748184.14 -31748183.98 -31748183.82 0.0281 0.0002

Jupiter -91635-06-10 16:32 J -31748099.98 -31748099.81 -31748099.65 0.0504 0.0091

Saturn -91635-06-15 05:59 J -31748095.40 -31748095.25 -31748095.10 0.0281 0.0109

Saturn -91635-09-11 23:01 J -31748006.64 -31748006.54 -31748006.43 0.0281 0.0214

Uranus -91634-11-21 00:27 J -31747571.52 -31747571.48 -31747571.43 0.0137 0.0132

Uranus -91633-02-17 06:27 J -31747483.33 -31747483.23 -31747483.13 0.0137 0.0110

Pluto -91633-03-09 01:39 J -31747462.43 -31747462.43 -31747462.39 0.0085 0.0084

Uranus -91633-05-15 12:13 J -31747395.11 -31747394.99 -31747394.85 0.0137 0.0089

Pluto -91633-06-05 03:06 J -31747374.43 -31747374.37 -31747374.29 0.0084 0.0071

Venus -91633-06-17 09:49 J -31747362.18 -31747362.09 -31747361.99 0.3780 0.1864

Uranus -91633-08-11 18:13 J -31747306.88 -31747306.74 -31747306.59 0.0137 0.0068

Mars -91633-08-15 13:54 J -31747303.06 -31747302.92 -31747302.78 0.1913 0.0427

Pluto -91633-09-01 04:18 J -31747286.40 -31747286.32 -31747286.21 0.0084 0.0059

Uranus -91633-11-07 23:59 J -31747218.65 -31747218.50 -31747218.33 0.0137 0.0048

Pluto -91633-11-28 05:30 J -31747198.36 -31747198.27 -31747198.14 0.0084 0.0047

Uranus -91632-02-04 05:44 J -31747130.42 -31747130.26 -31747130.09 0.0137 0.0027

Pluto -91632-02-24 07:11 J -31747110.32 -31747110.20 -31747110.08 0.0084 0.0033

Uranus -91632-05-03 11:30 J -31747042.19 -31747042.02 -31747041.85 0.0137 0.0007

Pluto -91632-05-23 08:23 J -31747022.28 -31747022.15 -31747022.02 0.0084 0.0021

Uranus -91632-07-30 17:15 J -31746953.95 -31746953.78 -31746953.61 0.0136 0.0014

Pluto -91632-08-19 09:35 J -31746934.23 -31746934.10 -31746933.96 0.0084 0.0009

Uranus -91632-10-26 22:47 J -31746865.71 -31746865.55 -31746865.39 0.0136 0.0034

Pluto -91632-11-15 11:01 J -31746846.18 -31746846.04 -31746845.91 0.0084 0.0004

Uranus -91631-01-23 04:18 J -31746777.47 -31746777.32 -31746777.17 0.0136 0.0053

Pluto -91631-02-11 11:59 J -31746758.12 -31746758.00 -31746757.86 0.0084 0.0016

Uranus -91631-04-21 09:35 J -31746689.23 -31746689.10 -31746688.95 0.0136 0.0073

Pluto -91631-05-10 13:11 J -31746670.07 -31746669.95 -31746669.82 0.0083 0.0028

Uranus -91631-07-18 15:06 J -31746600.99 -31746600.87 -31746600.75 0.0136 0.0092

Pluto -91631-08-06 14:23 J -31746582.01 -31746581.90 -31746581.77 0.0083 0.0040

Uranus -91631-10-14 20:23 J -31746512.74 -31746512.65 -31746512.55 0.0136 0.0111

Pluto -91631-11-02 15:35 J -31746493.94 -31746493.85 -31746493.74 0.0083 0.0051

Uranus -91630-01-11 01:39 J -31746424.47 -31746424.43 -31746424.38 0.0136 0.0130

Pluto -91630-01-29 16:47 J -31746405.87 -31746405.80 -31746405.70 0.0083 0.0063

Pluto -91630-04-27 18:13 J -31746317.79 -31746317.74 -31746317.68 0.0083 0.0074

Mars -91630-05-12 13:54 J -31746302.99 -31746302.92 -31746302.85 0.1625 0.1361

Jupiter -91630-10-31 18:13 J -31746130.87 -31746130.74 -31746130.61 0.0525 0.0161

Jupiter -91629-01-29 05:01 J -31746041.40 -31746041.29 -31746041.18 0.0522 0.0302

Moon -91629-02-01 03:35 J -31746038.46 -31746038.35 -31746038.23 0.2739 0.1155

Earth -91629-02-01 04:32 J -31746038.41 -31746038.31 -31746038.20 0.2739 0.1339 *

Mars -91628-04-17 02:37 J -31745597.52 -31745597.39 -31745597.27 0.1613 0.0560

Venus -91627-01-01 04:03 J -31745338.43 -31745338.33 -31745338.22 0.3778 0.1153

Mars -91623-01-05 15:06 J -31743872.96 -31743872.87 -31743872.77 0.1909 0.1396

Jupiter -91623-03-29 16:03 J -31743789.99 -31743789.83 -31743789.66 0.0504 0.0036

Jupiter -91623-06-27 15:49 J -31743699.90 -31743699.84 -31743699.78 0.0507 0.0470

Venus -91622-07-17 22:32 J -31743314.67 -31743314.56 -31743314.45 0.3774 0.0422

Saturn -91621-07-04 14:37 J -31742961.95 -31742961.89 -31742961.82 0.0277 0.0245

Saturn -91621-10-01 04:03 J -31742873.45 -31742873.33 -31742873.21 0.0277 0.0156

Saturn -91621-12-28 17:30 J -31742784.91 -31742784.77 -31742784.63 0.0277 0.0066

Saturn -91620-03-27 07:11 J -31742696.34 -31742696.20 -31742696.05 0.0278 0.0028

Saturn -91620-06-23 21:20 J -31742607.74 -31742607.61 -31742607.48 0.0278 0.0122

Saturn -91620-09-20 11:30 J -31742519.10 -31742519.02 -31742518.92 0.0278 0.0219

Moon -91619-08-03 06:13 J -31742202.35 -31742202.24 -31742202.13 0.2598 0.1506

Earth -91619-08-03 07:11 J -31742202.31 -31742202.20 -31742202.09 0.2594 0.1456 *

Mars -91619-09-07 11:15 J -31742167.16 -31742167.03 -31742166.90 0.1616 0.0089

Venus -91618-07-16 08:37 J -31741855.21 -31741855.14 -31741855.07 0.3596 0.3126

Jupiter -91618-08-19 21:06 J -31741820.74 -31741820.62 -31741820.51 0.0527 0.0278

Jupiter -91618-11-17 07:39 J -31741731.31 -31741731.18 -31741731.05 0.0523 0.0183

Venus -91616-01-30 17:01 J -31741290.90 -31741290.79 -31741290.68 0.3771 0.0342

Venus -91612-01-29 10:03 J -31739831.19 -31739831.08 -31739830.96 0.3598 0.1979

Mars -91612-05-04 10:47 J -31739736.12 -31739736.05 -31739735.97 0.1921 0.1558

Jupiter -91611-01-15 14:51 J -31739480.04 -31739479.88 -31739479.72 0.0502 0.0169

Jupiter -91611-04-15 14:51 J -31739390.00 -31739389.88 -31739389.76 0.0506 0.0338

Venus -91611-08-16 11:59 J -31739267.11 -31739267.00 -31739266.90 0.3768 0.1114

Moon -91609-01-27 14:37 J -31738737.99 -31738737.89 -31738737.79 0.2738 0.1469

Earth -91609-01-27 14:51 J -31738737.99 -31738737.88 -31738737.78 0.2745 0.1416 *

Mars -91609-01-28 20:08 J -31738736.79 -31738736.66 -31738736.53 0.1619 0.0377

Mars -91607-01-03 09:49 J -31738031.11 -31738031.09 -31738031.07 0.1608 0.1583

Venus -91607-08-15 11:01 J -31737807.17 -31737807.04 -31737806.91 0.3602 0.0879

Saturn -91606-02-09 02:23 J -31737629.48 -31737629.40 -31737629.31 0.0282 0.0241

Saturn -91606-05-08 20:51 J -31737540.77 -31737540.63 -31737540.48 0.0282 0.0128

Jupiter -91606-06-07 23:59 J -31737510.59 -31737510.50 -31737510.41 0.0528 0.0395

Saturn -91606-08-05 15:06 J -31737452.04 -31737451.87 -31737451.71 0.0282 0.0018

Moon -91606-08-06 05:59 J -31737451.38 -31737451.25 -31737451.12 0.2602 0.0041

Earth -91606-08-06 06:13 J -31737451.38 -31737451.24 -31737451.11 0.2596 0.0082 *

Jupiter -91606-09-05 10:18 J -31737421.20 -31737421.07 -31737420.93 0.0524 0.0067

Saturn -91606-11-02 08:37 J -31737363.29 -31737363.14 -31737362.98 0.0282 0.0091

Saturn -91605-01-30 01:54 J -31737274.53 -31737274.42 -31737274.30 0.0281 0.0196

Venus -91605-03-01 06:56 J -31737243.31 -31737243.21 -31737243.12 0.3764 0.1900

Mars -91603-09-24 12:42 J -31736306.10 -31736305.97 -31736305.84 0.1918 0.0620

Venus -91601-02-29 11:30 J -31735783.15 -31735783.02 -31735782.88 0.3605 0.0179

Mars -91600-06-20 05:01 J -31735306.40 -31735306.29 -31735306.18 0.1622 0.0838

Venus -91600-09-15 02:08 J -31735219.49 -31735219.41 -31735219.33 0.3761 0.2712

Jupiter -91600-11-03 14:08 J -31735170.05 -31735169.91 -31735169.77 0.0501 0.0298

Jupiter -91599-02-01 14:37 J -31735080.04 -31735079.89 -31735079.74 0.0505 0.0212

Mars -91598-05-26 18:13 J -31734600.84 -31734600.74 -31734600.64 0.1611 0.1102

Moon -91596-01-29 11:15 J -31733987.15 -31733987.03 -31733986.90 0.2739 0.0096

Earth -91596-01-29 12:13 J -31733987.11 -31733986.99 -31733986.86 0.2742 0.0119 *

Venus -91596-09-14 11:30 J -31733759.14 -31733759.02 -31733758.89 0.3609 0.1183

Jupiter -91594-03-27 03:35 J -31733200.39 -31733200.35 -31733200.32 0.0529 0.0504

Venus -91594-03-31 21:35 J -31733195.63 -31733195.60 -31733195.56 0.3757 0.3543

Jupiter -91594-06-24 13:39 J -31733111.07 -31733110.93 -31733110.79 0.0525 0.0046

Jupiter -91594-09-22 00:42 J -31733021.55 -31733021.47 -31733021.38 0.0521 0.0421

Mars -91593-02-14 14:23 J -31732876.04 -31732875.90 -31732875.76 0.1914 0.0332

Venus -91593-06-09 02:23 J -31732760.42 -31732760.40 -31732760.38 0.3787 0.3701

Earth -91593-08-08 05:01 J -31732700.40 -31732700.29 -31732700.19 0.2599 0.1524

Moon -91593-08-08 05:30 J -31732700.38 -31732700.27 -31732700.17 0.2605 0.1655 *

Saturn -91592-11-21 16:47 J -31732229.83 -31732229.80 -31732229.76 0.0276 0.0267

Saturn -91591-02-18 05:59 J -31732141.36 -31732141.25 -31732141.14 0.0277 0.0180

Saturn -91591-05-17 19:25 J -31732052.83 -31732052.69 -31732052.55 0.0277 0.0090

Saturn -91591-08-14 09:06 J -31731964.27 -31731964.12 -31731963.98 0.0277 0.0006

Mars -91591-11-10 14:08 J -31731875.99 -31731875.91 -31731875.83 0.1625 0.1294

Saturn -91591-11-10 23:01 J -31731875.68 -31731875.54 -31731875.40 0.0277 0.0095

Saturn -91590-02-07 13:11 J -31731787.06 -31731786.95 -31731786.84 0.0277 0.0191

Venus -91590-03-31 11:01 J -31731735.14 -31731735.04 -31731734.93 0.3613 0.2144

Uranus -91589-10-11 09:49 J -31731175.12 -31731175.09 -31731175.03 0.0141 0.0133

Mars -91589-10-16 02:51 J -31731170.51 -31731170.38 -31731170.26 0.1613 0.0629

Uranus -91588-01-07 14:23 J -31731086.98 -31731086.90 -31731086.82 0.0141 0.0114

Uranus -91588-04-05 18:27 J -31730998.83 -31730998.73 -31730998.62 0.0142 0.0095

Uranus -91588-07-02 22:47 J -31730910.67 -31730910.55 -31730910.43 0.0142 0.0077

Jupiter -91588-08-22 13:11 J -31730860.04 -31730859.95 -31730859.86 0.0501 0.0428

Uranus -91588-09-29 03:06 J -31730822.50 -31730822.37 -31730822.24 0.0142 0.0058

Jupiter -91588-11-20 14:08 J -31730770.08 -31730769.91 -31730769.75 0.0504 0.0085

Venus -91588-12-23 20:08 J -31730736.72 -31730736.66 -31730736.60 0.3785 0.3049

Uranus -91588-12-26 07:25 J -31730734.33 -31730734.19 -31730734.05 0.0142 0.0039

Uranus -91587-03-24 11:59 J -31730646.15 -31730646.00 -31730645.86 0.0142 0.0019

Uranus -91587-06-20 16:18 J -31730557.97 -31730557.82 -31730557.67 0.0142 0.0001

Uranus -91587-09-16 20:51 J -31730469.78 -31730469.63 -31730469.49 0.0142 0.0021

Uranus -91587-12-14 01:11 J -31730381.59 -31730381.45 -31730381.30 0.0143 0.0041

Uranus -91586-03-12 05:44 J -31730293.39 -31730293.26 -31730293.12 0.0143 0.0061

Uranus -91586-06-08 10:18 J -31730205.18 -31730205.07 -31730204.94 0.0143 0.0081

Uranus -91586-09-04 14:51 J -31730116.97 -31730116.88 -31730116.76 0.0143 0.0102

Uranus -91586-12-01 19:54 J -31730028.75 -31730028.67 -31730028.60 0.0143 0.0122

Venus -91585-10-14 10:18 J -31729711.14 -31729711.07 -31729711.00 0.3616 0.3065

Mars -91584-07-06 15:20 J -31729445.96 -31729445.86 -31729445.75 0.1909 0.1308

Moon -91583-02-01 09:06 J -31729236.22 -31729236.12 -31729236.02 0.2740 0.1592

Earth -91583-02-01 10:03 J -31729236.18 -31729236.08 -31729235.98 0.2739 0.1651 *

Jupiter -91582-04-12 17:01 J -31728800.92 -31728800.79 -31728800.66 0.0526 0.0156

Venus -91582-07-09 14:08 J -31728713.00 -31728712.91 -31728712.83 0.3782 0.2377

Jupiter -91582-07-11 03:49 J -31728711.45 -31728711.34 -31728711.23 0.0522 0.0308

Mars -91579-03-08 11:30 J -31727740.15 -31727740.02 -31727739.89 0.1615 0.0158

Saturn -91577-09-24 19:25 J -31726808.82 -31726808.69 -31726808.56 0.0282 0.0170

Saturn -91577-12-22 13:39 J -31726720.09 -31726719.93 -31726719.77 0.0281 0.0059

Venus -91576-01-22 08:08 J -31726689.26 -31726689.16 -31726689.06 0.3780 0.1679

Earth -91576-01-24 22:47 J -31726686.58 -31726686.55 -31726686.51 0.2747 0.2590

Moon -91576-01-24 23:01 J -31726686.57 -31726686.54 -31726686.51 0.2740 0.2630 *

Saturn -91576-03-21 07:25 J -31726631.35 -31726631.19 -31726631.03 0.0281 0.0050

Saturn -91576-06-18 00:42 J -31726542.60 -31726542.47 -31726542.33 0.0281 0.0157

Jupiter -91576-09-08 14:08 J -31726460.08 -31726459.91 -31726459.74 0.0503 0.0037

Saturn -91576-09-14 17:44 J -31726453.81 -31726453.76 -31726453.70 0.0281 0.0260

Jupiter -91576-12-07 13:54 J -31726369.98 -31726369.92 -31726369.86 0.0507 0.0468

Neptune -91575-09-27 16:03 J -31726075.85 -31726075.83 -31726075.80 0.0089 0.0087

Neptune -91575-12-24 17:44 J -31725987.81 -31725987.76 -31725987.71 0.0089 0.0083

Neptune -91574-03-22 19:11 J -31725899.76 -31725899.70 -31725899.64 0.0089 0.0079

Neptune -91574-06-18 20:37 J -31725811.71 -31725811.64 -31725811.56 0.0089 0.0075

Neptune -91574-09-14 22:03 J -31725723.65 -31725723.58 -31725723.49 0.0089 0.0071

Neptune -91574-12-11 23:30 J -31725635.60 -31725635.52 -31725635.41 0.0089 0.0067

Neptune -91573-03-09 01:11 J -31725547.54 -31725547.45 -31725547.34 0.0089 0.0063

Neptune -91573-06-05 02:37 J -31725459.48 -31725459.39 -31725459.27 0.0089 0.0059

Moon -91573-08-03 11:44 J -31725400.13 -31725400.01 -31725399.89 0.2598 0.1268

Earth -91573-08-03 12:42 J -31725400.09 -31725399.97 -31725399.85 0.2594 0.1134 *

Neptune -91573-09-01 04:32 J -31725371.42 -31725371.31 -31725371.20 0.0089 0.0054

Mars -91573-11-02 11:15 J -31725309.10 -31725309.03 -31725308.96 0.1921 0.1650

Neptune -91573-11-28 05:59 J -31725283.36 -31725283.25 -31725283.13 0.0089 0.0050

Neptune -91572-02-24 07:25 J -31725195.30 -31725195.19 -31725195.06 0.0089 0.0046

Neptune -91572-05-23 09:06 J -31725107.24 -31725107.12 -31725106.99 0.0089 0.0041

Neptune -91572-08-19 10:47 J -31725019.18 -31725019.05 -31725018.92 0.0089 0.0037

Neptune -91572-11-15 12:13 J -31724931.11 -31724930.99 -31724930.85 0.0089 0.0033

Neptune -91571-02-11 13:54 J -31724843.05 -31724842.92 -31724842.78 0.0089 0.0029

Neptune -91571-05-10 15:35 J -31724754.99 -31724754.85 -31724754.71 0.0089 0.0024

Neptune -91571-08-06 17:15 J -31724666.92 -31724666.78 -31724666.65 0.0089 0.0020

Venus -91571-08-08 02:23 J -31724665.51 -31724665.40 -31724665.30 0.3777 0.0968

Neptune -91571-11-02 18:42 J -31724578.86 -31724578.72 -31724578.58 0.0089 0.0016

Jupiter -91570-01-29 19:54 J -31724490.79 -31724490.67 -31724490.56 0.0527 0.0273

Neptune -91570-01-29 20:23 J -31724490.79 -31724490.65 -31724490.51 0.0089 0.0011 *

Neptune -91570-04-27 22:03 J -31724402.72 -31724402.58 -31724402.44 0.0089 0.0007

Jupiter -91570-04-29 06:27 J -31724401.36 -31724401.23 -31724401.10 0.0523 0.0188

Neptune -91570-07-24 23:44 J -31724314.65 -31724314.51 -31724314.37 0.0089 0.0003

Mars -91570-07-29 20:08 J -31724309.79 -31724309.66 -31724309.53 0.1618 0.0317

Neptune -91570-10-21 01:25 J -31724226.59 -31724226.44 -31724226.30 0.0089 0.0003

Neptune -91569-01-17 02:51 J -31724138.52 -31724138.38 -31724138.23 0.0089 0.0007

Neptune -91569-04-14 04:32 J -31724050.45 -31724050.31 -31724050.17 0.0089 0.0011

Neptune -91569-07-11 06:13 J -31723962.38 -31723962.24 -31723962.10 0.0089 0.0015

Neptune -91569-10-07 07:54 J -31723874.31 -31723874.17 -31723874.03 0.0089 0.0019

Neptune -91568-01-03 09:35 J -31723786.24 -31723786.10 -31723785.96 0.0089 0.0024

Neptune -91568-04-01 11:15 J -31723698.17 -31723698.03 -31723697.89 0.0089 0.0028

Neptune -91568-06-28 12:56 J -31723610.09 -31723609.96 -31723609.83 0.0089 0.0033

Neptune -91568-09-24 14:37 J -31723522.02 -31723521.89 -31723521.76 0.0089 0.0037

Neptune -91568-12-21 16:03 J -31723433.95 -31723433.83 -31723433.69 0.0089 0.0042

Neptune -91567-03-19 17:59 J -31723345.87 -31723345.75 -31723345.63 0.0089 0.0046

Neptune -91567-06-15 19:25 J -31723257.79 -31723257.69 -31723257.56 0.0089 0.0051

Neptune -91567-09-11 21:20 J -31723169.72 -31723169.61 -31723169.49 0.0089 0.0055

Neptune -91567-12-08 23:01 J -31723081.64 -31723081.54 -31723081.43 0.0089 0.0060

Neptune -91566-03-07 00:56 J -31722993.56 -31722993.46 -31722993.36 0.0089 0.0064

Neptune -91566-06-03 02:23 J -31722905.48 -31722905.40 -31722905.30 0.0089 0.0069

Neptune -91566-08-30 04:18 J -31722817.40 -31722817.32 -31722817.24 0.0089 0.0073

Neptune -91566-11-26 05:59 J -31722729.31 -31722729.25 -31722729.18 0.0089 0.0078

Venus -91565-02-21 20:51 J -31722641.74 -31722641.63 -31722641.52 0.3774 0.0257

Neptune -91565-02-22 07:54 J -31722641.22 -31722641.17 -31722641.12 0.0089 0.0082

Neptune -91565-05-20 09:20 J -31722553.12 -31722553.11 -31722553.07 0.0089 0.0087

Jupiter -91564-06-27 13:39 J -31722150.09 -31722149.93 -31722149.77 0.0503 0.0162

Jupiter -91564-09-25 13:54 J -31722060.04 -31722059.92 -31722059.80 0.0506 0.0347

Moon -91563-01-27 19:39 J -31721935.79 -31721935.68 -31721935.57 0.2739 0.1097

Earth -91563-01-27 20:08 J -31721935.77 -31721935.66 -31721935.55 0.2745 0.1107 *

Mars -91563-03-25 13:11 J -31721879.08 -31721878.95 -31721878.82 0.1918 0.0721

Saturn -91562-07-08 07:11 J -31721409.29 -31721409.20 -31721409.10 0.0277 0.0210

Saturn -91562-10-04 20:37 J -31721320.77 -31721320.64 -31721320.51 0.0277 0.0121

Saturn -91561-01-01 10:03 J -31721232.22 -31721232.08 -31721231.93 0.0277 0.0030

Venus -91561-02-20 08:51 J -31721182.21 -31721182.13 -31721182.04 0.3596 0.2823

Saturn -91561-03-29 23:59 J -31721143.64 -31721143.50 -31721143.36 0.0278 0.0065

Saturn -91561-06-26 14:08 J -31721055.03 -31721054.91 -31721054.79 0.0278 0.0160

Saturn -91561-09-23 04:32 J -31720966.36 -31720966.31 -31720966.25 0.0278 0.0257

Mars -91561-12-19 05:15 J -31720879.40 -31720879.28 -31720879.17 0.1621 0.0777

Moon -91560-08-06 11:44 J -31720649.14 -31720649.01 -31720648.88 0.2603 0.0435

Earth -91560-08-06 11:44 J -31720649.14 -31720649.01 -31720648.88 0.2597 0.0373 *

Venus -91560-09-06 15:20 J -31720617.97 -31720617.86 -31720617.75 0.3770 0.0532

Jupiter -91559-11-17 22:47 J -31720180.64 -31720180.55 -31720180.46 0.0528 0.0389

Mars -91559-11-24 18:27 J -31720173.82 -31720173.73 -31720173.64 0.1610 0.1172

Jupiter -91558-02-15 09:06 J -31720091.25 -31720091.12 -31720090.98 0.0524 0.0071

Venus -91556-09-05 10:03 J -31719158.20 -31719158.08 -31719157.96 0.3599 0.1695

Venus -91554-03-23 10:18 J -31718594.18 -31718594.07 -31718593.97 0.3767 0.1307

Mars -91554-08-15 14:37 J -31718449.03 -31718448.89 -31718448.75 0.1913 0.0238

Jupiter -91552-04-15 12:27 J -31717840.11 -31717839.98 -31717839.84 0.0501 0.0295

Jupiter -91552-07-14 12:56 J -31717750.11 -31717749.96 -31717749.81 0.0505 0.0215

Mars -91551-05-11 14:08 J -31717448.99 -31717448.91 -31717448.82 0.1625 0.1233

Moon -91550-01-30 16:47 J -31717184.93 -31717184.80 -31717184.68 0.2739 0.0302

Earth -91550-01-30 17:30 J -31717184.89 -31717184.77 -31717184.64 0.2742 0.0424 *

Venus -91550-03-22 11:01 J -31717134.18 -31717134.04 -31717133.91 0.3603 0.0614

Uranus -91550-12-11 08:37 J -31716870.21 -31716870.14 -31716870.06 0.0137 0.0124

Uranus -91549-03-08 14:37 J -31716782.00 -31716781.89 -31716781.77 0.0137 0.0102

Mars -91549-04-16 02:51 J -31716743.50 -31716743.38 -31716743.26 0.1613 0.0695

Uranus -91549-06-04 20:37 J -31716693.78 -31716693.64 -31716693.50 0.0137 0.0081

Uranus -91549-09-01 02:23 J -31716605.55 -31716605.40 -31716605.24 0.0137 0.0060

Venus -91549-10-06 05:15 J -31716570.37 -31716570.28 -31716570.19 0.3763 0.2098

Uranus -91549-11-28 08:08 J -31716517.32 -31716517.16 -31716516.99 0.0137 0.0040

Uranus -91548-02-24 14:08 J -31716429.08 -31716428.91 -31716428.74 0.0137 0.0019

Uranus -91548-05-23 19:39 J -31716340.85 -31716340.68 -31716340.51 0.0137 0.0003

Uranus -91548-08-20 01:25 J -31716252.61 -31716252.44 -31716252.28 0.0136 0.0022

Uranus -91548-11-16 06:56 J -31716164.37 -31716164.21 -31716164.05 0.0136 0.0041

Saturn -91547-02-11 21:20 J -31716076.73 -31716076.61 -31716076.49 0.0282 0.0193

Uranus -91547-02-12 12:13 J -31716076.13 -31716075.99 -31716075.83 0.0136 0.0061

Saturn -91547-05-11 15:35 J -31715988.00 -31715987.85 -31715987.69 0.0282 0.0081

Uranus -91547-05-11 17:44 J -31715987.89 -31715987.76 -31715987.62 0.0136 0.0080 *

Uranus -91547-08-07 23:15 J -31715899.64 -31715899.53 -31715899.42 0.0136 0.0099

Saturn -91547-08-08 09:35 J -31715899.26 -31715899.10 -31715898.93 0.0282 0.0030

Earth -91547-08-09 10:32 J -31715898.15 -31715898.06 -31715897.97 0.2600 0.1842

Moon -91547-08-09 11:01 J -31715898.13 -31715898.04 -31715897.94 0.2605 0.1836 *

Jupiter -91547-09-06 01:39 J -31715870.46 -31715870.43 -31715870.39 0.0529 0.0507

Uranus -91547-11-04 04:18 J -31715811.39 -31715811.32 -31715811.23 0.0136 0.0119

Saturn -91547-11-05 03:06 J -31715810.51 -31715810.37 -31715810.22 0.0282 0.0137

Jupiter -91547-12-04 11:59 J -31715781.14 -31715781.00 -31715780.87 0.0525 0.0052

Saturn -91546-02-01 20:23 J -31715721.73 -31715721.65 -31715721.57 0.0282 0.0241

Jupiter -91546-03-03 23:01 J -31715691.62 -31715691.54 -31715691.46 0.0522 0.0417

Venus -91545-10-05 11:15 J -31715110.16 -31715110.03 -31715109.89 0.3606 0.0435

Mars -91544-01-04 15:49 J -31715018.95 -31715018.84 -31715018.73 0.1909 0.1217

Venus -91543-04-22 00:42 J -31714546.55 -31714546.47 -31714546.40 0.3760 0.2923

Jupiter -91540-02-01 11:30 J -31713530.10 -31713530.02 -31713529.92 0.0500 0.0424

Jupiter -91540-05-02 12:27 J -31713440.14 -31713439.98 -31713439.81 0.0504 0.0090

Moon -91540-08-01 17:44 J -31713348.80 -31713348.76 -31713348.71 0.2594 0.2425

Earth -91540-08-01 18:56 J -31713348.76 -31713348.71 -31713348.65 0.2592 0.2349 *

Mars -91540-09-06 11:44 J -31713313.15 -31713313.01 -31713312.88 0.1615 0.0226

Venus -91539-04-21 11:01 J -31713086.16 -31713086.04 -31713085.91 0.3610 0.1425

Venus -91538-11-05 20:08 J -31712522.66 -31712522.66 -31712522.66 0.3756 0.3752

Moon -91537-02-02 14:23 J -31712433.98 -31712433.90 -31712433.81 0.2742 0.1868

Earth -91537-02-02 15:20 J -31712433.94 -31712433.86 -31712433.77 0.2738 0.1973 *

Venus -91536-01-14 00:27 J -31712087.52 -31712087.48 -31712087.45 0.3787 0.3536

Jupiter -91535-09-22 15:06 J -31711471.00 -31711470.87 -31711470.74 0.0526 0.0161

Jupiter -91535-12-21 02:08 J -31711381.52 -31711381.41 -31711381.30 0.0523 0.0305

Venus -91534-11-05 10:32 J -31711062.16 -31711062.06 -31711061.96 0.3614 0.2380

Mars -91533-05-03 11:30 J -31710882.08 -31710882.02 -31710881.97 0.1922 0.1736

Saturn -91533-11-24 09:20 J -31710677.18 -31710677.11 -31710677.03 0.0276 0.0232

Saturn -91532-02-20 22:32 J -31710588.68 -31710588.56 -31710588.43 0.0276 0.0144

Saturn -91532-05-20 11:59 J -31710500.14 -31710500.00 -31710499.85 0.0277 0.0054

Saturn -91532-08-17 01:39 J -31710411.57 -31710411.43 -31710411.28 0.0277 0.0040

Saturn -91532-11-13 15:49 J -31710322.97 -31710322.84 -31710322.71 0.0277 0.0133

Saturn -91531-02-10 05:59 J -31710234.33 -31710234.25 -31710234.16 0.0277 0.0230

Venus -91531-07-30 18:13 J -31710063.81 -31710063.74 -31710063.67 0.3784 0.2877

Moon -91530-01-26 04:18 J -31709884.39 -31709884.32 -31709884.25 0.2740 0.2184

Earth -91530-01-26 04:03 J -31709884.39 -31709884.33 -31709884.26 0.2747 0.2291 *

Mars -91530-01-27 20:23 J -31709882.78 -31709882.65 -31709882.52 0.1618 0.0248

Jupiter -91528-02-18 11:59 J -31709130.17 -31709130.00 -31709129.83 0.0503 0.0039

Jupiter -91528-05-19 11:44 J -31709040.08 -31709040.01 -31709039.95 0.0507 0.0465

Venus -91528-05-21 09:35 J -31709038.15 -31709038.10 -31709038.05 0.3617 0.3279

Moon -91527-08-04 17:30 J -31708597.89 -31708597.77 -31708597.64 0.2599 0.0874

Earth -91527-08-04 18:13 J -31708597.87 -31708597.74 -31708597.61 0.2594 0.0812 *

Venus -91525-02-13 12:13 J -31708040.08 -31708039.99 -31708039.91 0.3782 0.2199

Mars -91524-09-23 13:39 J -31707452.06 -31707451.93 -31707451.81 0.1918 0.0821

Jupiter -91523-07-11 18:42 J -31707160.84 -31707160.72 -31707160.61 0.0527 0.0269

Jupiter -91523-10-09 05:15 J -31707071.41 -31707071.28 -31707071.15 0.0523 0.0194

Mars -91521-06-19 05:15 J -31706452.39 -31706452.28 -31706452.16 0.1621 0.0711

Venus -91520-08-29 06:13 J -31706016.34 -31706016.24 -31706016.14 0.3779 0.1498

Mars -91519-05-25 18:42 J -31705746.81 -31705746.72 -31705746.64 0.1610 0.1243

Saturn -91518-07-01 19:25 J -31705344.77 -31705344.69 -31705344.59 0.0282 0.0236

Saturn -91518-09-28 14:08 J -31705256.06 -31705255.91 -31705255.76 0.0282 0.0123

Saturn -91518-12-26 08:08 J -31705167.32 -31705167.16 -31705166.99 0.0282 0.0013

Moon -91517-01-29 00:42 J -31705133.58 -31705133.47 -31705133.35 0.2739 0.0944

Earth -91517-01-29 01:25 J -31705133.56 -31705133.44 -31705133.32 0.2744 0.0797 *

Saturn -91517-03-24 01:54 J -31705078.57 -31705078.42 -31705078.27 0.0281 0.0096

Saturn -91517-06-20 19:11 J -31704989.81 -31704989.70 -31704989.59 0.0281 0.0201

Jupiter -91517-12-07 11:44 J -31704820.17 -31704820.01 -31704819.85 0.0502 0.0162

Jupiter -91516-03-07 11:59 J -31704730.12 -31704730.00 -31704729.88 0.0506 0.0346

Mars -91514-02-13 15:06 J -31704022.01 -31704021.87 -31704021.73 0.1914 0.0154

Venus -91514-03-15 00:27 J -31703992.59 -31703992.48 -31703992.37 0.3776 0.0783

Moon -91514-08-07 17:15 J -31703846.91 -31703846.78 -31703846.65 0.2604 0.0651

Earth -91514-08-07 17:15 J -31703846.91 -31703846.78 -31703846.65 0.2597 0.0688 *

Mars -91512-11-09 14:23 J -31703021.99 -31703021.90 -31703021.81 0.1624 0.1169

Jupiter -91511-04-29 21:35 J -31702850.69 -31702850.60 -31702850.50 0.0528 0.0384

Jupiter -91511-07-28 08:08 J -31702761.30 -31702761.16 -31702761.03 0.0524 0.0077

Mars -91510-10-16 03:06 J -31702316.49 -31702316.37 -31702316.25 0.1613 0.0765

Venus -91509-09-27 18:56 J -31701968.82 -31701968.71 -31701968.60 0.3773 0.0067

Mars -91505-07-05 16:18 J -31700591.94 -31700591.82 -31700591.71 0.1909 0.1118

Jupiter -91505-09-25 11:15 J -31700510.16 -31700510.03 -31700509.89 0.0502 0.0287

Venus -91505-09-26 09:06 J -31700509.22 -31700509.12 -31700509.03 0.3597 0.2533

Uranus -91505-10-31 17:59 J -31700473.81 -31700473.75 -31700473.68 0.0141 0.0125

Jupiter -91505-12-24 11:59 J -31700420.15 -31700420.00 -31700419.85 0.0505 0.0224

Uranus -91504-01-27 22:03 J -31700385.66 -31700385.58 -31700385.48 0.0141 0.0107

Moon -91504-01-30 22:03 J -31700382.70 -31700382.58 -31700382.46 0.2739 0.0663

Earth -91504-01-30 23:01 J -31700382.66 -31700382.54 -31700382.42 0.2741 0.0732 *

Uranus -91504-04-26 02:23 J -31700297.51 -31700297.40 -31700297.28 0.0142 0.0089

Uranus -91504-07-23 06:42 J -31700209.34 -31700209.22 -31700209.09 0.0142 0.0070

Uranus -91504-10-19 11:01 J -31700121.17 -31700121.04 -31700120.90 0.0142 0.0051

Uranus -91503-01-15 15:20 J -31700033.00 -31700032.86 -31700032.71 0.0142 0.0032

Saturn -91503-04-13 10:18 J -31699945.11 -31699945.07 -31699945.03 0.0277 0.0264

Venus -91503-04-13 13:39 J -31699945.04 -31699944.93 -31699944.82 0.3769 0.0723 *

Uranus -91503-04-13 19:54 J -31699944.82 -31699944.67 -31699944.53 0.0142 0.0012 *

Saturn -91503-07-10 23:30 J -31699856.63 -31699856.52 -31699856.41 0.0277 0.0176

Uranus -91503-07-11 00:13 J -31699856.63 -31699856.49 -31699856.34 0.0142 0.0008 *

Uranus -91503-10-07 04:47 J -31699768.45 -31699768.30 -31699768.16 0.0142 0.0027

Saturn -91503-10-07 12:42 J -31699768.10 -31699767.97 -31699767.83 0.0277 0.0087

Uranus -91502-01-03 09:20 J -31699680.25 -31699680.11 -31699679.97 0.0143 0.0048

Saturn -91502-01-04 02:23 J -31699679.54 -31699679.40 -31699679.25 0.0277 0.0009

Uranus -91502-04-01 13:54 J -31699592.05 -31699591.92 -31699591.79 0.0143 0.0068

Mars -91502-04-01 23:30 J -31699591.52 -31699591.52 -31699591.52 0.1628 0.1627

Saturn -91502-04-02 16:18 J -31699590.95 -31699590.82 -31699590.68 0.0278 0.0100

Uranus -91502-06-28 18:27 J -31699503.84 -31699503.73 -31699503.61 0.0143 0.0088

Saturn -91502-06-30 06:27 J -31699502.33 -31699502.23 -31699502.12 0.0278 0.0196

Uranus -91502-09-24 23:01 J -31699415.63 -31699415.54 -31699415.44 0.0143 0.0109

Uranus -91502-12-22 03:35 J -31699327.40 -31699327.35 -31699327.28 0.0143 0.0130

Earth -91501-08-09 16:03 J -31699095.90 -31699095.83 -31699095.76 0.2600 0.2150

Moon -91501-08-09 16:47 J -31699095.85 -31699095.80 -31699095.74 0.2604 0.2306 *

Mars -91500-03-07 11:44 J -31698886.14 -31698886.01 -31698885.88 0.1615 0.0288

Jupiter -91499-02-16 00:42 J -31698540.51 -31698540.47 -31698540.43 0.0529 0.0498

Venus -91499-04-12 10:03 J -31698485.21 -31698485.08 -31698484.95 0.3601 0.1420

Jupiter -91499-05-16 10:47 J -31698451.18 -31698451.05 -31698450.91 0.0525 0.0044

Jupiter -91499-08-13 21:49 J -31698361.66 -31698361.59 -31698361.51 0.0521 0.0424

Venus -91498-10-28 08:37 J -31697921.25 -31697921.14 -31697921.04 0.3766 0.1502

Moon -91494-08-02 23:30 J -31696546.59 -31696546.52 -31696546.45 0.2594 0.2198

Earth -91494-08-03 00:42 J -31696546.56 -31696546.47 -31696546.39 0.2592 0.2025 *

Venus -91494-10-27 10:47 J -31696461.18 -31696461.05 -31696460.91 0.3604 0.0340

Mars -91494-11-02 11:59 J -31696455.04 -31696455.00 -31696454.97 0.1922 0.1837

Jupiter -91493-07-14 10:18 J -31696200.16 -31696200.07 -31696199.98 0.0500 0.0418

Jupiter -91493-10-12 11:15 J -31696110.20 -31696110.03 -31696109.87 0.0504 0.0094

Venus -91492-05-13 03:35 J -31695897.43 -31695897.35 -31695897.26 0.3762 0.2309

Neptune -91492-12-22 13:39 J -31695673.95 -31695673.93 -31695673.88 0.0088 0.0087

Moon -91491-02-02 19:54 J -31695631.74 -31695631.67 -31695631.60 0.2742 0.2198

Earth -91491-02-02 20:37 J -31695631.70 -31695631.64 -31695631.57 0.2738 0.2296 *

Neptune -91491-03-20 17:01 J -31695585.86 -31695585.79 -31695585.72 0.0088 0.0081

Neptune -91491-06-16 19:39 J -31695497.75 -31695497.68 -31695497.56 0.0088 0.0076

Mars -91491-07-28 20:37 J -31695455.77 -31695455.64 -31695455.51 0.1618 0.0181

Neptune -91491-09-12 23:01 J -31695409.64 -31695409.54 -31695409.42 0.0088 0.0070

Neptune -91491-12-10 01:54 J -31695321.52 -31695321.42 -31695321.28 0.0088 0.0065

Neptune -91490-03-08 05:01 J -31695233.41 -31695233.29 -31695233.14 0.0088 0.0059

Neptune -91490-06-04 08:23 J -31695145.29 -31695145.15 -31695145.00 0.0088 0.0053

Neptune -91490-08-31 11:15 J -31695057.17 -31695057.03 -31695056.87 0.0088 0.0048

Neptune -91490-11-27 14:23 J -31694969.05 -31694968.90 -31694968.74 0.0088 0.0042

Neptune -91489-02-23 17:15 J -31694880.93 -31694880.78 -31694880.61 0.0088 0.0037

Neptune -91489-05-21 20:23 J -31694792.81 -31694792.65 -31694792.48 0.0088 0.0031

Neptune -91489-08-17 23:15 J -31694704.69 -31694704.53 -31694704.35 0.0088 0.0026

Neptune -91489-11-14 02:23 J -31694616.57 -31694616.40 -31694616.22 0.0088 0.0020

Saturn -91489-11-17 20:51 J -31694612.68 -31694612.63 -31694612.57 0.0283 0.0263

Neptune -91488-02-10 05:15 J -31694528.45 -31694528.28 -31694528.10 0.0088 0.0015

Saturn -91488-02-14 15:35 J -31694523.99 -31694523.85 -31694523.71 0.0282 0.0149

Neptune -91488-05-09 08:08 J -31694440.33 -31694440.16 -31694439.97 0.0088 0.0010

Venus -91488-05-12 11:01 J -31694437.18 -31694437.04 -31694436.91 0.3607 0.0690

Saturn -91488-05-14 09:49 J -31694435.25 -31694435.09 -31694434.93 0.0282 0.0037

Neptune -91488-08-05 11:15 J -31694352.21 -31694352.03 -31694351.85 0.0088 0.0004

Saturn -91488-08-11 03:35 J -31694346.50 -31694346.35 -31694346.19 0.0282 0.0073

Neptune -91488-11-01 14:08 J -31694264.09 -31694263.91 -31694263.73 0.0088 0.0002

Saturn -91488-11-07 21:06 J -31694257.74 -31694257.62 -31694257.50 0.0282 0.0179

Neptune -91487-01-28 17:01 J -31694175.97 -31694175.79 -31694175.61 0.0088 0.0007

Jupiter -91487-03-04 13:25 J -31694141.07 -31694140.94 -31694140.81 0.0527 0.0162

Neptune -91487-04-26 19:54 J -31694087.84 -31694087.67 -31694087.49 0.0088 0.0013

Jupiter -91487-06-02 00:27 J -31694051.60 -31694051.48 -31694051.37 0.0523 0.0304

Neptune -91487-07-23 22:32 J -31693999.72 -31693999.56 -31693999.37 0.0088 0.0019

Neptune -91487-10-20 01:25 J -31693911.60 -31693911.44 -31693911.26 0.0088 0.0024

Venus -91487-11-26 23:01 J -31693873.60 -31693873.54 -31693873.48 0.3758 0.3123

Neptune -91486-01-16 04:32 J -31693823.48 -31693823.31 -31693823.14 0.0088 0.0029

Neptune -91486-04-14 07:25 J -31693735.35 -31693735.19 -31693735.03 0.0088 0.0034

Neptune -91486-07-11 09:49 J -31693647.23 -31693647.09 -31693646.92 0.0088 0.0040

Neptune -91486-10-07 12:42 J -31693559.11 -31693558.97 -31693558.80 0.0088 0.0045

Neptune -91485-01-03 15:35 J -31693470.98 -31693470.85 -31693470.69 0.0088 0.0050

Neptune -91485-03-31 18:27 J -31693382.86 -31693382.73 -31693382.59 0.0088 0.0055

Neptune -91485-06-27 21:20 J -31693294.73 -31693294.61 -31693294.48 0.0088 0.0060

Neptune -91485-09-23 23:44 J -31693206.61 -31693206.51 -31693206.37 0.0088 0.0066

Neptune -91485-12-21 02:37 J -31693118.48 -31693118.39 -31693118.27 0.0088 0.0070

Moon -91484-01-26 09:20 J -31693082.19 -31693082.11 -31693082.03 0.2740 0.2045

Earth -91484-01-26 09:20 J -31693082.19 -31693082.11 -31693082.03 0.2746 0.1988 *

Neptune -91484-03-19 05:15 J -31693030.35 -31693030.28 -31693030.17 0.0088 0.0076

Mars -91484-03-24 13:39 J -31693025.05 -31693024.93 -31693024.81 0.1918 0.0898

Neptune -91484-06-15 08:08 J -31692942.22 -31692942.16 -31692942.08 0.0088 0.0081

Neptune -91484-09-11 10:47 J -31692854.07 -31692854.05 -31692853.99 0.0088 0.0086

Venus -91483-11-26 10:47 J -31692413.17 -31692413.05 -31692412.94 0.3611 0.1667

Mars -91482-12-19 05:30 J -31692025.39 -31692025.27 -31692025.15 0.1621 0.0644

Jupiter -91481-07-31 10:47 J -31691800.22 -31691800.05 -31691799.89 0.0503 0.0034

Moon -91481-08-04 23:15 J -31691795.66 -31691795.53 -31691795.39 0.2601 0.0526

Earth -91481-08-04 23:44 J -31691795.64 -31691795.51 -31691795.37 0.2595 0.0497 *

Jupiter -91481-10-29 10:18 J -31691710.13 -31691710.07 -31691710.01 0.0506 0.0470

Venus -91480-08-20 22:32 J -31691414.61 -31691414.56 -31691414.52 0.3786 0.3371

Mars -91480-11-23 18:56 J -31691319.79 -31691319.71 -31691319.64 0.1610 0.1312

Pluto -91479-09-06 17:44 J -31691032.79 -31691032.76 -31691032.67 0.0060 0.0057

Pluto -91479-12-03 19:25 J -31690944.78 -31690944.69 -31690944.56 0.0060 0.0050

Pluto -91478-03-01 20:37 J -31690856.74 -31690856.64 -31690856.48 0.0060 0.0044

Pluto -91478-05-28 22:18 J -31690768.70 -31690768.57 -31690768.40 0.0060 0.0038

Pluto -91478-08-25 00:13 J -31690680.66 -31690680.49 -31690680.32 0.0060 0.0031

Pluto -91478-11-21 01:25 J -31690592.61 -31690592.44 -31690592.25 0.0060 0.0024

Pluto -91477-02-17 03:06 J -31690504.56 -31690504.37 -31690504.18 0.0060 0.0017

Pluto -91477-05-15 04:18 J -31690416.50 -31690416.32 -31690416.11 0.0060 0.0011

Venus -91477-06-11 10:03 J -31690389.17 -31690389.08 -31690388.99 0.3614 0.2603

Pluto -91477-08-11 05:59 J -31690328.44 -31690328.25 -31690328.05 0.0060 0.0004

Pluto -91477-11-07 07:39 J -31690240.38 -31690240.18 -31690239.99 0.0060 0.0003

Pluto -91476-02-03 08:51 J -31690152.32 -31690152.13 -31690151.93 0.0061 0.0009

Pluto -91476-05-02 10:32 J -31690064.25 -31690064.06 -31690063.87 0.0061 0.0016

Pluto -91476-07-29 11:44 J -31689976.18 -31689976.01 -31689975.82 0.0061 0.0023

Pluto -91476-10-25 13:11 J -31689888.11 -31689887.95 -31689887.76 0.0061 0.0030

Jupiter -91476-12-21 16:47 J -31689830.91 -31689830.80 -31689830.68 0.0528 0.0273

Pluto -91475-01-21 14:37 J -31689800.03 -31689799.89 -31689799.72 0.0061 0.0037

Jupiter -91475-03-21 03:35 J -31689741.48 -31689741.35 -31689741.22 0.0524 0.0191

Pluto -91475-04-19 16:32 J -31689711.95 -31689711.81 -31689711.67 0.0061 0.0043

Pluto -91475-07-16 17:44 J -31689623.86 -31689623.76 -31689623.64 0.0061 0.0050

Mars -91475-08-14 15:20 J -31689595.00 -31689594.86 -31689594.72 0.1914 0.0059

Pluto -91475-10-12 19:11 J -31689535.75 -31689535.70 -31689535.62 0.0061 0.0057

Venus -91474-03-06 16:18 J -31689390.90 -31689390.82 -31689390.75 0.3784 0.2706

Saturn -91474-11-28 01:39 J -31689124.53 -31689124.43 -31689124.33 0.0276 0.0198

Saturn -91473-02-24 15:06 J -31689036.01 -31689035.87 -31689035.74 0.0276 0.0109

Saturn -91473-05-23 04:32 J -31688947.46 -31688947.31 -31688947.16 0.0277 0.0018

Saturn -91473-08-19 18:13 J -31688858.88 -31688858.74 -31688858.59 0.0277 0.0076

Saturn -91473-11-16 08:23 J -31688770.27 -31688770.15 -31688770.03 0.0277 0.0171

Saturn -91472-02-12 22:47 J -31688681.59 -31688681.55 -31688681.51 0.0277 0.0267

Mars -91472-05-10 14:37 J -31688594.99 -31688594.89 -31688594.80 0.1624 0.1105

Venus -91472-12-26 08:51 J -31688365.16 -31688365.13 -31688365.10 0.3618 0.3497

Moon -91471-01-29 05:59 J -31688331.37 -31688331.25 -31688331.13 0.2738 0.0489

Earth -91471-01-29 06:42 J -31688331.34 -31688331.22 -31688331.10 0.2744 0.0491 *

Mars -91470-04-16 03:20 J -31687889.47 -31687889.36 -31687889.25 0.1613 0.0831

Jupiter -91469-05-19 09:49 J -31687490.25 -31687490.09 -31687489.93 0.0502 0.0162

Jupiter -91469-08-17 10:03 J -31687400.20 -31687400.08 -31687399.96 0.0506 0.0345

Venus -91469-09-19 10:18 J -31687367.16 -31687367.07 -31687366.98 0.3781 0.2023

Earth -91468-08-07 22:47 J -31687044.67 -31687044.55 -31687044.42 0.2598 0.1007

Moon -91468-08-07 23:01 J -31687044.66 -31687044.54 -31687044.42 0.2604 0.1057 *

Uranus -91466-10-04 11:01 J -31686257.05 -31686257.04 -31686257.02 0.0138 0.0137

Uranus -91466-12-31 17:01 J -31686168.88 -31686168.79 -31686168.69 0.0137 0.0116

Mars -91465-01-04 16:32 J -31686164.92 -31686164.81 -31686164.69 0.1909 0.1022

Uranus -91465-03-28 22:47 J -31686080.66 -31686080.55 -31686080.41 0.0137 0.0095

Uranus -91465-06-25 04:47 J -31685992.44 -31685992.30 -31685992.15 0.0137 0.0073

Uranus -91465-09-21 10:47 J -31685904.21 -31685904.05 -31685903.89 0.0137 0.0052

Uranus -91465-12-18 16:32 J -31685815.97 -31685815.81 -31685815.64 0.0137 0.0032

Uranus -91464-03-16 22:18 J -31685727.74 -31685727.57 -31685727.40 0.0137 0.0011

Uranus -91464-06-13 04:03 J -31685639.50 -31685639.33 -31685639.16 0.0137 0.0010

Uranus -91464-09-09 09:35 J -31685551.26 -31685551.10 -31685550.93 0.0137 0.0029

Jupiter -91464-10-09 20:23 J -31685520.74 -31685520.65 -31685520.55 0.0528 0.0380

Uranus -91464-12-06 14:51 J -31685463.03 -31685462.88 -31685462.71 0.0136 0.0050

Jupiter -91463-01-07 06:56 J -31685431.35 -31685431.21 -31685431.08 0.0524 0.0082

Uranus -91463-03-04 20:37 J -31685374.78 -31685374.64 -31685374.49 0.0136 0.0069

Venus -91463-04-05 04:18 J -31685343.42 -31685343.32 -31685343.21 0.3778 0.1325

Uranus -91463-06-01 01:54 J -31685286.54 -31685286.42 -31685286.29 0.0136 0.0088

Uranus -91463-08-28 07:11 J -31685198.29 -31685198.20 -31685198.09 0.0136 0.0107

Mars -91463-09-30 23:30 J -31685164.55 -31685164.52 -31685164.48 0.1628 0.1563

Uranus -91463-11-24 12:27 J -31685110.03 -31685109.98 -31685109.91 0.0136 0.0126

Mars -91461-09-05 11:59 J -31684459.13 -31684459.00 -31684458.87 0.1615 0.0358

Saturn -91459-07-04 13:39 J -31683792.05 -31683791.93 -31683791.81 0.0282 0.0192

Saturn -91459-10-01 08:08 J -31683703.32 -31683703.16 -31683703.00 0.0282 0.0080

Saturn -91459-12-29 02:08 J -31683614.57 -31683614.41 -31683614.25 0.0282 0.0031

Moon -91458-02-01 03:20 J -31683580.48 -31683580.36 -31683580.24 0.2741 0.0878

Earth -91458-02-01 04:18 J -31683580.43 -31683580.32 -31683580.21 0.2741 0.1049 *

Saturn -91458-03-27 19:39 J -31683525.82 -31683525.68 -31683525.54 0.0281 0.0138

Saturn -91458-06-24 12:56 J -31683437.04 -31683436.96 -31683436.88 0.0281 0.0243

Venus -91458-10-19 22:47 J -31683319.66 -31683319.55 -31683319.44 0.3775 0.0608

Jupiter -91457-03-07 09:35 J -31683180.24 -31683180.10 -31683179.96 0.0501 0.0286

Jupiter -91457-06-05 10:18 J -31683090.22 -31683090.07 -31683089.92 0.0505 0.0225

Earth -91455-08-10 21:35 J -31682293.64 -31682293.60 -31682293.56 0.2601 0.2460

Moon -91455-08-10 22:32 J -31682293.59 -31682293.56 -31682293.53 0.2604 0.2501 *

Venus -91454-10-18 07:39 J -31681860.23 -31681860.18 -31681860.14 0.3595 0.3394

Venus -91452-05-04 17:15 J -31681295.89 -31681295.78 -31681295.67 0.3772 0.0151

Jupiter -91452-07-28 23:44 J -31681210.56 -31681210.51 -31681210.47 0.0529 0.0492

Jupiter -91452-10-26 09:49 J -31681121.23 -31681121.09 -31681120.95 0.0525 0.0034

Jupiter -91451-01-23 20:51 J -31681031.71 -31681031.63 -31681031.55 0.0521 0.0430

Mars -91451-01-26 20:51 J -31681028.77 -31681028.63 -31681028.50 0.1618 0.0122

Venus -91448-05-03 08:51 J -31679836.23 -31679836.13 -31679836.02 0.3598 0.2254

Moon -91448-08-03 05:15 J -31679744.38 -31679744.28 -31679744.18 0.2595 0.1739

Earth -91448-08-03 06:13 J -31679744.34 -31679744.24 -31679744.14 0.2593 0.1694 *

Venus -91447-11-18 11:59 J -31679272.11 -31679272.00 -31679271.89 0.3768 0.0914

Jupiter -91446-12-25 09:06 J -31678870.21 -31678870.12 -31678870.02 0.0501 0.0411

Moon -91445-02-04 01:11 J -31678829.49 -31678829.45 -31678829.40 0.2742 0.2549

Earth -91445-02-04 02:08 J -31678829.44 -31678829.41 -31678829.38 0.2737 0.2618 *

Jupiter -91445-03-24 10:03 J -31678780.24 -31678780.08 -31678779.91 0.0504 0.0103

Mars -91445-09-22 14:08 J -31678598.02 -31678597.91 -31678597.79 0.1918 0.1006

Saturn -91444-04-16 02:08 J -31678392.48 -31678392.41 -31678392.33 0.0277 0.0233

Saturn -91444-07-13 15:20 J -31678303.98 -31678303.86 -31678303.73 0.0277 0.0144

Saturn -91444-10-10 04:47 J -31678215.44 -31678215.30 -31678215.15 0.0277 0.0054

Saturn -91443-01-06 18:27 J -31678126.87 -31678126.73 -31678126.58 0.0277 0.0040

Saturn -91443-04-05 08:23 J -31678038.27 -31678038.15 -31678038.01 0.0277 0.0135

Saturn -91443-07-02 22:47 J -31677949.63 -31677949.55 -31677949.47 0.0278 0.0230

Venus -91443-11-17 10:03 J -31677812.21 -31677812.08 -31677811.95 0.3601 0.1140

Mars -91442-06-19 05:44 J -31677598.39 -31677598.26 -31677598.14 0.1621 0.0582

Venus -91441-06-03 06:56 J -31677248.31 -31677248.21 -31677248.11 0.3765 0.1699

Mars -91440-05-24 18:56 J -31676892.78 -31676892.71 -31676892.64 0.1610 0.1378

Jupiter -91440-08-14 12:42 J -31676811.10 -31676810.97 -31676810.84 0.0526 0.0151

Jupiter -91440-11-11 23:30 J -31676721.63 -31676721.52 -31676721.41 0.0522 0.0313

Moon -91438-01-27 14:23 J -31676280.00 -31676279.90 -31676279.80 0.2740 0.1656

Earth -91438-01-27 14:37 J -31676279.98 -31676279.89 -31676279.79 0.2746 0.1686 *

Venus -91437-06-02 10:32 J -31675788.19 -31675788.06 -31675787.92 0.3605 0.0083

Venus -91436-12-18 02:08 J -31675224.49 -31675224.41 -31675224.33 0.3761 0.2506

Mars -91435-02-12 15:35 J -31675167.99 -31675167.85 -31675167.71 0.1914 0.0063

Moon -91435-08-06 05:01 J -31674993.42 -31674993.29 -31674993.15 0.2602 0.0250

Earth -91435-08-06 05:30 J -31674993.41 -31674993.27 -31674993.14 0.2595 0.0179 *

Jupiter -91433-01-11 09:35 J -31674470.27 -31674470.10 -31674469.94 0.0503 0.0028

Jupiter -91433-04-10 09:06 J -31674380.17 -31674380.12 -31674380.06 0.0506 0.0477

Mars -91433-11-08 14:37 J -31674167.99 -31674167.89 -31674167.79 0.1624 0.1042

Venus -91432-12-17 10:32 J -31673764.19 -31673764.06 -31673763.93 0.3608 0.0939

Mars -91431-10-15 03:35 J -31673462.46 -31673462.35 -31673462.24 0.1612 0.0899

Venus -91430-07-03 21:35 J -31673200.65 -31673200.60 -31673200.55 0.3757 0.3335

Saturn -91430-11-21 14:37 J -31673059.99 -31673059.89 -31673059.78 0.0283 0.0221

Saturn -91429-02-18 09:20 J -31672971.26 -31672971.11 -31672970.96 0.0283 0.0107

Saturn -91429-05-17 03:20 J -31672882.52 -31672882.36 -31672882.19 0.0282 0.0010

Saturn -91429-08-13 21:06 J -31672793.76 -31672793.62 -31672793.47 0.0282 0.0113

Saturn -91429-11-10 14:23 J -31672704.99 -31672704.90 -31672704.80 0.0282 0.0219

Jupiter -91428-06-02 15:20 J -31672500.98 -31672500.86 -31672500.74 0.0528 0.0272

Jupiter -91428-08-31 01:54 J -31672411.55 -31672411.42 -31672411.29 0.0524 0.0192

Venus -91426-07-03 10:18 J -31671740.18 -31671740.07 -31671739.96 0.3612 0.1904

Mars -91426-07-05 16:47 J -31671737.92 -31671737.80 -31671737.68 0.1910 0.0938

Moon -91425-01-30 11:15 J -31671529.15 -31671529.03 -31671528.91 0.2738 0.0341

Earth -91425-01-30 11:59 J -31671529.12 -31671529.00 -31671528.88 0.2743 0.0181 *

Venus -91423-03-27 20:37 J -31670741.70 -31670741.64 -31670741.59 0.3785 0.3204

Mars -91423-03-31 23:44 J -31670737.56 -31670737.51 -31670737.46 0.1628 0.1499

Earth -91422-08-09 04:18 J -31670242.43 -31670242.32 -31670242.20 0.2598 0.1317

Moon -91422-08-09 04:47 J -31670242.41 -31670242.30 -31670242.19 0.2604 0.1363 *

Jupiter -91422-10-30 08:51 J -31670160.29 -31670160.13 -31670159.97 0.0502 0.0153

Jupiter -91421-01-28 08:51 J -31670070.24 -31670070.13 -31670070.01 0.0505 0.0354

Mars -91421-03-06 12:13 J -31670032.12 -31670031.99 -31670031.86 0.1615 0.0424

Uranus -91421-08-24 21:35 J -31669860.62 -31669860.60 -31669860.57 0.0141 0.0137

Uranus -91421-11-21 01:39 J -31669772.50 -31669772.43 -31669772.35 0.0141 0.0119

Venus -91420-01-16 09:35 J -31669716.18 -31669716.10 -31669716.02 0.3616 0.2832

Uranus -91420-02-17 05:59 J -31669684.35 -31669684.25 -31669684.15 0.0141 0.0101

Uranus -91420-05-16 10:03 J -31669596.19 -31669596.08 -31669595.95 0.0141 0.0083

Uranus -91420-08-12 14:23 J -31669508.02 -31669507.90 -31669507.76 0.0142 0.0064

Uranus -91420-11-08 18:42 J -31669419.85 -31669419.72 -31669419.58 0.0142 0.0045

Uranus -91419-02-04 23:15 J -31669331.68 -31669331.53 -31669331.39 0.0142 0.0025

Uranus -91419-05-04 03:35 J -31669243.50 -31669243.35 -31669243.20 0.0142 0.0006

Uranus -91419-07-31 08:08 J -31669155.31 -31669155.16 -31669155.02 0.0142 0.0015

Uranus -91419-10-27 12:27 J -31669067.12 -31669066.98 -31669066.83 0.0142 0.0034

Uranus -91418-01-23 17:01 J -31668978.93 -31668978.79 -31668978.65 0.0143 0.0054

Uranus -91418-04-21 21:35 J -31668890.72 -31668890.60 -31668890.47 0.0143 0.0074

Uranus -91418-07-19 02:08 J -31668802.51 -31668802.41 -31668802.29 0.0143 0.0095

Venus -91418-10-11 14:23 J -31668717.98 -31668717.90 -31668717.82 0.3783 0.2539

Uranus -91418-10-15 06:42 J -31668714.30 -31668714.22 -31668714.12 0.0143 0.0116

Uranus -91417-01-11 11:30 J -31668626.05 -31668626.02 -31668625.97 0.0143 0.0137

Jupiter -91416-03-21 18:42 J -31668190.81 -31668190.72 -31668190.63 0.0529 0.0383

Jupiter -91416-06-19 05:15 J -31668101.42 -31668101.28 -31668101.15 0.0525 0.0080

Saturn -91415-09-03 04:47 J -31667660.35 -31667660.30 -31667660.24 0.0276 0.0252

Saturn -91415-11-30 17:44 J -31667571.87 -31667571.76 -31667571.64 0.0276 0.0165

Saturn -91414-02-27 07:11 J -31667483.34 -31667483.20 -31667483.06 0.0276 0.0075

Saturn -91414-05-26 20:37 J -31667394.78 -31667394.64 -31667394.49 0.0276 0.0019

Saturn -91414-08-23 10:32 J -31667306.19 -31667306.06 -31667305.92 0.0277 0.0111

Saturn -91414-11-20 00:42 J -31667217.57 -31667217.47 -31667217.37 0.0277 0.0206

Moon -91412-02-01 08:37 J -31666778.25 -31666778.14 -31666778.03 0.2742 0.1329

Earth -91412-02-01 09:35 J -31666778.21 -31666778.10 -31666777.99 0.2740 0.1360 *

Venus -91412-04-26 08:23 J -31666694.25 -31666694.15 -31666694.06 0.3780 0.1844

Mars -91412-07-27 20:51 J -31666601.76 -31666601.63 -31666601.49 0.1618 0.0074

Neptune -91410-06-24 14:51 J -31665904.90 -31665904.88 -31665904.86 0.0089 0.0087

Jupiter -91410-08-18 07:54 J -31665850.31 -31665850.17 -31665850.03 0.0501 0.0283

Neptune -91410-09-20 16:18 J -31665816.86 -31665816.82 -31665816.77 0.0089 0.0083

Jupiter -91410-11-16 08:23 J -31665760.29 -31665760.15 -31665760.00 0.0505 0.0227

Neptune -91410-12-17 17:44 J -31665728.81 -31665728.76 -31665728.69 0.0089 0.0079

Neptune -91409-03-14 19:11 J -31665640.76 -31665640.70 -31665640.62 0.0089 0.0075

Neptune -91409-06-10 20:51 J -31665552.71 -31665552.63 -31665552.54 0.0089 0.0071

Neptune -91409-09-06 22:18 J -31665464.65 -31665464.57 -31665464.47 0.0089 0.0067

Neptune -91409-12-03 23:44 J -31665376.60 -31665376.51 -31665376.40 0.0089 0.0063

Neptune -91408-03-02 01:11 J -31665288.54 -31665288.45 -31665288.33 0.0089 0.0059

Neptune -91408-05-29 03:06 J -31665200.48 -31665200.37 -31665200.26 0.0089 0.0054

Neptune -91408-08-25 04:32 J -31665112.42 -31665112.31 -31665112.19 0.0089 0.0050

Neptune -91408-11-21 05:59 J -31665024.36 -31665024.25 -31665024.12 0.0089 0.0046

Neptune -91407-02-17 07:39 J -31664936.30 -31664936.18 -31664936.05 0.0089 0.0042

Neptune -91407-05-16 09:20 J -31664848.24 -31664848.11 -31664847.98 0.0089 0.0037

Neptune -91407-08-12 10:47 J -31664760.17 -31664760.05 -31664759.91 0.0089 0.0033

Neptune -91407-11-08 12:27 J -31664672.11 -31664671.98 -31664671.84 0.0089 0.0029

Venus -91407-11-10 02:37 J -31664670.50 -31664670.39 -31664670.29 0.3777 0.1146

Neptune -91406-02-04 13:54 J -31664584.05 -31664583.92 -31664583.78 0.0089 0.0025

Neptune -91406-05-03 15:49 J -31664495.98 -31664495.84 -31664495.71 0.0089 0.0020

Neptune -91406-07-30 17:15 J -31664407.92 -31664407.78 -31664407.64 0.0089 0.0016

Neptune -91406-10-26 18:56 J -31664319.85 -31664319.71 -31664319.57 0.0089 0.0011

Neptune -91405-01-22 20:37 J -31664231.78 -31664231.64 -31664231.50 0.0089 0.0007

Mars -91405-03-23 14:37 J -31664171.01 -31664170.89 -31664170.78 0.1918 0.1097

Neptune -91405-04-19 22:03 J -31664143.72 -31664143.58 -31664143.43 0.0089 0.0004

Neptune -91405-07-16 23:44 J -31664055.65 -31664055.51 -31664055.36 0.0089 0.0003

Neptune -91405-10-13 01:25 J -31663967.58 -31663967.44 -31663967.30 0.0089 0.0006

Jupiter -91404-01-07 22:18 J -31663880.61 -31663880.57 -31663880.52 0.0529 0.0490

Neptune -91404-01-09 03:06 J -31663879.51 -31663879.37 -31663879.23 0.0089 0.0010

Neptune -91404-04-07 04:47 J -31663791.44 -31663791.30 -31663791.16 0.0089 0.0015

Jupiter -91404-04-07 08:37 J -31663791.28 -31663791.14 -31663791.00 0.0526 0.0030 *

Neptune -91404-07-04 06:27 J -31663703.37 -31663703.23 -31663703.09 0.0089 0.0019

Jupiter -91404-07-05 19:39 J -31663701.75 -31663701.68 -31663701.60 0.0522 0.0436

Neptune -91404-09-30 07:54 J -31663615.30 -31663615.17 -31663615.02 0.0089 0.0024

Neptune -91404-12-27 09:49 J -31663527.23 -31663527.09 -31663526.96 0.0089 0.0028

Neptune -91403-03-25 11:15 J -31663439.16 -31663439.03 -31663438.89 0.0089 0.0033

Neptune -91403-06-21 13:11 J -31663351.08 -31663350.95 -31663350.82 0.0089 0.0037

Neptune -91403-09-17 14:37 J -31663263.01 -31663262.89 -31663262.76 0.0089 0.0042

Neptune -91403-12-14 16:18 J -31663174.93 -31663174.82 -31663174.69 0.0089 0.0046

Mars -91403-12-18 05:44 J -31663171.38 -31663171.26 -31663171.13 0.1621 0.0516

Neptune -91402-03-12 17:59 J -31663086.86 -31663086.75 -31663086.62 0.0089 0.0051

Neptune -91402-06-08 19:54 J -31662998.78 -31662998.67 -31662998.56 0.0089 0.0055

Moon -91402-08-04 11:01 J -31662942.15 -31662942.04 -31662941.93 0.2597 0.1539

Earth -91402-08-04 11:44 J -31662942.12 -31662942.01 -31662941.89 0.2593 0.1372 *

Neptune -91402-09-04 21:20 J -31662910.70 -31662910.61 -31662910.49 0.0089 0.0060

Neptune -91402-12-01 23:15 J -31662822.63 -31662822.53 -31662822.43 0.0089 0.0064

Neptune -91401-02-28 00:42 J -31662734.54 -31662734.47 -31662734.36 0.0089 0.0069

Venus -91401-05-25 20:51 J -31662646.74 -31662646.63 -31662646.52 0.3774 0.0422

Neptune -91401-05-26 02:37 J -31662646.46 -31662646.39 -31662646.30 0.0089 0.0073

Neptune -91401-08-22 04:18 J -31662558.38 -31662558.32 -31662558.24 0.0089 0.0078

Neptune -91401-11-18 06:13 J -31662470.29 -31662470.24 -31662470.18 0.0089 0.0082

Mars -91401-11-22 19:11 J -31662465.75 -31662465.70 -31662465.64 0.1610 0.1450

Neptune -91400-02-14 07:54 J -31662382.19 -31662382.17 -31662382.13 0.0089 0.0087

Saturn -91400-04-09 12:42 J -31662328.02 -31662327.97 -31662327.92 0.0282 0.0266

Saturn -91400-07-07 07:25 J -31662239.33 -31662239.19 -31662239.05 0.0282 0.0151

Saturn -91400-10-04 01:39 J -31662150.59 -31662150.43 -31662150.26 0.0282 0.0039

Saturn -91400-12-31 19:39 J -31662061.84 -31662061.68 -31662061.52 0.0282 0.0071

Saturn -91399-03-30 13:11 J -31661973.08 -31661972.95 -31661972.83 0.0282 0.0178

Jupiter -91398-06-06 07:25 J -31661540.28 -31661540.19 -31661540.09 0.0500 0.0408

Jupiter -91398-09-04 08:37 J -31661450.31 -31661450.14 -31661449.98 0.0504 0.0105

Venus -91397-05-24 07:39 J -31661187.25 -31661187.18 -31661187.11 0.3596 0.3099

Mars -91396-08-13 16:03 J -31660740.97 -31660740.83 -31660740.69 0.1914 0.0140

Venus -91396-12-09 15:35 J -31660622.96 -31660622.85 -31660622.74 0.3771 0.0350

Mars -91393-05-09 14:51 J -31659740.99 -31659740.88 -31659740.78 0.1624 0.0981

Jupiter -91392-01-24 11:44 J -31659481.14 -31659481.01 -31659480.88 0.0526 0.0144

Moon -91392-01-27 19:25 J -31659477.79 -31659477.69 -31659477.58 0.2739 0.1459

Earth -91392-01-27 19:54 J -31659477.77 -31659477.67 -31659477.57 0.2746 0.1381 *

Jupiter -91392-04-23 22:32 J -31659391.67 -31659391.56 -31659391.45 0.0522 0.0320

Venus -91392-12-08 09:06 J -31659163.24 -31659163.12 -31659163.01 0.3599 0.1966

Mars -91391-04-15 03:35 J -31659035.45 -31659035.35 -31659035.24 0.1612 0.0969

Venus -91390-06-25 10:18 J -31658599.18 -31658599.07 -31658598.96 0.3767 0.1112

Moon -91389-08-06 10:47 J -31658191.19 -31658191.05 -31658190.92 0.2602 0.0185

Earth -91389-08-06 11:01 J -31658191.18 -31658191.04 -31658190.90 0.2596 0.0150 *

Mars -91386-01-03 17:30 J -31657310.90 -31657310.77 -31657310.64 0.1910 0.0827

Jupiter -91386-06-23 08:23 J -31657140.32 -31657140.15 -31657139.98 0.0503 0.0018

Venus -91386-06-24 10:03 J -31657139.22 -31657139.08 -31657138.95 0.3602 0.0870

Jupiter -91386-09-21 08:08 J -31657050.20 -31657050.16 -31657050.11 0.0507 0.0486

Saturn -91385-04-18 18:13 J -31656839.84 -31656839.74 -31656839.64 0.0276 0.0200

Pluto -91385-07-01 11:01 J -31656766.09 -31656766.04 -31656765.97 0.0084 0.0075

Saturn -91385-07-16 07:25 J -31656751.32 -31656751.19 -31656751.06 0.0277 0.0111

Pluto -91385-09-27 12:27 J -31656678.06 -31656677.98 -31656677.89 0.0084 0.0063

Saturn -91385-10-12 20:51 J -31656662.77 -31656662.63 -31656662.48 0.0277 0.0021

Pluto -91385-12-24 13:39 J -31656590.03 -31656589.93 -31656589.82 0.0084 0.0050

Venus -91384-01-08 05:15 J -31656575.37 -31656575.28 -31656575.18 0.3764 0.1904

Saturn -91384-01-09 10:32 J -31656574.20 -31656574.06 -31656573.91 0.0277 0.0073

Pluto -91384-03-22 14:51 J -31656501.99 -31656501.88 -31656501.75 0.0084 0.0038

Saturn -91384-04-08 00:27 J -31656485.59 -31656485.48 -31656485.35 0.0277 0.0169

Pluto -91384-06-18 16:18 J -31656413.94 -31656413.82 -31656413.69 0.0084 0.0026

Saturn -91384-07-05 15:06 J -31656396.91 -31656396.87 -31656396.83 0.0277 0.0265

Pluto -91384-09-14 17:30 J -31656325.90 -31656325.77 -31656325.63 0.0084 0.0014

Mars -91384-09-29 23:44 J -31656310.56 -31656310.51 -31656310.45 0.1628 0.1438

Pluto -91384-12-11 18:56 J -31656237.84 -31656237.71 -31656237.58 0.0084 0.0002

Pluto -91383-03-09 20:08 J -31656149.79 -31656149.66 -31656149.53 0.0084 0.0011

Pluto -91383-06-05 21:20 J -31656061.74 -31656061.61 -31656061.48 0.0083 0.0023

Pluto -91383-09-01 22:32 J -31655973.68 -31655973.56 -31655973.44 0.0083 0.0035

Pluto -91383-11-28 23:44 J -31655885.62 -31655885.51 -31655885.40 0.0083 0.0047

Pluto -91382-02-25 00:56 J -31655797.55 -31655797.46 -31655797.36 0.0083 0.0058

Pluto -91382-05-24 01:54 J -31655709.47 -31655709.42 -31655709.34 0.0083 0.0070

Pluto -91382-08-20 03:06 J -31655621.38 -31655621.37 -31655621.33 0.0083 0.0082

Mars -91382-09-05 12:13 J -31655605.11 -31655604.99 -31655604.86 0.1615 0.0494

Uranus -91382-10-24 18:56 J -31655555.76 -31655555.71 -31655555.65 0.0138 0.0130

Uranus -91381-01-21 00:42 J -31655467.56 -31655467.47 -31655467.35 0.0138 0.0109

Uranus -91381-04-18 07:11 J -31655379.34 -31655379.20 -31655379.07 0.0137 0.0087

Uranus -91381-07-15 12:56 J -31655291.11 -31655290.96 -31655290.81 0.0137 0.0066

Uranus -91381-10-11 18:42 J -31655202.88 -31655202.72 -31655202.55 0.0137 0.0045

Jupiter -91381-11-12 14:51 J -31655171.00 -31655170.88 -31655170.77 0.0527 0.0259

Venus -91380-01-07 10:18 J -31655115.20 -31655115.07 -31655114.93 0.3606 0.0194

Uranus -91380-01-08 00:27 J -31655114.64 -31655114.48 -31655114.31 0.0137 0.0024

Jupiter -91380-02-10 01:25 J -31655081.57 -31655081.44 -31655081.32 0.0523 0.0204

Uranus -91380-04-06 06:13 J -31655026.41 -31655026.24 -31655026.07 0.0137 0.0004

Uranus -91380-07-03 11:59 J -31654938.17 -31654938.00 -31654937.83 0.0137 0.0016

Uranus -91380-09-29 17:30 J -31654849.93 -31654849.77 -31654849.61 0.0137 0.0037

Uranus -91380-12-26 23:01 J -31654761.69 -31654761.54 -31654761.38 0.0136 0.0056

Moon -91379-01-30 16:32 J -31654726.94 -31654726.81 -31654726.69 0.2740 0.0124

Earth -91379-01-30 17:15 J -31654726.90 -31654726.78 -31654726.66 0.2743 0.0132 *

Uranus -91379-03-25 04:32 J -31654673.45 -31654673.31 -31654673.17 0.0136 0.0076

Uranus -91379-06-21 09:49 J -31654585.20 -31654585.09 -31654584.96 0.0136 0.0095

Venus -91379-07-25 00:42 J -31654551.55 -31654551.47 -31654551.40 0.3760 0.2717

Uranus -91379-09-17 15:20 J -31654496.94 -31654496.86 -31654496.77 0.0136 0.0114

Uranus -91379-12-14 20:37 J -31654408.66 -31654408.64 -31654408.60 0.0136 0.0133

Mars -91377-05-25 18:13 J -31653880.78 -31653880.74 -31653880.71 0.1905 0.1834

Earth -91376-08-09 09:49 J -31653440.19 -31653440.09 -31653439.98 0.2598 0.1635

Moon -91376-08-09 10:32 J -31653440.16 -31653440.06 -31653439.96 0.2604 0.1677 *

Venus -91375-07-24 10:18 J -31653091.19 -31653091.07 -31653090.94 0.3609 0.1188

Jupiter -91374-04-11 07:54 J -31652830.33 -31652830.17 -31652830.01 0.0502 0.0145

Jupiter -91374-07-10 07:54 J -31652740.28 -31652740.17 -31652740.05 0.0505 0.0361

Venus -91373-02-07 20:08 J -31652527.69 -31652527.66 -31652527.62 0.3756 0.3550

Mars -91372-01-25 21:06 J -31652174.75 -31652174.62 -31652174.49 0.1618 0.0018

Venus -91372-04-18 00:42 J -31652092.49 -31652092.47 -31652092.44 0.3787 0.3689

Saturn -91371-11-24 07:54 J -31651507.29 -31651507.17 -31651507.04 0.0283 0.0182

Saturn -91370-02-21 02:23 J -31651418.56 -31651418.40 -31651418.24 0.0283 0.0069

Saturn -91370-05-20 20:23 J -31651329.81 -31651329.65 -31651329.48 0.0283 0.0043

Saturn -91370-08-17 14:08 J -31651241.05 -31651240.91 -31651240.77 0.0282 0.0151

Saturn -91370-11-14 07:11 J -31651152.26 -31651152.20 -31651152.13 0.0282 0.0256

Venus -91369-02-07 10:03 J -31651067.19 -31651067.08 -31651066.98 0.3613 0.2147

Jupiter -91369-08-31 17:15 J -31650860.87 -31650860.78 -31650860.69 0.0529 0.0381

Jupiter -91369-11-29 03:35 J -31650771.48 -31650771.35 -31650771.21 0.0525 0.0081

Venus -91367-11-01 18:27 J -31650068.79 -31650068.73 -31650068.66 0.3785 0.3036

Moon -91366-02-02 13:54 J -31649976.02 -31649975.92 -31649975.81 0.2741 0.1485

Earth -91366-02-02 14:51 J -31649975.97 -31649975.88 -31649975.78 0.2740 0.1682 *

Mars -91366-09-22 14:37 J -31649744.00 -31649743.89 -31649743.78 0.1919 0.1179

Venus -91364-08-23 09:06 J -31649043.19 -31649043.12 -31649043.06 0.3617 0.3059

Mars -91363-06-18 05:59 J -31648744.38 -31648744.25 -31648744.12 0.1621 0.0450

Jupiter -91362-01-28 07:11 J -31648520.34 -31648520.20 -31648520.06 0.0501 0.0272

Jupiter -91362-04-28 07:39 J -31648430.33 -31648430.18 -31648430.03 0.0504 0.0236

Venus -91361-05-17 12:27 J -31648045.07 -31648044.98 -31648044.90 0.3782 0.2362

Mars -91361-05-23 19:25 J -31648038.73 -31648038.69 -31648038.65 0.1610 0.1517

Earth -91359-01-26 03:49 J -31647426.38 -31647426.34 -31647426.29 0.2748 0.2562

Moon -91359-01-26 04:03 J -31647426.37 -31647426.33 -31647426.28 0.2742 0.2510 *

Jupiter -91357-06-19 20:37 J -31646550.68 -31646550.64 -31646550.59 0.0530 0.0492

Jupiter -91357-09-17 06:56 J -31646461.35 -31646461.21 -31646461.08 0.0526 0.0034

Jupiter -91357-12-15 17:59 J -31646371.82 -31646371.75 -31646371.67 0.0522 0.0434

Mars -91356-02-11 16:32 J -31646313.95 -31646313.81 -31646313.67 0.1915 0.0241

Moon -91356-08-04 16:32 J -31646139.93 -31646139.81 -31646139.68 0.2599 0.1048

Earth -91356-08-04 17:30 J -31646139.90 -31646139.77 -31646139.65 0.2593 0.1046 *

Saturn -91356-09-05 20:37 J -31646107.72 -31646107.64 -31646107.55 0.0276 0.0220

Venus -91356-12-01 06:27 J -31646021.33 -31646021.23 -31646021.13 0.3779 0.1669

Saturn -91356-12-03 09:49 J -31646019.21 -31646019.09 -31646018.96 0.0276 0.0131

Saturn -91355-03-01 23:15 J -31645930.67 -31645930.53 -31645930.38 0.0276 0.0041

Saturn -91355-05-29 12:56 J -31645842.10 -31645841.96 -31645841.82 0.0276 0.0051

Saturn -91355-08-26 02:51 J -31645753.51 -31645753.38 -31645753.25 0.0276 0.0145

Saturn -91355-11-22 17:01 J -31645664.86 -31645664.79 -31645664.72 0.0277 0.0241

Mars -91354-11-08 15:06 J -31645313.98 -31645313.87 -31645313.77 0.1624 0.0912

Mars -91352-10-14 03:49 J -31644608.44 -31644608.34 -31644608.23 0.1612 0.1040

Jupiter -91351-11-16 05:59 J -31644210.35 -31644210.25 -31644210.15 0.0500 0.0403

Jupiter -91350-02-14 06:56 J -31644120.37 -31644120.21 -31644120.04 0.0504 0.0108

Venus -91350-06-17 00:42 J -31643997.57 -31643997.47 -31643997.36 0.3776 0.0957

Mars -91347-07-04 17:44 J -31642883.89 -31642883.76 -31642883.63 0.1910 0.0740

Moon -91346-01-29 00:42 J -31642675.58 -31642675.47 -31642675.36 0.2738 0.1095

Earth -91346-01-29 01:11 J -31642675.56 -31642675.45 -31642675.34 0.2745 0.1078 *

Jupiter -91345-07-06 10:18 J -31642151.20 -31642151.07 -31642150.93 0.0527 0.0142

Jupiter -91345-10-03 21:20 J -31642061.72 -31642061.61 -31642061.50 0.0523 0.0324

Venus -91345-12-30 19:11 J -31641973.81 -31641973.70 -31641973.59 0.3773 0.0223

Mars -91344-03-30 23:59 J -31641883.57 -31641883.50 -31641883.43 0.1627 0.1375

Moon -91343-08-07 16:32 J -31641388.95 -31641388.81 -31641388.68 0.2602 0.0403

Earth -91343-08-07 16:32 J -31641388.94 -31641388.81 -31641388.68 0.2596 0.0468 *

Mars -91342-03-06 12:27 J -31641178.10 -31641177.98 -31641177.85 0.1615 0.0562

Saturn -91341-04-12 06:13 J -31640775.34 -31640775.24 -31640775.14 0.0283 0.0225

Saturn -91341-07-10 00:56 J -31640686.61 -31640686.46 -31640686.31 0.0282 0.0111

Saturn -91341-10-06 19:11 J -31640597.87 -31640597.70 -31640597.54 0.0282 0.0004

Venus -91341-12-29 07:54 J -31640514.26 -31640514.17 -31640514.09 0.3597 0.2805

Saturn -91340-01-03 12:56 J -31640509.11 -31640508.96 -31640508.81 0.0282 0.0110

Saturn -91340-04-02 06:13 J -31640420.34 -31640420.24 -31640420.14 0.0282 0.0217

Venus -91339-07-16 13:54 J -31639950.03 -31639949.92 -31639949.81 0.3770 0.0539

Jupiter -91339-12-03 06:56 J -31639810.38 -31639810.21 -31639810.04 0.0503 0.0017

Jupiter -91338-03-03 06:27 J -31639720.26 -31639720.23 -31639720.18 0.0507 0.0488

Mars -91338-11-24 18:42 J -31639453.78 -31639453.72 -31639453.66 0.1905 0.1725

Uranus -91337-09-14 05:15 J -31639159.32 -31639159.28 -31639159.21 0.0141 0.0131

Uranus -91337-12-11 09:35 J -31639071.18 -31639071.10 -31639071.01 0.0141 0.0113

Uranus -91336-03-09 13:39 J -31638983.02 -31638982.93 -31638982.81 0.0141 0.0095

Uranus -91336-06-05 17:59 J -31638894.86 -31638894.75 -31638894.62 0.0142 0.0076

Uranus -91336-09-01 22:18 J -31638806.69 -31638806.57 -31638806.43 0.0142 0.0057

Uranus -91336-11-29 02:37 J -31638718.52 -31638718.39 -31638718.24 0.0142 0.0038

Uranus -91335-02-25 07:11 J -31638630.35 -31638630.20 -31638630.06 0.0142 0.0018

Uranus -91335-05-24 11:30 J -31638542.16 -31638542.02 -31638541.87 0.0142 0.0003

Venus -91335-07-15 09:06 J -31638490.24 -31638490.12 -31638490.00 0.3600 0.1678

Uranus -91335-08-20 16:03 J -31638453.98 -31638453.83 -31638453.69 0.0142 0.0021

Uranus -91335-11-16 20:23 J -31638365.79 -31638365.65 -31638365.50 0.0142 0.0042

Uranus -91334-02-13 00:56 J -31638277.59 -31638277.46 -31638277.32 0.0143 0.0062

Uranus -91334-05-12 05:30 J -31638189.39 -31638189.27 -31638189.14 0.0143 0.0082

Uranus -91334-08-08 10:18 J -31638101.17 -31638101.07 -31638100.97 0.0143 0.0102

Uranus -91334-11-04 14:51 J -31638012.95 -31638012.88 -31638012.80 0.0143 0.0123

Venus -91333-01-30 08:37 J -31637926.24 -31637926.14 -31637926.03 0.3766 0.1319

Moon -91333-01-31 21:35 J -31637924.72 -31637924.60 -31637924.47 0.2741 0.0297

Earth -91333-01-31 22:32 J -31637924.68 -31637924.56 -31637924.44 0.2742 0.0447 *

Jupiter -91333-04-24 13:39 J -31637841.05 -31637840.93 -31637840.81 0.0527 0.0252

Jupiter -91333-07-23 00:13 J -31637751.61 -31637751.49 -31637751.36 0.0523 0.0210

Mars -91333-07-26 21:06 J -31637747.75 -31637747.62 -31637747.48 0.1617 0.0100

Earth -91330-08-10 15:20 J -31636637.94 -31636637.86 -31636637.77 0.2599 0.1944

Moon -91330-08-10 16:03 J -31636637.91 -31636637.83 -31636637.75 0.2604 0.2061 *

Venus -91329-01-29 09:49 J -31636466.22 -31636466.09 -31636465.95 0.3603 0.0602

Venus -91328-08-15 03:49 J -31635902.43 -31635902.34 -31635902.25 0.3763 0.2106

Neptune -91327-09-18 11:01 J -31635503.06 -31635503.04 -31635503.00 0.0088 0.0087

Jupiter -91327-09-21 06:42 J -31635500.38 -31635500.22 -31635500.06 0.0502 0.0138

Neptune -91327-12-15 13:54 J -31635414.97 -31635414.92 -31635414.83 0.0088 0.0081

Jupiter -91327-12-20 06:56 J -31635410.33 -31635410.21 -31635410.10 0.0506 0.0369

Saturn -91326-01-23 20:51 J -31635375.67 -31635375.63 -31635375.57 0.0276 0.0256

Neptune -91326-03-13 17:01 J -31635326.86 -31635326.79 -31635326.68 0.0088 0.0076

Mars -91326-03-23 15:06 J -31635316.97 -31635316.87 -31635316.77 0.1919 0.1280

Saturn -91326-04-22 10:03 J -31635287.19 -31635287.08 -31635286.97 0.0276 0.0168

Neptune -91326-06-09 20:23 J -31635238.75 -31635238.65 -31635238.53 0.0088 0.0070

Saturn -91326-07-19 23:15 J -31635198.67 -31635198.53 -31635198.39 0.0276 0.0079

Neptune -91326-09-05 23:15 J -31635150.64 -31635150.53 -31635150.39 0.0088 0.0065

Saturn -91326-10-16 12:56 J -31635110.11 -31635109.96 -31635109.82 0.0277 0.0013

Neptune -91326-12-03 02:23 J -31635062.52 -31635062.40 -31635062.25 0.0088 0.0059

Saturn -91325-01-13 02:37 J -31635021.52 -31635021.39 -31635021.25 0.0277 0.0107

Neptune -91325-02-29 05:15 J -31634974.40 -31634974.28 -31634974.11 0.0088 0.0054

Saturn -91325-04-10 16:47 J -31634932.90 -31634932.80 -31634932.70 0.0277 0.0202

Neptune -91325-05-27 08:37 J -31634886.28 -31634886.14 -31634885.98 0.0088 0.0048

Neptune -91325-08-23 11:44 J -31634798.16 -31634798.01 -31634797.85 0.0088 0.0042

Neptune -91325-11-19 14:37 J -31634710.04 -31634709.89 -31634709.72 0.0088 0.0037

Neptune -91324-02-15 17:44 J -31634621.92 -31634621.76 -31634621.59 0.0088 0.0031

Neptune -91324-05-14 20:37 J -31634533.80 -31634533.64 -31634533.46 0.0088 0.0026

Neptune -91324-08-10 23:44 J -31634445.68 -31634445.51 -31634445.33 0.0088 0.0020

Venus -91324-08-14 10:03 J -31634442.21 -31634442.08 -31634441.94 0.3607 0.0459

Neptune -91324-11-07 02:37 J -31634357.56 -31634357.39 -31634357.21 0.0088 0.0015

Mars -91324-12-17 06:13 J -31634317.37 -31634317.24 -31634317.12 0.1621 0.0387

Neptune -91323-02-03 05:44 J -31634269.44 -31634269.26 -31634269.08 0.0088 0.0009

Neptune -91323-05-02 08:37 J -31634181.32 -31634181.14 -31634180.96 0.0088 0.0004

Neptune -91323-07-29 11:30 J -31634093.19 -31634093.02 -31634092.84 0.0088 0.0003

Moon -91323-08-02 22:32 J -31634088.62 -31634088.56 -31634088.50 0.2592 0.2333

Earth -91323-08-02 23:44 J -31634088.58 -31634088.51 -31634088.45 0.2591 0.2268 *

Neptune -91323-10-25 14:23 J -31634005.07 -31634004.90 -31634004.72 0.0088 0.0008

Neptune -91322-01-21 17:30 J -31633916.95 -31633916.77 -31633916.60 0.0088 0.0013

Venus -91322-02-28 23:01 J -31633878.61 -31633878.54 -31633878.47 0.3759 0.2930

Neptune -91322-04-19 20:08 J -31633828.83 -31633828.66 -31633828.48 0.0088 0.0018

Neptune -91322-07-16 23:01 J -31633740.70 -31633740.54 -31633740.36 0.0088 0.0024

Neptune -91322-10-13 01:54 J -31633652.58 -31633652.42 -31633652.25 0.0088 0.0029

Mars -91322-11-22 19:39 J -31633611.70 -31633611.68 -31633611.67 0.1610 0.1588

Neptune -91321-01-09 04:32 J -31633564.46 -31633564.31 -31633564.13 0.0088 0.0035

Jupiter -91321-02-11 16:47 J -31633530.89 -31633530.80 -31633530.70 0.0528 0.0366

Neptune -91321-04-06 07:25 J -31633476.33 -31633476.19 -31633476.02 0.0088 0.0040

Jupiter -91321-05-11 03:06 J -31633441.50 -31633441.37 -31633441.23 0.0524 0.0095

Neptune -91321-07-03 10:18 J -31633388.21 -31633388.07 -31633387.91 0.0088 0.0045

Neptune -91321-09-29 13:11 J -31633300.09 -31633299.95 -31633299.80 0.0088 0.0050

Neptune -91321-12-26 16:03 J -31633211.96 -31633211.83 -31633211.69 0.0088 0.0055

Moon -91320-02-02 19:25 J -31633173.78 -31633173.69 -31633173.61 0.2741 0.1974

Earth -91320-02-02 20:23 J -31633173.74 -31633173.65 -31633173.57 0.2739 0.1998 *

Neptune -91320-03-24 18:27 J -31633123.84 -31633123.73 -31633123.58 0.0088 0.0061

Neptune -91320-06-20 21:20 J -31633035.71 -31633035.61 -31633035.48 0.0088 0.0066

Neptune -91320-09-17 00:13 J -31632947.58 -31632947.49 -31632947.37 0.0088 0.0070

Neptune -91320-12-14 02:51 J -31632859.45 -31632859.38 -31632859.28 0.0088 0.0076

Neptune -91319-03-12 05:44 J -31632771.32 -31632771.26 -31632771.18 0.0088 0.0081

Neptune -91319-06-08 08:23 J -31632683.18 -31632683.15 -31632683.09 0.0088 0.0086

Venus -91318-02-28 10:03 J -31632418.20 -31632418.08 -31632417.96 0.3610 0.1430

Mars -91317-08-12 16:47 J -31631886.94 -31631886.80 -31631886.66 0.1915 0.0327

Venus -91316-11-22 22:47 J -31631419.58 -31631419.55 -31631419.51 0.3786 0.3523

Jupiter -91315-07-10 06:13 J -31631190.39 -31631190.24 -31631190.10 0.0501 0.0264

Jupiter -91315-10-08 06:42 J -31631100.37 -31631100.22 -31631100.08 0.0504 0.0245

Mars -91314-05-09 15:06 J -31630886.98 -31630886.87 -31630886.76 0.1624 0.0850

Moon -91313-01-27 09:20 J -31630624.18 -31630624.11 -31630624.05 0.2740 0.2289

Earth -91313-01-27 09:06 J -31630624.18 -31630624.12 -31630624.05 0.2748 0.2261 *

Venus -91313-09-13 09:35 J -31630394.20 -31630394.10 -31630394.01 0.3614 0.2380

Mars -91312-04-14 04:03 J -31630181.43 -31630181.33 -31630181.23 0.1612 0.1104

Saturn -91312-08-30 05:59 J -31630043.31 -31630043.25 -31630043.18 0.0283 0.0260

Saturn -91312-11-27 00:56 J -31629954.60 -31629954.46 -31629954.32 0.0283 0.0144

Saturn -91311-02-23 19:25 J -31629865.86 -31629865.69 -31629865.53 0.0283 0.0031

Saturn -91311-05-23 13:25 J -31629777.10 -31629776.94 -31629776.79 0.0283 0.0080

Saturn -91311-08-20 06:42 J -31629688.33 -31629688.22 -31629688.09 0.0282 0.0188

Venus -91310-06-08 16:32 J -31629395.88 -31629395.81 -31629395.74 0.3784 0.2867

Moon -91310-08-05 22:18 J -31629337.70 -31629337.57 -31629337.44 0.2599 0.0876

Earth -91310-08-05 23:01 J -31629337.67 -31629337.54 -31629337.41 0.2594 0.0720 *

Jupiter -91310-11-30 19:11 J -31629220.74 -31629220.70 -31629220.65 0.0529 0.0490

Jupiter -91309-02-28 05:30 J -31629131.41 -31629131.27 -31629131.13 0.0526 0.0032

Jupiter -91309-05-27 16:32 J -31629041.88 -31629041.81 -31629041.73 0.0522 0.0435

Mars -91307-01-02 17:59 J -31628456.88 -31628456.75 -31628456.62 0.1910 0.0648

Venus -91307-03-30 08:23 J -31628370.20 -31628370.15 -31628370.09 0.3618 0.3279

Mars -91305-09-29 00:13 J -31627456.57 -31627456.49 -31627456.42 0.1627 0.1310

Venus -91305-12-22 10:32 J -31627372.15 -31627372.06 -31627371.97 0.3781 0.2189

Jupiter -91303-04-28 05:15 J -31626880.38 -31626880.28 -31626880.17 0.0500 0.0391

Jupiter -91303-07-27 06:13 J -31626790.40 -31626790.24 -31626790.07 0.0503 0.0120

Mars -91303-09-04 12:42 J -31626751.09 -31626750.97 -31626750.85 0.1615 0.0626

Moon -91300-01-29 05:59 J -31625873.37 -31625873.25 -31625873.14 0.2739 0.0832

Earth -91300-01-29 06:27 J -31625873.35 -31625873.23 -31625873.11 0.2745 0.0774 *

Venus -91299-07-08 04:32 J -31625348.41 -31625348.31 -31625348.20 0.3778 0.1497

Mars -91298-05-25 19:11 J -31625026.77 -31625026.70 -31625026.63 0.1905 0.1629

Uranus -91298-11-14 03:06 J -31624854.44 -31624854.37 -31624854.28 0.0138 0.0122

Jupiter -91298-12-17 08:37 J -31624821.27 -31624821.14 -31624821.01 0.0527 0.0144

Uranus -91297-02-10 09:06 J -31624766.23 -31624766.12 -31624765.99 0.0138 0.0101

Jupiter -91297-03-15 19:25 J -31624731.79 -31624731.69 -31624731.58 0.0523 0.0322

Uranus -91297-05-08 15:06 J -31624678.00 -31624677.87 -31624677.72 0.0137 0.0079

Saturn -91297-06-11 23:59 J -31624643.52 -31624643.50 -31624643.48 0.0275 0.0273

Uranus -91297-08-04 20:51 J -31624589.77 -31624589.63 -31624589.46 0.0137 0.0059

Earth -91297-08-07 22:03 J -31624586.70 -31624586.58 -31624586.45 0.2597 0.0792

Moon -91297-08-07 22:18 J -31624586.69 -31624586.57 -31624586.44 0.2603 0.0884 *

Saturn -91297-09-08 12:42 J -31624555.07 -31624554.97 -31624554.86 0.0276 0.0187

Uranus -91297-11-01 02:51 J -31624501.54 -31624501.38 -31624501.21 0.0137 0.0037

Saturn -91297-12-06 01:54 J -31624466.55 -31624466.42 -31624466.28 0.0276 0.0098

Uranus -91296-01-28 08:37 J -31624413.30 -31624413.14 -31624412.97 0.0137 0.0017

Saturn -91296-03-04 15:35 J -31624378.00 -31624377.85 -31624377.71 0.0276 0.0009

Uranus -91296-04-26 14:23 J -31624325.07 -31624324.90 -31624324.73 0.0137 0.0005

Saturn -91296-06-01 05:15 J -31624289.42 -31624289.28 -31624289.14 0.0276 0.0086

Uranus -91296-07-23 20:08 J -31624236.83 -31624236.66 -31624236.49 0.0137 0.0024

Saturn -91296-08-28 19:11 J -31624200.81 -31624200.70 -31624200.59 0.0276 0.0181

Uranus -91296-10-20 01:39 J -31624148.59 -31624148.43 -31624148.27 0.0137 0.0044

Uranus -91295-01-16 07:11 J -31624060.34 -31624060.20 -31624060.05 0.0136 0.0064

Uranus -91295-04-14 12:42 J -31623972.10 -31623971.97 -31623971.84 0.0136 0.0083

Uranus -91295-07-11 18:13 J -31623883.85 -31623883.74 -31623883.63 0.0136 0.0103

Uranus -91295-10-07 23:15 J -31623795.59 -31623795.53 -31623795.44 0.0136 0.0122

Venus -91293-01-21 23:01 J -31623324.65 -31623324.54 -31623324.43 0.3775 0.0774

Mars -91293-01-25 21:35 J -31623320.74 -31623320.60 -31623320.47 0.1617 0.0160

Jupiter -91291-05-15 05:30 J -31622480.44 -31622480.27 -31622480.10 0.0503 0.0013

Jupiter -91291-08-13 05:01 J -31622390.32 -31622390.29 -31622390.25 0.0506 0.0491

Venus -91288-08-06 17:30 J -31621300.88 -31621300.77 -31621300.66 0.3772 0.0077

Moon -91287-02-01 02:51 J -31621122.50 -31621122.38 -31621122.26 0.2741 0.0682

Earth -91287-02-01 03:49 J -31621122.45 -31621122.34 -31621122.22 0.2742 0.0761 *

Mars -91287-09-21 15:35 J -31620889.94 -31620889.85 -31620889.75 0.1919 0.1379

Jupiter -91286-10-05 12:13 J -31620511.11 -31620510.99 -31620510.87 0.0528 0.0252

Jupiter -91285-01-02 22:47 J -31620421.67 -31620421.55 -31620421.42 0.0524 0.0213

Mars -91284-06-17 06:13 J -31619890.37 -31619890.24 -31619890.11 0.1620 0.0320

Venus -91284-08-05 07:54 J -31619841.27 -31619841.17 -31619841.07 0.3598 0.2514

Earth -91284-08-10 20:51 J -31619835.69 -31619835.63 -31619835.56 0.2599 0.2258

Moon -91284-08-10 21:49 J -31619835.66 -31619835.59 -31619835.53 0.2604 0.2286 *

Venus -91282-02-20 12:13 J -31619277.10 -31619276.99 -31619276.88 0.3769 0.0734

Saturn -91282-04-15 23:30 J -31619222.64 -31619222.52 -31619222.39 0.0283 0.0186

Saturn -91282-07-13 18:13 J -31619133.90 -31619133.74 -31619133.58 0.0283 0.0072

Saturn -91282-10-10 12:13 J -31619045.15 -31619044.99 -31619044.83 0.0282 0.0040

Saturn -91281-01-07 05:59 J -31618956.39 -31618956.25 -31618956.11 0.0282 0.0148

Saturn -91281-04-04 23:01 J -31618867.60 -31618867.54 -31618867.46 0.0282 0.0254

Jupiter -91279-03-03 05:01 J -31618170.45 -31618170.29 -31618170.12 0.0502 0.0135

Jupiter -91279-06-01 05:15 J -31618080.39 -31618080.28 -31618080.17 0.0505 0.0371

Venus -91278-02-19 09:06 J -31617817.24 -31617817.12 -31617816.99 0.3601 0.1398

Mars -91277-02-11 17:01 J -31617459.92 -31617459.79 -31617459.65 0.1915 0.0423

Moon -91277-08-03 04:18 J -31617286.40 -31617286.32 -31617286.24 0.2595 0.2063

Earth -91277-08-03 05:15 J -31617286.37 -31617286.28 -31617286.19 0.2592 0.1934 *

Venus -91277-09-05 07:11 J -31617253.31 -31617253.20 -31617253.10 0.3765 0.1514

Mars -91275-11-07 15:06 J -31616459.98 -31616459.87 -31616459.75 0.1624 0.0788

Moon -91274-02-04 00:56 J -31616371.54 -31616371.46 -31616371.39 0.2743 0.2165

Earth -91274-02-04 01:39 J -31616371.49 -31616371.43 -31616371.37 0.2739 0.2318 *

Jupiter -91274-07-24 15:35 J -31616200.94 -31616200.85 -31616200.75 0.0528 0.0362

Jupiter -91274-10-22 02:08 J -31616111.55 -31616111.41 -31616111.28 0.0525 0.0100

Venus -91273-09-04 09:49 J -31615793.23 -31615793.09 -31615792.96 0.3604 0.0347

Mars -91273-10-13 04:18 J -31615754.41 -31615754.32 -31615754.23 0.1612 0.1174

Venus -91271-03-22 02:08 J -31615229.49 -31615229.41 -31615229.32 0.3762 0.2315

Mars -91268-07-03 18:27 J -31614029.87 -31614029.73 -31614029.60 0.1910 0.0551

Jupiter -91268-12-20 04:47 J -31613860.44 -31613860.30 -31613860.15 0.0501 0.0258

Saturn -91267-01-26 12:56 J -31613823.04 -31613822.96 -31613822.87 0.0276 0.0223

Moon -91267-01-27 14:23 J -31613821.98 -31613821.90 -31613821.81 0.2740 0.1892

Earth -91267-01-27 14:23 J -31613821.98 -31613821.90 -31613821.81 0.2747 0.1957 *

Jupiter -91267-03-20 05:15 J -31613770.42 -31613770.28 -31613770.13 0.0505 0.0252

Venus -91267-03-21 09:49 J -31613769.22 -31613769.09 -31613768.95 0.3608 0.0702

Saturn -91267-04-25 02:08 J -31613734.54 -31613734.41 -31613734.28 0.0276 0.0135

Saturn -91267-07-22 15:35 J -31613646.00 -31613645.85 -31613645.71 0.0276 0.0046

Saturn -91267-10-19 05:01 J -31613557.43 -31613557.29 -31613557.14 0.0276 0.0047

Saturn -91266-01-15 18:56 J -31613468.84 -31613468.71 -31613468.58 0.0277 0.0141

Saturn -91266-04-14 09:06 J -31613380.20 -31613380.12 -31613380.05 0.0277 0.0237

Venus -91266-10-05 21:35 J -31613205.66 -31613205.60 -31613205.54 0.3758 0.3134

Mars -91265-03-30 00:13 J -31613029.57 -31613029.49 -31613029.41 0.1627 0.1250

Moon -91264-08-06 04:03 J -31612535.46 -31612535.33 -31612535.20 0.2599 0.0391

Earth -91264-08-06 04:47 J -31612535.44 -31612535.30 -31612535.17 0.2594 0.0399 *

Mars -91263-03-05 12:56 J -31612324.08 -31612323.96 -31612323.84 0.1614 0.0694

Jupiter -91262-05-12 18:56 J -31611890.77 -31611890.71 -31611890.66 0.0529 0.0474

Jupiter -91262-08-10 05:01 J -31611801.43 -31611801.29 -31611801.15 0.0525 0.0016

Venus -91262-10-05 09:35 J -31611745.21 -31611745.10 -31611744.98 0.3611 0.1674

Jupiter -91262-11-07 16:03 J -31611711.90 -31611711.83 -31611711.76 0.0522 0.0449

Venus -91259-06-29 20:51 J -31610746.68 -31610746.63 -31610746.58 0.3786 0.3357

Mars -91259-11-23 19:25 J -31610599.77 -31610599.69 -31610599.61 0.1905 0.1542

Venus -91256-04-20 08:51 J -31609721.22 -31609721.13 -31609721.04 0.3615 0.2600

Jupiter -91256-10-08 04:18 J -31609550.43 -31609550.32 -31609550.21 0.0500 0.0383

Jupiter -91255-01-06 05:15 J -31609460.44 -31609460.28 -31609460.12 0.0503 0.0128

Moon -91254-01-30 11:01 J -31609071.16 -31609071.04 -31609070.92 0.2740 0.0571

Earth -91254-01-30 11:44 J -31609071.13 -31609071.01 -31609070.89 0.2745 0.0460 *

Mars -91254-07-26 21:35 J -31608893.73 -31608893.60 -31608893.47 0.1617 0.0218

Venus -91253-01-13 14:37 J -31608722.96 -31608722.89 -31608722.81 0.3783 0.2697

Saturn -91253-09-01 23:15 J -31608490.63 -31608490.53 -31608490.43 0.0283 0.0222

Uranus -91253-10-04 13:25 J -31608458.00 -31608457.94 -31608457.87 0.0141 0.0123

Saturn -91253-11-29 17:59 J -31608401.90 -31608401.75 -31608401.60 0.0283 0.0106

Uranus -91253-12-31 17:30 J -31608369.85 -31608369.77 -31608369.67 0.0141 0.0106

Saturn -91252-02-26 12:13 J -31608313.15 -31608312.99 -31608312.82 0.0283 0.0008

Uranus -91252-03-29 21:49 J -31608281.70 -31608281.59 -31608281.47 0.0141 0.0087

Saturn -91252-05-26 06:13 J -31608224.39 -31608224.24 -31608224.09 0.0283 0.0117

Uranus -91252-06-26 01:54 J -31608193.53 -31608193.42 -31608193.28 0.0141 0.0069

Saturn -91252-08-22 23:30 J -31608135.61 -31608135.52 -31608135.42 0.0283 0.0224

Uranus -91252-09-22 06:27 J -31608105.37 -31608105.23 -31608105.09 0.0142 0.0049

Uranus -91252-12-19 10:47 J -31608017.19 -31608017.05 -31608016.91 0.0142 0.0030

Uranus -91251-03-17 15:06 J -31607929.01 -31607928.87 -31607928.72 0.0142 0.0011

Uranus -91251-06-13 19:25 J -31607840.83 -31607840.69 -31607840.54 0.0142 0.0010

Earth -91251-08-09 03:49 J -31607784.47 -31607784.34 -31607784.22 0.2597 0.1110

Moon -91251-08-09 04:03 J -31607784.45 -31607784.33 -31607784.21 0.2603 0.1065 *

Uranus -91251-09-09 23:59 J -31607752.64 -31607752.50 -31607752.36 0.0142 0.0029

Venus -91251-11-04 07:54 J -31607697.20 -31607697.17 -31607697.14 0.3619 0.3496

Uranus -91251-12-07 04:32 J -31607664.45 -31607664.31 -31607664.17 0.0142 0.0049

Uranus -91250-03-05 09:06 J -31607576.25 -31607576.12 -31607575.99 0.0142 0.0069

Jupiter -91250-05-29 07:11 J -31607491.33 -31607491.20 -31607491.07 0.0527 0.0143

Uranus -91250-06-01 13:25 J -31607488.05 -31607487.94 -31607487.82 0.0143 0.0090

Jupiter -91250-08-26 17:59 J -31607401.85 -31607401.75 -31607401.64 0.0523 0.0323

Uranus -91250-08-28 18:13 J -31607399.83 -31607399.74 -31607399.64 0.0143 0.0110

Uranus -91250-11-24 22:47 J -31607311.60 -31607311.55 -31607311.48 0.0143 0.0131

Venus -91248-07-29 08:37 J -31606699.23 -31606699.14 -31606699.05 0.3780 0.2014

Mars -91247-03-22 15:35 J -31606462.94 -31606462.85 -31606462.76 0.1919 0.1456

Neptune -91245-03-20 13:11 J -31605733.96 -31605733.95 -31605733.92 0.0089 0.0088

Neptune -91245-06-16 14:37 J -31605645.92 -31605645.89 -31605645.83 0.0089 0.0084

Neptune -91245-09-12 16:32 J -31605557.87 -31605557.81 -31605557.75 0.0089 0.0079

Neptune -91245-12-09 17:59 J -31605469.82 -31605469.75 -31605469.68 0.0089 0.0075

Mars -91245-12-16 06:27 J -31605463.36 -31605463.23 -31605463.10 0.1620 0.0252

Neptune -91244-03-07 19:25 J -31605381.77 -31605381.69 -31605381.60 0.0089 0.0071

Neptune -91244-06-03 20:51 J -31605293.71 -31605293.63 -31605293.53 0.0089 0.0067

Neptune -91244-08-30 22:18 J -31605205.65 -31605205.57 -31605205.46 0.0089 0.0063

Jupiter -91244-10-25 04:47 J -31605150.47 -31605150.30 -31605150.13 0.0502 0.0004

Neptune -91244-11-26 23:59 J -31605117.60 -31605117.50 -31605117.39 0.0089 0.0059

Jupiter -91243-01-23 04:32 J -31605060.33 -31605060.31 -31605060.30 0.0506 0.0502

Neptune -91243-02-23 01:25 J -31605029.54 -31605029.44 -31605029.32 0.0089 0.0055

Neptune -91243-05-22 03:06 J -31604941.48 -31604941.37 -31604941.25 0.0089 0.0050

Neptune -91243-08-18 04:47 J -31604853.42 -31604853.30 -31604853.18 0.0089 0.0046

Neptune -91243-11-14 06:13 J -31604765.36 -31604765.24 -31604765.11 0.0089 0.0042

Neptune -91242-02-10 07:39 J -31604677.30 -31604677.18 -31604677.04 0.0089 0.0038

Venus -91242-02-12 02:51 J -31604675.48 -31604675.38 -31604675.28 0.3778 0.1307

Neptune -91242-05-09 09:35 J -31604589.23 -31604589.10 -31604588.97 0.0089 0.0033

Neptune -91242-08-05 11:01 J -31604501.17 -31604501.04 -31604500.90 0.0089 0.0029

Neptune -91242-11-01 12:27 J -31604413.11 -31604412.98 -31604412.84 0.0089 0.0025

Neptune -91241-01-28 14:08 J -31604325.04 -31604324.91 -31604324.77 0.0089 0.0021

Moon -91241-02-02 08:23 J -31604320.27 -31604320.15 -31604320.04 0.2740 0.0933

Earth -91241-02-02 09:20 J -31604320.23 -31604320.11 -31604320.00 0.2741 0.1073 *

Neptune -91241-04-25 15:49 J -31604236.98 -31604236.84 -31604236.70 0.0089 0.0016

Neptune -91241-07-22 17:30 J -31604148.91 -31604148.77 -31604148.63 0.0089 0.0012

Neptune -91241-10-18 18:56 J -31604060.85 -31604060.71 -31604060.56 0.0089 0.0008

Neptune -91240-01-14 20:37 J -31603972.78 -31603972.64 -31603972.49 0.0089 0.0004

Neptune -91240-04-12 22:18 J -31603884.71 -31603884.57 -31603884.43 0.0089 0.0002

Neptune -91240-07-09 23:59 J -31603796.64 -31603796.50 -31603796.36 0.0089 0.0006

Neptune -91240-10-06 01:39 J -31603708.57 -31603708.43 -31603708.29 0.0089 0.0010

Neptune -91239-01-02 03:06 J -31603620.50 -31603620.37 -31603620.22 0.0089 0.0015

Neptune -91239-03-31 04:47 J -31603532.43 -31603532.30 -31603532.16 0.0089 0.0019

Neptune -91239-06-27 06:27 J -31603444.36 -31603444.23 -31603444.09 0.0089 0.0024

Neptune -91239-09-23 08:08 J -31603356.29 -31603356.16 -31603356.02 0.0089 0.0028

Neptune -91239-12-20 09:35 J -31603268.22 -31603268.10 -31603267.95 0.0089 0.0033

Jupiter -91238-03-17 10:32 J -31603181.18 -31603181.06 -31603180.95 0.0528 0.0256

Neptune -91238-03-18 11:30 J -31603180.15 -31603180.02 -31603179.89 0.0089 0.0037

Neptune -91238-06-14 12:56 J -31603092.07 -31603091.96 -31603091.82 0.0089 0.0042

Jupiter -91238-06-14 21:06 J -31603091.75 -31603091.62 -31603091.49 0.0524 0.0208

Saturn -91238-06-15 16:03 J -31603090.90 -31603090.83 -31603090.76 0.0275 0.0239

Earth -91238-08-12 02:23 J -31603033.41 -31603033.40 -31603033.38 0.2600 0.2567

Mars -91238-08-12 17:30 J -31603032.90 -31603032.77 -31603032.64 0.1915 0.0520

Neptune -91238-09-10 14:51 J -31603004.00 -31603003.88 -31603003.75 0.0089 0.0046

Saturn -91238-09-12 05:01 J -31603002.41 -31603002.29 -31603002.17 0.0275 0.0152

Neptune -91238-12-07 16:18 J -31602915.92 -31602915.82 -31602915.69 0.0089 0.0051

Saturn -91238-12-09 18:13 J -31602913.88 -31602913.74 -31602913.59 0.0276 0.0063

Neptune -91237-03-04 18:13 J -31602827.85 -31602827.74 -31602827.62 0.0089 0.0055

Saturn -91237-03-07 07:54 J -31602825.32 -31602825.17 -31602825.03 0.0276 0.0029

Neptune -91237-05-31 19:54 J -31602739.77 -31602739.67 -31602739.56 0.0089 0.0060

Saturn -91237-06-03 21:35 J -31602736.73 -31602736.60 -31602736.46 0.0276 0.0123

Venus -91237-08-27 21:06 J -31602651.73 -31602651.62 -31602651.51 0.3775 0.0600

Neptune -91237-08-27 21:35 J -31602651.69 -31602651.60 -31602651.49 0.0089 0.0064 *

Saturn -91237-08-31 11:30 J -31602648.10 -31602648.02 -31602647.92 0.0276 0.0219

Neptune -91237-11-23 23:15 J -31602563.61 -31602563.53 -31602563.43 0.0089 0.0069

Neptune -91236-02-20 01:11 J -31602475.53 -31602475.45 -31602475.36 0.0089 0.0073

Neptune -91236-05-19 02:37 J -31602387.44 -31602387.39 -31602387.30 0.0089 0.0078

Neptune -91236-08-15 04:32 J -31602299.35 -31602299.31 -31602299.25 0.0089 0.0082

Neptune -91236-11-11 06:13 J -31602211.25 -31602211.24 -31602211.20 0.0089 0.0087

Mars -91235-05-08 15:20 J -31602032.98 -31602032.86 -31602032.74 0.1624 0.0721

Mars -91233-04-13 04:32 J -31601327.40 -31601327.31 -31601327.23 0.1612 0.1244

Venus -91233-08-26 06:27 J -31601192.27 -31601192.23 -31601192.18 0.3595 0.3373

Jupiter -91232-08-13 03:35 J -31600840.51 -31600840.35 -31600840.18 0.0502 0.0131

Jupiter -91232-11-11 03:49 J -31600750.45 -31600750.34 -31600750.23 0.0505 0.0375

Venus -91231-03-13 15:49 J -31600627.95 -31600627.84 -31600627.73 0.3771 0.0185

Moon -91231-08-04 09:49 J -31600484.19 -31600484.09 -31600483.99 0.2595 0.1714

Earth -91231-08-04 11:01 J -31600484.15 -31600484.04 -31600483.94 0.2592 0.1607 *

Pluto -91231-10-03 01:11 J -31600424.50 -31600424.45 -31600424.38 0.0060 0.0056

Pluto -91231-12-30 02:23 J -31600336.49 -31600336.40 -31600336.27 0.0060 0.0050

Pluto -91230-03-28 04:18 J -31600248.45 -31600248.32 -31600248.18 0.0060 0.0043

Pluto -91230-06-24 05:15 J -31600160.41 -31600160.28 -31600160.10 0.0060 0.0038

Pluto -91230-09-20 07:11 J -31600072.37 -31600072.20 -31600072.03 0.0060 0.0030

Pluto -91230-12-17 08:23 J -31599984.32 -31599984.15 -31599983.96 0.0060 0.0024

Pluto -91229-03-14 10:03 J -31599896.26 -31599896.08 -31599895.89 0.0060 0.0017

Pluto -91229-06-10 11:15 J -31599808.21 -31599808.03 -31599807.82 0.0060 0.0012

Pluto -91229-09-06 12:56 J -31599720.15 -31599719.96 -31599719.76 0.0060 0.0005

Pluto -91229-12-03 14:37 J -31599632.09 -31599631.89 -31599631.70 0.0060 0.0003

Mars -91228-01-01 18:56 J -31599602.85 -31599602.71 -31599602.58 0.1910 0.0456

Moon -91228-02-04 06:13 J -31599569.27 -31599569.24 -31599569.20 0.2744 0.2621

Earth -91228-02-04 06:56 J -31599569.24 -31599569.21 -31599569.18 0.2738 0.2637 *

Pluto -91228-03-01 15:49 J -31599544.02 -31599543.84 -31599543.64 0.0061 0.0010

Pluto -91228-05-28 17:30 J -31599455.96 -31599455.77 -31599455.58 0.0061 0.0016

Pluto -91228-08-24 18:56 J -31599367.89 -31599367.71 -31599367.52 0.0061 0.0023

Pluto -91228-11-20 20:08 J -31599279.81 -31599279.66 -31599279.47 0.0061 0.0030

Pluto -91227-02-16 21:35 J -31599191.74 -31599191.60 -31599191.42 0.0061 0.0037

Venus -91227-03-12 08:08 J -31599168.27 -31599168.16 -31599168.05 0.3599 0.2225

Pluto -91227-05-15 23:30 J -31599103.65 -31599103.52 -31599103.38 0.0061 0.0043

Pluto -91227-08-12 00:56 J -31599015.56 -31599015.46 -31599015.34 0.0061 0.0050

Pluto -91227-11-08 02:08 J -31598927.46 -31598927.41 -31598927.32 0.0061 0.0057

Jupiter -91226-01-03 14:08 J -31598871.01 -31598870.91 -31598870.82 0.0529 0.0363

Jupiter -91226-04-03 00:27 J -31598781.61 -31598781.48 -31598781.34 0.0525 0.0099

Venus -91226-09-27 10:32 J -31598604.17 -31598604.06 -31598603.95 0.3768 0.0925

Mars -91226-09-29 00:27 J -31598602.57 -31598602.48 -31598602.39 0.1627 0.1184

Mars -91224-09-03 13:11 J -31597897.07 -31597896.95 -31597896.84 0.1614 0.0765

Saturn -91223-01-19 22:03 J -31597758.63 -31597758.58 -31597758.51 0.0283 0.0261

Saturn -91223-04-18 17:01 J -31597669.92 -31597669.79 -31597669.64 0.0283 0.0145

Saturn -91223-07-16 11:30 J -31597581.18 -31597581.02 -31597580.85 0.0283 0.0032

Saturn -91223-10-13 05:30 J -31597492.42 -31597492.27 -31597492.11 0.0282 0.0080

Saturn -91222-01-09 23:15 J -31597403.65 -31597403.53 -31597403.41 0.0282 0.0188

Venus -91222-09-26 09:06 J -31597144.25 -31597144.12 -31597143.99 0.3602 0.1125

Moon -91221-01-28 19:39 J -31597019.77 -31597019.68 -31597019.58 0.2740 0.1717

Earth -91221-01-28 19:39 J -31597019.77 -31597019.68 -31597019.58 0.2747 0.1652 *

Venus -91220-04-12 05:30 J -31596580.37 -31596580.27 -31596580.17 0.3764 0.1710

Jupiter -91220-06-01 03:20 J -31596530.51 -31596530.36 -31596530.22 0.0501 0.0255

Jupiter -91220-08-30 03:49 J -31596440.48 -31596440.34 -31596440.20 0.0504 0.0253

Mars -91219-05-24 19:54 J -31596172.77 -31596172.67 -31596172.58 0.1906 0.1444

Moon -91218-08-07 10:03 J -31595733.22 -31595733.08 -31595732.95 0.2600 0.0163

Earth -91218-08-07 10:18 J -31595733.21 -31595733.07 -31595732.93 0.2595 0.0069 *

Venus -91216-04-11 09:35 J -31595120.24 -31595120.10 -31595119.97 0.3605 0.0097

Jupiter -91215-10-22 17:30 J -31594560.82 -31594560.77 -31594560.71 0.0529 0.0471

Venus -91215-10-27 00:42 J -31594556.56 -31594556.47 -31594556.39 0.3761 0.2512

Jupiter -91214-01-20 03:49 J -31594471.48 -31594471.34 -31594471.21 0.0526 0.0015

Mars -91214-01-24 21:49 J -31594466.72 -31594466.59 -31594466.46 0.1617 0.0287

Jupiter -91214-04-19 14:51 J -31594381.95 -31594381.88 -31594381.81 0.0522 0.0453

Uranus -91214-09-07 04:47 J -31594241.31 -31594241.30 -31594241.27 0.0138 0.0137

Uranus -91214-12-04 11:01 J -31594153.13 -31594153.04 -31594152.94 0.0138 0.0115

Uranus -91213-03-01 16:47 J -31594064.91 -31594064.80 -31594064.66 0.0138 0.0094

Uranus -91213-05-28 22:47 J -31593976.69 -31593976.55 -31593976.39 0.0137 0.0073

Uranus -91213-08-25 04:47 J -31593888.45 -31593888.30 -31593888.14 0.0137 0.0051

Uranus -91213-11-21 10:47 J -31593800.22 -31593800.05 -31593799.88 0.0137 0.0030

Uranus -91212-02-17 16:32 J -31593711.98 -31593711.81 -31593711.64 0.0137 0.0010

Uranus -91212-05-16 22:18 J -31593623.74 -31593623.57 -31593623.40 0.0137 0.0011

Uranus -91212-08-13 03:49 J -31593535.50 -31593535.34 -31593535.17 0.0137 0.0031

Uranus -91212-11-09 09:35 J -31593447.26 -31593447.10 -31593446.95 0.0137 0.0051

Uranus -91211-02-05 14:51 J -31593359.01 -31593358.88 -31593358.73 0.0136 0.0071

Uranus -91211-05-04 20:23 J -31593270.77 -31593270.65 -31593270.52 0.0136 0.0090

Uranus -91211-08-01 01:54 J -31593182.51 -31593182.42 -31593182.32 0.0136 0.0109

Venus -91211-10-26 09:35 J -31593096.23 -31593096.10 -31593095.97 0.3609 0.0944

Uranus -91211-10-28 07:11 J -31593094.24 -31593094.20 -31593094.14 0.0136 0.0128

Venus -91209-05-11 20:08 J -31592532.71 -31592532.66 -31592532.61 0.3757 0.3344

Saturn -91209-11-01 16:18 J -31592358.82 -31592358.82 -31592358.81 0.0276 0.0275

Saturn -91208-01-29 05:15 J -31592270.38 -31592270.28 -31592270.17 0.0276 0.0189

Moon -91208-01-30 16:18 J -31592268.95 -31592268.82 -31592268.70 0.2740 0.0204

Earth -91208-01-30 17:01 J -31592268.91 -31592268.79 -31592268.67 0.2744 0.0155 *

Jupiter -91208-03-20 02:51 J -31592220.49 -31592220.38 -31592220.27 0.0500 0.0380

Saturn -91208-04-27 18:27 J -31592181.86 -31592181.73 -31592181.59 0.0276 0.0100

Jupiter -91208-06-18 03:49 J -31592130.50 -31592130.34 -31592130.18 0.0504 0.0132

Saturn -91208-07-25 07:54 J -31592093.32 -31592093.17 -31592093.03 0.0276 0.0009

Mars -91208-09-20 16:03 J -31592035.91 -31592035.83 -31592035.75 0.1920 0.1562

Saturn -91208-10-21 21:35 J -31592004.74 -31592004.60 -31592004.46 0.0276 0.0084

Saturn -91207-01-18 11:30 J -31591916.13 -31591916.02 -31591915.91 0.0277 0.0179

Saturn -91207-04-17 01:39 J -31591827.44 -31591827.43 -31591827.41 0.0277 0.0275

Venus -91205-05-11 09:06 J -31591072.23 -31591072.12 -31591072.01 0.3612 0.1902

Mars -91205-06-16 06:27 J -31591036.36 -31591036.23 -31591036.09 0.1620 0.0196

Earth -91205-08-09 09:20 J -31590982.22 -31590982.11 -31590982.00 0.2597 0.1426

Moon -91205-08-09 09:35 J -31590982.20 -31590982.10 -31590981.99 0.2604 0.1545 *

Jupiter -91203-11-08 06:42 J -31590161.35 -31590161.22 -31590161.08 0.0526 0.0129

Venus -91202-02-03 18:56 J -31590073.77 -31590073.71 -31590073.66 0.3785 0.3189

Jupiter -91202-02-05 17:30 J -31590071.87 -31590071.77 -31590071.66 0.0523 0.0338

Venus -91200-11-25 08:23 J -31589048.23 -31589048.15 -31589048.07 0.3616 0.2827

Mars -91198-02-10 17:44 J -31588605.89 -31588605.76 -31588605.63 0.1915 0.0606

Venus -91197-08-19 12:42 J -31588050.05 -31588049.97 -31588049.89 0.3782 0.2526

Jupiter -91196-04-06 03:35 J -31587820.52 -31587820.35 -31587820.18 0.0503 0.0011

Mars -91196-11-06 15:35 J -31587605.97 -31587605.85 -31587605.73 0.1624 0.0656

Moon -91195-02-02 13:39 J -31587518.04 -31587517.93 -31587517.82 0.2742 0.1284

Earth -91195-02-02 14:37 J -31587518.00 -31587517.89 -31587517.79 0.2741 0.1389 *

Saturn -91194-09-05 16:18 J -31586937.94 -31586937.82 -31586937.69 0.0283 0.0183

Mars -91194-10-13 04:32 J -31586900.38 -31586900.31 -31586900.23 0.1612 0.1313

Saturn -91194-12-03 11:01 J -31586849.20 -31586849.04 -31586848.87 0.0283 0.0068

Saturn -91193-03-01 05:15 J -31586760.44 -31586760.28 -31586760.12 0.0283 0.0045

Saturn -91193-05-28 23:01 J -31586671.67 -31586671.54 -31586671.40 0.0283 0.0155

Saturn -91193-08-25 16:32 J -31586582.87 -31586582.81 -31586582.75 0.0283 0.0261

Venus -91191-03-05 06:42 J -31586026.31 -31586026.22 -31586026.12 0.3780 0.1841

Jupiter -91191-08-27 09:06 J -31585851.24 -31585851.12 -31585851.00 0.0528 0.0254

Jupiter -91191-11-24 19:39 J -31585761.81 -31585761.68 -31585761.55 0.0524 0.0210

Mars -91189-07-02 18:56 J -31585175.85 -31585175.71 -31585175.57 0.1911 0.0370

Mars -91186-03-30 00:27 J -31584175.57 -31584175.48 -31584175.38 0.1627 0.1121

Venus -91186-09-19 00:56 J -31584002.56 -31584002.46 -31584002.35 0.3777 0.1133

Moon -91185-08-04 15:35 J -31583681.96 -31583681.85 -31583681.73 0.2596 0.1373

Earth -91185-08-04 16:32 J -31583681.93 -31583681.81 -31583681.69 0.2592 0.1278 *

Jupiter -91184-01-23 03:06 J -31583510.54 -31583510.37 -31583510.21 0.0502 0.0118

Mars -91184-03-04 13:11 J -31583470.06 -31583469.95 -31583469.83 0.1614 0.0832

Jupiter -91184-04-23 03:06 J -31583420.47 -31583420.37 -31583420.26 0.0505 0.0386

Venus -91180-04-03 19:25 J -31581978.80 -31581978.69 -31581978.58 0.3774 0.0400

Mars -91180-11-22 20:23 J -31581745.75 -31581745.65 -31581745.55 0.1906 0.1336

Jupiter -91179-06-15 12:13 J -31581541.08 -31581540.99 -31581540.89 0.0529 0.0367

Saturn -91179-06-18 08:23 J -31581538.24 -31581538.15 -31581538.05 0.0275 0.0204

Jupiter -91179-09-12 22:32 J -31581451.69 -31581451.56 -31581451.42 0.0525 0.0095

Saturn -91179-09-14 21:35 J -31581449.73 -31581449.60 -31581449.47 0.0275 0.0116

Saturn -91179-12-12 11:01 J -31581361.19 -31581361.04 -31581360.90 0.0276 0.0026

Saturn -91178-03-11 00:27 J -31581272.62 -31581272.48 -31581272.33 0.0276 0.0067

Saturn -91178-06-07 14:23 J -31581184.02 -31581183.90 -31581183.78 0.0276 0.0161

Saturn -91178-09-04 04:32 J -31581095.36 -31581095.31 -31581095.26 0.0276 0.0257

Mars -91177-08-19 09:35 J -31580745.12 -31580745.10 -31580745.07 0.1630 0.1580

Venus -91176-04-02 06:42 J -31580519.29 -31580519.22 -31580519.15 0.3596 0.3079

Moon -91175-01-29 00:42 J -31580217.58 -31580217.47 -31580217.36 0.2740 0.1311

Earth -91175-01-29 00:56 J -31580217.56 -31580217.46 -31580217.35 0.2746 0.1351 *

Mars -91175-07-25 22:03 J -31580039.71 -31580039.58 -31580039.45 0.1617 0.0357

Venus -91175-10-18 13:54 J -31579955.03 -31579954.92 -31579954.80 0.3770 0.0377

Jupiter -91173-11-11 01:39 J -31579200.57 -31579200.43 -31579200.28 0.0501 0.0251

Jupiter -91172-02-09 02:23 J -31579110.55 -31579110.40 -31579110.26 0.0504 0.0256

Moon -91172-08-07 15:49 J -31578930.98 -31578930.84 -31578930.71 0.2601 0.0270

Earth -91172-08-07 15:49 J -31578930.97 -31578930.84 -31578930.70 0.2595 0.0252 *

Venus -91171-10-17 08:08 J -31578495.27 -31578495.16 -31578495.04 0.3600 0.1938

Venus -91169-05-03 08:51 J -31577931.24 -31577931.13 -31577931.02 0.3767 0.1121

Uranus -91169-07-28 17:30 J -31577844.81 -31577844.77 -31577844.73 0.0141 0.0134

Uranus -91169-10-24 21:35 J -31577756.68 -31577756.60 -31577756.52 0.0141 0.0116

Uranus -91168-01-21 01:39 J -31577668.53 -31577668.43 -31577668.32 0.0141 0.0098

Mars -91168-03-21 16:32 J -31577608.88 -31577608.81 -31577608.75 0.1919 0.1653

Uranus -91168-04-19 05:59 J -31577580.37 -31577580.25 -31577580.13 0.0141 0.0079

Uranus -91168-07-16 10:18 J -31577492.20 -31577492.07 -31577491.94 0.0141 0.0060

Uranus -91168-10-12 14:37 J -31577404.03 -31577403.89 -31577403.75 0.0142 0.0041

Uranus -91167-01-08 18:56 J -31577315.85 -31577315.71 -31577315.57 0.0142 0.0022

Jupiter -91167-04-03 15:49 J -31577230.89 -31577230.84 -31577230.78 0.0530 0.0474

Uranus -91167-04-06 23:15 J -31577227.67 -31577227.53 -31577227.38 0.0142 0.0004

Jupiter -91167-07-02 02:08 J -31577141.55 -31577141.41 -31577141.28 0.0526 0.0018

Uranus -91167-07-04 03:49 J -31577139.49 -31577139.34 -31577139.20 0.0142 0.0017

Jupiter -91167-09-29 13:11 J -31577052.02 -31577051.95 -31577051.88 0.0522 0.0452

Uranus -91167-09-30 08:08 J -31577051.30 -31577051.16 -31577051.02 0.0142 0.0037

Uranus -91167-12-27 12:42 J -31576963.10 -31576962.97 -31576962.84 0.0142 0.0057

Uranus -91166-03-25 17:15 J -31576874.90 -31576874.78 -31576874.66 0.0142 0.0077

Uranus -91166-06-21 21:35 J -31576786.70 -31576786.60 -31576786.48 0.0143 0.0098

Uranus -91166-09-18 02:23 J -31576698.48 -31576698.40 -31576698.31 0.0143 0.0118

Uranus -91166-12-15 06:56 J -31576610.23 -31576610.21 -31576610.17 0.0143 0.0139

Mars -91166-12-16 06:42 J -31576609.35 -31576609.22 -31576609.09 0.1620 0.0123

Venus -91165-05-02 08:51 J -31576471.26 -31576471.13 -31576471.00 0.3603 0.0861

Saturn -91164-01-22 16:03 J -31576205.93 -31576205.83 -31576205.72 0.0283 0.0218

Saturn -91164-04-21 10:47 J -31576117.20 -31576117.05 -31576116.89 0.0283 0.0103

Saturn -91164-07-19 05:15 J -31576028.44 -31576028.28 -31576028.12 0.0283 0.0011

Saturn -91164-10-15 23:01 J -31575939.68 -31575939.54 -31575939.39 0.0283 0.0121

Venus -91164-11-17 03:49 J -31575907.44 -31575907.34 -31575907.24 0.3763 0.1909

Saturn -91163-01-12 16:18 J -31575850.90 -31575850.82 -31575850.71 0.0282 0.0229

Moon -91162-01-31 21:35 J -31575466.73 -31575466.60 -31575466.48 0.2740 0.0062

Earth -91162-01-31 22:18 J -31575466.69 -31575466.57 -31575466.45 0.2744 0.0173 *

Neptune -91162-06-15 08:23 J -31575332.17 -31575332.15 -31575332.10 0.0088 0.0087

Neptune -91162-09-11 11:44 J -31575244.08 -31575244.01 -31575243.93 0.0088 0.0081

Neptune -91162-12-08 14:37 J -31575155.97 -31575155.89 -31575155.78 0.0088 0.0076

Neptune -91161-03-05 17:44 J -31575067.86 -31575067.76 -31575067.63 0.0088 0.0070

Neptune -91161-06-01 20:37 J -31574979.74 -31574979.64 -31574979.49 0.0088 0.0065

Neptune -91161-08-28 23:59 J -31574891.62 -31574891.50 -31574891.35 0.0088 0.0059

Jupiter -91161-08-30 01:11 J -31574890.56 -31574890.45 -31574890.34 0.0500 0.0377

Neptune -91161-11-25 03:20 J -31574803.51 -31574803.36 -31574803.22 0.0088 0.0053

Jupiter -91161-11-28 02:08 J -31574800.57 -31574800.41 -31574800.25 0.0503 0.0133

Neptune -91160-02-21 05:59 J -31574715.39 -31574715.25 -31574715.08 0.0088 0.0048

Neptune -91160-05-20 09:20 J -31574627.27 -31574627.11 -31574626.95 0.0088 0.0042

Neptune -91160-08-16 12:13 J -31574539.14 -31574538.99 -31574538.82 0.0088 0.0036

Neptune -91160-11-12 15:20 J -31574451.02 -31574450.86 -31574450.69 0.0088 0.0031

Venus -91160-11-16 09:20 J -31574447.24 -31574447.11 -31574446.98 0.3606 0.0190

Neptune -91159-02-08 18:13 J -31574362.90 -31574362.74 -31574362.56 0.0088 0.0026

Neptune -91159-05-07 21:20 J -31574274.78 -31574274.61 -31574274.43 0.0088 0.0020

Neptune -91159-08-04 00:13 J -31574186.66 -31574186.49 -31574186.30 0.0088 0.0015

Earth -91159-08-10 14:51 J -31574179.98 -31574179.88 -31574179.78 0.2598 0.1738

Moon -91159-08-10 15:20 J -31574179.96 -31574179.86 -31574179.76 0.2603 0.1735 *

Mars -91159-08-11 17:59 J -31574178.87 -31574178.75 -31574178.62 0.1916 0.0706

Neptune -91159-10-31 03:20 J -31574098.54 -31574098.36 -31574098.18 0.0088 0.0009

Neptune -91158-01-27 06:27 J -31574010.41 -31574010.23 -31574010.05 0.0088 0.0004

Neptune -91158-04-25 09:20 J -31573922.29 -31573922.11 -31573921.93 0.0088 0.0002

Venus -91158-06-02 23:01 J -31573883.61 -31573883.54 -31573883.46 0.3760 0.2724

Neptune -91158-07-22 12:13 J -31573834.17 -31573833.99 -31573833.81 0.0088 0.0008

Neptune -91158-10-18 15:06 J -31573746.04 -31573745.87 -31573745.69 0.0088 0.0013

Neptune -91157-01-14 17:59 J -31573657.92 -31573657.75 -31573657.57 0.0088 0.0019

Neptune -91157-04-11 20:51 J -31573569.80 -31573569.63 -31573569.46 0.0088 0.0024

Neptune -91157-07-08 23:30 J -31573481.67 -31573481.52 -31573481.34 0.0088 0.0030

Neptune -91157-10-05 02:37 J -31573393.55 -31573393.39 -31573393.22 0.0088 0.0034

Neptune -91156-01-01 05:30 J -31573305.43 -31573305.27 -31573305.11 0.0088 0.0040

Neptune -91156-03-30 08:08 J -31573217.30 -31573217.16 -31573217.00 0.0088 0.0045

Mars -91156-05-07 15:35 J -31573178.97 -31573178.85 -31573178.73 0.1623 0.0593

Neptune -91156-06-26 11:01 J -31573129.18 -31573129.04 -31573128.89 0.0088 0.0050

Neptune -91156-09-22 13:39 J -31573041.05 -31573040.93 -31573040.78 0.0088 0.0056

Neptune -91156-12-19 16:32 J -31572952.93 -31572952.81 -31572952.67 0.0088 0.0061

Neptune -91155-03-17 19:25 J -31572864.80 -31572864.69 -31572864.57 0.0088 0.0066

Jupiter -91155-04-20 05:30 J -31572831.41 -31572831.27 -31572831.14 0.0527 0.0126

Neptune -91155-06-13 22:18 J -31572776.67 -31572776.57 -31572776.47 0.0088 0.0071

Jupiter -91155-07-18 16:18 J -31572741.93 -31572741.82 -31572741.72 0.0523 0.0339

Neptune -91155-09-10 00:42 J -31572688.54 -31572688.47 -31572688.37 0.0088 0.0076

Neptune -91155-12-07 03:20 J -31572600.40 -31572600.36 -31572600.27 0.0088 0.0082

Neptune -91154-03-05 06:13 J -31572512.26 -31572512.24 -31572512.19 0.0088 0.0086

Mars -91154-04-13 04:47 J -31572473.37 -31572473.30 -31572473.23 0.1611 0.1381

Venus -91154-06-02 09:06 J -31572423.24 -31572423.12 -31572422.99 0.3610 0.1189

Venus -91153-12-16 18:42 J -31571859.76 -31571859.72 -31571859.69 0.3756 0.3552

Moon -91152-08-02 21:20 J -31571630.62 -31571630.61 -31571630.59 0.2591 0.2563

Earth -91152-08-02 22:47 J -31571630.58 -31571630.55 -31571630.52 0.2590 0.2517

Venus -91151-02-24 23:15 J -31571424.55 -31571424.53 -31571424.51 0.3787 0.3675

Saturn -91150-11-05 08:51 J -31570806.19 -31570806.13 -31570806.06 0.0276 0.0239

Mars -91149-01-01 19:39 J -31570748.82 -31570748.68 -31570748.54 0.1911 0.0261

Saturn -91149-02-01 21:49 J -31570717.70 -31570717.59 -31570717.46 0.0276 0.0152

Moon -91149-02-03 18:56 J -31570715.80 -31570715.71 -31570715.61 0.2743 0.1643

Earth -91149-02-03 19:54 J -31570715.76 -31570715.67 -31570715.57 0.2741 0.1709 *

Saturn -91149-04-30 11:15 J -31570629.18 -31570629.03 -31570628.89 0.0276 0.0062

Saturn -91149-07-28 00:42 J -31570540.62 -31570540.47 -31570540.33 0.0276 0.0030

Jupiter -91149-09-16 01:54 J -31570490.59 -31570490.42 -31570490.25 0.0503 0.0011

Saturn -91149-10-24 14:23 J -31570452.03 -31570451.90 -31570451.77 0.0276 0.0123

Venus -91149-12-16 08:37 J -31570399.24 -31570399.14 -31570399.03 0.3613 0.2139

Saturn -91148-01-21 04:18 J -31570363.41 -31570363.32 -31570363.23 0.0276 0.0219

Mars -91147-09-28 00:42 J -31569748.57 -31569748.47 -31569748.37 0.1627 0.1056

Venus -91146-09-10 17:01 J -31569400.86 -31569400.79 -31569400.73 0.3784 0.3025

Mars -91145-09-02 13:25 J -31569043.05 -31569042.94 -31569042.83 0.1614 0.0898

Jupiter -91143-02-06 08:37 J -31568521.26 -31568521.14 -31568521.02 0.0528 0.0240

Jupiter -91143-05-06 19:11 J -31568431.83 -31568431.70 -31568431.58 0.0524 0.0223

Venus -91143-07-02 07:54 J -31568375.24 -31568375.17 -31568375.10 0.3617 0.3049

Earth -91142-01-27 09:06 J -31568166.16 -31568166.12 -31568166.07 0.2749 0.2523

Moon -91142-01-27 09:20 J -31568166.16 -31568166.11 -31568166.05 0.2742 0.2417 *

Venus -91140-03-26 10:47 J -31567377.13 -31567377.05 -31567376.96 0.3782 0.2355

Mars -91140-05-23 20:23 J -31567318.76 -31567318.65 -31567318.54 0.1906 0.1264

Moon -91139-08-05 21:20 J -31566879.73 -31566879.61 -31566879.49 0.2597 0.1072

Earth -91139-08-05 22:18 J -31566879.70 -31566879.57 -31566879.45 0.2593 0.0959 *

Mars -91137-02-18 09:49 J -31566318.14 -31566318.09 -31566318.05 0.1630 0.1519

Jupiter -91137-07-05 01:39 J -31566180.59 -31566180.43 -31566180.26 0.0502 0.0113

Pluto -91137-07-27 19:54 J -31566157.73 -31566157.67 -31566157.61 0.0084 0.0075

Jupiter -91137-10-03 01:54 J -31566090.52 -31566090.42 -31566090.32 0.0505 0.0392

Pluto -91137-10-23 21:06 J -31566069.70 -31566069.62 -31566069.53 0.0084 0.0062

Pluto -91136-01-19 22:18 J -31565981.67 -31565981.57 -31565981.45 0.0084 0.0050

Pluto -91136-04-17 23:44 J -31565893.63 -31565893.51 -31565893.39 0.0084 0.0038

Pluto -91136-07-15 00:56 J -31565805.58 -31565805.46 -31565805.33 0.0084 0.0025

Pluto -91136-10-11 02:23 J -31565717.53 -31565717.40 -31565717.27 0.0084 0.0013

Pluto -91135-01-07 03:35 J -31565629.48 -31565629.35 -31565629.22 0.0084 0.0001

Mars -91135-01-23 22:03 J -31565612.71 -31565612.58 -31565612.45 0.1617 0.0419

Pluto -91135-04-05 04:47 J -31565541.43 -31565541.30 -31565541.17 0.0084 0.0011

Saturn -91135-06-11 15:06 J -31565473.93 -31565473.87 -31565473.80 0.0283 0.0257

Pluto -91135-07-02 05:59 J -31565453.37 -31565453.25 -31565453.12 0.0083 0.0023

Saturn -91135-09-08 10:03 J -31565385.22 -31565385.08 -31565384.93 0.0283 0.0140

Pluto -91135-09-28 07:11 J -31565365.32 -31565365.20 -31565365.08 0.0083 0.0035

Venus -91135-10-10 05:01 J -31565353.39 -31565353.29 -31565353.20 0.3779 0.1666

Saturn -91135-12-06 04:47 J -31565296.47 -31565296.30 -31565296.14 0.0283 0.0026

Pluto -91135-12-25 08:08 J -31565277.25 -31565277.16 -31565277.04 0.0083 0.0048

Saturn -91134-03-04 22:47 J -31565207.71 -31565207.55 -31565207.40 0.0283 0.0086

Pluto -91134-03-23 09:35 J -31565189.19 -31565189.10 -31565189.00 0.0083 0.0058

Saturn -91134-06-01 16:18 J -31565118.93 -31565118.82 -31565118.70 0.0283 0.0195

Pluto -91134-06-19 10:47 J -31565101.11 -31565101.05 -31565100.98 0.0083 0.0070

Pluto -91134-09-15 11:44 J -31565013.01 -31565013.01 -31565012.97 0.0083 0.0082

Jupiter -91132-11-25 10:47 J -31564211.14 -31564211.05 -31564210.95 0.0529 0.0366

Jupiter -91131-02-22 21:06 J -31564121.75 -31564121.62 -31564121.48 0.0525 0.0095

Uranus -91130-09-27 12:56 J -31563540.01 -31563539.96 -31563539.89 0.0138 0.0129

Uranus -91130-12-24 18:56 J -31563451.81 -31563451.71 -31563451.59 0.0138 0.0108

Moon -91129-01-30 05:44 J -31563415.37 -31563415.26 -31563415.15 0.2740 0.1174

Earth -91129-01-30 06:13 J -31563415.35 -31563415.24 -31563415.13 0.2746 0.1047 *

Uranus -91129-03-22 01:11 J -31563363.58 -31563363.45 -31563363.32 0.0138 0.0086

Venus -91129-04-24 23:15 J -31563329.64 -31563329.53 -31563329.42 0.3776 0.0945

Uranus -91129-06-18 07:11 J -31563275.35 -31563275.20 -31563275.05 0.0137 0.0065

Uranus -91129-09-14 12:56 J -31563187.12 -31563186.96 -31563186.79 0.0137 0.0044

Mars -91129-09-19 16:32 J -31563181.86 -31563181.81 -31563181.75 0.1920 0.1737

Uranus -91129-12-11 18:42 J -31563098.88 -31563098.72 -31563098.55 0.0137 0.0023

Uranus -91128-03-10 00:42 J -31563010.64 -31563010.47 -31563010.30 0.0137 0.0004

Uranus -91128-06-06 06:13 J -31562922.40 -31562922.24 -31562922.07 0.0137 0.0018

Uranus -91128-09-02 11:44 J -31562834.16 -31562834.01 -31562833.84 0.0137 0.0039

Uranus -91128-11-29 17:30 J -31562745.92 -31562745.77 -31562745.61 0.0137 0.0058

Uranus -91127-02-25 23:01 J -31562657.67 -31562657.54 -31562657.40 0.0136 0.0078

Uranus -91127-05-25 04:32 J -31562569.42 -31562569.31 -31562569.19 0.0136 0.0097

Uranus -91127-08-21 10:03 J -31562481.16 -31562481.08 -31562480.99 0.0136 0.0116

Uranus -91127-11-17 15:20 J -31562392.87 -31562392.86 -31562392.84 0.0136 0.0135

Mars -91126-06-16 06:56 J -31562182.34 -31562182.21 -31562182.08 0.1620 0.0054

Moon -91126-08-08 21:20 J -31562128.74 -31562128.61 -31562128.48 0.2602 0.0559

Earth -91126-08-08 21:20 J -31562128.74 -31562128.61 -31562128.47 0.2595 0.0574 *

Jupiter -91125-04-23 00:56 J -31561870.60 -31561870.46 -31561870.31 0.0501 0.0240

Jupiter -91125-07-22 01:39 J -31561780.57 -31561780.43 -31561780.29 0.0504 0.0267

Venus -91124-11-08 17:44 J -31561305.88 -31561305.76 -31561305.65 0.3773 0.0251

Saturn -91120-03-24 12:13 J -31560074.04 -31560073.99 -31560073.93 0.0275 0.0254

Saturn -91120-06-21 01:11 J -31559985.56 -31559985.45 -31559985.33 0.0275 0.0167

Jupiter -91120-09-13 13:54 J -31559900.97 -31559900.92 -31559900.86 0.0530 0.0480

Saturn -91120-09-17 14:23 J -31559897.04 -31559896.90 -31559896.76 0.0276 0.0077

Venus -91120-11-07 06:56 J -31559846.30 -31559846.21 -31559846.12 0.3597 0.2783

Jupiter -91120-12-11 23:59 J -31559811.63 -31559811.50 -31559811.36 0.0526 0.0026

Saturn -91120-12-15 03:49 J -31559808.49 -31559808.34 -31559808.19 0.0276 0.0014

Mars -91119-02-09 18:27 J -31559751.85 -31559751.73 -31559751.60 0.1916 0.0809

Jupiter -91119-03-11 11:01 J -31559722.10 -31559722.04 -31559721.96 0.0522 0.0446

Saturn -91119-03-13 17:30 J -31559719.91 -31559719.77 -31559719.63 0.0276 0.0107

Saturn -91119-06-10 07:25 J -31559631.29 -31559631.19 -31559631.09 0.0276 0.0202

Venus -91118-05-25 12:13 J -31559282.10 -31559281.99 -31559281.87 0.3769 0.0558

Mars -91117-11-05 15:49 J -31558751.96 -31558751.84 -31558751.71 0.1623 0.0523

Moon -91116-02-01 02:51 J -31558664.51 -31558664.38 -31558664.26 0.2740 0.0449

Earth -91116-02-01 03:35 J -31558664.47 -31558664.35 -31558664.23 0.2743 0.0474 *

Mars -91115-10-12 05:01 J -31558046.34 -31558046.29 -31558046.23 0.1611 0.1454

Venus -91114-05-24 08:08 J -31557822.28 -31557822.16 -31557822.04 0.3600 0.1667

Jupiter -91113-02-09 23:30 J -31557560.63 -31557560.52 -31557560.41 0.0500 0.0374

Jupiter -91113-05-10 00:27 J -31557470.64 -31557470.48 -31557470.32 0.0503 0.0135

Earth -91113-08-10 20:23 J -31557377.73 -31557377.65 -31557377.57 0.2598 0.2051

Moon -91113-08-10 21:06 J -31557377.69 -31557377.62 -31557377.55 0.2603 0.2166 *

Venus -91113-12-08 07:11 J -31557258.30 -31557258.20 -31557258.09 0.3766 0.1316

Mars -91110-07-02 19:54 J -31556321.82 -31556321.67 -31556321.53 0.1911 0.0183

Venus -91109-12-07 08:51 J -31555798.27 -31555798.13 -31555798.00 0.3604 0.0594

Jupiter -91108-09-30 03:35 J -31555501.48 -31555501.35 -31555501.22 0.0527 0.0130

Jupiter -91108-12-28 14:23 J -31555412.01 -31555411.90 -31555411.79 0.0523 0.0335

Mars -91107-03-29 00:42 J -31555321.57 -31555321.47 -31555321.36 0.1627 0.0995

Venus -91107-06-24 02:23 J -31555234.50 -31555234.40 -31555234.31 0.3762 0.2113

Moon -91106-08-04 03:06 J -31554828.42 -31554828.37 -31554828.32 0.2592 0.2387

Earth -91106-08-04 04:18 J -31554828.39 -31554828.32 -31554828.24 0.2591 0.2180 *

Saturn -91105-01-26 10:32 J -31554653.19 -31554653.06 -31554652.92 0.0283 0.0172

Mars -91105-03-03 13:39 J -31554616.04 -31554615.93 -31554615.83 0.1614 0.0969

Saturn -91105-04-24 05:15 J -31554564.44 -31554564.28 -31554564.12 0.0283 0.0057

Saturn -91105-07-21 23:15 J -31554475.68 -31554475.53 -31554475.36 0.0283 0.0056

Saturn -91105-10-18 17:01 J -31554386.92 -31554386.79 -31554386.65 0.0283 0.0165

Saturn -91104-01-15 10:32 J -31554298.11 -31554298.06 -31554298.02 0.0282 0.0271

Moon -91103-02-04 00:27 J -31553913.57 -31553913.48 -31553913.40 0.2744 0.1875

Earth -91103-02-04 01:11 J -31553913.53 -31553913.45 -31553913.37 0.2740 0.2025 *

Venus -91103-06-23 09:06 J -31553774.25 -31553774.12 -31553773.99 0.3607 0.0442

Venus -91101-01-07 21:35 J -31553210.67 -31553210.60 -31553210.53 0.3758 0.2929

Jupiter -91101-02-26 23:59 J -31553160.67 -31553160.50 -31553160.33 0.0502 0.0013

Mars -91101-11-21 21:06 J -31552891.74 -31552891.62 -31552891.51 0.1906 0.1153

Mars -91098-08-19 09:49 J -31551891.14 -31551891.09 -31551891.03 0.1630 0.1456

Venus -91097-01-07 08:51 J -31551750.25 -31551750.13 -31551750.01 0.3611 0.1428

Earth -91096-01-27 14:23 J -31551363.97 -31551363.90 -31551363.83 0.2748 0.2222

Moon -91096-01-27 14:37 J -31551363.96 -31551363.89 -31551363.83 0.2742 0.2241 *

Jupiter -91096-07-19 06:56 J -31551191.33 -31551191.21 -31551191.09 0.0528 0.0240

Mars -91096-07-24 22:18 J -31551185.70 -31551185.57 -31551185.45 0.1617 0.0488

Jupiter -91096-10-16 17:30 J -31551101.89 -31551101.77 -31551101.64 0.0524 0.0223

Venus -91095-10-01 21:06 J -31550751.65 -31550751.62 -31550751.58 0.3786 0.3519

Moon -91093-08-06 03:20 J -31550077.50 -31550077.36 -31550077.23 0.2599 0.0633

Earth -91093-08-06 03:49 J -31550077.47 -31550077.34 -31550077.21 0.2593 0.0626 *

Venus -91092-07-23 08:23 J -31549726.25 -31549726.15 -31549726.06 0.3615 0.2371

Saturn -91091-11-08 01:54 J -31549253.52 -31549253.42 -31549253.32 0.0276 0.0200

Saturn -91090-02-04 14:51 J -31549165.01 -31549164.88 -31549164.74 0.0276 0.0112

Saturn -91090-05-04 04:18 J -31549076.47 -31549076.32 -31549076.18 0.0276 0.0022

Saturn -91090-07-31 17:44 J -31548987.90 -31548987.76 -31548987.61 0.0276 0.0071

Saturn -91090-10-28 07:39 J -31548899.30 -31548899.18 -31548899.06 0.0276 0.0165

Jupiter -91090-12-15 23:44 J -31548850.68 -31548850.51 -31548850.35 0.0502 0.0115

Saturn -91089-01-24 21:35 J -31548810.64 -31548810.60 -31548810.54 0.0276 0.0262

Jupiter -91089-03-14 23:59 J -31548760.61 -31548760.50 -31548760.40 0.0505 0.0391

Mars -91089-03-20 17:01 J -31548754.82 -31548754.79 -31548754.75 0.1920 0.1839

Venus -91089-04-16 15:06 J -31548727.94 -31548727.87 -31548727.80 0.3784 0.2856

Mars -91087-12-15 07:11 J -31547755.34 -31547755.20 -31547755.07 0.1620 0.0056

Venus -91086-02-06 07:11 J -31547702.25 -31547702.20 -31547702.14 0.3618 0.3271

Uranus -91085-08-18 01:25 J -31547143.49 -31547143.44 -31547143.38 0.0141 0.0127

Uranus -91085-11-14 05:30 J -31547055.35 -31547055.27 -31547055.17 0.0141 0.0109

Uranus -91084-02-10 09:49 J -31546967.20 -31546967.09 -31546966.98 0.0141 0.0091

Jupiter -91084-05-07 10:03 J -31546881.17 -31546881.08 -31546880.98 0.0529 0.0353

Uranus -91084-05-09 13:54 J -31546879.04 -31546878.92 -31546878.79 0.0141 0.0072

Jupiter -91084-08-04 20:37 J -31546791.78 -31546791.64 -31546791.51 0.0525 0.0109

Uranus -91084-08-05 18:13 J -31546790.87 -31546790.74 -31546790.60 0.0141 0.0053

Venus -91084-10-31 08:51 J -31546704.21 -31546704.13 -31546704.04 0.3781 0.2185

Uranus -91084-11-01 22:32 J -31546702.70 -31546702.56 -31546702.42 0.0142 0.0034

Uranus -91083-01-29 02:51 J -31546614.52 -31546614.38 -31546614.23 0.0142 0.0015

Moon -91083-01-30 11:01 J -31546613.16 -31546613.04 -31546612.93 0.2740 0.0735

Earth -91083-01-30 11:30 J -31546613.13 -31546613.02 -31546612.90 0.2746 0.0740 *

Uranus -91083-04-27 07:25 J -31546526.34 -31546526.19 -31546526.05 0.0142 0.0006

Uranus -91083-07-24 11:44 J -31546438.15 -31546438.01 -31546437.86 0.0142 0.0024

Uranus -91083-10-20 16:03 J -31546349.96 -31546349.83 -31546349.68 0.0142 0.0045

Uranus -91082-01-16 20:37 J -31546261.77 -31546261.64 -31546261.50 0.0142 0.0064

Uranus -91082-04-15 01:11 J -31546173.56 -31546173.45 -31546173.33 0.0142 0.0084

Uranus -91082-07-12 05:44 J -31546085.35 -31546085.26 -31546085.15 0.0143 0.0105

Uranus -91082-10-08 10:18 J -31545997.13 -31545997.07 -31545996.99 0.0143 0.0126

Neptune -91081-12-15 11:59 J -31545563.01 -31545563.00 -31545562.97 0.0089 0.0088

Neptune -91080-03-13 13:39 J -31545474.97 -31545474.93 -31545474.88 0.0089 0.0083

Neptune -91080-06-09 15:06 J -31545386.92 -31545386.87 -31545386.80 0.0089 0.0079

Moon -91080-08-09 03:06 J -31545326.50 -31545326.37 -31545326.25 0.2602 0.0884

Earth -91080-08-09 02:51 J -31545326.50 -31545326.38 -31545326.25 0.2596 0.0890 *

Mars -91080-08-10 18:42 J -31545324.84 -31545324.72 -31545324.60 0.1916 0.0887

Neptune -91080-09-05 16:32 J -31545298.87 -31545298.81 -31545298.73 0.0089 0.0075

Neptune -91080-12-02 18:13 J -31545210.82 -31545210.74 -31545210.65 0.0089 0.0071

Neptune -91079-02-28 19:39 J -31545122.76 -31545122.68 -31545122.58 0.0089 0.0067

Neptune -91079-05-27 21:06 J -31545034.71 -31545034.62 -31545034.51 0.0089 0.0063

Neptune -91079-08-23 22:32 J -31544946.65 -31544946.56 -31544946.44 0.0089 0.0059

Neptune -91079-11-20 00:27 J -31544858.59 -31544858.48 -31544858.37 0.0089 0.0054

Neptune -91078-02-16 01:54 J -31544770.53 -31544770.42 -31544770.30 0.0089 0.0050

Neptune -91078-05-15 03:20 J -31544682.47 -31544682.36 -31544682.23 0.0089 0.0046

Venus -91078-05-17 03:06 J -31544680.47 -31544680.37 -31544680.27 0.3778 0.1482

Neptune -91078-08-11 04:47 J -31544594.41 -31544594.30 -31544594.16 0.0089 0.0042

Jupiter -91078-10-03 23:30 J -31544540.67 -31544540.52 -31544540.37 0.0501 0.0237

Neptune -91078-11-07 06:42 J -31544506.35 -31544506.22 -31544506.10 0.0089 0.0037

Jupiter -91077-01-01 23:59 J -31544450.64 -31544450.50 -31544450.36 0.0504 0.0270

Neptune -91077-02-03 08:08 J -31544418.29 -31544418.16 -31544418.03 0.0089 0.0033

Neptune -91077-05-01 09:35 J -31544330.22 -31544330.10 -31544329.96 0.0089 0.0029

Mars -91077-05-06 15:49 J -31544324.96 -31544324.84 -31544324.71 0.1623 0.0465

Neptune -91077-07-28 11:15 J -31544242.16 -31544242.03 -31544241.89 0.0089 0.0025

Neptune -91077-10-24 12:56 J -31544154.10 -31544153.96 -31544153.82 0.0089 0.0020

Neptune -91076-01-20 14:37 J -31544066.03 -31544065.89 -31544065.75 0.0089 0.0016

Neptune -91076-04-18 16:03 J -31543977.97 -31543977.83 -31543977.69 0.0089 0.0012

Saturn -91076-06-14 09:20 J -31543921.21 -31543921.11 -31543920.99 0.0283 0.0212

Neptune -91076-07-15 17:44 J -31543889.90 -31543889.76 -31543889.62 0.0089 0.0007

Saturn -91076-09-11 04:18 J -31543832.48 -31543832.32 -31543832.16 0.0283 0.0095

Neptune -91076-10-11 19:25 J -31543801.83 -31543801.69 -31543801.55 0.0089 0.0003

Saturn -91076-12-08 22:47 J -31543743.72 -31543743.55 -31543743.39 0.0283 0.0020

Neptune -91075-01-07 20:51 J -31543713.77 -31543713.63 -31543713.48 0.0089 0.0003

Saturn -91075-03-07 16:32 J -31543654.95 -31543654.81 -31543654.66 0.0283 0.0129

Neptune -91075-04-05 22:32 J -31543625.70 -31543625.56 -31543625.42 0.0089 0.0006

Mars -91075-04-12 05:15 J -31543619.33 -31543619.28 -31543619.24 0.1611 0.1520

Saturn -91075-06-04 10:03 J -31543566.16 -31543566.08 -31543565.99 0.0283 0.0237

Neptune -91075-07-03 00:13 J -31543537.63 -31543537.49 -31543537.35 0.0089 0.0010

Neptune -91075-09-29 01:54 J -31543449.56 -31543449.42 -31543449.28 0.0089 0.0015

Neptune -91075-12-26 03:35 J -31543361.49 -31543361.35 -31543361.21 0.0089 0.0019

Neptune -91074-03-24 05:01 J -31543273.42 -31543273.29 -31543273.15 0.0089 0.0024

Neptune -91074-06-20 06:42 J -31543185.35 -31543185.22 -31543185.08 0.0089 0.0028

Neptune -91074-09-16 08:23 J -31543097.28 -31543097.15 -31543097.01 0.0089 0.0032

Neptune -91074-12-13 10:03 J -31543009.21 -31543009.08 -31543008.95 0.0089 0.0037

Neptune -91073-03-10 11:44 J -31542921.13 -31542921.01 -31542920.88 0.0089 0.0041

Neptune -91073-06-06 13:25 J -31542833.06 -31542832.94 -31542832.81 0.0089 0.0046

Neptune -91073-09-02 15:06 J -31542744.98 -31542744.87 -31542744.75 0.0089 0.0050

Neptune -91073-11-29 16:47 J -31542656.91 -31542656.80 -31542656.68 0.0089 0.0055

Venus -91073-11-29 21:20 J -31542656.72 -31542656.61 -31542656.50 0.3775 0.0770 *

Jupiter -91072-02-23 12:27 J -31542571.03 -31542570.98 -31542570.92 0.0529 0.0478

Neptune -91072-02-25 18:42 J -31542568.83 -31542568.72 -31542568.62 0.0089 0.0059

Jupiter -91072-05-23 22:32 J -31542481.70 -31542481.56 -31542481.42 0.0526 0.0021

Neptune -91072-05-24 20:08 J -31542480.75 -31542480.66 -31542480.55 0.0089 0.0064

Neptune -91072-08-20 21:49 J -31542392.67 -31542392.59 -31542392.49 0.0089 0.0069

Jupiter -91072-08-21 09:35 J -31542392.17 -31542392.10 -31542392.03 0.0522 0.0445

Neptune -91072-11-16 23:30 J -31542304.59 -31542304.52 -31542304.43 0.0089 0.0073

Neptune -91071-02-13 01:11 J -31542216.50 -31542216.45 -31542216.37 0.0089 0.0078

Neptune -91071-05-12 03:06 J -31542128.42 -31542128.37 -31542128.31 0.0089 0.0082

Neptune -91071-08-08 04:47 J -31542040.32 -31542040.30 -31542040.26 0.0089 0.0087

Mars -91071-12-31 20:08 J -31541894.80 -31541894.66 -31541894.52 0.1912 0.0079

Moon -91070-02-02 08:08 J -31541862.28 -31541862.16 -31541862.04 0.2742 0.0608

Earth -91070-02-02 08:51 J -31541862.24 -31541862.13 -31541862.01 0.2743 0.0790 *

Mars -91068-09-27 00:56 J -31540894.57 -31540894.46 -31540894.35 0.1626 0.0927

Venus -91067-06-15 15:49 J -31540632.95 -31540632.84 -31540632.72 0.3772 0.0146

Earth -91067-08-12 01:54 J -31540575.48 -31540575.42 -31540575.37 0.2599 0.2361

Moon -91067-08-12 02:51 J -31540575.43 -31540575.38 -31540575.34 0.2603 0.2439 *

Jupiter -91066-07-22 22:32 J -31540230.67 -31540230.56 -31540230.44 0.0500 0.0365

Mars -91066-09-02 13:39 J -31540189.03 -31540188.93 -31540188.82 0.1614 0.1037

Jupiter -91066-10-20 23:30 J -31540140.68 -31540140.52 -31540140.35 0.0503 0.0146

Venus -91063-06-14 06:56 J -31539173.31 -31539173.21 -31539173.11 0.3598 0.2498

Venus -91062-12-30 10:32 J -31538609.17 -31538609.06 -31538608.95 0.3768 0.0742

Saturn -91061-03-27 05:15 J -31538521.37 -31538521.28 -31538521.19 0.0275 0.0215

Mars -91061-05-22 21:20 J -31538464.72 -31538464.61 -31538464.49 0.1907 0.1056

Saturn -91061-06-23 18:13 J -31538432.86 -31538432.74 -31538432.61 0.0276 0.0127

Saturn -91061-09-20 07:39 J -31538344.33 -31538344.18 -31538344.04 0.0276 0.0036

Saturn -91061-12-17 21:06 J -31538255.76 -31538255.62 -31538255.47 0.0276 0.0056

Jupiter -91060-03-12 01:25 J -31538171.57 -31538171.44 -31538171.31 0.0527 0.0138

Saturn -91060-03-16 11:01 J -31538167.17 -31538167.04 -31538166.92 0.0276 0.0150

Jupiter -91060-06-09 12:13 J -31538082.09 -31538081.99 -31538081.88 0.0523 0.0328

Saturn -91060-06-13 00:56 J -31538078.52 -31538078.46 -31538078.39 0.0276 0.0246

Moon -91060-08-04 08:51 J -31538026.22 -31538026.13 -31538026.04 0.2593 0.1883

Earth -91060-08-04 10:03 J -31538026.18 -31538026.08 -31538025.99 0.2591 0.1850 *

Mars -91058-02-17 10:03 J -31537464.14 -31537464.08 -31537464.01 0.1630 0.1390

Venus -91058-12-29 07:54 J -31537149.29 -31537149.17 -31537149.04 0.3601 0.1397

Moon -91057-02-05 05:44 J -31537111.33 -31537111.26 -31537111.20 0.2743 0.2303

Earth -91057-02-05 06:27 J -31537111.29 -31537111.23 -31537111.16 0.2740 0.2342 *

Mars -91056-01-22 22:32 J -31536758.69 -31536758.56 -31536758.44 0.1617 0.0559

Venus -91056-07-15 05:30 J -31536585.37 -31536585.27 -31536585.16 0.3765 0.1520

Jupiter -91054-08-08 22:18 J -31535830.74 -31535830.57 -31535830.40 0.0502 0.0011

Venus -91052-07-14 08:37 J -31535125.27 -31535125.14 -31535125.00 0.3605 0.0332

Moon -91050-01-28 19:25 J -31534561.77 -31534561.69 -31534561.60 0.2741 0.1914

Earth -91050-01-28 19:39 J -31534561.77 -31534561.68 -31534561.60 0.2748 0.1922 *

Venus -91050-01-29 00:42 J -31534561.56 -31534561.47 -31534561.38 0.3761 0.2315

Jupiter -91049-12-29 05:01 J -31533861.41 -31533861.29 -31533861.17 0.0528 0.0247

Jupiter -91048-03-28 15:35 J -31533771.98 -31533771.85 -31533771.73 0.0524 0.0217

Mars -91047-06-15 07:11 J -31533328.33 -31533328.20 -31533328.07 0.1620 0.0081

Moon -91047-08-07 08:51 J -31533275.26 -31533275.13 -31533274.99 0.2600 0.0432

Earth -91047-08-07 09:20 J -31533275.24 -31533275.11 -31533274.97 0.2594 0.0311 *

Saturn -91047-11-01 10:32 J -31533189.14 -31533189.06 -31533188.97 0.0283 0.0239

Venus -91046-01-28 08:51 J -31533101.26 -31533101.13 -31533101.00 0.3608 0.0697

Saturn -91046-01-29 05:30 J -31533100.42 -31533100.27 -31533100.12 0.0283 0.0123

Saturn -91046-04-27 23:59 J -31533011.67 -31533011.50 -31533011.34 0.0283 0.0009

Saturn -91046-07-25 17:59 J -31532922.90 -31532922.75 -31532922.60 0.0283 0.0103

Uranus -91046-10-17 20:37 J -31532838.71 -31532838.64 -31532838.56 0.0138 0.0123

Saturn -91046-10-22 11:30 J -31532834.12 -31532834.02 -31532833.91 0.0283 0.0211

Uranus -91045-01-14 02:51 J -31532750.50 -31532750.38 -31532750.27 0.0138 0.0101

Uranus -91045-04-11 08:37 J -31532662.27 -31532662.14 -31532661.99 0.0138 0.0080

Uranus -91045-07-08 14:37 J -31532574.04 -31532573.89 -31532573.73 0.0137 0.0059

Venus -91045-08-13 20:08 J -31532537.72 -31532537.66 -31532537.60 0.3757 0.3137

Uranus -91045-10-04 20:37 J -31532485.80 -31532485.64 -31532485.47 0.0137 0.0037

Uranus -91044-01-01 02:23 J -31532397.57 -31532397.40 -31532397.23 0.0137 0.0017

Uranus -91044-03-30 08:08 J -31532309.33 -31532309.16 -31532308.98 0.0137 0.0006

Uranus -91044-06-26 13:54 J -31532221.08 -31532220.92 -31532220.75 0.0137 0.0024

Uranus -91044-09-22 19:25 J -31532132.84 -31532132.69 -31532132.52 0.0137 0.0045

Uranus -91044-12-20 01:11 J -31532044.59 -31532044.45 -31532044.30 0.0137 0.0064

Uranus -91043-03-18 06:27 J -31531956.35 -31531956.23 -31531956.08 0.0136 0.0085

Uranus -91043-06-14 12:13 J -31531868.09 -31531867.99 -31531867.88 0.0136 0.0103

Uranus -91043-09-10 17:44 J -31531779.83 -31531779.76 -31531779.69 0.0136 0.0123

Jupiter -91042-05-27 21:35 J -31531520.76 -31531520.60 -31531520.43 0.0501 0.0116

Jupiter -91042-08-25 21:49 J -31531430.69 -31531430.59 -31531430.48 0.0505 0.0388

Venus -91041-08-13 08:23 J -31531077.26 -31531077.15 -31531077.03 0.3612 0.1673

Mars -91040-02-08 19:11 J -31530897.82 -31530897.70 -31530897.58 0.1916 0.0987

Venus -91038-05-08 19:11 J -31530078.75 -31530078.70 -31530078.65 0.3786 0.3351

Mars -91038-11-05 16:03 J -31529897.96 -31529897.83 -31529897.70 0.1623 0.0395

Moon -91037-01-31 16:18 J -31529810.94 -31529810.82 -31529810.70 0.2740 0.0562

Earth -91037-01-31 16:47 J -31529810.92 -31529810.80 -31529810.68 0.2745 0.0431 *

Jupiter -91037-10-17 08:23 J -31529551.25 -31529551.15 -31529551.05 0.0529 0.0356

Jupiter -91036-01-14 18:42 J -31529461.85 -31529461.72 -31529461.58 0.0525 0.0106

Mars -91036-10-11 05:15 J -31529192.29 -31529192.28 -31529192.26 0.1611 0.1591

Venus -91035-02-27 07:54 J -31529053.26 -31529053.17 -31529053.08 0.3616 0.2601

Earth -91034-08-10 08:37 J -31528524.26 -31528524.14 -31528524.02 0.2596 0.1209

Moon -91034-08-10 08:51 J -31528524.25 -31528524.13 -31528524.01 0.2602 0.1281 *

Venus -91033-11-21 12:56 J -31528055.03 -31528054.96 -31528054.88 0.3783 0.2694

Saturn -91032-08-14 06:13 J -31527789.30 -31527789.24 -31527789.18 0.0275 0.0246

Saturn -91032-11-10 19:11 J -31527700.82 -31527700.70 -31527700.58 0.0276 0.0159

Saturn -91031-02-07 08:23 J -31527612.29 -31527612.15 -31527612.01 0.0276 0.0070

Saturn -91031-05-06 21:49 J -31527523.74 -31527523.59 -31527523.45 0.0276 0.0022

Mars -91031-07-01 20:37 J -31527467.78 -31527467.64 -31527467.50 0.1912 0.0049

Saturn -91031-08-03 11:30 J -31527435.16 -31527435.02 -31527434.89 0.0276 0.0115

Saturn -91031-10-31 01:11 J -31527346.54 -31527346.45 -31527346.35 0.0276 0.0211

Jupiter -91030-03-15 21:06 J -31527210.77 -31527210.62 -31527210.47 0.0501 0.0241

Jupiter -91030-06-13 21:49 J -31527120.73 -31527120.59 -31527120.45 0.0504 0.0266

Venus -91030-09-13 06:42 J -31527029.25 -31527029.22 -31527029.19 0.3619 0.3487

Mars -91028-03-28 01:11 J -31526467.56 -31526467.45 -31526467.34 0.1626 0.0865

Venus -91027-06-07 06:56 J -31526031.30 -31526031.21 -31526031.11 0.3780 0.2014

Mars -91026-03-03 13:54 J -31525762.02 -31525761.92 -31525761.82 0.1614 0.1105

Jupiter -91025-08-05 11:44 J -31525241.07 -31525241.01 -31525240.95 0.0530 0.0468

Jupiter -91025-11-02 21:49 J -31525151.73 -31525151.59 -31525151.45 0.0526 0.0009

Jupiter -91024-01-31 08:51 J -31525062.20 -31525062.13 -31525062.07 0.0522 0.0455

Moon -91024-02-02 13:11 J -31525060.06 -31525059.95 -31525059.83 0.2743 0.1069

Earth -91024-02-02 14:23 J -31525060.02 -31525059.90 -31525059.79 0.2742 0.1103 *

Mars -91022-11-21 21:35 J -31524037.72 -31524037.60 -31524037.48 0.1907 0.0969

Venus -91022-12-22 01:11 J -31524007.55 -31524007.45 -31524007.34 0.3777 0.1309

Mars -91019-08-18 10:03 J -31523037.15 -31523037.08 -31523037.00 0.1630 0.1329

Jupiter -91018-01-01 20:51 J -31522900.75 -31522900.63 -31522900.52 0.0500 0.0364

Jupiter -91018-04-01 21:49 J -31522810.75 -31522810.59 -31522810.43 0.0503 0.0146

Saturn -91017-03-20 09:20 J -31522457.13 -31522457.11 -31522457.08 0.0283 0.0279

Saturn -91017-06-17 04:18 J -31522368.45 -31522368.32 -31522368.18 0.0283 0.0162

Mars -91017-07-23 22:32 J -31522331.68 -31522331.56 -31522331.43 0.1616 0.0624

Saturn -91017-09-13 23:01 J -31522279.70 -31522279.54 -31522279.37 0.0283 0.0047

Saturn -91017-12-11 17:15 J -31522190.94 -31522190.78 -31522190.62 0.0283 0.0066

Saturn -91016-03-10 11:01 J -31522102.16 -31522102.04 -31522101.91 0.0283 0.0176

Saturn -91016-06-07 04:18 J -31522013.32 -31522013.32 -31522013.31 0.0283 0.0283

Venus -91016-07-06 19:39 J -31521983.79 -31521983.68 -31521983.57 0.3774 0.0583

Moon -91014-08-05 14:51 J -31521223.99 -31521223.88 -31521223.78 0.2595 0.1686

Earth -91014-08-05 15:49 J -31521223.95 -31521223.84 -31521223.73 0.2591 0.1515 *

Jupiter -91013-08-21 23:59 J -31520841.63 -31520841.50 -31520841.37 0.0527 0.0137

Jupiter -91013-11-19 10:47 J -31520752.16 -31520752.05 -31520751.95 0.0523 0.0327

Venus -91012-07-05 05:30 J -31520524.31 -31520524.27 -31520524.22 0.3596 0.3358

Moon -91011-02-05 11:15 J -31520309.08 -31520309.03 -31520308.99 0.2743 0.2518

Earth -91011-02-05 11:59 J -31520309.03 -31520309.00 -31520308.98 0.2739 0.2665 *

Venus -91010-01-20 14:08 J -31519960.02 -31519959.91 -31519959.80 0.3771 0.0183

Mars -91008-12-14 07:25 J -31518901.32 -31518901.19 -31518901.06 0.1620 0.0148

Jupiter -91007-10-20 19:39 J -31518590.70 -31518590.68 -31518590.64 0.0499 0.0493

Jupiter -91006-01-18 21:20 J -31518500.78 -31518500.61 -31518500.44 0.0502 0.0021

Venus -91006-01-19 06:56 J -31518500.31 -31518500.21 -31518500.10 0.3599 0.2216

Venus -91005-08-05 09:06 J -31517936.23 -31517936.12 -31517936.02 0.3767 0.0939

Moon -91004-01-29 00:42 J -31517759.57 -31517759.47 -31517759.38 0.2740 0.1637

Earth -91004-01-29 00:56 J -31517759.56 -31517759.46 -31517759.37 0.2748 0.1622 *

Saturn -91002-01-01 09:35 J -31517057.14 -31517057.10 -31517057.05 0.0275 0.0261

Saturn -91002-03-30 22:32 J -31516968.67 -31516968.56 -31516968.45 0.0276 0.0174

Saturn -91002-06-27 11:44 J -31516880.15 -31516880.01 -31516879.87 0.0276 0.0085

Saturn -91002-09-24 01:11 J -31516791.60 -31516791.45 -31516791.31 0.0276 0.0009

Saturn -91002-12-21 14:51 J -31516703.02 -31516702.88 -31516702.75 0.0276 0.0100

Saturn -91001-03-19 04:32 J -31516614.41 -31516614.31 -31516614.20 0.0276 0.0195

Jupiter -91001-06-10 02:51 J -31516531.50 -31516531.38 -31516531.26 0.0528 0.0254

Uranus -91001-06-11 05:01 J -31516530.30 -31516530.29 -31516530.26 0.0141 0.0139

Venus -91001-08-04 07:54 J -31516476.30 -31516476.17 -31516476.04 0.3602 0.1120

Moon -91001-08-07 14:37 J -31516473.03 -31516472.89 -31516472.76 0.2600 0.0063

Earth -91001-08-07 15:06 J -31516473.01 -31516472.87 -31516472.74 0.2594 0.0040 *

Mars -91001-08-09 19:25 J -31516470.80 -31516470.69 -31516470.57 0.1917 0.1088

Uranus -91001-09-07 09:06 J -31516442.18 -31516442.12 -31516442.04 0.0141 0.0121

Jupiter -91001-09-07 13:25 J -31516442.07 -31516441.94 -31516441.81 0.0524 0.0209 *

Uranus -91001-12-04 13:11 J -31516354.03 -31516353.95 -31516353.84 0.0141 0.0103

91ST MILLENNIUM BCE

This is a list of transits of Mercury in the 91st millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Uranus	**-91000-03-02 17:30**	**J**	**-31516265.88**	**-31516265.77**	**-31516265.65**	**0.0141**	**0.0085**	
Uranus	**-91000-05-29 21:49**	**J**	**-31516177.71**	**-31516177.59**	**-31516177.46**	**0.0141**	**0.0066**	
Uranus	**-91000-08-26 02:08**	**J**	**-31516089.55**	**-31516089.41**	**-31516089.27**	**0.0141**	**0.0047**	
Uranus	**-91000-11-22 06:27**	**J**	**-31516001.37**	**-31516001.23**	**-31516001.09**	**0.0142**	**0.0028**	
Uranus	**-90999-02-18 10:47**	**J**	**-31515913.19**	**-31515913.05**	**-31515912.90**	**0.0142**	**0.0009**	
Venus	**-90999-02-19 04:03**	**J**	**-31515912.43**	**-31515912.33**	**-31515912.23**	**0.3764**	**0.1717**	
Uranus	**-90999-05-17 15:06**	**J**	**-31515825.01**	**-31515824.87**	**-31515824.72**	**0.0142**	**0.0012**	
Uranus	**-90999-08-13 19:39**	**J**	**-31515736.82**	**-31515736.68**	**-31515736.54**	**0.0142**	**0.0031**	
Uranus	**-90999-11-09 23:59**	**J**	**-31515648.63**	**-31515648.50**	**-31515648.36**	**0.0142**	**0.0051**	
Uranus	**-90998-02-06 04:32**	**J**	**-31515560.43**	**-31515560.31**	**-31515560.18**	**0.0142**	**0.0071**	
Uranus	**-90998-05-05 09:06**	**J**	**-31515472.23**	**-31515472.12**	**-31515472.00**	**0.0142**	**0.0091**	
Mars	**-90998-05-06 16:18**	**J**	**-31515470.95**	**-31515470.82**	**-31515470.69**	**0.1623**	**0.0327**	
Uranus	**-90998-08-01 13:39**	**J**	**-31515384.02**	**-31515383.93**	**-31515383.83**	**0.0143**	**0.0111**	
Uranus	**-90998-10-28 18:13**	**J**	**-31515295.79**	**-31515295.74**	**-31515295.68**	**0.0143**	**0.0132**	
Neptune	**-90997-03-11 05:59**	**J**	**-31515161.27**	**-31515161.25**	**-31515161.19**	**0.0088**	**0.0086**	
Neptune	**-90997-06-07 09:06**	**J**	**-31515073.18**	**-31515073.12**	**-31515073.03**	**0.0088**	**0.0081**	
Neptune	**-90997-09-03 12:27**	**J**	**-31514985.07**	**-31514984.98**	**-31514984.88**	**0.0088**	**0.0075**	
Neptune	**-90997-11-30 15:20**	**J**	**-31514896.96**	**-31514896.86**	**-31514896.73**	**0.0088**	**0.0070**	
Neptune	**-90996-02-26 18:42**	**J**	**-31514808.84**	**-31514808.72**	**-31514808.59**	**0.0088**	**0.0064**	
Neptune	**-90996-05-25 21:35**	**J**	**-31514720.72**	**-31514720.60**	**-31514720.45**	**0.0088**	**0.0058**	
Neptune	**-90996-08-22 00:42**	**J**	**-31514632.60**	**-31514632.47**	**-31514632.31**	**0.0088**	**0.0053**	
Neptune	**-90996-11-18 04:03**	**J**	**-31514544.48**	**-31514544.33**	**-31514544.18**	**0.0088**	**0.0047**	

Neptune -90995-02-14 06:56 J -31514456.36 -31514456.21 -31514456.04 0.0088 0.0041

Venus -90995-02-18 08:37 J -31514452.28 -31514452.14 -31514452.01 0.3606 0.0137

Neptune -90995-05-13 10:03 J -31514368.24 -31514368.08 -31514367.91 0.0088 0.0036

Neptune -90995-08-09 12:56 J -31514280.12 -31514279.96 -31514279.78 0.0088 0.0030

Neptune -90995-11-05 16:03 J -31514192.00 -31514191.83 -31514191.65 0.0088 0.0025

Jupiter -90995-11-06 19:39 J -31514190.84 -31514190.68 -31514190.51 0.0501 0.0116

Neptune -90994-02-01 18:56 J -31514103.87 -31514103.71 -31514103.52 0.0088 0.0020

Jupiter -90994-02-04 19:54 J -31514100.77 -31514100.67 -31514100.56 0.0505 0.0388

Neptune -90994-04-30 22:03 J -31514015.75 -31514015.58 -31514015.40 0.0088 0.0014

Neptune -90994-07-28 01:11 J -31513927.63 -31513927.45 -31513927.27 0.0088 0.0008

Venus -90994-09-04 23:15 J -31513888.61 -31513888.53 -31513888.45 0.3760 0.2521

Neptune -90994-10-24 04:03 J -31513839.51 -31513839.33 -31513839.15 0.0088 0.0003

Neptune -90993-01-20 07:11 J -31513751.38 -31513751.20 -31513751.02 0.0088 0.0003

Neptune -90993-04-17 10:03 J -31513663.26 -31513663.08 -31513662.90 0.0088 0.0008

Neptune -90993-07-14 12:56 J -31513575.13 -31513574.96 -31513574.78 0.0088 0.0014

Neptune -90993-10-10 15:49 J -31513487.01 -31513486.84 -31513486.66 0.0088 0.0019

Neptune -90992-01-06 18:42 J -31513398.89 -31513398.72 -31513398.55 0.0088 0.0024

Neptune -90992-04-04 21:35 J -31513310.76 -31513310.60 -31513310.43 0.0088 0.0030

Neptune -90992-07-02 00:13 J -31513222.64 -31513222.49 -31513222.31 0.0088 0.0036

Neptune -90992-09-28 03:20 J -31513134.51 -31513134.36 -31513134.20 0.0088 0.0040

Neptune -90992-12-25 06:13 J -31513046.39 -31513046.24 -31513046.09 0.0088 0.0046

Mars -90992-12-30 21:06 J -31513040.77 -31513040.62 -31513040.48 0.1912 0.0134

Moon -90991-01-31 21:20 J -31513008.73 -31513008.61 -31513008.49 0.2741 0.0173

Earth -90991-01-31 22:03 J -31513008.70 -31513008.58 -31513008.46 0.2745 0.0134 *

Neptune -90991-03-23 09:06 J -31512958.26 -31512958.12 -31512957.98 0.0088 0.0051

Neptune -90991-06-19 11:30 J -31512870.14 -31512870.02 -31512869.87 0.0088 0.0057

Neptune -90991-09-15 14:23 J -31512782.01 -31512781.90 -31512781.76 0.0088 0.0062

Neptune -90991-12-12 17:15 J -31512693.88 -31512693.78 -31512693.65 0.0088 0.0067

Neptune -90990-03-10 20:08 J -31512605.75 -31512605.66 -31512605.55 0.0088 0.0072

Neptune -90990-06-06 23:01 J -31512517.62 -31512517.54 -31512517.45 0.0088 0.0077

Neptune -90990-09-03 01:54 J -31512429.48 -31512429.42 -31512429.36 0.0088 0.0082

Venus -90990-09-04 08:23 J -31512428.27 -31512428.15 -31512428.02 0.3609 0.0949

Neptune -90990-11-30 04:32 J -31512341.33 -31512341.31 -31512341.28 0.0088 0.0087

Jupiter -90989-03-29 06:13 J -31512221.33 -31512221.24 -31512221.14 0.0529 0.0364

Jupiter -90989-06-26 16:32 J -31512131.94 -31512131.81 -31512131.67 0.0525 0.0098

Mars -90989-09-26 01:11 J -31512040.56 -31512040.45 -31512040.33 0.1626 0.0798

Venus -90988-03-20 18:42 J -31511864.77 -31511864.72 -31511864.67 0.3756 0.3348

Earth -90988-08-10 14:08 J -31511722.02 -31511721.91 -31511721.80 0.2597 0.1525

Moon -90988-08-10 14:37 J -31511722.00 -31511721.89 -31511721.78 0.2602 0.1522 *

Saturn -90988-11-04 06:13 J -31511636.37 -31511636.24 -31511636.12 0.0283 0.0187

Saturn -90987-02-01 00:56 J -31511547.62 -31511547.46 -31511547.30 0.0283 0.0071

Saturn -90987-04-30 19:11 J -31511458.86 -31511458.70 -31511458.54 0.0283 0.0042

Saturn -90987-07-28 12:56 J -31511370.09 -31511369.96 -31511369.82 0.0283 0.0152

Mars -90987-09-01 14:08 J -31511335.00 -31511334.91 -31511334.82 0.1613 0.1177

Saturn -90987-10-25 06:13 J -31511281.29 -31511281.24 -31511281.17 0.0283 0.0260

Venus -90984-03-20 08:08 J -31510404.27 -31510404.16 -31510404.05 0.3613 0.1906

Jupiter -90983-08-25 18:56 J -31509880.86 -31509880.71 -31509880.56 0.0500 0.0243

Pluto -90983-10-29 08:23 J -31509816.21 -31509816.15 -31509816.06 0.0060 0.0055

Jupiter -90983-11-23 19:39 J -31509790.82 -31509790.68 -31509790.54 0.0504 0.0263

Pluto -90982-01-25 09:35 J -31509728.19 -31509728.10 -31509727.96 0.0060 0.0049

Pluto -90982-04-23 11:30 J -31509640.15 -31509640.02 -31509639.88 0.0060 0.0042

Mars -90982-05-22 22:03 J -31509610.71 -31509610.58 -31509610.45 0.1907 0.0869

Pluto -90982-07-20 12:42 J -31509552.11 -31509551.97 -31509551.80 0.0060 0.0036

Pluto -90982-10-16 14:23 J -31509464.07 -31509463.90 -31509463.72 0.0060 0.0029

Venus -90982-12-13 17:15 J -31509405.84 -31509405.78 -31509405.72 0.3785 0.3188

Pluto -90981-01-12 15:35 J -31509376.01 -31509375.85 -31509375.65 0.0060 0.0023

Pluto -90981-04-09 17:15 J -31509287.96 -31509287.78 -31509287.58 0.0060 0.0016

Pluto -90981-07-06 18:56 J -31509199.90 -31509199.71 -31509199.52 0.0060 0.0010

Pluto -90981-10-02 20:23 J -31509111.85 -31509111.65 -31509111.45 0.0060 0.0003

Pluto -90981-12-29 21:49 J -31509023.78 -31509023.59 -31509023.39 0.0060 0.0004

Pluto -90980-03-27 23:15 J -31508935.72 -31508935.53 -31508935.33 0.0061 0.0010

Pluto -90980-06-24 00:42 J -31508847.65 -31508847.47 -31508847.27 0.0061 0.0017

Pluto -90980-09-20 02:08 J -31508759.58 -31508759.41 -31508759.22 0.0061 0.0024

Pluto -90980-12-17 03:20 J -31508671.51 -31508671.36 -31508671.17 0.0061 0.0031

Mars -90979-02-16 10:18 J -31508610.15 -31508610.07 -31508609.99 0.1630 0.1265

Pluto -90979-03-15 04:47 J -31508583.43 -31508583.30 -31508583.12 0.0061 0.0038

Pluto -90979-06-11 06:42 J -31508495.35 -31508495.22 -31508495.08 0.0061 0.0044

Pluto -90979-09-07 08:08 J -31508407.25 -31508407.16 -31508407.04 0.0061 0.0051

Venus -90979-10-04 07:11 J -31508380.28 -31508380.20 -31508380.12 0.3617 0.2825

Pluto -90979-12-04 09:35 J -31508319.14 -31508319.10 -31508319.03 0.0061 0.0058

Moon -90978-02-03 18:42 J -31508257.83 -31508257.72 -31508257.62 0.2743 0.1231

Earth -90978-02-03 19:39 J -31508257.79 -31508257.68 -31508257.58 0.2742 0.1419 *

Jupiter -90977-01-16 09:49 J -31507911.15 -31507911.09 -31507911.03 0.0530 0.0472

Mars -90977-01-22 22:47 J -31507904.67 -31507904.55 -31507904.43 0.1616 0.0692

Jupiter -90977-04-14 19:54 J -31507821.80 -31507821.67 -31507821.53 0.0526 0.0016

Jupiter -90977-07-13 06:56 J -31507732.28 -31507732.21 -31507732.14 0.0522 0.0452

Venus -90976-06-28 11:15 J -31507382.11 -31507382.03 -31507381.95 0.3782 0.2521

Saturn -90973-08-16 23:44 J -31506236.60 -31506236.51 -31506236.41 0.0275 0.0204

Mars -90973-10-11 22:47 J -31506180.57 -31506180.55 -31506180.52 0.1901 0.1871

Saturn -90973-11-13 12:42 J -31506148.09 -31506147.97 -31506147.83 0.0276 0.0116

Saturn -90972-02-10 02:08 J -31506059.56 -31506059.41 -31506059.27 0.0276 0.0025

Saturn -90972-05-09 15:35 J -31505970.99 -31505970.85 -31505970.71 0.0276 0.0068

Saturn -90972-08-06 05:15 J -31505882.39 -31505882.28 -31505882.15 0.0276 0.0162

Saturn -90972-11-02 19:25 J -31505793.74 -31505793.69 -31505793.64 0.0276 0.0258

Moon -90971-01-27 09:35 J -31505708.13 -31505708.10 -31505708.08 0.2744 0.2681

Jupiter -90971-06-13 18:13 J -31505570.85 -31505570.74 -31505570.63 0.0500 0.0371

Jupiter -90971-09-11 19:11 J -31505480.86 -31505480.70 -31505480.53 0.0503 0.0140

Venus -90970-01-12 05:15 J -31505358.38 -31505358.28 -31505358.19 0.3779 0.1833

Mars -90968-06-14 07:25 J -31504474.32 -31504474.19 -31504474.05 0.1619 0.0217

Moon -90968-08-05 20:23 J -31504421.77 -31504421.65 -31504421.53 0.2596 0.1221

Earth -90968-08-05 21:20 J -31504421.73 -31504421.61 -31504421.49 0.2592 0.1189 *

Jupiter -90965-02-01 23:01 J -31503511.67 -31503511.54 -31503511.41 0.0527 0.0128

Jupiter -90965-05-01 09:49 J -31503422.20 -31503422.09 -31503421.98 0.0523 0.0336

Venus -90965-07-27 23:30 J -31503334.63 -31503334.52 -31503334.42 0.3776 0.1126

Uranus -90962-08-10 22:18 J -31502225.57 -31502225.57 -31502225.55 0.0138 0.0138

Uranus -90962-11-07 04:32 J -31502137.39 -31502137.31 -31502137.21 0.0138 0.0116

Uranus -90961-02-03 10:47 J -31502049.17 -31502049.05 -31502048.92 0.0138 0.0094

Mars -90961-02-08 19:39 J -31502043.79 -31502043.68 -31502043.57 0.1916 0.1173

Uranus -90961-05-01 16:47 J -31501960.95 -31501960.80 -31501960.65 0.0137 0.0073

Uranus -90961-07-28 22:32 J -31501872.71 -31501872.56 -31501872.39 0.0137 0.0052

Uranus -90961-10-25 04:32 J -31501784.47 -31501784.31 -31501784.14 0.0137 0.0031

Uranus -90960-01-21 10:32 J -31501696.23 -31501696.06 -31501695.89 0.0137 0.0010

Uranus -90960-04-19 16:18 J -31501607.99 -31501607.82 -31501607.65 0.0137 0.0011

Uranus -90960-07-16 21:49 J -31501519.75 -31501519.59 -31501519.42 0.0137 0.0031

Uranus -90960-10-13 03:20 J -31501431.51 -31501431.36 -31501431.19 0.0137 0.0052

Uranus -90959-01-09 08:51 J -31501343.26 -31501343.13 -31501342.97 0.0136 0.0072

Venus -90959-02-10 17:59 J -31501310.86 -31501310.75 -31501310.64 0.3773 0.0408

Jupiter -90959-04-01 17:44 J -31501260.78 -31501260.76 -31501260.74 0.0499 0.0494

Uranus -90959-04-07 14:37 J -31501255.01 -31501254.89 -31501254.76 0.0136 0.0091

Jupiter -90959-06-30 19:11 J -31501170.86 -31501170.70 -31501170.53 0.0502 0.0022

Uranus -90959-07-04 19:54 J -31501166.75 -31501166.67 -31501166.56 0.0136 0.0111

Uranus -90959-10-01 01:25 J -31501078.48 -31501078.44 -31501078.38 0.0136 0.0129

Mars -90959-11-04 16:18 J -31501043.95 -31501043.82 -31501043.68 0.1623 0.0267

Moon -90958-01-30 05:59 J -31500957.36 -31500957.25 -31500957.15 0.2740 0.1365

Earth -90958-01-30 06:13 J -31500957.35 -31500957.24 -31500957.14 0.2747 0.1317 *

Saturn -90958-03-24 05:01 J -31500904.39 -31500904.29 -31500904.19 0.0283 0.0226

Saturn -90958-06-20 23:44 J -31500815.66 -31500815.51 -31500815.35 0.0283 0.0110

Saturn -90958-09-17 18:13 J -31500726.90 -31500726.74 -31500726.57 0.0283 0.0007

Saturn -90958-12-15 12:13 J -31500638.13 -31500637.99 -31500637.84 0.0283 0.0116

Saturn -90957-03-13 05:44 J -31500549.35 -31500549.26 -31500549.15 0.0283 0.0225

Venus -90955-02-09 05:44 J -31499851.33 -31499851.26 -31499851.18 0.3597 0.3061

Moon -90955-08-08 20:23 J -31499670.78 -31499670.65 -31499670.51 0.2600 0.0254

Earth -90955-08-08 20:37 J -31499670.77 -31499670.64 -31499670.50 0.2594 0.0350 *

Venus -90954-08-27 12:27 J -31499287.09 -31499286.98 -31499286.87 0.3770 0.0363

Jupiter -90954-11-21 01:25 J -31499201.56 -31499201.44 -31499201.33 0.0528 0.0254

Jupiter -90953-02-18 11:44 J -31499112.13 -31499112.01 -31499111.88 0.0524 0.0209

Mars -90952-06-30 21:06 J -31498613.76 -31498613.62 -31498613.48 0.1912 0.0207

Venus -90950-08-26 07:11 J -31497827.32 -31497827.20 -31497827.09 0.3600 0.1932

Mars -90949-03-27 01:25 J -31497613.56 -31497613.44 -31497613.32 0.1626 0.0732

Venus -90948-03-12 07:25 J -31497263.30 -31497263.19 -31497263.08 0.3766 0.1127

Mars -90947-03-02 14:23 J -31496907.99 -31496907.90 -31496907.82 0.1614 0.1246

Jupiter -90947-04-18 18:42 J -31496860.89 -31496860.72 -31496860.56 0.0501 0.0109

Jupiter -90947-07-17 18:56 J -31496770.81 -31496770.71 -31496770.61 0.0505 0.0395

Moon -90945-02-02 02:37 J -31496206.52 -31496206.39 -31496206.27 0.2742 0.0131

Earth -90945-02-02 03:20 J -31496206.48 -31496206.36 -31496206.24 0.2744 0.0195 *

Venus -90944-03-11 07:54 J -31495803.30 -31495803.17 -31495803.03 0.3603 0.0847

Saturn -90943-01-04 02:51 J -31495504.46 -31495504.38 -31495504.29 0.0276 0.0221

Saturn -90943-04-02 16:03 J -31495415.96 -31495415.83 -31495415.70 0.0276 0.0132

Saturn -90943-06-30 05:15 J -31495327.42 -31495327.28 -31495327.13 0.0276 0.0041

Venus -90943-09-26 02:23 J -31495239.49 -31495239.40 -31495239.30 0.3763 0.1918

Saturn -90943-09-26 18:42 J -31495238.86 -31495238.72 -31495238.57 0.0276 0.0052

Mars -90943-11-20 22:32 J -31495183.69 -31495183.56 -31495183.43 0.1907 0.0764

Saturn -90943-12-24 08:37 J -31495150.27 -31495150.14 -31495150.02 0.0276 0.0146

Saturn -90942-03-22 22:32 J -31495061.63 -31495061.56 -31495061.49 0.0276 0.0242

Earth -90942-08-11 19:39 J -31494919.77 -31494919.68 -31494919.58 0.2597 0.1844

Moon -90942-08-11 20:23 J -31494919.74 -31494919.65 -31494919.57 0.2603 0.1985 *

Jupiter -90942-09-09 04:18 J -31494891.42 -31494891.32 -31494891.23 0.0529 0.0370

Jupiter -90942-12-07 14:37 J -31494802.03 -31494801.89 -31494801.76 0.0525 0.0091

Mars -90940-08-17 10:32 J -31494183.15 -31494183.06 -31494182.98 0.1629 0.1200

Venus -90939-09-25 08:23 J -31493779.29 -31493779.15 -31493779.02 0.3607 0.0217

Mars -90938-07-23 23:01 J -31493477.66 -31493477.54 -31493477.43 0.1616 0.0763

Venus -90937-04-10 21:49 J -31493215.67 -31493215.59 -31493215.52 0.3759 0.2729

Jupiter -90935-02-04 17:01 J -31492550.94 -31492550.79 -31492550.64 0.0500 0.0245

Jupiter -90935-05-05 17:30 J -31492460.91 -31492460.77 -31492460.62 0.0504 0.0262

Moon -90935-08-04 02:08 J -31492370.43 -31492370.41 -31492370.38 0.2590 0.2540

Earth -90935-08-04 03:20 J -31492370.40 -31492370.36 -31492370.31 0.2590 0.2426 *

Venus -90933-04-10 08:08 J -31491755.29 -31491755.16 -31491755.03 0.3610 0.1186

Mars -90933-04-11 23:15 J -31491753.58 -31491753.53 -31491753.48 0.1902 0.1777

Moon -90932-02-03 23:59 J -31491455.60 -31491455.50 -31491455.41 0.2743 0.1685

Earth -90932-02-04 00:56 J -31491455.56 -31491455.46 -31491455.37 0.2741 0.1729 *

Venus -90932-10-25 17:15 J -31491191.81 -31491191.78 -31491191.75 0.3755 0.3556

Venus -90930-01-03 21:35 J -31490756.62 -31490756.60 -31490756.58 0.3786 0.3673

Jupiter -90930-06-28 07:39 J -31490581.24 -31490581.18 -31490581.13 0.0530 0.0481

Jupiter -90930-09-25 17:44 J -31490491.90 -31490491.76 -31490491.62 0.0526 0.0023

Jupiter -90930-12-24 04:47 J -31490402.37 -31490402.30 -31490402.23 0.0523 0.0443

Saturn -90929-08-10 07:11 J -31490172.27 -31490172.20 -31490172.12 0.0283 0.0248

Saturn -90929-11-07 02:08 J -31490083.55 -31490083.41 -31490083.26 0.0283 0.0131

Mars -90929-12-13 07:39 J -31490047.31 -31490047.18 -31490047.05 0.1619 0.0284

Saturn -90928-02-03 20:37 J -31489994.80 -31489994.64 -31489994.47 0.0283 0.0018

Saturn -90928-05-03 14:51 J -31489906.04 -31489905.88 -31489905.73 0.0283 0.0096

Saturn -90928-07-31 08:23 J -31489817.26 -31489817.15 -31489817.04 0.0283 0.0205

Venus -90928-10-25 07:39 J -31489731.29 -31489731.18 -31489731.08 0.3614 0.2139

Earth -90925-01-28 14:23 J -31488905.95 -31488905.90 -31488905.85 0.2749 0.2483

Moon -90925-01-28 14:37 J -31488905.94 -31488905.89 -31488905.85 0.2742 0.2525 *

Venus -90925-07-19 15:20 J -31488732.92 -31488732.86 -31488732.80 0.3784 0.3019

Jupiter -90924-11-23 15:49 J -31488240.94 -31488240.84 -31488240.72 0.0500 0.0374

Jupiter -90923-02-21 17:01 J -31488150.95 -31488150.79 -31488150.63 0.0503 0.0136

Venus -90922-05-11 06:42 J -31487707.29 -31487707.22 -31487707.16 0.3618 0.3041

Moon -90922-08-07 02:08 J -31487619.54 -31487619.41 -31487619.29 0.2597 0.0996

Earth -90922-08-07 03:06 J -31487619.50 -31487619.37 -31487619.25 0.2592 0.0859 *

Mars -90922-08-09 20:08 J -31487616.76 -31487616.66 -31487616.56 0.1917 0.1270

Venus -90919-02-02 09:20 J -31486709.20 -31486709.11 -31486709.03 0.3781 0.2347

Mars -90919-05-05 16:32 J -31486616.94 -31486616.81 -31486616.68 0.1622 0.0197

Jupiter -90918-07-14 21:06 J -31486181.75 -31486181.62 -31486181.49 0.0527 0.0133

Jupiter -90918-10-12 07:54 J -31486092.28 -31486092.17 -31486092.07 0.0523 0.0331

Uranus -90917-07-01 12:56 J -31485829.00 -31485828.96 -31485828.91 0.0141 0.0133

Uranus -90917-09-27 17:01 J -31485740.87 -31485740.79 -31485740.71 0.0141 0.0115

Uranus -90917-12-24 21:06 J -31485652.72 -31485652.62 -31485652.51 0.0141 0.0097

Uranus -90916-03-23 01:25 J -31485564.56 -31485564.44 -31485564.32 0.0141 0.0078

Uranus -90916-06-19 05:30 J -31485476.39 -31485476.27 -31485476.13 0.0141 0.0060

Neptune -90916-09-11 11:01 J -31485392.06 -31485392.04 -31485392.01 0.0089 0.0087

Uranus -90916-09-15 09:49 J -31485388.23 -31485388.09 -31485387.95 0.0141 0.0041

Neptune -90916-12-08 12:27 J -31485304.02 -31485303.98 -31485303.93 0.0089 0.0083

Uranus -90916-12-12 14:08 J -31485300.05 -31485299.91 -31485299.76 0.0142 0.0022

Neptune -90915-03-06 13:54 J -31485215.97 -31485215.92 -31485215.85 0.0089 0.0079

Uranus -90915-03-10 18:27 J -31485211.87 -31485211.73 -31485211.58 0.0142 0.0004

Neptune -90915-06-02 15:20 J -31485127.92 -31485127.86 -31485127.77 0.0089 0.0075

Uranus -90915-06-06 22:47 J -31485123.69 -31485123.55 -31485123.40 0.0142 0.0018

Neptune -90915-08-29 17:01 J -31485039.87 -31485039.79 -31485039.70 0.0089 0.0071

Uranus -90915-09-03 03:20 J -31485035.50 -31485035.36 -31485035.22 0.0142 0.0037

Neptune -90915-11-25 18:27 J -31484951.81 -31484951.73 -31484951.63 0.0089 0.0067

Uranus -90915-11-30 07:39 J -31484947.31 -31484947.18 -31484947.04 0.0142 0.0057

Neptune -90914-02-21 20:08 J -31484863.75 -31484863.66 -31484863.56 0.0089 0.0062

Uranus -90914-02-26 12:13 J -31484859.11 -31484858.99 -31484858.86 0.0142 0.0077

Neptune -90914-05-20 21:35 J -31484775.70 -31484775.60 -31484775.49 0.0089 0.0058

Saturn -90914-05-24 04:32 J -31484772.36 -31484772.31 -31484772.24 0.0275 0.0248

Uranus -90914-05-25 16:47 J -31484770.90 -31484770.80 -31484770.69 0.0142 0.0097

Neptune -90914-08-16 23:15 J -31484687.64 -31484687.53 -31484687.42 0.0089 0.0054

Venus -90914-08-19 03:20 J -31484685.46 -31484685.36 -31484685.26 0.3778 0.1656

Saturn -90914-08-20 17:30 J -31484683.88 -31484683.77 -31484683.65 0.0276 0.0160

Uranus -90914-08-21 21:20 J -31484682.69 -31484682.61 -31484682.52 0.0143 0.0118

Neptune -90914-11-13 00:42 J -31484599.58 -31484599.47 -31484599.35 0.0089 0.0050

Saturn -90914-11-17 06:42 J -31484595.36 -31484595.22 -31484595.08 0.0276 0.0070

Uranus -90914-11-18 01:54 J -31484594.44 -31484594.42 -31484594.38 0.0143 0.0139

Neptune -90913-02-09 02:08 J -31484511.52 -31484511.41 -31484511.28 0.0089 0.0046

Saturn -90913-02-13 20:08 J -31484506.81 -31484506.66 -31484506.52 0.0276 0.0022

Neptune -90913-05-07 04:03 J -31484423.46 -31484423.33 -31484423.21 0.0089 0.0041

Saturn -90913-05-12 09:35 J -31484418.23 -31484418.10 -31484417.96 0.0276 0.0115

Neptune -90913-08-03 05:30 J -31484335.40 -31484335.27 -31484335.14 0.0089 0.0037

Saturn -90913-08-08 23:30 J -31484329.61 -31484329.52 -31484329.42 0.0276 0.0210

Neptune -90913-10-30 06:56 J -31484247.33 -31484247.21 -31484247.07 0.0089 0.0033

Mars -90913-12-29 21:35 J -31484186.73 -31484186.60 -31484186.46 0.1912 0.0315

Neptune -90912-01-26 08:23 J -31484159.27 -31484159.15 -31484159.01 0.0089 0.0029

Moon -90912-01-30 11:01 J -31484155.15 -31484155.04 -31484154.93 0.2741 0.1010

Earth -90912-01-30 11:30 J -31484155.13 -31484155.02 -31484154.91 0.2747 0.1010 *

Neptune -90912-04-24 10:18 J -31484071.21 -31484071.07 -31484070.94 0.0089 0.0024

Neptune -90912-07-21 11:44 J -31483983.14 -31483983.01 -31483982.87 0.0089 0.0020

Neptune -90912-10-17 13:25 J -31483895.08 -31483894.94 -31483894.80 0.0089 0.0016

Jupiter -90912-12-10 16:32 J -31483840.98 -31483840.81 -31483840.64 0.0502 0.0011

Neptune -90911-01-13 14:51 J -31483807.01 -31483806.88 -31483806.73 0.0089 0.0012

Neptune -90911-04-11 16:32 J -31483718.95 -31483718.81 -31483718.67 0.0089 0.0007

Neptune -90911-07-08 18:13 J -31483630.88 -31483630.74 -31483630.60 0.0089 0.0003

Neptune -90911-10-04 19:54 J -31483542.82 -31483542.67 -31483542.53 0.0089 0.0003

Neptune -90911-12-31 21:20 J -31483454.75 -31483454.61 -31483454.47 0.0089 0.0006

Neptune -90910-03-29 23:01 J -31483366.68 -31483366.54 -31483366.40 0.0089 0.0011

Neptune -90910-06-26 00:42 J -31483278.61 -31483278.47 -31483278.33 0.0089 0.0015

Neptune -90910-09-22 02:08 J -31483190.54 -31483190.41 -31483190.26 0.0089 0.0020

Mars -90910-09-26 01:25 J -31483186.56 -31483186.44 -31483186.32 0.1626 0.0669

Neptune -90910-12-19 03:49 J -31483102.47 -31483102.34 -31483102.20 0.0089 0.0024

Neptune -90909-03-16 05:30 J -31483014.40 -31483014.27 -31483014.13 0.0089 0.0028

Neptune -90909-06-12 07:11 J -31482926.33 -31482926.20 -31482926.07 0.0089 0.0033

Earth -90909-08-09 02:08 J -31482868.54 -31482868.41 -31482868.28 0.2595 0.0670

Moon -90909-08-09 02:23 J -31482868.53 -31482868.40 -31482868.28 0.2601 0.0746 *

Neptune -90909-09-08 08:51 J -31482838.26 -31482838.13 -31482838.00 0.0089 0.0037

Neptune -90909-12-05 10:18 J -31482750.18 -31482750.07 -31482749.93 0.0089 0.0042

Neptune -90908-03-03 12:13 J -31482662.11 -31482661.99 -31482661.87 0.0089 0.0046

Venus -90908-03-03 21:35 J -31482661.70 -31482661.60 -31482661.49 0.3775 0.0950

Neptune -90908-05-30 13:39 J -31482574.04 -31482573.93 -31482573.80 0.0089 0.0051

Neptune -90908-08-26 15:35 J -31482485.96 -31482485.85 -31482485.74 0.0089 0.0055

Mars -90908-08-31 14:23 J -31482480.97 -31482480.90 -31482480.82 0.1613 0.1313

Neptune -90908-11-22 17:01 J -31482397.88 -31482397.79 -31482397.67 0.0089 0.0060

Neptune -90907-02-18 18:56 J -31482309.80 -31482309.71 -31482309.61 0.0089 0.0064

Neptune -90907-05-17 20:37 J -31482221.72 -31482221.64 -31482221.54 0.0089 0.0069

Neptune -90907-08-13 22:32 J -31482133.64 -31482133.56 -31482133.48 0.0089 0.0073

Neptune -90907-11-09 23:59 J -31482045.56 -31482045.50 -31482045.42 0.0089 0.0078

Neptune -90906-02-06 01:39 J -31481957.47 -31481957.43 -31481957.36 0.0089 0.0083

Jupiter -90906-05-03 00:13 J -31481871.60 -31481871.49 -31481871.37 0.0528 0.0247

Neptune -90906-05-05 03:35 J -31481869.37 -31481869.35 -31481869.32 0.0089 0.0087

Jupiter -90906-07-31 10:47 J -31481782.17 -31481782.05 -31481781.92 0.0524 0.0216

Mars -90903-05-21 22:32 J -31480756.69 -31480756.56 -31480756.42 0.1907 0.0689

Venus -90903-09-17 16:03 J -31480637.94 -31480637.83 -31480637.71 0.3772 0.0256

Mars -90900-02-15 10:32 J -31479756.15 -31479756.06 -31479755.97 0.1630 0.1136

Jupiter -90900-09-28 16:18 J -31479530.98 -31479530.82 -31479530.65 0.0502 0.0113

Jupiter -90900-12-27 16:47 J -31479440.90 -31479440.80 -31479440.70 0.0505 0.0392

Moon -90899-02-02 07:39 J -31479404.30 -31479404.18 -31479404.05 0.2742 0.0393

Earth -90899-02-02 08:37 J -31479404.26 -31479404.14 -31479404.02 0.2744 0.0511 *

Saturn -90899-03-27 00:56 J -31479351.59 -31479351.46 -31479351.33 0.0283 0.0171

Saturn -90899-06-23 19:39 J -31479262.84 -31479262.68 -31479262.52 0.0283 0.0055

Venus -90899-09-16 05:59 J -31479178.34 -31479178.25 -31479178.16 0.3598 0.2766

Saturn -90899-09-20 13:54 J -31479174.08 -31479173.92 -31479173.76 0.0283 0.0058

Saturn -90899-12-18 07:39 J -31479085.31 -31479085.18 -31479085.05 0.0283 0.0168

Mars -90898-01-21 23:01 J -31479050.65 -31479050.54 -31479050.42 0.1616 0.0832

Saturn -90898-03-17 01:11 J -31478996.48 -31478996.45 -31478996.42 0.0282 0.0275

Venus -90897-04-02 10:47 J -31478614.16 -31478614.05 -31478613.94 0.3769 0.0553

Earth -90896-08-12 01:11 J -31478117.52 -31478117.45 -31478117.37 0.2597 0.2158

Moon -90896-08-12 01:54 J -31478117.49 -31478117.42 -31478117.35 0.2603 0.2152 *

Jupiter -90894-02-19 02:37 J -31477561.48 -31477561.39 -31477561.29 0.0529 0.0370

Jupiter -90894-05-19 12:56 J -31477472.09 -31477471.96 -31477471.82 0.0525 0.0090

Mars -90894-10-11 23:44 J -31477326.57 -31477326.51 -31477326.44 0.1902 0.1670

Venus -90893-04-01 07:11 J -31477154.32 -31477154.20 -31477154.08 0.3601 0.1655

Venus -90892-10-17 05:44 J -31476590.37 -31476590.26 -31476590.16 0.3765 0.1320

Mars -90891-07-08 19:39 J -31476325.70 -31476325.68 -31476325.65 0.1633 0.1598

Pluto -90889-05-27 03:49 J -31475637.35 -31475637.34 -31475637.32 0.0085 0.0084

Mars -90889-06-13 07:54 J -31475620.30 -31475620.17 -31475620.04 0.1619 0.0351

Moon -90889-08-04 07:54 J -31475568.24 -31475568.17 -31475568.10 0.2592 0.2182

Earth -90889-08-04 09:06 J -31475568.20 -31475568.12 -31475568.04 0.2590 0.2096 *

Pluto -90889-08-23 05:01 J -31475549.35 -31475549.29 -31475549.21 0.0084 0.0071

Pluto -90889-11-19 06:27 J -31475461.32 -31475461.23 -31475461.13 0.0084 0.0059

Pluto -90888-02-15 07:39 J -31475373.28 -31475373.18 -31475373.06 0.0084 0.0046

Pluto -90888-05-14 08:51 J -31475285.24 -31475285.13 -31475285.00 0.0084 0.0034

Jupiter -90888-07-17 15:35 J -31475221.00 -31475220.85 -31475220.70 0.0501 0.0239

Pluto -90888-08-10 10:18 J -31475197.19 -31475197.07 -31475196.94 0.0084 0.0022

Jupiter -90888-10-15 16:18 J -31475130.96 -31475130.82 -31475130.68 0.0504 0.0268

Venus -90888-10-16 07:54 J -31475130.31 -31475130.17 -31475130.04 0.3604 0.0579

Pluto -90888-11-06 11:30 J -31475109.15 -31475109.02 -31475108.88 0.0084 0.0010

Pluto -90887-02-02 12:56 J -31475021.09 -31475020.96 -31475020.83 0.0084 0.0003

Pluto -90887-05-01 14:08 J -31474933.04 -31474932.91 -31474932.78 0.0084 0.0015

Pluto -90887-07-28 15:20 J -31474844.99 -31474844.86 -31474844.73 0.0083 0.0027

Pluto -90887-10-24 16:32 J -31474756.93 -31474756.81 -31474756.69 0.0083 0.0038

Pluto -90886-01-20 17:44 J -31474668.86 -31474668.76 -31474668.65 0.0083 0.0050

Moon -90886-02-05 05:15 J -31474653.36 -31474653.28 -31474653.19 0.2744 0.1916

Earth -90886-02-05 06:13 J -31474653.32 -31474653.24 -31474653.16 0.2741 0.2045 *

Pluto -90886-04-18 18:42 J -31474580.79 -31474580.72 -31474580.62 0.0083 0.0062

Venus -90886-05-03 00:56 J -31474566.56 -31474566.46 -31474566.37 0.3762 0.2121

Pluto -90886-07-15 19:54 J -31474492.72 -31474492.67 -31474492.60 0.0083 0.0074

Saturn -90885-10-10 07:39 J -31474040.21 -31474040.18 -31474040.14 0.0276 0.0266

Saturn -90884-01-06 20:37 J -31473951.75 -31473951.64 -31473951.53 0.0276 0.0178

Saturn -90884-04-05 09:35 J -31473863.23 -31473863.10 -31473862.96 0.0276 0.0089

Saturn -90884-07-02 23:01 J -31473774.68 -31473774.54 -31473774.39 0.0276 0.0005

Saturn -90884-09-29 12:42 J -31473686.11 -31473685.97 -31473685.83 0.0276 0.0097

Saturn -90884-12-27 02:23 J -31473597.50 -31473597.40 -31473597.29 0.0276 0.0193

Jupiter -90883-12-08 05:44 J -31473251.31 -31473251.26 -31473251.21 0.0530 0.0486

Mars -90882-02-07 20:37 J -31473189.74 -31473189.64 -31473189.55 0.1917 0.1373

Jupiter -90882-03-07 15:35 J -31473161.98 -31473161.85 -31473161.71 0.0526 0.0033

Venus -90882-05-02 07:54 J -31473106.30 -31473106.17 -31473106.03 0.3608 0.0445

Jupiter -90882-06-05 02:37 J -31473072.47 -31473072.39 -31473072.32 0.0522 0.0435

Venus -90881-11-15 20:08 J -31472542.73 -31472542.66 -31472542.59 0.3758 0.2933

Mars -90880-11-03 16:47 J -31472189.93 -31472189.80 -31472189.67 0.1622 0.0126

Moon -90879-01-28 19:39 J -31472103.76 -31472103.68 -31472103.60 0.2741 0.2091

Earth -90879-01-28 19:39 J -31472103.75 -31472103.68 -31472103.61 0.2749 0.2190 *

Uranus -90878-08-31 05:44 J -31471524.30 -31471524.26 -31471524.20 0.0138 0.0132

Uranus -90878-11-27 11:59 J -31471436.10 -31471436.00 -31471435.89 0.0138 0.0110

Uranus -90877-02-23 17:59 J -31471347.87 -31471347.75 -31471347.61 0.0138 0.0089

Uranus -90877-05-21 23:59 J -31471259.64 -31471259.50 -31471259.34 0.0138 0.0068

Uranus -90877-08-18 05:59 J -31471171.40 -31471171.25 -31471171.08 0.0137 0.0046

Uranus -90877-11-14 11:59 J -31471083.17 -31471083.00 -31471082.83 0.0137 0.0025

Venus -90877-11-15 07:54 J -31471082.30 -31471082.17 -31471082.05 0.3611 0.1434

Uranus -90876-02-10 17:44 J -31470994.93 -31470994.76 -31470994.58 0.0137 0.0006

Jupiter -90876-05-05 13:54 J -31470911.03 -31470910.92 -31470910.81 0.0499 0.0375

Uranus -90876-05-09 23:30 J -31470906.68 -31470906.52 -31470906.34 0.0137 0.0017

Jupiter -90876-08-03 15:06 J -31470821.04 -31470820.87 -31470820.71 0.0503 0.0134

Uranus -90876-08-06 05:15 J -31470818.44 -31470818.28 -31470818.11 0.0137 0.0037

Moon -90876-08-07 07:54 J -31470817.31 -31470817.17 -31470817.04 0.2597 0.0580

Earth -90876-08-07 08:37 J -31470817.28 -31470817.14 -31470817.01 0.2593 0.0535 *

Uranus -90876-11-02 11:01 J -31470730.19 -31470730.04 -31470729.89 0.0137 0.0057

Uranus -90875-01-29 16:32 J -31470641.95 -31470641.81 -31470641.67 0.0137 0.0077

Uranus -90875-04-27 21:49 J -31470553.69 -31470553.59 -31470553.46 0.0136 0.0097

Uranus -90875-07-25 03:35 J -31470465.43 -31470465.35 -31470465.26 0.0136 0.0115

Uranus -90875-10-21 09:06 J -31470377.14 -31470377.12 -31470377.10 0.0136 0.0135

Venus -90874-08-10 19:39 J -31470083.72 -31470083.68 -31470083.64 0.3786 0.3509

Mars -90873-06-29 21:49 J -31469759.72 -31469759.59 -31469759.45 0.1912 0.0400

Venus -90871-06-01 07:11 J -31469058.30 -31469058.20 -31469058.11 0.3615 0.2365

Jupiter -90871-12-24 18:42 J -31468851.85 -31468851.72 -31468851.58 0.0528 0.0144

Jupiter -90870-03-24 05:30 J -31468762.38 -31468762.27 -31468762.16 0.0524 0.0322

Mars -90870-03-27 01:39 J -31468759.55 -31468759.43 -31468759.31 0.1626 0.0604

Saturn -90870-08-14 03:35 J -31468619.47 -31468619.35 -31468619.23 0.0283 0.0191

Saturn -90870-11-10 22:18 J -31468530.73 -31468530.57 -31468530.41 0.0283 0.0074

Saturn -90869-02-07 16:32 J -31468441.97 -31468441.81 -31468441.64 0.0283 0.0040

Saturn -90869-05-06 10:32 J -31468353.20 -31468353.06 -31468352.92 0.0283 0.0150

Saturn -90869-08-03 03:49 J -31468264.39 -31468264.34 -31468264.27 0.0283 0.0258

Venus -90868-02-23 13:25 J -31468060.01 -31468059.94 -31468059.87 0.3783 0.2849

Mars -90868-03-01 14:37 J -31468053.95 -31468053.89 -31468053.82 0.1613 0.1386

Moon -90866-01-31 16:03 J -31467352.94 -31467352.83 -31467352.71 0.2741 0.0832

Earth -90866-01-31 16:47 J -31467352.92 -31467352.80 -31467352.69 0.2746 0.0706 *

Venus -90866-12-16 05:59 J -31467034.30 -31467034.25 -31467034.19 0.3619 0.3258

Jupiter -90864-05-22 14:23 J -31466511.07 -31466510.90 -31466510.73 0.0502 0.0010

Mars -90864-11-19 23:15 J -31466329.66 -31466329.53 -31466329.39 0.1908 0.0573

Earth -90863-08-10 07:54 J -31466066.30 -31466066.17 -31466066.05 0.2595 0.0994

Moon -90863-08-10 08:08 J -31466066.29 -31466066.16 -31466066.04 0.2602 0.0961 *

Venus -90863-09-09 07:25 J -31466036.28 -31466036.19 -31466036.10 0.3781 0.2173

Mars -90861-08-16 10:47 J -31465329.15 -31465329.05 -31465328.96 0.1629 0.1071

Mars -90859-07-22 23:15 J -31464623.64 -31464623.53 -31464623.42 0.1616 0.0899

Jupiter -90859-10-12 22:18 J -31464541.69 -31464541.57 -31464541.45 0.0528 0.0253

Jupiter -90858-01-10 08:37 J -31464452.26 -31464452.14 -31464452.01 0.0525 0.0211

Venus -90857-03-25 01:39 J -31464012.53 -31464012.43 -31464012.33 0.3778 0.1482

Saturn -90855-05-26 22:18 J -31463219.66 -31463219.57 -31463219.47 0.0275 0.0204

Saturn -90855-08-23 11:15 J -31463131.16 -31463131.03 -31463130.90 0.0276 0.0116

Saturn -90855-11-20 00:42 J -31463042.62 -31463042.47 -31463042.33 0.0276 0.0026

Saturn -90854-02-16 14:08 J -31462954.05 -31462953.91 -31462953.77 0.0276 0.0068

Mars -90854-04-11 23:59 J -31462899.58 -31462899.50 -31462899.42 0.1902 0.1582

Saturn -90854-05-16 03:49 J -31462865.46 -31462865.34 -31462865.22 0.0276 0.0162

Saturn -90854-08-12 17:44 J -31462776.80 -31462776.76 -31462776.70 0.0276 0.0259

Moon -90853-02-03 12:56 J -31462602.07 -31462601.96 -31462601.84 0.2742 0.0732

Earth -90853-02-03 13:54 J -31462602.03 -31462601.92 -31462601.80 0.2744 0.0821 *

Jupiter -90852-03-10 13:39 J -31462201.10 -31462200.93 -31462200.77 0.0501 0.0121

Jupiter -90852-06-08 13:54 J -31462111.02 -31462110.92 -31462110.81 0.0505 0.0383

Venus -90852-10-08 19:54 J -31461988.78 -31461988.67 -31461988.56 0.3775 0.0760

Mars -90851-01-06 19:54 J -31461898.71 -31461898.67 -31461898.63 0.1633 0.1536

Earth -90850-08-13 06:42 J -31461315.25 -31461315.22 -31461315.18 0.2598 0.2475

Mars -90850-12-13 08:08 J -31461193.29 -31461193.16 -31461193.04 0.1619 0.0420

Jupiter -90847-08-01 01:25 J -31460231.53 -31460231.44 -31460231.34 0.0529 0.0365

Jupiter -90847-10-29 11:44 J -31460142.14 -31460142.01 -31460141.87 0.0525 0.0096

Venus -90846-04-24 14:23 J -31459965.01 -31459964.90 -31459964.79 0.3771 0.0097

Moon -90843-08-05 13:39 J -31458766.02 -31458765.93 -31458765.84 0.2593 0.1929

Earth -90843-08-05 14:37 J -31458765.99 -31458765.89 -31458765.79 0.2590 0.1764 *

Mars -90843-08-08 20:37 J -31458762.73 -31458762.64 -31458762.55 0.1917 0.1452

Venus -90842-04-23 05:59 J -31458505.35 -31458505.25 -31458505.15 0.3599 0.2489

Venus -90841-11-07 09:06 J -31457941.23 -31457941.12 -31457941.01 0.3768 0.0740

Jupiter -90841-12-27 13:25 J -31457891.09 -31457890.94 -31457890.79 0.0501 0.0244

Saturn -90841-12-31 02:08 J -31457887.50 -31457887.41 -31457887.31 0.0283 0.0231

Moon -90840-02-05 10:47 J -31457851.11 -31457851.05 -31457850.98 0.2745 0.2299

Earth -90840-02-05 11:30 J -31457851.08 -31457851.02 -31457850.96 0.2740 0.2371 *

Jupiter -90840-03-27 14:08 J -31457801.05 -31457800.91 -31457800.77 0.0504 0.0264

Saturn -90840-03-29 21:06 J -31457798.77 -31457798.62 -31457798.46 0.0283 0.0114

Mars -90840-05-04 16:47 J -31457762.93 -31457762.80 -31457762.67 0.1622 0.0065

Saturn -90840-06-26 15:49 J -31457710.01 -31457709.84 -31457709.68 0.0283 0.0008

Saturn -90840-09-23 09:49 J -31457621.24 -31457621.09 -31457620.94 0.0283 0.0112

Saturn -90840-12-21 03:20 J -31457532.45 -31457532.36 -31457532.26 0.0282 0.0221

Venus -90837-11-06 07:11 J -31456481.33 -31456481.20 -31456481.08 0.3602 0.1378

Jupiter -90835-05-20 04:18 J -31455921.37 -31455921.32 -31455921.27 0.0530 0.0485

Venus -90835-05-24 04:03 J -31455917.43 -31455917.33 -31455917.22 0.3764 0.1520

Jupiter -90835-08-17 14:08 J -31455832.05 -31455831.91 -31455831.77 0.0526 0.0029

Jupiter -90835-11-15 00:56 J -31455742.53 -31455742.46 -31455742.38 0.0522 0.0435

Mars -90834-12-29 22:18 J -31455332.70 -31455332.57 -31455332.43 0.1913 0.0500

Moon -90833-01-30 00:56 J -31455301.55 -31455301.46 -31455301.38 0.2741 0.1951

Earth -90833-01-30 00:42 J -31455301.55 -31455301.47 -31455301.38 0.2749 0.1890 *

Uranus -90833-07-21 20:23 J -31455127.70 -31455127.65 -31455127.58 0.0141 0.0128

Uranus -90833-10-18 00:27 J -31455039.56 -31455039.48 -31455039.38 0.0141 0.0110

Neptune -90833-12-06 04:03 J -31454990.36 -31454990.33 -31454990.27 0.0088 0.0085

Uranus -90832-01-14 04:47 J -31454951.41 -31454951.30 -31454951.19 0.0141 0.0091

Neptune -90832-03-04 07:11 J -31454902.26 -31454902.20 -31454902.11 0.0088 0.0080

Uranus -90832-04-12 08:51 J -31454863.25 -31454863.13 -31454863.00 0.0141 0.0073

Neptune -90832-05-31 10:32 J -31454814.15 -31454814.06 -31454813.95 0.0088 0.0074

Uranus -90832-07-09 13:11 J -31454775.08 -31454774.95 -31454774.81 0.0141 0.0054

Neptune -90832-08-27 13:25 J -31454726.04 -31454725.94 -31454725.81 0.0088 0.0069

Uranus -90832-10-05 17:30 J -31454686.91 -31454686.77 -31454686.63 0.0141 0.0035

Neptune -90832-11-23 16:47 J -31454637.92 -31454637.80 -31454637.67 0.0088 0.0063

Uranus -90831-01-01 21:49 J -31454598.74 -31454598.59 -31454598.45 0.0142 0.0016

Neptune -90831-02-19 19:39 J -31454549.80 -31454549.68 -31454549.53 0.0088 0.0057

Uranus -90831-03-31 02:08 J -31454510.56 -31454510.41 -31454510.27 0.0142 0.0003

Neptune -90831-05-18 22:47 J -31454461.68 -31454461.55 -31454461.39 0.0088 0.0052

Venus -90831-05-23 07:39 J -31454457.32 -31454457.18 -31454457.05 0.3605 0.0340

Uranus -90831-06-27 06:27 J -31454422.37 -31454422.23 -31454422.08 0.0142 0.0023

Neptune -90831-08-15 02:08 J -31454373.56 -31454373.41 -31454373.25 0.0088 0.0046

Uranus -90831-09-23 10:47 J -31454334.18 -31454334.05 -31454333.90 0.0142 0.0043

Mars -90831-09-25 01:54 J -31454332.55 -31454332.42 -31454332.30 0.1626 0.0533

Neptune -90831-11-11 05:01 J -31454285.44 -31454285.29 -31454285.12 0.0088 0.0040

Uranus -90831-12-20 15:20 J -31454245.99 -31454245.86 -31454245.73 0.0142 0.0062

Neptune -90830-02-07 08:08 J -31454197.32 -31454197.16 -31454196.99 0.0088 0.0035

Uranus -90830-03-18 19:54 J -31454157.79 -31454157.67 -31454157.55 0.0142 0.0082

Neptune -90830-05-06 11:01 J -31454109.20 -31454109.04 -31454108.86 0.0088 0.0029

Uranus -90830-06-15 00:27 J -31454069.58 -31454069.48 -31454069.38 0.0142 0.0103

Neptune -90830-08-02 14:08 J -31454021.08 -31454020.91 -31454020.73 0.0088 0.0024

Moon -90830-08-08 13:39 J -31454015.06 -31454014.93 -31454014.79 0.2598 0.0258

Earth -90830-08-08 14:08 J -31454015.04 -31454014.91 -31454014.77 0.2593 0.0208 *

Uranus -90830-09-11 04:47 J -31453981.36 -31453981.30 -31453981.22 0.0143 0.0124

Neptune -90830-10-29 17:15 J -31453932.95 -31453932.78 -31453932.60 0.0088 0.0018

Venus -90830-12-07 23:15 J -31453893.62 -31453893.53 -31453893.44 0.3761 0.2319

Neptune -90829-01-25 20:23 J -31453844.83 -31453844.65 -31453844.47 0.0088 0.0013

Neptune -90829-04-22 23:15 J -31453756.71 -31453756.53 -31453756.35 0.0088 0.0007

Neptune -90829-07-20 02:23 J -31453668.58 -31453668.40 -31453668.23 0.0088 0.0003

Mars -90829-08-30 14:51 J -31453626.94 -31453626.88 -31453626.82 0.1613 0.1456

Jupiter -90829-10-15 12:27 J -31453581.09 -31453580.98 -31453580.87 0.0500 0.0371

Neptune -90829-10-16 05:15 J -31453580.46 -31453580.28 -31453580.10 0.0088 0.0004

Neptune -90828-01-12 08:08 J -31453492.34 -31453492.16 -31453491.98 0.0088 0.0009

Jupiter -90828-01-13 13:39 J -31453491.09 -31453490.93 -31453490.77 0.0503 0.0139

Neptune -90828-04-10 11:01 J -31453404.21 -31453404.04 -31453403.86 0.0088 0.0015

Neptune -90828-07-07 13:54 J -31453316.09 -31453315.92 -31453315.74 0.0088 0.0020

Neptune -90828-10-03 16:47 J -31453227.96 -31453227.80 -31453227.62 0.0088 0.0026

Neptune -90828-12-30 19:39 J -31453139.84 -31453139.68 -31453139.50 0.0088 0.0031

Neptune -90827-03-28 22:32 J -31453051.71 -31453051.56 -31453051.39 0.0088 0.0037

Neptune -90827-06-25 01:25 J -31452963.59 -31452963.44 -31452963.28 0.0088 0.0042

Neptune -90827-09-21 04:32 J -31452875.46 -31452875.31 -31452875.16 0.0088 0.0047

Neptune -90827-12-18 06:56 J -31452787.33 -31452787.21 -31452787.05 0.0088 0.0053

Neptune -90826-03-16 09:49 J -31452699.21 -31452699.09 -31452698.94 0.0088 0.0058

Neptune -90826-06-12 12:42 J -31452611.08 -31452610.97 -31452610.83 0.0088 0.0063

Neptune -90826-09-08 15:49 J -31452522.95 -31452522.84 -31452522.73 0.0088 0.0068

Saturn -90826-10-14 00:56 J -31452487.54 -31452487.46 -31452487.37 0.0276 0.0225

Neptune -90826-12-05 18:13 J -31452434.82 -31452434.74 -31452434.63 0.0088 0.0073

Venus -90826-12-07 07:39 J -31452433.31 -31452433.18 -31452433.05 0.3609 0.0693

Saturn -90825-01-10 13:54 J -31452399.04 -31452398.92 -31452398.79 0.0276 0.0137

Neptune -90825-03-02 20:51 J -31452346.69 -31452346.63 -31452346.53 0.0088 0.0079

Saturn -90825-04-08 03:06 J -31452310.51 -31452310.37 -31452310.22 0.0276 0.0047

Neptune -90825-05-29 23:44 J -31452258.55 -31452258.51 -31452258.44 0.0088 0.0084

Saturn -90825-07-05 16:47 J -31452221.95 -31452221.80 -31452221.66 0.0276 0.0048

Neptune -90825-08-26 02:51 J -31452170.38 -31452170.38 -31452170.37 0.0088 0.0088

Saturn -90825-10-02 06:13 J -31452133.36 -31452133.24 -31452133.10 0.0276 0.0143

Saturn -90825-12-29 20:23 J -31452044.72 -31452044.65 -31452044.57 0.0277 0.0238

Mars -90824-05-20 23:44 J -31451902.65 -31451902.51 -31451902.38 0.1908 0.0479

Venus -90824-06-22 18:42 J -31451869.78 -31451869.72 -31451869.66 0.3757 0.3140

Jupiter -90823-06-05 17:01 J -31451521.92 -31451521.79 -31451521.66 0.0527 0.0147

Jupiter -90823-09-03 03:35 J -31451432.46 -31451432.35 -31451432.24 0.0523 0.0316

Mars -90821-02-15 10:47 J -31450902.15 -31450902.05 -31450901.94 0.1629 0.1006

Moon -90820-01-31 21:06 J -31450550.74 -31450550.62 -31450550.50 0.2741 0.0415

Earth -90820-01-31 22:03 J -31450550.71 -31450550.58 -31450550.46 0.2746 0.0414 *

Venus -90820-06-22 07:25 J -31450409.31 -31450409.19 -31450409.08 0.3612 0.1664

Mars -90819-01-20 23:30 J -31450196.63 -31450196.52 -31450196.41 0.1616 0.0972

Venus -90817-03-16 17:44 J -31449410.81 -31449410.76 -31449410.71 0.3785 0.3346

Earth -90817-08-10 13:25 J -31449264.06 -31449263.94 -31449263.83 0.2595 0.1310

Moon -90817-08-10 13:39 J -31449264.04 -31449263.93 -31449263.82 0.2602 0.1388 *

Jupiter -90817-11-01 12:13 J -31449181.16 -31449180.99 -31449180.82 0.0502 0.0004

Jupiter -90816-01-30 12:13 J -31449091.00 -31449090.99 -31449090.98 0.0505 0.0504

Mars -90815-10-11 00:27 J -31448472.57 -31448472.48 -31448472.39 0.1902 0.1480

Venus -90814-01-06 06:27 J -31448385.32 -31448385.23 -31448385.14 0.3616 0.2591

Mars -90812-07-07 19:54 J -31447471.72 -31447471.67 -31447471.62 0.1633 0.1474

Venus -90812-09-30 11:30 J -31447387.10 -31447387.02 -31447386.94 0.3783 0.2685

Jupiter -90811-03-24 20:08 J -31447211.78 -31447211.66 -31447211.55 0.0529 0.0262

Saturn -90811-05-20 04:47 J -31447155.37 -31447155.30 -31447155.22 0.0283 0.0251

Jupiter -90811-06-22 06:27 J -31447122.35 -31447122.23 -31447122.10 0.0525 0.0201

Saturn -90811-08-16 23:59 J -31447066.65 -31447066.50 -31447066.35 0.0283 0.0133

Saturn -90811-11-13 18:27 J -31446977.89 -31446977.73 -31446977.56 0.0283 0.0018

Saturn -90810-02-10 12:27 J -31446889.13 -31446888.98 -31446888.82 0.0283 0.0095

Saturn -90810-05-10 06:13 J -31446800.35 -31446800.24 -31446800.12 0.0283 0.0204

Mars -90810-06-13 08:08 J -31446766.29 -31446766.16 -31446766.03 0.1619 0.0485

Venus -90809-07-22 05:30 J -31446361.31 -31446361.27 -31446361.24 0.3620 0.3474

Moon -90807-02-03 18:27 J -31445799.85 -31445799.73 -31445799.62 0.2743 0.0982

Earth -90807-02-03 19:25 J -31445799.81 -31445799.69 -31445799.58 0.2743 0.1134 *

Venus -90806-04-16 05:30 J -31445363.36 -31445363.27 -31445363.18 0.3780 0.2000

Jupiter -90805-08-20 11:30 J -31444871.19 -31444871.02 -31444870.86 0.0501 0.0124

Jupiter -90805-11-18 11:44 J -31444781.12 -31444781.01 -31444780.90 0.0504 0.0380

Mars -90803-02-06 21:06 J -31444335.70 -31444335.62 -31444335.54 0.1917 0.1557

Venus -90801-10-29 23:44 J -31443339.62 -31443339.51 -31443339.41 0.3777 0.1305

Mars -90801-11-02 17:01 J -31443335.92 -31443335.79 -31443335.66 0.1622 0.0007

Jupiter -90799-01-10 23:30 J -31442901.61 -31442901.52 -31442901.42 0.0529 0.0371

Jupiter -90799-04-10 09:49 J -31442812.23 -31442812.09 -31442811.96 0.0526 0.0090

Moon -90797-08-05 19:11 J -31441963.81 -31441963.70 -31441963.59 0.2593 0.1493

Earth -90797-08-05 20:23 J -31441963.77 -31441963.65 -31441963.54 0.2591 0.1435 *

Saturn -90796-03-02 03:06 J -31441755.43 -31441755.37 -31441755.31 0.0275 0.0249

Saturn -90796-05-29 15:49 J -31441666.95 -31441666.84 -31441666.72 0.0275 0.0161

Saturn -90796-08-26 05:01 J -31441578.43 -31441578.29 -31441578.15 0.0276 0.0071

Saturn -90796-11-22 18:27 J -31441489.88 -31441489.73 -31441489.59 0.0276 0.0021

Saturn -90795-02-19 08:08 J -31441401.30 -31441401.16 -31441401.03 0.0276 0.0114

Venus -90795-05-15 17:59 J -31441315.85 -31441315.75 -31441315.64 0.3774 0.0598

Saturn -90795-05-18 21:49 J -31441312.68 -31441312.59 -31441312.49 0.0276 0.0210

Moon -90794-02-06 16:03 J -31441048.86 -31441048.83 -31441048.79 0.2745 0.2619

Earth -90794-02-06 16:47 J -31441048.81 -31441048.80 -31441048.78 0.2740 0.2693 *

Mars -90794-06-29 22:47 J -31440905.69 -31440905.55 -31440905.42 0.1913 0.0597

Uranus -90794-09-20 13:25 J -31440823.00 -31440822.94 -31440822.86 0.0138 0.0126

Uranus -90794-12-17 19:39 J -31440734.78 -31440734.68 -31440734.56 0.0138 0.0104

Uranus -90793-03-15 01:54 J -31440646.56 -31440646.42 -31440646.28 0.0138 0.0082

Jupiter -90793-06-08 10:32 J -31440561.21 -31440561.06 -31440560.91 0.0500 0.0252

Uranus -90793-06-11 07:54 J -31440558.32 -31440558.17 -31440558.01 0.0138 0.0061

Jupiter -90793-09-06 11:15 J -31440471.17 -31440471.03 -31440470.88 0.0504 0.0255

Uranus -90793-09-07 13:54 J -31440470.09 -31440469.92 -31440469.76 0.0137 0.0040

Uranus -90793-12-04 19:39 J -31440381.85 -31440381.68 -31440381.51 0.0137 0.0019

Uranus -90792-03-03 01:39 J -31440293.60 -31440293.43 -31440293.26 0.0137 0.0003

Uranus -90792-05-30 07:11 J -31440205.36 -31440205.20 -31440205.02 0.0137 0.0023

Uranus -90792-08-26 12:56 J -31440117.12 -31440116.96 -31440116.79 0.0137 0.0043

Uranus -90792-11-22 18:42 J -31440028.87 -31440028.72 -31440028.57 0.0137 0.0063

Uranus -90791-02-19 00:13 J -31439940.62 -31439940.49 -31439940.35 0.0137 0.0083

Mars -90791-03-26 01:54 J -31439905.54 -31439905.42 -31439905.29 0.1626 0.0470

Venus -90791-05-14 04:32 J -31439856.35 -31439856.31 -31439856.26 0.3596 0.3344

Uranus -90791-05-18 05:30 J -31439852.36 -31439852.27 -31439852.15 0.0136 0.0103

Uranus -90791-08-14 11:15 J -31439764.10 -31439764.03 -31439763.95 0.0136 0.0122

Venus -90790-11-29 12:42 J -31439292.08 -31439291.97 -31439291.86 0.3770 0.0175

Mars -90789-02-29 15:06 J -31439199.91 -31439199.87 -31439199.83 0.1613 0.1526

Jupiter -90788-10-30 02:51 J -31438591.43 -31438591.38 -31438591.32 0.0530 0.0482

Jupiter -90787-01-27 12:56 J -31438502.09 -31438501.96 -31438501.82 0.0526 0.0025

Moon -90787-01-30 05:59 J -31438499.35 -31438499.25 -31438499.15 0.2742 0.1543

Earth -90787-01-30 05:59 J -31438499.34 -31438499.25 -31438499.15 0.2748 0.1588 *

Jupiter -90787-04-26 23:59 J -31438412.58 -31438412.50 -31438412.43 0.0523 0.0441

Venus -90786-11-28 05:59 J -31437832.36 -31437832.25 -31437832.14 0.3599 0.2207

Mars -90785-11-18 23:59 J -31437475.64 -31437475.50 -31437475.37 0.1908 0.0394

Venus -90784-06-14 07:25 J -31437268.30 -31437268.19 -31437268.08 0.3767 0.0932

Moon -90784-08-08 19:25 J -31437212.82 -31437212.69 -31437212.55 0.2600 0.0093

Earth -90784-08-08 19:39 J -31437212.81 -31437212.68 -31437212.54 0.2593 0.0143 *

Mars -90782-08-16 11:01 J -31436475.15 -31436475.04 -31436474.93 0.1629 0.0940

Saturn -90781-01-03 22:32 J -31436334.69 -31436334.56 -31436334.43 0.0283 0.0174

Jupiter -90781-03-27 10:03 J -31436251.19 -31436251.08 -31436250.96 0.0500 0.0376

Saturn -90781-04-01 17:15 J -31436245.94 -31436245.78 -31436245.62 0.0283 0.0058

Jupiter -90781-06-25 11:15 J -31436161.19 -31436161.03 -31436160.86 0.0503 0.0135

Saturn -90781-06-29 11:30 J -31436157.18 -31436157.02 -31436156.85 0.0283 0.0056

Saturn -90781-09-26 05:15 J -31436068.40 -31436068.28 -31436068.14 0.0282 0.0167

Saturn -90781-12-23 22:47 J -31435979.58 -31435979.55 -31435979.51 0.0282 0.0274

Venus -90780-06-13 06:56 J -31435808.34 -31435808.21 -31435808.08 0.3603 0.1111

Mars -90780-07-21 23:30 J -31435769.62 -31435769.52 -31435769.41 0.1616 0.1040

Venus -90779-12-29 02:23 J -31435244.50 -31435244.40 -31435244.29 0.3763 0.1720

Jupiter -90776-11-15 15:35 J -31434191.98 -31434191.85 -31434191.72 0.0527 0.0145

Jupiter -90775-02-13 02:08 J -31434102.52 -31434102.41 -31434102.30 0.0523 0.0317

Mars -90775-04-11 00:56 J -31434045.56 -31434045.46 -31434045.36 0.1903 0.1382

Venus -90775-12-28 07:25 J -31433784.33 -31433784.19 -31433784.06 0.3606 0.0112

Moon -90774-02-02 02:23 J -31433748.52 -31433748.40 -31433748.28 0.2741 0.0265

Earth -90774-02-02 03:06 J -31433748.49 -31433748.37 -31433748.24 0.2745 0.0133 *

Venus -90773-07-13 21:49 J -31433220.68 -31433220.59 -31433220.51 0.3759 0.2525

Mars -90772-01-05 20:08 J -31433044.72 -31433044.66 -31433044.60 0.1633 0.1407

Earth -90771-08-11 18:56 J -31432461.81 -31432461.71 -31432461.60 0.2596 0.1632

Moon -90771-08-11 19:25 J -31432461.79 -31432461.69 -31432461.59 0.2602 0.1652 *

Mars -90771-12-12 08:23 J -31432339.27 -31432339.15 -31432339.02 0.1619 0.0556

Jupiter -90769-04-13 10:47 J -31431851.22 -31431851.05 -31431850.88 0.0502 0.0014

Venus -90769-07-13 07:25 J -31431760.32 -31431760.19 -31431760.06 0.3610 0.0939

Venus -90767-01-27 17:15 J -31431196.83 -31431196.78 -31431196.73 0.3756 0.3350

Saturn -90767-07-20 05:15 J -31431023.29 -31431023.28 -31431023.26 0.0276 0.0273

Saturn -90767-10-16 18:13 J -31430934.84 -31430934.74 -31430934.63 0.0276 0.0185

Saturn -90766-01-13 07:11 J -31430846.33 -31430846.20 -31430846.06 0.0276 0.0096

Saturn -90766-04-11 20:37 J -31430757.79 -31430757.64 -31430757.49 0.0276 0.0003

Saturn -90766-07-09 10:18 J -31430669.21 -31430669.07 -31430668.94 0.0276 0.0091

Saturn -90766-10-05 23:59 J -31430580.61 -31430580.50 -31430580.39 0.0276 0.0186

Mars -90764-08-07 21:35 J -31429908.67 -31429908.60 -31429908.53 0.1918 0.1658

Jupiter -90764-09-03 18:27 J -31429881.85 -31429881.73 -31429881.62 0.0528 0.0263

Jupiter -90764-12-02 04:47 J -31429792.43 -31429792.30 -31429792.17 0.0524 0.0198

Venus -90763-01-27 06:56 J -31429736.32 -31429736.21 -31429736.10 0.3613 0.1898

Moon -90761-02-04 23:44 J -31428997.62 -31428997.51 -31428997.41 0.2744 0.1406

Earth -90761-02-05 00:42 J -31428997.58 -31428997.47 -31428997.37 0.2742 0.1444 *

Mars -90761-05-03 17:15 J -31428908.91 -31428908.78 -31428908.65 0.1622 0.0080

Venus -90761-10-21 15:35 J -31428737.90 -31428737.85 -31428737.79 0.3784 0.3187

Venus -90758-08-13 05:59 J -31427712.33 -31427712.25 -31427712.17 0.3617 0.2814

Jupiter -90757-01-31 09:20 J -31427541.27 -31427541.11 -31427540.94 0.0501 0.0125

Jupiter -90757-04-30 09:49 J -31427451.20 -31427451.09 -31427450.98 0.0504 0.0378

Venus -90755-05-07 09:35 J -31426714.18 -31426714.10 -31426714.02 0.3782 0.2516

Mars -90755-12-28 23:01 J -31426478.67 -31426478.54 -31426478.41 0.1913 0.0694

Moon -90754-01-28 14:51 J -31426447.91 -31426447.88 -31426447.86 0.2744 0.2664

Earth -90754-01-28 14:23 J -31426447.90 -31426447.90 -31426447.90 0.2750 0.2748 *

Saturn -90752-05-23 01:11 J -31425602.57 -31425602.45 -31425602.32 0.0283 0.0193

Jupiter -90752-06-22 21:20 J -31425571.70 -31425571.61 -31425571.51 0.0530 0.0379

Saturn -90752-08-19 20:08 J -31425513.82 -31425513.66 -31425513.50 0.0283 0.0076

Jupiter -90752-09-20 07:39 J -31425482.32 -31425482.18 -31425482.05 0.0526 0.0082

Mars -90752-09-24 02:08 J -31425478.54 -31425478.41 -31425478.28 0.1625 0.0402

Saturn -90752-11-16 14:23 J -31425425.06 -31425424.90 -31425424.73 0.0283 0.0038

Saturn -90751-02-13 08:23 J -31425336.29 -31425336.15 -31425336.01 0.0283 0.0149

Saturn -90751-05-13 01:54 J -31425247.48 -31425247.42 -31425247.35 0.0283 0.0257

Neptune -90751-06-08 09:49 J -31425221.10 -31425221.09 -31425221.05 0.0089 0.0087

Moon -90751-08-07 01:11 J -31425161.57 -31425161.45 -31425161.33 0.2595 0.1257

Earth -90751-08-07 01:54 J -31425161.54 -31425161.42 -31425161.29 0.2591 0.1099 *

Neptune -90751-09-04 11:15 J -31425133.06 -31425133.03 -31425132.96 0.0089 0.0083

Neptune -90751-12-01 13:11 J -31425045.01 -31425044.95 -31425044.89 0.0089 0.0078

Neptune -90750-02-27 14:37 J -31424956.96 -31424956.89 -31424956.81 0.0089 0.0074

Neptune -90750-05-26 16:03 J -31424868.91 -31424868.83 -31424868.74 0.0089 0.0070

Neptune -90750-08-22 17:30 J -31424780.85 -31424780.77 -31424780.67 0.0089 0.0066

Mars -90750-08-30 15:20 J -31424772.88 -31424772.86 -31424772.85 0.1613 0.1598

Neptune -90750-11-18 18:56 J -31424692.80 -31424692.71 -31424692.60 0.0089 0.0062

Venus -90750-11-21 03:35 J -31424690.44 -31424690.35 -31424690.25 0.3779 0.1830

Neptune -90749-02-14 20:37 J -31424604.74 -31424604.64 -31424604.53 0.0089 0.0058

Neptune -90749-05-12 22:18 J -31424516.68 -31424516.57 -31424516.46 0.0089 0.0053

Uranus -90749-05-14 23:59 J -31424514.51 -31424514.50 -31424514.48 0.0140 0.0140

Neptune -90749-08-08 23:44 J -31424428.62 -31424428.51 -31424428.39 0.0089 0.0049

Uranus -90749-08-11 04:03 J -31424426.39 -31424426.33 -31424426.26 0.0141 0.0122

Neptune -90749-11-05 01:11 J -31424340.56 -31424340.45 -31424340.32 0.0089 0.0045

Uranus -90749-11-07 08:08 J -31424338.25 -31424338.16 -31424338.06 0.0141 0.0104

Neptune -90748-02-01 02:51 J -31424252.50 -31424252.38 -31424252.25 0.0089 0.0041

Uranus -90748-02-03 12:27 J -31424250.09 -31424249.98 -31424249.87 0.0141 0.0085

Neptune -90748-04-30 04:32 J -31424164.44 -31424164.31 -31424164.18 0.0089 0.0036

Uranus -90748-05-02 16:32 J -31424161.93 -31424161.81 -31424161.68 0.0141 0.0067

Neptune -90748-07-27 05:59 J -31424076.38 -31424076.25 -31424076.12 0.0089 0.0032

Uranus -90748-07-29 20:51 J -31424073.77 -31424073.63 -31424073.50 0.0141 0.0048

Neptune -90748-10-23 07:25 J -31423988.31 -31423988.19 -31423988.05 0.0089 0.0028

Uranus -90748-10-26 01:11 J -31423985.59 -31423985.45 -31423985.31 0.0141 0.0029

Neptune -90747-01-19 09:06 J -31423900.25 -31423900.12 -31423899.98 0.0089 0.0024

Uranus -90747-01-22 05:30 J -31423897.42 -31423897.27 -31423897.13 0.0142 0.0011

Neptune -90747-04-17 10:47 J -31423812.19 -31423812.05 -31423811.91 0.0089 0.0019

Uranus -90747-04-20 09:49 J -31423809.24 -31423809.09 -31423808.95 0.0142 0.0010

Neptune -90747-07-14 12:13 J -31423724.12 -31423723.99 -31423723.85 0.0089 0.0015

Uranus -90747-07-17 14:08 J -31423721.05 -31423720.91 -31423720.77 0.0142 0.0029

Neptune -90747-10-10 13:54 J -31423636.06 -31423635.92 -31423635.78 0.0089 0.0011

Uranus -90747-10-13 18:27 J -31423632.86 -31423632.73 -31423632.59 0.0142 0.0048

Neptune -90746-01-06 15:35 J -31423547.99 -31423547.85 -31423547.71 0.0089 0.0006

Uranus -90746-01-09 23:01 J -31423544.67 -31423544.54 -31423544.41 0.0142 0.0068

Neptune -90746-04-04 17:01 J -31423459.93 -31423459.79 -31423459.64 0.0089 0.0004

Uranus -90746-04-08 03:20 J -31423456.47 -31423456.36 -31423456.24 0.0142 0.0089

Neptune -90746-07-01 18:42 J -31423371.86 -31423371.72 -31423371.58 0.0089 0.0003

Uranus -90746-07-05 07:54 J -31423368.26 -31423368.17 -31423368.07 0.0142 0.0109

Neptune -90746-09-27 20:23 J -31423283.79 -31423283.65 -31423283.51 0.0089 0.0007

Uranus -90746-10-01 12:42 J -31423280.03 -31423279.97 -31423279.91 0.0143 0.0129

Jupiter -90746-11-19 08:37 J -31423231.29 -31423231.14 -31423231.00 0.0500 0.0253

Neptune -90746-12-24 21:49 J -31423195.72 -31423195.59 -31423195.44 0.0089 0.0012

Jupiter -90745-02-17 09:20 J -31423141.25 -31423141.11 -31423140.97 0.0503 0.0253

Neptune -90745-03-21 23:30 J -31423107.66 -31423107.52 -31423107.38 0.0089 0.0016

Mars -90745-05-20 00:13 J -31423048.63 -31423048.49 -31423048.35 0.1908 0.0293

Neptune -90745-06-18 01:11 J -31423019.59 -31423019.45 -31423019.31 0.0089 0.0020

Neptune -90745-09-14 02:37 J -31422931.52 -31422931.39 -31422931.24 0.0089 0.0025

Neptune -90745-12-11 04:18 J -31422843.45 -31422843.32 -31422843.18 0.0089 0.0029

Neptune -90744-03-09 06:13 J -31422755.37 -31422755.24 -31422755.11 0.0089 0.0033

Neptune -90744-06-05 07:39 J -31422667.30 -31422667.18 -31422667.04 0.0089 0.0038

Venus -90744-06-05 21:49 J -31422666.69 -31422666.59 -31422666.48 0.3776 0.1125

Neptune -90744-09-01 09:20 J -31422579.23 -31422579.11 -31422578.98 0.0089 0.0042

Neptune -90744-11-28 11:01 J -31422491.16 -31422491.04 -31422490.91 0.0089 0.0047

Neptune -90743-02-24 12:42 J -31422403.08 -31422402.97 -31422402.85 0.0089 0.0051

Neptune -90743-05-23 14:23 J -31422315.01 -31422314.90 -31422314.78 0.0089 0.0056

Neptune -90743-08-19 16:03 J -31422226.93 -31422226.83 -31422226.72 0.0089 0.0060

Neptune -90743-11-15 17:44 J -31422138.85 -31422138.76 -31422138.66 0.0089 0.0065

Neptune -90742-02-11 19:39 J -31422050.77 -31422050.68 -31422050.59 0.0089 0.0069

Mars -90742-02-14 11:01 J -31422048.15 -31422048.04 -31422047.93 0.1629 0.0877

Neptune -90742-05-10 21:06 J -31421962.69 -31421962.62 -31421962.53 0.0089 0.0074

Neptune -90742-08-06 23:01 J -31421874.60 -31421874.54 -31421874.47 0.0089 0.0078

Neptune -90742-11-03 00:27 J -31421786.51 -31421786.48 -31421786.42 0.0089 0.0083

Neptune -90741-01-30 02:08 J -31421698.42 -31421698.41 -31421698.37 0.0089 0.0088

Moon -90741-01-31 11:01 J -31421697.15 -31421697.04 -31421696.94 0.2741 0.1373

Earth -90741-01-31 11:15 J -31421697.13 -31421697.03 -31421696.92 0.2748 0.1281 *

Mars -90740-01-19 23:44 J -31421342.60 -31421342.51 -31421342.41 0.1616 0.1108

Jupiter -90740-04-11 00:56 J -31421261.51 -31421261.46 -31421261.41 0.0530 0.0488

Jupiter -90740-07-09 11:01 J -31421172.18 -31421172.04 -31421171.91 0.0527 0.0032

Jupiter -90740-10-06 21:49 J -31421082.66 -31421082.59 -31421082.51 0.0523 0.0435

Venus -90739-12-20 16:18 J -31420642.93 -31420642.82 -31420642.71 0.3773 0.0397

Moon -90738-08-10 01:11 J -31420410.58 -31420410.45 -31420410.32 0.2600 0.0466

Earth -90738-08-10 01:25 J -31420410.58 -31420410.44 -31420410.31 0.2594 0.0444 *

Saturn -90737-03-04 20:23 J -31420202.74 -31420202.65 -31420202.56 0.0275 0.0208

Saturn -90737-06-01 09:20 J -31420114.24 -31420114.11 -31420113.98 0.0275 0.0119

Saturn -90737-08-28 22:32 J -31420025.70 -31420025.56 -31420025.41 0.0276 0.0028

Saturn -90737-11-25 11:59 J -31419937.14 -31419937.00 -31419936.86 0.0276 0.0064

Saturn -90736-02-22 01:39 J -31419848.55 -31419848.43 -31419848.31 0.0276 0.0159

Saturn -90736-05-21 15:35 J -31419759.90 -31419759.85 -31419759.79 0.0276 0.0255

Mars -90736-10-10 01:11 J -31419618.55 -31419618.45 -31419618.34 0.1903 0.1287

Pluto -90735-08-28 15:06 J -31419295.90 -31419295.87 -31419295.78 0.0060 0.0057

Pluto -90735-11-24 17:01 J -31419207.89 -31419207.79 -31419207.68 0.0060 0.0050

Venus -90735-12-19 04:47 J -31419183.37 -31419183.30 -31419183.23 0.3597 0.3052

Pluto -90734-02-20 18:13 J -31419119.85 -31419119.74 -31419119.59 0.0060 0.0044

Pluto -90734-05-19 20:08 J -31419031.81 -31419031.66 -31419031.51 0.0060 0.0037

Pluto -90734-08-15 21:06 J -31418943.77 -31418943.62 -31418943.43 0.0060 0.0032

Jupiter -90734-09-07 07:25 J -31418921.29 -31418921.19 -31418921.08 0.0499 0.0383

Pluto -90734-11-11 23:01 J -31418855.72 -31418855.54 -31418855.36 0.0060 0.0025

Jupiter -90734-12-06 08:37 J -31418831.30 -31418831.14 -31418830.97 0.0503 0.0128

Pluto -90733-02-08 00:13 J -31418767.66 -31418767.49 -31418767.29 0.0060 0.0018

Pluto -90733-05-06 01:54 J -31418679.61 -31418679.42 -31418679.22 0.0060 0.0011

Venus -90733-07-05 11:01 J -31418619.15 -31418619.04 -31418618.93 0.3769 0.0360

Mars -90733-07-06 20:08 J -31418617.73 -31418617.66 -31418617.58 0.1633 0.1345

Pluto -90733-08-02 03:20 J -31418591.55 -31418591.36 -31418591.16 0.0060 0.0005

Pluto -90733-10-29 05:01 J -31418503.49 -31418503.29 -31418503.10 0.0060 0.0002

Pluto -90732-01-25 06:27 J -31418415.42 -31418415.23 -31418415.04 0.0061 0.0009

Pluto -90732-04-23 07:39 J -31418327.36 -31418327.18 -31418326.98 0.0061 0.0016

Pluto -90732-07-20 09:20 J -31418239.29 -31418239.11 -31418238.92 0.0061 0.0022

Pluto -90732-10-16 10:47 J -31418151.21 -31418151.05 -31418150.87 0.0061 0.0029

Pluto -90731-01-12 11:59 J -31418063.14 -31418063.00 -31418062.82 0.0061 0.0036

Pluto -90731-04-10 13:25 J -31417975.06 -31417974.94 -31417974.78 0.0061 0.0043

Mars -90731-06-12 08:37 J -31417912.27 -31417912.14 -31417912.02 0.1619 0.0625

Pluto -90731-07-07 15:20 J -31417886.97 -31417886.86 -31417886.74 0.0061 0.0049

Pluto -90731-10-03 16:47 J -31417798.86 -31417798.80 -31417798.71 0.0061 0.0056

Venus -90729-07-04 06:13 J -31417159.36 -31417159.24 -31417159.13 0.3600 0.1929

Moon -90728-02-02 07:39 J -31416946.30 -31416946.18 -31416946.06 0.2741 0.0207

Earth -90728-02-02 08:37 J -31416946.27 -31416946.14 -31416946.02 0.2745 0.0243 *

Jupiter -90728-04-27 14:08 J -31416862.04 -31416861.91 -31416861.77 0.0527 0.0142

Jupiter -90728-07-26 00:56 J -31416772.57 -31416772.46 -31416772.35 0.0524 0.0322

Venus -90727-01-19 05:44 J -31416595.36 -31416595.26 -31416595.15 0.3766 0.1132

Earth -90725-08-12 00:27 J -31415659.57 -31415659.48 -31415659.39 0.2596 0.1946

Moon -90725-08-12 01:11 J -31415659.53 -31415659.45 -31415659.37 0.2601 0.2008 *

Mars -90724-02-05 21:49 J -31415481.65 -31415481.59 -31415481.54 0.1918 0.1743

Venus -90723-01-18 06:56 J -31415135.35 -31415135.21 -31415135.08 0.3603 0.0851

Saturn -90723-10-09 23:30 J -31414870.60 -31414870.52 -31414870.42 0.0283 0.0236

Saturn -90722-01-06 18:42 J -31414781.87 -31414781.72 -31414781.57 0.0283 0.0118

Saturn -90722-04-05 13:11 J -31414693.12 -31414692.95 -31414692.79 0.0283 0.0003

Saturn -90722-07-03 07:11 J -31414604.35 -31414604.20 -31414604.05 0.0283 0.0109

Venus -90722-08-05 00:56 J -31414571.56 -31414571.46 -31414571.36 0.3762 0.1918

Jupiter -90722-09-24 08:37 J -31414521.31 -31414521.14 -31414520.97 0.0502 0.0005

Saturn -90722-09-30 00:56 J -31414515.56 -31414515.46 -31414515.36 0.0282 0.0218

Mars -90722-11-02 17:15 J -31414481.91 -31414481.78 -31414481.64 0.1622 0.0152

Venus -90718-08-04 07:11 J -31413111.33 -31413111.20 -31413111.07 0.3607 0.0192

Moon -90718-08-05 06:42 J -31413110.24 -31413110.22 -31413110.20 0.2589 0.2550

Earth -90718-08-05 07:54 J -31413110.22 -31413110.17 -31413110.11 0.2589 0.2344 *

Jupiter -90716-02-13 17:01 J -31412551.91 -31412551.79 -31412551.67 0.0528 0.0260

Venus -90716-02-17 20:23 J -31412547.73 -31412547.65 -31412547.58 0.3758 0.2735

Jupiter -90716-05-14 03:20 J -31412462.48 -31412462.36 -31412462.23 0.0524 0.0201

Moon -90715-02-05 05:01 J -31412195.39 -31412195.29 -31412195.19 0.2745 0.1572

Earth -90715-02-05 05:59 J -31412195.35 -31412195.25 -31412195.16 0.2742 0.1758 *

Mars -90715-06-28 23:15 J -31412051.66 -31412051.53 -31412051.40 0.1913 0.0784

Venus -90712-02-17 06:56 J -31411087.33 -31411087.21 -31411087.08 0.3611 0.1190

Mars -90712-03-25 02:23 J -31411051.53 -31411051.40 -31411051.28 0.1625 0.0338

Venus -90711-09-03 15:49 J -31410523.87 -31410523.84 -31410523.80 0.3754 0.3565

Jupiter -90710-07-13 08:08 J -31410211.33 -31410211.16 -31410211.00 0.0501 0.0120

Uranus -90710-10-10 20:37 J -31410121.71 -31410121.64 -31410121.55 0.0138 0.0121

Jupiter -90710-10-11 08:23 J -31410121.25 -31410121.15 -31410121.04 0.0505 0.0385

Venus -90710-11-12 19:54 J -31410088.69 -31410088.67 -31410088.64 0.3786 0.3670

Uranus -90709-01-07 02:51 J -31410033.49 -31410033.38 -31410033.25 0.0138 0.0099

Uranus -90709-04-04 08:51 J -31409945.26 -31409945.13 -31409944.98 0.0138 0.0078

Uranus -90709-07-01 15:06 J -31409857.03 -31409856.87 -31409856.71 0.0138 0.0056

Uranus -90709-09-27 21:06 J -31409768.79 -31409768.62 -31409768.46 0.0137 0.0035

Uranus -90709-12-25 02:51 J -31409680.55 -31409680.38 -31409680.21 0.0137 0.0014

Earth -90708-01-28 19:39 J -31409645.74 -31409645.68 -31409645.63 0.2750 0.2454

Moon -90708-01-28 19:54 J -31409645.73 -31409645.67 -31409645.62 0.2743 0.2419 *

Uranus -90708-03-23 08:51 J -31409592.30 -31409592.13 -31409591.96 0.0137 0.0007

Uranus -90708-06-19 14:37 J -31409504.06 -31409503.89 -31409503.73 0.0137 0.0027

Saturn -90708-07-22 22:03 J -31409470.64 -31409470.58 -31409470.50 0.0276 0.0235

Uranus -90708-09-15 20:08 J -31409415.81 -31409415.66 -31409415.50 0.0137 0.0048

Saturn -90708-10-19 11:01 J -31409382.16 -31409382.04 -31409381.91 0.0276 0.0146

Uranus -90708-12-13 01:39 J -31409327.57 -31409327.43 -31409327.27 0.0137 0.0068

Saturn -90707-01-16 00:13 J -31409293.63 -31409293.49 -31409293.34 0.0276 0.0056

Uranus -90707-03-11 07:11 J -31409239.31 -31409239.20 -31409239.06 0.0137 0.0088

Saturn -90707-04-14 13:39 J -31409205.07 -31409204.93 -31409204.78 0.0276 0.0037

Uranus -90707-06-07 12:56 J -31409151.06 -31409150.96 -31409150.85 0.0136 0.0107

Saturn -90707-07-12 03:20 J -31409116.49 -31409116.36 -31409116.23 0.0276 0.0132

Venus -90707-09-03 06:27 J -31409063.34 -31409063.23 -31409063.12 0.3614 0.2132

Uranus -90707-09-03 18:13 J -31409062.79 -31409062.74 -31409062.67 0.0136 0.0127

Saturn -90707-10-08 17:15 J -31409027.86 -31409027.78 -31409027.69 0.0277 0.0228

Mars -90706-11-19 00:56 J -31408621.60 -31408621.46 -31408621.32 0.1908 0.0186

Moon -90705-08-07 06:56 J -31408359.34 -31408359.21 -31408359.08 0.2597 0.0764

Earth -90705-08-07 07:39 J -31408359.31 -31408359.18 -31408359.05 0.2592 0.0769 *

Jupiter -90705-12-02 19:54 J -31408241.76 -31408241.67 -31408241.57 0.0529 0.0377

Jupiter -90704-03-02 06:13 J -31408152.38 -31408152.24 -31408152.11 0.0525 0.0083

Venus -90704-05-28 13:39 J -31408064.99 -31408064.93 -31408064.86 0.3784 0.3020

Mars -90703-08-15 11:15 J -31407621.14 -31407621.03 -31407620.92 0.1629 0.0808

Venus -90701-03-19 05:30 J -31407039.34 -31407039.27 -31407039.20 0.3618 0.3036

Mars -90701-07-20 23:59 J -31406915.59 -31406915.50 -31406915.41 0.1615 0.1183

Venus -90699-12-12 07:39 J -31406041.26 -31406041.18 -31406041.09 0.3781 0.2347

Jupiter -90698-05-01 06:42 J -31405901.37 -31405901.22 -31405901.07 0.0500 0.0253

Jupiter -90698-07-30 07:25 J -31405811.33 -31405811.19 -31405811.04 0.0503 0.0253

Mars -90696-04-10 01:39 J -31405191.54 -31405191.43 -31405191.32 0.1903 0.1188

Moon -90695-01-31 16:03 J -31404894.94 -31404894.83 -31404894.72 0.2741 0.0995

Earth -90695-01-31 16:32 J -31404894.92 -31404894.81 -31404894.70 0.2747 0.0980 *

Mars -90693-01-05 20:23 J -31404190.73 -31404190.65 -31404190.57 0.1633 0.1279

Saturn -90693-02-27 01:39 J -31404138.48 -31404138.43 -31404138.35 0.0284 0.0258

Saturn -90693-05-25 21:06 J -31404049.77 -31404049.62 -31404049.48 0.0283 0.0139

Venus -90693-06-27 01:54 J -31404017.52 -31404017.42 -31404017.33 0.3778 0.1659

Saturn -90693-08-22 15:35 J -31403961.01 -31403960.85 -31403960.68 0.0283 0.0024

Jupiter -90693-09-20 23:01 J -31403931.59 -31403931.54 -31403931.50 0.0531 0.0494

Saturn -90693-11-19 09:49 J -31403872.24 -31403872.09 -31403871.93 0.0283 0.0090

Jupiter -90693-12-19 08:51 J -31403842.26 -31403842.13 -31403841.99 0.0527 0.0037

Saturn -90692-02-16 03:35 J -31403783.46 -31403783.35 -31403783.23 0.0283 0.0201

Jupiter -90692-03-18 19:54 J -31403752.75 -31403752.67 -31403752.60 0.0523 0.0430

Moon -90692-08-10 06:56 J -31403608.34 -31403608.21 -31403608.08 0.2600 0.0711

Earth -90692-08-10 06:56 J -31403608.34 -31403608.21 -31403608.08 0.2594 0.0775 *

Mars -90692-12-11 08:37 J -31403485.26 -31403485.14 -31403485.02 0.1618 0.0697

Venus -90687-01-10 20:08 J -31401993.77 -31401993.66 -31401993.55 0.3775 0.0942

Jupiter -90686-02-17 05:44 J -31401591.37 -31401591.26 -31401591.15 0.0499 0.0381

Jupiter -90686-05-18 06:56 J -31401501.37 -31401501.21 -31401501.05 0.0502 0.0127

Mars -90685-08-06 22:03 J -31401054.61 -31401054.58 -31401054.54 0.1918 0.1842

Moon -90682-02-03 12:56 J -31400144.08 -31400143.96 -31400143.84 0.2743 0.0371

Earth -90682-02-03 13:39 J -31400144.05 -31400143.93 -31400143.81 0.2745 0.0537 *

Mars -90682-05-03 17:30 J -31400054.90 -31400054.77 -31400054.64 0.1622 0.0210

Venus -90682-07-27 14:37 J -31399970.00 -31399969.89 -31399969.78 0.3772 0.0206

Jupiter -90681-10-07 12:13 J -31399532.12 -31399531.99 -31399531.86 0.0528 0.0148

Jupiter -90680-01-04 23:01 J -31399442.65 -31399442.54 -31399442.43 0.0524 0.0317

Earth -90679-08-13 06:13 J -31398857.31 -31398857.24 -31398857.18 0.2597 0.2268

Moon -90679-08-13 06:56 J -31398857.26 -31398857.21 -31398857.16 0.2602 0.2385 *

Saturn -90679-12-10 00:27 J -31398738.52 -31398738.48 -31398738.42 0.0275 0.0256

Saturn -90678-03-08 13:25 J -31398650.05 -31398649.94 -31398649.83 0.0275 0.0168

Saturn -90678-06-05 02:23 J -31398561.54 -31398561.40 -31398561.26 0.0275 0.0079

Venus -90678-07-26 05:01 J -31398510.38 -31398510.29 -31398510.20 0.3598 0.2761

Saturn -90678-09-01 15:49 J -31398472.99 -31398472.84 -31398472.70 0.0276 0.0015

Saturn -90678-11-29 05:15 J -31398384.42 -31398384.28 -31398384.14 0.0276 0.0106

Saturn -90677-02-25 18:56 J -31398295.80 -31398295.71 -31398295.60 0.0276 0.0202

Venus -90676-02-09 09:20 J -31397946.22 -31397946.11 -31397946.00 0.3768 0.0551

Mars -90676-12-27 23:44 J -31397624.63 -31397624.51 -31397624.38 0.1913 0.0889

Jupiter -90674-03-06 06:13 J -31397191.41 -31397191.24 -31397191.07 0.0502 0.0002

Jupiter -90674-06-04 06:13 J -31397101.26 -31397101.24 -31397101.22 0.0505 0.0500

Mars -90673-09-23 02:23 J -31396624.53 -31396624.40 -31396624.27 0.1625 0.0268

Venus -90672-02-08 06:13 J -31396486.36 -31396486.24 -31396486.12 0.3601 0.1647

Moon -90672-08-05 12:27 J -31396308.06 -31396307.98 -31396307.90 0.2590 0.2063

Earth -90672-08-05 13:39 J -31396308.02 -31396307.93 -31396307.84 0.2590 0.2012 *

Venus -90671-08-26 04:18 J -31395922.43 -31395922.32 -31395922.22 0.3765 0.1325

Moon -90669-02-06 10:18 J -31395393.15 -31395393.07 -31395392.99 0.2744 0.2051

Earth -90669-02-06 11:15 J -31395393.11 -31395393.03 -31395392.95 0.2742 0.2074 *

Jupiter -90669-07-26 15:49 J -31395221.96 -31395221.84 -31395221.73 0.0529 0.0257

Jupiter -90669-10-24 02:08 J -31395132.53 -31395132.41 -31395132.28 0.0525 0.0205

Neptune -90668-09-02 02:37 J -31394819.44 -31394819.39 -31394819.33 0.0088 0.0084

Neptune -90668-11-29 05:15 J -31394731.34 -31394731.28 -31394731.17 0.0088 0.0079

Neptune -90667-02-25 08:37 J -31394643.23 -31394643.14 -31394643.02 0.0088 0.0073

Neptune -90667-05-24 11:59 J -31394555.11 -31394555.00 -31394554.88 0.0088 0.0067

Neptune -90667-08-20 14:51 J -31394467.00 -31394466.88 -31394466.74 0.0088 0.0062

Venus -90667-08-25 06:42 J -31394462.35 -31394462.22 -31394462.08 0.3605 0.0579

Neptune -90667-11-16 17:59 J -31394378.88 -31394378.75 -31394378.60 0.0088 0.0056

Neptune -90666-02-12 21:06 J -31394290.76 -31394290.62 -31394290.46 0.0088 0.0050

Neptune -90666-05-12 00:13 J -31394202.64 -31394202.49 -31394202.32 0.0088 0.0045

Mars -90666-05-20 00:56 J -31394194.60 -31394194.46 -31394194.32 0.1909 0.0101

Neptune -90666-08-08 03:35 J -31394114.52 -31394114.35 -31394114.19 0.0088 0.0039

Neptune -90666-11-04 06:13 J -31394026.39 -31394026.24 -31394026.06 0.0088 0.0034

Neptune -90665-01-31 09:35 J -31393938.27 -31393938.10 -31393937.93 0.0088 0.0028

Venus -90665-03-10 23:30 J -31393898.62 -31393898.52 -31393898.43 0.3761 0.2126

Neptune -90665-04-28 12:27 J -31393850.15 -31393849.98 -31393849.80 0.0088 0.0022

Uranus -90665-06-04 07:25 J -31393813.22 -31393813.19 -31393813.14 0.0141 0.0135

Neptune -90665-07-25 15:35 J -31393762.02 -31393761.85 -31393761.67 0.0088 0.0017

Uranus -90665-08-31 11:30 J -31393725.09 -31393725.02 -31393724.93 0.0141 0.0117

Neptune -90665-10-21 18:27 J -31393673.90 -31393673.73 -31393673.54 0.0088 0.0012

Uranus -90665-11-27 15:49 J -31393636.94 -31393636.84 -31393636.73 0.0141 0.0098

Neptune -90664-01-17 21:35 J -31393585.78 -31393585.60 -31393585.42 0.0088 0.0006

Uranus -90664-02-23 19:54 J -31393548.78 -31393548.67 -31393548.55 0.0141 0.0080

Neptune -90664-04-16 00:42 J -31393497.65 -31393497.47 -31393497.29 0.0088 0.0001

Uranus -90664-05-23 00:13 J -31393460.62 -31393460.49 -31393460.36 0.0141 0.0061

Neptune -90664-07-13 03:35 J -31393409.53 -31393409.35 -31393409.17 0.0088 0.0005

Uranus -90664-08-19 04:32 J -31393372.45 -31393372.31 -31393372.18 0.0141 0.0043

Neptune -90664-10-09 06:27 J -31393321.40 -31393321.23 -31393321.05 0.0088 0.0011

Saturn -90664-10-12 19:11 J -31393317.82 -31393317.70 -31393317.57 0.0283 0.0182

Uranus -90664-11-15 08:37 J -31393284.28 -31393284.14 -31393283.99 0.0141 0.0024

Neptune -90663-01-05 09:20 J -31393233.28 -31393233.11 -31393232.93 0.0088 0.0017

Saturn -90663-01-09 14:08 J -31393229.07 -31393228.91 -31393228.75 0.0283 0.0065

Uranus -90663-02-11 12:56 J -31393196.10 -31393195.96 -31393195.81 0.0142 0.0005

Mars -90663-02-13 11:30 J -31393194.14 -31393194.02 -31393193.91 0.1629 0.0741

Neptune -90663-04-03 12:27 J -31393145.15 -31393144.98 -31393144.81 0.0088 0.0022

Saturn -90663-04-08 08:37 J -31393140.30 -31393140.14 -31393139.98 0.0283 0.0049

Uranus -90663-05-10 17:15 J -31393107.92 -31393107.78 -31393107.63 0.0142 0.0015

Neptune -90663-06-30 15:06 J -31393057.03 -31393056.87 -31393056.69 0.0088 0.0028

Saturn -90663-07-06 02:23 J -31393051.53 -31393051.40 -31393051.26 0.0283 0.0161

Uranus -90663-08-06 21:35 J -31393019.74 -31393019.60 -31393019.45 0.0142 0.0035

Neptune -90663-09-26 18:13 J -31392968.90 -31392968.74 -31392968.57 0.0088 0.0032

Saturn -90663-10-02 19:54 J -31392962.71 -31392962.67 -31392962.62 0.0282 0.0269

Uranus -90663-11-03 02:08 J -31392931.55 -31392931.41 -31392931.27 0.0142 0.0054

Jupiter -90663-12-23 05:59 J -31392881.42 -31392881.25 -31392881.09 0.0501 0.0123

Neptune -90663-12-23 21:06 J -31392880.78 -31392880.62 -31392880.46 0.0088 0.0038

Moon -90662-01-30 00:56 J -31392843.54 -31392843.46 -31392843.39 0.2743 0.2167

Earth -90662-01-30 00:42 J -31392843.54 -31392843.47 -31392843.39 0.2750 0.2153 *

Uranus -90662-01-30 06:27 J -31392843.35 -31392843.23 -31392843.10 0.0142 0.0074

Neptune -90662-03-21 23:44 J -31392792.65 -31392792.51 -31392792.34 0.0088 0.0044

Jupiter -90662-03-23 06:27 J -31392791.34 -31392791.23 -31392791.12 0.0505 0.0382

Uranus -90662-04-28 11:01 J -31392755.15 -31392755.04 -31392754.93 0.0142 0.0094

Neptune -90662-06-18 02:37 J -31392704.52 -31392704.39 -31392704.23 0.0088 0.0049

Uranus -90662-07-25 15:35 J -31392666.93 -31392666.85 -31392666.76 0.0142 0.0114

Neptune -90662-09-14 05:44 J -31392616.40 -31392616.26 -31392616.12 0.0088 0.0054

Uranus -90662-10-21 20:08 J -31392578.70 -31392578.66 -31392578.61 0.0143 0.0135

Neptune -90662-12-11 08:37 J -31392528.27 -31392528.14 -31392528.01 0.0088 0.0059

Mars -90661-01-20 00:13 J -31392488.57 -31392488.49 -31392488.41 0.1615 0.1251

Neptune -90661-03-08 11:01 J -31392440.14 -31392440.04 -31392439.90 0.0088 0.0065

Venus -90661-03-10 06:56 J -31392438.34 -31392438.21 -31392438.08 0.3608 0.0449

Neptune -90661-06-04 13:54 J -31392352.01 -31392351.92 -31392351.80 0.0088 0.0070

Neptune -90661-08-31 16:47 J -31392263.88 -31392263.80 -31392263.69 0.0088 0.0075

Neptune -90661-11-27 19:39 J -31392175.74 -31392175.68 -31392175.60 0.0088 0.0080

Neptune -90660-02-23 22:32 J -31392087.60 -31392087.56 -31392087.51 0.0088 0.0085

Venus -90660-09-24 18:42 J -31391874.79 -31391874.72 -31391874.65 0.3757 0.2943

Moon -90659-08-08 12:42 J -31391557.10 -31391556.97 -31391556.84 0.2598 0.0586

Earth -90659-08-08 13:11 J -31391557.08 -31391556.95 -31391556.81 0.2592 0.0445 *

Jupiter -90657-05-14 18:42 J -31390911.81 -31390911.72 -31390911.62 0.0529 0.0372

Jupiter -90657-08-12 04:47 J -31390822.43 -31390822.30 -31390822.16 0.0525 0.0088

Mars -90657-10-09 02:08 J -31390764.52 -31390764.41 -31390764.29 0.1904 0.1081

Venus -90656-09-24 06:42 J -31390414.34 -31390414.22 -31390414.10 0.3612 0.1425

Mars -90654-07-06 20:37 J -31389763.73 -31389763.64 -31389763.56 0.1632 0.1212

Venus -90653-06-18 17:59 J -31389415.79 -31389415.75 -31389415.71 0.3785 0.3507

Mars -90652-06-11 08:51 J -31389058.25 -31389058.13 -31389058.01 0.1618 0.0765

Jupiter -90651-10-11 05:15 J -31388571.43 -31388571.28 -31388571.13 0.0500 0.0248

Jupiter -90650-01-09 06:13 J -31388481.38 -31388481.24 -31388481.10 0.0504 0.0260

Venus -90650-04-10 05:59 J -31388390.35 -31388390.25 -31388390.15 0.3616 0.2361

Moon -90649-02-01 21:20 J -31388092.73 -31388092.61 -31388092.50 0.2741 0.0758

Earth -90649-02-01 21:49 J -31388092.71 -31388092.59 -31388092.47 0.2747 0.0677 *

Saturn -90649-07-25 14:37 J -31387917.98 -31387917.89 -31387917.79 0.0276 0.0199

Saturn -90649-10-22 03:49 J -31387829.47 -31387829.34 -31387829.21 0.0276 0.0109

Saturn -90648-01-18 17:01 J -31387740.94 -31387740.79 -31387740.65 0.0276 0.0018

Saturn -90648-04-17 06:27 J -31387652.37 -31387652.23 -31387652.09 0.0276 0.0076

Saturn -90648-07-14 20:08 J -31387563.77 -31387563.66 -31387563.54 0.0276 0.0171

Saturn -90648-10-11 10:18 J -31387475.11 -31387475.07 -31387475.04 0.0277 0.0268

Venus -90647-01-02 11:44 J -31387392.08 -31387392.01 -31387391.94 0.3783 0.2854

Earth -90646-08-11 12:42 J -31386806.10 -31386805.97 -31386805.85 0.2594 0.1094

Moon -90646-08-11 12:42 J -31386806.09 -31386805.97 -31386805.85 0.2600 0.1179 *

Jupiter -90645-03-02 21:49 J -31386601.64 -31386601.59 -31386601.54 0.0530 0.0488

Jupiter -90645-05-31 07:39 J -31386512.31 -31386512.18 -31386512.04 0.0526 0.0032

Jupiter -90645-08-28 18:27 J -31386422.80 -31386422.73 -31386422.65 0.0523 0.0432

Venus -90645-10-24 05:01 J -31386366.35 -31386366.29 -31386366.24 0.3620 0.3257

Mars -90643-11-01 17:44 J -31385627.89 -31385627.76 -31385627.63 0.1621 0.0282

Venus -90642-07-19 05:44 J -31385368.35 -31385368.26 -31385368.17 0.3780 0.2175

Pluto -90641-06-22 13:54 J -31385028.97 -31385028.92 -31385028.85 0.0085 0.0075

Pluto -90641-09-18 15:35 J -31384940.94 -31384940.85 -31384940.77 0.0084 0.0062

Pluto -90641-12-15 16:32 J -31384852.91 -31384852.81 -31384852.69 0.0084 0.0050

Pluto -90640-03-13 17:59 J -31384764.87 -31384764.75 -31384764.63 0.0084 0.0037

Pluto -90640-06-09 19:11 J -31384676.82 -31384676.70 -31384676.57 0.0084 0.0025

Pluto -90640-09-05 20:23 J -31384588.77 -31384588.65 -31384588.51 0.0084 0.0013

Pluto -90640-12-02 21:49 J -31384500.72 -31384500.59 -31384500.46 0.0084 0.0001

Pluto -90639-02-28 23:01 J -31384412.67 -31384412.54 -31384412.41 0.0084 0.0011

Pluto -90639-05-28 00:13 J -31384324.62 -31384324.49 -31384324.36 0.0083 0.0023

Jupiter -90639-07-30 04:03 J -31384261.44 -31384261.33 -31384261.22 0.0499 0.0379

Pluto -90639-08-24 01:25 J -31384236.56 -31384236.44 -31384236.32 0.0083 0.0035

Jupiter -90639-10-28 05:15 J -31384171.44 -31384171.28 -31384171.12 0.0502 0.0129

Pluto -90639-11-20 02:23 J -31384148.50 -31384148.40 -31384148.28 0.0083 0.0048

Pluto -90638-02-16 03:35 J -31384060.43 -31384060.35 -31384060.24 0.0083 0.0059

Pluto -90638-05-15 05:01 J -31383972.35 -31383972.29 -31383972.22 0.0083 0.0070

Pluto -90638-08-11 05:59 J -31383884.25 -31383884.25 -31383884.22 0.0083 0.0082

Venus -90636-01-31 23:59 J -31383344.60 -31383344.50 -31383344.40 0.3777 0.1475

Moon -90636-02-03 17:59 J -31383341.86 -31383341.75 -31383341.63 0.2744 0.0778

Earth -90636-02-03 18:56 J -31383341.82 -31383341.71 -31383341.59 0.2744 0.0842 *

Mars -90636-06-27 23:59 J -31383197.62 -31383197.50 -31383197.38 0.1914 0.0979

Saturn -90634-03-01 21:06 J -31382585.72 -31382585.62 -31382585.49 0.0284 0.0206

Saturn -90634-05-29 16:18 J -31382496.98 -31382496.82 -31382496.66 0.0284 0.0088

Saturn -90634-08-26 10:47 J -31382408.21 -31382408.05 -31382407.89 0.0283 0.0028

Saturn -90634-11-23 04:47 J -31382319.44 -31382319.30 -31382319.16 0.0283 0.0140

Saturn -90633-02-19 22:18 J -31382230.64 -31382230.57 -31382230.49 0.0283 0.0249

Jupiter -90633-03-19 10:32 J -31382202.19 -31382202.06 -31382201.93 0.0528 0.0152

Mars -90633-03-24 02:37 J -31382197.52 -31382197.39 -31382197.26 0.1625 0.0202

Jupiter -90633-06-16 21:06 J -31382112.73 -31382112.62 -31382112.51 0.0524 0.0313

Earth -90633-08-13 11:44 J -31382055.02 -31382055.01 -31382055.00 0.2597 0.2584

Venus -90631-08-17 18:27 J -31381320.84 -31381320.73 -31381320.63 0.3774 0.0772

Jupiter -90627-08-16 04:32 J -31379861.48 -31379861.31 -31379861.14 0.0501 0.0012

Jupiter -90627-11-14 04:32 J -31379771.32 -31379771.31 -31379771.29 0.0505 0.0502

Mars -90627-11-18 01:39 J -31379767.57 -31379767.43 -31379767.29 0.1909 0.0032

Uranus -90626-08-03 22:03 J -31379508.59 -31379508.58 -31379508.56 0.0138 0.0137

Moon -90626-08-06 18:13 J -31379505.83 -31379505.74 -31379505.64 0.2592 0.1826

Earth -90626-08-06 19:11 J -31379505.80 -31379505.70 -31379505.59 0.2590 0.1679 *

Uranus -90626-10-31 04:18 J -31379420.41 -31379420.32 -31379420.22 0.0138 0.0115

Uranus -90625-01-27 10:18 J -31379332.19 -31379332.07 -31379331.94 0.0138 0.0094

Venus -90625-03-02 12:56 J -31379297.07 -31379296.96 -31379296.85 0.3771 0.0035

Uranus -90625-04-24 16:32 J -31379243.96 -31379243.81 -31379243.66 0.0138 0.0072

Uranus -90625-07-21 22:32 J -31379155.72 -31379155.56 -31379155.40 0.0138 0.0050

Uranus -90625-10-18 04:32 J -31379067.48 -31379067.31 -31379067.14 0.0137 0.0029

Uranus -90624-01-14 10:18 J -31378979.24 -31378979.07 -31378978.89 0.0137 0.0009

Uranus -90624-04-12 16:18 J -31378890.99 -31378890.82 -31378890.65 0.0137 0.0012

Uranus -90624-07-09 21:49 J -31378802.75 -31378802.59 -31378802.42 0.0137 0.0033

Mars -90624-08-14 11:30 J -31378767.14 -31378767.02 -31378766.90 0.1628 0.0677

Uranus -90624-10-06 03:35 J -31378714.50 -31378714.35 -31378714.19 0.0137 0.0053

Uranus -90623-01-02 09:20 J -31378626.25 -31378626.11 -31378625.97 0.0137 0.0073

Moon -90623-02-06 15:49 J -31378590.91 -31378590.84 -31378590.77 0.2745 0.2229

Earth -90623-02-06 16:32 J -31378590.87 -31378590.81 -31378590.75 0.2741 0.2392 *

Uranus -90623-03-31 14:51 J -31378538.00 -31378537.88 -31378537.75 0.0137 0.0093

Uranus -90623-06-27 20:08 J -31378449.74 -31378449.66 -31378449.55 0.0136 0.0113

Uranus -90623-09-24 01:39 J -31378361.46 -31378361.43 -31378361.38 0.0136 0.0132

Mars -90622-07-21 00:27 J -31378061.56 -31378061.48 -31378061.41 0.1615 0.1321

Jupiter -90621-01-06 13:54 J -31377892.04 -31377891.92 -31377891.81 0.0529 0.0262

Venus -90621-03-01 05:01 J -31377837.38 -31377837.29 -31377837.19 0.3599 0.2475

Jupiter -90621-04-05 00:13 J -31377802.61 -31377802.49 -31377802.36 0.0525 0.0201

Venus -90620-09-16 07:39 J -31377273.29 -31377273.18 -31377273.07 0.3767 0.0745

Saturn -90620-12-12 17:15 J -31377185.87 -31377185.78 -31377185.70 0.0275 0.0219

Saturn -90619-03-11 05:59 J -31377097.37 -31377097.25 -31377097.12 0.0275 0.0131

Saturn -90619-06-07 19:11 J -31377008.85 -31377008.70 -31377008.56 0.0275 0.0041

Saturn -90619-09-04 08:23 J -31376920.29 -31376920.15 -31376920.00 0.0276 0.0053

Saturn -90619-12-01 22:03 J -31376831.70 -31376831.58 -31376831.45 0.0276 0.0146

Saturn -90618-02-28 11:59 J -31376743.07 -31376743.00 -31376742.93 0.0276 0.0242

Mars -90617-04-09 02:23 J -31376337.52 -31376337.40 -31376337.28 0.1903 0.0996

Moon -90616-01-30 05:59 J -31376041.34 -31376041.25 -31376041.16 0.2742 0.1810

Earth -90616-01-30 05:59 J -31376041.34 -31376041.25 -31376041.16 0.2749 0.1851 *

Venus -90616-09-15 05:59 J -31375813.37 -31375813.25 -31375813.12 0.3602 0.1377

Jupiter -90615-06-04 03:49 J -31375551.51 -31375551.34 -31375551.18 0.0501 0.0125

Jupiter -90615-09-02 04:03 J -31375461.43 -31375461.33 -31375461.21 0.0504 0.0378

Mars -90614-01-04 20:37 J -31375336.73 -31375336.64 -31375336.55 0.1632 0.1148

Venus -90614-04-02 02:37 J -31375249.49 -31375249.39 -31375249.28 0.3764 0.1526

Moon -90613-08-08 18:13 J -31374754.87 -31374754.74 -31374754.60 0.2598 0.0106

Earth -90613-08-08 18:56 J -31374754.85 -31374754.71 -31374754.58 0.2592 0.0121 *

Mars -90613-12-10 09:06 J -31374631.24 -31374631.12 -31374631.01 0.1618 0.0833

Venus -90610-04-01 06:42 J -31373789.36 -31373789.22 -31373789.09 0.3606 0.0335

Jupiter -90610-10-25 17:15 J -31373581.87 -31373581.78 -31373581.68 0.0530 0.0371

Jupiter -90609-01-23 03:35 J -31373492.48 -31373492.35 -31373492.21 0.0526 0.0090

Venus -90609-10-15 21:49 J -31373225.68 -31373225.59 -31373225.50 0.3760 0.2325

Mars -90605-05-27 05:44 J -31371906.27 -31371906.26 -31371906.24 0.1636 0.1617

Saturn -90605-07-18 19:11 J -31371853.77 -31371853.70 -31371853.61 0.0283 0.0250

Venus -90605-10-15 06:42 J -31371765.35 -31371765.22 -31371765.09 0.3609 0.0696

Saturn -90605-10-15 14:23 J -31371765.04 -31371764.90 -31371764.75 0.0283 0.0132

Saturn -90604-01-12 09:06 J -31371676.28 -31371676.12 -31371675.95 0.0283 0.0016

Saturn -90604-04-11 03:20 J -31371587.51 -31371587.36 -31371587.20 0.0283 0.0098

Saturn -90604-07-08 21:06 J -31371498.72 -31371498.62 -31371498.51 0.0283 0.0208

Moon -90603-02-02 02:23 J -31371290.52 -31371290.40 -31371290.28 0.2742 0.0450

Earth -90603-02-02 03:06 J -31371290.49 -31371290.37 -31371290.25 0.2747 0.0369 *

Jupiter -90603-03-23 03:20 J -31371241.51 -31371241.36 -31371241.21 0.0500 0.0248

Venus -90603-05-01 17:15 J -31371201.84 -31371201.78 -31371201.72 0.3756 0.3153

Mars -90603-05-02 17:44 J -31371200.89 -31371200.76 -31371200.63 0.1621 0.0352

Jupiter -90603-06-21 04:18 J -31371151.46 -31371151.32 -31371151.18 0.0504 0.0258

Earth -90600-08-11 18:13 J -31370003.85 -31370003.74 -31370003.63 0.2595 0.1416

Moon -90600-08-11 18:42 J -31370003.83 -31370003.72 -31370003.61 0.2601 0.1386 *

Venus -90599-05-01 06:13 J -31369741.36 -31369741.24 -31369741.12 0.3613 0.1657

Jupiter -90598-08-13 20:37 J -31369271.69 -31369271.64 -31369271.59 0.0530 0.0483

Jupiter -90598-11-11 06:27 J -31369182.36 -31369182.23 -31369182.09 0.0526 0.0029

Jupiter -90597-02-08 17:15 J -31369092.85 -31369092.78 -31369092.70 0.0523 0.0437

Mars -90597-12-27 00:27 J -31368770.59 -31368770.48 -31368770.36 0.1914 0.1086

Venus -90596-01-23 16:03 J -31368742.88 -31368742.83 -31368742.78 0.3785 0.3345

Mars -90594-09-23 02:51 J -31367770.51 -31367770.38 -31367770.25 0.1625 0.0132

Venus -90594-11-15 05:30 J -31367717.36 -31367717.27 -31367717.18 0.3617 0.2587

Jupiter -90591-01-09 02:37 J -31366931.50 -31366931.39 -31366931.27 0.0499 0.0373

Jupiter -90591-04-09 04:03 J -31366841.49 -31366841.33 -31366841.17 0.0503 0.0136

Venus -90591-08-09 09:49 J -31366719.16 -31366719.09 -31366719.01 0.3782 0.2687

Moon -90590-02-04 23:15 J -31366539.64 -31366539.53 -31366539.41 0.2744 0.0999

Earth -90590-02-05 00:13 J -31366539.60 -31366539.49 -31366539.38 0.2744 0.1158 *

Saturn -90590-05-01 18:13 J -31366453.79 -31366453.74 -31366453.68 0.0276 0.0252

Saturn -90590-07-29 06:56 J -31366365.32 -31366365.21 -31366365.09 0.0276 0.0164

Saturn -90590-10-25 20:08 J -31366276.80 -31366276.66 -31366276.52 0.0276 0.0074

Saturn -90589-01-22 09:20 J -31366188.26 -31366188.11 -31366187.96 0.0276 0.0018

Saturn -90589-04-19 23:01 J -31366099.68 -31366099.54 -31366099.41 0.0276 0.0113

Saturn -90589-07-17 12:42 J -31366011.06 -31366010.97 -31366010.87 0.0276 0.0208

Venus -90588-05-31 04:03 J -31365693.36 -31365693.33 -31365693.29 0.3621 0.3465

Mars -90587-05-19 01:54 J -31365340.56 -31365340.42 -31365340.28 0.1909 0.0108

Neptune -90586-03-05 09:06 J -31365050.14 -31365050.12 -31365050.07 0.0089 0.0086

Neptune -90586-06-01 10:32 J -31364962.10 -31364962.06 -31364961.99 0.0089 0.0082

Neptune -90586-08-28 12:27 J -31364874.05 -31364873.98 -31364873.92 0.0089 0.0077

Jupiter -90586-08-30 09:35 J -31364872.23 -31364872.10 -31364871.97 0.0527 0.0144

Neptune -90586-11-24 13:54 J -31364785.99 -31364785.92 -31364785.84 0.0089 0.0073

Jupiter -90586-11-27 20:08 J -31364782.77 -31364782.66 -31364782.55 0.0524 0.0320

Neptune -90585-02-20 15:20 J -31364697.94 -31364697.86 -31364697.77 0.0089 0.0069

Venus -90585-02-23 04:03 J -31364695.43 -31364695.33 -31364695.24 0.3779 0.2001

Neptune -90585-05-18 16:47 J -31364609.88 -31364609.80 -31364609.70 0.0089 0.0065

Neptune -90585-08-14 18:13 J -31364521.83 -31364521.74 -31364521.63 0.0089 0.0061

Neptune -90585-11-10 19:39 J -31364433.77 -31364433.68 -31364433.56 0.0089 0.0057

Neptune -90584-02-06 21:35 J -31364345.71 -31364345.60 -31364345.49 0.0089 0.0052

Mars -90584-02-12 11:44 J -31364340.13 -31364340.01 -31364339.89 0.1628 0.0608

Neptune -90584-05-05 23:01 J -31364257.65 -31364257.54 -31364257.42 0.0089 0.0048

Neptune -90584-08-02 00:27 J -31364169.59 -31364169.48 -31364169.35 0.0089 0.0044

Neptune -90584-10-29 01:54 J -31364081.53 -31364081.42 -31364081.28 0.0089 0.0040

Neptune -90583-01-25 03:49 J -31363993.47 -31363993.34 -31363993.21 0.0089 0.0035

Neptune -90583-04-23 05:15 J -31363905.41 -31363905.28 -31363905.15 0.0089 0.0031

Neptune -90583-07-20 06:42 J -31363817.35 -31363817.22 -31363817.08 0.0089 0.0027

Neptune -90583-10-16 08:23 J -31363729.28 -31363729.15 -31363729.01 0.0089 0.0022

Neptune -90582-01-12 10:03 J -31363641.22 -31363641.08 -31363640.94 0.0089 0.0018

Mars -90582-01-19 00:42 J -31363634.54 -31363634.47 -31363634.41 0.1615 0.1395

Neptune -90582-04-10 11:30 J -31363553.15 -31363553.02 -31363552.88 0.0089 0.0014

Neptune -90582-07-07 13:11 J -31363465.09 -31363464.95 -31363464.81 0.0089 0.0009

Neptune -90582-10-03 14:51 J -31363377.02 -31363376.88 -31363376.74 0.0089 0.0005

Neptune -90582-12-30 16:18 J -31363288.96 -31363288.82 -31363288.68 0.0089 0.0002

Neptune -90581-03-27 17:59 J -31363200.89 -31363200.75 -31363200.61 0.0089 0.0004

Neptune -90581-06-23 19:39 J -31363112.82 -31363112.68 -31363112.54 0.0089 0.0008

Uranus -90581-06-24 15:06 J -31363111.91 -31363111.87 -31363111.80 0.0141 0.0129

Neptune -90581-09-19 21:06 J -31363024.76 -31363024.62 -31363024.48 0.0089 0.0013

Uranus -90581-09-20 19:11 J -31363023.77 -31363023.70 -31363023.60 0.0141 0.0111

Neptune -90581-12-16 22:47 J -31362936.69 -31362936.55 -31362936.41 0.0089 0.0017

Uranus -90581-12-17 23:15 J -31362935.62 -31362935.53 -31362935.41 0.0141 0.0093

Neptune -90580-03-15 00:27 J -31362848.62 -31362848.48 -31362848.34 0.0089 0.0021

Uranus -90580-03-16 03:35 J -31362847.47 -31362847.35 -31362847.22 0.0141 0.0074

Neptune -90580-06-11 01:54 J -31362760.55 -31362760.42 -31362760.28 0.0089 0.0026

Uranus -90580-06-12 07:54 J -31362759.30 -31362759.17 -31362759.04 0.0141 0.0055

Moon -90580-08-06 23:59 J -31362703.61 -31362703.50 -31362703.38 0.2594 0.1425

Earth -90580-08-07 00:56 J -31362703.57 -31362703.46 -31362703.34 0.2590 0.1341 *

Neptune -90580-09-07 03:35 J -31362672.48 -31362672.35 -31362672.21 0.0089 0.0030

Venus -90580-09-07 22:18 J -31362671.68 -31362671.57 -31362671.47 0.3776 0.1302

Uranus -90580-09-08 11:59 J -31362671.13 -31362671.00 -31362670.85 0.0141 0.0037

Neptune -90580-12-04 05:15 J -31362584.41 -31362584.28 -31362584.14 0.0089 0.0035

Uranus -90580-12-05 16:18 J -31362582.96 -31362582.82 -31362582.67 0.0141 0.0018

Jupiter -90579-01-26 03:06 J -31362531.54 -31362531.37 -31362531.20 0.0501 0.0010

Neptune -90579-03-02 06:56 J -31362496.33 -31362496.21 -31362496.08 0.0089 0.0039

Uranus -90579-03-03 20:37 J -31362494.78 -31362494.64 -31362494.49 0.0142 0.0003

Neptune -90579-05-29 08:23 J -31362408.26 -31362408.15 -31362408.01 0.0089 0.0044

Uranus -90579-05-31 00:56 J -31362406.60 -31362406.46 -31362406.31 0.0142 0.0021

Neptune -90579-08-25 10:18 J -31362320.19 -31362320.07 -31362319.95 0.0089 0.0048

Uranus -90579-08-27 05:15 J -31362318.41 -31362318.28 -31362318.13 0.0142 0.0041

Neptune -90579-11-21 11:44 J -31362232.11 -31362232.01 -31362231.88 0.0089 0.0053

Uranus -90579-11-23 09:49 J -31362230.22 -31362230.09 -31362229.96 0.0142 0.0060

Neptune -90578-02-17 13:25 J -31362144.04 -31362143.94 -31362143.82 0.0089 0.0057

Uranus -90578-02-19 14:08 J -31362142.02 -31362141.91 -31362141.78 0.0142 0.0080

Neptune -90578-05-16 15:20 J -31362055.96 -31362055.86 -31362055.76 0.0089 0.0061

Uranus -90578-05-18 18:42 J -31362053.82 -31362053.72 -31362053.61 0.0142 0.0100

Neptune -90578-08-12 16:47 J -31361967.88 -31361967.80 -31361967.69 0.0089 0.0066

Uranus -90578-08-14 23:15 J -31361965.60 -31361965.53 -31361965.45 0.0142 0.0121

Mars -90578-10-09 02:51 J -31361910.50 -31361910.38 -31361910.25 0.1904 0.0890

Neptune -90578-11-08 18:27 J -31361879.80 -31361879.73 -31361879.63 0.0089 0.0071

Uranus -90578-11-11 04:03 J -31361877.35 -31361877.33 -31361877.32 0.0143 0.0141

Neptune -90577-02-04 20:23 J -31361791.72 -31361791.65 -31361791.57 0.0089 0.0075

Moon -90577-02-07 21:06 J -31361788.63 -31361788.62 -31361788.60 0.2746 0.2705

Earth -90577-02-07 21:49 J -31361788.61 -31361788.59 -31361788.57 0.2741 0.2706 *

Neptune -90577-05-02 21:49 J -31361703.64 -31361703.59 -31361703.51 0.0089 0.0080

Neptune -90577-07-29 23:44 J -31361615.55 -31361615.51 -31361615.46 0.0089 0.0084

Neptune -90577-10-26 01:25 J -31361527.44 -31361527.44 -31361527.42 0.0089 0.0089

Saturn -90576-12-05 20:37 J -31361121.67 -31361121.64 -31361121.60 0.0284 0.0277

Saturn -90575-03-04 15:49 J -31361032.97 -31361032.84 -31361032.70 0.0284 0.0158

Saturn -90575-06-01 10:47 J -31360944.22 -31360944.05 -31360943.89 0.0284 0.0041

Mars -90575-07-05 20:51 J -31360909.73 -31360909.63 -31360909.54 0.1632 0.1084

Saturn -90575-08-29 05:01 J -31360855.44 -31360855.29 -31360855.13 0.0283 0.0074

Saturn -90575-11-25 23:01 J -31360766.66 -31360766.54 -31360766.42 0.0283 0.0186

Venus -90574-03-24 16:32 J -31360647.92 -31360647.81 -31360647.70 0.3773 0.0580

Jupiter -90574-06-18 12:13 J -31360562.11 -31360561.99 -31360561.88 0.0529 0.0264

Jupiter -90574-09-15 22:32 J -31360472.69 -31360472.56 -31360472.43 0.0525 0.0199

Mars -90573-06-10 09:06 J -31360204.22 -31360204.12 -31360204.00 0.1618 0.0905

Moon -90570-01-31 11:01 J -31359239.13 -31359239.04 -31359238.94 0.2741 0.1620

Earth -90570-01-31 11:15 J -31359239.13 -31359239.03 -31359238.93 0.2749 0.1550 *

Venus -90570-03-23 03:49 J -31359188.39 -31359188.34 -31359188.29 0.3597 0.3327

Venus -90569-10-07 11:15 J -31358624.14 -31358624.03 -31358623.92 0.3770 0.0192

Jupiter -90568-11-14 02:23 J -31358221.56 -31358221.40 -31358221.23 0.0500 0.0120

Jupiter -90567-02-12 02:51 J -31358131.48 -31358131.38 -31358131.27 0.0504 0.0383

Moon -90567-08-10 00:13 J -31357952.63 -31357952.49 -31357952.36 0.2598 0.0129

Earth -90567-08-10 00:27 J -31357952.61 -31357952.48 -31357952.34 0.2593 0.0230 *

Mars -90566-11-26 05:59 J -31357479.29 -31357479.25 -31357479.21 0.1636 0.1551

Venus -90565-10-06 05:15 J -31357164.39 -31357164.28 -31357164.18 0.3600 0.2193

Mars -90564-10-31 17:59 J -31356773.88 -31356773.75 -31356773.62 0.1621 0.0419

Venus -90563-04-23 05:59 J -31356600.36 -31356600.25 -31356600.14 0.3766 0.0938

Jupiter -90562-04-06 15:35 J -31356251.94 -31356251.85 -31356251.76 0.0530 0.0375

Jupiter -90562-07-05 01:54 J -31356162.56 -31356162.42 -31356162.29 0.0526 0.0087

Saturn -90561-09-17 20:37 J -31355721.65 -31355721.64 -31355721.61 0.0275 0.0271

Saturn -90561-12-15 09:20 J -31355633.21 -31355633.11 -31355633.00 0.0275 0.0184

Saturn -90560-03-13 22:18 J -31355544.70 -31355544.57 -31355544.43 0.0275 0.0095

Saturn -90560-06-10 11:30 J -31355456.16 -31355456.02 -31355455.87 0.0275 0.0009

Saturn -90560-09-07 00:56 J -31355367.59 -31355367.46 -31355367.32 0.0275 0.0089

Saturn -90560-12-04 14:37 J -31355278.99 -31355278.89 -31355278.78 0.0276 0.0184

Venus -90559-04-22 05:59 J -31355140.38 -31355140.25 -31355140.12 0.3603 0.1114

Venus -90558-11-07 00:56 J -31354576.56 -31354576.46 -31354576.36 0.3763 0.1721

Moon -90557-02-03 07:25 J -31354488.31 -31354488.19 -31354488.06 0.2743 0.0144

Earth -90557-02-03 08:23 J -31354488.27 -31354488.15 -31354488.03 0.2746 0.0061 *

Mars -90557-06-27 00:42 J -31354343.58 -31354343.47 -31354343.36 0.1914 0.1177

Jupiter -90556-09-02 01:25 J -31353911.59 -31353911.44 -31353911.29 0.0500 0.0248

Jupiter -90556-12-01 02:23 J -31353821.54 -31353821.40 -31353821.26 0.0503 0.0257

Mars -90554-03-24 02:51 J -31353343.51 -31353343.38 -31353343.25 0.1625 0.0067

Earth -90554-08-12 23:44 J -31353201.61 -31353201.51 -31353201.41 0.2595 0.1734

Moon -90554-08-13 00:13 J -31353201.58 -31353201.49 -31353201.40 0.2601 0.1871 *

Venus -90554-11-06 06:27 J -31353116.37 -31353116.23 -31353116.10 0.3607 0.0104

Venus -90552-05-22 20:23 J -31352552.74 -31352552.65 -31352552.57 0.3759 0.2529

Jupiter -90550-01-23 19:11 J -31351941.75 -31351941.70 -31351941.64 0.0531 0.0482

Jupiter -90550-04-23 05:15 J -31351852.42 -31351852.28 -31351852.14 0.0527 0.0023

Jupiter -90550-07-21 16:03 J -31351762.90 -31351762.83 -31351762.75 0.0523 0.0442

Venus -90548-05-22 06:13 J -31351092.37 -31351092.24 -31351092.11 0.3610 0.0932

Mars -90548-11-17 02:08 J -31350913.55 -31350913.41 -31350913.27 0.1909 0.0200

Venus -90547-12-06 15:49 J -31350528.89 -31350528.84 -31350528.79 0.3755 0.3355

Saturn -90546-07-22 13:54 J -31350301.03 -31350300.92 -31350300.80 0.0283 0.0202

Saturn -90546-10-19 08:51 J -31350212.28 -31350212.13 -31350211.97 0.0283 0.0085

Saturn -90545-01-16 03:35 J -31350123.52 -31350123.35 -31350123.19 0.0283 0.0031

Saturn -90545-04-13 21:35 J -31350034.74 -31350034.60 -31350034.46 0.0283 0.0144

Saturn -90545-07-11 15:20 J -31349945.93 -31349945.86 -31349945.79 0.0283 0.0253

Mars -90545-08-13 11:59 J -31349913.13 -31349913.00 -31349912.88 0.1628 0.0543

Moon -90544-02-05 04:47 J -31349737.41 -31349737.30 -31349737.20 0.2744 0.1387

Earth -90544-02-05 05:44 J -31349737.37 -31349737.26 -31349737.16 0.2743 0.1472 *

Jupiter -90544-06-21 00:56 J -31349601.57 -31349601.46 -31349601.35 0.0499 0.0372

Jupiter -90544-09-19 02:08 J -31349511.57 -31349511.41 -31349511.24 0.0503 0.0138

Mars -90543-07-20 00:42 J -31349207.52 -31349207.47 -31349207.41 0.1615 0.1464

Venus -90543-12-06 05:44 J -31349068.37 -31349068.26 -31349068.15 0.3614 0.1892

Uranus -90542-08-24 05:01 J -31348807.32 -31348807.29 -31348807.24 0.0138 0.0133

Uranus -90542-11-20 11:15 J -31348719.13 -31348719.03 -31348718.92 0.0138 0.0111

Uranus -90541-02-16 17:30 J -31348630.90 -31348630.77 -31348630.64 0.0138 0.0089

Uranus -90541-05-14 23:30 J -31348542.67 -31348542.52 -31348542.37 0.0138 0.0068

Uranus -90541-08-11 05:30 J -31348454.43 -31348454.27 -31348454.10 0.0138 0.0046

Uranus -90541-11-07 11:30 J -31348366.19 -31348366.02 -31348365.85 0.0137 0.0025

Uranus -90540-02-03 17:30 J -31348277.95 -31348277.77 -31348277.60 0.0137 0.0006

Uranus -90540-05-02 23:15 J -31348189.70 -31348189.53 -31348189.36 0.0137 0.0016

Uranus -90540-07-30 04:47 J -31348101.46 -31348101.30 -31348101.13 0.0137 0.0037

Venus -90540-08-30 14:08 J -31348069.97 -31348069.91 -31348069.86 0.3784 0.3182

Uranus -90540-10-26 10:32 J -31348013.21 -31348013.06 -31348012.90 0.0137 0.0057

Uranus -90539-01-22 16:03 J -31347924.96 -31347924.83 -31347924.68 0.0137 0.0077

Uranus -90539-04-20 21:35 J -31347836.70 -31347836.60 -31347836.47 0.0137 0.0097

Uranus -90539-07-18 03:20 J -31347748.44 -31347748.36 -31347748.27 0.0136 0.0116

Uranus -90539-10-14 08:37 J -31347660.15 -31347660.14 -31347660.11 0.0136 0.0135

Jupiter -90538-02-09 08:23 J -31347542.28 -31347542.15 -31347542.02 0.0528 0.0137

Mars -90538-04-09 03:20 J -31347483.49 -31347483.36 -31347483.23 0.1904 0.0786

Jupiter -90538-05-09 18:56 J -31347452.82 -31347452.71 -31347452.60 0.0524 0.0325

Earth -90537-01-29 19:39 J -31347187.70 -31347187.68 -31347187.67 0.2751 0.2713

Moon -90537-01-29 19:54 J -31347187.67 -31347187.67 -31347187.67 0.2744 0.2742 *

Venus -90537-06-21 04:47 J -31347044.38 -31347044.30 -31347044.22 0.3618 0.2803

Mars -90535-01-03 21:06 J -31346482.72 -31346482.62 -31346482.52 0.1632 0.1014

Venus -90534-03-16 07:54 J -31346046.25 -31346046.17 -31346046.08 0.3781 0.2519

Moon -90534-08-08 05:44 J -31345901.39 -31345901.26 -31345901.14 0.2595 0.1118

Earth -90534-08-08 06:42 J -31345901.35 -31345901.22 -31345901.10 0.2591 0.1012 *

Mars -90534-12-10 09:35 J -31345777.21 -31345777.10 -31345777.00 0.1618 0.0978

Jupiter -90532-04-09 00:13 J -31345291.50 -31345291.49 -31345291.48 0.0499 0.0497

Jupiter -90532-07-08 01:54 J -31345201.59 -31345201.42 -31345201.25 0.0502 0.0018

Saturn -90531-05-04 10:03 J -31344901.16 -31344901.08 -31344900.99 0.0275 0.0219

Saturn -90531-07-31 23:01 J -31344812.67 -31344812.54 -31344812.41 0.0276 0.0130

Saturn -90531-10-28 11:59 J -31344724.14 -31344724.00 -31344723.85 0.0276 0.0041

Saturn -90530-01-25 01:25 J -31344635.58 -31344635.44 -31344635.30 0.0276 0.0053

Saturn -90530-04-23 15:06 J -31344547.00 -31344546.87 -31344546.75 0.0276 0.0147

Saturn -90530-07-21 04:47 J -31344458.36 -31344458.30 -31344458.22 0.0276 0.0244

Mars -90529-08-29 04:03 J -31344053.37 -31344053.33 -31344053.28 0.1898 0.1799

Venus -90529-09-29 02:08 J -31344022.51 -31344022.41 -31344022.32 0.3779 0.1830

Jupiter -90527-11-28 11:30 J -31343232.14 -31343232.02 -31343231.90 0.0528 0.0253

Jupiter -90526-02-25 21:49 J -31343142.72 -31343142.59 -31343142.47 0.0525 0.0209

Mars -90526-05-27 05:59 J -31343052.30 -31343052.25 -31343052.19 0.1636 0.1488

Moon -90524-01-31 16:18 J -31342436.93 -31342436.82 -31342436.72 0.2742 0.1214

Earth -90524-01-31 16:32 J -31342436.92 -31342436.81 -31342436.71 0.2748 0.1251 *

Mars -90524-05-01 18:13 J -31342346.87 -31342346.74 -31342346.61 0.1621 0.0489

Venus -90523-04-14 20:23 J -31341998.76 -31341998.65 -31341998.54 0.3775 0.1118

Moon -90521-08-10 05:59 J -31341150.38 -31341150.25 -31341150.11 0.2599 0.0581

Earth -90521-08-10 06:13 J -31341150.38 -31341150.24 -31341150.11 0.2593 0.0546 *

Jupiter -90520-04-26 01:11 J -31340891.62 -31340891.45 -31340891.28 0.0500 0.0113

Jupiter -90520-07-25 01:39 J -31340801.53 -31340801.43 -31340801.33 0.0504 0.0389

Venus -90518-10-29 14:51 J -31339974.99 -31339974.88 -31339974.77 0.3772 0.0407

Mars -90518-12-27 01:11 J -31339916.55 -31339916.45 -31339916.34 0.1914 0.1277

Saturn -90517-12-08 14:37 J -31339568.98 -31339568.89 -31339568.79 0.0284 0.0232

Saturn -90516-03-07 09:49 J -31339480.24 -31339480.09 -31339479.93 0.0284 0.0113

Saturn -90516-06-04 04:32 J -31339391.47 -31339391.31 -31339391.14 0.0284 0.0007

Saturn -90516-08-31 22:47 J -31339302.69 -31339302.55 -31339302.40 0.0284 0.0118

Saturn -90516-11-28 16:32 J -31339213.89 -31339213.81 -31339213.71 0.0283 0.0229

Jupiter -90515-09-16 13:54 J -31338922.01 -31338921.92 -31338921.82 0.0530 0.0375

Mars -90515-09-22 03:06 J -31338916.50 -31338916.37 -31338916.24 0.1624 0.0026

Jupiter -90515-12-15 00:13 J -31338832.62 -31338832.49 -31338832.36 0.0526 0.0086

Venus -90514-10-28 03:49 J -31338515.41 -31338515.34 -31338515.26 0.3598 0.3038

Venus -90512-05-14 09:35 J -31337951.22 -31337951.10 -31337950.99 0.3769 0.0380

Moon -90511-02-03 12:42 J -31337686.09 -31337685.97 -31337685.85 0.2743 0.0093

Earth -90511-02-03 13:39 J -31337686.05 -31337685.93 -31337685.81 0.2746 0.0258 *

Jupiter -90508-02-12 00:27 J -31336581.63 -31336581.48 -31336581.33 0.0499 0.0239

Jupiter -90508-05-13 01:11 J -31336491.59 -31336491.45 -31336491.30 0.0503 0.0266

Venus -90508-05-13 05:01 J -31336491.40 -31336491.29 -31336491.17 0.3601 0.1923 *

Mars -90508-05-18 02:37 J -31336486.53 -31336486.39 -31336486.25 0.1909 0.0305

Earth -90508-08-13 05:30 J -31336399.35 -31336399.27 -31336399.19 0.2596 0.2062

Moon -90508-08-13 05:59 J -31336399.33 -31336399.25 -31336399.17 0.2601 0.2048 *

Venus -90507-11-28 04:18 J -31335927.43 -31335927.32 -31335927.21 0.3765 0.1128

Mars -90505-02-12 11:59 J -31335486.12 -31335486.00 -31335485.87 0.1628 0.0475

Mars -90503-01-18 00:56 J -31334780.50 -31334780.46 -31334780.42 0.1615 0.1536

Neptune -90503-03-02 21:49 J -31334736.60 -31334736.59 -31334736.55 0.0089 0.0088

Neptune -90503-05-30 01:11 J -31334648.51 -31334648.45 -31334648.38 0.0089 0.0082

Jupiter -90503-07-05 17:30 J -31334611.82 -31334611.77 -31334611.72 0.0531 0.0485

Neptune -90503-08-26 04:03 J -31334560.41 -31334560.33 -31334560.22 0.0088 0.0077

Jupiter -90503-10-03 03:35 J -31334522.49 -31334522.35 -31334522.22 0.0527 0.0031

Neptune -90503-11-22 07:11 J -31334472.29 -31334472.20 -31334472.08 0.0088 0.0071

Venus -90503-11-27 05:44 J -31334467.39 -31334467.26 -31334467.13 0.3604 0.0846

Jupiter -90503-12-31 14:23 J -31334432.97 -31334432.90 -31334432.83 0.0524 0.0439

Neptune -90502-02-18 10:18 J -31334384.18 -31334384.07 -31334383.93 0.0088 0.0065

Neptune -90502-05-17 13:25 J -31334296.06 -31334295.94 -31334295.79 0.0088 0.0060

Neptune -90502-08-13 16:47 J -31334207.94 -31334207.80 -31334207.65 0.0088 0.0054

Saturn -90502-09-21 12:42 J -31334169.03 -31334168.97 -31334168.90 0.0275 0.0238

Neptune -90502-11-09 19:39 J -31334119.82 -31334119.68 -31334119.52 0.0088 0.0048

Saturn -90502-12-19 01:39 J -31334080.55 -31334080.43 -31334080.31 0.0275 0.0150

Neptune -90501-02-05 22:47 J -31334031.70 -31334031.55 -31334031.38 0.0088 0.0043

Saturn -90501-03-16 14:37 J -31333992.03 -31333991.89 -31333991.75 0.0275 0.0060

Neptune -90501-05-04 02:08 J -31333943.58 -31333943.41 -31333943.25 0.0088 0.0037

Venus -90501-06-12 23:30 J -31333903.62 -31333903.52 -31333903.43 0.3762 0.1919

Saturn -90501-06-13 03:49 J -31333903.49 -31333903.34 -31333903.19 0.0275 0.0031 *

Neptune -90501-07-31 05:01 J -31333855.45 -31333855.29 -31333855.12 0.0088 0.0031

Moon -90501-08-05 11:15 J -31333850.09 -31333850.03 -31333849.97 0.2590 0.2319

Earth -90501-08-05 12:27 J -31333850.04 -31333849.98 -31333849.91 0.2589 0.2268 *

Saturn -90501-09-09 17:15 J -31333814.91 -31333814.78 -31333814.65 0.0275 0.0125

Neptune -90501-10-27 08:08 J -31333767.33 -31333767.16 -31333766.98 0.0088 0.0026

Saturn -90501-12-07 06:56 J -31333726.29 -31333726.21 -31333726.12 0.0275 0.0220

Neptune -90500-01-23 11:01 J -31333679.21 -31333679.04 -31333678.86 0.0088 0.0021

Neptune -90500-04-21 14:08 J -31333591.08 -31333590.91 -31333590.73 0.0088 0.0015

Neptune -90500-07-18 17:15 J -31333502.96 -31333502.78 -31333502.60 0.0088 0.0009

Neptune -90500-10-14 20:08 J -31333414.84 -31333414.66 -31333414.48 0.0088 0.0004

Neptune -90499-01-10 23:15 J -31333326.71 -31333326.53 -31333326.35 0.0088 0.0002

Neptune -90499-04-09 02:08 J -31333238.59 -31333238.41 -31333238.23 0.0088 0.0007

Neptune -90499-07-06 05:15 J -31333150.46 -31333150.28 -31333150.11 0.0088 0.0013

Neptune -90499-10-02 07:54 J -31333062.34 -31333062.17 -31333061.99 0.0088 0.0019

Mars -90499-10-08 03:49 J -31333056.48 -31333056.34 -31333056.21 0.1904 0.0692

Neptune -90499-12-29 11:01 J -31332974.21 -31332974.04 -31332973.87 0.0088 0.0023

Moon -90498-02-06 10:03 J -31332935.17 -31332935.08 -31332934.98 0.2745 0.1694

Earth -90498-02-06 11:01 J -31332935.13 -31332935.04 -31332934.95 0.2743 0.1787 *

Neptune -90498-03-27 13:54 J -31332886.08 -31332885.92 -31332885.75 0.0088 0.0029

Neptune -90498-06-23 16:47 J -31332797.96 -31332797.80 -31332797.63 0.0088 0.0034

Neptune -90498-09-19 19:39 J -31332709.83 -31332709.68 -31332709.52 0.0088 0.0040

Neptune -90498-12-16 22:18 J -31332621.71 -31332621.57 -31332621.40 0.0088 0.0046

Neptune -90497-03-14 01:11 J -31332533.58 -31332533.45 -31332533.29 0.0088 0.0051

Neptune -90497-06-10 04:18 J -31332445.45 -31332445.32 -31332445.18 0.0088 0.0056

Venus -90497-06-12 05:59 J -31332443.38 -31332443.25 -31332443.11 0.3607 0.0204

Uranus -90497-07-14 22:47 J -31332410.61 -31332410.55 -31332410.48 0.0141 0.0124

Neptune -90497-09-06 07:11 J -31332357.32 -31332357.20 -31332357.07 0.0088 0.0061

Uranus -90497-10-11 02:51 J -31332322.47 -31332322.38 -31332322.29 0.0141 0.0106

Jupiter -90497-11-30 23:15 J -31332271.64 -31332271.53 -31332271.41 0.0499 0.0370

Neptune -90497-12-03 09:49 J -31332269.19 -31332269.09 -31332268.96 0.0088 0.0066

Uranus -90496-01-07 06:56 J -31332234.32 -31332234.21 -31332234.10 0.0141 0.0088

Jupiter -90496-03-01 00:27 J -31332181.64 -31332181.48 -31332181.31 0.0502 0.0139

Neptune -90496-03-01 12:42 J -31332181.06 -31332180.97 -31332180.86 0.0088 0.0071

Uranus -90496-04-05 11:01 J -31332146.16 -31332146.04 -31332145.91 0.0141 0.0069

Neptune -90496-05-28 15:20 J -31332092.93 -31332092.86 -31332092.76 0.0088 0.0077

Uranus -90496-07-02 15:06 J -31332057.99 -31332057.87 -31332057.73 0.0141 0.0051

Mars -90496-07-04 21:06 J -31332055.72 -31332055.62 -31332055.51 0.1632 0.0948

Neptune -90496-08-24 18:13 J -31332004.79 -31332004.74 -31332004.66 0.0088 0.0082

Uranus -90496-09-28 19:25 J -31331969.83 -31331969.69 -31331969.54 0.0141 0.0032

Neptune -90496-11-20 21:06 J -31331916.64 -31331916.62 -31331916.58 0.0088 0.0087

Uranus -90496-12-25 23:44 J -31331881.65 -31331881.51 -31331881.36 0.0141 0.0013

Venus -90496-12-27 18:42 J -31331879.79 -31331879.72 -31331879.64 0.3758 0.2734

Uranus -90495-03-24 04:03 J -31331793.47 -31331793.33 -31331793.18 0.0142 0.0007

Uranus -90495-06-20 08:23 J -31331705.29 -31331705.15 -31331705.00 0.0142 0.0026

Uranus -90495-09-16 12:42 J -31331617.10 -31331616.97 -31331616.83 0.0142 0.0046

Uranus -90495-12-13 17:15 J -31331528.91 -31331528.78 -31331528.65 0.0142 0.0065

Uranus -90494-03-11 21:35 J -31331440.71 -31331440.60 -31331440.48 0.0142 0.0085

Uranus -90494-06-08 02:08 J -31331352.50 -31331352.41 -31331352.31 0.0142 0.0105

Mars -90494-06-10 09:35 J -31331350.20 -31331350.10 -31331350.00 0.1618 0.1046

Uranus -90494-09-04 06:42 J -31331264.28 -31331264.22 -31331264.15 0.0142 0.0126

Venus -90492-12-27 05:44 J -31330419.38 -31330419.26 -31330419.13 0.3611 0.1181

Earth -90491-01-30 00:42 J -31330385.52 -31330385.47 -31330385.41 0.2751 0.2418

Moon -90491-01-30 00:56 J -31330385.52 -31330385.46 -31330385.39 0.2743 0.2313 *

Jupiter -90491-07-22 06:56 J -31330212.34 -31330212.21 -31330212.07 0.0528 0.0136

Jupiter -90491-10-19 17:44 J -31330122.87 -31330122.76 -31330122.66 0.0524 0.0329

Venus -90490-07-13 14:23 J -31329855.93 -31329855.90 -31329855.87 0.3754 0.3567

Mars -90489-02-28 04:18 J -31329626.38 -31329626.32 -31329626.25 0.1899 0.1707

Venus -90489-09-20 18:27 J -31329420.76 -31329420.73 -31329420.71 0.3786 0.3671

Moon -90488-08-08 11:30 J -31329099.15 -31329099.02 -31329098.89 0.2595 0.0779

Earth -90488-08-08 12:13 J -31329099.12 -31329098.99 -31329098.85 0.2591 0.0681 *

Saturn -90487-04-27 12:42 J -31328837.00 -31328836.97 -31328836.94 0.0284 0.0278

Pluto -90487-06-27 22:47 J -31328775.58 -31328775.55 -31328775.46 0.0060 0.0057

Saturn -90487-07-25 07:54 J -31328748.30 -31328748.17 -31328748.03 0.0284 0.0158

Pluto -90487-09-24 00:42 J -31328687.57 -31328687.47 -31328687.35 0.0060 0.0050

Saturn -90487-10-22 02:51 J -31328659.54 -31328659.38 -31328659.21 0.0283 0.0041

Mars -90487-11-25 06:13 J -31328625.30 -31328625.24 -31328625.17 0.1636 0.1420

Pluto -90487-12-21 01:54 J -31328599.53 -31328599.42 -31328599.27 0.0060 0.0044

Saturn -90486-01-18 21:20 J -31328570.77 -31328570.61 -31328570.45 0.0283 0.0074

Pluto -90486-03-19 03:35 J -31328511.49 -31328511.35 -31328511.19 0.0060 0.0038

Saturn -90486-04-17 15:20 J -31328481.98 -31328481.86 -31328481.74 0.0283 0.0186

Pluto -90486-06-15 04:47 J -31328423.45 -31328423.30 -31328423.11 0.0060 0.0032

Venus -90486-07-13 05:15 J -31328395.38 -31328395.28 -31328395.17 0.3615 0.2121

Pluto -90486-09-11 06:27 J -31328335.40 -31328335.23 -31328335.04 0.0060 0.0025

Pluto -90486-12-08 07:54 J -31328247.34 -31328247.17 -31328246.97 0.0060 0.0018

Pluto -90485-03-05 09:35 J -31328159.29 -31328159.10 -31328158.90 0.0060 0.0011

Pluto -90485-06-01 11:15 J -31328071.23 -31328071.03 -31328070.84 0.0060 0.0005

Pluto -90485-08-28 12:42 J -31327983.17 -31327982.97 -31327982.77 0.0061 0.0002

Jupiter -90485-09-18 22:32 J -31327961.57 -31327961.56 -31327961.54 0.0498 0.0494

Mars -90485-10-30 18:27 J -31327919.86 -31327919.73 -31327919.61 0.1621 0.0560

Pluto -90485-11-24 14:08 J -31327895.10 -31327894.91 -31327894.71 0.0061 0.0009

Jupiter -90485-12-18 00:27 J -31327871.65 -31327871.48 -31327871.31 0.0501 0.0020

Pluto -90484-02-20 15:20 J -31327807.04 -31327806.86 -31327806.66 0.0061 0.0016

Pluto -90484-05-19 17:01 J -31327718.97 -31327718.79 -31327718.60 0.0061 0.0022

Pluto -90484-08-15 18:27 J -31327630.89 -31327630.73 -31327630.55 0.0061 0.0029

Pluto -90484-11-11 19:39 J -31327542.82 -31327542.68 -31327542.50 0.0061 0.0036

Pluto -90483-02-07 21:06 J -31327454.73 -31327454.62 -31327454.45 0.0061 0.0043

Venus -90483-04-06 12:13 J -31327397.06 -31327396.99 -31327396.93 0.3783 0.3017

Pluto -90483-05-06 23:01 J -31327366.64 -31327366.54 -31327366.42 0.0061 0.0049

Pluto -90483-08-03 00:27 J -31327278.54 -31327278.48 -31327278.39 0.0061 0.0056

Venus -90480-01-26 04:18 J -31326371.39 -31326371.32 -31326371.25 0.3619 0.3024

Jupiter -90479-05-10 10:18 J -31325902.19 -31325902.07 -31325901.95 0.0529 0.0247

Jupiter -90479-08-07 20:37 J -31325812.76 -31325812.64 -31325812.51 0.0525 0.0215

Moon -90478-02-01 21:06 J -31325634.73 -31325634.62 -31325634.50 0.2742 0.1076

Earth -90478-02-01 21:35 J -31325634.71 -31325634.60 -31325634.48 0.2748 0.0953 *

Mars -90478-06-27 01:25 J -31325489.53 -31325489.44 -31325489.34 0.1915 0.1373

Venus -90478-10-21 05:59 J -31325373.33 -31325373.25 -31325373.16 0.3781 0.2353

Mars -90475-03-23 03:20 J -31324489.49 -31324489.36 -31324489.23 0.1624 0.0083

Earth -90475-08-11 11:44 J -31324348.14 -31324348.01 -31324347.88 0.2593 0.0869

Moon -90475-08-11 11:44 J -31324348.13 -31324348.01 -31324347.88 0.2600 0.0864 *

Jupiter -90473-10-05 23:59 J -31323561.67 -31323561.50 -31323561.33 0.0501 0.0107

Jupiter -90472-01-04 00:27 J -31323471.58 -31323471.48 -31323471.38 0.0504 0.0397

Saturn -90472-02-07 13:11 J -31323436.95 -31323436.95 -31323436.93 0.0275 0.0273

Venus -90472-05-06 00:13 J -31323349.59 -31323349.49 -31323349.39 0.3778 0.1652

Saturn -90472-05-07 01:54 J -31323348.52 -31323348.42 -31323348.31 0.0275 0.0186

Saturn -90472-08-03 14:51 J -31323260.01 -31323259.88 -31323259.74 0.0275 0.0097

Saturn -90472-10-31 04:03 J -31323171.48 -31323171.33 -31323171.18 0.0275 0.0006

Saturn -90471-01-27 17:30 J -31323082.91 -31323082.77 -31323082.63 0.0276 0.0087

Saturn -90471-04-26 07:11 J -31322994.31 -31322994.20 -31322994.09 0.0276 0.0182

Mars -90469-11-16 03:06 J -31322059.50 -31322059.37 -31322059.23 0.1909 0.0414

Jupiter -90467-02-26 13:25 J -31321592.03 -31321591.94 -31321591.84 0.0530 0.0361

Jupiter -90467-05-26 23:30 J -31321502.65 -31321502.52 -31321502.38 0.0526 0.0100

Venus -90467-11-19 18:27 J -31321325.83 -31321325.73 -31321325.62 0.3775 0.0948

Mars -90466-08-13 12:13 J -31321059.12 -31321058.99 -31321058.86 0.1628 0.0404

Moon -90465-02-04 17:59 J -31320883.87 -31320883.75 -31320883.63 0.2742 0.0514

Earth -90465-02-04 18:56 J -31320883.83 -31320883.71 -31320883.59 0.2745 0.0561 *

Mars -90464-07-19 01:11 J -31320353.45 -31320353.45 -31320353.44 0.1614 0.1611

Earth -90462-08-14 11:01 J -31319597.10 -31319597.04 -31319596.99 0.2596 0.2374

Moon -90462-08-14 11:44 J -31319597.05 -31319597.01 -31319596.98 0.2601 0.2506 *

Venus -90461-06-04 13:11 J -31319302.07 -31319301.95 -31319301.84 0.3771 0.0253

Jupiter -90461-07-24 23:15 J -31319251.68 -31319251.53 -31319251.38 0.0500 0.0233

Jupiter -90461-10-23 00:13 J -31319161.63 -31319161.49 -31319161.35 0.0503 0.0272

Mars -90459-04-08 04:03 J -31318629.46 -31318629.33 -31318629.19 0.1904 0.0593

Uranus -90458-09-13 12:13 J -31318106.04 -31318105.99 -31318105.91 0.0138 0.0128

Uranus -90458-12-10 18:27 J -31318017.83 -31318017.73 -31318017.61 0.0138 0.0106

Saturn -90458-12-12 08:23 J -31318016.28 -31318016.15 -31318016.03 0.0284 0.0191

Uranus -90457-03-08 00:27 J -31317929.60 -31317929.48 -31317929.33 0.0138 0.0085

Saturn -90457-03-10 03:20 J -31317927.52 -31317927.36 -31317927.20 0.0284 0.0072

Venus -90457-06-03 04:03 J -31317842.42 -31317842.33 -31317842.25 0.3598 0.2756

Uranus -90457-06-04 06:42 J -31317841.37 -31317841.22 -31317841.06 0.0138 0.0063

Saturn -90457-06-06 22:03 J -31317838.75 -31317838.58 -31317838.42 0.0284 0.0045

Uranus -90457-08-31 12:42 J -31317753.13 -31317752.97 -31317752.80 0.0138 0.0042

Saturn -90457-09-03 16:03 J -31317749.96 -31317749.83 -31317749.69 0.0284 0.0158

Uranus -90457-11-27 18:42 J -31317664.89 -31317664.72 -31317664.55 0.0137 0.0021

Saturn -90457-12-01 09:49 J -31317661.14 -31317661.09 -31317661.04 0.0284 0.0268

Mars -90456-01-02 21:20 J -31317628.72 -31317628.61 -31317628.51 0.1632 0.0884

Uranus -90456-02-24 00:42 J -31317576.64 -31317576.47 -31317576.30 0.0137 0.0002

Uranus -90456-05-23 06:27 J -31317488.40 -31317488.23 -31317488.06 0.0137 0.0021

Uranus -90456-08-19 12:13 J -31317400.15 -31317399.99 -31317399.83 0.0137 0.0041

Uranus -90456-11-15 17:44 J -31317311.90 -31317311.76 -31317311.60 0.0137 0.0062

Jupiter -90456-12-15 16:03 J -31317281.88 -31317281.83 -31317281.78 0.0531 0.0484

Venus -90456-12-19 07:54 J -31317278.29 -31317278.17 -31317278.06 0.3768 0.0564

Uranus -90455-02-11 23:15 J -31317223.65 -31317223.53 -31317223.38 0.0137 0.0082

Jupiter -90455-03-15 01:54 J -31317192.55 -31317192.42 -31317192.28 0.0527 0.0031

Uranus -90455-05-11 05:01 J -31317135.40 -31317135.29 -31317135.17 0.0137 0.0101

Jupiter -90455-06-12 12:56 J -31317103.04 -31317102.96 -31317102.89 0.0524 0.0440

Moon -90455-08-06 17:01 J -31317047.87 -31317047.79 -31317047.71 0.2591 0.2131

Earth -90455-08-06 18:13 J -31317047.83 -31317047.74 -31317047.65 0.2589 0.1926 *

Uranus -90455-08-07 10:18 J -31317047.13 -31317047.07 -31317046.98 0.0136 0.0121

Mars -90455-12-09 09:49 J -31316923.19 -31316923.09 -31316922.99 0.1618 0.1117

Moon -90452-02-06 15:20 J -31316132.94 -31316132.86 -31316132.77 0.2746 0.1973

Earth -90452-02-06 16:18 J -31316132.90 -31316132.82 -31316132.75 0.2742 0.2101 *

Venus -90452-12-18 05:01 J -31315818.41 -31315818.29 -31315818.17 0.3602 0.1648

Venus -90450-07-05 02:51 J -31315254.49 -31315254.38 -31315254.28 0.3764 0.1333

Mars -90450-08-29 05:01 J -31315199.37 -31315199.29 -31315199.22 0.1899 0.1598

Jupiter -90449-05-12 22:32 J -31314941.68 -31314941.56 -31314941.44 0.0499 0.0359

Jupiter -90449-08-10 23:44 J -31314851.67 -31314851.51 -31314851.35 0.0502 0.0148

Mars -90447-05-26 06:27 J -31314198.30 -31314198.23 -31314198.16 0.1636 0.1358

Venus -90446-07-04 05:44 J -31313794.39 -31313794.26 -31313794.13 0.3605 0.0581

Moon -90445-01-31 06:13 J -31313583.32 -31313583.24 -31313583.17 0.2743 0.2149

Earth -90445-01-31 05:59 J -31313583.32 -31313583.25 -31313583.17 0.2750 0.2117 *

Mars -90445-04-30 18:27 J -31313492.85 -31313492.73 -31313492.61 0.1621 0.0627

Venus -90444-01-17 21:49 J -31313230.68 -31313230.59 -31313230.49 0.3761 0.2124

Jupiter -90443-01-01 05:15 J -31312882.41 -31312882.28 -31312882.15 0.0528 0.0138

Jupiter -90443-03-31 15:49 J -31312792.94 -31312792.84 -31312792.73 0.0525 0.0327

Saturn -90443-09-24 04:47 J -31312616.39 -31312616.30 -31312616.21 0.0274 0.0204

Saturn -90443-12-21 17:30 J -31312527.90 -31312527.77 -31312527.64 0.0275 0.0116

Saturn -90442-03-20 06:42 J -31312439.37 -31312439.22 -31312439.08 0.0275 0.0027

Saturn -90442-06-16 19:54 J -31312350.81 -31312350.67 -31312350.53 0.0275 0.0066

Moon -90442-08-09 17:15 J -31312296.91 -31312296.78 -31312296.64 0.2596 0.0373

Earth -90442-08-09 17:59 J -31312296.89 -31312296.75 -31312296.62 0.2591 0.0354 *

Saturn -90442-09-13 09:20 J -31312262.22 -31312262.11 -31312261.99 0.0275 0.0160

Saturn -90442-12-10 23:15 J -31312173.58 -31312173.53 -31312173.48 0.0275 0.0256

Venus -90440-01-17 05:44 J -31311770.39 -31311770.26 -31311770.12 0.3609 0.0443

Venus -90439-08-03 17:15 J -31311206.85 -31311206.78 -31311206.71 0.3757 0.2944

Mars -90439-12-26 01:54 J -31311062.50 -31311062.42 -31311062.33 0.1914 0.1476

Jupiter -90437-02-29 21:06 J -31310631.64 -31310631.62 -31310631.59 0.0498 0.0489

Jupiter -90437-05-29 22:47 J -31310541.72 -31310541.55 -31310541.38 0.0501 0.0021

Mars -90436-09-21 03:20 J -31310062.49 -31310062.36 -31310062.22 0.1624 0.0154

Venus -90435-08-03 05:30 J -31309746.39 -31309746.27 -31309746.15 0.3612 0.1419

Moon -90432-02-02 02:23 J -31308832.52 -31308832.40 -31308832.29 0.2742 0.0652

Earth -90432-02-02 02:51 J -31308832.49 -31308832.38 -31308832.26 0.2748 0.0650 *

Venus -90432-04-27 16:18 J -31308747.85 -31308747.82 -31308747.78 0.3785 0.3511

Jupiter -90432-10-20 08:51 J -31308572.25 -31308572.13 -31308572.01 0.0529 0.0246

Jupiter -90431-01-17 19:25 J -31308482.82 -31308482.69 -31308482.57 0.0526 0.0217

Venus -90429-02-17 04:47 J -31307722.40 -31307722.30 -31307722.20 0.3616 0.2351

Mars -90429-05-17 03:20 J -31307632.50 -31307632.36 -31307632.23 0.1910 0.0494

Earth -90429-08-11 17:15 J -31307545.90 -31307545.78 -31307545.66 0.2594 0.1194

Moon -90429-08-11 17:30 J -31307545.89 -31307545.77 -31307545.65 0.2601 0.1210 *

Saturn -90428-04-30 06:27 J -31307284.32 -31307284.23 -31307284.14 0.0284 0.0235

Saturn -90428-07-28 01:39 J -31307195.58 -31307195.43 -31307195.28 0.0284 0.0115

Saturn -90428-10-24 20:23 J -31307106.81 -31307106.65 -31307106.48 0.0284 0.0007

Saturn -90427-01-21 14:37 J -31307018.03 -31307017.89 -31307017.73 0.0283 0.0117

Saturn -90427-04-20 08:37 J -31306929.23 -31306929.14 -31306929.04 0.0283 0.0227

Venus -90427-11-11 10:18 J -31306724.14 -31306724.07 -31306724.00 0.3782 0.2855

Mars -90426-02-11 12:27 J -31306632.11 -31306631.98 -31306631.85 0.1628 0.0337

Jupiter -90425-03-17 22:32 J -31306231.73 -31306231.56 -31306231.39 0.0501 0.0103

Jupiter -90425-06-15 23:01 J -31306141.64 -31306141.54 -31306141.44 0.0504 0.0399

Venus -90424-09-02 03:35 J -31305698.40 -31305698.35 -31305698.29 0.3620 0.3245

Neptune -90422-09-03 07:11 J -31304967.20 -31304967.20 -31304967.19 0.0089 0.0088

Neptune -90422-11-30 08:23 J -31304879.17 -31304879.15 -31304879.09 0.0089 0.0085

Neptune -90421-02-26 10:18 J -31304791.13 -31304791.07 -31304791.01 0.0089 0.0080

Neptune -90421-05-24 11:44 J -31304703.08 -31304703.01 -31304702.94 0.0089 0.0076

Venus -90421-05-27 04:18 J -31304700.41 -31304700.32 -31304700.23 0.3780 0.2178

Neptune -90421-08-20 13:11 J -31304615.02 -31304614.95 -31304614.87 0.0089 0.0072

Neptune -90421-11-16 14:37 J -31304526.97 -31304526.89 -31304526.79 0.0089 0.0068

Neptune -90420-02-12 16:03 J -31304438.91 -31304438.83 -31304438.72 0.0089 0.0064

Neptune -90420-05-11 17:30 J -31304350.86 -31304350.77 -31304350.65 0.0089 0.0060

Neptune -90420-08-07 19:25 J -31304262.80 -31304262.69 -31304262.58 0.0089 0.0055

Jupiter -90420-08-08 12:27 J -31304262.08 -31304261.98 -31304261.88 0.0530 0.0356

Mars -90420-10-07 04:47 J -31304202.44 -31304202.30 -31304202.16 0.1905 0.0482

Neptune -90420-11-03 20:51 J -31304174.74 -31304174.63 -31304174.51 0.0089 0.0051

Jupiter -90420-11-05 22:32 J -31304172.69 -31304172.56 -31304172.43 0.0526 0.0104

Neptune -90419-01-30 22:18 J -31304086.68 -31304086.57 -31304086.45 0.0089 0.0047

Moon -90419-02-04 23:15 J -31304081.65 -31304081.53 -31304081.41 0.2744 0.0693

Earth -90419-02-05 00:13 J -31304081.61 -31304081.49 -31304081.38 0.2745 0.0873 *

Neptune -90419-04-28 23:44 J -31303998.62 -31303998.51 -31303998.38 0.0089 0.0043

Neptune -90419-07-26 01:39 J -31303910.56 -31303910.43 -31303910.31 0.0089 0.0038

Neptune -90419-10-22 03:06 J -31303822.50 -31303822.37 -31303822.24 0.0089 0.0034

Neptune -90418-01-18 04:32 J -31303734.44 -31303734.31 -31303734.17 0.0089 0.0030

Neptune -90418-04-16 05:59 J -31303646.37 -31303646.25 -31303646.11 0.0089 0.0026

Neptune -90418-07-13 07:54 J -31303558.31 -31303558.17 -31303558.04 0.0089 0.0021

Neptune -90418-10-09 09:20 J -31303470.25 -31303470.11 -31303469.97 0.0089 0.0017

Neptune -90417-01-05 10:47 J -31303382.18 -31303382.05 -31303381.90 0.0089 0.0013

Neptune -90417-04-02 12:27 J -31303294.12 -31303293.98 -31303293.84 0.0089 0.0008

Neptune -90417-06-29 14:08 J -31303206.05 -31303205.91 -31303205.77 0.0089 0.0004

Mars -90417-07-03 21:20 J -31303201.72 -31303201.61 -31303201.49 0.1631 0.0815

Neptune -90417-09-25 15:49 J -31303117.98 -31303117.84 -31303117.70 0.0089 0.0002

Neptune -90417-12-22 17:15 J -31303029.92 -31303029.78 -31303029.64 0.0089 0.0005

Neptune -90416-03-20 18:56 J -31302941.85 -31302941.71 -31302941.57 0.0089 0.0009

Neptune -90416-06-16 20:37 J -31302853.78 -31302853.64 -31302853.50 0.0089 0.0014

Neptune -90416-09-12 22:03 J -31302765.71 -31302765.58 -31302765.44 0.0089 0.0018

Neptune -90416-12-09 23:44 J -31302677.64 -31302677.51 -31302677.37 0.0089 0.0023

Venus -90416-12-10 22:32 J -31302676.67 -31302676.56 -31302676.46 0.3777 0.1485

Neptune -90415-03-08 01:25 J -31302589.57 -31302589.44 -31302589.30 0.0089 0.0027

Neptune -90415-06-04 02:51 J -31302501.50 -31302501.38 -31302501.24 0.0089 0.0032

Mars -90415-06-09 10:03 J -31302496.17 -31302496.08 -31302495.99 0.1618 0.1189

Neptune -90415-08-31 04:32 J -31302413.43 -31302413.31 -31302413.17 0.0089 0.0036

Neptune -90415-11-27 06:13 J -31302325.36 -31302325.24 -31302325.11 0.0089 0.0041

Neptune -90414-02-23 07:54 J -31302237.29 -31302237.17 -31302237.04 0.0089 0.0045

Neptune -90414-05-22 09:20 J -31302149.21 -31302149.11 -31302148.98 0.0089 0.0050

Neptune -90414-08-18 11:15 J -31302061.14 -31302061.03 -31302060.91 0.0089 0.0054

Neptune -90414-11-14 12:56 J -31301973.06 -31301972.96 -31301972.85 0.0089 0.0058

Jupiter -90413-01-04 22:03 J -31301921.73 -31301921.58 -31301921.43 0.0500 0.0226

Neptune -90413-02-10 14:37 J -31301884.99 -31301884.89 -31301884.79 0.0089 0.0063

Saturn -90413-02-11 05:01 J -31301884.35 -31301884.29 -31301884.22 0.0275 0.0241

Jupiter -90413-04-03 23:01 J -31301831.68 -31301831.54 -31301831.40 0.0503 0.0279

Uranus -90413-05-08 01:54 J -31301797.44 -31301797.42 -31301797.39 0.0140 0.0137

Neptune -90413-05-08 16:18 J -31301796.91 -31301796.82 -31301796.72 0.0089 0.0067

Saturn -90413-05-09 17:44 J -31301795.87 -31301795.76 -31301795.64 0.0275 0.0154

Uranus -90413-08-04 05:59 J -31301709.32 -31301709.25 -31301709.17 0.0141 0.0120

Neptune -90413-08-04 17:59 J -31301708.83 -31301708.75 -31301708.66 0.0089 0.0072

Saturn -90413-08-06 06:42 J -31301707.36 -31301707.22 -31301707.07 0.0275 0.0064

Uranus -90413-10-31 10:03 J -31301621.17 -31301621.08 -31301620.98 0.0141 0.0102

Neptune -90413-10-31 19:25 J -31301620.75 -31301620.69 -31301620.60 0.0089 0.0077

Saturn -90413-11-02 19:54 J -31301618.81 -31301618.67 -31301618.52 0.0275 0.0029

Uranus -90412-01-27 14:08 J -31301533.02 -31301532.91 -31301532.79 0.0141 0.0084

Neptune -90412-01-27 21:20 J -31301532.66 -31301532.61 -31301532.55 0.0089 0.0081

Saturn -90412-01-30 09:20 J -31301530.24 -31301530.11 -31301529.97 0.0275 0.0122

Uranus -90412-04-25 18:27 J -31301444.86 -31301444.73 -31301444.60 0.0141 0.0065

Neptune -90412-04-25 22:47 J -31301444.57 -31301444.55 -31301444.49 0.0089 0.0086

Saturn -90412-04-28 23:01 J -31301441.62 -31301441.54 -31301441.44 0.0276 0.0217

Uranus -90412-07-22 22:32 J -31301356.69 -31301356.56 -31301356.42 0.0141 0.0046

Uranus -90412-10-19 02:51 J -31301268.52 -31301268.38 -31301268.24 0.0141 0.0027

Uranus -90411-01-15 07:11 J -31301180.35 -31301180.20 -31301180.06 0.0141 0.0009

Uranus -90411-04-13 11:30 J -31301092.17 -31301092.02 -31301091.88 0.0142 0.0011

Uranus -90411-07-10 15:35 J -31301003.98 -31301003.85 -31301003.70 0.0142 0.0031

Uranus -90411-10-06 20:08 J -31300915.80 -31300915.66 -31300915.52 0.0142 0.0050

Uranus -90410-01-03 00:27 J -31300827.60 -31300827.48 -31300827.35 0.0142 0.0070

Mars -90410-02-27 05:15 J -31300772.36 -31300772.28 -31300772.19 0.1899 0.1502

Uranus -90410-04-01 04:47 J -31300739.40 -31300739.30 -31300739.17 0.0142 0.0090

Venus -90410-06-26 16:47 J -31300652.91 -31300652.80 -31300652.69 0.3774 0.0758

Uranus -90410-06-28 09:20 J -31300651.19 -31300651.11 -31300651.01 0.0142 0.0110

Uranus -90410-09-24 13:54 J -31300562.97 -31300562.92 -31300562.85 0.0142 0.0131

Moon -90409-08-06 22:47 J -31300245.66 -31300245.55 -31300245.44 0.2591 0.1625

Earth -90409-08-06 23:59 J -31300245.61 -31300245.50 -31300245.39 0.2589 0.1589 *

Jupiter -90408-05-27 15:35 J -31299951.91 -31299951.85 -31299951.79 0.0531 0.0469

Jupiter -90408-08-25 01:39 J -31299862.57 -31299862.43 -31299862.30 0.0527 0.0017

Jupiter -90408-11-22 12:27 J -31299773.05 -31299772.98 -31299772.92 0.0523 0.0453

Mars -90408-11-24 06:27 J -31299771.30 -31299771.23 -31299771.15 0.1636 0.1290

Moon -90406-02-07 20:37 J -31299330.70 -31299330.64 -31299330.58 0.2746 0.2375

Earth -90406-02-07 21:35 J -31299330.66 -31299330.60 -31299330.55 0.2742 0.2413 *

Mars -90406-10-30 18:42 J -31299065.84 -31299065.72 -31299065.60 0.1621 0.0703

Venus -90404-01-09 11:15 J -31298629.14 -31298629.03 -31298628.91 0.3770 0.0142

Jupiter -90402-10-23 21:20 J -31297611.73 -31297611.61 -31297611.49 0.0499 0.0351

Jupiter -90401-01-21 22:47 J -31297521.71 -31297521.55 -31297521.39 0.0502 0.0156

Venus -90400-01-08 04:03 J -31297169.43 -31297169.33 -31297169.23 0.3599 0.2470

Moon -90399-01-31 11:01 J -31296781.13 -31296781.04 -31296780.95 0.2743 0.1791

Earth -90399-01-31 11:15 J -31296781.12 -31296781.03 -31296780.94 0.2750 0.1824 *

Mars -90399-06-26 02:08 J -31296635.48 -31296635.41 -31296635.33 0.1915 0.1569

Venus -90399-07-26 06:13 J -31296605.35 -31296605.24 -31296605.13 0.3767 0.0748

Saturn -90399-09-17 05:44 J -31296552.30 -31296552.26 -31296552.20 0.0284 0.0273

Saturn -90399-12-15 01:25 J -31296463.58 -31296463.44 -31296463.30 0.0284 0.0151

Saturn -90398-03-13 20:23 J -31296374.82 -31296374.65 -31296374.49 0.0284 0.0033

Saturn -90398-06-10 14:51 J -31296286.03 -31296285.88 -31296285.72 0.0284 0.0083

Saturn -90398-09-07 08:51 J -31296197.24 -31296197.13 -31296197.01 0.0284 0.0196

Mars -90396-03-22 03:35 J -31295635.48 -31295635.35 -31295635.22 0.1624 0.0213

Jupiter -90396-06-13 03:49 J -31295552.47 -31295552.34 -31295552.21 0.0528 0.0137

Moon -90396-08-09 23:15 J -31295494.67 -31295494.53 -31295494.40 0.2598 0.0124

Earth -90396-08-09 23:30 J -31295494.65 -31295494.52 -31295494.38 0.2592 0.0079 *

Jupiter -90396-09-10 14:37 J -31295463.00 -31295462.89 -31295462.79 0.0525 0.0328

Venus -90395-07-25 05:01 J -31295145.42 -31295145.29 -31295145.16 0.3603 0.1374

Pluto -90393-01-24 22:32 J -31294596.56 -31294596.56 -31294596.55 0.0085 0.0084

Venus -90393-02-09 01:11 J -31294581.55 -31294581.45 -31294581.35 0.3763 0.1525

Pluto -90393-04-21 23:59 J -31294508.57 -31294508.50 -31294508.43 0.0084 0.0072

Pluto -90393-07-19 00:56 J -31294420.54 -31294420.46 -31294420.35 0.0084 0.0060

Pluto -90393-10-15 02:23 J -31294332.50 -31294332.40 -31294332.28 0.0084 0.0047

Pluto -90392-01-11 03:35 J -31294244.46 -31294244.35 -31294244.22 0.0084 0.0035

Pluto -90392-04-09 05:01 J -31294156.42 -31294156.29 -31294156.16 0.0084 0.0023

Pluto -90392-07-06 06:13 J -31294068.37 -31294068.24 -31294068.10 0.0084 0.0011

Pluto -90392-10-02 07:39 J -31293980.32 -31293980.18 -31293980.05 0.0084 0.0003

Pluto -90392-12-29 08:51 J -31293892.26 -31293892.13 -31293892.00 0.0084 0.0014

Pluto -90391-03-27 10:03 J -31293804.21 -31293804.08 -31293803.95 0.0083 0.0026

Pluto -90391-06-23 11:15 J -31293716.15 -31293716.03 -31293715.91 0.0083 0.0037

Pluto -90391-09-19 12:13 J -31293628.08 -31293627.99 -31293627.87 0.0083 0.0050

Pluto -90391-12-16 13:25 J -31293540.02 -31293539.94 -31293539.84 0.0083 0.0061

Pluto -90390-03-14 14:51 J -31293451.94 -31293451.88 -31293451.82 0.0083 0.0072

Jupiter -90390-08-11 20:37 J -31293301.69 -31293301.64 -31293301.60 0.0498 0.0477

Jupiter -90390-11-09 22:18 J -31293211.74 -31293211.57 -31293211.40 0.0501 0.0033

Mars -90390-11-16 03:49 J -31293205.47 -31293205.34 -31293205.20 0.1910 0.0611

Venus -90389-02-08 05:30 J -31293121.40 -31293121.27 -31293121.13 0.3606 0.0320

Venus -90388-08-24 20:23 J -31292557.74 -31292557.65 -31292557.56 0.3759 0.2327

Mars -90387-08-12 12:27 J -31292205.11 -31292204.98 -31292204.85 0.1628 0.0271

Moon -90386-02-03 07:25 J -31292030.31 -31292030.19 -31292030.07 0.2742 0.0492

Earth -90386-02-03 08:08 J -31292030.28 -31292030.16 -31292030.04 0.2747 0.0340 *

Jupiter -90384-04-01 07:11 J -31291242.32 -31291242.20 -31291242.08 0.0529 0.0249

Jupiter -90384-06-29 17:30 J -31291152.89 -31291152.77 -31291152.64 0.0526 0.0215

Saturn -90384-06-30 08:08 J -31291152.20 -31291152.16 -31291152.11 0.0274 0.0257

Venus -90384-08-24 05:30 J -31291097.40 -31291097.27 -31291097.14 0.3610 0.0691

Saturn -90384-09-26 20:51 J -31291063.74 -31291063.63 -31291063.52 0.0274 0.0171

Saturn -90384-12-24 09:35 J -31290975.23 -31290975.10 -31290974.96 0.0274 0.0082

Saturn -90383-03-22 22:47 J -31290886.70 -31290886.55 -31290886.41 0.0275 0.0009

Saturn -90383-06-19 11:59 J -31290798.13 -31290798.00 -31290797.86 0.0275 0.0102

Earth -90383-08-12 23:01 J -31290743.65 -31290743.54 -31290743.43 0.2594 0.1515

Moon -90383-08-12 23:15 J -31290743.64 -31290743.53 -31290743.43 0.2600 0.1566 *

Saturn -90383-09-16 01:39 J -31290709.53 -31290709.43 -31290709.33 0.0275 0.0196

Venus -90382-03-10 15:49 J -31290533.90 -31290533.84 -31290533.78 0.3755 0.3157

Mars -90380-04-07 04:47 J -31289775.44 -31289775.30 -31289775.16 0.1905 0.0400

Venus -90378-03-10 05:15 J -31289073.40 -31289073.28 -31289073.17 0.3613 0.1661

Jupiter -90378-08-28 21:06 J -31288901.79 -31288901.62 -31288901.45 0.0500 0.0098

Jupiter -90378-11-26 21:35 J -31288811.70 -31288811.60 -31288811.50 0.0504 0.0402

Mars -90377-01-02 21:35 J -31288774.72 -31288774.60 -31288774.49 0.1631 0.0747

Venus -90376-12-02 14:23 J -31288074.95 -31288074.90 -31288074.85 0.3784 0.3349

Mars -90376-12-08 10:18 J -31288069.16 -31288069.07 -31288068.99 0.1617 0.1261

Uranus -90374-10-03 19:11 J -31287404.77 -31287404.70 -31287404.62 0.0138 0.0125

Uranus -90374-12-31 01:11 J -31287316.55 -31287316.45 -31287316.32 0.0138 0.0103

Moon -90373-02-06 04:32 J -31287279.42 -31287279.31 -31287279.20 0.2745 0.1153

Earth -90373-02-06 05:30 J -31287279.38 -31287279.27 -31287279.16 0.2744 0.1183 *

Uranus -90373-03-28 07:25 J -31287228.32 -31287228.19 -31287228.04 0.0138 0.0081

Uranus -90373-06-24 13:25 J -31287140.09 -31287139.94 -31287139.77 0.0138 0.0060

Uranus -90373-09-20 19:25 J -31287051.85 -31287051.69 -31287051.52 0.0138 0.0039

Venus -90373-09-23 04:18 J -31287049.41 -31287049.32 -31287049.23 0.3617 0.2578

Uranus -90373-12-18 01:25 J -31286963.60 -31286963.44 -31286963.26 0.0137 0.0018

Jupiter -90372-01-18 10:47 J -31286932.14 -31286932.05 -31286931.95 0.0530 0.0357

Uranus -90372-03-16 07:25 J -31286875.36 -31286875.19 -31286875.02 0.0137 0.0004

Jupiter -90372-04-17 21:06 J -31286842.75 -31286842.62 -31286842.49 0.0527 0.0105

Uranus -90372-06-12 13:11 J -31286787.12 -31286786.95 -31286786.78 0.0137 0.0024

Uranus -90372-09-08 18:56 J -31286698.87 -31286698.71 -31286698.55 0.0137 0.0045

Uranus -90372-12-06 00:27 J -31286610.62 -31286610.48 -31286610.32 0.0137 0.0065

Uranus -90371-03-04 06:13 J -31286522.37 -31286522.24 -31286522.10 0.0137 0.0085

Uranus -90371-05-31 11:44 J -31286434.11 -31286434.01 -31286433.90 0.0137 0.0104

Uranus -90371-08-27 17:15 J -31286345.84 -31286345.78 -31286345.70 0.0136 0.0124

Mars -90371-08-28 05:44 J -31286345.35 -31286345.26 -31286345.16 0.1899 0.1401

Venus -90370-06-18 08:23 J -31286051.23 -31286051.15 -31286051.08 0.3782 0.2688

Saturn -90369-05-02 23:44 J -31285731.62 -31285731.51 -31285731.38 0.0284 0.0195

Saturn -90369-07-30 18:56 J -31285642.86 -31285642.71 -31285642.54 0.0284 0.0075

Saturn -90369-10-27 13:39 J -31285554.09 -31285553.93 -31285553.76 0.0284 0.0043

Saturn -90368-01-24 07:54 J -31285465.30 -31285465.17 -31285465.03 0.0284 0.0156

Saturn -90368-04-23 01:39 J -31285376.48 -31285376.43 -31285376.37 0.0283 0.0266

Mars -90368-05-25 06:42 J -31285344.30 -31285344.22 -31285344.13 0.1635 0.1221

Venus -90367-04-09 03:06 J -31285025.41 -31285025.37 -31285025.34 0.3621 0.3458

Mars -90366-04-30 18:56 J -31284638.83 -31284638.71 -31284638.59 0.1621 0.0771

Jupiter -90366-06-16 20:37 J -31284591.79 -31284591.64 -31284591.49 0.0500 0.0222

Jupiter -90366-09-14 21:20 J -31284501.74 -31284501.61 -31284501.47 0.0503 0.0283

Venus -90364-01-01 02:23 J -31284027.49 -31284027.40 -31284027.31 0.3779 0.2005

Moon -90363-08-08 04:32 J -31283443.42 -31283443.31 -31283443.19 0.2593 0.1435

Earth -90363-08-08 05:30 J -31283443.39 -31283443.27 -31283443.15 0.2590 0.1255 *

Jupiter -90361-11-06 14:23 J -31282621.96 -31282621.90 -31282621.83 0.0531 0.0465

Jupiter -90360-02-04 00:27 J -31282532.62 -31282532.48 -31282532.35 0.0527 0.0010

Moon -90360-02-08 02:08 J -31282528.45 -31282528.41 -31282528.38 0.2746 0.2592

Earth -90360-02-08 02:51 J -31282528.39 -31282528.38 -31282528.38 0.2741 0.2731 *

Jupiter -90360-05-04 11:15 J -31282443.09 -31282443.03 -31282442.97 0.0523 0.0458

Mars -90360-12-25 02:51 J -31282208.45 -31282208.38 -31282208.32 0.1915 0.1676

Venus -90359-07-17 20:37 J -31282003.74 -31282003.64 -31282003.54 0.3776 0.1298

Mars -90357-09-20 03:49 J -31281208.47 -31281208.34 -31281208.21 0.1624 0.0286

Saturn -90354-02-13 21:06 J -31280331.71 -31280331.62 -31280331.53 0.0275 0.0208

Jupiter -90354-04-04 19:54 J -31280281.79 -31280281.67 -31280281.54 0.0499 0.0346

Saturn -90354-05-13 09:49 J -31280243.22 -31280243.09 -31280242.96 0.0275 0.0120

Jupiter -90354-07-03 21:20 J -31280191.77 -31280191.61 -31280191.45 0.0502 0.0162

Saturn -90354-08-09 22:47 J -31280154.69 -31280154.55 -31280154.40 0.0275 0.0030

Saturn -90354-11-06 11:59 J -31280066.14 -31280066.00 -31280065.85 0.0275 0.0063

Venus -90353-01-31 15:06 J -31279979.98 -31279979.87 -31279979.76 0.3773 0.0576

Moon -90353-02-01 16:03 J -31279978.92 -31279978.83 -31279978.73 0.2743 0.1557

Earth -90353-02-01 16:32 J -31279978.91 -31279978.81 -31279978.72 0.2749 0.1523 *

Saturn -90353-02-03 01:39 J -31279977.55 -31279977.43 -31279977.31 0.0275 0.0157

Saturn -90353-05-01 15:20 J -31279888.92 -31279888.86 -31279888.80 0.0275 0.0252

Mars -90350-05-17 04:18 J -31278778.45 -31278778.32 -31278778.19 0.1910 0.0702

Moon -90350-08-11 04:47 J -31278692.43 -31278692.30 -31278692.16 0.2599 0.0364

Earth -90350-08-11 05:15 J -31278692.42 -31278692.28 -31278692.14 0.2592 0.0315 *

Venus -90349-01-30 02:51 J -31278520.43 -31278520.38 -31278520.33 0.3597 0.3320

Jupiter -90349-11-23 03:35 J -31278222.48 -31278222.35 -31278222.22 0.0528 0.0121

Jupiter -90348-02-20 14:08 J -31278133.01 -31278132.91 -31278132.81 0.0524 0.0342

Venus -90348-08-16 09:35 J -31277956.21 -31277956.10 -31277955.98 0.3769 0.0226

Mars -90347-02-10 12:42 J -31277778.10 -31277777.97 -31277777.84 0.1627 0.0200

Venus -90344-08-15 04:03 J -31276496.44 -31276496.33 -31276496.22 0.3600 0.2191

Jupiter -90342-01-21 19:25 J -31275971.74 -31275971.69 -31275971.63 0.0498 0.0470

Venus -90342-03-02 04:32 J -31275932.42 -31275932.31 -31275932.20 0.3766 0.0940

Jupiter -90342-04-21 21:06 J -31275881.79 -31275881.62 -31275881.45 0.0501 0.0039

Mars -90341-10-06 05:30 J -31275348.41 -31275348.27 -31275348.13 0.1905 0.0286

Moon -90340-02-03 12:42 J -31275228.09 -31275227.97 -31275227.85 0.2742 0.0061

Earth -90340-02-03 13:25 J -31275228.06 -31275227.94 -31275227.82 0.2747 0.0041 *

Saturn -90340-09-19 23:01 J -31274999.63 -31274999.54 -31274999.44 0.0285 0.0232

Saturn -90340-12-17 18:27 J -31274910.88 -31274910.73 -31274910.57 0.0284 0.0112

Saturn -90339-03-16 13:25 J -31274822.11 -31274821.94 -31274821.78 0.0284 0.0007

Saturn -90339-06-13 07:39 J -31274733.32 -31274733.18 -31274733.02 0.0284 0.0123

Saturn -90339-09-10 01:39 J -31274644.51 -31274644.43 -31274644.33 0.0284 0.0234

Neptune -90339-11-27 20:37 J -31274565.67 -31274565.64 -31274565.58 0.0088 0.0086

Neptune -90338-02-23 23:59 J -31274477.57 -31274477.50 -31274477.42 0.0088 0.0080

Venus -90338-03-01 05:01 J -31274472.42 -31274472.29 -31274472.16 0.3604 0.1103

Neptune -90338-05-23 02:51 J -31274389.46 -31274389.38 -31274389.26 0.0088 0.0075

Mars -90338-07-03 21:49 J -31274347.71 -31274347.59 -31274347.48 0.1631 0.0681

Neptune -90338-08-19 05:59 J -31274301.35 -31274301.25 -31274301.12 0.0088 0.0069

Neptune -90338-11-15 09:20 J -31274213.23 -31274213.11 -31274212.97 0.0088 0.0063

Neptune -90337-02-11 12:13 J -31274125.11 -31274124.99 -31274124.83 0.0088 0.0058

Neptune -90337-05-09 15:35 J -31274036.99 -31274036.85 -31274036.69 0.0088 0.0052

Neptune -90337-08-05 18:42 J -31273948.87 -31273948.72 -31273948.56 0.0088 0.0046

Earth -90337-08-13 04:32 J -31273941.40 -31273941.31 -31273941.21 0.2595 0.1844

Moon -90337-08-13 05:15 J -31273941.38 -31273941.28 -31273941.19 0.2600 0.1858 *

Jupiter -90337-09-11 05:44 J -31273912.37 -31273912.26 -31273912.14 0.0529 0.0247

Venus -90337-09-14 23:30 J -31273908.62 -31273908.52 -31273908.41 0.3762 0.1731

Neptune -90337-11-01 21:35 J -31273860.75 -31273860.60 -31273860.42 0.0088 0.0041

Jupiter -90337-12-09 16:18 J -31273822.95 -31273822.82 -31273822.70 0.0526 0.0216

Neptune -90336-01-29 00:56 J -31273772.62 -31273772.46 -31273772.29 0.0088 0.0035

Neptune -90336-04-27 03:49 J -31273684.50 -31273684.34 -31273684.16 0.0088 0.0029

Mars -90336-06-08 10:18 J -31273642.14 -31273642.07 -31273641.99 0.1617 0.1332

Neptune -90336-07-24 06:56 J -31273596.38 -31273596.21 -31273596.03 0.0088 0.0024

Neptune -90336-10-20 10:03 J -31273508.25 -31273508.08 -31273507.90 0.0088 0.0018

Neptune -90335-01-16 13:11 J -31273420.13 -31273419.95 -31273419.77 0.0088 0.0012

Neptune -90335-04-14 16:03 J -31273332.00 -31273331.83 -31273331.64 0.0088 0.0007

Neptune -90335-07-11 19:11 J -31273243.88 -31273243.70 -31273243.52 0.0088 0.0001

Neptune -90335-10-07 22:03 J -31273155.75 -31273155.58 -31273155.39 0.0088 0.0005

Neptune -90334-01-04 01:11 J -31273067.63 -31273067.45 -31273067.27 0.0088 0.0010

Neptune -90334-04-02 04:03 J -31272979.50 -31272979.33 -31272979.15 0.0088 0.0015

Neptune -90334-06-29 06:56 J -31272891.38 -31272891.21 -31272891.03 0.0088 0.0021

Neptune -90334-09-25 10:03 J -31272803.25 -31272803.08 -31272802.91 0.0088 0.0026

Neptune -90334-12-22 12:42 J -31272715.13 -31272714.97 -31272714.79 0.0088 0.0032

Neptune -90333-03-19 15:49 J -31272627.00 -31272626.84 -31272626.68 0.0088 0.0037

Neptune -90333-06-15 18:27 J -31272538.87 -31272538.73 -31272538.56 0.0088 0.0042

Neptune -90333-09-11 21:20 J -31272450.75 -31272450.61 -31272450.45 0.0088 0.0048

Venus -90333-09-14 05:15 J -31272448.41 -31272448.28 -31272448.14 0.3607 0.0069

Neptune -90333-12-09 00:27 J -31272362.62 -31272362.48 -31272362.33 0.0088 0.0053

Neptune -90332-03-07 03:20 J -31272274.49 -31272274.36 -31272274.22 0.0088 0.0058

Neptune -90332-06-03 05:59 J -31272186.36 -31272186.25 -31272186.11 0.0088 0.0063

Neptune -90332-08-30 08:51 J -31272098.23 -31272098.13 -31272098.01 0.0088 0.0069

Neptune -90332-11-26 11:44 J -31272010.10 -31272010.01 -31272009.90 0.0088 0.0074

Neptune -90331-02-22 14:37 J -31271921.96 -31271921.89 -31271921.81 0.0088 0.0079

Mars -90331-02-26 06:13 J -31271918.34 -31271918.24 -31271918.13 0.1899 0.1296

Venus -90331-03-31 18:56 J -31271884.79 -31271884.71 -31271884.63 0.3758 0.2533

Neptune -90331-05-21 17:01 J -31271833.82 -31271833.79 -31271833.71 0.0088 0.0085

Jupiter -90330-02-07 20:37 J -31271571.81 -31271571.64 -31271571.48 0.0500 0.0086

Jupiter -90330-05-08 20:51 J -31271481.72 -31271481.63 -31271481.53 0.0503 0.0415

Earth -90330-08-06 11:15 J -31271392.05 -31271392.03 -31271392.00 0.2588 0.2523

Uranus -90329-05-28 09:06 J -31271096.16 -31271096.12 -31271096.08 0.0140 0.0134

Uranus -90329-08-24 13:11 J -31271008.03 -31271007.95 -31271007.87 0.0141 0.0116

Uranus -90329-11-20 17:15 J -31270919.88 -31270919.78 -31270919.68 0.0141 0.0098

Mars -90329-11-23 06:56 J -31270917.30 -31270917.21 -31270917.12 0.1635 0.1157

Uranus -90328-02-16 21:20 J -31270831.72 -31270831.61 -31270831.49 0.0141 0.0080

Uranus -90328-05-16 01:39 J -31270743.56 -31270743.43 -31270743.31 0.0141 0.0061

Uranus -90328-08-12 05:44 J -31270655.40 -31270655.26 -31270655.12 0.0141 0.0043

Uranus -90328-11-08 09:49 J -31270567.23 -31270567.09 -31270566.94 0.0141 0.0024

Uranus -90327-02-04 14:08 J -31270479.05 -31270478.91 -31270478.76 0.0141 0.0006

Moon -90327-02-06 09:49 J -31270477.20 -31270477.09 -31270476.99 0.2746 0.1308

Earth -90327-02-06 10:32 J -31270477.16 -31270477.06 -31270476.95 0.2744 0.1497 *

Venus -90327-03-31 05:15 J -31270424.41 -31270424.28 -31270424.15 0.3611 0.0938

Uranus -90327-05-03 18:27 J -31270390.87 -31270390.73 -31270390.58 0.0142 0.0015

Uranus -90327-07-30 22:47 J -31270302.69 -31270302.55 -31270302.40 0.0142 0.0034

Uranus -90327-10-27 03:06 J -31270214.50 -31270214.37 -31270214.23 0.0142 0.0054

Mars -90327-10-29 19:11 J -31270211.82 -31270211.70 -31270211.59 0.1620 0.0842

Uranus -90326-01-23 07:25 J -31270126.30 -31270126.19 -31270126.05 0.0142 0.0074

Uranus -90326-04-21 11:59 J -31270038.10 -31270038.00 -31270037.88 0.0142 0.0094

Uranus -90326-07-18 16:32 J -31269949.89 -31269949.81 -31269949.72 0.0142 0.0114

Uranus -90326-10-14 21:06 J -31269861.66 -31269861.62 -31269861.57 0.0142 0.0134

Venus -90326-10-15 14:23 J -31269860.95 -31269860.90 -31269860.85 0.3755 0.3362

Jupiter -90325-06-30 09:06 J -31269602.22 -31269602.12 -31269602.02 0.0530 0.0360

Saturn -90325-07-02 23:59 J -31269599.57 -31269599.50 -31269599.41 0.0274 0.0224

Jupiter -90325-09-27 19:25 J -31269512.83 -31269512.69 -31269512.56 0.0527 0.0103

Saturn -90325-09-29 12:56 J -31269511.09 -31269510.96 -31269510.84 0.0274 0.0136

Saturn -90325-12-27 01:54 J -31269422.57 -31269422.42 -31269422.28 0.0274 0.0047

Saturn -90324-03-25 14:51 J -31269334.02 -31269333.88 -31269333.73 0.0274 0.0045

Saturn -90324-06-22 04:18 J -31269245.44 -31269245.32 -31269245.19 0.0275 0.0138

Saturn -90324-09-18 17:59 J -31269156.82 -31269156.75 -31269156.67 0.0275 0.0233

Venus -90322-10-15 04:47 J -31268400.42 -31268400.30 -31268400.19 0.3614 0.1892

Earth -90320-01-30 00:56 J -31267927.49 -31267927.46 -31267927.44 0.2751 0.2678

Moon -90320-01-30 01:11 J -31267927.48 -31267927.45 -31267927.41 0.2745 0.2590 *

Mars -90320-06-25 02:51 J -31267781.43 -31267781.38 -31267781.32 0.1915 0.1764

Mars -90319-04-15 16:03 J -31267486.84 -31267486.83 -31267486.82 0.1640 0.1631

Venus -90319-07-09 12:27 J -31267402.03 -31267401.98 -31267401.92 0.3784 0.3184

Jupiter -90319-11-26 19:11 J -31267261.85 -31267261.70 -31267261.54 0.0499 0.0217

Jupiter -90318-02-24 20:08 J -31267171.80 -31267171.66 -31267171.52 0.0503 0.0287

Mars -90317-03-21 03:49 J -31266781.47 -31266781.34 -31266781.21 0.1624 0.0356

Moon -90317-08-08 10:32 J -31266641.19 -31266641.06 -31266640.94 0.2595 0.0936

Earth -90317-08-08 11:15 J -31266641.16 -31266641.03 -31266640.90 0.2590 0.0919 *

Venus -90316-04-30 03:35 J -31266376.43 -31266376.35 -31266376.27 0.3618 0.2797

Venus -90313-01-23 06:27 J -31265378.31 -31265378.23 -31265378.15 0.3781 0.2518

Jupiter -90313-04-18 12:56 J -31265292.02 -31265291.96 -31265291.90 0.0531 0.0466

Jupiter -90313-07-16 22:47 J -31265202.68 -31265202.55 -31265202.41 0.0528 0.0012

Jupiter -90313-10-14 09:35 J -31265113.16 -31265113.10 -31265113.03 0.0524 0.0459

Mars -90311-11-15 04:32 J -31264351.44 -31264351.31 -31264351.18 0.1911 0.0797

Saturn -90310-02-06 21:49 J -31264267.62 -31264267.59 -31264267.54 0.0284 0.0274

Saturn -90310-05-06 17:30 J -31264178.91 -31264178.77 -31264178.63 0.0284 0.0152

Saturn -90310-08-03 12:27 J -31264090.14 -31264089.98 -31264089.81 0.0284 0.0033

Saturn -90310-10-31 06:56 J -31264001.36 -31264001.21 -31264001.05 0.0284 0.0083

Saturn -90309-01-28 01:11 J -31263912.57 -31263912.45 -31263912.33 0.0284 0.0196

Venus -90308-08-08 00:27 J -31263354.57 -31263354.48 -31263354.38 0.3778 0.1833

Mars -90308-08-11 12:56 J -31263351.09 -31263350.96 -31263350.83 0.1627 0.0132

Moon -90307-02-01 21:20 J -31263176.72 -31263176.61 -31263176.50 0.2742 0.1261

Earth -90307-02-01 21:35 J -31263176.70 -31263176.60 -31263176.49 0.2749 0.1219 *

Jupiter -90307-09-14 18:27 J -31262951.85 -31262951.73 -31262951.60 0.0499 0.0342

Jupiter -90307-12-13 19:54 J -31262861.83 -31262861.67 -31262861.51 0.0502 0.0165

Moon -90304-08-11 10:32 J -31261890.19 -31261890.06 -31261889.92 0.2599 0.0552

Earth -90304-08-11 10:47 J -31261890.18 -31261890.05 -31261889.91 0.2592 0.0650 *

Venus -90302-02-21 18:56 J -31261330.82 -31261330.71 -31261330.61 0.3775 0.1130

Mars -90301-04-06 05:59 J -31260921.39 -31260921.25 -31260921.11 0.1905 0.0182

Jupiter -90301-05-05 02:23 J -31260892.54 -31260892.40 -31260892.27 0.0528 0.0118

Jupiter -90301-08-02 12:56 J -31260803.06 -31260802.96 -31260802.86 0.0524 0.0346

Mars -90298-01-01 21:49 J -31259920.71 -31259920.59 -31259920.46 0.1631 0.0611

Venus -90297-09-06 13:25 J -31259307.06 -31259306.94 -31259306.83 0.3772 0.0416

Mars -90297-12-07 10:32 J -31259215.12 -31259215.06 -31259214.99 0.1617 0.1408

Saturn -90296-11-20 00:42 J -31258867.51 -31258867.47 -31258867.43 0.0274 0.0260

Saturn -90295-02-16 13:11 J -31258779.06 -31258778.95 -31258778.84 0.0274 0.0173

Saturn -90295-05-16 02:08 J -31258690.55 -31258690.41 -31258690.28 0.0275 0.0084

Jupiter -90295-07-03 17:59 J -31258641.81 -31258641.75 -31258641.70 0.0498 0.0467

Saturn -90295-08-12 15:06 J -31258602.01 -31258601.87 -31258601.72 0.0275 0.0007

Jupiter -90295-10-01 19:39 J -31258551.85 -31258551.68 -31258551.51 0.0501 0.0043

Saturn -90295-11-09 04:18 J -31258513.45 -31258513.32 -31258513.18 0.0275 0.0100

Moon -90294-02-04 17:59 J -31258425.88 -31258425.75 -31258425.63 0.2744 0.0176

Earth -90294-02-04 18:42 J -31258425.84 -31258425.72 -31258425.60 0.2746 0.0279 *

Saturn -90294-02-05 17:59 J -31258424.85 -31258424.75 -31258424.65 0.0275 0.0194

Venus -90293-09-05 02:51 J -31257847.45 -31257847.38 -31257847.30 0.3598 0.3033

Mars -90292-08-27 06:42 J -31257491.33 -31257491.22 -31257491.11 0.1900 0.1197

Venus -90291-03-23 07:54 J -31257283.28 -31257283.17 -31257283.05 0.3768 0.0379

Earth -90291-08-14 10:03 J -31257139.15 -31257139.08 -31257139.00 0.2595 0.2162

Moon -90291-08-14 10:47 J -31257139.11 -31257139.05 -31257138.99 0.2600 0.2308 *

Uranus -90290-10-24 02:08 J -31256703.49 -31256703.41 -31256703.32 0.0138 0.0121

Uranus -90289-01-20 08:08 J -31256615.27 -31256615.16 -31256615.03 0.0138 0.0099

Jupiter -90289-02-22 05:30 J -31256582.39 -31256582.27 -31256582.15 0.0529 0.0231

Uranus -90289-04-17 14:23 J -31256527.03 -31256526.90 -31256526.75 0.0138 0.0077

Jupiter -90289-05-21 15:49 J -31256492.96 -31256492.84 -31256492.72 0.0525 0.0231

Mars -90289-05-24 06:56 J -31256490.30 -31256490.21 -31256490.11 0.1635 0.1091

Uranus -90289-07-14 20:23 J -31256438.80 -31256438.65 -31256438.48 0.0138 0.0056

Uranus -90289-10-11 02:23 J -31256350.56 -31256350.40 -31256350.22 0.0138 0.0035

Uranus -90288-01-07 08:37 J -31256262.32 -31256262.14 -31256261.97 0.0137 0.0014

Uranus -90288-04-05 14:23 J -31256174.07 -31256173.90 -31256173.73 0.0137 0.0008

Uranus -90288-07-02 20:08 J -31256085.82 -31256085.66 -31256085.49 0.0137 0.0028

Uranus -90288-09-29 01:54 J -31255997.58 -31255997.42 -31255997.26 0.0137 0.0049

Uranus -90288-12-26 07:25 J -31255909.33 -31255909.19 -31255909.03 0.0137 0.0069

Venus -90287-03-22 04:03 J -31255823.44 -31255823.33 -31255823.21 0.3601 0.1915

Uranus -90287-03-24 13:11 J -31255821.07 -31255820.95 -31255820.82 0.0137 0.0089

Mars -90287-04-29 19:11 J -31255784.80 -31255784.70 -31255784.59 0.1620 0.0914

Uranus -90287-06-20 18:27 J -31255732.81 -31255732.73 -31255732.61 0.0137 0.0109

Uranus -90287-09-17 00:13 J -31255644.54 -31255644.49 -31255644.42 0.0136 0.0128

Venus -90286-10-07 02:51 J -31255259.49 -31255259.38 -31255259.27 0.3765 0.1133

Moon -90284-08-06 15:49 J -31254589.90 -31254589.84 -31254589.77 0.2588 0.2272

Earth -90284-08-06 17:01 J -31254589.86 -31254589.79 -31254589.71 0.2588 0.2181 *

Jupiter -90283-07-20 19:25 J -31254241.86 -31254241.69 -31254241.52 0.0500 0.0079

Jupiter -90283-10-18 19:39 J -31254151.76 -31254151.68 -31254151.58 0.0504 0.0422

Venus -90282-10-06 04:47 J -31253799.43 -31253799.30 -31253799.17 0.3605 0.0841

Moon -90281-02-07 15:06 J -31253674.97 -31253674.87 -31253674.78 0.2745 0.1773

Earth -90281-02-07 16:03 J -31253674.92 -31253674.83 -31253674.74 0.2744 0.1808 *

Saturn -90281-09-22 16:18 J -31253446.94 -31253446.82 -31253446.69 0.0285 0.0192

Saturn -90281-12-20 11:30 J -31253358.18 -31253358.02 -31253357.85 0.0285 0.0072

Mars -90281-12-24 03:20 J -31253354.38 -31253354.36 -31253354.33 0.1915 0.1869

Saturn -90280-03-19 06:27 J -31253269.40 -31253269.23 -31253269.07 0.0284 0.0046

Venus -90280-04-21 22:03 J -31253235.68 -31253235.58 -31253235.48 0.3761 0.1925

Saturn -90280-06-16 00:42 J -31253180.60 -31253180.47 -31253180.33 0.0284 0.0160

Saturn -90280-09-12 18:27 J -31253091.77 -31253091.73 -31253091.68 0.0284 0.0272

Mars -90280-10-14 16:03 J -31253059.86 -31253059.83 -31253059.79 0.1639 0.1565

Mars -90278-09-20 04:03 J -31252354.46 -31252354.33 -31252354.20 0.1624 0.0424

Jupiter -90278-12-11 07:54 J -31252272.27 -31252272.17 -31252272.08 0.0530 0.0357

Jupiter -90277-03-09 17:59 J -31252182.89 -31252182.75 -31252182.62 0.0527 0.0103

Venus -90276-04-21 05:01 J -31251775.43 -31251775.29 -31251775.16 0.3608 0.0192

Venus -90275-11-05 17:15 J -31251211.85 -31251211.78 -31251211.70 0.3757 0.2737

Moon -90274-01-31 06:13 J -31251125.30 -31251125.24 -31251125.18 0.2744 0.2406

Earth -90274-01-31 05:59 J -31251125.30 -31251125.25 -31251125.19 0.2751 0.2379 *

Jupiter -90271-05-08 18:42 J -31249931.88 -31249931.72 -31249931.56 0.0499 0.0204

Mars -90271-05-16 05:01 J -31249924.41 -31249924.29 -31249924.17 0.1911 0.0904

Jupiter -90271-08-06 19:25 J -31249841.82 -31249841.69 -31249841.55 0.0503 0.0299

Moon -90271-08-09 16:03 J -31249838.96 -31249838.83 -31249838.69 0.2596 0.0729

Earth -90271-08-09 17:01 J -31249838.93 -31249838.79 -31249838.66 0.2590 0.0589 *

Venus -90271-11-05 04:47 J -31249751.42 -31249751.30 -31249751.17 0.3612 0.1179

Venus -90269-05-21 12:56 J -31249187.99 -31249187.96 -31249187.93 0.3753 0.3575

Mars -90268-02-09 12:56 J -31248924.09 -31248923.96 -31248923.82 0.1627 0.0076

Venus -90268-07-30 16:47 J -31248752.82 -31248752.80 -31248752.78 0.3785 0.3675

Saturn -90266-07-06 16:32 J -31248046.92 -31248046.81 -31248046.71 0.0274 0.0189

Jupiter -90266-09-29 11:01 J -31247962.10 -31247962.04 -31247961.98 0.0531 0.0470

Saturn -90266-10-03 05:15 J -31247958.42 -31247958.28 -31247958.15 0.0274 0.0100

Jupiter -90266-12-27 21:06 J -31247872.76 -31247872.62 -31247872.49 0.0528 0.0018

Saturn -90266-12-30 18:13 J -31247869.89 -31247869.74 -31247869.60 0.0274 0.0010

Jupiter -90265-03-26 07:54 J -31247783.24 -31247783.17 -31247783.10 0.0524 0.0454

Saturn -90265-03-28 07:25 J -31247781.33 -31247781.19 -31247781.05 0.0274 0.0082

Venus -90265-05-21 04:03 J -31247727.44 -31247727.33 -31247727.22 0.3616 0.2111

Saturn -90265-06-24 20:51 J -31247692.74 -31247692.63 -31247692.51 0.0275 0.0176

Saturn -90265-09-21 10:32 J -31247604.07 -31247604.06 -31247604.03 0.0275 0.0272

Venus -90262-02-13 10:32 J -31246729.12 -31246729.06 -31246729.00 0.3783 0.3019

Mars -90262-10-06 06:13 J -31246494.38 -31246494.24 -31246494.10 0.1905 0.0093

Moon -90261-02-03 02:37 J -31246374.51 -31246374.39 -31246374.28 0.2742 0.0940

Earth -90261-02-03 02:51 J -31246374.49 -31246374.38 -31246374.26 0.2749 0.0915 *

Venus -90260-12-05 03:06 J -31245703.44 -31245703.37 -31245703.30 0.3620 0.3016

Jupiter -90259-02-24 17:15 J -31245621.91 -31245621.78 -31245621.66 0.0498 0.0337

Jupiter -90259-05-25 18:27 J -31245531.89 -31245531.73 -31245531.57 0.0502 0.0169

Mars -90259-07-02 22:03 J -31245493.70 -31245493.58 -31245493.46 0.1631 0.0543

Moon -90258-08-12 16:32 J -31245087.94 -31245087.81 -31245087.69 0.2599 0.1047

Earth -90258-08-12 16:32 J -31245087.94 -31245087.81 -31245087.69 0.2593 0.0970 *

Neptune -90257-05-30 06:42 J -31244796.23 -31244796.22 -31244796.18 0.0089 0.0087

Mars -90257-06-07 10:47 J -31244788.10 -31244788.05 -31244788.00 0.1617 0.1476

Neptune -90257-08-26 08:08 J -31244708.19 -31244708.16 -31244708.10 0.0089 0.0083

Venus -90257-08-29 04:32 J -31244705.39 -31244705.31 -31244705.23 0.3780 0.2348

Neptune -90257-11-22 09:35 J -31244620.15 -31244620.10 -31244620.02 0.0089 0.0079

Neptune -90256-02-18 11:01 J -31244532.10 -31244532.04 -31244531.95 0.0089 0.0075

Neptune -90256-05-17 12:56 J -31244444.04 -31244443.96 -31244443.88 0.0089 0.0070

Neptune -90256-08-13 14:23 J -31244355.99 -31244355.90 -31244355.81 0.0089 0.0066

Neptune -90256-11-09 15:49 J -31244267.93 -31244267.84 -31244267.74 0.0089 0.0062

Neptune -90255-02-05 17:15 J -31244179.88 -31244179.78 -31244179.67 0.0089 0.0058

Neptune -90255-05-04 18:42 J -31244091.82 -31244091.72 -31244091.60 0.0089 0.0054

Neptune -90255-07-31 20:37 J -31244003.76 -31244003.64 -31244003.53 0.0089 0.0049

Neptune -90255-10-27 22:03 J -31243915.70 -31243915.58 -31243915.46 0.0089 0.0045

Neptune -90254-01-23 23:30 J -31243827.64 -31243827.52 -31243827.39 0.0089 0.0041

Neptune -90254-04-22 00:56 J -31243739.58 -31243739.46 -31243739.33 0.0089 0.0037

Neptune -90254-07-19 02:37 J -31243651.52 -31243651.39 -31243651.26 0.0089 0.0032

Neptune -90254-10-15 04:18 J -31243563.45 -31243563.32 -31243563.19 0.0089 0.0028

Jupiter -90254-10-16 00:27 J -31243562.61 -31243562.48 -31243562.34 0.0529 0.0121

Neptune -90253-01-11 05:44 J -31243475.39 -31243475.26 -31243475.12 0.0089 0.0024

Jupiter -90253-01-13 11:15 J -31243473.14 -31243473.03 -31243472.93 0.0525 0.0344

Neptune -90253-04-08 07:11 J -31243387.33 -31243387.20 -31243387.06 0.0089 0.0020

Neptune -90253-07-05 08:51 J -31243299.26 -31243299.13 -31243298.99 0.0089 0.0015

Neptune -90253-10-01 10:32 J -31243211.20 -31243211.06 -31243210.92 0.0089 0.0011

Neptune -90253-12-28 11:59 J -31243123.13 -31243123.00 -31243122.85 0.0089 0.0007

Mars -90252-02-25 06:56 J -31243064.32 -31243064.21 -31243064.09 0.1900 0.1100

Neptune -90252-03-26 13:39 J -31243035.07 -31243034.93 -31243034.79 0.0089 0.0002

Neptune -90252-06-22 15:20 J -31242947.00 -31242946.86 -31242946.72 0.0089 0.0003

Neptune -90252-09-18 16:47 J -31242858.94 -31242858.80 -31242858.66 0.0089 0.0007

Neptune -90252-12-15 18:27 J -31242770.87 -31242770.73 -31242770.59 0.0089 0.0011

Saturn -90251-02-09 16:03 J -31242714.93 -31242714.83 -31242714.73 0.0285 0.0229

Neptune -90251-03-13 20:08 J -31242682.80 -31242682.66 -31242682.52 0.0089 0.0016

Venus -90251-03-14 22:47 J -31242681.65 -31242681.55 -31242681.45 0.3777 0.1656

Saturn -90251-05-09 11:15 J -31242626.18 -31242626.03 -31242625.87 0.0284 0.0108

Neptune -90251-06-09 21:35 J -31242594.73 -31242594.60 -31242594.46 0.0089 0.0020

Saturn -90251-08-06 06:13 J -31242537.41 -31242537.24 -31242537.08 0.0284 0.0010

Neptune -90251-09-05 23:15 J -31242506.66 -31242506.53 -31242506.39 0.0089 0.0025

Saturn -90251-11-03 00:42 J -31242448.62 -31242448.47 -31242448.33 0.0284 0.0125

Neptune -90251-12-03 00:56 J -31242418.59 -31242418.46 -31242418.32 0.0089 0.0029

Saturn -90250-01-30 18:27 J -31242359.81 -31242359.73 -31242359.63 0.0284 0.0238

Neptune -90250-03-01 02:37 J -31242330.52 -31242330.39 -31242330.26 0.0089 0.0033

Neptune -90250-05-28 04:03 J -31242242.45 -31242242.33 -31242242.19 0.0089 0.0038

Neptune -90250-08-24 05:59 J -31242154.38 -31242154.25 -31242154.13 0.0089 0.0042

Neptune -90250-11-20 07:25 J -31242066.31 -31242066.19 -31242066.06 0.0089 0.0047

Mars -90250-11-23 07:11 J -31242063.30 -31242063.20 -31242063.10 0.1635 0.1021

Neptune -90249-02-16 09:06 J -31241978.23 -31241978.12 -31241978.00 0.0089 0.0051

Neptune -90249-05-14 10:32 J -31241890.16 -31241890.06 -31241889.93 0.0089 0.0056

Neptune -90249-08-10 12:27 J -31241802.08 -31241801.98 -31241801.87 0.0089 0.0060

Neptune -90249-11-06 13:54 J -31241714.00 -31241713.92 -31241713.81 0.0089 0.0065

Neptune -90248-02-02 15:49 J -31241625.92 -31241625.84 -31241625.75 0.0089 0.0069

Moon -90248-02-04 23:01 J -31241623.66 -31241623.54 -31241623.42 0.2745 0.0483

Earth -90248-02-04 23:59 J -31241623.62 -31241623.50 -31241623.38 0.2746 0.0588 *

Neptune -90248-05-01 17:15 J -31241537.84 -31241537.78 -31241537.69 0.0089 0.0074

Neptune -90248-07-28 19:11 J -31241449.76 -31241449.70 -31241449.63 0.0089 0.0078

Neptune -90248-10-24 20:37 J -31241361.67 -31241361.64 -31241361.57 0.0089 0.0083

Mars -90248-10-28 19:25 J -31241357.79 -31241357.69 -31241357.58 0.1620 0.0986

Jupiter -90248-12-13 16:18 J -31241311.88 -31241311.82 -31241311.76 0.0498 0.0462

Neptune -90247-01-20 22:47 J -31241273.58 -31241273.55 -31241273.53 0.0089 0.0087

Jupiter -90247-03-13 17:59 J -31241221.92 -31241221.75 -31241221.58 0.0501 0.0046

Venus -90246-09-28 17:01 J -31240657.90 -31240657.79 -31240657.68 0.3774 0.0940

Uranus -90245-06-17 16:03 J -31240394.87 -31240394.83 -31240394.77 0.0140 0.0131

Earth -90245-08-14 15:49 J -31240336.88 -31240336.84 -31240336.81 0.2595 0.2483

Moon -90245-08-14 16:32 J -31240336.85 -31240336.81 -31240336.77 0.2601 0.2489 *

Uranus -90245-09-13 20:08 J -31240306.74 -31240306.66 -31240306.57 0.0141 0.0113

Uranus -90245-12-11 00:13 J -31240218.59 -31240218.49 -31240218.38 0.0141 0.0095

Uranus -90244-03-09 04:32 J -31240130.43 -31240130.31 -31240130.19 0.0141 0.0076

Uranus -90244-06-05 08:37 J -31240042.27 -31240042.14 -31240042.01 0.0141 0.0058

Uranus -90244-09-01 12:42 J -31239954.10 -31239953.97 -31239953.83 0.0141 0.0039

Uranus -90244-11-28 17:01 J -31239865.93 -31239865.79 -31239865.64 0.0141 0.0020

Uranus -90243-02-24 21:20 J -31239777.75 -31239777.61 -31239777.46 0.0141 0.0001

Uranus -90243-05-24 01:39 J -31239689.57 -31239689.43 -31239689.29 0.0142 0.0018

Uranus -90243-08-20 05:59 J -31239601.39 -31239601.25 -31239601.11 0.0142 0.0038

Uranus -90243-11-16 10:18 J -31239513.20 -31239513.07 -31239512.93 0.0142 0.0058

Uranus -90242-02-12 14:51 J -31239425.00 -31239424.88 -31239424.76 0.0142 0.0077

Uranus -90242-05-11 19:25 J -31239336.80 -31239336.69 -31239336.59 0.0142 0.0098

Jupiter -90242-08-04 04:03 J -31239252.45 -31239252.33 -31239252.21 0.0529 0.0230

Uranus -90242-08-07 23:30 J -31239248.59 -31239248.52 -31239248.42 0.0142 0.0119

Jupiter -90242-11-01 14:23 J -31239163.02 -31239162.90 -31239162.77 0.0526 0.0233

Uranus -90242-11-04 04:18 J -31239160.35 -31239160.32 -31239160.28 0.0142 0.0138

Venus -90240-04-13 11:30 J -31238634.13 -31238634.02 -31238633.91 0.3771 0.0235

Mars -90240-04-14 16:18 J -31238632.87 -31238632.82 -31238632.77 0.1639 0.1497

Pluto -90239-01-29 06:27 J -31238343.24 -31238343.23 -31238343.18 0.0060 0.0059

Pluto -90239-04-27 07:54 J -31238255.24 -31238255.17 -31238255.05 0.0060 0.0053

Pluto -90239-07-24 09:35 J -31238167.21 -31238167.10 -31238166.96 0.0060 0.0046

Pluto -90239-10-20 10:47 J -31238079.17 -31238079.05 -31238078.88 0.0060 0.0040

Pluto -90238-01-16 12:27 J -31237991.13 -31237990.98 -31237990.80 0.0060 0.0034

Mars -90238-03-21 04:18 J -31237927.44 -31237927.32 -31237927.19 0.1623 0.0498

Pluto -90238-04-14 13:54 J -31237903.08 -31237902.92 -31237902.73 0.0060 0.0027

Pluto -90238-07-11 15:35 J -31237815.03 -31237814.85 -31237814.66 0.0060 0.0020

Moon -90238-08-07 21:35 J -31237787.69 -31237787.60 -31237787.51 0.2591 0.1952

Earth -90238-08-07 22:47 J -31237787.65 -31237787.55 -31237787.45 0.2588 0.1842 *

Pluto -90238-10-07 17:15 J -31237726.97 -31237726.78 -31237726.59 0.0060 0.0014

Pluto -90237-01-03 18:27 J -31237638.91 -31237638.73 -31237638.52 0.0060 0.0008

Pluto -90237-03-31 20:08 J -31237550.85 -31237550.66 -31237550.46 0.0061 0.0001

Pluto -90237-06-27 21:35 J -31237462.79 -31237462.60 -31237462.40 0.0061 0.0006

Pluto -90237-09-23 23:01 J -31237374.72 -31237374.54 -31237374.34 0.0061 0.0013

Saturn -90237-11-22 17:01 J -31237314.87 -31237314.79 -31237314.71 0.0274 0.0223

Pluto -90237-12-21 00:27 J -31237286.66 -31237286.48 -31237286.28 0.0061 0.0020

Saturn -90236-02-19 05:30 J -31237226.39 -31237226.27 -31237226.14 0.0274 0.0137

Pluto -90236-03-19 02:08 J -31237198.58 -31237198.41 -31237198.23 0.0061 0.0026

Venus -90236-04-12 03:06 J -31237174.46 -31237174.37 -31237174.29 0.3599 0.2753

Saturn -90236-05-18 18:27 J -31237137.87 -31237137.73 -31237137.58 0.0275 0.0047

Pluto -90236-06-15 03:35 J -31237110.51 -31237110.35 -31237110.18 0.0061 0.0033

Saturn -90236-08-15 07:39 J -31237049.32 -31237049.18 -31237049.03 0.0275 0.0045

Pluto -90236-09-11 04:47 J -31237022.43 -31237022.30 -31237022.13 0.0061 0.0040

Saturn -90236-11-11 21:06 J -31236960.75 -31236960.62 -31236960.49 0.0275 0.0138

Pluto -90236-12-08 06:13 J -31236934.34 -31236934.24 -31236934.09 0.0061 0.0047

Jupiter -90236-12-30 17:30 J -31236911.93 -31236911.77 -31236911.60 0.0500 0.0079

Moon -90235-02-07 20:23 J -31236872.73 -31236872.65 -31236872.57 0.2746 0.1970

Earth -90235-02-07 21:20 J -31236872.69 -31236872.61 -31236872.54 0.2743 0.2126 *

Saturn -90235-02-08 10:47 J -31236872.13 -31236872.05 -31236871.98 0.0275 0.0233

Pluto -90235-03-06 07:39 J -31236846.24 -31236846.18 -31236846.06 0.0061 0.0054

Jupiter -90235-03-30 17:59 J -31236821.83 -31236821.75 -31236821.65 0.0504 0.0424

Pluto -90235-06-02 09:35 J -31236758.11 -31236758.10 -31236758.06 0.0061 0.0061

Venus -90235-10-28 06:13 J -31236610.35 -31236610.24 -31236610.13 0.3768 0.0556

Mars -90232-11-14 05:30 J -31235497.39 -31235497.27 -31235497.15 0.1911 0.1007

Venus -90231-10-27 04:03 J -31235150.45 -31235150.33 -31235150.21 0.3602 0.1640

Jupiter -90230-05-23 07:11 J -31234942.29 -31234942.20 -31234942.09 0.0530 0.0343

Jupiter -90230-08-20 17:30 J -31234852.90 -31234852.77 -31234852.64 0.0526 0.0118

Venus -90229-05-13 01:11 J -31234586.55 -31234586.45 -31234586.34 0.3764 0.1337

Mars -90229-08-10 13:11 J -31234497.08 -31234496.95 -31234496.82 0.1627 0.0014

Moon -90228-01-31 11:15 J -31234323.11 -31234323.03 -31234322.95 0.2743 0.2004

Earth -90228-01-31 11:15 J -31234323.11 -31234323.03 -31234322.95 0.2751 0.2085 *

Venus -90225-05-12 04:32 J -31233126.44 -31233126.31 -31233126.18 0.3606 0.0587

Moon -90225-08-09 21:49 J -31233036.72 -31233036.59 -31233036.45 0.2596 0.0279

Earth -90225-08-09 22:32 J -31233036.69 -31233036.56 -31233036.42 0.2591 0.0256 *

Jupiter -90224-10-18 17:15 J -31232601.93 -31232601.78 -31232601.62 0.0499 0.0200

Venus -90224-11-26 20:23 J -31232562.74 -31232562.65 -31232562.55 0.3760 0.2127

Jupiter -90223-01-16 18:13 J -31232511.87 -31232511.74 -31232511.61 0.0503 0.0304

Mars -90222-04-06 06:42 J -31232067.37 -31232067.22 -31232067.08 0.1906 0.0046

Saturn -90222-06-29 14:23 J -31231982.94 -31231982.90 -31231982.85 0.0285 0.0272

Saturn -90222-09-26 09:49 J -31231894.23 -31231894.09 -31231893.94 0.0285 0.0150

Saturn -90222-12-24 05:01 J -31231805.45 -31231805.29 -31231805.12 0.0284 0.0030

Saturn -90221-03-21 23:44 J -31231716.67 -31231716.51 -31231716.35 0.0284 0.0087

Saturn -90221-06-18 17:59 J -31231627.86 -31231627.75 -31231627.64 0.0284 0.0201

Venus -90220-11-26 04:47 J -31231102.43 -31231102.30 -31231102.17 0.3609 0.0441

Mars -90220-12-31 22:03 J -31231066.70 -31231066.58 -31231066.45 0.1631 0.0479

Jupiter -90218-03-11 09:35 J -31230632.16 -31230632.10 -31230632.03 0.0531 0.0468

Jupiter -90218-06-08 19:39 J -31230542.82 -31230542.68 -31230542.55 0.0528 0.0011

Venus -90218-06-12 15:49 J -31230538.91 -31230538.84 -31230538.77 0.3756 0.2946

Jupiter -90218-09-06 06:27 J -31230453.30 -31230453.23 -31230453.16 0.0524 0.0455

Mars -90218-12-07 11:01 J -31230361.08 -31230361.04 -31230361.01 0.1617 0.1550

Moon -90215-02-03 07:39 J -31229572.30 -31229572.18 -31229572.07 0.2743 0.0720

Earth -90215-02-03 08:08 J -31229572.28 -31229572.16 -31229572.04 0.2748 0.0611 *

Venus -90214-06-12 04:18 J -31229078.44 -31229078.32 -31229078.20 0.3613 0.1410

Mars -90213-08-26 07:39 J -31228637.31 -31228637.18 -31228637.06 0.1900 0.0992

Jupiter -90212-08-06 16:32 J -31228291.94 -31228291.81 -31228291.68 0.0499 0.0325

Earth -90212-08-12 22:03 J -31228285.70 -31228285.58 -31228285.46 0.2593 0.1295

Moon -90212-08-12 22:18 J -31228285.68 -31228285.57 -31228285.45 0.2599 0.1266 *

Jupiter -90212-11-04 17:44 J -31228201.91 -31228201.76 -31228201.60 0.0502 0.0181

Venus -90211-03-06 14:51 J -31228079.92 -31228079.88 -31228079.84 0.3785 0.3512

Mars -90210-05-24 07:11 J -31227636.30 -31227636.20 -31227636.09 0.1635 0.0957

Venus -90209-12-26 03:35 J -31227054.45 -31227054.35 -31227054.25 0.3617 0.2341

Mars -90208-04-28 19:39 J -31226930.78 -31226930.68 -31226930.58 0.1620 0.1055

Saturn -90207-04-11 20:23 J -31226582.72 -31226582.65 -31226582.58 0.0274 0.0239

Saturn -90207-07-09 08:51 J -31226494.24 -31226494.13 -31226494.00 0.0274 0.0152

Saturn -90207-10-05 21:49 J -31226405.73 -31226405.59 -31226405.45 0.0274 0.0062

Saturn -90206-01-02 11:01 J -31226317.19 -31226317.04 -31226316.90 0.0274 0.0030

Jupiter -90206-03-27 22:32 J -31226232.69 -31226232.56 -31226232.42 0.0529 0.0127

Saturn -90206-04-01 00:13 J -31226228.62 -31226228.49 -31226228.36 0.0274 0.0122

Jupiter -90206-06-25 09:20 J -31226143.22 -31226143.11 -31226143.01 0.0525 0.0339

Saturn -90206-06-28 13:54 J -31226140.01 -31226139.92 -31226139.83 0.0275 0.0217

Venus -90206-09-20 08:37 J -31226056.21 -31226056.14 -31226056.07 0.3782 0.2856

Uranus -90206-11-13 08:51 J -31226002.22 -31226002.13 -31226002.04 0.0138 0.0118

Uranus -90205-02-09 14:51 J -31225914.00 -31225913.88 -31225913.75 0.0138 0.0096

Uranus -90205-05-07 21:06 J -31225825.76 -31225825.62 -31225825.47 0.0138 0.0074

Uranus -90205-08-04 03:06 J -31225737.53 -31225737.37 -31225737.21 0.0138 0.0053

Uranus -90205-10-31 09:06 J -31225649.28 -31225649.12 -31225648.95 0.0138 0.0032

Uranus -90204-01-27 15:06 J -31225561.04 -31225560.87 -31225560.70 0.0137 0.0010

Uranus -90204-04-25 20:51 J -31225472.80 -31225472.63 -31225472.45 0.0137 0.0011

Uranus -90204-07-23 02:51 J -31225384.55 -31225384.38 -31225384.22 0.0137 0.0031

Uranus -90204-10-19 08:37 J -31225296.30 -31225296.14 -31225295.98 0.0137 0.0051

Uranus -90203-01-15 14:08 J -31225208.05 -31225207.91 -31225207.76 0.0137 0.0072

Uranus -90203-04-13 19:39 J -31225119.79 -31225119.68 -31225119.54 0.0137 0.0092

Uranus -90203-07-11 01:11 J -31225031.53 -31225031.45 -31225031.34 0.0137 0.0112

Venus -90203-07-12 02:23 J -31225030.45 -31225030.40 -31225030.34 0.3621 0.3230

Uranus -90203-10-07 06:56 J -31224943.25 -31224943.21 -31224943.16 0.0136 0.0131

Moon -90202-02-06 04:18 J -31224821.44 -31224821.32 -31224821.21 0.2744 0.0794

Earth -90202-02-06 05:15 J -31224821.40 -31224821.28 -31224821.17 0.2745 0.0899 *

Mars -90201-10-13 16:32 J -31224205.87 -31224205.81 -31224205.75 0.1639 0.1430

Venus -90200-04-05 02:37 J -31224032.48 -31224032.39 -31224032.30 0.3779 0.2179

Jupiter -90200-05-25 14:51 J -31223981.94 -31223981.88 -31223981.81 0.0498 0.0458

Jupiter -90200-08-23 16:32 J -31223891.98 -31223891.81 -31223891.64 0.0501 0.0049

Mars -90199-09-19 04:32 J -31223500.44 -31223500.31 -31223500.19 0.1623 0.0567

Venus -90195-10-19 20:51 J -31222008.73 -31222008.63 -31222008.53 0.3776 0.1481

Jupiter -90194-01-14 02:08 J -31221922.53 -31221922.41 -31221922.29 0.0530 0.0235

Jupiter -90194-04-13 12:42 J -31221833.10 -31221832.97 -31221832.85 0.0526 0.0229

Saturn -90192-02-12 10:18 J -31221162.20 -31221162.07 -31221161.94 0.0285 0.0183

Saturn -90192-05-12 05:30 J -31221073.43 -31221073.27 -31221073.11 0.0284 0.0063

Mars -90192-05-15 05:44 J -31221070.38 -31221070.26 -31221070.15 0.1911 0.1094

Moon -90192-08-08 03:20 J -31220985.46 -31220985.36 -31220985.25 0.2592 0.1652

Earth -90192-08-08 04:32 J -31220985.43 -31220985.31 -31220985.20 0.2589 0.1507 *

Saturn -90192-08-09 00:13 J -31220984.65 -31220984.49 -31220984.33 0.0284 0.0055

Saturn -90192-11-05 18:27 J -31220895.86 -31220895.73 -31220895.60 0.0284 0.0169

Saturn -90191-02-02 12:13 J -31220807.00 -31220806.99 -31220806.96 0.0284 0.0281

Moon -90189-02-09 01:54 J -31220070.48 -31220070.42 -31220070.37 0.2747 0.2391

Earth -90189-02-09 02:37 J -31220070.45 -31220070.39 -31220070.34 0.2743 0.2439 *

Mars -90189-02-09 13:25 J -31220070.07 -31220069.94 -31220069.81 0.1627 0.0081

Venus -90189-05-04 15:20 J -31219984.97 -31219984.86 -31219984.75 0.3773 0.0758

Jupiter -90188-06-11 15:49 J -31219582.00 -31219581.84 -31219581.67 0.0500 0.0077

Jupiter -90188-09-09 16:18 J -31219491.90 -31219491.82 -31219491.73 0.0503 0.0424

Venus -90184-11-18 09:49 J -31217961.20 -31217961.09 -31217960.98 0.3770 0.0037

Mars -90183-10-05 07:11 J -31217640.34 -31217640.20 -31217640.06 0.1906 0.0128

Jupiter -90183-11-02 05:44 J -31217612.36 -31217612.26 -31217612.16 0.0530 0.0343

Jupiter -90182-01-30 15:49 J -31217522.97 -31217522.84 -31217522.70 0.0527 0.0119

Moon -90182-02-01 16:32 J -31217520.90 -31217520.81 -31217520.73 0.2743 0.1860

Earth -90182-02-01 16:32 J -31217520.90 -31217520.81 -31217520.72 0.2750 0.1789 *

Mars -90180-07-01 22:18 J -31216639.69 -31216639.57 -31216639.44 0.1630 0.0407

Venus -90180-11-17 03:06 J -31216501.47 -31216501.37 -31216501.27 0.3600 0.2467

Moon -90179-08-11 03:35 J -31216234.48 -31216234.35 -31216234.21 0.2596 0.0087

Earth -90179-08-11 04:18 J -31216234.46 -31216234.32 -31216234.19 0.2591 0.0100 *

Venus -90178-06-04 04:32 J -31215937.42 -31215937.31 -31215937.19 0.3767 0.0759

Saturn -90178-08-29 21:20 J -31215850.63 -31215850.61 -31215850.60 0.0274 0.0271

Saturn -90178-11-26 09:35 J -31215762.20 -31215762.10 -31215761.99 0.0274 0.0186

Saturn -90177-02-22 22:32 J -31215673.70 -31215673.56 -31215673.43 0.0274 0.0096

Saturn -90177-05-21 11:30 J -31215585.17 -31215585.02 -31215584.88 0.0274 0.0006

Saturn -90177-08-18 00:42 J -31215496.61 -31215496.47 -31215496.33 0.0275 0.0086

Saturn -90177-11-14 14:08 J -31215408.02 -31215407.91 -31215407.80 0.0275 0.0180

Jupiter -90176-03-30 15:20 J -31215272.02 -31215271.86 -31215271.70 0.0499 0.0201

Jupiter -90176-06-28 16:18 J -31215181.95 -31215181.82 -31215181.69 0.0503 0.0303

Venus -90174-06-03 04:03 J -31214477.46 -31214477.33 -31214477.21 0.3603 0.1378

Neptune -90174-08-24 19:25 J -31214394.73 -31214394.69 -31214394.61 0.0089 0.0084

Neptune -90174-11-20 22:47 J -31214306.62 -31214306.55 -31214306.45 0.0089 0.0078

Neptune -90173-02-17 01:54 J -31214218.51 -31214218.42 -31214218.30 0.0089 0.0072

Mars -90173-02-25 07:54 J -31214210.29 -31214210.17 -31214210.04 0.1900 0.0893

Neptune -90173-05-15 05:15 J -31214130.39 -31214130.28 -31214130.15 0.0089 0.0066

Neptune -90173-08-11 08:08 J -31214042.28 -31214042.16 -31214042.01 0.0089 0.0061

Neptune -90173-11-07 11:30 J -31213954.16 -31213954.02 -31213953.87 0.0089 0.0055

Venus -90173-12-17 23:44 J -31213913.62 -31213913.51 -31213913.41 0.3763 0.1527

Neptune -90172-02-03 14:51 J -31213866.03 -31213865.88 -31213865.73 0.0088 0.0049

Neptune -90172-05-02 17:44 J -31213777.91 -31213777.76 -31213777.59 0.0088 0.0043

Neptune -90172-07-29 20:51 J -31213689.79 -31213689.63 -31213689.46 0.0088 0.0038

Neptune -90172-10-25 23:44 J -31213601.67 -31213601.51 -31213601.33 0.0088 0.0033

Neptune -90171-01-22 03:06 J -31213513.54 -31213513.37 -31213513.20 0.0088 0.0026

Neptune -90171-04-20 06:13 J -31213425.42 -31213425.24 -31213425.07 0.0088 0.0021

Neptune -90171-07-17 09:06 J -31213337.29 -31213337.12 -31213336.94 0.0088 0.0016

Jupiter -90171-08-21 09:06 J -31213302.18 -31213302.12 -31213302.05 0.0531 0.0455

Neptune -90171-10-13 12:13 J -31213249.17 -31213248.99 -31213248.81 0.0088 0.0010

Jupiter -90171-11-18 18:56 J -31213212.84 -31213212.71 -31213212.57 0.0527 0.0018

Mars -90171-11-22 07:25 J -31213209.30 -31213209.19 -31213209.08 0.1635 0.0886

Neptune -90170-01-09 15:20 J -31213161.04 -31213160.86 -31213160.68 0.0088 0.0005

Jupiter -90170-02-16 05:44 J -31213123.31 -31213123.26 -31213123.19 0.0524 0.0468

Neptune -90170-04-07 18:13 J -31213072.92 -31213072.74 -31213072.56 0.0088 0.0001

Neptune -90170-07-04 21:20 J -31212984.79 -31212984.61 -31212984.43 0.0088 0.0007

Neptune -90170-10-01 00:13 J -31212896.67 -31212896.49 -31212896.31 0.0088 0.0012

Neptune -90170-12-28 03:06 J -31212808.54 -31212808.37 -31212808.19 0.0088 0.0018

Moon -90169-02-04 12:42 J -31212770.09 -31212769.97 -31212769.85 0.2744 0.0335

Earth -90169-02-04 13:25 J -31212770.06 -31212769.94 -31212769.82 0.2748 0.0312 *

Neptune -90169-03-25 05:59 J -31212720.42 -31212720.25 -31212720.07 0.0088 0.0023

Neptune -90169-06-21 08:51 J -31212632.29 -31212632.13 -31212631.95 0.0088 0.0029

Neptune -90169-09-17 11:59 J -31212544.16 -31212544.00 -31212543.83 0.0088 0.0034

Mars -90169-10-27 19:54 J -31212503.76 -31212503.67 -31212503.58 0.1620 0.1131

Neptune -90169-12-14 14:37 J -31212456.04 -31212455.89 -31212455.72 0.0088 0.0040

Venus -90169-12-17 04:18 J -31212453.45 -31212453.32 -31212453.18 0.3607 0.0338

Neptune -90168-03-12 17:44 J -31212367.91 -31212367.76 -31212367.60 0.0088 0.0045

Neptune -90168-06-08 20:37 J -31212279.78 -31212279.64 -31212279.49 0.0088 0.0050

Neptune -90168-09-04 23:15 J -31212191.65 -31212191.53 -31212191.38 0.0088 0.0056

Neptune -90168-12-02 02:08 J -31212103.52 -31212103.41 -31212103.27 0.0088 0.0061

Neptune -90167-02-28 05:15 J -31212015.39 -31212015.28 -31212015.16 0.0088 0.0066

Neptune -90167-05-27 08:08 J -31211927.26 -31211927.16 -31211927.05 0.0088 0.0071

Venus -90167-07-03 18:56 J -31211889.80 -31211889.71 -31211889.62 0.3759 0.2329

Neptune -90167-08-23 10:32 J -31211839.12 -31211839.06 -31211838.95 0.0088 0.0077

Neptune -90167-11-19 13:25 J -31211750.99 -31211750.94 -31211750.85 0.0088 0.0082

Neptune -90166-02-15 16:18 J -31211662.84 -31211662.82 -31211662.77 0.0088 0.0087

Earth -90166-08-14 03:35 J -31211483.45 -31211483.35 -31211483.24 0.2594 0.1621

Moon -90166-08-14 04:03 J -31211483.43 -31211483.33 -31211483.23 0.2600 0.1721 *

Jupiter -90164-01-16 14:51 J -31210962.01 -31210961.88 -31210961.74 0.0499 0.0323

Jupiter -90164-04-16 16:18 J -31210871.98 -31210871.82 -31210871.66 0.0502 0.0184

Saturn -90163-07-02 08:51 J -31210430.24 -31210430.13 -31210430.03 0.0285 0.0225

Venus -90163-07-03 04:18 J -31210429.45 -31210429.32 -31210429.18 0.3610 0.0696

Saturn -90163-09-29 04:03 J -31210341.48 -31210341.33 -31210341.17 0.0285 0.0104

Saturn -90163-12-26 23:01 J -31210252.70 -31210252.54 -31210252.37 0.0284 0.0016

Saturn -90162-03-25 17:30 J -31210163.91 -31210163.77 -31210163.62 0.0284 0.0131

Saturn -90162-06-22 11:30 J -31210075.09 -31210075.02 -31210074.93 0.0284 0.0245

Venus -90161-01-17 14:23 J -31209865.96 -31209865.90 -31209865.84 0.3755 0.3153

Mars -90161-04-13 16:32 J -31209778.88 -31209778.81 -31209778.74 0.1639 0.1366

Uranus -90161-07-07 23:15 J -31209693.58 -31209693.53 -31209693.47 0.0140 0.0127

Uranus -90161-10-04 03:20 J -31209605.45 -31209605.36 -31209605.27 0.0141 0.0109

Uranus -90161-12-31 07:25 J -31209517.29 -31209517.19 -31209517.08 0.0141 0.0091

Uranus -90160-03-29 11:30 J -31209429.14 -31209429.02 -31209428.89 0.0141 0.0073

Uranus -90160-06-25 15:35 J -31209340.97 -31209340.85 -31209340.71 0.0141 0.0054

Uranus -90160-09-21 19:54 J -31209252.81 -31209252.67 -31209252.53 0.0141 0.0035

Uranus -90160-12-19 00:13 J -31209164.63 -31209164.49 -31209164.35 0.0141 0.0016

Uranus -90159-03-17 04:32 J -31209076.46 -31209076.31 -31209076.17 0.0141 0.0004

Mars -90159-03-20 04:32 J -31209073.43 -31209073.31 -31209073.18 0.1623 0.0637

Uranus -90159-06-13 08:51 J -31208988.28 -31208988.13 -31208987.99 0.0142 0.0022

Jupiter -90159-09-06 21:20 J -31208902.75 -31208902.61 -31208902.48 0.0528 0.0125

Uranus -90159-09-09 13:11 J -31208900.09 -31208899.95 -31208899.81 0.0142 0.0042

Jupiter -90159-12-05 07:39 J -31208813.28 -31208813.18 -31208813.07 0.0525 0.0340

Uranus -90159-12-06 17:15 J -31208811.90 -31208811.78 -31208811.64 0.0142 0.0062

Uranus -90158-03-04 22:03 J -31208723.70 -31208723.58 -31208723.46 0.0142 0.0081

Uranus -90158-06-01 02:23 J -31208635.50 -31208635.40 -31208635.30 0.0142 0.0101

Uranus -90158-08-28 06:56 J -31208547.28 -31208547.21 -31208547.13 0.0142 0.0122

Uranus -90158-11-24 11:15 J -31208459.03 -31208459.03 -31208459.01 0.0142 0.0142

Venus -90157-01-17 03:49 J -31208405.45 -31208405.34 -31208405.22 0.3614 0.1650

Moon -90156-02-06 09:35 J -31208019.21 -31208019.10 -31208018.99 0.2744 0.1075

Earth -90156-02-06 10:32 J -31208019.17 -31208019.06 -31208018.95 0.2745 0.1208 *

Venus -90155-10-11 12:56 J -31207407.01 -31207406.96 -31207406.92 0.3784 0.3355

Jupiter -90153-11-04 13:54 J -31206651.99 -31206651.92 -31206651.84 0.0498 0.0449

Mars -90153-11-13 06:13 J -31206643.35 -31206643.24 -31206643.13 0.1911 0.1208

Jupiter -90152-02-02 15:49 J -31206562.01 -31206561.84 -31206561.67 0.0501 0.0060

Venus -90152-08-02 03:06 J -31206381.46 -31206381.37 -31206381.28 0.3618 0.2568

Mars -90150-08-10 13:25 J -31205643.07 -31205642.94 -31205642.81 0.1627 0.0154

Venus -90149-04-26 06:42 J -31205383.29 -31205383.22 -31205383.14 0.3781 0.2689

Saturn -90148-04-14 13:11 J -31205030.05 -31205029.95 -31205029.86 0.0274 0.0200

Saturn -90148-07-12 01:54 J -31204941.55 -31204941.42 -31204941.29 0.0274 0.0112

Saturn -90148-10-08 14:51 J -31204853.03 -31204852.88 -31204852.74 0.0274 0.0022

Saturn -90147-01-05 04:03 J -31204764.47 -31204764.33 -31204764.19 0.0274 0.0071

Saturn -90147-04-03 17:15 J -31204675.89 -31204675.78 -31204675.66 0.0275 0.0165

Jupiter -90147-06-26 00:13 J -31204592.61 -31204592.49 -31204592.37 0.0529 0.0240

Saturn -90147-07-01 06:56 J -31204587.25 -31204587.21 -31204587.16 0.0275 0.0260

Jupiter -90147-09-23 10:32 J -31204503.18 -31204503.06 -31204502.93 0.0526 0.0222

Venus -90146-02-16 01:54 J -31204357.46 -31204357.42 -31204357.39 0.3622 0.3448

Moon -90146-08-09 09:06 J -31204183.24 -31204183.12 -31204183.00 0.2593 0.1233

Earth -90146-08-09 10:03 J -31204183.20 -31204183.08 -31204182.95 0.2589 0.1171 *

Pluto -90146-11-24 09:06 J -31204076.16 -31204076.12 -31204076.05 0.0085 0.0077

Pluto -90145-02-20 10:47 J -31203988.14 -31203988.05 -31203987.97 0.0084 0.0064

Pluto -90145-05-18 11:59 J -31203900.10 -31203900.00 -31203899.90 0.0084 0.0051

Pluto -90145-08-14 13:11 J -31203812.06 -31203811.95 -31203811.83 0.0084 0.0039

Pluto -90145-11-10 14:23 J -31203724.02 -31203723.90 -31203723.77 0.0084 0.0027

Pluto -90144-02-06 15:49 J -31203635.97 -31203635.84 -31203635.71 0.0084 0.0015

Pluto -90144-05-05 17:01 J -31203547.92 -31203547.79 -31203547.66 0.0084 0.0003

Pluto -90144-08-01 18:13 J -31203459.87 -31203459.74 -31203459.61 0.0084 0.0009

Pluto -90144-10-28 19:25 J -31203371.81 -31203371.69 -31203371.56 0.0084 0.0021

Venus -90144-11-10 00:42 J -31203359.56 -31203359.47 -31203359.37 0.3778 0.2012

Pluto -90143-01-24 20:37 J -31203283.76 -31203283.64 -31203283.51 0.0083 0.0033

Moon -90143-02-09 07:11 J -31203268.22 -31203268.20 -31203268.18 0.2748 0.2683

Mars -90143-04-05 07:25 J -31203213.33 -31203213.19 -31203213.05 0.1906 0.0213

Pluto -90143-04-22 21:49 J -31203195.70 -31203195.59 -31203195.47 0.0083 0.0045

Pluto -90143-07-19 23:01 J -31203107.63 -31203107.54 -31203107.44 0.0083 0.0056

Pluto -90143-10-16 00:13 J -31203019.56 -31203019.49 -31203019.41 0.0083 0.0068

Pluto -90142-01-12 01:39 J -31202931.47 -31202931.43 -31202931.40 0.0083 0.0079

Jupiter -90141-11-21 14:08 J -31202252.07 -31202251.91 -31202251.74 0.0500 0.0075

Mars -90141-12-30 22:32 J -31202212.69 -31202212.56 -31202212.43 0.1631 0.0335

Jupiter -90140-02-19 14:51 J -31202161.97 -31202161.88 -31202161.80 0.0503 0.0426

Venus -90138-05-26 18:56 J -31201335.81 -31201335.71 -31201335.60 0.3776 0.1311

Moon -90136-02-01 21:35 J -31200718.71 -31200718.60 -31200718.50 0.2743 0.1432

Earth -90136-02-01 21:35 J -31200718.70 -31200718.60 -31200718.50 0.2750 0.1490 *

Jupiter -90135-04-14 03:49 J -31200282.44 -31200282.34 -31200282.24 0.0531 0.0350

Jupiter -90135-07-12 13:54 J -31200193.05 -31200192.92 -31200192.78 0.0527 0.0112

Mars -90134-08-26 08:23 J -31199783.28 -31199783.15 -31199783.02 0.1901 0.0789

Saturn -90134-11-19 09:35 J -31199698.17 -31199698.10 -31199698.02 0.0285 0.0255

Saturn -90133-02-16 05:01 J -31199609.43 -31199609.29 -31199609.14 0.0285 0.0133

Saturn -90133-05-15 00:13 J -31199520.66 -31199520.49 -31199520.33 0.0284 0.0014

Moon -90133-08-11 09:35 J -31199432.23 -31199432.10 -31199431.96 0.2598 0.0380

Earth -90133-08-11 09:49 J -31199432.22 -31199432.09 -31199431.95 0.2591 0.0408 *

Saturn -90133-08-11 18:42 J -31199431.87 -31199431.72 -31199431.57 0.0284 0.0103

Saturn -90133-11-08 12:56 J -31199343.07 -31199342.96 -31199342.86 0.0284 0.0216

Venus -90133-12-09 13:25 J -31199312.05 -31199311.94 -31199311.83 0.3772 0.0587

Mars -90131-05-23 07:39 J -31198782.29 -31198782.18 -31198782.07 0.1634 0.0817

Mars -90129-04-27 20:08 J -31198076.75 -31198076.66 -31198076.58 0.1620 0.1202

Jupiter -90129-09-09 13:25 J -31197942.09 -31197941.94 -31197941.78 0.0499 0.0200

Venus -90129-12-08 01:54 J -31197852.47 -31197852.42 -31197852.37 0.3597 0.3320

Jupiter -90129-12-08 14:23 J -31197852.03 -31197851.90 -31197851.77 0.0502 0.0303

Venus -90127-06-25 08:08 J -31197288.27 -31197288.16 -31197288.05 0.3769 0.0169

Mars -90124-01-15 09:06 J -31196353.16 -31196353.12 -31196353.08 0.1894 0.1805

Jupiter -90123-01-31 07:25 J -31195972.26 -31195972.19 -31195972.13 0.0531 0.0458

Moon -90123-02-04 17:44 J -31195967.88 -31195967.76 -31195967.64 0.2744 0.0177

Earth -90123-02-04 18:42 J -31195967.85 -31195967.72 -31195967.60 0.2747 0.0103 *

Jupiter -90123-04-30 17:15 J -31195882.91 -31195882.78 -31195882.64 0.0528 0.0010

Venus -90123-06-24 03:06 J -31195828.48 -31195828.37 -31195828.26 0.3601 0.2191

Jupiter -90123-07-29 04:03 J -31195793.39 -31195793.33 -31195793.27 0.0524 0.0465

Uranus -90122-09-06 09:06 J -31195389.13 -31195389.12 -31195389.08 0.0138 0.0137

Mars -90122-10-13 16:47 J -31195351.88 -31195351.80 -31195351.72 0.1639 0.1297

Uranus -90122-12-03 15:20 J -31195300.94 -31195300.86 -31195300.75 0.0138 0.0115

Venus -90121-01-09 03:06 J -31195264.48 -31195264.37 -31195264.26 0.3765 0.0940

Uranus -90121-02-29 21:49 J -31195212.72 -31195212.59 -31195212.46 0.0138 0.0092

Uranus -90121-05-28 03:49 J -31195124.48 -31195124.34 -31195124.19 0.0138 0.0071

Uranus -90121-08-24 09:49 J -31195036.25 -31195036.09 -31195035.92 0.0138 0.0049

Uranus -90121-11-20 15:49 J -31194948.00 -31194947.84 -31194947.66 0.0138 0.0028

Uranus -90120-02-16 21:49 J -31194859.76 -31194859.59 -31194859.41 0.0137 0.0008

Uranus -90120-05-16 03:49 J -31194771.51 -31194771.34 -31194771.17 0.0137 0.0014

Uranus -90120-08-12 09:35 J -31194683.26 -31194683.10 -31194682.93 0.0137 0.0035

Earth -90120-08-14 09:20 J -31194681.20 -31194681.11 -31194681.02 0.2594 0.1940

Moon -90120-08-14 09:49 J -31194681.18 -31194681.09 -31194681.01 0.2600 0.1946 *

Mars -90120-09-18 04:47 J -31194646.42 -31194646.30 -31194646.18 0.1623 0.0711

Uranus -90120-11-08 15:20 J -31194595.01 -31194594.86 -31194594.70 0.0137 0.0055

Uranus -90119-02-04 21:06 J -31194506.76 -31194506.62 -31194506.48 0.0137 0.0075

Uranus -90119-05-04 02:37 J -31194418.50 -31194418.39 -31194418.26 0.0137 0.0095

Uranus -90119-07-31 08:08 J -31194330.24 -31194330.16 -31194330.06 0.0137 0.0115

Saturn -90119-09-01 14:08 J -31194297.98 -31194297.91 -31194297.83 0.0274 0.0232

Uranus -90119-10-27 13:54 J -31194241.95 -31194241.92 -31194241.89 0.0136 0.0134

Saturn -90119-11-29 02:51 J -31194209.50 -31194209.38 -31194209.26 0.0274 0.0144

Saturn -90118-02-25 15:35 J -31194120.99 -31194120.85 -31194120.70 0.0274 0.0055

Saturn -90118-05-25 04:47 J -31194032.44 -31194032.30 -31194032.16 0.0275 0.0037

Saturn -90118-08-21 17:59 J -31193943.87 -31193943.75 -31193943.62 0.0275 0.0130

Saturn -90118-11-18 07:25 J -31193855.26 -31193855.19 -31193855.10 0.0275 0.0225

Venus -90117-01-08 03:49 J -31193804.47 -31193804.34 -31193804.21 0.3604 0.1109

Jupiter -90117-06-28 12:42 J -31193632.10 -31193631.97 -31193631.84 0.0499 0.0326

Jupiter -90117-09-26 13:54 J -31193542.07 -31193541.92 -31193541.76 0.0502 0.0181

Venus -90116-07-24 22:03 J -31193240.68 -31193240.58 -31193240.48 0.3762 0.1729

Mars -90113-05-14 06:27 J -31192216.33 -31192216.23 -31192216.12 0.1911 0.1301

Moon -90113-08-06 14:37 J -31192131.92 -31192131.89 -31192131.85 0.2588 0.2479

Earth -90113-08-06 15:49 J -31192131.88 -31192131.84 -31192131.79 0.2587 0.2440 *

Venus -90112-07-24 04:18 J -31191780.46 -31191780.32 -31191780.19 0.3608 0.0112

Jupiter -90111-02-16 20:37 J -31191572.78 -31191572.64 -31191572.51 0.0528 0.0114

Jupiter -90111-05-17 06:56 J -31191483.31 -31191483.21 -31191483.10 0.0525 0.0351

Moon -90110-02-07 14:51 J -31191216.98 -31191216.88 -31191216.78 0.2746 0.1463

Earth -90110-02-07 15:49 J -31191216.94 -31191216.84 -31191216.74 0.2745 0.1519 *

Venus -90110-02-07 17:30 J -31191216.86 -31191216.77 -31191216.69 0.3758 0.2536 *

Mars -90110-02-08 13:39 J -31191216.06 -31191215.93 -31191215.80 0.1627 0.0221

Venus -90106-02-07 04:03 J -31189756.46 -31189756.33 -31189756.20 0.3611 0.0928

Jupiter -90105-04-16 12:13 J -31189322.06 -31189321.99 -31189321.92 0.0498 0.0448

Jupiter -90105-07-15 13:54 J -31189232.09 -31189231.92 -31189231.75 0.0501 0.0061

Venus -90105-08-23 12:56 J -31189193.00 -31189192.96 -31189192.91 0.3754 0.3368

Saturn -90104-07-05 03:35 J -31188877.48 -31188877.35 -31188877.22 0.0284 0.0175

Saturn -90104-10-01 22:47 J -31188788.71 -31188788.55 -31188788.38 0.0284 0.0055

Mars -90104-10-04 07:54 J -31188786.31 -31188786.17 -31188786.03 0.1906 0.0324

Saturn -90104-12-29 17:44 J -31188699.93 -31188699.76 -31188699.60 0.0284 0.0064

Earth -90103-01-31 05:59 J -31188667.27 -31188667.25 -31188667.22 0.2752 0.2645

Moon -90103-01-31 06:27 J -31188667.27 -31188667.23 -31188667.19 0.2745 0.2555 *

Saturn -90103-03-28 11:59 J -31188611.13 -31188611.00 -31188610.87 0.0284 0.0178

Mars -90101-06-30 22:47 J -31187785.68 -31187785.55 -31187785.42 0.1630 0.0271

Venus -90101-08-23 03:35 J -31187732.47 -31187732.35 -31187732.24 0.3615 0.1884

Moon -90100-08-09 14:51 J -31187381.01 -31187380.88 -31187380.75 0.2593 0.0985

Earth -90100-08-09 15:49 J -31187380.97 -31187380.84 -31187380.71 0.2589 0.0830 *

Jupiter -90100-12-05 22:47 J -31187262.67 -31187262.55 -31187262.43 0.0529 0.0239

Jupiter -90099-03-05 09:06 J -31187173.24 -31187173.12 -31187173.00 0.0526 0.0222

Venus -90098-05-18 10:47 J -31186734.10 -31186734.05 -31186733.99 0.3783 0.3195

Venus -90095-03-09 02:37 J -31185708.47 -31185708.39 -31185708.31 0.3619 0.2792

Mars -90094-02-24 08:51 J -31185356.26 -31185356.13 -31185356.00 0.1901 0.0687

Jupiter -90093-05-03 13:11 J -31184922.11 -31184921.95 -31184921.78 0.0500 0.0066

Jupiter -90093-08-01 13:39 J -31184832.00 -31184831.93 -31184831.84 0.0503 0.0435

Venus -90093-12-01 04:47 J -31184710.38 -31184710.30 -31184710.22 0.3781 0.2523

Neptune -90092-02-24 06:27 J -31184625.26 -31184625.23 -31184625.18 0.0089 0.0085

Neptune -90092-05-23 07:54 J -31184537.21 -31184537.17 -31184537.10 0.0089 0.0081

Neptune -90092-08-19 09:20 J -31184449.16 -31184449.11 -31184449.03 0.0089 0.0077

Neptune -90092-11-15 10:47 J -31184361.11 -31184361.05 -31184360.95 0.0089 0.0073

Mars -90092-11-21 07:39 J -31184355.29 -31184355.18 -31184355.06 0.1634 0.0752

Neptune -90091-02-11 12:27 J -31184273.06 -31184272.98 -31184272.88 0.0089 0.0069

Neptune -90091-05-10 14:08 J -31184185.00 -31184184.91 -31184184.81 0.0089 0.0064

Neptune -90091-08-06 15:35 J -31184096.95 -31184096.85 -31184096.74 0.0089 0.0060

Neptune -90091-11-02 17:01 J -31184008.89 -31184008.79 -31184008.68 0.0089 0.0056

Neptune -90090-01-29 18:27 J -31183920.83 -31183920.73 -31183920.61 0.0089 0.0052

Moon -90090-02-03 02:23 J -31183916.50 -31183916.40 -31183916.29 0.2743 0.1287

Earth -90090-02-03 02:51 J -31183916.49 -31183916.38 -31183916.27 0.2749 0.1187 *

Neptune -90090-04-27 19:54 J -31183832.77 -31183832.67 -31183832.54 0.0089 0.0048

Neptune -90090-07-24 21:49 J -31183744.71 -31183744.59 -31183744.47 0.0089 0.0043

Neptune -90090-10-20 23:15 J -31183656.65 -31183656.53 -31183656.40 0.0089 0.0039

Mars -90090-10-27 20:08 J -31183649.74 -31183649.66 -31183649.58 0.1619 0.1273

Neptune -90089-01-17 00:42 J -31183568.59 -31183568.47 -31183568.34 0.0089 0.0035

Saturn -90089-01-19 17:30 J -31183565.82 -31183565.77 -31183565.71 0.0274 0.0248

Neptune -90089-04-14 02:23 J -31183480.53 -31183480.40 -31183480.27 0.0089 0.0030

Saturn -90089-04-17 06:13 J -31183477.36 -31183477.24 -31183477.13 0.0274 0.0160

Neptune -90089-07-11 03:49 J -31183392.47 -31183392.34 -31183392.20 0.0089 0.0026

Saturn -90089-07-14 18:56 J -31183388.85 -31183388.71 -31183388.57 0.0274 0.0071

Neptune -90089-10-07 05:30 J -31183304.41 -31183304.27 -31183304.13 0.0089 0.0022

Saturn -90089-10-11 07:54 J -31183300.31 -31183300.17 -31183300.02 0.0275 0.0023

Neptune -90088-01-03 06:56 J -31183216.34 -31183216.21 -31183216.07 0.0089 0.0018

Saturn -90088-01-07 21:20 J -31183211.74 -31183211.61 -31183211.48 0.0275 0.0114

Neptune -90088-04-01 08:37 J -31183128.28 -31183128.14 -31183128.00 0.0089 0.0013

Saturn -90088-04-06 10:47 J -31183123.14 -31183123.05 -31183122.95 0.0275 0.0209

Neptune -90088-06-28 10:18 J -31183040.21 -31183040.07 -31183039.93 0.0089 0.0009

Jupiter -90088-09-24 01:39 J -31182952.52 -31182952.43 -31182952.33 0.0530 0.0356

Neptune -90088-09-24 11:44 J -31182952.15 -31182952.01 -31182951.87 0.0089 0.0005

Neptune -90088-12-21 13:25 J -31182864.08 -31182863.94 -31182863.80 0.0089 0.0001

Jupiter -90088-12-22 11:59 J -31182863.14 -31182863.00 -31182862.87 0.0527 0.0105

Neptune -90087-03-19 15:06 J -31182776.01 -31182775.87 -31182775.73 0.0089 0.0005

Neptune -90087-06-15 16:32 J -31182687.95 -31182687.81 -31182687.67 0.0089 0.0009

Venus -90087-06-16 23:01 J -31182686.64 -31182686.54 -31182686.45 0.3778 0.1836

Moon -90087-08-12 15:20 J -31182629.99 -31182629.86 -31182629.73 0.2599 0.0764

Earth -90087-08-12 15:35 J -31182629.99 -31182629.85 -31182629.72 0.2592 0.0739 *

Neptune -90087-09-11 18:13 J -31182599.88 -31182599.74 -31182599.60 0.0089 0.0013

Neptune -90087-12-08 19:39 J -31182511.81 -31182511.68 -31182511.53 0.0089 0.0018

Neptune -90086-03-06 21:20 J -31182423.74 -31182423.61 -31182423.47 0.0089 0.0022

Neptune -90086-06-02 23:01 J -31182335.67 -31182335.54 -31182335.40 0.0089 0.0027

Neptune -90086-08-30 00:42 J -31182247.60 -31182247.47 -31182247.34 0.0089 0.0031

Neptune -90086-11-26 02:08 J -31182159.53 -31182159.41 -31182159.27 0.0089 0.0036

Neptune -90085-02-22 03:49 J -31182071.46 -31182071.34 -31182071.21 0.0089 0.0040

Neptune -90085-05-20 05:15 J -31181983.39 -31181983.28 -31181983.14 0.0089 0.0045

Mars -90085-07-16 09:20 J -31181926.17 -31181926.11 -31181926.05 0.1895 0.1722

Neptune -90085-08-16 07:11 J -31181895.31 -31181895.20 -31181895.08 0.0089 0.0049

Neptune -90085-11-12 08:51 J -31181807.24 -31181807.13 -31181807.01 0.0089 0.0053

Neptune -90084-02-08 10:18 J -31181719.17 -31181719.07 -31181718.95 0.0089 0.0058

Neptune -90084-05-07 12:13 J -31181631.09 -31181630.99 -31181630.89 0.0089 0.0062

Neptune -90084-08-03 13:39 J -31181543.01 -31181542.93 -31181542.82 0.0089 0.0067

Neptune -90084-10-30 15:35 J -31181454.93 -31181454.85 -31181454.76 0.0089 0.0071

Neptune -90083-01-26 17:01 J -31181366.85 -31181366.79 -31181366.70 0.0089 0.0076

Neptune -90083-04-24 18:42 J -31181278.77 -31181278.72 -31181278.65 0.0089 0.0081

Neptune -90083-07-21 20:37 J -31181190.67 -31181190.64 -31181190.60 0.0089 0.0085

Mars -90082-04-13 16:47 J -31180924.88 -31180924.80 -31180924.71 0.1639 0.1232

Venus -90082-12-31 17:15 J -31180662.89 -31180662.78 -31180662.67 0.3775 0.1125

Jupiter -90081-02-20 11:30 J -31180612.17 -31180612.02 -31180611.86 0.0499 0.0200

Jupiter -90081-05-20 12:27 J -31180522.11 -31180521.98 -31180521.84 0.0502 0.0303

Mars -90080-03-19 05:01 J -31180219.41 -31180219.29 -31180219.17 0.1623 0.0780

Moon -90077-02-05 23:01 J -31179165.66 -31179165.54 -31179165.42 0.2743 0.0288

Earth -90077-02-05 23:44 J -31179165.63 -31179165.51 -31179165.39 0.2747 0.0312 *

Uranus -90077-05-01 02:37 J -31179080.39 -31179080.39 -31179080.39 0.0140 0.0140

Uranus -90077-07-28 06:27 J -31178992.29 -31178992.23 -31178992.16 0.0140 0.0123

Uranus -90077-10-24 10:32 J -31178904.15 -31178904.06 -31178903.96 0.0141 0.0105

Uranus -90076-01-20 14:37 J -31178816.00 -31178815.89 -31178815.77 0.0141 0.0087

Uranus -90076-04-18 18:56 J -31178727.84 -31178727.71 -31178727.59 0.0141 0.0068

Jupiter -90076-07-13 05:15 J -31178642.34 -31178642.28 -31178642.22 0.0531 0.0466

Uranus -90076-07-15 23:01 J -31178639.67 -31178639.54 -31178639.40 0.0141 0.0050

Venus -90076-07-16 11:44 J -31178639.12 -31178639.01 -31178638.90 0.3771 0.0394

Jupiter -90076-10-10 15:06 J -31178553.00 -31178552.87 -31178552.73 0.0528 0.0017

Uranus -90076-10-12 03:06 J -31178551.50 -31178551.37 -31178551.22 0.0141 0.0031

Jupiter -90075-01-08 01:54 J -31178463.48 -31178463.42 -31178463.35 0.0524 0.0458

Uranus -90075-01-08 07:25 J -31178463.33 -31178463.19 -31178463.04 0.0141 0.0012

Uranus -90075-04-06 11:44 J -31178375.15 -31178375.01 -31178374.87 0.0141 0.0007

Uranus -90075-07-03 16:03 J -31178286.97 -31178286.83 -31178286.69 0.0142 0.0027

Uranus -90075-09-29 20:23 J -31178198.79 -31178198.65 -31178198.51 0.0142 0.0046

Saturn -90075-11-22 05:15 J -31178145.40 -31178145.28 -31178145.16 0.0285 0.0201

Uranus -90075-12-27 00:42 J -31178110.59 -31178110.47 -31178110.34 0.0142 0.0066

Saturn -90074-02-19 00:27 J -31178056.64 -31178056.48 -31178056.32 0.0285 0.0080

Uranus -90074-03-25 05:01 J -31178022.40 -31178022.29 -31178022.16 0.0142 0.0086

Saturn -90074-05-18 19:25 J -31177967.86 -31177967.69 -31177967.53 0.0284 0.0039

Uranus -90074-06-21 09:35 J -31177934.19 -31177934.10 -31177934.00 0.0142 0.0106

Saturn -90074-08-15 13:39 J -31177879.06 -31177878.93 -31177878.79 0.0284 0.0155

Earth -90074-08-15 14:51 J -31177878.94 -31177878.88 -31177878.81 0.2594 0.2264 *

Moon -90074-08-15 15:35 J -31177878.91 -31177878.85 -31177878.80 0.2599 0.2349 *

Uranus -90074-09-17 14:08 J -31177845.97 -31177845.91 -31177845.84 0.0142 0.0126

Saturn -90074-11-12 07:54 J -31177790.23 -31177790.17 -31177790.12 0.0284 0.0266

Mars -90074-11-13 06:56 J -31177789.30 -31177789.21 -31177789.12 0.1912 0.1401

Venus -90072-07-15 01:54 J -31177179.49 -31177179.42 -31177179.34 0.3598 0.3035

Mars -90071-08-09 13:54 J -31176789.05 -31176788.92 -31176788.79 0.1626 0.0292

Venus -90070-01-30 06:27 J -31176615.34 -31176615.23 -31176615.12 0.3768 0.0359

Jupiter -90070-12-09 10:47 J -31176302.18 -31176302.05 -31176301.92 0.0498 0.0327

Jupiter -90069-03-08 11:59 J -31176212.16 -31176212.00 -31176211.84 0.0502 0.0179

Moon -90067-08-07 20:23 J -31175329.71 -31175329.65 -31175329.59 0.2589 0.2310

Earth -90067-08-07 21:35 J -31175329.68 -31175329.60 -31175329.52 0.2588 0.2096 *

Venus -90066-01-29 03:06 J -31175155.49 -31175155.37 -31175155.25 0.3601 0.1915

Venus -90065-08-15 01:25 J -31174591.55 -31174591.44 -31174591.33 0.3764 0.1131

Moon -90064-02-07 20:08 J -31174414.75 -31174414.66 -31174414.56 0.2748 0.1665

Earth -90064-02-07 21:06 J -31174414.71 -31174414.62 -31174414.53 0.2744 0.1835 *

Mars -90064-04-04 08:23 J -31174359.29 -31174359.15 -31174359.01 0.1907 0.0426

Jupiter -90064-07-29 18:42 J -31174242.85 -31174242.72 -31174242.59 0.0529 0.0118

Jupiter -90064-10-27 05:15 J -31174153.38 -31174153.28 -31174153.18 0.0525 0.0346

Mars -90062-12-30 22:47 J -31173358.68 -31173358.55 -31173358.42 0.1630 0.0204

Venus -90061-08-14 03:49 J -31173131.48 -31173131.34 -31173131.21 0.3605 0.0851

Saturn -90060-09-04 07:25 J -31172745.29 -31172745.19 -31172745.08 0.0274 0.0190

Saturn -90060-12-01 20:08 J -31172656.79 -31172656.66 -31172656.52 0.0274 0.0101

Saturn -90059-02-28 09:06 J -31172568.26 -31172568.12 -31172567.97 0.0274 0.0013

Venus -90059-02-28 20:37 J -31172567.74 -31172567.64 -31172567.54 0.3761 0.1931

Saturn -90059-05-27 22:18 J -31172479.71 -31172479.57 -31172479.43 0.0275 0.0082

Saturn -90059-08-24 11:44 J -31172391.12 -31172391.01 -31172390.90 0.0275 0.0176

Saturn -90059-11-21 01:25 J -31172302.46 -31172302.44 -31172302.42 0.0275 0.0271

Jupiter -90058-09-27 09:35 J -31171992.16 -31171992.10 -31171992.03 0.0498 0.0454

Jupiter -90058-12-26 11:30 J -31171902.19 -31171902.02 -31171901.85 0.0501 0.0054

Earth -90057-02-01 11:15 J -31171865.09 -31171865.03 -31171864.97 0.2752 0.2345

Moon -90057-02-01 11:30 J -31171865.08 -31171865.02 -31171864.95 0.2745 0.2329 *

Venus -90055-02-28 04:03 J -31171107.47 -31171107.33 -31171107.20 0.3609 0.0210

Mars -90055-08-25 09:20 J -31170929.25 -31170929.11 -31170928.98 0.1901 0.0590

Moon -90054-08-10 20:51 J -31170578.77 -31170578.63 -31170578.50 0.2594 0.0495

Earth -90054-08-10 21:35 J -31170578.74 -31170578.60 -31170578.46 0.2590 0.0491 *

Venus -90054-09-14 16:03 J -31170543.91 -31170543.83 -31170543.76 0.3757 0.2746

Jupiter -90052-05-17 21:49 J -31169932.71 -31169932.59 -31169932.46 0.0529 0.0231

Mars -90052-05-22 07:54 J -31169928.29 -31169928.17 -31169928.05 0.1634 0.0684

Jupiter -90052-08-15 08:08 J -31169843.28 -31169843.16 -31169843.03 0.0526 0.0232

Mars -90050-04-27 20:23 J -31169222.72 -31169222.65 -31169222.58 0.1619 0.1346

Venus -90050-09-14 03:35 J -31169083.47 -31169083.35 -31169083.22 0.3612 0.1171

Venus -90048-03-30 11:30 J -31168520.05 -31168520.02 -31168519.98 0.3753 0.3583

Venus -90047-06-08 15:06 J -31168084.89 -31168084.87 -31168084.85 0.3785 0.3682

Jupiter -90046-10-14 11:15 J -31167592.20 -31167592.03 -31167591.86 0.0500 0.0067

Jupiter -90045-01-12 11:44 J -31167502.09 -31167502.01 -31167501.92 0.0504 0.0434

Mars -90045-01-15 10:03 J -31167499.16 -31167499.08 -31167499.01 0.1895 0.1601

Saturn -90045-04-10 03:35 J -31167413.43 -31167413.35 -31167413.26 0.0284 0.0243

Saturn -90045-07-07 23:01 J -31167324.68 -31167324.54 -31167324.38 0.0284 0.0122

Saturn -90045-10-04 18:13 J -31167235.91 -31167235.74 -31167235.57 0.0284 0.0002

Saturn -90044-01-01 12:42 J -31167147.12 -31167146.97 -31167146.82 0.0284 0.0115

Moon -90044-02-03 07:25 J -31167114.30 -31167114.19 -31167114.07 0.2743 0.0906

Earth -90044-02-03 08:08 J -31167114.28 -31167114.16 -31167114.05 0.2749 0.0886 *

Venus -90044-03-30 03:06 J -31167059.48 -31167059.37 -31167059.27 0.3616 0.2115

Saturn -90044-03-31 06:42 J -31167058.30 -31167058.22 -31167058.11 0.0284 0.0229

Mars -90043-10-12 17:01 J -31166497.88 -31166497.79 -31166497.70 0.1638 0.1163

Venus -90042-12-23 08:51 J -31166061.19 -31166061.13 -31166061.06 0.3782 0.3032

Moon -90041-08-12 21:06 J -31165827.74 -31165827.62 -31165827.49 0.2599 0.1028

Earth -90041-08-12 21:06 J -31165827.74 -31165827.62 -31165827.49 0.2592 0.1072 *

Mars -90041-09-17 05:15 J -31165792.40 -31165792.28 -31165792.17 0.1623 0.0852

Jupiter -90040-03-06 00:13 J -31165622.58 -31165622.49 -31165622.39 0.0530 0.0355

Jupiter -90040-06-03 10:18 J -31165533.20 -31165533.07 -31165532.93 0.0527 0.0105

Venus -90039-10-14 01:54 J -31165035.49 -31165035.42 -31165035.35 0.3620 0.3008

Uranus -90038-09-26 15:49 J -31164687.88 -31164687.84 -31164687.79 0.0138 0.0134

Uranus -90038-12-23 21:49 J -31164599.68 -31164599.59 -31164599.47 0.0138 0.0112

Uranus -90037-03-21 04:03 J -31164511.45 -31164511.33 -31164511.19 0.0138 0.0090

Uranus -90037-06-17 10:18 J -31164423.21 -31164423.07 -31164422.91 0.0138 0.0068

Uranus -90037-09-13 16:18 J -31164334.97 -31164334.82 -31164334.65 0.0138 0.0047

Uranus -90037-12-10 22:32 J -31164246.73 -31164246.56 -31164246.39 0.0137 0.0025

Uranus -90036-03-09 04:32 J -31164158.49 -31164158.31 -31164158.14 0.0137 0.0005

Uranus -90036-06-05 10:18 J -31164070.24 -31164070.07 -31164069.90 0.0137 0.0017

Venus -90036-07-08 02:51 J -31164037.46 -31164037.38 -31164037.29 0.3780 0.2356

Uranus -90036-09-01 16:03 J -31163981.99 -31163981.83 -31163981.66 0.0137 0.0037

Uranus -90036-11-28 21:49 J -31163893.74 -31163893.59 -31163893.43 0.0137 0.0058

Uranus -90035-02-25 03:35 J -31163805.48 -31163805.35 -31163805.21 0.0137 0.0078

Uranus -90035-05-24 09:06 J -31163717.23 -31163717.12 -31163716.99 0.0137 0.0098

Uranus -90035-08-20 14:37 J -31163628.96 -31163628.89 -31163628.79 0.0137 0.0118

Mars -90034-05-14 07:25 J -31163362.28 -31163362.19 -31163362.11 0.1912 0.1505

Jupiter -90034-08-02 10:32 J -31163282.22 -31163282.06 -31163281.90 0.0499 0.0193

Jupiter -90034-10-31 11:30 J -31163192.15 -31163192.02 -31163191.89 0.0503 0.0310

Moon -90031-02-06 04:18 J -31162363.44 -31162363.32 -31162363.20 0.2744 0.0445

Earth -90031-02-06 05:01 J -31162363.41 -31162363.29 -31162363.17 0.2747 0.0617 *

Mars -90031-02-07 14:08 J -31162362.04 -31162361.91 -31162361.79 0.1626 0.0363

Venus -90030-01-21 21:06 J -31162013.72 -31162013.62 -31162013.52 0.3777 0.1661

Saturn -90030-01-22 10:32 J -31162013.14 -31162013.06 -31162012.96 0.0275 0.0208

Saturn -90030-04-20 23:15 J -31161924.65 -31161924.53 -31161924.39 0.0275 0.0119

Saturn -90030-07-18 12:13 J -31161836.13 -31161835.99 -31161835.84 0.0275 0.0029

Saturn -90030-10-15 01:25 J -31161747.58 -31161747.44 -31161747.30 0.0275 0.0065

Saturn -90029-01-11 14:51 J -31161659.00 -31161658.88 -31161658.76 0.0275 0.0159

Saturn -90029-04-09 04:32 J -31161570.36 -31161570.31 -31161570.25 0.0275 0.0254

Jupiter -90029-12-23 03:20 J -31161312.42 -31161312.36 -31161312.30 0.0531 0.0471

Jupiter -90028-03-22 13:11 J -31161223.09 -31161222.95 -31161222.81 0.0528 0.0014

Jupiter -90028-06-19 23:59 J -31161133.57 -31161133.50 -31161133.43 0.0524 0.0450

Earth -90028-08-15 20:23 J -31161076.65 -31161076.65 -31161076.64 0.2595 0.2586

Venus -90025-08-06 15:35 J -31159989.96 -31159989.85 -31159989.75 0.3774 0.0951

Mars -90025-10-03 08:37 J -31159932.28 -31159932.14 -31159932.00 0.1907 0.0515

Jupiter -90022-05-21 08:37 J -31158972.27 -31158972.14 -31158972.01 0.0498 0.0327

Mars -90022-06-30 23:01 J -31158931.67 -31158931.54 -31158931.41 0.1630 0.0128

Jupiter -90022-08-19 10:03 J -31158882.24 -31158882.08 -31158881.92 0.0501 0.0178

Moon -90021-08-08 02:08 J -31158527.51 -31158527.41 -31158527.31 0.2589 0.1801

Earth -90021-08-08 03:20 J -31158527.46 -31158527.36 -31158527.26 0.2588 0.1756 *

Venus -90019-02-20 10:03 J -31157966.19 -31157966.08 -31157965.97 0.3770 0.0205

Moon -90018-02-09 01:25 J -31157612.52 -31157612.44 -31157612.37 0.2747 0.2125

Earth -90018-02-09 02:23 J -31157612.48 -31157612.40 -31157612.33 0.2744 0.2145 *

Jupiter -90016-01-08 16:32 J -31156912.94 -31156912.81 -31156912.68 0.0529 0.0127

Jupiter -90016-04-08 03:06 J -31156823.48 -31156823.37 -31156823.27 0.0525 0.0338

Saturn -90016-08-28 05:44 J -31156681.31 -31156681.26 -31156681.20 0.0285 0.0266

Saturn -90016-11-25 01:11 J -31156592.59 -31156592.45 -31156592.30 0.0285 0.0144

Venus -90015-02-19 02:08 J -31156506.50 -31156506.41 -31156506.32 0.3599 0.2748

Saturn -90015-02-21 20:23 J -31156503.81 -31156503.65 -31156503.48 0.0284 0.0024

Mars -90015-02-23 09:35 J -31156502.24 -31156502.10 -31156501.96 0.1901 0.0486

Saturn -90015-05-21 15:06 J -31156415.03 -31156414.87 -31156414.71 0.0284 0.0094

Saturn -90015-08-18 09:06 J -31156326.22 -31156326.12 -31156326.00 0.0284 0.0209

Venus -90014-09-06 04:47 J -31155942.41 -31155942.30 -31155942.19 0.3767 0.0554

Mars -90013-11-20 08:08 J -31155501.28 -31155501.16 -31155501.04 0.1634 0.0611

Moon -90011-02-01 16:32 J -31155062.89 -31155062.81 -31155062.73 0.2744 0.2034

Earth -90011-02-01 16:32 J -31155062.89 -31155062.81 -31155062.73 0.2751 0.2048 *

Mars -90011-10-26 20:37 J -31154795.70 -31154795.64 -31154795.58 0.1619 0.1421

Jupiter -90010-03-09 07:25 J -31154662.25 -31154662.19 -31154662.12 0.0497 0.0456

Jupiter -90010-06-07 09:20 J -31154572.28 -31154572.11 -31154571.94 0.0501 0.0052

Venus -90010-09-05 03:06 J -31154482.49 -31154482.37 -31154482.25 0.3602 0.1643

Neptune -90009-02-22 15:49 J -31154311.87 -31154311.84 -31154311.79 0.0089 0.0086

Neptune -90009-05-20 18:42 J -31154223.78 -31154223.72 -31154223.63 0.0089 0.0081

Neptune -90009-08-16 22:03 J -31154135.67 -31154135.58 -31154135.47 0.0089 0.0075

Neptune -90009-11-13 01:25 J -31154047.55 -31154047.44 -31154047.32 0.0089 0.0069

Neptune -90008-02-09 04:18 J -31153959.43 -31153959.32 -31153959.18 0.0089 0.0064

Venus -90008-03-21 23:44 J -31153918.61 -31153918.51 -31153918.40 0.3763 0.1333

Neptune -90008-05-08 07:25 J -31153871.31 -31153871.19 -31153871.03 0.0089 0.0058

Neptune -90008-08-04 10:47 J -31153783.19 -31153783.05 -31153782.89 0.0089 0.0052

Moon -90008-08-11 02:37 J -31153776.52 -31153776.39 -31153776.25 0.2596 0.0297

Earth -90008-08-11 03:06 J -31153776.50 -31153776.37 -31153776.23 0.2590 0.0171 *

Neptune -90008-10-31 13:39 J -31153695.07 -31153694.93 -31153694.76 0.0089 0.0047

Neptune -90007-01-27 17:01 J -31153606.94 -31153606.79 -31153606.62 0.0089 0.0041

Neptune -90007-04-25 20:08 J -31153518.82 -31153518.66 -31153518.48 0.0089 0.0035

Neptune -90007-07-22 23:15 J -31153430.70 -31153430.53 -31153430.35 0.0088 0.0029

Neptune -90007-10-19 02:23 J -31153342.57 -31153342.40 -31153342.22 0.0088 0.0024

Neptune -90006-01-15 05:30 J -31153254.45 -31153254.27 -31153254.09 0.0088 0.0018

Neptune -90006-04-13 08:37 J -31153166.32 -31153166.14 -31153165.96 0.0088 0.0012

Neptune -90006-07-10 11:30 J -31153078.20 -31153078.02 -31153077.83 0.0088 0.0007

Mars -90006-07-16 10:32 J -31153072.15 -31153072.06 -31153071.98 0.1895 0.1501

Neptune -90006-10-06 14:37 J -31152990.07 -31152989.89 -31152989.71 0.0088 0.0001

Neptune -90005-01-02 17:44 J -31152901.94 -31152901.76 -31152901.58 0.0088 0.0005

Neptune -90005-03-30 20:37 J -31152813.82 -31152813.64 -31152813.46 0.0088 0.0010

Neptune -90005-06-26 23:30 J -31152725.69 -31152725.52 -31152725.34 0.0088 0.0015

Neptune -90005-09-23 02:37 J -31152637.57 -31152637.39 -31152637.22 0.0088 0.0021

Jupiter -90005-10-27 19:54 J -31152602.79 -31152602.67 -31152602.55 0.0530 0.0236

Neptune -90005-12-20 05:15 J -31152549.44 -31152549.28 -31152549.10 0.0088 0.0027

Jupiter -90004-01-25 06:13 J -31152513.36 -31152513.24 -31152513.12 0.0526 0.0226

Neptune -90004-03-18 08:23 J -31152461.31 -31152461.15 -31152460.98 0.0088 0.0032

Venus -90004-03-21 03:35 J -31152458.48 -31152458.35 -31152458.22 0.3606 0.0581

Neptune -90004-06-14 11:30 J -31152373.19 -31152373.02 -31152372.86 0.0088 0.0037

Neptune -90004-09-10 14:08 J -31152285.06 -31152284.91 -31152284.75 0.0088 0.0042

Neptune -90004-12-07 17:01 J -31152196.93 -31152196.79 -31152196.63 0.0088 0.0048

Neptune -90003-03-05 20:08 J -31152108.80 -31152108.66 -31152108.52 0.0088 0.0053

Mars -90003-04-12 17:15 J -31152070.88 -31152070.78 -31152070.69 0.1638 0.1097

Neptune -90003-06-01 22:47 J -31152020.67 -31152020.55 -31152020.41 0.0088 0.0058

Neptune -90003-08-29 01:39 J -31151932.54 -31151932.43 -31151932.30 0.0088 0.0064

Venus -90003-10-05 18:56 J -31151894.80 -31151894.71 -31151894.61 0.3760 0.2134

Neptune -90003-11-25 04:32 J -31151844.41 -31151844.31 -31151844.19 0.0088 0.0069

Neptune -90002-02-21 07:39 J -31151756.28 -31151756.18 -31151756.09 0.0088 0.0074

Neptune -90002-05-20 10:03 J -31151668.14 -31151668.08 -31151667.99 0.0088 0.0080

Neptune -90002-08-16 12:56 J -31151579.99 -31151579.96 -31151579.90 0.0088 0.0085

Mars -90001-03-18 05:30 J -31151365.38 -31151365.27 -31151365.16 0.1623 0.0926

Saturn -90001-06-10 12:27 J -31151281.05 -31151280.98 -31151280.91 0.0274 0.0234

Saturn -90001-09-07 00:56 J -31151192.57 -31151192.46 -31151192.33 0.0274 0.0146

Saturn -90001-12-04 13:54 J -31151104.06 -31151103.92 -31151103.78 0.0274 0.0056

90TH MILLENNIUM BCE

This is a list of transits of Mercury in the 90th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Saturn -90000-03-03 02:51 J -31151015.52 -31151015.38 -31151015.23 0.0275 0.0035

Saturn -90000-05-30 16:03 J -31150926.95 -31150926.83 -31150926.70 0.0275 0.0129

Saturn -90000-08-27 05:44 J -31150838.34 -31150838.26 -31150838.18 0.0275 0.0223

Venus -89999-10-05 03:35 J -31150434.48 -31150434.35 -31150434.21 0.3610 0.0444

Moon -89998-02-04 12:42 J -31150312.08 -31150311.97 -31150311.85 0.2743 0.0682

Earth -89998-02-04 13:25 J -31150312.06 -31150311.94 -31150311.83 0.2749 0.0582 *

Jupiter -89998-03-26 08:37 J -31150262.31 -31150262.14 -31150261.97 0.0500 0.0075

Jupiter -89998-06-24 09:20 J -31150172.20 -31150172.11 -31150172.03 0.0503 0.0426

Venus -89997-04-20 14:37 J -31149870.96 -31149870.89 -31149870.83 0.3756 0.2956

Earth -89995-08-14 02:51 J -31149025.50 -31149025.38 -31149025.27 0.2593 0.1397

Moon -89995-08-14 02:51 J -31149025.49 -31149025.38 -31149025.27 0.2599 0.1473 *

Mars -89995-11-12 07:39 J -31148935.25 -31148935.18 -31148935.10 0.1912 0.1606

Mars -89994-09-03 02:23 J -31148640.43 -31148640.40 -31148640.37 0.1642 0.1576

Venus -89993-04-20 03:20 J -31148410.49 -31148410.36 -31148410.24 0.3613 0.1409

Uranus -89993-05-21 09:35 J -31148379.12 -31148379.10 -31148379.06 0.0140 0.0137

Jupiter -89993-08-15 23:15 J -31148292.63 -31148292.53 -31148292.43 0.0530 0.0348

Uranus -89993-08-17 13:39 J -31148291.00 -31148290.93 -31148290.85 0.0140 0.0119

Jupiter -89993-11-13 09:20 J -31148203.24 -31148203.11 -31148202.98 0.0527 0.0112

Uranus -89993-11-13 17:44 J -31148202.85 -31148202.76 -31148202.66 0.0141 0.0101

Uranus -89992-02-09 21:49 J -31148114.70 -31148114.59 -31148114.47 0.0141 0.0083

Uranus -89992-05-09 02:08 J -31148026.54 -31148026.41 -31148026.28 0.0141 0.0064

Uranus -89992-08-05 06:13 J -31147938.37 -31147938.24 -31147938.10 0.0141 0.0046

Mars -89992-08-08 14:08 J -31147935.03 -31147934.91 -31147934.78 0.1626 0.0431

Pluto -89992-09-01 14:51 J -31147910.89 -31147910.88 -31147910.83 0.0060 0.0059

Uranus -89992-11-01 10:18 J -31147850.20 -31147850.07 -31147849.92 0.0141 0.0028

Pluto -89992-11-28 16:03 J -31147822.89 -31147822.83 -31147822.71 0.0060 0.0054

Uranus -89991-01-28 14:37 J -31147762.03 -31147761.89 -31147761.74 0.0141 0.0008

Pluto -89991-02-24 17:59 J -31147734.86 -31147734.75 -31147734.62 0.0060 0.0046

Uranus -89991-04-26 18:56 J -31147673.85 -31147673.71 -31147673.56 0.0141 0.0011

Pluto -89991-05-23 19:11 J -31147646.83 -31147646.70 -31147646.53 0.0060 0.0040

Uranus -89991-07-23 23:15 J -31147585.67 -31147585.53 -31147585.39 0.0142 0.0031

Pluto -89991-08-19 20:51 J -31147558.78 -31147558.63 -31147558.46 0.0060 0.0034

Uranus -89991-10-20 03:35 J -31147497.48 -31147497.35 -31147497.21 0.0142 0.0050

Pluto -89991-11-15 22:18 J -31147470.73 -31147470.57 -31147470.38 0.0060 0.0027

Venus -89990-01-13 13:11 J -31147411.99 -31147411.95 -31147411.91 0.3784 0.3522

Uranus -89990-01-16 07:54 J -31147409.29 -31147409.17 -31147409.04 0.0142 0.0070

Pluto -89990-02-11 23:59 J -31147382.68 -31147382.50 -31147382.31 0.0060 0.0021

Uranus -89990-04-14 12:13 J -31147321.09 -31147320.99 -31147320.87 0.0142 0.0090

Pluto -89990-05-11 01:11 J -31147294.63 -31147294.45 -31147294.24 0.0060 0.0015

Uranus -89990-07-11 16:47 J -31147232.88 -31147232.80 -31147232.70 0.0142 0.0110

Pluto -89990-08-07 02:51 J -31147206.57 -31147206.38 -31147206.18 0.0060 0.0008

Uranus -89990-10-07 21:20 J -31147144.66 -31147144.61 -31147144.55 0.0142 0.0130

Pluto -89990-11-03 04:32 J -31147118.51 -31147118.31 -31147118.11 0.0061 0.0001

Pluto -89989-01-30 05:59 J -31147030.44 -31147030.25 -31147030.05 0.0061 0.0006

Pluto -89989-04-27 07:25 J -31146942.38 -31146942.19 -31146941.99 0.0061 0.0013

Pluto -89989-07-24 08:37 J -31146854.31 -31146854.14 -31146853.94 0.0061 0.0020

Pluto -89989-10-20 10:18 J -31146766.24 -31146766.07 -31146765.88 0.0061 0.0026

Pluto -89988-01-16 11:44 J -31146678.16 -31146678.01 -31146677.83 0.0061 0.0033

Pluto -89988-04-14 12:56 J -31146590.08 -31146589.96 -31146589.78 0.0061 0.0040

Pluto -89988-07-11 15:06 J -31146502.00 -31146501.87 -31146501.74 0.0061 0.0046

Pluto -89988-10-07 16:18 J -31146413.90 -31146413.82 -31146413.71 0.0061 0.0053

Venus -89988-11-04 02:23 J -31146386.49 -31146386.40 -31146386.30 0.3617 0.2344

Pluto -89987-01-03 17:44 J -31146325.77 -31146325.76 -31146325.71 0.0061 0.0060

Jupiter -89986-01-12 08:08 J -31145952.31 -31145952.16 -31145952.00 0.0499 0.0197

Jupiter -89986-04-12 09:20 J -31145862.24 -31145862.11 -31145861.98 0.0503 0.0307

Saturn -89986-04-13 23:44 J -31145860.63 -31145860.51 -31145860.38 0.0284 0.0186

Saturn -89986-07-11 19:11 J -31145771.87 -31145771.70 -31145771.54 0.0284 0.0065

Saturn -89986-10-08 13:54 J -31145683.08 -31145682.92 -31145682.76 0.0284 0.0054

Saturn -89985-01-05 08:23 J -31145594.28 -31145594.15 -31145594.02 0.0284 0.0169

Moon -89985-02-07 09:20 J -31145561.22 -31145561.11 -31145560.99 0.2746 0.0878

Earth -89985-02-07 10:18 J -31145561.18 -31145561.07 -31145560.95 0.2746 0.0923 *

Saturn -89985-04-03 02:23 J -31145505.42 -31145505.40 -31145505.38 0.0284 0.0281

Mars -89985-04-03 09:06 J -31145505.26 -31145505.12 -31145504.99 0.1907 0.0622

Venus -89985-07-29 07:11 J -31145388.27 -31145388.20 -31145388.14 0.3782 0.2866

Mars -89983-12-29 23:15 J -31144504.67 -31144504.53 -31144504.40 0.1630 0.0075

Venus -89982-05-21 01:11 J -31144362.51 -31144362.45 -31144362.39 0.3621 0.3220

Jupiter -89981-06-04 01:54 J -31143982.48 -31143982.42 -31143982.36 0.0531 0.0470

Jupiter -89981-09-01 11:44 J -31143893.15 -31143893.01 -31143892.88 0.0527 0.0018

Jupiter -89981-11-29 22:18 J -31143803.64 -31143803.57 -31143803.50 0.0524 0.0450

Venus -89979-02-12 01:11 J -31143364.54 -31143364.45 -31143364.36 0.3779 0.2182

Mars -89976-08-24 10:03 J -31142075.22 -31142075.08 -31142074.94 0.1901 0.0383

Moon -89975-08-09 07:54 J -31141725.28 -31141725.17 -31141725.06 0.2591 0.1590

Earth -89975-08-09 09:06 J -31141725.24 -31141725.12 -31141725.01 0.2588 0.1420 *

Jupiter -89975-10-31 07:25 J -31141642.32 -31141642.19 -31141642.06 0.0499 0.0323

Jupiter -89974-01-29 08:51 J -31141552.29 -31141552.13 -31141551.98 0.0502 0.0184

Venus -89974-08-28 19:25 J -31141340.79 -31141340.69 -31141340.59 0.3776 0.1486

Mars -89973-05-21 08:08 J -31141074.28 -31141074.16 -31141074.04 0.1634 0.0546

Moon -89972-02-09 06:42 J -31140810.28 -31140810.22 -31140810.15 0.2747 0.2293

Earth -89972-02-09 07:39 J -31140810.23 -31140810.18 -31140810.13 0.2743 0.2463 *

Saturn -89972-10-28 15:20 J -31140548.91 -31140548.86 -31140548.80 0.0275 0.0253

Saturn -89971-01-25 03:49 J -31140460.44 -31140460.34 -31140460.22 0.0275 0.0166

Saturn -89971-04-23 16:47 J -31140371.94 -31140371.80 -31140371.66 0.0275 0.0076

Mars -89971-04-26 20:51 J -31140368.68 -31140368.63 -31140368.58 0.1619 0.1491

Saturn -89971-07-21 05:44 J -31140283.40 -31140283.26 -31140283.11 0.0275 0.0018

Saturn -89971-10-17 18:56 J -31140194.84 -31140194.71 -31140194.57 0.0275 0.0110

Saturn -89970-01-14 08:23 J -31140106.24 -31140106.15 -31140106.04 0.0275 0.0205

Jupiter -89969-06-20 14:23 J -31139583.03 -31139582.90 -31139582.76 0.0529 0.0133

Jupiter -89969-09-18 00:56 J -31139493.57 -31139493.46 -31139493.35 0.0525 0.0330

Venus -89968-03-13 13:39 J -31139317.03 -31139316.93 -31139316.82 0.3773 0.0771

Mars -89966-01-14 10:47 J -31138645.15 -31138645.05 -31138644.96 0.1895 0.1409

Moon -89965-02-02 21:35 J -31138260.69 -31138260.60 -31138260.51 0.2744 0.1731

Earth -89965-02-02 21:35 J -31138260.69 -31138260.60 -31138260.50 0.2751 0.1755 *

Mars -89964-10-11 17:15 J -31137643.88 -31137643.78 -31137643.68 0.1638 0.1028

Jupiter -89963-08-19 05:30 J -31137332.34 -31137332.27 -31137332.21 0.0497 0.0457

Venus -89963-09-27 08:23 J -31137293.26 -31137293.15 -31137293.04 0.3770 0.0018

Jupiter -89963-11-17 07:11 J -31137242.37 -31137242.20 -31137242.03 0.0500 0.0051

Moon -89962-08-12 08:23 J -31136974.29 -31136974.15 -31136974.01 0.2597 0.0208

Earth -89962-08-12 08:51 J -31136974.27 -31136974.13 -31136973.99 0.2591 0.0173 *

Mars -89962-09-17 05:30 J -31136938.37 -31136938.27 -31136938.16 0.1622 0.0996

Venus -89959-09-26 02:08 J -31135833.51 -31135833.41 -31135833.31 0.3600 0.2465

Jupiter -89957-04-08 17:44 J -31135272.88 -31135272.76 -31135272.64 0.0530 0.0246

Venus -89957-04-12 03:06 J -31135269.48 -31135269.37 -31135269.26 0.3766 0.0759

Jupiter -89957-07-07 04:03 J -31135183.46 -31135183.33 -31135183.21 0.0526 0.0217

Saturn -89957-08-31 02:23 J -31135128.51 -31135128.40 -31135128.28 0.0285 0.0206

Saturn -89957-11-27 21:35 J -31135039.75 -31135039.60 -31135039.43 0.0285 0.0085

Saturn -89956-02-24 16:32 J -31134950.97 -31134950.81 -31134950.64 0.0284 0.0035

Saturn -89956-05-24 11:01 J -31134862.17 -31134862.04 -31134861.90 0.0284 0.0151

Saturn -89956-08-21 05:01 J -31134773.34 -31134773.29 -31134773.23 0.0284 0.0264

Mars -89955-05-13 07:54 J -31134508.23 -31134508.17 -31134508.11 0.1912 0.1695

Mars -89954-03-04 02:37 J -31134213.44 -31134213.39 -31134213.35 0.1642 0.1508

Uranus -89954-10-16 22:32 J -31133986.61 -31133986.56 -31133986.50 0.0138 0.0130

Uranus -89953-01-13 04:47 J -31133898.40 -31133898.30 -31133898.19 0.0138 0.0108

Uranus -89953-04-10 11:01 J -31133810.17 -31133810.04 -31133809.90 0.0138 0.0086

Venus -89953-04-11 03:06 J -31133809.50 -31133809.37 -31133809.25 0.3604 0.1380

Uranus -89953-07-07 17:01 J -31133721.93 -31133721.79 -31133721.63 0.0138 0.0065

Uranus -89953-10-03 23:15 J -31133633.69 -31133633.53 -31133633.36 0.0138 0.0043

Uranus -89953-12-31 05:15 J -31133545.45 -31133545.28 -31133545.11 0.0137 0.0022

Moon -89952-02-04 17:59 J -31133509.87 -31133509.75 -31133509.63 0.2743 0.0339

Earth -89952-02-04 18:27 J -31133509.85 -31133509.73 -31133509.61 0.2748 0.0285 *

Mars -89952-02-06 14:23 J -31133508.02 -31133507.90 -31133507.77 0.1626 0.0504

Uranus -89952-03-29 11:15 J -31133457.20 -31133457.03 -31133456.86 0.0137 0.0001

Uranus -89952-06-25 17:01 J -31133368.95 -31133368.79 -31133368.61 0.0137 0.0020

Uranus -89952-09-21 22:47 J -31133280.70 -31133280.55 -31133280.38 0.0137 0.0041

Venus -89952-10-26 22:18 J -31133245.68 -31133245.57 -31133245.47 0.3762 0.1531

Uranus -89952-12-19 04:47 J -31133192.45 -31133192.30 -31133192.15 0.0137 0.0061

Uranus -89951-03-17 10:18 J -31133104.20 -31133104.07 -31133103.93 0.0137 0.0081

Uranus -89951-06-13 16:03 J -31133015.94 -31133015.83 -31133015.71 0.0137 0.0101

Jupiter -89951-09-05 06:27 J -31132932.40 -31132932.23 -31132932.06 0.0500 0.0077

Uranus -89951-09-09 21:35 J -31132927.67 -31132927.60 -31132927.51 0.0136 0.0121

Jupiter -89951-12-04 06:56 J -31132842.29 -31132842.21 -31132842.12 0.0503 0.0422

Earth -89949-08-14 08:23 J -31132223.25 -31132223.15 -31132223.05 0.2593 0.1722

Moon -89949-08-14 08:51 J -31132223.23 -31132223.13 -31132223.03 0.2599 0.1699 *

Venus -89948-10-26 03:20 J -31131785.49 -31131785.36 -31131785.22 0.3607 0.0339

Venus -89946-05-12 17:30 J -31131221.86 -31131221.77 -31131221.68 0.3758 0.2337

Mars -89946-10-03 09:35 J -31131078.23 -31131078.10 -31131077.97 0.1907 0.0736

Jupiter -89945-01-26 21:06 J -31130962.71 -31130962.62 -31130962.52 0.0531 0.0356

Jupiter -89945-04-25 07:11 J -31130873.33 -31130873.20 -31130873.06 0.0527 0.0106

Mars -89943-06-29 23:30 J -31130077.66 -31130077.52 -31130077.39 0.1630 0.0054

Venus -89942-05-12 03:20 J -31129761.49 -31129761.36 -31129761.23 0.3611 0.0682

Saturn -89942-06-14 05:59 J -31129728.35 -31129728.25 -31129728.15 0.0274 0.0191

Saturn -89942-09-10 18:42 J -31129639.85 -31129639.72 -31129639.59 0.0274 0.0102

Saturn -89942-12-08 07:39 J -31129551.33 -31129551.18 -31129551.04 0.0274 0.0014

Saturn -89941-03-05 20:37 J -31129462.78 -31129462.64 -31129462.50 0.0275 0.0082

Saturn -89941-06-02 10:03 J -31129374.19 -31129374.08 -31129373.97 0.0275 0.0176

Saturn -89941-08-29 23:44 J -31129285.53 -31129285.51 -31129285.49 0.0275 0.0271

Venus -89941-11-25 12:56 J -31129198.02 -31129197.96 -31129197.90 0.3754 0.3161

Moon -89939-02-07 14:37 J -31128759.00 -31128758.89 -31128758.78 0.2747 0.1075

Earth -89939-02-07 15:35 J -31128758.96 -31128758.85 -31128758.74 0.2746 0.1236 *

Jupiter -89939-06-24 05:30 J -31128622.43 -31128622.27 -31128622.11 0.0499 0.0205

Jupiter -89939-09-22 06:27 J -31128532.36 -31128532.23 -31128532.09 0.0502 0.0299

Venus -89937-11-25 02:51 J -31127737.50 -31127737.38 -31127737.26 0.3615 0.1645

Mars -89936-02-22 10:32 J -31127648.20 -31127648.06 -31127647.92 0.1902 0.0281

Venus -89934-08-20 11:15 J -31126739.08 -31126739.03 -31126738.98 0.3784 0.3359

Jupiter -89934-11-15 00:42 J -31126652.53 -31126652.47 -31126652.41 0.0531 0.0466

Mars -89934-11-20 08:23 J -31126647.28 -31126647.15 -31126647.03 0.1634 0.0475

Jupiter -89933-02-12 10:32 J -31126563.20 -31126563.06 -31126562.93 0.0528 0.0010

Jupiter -89933-05-11 21:06 J -31126473.68 -31126473.62 -31126473.55 0.0524 0.0456

Mars -89932-10-25 21:06 J -31125941.65 -31125941.62 -31125941.59 0.1619 0.1566

Venus -89931-06-11 01:54 J -31125713.51 -31125713.42 -31125713.33 0.3618 0.2558

Moon -89929-08-09 13:39 J -31124923.05 -31124922.93 -31124922.80 0.2593 0.1146

Earth -89929-08-09 14:37 J -31124923.01 -31124922.89 -31124922.76 0.2589 0.1084 *

Venus -89928-03-05 05:15 J -31124715.36 -31124715.28 -31124715.21 0.3781 0.2693

Neptune -89928-08-25 04:47 J -31124542.31 -31124542.30 -31124542.26 0.0089 0.0087

Neptune -89928-11-21 06:27 J -31124454.27 -31124454.23 -31124454.17 0.0089 0.0083

Saturn -89927-01-18 00:42 J -31124396.54 -31124396.47 -31124396.38 0.0284 0.0248

Neptune -89927-02-17 07:54 J -31124366.22 -31124366.17 -31124366.10 0.0089 0.0079

Jupiter -89927-04-12 05:01 J -31124312.42 -31124312.29 -31124312.16 0.0498 0.0327

Saturn -89927-04-16 20:23 J -31124307.80 -31124307.65 -31124307.50 0.0284 0.0126

Neptune -89927-05-16 09:20 J -31124278.17 -31124278.11 -31124278.03 0.0089 0.0075

Jupiter -89927-07-11 06:27 J -31124222.39 -31124222.23 -31124222.07 0.0502 0.0179

Saturn -89927-07-14 15:20 J -31124219.02 -31124218.86 -31124218.69 0.0284 0.0009

Mars -89927-07-15 11:15 J -31124218.14 -31124218.03 -31124217.93 0.1896 0.1300

Neptune -89927-08-12 11:01 J -31124190.12 -31124190.04 -31124189.95 0.0089 0.0070

Saturn -89927-10-11 10:03 J -31124130.23 -31124130.08 -31124129.93 0.0284 0.0111

Neptune -89927-11-08 12:27 J -31124102.07 -31124101.98 -31124101.88 0.0089 0.0066

Saturn -89926-01-08 04:18 J -31124041.42 -31124041.32 -31124041.22 0.0284 0.0225

Neptune -89926-02-04 13:54 J -31124014.01 -31124013.92 -31124013.81 0.0089 0.0062

Neptune -89926-05-03 15:20 J -31123925.95 -31123925.86 -31123925.75 0.0089 0.0058

Neptune -89926-07-30 16:47 J -31123837.90 -31123837.80 -31123837.68 0.0089 0.0054

Neptune -89926-10-26 18:13 J -31123749.84 -31123749.74 -31123749.61 0.0089 0.0050

Venus -89926-12-26 00:27 J -31123689.51 -31123689.48 -31123689.44 0.3622 0.3437

Neptune -89925-01-22 20:08 J -31123661.78 -31123661.66 -31123661.54 0.0089 0.0045

Neptune -89925-04-19 21:35 J -31123573.72 -31123573.60 -31123573.47 0.0089 0.0041

Neptune -89925-07-16 23:01 J -31123485.66 -31123485.54 -31123485.41 0.0089 0.0037

Neptune -89925-10-13 00:27 J -31123397.60 -31123397.48 -31123397.34 0.0089 0.0033

Neptune -89924-01-09 02:08 J -31123309.54 -31123309.41 -31123309.27 0.0089 0.0028

Neptune -89924-04-07 03:35 J -31123221.48 -31123221.35 -31123221.21 0.0089 0.0024

Mars -89924-04-11 17:30 J -31123216.88 -31123216.77 -31123216.67 0.1638 0.0964

Neptune -89924-07-04 05:15 J -31123133.41 -31123133.28 -31123133.14 0.0089 0.0020

Neptune -89924-09-30 06:56 J -31123045.35 -31123045.21 -31123045.07 0.0089 0.0015

Neptune -89924-12-27 08:23 J -31122957.29 -31122957.15 -31122957.01 0.0089 0.0011

Neptune -89923-03-25 10:03 J -31122869.22 -31122869.08 -31122868.94 0.0089 0.0007

Neptune -89923-06-21 11:30 J -31122781.16 -31122781.02 -31122780.88 0.0089 0.0004

Neptune -89923-09-17 13:11 J -31122693.09 -31122692.95 -31122692.81 0.0089 0.0002

Venus -89923-09-18 23:15 J -31122691.62 -31122691.53 -31122691.44 0.3778 0.2009

Neptune -89923-12-14 14:51 J -31122605.02 -31122604.88 -31122604.74 0.0089 0.0007

Neptune -89922-03-12 16:18 J -31122516.96 -31122516.82 -31122516.68 0.0089 0.0011

Mars -89922-03-18 05:44 J -31122511.36 -31122511.26 -31122511.16 0.1622 0.1066

Neptune -89922-06-08 17:59 J -31122428.89 -31122428.75 -31122428.61 0.0089 0.0015

Neptune -89922-09-04 19:39 J -31122340.82 -31122340.68 -31122340.54 0.0089 0.0020

Jupiter -89922-12-01 12:56 J -31122253.09 -31122252.96 -31122252.83 0.0528 0.0131

Neptune -89922-12-01 21:06 J -31122252.75 -31122252.62 -31122252.48 0.0089 0.0024

Neptune -89921-02-27 22:47 J -31122164.68 -31122164.55 -31122164.41 0.0089 0.0029

Jupiter -89921-02-28 23:30 J -31122163.63 -31122163.52 -31122163.42 0.0525 0.0331

Neptune -89921-05-26 00:27 J -31122076.61 -31122076.48 -31122076.35 0.0089 0.0033

Neptune -89921-08-22 01:54 J -31121988.54 -31121988.42 -31121988.28 0.0089 0.0038

Neptune -89921-11-18 03:35 J -31121900.47 -31121900.35 -31121900.22 0.0089 0.0042

Neptune -89920-02-14 05:15 J -31121812.39 -31121812.28 -31121812.15 0.0089 0.0047

Neptune -89920-05-13 06:56 J -31121724.32 -31121724.21 -31121724.09 0.0089 0.0051

Neptune -89920-08-09 08:23 J -31121636.25 -31121636.15 -31121636.03 0.0089 0.0056

Neptune -89920-11-05 10:18 J -31121548.17 -31121548.07 -31121547.96 0.0089 0.0060

Neptune -89919-02-01 11:44 J -31121460.09 -31121460.01 -31121459.90 0.0089 0.0065

Moon -89919-02-03 02:37 J -31121458.49 -31121458.39 -31121458.29 0.2743 0.1525

Earth -89919-02-03 02:51 J -31121458.48 -31121458.38 -31121458.28 0.2750 0.1454 *

Neptune -89919-04-30 13:39 J -31121372.02 -31121371.93 -31121371.84 0.0089 0.0069

Neptune -89919-07-27 15:06 J -31121283.94 -31121283.87 -31121283.78 0.0089 0.0074

Neptune -89919-10-23 17:01 J -31121195.85 -31121195.79 -31121195.72 0.0089 0.0078

Neptune -89918-01-19 18:27 J -31121107.77 -31121107.73 -31121107.67 0.0089 0.0083

Neptune -89918-04-17 20:23 J -31121019.67 -31121019.65 -31121019.62 0.0089 0.0087

Venus -89917-04-03 17:30 J -31120667.87 -31120667.77 -31120667.66 0.3775 0.1306

Moon -89916-08-12 14:08 J -31120172.05 -31120171.91 -31120171.78 0.2597 0.0394

Earth -89916-08-12 14:23 J -31120172.03 -31120171.90 -31120171.76 0.2591 0.0508 *

Mars -89916-11-11 08:37 J -31120081.19 -31120081.14 -31120081.10 0.1912 0.1809

Jupiter -89915-01-29 04:03 J -31120002.40 -31120002.33 -31120002.27 0.0498 0.0454

Jupiter -89915-04-29 05:59 J -31119912.42 -31119912.25 -31119912.08 0.0501 0.0055

Mars -89915-09-02 02:37 J -31119786.45 -31119786.39 -31119786.33 0.1642 0.1442

Mars -89913-08-07 14:37 J -31119081.02 -31119080.89 -31119080.77 0.1626 0.0574

Saturn -89913-10-31 08:37 J -31118996.23 -31118996.14 -31118996.05 0.0275 0.0212

Saturn -89912-01-27 21:20 J -31118907.74 -31118907.61 -31118907.48 0.0275 0.0123

Saturn -89912-04-26 10:18 J -31118819.22 -31118819.07 -31118818.93 0.0275 0.0033

Saturn -89912-07-23 23:15 J -31118730.67 -31118730.53 -31118730.38 0.0275 0.0061

Venus -89912-10-18 11:59 J -31118644.11 -31118644.00 -31118643.89 0.3772 0.0580

Saturn -89912-10-20 12:42 J -31118642.09 -31118641.97 -31118641.85 0.0275 0.0155

Saturn -89911-01-17 02:23 J -31118553.46 -31118553.40 -31118553.34 0.0275 0.0251

Jupiter -89910-09-19 15:49 J -31117942.95 -31117942.84 -31117942.72 0.0529 0.0249

Jupiter -89910-12-18 02:08 J -31117853.54 -31117853.41 -31117853.29 0.0526 0.0212

Uranus -89909-06-10 16:47 J -31117677.84 -31117677.80 -31117677.75 0.0140 0.0133

Uranus -89909-09-06 20:51 J -31117589.71 -31117589.63 -31117589.55 0.0140 0.0115

Uranus -89909-12-04 00:42 J -31117501.56 -31117501.47 -31117501.36 0.0141 0.0098

Uranus -89908-03-02 05:01 J -31117413.40 -31117413.29 -31117413.17 0.0141 0.0079

Uranus -89908-05-29 09:06 J -31117325.25 -31117325.12 -31117324.99 0.0141 0.0061

Uranus -89908-08-25 13:25 J -31117237.08 -31117236.94 -31117236.81 0.0141 0.0042

Venus -89908-10-17 00:56 J -31117184.51 -31117184.46 -31117184.41 0.3598 0.3312

Uranus -89908-11-21 17:30 J -31117148.91 -31117148.77 -31117148.63 0.0141 0.0023

Uranus -89907-02-17 21:49 J -31117060.74 -31117060.59 -31117060.45 0.0141 0.0005

Uranus -89907-05-17 01:54 J -31116972.56 -31116972.42 -31116972.27 0.0141 0.0016

Uranus -89907-08-13 06:13 J -31116884.38 -31116884.24 -31116884.09 0.0142 0.0035

Uranus -89907-11-09 10:32 J -31116796.19 -31116796.06 -31116795.92 0.0142 0.0054

Uranus -89906-02-05 14:51 J -31116707.99 -31116707.88 -31116707.75 0.0142 0.0074

Moon -89906-02-05 23:01 J -31116707.66 -31116707.54 -31116707.42 0.2745 0.0060

Earth -89906-02-05 23:44 J -31116707.63 -31116707.51 -31116707.39 0.2748 0.0030 *

Mars -89906-04-03 09:49 J -31116651.22 -31116651.09 -31116650.97 0.1907 0.0817

Venus -89906-05-04 06:42 J -31116620.33 -31116620.22 -31116620.11 0.3768 0.0173

Uranus -89906-05-04 19:25 J -31116619.79 -31116619.69 -31116619.58 0.0142 0.0094

Uranus -89906-07-31 23:59 J -31116531.58 -31116531.50 -31116531.41 0.0142 0.0114

Uranus -89906-10-28 04:18 J -31116443.36 -31116443.32 -31116443.26 0.0142 0.0134

Mars -89904-12-28 23:30 J -31115650.65 -31115650.52 -31115650.39 0.1630 0.0084

Jupiter -89903-02-15 04:18 J -31115602.49 -31115602.32 -31115602.15 0.0500 0.0079

Jupiter -89903-05-16 04:47 J -31115512.38 -31115512.30 -31115512.20 0.0503 0.0420

Earth -89903-08-15 14:08 J -31115421.00 -31115420.91 -31115420.83 0.2593 0.2048

Moon -89903-08-15 14:37 J -31115420.96 -31115420.89 -31115420.82 0.2599 0.2196 *

Venus -89902-05-03 02:08 J -31115160.52 -31115160.41 -31115160.30 0.3601 0.2194

Venus -89901-11-17 01:25 J -31114596.55 -31114596.44 -31114596.33 0.3765 0.0944

Saturn -89898-06-07 03:20 J -31113664.41 -31113664.36 -31113664.30 0.0285 0.0269

Pluto -89898-06-27 19:39 J -31113643.73 -31113643.68 -31113643.61 0.0085 0.0074

Jupiter -89898-07-08 18:56 J -31113632.80 -31113632.71 -31113632.61 0.0531 0.0364

Saturn -89898-09-03 23:01 J -31113575.69 -31113575.54 -31113575.40 0.0285 0.0146

Pluto -89898-09-23 21:06 J -31113555.71 -31113555.62 -31113555.53 0.0084 0.0061

Jupiter -89898-10-06 05:01 J -31113543.42 -31113543.29 -31113543.15 0.0527 0.0096

Saturn -89898-12-01 18:13 J -31113486.91 -31113486.74 -31113486.58 0.0285 0.0026

Pluto -89898-12-20 22:18 J -31113467.67 -31113467.57 -31113467.46 0.0084 0.0049

Saturn -89897-02-28 12:56 J -31113398.12 -31113397.96 -31113397.81 0.0284 0.0093

Pluto -89897-03-17 23:30 J -31113379.63 -31113379.52 -31113379.39 0.0084 0.0037

Saturn -89897-05-27 07:11 J -31113309.31 -31113309.20 -31113309.09 0.0284 0.0207

Pluto -89897-06-14 00:56 J -31113291.58 -31113291.46 -31113291.33 0.0084 0.0025

Mars -89897-08-23 11:01 J -31113221.19 -31113221.04 -31113220.90 0.1902 0.0180

Pluto -89897-09-10 02:08 J -31113203.54 -31113203.41 -31113203.27 0.0084 0.0013

Venus -89897-11-16 02:51 J -31113136.51 -31113136.38 -31113136.25 0.3605 0.1106

Pluto -89897-12-07 03:35 J -31113115.48 -31113115.35 -31113115.22 0.0084 0.0001

Pluto -89896-03-05 04:47 J -31113027.43 -31113027.30 -31113027.17 0.0084 0.0011

Pluto -89896-06-01 05:59 J -31112939.38 -31112939.25 -31112939.12 0.0084 0.0023

Moon -89896-08-07 19:11 J -31112871.73 -31112871.70 -31112871.67 0.2586 0.2507

Earth -89896-08-07 20:23 J -31112871.71 -31112871.65 -31112871.60 0.2587 0.2365 *

Pluto -89896-08-28 06:56 J -31112851.32 -31112851.21 -31112851.08 0.0083 0.0036

Pluto -89896-11-24 08:08 J -31112763.26 -31112763.16 -31112763.04 0.0083 0.0047

Pluto -89895-02-20 09:35 J -31112675.19 -31112675.10 -31112675.00 0.0083 0.0058

Pluto -89895-05-19 10:32 J -31112587.11 -31112587.06 -31112586.98 0.0083 0.0070

Venus -89895-06-02 20:37 J -31112572.74 -31112572.64 -31112572.54 0.3761 0.1730

Pluto -89895-08-15 11:44 J -31112499.02 -31112499.01 -31112498.97 0.0083 0.0082

Mars -89894-05-21 08:37 J -31112220.27 -31112220.14 -31112220.02 0.1634 0.0408

Moon -89893-02-08 19:54 J -31111956.77 -31111956.67 -31111956.57 0.2746 0.1474

Earth -89893-02-08 20:51 J -31111956.73 -31111956.63 -31111956.53 0.2745 0.1546 *

Jupiter -89892-12-04 03:20 J -31111292.52 -31111292.36 -31111292.20 0.0499 0.0207

Jupiter -89891-03-04 04:18 J -31111202.45 -31111202.32 -31111202.18 0.0502 0.0295

Venus -89891-06-02 03:06 J -31111112.50 -31111112.37 -31111112.24 0.3608 0.0075

Venus -89890-12-17 16:03 J -31110548.92 -31110548.83 -31110548.75 0.3757 0.2542

Mars -89887-01-13 11:44 J -31109791.12 -31109791.01 -31109790.90 0.1896 0.1192

Earth -89886-02-01 11:30 J -31109407.06 -31109407.02 -31109406.99 0.2752 0.2604

Moon -89886-02-01 11:44 J -31109407.04 -31109407.01 -31109406.98 0.2746 0.2631 *

Jupiter -89886-04-26 22:32 J -31109322.62 -31109322.56 -31109322.50 0.0532 0.0473

Jupiter -89886-07-25 08:23 J -31109233.28 -31109233.15 -31109233.01 0.0528 0.0017

Jupiter -89886-10-22 19:11 J -31109143.77 -31109143.70 -31109143.63 0.0525 0.0449

Venus -89886-12-17 02:51 J -31109088.51 -31109088.38 -31109088.25 0.3612 0.0922

Mars -89885-10-10 17:30 J -31108789.87 -31108789.77 -31108789.66 0.1638 0.0893

Venus -89884-07-02 11:30 J -31108525.06 -31108525.02 -31108524.97 0.3753 0.3374

Saturn -89883-03-20 10:47 J -31108264.11 -31108264.05 -31108263.97 0.0274 0.0235

Saturn -89883-06-16 23:30 J -31108175.64 -31108175.52 -31108175.40 0.0274 0.0147

Moon -89883-08-10 19:25 J -31108120.82 -31108120.69 -31108120.56 0.2594 0.0851

Earth -89883-08-10 20:23 J -31108120.78 -31108120.65 -31108120.52 0.2589 0.0742 *

Saturn -89883-09-13 12:13 J -31108087.13 -31108086.99 -31108086.85 0.0274 0.0057

Mars -89883-09-16 05:59 J -31108084.34 -31108084.25 -31108084.16 0.1622 0.1142

Saturn -89883-12-11 01:11 J -31107998.59 -31107998.45 -31107998.30 0.0274 0.0035

Saturn -89882-03-09 14:23 J -31107910.02 -31107909.90 -31107909.76 0.0275 0.0129

Saturn -89882-06-06 04:03 J -31107821.41 -31107821.33 -31107821.25 0.0275 0.0223

Venus -89880-07-02 02:23 J -31107064.51 -31107064.40 -31107064.29 0.3615 0.1874

Jupiter -89880-09-22 02:08 J -31106982.53 -31106982.41 -31106982.28 0.0498 0.0336

Jupiter -89880-12-21 03:49 J -31106892.50 -31106892.34 -31106892.18 0.0501 0.0170

Venus -89877-03-26 09:20 J -31106066.17 -31106066.11 -31106066.05 0.3783 0.3197

Mars -89876-05-12 08:51 J -31105654.14 -31105654.13 -31105654.12 0.1913 0.1901

Mars -89875-03-03 02:51 J -31105359.45 -31105359.38 -31105359.32 0.1642 0.1376

Venus -89874-01-16 01:11 J -31105040.53 -31105040.45 -31105040.37 0.3619 0.2781

Jupiter -89874-05-13 11:44 J -31104923.14 -31104923.01 -31104922.88 0.0529 0.0128

Jupiter -89874-08-10 22:18 J -31104833.68 -31104833.57 -31104833.47 0.0525 0.0335

Moon -89873-02-04 07:54 J -31104656.28 -31104656.17 -31104656.06 0.2743 0.1128

Earth -89873-02-04 08:08 J -31104656.27 -31104656.16 -31104656.05 0.2750 0.1156 *

Mars -89873-02-06 14:37 J -31104654.01 -31104653.89 -31104653.76 0.1626 0.0648

Venus -89872-10-10 03:20 J -31104042.44 -31104042.36 -31104042.28 0.3780 0.2530

Moon -89870-08-13 20:08 J -31103369.79 -31103369.66 -31103369.54 0.2597 0.0883

Earth -89870-08-13 20:08 J -31103369.79 -31103369.66 -31103369.53 0.2591 0.0836 *

Uranus -89870-11-06 05:15 J -31103285.34 -31103285.28 -31103285.21 0.0138 0.0127

Uranus -89869-02-02 11:30 J -31103197.13 -31103197.02 -31103196.91 0.0138 0.0105

Uranus -89869-04-30 17:30 J -31103108.90 -31103108.77 -31103108.62 0.0138 0.0084

Uranus -89869-07-27 23:44 J -31103020.66 -31103020.51 -31103020.35 0.0138 0.0062

Uranus -89869-10-24 05:44 J -31102932.42 -31102932.26 -31102932.09 0.0137 0.0041

Uranus -89868-01-20 11:59 J -31102844.17 -31102844.00 -31102843.83 0.0137 0.0019

Saturn -89868-01-20 21:20 J -31102843.73 -31102843.61 -31102843.48 0.0284 0.0188

Uranus -89868-04-18 17:59 J -31102755.93 -31102755.75 -31102755.58 0.0137 0.0003

Saturn -89868-04-19 16:47 J -31102754.96 -31102754.80 -31102754.64 0.0284 0.0067

Jupiter -89868-07-11 01:25 J -31102672.50 -31102672.44 -31102672.37 0.0498 0.0459

Uranus -89868-07-15 23:44 J -31102667.68 -31102667.51 -31102667.34 0.0137 0.0023

Saturn -89868-07-17 11:44 J -31102666.18 -31102666.01 -31102665.85 0.0284 0.0052

Jupiter -89868-10-09 03:35 J -31102582.52 -31102582.35 -31102582.18 0.0501 0.0050

Uranus -89868-10-12 05:30 J -31102579.43 -31102579.27 -31102579.10 0.0137 0.0044

Saturn -89868-10-14 05:59 J -31102577.37 -31102577.25 -31102577.11 0.0284 0.0168

Uranus -89867-01-08 11:15 J -31102491.17 -31102491.03 -31102490.87 0.0137 0.0064

Saturn -89867-01-10 23:59 J -31102488.51 -31102488.50 -31102488.47 0.0284 0.0281

Uranus -89867-04-06 17:01 J -31102402.92 -31102402.79 -31102402.65 0.0137 0.0084

Uranus -89867-07-03 22:32 J -31102314.66 -31102314.56 -31102314.44 0.0137 0.0104

Uranus -89867-09-30 04:03 J -31102226.38 -31102226.33 -31102226.24 0.0136 0.0124

Mars -89867-10-02 10:18 J -31102224.19 -31102224.07 -31102223.95 0.1908 0.0930

Venus -89866-04-25 21:20 J -31102018.70 -31102018.61 -31102018.51 0.3777 0.1840

Mars -89864-06-28 23:44 J -31101223.64 -31101223.51 -31101223.38 0.1629 0.0159

Jupiter -89862-03-01 14:23 J -31100613.02 -31100612.90 -31100612.78 0.0529 0.0248

Jupiter -89862-05-30 00:42 J -31100523.60 -31100523.47 -31100523.35 0.0526 0.0213

Venus -89861-11-08 15:49 J -31099994.95 -31099994.84 -31099994.74 0.3774 0.1137

Moon -89860-02-06 04:03 J -31099905.45 -31099905.33 -31099905.21 0.2745 0.0197

Earth -89860-02-06 05:01 J -31099905.41 -31099905.29 -31099905.17 0.2748 0.0336 *

Mars -89857-02-22 11:15 J -31098794.17 -31098794.03 -31098793.88 0.1902 0.0086

Earth -89857-08-15 19:39 J -31098618.73 -31098618.68 -31098618.63 0.2594 0.2370

Moon -89857-08-15 20:23 J -31098618.71 -31098618.65 -31098618.60 0.2599 0.2362 *

Jupiter -89856-07-28 02:51 J -31098272.55 -31098272.38 -31098272.21 0.0500 0.0076

Jupiter -89856-10-26 03:35 J -31098182.44 -31098182.35 -31098182.26 0.0503 0.0425

Venus -89855-05-25 10:18 J -31097971.18 -31097971.07 -31097970.96 0.3771 0.0397

Mars -89855-11-19 08:37 J -31097793.27 -31097793.14 -31097793.01 0.1633 0.0338

Saturn -89854-08-07 13:11 J -31097531.99 -31097531.95 -31097531.90 0.0275 0.0259

Saturn -89854-11-04 01:39 J -31097443.54 -31097443.43 -31097443.31 0.0275 0.0171

Saturn -89853-01-31 14:23 J -31097355.03 -31097354.90 -31097354.76 0.0275 0.0082

Saturn -89853-04-29 03:35 J -31097266.50 -31097266.35 -31097266.21 0.0275 0.0012

Saturn -89853-07-26 16:47 J -31097177.94 -31097177.80 -31097177.67 0.0275 0.0104

Saturn -89853-10-23 06:13 J -31097089.34 -31097089.24 -31097089.14 0.0275 0.0199

Venus -89851-05-24 00:56 J -31096511.53 -31096511.46 -31096511.39 0.3599 0.3035

Jupiter -89851-12-18 17:15 J -31096302.87 -31096302.78 -31096302.68 0.0530 0.0365

Jupiter -89850-03-18 03:20 J -31096213.49 -31096213.36 -31096213.23 0.0527 0.0093

Moon -89850-08-09 00:56 J -31096069.54 -31096069.46 -31096069.38 0.2588 0.2085

Earth -89850-08-09 02:08 J -31096069.50 -31096069.41 -31096069.33 0.2587 0.2019 *

Venus -89850-12-09 05:01 J -31095947.40 -31095947.29 -31095947.18 0.3767 0.0366

Mars -89848-07-14 11:59 J -31095364.12 -31095364.00 -31095363.89 0.1896 0.1106

Moon -89847-02-09 01:11 J -31095154.54 -31095154.45 -31095154.35 0.2746 0.1737

Earth -89847-02-09 02:08 J -31095154.50 -31095154.41 -31095154.32 0.2745 0.1858 *

Venus -89846-12-08 02:08 J -31094487.53 -31094487.41 -31094487.30 0.3602 0.1922

Mars -89845-04-10 17:44 J -31094362.87 -31094362.76 -31094362.65 0.1638 0.0823

Neptune -89845-11-18 14:37 J -31094140.93 -31094140.89 -31094140.81 0.0089 0.0084

Neptune -89844-02-14 17:59 J -31094052.82 -31094052.75 -31094052.65 0.0089 0.0078

Neptune -89844-05-13 21:20 J -31093964.71 -31093964.61 -31093964.49 0.0089 0.0072

Jupiter -89844-05-16 01:11 J -31093962.60 -31093962.45 -31093962.29 0.0499 0.0209

Venus -89844-06-23 23:59 J -31093923.61 -31093923.50 -31093923.40 0.3764 0.1136

Neptune -89844-08-10 00:42 J -31093876.59 -31093876.47 -31093876.35 0.0089 0.0066

Jupiter -89844-08-14 02:23 J -31093872.54 -31093872.40 -31093872.26 0.0502 0.0293

Neptune -89844-11-06 03:35 J -31093788.47 -31093788.35 -31093788.20 0.0089 0.0061

Neptune -89843-02-02 06:56 J -31093700.35 -31093700.21 -31093700.06 0.0089 0.0055

Mars -89843-03-17 05:59 J -31093657.33 -31093657.25 -31093657.16 0.1622 0.1214

Neptune -89843-05-01 10:03 J -31093612.22 -31093612.08 -31093611.92 0.0088 0.0049

Neptune -89843-07-28 13:11 J -31093524.10 -31093523.95 -31093523.78 0.0088 0.0043

Neptune -89843-10-24 16:18 J -31093435.98 -31093435.82 -31093435.65 0.0088 0.0038

Neptune -89842-01-20 19:39 J -31093347.85 -31093347.68 -31093347.51 0.0088 0.0032

Neptune -89842-04-18 22:32 J -31093259.73 -31093259.56 -31093259.38 0.0088 0.0026

Neptune -89842-07-16 01:39 J -31093171.60 -31093171.43 -31093171.25 0.0088 0.0021

Neptune -89842-10-12 04:47 J -31093083.47 -31093083.30 -31093083.12 0.0088 0.0015

Neptune -89841-01-08 07:54 J -31092995.35 -31092995.17 -31092994.99 0.0088 0.0009

Neptune -89841-04-05 11:01 J -31092907.22 -31092907.04 -31092906.86 0.0088 0.0004

Neptune -89841-07-02 14:08 J -31092819.09 -31092818.91 -31092818.73 0.0088 0.0003

Neptune -89841-09-28 17:01 J -31092730.97 -31092730.79 -31092730.61 0.0088 0.0007

Neptune -89841-12-25 20:08 J -31092642.84 -31092642.66 -31092642.48 0.0088 0.0013

Earth -89840-02-01 16:32 J -31092604.87 -31092604.81 -31092604.75 0.2752 0.2313

Moon -89840-02-01 16:47 J -31092604.87 -31092604.80 -31092604.73 0.2745 0.2218 *

Neptune -89840-03-23 23:01 J -31092554.71 -31092554.54 -31092554.36 0.0088 0.0018

Neptune -89840-06-20 01:54 J -31092466.59 -31092466.42 -31092466.24 0.0088 0.0024

Venus -89840-06-23 02:37 J -31092463.52 -31092463.39 -31092463.26 0.3605 0.0851

Neptune -89840-09-16 04:47 J -31092378.46 -31092378.30 -31092378.12 0.0088 0.0030

Neptune -89840-12-13 07:54 J -31092290.33 -31092290.17 -31092290.00 0.0088 0.0035

Neptune -89839-03-11 10:32 J -31092202.20 -31092202.06 -31092201.89 0.0088 0.0041

Neptune -89839-06-07 13:39 J -31092114.08 -31092113.93 -31092113.77 0.0088 0.0045

Saturn -89839-06-09 23:59 J -31092111.61 -31092111.50 -31092111.38 0.0285 0.0208

Neptune -89839-09-03 16:32 J -31092025.95 -31092025.81 -31092025.66 0.0088 0.0051

Saturn -89839-09-06 19:25 J -31092022.85 -31092022.69 -31092022.53 0.0285 0.0086

Jupiter -89839-10-06 20:23 J -31091992.70 -31091992.65 -31091992.59 0.0532 0.0481

Neptune -89839-11-30 19:11 J -31091937.82 -31091937.70 -31091937.54 0.0088 0.0057

Saturn -89839-12-04 14:23 J -31091934.06 -31091933.90 -31091933.73 0.0285 0.0035

Jupiter -89838-01-04 06:13 J -31091903.37 -31091903.24 -31091903.10 0.0528 0.0024

Venus -89838-01-07 19:11 J -31091899.80 -31091899.70 -31091899.61 0.3760 0.1931

Neptune -89838-02-26 22:18 J -31091849.69 -31091849.57 -31091849.43 0.0088 0.0062

Saturn -89838-03-03 08:51 J -31091845.26 -31091845.13 -31091844.99 0.0284 0.0151

Jupiter -89838-04-03 16:47 J -31091813.87 -31091813.80 -31091813.72 0.0525 0.0441

Neptune -89838-05-26 01:11 J -31091761.55 -31091761.45 -31091761.32 0.0088 0.0067

Saturn -89838-05-31 02:51 J -31091756.43 -31091756.38 -31091756.31 0.0284 0.0264

Neptune -89838-08-22 04:18 J -31091673.42 -31091673.32 -31091673.22 0.0088 0.0072

Neptune -89838-11-18 06:42 J -31091585.29 -31091585.22 -31091585.12 0.0088 0.0078

Neptune -89837-02-14 09:35 J -31091497.14 -31091497.10 -31091497.02 0.0088 0.0083

Neptune -89837-05-12 12:27 J -31091408.99 -31091408.98 -31091408.94 0.0088 0.0088

Moon -89837-08-11 01:11 J -31091318.58 -31091318.45 -31091318.31 0.2594 0.0491

Earth -89837-08-11 02:08 J -31091318.55 -31091318.41 -31091318.28 0.2589 0.0412 *

Mars -89836-09-01 02:51 J -31090932.45 -31090932.38 -31090932.30 0.1642 0.1306

Venus -89834-01-07 02:51 J -31090439.52 -31090439.38 -31090439.25 0.3609 0.0198

Mars -89834-08-07 14:51 J -31090227.00 -31090226.88 -31090226.76 0.1626 0.0719

Venus -89833-07-23 14:37 J -31089875.97 -31089875.89 -31089875.82 0.3756 0.2752

Jupiter -89832-03-03 23:59 J -31089652.62 -31089652.50 -31089652.37 0.0498 0.0337

Jupiter -89832-06-02 01:39 J -31089562.59 -31089562.43 -31089562.27 0.0501 0.0168

Venus -89829-07-23 02:37 J -31088415.52 -31088415.39 -31088415.27 0.3613 0.1164

Moon -89827-02-04 12:56 J -31087854.07 -31087853.96 -31087853.85 0.2744 0.0965

Earth -89827-02-04 13:25 J -31087854.06 -31087853.94 -31087853.83 0.2750 0.0855 *

Venus -89827-02-06 10:03 J -31087852.11 -31087852.08 -31087852.04 0.3752 0.3589

Mars -89827-04-02 10:47 J -31087797.17 -31087797.05 -31087796.93 0.1908 0.1032

Jupiter -89827-10-23 09:35 J -31087593.23 -31087593.10 -31087592.97 0.0529 0.0135

Jupiter -89826-01-20 20:08 J -31087503.77 -31087503.66 -31087503.55 0.0526 0.0328

Venus -89826-04-17 13:39 J -31087416.95 -31087416.93 -31087416.91 0.3785 0.3689

Uranus -89825-06-30 23:44 J -31086976.56 -31086976.51 -31086976.46 0.0140 0.0130

Uranus -89825-09-27 03:49 J -31086888.42 -31086888.34 -31086888.26 0.0140 0.0113

Uranus -89825-12-24 07:39 J -31086800.27 -31086800.18 -31086800.07 0.0141 0.0095

Mars -89825-12-27 23:44 J -31086796.64 -31086796.51 -31086796.38 0.1629 0.0230

Uranus -89824-03-22 11:44 J -31086712.12 -31086712.01 -31086711.88 0.0141 0.0077

Saturn -89824-03-23 04:03 J -31086711.42 -31086711.33 -31086711.23 0.0274 0.0193

Uranus -89824-06-18 16:03 J -31086623.96 -31086623.83 -31086623.70 0.0141 0.0058

Saturn -89824-06-19 16:47 J -31086622.93 -31086622.80 -31086622.67 0.0274 0.0104

Earth -89824-08-14 01:54 J -31086567.55 -31086567.42 -31086567.30 0.2592 0.1168

Moon -89824-08-14 01:54 J -31086567.54 -31086567.42 -31086567.30 0.2598 0.1158 *

Uranus -89824-09-14 20:08 J -31086535.79 -31086535.66 -31086535.52 0.0141 0.0040

Saturn -89824-09-16 05:44 J -31086534.41 -31086534.26 -31086534.12 0.0274 0.0014

Uranus -89824-12-12 00:27 J -31086447.62 -31086447.48 -31086447.34 0.0141 0.0021

Saturn -89824-12-13 18:42 J -31086445.86 -31086445.72 -31086445.58 0.0274 0.0079

Venus -89823-02-06 01:39 J -31086391.53 -31086391.43 -31086391.32 0.3616 0.2106

Uranus -89823-03-10 04:47 J -31086359.45 -31086359.30 -31086359.16 0.0141 0.0005

Saturn -89823-03-12 08:08 J -31086357.27 -31086357.16 -31086357.05 0.0275 0.0173

Uranus -89823-06-06 08:51 J -31086271.27 -31086271.13 -31086270.98 0.0141 0.0018

Saturn -89823-06-08 21:49 J -31086268.62 -31086268.59 -31086268.56 0.0275 0.0269

Uranus -89823-09-02 13:11 J -31086183.09 -31086182.95 -31086182.81 0.0142 0.0037

Uranus -89823-11-29 17:30 J -31086094.90 -31086094.77 -31086094.63 0.0142 0.0057

Uranus -89822-02-25 21:49 J -31086006.71 -31086006.59 -31086006.46 0.0142 0.0077

Uranus -89822-05-25 02:23 J -31085918.51 -31085918.40 -31085918.29 0.0142 0.0096

Uranus -89822-08-21 06:42 J -31085830.29 -31085830.22 -31085830.13 0.0142 0.0117

Uranus -89822-11-17 11:15 J -31085742.06 -31085742.03 -31085741.99 0.0142 0.0137

Venus -89821-10-31 07:25 J -31085393.25 -31085393.19 -31085393.13 0.3782 0.3037

Jupiter -89821-12-20 22:47 J -31085342.60 -31085342.55 -31085342.49 0.0497 0.0466

Jupiter -89820-03-21 00:56 J -31085252.63 -31085252.46 -31085252.29 0.0500 0.0043

Venus -89818-08-23 00:42 J -31084367.54 -31084367.47 -31084367.40 0.3621 0.3001

Mars -89818-08-23 11:44 J -31084367.15 -31084367.01 -31084366.87 0.1902 0.0027

Venus -89815-05-17 01:25 J -31083369.53 -31083369.44 -31083369.36 0.3779 0.2360

Mars -89815-05-20 08:51 J -31083366.26 -31083366.13 -31083366.00 0.1633 0.0271

Jupiter -89815-08-11 13:11 J -31083283.07 -31083282.95 -31083282.83 0.0530 0.0246

Jupiter -89815-11-08 23:15 J -31083193.65 -31083193.53 -31083193.40 0.0526 0.0216

Moon -89814-02-07 09:20 J -31083103.23 -31083103.11 -31083102.99 0.2745 0.0588

Earth -89814-02-07 10:18 J -31083103.19 -31083103.07 -31083102.95 0.2747 0.0645 *

Saturn -89810-10-27 22:18 J -31081379.65 -31081379.57 -31081379.50 0.0284 0.0252

Venus -89810-11-30 19:39 J -31081345.78 -31081345.68 -31081345.59 0.3776 0.1670

Saturn -89809-01-24 17:44 J -31081290.91 -31081290.76 -31081290.61 0.0284 0.0129

Saturn -89809-04-22 12:56 J -31081202.13 -31081201.96 -31081201.79 0.0284 0.0009

Saturn -89809-07-20 07:39 J -31081113.33 -31081113.18 -31081113.03 0.0284 0.0109

Saturn -89809-10-17 01:54 J -31081024.52 -31081024.42 -31081024.32 0.0284 0.0224

Jupiter -89808-01-07 00:27 J -31080942.65 -31080942.48 -31080942.31 0.0500 0.0080

Mars -89808-01-12 12:42 J -31080937.10 -31080936.97 -31080936.85 0.1896 0.0986

Jupiter -89808-04-07 01:11 J -31080852.53 -31080852.45 -31080852.35 0.0503 0.0420

Mars -89806-10-10 17:59 J -31079935.87 -31079935.75 -31079935.64 0.1637 0.0756

Venus -89804-06-15 13:54 J -31079322.03 -31079321.92 -31079321.81 0.3773 0.0950

Moon -89804-08-09 06:42 J -31079267.32 -31079267.22 -31079267.13 0.2590 0.1867

Earth -89804-08-09 07:39 J -31079267.28 -31079267.18 -31079267.07 0.2588 0.1676 *

Mars -89804-09-15 06:13 J -31079230.32 -31079230.24 -31079230.16 0.1622 0.1285

Jupiter -89803-05-30 16:03 J -31078972.93 -31078972.83 -31078972.73 0.0530 0.0363

Jupiter -89803-08-28 01:54 J -31078883.55 -31078883.42 -31078883.28 0.0527 0.0096

Moon -89801-02-10 06:42 J -31078352.30 -31078352.22 -31078352.15 0.2748 0.2072

Earth -89801-02-10 07:25 J -31078352.26 -31078352.19 -31078352.12 0.2745 0.2172 *

Venus -89799-12-30 08:37 J -31077298.26 -31077298.14 -31077298.03 0.3770 0.0256

Jupiter -89797-10-25 23:44 J -31076632.67 -31076632.51 -31076632.35 0.0499 0.0205

Jupiter -89796-01-24 00:56 J -31076542.59 -31076542.46 -31076542.32 0.0502 0.0298

Mars -89796-03-02 03:06 J -31076505.46 -31076505.37 -31076505.29 0.1642 0.1243

Saturn -89795-08-10 05:59 J -31075979.33 -31075979.25 -31075979.16 0.0275 0.0220

Saturn -89795-11-06 18:42 J -31075890.84 -31075890.72 -31075890.59 0.0275 0.0131

Venus -89795-12-29 00:56 J -31075838.54 -31075838.46 -31075838.37 0.3600 0.2753

Moon -89794-02-02 21:49 J -31075802.67 -31075802.59 -31075802.51 0.2744 0.2065

Earth -89794-02-02 21:49 J -31075802.67 -31075802.59 -31075802.51 0.2752 0.2018 *

Saturn -89794-02-03 07:39 J -31075802.33 -31075802.18 -31075802.04 0.0275 0.0041

Mars -89794-02-05 15:06 J -31075799.99 -31075799.87 -31075799.76 0.1625 0.0788

Saturn -89794-05-02 20:37 J -31075713.78 -31075713.64 -31075713.50 0.0275 0.0052

Saturn -89794-07-30 09:49 J -31075625.21 -31075625.09 -31075624.96 0.0275 0.0147

Saturn -89794-10-26 23:30 J -31075536.59 -31075536.52 -31075536.45 0.0275 0.0242

Venus -89793-07-15 03:20 J -31075274.47 -31075274.36 -31075274.25 0.3766 0.0553

Jupiter -89791-03-18 18:56 J -31074662.76 -31074662.71 -31074662.65 0.0531 0.0479

Jupiter -89791-06-16 04:47 J -31074573.43 -31074573.30 -31074573.16 0.0528 0.0023

Moon -89791-08-12 07:11 J -31074516.34 -31074516.20 -31074516.06 0.2595 0.0121

Earth -89791-08-12 07:54 J -31074516.31 -31074516.17 -31074516.04 0.2590 0.0102 *

Jupiter -89791-09-13 15:20 J -31074483.93 -31074483.86 -31074483.78 0.0524 0.0440

Venus -89789-07-14 01:54 J -31073814.54 -31073814.42 -31073814.29 0.3603 0.1654

Mars -89788-10-01 11:01 J -31073370.16 -31073370.04 -31073369.93 0.1908 0.1122

Venus -89787-01-28 22:18 J -31073250.68 -31073250.57 -31073250.46 0.3763 0.1330

Uranus -89786-11-26 11:44 J -31072584.07 -31072584.01 -31072583.92 0.0138 0.0124

Uranus -89785-02-22 17:59 J -31072495.85 -31072495.75 -31072495.62 0.0138 0.0102

Uranus -89785-05-21 00:27 J -31072407.62 -31072407.48 -31072407.34 0.0138 0.0080

Mars -89785-06-27 23:59 J -31072369.63 -31072369.50 -31072369.37 0.1629 0.0295

Jupiter -89785-08-13 22:03 J -31072322.70 -31072322.58 -31072322.45 0.0498 0.0338

Uranus -89785-08-17 06:27 J -31072319.38 -31072319.23 -31072319.07 0.0138 0.0059

Jupiter -89785-11-11 23:44 J -31072232.67 -31072232.51 -31072232.35 0.0501 0.0168

Uranus -89785-11-13 12:27 J -31072231.14 -31072230.98 -31072230.81 0.0137 0.0038

Uranus -89784-02-09 18:42 J -31072142.89 -31072142.72 -31072142.55 0.0137 0.0016

Uranus -89784-05-09 00:42 J -31072054.64 -31072054.47 -31072054.30 0.0137 0.0006

Uranus -89784-08-05 06:27 J -31071966.40 -31071966.23 -31071966.06 0.0137 0.0026

Uranus -89784-11-01 12:13 J -31071878.14 -31071877.99 -31071877.82 0.0137 0.0047

Venus -89783-01-28 02:23 J -31071790.53 -31071790.40 -31071790.26 0.3606 0.0597

Uranus -89783-01-28 17:59 J -31071789.89 -31071789.75 -31071789.59 0.0137 0.0067

Uranus -89783-04-26 23:44 J -31071701.63 -31071701.51 -31071701.37 0.0137 0.0087

Uranus -89783-07-24 05:15 J -31071613.37 -31071613.28 -31071613.16 0.0137 0.0107

Uranus -89783-10-20 10:47 J -31071525.09 -31071525.05 -31071524.97 0.0136 0.0127

Venus -89782-08-14 17:30 J -31071226.86 -31071226.77 -31071226.67 0.3759 0.2133

Moon -89781-02-05 17:44 J -31071051.87 -31071051.76 -31071051.64 0.2745 0.0562

Earth -89781-02-05 18:27 J -31071051.85 -31071051.73 -31071051.61 0.2749 0.0553 *

Saturn -89780-03-16 00:27 J -31070647.52 -31070647.48 -31070647.43 0.0285 0.0274

Saturn -89780-06-12 20:08 J -31070558.80 -31070558.66 -31070558.51 0.0285 0.0150

Saturn -89780-09-09 15:35 J -31070470.02 -31070469.85 -31070469.69 0.0285 0.0029

Saturn -89780-12-07 10:18 J -31070381.23 -31070381.07 -31070380.91 0.0285 0.0090

Saturn -89779-03-06 04:32 J -31070292.42 -31070292.31 -31070292.19 0.0284 0.0206

Jupiter -89779-04-04 07:39 J -31070263.31 -31070263.18 -31070263.05 0.0529 0.0142

Jupiter -89779-07-02 17:59 J -31070173.85 -31070173.75 -31070173.64 0.0526 0.0322

Mars -89778-02-21 12:13 J -31069940.13 -31069939.99 -31069939.85 0.1903 0.0132

Venus -89778-08-14 02:23 J -31069766.53 -31069766.40 -31069766.26 0.3610 0.0445

Earth -89778-08-15 07:25 J -31069765.30 -31069765.19 -31069765.08 0.2592 0.1497

Moon -89778-08-15 07:39 J -31069765.29 -31069765.18 -31069765.07 0.2599 0.1543 *

Venus -89776-02-27 12:56 J -31069203.02 -31069202.96 -31069202.89 0.3755 0.2963

Mars -89776-11-18 09:06 J -31068939.25 -31068939.12 -31068938.99 0.1633 0.0199

Jupiter -89773-06-01 21:06 J -31068012.68 -31068012.62 -31068012.56 0.0497 0.0465

Jupiter -89773-08-30 23:01 J -31067922.71 -31067922.54 -31067922.37 0.0500 0.0042

Venus -89772-02-27 02:08 J -31067742.53 -31067742.41 -31067742.29 0.3614 0.1401

Venus -89770-11-22 11:30 J -31066744.05 -31066744.02 -31066743.98 0.3784 0.3532

Mars -89769-07-13 12:56 J -31066510.09 -31066509.96 -31066509.83 0.1896 0.0889

Moon -89768-02-07 14:37 J -31066301.01 -31066300.89 -31066300.78 0.2745 0.0784

Earth -89768-02-07 15:35 J -31066300.97 -31066300.85 -31066300.74 0.2747 0.0956 *

Jupiter -89767-01-21 11:01 J -31065953.16 -31065953.04 -31065952.92 0.0530 0.0253

Jupiter -89767-04-20 21:20 J -31065863.74 -31065863.61 -31065863.49 0.0527 0.0209

Venus -89767-09-13 01:11 J -31065718.55 -31065718.45 -31065718.35 0.3618 0.2332

Mars -89766-04-10 17:59 J -31065508.87 -31065508.75 -31065508.63 0.1637 0.0688

Saturn -89766-12-28 08:37 J -31065247.20 -31065247.14 -31065247.07 0.0274 0.0240

Saturn -89765-03-25 21:06 J -31065158.73 -31065158.62 -31065158.50 0.0274 0.0153

Saturn -89765-06-22 09:49 J -31065070.23 -31065070.09 -31065069.95 0.0274 0.0063

Saturn -89765-09-18 22:47 J -31064981.69 -31064981.55 -31064981.40 0.0274 0.0030

Saturn -89765-12-16 11:59 J -31064893.13 -31064893.00 -31064892.87 0.0274 0.0122

Saturn -89764-03-15 01:25 J -31064804.52 -31064804.44 -31064804.35 0.0275 0.0217

Mars -89764-03-16 06:27 J -31064803.30 -31064803.23 -31064803.16 0.1622 0.1360

Venus -89764-06-07 05:30 J -31064720.34 -31064720.27 -31064720.20 0.3781 0.2872

Neptune -89763-02-23 03:35 J -31064459.35 -31064459.35 -31064459.33 0.0089 0.0088

Neptune -89763-05-22 05:15 J -31064371.32 -31064371.28 -31064371.24 0.0089 0.0084

Neptune -89763-08-18 06:42 J -31064283.28 -31064283.22 -31064283.16 0.0089 0.0080

Neptune -89763-11-14 08:08 J -31064195.23 -31064195.16 -31064195.09 0.0089 0.0076

Neptune -89762-02-10 09:35 J -31064107.18 -31064107.10 -31064107.02 0.0089 0.0072

Neptune -89762-05-09 11:01 J -31064019.12 -31064019.04 -31064018.95 0.0089 0.0068

Neptune -89762-08-05 12:27 J -31063931.07 -31063930.98 -31063930.88 0.0089 0.0064

Neptune -89762-11-01 13:54 J -31063843.01 -31063842.92 -31063842.81 0.0089 0.0060

Neptune -89761-01-28 15:35 J -31063754.96 -31063754.85 -31063754.74 0.0089 0.0055

Venus -89761-03-28 23:59 J -31063694.55 -31063694.50 -31063694.44 0.3622 0.3220

Neptune -89761-04-25 17:01 J -31063666.90 -31063666.79 -31063666.67 0.0089 0.0051

Jupiter -89761-06-18 22:03 J -31063612.75 -31063612.58 -31063612.41 0.0499 0.0086

Neptune -89761-07-22 18:27 J -31063578.84 -31063578.73 -31063578.61 0.0089 0.0047

Jupiter -89761-09-16 22:47 J -31063522.64 -31063522.55 -31063522.45 0.0503 0.0414

Neptune -89761-10-18 19:54 J -31063490.78 -31063490.67 -31063490.54 0.0089 0.0043

Neptune -89760-01-14 21:20 J -31063402.72 -31063402.61 -31063402.47 0.0089 0.0039

Neptune -89760-04-12 23:15 J -31063314.66 -31063314.53 -31063314.41 0.0089 0.0034

Neptune -89760-07-10 00:42 J -31063226.60 -31063226.47 -31063226.34 0.0089 0.0030

Neptune -89760-10-06 02:08 J -31063138.54 -31063138.41 -31063138.27 0.0089 0.0026

Neptune -89759-01-02 03:49 J -31063050.48 -31063050.34 -31063050.21 0.0089 0.0021

Neptune -89759-03-31 05:15 J -31062962.41 -31062962.28 -31062962.14 0.0089 0.0017

Neptune -89759-06-27 06:56 J -31062874.35 -31062874.21 -31062874.07 0.0089 0.0013

Neptune -89759-09-23 08:23 J -31062786.29 -31062786.15 -31062786.01 0.0089 0.0009

Neptune -89759-12-20 10:03 J -31062698.22 -31062698.08 -31062697.94 0.0089 0.0004

Venus -89759-12-21 23:30 J -31062696.61 -31062696.52 -31062696.43 0.3778 0.2191

Neptune -89758-03-18 11:30 J -31062610.16 -31062610.02 -31062609.88 0.0089 0.0002

Neptune -89758-06-14 13:11 J -31062522.09 -31062521.95 -31062521.81 0.0089 0.0005

Moon -89758-08-10 12:13 J -31062465.10 -31062464.99 -31062464.87 0.2591 0.1373

Earth -89758-08-10 13:25 J -31062465.05 -31062464.94 -31062464.82 0.2588 0.1334 *

Neptune -89758-09-10 14:37 J -31062434.02 -31062433.89 -31062433.74 0.0089 0.0010

Neptune -89758-12-07 16:18 J -31062345.96 -31062345.82 -31062345.68 0.0089 0.0014

Neptune -89757-03-04 17:59 J -31062257.89 -31062257.75 -31062257.61 0.0089 0.0018

Neptune -89757-05-31 19:25 J -31062169.82 -31062169.69 -31062169.55 0.0089 0.0023

Neptune -89757-08-27 21:06 J -31062081.75 -31062081.62 -31062081.48 0.0089 0.0027

Mars -89757-08-31 03:06 J -31062078.46 -31062078.37 -31062078.28 0.1642 0.1174

Neptune -89757-11-23 22:47 J -31061993.68 -31061993.55 -31061993.42 0.0089 0.0031

Neptune -89756-02-20 00:13 J -31061905.61 -31061905.49 -31061905.35 0.0089 0.0036

Neptune -89756-05-19 01:54 J -31061817.54 -31061817.42 -31061817.29 0.0089 0.0040

Neptune -89756-08-15 03:35 J -31061729.47 -31061729.35 -31061729.22 0.0089 0.0045

Jupiter -89756-11-09 14:37 J -31061642.99 -31061642.89 -31061642.79 0.0531 0.0362

Neptune -89756-11-11 05:15 J -31061641.39 -31061641.28 -31061641.16 0.0089 0.0049

Jupiter -89755-02-07 00:42 J -31061553.61 -31061553.47 -31061553.34 0.0527 0.0098

Neptune -89755-02-07 06:42 J -31061553.32 -31061553.22 -31061553.10 0.0089 0.0054

Moon -89755-02-10 11:59 J -31061550.05 -31061550.00 -31061549.95 0.2749 0.2449

Earth -89755-02-10 12:42 J -31061550.02 -31061549.97 -31061549.92 0.2744 0.2487 *

Neptune -89755-05-06 08:37 J -31061465.25 -31061465.14 -31061465.03 0.0089 0.0058

Neptune -89755-08-02 10:03 J -31061377.17 -31061377.08 -31061376.97 0.0089 0.0063

Mars -89755-08-06 15:06 J -31061372.98 -31061372.87 -31061372.75 0.1625 0.0861

Neptune -89755-10-29 11:44 J -31061289.09 -31061289.01 -31061288.91 0.0089 0.0067

Neptune -89754-01-25 13:25 J -31061201.01 -31061200.94 -31061200.85 0.0089 0.0072

Neptune -89754-04-23 15:20 J -31061112.93 -31061112.86 -31061112.79 0.0089 0.0076

Neptune -89754-07-20 16:47 J -31061024.85 -31061024.80 -31061024.73 0.0089 0.0081

Neptune -89754-10-16 18:42 J -31060936.76 -31060936.72 -31060936.68 0.0089 0.0085

Venus -89753-07-06 17:44 J -31060672.86 -31060672.76 -31060672.66 0.3775 0.1488

Saturn -89751-10-30 18:13 J -31059826.85 -31059826.74 -31059826.61 0.0284 0.0195

Saturn -89750-01-27 13:54 J -31059738.08 -31059737.92 -31059737.76 0.0284 0.0072

Saturn -89750-04-26 08:51 J -31059649.29 -31059649.13 -31059648.97 0.0284 0.0048

Saturn -89750-07-24 03:20 J -31059560.49 -31059560.36 -31059560.23 0.0284 0.0164

Saturn -89750-10-20 21:35 J -31059471.63 -31059471.60 -31059471.57 0.0284 0.0277

Jupiter -89749-04-06 21:35 J -31059302.76 -31059302.60 -31059302.45 0.0499 0.0209

Jupiter -89749-07-05 22:47 J -31059212.69 -31059212.55 -31059212.41 0.0502 0.0295

Moon -89748-02-03 02:51 J -31059000.47 -31059000.38 -31059000.28 0.2744 0.1663

Earth -89748-02-03 03:06 J -31059000.47 -31059000.37 -31059000.28 0.2751 0.1720 *

Mars -89748-04-01 11:30 J -31058943.13 -31058943.02 -31058942.92 0.1908 0.1231

Venus -89747-01-20 12:13 J -31058649.10 -31058648.99 -31058648.88 0.3772 0.0769

Mars -89746-12-28 00:13 J -31057942.62 -31057942.49 -31057942.37 0.1629 0.0368

Moon -89745-08-12 13:11 J -31057714.09 -31057713.95 -31057713.82 0.2596 0.0198

Earth -89745-08-12 13:25 J -31057714.08 -31057713.94 -31057713.80 0.2590 0.0269 *

Pluto -89744-04-05 00:27 J -31057478.53 -31057478.48 -31057478.39 0.0060 0.0056

Pluto -89744-07-02 02:08 J -31057390.51 -31057390.41 -31057390.29 0.0060 0.0050

Jupiter -89744-08-28 17:44 J -31057332.82 -31057332.76 -31057332.70 0.0531 0.0476

Pluto -89744-09-28 03:20 J -31057302.48 -31057302.36 -31057302.21 0.0060 0.0043

Jupiter -89744-11-26 03:35 J -31057243.49 -31057243.35 -31057243.22 0.0528 0.0025

Pluto -89744-12-25 05:15 J -31057214.44 -31057214.28 -31057214.13 0.0060 0.0037

Jupiter -89743-02-23 13:54 J -31057153.98 -31057153.92 -31057153.84 0.0524 0.0443

Pluto -89743-03-23 06:27 J -31057126.39 -31057126.23 -31057126.05 0.0060 0.0030

Pluto -89743-06-19 08:08 J -31057038.34 -31057038.16 -31057037.98 0.0060 0.0024

Pluto -89743-09-15 09:20 J -31056950.29 -31056950.11 -31056949.91 0.0060 0.0018

Pluto -89743-12-12 11:01 J -31056862.23 -31056862.04 -31056861.84 0.0060 0.0011

Pluto -89742-03-10 12:27 J -31056774.17 -31056773.98 -31056773.78 0.0061 0.0004

Pluto -89742-06-06 14:08 J -31056686.11 -31056685.91 -31056685.72 0.0061 0.0003

Venus -89742-08-06 06:56 J -31056625.33 -31056625.21 -31056625.10 0.3769 0.0151

Pluto -89742-09-02 15:20 J -31056598.05 -31056597.86 -31056597.66 0.0061 0.0010

Pluto -89742-11-29 17:01 J -31056509.98 -31056509.79 -31056509.60 0.0061 0.0016

Pluto -89741-02-25 18:13 J -31056421.91 -31056421.74 -31056421.54 0.0061 0.0023

Pluto -89741-05-23 19:39 J -31056333.83 -31056333.68 -31056333.49 0.0061 0.0030

Uranus -89741-07-21 06:27 J -31056275.28 -31056275.23 -31056275.17 0.0140 0.0128

Pluto -89741-08-19 21:20 J -31056245.76 -31056245.61 -31056245.44 0.0061 0.0036

Uranus -89741-10-17 10:32 J -31056187.14 -31056187.06 -31056186.97 0.0140 0.0110

Pluto -89741-11-15 22:47 J -31056157.67 -31056157.55 -31056157.40 0.0061 0.0043

Uranus -89740-01-13 14:23 J -31056098.99 -31056098.90 -31056098.78 0.0141 0.0093

Pluto -89740-02-12 00:13 J -31056069.58 -31056069.49 -31056069.36 0.0061 0.0050

Uranus -89740-04-11 18:42 J -31056010.84 -31056010.72 -31056010.60 0.0141 0.0074

Pluto -89740-05-11 01:39 J -31055981.48 -31055981.43 -31055981.34 0.0061 0.0057

Uranus -89740-07-08 22:47 J -31055922.68 -31055922.55 -31055922.42 0.0141 0.0056

Uranus -89740-10-05 03:06 J -31055834.51 -31055834.37 -31055834.23 0.0141 0.0037

Uranus -89739-01-01 07:11 J -31055746.34 -31055746.20 -31055746.06 0.0141 0.0018

Uranus -89739-03-30 11:30 J -31055658.17 -31055658.02 -31055657.88 0.0141 0.0003

Uranus -89739-06-26 15:35 J -31055569.99 -31055569.85 -31055569.70 0.0142 0.0021

Mars -89739-08-22 12:27 J -31055513.12 -31055512.98 -31055512.83 0.1902 0.0235

Uranus -89739-09-22 19:54 J -31055481.80 -31055481.67 -31055481.53 0.0142 0.0040

Uranus -89739-12-20 00:13 J -31055393.62 -31055393.49 -31055393.35 0.0142 0.0059

Uranus -89738-03-18 04:32 J -31055305.42 -31055305.31 -31055305.18 0.0142 0.0079

Uranus -89738-06-14 08:51 J -31055217.22 -31055217.13 -31055217.01 0.0142 0.0099

Venus -89738-08-05 01:11 J -31055165.55 -31055165.45 -31055165.35 0.3601 0.2470

Uranus -89738-09-10 13:25 J -31055129.01 -31055128.94 -31055128.85 0.0142 0.0119

Uranus -89738-12-07 17:59 J -31055040.77 -31055040.75 -31055040.71 0.0142 0.0139

Jupiter -89737-01-24 20:37 J -31054992.76 -31054992.64 -31054992.51 0.0498 0.0334

Jupiter -89737-04-23 22:18 J -31054902.73 -31054902.57 -31054902.41 0.0501 0.0173

Venus -89736-02-19 01:39 J -31054601.54 -31054601.43 -31054601.32 0.3765 0.0748

Saturn -89736-05-16 10:18 J -31054515.09 -31054515.07 -31054515.05 0.0275 0.0269

Mars -89736-05-19 09:06 J -31054512.25 -31054512.12 -31054511.99 0.1633 0.0129

Saturn -89736-08-12 22:47 J -31054426.66 -31054426.55 -31054426.45 0.0275 0.0182

Saturn -89736-11-09 11:15 J -31054338.16 -31054338.03 -31054337.89 0.0275 0.0093

Moon -89735-02-05 23:01 J -31054249.66 -31054249.54 -31054249.42 0.2744 0.0408

Earth -89735-02-05 23:44 J -31054249.63 -31054249.51 -31054249.39 0.2749 0.0248 *

Saturn -89735-02-06 00:13 J -31054249.63 -31054249.49 -31054249.34 0.0275 0.0007 *

Saturn -89735-05-05 13:25 J -31054161.08 -31054160.94 -31054160.80 0.0275 0.0092

Saturn -89735-08-02 02:51 J -31054072.49 -31054072.38 -31054072.27 0.0275 0.0187

Venus -89732-02-18 01:54 J -31053141.54 -31053141.42 -31053141.29 0.3604 0.1379

Earth -89732-08-15 13:11 J -31052963.05 -31052962.95 -31052962.86 0.2592 0.1827

Moon -89732-08-15 13:25 J -31052963.03 -31052962.94 -31052962.85 0.2599 0.1864 *

Jupiter -89732-09-14 06:27 J -31052933.36 -31052933.23 -31052933.10 0.0529 0.0137

Jupiter -89732-12-12 16:47 J -31052843.91 -31052843.80 -31052843.69 0.0525 0.0325

Venus -89731-09-04 20:51 J -31052577.74 -31052577.63 -31052577.53 0.3762 0.1535

Mars -89729-01-12 13:11 J -31052083.08 -31052082.95 -31052082.82 0.1897 0.0795

Venus -89727-09-04 02:23 J -31051117.54 -31051117.40 -31051117.27 0.3607 0.0340

Mars -89727-10-09 18:13 J -31051081.86 -31051081.74 -31051081.62 0.1637 0.0618

Jupiter -89726-11-12 19:11 J -31050682.76 -31050682.70 -31050682.64 0.0497 0.0464

Jupiter -89725-02-10 21:20 J -31050592.78 -31050592.61 -31050592.44 0.0500 0.0044

Venus -89725-03-20 16:03 J -31050553.92 -31050553.83 -31050553.74 0.3758 0.2343

Mars -89725-09-14 06:42 J -31050376.28 -31050376.22 -31050376.16 0.1622 0.1432

Moon -89722-02-08 19:54 J -31049498.78 -31049498.67 -31049498.57 0.2747 0.1229

Earth -89722-02-08 20:37 J -31049498.74 -31049498.64 -31049498.53 0.2746 0.1261 *

Saturn -89721-03-18 20:08 J -31049094.76 -31049094.66 -31049094.55 0.0285 0.0219

Venus -89721-03-20 02:08 J -31049093.54 -31049093.41 -31049093.27 0.3611 0.0690

Saturn -89721-06-15 15:35 J -31049006.00 -31049005.85 -31049005.68 0.0285 0.0096

Saturn -89721-09-12 10:47 J -31048917.21 -31048917.05 -31048916.88 0.0285 0.0025

Saturn -89721-12-10 05:30 J -31048828.41 -31048828.27 -31048828.13 0.0285 0.0142

Saturn -89720-03-08 23:44 J -31048739.58 -31048739.51 -31048739.44 0.0284 0.0257

Mars -89720-06-03 13:54 J -31048652.96 -31048652.92 -31048652.88 0.1891 0.1814

Jupiter -89720-07-03 09:06 J -31048623.23 -31048623.12 -31048623.00 0.0530 0.0258

Jupiter -89720-09-30 19:25 J -31048533.82 -31048533.69 -31048533.57 0.0527 0.0204

Venus -89720-10-04 11:44 J -31048530.07 -31048530.01 -31048529.95 0.3754 0.3174

Mars -89717-03-01 03:20 J -31047651.45 -31047651.36 -31047651.27 0.1641 0.1104

Venus -89716-10-04 01:39 J -31047069.55 -31047069.43 -31047069.31 0.3615 0.1637

Mars -89715-02-04 15:20 J -31046945.96 -31046945.86 -31046945.75 0.1625 0.0937

Jupiter -89714-11-29 20:23 J -31046282.82 -31046282.65 -31046282.48 0.0499 0.0083

Jupiter -89713-02-27 21:06 J -31046192.71 -31046192.62 -31046192.52 0.0502 0.0416

Venus -89713-06-28 09:35 J -31046071.14 -31046071.10 -31046071.05 0.3783 0.3370

Moon -89712-08-10 18:13 J -31045662.86 -31045662.74 -31045662.62 0.2591 0.1177

Earth -89712-08-10 19:11 J -31045662.83 -31045662.70 -31045662.57 0.2588 0.0989 *

Venus -89710-04-20 00:42 J -31045045.56 -31045045.47 -31045045.38 0.3619 0.2555

Moon -89709-02-11 17:15 J -31044747.81 -31044747.78 -31044747.76 0.2749 0.2674

Mars -89709-09-30 11:59 J -31044516.10 -31044516.00 -31044515.90 0.1908 0.1339

Jupiter -89708-04-21 12:42 J -31044313.07 -31044312.97 -31044312.88 0.0531 0.0368

Jupiter -89708-07-19 22:32 J -31044223.69 -31044223.56 -31044223.42 0.0528 0.0094

Mars -89708-07-22 12:27 J -31044221.01 -31044220.98 -31044220.95 0.1646 0.1590

Venus -89707-01-12 03:35 J -31044047.42 -31044047.35 -31044047.28 0.3781 0.2705

Saturn -89707-12-31 01:25 J -31043694.53 -31043694.44 -31043694.35 0.0274 0.0201

Saturn -89706-03-29 13:54 J -31043606.05 -31043605.92 -31043605.79 0.0274 0.0113

Saturn -89706-06-26 02:51 J -31043517.53 -31043517.38 -31043517.24 0.0274 0.0023

Mars -89706-06-28 00:13 J -31043515.61 -31043515.49 -31043515.36 0.1629 0.0441

Saturn -89706-09-22 15:49 J -31043428.98 -31043428.84 -31043428.70 0.0274 0.0070

Saturn -89706-12-20 05:01 J -31043340.40 -31043340.29 -31043340.17 0.0274 0.0164

Saturn -89705-03-17 18:27 J -31043251.77 -31043251.73 -31043251.68 0.0274 0.0260

Venus -89705-11-02 23:30 J -31043021.56 -31043021.52 -31043021.49 0.3623 0.3435

Moon -89702-02-04 07:54 J -31042198.27 -31042198.17 -31042198.07 0.2745 0.1466

Earth -89702-02-04 08:08 J -31042198.26 -31042198.16 -31042198.06 0.2751 0.1417 *

Venus -89702-07-28 21:49 J -31042023.69 -31042023.59 -31042023.50 0.3778 0.2021

Jupiter -89702-09-17 19:25 J -31041972.85 -31041972.69 -31041972.54 0.0499 0.0212

Uranus -89702-12-16 18:27 J -31041882.81 -31041882.73 -31041882.64 0.0138 0.0121

Jupiter -89702-12-16 20:37 J -31041882.78 -31041882.64 -31041882.51 0.0502 0.0291 *

Uranus -89701-03-14 00:42 J -31041794.59 -31041794.47 -31041794.35 0.0138 0.0099

Uranus -89701-06-10 06:42 J -31041706.35 -31041706.22 -31041706.06 0.0138 0.0078

Uranus -89701-09-06 13:11 J -31041618.11 -31041617.95 -31041617.79 0.0138 0.0056

Uranus -89701-12-03 19:11 J -31041529.87 -31041529.70 -31041529.53 0.0137 0.0034

Uranus -89700-03-02 01:11 J -31041441.62 -31041441.45 -31041441.28 0.0137 0.0013

Uranus -89700-05-29 07:11 J -31041353.37 -31041353.20 -31041353.03 0.0137 0.0008

Uranus -89700-08-25 12:56 J -31041265.12 -31041264.96 -31041264.79 0.0137 0.0029

Uranus -89700-11-21 18:56 J -31041176.87 -31041176.71 -31041176.55 0.0137 0.0049

Uranus -89699-02-18 00:27 J -31041088.62 -31041088.48 -31041088.32 0.0137 0.0070

Mars -89699-02-20 12:56 J -31041086.10 -31041085.96 -31041085.82 0.1903 0.0330

Uranus -89699-05-17 06:13 J -31041000.36 -31041000.24 -31041000.10 0.0137 0.0090

Uranus -89699-08-13 11:44 J -31040912.09 -31040912.01 -31040911.89 0.0137 0.0110

Moon -89699-08-13 18:56 J -31040911.84 -31040911.71 -31040911.58 0.2597 0.0655

Earth -89699-08-13 19:11 J -31040911.84 -31040911.70 -31040911.57 0.2590 0.0605 *

Uranus -89699-11-09 17:30 J -31040823.81 -31040823.77 -31040823.71 0.0136 0.0129

Mars -89697-11-17 09:20 J -31040085.25 -31040085.11 -31040084.98 0.1633 0.0082

Jupiter -89696-02-07 16:18 J -31040002.88 -31040002.82 -31040002.76 0.0532 0.0475

Venus -89696-02-10 16:03 J -31039999.94 -31039999.83 -31039999.73 0.3775 0.1310

Jupiter -89696-05-08 02:08 J -31039913.55 -31039913.41 -31039913.28 0.0529 0.0018

Jupiter -89696-08-05 12:42 J -31039824.04 -31039823.97 -31039823.90 0.0525 0.0446

Saturn -89692-08-05 17:59 J -31038362.80 -31038362.75 -31038362.68 0.0285 0.0265

Saturn -89692-11-02 13:54 J -31038274.07 -31038273.92 -31038273.77 0.0285 0.0141

Saturn -89691-01-30 09:06 J -31038185.29 -31038185.12 -31038184.95 0.0284 0.0019

Saturn -89691-04-29 04:03 J -31038096.49 -31038096.33 -31038096.18 0.0284 0.0100

Saturn -89691-07-26 22:18 J -31038007.67 -31038007.57 -31038007.46 0.0284 0.0215

Venus -89691-08-27 10:32 J -31037976.17 -31037976.06 -31037975.95 0.3771 0.0583

Jupiter -89690-07-06 18:42 J -31037662.85 -31037662.72 -31037662.59 0.0498 0.0335

Mars -89690-07-13 13:39 J -31037656.06 -31037655.93 -31037655.79 0.1897 0.0687

Jupiter -89690-10-04 20:23 J -31037572.81 -31037572.65 -31037572.49 0.0501 0.0171

Moon -89689-02-07 04:18 J -31037447.44 -31037447.32 -31037447.20 0.2744 0.0085

Earth -89689-02-07 05:01 J -31037447.41 -31037447.29 -31037447.17 0.2749 0.0067 *

Mars -89687-04-09 18:13 J -31036654.86 -31036654.74 -31036654.62 0.1637 0.0551

Venus -89687-08-25 23:59 J -31036516.55 -31036516.50 -31036516.45 0.3598 0.3313

Earth -89686-08-16 18:42 J -31036160.79 -31036160.72 -31036160.64 0.2593 0.2153

Moon -89686-08-16 19:11 J -31036160.77 -31036160.70 -31036160.63 0.2598 0.2184 *

Venus -89685-03-12 05:15 J -31035952.40 -31035952.28 -31035952.17 0.3768 0.0202

Mars -89685-03-15 06:42 J -31035949.26 -31035949.22 -31035949.17 0.1621 0.1504

Jupiter -89684-02-24 05:15 J -31035603.41 -31035603.28 -31035603.15 0.0529 0.0133

Jupiter -89684-05-24 15:35 J -31035513.96 -31035513.85 -31035513.74 0.0525 0.0329

Venus -89681-03-11 01:11 J -31034492.56 -31034492.45 -31034492.34 0.3602 0.2189

Mars -89681-12-02 14:23 J -31034225.96 -31034225.90 -31034225.84 0.1890 0.1718

Neptune -89680-05-19 11:15 J -31034058.07 -31034058.03 -31034057.98 0.0089 0.0086

Neptune -89680-08-15 14:08 J -31033969.97 -31033969.91 -31033969.81 0.0089 0.0081

Venus -89680-09-25 23:59 J -31033928.60 -31033928.50 -31033928.39 0.3764 0.0955

Neptune -89680-11-11 17:30 J -31033881.85 -31033881.77 -31033881.66 0.0089 0.0075

Neptune -89679-02-07 20:51 J -31033793.74 -31033793.63 -31033793.51 0.0089 0.0069

Neptune -89679-05-06 23:59 J -31033705.62 -31033705.50 -31033705.36 0.0089 0.0063

Neptune -89679-08-03 03:06 J -31033617.50 -31033617.37 -31033617.22 0.0089 0.0057

Moon -89679-08-08 23:30 J -31033611.56 -31033611.52 -31033611.48 0.2587 0.2470

Earth -89679-08-09 00:42 J -31033611.53 -31033611.47 -31033611.40 0.2586 0.2280 *

Neptune -89679-10-30 06:13 J -31033529.37 -31033529.24 -31033529.08 0.0089 0.0052

Neptune -89678-01-26 09:35 J -31033441.25 -31033441.10 -31033440.94 0.0089 0.0046

Neptune -89678-04-24 12:27 J -31033353.13 -31033352.98 -31033352.80 0.0089 0.0041

Jupiter -89678-04-24 17:44 J -31033352.82 -31033352.76 -31033352.69 0.0497 0.0460 *

Neptune -89678-07-21 15:49 J -31033265.00 -31033264.84 -31033264.66 0.0089 0.0034

Jupiter -89678-07-23 19:54 J -31033262.84 -31033262.67 -31033262.50 0.0501 0.0048

Mars -89678-08-31 03:20 J -31033224.45 -31033224.36 -31033224.26 0.1641 0.1038

Neptune -89678-10-17 18:56 J -31033176.88 -31033176.71 -31033176.53 0.0089 0.0029

Neptune -89677-01-13 22:03 J -31033088.75 -31033088.58 -31033088.40 0.0089 0.0023

Neptune -89677-04-11 01:11 J -31033000.62 -31033000.45 -31033000.27 0.0089 0.0018

Saturn -89677-05-19 02:37 J -31032962.46 -31032962.39 -31032962.32 0.0274 0.0234

Neptune -89677-07-08 04:18 J -31032912.50 -31032912.32 -31032912.14 0.0088 0.0012

Saturn -89677-08-15 15:06 J -31032873.99 -31032873.87 -31032873.75 0.0274 0.0145

Neptune -89677-10-04 07:25 J -31032824.37 -31032824.19 -31032824.01 0.0088 0.0006

Saturn -89677-11-12 03:49 J -31032785.48 -31032785.34 -31032785.20 0.0275 0.0055

Neptune -89677-12-31 10:32 J -31032736.24 -31032736.06 -31032735.88 0.0088 0.0001

Saturn -89676-02-08 16:47 J -31032696.94 -31032696.80 -31032696.66 0.0275 0.0037

Moon -89676-02-09 01:11 J -31032696.56 -31032696.45 -31032696.35 0.2748 0.1392

Earth -89676-02-09 01:54 J -31032696.52 -31032696.42 -31032696.32 0.2746 0.1573 *

Neptune -89676-03-29 13:25 J -31032648.12 -31032647.94 -31032647.75 0.0088 0.0006

Saturn -89676-05-08 05:59 J -31032608.38 -31032608.25 -31032608.12 0.0275 0.0130

Neptune -89676-06-25 16:32 J -31032559.99 -31032559.81 -31032559.63 0.0088 0.0011

Saturn -89676-08-04 19:25 J -31032519.77 -31032519.69 -31032519.61 0.0275 0.0226

Mars -89676-08-05 15:35 J -31032518.95 -31032518.85 -31032518.75 0.1625 0.1004

Neptune -89676-09-21 19:25 J -31032471.86 -31032471.69 -31032471.51 0.0088 0.0016

Venus -89676-09-25 01:54 J -31032468.55 -31032468.42 -31032468.29 0.3605 0.1109

Neptune -89676-12-18 22:32 J -31032383.73 -31032383.56 -31032383.38 0.0088 0.0022

Neptune -89675-03-17 01:25 J -31032295.60 -31032295.44 -31032295.26 0.0088 0.0027

Neptune -89675-06-13 04:18 J -31032207.48 -31032207.32 -31032207.14 0.0088 0.0033

Neptune -89675-09-09 07:25 J -31032119.35 -31032119.19 -31032119.02 0.0088 0.0038

Neptune -89675-12-06 10:18 J -31032031.22 -31032031.07 -31032030.91 0.0088 0.0043

Neptune -89674-03-04 13:11 J -31031943.09 -31031942.95 -31031942.79 0.0088 0.0049

Venus -89674-04-11 19:11 J -31031904.80 -31031904.70 -31031904.60 0.3761 0.1733

Neptune -89674-05-31 15:49 J -31031854.96 -31031854.84 -31031854.68 0.0088 0.0055

Neptune -89674-08-27 18:56 J -31031766.83 -31031766.71 -31031766.57 0.0088 0.0060

Neptune -89674-11-23 21:49 J -31031678.70 -31031678.59 -31031678.46 0.0088 0.0065

Neptune -89673-02-20 00:56 J -31031590.56 -31031590.46 -31031590.35 0.0088 0.0070

Neptune -89673-05-18 03:35 J -31031502.43 -31031502.35 -31031502.25 0.0088 0.0075

Neptune -89673-08-14 06:27 J -31031414.29 -31031414.23 -31031414.15 0.0088 0.0081

Neptune -89673-11-10 09:20 J -31031326.14 -31031326.11 -31031326.06 0.0088 0.0086

Jupiter -89673-12-13 08:08 J -31031293.27 -31031293.16 -31031293.04 0.0530 0.0250

Jupiter -89672-03-12 18:27 J -31031203.86 -31031203.73 -31031203.61 0.0526 0.0212

Venus -89670-04-11 02:08 J -31030444.55 -31030444.41 -31030444.28 0.3609 0.0115

Earth -89669-02-02 16:47 J -31030146.84 -31030146.80 -31030146.76 0.2753 0.2571

Moon -89669-02-02 17:01 J -31030146.83 -31030146.79 -31030146.74 0.2746 0.2499 *

Mars -89669-03-31 11:59 J -31030089.09 -31030089.00 -31030088.91 0.1909 0.1420

Venus -89669-10-25 14:37 J -31029880.98 -31029880.89 -31029880.81 0.3757 0.2547

Mars -89668-01-20 12:42 J -31029794.02 -31029793.97 -31029793.92 0.1646 0.1521

Mars -89667-12-27 00:27 J -31029088.61 -31029088.48 -31029088.36 0.1629 0.0508

Jupiter -89666-05-11 18:56 J -31028952.88 -31028952.71 -31028952.54 0.0499 0.0081

Jupiter -89666-08-09 19:39 J -31028862.77 -31028862.68 -31028862.59 0.0502 0.0418

Moon -89666-08-11 23:59 J -31028860.63 -31028860.50 -31028860.36 0.2593 0.0665

Earth -89666-08-12 00:56 J -31028860.60 -31028860.46 -31028860.33 0.2588 0.0652 *

Venus -89665-10-25 01:54 J -31028420.55 -31028420.42 -31028420.29 0.3612 0.0924

Venus -89663-05-11 10:18 J -31027857.12 -31027857.07 -31027857.03 0.3753 0.3387

Saturn -89662-03-22 15:06 J -31027542.00 -31027541.87 -31027541.73 0.0285 0.0167

Saturn -89662-06-19 10:32 J -31027453.22 -31027453.06 -31027452.89 0.0285 0.0045

Saturn -89662-09-16 05:30 J -31027364.42 -31027364.27 -31027364.10 0.0285 0.0076

Saturn -89662-12-14 00:13 J -31027275.61 -31027275.49 -31027275.37 0.0285 0.0192

Jupiter -89661-10-01 10:47 J -31026983.14 -31026983.05 -31026982.95 0.0531 0.0372

Jupiter -89661-12-29 20:51 J -31026893.76 -31026893.63 -31026893.49 0.0528 0.0090

Mars -89660-08-21 13:25 J -31026659.08 -31026658.94 -31026658.80 0.1903 0.0437

Venus -89659-05-11 01:11 J -31026396.56 -31026396.45 -31026396.34 0.3616 0.1866

Mars -89657-05-18 09:20 J -31025658.24 -31025658.11 -31025657.98 0.1633 0.0033

Uranus -89657-08-10 13:11 J -31025574.00 -31025573.95 -31025573.88 0.0140 0.0126

Uranus -89657-11-06 17:01 J -31025485.86 -31025485.79 -31025485.69 0.0141 0.0109

Venus -89656-02-02 07:39 J -31025398.23 -31025398.18 -31025398.12 0.3783 0.3207

Uranus -89656-02-02 21:20 J -31025397.72 -31025397.61 -31025397.50 0.0141 0.0090

Moon -89656-02-04 12:56 J -31025396.07 -31025395.96 -31025395.85 0.2744 0.1159

Earth -89656-02-04 13:25 J -31025396.05 -31025395.94 -31025395.83 0.2751 0.1119 *

Uranus -89656-05-02 01:25 J -31025309.56 -31025309.44 -31025309.32 0.0141 0.0072

Uranus -89656-07-29 05:30 J -31025221.40 -31025221.27 -31025221.13 0.0141 0.0054

Uranus -89656-10-25 09:35 J -31025133.23 -31025133.10 -31025132.95 0.0141 0.0035

Uranus -89655-01-21 13:54 J -31025045.06 -31025044.92 -31025044.78 0.0141 0.0016

Uranus -89655-04-19 18:13 J -31024956.89 -31024956.74 -31024956.60 0.0141 0.0004

Uranus -89655-07-16 22:18 J -31024868.71 -31024868.57 -31024868.42 0.0142 0.0023

Uranus -89655-10-13 02:37 J -31024780.52 -31024780.39 -31024780.25 0.0142 0.0042

Uranus -89654-01-09 06:56 J -31024692.34 -31024692.21 -31024692.07 0.0142 0.0061

Jupiter -89654-02-27 17:59 J -31024642.90 -31024642.75 -31024642.59 0.0498 0.0206

Uranus -89654-04-07 11:15 J -31024604.14 -31024604.03 -31024603.90 0.0142 0.0081

Jupiter -89654-05-28 19:11 J -31024552.83 -31024552.70 -31024552.56 0.0501 0.0296

Uranus -89654-07-04 15:35 J -31024515.94 -31024515.85 -31024515.74 0.0142 0.0101

Uranus -89654-09-30 20:08 J -31024427.73 -31024427.66 -31024427.58 0.0142 0.0121

Venus -89654-11-25 00:13 J -31024372.57 -31024372.49 -31024372.41 0.3620 0.2781

Uranus -89654-12-28 00:42 J -31024339.48 -31024339.47 -31024339.45 0.0142 0.0141

Moon -89653-08-14 00:42 J -31024109.60 -31024109.47 -31024109.34 0.2597 0.0850

Earth -89653-08-14 00:42 J -31024109.59 -31024109.47 -31024109.34 0.2591 0.0941 *

Venus -89651-08-19 01:39 J -31023374.51 -31023374.43 -31023374.35 0.3780 0.2537

Pluto -89651-11-02 05:30 J -31023299.30 -31023299.27 -31023299.21 0.0085 0.0080

Mars -89650-01-11 14:23 J -31023229.04 -31023228.90 -31023228.77 0.1897 0.0580

Pluto -89650-01-29 06:56 J -31023211.28 -31023211.21 -31023211.12 0.0084 0.0067

Pluto -89650-04-27 08:23 J -31023123.25 -31023123.15 -31023123.05 0.0084 0.0054

Pluto -89650-07-24 09:35 J -31023035.21 -31023035.10 -31023034.98 0.0084 0.0042

Pluto -89650-10-20 10:47 J -31022947.16 -31022947.05 -31022946.92 0.0084 0.0031

Pluto -89649-01-16 12:13 J -31022859.12 -31022858.99 -31022858.86 0.0084 0.0018

Pluto -89649-04-13 13:25 J -31022771.07 -31022770.94 -31022770.80 0.0084 0.0007

Pluto -89649-07-10 14:51 J -31022683.01 -31022682.88 -31022682.75 0.0084 0.0006

Jupiter -89649-07-20 14:23 J -31022672.95 -31022672.90 -31022672.84 0.0532 0.0481

Pluto -89649-10-06 16:03 J -31022594.96 -31022594.83 -31022594.70 0.0084 0.0018

Jupiter -89649-10-18 00:13 J -31022583.62 -31022583.49 -31022583.35 0.0529 0.0024

Pluto -89648-01-02 17:15 J -31022506.90 -31022506.78 -31022506.65 0.0083 0.0030

Jupiter -89648-01-15 10:47 J -31022494.12 -31022494.05 -31022493.97 0.0525 0.0442

Pluto -89648-03-31 18:27 J -31022418.84 -31022418.73 -31022418.61 0.0083 0.0042

Pluto -89648-06-27 19:39 J -31022330.78 -31022330.68 -31022330.58 0.0083 0.0053

Pluto -89648-09-23 20:37 J -31022242.71 -31022242.64 -31022242.54 0.0083 0.0065

Saturn -89648-10-06 05:15 J -31022230.33 -31022230.28 -31022230.22 0.0274 0.0252

Mars -89648-10-08 18:27 J -31022227.85 -31022227.73 -31022227.61 0.1637 0.0479

Pluto -89648-12-20 22:03 J -31022154.63 -31022154.58 -31022154.53 0.0083 0.0076

Saturn -89647-01-02 17:44 J -31022141.87 -31022141.76 -31022141.65 0.0274 0.0165

Saturn -89647-04-01 06:27 J -31022053.37 -31022053.23 -31022053.09 0.0274 0.0076

Saturn -89647-06-28 19:11 J -31021964.84 -31021964.70 -31021964.55 0.0274 0.0017

Saturn -89647-09-25 08:23 J -31021876.28 -31021876.15 -31021876.02 0.0274 0.0108

Saturn -89647-12-22 21:35 J -31021787.69 -31021787.60 -31021787.50 0.0274 0.0203

Mars -89646-09-14 06:56 J -31021522.23 -31021522.21 -31021522.18 0.1621 0.1580

Venus -89645-03-03 19:54 J -31021350.77 -31021350.67 -31021350.58 0.3777 0.1841

Moon -89643-02-07 09:20 J -31020645.23 -31020645.11 -31020644.99 0.2745 0.0241

Earth -89643-02-07 10:18 J -31020645.19 -31020645.07 -31020644.95 0.2748 0.0376 *

Jupiter -89643-12-16 16:47 J -31020332.93 -31020332.80 -31020332.67 0.0498 0.0335

Jupiter -89642-03-16 18:27 J -31020242.89 -31020242.73 -31020242.57 0.0501 0.0169

Mars -89641-06-02 14:37 J -31019798.96 -31019798.89 -31019798.81 0.1891 0.1616

Earth -89640-08-17 00:27 J -31019358.52 -31019358.48 -31019358.45 0.2593 0.2482

Venus -89640-09-17 14:08 J -31019327.01 -31019326.91 -31019326.80 0.3774 0.1134

Mars -89638-03-01 03:35 J -31018797.45 -31018797.35 -31018797.25 0.1641 0.0970

Jupiter -89637-08-06 03:49 J -31018273.47 -31018273.34 -31018273.21 0.0530 0.0132

Jupiter -89637-11-03 14:08 J -31018184.01 -31018183.91 -31018183.80 0.0526 0.0332

Mars -89636-02-03 15:49 J -31018091.94 -31018091.84 -31018091.75 0.1625 0.1078

Venus -89634-04-03 08:51 J -31017303.25 -31017303.13 -31017303.02 0.3770 0.0415

Saturn -89633-08-08 12:56 J -31016810.06 -31016809.96 -31016809.84 0.0285 0.0214

Moon -89633-08-09 05:15 J -31016809.37 -31016809.28 -31016809.20 0.2587 0.2021

Earth -89633-08-09 06:27 J -31016809.32 -31016809.23 -31016809.14 0.2587 0.1940 *

Saturn -89633-11-05 08:37 J -31016721.30 -31016721.14 -31016720.98 0.0285 0.0091

Saturn -89632-02-02 03:49 J -31016632.50 -31016632.34 -31016632.17 0.0285 0.0030

Saturn -89632-05-01 22:32 J -31016543.70 -31016543.56 -31016543.42 0.0284 0.0148

Saturn -89632-07-29 16:47 J -31016454.86 -31016454.80 -31016454.74 0.0284 0.0263

Jupiter -89631-10-04 16:03 J -31016022.89 -31016022.83 -31016022.77 0.0497 0.0459

Jupiter -89630-01-02 17:59 J -31015932.91 -31015932.75 -31015932.58 0.0500 0.0050

Moon -89630-02-10 06:13 J -31015894.32 -31015894.24 -31015894.15 0.2749 0.1860

Earth -89630-02-10 07:11 J -31015894.28 -31015894.20 -31015894.11 0.2746 0.1885 *

Venus -89630-04-01 23:59 J -31015843.57 -31015843.50 -31015843.42 0.3599 0.3031

Mars -89630-09-30 12:27 J -31015662.06 -31015661.98 -31015661.89 0.1909 0.1535

Mars -89629-07-21 12:42 J -31015367.03 -31015366.97 -31015366.91 0.1646 0.1457

Venus -89629-10-17 03:35 J -31015279.47 -31015279.35 -31015279.24 0.3767 0.0377

Mars -89627-06-27 00:27 J -31014661.60 -31014661.48 -31014661.35 0.1629 0.0580

Jupiter -89625-05-25 07:11 J -31013963.32 -31013963.20 -31013963.09 0.0530 0.0245

Jupiter -89625-08-22 17:15 J -31013873.91 -31013873.78 -31013873.66 0.0526 0.0216

Venus -89625-10-16 01:11 J -31013819.57 -31013819.45 -31013819.34 0.3603 0.1915

Earth -89623-02-02 21:49 J -31013344.65 -31013344.59 -31013344.52 0.2752 0.2278

Moon -89623-02-02 22:03 J -31013344.64 -31013344.58 -31013344.51 0.2746 0.2282 *

Venus -89623-05-02 22:32 J -31013255.67 -31013255.56 -31013255.45 0.3763 0.1141

Mars -89620-02-19 13:39 J -31012232.07 -31012231.93 -31012231.79 0.1903 0.0533

Moon -89620-08-12 05:59 J -31012058.39 -31012058.25 -31012058.11 0.2594 0.0446

Earth -89620-08-12 06:42 J -31012058.36 -31012058.22 -31012058.08 0.2589 0.0313 *

Venus -89619-05-02 01:39 J -31011795.56 -31011795.43 -31011795.30 0.3606 0.0854

Jupiter -89619-10-21 17:30 J -31011622.94 -31011622.77 -31011622.60 0.0500 0.0075

Jupiter -89618-01-19 18:27 J -31011532.82 -31011532.73 -31011532.64 0.0503 0.0425

Saturn -89618-05-22 18:27 J -31011409.82 -31011409.73 -31011409.63 0.0274 0.0200

Saturn -89618-08-19 07:11 J -31011321.33 -31011321.20 -31011321.07 0.0274 0.0110

Saturn -89618-11-15 19:54 J -31011232.81 -31011232.67 -31011232.52 0.0274 0.0021

Venus -89618-11-16 17:30 J -31011231.86 -31011231.77 -31011231.67 0.3760 0.1939

Mars -89618-11-17 09:35 J -31011231.23 -31011231.10 -31011230.97 0.1633 0.0085

Uranus -89617-01-06 01:11 J -31011181.54 -31011181.45 -31011181.36 0.0138 0.0118

Saturn -89617-02-12 08:51 J -31011144.26 -31011144.13 -31011143.98 0.0275 0.0074

Uranus -89617-04-03 07:25 J -31011093.32 -31011093.19 -31011093.07 0.0138 0.0096

Saturn -89617-05-10 22:18 J -31011055.69 -31011055.57 -31011055.46 0.0275 0.0167

Uranus -89617-06-30 13:25 J -31011005.08 -31011004.94 -31011004.79 0.0138 0.0075

Saturn -89617-08-07 11:44 J -31010967.05 -31010967.01 -31010966.97 0.0275 0.0263

Uranus -89617-09-26 19:39 J -31010916.84 -31010916.68 -31010916.52 0.0138 0.0053

Uranus -89617-12-24 01:39 J -31010828.59 -31010828.43 -31010828.26 0.0137 0.0032

Uranus -89616-03-22 07:54 J -31010740.35 -31010740.17 -31010740.00 0.0137 0.0011

Uranus -89616-06-18 13:39 J -31010652.10 -31010651.93 -31010651.75 0.0137 0.0011

Uranus -89616-09-14 19:39 J -31010563.85 -31010563.68 -31010563.51 0.0137 0.0031

Uranus -89616-12-12 01:25 J -31010475.59 -31010475.44 -31010475.28 0.0137 0.0052

Uranus -89615-03-10 07:11 J -31010387.34 -31010387.20 -31010387.05 0.0137 0.0072

Uranus -89615-06-06 12:56 J -31010299.08 -31010298.96 -31010298.83 0.0137 0.0092

Uranus -89615-09-02 18:42 J -31010210.82 -31010210.72 -31010210.62 0.0137 0.0112

Uranus -89615-11-29 23:59 J -31010122.53 -31010122.50 -31010122.44 0.0136 0.0132

Venus -89614-11-16 01:54 J -31009771.56 -31009771.42 -31009771.29 0.3610 0.0221

Jupiter -89613-03-13 10:18 J -31009653.17 -31009653.07 -31009652.98 0.0531 0.0359

Jupiter -89613-06-10 20:08 J -31009563.79 -31009563.66 -31009563.53 0.0527 0.0099

Venus -89612-06-01 13:11 J -31009208.03 -31009207.95 -31009207.88 0.3756 0.2758

Mars -89611-07-12 14:23 J -31008802.04 -31008801.90 -31008801.76 0.1897 0.0491

Moon -89610-02-05 17:59 J -31008593.86 -31008593.75 -31008593.63 0.2744 0.0867

Earth -89610-02-05 18:27 J -31008593.84 -31008593.73 -31008593.61 0.2750 0.0824 *

Mars -89608-04-08 18:27 J -31007800.85 -31007800.73 -31007800.60 0.1637 0.0414

Venus -89608-06-01 01:25 J -31007747.57 -31007747.44 -31007747.32 0.3613 0.1157

Jupiter -89607-08-09 16:32 J -31007312.96 -31007312.81 -31007312.65 0.0498 0.0202

Moon -89607-08-15 06:27 J -31007307.35 -31007307.23 -31007307.12 0.2597 0.1348

Earth -89607-08-15 06:27 J -31007307.35 -31007307.23 -31007307.11 0.2591 0.1270 *

Jupiter -89607-11-07 17:44 J -31007222.89 -31007222.76 -31007222.62 0.0502 0.0301

Venus -89607-12-16 08:51 J -31007184.16 -31007184.13 -31007184.10 0.3752 0.3598

Venus -89605-02-24 11:59 J -31006749.02 -31006749.00 -31006748.98 0.3784 0.3696

Saturn -89604-12-26 13:39 J -31006078.01 -31006077.93 -31006077.84 0.0285 0.0245

Saturn -89603-03-25 09:20 J -31005989.26 -31005989.11 -31005988.95 0.0285 0.0121

Saturn -89603-06-22 04:47 J -31005900.47 -31005900.30 -31005900.13 0.0285 0.0002

Saturn -89603-09-18 23:30 J -31005811.66 -31005811.52 -31005811.37 0.0285 0.0121

Venus -89603-12-16 00:42 J -31005723.58 -31005723.47 -31005723.37 0.3617 0.2097

Saturn -89603-12-16 17:59 J -31005722.84 -31005722.75 -31005722.66 0.0285 0.0237

Mars -89602-12-02 15:20 J -31005371.95 -31005371.86 -31005371.77 0.1891 0.1500

Jupiter -89602-12-31 12:42 J -31005343.02 -31005342.97 -31005342.91 0.0532 0.0482

Jupiter -89601-03-29 22:32 J -31005253.69 -31005253.56 -31005253.42 0.0529 0.0029

Jupiter -89601-06-27 09:20 J -31005164.19 -31005164.11 -31005164.04 0.0525 0.0440

Venus -89600-09-09 05:44 J -31004725.32 -31004725.26 -31004725.19 0.3782 0.3044

Mars -89599-08-30 03:49 J -31004370.45 -31004370.34 -31004370.24 0.1641 0.0901

Neptune -89599-11-20 03:35 J -31004288.37 -31004288.35 -31004288.31 0.0089 0.0086

Neptune -89598-02-16 05:01 J -31004200.33 -31004200.29 -31004200.23 0.0089 0.0082

Neptune -89598-05-15 06:27 J -31004112.28 -31004112.23 -31004112.16 0.0089 0.0078

Neptune -89598-08-11 07:54 J -31004024.23 -31004024.17 -31004024.08 0.0089 0.0074

Neptune -89598-11-07 09:20 J -31003936.18 -31003936.11 -31003936.01 0.0089 0.0070

Neptune -89597-02-03 10:47 J -31003848.13 -31003848.05 -31003847.94 0.0089 0.0066

Moon -89597-02-08 14:37 J -31003843.01 -31003842.89 -31003842.78 0.2747 0.0595

Earth -89597-02-08 15:20 J -31003842.97 -31003842.86 -31003842.74 0.2748 0.0679 *

Neptune -89597-05-01 12:42 J -31003760.07 -31003759.97 -31003759.87 0.0089 0.0061

Venus -89597-06-30 23:30 J -31003699.59 -31003699.52 -31003699.45 0.3621 0.2992

Neptune -89597-07-28 14:08 J -31003672.02 -31003671.91 -31003671.81 0.0089 0.0057

Mars -89597-08-04 15:49 J -31003664.93 -31003664.84 -31003664.74 0.1625 0.1151

Neptune -89597-10-24 15:35 J -31003583.96 -31003583.85 -31003583.74 0.0089 0.0053

Neptune -89596-01-20 17:01 J -31003495.90 -31003495.79 -31003495.67 0.0089 0.0049

Neptune -89596-04-18 18:27 J -31003407.84 -31003407.73 -31003407.60 0.0089 0.0045

Neptune -89596-07-15 20:08 J -31003319.78 -31003319.66 -31003319.54 0.0089 0.0040

Neptune -89596-10-11 21:35 J -31003231.72 -31003231.60 -31003231.47 0.0089 0.0036

Neptune -89595-01-07 23:01 J -31003143.66 -31003143.54 -31003143.40 0.0089 0.0032

Neptune -89595-04-06 00:27 J -31003055.60 -31003055.48 -31003055.34 0.0089 0.0028

Jupiter -89595-05-28 15:49 J -31003002.97 -31003002.84 -31003002.71 0.0497 0.0327

Neptune -89595-07-03 02:08 J -31002967.54 -31002967.41 -31002967.27 0.0089 0.0023

Jupiter -89595-08-26 17:15 J -31002912.93 -31002912.78 -31002912.62 0.0501 0.0177

Neptune -89595-09-29 03:49 J -31002879.48 -31002879.34 -31002879.21 0.0089 0.0019

Neptune -89595-12-26 05:15 J -31002791.41 -31002791.28 -31002791.14 0.0089 0.0015

Neptune -89594-03-24 06:56 J -31002703.35 -31002703.21 -31002703.07 0.0089 0.0010

Venus -89594-03-25 23:44 J -31002701.59 -31002701.51 -31002701.42 0.3779 0.2371

Neptune -89594-06-20 08:23 J -31002615.29 -31002615.15 -31002615.01 0.0089 0.0006

Neptune -89594-09-16 10:03 J -31002527.22 -31002527.08 -31002526.94 0.0089 0.0002

Neptune -89594-12-13 11:30 J -31002439.16 -31002439.02 -31002438.88 0.0089 0.0003

Neptune -89593-03-10 13:11 J -31002351.09 -31002350.95 -31002350.81 0.0089 0.0007

Neptune -89593-06-06 14:37 J -31002263.02 -31002262.89 -31002262.75 0.0089 0.0012

Neptune -89593-09-02 16:18 J -31002174.96 -31002174.82 -31002174.68 0.0089 0.0016

Neptune -89593-11-29 17:44 J -31002086.89 -31002086.76 -31002086.62 0.0089 0.0021

Neptune -89592-02-25 19:25 J -31001998.82 -31001998.69 -31001998.55 0.0089 0.0025

Neptune -89592-05-24 21:06 J -31001910.75 -31001910.62 -31001910.49 0.0089 0.0029

Neptune -89592-08-20 22:32 J -31001822.68 -31001822.56 -31001822.42 0.0089 0.0034

Neptune -89592-11-17 00:13 J -31001734.61 -31001734.49 -31001734.36 0.0089 0.0038

Neptune -89591-02-13 01:39 J -31001646.54 -31001646.43 -31001646.29 0.0089 0.0043

Neptune -89591-05-12 03:35 J -31001558.47 -31001558.35 -31001558.23 0.0089 0.0047

Neptune -89591-08-08 05:01 J -31001470.40 -31001470.29 -31001470.16 0.0089 0.0052

Neptune -89591-11-04 06:42 J -31001382.32 -31001382.22 -31001382.10 0.0089 0.0056

Neptune -89590-01-31 08:23 J -31001294.25 -31001294.15 -31001294.04 0.0089 0.0061

Mars -89590-03-31 12:56 J -31001235.03 -31001234.96 -31001234.89 0.1909 0.1636

Neptune -89590-04-29 10:03 J -31001206.17 -31001206.08 -31001205.98 0.0089 0.0065

Neptune -89590-07-26 11:30 J -31001118.09 -31001118.02 -31001117.92 0.0089 0.0070

Neptune -89590-10-22 13:25 J -31001030.01 -31001029.94 -31001029.86 0.0089 0.0074

Jupiter -89589-01-17 01:54 J -31000943.55 -31000943.42 -31000943.29 0.0530 0.0137

Neptune -89589-01-18 14:51 J -31000941.93 -31000941.88 -31000941.80 0.0089 0.0079

Mars -89589-01-20 12:56 J -31000940.03 -31000939.96 -31000939.90 0.1646 0.1391

Jupiter -89589-04-15 12:27 J -31000854.09 -31000853.98 -31000853.88 0.0526 0.0328

Neptune -89589-04-15 16:47 J -31000853.84 -31000853.80 -31000853.75 0.0089 0.0083

Neptune -89589-07-12 18:27 J -31000765.74 -31000765.73 -31000765.70 0.0089 0.0088

Venus -89589-10-08 17:59 J -31000677.85 -31000677.75 -31000677.65 0.3776 0.1671

Saturn -89589-10-08 21:20 J -31000677.69 -31000677.61 -31000677.52 0.0273 0.0217 *

Saturn -89588-01-05 09:49 J -31000589.21 -31000589.09 -31000588.96 0.0273 0.0130

Saturn -89588-04-03 22:32 J -31000500.70 -31000500.56 -31000500.41 0.0274 0.0040

Saturn -89588-07-01 11:30 J -31000412.16 -31000412.02 -31000411.88 0.0274 0.0052

Saturn -89588-09-28 00:42 J -31000323.59 -31000323.47 -31000323.35 0.0274 0.0145

Saturn -89588-12-25 14:08 J -31000234.98 -31000234.91 -31000234.84 0.0274 0.0240

Mars -89588-12-26 00:42 J -31000234.59 -31000234.47 -31000234.35 0.1628 0.0653

Moon -89587-08-10 11:01 J -31000007.14 -31000007.04 -31000006.93 0.2589 0.1729

Earth -89587-08-10 12:13 J -31000007.10 -31000006.99 -31000006.88 0.2587 0.1589 *

Moon -89584-02-10 11:44 J -30999092.09 -30999092.01 -30999091.93 0.2748 0.2033

Earth -89584-02-10 12:27 J -30999092.05 -30999091.98 -30999091.91 0.2745 0.2203 *

Jupiter -89583-03-16 14:23 J -30998692.97 -30998692.90 -30998692.83 0.0497 0.0456

Venus -89583-04-24 12:27 J -30998654.09 -30998653.98 -30998653.87 0.3773 0.0948

Jupiter -89583-06-14 16:18 J -30998602.99 -30998602.82 -30998602.65 0.0500 0.0051

Mars -89581-08-20 14:08 J -30997805.05 -30997804.91 -30997804.78 0.1903 0.0636

Mars -89578-05-18 09:35 J -30996804.23 -30996804.10 -30996803.97 0.1632 0.0156

Jupiter -89578-11-05 05:44 J -30996633.38 -30996633.26 -30996633.14 0.0531 0.0244

Venus -89578-11-08 06:56 J -30996630.32 -30996630.21 -30996630.10 0.3770 0.0224

Jupiter -89577-02-02 15:49 J -30996543.96 -30996543.84 -30996543.71 0.0527 0.0218

Moon -89577-02-04 03:06 J -30996542.46 -30996542.37 -30996542.29 0.2745 0.1911

Earth -89577-02-04 03:06 J -30996542.45 -30996542.37 -30996542.29 0.2752 0.1977 *

Saturn -89574-08-12 07:25 J -30995257.32 -30995257.19 -30995257.05 0.0285 0.0166

Moon -89574-08-13 11:44 J -30995256.15 -30995256.01 -30995255.87 0.2595 0.0051

Earth -89574-08-13 12:13 J -30995256.13 -30995255.99 -30995255.85 0.2589 0.0074 *

Venus -89574-11-07 00:13 J -30995170.58 -30995170.49 -30995170.41 0.3600 0.2749

Saturn -89574-11-09 02:51 J -30995168.54 -30995168.38 -30995168.21 0.0285 0.0044

Saturn -89573-02-05 22:03 J -30995079.74 -30995079.58 -30995079.42 0.0285 0.0077

Saturn -89573-05-04 16:32 J -30994990.93 -30994990.81 -30994990.69 0.0285 0.0194

Uranus -89573-08-30 20:08 J -30994872.72 -30994872.66 -30994872.59 0.0140 0.0123

Uranus -89573-11-26 23:59 J -30994784.58 -30994784.50 -30994784.40 0.0141 0.0106

Uranus -89572-02-23 04:03 J -30994696.43 -30994696.33 -30994696.21 0.0141 0.0088

Uranus -89572-05-22 08:08 J -30994608.28 -30994608.16 -30994608.03 0.0141 0.0070

Venus -89572-05-24 01:54 J -30994606.53 -30994606.42 -30994606.31 0.3766 0.0560

Uranus -89572-08-18 12:13 J -30994520.12 -30994519.99 -30994519.85 0.0141 0.0051

Uranus -89572-11-14 16:32 J -30994431.95 -30994431.81 -30994431.67 0.0141 0.0032

Mars -89571-01-10 15:06 J -30994375.01 -30994374.87 -30994374.73 0.1898 0.0373

Uranus -89571-02-10 20:37 J -30994343.78 -30994343.64 -30994343.49 0.0141 0.0014

Jupiter -89571-04-02 16:03 J -30994293.00 -30994292.83 -30994292.66 0.0499 0.0073

Uranus -89571-05-10 00:56 J -30994255.60 -30994255.46 -30994255.32 0.0141 0.0006

Jupiter -89571-07-01 16:47 J -30994202.88 -30994202.80 -30994202.71 0.0503 0.0426

Uranus -89571-08-06 05:15 J -30994167.42 -30994167.28 -30994167.14 0.0142 0.0025

Uranus -89571-11-02 09:20 J -30994079.24 -30994079.11 -30994078.97 0.0142 0.0045

Uranus -89570-01-29 13:39 J -30993991.05 -30993990.93 -30993990.79 0.0142 0.0064

Uranus -89570-04-27 18:13 J -30993902.86 -30993902.74 -30993902.62 0.0142 0.0083

Uranus -89570-07-24 22:32 J -30993814.65 -30993814.56 -30993814.46 0.0142 0.0104

Uranus -89570-10-21 03:06 J -30993726.44 -30993726.37 -30993726.30 0.0142 0.0124

Mars -89569-10-07 18:42 J -30993373.85 -30993373.72 -30993373.59 0.1637 0.0341

Venus -89568-05-23 00:56 J -30993146.58 -30993146.46 -30993146.34 0.3603 0.1653

Venus -89567-12-07 20:51 J -30992582.74 -30992582.63 -30992582.53 0.3762 0.1333

Jupiter -89566-08-24 09:06 J -30992323.22 -30992323.12 -30992323.02 0.0531 0.0354

Jupiter -89566-11-21 18:56 J -30992233.84 -30992233.71 -30992233.57 0.0527 0.0106

Moon -89564-02-05 23:15 J -30991791.65 -30991791.53 -30991791.41 0.2744 0.0601

Earth -89564-02-05 23:44 J -30991791.63 -30991791.51 -30991791.39 0.2750 0.0518 *

Venus -89563-12-07 01:25 J -30991122.57 -30991122.44 -30991122.31 0.3607 0.0593

Mars -89562-06-02 15:20 J -30990944.95 -30990944.86 -30990944.76 0.1891 0.1419

Venus -89561-06-22 16:03 J -30990558.92 -30990558.83 -30990558.74 0.3758 0.2138

Earth -89561-08-15 12:13 J -30990505.10 -30990504.99 -30990504.89 0.2591 0.1603

Moon -89561-08-15 12:27 J -30990505.09 -30990504.98 -30990504.87 0.2597 0.1565 *

Jupiter -89559-01-19 15:20 J -30989983.02 -30989982.86 -30989982.70 0.0499 0.0196

Saturn -89559-02-25 22:03 J -30989945.63 -30989945.58 -30989945.52 0.0274 0.0253

Mars -89559-02-28 03:49 J -30989943.45 -30989943.34 -30989943.23 0.1641 0.0834

Jupiter -89559-04-19 16:32 J -30989892.94 -30989892.81 -30989892.67 0.0502 0.0307

Saturn -89559-05-25 10:32 J -30989857.17 -30989857.06 -30989856.95 0.0274 0.0165

Saturn -89559-08-21 23:01 J -30989768.67 -30989768.54 -30989768.40 0.0274 0.0077

Saturn -89559-11-18 11:59 J -30989680.15 -30989680.00 -30989679.86 0.0274 0.0015

Saturn -89558-02-15 00:56 J -30989591.59 -30989591.46 -30989591.32 0.0274 0.0108

Saturn -89558-05-14 14:23 J -30989503.00 -30989502.90 -30989502.80 0.0274 0.0203

Mars -89557-02-03 16:03 J -30989237.92 -30989237.83 -30989237.74 0.1625 0.1221

Venus -89557-06-22 01:25 J -30989098.57 -30989098.44 -30989098.31 0.3610 0.0424

Venus -89555-01-06 11:30 J -30988535.09 -30988535.02 -30988534.95 0.3754 0.2963

Jupiter -89554-06-12 12:13 J -30988013.04 -30988012.99 -30988012.92 0.0532 0.0468

Jupiter -89554-09-09 22:03 J -30987923.71 -30987923.58 -30987923.44 0.0528 0.0012

Jupiter -89554-12-08 08:37 J -30987834.21 -30987834.14 -30987834.07 0.0525 0.0452

Venus -89551-01-06 00:56 J -30987074.58 -30987074.46 -30987074.34 0.3614 0.1392

Moon -89551-02-08 19:39 J -30987040.79 -30987040.68 -30987040.56 0.2747 0.0866

Earth -89551-02-08 20:37 J -30987040.75 -30987040.64 -30987040.53 0.2747 0.0981 *

Mars -89551-09-29 13:11 J -30986808.01 -30986807.95 -30986807.89 0.1909 0.1725

Mars -89550-07-21 12:56 J -30986513.03 -30986512.96 -30986512.88 0.1645 0.1320

Venus -89549-09-30 10:03 J -30986076.12 -30986076.08 -30986076.05 0.3784 0.3541

Mars -89548-06-26 00:56 J -30985807.58 -30985807.46 -30985807.34 0.1628 0.0724

Jupiter -89548-11-07 14:23 J -30985673.02 -30985672.90 -30985672.76 0.0498 0.0322

Jupiter -89547-02-05 16:03 J -30985582.98 -30985582.83 -30985582.67 0.0501 0.0183

Venus -89546-07-22 23:59 J -30985050.59 -30985050.50 -30985050.40 0.3618 0.2325

Saturn -89545-12-29 07:25 J -30984525.31 -30984525.19 -30984525.07 0.0285 0.0201

Saturn -89544-03-28 03:06 J -30984436.53 -30984436.37 -30984436.21 0.0285 0.0076

Saturn -89544-06-24 22:18 J -30984347.73 -30984347.57 -30984347.40 0.0285 0.0045

Saturn -89544-09-21 17:01 J -30984258.92 -30984258.79 -30984258.65 0.0285 0.0164

Saturn -89544-12-19 11:15 J -30984170.05 -30984170.03 -30984169.99 0.0285 0.0279

Venus -89543-04-16 03:49 J -30984052.41 -30984052.34 -30984052.27 0.3781 0.2880

Jupiter -89542-06-29 00:27 J -30983613.61 -30983613.48 -30983613.35 0.0530 0.0136

Jupiter -89542-09-26 10:47 J -30983524.15 -30983524.05 -30983523.94 0.0526 0.0329

Mars -89541-02-19 14:37 J -30983378.02 -30983377.89 -30983377.76 0.1904 0.0744

Moon -89541-08-10 17:01 J -30983204.91 -30983204.79 -30983204.67 0.2591 0.1364

Earth -89541-08-10 17:59 J -30983204.87 -30983204.75 -30983204.63 0.2587 0.1243 *

Venus -89540-02-04 22:47 J -30983026.61 -30983026.55 -30983026.49 0.3622 0.3209

Mars -89539-11-16 09:49 J -30982377.22 -30982377.09 -30982376.96 0.1632 0.0229

Moon -89538-02-11 17:01 J -30982289.84 -30982289.79 -30982289.74 0.2749 0.2481

Earth -89538-02-11 17:44 J -30982289.81 -30982289.76 -30982289.71 0.2745 0.2512 *

Venus -89538-10-30 22:03 J -30982028.67 -30982028.58 -30982028.50 0.3778 0.2205

Jupiter -89536-08-26 13:39 J -30981363.01 -30981362.93 -30981362.86 0.0497 0.0446

Jupiter -89536-11-24 15:35 J -30981273.02 -30981272.85 -30981272.68 0.0500 0.0060

Uranus -89534-10-30 01:11 J -30980568.45 -30980568.45 -30980568.44 0.0138 0.0138

Uranus -89533-01-26 07:25 J -30980480.27 -30980480.19 -30980480.09 0.0138 0.0116

Uranus -89533-04-23 13:39 J -30980392.05 -30980391.93 -30980391.79 0.0138 0.0094

Uranus -89533-07-20 19:54 J -30980303.81 -30980303.67 -30980303.51 0.0138 0.0072

Uranus -89533-10-17 02:08 J -30980215.57 -30980215.41 -30980215.25 0.0138 0.0050

Uranus -89532-01-13 08:08 J -30980127.32 -30980127.16 -30980126.98 0.0137 0.0029

Uranus -89532-04-11 14:23 J -30980039.08 -30980038.90 -30980038.73 0.0137 0.0008

Venus -89532-05-15 16:18 J -30980004.92 -30980004.82 -30980004.72 0.3775 0.1496

Uranus -89532-07-08 20:08 J -30979950.83 -30979950.66 -30979950.48 0.0137 0.0014

Mars -89532-07-11 15:20 J -30979948.00 -30979947.86 -30979947.72 0.1898 0.0279

Uranus -89532-10-05 02:08 J -30979862.58 -30979862.41 -30979862.24 0.0137 0.0034

Uranus -89531-01-01 07:54 J -30979774.32 -30979774.17 -30979774.01 0.0137 0.0054

Moon -89531-02-04 08:08 J -30979740.25 -30979740.16 -30979740.07 0.2744 0.1759

Earth -89531-02-04 08:23 J -30979740.25 -30979740.15 -30979740.06 0.2752 0.1682 *

Uranus -89531-03-30 13:25 J -30979686.07 -30979685.94 -30979685.78 0.0137 0.0075

Uranus -89531-06-26 19:11 J -30979597.81 -30979597.70 -30979597.57 0.0137 0.0095

Uranus -89531-09-23 00:56 J -30979509.54 -30979509.46 -30979509.36 0.0137 0.0114

Uranus -89531-12-20 06:42 J -30979421.25 -30979421.22 -30979421.19 0.0136 0.0134

Jupiter -89530-04-17 03:49 J -30979303.45 -30979303.34 -30979303.22 0.0531 0.0248

Jupiter -89530-07-15 14:08 J -30979214.04 -30979213.91 -30979213.79 0.0527 0.0215

Saturn -89530-07-16 00:56 J -30979213.47 -30979213.46 -30979213.44 0.0273 0.0270

Saturn -89530-10-12 13:25 J -30979125.04 -30979124.94 -30979124.84 0.0273 0.0183

Saturn -89529-01-09 01:54 J -30979036.55 -30979036.42 -30979036.29 0.0273 0.0095

Saturn -89529-04-06 14:37 J -30978948.03 -30978947.89 -30978947.74 0.0273 0.0005

Mars -89529-04-07 18:42 J -30978946.84 -30978946.72 -30978946.59 0.1636 0.0278

Saturn -89529-07-04 03:35 J -30978859.48 -30978859.35 -30978859.21 0.0274 0.0088

Saturn -89529-09-30 16:47 J -30978770.91 -30978770.80 -30978770.69 0.0274 0.0182

Moon -89528-08-13 17:30 J -30978453.91 -30978453.77 -30978453.63 0.2595 0.0271

Earth -89528-08-13 17:59 J -30978453.88 -30978453.75 -30978453.61 0.2590 0.0372 *

Venus -89527-11-29 10:32 J -30977981.16 -30977981.06 -30977980.95 0.3772 0.0783

Jupiter -89524-09-12 14:23 J -30976963.07 -30976962.90 -30976962.73 0.0499 0.0070

Jupiter -89524-12-11 15:06 J -30976872.95 -30976872.87 -30976872.78 0.0502 0.0429

Mars -89523-12-01 16:03 J -30976517.93 -30976517.83 -30976517.73 0.1892 0.1301

Venus -89521-06-14 05:15 J -30975957.39 -30975957.28 -30975957.17 0.3769 0.0045

Mars -89520-08-29 03:49 J -30975516.45 -30975516.34 -30975516.22 0.1641 0.0767

Jupiter -89518-02-03 07:39 J -30974993.28 -30974993.18 -30974993.08 0.0532 0.0355

Moon -89518-02-07 04:18 J -30974989.44 -30974989.32 -30974989.20 0.2745 0.0240

Earth -89518-02-07 05:01 J -30974989.41 -30974989.29 -30974989.17 0.2749 0.0213 *

Jupiter -89518-05-03 17:44 J -30974903.90 -30974903.76 -30974903.63 0.0528 0.0107

Mars -89518-08-04 16:18 J -30974810.90 -30974810.82 -30974810.75 0.1624 0.1295

Venus -89517-06-12 23:59 J -30974497.59 -30974497.50 -30974497.40 0.3601 0.2477

Neptune -89516-11-17 07:39 J -30973975.18 -30973975.18 -30973975.18 0.0089 0.0089

Venus -89516-12-29 00:13 J -30973933.60 -30973933.49 -30973933.38 0.3765 0.0747

Neptune -89515-02-13 10:32 J -30973887.11 -30973887.06 -30973886.98 0.0089 0.0083

Neptune -89515-05-12 14:08 J -30973799.00 -30973798.91 -30973798.82 0.0089 0.0077

Saturn -89515-05-18 05:30 J -30973793.35 -30973793.27 -30973793.18 0.0285 0.0247

Neptune -89515-08-08 16:47 J -30973710.88 -30973710.80 -30973710.67 0.0089 0.0072

Saturn -89515-08-15 01:11 J -30973704.60 -30973704.45 -30973704.29 0.0285 0.0122

Earth -89515-08-16 17:44 J -30973702.85 -30973702.76 -30973702.67 0.2592 0.1929

Moon -89515-08-16 18:13 J -30973702.82 -30973702.74 -30973702.66 0.2598 0.2052 *

Neptune -89515-11-04 20:08 J -30973622.77 -30973622.66 -30973622.52 0.0089 0.0066

Saturn -89515-11-11 20:37 J -30973615.80 -30973615.64 -30973615.47 0.0285 0.0005

Neptune -89514-01-31 23:30 J -30973534.64 -30973534.52 -30973534.38 0.0089 0.0060

Saturn -89514-02-08 15:35 J -30973527.00 -30973526.85 -30973526.70 0.0285 0.0120

Neptune -89514-04-30 02:51 J -30973446.52 -30973446.38 -30973446.23 0.0089 0.0054

Saturn -89514-05-08 09:49 J -30973438.17 -30973438.09 -30973437.99 0.0285 0.0237

Neptune -89514-07-27 05:44 J -30973358.40 -30973358.26 -30973358.09 0.0089 0.0049

Neptune -89514-10-23 09:06 J -30973270.27 -30973270.12 -30973269.95 0.0089 0.0043

Neptune -89513-01-19 12:13 J -30973182.15 -30973181.99 -30973181.82 0.0089 0.0037

Neptune -89513-04-16 15:20 J -30973094.02 -30973093.86 -30973093.68 0.0089 0.0031

Neptune -89513-07-13 18:27 J -30973005.90 -30973005.73 -30973005.55 0.0088 0.0026

Neptune -89513-10-09 21:49 J -30972917.77 -30972917.59 -30972917.42 0.0088 0.0020

Neptune -89512-01-06 00:42 J -30972829.64 -30972829.47 -30972829.28 0.0088 0.0014

Neptune -89512-04-04 03:49 J -30972741.52 -30972741.34 -30972741.15 0.0088 0.0009

Neptune -89512-07-01 06:56 J -30972653.39 -30972653.21 -30972653.03 0.0088 0.0003

Jupiter -89512-07-01 13:54 J -30972653.08 -30972652.92 -30972652.76 0.0498 0.0192 *

Neptune -89512-09-27 10:03 J -30972565.26 -30972565.08 -30972564.90 0.0088 0.0003

Jupiter -89512-09-29 15:06 J -30972563.00 -30972562.87 -30972562.74 0.0502 0.0310

Neptune -89512-12-24 12:56 J -30972477.13 -30972476.96 -30972476.77 0.0088 0.0009

Venus -89512-12-28 00:56 J -30972473.59 -30972473.46 -30972473.34 0.3604 0.1388

Neptune -89511-03-22 16:03 J -30972389.00 -30972388.83 -30972388.65 0.0088 0.0014

Mars -89511-03-30 13:39 J -30972380.97 -30972380.93 -30972380.90 0.1909 0.1834

Neptune -89511-06-18 18:56 J -30972300.88 -30972300.71 -30972300.52 0.0088 0.0020

Neptune -89511-09-14 22:03 J -30972212.75 -30972212.58 -30972212.40 0.0088 0.0025

Neptune -89511-12-12 00:56 J -30972124.62 -30972124.46 -30972124.28 0.0088 0.0031

Mars -89510-01-19 13:11 J -30972086.03 -30972085.95 -30972085.87 0.1645 0.1255

Neptune -89510-03-10 04:03 J -30972036.49 -30972036.33 -30972036.16 0.0088 0.0036

Neptune -89510-06-06 06:56 J -30971948.36 -30971948.21 -30971948.04 0.0088 0.0041

Venus -89510-07-14 19:11 J -30971909.80 -30971909.70 -30971909.59 0.3761 0.1537

Neptune -89510-09-02 10:03 J -30971860.23 -30971860.08 -30971859.93 0.0088 0.0047

Neptune -89510-11-29 12:42 J -30971772.10 -30971771.97 -30971771.81 0.0088 0.0053

Neptune -89509-02-25 15:49 J -30971683.97 -30971683.84 -30971683.70 0.0088 0.0058

Neptune -89509-05-23 18:42 J -30971595.83 -30971595.72 -30971595.59 0.0088 0.0063

Neptune -89509-08-19 21:20 J -30971507.70 -30971507.61 -30971507.48 0.0088 0.0069

Neptune -89509-11-16 00:27 J -30971419.57 -30971419.48 -30971419.37 0.0088 0.0074

Mars -89509-12-25 00:56 J -30971380.57 -30971380.46 -30971380.34 0.1628 0.0796

Neptune -89508-02-12 03:20 J -30971331.43 -30971331.36 -30971331.27 0.0088 0.0079

Neptune -89508-05-11 06:27 J -30971243.28 -30971243.23 -30971243.18 0.0088 0.0084

Earth -89508-08-08 23:30 J -30971153.54 -30971153.52 -30971153.50 0.2586 0.2544

Jupiter -89507-11-22 11:15 J -30970683.09 -30970683.03 -30970682.97 0.0532 0.0463

Jupiter -89506-02-19 20:51 J -30970593.76 -30970593.63 -30970593.49 0.0529 0.0019

Jupiter -89506-05-20 07:25 J -30970504.25 -30970504.19 -30970504.12 0.0525 0.0458

Venus -89506-07-14 01:11 J -30970449.58 -30970449.45 -30970449.31 0.3608 0.0337

Moon -89505-02-10 00:56 J -30970238.57 -30970238.46 -30970238.35 0.2747 0.1170

Earth -89505-02-10 01:54 J -30970238.53 -30970238.42 -30970238.31 0.2747 0.1291 *

Venus -89504-01-27 14:37 J -30969885.98 -30969885.89 -30969885.80 0.3757 0.2343

Mars -89502-08-20 14:51 J -30968951.01 -30968950.88 -30968950.76 0.1904 0.0837

Venus -89500-01-27 00:56 J -30968425.59 -30968425.46 -30968425.32 0.3611 0.0679

Saturn -89500-02-28 13:54 J -30968393.00 -30968392.92 -30968392.84 0.0274 0.0220

Jupiter -89500-04-19 13:11 J -30968343.08 -30968342.95 -30968342.82 0.0498 0.0315

Saturn -89500-05-28 02:23 J -30968304.53 -30968304.40 -30968304.28 0.0274 0.0132

Jupiter -89500-07-18 14:51 J -30968253.03 -30968252.88 -30968252.72 0.0501 0.0189

Saturn -89500-08-24 14:51 J -30968216.02 -30968215.88 -30968215.73 0.0274 0.0043

Saturn -89500-11-21 03:49 J -30968127.48 -30968127.34 -30968127.20 0.0274 0.0049

Saturn -89499-02-17 16:47 J -30968038.92 -30968038.80 -30968038.67 0.0274 0.0143

Saturn -89499-05-17 06:13 J -30967950.31 -30967950.24 -30967950.16 0.0274 0.0238

Mars -89499-05-17 09:49 J -30967950.21 -30967950.09 -30967949.96 0.1632 0.0298 *

Venus -89499-08-13 10:18 J -30967862.13 -30967862.07 -30967862.02 0.3753 0.3181

Pluto -89497-08-10 09:06 J -30967134.16 -30967134.12 -30967134.04 0.0060 0.0057

Pluto -89497-11-06 10:18 J -30967046.14 -30967046.07 -30967045.94 0.0060 0.0052

Pluto -89496-02-02 12:13 J -30966958.11 -30966957.99 -30966957.85 0.0060 0.0044

Pluto -89496-05-01 13:25 J -30966870.07 -30966869.94 -30966869.77 0.0060 0.0038

Pluto -89496-07-28 15:06 J -30966782.03 -30966781.87 -30966781.69 0.0060 0.0032

Pluto -89496-10-24 16:18 J -30966693.98 -30966693.82 -30966693.62 0.0060 0.0026

Pluto -89495-01-20 17:59 J -30966605.92 -30966605.75 -30966605.55 0.0060 0.0019

Pluto -89495-04-18 19:39 J -30966517.87 -30966517.68 -30966517.48 0.0060 0.0012

Pluto -89495-07-15 21:06 J -30966429.81 -30966429.62 -30966429.42 0.0061 0.0005

Moon -89495-08-11 22:47 J -30966402.68 -30966402.55 -30966402.42 0.2592 0.0966

Earth -89495-08-11 23:44 J -30966402.64 -30966402.51 -30966402.38 0.2588 0.0900 *

Venus -89495-08-13 00:27 J -30966401.59 -30966401.48 -30966401.36 0.3615 0.1632

Pluto -89495-10-11 22:47 J -30966341.75 -30966341.55 -30966341.36 0.0061 0.0002

Jupiter -89495-12-09 00:13 J -30966283.62 -30966283.49 -30966283.36 0.0529 0.0121

Pluto -89494-01-08 00:13 J -30966253.69 -30966253.49 -30966253.30 0.0061 0.0008

Jupiter -89494-03-08 10:32 J -30966194.17 -30966194.06 -30966193.96 0.0526 0.0342

Pluto -89494-04-06 01:25 J -30966165.62 -30966165.44 -30966165.24 0.0061 0.0015

Pluto -89494-07-03 02:51 J -30966077.55 -30966077.38 -30966077.18 0.0061 0.0022

Pluto -89494-09-29 04:32 J -30965989.48 -30965989.31 -30965989.13 0.0061 0.0028

Pluto -89494-12-26 05:44 J -30965901.40 -30965901.26 -30965901.08 0.0061 0.0035

Pluto -89493-03-23 07:11 J -30965813.32 -30965813.20 -30965813.03 0.0061 0.0042

Pluto -89493-06-19 09:20 J -30965725.23 -30965725.11 -30965725.00 0.0061 0.0049

Pluto -89493-09-15 10:32 J -30965637.13 -30965637.06 -30965636.97 0.0061 0.0056

Mars -89492-01-09 15:35 J -30965520.99 -30965520.85 -30965520.70 0.1898 0.0186

Moon -89492-02-11 22:32 J -30965487.57 -30965487.56 -30965487.56 0.2750 0.2742

Venus -89492-05-07 08:08 J -30965403.21 -30965403.16 -30965403.12 0.3783 0.3379

Mars -89490-10-07 18:56 J -30964519.84 -30964519.71 -30964519.58 0.1636 0.0202

Venus -89489-02-26 23:30 J -30964377.61 -30964377.52 -30964377.43 0.3619 0.2549

Uranus -89489-06-23 23:01 J -30964259.55 -30964259.54 -30964259.51 0.0140 0.0138

Uranus -89489-09-20 03:06 J -30964171.44 -30964171.37 -30964171.30 0.0140 0.0120

Uranus -89489-12-17 06:56 J -30964083.30 -30964083.21 -30964083.11 0.0141 0.0103

Jupiter -89488-02-05 12:27 J -30964033.06 -30964032.98 -30964032.90 0.0497 0.0439

Uranus -89488-03-15 11:01 J -30963995.15 -30963995.04 -30963994.92 0.0141 0.0085

Jupiter -89488-05-06 14:23 J -30963943.07 -30963942.90 -30963942.73 0.0500 0.0068

Uranus -89488-06-11 15:20 J -30963906.99 -30963906.86 -30963906.74 0.0141 0.0066

Uranus -89488-09-07 19:11 J -30963818.83 -30963818.70 -30963818.56 0.0141 0.0048

Uranus -89488-12-04 23:30 J -30963730.66 -30963730.52 -30963730.38 0.0141 0.0029

Uranus -89487-03-03 03:35 J -30963642.49 -30963642.35 -30963642.20 0.0141 0.0011

Uranus -89487-05-30 07:54 J -30963554.31 -30963554.17 -30963554.03 0.0141 0.0009

Uranus -89487-08-26 12:13 J -30963466.13 -30963465.99 -30963465.85 0.0142 0.0028

Venus -89487-11-21 01:54 J -30963379.49 -30963379.42 -30963379.34 0.3780 0.2716

Uranus -89487-11-22 16:18 J -30963377.95 -30963377.82 -30963377.68 0.0142 0.0048

Uranus -89486-02-18 20:37 J -30963289.76 -30963289.64 -30963289.51 0.0142 0.0067

Uranus -89486-05-18 00:56 J -30963201.57 -30963201.46 -30963201.34 0.0142 0.0087

Uranus -89486-08-14 05:15 J -30963113.36 -30963113.28 -30963113.17 0.0142 0.0107

Saturn -89486-10-05 04:47 J -30963061.30 -30963061.30 -30963061.29 0.0286 0.0285

Uranus -89486-11-10 09:49 J -30963025.14 -30963025.09 -30963025.02 0.0142 0.0127

Saturn -89485-01-02 00:42 J -30962972.61 -30962972.47 -30962972.33 0.0286 0.0159

Moon -89485-02-05 13:11 J -30962938.05 -30962937.95 -30962937.84 0.2744 0.1330

Earth -89485-02-05 13:25 J -30962938.04 -30962937.94 -30962937.84 0.2751 0.1388 *

Saturn -89485-03-30 20:23 J -30962883.82 -30962883.65 -30962883.49 0.0285 0.0035

Saturn -89485-06-27 15:20 J -30962795.01 -30962794.86 -30962794.70 0.0285 0.0086

Saturn -89485-09-24 10:03 J -30962706.19 -30962706.08 -30962705.96 0.0285 0.0204

Venus -89484-09-11 22:03 J -30962353.62 -30962353.58 -30962353.54 0.3623 0.3427

Mars -89483-06-01 16:32 J -30962090.92 -30962090.81 -30962090.70 0.1892 0.1196

Jupiter -89483-09-27 02:23 J -30961973.51 -30961973.40 -30961973.28 0.0531 0.0247

Jupiter -89483-12-25 12:42 J -30961884.09 -30961883.97 -30961883.85 0.0527 0.0216

Moon -89482-08-14 23:30 J -30961651.66 -30961651.52 -30961651.39 0.2596 0.0695

Earth -89482-08-14 23:44 J -30961651.64 -30961651.51 -30961651.38 0.2590 0.0702 *

Venus -89481-06-05 20:08 J -30961355.75 -30961355.66 -30961355.57 0.3777 0.2026

Mars -89480-02-27 04:03 J -30961089.45 -30961089.33 -30961089.21 0.1640 0.0694

Mars -89478-02-02 16:32 J -30960383.88 -30960383.81 -30960383.75 0.1624 0.1371

Jupiter -89476-02-22 13:54 J -30959633.09 -30959632.92 -30959632.75 0.0499 0.0058

Jupiter -89476-05-23 14:37 J -30959542.97 -30959542.89 -30959542.81 0.0502 0.0440

Venus -89476-12-20 14:23 J -30959332.00 -30959331.90 -30959331.79 0.3774 0.1317

Moon -89472-02-07 09:20 J -30958187.23 -30958187.11 -30958186.99 0.2746 0.0086

Earth -89472-02-07 10:18 J -30958187.19 -30958187.07 -30958186.95 0.2749 0.0125 *

Jupiter -89471-07-16 05:44 J -30957663.35 -30957663.26 -30957663.16 0.0532 0.0359

Saturn -89471-07-18 16:47 J -30957660.86 -30957660.80 -30957660.73 0.0273 0.0237

Mars -89471-07-20 13:11 J -30957659.04 -30957658.95 -30957658.86 0.1645 0.1188

Jupiter -89471-10-13 15:49 J -30957573.97 -30957573.84 -30957573.70 0.0528 0.0103

Saturn -89471-10-15 05:15 J -30957572.40 -30957572.28 -30957572.16 0.0273 0.0150

Saturn -89470-01-11 17:44 J -30957483.90 -30957483.76 -30957483.62 0.0273 0.0061

Saturn -89470-04-10 06:42 J -30957395.37 -30957395.22 -30957395.08 0.0273 0.0031

Venus -89470-07-06 08:51 J -30957308.24 -30957308.13 -30957308.02 0.3771 0.0594

Saturn -89470-07-07 19:39 J -30957306.81 -30957306.68 -30957306.55 0.0273 0.0123

Saturn -89470-10-04 08:51 J -30957218.21 -30957218.13 -30957218.04 0.0274 0.0217

Mars -89469-06-25 01:11 J -30956953.56 -30956953.45 -30956953.34 0.1628 0.0866

Earth -89469-08-16 23:30 J -30956900.59 -30956900.52 -30956900.46 0.2592 0.2262

Moon -89469-08-16 23:59 J -30956900.56 -30956900.50 -30956900.44 0.2598 0.2265 *

Venus -89466-07-04 23:01 J -30955848.59 -30955848.54 -30955848.49 0.3599 0.3320

Jupiter -89465-12-11 12:27 J -30955323.14 -30955322.98 -30955322.82 0.0498 0.0187

Venus -89464-01-19 03:35 J -30955284.46 -30955284.35 -30955284.23 0.3767 0.0195

Jupiter -89464-03-11 13:39 J -30955233.06 -30955232.93 -30955232.79 0.0501 0.0314

Mars -89462-02-18 15:06 J -30954523.99 -30954523.87 -30954523.74 0.1904 0.0939

Moon -89462-08-10 04:03 J -30954351.40 -30954351.33 -30954351.27 0.2586 0.2245

Earth -89462-08-10 05:15 J -30954351.36 -30954351.28 -30954351.21 0.2586 0.2202 *

Venus -89460-01-18 00:13 J -30953824.60 -30953824.49 -30953824.39 0.3602 0.2198

Mars -89460-11-15 10:03 J -30953523.21 -30953523.08 -30953522.95 0.1632 0.0365

Moon -89459-02-10 06:13 J -30953436.34 -30953436.24 -30953436.14 0.2747 0.1520

Earth -89459-02-10 07:11 J -30953436.30 -30953436.20 -30953436.10 0.2747 0.1601 *

Jupiter -89459-05-04 09:35 J -30953353.16 -30953353.10 -30953353.03 0.0533 0.0465

Jupiter -89459-08-01 19:25 J -30953263.82 -30953263.69 -30953263.55 0.0529 0.0012

Venus -89459-08-04 22:32 J -30953260.67 -30953260.56 -30953260.45 0.3764 0.0944

Jupiter -89459-10-30 06:13 J -30953174.31 -30953174.24 -30953174.18 0.0525 0.0459

Saturn -89456-05-20 23:01 J -30952240.65 -30952240.54 -30952240.41 0.0285 0.0204

Saturn -89456-08-17 18:56 J -30952151.87 -30952151.71 -30952151.55 0.0285 0.0078

Saturn -89456-11-14 14:08 J -30952063.07 -30952062.91 -30952062.74 0.0285 0.0044

Saturn -89455-02-11 08:51 J -30951974.26 -30951974.13 -30951973.99 0.0285 0.0162

Saturn -89455-05-11 03:06 J -30951885.39 -30951885.37 -30951885.33 0.0285 0.0278

Venus -89455-08-04 00:42 J -30951800.60 -30951800.47 -30951800.34 0.3605 0.1119

Venus -89453-02-18 17:44 J -30951236.86 -30951236.76 -30951236.66 0.3760 0.1739

Mars -89453-07-10 16:03 J -30951093.97 -30951093.83 -30951093.68 0.1898 0.0086

Jupiter -89453-09-29 11:44 J -30951013.14 -30951013.01 -30951012.87 0.0497 0.0310

Jupiter -89453-12-28 13:25 J -30950923.09 -30950922.94 -30950922.78 0.0501 0.0193

Earth -89452-02-02 22:03 J -30950886.62 -30950886.58 -30950886.54 0.2753 0.2533

Moon -89452-02-02 22:18 J -30950886.62 -30950886.57 -30950886.52 0.2746 0.2446 *

Mars -89450-04-07 19:11 J -30950092.83 -30950092.70 -30950092.57 0.1636 0.0138

Uranus -89450-11-19 07:39 J -30949867.20 -30949867.18 -30949867.14 0.0138 0.0135

Uranus -89449-02-15 13:54 J -30949779.01 -30949778.92 -30949778.81 0.0138 0.0113

Venus -89449-02-18 00:56 J -30949776.59 -30949776.46 -30949776.32 0.3609 0.0097

Uranus -89449-05-13 20:23 J -30949690.78 -30949690.65 -30949690.52 0.0138 0.0091

Uranus -89449-08-10 02:23 J -30949602.54 -30949602.40 -30949602.24 0.0138 0.0070

Moon -89449-08-12 04:32 J -30949600.44 -30949600.31 -30949600.18 0.2592 0.0703

Earth -89449-08-12 05:30 J -30949600.41 -30949600.27 -30949600.13 0.2588 0.0557 *

Uranus -89449-11-06 08:37 J -30949514.30 -30949514.14 -30949513.97 0.0138 0.0048

Uranus -89448-02-02 14:51 J -30949426.05 -30949425.88 -30949425.71 0.0137 0.0026

Uranus -89448-05-01 20:51 J -30949337.80 -30949337.63 -30949337.46 0.0137 0.0005

Uranus -89448-07-29 02:51 J -30949249.55 -30949249.38 -30949249.21 0.0137 0.0016

Venus -89448-09-03 13:11 J -30949213.03 -30949212.95 -30949212.87 0.3756 0.2553

Uranus -89448-10-25 08:37 J -30949161.30 -30949161.14 -30949160.97 0.0137 0.0036

Uranus -89447-01-21 14:23 J -30949073.05 -30949072.90 -30949072.74 0.0137 0.0057

Uranus -89447-04-19 20:08 J -30948984.79 -30948984.66 -30948984.51 0.0137 0.0077

Jupiter -89447-05-20 23:01 J -30948953.67 -30948953.54 -30948953.41 0.0530 0.0117

Uranus -89447-07-17 01:54 J -30948896.53 -30948896.42 -30948896.30 0.0137 0.0097

Jupiter -89447-08-18 09:20 J -30948864.21 -30948864.11 -30948864.01 0.0526 0.0346

Uranus -89447-10-13 07:39 J -30948808.26 -30948808.18 -30948808.09 0.0137 0.0117

Uranus -89446-01-09 13:11 J -30948719.95 -30948719.95 -30948719.94 0.0136 0.0136

Venus -89444-09-03 00:42 J -30947752.60 -30947752.47 -30947752.34 0.3613 0.0915

Mars -89444-11-30 16:47 J -30947663.92 -30947663.80 -30947663.68 0.1892 0.1103

Venus -89442-03-20 08:51 J -30947189.18 -30947189.13 -30947189.09 0.3752 0.3397

Saturn -89441-03-03 05:44 J -30946840.37 -30946840.26 -30946840.16 0.0274 0.0187

Saturn -89441-05-30 17:59 J -30946751.88 -30946751.75 -30946751.61 0.0274 0.0099

Jupiter -89441-07-18 11:01 J -30946703.12 -30946703.04 -30946702.96 0.0497 0.0434

Saturn -89441-08-27 06:42 J -30946663.36 -30946663.22 -30946663.07 0.0274 0.0012

Mars -89441-08-28 04:03 J -30946662.44 -30946662.33 -30946662.21 0.1641 0.0629

Jupiter -89441-10-16 13:11 J -30946613.12 -30946612.95 -30946612.78 0.0500 0.0072

Saturn -89441-11-23 19:39 J -30946574.81 -30946574.68 -30946574.54 0.0274 0.0084

Saturn -89440-02-20 08:51 J -30946486.24 -30946486.13 -30946486.02 0.0274 0.0178

Saturn -89440-05-19 22:18 J -30946397.58 -30946397.57 -30946397.56 0.0274 0.0273

Moon -89439-02-05 18:13 J -30946135.84 -30946135.74 -30946135.63 0.2745 0.1190

Earth -89439-02-05 18:42 J -30946135.83 -30946135.72 -30946135.61 0.2751 0.1088 *

Mars -89439-08-03 16:32 J -30945956.87 -30945956.81 -30945956.75 0.1624 0.1440

Venus -89438-03-19 23:59 J -30945728.61 -30945728.50 -30945728.38 0.3617 0.1870

Moon -89436-08-15 05:30 J -30944849.40 -30944849.27 -30944849.15 0.2597 0.1061

Earth -89436-08-15 05:30 J -30944849.40 -30944849.27 -30944849.15 0.2590 0.1041 *

Venus -89436-12-12 06:13 J -30944730.30 -30944730.24 -30944730.19 0.3782 0.3220

Jupiter -89435-03-09 02:08 J -30944643.53 -30944643.41 -30944643.29 0.0530 0.0230

Jupiter -89435-06-06 12:13 J -30944554.11 -30944553.99 -30944553.86 0.0527 0.0232

Neptune -89434-05-21 02:08 J -30944205.42 -30944205.41 -30944205.38 0.0089 0.0088

Neptune -89434-08-17 03:35 J -30944117.38 -30944117.35 -30944117.29 0.0089 0.0084

Neptune -89434-11-13 05:01 J -30944029.33 -30944029.29 -30944029.22 0.0089 0.0080

Neptune -89433-02-09 06:27 J -30943941.29 -30943941.23 -30943941.14 0.0089 0.0076

Neptune -89433-05-07 08:08 J -30943853.23 -30943853.16 -30943853.07 0.0089 0.0071

Neptune -89433-08-03 09:35 J -30943765.18 -30943765.10 -30943765.00 0.0089 0.0067

Venus -89433-10-02 23:01 J -30943704.63 -30943704.54 -30943704.46 0.3620 0.2774

Neptune -89433-10-30 11:01 J -30943677.13 -30943677.04 -30943676.93 0.0089 0.0063

Neptune -89432-01-26 12:27 J -30943589.07 -30943588.98 -30943588.87 0.0089 0.0059

Neptune -89432-04-24 13:54 J -30943501.01 -30943500.92 -30943500.80 0.0089 0.0055

Neptune -89432-07-21 15:49 J -30943412.96 -30943412.84 -30943412.73 0.0089 0.0050

Neptune -89432-10-17 17:15 J -30943324.90 -30943324.78 -30943324.66 0.0089 0.0046

Neptune -89431-01-13 18:42 J -30943236.84 -30943236.72 -30943236.60 0.0089 0.0042

Mars -89431-01-18 13:25 J -30943232.03 -30943231.94 -30943231.85 0.1645 0.1117

Neptune -89431-04-11 20:08 J -30943148.78 -30943148.66 -30943148.53 0.0089 0.0038

Neptune -89431-07-08 21:49 J -30943060.72 -30943060.59 -30943060.46 0.0089 0.0033

Neptune -89431-10-04 23:15 J -30942972.66 -30942972.53 -30942972.40 0.0089 0.0029

Neptune -89430-01-01 00:42 J -30942884.60 -30942884.47 -30942884.33 0.0089 0.0025

Neptune -89430-03-30 02:08 J -30942796.54 -30942796.41 -30942796.27 0.0089 0.0021

Neptune -89430-06-26 03:49 J -30942708.47 -30942708.34 -30942708.20 0.0089 0.0016

Venus -89430-06-28 00:13 J -30942706.57 -30942706.49 -30942706.41 0.3779 0.2547

Neptune -89430-09-22 05:30 J -30942620.41 -30942620.27 -30942620.13 0.0089 0.0012

Neptune -89430-12-19 06:56 J -30942532.35 -30942532.21 -30942532.07 0.0089 0.0008

Mars -89430-12-25 01:25 J -30942526.55 -30942526.44 -30942526.34 0.1628 0.0939

Neptune -89429-03-16 08:37 J -30942444.28 -30942444.14 -30942444.00 0.0089 0.0004

Neptune -89429-06-12 10:03 J -30942356.22 -30942356.08 -30942355.94 0.0089 0.0002

Jupiter -89429-08-04 12:42 J -30942303.14 -30942302.97 -30942302.80 0.0499 0.0050

Neptune -89429-09-08 11:44 J -30942268.15 -30942268.01 -30942267.87 0.0089 0.0006

Jupiter -89429-11-02 13:25 J -30942213.01 -30942212.94 -30942212.86 0.0502 0.0448

Neptune -89429-12-05 13:11 J -30942180.09 -30942179.95 -30942179.81 0.0089 0.0010

Neptune -89428-03-03 14:51 J -30942092.02 -30942091.88 -30942091.74 0.0089 0.0014

Neptune -89428-05-30 16:18 J -30942003.95 -30942003.82 -30942003.68 0.0089 0.0019

Neptune -89428-08-26 17:59 J -30941915.89 -30941915.75 -30941915.61 0.0089 0.0023

Neptune -89428-11-22 19:25 J -30941827.82 -30941827.69 -30941827.55 0.0089 0.0028

Neptune -89427-02-18 21:06 J -30941739.75 -30941739.62 -30941739.49 0.0089 0.0032

Neptune -89427-05-17 22:47 J -30941651.68 -30941651.55 -30941651.42 0.0089 0.0036

Neptune -89427-08-14 00:13 J -30941563.61 -30941563.49 -30941563.36 0.0089 0.0041

Saturn -89427-10-07 22:03 J -30941508.67 -30941508.58 -30941508.49 0.0286 0.0244

Neptune -89427-11-10 01:54 J -30941475.54 -30941475.42 -30941475.29 0.0089 0.0045

Saturn -89426-01-04 17:44 J -30941419.91 -30941419.76 -30941419.60 0.0286 0.0119

Neptune -89426-02-06 03:20 J -30941387.47 -30941387.36 -30941387.23 0.0089 0.0050

Moon -89426-02-08 14:23 J -30941385.01 -30941384.90 -30941384.78 0.2746 0.0383

Earth -89426-02-08 15:20 J -30941384.98 -30941384.86 -30941384.74 0.2749 0.0395 *

Saturn -89426-04-03 13:25 J -30941331.11 -30941330.94 -30941330.77 0.0286 0.0006

Neptune -89426-05-05 05:15 J -30941299.39 -30941299.28 -30941299.17 0.0089 0.0054

Saturn -89426-07-01 08:23 J -30941242.30 -30941242.15 -30941242.00 0.0285 0.0125

Neptune -89426-08-01 06:42 J -30941211.32 -30941211.22 -30941211.11 0.0089 0.0059

Saturn -89426-09-28 02:51 J -30941153.46 -30941153.38 -30941153.29 0.0285 0.0243

Neptune -89426-10-28 08:23 J -30941123.24 -30941123.15 -30941123.04 0.0089 0.0063

Neptune -89425-01-24 09:49 J -30941035.17 -30941035.09 -30941034.98 0.0089 0.0068

Neptune -89425-04-21 11:44 J -30940947.09 -30940947.01 -30940946.92 0.0089 0.0072

Neptune -89425-07-18 13:11 J -30940859.01 -30940858.95 -30940858.87 0.0089 0.0077

Neptune -89425-10-14 15:06 J -30940770.92 -30940770.87 -30940770.81 0.0089 0.0081

Neptune -89424-01-10 16:32 J -30940682.83 -30940682.81 -30940682.76 0.0089 0.0086

Venus -89424-01-10 18:13 J -30940682.83 -30940682.74 -30940682.64 0.3776 0.1856 *

Jupiter -89424-12-26 04:32 J -30940333.40 -30940333.31 -30940333.21 0.0532 0.0355

Jupiter -89423-03-25 14:37 J -30940244.03 -30940243.89 -30940243.76 0.0528 0.0105

Earth -89423-08-18 05:01 J -30940098.29 -30940098.29 -30940098.28 0.2593 0.2587

Mars -89423-08-19 15:35 J -30940096.97 -30940096.85 -30940096.73 0.1905 0.1047

Mars -89422-06-10 22:32 J -30939801.58 -30939801.56 -30939801.53 0.1650 0.1607

Mars -89420-05-16 10:18 J -30939096.20 -30939096.07 -30939095.94 0.1632 0.0439

Venus -89419-07-27 12:42 J -30938659.08 -30938658.97 -30938658.87 0.3773 0.1135

Jupiter -89417-05-23 11:59 J -30937993.16 -30937993.00 -30937992.84 0.0498 0.0174

Jupiter -89417-08-21 13:11 J -30937903.07 -30937902.95 -30937902.82 0.0501 0.0326

Moon -89416-08-10 09:49 J -30937549.18 -30937549.09 -30937549.01 0.2588 0.2057

Earth -89416-08-10 11:01 J -30937549.14 -30937549.04 -30937548.94 0.2586 0.1846 *

Mars -89413-01-09 16:32 J -30936666.95 -30936666.81 -30936666.66 0.1898 0.0058

Venus -89413-02-10 07:11 J -30936635.31 -30936635.20 -30936635.09 0.3770 0.0402

Moon -89413-02-11 11:30 J -30936634.11 -30936634.02 -30936633.93 0.2749 0.1763

Earth -89413-02-11 12:27 J -30936634.07 -30936633.98 -30936633.90 0.2746 0.1912 *

Saturn -89412-07-21 08:37 J -30936108.23 -30936108.14 -30936108.04 0.0273 0.0204

Jupiter -89412-10-14 07:54 J -30936023.23 -30936023.17 -30936023.11 0.0533 0.0468

Saturn -89412-10-17 21:06 J -30936019.75 -30936019.62 -30936019.49 0.0273 0.0116

Jupiter -89411-01-11 17:44 J -30935933.90 -30935933.76 -30935933.62 0.0529 0.0010

Saturn -89411-01-14 09:49 J -30935931.23 -30935931.09 -30935930.95 0.0273 0.0026

Jupiter -89411-04-11 04:18 J -30935844.38 -30935844.32 -30935844.25 0.0526 0.0455

Saturn -89411-04-12 22:32 J -30935842.69 -30935842.56 -30935842.41 0.0273 0.0067

Saturn -89411-07-10 11:44 J -30935754.13 -30935754.01 -30935753.89 0.0273 0.0159

Mars -89411-10-06 19:11 J -30935665.83 -30935665.70 -30935665.57 0.1636 0.0068

Saturn -89411-10-07 01:11 J -30935665.50 -30935665.45 -30935665.40 0.0273 0.0254

Venus -89409-02-08 23:01 J -30935175.61 -30935175.54 -30935175.46 0.3599 0.3035

Venus -89408-08-26 01:54 J -30934611.53 -30934611.42 -30934611.30 0.3766 0.0384

Earth -89406-02-04 03:20 J -30934084.43 -30934084.36 -30934084.29 0.2753 0.2233

Moon -89406-02-04 03:35 J -30934084.42 -30934084.35 -30934084.29 0.2745 0.2236 *

Jupiter -89405-03-11 10:32 J -30933683.19 -30933683.06 -30933682.92 0.0497 0.0304

Jupiter -89405-06-09 12:13 J -30933593.15 -30933592.99 -30933592.84 0.0500 0.0198

Uranus -89405-07-14 05:59 J -30933558.28 -30933558.25 -30933558.21 0.0140 0.0135

Uranus -89405-10-10 10:03 J -30933470.15 -30933470.08 -30933470.00 0.0140 0.0118

Uranus -89404-01-06 13:54 J -30933382.01 -30933381.92 -30933381.81 0.0141 0.0100

Uranus -89404-04-04 17:59 J -30933293.86 -30933293.75 -30933293.63 0.0141 0.0082

Mars -89404-05-31 17:15 J -30933236.91 -30933236.78 -30933236.66 0.1892 0.1000

Uranus -89404-07-01 22:03 J -30933205.70 -30933205.58 -30933205.45 0.0141 0.0064

Venus -89404-08-24 23:59 J -30933151.61 -30933151.50 -30933151.38 0.3603 0.1922

Uranus -89404-09-28 02:08 J -30933117.54 -30933117.41 -30933117.27 0.0141 0.0045

Uranus -89404-12-25 06:27 J -30933029.37 -30933029.23 -30933029.09 0.0141 0.0026

Pluto -89403-03-09 16:32 J -30932954.85 -30932954.81 -30932954.75 0.0085 0.0079

Uranus -89403-03-23 10:32 J -30932941.20 -30932941.06 -30932940.91 0.0141 0.0008

Pluto -89403-06-05 17:44 J -30932866.83 -30932866.76 -30932866.67 0.0084 0.0066

Uranus -89403-06-19 14:51 J -30932853.02 -30932852.88 -30932852.74 0.0141 0.0012

Moon -89403-08-13 10:18 J -30932798.21 -30932798.07 -30932797.93 0.2593 0.0243

Earth -89403-08-13 11:15 J -30932798.17 -30932798.03 -30932797.89 0.2588 0.0229 *

Pluto -89403-09-01 19:11 J -30932778.79 -30932778.70 -30932778.59 0.0084 0.0054

Uranus -89403-09-15 18:56 J -30932764.84 -30932764.71 -30932764.56 0.0142 0.0032

Pluto -89403-11-28 20:37 J -30932690.75 -30932690.64 -30932690.52 0.0084 0.0041

Uranus -89403-12-12 23:15 J -30932676.66 -30932676.53 -30932676.39 0.0142 0.0051

Pluto -89402-02-24 21:49 J -30932602.71 -30932602.59 -30932602.46 0.0084 0.0029

Uranus -89402-03-11 03:49 J -30932588.47 -30932588.34 -30932588.22 0.0142 0.0070

Venus -89402-03-11 21:06 J -30932587.73 -30932587.62 -30932587.52 0.3763 0.1151

Pluto -89402-05-23 23:15 J -30932514.66 -30932514.53 -30932514.40 0.0084 0.0017

Uranus -89402-06-07 07:54 J -30932500.27 -30932500.17 -30932500.05 0.0142 0.0090

Pluto -89402-08-20 00:27 J -30932426.61 -30932426.48 -30932426.35 0.0084 0.0005

Uranus -89402-09-03 12:27 J -30932412.07 -30932411.98 -30932411.89 0.0142 0.0110

Pluto -89402-11-16 01:39 J -30932338.56 -30932338.43 -30932338.30 0.0084 0.0007

Uranus -89402-11-30 16:47 J -30932323.85 -30932323.80 -30932323.73 0.0142 0.0131

Pluto -89401-02-12 02:51 J -30932250.50 -30932250.38 -30932250.25 0.0084 0.0019

Mars -89401-02-27 04:18 J -30932235.44 -30932235.32 -30932235.20 0.1640 0.0559

Pluto -89401-05-10 04:03 J -30932162.45 -30932162.33 -30932162.20 0.0083 0.0031

Pluto -89401-08-06 05:15 J -30932074.39 -30932074.28 -30932074.16 0.0083 0.0042

Pluto -89401-11-02 06:27 J -30931986.32 -30931986.23 -30931986.12 0.0083 0.0054

Pluto -89400-01-29 07:39 J -30931898.25 -30931898.18 -30931898.09 0.0083 0.0066

Pluto -89400-04-27 08:51 J -30931810.17 -30931810.13 -30931810.07 0.0083 0.0077

Jupiter -89400-10-30 21:20 J -30931623.74 -30931623.61 -30931623.48 0.0530 0.0118

Jupiter -89399-01-28 07:39 J -30931534.28 -30931534.18 -30931534.07 0.0526 0.0347

Mars -89399-02-01 16:47 J -30931529.85 -30931529.80 -30931529.76 0.1624 0.1513

Venus -89398-03-11 00:42 J -30931127.60 -30931127.47 -30931127.34 0.3606 0.0852

Saturn -89397-05-23 16:47 J -30930687.94 -30930687.80 -30930687.66 0.0286 0.0160

Saturn -89397-08-20 12:27 J -30930599.15 -30930598.98 -30930598.82 0.0285 0.0037

Venus -89397-09-24 16:18 J -30930563.92 -30930563.82 -30930563.73 0.3759 0.1945

Saturn -89397-11-17 07:25 J -30930510.35 -30930510.19 -30930510.03 0.0285 0.0085

Saturn -89396-02-14 02:08 J -30930421.52 -30930421.41 -30930421.29 0.0285 0.0203

Jupiter -89394-12-29 09:35 J -30929373.18 -30929373.10 -30929373.01 0.0497 0.0429

Moon -89393-02-06 23:15 J -30929333.64 -30929333.53 -30929333.41 0.2745 0.0791

Earth -89393-02-06 23:59 J -30929333.62 -30929333.50 -30929333.39 0.2751 0.0789 *

Jupiter -89393-03-28 11:44 J -30929283.18 -30929283.01 -30929282.84 0.0500 0.0076

Venus -89393-09-24 00:42 J -30929103.60 -30929103.47 -30929103.34 0.3610 0.0177

Mars -89392-07-19 13:25 J -30928805.04 -30928804.94 -30928804.84 0.1645 0.1051

Venus -89391-04-10 11:44 J -30928540.09 -30928540.01 -30928539.94 0.3755 0.2766

Mars -89390-06-25 01:25 J -30928099.54 -30928099.44 -30928099.33 0.1628 0.1011

Moon -89390-08-16 11:15 J -30928047.15 -30928047.03 -30928046.92 0.2597 0.1355

Earth -89390-08-16 11:01 J -30928047.15 -30928047.04 -30928046.92 0.2591 0.1372 *

Jupiter -89388-08-19 00:56 J -30927313.58 -30927313.46 -30927313.34 0.0531 0.0227

Jupiter -89388-11-16 11:01 J -30927224.16 -30927224.04 -30927223.91 0.0527 0.0235

Venus -89387-04-10 00:13 J -30927079.61 -30927079.49 -30927079.36 0.3614 0.1160

Venus -89386-10-25 07:25 J -30926516.22 -30926516.19 -30926516.16 0.3751 0.3610

Venus -89384-01-02 10:18 J -30926081.09 -30926081.07 -30926081.05 0.3784 0.3714

Mars -89383-02-17 15:49 J -30925669.95 -30925669.84 -30925669.72 0.1904 0.1142

Saturn -89383-12-08 09:20 J -30925376.18 -30925376.11 -30925376.05 0.0273 0.0239

Mars -89383-12-09 22:47 J -30925374.59 -30925374.55 -30925374.51 0.1650 0.1540

Saturn -89382-03-06 21:35 J -30925287.71 -30925287.60 -30925287.48 0.0273 0.0152

Saturn -89382-06-03 10:03 J -30925199.22 -30925199.08 -30925198.94 0.0273 0.0063

Saturn -89382-08-30 22:47 J -30925110.69 -30925110.55 -30925110.40 0.0274 0.0029

Venus -89382-10-24 23:30 J -30925055.62 -30925055.52 -30925055.41 0.3618 0.2097

Saturn -89382-11-27 11:44 J -30925022.13 -30925022.01 -30925021.87 0.0274 0.0121

Jupiter -89381-01-15 11:15 J -30924973.20 -30924973.03 -30924972.86 0.0499 0.0046

Saturn -89381-02-24 00:56 J -30924933.54 -30924933.46 -30924933.36 0.0274 0.0215

Jupiter -89381-04-14 11:59 J -30924883.06 -30924883.00 -30924882.92 0.0502 0.0452

Mars -89381-11-14 10:18 J -30924669.19 -30924669.07 -30924668.94 0.1632 0.0512

Moon -89380-02-08 19:39 J -30924582.79 -30924582.68 -30924582.56 0.2746 0.0531

Earth -89380-02-08 20:37 J -30924582.76 -30924582.64 -30924582.52 0.2748 0.0702 *

Venus -89379-07-19 04:18 J -30924057.39 -30924057.32 -30924057.26 0.3781 0.3056

Venus -89376-05-09 22:18 J -30923031.64 -30923031.57 -30923031.50 0.3622 0.2988

Jupiter -89376-06-07 04:18 J -30923003.42 -30923003.32 -30923003.22 0.0531 0.0339

Jupiter -89376-09-04 14:08 J -30922914.04 -30922913.91 -30922913.77 0.0528 0.0121

Mars -89374-07-10 16:47 J -30922239.94 -30922239.80 -30922239.66 0.1899 0.0124

Venus -89373-02-01 22:18 J -30922033.66 -30922033.57 -30922033.49 0.3779 0.2375

Mars -89371-04-06 19:25 J -30921238.82 -30921238.69 -30921238.56 0.1636 0.0019

Moon -89370-08-11 15:35 J -30920746.97 -30920746.85 -30920746.74 0.2589 0.1543

Earth -89370-08-11 16:47 J -30920746.92 -30920746.80 -30920746.69 0.2587 0.1502 *

Jupiter -89370-11-03 10:47 J -30920663.21 -30920663.05 -30920662.88 0.0498 0.0168

Jupiter -89369-02-01 11:59 J -30920573.12 -30920573.00 -30920572.87 0.0501 0.0333

Venus -89368-08-17 16:32 J -30920009.91 -30920009.81 -30920009.71 0.3775 0.1677

Saturn -89368-10-10 15:20 J -30919955.98 -30919955.86 -30919955.74 0.0286 0.0203

Saturn -89367-01-07 11:01 J -30919867.20 -30919867.04 -30919866.88 0.0286 0.0078

Moon -89367-02-11 16:47 J -30919831.87 -30919831.80 -30919831.73 0.2750 0.2206

Earth -89367-02-11 17:30 J -30919831.83 -30919831.77 -30919831.70 0.2746 0.2224 *

Saturn -89367-04-06 06:27 J -30919778.40 -30919778.23 -30919778.07 0.0286 0.0045

Saturn -89367-07-04 01:11 J -30919689.58 -30919689.45 -30919689.31 0.0286 0.0166

Saturn -89367-09-30 19:54 J -30919600.69 -30919600.67 -30919600.65 0.0285 0.0282

Uranus -89366-12-09 14:23 J -30919165.94 -30919165.90 -30919165.85 0.0138 0.0132

Uranus -89365-03-06 20:37 J -30919077.74 -30919077.64 -30919077.53 0.0138 0.0110

Uranus -89365-06-03 03:06 J -30918989.51 -30918989.37 -30918989.24 0.0138 0.0088

Uranus -89365-08-30 09:06 J -30918901.27 -30918901.12 -30918900.96 0.0138 0.0067

Uranus -89365-11-26 15:20 J -30918813.02 -30918812.86 -30918812.69 0.0138 0.0045

Mars -89365-11-29 17:44 J -30918809.88 -30918809.76 -30918809.63 0.1892 0.0885

Uranus -89364-02-22 21:20 J -30918724.78 -30918724.61 -30918724.43 0.0137 0.0024

Jupiter -89364-03-26 06:42 J -30918693.28 -30918693.22 -30918693.16 0.0532 0.0464

Uranus -89364-05-22 03:20 J -30918636.53 -30918636.36 -30918636.18 0.0137 0.0004

Jupiter -89364-06-23 16:32 J -30918603.95 -30918603.81 -30918603.68 0.0529 0.0020

Uranus -89364-08-18 09:20 J -30918548.28 -30918548.11 -30918547.94 0.0137 0.0019

Jupiter -89364-09-21 02:51 J -30918514.44 -30918514.38 -30918514.31 0.0525 0.0458

Uranus -89364-11-14 15:20 J -30918460.03 -30918459.86 -30918459.70 0.0137 0.0039

Uranus -89363-02-10 20:51 J -30918371.77 -30918371.63 -30918371.47 0.0137 0.0060

Uranus -89363-05-10 02:37 J -30918283.52 -30918283.39 -30918283.24 0.0137 0.0080

Uranus -89363-08-06 08:23 J -30918195.26 -30918195.15 -30918195.03 0.0137 0.0100

Uranus -89363-11-02 14:08 J -30918106.98 -30918106.91 -30918106.82 0.0136 0.0119

Venus -89362-03-03 11:01 J -30917986.15 -30917986.04 -30917985.94 0.3772 0.0961

Mars -89362-08-28 04:32 J -30917808.44 -30917808.31 -30917808.19 0.1640 0.0489

Moon -89360-02-04 08:37 J -30917282.23 -30917282.14 -30917282.06 0.2745 0.1899

Earth -89360-02-04 08:23 J -30917282.23 -30917282.15 -30917282.06 0.2752 0.1941 *

Mars -89360-08-02 16:47 J -30917102.82 -30917102.80 -30917102.77 0.1624 0.1590

Jupiter -89358-08-22 10:03 J -30916353.22 -30916353.08 -30916352.94 0.0497 0.0292

Jupiter -89358-11-20 11:30 J -30916263.17 -30916263.02 -30916262.86 0.0500 0.0211

Moon -89357-08-13 16:18 J -30915995.95 -30915995.82 -30915995.68 0.2594 0.0090

Earth -89357-08-13 17:01 J -30915995.93 -30915995.79 -30915995.65 0.2589 0.0148 *

Venus -89357-09-16 05:30 J -30915962.38 -30915962.27 -30915962.16 0.3769 0.0216

Saturn -89353-04-26 12:27 J -30914644.02 -30914643.98 -30914643.93 0.0273 0.0256

Saturn -89353-07-24 00:42 J -30914555.58 -30914555.47 -30914555.36 0.0273 0.0169

Venus -89353-09-14 23:01 J -30914502.62 -30914502.54 -30914502.45 0.3600 0.2754

Saturn -89353-10-20 13:11 J -30914467.08 -30914466.95 -30914466.81 0.0273 0.0080

Saturn -89352-01-17 01:54 J -30914378.56 -30914378.42 -30914378.27 0.0273 0.0011

Mars -89352-01-17 13:39 J -30914378.04 -30914377.93 -30914377.83 0.1645 0.0983

Jupiter -89352-04-11 19:39 J -30914293.81 -30914293.68 -30914293.55 0.0530 0.0122

Saturn -89352-04-15 14:51 J -30914290.01 -30914289.88 -30914289.75 0.0273 0.0103

Jupiter -89352-07-10 05:59 J -30914204.35 -30914204.25 -30914204.15 0.0527 0.0342

Saturn -89352-07-13 04:03 J -30914201.43 -30914201.33 -30914201.23 0.0273 0.0196

Venus -89351-04-02 00:27 J -30913938.60 -30913938.48 -30913938.37 0.3765 0.0571

Neptune -89351-08-14 06:42 J -30913804.25 -30913804.22 -30913804.15 0.0089 0.0086

Neptune -89351-11-10 10:03 J -30913716.14 -30913716.08 -30913715.99 0.0089 0.0080

Mars -89351-12-24 01:39 J -30913672.53 -30913672.43 -30913672.33 0.1627 0.1084

Neptune -89350-02-06 13:25 J -30913628.03 -30913627.94 -30913627.83 0.0089 0.0074

Neptune -89350-05-05 16:47 J -30913539.91 -30913539.80 -30913539.68 0.0089 0.0068

Neptune -89350-08-01 19:39 J -30913451.79 -30913451.68 -30913451.53 0.0089 0.0063

Neptune -89350-10-28 23:01 J -30913363.67 -30913363.54 -30913363.39 0.0089 0.0057

Neptune -89349-01-25 02:08 J -30913275.55 -30913275.41 -30913275.25 0.0089 0.0051

Neptune -89349-04-22 05:15 J -30913187.43 -30913187.28 -30913187.11 0.0089 0.0045

Neptune -89349-07-19 08:23 J -30913099.30 -30913099.15 -30913098.97 0.0089 0.0040

Neptune -89349-10-15 11:44 J -30913011.17 -30913011.01 -30913010.84 0.0089 0.0034

Neptune -89348-01-11 14:37 J -30912923.05 -30912922.89 -30912922.70 0.0089 0.0029

Neptune -89348-04-09 17:59 J -30912834.92 -30912834.75 -30912834.57 0.0089 0.0022

Neptune -89348-07-06 21:06 J -30912746.79 -30912746.62 -30912746.44 0.0089 0.0017

Neptune -89348-10-03 00:13 J -30912658.67 -30912658.49 -30912658.30 0.0089 0.0011

Neptune -89348-12-30 03:20 J -30912570.54 -30912570.36 -30912570.18 0.0089 0.0006

Moon -89347-02-07 04:32 J -30912531.43 -30912531.31 -30912531.20 0.2745 0.0606

Earth -89347-02-07 05:01 J -30912531.41 -30912531.29 -30912531.17 0.2750 0.0481 *

Neptune -89347-03-28 06:27 J -30912482.41 -30912482.23 -30912482.05 0.0088 0.0000

Venus -89347-03-31 23:59 J -30912478.62 -30912478.50 -30912478.38 0.3604 0.1650

Neptune -89347-06-24 09:35 J -30912394.28 -30912394.10 -30912393.92 0.0088 0.0006

Neptune -89347-09-20 12:27 J -30912306.15 -30912305.98 -30912305.79 0.0088 0.0012

Neptune -89347-12-17 15:35 J -30912218.03 -30912217.85 -30912217.67 0.0088 0.0017

Neptune -89346-03-15 18:27 J -30912129.90 -30912129.73 -30912129.55 0.0088 0.0023

Jupiter -89346-06-10 08:23 J -30912043.24 -30912043.15 -30912043.06 0.0496 0.0423

Neptune -89346-06-11 21:20 J -30912041.77 -30912041.61 -30912041.43 0.0088 0.0029

Neptune -89346-09-08 00:27 J -30911953.64 -30911953.48 -30911953.30 0.0088 0.0034

Jupiter -89346-09-08 10:18 J -30911953.23 -30911953.07 -30911952.90 0.0499 0.0082

Venus -89346-10-16 19:25 J -30911914.80 -30911914.69 -30911914.58 0.3762 0.1339

Neptune -89346-12-05 03:35 J -30911865.51 -30911865.35 -30911865.19 0.0088 0.0039

Neptune -89345-03-02 06:27 J -30911777.38 -30911777.23 -30911777.07 0.0088 0.0045

Neptune -89345-05-29 09:35 J -30911689.25 -30911689.10 -30911688.95 0.0088 0.0050

Neptune -89345-08-25 12:13 J -30911601.11 -30911600.99 -30911600.84 0.0088 0.0056

Neptune -89345-11-21 15:20 J -30911512.98 -30911512.86 -30911512.72 0.0088 0.0061

Neptune -89344-02-17 18:27 J -30911424.85 -30911424.73 -30911424.61 0.0088 0.0066

Neptune -89344-05-16 21:06 J -30911336.71 -30911336.62 -30911336.50 0.0088 0.0071

Neptune -89344-08-12 23:59 J -30911248.57 -30911248.50 -30911248.40 0.0088 0.0077

Earth -89344-08-16 16:47 J -30911244.90 -30911244.80 -30911244.70 0.2591 0.1707

Moon -89344-08-16 17:01 J -30911244.89 -30911244.79 -30911244.70 0.2597 0.1777 *

Mars -89344-08-18 16:18 J -30911242.93 -30911242.82 -30911242.72 0.1905 0.1243

Neptune -89344-11-09 03:06 J -30911160.43 -30911160.37 -30911160.30 0.0088 0.0082

Neptune -89343-02-05 05:30 J -30911072.27 -30911072.27 -30911072.22 0.0088 0.0088

Mars -89343-06-09 22:47 J -30910947.60 -30910947.55 -30910947.49 0.1649 0.1474

Venus -89342-10-16 00:27 J -30910454.61 -30910454.48 -30910454.35 0.3607 0.0592

Mars -89341-05-15 10:32 J -30910242.18 -30910242.06 -30910241.94 0.1632 0.0579

Jupiter -89340-01-28 23:15 J -30909983.65 -30909983.53 -30909983.41 0.0531 0.0230

Jupiter -89340-04-28 09:20 J -30909894.23 -30909894.11 -30909893.98 0.0527 0.0233

Venus -89340-05-01 14:37 J -30909890.98 -30909890.89 -30909890.79 0.3758 0.2150

Saturn -89338-02-27 14:37 J -30909223.97 -30909223.89 -30909223.80 0.0286 0.0242

Saturn -89338-05-27 10:32 J -30909135.21 -30909135.06 -30909134.90 0.0286 0.0116

Saturn -89338-08-24 05:59 J -30909046.41 -30909046.25 -30909046.08 0.0286 0.0010

Saturn -89338-11-21 00:56 J -30908957.60 -30908957.46 -30908957.31 0.0285 0.0129

Saturn -89337-02-17 19:39 J -30908868.76 -30908868.68 -30908868.60 0.0285 0.0246

Venus -89336-05-01 00:13 J -30908430.62 -30908430.49 -30908430.35 0.3611 0.0424

Venus -89335-11-15 10:18 J -30907867.14 -30907867.07 -30907867.01 0.3754 0.2977

Mars -89334-01-08 17:15 J -30907812.92 -30907812.78 -30907812.63 0.1899 0.0245

Moon -89334-02-10 00:56 J -30907780.57 -30907780.46 -30907780.35 0.2747 0.0985

Earth -89334-02-10 01:54 J -30907780.53 -30907780.42 -30907780.31 0.2748 0.1015 *

Jupiter -89334-06-27 09:49 J -30907643.26 -30907643.09 -30907642.92 0.0499 0.0042

Jupiter -89334-09-25 10:32 J -30907553.12 -30907553.06 -30907552.99 0.0502 0.0455

Mars -89332-10-05 19:25 J -30906811.82 -30906811.69 -30906811.56 0.1636 0.0088

Venus -89331-11-14 23:59 J -30906406.63 -30906406.50 -30906406.38 0.3615 0.1402

Jupiter -89329-11-17 02:51 J -30905673.48 -30905673.38 -30905673.28 0.0532 0.0338

Jupiter -89328-02-14 12:56 J -30905584.10 -30905583.96 -30905583.83 0.0528 0.0123

Venus -89328-08-09 08:23 J -30905408.18 -30905408.15 -30905408.11 0.3783 0.3553

Mars -89325-05-30 17:59 J -30904382.89 -30904382.75 -30904382.62 0.1892 0.0804

Venus -89325-05-30 22:47 J -30904382.65 -30904382.55 -30904382.45 0.3619 0.2316 *

Moon -89324-08-11 21:20 J -30903944.73 -30903944.61 -30903944.49 0.2589 0.1348

Earth -89324-08-11 22:32 J -30903944.69 -30903944.56 -30903944.44 0.2587 0.1155 *

Saturn -89324-12-11 01:25 J -30903823.53 -30903823.44 -30903823.35 0.0273 0.0204

Saturn -89323-03-09 13:39 J -30903735.05 -30903734.93 -30903734.79 0.0273 0.0117

Saturn -89323-06-06 02:23 J -30903646.54 -30903646.40 -30903646.26 0.0273 0.0026

Saturn -89323-09-02 15:06 J -30903558.01 -30903557.87 -30903557.72 0.0273 0.0066

Saturn -89323-11-30 04:18 J -30903469.44 -30903469.32 -30903469.20 0.0274 0.0158

Venus -89322-02-23 02:23 J -30903384.47 -30903384.40 -30903384.33 0.3781 0.2886

Mars -89322-02-26 04:32 J -30903381.43 -30903381.31 -30903381.18 0.1640 0.0418

Saturn -89322-02-26 17:30 J -30903380.82 -30903380.77 -30903380.71 0.0274 0.0253

Jupiter -89322-04-15 09:06 J -30903333.28 -30903333.12 -30903332.96 0.0498 0.0166

Jupiter -89322-07-14 10:18 J -30903243.19 -30903243.07 -30903242.94 0.0501 0.0335

Moon -89321-02-12 22:03 J -30903029.64 -30903029.58 -30903029.52 0.2750 0.2375

Earth -89321-02-12 23:01 J -30903029.59 -30903029.54 -30903029.50 0.2745 0.2541 *

Uranus -89321-08-03 12:42 J -30902857.00 -30902856.97 -30902856.92 0.0140 0.0133

Uranus -89321-10-30 16:47 J -30902768.87 -30902768.80 -30902768.72 0.0141 0.0115

Uranus -89320-01-26 20:37 J -30902680.73 -30902680.64 -30902680.53 0.0141 0.0098

Uranus -89320-04-25 00:56 J -30902592.58 -30902592.46 -30902592.34 0.0141 0.0079

Uranus -89320-07-22 05:01 J -30902504.42 -30902504.29 -30902504.16 0.0141 0.0061

Uranus -89320-10-18 09:06 J -30902416.26 -30902416.12 -30902415.98 0.0141 0.0042

Venus -89320-12-14 21:35 J -30902358.66 -30902358.60 -30902358.54 0.3623 0.3207

Uranus -89319-01-14 13:11 J -30902328.09 -30902327.95 -30902327.81 0.0141 0.0024

Uranus -89319-04-12 17:30 J -30902239.92 -30902239.77 -30902239.63 0.0141 0.0005

Uranus -89319-07-09 21:35 J -30902151.74 -30902151.60 -30902151.45 0.0141 0.0015

Uranus -89319-10-06 01:54 J -30902063.56 -30902063.42 -30902063.28 0.0142 0.0034

Uranus -89318-01-02 06:13 J -30901975.37 -30901975.24 -30901975.11 0.0142 0.0053

Uranus -89318-03-31 10:32 J -30901887.18 -30901887.06 -30901886.93 0.0142 0.0073

Uranus -89318-06-27 14:51 J -30901798.98 -30901798.88 -30901798.77 0.0142 0.0093

Uranus -89318-09-23 19:11 J -30901710.78 -30901710.70 -30901710.60 0.0142 0.0113

Uranus -89318-12-20 23:44 J -30901622.55 -30901622.51 -30901622.45 0.0142 0.0133

Jupiter -89317-09-05 06:13 J -30901363.30 -30901363.24 -30901363.17 0.0532 0.0449

Venus -89317-09-07 20:23 J -30901360.74 -30901360.65 -30901360.56 0.3778 0.2205

Jupiter -89317-12-03 16:03 J -30901273.97 -30901273.83 -30901273.70 0.0529 0.0009

Jupiter -89316-03-03 02:37 J -30901184.45 -30901184.39 -30901184.33 0.0525 0.0472

Mars -89316-10-20 18:27 J -30900952.76 -30900952.73 -30900952.69 0.1886 0.1827

Moon -89314-02-05 13:25 J -30900480.03 -30900479.94 -30900479.84 0.2745 0.1643

Earth -89314-02-05 13:39 J -30900480.03 -30900479.93 -30900479.84 0.2752 0.1646 *

Mars -89313-07-18 13:39 J -30899951.03 -30899950.93 -30899950.82 0.1644 0.0912

Venus -89311-03-24 14:37 J -30899336.99 -30899336.89 -30899336.79 0.3775 0.1501

Mars -89311-06-24 01:54 J -30899245.51 -30899245.42 -30899245.33 0.1628 0.1157

Moon -89311-08-14 22:18 J -30899193.71 -30899193.57 -30899193.44 0.2595 0.0517

Earth -89311-08-14 22:32 J -30899193.70 -30899193.56 -30899193.42 0.2589 0.0465 *

Jupiter -89310-02-01 08:37 J -30899023.28 -30899023.14 -30899023.00 0.0497 0.0287

Jupiter -89310-05-02 10:18 J -30898933.22 -30898933.07 -30898932.91 0.0501 0.0216

Saturn -89309-10-13 08:51 J -30898403.27 -30898403.13 -30898402.99 0.0286 0.0160

Saturn -89308-01-10 04:32 J -30898314.48 -30898314.31 -30898314.15 0.0286 0.0035

Saturn -89308-04-08 23:44 J -30898225.67 -30898225.51 -30898225.35 0.0286 0.0087

Saturn -89308-07-06 18:27 J -30898136.84 -30898136.73 -30898136.61 0.0286 0.0206

Venus -89306-10-08 09:06 J -30897313.23 -30897313.12 -30897313.01 0.3772 0.0775

Jupiter -89305-09-21 18:13 J -30896963.87 -30896963.74 -30896963.61 0.0530 0.0119

Jupiter -89305-12-20 04:32 J -30896874.41 -30896874.31 -30896874.20 0.0526 0.0344

Mars -89304-02-16 16:47 J -30896815.90 -30896815.80 -30896815.70 0.1905 0.1351

Mars -89304-12-08 23:01 J -30896520.61 -30896520.54 -30896520.48 0.1649 0.1407

Mars -89302-11-14 10:47 J -30895815.17 -30895815.05 -30895814.93 0.1631 0.0655

Moon -89301-02-08 09:35 J -30895729.22 -30895729.10 -30895728.98 0.2744 0.0220

Earth -89301-02-08 10:18 J -30895729.19 -30895729.07 -30895728.95 0.2750 0.0179 *

Venus -89300-04-23 03:49 J -30895289.45 -30895289.34 -30895289.23 0.3768 0.0042

Jupiter -89299-11-20 07:39 J -30894713.27 -30894713.18 -30894713.08 0.0497 0.0411

Jupiter -89298-02-18 09:49 J -30894623.26 -30894623.09 -30894622.92 0.0500 0.0093

Earth -89298-08-17 22:32 J -30894442.65 -30894442.56 -30894442.48 0.2591 0.2041

Moon -89298-08-17 22:47 J -30894442.63 -30894442.55 -30894442.46 0.2597 0.2023 *

Venus -89296-04-21 23:01 J -30893829.63 -30893829.54 -30893829.44 0.3601 0.2479

Mars -89295-07-09 17:44 J -30893385.91 -30893385.76 -30893385.62 0.1899 0.0339

Venus -89295-11-06 22:47 J -30893265.67 -30893265.55 -30893265.44 0.3764 0.0758

Saturn -89294-04-30 04:32 J -30893091.38 -30893091.31 -30893091.22 0.0273 0.0220

Saturn -89294-07-27 17:01 J -30893002.91 -30893002.79 -30893002.66 0.0273 0.0132

Saturn -89294-10-24 05:44 J -30892914.41 -30892914.26 -30892914.12 0.0273 0.0044

Saturn -89293-01-20 18:27 J -30892825.87 -30892825.73 -30892825.59 0.0273 0.0049

Saturn -89293-04-18 07:25 J -30892737.31 -30892737.19 -30892737.07 0.0273 0.0141

Jupiter -89293-07-10 21:20 J -30892653.73 -30892653.61 -30892653.49 0.0531 0.0234

Saturn -89293-07-15 20:37 J -30892648.71 -30892648.64 -30892648.57 0.0273 0.0236

Jupiter -89293-10-08 07:25 J -30892564.31 -30892564.19 -30892564.06 0.0527 0.0229

Mars -89292-04-05 19:39 J -30892384.81 -30892384.68 -30892384.55 0.1636 0.0151

Earth -89291-08-10 03:49 J -30891893.38 -30891893.34 -30891893.30 0.2585 0.2469

Venus -89291-11-05 23:59 J -30891805.63 -30891805.50 -30891805.38 0.3605 0.1383

Venus -89289-05-22 17:44 J -30891241.86 -30891241.76 -30891241.65 0.3761 0.1545

Moon -89288-02-10 06:13 J -30890978.35 -30890978.24 -30890978.13 0.2749 0.1160

Earth -89288-02-10 07:11 J -30890978.31 -30890978.20 -30890978.10 0.2747 0.1326 *

Jupiter -89287-12-07 08:23 J -30890313.32 -30890313.15 -30890312.98 0.0499 0.0037

Jupiter -89286-03-07 09:06 J -30890223.18 -30890223.12 -30890223.05 0.0502 0.0458

Mars -89286-11-29 18:27 J -30889955.86 -30889955.73 -30889955.59 0.1893 0.0684

Venus -89285-05-21 23:59 J -30889781.63 -30889781.50 -30889781.36 0.3608 0.0353

Venus -89284-12-06 13:11 J -30889218.04 -30889217.95 -30889217.86 0.3757 0.2352

Mars -89283-08-27 04:47 J -30888954.43 -30888954.30 -30888954.18 0.1640 0.0352

Uranus -89282-12-29 20:51 J -30888464.68 -30888464.63 -30888464.56 0.0138 0.0130

Moon -89281-02-03 22:47 J -30888428.57 -30888428.55 -30888428.52 0.2748 0.2663

Uranus -89281-03-27 03:20 J -30888376.46 -30888376.36 -30888376.24 0.0138 0.0107

Jupiter -89281-04-29 00:56 J -30888343.56 -30888343.46 -30888343.35 0.0532 0.0343

Uranus -89281-06-23 09:35 J -30888288.23 -30888288.10 -30888287.96 0.0138 0.0085

Jupiter -89281-07-27 11:01 J -30888254.17 -30888254.04 -30888253.91 0.0528 0.0118

Uranus -89281-09-19 15:49 J -30888199.99 -30888199.84 -30888199.68 0.0138 0.0063

Uranus -89281-12-16 22:03 J -30888111.75 -30888111.58 -30888111.41 0.0137 0.0042

Uranus -89280-03-15 04:03 J -30888023.50 -30888023.33 -30888023.16 0.0137 0.0021

Uranus -89280-06-11 10:03 J -30887935.25 -30887935.08 -30887934.90 0.0137 0.0002

Uranus -89280-09-07 16:03 J -30887847.00 -30887846.83 -30887846.66 0.0137 0.0021

Uranus -89280-12-04 21:49 J -30887758.75 -30887758.59 -30887758.42 0.0137 0.0042

Venus -89280-12-05 23:59 J -30887757.63 -30887757.50 -30887757.37 0.3612 0.0669

Saturn -89279-03-02 08:51 J -30887671.25 -30887671.13 -30887671.00 0.0286 0.0195

Uranus -89279-03-03 03:35 J -30887670.49 -30887670.35 -30887670.19 0.0137 0.0063

Saturn -89279-05-30 04:32 J -30887582.47 -30887582.31 -30887582.14 0.0286 0.0070

Uranus -89279-05-30 09:20 J -30887582.24 -30887582.11 -30887581.96 0.0137 0.0083 *

Uranus -89279-08-26 15:06 J -30887493.97 -30887493.87 -30887493.75 0.0137 0.0103

Saturn -89279-08-26 23:59 J -30887493.66 -30887493.50 -30887493.33 0.0286 0.0054

Uranus -89279-11-22 20:37 J -30887405.70 -30887405.64 -30887405.55 0.0136 0.0123

Saturn -89279-11-23 18:56 J -30887404.84 -30887404.71 -30887404.58 0.0286 0.0173

Venus -89278-06-22 08:37 J -30887194.19 -30887194.14 -30887194.08 0.3753 0.3191

Moon -89278-08-13 03:06 J -30887142.50 -30887142.37 -30887142.23 0.2591 0.0860

Earth -89278-08-13 04:18 J -30887142.46 -30887142.32 -30887142.19 0.2587 0.0816 *

Mars -89276-04-20 18:56 J -30886525.77 -30886525.71 -30886525.66 0.1886 0.1729

Jupiter -89275-09-25 07:39 J -30886003.35 -30886003.18 -30886003.02 0.0498 0.0162

Jupiter -89275-12-24 08:51 J -30885913.25 -30885913.13 -30885913.01 0.0501 0.0337

Venus -89274-06-21 23:15 J -30885733.65 -30885733.53 -30885733.41 0.3616 0.1626

Mars -89273-01-17 13:54 J -30885524.03 -30885523.92 -30885523.81 0.1644 0.0847

Mars -89272-12-23 01:54 J -30884818.50 -30884818.42 -30884818.33 0.1627 0.1228

Venus -89271-03-16 06:27 J -30884735.27 -30884735.23 -30884735.18 0.3783 0.3390

Neptune -89269-02-15 02:08 J -30884034.43 -30884034.41 -30884034.36 0.0089 0.0086

Jupiter -89269-02-16 04:47 J -30884033.37 -30884033.30 -30884033.23 0.0533 0.0450

Neptune -89269-05-13 03:35 J -30883946.39 -30883946.35 -30883946.28 0.0089 0.0082

Jupiter -89269-05-15 14:37 J -30883944.03 -30883943.89 -30883943.76 0.0529 0.0018

Neptune -89269-08-09 05:15 J -30883858.34 -30883858.28 -30883858.21 0.0089 0.0077

Jupiter -89269-08-13 01:11 J -30883854.51 -30883854.45 -30883854.39 0.0525 0.0472

Neptune -89269-11-05 06:42 J -30883770.29 -30883770.22 -30883770.14 0.0089 0.0073

Venus -89268-01-04 22:18 J -30883709.66 -30883709.57 -30883709.48 0.3620 0.2543

Neptune -89268-02-01 08:08 J -30883682.24 -30883682.16 -30883682.07 0.0089 0.0069

Moon -89268-02-05 18:27 J -30883677.83 -30883677.73 -30883677.63 0.2745 0.1414

Earth -89268-02-05 18:42 J -30883677.82 -30883677.72 -30883677.61 0.2752 0.1351 *

Neptune -89268-04-30 09:35 J -30883594.18 -30883594.10 -30883594.00 0.0089 0.0065

Neptune -89268-07-27 11:01 J -30883506.13 -30883506.04 -30883505.93 0.0089 0.0061

Neptune -89268-10-23 12:27 J -30883418.07 -30883417.98 -30883417.86 0.0089 0.0057

Neptune -89267-01-19 14:08 J -30883330.02 -30883329.91 -30883329.79 0.0089 0.0052

Neptune -89267-04-17 15:35 J -30883241.96 -30883241.85 -30883241.73 0.0089 0.0048

Neptune -89267-07-14 17:01 J -30883153.90 -30883153.79 -30883153.66 0.0089 0.0044

Neptune -89267-10-10 18:27 J -30883065.84 -30883065.73 -30883065.59 0.0089 0.0040

Neptune -89266-01-06 20:08 J -30882977.78 -30882977.66 -30882977.53 0.0089 0.0035

Neptune -89266-04-04 21:49 J -30882889.72 -30882889.59 -30882889.46 0.0089 0.0031

Neptune -89266-07-01 23:15 J -30882801.66 -30882801.53 -30882801.39 0.0089 0.0027

Neptune -89266-09-28 00:42 J -30882713.60 -30882713.47 -30882713.33 0.0089 0.0023

Venus -89266-09-30 00:27 J -30882711.55 -30882711.48 -30882711.41 0.3780 0.2721

Neptune -89266-12-25 02:23 J -30882625.54 -30882625.40 -30882625.26 0.0089 0.0018

Neptune -89265-03-22 03:49 J -30882537.47 -30882537.34 -30882537.20 0.0089 0.0014

Neptune -89265-06-18 05:30 J -30882449.41 -30882449.27 -30882449.13 0.0089 0.0009

Moon -89265-08-15 04:03 J -30882391.47 -30882391.33 -30882391.20 0.2596 0.0694

Earth -89265-08-15 04:18 J -30882391.45 -30882391.32 -30882391.19 0.2589 0.0803 *

Mars -89265-08-17 17:01 J -30882388.89 -30882388.79 -30882388.70 0.1905 0.1442

Neptune -89265-09-14 06:56 J -30882361.35 -30882361.21 -30882361.07 0.0089 0.0006

Saturn -89265-09-16 05:44 J -30882359.31 -30882359.26 -30882359.21 0.0273 0.0253

Neptune -89265-12-11 08:37 J -30882273.28 -30882273.14 -30882273.00 0.0089 0.0001

Saturn -89265-12-13 17:59 J -30882270.86 -30882270.75 -30882270.64 0.0273 0.0166

Neptune -89264-03-09 10:03 J -30882185.22 -30882185.08 -30882184.94 0.0089 0.0004

Saturn -89264-03-12 06:27 J -30882182.37 -30882182.23 -30882182.10 0.0273 0.0078

Neptune -89264-06-05 11:44 J -30882097.15 -30882097.01 -30882096.87 0.0089 0.0008

Saturn -89264-06-08 18:56 J -30882093.85 -30882093.71 -30882093.56 0.0273 0.0015

Mars -89264-06-08 23:01 J -30882093.61 -30882093.54 -30882093.47 0.1649 0.1338 *

Neptune -89264-09-01 13:11 J -30882009.08 -30882008.95 -30882008.81 0.0089 0.0013

Saturn -89264-09-05 07:54 J -30882005.30 -30882005.17 -30882005.03 0.0273 0.0105

Neptune -89264-11-28 14:51 J -30881921.02 -30881920.88 -30881920.74 0.0089 0.0017

Saturn -89264-12-02 20:51 J -30881916.72 -30881916.63 -30881916.52 0.0273 0.0200

Neptune -89263-02-24 16:18 J -30881832.95 -30881832.82 -30881832.68 0.0089 0.0022

Neptune -89263-05-23 17:59 J -30881744.88 -30881744.75 -30881744.61 0.0089 0.0026

Jupiter -89263-07-14 06:42 J -30881693.36 -30881693.22 -30881693.08 0.0497 0.0287

Venus -89263-07-21 20:51 J -30881685.67 -30881685.63 -30881685.59 0.3624 0.3421

Neptune -89263-08-19 19:39 J -30881656.81 -30881656.68 -30881656.55 0.0089 0.0030

Jupiter -89263-10-12 08:23 J -30881603.30 -30881603.15 -30881602.99 0.0501 0.0216

Neptune -89263-11-15 21:06 J -30881568.75 -30881568.62 -30881568.49 0.0089 0.0035

Neptune -89262-02-11 22:47 J -30881480.68 -30881480.55 -30881480.42 0.0089 0.0039

Neptune -89262-05-11 00:13 J -30881392.60 -30881392.49 -30881392.36 0.0089 0.0044

Mars -89262-05-15 10:47 J -30881388.17 -30881388.05 -30881387.93 0.1631 0.0723

Neptune -89262-08-07 01:54 J -30881304.53 -30881304.42 -30881304.30 0.0089 0.0048

Neptune -89262-11-03 03:20 J -30881216.46 -30881216.36 -30881216.23 0.0089 0.0053

Neptune -89261-01-30 05:01 J -30881128.39 -30881128.29 -30881128.17 0.0089 0.0057

Neptune -89261-04-27 06:56 J -30881040.31 -30881040.21 -30881040.11 0.0089 0.0061

Neptune -89261-07-24 08:23 J -30880952.24 -30880952.15 -30880952.05 0.0089 0.0066

Neptune -89261-10-20 10:18 J -30880864.16 -30880864.07 -30880863.99 0.0089 0.0070

Neptune -89260-01-16 11:44 J -30880776.08 -30880776.01 -30880775.93 0.0089 0.0075

Neptune -89260-04-14 13:11 J -30880688.00 -30880687.95 -30880687.87 0.0089 0.0080

Venus -89260-04-14 18:42 J -30880687.82 -30880687.72 -30880687.63 0.3777 0.2036

Neptune -89260-07-11 15:06 J -30880599.91 -30880599.87 -30880599.82 0.0089 0.0084

Neptune -89260-10-07 16:47 J -30880511.80 -30880511.80 -30880511.79 0.0089 0.0089

Jupiter -89257-03-03 17:44 J -30879633.89 -30879633.76 -30879633.63 0.0530 0.0105

Jupiter -89257-06-01 04:03 J -30879544.43 -30879544.33 -30879544.23 0.0526 0.0357

Mars -89255-01-07 17:59 J -30878958.89 -30878958.75 -30878958.61 0.1899 0.0438

Moon -89255-02-08 14:37 J -30878927.01 -30878926.89 -30878926.77 0.2745 0.0100

Earth -89255-02-08 15:20 J -30878926.98 -30878926.86 -30878926.74 0.2750 0.0157 *

Venus -89255-10-29 12:56 J -30878664.07 -30878663.96 -30878663.86 0.3774 0.1325

Mars -89253-10-04 19:54 J -30877957.80 -30877957.67 -30877957.54 0.1635 0.0227

Earth -89252-08-18 04:03 J -30877640.38 -30877640.33 -30877640.28 0.2592 0.2365

Moon -89252-08-18 04:47 J -30877640.33 -30877640.30 -30877640.27 0.2597 0.2514 *

Jupiter -89251-05-02 06:13 J -30877383.34 -30877383.24 -30877383.14 0.0497 0.0408

Jupiter -89251-07-31 08:23 J -30877293.32 -30877293.15 -30877292.98 0.0500 0.0097

Saturn -89250-07-20 06:56 J -30876939.30 -30876939.21 -30876939.12 0.0286 0.0240

Saturn -89250-10-17 02:51 J -30876850.53 -30876850.38 -30876850.22 0.0286 0.0114

Pluto -89250-12-16 18:42 J -30876789.77 -30876789.72 -30876789.63 0.0060 0.0056

Saturn -89249-01-13 22:32 J -30876761.73 -30876761.56 -30876761.40 0.0286 0.0012

Pluto -89249-03-13 20:23 J -30876701.75 -30876701.65 -30876701.53 0.0060 0.0050

Saturn -89249-04-11 17:30 J -30876672.91 -30876672.77 -30876672.62 0.0286 0.0132

Venus -89249-05-14 07:25 J -30876640.30 -30876640.19 -30876640.08 0.3771 0.0585

Pluto -89249-06-09 21:35 J -30876613.71 -30876613.60 -30876613.44 0.0060 0.0044

Saturn -89249-07-09 11:59 J -30876584.07 -30876584.00 -30876583.91 0.0286 0.0251

Pluto -89249-09-05 23:30 J -30876525.67 -30876525.52 -30876525.36 0.0060 0.0037

Pluto -89249-12-03 00:42 J -30876437.62 -30876437.47 -30876437.29 0.0060 0.0030

Pluto -89248-03-01 02:23 J -30876349.57 -30876349.40 -30876349.21 0.0060 0.0024

Pluto -89248-05-28 03:35 J -30876261.52 -30876261.35 -30876261.15 0.0060 0.0018

Pluto -89248-08-24 05:15 J -30876173.47 -30876173.28 -30876173.08 0.0061 0.0011

Pluto -89248-11-20 06:42 J -30876085.41 -30876085.22 -30876085.02 0.0061 0.0005

Pluto -89247-02-16 08:23 J -30875997.35 -30875997.15 -30875996.95 0.0061 0.0003

Pluto -89247-05-15 09:35 J -30875909.28 -30875909.10 -30875908.89 0.0061 0.0010

Pluto -89247-08-11 11:15 J -30875821.22 -30875821.03 -30875820.84 0.0061 0.0016

Pluto -89247-11-07 12:27 J -30875733.15 -30875732.98 -30875732.78 0.0061 0.0023

Pluto -89246-02-03 14:23 J -30875645.07 -30875644.90 -30875644.73 0.0061 0.0029

Pluto -89246-05-02 15:35 J -30875557.00 -30875556.85 -30875556.68 0.0061 0.0036

Mars -89246-05-30 18:56 J -30875528.85 -30875528.71 -30875528.57 0.1893 0.0580

Pluto -89246-07-29 17:01 J -30875468.91 -30875468.79 -30875468.64 0.0061 0.0043

Pluto -89246-10-25 18:13 J -30875380.82 -30875380.74 -30875380.60 0.0061 0.0050

Jupiter -89246-12-21 20:08 J -30875323.78 -30875323.66 -30875323.54 0.0531 0.0232

Pluto -89245-01-21 20:23 J -30875292.72 -30875292.65 -30875292.58 0.0061 0.0057

Jupiter -89245-03-20 06:13 J -30875234.36 -30875234.24 -30875234.12 0.0527 0.0229

Venus -89245-05-12 22:03 J -30875180.63 -30875180.58 -30875180.53 0.3599 0.3328

Moon -89245-08-10 08:23 J -30875091.22 -30875091.15 -30875091.09 0.2585 0.2246

Earth -89245-08-10 09:35 J -30875091.18 -30875091.10 -30875091.02 0.2586 0.2111 *

Venus -89244-11-28 02:08 J -30874616.52 -30874616.41 -30874616.30 0.3767 0.0168

Mars -89243-02-25 04:47 J -30874527.43 -30874527.30 -30874527.17 0.1640 0.0278

Moon -89242-02-11 11:30 J -30874176.12 -30874176.02 -30874175.93 0.2749 0.1572

Earth -89242-02-11 12:13 J -30874176.08 -30874175.99 -30874175.89 0.2747 0.1633 *

Venus -89240-11-26 23:01 J -30873156.64 -30873156.54 -30873156.43 0.3602 0.2200

Jupiter -89239-05-19 07:39 J -30872983.35 -30872983.18 -30872983.01 0.0499 0.0027

Jupiter -89239-08-17 08:23 J -30872893.20 -30872893.15 -30872893.09 0.0502 0.0469

Venus -89238-06-13 21:06 J -30872592.73 -30872592.62 -30872592.51 0.3763 0.0944

Uranus -89237-08-23 19:25 J -30872155.73 -30872155.69 -30872155.63 0.0140 0.0131

Mars -89237-10-19 19:25 J -30872098.76 -30872098.69 -30872098.62 0.1886 0.1623

Uranus -89237-11-19 23:30 J -30872067.60 -30872067.52 -30872067.43 0.0141 0.0113

Uranus -89236-02-16 03:20 J -30871979.45 -30871979.36 -30871979.25 0.0141 0.0096

Uranus -89236-05-15 07:39 J -30871891.30 -30871891.18 -30871891.06 0.0141 0.0077

Uranus -89236-08-11 11:44 J -30871803.14 -30871803.01 -30871802.88 0.0141 0.0059

Uranus -89236-11-07 15:49 J -30871714.98 -30871714.84 -30871714.70 0.0141 0.0040

Saturn -89235-02-03 09:06 J -30871627.14 -30871627.12 -30871627.10 0.0273 0.0269

Uranus -89235-02-03 19:54 J -30871626.81 -30871626.67 -30871626.53 0.0141 0.0022

Earth -89235-02-04 03:35 J -30871626.40 -30871626.35 -30871626.31 0.2753 0.2492

Moon -89235-02-04 03:49 J -30871626.39 -30871626.34 -30871626.29 0.2747 0.2504 *

Saturn -89235-05-02 21:06 J -30871538.72 -30871538.62 -30871538.51 0.0273 0.0183

Uranus -89235-05-03 00:13 J -30871538.64 -30871538.49 -30871538.35 0.0141 0.0003 *

Uranus -89235-07-30 04:18 J -30871450.46 -30871450.32 -30871450.17 0.0141 0.0017

Saturn -89235-07-30 09:35 J -30871450.23 -30871450.10 -30871449.96 0.0273 0.0094 *

Uranus -89235-10-26 08:37 J -30871362.28 -30871362.14 -30871362.00 0.0142 0.0036

Saturn -89235-10-26 22:18 J -30871361.71 -30871361.57 -30871361.43 0.0273 0.0003

Uranus -89234-01-22 12:56 J -30871274.09 -30871273.96 -30871273.83 0.0142 0.0055

Saturn -89234-01-23 11:01 J -30871273.17 -30871273.04 -30871272.90 0.0273 0.0089

Uranus -89234-04-20 17:15 J -30871185.90 -30871185.78 -30871185.65 0.0142 0.0075

Saturn -89234-04-22 00:13 J -30871184.60 -30871184.49 -30871184.38 0.0273 0.0183

Venus -89234-06-12 23:44 J -30871132.64 -30871132.51 -30871132.38 0.3606 0.1122

Uranus -89234-07-17 21:35 J -30871097.70 -30871097.60 -30871097.49 0.0142 0.0095

Mars -89234-07-18 13:54 J -30871097.03 -30871096.92 -30871096.81 0.1644 0.0777

Jupiter -89234-10-09 23:15 J -30871013.63 -30871013.53 -30871013.43 0.0532 0.0347

Uranus -89234-10-14 01:54 J -30871009.49 -30871009.42 -30871009.32 0.0142 0.0116

Jupiter -89233-01-07 09:06 J -30870924.25 -30870924.12 -30870923.99 0.0528 0.0112

Uranus -89233-01-10 06:27 J -30870921.26 -30870921.23 -30870921.18 0.0142 0.0135

Venus -89233-12-27 16:18 J -30870568.92 -30870568.82 -30870568.72 0.3759 0.1742

Mars -89232-06-23 02:08 J -30870391.49 -30870391.41 -30870391.33 0.1627 0.1301

Moon -89232-08-13 09:06 J -30870340.25 -30870340.12 -30870339.98 0.2593 0.0578

Earth -89232-08-13 09:49 J -30870340.22 -30870340.09 -30870339.95 0.2588 0.0472 *

Venus -89229-12-26 23:44 J -30869108.64 -30869108.51 -30869108.37 0.3609 0.0129

Jupiter -89227-03-07 05:59 J -30868673.41 -30868673.25 -30868673.08 0.0498 0.0159

Jupiter -89227-06-05 07:11 J -30868583.32 -30868583.20 -30868583.07 0.0501 0.0340

Venus -89227-07-13 11:44 J -30868545.10 -30868545.01 -30868544.93 0.3756 0.2564

Mars -89225-02-16 17:15 J -30867961.86 -30867961.78 -30867961.70 0.1905 0.1549

Mars -89225-12-07 23:01 J -30867666.61 -30867666.54 -30867666.45 0.1649 0.1272

Venus -89223-07-12 23:30 J -30867084.64 -30867084.52 -30867084.39 0.3613 0.0913

Mars -89223-11-13 11:01 J -30866961.16 -30866961.04 -30866960.93 0.1631 0.0797

Moon -89222-02-06 23:30 J -30866875.63 -30866875.52 -30866875.40 0.2744 0.1041

Earth -89222-02-06 23:59 J -30866875.61 -30866875.50 -30866875.39 0.2751 0.1048 *

Jupiter -89222-07-29 02:37 J -30866703.45 -30866703.39 -30866703.32 0.0533 0.0457

Jupiter -89222-10-26 12:27 J -30866614.11 -30866613.98 -30866613.84 0.0529 0.0011

Jupiter -89221-01-23 23:01 J -30866524.60 -30866524.54 -30866524.47 0.0526 0.0467

Venus -89221-01-27 07:25 J -30866521.24 -30866521.19 -30866521.15 0.3751 0.3403

Saturn -89221-12-06 07:25 J -30866207.23 -30866207.19 -30866207.13 0.0286 0.0272

Saturn -89220-03-05 03:35 J -30866118.49 -30866118.35 -30866118.20 0.0286 0.0145

Saturn -89220-06-01 23:15 J -30866029.70 -30866029.53 -30866029.36 0.0286 0.0020

Saturn -89220-08-29 18:27 J -30865940.89 -30865940.73 -30865940.58 0.0286 0.0102

Saturn -89220-11-26 13:11 J -30865852.05 -30865851.95 -30865851.85 0.0286 0.0221

Moon -89219-08-16 09:49 J -30865589.21 -30865589.09 -30865588.97 0.2596 0.1189

Earth -89219-08-16 09:49 J -30865589.21 -30865589.09 -30865588.96 0.2590 0.1135 *

Venus -89217-01-26 22:47 J -30865060.66 -30865060.55 -30865060.44 0.3617 0.1859

Mars -89216-07-08 18:27 J -30864531.87 -30864531.73 -30864531.59 0.1899 0.0542

Jupiter -89216-12-24 05:01 J -30864363.43 -30864363.29 -30864363.15 0.0497 0.0285

Jupiter -89215-03-24 06:42 J -30864273.37 -30864273.22 -30864273.07 0.0500 0.0217

Venus -89215-10-21 04:32 J -30864062.36 -30864062.31 -30864062.26 0.3782 0.3230

Mars -89213-04-04 19:54 J -30863530.80 -30863530.67 -30863530.54 0.1635 0.0292

Venus -89212-08-11 21:49 J -30863036.68 -30863036.59 -30863036.51 0.3621 0.2770

Jupiter -89210-08-14 16:03 J -30862303.96 -30862303.83 -30862303.70 0.0530 0.0108

Jupiter -89210-11-12 02:23 J -30862214.50 -30862214.40 -30862214.30 0.0526 0.0355

Moon -89209-02-09 19:54 J -30862124.79 -30862124.67 -30862124.55 0.2747 0.0315

Earth -89209-02-09 20:37 J -30862124.76 -30862124.64 -30862124.52 0.2749 0.0428 *

Venus -89209-05-05 22:32 J -30862038.64 -30862038.56 -30862038.48 0.3779 0.2552

Mars -89207-11-28 19:11 J -30861101.84 -30861101.70 -30861101.56 0.1893 0.0487

Saturn -89206-09-19 22:32 J -30860806.65 -30860806.56 -30860806.47 0.0273 0.0213

Saturn -89206-12-17 10:47 J -30860718.17 -30860718.05 -30860717.92 0.0273 0.0125

Saturn -89205-03-14 23:15 J -30860629.67 -30860629.53 -30860629.38 0.0273 0.0036

Saturn -89205-06-11 11:59 J -30860541.14 -30860541.00 -30860540.85 0.0273 0.0056

Saturn -89205-09-08 01:11 J -30860452.58 -30860452.45 -30860452.33 0.0273 0.0149

Saturn -89205-12-05 14:08 J -30860363.97 -30860363.91 -30860363.84 0.0273 0.0243

Mars -89204-08-26 05:01 J -30860100.42 -30860100.29 -30860100.17 0.1640 0.0213

Jupiter -89204-10-12 03:49 J -30860053.43 -30860053.34 -30860053.24 0.0497 0.0412

Venus -89204-11-19 16:47 J -30860014.90 -30860014.80 -30860014.71 0.3776 0.1858

Jupiter -89203-01-10 06:13 J -30859963.41 -30859963.24 -30859963.08 0.0500 0.0094

Moon -89199-08-11 14:08 J -30858289.01 -30858288.91 -30858288.81 0.2587 0.1857

Earth -89199-08-11 15:20 J -30858288.96 -30858288.86 -30858288.76 0.2586 0.1763 *

Jupiter -89198-06-02 19:25 J -30857993.81 -30857993.69 -30857993.57 0.0531 0.0220

Venus -89198-06-05 11:01 J -30857991.14 -30857991.04 -30857990.93 0.3773 0.1150

Jupiter -89198-08-31 05:30 J -30857904.39 -30857904.27 -30857904.15 0.0527 0.0241

Uranus -89197-01-19 03:35 J -30857763.41 -30857763.35 -30857763.27 0.0138 0.0126

Uranus -89197-04-16 09:49 J -30857675.19 -30857675.09 -30857674.96 0.0138 0.0104

Mars -89197-04-19 19:39 J -30857671.76 -30857671.68 -30857671.59 0.1887 0.1521

Uranus -89197-07-13 16:18 J -30857586.96 -30857586.82 -30857586.68 0.0138 0.0082

Uranus -89197-10-09 22:18 J -30857498.72 -30857498.57 -30857498.40 0.0138 0.0061

Uranus -89196-01-06 04:32 J -30857410.47 -30857410.31 -30857410.14 0.0137 0.0039

Moon -89196-02-11 16:32 J -30857373.90 -30857373.81 -30857373.72 0.2749 0.1798

Earth -89196-02-11 17:30 J -30857373.85 -30857373.77 -30857373.68 0.2747 0.1940 *

Uranus -89196-04-04 10:47 J -30857322.22 -30857322.05 -30857321.88 0.0137 0.0018

Uranus -89196-07-01 16:47 J -30857233.97 -30857233.80 -30857233.63 0.0137 0.0004

Uranus -89196-09-27 22:32 J -30857145.72 -30857145.56 -30857145.38 0.0137 0.0025

Uranus -89196-12-25 04:32 J -30857057.47 -30857057.31 -30857057.15 0.0137 0.0045

Uranus -89195-03-23 10:18 J -30856969.21 -30856969.07 -30856968.91 0.0137 0.0066

Uranus -89195-06-19 16:03 J -30856880.96 -30856880.83 -30856880.69 0.0137 0.0086

Uranus -89195-09-15 21:49 J -30856792.69 -30856792.59 -30856792.48 0.0137 0.0106

Uranus -89195-12-13 03:20 J -30856704.41 -30856704.36 -30856704.28 0.0136 0.0126

Mars -89194-01-16 14:08 J -30856670.03 -30856669.91 -30856669.80 0.1644 0.0705

Venus -89193-12-19 05:44 J -30855967.37 -30855967.26 -30855967.15 0.3769 0.0403

Mars -89193-12-22 02:23 J -30855964.47 -30855964.40 -30855964.33 0.1627 0.1377

Jupiter -89192-10-29 05:59 J -30855653.43 -30855653.25 -30855653.08 0.0499 0.0028

Jupiter -89191-01-27 06:42 J -30855563.27 -30855563.22 -30855563.16 0.0502 0.0471

Saturn -89191-07-23 01:39 J -30855386.55 -30855386.43 -30855386.30 0.0286 0.0190

Saturn -89191-10-19 21:35 J -30855297.76 -30855297.60 -30855297.44 0.0286 0.0064

Saturn -89190-01-16 17:01 J -30855208.96 -30855208.79 -30855208.63 0.0286 0.0060

Saturn -89190-04-15 11:59 J -30855120.13 -30855120.00 -30855119.88 0.0286 0.0180

Moon -89189-02-05 08:37 J -30854824.21 -30854824.14 -30854824.06 0.2746 0.2113

Earth -89189-02-05 08:37 J -30854824.21 -30854824.14 -30854824.07 0.2753 0.2201 *

Venus -89189-12-17 22:03 J -30854507.65 -30854507.58 -30854507.51 0.3600 0.3040

Venus -89187-07-05 00:27 J -30853943.59 -30853943.48 -30853943.37 0.3766 0.0360

Neptune -89186-02-12 03:20 J -30853721.37 -30853721.36 -30853721.33 0.0089 0.0088

Jupiter -89186-03-21 21:49 J -30853683.69 -30853683.59 -30853683.49 0.0531 0.0345

Neptune -89186-05-11 06:42 J -30853633.29 -30853633.22 -30853633.15 0.0089 0.0082

Jupiter -89186-06-19 07:39 J -30853594.31 -30853594.18 -30853594.05 0.0528 0.0114

Neptune -89186-08-07 09:35 J -30853545.18 -30853545.10 -30853544.99 0.0089 0.0077

Moon -89186-08-14 14:51 J -30853538.02 -30853537.88 -30853537.74 0.2593 0.0191

Earth -89186-08-14 15:35 J -30853537.99 -30853537.85 -30853537.71 0.2588 0.0146 *

Mars -89186-08-17 17:44 J -30853534.82 -30853534.76 -30853534.69 0.1906 0.1657

Neptune -89186-11-03 12:56 J -30853457.06 -30853456.96 -30853456.84 0.0089 0.0071

Neptune -89185-01-30 16:03 J -30853368.94 -30853368.83 -30853368.69 0.0089 0.0065

Neptune -89185-04-27 19:25 J -30853280.82 -30853280.69 -30853280.55 0.0089 0.0059

Mars -89185-06-07 23:15 J -30853239.62 -30853239.53 -30853239.44 0.1649 0.1202

Neptune -89185-07-24 22:18 J -30853192.70 -30853192.57 -30853192.40 0.0089 0.0054

Neptune -89185-10-21 01:39 J -30853104.57 -30853104.43 -30853104.26 0.0089 0.0048

Neptune -89184-01-17 05:01 J -30853016.45 -30853016.29 -30853016.12 0.0089 0.0042

Neptune -89184-04-15 07:54 J -30852928.32 -30852928.17 -30852927.99 0.0089 0.0037

Neptune -89184-07-12 11:15 J -30852840.20 -30852840.03 -30852839.85 0.0089 0.0031

Neptune -89184-10-08 14:23 J -30852752.07 -30852751.90 -30852751.72 0.0089 0.0025

Neptune -89183-01-04 17:44 J -30852663.94 -30852663.76 -30852663.58 0.0089 0.0019

Neptune -89183-04-02 20:37 J -30852575.81 -30852575.64 -30852575.45 0.0089 0.0014

Mars -89183-05-14 11:01 J -30852534.15 -30852534.04 -30852533.92 0.1631 0.0873

Neptune -89183-06-29 23:59 J -30852487.69 -30852487.50 -30852487.32 0.0089 0.0008

Venus -89183-07-03 23:01 J -30852483.65 -30852483.54 -30852483.42 0.3603 0.1927

Neptune -89183-09-26 02:51 J -30852399.56 -30852399.38 -30852399.19 0.0089 0.0003

Neptune -89183-12-23 05:59 J -30852311.43 -30852311.25 -30852311.07 0.0089 0.0004

Neptune -89182-03-21 09:06 J -30852223.30 -30852223.12 -30852222.94 0.0089 0.0009

Neptune -89182-06-17 12:13 J -30852135.17 -30852134.99 -30852134.81 0.0088 0.0015

Neptune -89182-09-13 15:06 J -30852047.04 -30852046.87 -30852046.69 0.0088 0.0020

Neptune -89182-12-10 18:13 J -30851958.91 -30851958.74 -30851958.57 0.0088 0.0026

Venus -89181-01-18 19:25 J -30851919.80 -30851919.69 -30851919.58 0.3762 0.1145

Neptune -89181-03-07 21:06 J -30851870.78 -30851870.62 -30851870.45 0.0088 0.0031

Neptune -89181-06-04 00:13 J -30851782.65 -30851782.49 -30851782.33 0.0088 0.0037

Neptune -89181-08-31 02:51 J -30851694.52 -30851694.38 -30851694.21 0.0088 0.0043

Neptune -89181-11-27 05:59 J -30851606.39 -30851606.25 -30851606.09 0.0088 0.0048

Neptune -89180-02-23 08:51 J -30851518.26 -30851518.13 -30851517.97 0.0088 0.0054

Neptune -89180-05-22 11:59 J -30851430.13 -30851430.00 -30851429.86 0.0088 0.0059

Jupiter -89180-08-17 05:01 J -30851343.45 -30851343.29 -30851343.12 0.0498 0.0150

Neptune -89180-08-18 15:06 J -30851341.99 -30851341.87 -30851341.75 0.0088 0.0064

Neptune -89180-11-14 17:44 J -30851253.86 -30851253.76 -30851253.64 0.0088 0.0069

Jupiter -89180-11-15 06:13 J -30851253.35 -30851253.24 -30851253.11 0.0501 0.0349

Neptune -89179-02-10 20:37 J -30851165.72 -30851165.64 -30851165.53 0.0088 0.0075

Neptune -89179-05-09 23:44 J -30851077.58 -30851077.51 -30851077.43 0.0088 0.0080

Neptune -89179-08-06 02:23 J -30850989.43 -30850989.40 -30850989.34 0.0088 0.0085

Venus -89177-01-17 23:30 J -30850459.65 -30850459.52 -30850459.39 0.3607 0.0856

Mars -89176-01-06 18:56 J -30850104.85 -30850104.71 -30850104.58 0.1899 0.0647

Saturn -89176-02-06 01:39 J -30850074.50 -30850074.43 -30850074.35 0.0273 0.0231

Moon -89176-02-07 04:47 J -30850073.42 -30850073.30 -30850073.19 0.2745 0.0854

Earth -89176-02-07 05:01 J -30850073.40 -30850073.29 -30850073.17 0.2751 0.0757 *

Saturn -89176-05-05 13:54 J -30849986.03 -30849985.92 -30849985.79 0.0273 0.0143

Saturn -89176-08-02 02:37 J -30849897.53 -30849897.39 -30849897.25 0.0273 0.0053

Venus -89176-08-03 14:37 J -30849895.98 -30849895.89 -30849895.79 0.3758 0.1955

Saturn -89176-10-29 15:20 J -30849809.00 -30849808.86 -30849808.72 0.0273 0.0039

Saturn -89175-01-26 04:18 J -30849720.45 -30849720.32 -30849720.20 0.0273 0.0132

Saturn -89175-04-24 17:15 J -30849631.85 -30849631.78 -30849631.69 0.0273 0.0226

Jupiter -89174-01-08 00:56 J -30849373.52 -30849373.46 -30849373.40 0.0532 0.0461

Jupiter -89174-04-07 10:32 J -30849284.19 -30849284.06 -30849283.92 0.0529 0.0009

Jupiter -89174-07-05 21:06 J -30849194.68 -30849194.62 -30849194.55 0.0526 0.0459

Mars -89174-10-04 20:08 J -30849103.79 -30849103.66 -30849103.54 0.1635 0.0368

Earth -89173-08-16 15:35 J -30848786.96 -30848786.85 -30848786.73 0.2590 0.1476

Moon -89173-08-16 15:49 J -30848786.95 -30848786.84 -30848786.73 0.2596 0.1447 *

Venus -89172-08-02 23:30 J -30848435.65 -30848435.52 -30848435.38 0.3610 0.0183

Venus -89170-02-17 10:18 J -30847872.15 -30847872.07 -30847872.00 0.3754 0.2777

Jupiter -89168-06-05 03:20 J -30847033.50 -30847033.36 -30847033.22 0.0497 0.0283

Jupiter -89168-09-03 05:01 J -30846943.44 -30846943.29 -30846943.14 0.0500 0.0218

Mars -89167-05-29 19:39 J -30846674.82 -30846674.68 -30846674.54 0.1893 0.0380

Venus -89166-02-16 23:15 J -30846411.66 -30846411.53 -30846411.41 0.3614 0.1159

Venus -89165-09-02 05:59 J -30845848.28 -30845848.25 -30845848.22 0.3750 0.3622

Mars -89164-02-24 05:01 J -30845673.42 -30845673.29 -30845673.16 0.1639 0.0139

Venus -89164-11-11 08:37 J -30845413.15 -30845413.14 -30845413.12 0.3784 0.3730

Moon -89163-02-10 00:56 J -30845322.58 -30845322.46 -30845322.34 0.2748 0.0671

Earth -89163-02-10 01:54 J -30845322.54 -30845322.42 -30845322.31 0.2749 0.0737 *

Jupiter -89162-01-24 13:54 J -30844974.05 -30844973.92 -30844973.79 0.0530 0.0116

Jupiter -89162-04-24 00:13 J -30844884.59 -30844884.49 -30844884.38 0.0527 0.0348

Saturn -89162-12-10 03:06 J -30844654.47 -30844654.37 -30844654.25 0.0286 0.0217

Saturn -89161-03-07 23:01 J -30844565.70 -30844565.54 -30844565.38 0.0286 0.0090

Saturn -89161-06-04 18:27 J -30844476.89 -30844476.73 -30844476.56 0.0286 0.0034

Saturn -89161-09-01 13:25 J -30844388.07 -30844387.94 -30844387.80 0.0286 0.0155

Venus -89161-09-01 22:18 J -30844387.68 -30844387.57 -30844387.46 0.3618 0.2093

Saturn -89161-11-29 07:54 J -30844299.21 -30844299.17 -30844299.11 0.0286 0.0273

Venus -89158-05-28 02:37 J -30843389.45 -30843389.39 -30843389.33 0.3781 0.3065

Mars -89158-10-19 20:08 J -30843244.75 -30843244.66 -30843244.56 0.1887 0.1414

Jupiter -89156-03-24 02:08 J -30842723.50 -30842723.41 -30842723.31 0.0496 0.0410

Jupiter -89156-06-22 04:18 J -30842633.49 -30842633.32 -30842633.15 0.0499 0.0094

Pluto -89156-07-15 03:49 J -30842610.39 -30842610.34 -30842610.27 0.0085 0.0076

Pluto -89156-10-11 05:01 J -30842522.36 -30842522.29 -30842522.19 0.0084 0.0064

Pluto -89155-01-07 06:13 J -30842434.33 -30842434.24 -30842434.12 0.0084 0.0052

Venus -89155-03-18 21:06 J -30842363.69 -30842363.62 -30842363.55 0.3622 0.2991

Pluto -89155-04-05 07:54 J -30842346.29 -30842346.17 -30842346.05 0.0084 0.0039

Pluto -89155-07-02 09:06 J -30842258.24 -30842258.12 -30842257.99 0.0084 0.0026

Mars -89155-07-17 14:08 J -30842243.03 -30842242.91 -30842242.79 0.1644 0.0637

Pluto -89155-09-28 10:18 J -30842170.19 -30842170.07 -30842169.93 0.0084 0.0015

Pluto -89155-12-25 11:44 J -30842082.14 -30842082.01 -30842081.88 0.0084 0.0003

Pluto -89154-03-23 12:56 J -30841994.09 -30841993.96 -30841993.83 0.0084 0.0010

Pluto -89154-06-19 14:08 J -30841906.04 -30841905.91 -30841905.78 0.0084 0.0021

Pluto -89154-09-15 15:20 J -30841817.98 -30841817.86 -30841817.73 0.0083 0.0033

Pluto -89154-12-12 16:18 J -30841729.92 -30841729.82 -30841729.69 0.0083 0.0046

Pluto -89153-03-09 17:44 J -30841641.85 -30841641.76 -30841641.66 0.0083 0.0056

Pluto -89153-06-05 18:56 J -30841553.78 -30841553.71 -30841553.63 0.0083 0.0068

Mars -89153-06-22 02:23 J -30841537.46 -30841537.40 -30841537.34 0.1627 0.1449

Moon -89153-08-11 20:08 J -30841486.77 -30841486.66 -30841486.55 0.2589 0.1586

Earth -89153-08-11 21:06 J -30841486.73 -30841486.62 -30841486.50 0.2586 0.1412 *

Pluto -89153-09-01 20:08 J -30841465.69 -30841465.66 -30841465.62 0.0083 0.0079

Uranus -89153-09-13 02:08 J -30841454.46 -30841454.41 -30841454.35 0.0140 0.0129

Uranus -89153-12-10 05:59 J -30841366.32 -30841366.25 -30841366.16 0.0141 0.0112

Venus -89153-12-10 20:37 J -30841365.72 -30841365.64 -30841365.55 0.3778 0.2386

Uranus -89152-03-08 10:03 J -30841278.18 -30841278.08 -30841277.97 0.0141 0.0094

Uranus -89152-06-04 14:08 J -30841190.02 -30841189.91 -30841189.79 0.0141 0.0076

Uranus -89152-08-31 18:13 J -30841101.86 -30841101.74 -30841101.60 0.0141 0.0057

Uranus -89152-11-27 22:32 J -30841013.70 -30841013.56 -30841013.43 0.0141 0.0038

Uranus -89151-02-24 02:37 J -30840925.53 -30840925.39 -30840925.25 0.0141 0.0020

Uranus -89151-05-23 06:42 J -30840837.36 -30840837.22 -30840837.07 0.0141 0.0005

Uranus -89151-08-19 11:01 J -30840749.18 -30840749.04 -30840748.90 0.0142 0.0019

Jupiter -89151-11-12 17:30 J -30840663.89 -30840663.77 -30840663.65 0.0531 0.0225

Uranus -89151-11-15 15:20 J -30840661.00 -30840660.86 -30840660.72 0.0142 0.0038

Jupiter -89150-02-10 03:35 J -30840574.47 -30840574.35 -30840574.22 0.0528 0.0237

Uranus -89150-02-11 19:25 J -30840572.81 -30840572.69 -30840572.55 0.0142 0.0058

Moon -89150-02-12 22:03 J -30840571.65 -30840571.58 -30840571.51 0.2749 0.2174

Earth -89150-02-12 22:47 J -30840571.62 -30840571.55 -30840571.48 0.2746 0.2252 *

Uranus -89150-05-10 23:59 J -30840484.62 -30840484.50 -30840484.38 0.0142 0.0077

Uranus -89150-08-07 04:18 J -30840396.42 -30840396.32 -30840396.21 0.0142 0.0097

Uranus -89150-11-03 08:37 J -30840308.21 -30840308.14 -30840308.05 0.0142 0.0117

Uranus -89149-01-30 13:11 J -30840219.98 -30840219.95 -30840219.91 0.0142 0.0137

Saturn -89147-06-26 03:20 J -30839342.40 -30839342.36 -30839342.32 0.0273 0.0259

Venus -89147-06-26 14:51 J -30839341.98 -30839341.88 -30839341.78 0.3775 0.1685

Saturn -89147-09-22 15:35 J -30839253.96 -30839253.85 -30839253.74 0.0273 0.0172

Saturn -89147-12-20 04:03 J -30839165.47 -30839165.33 -30839165.20 0.0273 0.0083

Mars -89146-02-15 17:59 J -30839107.80 -30839107.75 -30839107.70 0.1906 0.1747

Saturn -89146-03-18 16:32 J -30839076.95 -30839076.81 -30839076.66 0.0273 0.0010

Saturn -89146-06-15 05:30 J -30838988.41 -30838988.27 -30838988.14 0.0273 0.0100

Saturn -89146-09-11 18:27 J -30838899.83 -30838899.73 -30838899.62 0.0273 0.0194

Mars -89146-12-07 23:30 J -30838812.62 -30838812.52 -30838812.43 0.1649 0.1134

Jupiter -89144-04-10 03:20 J -30838323.53 -30838323.36 -30838323.18 0.0499 0.0034

Jupiter -89144-07-09 04:18 J -30838233.38 -30838233.32 -30838233.26 0.0502 0.0465

Mars -89144-11-12 11:15 J -30838107.14 -30838107.03 -30838106.92 0.1631 0.0942

Moon -89143-02-05 13:54 J -30838022.01 -30838021.92 -30838021.84 0.2745 0.1968

Earth -89143-02-05 13:54 J -30838022.01 -30838021.92 -30838021.84 0.2753 0.1907 *

Venus -89141-01-10 09:20 J -30837318.22 -30837318.11 -30837318.00 0.3772 0.0961

Moon -89140-08-14 20:37 J -30836735.77 -30836735.64 -30836735.50 0.2594 0.0165

Earth -89140-08-14 21:20 J -30836735.75 -30836735.61 -30836735.47 0.2588 0.0224 *

Jupiter -89139-08-31 20:51 J -30836353.73 -30836353.63 -30836353.52 0.0532 0.0337

Jupiter -89139-11-29 06:56 J -30836264.35 -30836264.21 -30836264.08 0.0528 0.0124

Mars -89137-07-07 18:56 J -30835677.84 -30835677.71 -30835677.57 0.1900 0.0740

Mars -89136-04-29 08:37 J -30835382.16 -30835382.14 -30835382.12 0.1654 0.1629

Venus -89136-07-26 04:03 J -30835294.44 -30835294.33 -30835294.22 0.3768 0.0224

Mars -89134-04-04 20:08 J -30834676.78 -30834676.66 -30834676.53 0.1635 0.0438

Jupiter -89132-01-27 03:06 J -30834013.54 -30834013.37 -30834013.21 0.0498 0.0152

Jupiter -89132-04-27 04:18 J -30833923.43 -30833923.32 -30833923.19 0.0501 0.0348

Saturn -89132-04-28 00:56 J -30833922.51 -30833922.46 -30833922.39 0.0286 0.0263

Venus -89132-07-24 22:03 J -30833834.66 -30833834.58 -30833834.49 0.3601 0.2758

Saturn -89132-07-25 21:06 J -30833833.76 -30833833.62 -30833833.47 0.0286 0.0135

Saturn -89132-10-22 16:47 J -30833744.96 -30833744.80 -30833744.63 0.0286 0.0012

Saturn -89131-01-19 11:59 J -30833656.15 -30833656.00 -30833655.84 0.0285 0.0112

Saturn -89131-04-18 06:42 J -30833567.31 -30833567.22 -30833567.12 0.0285 0.0231

Moon -89130-02-08 09:49 J -30833271.21 -30833271.09 -30833270.97 0.2746 0.0450

Earth -89130-02-08 10:18 J -30833271.19 -30833271.07 -30833270.95 0.2751 0.0453 *

Venus -89130-02-08 22:47 J -30833270.66 -30833270.55 -30833270.44 0.3765 0.0561

Mars -89128-11-27 20:08 J -30832247.80 -30832247.66 -30832247.51 0.1894 0.0269

Jupiter -89127-06-19 23:30 J -30832043.58 -30832043.52 -30832043.45 0.0532 0.0459

Earth -89127-08-17 21:20 J -30831984.71 -30831984.61 -30831984.51 0.2591 0.1810

Moon -89127-08-17 21:49 J -30831984.69 -30831984.59 -30831984.50 0.2597 0.1882 *

Jupiter -89127-09-17 09:06 J -30831954.25 -30831954.12 -30831953.98 0.0529 0.0007

Jupiter -89127-12-15 19:39 J -30831864.75 -30831864.68 -30831864.62 0.0525 0.0459

Venus -89126-02-07 23:01 J -30831810.66 -30831810.54 -30831810.42 0.3604 0.1657

Venus -89125-08-24 17:59 J -30831246.86 -30831246.75 -30831246.65 0.3761 0.1345

Mars -89125-08-25 05:15 J -30831246.41 -30831246.28 -30831246.15 0.1639 0.0066

Venus -89121-08-23 23:15 J -30829786.66 -30829786.53 -30829786.40 0.3608 0.0597

Jupiter -89121-11-15 02:08 J -30829703.55 -30829703.41 -30829703.27 0.0497 0.0277

Jupiter -89120-02-13 03:49 J -30829613.49 -30829613.34 -30829613.19 0.0500 0.0226

Venus -89119-03-10 13:11 J -30829223.04 -30829222.95 -30829222.85 0.3757 0.2160

Mars -89118-04-19 20:37 J -30828817.75 -30828817.64 -30828817.54 0.1887 0.1314

Saturn -89117-02-09 18:42 J -30828521.82 -30828521.72 -30828521.62 0.0273 0.0190

Moon -89117-02-11 06:13 J -30828520.36 -30828520.24 -30828520.13 0.2747 0.0880

Earth -89117-02-11 07:11 J -30828520.31 -30828520.20 -30828520.09 0.2748 0.1045 *

Saturn -89117-05-08 07:11 J -30828433.33 -30828433.20 -30828433.07 0.0273 0.0101

Saturn -89117-08-04 19:54 J -30828344.82 -30828344.67 -30828344.53 0.0273 0.0013

Saturn -89117-11-01 08:37 J -30828256.28 -30828256.14 -30828256.00 0.0274 0.0082

Saturn -89116-01-28 21:35 J -30828167.71 -30828167.60 -30828167.48 0.0274 0.0177

Saturn -89116-04-27 11:01 J -30828079.05 -30828079.04 -30828079.03 0.0274 0.0272

Mars -89115-01-15 14:23 J -30827816.03 -30827815.90 -30827815.78 0.1644 0.0570

Venus -89115-03-09 23:15 J -30827762.66 -30827762.53 -30827762.40 0.3611 0.0420

Jupiter -89115-07-06 11:59 J -30827644.13 -30827644.00 -30827643.87 0.0530 0.0122

Jupiter -89115-10-03 22:18 J -30827554.67 -30827554.57 -30827554.47 0.0526 0.0341

Venus -89114-09-24 08:51 J -30827199.20 -30827199.13 -30827199.06 0.3753 0.2990

Mars -89114-12-22 02:37 J -30827110.43 -30827110.39 -30827110.35 0.1627 0.1523

Uranus -89113-02-08 10:18 J -30827062.14 -30827062.07 -30827061.98 0.0138 0.0123

Uranus -89113-05-06 16:32 J -30826973.92 -30826973.81 -30826973.68 0.0138 0.0101

Uranus -89113-08-02 22:47 J -30826885.68 -30826885.55 -30826885.40 0.0138 0.0079

Uranus -89113-10-30 05:01 J -30826797.44 -30826797.29 -30826797.12 0.0138 0.0057

Uranus -89112-01-26 11:15 J -30826709.19 -30826709.03 -30826708.86 0.0137 0.0036

Uranus -89112-04-24 17:30 J -30826620.95 -30826620.77 -30826620.60 0.0137 0.0015

Uranus -89112-07-21 23:30 J -30826532.70 -30826532.52 -30826532.35 0.0137 0.0007

Uranus -89112-10-18 05:15 J -30826444.44 -30826444.28 -30826444.10 0.0137 0.0028

Uranus -89111-01-14 11:15 J -30826356.19 -30826356.03 -30826355.87 0.0137 0.0048

Uranus -89111-04-12 17:01 J -30826267.93 -30826267.79 -30826267.64 0.0137 0.0069

Uranus -89111-07-09 22:47 J -30826179.67 -30826179.55 -30826179.41 0.0137 0.0089

Uranus -89111-10-06 04:32 J -30826091.40 -30826091.31 -30826091.20 0.0137 0.0109

Uranus -89110-01-02 10:03 J -30826003.12 -30826003.08 -30826003.01 0.0136 0.0129

Venus -89110-09-23 22:47 J -30825738.68 -30825738.55 -30825738.43 0.3615 0.1396

Jupiter -89109-09-03 00:13 J -30825393.59 -30825393.49 -30825393.39 0.0496 0.0410

Jupiter -89109-12-02 02:23 J -30825303.57 -30825303.40 -30825303.23 0.0499 0.0094

Venus -89107-06-18 06:42 J -30824740.25 -30824740.22 -30824740.18 0.3783 0.3569

Moon -89107-08-13 01:39 J -30824684.55 -30824684.43 -30824684.30 0.2590 0.1106

Earth -89107-08-13 02:51 J -30824684.51 -30824684.38 -30824684.25 0.2587 0.1068 *

Mars -89107-08-16 18:27 J -30824680.76 -30824680.73 -30824680.70 0.1906 0.1851

Mars -89106-06-07 23:30 J -30824385.62 -30824385.52 -30824385.42 0.1648 0.1066

Neptune -89105-08-15 00:56 J -30823951.48 -30823951.46 -30823951.44 0.0089 0.0087

Neptune -89105-11-11 02:23 J -30823863.44 -30823863.40 -30823863.35 0.0089 0.0083

Neptune -89104-02-07 03:49 J -30823775.40 -30823775.34 -30823775.28 0.0089 0.0079

Moon -89104-02-13 03:20 J -30823769.40 -30823769.36 -30823769.31 0.2751 0.2513

Earth -89104-02-13 04:03 J -30823769.37 -30823769.33 -30823769.29 0.2746 0.2565 *

Venus -89104-04-08 21:49 J -30823714.69 -30823714.59 -30823714.49 0.3619 0.2323

Neptune -89104-05-06 05:15 J -30823687.35 -30823687.28 -30823687.20 0.0089 0.0075

Mars -89104-05-13 11:15 J -30823680.13 -30823680.03 -30823679.92 0.1631 0.1014

Neptune -89104-08-02 06:42 J -30823599.30 -30823599.22 -30823599.13 0.0089 0.0071

Neptune -89104-10-29 08:08 J -30823511.24 -30823511.16 -30823511.06 0.0089 0.0067

Neptune -89103-01-25 09:35 J -30823423.19 -30823423.10 -30823423.00 0.0089 0.0063

Neptune -89103-04-23 11:15 J -30823335.13 -30823335.03 -30823334.93 0.0089 0.0058

Jupiter -89103-04-24 15:20 J -30823333.98 -30823333.86 -30823333.74 0.0531 0.0234

Neptune -89103-07-20 12:42 J -30823247.08 -30823246.97 -30823246.86 0.0089 0.0054

Jupiter -89103-07-23 01:25 J -30823244.56 -30823244.44 -30823244.32 0.0528 0.0228

Neptune -89103-10-16 14:08 J -30823159.02 -30823158.91 -30823158.79 0.0089 0.0050

Saturn -89103-12-12 23:15 J -30823101.67 -30823101.53 -30823101.39 0.0286 0.0159

Neptune -89102-01-12 15:35 J -30823070.96 -30823070.85 -30823070.72 0.0089 0.0046

Saturn -89102-03-11 18:56 J -30823012.88 -30823012.71 -30823012.54 0.0286 0.0033

Neptune -89102-04-10 17:15 J -30822982.90 -30822982.78 -30822982.66 0.0089 0.0041

Saturn -89102-06-08 14:08 J -30822924.07 -30822923.91 -30822923.75 0.0286 0.0090

Neptune -89102-07-07 18:42 J -30822894.84 -30822894.72 -30822894.59 0.0089 0.0037

Saturn -89102-09-05 08:51 J -30822835.23 -30822835.13 -30822835.01 0.0286 0.0210

Neptune -89102-10-03 20:08 J -30822806.78 -30822806.66 -30822806.53 0.0089 0.0033

Neptune -89102-12-30 21:35 J -30822718.72 -30822718.60 -30822718.46 0.0089 0.0029

Venus -89101-01-02 00:42 J -30822716.54 -30822716.47 -30822716.40 0.3780 0.2902

Neptune -89101-03-27 23:15 J -30822630.66 -30822630.53 -30822630.39 0.0089 0.0024

Neptune -89101-06-24 00:42 J -30822542.60 -30822542.47 -30822542.33 0.0089 0.0020

Neptune -89101-09-20 02:23 J -30822454.54 -30822454.40 -30822454.26 0.0089 0.0016

Neptune -89101-12-17 03:49 J -30822366.47 -30822366.34 -30822366.20 0.0089 0.0012

Neptune -89100-03-15 05:30 J -30822278.41 -30822278.27 -30822278.13 0.0089 0.0007

Neptune -89100-06-11 06:56 J -30822190.35 -30822190.21 -30822190.07 0.0089 0.0003

Neptune -89100-09-07 08:37 J -30822102.28 -30822102.14 -30822102.00 0.0089 0.0003

Neptune -89100-12-04 10:03 J -30822014.22 -30822014.08 -30822013.94 0.0089 0.0006

Neptune -89099-03-02 11:44 J -30821926.15 -30821926.01 -30821925.87 0.0089 0.0011

Neptune -89099-05-29 13:11 J -30821838.09 -30821837.95 -30821837.81 0.0089 0.0015

Neptune -89099-08-25 14:37 J -30821750.02 -30821749.89 -30821749.75 0.0089 0.0020

Venus -89099-10-23 20:23 J -30821690.71 -30821690.65 -30821690.59 0.3623 0.3208

Neptune -89099-11-21 16:18 J -30821661.95 -30821661.82 -30821661.68 0.0089 0.0024

Neptune -89098-02-17 17:59 J -30821573.88 -30821573.75 -30821573.62 0.0089 0.0028

Neptune -89098-05-16 19:25 J -30821485.81 -30821485.69 -30821485.55 0.0089 0.0033

Neptune -89098-08-12 21:06 J -30821397.75 -30821397.62 -30821397.49 0.0089 0.0037

Neptune -89098-11-08 22:32 J -30821309.68 -30821309.56 -30821309.43 0.0089 0.0042

Mars -89097-01-06 19:39 J -30821250.81 -30821250.68 -30821250.55 0.1900 0.0854

Neptune -89097-02-05 00:13 J -30821221.60 -30821221.49 -30821221.36 0.0089 0.0046

Moon -89097-02-06 18:56 J -30821219.81 -30821219.71 -30821219.61 0.2745 0.1539

Earth -89097-02-06 18:56 J -30821219.80 -30821219.71 -30821219.61 0.2753 0.1608 *

Neptune -89097-05-03 01:39 J -30821133.53 -30821133.43 -30821133.30 0.0089 0.0051

Neptune -89097-07-30 03:20 J -30821045.46 -30821045.36 -30821045.24 0.0089 0.0055

Jupiter -89097-09-20 01:25 J -30820993.61 -30820993.44 -30820993.27 0.0498 0.0032

Neptune -89097-10-26 05:15 J -30820957.39 -30820957.28 -30820957.18 0.0089 0.0059

Mars -89097-10-28 08:37 J -30820955.18 -30820955.14 -30820955.10 0.1654 0.1562

Jupiter -89097-12-19 02:23 J -30820903.46 -30820903.40 -30820903.34 0.0502 0.0463

Neptune -89096-01-22 06:42 J -30820869.31 -30820869.22 -30820869.12 0.0089 0.0064

Neptune -89096-04-20 08:37 J -30820781.23 -30820781.14 -30820781.05 0.0089 0.0068

Neptune -89096-07-17 09:49 J -30820693.16 -30820693.09 -30820693.00 0.0089 0.0073

Venus -89096-07-17 18:56 J -30820692.80 -30820692.71 -30820692.63 0.3777 0.2216

Neptune -89096-10-13 11:44 J -30820605.08 -30820605.01 -30820604.94 0.0089 0.0077

Neptune -89095-01-09 13:11 J -30820516.99 -30820516.95 -30820516.89 0.0089 0.0082

Neptune -89095-04-07 15:06 J -30820428.90 -30820428.87 -30820428.84 0.0089 0.0086

Mars -89095-10-03 20:23 J -30820249.78 -30820249.65 -30820249.53 0.1635 0.0509

Moon -89094-08-16 02:37 J -30819933.52 -30819933.39 -30819933.25 0.2594 0.0499

Earth -89094-08-16 03:06 J -30819933.50 -30819933.37 -30819933.23 0.2589 0.0565 *

Jupiter -89091-02-10 18:56 J -30819023.81 -30819023.71 -30819023.61 0.0532 0.0343

Jupiter -89091-05-11 04:47 J -30818934.43 -30818934.30 -30818934.16 0.0529 0.0117

Venus -89090-01-31 13:11 J -30818669.05 -30818668.95 -30818668.85 0.3774 0.1507

Mars -89088-05-28 20:23 J -30817820.80 -30817820.65 -30817820.51 0.1894 0.0186

Saturn -89088-06-28 20:37 J -30817789.72 -30817789.64 -30817789.55 0.0273 0.0216

Saturn -89088-09-25 08:51 J -30817701.25 -30817701.13 -30817701.00 0.0273 0.0128

Saturn -89088-12-22 21:35 J -30817612.75 -30817612.60 -30817612.46 0.0273 0.0039

Saturn -89087-03-21 10:18 J -30817524.22 -30817524.07 -30817523.93 0.0273 0.0054

Saturn -89087-06-17 23:01 J -30817435.66 -30817435.54 -30817435.41 0.0273 0.0147

Saturn -89087-09-14 12:13 J -30817347.05 -30817346.99 -30817346.92 0.0273 0.0242

Mars -89085-02-24 05:15 J -30816819.41 -30816819.28 -30816819.15 0.1639 0.0034

Jupiter -89085-07-09 00:27 J -30816683.64 -30816683.48 -30816683.32 0.0498 0.0159

Venus -89085-08-16 07:39 J -30816645.29 -30816645.18 -30816645.07 0.3771 0.0776

Jupiter -89085-10-07 01:39 J -30816593.55 -30816593.43 -30816593.30 0.0501 0.0341

Moon -89084-02-08 14:51 J -30816469.00 -30816468.88 -30816468.76 0.2747 0.0306

Earth -89084-02-08 15:35 J -30816468.97 -30816468.85 -30816468.73 0.2750 0.0146 *

Earth -89081-08-18 03:06 J -30815182.45 -30815182.37 -30815182.30 0.2591 0.2145

Moon -89081-08-18 03:35 J -30815182.43 -30815182.35 -30815182.28 0.2597 0.2183 *

Jupiter -89080-11-29 22:18 J -30814713.63 -30814713.57 -30814713.50 0.0533 0.0454

Jupiter -89079-02-27 08:08 J -30814624.30 -30814624.16 -30814624.03 0.0529 0.0004

Venus -89079-03-02 02:23 J -30814621.51 -30814621.40 -30814621.29 0.3767 0.0072

Jupiter -89079-05-27 18:42 J -30814534.78 -30814534.72 -30814534.66 0.0526 0.0467

Mars -89079-10-18 21:06 J -30814390.73 -30814390.62 -30814390.51 0.1887 0.1202

Mars -89076-07-16 14:23 J -30813389.02 -30813388.90 -30813388.77 0.1644 0.0497

Venus -89075-02-28 22:03 J -30813161.67 -30813161.58 -30813161.48 0.3602 0.2480

Mars -89074-06-22 02:51 J -30812683.41 -30812683.38 -30812683.36 0.1627 0.1598

Moon -89074-08-11 06:56 J -30812633.25 -30812633.21 -30812633.16 0.2585 0.2425

Earth -89074-08-11 08:08 J -30812633.21 -30812633.16 -30812633.11 0.2585 0.2380 *

Venus -89074-09-15 21:20 J -30812597.72 -30812597.61 -30812597.50 0.3764 0.0762

Jupiter -89073-04-26 23:59 J -30812373.65 -30812373.50 -30812373.36 0.0497 0.0281

Saturn -89073-04-30 21:20 J -30812369.72 -30812369.61 -30812369.49 0.0286 0.0203

Jupiter -89073-07-26 01:39 J -30812283.58 -30812283.43 -30812283.28 0.0500 0.0222

Saturn -89073-07-28 17:15 J -30812280.94 -30812280.78 -30812280.61 0.0285 0.0077

Saturn -89073-10-25 12:42 J -30812192.13 -30812191.97 -30812191.80 0.0285 0.0048

Saturn -89072-01-22 07:39 J -30812103.31 -30812103.18 -30812103.04 0.0285 0.0169

Moon -89071-02-11 11:30 J -30811718.13 -30811718.02 -30811717.92 0.2748 0.1306

Earth -89071-02-11 12:13 J -30811718.09 -30811717.99 -30811717.88 0.2748 0.1351 *

Venus -89070-09-14 22:47 J -30811137.67 -30811137.55 -30811137.42 0.3605 0.1386

Uranus -89069-10-03 08:51 J -30810753.18 -30810753.13 -30810753.07 0.0140 0.0127

Uranus -89069-12-30 12:42 J -30810665.05 -30810664.97 -30810664.87 0.0141 0.0110

Uranus -89068-03-28 16:47 J -30810576.90 -30810576.80 -30810576.69 0.0141 0.0092

Venus -89068-03-31 16:18 J -30810573.92 -30810573.82 -30810573.71 0.3760 0.1550

Uranus -89068-06-24 20:51 J -30810488.74 -30810488.63 -30810488.50 0.0141 0.0073

Uranus -89068-09-21 00:56 J -30810400.59 -30810400.46 -30810400.32 0.0141 0.0055

Jupiter -89068-12-16 10:32 J -30810314.19 -30810314.06 -30810313.93 0.0530 0.0120

Uranus -89068-12-18 05:15 J -30810312.42 -30810312.28 -30810312.15 0.0141 0.0036

Jupiter -89067-03-15 20:51 J -30810224.74 -30810224.63 -30810224.53 0.0526 0.0341

Uranus -89067-03-16 09:20 J -30810224.25 -30810224.11 -30810223.97 0.0141 0.0017

Uranus -89067-06-12 13:25 J -30810136.08 -30810135.94 -30810135.79 0.0141 0.0005

Uranus -89067-09-08 17:44 J -30810047.90 -30810047.76 -30810047.62 0.0142 0.0021

Uranus -89067-12-05 22:03 J -30809959.72 -30809959.58 -30809959.44 0.0142 0.0040

Mars -89067-12-06 23:30 J -30809958.62 -30809958.52 -30809958.42 0.1648 0.0997

Uranus -89066-03-04 02:08 J -30809871.53 -30809871.41 -30809871.27 0.0142 0.0060

Uranus -89066-05-31 06:42 J -30809783.34 -30809783.22 -30809783.10 0.0142 0.0079

Uranus -89066-08-27 11:01 J -30809695.14 -30809695.04 -30809694.93 0.0142 0.0099

Uranus -89066-11-23 15:20 J -30809606.93 -30809606.86 -30809606.78 0.0142 0.0119

Uranus -89065-02-19 19:54 J -30809518.69 -30809518.67 -30809518.64 0.0142 0.0140

Mars -89065-11-11 11:30 J -30809253.11 -30809253.02 -30809252.92 0.1630 0.1092

Earth -89064-02-04 03:49 J -30809168.35 -30809168.34 -30809168.34 0.2754 0.2744

Moon -89064-02-04 04:03 J -30809168.35 -30809168.33 -30809168.31 0.2747 0.2681 *

Venus -89064-03-30 23:01 J -30809113.67 -30809113.54 -30809113.40 0.3609 0.0343

Venus -89063-10-15 11:44 J -30808550.10 -30808550.01 -30808549.92 0.3756 0.2366

Jupiter -89061-02-13 22:47 J -30808063.65 -30808063.55 -30808063.45 0.0497 0.0406

Jupiter -89061-05-14 00:56 J -30807973.62 -30807973.46 -30807973.29 0.0500 0.0099

Moon -89061-08-13 07:39 J -30807882.31 -30807882.18 -30807882.05 0.2590 0.0908

Earth -89061-08-13 08:37 J -30807882.27 -30807882.14 -30807882.00 0.2587 0.0717 *

Venus -89059-10-14 22:47 J -30807089.68 -30807089.55 -30807089.42 0.3613 0.0674

Saturn -89059-11-15 23:44 J -30807057.58 -30807057.51 -30807057.44 0.0274 0.0236

Saturn -89058-02-12 11:59 J -30806969.12 -30806969.00 -30806968.88 0.0274 0.0148

Saturn -89058-05-12 00:27 J -30806880.62 -30806880.48 -30806880.34 0.0274 0.0058

Mars -89058-07-07 19:54 J -30806823.79 -30806823.67 -30806823.55 0.1900 0.0949

Saturn -89058-08-08 13:11 J -30806792.09 -30806791.95 -30806791.81 0.0274 0.0034

Saturn -89058-11-05 01:54 J -30806703.54 -30806703.42 -30806703.28 0.0274 0.0128

Saturn -89057-02-01 15:06 J -30806614.95 -30806614.87 -30806614.78 0.0274 0.0223

Mars -89057-04-28 08:51 J -30806528.18 -30806528.13 -30806528.08 0.1653 0.1494

Venus -89057-04-30 07:25 J -30806526.25 -30806526.19 -30806526.13 0.3752 0.3205

Jupiter -89056-10-04 13:25 J -30806004.05 -30806003.94 -30806003.82 0.0531 0.0238

Jupiter -89055-01-01 23:30 J -30805914.64 -30805914.52 -30805914.40 0.0527 0.0222

Mars -89055-04-03 20:23 J -30805822.77 -30805822.65 -30805822.52 0.1635 0.0582

Venus -89053-04-29 22:03 J -30805065.69 -30805065.58 -30805065.46 0.3617 0.1627

Moon -89051-02-06 23:59 J -30804417.60 -30804417.50 -30804417.40 0.2745 0.1367

Earth -89051-02-07 00:13 J -30804417.60 -30804417.49 -30804417.39 0.2752 0.1307 *

Venus -89050-01-23 04:47 J -30804067.34 -30804067.30 -30804067.25 0.3782 0.3408

Jupiter -89049-03-01 23:30 J -30803663.70 -30803663.52 -30803663.35 0.0498 0.0037

Jupiter -89049-05-31 00:13 J -30803573.55 -30803573.49 -30803573.42 0.0502 0.0462

Mars -89049-11-26 20:51 J -30803393.77 -30803393.63 -30803393.48 0.1894 0.0077

Moon -89048-08-16 08:37 J -30803131.27 -30803131.14 -30803131.01 0.2595 0.0943

Earth -89048-08-16 08:51 J -30803131.26 -30803131.13 -30803131.00 0.2589 0.0899 *

Venus -89048-11-13 21:06 J -30803041.71 -30803041.62 -30803041.53 0.3620 0.2551

Mars -89046-08-25 05:30 J -30802392.40 -30802392.27 -30802392.14 0.1639 0.0080

Venus -89045-08-07 22:47 J -30802043.62 -30802043.55 -30802043.47 0.3779 0.2735

Jupiter -89044-07-23 16:47 J -30801693.90 -30801693.80 -30801693.70 0.0532 0.0352

Saturn -89044-09-17 23:44 J -30801637.61 -30801637.51 -30801637.40 0.0286 0.0225

Jupiter -89044-10-21 02:37 J -30801604.52 -30801604.39 -30801604.26 0.0529 0.0107

Saturn -89044-12-15 19:39 J -30801548.83 -30801548.68 -30801548.52 0.0286 0.0098

Saturn -89043-03-14 15:20 J -30801460.03 -30801459.86 -30801459.70 0.0286 0.0027

Saturn -89043-06-11 10:18 J -30801371.21 -30801371.07 -30801370.93 0.0286 0.0148

Saturn -89043-09-08 04:47 J -30801282.35 -30801282.30 -30801282.23 0.0286 0.0267

Venus -89042-05-30 19:39 J -30801017.72 -30801017.68 -30801017.64 0.3625 0.3418

Venus -89039-02-21 17:01 J -30800019.88 -30800019.79 -30800019.70 0.3776 0.2036

Mars -89039-04-18 21:20 J -30799963.73 -30799963.61 -30799963.49 0.1887 0.1108

Moon -89038-02-09 19:54 J -30799666.79 -30799666.67 -30799666.55 0.2746 0.0146

Earth -89038-02-09 20:51 J -30799666.75 -30799666.63 -30799666.51 0.2750 0.0179 *

Jupiter -89038-12-19 22:18 J -30799353.73 -30799353.57 -30799353.41 0.0498 0.0161

Jupiter -89037-03-18 23:44 J -30799263.64 -30799263.51 -30799263.39 0.0501 0.0338

Mars -89036-01-14 14:37 J -30798962.02 -30798961.89 -30798961.77 0.1644 0.0431

Earth -89035-08-19 08:37 J -30798380.17 -30798380.14 -30798380.10 0.2591 0.2477

Moon -89035-08-19 09:06 J -30798380.14 -30798380.12 -30798380.09 0.2597 0.2529 *

Venus -89034-09-07 11:15 J -30797996.13 -30797996.03 -30797995.92 0.3773 0.1333

Jupiter -89032-05-11 20:23 J -30797383.71 -30797383.65 -30797383.59 0.0533 0.0461

Jupiter -89032-08-09 05:59 J -30797294.38 -30797294.25 -30797294.11 0.0530 0.0012

Jupiter -89032-11-06 16:32 J -30797204.87 -30797204.81 -30797204.74 0.0526 0.0460

Uranus -89029-02-28 16:47 J -30796360.87 -30796360.80 -30796360.70 0.0138 0.0120

Saturn -89029-04-04 01:54 J -30796325.46 -30796325.42 -30796325.38 0.0273 0.0259

Uranus -89029-05-26 23:15 J -30796272.65 -30796272.53 -30796272.40 0.0138 0.0098

Saturn -89029-07-01 13:54 J -30796237.02 -30796236.92 -30796236.80 0.0273 0.0173

Uranus -89029-08-23 05:30 J -30796184.41 -30796184.27 -30796184.12 0.0138 0.0076

Saturn -89029-09-28 02:23 J -30796148.53 -30796148.40 -30796148.26 0.0273 0.0083

Uranus -89029-11-19 11:44 J -30796096.16 -30796096.01 -30796095.84 0.0138 0.0054

Saturn -89029-12-25 15:06 J -30796060.01 -30796059.87 -30796059.73 0.0273 0.0008

Uranus -89028-02-15 17:59 J -30796007.92 -30796007.75 -30796007.58 0.0137 0.0032

Venus -89028-03-23 05:59 J -30795972.36 -30795972.25 -30795972.14 0.3770 0.0592

Saturn -89028-03-24 03:49 J -30795971.47 -30795971.34 -30795971.20 0.0273 0.0101

Uranus -89028-05-15 00:13 J -30795919.67 -30795919.49 -30795919.32 0.0137 0.0012

Saturn -89028-06-20 17:01 J -30795882.89 -30795882.79 -30795882.69 0.0273 0.0195

Uranus -89028-08-11 06:13 J -30795831.42 -30795831.24 -30795831.07 0.0137 0.0010

Moon -89028-08-11 12:42 J -30795831.04 -30795830.97 -30795830.90 0.2586 0.2227

Earth -89028-08-11 13:54 J -30795831.00 -30795830.92 -30795830.83 0.2585 0.2032 *

Uranus -89028-11-07 11:59 J -30795743.16 -30795743.00 -30795742.83 0.0137 0.0031

Uranus -89027-02-03 17:44 J -30795654.91 -30795654.76 -30795654.59 0.0137 0.0052

Uranus -89027-05-02 23:44 J -30795566.65 -30795566.51 -30795566.36 0.0137 0.0072

Mars -89027-06-06 23:44 J -30795531.62 -30795531.51 -30795531.40 0.1648 0.0925

Uranus -89027-07-30 05:44 J -30795478.39 -30795478.26 -30795478.14 0.0137 0.0092

Uranus -89027-10-26 11:30 J -30795390.12 -30795390.02 -30795389.93 0.0136 0.0112

Uranus -89026-01-22 17:01 J -30795301.83 -30795301.79 -30795301.75 0.0136 0.0132

Jupiter -89026-10-07 21:06 J -30795043.76 -30795043.62 -30795043.48 0.0497 0.0289

Jupiter -89025-01-05 23:01 J -30794953.70 -30794953.54 -30794953.39 0.0500 0.0214

Moon -89025-02-12 16:47 J -30794915.90 -30794915.80 -30794915.70 0.2749 0.1489

Earth -89025-02-12 17:30 J -30794915.86 -30794915.77 -30794915.67 0.2748 0.1662 *

Mars -89025-05-12 11:44 J -30794826.10 -30794826.01 -30794825.92 0.1631 0.1161

Venus -89024-03-21 21:06 J -30794512.67 -30794512.62 -30794512.57 0.3599 0.3320

Venus -89023-10-07 00:42 J -30793948.58 -30793948.47 -30793948.36 0.3767 0.0180

Neptune -89022-11-09 02:37 J -30793550.43 -30793550.39 -30793550.33 0.0089 0.0085

Neptune -89021-02-05 05:30 J -30793462.33 -30793462.27 -30793462.17 0.0089 0.0080

Neptune -89021-05-03 08:51 J -30793374.21 -30793374.13 -30793374.01 0.0089 0.0074

Neptune -89021-07-30 12:13 J -30793286.10 -30793285.99 -30793285.86 0.0089 0.0068

Neptune -89021-10-26 15:35 J -30793197.97 -30793197.85 -30793197.71 0.0089 0.0062

Neptune -89020-01-22 18:56 J -30793109.85 -30793109.71 -30793109.57 0.0089 0.0056

Neptune -89020-04-20 21:49 J -30793021.73 -30793021.59 -30793021.43 0.0089 0.0051

Jupiter -89020-05-28 09:20 J -30792984.24 -30792984.11 -30792983.98 0.0530 0.0116

Neptune -89020-07-18 01:11 J -30792933.60 -30792933.45 -30792933.29 0.0089 0.0045

Jupiter -89020-08-25 19:39 J -30792894.78 -30792894.68 -30792894.58 0.0527 0.0346

Neptune -89020-10-14 04:18 J -30792845.48 -30792845.32 -30792845.15 0.0089 0.0039

Neptune -89019-01-10 07:25 J -30792757.35 -30792757.19 -30792757.01 0.0089 0.0033

Neptune -89019-04-08 10:32 J -30792669.22 -30792669.06 -30792668.88 0.0089 0.0028

Neptune -89019-07-05 13:54 J -30792581.10 -30792580.92 -30792580.74 0.0089 0.0022

Neptune -89019-10-01 17:01 J -30792492.97 -30792492.79 -30792492.61 0.0089 0.0016

Venus -89019-10-05 22:03 J -30792488.68 -30792488.58 -30792488.47 0.3603 0.2201

Neptune -89019-12-28 20:08 J -30792404.84 -30792404.66 -30792404.48 0.0089 0.0010

Mars -89018-01-05 20:23 J -30792396.77 -30792396.65 -30792396.53 0.1901 0.1057

Earth -89018-02-05 08:51 J -30792366.18 -30792366.13 -30792366.08 0.2754 0.2453

Moon -89018-02-05 09:20 J -30792366.17 -30792366.11 -30792366.06 0.2747 0.2399 *

Neptune -89018-03-26 23:15 J -30792316.71 -30792316.53 -30792316.35 0.0089 0.0005

Neptune -89018-06-23 02:23 J -30792228.58 -30792228.40 -30792228.22 0.0089 0.0001

Neptune -89018-09-19 05:30 J -30792140.46 -30792140.27 -30792140.09 0.0089 0.0007

Mars -89018-10-28 08:51 J -30792101.19 -30792101.13 -30792101.06 0.1653 0.1423

Neptune -89018-12-16 08:23 J -30792052.33 -30792052.15 -30792051.97 0.0089 0.0012

Neptune -89017-03-13 11:30 J -30791964.20 -30791964.02 -30791963.84 0.0088 0.0018

Venus -89017-04-21 19:39 J -30791924.79 -30791924.68 -30791924.57 0.3763 0.0951

Neptune -89017-06-09 14:23 J -30791876.07 -30791875.90 -30791875.72 0.0088 0.0024

Neptune -89017-09-05 17:30 J -30791787.94 -30791787.77 -30791787.59 0.0088 0.0029

Neptune -89017-12-02 20:23 J -30791699.81 -30791699.65 -30791699.47 0.0088 0.0035

Neptune -89016-02-28 23:30 J -30791611.67 -30791611.52 -30791611.35 0.0088 0.0040

Neptune -89016-05-28 02:23 J -30791523.54 -30791523.40 -30791523.24 0.0088 0.0045

Neptune -89016-08-24 05:30 J -30791435.41 -30791435.27 -30791435.12 0.0088 0.0051

Mars -89016-10-02 20:37 J -30791395.76 -30791395.64 -30791395.52 0.1635 0.0657

Neptune -89016-11-20 08:08 J -30791347.28 -30791347.16 -30791347.00 0.0088 0.0057

Neptune -89015-02-16 11:15 J -30791259.14 -30791259.03 -30791258.89 0.0088 0.0062

Neptune -89015-05-15 14:23 J -30791171.01 -30791170.90 -30791170.78 0.0088 0.0067

Neptune -89015-08-11 17:01 J -30791082.87 -30791082.79 -30791082.67 0.0088 0.0073

Moon -89015-08-14 13:25 J -30791080.08 -30791079.94 -30791079.80 0.2591 0.0389

Earth -89015-08-14 14:23 J -30791080.04 -30791079.90 -30791079.76 0.2587 0.0374 *

Neptune -89015-11-07 20:08 J -30790994.73 -30790994.66 -30790994.57 0.0088 0.0078

Neptune -89014-02-03 23:15 J -30790906.59 -30790906.53 -30790906.47 0.0088 0.0083

Saturn -89014-02-04 21:49 J -30790905.64 -30790905.59 -30790905.53 0.0285 0.0269

Neptune -89014-05-03 01:54 J -30790818.42 -30790818.42 -30790818.40 0.0088 0.0088

Saturn -89014-05-04 17:59 J -30790816.89 -30790816.75 -30790816.60 0.0285 0.0142

Jupiter -89014-07-26 20:23 J -30790733.74 -30790733.65 -30790733.55 0.0496 0.0411

Saturn -89014-08-01 13:54 J -30790728.09 -30790727.92 -30790727.76 0.0285 0.0017

Jupiter -89014-10-24 22:47 J -30790643.72 -30790643.55 -30790643.39 0.0500 0.0094

Saturn -89014-10-29 09:06 J -30790639.28 -30790639.12 -30790638.97 0.0285 0.0107

Saturn -89013-01-26 03:35 J -30790550.44 -30790550.35 -30790550.24 0.0285 0.0227

Venus -89013-04-20 22:47 J -30790464.68 -30790464.55 -30790464.43 0.3606 0.1126

Venus -89012-11-05 14:51 J -30789900.98 -30789900.88 -30789900.78 0.3759 0.1751

Mars -89009-05-27 21:20 J -30788966.76 -30788966.61 -30788966.47 0.1894 0.0043

Jupiter -89008-03-16 11:59 J -30788674.12 -30788674.00 -30788673.88 0.0531 0.0237

Jupiter -89008-06-13 22:03 J -30788584.70 -30788584.58 -30788584.46 0.0527 0.0222

Venus -89008-11-04 22:47 J -30788440.68 -30788440.55 -30788440.41 0.3610 0.0094

Mars -89006-02-23 05:30 J -30787965.40 -30787965.27 -30787965.14 0.1639 0.0156

Venus -89006-05-22 10:18 J -30787877.15 -30787877.07 -30787876.99 0.3755 0.2578

Moon -89005-02-08 05:01 J -30787615.41 -30787615.29 -30787615.18 0.2746 0.1041

Earth -89005-02-08 05:15 J -30787615.39 -30787615.28 -30787615.17 0.2752 0.1014 *

Pluto -89002-01-25 03:20 J -30786533.37 -30786533.36 -30786533.32 0.0060 0.0059

Pluto -89002-04-23 04:32 J -30786445.38 -30786445.31 -30786445.20 0.0060 0.0053

Venus -89002-05-21 22:18 J -30786416.69 -30786416.57 -30786416.44 0.3614 0.0911

Pluto -89002-07-20 05:59 J -30786357.35 -30786357.25 -30786357.10 0.0060 0.0047

Jupiter -89002-08-12 21:49 J -30786333.76 -30786333.59 -30786333.42 0.0499 0.0031

Moon -89002-08-17 14:37 J -30786329.02 -30786328.89 -30786328.77 0.2596 0.1174

Earth -89002-08-17 14:37 J -30786329.01 -30786328.89 -30786328.77 0.2589 0.1244 *

Pluto -89002-10-16 07:39 J -30786269.31 -30786269.18 -30786269.02 0.0060 0.0041

Jupiter -89002-11-10 23:01 J -30786243.60 -30786243.54 -30786243.48 0.0502 0.0466

Pluto -89001-01-12 08:51 J -30786181.27 -30786181.13 -30786180.94 0.0060 0.0035

Pluto -89001-04-09 10:47 J -30786093.22 -30786093.05 -30786092.87 0.0060 0.0028

Pluto -89001-07-06 11:59 J -30786005.17 -30786005.00 -30786004.80 0.0060 0.0022

Pluto -89001-10-02 13:39 J -30785917.11 -30785916.93 -30785916.73 0.0060 0.0015

Venus -89001-12-05 05:59 J -30785853.30 -30785853.25 -30785853.21 0.3751 0.3420

Pluto -89001-12-29 15:20 J -30785829.06 -30785828.86 -30785828.67 0.0061 0.0008

89TH MILLENNIUM BCE

This is a list of transits of Mercury in the 89th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Pluto -89000-03-27 16:47 J -30785741.00 -30785740.80 -30785740.60 0.0061 0.0001

Pluto -89000-06-23 18:13 J -30785652.93 -30785652.74 -30785652.54 0.0061 0.0005

Pluto -89000-09-19 19:39 J -30785564.87 -30785564.68 -30785564.48 0.0061 0.0012

Mars -89000-10-17 21:49 J -30785536.71 -30785536.59 -30785536.46 0.1888 0.0997

Saturn -89000-11-18 16:47 J -30785504.90 -30785504.80 -30785504.70 0.0274 0.0194

Pluto -89000-12-16 20:51 J -30785476.80 -30785476.63 -30785476.43 0.0061 0.0019

Saturn -88999-02-15 05:15 J -30785416.41 -30785416.28 -30785416.15 0.0274 0.0105

Pluto -88999-03-14 22:32 J -30785388.73 -30785388.56 -30785388.37 0.0061 0.0025

Saturn -88999-05-14 17:44 J -30785327.90 -30785327.76 -30785327.62 0.0274 0.0014

Pluto -88999-06-10 23:59 J -30785300.66 -30785300.50 -30785300.32 0.0061 0.0032

Saturn -88999-08-11 06:27 J -30785239.36 -30785239.23 -30785239.09 0.0274 0.0079

Pluto -88999-09-07 01:11 J -30785212.58 -30785212.45 -30785212.27 0.0061 0.0039

Saturn -88999-11-07 19:39 J -30785150.79 -30785150.68 -30785150.57 0.0274 0.0173

Pluto -88999-12-04 03:06 J -30785124.49 -30785124.37 -30785124.23 0.0061 0.0046

Saturn -88998-02-04 08:51 J -30785062.15 -30785062.13 -30785062.10 0.0274 0.0269

Pluto -88998-03-02 04:32 J -30785036.40 -30785036.31 -30785036.20 0.0061 0.0052

Pluto -88998-05-29 05:44 J -30784948.28 -30784948.26 -30784948.19 0.0061 0.0060

Mars -88997-07-15 14:37 J -30784535.02 -30784534.89 -30784534.76 0.1643 0.0356

Venus -88997-12-04 21:35 J -30784392.71 -30784392.60 -30784392.48 0.3618 0.1866

Jupiter -88996-01-02 15:06 J -30784363.97 -30784363.87 -30784363.78 0.0532 0.0355

Jupiter -88996-04-02 00:42 J -30784274.60 -30784274.47 -30784274.33 0.0528 0.0104

Venus -88994-08-30 03:06 J -30783394.43 -30783394.37 -30783394.32 0.3781 0.3245

Moon -88992-02-10 01:11 J -30782864.57 -30782864.45 -30782864.33 0.2746 0.0303

Earth -88992-02-10 01:54 J -30782864.53 -30782864.42 -30782864.30 0.2750 0.0469 *

Venus -88991-06-20 20:23 J -30782368.73 -30782368.65 -30782368.56 0.3621 0.2768

Jupiter -88990-05-31 20:08 J -30782023.82 -30782023.66 -30782023.49 0.0498 0.0163

Jupiter -88990-08-29 21:35 J -30781933.72 -30781933.60 -30781933.47 0.0501 0.0336

Venus -88988-03-14 21:06 J -30781370.70 -30781370.62 -30781370.54 0.3779 0.2563

Mars -88988-12-05 23:44 J -30781104.62 -30781104.51 -30781104.40 0.1648 0.0858

Mars -88986-11-11 11:44 J -30780399.09 -30780399.01 -30780398.92 0.1630 0.1238

Saturn -88985-09-20 20:37 J -30780084.78 -30780084.64 -30780084.50 0.0286 0.0161

Jupiter -88985-10-21 18:13 J -30780053.80 -30780053.74 -30780053.68 0.0533 0.0470

Uranus -88985-10-23 15:49 J -30780051.90 -30780051.84 -30780051.78 0.0140 0.0125

Saturn -88985-12-18 16:32 J -30779995.98 -30779995.81 -30779995.65 0.0286 0.0035

Jupiter -88984-01-19 03:49 J -30779964.48 -30779964.34 -30779964.21 0.0530 0.0014

Uranus -88984-01-19 19:39 J -30779963.76 -30779963.68 -30779963.58 0.0141 0.0107

Saturn -88984-03-17 11:44 J -30779907.17 -30779907.01 -30779906.85 0.0286 0.0088

Uranus -88984-04-17 23:44 J -30779875.62 -30779875.51 -30779875.40 0.0141 0.0089

Jupiter -88984-04-18 14:23 J -30779874.97 -30779874.90 -30779874.83 0.0526 0.0450

Saturn -88984-06-14 06:27 J -30779818.33 -30779818.23 -30779818.11 0.0286 0.0209

Uranus -88984-07-15 03:49 J -30779787.46 -30779787.34 -30779787.22 0.0141 0.0071

Uranus -88984-10-11 07:54 J -30779699.30 -30779699.17 -30779699.04 0.0141 0.0052

Uranus -88983-01-07 11:59 J -30779611.14 -30779611.00 -30779610.86 0.0141 0.0034

Uranus -88983-04-05 16:03 J -30779522.97 -30779522.83 -30779522.68 0.0141 0.0016

Uranus -88983-07-02 20:23 J -30779434.79 -30779434.65 -30779434.51 0.0141 0.0004

Venus -88983-09-28 15:20 J -30779346.96 -30779346.86 -30779346.77 0.3776 0.1868

Uranus -88983-09-29 00:42 J -30779346.62 -30779346.47 -30779346.33 0.0142 0.0024

Uranus -88983-12-26 04:47 J -30779258.43 -30779258.30 -30779258.16 0.0142 0.0043

Uranus -88982-03-24 09:06 J -30779170.25 -30779170.12 -30779169.99 0.0142 0.0062

Uranus -88982-06-20 13:25 J -30779082.05 -30779081.94 -30779081.82 0.0142 0.0082

Moon -88982-08-12 18:27 J -30779028.83 -30779028.73 -30779028.63 0.2587 0.1757

Earth -88982-08-12 19:39 J -30779028.78 -30779028.68 -30779028.57 0.2586 0.1683 *

Uranus -88982-09-16 17:44 J -30778993.85 -30778993.76 -30778993.65 0.0142 0.0102

Uranus -88982-12-13 22:03 J -30778905.64 -30778905.58 -30778905.50 0.0142 0.0123

Uranus -88981-03-11 02:51 J -30778817.38 -30778817.38 -30778817.38 0.0142 0.0142

Moon -88979-02-12 21:49 J -30778113.67 -30778113.59 -30778113.50 0.2751 0.1957

Earth -88979-02-12 22:47 J -30778113.63 -30778113.55 -30778113.47 0.2747 0.1971 *

Mars -88979-07-06 20:37 J -30777969.75 -30777969.64 -30777969.53 0.1900 0.1158

Jupiter -88978-03-19 18:56 J -30777713.85 -30777713.71 -30777713.57 0.0497 0.0291

Mars -88978-04-28 09:06 J -30777674.20 -30777674.12 -30777674.05 0.1653 0.1359

Jupiter -88978-06-17 20:51 J -30777623.78 -30777623.63 -30777623.48 0.0500 0.0211

Venus -88977-04-13 09:35 J -30777323.20 -30777323.10 -30777322.99 0.3772 0.1144

Mars -88976-04-02 20:37 J -30776968.75 -30776968.64 -30776968.52 0.1634 0.0728

Jupiter -88973-11-07 07:11 J -30775654.33 -30775654.20 -30775654.07 0.0531 0.0125

Jupiter -88972-02-04 17:30 J -30775564.87 -30775564.77 -30775564.67 0.0527 0.0338

Earth -88972-02-05 13:54 J -30775563.99 -30775563.92 -30775563.84 0.2754 0.2164

Moon -88972-02-05 14:23 J -30775563.98 -30775563.90 -30775563.83 0.2747 0.2145 *

Venus -88972-10-28 04:18 J -30775299.44 -30775299.32 -30775299.21 0.3769 0.0421

Saturn -88970-04-07 19:11 J -30774772.78 -30774772.70 -30774772.61 0.0273 0.0216

Saturn -88970-07-05 07:25 J -30774684.31 -30774684.19 -30774684.06 0.0273 0.0128

Saturn -88970-10-01 20:08 J -30774595.81 -30774595.66 -30774595.52 0.0273 0.0038

Mars -88970-11-26 21:35 J -30774539.74 -30774539.60 -30774539.46 0.1894 0.0136

Saturn -88970-12-29 08:37 J -30774507.28 -30774507.14 -30774506.99 0.0273 0.0055

Saturn -88969-03-26 21:35 J -30774418.72 -30774418.60 -30774418.47 0.0273 0.0148

Saturn -88969-06-23 10:47 J -30774330.11 -30774330.05 -30774329.98 0.0273 0.0242

Moon -88969-08-14 19:25 J -30774277.83 -30774277.69 -30774277.55 0.2592 0.0174

Earth -88969-08-14 20:08 J -30774277.80 -30774277.66 -30774277.52 0.2587 0.0042 *

Venus -88968-10-26 21:06 J -30773839.69 -30773839.62 -30773839.54 0.3600 0.3037

Mars -88967-08-24 05:44 J -30773538.39 -30773538.26 -30773538.13 0.1639 0.0221

Jupiter -88966-01-05 17:30 J -30773403.85 -30773403.77 -30773403.67 0.0496 0.0420

Jupiter -88966-04-05 19:54 J -30773313.84 -30773313.67 -30773313.50 0.0499 0.0085

Venus -88966-05-13 23:01 J -30773275.65 -30773275.54 -30773275.43 0.3766 0.0369

Venus -88962-05-12 22:03 J -30771815.70 -30771815.58 -30771815.47 0.3604 0.1932

Jupiter -88961-08-26 10:47 J -30771344.17 -30771344.05 -30771343.93 0.0531 0.0235

Jupiter -88961-11-23 20:51 J -30771254.76 -30771254.63 -30771254.51 0.0528 0.0226

Venus -88961-11-26 17:59 J -30771251.86 -30771251.75 -30771251.64 0.3762 0.1148

Mars -88960-04-17 22:18 J -30771109.70 -30771109.57 -30771109.44 0.1888 0.0890

Moon -88959-02-08 10:03 J -30770813.20 -30770813.08 -30770812.97 0.2745 0.0782

Earth -88959-02-08 10:32 J -30770813.18 -30770813.06 -30770812.95 0.2751 0.0716 *

Mars -88957-01-14 14:51 J -30770108.01 -30770107.88 -30770107.75 0.1643 0.0281

Venus -88957-11-25 22:32 J -30769791.69 -30769791.56 -30769791.43 0.3607 0.0856

Earth -88956-08-17 20:08 J -30769526.77 -30769526.66 -30769526.55 0.2590 0.1576

Moon -88956-08-17 20:08 J -30769526.76 -30769526.66 -30769526.55 0.2596 0.1659 *

Saturn -88955-02-07 18:56 J -30769352.82 -30769352.71 -30769352.59 0.0285 0.0205

Saturn -88955-05-07 14:51 J -30769264.04 -30769263.88 -30769263.71 0.0285 0.0079

Venus -88955-06-12 13:11 J -30769228.04 -30769227.95 -30769227.85 0.3758 0.1965

Saturn -88955-08-04 10:18 J -30769175.23 -30769175.07 -30769174.90 0.0285 0.0046

Saturn -88955-11-01 05:15 J -30769086.40 -30769086.28 -30769086.14 0.0285 0.0168

Jupiter -88954-01-22 19:25 J -30769003.86 -30769003.69 -30769003.52 0.0499 0.0037

Saturn -88954-01-28 23:59 J -30768997.50 -30768997.50 -30768997.49 0.0285 0.0285

Jupiter -88954-04-22 20:37 J -30768913.70 -30768913.64 -30768913.58 0.0502 0.0461

Venus -88951-06-11 22:32 J -30767767.70 -30767767.56 -30767767.43 0.3611 0.0208

Venus -88950-12-27 08:51 J -30767204.21 -30767204.13 -30767204.06 0.3754 0.2789

Jupiter -88949-06-14 13:39 J -30767034.03 -30767033.93 -30767033.84 0.0532 0.0354

Jupiter -88949-09-11 23:15 J -30766944.66 -30766944.53 -30766944.40 0.0528 0.0104

Mars -88948-06-05 23:59 J -30766677.61 -30766677.50 -30766677.39 0.1648 0.0788

Moon -88946-02-11 06:13 J -30766062.35 -30766062.24 -30766062.12 0.2747 0.0717

Earth -88946-02-11 07:11 J -30766062.32 -30766062.20 -30766062.09 0.2749 0.0767 *

Mars -88946-05-12 11:59 J -30765972.07 -30765972.00 -30765971.92 0.1630 0.1311

Venus -88946-12-26 22:03 J -30765743.71 -30765743.58 -30765743.46 0.3615 0.1153

Uranus -88945-03-19 23:44 J -30765659.60 -30765659.51 -30765659.41 0.0138 0.0116

Uranus -88945-06-16 06:13 J -30765571.37 -30765571.24 -30765571.11 0.0138 0.0094

Uranus -88945-09-12 12:27 J -30765483.13 -30765482.98 -30765482.83 0.0138 0.0072

Uranus -88945-12-09 18:27 J -30765394.88 -30765394.73 -30765394.56 0.0138 0.0051

Uranus -88944-03-08 00:42 J -30765306.64 -30765306.47 -30765306.29 0.0137 0.0029

Uranus -88944-06-04 06:56 J -30765218.39 -30765218.21 -30765218.04 0.0137 0.0008

Venus -88944-07-12 04:32 J -30765180.33 -30765180.31 -30765180.28 0.3750 0.3641

Uranus -88944-08-31 12:56 J -30765130.13 -30765129.96 -30765129.79 0.0137 0.0014

Uranus -88944-11-27 18:56 J -30765041.88 -30765041.71 -30765041.54 0.0137 0.0034

Uranus -88943-02-24 00:42 J -30764953.62 -30764953.47 -30764953.31 0.0137 0.0055

Uranus -88943-05-23 06:27 J -30764865.36 -30764865.23 -30764865.08 0.0137 0.0076

Uranus -88943-08-19 12:13 J -30764777.10 -30764776.99 -30764776.86 0.0137 0.0096

Venus -88943-09-20 07:11 J -30764745.21 -30764745.20 -30764745.19 0.3784 0.3737

Jupiter -88943-11-10 18:27 J -30764693.89 -30764693.73 -30764693.56 0.0498 0.0161

Uranus -88943-11-15 17:59 J -30764688.83 -30764688.75 -30764688.65 0.0136 0.0116

Jupiter -88942-02-08 20:08 J -30764603.78 -30764603.66 -30764603.54 0.0501 0.0339

Uranus -88942-02-11 23:30 J -30764600.52 -30764600.52 -30764600.48 0.0136 0.0136

Saturn -88941-08-24 21:35 J -30764040.66 -30764040.60 -30764040.53 0.0274 0.0241

Saturn -88941-11-21 09:49 J -30763952.20 -30763952.09 -30763951.97 0.0274 0.0152

Saturn -88940-02-17 22:18 J -30763863.71 -30763863.57 -30763863.43 0.0274 0.0062

Neptune -88940-05-12 00:42 J -30763780.50 -30763780.47 -30763780.42 0.0089 0.0085

Saturn -88940-05-17 11:01 J -30763775.18 -30763775.04 -30763774.90 0.0274 0.0030

Venus -88940-07-11 21:06 J -30763719.72 -30763719.62 -30763719.51 0.3619 0.2091

Neptune -88940-08-08 02:08 J -30763692.45 -30763692.41 -30763692.35 0.0089 0.0081

Saturn -88940-08-13 23:44 J -30763686.63 -30763686.51 -30763686.37 0.0274 0.0124

Neptune -88940-11-04 03:35 J -30763604.40 -30763604.35 -30763604.27 0.0089 0.0077

Saturn -88940-11-10 13:11 J -30763598.04 -30763597.95 -30763597.87 0.0274 0.0218

Mars -88939-01-04 21:06 J -30763542.72 -30763542.62 -30763542.51 0.1901 0.1264

Neptune -88939-01-31 05:01 J -30763516.35 -30763516.29 -30763516.20 0.0089 0.0073

Neptune -88939-04-29 06:27 J -30763428.30 -30763428.23 -30763428.13 0.0089 0.0069

Neptune -88939-07-26 07:54 J -30763340.25 -30763340.17 -30763340.06 0.0089 0.0065

Neptune -88939-10-22 09:35 J -30763252.19 -30763252.10 -30763251.99 0.0089 0.0060

Mars -88939-10-27 09:06 J -30763247.20 -30763247.12 -30763247.04 0.1653 0.1288

Neptune -88938-01-18 11:01 J -30763164.14 -30763164.04 -30763163.93 0.0089 0.0056

Neptune -88938-04-16 12:27 J -30763076.08 -30763075.98 -30763075.86 0.0089 0.0052

Neptune -88938-07-13 13:54 J -30762988.02 -30762987.92 -30762987.79 0.0089 0.0048

Neptune -88938-10-09 15:20 J -30762899.97 -30762899.86 -30762899.73 0.0089 0.0044

Neptune -88937-01-05 17:01 J -30762811.91 -30762811.79 -30762811.66 0.0089 0.0039

Jupiter -88937-04-02 16:32 J -30762723.87 -30762723.81 -30762723.75 0.0532 0.0470

Neptune -88937-04-02 18:42 J -30762723.85 -30762723.72 -30762723.59 0.0089 0.0035 *

Venus -88937-04-05 01:11 J -30762721.51 -30762721.45 -30762721.39 0.3781 0.3076

Neptune -88937-06-29 20:08 J -30762635.79 -30762635.66 -30762635.53 0.0089 0.0031

Jupiter -88937-07-01 02:08 J -30762634.54 -30762634.41 -30762634.28 0.0529 0.0015

Neptune -88937-09-25 21:49 J -30762547.73 -30762547.59 -30762547.46 0.0089 0.0026

Jupiter -88937-09-28 12:27 J -30762545.05 -30762544.98 -30762544.91 0.0526 0.0447

Mars -88937-10-01 20:51 J -30762541.74 -30762541.63 -30762541.52 0.1634 0.0799

Neptune -88937-12-22 23:15 J -30762459.66 -30762459.53 -30762459.40 0.0089 0.0022

Neptune -88936-03-21 00:42 J -30762371.60 -30762371.47 -30762371.33 0.0089 0.0018

Neptune -88936-06-17 02:23 J -30762283.54 -30762283.40 -30762283.26 0.0089 0.0013

Moon -88936-08-13 00:13 J -30762226.60 -30762226.49 -30762226.38 0.2587 0.1502

Earth -88936-08-13 01:25 J -30762226.56 -30762226.44 -30762226.32 0.2586 0.1333 *

Neptune -88936-09-13 03:49 J -30762195.48 -30762195.34 -30762195.20 0.0089 0.0009

Neptune -88936-12-10 05:30 J -30762107.41 -30762107.27 -30762107.13 0.0089 0.0005

Neptune -88935-03-08 06:56 J -30762019.35 -30762019.21 -30762019.07 0.0089 0.0001

Neptune -88935-06-04 08:37 J -30761931.28 -30761931.14 -30761931.00 0.0089 0.0005

Neptune -88935-08-31 10:03 J -30761843.22 -30761843.08 -30761842.94 0.0089 0.0009

Neptune -88935-11-27 11:30 J -30761755.15 -30761755.02 -30761754.88 0.0089 0.0013

Venus -88934-01-25 19:54 J -30761695.74 -30761695.67 -30761695.60 0.3623 0.2990

Neptune -88934-02-23 13:11 J -30761667.09 -30761666.95 -30761666.81 0.0089 0.0017

Neptune -88934-05-22 14:37 J -30761579.02 -30761578.89 -30761578.75 0.0089 0.0022

Neptune -88934-08-18 16:18 J -30761490.95 -30761490.82 -30761490.68 0.0089 0.0026

Neptune -88934-11-14 17:44 J -30761402.88 -30761402.76 -30761402.62 0.0089 0.0031

Neptune -88933-02-10 19:25 J -30761314.82 -30761314.69 -30761314.56 0.0089 0.0035

Moon -88933-02-14 03:06 J -30761311.44 -30761311.37 -30761311.29 0.2750 0.2108

Earth -88933-02-14 04:03 J -30761311.40 -30761311.33 -30761311.27 0.2747 0.2281 *

Neptune -88933-05-08 20:51 J -30761226.75 -30761226.63 -30761226.49 0.0089 0.0040

Neptune -88933-08-04 22:32 J -30761138.67 -30761138.56 -30761138.43 0.0089 0.0044

Neptune -88933-10-31 23:59 J -30761050.60 -30761050.50 -30761050.37 0.0089 0.0049

Neptune -88932-01-28 01:39 J -30760962.53 -30760962.43 -30760962.31 0.0089 0.0053

Neptune -88932-04-26 03:20 J -30760874.46 -30760874.36 -30760874.24 0.0089 0.0058

Neptune -88932-07-23 05:01 J -30760786.38 -30760786.29 -30760786.18 0.0089 0.0062

Neptune -88932-10-19 06:27 J -30760698.31 -30760698.23 -30760698.12 0.0089 0.0067

Venus -88932-10-19 19:11 J -30760697.79 -30760697.70 -30760697.62 0.3778 0.2393

Neptune -88931-01-15 08:08 J -30760610.23 -30760610.16 -30760610.06 0.0089 0.0071

Neptune -88931-04-13 10:03 J -30760522.15 -30760522.08 -30760522.01 0.0089 0.0075

Neptune -88931-07-10 11:30 J -30760434.07 -30760434.02 -30760433.95 0.0089 0.0080

Jupiter -88931-08-29 16:47 J -30760383.93 -30760383.80 -30760383.66 0.0497 0.0293

Neptune -88931-10-06 12:56 J -30760345.98 -30760345.96 -30760345.90 0.0089 0.0085

Jupiter -88931-11-27 18:42 J -30760293.87 -30760293.72 -30760293.56 0.0500 0.0209

Mars -88930-05-27 22:03 J -30760112.72 -30760112.58 -30760112.44 0.1895 0.0247

Mars -88927-02-22 05:59 J -30759111.38 -30759111.25 -30759111.13 0.1639 0.0297

Moon -88926-02-06 19:11 J -30758761.79 -30758761.70 -30758761.61 0.2746 0.1813

Earth -88926-02-06 19:11 J -30758761.79 -30758761.70 -30758761.62 0.2753 0.1869 *

Venus -88926-05-05 13:25 J -30758674.04 -30758673.94 -30758673.84 0.3775 0.1685

Saturn -88926-06-27 21:20 J -30758620.71 -30758620.61 -30758620.50 0.0286 0.0226

Saturn -88926-09-24 17:30 J -30758531.93 -30758531.77 -30758531.61 0.0286 0.0098

Saturn -88926-12-22 13:11 J -30758443.12 -30758442.95 -30758442.79 0.0286 0.0028

Saturn -88925-03-20 08:08 J -30758354.30 -30758354.16 -30758354.02 0.0286 0.0149

Jupiter -88925-04-19 05:01 J -30758324.42 -30758324.29 -30758324.16 0.0531 0.0133

Saturn -88925-06-17 02:51 J -30758265.43 -30758265.38 -30758265.32 0.0286 0.0267

Jupiter -88925-07-17 15:20 J -30758234.97 -30758234.86 -30758234.75 0.0527 0.0329

Moon -88923-08-16 01:25 J -30757475.58 -30757475.44 -30757475.31 0.2594 0.0334

Earth -88923-08-16 01:54 J -30757475.56 -30757475.42 -30757475.28 0.2588 0.0313 *

Mars -88921-10-16 22:47 J -30756682.68 -30756682.55 -30756682.42 0.1888 0.0787

Venus -88921-11-18 07:54 J -30756650.28 -30756650.17 -30756650.07 0.3772 0.0968

Jupiter -88919-06-17 15:35 J -30756073.94 -30756073.85 -30756073.76 0.0496 0.0420

Jupiter -88919-09-15 17:59 J -30755983.92 -30755983.75 -30755983.59 0.0499 0.0084

Mars -88918-07-15 14:51 J -30755681.01 -30755680.88 -30755680.75 0.1643 0.0216

Venus -88915-06-04 02:23 J -30754626.51 -30754626.40 -30754626.28 0.3768 0.0257

Jupiter -88913-02-06 08:37 J -30754014.26 -30754014.14 -30754014.02 0.0532 0.0244

Moon -88913-02-09 15:06 J -30754010.99 -30754010.87 -30754010.75 0.2745 0.0488

Earth -88913-02-09 15:35 J -30754010.96 -30754010.85 -30754010.73 0.2751 0.0422 *

Jupiter -88913-05-05 18:42 J -30753924.85 -30753924.72 -30753924.60 0.0528 0.0218

Saturn -88911-01-12 00:13 J -30753308.52 -30753308.49 -30753308.45 0.0273 0.0261

Mars -88911-03-08 23:01 J -30753252.57 -30753252.54 -30753252.52 0.1881 0.1841

Saturn -88911-04-10 12:27 J -30753220.09 -30753219.98 -30753219.87 0.0273 0.0173

Venus -88911-06-02 21:06 J -30753166.71 -30753166.62 -30753166.53 0.3601 0.2763

Saturn -88911-07-08 00:56 J -30753131.60 -30753131.46 -30753131.33 0.0273 0.0084

Saturn -88911-10-04 13:25 J -30753043.08 -30753042.94 -30753042.80 0.0273 0.0007

Saturn -88910-01-01 02:08 J -30752954.54 -30752954.41 -30752954.27 0.0273 0.0100

Saturn -88910-03-30 15:06 J -30752865.96 -30752865.87 -30752865.76 0.0273 0.0194

Earth -88910-08-19 01:54 J -30752724.51 -30752724.42 -30752724.33 0.2590 0.1912

Moon -88910-08-19 02:08 J -30752724.50 -30752724.41 -30752724.32 0.2596 0.1866 *

Venus -88910-12-18 21:20 J -30752602.72 -30752602.61 -30752602.50 0.3764 0.0559

Pluto -88909-08-23 14:37 J -30752353.92 -30752353.89 -30752353.85 0.0085 0.0081

Pluto -88909-11-19 15:49 J -30752265.91 -30752265.84 -30752265.76 0.0085 0.0069

Mars -88909-12-04 23:59 J -30752250.61 -30752250.50 -30752250.38 0.1648 0.0717

Pluto -88908-02-15 17:01 J -30752177.88 -30752177.79 -30752177.68 0.0084 0.0057

Pluto -88908-05-14 18:27 J -30752089.84 -30752089.73 -30752089.61 0.0084 0.0044

Pluto -88908-08-10 19:39 J -30752001.79 -30752001.68 -30752001.55 0.0084 0.0032

Pluto -88908-11-06 21:06 J -30751913.75 -30751913.62 -30751913.49 0.0084 0.0020

Pluto -88907-02-02 22:18 J -30751825.70 -30751825.57 -30751825.43 0.0084 0.0008

Pluto -88907-05-01 23:44 J -30751737.65 -30751737.51 -30751737.38 0.0084 0.0005

Jupiter -88907-07-04 16:47 J -30751673.97 -30751673.80 -30751673.63 0.0498 0.0044

Pluto -88907-07-29 00:42 J -30751649.59 -30751649.47 -30751649.33 0.0084 0.0017

Jupiter -88907-10-02 17:44 J -30751583.82 -30751583.76 -30751583.68 0.0502 0.0453

Pluto -88907-10-25 02:08 J -30751561.53 -30751561.41 -30751561.28 0.0084 0.0028

Mars -88907-11-10 12:13 J -30751545.06 -30751544.99 -30751544.92 0.1630 0.1384

Pluto -88906-01-21 03:20 J -30751473.47 -30751473.36 -30751473.24 0.0083 0.0040

Pluto -88906-04-19 04:32 J -30751385.41 -30751385.31 -30751385.20 0.0083 0.0051

Pluto -88906-07-16 05:30 J -30751297.34 -30751297.27 -30751297.17 0.0083 0.0063

Pluto -88906-10-12 06:56 J -30751209.26 -30751209.21 -30751209.15 0.0083 0.0074

Venus -88906-12-17 21:49 J -30751142.71 -30751142.59 -30751142.47 0.3605 0.1661

Venus -88904-07-03 16:32 J -30750578.92 -30750578.81 -30750578.71 0.3761 0.1357

Jupiter -88902-11-25 12:13 J -30749704.09 -30749703.99 -30749703.89 0.0532 0.0353

Jupiter -88901-02-22 22:03 J -30749614.72 -30749614.58 -30749614.45 0.0529 0.0107

Uranus -88901-08-16 18:56 J -30749438.72 -30749438.71 -30749438.69 0.0140 0.0139

Uranus -88901-11-12 22:47 J -30749350.61 -30749350.55 -30749350.47 0.0140 0.0121

Uranus -88900-02-09 02:37 J -30749262.47 -30749262.39 -30749262.28 0.0141 0.0104

Moon -88900-02-11 11:30 J -30749260.13 -30749260.02 -30749259.91 0.2749 0.0948

Earth -88900-02-11 12:27 J -30749260.09 -30749259.98 -30749259.87 0.2749 0.1076 *

Uranus -88900-05-08 06:42 J -30749174.32 -30749174.22 -30749174.10 0.0141 0.0086

Venus -88900-07-02 22:18 J -30749118.71 -30749118.57 -30749118.44 0.3608 0.0607

Mars -88900-07-05 21:20 J -30749115.71 -30749115.61 -30749115.51 0.1901 0.1362

Uranus -88900-08-04 11:01 J -30749086.17 -30749086.04 -30749085.92 0.0141 0.0067

Uranus -88900-10-31 14:51 J -30748998.01 -30748997.88 -30748997.74 0.0141 0.0049

Uranus -88899-01-27 19:11 J -30748909.84 -30748909.70 -30748909.56 0.0141 0.0030

Uranus -88899-04-25 23:15 J -30748821.67 -30748821.53 -30748821.39 0.0141 0.0011

Mars -88899-04-27 09:20 J -30748820.20 -30748820.11 -30748820.03 0.1653 0.1218

Uranus -88899-07-23 03:35 J -30748733.50 -30748733.35 -30748733.21 0.0141 0.0009

Uranus -88899-10-19 07:39 J -30748645.32 -30748645.18 -30748645.04 0.0142 0.0027

Uranus -88898-01-15 11:59 J -30748557.14 -30748557.00 -30748556.86 0.0142 0.0046

Venus -88898-01-17 11:44 J -30748555.10 -30748555.01 -30748554.92 0.3757 0.2164

Uranus -88898-04-13 16:18 J -30748468.95 -30748468.82 -30748468.69 0.0142 0.0066

Uranus -88898-07-10 20:23 J -30748380.76 -30748380.65 -30748380.53 0.0142 0.0086

Uranus -88898-10-07 00:42 J -30748292.55 -30748292.47 -30748292.36 0.0142 0.0106

Uranus -88897-01-03 05:30 J -30748204.34 -30748204.27 -30748204.21 0.0142 0.0126

Mars -88897-04-01 21:06 J -30748114.73 -30748114.62 -30748114.51 0.1634 0.0875

Saturn -88897-11-13 19:39 J -30747888.73 -30747888.68 -30747888.63 0.0286 0.0271

Saturn -88896-02-10 15:49 J -30747799.99 -30747799.84 -30747799.69 0.0285 0.0143

Saturn -88896-05-10 11:30 J -30747711.19 -30747711.02 -30747710.85 0.0285 0.0017

Saturn -88896-08-07 06:42 J -30747622.37 -30747622.22 -30747622.06 0.0285 0.0107

Saturn -88896-11-04 01:39 J -30747533.53 -30747533.43 -30747533.33 0.0285 0.0226

Jupiter -88895-04-22 16:18 J -30747363.99 -30747363.82 -30747363.66 0.0498 0.0166

Jupiter -88895-07-21 17:44 J -30747273.88 -30747273.76 -30747273.63 0.0501 0.0334

Venus -88894-01-16 22:03 J -30747094.71 -30747094.58 -30747094.45 0.3612 0.0417

Venus -88893-08-02 07:25 J -30746531.26 -30746531.19 -30746531.13 0.3753 0.3005

Mars -88891-11-25 22:32 J -30745685.70 -30745685.56 -30745685.41 0.1895 0.0367

Moon -88890-08-14 06:13 J -30745424.37 -30745424.24 -30745424.11 0.2589 0.1072

Earth -88890-08-14 07:11 J -30745424.33 -30745424.20 -30745424.06 0.2586 0.0980 *

Jupiter -88890-09-13 15:06 J -30745393.93 -30745393.87 -30745393.80 0.0532 0.0469

Jupiter -88890-12-12 00:42 J -30745304.60 -30745304.47 -30745304.33 0.0529 0.0015

Jupiter -88889-03-10 11:01 J -30745215.11 -30745215.04 -30745214.97 0.0526 0.0448

Venus -88889-08-01 21:35 J -30745070.72 -30745070.60 -30745070.48 0.3616 0.1391

Mars -88888-08-23 05:59 J -30744684.37 -30744684.25 -30744684.12 0.1638 0.0367

Moon -88887-02-14 08:23 J -30744509.19 -30744509.15 -30744509.11 0.2750 0.2570

Earth -88887-02-14 09:20 J -30744509.15 -30744509.11 -30744509.08 0.2746 0.2591 *

Venus -88886-04-27 05:15 J -30744072.31 -30744072.28 -30744072.25 0.3783 0.3577

Jupiter -88883-02-08 15:06 J -30743054.01 -30743053.87 -30743053.73 0.0497 0.0291

Venus -88883-02-15 20:37 J -30743046.74 -30743046.64 -30743046.55 0.3620 0.2323

Jupiter -88883-05-09 17:15 J -30742963.94 -30742963.78 -30742963.63 0.0500 0.0212

Saturn -88882-08-28 14:23 J -30742487.99 -30742487.90 -30742487.80 0.0274 0.0200

Saturn -88882-11-25 02:51 J -30742399.51 -30742399.38 -30742399.25 0.0274 0.0111

Saturn -88881-02-21 15:20 J -30742311.00 -30742310.86 -30742310.72 0.0274 0.0020

Mars -88881-04-16 23:01 J -30742255.67 -30742255.54 -30742255.40 0.1888 0.0685

Saturn -88881-05-20 04:03 J -30742222.47 -30742222.33 -30742222.19 0.0274 0.0073

Saturn -88881-08-16 17:01 J -30742133.90 -30742133.79 -30742133.67 0.0274 0.0167

Venus -88881-11-09 23:01 J -30742048.60 -30742048.54 -30742048.47 0.3780 0.2918

Saturn -88881-11-13 06:13 J -30742045.27 -30742045.24 -30742045.19 0.0274 0.0263

Moon -88880-02-07 00:13 J -30741959.59 -30741959.49 -30741959.40 0.2746 0.1645

Earth -88880-02-07 00:13 J -30741959.58 -30741959.49 -30741959.39 0.2753 0.1574 *

Mars -88878-01-13 15:06 J -30741254.00 -30741253.87 -30741253.74 0.1643 0.0144

Venus -88878-09-01 19:11 J -30741022.76 -30741022.70 -30741022.64 0.3624 0.3210

Jupiter -88878-09-30 03:35 J -30740994.48 -30740994.35 -30740994.22 0.0530 0.0132

Jupiter -88878-12-28 13:39 J -30740905.03 -30740904.93 -30740904.82 0.0527 0.0330

Moon -88877-08-16 07:11 J -30740673.34 -30740673.20 -30740673.07 0.2594 0.0557

Earth -88877-08-16 07:39 J -30740673.32 -30740673.18 -30740673.05 0.2588 0.0659 *

Venus -88875-05-26 17:15 J -30740024.87 -30740024.78 -30740024.69 0.3777 0.2220

Mars -88872-09-06 23:30 J -30738825.57 -30738825.52 -30738825.46 0.1881 0.1724

Jupiter -88872-11-27 13:39 J -30738744.02 -30738743.93 -30738743.84 0.0496 0.0422

Jupiter -88871-02-25 15:49 J -30738654.01 -30738653.84 -30738653.67 0.0499 0.0082

Venus -88870-12-10 11:30 J -30738001.12 -30738001.02 -30738000.92 0.3774 0.1513

Mars -88869-06-05 00:13 J -30737823.61 -30737823.49 -30737823.37 0.1648 0.0648

Moon -88867-02-09 20:08 J -30737208.78 -30737208.66 -30737208.54 0.2746 0.0180

Earth -88867-02-09 20:51 J -30737208.75 -30737208.63 -30737208.51 0.2751 0.0112 *

Mars -88867-05-11 12:13 J -30737118.04 -30737117.99 -30737117.93 0.1630 0.1458

Saturn -88867-06-30 17:59 J -30737067.88 -30737067.75 -30737067.60 0.0286 0.0164

Saturn -88867-09-27 13:54 J -30736979.08 -30736978.92 -30736978.75 0.0286 0.0037

Saturn -88867-12-25 09:20 J -30736890.27 -30736890.11 -30736889.95 0.0286 0.0087

Saturn -88866-03-24 04:18 J -30736801.43 -30736801.32 -30736801.21 0.0286 0.0208

Jupiter -88866-07-19 06:27 J -30736684.34 -30736684.23 -30736684.11 0.0532 0.0251

Jupiter -88866-10-16 16:32 J -30736594.94 -30736594.81 -30736594.69 0.0528 0.0210

Venus -88864-06-25 05:59 J -30735977.36 -30735977.25 -30735977.14 0.3771 0.0788

Earth -88864-08-19 07:39 J -30735922.25 -30735922.18 -30735922.12 0.2590 0.2246

Moon -88864-08-19 08:08 J -30735922.21 -30735922.16 -30735922.11 0.2596 0.2375 *

Uranus -88861-01-12 00:27 J -30735046.52 -30735046.48 -30735046.45 0.0138 0.0135

Uranus -88861-04-09 06:42 J -30734958.32 -30734958.22 -30734958.11 0.0138 0.0112

Uranus -88861-07-06 12:56 J -30734870.08 -30734869.96 -30734869.82 0.0138 0.0090

Uranus -88861-10-02 19:25 J -30734781.84 -30734781.69 -30734781.54 0.0138 0.0068

Uranus -88861-12-30 01:25 J -30734693.60 -30734693.44 -30734693.27 0.0137 0.0047

Mars -88860-01-03 21:49 J -30734688.67 -30734688.59 -30734688.50 0.1901 0.1477

Uranus -88860-03-28 07:39 J -30734605.35 -30734605.18 -30734605.00 0.0137 0.0025

Uranus -88860-06-24 13:54 J -30734517.10 -30734516.92 -30734516.75 0.0137 0.0004

Uranus -88860-09-20 19:54 J -30734428.84 -30734428.67 -30734428.50 0.0137 0.0017

Mars -88860-10-26 09:20 J -30734393.20 -30734393.11 -30734393.02 0.1653 0.1148

Jupiter -88860-12-14 14:51 J -30734344.05 -30734343.88 -30734343.71 0.0498 0.0045

Uranus -88860-12-18 01:54 J -30734340.59 -30734340.42 -30734340.26 0.0137 0.0038

Jupiter -88859-03-14 16:03 J -30734253.90 -30734253.83 -30734253.76 0.0501 0.0451

Uranus -88859-03-16 07:39 J -30734252.33 -30734252.18 -30734252.02 0.0137 0.0059

Uranus -88859-06-12 13:25 J -30734164.07 -30734163.94 -30734163.79 0.0137 0.0079

Uranus -88859-09-08 19:11 J -30734075.81 -30734075.70 -30734075.57 0.0137 0.0100

Uranus -88859-12-06 00:56 J -30733987.53 -30733987.46 -30733987.37 0.0136 0.0119

Venus -88858-01-09 00:42 J -30733953.58 -30733953.47 -30733953.35 0.3767 0.0119

Mars -88858-10-01 21:06 J -30733687.72 -30733687.62 -30733687.51 0.1634 0.0950

Neptune -88857-05-08 22:32 J -30733467.57 -30733467.56 -30733467.53 0.0089 0.0088

Neptune -88857-08-05 02:08 J -30733379.48 -30733379.41 -30733379.35 0.0089 0.0082

Moon -88857-08-11 11:15 J -30733373.07 -30733373.03 -30733373.00 0.2583 0.2489

Earth -88857-08-11 12:27 J -30733373.04 -30733372.98 -30733372.92 0.2585 0.2303 *

Neptune -88857-11-01 04:47 J -30733291.37 -30733291.30 -30733291.18 0.0089 0.0077

Neptune -88856-01-28 08:08 J -30733203.25 -30733203.16 -30733203.03 0.0089 0.0071

Neptune -88856-04-26 11:30 J -30733115.13 -30733115.02 -30733114.88 0.0089 0.0065

Neptune -88856-07-23 14:51 J -30733027.01 -30733026.88 -30733026.74 0.0089 0.0059

Neptune -88856-10-19 18:13 J -30732938.89 -30732938.74 -30732938.59 0.0089 0.0053

Neptune -88855-01-15 21:06 J -30732850.76 -30732850.62 -30732850.45 0.0089 0.0048

Neptune -88855-04-14 00:27 J -30732762.64 -30732762.48 -30732762.31 0.0089 0.0042

Neptune -88855-07-11 03:35 J -30732674.51 -30732674.35 -30732674.17 0.0089 0.0036

Neptune -88855-10-07 06:42 J -30732586.38 -30732586.22 -30732586.04 0.0089 0.0030

Neptune -88854-01-03 09:49 J -30732498.26 -30732498.09 -30732497.90 0.0089 0.0025

Venus -88854-01-07 21:06 J -30732493.72 -30732493.62 -30732493.52 0.3602 0.2484

Moon -88854-02-12 16:32 J -30732457.91 -30732457.81 -30732457.70 0.2749 0.1271

Earth -88854-02-12 17:30 J -30732457.87 -30732457.77 -30732457.66 0.2749 0.1380 *

Neptune -88854-04-01 13:11 J -30732410.13 -30732409.95 -30732409.77 0.0089 0.0019

Jupiter -88854-05-07 10:03 J -30732374.18 -30732374.08 -30732373.99 0.0533 0.0362

Neptune -88854-06-28 16:18 J -30732322.00 -30732321.82 -30732321.64 0.0089 0.0013

Jupiter -88854-08-04 19:54 J -30732284.81 -30732284.67 -30732284.54 0.0529 0.0098

Neptune -88854-09-24 19:25 J -30732233.87 -30732233.69 -30732233.51 0.0089 0.0007

Neptune -88854-12-21 22:32 J -30732145.74 -30732145.56 -30732145.38 0.0089 0.0002

Neptune -88853-03-19 01:39 J -30732057.61 -30732057.43 -30732057.25 0.0089 0.0004

Neptune -88853-06-15 04:32 J -30731969.48 -30731969.31 -30731969.12 0.0089 0.0010

Venus -88853-07-24 19:39 J -30731929.79 -30731929.68 -30731929.57 0.3763 0.0761

Neptune -88853-09-11 07:39 J -30731881.35 -30731881.18 -30731881.00 0.0089 0.0015

Neptune -88853-12-08 10:47 J -30731793.22 -30731793.05 -30731792.87 0.0089 0.0021

Saturn -88852-01-14 17:01 J -30731755.86 -30731755.79 -30731755.70 0.0273 0.0220

Neptune -88852-03-06 13:39 J -30731705.09 -30731704.93 -30731704.75 0.0089 0.0026

Saturn -88852-04-13 05:30 J -30731667.39 -30731667.27 -30731667.15 0.0273 0.0131

Neptune -88852-06-02 16:47 J -30731616.96 -30731616.80 -30731616.63 0.0089 0.0032

Saturn -88852-07-10 17:59 J -30731578.89 -30731578.75 -30731578.61 0.0273 0.0041

Neptune -88852-08-29 19:39 J -30731528.83 -30731528.68 -30731528.51 0.0089 0.0037

Saturn -88852-10-07 06:27 J -30731490.37 -30731490.23 -30731490.08 0.0273 0.0052

Neptune -88852-11-25 22:47 J -30731440.70 -30731440.55 -30731440.39 0.0089 0.0043

Saturn -88851-01-03 19:25 J -30731401.81 -30731401.69 -30731401.56 0.0273 0.0144

Neptune -88851-02-22 01:39 J -30731352.57 -30731352.43 -30731352.27 0.0088 0.0048

Saturn -88851-04-02 08:37 J -30731313.21 -30731313.14 -30731313.07 0.0273 0.0239

Neptune -88851-05-21 04:47 J -30731264.44 -30731264.30 -30731264.15 0.0088 0.0054

Mars -88851-05-26 22:47 J -30731258.69 -30731258.55 -30731258.41 0.1895 0.0448

Neptune -88851-08-17 07:54 J -30731176.30 -30731176.17 -30731176.04 0.0088 0.0059

Neptune -88851-11-13 10:32 J -30731088.17 -30731088.06 -30731087.93 0.0088 0.0065

Neptune -88850-02-09 13:39 J -30731000.03 -30730999.93 -30730999.82 0.0088 0.0070

Mars -88850-03-18 18:42 J -30730962.73 -30730962.72 -30730962.71 0.1658 0.1648

Neptune -88850-05-08 16:18 J -30730911.89 -30730911.82 -30730911.71 0.0088 0.0076

Neptune -88850-08-04 19:11 J -30730823.75 -30730823.70 -30730823.61 0.0088 0.0081

Neptune -88850-10-31 22:18 J -30730735.60 -30730735.57 -30730735.52 0.0088 0.0086

Venus -88849-07-23 21:49 J -30730469.72 -30730469.59 -30730469.47 0.3606 0.1391

Mars -88848-02-21 06:13 J -30730257.37 -30730257.24 -30730257.12 0.1638 0.0440

Jupiter -88848-10-02 13:39 J -30730034.09 -30730033.93 -30730033.77 0.0497 0.0172

Jupiter -88848-12-31 15:06 J -30729943.99 -30729943.87 -30729943.74 0.0501 0.0328

Earth -88847-02-05 09:06 J -30729908.14 -30729908.12 -30729908.10 0.2754 0.2704

Moon -88847-02-05 09:35 J -30729908.11 -30729908.10 -30729908.08 0.2749 0.2709 *

Venus -88847-02-07 14:51 J -30729905.98 -30729905.88 -30729905.78 0.3760 0.1555

Moon -88844-08-14 12:13 J -30728622.13 -30728621.99 -30728621.86 0.2591 0.0700

Earth -88844-08-14 13:11 J -30728622.09 -30728621.95 -30728621.82 0.2587 0.0630 *

Venus -88843-02-06 22:03 J -30728445.72 -30728445.58 -30728445.45 0.3609 0.0359

Jupiter -88842-02-23 13:39 J -30728063.99 -30728063.93 -30728063.87 0.0533 0.0470

Jupiter -88842-05-23 23:15 J -30727974.66 -30727974.53 -30727974.39 0.0530 0.0014

Jupiter -88842-08-21 09:35 J -30727885.16 -30727885.10 -30727885.03 0.0526 0.0450

Venus -88842-08-24 10:18 J -30727882.16 -30727882.07 -30727881.98 0.3756 0.2376

Mars -88842-10-16 23:44 J -30727828.65 -30727828.51 -30727828.37 0.1889 0.0569

Mars -88839-07-14 15:20 J -30726826.99 -30726826.86 -30726826.73 0.1643 0.0086

Venus -88838-08-23 21:35 J -30726421.73 -30726421.60 -30726421.46 0.3613 0.0676

Saturn -88838-11-17 16:18 J -30726335.94 -30726335.82 -30726335.71 0.0286 0.0209

Saturn -88837-02-14 12:13 J -30726247.15 -30726246.99 -30726246.83 0.0286 0.0082

Saturn -88837-05-13 07:54 J -30726158.34 -30726158.17 -30726158.01 0.0285 0.0044

Saturn -88837-08-10 02:51 J -30726069.51 -30726069.38 -30726069.24 0.0285 0.0165

Saturn -88837-11-06 21:35 J -30725980.61 -30725980.60 -30725980.58 0.0285 0.0283

Venus -88836-03-09 05:59 J -30725858.31 -30725858.25 -30725858.19 0.3752 0.3224

Jupiter -88836-07-21 12:56 J -30725724.10 -30725723.96 -30725723.82 0.0497 0.0295

Jupiter -88836-10-19 14:51 J -30725634.03 -30725633.88 -30725633.72 0.0500 0.0208

Moon -88834-02-08 05:15 J -30725157.39 -30725157.28 -30725157.17 0.2745 0.1224

Earth -88834-02-08 05:30 J -30725157.37 -30725157.27 -30725157.17 0.2753 0.1276 *

Mars -88832-03-07 23:59 J -30724398.57 -30724398.50 -30724398.43 0.1881 0.1620

Venus -88832-03-08 21:06 J -30724397.74 -30724397.62 -30724397.51 0.3617 0.1629

Moon -88831-08-17 12:56 J -30723871.08 -30723870.96 -30723870.83 0.2594 0.1015

Earth -88831-08-17 13:25 J -30723871.07 -30723870.94 -30723870.81 0.2588 0.1005 *

Jupiter -88830-03-12 02:23 J -30723664.53 -30723664.40 -30723664.27 0.0530 0.0130

Jupiter -88830-06-09 12:27 J -30723575.09 -30723574.98 -30723574.88 0.0527 0.0331

Venus -88830-12-02 03:20 J -30723399.41 -30723399.36 -30723399.32 0.3782 0.3420

Mars -88830-12-05 00:13 J -30723396.61 -30723396.49 -30723396.37 0.1647 0.0577

Mars -88828-11-09 12:27 J -30722691.02 -30722690.98 -30722690.93 0.1630 0.1537

Venus -88827-09-22 19:54 J -30722373.76 -30722373.67 -30722373.58 0.3621 0.2547

Jupiter -88824-05-09 11:44 J -30721414.09 -30721414.01 -30721413.91 0.0496 0.0421

Venus -88824-06-16 21:20 J -30721375.69 -30721375.61 -30721375.54 0.3779 0.2747

Jupiter -88824-08-07 14:23 J -30721324.07 -30721323.90 -30721323.73 0.0499 0.0085

Saturn -88823-06-03 18:56 J -30721023.76 -30721023.71 -30721023.65 0.0274 0.0249

Saturn -88823-08-31 07:11 J -30720935.31 -30720935.20 -30720935.09 0.0274 0.0161

Saturn -88823-11-27 19:25 J -30720846.82 -30720846.69 -30720846.55 0.0274 0.0072

Saturn -88822-02-24 08:08 J -30720758.30 -30720758.16 -30720758.02 0.0274 0.0021

Saturn -88822-05-23 20:51 J -30720669.76 -30720669.63 -30720669.49 0.0274 0.0114

Saturn -88822-08-20 09:49 J -30720581.17 -30720581.09 -30720580.99 0.0274 0.0209

Moon -88821-02-11 01:11 J -30720406.57 -30720406.45 -30720406.33 0.2747 0.0098

Earth -88821-02-11 02:08 J -30720406.53 -30720406.41 -30720406.30 0.2750 0.0213 *

Venus -88821-04-07 18:27 J -30720349.77 -30720349.73 -30720349.69 0.3625 0.3428

Mars -88821-07-04 22:03 J -30720261.65 -30720261.58 -30720261.50 0.1901 0.1573

Mars -88820-04-26 09:20 J -30719966.20 -30719966.11 -30719966.01 0.1652 0.1081

Jupiter -88819-12-29 05:15 J -30719354.39 -30719354.28 -30719354.16 0.0531 0.0246

Venus -88819-12-31 15:20 J -30719351.95 -30719351.86 -30719351.76 0.3776 0.2053

Jupiter -88818-03-28 15:20 J -30719264.99 -30719264.86 -30719264.74 0.0528 0.0214

Mars -88818-04-01 21:20 J -30719260.71 -30719260.61 -30719260.51 0.1634 0.1021

Earth -88818-08-20 13:11 J -30719119.95 -30719119.95 -30719119.94 0.2591 0.2587

Moon -88818-08-20 13:54 J -30719119.92 -30719119.92 -30719119.92 0.2596 0.2596

Uranus -88817-09-06 01:54 J -30718737.45 -30718737.42 -30718737.38 0.0140 0.0136

Uranus -88817-12-03 05:44 J -30718649.32 -30718649.26 -30718649.18 0.0141 0.0118

Uranus -88816-03-01 09:49 J -30718561.18 -30718561.09 -30718560.99 0.0141 0.0100

Uranus -88816-05-28 13:54 J -30718473.03 -30718472.92 -30718472.80 0.0141 0.0082

Uranus -88816-08-24 17:59 J -30718384.88 -30718384.75 -30718384.62 0.0141 0.0064

Uranus -88816-11-20 22:03 J -30718296.71 -30718296.58 -30718296.44 0.0141 0.0045

Uranus -88815-02-17 02:08 J -30718208.55 -30718208.41 -30718208.27 0.0141 0.0027

Uranus -88815-05-16 06:13 J -30718120.38 -30718120.24 -30718120.09 0.0141 0.0009

Uranus -88815-08-12 10:32 J -30718032.20 -30718032.06 -30718031.92 0.0142 0.0011

Uranus -88815-11-08 14:37 J -30717944.03 -30717943.89 -30717943.74 0.0142 0.0031

Uranus -88814-02-04 18:56 J -30717855.84 -30717855.71 -30717855.57 0.0142 0.0050

Uranus -88814-05-03 23:01 J -30717767.65 -30717767.54 -30717767.40 0.0142 0.0070

Uranus -88814-07-31 03:35 J -30717679.46 -30717679.35 -30717679.24 0.0142 0.0089

Uranus -88814-10-27 07:54 J -30717591.26 -30717591.17 -30717591.07 0.0142 0.0109

Uranus -88813-01-23 12:13 J -30717503.04 -30717502.99 -30717502.92 0.0142 0.0130

Venus -88813-07-16 09:49 J -30717328.19 -30717328.09 -30717327.99 0.3773 0.1328

Jupiter -88812-05-26 12:56 J -30717014.13 -30717013.96 -30717013.78 0.0498 0.0046

Jupiter -88812-08-24 14:08 J -30716923.98 -30716923.91 -30716923.84 0.0501 0.0452

Mars -88812-11-24 23:15 J -30716831.66 -30716831.53 -30716831.39 0.1895 0.0570

Moon -88811-08-12 17:01 J -30716570.88 -30716570.79 -30716570.70 0.2585 0.2004

Earth -88811-08-12 18:13 J -30716570.83 -30716570.74 -30716570.64 0.2585 0.1949 *

Mars -88811-09-16 18:42 J -30716535.75 -30716535.72 -30716535.68 0.1657 0.1581

Mars -88809-08-22 06:13 J -30715830.36 -30715830.24 -30715830.11 0.1638 0.0511

Moon -88808-02-12 21:49 J -30715655.69 -30715655.59 -30715655.49 0.2749 0.1588

Earth -88808-02-12 22:47 J -30715655.64 -30715655.55 -30715655.46 0.2748 0.1689 *

Saturn -88808-04-05 17:59 J -30715603.85 -30715603.75 -30715603.65 0.0286 0.0234

Saturn -88808-07-03 14:08 J -30715515.07 -30715514.91 -30715514.75 0.0286 0.0105

Saturn -88808-09-30 09:49 J -30715426.26 -30715426.09 -30715425.92 0.0286 0.0021

Saturn -88808-12-28 05:01 J -30715337.43 -30715337.29 -30715337.15 0.0286 0.0143

Venus -88807-01-30 04:18 J -30715304.43 -30715304.32 -30715304.21 0.3769 0.0599

Saturn -88807-03-26 23:44 J -30715248.57 -30715248.51 -30715248.44 0.0286 0.0263

Jupiter -88807-10-17 08:08 J -30715044.26 -30715044.16 -30715044.07 0.0532 0.0367

Jupiter -88806-01-14 17:59 J -30714954.89 -30714954.75 -30714954.62 0.0529 0.0093

Venus -88803-01-28 20:08 J -30713844.71 -30713844.66 -30713844.61 0.3600 0.3330

Mars -88802-04-16 23:59 J -30713401.64 -30713401.50 -30713401.36 0.1888 0.0477

Venus -88802-08-15 23:15 J -30713280.65 -30713280.53 -30713280.42 0.3766 0.0226

Earth -88801-02-06 14:23 J -30713105.96 -30713105.90 -30713105.85 0.2754 0.2414

Moon -88801-02-06 14:37 J -30713105.95 -30713105.89 -30713105.83 0.2748 0.2318 *

Jupiter -88800-03-14 11:59 J -30712704.16 -30712704.00 -30712703.83 0.0497 0.0170

Jupiter -88800-06-12 13:25 J -30712614.06 -30712613.94 -30712613.81 0.0500 0.0329

Mars -88799-01-12 15:20 J -30712399.99 -30712399.86 -30712399.73 0.1643 0.0004

Venus -88798-08-14 21:06 J -30711820.73 -30711820.62 -30711820.51 0.3603 0.2203

Moon -88798-08-15 17:59 J -30711819.89 -30711819.75 -30711819.61 0.2592 0.0411

Earth -88798-08-15 18:56 J -30711819.85 -30711819.71 -30711819.57 0.2587 0.0292 *

Venus -88796-02-28 18:13 J -30711256.85 -30711256.74 -30711256.63 0.3762 0.0963

Jupiter -88795-08-05 11:44 J -30710734.07 -30710734.01 -30710733.96 0.0533 0.0477

Jupiter -88795-11-02 21:20 J -30710644.75 -30710644.61 -30710644.48 0.0530 0.0024

Jupiter -88794-01-31 07:39 J -30710555.25 -30710555.18 -30710555.11 0.0527 0.0443

Saturn -88794-10-21 21:49 J -30710291.61 -30710291.59 -30710291.56 0.0273 0.0267

Saturn -88793-01-18 09:49 J -30710203.19 -30710203.09 -30710202.98 0.0273 0.0180

Saturn -88793-04-15 22:18 J -30710114.70 -30710114.57 -30710114.44 0.0273 0.0091

Saturn -88793-07-13 10:47 J -30710026.19 -30710026.05 -30710025.91 0.0273 0.0001

Mars -88793-09-06 00:27 J -30709971.57 -30709971.48 -30709971.40 0.1882 0.1517

Saturn -88793-10-09 23:30 J -30709937.65 -30709937.52 -30709937.38 0.0273 0.0092

Saturn -88792-01-06 12:27 J -30709849.08 -30709848.98 -30709848.87 0.0273 0.0186

Venus -88792-02-27 21:35 J -30709796.73 -30709796.60 -30709796.47 0.3607 0.1123

Venus -88791-09-14 13:25 J -30709233.04 -30709232.94 -30709232.84 0.3758 0.1763

Mars -88790-06-05 00:27 J -30708969.60 -30708969.48 -30708969.36 0.1647 0.0501

Jupiter -88789-12-31 10:47 J -30708394.19 -30708394.05 -30708393.91 0.0497 0.0298

Moon -88788-02-08 10:32 J -30708355.17 -30708355.06 -30708354.96 0.2745 0.1081

Earth -88788-02-08 10:47 J -30708355.16 -30708355.05 -30708354.94 0.2752 0.0979 *

Jupiter -88788-03-31 12:42 J -30708304.13 -30708303.97 -30708303.82 0.0500 0.0203

Mars -88788-05-10 12:42 J -30708263.99 -30708263.97 -30708263.95 0.1630 0.1609

Venus -88787-09-13 21:35 J -30707772.73 -30707772.60 -30707772.46 0.3610 0.0123

Venus -88785-03-30 08:51 J -30707209.21 -30707209.13 -30707209.05 0.3754 0.2592

Moon -88785-08-17 18:56 J -30707068.82 -30707068.71 -30707068.59 0.2595 0.1338

Earth -88785-08-17 18:56 J -30707068.82 -30707068.71 -30707068.59 0.2589 0.1344 *

Jupiter -88783-08-22 00:56 J -30706334.59 -30706334.46 -30706334.33 0.0531 0.0131

Jupiter -88783-11-19 11:01 J -30706245.14 -30706245.04 -30706244.93 0.0527 0.0332

Mars -88781-01-03 22:32 J -30705834.62 -30705834.56 -30705834.49 0.1902 0.1683

Venus -88781-03-29 21:20 J -30705748.74 -30705748.61 -30705748.48 0.3614 0.0913

Mars -88781-10-25 09:35 J -30705539.20 -30705539.10 -30705539.00 0.1652 0.1007

Venus -88780-10-14 04:32 J -30705185.35 -30705185.31 -30705185.27 0.3750 0.3444

Saturn -88779-08-23 15:49 J -30704871.87 -30704871.84 -30704871.80 0.0286 0.0280

Mars -88779-09-30 21:35 J -30704833.70 -30704833.60 -30704833.50 0.1634 0.1098

Saturn -88779-11-20 12:13 J -30704783.13 -30704782.99 -30704782.85 0.0286 0.0151

Saturn -88778-02-17 08:08 J -30704694.33 -30704694.16 -30704693.99 0.0286 0.0025

Saturn -88778-05-17 03:35 J -30704605.51 -30704605.35 -30704605.20 0.0286 0.0100

Saturn -88778-08-13 22:18 J -30704516.67 -30704516.57 -30704516.46 0.0285 0.0221

Uranus -88777-02-01 07:11 J -30704345.24 -30704345.20 -30704345.13 0.0138 0.0130

Uranus -88777-04-29 13:39 J -30704257.03 -30704256.93 -30704256.81 0.0138 0.0108

Uranus -88777-07-26 20:08 J -30704168.79 -30704168.66 -30704168.52 0.0138 0.0086

Jupiter -88777-10-19 09:49 J -30704084.18 -30704084.09 -30704084.00 0.0496 0.0422

Uranus -88777-10-23 02:23 J -30704080.55 -30704080.40 -30704080.24 0.0138 0.0064

Jupiter -88776-01-17 12:13 J -30703994.16 -30703993.99 -30703993.82 0.0499 0.0083

Uranus -88776-01-19 08:37 J -30703992.30 -30703992.14 -30703991.97 0.0137 0.0042

Uranus -88776-04-17 14:51 J -30703904.05 -30703903.88 -30703903.71 0.0137 0.0020

Uranus -88776-07-14 21:06 J -30703815.80 -30703815.62 -30703815.45 0.0137 0.0004

Uranus -88776-10-11 02:51 J -30703727.54 -30703727.38 -30703727.20 0.0137 0.0022

Venus -88776-10-13 20:37 J -30703724.76 -30703724.64 -30703724.53 0.3618 0.1868

Neptune -88776-11-09 23:15 J -30703697.55 -30703697.53 -30703697.50 0.0089 0.0087

Uranus -88775-01-07 08:51 J -30703639.29 -30703639.13 -30703638.96 0.0137 0.0043

Neptune -88775-02-06 00:42 J -30703609.51 -30703609.47 -30703609.42 0.0089 0.0083

Moon -88775-02-11 06:27 J -30703604.35 -30703604.23 -30703604.12 0.2748 0.0472

Earth -88775-02-11 07:11 J -30703604.31 -30703604.20 -30703604.08 0.2750 0.0495 *

Uranus -88775-04-05 14:51 J -30703551.03 -30703550.88 -30703550.73 0.0137 0.0063

Neptune -88775-05-05 02:08 J -30703521.47 -30703521.41 -30703521.35 0.0089 0.0079

Uranus -88775-07-02 20:37 J -30703462.77 -30703462.64 -30703462.50 0.0137 0.0084

Neptune -88775-08-01 03:35 J -30703433.42 -30703433.35 -30703433.27 0.0089 0.0075

Uranus -88775-09-29 02:23 J -30703374.50 -30703374.40 -30703374.28 0.0137 0.0104

Neptune -88775-10-28 04:47 J -30703345.37 -30703345.30 -30703345.20 0.0089 0.0071

Uranus -88775-12-26 08:08 J -30703286.22 -30703286.16 -30703286.08 0.0136 0.0123

Neptune -88774-01-24 06:13 J -30703257.31 -30703257.24 -30703257.13 0.0089 0.0067

Neptune -88774-04-22 07:39 J -30703169.26 -30703169.18 -30703169.07 0.0089 0.0063

Neptune -88774-07-19 09:35 J -30703081.20 -30703081.10 -30703081.00 0.0089 0.0058

Neptune -88774-10-15 11:01 J -30702993.15 -30702993.04 -30702992.93 0.0089 0.0054

Neptune -88773-01-11 12:13 J -30702905.09 -30702904.99 -30702904.87 0.0089 0.0050

Neptune -88773-04-08 13:54 J -30702817.03 -30702816.92 -30702816.80 0.0089 0.0046

Neptune -88773-07-05 15:20 J -30702728.98 -30702728.86 -30702728.73 0.0089 0.0041

Venus -88773-07-08 01:25 J -30702726.50 -30702726.44 -30702726.39 0.3781 0.3254

Neptune -88773-10-01 17:01 J -30702640.92 -30702640.79 -30702640.67 0.0089 0.0037

Neptune -88773-12-28 18:27 J -30702552.86 -30702552.73 -30702552.60 0.0089 0.0033

Neptune -88772-03-26 19:54 J -30702464.80 -30702464.67 -30702464.54 0.0089 0.0029

Mars -88772-05-25 23:44 J -30702404.64 -30702404.51 -30702404.38 0.1895 0.0670

Neptune -88772-06-22 21:35 J -30702376.74 -30702376.60 -30702376.47 0.0089 0.0024

Neptune -88772-09-18 23:01 J -30702288.67 -30702288.54 -30702288.40 0.0089 0.0020

Neptune -88772-12-16 00:27 J -30702200.61 -30702200.48 -30702200.34 0.0089 0.0016

Neptune -88771-03-14 01:54 J -30702112.55 -30702112.42 -30702112.27 0.0089 0.0012

Mars -88771-03-17 18:42 J -30702108.76 -30702108.72 -30702108.67 0.1657 0.1514

Neptune -88771-06-10 03:35 J -30702024.49 -30702024.35 -30702024.21 0.0089 0.0007

Jupiter -88771-06-10 04:03 J -30702024.45 -30702024.33 -30702024.21 0.0531 0.0243 *

Neptune -88771-09-06 05:15 J -30701936.42 -30701936.28 -30701936.14 0.0089 0.0003

Jupiter -88771-09-07 13:54 J -30701935.04 -30701934.92 -30701934.79 0.0528 0.0216

Neptune -88771-12-03 06:42 J -30701848.36 -30701848.22 -30701848.08 0.0089 0.0002

Neptune -88770-03-01 08:08 J -30701760.29 -30701760.16 -30701760.02 0.0089 0.0007

Venus -88770-04-29 19:11 J -30701700.78 -30701700.70 -30701700.61 0.3622 0.2776

Neptune -88770-05-28 09:49 J -30701672.23 -30701672.09 -30701671.95 0.0089 0.0011

Neptune -88770-08-24 11:30 J -30701584.16 -30701584.02 -30701583.89 0.0089 0.0015

Neptune -88770-11-20 12:56 J -30701496.10 -30701495.96 -30701495.82 0.0089 0.0019

Neptune -88769-02-16 14:23 J -30701408.03 -30701407.90 -30701407.76 0.0089 0.0024

Mars -88769-02-21 06:27 J -30701403.35 -30701403.23 -30701403.11 0.1638 0.0585

Neptune -88769-05-14 16:03 J -30701319.96 -30701319.83 -30701319.70 0.0089 0.0028

Neptune -88769-08-10 17:30 J -30701231.89 -30701231.77 -30701231.63 0.0089 0.0033

Neptune -88769-11-06 19:11 J -30701143.82 -30701143.70 -30701143.57 0.0089 0.0037

Neptune -88768-02-02 20:37 J -30701055.75 -30701055.64 -30701055.51 0.0089 0.0042

Neptune -88768-05-01 22:18 J -30700967.68 -30700967.57 -30700967.44 0.0089 0.0046

Neptune -88768-07-28 23:44 J -30700879.61 -30700879.51 -30700879.38 0.0089 0.0051

Neptune -88768-10-25 01:39 J -30700791.54 -30700791.43 -30700791.32 0.0089 0.0055

Neptune -88767-01-21 03:06 J -30700703.46 -30700703.37 -30700703.26 0.0089 0.0060

Venus -88767-01-21 19:25 J -30700702.77 -30700702.69 -30700702.61 0.3778 0.2575

Neptune -88767-04-19 04:47 J -30700615.39 -30700615.30 -30700615.20 0.0089 0.0064

Neptune -88767-07-16 06:13 J -30700527.31 -30700527.24 -30700527.14 0.0089 0.0069

Neptune -88767-10-12 08:08 J -30700439.24 -30700439.16 -30700439.08 0.0089 0.0073

Neptune -88766-01-08 09:35 J -30700351.16 -30700351.10 -30700351.02 0.0089 0.0078

Neptune -88766-04-06 11:15 J -30700263.07 -30700263.03 -30700262.97 0.0089 0.0082

Neptune -88766-07-03 12:42 J -30700174.98 -30700174.97 -30700174.92 0.0089 0.0087

Moon -88765-08-12 22:47 J -30699768.65 -30699768.55 -30699768.45 0.2587 0.1802

Earth -88765-08-12 23:59 J -30699768.61 -30699768.50 -30699768.39 0.2585 0.1598 *

Jupiter -88765-11-05 11:30 J -30699684.19 -30699684.02 -30699683.85 0.0498 0.0041

Jupiter -88764-02-03 12:42 J -30699594.03 -30699593.97 -30699593.90 0.0502 0.0456

Saturn -88764-06-06 11:15 J -30699471.12 -30699471.03 -30699470.94 0.0273 0.0212

Saturn -88764-09-02 23:30 J -30699382.65 -30699382.52 -30699382.39 0.0273 0.0123

Saturn -88764-11-30 11:59 J -30699294.14 -30699294.00 -30699293.86 0.0274 0.0033

Saturn -88763-02-27 00:42 J -30699205.61 -30699205.47 -30699205.33 0.0274 0.0060

Saturn -88763-05-26 13:25 J -30699117.06 -30699116.94 -30699116.82 0.0274 0.0153

Saturn -88763-08-23 02:23 J -30699028.45 -30699028.40 -30699028.33 0.0274 0.0249

Mars -88763-10-16 00:27 J -30698974.62 -30698974.48 -30698974.34 0.1889 0.0360

Moon -88762-02-14 03:06 J -30698853.46 -30698853.37 -30698853.28 0.2750 0.1865

Earth -88762-02-14 04:03 J -30698853.42 -30698853.33 -30698853.25 0.2748 0.1996 *

Venus -88762-08-07 13:39 J -30698679.03 -30698678.93 -30698678.84 0.3775 0.1870

Mars -88760-07-13 15:35 J -30697972.98 -30697972.85 -30697972.72 0.1642 0.0090

Jupiter -88759-03-29 07:11 J -30697714.30 -30697714.20 -30697714.10 0.0532 0.0359

Jupiter -88759-06-26 16:47 J -30697624.93 -30697624.80 -30697624.66 0.0529 0.0100

Venus -88756-02-20 08:08 J -30696655.27 -30696655.16 -30696655.06 0.3772 0.1148

Earth -88755-02-06 19:25 J -30696303.76 -30696303.69 -30696303.62 0.2754 0.2121

Moon -88755-02-06 19:39 J -30696303.75 -30696303.68 -30696303.61 0.2746 0.2143 *

Pluto -88755-06-01 13:54 J -30696188.98 -30696188.92 -30696188.81 0.0060 0.0054

Pluto -88755-08-28 16:03 J -30696100.95 -30696100.83 -30696100.72 0.0060 0.0048

Pluto -88755-11-24 17:01 J -30696012.91 -30696012.79 -30696012.63 0.0060 0.0042

Pluto -88754-02-20 18:27 J -30695924.87 -30695924.73 -30695924.55 0.0060 0.0035

Pluto -88754-05-19 20:08 J -30695836.82 -30695836.66 -30695836.48 0.0060 0.0029

Pluto -88754-08-15 21:20 J -30695748.77 -30695748.61 -30695748.41 0.0060 0.0023

Pluto -88754-11-11 23:01 J -30695660.72 -30695660.54 -30695660.34 0.0060 0.0016

Pluto -88753-02-08 00:27 J -30695572.66 -30695572.48 -30695572.27 0.0061 0.0010

Mars -88753-03-07 00:56 J -30695544.56 -30695544.46 -30695544.36 0.1882 0.1404

Pluto -88753-05-06 02:08 J -30695484.60 -30695484.41 -30695484.21 0.0061 0.0003

Pluto -88753-08-02 03:35 J -30695396.54 -30695396.35 -30695396.15 0.0061 0.0004

Jupiter -88753-08-24 10:18 J -30695374.23 -30695374.07 -30695373.90 0.0497 0.0169

Pluto -88753-10-29 05:01 J -30695308.48 -30695308.29 -30695308.09 0.0061 0.0011

Jupiter -88753-11-22 11:59 J -30695284.13 -30695284.00 -30695283.87 0.0500 0.0330

Pluto -88752-01-25 06:27 J -30695220.41 -30695220.23 -30695220.03 0.0061 0.0018

Pluto -88752-04-23 07:54 J -30695132.34 -30695132.17 -30695131.98 0.0061 0.0024

Pluto -88752-07-20 09:20 J -30695044.26 -30695044.11 -30695043.93 0.0061 0.0031

Moon -88752-08-15 23:44 J -30695017.65 -30695017.51 -30695017.37 0.2592 0.0033

Earth -88752-08-16 00:27 J -30695017.62 -30695017.48 -30695017.33 0.2587 0.0103 *

Pluto -88752-10-16 11:15 J -30694956.19 -30694956.03 -30694955.88 0.0061 0.0037

Pluto -88751-01-12 12:27 J -30694868.10 -30694867.98 -30694867.83 0.0061 0.0044

Pluto -88751-04-10 13:39 J -30694780.01 -30694779.93 -30694779.80 0.0061 0.0052

Pluto -88751-07-07 15:06 J -30694691.90 -30694691.87 -30694691.78 0.0061 0.0059

Venus -88751-09-06 02:37 J -30694631.50 -30694631.39 -30694631.28 0.3769 0.0413

Mars -88751-12-04 00:27 J -30694542.60 -30694542.48 -30694542.35 0.1647 0.0436

Saturn -88749-04-08 13:25 J -30694051.07 -30694050.94 -30694050.81 0.0286 0.0178

Saturn -88749-07-06 09:20 J -30693962.27 -30693962.11 -30693961.94 0.0286 0.0051

Saturn -88749-10-03 05:01 J -30693873.45 -30693873.29 -30693873.13 0.0286 0.0075

Saturn -88749-12-30 23:59 J -30693784.61 -30693784.50 -30693784.37 0.0286 0.0197

Jupiter -88747-01-15 09:49 J -30693404.14 -30693404.09 -30693404.03 0.0533 0.0481

Jupiter -88747-04-14 19:25 J -30693314.82 -30693314.69 -30693314.55 0.0530 0.0026

Jupiter -88747-07-13 05:44 J -30693225.33 -30693225.26 -30693225.18 0.0527 0.0440

Venus -88747-09-04 20:08 J -30693171.73 -30693171.66 -30693171.59 0.3601 0.3040

Venus -88745-03-21 21:35 J -30692607.71 -30692607.60 -30692607.49 0.3765 0.0374

Moon -88742-02-09 15:20 J -30691552.97 -30691552.86 -30691552.74 0.2746 0.0666

Earth -88742-02-09 15:49 J -30691552.95 -30691552.84 -30691552.72 0.2752 0.0679 *

Mars -88742-07-04 23:01 J -30691407.59 -30691407.54 -30691407.50 0.1902 0.1781

Venus -88741-03-20 21:06 J -30691147.73 -30691147.62 -30691147.51 0.3604 0.1924

Mars -88741-04-25 09:35 J -30691112.20 -30691112.10 -30691111.99 0.1652 0.0942

Jupiter -88741-06-12 09:20 J -30691064.25 -30691064.11 -30691063.97 0.0496 0.0293

Jupiter -88741-09-10 11:15 J -30690974.18 -30690974.03 -30690973.87 0.0499 0.0208

Venus -88740-10-05 16:32 J -30690583.92 -30690583.81 -30690583.70 0.3761 0.1165

Mars -88739-03-31 21:35 J -30690406.69 -30690406.60 -30690406.51 0.1634 0.1170

Earth -88739-08-19 00:42 J -30690266.57 -30690266.47 -30690266.36 0.2589 0.1682

Moon -88739-08-19 00:56 J -30690266.56 -30690266.46 -30690266.35 0.2596 0.1688 *

Venus -88736-10-04 21:20 J -30689123.74 -30689123.61 -30689123.47 0.3608 0.0864

Jupiter -88735-01-31 22:47 J -30689004.68 -30689004.55 -30689004.42 0.0531 0.0137

Jupiter -88735-05-01 09:06 J -30688915.23 -30688915.12 -30688915.01 0.0528 0.0327

Saturn -88735-10-24 14:08 J -30688738.98 -30688738.91 -30688738.83 0.0273 0.0229

Saturn -88734-01-21 02:23 J -30688650.52 -30688650.40 -30688650.28 0.0273 0.0142

Saturn -88734-04-19 14:37 J -30688562.02 -30688561.89 -30688561.74 0.0273 0.0053

Venus -88734-04-21 11:59 J -30688560.10 -30688560.00 -30688559.91 0.3757 0.1976

Saturn -88734-07-17 03:20 J -30688473.50 -30688473.36 -30688473.22 0.0273 0.0039

Saturn -88734-10-13 16:03 J -30688384.95 -30688384.83 -30688384.70 0.0273 0.0132

Saturn -88733-01-10 05:01 J -30688296.36 -30688296.29 -30688296.20 0.0273 0.0227

Uranus -88733-09-26 08:51 J -30688036.16 -30688036.13 -30688036.08 0.0140 0.0133

Mars -88733-11-23 23:59 J -30687977.63 -30687977.50 -30687977.37 0.1896 0.0769

Uranus -88733-12-23 12:56 J -30687948.04 -30687947.96 -30687947.88 0.0141 0.0115

Uranus -88732-03-21 17:01 J -30687859.89 -30687859.79 -30687859.69 0.0141 0.0097

Uranus -88732-06-17 20:51 J -30687771.74 -30687771.63 -30687771.51 0.0141 0.0079

Uranus -88732-09-14 00:56 J -30687683.58 -30687683.46 -30687683.33 0.0141 0.0061

Mars -88732-09-15 18:56 J -30687681.77 -30687681.71 -30687681.64 0.1657 0.1439

Uranus -88732-12-11 05:01 J -30687595.42 -30687595.29 -30687595.15 0.0141 0.0042

Uranus -88731-03-09 09:06 J -30687507.26 -30687507.12 -30687506.98 0.0141 0.0024

Uranus -88731-06-05 13:25 J -30687419.09 -30687418.94 -30687418.80 0.0141 0.0005

Uranus -88731-09-01 17:30 J -30687330.91 -30687330.77 -30687330.63 0.0142 0.0014

Uranus -88731-11-28 21:49 J -30687242.73 -30687242.59 -30687242.45 0.0142 0.0034

Uranus -88730-02-25 01:54 J -30687154.55 -30687154.42 -30687154.28 0.0142 0.0053

Venus -88730-04-20 21:20 J -30687099.74 -30687099.61 -30687099.48 0.3612 0.0175

Uranus -88730-05-24 06:13 J -30687066.36 -30687066.24 -30687066.11 0.0142 0.0073

Uranus -88730-08-20 10:32 J -30686978.16 -30686978.06 -30686977.95 0.0142 0.0093

Mars -88730-08-22 06:42 J -30686976.34 -30686976.22 -30686976.10 0.1638 0.0661

Uranus -88730-11-16 14:51 J -30686889.96 -30686889.88 -30686889.79 0.0142 0.0113

Moon -88729-02-12 11:30 J -30686802.14 -30686802.02 -30686801.90 0.2748 0.0614

Earth -88729-02-12 12:27 J -30686802.10 -30686801.98 -30686801.87 0.2750 0.0800 *

Uranus -88729-02-12 19:25 J -30686801.74 -30686801.69 -30686801.64 0.0142 0.0133

Jupiter -88729-03-31 07:54 J -30686754.26 -30686754.17 -30686754.08 0.0496 0.0423

Jupiter -88729-06-29 10:18 J -30686664.24 -30686664.07 -30686663.90 0.0499 0.0081

Venus -88729-11-04 07:25 J -30686536.27 -30686536.19 -30686536.12 0.3754 0.2806

Venus -88725-11-03 20:51 J -30685075.75 -30685075.63 -30685075.50 0.3615 0.1161

Jupiter -88724-11-20 02:37 J -30684694.51 -30684694.39 -30684694.28 0.0532 0.0244

Jupiter -88723-02-17 12:27 J -30684605.10 -30684604.98 -30684604.85 0.0528 0.0217

Mars -88723-04-16 00:56 J -30684547.60 -30684547.46 -30684547.31 0.1889 0.0251

Venus -88723-05-21 03:06 J -30684512.39 -30684512.37 -30684512.34 0.3749 0.3669

Venus -88722-07-30 05:30 J -30684077.28 -30684077.27 -30684077.26 0.3783 0.3754

Mars -88720-01-11 15:35 J -30683545.98 -30683545.85 -30683545.72 0.1642 0.0160

Saturn -88720-08-26 11:15 J -30683319.13 -30683319.03 -30683318.92 0.0286 0.0226

Saturn -88720-11-23 07:25 J -30683230.35 -30683230.19 -30683230.03 0.0286 0.0097

Saturn -88719-02-20 03:06 J -30683141.53 -30683141.37 -30683141.20 0.0286 0.0029

Saturn -88719-05-19 22:18 J -30683052.70 -30683052.57 -30683052.42 0.0286 0.0152

Venus -88719-05-20 19:54 J -30683051.77 -30683051.67 -30683051.56 0.3619 0.2092

Moon -88719-08-14 04:47 J -30682966.43 -30682966.30 -30682966.18 0.2588 0.1278

Earth -88719-08-14 05:44 J -30682966.38 -30682966.26 -30682966.13 0.2585 0.1246 *

Saturn -88719-08-16 17:01 J -30682963.83 -30682963.79 -30682963.73 0.0286 0.0272

Jupiter -88717-04-17 09:35 J -30682354.27 -30682354.10 -30682353.92 0.0498 0.0043

Jupiter -88717-07-16 10:47 J -30682264.11 -30682264.05 -30682263.98 0.0501 0.0455

Venus -88716-02-11 23:30 J -30682053.58 -30682053.52 -30682053.46 0.3780 0.3086

Moon -88716-02-14 08:23 J -30682051.21 -30682051.15 -30682051.08 0.2751 0.2278

Earth -88716-02-14 09:06 J -30682051.18 -30682051.12 -30682051.05 0.2747 0.2307 *

Mars -88714-09-06 01:25 J -30681117.55 -30681117.44 -30681117.34 0.1882 0.1299

Venus -88714-12-04 18:42 J -30681027.79 -30681027.72 -30681027.65 0.3623 0.2999

Jupiter -88712-09-08 05:59 J -30680384.35 -30680384.25 -30680384.15 0.0532 0.0355

Jupiter -88712-12-06 15:35 J -30680294.98 -30680294.85 -30680294.71 0.0529 0.0104

Mars -88711-06-04 00:42 J -30680115.60 -30680115.47 -30680115.35 0.1647 0.0362

Venus -88711-08-28 17:30 J -30680029.85 -30680029.77 -30680029.68 0.3777 0.2405

Moon -88709-02-08 00:42 J -30679501.56 -30679501.47 -30679501.38 0.2746 0.1774

Earth -88709-02-08 00:42 J -30679501.56 -30679501.47 -30679501.39 0.2753 0.1832 *

Moon -88706-08-17 05:44 J -30678215.40 -30678215.26 -30678215.12 0.2592 0.0289

Earth -88706-08-17 06:13 J -30678215.38 -30678215.24 -30678215.10 0.2587 0.0413 *

Jupiter -88705-02-04 08:51 J -30678044.29 -30678044.13 -30678043.96 0.0498 0.0164

Saturn -88705-03-12 15:06 J -30678006.89 -30678006.87 -30678006.83 0.0273 0.0264

Venus -88705-03-13 11:59 J -30678006.10 -30678006.00 -30678005.91 0.3774 0.1692

Jupiter -88705-05-04 10:32 J -30677954.18 -30677954.06 -30677953.93 0.0501 0.0336

Saturn -88705-06-09 03:20 J -30677918.46 -30677918.36 -30677918.25 0.0273 0.0176

Saturn -88705-09-05 15:35 J -30677829.98 -30677829.85 -30677829.71 0.0273 0.0087

Saturn -88705-12-03 04:18 J -30677741.47 -30677741.32 -30677741.18 0.0273 0.0009

Saturn -88704-03-01 16:47 J -30677652.93 -30677652.80 -30677652.66 0.0273 0.0098

Saturn -88704-05-29 05:44 J -30677564.36 -30677564.26 -30677564.15 0.0273 0.0192

Mars -88702-01-02 23:30 J -30676980.53 -30676980.52 -30676980.51 0.1902 0.1891

Mars -88702-10-25 09:49 J -30676685.20 -30676685.09 -30676684.98 0.1652 0.0867

Jupiter -88700-06-27 09:20 J -30676074.17 -30676074.11 -30676074.05 0.0533 0.0469

Jupiter -88700-09-24 18:42 J -30675984.85 -30675984.72 -30675984.58 0.0530 0.0015

Venus -88700-09-27 06:27 J -30675982.34 -30675982.23 -30675982.13 0.3771 0.0969

Mars -88700-09-29 21:49 J -30675979.67 -30675979.59 -30675979.51 0.1633 0.1246

Jupiter -88700-12-23 05:01 J -30675895.36 -30675895.29 -30675895.22 0.0526 0.0448

Moon -88696-02-09 20:23 J -30674750.77 -30674750.65 -30674750.53 0.2747 0.0505

Earth -88696-02-09 21:06 J -30674750.74 -30674750.62 -30674750.51 0.2751 0.0387 *

Venus -88694-04-13 00:56 J -30673958.57 -30673958.46 -30673958.34 0.3768 0.0240

Jupiter -88694-11-23 07:54 J -30673734.31 -30673734.17 -30673734.03 0.0496 0.0290

Jupiter -88693-02-21 09:49 J -30673644.24 -30673644.09 -30673643.93 0.0499 0.0211

Uranus -88693-02-21 14:37 J -30673643.95 -30673643.89 -30673643.81 0.0138 0.0125 *

Uranus -88693-05-19 20:51 J -30673555.73 -30673555.63 -30673555.50 0.0138 0.0103

Mars -88693-05-25 00:27 J -30673550.60 -30673550.48 -30673550.35 0.1896 0.0884

Uranus -88693-08-16 03:20 J -30673467.50 -30673467.36 -30673467.21 0.0138 0.0081

Earth -88693-08-19 06:27 J -30673464.32 -30673464.23 -30673464.14 0.2589 0.2015

Moon -88693-08-19 06:42 J -30673464.30 -30673464.22 -30673464.14 0.2596 0.2089 *

Uranus -88693-11-12 09:35 J -30673379.25 -30673379.10 -30673378.93 0.0138 0.0059

Neptune -88692-02-02 21:20 J -30673296.64 -30673296.61 -30673296.55 0.0089 0.0086

Uranus -88692-02-08 15:49 J -30673291.00 -30673290.84 -30673290.67 0.0137 0.0037

Mars -88692-03-16 19:11 J -30673254.77 -30673254.70 -30673254.63 0.1657 0.1373

Neptune -88692-05-02 00:42 J -30673208.54 -30673208.47 -30673208.38 0.0089 0.0080

Uranus -88692-05-07 22:03 J -30673202.75 -30673202.58 -30673202.40 0.0137 0.0016

Neptune -88692-07-29 04:03 J -30673120.42 -30673120.33 -30673120.22 0.0089 0.0074

Uranus -88692-08-04 04:18 J -30673114.50 -30673114.32 -30673114.15 0.0137 0.0006

Neptune -88692-10-25 06:56 J -30673032.30 -30673032.21 -30673032.07 0.0089 0.0069

Uranus -88692-10-31 10:03 J -30673026.24 -30673026.08 -30673025.90 0.0137 0.0027

Neptune -88691-01-21 10:18 J -30672944.18 -30672944.07 -30672943.92 0.0089 0.0063

Uranus -88691-01-27 16:03 J -30672937.99 -30672937.83 -30672937.66 0.0137 0.0047

Neptune -88691-04-19 13:39 J -30672856.06 -30672855.93 -30672855.77 0.0089 0.0057

Uranus -88691-04-25 22:03 J -30672849.73 -30672849.58 -30672849.43 0.0137 0.0068

Neptune -88691-07-16 17:01 J -30672767.93 -30672767.79 -30672767.63 0.0089 0.0051

Uranus -88691-07-23 03:35 J -30672761.46 -30672761.35 -30672761.20 0.0137 0.0089

Neptune -88691-10-12 20:23 J -30672679.81 -30672679.65 -30672679.49 0.0089 0.0045

Uranus -88691-10-19 09:20 J -30672673.20 -30672673.11 -30672672.99 0.0136 0.0109

Neptune -88690-01-08 23:15 J -30672591.68 -30672591.53 -30672591.35 0.0089 0.0040

Saturn -88690-01-13 11:44 J -30672587.08 -30672587.01 -30672586.94 0.0286 0.0258

Uranus -88690-01-15 15:35 J -30672584.91 -30672584.85 -30672584.80 0.0136 0.0128

Mars -88690-02-20 06:42 J -30672549.33 -30672549.22 -30672549.10 0.1638 0.0734

Neptune -88690-04-07 02:37 J -30672503.55 -30672503.39 -30672503.21 0.0089 0.0033

Venus -88690-04-11 20:08 J -30672498.74 -30672498.66 -30672498.57 0.3602 0.2758

Saturn -88690-04-12 07:54 J -30672498.32 -30672498.17 -30672498.01 0.0286 0.0128

Neptune -88690-07-04 05:44 J -30672415.42 -30672415.26 -30672415.08 0.0089 0.0028

Saturn -88690-07-10 03:49 J -30672409.50 -30672409.34 -30672409.17 0.0286 0.0008

Neptune -88690-09-30 09:06 J -30672327.30 -30672327.12 -30672326.94 0.0089 0.0022

Saturn -88690-10-06 23:15 J -30672320.67 -30672320.53 -30672320.37 0.0286 0.0124

Neptune -88690-12-27 12:13 J -30672239.17 -30672238.99 -30672238.81 0.0089 0.0016

Saturn -88689-01-03 18:13 J -30672231.82 -30672231.74 -30672231.65 0.0286 0.0245

Neptune -88689-03-24 15:20 J -30672151.04 -30672150.86 -30672150.68 0.0089 0.0011

Neptune -88689-06-20 18:27 J -30672062.91 -30672062.73 -30672062.54 0.0089 0.0005

Neptune -88689-09-16 21:35 J -30671974.78 -30671974.60 -30671974.42 0.0089 0.0001

Venus -88689-10-26 19:54 J -30671934.78 -30671934.67 -30671934.56 0.3764 0.0565

Neptune -88689-12-14 00:42 J -30671886.65 -30671886.47 -30671886.29 0.0089 0.0006

Neptune -88688-03-12 03:35 J -30671798.52 -30671798.35 -30671798.16 0.0089 0.0013

Neptune -88688-06-08 06:42 J -30671710.39 -30671710.22 -30671710.03 0.0089 0.0018

Jupiter -88688-07-13 21:20 J -30671674.74 -30671674.61 -30671674.48 0.0531 0.0138

Neptune -88688-09-04 09:49 J -30671622.26 -30671622.09 -30671621.91 0.0089 0.0023

Jupiter -88688-10-11 07:25 J -30671585.30 -30671585.19 -30671585.08 0.0528 0.0325

Neptune -88688-12-01 12:56 J -30671534.13 -30671533.96 -30671533.79 0.0089 0.0029

Neptune -88687-02-27 15:49 J -30671446.00 -30671445.84 -30671445.67 0.0089 0.0035

Neptune -88687-05-26 18:56 J -30671357.87 -30671357.71 -30671357.55 0.0089 0.0040

Neptune -88687-08-22 21:49 J -30671269.73 -30671269.59 -30671269.43 0.0088 0.0046

Neptune -88687-11-19 00:56 J -30671181.60 -30671181.46 -30671181.31 0.0088 0.0051

Neptune -88686-02-15 03:35 J -30671093.47 -30671093.35 -30671093.19 0.0088 0.0057

Neptune -88686-05-14 06:42 J -30671005.33 -30671005.22 -30671005.08 0.0088 0.0062

Neptune -88686-08-10 09:35 J -30670917.20 -30670917.10 -30670916.97 0.0088 0.0067

Neptune -88686-11-06 12:42 J -30670829.06 -30670828.97 -30670828.86 0.0088 0.0073

Neptune -88685-02-02 15:35 J -30670740.92 -30670740.85 -30670740.75 0.0088 0.0078

Neptune -88685-04-30 18:13 J -30670652.77 -30670652.74 -30670652.66 0.0088 0.0084

Neptune -88685-07-27 21:35 J -30670564.60 -30670564.60 -30670564.59 0.0088 0.0088

Venus -88685-10-25 20:51 J -30670474.75 -30670474.63 -30670474.51 0.3605 0.1657

Mars -88684-10-15 01:11 J -30670120.59 -30670120.45 -30670120.30 0.1889 0.0159

Moon -88683-02-12 16:47 J -30669999.91 -30669999.80 -30669999.69 0.2748 0.1075

Earth -88683-02-12 17:30 J -30669999.87 -30669999.77 -30669999.66 0.2749 0.1106 *

Venus -88683-05-12 15:06 J -30669910.98 -30669910.87 -30669910.77 0.3760 0.1368

Jupiter -88682-09-11 06:56 J -30669424.31 -30669424.21 -30669424.12 0.0496 0.0415

Jupiter -88682-12-10 09:06 J -30669334.29 -30669334.12 -30669333.95 0.0498 0.0088

Mars -88681-07-12 15:49 J -30669118.97 -30669118.84 -30669118.71 0.1642 0.0224

Venus -88679-05-11 21:06 J -30668450.75 -30668450.62 -30668450.49 0.3609 0.0602

Venus -88678-11-26 10:18 J -30667887.16 -30667887.07 -30667886.98 0.3756 0.2179

Jupiter -88676-05-02 00:42 J -30667364.59 -30667364.47 -30667364.35 0.0532 0.0250

Jupiter -88676-07-30 10:32 J -30667275.18 -30667275.06 -30667274.93 0.0529 0.0213

Saturn -88676-10-27 06:13 J -30667186.33 -30667186.24 -30667186.14 0.0272 0.0194

Saturn -88675-01-23 18:27 J -30667097.86 -30667097.73 -30667097.59 0.0272 0.0105

Saturn -88675-04-22 06:56 J -30667009.35 -30667009.21 -30667009.07 0.0272 0.0015

Saturn -88675-07-19 19:39 J -30666920.82 -30666920.68 -30666920.54 0.0273 0.0077

Saturn -88675-10-16 08:23 J -30666832.26 -30666832.15 -30666832.03 0.0273 0.0170

Saturn -88674-01-12 21:35 J -30666743.63 -30666743.60 -30666743.57 0.0273 0.0265

Mars -88674-03-07 01:39 J -30666690.54 -30666690.43 -30666690.32 0.1883 0.1199

Venus -88674-11-25 21:06 J -30666426.76 -30666426.62 -30666426.49 0.3613 0.0434

Moon -88673-08-14 10:32 J -30666164.19 -30666164.06 -30666163.94 0.2589 0.1099

Earth -88673-08-14 11:30 J -30666164.15 -30666164.02 -30666163.88 0.2586 0.0897 *

Venus -88672-06-11 05:59 J -30665863.32 -30665863.25 -30665863.18 0.3752 0.3024

Mars -88672-12-03 00:56 J -30665688.59 -30665688.46 -30665688.34 0.1647 0.0288

Moon -88670-02-15 13:39 J -30665248.98 -30665248.93 -30665248.88 0.2752 0.2470

Earth -88670-02-15 14:23 J -30665248.93 -30665248.90 -30665248.86 0.2747 0.2620 *

Jupiter -88670-09-28 07:54 J -30665024.34 -30665024.17 -30665023.99 0.0498 0.0041

Jupiter -88670-12-27 09:06 J -30664934.18 -30664934.12 -30664934.05 0.0501 0.0455

Venus -88668-06-10 20:23 J -30664402.77 -30664402.65 -30664402.53 0.3616 0.1393

Venus -88665-03-05 03:35 J -30663404.38 -30663404.35 -30663404.32 0.3782 0.3591

Jupiter -88664-02-18 04:32 J -30663054.41 -30663054.31 -30663054.22 0.0533 0.0357

Jupiter -88664-05-18 14:08 J -30662965.04 -30662964.91 -30662964.77 0.0529 0.0104

Moon -88663-02-08 05:44 J -30662699.36 -30662699.26 -30662699.16 0.2746 0.1544

Earth -88663-02-08 05:44 J -30662699.36 -30662699.26 -30662699.16 0.2753 0.1534 *

Venus -88663-12-25 19:25 J -30662378.79 -30662378.69 -30662378.60 0.3620 0.2326

Mars -88662-04-25 10:03 J -30662258.19 -30662258.08 -30662257.97 0.1652 0.0795

Pluto -88662-12-30 02:37 J -30662009.45 -30662009.39 -30662009.31 0.0085 0.0073

Pluto -88661-03-27 04:03 J -30661921.42 -30661921.33 -30661921.23 0.0084 0.0060

Pluto -88661-06-23 05:15 J -30661833.38 -30661833.28 -30661833.16 0.0084 0.0048

Saturn -88661-08-29 05:59 J -30661766.38 -30661766.25 -30661766.11 0.0286 0.0175

Pluto -88661-09-19 06:27 J -30661745.34 -30661745.23 -30661745.10 0.0084 0.0037

Saturn -88661-11-26 02:08 J -30661677.58 -30661677.41 -30661677.24 0.0286 0.0047

Pluto -88661-12-16 07:54 J -30661657.29 -30661657.17 -30661657.04 0.0084 0.0024

Saturn -88660-02-22 21:35 J -30661588.76 -30661588.60 -30661588.43 0.0286 0.0079

Pluto -88660-03-14 09:20 J -30661569.24 -30661569.11 -30661568.98 0.0084 0.0012

Mars -88660-03-30 22:03 J -30661552.66 -30661552.58 -30661552.51 0.1633 0.1324

Saturn -88660-05-22 16:47 J -30661499.91 -30661499.80 -30661499.68 0.0286 0.0201

Pluto -88660-06-10 10:32 J -30661481.19 -30661481.06 -30661480.93 0.0084 0.0000

Moon -88660-08-17 11:44 J -30661413.14 -30661413.01 -30661412.88 0.2594 0.0805

Earth -88660-08-17 11:59 J -30661413.13 -30661413.00 -30661412.86 0.2588 0.0759 *

Pluto -88660-09-06 11:44 J -30661393.14 -30661393.01 -30661392.88 0.0084 0.0012

Venus -88660-09-18 21:35 J -30661380.67 -30661380.60 -30661380.53 0.3780 0.2920

Pluto -88660-12-03 12:56 J -30661305.08 -30661304.96 -30661304.83 0.0084 0.0024

Pluto -88659-03-01 14:08 J -30661217.02 -30661216.91 -30661216.78 0.0083 0.0036

Pluto -88659-05-28 15:20 J -30661128.96 -30661128.86 -30661128.74 0.0083 0.0047

Pluto -88659-08-24 16:32 J -30661040.89 -30661040.81 -30661040.71 0.0083 0.0059

Pluto -88659-11-20 17:44 J -30660952.82 -30660952.76 -30660952.68 0.0083 0.0071

Pluto -88658-02-16 18:56 J -30660864.72 -30660864.71 -30660864.68 0.0083 0.0082

Jupiter -88658-07-17 07:11 J -30660714.36 -30660714.20 -30660714.03 0.0497 0.0163

Jupiter -88658-10-15 08:51 J -30660624.25 -30660624.13 -30660624.00 0.0500 0.0337

Venus -88657-07-10 17:59 J -30660354.81 -30660354.75 -30660354.70 0.3624 0.3214

Venus -88654-04-04 15:49 J -30659356.93 -30659356.84 -30659356.76 0.3776 0.2229

Mars -88654-11-24 01:11 J -30659123.58 -30659123.45 -30659123.33 0.1896 0.0995

Mars -88653-09-14 19:11 J -30658827.78 -30658827.70 -30658827.62 0.1657 0.1301

Jupiter -88653-12-07 07:54 J -30658744.23 -30658744.17 -30658744.10 0.0533 0.0466

Jupiter -88652-03-06 17:30 J -30658654.90 -30658654.77 -30658654.63 0.0530 0.0015

Jupiter -88652-06-04 03:49 J -30658565.40 -30658565.34 -30658565.27 0.0526 0.0453

Mars -88651-08-21 06:56 J -30658122.32 -30658122.21 -30658122.10 0.1637 0.0808

Moon -88650-02-11 01:25 J -30657948.56 -30657948.44 -30657948.32 0.2746 0.0122

Earth -88650-02-11 02:08 J -30657948.53 -30657948.41 -30657948.29 0.2751 0.0085 *

Uranus -88649-10-16 15:35 J -30657334.89 -30657334.85 -30657334.79 0.0140 0.0131

Venus -88649-10-18 10:03 J -30657333.18 -30657333.08 -30657332.98 0.3774 0.1513

Uranus -88648-01-12 19:39 J -30657246.76 -30657246.68 -30657246.59 0.0141 0.0113

Uranus -88648-04-10 23:44 J -30657158.61 -30657158.51 -30657158.41 0.0141 0.0095

Uranus -88648-07-08 03:35 J -30657070.46 -30657070.35 -30657070.22 0.0141 0.0077

Uranus -88648-10-04 07:54 J -30656982.30 -30656982.17 -30656982.04 0.0141 0.0058

Uranus -88648-12-31 11:44 J -30656894.14 -30656894.01 -30656893.87 0.0141 0.0040

Uranus -88647-03-29 16:03 J -30656805.97 -30656805.83 -30656805.69 0.0141 0.0021

Uranus -88647-06-25 20:08 J -30656717.80 -30656717.66 -30656717.52 0.0141 0.0002

Earth -88647-08-20 12:13 J -30656662.05 -30656661.99 -30656661.94 0.2590 0.2357

Moon -88647-08-20 12:27 J -30656662.03 -30656661.98 -30656661.92 0.2596 0.2351 *

Uranus -88647-09-22 00:13 J -30656629.63 -30656629.49 -30656629.34 0.0142 0.0017

Uranus -88647-12-19 04:32 J -30656541.45 -30656541.31 -30656541.17 0.0142 0.0036

Saturn -88646-03-16 07:11 J -30656454.27 -30656454.20 -30656454.12 0.0273 0.0228

Uranus -88646-03-17 08:37 J -30656453.27 -30656453.14 -30656453.00 0.0142 0.0056

Jupiter -88646-05-05 06:27 J -30656404.37 -30656404.23 -30656404.09 0.0497 0.0286

Saturn -88646-06-12 19:11 J -30656365.81 -30656365.70 -30656365.57 0.0273 0.0141

Uranus -88646-06-13 12:56 J -30656365.08 -30656364.96 -30656364.83 0.0142 0.0075

Jupiter -88646-08-03 08:23 J -30656314.30 -30656314.15 -30656313.99 0.0500 0.0217

Saturn -88646-09-09 07:39 J -30656277.32 -30656277.18 -30656277.04 0.0273 0.0051

Uranus -88646-09-09 17:15 J -30656276.88 -30656276.78 -30656276.67 0.0142 0.0095

Saturn -88646-12-06 20:08 J -30656188.80 -30656188.66 -30656188.52 0.0273 0.0041

Uranus -88646-12-06 21:35 J -30656188.67 -30656188.60 -30656188.51 0.0142 0.0115 *

Uranus -88645-03-04 01:54 J -30656100.45 -30656100.42 -30656100.36 0.0142 0.0136

Saturn -88645-03-04 08:51 J -30656100.25 -30656100.13 -30656100.00 0.0273 0.0134

Saturn -88645-05-31 21:49 J -30656011.66 -30656011.59 -30656011.51 0.0273 0.0228

Mars -88644-04-15 01:39 J -30655693.57 -30655693.43 -30655693.28 0.1890 0.0050

Venus -88643-05-04 04:32 J -30655309.42 -30655309.31 -30655309.20 0.3770 0.0779

Mars -88641-01-11 15:49 J -30654691.96 -30654691.84 -30654691.71 0.1642 0.0297

Jupiter -88641-12-23 20:37 J -30654344.77 -30654344.64 -30654344.51 0.0531 0.0126

Jupiter -88640-03-23 06:42 J -30654255.32 -30654255.22 -30654255.11 0.0527 0.0338

Moon -88640-08-12 15:20 J -30654112.91 -30654112.86 -30654112.80 0.2585 0.2377

Earth -88640-08-12 16:47 J -30654112.87 -30654112.80 -30654112.73 0.2584 0.2225 *

Venus -88638-11-17 23:15 J -30653285.64 -30653285.53 -30653285.42 0.3767 0.0043

Moon -88637-02-13 22:03 J -30653197.69 -30653197.58 -30653197.48 0.2750 0.1244

Earth -88637-02-13 22:47 J -30653197.65 -30653197.55 -30653197.45 0.2749 0.1413 *

Mars -88635-09-05 02:23 J -30652263.52 -30652263.40 -30652263.28 0.1883 0.1080

Jupiter -88634-02-21 05:30 J -30652094.37 -30652094.27 -30652094.17 0.0496 0.0410

Jupiter -88634-05-22 07:54 J -30652004.34 -30652004.17 -30652004.00 0.0499 0.0093

Venus -88634-11-16 20:08 J -30651825.76 -30651825.66 -30651825.56 0.3603 0.2477

Venus -88632-06-02 18:13 J -30651261.85 -30651261.74 -30651261.63 0.3763 0.0766

Mars -88632-06-03 00:56 J -30651261.59 -30651261.46 -30651261.33 0.1647 0.0216

Saturn -88631-01-16 05:30 J -30651034.38 -30651034.27 -30651034.15 0.0287 0.0212

Saturn -88631-04-15 01:54 J -30650945.58 -30650945.42 -30650945.26 0.0287 0.0082

Saturn -88631-07-12 21:49 J -30650856.76 -30650856.59 -30650856.43 0.0286 0.0045

Saturn -88631-10-09 17:01 J -30650767.92 -30650767.79 -30650767.65 0.0286 0.0169

Earth -88630-02-06 14:37 J -30650647.92 -30650647.89 -30650647.87 0.2755 0.2667

Moon -88630-02-06 15:06 J -30650647.91 -30650647.87 -30650647.83 0.2748 0.2558 *

Jupiter -88629-10-11 23:15 J -30650034.65 -30650034.53 -30650034.41 0.0532 0.0249

Jupiter -88628-01-09 09:06 J -30649945.24 -30649945.12 -30649944.99 0.0529 0.0212

Venus -88628-06-01 20:37 J -30649801.76 -30649801.64 -30649801.51 0.3606 0.1394

Moon -88627-08-15 16:18 J -30649361.95 -30649361.82 -30649361.68 0.2589 0.0577

Earth -88627-08-15 17:30 J -30649361.91 -30649361.77 -30649361.64 0.2586 0.0546 *

Venus -88627-12-17 13:25 J -30649238.04 -30649237.94 -30649237.84 0.3759 0.1566

Mars -88623-10-24 10:03 J -30647831.19 -30647831.08 -30647830.96 0.1652 0.0724

Venus -88623-12-16 20:51 J -30647777.76 -30647777.63 -30647777.50 0.3610 0.0341

Jupiter -88622-03-10 07:11 J -30647694.37 -30647694.20 -30647694.03 0.0498 0.0030

Jupiter -88622-06-08 08:23 J -30647604.21 -30647604.15 -30647604.09 0.0501 0.0464

Venus -88621-07-02 08:51 J -30647214.22 -30647214.13 -30647214.04 0.3755 0.2392

Mars -88621-09-28 22:03 J -30647125.64 -30647125.58 -30647125.51 0.1633 0.1398

Moon -88617-02-09 10:32 J -30645897.16 -30645897.06 -30645896.95 0.2746 0.1285

Earth -88617-02-09 10:47 J -30645897.15 -30645897.05 -30645896.94 0.2753 0.1243 *

Venus -88617-07-01 20:37 J -30645753.77 -30645753.64 -30645753.51 0.3613 0.0670

Jupiter -88617-07-31 02:37 J -30645724.48 -30645724.39 -30645724.29 0.0533 0.0361

Saturn -88617-08-02 10:18 J -30645722.13 -30645722.07 -30645722.01 0.0272 0.0245

Jupiter -88617-10-28 12:27 J -30645635.11 -30645634.98 -30645634.85 0.0530 0.0098

Saturn -88617-10-29 22:18 J -30645633.68 -30645633.57 -30645633.45 0.0272 0.0158

Saturn -88616-01-26 10:32 J -30645545.19 -30645545.06 -30645544.92 0.0272 0.0069

Saturn -88616-04-24 23:01 J -30645456.68 -30645456.54 -30645456.39 0.0272 0.0022

Saturn -88616-07-22 11:44 J -30645368.14 -30645368.01 -30645367.88 0.0272 0.0114

Saturn -88616-10-19 00:42 J -30645279.56 -30645279.47 -30645279.38 0.0272 0.0208

Venus -88615-01-16 04:32 J -30645190.37 -30645190.31 -30645190.25 0.3751 0.3239

Mars -88614-05-25 01:11 J -30644696.57 -30644696.45 -30644696.33 0.1896 0.1081

Moon -88614-08-18 17:30 J -30644610.89 -30644610.77 -30644610.64 0.2595 0.1002

Earth -88614-08-18 17:44 J -30644610.88 -30644610.76 -30644610.63 0.2588 0.1098 *

Mars -88613-03-15 19:25 J -30644400.78 -30644400.69 -30644400.61 0.1657 0.1230

Venus -88611-01-15 19:54 J -30643729.79 -30643729.67 -30643729.56 0.3617 0.1632

Mars -88611-02-19 07:11 J -30643695.31 -30643695.20 -30643695.09 0.1637 0.0885

Neptune -88611-08-06 23:15 J -30643526.57 -30643526.53 -30643526.50 0.0089 0.0085

Neptune -88611-11-03 00:27 J -30643438.53 -30643438.48 -30643438.42 0.0089 0.0081

Jupiter -88611-12-27 05:44 J -30643384.42 -30643384.26 -30643384.09 0.0497 0.0159

Neptune -88610-01-30 01:54 J -30643350.48 -30643350.42 -30643350.35 0.0089 0.0077

Jupiter -88610-03-27 07:25 J -30643294.31 -30643294.19 -30643294.07 0.0500 0.0339

Neptune -88610-04-28 03:20 J -30643262.43 -30643262.36 -30643262.28 0.0089 0.0073

Neptune -88610-07-25 04:47 J -30643174.38 -30643174.30 -30643174.21 0.0089 0.0069

Neptune -88610-10-21 06:13 J -30643086.32 -30643086.24 -30643086.14 0.0089 0.0065

Neptune -88609-01-17 07:39 J -30642998.27 -30642998.18 -30642998.07 0.0089 0.0061

Uranus -88609-03-12 21:49 J -30642942.66 -30642942.59 -30642942.49 0.0138 0.0120

Neptune -88609-04-14 09:20 J -30642910.22 -30642910.11 -30642910.00 0.0089 0.0056

Uranus -88609-06-09 04:18 J -30642854.43 -30642854.32 -30642854.19 0.0138 0.0098

Neptune -88609-07-11 10:47 J -30642822.16 -30642822.05 -30642821.94 0.0089 0.0052

Uranus -88609-09-05 10:32 J -30642766.19 -30642766.06 -30642765.90 0.0138 0.0076

Neptune -88609-10-07 12:13 J -30642734.10 -30642733.99 -30642733.87 0.0089 0.0048

Venus -88609-10-10 01:39 J -30642731.47 -30642731.43 -30642731.39 0.3782 0.3431

Uranus -88609-12-02 17:01 J -30642677.95 -30642677.79 -30642677.63 0.0138 0.0054

Neptune -88608-01-03 13:39 J -30642646.04 -30642645.93 -30642645.81 0.0089 0.0044

Uranus -88608-02-28 23:15 J -30642589.70 -30642589.53 -30642589.36 0.0137 0.0032

Neptune -88608-04-01 15:06 J -30642557.99 -30642557.87 -30642557.74 0.0089 0.0040

Uranus -88608-05-28 05:30 J -30642501.45 -30642501.27 -30642501.10 0.0137 0.0011

Neptune -88608-06-28 16:47 J -30642469.93 -30642469.80 -30642469.68 0.0089 0.0035

Uranus -88608-08-24 11:30 J -30642413.19 -30642413.02 -30642412.85 0.0137 0.0011

Neptune -88608-09-24 18:13 J -30642381.87 -30642381.74 -30642381.61 0.0089 0.0031

Uranus -88608-11-20 17:30 J -30642324.94 -30642324.77 -30642324.60 0.0137 0.0031

Neptune -88608-12-21 19:39 J -30642293.81 -30642293.68 -30642293.54 0.0089 0.0027

Uranus -88607-02-16 23:30 J -30642236.68 -30642236.52 -30642236.36 0.0137 0.0052

Neptune -88607-03-19 21:06 J -30642205.75 -30642205.62 -30642205.48 0.0089 0.0023

Uranus -88607-05-16 05:15 J -30642148.42 -30642148.28 -30642148.13 0.0137 0.0073

Neptune -88607-06-15 22:47 J -30642117.69 -30642117.55 -30642117.41 0.0089 0.0018

Uranus -88607-08-12 11:01 J -30642060.16 -30642060.04 -30642059.91 0.0137 0.0093

Neptune -88607-09-12 00:13 J -30642029.62 -30642029.49 -30642029.35 0.0089 0.0014

Uranus -88607-11-08 17:01 J -30641971.88 -30641971.79 -30641971.70 0.0136 0.0113

Neptune -88607-12-09 01:39 J -30641941.56 -30641941.43 -30641941.29 0.0089 0.0010

Uranus -88606-02-04 22:32 J -30641883.59 -30641883.56 -30641883.52 0.0136 0.0133

Neptune -88606-03-07 03:20 J -30641853.50 -30641853.36 -30641853.22 0.0089 0.0005

Neptune -88606-06-03 04:47 J -30641765.44 -30641765.30 -30641765.16 0.0089 0.0003

Venus -88606-08-01 18:42 J -30641705.81 -30641705.72 -30641705.63 0.3621 0.2551

Neptune -88606-08-30 06:27 J -30641677.37 -30641677.23 -30641677.09 0.0089 0.0004

Neptune -88606-11-26 07:54 J -30641589.31 -30641589.17 -30641589.03 0.0089 0.0008

Neptune -88605-02-22 09:35 J -30641501.24 -30641501.10 -30641500.96 0.0089 0.0013

Jupiter -88605-05-19 06:27 J -30641414.29 -30641414.23 -30641414.17 0.0534 0.0467

Neptune -88605-05-20 11:01 J -30641413.17 -30641413.04 -30641412.90 0.0089 0.0017

Neptune -88605-08-16 12:27 J -30641325.11 -30641324.98 -30641324.84 0.0089 0.0022

Jupiter -88605-08-16 16:03 J -30641324.96 -30641324.83 -30641324.70 0.0530 0.0010 *

Mars -88605-10-14 02:23 J -30641266.55 -30641266.40 -30641266.26 0.1890 0.0079

Neptune -88605-11-12 14:08 J -30641237.04 -30641236.91 -30641236.77 0.0089 0.0026

Jupiter -88605-11-14 02:23 J -30641235.46 -30641235.40 -30641235.33 0.0527 0.0454

Neptune -88604-02-08 15:49 J -30641148.97 -30641148.84 -30641148.71 0.0089 0.0030

Moon -88604-02-11 06:42 J -30641146.34 -30641146.22 -30641146.10 0.2746 0.0117

Earth -88604-02-11 07:25 J -30641146.31 -30641146.19 -30641146.07 0.2751 0.0229 *

Neptune -88604-05-07 17:15 J -30641060.90 -30641060.78 -30641060.65 0.0089 0.0035

Neptune -88604-08-03 18:56 J -30640972.83 -30640972.71 -30640972.58 0.0089 0.0039

Neptune -88604-10-30 20:23 J -30640884.76 -30640884.65 -30640884.52 0.0089 0.0044

Neptune -88603-01-26 22:03 J -30640796.69 -30640796.58 -30640796.46 0.0089 0.0048

Neptune -88603-04-24 23:30 J -30640708.62 -30640708.52 -30640708.40 0.0089 0.0053

Venus -88603-04-25 19:39 J -30640707.75 -30640707.68 -30640707.60 0.3779 0.2753

Neptune -88603-07-22 01:11 J -30640620.55 -30640620.45 -30640620.33 0.0089 0.0057

Neptune -88603-10-18 02:37 J -30640532.48 -30640532.39 -30640532.27 0.0089 0.0062

Neptune -88602-01-14 04:32 J -30640444.40 -30640444.31 -30640444.21 0.0089 0.0066

Neptune -88602-04-12 05:59 J -30640356.32 -30640356.25 -30640356.15 0.0089 0.0071

Saturn -88602-06-05 03:35 J -30640302.41 -30640302.35 -30640302.27 0.0286 0.0258

Neptune -88602-07-09 07:39 J -30640268.24 -30640268.18 -30640268.10 0.0089 0.0075

Mars -88602-07-12 16:03 J -30640264.95 -30640264.83 -30640264.70 0.1642 0.0374

Saturn -88602-09-01 23:59 J -30640213.65 -30640213.50 -30640213.34 0.0286 0.0128

Neptune -88602-10-05 09:06 J -30640180.16 -30640180.12 -30640180.04 0.0089 0.0080

Saturn -88602-11-29 20:08 J -30640124.83 -30640124.66 -30640124.49 0.0286 0.0006

Neptune -88601-01-01 11:01 J -30640092.08 -30640092.04 -30640091.99 0.0089 0.0084

Saturn -88601-02-26 15:35 J -30640036.00 -30640035.85 -30640035.70 0.0286 0.0124

Neptune -88601-03-29 12:42 J -30640003.97 -30640003.97 -30640003.96 0.0089 0.0089

Saturn -88601-05-25 10:32 J -30639947.14 -30639947.06 -30639946.98 0.0286 0.0246

Venus -88600-02-14 17:15 J -30639681.82 -30639681.78 -30639681.75 0.3625 0.3432

Jupiter -88599-10-15 05:01 J -30639074.43 -30639074.29 -30639074.15 0.0496 0.0281

Jupiter -88598-01-13 06:56 J -30638984.36 -30638984.21 -30638984.05 0.0499 0.0220

Venus -88598-11-09 13:54 J -30638684.01 -30638683.92 -30638683.83 0.3776 0.2056

Mars -88595-03-06 02:51 J -30637836.51 -30637836.38 -30637836.26 0.1883 0.0978

Moon -88594-08-13 21:06 J -30637310.70 -30637310.62 -30637310.53 0.2585 0.2001

Earth -88594-08-13 22:32 J -30637310.66 -30637310.56 -30637310.46 0.2585 0.1869 *

Jupiter -88593-06-04 19:39 J -30637014.81 -30637014.68 -30637014.55 0.0531 0.0121

Jupiter -88593-09-02 05:44 J -30636925.36 -30636925.26 -30636925.16 0.0527 0.0341

Mars -88593-12-02 01:11 J -30636834.58 -30636834.45 -30636834.32 0.1647 0.0146

Venus -88592-05-25 08:23 J -30636660.26 -30636660.15 -30636660.05 0.3773 0.1337

Moon -88591-02-14 03:06 J -30636395.46 -30636395.37 -30636395.27 0.2751 0.1671

Earth -88591-02-14 04:03 J -30636395.42 -30636395.33 -30636395.24 0.2749 0.1716 *

Saturn -88587-03-18 22:47 J -30634901.64 -30634901.55 -30634901.44 0.0273 0.0195

Saturn -88587-06-15 11:01 J -30634813.16 -30634813.04 -30634812.90 0.0273 0.0106

Jupiter -88587-08-03 04:03 J -30634764.43 -30634764.33 -30634764.23 0.0496 0.0406

Saturn -88587-09-11 23:30 J -30634724.66 -30634724.52 -30634724.38 0.0273 0.0016

Jupiter -88587-11-01 06:27 J -30634674.40 -30634674.23 -30634674.06 0.0499 0.0098

Venus -88587-12-09 02:51 J -30634636.49 -30634636.38 -30634636.27 0.3769 0.0589

Saturn -88587-12-09 11:59 J -30634636.13 -30634636.00 -30634635.86 0.0273 0.0077

Saturn -88586-03-08 00:56 J -30634547.57 -30634547.46 -30634547.35 0.0273 0.0169

Saturn -88586-06-04 13:54 J -30634458.95 -30634458.92 -30634458.88 0.0273 0.0264

Earth -88584-02-06 19:39 J -30633845.73 -30633845.68 -30633845.62 0.2754 0.2379

Moon -88584-02-06 20:08 J -30633845.72 -30633845.66 -30633845.60 0.2748 0.2378 *

Mars -88583-04-24 10:18 J -30633404.19 -30633404.07 -30633403.96 0.1651 0.0654

Venus -88583-12-07 19:11 J -30633176.75 -30633176.70 -30633176.65 0.3600 0.3332

Jupiter -88581-03-23 22:47 J -30632704.67 -30632704.55 -30632704.43 0.0532 0.0234

Mars -88581-03-29 22:18 J -30632698.62 -30632698.57 -30632698.52 0.1633 0.1471

Jupiter -88581-06-21 08:51 J -30632615.26 -30632615.13 -30632615.01 0.0528 0.0227

Venus -88581-06-23 21:35 J -30632612.71 -30632612.60 -30632612.49 0.3766 0.0190

Moon -88581-08-15 22:18 J -30632559.71 -30632559.57 -30632559.43 0.2591 0.0327

Earth -88581-08-15 23:15 J -30632559.67 -30632559.53 -30632559.39 0.2586 0.0198 *

Venus -88577-06-22 20:08 J -30631152.77 -30631152.66 -30631152.56 0.3604 0.2210

Venus -88575-01-07 16:32 J -30630588.91 -30630588.81 -30630588.70 0.3762 0.0975

Jupiter -88575-08-20 05:59 J -30630364.42 -30630364.25 -30630364.08 0.0498 0.0024

Jupiter -88575-11-18 07:11 J -30630274.26 -30630274.20 -30630274.15 0.0501 0.0470

Mars -88575-11-23 01:54 J -30630269.53 -30630269.42 -30630269.31 0.1897 0.1206

Mars -88574-09-14 19:25 J -30629973.78 -30629973.69 -30629973.60 0.1657 0.1161

Saturn -88572-01-18 23:01 J -30629481.67 -30629481.54 -30629481.39 0.0287 0.0168

Saturn -88572-04-17 19:25 J -30629392.86 -30629392.69 -30629392.52 0.0287 0.0038

Saturn -88572-07-15 15:06 J -30629304.03 -30629303.87 -30629303.71 0.0287 0.0088

Mars -88572-08-20 07:11 J -30629268.30 -30629268.20 -30629268.09 0.1637 0.0957

Saturn -88572-10-12 10:18 J -30629215.18 -30629215.07 -30629214.96 0.0287 0.0211

Venus -88571-01-06 20:23 J -30629128.77 -30629128.65 -30629128.52 0.3607 0.1132

Moon -88571-02-09 15:35 J -30629094.96 -30629094.85 -30629094.74 0.2746 0.0950

Earth -88571-02-09 16:03 J -30629094.94 -30629094.83 -30629094.72 0.2753 0.0946 *

Venus -88570-07-24 11:59 J -30628565.10 -30628565.00 -30628564.90 0.3758 0.1778

Jupiter -88569-01-11 01:11 J -30628394.54 -30628394.45 -30628394.35 0.0533 0.0360

Jupiter -88569-04-09 11:01 J -30628305.17 -30628305.04 -30628304.91 0.0530 0.0100

Moon -88568-08-18 23:30 J -30627808.64 -30627808.52 -30627808.41 0.2595 0.1514

Earth -88568-08-18 23:30 J -30627808.63 -30627808.52 -30627808.40 0.2588 0.1441 *

Venus -88566-07-23 20:37 J -30627104.78 -30627104.64 -30627104.51 0.3611 0.0110

Mars -88565-04-14 02:37 J -30626839.54 -30626839.39 -30626839.25 0.1890 0.0174

Uranus -88565-11-05 22:47 J -30626633.61 -30626633.55 -30626633.49 0.0140 0.0128

Uranus -88564-02-02 02:37 J -30626545.47 -30626545.39 -30626545.30 0.0141 0.0110

Venus -88564-02-06 07:25 J -30626541.27 -30626541.19 -30626541.11 0.3754 0.2606

Uranus -88564-05-01 06:42 J -30626457.33 -30626457.22 -30626457.12 0.0141 0.0092

Uranus -88564-07-28 10:32 J -30626369.17 -30626369.06 -30626368.93 0.0141 0.0074

Uranus -88564-10-24 14:37 J -30626281.02 -30626280.89 -30626280.76 0.0141 0.0056

Uranus -88563-01-20 18:42 J -30626192.85 -30626192.72 -30626192.58 0.0141 0.0037

Uranus -88563-04-18 22:47 J -30626104.69 -30626104.55 -30626104.40 0.0141 0.0019

Jupiter -88563-06-08 05:15 J -30626054.45 -30626054.28 -30626054.12 0.0497 0.0147

Uranus -88563-07-16 03:06 J -30626016.52 -30626016.37 -30626016.23 0.0142 0.0003

Jupiter -88563-09-06 06:42 J -30625964.34 -30625964.22 -30625964.10 0.0500 0.0350

Uranus -88563-10-12 07:11 J -30625928.34 -30625928.20 -30625928.06 0.0142 0.0020

Uranus -88562-01-08 11:30 J -30625840.16 -30625840.02 -30625839.88 0.0142 0.0039

Mars -88562-01-10 16:18 J -30625837.95 -30625837.82 -30625837.70 0.1642 0.0446

Uranus -88562-04-06 15:35 J -30625751.98 -30625751.85 -30625751.71 0.0142 0.0059

Uranus -88562-07-03 19:54 J -30625663.79 -30625663.67 -30625663.55 0.0142 0.0078

Uranus -88562-09-30 00:13 J -30625575.59 -30625575.49 -30625575.38 0.0142 0.0098

Uranus -88562-12-27 04:32 J -30625487.38 -30625487.31 -30625487.22 0.0142 0.0118

Uranus -88561-03-24 08:51 J -30625399.15 -30625399.13 -30625399.09 0.0143 0.0138

Venus -88560-02-05 20:08 J -30625080.79 -30625080.66 -30625080.53 0.3615 0.0913

Venus -88559-08-23 03:06 J -30624517.41 -30624517.37 -30624517.33 0.3750 0.3462

Moon -88558-02-12 11:44 J -30624344.13 -30624344.01 -30624343.89 0.2748 0.0437

Earth -88558-02-12 12:27 J -30624344.09 -30624343.98 -30624343.86 0.2751 0.0527 *

Saturn -88558-08-06 02:08 J -30624169.50 -30624169.41 -30624169.32 0.0272 0.0211

Jupiter -88558-10-30 04:47 J -30624084.36 -30624084.30 -30624084.24 0.0534 0.0471

Saturn -88558-11-02 14:08 J -30624081.03 -30624080.91 -30624080.78 0.0272 0.0123

Jupiter -88557-01-27 14:23 J -30623995.04 -30623994.90 -30623994.77 0.0531 0.0017

Saturn -88557-01-30 02:37 J -30623992.54 -30623992.39 -30623992.25 0.0272 0.0034

Jupiter -88557-04-26 00:42 J -30623905.54 -30623905.47 -30623905.40 0.0527 0.0450

Saturn -88557-04-27 15:06 J -30623904.01 -30623903.87 -30623903.73 0.0272 0.0058

Saturn -88557-07-25 03:49 J -30623815.46 -30623815.34 -30623815.22 0.0272 0.0150

Saturn -88557-10-21 16:32 J -30623726.86 -30623726.81 -30623726.74 0.0272 0.0245

Mars -88556-09-04 03:06 J -30623409.50 -30623409.37 -30623409.24 0.1883 0.0871

Venus -88555-08-22 19:11 J -30623056.81 -30623056.70 -30623056.58 0.3619 0.1872

Mars -88553-06-02 01:11 J -30622407.57 -30622407.45 -30622407.32 0.1646 0.0088

Venus -88552-05-16 23:44 J -30622058.56 -30622058.51 -30622058.45 0.3781 0.3266

Jupiter -88551-03-27 03:35 J -30621744.49 -30621744.35 -30621744.20 0.0496 0.0276

Jupiter -88551-06-25 05:44 J -30621654.41 -30621654.26 -30621654.11 0.0499 0.0224

Venus -88549-03-07 17:59 J -30621032.83 -30621032.75 -30621032.66 0.3622 0.2783

Moon -88548-08-14 03:06 J -30620508.48 -30620508.37 -30620508.26 0.2586 0.1630

Earth -88548-08-14 04:18 J -30620508.43 -30620508.32 -30620508.20 0.2585 0.1510 *

Venus -88547-11-30 17:44 J -30620034.83 -30620034.76 -30620034.68 0.3778 0.2586

Jupiter -88546-11-15 17:59 J -30619684.88 -30619684.75 -30619684.62 0.0531 0.0122

Jupiter -88545-02-13 04:03 J -30619595.43 -30619595.33 -30619595.22 0.0528 0.0342

Moon -88545-02-15 08:23 J -30619593.24 -30619593.15 -30619593.07 0.2751 0.1872

Earth -88545-02-15 09:20 J -30619593.19 -30619593.11 -30619593.04 0.2748 0.2026 *

Mars -88544-10-23 10:18 J -30618977.19 -30618977.07 -30618976.95 0.1651 0.0582

Saturn -88543-06-07 21:35 J -30618749.71 -30618749.60 -30618749.49 0.0287 0.0213

Saturn -88543-09-04 17:44 J -30618660.92 -30618660.76 -30618660.59 0.0286 0.0083

Saturn -88543-12-02 13:39 J -30618572.10 -30618571.93 -30618571.77 0.0286 0.0044

Saturn -88542-03-01 08:51 J -30618483.26 -30618483.13 -30618482.99 0.0286 0.0168

Mars -88542-09-28 22:32 J -30618271.60 -30618271.56 -30618271.52 0.1633 0.1551

Venus -88541-06-15 11:59 J -30618011.09 -30618011.00 -30618010.90 0.3775 0.1882

Jupiter -88539-01-13 02:51 J -30617434.48 -30617434.38 -30617434.28 0.0495 0.0400

Jupiter -88539-04-13 05:15 J -30617344.45 -30617344.28 -30617344.12 0.0498 0.0104

Moon -88538-02-08 00:56 J -30617043.54 -30617043.46 -30617043.38 0.2748 0.1996

Earth -88538-02-08 00:56 J -30617043.54 -30617043.46 -30617043.39 0.2754 0.2088 *

Venus -88536-12-30 06:27 J -30615987.33 -30615987.23 -30615987.12 0.3771 0.1152

Mars -88535-05-24 02:08 J -30615842.51 -30615842.41 -30615842.30 0.1897 0.1308

Moon -88535-08-17 04:18 J -30615757.46 -30615757.32 -30615757.18 0.2592 0.0122

Earth -88535-08-17 05:01 J -30615757.43 -30615757.29 -30615757.15 0.2587 0.0162 *

Mars -88534-03-15 19:39 J -30615546.78 -30615546.68 -30615546.59 0.1656 0.1091

Jupiter -88534-09-03 21:35 J -30615374.72 -30615374.60 -30615374.48 0.0532 0.0231

Jupiter -88534-12-02 07:39 J -30615285.30 -30615285.18 -30615285.06 0.0528 0.0230

Mars -88532-02-18 07:25 J -30614841.29 -30614841.19 -30614841.09 0.1637 0.1034

Venus -88530-07-16 01:11 J -30613963.56 -30613963.45 -30613963.34 0.3768 0.0400

Saturn -88529-12-23 02:37 J -30613437.44 -30613437.39 -30613437.33 0.0272 0.0248

Saturn -88528-03-21 14:37 J -30613349.00 -30613348.89 -30613348.77 0.0272 0.0161

Saturn -88528-06-18 03:06 J -30613260.51 -30613260.37 -30613260.24 0.0273 0.0071

Saturn -88528-09-14 15:20 J -30613172.00 -30613171.86 -30613171.71 0.0273 0.0021

Neptune -88528-10-30 19:54 J -30613125.71 -30613125.67 -30613125.59 0.0089 0.0084

Saturn -88528-12-12 04:03 J -30613083.46 -30613083.33 -30613083.20 0.0273 0.0112

Neptune -88527-01-26 23:15 J -30613037.60 -30613037.53 -30613037.43 0.0089 0.0078

Jupiter -88527-01-30 04:32 J -30613034.48 -30613034.31 -30613034.14 0.0498 0.0019

Saturn -88527-03-10 16:47 J -30612994.89 -30612994.80 -30612994.70 0.0273 0.0206

Neptune -88527-04-25 02:37 J -30612949.49 -30612949.39 -30612949.27 0.0089 0.0072

Jupiter -88527-04-30 05:44 J -30612944.31 -30612944.26 -30612944.21 0.0501 0.0476

Neptune -88527-07-22 05:44 J -30612861.37 -30612861.26 -30612861.12 0.0089 0.0066

Neptune -88527-10-18 09:06 J -30612773.24 -30612773.12 -30612772.97 0.0089 0.0060

Neptune -88526-01-14 12:13 J -30612685.12 -30612684.99 -30612684.83 0.0089 0.0055

Neptune -88526-04-12 15:35 J -30612596.99 -30612596.85 -30612596.68 0.0089 0.0049

Neptune -88526-07-09 18:56 J -30612508.87 -30612508.71 -30612508.54 0.0089 0.0043

Venus -88526-07-14 19:11 J -30612503.77 -30612503.70 -30612503.63 0.3601 0.3045

Neptune -88526-10-05 22:18 J -30612420.74 -30612420.57 -30612420.40 0.0089 0.0037

Mars -88526-10-14 03:06 J -30612412.51 -30612412.37 -30612412.23 0.1890 0.0285

Neptune -88525-01-02 01:11 J -30612332.61 -30612332.45 -30612332.27 0.0089 0.0032

Uranus -88525-01-04 22:47 J -30612329.56 -30612329.55 -30612329.52 0.0138 0.0137

Moon -88525-02-10 20:51 J -30612292.75 -30612292.63 -30612292.52 0.2746 0.0754

Earth -88525-02-10 21:06 J -30612292.73 -30612292.62 -30612292.50 0.2752 0.0651 *

Neptune -88525-03-30 04:32 J -30612244.48 -30612244.31 -30612244.13 0.0089 0.0026

Uranus -88525-04-02 05:01 J -30612241.37 -30612241.29 -30612241.18 0.0138 0.0115

Neptune -88525-06-26 07:39 J -30612156.35 -30612156.18 -30612155.99 0.0089 0.0020

Uranus -88525-06-29 11:30 J -30612153.14 -30612153.02 -30612152.88 0.0138 0.0093

Mars -88525-08-05 04:47 J -30612116.33 -30612116.30 -30612116.27 0.1662 0.1596

Neptune -88525-09-22 10:47 J -30612068.22 -30612068.05 -30612067.86 0.0089 0.0015

Uranus -88525-09-25 17:59 J -30612064.90 -30612064.75 -30612064.59 0.0138 0.0071

Neptune -88525-12-19 14:08 J -30611980.09 -30611979.91 -30611979.73 0.0089 0.0008

Uranus -88525-12-23 00:13 J -30611976.65 -30611976.49 -30611976.32 0.0138 0.0049

Venus -88524-01-28 19:54 J -30611939.78 -30611939.67 -30611939.55 0.3764 0.0393

Neptune -88524-03-17 17:15 J -30611891.96 -30611891.78 -30611891.60 0.0089 0.0003

Uranus -88524-03-21 06:27 J -30611888.40 -30611888.23 -30611888.05 0.0137 0.0027

Neptune -88524-06-13 20:23 J -30611803.83 -30611803.65 -30611803.47 0.0089 0.0003

Uranus -88524-06-17 12:42 J -30611800.15 -30611799.97 -30611799.80 0.0137 0.0006

Neptune -88524-09-09 23:30 J -30611715.70 -30611715.52 -30611715.34 0.0089 0.0009

Uranus -88524-09-13 18:42 J -30611711.89 -30611711.72 -30611711.54 0.0137 0.0016

Neptune -88524-12-07 02:23 J -30611627.57 -30611627.40 -30611627.21 0.0089 0.0015

Uranus -88524-12-11 00:42 J -30611623.63 -30611623.47 -30611623.30 0.0137 0.0036

Neptune -88523-03-05 05:44 J -30611539.44 -30611539.26 -30611539.09 0.0089 0.0020

Uranus -88523-03-09 06:42 J -30611535.38 -30611535.22 -30611535.06 0.0137 0.0057

Neptune -88523-06-01 08:37 J -30611451.31 -30611451.14 -30611450.96 0.0089 0.0025

Uranus -88523-06-05 12:27 J -30611447.11 -30611446.98 -30611446.83 0.0137 0.0078

Mars -88523-07-11 16:18 J -30611410.94 -30611410.82 -30611410.69 0.1641 0.0520

Neptune -88523-08-28 11:44 J -30611363.18 -30611363.01 -30611362.84 0.0089 0.0031

Uranus -88523-09-01 18:13 J -30611358.85 -30611358.74 -30611358.61 0.0137 0.0098

Neptune -88523-11-24 14:37 J -30611275.05 -30611274.89 -30611274.72 0.0089 0.0037

Uranus -88523-11-28 23:59 J -30611270.57 -30611270.50 -30611270.41 0.0137 0.0118

Neptune -88522-02-20 17:30 J -30611186.91 -30611186.77 -30611186.60 0.0089 0.0043

Neptune -88522-05-19 20:37 J -30611098.78 -30611098.64 -30611098.48 0.0089 0.0048

Jupiter -88522-06-23 00:56 J -30611064.56 -30611064.46 -30611064.36 0.0533 0.0343

Neptune -88522-08-15 23:44 J -30611010.65 -30611010.51 -30611010.36 0.0089 0.0053

Moon -88522-08-20 05:15 J -30611006.38 -30611006.28 -30611006.18 0.2595 0.1729

Earth -88522-08-20 05:15 J -30611006.38 -30611006.28 -30611006.18 0.2589 0.1780 *

Jupiter -88522-09-20 10:47 J -30610975.18 -30610975.05 -30610974.92 0.0529 0.0116

Neptune -88522-11-12 02:37 J -30610922.52 -30610922.39 -30610922.25 0.0089 0.0059

Neptune -88521-02-08 05:44 J -30610834.38 -30610834.26 -30610834.13 0.0088 0.0064

Neptune -88521-05-06 08:23 J -30610746.24 -30610746.15 -30610746.02 0.0088 0.0070

Neptune -88521-08-02 11:30 J -30610658.10 -30610658.02 -30610657.92 0.0088 0.0075

Neptune -88521-10-29 14:37 J -30610569.96 -30610569.89 -30610569.81 0.0088 0.0080

Neptune -88520-01-25 17:15 J -30610481.81 -30610481.78 -30610481.72 0.0088 0.0085

Venus -88520-01-27 19:54 J -30610479.78 -30610479.67 -30610479.55 0.3605 0.1931

Venus -88519-08-14 15:06 J -30609915.98 -30609915.87 -30609915.76 0.3761 0.1170

Mars -88516-03-05 03:35 J -30608982.48 -30608982.35 -30608982.21 0.1883 0.0760

Jupiter -88516-11-18 04:03 J -30608724.50 -30608724.33 -30608724.16 0.0497 0.0140

Jupiter -88515-02-16 05:30 J -30608634.38 -30608634.27 -30608634.15 0.0500 0.0357

Venus -88515-08-13 20:23 J -30608455.78 -30608455.65 -30608455.52 0.3608 0.0856

Saturn -88514-10-25 19:54 J -30608017.74 -30608017.67 -30608017.59 0.0287 0.0257

Mars -88514-12-02 01:25 J -30607980.57 -30607980.44 -30607980.31 0.1646 0.0014

Saturn -88513-01-22 16:18 J -30607928.97 -30607928.82 -30607928.66 0.0287 0.0126

Venus -88513-02-28 10:32 J -30607892.16 -30607892.06 -30607891.97 0.3757 0.1994

Saturn -88513-04-20 12:27 J -30607840.15 -30607839.98 -30607839.81 0.0287 0.0003

Saturn -88513-07-18 08:08 J -30607751.31 -30607751.16 -30607751.01 0.0287 0.0129

Saturn -88513-10-15 03:06 J -30607662.44 -30607662.37 -30607662.29 0.0287 0.0251

Moon -88512-02-12 16:47 J -30607541.91 -30607541.80 -30607541.68 0.2749 0.0747

Earth -88512-02-12 17:44 J -30607541.88 -30607541.76 -30607541.65 0.2750 0.0825 *

Jupiter -88510-04-11 03:35 J -30606754.41 -30606754.35 -30606754.29 0.0534 0.0468

Jupiter -88510-07-09 12:56 J -30606665.09 -30606664.96 -30606664.82 0.0530 0.0021

Jupiter -88510-10-06 23:30 J -30606575.59 -30606575.52 -30606575.46 0.0527 0.0452

Venus -88509-02-27 20:08 J -30606431.79 -30606431.66 -30606431.52 0.3612 0.0214

Pluto -88508-04-13 23:15 J -30606020.56 -30606020.53 -30606020.48 0.0060 0.0058

Pluto -88508-07-11 00:27 J -30605932.56 -30605932.48 -30605932.37 0.0060 0.0052

Venus -88508-09-13 05:59 J -30605868.32 -30605868.25 -30605868.18 0.3753 0.2826

Pluto -88508-10-07 01:39 J -30605844.53 -30605844.43 -30605844.28 0.0060 0.0047

Pluto -88507-01-03 03:35 J -30605756.49 -30605756.35 -30605756.20 0.0060 0.0039

Pluto -88507-04-01 04:47 J -30605668.44 -30605668.30 -30605668.12 0.0060 0.0033

Pluto -88507-06-28 06:27 J -30605580.40 -30605580.23 -30605580.05 0.0060 0.0027

Mars -88507-07-26 03:49 J -30605552.37 -30605552.34 -30605552.31 0.1876 0.1824

Pluto -88507-09-24 07:54 J -30605492.34 -30605492.17 -30605491.98 0.0060 0.0020

Pluto -88507-12-21 09:35 J -30605404.29 -30605404.10 -30605403.91 0.0060 0.0014

Pluto -88506-03-19 11:01 J -30605316.23 -30605316.04 -30605315.84 0.0061 0.0007

Pluto -88506-06-15 12:27 J -30605228.17 -30605227.98 -30605227.78 0.0061 0.0001

Pluto -88506-09-11 14:08 J -30605140.11 -30605139.91 -30605139.72 0.0061 0.0006

Pluto -88506-12-08 15:20 J -30605052.04 -30605051.86 -30605051.66 0.0061 0.0013

Pluto -88505-03-05 17:01 J -30604963.97 -30604963.79 -30604963.60 0.0061 0.0019

Pluto -88505-06-01 18:13 J -30604875.90 -30604875.74 -30604875.55 0.0061 0.0026

Pluto -88505-08-28 19:39 J -30604787.83 -30604787.68 -30604787.50 0.0061 0.0033

Pluto -88505-11-24 21:20 J -30604699.75 -30604699.61 -30604699.45 0.0061 0.0039

Pluto -88504-02-20 22:47 J -30604611.66 -30604611.55 -30604611.41 0.0061 0.0046

Mars -88504-04-23 10:32 J -30604550.18 -30604550.06 -30604549.94 0.1651 0.0508

Pluto -88504-05-19 23:59 J -30604523.57 -30604523.50 -30604523.38 0.0061 0.0054

Pluto -88504-08-16 01:25 J -30604435.45 -30604435.44 -30604435.37 0.0061 0.0061

Jupiter -88504-09-06 03:06 J -30604414.51 -30604414.37 -30604414.22 0.0496 0.0264

Venus -88504-09-12 19:39 J -30604407.80 -30604407.68 -30604407.55 0.3616 0.1162

Jupiter -88504-12-05 05:15 J -30604324.43 -30604324.28 -30604324.13 0.0499 0.0236

Mars -88502-03-29 22:47 J -30603844.56 -30603844.55 -30603844.55 0.1633 0.1626

Venus -88502-03-30 01:54 J -30603844.44 -30603844.42 -30603844.41 0.3749 0.3693

Moon -88502-08-15 09:06 J -30603706.25 -30603706.12 -30603706.00 0.2587 0.1312

Earth -88502-08-15 10:03 J -30603706.20 -30603706.08 -30603705.95 0.2585 0.1160 *

Venus -88501-06-07 04:03 J -30603409.34 -30603409.33 -30603409.33 0.3783 0.3774

Moon -88499-02-15 13:39 J -30602791.00 -30602790.93 -30602790.87 0.2751 0.2270

Earth -88499-02-15 14:23 J -30602790.96 -30602790.90 -30602790.84 0.2748 0.2331 *

Saturn -88499-05-12 05:44 J -30602705.28 -30602705.26 -30602705.22 0.0272 0.0264

Saturn -88499-08-08 17:59 J -30602616.86 -30602616.75 -30602616.65 0.0272 0.0177

Saturn -88499-11-05 05:59 J -30602528.38 -30602528.25 -30602528.11 0.0272 0.0089

Saturn -88498-02-01 18:27 J -30602439.87 -30602439.73 -30602439.59 0.0272 0.0002

Venus -88498-03-29 18:42 J -30602383.82 -30602383.72 -30602383.61 0.3620 0.2109

Jupiter -88498-04-27 16:18 J -30602354.95 -30602354.82 -30602354.69 0.0531 0.0125

Saturn -88498-05-01 06:56 J -30602351.34 -30602351.21 -30602351.07 0.0272 0.0094

Jupiter -88498-07-26 02:23 J -30602265.50 -30602265.40 -30602265.29 0.0528 0.0338

Saturn -88498-07-28 19:54 J -30602262.78 -30602262.67 -30602262.57 0.0272 0.0187

Mars -88496-11-22 02:37 J -30601415.49 -30601415.39 -30601415.30 0.1897 0.1410

Venus -88496-12-21 21:49 J -30601385.65 -30601385.59 -30601385.53 0.3780 0.3102

Mars -88495-09-13 19:54 J -30601119.77 -30601119.67 -30601119.57 0.1656 0.1015

Mars -88493-08-19 07:39 J -30600414.28 -30600414.18 -30600414.09 0.1637 0.1111

Venus -88493-10-12 17:30 J -30600359.84 -30600359.77 -30600359.70 0.3624 0.3005

Earth -88492-02-08 05:59 J -30600241.34 -30600241.25 -30600241.16 0.2754 0.1789

Moon -88492-02-08 05:59 J -30600241.33 -30600241.25 -30600241.16 0.2747 0.1853 *

Jupiter -88492-06-25 01:25 J -30600104.54 -30600104.44 -30600104.33 0.0495 0.0394

Jupiter -88492-09-23 03:49 J -30600014.50 -30600014.34 -30600014.17 0.0498 0.0109

Venus -88490-07-07 16:03 J -30599361.92 -30599361.83 -30599361.75 0.3777 0.2410

Moon -88489-08-17 10:03 J -30598955.21 -30598955.08 -30598954.94 0.2593 0.0443

Earth -88489-08-17 10:47 J -30598955.19 -30598955.05 -30598954.91 0.2587 0.0508 *

Jupiter -88486-02-13 19:54 J -30598044.78 -30598044.67 -30598044.55 0.0532 0.0233

Mars -88486-04-14 03:35 J -30597985.49 -30597985.35 -30597985.21 0.1891 0.0395

Jupiter -88486-05-14 05:59 J -30597955.37 -30597955.25 -30597955.13 0.0529 0.0229

Mars -88485-02-04 05:01 J -30597689.34 -30597689.29 -30597689.25 0.1661 0.1527

Venus -88484-01-20 10:18 J -30597338.17 -30597338.07 -30597337.97 0.3774 0.1698

Saturn -88484-06-10 15:06 J -30597197.00 -30597196.87 -30597196.73 0.0287 0.0169

Saturn -88484-09-07 11:15 J -30597108.19 -30597108.03 -30597107.86 0.0287 0.0040

Saturn -88484-12-05 07:11 J -30597019.36 -30597019.20 -30597019.04 0.0287 0.0088

Mars -88483-01-09 16:32 J -30596983.93 -30596983.81 -30596983.69 0.1641 0.0595

Saturn -88483-03-04 02:08 J -30596930.51 -30596930.41 -30596930.29 0.0287 0.0212

Uranus -88481-11-26 05:15 J -30595932.33 -30595932.28 -30595932.20 0.0141 0.0126

Uranus -88480-02-22 09:20 J -30595844.19 -30595844.11 -30595844.01 0.0141 0.0108

Uranus -88480-05-21 13:25 J -30595756.04 -30595755.94 -30595755.83 0.0141 0.0090

Jupiter -88480-07-12 03:20 J -30595704.54 -30595704.36 -30595704.19 0.0498 0.0016

Uranus -88480-08-17 17:30 J -30595667.89 -30595667.77 -30595667.65 0.0141 0.0071

Jupiter -88480-10-10 04:32 J -30595614.36 -30595614.31 -30595614.27 0.0501 0.0480

Uranus -88480-11-13 21:20 J -30595579.73 -30595579.61 -30595579.47 0.0141 0.0054

Uranus -88479-02-10 01:39 J -30595491.57 -30595491.43 -30595491.29 0.0141 0.0035

Moon -88479-02-11 01:54 J -30595490.54 -30595490.42 -30595490.31 0.2746 0.0353

Earth -88479-02-11 02:23 J -30595490.52 -30595490.40 -30595490.28 0.2752 0.0351 *

Uranus -88479-05-09 05:44 J -30595403.40 -30595403.26 -30595403.12 0.0141 0.0016

Uranus -88479-08-05 09:49 J -30595315.23 -30595315.09 -30595314.95 0.0142 0.0003

Venus -88479-08-06 04:47 J -30595314.41 -30595314.30 -30595314.19 0.3771 0.0961

Uranus -88479-11-01 13:54 J -30595227.06 -30595226.92 -30595226.77 0.0142 0.0023

Uranus -88478-01-28 18:13 J -30595138.88 -30595138.74 -30595138.60 0.0142 0.0042

Uranus -88478-04-26 22:32 J -30595050.69 -30595050.56 -30595050.43 0.0142 0.0061

Uranus -88478-07-24 02:37 J -30594962.50 -30594962.39 -30594962.26 0.0142 0.0081

Uranus -88478-10-20 07:11 J -30594874.30 -30594874.20 -30594874.10 0.0142 0.0101

Uranus -88477-01-16 11:30 J -30594786.09 -30594786.02 -30594785.94 0.0142 0.0121

Uranus -88477-04-13 15:49 J -30594697.85 -30594697.84 -30594697.82 0.0143 0.0141

Mars -88477-09-03 04:03 J -30594555.46 -30594555.33 -30594555.19 0.1884 0.0653

Earth -88476-08-20 11:01 J -30594204.12 -30594204.04 -30594203.96 0.2589 0.2123

Moon -88476-08-20 11:15 J -30594204.10 -30594204.03 -30594203.96 0.2595 0.2210 *

Jupiter -88475-12-02 23:44 J -30593734.61 -30593734.51 -30593734.41 0.0533 0.0340

Jupiter -88474-03-02 09:35 J -30593645.24 -30593645.10 -30593644.97 0.0529 0.0120

Mars -88474-06-02 01:25 J -30593553.57 -30593553.44 -30593553.31 0.1646 0.0089

Venus -88473-02-19 23:30 J -30593290.63 -30593290.52 -30593290.41 0.3767 0.0204

Saturn -88470-12-26 18:27 J -30591884.81 -30591884.73 -30591884.64 0.0272 0.0213

Venus -88469-02-18 19:11 J -30591830.79 -30591830.70 -30591830.61 0.3602 0.2760

Saturn -88469-03-24 06:42 J -30591796.35 -30591796.22 -30591796.10 0.0272 0.0125

Saturn -88469-06-20 18:56 J -30591707.85 -30591707.71 -30591707.57 0.0272 0.0036

Earth -88469-08-12 15:06 J -30591654.90 -30591654.87 -30591654.84 0.2584 0.2506

Saturn -88469-09-17 07:25 J -30591619.33 -30591619.19 -30591619.05 0.0272 0.0055

Saturn -88469-12-14 19:54 J -30591530.78 -30591530.67 -30591530.54 0.0272 0.0149

Saturn -88468-03-13 08:51 J -30591442.19 -30591442.13 -30591442.06 0.0273 0.0242

Jupiter -88468-04-30 02:23 J -30591394.56 -30591394.40 -30591394.23 0.0497 0.0137

Jupiter -88468-07-29 04:03 J -30591304.44 -30591304.33 -30591304.21 0.0500 0.0361

Venus -88468-09-04 18:27 J -30591266.84 -30591266.73 -30591266.62 0.3763 0.0576

Mars -88467-01-24 04:32 J -30591125.37 -30591125.31 -30591125.25 0.1877 0.1699

Moon -88466-02-13 22:03 J -30590739.70 -30590739.58 -30590739.47 0.2750 0.0980

Earth -88466-02-13 22:47 J -30590739.65 -30590739.55 -30590739.44 0.2750 0.1136 *

Mars -88465-10-22 10:47 J -30590123.18 -30590123.05 -30590122.93 0.1651 0.0435

Venus -88464-09-03 19:54 J -30589806.79 -30589806.67 -30589806.55 0.3606 0.1654

Jupiter -88463-09-21 03:06 J -30589424.43 -30589424.37 -30589424.30 0.0533 0.0451

Jupiter -88463-12-19 12:42 J -30589335.10 -30589334.97 -30589334.83 0.0530 0.0009

Jupiter -88462-03-18 23:01 J -30589245.60 -30589245.54 -30589245.48 0.0527 0.0468

Venus -88462-03-21 13:39 J -30589243.04 -30589242.93 -30589242.83 0.3760 0.1384

Venus -88458-03-20 20:08 J -30587782.79 -30587782.66 -30587782.53 0.3609 0.0591

Venus -88457-10-04 08:51 J -30587219.22 -30587219.13 -30587219.03 0.3756 0.2206

Jupiter -88456-02-16 01:54 J -30587084.56 -30587084.42 -30587084.27 0.0496 0.0258

Jupiter -88456-05-17 03:49 J -30586994.48 -30586994.34 -30586994.18 0.0499 0.0244

Mars -88456-05-23 03:06 J -30586988.46 -30586988.37 -30586988.29 0.1897 0.1522

Moon -88456-08-15 14:51 J -30586904.01 -30586903.88 -30586903.74 0.2589 0.0846

Earth -88456-08-15 16:03 J -30586903.97 -30586903.83 -30586903.70 0.2585 0.0806 *

Mars -88455-03-14 19:54 J -30586692.78 -30586692.67 -30586692.57 0.1656 0.0948

Saturn -88455-10-28 13:11 J -30586465.06 -30586464.95 -30586464.83 0.0287 0.0215

Saturn -88454-01-25 09:35 J -30586376.26 -30586376.10 -30586375.94 0.0287 0.0084

Saturn -88454-04-24 05:30 J -30586287.43 -30586287.27 -30586287.10 0.0287 0.0044

Saturn -88454-07-22 00:56 J -30586198.59 -30586198.46 -30586198.32 0.0287 0.0170

Moon -88453-02-16 18:56 J -30585988.75 -30585988.71 -30585988.67 0.2751 0.2553

Earth -88453-02-16 19:39 J -30585988.71 -30585988.68 -30585988.65 0.2747 0.2640 *

Mars -88453-02-18 07:39 J -30585987.27 -30585987.18 -30585987.09 0.1637 0.1184

Venus -88453-10-03 19:54 J -30585758.80 -30585758.67 -30585758.54 0.3613 0.0427

Venus -88451-04-20 04:32 J -30585195.37 -30585195.31 -30585195.24 0.3752 0.3047

Jupiter -88451-10-07 15:06 J -30585025.00 -30585024.87 -30585024.74 0.0531 0.0122

Jupiter -88450-01-05 01:11 J -30584935.55 -30584935.45 -30584935.35 0.0528 0.0340

Venus -88447-04-19 19:11 J -30583734.82 -30583734.70 -30583734.58 0.3617 0.1405

Mars -88447-10-13 03:49 J -30583558.48 -30583558.34 -30583558.20 0.1891 0.0494

Neptune -88446-02-04 21:06 J -30583443.63 -30583443.62 -30583443.59 0.0089 0.0088

Moon -88446-02-09 11:01 J -30583439.14 -30583439.04 -30583438.94 0.2746 0.1434

Earth -88446-02-09 11:01 J -30583439.13 -30583439.04 -30583438.94 0.2754 0.1503 *

Neptune -88446-05-03 22:32 J -30583355.59 -30583355.56 -30583355.51 0.0089 0.0084

Neptune -88446-07-30 23:59 J -30583267.55 -30583267.50 -30583267.43 0.0089 0.0080

Mars -88446-08-05 05:01 J -30583262.35 -30583262.29 -30583262.23 0.1661 0.1455

Neptune -88446-10-27 01:25 J -30583179.50 -30583179.44 -30583179.36 0.0089 0.0076

Neptune -88445-01-23 02:51 J -30583091.45 -30583091.38 -30583091.29 0.0089 0.0072

Neptune -88445-04-20 04:32 J -30583003.40 -30583003.31 -30583003.22 0.0089 0.0067

Neptune -88445-07-17 05:59 J -30582915.34 -30582915.25 -30582915.15 0.0089 0.0063

Neptune -88445-10-13 07:25 J -30582827.29 -30582827.19 -30582827.08 0.0089 0.0059

Jupiter -88445-12-05 00:56 J -30582774.56 -30582774.46 -30582774.34 0.0495 0.0381

Neptune -88444-01-09 08:51 J -30582739.23 -30582739.13 -30582739.02 0.0089 0.0055

Venus -88444-01-12 02:08 J -30582736.44 -30582736.41 -30582736.38 0.3782 0.3611

Jupiter -88444-03-05 03:20 J -30582684.52 -30582684.36 -30582684.19 0.0498 0.0122

Neptune -88444-04-07 10:18 J -30582651.18 -30582651.07 -30582650.95 0.0089 0.0051

Neptune -88444-07-04 11:59 J -30582563.12 -30582563.00 -30582562.89 0.0089 0.0046

Mars -88444-07-10 16:32 J -30582556.92 -30582556.81 -30582556.69 0.1641 0.0670

Neptune -88444-09-30 13:25 J -30582475.06 -30582474.94 -30582474.82 0.0089 0.0042

Neptune -88444-12-27 14:51 J -30582387.00 -30582386.88 -30582386.76 0.0089 0.0038

Neptune -88443-03-25 16:18 J -30582298.95 -30582298.82 -30582298.69 0.0089 0.0033

Neptune -88443-06-21 17:44 J -30582210.89 -30582210.76 -30582210.63 0.0089 0.0029

Moon -88443-08-18 16:03 J -30582152.97 -30582152.83 -30582152.70 0.2593 0.0799

Earth -88443-08-18 16:32 J -30582152.95 -30582152.81 -30582152.68 0.2587 0.0853 *

Neptune -88443-09-17 19:11 J -30582122.83 -30582122.70 -30582122.56 0.0089 0.0025

Neptune -88443-12-14 20:51 J -30582034.77 -30582034.63 -30582034.50 0.0089 0.0021

Neptune -88442-03-12 22:18 J -30581946.70 -30581946.57 -30581946.43 0.0089 0.0016

Neptune -88442-06-08 23:44 J -30581858.64 -30581858.51 -30581858.37 0.0089 0.0012

Neptune -88442-09-05 01:25 J -30581770.58 -30581770.44 -30581770.30 0.0089 0.0008

Venus -88442-11-03 18:13 J -30581710.84 -30581710.74 -30581710.64 0.3621 0.2338

Neptune -88442-12-02 02:51 J -30581682.52 -30581682.38 -30581682.24 0.0089 0.0003

Uranus -88441-01-25 05:59 J -30581628.28 -30581628.25 -30581628.18 0.0138 0.0132

Neptune -88441-02-28 04:32 J -30581594.45 -30581594.31 -30581594.18 0.0089 0.0003

Uranus -88441-04-22 12:42 J -30581540.07 -30581539.97 -30581539.86 0.0138 0.0109

Neptune -88441-05-26 05:59 J -30581506.39 -30581506.25 -30581506.11 0.0089 0.0005

Uranus -88441-07-19 19:11 J -30581451.84 -30581451.70 -30581451.56 0.0138 0.0087

Neptune -88441-08-22 07:25 J -30581418.33 -30581418.19 -30581418.05 0.0089 0.0010

Uranus -88441-10-16 01:25 J -30581363.59 -30581363.44 -30581363.28 0.0138 0.0065

Neptune -88441-11-18 09:06 J -30581330.26 -30581330.12 -30581329.98 0.0089 0.0014

Uranus -88440-01-12 07:39 J -30581275.34 -30581275.18 -30581275.01 0.0138 0.0043

Neptune -88440-02-14 10:32 J -30581242.19 -30581242.06 -30581241.92 0.0089 0.0019

Uranus -88440-04-10 13:54 J -30581187.09 -30581186.92 -30581186.75 0.0137 0.0022

Neptune -88440-05-13 12:13 J -30581154.13 -30581153.99 -30581153.86 0.0089 0.0023

Saturn -88440-05-14 21:49 J -30581152.66 -30581152.59 -30581152.52 0.0272 0.0230

Uranus -88440-07-07 20:08 J -30581098.84 -30581098.66 -30581098.49 0.0137 0.0003

Neptune -88440-08-09 13:39 J -30581066.06 -30581065.93 -30581065.79 0.0089 0.0027

Saturn -88440-08-11 09:49 J -30581064.21 -30581064.09 -30581063.97 0.0272 0.0142

Uranus -88440-10-04 01:54 J -30581010.58 -30581010.42 -30581010.24 0.0137 0.0022

Neptune -88440-11-05 15:06 J -30580977.99 -30580977.87 -30580977.73 0.0089 0.0032

Saturn -88440-11-07 22:03 J -30580975.72 -30580975.58 -30580975.44 0.0272 0.0053

Uranus -88440-12-31 08:08 J -30580922.33 -30580922.16 -30580922.00 0.0137 0.0042

Neptune -88439-02-01 16:47 J -30580889.92 -30580889.80 -30580889.67 0.0089 0.0036

Saturn -88439-02-04 10:32 J -30580887.21 -30580887.06 -30580886.92 0.0272 0.0038

Uranus -88439-03-29 13:54 J -30580834.07 -30580833.92 -30580833.76 0.0137 0.0062

Neptune -88439-04-30 18:27 J -30580801.85 -30580801.73 -30580801.60 0.0089 0.0041

Saturn -88439-05-03 23:01 J -30580798.66 -30580798.54 -30580798.41 0.0272 0.0130

Uranus -88439-06-25 19:39 J -30580745.81 -30580745.68 -30580745.53 0.0137 0.0083

Jupiter -88439-07-26 18:13 J -30580714.86 -30580714.74 -30580714.62 0.0532 0.0236

Neptune -88439-07-27 20:08 J -30580713.78 -30580713.66 -30580713.54 0.0089 0.0045

Venus -88439-07-28 20:08 J -30580712.73 -30580712.66 -30580712.60 0.3779 0.2934

Saturn -88439-07-31 11:44 J -30580710.08 -30580710.01 -30580709.92 0.0272 0.0225

Uranus -88439-09-22 01:39 J -30580657.54 -30580657.43 -30580657.31 0.0137 0.0103

Neptune -88439-10-23 21:35 J -30580625.71 -30580625.60 -30580625.48 0.0089 0.0050

Jupiter -88439-10-24 04:18 J -30580625.44 -30580625.32 -30580625.20 0.0529 0.0225

Uranus -88439-12-19 07:25 J -30580569.26 -30580569.19 -30580569.11 0.0137 0.0123

Neptune -88438-01-19 23:15 J -30580537.64 -30580537.53 -30580537.42 0.0089 0.0054

Neptune -88438-04-18 00:42 J -30580449.57 -30580449.47 -30580449.36 0.0089 0.0059

Neptune -88438-07-15 02:23 J -30580361.49 -30580361.40 -30580361.30 0.0089 0.0063

Neptune -88438-10-11 03:49 J -30580273.42 -30580273.34 -30580273.24 0.0089 0.0068

Neptune -88437-01-07 05:44 J -30580185.34 -30580185.26 -30580185.18 0.0089 0.0072

Mars -88437-03-04 04:32 J -30580128.45 -30580128.31 -30580128.17 0.1884 0.0546

Neptune -88437-04-04 07:11 J -30580097.26 -30580097.20 -30580097.12 0.0089 0.0077

Neptune -88437-07-01 08:51 J -30580009.18 -30580009.13 -30580009.07 0.0089 0.0081

Neptune -88437-09-27 10:18 J -30579921.09 -30579921.07 -30579921.02 0.0089 0.0086

Venus -88436-05-19 16:47 J -30579686.86 -30579686.80 -30579686.75 0.3625 0.3224

Mars -88435-12-01 01:39 J -30579126.55 -30579126.43 -30579126.30 0.1646 0.0166

Venus -88433-02-11 14:08 J -30578689.00 -30578688.91 -30578688.82 0.3776 0.2235

Moon -88433-02-12 06:56 J -30578688.33 -30578688.21 -30578688.09 0.2748 0.0202

Earth -88433-02-12 07:25 J -30578688.30 -30578688.19 -30578688.07 0.2752 0.0116 *

Jupiter -88433-12-22 02:08 J -30578374.59 -30578374.41 -30578374.24 0.0497 0.0013

Jupiter -88432-03-22 03:06 J -30578284.40 -30578284.37 -30578284.33 0.0501 0.0485

Earth -88430-08-21 16:47 J -30577401.84 -30577401.80 -30577401.76 0.2589 0.2460

Moon -88430-08-21 17:15 J -30577401.81 -30577401.78 -30577401.75 0.2595 0.2499 *

Mars -88428-07-25 05:01 J -30576698.37 -30576698.29 -30576698.21 0.1877 0.1589

Venus -88428-08-27 08:37 J -30576665.24 -30576665.14 -30576665.04 0.3773 0.1521

Jupiter -88427-05-14 22:03 J -30576404.68 -30576404.58 -30576404.48 0.0533 0.0343

Jupiter -88427-08-12 07:54 J -30576315.31 -30576315.17 -30576315.04 0.0530 0.0117

Saturn -88425-03-16 12:27 J -30575733.06 -30575732.98 -30575732.90 0.0287 0.0255

Mars -88425-04-22 10:47 J -30575696.17 -30575696.05 -30575695.92 0.1651 0.0361

Saturn -88425-06-13 08:51 J -30575644.28 -30575644.13 -30575643.97 0.0287 0.0124

Saturn -88425-09-10 05:01 J -30575555.46 -30575555.29 -30575555.12 0.0287 0.0006

Saturn -88425-12-08 00:27 J -30575466.62 -30575466.48 -30575466.33 0.0287 0.0131

Saturn -88424-03-06 19:39 J -30575377.75 -30575377.68 -30575377.60 0.0287 0.0254

Moon -88423-08-13 19:39 J -30574852.75 -30574852.68 -30574852.61 0.2583 0.2190

Earth -88423-08-13 20:51 J -30574852.70 -30574852.63 -30574852.55 0.2584 0.2152 *

Venus -88422-03-13 03:06 J -30574641.48 -30574641.37 -30574641.26 0.3770 0.0771

Jupiter -88421-10-10 01:11 J -30574064.62 -30574064.45 -30574064.28 0.0497 0.0131

Jupiter -88420-01-08 02:37 J -30573974.50 -30573974.39 -30573974.27 0.0500 0.0366

Moon -88420-02-14 03:06 J -30573937.47 -30573937.37 -30573937.26 0.2749 0.1382

Earth -88420-02-14 04:03 J -30573937.43 -30573937.33 -30573937.23 0.2750 0.1439 *

Venus -88417-09-25 21:49 J -30572617.70 -30572617.59 -30572617.48 0.3766 0.0036

Mars -88417-11-21 03:35 J -30572561.42 -30572561.35 -30572561.28 0.1897 0.1632

Mars -88416-09-12 19:54 J -30572265.78 -30572265.67 -30572265.56 0.1656 0.0875

Jupiter -88415-03-03 01:39 J -30572094.49 -30572094.43 -30572094.35 0.0534 0.0451

Jupiter -88415-05-31 11:15 J -30572005.16 -30572005.03 -30572004.89 0.0530 0.0020

Jupiter -88415-08-28 21:49 J -30571915.65 -30571915.59 -30571915.53 0.0527 0.0470

Pluto -88415-11-11 13:39 J -30571840.96 -30571840.93 -30571840.88 0.0085 0.0081

Pluto -88414-02-07 14:51 J -30571752.94 -30571752.88 -30571752.79 0.0085 0.0069

Pluto -88414-05-06 16:32 J -30571664.91 -30571664.81 -30571664.71 0.0084 0.0056

Pluto -88414-08-02 17:44 J -30571576.87 -30571576.76 -30571576.64 0.0084 0.0044

Mars -88414-08-19 07:54 J -30571560.25 -30571560.17 -30571560.09 0.1636 0.1260

Pluto -88414-10-29 19:11 J -30571488.83 -30571488.70 -30571488.58 0.0084 0.0032

Pluto -88413-01-25 20:23 J -30571400.78 -30571400.65 -30571400.52 0.0084 0.0019

Earth -88413-02-07 20:08 J -30571387.69 -30571387.66 -30571387.63 0.2755 0.2630

Moon -88413-02-07 20:23 J -30571387.69 -30571387.65 -30571387.61 0.2749 0.2548 *

Pluto -88413-04-22 21:35 J -30571312.73 -30571312.60 -30571312.47 0.0084 0.0008

Pluto -88413-07-19 22:47 J -30571224.68 -30571224.55 -30571224.41 0.0084 0.0005

Venus -88413-09-24 19:11 J -30571157.80 -30571157.70 -30571157.60 0.3603 0.2480

Pluto -88413-10-15 23:59 J -30571136.62 -30571136.50 -30571136.36 0.0084 0.0017

Pluto -88412-01-12 01:25 J -30571048.57 -30571048.44 -30571048.32 0.0084 0.0028

Pluto -88412-04-10 02:37 J -30570960.51 -30570960.39 -30570960.27 0.0083 0.0040

Pluto -88412-07-07 03:35 J -30570872.44 -30570872.35 -30570872.24 0.0083 0.0052

Pluto -88412-10-03 04:47 J -30570784.37 -30570784.30 -30570784.20 0.0083 0.0063

Pluto -88412-12-30 06:13 J -30570696.29 -30570696.24 -30570696.18 0.0083 0.0074

Venus -88411-04-11 16:47 J -30570593.91 -30570593.80 -30570593.69 0.3762 0.0778

Saturn -88411-10-01 22:32 J -30570420.58 -30570420.56 -30570420.53 0.0272 0.0265

Saturn -88411-12-29 10:32 J -30570332.16 -30570332.06 -30570331.95 0.0272 0.0178

Saturn -88410-03-27 22:47 J -30570243.69 -30570243.55 -30570243.42 0.0272 0.0089

Saturn -88410-06-24 11:01 J -30570155.18 -30570155.04 -30570154.90 0.0272 0.0003

Moon -88410-08-16 20:51 J -30570101.77 -30570101.63 -30570101.50 0.2590 0.0639

Earth -88410-08-16 21:49 J -30570101.73 -30570101.59 -30570101.45 0.2586 0.0457 *

Saturn -88410-09-20 23:30 J -30570066.65 -30570066.52 -30570066.38 0.0272 0.0093

Saturn -88410-12-18 12:13 J -30569978.09 -30569977.99 -30569977.88 0.0272 0.0186

Jupiter -88409-07-29 00:13 J -30569754.63 -30569754.49 -30569754.34 0.0496 0.0255

Jupiter -88409-10-27 02:23 J -30569664.55 -30569664.40 -30569664.25 0.0499 0.0245

Venus -88407-04-10 19:39 J -30569133.80 -30569133.68 -30569133.55 0.3607 0.1384

Mars -88407-04-13 04:18 J -30569131.45 -30569131.32 -30569131.18 0.1891 0.0606

Mars -88406-02-03 05:15 J -30568835.35 -30568835.28 -30568835.21 0.1661 0.1385

Venus -88406-10-26 11:59 J -30568570.10 -30568570.00 -30568569.90 0.3759 0.1583

Mars -88404-01-08 16:47 J -30568129.91 -30568129.80 -30568129.68 0.1641 0.0745

Jupiter -88403-03-19 14:37 J -30567695.02 -30567694.89 -30567694.75 0.0531 0.0107

Jupiter -88403-06-17 00:56 J -30567605.56 -30567605.46 -30567605.36 0.0528 0.0356

Venus -88402-10-25 19:54 J -30567109.81 -30567109.67 -30567109.54 0.3610 0.0341

Moon -88400-02-09 16:03 J -30566636.93 -30566636.83 -30566636.72 0.2746 0.1280

Earth -88400-02-09 16:18 J -30566636.93 -30566636.82 -30566636.72 0.2753 0.1205 *

Venus -88400-05-11 07:25 J -30566546.28 -30566546.19 -30566546.10 0.3755 0.2416

Mars -88398-09-03 05:01 J -30565701.43 -30565701.29 -30565701.14 0.1884 0.0431

Jupiter -88397-05-16 23:44 J -30565444.62 -30565444.51 -30565444.40 0.0496 0.0375

Jupiter -88397-08-15 02:08 J -30565354.57 -30565354.41 -30565354.24 0.0498 0.0127

Moon -88397-08-18 22:03 J -30565350.70 -30565350.58 -30565350.46 0.2594 0.1216

Earth -88397-08-18 22:18 J -30565350.70 -30565350.57 -30565350.45 0.2588 0.1198 *

Uranus -88397-09-19 08:51 J -30565319.14 -30565319.13 -30565319.10 0.0140 0.0139

Uranus -88397-12-16 12:56 J -30565231.03 -30565230.96 -30565230.89 0.0141 0.0121

Uranus -88396-03-14 16:32 J -30565142.89 -30565142.81 -30565142.70 0.0141 0.0104

Venus -88396-05-10 19:25 J -30565085.82 -30565085.69 -30565085.56 0.3614 0.0672

Uranus -88396-06-10 20:51 J -30565054.74 -30565054.63 -30565054.52 0.0141 0.0085

Uranus -88396-09-07 00:42 J -30564966.59 -30564966.47 -30564966.34 0.0141 0.0067

Saturn -88396-10-31 06:42 J -30564912.35 -30564912.22 -30564912.08 0.0287 0.0171

Uranus -88396-12-04 04:47 J -30564878.43 -30564878.30 -30564878.16 0.0141 0.0049

Saturn -88395-01-28 03:06 J -30564823.54 -30564823.37 -30564823.21 0.0287 0.0041

Uranus -88395-03-02 08:51 J -30564790.27 -30564790.13 -30564789.99 0.0141 0.0030

Saturn -88395-04-26 22:47 J -30564734.71 -30564734.55 -30564734.39 0.0287 0.0087

Uranus -88395-05-29 12:56 J -30564702.10 -30564701.96 -30564701.82 0.0141 0.0012

Mars -88395-06-01 01:54 J -30564699.55 -30564699.42 -30564699.29 0.1646 0.0229

Saturn -88395-07-24 18:13 J -30564645.85 -30564645.74 -30564645.63 0.0287 0.0211

Uranus -88395-08-25 17:15 J -30564613.93 -30564613.78 -30564613.64 0.0142 0.0009

Uranus -88395-11-21 21:20 J -30564525.75 -30564525.61 -30564525.47 0.0142 0.0027

Venus -88395-11-25 03:06 J -30564522.42 -30564522.37 -30564522.32 0.3751 0.3263

Uranus -88394-02-18 01:25 J -30564437.57 -30564437.44 -30564437.30 0.0142 0.0046

Uranus -88394-05-17 05:44 J -30564349.39 -30564349.26 -30564349.13 0.0142 0.0066

Uranus -88394-08-13 10:03 J -30564261.19 -30564261.08 -30564260.96 0.0142 0.0085

Uranus -88394-11-09 14:23 J -30564172.99 -30564172.90 -30564172.80 0.0142 0.0105

Uranus -88393-02-05 18:42 J -30564084.78 -30564084.72 -30564084.65 0.0142 0.0125

Jupiter -88391-01-05 17:01 J -30563384.91 -30563384.79 -30563384.67 0.0532 0.0232

Jupiter -88391-04-05 02:51 J -30563295.50 -30563295.38 -30563295.25 0.0529 0.0229

Venus -88391-11-24 18:42 J -30563061.84 -30563061.72 -30563061.60 0.3618 0.1643

Mars -88388-01-23 05:15 J -30562271.37 -30562271.28 -30562271.19 0.1877 0.1494

Venus -88388-08-19 00:13 J -30562063.54 -30562063.49 -30562063.45 0.3781 0.3446

Moon -88387-02-12 11:59 J -30561886.12 -30561886.00 -30561885.89 0.2748 0.0255

Earth -88387-02-12 12:42 J -30561886.09 -30561885.97 -30561885.85 0.2751 0.0255 *

Mars -88386-10-22 11:01 J -30561269.17 -30561269.04 -30561268.92 0.1651 0.0289

Jupiter -88385-06-03 01:25 J -30561044.61 -30561044.44 -30561044.26 0.0498 0.0008

Venus -88385-06-09 17:30 J -30561037.86 -30561037.77 -30561037.68 0.3622 0.2559

Jupiter -88385-09-01 02:37 J -30560954.40 -30560954.39 -30560954.37 0.0501 0.0497

Venus -88382-03-04 18:13 J -30560039.82 -30560039.74 -30560039.67 0.3778 0.2760

Saturn -88381-05-17 13:39 J -30559600.02 -30559599.93 -30559599.83 0.0272 0.0195

Saturn -88381-08-14 01:54 J -30559511.55 -30559511.42 -30559511.29 0.0272 0.0106

Saturn -88381-11-10 14:08 J -30559423.05 -30559422.91 -30559422.77 0.0272 0.0017

Saturn -88380-02-07 02:37 J -30559334.52 -30559334.39 -30559334.25 0.0272 0.0075

Saturn -88380-05-06 15:20 J -30559245.97 -30559245.86 -30559245.74 0.0272 0.0168

Saturn -88380-08-03 04:18 J -30559157.35 -30559157.32 -30559157.28 0.0272 0.0262

Jupiter -88380-10-24 20:23 J -30559074.75 -30559074.65 -30559074.55 0.0533 0.0347

Venus -88380-12-24 16:03 J -30559013.87 -30559013.83 -30559013.80 0.3626 0.3446

Jupiter -88379-01-22 05:59 J -30558985.38 -30558985.25 -30558985.12 0.0530 0.0113

Mars -88377-05-22 03:35 J -30558134.40 -30558134.35 -30558134.29 0.1898 0.1725

Moon -88377-08-14 01:39 J -30558050.52 -30558050.43 -30558050.34 0.2585 0.1987

Earth -88377-08-14 02:51 J -30558050.48 -30558050.38 -30558050.28 0.2584 0.1785 *

Venus -88377-09-17 12:27 J -30558016.08 -30558015.98 -30558015.89 0.3775 0.2060

Mars -88376-03-13 20:08 J -30557838.77 -30557838.66 -30557838.55 0.1656 0.0800

Moon -88374-02-15 08:23 J -30557135.24 -30557135.15 -30557135.05 0.2750 0.1581

Earth -88374-02-15 09:20 J -30557135.20 -30557135.11 -30557135.02 0.2749 0.1747 *

Mars -88374-02-17 08:08 J -30557133.24 -30557133.16 -30557133.09 0.1636 0.1339

Jupiter -88373-03-21 23:59 J -30556734.67 -30556734.50 -30556734.33 0.0497 0.0126

Jupiter -88373-06-20 01:25 J -30556644.55 -30556644.44 -30556644.32 0.0500 0.0370

Venus -88371-04-03 06:42 J -30555992.32 -30555992.22 -30555992.11 0.3772 0.1335

Jupiter -88368-08-12 23:59 J -30554764.57 -30554764.50 -30554764.43 0.0534 0.0455

Mars -88368-10-12 05:01 J -30554704.42 -30554704.29 -30554704.16 0.1891 0.0726

Jupiter -88368-11-10 09:35 J -30554675.24 -30554675.10 -30554674.97 0.0531 0.0005

Jupiter -88367-02-07 19:54 J -30554585.73 -30554585.67 -30554585.61 0.0527 0.0466

Earth -88367-02-08 01:11 J -30554585.51 -30554585.45 -30554585.39 0.2755 0.2339

Moon -88367-02-08 01:25 J -30554585.50 -30554585.44 -30554585.38 0.2748 0.2304 *

Mars -88367-08-04 05:15 J -30554408.35 -30554408.28 -30554408.20 0.1661 0.1313

Saturn -88366-03-20 06:42 J -30554180.34 -30554180.22 -30554180.10 0.0287 0.0207

Saturn -88366-06-17 02:51 J -30554091.54 -30554091.38 -30554091.21 0.0287 0.0077

Saturn -88366-09-13 23:01 J -30554002.71 -30554002.54 -30554002.38 0.0287 0.0052

Venus -88366-10-18 01:25 J -30553968.55 -30553968.44 -30553968.33 0.3769 0.0590

Saturn -88366-12-11 18:27 J -30553913.86 -30553913.73 -30553913.60 0.0287 0.0177

Mars -88365-07-09 17:01 J -30553702.90 -30553702.79 -30553702.68 0.1641 0.0822

Moon -88364-08-17 02:37 J -30553299.53 -30553299.39 -30553299.25 0.2590 0.0120

Earth -88364-08-17 03:35 J -30553299.49 -30553299.35 -30553299.21 0.2586 0.0102 *

Neptune -88363-04-30 15:20 J -30553042.88 -30553042.86 -30553042.84 0.0089 0.0088

Neptune -88363-07-27 18:42 J -30552954.79 -30552954.72 -30552954.65 0.0089 0.0082

Neptune -88363-10-23 21:35 J -30552866.68 -30552866.60 -30552866.49 0.0089 0.0077

Neptune -88362-01-20 00:56 J -30552778.56 -30552778.46 -30552778.34 0.0089 0.0071

Neptune -88362-04-18 04:18 J -30552690.44 -30552690.32 -30552690.18 0.0089 0.0065

Neptune -88362-07-15 07:25 J -30552602.31 -30552602.19 -30552602.04 0.0089 0.0059

Neptune -88362-10-11 10:47 J -30552514.19 -30552514.05 -30552513.89 0.0089 0.0053

Venus -88362-10-16 18:13 J -30552508.79 -30552508.74 -30552508.69 0.3601 0.3328

Neptune -88361-01-07 14:08 J -30552426.06 -30552425.91 -30552425.75 0.0089 0.0047

Jupiter -88361-01-08 23:01 J -30552424.69 -30552424.54 -30552424.39 0.0496 0.0250

Neptune -88361-04-04 17:15 J -30552337.93 -30552337.78 -30552337.61 0.0089 0.0041

Jupiter -88361-04-08 00:56 J -30552334.61 -30552334.46 -30552334.31 0.0499 0.0249

Neptune -88361-07-01 20:23 J -30552249.81 -30552249.65 -30552249.47 0.0089 0.0036

Neptune -88361-09-27 23:44 J -30552161.68 -30552161.51 -30552161.33 0.0089 0.0030

Neptune -88361-12-25 03:06 J -30552073.55 -30552073.37 -30552073.19 0.0089 0.0024

Neptune -88360-03-23 05:59 J -30551985.42 -30551985.25 -30551985.06 0.0089 0.0019

Venus -88360-05-02 20:08 J -30551944.77 -30551944.66 -30551944.55 0.3765 0.0198

Neptune -88360-06-19 09:20 J -30551897.29 -30551897.11 -30551896.92 0.0089 0.0012

Neptune -88360-09-15 12:42 J -30551809.16 -30551808.97 -30551808.79 0.0089 0.0007

Neptune -88360-12-12 15:49 J -30551721.03 -30551720.84 -30551720.66 0.0089 0.0002

Neptune -88359-03-10 18:56 J -30551632.90 -30551632.71 -30551632.53 0.0089 0.0005

Neptune -88359-06-06 22:03 J -30551544.76 -30551544.58 -30551544.40 0.0089 0.0011

Neptune -88359-09-03 00:56 J -30551456.63 -30551456.46 -30551456.27 0.0089 0.0016

Neptune -88359-11-30 04:03 J -30551368.50 -30551368.33 -30551368.15 0.0089 0.0022

Neptune -88358-02-26 07:11 J -30551280.37 -30551280.20 -30551280.02 0.0089 0.0027

Mars -88358-03-04 05:30 J -30551274.42 -30551274.27 -30551274.13 0.1884 0.0327

Neptune -88358-05-25 10:18 J -30551192.24 -30551192.07 -30551191.90 0.0089 0.0033

Neptune -88358-08-21 13:11 J -30551104.10 -30551103.95 -30551103.78 0.0089 0.0039

Neptune -88358-11-17 16:32 J -30551015.97 -30551015.81 -30551015.66 0.0089 0.0044

Neptune -88357-02-13 19:11 J -30550927.84 -30550927.70 -30550927.54 0.0089 0.0050

Uranus -88357-02-14 13:39 J -30550926.99 -30550926.93 -30550926.85 0.0138 0.0126

Neptune -88357-05-11 22:32 J -30550839.70 -30550839.56 -30550839.42 0.0089 0.0055

Uranus -88357-05-12 19:54 J -30550838.77 -30550838.67 -30550838.54 0.0138 0.0104

Neptune -88357-08-08 01:11 J -30550751.57 -30550751.45 -30550751.31 0.0089 0.0061

Uranus -88357-08-09 02:23 J -30550750.53 -30550750.40 -30550750.25 0.0138 0.0082

Neptune -88357-11-04 04:18 J -30550663.43 -30550663.32 -30550663.19 0.0088 0.0066

Uranus -88357-11-05 08:51 J -30550662.29 -30550662.13 -30550661.97 0.0138 0.0060

Neptune -88356-01-31 06:56 J -30550575.29 -30550575.21 -30550575.09 0.0088 0.0072

Uranus -88356-02-01 15:06 J -30550574.04 -30550573.87 -30550573.70 0.0138 0.0038

Neptune -88356-04-29 10:03 J -30550487.15 -30550487.08 -30550486.98 0.0088 0.0077

Uranus -88356-04-30 21:20 J -30550485.79 -30550485.61 -30550485.44 0.0137 0.0017

Venus -88356-05-01 18:56 J -30550484.81 -30550484.71 -30550484.60 0.3604 0.2208

Neptune -88356-07-26 13:11 J -30550399.01 -30550398.95 -30550398.88 0.0088 0.0082

Uranus -88356-07-28 03:20 J -30550397.53 -30550397.36 -30550397.18 0.0137 0.0005

Jupiter -88356-08-29 13:11 J -30550365.08 -30550364.95 -30550364.82 0.0531 0.0106

Neptune -88356-10-22 15:49 J -30550310.85 -30550310.84 -30550310.80 0.0088 0.0088

Uranus -88356-10-24 09:20 J -30550309.28 -30550309.11 -30550308.93 0.0137 0.0026

Jupiter -88356-11-26 23:15 J -30550275.63 -30550275.53 -30550275.43 0.0528 0.0356

Mars -88356-11-30 01:54 J -30550272.54 -30550272.42 -30550272.29 0.1646 0.0304

Uranus -88355-01-20 15:20 J -30550221.02 -30550220.86 -30550220.69 0.0137 0.0047

Uranus -88355-04-18 21:20 J -30550132.76 -30550132.61 -30550132.46 0.0137 0.0067

Uranus -88355-07-16 03:06 J -30550044.49 -30550044.37 -30550044.23 0.0137 0.0088

Uranus -88355-10-12 08:51 J -30549956.22 -30549956.13 -30549956.02 0.0137 0.0108

Venus -88355-11-16 15:06 J -30549920.98 -30549920.87 -30549920.76 0.3761 0.0980

Uranus -88354-01-08 14:37 J -30549867.94 -30549867.89 -30549867.82 0.0137 0.0128

Moon -88354-02-10 21:06 J -30549834.73 -30549834.62 -30549834.51 0.2747 0.0899

Earth -88354-02-10 21:20 J -30549834.72 -30549834.61 -30549834.50 0.2753 0.0912 *

Saturn -88352-10-04 14:51 J -30548867.95 -30548867.88 -30548867.81 0.0272 0.0228

Saturn -88351-01-01 02:51 J -30548779.50 -30548779.38 -30548779.26 0.0272 0.0140

Saturn -88351-03-30 15:06 J -30548691.01 -30548690.87 -30548690.73 0.0272 0.0051

Saturn -88351-06-27 03:20 J -30548602.50 -30548602.36 -30548602.21 0.0272 0.0040

Earth -88351-08-20 03:49 J -30548548.45 -30548548.34 -30548548.22 0.2588 0.1539

Moon -88351-08-20 04:03 J -30548548.44 -30548548.33 -30548548.22 0.2594 0.1487 *

Saturn -88351-09-23 16:03 J -30548513.96 -30548513.83 -30548513.71 0.0272 0.0132

Venus -88351-11-15 19:25 J -30548460.81 -30548460.69 -30548460.56 0.3608 0.1120

Saturn -88351-12-21 04:47 J -30548425.38 -30548425.30 -30548425.22 0.0272 0.0226

Jupiter -88350-10-27 21:49 J -30548114.70 -30548114.59 -30548114.48 0.0496 0.0375

Jupiter -88349-01-26 00:13 J -30548024.65 -30548024.49 -30548024.32 0.0498 0.0127

Venus -88349-06-01 10:32 J -30547897.16 -30547897.06 -30547896.96 0.3758 0.1796

Mars -88349-07-24 05:44 J -30547844.35 -30547844.26 -30547844.16 0.1877 0.1378

Mars -88346-04-22 11:01 J -30546842.17 -30546842.04 -30546841.91 0.1650 0.0217

Venus -88345-05-31 19:25 J -30546436.82 -30546436.69 -30546436.56 0.3611 0.0082

Jupiter -88344-06-17 16:32 J -30546054.93 -30546054.81 -30546054.69 0.0532 0.0218

Jupiter -88344-09-15 02:37 J -30545965.51 -30545965.39 -30545965.27 0.0529 0.0243

Venus -88344-12-16 05:59 J -30545873.33 -30545873.25 -30545873.17 0.3753 0.2629

Moon -88341-02-13 17:01 J -30545083.91 -30545083.79 -30545083.67 0.2748 0.0381

Earth -88341-02-13 17:59 J -30545083.87 -30545083.75 -30545083.64 0.2751 0.0566 *

Venus -88340-12-15 18:56 J -30544412.84 -30544412.71 -30544412.58 0.3615 0.0922

Venus -88338-07-02 01:39 J -30543849.47 -30543849.43 -30543849.39 0.3749 0.3490

Jupiter -88338-11-13 23:59 J -30543714.67 -30543714.50 -30543714.33 0.0498 0.0009

Mars -88338-11-21 04:18 J -30543707.35 -30543707.32 -30543707.29 0.1898 0.1849

Saturn -88337-08-06 04:03 J -30543448.40 -30543448.33 -30543448.25 0.0287 0.0256

Mars -88337-09-11 20:08 J -30543411.77 -30543411.66 -30543411.54 0.1656 0.0731

Saturn -88337-11-03 00:42 J -30543359.62 -30543359.47 -30543359.31 0.0287 0.0124

Saturn -88336-01-30 20:51 J -30543270.80 -30543270.63 -30543270.46 0.0287 0.0005

Saturn -88336-04-29 16:32 J -30543181.96 -30543181.81 -30543181.66 0.0287 0.0132

Saturn -88336-07-27 11:30 J -30543093.08 -30543093.02 -30543092.93 0.0287 0.0256

Mars -88335-08-18 08:08 J -30542706.22 -30542706.16 -30542706.09 0.1636 0.1415

Venus -88334-07-01 18:13 J -30542388.86 -30542388.74 -30542388.63 0.3619 0.1878

Jupiter -88332-04-05 18:56 J -30541744.81 -30541744.71 -30541744.60 0.0533 0.0344

Jupiter -88332-07-04 04:47 J -30541655.43 -30541655.30 -30541655.17 0.0529 0.0115

Venus -88331-03-25 22:18 J -30541390.62 -30541390.57 -30541390.52 0.3780 0.3278

Moon -88331-08-15 07:25 J -30541248.31 -30541248.19 -30541248.08 0.2587 0.1496

Earth -88331-08-15 08:37 J -30541248.26 -30541248.14 -30541248.02 0.2585 0.1432 *

Venus -88328-01-14 16:47 J -30540364.88 -30540364.80 -30540364.72 0.3623 0.2786

Moon -88328-02-15 13:39 J -30540333.01 -30540332.93 -30540332.85 0.2752 0.2032

Earth -88328-02-15 14:23 J -30540332.97 -30540332.90 -30540332.82 0.2749 0.2052 *

Mars -88328-04-12 05:01 J -30540277.41 -30540277.29 -30540277.16 0.1891 0.0818

Mars -88327-02-02 05:30 J -30539981.35 -30539981.27 -30539981.19 0.1661 0.1240

Jupiter -88326-09-01 23:15 J -30539404.70 -30539404.53 -30539404.36 0.0497 0.0115

Venus -88326-10-09 16:18 J -30539366.90 -30539366.82 -30539366.74 0.3778 0.2588

Jupiter -88326-12-01 00:42 J -30539314.57 -30539314.47 -30539314.36 0.0500 0.0382

Mars -88325-01-08 17:15 J -30539275.89 -30539275.78 -30539275.68 0.1641 0.0897

Saturn -88322-02-21 17:59 J -30538135.80 -30538135.75 -30538135.69 0.0272 0.0246

Saturn -88322-05-21 05:59 J -30538047.36 -30538047.25 -30538047.13 0.0272 0.0158

Saturn -88322-08-17 18:13 J -30537958.88 -30537958.74 -30537958.60 0.0272 0.0069

Saturn -88322-11-14 06:27 J -30537870.37 -30537870.23 -30537870.08 0.0272 0.0023

Earth -88321-02-09 06:13 J -30537783.31 -30537783.24 -30537783.16 0.2754 0.2048

Moon -88321-02-09 06:27 J -30537783.30 -30537783.23 -30537783.15 0.2747 0.2020 *

Saturn -88321-02-10 19:11 J -30537781.83 -30537781.70 -30537781.57 0.0272 0.0114

Saturn -88321-05-09 07:54 J -30537693.26 -30537693.17 -30537693.08 0.0272 0.0208

Jupiter -88320-01-22 22:18 J -30537434.64 -30537434.57 -30537434.51 0.0534 0.0458

Jupiter -88320-04-22 07:39 J -30537345.31 -30537345.18 -30537345.04 0.0531 0.0016

Venus -88320-04-24 10:32 J -30537343.15 -30537343.06 -30537342.96 0.3774 0.1879

Jupiter -88320-07-20 17:59 J -30537255.81 -30537255.75 -30537255.68 0.0527 0.0461

Mars -88319-09-02 05:59 J -30536847.40 -30536847.25 -30536847.11 0.1885 0.0222

Moon -88318-08-18 08:37 J -30536497.28 -30536497.14 -30536497.00 0.2591 0.0099

Earth -88318-08-18 09:20 J -30536497.25 -30536497.11 -30536496.97 0.2586 0.0250 *

Mars -88316-05-31 02:08 J -30535845.53 -30535845.41 -30535845.28 0.1645 0.0378

Venus -88315-11-08 05:01 J -30535319.40 -30535319.29 -30535319.19 0.3771 0.1149

Jupiter -88314-06-20 21:20 J -30535094.75 -30535094.61 -30535094.45 0.0496 0.0246

Jupiter -88314-09-18 23:30 J -30535004.67 -30535004.52 -30535004.37 0.0499 0.0253

Uranus -88313-10-09 16:03 J -30534617.86 -30534617.83 -30534617.78 0.0140 0.0135

Uranus -88312-01-05 20:08 J -30534529.73 -30534529.66 -30534529.58 0.0141 0.0117

Uranus -88312-04-04 00:13 J -30534441.59 -30534441.49 -30534441.39 0.0141 0.0099

Uranus -88312-07-01 04:03 J -30534353.44 -30534353.33 -30534353.21 0.0141 0.0081

Uranus -88312-09-27 07:54 J -30534265.29 -30534265.17 -30534265.03 0.0141 0.0063

Uranus -88312-12-24 12:13 J -30534177.13 -30534176.99 -30534176.86 0.0141 0.0044

Uranus -88311-03-22 16:03 J -30534088.96 -30534088.83 -30534088.68 0.0141 0.0026

Uranus -88311-06-18 20:23 J -30534000.80 -30534000.65 -30534000.51 0.0141 0.0007

Uranus -88311-09-15 00:27 J -30533912.62 -30533912.48 -30533912.34 0.0142 0.0012

Uranus -88311-12-12 04:32 J -30533824.44 -30533824.31 -30533824.17 0.0142 0.0032

Uranus -88310-03-10 08:51 J -30533736.26 -30533736.13 -30533735.99 0.0142 0.0051

Uranus -88310-06-06 13:11 J -30533648.08 -30533647.95 -30533647.83 0.0142 0.0070

Uranus -88310-09-02 17:15 J -30533559.88 -30533559.78 -30533559.66 0.0142 0.0090

Uranus -88310-11-29 21:35 J -30533471.68 -30533471.60 -30533471.50 0.0142 0.0110

Mars -88309-01-23 06:27 J -30533417.34 -30533417.23 -30533417.12 0.1877 0.1259

Uranus -88309-02-26 01:54 J -30533383.46 -30533383.42 -30533383.35 0.0142 0.0131

Venus -88309-05-23 23:44 J -30533295.62 -30533295.51 -30533295.40 0.3768 0.0400

Jupiter -88308-02-08 11:15 J -30533035.16 -30533035.03 -30533034.90 0.0532 0.0112

Moon -88308-02-11 02:08 J -30533032.53 -30533032.41 -30533032.30 0.2747 0.0690

Earth -88308-02-11 02:37 J -30533032.51 -30533032.39 -30533032.28 0.2753 0.0612 *

Jupiter -88308-05-08 21:20 J -30532945.71 -30532945.61 -30532945.51 0.0528 0.0351

Saturn -88307-03-23 01:11 J -30532627.59 -30532627.45 -30532627.30 0.0287 0.0157

Saturn -88307-06-19 21:35 J -30532538.77 -30532538.60 -30532538.43 0.0287 0.0027

Saturn -88307-09-16 17:15 J -30532449.93 -30532449.78 -30532449.62 0.0287 0.0101

Mars -88307-10-21 11:15 J -30532415.16 -30532415.03 -30532414.90 0.1650 0.0139

Saturn -88307-12-14 12:27 J -30532361.07 -30532360.98 -30532360.87 0.0287 0.0225

Venus -88305-05-22 18:13 J -30531835.82 -30531835.74 -30531835.67 0.3602 0.3053

Earth -88305-08-20 09:49 J -30531746.19 -30531746.09 -30531746.00 0.2588 0.1883

Moon -88305-08-20 09:49 J -30531746.18 -30531746.09 -30531746.00 0.2595 0.1977 *

Venus -88304-12-07 18:27 J -30531271.84 -30531271.73 -30531271.62 0.3764 0.0387

Jupiter -88302-04-08 20:23 J -30530784.77 -30530784.65 -30530784.54 0.0495 0.0371

Jupiter -88302-07-07 22:47 J -30530694.72 -30530694.55 -30530694.39 0.0498 0.0130

Venus -88300-12-06 18:56 J -30529811.82 -30529811.71 -30529811.59 0.3605 0.1926

Venus -88298-06-23 13:39 J -30529248.04 -30529247.93 -30529247.82 0.3760 0.1183

Mars -88297-03-12 20:23 J -30528984.77 -30528984.65 -30528984.53 0.1655 0.0657

Jupiter -88297-11-27 14:51 J -30528725.00 -30528724.88 -30528724.76 0.0532 0.0221

Jupiter -88296-02-25 00:56 J -30528635.58 -30528635.46 -30528635.34 0.0529 0.0240

Moon -88295-02-13 22:18 J -30528281.69 -30528281.57 -30528281.46 0.2748 0.0828

Earth -88295-02-13 23:01 J -30528281.65 -30528281.54 -30528281.43 0.2751 0.0857 *

Mars -88295-02-16 08:23 J -30528279.20 -30528279.15 -30528279.10 0.1636 0.1490

Venus -88294-06-22 19:11 J -30527787.83 -30527787.70 -30527787.57 0.3609 0.0856

Saturn -88293-10-07 07:25 J -30527315.29 -30527315.19 -30527315.09 0.0272 0.0189

Saturn -88292-01-03 19:25 J -30527226.82 -30527226.69 -30527226.56 0.0272 0.0101

Venus -88292-01-06 08:51 J -30527224.22 -30527224.13 -30527224.03 0.3756 0.2006

Saturn -88292-04-02 07:39 J -30527138.32 -30527138.18 -30527138.04 0.0272 0.0011

Saturn -88292-06-29 20:08 J -30527049.80 -30527049.66 -30527049.52 0.0272 0.0081

Saturn -88292-09-26 08:37 J -30526961.24 -30526961.14 -30526961.02 0.0272 0.0175

Saturn -88292-12-23 21:35 J -30526872.61 -30526872.60 -30526872.57 0.0272 0.0269

Jupiter -88290-04-25 21:49 J -30526384.76 -30526384.59 -30526384.41 0.0498 0.0012

Jupiter -88290-07-24 23:15 J -30526294.54 -30526294.53 -30526294.52 0.0501 0.0499

Mars -88289-10-11 05:44 J -30525850.39 -30525850.26 -30525850.14 0.1892 0.0934

Venus -88288-01-05 19:11 J -30525763.84 -30525763.70 -30525763.57 0.3612 0.0207

Mars -88288-08-03 05:30 J -30525554.36 -30525554.27 -30525554.18 0.1661 0.1171

Venus -88287-07-23 04:32 J -30525200.38 -30525200.31 -30525200.24 0.3752 0.2849

Mars -88286-07-09 17:15 J -30524848.88 -30524848.78 -30524848.67 0.1640 0.0970

Moon -88285-08-15 13:11 J -30524446.07 -30524445.95 -30524445.82 0.2587 0.1255

Earth -88285-08-15 14:23 J -30524446.03 -30524445.90 -30524445.77 0.2585 0.1072 *

Jupiter -88285-09-15 18:27 J -30524414.83 -30524414.73 -30524414.63 0.0533 0.0332

Jupiter -88285-12-14 04:03 J -30524325.46 -30524325.33 -30524325.20 0.0530 0.0127

Venus -88283-07-22 18:27 J -30523739.85 -30523739.73 -30523739.60 0.3616 0.1168

Moon -88282-02-16 18:56 J -30523530.78 -30523530.71 -30523530.64 0.2753 0.2194

Earth -88282-02-16 19:39 J -30523530.74 -30523530.68 -30523530.62 0.2748 0.2360 *

Neptune -88282-11-01 20:37 J -30523272.66 -30523272.64 -30523272.60 0.0089 0.0087

Neptune -88281-01-28 22:18 J -30523184.62 -30523184.57 -30523184.52 0.0089 0.0082

Venus -88281-02-06 00:27 J -30523176.49 -30523176.48 -30523176.47 0.3748 0.3716

Neptune -88281-04-25 23:44 J -30523096.57 -30523096.51 -30523096.45 0.0089 0.0078

Neptune -88281-07-23 01:11 J -30523008.52 -30523008.45 -30523008.38 0.0089 0.0074

Neptune -88281-10-19 02:23 J -30522920.47 -30522920.40 -30522920.31 0.0089 0.0070

Neptune -88280-01-15 03:49 J -30522832.42 -30522832.34 -30522832.24 0.0089 0.0066

Neptune -88280-04-13 05:15 J -30522744.36 -30522744.28 -30522744.17 0.0089 0.0062

Venus -88280-04-16 02:23 J -30522741.40 -30522741.40 -30522741.40 0.3782 0.3781

Neptune -88280-07-10 06:42 J -30522656.31 -30522656.22 -30522656.10 0.0089 0.0058

Neptune -88280-10-06 08:23 J -30522568.25 -30522568.15 -30522568.04 0.0089 0.0053

Neptune -88279-01-02 09:49 J -30522480.20 -30522480.09 -30522479.97 0.0089 0.0049

Mars -88279-03-03 06:27 J -30522420.38 -30522420.23 -30522420.09 0.1885 0.0111

Neptune -88279-03-31 11:15 J -30522392.14 -30522392.03 -30522391.91 0.0089 0.0045

Neptune -88279-06-27 12:42 J -30522304.08 -30522303.97 -30522303.84 0.0089 0.0041

Neptune -88279-09-23 14:23 J -30522216.03 -30522215.90 -30522215.78 0.0089 0.0036

Neptune -88279-12-20 15:49 J -30522127.97 -30522127.84 -30522127.71 0.0089 0.0032

Jupiter -88278-02-11 21:35 J -30522074.77 -30522074.60 -30522074.43 0.0497 0.0114

Neptune -88278-03-18 17:15 J -30522039.91 -30522039.78 -30522039.65 0.0089 0.0028

Jupiter -88278-05-12 23:15 J -30521984.64 -30521984.53 -30521984.43 0.0500 0.0383

Neptune -88278-06-14 18:42 J -30521951.85 -30521951.72 -30521951.58 0.0089 0.0024

Saturn -88278-08-09 23:01 J -30521895.66 -30521895.54 -30521895.42 0.0287 0.0205

Neptune -88278-09-10 20:23 J -30521863.79 -30521863.65 -30521863.52 0.0089 0.0019

Saturn -88278-11-06 19:25 J -30521806.85 -30521806.69 -30521806.53 0.0287 0.0073

Neptune -88278-12-07 21:49 J -30521775.73 -30521775.59 -30521775.45 0.0089 0.0015

Saturn -88277-02-03 15:20 J -30521718.02 -30521717.86 -30521717.69 0.0287 0.0055

Venus -88277-02-05 17:30 J -30521715.87 -30521715.77 -30521715.66 0.3620 0.2112

Neptune -88277-03-04 23:15 J -30521687.67 -30521687.53 -30521687.39 0.0089 0.0011

Saturn -88277-05-02 10:47 J -30521629.17 -30521629.05 -30521628.92 0.0287 0.0181

Neptune -88277-06-01 00:42 J -30521599.60 -30521599.47 -30521599.33 0.0089 0.0007

Neptune -88277-08-28 02:23 J -30521511.54 -30521511.40 -30521511.26 0.0089 0.0002

Neptune -88277-11-24 03:49 J -30521423.48 -30521423.34 -30521423.20 0.0089 0.0003

Mars -88277-11-29 02:23 J -30521418.53 -30521418.40 -30521418.28 0.1645 0.0454

Neptune -88276-02-20 05:15 J -30521335.41 -30521335.28 -30521335.14 0.0089 0.0007

Neptune -88276-05-19 06:56 J -30521247.35 -30521247.21 -30521247.07 0.0089 0.0011

Neptune -88276-08-15 08:23 J -30521159.28 -30521159.15 -30521159.01 0.0089 0.0016

Neptune -88276-11-11 10:03 J -30521071.22 -30521071.08 -30521070.95 0.0089 0.0020

Neptune -88275-02-07 11:30 J -30520983.15 -30520983.02 -30520982.88 0.0089 0.0024

Moon -88275-02-09 11:30 J -30520981.11 -30520981.02 -30520980.93 0.2747 0.1714

Earth -88275-02-09 11:30 J -30520981.11 -30520981.02 -30520980.94 0.2754 0.1763 *

Neptune -88275-05-06 12:56 J -30520895.09 -30520894.96 -30520894.82 0.0089 0.0029

Neptune -88275-08-02 14:37 J -30520807.02 -30520806.89 -30520806.76 0.0089 0.0033

Neptune -88275-10-29 16:03 J -30520718.95 -30520718.83 -30520718.69 0.0089 0.0038

Venus -88275-10-30 20:23 J -30520717.71 -30520717.65 -30520717.59 0.3780 0.3114

Neptune -88274-01-25 17:44 J -30520630.88 -30520630.76 -30520630.63 0.0089 0.0042

Neptune -88274-04-23 19:11 J -30520542.81 -30520542.70 -30520542.57 0.0089 0.0047

Neptune -88274-07-20 20:51 J -30520454.74 -30520454.63 -30520454.51 0.0089 0.0051

Neptune -88274-10-16 22:18 J -30520366.67 -30520366.57 -30520366.45 0.0089 0.0056

Neptune -88273-01-12 23:59 J -30520278.59 -30520278.50 -30520278.39 0.0089 0.0060

Uranus -88273-03-05 21:06 J -30520225.69 -30520225.62 -30520225.52 0.0138 0.0121

Neptune -88273-04-10 01:25 J -30520190.52 -30520190.44 -30520190.33 0.0089 0.0065

Uranus -88273-06-02 03:35 J -30520137.46 -30520137.35 -30520137.21 0.0138 0.0098

Jupiter -88273-07-04 20:51 J -30520104.69 -30520104.63 -30520104.56 0.0533 0.0455

Neptune -88273-07-07 03:20 J -30520102.44 -30520102.36 -30520102.27 0.0089 0.0069

Uranus -88273-08-29 10:03 J -30520049.22 -30520049.08 -30520048.92 0.0138 0.0076

Jupiter -88273-10-02 06:27 J -30520015.37 -30520015.23 -30520015.10 0.0530 0.0004

Neptune -88273-10-03 04:47 J -30520014.36 -30520014.30 -30520014.21 0.0089 0.0074

Uranus -88273-11-25 16:18 J -30519960.97 -30519960.82 -30519960.65 0.0138 0.0054

Neptune -88273-12-30 06:27 J -30519926.28 -30519926.23 -30519926.15 0.0089 0.0078

Jupiter -88273-12-30 16:32 J -30519925.87 -30519925.81 -30519925.74 0.0527 0.0463

Uranus -88272-02-21 22:47 J -30519872.72 -30519872.55 -30519872.38 0.0138 0.0032

Neptune -88272-03-28 07:54 J -30519838.20 -30519838.17 -30519838.10 0.0089 0.0083

Uranus -88272-05-21 05:01 J -30519784.47 -30519784.29 -30519784.12 0.0137 0.0010

Neptune -88272-06-24 09:49 J -30519750.11 -30519750.09 -30519750.06 0.0089 0.0087

Uranus -88272-08-17 11:01 J -30519696.21 -30519696.04 -30519695.86 0.0137 0.0011

Moon -88272-08-18 14:37 J -30519695.03 -30519694.89 -30519694.76 0.2592 0.0623

Earth -88272-08-18 15:06 J -30519695.01 -30519694.87 -30519694.73 0.2587 0.0596 *

Venus -88272-08-21 16:18 J -30519691.89 -30519691.82 -30519691.76 0.3624 0.3018

Uranus -88272-11-13 17:01 J -30519607.95 -30519607.79 -30519607.62 0.0137 0.0032

Uranus -88271-02-09 23:01 J -30519519.69 -30519519.54 -30519519.38 0.0137 0.0053

Uranus -88271-05-09 04:47 J -30519431.43 -30519431.30 -30519431.14 0.0137 0.0074

Uranus -88271-08-05 10:47 J -30519343.17 -30519343.05 -30519342.92 0.0137 0.0094

Uranus -88271-11-01 16:32 J -30519254.89 -30519254.81 -30519254.71 0.0137 0.0114

Uranus -88270-01-28 22:18 J -30519166.59 -30519166.57 -30519166.53 0.0136 0.0134

Mars -88270-07-24 06:42 J -30518990.34 -30518990.22 -30518990.11 0.1878 0.1169

Venus -88269-05-15 14:23 J -30518693.98 -30518693.90 -30518693.81 0.3777 0.2417

Mars -88267-04-21 11:15 J -30517988.15 -30517988.03 -30517987.90 0.1650 0.0088

Jupiter -88267-11-30 20:37 J -30517764.80 -30517764.64 -30517764.49 0.0496 0.0237

Jupiter -88266-02-28 22:32 J -30517674.70 -30517674.56 -30517674.41 0.0499 0.0262

Venus -88264-11-29 08:37 J -30516670.23 -30516670.14 -30516670.04 0.3773 0.1709

Saturn -88263-02-24 10:18 J -30516583.15 -30516583.07 -30516582.97 0.0272 0.0209

Saturn -88263-05-23 22:32 J -30516494.69 -30516494.56 -30516494.43 0.0272 0.0119

Saturn -88263-08-20 10:47 J -30516406.19 -30516406.05 -30516405.91 0.0272 0.0029

Saturn -88263-11-16 23:15 J -30516317.67 -30516317.53 -30516317.39 0.0272 0.0062

Moon -88262-02-12 07:11 J -30516230.32 -30516230.20 -30516230.09 0.2747 0.0393

Earth -88262-02-12 07:39 J -30516230.29 -30516230.18 -30516230.06 0.2752 0.0319 *

Saturn -88262-02-13 11:59 J -30516229.12 -30516229.00 -30516228.88 0.0272 0.0156

Saturn -88262-05-13 00:42 J -30516140.52 -30516140.47 -30516140.41 0.0272 0.0250

Pluto -88261-02-25 09:35 J -30515852.12 -30515852.10 -30515852.03 0.0060 0.0058

Pluto -88261-05-23 11:01 J -30515764.11 -30515764.04 -30515763.92 0.0060 0.0052

Jupiter -88261-07-21 09:20 J -30515705.24 -30515705.11 -30515704.98 0.0531 0.0118

Pluto -88261-08-19 12:42 J -30515676.08 -30515675.97 -30515675.83 0.0060 0.0046

Jupiter -88261-10-18 19:25 J -30515615.79 -30515615.69 -30515615.58 0.0528 0.0345

Pluto -88261-11-15 13:54 J -30515588.05 -30515587.92 -30515587.75 0.0060 0.0040

Pluto -88260-02-11 15:49 J -30515500.00 -30515499.84 -30515499.67 0.0060 0.0033

Pluto -88260-05-10 17:01 J -30515411.95 -30515411.79 -30515411.60 0.0060 0.0027

Pluto -88260-08-06 18:42 J -30515323.90 -30515323.72 -30515323.53 0.0060 0.0020

Pluto -88260-11-02 20:08 J -30515235.85 -30515235.66 -30515235.46 0.0061 0.0013

Pluto -88259-01-29 21:49 J -30515147.79 -30515147.59 -30515147.40 0.0061 0.0007

Pluto -88259-04-27 23:15 J -30515059.73 -30515059.53 -30515059.34 0.0061 0.0001

Pluto -88259-07-25 00:27 J -30514971.66 -30514971.48 -30514971.28 0.0061 0.0007

Earth -88259-08-21 15:20 J -30514943.93 -30514943.86 -30514943.79 0.2589 0.2220

Moon -88259-08-21 15:35 J -30514943.92 -30514943.85 -30514943.78 0.2595 0.2170 *

Pluto -88259-10-21 02:08 J -30514883.60 -30514883.41 -30514883.22 0.0061 0.0013

Pluto -88258-01-17 03:20 J -30514795.53 -30514795.36 -30514795.16 0.0061 0.0020

Pluto -88258-04-15 05:01 J -30514707.46 -30514707.29 -30514707.11 0.0061 0.0026

Venus -88258-06-15 03:20 J -30514646.47 -30514646.36 -30514646.26 0.3770 0.0966

Pluto -88258-07-12 06:27 J -30514619.38 -30514619.23 -30514619.05 0.0061 0.0033

Mars -88258-09-11 20:37 J -30514557.76 -30514557.64 -30514557.52 0.1655 0.0581

Pluto -88258-10-08 07:39 J -30514531.30 -30514531.18 -30514531.01 0.0061 0.0040

Pluto -88257-01-04 09:35 J -30514443.22 -30514443.10 -30514442.97 0.0061 0.0046

Pluto -88257-04-01 10:47 J -30514355.12 -30514355.05 -30514354.93 0.0061 0.0054

Pluto -88257-06-28 12:13 J -30514267.00 -30514266.99 -30514266.93 0.0061 0.0061

Mars -88256-08-17 08:37 J -30513852.17 -30513852.14 -30513852.11 0.1636 0.1569

Jupiter -88255-09-18 18:42 J -30513454.84 -30513454.72 -30513454.60 0.0495 0.0369

Jupiter -88255-12-17 21:06 J -30513364.79 -30513364.62 -30513364.45 0.0498 0.0132

Venus -88253-12-28 22:03 J -30512622.70 -30512622.58 -30512622.47 0.3767 0.0226

Moon -88252-08-13 17:59 J -30512394.77 -30512394.75 -30512394.72 0.2583 0.2527

Earth -88252-08-13 19:11 J -30512394.74 -30512394.70 -30512394.65 0.2583 0.2432 *

Moon -88249-02-15 03:20 J -30511479.47 -30511479.36 -30511479.25 0.2750 0.1020

Earth -88249-02-15 04:18 J -30511479.43 -30511479.32 -30511479.22 0.2750 0.1166 *

Mars -88249-04-11 06:13 J -30511423.36 -30511423.24 -30511423.12 0.1892 0.1046

Jupiter -88249-05-09 12:56 J -30511395.08 -30511394.96 -30511394.84 0.0532 0.0228

Jupiter -88249-08-06 22:47 J -30511305.67 -30511305.55 -30511305.43 0.0529 0.0233

Saturn -88249-12-26 23:59 J -30511163.59 -30511163.50 -30511163.39 0.0287 0.0234

Venus -88249-12-27 18:13 J -30511162.83 -30511162.74 -30511162.66 0.3603 0.2764

Mars -88248-02-01 05:44 J -30511127.36 -30511127.26 -30511127.17 0.1660 0.1099

Saturn -88248-03-25 20:37 J -30511074.80 -30511074.64 -30511074.48 0.0287 0.0102

Saturn -88248-06-22 16:47 J -30510985.97 -30510985.80 -30510985.63 0.0287 0.0028

Saturn -88248-09-19 12:13 J -30510897.13 -30510896.99 -30510896.85 0.0287 0.0154

Saturn -88248-12-17 07:25 J -30510808.23 -30510808.19 -30510808.15 0.0287 0.0277

Venus -88247-07-14 17:01 J -30510598.91 -30510598.79 -30510598.68 0.3763 0.0601

Mars -88246-01-07 17:30 J -30510421.87 -30510421.77 -30510421.67 0.1640 0.1048

Venus -88243-07-13 18:56 J -30509138.83 -30509138.71 -30509138.59 0.3606 0.1658

Jupiter -88243-10-05 20:08 J -30509054.83 -30509054.66 -30509054.49 0.0497 0.0008

Jupiter -88242-01-03 21:20 J -30508964.61 -30508964.61 -30508964.60 0.0500 0.0500

Moon -88242-02-07 20:51 J -30508929.63 -30508929.63 -30508929.62 0.2749 0.2734

Venus -88241-01-28 11:59 J -30508575.10 -30508575.00 -30508574.89 0.3759 0.1393

Mars -88240-09-01 06:56 J -30507993.36 -30507993.21 -30507993.07 0.1885 0.0053

Mars -88239-06-24 14:51 J -30507696.90 -30507696.88 -30507696.85 0.1666 0.1611

Moon -88239-08-16 19:11 J -30507643.84 -30507643.70 -30507643.57 0.2588 0.0802

Earth -88239-08-16 20:08 J -30507643.79 -30507643.66 -30507643.52 0.2585 0.0724 *

Venus -88237-01-27 18:56 J -30507114.84 -30507114.71 -30507114.58 0.3610 0.0591

Jupiter -88237-02-26 16:32 J -30507084.91 -30507084.81 -30507084.71 0.0533 0.0336

Jupiter -88237-05-26 02:23 J -30506995.53 -30506995.40 -30506995.27 0.0530 0.0123

Mars -88237-05-30 02:23 J -30506991.52 -30506991.40 -30506991.28 0.1645 0.0526

Moon -88236-02-16 23:59 J -30506728.52 -30506728.50 -30506728.47 0.2752 0.2654

Earth -88236-02-17 00:56 J -30506728.49 -30506728.46 -30506728.44 0.2748 0.2666 *

Venus -88236-08-13 07:25 J -30506551.28 -30506551.19 -30506551.10 0.3755 0.2222

Saturn -88234-07-14 12:13 J -30505851.06 -30505850.99 -30505850.92 0.0272 0.0236

Saturn -88234-10-11 00:13 J -30505762.61 -30505762.49 -30505762.37 0.0272 0.0148

Saturn -88233-01-07 12:13 J -30505674.12 -30505673.99 -30505673.85 0.0272 0.0060

Saturn -88233-04-05 00:42 J -30505585.61 -30505585.47 -30505585.33 0.0272 0.0032

Saturn -88233-07-02 13:11 J -30505497.08 -30505496.95 -30505496.82 0.0272 0.0124

Saturn -88233-09-29 01:54 J -30505408.50 -30505408.42 -30505408.33 0.0272 0.0218

Venus -88232-08-12 18:42 J -30505090.85 -30505090.72 -30505090.59 0.3613 0.0437

Jupiter -88231-07-24 19:11 J -30504744.87 -30504744.70 -30504744.53 0.0497 0.0118

Jupiter -88231-10-22 20:51 J -30504654.74 -30504654.63 -30504654.52 0.0500 0.0379

Mars -88230-01-22 07:25 J -30504563.31 -30504563.19 -30504563.07 0.1878 0.1043

Venus -88230-02-27 03:06 J -30504527.43 -30504527.37 -30504527.30 0.3751 0.3075

Moon -88229-02-10 16:32 J -30504178.91 -30504178.81 -30504178.72 0.2747 0.1522

Earth -88229-02-10 16:32 J -30504178.91 -30504178.81 -30504178.71 0.2754 0.1466 *

Uranus -88229-10-29 23:44 J -30503916.56 -30503916.51 -30503916.45 0.0140 0.0129

Uranus -88228-01-26 03:35 J -30503828.43 -30503828.35 -30503828.26 0.0141 0.0112

Uranus -88228-04-24 07:39 J -30503740.28 -30503740.18 -30503740.07 0.0141 0.0094

Uranus -88228-07-21 11:30 J -30503652.13 -30503652.02 -30503651.89 0.0141 0.0076

Uranus -88228-10-17 15:35 J -30503563.97 -30503563.85 -30503563.72 0.0141 0.0058

Mars -88228-10-20 11:30 J -30503561.15 -30503561.02 -30503560.89 0.1650 0.0014

Uranus -88227-01-13 19:39 J -30503475.81 -30503475.68 -30503475.54 0.0141 0.0039

Uranus -88227-04-11 23:44 J -30503387.65 -30503387.51 -30503387.37 0.0141 0.0020

Uranus -88227-07-09 03:49 J -30503299.48 -30503299.34 -30503299.19 0.0141 0.0005

Uranus -88227-10-05 08:08 J -30503211.30 -30503211.16 -30503211.02 0.0142 0.0018

Uranus -88226-01-01 12:13 J -30503123.13 -30503122.99 -30503122.85 0.0142 0.0037

Venus -88226-02-26 17:59 J -30503066.87 -30503066.75 -30503066.63 0.3617 0.1415

Uranus -88226-03-30 16:18 J -30503034.94 -30503034.82 -30503034.68 0.0142 0.0057

Uranus -88226-06-26 20:37 J -30502946.75 -30502946.64 -30502946.51 0.0142 0.0076

Moon -88226-08-19 20:37 J -30502892.77 -30502892.64 -30502892.51 0.2594 0.0854

Earth -88226-08-19 20:51 J -30502892.76 -30502892.63 -30502892.50 0.2587 0.0947 *

Uranus -88226-09-23 00:56 J -30502858.56 -30502858.46 -30502858.35 0.0142 0.0096

Jupiter -88226-12-15 20:08 J -30502774.73 -30502774.66 -30502774.59 0.0534 0.0446

Uranus -88226-12-20 05:15 J -30502770.35 -30502770.28 -30502770.19 0.0142 0.0116

Jupiter -88225-03-14 05:30 J -30502685.40 -30502685.27 -30502685.13 0.0530 0.0021

Uranus -88225-03-17 09:35 J -30502682.13 -30502682.10 -30502682.05 0.0142 0.0136

Jupiter -88225-06-11 15:49 J -30502595.89 -30502595.84 -30502595.78 0.0527 0.0473

Venus -88224-11-21 00:27 J -30502068.51 -30502068.48 -30502068.45 0.3782 0.3621

Venus -88221-09-11 17:01 J -30501042.89 -30501042.79 -30501042.69 0.3621 0.2348

Jupiter -88219-05-12 18:27 J -30500434.88 -30500434.73 -30500434.57 0.0496 0.0239

Saturn -88219-05-15 21:49 J -30500431.62 -30500431.59 -30500431.56 0.0287 0.0282

Jupiter -88219-08-10 20:37 J -30500344.78 -30500344.64 -30500344.49 0.0499 0.0262

Saturn -88219-08-12 18:27 J -30500342.88 -30500342.73 -30500342.59 0.0287 0.0149

Saturn -88219-11-09 14:37 J -30500254.06 -30500253.89 -30500253.72 0.0287 0.0019

Saturn -88218-02-06 10:18 J -30500165.22 -30500165.07 -30500164.91 0.0287 0.0109

Mars -88218-03-12 20:37 J -30500130.76 -30500130.64 -30500130.52 0.1655 0.0512

Saturn -88218-05-06 05:44 J -30500076.35 -30500076.26 -30500076.16 0.0287 0.0233

Venus -88218-06-06 18:27 J -30500044.80 -30500044.73 -30500044.66 0.3779 0.2941

Moon -88216-02-12 12:13 J -30499428.11 -30499427.99 -30499427.87 0.2746 0.0080

Earth -88216-02-12 12:56 J -30499428.08 -30499427.96 -30499427.85 0.2752 0.0088 *

Venus -88215-03-28 15:35 J -30499018.91 -30499018.85 -30499018.80 0.3625 0.3242

Jupiter -88213-01-01 08:08 J -30498375.29 -30498375.16 -30498375.03 0.0531 0.0115

Jupiter -88213-03-30 17:59 J -30498285.85 -30498285.75 -30498285.64 0.0528 0.0346

Earth -88213-08-21 21:06 J -30498141.63 -30498141.62 -30498141.60 0.2589 0.2560

Venus -88213-12-20 12:42 J -30498021.06 -30498020.97 -30498020.89 0.3776 0.2242

Mars -88210-10-11 06:27 J -30496996.34 -30496996.23 -30496996.12 0.1892 0.1143

Mars -88209-08-02 05:44 J -30496700.35 -30496700.26 -30496700.16 0.1660 0.1025

Jupiter -88207-02-28 17:30 J -30496124.89 -30496124.77 -30496124.65 0.0496 0.0363

Jupiter -88207-05-29 19:54 J -30496034.83 -30496034.67 -30496034.50 0.0498 0.0140

Venus -88207-07-06 06:56 J -30495997.31 -30495997.21 -30495997.11 0.3773 0.1518

Mars -88207-07-08 17:44 J -30495994.86 -30495994.76 -30495994.67 0.1640 0.1125

Moon -88206-08-14 23:44 J -30495592.57 -30495592.51 -30495592.44 0.2584 0.2252

Earth -88206-08-15 01:11 J -30495592.53 -30495592.45 -30495592.36 0.2584 0.2063 *

Saturn -88205-11-30 15:06 J -30495118.91 -30495118.87 -30495118.82 0.0273 0.0256

Saturn -88204-02-27 03:20 J -30495030.47 -30495030.36 -30495030.25 0.0273 0.0168

Saturn -88204-05-26 15:20 J -30494941.99 -30494941.86 -30494941.72 0.0273 0.0078

Saturn -88204-08-23 03:49 J -30494853.49 -30494853.34 -30494853.20 0.0272 0.0015

Saturn -88204-11-19 16:18 J -30494764.95 -30494764.82 -30494764.69 0.0272 0.0105

Moon -88203-02-15 08:23 J -30494677.25 -30494677.15 -30494677.04 0.2751 0.1376

Earth -88203-02-15 09:20 J -30494677.21 -30494677.11 -30494677.01 0.2750 0.1464 *

Saturn -88203-02-16 04:47 J -30494676.39 -30494676.30 -30494676.19 0.0272 0.0200

Jupiter -88202-10-20 11:01 J -30494065.16 -30494065.04 -30494064.92 0.0532 0.0232

Jupiter -88201-01-17 20:51 J -30493975.75 -30493975.63 -30493975.51 0.0529 0.0228

Venus -88201-01-20 01:39 J -30493973.54 -30493973.43 -30493973.33 0.3769 0.0790

Mars -88200-03-02 07:11 J -30493566.34 -30493566.20 -30493566.05 0.1886 0.0124

Mars -88200-12-23 15:06 J -30493269.91 -30493269.87 -30493269.82 0.1666 0.1537

Neptune -88198-01-25 13:11 J -30492871.98 -30492871.95 -30492871.92 0.0089 0.0087

Neptune -88198-04-23 16:03 J -30492783.88 -30492783.83 -30492783.74 0.0089 0.0082

Neptune -88198-07-20 19:25 J -30492695.77 -30492695.69 -30492695.57 0.0089 0.0076

Neptune -88198-10-16 22:47 J -30492607.65 -30492607.55 -30492607.42 0.0089 0.0070

Mars -88198-11-29 02:37 J -30492564.51 -30492564.39 -30492564.27 0.1645 0.0606

Neptune -88197-01-13 02:08 J -30492519.53 -30492519.41 -30492519.27 0.0089 0.0064

Neptune -88197-04-10 05:30 J -30492431.40 -30492431.27 -30492431.12 0.0089 0.0058

Neptune -88197-07-07 08:51 J -30492343.28 -30492343.13 -30492342.98 0.0089 0.0052

Neptune -88197-10-03 12:13 J -30492255.15 -30492254.99 -30492254.83 0.0089 0.0046

Neptune -88197-12-30 15:06 J -30492167.02 -30492166.87 -30492166.69 0.0089 0.0041

Earth -88196-02-08 01:25 J -30492127.47 -30492127.44 -30492127.40 0.2755 0.2589

Moon -88196-02-08 02:08 J -30492127.45 -30492127.41 -30492127.38 0.2749 0.2593 *

Neptune -88196-03-28 18:27 J -30492078.89 -30492078.73 -30492078.55 0.0089 0.0035

Neptune -88196-06-24 21:49 J -30491990.76 -30491990.59 -30491990.41 0.0089 0.0029

Venus -88196-08-04 20:23 J -30491949.76 -30491949.65 -30491949.54 0.3766 0.0061

Neptune -88196-09-21 00:56 J -30491902.63 -30491902.46 -30491902.28 0.0089 0.0023

Neptune -88196-12-18 04:03 J -30491814.50 -30491814.33 -30491814.14 0.0089 0.0017

Neptune -88195-03-16 07:25 J -30491726.37 -30491726.19 -30491726.01 0.0089 0.0011

Jupiter -88195-03-17 18:13 J -30491724.91 -30491724.74 -30491724.56 0.0497 0.0015

Neptune -88195-06-12 10:32 J -30491638.24 -30491638.06 -30491637.87 0.0089 0.0006

Jupiter -88195-06-15 19:39 J -30491634.68 -30491634.68 -30491634.68 0.0500 0.0500

Neptune -88195-09-08 13:39 J -30491550.11 -30491549.93 -30491549.74 0.0089 0.0002

Neptune -88195-12-05 16:47 J -30491461.98 -30491461.80 -30491461.61 0.0088 0.0006

Neptune -88194-03-03 19:54 J -30491373.85 -30491373.67 -30491373.48 0.0088 0.0012

Neptune -88194-05-30 23:01 J -30491285.71 -30491285.54 -30491285.36 0.0088 0.0017

Neptune -88194-08-27 02:08 J -30491197.58 -30491197.41 -30491197.23 0.0088 0.0023

Neptune -88194-11-23 05:15 J -30491109.45 -30491109.28 -30491109.10 0.0088 0.0029

Neptune -88193-02-19 08:08 J -30491021.32 -30491021.16 -30491020.98 0.0088 0.0035

Neptune -88193-05-17 11:15 J -30490933.18 -30490933.03 -30490932.86 0.0088 0.0040

Neptune -88193-08-13 14:08 J -30490845.05 -30490844.91 -30490844.74 0.0088 0.0046

Moon -88193-08-17 01:11 J -30490841.59 -30490841.45 -30490841.31 0.2589 0.0464

Earth -88193-08-17 02:08 J -30490841.55 -30490841.41 -30490841.27 0.2585 0.0365 *

Neptune -88193-11-09 17:30 J -30490756.91 -30490756.77 -30490756.62 0.0088 0.0051

Neptune -88192-02-05 20:23 J -30490668.78 -30490668.65 -30490668.50 0.0088 0.0056

Neptune -88192-05-04 23:30 J -30490580.64 -30490580.52 -30490580.39 0.0088 0.0062

Neptune -88192-08-01 02:08 J -30490492.50 -30490492.41 -30490492.27 0.0088 0.0068

Venus -88192-08-03 18:13 J -30490489.84 -30490489.74 -30490489.64 0.3603 0.2479

Neptune -88192-10-28 05:15 J -30490404.37 -30490404.28 -30490404.16 0.0088 0.0073

Neptune -88191-01-24 08:37 J -30490316.22 -30490316.14 -30490316.06 0.0088 0.0078

Neptune -88191-04-22 11:15 J -30490228.07 -30490228.03 -30490227.96 0.0088 0.0084

Mars -88191-07-23 07:39 J -30490136.30 -30490136.18 -30490136.05 0.1878 0.0938

Venus -88190-02-18 15:20 J -30489925.97 -30489925.86 -30489925.75 0.3762 0.0788

Jupiter -88190-08-08 14:23 J -30489755.00 -30489754.90 -30489754.80 0.0533 0.0345

Jupiter -88190-11-06 00:13 J -30489665.63 -30489665.49 -30489665.36 0.0530 0.0115

Uranus -88190-12-28 22:47 J -30489612.58 -30489612.55 -30489612.52 0.0138 0.0136

Saturn -88190-12-30 20:23 J -30489610.79 -30489610.65 -30489610.52 0.0287 0.0174

Uranus -88189-03-26 05:01 J -30489524.38 -30489524.29 -30489524.18 0.0138 0.0114

Saturn -88189-03-28 16:32 J -30489521.98 -30489521.81 -30489521.64 0.0287 0.0043

Uranus -88189-06-22 11:30 J -30489436.14 -30489436.02 -30489435.88 0.0138 0.0091

Saturn -88189-06-25 12:27 J -30489433.14 -30489432.98 -30489432.82 0.0287 0.0085

Uranus -88189-09-18 17:59 J -30489347.90 -30489347.75 -30489347.59 0.0138 0.0069

Saturn -88189-09-22 07:54 J -30489344.28 -30489344.17 -30489344.06 0.0287 0.0210

Uranus -88189-12-16 00:13 J -30489259.65 -30489259.49 -30489259.32 0.0138 0.0047

Uranus -88188-03-14 06:27 J -30489171.40 -30489171.23 -30489171.05 0.0138 0.0026

Mars -88188-04-20 11:44 J -30489134.14 -30489134.01 -30489133.89 0.1650 0.0098

Uranus -88188-06-10 12:42 J -30489083.14 -30489082.97 -30489082.79 0.0137 0.0004

Uranus -88188-09-06 18:56 J -30488994.89 -30488994.71 -30488994.54 0.0137 0.0018

Uranus -88188-12-04 00:56 J -30488906.63 -30488906.46 -30488906.29 0.0137 0.0039

Uranus -88187-03-02 06:56 J -30488818.37 -30488818.21 -30488818.06 0.0137 0.0059

Uranus -88187-05-29 12:42 J -30488730.10 -30488729.97 -30488729.82 0.0137 0.0080

Uranus -88187-08-25 18:42 J -30488641.83 -30488641.72 -30488641.60 0.0137 0.0100

Uranus -88187-11-22 00:13 J -30488553.55 -30488553.49 -30488553.40 0.0137 0.0121

Venus -88186-02-17 18:42 J -30488465.85 -30488465.72 -30488465.60 0.3607 0.1383

Venus -88185-09-03 10:32 J -30487902.16 -30487902.06 -30487901.96 0.3758 0.1601

Jupiter -88183-01-03 17:15 J -30487414.95 -30487414.78 -30487414.61 0.0497 0.0118

Moon -88183-02-10 21:20 J -30487376.71 -30487376.61 -30487376.50 0.2747 0.1132

Earth -88183-02-10 21:49 J -30487376.70 -30487376.59 -30487376.49 0.2754 0.1171 *

Jupiter -88183-04-03 18:56 J -30487324.82 -30487324.71 -30487324.60 0.0500 0.0378

Venus -88181-09-02 18:42 J -30486441.85 -30486441.72 -30486441.59 0.3611 0.0325

Moon -88180-08-20 02:23 J -30486090.52 -30486090.40 -30486090.28 0.2594 0.1321

Earth -88180-08-20 02:37 J -30486090.51 -30486090.39 -30486090.27 0.2587 0.1290 *

Venus -88179-03-20 05:59 J -30485878.33 -30485878.25 -30485878.16 0.3754 0.2440

Mars -88179-09-10 20:37 J -30485703.76 -30485703.64 -30485703.51 0.1655 0.0441

Jupiter -88178-05-27 18:13 J -30485444.81 -30485444.74 -30485444.67 0.0534 0.0453

Jupiter -88178-08-25 03:35 J -30485355.48 -30485355.35 -30485355.21 0.0531 0.0012

Jupiter -88178-11-22 13:54 J -30485265.98 -30485265.92 -30485265.86 0.0527 0.0466

Venus -88175-03-19 18:27 J -30484417.86 -30484417.73 -30484417.60 0.3614 0.0694

Saturn -88175-07-17 05:15 J -30484298.38 -30484298.28 -30484298.18 0.0272 0.0194

Saturn -88175-10-13 17:15 J -30484209.91 -30484209.78 -30484209.65 0.0272 0.0105

Saturn -88174-01-10 05:30 J -30484121.41 -30484121.27 -30484121.13 0.0272 0.0015

Saturn -88174-04-08 17:59 J -30484032.89 -30484032.75 -30484032.61 0.0272 0.0077

Saturn -88174-07-06 06:27 J -30483944.34 -30483944.23 -30483944.11 0.0272 0.0170

Saturn -88174-10-02 19:25 J -30483855.72 -30483855.69 -30483855.66 0.0272 0.0264

Venus -88174-10-04 01:39 J -30483854.48 -30483854.43 -30483854.37 0.3750 0.3300

Jupiter -88172-10-22 16:03 J -30483104.98 -30483104.83 -30483104.68 0.0496 0.0244

Jupiter -88171-01-20 18:13 J -30483014.89 -30483014.74 -30483014.60 0.0499 0.0255

Moon -88170-02-13 17:15 J -30482625.89 -30482625.78 -30482625.66 0.2748 0.0185

Earth -88170-02-13 17:59 J -30482625.87 -30482625.75 -30482625.63 0.2752 0.0290 *

Mars -88170-04-11 06:56 J -30482569.31 -30482569.21 -30482569.10 0.1892 0.1257

Venus -88170-10-03 17:30 J -30482393.88 -30482393.77 -30482393.65 0.3618 0.1653

Mars -88169-02-01 05:59 J -30482273.35 -30482273.25 -30482273.15 0.1660 0.0953

Pluto -88168-09-24 01:54 J -30481672.45 -30481672.42 -30481672.37 0.0085 0.0081

Pluto -88168-12-21 03:20 J -30481584.43 -30481584.36 -30481584.28 0.0085 0.0069

Mars -88167-01-06 17:44 J -30481567.85 -30481567.76 -30481567.67 0.1640 0.1200

Pluto -88167-03-19 04:32 J -30481496.40 -30481496.31 -30481496.20 0.0084 0.0057

Pluto -88167-06-15 05:59 J -30481408.36 -30481408.25 -30481408.13 0.0084 0.0044

Venus -88167-06-27 22:32 J -30481395.60 -30481395.56 -30481395.52 0.3781 0.3458

Pluto -88167-09-11 07:11 J -30481320.32 -30481320.20 -30481320.07 0.0084 0.0032

Pluto -88167-12-08 08:37 J -30481232.27 -30481232.14 -30481232.01 0.0084 0.0020

Pluto -88166-03-06 09:49 J -30481144.22 -30481144.09 -30481143.95 0.0084 0.0008

Pluto -88166-06-02 11:15 J -30481056.17 -30481056.03 -30481055.90 0.0084 0.0005

Jupiter -88166-06-13 07:11 J -30481045.34 -30481045.20 -30481045.07 0.0531 0.0109

Pluto -88166-08-29 12:27 J -30480968.11 -30480967.98 -30480967.85 0.0084 0.0016

Jupiter -88166-09-10 17:01 J -30480955.88 -30480955.79 -30480955.69 0.0528 0.0354

Pluto -88166-11-25 13:39 J -30480880.05 -30480879.93 -30480879.80 0.0084 0.0028

Pluto -88165-02-21 14:37 J -30480791.99 -30480791.89 -30480791.76 0.0083 0.0040

Pluto -88165-05-19 16:03 J -30480703.93 -30480703.83 -30480703.72 0.0083 0.0051

Pluto -88165-08-15 17:15 J -30480615.86 -30480615.78 -30480615.69 0.0083 0.0062

Pluto -88165-11-11 18:13 J -30480527.78 -30480527.74 -30480527.67 0.0083 0.0074

Venus -88164-04-18 16:18 J -30480369.91 -30480369.82 -30480369.73 0.3623 0.2579

Venus -88161-01-11 16:32 J -30479371.88 -30479371.81 -30479371.74 0.3778 0.2772

Mars -88161-08-31 07:39 J -30479139.32 -30479139.18 -30479139.03 0.1885 0.0226

Saturn -88160-05-18 17:59 J -30478878.85 -30478878.75 -30478878.63 0.0287 0.0221

Mars -88160-06-23 15:06 J -30478842.92 -30478842.87 -30478842.81 0.1666 0.1469

Jupiter -88160-08-10 15:20 J -30478794.98 -30478794.86 -30478794.74 0.0495 0.0366

Moon -88160-08-15 05:44 J -30478790.37 -30478790.26 -30478790.16 0.2584 0.1783

Earth -88160-08-15 06:56 J -30478790.31 -30478790.21 -30478790.10 0.2584 0.1708 *

Saturn -88160-08-15 14:37 J -30478790.05 -30478789.89 -30478789.73 0.0287 0.0089

Jupiter -88160-11-08 17:44 J -30478704.92 -30478704.76 -30478704.59 0.0498 0.0137

Saturn -88160-11-12 10:32 J -30478701.22 -30478701.06 -30478700.89 0.0287 0.0041

Saturn -88159-02-09 06:13 J -30478612.37 -30478612.24 -30478612.10 0.0286 0.0166

Venus -88159-11-02 14:51 J -30478345.92 -30478345.88 -30478345.85 0.3627 0.3465

Mars -88158-05-30 02:37 J -30478137.50 -30478137.39 -30478137.27 0.1645 0.0678

Moon -88157-02-16 13:39 J -30477875.03 -30477874.93 -30477874.84 0.2751 0.1658

Earth -88157-02-16 14:37 J -30477874.98 -30477874.89 -30477874.80 0.2750 0.1769 *

Venus -88156-07-27 10:47 J -30477348.14 -30477348.05 -30477347.96 0.3775 0.2061

Jupiter -88154-04-01 09:35 J -30476735.22 -30476735.10 -30476734.98 0.0532 0.0231

Jupiter -88154-06-29 19:25 J -30476645.81 -30476645.69 -30476645.57 0.0529 0.0228

Mars -88151-01-21 08:08 J -30475709.29 -30475709.16 -30475709.03 0.1878 0.0837

Earth -88150-02-09 06:42 J -30475325.28 -30475325.22 -30475325.16 0.2755 0.2299

Moon -88150-02-09 06:56 J -30475325.28 -30475325.21 -30475325.14 0.2749 0.2188 *

Venus -88150-02-10 05:15 J -30475324.39 -30475324.28 -30475324.18 0.3772 0.1333

Mars -88149-10-19 11:44 J -30474707.14 -30474707.01 -30474706.88 0.1650 0.0160

Jupiter -88148-05-29 13:54 J -30474484.93 -30474484.92 -30474484.90 0.0495 0.0491

Jupiter -88148-08-27 17:01 J -30474394.96 -30474394.79 -30474394.62 0.0498 0.0014

Moon -88147-08-18 07:11 J -30474039.34 -30474039.20 -30474039.06 0.2591 0.0136

Earth -88147-08-18 07:54 J -30474039.31 -30474039.17 -30474039.03 0.2586 0.0025 *

Saturn -88146-12-04 08:08 J -30473566.24 -30473566.16 -30473566.08 0.0273 0.0215

Saturn -88145-03-01 20:08 J -30473477.78 -30473477.66 -30473477.53 0.0273 0.0126

Saturn -88145-05-29 08:23 J -30473389.29 -30473389.15 -30473389.01 0.0273 0.0036

Saturn -88145-08-25 20:51 J -30473300.77 -30473300.63 -30473300.49 0.0273 0.0056

Venus -88145-08-25 23:44 J -30473300.62 -30473300.51 -30473300.40 0.3768 0.0596 *

Uranus -88145-11-19 06:56 J -30473215.27 -30473215.21 -30473215.15 0.0140 0.0126

Saturn -88145-11-22 09:20 J -30473212.22 -30473212.11 -30473211.98 0.0273 0.0150

Uranus -88144-02-15 10:47 J -30473127.13 -30473127.05 -30473126.95 0.0141 0.0108

Saturn -88144-02-18 22:18 J -30473123.63 -30473123.57 -30473123.51 0.0273 0.0244

Uranus -88144-05-14 14:51 J -30473038.99 -30473038.88 -30473038.77 0.0141 0.0090

Uranus -88144-08-10 18:42 J -30472950.83 -30472950.72 -30472950.59 0.0141 0.0072

Uranus -88144-11-06 22:47 J -30472862.67 -30472862.55 -30472862.41 0.0141 0.0054

Uranus -88143-02-03 02:51 J -30472774.51 -30472774.38 -30472774.24 0.0141 0.0035

Uranus -88143-05-02 06:56 J -30472686.35 -30472686.21 -30472686.06 0.0141 0.0017

Uranus -88143-07-29 11:15 J -30472598.18 -30472598.03 -30472597.89 0.0141 0.0004

Uranus -88143-10-25 15:20 J -30472510.00 -30472509.86 -30472509.72 0.0142 0.0022

Jupiter -88142-01-18 12:42 J -30472425.07 -30472424.97 -30472424.87 0.0533 0.0348

Uranus -88142-01-21 19:25 J -30472421.82 -30472421.69 -30472421.55 0.0142 0.0042

Jupiter -88142-04-17 22:18 J -30472335.70 -30472335.57 -30472335.44 0.0530 0.0109

Uranus -88142-04-19 23:44 J -30472333.64 -30472333.51 -30472333.38 0.0142 0.0061

Uranus -88142-07-17 04:03 J -30472245.45 -30472245.33 -30472245.21 0.0142 0.0080

Uranus -88142-10-13 08:23 J -30472157.25 -30472157.15 -30472157.05 0.0142 0.0100

Uranus -88141-01-09 12:27 J -30472069.04 -30472068.98 -30472068.89 0.0142 0.0121

Uranus -88141-04-06 17:01 J -30471980.80 -30471980.79 -30471980.76 0.0142 0.0140

Venus -88141-08-24 17:01 J -30471840.83 -30471840.79 -30471840.74 0.3601 0.3332

Venus -88139-03-11 18:42 J -30471276.83 -30471276.72 -30471276.61 0.3765 0.0199

Mars -88139-03-11 20:51 J -30471276.75 -30471276.63 -30471276.50 0.1655 0.0363 *

Moon -88137-02-12 02:37 J -30470574.50 -30470574.39 -30470574.28 0.2746 0.0978

Earth -88137-02-12 02:51 J -30470574.49 -30470574.38 -30470574.27 0.2753 0.0869 *

Jupiter -88136-06-15 15:20 J -30470085.03 -30470084.86 -30470084.70 0.0497 0.0119

Jupiter -88136-09-13 17:01 J -30469994.90 -30469994.79 -30469994.68 0.0499 0.0377

Venus -88135-03-10 17:59 J -30469816.85 -30469816.75 -30469816.64 0.3604 0.2199

Moon -88134-08-21 08:23 J -30469288.26 -30469288.15 -30469288.05 0.2594 0.1606

Earth -88134-08-21 08:23 J -30469288.26 -30469288.15 -30469288.04 0.2588 0.1642 *

Venus -88134-09-25 13:39 J -30469253.04 -30469252.93 -30469252.82 0.3761 0.0999

Saturn -88131-10-05 20:08 J -30468146.74 -30468146.66 -30468146.57 0.0287 0.0244

Mars -88131-10-10 07:39 J -30468142.28 -30468142.18 -30468142.09 0.1893 0.1376

Jupiter -88131-11-06 16:03 J -30468114.90 -30468114.83 -30468114.77 0.0534 0.0462

Saturn -88130-01-02 16:47 J -30468057.96 -30468057.80 -30468057.64 0.0287 0.0112

Jupiter -88130-02-04 01:25 J -30468025.57 -30468025.44 -30468025.30 0.0531 0.0007

Saturn -88130-04-01 12:56 J -30467969.13 -30467968.96 -30467968.79 0.0287 0.0018

Jupiter -88130-05-04 11:44 J -30467936.08 -30467936.01 -30467935.94 0.0527 0.0457

Saturn -88130-06-29 08:37 J -30467880.28 -30467880.14 -30467880.00 0.0287 0.0145

Mars -88130-08-02 05:59 J -30467846.35 -30467846.25 -30467846.14 0.1660 0.0882

Venus -88130-09-24 18:27 J -30467792.86 -30467792.73 -30467792.60 0.3608 0.1113

Saturn -88130-09-26 03:35 J -30467791.39 -30467791.35 -30467791.28 0.0287 0.0269

Venus -88128-04-10 09:06 J -30467229.22 -30467229.12 -30467229.02 0.3757 0.1816

Mars -88128-07-07 17:59 J -30467140.83 -30467140.75 -30467140.67 0.1640 0.1278

Moon -88124-02-13 22:18 J -30465823.68 -30465823.57 -30465823.45 0.2749 0.0556

Earth -88124-02-13 23:15 J -30465823.65 -30465823.53 -30465823.42 0.2751 0.0590 *

Jupiter -88124-04-03 13:54 J -30465775.07 -30465774.92 -30465774.77 0.0496 0.0246

Venus -88124-04-09 18:27 J -30465768.87 -30465768.73 -30465768.60 0.3612 0.0095

Jupiter -88124-07-02 16:03 J -30465684.98 -30465684.83 -30465684.68 0.0499 0.0253

Venus -88123-10-25 04:32 J -30465205.39 -30465205.31 -30465205.23 0.3753 0.2659

Mars -88121-03-01 08:08 J -30464712.30 -30464712.16 -30464712.02 0.1886 0.0328

Mars -88121-12-22 15:20 J -30464415.93 -30464415.86 -30464415.79 0.1665 0.1397

Venus -88119-10-24 17:59 J -30463744.88 -30463744.75 -30463744.63 0.3616 0.0937

Jupiter -88119-11-23 05:01 J -30463715.42 -30463715.29 -30463715.16 0.0532 0.0116

Mars -88119-11-28 02:51 J -30463710.49 -30463710.38 -30463710.26 0.1645 0.0752

Jupiter -88118-02-20 15:06 J -30463625.97 -30463625.87 -30463625.77 0.0528 0.0346

Venus -88117-05-10 00:27 J -30463181.52 -30463181.48 -30463181.45 0.3749 0.3526

Neptune -88117-07-28 19:54 J -30463101.69 -30463101.67 -30463101.62 0.0089 0.0086

Neptune -88117-10-24 21:20 J -30463013.65 -30463013.61 -30463013.54 0.0089 0.0082

Neptune -88116-01-20 23:01 J -30462925.60 -30462925.54 -30462925.47 0.0089 0.0077

Neptune -88116-04-19 00:27 J -30462837.55 -30462837.48 -30462837.40 0.0089 0.0073

Saturn -88116-04-22 10:18 J -30462834.13 -30462834.07 -30462833.99 0.0272 0.0239

Neptune -88116-07-16 01:54 J -30462749.50 -30462749.42 -30462749.33 0.0089 0.0069

Saturn -88116-07-19 22:32 J -30462745.68 -30462745.56 -30462745.45 0.0272 0.0150

Neptune -88116-10-12 03:20 J -30462661.45 -30462661.36 -30462661.26 0.0089 0.0065

Saturn -88116-10-16 10:32 J -30462657.19 -30462657.06 -30462656.92 0.0272 0.0061

Neptune -88115-01-08 04:32 J -30462573.39 -30462573.31 -30462573.20 0.0089 0.0061

Saturn -88115-01-12 23:01 J -30462568.68 -30462568.54 -30462568.40 0.0272 0.0031

Neptune -88115-04-06 05:59 J -30462485.34 -30462485.25 -30462485.13 0.0089 0.0057

Saturn -88115-04-11 11:30 J -30462480.15 -30462480.02 -30462479.89 0.0272 0.0123

Neptune -88115-07-03 07:54 J -30462397.28 -30462397.17 -30462397.06 0.0089 0.0052

Saturn -88115-07-09 00:13 J -30462391.57 -30462391.49 -30462391.40 0.0272 0.0217

Neptune -88115-09-29 09:06 J -30462309.23 -30462309.12 -30462309.00 0.0089 0.0048

Neptune -88115-12-26 10:32 J -30462221.17 -30462221.06 -30462220.93 0.0089 0.0044

Neptune -88114-03-24 11:59 J -30462133.11 -30462133.00 -30462132.87 0.0089 0.0040

Neptune -88114-06-20 13:39 J -30462045.05 -30462044.93 -30462044.80 0.0089 0.0035

Moon -88114-08-16 11:44 J -30461988.13 -30461988.01 -30461987.90 0.2585 0.1544

Earth -88114-08-16 12:56 J -30461988.08 -30461987.96 -30461987.84 0.2584 0.1348 *

Neptune -88114-09-16 15:06 J -30461956.99 -30461956.87 -30461956.74 0.0089 0.0031

Neptune -88114-12-13 16:32 J -30461868.94 -30461868.81 -30461868.67 0.0089 0.0027

Neptune -88113-03-10 17:59 J -30461780.88 -30461780.75 -30461780.61 0.0089 0.0023

Venus -88113-05-09 17:01 J -30461720.90 -30461720.79 -30461720.68 0.3620 0.1890

Neptune -88113-06-06 19:39 J -30461692.82 -30461692.68 -30461692.54 0.0089 0.0018

Neptune -88113-09-02 21:06 J -30461604.75 -30461604.62 -30461604.48 0.0089 0.0014

Neptune -88113-11-29 22:32 J -30461516.69 -30461516.56 -30461516.42 0.0089 0.0010

Jupiter -88112-01-20 12:27 J -30461465.09 -30461464.98 -30461464.86 0.0495 0.0374

Neptune -88112-02-26 00:13 J -30461428.63 -30461428.49 -30461428.35 0.0089 0.0005

Jupiter -88112-04-20 15:06 J -30461375.03 -30461374.87 -30461374.70 0.0498 0.0128

Neptune -88112-05-25 01:39 J -30461340.57 -30461340.43 -30461340.29 0.0089 0.0001

Mars -88112-07-22 08:37 J -30461282.27 -30461282.14 -30461282.00 0.1879 0.0718

Neptune -88112-08-21 03:06 J -30461252.50 -30461252.37 -30461252.23 0.0089 0.0004

Neptune -88112-11-17 04:47 J -30461164.44 -30461164.30 -30461164.16 0.0089 0.0008

Neptune -88111-02-13 06:13 J -30461076.38 -30461076.24 -30461076.10 0.0089 0.0012

Moon -88111-02-16 18:56 J -30461072.79 -30461072.71 -30461072.63 0.2751 0.1966

Earth -88111-02-16 19:39 J -30461072.75 -30461072.68 -30461072.60 0.2749 0.2082 *

Neptune -88111-05-12 07:39 J -30460988.31 -30460988.18 -30460988.04 0.0089 0.0017

Neptune -88111-08-08 09:20 J -30460900.25 -30460900.11 -30460899.98 0.0089 0.0021

Neptune -88111-11-04 10:47 J -30460812.18 -30460812.05 -30460811.91 0.0089 0.0026

Neptune -88110-01-31 12:27 J -30460724.11 -30460723.98 -30460723.85 0.0089 0.0030

Venus -88110-02-01 20:37 J -30460722.69 -30460722.64 -30460722.59 0.3780 0.3290

Neptune -88110-04-29 13:54 J -30460636.05 -30460635.92 -30460635.79 0.0089 0.0034

Neptune -88110-07-26 15:20 J -30460547.98 -30460547.86 -30460547.73 0.0089 0.0039

Neptune -88110-10-22 17:01 J -30460459.91 -30460459.79 -30460459.66 0.0089 0.0043

Neptune -88109-01-18 18:27 J -30460371.84 -30460371.73 -30460371.60 0.0089 0.0048

Neptune -88109-04-15 20:08 J -30460283.77 -30460283.66 -30460283.54 0.0089 0.0052

Mars -88109-04-19 11:59 J -30460280.13 -30460280.00 -30460279.87 0.1650 0.0233

Neptune -88109-07-12 21:35 J -30460195.70 -30460195.60 -30460195.48 0.0089 0.0057

Neptune -88109-10-08 23:30 J -30460107.62 -30460107.52 -30460107.42 0.0089 0.0061

Neptune -88108-01-05 00:42 J -30460019.55 -30460019.47 -30460019.36 0.0089 0.0066

Neptune -88108-04-03 02:37 J -30459931.47 -30459931.39 -30459931.30 0.0089 0.0070

Neptune -88108-06-30 04:03 J -30459843.39 -30459843.33 -30459843.24 0.0089 0.0075

Neptune -88108-09-26 05:44 J -30459755.31 -30459755.26 -30459755.19 0.0089 0.0079

Venus -88108-11-23 15:35 J -30459696.92 -30459696.85 -30459696.77 0.3624 0.2812

Neptune -88108-12-23 07:11 J -30459667.23 -30459667.20 -30459667.14 0.0089 0.0084

Neptune -88107-03-21 09:06 J -30459579.13 -30459579.12 -30459579.10 0.0089 0.0088

Jupiter -88107-09-11 08:23 J -30459405.27 -30459405.15 -30459405.03 0.0532 0.0227

Jupiter -88107-12-09 18:13 J -30459315.86 -30459315.74 -30459315.62 0.0529 0.0233

Uranus -88105-01-18 06:42 J -30458911.27 -30458911.22 -30458911.15 0.0138 0.0128

Uranus -88105-04-15 13:11 J -30458823.05 -30458822.95 -30458822.83 0.0138 0.0106

Uranus -88105-07-12 19:25 J -30458734.82 -30458734.69 -30458734.54 0.0138 0.0084

Venus -88105-08-17 14:37 J -30458698.96 -30458698.89 -30458698.81 0.3777 0.2601

Uranus -88105-10-09 01:54 J -30458646.57 -30458646.42 -30458646.25 0.0138 0.0062

Uranus -88104-01-05 08:23 J -30458558.32 -30458558.15 -30458557.98 0.0138 0.0040

Earth -88104-02-09 11:44 J -30458523.09 -30458523.01 -30458522.93 0.2755 0.2010

Moon -88104-02-09 11:59 J -30458523.08 -30458523.00 -30458522.93 0.2748 0.2043 *

Uranus -88104-04-03 14:37 J -30458470.06 -30458469.89 -30458469.72 0.0137 0.0018

Uranus -88104-06-30 20:51 J -30458381.81 -30458381.63 -30458381.46 0.0137 0.0005

Uranus -88104-09-27 02:51 J -30458293.55 -30458293.38 -30458293.21 0.0137 0.0025

Uranus -88104-12-24 08:51 J -30458205.29 -30458205.13 -30458204.96 0.0137 0.0046

Uranus -88103-03-22 14:37 J -30458117.03 -30458116.89 -30458116.73 0.0137 0.0067

Uranus -88103-06-18 20:37 J -30458028.76 -30458028.64 -30458028.50 0.0137 0.0087

Uranus -88103-09-15 02:23 J -30457940.49 -30457940.40 -30457940.28 0.0137 0.0108

Uranus -88103-12-12 08:08 J -30457852.20 -30457852.16 -30457852.08 0.0136 0.0128

Mars -88103-12-12 08:51 J -30457852.17 -30457852.13 -30457852.08 0.1871 0.1778 *

Saturn -88101-05-21 14:51 J -30457326.02 -30457325.88 -30457325.74 0.0287 0.0158

Saturn -88101-08-18 11:15 J -30457237.20 -30457237.03 -30457236.86 0.0287 0.0028

Moon -88101-08-18 12:56 J -30457237.10 -30457236.96 -30457236.82 0.2591 0.0313 *

Earth -88101-08-18 13:39 J -30457237.07 -30457236.93 -30457236.79 0.2586 0.0341 *

Saturn -88101-11-15 06:56 J -30457148.36 -30457148.21 -30457148.05 0.0286 0.0101

Jupiter -88100-02-06 14:37 J -30457065.06 -30457064.89 -30457064.72 0.0498 0.0009

Saturn -88100-02-12 02:23 J -30457059.50 -30457059.40 -30457059.30 0.0286 0.0226

Mars -88100-09-09 21:06 J -30456849.75 -30456849.62 -30456849.50 0.1655 0.0291

Venus -88099-03-03 09:06 J -30456675.22 -30456675.12 -30456675.03 0.3774 0.1882

Jupiter -88095-06-30 11:15 J -30455095.13 -30455095.03 -30455094.93 0.0533 0.0347

Jupiter -88095-09-27 20:51 J -30455005.76 -30455005.63 -30455005.50 0.0529 0.0110

Venus -88094-09-17 03:35 J -30454651.46 -30454651.35 -30454651.25 0.3771 0.1150

Moon -88091-02-12 07:39 J -30453772.30 -30453772.18 -30453772.07 0.2746 0.0552

Earth -88091-02-12 07:54 J -30453772.28 -30453772.17 -30453772.05 0.2753 0.0582 *

Mars -88091-04-10 07:39 J -30453715.27 -30453715.18 -30453715.09 0.1893 0.1463

Mars -88090-01-31 06:13 J -30453419.35 -30453419.24 -30453419.13 0.1660 0.0806

Jupiter -88089-11-25 13:39 J -30452755.10 -30452754.93 -30452754.76 0.0497 0.0116

Mars -88088-01-05 17:59 J -30452713.82 -30452713.75 -30452713.67 0.1640 0.1354

Jupiter -88088-02-23 15:20 J -30452664.96 -30452664.86 -30452664.75 0.0500 0.0381

Venus -88088-04-01 22:18 J -30452627.69 -30452627.57 -30452627.46 0.3767 0.0411

Earth -88088-08-21 14:08 J -30452486.00 -30452485.91 -30452485.82 0.2588 0.1982

Moon -88088-08-21 14:23 J -30452485.99 -30452485.90 -30452485.82 0.2594 0.2008 *

Saturn -88087-09-09 13:11 J -30452101.98 -30452101.95 -30452101.91 0.0273 0.0261

Saturn -88087-12-07 01:11 J -30452013.56 -30452013.45 -30452013.34 0.0273 0.0173

Saturn -88086-03-05 13:11 J -30451925.08 -30451924.95 -30451924.81 0.0273 0.0083

Saturn -88086-06-02 01:39 J -30451836.57 -30451836.43 -30451836.29 0.0273 0.0009

Saturn -88086-08-29 14:08 J -30451748.04 -30451747.91 -30451747.78 0.0273 0.0101

Saturn -88086-11-26 02:37 J -30451659.48 -30451659.39 -30451659.28 0.0273 0.0196

Venus -88084-03-31 17:15 J -30451167.85 -30451167.78 -30451167.71 0.3602 0.3038

Jupiter -88083-04-18 14:23 J -30450784.97 -30450784.90 -30450784.84 0.0533 0.0463

Jupiter -88083-07-16 23:44 J -30450695.65 -30450695.51 -30450695.38 0.0530 0.0012

Jupiter -88083-10-14 09:49 J -30450606.16 -30450606.09 -30450606.02 0.0527 0.0452

Venus -88083-10-16 17:01 J -30450603.90 -30450603.79 -30450603.68 0.3764 0.0405

Mars -88082-08-31 08:37 J -30450285.28 -30450285.14 -30450285.00 0.1886 0.0441

Mars -88081-06-22 15:35 J -30449988.93 -30449988.85 -30449988.78 0.1665 0.1324

Mars -88079-05-29 03:06 J -30449283.48 -30449283.37 -30449283.26 0.1644 0.0831

Venus -88079-10-15 17:59 J -30449143.87 -30449143.75 -30449143.64 0.3605 0.1921

Moon -88078-02-15 03:35 J -30449021.47 -30449021.35 -30449021.24 0.2750 0.0716

Earth -88078-02-15 04:18 J -30449021.43 -30449021.32 -30449021.20 0.2751 0.0897 *

Venus -88077-05-01 12:13 J -30448580.10 -30448579.99 -30448579.88 0.3760 0.1203

Jupiter -88077-09-13 11:44 J -30448445.16 -30448445.01 -30448444.85 0.0496 0.0248

Jupiter -88077-12-12 13:54 J -30448355.06 -30448354.92 -30448354.77 0.0499 0.0251

Venus -88073-04-30 18:13 J -30447119.87 -30447119.74 -30447119.61 0.3609 0.0846

Mars -88072-01-20 09:20 J -30446855.25 -30446855.11 -30446854.97 0.1879 0.0603

Saturn -88072-10-08 17:15 J -30446593.91 -30446593.78 -30446593.64 0.0287 0.0178

Venus -88072-11-15 07:25 J -30446556.28 -30446556.19 -30446556.09 0.3756 0.2028

Saturn -88071-01-05 13:39 J -30446505.09 -30446504.93 -30446504.76 0.0287 0.0047

Saturn -88071-04-04 09:35 J -30446416.26 -30446416.10 -30446415.93 0.0287 0.0082

Jupiter -88071-05-05 02:37 J -30446385.51 -30446385.39 -30446385.26 0.0532 0.0127

Saturn -88071-07-02 05:01 J -30446327.40 -30446327.29 -30446327.17 0.0287 0.0208

Jupiter -88071-08-02 12:42 J -30446296.07 -30446295.97 -30446295.86 0.0528 0.0336

Mars -88070-10-19 11:59 J -30445853.12 -30445853.00 -30445852.87 0.1649 0.0313

Moon -88068-08-16 17:30 J -30445185.90 -30445185.77 -30445185.64 0.2588 0.1026

Earth -88068-08-16 18:42 J -30445185.85 -30445185.72 -30445185.59 0.2585 0.0997 *

Venus -88068-11-14 17:59 J -30445095.88 -30445095.75 -30445095.61 0.3613 0.0206

Venus -88066-06-01 03:06 J -30444532.44 -30444532.37 -30444532.30 0.3752 0.2882

Moon -88065-02-18 00:13 J -30444270.55 -30444270.49 -30444270.43 0.2752 0.2332

Earth -88065-02-18 00:56 J -30444270.52 -30444270.46 -30444270.40 0.2749 0.2387 *

Jupiter -88065-07-02 10:32 J -30444135.17 -30444135.06 -30444134.95 0.0495 0.0375

Jupiter -88065-09-30 12:56 J -30444045.12 -30444044.96 -30444044.79 0.0498 0.0127

Mars -88063-06-12 09:20 J -30443425.17 -30443425.11 -30443425.05 0.1871 0.1671

Venus -88062-05-31 17:15 J -30443071.90 -30443071.78 -30443071.65 0.3617 0.1180

Uranus -88061-09-12 10:32 J -30442602.08 -30442602.06 -30442602.04 0.0140 0.0138

Uranus -88061-12-09 14:23 J -30442513.96 -30442513.90 -30442513.82 0.0140 0.0121

Uranus -88060-03-07 18:27 J -30442425.82 -30442425.73 -30442425.64 0.0141 0.0103

Mars -88060-03-10 21:06 J -30442422.75 -30442422.62 -30442422.49 0.1654 0.0216

Uranus -88060-06-03 22:18 J -30442337.68 -30442337.57 -30442337.46 0.0141 0.0085

Uranus -88060-08-31 02:23 J -30442249.52 -30442249.40 -30442249.28 0.0141 0.0067

Uranus -88060-11-27 06:27 J -30442161.36 -30442161.23 -30442161.10 0.0141 0.0048

Jupiter -88059-02-21 06:13 J -30442075.35 -30442075.24 -30442075.12 0.0533 0.0236

Uranus -88059-02-23 10:18 J -30442073.20 -30442073.07 -30442072.92 0.0141 0.0031

Jupiter -88059-05-21 16:03 J -30441985.95 -30441985.83 -30441985.70 0.0529 0.0224

Uranus -88059-05-22 14:37 J -30441985.03 -30441984.89 -30441984.75 0.0141 0.0011

Uranus -88059-08-18 18:42 J -30441896.86 -30441896.72 -30441896.58 0.0141 0.0008

Uranus -88059-11-14 22:47 J -30441808.69 -30441808.55 -30441808.41 0.0142 0.0027

Earth -88058-02-10 16:47 J -30441720.89 -30441720.80 -30441720.71 0.2754 0.1724

Moon -88058-02-10 17:01 J -30441720.89 -30441720.79 -30441720.70 0.2747 0.1668 *

Uranus -88058-02-11 02:51 J -30441720.51 -30441720.38 -30441720.24 0.0142 0.0047

Uranus -88058-05-10 07:11 J -30441632.32 -30441632.20 -30441632.07 0.0142 0.0066

Uranus -88058-08-06 11:15 J -30441544.13 -30441544.03 -30441543.90 0.0142 0.0086

Uranus -88058-11-02 15:49 J -30441455.93 -30441455.84 -30441455.74 0.0142 0.0105

Uranus -88057-01-29 20:08 J -30441367.72 -30441367.66 -30441367.59 0.0142 0.0125

Saturn -88057-04-25 03:35 J -30441281.44 -30441281.35 -30441281.24 0.0272 0.0195

Saturn -88057-07-22 15:49 J -30441192.97 -30441192.84 -30441192.71 0.0272 0.0105

Saturn -88057-10-19 04:03 J -30441104.47 -30441104.33 -30441104.19 0.0272 0.0015

Venus -88057-12-14 16:18 J -30441047.92 -30441047.82 -30441047.71 0.3621 0.2129

Saturn -88056-01-15 16:32 J -30441015.95 -30441015.81 -30441015.68 0.0272 0.0077

Saturn -88056-04-14 05:01 J -30440927.40 -30440927.29 -30440927.17 0.0272 0.0171

Saturn -88056-07-11 17:59 J -30440838.78 -30440838.75 -30440838.72 0.0272 0.0265

Moon -88055-08-19 18:42 J -30440434.85 -30440434.72 -30440434.58 0.2592 0.0573

Earth -88055-08-19 19:25 J -30440434.83 -30440434.69 -30440434.55 0.2586 0.0690 *

Venus -88054-09-08 18:42 J -30440049.78 -30440049.72 -30440049.66 0.3779 0.3120

Jupiter -88053-07-19 11:59 J -30439735.18 -30439735.00 -30439734.83 0.0497 0.0010

Jupiter -88053-10-17 13:11 J -30439644.97 -30439644.95 -30439644.92 0.0500 0.0493

Mars -88052-10-09 08:23 J -30439288.23 -30439288.15 -30439288.08 0.1893 0.1585

Venus -88051-06-30 14:51 J -30439023.95 -30439023.88 -30439023.81 0.3625 0.3032

Mars -88051-08-01 06:13 J -30438992.35 -30438992.24 -30438992.12 0.1660 0.0737

Mars -88049-07-06 18:13 J -30438286.80 -30438286.74 -30438286.68 0.1640 0.1429

Venus -88048-03-24 12:56 J -30438026.04 -30438025.96 -30438025.88 0.3776 0.2418

Jupiter -88048-12-10 09:49 J -30437765.19 -30437765.09 -30437764.99 0.0533 0.0346

Jupiter -88047-03-09 19:25 J -30437675.82 -30437675.69 -30437675.55 0.0530 0.0113

Moon -88045-02-13 12:27 J -30436970.09 -30436969.98 -30436969.86 0.2748 0.0417

Earth -88045-02-13 13:11 J -30436970.07 -30436969.95 -30436969.84 0.2753 0.0289 *

Venus -88043-10-08 07:11 J -30436002.30 -30436002.20 -30436002.10 0.3773 0.1701

Saturn -88042-02-25 15:20 J -30435861.97 -30435861.86 -30435861.76 0.0286 0.0225

Mars -88042-03-01 09:06 J -30435858.26 -30435858.12 -30435857.98 0.1886 0.0550

Saturn -88042-05-25 11:44 J -30435773.17 -30435773.01 -30435772.84 0.0286 0.0093

Saturn -88042-08-22 07:54 J -30435684.33 -30435684.17 -30435684.00 0.0286 0.0037

Earth -88042-08-22 19:54 J -30435683.73 -30435683.67 -30435683.61 0.2588 0.2325

Moon -88042-08-22 20:23 J -30435683.70 -30435683.65 -30435683.60 0.2594 0.2402 *

Saturn -88042-11-19 03:35 J -30435595.48 -30435595.35 -30435595.21 0.0286 0.0164

Mars -88042-12-22 15:35 J -30435561.93 -30435561.85 -30435561.77 0.1665 0.1252

Jupiter -88041-05-07 11:15 J -30435425.20 -30435425.03 -30435424.86 0.0497 0.0122

Jupiter -88041-08-05 12:56 J -30435335.06 -30435334.96 -30435334.84 0.0500 0.0376

Mars -88040-11-27 03:06 J -30434856.47 -30434856.37 -30434856.26 0.1644 0.0908

Venus -88037-04-23 01:39 J -30433978.53 -30433978.43 -30433978.32 0.3770 0.0968

Jupiter -88036-09-28 12:56 J -30433455.03 -30433454.96 -30433454.90 0.0533 0.0462

Jupiter -88036-12-26 22:18 J -30433365.71 -30433365.57 -30433365.44 0.0530 0.0015

Jupiter -88035-03-26 08:23 J -30433276.22 -30433276.15 -30433276.08 0.0527 0.0452

Moon -88035-08-14 22:18 J -30433134.62 -30433134.57 -30433134.52 0.2582 0.2407

Earth -88035-08-14 23:30 J -30433134.58 -30433134.52 -30433134.46 0.2583 0.2354 *

Neptune -88034-10-22 10:32 J -30432701.08 -30432701.06 -30432701.00 0.0089 0.0087

Neptune -88033-01-18 13:54 J -30432612.98 -30432612.92 -30432612.83 0.0089 0.0081

Neptune -88033-04-15 17:15 J -30432524.86 -30432524.78 -30432524.67 0.0089 0.0075

Neptune -88033-07-12 20:37 J -30432436.75 -30432436.64 -30432436.51 0.0089 0.0069

Mars -88033-07-21 09:20 J -30432428.25 -30432428.11 -30432427.97 0.1879 0.0511

Neptune -88033-10-08 23:59 J -30432348.62 -30432348.50 -30432348.36 0.0089 0.0063

Neptune -88032-01-05 03:20 J -30432260.50 -30432260.36 -30432260.21 0.0089 0.0057

Moon -88032-02-15 08:37 J -30432219.25 -30432219.14 -30432219.03 0.2749 0.1158

Earth -88032-02-15 09:35 J -30432219.21 -30432219.10 -30432219.00 0.2751 0.1191 *

Neptune -88032-04-03 06:13 J -30432172.37 -30432172.24 -30432172.07 0.0089 0.0052

Neptune -88032-06-30 09:35 J -30432084.24 -30432084.10 -30432083.93 0.0089 0.0046

Neptune -88032-09-26 12:56 J -30431996.12 -30431995.96 -30431995.78 0.0089 0.0040

Venus -88032-11-06 20:23 J -30431954.76 -30431954.65 -30431954.53 0.3766 0.0237

Neptune -88032-12-23 16:18 J -30431907.99 -30431907.82 -30431907.64 0.0089 0.0034

Neptune -88031-03-21 19:39 J -30431819.86 -30431819.68 -30431819.51 0.0089 0.0028

Neptune -88031-06-17 22:32 J -30431731.73 -30431731.56 -30431731.37 0.0089 0.0023

Neptune -88031-09-14 01:54 J -30431643.60 -30431643.42 -30431643.23 0.0089 0.0016

Neptune -88031-12-11 05:15 J -30431555.47 -30431555.28 -30431555.10 0.0089 0.0011

Neptune -88030-03-09 08:23 J -30431467.33 -30431467.15 -30431466.97 0.0089 0.0005

Mars -88030-04-19 12:13 J -30431426.12 -30431425.99 -30431425.87 0.1649 0.0382

Neptune -88030-06-05 11:30 J -30431379.20 -30431379.02 -30431378.83 0.0089 0.0001

Neptune -88030-09-01 14:37 J -30431291.07 -30431290.89 -30431290.70 0.0089 0.0007

Neptune -88030-11-28 17:44 J -30431202.94 -30431202.76 -30431202.57 0.0089 0.0012

Jupiter -88029-02-24 10:03 J -30431115.23 -30431115.08 -30431114.93 0.0496 0.0247

Neptune -88029-02-24 20:51 J -30431114.80 -30431114.63 -30431114.45 0.0088 0.0018

Neptune -88029-05-22 23:59 J -30431026.67 -30431026.50 -30431026.32 0.0088 0.0024

Jupiter -88029-05-24 12:27 J -30431025.13 -30431024.98 -30431024.84 0.0499 0.0254

Neptune -88029-08-19 02:51 J -30430938.54 -30430938.38 -30430938.20 0.0088 0.0030

Neptune -88029-11-15 06:13 J -30430850.41 -30430850.24 -30430850.07 0.0088 0.0035

Neptune -88028-02-11 09:06 J -30430762.27 -30430762.12 -30430761.95 0.0088 0.0041

Neptune -88028-05-10 11:59 J -30430674.14 -30430674.00 -30430673.83 0.0088 0.0047

Neptune -88028-08-06 15:20 J -30430586.00 -30430585.86 -30430585.71 0.0088 0.0052

Saturn -88028-09-12 06:13 J -30430549.32 -30430549.24 -30430549.16 0.0273 0.0218

Neptune -88028-11-02 17:59 J -30430497.87 -30430497.75 -30430497.59 0.0088 0.0058

Venus -88028-11-05 17:15 J -30430494.87 -30430494.78 -30430494.69 0.3603 0.2750

Saturn -88028-12-09 18:13 J -30430460.86 -30430460.74 -30430460.61 0.0273 0.0130

Neptune -88027-01-29 21:20 J -30430409.73 -30430409.61 -30430409.48 0.0088 0.0063

Saturn -88027-03-08 06:27 J -30430372.37 -30430372.23 -30430372.09 0.0273 0.0039

Neptune -88027-04-27 23:59 J -30430321.59 -30430321.50 -30430321.36 0.0088 0.0069

Saturn -88027-06-04 18:56 J -30430283.85 -30430283.71 -30430283.57 0.0273 0.0053

Neptune -88027-07-25 03:06 J -30430233.45 -30430233.37 -30430233.25 0.0088 0.0074

Saturn -88027-09-01 07:25 J -30430195.31 -30430195.19 -30430195.07 0.0273 0.0147

Neptune -88027-10-21 06:27 J -30430145.31 -30430145.23 -30430145.15 0.0088 0.0079

Saturn -88027-11-28 20:08 J -30430106.72 -30430106.66 -30430106.59 0.0273 0.0242

Neptune -88026-01-17 09:06 J -30430057.15 -30430057.12 -30430057.05 0.0088 0.0085

Venus -88026-05-23 15:35 J -30429930.97 -30429930.85 -30429930.74 0.3763 0.0620

Jupiter -88024-10-15 01:11 J -30429055.58 -30429055.45 -30429055.32 0.0531 0.0126

Mars -88024-12-11 10:03 J -30428998.16 -30428998.08 -30428998.00 0.1872 0.1549

Jupiter -88023-01-12 11:01 J -30428966.14 -30428966.04 -30428965.93 0.0528 0.0333

Venus -88022-05-22 17:44 J -30428470.88 -30428470.76 -30428470.64 0.3607 0.1651

Moon -88022-08-17 23:30 J -30428383.66 -30428383.52 -30428383.39 0.2589 0.0837

Earth -88022-08-18 00:27 J -30428383.62 -30428383.48 -30428383.34 0.2585 0.0632 *

Uranus -88021-02-07 14:37 J -30428209.96 -30428209.89 -30428209.80 0.0138 0.0121

Uranus -88021-05-05 21:20 J -30428121.73 -30428121.61 -30428121.49 0.0138 0.0098

Uranus -88021-08-02 03:35 J -30428033.49 -30428033.35 -30428033.20 0.0138 0.0076

Mars -88021-09-08 21:20 J -30427995.74 -30427995.61 -30427995.48 0.1654 0.0138

Uranus -88021-10-29 10:03 J -30427945.24 -30427945.08 -30427944.92 0.0138 0.0054

Venus -88021-12-06 10:32 J -30427907.16 -30427907.06 -30427906.95 0.3759 0.1412

Uranus -88020-01-25 16:18 J -30427856.99 -30427856.82 -30427856.65 0.0138 0.0032

Uranus -88020-04-23 22:32 J -30427768.73 -30427768.56 -30427768.38 0.0137 0.0011

Uranus -88020-07-21 04:47 J -30427680.48 -30427680.30 -30427680.13 0.0137 0.0011

Uranus -88020-10-17 10:47 J -30427592.22 -30427592.05 -30427591.88 0.0137 0.0032

Uranus -88019-01-13 16:47 J -30427503.96 -30427503.80 -30427503.64 0.0137 0.0053

Moon -88019-02-18 05:30 J -30427468.31 -30427468.27 -30427468.23 0.2753 0.2562

Earth -88019-02-18 06:13 J -30427468.26 -30427468.24 -30427468.22 0.2748 0.2695 *

Uranus -88019-04-11 22:32 J -30427415.69 -30427415.56 -30427415.40 0.0137 0.0074

Uranus -88019-07-09 04:32 J -30427327.42 -30427327.31 -30427327.18 0.0137 0.0094

Uranus -88019-10-05 10:32 J -30427239.15 -30427239.06 -30427238.96 0.0137 0.0114

Uranus -88018-01-01 16:32 J -30427150.84 -30427150.81 -30427150.78 0.0136 0.0134

Jupiter -88018-12-13 08:23 J -30426805.26 -30426805.15 -30426805.04 0.0495 0.0378

Jupiter -88017-03-12 11:01 J -30426715.21 -30426715.04 -30426714.88 0.0498 0.0124

Venus -88017-12-05 17:59 J -30426446.88 -30426446.75 -30426446.62 0.3610 0.0577

Venus -88015-06-22 05:59 J -30425883.34 -30425883.25 -30425883.16 0.3755 0.2247

Pluto -88014-01-07 21:49 J -30425683.66 -30425683.59 -30425683.50 0.0060 0.0054

Pluto -88014-04-05 23:01 J -30425595.63 -30425595.54 -30425595.40 0.0060 0.0049

Pluto -88014-07-03 00:56 J -30425507.60 -30425507.46 -30425507.32 0.0060 0.0042

Pluto -88014-09-29 02:08 J -30425419.55 -30425419.41 -30425419.24 0.0060 0.0036

Pluto -88014-12-26 03:20 J -30425331.51 -30425331.36 -30425331.17 0.0060 0.0030

Pluto -88013-03-23 05:01 J -30425243.46 -30425243.29 -30425243.10 0.0060 0.0023

Pluto -88013-06-19 06:27 J -30425155.40 -30425155.23 -30425155.03 0.0061 0.0017

Saturn -88013-07-14 17:30 J -30425129.85 -30425129.77 -30425129.67 0.0287 0.0246

Pluto -88013-09-15 08:08 J -30425067.35 -30425067.16 -30425066.96 0.0061 0.0010

Saturn -88013-10-11 14:23 J -30425041.06 -30425040.90 -30425040.74 0.0287 0.0113

Pluto -88013-12-12 09:35 J -30424979.29 -30424979.10 -30424978.90 0.0061 0.0004

Saturn -88012-01-08 10:32 J -30424952.23 -30424952.06 -30424951.89 0.0287 0.0018

Moon -88012-02-10 22:03 J -30424918.68 -30424918.58 -30424918.48 0.2747 0.1452

Earth -88012-02-10 22:03 J -30424918.68 -30424918.58 -30424918.48 0.2754 0.1426 *

Pluto -88012-03-10 11:01 J -30424891.23 -30424891.04 -30424890.84 0.0061 0.0004

Saturn -88012-04-07 06:13 J -30424863.38 -30424863.24 -30424863.09 0.0287 0.0145

Mars -88012-04-09 08:37 J -30424861.20 -30424861.14 -30424861.07 0.1893 0.1697

Pluto -88012-06-06 12:42 J -30424803.16 -30424802.97 -30424802.78 0.0061 0.0010

Saturn -88012-07-05 01:39 J -30424774.48 -30424774.43 -30424774.38 0.0287 0.0269

Jupiter -88012-08-03 04:03 J -30424745.44 -30424745.33 -30424745.21 0.0533 0.0245

Pluto -88012-09-02 13:54 J -30424715.10 -30424714.92 -30424714.72 0.0061 0.0017

Jupiter -88012-10-31 13:54 J -30424656.04 -30424655.92 -30424655.80 0.0529 0.0215

Pluto -88012-11-29 15:20 J -30424627.03 -30424626.86 -30424626.67 0.0061 0.0024

Mars -88011-01-30 06:27 J -30424565.35 -30424565.23 -30424565.11 0.1660 0.0662

Pluto -88011-02-25 17:01 J -30424538.95 -30424538.79 -30424538.61 0.0061 0.0030

Pluto -88011-05-24 18:13 J -30424450.88 -30424450.74 -30424450.56 0.0061 0.0037

Venus -88011-06-21 17:30 J -30424422.90 -30424422.77 -30424422.64 0.3614 0.0447

Pluto -88011-08-20 19:39 J -30424362.79 -30424362.68 -30424362.52 0.0061 0.0044

Pluto -88011-11-16 21:35 J -30424274.70 -30424274.60 -30424274.48 0.0061 0.0051

Pluto -88010-02-12 22:47 J -30424186.60 -30424186.55 -30424186.46 0.0061 0.0058

Mars -88009-01-05 18:27 J -30423859.78 -30423859.73 -30423859.68 0.1639 0.1508

Venus -88009-01-06 01:39 J -30423859.49 -30423859.43 -30423859.36 0.3750 0.3103

Moon -88009-08-20 00:42 J -30423632.59 -30423632.47 -30423632.34 0.2592 0.1068

Earth -88009-08-20 01:11 J -30423632.58 -30423632.45 -30423632.32 0.2587 0.1036 *

Jupiter -88006-12-30 09:49 J -30422405.26 -30422405.09 -30422404.92 0.0497 0.0004

Venus -88005-01-05 16:47 J -30422398.92 -30422398.80 -30422398.68 0.3618 0.1425

Jupiter -88005-03-29 11:15 J -30422315.06 -30422315.03 -30422315.00 0.0500 0.0490

Mars -88003-08-30 09:35 J -30421431.24 -30421431.10 -30421430.97 0.1886 0.0660

Venus -88003-09-29 22:47 J -30421400.57 -30421400.55 -30421400.52 0.3781 0.3634

Mars -88002-06-22 15:35 J -30421134.93 -30421134.85 -30421134.76 0.1665 0.1181

88TH MILLENNIUM BCE

This is a list of transits of Mercury in the 88th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Jupiter	**-88000-05-22 07:39 J**		**-30420435.28**	**-30420435.18**	**-30420435.08**	**0.0534**	**0.0355**	
Mars	**-88000-05-28 03:20 J**		**-30420429.46**	**-30420429.36**	**-30420429.26**	**0.1644**	**0.0981**	
Venus	**-88000-07-21 15:49 J**		**-30420374.94**	**-30420374.84**	**-30420374.75**	**0.3622**	**0.2362**	
Jupiter	**-88000-08-19 17:15 J**		**-30420345.91**	**-30420345.78**	**-30420345.65**	**0.0530**	**0.0103**	
Moon	**-87999-02-13 17:30 J**		**-30420167.89**	**-30420167.77**	**-30420167.65**	**0.2748**	**0.0035**	
Earth	**-87999-02-13 18:13 J**		**-30420167.86**	**-30420167.74**	**-30420167.62**	**0.2752**	**0.0041**	*****
Saturn	**-87998-01-30 08:51 J**		**-30419817.18**	**-30419817.13**	**-30419817.05**	**0.0272**	**0.0239**	
Saturn	**-87998-04-28 20:51 J**		**-30419728.74**	**-30419728.63**	**-30419728.51**	**0.0272**	**0.0150**	
Saturn	**-87998-07-26 09:06 J**		**-30419640.26**	**-30419640.12**	**-30419639.98**	**0.0272**	**0.0060**	
Saturn	**-87998-10-22 21:20 J**		**-30419551.75**	**-30419551.61**	**-30419551.46**	**0.0272**	**0.0032**	
Saturn	**-87997-01-19 09:49 J**		**-30419463.21**	**-30419463.09**	**-30419462.96**	**0.0272**	**0.0124**	
Venus	**-87997-04-14 17:01 J**		**-30419376.86**	**-30419376.79**	**-30419376.73**	**0.3778**	**0.2950**	
Saturn	**-87997-04-16 22:32 J**		**-30419374.64**	**-30419374.56**	**-30419374.47**	**0.0272**	**0.0218**	
Venus	**-87994-02-04 14:08 J**		**-30418350.96**	**-30418350.91**	**-30418350.85**	**0.3626**	**0.3258**	
Jupiter	**-87994-10-18 08:37 J**		**-30418095.31**	**-30418095.14**	**-30418094.97**	**0.0496**	**0.0130**	
Jupiter	**-87993-01-16 10:18 J**		**-30418005.18**	**-30418005.07**	**-30418004.95**	**0.0499**	**0.0367**	
Mars	**-87993-01-20 10:03 J**		**-30418001.22**	**-30418001.08**	**-30418000.94**	**0.1879**	**0.0385**	
Venus	**-87992-10-29 11:01 J**		**-30417353.13**	**-30417353.04**	**-30417352.95**	**0.3776**	**0.2245**	
Mars	**-87991-10-18 12:27 J**		**-30416999.11**	**-30416998.98**	**-30416998.86**	**0.1649**	**0.0460**	
Moon	**-87989-08-15 04:03 J**		**-30416332.41**	**-30416332.33**	**-30416332.25**	**0.2584**	**0.2159**	

Earth -87989-08-15 05:15 J -30416332.37 -30416332.28 -30416332.19 0.2583 0.1990 *

Jupiter -87988-03-10 11:15 J -30416125.09 -30416125.03 -30416124.96 0.0534 0.0464

Jupiter -87988-06-07 20:51 J -30416035.77 -30416035.63 -30416035.50 0.0531 0.0017

Jupiter -87988-09-05 06:56 J -30415946.28 -30415946.21 -30415946.14 0.0528 0.0454

Moon -87986-02-16 13:54 J -30415417.03 -30415416.92 -30415416.82 0.2750 0.1315

Earth -87986-02-16 14:37 J -30415416.99 -30415416.89 -30415416.79 0.2750 0.1494 *

Venus -87986-05-15 05:30 J -30415329.37 -30415329.27 -30415329.17 0.3772 0.1512

Mars -87984-06-11 10:03 J -30414571.17 -30414571.08 -30414570.98 0.1872 0.1458

Saturn -87983-02-28 12:27 J -30414309.12 -30414308.98 -30414308.83 0.0287 0.0158

Saturn -87983-05-28 08:51 J -30414220.30 -30414220.13 -30414219.96 0.0287 0.0027

Saturn -87983-08-25 04:47 J -30414131.45 -30414131.30 -30414131.14 0.0287 0.0102

Saturn -87983-11-22 00:13 J -30414042.58 -30414042.49 -30414042.39 0.0286 0.0227

Jupiter -87982-08-06 07:39 J -30413785.33 -30413785.18 -30413785.03 0.0496 0.0252

Jupiter -87982-11-04 10:03 J -30413695.23 -30413695.08 -30413694.93 0.0499 0.0248

Mars -87981-03-09 21:20 J -30413568.74 -30413568.61 -30413568.48 0.1654 0.0070

Venus -87981-11-27 23:59 J -30413305.61 -30413305.50 -30413305.39 0.3769 0.0769

Earth -87979-02-09 06:56 J -30412867.25 -30412867.21 -30412867.17 0.2755 0.2555

Moon -87979-02-09 07:25 J -30412867.24 -30412867.19 -30412867.14 0.2749 0.2464 *

Uranus -87977-10-02 17:44 J -30411900.79 -30411900.76 -30411900.72 0.0140 0.0135

Uranus -87977-12-29 21:20 J -30411812.67 -30411812.61 -30411812.52 0.0140 0.0118

Jupiter -87976-03-26 23:44 J -30411725.64 -30411725.51 -30411725.38 0.0531 0.0126

Uranus -87976-03-28 01:25 J -30411724.53 -30411724.44 -30411724.33 0.0141 0.0100

Uranus -87976-06-24 05:15 J -30411636.38 -30411636.28 -30411636.15 0.0141 0.0082

Jupiter -87976-06-24 09:35 J -30411636.20 -30411636.10 -30411635.99 0.0528 0.0334 *

Moon -87976-08-18 05:15 J -30411581.42 -30411581.28 -30411581.14 0.2589 0.0307

Earth -87976-08-18 06:13 J -30411581.38 -30411581.24 -30411581.09 0.2585 0.0284 *

Uranus -87976-09-20 09:35 J -30411548.23 -30411548.10 -30411547.98 0.0141 0.0063

Uranus -87976-12-17 13:25 J -30411460.07 -30411459.94 -30411459.80 0.0141 0.0045

Uranus -87975-03-15 17:30 J -30411371.90 -30411371.77 -30411371.63 0.0141 0.0027

Uranus -87975-06-11 21:49 J -30411283.74 -30411283.59 -30411283.45 0.0141 0.0009

Venus -87975-06-13 18:56 J -30411281.83 -30411281.71 -30411281.60 0.3765 0.0143

Uranus -87975-09-08 01:54 J -30411195.57 -30411195.42 -30411195.28 0.0141 0.0012

Uranus -87975-12-05 05:59 J -30411107.39 -30411107.25 -30411107.11 0.0142 0.0031

Uranus -87974-03-03 10:03 J -30411019.21 -30411019.08 -30411018.94 0.0142 0.0050

Uranus -87974-05-30 14:23 J -30410931.02 -30410930.90 -30410930.77 0.0142 0.0070

Uranus -87974-08-26 18:42 J -30410842.83 -30410842.72 -30410842.61 0.0142 0.0089

Uranus -87974-11-22 22:47 J -30410754.63 -30410754.55 -30410754.45 0.0142 0.0110

Uranus -87973-02-19 03:06 J -30410666.42 -30410666.37 -30410666.30 0.0142 0.0130

Mars -87973-10-08 08:51 J -30410434.17 -30410434.13 -30410434.08 0.1893 0.1793

Mars -87972-07-31 06:42 J -30410138.34 -30410138.22 -30410138.10 0.1659 0.0586

Venus -87971-06-12 17:01 J -30409821.89 -30409821.79 -30409821.69 0.3604 0.2477

Jupiter -87970-05-25 06:27 J -30409475.34 -30409475.23 -30409475.12 0.0495 0.0378

Mars -87970-07-06 18:27 J -30409432.75 -30409432.73 -30409432.70 0.1639 0.1586

Jupiter -87970-08-23 09:06 J -30409385.28 -30409385.12 -30409384.95 0.0498 0.0126

Venus -87970-12-28 13:54 J -30409258.03 -30409257.92 -30409257.81 0.3761 0.0808

Saturn -87969-06-18 11:01 J -30409085.06 -30409085.04 -30409085.00 0.0273 0.0265

Saturn -87969-09-14 23:01 J -30408996.64 -30408996.54 -30408996.43 0.0273 0.0177

Saturn -87969-12-12 11:15 J -30408908.16 -30408908.03 -30408907.90 0.0273 0.0087

Saturn -87968-03-10 23:30 J -30408819.66 -30408819.52 -30408819.38 0.0273 0.0005

Saturn -87968-06-07 11:59 J -30408731.13 -30408731.00 -30408730.87 0.0273 0.0097

Saturn -87968-09-04 00:42 J -30408642.57 -30408642.47 -30408642.37 0.0273 0.0191

Moon -87966-02-12 02:51 J -30408116.48 -30408116.38 -30408116.27 0.2747 0.1144

Earth -87966-02-12 03:06 J -30408116.48 -30408116.37 -30408116.26 0.2754 0.1133 *

Venus -87966-12-27 17:30 J -30407797.89 -30407797.77 -30407797.64 0.3608 0.1378

Jupiter -87964-01-13 02:37 J -30407415.50 -30407415.39 -30407415.27 0.0532 0.0244

Jupiter -87964-04-12 12:27 J -30407326.10 -30407325.98 -30407325.86 0.0529 0.0215

Venus -87964-07-13 09:06 J -30407234.22 -30407234.12 -30407234.02 0.3758 0.1622

Mars -87963-02-28 09:49 J -30407004.22 -30407004.09 -30407003.95 0.1887 0.0769

Moon -87963-08-21 06:56 J -30406830.33 -30406830.21 -30406830.09 0.2593 0.1306

Earth -87963-08-21 06:56 J -30406830.33 -30406830.21 -30406830.09 0.2587 0.1392 *

Mars -87963-12-21 15:49 J -30406707.93 -30406707.84 -30406707.75 0.1665 0.1107

Mars -87961-11-26 03:35 J -30406002.45 -30406002.35 -30406002.25 0.1644 0.1061

Venus -87960-07-12 17:30 J -30405773.90 -30405773.77 -30405773.63 0.3611 0.0335

Venus -87958-01-27 04:32 J -30405210.39 -30405210.31 -30405210.22 0.3754 0.2464

Jupiter -87958-06-11 07:39 J -30405075.35 -30405075.18 -30405075.00 0.0497 0.0013

Jupiter -87958-09-09 09:06 J -30404985.15 -30404985.12 -30404985.08 0.0500 0.0488

Venus -87954-01-26 17:15 J -30403749.91 -30403749.78 -30403749.65 0.3615 0.0704

Saturn -87954-07-18 14:37 J -30403577.02 -30403576.89 -30403576.75 0.0287 0.0181

Mars -87954-07-21 10:32 J -30403574.21 -30403574.06 -30403573.92 0.1879 0.0282

Saturn -87954-10-15 11:15 J -30403488.20 -30403488.03 -30403487.86 0.0287 0.0049

Saturn -87953-01-12 07:11 J -30403399.36 -30403399.20 -30403399.04 0.0287 0.0081

Moon -87953-02-14 22:32 J -30403365.67 -30403365.56 -30403365.44 0.2748 0.0198

Earth -87953-02-14 23:30 J -30403365.64 -30403365.52 -30403365.41 0.2752 0.0334 *

Saturn -87953-04-10 02:37 J -30403310.50 -30403310.39 -30403310.27 0.0287 0.0207

Mars -87953-05-13 00:56 J -30403277.48 -30403277.46 -30403277.43 0.1670 0.1631

Venus -87953-08-12 00:13 J -30403186.54 -30403186.49 -30403186.43 0.3749 0.3334

Jupiter -87953-11-01 05:30 J -30403105.36 -30403105.27 -30403105.17 0.0534 0.0364

Jupiter -87952-01-29 15:06 J -30403016.00 -30403015.87 -30403015.73 0.0530 0.0096

Neptune -87952-04-24 19:11 J -30402930.73 -30402930.70 -30402930.65 0.0089 0.0085

Neptune -87952-07-21 20:37 J -30402842.68 -30402842.64 -30402842.58 0.0089 0.0081

Neptune -87952-10-17 22:03 J -30402754.64 -30402754.58 -30402754.50 0.0089 0.0077

Neptune -87951-01-13 23:30 J -30402666.59 -30402666.52 -30402666.43 0.0089 0.0073

Neptune -87951-04-12 01:11 J -30402578.54 -30402578.45 -30402578.37 0.0089 0.0068

Mars -87951-04-18 12:27 J -30402572.10 -30402571.98 -30402571.86 0.1649 0.0531

Neptune -87951-07-09 02:37 J -30402490.48 -30402490.39 -30402490.30 0.0089 0.0064

Neptune -87951-10-05 03:49 J -30402402.43 -30402402.34 -30402402.23 0.0089 0.0060

Neptune -87950-01-01 05:15 J -30402314.37 -30402314.28 -30402314.16 0.0089 0.0056

Neptune -87950-03-30 06:42 J -30402226.32 -30402226.22 -30402226.10 0.0089 0.0052

Neptune -87950-06-26 08:23 J -30402138.26 -30402138.15 -30402138.03 0.0089 0.0047

Neptune -87950-09-22 09:49 J -30402050.21 -30402050.09 -30402049.97 0.0089 0.0043

Neptune -87950-12-19 11:15 J -30401962.15 -30401962.03 -30401961.90 0.0089 0.0039

Neptune -87949-03-16 12:42 J -30401874.09 -30401873.97 -30401873.84 0.0089 0.0035

Neptune -87949-06-12 14:23 J -30401786.03 -30401785.90 -30401785.77 0.0089 0.0030

Venus -87949-08-11 16:18 J -30401725.93 -30401725.82 -30401725.70 0.3619 0.1666

Neptune -87949-09-08 15:49 J -30401697.97 -30401697.84 -30401697.71 0.0089 0.0026

Neptune -87949-12-05 17:15 J -30401609.91 -30401609.78 -30401609.65 0.0089 0.0022

Neptune -87948-03-03 18:42 J -30401521.85 -30401521.72 -30401521.58 0.0089 0.0017

Neptune -87948-05-30 20:08 J -30401433.79 -30401433.66 -30401433.52 0.0089 0.0013

Neptune -87948-08-26 21:49 J -30401345.73 -30401345.59 -30401345.45 0.0089 0.0009

Neptune -87948-11-22 23:15 J -30401257.67 -30401257.53 -30401257.39 0.0089 0.0004

Neptune -87947-02-19 00:42 J -30401169.60 -30401169.47 -30401169.33 0.0089 0.0002

Neptune -87947-05-18 02:23 J -30401081.54 -30401081.40 -30401081.26 0.0089 0.0005

Neptune -87947-08-14 03:49 J -30400993.48 -30400993.34 -30400993.20 0.0089 0.0009

Neptune -87947-11-10 05:15 J -30400905.41 -30400905.28 -30400905.14 0.0089 0.0013

Neptune -87946-02-06 06:42 J -30400817.35 -30400817.22 -30400817.08 0.0089 0.0018

Jupiter -87946-03-30 06:42 J -30400765.39 -30400765.22 -30400765.05 0.0496 0.0130

Neptune -87946-05-05 08:23 J -30400729.28 -30400729.15 -30400729.01 0.0089 0.0022

Venus -87946-05-06 21:06 J -30400727.67 -30400727.62 -30400727.58 0.3781 0.3467

Jupiter -87946-06-28 08:23 J -30400675.26 -30400675.15 -30400675.03 0.0499 0.0366

Neptune -87946-08-01 09:49 J -30400641.22 -30400641.09 -30400640.95 0.0089 0.0027

Neptune -87946-10-28 11:30 J -30400553.15 -30400553.02 -30400552.89 0.0089 0.0031

Neptune -87945-01-24 12:56 J -30400465.08 -30400464.96 -30400464.83 0.0089 0.0035

Neptune -87945-04-21 14:23 J -30400377.01 -30400376.90 -30400376.76 0.0089 0.0040

Neptune -87945-07-18 16:03 J -30400288.95 -30400288.83 -30400288.70 0.0089 0.0044

Neptune -87945-10-14 17:30 J -30400200.88 -30400200.77 -30400200.64 0.0089 0.0049

Mars -87945-12-10 10:47 J -30400144.15 -30400144.05 -30400143.94 0.1872 0.1334

Neptune -87944-01-10 19:11 J -30400112.81 -30400112.70 -30400112.58 0.0089 0.0053

Neptune -87944-04-08 20:37 J -30400024.73 -30400024.64 -30400024.52 0.0089 0.0058

Neptune -87944-07-05 22:18 J -30399936.66 -30399936.57 -30399936.46 0.0089 0.0062

Neptune -87944-10-02 00:13 J -30399848.59 -30399848.49 -30399848.40 0.0089 0.0066

Neptune -87944-12-29 01:25 J -30399760.51 -30399760.44 -30399760.34 0.0089 0.0071

Venus -87943-02-25 15:06 J -30399701.96 -30399701.87 -30399701.78 0.3623 0.2595

Neptune -87943-03-27 03:20 J -30399672.43 -30399672.36 -30399672.29 0.0089 0.0075

Neptune -87943-06-23 04:47 J -30399584.35 -30399584.30 -30399584.23 0.0089 0.0080

Moon -87943-08-16 09:49 J -30399530.19 -30399530.09 -30399529.98 0.2585 0.1745

Earth -87943-08-16 11:15 J -30399530.14 -30399530.03 -30399529.92 0.2584 0.1627 *

Neptune -87943-09-19 06:27 J -30399496.27 -30399496.23 -30399496.18 0.0089 0.0084

Neptune -87943-12-16 08:08 J -30399408.16 -30399408.16 -30399408.16 0.0089 0.0089

Mars -87942-09-08 21:35 J -30399141.73 -30399141.60 -30399141.47 0.1654 0.0016

Jupiter -87941-08-20 09:06 J -30398795.17 -30398795.12 -30398795.06 0.0534 0.0474

Jupiter -87941-11-17 18:42 J -30398705.86 -30398705.72 -30398705.59 0.0531 0.0022

Venus -87941-11-19 15:06 J -30398703.95 -30398703.87 -30398703.80 0.3778 0.2782

Jupiter -87940-02-15 04:47 J -30398616.37 -30398616.30 -30398616.23 0.0528 0.0445

Moon -87940-02-16 18:56 J -30398614.80 -30398614.71 -30398614.62 0.2752 0.1770

Earth -87940-02-16 19:54 J -30398614.76 -30398614.67 -30398614.58 0.2750 0.1800 *

Saturn -87939-02-02 02:08 J -30398264.51 -30398264.41 -30398264.31 0.0272 0.0195

Saturn -87939-05-01 14:08 J -30398176.04 -30398175.91 -30398175.78 0.0272 0.0106

Saturn -87939-07-29 02:23 J -30398087.54 -30398087.40 -30398087.26 0.0272 0.0016

Saturn -87939-10-25 14:37 J -30397999.02 -30397998.89 -30397998.75 0.0272 0.0077

Saturn -87938-01-22 03:20 J -30397910.47 -30397910.36 -30397910.25 0.0272 0.0170

Saturn -87938-04-20 16:03 J -30397821.86 -30397821.83 -30397821.79 0.0272 0.0265

Venus -87938-09-11 13:25 J -30397677.97 -30397677.94 -30397677.91 0.3627 0.3482

Uranus -87938-12-01 16:03 J -30397596.84 -30397596.83 -30397596.78 0.0138 0.0137

Uranus -87937-02-27 22:47 J -30397508.64 -30397508.55 -30397508.44 0.0138 0.0114

Uranus -87937-05-26 05:15 J -30397420.40 -30397420.28 -30397420.14 0.0138 0.0091

Uranus -87937-08-22 11:30 J -30397332.16 -30397332.02 -30397331.85 0.0138 0.0069

Uranus -87937-11-18 17:59 J -30397243.91 -30397243.75 -30397243.58 0.0138 0.0047

Uranus -87936-02-15 00:27 J -30397155.65 -30397155.48 -30397155.31 0.0138 0.0025

Uranus -87936-05-14 06:42 J -30397067.40 -30397067.22 -30397067.05 0.0137 0.0003

Uranus -87936-08-10 12:42 J -30396979.14 -30396978.97 -30396978.79 0.0137 0.0019

Uranus -87936-11-06 18:56 J -30396890.88 -30396890.71 -30396890.54 0.0137 0.0039

Uranus -87935-02-03 00:56 J -30396802.61 -30396802.46 -30396802.30 0.0137 0.0060

Uranus -87935-05-02 06:42 J -30396714.35 -30396714.22 -30396714.07 0.0137 0.0081

Venus -87935-06-05 09:20 J -30396680.20 -30396680.11 -30396680.02 0.3775 0.2066

Uranus -87935-07-29 12:27 J -30396626.08 -30396625.98 -30396625.85 0.0137 0.0102

Uranus -87935-10-25 18:27 J -30396537.79 -30396537.73 -30396537.64 0.0137 0.0122

Jupiter -87934-01-16 05:01 J -30396455.43 -30396455.29 -30396455.13 0.0496 0.0259

Jupiter -87934-04-16 07:25 J -30396365.34 -30396365.19 -30396365.04 0.0498 0.0241

Earth -87933-02-10 12:13 J -30396065.06 -30396064.99 -30396064.93 0.2755 0.2264

Moon -87933-02-10 12:27 J -30396065.04 -30396064.98 -30396064.91 0.2748 0.2259 *

Mars -87932-01-29 06:42 J -30395711.34 -30395711.22 -30395711.10 0.1659 0.0515

Moon -87930-08-19 11:15 J -30394779.17 -30394779.03 -30394778.89 0.2589 0.0077

Earth -87930-08-19 12:13 J -30394779.14 -30394778.99 -30394778.85 0.2585 0.0097 *

Venus -87930-12-20 03:35 J -30394656.45 -30394656.35 -30394656.24 0.3771 0.1337

Jupiter -87929-09-05 22:03 J -30394395.70 -30394395.58 -30394395.45 0.0532 0.0128

Jupiter -87929-12-04 08:08 J -30394306.26 -30394306.16 -30394306.05 0.0529 0.0334

Saturn -87925-12-04 12:42 J -30392845.07 -30392844.97 -30392844.86 0.0287 0.0227

Saturn -87924-03-03 09:20 J -30392756.27 -30392756.11 -30392755.95 0.0287 0.0094

Saturn -87924-05-31 05:30 J -30392667.44 -30392667.27 -30392667.10 0.0287 0.0036

Venus -87924-07-04 22:18 J -30392632.68 -30392632.57 -30392632.46 0.3768 0.0574

Saturn -87924-08-28 01:11 J -30392578.58 -30392578.45 -30392578.31 0.0287 0.0163

Mars -87924-08-29 10:18 J -30392577.20 -30392577.07 -30392576.94 0.1887 0.0874

Mars -87923-06-21 15:49 J -30392280.94 -30392280.84 -30392280.74 0.1665 0.1037

Jupiter -87923-11-04 04:18 J -30392145.43 -30392145.32 -30392145.21 0.0495 0.0381

Jupiter -87922-02-02 06:56 J -30392055.38 -30392055.21 -30392055.04 0.0498 0.0120

Pluto -87921-05-10 14:37 J -30391591.91 -30391591.89 -30391591.86 0.0085 0.0083

Mars -87921-05-27 03:35 J -30391575.44 -30391575.35 -30391575.26 0.1644 0.1132

Pluto -87921-08-06 15:49 J -30391503.90 -30391503.84 -30391503.75 0.0085 0.0071

Pluto -87921-11-02 17:15 J -30391415.87 -30391415.78 -30391415.68 0.0084 0.0058

Pluto -87920-01-29 18:42 J -30391327.83 -30391327.72 -30391327.61 0.0084 0.0046

Moon -87920-02-12 07:54 J -30391314.28 -30391314.17 -30391314.06 0.2747 0.0861

Earth -87920-02-12 08:08 J -30391314.27 -30391314.16 -30391314.04 0.2753 0.0847 *

Pluto -87920-04-27 19:54 J -30391239.79 -30391239.67 -30391239.54 0.0084 0.0034

Venus -87920-07-03 16:03 J -30391172.87 -30391172.83 -30391172.78 0.3601 0.3329

Pluto -87920-07-24 21:20 J -30391151.74 -30391151.61 -30391151.48 0.0084 0.0022

Pluto -87920-10-20 22:32 J -30391063.69 -30391063.56 -30391063.43 0.0084 0.0010

Pluto -87919-01-16 23:44 J -30390975.64 -30390975.51 -30390975.37 0.0084 0.0004

Pluto -87919-04-15 00:56 J -30390887.58 -30390887.46 -30390887.32 0.0084 0.0015

Pluto -87919-07-12 02:23 J -30390799.53 -30390799.40 -30390799.27 0.0084 0.0026

Pluto -87919-10-08 03:35 J -30390711.47 -30390711.35 -30390711.23 0.0083 0.0038

Pluto -87918-01-04 04:47 J -30390623.40 -30390623.30 -30390623.19 0.0083 0.0049

Venus -87918-01-18 17:15 J -30390608.90 -30390608.78 -30390608.67 0.3764 0.0242

Pluto -87918-04-02 05:59 J -30390535.33 -30390535.25 -30390535.15 0.0083 0.0061

Pluto -87918-06-29 07:11 J -30390447.26 -30390447.20 -30390447.13 0.0083 0.0072

Jupiter -87917-06-25 01:25 J -30390085.56 -30390085.44 -30390085.33 0.0532 0.0242

Moon -87917-08-21 12:42 J -30390028.07 -30390027.97 -30390027.87 0.2594 0.1828

Earth -87917-08-21 12:42 J -30390028.07 -30390027.97 -30390027.86 0.2587 0.1737 *

Jupiter -87917-09-22 11:01 J -30389996.16 -30389996.04 -30389995.92 0.0529 0.0216

Venus -87914-01-17 17:01 J -30389148.90 -30389148.79 -30389148.69 0.3605 0.2199

Mars -87914-01-19 10:47 J -30389147.19 -30389147.05 -30389146.90 0.1880 0.0177

Mars -87914-11-12 01:11 J -30388850.49 -30388850.45 -30388850.41 0.1670 0.1554

Venus -87913-08-03 12:13 J -30388585.10 -30388584.99 -30388584.88 0.3760 0.1013

Mars -87912-10-17 12:42 J -30388145.09 -30388144.97 -30388144.85 0.1649 0.0611

Jupiter -87911-11-21 05:59 J -30387745.42 -30387745.25 -30387745.07 0.0497 0.0008

Jupiter -87910-02-19 07:39 J -30387655.21 -30387655.18 -30387655.15 0.0500 0.0491

Saturn -87910-06-22 03:49 J -30387532.41 -30387532.34 -30387532.26 0.0273 0.0225

Saturn -87910-09-18 15:49 J -30387443.96 -30387443.84 -30387443.71 0.0273 0.0136

Saturn -87910-12-16 04:03 J -30387355.47 -30387355.33 -30387355.19 0.0273 0.0045

Saturn -87909-03-13 16:18 J -30387266.96 -30387266.82 -30387266.68 0.0273 0.0048

Saturn -87909-06-10 04:47 J -30387178.42 -30387178.30 -30387178.17 0.0273 0.0141

Venus -87909-08-02 17:15 J -30387124.90 -30387124.78 -30387124.65 0.3608 0.1108

Saturn -87909-09-06 17:44 J -30387089.83 -30387089.76 -30387089.69 0.0273 0.0235

Moon -87907-02-15 03:49 J -30386563.46 -30386563.34 -30386563.23 0.2748 0.0556

Earth -87907-02-15 04:32 J -30386563.42 -30386563.31 -30386563.19 0.2752 0.0618 *

Venus -87907-02-17 07:39 J -30386561.28 -30386561.18 -30386561.09 0.3756 0.1841

Jupiter -87905-04-13 04:32 J -30385775.41 -30385775.31 -30385775.22 0.0533 0.0358

Mars -87905-06-10 11:15 J -30385717.14 -30385717.03 -30385716.92 0.1872 0.1223

Jupiter -87905-07-11 13:54 J -30385686.05 -30385685.92 -30385685.79 0.0530 0.0099

Venus -87903-02-16 17:15 J -30385100.92 -30385100.78 -30385100.65 0.3612 0.0077

Mars -87902-03-09 21:49 J -30384714.72 -30384714.59 -30384714.47 0.1654 0.0102

Venus -87902-09-03 03:06 J -30384537.45 -30384537.37 -30384537.29 0.3752 0.2686

Jupiter -87899-09-09 04:32 J -30383435.47 -30383435.31 -30383435.14 0.0496 0.0132

Jupiter -87899-12-08 06:27 J -30383345.34 -30383345.23 -30383345.11 0.0499 0.0365

Venus -87898-09-02 16:47 J -30383076.93 -30383076.80 -30383076.68 0.3616 0.0951

Moon -87897-08-16 15:35 J -30382727.96 -30382727.85 -30382727.73 0.2586 0.1407

Earth -87897-08-16 17:01 J -30382727.91 -30382727.79 -30382727.67 0.2584 0.1267 *

Venus -87896-03-18 23:01 J -30382513.58 -30382513.54 -30382513.51 0.3748 0.3563

Saturn -87895-04-23 14:23 J -30382112.98 -30382112.90 -30382112.81 0.0287 0.0251

Saturn -87895-07-21 11:01 J -30382024.19 -30382024.04 -30382023.88 0.0287 0.0118

Saturn -87895-10-18 07:25 J -30381935.36 -30381935.19 -30381935.02 0.0287 0.0015

Saturn -87894-01-15 03:20 J -30381846.50 -30381846.36 -30381846.21 0.0287 0.0142

Moon -87894-02-18 00:13 J -30381812.57 -30381812.49 -30381812.41 0.2753 0.1957

Earth -87894-02-18 00:56 J -30381812.53 -30381812.46 -30381812.38 0.2750 0.2111 *

Saturn -87894-04-13 22:32 J -30381757.61 -30381757.56 -30381757.49 0.0287 0.0267

Jupiter -87893-01-31 07:11 J -30381465.25 -30381465.20 -30381465.14 0.0534 0.0479

Jupiter -87893-04-29 16:32 J -30381375.94 -30381375.81 -30381375.67 0.0531 0.0030

Jupiter -87893-07-28 02:51 J -30381286.45 -30381286.38 -30381286.31 0.0528 0.0439

Mars -87893-07-30 06:42 J -30381284.34 -30381284.22 -30381284.09 0.1659 0.0445

Uranus -87893-10-23 01:11 J -30381199.49 -30381199.45 -30381199.39 0.0140 0.0130

Uranus -87892-01-19 05:15 J -30381111.36 -30381111.28 -30381111.19 0.0140 0.0112

Venus -87892-03-18 15:49 J -30381052.95 -30381052.84 -30381052.73 0.3620 0.1908

Uranus -87892-04-17 09:06 J -30381023.22 -30381023.12 -30381023.01 0.0141 0.0094

Uranus -87892-07-14 13:11 J -30380935.07 -30380934.95 -30380934.83 0.0141 0.0076

Uranus -87892-10-10 17:01 J -30380846.91 -30380846.79 -30380846.65 0.0141 0.0058

Uranus -87891-01-06 21:06 J -30380758.75 -30380758.62 -30380758.48 0.0141 0.0039

Uranus -87891-04-05 01:11 J -30380670.59 -30380670.45 -30380670.31 0.0141 0.0021

Uranus -87891-07-02 05:15 J -30380582.42 -30380582.28 -30380582.13 0.0141 0.0003

Uranus -87891-09-28 09:20 J -30380494.25 -30380494.11 -30380493.96 0.0141 0.0018

Uranus -87891-12-25 13:39 J -30380406.07 -30380405.93 -30380405.79 0.0142 0.0036

Uranus -87890-03-23 17:44 J -30380317.89 -30380317.76 -30380317.63 0.0142 0.0056

Uranus -87890-06-19 22:03 J -30380229.70 -30380229.58 -30380229.46 0.0142 0.0075

Uranus -87890-09-16 02:08 J -30380141.51 -30380141.41 -30380141.30 0.0142 0.0095

Venus -87890-12-11 18:56 J -30380054.76 -30380054.71 -30380054.66 0.3780 0.3302

Uranus -87890-12-13 06:27 J -30380053.30 -30380053.23 -30380053.14 0.0142 0.0115

Uranus -87889-03-10 10:47 J -30379965.08 -30379965.05 -30379965.00 0.0142 0.0135

Earth -87887-02-10 17:15 J -30379262.86 -30379262.78 -30379262.70 0.2755 0.1970

Moon -87887-02-10 17:30 J -30379262.85 -30379262.77 -30379262.68 0.2748 0.1876 *

Jupiter -87887-06-28 03:20 J -30379125.50 -30379125.36 -30379125.20 0.0495 0.0257

Jupiter -87887-09-26 05:44 J -30379035.41 -30379035.26 -30379035.11 0.0498 0.0242

Venus -87887-10-02 14:23 J -30379028.98 -30379028.90 -30379028.82 0.3624 0.2827

Mars -87884-02-27 10:47 J -30378150.18 -30378150.05 -30378149.93 0.1887 0.0983

Venus -87884-06-26 13:11 J -30378031.03 -30378030.95 -30378030.87 0.3777 0.2605

Moon -87884-08-19 17:15 J -30377976.92 -30377976.78 -30377976.64 0.2591 0.0414

Earth -87884-08-19 17:59 J -30377976.89 -30377976.75 -30377976.61 0.2586 0.0434 *

Mars -87884-12-20 16:03 J -30377853.94 -30377853.83 -30377853.73 0.1664 0.0965

Mars -87882-11-26 03:49 J -30377148.43 -30377148.34 -30377148.26 0.1644 0.1211

Jupiter -87881-02-16 20:08 J -30377065.79 -30377065.66 -30377065.53 0.0532 0.0136

Jupiter -87881-05-16 05:59 J -30376976.35 -30376976.25 -30376976.14 0.0529 0.0326

Saturn -87881-11-08 07:11 J -30376800.27 -30376800.20 -30376800.14 0.0272 0.0241

Saturn -87880-02-04 18:56 J -30376711.82 -30376711.71 -30376711.59 0.0272 0.0153

Saturn -87880-05-04 06:56 J -30376623.34 -30376623.21 -30376623.07 0.0272 0.0064

Saturn -87880-07-31 19:11 J -30376534.84 -30376534.70 -30376534.55 0.0272 0.0028

Saturn -87880-10-28 07:39 J -30376446.31 -30376446.18 -30376446.05 0.0272 0.0120

Saturn -87879-01-24 20:23 J -30376357.74 -30376357.65 -30376357.56 0.0272 0.0214

Venus -87878-01-10 07:25 J -30376007.28 -30376007.19 -30376007.09 0.3774 0.1885

Jupiter -87875-04-16 01:54 J -30374815.53 -30374815.42 -30374815.31 0.0495 0.0386

Jupiter -87875-07-15 04:32 J -30374725.48 -30374725.31 -30374725.14 0.0498 0.0116

Mars -87875-07-20 11:15 J -30374720.17 -30374720.03 -30374719.88 0.1880 0.0078

Moon -87874-02-13 12:56 J -30374512.08 -30374511.96 -30374511.85 0.2747 0.0642

Earth -87874-02-13 13:25 J -30374512.06 -30374511.94 -30374511.83 0.2753 0.0543 *

Mars -87874-05-13 01:11 J -30374423.50 -30374423.45 -30374423.39 0.1670 0.1487

Venus -87873-07-26 01:54 J -30373983.52 -30373983.42 -30373983.31 0.3770 0.1141

Mars -87872-04-17 12:42 J -30373718.09 -30373717.97 -30373717.85 0.1649 0.0683

Moon -87871-08-22 18:42 J -30373225.81 -30373225.72 -30373225.64 0.2594 0.2024

Earth -87871-08-22 18:42 J -30373225.81 -30373225.72 -30373225.64 0.2588 0.2091 *

Jupiter -87870-12-05 23:44 J -30372755.63 -30372755.51 -30372755.39 0.0533 0.0244

Jupiter -87869-03-04 09:35 J -30372666.23 -30372666.10 -30372665.98 0.0530 0.0216

Neptune -87869-07-18 07:54 J -30372530.19 -30372530.17 -30372530.11 0.0089 0.0087

Neptune -87869-10-14 11:15 J -30372442.09 -30372442.03 -30372441.94 0.0089 0.0081

Neptune -87868-01-10 14:37 J -30372353.98 -30372353.89 -30372353.78 0.0089 0.0075

Neptune -87868-04-08 17:59 J -30372265.86 -30372265.75 -30372265.62 0.0089 0.0069

Neptune -87868-07-05 21:20 J -30372177.73 -30372177.61 -30372177.47 0.0089 0.0063

Neptune -87868-10-02 00:42 J -30372089.61 -30372089.47 -30372089.32 0.0089 0.0057

Neptune -87868-12-29 04:03 J -30372001.48 -30372001.33 -30372001.18 0.0089 0.0051

Venus -87867-02-08 20:37 J -30371959.75 -30371959.64 -30371959.53 0.3767 0.0379

Neptune -87867-03-27 06:56 J -30371913.35 -30371913.21 -30371913.03 0.0089 0.0046

Neptune -87867-06-23 10:18 J -30371825.22 -30371825.07 -30371824.89 0.0089 0.0040

Neptune -87867-09-19 13:39 J -30371737.10 -30371736.93 -30371736.75 0.0089 0.0034

Neptune -87867-12-16 17:01 J -30371648.97 -30371648.79 -30371648.61 0.0089 0.0028

Neptune -87866-03-14 20:08 J -30371560.83 -30371560.66 -30371560.48 0.0089 0.0022

Neptune -87866-06-10 23:15 J -30371472.70 -30371472.53 -30371472.34 0.0089 0.0016

Neptune -87866-09-07 02:37 J -30371384.57 -30371384.39 -30371384.21 0.0089 0.0010

Neptune -87866-12-04 05:44 J -30371296.44 -30371296.26 -30371296.07 0.0088 0.0005

Saturn -87866-12-08 09:06 J -30371292.25 -30371292.12 -30371291.97 0.0287 0.0165

Mars -87866-12-10 11:44 J -30371290.13 -30371290.01 -30371289.90 0.1872 0.1122

Neptune -87865-03-01 08:51 J -30371208.31 -30371208.13 -30371207.94 0.0088 0.0003

Saturn -87865-03-06 05:44 J -30371203.43 -30371203.26 -30371203.09 0.0287 0.0033

Neptune -87865-05-28 11:59 J -30371120.18 -30371120.00 -30371119.81 0.0088 0.0008

Saturn -87865-06-03 01:39 J -30371114.59 -30371114.43 -30371114.27 0.0287 0.0097

Neptune -87865-08-24 15:20 J -30371032.04 -30371031.86 -30371031.68 0.0088 0.0013

Saturn -87865-08-30 21:06 J -30371025.72 -30371025.62 -30371025.51 0.0287 0.0223

Neptune -87865-11-20 18:13 J -30370943.91 -30370943.74 -30370943.55 0.0088 0.0019

Neptune -87864-02-16 21:35 J -30370855.78 -30370855.60 -30370855.43 0.0088 0.0024

Neptune -87864-05-16 00:27 J -30370767.64 -30370767.48 -30370767.30 0.0088 0.0030

Neptune -87864-08-12 03:35 J -30370679.51 -30370679.35 -30370679.18 0.0088 0.0035

Neptune -87864-11-08 06:42 J -30370591.37 -30370591.22 -30370591.05 0.0088 0.0041

Neptune -87863-02-04 09:35 J -30370503.24 -30370503.10 -30370502.93 0.0088 0.0047

Venus -87863-02-07 16:03 J -30370499.90 -30370499.83 -30370499.75 0.3602 0.3040

Jupiter -87863-05-03 03:49 J -30370415.51 -30370415.34 -30370415.16 0.0497 0.0014

Neptune -87863-05-03 12:56 J -30370415.10 -30370414.96 -30370414.81 0.0088 0.0052

Neptune -87863-07-30 15:49 J -30370326.97 -30370326.84 -30370326.69 0.0088 0.0058

Jupiter -87863-08-01 05:30 J -30370325.30 -30370325.27 -30370325.24 0.0500 0.0487

Mars -87863-09-07 21:49 J -30370287.72 -30370287.59 -30370287.46 0.1654 0.0158

Neptune -87863-10-26 18:42 J -30370238.83 -30370238.72 -30370238.58 0.0088 0.0063

Neptune -87862-01-22 21:49 J -30370150.69 -30370150.59 -30370150.47 0.0088 0.0069

Neptune -87862-04-21 01:11 J -30370062.55 -30370062.45 -30370062.36 0.0088 0.0074

Neptune -87862-07-18 03:49 J -30369974.40 -30369974.34 -30369974.25 0.0088 0.0080

Venus -87862-08-25 15:35 J -30369935.96 -30369935.85 -30369935.74 0.3763 0.0412

Neptune -87862-10-14 06:56 J -30369886.25 -30369886.21 -30369886.15 0.0088 0.0085

Moon -87861-02-16 08:51 J -30369761.24 -30369761.13 -30369761.02 0.2750 0.0818

Earth -87861-02-16 09:35 J -30369761.21 -30369761.10 -30369760.98 0.2751 0.0924 *

Venus -87858-08-24 16:47 J -30368475.91 -30368475.80 -30368475.68 0.3606 0.1916

Jupiter -87858-09-24 03:06 J -30368445.47 -30368445.37 -30368445.27 0.0533 0.0356

Jupiter -87858-12-22 12:42 J -30368356.10 -30368355.97 -30368355.84 0.0530 0.0101

Venus -87856-03-10 10:47 J -30367912.16 -30367912.05 -30367911.94 0.3759 0.1227

Uranus -87854-12-22 00:13 J -30366895.54 -30366895.49 -30366895.42 0.0138 0.0129

Mars -87853-01-29 06:56 J -30366857.33 -30366857.21 -30366857.08 0.1659 0.0366

Uranus -87853-03-19 06:42 J -30366807.32 -30366807.22 -30366807.09 0.0138 0.0106

Uranus -87853-06-15 13:25 J -30366719.08 -30366718.94 -30366718.80 0.0138 0.0083

Uranus -87853-09-11 19:54 J -30366630.83 -30366630.67 -30366630.51 0.0138 0.0061

Uranus -87853-12-09 02:08 J -30366542.58 -30366542.41 -30366542.24 0.0138 0.0039

Uranus -87852-03-07 08:23 J -30366454.32 -30366454.15 -30366453.97 0.0138 0.0018

Venus -87852-03-09 17:01 J -30366451.92 -30366451.79 -30366451.65 0.3609 0.0842

Uranus -87852-06-03 14:37 J -30366366.06 -30366365.89 -30366365.71 0.0137 0.0005

Uranus -87852-08-30 20:51 J -30366277.80 -30366277.63 -30366277.46 0.0137 0.0026

Uranus -87852-11-27 02:51 J -30366189.54 -30366189.38 -30366189.21 0.0137 0.0047

Jupiter -87851-02-19 02:51 J -30366105.54 -30366105.38 -30366105.21 0.0497 0.0130

Uranus -87851-02-23 08:37 J -30366101.28 -30366101.14 -30366100.97 0.0137 0.0068

Jupiter -87851-05-20 05:01 J -30366015.41 -30366015.29 -30366015.18 0.0500 0.0368

Uranus -87851-05-22 14:51 J -30366013.01 -30366012.88 -30366012.74 0.0137 0.0088

Saturn -87851-06-24 20:23 J -30365979.75 -30365979.65 -30365979.55 0.0273 0.0185

Moon -87851-08-17 21:35 J -30365925.73 -30365925.60 -30365925.47 0.2586 0.1042

Earth -87851-08-17 23:01 J -30365925.68 -30365925.54 -30365925.41 0.2584 0.0903 *

Uranus -87851-08-18 20:37 J -30365924.73 -30365924.64 -30365924.53 0.0137 0.0109

Saturn -87851-09-21 08:23 J -30365891.28 -30365891.15 -30365891.02 0.0273 0.0096

Venus -87851-09-24 06:13 J -30365888.34 -30365888.24 -30365888.15 0.3755 0.2061

Uranus -87851-11-15 02:23 J -30365836.44 -30365836.40 -30365836.33 0.0137 0.0129

Saturn -87851-12-18 20:37 J -30365802.78 -30365802.64 -30365802.50 0.0273 0.0005

Saturn -87850-03-17 09:06 J -30365714.26 -30365714.12 -30365713.99 0.0273 0.0088

Saturn -87850-06-13 21:35 J -30365625.70 -30365625.60 -30365625.49 0.0273 0.0181

Moon -87848-02-18 05:15 J -30365010.33 -30365010.28 -30365010.22 0.2753 0.2362

Earth -87848-02-18 06:13 J -30365010.29 -30365010.24 -30365010.18 0.2749 0.2410 *

Venus -87847-09-23 16:47 J -30364427.93 -30364427.80 -30364427.66 0.3613 0.0231

Jupiter -87846-07-13 06:13 J -30364135.29 -30364135.24 -30364135.17 0.0534 0.0471

Jupiter -87846-10-10 15:35 J -30364045.98 -30364045.85 -30364045.71 0.0531 0.0020

Jupiter -87845-01-08 01:39 J -30363956.50 -30363956.43 -30363956.35 0.0527 0.0444

Venus -87845-04-09 01:39 J -30363864.50 -30363864.43 -30363864.36 0.3751 0.2915

Mars -87845-08-28 11:15 J -30363723.15 -30363723.03 -30363722.92 0.1888 0.1097

Mars -87844-06-20 16:03 J -30363426.93 -30363426.83 -30363426.72 0.1664 0.0890

Mars -87842-05-27 04:03 J -30362721.41 -30362721.33 -30362721.25 0.1644 0.1290

Earth -87841-02-11 22:18 J -30362460.66 -30362460.57 -30362460.48 0.2755 0.1678

Moon -87841-02-11 22:32 J -30362460.65 -30362460.56 -30362460.47 0.2748 0.1729 *

Venus -87841-04-08 16:18 J -30362403.94 -30362403.82 -30362403.70 0.3617 0.1198

Jupiter -87840-12-08 01:39 J -30361795.58 -30361795.43 -30361795.28 0.0495 0.0257

Jupiter -87839-03-08 04:03 J -30361705.48 -30361705.33 -30361705.18 0.0498 0.0242

Moon -87838-08-20 23:15 J -30361174.66 -30361174.53 -30361174.39 0.2592 0.0722

Earth -87838-08-20 23:44 J -30361174.64 -30361174.51 -30361174.37 0.2586 0.0788 *

Saturn -87836-04-26 10:03 J -30360560.20 -30360560.08 -30360559.94 0.0287 0.0194

Saturn -87836-07-24 06:56 J -30360471.38 -30360471.21 -30360471.04 0.0287 0.0060

Saturn -87836-10-21 03:06 J -30360382.54 -30360382.37 -30360382.21 0.0287 0.0071

Venus -87836-10-23 15:06 J -30360379.97 -30360379.87 -30360379.76 0.3621 0.2151

Saturn -87835-01-17 22:32 J -30360293.67 -30360293.56 -30360293.43 0.0287 0.0199

Mars -87835-01-18 11:59 J -30360293.15 -30360293.00 -30360292.86 0.1880 0.0075

Mars -87835-11-11 01:25 J -30359996.51 -30359996.44 -30359996.38 0.1670 0.1415

Jupiter -87834-07-29 18:13 J -30359735.87 -30359735.74 -30359735.61 0.0532 0.0140

Jupiter -87834-10-27 04:03 J -30359646.43 -30359646.33 -30359646.22 0.0529 0.0322

Venus -87833-07-17 17:15 J -30359381.84 -30359381.78 -30359381.72 0.3779 0.3130

Mars -87833-10-16 12:56 J -30359291.08 -30359290.96 -30359290.85 0.1648 0.0760

Venus -87830-05-09 13:39 J -30358355.99 -30358355.93 -30358355.86 0.3625 0.3056

Moon -87828-02-13 17:59 J -30357709.87 -30357709.75 -30357709.63 0.2747 0.0254

Earth -87828-02-13 18:27 J -30357709.84 -30357709.73 -30357709.61 0.2753 0.0256 *

Jupiter -87828-09-26 00:27 J -30357485.59 -30357485.48 -30357485.37 0.0495 0.0381

Jupiter -87828-12-25 03:06 J -30357395.53 -30357395.37 -30357395.20 0.0497 0.0120

Venus -87827-01-31 11:15 J -30357358.11 -30357358.03 -30357357.94 0.3776 0.2428

Mars -87826-06-10 11:59 J -30356863.12 -30356863.00 -30356862.87 0.1873 0.1013

Earth -87825-08-23 00:13 J -30356423.53 -30356423.49 -30356423.44 0.2588 0.2428

Moon -87825-08-23 00:27 J -30356423.50 -30356423.48 -30356423.45 0.2594 0.2525 *

Mars -87823-03-08 21:49 J -30355860.71 -30355860.59 -30355860.46 0.1654 0.0233

Jupiter -87822-05-17 21:49 J -30355425.71 -30355425.59 -30355425.48 0.0533 0.0252

Jupiter -87822-08-15 07:25 J -30355336.31 -30355336.19 -30355336.06 0.0530 0.0209

Venus -87822-08-17 05:44 J -30355334.36 -30355334.26 -30355334.16 0.3773 0.1698

Saturn -87822-11-11 23:30 J -30355247.61 -30355247.52 -30355247.43 0.0272 0.0202

Saturn -87821-02-08 11:30 J -30355159.15 -30355159.02 -30355158.89 0.0272 0.0114

Saturn -87821-05-06 23:30 J -30355070.66 -30355070.52 -30355070.38 0.0272 0.0024

Saturn -87821-08-03 11:44 J -30354982.14 -30354982.01 -30354981.87 0.0272 0.0069

Saturn -87821-10-31 00:27 J -30354893.60 -30354893.48 -30354893.37 0.0272 0.0161

Saturn -87820-01-27 12:56 J -30354805.00 -30354804.96 -30354804.90 0.0272 0.0256

Moon -87818-08-16 02:08 J -30353874.44 -30353874.41 -30353874.37 0.2582 0.2502

Earth -87818-08-16 03:35 J -30353874.42 -30353874.35 -30353874.29 0.2583 0.2278 *

Venus -87816-03-02 00:13 J -30353310.60 -30353310.49 -30353310.38 0.3769 0.0948

Jupiter -87816-10-13 01:54 J -30353085.59 -30353085.42 -30353085.25 0.0497 0.0008

Jupiter -87815-01-11 03:20 J -30352995.39 -30352995.36 -30352995.32 0.0500 0.0484

Moon -87815-02-16 13:54 J -30352959.02 -30352958.92 -30352958.81 0.2751 0.1091

Earth -87815-02-16 14:51 J -30352958.98 -30352958.88 -30352958.77 0.2751 0.1223 *

Mars -87814-07-30 06:56 J -30352430.33 -30352430.21 -30352430.08 0.1659 0.0299

Venus -87811-09-15 18:56 J -30351286.82 -30351286.71 -30351286.59 0.3766 0.0197

Jupiter -87810-03-06 01:25 J -30351115.53 -30351115.44 -30351115.34 0.0534 0.0359

Jupiter -87810-06-03 11:01 J -30351026.17 -30351026.04 -30351025.91 0.0531 0.0099

Uranus -87809-11-12 08:51 J -30350498.18 -30350498.13 -30350498.06 0.0140 0.0124

Uranus -87808-02-08 12:42 J -30350410.05 -30350409.97 -30350409.87 0.0140 0.0107

Uranus -87808-05-07 16:47 J -30350321.91 -30350321.80 -30350321.69 0.0141 0.0088

Uranus -87808-08-03 20:37 J -30350233.75 -30350233.64 -30350233.51 0.0141 0.0071

Uranus -87808-10-31 00:42 J -30350145.60 -30350145.47 -30350145.34 0.0141 0.0052

Uranus -87807-01-27 04:47 J -30350057.44 -30350057.30 -30350057.16 0.0141 0.0034

Uranus -87807-04-25 08:51 J -30349969.27 -30349969.13 -30349968.99 0.0141 0.0015

Uranus -87807-07-22 12:56 J -30349881.10 -30349880.96 -30349880.82 0.0141 0.0004

Saturn -87807-09-13 08:08 J -30349828.25 -30349828.16 -30349828.06 0.0287 0.0240

Venus -87807-09-14 16:03 J -30349826.91 -30349826.83 -30349826.74 0.3603 0.2751

Uranus -87807-10-18 17:01 J -30349792.93 -30349792.79 -30349792.65 0.0141 0.0023

Saturn -87807-12-11 05:01 J -30349739.45 -30349739.29 -30349739.13 0.0287 0.0107

Uranus -87806-01-14 21:06 J -30349704.75 -30349704.62 -30349704.48 0.0142 0.0042

Saturn -87806-03-10 01:11 J -30349650.62 -30349650.45 -30349650.28 0.0287 0.0025

Uranus -87806-04-13 01:11 J -30349616.57 -30349616.45 -30349616.31 0.0142 0.0062

Saturn -87806-06-06 21:06 J -30349561.76 -30349561.62 -30349561.48 0.0287 0.0153

Uranus -87806-07-10 05:30 J -30349528.38 -30349528.27 -30349528.15 0.0142 0.0081

Saturn -87806-09-03 16:32 J -30349472.85 -30349472.81 -30349472.77 0.0287 0.0278

Uranus -87806-10-06 09:49 J -30349440.19 -30349440.09 -30349439.99 0.0142 0.0101

Uranus -87805-01-02 14:08 J -30349351.98 -30349351.91 -30349351.83 0.0142 0.0120

Mars -87805-02-27 11:30 J -30349296.13 -30349296.02 -30349295.91 0.1887 0.1201

Uranus -87805-03-30 18:27 J -30349263.74 -30349263.73 -30349263.71 0.0142 0.0141

Venus -87805-03-31 13:54 J -30349263.03 -30349262.92 -30349262.80 0.3762 0.0631

Moon -87805-08-18 03:35 J -30349123.49 -30349123.35 -30349123.21 0.2588 0.0614

Earth -87805-08-18 04:47 J -30349123.44 -30349123.30 -30349123.16 0.2585 0.0550 *

Mars -87805-12-19 16:18 J -30348999.93 -30348999.82 -30348999.71 0.1664 0.0818

Jupiter -87804-08-01 01:11 J -30348775.62 -30348775.45 -30348775.29 0.0496 0.0130

Jupiter -87804-10-30 03:06 J -30348685.49 -30348685.37 -30348685.26 0.0499 0.0366

Mars -87803-11-25 04:03 J -30348294.40 -30348294.33 -30348294.26 0.1643 0.1364

Moon -87802-02-19 10:32 J -30348208.09 -30348208.06 -30348208.02 0.2753 0.2602

Earth -87802-02-19 11:30 J -30348208.04 -30348208.02 -30348208.01 0.2749 0.2719 *

Venus -87801-03-30 16:47 J -30347802.92 -30347802.80 -30347802.68 0.3607 0.1632

Venus -87800-10-15 09:06 J -30347239.22 -30347239.12 -30347239.01 0.3758 0.1442

Jupiter -87799-12-23 05:01 J -30346805.35 -30346805.29 -30346805.23 0.0534 0.0469

Jupiter -87798-03-22 14:23 J -30346716.03 -30346715.90 -30346715.77 0.0531 0.0014

Jupiter -87798-06-20 00:27 J -30346626.55 -30346626.48 -30346626.41 0.0528 0.0447

Mars -87796-07-19 11:59 J -30345866.14 -30345866.00 -30345865.85 0.1880 0.0147

Venus -87796-10-14 16:47 J -30345778.93 -30345778.80 -30345778.66 0.3610 0.0570

Moon -87795-02-12 03:20 J -30345658.46 -30345658.36 -30345658.26 0.2747 0.1329

Earth -87795-02-12 03:35 J -30345658.45 -30345658.35 -30345658.25 0.2754 0.1391 *

Mars -87795-05-12 01:25 J -30345569.51 -30345569.44 -30345569.36 0.1670 0.1342

Venus -87794-05-01 04:32 J -30345215.40 -30345215.31 -30345215.21 0.3754 0.2283

Mars -87793-04-16 12:56 J -30344864.07 -30344863.96 -30344863.85 0.1648 0.0836

Saturn -87792-03-31 00:42 J -30344515.54 -30344515.47 -30344515.40 0.0272 0.0236

Jupiter -87792-05-19 23:59 J -30344465.65 -30344465.50 -30344465.35 0.0496 0.0254

Saturn -87792-06-27 12:42 J -30344427.09 -30344426.97 -30344426.86 0.0272 0.0148

Jupiter -87792-08-18 02:23 J -30344375.54 -30344375.40 -30344375.25 0.0499 0.0246

Moon -87792-08-21 05:01 J -30344372.41 -30344372.29 -30344372.16 0.2593 0.1108

Earth -87792-08-21 05:30 J -30344372.39 -30344372.27 -30344372.14 0.2586 0.1143 *

Saturn -87792-09-24 00:42 J -30344338.61 -30344338.47 -30344338.33 0.0272 0.0058

Saturn -87792-12-21 12:56 J -30344250.10 -30344249.96 -30344249.82 0.0272 0.0034

Saturn -87791-03-20 01:25 J -30344161.57 -30344161.44 -30344161.32 0.0272 0.0127

Saturn -87791-06-16 13:54 J -30344073.00 -30344072.92 -30344072.83 0.0272 0.0221

Venus -87790-04-30 16:32 J -30343754.94 -30343754.81 -30343754.68 0.3614 0.0463

Venus -87789-11-14 00:13 J -30343191.55 -30343191.49 -30343191.42 0.3750 0.3141

Neptune -87788-10-23 16:47 J -30342847.80 -30342847.80 -30342847.78 0.0089 0.0089

Neptune -87787-01-19 18:13 J -30342759.77 -30342759.74 -30342759.69 0.0089 0.0085

Neptune -87787-04-17 19:54 J -30342671.73 -30342671.67 -30342671.62 0.0089 0.0080

Neptune -87787-07-14 21:20 J -30342583.68 -30342583.61 -30342583.54 0.0089 0.0076

Neptune -87787-10-10 22:32 J -30342495.63 -30342495.56 -30342495.47 0.0089 0.0072

Mars -87787-12-09 12:42 J -30342436.10 -30342435.97 -30342435.84 0.1873 0.0889

Neptune -87786-01-06 23:59 J -30342407.58 -30342407.50 -30342407.40 0.0089 0.0068

Jupiter -87786-01-08 17:30 J -30342405.90 -30342405.77 -30342405.64 0.0532 0.0130

Neptune -87786-04-05 01:25 J -30342319.52 -30342319.44 -30342319.34 0.0089 0.0064

Jupiter -87786-04-08 03:20 J -30342316.46 -30342316.36 -30342316.25 0.0528 0.0331

Neptune -87786-07-02 02:51 J -30342231.47 -30342231.38 -30342231.27 0.0089 0.0060

Neptune -87786-09-28 04:32 J -30342143.42 -30342143.31 -30342143.20 0.0089 0.0055

Neptune -87786-12-25 05:59 J -30342055.36 -30342055.25 -30342055.14 0.0089 0.0051

Neptune -87785-03-22 07:25 J -30341967.30 -30341967.19 -30341967.07 0.0089 0.0047

Neptune -87785-06-18 08:51 J -30341879.25 -30341879.13 -30341879.01 0.0089 0.0042

Neptune -87785-09-14 10:03 J -30341791.19 -30341791.08 -30341790.94 0.0089 0.0039

Venus -87785-11-13 15:49 J -30341730.96 -30341730.84 -30341730.72 0.3618 0.1448

Neptune -87785-12-11 11:44 J -30341703.13 -30341703.01 -30341702.88 0.0089 0.0034

Neptune -87784-03-09 13:11 J -30341615.07 -30341614.95 -30341614.81 0.0089 0.0030

Neptune -87784-06-05 14:37 J -30341527.01 -30341526.89 -30341526.75 0.0089 0.0026

Neptune -87784-09-01 16:18 J -30341438.95 -30341438.82 -30341438.69 0.0089 0.0021

Mars -87784-09-06 22:03 J -30341433.71 -30341433.58 -30341433.45 0.1653 0.0310

Neptune -87784-11-28 17:44 J -30341350.89 -30341350.76 -30341350.62 0.0089 0.0017

Neptune -87783-02-24 19:11 J -30341262.83 -30341262.70 -30341262.56 0.0089 0.0013

Neptune -87783-05-23 20:51 J -30341174.77 -30341174.63 -30341174.49 0.0089 0.0008

Neptune -87783-08-19 22:18 J -30341086.71 -30341086.57 -30341086.43 0.0089 0.0004

Neptune -87783-11-15 23:44 J -30340998.65 -30340998.51 -30340998.37 0.0089 0.0002

Neptune -87782-02-12 01:11 J -30340910.58 -30340910.45 -30340910.31 0.0089 0.0006

Moon -87782-02-14 23:01 J -30340907.66 -30340907.54 -30340907.42 0.2748 0.0093

Earth -87782-02-14 23:44 J -30340907.63 -30340907.51 -30340907.40 0.2753 0.0094 *

Neptune -87782-05-11 02:51 J -30340822.52 -30340822.38 -30340822.24 0.0089 0.0009

Neptune -87782-08-07 04:18 J -30340734.45 -30340734.32 -30340734.18 0.0089 0.0014

Venus -87782-08-08 21:20 J -30340732.64 -30340732.61 -30340732.59 0.3781 0.3642

Neptune -87782-11-03 05:59 J -30340646.39 -30340646.25 -30340646.12 0.0089 0.0018

Neptune -87781-01-30 07:25 J -30340558.32 -30340558.19 -30340558.06 0.0089 0.0022

Neptune -87781-04-27 08:51 J -30340470.26 -30340470.13 -30340469.99 0.0089 0.0027

Neptune -87781-07-24 10:32 J -30340382.19 -30340382.06 -30340381.93 0.0089 0.0031

Neptune -87781-10-20 11:59 J -30340294.12 -30340294.00 -30340293.87 0.0089 0.0036

Neptune -87780-01-16 13:39 J -30340206.06 -30340205.93 -30340205.81 0.0089 0.0040

Jupiter -87780-03-07 22:47 J -30340155.66 -30340155.55 -30340155.43 0.0495 0.0380

Neptune -87780-04-14 14:51 J -30340117.99 -30340117.88 -30340117.75 0.0089 0.0045

Jupiter -87780-06-06 01:39 J -30340065.60 -30340065.43 -30340065.26 0.0497 0.0121

Neptune -87780-07-11 16:32 J -30340029.92 -30340029.81 -30340029.68 0.0089 0.0049

Neptune -87780-10-07 17:59 J -30339941.85 -30339941.75 -30339941.62 0.0089 0.0054

Neptune -87779-01-03 19:39 J -30339853.78 -30339853.68 -30339853.56 0.0089 0.0058

Neptune -87779-04-01 21:06 J -30339765.70 -30339765.62 -30339765.51 0.0089 0.0063

Venus   -87779-05-30 14:37 J -30339706.99 -30339706.89 -30339706.80 0.3622 0.2384

Neptune -87779-06-28 22:47 J -30339677.63 -30339677.55 -30339677.45 0.0089 0.0067

Neptune -87779-09-25 00:42 J -30339589.55 -30339589.47 -30339589.39 0.0089 0.0071

Neptune -87779-12-22 01:54 J -30339501.48 -30339501.42 -30339501.33 0.0089 0.0076

Neptune -87778-03-20 03:49 J -30339413.40 -30339413.34 -30339413.28 0.0089 0.0080

Neptune -87778-06-16 05:15 J -30339325.31 -30339325.28 -30339325.23 0.0089 0.0085

Saturn   -87777-01-31 08:23 J -30339096.20 -30339096.15 -30339096.10 0.0287 0.0273

Saturn   -87777-04-29 05:15 J -30339007.42 -30339007.28 -30339007.12 0.0287 0.0139

Saturn   -87777-07-27 01:54 J -30338918.59 -30338918.42 -30338918.25 0.0287 0.0007

Saturn   -87777-10-23 21:49 J -30338829.74 -30338829.59 -30338829.44 0.0287 0.0124

Saturn   -87776-01-20 17:15 J -30338740.85 -30338740.78 -30338740.69 0.0287 0.0251

Venus   -87776-02-21 15:20 J -30338708.93 -30338708.86 -30338708.79 0.3778 0.2954

Jupiter -87775-10-27 20:08 J -30338095.78 -30338095.66 -30338095.54 0.0533 0.0254

Jupiter -87774-01-25 05:44 J -30338006.38 -30338006.26 -30338006.13 0.0530 0.0207

Mars   -87774-01-28 07:11 J -30338003.33 -30338003.20 -30338003.07 0.1659 0.0220

Venus   -87774-12-14 12:56 J -30337683.01 -30337682.96 -30337682.91 0.3627 0.3287

Moon   -87772-08-16 08:08 J -30337072.25 -30337072.16 -30337072.07 0.2582 0.1963

Earth   -87772-08-16 09:20 J -30337072.20 -30337072.11 -30337072.01 0.2583 0.1918 *

Venus   -87771-09-07 09:35 J -30336685.19 -30336685.10 -30336685.01 0.3775 0.2244

Uranus   -87769-01-11 08:37 J -30336194.22 -30336194.14 -30336194.05 0.0138 0.0121

Moon   -87769-02-17 19:11 J -30336156.80 -30336156.70 -30336156.60 0.2751 0.1464

Earth -87769-02-17 20:08 J -30336156.76 -30336156.66 -30336156.57 0.2751 0.1530 *

Uranus -87769-04-08 14:51 J -30336105.99 -30336105.88 -30336105.74 0.0138 0.0099

Uranus -87769-07-05 21:35 J -30336017.74 -30336017.60 -30336017.45 0.0138 0.0076

Uranus -87769-10-02 04:03 J -30335929.49 -30335929.33 -30335929.17 0.0138 0.0053

Uranus -87769-12-29 10:18 J -30335841.24 -30335841.07 -30335840.89 0.0138 0.0031

Jupiter -87768-03-25 00:42 J -30335755.64 -30335755.47 -30335755.29 0.0497 0.0007

Uranus -87768-03-27 16:47 J -30335752.98 -30335752.80 -30335752.63 0.0138 0.0010

Pluto -87768-05-28 08:08 J -30335691.17 -30335691.16 -30335691.09 0.0060 0.0059

Jupiter -87768-06-23 02:08 J -30335665.43 -30335665.41 -30335665.37 0.0500 0.0490

Uranus -87768-06-23 22:47 J -30335664.72 -30335664.55 -30335664.37 0.0138 0.0013

Pluto -87768-08-24 09:49 J -30335603.17 -30335603.09 -30335602.98 0.0060 0.0053

Uranus -87768-09-20 05:01 J -30335576.46 -30335576.29 -30335576.12 0.0137 0.0033

Pluto -87768-11-20 11:15 J -30335515.14 -30335515.03 -30335514.89 0.0060 0.0046

Uranus -87768-12-17 11:01 J -30335488.19 -30335488.04 -30335487.87 0.0137 0.0055

Pluto -87767-02-16 13:11 J -30335427.10 -30335426.95 -30335426.81 0.0060 0.0040

Uranus -87767-03-15 17:01 J -30335399.93 -30335399.79 -30335399.64 0.0137 0.0075

Pluto -87767-05-15 14:08 J -30335339.06 -30335338.91 -30335338.73 0.0060 0.0034

Uranus -87767-06-11 23:01 J -30335311.66 -30335311.54 -30335311.41 0.0137 0.0096

Pluto -87767-08-11 15:35 J -30335251.01 -30335250.85 -30335250.66 0.0060 0.0027

Uranus -87767-09-08 05:01 J -30335223.38 -30335223.29 -30335223.20 0.0137 0.0116

Pluto -87767-11-07 17:15 J -30335162.96 -30335162.78 -30335162.59 0.0061 0.0021

Uranus -87767-12-05 10:47 J -30335135.05 -30335135.05 -30335135.03 0.0137 0.0136

Pluto -87766-02-03 18:42 J -30335074.90 -30335074.72 -30335074.52 0.0061 0.0014

Pluto -87766-05-02 20:23 J -30334986.84 -30334986.65 -30334986.46 0.0061 0.0008

Pluto -87766-07-29 21:49 J -30334898.78 -30334898.59 -30334898.39 0.0061 0.0001

Mars -87766-08-28 11:59 J -30334869.10 -30334869.00 -30334868.90 0.1888 0.1309

Pluto -87766-10-25 23:15 J -30334810.72 -30334810.53 -30334810.33 0.0061 0.0005

Pluto -87765-01-22 00:42 J -30334722.66 -30334722.47 -30334722.27 0.0061 0.0012

Venus -87765-03-23 04:03 J -30334661.44 -30334661.33 -30334661.23 0.3772 0.1515

Pluto -87765-04-19 01:54 J -30334634.59 -30334634.42 -30334634.22 0.0061 0.0019

Mars -87765-06-19 16:18 J -30334572.93 -30334572.82 -30334572.71 0.1664 0.0745

Pluto -87765-07-16 03:49 J -30334546.52 -30334546.34 -30334546.16 0.0061 0.0025

Pluto -87765-10-12 05:01 J -30334458.44 -30334458.29 -30334458.11 0.0061 0.0032

Pluto -87764-01-08 06:13 J -30334370.37 -30334370.24 -30334370.07 0.0061 0.0039

Pluto -87764-04-06 08:08 J -30334282.28 -30334282.16 -30334282.02 0.0061 0.0046

Pluto -87764-07-03 09:35 J -30334194.19 -30334194.10 -30334193.99 0.0061 0.0052

Pluto -87764-09-29 10:47 J -30334106.07 -30334106.05 -30334105.98 0.0061 0.0060

Mars -87763-05-26 04:03 J -30333867.39 -30333867.33 -30333867.27 0.1643 0.1440

Jupiter -87763-08-15 23:30 J -30333785.61 -30333785.52 -30333785.42 0.0534 0.0366

Saturn -87763-08-18 03:49 J -30333783.39 -30333783.34 -30333783.29 0.0272 0.0252

Jupiter -87763-11-13 09:06 J -30333696.25 -30333696.12 -30333695.99 0.0531 0.0094

Saturn -87763-11-14 15:35 J -30333694.96 -30333694.85 -30333694.74 0.0272 0.0165

Earth -87762-02-10 12:27 J -30333607.02 -30333606.98 -30333606.93 0.2756 0.2514

Moon -87762-02-10 12:56 J -30333607.01 -30333606.96 -30333606.90 0.2750 0.2403 *

Saturn -87762-02-11 03:35 J -30333606.48 -30333606.35 -30333606.21 0.0272 0.0076

Saturn -87762-05-10 15:49 J -30333517.98 -30333517.84 -30333517.70 0.0272 0.0015

Saturn -87762-08-07 04:03 J -30333429.45 -30333429.33 -30333429.19 0.0272 0.0108

Saturn -87762-11-03 16:47 J -30333340.90 -30333340.80 -30333340.70 0.0272 0.0201

Venus -87760-10-06 22:32 J -30332637.67 -30332637.56 -30332637.45 0.3768 0.0754

Moon -87759-08-19 09:35 J -30332321.24 -30332321.10 -30332320.96 0.2589 0.0354

Earth -87759-08-19 10:32 J -30332321.20 -30332321.06 -30332320.92 0.2585 0.0188 *

Jupiter -87756-01-10 23:15 J -30331445.69 -30331445.53 -30331445.36 0.0496 0.0130

Mars -87756-01-17 12:42 J -30331439.11 -30331438.97 -30331438.83 0.1880 0.0271

Jupiter -87756-04-11 01:11 J -30331355.56 -30331355.45 -30331355.33 0.0499 0.0366

Mars -87756-11-10 01:25 J -30331142.52 -30331142.44 -30331142.35 0.1670 0.1273

Venus -87754-04-22 17:15 J -30330613.89 -30330613.78 -30330613.66 0.3765 0.0158

Mars -87754-10-16 13:11 J -30330437.06 -30330436.95 -30330436.84 0.1648 0.0911

Jupiter -87751-06-04 03:20 J -30329475.41 -30329475.36 -30329475.30 0.0535 0.0472

Jupiter -87751-09-01 12:56 J -30329386.10 -30329385.96 -30329385.83 0.0532 0.0024

Jupiter -87751-11-29 23:01 J -30329296.61 -30329296.54 -30329296.47 0.0528 0.0447

Venus -87750-04-21 16:03 J -30329153.93 -30329153.83 -30329153.73 0.3604 0.2463

Moon -87749-02-13 08:23 J -30328856.26 -30328856.15 -30328856.04 0.2747 0.1185

Earth -87749-02-13 08:37 J -30328856.25 -30328856.14 -30328856.04 0.2754 0.1098 *

Venus -87749-11-05 12:27 J -30328590.09 -30328589.98 -30328589.87 0.3761 0.0830

Saturn -87748-09-16 03:20 J -30328275.49 -30328275.36 -30328275.23 0.0287 0.0186

Saturn -87748-12-13 23:59 J -30328186.67 -30328186.50 -30328186.33 0.0287 0.0053

Saturn -87747-03-12 20:08 J -30328097.82 -30328097.66 -30328097.50 0.0287 0.0078

Mars -87747-06-09 12:56 J -30328009.10 -30328008.96 -30328008.83 0.1873 0.0798

Saturn -87747-06-09 15:49 J -30328008.95 -30328008.84 -30328008.72 0.0287 0.0205 *

Moon -87746-08-22 11:01 J -30327570.15 -30327570.04 -30327569.93 0.2593 0.1477

Earth -87746-08-22 11:15 J -30327570.14 -30327570.03 -30327569.91 0.2587 0.1488 *

Jupiter -87745-10-29 22:18 J -30327135.71 -30327135.57 -30327135.41 0.0495 0.0252

Venus -87745-11-04 16:32 J -30327129.93 -30327129.81 -30327129.68 0.3608 0.1358

Jupiter -87744-01-28 00:42 J -30327045.61 -30327045.47 -30327045.32 0.0498 0.0247

Mars -87744-03-07 22:03 J -30327006.70 -30327006.58 -30327006.45 0.1653 0.0387

Venus -87743-05-22 07:39 J -30326566.28 -30326566.18 -30326566.08 0.3757 0.1654

Venus -87739-05-21 16:32 J -30325105.95 -30325105.81 -30325105.68 0.3612 0.0312

Jupiter -87739-06-20 16:18 J -30325075.95 -30325075.82 -30325075.69 0.0532 0.0126

Jupiter -87739-09-18 02:08 J -30324986.51 -30324986.41 -30324986.30 0.0529 0.0334

Mars -87738-10-30 13:11 J -30324578.96 -30324578.95 -30324578.93 0.1866 0.1851

Venus -87738-12-06 03:06 J -30324542.45 -30324542.37 -30324542.28 0.3753 0.2497

Moon -87736-02-15 04:03 J -30324105.45 -30324105.33 -30324105.21 0.2749 0.0333

Earth -87736-02-15 04:47 J -30324105.42 -30324105.30 -30324105.18 0.2752 0.0352 *

Mars -87735-07-29 07:25 J -30323576.32 -30323576.19 -30323576.07 0.1658 0.0151

Venus -87734-12-05 16:03 J -30323081.96 -30323081.83 -30323081.70 0.3616 0.0719

Saturn -87733-04-02 16:32 J -30322962.90 -30322962.81 -30322962.71 0.0272 0.0200

Saturn -87733-06-30 04:32 J -30322874.44 -30322874.31 -30322874.18 0.0272 0.0111

Jupiter -87733-08-17 21:06 J -30322825.72 -30322825.62 -30322825.50 0.0495 0.0377

Saturn -87733-09-26 16:32 J -30322785.95 -30322785.81 -30322785.67 0.0272 0.0022

Jupiter -87733-11-16 00:13 J -30322735.66 -30322735.49 -30322735.33 0.0498 0.0126

Saturn -87733-12-24 04:47 J -30322697.43 -30322697.30 -30322697.16 0.0272 0.0072

Saturn -87732-03-22 17:15 J -30322608.89 -30322608.78 -30322608.66 0.0272 0.0164

Saturn -87732-06-19 06:13 J -30322520.29 -30322520.24 -30322520.20 0.0272 0.0259

Venus -87732-06-20 23:01 J -30322518.59 -30322518.54 -30322518.49 0.3749 0.3373

Venus -87728-06-20 15:06 J -30321057.98 -30321057.87 -30321057.75 0.3619 0.1686

Jupiter -87727-04-08 19:39 J -30320765.80 -30320765.68 -30320765.57 0.0533 0.0241

Jupiter -87727-07-07 05:15 J -30320676.40 -30320676.28 -30320676.16 0.0529 0.0218

Mars -87726-02-26 12:27 J -30320442.08 -30320441.98 -30320441.89 0.1888 0.1421

Moon -87726-08-17 14:08 J -30320270.02 -30320269.91 -30320269.81 0.2584 0.1763

Earth -87726-08-17 15:20 J -30320269.98 -30320269.86 -30320269.75 0.2584 0.1550 *

Mars -87726-12-19 16:32 J -30320145.93 -30320145.81 -30320145.70 0.1664 0.0673

Venus -87725-03-14 19:25 J -30320059.73 -30320059.69 -30320059.65 0.3780 0.3472

Uranus -87725-09-05 13:11 J -30319884.98 -30319884.95 -30319884.91 0.0140 0.0134

Uranus -87725-12-02 17:01 J -30319796.86 -30319796.79 -30319796.71 0.0140 0.0117

Uranus -87724-02-28 20:51 J -30319708.72 -30319708.63 -30319708.53 0.0140 0.0099

Uranus -87724-05-28 00:42 J -30319620.57 -30319620.47 -30319620.35 0.0141 0.0082

Uranus -87724-08-24 04:47 J -30319532.42 -30319532.30 -30319532.17 0.0141 0.0063

Uranus -87724-11-20 08:51 J -30319444.26 -30319444.13 -30319444.00 0.0141 0.0045

Mars -87724-11-24 04:18 J -30319440.36 -30319440.32 -30319440.27 0.1643 0.1521

Uranus -87723-02-16 12:56 J -30319356.10 -30319355.96 -30319355.82 0.0141 0.0026

Moon -87723-02-18 00:13 J -30319354.58 -30319354.49 -30319354.39 0.2751 0.1675

Earth -87723-02-18 01:11 J -30319354.53 -30319354.45 -30319354.36 0.2750 0.1834 *

Uranus -87723-05-15 17:01 J -30319267.94 -30319267.79 -30319267.65 0.0141 0.0008

Uranus -87723-08-11 21:06 J -30319179.77 -30319179.62 -30319179.48 0.0141 0.0012

Uranus -87723-11-08 01:11 J -30319091.59 -30319091.45 -30319091.31 0.0142 0.0030

Venus -87722-01-04 13:54 J -30319034.01 -30319033.92 -30319033.83 0.3624 0.2617

Uranus -87722-02-04 05:15 J -30319003.41 -30319003.28 -30319003.14 0.0142 0.0050

Uranus -87722-05-03 09:20 J -30318915.23 -30318915.11 -30318914.98 0.0142 0.0069

Uranus -87722-07-30 13:25 J -30318827.04 -30318826.94 -30318826.81 0.0142 0.0089

Uranus -87722-10-26 17:59 J -30318738.84 -30318738.75 -30318738.66 0.0142 0.0108

Uranus -87721-01-22 22:03 J -30318650.63 -30318650.58 -30318650.51 0.0142 0.0129

Jupiter -87721-09-03 23:15 J -30318425.70 -30318425.53 -30318425.35 0.0497 0.0012

Jupiter -87721-12-03 00:42 J -30318335.48 -30318335.47 -30318335.44 0.0500 0.0495

Venus -87720-09-28 13:25 J -30318036.01 -30318035.94 -30318035.86 0.3777 0.2780

Saturn -87718-02-03 02:51 J -30317543.49 -30317543.38 -30317543.27 0.0287 0.0224

Saturn -87718-05-02 23:30 J -30317454.68 -30317454.52 -30317454.35 0.0287 0.0090

Saturn -87718-07-30 19:54 J -30317365.83 -30317365.67 -30317365.50 0.0287 0.0043

Saturn -87718-10-27 15:49 J -30317276.97 -30317276.84 -30317276.70 0.0287 0.0172

Mars -87717-07-18 12:56 J -30317012.10 -30317011.96 -30317011.81 0.1881 0.0378

Venus -87717-07-20 12:13 J -30317010.02 -30317009.99 -30317009.96 0.3628 0.3507

Earth -87716-02-10 17:44 J -30316804.83 -30316804.76 -30316804.70 0.2755 0.2222

Moon -87716-02-10 17:59 J -30316804.82 -30316804.75 -30316804.68 0.2749 0.2205 *

Mars -87716-05-11 01:39 J -30316715.52 -30316715.43 -30316715.35 0.1670 0.1199

Jupiter -87715-01-25 22:03 J -30316455.67 -30316455.58 -30316455.48 0.0534 0.0365

Jupiter -87715-04-25 07:39 J -30316366.31 -30316366.18 -30316366.05 0.0531 0.0093

Venus -87714-04-14 07:39 J -30316012.27 -30316012.18 -30316012.08 0.3774 0.2065

Mars -87714-04-16 13:11 J -30316010.05 -30316009.95 -30316009.84 0.1648 0.0987

Moon -87713-08-19 15:20 J -30315519.00 -30315518.86 -30315518.71 0.2590 0.0177

Earth -87713-08-19 16:18 J -30315518.96 -30315518.82 -30315518.68 0.2585 0.0170 *

Jupiter -87709-06-22 22:32 J -30314115.73 -30314115.56 -30314115.39 0.0496 0.0121

Jupiter -87709-09-21 00:13 J -30314025.59 -30314025.49 -30314025.37 0.0499 0.0375

Venus -87709-10-28 02:08 J -30313988.51 -30313988.41 -30313988.30 0.3771 0.1324

Mars -87708-12-08 13:39 J -30313582.07 -30313581.93 -30313581.80 0.1873 0.0674

Mars -87705-09-05 22:18 J -30312579.69 -30312579.57 -30312579.45 0.1653 0.0458

Neptune -87704-04-14 05:01 J -30312359.31 -30312359.29 -30312359.23 0.0089 0.0087

Neptune -87704-07-11 08:23 J -30312271.21 -30312271.15 -30312271.06 0.0089 0.0081

Saturn -87704-08-20 19:54 J -30312230.76 -30312230.67 -30312230.59 0.0272 0.0217

Neptune -87704-10-07 11:44 J -30312183.09 -30312183.01 -30312182.90 0.0089 0.0075

Jupiter -87704-11-14 01:39 J -30312145.49 -30312145.43 -30312145.37 0.0535 0.0477

Saturn -87704-11-17 07:39 J -30312142.30 -30312142.18 -30312142.06 0.0271 0.0129

Neptune -87703-01-03 15:06 J -30312094.97 -30312094.87 -30312094.74 0.0089 0.0069

Jupiter -87703-02-11 11:01 J -30312056.17 -30312056.04 -30312055.91 0.0532 0.0021

Moon -87703-02-13 13:25 J -30312054.05 -30312053.94 -30312053.83 0.2747 0.0772

Earth -87703-02-13 13:39 J -30312054.04 -30312053.93 -30312053.82 0.2754 0.0805 *

Saturn -87703-02-13 19:39 J -30312053.82 -30312053.68 -30312053.54 0.0271 0.0039 *

Neptune -87703-04-01 18:27 J -30312006.85 -30312006.73 -30312006.59 0.0089 0.0063

Jupiter -87703-05-11 21:06 J -30311966.69 -30311966.62 -30311966.54 0.0528 0.0442

Saturn -87703-05-13 07:54 J -30311965.31 -30311965.17 -30311965.03 0.0271 0.0052

Venus -87703-05-13 20:51 J -30311964.74 -30311964.63 -30311964.52 0.3767 0.0557

Neptune -87703-06-28 21:49 J -30311918.73 -30311918.59 -30311918.44 0.0089 0.0057

Saturn -87703-08-09 20:23 J -30311876.77 -30311876.65 -30311876.53 0.0271 0.0145

Neptune -87703-09-25 01:11 J -30311830.60 -30311830.45 -30311830.30 0.0089 0.0051

Saturn -87703-11-06 08:51 J -30311788.19 -30311788.13 -30311788.06 0.0271 0.0238

Neptune -87703-12-22 04:03 J -30311742.47 -30311742.33 -30311742.15 0.0089 0.0046

Neptune -87702-03-20 07:25 J -30311654.34 -30311654.19 -30311654.01 0.0089 0.0040

Neptune -87702-06-16 10:47 J -30311566.21 -30311566.05 -30311565.87 0.0089 0.0034

Neptune -87702-09-12 14:08 J -30311478.08 -30311477.91 -30311477.73 0.0089 0.0028

Neptune -87702-12-09 17:30 J -30311389.95 -30311389.77 -30311389.59 0.0089 0.0022

Neptune -87701-03-06 20:23 J -30311301.82 -30311301.65 -30311301.46 0.0089 0.0017

Neptune -87701-06-02 23:44 J -30311213.69 -30311213.51 -30311213.32 0.0089 0.0011

Neptune -87701-08-30 03:06 J -30311125.56 -30311125.37 -30311125.19 0.0089 0.0005

Neptune -87701-11-26 06:13 J -30311037.43 -30311037.24 -30311037.06 0.0089 0.0001

Neptune -87700-02-22 09:20 J -30310949.29 -30310949.11 -30310948.93 0.0088 0.0007

Neptune -87700-05-21 12:27 J -30310861.16 -30310860.98 -30310860.80 0.0088 0.0013

Neptune -87700-08-17 15:35 J -30310773.03 -30310772.85 -30310772.67 0.0088 0.0018

Moon -87700-08-22 17:15 J -30310767.88 -30310767.78 -30310767.69 0.2593 0.1805

Earth -87700-08-22 17:01 J -30310767.88 -30310767.79 -30310767.69 0.2587 0.1841 *

Neptune -87700-11-13 18:42 J -30310684.89 -30310684.72 -30310684.54 0.0088 0.0024

Neptune -87699-02-09 21:49 J -30310596.76 -30310596.59 -30310596.42 0.0088 0.0030

Neptune -87699-05-09 00:42 J -30310508.63 -30310508.47 -30310508.29 0.0088 0.0036

Venus -87699-05-12 15:06 J -30310504.92 -30310504.87 -30310504.82 0.3602 0.3324

Neptune -87699-08-05 04:03 J -30310420.49 -30310420.33 -30310420.17 0.0088 0.0041

Neptune -87699-11-01 06:56 J -30310332.36 -30310332.21 -30310332.05 0.0088 0.0047

Neptune -87698-01-28 10:18 J -30310244.22 -30310244.07 -30310243.93 0.0088 0.0052

Neptune -87698-04-26 12:56 J -30310156.08 -30310155.96 -30310155.81 0.0088 0.0058

Mars -87698-04-30 13:39 J -30310151.98 -30310151.93 -30310151.88 0.1866 0.1744

Neptune -87698-07-23 16:18 J -30310067.94 -30310067.82 -30310067.69 0.0088 0.0063

Neptune -87698-10-19 18:56 J -30309979.81 -30309979.71 -30309979.58 0.0088 0.0069

Venus -87698-11-27 15:35 J -30309940.96 -30309940.85 -30309940.73 0.3764 0.0273

Neptune -87697-01-15 22:18 J -30309891.66 -30309891.57 -30309891.47 0.0088 0.0074

Jupiter -87697-04-10 20:51 J -30309805.78 -30309805.63 -30309805.48 0.0495 0.0249

Neptune -87697-04-13 00:56 J -30309803.52 -30309803.46 -30309803.36 0.0088 0.0080

Jupiter -87697-07-09 23:15 J -30309715.68 -30309715.53 -30309715.38 0.0498 0.0249

Neptune -87697-07-10 04:18 J -30309715.36 -30309715.32 -30309715.27 0.0088 0.0085

Mars -87695-01-27 07:25 J -30309149.32 -30309149.19 -30309149.06 0.1658 0.0075

Venus -87694-11-26 16:03 J -30308480.94 -30308480.83 -30308480.72 0.3605 0.2178

Venus -87692-06-12 10:47 J -30307917.16 -30307917.05 -30307916.94 0.3760 0.1037

Jupiter -87692-11-30 14:37 J -30307746.02 -30307745.89 -30307745.76 0.0533 0.0129

Jupiter -87691-02-28 00:42 J -30307656.58 -30307656.47 -30307656.37 0.0529 0.0333

Moon -87690-02-16 09:06 J -30307303.24 -30307303.12 -30307303.00 0.2750 0.0475

Earth -87690-02-16 10:03 J -30307303.20 -30307303.08 -30307302.97 0.2752 0.0659 *

Saturn -87689-06-22 00:42 J -30306811.52 -30306811.47 -30306811.41 0.0287 0.0271

Saturn -87689-09-18 21:49 J -30306722.74 -30306722.59 -30306722.44 0.0287 0.0136

Saturn -87689-12-16 18:13 J -30306633.91 -30306633.74 -30306633.57 0.0287 0.0008

Saturn -87688-03-15 14:08 J -30306545.05 -30306544.91 -30306544.75 0.0287 0.0128

Venus -87688-06-11 16:18 J -30306456.95 -30306456.82 -30306456.70 0.3609 0.1098

Saturn -87688-06-12 09:49 J -30306456.16 -30306456.09 -30306456.01 0.0287 0.0254

Mars -87687-08-27 12:42 J -30306015.05 -30306014.97 -30306014.89 0.1888 0.1523

Venus -87687-12-27 06:13 J -30305893.34 -30305893.24 -30305893.15 0.3756 0.1871

Mars -87686-06-19 16:32 J -30305718.93 -30305718.81 -30305718.69 0.1664 0.0598

Uranus -87686-11-04 10:32 J -30305581.10 -30305581.06 -30305581.02 0.0138 0.0135

Jupiter -87685-01-28 19:54 J -30305495.78 -30305495.67 -30305495.55 0.0495 0.0372

Uranus -87685-01-31 16:47 J -30305492.89 -30305492.80 -30305492.68 0.0138 0.0112

Jupiter -87685-04-27 22:32 J -30305405.72 -30305405.56 -30305405.39 0.0497 0.0130

Uranus -87685-04-28 23:30 J -30305404.65 -30305404.52 -30305404.38 0.0138 0.0089

Uranus -87685-07-26 05:59 J -30305316.40 -30305316.25 -30305316.09 0.0138 0.0067

Uranus -87685-10-22 12:27 J -30305228.15 -30305227.98 -30305227.81 0.0138 0.0045

Uranus -87684-01-18 18:42 J -30305139.89 -30305139.72 -30305139.54 0.0138 0.0023

Uranus -87684-04-17 00:56 J -30305051.63 -30305051.46 -30305051.28 0.0138 0.0004

Mars -87684-05-25 04:32 J -30305013.34 -30305013.31 -30305013.29 0.1643 0.1594

Uranus -87684-07-14 07:11 J -30304963.37 -30304963.20 -30304963.02 0.0137 0.0020

Uranus -87684-10-10 13:25 J -30304875.11 -30304874.94 -30304874.77 0.0137 0.0042

Uranus -87683-01-06 19:25 J -30304786.84 -30304786.69 -30304786.53 0.0137 0.0063

Uranus -87683-04-05 01:25 J -30304698.57 -30304698.44 -30304698.30 0.0137 0.0083

Uranus -87683-07-02 07:11 J -30304610.30 -30304610.20 -30304610.08 0.0137 0.0104

Uranus -87683-09-28 13:11 J -30304522.01 -30304521.95 -30304521.87 0.0137 0.0124

Venus -87683-12-26 16:03 J -30304432.96 -30304432.83 -30304432.69 0.3613 0.0086

Venus -87681-07-12 01:39 J -30303869.51 -30303869.43 -30303869.35 0.3752 0.2720

Moon -87680-08-17 20:08 J -30303467.79 -30303467.66 -30303467.54 0.2586 0.1230

Earth -87680-08-17 21:20 J -30303467.74 -30303467.61 -30303467.49 0.2584 0.1181 *

Jupiter -87680-09-18 18:27 J -30303435.85 -30303435.73 -30303435.61 0.0533 0.0238

Jupiter -87680-12-17 04:03 J -30303346.45 -30303346.33 -30303346.21 0.0530 0.0222

Mars -87677-01-17 13:25 J -30302585.08 -30302584.94 -30302584.80 0.1881 0.0482

Moon -87677-02-19 05:30 J -30302552.34 -30302552.27 -30302552.19 0.2752 0.2100

Earth -87677-02-19 06:27 J -30302552.31 -30302552.23 -30302552.16 0.2750 0.2134 *

Venus -87677-07-11 15:35 J -30302408.98 -30302408.85 -30302408.73 0.3616 0.0965

Mars -87677-11-09 01:54 J -30302288.52 -30302288.42 -30302288.33 0.1669 0.1123

Venus -87675-01-25 21:35 J -30301845.63 -30301845.60 -30301845.57 0.3748 0.3599

Mars -87675-10-15 13:25 J -30301583.04 -30301582.94 -30301582.84 0.1648 0.1067

Pluto -87675-12-26 04:18 J -30301511.35 -30301511.32 -30301511.26 0.0085 0.0079

Saturn -87674-01-07 20:37 J -30301498.69 -30301498.64 -30301498.59 0.0272 0.0253

Pluto -87674-03-24 05:59 J -30301423.33 -30301423.25 -30301423.17 0.0085 0.0066

Saturn -87674-04-06 08:23 J -30301410.26 -30301410.15 -30301410.04 0.0272 0.0165

Pluto -87674-06-20 07:11 J -30301335.30 -30301335.20 -30301335.09 0.0084 0.0054

Saturn -87674-07-03 20:08 J -30301321.79 -30301321.66 -30301321.52 0.0272 0.0077

Pluto -87674-09-16 08:37 J -30301247.26 -30301247.14 -30301247.03 0.0084 0.0042

Saturn -87674-09-30 08:23 J -30301233.29 -30301233.15 -30301233.01 0.0272 0.0015

Pluto -87674-12-13 09:49 J -30301159.21 -30301159.09 -30301158.96 0.0084 0.0029

Saturn -87674-12-27 20:37 J -30301144.76 -30301144.64 -30301144.50 0.0272 0.0107

Jupiter -87673-02-14 21:49 J -30301095.76 -30301095.59 -30301095.41 0.0497 0.0012

Pluto -87673-03-10 11:01 J -30301071.16 -30301071.04 -30301070.90 0.0084 0.0018

Saturn -87673-03-25 09:20 J -30301056.21 -30301056.11 -30301056.01 0.0272 0.0200

Jupiter -87673-05-14 23:30 J -30301005.52 -30301005.52 -30301005.51 0.0500 0.0499

Pluto -87673-06-06 12:27 J -30300983.11 -30300982.98 -30300982.85 0.0084 0.0006

Pluto -87673-09-02 13:39 J -30300895.06 -30300894.93 -30300894.80 0.0084 0.0006

Pluto -87673-11-29 14:51 J -30300807.01 -30300806.88 -30300806.75 0.0084 0.0018

Pluto -87672-02-25 16:03 J -30300718.95 -30300718.83 -30300718.70 0.0084 0.0030

Pluto -87672-05-24 17:15 J -30300630.89 -30300630.78 -30300630.66 0.0083 0.0042

Pluto -87672-08-20 18:27 J -30300542.82 -30300542.73 -30300542.62 0.0083 0.0053

Pluto -87672-11-16 19:39 J -30300454.75 -30300454.68 -30300454.59 0.0083 0.0065

Venus -87671-01-25 14:37 J -30300385.00 -30300384.89 -30300384.78 0.3621 0.1930

Pluto -87671-02-12 20:51 J -30300366.67 -30300366.63 -30300366.57 0.0083 0.0076

Moon -87670-02-11 22:47 J -30300002.63 -30300002.55 -30300002.46 0.2748 0.1907

Earth -87670-02-11 22:47 J -30300002.63 -30300002.55 -30300002.47 0.2755 0.1935 *

Venus -87669-10-19 17:30 J -30299386.82 -30299386.77 -30299386.72 0.3780 0.3306

Mars -87668-06-08 13:54 J -30299155.06 -30299154.92 -30299154.78 0.1874 0.0567

Jupiter -87668-07-07 21:49 J -30299125.69 -30299125.59 -30299125.49 0.0534 0.0350

Jupiter -87668-10-05 07:11 J -30299036.33 -30299036.20 -30299036.06 0.0530 0.0108

Mars -87667-04-01 11:01 J -30298858.06 -30298858.04 -30298858.03 0.1675 0.1654

Moon -87667-08-20 21:20 J -30298716.75 -30298716.61 -30298716.47 0.2590 0.0374

Earth -87667-08-20 22:18 J -30298716.71 -30298716.57 -30298716.43 0.2585 0.0532 *

Venus -87666-08-11 13:11 J -30298361.03 -30298360.95 -30298360.87 0.3625 0.2849

Mars -87665-03-06 22:32 J -30298152.69 -30298152.56 -30298152.44 0.1653 0.0537

Venus -87663-05-05 11:44 J -30297363.09 -30297363.01 -30297362.94 0.3776 0.2604

Jupiter -87662-12-03 21:06 J -30296785.78 -30296785.62 -30296785.45 0.0496 0.0116

Jupiter -87661-03-02 23:15 J -30296695.64 -30296695.53 -30296695.42 0.0499 0.0380

Saturn -87659-02-05 20:37 J -30295990.78 -30295990.64 -30295990.51 0.0288 0.0178

Saturn -87659-05-05 17:15 J -30295901.95 -30295901.78 -30295901.61 0.0288 0.0043

Saturn -87659-08-02 13:25 J -30295813.09 -30295812.94 -30295812.77 0.0288 0.0089

Mars -87659-10-29 14:08 J -30295724.98 -30295724.91 -30295724.84 0.1866 0.1632

Saturn -87659-10-30 09:20 J -30295724.22 -30295724.11 -30295724.00 0.0288 0.0217

Venus -87658-11-19 05:59 J -30295339.35 -30295339.25 -30295339.16 0.3773 0.1886

Moon -87657-02-14 18:27 J -30295251.85 -30295251.73 -30295251.62 0.2748 0.0589

Earth -87657-02-14 18:56 J -30295251.83 -30295251.71 -30295251.60 0.2753 0.0510 *

Jupiter -87656-04-26 00:13 J -30294815.54 -30294815.49 -30294815.43 0.0535 0.0475

Jupiter -87656-07-24 09:35 J -30294726.23 -30294726.10 -30294725.96 0.0532 0.0023

Mars -87656-07-28 07:25 J -30294722.32 -30294722.19 -30294722.06 0.1658 0.0026

Jupiter -87656-10-21 19:39 J -30294636.75 -30294636.68 -30294636.60 0.0528 0.0444

Earth -87654-08-23 22:47 J -30293965.62 -30293965.55 -30293965.47 0.2587 0.2184

Moon -87654-08-23 23:01 J -30293965.60 -30293965.54 -30293965.47 0.2594 0.2285 *

Venus -87652-06-04 00:27 J -30293315.59 -30293315.48 -30293315.37 0.3770 0.1132

Jupiter -87650-09-21 20:23 J -30292475.81 -30292475.65 -30292475.50 0.0495 0.0238

Jupiter -87650-12-20 22:32 J -30292385.70 -30292385.56 -30292385.41 0.0498 0.0260

Mars -87647-02-25 13:11 J -30291588.02 -30291587.95 -30291587.88 0.1888 0.1634

Earth -87647-08-16 01:54 J -30291416.44 -30291416.42 -30291416.41 0.2583 0.2568

Mars -87647-12-18 16:47 J -30291291.93 -30291291.80 -30291291.68 0.1664 0.0528

Venus -87647-12-18 19:11 J -30291291.81 -30291291.70 -30291291.59 0.3766 0.0375 *

Saturn -87645-05-26 23:44 J -30290766.52 -30290766.51 -30290766.50 0.0271 0.0270

Saturn -87645-08-23 11:30 J -30290678.12 -30290678.02 -30290677.92 0.0271 0.0182

Saturn -87645-11-19 23:15 J -30290589.66 -30290589.53 -30290589.39 0.0271 0.0095

Saturn -87644-02-16 11:30 J -30290501.16 -30290501.02 -30290500.88 0.0271 0.0004

Moon -87644-02-16 14:08 J -30290501.02 -30290500.91 -30290500.79 0.2749 0.0926 *

Earth -87644-02-16 15:06 J -30290500.98 -30290500.87 -30290500.76 0.2752 0.0953 *

Jupiter -87644-05-12 12:56 J -30290416.09 -30290415.96 -30290415.83 0.0533 0.0133

Saturn -87644-05-15 23:44 J -30290412.64 -30290412.51 -30290412.37 0.0271 0.0088

Jupiter -87644-08-09 23:01 J -30290326.65 -30290326.54 -30290326.44 0.0529 0.0330

Saturn -87644-08-12 12:13 J -30290324.10 -30290323.99 -30290323.88 0.0271 0.0181

Venus -87643-12-17 15:06 J -30289831.94 -30289831.87 -30289831.80 0.3603 0.3032

Venus -87641-07-03 14:08 J -30289268.03 -30289267.91 -30289267.80 0.3763 0.0444

Uranus -87641-09-25 20:51 J -30289183.68 -30289183.63 -30289183.57 0.0140 0.0129

Uranus -87641-12-23 00:42 J -30289095.55 -30289095.47 -30289095.38 0.0140 0.0111

Uranus -87640-03-21 04:32 J -30289007.41 -30289007.31 -30289007.20 0.0140 0.0093

Uranus -87640-06-17 08:23 J -30288919.26 -30288919.15 -30288919.02 0.0141 0.0076

Uranus -87640-09-13 12:27 J -30288831.10 -30288830.98 -30288830.85 0.0141 0.0057

Uranus -87640-12-10 16:32 J -30288742.94 -30288742.81 -30288742.67 0.0141 0.0039

Uranus -87639-03-08 20:37 J -30288654.78 -30288654.64 -30288654.50 0.0141 0.0020

Uranus -87639-06-05 00:42 J -30288566.61 -30288566.47 -30288566.33 0.0141 0.0003

Uranus -87639-09-01 04:47 J -30288478.44 -30288478.30 -30288478.16 0.0141 0.0017

Uranus -87639-11-28 08:51 J -30288390.27 -30288390.13 -30288389.99 0.0142 0.0036

Uranus -87638-02-24 12:56 J -30288302.09 -30288301.96 -30288301.83 0.0142 0.0056

Uranus -87638-05-23 17:15 J -30288213.90 -30288213.78 -30288213.66 0.0142 0.0075

Jupiter -87638-07-10 18:27 J -30288165.84 -30288165.73 -30288165.60 0.0494 0.0367

Mars -87638-07-18 13:54 J -30288158.06 -30288157.92 -30288157.78 0.1881 0.0594

Uranus -87638-08-19 21:20 J -30288125.71 -30288125.61 -30288125.50 0.0142 0.0095

Jupiter -87638-10-08 21:20 J -30288075.78 -30288075.61 -30288075.44 0.0497 0.0134

Uranus -87638-11-16 01:39 J -30288037.51 -30288037.43 -30288037.34 0.0142 0.0114

Uranus -87637-02-12 05:59 J -30287949.29 -30287949.25 -30287949.20 0.0142 0.0134

Mars -87637-05-10 01:54 J -30287861.52 -30287861.42 -30287861.33 0.1669 0.1056

Venus -87637-07-02 15:49 J -30287807.96 -30287807.84 -30287807.73 0.3606 0.1905

Venus -87635-01-17 09:06 J -30287244.22 -30287244.12 -30287244.01 0.3759 0.1254

Mars -87635-04-15 13:25 J -30287156.03 -30287155.94 -30287155.84 0.1648 0.1140

Moon -87634-08-19 01:54 J -30286665.55 -30286665.42 -30286665.29 0.2587 0.1001

Earth -87634-08-19 03:06 J -30286665.51 -30286665.37 -30286665.23 0.2584 0.0816 *

Jupiter -87632-02-28 16:47 J -30286105.92 -30286105.80 -30286105.68 0.0533 0.0240

Jupiter -87632-05-29 02:37 J -30286016.52 -30286016.39 -30286016.27 0.0530 0.0221

Venus -87631-01-16 16:03 J -30285783.97 -30285783.83 -30285783.70 0.3610 0.0832

Moon -87631-02-19 10:47 J -30285750.11 -30285750.05 -30285749.98 0.2754 0.2283

Earth -87631-02-19 11:30 J -30285750.07 -30285750.02 -30285749.97 0.2750 0.2441 *

Saturn -87630-06-25 18:42 J -30285258.82 -30285258.72 -30285258.61 0.0287 0.0224

Venus -87630-08-03 04:32 J -30285220.40 -30285220.31 -30285220.21 0.3755 0.2091

Saturn -87630-09-22 15:35 J -30285170.01 -30285169.85 -30285169.68 0.0287 0.0090

Saturn -87630-12-20 11:59 J -30285081.16 -30285081.00 -30285080.83 0.0287 0.0043

Saturn -87629-03-18 07:54 J -30284992.30 -30284992.17 -30284992.03 0.0287 0.0173

Mars -87629-12-07 14:23 J -30284728.05 -30284727.90 -30284727.76 0.1874 0.0468

Mars -87628-09-30 11:01 J -30284431.07 -30284431.04 -30284431.00 0.1675 0.1581

Jupiter -87626-04-28 17:30 J -30283855.79 -30283855.77 -30283855.75 0.0494 0.0490

Jupiter -87626-07-27 20:37 J -30283765.81 -30283765.64 -30283765.47 0.0497 0.0012

Venus -87626-08-02 15:49 J -30283759.98 -30283759.84 -30283759.71 0.3614 0.0231

Mars -87626-09-05 22:32 J -30283725.68 -30283725.56 -30283725.44 0.1653 0.0609

Moon -87624-02-12 04:03 J -30283200.43 -30283200.33 -30283200.24 0.2747 0.1612

Earth -87624-02-12 03:49 J -30283200.43 -30283200.34 -30283200.25 0.2755 0.1644 *

Venus -87624-02-16 00:13 J -30283196.56 -30283196.49 -30283196.42 0.3751 0.2950

Neptune -87623-07-20 15:49 J -30282676.84 -30282676.84 -30282676.83 0.0089 0.0089

Neptune -87623-10-16 17:01 J -30282588.82 -30282588.79 -30282588.74 0.0089 0.0085

Neptune -87622-01-12 18:27 J -30282500.77 -30282500.73 -30282500.66 0.0089 0.0081

Neptune -87622-04-10 20:08 J -30282412.73 -30282412.66 -30282412.59 0.0089 0.0076

Neptune -87622-07-07 21:35 J -30282324.68 -30282324.60 -30282324.52 0.0089 0.0072

Neptune -87622-10-03 22:47 J -30282236.63 -30282236.55 -30282236.45 0.0089 0.0068

Neptune -87622-12-31 00:13 J -30282148.57 -30282148.49 -30282148.39 0.0089 0.0064

Neptune -87621-03-28 01:39 J -30282060.52 -30282060.43 -30282060.32 0.0089 0.0060

Neptune -87621-06-24 03:20 J -30281972.46 -30281972.36 -30281972.25 0.0089 0.0055

Moon -87621-08-21 03:35 J -30281914.48 -30281914.35 -30281914.22 0.2591 0.0911

Earth -87621-08-21 04:03 J -30281914.46 -30281914.33 -30281914.19 0.2586 0.0887 *

Neptune -87621-09-20 04:47 J -30281884.41 -30281884.30 -30281884.19 0.0089 0.0051

Neptune -87621-12-17 06:13 J -30281796.35 -30281796.24 -30281796.12 0.0089 0.0047

Jupiter -87621-12-17 20:37 J -30281795.74 -30281795.64 -30281795.54 0.0534 0.0347

Venus -87620-02-15 15:06 J -30281736.00 -30281735.87 -30281735.75 0.3618 0.1218

Neptune -87620-03-15 07:39 J -30281708.30 -30281708.18 -30281708.06 0.0089 0.0043

Jupiter -87620-03-17 05:59 J -30281706.38 -30281706.25 -30281706.12 0.0531 0.0112

Neptune -87620-06-11 09:06 J -30281620.24 -30281620.12 -30281619.99 0.0089 0.0038

Neptune -87620-09-07 10:32 J -30281532.18 -30281532.06 -30281531.93 0.0089 0.0034

Neptune -87620-12-04 11:59 J -30281444.12 -30281444.00 -30281443.86 0.0089 0.0030

Neptune -87619-03-02 13:25 J -30281356.06 -30281355.94 -30281355.80 0.0089 0.0026

Mars -87619-04-29 14:37 J -30281297.98 -30281297.89 -30281297.81 0.1866 0.1526

Neptune -87619-05-29 15:06 J -30281268.00 -30281267.87 -30281267.74 0.0089 0.0021

Neptune -87619-08-25 16:32 J -30281179.94 -30281179.81 -30281179.67 0.0089 0.0017

Neptune -87619-11-21 17:59 J -30281091.88 -30281091.75 -30281091.61 0.0089 0.0013

Neptune -87618-02-17 19:39 J -30281003.82 -30281003.68 -30281003.55 0.0089 0.0008

Neptune -87618-05-16 21:06 J -30280915.76 -30280915.62 -30280915.48 0.0089 0.0004

Neptune -87618-08-12 22:32 J -30280827.69 -30280827.56 -30280827.42 0.0089 0.0002

Neptune -87618-11-09 00:13 J -30280739.63 -30280739.49 -30280739.36 0.0089 0.0005

Neptune -87617-02-05 01:39 J -30280651.57 -30280651.43 -30280651.29 0.0089 0.0009

Neptune -87617-05-03 03:06 J -30280563.50 -30280563.37 -30280563.23 0.0089 0.0014

Neptune -87617-07-30 04:32 J -30280475.44 -30280475.31 -30280475.17 0.0089 0.0019

Neptune -87617-10-26 06:13 J -30280387.37 -30280387.24 -30280387.10 0.0089 0.0023

Neptune -87616-01-22 07:39 J -30280299.31 -30280299.18 -30280299.04 0.0089 0.0027

Mars -87616-01-26 07:39 J -30280295.31 -30280295.18 -30280295.05 0.1658 0.0082

Neptune -87616-04-20 09:06 J -30280211.24 -30280211.12 -30280210.98 0.0089 0.0032

Neptune -87616-07-17 10:47 J -30280123.17 -30280123.05 -30280122.92 0.0089 0.0036

Neptune -87616-10-13 12:27 J -30280035.11 -30280034.98 -30280034.86 0.0089 0.0040

Neptune -87615-01-09 13:54 J -30279947.04 -30279946.92 -30279946.80 0.0089 0.0045

Saturn -87615-01-10 12:13 J -30279946.07 -30279945.99 -30279945.91 0.0272 0.0219

Neptune -87615-04-07 15:35 J -30279858.97 -30279858.85 -30279858.74 0.0089 0.0049

Saturn -87615-04-08 23:59 J -30279857.62 -30279857.50 -30279857.37 0.0272 0.0131

Neptune -87615-07-04 16:47 J -30279770.90 -30279770.80 -30279770.68 0.0089 0.0054

Saturn -87615-07-06 11:59 J -30279769.14 -30279769.00 -30279768.86 0.0272 0.0042

Venus -87615-09-01 13:54 J -30279712.02 -30279711.92 -30279711.81 0.3622 0.2172

Neptune -87615-09-30 18:42 J -30279682.83 -30279682.72 -30279682.62 0.0089 0.0058

Saturn -87615-10-03 00:13 J -30279680.63 -30279680.49 -30279680.35 0.0272 0.0050

Neptune -87615-12-27 19:54 J -30279594.75 -30279594.67 -30279594.56 0.0089 0.0063

Saturn -87615-12-30 12:42 J -30279592.09 -30279591.97 -30279591.85 0.0272 0.0143

Neptune -87614-03-25 21:49 J -30279506.68 -30279506.59 -30279506.50 0.0089 0.0067

Saturn -87614-03-29 01:11 J -30279503.52 -30279503.45 -30279503.38 0.0272 0.0236

Jupiter -87614-05-15 19:39 J -30279455.85 -30279455.68 -30279455.51 0.0496 0.0111

Neptune -87614-06-21 23:01 J -30279418.60 -30279418.54 -30279418.44 0.0089 0.0072

Jupiter -87614-08-13 21:35 J -30279365.70 -30279365.60 -30279365.48 0.0499 0.0385

Neptune -87614-09-18 00:56 J -30279330.53 -30279330.46 -30279330.39 0.0089 0.0076

Neptune -87614-12-15 02:23 J -30279242.45 -30279242.40 -30279242.33 0.0089 0.0081

Neptune -87613-03-12 04:03 J -30279154.36 -30279154.33 -30279154.28 0.0089 0.0085

Venus -87612-05-26 15:35 J -30278713.91 -30278713.85 -30278713.79 0.3779 0.3134

Moon -87611-02-14 23:15 J -30278449.64 -30278449.53 -30278449.41 0.2748 0.0283

Earth -87611-02-14 23:59 J -30278449.62 -30278449.50 -30278449.38 0.2753 0.0211 *

Venus -87609-03-17 12:27 J -30277688.04 -30277687.98 -30277687.91 0.3626 0.3083

Jupiter -87609-10-05 23:59 J -30277485.56 -30277485.50 -30277485.43 0.0534 0.0458

Jupiter -87608-01-03 09:20 J -30277396.24 -30277396.11 -30277395.98 0.0531 0.0003

Jupiter -87608-04-02 19:25 J -30277306.75 -30277306.69 -30277306.62 0.0528 0.0458

Earth -87608-08-24 04:47 J -30277163.33 -30277163.30 -30277163.28 0.2588 0.2538

Moon -87608-08-24 05:01 J -30277163.32 -30277163.29 -30277163.26 0.2594 0.2501 *

Mars -87608-08-26 13:39 J -30277160.98 -30277160.93 -30277160.88 0.1889 0.1748

Mars -87607-06-18 16:47 J -30276864.92 -30276864.80 -30276864.68 0.1663 0.0450

Venus -87607-12-10 09:49 J -30276690.18 -30276690.09 -30276690.01 0.3775 0.2428

Jupiter -87602-03-03 18:56 J -30275145.86 -30275145.71 -30275145.55 0.0495 0.0232

Jupiter -87602-06-01 21:20 J -30275055.75 -30275055.61 -30275055.46 0.0498 0.0267

Uranus -87602-11-24 18:56 J -30274879.78 -30274879.71 -30274879.63 0.0138 0.0126

Uranus -87601-02-21 01:25 J -30274791.55 -30274791.44 -30274791.31 0.0138 0.0103

Uranus -87601-05-19 08:08 J -30274703.30 -30274703.16 -30274703.02 0.0138 0.0080

Venus -87601-06-25 04:03 J -30274666.43 -30274666.33 -30274666.23 0.3772 0.1698

Uranus -87601-08-15 14:23 J -30274615.05 -30274614.90 -30274614.73 0.0138 0.0058

Moon -87601-08-16 06:27 J -30274614.29 -30274614.23 -30274614.17 0.2582 0.2318

Earth -87601-08-16 07:39 J -30274614.25 -30274614.18 -30274614.11 0.2583 0.2200 *

Saturn -87601-11-11 16:47 J -30274526.85 -30274526.80 -30274526.74 0.0288 0.0270

Uranus -87601-11-11 20:51 J -30274526.80 -30274526.63 -30274526.46 0.0138 0.0036 *

Uranus -87600-02-08 03:20 J -30274438.54 -30274438.36 -30274438.19 0.0138 0.0014

Saturn -87600-02-08 13:54 J -30274438.07 -30274437.92 -30274437.77 0.0288 0.0134

Uranus -87600-05-07 09:35 J -30274350.28 -30274350.10 -30274349.93 0.0138 0.0008

Saturn -87600-05-08 10:32 J -30274349.23 -30274349.06 -30274348.89 0.0288 0.0001

Uranus -87600-08-03 15:35 J -30274262.01 -30274261.85 -30274261.67 0.0137 0.0029

Saturn -87600-08-05 06:42 J -30274260.37 -30274260.22 -30274260.07 0.0288 0.0131

Uranus -87600-10-30 21:49 J -30274173.75 -30274173.59 -30274173.43 0.0137 0.0050

Saturn -87600-11-02 02:23 J -30274171.47 -30274171.40 -30274171.33 0.0288 0.0259

Uranus -87599-01-27 03:49 J -30274085.48 -30274085.34 -30274085.19 0.0137 0.0071

Uranus -87599-04-25 09:49 J -30273997.21 -30273997.09 -30273996.96 0.0137 0.0092

Uranus -87599-07-22 15:49 J -30273908.93 -30273908.84 -30273908.74 0.0137 0.0112

Uranus -87599-10-18 21:35 J -30273820.63 -30273820.60 -30273820.55 0.0137 0.0133

Mars -87598-01-16 14:23 J -30273731.04 -30273730.90 -30273730.77 0.1881 0.0705

Moon -87598-02-17 19:25 J -30273698.80 -30273698.69 -30273698.58 0.2750 0.1091

Earth -87598-02-17 20:23 J -30273698.76 -30273698.65 -30273698.55 0.2751 0.1260 *

Mars -87598-11-09 01:54 J -30273434.52 -30273434.42 -30273434.32 0.1669 0.0981

Jupiter -87597-10-22 11:44 J -30273086.14 -30273086.01 -30273085.88 0.0532 0.0129

Jupiter -87596-01-19 21:35 J -30272996.70 -30272996.60 -30272996.49 0.0529 0.0332

Mars -87596-10-14 13:39 J -30272729.02 -30272728.93 -30272728.84 0.1647 0.1216

Venus -87595-01-08 22:47 J -30272642.66 -30272642.55 -30272642.44 0.3769 0.0946

Moon -87591-02-10 13:25 J -30271148.97 -30271148.94 -30271148.90 0.2750 0.2625

Jupiter -87591-12-20 17:59 J -30270835.87 -30270835.75 -30270835.62 0.0494 0.0354

Jupiter -87590-03-20 20:51 J -30270745.80 -30270745.63 -30270745.47 0.0497 0.0146

Venus -87590-07-25 17:30 J -30270618.88 -30270618.77 -30270618.66 0.3765 0.0162

Mars -87589-06-07 14:51 J -30270301.03 -30270300.88 -30270300.74 0.1874 0.0356

Mars -87588-03-31 11:01 J -30270004.09 -30270004.04 -30270003.98 0.1675 0.1513

Moon -87588-08-19 07:54 J -30269863.31 -30269863.17 -30269863.03 0.2587 0.0528

Earth -87588-08-19 09:06 J -30269863.27 -30269863.12 -30269862.98 0.2584 0.0461 *

Mars -87586-03-06 22:32 J -30269298.67 -30269298.56 -30269298.44 0.1653 0.0686

Saturn -87586-05-30 15:20 J -30269213.92 -30269213.86 -30269213.79 0.0271 0.0236

Venus -87586-07-24 15:06 J -30269158.95 -30269158.87 -30269158.78 0.3604 0.2743

Saturn -87586-08-27 03:06 J -30269125.48 -30269125.37 -30269125.25 0.0271 0.0149

Saturn -87586-11-23 15:06 J -30269037.01 -30269036.87 -30269036.73 0.0271 0.0059

Saturn -87585-02-20 03:20 J -30268948.50 -30268948.36 -30268948.22 0.0271 0.0032

Moon -87585-02-20 16:03 J -30268947.83 -30268947.83 -30268947.83 0.2754 0.2748

Earth -87585-02-20 16:47 J -30268947.80 -30268947.80 -30268947.80 0.2749 0.2749

Saturn -87585-05-18 15:35 J -30268859.98 -30268859.85 -30268859.72 0.0271 0.0124

Jupiter -87585-08-10 15:06 J -30268775.99 -30268775.87 -30268775.75 0.0533 0.0243

Saturn -87585-08-15 04:03 J -30268771.41 -30268771.33 -30268771.24 0.0271 0.0217

Jupiter -87585-11-08 00:42 J -30268686.59 -30268686.47 -30268686.34 0.0530 0.0218

Venus -87584-02-07 12:27 J -30268595.09 -30268594.98 -30268594.87 0.3761 0.0637

Venus -87580-02-06 15:35 J -30267134.97 -30267134.85 -30267134.73 0.3607 0.1626

Mars -87580-10-28 15:06 J -30266870.97 -30266870.87 -30266870.77 0.1866 0.1408

Venus -87579-08-24 07:39 J -30266571.28 -30266571.18 -30266571.07 0.3758 0.1465

Jupiter -87579-10-08 16:18 J -30266525.85 -30266525.82 -30266525.78 0.0494 0.0483

Jupiter -87578-01-06 19:25 J -30266435.86 -30266435.69 -30266435.52 0.0496 0.0018

Moon -87578-02-13 08:51 J -30266398.23 -30266398.13 -30266398.02 0.2748 0.1377

Earth -87578-02-13 08:51 J -30266398.23 -30266398.13 -30266398.02 0.2755 0.1354 *

Mars -87577-07-27 07:39 J -30265868.30 -30265868.18 -30265868.05 0.1658 0.0159

Moon -87575-08-22 09:35 J -30265112.22 -30265112.10 -30265111.97 0.2592 0.1146

Earth -87575-08-22 09:49 J -30265112.21 -30265112.09 -30265111.96 0.2586 0.1239 *

Venus -87575-08-23 15:49 J -30265110.98 -30265110.84 -30265110.71 0.3611 0.0557

Venus -87573-03-09 03:06 J -30264547.46 -30264547.37 -30264547.28 0.3754 0.2316

Jupiter -87573-05-29 18:56 J -30264465.81 -30264465.71 -30264465.61 0.0534 0.0350

Jupiter -87573-08-27 04:18 J -30264376.45 -30264376.32 -30264376.18 0.0531 0.0110

Saturn -87571-06-28 12:42 J -30263706.11 -30263705.97 -30263705.84 0.0288 0.0178

Saturn -87571-09-25 09:20 J -30263617.28 -30263617.11 -30263616.94 0.0288 0.0044

Saturn -87571-12-23 05:30 J -30263528.43 -30263528.27 -30263528.10 0.0288 0.0089

Saturn -87570-03-22 01:25 J -30263439.55 -30263439.44 -30263439.33 0.0288 0.0217

Venus -87569-03-08 15:20 J -30263086.99 -30263086.86 -30263086.73 0.3615 0.0480

Mars -87568-02-24 13:54 J -30262733.95 -30262733.92 -30262733.90 0.1889 0.1847

Venus -87568-09-22 23:01 J -30262523.60 -30262523.54 -30262523.48 0.3749 0.3184

Mars -87568-12-17 16:47 J -30262437.92 -30262437.80 -30262437.67 0.1663 0.0379

Jupiter -87567-10-25 18:27 J -30262125.90 -30262125.73 -30262125.56 0.0496 0.0105

Jupiter -87566-01-23 20:37 J -30262035.75 -30262035.64 -30262035.54 0.0499 0.0390

Moon -87565-02-16 04:32 J -30261647.43 -30261647.31 -30261647.20 0.2748 0.0107

Earth -87565-02-16 05:01 J -30261647.40 -30261647.29 -30261647.17 0.2753 0.0121 *

Venus -87564-09-22 14:37 J -30261063.01 -30261062.89 -30261062.77 0.3619 0.1470

Jupiter -87561-03-17 22:47 J -30260155.62 -30260155.55 -30260155.48 0.0535 0.0456

Jupiter -87561-06-15 08:08 J -30260066.30 -30260066.16 -30260066.03 0.0532 0.0008

Venus -87561-06-16 19:39 J -30260064.70 -30260064.68 -30260064.65 0.3781 0.3654

Jupiter -87561-09-12 18:13 J -30259976.80 -30259976.74 -30259976.68 0.0528 0.0462

Mars -87559-07-17 14:37 J -30259304.03 -30259303.89 -30259303.76 0.1882 0.0803

Venus -87558-04-08 13:25 J -30259039.04 -30259038.94 -30259038.85 0.3623 0.2413

Mars -87558-05-10 02:08 J -30259007.52 -30259007.41 -30259007.31 0.1669 0.0907

Uranus -87557-07-20 00:56 J -30258570.46 -30258570.46 -30258570.45 0.0140 0.0140

Uranus -87557-10-16 04:47 J -30258482.36 -30258482.30 -30258482.23 0.0140 0.0122

Saturn -87557-10-16 16:18 J -30258481.82 -30258481.82 -30258481.82 0.0272 0.0271

Uranus -87556-01-12 08:37 J -30258394.23 -30258394.14 -30258394.04 0.0140 0.0105

Saturn -87556-01-13 03:49 J -30258393.43 -30258393.34 -30258393.23 0.0271 0.0185

Uranus -87556-04-10 12:27 J -30258306.08 -30258305.98 -30258305.87 0.0140 0.0087

Saturn -87556-04-11 15:49 J -30258304.97 -30258304.84 -30258304.71 0.0271 0.0096

Mars -87556-04-14 13:54 J -30258302.00 -30258301.92 -30258301.85 0.1647 0.1296

Uranus -87556-07-07 16:32 J -30258217.93 -30258217.81 -30258217.69 0.0141 0.0069

Saturn -87556-07-09 03:49 J -30258216.48 -30258216.34 -30258216.20 0.0271 0.0007

Uranus -87556-10-03 20:23 J -30258129.78 -30258129.65 -30258129.52 0.0141 0.0051

Saturn -87556-10-05 16:03 J -30258127.96 -30258127.83 -30258127.69 0.0271 0.0086

Uranus -87556-12-31 00:27 J -30258041.62 -30258041.48 -30258041.34 0.0141 0.0032

Venus -87556-12-31 13:39 J -30258040.99 -30258040.93 -30258040.86 0.3778 0.2962

Saturn -87555-01-02 04:32 J -30258039.42 -30258039.31 -30258039.20 0.0271 0.0179

Uranus -87555-03-29 04:32 J -30257953.45 -30257953.31 -30257953.17 0.0141 0.0014

Uranus -87555-06-25 08:37 J -30257865.29 -30257865.14 -30257865.00 0.0141 0.0006

Jupiter -87555-08-13 17:30 J -30257815.92 -30257815.77 -30257815.61 0.0495 0.0228

Moon -87555-08-17 12:13 J -30257812.08 -30257811.99 -30257811.90 0.2584 0.2006

Earth -87555-08-17 13:39 J -30257812.03 -30257811.93 -30257811.83 0.2583 0.1831 *

Uranus -87555-09-21 12:27 J -30257777.11 -30257776.98 -30257776.83 0.0141 0.0025

Jupiter -87555-11-11 19:54 J -30257725.81 -30257725.67 -30257725.52 0.0498 0.0270

Uranus -87555-12-18 16:47 J -30257688.94 -30257688.80 -30257688.66 0.0142 0.0043

Uranus -87554-03-16 20:51 J -30257600.75 -30257600.63 -30257600.50 0.0142 0.0062

Uranus -87554-06-13 00:56 J -30257512.57 -30257512.46 -30257512.33 0.0142 0.0082

Uranus -87554-09-09 05:30 J -30257424.37 -30257424.27 -30257424.17 0.0142 0.0101

Uranus -87554-12-06 09:35 J -30257336.17 -30257336.10 -30257336.02 0.0142 0.0121

Uranus -87553-03-03 13:54 J -30257247.93 -30257247.92 -30257247.90 0.0142 0.0141

Venus -87553-10-22 11:44 J -30257015.06 -30257015.01 -30257014.96 0.3627 0.3315

Moon -87552-02-18 00:27 J -30256896.57 -30256896.48 -30256896.38 0.2751 0.1493

Earth -87552-02-18 01:25 J -30256896.54 -30256896.44 -30256896.34 0.2751 0.1555 *

Venus -87550-07-17 07:54 J -30256017.26 -30256017.17 -30256017.08 0.3775 0.2246

Mars -87550-12-07 15:20 J -30255874.00 -30255873.86 -30255873.71 0.1874 0.0231

Jupiter -87549-04-03 11:30 J -30255756.15 -30255756.02 -30255755.89 0.0532 0.0113

Jupiter -87549-07-01 21:20 J -30255666.71 -30255666.61 -30255666.51 0.0529 0.0348

Mars -87549-09-29 11:15 J -30255577.09 -30255577.03 -30255576.97 0.1675 0.1437

Mars -87547-09-04 22:47 J -30254871.66 -30254871.55 -30254871.43 0.1652 0.0764

Earth -87545-02-11 17:59 J -30254346.79 -30254346.75 -30254346.70 0.2756 0.2469

Moon -87545-02-11 18:42 J -30254346.77 -30254346.72 -30254346.68 0.2749 0.2476 *

Venus -87544-01-30 02:23 J -30253993.50 -30253993.40 -30253993.30 0.3771 0.1507

Jupiter -87543-06-01 16:47 J -30253505.92 -30253505.80 -30253505.67 0.0495 0.0348

Jupiter -87543-08-30 19:39 J -30253415.84 -30253415.68 -30253415.52 0.0497 0.0152

Moon -87542-08-20 13:39 J -30253061.07 -30253060.93 -30253060.78 0.2588 0.0242

Earth -87542-08-20 14:51 J -30253061.03 -30253060.88 -30253060.74 0.2585 0.0112 *

Saturn -87542-11-15 10:03 J -30252974.18 -30252974.08 -30252973.97 0.0288 0.0228

Saturn -87541-02-12 07:11 J -30252885.37 -30252885.20 -30252885.04 0.0288 0.0092

Saturn -87541-05-11 03:35 J -30252796.52 -30252796.35 -30252796.18 0.0288 0.0042

Saturn -87541-08-07 23:44 J -30252707.65 -30252707.51 -30252707.38 0.0288 0.0172

Mars -87540-04-28 15:20 J -30252443.96 -30252443.86 -30252443.75 0.1866 0.1306

Neptune -87539-01-09 02:08 J -30252188.43 -30252188.41 -30252188.36 0.0089 0.0087

Neptune -87539-04-07 05:30 J -30252100.33 -30252100.27 -30252100.18 0.0089 0.0081

Neptune -87539-07-04 09:06 J -30252012.21 -30252012.12 -30252012.02 0.0089 0.0075

Venus -87539-08-15 21:06 J -30251969.73 -30251969.62 -30251969.51 0.3768 0.0750

Neptune -87539-09-30 12:27 J -30251924.09 -30251923.98 -30251923.86 0.0089 0.0069

Neptune -87539-12-27 15:49 J -30251835.97 -30251835.84 -30251835.71 0.0089 0.0063

Neptune -87538-03-25 18:42 J -30251747.85 -30251747.72 -30251747.56 0.0089 0.0058

Neptune -87538-06-21 22:03 J -30251659.72 -30251659.58 -30251659.42 0.0089 0.0052

Neptune -87538-09-18 01:25 J -30251571.59 -30251571.44 -30251571.27 0.0089 0.0046

Neptune -87538-12-15 04:47 J -30251483.46 -30251483.30 -30251483.13 0.0089 0.0040

Jupiter -87537-01-21 13:54 J -30251446.04 -30251445.92 -30251445.80 0.0533 0.0239

Mars -87537-01-26 07:54 J -30251441.30 -30251441.17 -30251441.05 0.1658 0.0232

Neptune -87537-03-12 07:54 J -30251395.33 -30251395.17 -30251394.99 0.0089 0.0034

Jupiter -87537-04-19 23:30 J -30251356.64 -30251356.52 -30251356.39 0.0530 0.0221

Neptune -87537-06-08 11:15 J -30251307.20 -30251307.03 -30251306.85 0.0089 0.0028

Neptune -87537-09-04 14:23 J -30251219.07 -30251218.90 -30251218.71 0.0088 0.0022

Neptune -87537-12-01 17:44 J -30251130.94 -30251130.76 -30251130.58 0.0088 0.0016

Neptune -87536-02-27 20:51 J -30251042.81 -30251042.63 -30251042.44 0.0088 0.0011

Neptune -87536-05-27 00:13 J -30250954.68 -30250954.49 -30250954.31 0.0088 0.0005

Neptune -87536-08-23 03:20 J -30250866.54 -30250866.36 -30250866.18 0.0088 0.0001

Neptune -87536-11-19 06:27 J -30250778.41 -30250778.23 -30250778.04 0.0088 0.0007

Neptune -87535-02-15 09:35 J -30250690.28 -30250690.10 -30250689.91 0.0088 0.0012

Neptune -87535-05-14 12:42 J -30250602.15 -30250601.97 -30250601.79 0.0088 0.0018

Neptune -87535-08-10 15:49 J -30250514.01 -30250513.84 -30250513.66 0.0088 0.0024

Neptune -87535-11-06 18:56 J -30250425.88 -30250425.71 -30250425.53 0.0088 0.0029

Neptune -87534-02-02 21:49 J -30250337.74 -30250337.59 -30250337.41 0.0088 0.0036

Neptune -87534-05-02 01:11 J -30250249.61 -30250249.45 -30250249.28 0.0088 0.0041

Neptune -87534-07-29 04:03 J -30250161.47 -30250161.33 -30250161.16 0.0088 0.0047

Neptune -87534-10-25 07:25 J -30250073.34 -30250073.19 -30250073.04 0.0088 0.0052

Neptune -87533-01-21 10:18 J -30249985.20 -30249985.07 -30249984.92 0.0088 0.0057

Venus -87533-02-29 15:49 J -30249945.95 -30249945.84 -30249945.72 0.3764 0.0084

Neptune -87533-04-18 13:25 J -30249897.06 -30249896.94 -30249896.81 0.0088 0.0063

Neptune -87533-07-15 16:18 J -30249808.92 -30249808.82 -30249808.69 0.0088 0.0069

Neptune -87533-10-11 19:39 J -30249720.78 -30249720.68 -30249720.58 0.0088 0.0074

Neptune -87532-01-07 22:18 J -30249632.63 -30249632.57 -30249632.48 0.0088 0.0080

Moon -87532-02-13 13:54 J -30249596.03 -30249595.92 -30249595.81 0.2748 0.1030

Earth -87532-02-13 14:08 J -30249596.02 -30249595.91 -30249595.80 0.2754 0.1059 *

Neptune -87532-04-06 01:25 J -30249544.48 -30249544.44 -30249544.38 0.0088 0.0085

Jupiter -87531-03-20 15:49 J -30249195.89 -30249195.84 -30249195.79 0.0494 0.0470

Jupiter -87531-06-18 18:56 J -30249105.88 -30249105.71 -30249105.54 0.0496 0.0031

Venus -87529-02-28 15:06 J -30248485.97 -30248485.87 -30248485.77 0.3605 0.2451

Moon -87529-08-22 15:35 J -30248309.96 -30248309.85 -30248309.75 0.2593 0.1642

Earth -87529-08-22 15:35 J -30248309.96 -30248309.85 -30248309.74 0.2586 0.1589 *

Mars -87528-06-17 17:01 J -30248010.92 -30248010.79 -30248010.67 0.1663 0.0305

Venus -87528-09-14 11:01 J -30247922.15 -30247922.04 -30247921.93 0.3760 0.0859

Saturn -87527-06-02 06:56 J -30247661.29 -30247661.21 -30247661.11 0.0271 0.0203

Saturn -87527-08-29 18:56 J -30247572.83 -30247572.71 -30247572.58 0.0271 0.0114

Saturn -87527-11-26 06:56 J -30247484.35 -30247484.21 -30247484.07 0.0271 0.0024

Saturn -87526-02-22 19:11 J -30247395.84 -30247395.70 -30247395.56 0.0271 0.0068

Saturn -87526-05-22 07:25 J -30247307.30 -30247307.19 -30247307.07 0.0271 0.0161

Saturn -87526-08-18 20:08 J -30247218.71 -30247218.66 -30247218.61 0.0271 0.0254

Jupiter -87526-11-09 17:15 J -30247135.88 -30247135.78 -30247135.68 0.0534 0.0352

Jupiter -87525-02-07 02:51 J -30247046.52 -30247046.38 -30247046.25 0.0531 0.0107

Venus -87524-09-13 15:20 J -30246461.98 -30246461.86 -30246461.73 0.3608 0.1350

Venus -87522-03-31 06:13 J -30245898.34 -30245898.24 -30245898.14 0.3756 0.1685

Pluto -87521-01-12 21:06 J -30245610.68 -30245610.62 -30245610.52 0.0060 0.0055

Pluto -87521-04-09 22:32 J -30245522.66 -30245522.56 -30245522.43 0.0060 0.0048

Pluto -87521-07-06 23:44 J -30245434.62 -30245434.51 -30245434.34 0.0060 0.0043

Pluto -87521-10-03 01:25 J -30245346.58 -30245346.44 -30245346.27 0.0060 0.0036

Pluto -87521-12-30 02:51 J -30245258.53 -30245258.38 -30245258.19 0.0060 0.0030

Pluto -87520-03-28 04:32 J -30245170.48 -30245170.31 -30245170.12 0.0061 0.0023

Pluto -87520-06-24 05:59 J -30245082.43 -30245082.25 -30245082.05 0.0061 0.0017

Pluto -87520-09-20 07:39 J -30244994.37 -30244994.18 -30244993.99 0.0061 0.0010

Pluto -87520-12-17 09:06 J -30244906.31 -30244906.12 -30244905.92 0.0061 0.0003

Mars -87519-01-15 15:06 J -30244876.99 -30244876.87 -30244876.74 0.1882 0.0927

Moon -87519-02-16 09:35 J -30244845.22 -30244845.10 -30244844.98 0.2748 0.0290

Earth -87519-02-16 10:18 J -30244845.19 -30244845.07 -30244844.96 0.2753 0.0390 *

Pluto -87519-03-15 10:32 J -30244818.25 -30244818.06 -30244817.86 0.0061 0.0004

Jupiter -87519-04-06 17:30 J -30244795.94 -30244795.77 -30244795.60 0.0496 0.0098

Pluto -87519-06-11 11:59 J -30244730.19 -30244730.00 -30244729.80 0.0061 0.0010

Jupiter -87519-07-05 19:25 J -30244705.79 -30244705.69 -30244705.59 0.0498 0.0396

Pluto -87519-09-07 13:39 J -30244642.12 -30244641.93 -30244641.74 0.0061 0.0016

Mars -87519-11-08 02:08 J -30244580.52 -30244580.41 -30244580.30 0.1669 0.0834

Pluto -87519-12-04 14:51 J -30244554.05 -30244553.88 -30244553.69 0.0061 0.0023

Pluto -87518-03-02 16:18 J -30244465.98 -30244465.82 -30244465.63 0.0061 0.0030

Venus -87518-03-30 15:35 J -30244437.99 -30244437.85 -30244437.72 0.3612 0.0307

Pluto -87518-05-29 17:59 J -30244377.90 -30244377.75 -30244377.59 0.0061 0.0037

Pluto -87518-08-25 19:11 J -30244289.82 -30244289.70 -30244289.54 0.0061 0.0044

Pluto -87518-11-21 20:37 J -30244201.73 -30244201.64 -30244201.50 0.0061 0.0051

Uranus -87518-12-15 03:35 J -30244178.44 -30244178.35 -30244178.25 0.0138 0.0117

Pluto -87517-02-17 22:32 J -30244113.62 -30244113.56 -30244113.48 0.0061 0.0057

Uranus -87517-03-12 09:49 J -30244090.20 -30244090.09 -30244089.94 0.0138 0.0095

Uranus -87517-06-08 16:32 J -30244001.95 -30244001.81 -30244001.65 0.0138 0.0072

Uranus -87517-09-04 23:01 J -30243913.70 -30243913.54 -30243913.37 0.0138 0.0049

Mars -87517-10-13 13:54 J -30243874.99 -30243874.92 -30243874.85 0.1647 0.1372

Venus -87517-10-14 01:39 J -30243874.51 -30243874.43 -30243874.34 0.3753 0.2543

Uranus -87517-12-02 05:30 J -30243825.44 -30243825.27 -30243825.10 0.0138 0.0027

Uranus -87516-02-28 11:44 J -30243737.18 -30243737.01 -30243736.83 0.0138 0.0006

Uranus -87516-05-27 17:59 J -30243648.92 -30243648.75 -30243648.57 0.0138 0.0016

Uranus -87516-08-24 00:13 J -30243560.66 -30243560.49 -30243560.32 0.0137 0.0038

Uranus -87516-11-20 05:59 J -30243472.39 -30243472.25 -30243472.08 0.0137 0.0060

Uranus -87515-02-16 12:27 J -30243384.12 -30243383.98 -30243383.84 0.0137 0.0080

Uranus -87515-05-15 18:13 J -30243295.85 -30243295.74 -30243295.62 0.0137 0.0100

Uranus -87515-08-11 23:59 J -30243207.57 -30243207.50 -30243207.41 0.0137 0.0121

Jupiter -87514-08-28 20:51 J -30242825.69 -30242825.63 -30242825.56 0.0535 0.0460

Jupiter -87514-11-26 06:27 J -30242736.37 -30242736.23 -30242736.10 0.0532 0.0013

Jupiter -87513-02-23 16:32 J -30242646.87 -30242646.81 -30242646.74 0.0529 0.0459

Venus -87513-10-13 14:51 J -30242414.01 -30242413.88 -30242413.75 0.3616 0.0741

Saturn -87512-04-03 09:20 J -30242242.17 -30242242.11 -30242242.05 0.0288 0.0269

Saturn -87512-07-01 06:13 J -30242153.39 -30242153.24 -30242153.08 0.0288 0.0133

Saturn -87512-09-28 02:51 J -30242064.55 -30242064.38 -30242064.21 0.0288 0.0004

Saturn -87512-12-25 23:01 J -30241975.69 -30241975.54 -30241975.39 0.0288 0.0133

Saturn -87511-03-24 18:42 J -30241886.78 -30241886.72 -30241886.65 0.0288 0.0261

Venus -87511-04-29 21:35 J -30241850.65 -30241850.60 -30241850.56 0.3748 0.3417

Mars -87510-06-07 15:35 J -30241447.00 -30241446.85 -30241446.71 0.1874 0.0149

Mars -87509-03-30 11:15 J -30241150.10 -30241150.03 -30241149.95 0.1675 0.1366

Moon -87509-08-17 18:13 J -30241009.86 -30241009.74 -30241009.63 0.2584 0.1551

Earth -87509-08-17 19:25 J -30241009.80 -30241009.69 -30241009.57 0.2583 0.1464 *

Jupiter -87507-01-23 16:18 J -30240485.97 -30240485.82 -30240485.66 0.0495 0.0221

Mars -87507-03-05 22:47 J -30240444.66 -30240444.55 -30240444.43 0.1652 0.0839

Jupiter -87507-04-23 18:42 J -30240395.86 -30240395.72 -30240395.58 0.0498 0.0276

Venus -87507-04-29 14:08 J -30240390.03 -30240389.91 -30240389.80 0.3620 0.1721

Moon -87506-02-19 05:44 J -30240094.35 -30240094.26 -30240094.17 0.2753 0.1744

Earth -87506-02-19 06:27 J -30240094.31 -30240094.23 -30240094.14 0.2751 0.1861 *

Venus -87504-01-21 17:44 J -30239391.80 -30239391.76 -30239391.72 0.3780 0.3486

Jupiter -87502-09-14 10:03 J -30238426.21 -30238426.08 -30238425.95 0.0533 0.0112

Venus -87502-11-13 12:42 J -30238366.05 -30238365.97 -30238365.88 0.3624 0.2653

Jupiter -87502-12-12 19:54 J -30238336.76 -30238336.67 -30238336.56 0.0529 0.0350

Mars -87501-10-27 16:03 J -30238016.95 -30238016.83 -30238016.72 0.1867 0.1190

Earth -87499-02-11 23:15 J -30237544.60 -30237544.53 -30237544.46 0.2755 0.2185

Moon -87499-02-11 23:30 J -30237544.59 -30237544.52 -30237544.44 0.2749 0.2060 *

Venus -87499-08-07 11:59 J -30237368.08 -30237368.00 -30237367.93 0.3777 0.2782

Mars -87498-07-27 07:54 J -30237014.29 -30237014.17 -30237014.04 0.1657 0.0310

Saturn -87498-10-20 08:08 J -30236929.22 -30236929.16 -30236929.09 0.0271 0.0236

Saturn -87497-01-16 19:54 J -30236840.79 -30236840.67 -30236840.55 0.0271 0.0149

Saturn -87497-04-14 07:39 J -30236752.31 -30236752.18 -30236752.04 0.0271 0.0060

Saturn -87497-07-11 19:54 J -30236663.81 -30236663.67 -30236663.53 0.0271 0.0031

Saturn -87497-10-08 08:08 J -30236575.29 -30236575.16 -30236575.03 0.0271 0.0123

Saturn -87496-01-04 20:37 J -30236486.73 -30236486.64 -30236486.56 0.0271 0.0216

Venus -87496-05-29 11:01 J -30236342.07 -30236342.04 -30236342.02 0.3628 0.3539

Moon -87496-08-20 19:54 J -30236258.81 -30236258.67 -30236258.53 0.2590 0.0185

Earth -87496-08-20 20:37 J -30236258.78 -30236258.64 -30236258.50 0.2585 0.0267 *

Jupiter -87496-11-11 15:06 J -30236175.99 -30236175.87 -30236175.74 0.0495 0.0346

Jupiter -87495-02-09 17:59 J -30236085.91 -30236085.75 -30236085.58 0.0497 0.0155

Venus -87493-02-21 06:13 J -30235344.33 -30235344.24 -30235344.15 0.3774 0.2059

Jupiter -87490-07-03 13:39 J -30234116.05 -30234115.93 -30234115.81 0.0533 0.0223

Jupiter -87490-09-30 23:15 J -30234026.65 -30234026.53 -30234026.41 0.0530 0.0236

Mars -87489-12-16 17:01 J -30233583.91 -30233583.79 -30233583.66 0.1663 0.0229

Venus -87488-09-06 00:42 J -30233320.58 -30233320.47 -30233320.37 0.3770 0.1314

Moon -87486-02-14 18:56 J -30232793.82 -30232793.71 -30232793.60 0.2747 0.0873

Earth -87486-02-14 19:11 J -30232793.81 -30232793.70 -30232793.59 0.2754 0.0761 *

Jupiter -87484-08-30 14:23 J -30231865.95 -30231865.90 -30231865.84 0.0494 0.0466

Jupiter -87484-11-28 17:44 J -30231775.94 -30231775.76 -30231775.59 0.0497 0.0037

Moon -87483-08-23 21:20 J -30231507.70 -30231507.61 -30231507.52 0.2593 0.1885

Earth -87483-08-23 21:20 J -30231507.70 -30231507.61 -30231507.51 0.2586 0.1939 *

Saturn -87483-11-18 03:35 J -30231421.48 -30231421.35 -30231421.21 0.0288 0.0183

Saturn -87482-02-15 00:27 J -30231332.65 -30231332.48 -30231332.31 0.0288 0.0048

Venus -87482-03-22 19:25 J -30231296.80 -30231296.69 -30231296.58 0.3767 0.0547

Saturn -87482-05-14 20:51 J -30231243.79 -30231243.63 -30231243.46 0.0288 0.0086

Saturn -87482-08-11 16:47 J -30231154.90 -30231154.80 -30231154.68 0.0288 0.0215

Mars -87480-07-16 15:35 J -30230449.97 -30230449.85 -30230449.73 0.1882 0.1029

Mars -87479-05-09 02:08 J -30230153.52 -30230153.41 -30230153.29 0.1669 0.0763

Venus -87478-03-21 14:23 J -30229836.96 -30229836.90 -30229836.85 0.3602 0.3307

Jupiter -87478-04-21 16:03 J -30229805.93 -30229805.83 -30229805.73 0.0534 0.0348

Jupiter -87478-07-20 01:25 J -30229716.57 -30229716.44 -30229716.30 0.0531 0.0111

Mars -87477-04-13 14:08 J -30229447.97 -30229447.91 -30229447.86 0.1647 0.1448

Venus -87477-10-05 14:08 J -30229273.02 -30229272.91 -30229272.79 0.3763 0.0295

Moon -87473-02-17 14:37 J -30228043.00 -30228042.89 -30228042.77 0.2749 0.0635

Earth -87473-02-17 15:20 J -30228042.97 -30228042.86 -30228042.74 0.2752 0.0690 *

Uranus -87473-08-09 08:37 J -30227869.18 -30227869.14 -30227869.11 0.0140 0.0134

Venus -87473-10-04 14:51 J -30227812.98 -30227812.88 -30227812.77 0.3606 0.2170

Uranus -87473-11-05 12:13 J -30227781.06 -30227780.99 -30227780.91 0.0140 0.0117

Uranus -87472-02-01 16:03 J -30227692.92 -30227692.83 -30227692.73 0.0140 0.0100

Uranus -87472-04-30 20:08 J -30227604.77 -30227604.66 -30227604.55 0.0140 0.0082

Uranus -87472-07-27 23:59 J -30227516.62 -30227516.50 -30227516.37 0.0141 0.0064

Jupiter -87472-09-16 16:47 J -30227465.97 -30227465.80 -30227465.62 0.0496 0.0086

Uranus -87472-10-24 03:49 J -30227428.47 -30227428.34 -30227428.20 0.0141 0.0046

Jupiter -87472-12-15 18:42 J -30227375.81 -30227375.72 -30227375.62 0.0499 0.0409

Uranus -87471-01-20 07:54 J -30227340.31 -30227340.17 -30227340.03 0.0141 0.0027

Uranus -87471-04-18 11:59 J -30227252.14 -30227252.00 -30227251.86 0.0141 0.0009

Venus -87471-04-21 09:20 J -30227249.22 -30227249.11 -30227249.00 0.3759 0.1067

Uranus -87471-07-15 16:03 J -30227163.97 -30227163.83 -30227163.69 0.0141 0.0010

Uranus -87471-10-11 20:08 J -30227075.80 -30227075.66 -30227075.52 0.0141 0.0029

Mars -87471-12-06 16:03 J -30227019.97 -30227019.83 -30227019.68 0.1875 0.0044

Uranus -87470-01-08 00:13 J -30226987.62 -30226987.49 -30226987.35 0.0142 0.0048

Uranus -87470-04-06 04:18 J -30226899.44 -30226899.32 -30226899.19 0.0142 0.0068

Uranus -87470-07-03 08:37 J -30226811.25 -30226811.14 -30226811.03 0.0142 0.0087

Mars -87470-09-29 11:30 J -30226723.10 -30226723.02 -30226722.94 0.1674 0.1294

Uranus -87470-09-29 12:42 J -30226723.06 -30226722.97 -30226722.87 0.0142 0.0107 *

Uranus -87470-12-26 17:15 J -30226634.85 -30226634.78 -30226634.72 0.0142 0.0127

Saturn -87468-03-08 11:15 J -30226197.07 -30226197.03 -30226196.98 0.0271 0.0255

Saturn -87468-06-04 23:01 J -30226108.65 -30226108.54 -30226108.43 0.0271 0.0167

Saturn -87468-09-01 10:47 J -30226020.18 -30226020.05 -30226019.91 0.0271 0.0079

Mars -87468-09-03 23:01 J -30226017.65 -30226017.54 -30226017.43 0.1652 0.0913

Saturn -87468-11-28 23:01 J -30225931.68 -30225931.54 -30225931.40 0.0271 0.0014

Saturn -87467-02-25 11:01 J -30225843.16 -30225843.04 -30225842.90 0.0271 0.0106

Venus -87467-04-20 15:20 J -30225788.99 -30225788.86 -30225788.73 0.3609 0.1072

Saturn -87467-05-24 23:30 J -30225754.61 -30225754.52 -30225754.42 0.0271 0.0198

Jupiter -87466-02-07 19:25 J -30225495.76 -30225495.69 -30225495.63 0.0535 0.0462

Jupiter -87466-05-08 04:47 J -30225406.44 -30225406.30 -30225406.17 0.0532 0.0018

Jupiter -87466-08-05 14:51 J -30225316.95 -30225316.88 -30225316.82 0.0529 0.0456

Venus -87466-11-05 04:47 J -30225225.40 -30225225.30 -30225225.20 0.3756 0.1904

Moon -87463-08-18 23:59 J -30224207.62 -30224207.50 -30224207.37 0.2584 0.1295

Earth -87463-08-19 01:25 J -30224207.57 -30224207.44 -30224207.31 0.2584 0.1100 *

Venus -87462-11-04 15:06 J -30223765.00 -30223764.87 -30223764.74 0.3613 0.0018

Mars -87461-04-27 16:18 J -30223589.94 -30223589.82 -30223589.70 0.1867 0.1085

Moon -87460-02-19 10:47 J -30223292.12 -30223292.05 -30223291.97 0.2753 0.2064

Earth -87460-02-19 11:44 J -30223292.08 -30223292.01 -30223291.94 0.2750 0.2166 *

Venus -87460-05-21 00:27 J -30223201.56 -30223201.48 -30223201.41 0.3751 0.2772

Jupiter -87460-07-05 15:06 J -30223156.02 -30223155.87 -30223155.71 0.0495 0.0215

Jupiter -87460-10-03 17:30 J -30223065.91 -30223065.77 -30223065.63 0.0498 0.0282

Mars -87458-01-25 08:08 J -30222587.29 -30222587.16 -30222587.04 0.1657 0.0382

Neptune -87458-04-16 14:37 J -30222505.89 -30222505.89 -30222505.89 0.0089 0.0089

Neptune -87458-07-13 15:49 J -30222417.87 -30222417.84 -30222417.79 0.0089 0.0085

Neptune -87458-10-09 17:15 J -30222329.82 -30222329.78 -30222329.71 0.0089 0.0081

Neptune -87457-01-05 18:27 J -30222241.78 -30222241.73 -30222241.64 0.0089 0.0077

Neptune -87457-04-02 20:23 J -30222153.73 -30222153.65 -30222153.57 0.0089 0.0072

Neptune -87457-06-29 21:35 J -30222065.68 -30222065.60 -30222065.51 0.0089 0.0068

Neptune -87457-09-25 23:01 J -30221977.62 -30221977.54 -30221977.44 0.0089 0.0064

Neptune -87457-12-23 00:27 J -30221889.57 -30221889.48 -30221889.37 0.0089 0.0060

Neptune -87456-03-21 01:54 J -30221801.52 -30221801.42 -30221801.31 0.0089 0.0056

Venus -87456-05-20 14:23 J -30221741.02 -30221740.90 -30221740.77 0.3617 0.0990

Neptune -87456-06-17 03:35 J -30221713.46 -30221713.35 -30221713.24 0.0089 0.0051

Neptune -87456-09-13 05:01 J -30221625.41 -30221625.29 -30221625.17 0.0089 0.0047

Neptune -87456-12-10 06:13 J -30221537.35 -30221537.24 -30221537.11 0.0089 0.0043

Neptune -87455-03-08 07:39 J -30221449.29 -30221449.18 -30221449.05 0.0089 0.0039

Neptune -87455-06-04 09:20 J -30221361.23 -30221361.11 -30221360.98 0.0089 0.0034

Neptune -87455-08-31 10:47 J -30221273.17 -30221273.05 -30221272.92 0.0089 0.0030

Neptune -87455-11-27 12:13 J -30221185.12 -30221184.99 -30221184.85 0.0089 0.0026

Venus -87455-12-04 20:08 J -30221177.68 -30221177.66 -30221177.64 0.3747 0.3648

Neptune -87454-02-23 13:54 J -30221097.06 -30221096.92 -30221096.79 0.0089 0.0021

Jupiter -87454-02-24 08:23 J -30221096.28 -30221096.15 -30221096.02 0.0533 0.0116

Neptune -87454-05-22 15:20 J -30221009.00 -30221008.86 -30221008.73 0.0089 0.0017

Jupiter -87454-05-24 18:13 J -30221006.84 -30221006.74 -30221006.64 0.0530 0.0346

Neptune -87454-08-18 16:47 J -30220920.94 -30220920.80 -30220920.66 0.0089 0.0013

Neptune -87454-11-14 18:13 J -30220832.87 -30220832.74 -30220832.60 0.0089 0.0009

Neptune -87453-02-10 19:54 J -30220744.81 -30220744.67 -30220744.54 0.0089 0.0004

Earth -87453-02-13 04:18 J -30220742.40 -30220742.32 -30220742.24 0.2755 0.1892

Moon -87453-02-13 04:32 J -30220742.39 -30220742.31 -30220742.23 0.2749 0.1922 *

Saturn -87453-04-06 03:06 J -30220689.47 -30220689.37 -30220689.25 0.0288 0.0222

Neptune -87453-05-08 21:20 J -30220656.75 -30220656.61 -30220656.47 0.0089 0.0001

Saturn -87453-07-04 00:13 J -30220600.65 -30220600.49 -30220600.33 0.0288 0.0086

Neptune -87453-08-04 22:47 J -30220568.69 -30220568.55 -30220568.41 0.0089 0.0005

Saturn -87453-09-30 20:37 J -30220511.80 -30220511.64 -30220511.47 0.0288 0.0048

Neptune -87453-11-01 00:13 J -30220480.62 -30220480.49 -30220480.35 0.0089 0.0010

Saturn -87453-12-28 16:32 J -30220422.93 -30220422.81 -30220422.67 0.0288 0.0179

Neptune -87452-01-28 01:54 J -30220392.56 -30220392.42 -30220392.28 0.0089 0.0014

Neptune -87452-04-26 03:20 J -30220304.49 -30220304.36 -30220304.22 0.0089 0.0018

Neptune -87452-07-23 04:47 J -30220216.43 -30220216.30 -30220216.16 0.0089 0.0023

Neptune -87452-10-19 06:27 J -30220128.36 -30220128.23 -30220128.10 0.0089 0.0027

Neptune -87451-01-15 07:54 J -30220040.30 -30220040.17 -30220040.04 0.0089 0.0031

Neptune -87451-04-13 09:20 J -30219952.23 -30219952.11 -30219951.97 0.0089 0.0036

Neptune -87451-07-10 11:01 J -30219864.16 -30219864.04 -30219863.91 0.0089 0.0040

Neptune -87451-10-06 12:27 J -30219776.09 -30219775.98 -30219775.85 0.0089 0.0045

Venus -87451-12-04 13:25 J -30219717.05 -30219716.94 -30219716.83 0.3621 0.1962

Neptune -87450-01-02 14:08 J -30219688.02 -30219687.91 -30219687.79 0.0089 0.0049

Neptune -87450-03-31 15:35 J -30219599.95 -30219599.85 -30219599.73 0.0089 0.0054

Neptune -87450-06-27 17:15 J -30219511.88 -30219511.78 -30219511.67 0.0089 0.0058

Moon -87450-08-22 01:54 J -30219456.56 -30219456.42 -30219456.29 0.2591 0.0593

Earth -87450-08-22 02:23 J -30219456.53 -30219456.40 -30219456.26 0.2585 0.0624 *

Neptune -87450-09-23 18:42 J -30219423.81 -30219423.72 -30219423.61 0.0089 0.0063

Neptune -87450-12-20 20:23 J -30219335.74 -30219335.65 -30219335.56 0.0089 0.0067

Neptune -87449-03-17 21:49 J -30219247.66 -30219247.59 -30219247.50 0.0089 0.0072

Neptune -87449-06-13 23:30 J -30219159.58 -30219159.52 -30219159.44 0.0089 0.0076

Mars -87449-06-16 17:15 J -30219156.91 -30219156.78 -30219156.65 0.1663 0.0154

Neptune -87449-09-10 00:56 J -30219071.50 -30219071.46 -30219071.39 0.0089 0.0081

Neptune -87449-12-07 02:37 J -30218983.42 -30218983.39 -30218983.34 0.0089 0.0085

Jupiter -87448-04-23 13:54 J -30218846.04 -30218845.92 -30218845.79 0.0494 0.0339

Jupiter -87448-07-22 16:47 J -30218755.97 -30218755.80 -30218755.64 0.0497 0.0160

Venus -87448-08-28 15:49 J -30218718.89 -30218718.84 -30218718.79 0.3779 0.3315

Venus -87445-06-19 11:59 J -30217693.08 -30217693.00 -30217692.93 0.3625 0.2881

Jupiter -87443-12-13 11:59 J -30216786.12 -30216786.00 -30216785.88 0.0533 0.0224

Jupiter -87442-03-12 21:49 J -30216696.71 -30216696.59 -30216696.47 0.0530 0.0236

Venus -87442-03-14 10:03 J -30216695.16 -30216695.08 -30216695.00 0.3776 0.2601

Mars -87440-01-14 15:49 J -30216022.95 -30216022.84 -30216022.72 0.1882 0.1137

Moon -87440-02-14 23:59 J -30215991.62 -30215991.50 -30215991.39 0.2747 0.0445

Earth -87440-02-15 00:13 J -30215991.60 -30215991.49 -30215991.37 0.2754 0.0481 *

Mars -87440-11-07 02:23 J -30215726.51 -30215726.40 -30215726.28 0.1668 0.0684

Saturn -87439-10-23 00:13 J -30215376.58 -30215376.49 -30215376.40 0.0271 0.0199

Saturn -87438-01-19 11:59 J -30215288.13 -30215288.00 -30215287.87 0.0271 0.0111

Saturn -87438-04-17 23:59 J -30215199.64 -30215199.50 -30215199.36 0.0271 0.0021

Saturn -87438-07-15 12:13 J -30215111.13 -30215110.99 -30215110.86 0.0271 0.0070

Saturn -87438-10-12 00:27 J -30215022.59 -30215022.48 -30215022.37 0.0271 0.0163

Mars -87438-10-13 14:08 J -30215020.95 -30215020.91 -30215020.86 0.1647 0.1529

Saturn -87437-01-08 12:56 J -30214934.00 -30214933.96 -30214933.91 0.0271 0.0256

Earth -87437-08-24 03:20 J -30214705.43 -30214705.36 -30214705.30 0.2587 0.2292

Moon -87437-08-24 03:20 J -30214705.42 -30214705.36 -30214705.30 0.2593 0.2334 *

Venus -87437-09-27 04:32 J -30214671.41 -30214671.31 -30214671.22 0.3773 0.1878

Jupiter -87436-02-09 12:42 J -30214536.03 -30214535.97 -30214535.91 0.0494 0.0464

Jupiter -87436-05-10 15:49 J -30214446.01 -30214445.84 -30214445.66 0.0497 0.0038

Uranus -87434-10-08 05:30 J -30213565.33 -30213565.27 -30213565.22 0.0139 0.0131

Uranus -87433-01-04 11:44 J -30213477.11 -30213477.01 -30213476.89 0.0139 0.0109

Uranus -87433-04-01 18:27 J -30213388.86 -30213388.73 -30213388.59 0.0138 0.0086

Uranus -87433-06-29 00:56 J -30213300.61 -30213300.46 -30213300.30 0.0138 0.0063

Uranus -87433-09-25 07:25 J -30213212.36 -30213212.19 -30213212.02 0.0138 0.0041

Uranus -87433-12-22 13:39 J -30213124.10 -30213123.93 -30213123.75 0.0138 0.0019

Uranus -87432-03-20 20:08 J -30213035.84 -30213035.66 -30213035.49 0.0138 0.0003

Uranus -87432-06-17 02:23 J -30212947.57 -30212947.40 -30212947.23 0.0138 0.0025

Uranus -87432-09-13 08:23 J -30212859.31 -30212859.15 -30212858.98 0.0138 0.0046

Uranus -87432-12-10 14:23 J -30212771.04 -30212770.90 -30212770.74 0.0137 0.0067

Uranus -87431-03-08 20:23 J -30212682.77 -30212682.65 -30212682.51 0.0137 0.0088

Venus -87431-04-12 23:01 J -30212647.65 -30212647.54 -30212647.44 0.3769 0.1124

Uranus -87431-06-05 02:23 J -30212594.49 -30212594.40 -30212594.29 0.0137 0.0109

Mars -87431-06-06 16:32 J -30212592.96 -30212592.81 -30212592.66 0.1875 0.0093

Uranus -87431-09-01 08:08 J -30212506.20 -30212506.16 -30212506.09 0.0137 0.0129

Jupiter -87431-10-01 15:35 J -30212475.95 -30212475.85 -30212475.75 0.0534 0.0334

Jupiter -87431-12-30 01:11 J -30212386.58 -30212386.45 -30212386.32 0.0531 0.0124

Mars -87430-03-30 11:30 J -30212296.10 -30212296.02 -30212295.94 0.1674 0.1223

Earth -87430-08-17 05:44 J -30212156.29 -30212156.26 -30212156.22 0.2583 0.2495

Mars -87428-03-04 23:15 J -30211590.64 -30211590.53 -30211590.43 0.1652 0.0992

Pluto -87428-05-15 17:59 J -30211518.78 -30211518.75 -30211518.70 0.0085 0.0080

Pluto -87428-08-11 19:25 J -30211430.76 -30211430.69 -30211430.60 0.0085 0.0068

Pluto -87428-11-07 20:37 J -30211342.73 -30211342.64 -30211342.53 0.0084 0.0056

Pluto -87427-02-03 22:03 J -30211254.69 -30211254.58 -30211254.46 0.0084 0.0043

Moon -87427-02-17 19:39 J -30211240.79 -30211240.68 -30211240.57 0.2751 0.0824

Earth -87427-02-17 20:37 J -30211240.75 -30211240.64 -30211240.53 0.2752 0.0992 *

Pluto -87427-05-02 23:15 J -30211166.65 -30211166.53 -30211166.40 0.0084 0.0031

Pluto -87427-07-30 00:42 J -30211078.60 -30211078.47 -30211078.34 0.0084 0.0019

Pluto -87427-10-26 01:54 J -30210990.55 -30210990.42 -30210990.28 0.0084 0.0007

Pluto -87426-01-22 03:20 J -30210902.50 -30210902.36 -30210902.23 0.0084 0.0005

Pluto -87426-04-20 04:32 J -30210814.44 -30210814.31 -30210814.18 0.0084 0.0017

Pluto -87426-07-17 05:44 J -30210726.38 -30210726.26 -30210726.13 0.0084 0.0028

Pluto -87426-10-13 06:42 J -30210638.32 -30210638.22 -30210638.09 0.0083 0.0041

Venus -87426-10-27 17:44 J -30210623.87 -30210623.76 -30210623.65 0.3766 0.0353

Pluto -87425-01-09 08:08 J -30210550.26 -30210550.16 -30210550.05 0.0083 0.0052

Pluto -87425-04-06 09:06 J -30210462.19 -30210462.12 -30210462.02 0.0083 0.0064

Pluto -87425-07-03 10:32 J -30210374.11 -30210374.06 -30210374.00 0.0083 0.0074

Jupiter -87424-02-26 15:20 J -30210136.03 -30210135.86 -30210135.68 0.0496 0.0082

Jupiter -87424-05-27 17:15 J -30210045.87 -30210045.78 -30210045.68 0.0499 0.0413

Saturn -87424-08-24 00:13 J -30209957.53 -30209957.49 -30209957.43 0.0288 0.0274

Saturn -87424-11-20 21:35 J -30209868.75 -30209868.60 -30209868.45 0.0288 0.0136

Saturn -87423-02-17 18:13 J -30209779.91 -30209779.74 -30209779.57 0.0288 0.0003

Saturn -87423-05-17 14:23 J -30209691.04 -30209690.90 -30209690.74 0.0288 0.0131

Saturn -87423-08-14 10:18 J -30209602.14 -30209602.07 -30209602.00 0.0288 0.0259

Venus -87422-10-26 14:08 J -30209163.98 -30209163.91 -30209163.83 0.3603 0.3015

Mars -87422-10-27 16:47 J -30209162.92 -30209162.80 -30209162.67 0.1867 0.0970

Venus -87420-05-12 12:42 J -30208600.09 -30208599.97 -30208599.86 0.3762 0.0467

Jupiter -87419-07-20 18:13 J -30208165.81 -30208165.74 -30208165.67 0.0534 0.0457

Mars -87419-07-26 08:08 J -30208160.28 -30208160.16 -30208160.04 0.1657 0.0456

Jupiter -87419-10-18 03:35 J -30208076.49 -30208076.35 -30208076.22 0.0532 0.0017

Jupiter -87418-01-15 13:25 J -30207987.00 -30207986.94 -30207986.87 0.0528 0.0459

Moon -87417-08-19 05:59 J -30207405.38 -30207405.25 -30207405.11 0.2586 0.0780

Earth -87417-08-19 07:11 J -30207405.33 -30207405.20 -30207405.06 0.2584 0.0737 *

Venus -87416-05-11 14:51 J -30207140.00 -30207139.88 -30207139.77 0.3607 0.1894

Venus -87415-11-26 07:39 J -30206576.28 -30206576.18 -30206576.07 0.3758 0.1282

Moon -87414-02-20 16:03 J -30206489.88 -30206489.83 -30206489.77 0.2752 0.2391

Earth -87414-02-20 17:01 J -30206489.84 -30206489.79 -30206489.74 0.2750 0.2476 *

Jupiter -87413-12-15 14:23 J -30205826.05 -30205825.90 -30205825.74 0.0495 0.0204

Jupiter -87412-03-15 16:47 J -30205735.93 -30205735.80 -30205735.66 0.0498 0.0293

Venus -87411-11-25 14:51 J -30205116.01 -30205115.88 -30205115.74 0.3610 0.0803

Mars -87410-12-16 17:15 J -30204729.91 -30204729.78 -30204729.65 0.1663 0.0079

Saturn -87409-03-11 03:20 J -30204644.44 -30204644.36 -30204644.28 0.0272 0.0218

Saturn -87409-06-07 15:06 J -30204555.99 -30204555.87 -30204555.74 0.0271 0.0130

Venus -87409-06-11 03:06 J -30204552.46 -30204552.37 -30204552.27 0.3754 0.2130

Saturn -87409-09-04 03:06 J -30204467.51 -30204467.37 -30204467.23 0.0271 0.0040

Saturn -87409-12-01 15:06 J -30204379.00 -30204378.87 -30204378.73 0.0271 0.0052

Saturn -87408-02-28 03:20 J -30204290.47 -30204290.36 -30204290.23 0.0271 0.0144

Saturn -87408-05-27 16:03 J -30204201.90 -30204201.83 -30204201.76 0.0271 0.0238

Moon -87407-02-13 09:20 J -30203940.20 -30203940.11 -30203940.01 0.2748 0.1544

Earth -87407-02-13 09:20 J -30203940.20 -30203940.11 -30203940.01 0.2755 0.1603 *

Jupiter -87407-08-06 06:42 J -30203766.35 -30203766.22 -30203766.09 0.0532 0.0119

Jupiter -87407-11-03 16:32 J -30203676.91 -30203676.81 -30203676.71 0.0529 0.0342

Venus -87405-06-10 14:37 J -30203092.03 -30203091.89 -30203091.76 0.3614 0.0250

Moon -87404-08-22 07:39 J -30202654.31 -30202654.18 -30202654.05 0.2591 0.0872

Earth -87404-08-22 08:23 J -30202654.29 -30202654.15 -30202654.02 0.2585 0.0978 *

Venus -87404-12-25 22:47 J -30202528.61 -30202528.55 -30202528.48 0.3750 0.2996

Mars -87401-07-15 16:18 J -30201595.93 -30201595.82 -30201595.71 0.1882 0.1247

Jupiter -87401-10-03 12:42 J -30201516.10 -30201515.97 -30201515.84 0.0494 0.0334

Jupiter -87400-01-01 15:20 J -30201426.02 -30201425.86 -30201425.69 0.0497 0.0165

Mars -87400-05-08 02:23 J -30201299.52 -30201299.40 -30201299.28 0.1668 0.0615

Venus -87400-12-25 13:54 J -30201068.04 -30201067.92 -30201067.80 0.3618 0.1244

Mars -87398-04-13 14:23 J -30200593.93 -30200593.90 -30200593.88 0.1647 0.1602

Jupiter -87395-05-25 10:03 J -30199456.19 -30199456.08 -30199455.96 0.0534 0.0230

Jupiter -87395-08-22 19:54 J -30199366.79 -30199366.67 -30199366.55 0.0530 0.0231

Moon -87394-02-16 05:01 J -30199189.41 -30199189.29 -30199189.17 0.2747 0.0301

Earth -87394-02-16 05:30 J -30199189.39 -30199189.27 -30199189.16 0.2753 0.0179 *

Saturn -87394-04-09 22:03 J -30199136.72 -30199136.58 -30199136.44 0.0288 0.0170

Saturn -87394-07-07 18:42 J -30199047.89 -30199047.72 -30199047.55 0.0288 0.0035

Venus -87394-07-11 12:42 J -30199044.07 -30199043.97 -30199043.87 0.3622 0.2199

Saturn -87394-10-04 15:06 J -30198959.03 -30198958.87 -30198958.71 0.0288 0.0098

Saturn -87393-01-01 10:47 J -30198870.14 -30198870.05 -30198869.94 0.0288 0.0228

Mars -87392-12-05 16:47 J -30198165.94 -30198165.80 -30198165.65 0.1875 0.0196

Venus -87391-04-04 14:08 J -30198045.97 -30198045.91 -30198045.85 0.3778 0.3138

Mars -87391-09-28 11:44 J -30197869.10 -30197869.01 -30197868.92 0.1674 0.1145

Jupiter -87389-07-22 11:15 J -30197206.09 -30197206.03 -30197205.96 0.0494 0.0459

Uranus -87389-08-29 16:03 J -30197167.87 -30197167.83 -30197167.77 0.0140 0.0129

Mars -87389-09-02 23:15 J -30197163.63 -30197163.53 -30197163.43 0.1652 0.1068

Jupiter -87389-10-20 14:23 J -30197116.07 -30197115.90 -30197115.72 0.0496 0.0042

Uranus -87389-11-25 19:54 J -30197079.74 -30197079.67 -30197079.58 0.0140 0.0111

Venus -87388-01-24 11:15 J -30197020.10 -30197020.03 -30197019.97 0.3626 0.3115

Uranus -87388-02-21 23:59 J -30196991.60 -30196991.50 -30196991.40 0.0140 0.0094

Uranus -87388-05-21 03:49 J -30196903.46 -30196903.34 -30196903.22 0.0140 0.0076

Uranus -87388-08-17 07:39 J -30196815.30 -30196815.18 -30196815.05 0.0141 0.0058

Uranus -87388-11-13 11:44 J -30196727.15 -30196727.01 -30196726.88 0.0141 0.0040

Uranus -87387-02-09 15:35 J -30196638.99 -30196638.85 -30196638.71 0.0141 0.0021

Uranus -87387-05-08 19:39 J -30196550.82 -30196550.68 -30196550.54 0.0141 0.0003

Uranus -87387-08-04 23:44 J -30196462.65 -30196462.51 -30196462.37 0.0141 0.0016

Uranus -87387-11-01 03:49 J -30196374.48 -30196374.34 -30196374.20 0.0141 0.0035

Uranus -87386-01-28 07:54 J -30196286.30 -30196286.17 -30196286.03 0.0142 0.0055

Uranus -87386-04-26 11:59 J -30196198.11 -30196198.00 -30196197.87 0.0142 0.0074

Uranus -87386-07-23 16:03 J -30196109.92 -30196109.83 -30196109.71 0.0142 0.0094

Venus -87386-10-19 08:08 J -30196022.24 -30196022.16 -30196022.07 0.3775 0.2427

Uranus -87386-10-19 20:37 J -30196021.72 -30196021.64 -30196021.55 0.0142 0.0113

Uranus -87385-01-16 00:42 J -30195933.51 -30195933.47 -30195933.41 0.0142 0.0133

Moon -87384-08-17 10:32 J -30195354.14 -30195354.06 -30195353.99 0.2581 0.2168

Earth -87384-08-17 11:44 J -30195354.09 -30195354.01 -30195353.93 0.2583 0.2119 *

Jupiter -87383-03-13 13:54 J -30195146.02 -30195145.92 -30195145.81 0.0534 0.0337

Jupiter -87383-06-10 23:30 J -30195056.65 -30195056.52 -30195056.39 0.0531 0.0122

Mars -87382-04-27 17:15 J -30194735.91 -30194735.78 -30194735.65 0.1868 0.0860

Mars -87381-02-18 20:51 J -30194438.63 -30194438.63 -30194438.63 0.1680 0.1679

Moon -87381-02-19 00:42 J -30194438.57 -30194438.47 -30194438.36 0.2751 0.1253

Earth -87381-02-19 01:39 J -30194438.53 -30194438.43 -30194438.33 0.2751 0.1287 *

Venus -87380-05-04 02:37 J -30193998.49 -30193998.39 -30193998.29 0.3772 0.1684

Saturn -87380-07-29 04:47 J -30193912.35 -30193912.30 -30193912.24 0.0271 0.0249

Saturn -87380-10-25 16:32 J -30193823.92 -30193823.81 -30193823.70 0.0271 0.0161

Saturn -87379-01-22 04:32 J -30193735.45 -30193735.31 -30193735.18 0.0271 0.0072

Mars -87379-01-24 08:23 J -30193733.27 -30193733.15 -30193733.03 0.1657 0.0535

Saturn -87379-04-20 16:32 J -30193646.95 -30193646.81 -30193646.67 0.0271 0.0019

Saturn -87379-07-18 04:32 J -30193558.43 -30193558.31 -30193558.17 0.0271 0.0111

Saturn -87379-10-14 17:01 J -30193469.88 -30193469.79 -30193469.69 0.0271 0.0204

Jupiter -87377-08-08 13:25 J -30192806.11 -30192805.94 -30192805.77 0.0496 0.0083

Jupiter -87377-11-06 15:20 J -30192715.95 -30192715.86 -30192715.76 0.0499 0.0411

Neptune -87375-10-05 22:47 J -30192017.55 -30192017.55 -30192017.50 0.0088 0.0088

Venus -87375-11-17 21:06 J -30191974.73 -30191974.62 -30191974.51 0.3769 0.0934

Neptune -87374-01-02 02:23 J -30191929.46 -30191929.40 -30191929.31 0.0088 0.0082

Earth -87374-02-11 18:42 J -30191888.74 -30191888.72 -30191888.71 0.2756 0.2716

Moon -87374-02-11 19:11 J -30191888.73 -30191888.70 -30191888.67 0.2751 0.2621 *

Neptune -87374-03-31 05:44 J -30191841.34 -30191841.26 -30191841.15 0.0088 0.0076

Neptune -87374-06-27 09:06 J -30191753.22 -30191753.12 -30191752.99 0.0088 0.0070

Neptune -87374-09-23 12:27 J -30191665.10 -30191664.98 -30191664.84 0.0088 0.0064

Neptune -87374-12-20 15:49 J -30191576.97 -30191576.84 -30191576.69 0.0088 0.0058

Neptune -87373-03-17 19:11 J -30191488.85 -30191488.70 -30191488.55 0.0088 0.0052

Neptune -87373-06-13 22:32 J -30191400.72 -30191400.56 -30191400.40 0.0088 0.0046

Neptune -87373-09-10 01:25 J -30191312.59 -30191312.44 -30191312.26 0.0088 0.0041

Neptune -87373-12-07 04:47 J -30191224.46 -30191224.30 -30191224.12 0.0088 0.0035

Neptune -87372-03-05 08:08 J -30191136.33 -30191136.16 -30191135.98 0.0088 0.0029

Neptune -87372-06-01 11:30 J -30191048.20 -30191048.02 -30191047.84 0.0088 0.0023

Neptune -87372-08-28 14:37 J -30190960.07 -30190959.89 -30190959.70 0.0088 0.0017

Neptune -87372-11-24 17:44 J -30190871.93 -30190871.76 -30190871.57 0.0088 0.0012

Jupiter -87372-12-30 17:30 J -30190835.84 -30190835.77 -30190835.69 0.0535 0.0446

Neptune -87371-02-20 21:06 J -30190783.80 -30190783.62 -30190783.43 0.0088 0.0005

Jupiter -87371-03-30 02:51 J -30190746.51 -30190746.38 -30190746.24 0.0532 0.0012

Neptune -87371-05-20 00:13 J -30190695.67 -30190695.49 -30190695.30 0.0088 0.0002

Jupiter -87371-06-27 12:56 J -30190657.02 -30190656.96 -30190656.90 0.0528 0.0471

Neptune -87371-08-16 03:35 J -30190607.54 -30190607.35 -30190607.17 0.0088 0.0006

Moon -87371-08-20 11:59 J -30190603.13 -30190603.00 -30190602.86 0.2588 0.0567

Earth -87371-08-20 13:11 J -30190603.10 -30190602.95 -30190602.81 0.2584 0.0375 *

Neptune -87371-11-12 06:27 J -30190519.40 -30190519.23 -30190519.04 0.0088 0.0013

Neptune -87370-02-08 09:49 J -30190431.27 -30190431.09 -30190430.91 0.0088 0.0018

Neptune -87370-05-07 12:42 J -30190343.14 -30190342.97 -30190342.78 0.0088 0.0024

Mars -87370-06-16 17:30 J -30190302.90 -30190302.77 -30190302.65 0.1662 0.0062

Neptune -87370-08-03 15:49 J -30190255.00 -30190254.84 -30190254.66 0.0088 0.0029

Neptune -87370-10-30 19:11 J -30190166.87 -30190166.70 -30190166.53 0.0088 0.0035

Neptune -87369-01-26 22:03 J -30190078.73 -30190078.58 -30190078.41 0.0088 0.0041

Neptune -87369-04-24 01:25 J -30189990.60 -30189990.44 -30189990.29 0.0088 0.0046

Venus -87369-06-02 16:03 J -30189950.94 -30189950.83 -30189950.72 0.3765 0.0151

Neptune -87369-07-21 04:18 J -30189902.46 -30189902.32 -30189902.16 0.0088 0.0052

Neptune -87369-10-17 07:11 J -30189814.32 -30189814.20 -30189814.05 0.0088 0.0057

Neptune -87368-01-13 10:18 J -30189726.18 -30189726.07 -30189725.93 0.0088 0.0063

Moon -87368-02-20 21:20 J -30189687.63 -30189687.61 -30189687.58 0.2754 0.2662

Neptune -87368-04-11 13:11 J -30189638.04 -30189637.95 -30189637.82 0.0088 0.0069

Neptune -87368-07-08 16:32 J -30189549.90 -30189549.81 -30189549.70 0.0088 0.0074

Neptune -87368-10-04 19:11 J -30189461.75 -30189461.70 -30189461.60 0.0088 0.0080

Neptune -87368-12-31 22:18 J -30189373.60 -30189373.57 -30189373.50 0.0088 0.0085

Jupiter -87365-05-27 12:42 J -30188496.12 -30188495.97 -30188495.81 0.0495 0.0203

Venus -87365-06-01 14:08 J -30188491.00 -30188490.91 -30188490.83 0.3604 0.2732

Jupiter -87365-08-25 15:06 J -30188406.00 -30188405.87 -30188405.73 0.0498 0.0295

Saturn -87365-08-26 19:11 J -30188404.81 -30188404.70 -30188404.59 0.0287 0.0222

Saturn -87365-11-23 16:03 J -30188315.99 -30188315.83 -30188315.66 0.0288 0.0086

Saturn -87364-02-20 12:42 J -30188227.14 -30188226.97 -30188226.80 0.0288 0.0048

Saturn -87364-05-20 08:37 J -30188138.26 -30188138.14 -30188138.00 0.0288 0.0180

Venus -87364-12-17 11:01 J -30187927.15 -30187927.04 -30187926.93 0.3761 0.0665

Mars -87361-01-14 16:47 J -30187168.90 -30187168.80 -30187168.70 0.1883 0.1359

Moon -87361-02-14 14:23 J -30187138.00 -30187137.90 -30187137.80 0.2747 0.1356

Earth -87361-02-14 14:23 J -30187138.00 -30187137.90 -30187137.79 0.2755 0.1316 *

Mars -87361-11-06 02:37 J -30186872.51 -30186872.39 -30186872.27 0.1668 0.0541

Venus -87360-12-16 14:37 J -30186467.01 -30186466.89 -30186466.77 0.3608 0.1606

Jupiter -87359-01-16 05:15 J -30186436.41 -30186436.28 -30186436.15 0.0532 0.0117

Jupiter -87359-04-15 15:06 J -30186346.97 -30186346.87 -30186346.76 0.0529 0.0344

Venus -87358-07-03 06:13 J -30185903.34 -30185903.24 -30185903.13 0.3757 0.1495

Moon -87358-08-23 13:39 J -30185852.05 -30185851.93 -30185851.81 0.2592 0.1343

Earth -87358-08-23 14:08 J -30185852.03 -30185851.91 -30185851.79 0.2586 0.1330 *

Venus -87354-07-02 14:37 J -30184443.02 -30184442.89 -30184442.76 0.3611 0.0534

Jupiter -87353-03-15 11:44 J -30184186.14 -30184186.01 -30184185.88 0.0495 0.0325

Jupiter -87353-06-13 14:37 J -30184096.06 -30184095.89 -30184095.73 0.0497 0.0175

Venus -87352-01-16 01:39 J -30183879.52 -30183879.43 -30183879.34 0.3753 0.2351

Mars -87352-06-05 17:15 J -30183738.92 -30183738.78 -30183738.63 0.1875 0.0313

Mars -87351-03-29 11:44 J -30183442.11 -30183442.01 -30183441.92 0.1674 0.1076

Saturn -87351-12-16 08:08 J -30183180.18 -30183180.16 -30183180.15 0.0272 0.0268

Saturn -87350-03-14 19:39 J -30183091.78 -30183091.68 -30183091.57 0.0272 0.0180

Saturn -87350-06-11 07:25 J -30183003.32 -30183003.19 -30183003.05 0.0272 0.0092

Saturn -87350-09-07 19:39 J -30182914.83 -30182914.68 -30182914.54 0.0272 0.0007

Uranus -87350-10-28 13:25 J -30182864.01 -30182863.94 -30182863.84 0.0139 0.0123

Saturn -87350-12-05 07:39 J -30182826.31 -30182826.18 -30182826.04 0.0271 0.0092

Uranus -87349-01-24 20:23 J -30182775.77 -30182775.65 -30182775.53 0.0139 0.0100

Saturn -87349-03-02 20:08 J -30182737.76 -30182737.66 -30182737.55 0.0271 0.0185

Mars -87349-03-03 23:30 J -30182736.62 -30182736.52 -30182736.43 0.1652 0.1146

Uranus -87349-04-22 02:37 J -30182687.52 -30182687.39 -30182687.23 0.0138 0.0078

Uranus -87349-07-19 09:20 J -30182599.27 -30182599.11 -30182598.95 0.0138 0.0055

Uranus -87349-10-15 15:49 J -30182511.01 -30182510.84 -30182510.67 0.0138 0.0033

Uranus -87348-01-11 22:03 J -30182422.75 -30182422.58 -30182422.40 0.0138 0.0011

Venus -87348-01-15 14:08 J -30182419.04 -30182418.91 -30182418.78 0.3615 0.0502

Moon -87348-02-16 09:49 J -30182387.20 -30182387.09 -30182386.97 0.2749 0.0137

Earth -87348-02-16 10:32 J -30182387.18 -30182387.06 -30182386.94 0.2753 0.0125 *

Uranus -87348-04-10 04:18 J -30182334.49 -30182334.32 -30182334.14 0.0138 0.0012

Uranus -87348-07-07 10:32 J -30182246.23 -30182246.06 -30182245.89 0.0138 0.0033

Uranus -87348-10-03 16:47 J -30182157.96 -30182157.80 -30182157.64 0.0138 0.0054

Jupiter -87348-11-04 08:23 J -30182126.26 -30182126.15 -30182126.03 0.0533 0.0232

Uranus -87348-12-30 22:32 J -30182069.69 -30182069.56 -30182069.40 0.0137 0.0076

Jupiter -87347-02-01 17:59 J -30182036.87 -30182036.75 -30182036.62 0.0530 0.0228

Uranus -87347-03-29 04:32 J -30181981.42 -30181981.31 -30181981.17 0.0137 0.0096

Uranus -87347-06-25 10:47 J -30181893.14 -30181893.05 -30181892.96 0.0137 0.0116

Venus -87347-08-01 21:35 J -30181855.66 -30181855.60 -30181855.55 0.3749 0.3230

Uranus -87347-09-21 16:47 J -30181804.81 -30181804.80 -30181804.79 0.0137 0.0136

Venus -87343-08-01 13:25 J -30180395.06 -30180394.94 -30180394.82 0.3619 0.1494

Mars -87343-10-26 17:44 J -30180308.90 -30180308.76 -30180308.62 0.1867 0.0748

Mars -87342-08-19 21:06 J -30180011.66 -30180011.62 -30180011.59 0.1680 0.1608

Jupiter -87341-01-02 09:49 J -30179876.16 -30179876.09 -30179876.03 0.0494 0.0456

Jupiter -87341-04-01 12:56 J -30179786.13 -30179785.96 -30179785.79 0.0496 0.0045

Venus -87340-04-25 18:13 J -30179396.77 -30179396.74 -30179396.72 0.3780 0.3659

Mars -87340-07-25 08:23 J -30179306.27 -30179306.15 -30179306.03 0.1657 0.0607

Moon -87338-08-18 16:32 J -30178551.91 -30178551.81 -30178551.72 0.2582 0.1942

Earth -87338-08-18 17:44 J -30178551.87 -30178551.76 -30178551.65 0.2583 0.1746 *

Venus -87337-02-15 12:13 J -30178371.09 -30178370.99 -30178370.90 0.3623 0.2445

Jupiter -87336-08-23 11:59 J -30177816.10 -30177816.00 -30177815.90 0.0534 0.0343

Jupiter -87336-11-20 21:20 J -30177726.74 -30177726.61 -30177726.47 0.0531 0.0116

Saturn -87335-01-13 19:54 J -30177672.74 -30177672.67 -30177672.58 0.0288 0.0253

Moon -87335-02-19 05:59 J -30177636.35 -30177636.25 -30177636.15 0.2751 0.1405

Earth -87335-02-19 06:42 J -30177636.31 -30177636.22 -30177636.12 0.2751 0.1592 *

Saturn -87335-04-12 17:01 J -30177583.94 -30177583.79 -30177583.63 0.0288 0.0116

Saturn -87335-07-10 13:39 J -30177495.10 -30177494.93 -30177494.76 0.0288 0.0020

Saturn -87335-10-07 09:49 J -30177406.23 -30177406.09 -30177405.94 0.0288 0.0151

Venus -87335-11-09 12:13 J -30177373.06 -30177372.99 -30177372.93 0.3778 0.2963

Saturn -87334-01-04 05:44 J -30177317.30 -30177317.26 -30177317.22 0.0288 0.0279

Mars -87333-03-17 17:44 J -30176878.79 -30176878.76 -30176878.74 0.1860 0.1828

Venus -87332-08-31 10:32 J -30176347.11 -30176347.06 -30176347.01 0.3628 0.3349

Mars -87331-12-15 17:30 J -30175875.90 -30175875.77 -30175875.64 0.1662 0.0073

Jupiter -87329-01-19 11:44 J -30175476.18 -30175476.01 -30175475.84 0.0496 0.0080

Jupiter -87329-04-18 13:39 J -30175386.02 -30175385.93 -30175385.83 0.0498 0.0413

Venus -87329-05-25 06:27 J -30175349.32 -30175349.23 -30175349.14 0.3774 0.2236

Earth -87328-02-11 23:44 J -30175086.56 -30175086.51 -30175086.46 0.2756 0.2430

Moon -87328-02-11 23:59 J -30175086.55 -30175086.50 -30175086.44 0.2750 0.2360 *

Moon -87325-08-20 17:59 J -30173800.89 -30173800.75 -30173800.61 0.2589 0.0020

Earth -87325-08-20 18:56 J -30173800.85 -30173800.71 -30173800.56 0.2584 0.0060 *

Jupiter -87324-06-11 15:49 J -30173505.91 -30173505.84 -30173505.77 0.0535 0.0451

Jupiter -87324-09-09 01:11 J -30173416.59 -30173416.45 -30173416.32 0.0532 0.0014

Jupiter -87324-12-07 11:15 J -30173327.09 -30173327.03 -30173326.97 0.0529 0.0467

Venus -87324-12-09 00:56 J -30173325.57 -30173325.46 -30173325.36 0.3771 0.1501

Mars -87322-07-15 17:01 J -30172741.88 -30172741.79 -30172741.70 0.1883 0.1460

Mars -87321-05-07 02:37 J -30172445.51 -30172445.39 -30172445.27 0.1668 0.0464

Saturn -87321-07-31 21:35 J -30172359.69 -30172359.60 -30172359.51 0.0271 0.0208

Saturn -87321-10-28 09:06 J -30172271.24 -30172271.12 -30172270.99 0.0271 0.0121

Saturn -87320-01-24 21:06 J -30172182.76 -30172182.62 -30172182.48 0.0271 0.0031

Saturn -87320-04-23 09:20 J -30172094.25 -30172094.11 -30172093.97 0.0271 0.0061

Saturn -87320-07-20 21:35 J -30172005.72 -30172005.60 -30172005.48 0.0271 0.0154

Saturn -87320-10-17 10:03 J -30171917.13 -30171917.08 -30171917.02 0.0271 0.0248

Venus -87318-06-24 19:25 J -30171301.80 -30171301.69 -30171301.58 0.3768 0.0736

Jupiter -87318-11-07 10:32 J -30171166.22 -30171166.06 -30171165.90 0.0495 0.0206

Jupiter -87317-02-05 12:56 J -30171076.10 -30171075.96 -30171075.82 0.0498 0.0291

Moon -87315-02-14 19:25 J -30170335.80 -30170335.69 -30170335.58 0.2747 0.1003

Earth -87315-02-14 19:39 J -30170335.79 -30170335.68 -30170335.58 0.2754 0.1023 *

Venus -87314-06-23 13:11 J -30169841.95 -30169841.95 -30169841.95 0.3602 0.3594

Mars -87313-12-04 17:59 J -30169311.89 -30169311.75 -30169311.61 0.1876 0.0432

Venus -87312-01-07 14:23 J -30169278.01 -30169277.90 -30169277.79 0.3764 0.0075

Jupiter -87312-06-28 04:32 J -30169106.44 -30169106.31 -30169106.18 0.0533 0.0106

Moon -87312-08-23 19:39 J -30169049.78 -30169049.68 -30169049.57 0.2592 0.1607

Earth -87312-08-23 19:54 J -30169049.78 -30169049.67 -30169049.56 0.2586 0.1687 *

Jupiter -87312-09-25 14:23 J -30169017.00 -30169016.90 -30169016.80 0.0529 0.0354

Mars -87312-09-27 11:44 J -30169015.11 -30169015.01 -30169014.91 0.1674 0.1001

Mars -87310-09-02 23:30 J -30168309.60 -30168309.52 -30168309.43 0.1651 0.1224

Venus -87308-01-06 13:54 J -30167818.01 -30167817.92 -30167817.82 0.3605 0.2444

Venus -87307-07-24 09:20 J -30167254.22 -30167254.11 -30167254.00 0.3760 0.0889

Jupiter -87306-08-26 09:49 J -30166856.22 -30166856.09 -30166855.96 0.0495 0.0326

Saturn -87306-08-30 14:37 J -30166852.03 -30166851.89 -30166851.75 0.0287 0.0165

Jupiter -87306-11-24 12:42 J -30166766.13 -30166765.97 -30166765.81 0.0497 0.0174

Saturn -87306-11-27 11:30 J -30166763.19 -30166763.02 -30166762.85 0.0288 0.0030

Saturn -87305-02-24 07:54 J -30166674.33 -30166674.17 -30166674.01 0.0288 0.0103

Saturn -87305-05-23 03:35 J -30166585.44 -30166585.35 -30166585.24 0.0288 0.0233

Uranus -87305-09-18 23:44 J -30166466.56 -30166466.51 -30166466.44 0.0140 0.0123

Uranus -87305-12-16 03:49 J -30166378.43 -30166378.34 -30166378.25 0.0140 0.0105

Uranus -87304-03-14 07:39 J -30166290.29 -30166290.18 -30166290.07 0.0140 0.0088

Uranus -87304-06-10 11:30 J -30166202.14 -30166202.02 -30166201.90 0.0140 0.0070

Uranus -87304-09-06 15:20 J -30166113.99 -30166113.86 -30166113.73 0.0141 0.0052

Uranus -87304-12-03 19:25 J -30166025.83 -30166025.69 -30166025.55 0.0141 0.0034

Uranus -87303-03-01 23:15 J -30165937.67 -30165937.53 -30165937.38 0.0141 0.0016

Mars -87303-04-26 17:59 J -30165881.88 -30165881.75 -30165881.61 0.1868 0.0646

Uranus -87303-05-29 03:20 J -30165849.50 -30165849.36 -30165849.22 0.0141 0.0004

Venus -87303-07-23 14:23 J -30165794.02 -30165793.90 -30165793.77 0.3609 0.1327

Uranus -87303-08-25 07:25 J -30165761.33 -30165761.19 -30165761.05 0.0141 0.0022

Uranus -87303-11-21 11:30 J -30165673.15 -30165673.02 -30165672.88 0.0141 0.0041

Moon -87302-02-17 14:51 J -30165584.99 -30165584.88 -30165584.76 0.2749 0.0283

Uranus -87302-02-17 15:35 J -30165584.97 -30165584.85 -30165584.72 0.0141 0.0061 *

Earth -87302-02-17 15:35 J -30165584.96 -30165584.85 -30165584.73 0.2753 0.0433 *

Mars -87302-02-17 21:06 J -30165584.67 -30165584.62 -30165584.57 0.1680 0.1537

Uranus -87302-05-16 19:54 J -30165496.79 -30165496.67 -30165496.55 0.0142 0.0080

Uranus -87302-08-12 23:44 J -30165408.60 -30165408.51 -30165408.40 0.0142 0.0100

Uranus -87302-11-09 04:18 J -30165320.39 -30165320.32 -30165320.24 0.0142 0.0119

Uranus -87301-02-05 08:23 J -30165232.17 -30165232.15 -30165232.11 0.0142 0.0139

Venus -87301-02-07 04:47 J -30165230.40 -30165230.30 -30165230.20 0.3756 0.1716

Mars -87300-01-23 08:23 J -30164879.26 -30164879.15 -30164879.03 0.1657 0.0686

Jupiter -87300-04-16 07:11 J -30164796.32 -30164796.20 -30164796.08 0.0533 0.0229

Jupiter -87300-07-14 16:47 J -30164706.92 -30164706.80 -30164706.68 0.0530 0.0229

Venus -87297-02-06 14:08 J -30163770.04 -30163769.91 -30163769.77 0.3612 0.0287

Venus -87296-08-23 00:13 J -30163206.57 -30163206.49 -30163206.40 0.3752 0.2585

Jupiter -87294-06-14 08:23 J -30162546.21 -30162546.15 -30162546.07 0.0494 0.0450

Jupiter -87294-09-12 11:44 J -30162456.18 -30162456.01 -30162455.83 0.0497 0.0052

Mars -87294-09-16 18:27 J -30162451.79 -30162451.73 -30162451.67 0.1860 0.1701

Neptune -87293-04-08 14:37 J -30162246.92 -30162246.89 -30162246.85 0.0089 0.0085

Neptune -87293-07-05 16:03 J -30162158.88 -30162158.83 -30162158.77 0.0089 0.0081

Neptune -87293-10-01 17:15 J -30162070.83 -30162070.78 -30162070.70 0.0089 0.0077

Neptune -87293-12-28 18:42 J -30161982.78 -30161982.72 -30161982.63 0.0089 0.0073

Neptune -87292-03-26 20:08 J -30161894.73 -30161894.66 -30161894.56 0.0089 0.0069

Neptune -87292-06-22 21:49 J -30161806.68 -30161806.59 -30161806.49 0.0089 0.0064

Moon -87292-08-18 22:18 J -30161749.69 -30161749.57 -30161749.45 0.2584 0.1476

Earth -87292-08-18 23:30 J -30161749.64 -30161749.52 -30161749.39 0.2583 0.1384 *

Venus -87292-08-22 13:39 J -30161746.05 -30161745.93 -30161745.80 0.3616 0.0776

Neptune -87292-09-18 23:15 J -30161718.63 -30161718.53 -30161718.43 0.0089 0.0060

Neptune -87292-12-16 00:42 J -30161630.57 -30161630.47 -30161630.36 0.0089 0.0056

Saturn -87292-12-19 00:27 J -30161627.55 -30161627.48 -30161627.40 0.0272 0.0229

Neptune -87291-03-14 01:54 J -30161542.52 -30161542.42 -30161542.30 0.0089 0.0052

Saturn -87291-03-17 12:13 J -30161539.11 -30161538.99 -30161538.87 0.0272 0.0140

Neptune -87291-06-10 03:20 J -30161454.46 -30161454.36 -30161454.23 0.0089 0.0048

Saturn -87291-06-14 00:13 J -30161450.63 -30161450.49 -30161450.35 0.0272 0.0050

Mars -87291-06-15 17:30 J -30161448.89 -30161448.77 -30161448.64 0.1662 0.0156

Neptune -87291-09-06 05:01 J -30161366.41 -30161366.29 -30161366.17 0.0089 0.0043

Saturn -87291-09-10 12:13 J -30161362.13 -30161361.99 -30161361.85 0.0272 0.0042

Neptune -87291-12-03 06:27 J -30161278.35 -30161278.23 -30161278.10 0.0089 0.0039

Saturn -87291-12-08 00:27 J -30161273.60 -30161273.48 -30161273.35 0.0272 0.0134

Neptune -87290-03-01 07:54 J -30161190.29 -30161190.17 -30161190.04 0.0089 0.0035

Saturn -87290-03-06 12:56 J -30161185.03 -30161184.96 -30161184.88 0.0272 0.0228

Venus -87290-03-08 20:08 J -30161182.70 -30161182.66 -30161182.62 0.3748 0.3467

Neptune -87290-05-28 09:35 J -30161102.23 -30161102.10 -30161101.97 0.0089 0.0030

Neptune -87290-08-24 11:01 J -30161014.17 -30161014.04 -30161013.91 0.0089 0.0026

Neptune -87290-11-20 12:27 J -30160926.11 -30160925.98 -30160925.85 0.0089 0.0022

Neptune -87289-02-16 13:54 J -30160838.05 -30160837.92 -30160837.78 0.0089 0.0017

Moon -87289-02-20 11:01 J -30160834.12 -30160834.04 -30160833.95 0.2751 0.1862

Earth -87289-02-20 11:59 J -30160834.09 -30160834.00 -30160833.92 0.2751 0.1889 *

Neptune -87289-05-14 15:20 J -30160749.99 -30160749.86 -30160749.72 0.0089 0.0013

Neptune -87289-08-10 17:01 J -30160661.93 -30160661.79 -30160661.66 0.0089 0.0009

Neptune -87289-11-06 18:27 J -30160573.87 -30160573.73 -30160573.59 0.0089 0.0004

Jupiter -87288-02-02 10:18 J -30160486.17 -30160486.07 -30160485.97 0.0534 0.0346

Neptune -87288-02-02 19:54 J -30160485.81 -30160485.67 -30160485.53 0.0089 0.0001

Neptune -87288-05-01 21:20 J -30160397.74 -30160397.61 -30160397.47 0.0089 0.0006

Jupiter -87288-05-02 19:39 J -30160396.81 -30160396.68 -30160396.55 0.0531 0.0111

Neptune -87288-07-28 23:01 J -30160309.68 -30160309.54 -30160309.40 0.0089 0.0009

Neptune -87288-10-25 00:27 J -30160221.62 -30160221.48 -30160221.34 0.0089 0.0013

Neptune -87287-01-21 01:54 J -30160133.55 -30160133.42 -30160133.28 0.0089 0.0018

Neptune -87287-04-19 03:35 J -30160045.49 -30160045.35 -30160045.22 0.0089 0.0022

Neptune -87287-07-16 05:01 J -30159957.42 -30159957.29 -30159957.15 0.0089 0.0027

Neptune -87287-10-12 06:42 J -30159869.35 -30159869.22 -30159869.09 0.0089 0.0031

Neptune -87286-01-08 07:54 J -30159781.29 -30159781.17 -30159781.03 0.0089 0.0036

Venus -87286-03-08 12:42 J -30159722.08 -30159721.97 -30159721.85 0.3620 0.1749

Neptune -87286-04-06 09:35 J -30159693.22 -30159693.10 -30159692.97 0.0089 0.0040

Neptune -87286-07-03 11:01 J -30159605.15 -30159605.04 -30159604.91 0.0089 0.0045

Neptune -87286-09-29 12:42 J -30159517.08 -30159516.97 -30159516.85 0.0089 0.0049

Neptune -87286-12-26 14:08 J -30159429.01 -30159428.91 -30159428.79 0.0089 0.0054

Neptune -87285-03-23 15:49 J -30159340.94 -30159340.84 -30159340.73 0.0089 0.0058

Neptune -87285-06-19 17:15 J -30159252.87 -30159252.78 -30159252.67 0.0089 0.0063

Neptune -87285-09-15 18:56 J -30159164.79 -30159164.71 -30159164.61 0.0089 0.0067

Neptune -87285-12-12 20:23 J -30159076.72 -30159076.65 -30159076.55 0.0089 0.0072

Neptune -87284-03-10 22:03 J -30158988.64 -30158988.58 -30158988.50 0.0089 0.0076

Neptune -87284-06-06 23:30 J -30158900.56 -30158900.52 -30158900.45 0.0089 0.0081

Neptune -87284-09-03 01:11 J -30158812.48 -30158812.45 -30158812.40 0.0089 0.0085

Venus -87284-11-30 16:18 J -30158723.86 -30158723.82 -30158723.78 0.3780 0.3492

Mars -87282-01-13 17:30 J -30158314.84 -30158314.77 -30158314.69 0.1883 0.1583

Earth -87282-02-13 04:47 J -30158284.37 -30158284.30 -30158284.23 0.2756 0.2138

Moon -87282-02-13 05:01 J -30158284.36 -30158284.29 -30158284.22 0.2748 0.2134 *

Jupiter -87282-07-01 10:03 J -30158146.25 -30158146.08 -30158145.91 0.0496 0.0079

Jupiter -87282-09-29 11:59 J -30158056.09 -30158056.00 -30158055.90 0.0498 0.0414

Mars -87282-11-06 02:51 J -30158018.51 -30158018.38 -30158018.26 0.1668 0.0393

Venus -87281-09-21 11:30 J -30157698.11 -30157698.02 -30157697.94 0.3624 0.2686

Moon -87279-08-21 23:59 J -30156998.65 -30156998.50 -30156998.36 0.2589 0.0189

Earth -87279-08-22 00:56 J -30156998.61 -30156998.46 -30156998.32 0.2585 0.0362 *

Venus -87278-06-16 10:18 J -30156700.14 -30156700.07 -30156700.00 0.3777 0.2784

Jupiter -87277-11-21 13:39 J -30156175.99 -30156175.93 -30156175.86 0.0535 0.0458

Saturn -87276-01-16 16:03 J -30156119.95 -30156119.83 -30156119.70 0.0288 0.0192

Jupiter -87276-02-18 23:01 J -30156086.67 -30156086.54 -30156086.41 0.0532 0.0006

Saturn -87276-04-15 12:56 J -30156031.12 -30156030.96 -30156030.79 0.0288 0.0056

Jupiter -87276-05-19 09:06 J -30155997.19 -30155997.12 -30155997.06 0.0529 0.0459

Saturn -87276-07-13 09:35 J -30155942.27 -30155942.10 -30155941.94 0.0288 0.0078

Saturn -87276-10-10 05:30 J -30155853.38 -30155853.27 -30155853.15 0.0288 0.0208

Pluto -87275-03-06 08:23 J -30155706.16 -30155706.15 -30155706.11 0.0060 0.0059

Venus -87275-04-07 09:49 J -30155674.11 -30155674.09 -30155674.08 0.3629 0.3582

Pluto -87275-06-02 09:35 J -30155618.17 -30155618.10 -30155617.99 0.0060 0.0054

Pluto -87275-08-29 11:01 J -30155530.14 -30155530.04 -30155529.90 0.0060 0.0047

Pluto -87275-11-25 12:42 J -30155442.10 -30155441.97 -30155441.81 0.0060 0.0041

Pluto -87274-02-21 13:54 J -30155354.06 -30155353.92 -30155353.74 0.0060 0.0035

Pluto -87274-05-20 15:49 J -30155266.01 -30155265.84 -30155265.66 0.0060 0.0028

Pluto -87274-08-16 17:01 J -30155177.96 -30155177.79 -30155177.59 0.0061 0.0022

Pluto -87274-11-12 18:42 J -30155089.90 -30155089.72 -30155089.53 0.0061 0.0015

Pluto -87273-02-08 20:08 J -30155001.85 -30155001.66 -30155001.46 0.0061 0.0009

Pluto -87273-05-06 21:49 J -30154913.79 -30154913.59 -30154913.40 0.0061 0.0002

Mars -87273-06-04 17:59 J -30154884.89 -30154884.75 -30154884.61 0.1876 0.0519

Pluto -87273-08-02 23:15 J -30154825.73 -30154825.53 -30154825.34 0.0061 0.0005

Pluto -87273-10-30 00:42 J -30154737.66 -30154737.47 -30154737.28 0.0061 0.0011

Venus -87273-12-30 04:32 J -30154676.40 -30154676.31 -30154676.21 0.3773 0.2057

Pluto -87272-01-26 01:54 J -30154649.59 -30154649.42 -30154649.22 0.0061 0.0018

Mars -87272-03-28 11:59 J -30154588.11 -30154588.00 -30154587.90 0.1674 0.0926

Pluto -87272-04-24 03:35 J -30154561.52 -30154561.35 -30154561.16 0.0061 0.0024

Pluto -87272-07-21 05:01 J -30154473.45 -30154473.29 -30154473.11 0.0061 0.0031

Pluto -87272-10-17 06:13 J -30154385.37 -30154385.24 -30154385.06 0.0061 0.0038

Pluto -87271-01-13 08:08 J -30154297.29 -30154297.16 -30154297.02 0.0061 0.0045

Pluto -87271-04-11 09:20 J -30154209.19 -30154209.11 -30154208.98 0.0061 0.0052

Pluto -87271-07-08 10:47 J -30154121.08 -30154121.05 -30154120.97 0.0061 0.0059

Mars -87270-03-03 23:44 J -30153882.59 -30153882.51 -30153882.44 0.1652 0.1300

Jupiter -87270-04-19 08:37 J -30153836.29 -30153836.14 -30153835.97 0.0495 0.0205

Jupiter -87270-07-18 11:15 J -30153746.17 -30153746.03 -30153745.89 0.0498 0.0292

Moon -87269-02-16 00:27 J -30153533.59 -30153533.48 -30153533.37 0.2748 0.0757

Earth -87269-02-16 00:42 J -30153533.58 -30153533.47 -30153533.36 0.2754 0.0725 *

Venus -87267-07-15 23:01 J -30152652.64 -30152652.54 -30152652.43 0.3770 0.1309

Uranus -87266-08-21 15:06 J -30152250.88 -30152250.87 -30152250.86 0.0139 0.0138

Earth -87266-08-25 01:54 J -30152247.51 -30152247.42 -30152247.34 0.2586 0.2044

Moon -87266-08-25 01:54 J -30152247.50 -30152247.42 -30152247.34 0.2593 0.2143 *

Uranus -87266-11-17 21:49 J -30152162.69 -30152162.59 -30152162.49 0.0139 0.0115

Uranus -87265-02-14 04:03 J -30152074.45 -30152074.33 -30152074.19 0.0139 0.0093

Uranus -87265-05-12 10:47 J -30151986.20 -30151986.05 -30151985.89 0.0139 0.0070

Uranus -87265-08-08 17:15 J -30151897.94 -30151897.78 -30151897.61 0.0138 0.0047

Uranus -87265-11-04 23:44 J -30151809.68 -30151809.51 -30151809.34 0.0138 0.0025

Jupiter -87265-12-08 02:37 J -30151776.52 -30151776.39 -30151776.26 0.0533 0.0113

Uranus -87264-02-01 05:59 J -30151721.42 -30151721.25 -30151721.07 0.0138 0.0004

Jupiter -87264-03-07 12:27 J -30151687.08 -30151686.98 -30151686.88 0.0530 0.0348

Uranus -87264-04-30 12:13 J -30151633.16 -30151632.99 -30151632.81 0.0138 0.0019

Uranus -87264-07-27 18:27 J -30151544.89 -30151544.73 -30151544.56 0.0138 0.0040

Uranus -87264-10-24 00:27 J -30151456.62 -30151456.48 -30151456.31 0.0138 0.0062

Mars -87264-10-25 18:42 J -30151454.86 -30151454.72 -30151454.58 0.1868 0.0523

Uranus -87263-01-20 06:42 J -30151368.35 -30151368.22 -30151368.08 0.0137 0.0082

Uranus -87263-04-18 12:42 J -30151280.08 -30151279.97 -30151279.85 0.0137 0.0103

Uranus -87263-07-15 18:42 J -30151191.79 -30151191.72 -30151191.64 0.0137 0.0124

Mars -87263-08-18 21:06 J -30151157.68 -30151157.62 -30151157.56 0.1679 0.1463

Saturn -87262-05-08 02:37 J -30150895.43 -30150895.39 -30150895.34 0.0272 0.0254

Saturn -87262-08-04 14:23 J -30150807.01 -30150806.90 -30150806.79 0.0271 0.0166

Saturn -87262-11-01 02:08 J -30150718.54 -30150718.41 -30150718.27 0.0271 0.0077

Saturn -87261-01-28 14:08 J -30150630.05 -30150629.91 -30150629.77 0.0271 0.0015

Venus -87261-01-29 17:44 J -30150628.87 -30150628.76 -30150628.65 0.3766 0.0540

Saturn -87261-04-26 02:23 J -30150541.53 -30150541.40 -30150541.27 0.0271 0.0106

Saturn -87261-07-23 14:51 J -30150452.98 -30150452.88 -30150452.79 0.0271 0.0199

Mars -87261-07-24 08:37 J -30150452.25 -30150452.14 -30150452.02 0.1656 0.0764

Jupiter -87258-02-05 07:11 J -30149526.32 -30149526.20 -30149526.06 0.0494 0.0332

Jupiter -87258-05-06 10:03 J -30149436.24 -30149436.08 -30149435.91 0.0497 0.0169

Venus -87257-01-28 13:11 J -30149169.00 -30149168.95 -30149168.90 0.3602 0.3296

Moon -87256-02-17 19:54 J -30148782.78 -30148782.67 -30148782.55 0.2749 0.0665

Earth -87256-02-17 20:51 J -30148782.75 -30148782.63 -30148782.52 0.2753 0.0719 *

Venus -87256-08-14 12:42 J -30148605.08 -30148604.97 -30148604.86 0.3763 0.0279

Mars -87254-03-17 18:42 J -30148024.79 -30148024.72 -30148024.64 0.1860 0.1594

Jupiter -87253-09-26 06:13 J -30147466.36 -30147466.24 -30147466.12 0.0533 0.0223

Jupiter -87253-12-24 15:49 J -30147376.96 -30147376.84 -30147376.72 0.0530 0.0236

Venus -87252-08-13 13:54 J -30147145.03 -30147144.92 -30147144.81 0.3606 0.2151

Mars -87252-12-14 17:44 J -30147021.89 -30147021.76 -30147021.63 0.1662 0.0224

Venus -87250-02-28 07:54 J -30146581.28 -30146581.17 -30146581.06 0.3759 0.1096

Saturn -87247-06-05 13:39 J -30145388.02 -30145387.93 -30145387.84 0.0287 0.0242

Saturn -87247-09-02 10:47 J -30145299.21 -30145299.05 -30145298.89 0.0287 0.0105

Jupiter -87247-11-24 06:13 J -30145216.30 -30145216.24 -30145216.16 0.0494 0.0453

Saturn -87247-11-30 07:25 J -30145210.36 -30145210.19 -30145210.02 0.0287 0.0030

Jupiter -87246-02-22 09:35 J -30145126.27 -30145126.10 -30145125.92 0.0497 0.0050

Saturn -87246-02-27 03:35 J -30145121.49 -30145121.35 -30145121.21 0.0288 0.0161

Venus -87246-02-27 14:08 J -30145121.04 -30145120.91 -30145120.78 0.3610 0.1049

Moon -87246-08-20 04:18 J -30144947.45 -30144947.32 -30144947.20 0.2586 0.1158

Earth -87246-08-20 05:30 J -30144947.40 -30144947.27 -30144947.14 0.2583 0.1014 *

Venus -87245-09-13 03:20 J -30144557.46 -30144557.36 -30144557.26 0.3755 0.1943

Moon -87243-02-20 16:18 J -30144031.90 -30144031.82 -30144031.74 0.2753 0.2039

Earth -87243-02-20 17:01 J -30144031.86 -30144031.79 -30144031.72 0.2751 0.2197 *

Mars -87243-07-14 17:44 J -30143887.82 -30143887.76 -30143887.69 0.1883 0.1682

Mars -87242-05-07 02:51 J -30143591.51 -30143591.38 -30143591.26 0.1668 0.0316

Jupiter -87241-07-15 08:51 J -30143156.23 -30143156.13 -30143156.03 0.0534 0.0344

Venus -87241-09-12 13:54 J -30143097.05 -30143096.92 -30143096.79 0.3614 0.0023

Jupiter -87241-10-12 18:13 J -30143066.87 -30143066.74 -30143066.61 0.0531 0.0112

Venus -87239-03-29 23:01 J -30142533.62 -30142533.54 -30142533.47 0.3751 0.2818

Moon -87236-02-13 10:03 J -30141482.17 -30141482.08 -30141481.99 0.2748 0.1764

Earth -87236-02-13 09:49 J -30141482.17 -30141482.09 -30141482.00 0.2755 0.1851 *

Venus -87235-03-29 13:25 J -30141073.07 -30141072.94 -30141072.82 0.3617 0.1030

Jupiter -87235-12-11 08:37 J -30140816.31 -30140816.14 -30140815.97 0.0496 0.0074

Jupiter -87234-03-11 10:47 J -30140726.14 -30140726.05 -30140725.96 0.0499 0.0420

Venus -87234-10-13 18:56 J -30140509.73 -30140509.71 -30140509.70 0.3746 0.3711

Mars -87234-12-04 18:42 J -30140457.86 -30140457.72 -30140457.58 0.1876 0.0647

Moon -87233-08-22 05:59 J -30140196.39 -30140196.25 -30140196.12 0.2590 0.0704

Earth -87233-08-22 06:42 J -30140196.36 -30140196.22 -30140196.08 0.2585 0.0714 *

Mars -87233-09-26 11:59 J -30140161.11 -30140161.00 -30140160.89 0.1673 0.0854

Saturn -87233-12-21 17:15 J -30140074.88 -30140074.78 -30140074.68 0.0272 0.0188

Saturn -87232-03-20 05:01 J -30139986.42 -30139986.29 -30139986.16 0.0272 0.0099

Saturn -87232-06-16 17:01 J -30139897.93 -30139897.79 -30139897.65 0.0272 0.0009

Saturn -87232-09-13 05:15 J -30139809.41 -30139809.28 -30139809.15 0.0272 0.0085

Saturn -87232-12-10 17:30 J -30139720.87 -30139720.77 -30139720.66 0.0272 0.0179

Mars -87231-09-01 23:44 J -30139455.58 -30139455.51 -30139455.44 0.1651 0.1377

Venus -87230-10-13 12:13 J -30139049.10 -30139048.99 -30139048.88 0.3621 0.1994

Jupiter -87229-05-03 11:59 J -30138846.06 -30138846.00 -30138845.93 0.0534 0.0460

Jupiter -87229-07-31 21:20 J -30138756.75 -30138756.61 -30138756.48 0.0532 0.0018

Jupiter -87229-10-29 07:11 J -30138667.27 -30138667.20 -30138667.13 0.0528 0.0454

Venus -87227-07-07 14:23 J -30138050.95 -30138050.90 -30138050.85 0.3779 0.3317

Mars -87224-04-25 18:56 J -30137027.85 -30137027.71 -30137027.56 0.1868 0.0420

Venus -87224-04-28 10:47 J -30137025.12 -30137025.05 -30137024.98 0.3626 0.2924

Moon -87223-02-16 05:15 J -30136731.39 -30136731.28 -30136731.16 0.2748 0.0519

Earth -87223-02-16 05:44 J -30136731.37 -30136731.26 -30136731.14 0.2754 0.0437 *

Mars -87223-02-16 21:20 J -30136730.68 -30136730.61 -30136730.55 0.1680 0.1391

Jupiter -87223-09-29 06:42 J -30136506.38 -30136506.22 -30136506.06 0.0495 0.0206

Jupiter -87223-12-28 09:20 J -30136416.25 -30136416.11 -30136415.97 0.0498 0.0291

Venus -87221-01-21 08:23 J -30136027.22 -30136027.15 -30136027.07 0.3776 0.2609

Mars -87221-01-23 08:51 J -30136025.24 -30136025.13 -30136025.02 0.1657 0.0839

Uranus -87221-07-13 04:03 J -30135853.36 -30135853.33 -30135853.28 0.0140 0.0133

Uranus -87221-10-09 08:08 J -30135765.24 -30135765.16 -30135765.09 0.0140 0.0115

Uranus -87220-01-05 11:44 J -30135677.10 -30135677.01 -30135676.90 0.0140 0.0098

Uranus -87220-04-03 15:35 J -30135588.96 -30135588.85 -30135588.73 0.0140 0.0081

Uranus -87220-06-30 19:39 J -30135500.81 -30135500.68 -30135500.55 0.0140 0.0062

Moon -87220-08-25 07:39 J -30135445.23 -30135445.18 -30135445.12 0.2593 0.2335

Earth -87220-08-25 07:39 J -30135445.23 -30135445.18 -30135445.13 0.2587 0.2393 *

Uranus -87220-09-26 23:30 J -30135412.65 -30135412.52 -30135412.38 0.0141 0.0044

Uranus -87220-12-24 03:35 J -30135324.49 -30135324.35 -30135324.21 0.0141 0.0026

Uranus -87219-03-22 07:25 J -30135236.33 -30135236.19 -30135236.04 0.0141 0.0009

Uranus -87219-06-18 11:30 J -30135148.16 -30135148.02 -30135147.88 0.0141 0.0012

Uranus -87219-09-14 15:35 J -30135059.99 -30135059.85 -30135059.71 0.0141 0.0030

Uranus -87219-12-11 19:39 J -30134971.81 -30134971.68 -30134971.54 0.0141 0.0049

Uranus -87218-03-09 23:44 J -30134883.63 -30134883.51 -30134883.38 0.0141 0.0069

Uranus -87218-06-06 04:03 J -30134795.44 -30134795.33 -30134795.22 0.0142 0.0088

Uranus -87218-09-02 08:08 J -30134707.25 -30134707.16 -30134707.06 0.0142 0.0108

Saturn -87218-10-23 15:35 J -30134655.91 -30134655.85 -30134655.78 0.0288 0.0265

Uranus -87218-11-29 12:27 J -30134619.04 -30134618.98 -30134618.91 0.0142 0.0127

Saturn -87217-01-20 12:42 J -30134567.12 -30134566.97 -30134566.81 0.0288 0.0128

Saturn -87217-04-18 09:35 J -30134478.27 -30134478.10 -30134477.93 0.0288 0.0008

Jupiter -87217-05-20 00:27 J -30134446.61 -30134446.48 -30134446.35 0.0533 0.0122

Saturn -87217-07-16 05:44 J -30134389.40 -30134389.26 -30134389.11 0.0288 0.0140

Jupiter -87217-08-17 10:18 J -30134357.17 -30134357.07 -30134356.97 0.0530 0.0339

Saturn -87217-10-13 01:25 J -30134300.49 -30134300.44 -30134300.37 0.0288 0.0269

Venus -87216-08-06 02:51 J -30134003.48 -30134003.38 -30134003.28 0.3772 0.1864

Mars -87215-09-15 19:11 J -30133597.79 -30133597.70 -30133597.61 0.1861 0.1488

Moon -87213-08-17 08:37 J -30132896.17 -30132896.14 -30132896.10 0.2581 0.2485

Earth -87213-08-17 09:49 J -30132896.13 -30132896.09 -30132896.04 0.2582 0.2417 *

Mars -87212-06-14 17:44 J -30132594.88 -30132594.76 -30132594.63 0.1662 0.0308

Jupiter -87211-07-18 05:15 J -30132196.40 -30132196.28 -30132196.15 0.0494 0.0332

Jupiter -87211-10-16 08:08 J -30132106.32 -30132106.16 -30132105.99 0.0497 0.0167

Moon -87210-02-19 01:11 J -30131980.56 -30131980.45 -30131980.34 0.2749 0.0896

Earth -87210-02-19 01:54 J -30131980.53 -30131980.42 -30131980.31 0.2752 0.1024 *

Venus -87210-02-19 21:20 J -30131979.71 -30131979.61 -30131979.50 0.3769 0.1109

Neptune -87210-07-02 20:08 J -30131846.67 -30131846.66 -30131846.63 0.0088 0.0088

Neptune -87210-09-28 23:30 J -30131758.58 -30131758.52 -30131758.44 0.0088 0.0082

Neptune -87210-12-26 02:51 J -30131670.47 -30131670.38 -30131670.28 0.0088 0.0076

Neptune -87209-03-23 06:13 J -30131582.35 -30131582.24 -30131582.12 0.0088 0.0070

Neptune -87209-06-19 09:35 J -30131494.22 -30131494.10 -30131493.97 0.0088 0.0064

Neptune -87209-09-15 12:42 J -30131406.10 -30131405.97 -30131405.82 0.0088 0.0058

Neptune -87209-12-12 16:03 J -30131317.97 -30131317.83 -30131317.67 0.0088 0.0052

Neptune -87208-03-10 19:25 J -30131229.84 -30131229.69 -30131229.52 0.0088 0.0046

Neptune -87208-06-06 22:32 J -30131141.71 -30131141.56 -30131141.38 0.0088 0.0041

Neptune -87208-09-03 01:54 J -30131053.58 -30131053.42 -30131053.24 0.0088 0.0035

Neptune -87208-11-30 05:15 J -30130965.45 -30130965.28 -30130965.10 0.0088 0.0029

Neptune -87207-02-26 08:37 J -30130877.32 -30130877.14 -30130876.96 0.0088 0.0023

Neptune -87207-05-25 11:44 J -30130789.18 -30130789.01 -30130788.82 0.0088 0.0017

Neptune -87207-08-21 15:06 J -30130701.05 -30130700.87 -30130700.69 0.0088 0.0011

Neptune -87207-11-17 18:13 J -30130612.92 -30130612.74 -30130612.55 0.0088 0.0006

Neptune -87206-02-13 21:35 J -30130524.79 -30130524.60 -30130524.42 0.0088 0.0002

Neptune -87206-05-13 00:42 J -30130436.65 -30130436.47 -30130436.29 0.0088 0.0006

Neptune -87206-08-09 03:49 J -30130348.52 -30130348.34 -30130348.16 0.0088 0.0012

Neptune -87206-11-05 06:56 J -30130260.39 -30130260.21 -30130260.03 0.0088 0.0018

Neptune -87205-02-01 10:03 J -30130172.25 -30130172.08 -30130171.90 0.0088 0.0023

Jupiter -87205-03-08 04:03 J -30130136.45 -30130136.33 -30130136.21 0.0534 0.0232

Neptune -87205-04-29 12:56 J -30130084.12 -30130083.96 -30130083.77 0.0088 0.0030

Jupiter -87205-06-05 13:39 J -30130047.05 -30130046.93 -30130046.81 0.0531 0.0228

Neptune -87205-07-26 16:18 J -30129995.98 -30129995.82 -30129995.65 0.0088 0.0035

Venus -87205-09-04 16:03 J -30129955.94 -30129955.83 -30129955.71 0.3765 0.0358

Neptune -87205-10-22 19:11 J -30129907.85 -30129907.70 -30129907.52 0.0088 0.0041

Neptune -87204-01-18 22:32 J -30129819.71 -30129819.56 -30129819.40 0.0088 0.0046

Neptune -87204-04-17 01:25 J -30129731.58 -30129731.44 -30129731.28 0.0088 0.0052

Neptune -87204-07-14 04:47 J -30129643.44 -30129643.30 -30129643.16 0.0088 0.0057

Neptune -87204-10-10 07:39 J -30129555.30 -30129555.18 -30129555.05 0.0088 0.0063

Neptune -87203-01-06 10:32 J -30129467.16 -30129467.06 -30129466.93 0.0088 0.0068

Mars -87203-01-12 18:13 J -30129460.78 -30129460.74 -30129460.70 0.1884 0.1795

Neptune -87203-04-04 13:39 J -30129379.02 -30129378.93 -30129378.82 0.0088 0.0074

Saturn -87203-05-10 19:39 J -30129342.76 -30129342.68 -30129342.59 0.0272 0.0211

Neptune -87203-07-01 17:01 J -30129290.87 -30129290.79 -30129290.71 0.0088 0.0079

Saturn -87203-08-07 07:25 J -30129254.31 -30129254.19 -30129254.06 0.0271 0.0122

Neptune -87203-09-27 19:39 J -30129202.72 -30129202.68 -30129202.62 0.0088 0.0085

Saturn -87203-11-03 19:25 J -30129165.83 -30129165.69 -30129165.55 0.0271 0.0032

Mars -87203-11-05 03:06 J -30129164.50 -30129164.37 -30129164.25 0.1667 0.0244

Saturn -87202-01-31 07:25 J -30129077.33 -30129077.19 -30129077.05 0.0271 0.0060

Saturn -87202-04-29 19:39 J -30128988.79 -30128988.68 -30128988.56 0.0271 0.0153

Saturn -87202-07-27 08:08 J -30128900.21 -30128900.16 -30128900.10 0.0271 0.0247

Venus -87201-09-03 13:11 J -30128496.02 -30128495.95 -30128495.88 0.3603 0.3000

Moon -87200-08-20 10:03 J -30128145.22 -30128145.08 -30128144.94 0.2586 0.0782

Earth -87200-08-20 11:15 J -30128145.17 -30128145.03 -30128144.89 0.2584 0.0654 *

Venus -87199-03-21 11:15 J -30127932.15 -30127932.03 -30127931.92 0.3762 0.0503

Jupiter -87199-05-06 03:35 J -30127886.40 -30127886.35 -30127886.28 0.0494 0.0460

Jupiter -87199-08-04 06:56 J -30127796.38 -30127796.21 -30127796.03 0.0496 0.0042

Moon -87197-02-21 21:35 J -30127229.65 -30127229.60 -30127229.55 0.2754 0.2464

Earth -87197-02-21 22:18 J -30127229.62 -30127229.57 -30127229.52 0.2750 0.2498 *

Venus -87195-03-20 13:54 J -30126472.04 -30126471.92 -30126471.81 0.3607 0.1867

Mars -87194-06-04 19:11 J -30126030.84 -30126030.70 -30126030.57 0.1876 0.0758

Venus -87194-10-05 06:27 J -30125908.34 -30125908.23 -30125908.13 0.3758 0.1321

Jupiter -87194-12-26 07:39 J -30125826.28 -30125826.18 -30125826.08 0.0534 0.0341

Jupiter -87193-03-24 17:01 J -30125736.92 -30125736.79 -30125736.66 0.0531 0.0117

Mars -87193-03-27 11:59 J -30125734.11 -30125734.00 -30125733.89 0.1673 0.0782

Mars -87191-03-02 23:59 J -30125028.56 -30125028.50 -30125028.44 0.1651 0.1456

Earth -87190-02-14 14:51 J -30124679.97 -30124679.88 -30124679.78 0.2755 0.1563

Moon -87190-02-14 15:06 J -30124679.96 -30124679.87 -30124679.77 0.2748 0.1592 *

Venus -87190-10-04 13:54 J -30124448.05 -30124447.92 -30124447.79 0.3611 0.0778

Venus -87188-04-20 01:54 J -30123884.52 -30123884.42 -30123884.33 0.3754 0.2173

Saturn -87188-06-08 10:32 J -30123835.19 -30123835.06 -30123834.92 0.0287 0.0176

Saturn -87188-09-05 07:25 J -30123746.35 -30123746.19 -30123746.01 0.0287 0.0041

Saturn -87188-12-03 04:03 J -30123657.49 -30123657.33 -30123657.17 0.0287 0.0094

Saturn -87187-03-01 23:59 J -30123568.60 -30123568.50 -30123568.39 0.0287 0.0224

Jupiter -87187-05-23 06:13 J -30123486.41 -30123486.24 -30123486.06 0.0496 0.0080

Jupiter -87187-08-21 08:23 J -30123396.24 -30123396.15 -30123396.05 0.0499 0.0416

Moon -87187-08-23 11:59 J -30123394.13 -30123394.00 -30123393.87 0.2591 0.0998

Earth -87187-08-23 12:27 J -30123394.11 -30123393.98 -30123393.85 0.2585 0.1073 *

Mars -87185-10-24 19:39 J -30122600.83 -30122600.68 -30122600.54 0.1869 0.0308

Venus -87184-04-19 13:39 J -30122424.07 -30122423.93 -30122423.80 0.3615 0.0305

Mars -87184-08-17 21:20 J -30122303.68 -30122303.61 -30122303.53 0.1679 0.1316

Venus -87183-11-03 21:35 J -30121860.67 -30121860.60 -30121860.54 0.3750 0.3048

Mars -87182-07-24 08:51 J -30121598.24 -30121598.13 -30121598.02 0.1656 0.0916

Uranus -87182-09-10 23:15 J -30121549.58 -30121549.53 -30121549.46 0.0139 0.0130

Pluto -87182-10-04 08:23 J -30121526.20 -30121526.15 -30121526.09 0.0085 0.0077

Jupiter -87182-10-14 10:32 J -30121516.12 -30121516.06 -30121515.99 0.0534 0.0459

Uranus -87182-12-08 05:59 J -30121461.36 -30121461.25 -30121461.13 0.0139 0.0107

Pluto -87182-12-31 09:35 J -30121438.17 -30121438.10 -30121438.00 0.0085 0.0065

Jupiter -87181-01-11 19:54 J -30121426.81 -30121426.67 -30121426.54 0.0531 0.0017

Uranus -87181-03-05 12:27 J -30121373.11 -30121372.98 -30121372.83 0.0139 0.0084

Pluto -87181-03-28 11:01 J -30121350.14 -30121350.04 -30121349.93 0.0084 0.0052

Jupiter -87181-04-10 05:44 J -30121337.33 -30121337.26 -30121337.19 0.0528 0.0454

Uranus -87181-06-01 18:56 J -30121284.86 -30121284.71 -30121284.54 0.0138 0.0062

Pluto -87181-06-24 12:13 J -30121262.09 -30121261.99 -30121261.86 0.0084 0.0041

Uranus -87181-08-29 01:25 J -30121196.60 -30121196.44 -30121196.26 0.0138 0.0040

Pluto -87181-09-20 13:39 J -30121174.05 -30121173.93 -30121173.80 0.0084 0.0028

Uranus -87181-11-25 07:54 J -30121108.34 -30121108.17 -30121107.99 0.0138 0.0017

Pluto -87181-12-17 15:06 J -30121086.00 -30121085.87 -30121085.74 0.0084 0.0016

Uranus -87180-02-21 14:23 J -30121020.08 -30121019.90 -30121019.73 0.0138 0.0005

Pluto -87180-03-15 16:18 J -30120997.95 -30120997.82 -30120997.68 0.0084 0.0005

Uranus -87180-05-20 20:37 J -30120931.81 -30120931.64 -30120931.47 0.0138 0.0027

Pluto -87180-06-11 17:44 J -30120909.90 -30120909.76 -30120909.63 0.0084 0.0008

Uranus -87180-08-17 02:51 J -30120843.55 -30120843.38 -30120843.22 0.0138 0.0048

Pluto -87180-09-07 18:56 J -30120821.84 -30120821.71 -30120821.58 0.0084 0.0020

Uranus -87180-11-13 08:51 J -30120755.28 -30120755.13 -30120754.98 0.0138 0.0069

Pluto -87180-12-04 19:54 J -30120733.78 -30120733.67 -30120733.54 0.0084 0.0032

Uranus -87179-02-09 14:51 J -30120667.00 -30120666.88 -30120666.74 0.0137 0.0091

Pluto -87179-03-02 21:20 J -30120645.72 -30120645.61 -30120645.49 0.0083 0.0043

Uranus -87179-05-08 20:51 J -30120578.72 -30120578.63 -30120578.52 0.0137 0.0111

Pluto -87179-05-29 22:32 J -30120557.66 -30120557.56 -30120557.46 0.0083 0.0054

Uranus -87179-08-05 02:51 J -30120490.42 -30120490.38 -30120490.32 0.0137 0.0132

Pluto -87179-08-25 23:44 J -30120469.59 -30120469.51 -30120469.43 0.0083 0.0066

Venus -87179-11-03 12:42 J -30120400.09 -30120399.97 -30120399.84 0.3619 0.1280

Pluto -87179-11-22 00:42 J -30120381.50 -30120381.47 -30120381.41 0.0083 0.0077

Moon -87177-02-17 10:18 J -30119929.19 -30119929.07 -30119928.95 0.2748 0.0168

Earth -87177-02-17 11:01 J -30119929.16 -30119929.04 -30119928.93 0.2754 0.0157 *

Jupiter -87175-03-11 05:01 J -30119176.45 -30119176.29 -30119176.13 0.0495 0.0204

Mars -87175-03-16 19:39 J -30119170.78 -30119170.68 -30119170.58 0.1861 0.1369

Jupiter -87175-06-09 07:39 J -30119086.32 -30119086.18 -30119086.04 0.0498 0.0294

Saturn -87174-09-27 22:18 J -30118610.63 -30118610.57 -30118610.50 0.0272 0.0235

Saturn -87174-12-25 10:03 J -30118522.19 -30118522.08 -30118521.96 0.0272 0.0146

Saturn -87173-03-22 22:03 J -30118433.72 -30118433.58 -30118433.44 0.0272 0.0056

Venus -87173-05-19 11:30 J -30118376.12 -30118376.02 -30118375.92 0.3623 0.2238

Saturn -87173-06-19 10:03 J -30118345.22 -30118345.08 -30118344.94 0.0272 0.0036

Saturn -87173-09-15 22:18 J -30118256.69 -30118256.57 -30118256.44 0.0272 0.0130

Saturn -87173-12-13 10:47 J -30118168.13 -30118168.05 -30118167.97 0.0272 0.0224

Mars -87173-12-13 17:59 J -30118167.88 -30118167.75 -30118167.63 0.1662 0.0376

Venus -87170-02-11 12:27 J -30117378.04 -30117377.98 -30117377.92 0.3778 0.3140

Jupiter -87170-10-30 22:47 J -30117116.68 -30117116.55 -30117116.42 0.0532 0.0124

Jupiter -87169-01-28 08:37 J -30117027.25 -30117027.14 -30117027.04 0.0529 0.0335

Venus -87168-12-03 10:03 J -30116352.14 -30116352.08 -30116352.02 0.3627 0.3161

Moon -87167-08-18 14:23 J -30116093.96 -30116093.90 -30116093.83 0.2582 0.2261

Earth -87167-08-18 15:49 J -30116093.93 -30116093.84 -30116093.75 0.2583 0.2045 *

Venus -87165-08-27 06:42 J -30115354.30 -30115354.22 -30115354.14 0.3775 0.2418

Moon -87164-02-19 06:13 J -30115178.34 -30115178.24 -30115178.13 0.2751 0.1219

Earth -87164-02-19 07:11 J -30115178.31 -30115178.20 -30115178.10 0.2752 0.1324 *

Jupiter -87164-12-28 03:20 J -30114866.49 -30114866.36 -30114866.23 0.0494 0.0334

Jupiter -87163-03-28 06:13 J -30114776.41 -30114776.24 -30114776.08 0.0497 0.0165

Mars -87163-05-06 03:06 J -30114737.50 -30114737.37 -30114737.25 0.1668 0.0171

Venus -87159-03-13 01:11 J -30113330.55 -30113330.45 -30113330.35 0.3771 0.1676

Saturn -87159-10-26 12:42 J -30113103.08 -30113102.97 -30113102.83 0.0288 0.0198

Saturn -87158-01-23 09:49 J -30113014.25 -30113014.09 -30113013.92 0.0288 0.0061

Saturn -87158-04-22 06:27 J -30112925.40 -30112925.23 -30112925.07 0.0288 0.0073

Saturn -87158-07-20 02:37 J -30112836.51 -30112836.39 -30112836.28 0.0288 0.0204

Jupiter -87158-08-19 01:54 J -30112806.54 -30112806.42 -30112806.30 0.0534 0.0241

Jupiter -87158-11-16 11:30 J -30112717.14 -30112717.02 -30112716.90 0.0531 0.0218

Earth -87157-02-13 00:13 J -30112628.52 -30112628.49 -30112628.47 0.2756 0.2669

Moon -87157-02-13 00:42 J -30112628.49 -30112628.47 -30112628.44 0.2750 0.2666 *

Mars -87155-12-03 19:25 J -30111603.82 -30111603.69 -30111603.56 0.1876 0.0859

Moon -87154-08-21 16:03 J -30111342.97 -30111342.83 -30111342.69 0.2587 0.0381

Earth -87154-08-21 17:15 J -30111342.92 -30111342.78 -30111342.64 0.2584 0.0281 *

Mars -87154-09-26 12:13 J -30111307.10 -30111306.99 -30111306.87 0.1673 0.0701

Venus -87154-09-26 19:39 J -30111306.79 -30111306.68 -30111306.57 0.3768 0.0909

Mars -87152-08-31 23:59 J -30110601.54 -30110601.50 -30110601.45 0.1651 0.1536

Jupiter -87152-10-16 01:39 J -30110556.49 -30110556.43 -30110556.37 0.0493 0.0461

Jupiter -87151-01-14 05:01 J -30110466.46 -30110466.29 -30110466.12 0.0496 0.0040

Moon -87151-02-22 02:37 J -30110427.41 -30110427.39 -30110427.36 0.2754 0.2676

Venus -87148-04-11 14:37 J -30109283.01 -30109282.89 -30109282.78 0.3764 0.0183

Jupiter -87146-06-07 05:30 J -30108496.37 -30108496.27 -30108496.17 0.0534 0.0351

Jupiter -87146-09-04 14:51 J -30108407.01 -30108406.88 -30108406.75 0.0531 0.0107

Mars -87145-04-24 19:54 J -30108173.81 -30108173.67 -30108173.52 0.1869 0.0194

Saturn -87144-02-14 01:11 J -30107878.49 -30107878.45 -30107878.41 0.0272 0.0255

Moon -87144-02-14 19:54 J -30107877.77 -30107877.67 -30107877.56 0.2748 0.1213

Earth -87144-02-14 20:08 J -30107877.77 -30107877.66 -30107877.56 0.2755 0.1276 *

Mars -87144-02-15 21:20 J -30107876.69 -30107876.61 -30107876.52 0.1679 0.1244

Venus -87144-04-10 13:11 J -30107823.04 -30107822.95 -30107822.86 0.3605 0.2706

Saturn -87144-05-13 12:42 J -30107790.07 -30107789.97 -30107789.86 0.0271 0.0167

Saturn -87144-08-10 00:42 J -30107701.61 -30107701.47 -30107701.34 0.0271 0.0077

Saturn -87144-11-06 12:42 J -30107613.11 -30107612.97 -30107612.83 0.0271 0.0014

Saturn -87143-02-03 00:42 J -30107524.60 -30107524.47 -30107524.33 0.0271 0.0107

Saturn -87143-05-02 13:11 J -30107436.04 -30107435.95 -30107435.85 0.0271 0.0200

Venus -87143-10-26 09:35 J -30107259.21 -30107259.10 -30107258.99 0.3761 0.0699

Mars -87142-01-22 09:06 J -30107171.22 -30107171.12 -30107171.02 0.1656 0.0996

Moon -87141-08-23 17:59 J -30106591.86 -30106591.75 -30106591.63 0.2592 0.1421

Earth -87141-08-23 18:27 J -30106591.85 -30106591.73 -30106591.61 0.2585 0.1431 *

Jupiter -87140-11-02 03:35 J -30106156.52 -30106156.35 -30106156.18 0.0495 0.0087

Jupiter -87139-01-31 05:44 J -30106066.36 -30106066.26 -30106066.16 0.0498 0.0407

Venus -87139-10-25 13:39 J -30105799.05 -30105798.93 -30105798.81 0.3608 0.1583

Venus -87137-05-11 04:47 J -30105235.40 -30105235.30 -30105235.19 0.3757 0.1540

Uranus -87137-08-02 12:13 J -30105152.04 -30105151.99 -30105151.93 0.0140 0.0125

Uranus -87137-10-29 16:03 J -30105063.91 -30105063.83 -30105063.74 0.0140 0.0108

Uranus -87136-01-25 19:54 J -30104975.77 -30104975.67 -30104975.56 0.0140 0.0090

Uranus -87136-04-23 23:44 J -30104887.62 -30104887.51 -30104887.39 0.0140 0.0073

Uranus -87136-07-21 03:49 J -30104799.47 -30104799.34 -30104799.21 0.0140 0.0055

Mars -87136-09-14 20:08 J -30104743.77 -30104743.66 -30104743.55 0.1861 0.1257

Uranus -87136-10-17 07:39 J -30104711.31 -30104711.18 -30104711.04 0.0140 0.0037

Uranus -87135-01-13 11:44 J -30104623.15 -30104623.01 -30104622.87 0.0141 0.0018

Uranus -87135-04-11 15:35 J -30104534.99 -30104534.85 -30104534.70 0.0141 0.0003

Uranus -87135-07-08 19:39 J -30104446.82 -30104446.68 -30104446.54 0.0141 0.0019

Uranus -87135-10-04 23:44 J -30104358.64 -30104358.51 -30104358.37 0.0141 0.0038

Uranus -87134-01-01 03:49 J -30104270.47 -30104270.34 -30104270.21 0.0141 0.0057

Jupiter -87134-03-26 09:06 J -30104186.18 -30104186.12 -30104186.05 0.0535 0.0460

Uranus -87134-03-30 07:54 J -30104182.28 -30104182.17 -30104182.04 0.0141 0.0077

Jupiter -87134-06-23 18:27 J -30104096.86 -30104096.73 -30104096.60 0.0532 0.0006

Uranus -87134-06-26 12:13 J -30104094.09 -30104093.99 -30104093.88 0.0142 0.0096

Jupiter -87134-09-21 04:18 J -30104007.38 -30104007.32 -30104007.25 0.0529 0.0457

Uranus -87134-09-22 16:18 J -30104005.89 -30104005.82 -30104005.73 0.0142 0.0116

Uranus -87134-12-19 20:37 J -30103917.67 -30103917.64 -30103917.59 0.0142 0.0135

Venus -87133-05-10 13:25 J -30103775.07 -30103774.94 -30103774.80 0.3612 0.0512

Mars -87133-06-13 17:59 J -30103740.87 -30103740.75 -30103740.62 0.1662 0.0453

Venus -87132-11-25 00:13 J -30103211.57 -30103211.49 -30103211.40 0.3753 0.2399

Moon -87131-02-17 15:35 J -30103126.97 -30103126.85 -30103126.74 0.2748 0.0102

Earth -87131-02-17 16:03 J -30103126.95 -30103126.83 -30103126.71 0.2753 0.0163 *

Saturn -87129-03-14 10:47 J -30102371.14 -30102371.05 -30102370.96 0.0287 0.0245

Saturn -87129-06-11 07:54 J -30102282.33 -30102282.17 -30102282.01 0.0287 0.0108

Saturn -87129-09-08 04:32 J -30102193.48 -30102193.31 -30102193.14 0.0287 0.0027

Saturn -87129-12-06 00:42 J -30102104.60 -30102104.47 -30102104.32 0.0287 0.0159

Neptune -87128-01-03 13:11 J -30102075.97 -30102075.95 -30102075.90 0.0089 0.0086

Neptune -87128-04-01 14:51 J -30101987.93 -30101987.88 -30101987.83 0.0089 0.0081

Neptune -87128-06-28 16:03 J -30101899.88 -30101899.83 -30101899.75 0.0089 0.0077

Jupiter -87128-08-21 02:37 J -30101846.54 -30101846.39 -30101846.23 0.0495 0.0209

Neptune -87128-09-24 17:30 J -30101811.84 -30101811.77 -30101811.69 0.0089 0.0073

Jupiter -87128-11-19 05:15 J -30101756.42 -30101756.28 -30101756.14 0.0498 0.0289

Venus -87128-11-24 13:11 J -30101751.08 -30101750.95 -30101750.82 0.3616 0.0546

Neptune -87128-12-21 18:56 J -30101723.79 -30101723.71 -30101723.62 0.0089 0.0069

Neptune -87127-03-19 20:23 J -30101635.73 -30101635.65 -30101635.55 0.0089 0.0065

Neptune -87127-06-15 21:49 J -30101547.68 -30101547.59 -30101547.48 0.0089 0.0061

Neptune -87127-09-11 23:15 J -30101459.63 -30101459.53 -30101459.42 0.0089 0.0056

Neptune -87127-12-09 00:42 J -30101371.57 -30101371.47 -30101371.35 0.0089 0.0052

Neptune -87126-03-07 02:08 J -30101283.52 -30101283.41 -30101283.29 0.0089 0.0048

Neptune -87126-06-03 03:35 J -30101195.46 -30101195.35 -30101195.22 0.0089 0.0044

Venus -87126-06-10 20:08 J -30101187.71 -30101187.66 -30101187.61 0.3748 0.3286

Neptune -87126-08-30 05:15 J -30101107.40 -30101107.28 -30101107.16 0.0089 0.0039

Neptune -87126-11-26 06:27 J -30101019.35 -30101019.23 -30101019.10 0.0089 0.0035

Neptune -87125-02-22 07:54 J -30100931.29 -30100931.17 -30100931.03 0.0089 0.0031

Neptune -87125-05-20 09:35 J -30100843.23 -30100843.10 -30100842.97 0.0089 0.0026

Neptune -87125-08-16 11:01 J -30100755.17 -30100755.04 -30100754.91 0.0089 0.0022

Neptune -87125-11-12 12:27 J -30100667.11 -30100666.98 -30100666.84 0.0089 0.0018

Neptune -87124-02-08 13:54 J -30100579.05 -30100578.92 -30100578.78 0.0089 0.0014

Neptune -87124-05-07 15:35 J -30100490.99 -30100490.85 -30100490.72 0.0089 0.0009

Neptune -87124-08-03 17:01 J -30100402.93 -30100402.79 -30100402.65 0.0089 0.0005

Neptune -87124-10-30 18:27 J -30100314.87 -30100314.73 -30100314.59 0.0089 0.0001

Mars -87124-11-04 03:06 J -30100310.49 -30100310.37 -30100310.24 0.1667 0.0097

Neptune -87123-01-26 19:54 J -30100226.80 -30100226.67 -30100226.53 0.0089 0.0005

Neptune -87123-04-24 21:35 J -30100138.74 -30100138.60 -30100138.47 0.0089 0.0009

Neptune -87123-07-21 23:01 J -30100050.68 -30100050.54 -30100050.40 0.0089 0.0013

Neptune -87123-10-18 00:27 J -30099962.61 -30099962.48 -30099962.34 0.0089 0.0018

Neptune -87122-01-14 01:54 J -30099874.55 -30099874.42 -30099874.28 0.0089 0.0022

Jupiter -87122-04-11 21:20 J -30099786.74 -30099786.61 -30099786.48 0.0532 0.0124

Neptune -87122-04-12 03:35 J -30099786.48 -30099786.35 -30099786.22 0.0089 0.0026 *

Venus -87122-06-10 12:13 J -30099727.11 -30099726.99 -30099726.88 0.3620 0.1529

Neptune -87122-07-09 05:01 J -30099698.41 -30099698.29 -30099698.15 0.0089 0.0031

Jupiter -87122-07-10 06:56 J -30099697.31 -30099697.21 -30099697.10 0.0529 0.0335

Neptune -87122-10-05 06:42 J -30099610.35 -30099610.22 -30099610.09 0.0089 0.0035

Neptune -87121-01-01 08:08 J -30099522.28 -30099522.16 -30099522.03 0.0089 0.0040

Neptune -87121-03-29 09:35 J -30099434.21 -30099434.10 -30099433.97 0.0089 0.0044

Neptune -87121-06-25 11:01 J -30099346.14 -30099346.04 -30099345.91 0.0089 0.0049

Moon -87121-08-18 20:23 J -30099291.76 -30099291.65 -30099291.55 0.2583 0.1730

Earth -87121-08-18 21:49 J -30099291.70 -30099291.59 -30099291.49 0.2583 0.1678 *

Neptune -87121-09-21 12:42 J -30099258.07 -30099257.97 -30099257.85 0.0089 0.0053

Neptune -87121-12-18 14:08 J -30099170.00 -30099169.91 -30099169.79 0.0089 0.0058

Neptune -87120-03-16 15:49 J -30099081.93 -30099081.84 -30099081.73 0.0089 0.0062

Neptune -87120-06-12 17:15 J -30098993.86 -30098993.78 -30098993.67 0.0089 0.0067

Neptune -87120-09-08 18:56 J -30098905.78 -30098905.71 -30098905.62 0.0089 0.0071

Neptune -87120-12-05 20:23 J -30098817.70 -30098817.65 -30098817.56 0.0089 0.0076

Neptune -87119-03-03 22:18 J -30098729.62 -30098729.57 -30098729.51 0.0089 0.0080

Venus -87119-03-04 16:32 J -30098728.83 -30098728.81 -30098728.79 0.3780 0.3663

Neptune -87119-05-30 23:30 J -30098641.54 -30098641.52 -30098641.46 0.0089 0.0085

Moon -87118-02-20 11:15 J -30098376.12 -30098376.03 -30098375.93 0.2753 0.1553

Earth -87118-02-20 12:13 J -30098376.08 -30098375.99 -30098375.89 0.2751 0.1621 *

Venus -87117-12-24 11:01 J -30097703.14 -30097703.04 -30097702.95 0.3624 0.2485

Jupiter -87116-06-09 01:11 J -30097536.57 -30097536.45 -30097536.31 0.0495 0.0335

Jupiter -87116-09-07 04:18 J -30097446.48 -30097446.32 -30097446.15 0.0497 0.0167

Mars -87115-06-03 19:54 J -30097176.79 -30097176.67 -30097176.55 0.1877 0.0976

Saturn -87115-09-30 15:20 J -30097057.96 -30097057.86 -30097057.76 0.0272 0.0192

Saturn -87115-12-28 03:06 J -30096969.50 -30096969.37 -30096969.24 0.0272 0.0102

Saturn -87114-03-26 15:06 J -30096881.01 -30096880.87 -30096880.73 0.0272 0.0012

Mars -87114-03-27 12:13 J -30096880.10 -30096879.99 -30096879.87 0.1673 0.0631

Saturn -87114-06-23 03:06 J -30096792.50 -30096792.37 -30096792.23 0.0272 0.0082

Venus -87114-09-18 10:32 J -30096705.12 -30096705.06 -30096704.99 0.3777 0.2962

Saturn -87114-09-19 15:35 J -30096703.96 -30096703.85 -30096703.74 0.0272 0.0175

Saturn -87114-12-17 04:03 J -30096615.34 -30096615.33 -30096615.31 0.0272 0.0270

Mars -87112-03-02 00:13 J -30096174.52 -30096174.49 -30096174.47 0.1651 0.1612

Earth -87111-02-13 05:15 J -30095826.33 -30095826.28 -30095826.22 0.2756 0.2386

Moon -87111-02-13 05:44 J -30095826.32 -30095826.26 -30095826.19 0.2750 0.2255 *

Venus -87111-07-10 09:06 J -30095679.16 -30095679.12 -30095679.07 0.3628 0.3392

Jupiter -87110-01-29 00:27 J -30095476.60 -30095476.48 -30095476.37 0.0533 0.0242

Jupiter -87110-04-28 09:49 J -30095387.21 -30095387.09 -30095386.97 0.0530 0.0216

Venus -87108-04-03 05:01 J -30094681.38 -30094681.29 -30094681.21 0.3774 0.2234

Moon -87108-08-21 22:03 J -30094540.72 -30094540.58 -30094540.43 0.2588 0.0101

Earth -87108-08-21 23:01 J -30094540.68 -30094540.54 -30094540.39 0.2584 0.0098 *

Mars -87106-10-24 20:23 J -30093746.80 -30093746.65 -30093746.50 0.1869 0.0083

Mars -87105-08-16 21:35 J -30093449.69 -30093449.60 -30093449.51 0.1679 0.1169

Jupiter -87104-03-27 23:30 J -30093226.58 -30093226.52 -30093226.46 0.0494 0.0465

Jupiter -87104-06-26 02:51 J -30093136.56 -30093136.38 -30093136.21 0.0496 0.0037

Mars -87103-07-23 09:06 J -30092744.22 -30092744.12 -30092744.02 0.1656 0.1070

Venus -87103-10-17 23:15 J -30092657.63 -30092657.53 -30092657.42 0.3771 0.1487

Saturn -87100-08-01 12:56 J -30091639.01 -30091638.96 -30091638.89 0.0288 0.0267

Saturn -87100-10-29 10:18 J -30091550.22 -30091550.07 -30091549.91 0.0288 0.0128

Saturn -87099-01-26 07:11 J -30091461.37 -30091461.20 -30091461.03 0.0288 0.0008

Saturn -87099-04-25 03:20 J -30091372.50 -30091372.36 -30091372.21 0.0288 0.0140

Saturn -87099-07-22 23:15 J -30091283.58 -30091283.53 -30091283.47 0.0288 0.0270

Jupiter -87099-11-17 03:20 J -30091166.45 -30091166.36 -30091166.26 0.0534 0.0360

Jupiter -87098-02-14 12:42 J -30091077.10 -30091076.97 -30091076.84 0.0531 0.0097

Moon -87098-02-16 00:56 J -30091075.57 -30091075.46 -30091075.35 0.2747 0.1072

Earth -87098-02-16 01:11 J -30091075.56 -30091075.45 -30091075.34 0.2755 0.0979 *

Uranus -87098-10-01 07:25 J -30090848.27 -30090848.19 -30090848.10 0.0139 0.0122

Uranus -87098-12-28 14:08 J -30090760.03 -30090759.91 -30090759.79 0.0139 0.0099

Uranus -87097-03-25 20:23 J -30090671.78 -30090671.65 -30090671.49 0.0139 0.0077

Venus -87097-05-02 17:59 J -30090633.86 -30090633.75 -30090633.64 0.3767 0.0709

Uranus -87097-06-22 03:06 J -30090583.53 -30090583.37 -30090583.20 0.0138 0.0054

Uranus -87097-09-18 09:35 J -30090495.27 -30090495.10 -30090494.92 0.0138 0.0032

Uranus -87097-12-15 16:03 J -30090407.01 -30090406.83 -30090406.65 0.0138 0.0009

Uranus -87096-03-13 22:18 J -30090318.74 -30090318.57 -30090318.39 0.0138 0.0013

Mars -87096-03-15 20:23 J -30090316.76 -30090316.65 -30090316.53 0.1861 0.1156

Uranus -87096-06-10 04:32 J -30090230.47 -30090230.31 -30090230.13 0.0138 0.0035

Uranus -87096-09-06 10:47 J -30090142.20 -30090142.05 -30090141.88 0.0138 0.0056

Uranus -87096-12-03 17:01 J -30090053.93 -30090053.79 -30090053.64 0.0138 0.0077

Uranus -87095-03-01 22:47 J -30089965.65 -30089965.55 -30089965.41 0.0137 0.0099

Uranus -87095-05-29 05:15 J -30089877.37 -30089877.28 -30089877.20 0.0137 0.0119

Moon -87095-08-24 23:59 J -30089789.60 -30089789.50 -30089789.40 0.2592 0.1764

Earth -87095-08-25 00:13 J -30089789.59 -30089789.49 -30089789.39 0.2586 0.1786 *

Mars -87094-12-13 18:13 J -30089313.86 -30089313.74 -30089313.62 0.1662 0.0532

Venus -87093-05-01 12:13 J -30089174.00 -30089173.99 -30089173.98 0.3602 0.3576

Jupiter -87092-04-14 01:39 J -30088826.61 -30088826.43 -30088826.26 0.0495 0.0090

Jupiter -87092-07-13 03:49 J -30088736.44 -30088736.34 -30088736.25 0.0498 0.0404

Venus -87092-11-16 12:56 J -30088610.08 -30088609.96 -30088609.85 0.3764 0.0122

Venus -87088-11-15 13:11 J -30087150.05 -30087149.95 -30087149.85 0.3606 0.2414

Jupiter -87087-09-05 06:56 J -30086856.27 -30086856.21 -30086856.15 0.0535 0.0470

Jupiter -87087-12-03 16:18 J -30086766.96 -30086766.82 -30086766.69 0.0532 0.0023

Jupiter -87086-03-03 02:08 J -30086677.48 -30086677.41 -30086677.34 0.0529 0.0447

Venus -87086-06-02 07:54 J -30086586.28 -30086586.17 -30086586.06 0.3760 0.0927

Saturn -87085-02-17 18:13 J -30086325.82 -30086325.74 -30086325.65 0.0272 0.0211

Moon -87085-02-18 20:23 J -30086324.76 -30086324.65 -30086324.53 0.2749 0.0448

Earth -87085-02-18 21:06 J -30086324.73 -30086324.62 -30086324.50 0.2753 0.0457 *

Saturn -87085-05-16 05:59 J -30086237.37 -30086237.25 -30086237.13 0.0271 0.0122

Saturn -87085-08-12 17:44 J -30086148.89 -30086148.76 -30086148.61 0.0271 0.0033

Saturn -87085-11-09 05:59 J -30086060.39 -30086060.25 -30086060.11 0.0271 0.0060

Saturn -87084-02-05 18:13 J -30085971.86 -30085971.74 -30085971.62 0.0271 0.0153

Mars -87084-05-05 03:20 J -30085883.49 -30085883.36 -30085883.23 0.1667 0.0017

Saturn -87084-05-05 06:27 J -30085883.28 -30085883.23 -30085883.16 0.0271 0.0248 *

Venus -87082-06-01 13:11 J -30085126.07 -30085125.95 -30085125.82 0.3609 0.1310

Venus -87081-12-16 03:20 J -30084562.46 -30084562.36 -30084562.26 0.3756 0.1760

Jupiter -87080-01-30 23:59 J -30084516.66 -30084516.50 -30084516.34 0.0495 0.0217

Jupiter -87080-05-01 02:37 J -30084426.53 -30084426.39 -30084426.25 0.0497 0.0280

Venus -87077-12-15 13:11 J -30083102.08 -30083101.95 -30083101.82 0.3613 0.0230

Mars -87076-12-02 20:23 J -30082749.77 -30082749.65 -30082749.53 0.1877 0.1095

Venus -87075-07-01 23:01 J -30082538.63 -30082538.54 -30082538.46 0.3752 0.2634

Moon -87075-08-20 02:23 J -30082489.52 -30082489.40 -30082489.29 0.2583 0.1529

Earth -87075-08-20 03:35 J -30082489.47 -30082489.35 -30082489.22 0.2583 0.1303 *

Jupiter -87075-09-21 19:39 J -30082456.80 -30082456.68 -30082456.55 0.0533 0.0126

Mars -87075-09-25 12:27 J -30082453.10 -30082452.98 -30082452.86 0.1673 0.0555

Jupiter -87075-12-20 05:30 J -30082367.37 -30082367.27 -30082367.16 0.0530 0.0335

Moon -87072-02-20 16:32 J -30081573.90 -30081573.81 -30081573.72 0.2753 0.1770

Earth -87072-02-20 17:30 J -30081573.86 -30081573.77 -30081573.69 0.2751 0.1926 *

Venus -87071-07-01 12:27 J -30081078.10 -30081077.98 -30081077.85 0.3617 0.0803

Saturn -87070-03-18 08:23 J -30080818.29 -30080818.15 -30080818.01 0.0287 0.0175

Saturn -87070-06-15 05:15 J -30080729.45 -30080729.28 -30080729.11 0.0287 0.0039

Saturn -87070-09-12 01:39 J -30080640.59 -30080640.43 -30080640.26 0.0287 0.0095

Saturn -87070-12-09 21:49 J -30080551.69 -30080551.59 -30080551.49 0.0287 0.0225

Venus -87069-01-15 18:42 J -30080514.75 -30080514.72 -30080514.68 0.3747 0.3524

Jupiter -87069-11-18 23:01 J -30080206.67 -30080206.54 -30080206.41 0.0494 0.0339

Jupiter -87068-02-17 01:54 J -30080116.58 -30080116.42 -30080116.25 0.0497 0.0161

Mars -87066-04-24 20:51 J -30079319.78 -30079319.63 -30079319.49 0.1869 0.0050

Venus -87065-01-15 11:30 J -30079054.13 -30079054.02 -30079053.90 0.3621 0.1784

Earth -87065-02-14 10:18 J -30079024.14 -30079024.07 -30079024.00 0.2756 0.2101

Moon -87065-02-14 10:47 J -30079024.13 -30079024.05 -30079023.98 0.2750 0.2097 *

Mars -87065-02-15 21:35 J -30079022.69 -30079022.60 -30079022.50 0.1679 0.1096

Mars -87063-01-21 09:20 J -30078317.21 -30078317.11 -30078317.02 0.1656 0.1150

Jupiter -87063-07-10 22:47 J -30078146.66 -30078146.55 -30078146.43 0.0533 0.0242

Jupiter -87063-10-08 08:23 J -30078057.27 -30078057.15 -30078057.03 0.0530 0.0216

Venus -87063-10-09 14:37 J -30078055.93 -30078055.89 -30078055.85 0.3779 0.3490

Moon -87062-08-23 04:18 J -30077738.46 -30077738.32 -30077738.18 0.2590 0.0445

Earth -87062-08-23 05:01 J -30077738.43 -30077738.29 -30077738.15 0.2584 0.0443 *

Venus -87060-07-31 10:18 J -30077030.16 -30077030.07 -30077029.99 0.3625 0.2723

Venus -87057-04-24 08:51 J -30076032.20 -30076032.13 -30076032.06 0.3776 0.2777

Jupiter -87057-09-06 21:20 J -30075896.66 -30075896.61 -30075896.55 0.0494 0.0466

Mars -87057-09-13 21:06 J -30075889.74 -30075889.62 -30075889.49 0.1861 0.1029

Jupiter -87057-12-06 00:56 J -30075806.63 -30075806.46 -30075806.29 0.0496 0.0037

Saturn -87056-07-06 20:23 J -30075593.71 -30075593.65 -30075593.58 0.0272 0.0238

Mars -87056-07-08 06:56 J -30075592.24 -30075592.21 -30075592.19 0.1685 0.1635

Saturn -87056-10-03 08:08 J -30075505.27 -30075505.16 -30075505.04 0.0272 0.0149

Saturn -87056-12-30 20:08 J -30075416.80 -30075416.66 -30075416.53 0.0272 0.0060

Saturn -87055-03-29 08:08 J -30075328.30 -30075328.16 -30075328.02 0.0272 0.0033

Saturn -87055-06-25 20:23 J -30075239.78 -30075239.65 -30075239.53 0.0272 0.0126

Saturn -87055-09-22 08:37 J -30075151.22 -30075151.14 -30075151.05 0.0272 0.0221

Venus -87054-02-14 08:23 J -30075006.15 -30075006.15 -30075006.15 0.3629 0.3625

Mars -87054-06-13 18:13 J -30074886.86 -30074886.74 -30074886.62 0.1661 0.0610

Uranus -87053-05-26 16:32 J -30074538.84 -30074538.81 -30074538.78 0.0140 0.0136

Uranus -87053-08-22 20:08 J -30074450.72 -30074450.66 -30074450.58 0.0140 0.0119

Uranus -87053-11-18 23:59 J -30074362.58 -30074362.50 -30074362.39 0.0140 0.0101

Uranus -87052-02-15 04:03 J -30074274.44 -30074274.33 -30074274.22 0.0140 0.0083

Moon -87052-02-16 05:59 J -30074273.37 -30074273.25 -30074273.14 0.2747 0.0656

Earth -87052-02-16 06:13 J -30074273.35 -30074273.24 -30074273.13 0.2754 0.0690 *

Uranus -87052-05-14 07:54 J -30074186.29 -30074186.17 -30074186.04 0.0140 0.0065

Uranus -87052-08-10 11:44 J -30074098.14 -30074098.01 -30074097.87 0.0140 0.0048

Uranus -87052-11-06 15:49 J -30074009.98 -30074009.84 -30074009.70 0.0140 0.0029

Venus -87052-11-08 03:06 J -30074008.46 -30074008.37 -30074008.28 0.3773 0.2045

Uranus -87051-02-02 19:39 J -30073921.82 -30073921.68 -30073921.53 0.0141 0.0012

Jupiter -87051-04-29 01:54 J -30073836.51 -30073836.42 -30073836.32 0.0534 0.0358

Uranus -87051-05-01 23:44 J -30073833.65 -30073833.51 -30073833.37 0.0141 0.0008

Jupiter -87051-07-27 11:15 J -30073747.16 -30073747.03 -30073746.90 0.0531 0.0098

Uranus -87051-07-29 03:49 J -30073745.48 -30073745.34 -30073745.20 0.0141 0.0027

Uranus -87051-10-25 07:54 J -30073657.30 -30073657.17 -30073657.03 0.0141 0.0046

Uranus -87050-01-21 11:59 J -30073569.12 -30073569.00 -30073568.87 0.0141 0.0065

Uranus -87050-04-19 16:03 J -30073480.94 -30073480.83 -30073480.71 0.0141 0.0084

Uranus -87050-07-16 20:23 J -30073392.74 -30073392.65 -30073392.55 0.0142 0.0104

Uranus -87050-10-13 00:42 J -30073304.54 -30073304.47 -30073304.40 0.0142 0.0123

Moon -87049-08-25 05:59 J -30072987.33 -30072987.25 -30072987.17 0.2592 0.2115

Earth -87049-08-25 05:59 J -30072987.33 -30072987.25 -30072987.17 0.2586 0.2137 *

Venus -87046-05-24 21:35 J -30071984.70 -30071984.60 -30071984.49 0.3770 0.1284

Neptune -87045-03-28 17:01 J -30071675.79 -30071675.79 -30071675.76 0.0088 0.0088

Neptune -87045-06-24 20:08 J -30071587.70 -30071587.66 -30071587.57 0.0088 0.0083

Neptune -87045-09-20 23:30 J -30071499.59 -30071499.52 -30071499.40 0.0088 0.0077

Jupiter -87045-09-23 23:15 J -30071496.70 -30071496.53 -30071496.35 0.0495 0.0093

Mars -87045-11-03 03:20 J -30071456.49 -30071456.36 -30071456.23 0.1667 0.0069

Neptune -87045-12-18 03:06 J -30071411.47 -30071411.37 -30071411.24 0.0088 0.0070

Jupiter -87045-12-23 01:39 J -30071406.53 -30071406.43 -30071406.33 0.0498 0.0401

Neptune -87044-03-16 06:27 J -30071323.35 -30071323.23 -30071323.09 0.0088 0.0065

Neptune -87044-06-12 09:49 J -30071235.22 -30071235.09 -30071234.94 0.0088 0.0059

Neptune -87044-09-08 13:11 J -30071147.09 -30071146.95 -30071146.79 0.0088 0.0053

Neptune -87044-12-05 16:32 J -30071058.96 -30071058.81 -30071058.64 0.0088 0.0047

Neptune -87043-03-03 19:54 J -30070970.83 -30070970.67 -30070970.50 0.0088 0.0041

Neptune -87043-05-30 23:15 J -30070882.70 -30070882.53 -30070882.36 0.0088 0.0035

Neptune -87043-08-27 02:37 J -30070794.57 -30070794.39 -30070794.22 0.0088 0.0029

Neptune -87043-11-23 05:30 J -30070706.44 -30070706.27 -30070706.08 0.0088 0.0024

Neptune -87042-02-19 08:51 J -30070618.30 -30070618.13 -30070617.94 0.0088 0.0018

Neptune -87042-05-18 12:13 J -30070530.17 -30070529.99 -30070529.80 0.0088 0.0011

Neptune -87042-08-14 15:35 J -30070442.04 -30070441.85 -30070441.67 0.0088 0.0006

Neptune -87042-11-10 18:42 J -30070353.90 -30070353.72 -30070353.53 0.0088 0.0001

Neptune -87041-02-06 21:49 J -30070265.77 -30070265.59 -30070265.40 0.0088 0.0006

Neptune -87041-05-05 01:11 J -30070177.64 -30070177.45 -30070177.27 0.0088 0.0012

Neptune -87041-08-01 04:18 J -30070089.50 -30070089.32 -30070089.14 0.0088 0.0017

Saturn -87041-08-04 10:18 J -30070086.19 -30070086.07 -30070085.94 0.0288 0.0198

Neptune -87041-10-28 07:11 J -30070001.37 -30070001.20 -30070001.01 0.0088 0.0024

Saturn -87041-11-01 07:25 J -30069997.36 -30069997.19 -30069997.02 0.0288 0.0061

Venus -87041-12-07 16:18 J -30069960.93 -30069960.82 -30069960.71 0.3766 0.0504

Neptune -87040-01-24 10:32 J -30069913.23 -30069913.06 -30069912.88 0.0088 0.0029

Saturn -87040-01-29 04:03 J -30069908.49 -30069908.33 -30069908.16 0.0288 0.0074

Neptune -87040-04-22 13:39 J -30069825.10 -30069824.93 -30069824.76 0.0088 0.0035

Saturn -87040-04-27 23:59 J -30069819.61 -30069819.50 -30069819.37 0.0288 0.0206

Neptune -87040-07-19 16:32 J -30069736.96 -30069736.81 -30069736.64 0.0088 0.0041

Neptune -87040-10-15 19:54 J -30069648.82 -30069648.67 -30069648.51 0.0088 0.0046

Neptune -87039-01-11 22:47 J -30069560.69 -30069560.55 -30069560.39 0.0088 0.0052

Jupiter -87039-02-15 05:01 J -30069526.35 -30069526.29 -30069526.24 0.0535 0.0478

Moon -87039-02-19 01:25 J -30069522.55 -30069522.44 -30069522.32 0.2750 0.0592

Earth -87039-02-19 02:23 J -30069522.52 -30069522.40 -30069522.29 0.2753 0.0759 *

Neptune -87039-04-10 01:39 J -30069472.55 -30069472.43 -30069472.27 0.0088 0.0058

Jupiter -87039-05-15 14:08 J -30069437.04 -30069436.91 -30069436.78 0.0532 0.0024

Neptune -87039-07-07 05:01 J -30069384.41 -30069384.29 -30069384.16 0.0088 0.0063

Jupiter -87039-08-12 23:59 J -30069347.57 -30069347.50 -30069347.42 0.0529 0.0438

Neptune -87039-10-03 07:54 J -30069296.27 -30069296.17 -30069296.04 0.0088 0.0068

Neptune -87039-12-30 11:01 J -30069208.13 -30069208.04 -30069207.93 0.0088 0.0074

Neptune -87038-03-28 13:54 J -30069119.98 -30069119.92 -30069119.82 0.0088 0.0080

Neptune -87038-06-24 17:01 J -30069031.82 -30069031.79 -30069031.72 0.0088 0.0085

Venus -87037-12-06 12:13 J -30068501.04 -30068500.99 -30068500.93 0.3603 0.3274

Mars -87036-06-02 20:37 J -30068322.76 -30068322.64 -30068322.53 0.1877 0.1186

Mars -87035-03-26 12:27 J -30068026.10 -30068025.98 -30068025.86 0.1673 0.0479

Venus -87035-06-23 11:15 J -30067937.14 -30067937.03 -30067936.92 0.3762 0.0305

Jupiter -87033-07-12 22:03 J -30067186.74 -30067186.58 -30067186.42 0.0495 0.0218

Jupiter -87033-10-11 00:42 J -30067096.61 -30067096.47 -30067096.33 0.0497 0.0279

Venus -87031-06-22 12:56 J -30066477.07 -30066476.96 -30066476.86 0.3606 0.2132

Venus -87029-01-07 06:27 J -30065913.34 -30065913.23 -30065913.12 0.3758 0.1134

Pluto -87029-07-24 21:06 J -30065713.66 -30065713.62 -30065713.54 0.0060 0.0057

Moon -87029-08-20 08:23 J -30065687.29 -30065687.15 -30065687.02 0.2585 0.0978

Earth -87029-08-20 09:35 J -30065687.24 -30065687.10 -30065686.97 0.2583 0.0934 *

Pluto -87029-10-20 23:01 J -30065625.64 -30065625.54 -30065625.43 0.0060 0.0051

Pluto -87028-01-16 23:59 J -30065537.61 -30065537.50 -30065537.35 0.0060 0.0045

Pluto -87028-04-15 01:25 J -30065449.57 -30065449.44 -30065449.27 0.0060 0.0039

Pluto -87028-07-12 03:06 J -30065361.52 -30065361.37 -30065361.19 0.0060 0.0032

Pluto -87028-10-08 04:32 J -30065273.48 -30065273.31 -30065273.12 0.0061 0.0026

Pluto -87027-01-04 06:13 J -30065185.42 -30065185.24 -30065185.05 0.0061 0.0019

Jupiter -87027-03-03 17:30 J -30065126.89 -30065126.77 -30065126.64 0.0533 0.0136

Pluto -87027-04-02 07:25 J -30065097.37 -30065097.19 -30065096.99 0.0061 0.0013

Jupiter -87027-06-01 03:20 J -30065037.46 -30065037.36 -30065037.25 0.0530 0.0325

Pluto -87027-06-29 09:06 J -30065009.31 -30065009.12 -30065008.92 0.0061 0.0006

Pluto -87027-09-25 10:32 J -30064921.25 -30064921.06 -30064920.86 0.0061 0.0002

Mars -87027-10-23 21:20 J -30064892.75 -30064892.61 -30064892.46 0.1870 0.0157

Saturn -87027-11-23 23:30 J -30064861.56 -30064861.52 -30064861.47 0.0271 0.0256

Pluto -87027-12-22 12:13 J -30064833.19 -30064832.99 -30064832.80 0.0061 0.0007

Saturn -87026-02-20 11:15 J -30064773.14 -30064773.03 -30064772.92 0.0271 0.0167

Moon -87026-02-21 21:35 J -30064771.67 -30064771.60 -30064771.53 0.2752 0.2176

Earth -87026-02-21 22:32 J -30064771.63 -30064771.56 -30064771.49 0.2751 0.2225 *

Pluto -87026-03-20 13:25 J -30064745.12 -30064744.94 -30064744.74 0.0061 0.0014

Saturn -87026-05-19 23:01 J -30064684.67 -30064684.54 -30064684.40 0.0271 0.0078

Pluto -87026-06-16 15:06 J -30064657.05 -30064656.87 -30064656.68 0.0061 0.0020

Saturn -87026-08-16 11:01 J -30064596.18 -30064596.04 -30064595.90 0.0271 0.0014

Mars -87026-08-16 21:49 J -30064595.69 -30064595.59 -30064595.49 0.1678 0.1020

Pluto -87026-09-12 16:18 J -30064568.98 -30064568.82 -30064568.63 0.0061 0.0027

Saturn -87026-11-12 23:01 J -30064507.66 -30064507.54 -30064507.40 0.0271 0.0107

Pluto -87026-12-09 17:44 J -30064480.90 -30064480.76 -30064480.58 0.0061 0.0034

Venus -87025-01-06 12:56 J -30064453.09 -30064452.96 -30064452.83 0.3610 0.1029

Saturn -87025-02-09 11:30 J -30064419.11 -30064419.02 -30064418.92 0.0271 0.0200

Pluto -87025-03-06 19:25 J -30064392.82 -30064392.69 -30064392.53 0.0061 0.0041

Pluto -87025-06-02 20:51 J -30064304.74 -30064304.63 -30064304.49 0.0061 0.0047

Pluto -87025-08-29 22:03 J -30064216.64 -30064216.58 -30064216.46 0.0061 0.0055

Pluto -87025-11-26 00:13 J -30064128.51 -30064128.49 -30064128.46 0.0061 0.0061

Mars -87024-07-22 09:35 J -30063890.19 -30063890.10 -30063890.02 0.1656 0.1232

Venus -87024-07-23 01:54 J -30063889.52 -30063889.42 -30063889.33 0.3754 0.1989

Jupiter -87021-04-30 20:23 J -30062876.77 -30062876.65 -30062876.52 0.0494 0.0346

Jupiter -87021-07-29 23:15 J -30062786.69 -30062786.53 -30062786.36 0.0497 0.0154

Venus -87020-07-22 12:42 J -30062429.10 -30062428.97 -30062428.83 0.3614 0.0097

Moon -87019-02-14 15:35 J -30062221.94 -30062221.85 -30062221.76 0.2748 0.1769

Earth -87019-02-14 15:20 J -30062221.94 -30062221.86 -30062221.77 0.2755 0.1814 *

Venus -87018-02-05 21:35 J -30061865.68 -30061865.60 -30061865.53 0.3750 0.2866

Mars -87017-03-14 21:35 J -30061462.73 -30061462.60 -30061462.47 0.1861 0.0920

Mars -87016-01-06 06:56 J -30061165.25 -30061165.21 -30061165.16 0.1685 0.1561

Moon -87016-08-23 10:03 J -30060936.22 -30060936.08 -30060935.94 0.2590 0.0651

Earth -87016-08-23 10:47 J -30060936.18 -30060936.05 -30060935.91 0.2585 0.0807 *

Jupiter -87016-12-20 21:06 J -30060816.73 -30060816.62 -30060816.50 0.0534 0.0245

Jupiter -87015-03-20 06:42 J -30060727.34 -30060727.22 -30060727.09 0.0531 0.0215

Mars -87015-12-12 18:27 J -30060459.85 -30060459.73 -30060459.62 0.1661 0.0685

Venus -87014-02-05 11:59 J -30060405.12 -30060405.00 -30060404.87 0.3618 0.1059

Uranus -87014-07-25 09:20 J -30060235.14 -30060235.11 -30060235.08 0.0139 0.0136

Uranus -87014-10-21 16:03 J -30060146.93 -30060146.83 -30060146.73 0.0139 0.0113

Uranus -87013-01-17 22:18 J -30060058.69 -30060058.57 -30060058.42 0.0139 0.0091

Uranus -87013-04-15 05:01 J -30059970.44 -30059970.29 -30059970.13 0.0139 0.0068

Uranus -87013-07-12 11:44 J -30059882.18 -30059882.01 -30059881.84 0.0138 0.0045

Uranus -87013-10-08 18:13 J -30059793.92 -30059793.74 -30059793.57 0.0138 0.0023

Uranus -87012-01-05 00:27 J -30059705.65 -30059705.48 -30059705.30 0.0138 0.0003

Uranus -87012-04-03 06:42 J -30059617.39 -30059617.22 -30059617.04 0.0138 0.0022

Uranus -87012-06-30 13:11 J -30059529.12 -30059528.95 -30059528.78 0.0138 0.0043

Uranus -87012-09-26 19:11 J -30059440.85 -30059440.70 -30059440.54 0.0138 0.0065

Saturn -87012-12-22 08:08 J -30059354.24 -30059354.16 -30059354.06 0.0287 0.0246

Uranus -87012-12-24 01:25 J -30059352.57 -30059352.44 -30059352.30 0.0138 0.0086

Saturn -87011-03-21 05:30 J -30059265.43 -30059265.27 -30059265.10 0.0287 0.0107

Uranus -87011-03-22 07:25 J -30059264.29 -30059264.19 -30059264.07 0.0137 0.0106

Saturn -87011-06-18 02:23 J -30059176.57 -30059176.40 -30059176.23 0.0288 0.0028

Uranus -87011-06-18 13:25 J -30059175.99 -30059175.94 -30059175.87 0.0137 0.0127

Saturn -87011-09-14 22:47 J -30059087.69 -30059087.55 -30059087.41 0.0288 0.0161

Jupiter -87009-02-17 19:11 J -30058566.75 -30058566.70 -30058566.65 0.0494 0.0470

Jupiter -87009-05-17 22:32 J -30058476.73 -30058476.56 -30058476.38 0.0496 0.0034

Venus -87009-08-21 11:01 J -30058381.15 -30058381.04 -30058380.93 0.3622 0.2033

Moon -87006-02-17 11:01 J -30057471.16 -30057471.04 -30057470.93 0.2747 0.0498

Earth -87006-02-17 11:15 J -30057471.14 -30057471.03 -30057470.91 0.2754 0.0400 *

Venus -87006-05-16 12:42 J -30057383.02 -30057382.97 -30057382.92 0.3778 0.3315

Mars -87005-05-04 03:35 J -30057029.48 -30057029.35 -30057029.23 0.1667 0.0150

Jupiter -87004-10-09 00:27 J -30056506.57 -30056506.48 -30056506.38 0.0534 0.0358

Jupiter -87003-01-06 09:49 J -30056417.22 -30056417.09 -30056416.96 0.0531 0.0098

Venus -87003-03-07 09:35 J -30056357.17 -30056357.10 -30056357.03 0.3626 0.2966

Earth -87003-08-26 11:44 J -30056185.04 -30056185.01 -30056184.97 0.2586 0.2495

Moon -87003-08-26 11:59 J -30056185.01 -30056185.00 -30056184.98 0.2592 0.2579 *

Venus -87001-11-29 06:56 J -30055359.29 -30055359.21 -30055359.13 0.3775 0.2597

87TH MILLENNIUM BCE

This is a list of transits of Mercury in the 87th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Jupiter -86997-03-05 21:35 J -30054166.78 -30054166.60 -30054166.43 0.0496 0.0093

Jupiter -86997-06-03 23:44 J -30054076.61 -30054076.51 -30054076.41 0.0499 0.0403

Saturn -86997-07-09 13:11 J -30054041.05 -30054040.95 -30054040.86 0.0272 0.0197

Saturn -86997-10-06 00:56 J -30053952.59 -30053952.46 -30053952.33 0.0272 0.0107

Mars -86997-12-01 21:20 J -30053895.72 -30053895.61 -30053895.51 0.1877 0.1317

Saturn -86996-01-02 12:56 J -30053864.11 -30053863.96 -30053863.82 0.0272 0.0018

Saturn -86996-04-01 00:56 J -30053775.60 -30053775.46 -30053775.32 0.0272 0.0076

Saturn -86996-06-28 13:11 J -30053687.06 -30053686.95 -30053686.84 0.0272 0.0170

Moon -86996-08-18 12:27 J -30053636.02 -30053635.98 -30053635.93 0.2580 0.2431

Earth -86996-08-18 13:54 J -30053635.98 -30053635.92 -30053635.86 0.2582 0.2345 *

Mars -86996-09-24 12:42 J -30053599.10 -30053598.97 -30053598.85 0.1673 0.0405

Saturn -86996-09-25 01:39 J -30053598.46 -30053598.43 -30053598.40 0.0272 0.0265

Venus -86995-06-15 01:25 J -30053335.54 -30053335.44 -30053335.35 0.3772 0.1858

Moon -86993-02-20 06:27 J -30052720.34 -30052720.23 -30052720.12 0.2751 0.1021

Earth -86993-02-20 07:25 J -30052720.30 -30052720.19 -30052720.08 0.2752 0.1051 *

Jupiter -86992-07-28 03:49 J -30052196.40 -30052196.34 -30052196.28 0.0535 0.0472

Jupiter -86992-10-25 12:56 J -30052107.10 -30052106.96 -30052106.83 0.0532 0.0021

Jupiter -86991-01-22 22:47 J -30052017.62 -30052017.55 -30052017.48 0.0529 0.0440

Venus -86990-12-29 19:54 J -30051311.78 -30051311.67 -30051311.56 0.3768 0.1087

Mars -86987-04-23 21:35 J -30050465.74 -30050465.60 -30050465.45 0.1869 0.0257

Mars -86986-02-14 21:49 J -30050168.69 -30050168.59 -30050168.49 0.1679 0.0944

Jupiter -86986-12-23 19:54 J -30049856.82 -30049856.67 -30049856.51 0.0495 0.0221

Jupiter -86985-03-22 22:32 J -30049766.70 -30049766.56 -30049766.41 0.0497 0.0277

Mars -86984-01-20 09:35 J -30049463.18 -30049463.10 -30049463.02 0.1656 0.1307

Venus -86984-07-14 14:37 J -30049288.00 -30049287.89 -30049287.78 0.3765 0.0300

Moon -86983-08-21 14:23 J -30048885.04 -30048884.90 -30048884.76 0.2587 0.0746

Earth -86983-08-21 15:35 J -30048884.99 -30048884.85 -30048884.71 0.2583 0.0561 *

Saturn -86982-05-11 10:03 J -30048622.14 -30048622.08 -30048622.02 0.0288 0.0270

Saturn -86982-08-08 07:25 J -30048533.35 -30048533.19 -30048533.04 0.0288 0.0131

Saturn -86982-11-05 04:18 J -30048444.49 -30048444.32 -30048444.15 0.0288 0.0006

Saturn -86981-02-02 00:42 J -30048355.62 -30048355.47 -30048355.32 0.0288 0.0139

Saturn -86981-04-30 20:37 J -30048266.69 -30048266.64 -30048266.58 0.0288 0.0269

Moon -86980-02-22 02:51 J -30047969.43 -30047969.38 -30047969.32 0.2753 0.2375

Earth -86980-02-22 03:35 J -30047969.39 -30047969.35 -30047969.30 0.2751 0.2530 *

Venus -86980-07-13 12:13 J -30047828.07 -30047827.99 -30047827.92 0.3604 0.2983

Jupiter -86980-08-13 15:35 J -30047796.98 -30047796.85 -30047796.72 0.0533 0.0142

Jupiter -86980-11-11 01:25 J -30047707.55 -30047707.44 -30047707.34 0.0530 0.0318

Venus -86978-01-28 09:35 J -30047264.21 -30047264.10 -30047263.98 0.3761 0.0523

Mars -86978-09-13 22:03 J -30047035.72 -30047035.58 -30047035.45 0.1862 0.0815

Mars -86977-07-07 07:11 J -30046738.26 -30046738.20 -30046738.15 0.1684 0.1485

Mars -86975-06-12 18:27 J -30046032.84 -30046032.73 -30046032.61 0.1661 0.0767

Venus -86974-01-27 12:42 J -30045804.09 -30045803.97 -30045803.86 0.3607 0.1844

Jupiter -86974-10-11 18:27 J -30045546.85 -30045546.73 -30045546.60 0.0494 0.0346

Jupiter -86973-01-09 21:35 J -30045456.76 -30045456.60 -30045456.43 0.0496 0.0153

Moon -86973-02-15 20:37 J -30045419.74 -30045419.64 -30045419.55 0.2748 0.1509

Earth -86973-02-15 20:23 J -30045419.74 -30045419.65 -30045419.55 0.2755 0.1526 *

Venus -86973-08-13 04:47 J -30045240.40 -30045240.30 -30045240.19 0.3757 0.1366

Moon -86970-08-24 16:03 J -30044133.95 -30044133.83 -30044133.70 0.2590 0.1191

Earth -86970-08-24 16:47 J -30044133.93 -30044133.80 -30044133.67 0.2585 0.1170 *

Uranus -86969-06-16 00:13 J -30043837.53 -30043837.49 -30043837.43 0.0140 0.0130

Venus -86969-08-12 12:42 J -30043780.10 -30043779.97 -30043779.84 0.3611 0.0750

Uranus -86969-09-12 04:03 J -30043749.40 -30043749.33 -30043749.24 0.0140 0.0112

Uranus -86969-12-09 08:08 J -30043661.26 -30043661.16 -30043661.06 0.0140 0.0094

Uranus -86968-03-07 11:44 J -30043573.12 -30043573.01 -30043572.88 0.0140 0.0077

Jupiter -86968-06-01 19:11 J -30043486.82 -30043486.70 -30043486.59 0.0534 0.0254

Uranus -86968-06-03 15:35 J -30043484.97 -30043484.85 -30043484.71 0.0140 0.0060

Jupiter -86968-08-30 04:32 J -30043397.43 -30043397.31 -30043397.18 0.0531 0.0206

Uranus -86968-08-30 19:39 J -30043396.81 -30043396.68 -30043396.54 0.0140 0.0041

Saturn -86968-11-26 16:18 J -30043308.90 -30043308.82 -30043308.73 0.0271 0.0213

Uranus -86968-11-26 23:44 J -30043308.65 -30043308.51 -30043308.37 0.0140 0.0022

Uranus -86967-02-23 03:35 J -30043220.49 -30043220.35 -30043220.20 0.0141 0.0006

Saturn -86967-02-23 04:03 J -30043220.45 -30043220.33 -30043220.20 0.0271 0.0124 *

Venus -86967-02-27 00:27 J -30043216.58 -30043216.48 -30043216.39 0.3753 0.2220

Uranus -86967-05-22 07:39 J -30043132.32 -30043132.18 -30043132.04 0.0141 0.0015

Saturn -86967-05-22 15:49 J -30043131.97 -30043131.84 -30043131.70 0.0271 0.0035

Uranus -86967-08-18 11:44 J -30043044.15 -30043044.01 -30043043.87 0.0141 0.0033

Saturn -86967-08-19 04:03 J -30043043.47 -30043043.33 -30043043.20 0.0271 0.0058

Uranus -86967-11-14 15:49 J -30042955.97 -30042955.84 -30042955.71 0.0141 0.0052

Saturn -86967-11-15 16:03 J -30042954.94 -30042954.83 -30042954.71 0.0271 0.0151

Uranus -86966-02-10 19:54 J -30042867.79 -30042867.67 -30042867.54 0.0141 0.0072

Saturn -86966-02-12 04:32 J -30042866.37 -30042866.31 -30042866.25 0.0271 0.0245

Uranus -86966-05-09 23:59 J -30042779.60 -30042779.50 -30042779.38 0.0141 0.0091

Uranus -86966-08-06 04:03 J -30042691.41 -30042691.33 -30042691.23 0.0142 0.0111

Uranus -86966-11-02 08:37 J -30042603.20 -30042603.14 -30042603.09 0.0142 0.0130

Mars -86966-11-03 03:35 J -30042602.47 -30042602.35 -30042602.22 0.1666 0.0224

Neptune -86964-09-30 11:59 J -30041905.02 -30041905.00 -30041904.96 0.0089 0.0086

Neptune -86964-12-27 13:25 J -30041816.98 -30041816.94 -30041816.88 0.0089 0.0082

Venus -86963-02-26 12:27 J -30041756.12 -30041755.98 -30041755.85 0.3615 0.0328

Neptune -86963-03-25 15:06 J -30041728.94 -30041728.87 -30041728.81 0.0089 0.0077

Neptune -86963-06-21 16:18 J -30041640.89 -30041640.82 -30041640.74 0.0089 0.0073

Neptune -86963-09-17 17:44 J -30041552.84 -30041552.76 -30041552.67 0.0089 0.0069

Neptune -86963-12-14 19:11 J -30041464.79 -30041464.70 -30041464.60 0.0089 0.0065

Neptune -86962-03-12 20:23 J -30041376.73 -30041376.65 -30041376.54 0.0089 0.0061

Neptune -86962-06-08 21:49 J -30041288.68 -30041288.59 -30041288.47 0.0089 0.0057

Jupiter -86962-07-30 16:47 J -30041236.84 -30041236.80 -30041236.75 0.0493 0.0474

Neptune -86962-09-04 23:30 J -30041200.62 -30041200.52 -30041200.41 0.0089 0.0052

Venus -86962-09-12 20:08 J -30041192.72 -30041192.66 -30041192.60 0.3749 0.3103

Jupiter -86962-10-28 20:08 J -30041146.83 -30041146.66 -30041146.48 0.0496 0.0029

Neptune -86962-12-02 00:56 J -30041112.57 -30041112.46 -30041112.34 0.0089 0.0048

Neptune -86961-02-28 02:23 J -30041024.51 -30041024.40 -30041024.28 0.0089 0.0044

Neptune -86961-05-26 03:49 J -30040936.46 -30040936.34 -30040936.21 0.0089 0.0039

Neptune -86961-08-22 05:15 J -30040848.40 -30040848.28 -30040848.15 0.0089 0.0035

Neptune -86961-11-18 06:42 J -30040760.34 -30040760.22 -30040760.09 0.0089 0.0031

Neptune -86960-02-14 08:08 J -30040672.28 -30040672.16 -30040672.02 0.0089 0.0027

Moon -86960-02-17 15:49 J -30040668.95 -30040668.84 -30040668.72 0.2749 0.0157

Earth -86960-02-17 16:32 J -30040668.93 -30040668.81 -30040668.70 0.2754 0.0138 *

Neptune -86960-05-13 09:49 J -30040584.22 -30040584.09 -30040583.96 0.0089 0.0022

Neptune -86960-08-09 11:15 J -30040496.16 -30040496.03 -30040495.90 0.0089 0.0018

Neptune -86960-11-05 12:42 J -30040408.10 -30040407.97 -30040407.83 0.0089 0.0014

Neptune -86959-02-01 14:08 J -30040320.04 -30040319.91 -30040319.77 0.0089 0.0009

Neptune -86959-04-30 15:35 J -30040231.98 -30040231.85 -30040231.71 0.0089 0.0006

Neptune -86959-07-27 17:15 J -30040143.92 -30040143.78 -30040143.65 0.0089 0.0002

Neptune -86959-10-23 18:42 J -30040055.86 -30040055.72 -30040055.58 0.0089 0.0004

Neptune -86958-01-19 20:08 J -30039967.80 -30039967.66 -30039967.52 0.0089 0.0008

Neptune -86958-04-17 21:35 J -30039879.73 -30039879.60 -30039879.46 0.0089 0.0013

Neptune -86958-07-14 23:15 J -30039791.67 -30039791.53 -30039791.40 0.0089 0.0017

Venus -86958-09-12 11:30 J -30039732.14 -30039732.02 -30039731.90 0.3619 0.1319

Neptune -86958-10-11 00:42 J -30039703.60 -30039703.47 -30039703.33 0.0089 0.0022

Neptune -86957-01-07 02:08 J -30039615.54 -30039615.41 -30039615.27 0.0089 0.0026

Neptune -86957-04-04 03:35 J -30039527.47 -30039527.35 -30039527.21 0.0089 0.0031

Mars -86957-06-01 21:35 J -30039468.69 -30039468.60 -30039468.50 0.1877 0.1427

Neptune -86957-07-01 05:15 J -30039439.41 -30039439.28 -30039439.15 0.0089 0.0035

Neptune -86957-09-27 06:42 J -30039351.34 -30039351.22 -30039351.09 0.0089 0.0039

Neptune -86957-12-24 08:08 J -30039263.27 -30039263.16 -30039263.03 0.0089 0.0044

Jupiter -86956-03-20 22:47 J -30039176.64 -30039176.55 -30039176.45 0.0535 0.0362

Neptune -86956-03-22 09:49 J -30039175.20 -30039175.09 -30039174.97 0.0089 0.0048

Mars -86956-03-25 12:42 J -30039172.09 -30039171.97 -30039171.84 0.1672 0.0327

Jupiter -86956-06-18 08:08 J -30039087.29 -30039087.16 -30039087.03 0.0532 0.0096

Neptune -86956-06-18 11:15 J -30039087.13 -30039087.03 -30039086.91 0.0089 0.0053 *

Neptune -86956-09-14 12:56 J -30038999.06 -30038998.96 -30038998.85 0.0089 0.0057

Neptune -86956-12-11 14:23 J -30038910.99 -30038910.90 -30038910.79 0.0089 0.0062

Neptune -86955-03-09 16:03 J -30038822.91 -30038822.83 -30038822.73 0.0089 0.0066

Neptune -86955-06-05 17:30 J -30038734.84 -30038734.77 -30038734.67 0.0089 0.0071

Neptune -86955-09-01 19:25 J -30038646.76 -30038646.69 -30038646.62 0.0089 0.0075

Neptune -86955-11-28 20:37 J -30038558.68 -30038558.64 -30038558.57 0.0089 0.0080

Neptune -86954-02-24 22:32 J -30038470.60 -30038470.56 -30038470.52 0.0089 0.0084

Neptune -86954-05-24 00:13 J -30038382.49 -30038382.49 -30038382.49 0.0089 0.0089

Saturn -86953-12-25 05:15 J -30037801.41 -30037801.28 -30037801.14 0.0288 0.0179

Saturn -86952-03-24 02:23 J -30037712.57 -30037712.40 -30037712.23 0.0288 0.0042

Venus -86952-03-28 10:18 J -30037708.17 -30037708.07 -30037707.97 0.3623 0.2283

Saturn -86952-06-20 22:47 J -30037623.71 -30037623.55 -30037623.38 0.0288 0.0093

Saturn -86952-09-17 18:56 J -30037534.81 -30037534.71 -30037534.60 0.0288 0.0224

Jupiter -86950-08-16 19:25 J -30036836.87 -30036836.69 -30036836.52 0.0495 0.0096

Moon -86950-08-19 18:27 J -30036833.81 -30036833.73 -30036833.65 0.2581 0.2119

Earth -86950-08-19 19:54 J -30036833.77 -30036833.67 -30036833.58 0.2582 0.1969 *

Jupiter -86950-11-14 21:35 J -30036746.70 -30036746.60 -30036746.50 0.0498 0.0399

Venus -86950-12-21 10:47 J -30036710.10 -30036710.05 -30036709.99 0.3778 0.3141

Mars -86948-10-22 22:18 J -30036038.72 -30036038.57 -30036038.43 0.1870 0.0374

Moon -86947-02-20 11:44 J -30035918.12 -30035918.01 -30035917.91 0.2750 0.1173

Earth -86947-02-20 12:27 J -30035918.08 -30035917.98 -30035917.88 0.2752 0.1353 *

Mars -86947-08-15 21:49 J -30035741.69 -30035741.59 -30035741.48 0.1678 0.0872

Venus -86947-10-12 08:51 J -30035684.19 -30035684.13 -30035684.08 0.3627 0.3206

Mars -86945-07-21 09:35 J -30035036.17 -30035036.10 -30035036.03 0.1655 0.1386

Jupiter -86944-01-07 02:23 J -30034866.46 -30034866.40 -30034866.34 0.0535 0.0472

Jupiter -86944-04-06 11:30 J -30034777.15 -30034777.02 -30034776.89 0.0532 0.0019

Jupiter -86944-07-04 21:20 J -30034687.68 -30034687.61 -30034687.54 0.0529 0.0441

Venus -86944-07-06 05:01 J -30034686.37 -30034686.29 -30034686.20 0.3774 0.2415

Earth -86940-02-13 05:44 J -30033368.29 -30033368.26 -30033368.23 0.2756 0.2629

Moon -86940-02-13 06:13 J -30033368.28 -30033368.24 -30033368.19 0.2751 0.2514 *

Venus -86938-01-19 23:30 J -30032662.62 -30032662.52 -30032662.42 0.3771 0.1663

Mars -86938-03-14 22:32 J -30032608.70 -30032608.56 -30032608.42 0.1862 0.0692

Saturn -86938-04-15 17:59 J -30032576.80 -30032576.75 -30032576.69 0.0272 0.0244

Jupiter -86938-06-04 17:59 J -30032526.90 -30032526.75 -30032526.59 0.0495 0.0221

Saturn -86938-07-13 05:44 J -30032488.37 -30032488.26 -30032488.15 0.0272 0.0155

Jupiter -86938-09-02 20:51 J -30032436.77 -30032436.63 -30032436.49 0.0498 0.0278

Saturn -86938-10-09 17:30 J -30032399.91 -30032399.77 -30032399.63 0.0272 0.0065

Saturn -86937-01-06 05:30 J -30032311.41 -30032311.27 -30032311.13 0.0272 0.0026

Mars -86937-01-06 07:11 J -30032311.27 -30032311.20 -30032311.14 0.1685 0.1415 *

Saturn -86937-04-03 17:44 J -30032222.89 -30032222.76 -30032222.64 0.0272 0.0119

Saturn -86937-07-01 05:59 J -30032134.34 -30032134.25 -30032134.16 0.0272 0.0213

Moon -86937-08-21 20:08 J -30032082.80 -30032082.66 -30032082.51 0.2588 0.0258

Earth -86937-08-21 21:20 J -30032082.75 -30032082.61 -30032082.46 0.2584 0.0197 *

Pluto -86936-11-25 22:03 J -30031621.60 -30031621.58 -30031621.54 0.0085 0.0082

Mars -86936-12-11 18:42 J -30031605.83 -30031605.72 -30031605.61 0.1661 0.0841

Pluto -86935-02-21 23:15 J -30031533.59 -30031533.53 -30031533.44 0.0085 0.0070

Pluto -86935-05-21 00:42 J -30031445.56 -30031445.47 -30031445.37 0.0084 0.0057

Pluto -86935-08-17 01:54 J -30031357.52 -30031357.42 -30031357.30 0.0084 0.0046

Pluto -86935-11-13 03:20 J -30031269.48 -30031269.36 -30031269.23 0.0084 0.0033

Pluto -86934-02-09 04:47 J -30031181.43 -30031181.30 -30031181.17 0.0084 0.0021

Pluto -86934-05-08 05:59 J -30031093.38 -30031093.25 -30031093.11 0.0084 0.0009

Pluto -86934-08-04 07:25 J -30031005.33 -30031005.19 -30031005.06 0.0084 0.0004

Pluto -86934-10-31 08:37 J -30030917.27 -30030917.14 -30030917.01 0.0084 0.0015

Pluto -86933-01-27 09:35 J -30030829.22 -30030829.10 -30030828.96 0.0084 0.0027

Pluto -86933-04-24 11:01 J -30030741.15 -30030741.04 -30030740.92 0.0083 0.0038

Pluto -86933-07-21 12:13 J -30030653.09 -30030652.99 -30030652.88 0.0083 0.0049

Venus -86933-08-04 18:13 J -30030638.85 -30030638.74 -30030638.63 0.3767 0.0887

Pluto -86933-10-17 13:39 J -30030565.02 -30030564.93 -30030564.84 0.0083 0.0061

Pluto -86932-01-13 14:37 J -30030476.95 -30030476.89 -30030476.82 0.0083 0.0072

Jupiter -86932-01-23 14:37 J -30030467.02 -30030466.89 -30030466.76 0.0533 0.0135

Jupiter -86932-04-23 00:13 J -30030377.59 -30030377.49 -30030377.38 0.0530 0.0324

Uranus -86930-08-14 17:01 J -30029533.84 -30029533.79 -30029533.72 0.0139 0.0129

Uranus -86930-11-10 23:44 J -30029445.62 -30029445.51 -30029445.39 0.0139 0.0106

Uranus -86929-02-07 06:27 J -30029357.37 -30029357.23 -30029357.08 0.0139 0.0083

Uranus -86929-05-05 13:11 J -30029269.11 -30029268.95 -30029268.79 0.0139 0.0060

Uranus -86929-08-01 19:39 J -30029180.85 -30029180.68 -30029180.51 0.0138 0.0037

Mars -86929-08-03 22:32 J -30029178.60 -30029178.56 -30029178.52 0.1854 0.1775

Uranus -86929-10-29 02:08 J -30029092.59 -30029092.41 -30029092.23 0.0138 0.0015

Uranus -86928-01-25 08:23 J -30029004.32 -30029004.15 -30029003.97 0.0138 0.0008

Uranus -86928-04-23 14:51 J -30028916.05 -30028915.88 -30028915.71 0.0138 0.0029

Uranus -86928-07-20 20:51 J -30028827.78 -30028827.63 -30028827.46 0.0138 0.0051

Uranus -86928-10-17 03:06 J -30028739.51 -30028739.37 -30028739.21 0.0138 0.0072

Uranus -86927-01-13 09:20 J -30028651.23 -30028651.11 -30028650.98 0.0138 0.0093

Earth -86927-02-16 01:39 J -30028617.54 -30028617.43 -30028617.33 0.2755 0.1230

Moon -86927-02-16 01:39 J -30028617.53 -30028617.43 -30028617.33 0.2747 0.1233 *

Venus -86927-02-18 12:56 J -30028615.07 -30028614.96 -30028614.84 0.3764 0.0129

Uranus -86927-04-11 15:20 J -30028562.95 -30028562.86 -30028562.76 0.0137 0.0114

Uranus -86927-07-08 21:20 J -30028474.63 -30028474.61 -30028474.57 0.0137 0.0134

Jupiter -86926-03-23 16:32 J -30028216.93 -30028216.81 -30028216.68 0.0494 0.0347

Mars -86926-05-04 03:49 J -30028175.47 -30028175.34 -30028175.22 0.1667 0.0300

Jupiter -86926-06-21 19:39 J -30028126.84 -30028126.68 -30028126.51 0.0497 0.0153

Moon -86924-08-24 22:18 J -30027331.69 -30027331.57 -30027331.45 0.2591 0.1423

Earth -86924-08-24 22:32 J -30027331.67 -30027331.56 -30027331.44 0.2585 0.1532 *

Venus -86923-02-17 11:59 J -30027155.09 -30027155.00 -30027154.91 0.3605 0.2687

Saturn -86923-05-14 06:13 J -30027069.36 -30027069.24 -30027069.12 0.0288 0.0208

Saturn -86923-08-11 03:20 J -30026980.52 -30026980.36 -30026980.19 0.0288 0.0070

Saturn -86923-11-08 00:13 J -30026891.66 -30026891.49 -30026891.33 0.0288 0.0066

Saturn -86922-02-04 20:23 J -30026802.77 -30026802.65 -30026802.52 0.0288 0.0199

Venus -86922-09-04 08:08 J -30026591.27 -30026591.16 -30026591.05 0.3760 0.0739

Jupiter -86921-11-11 17:15 J -30026156.89 -30026156.78 -30026156.66 0.0534 0.0258

Jupiter -86920-02-09 02:51 J -30026067.51 -30026067.38 -30026067.26 0.0531 0.0200

Venus -86918-09-03 12:27 J -30025131.10 -30025130.98 -30025130.86 0.3609 0.1556

Mars -86918-12-01 21:49 J -30025041.67 -30025041.59 -30025041.50 0.1878 0.1531

Mars -86917-09-23 12:56 J -30024745.09 -30024744.96 -30024744.84 0.1672 0.0246

Venus -86916-03-20 03:20 J -30024567.46 -30024567.36 -30024567.25 0.3756 0.1583

Jupiter -86914-01-09 15:20 J -30023906.91 -30023906.86 -30023906.81 0.0493 0.0471

Moon -86914-02-18 20:51 J -30023866.75 -30023866.63 -30023866.51 0.2749 0.0108

Earth -86914-02-18 21:35 J -30023866.72 -30023866.60 -30023866.48 0.2754 0.0198 *

Jupiter -86914-04-09 18:42 J -30023816.89 -30023816.72 -30023816.54 0.0496 0.0030

Venus -86912-03-19 12:27 J -30023107.11 -30023106.98 -30023106.85 0.3612 0.0468

Venus -86911-10-03 23:01 J -30022543.63 -30022543.54 -30022543.46 0.3752 0.2453

Jupiter -86909-08-30 20:51 J -30021846.73 -30021846.63 -30021846.54 0.0535 0.0370

Saturn -86909-09-01 21:20 J -30021844.64 -30021844.61 -30021844.57 0.0271 0.0260

Jupiter -86909-11-28 06:13 J -30021757.37 -30021757.24 -30021757.11 0.0532 0.0088

Saturn -86909-11-29 08:51 J -30021756.23 -30021756.13 -30021756.02 0.0271 0.0172

Saturn -86908-02-25 20:37 J -30021667.77 -30021667.64 -30021667.50 0.0271 0.0083

Mars -86908-04-22 22:47 J -30021611.70 -30021611.55 -30021611.41 0.1870 0.0489

Saturn -86908-05-25 08:37 J -30021579.28 -30021579.14 -30021579.00 0.0271 0.0008

Saturn -86908-08-21 20:37 J -30021490.77 -30021490.64 -30021490.51 0.0271 0.0100

Saturn -86908-11-18 08:51 J -30021402.22 -30021402.13 -30021402.03 0.0271 0.0194

Mars -86907-02-13 22:03 J -30021314.69 -30021314.58 -30021314.47 0.1678 0.0795

Venus -86907-10-03 11:59 J -30021083.13 -30021083.00 -30021082.87 0.3616 0.0580

Mars -86905-01-20 09:49 J -30020609.15 -30020609.09 -30020609.03 0.1655 0.1467

Venus -86905-04-18 18:42 J -30020519.77 -30020519.72 -30020519.67 0.3748 0.3346

Moon -86904-08-20 00:27 J -30020031.59 -30020031.48 -30020031.38 0.2583 0.1746

Earth -86904-08-20 01:39 J -30020031.54 -30020031.43 -30020031.31 0.2583 0.1598 *

Jupiter -86902-01-26 17:15 J -30019506.95 -30019506.78 -30019506.61 0.0495 0.0098

Jupiter -86902-04-26 19:25 J -30019416.79 -30019416.69 -30019416.58 0.0498 0.0395

Moon -86901-02-21 16:47 J -30019115.89 -30019115.80 -30019115.70 0.2751 0.1608

Earth -86901-02-21 17:44 J -30019115.86 -30019115.76 -30019115.67 0.2752 0.1653 *

Venus -86901-04-18 11:01 J -30019059.16 -30019059.04 -30019058.92 0.3620 0.1576

Mars -86899-09-12 23:01 J -30018181.68 -30018181.54 -30018181.40 0.1862 0.0578

Venus -86898-01-11 14:51 J -30018060.90 -30018060.88 -30018060.85 0.3780 0.3671

Mars -86898-07-07 07:11 J -30017884.27 -30017884.20 -30017884.12 0.1684 0.1339

Jupiter -86897-06-19 00:42 J -30017536.53 -30017536.47 -30017536.41 0.0536 0.0477

Jupiter -86897-09-16 09:49 J -30017447.22 -30017447.09 -30017446.96 0.0533 0.0022

Jupiter -86897-12-14 19:39 J -30017357.75 -30017357.68 -30017357.60 0.0529 0.0440

Mars -86896-06-11 18:42 J -30017178.82 -30017178.72 -30017178.61 0.1661 0.0921

Venus -86896-11-02 09:49 J -30017035.19 -30017035.09 -30017035.00 0.3624 0.2531

Earth -86894-02-14 10:47 J -30016566.10 -30016566.05 -30016565.99 0.2756 0.2345

Moon -86894-02-14 11:15 J -30016566.09 -30016566.03 -30016565.97 0.2749 0.2353 *

Saturn -86894-10-01 04:03 J -30016337.40 -30016337.33 -30016337.24 0.0288 0.0256

Saturn -86894-12-29 01:39 J -30016248.59 -30016248.43 -30016248.28 0.0288 0.0117

Saturn -86893-03-26 22:32 J -30016159.74 -30016159.56 -30016159.39 0.0288 0.0021

Saturn -86893-06-23 18:56 J -30016070.86 -30016070.71 -30016070.57 0.0288 0.0153

Venus -86893-07-27 09:06 J -30016037.19 -30016037.12 -30016037.06 0.3777 0.2956

Saturn -86893-09-20 14:37 J -30015981.90 -30015981.89 -30015981.85 0.0288 0.0284

Moon -86891-08-23 02:08 J -30015280.55 -30015280.41 -30015280.26 0.2588 0.0048

Earth -86891-08-23 03:20 J -30015280.51 -30015280.36 -30015280.22 0.2584 0.0176 *

Jupiter -86891-11-14 16:18 J -30015196.98 -30015196.82 -30015196.67 0.0495 0.0221

Jupiter -86890-02-12 18:56 J -30015106.85 -30015106.71 -30015106.57 0.0497 0.0276

Venus -86890-05-19 07:54 J -30015011.20 -30015011.17 -30015011.13 0.3629 0.3443

Mars -86889-02-02 23:15 J -30014751.60 -30014751.53 -30014751.47 0.1854 0.1648

Venus -86887-02-10 03:20 J -30014013.45 -30014013.36 -30014013.27 0.3773 0.2224

Mars -86887-11-02 03:49 J -30013748.46 -30013748.34 -30013748.21 0.1666 0.0377

Jupiter -86885-07-05 13:11 J -30013137.07 -30013136.95 -30013136.82 0.0533 0.0135

Uranus -86885-07-06 08:08 J -30013136.22 -30013136.16 -30013136.09 0.0140 0.0123

Uranus -86885-10-02 11:59 J -30013048.09 -30013048.00 -30013047.91 0.0140 0.0106

Jupiter -86885-10-02 23:01 J -30013047.65 -30013047.54 -30013047.44 0.0530 0.0326

Uranus -86885-12-29 15:35 J -30012959.95 -30012959.85 -30012959.73 0.0140 0.0089

Uranus -86884-03-27 19:39 J -30012871.80 -30012871.68 -30012871.56 0.0140 0.0071

Uranus -86884-06-23 23:30 J -30012783.65 -30012783.52 -30012783.39 0.0140 0.0053

Uranus -86884-09-20 03:35 J -30012695.49 -30012695.35 -30012695.22 0.0140 0.0035

Uranus -86884-12-17 07:25 J -30012607.33 -30012607.19 -30012607.05 0.0140 0.0016

Uranus -86883-03-15 11:30 J -30012519.16 -30012519.02 -30012518.88 0.0141 0.0003

Uranus -86883-06-11 15:20 J -30012431.00 -30012430.86 -30012430.71 0.0141 0.0021

Uranus -86883-09-07 19:25 J -30012342.82 -30012342.69 -30012342.55 0.0141 0.0040

Uranus -86883-12-04 23:30 J -30012254.65 -30012254.52 -30012254.39 0.0141 0.0059

Uranus -86882-03-03 03:35 J -30012166.46 -30012166.35 -30012166.23 0.0141 0.0078

Uranus -86882-05-30 07:39 J -30012078.27 -30012078.18 -30012078.07 0.0141 0.0097

Uranus -86882-08-26 11:59 J -30011990.07 -30011990.00 -30011989.92 0.0142 0.0117

Venus -86882-08-26 21:49 J -30011989.69 -30011989.59 -30011989.49 0.3770 0.1463

Uranus -86882-11-22 16:03 J -30011901.85 -30011901.83 -30011901.78 0.0142 0.0137

Moon -86881-02-17 06:27 J -30011815.34 -30011815.23 -30011815.12 0.2748 0.0924

Earth -86881-02-17 06:42 J -30011815.33 -30011815.22 -30011815.11 0.2755 0.0943 *

Neptune -86881-12-23 14:23 J -30011504.90 -30011504.90 -30011504.88 0.0088 0.0088

Neptune -86880-03-21 17:30 J -30011416.82 -30011416.77 -30011416.68 0.0088 0.0083

Neptune -86880-06-17 20:51 J -30011328.70 -30011328.63 -30011328.52 0.0088 0.0077

Neptune -86880-09-14 00:13 J -30011240.58 -30011240.49 -30011240.36 0.0088 0.0071

Neptune -86880-12-11 03:35 J -30011152.46 -30011152.35 -30011152.20 0.0088 0.0065

Neptune -86879-03-09 06:56 J -30011064.33 -30011064.21 -30011064.05 0.0088 0.0059

Saturn -86879-04-18 10:18 J -30011024.16 -30011024.07 -30011023.98 0.0272 0.0205

Neptune -86879-06-05 10:18 J -30010976.20 -30010976.07 -30010975.90 0.0088 0.0053

Saturn -86879-07-15 22:03 J -30010935.71 -30010935.58 -30010935.46 0.0272 0.0116

Neptune -86879-09-01 13:39 J -30010888.07 -30010887.93 -30010887.76 0.0088 0.0047

Jupiter -86879-09-02 14:51 J -30010887.00 -30010886.88 -30010886.75 0.0494 0.0346

Saturn -86879-10-12 09:49 J -30010847.23 -30010847.09 -30010846.95 0.0272 0.0026

Neptune -86879-11-28 17:15 J -30010799.94 -30010799.78 -30010799.61 0.0088 0.0041

Jupiter -86879-12-01 17:59 J -30010796.91 -30010796.75 -30010796.58 0.0497 0.0155

Saturn -86878-01-08 21:49 J -30010758.72 -30010758.59 -30010758.45 0.0272 0.0067

Neptune -86878-02-24 20:23 J -30010711.81 -30010711.65 -30010711.47 0.0088 0.0035

Saturn -86878-04-07 10:03 J -30010670.19 -30010670.08 -30010669.96 0.0272 0.0160

Neptune -86878-05-23 23:44 J -30010623.68 -30010623.51 -30010623.33 0.0088 0.0029

Mars -86878-06-01 22:32 J -30010614.63 -30010614.56 -30010614.50 0.1878 0.1648

Saturn -86878-07-04 22:18 J -30010581.61 -30010581.57 -30010581.51 0.0271 0.0255

Neptune -86878-08-20 03:06 J -30010535.55 -30010535.37 -30010535.19 0.0088 0.0023

Moon -86878-08-26 04:18 J -30010529.41 -30010529.32 -30010529.23 0.2592 0.1953

Earth -86878-08-26 04:32 J -30010529.41 -30010529.31 -30010529.22 0.2585 0.1885 *

Neptune -86878-11-16 06:13 J -30010447.42 -30010447.24 -30010447.05 0.0088 0.0017

Neptune -86877-02-12 09:35 J -30010359.28 -30010359.10 -30010358.91 0.0088 0.0011

Mars -86877-03-24 12:56 J -30010318.09 -30010317.96 -30010317.83 0.1672 0.0175

Neptune -86877-05-10 12:56 J -30010271.15 -30010270.96 -30010270.78 0.0088 0.0006

Neptune -86877-08-06 16:03 J -30010183.01 -30010182.83 -30010182.64 0.0088 0.0001

Neptune -86877-11-02 19:11 J -30010094.88 -30010094.70 -30010094.51 0.0088 0.0007

Neptune -86876-01-29 22:18 J -30010006.74 -30010006.57 -30010006.38 0.0088 0.0013

Venus -86876-03-11 16:32 J -30009965.92 -30009965.81 -30009965.70 0.3767 0.0680

Neptune -86876-04-28 01:39 J -30009918.61 -30009918.43 -30009918.25 0.0088 0.0018

Neptune -86876-07-25 04:47 J -30009830.47 -30009830.30 -30009830.12 0.0088 0.0023

Neptune -86876-10-21 07:54 J -30009742.34 -30009742.17 -30009741.99 0.0088 0.0029

Neptune -86875-01-17 11:15 J -30009654.20 -30009654.03 -30009653.87 0.0088 0.0035

Neptune -86875-04-15 14:08 J -30009566.07 -30009565.91 -30009565.74 0.0088 0.0041

Neptune -86875-07-12 17:01 J -30009477.93 -30009477.79 -30009477.62 0.0088 0.0047

Neptune -86875-10-08 20:23 J -30009389.79 -30009389.65 -30009389.50 0.0088 0.0052

Neptune -86874-01-04 23:15 J -30009301.65 -30009301.53 -30009301.38 0.0088 0.0058

Neptune -86874-04-03 02:37 J -30009213.51 -30009213.39 -30009213.26 0.0088 0.0063

Neptune -86874-06-30 05:30 J -30009125.37 -30009125.27 -30009125.14 0.0088 0.0069

Neptune -86874-09-26 08:23 J -30009037.23 -30009037.15 -30009037.03 0.0088 0.0074

Neptune -86874-12-23 11:30 J -30008949.08 -30008949.02 -30008948.93 0.0088 0.0080

Neptune -86873-03-20 14:51 J -30008860.92 -30008860.88 -30008860.83 0.0088 0.0085

Jupiter -86873-04-23 16:32 J -30008826.93 -30008826.81 -30008826.69 0.0534 0.0248

Jupiter -86873-07-22 01:54 J -30008737.54 -30008737.42 -30008737.29 0.0530 0.0210

Venus -86872-03-10 11:15 J -30008506.05 -30008506.03 -30008506.01 0.3602 0.3554

Venus -86871-09-25 11:30 J -30007942.14 -30007942.02 -30007941.91 0.3763 0.0167

Mars -86869-10-21 23:01 J -30007184.68 -30007184.54 -30007184.40 0.1870 0.0595

Moon -86868-02-19 01:54 J -30007064.53 -30007064.42 -30007064.30 0.2749 0.0402

Earth -86868-02-19 02:37 J -30007064.50 -30007064.39 -30007064.27 0.2753 0.0496 *

Mars -86868-08-14 22:03 J -30006887.69 -30006887.58 -30006887.46 0.1678 0.0719

Jupiter -86867-06-21 13:25 J -30006576.98 -30006576.94 -30006576.88 0.0493 0.0471

Jupiter -86867-09-19 17:01 J -30006486.96 -30006486.79 -30006486.61 0.0496 0.0030

Venus -86867-09-24 11:59 J -30006482.10 -30006482.00 -30006481.90 0.3606 0.2389

Mars -86866-07-21 09:49 J -30006182.13 -30006182.09 -30006182.04 0.1655 0.1545

Venus -86865-04-10 06:27 J -30005918.34 -30005918.23 -30005918.12 0.3759 0.0963

Saturn -86864-05-17 01:39 J -30005516.58 -30005516.43 -30005516.28 0.0288 0.0151

Saturn -86864-08-13 22:47 J -30005427.72 -30005427.55 -30005427.38 0.0288 0.0013

Saturn -86864-11-10 19:11 J -30005338.85 -30005338.70 -30005338.54 0.0288 0.0123

Saturn -86863-02-07 15:35 J -30005249.93 -30005249.85 -30005249.77 0.0288 0.0254

Jupiter -86861-02-10 19:11 J -30004516.79 -30004516.70 -30004516.61 0.0535 0.0372

Venus -86861-04-09 12:13 J -30004458.11 -30004457.99 -30004457.86 0.3610 0.1270

Jupiter -86861-05-10 04:32 J -30004427.44 -30004427.31 -30004427.18 0.0532 0.0085

Venus -86860-10-25 01:54 J -30003894.52 -30003894.42 -30003894.32 0.3755 0.1810

Mars -86859-03-13 23:15 J -30003754.67 -30003754.53 -30003754.38 0.1863 0.0475

Mars -86858-01-05 07:25 J -30003457.27 -30003457.19 -30003457.11 0.1684 0.1260

Moon -86858-08-21 06:13 J -30003229.36 -30003229.24 -30003229.11 0.2585 0.1318

Earth -86858-08-21 07:39 J -30003229.31 -30003229.18 -30003229.05 0.2583 0.1226 *

Mars -86857-12-10 18:56 J -30002751.81 -30002751.71 -30002751.61 0.1661 0.1003

Venus -86856-10-24 11:59 J -30002434.13 -30002434.00 -30002433.86 0.3613 0.0227

Moon -86855-02-21 22:03 J -30002313.67 -30002313.58 -30002313.50 0.2753 0.1826

Earth -86855-02-21 22:47 J -30002313.63 -30002313.55 -30002313.47 0.2752 0.1957 *

Jupiter -86855-07-08 16:03 J -30002177.00 -30002176.83 -30002176.66 0.0495 0.0092

Jupiter -86855-10-06 18:13 J -30002086.84 -30002086.74 -30002086.63 0.0498 0.0401

Venus -86854-05-10 21:35 J -30001870.68 -30001870.60 -30001870.52 0.3751 0.2689

Venus -86850-05-10 11:30 J -30000410.15 -30000410.02 -30000409.89 0.3617 0.0839

Mars -86850-08-03 23:44 J -30000324.59 -30000324.51 -30000324.43 0.1854 0.1530

Saturn -86850-09-05 13:39 J -30000292.01 -30000291.93 -30000291.85 0.0271 0.0221

Jupiter -86850-11-29 22:47 J -30000206.61 -30000206.55 -30000206.50 0.0536 0.0484

Saturn -86850-12-03 01:11 J -30000203.57 -30000203.45 -30000203.32 0.0271 0.0133

Jupiter -86849-02-27 07:54 J -30000117.30 -30000117.17 -30000117.04 0.0533 0.0030

Saturn -86849-02-29 12:56 J -30000115.09 -30000114.96 -30000114.82 0.0271 0.0044

Jupiter -86849-05-26 17:44 J -30000027.83 -30000027.76 -30000027.68 0.0530 0.0433

Saturn -86849-05-28 00:56 J -30000026.60 -30000026.46 -30000026.32 0.0271 0.0049

Saturn -86849-08-24 13:11 J -29999938.07 -29999937.95 -29999937.83 0.0271 0.0141

Saturn -86849-11-21 01:25 J -29999849.51 -29999849.44 -29999849.37 0.0271 0.0235

Venus -86849-11-23 17:15 J -29999846.81 -29999846.78 -29999846.75 0.3747 0.3590

Earth -86848-02-14 15:49 J -29999763.91 -29999763.84 -29999763.76 0.2756 0.2062

Moon -86848-02-14 16:18 J -29999763.90 -29999763.82 -29999763.74 0.2749 0.1935 *

Mars -86847-05-03 04:03 J -29999321.46 -29999321.33 -29999321.21 0.1666 0.0454

Uranus -86846-09-04 01:11 J -29998832.52 -29998832.45 -29998832.35 0.0139 0.0121

Uranus -86846-12-01 07:54 J -29998744.28 -29998744.17 -29998744.03 0.0139 0.0098

Uranus -86845-02-27 14:37 J -29998656.03 -29998655.89 -29998655.73 0.0139 0.0075

Uranus -86845-05-25 21:20 J -29998567.77 -29998567.61 -29998567.44 0.0139 0.0052

Uranus -86845-08-22 03:49 J -29998479.51 -29998479.34 -29998479.16 0.0138 0.0030

Moon -86845-08-23 08:08 J -29998478.30 -29998478.16 -29998478.02 0.2588 0.0466

Earth -86845-08-23 09:06 J -29998478.26 -29998478.12 -29998477.98 0.2584 0.0530 *

Uranus -86845-11-18 10:18 J -29998391.25 -29998391.07 -29998390.89 0.0138 0.0007

Venus -86845-11-23 10:32 J -29998386.17 -29998386.06 -29998385.95 0.3621 0.1832

Uranus -86844-02-14 16:47 J -29998302.98 -29998302.80 -29998302.63 0.0138 0.0015

Uranus -86844-05-13 23:01 J -29998214.71 -29998214.54 -29998214.37 0.0138 0.0037

Uranus -86844-08-10 05:15 J -29998126.44 -29998126.28 -29998126.12 0.0138 0.0058

Uranus -86844-11-06 11:15 J -29998038.16 -29998038.03 -29998037.88 0.0138 0.0080

Uranus -86843-02-02 17:30 J -29997949.88 -29997949.77 -29997949.65 0.0138 0.0101

Jupiter -86843-04-26 14:23 J -29997867.06 -29997866.90 -29997866.74 0.0494 0.0220

Uranus -86843-05-01 23:30 J -29997861.59 -29997861.52 -29997861.43 0.0137 0.0122

Jupiter -86843-07-25 17:01 J -29997776.93 -29997776.79 -29997776.64 0.0497 0.0276

Venus -86842-08-18 13:11 J -29997387.99 -29997387.95 -29997387.91 0.3779 0.3491

Venus -86839-06-09 09:06 J -29996362.21 -29996362.12 -29996362.04 0.3626 0.2773

Mars -86839-11-30 23:01 J -29996187.59 -29996187.54 -29996187.49 0.1878 0.1766

Mars -86838-09-23 13:11 J -29995891.08 -29995890.95 -29995890.83 0.1672 0.0112

Jupiter -86838-12-16 11:30 J -29995807.14 -29995807.02 -29995806.89 0.0534 0.0138

Jupiter -86837-03-14 21:20 J -29995717.72 -29995717.61 -29995717.50 0.0530 0.0324

Venus -86836-03-03 07:11 J -29995364.27 -29995364.20 -29995364.12 0.3776 0.2771

Moon -86835-02-17 11:30 J -29995013.14 -29995013.02 -29995012.91 0.2748 0.0748

Earth -86835-02-17 11:44 J -29995013.12 -29995013.01 -29995012.90 0.2754 0.0653 *

Saturn -86835-10-03 23:30 J -29994784.64 -29994784.52 -29994784.39 0.0288 0.0199

Saturn -86835-12-31 20:51 J -29994695.80 -29994695.63 -29994695.46 0.0288 0.0060

Saturn -86834-03-30 17:30 J -29994606.93 -29994606.77 -29994606.60 0.0288 0.0076

Saturn -86834-06-27 13:54 J -29994518.03 -29994517.92 -29994517.80 0.0288 0.0208

Moon -86832-08-26 10:18 J -29993727.14 -29993727.07 -29993727.00 0.2593 0.2192

Earth -86832-08-26 10:18 J -29993727.14 -29993727.07 -29993727.00 0.2586 0.2241 *

Jupiter -86831-02-12 13:11 J -29993557.07 -29993556.95 -29993556.82 0.0494 0.0344

Jupiter -86831-05-13 16:18 J -29993466.98 -29993466.82 -29993466.65 0.0496 0.0156

Venus -86831-09-17 01:39 J -29993340.53 -29993340.43 -29993340.34 0.3773 0.2031

Mars -86829-04-21 23:30 J -29992757.65 -29992757.52 -29992757.38 0.1871 0.0710

Mars -86828-02-12 22:18 J -29992460.69 -29992460.57 -29992460.46 0.1678 0.0642

Mars -86826-01-19 10:03 J -29991755.10 -29991755.08 -29991755.06 0.1655 0.1625

Jupiter -86826-10-04 15:20 J -29991496.98 -29991496.86 -29991496.75 0.0534 0.0247

Jupiter -86825-01-02 00:42 J -29991407.59 -29991407.47 -29991407.35 0.0531 0.0212

Venus -86825-04-01 20:08 J -29991316.77 -29991316.66 -29991316.56 0.3769 0.1261

Moon -86822-02-20 06:56 J -29990262.32 -29990262.21 -29990262.09 0.2749 0.0718

Earth -86822-02-20 07:39 J -29990262.29 -29990262.18 -29990262.06 0.2753 0.0793 *

Saturn -86820-01-22 14:37 J -29989559.93 -29989559.89 -29989559.84 0.0272 0.0256

Saturn -86820-04-21 02:23 J -29989471.51 -29989471.40 -29989471.29 0.0271 0.0167

Saturn -86820-07-18 14:08 J -29989383.05 -29989382.91 -29989382.78 0.0271 0.0078

Mars -86820-09-11 23:59 J -29989327.64 -29989327.50 -29989327.35 0.1863 0.0347

Saturn -86820-10-15 01:54 J -29989294.56 -29989294.42 -29989294.28 0.0271 0.0015

Venus -86820-10-16 14:51 J -29989292.99 -29989292.88 -29989292.77 0.3766 0.0471

Jupiter -86820-12-01 11:59 J -29989247.05 -29989247.00 -29989246.95 0.0493 0.0469

Saturn -86819-01-11 13:54 J -29989206.04 -29989205.92 -29989205.78 0.0271 0.0106

Jupiter -86819-03-01 15:20 J -29989157.03 -29989156.86 -29989156.68 0.0496 0.0035

Saturn -86819-04-10 02:08 J -29989117.50 -29989117.41 -29989117.31 0.0271 0.0199

Mars -86819-07-06 07:25 J -29989030.28 -29989030.19 -29989030.10 0.1684 0.1189

Mars -86817-06-10 18:56 J -29988324.80 -29988324.71 -29988324.61 0.1660 0.1079

Venus -86816-10-15 11:15 J -29987833.09 -29987833.03 -29987832.97 0.3603 0.3250

Venus -86814-05-02 09:49 J -29987269.20 -29987269.09 -29987268.98 0.3762 0.0342

Jupiter -86814-07-23 18:42 J -29987186.82 -29987186.72 -29987186.63 0.0534 0.0359

Jupiter -86814-10-21 03:49 J -29987097.47 -29987097.34 -29987097.21 0.0531 0.0097

Moon -86812-08-21 12:13 J -29986427.12 -29986426.99 -29986426.86 0.2585 0.1046

Earth -86812-08-21 13:39 J -29986427.07 -29986426.93 -29986426.80 0.2583 0.0852 *

Mars -86810-02-01 23:59 J -29985897.59 -29985897.50 -29985897.41 0.1854 0.1431

Venus -86810-05-01 11:44 J -29985809.11 -29985809.01 -29985808.90 0.3607 0.2102

Moon -86809-02-23 03:06 J -29985511.44 -29985511.37 -29985511.30 0.2754 0.2169

Earth -86809-02-23 03:49 J -29985511.40 -29985511.34 -29985511.27 0.2751 0.2257 *

Venus -86809-11-15 05:01 J -29985245.40 -29985245.29 -29985245.18 0.3758 0.1178

Mars -86808-11-01 04:03 J -29984894.45 -29984894.33 -29984894.21 0.1666 0.0531

Jupiter -86808-12-18 14:37 J -29984847.07 -29984846.89 -29984846.72 0.0495 0.0090

Jupiter -86807-03-18 16:47 J -29984756.89 -29984756.80 -29984756.70 0.0498 0.0404

Saturn -86805-02-20 23:01 J -29984052.64 -29984052.54 -29984052.44 0.0288 0.0237

Saturn -86805-05-19 20:23 J -29983963.81 -29983963.65 -29983963.49 0.0288 0.0098

Saturn -86805-08-16 17:15 J -29983874.95 -29983874.78 -29983874.61 0.0288 0.0040

Saturn -86805-11-13 13:39 J -29983786.06 -29983785.93 -29983785.79 0.0288 0.0174

Venus -86805-11-14 11:59 J -29983785.13 -29983785.00 -29983784.87 0.3611 0.0986

Venus -86803-06-01 00:27 J -29983221.58 -29983221.48 -29983221.38 0.3754 0.2043

Earth -86802-02-15 20:51 J -29982961.71 -29982961.63 -29982961.54 0.2756 0.1776

Moon -86802-02-15 21:20 J -29982961.70 -29982961.61 -29982961.53 0.2749 0.1799 *

Jupiter -86802-05-11 21:20 J -29982876.67 -29982876.61 -29982876.56 0.0536 0.0483

Jupiter -86802-08-09 06:27 J -29982787.37 -29982787.23 -29982787.10 0.0533 0.0031

Jupiter -86802-11-06 16:18 J -29982697.90 -29982697.82 -29982697.74 0.0530 0.0432

Uranus -86801-04-29 12:13 J -29982523.02 -29982522.99 -29982522.96 0.0139 0.0135

Uranus -86801-07-26 15:49 J -29982434.91 -29982434.84 -29982434.76 0.0140 0.0118

Uranus -86801-10-22 19:39 J -29982346.77 -29982346.68 -29982346.58 0.0140 0.0100

Uranus -86800-01-18 23:30 J -29982258.63 -29982258.52 -29982258.41 0.0140 0.0083

Uranus -86800-04-17 03:20 J -29982170.48 -29982170.36 -29982170.23 0.0140 0.0065

Uranus -86800-07-14 07:11 J -29982082.33 -29982082.20 -29982082.06 0.0140 0.0047

Uranus -86800-10-10 11:01 J -29981994.17 -29981994.04 -29981993.90 0.0140 0.0030

Uranus -86799-01-06 15:06 J -29981906.01 -29981905.87 -29981905.73 0.0140 0.0011

Uranus -86799-04-04 19:11 J -29981817.84 -29981817.70 -29981817.56 0.0141 0.0009

Venus -86799-05-31 11:44 J -29981761.15 -29981761.01 -29981760.88 0.3615 0.0136

Mars -86799-05-31 23:15 J -29981760.55 -29981760.53 -29981760.52 0.1878 0.1863

Neptune -86799-06-27 10:47 J -29981734.07 -29981734.05 -29981734.01 0.0089 0.0086

Uranus -86799-07-01 23:01 J -29981729.68 -29981729.54 -29981729.40 0.0141 0.0027

Moon -86799-08-24 14:23 J -29981676.03 -29981675.90 -29981675.77 0.2590 0.0850

Earth -86799-08-24 15:06 J -29981676.01 -29981675.87 -29981675.74 0.2584 0.0900 *

Neptune -86799-09-23 12:13 J -29981646.03 -29981645.99 -29981645.93 0.0089 0.0082

Uranus -86799-09-28 03:06 J -29981641.50 -29981641.37 -29981641.23 0.0141 0.0046

Neptune -86799-12-20 13:25 J -29981557.99 -29981557.94 -29981557.86 0.0089 0.0078

Uranus -86799-12-25 07:11 J -29981553.32 -29981553.20 -29981553.07 0.0141 0.0064

Neptune -86798-03-18 14:51 J -29981469.94 -29981469.88 -29981469.79 0.0089 0.0074

Uranus -86798-03-23 11:15 J -29981465.14 -29981465.03 -29981464.91 0.0141 0.0084

Mars -86798-03-24 13:11 J -29981464.07 -29981463.95 -29981463.82 0.1672 0.0036

Neptune -86798-06-14 16:32 J -29981381.89 -29981381.81 -29981381.72 0.0089 0.0069

Uranus -86798-06-19 15:20 J -29981376.95 -29981376.86 -29981376.76 0.0141 0.0103

Neptune -86798-09-10 17:59 J -29981293.84 -29981293.75 -29981293.65 0.0089 0.0065

Uranus -86798-09-15 19:25 J -29981288.75 -29981288.69 -29981288.61 0.0142 0.0123

Neptune -86798-12-07 19:25 J -29981205.78 -29981205.69 -29981205.59 0.0089 0.0061

Venus -86798-12-15 20:08 J -29981197.73 -29981197.66 -29981197.59 0.3750 0.2925

Neptune -86797-03-04 20:37 J -29981117.73 -29981117.64 -29981117.52 0.0089 0.0057

Neptune -86797-05-31 22:18 J -29981029.68 -29981029.57 -29981029.46 0.0089 0.0052

Neptune -86797-08-27 23:44 J -29980941.62 -29980941.51 -29980941.39 0.0089 0.0048

Neptune -86797-11-24 01:11 J -29980853.56 -29980853.45 -29980853.33 0.0089 0.0044

Neptune -86796-02-20 02:37 J -29980765.51 -29980765.39 -29980765.26 0.0089 0.0040

Neptune -86796-05-19 04:03 J -29980677.45 -29980677.33 -29980677.20 0.0089 0.0035

Neptune -86796-08-15 05:30 J -29980589.39 -29980589.27 -29980589.14 0.0089 0.0031

Jupiter -86796-10-06 13:25 J -29980537.10 -29980536.94 -29980536.78 0.0494 0.0212

Neptune -86796-11-11 06:56 J -29980501.34 -29980501.21 -29980501.07 0.0089 0.0027

Jupiter -86795-01-04 16:03 J -29980446.97 -29980446.83 -29980446.68 0.0497 0.0284

Neptune -86795-02-07 08:23 J -29980413.28 -29980413.15 -29980413.01 0.0089 0.0023

Neptune -86795-05-06 10:03 J -29980325.22 -29980325.08 -29980324.95 0.0089 0.0018

Neptune -86795-08-02 11:30 J -29980237.16 -29980237.02 -29980236.89 0.0089 0.0014

Neptune -86795-10-29 12:56 J -29980149.10 -29980148.96 -29980148.82 0.0089 0.0009

Neptune -86794-01-25 14:23 J -29980061.04 -29980060.90 -29980060.76 0.0089 0.0005

Neptune -86794-04-23 15:49 J -29979972.97 -29979972.84 -29979972.70 0.0089 0.0003

Neptune -86794-07-20 17:15 J -29979884.91 -29979884.78 -29979884.64 0.0089 0.0005

Neptune -86794-10-16 18:56 J -29979796.85 -29979796.71 -29979796.57 0.0089 0.0008

Venus -86794-12-15 11:01 J -29979737.17 -29979737.04 -29979736.92 0.3619 0.1106

Neptune -86793-01-12 20:23 J -29979708.79 -29979708.65 -29979708.51 0.0089 0.0013

Neptune -86793-04-09 21:49 J -29979620.72 -29979620.59 -29979620.45 0.0089 0.0017

Neptune -86793-07-06 23:15 J -29979532.66 -29979532.53 -29979532.39 0.0089 0.0022

Neptune -86793-10-03 00:42 J -29979444.59 -29979444.47 -29979444.33 0.0089 0.0026

Neptune -86793-12-30 02:23 J -29979356.53 -29979356.40 -29979356.27 0.0089 0.0030

Neptune -86792-03-28 03:49 J -29979268.46 -29979268.34 -29979268.21 0.0089 0.0035

Neptune -86792-06-24 05:30 J -29979180.39 -29979180.27 -29979180.14 0.0089 0.0039

Neptune -86792-09-20 06:56 J -29979092.33 -29979092.21 -29979092.08 0.0089 0.0044

Neptune -86792-12-17 08:23 J -29979004.26 -29979004.15 -29979004.02 0.0089 0.0048

Neptune -86791-03-15 09:49 J -29978916.19 -29978916.09 -29978915.96 0.0089 0.0053

Neptune -86791-06-11 11:30 J -29978828.12 -29978828.02 -29978827.90 0.0089 0.0057

Neptune -86791-09-07 12:56 J -29978740.04 -29978739.96 -29978739.85 0.0089 0.0062

Saturn -86791-09-08 05:44 J -29978739.36 -29978739.26 -29978739.16 0.0271 0.0184

Neptune -86791-12-04 14:37 J -29978651.97 -29978651.89 -29978651.79 0.0089 0.0066

Saturn -86791-12-05 17:15 J -29978650.91 -29978650.78 -29978650.65 0.0271 0.0095

Neptune -86790-03-02 16:03 J -29978563.90 -29978563.83 -29978563.73 0.0089 0.0071

Saturn -86790-03-04 05:01 J -29978562.43 -29978562.29 -29978562.14 0.0271 0.0010

Jupiter -86790-05-28 09:49 J -29978477.22 -29978477.09 -29978476.96 0.0534 0.0142

Neptune -86790-05-29 17:59 J -29978475.82 -29978475.75 -29978475.67 0.0089 0.0075

Saturn -86790-05-31 17:01 J -29978473.92 -29978473.79 -29978473.65 0.0271 0.0088

Jupiter -86790-08-25 19:25 J -29978387.79 -29978387.69 -29978387.58 0.0531 0.0318

Neptune -86790-08-25 19:25 J -29978387.74 -29978387.69 -29978387.62 0.0089 0.0080 *

Saturn -86790-08-28 05:15 J -29978385.38 -29978385.28 -29978385.17 0.0271 0.0180

Mars -86790-10-22 00:13 J -29978330.62 -29978330.49 -29978330.36 0.1871 0.0836

Neptune -86790-11-21 21:06 J -29978299.66 -29978299.62 -29978299.57 0.0089 0.0084

Neptune -86789-02-17 22:47 J -29978211.55 -29978211.55 -29978211.54 0.0089 0.0089

Moon -86789-02-18 16:18 J -29978210.93 -29978210.82 -29978210.70 0.2748 0.0355

Earth -86789-02-18 16:47 J -29978210.91 -29978210.80 -29978210.68 0.2754 0.0368 *

Mars -86789-08-13 22:18 J -29978033.68 -29978033.57 -29978033.45 0.1678 0.0566

Venus -86788-06-30 09:49 J -29977713.20 -29977713.09 -29977712.99 0.3623 0.2078

Venus -86785-03-24 11:15 J -29976715.08 -29976715.03 -29976714.98 0.3778 0.3308

Jupiter -86784-07-25 11:44 J -29976227.13 -29976227.01 -29976226.88 0.0494 0.0340

Jupiter -86784-10-23 14:51 J -29976137.04 -29976136.88 -29976136.72 0.0496 0.0158

Pluto -86783-09-16 10:03 J -29975809.12 -29975809.08 -29975809.00 0.0060 0.0057

Pluto -86783-12-13 11:59 J -29975721.10 -29975721.00 -29975720.90 0.0060 0.0051

Venus -86782-01-14 08:23 J -29975689.22 -29975689.15 -29975689.09 0.3627 0.3018

Pluto -86782-03-11 13:11 J -29975633.07 -29975632.95 -29975632.81 0.0060 0.0045

Pluto -86782-06-07 14:23 J -29975545.03 -29975544.90 -29975544.73 0.0060 0.0039

Pluto -86782-09-03 16:18 J -29975456.98 -29975456.82 -29975456.66 0.0060 0.0032

Pluto -86782-11-30 17:30 J -29975368.94 -29975368.77 -29975368.58 0.0061 0.0026

Pluto -86781-02-26 18:56 J -29975280.88 -29975280.71 -29975280.51 0.0061 0.0019

Pluto -86781-05-24 20:37 J -29975192.83 -29975192.64 -29975192.45 0.0061 0.0013

Pluto -86781-08-20 22:03 J -29975104.77 -29975104.58 -29975104.38 0.0061 0.0006

Pluto -86781-11-16 23:30 J -29975016.71 -29975016.52 -29975016.32 0.0061 0.0001

Pluto -86780-02-13 00:56 J -29974928.65 -29974928.46 -29974928.26 0.0061 0.0007

Mars -86780-03-13 00:27 J -29974900.63 -29974900.48 -29974900.34 0.1863 0.0240

Pluto -86780-05-12 02:37 J -29974840.58 -29974840.39 -29974840.20 0.0061 0.0013

Pluto -86780-08-08 03:49 J -29974752.52 -29974752.34 -29974752.15 0.0061 0.0020

Venus -86780-10-08 05:30 J -29974691.35 -29974691.27 -29974691.19 0.3775 0.2584

Pluto -86780-11-04 05:01 J -29974664.44 -29974664.29 -29974664.09 0.0061 0.0027

Mars -86779-01-04 07:39 J -29974603.28 -29974603.18 -29974603.09 0.1684 0.1114

Pluto -86779-01-31 06:42 J -29974576.37 -29974576.22 -29974576.04 0.0061 0.0034

Pluto -86779-04-29 08:08 J -29974488.29 -29974488.16 -29974488.00 0.0061 0.0040

Pluto -86779-07-26 10:03 J -29974400.20 -29974400.08 -29974399.95 0.0061 0.0047

Moon -86779-08-19 16:32 J -29974375.85 -29974375.81 -29974375.78 0.2581 0.2491

Earth -86779-08-19 17:44 J -29974375.82 -29974375.76 -29974375.69 0.2582 0.2270 *

Pluto -86779-10-22 11:15 J -29974312.11 -29974312.03 -29974311.92 0.0061 0.0054

Pluto -86778-01-18 12:42 J -29974223.98 -29974223.97 -29974223.92 0.0061 0.0061

Jupiter -86778-03-16 13:39 J -29974167.05 -29974166.93 -29974166.82 0.0534 0.0250

Jupiter -86778-06-13 23:01 J -29974077.66 -29974077.54 -29974077.41 0.0531 0.0210

Mars -86778-12-10 19:11 J -29973897.79 -29973897.70 -29973897.61 0.1660 0.1156

Moon -86776-02-20 11:59 J -29973460.10 -29973460.00 -29973459.89 0.2750 0.0953

Earth -86776-02-20 12:56 J -29973460.07 -29973459.96 -29973459.86 0.2753 0.1086 *

Saturn -86776-07-09 20:51 J -29973320.64 -29973320.63 -29973320.61 0.0288 0.0286

Saturn -86776-10-06 18:13 J -29973231.88 -29973231.74 -29973231.58 0.0288 0.0146

Saturn -86775-01-03 15:35 J -29973143.03 -29973142.85 -29973142.68 0.0288 0.0010

Saturn -86775-04-02 12:13 J -29973054.15 -29973053.99 -29973053.84 0.0288 0.0128

Saturn -86775-06-30 08:08 J -29972965.22 -29972965.16 -29972965.08 0.0288 0.0259

Venus -86774-04-23 23:44 J -29972667.60 -29972667.51 -29972667.41 0.3772 0.1838

Jupiter -86772-05-13 10:32 J -29971917.12 -29971917.06 -29971917.00 0.0493 0.0463

Jupiter -86772-08-11 14:08 J -29971827.09 -29971826.91 -29971826.74 0.0496 0.0039

Mars -86771-08-03 00:27 J -29971470.58 -29971470.48 -29971470.37 0.1855 0.1309

Mars -86770-05-27 16:47 J -29971172.82 -29971172.80 -29971172.78 0.1690 0.1661

Venus -86769-11-06 18:27 J -29970643.84 -29970643.73 -29970643.63 0.3768 0.1068

Mars -86768-05-02 04:18 J -29970467.44 -29970467.32 -29970467.21 0.1666 0.0610

Jupiter -86766-01-02 17:15 J -29969856.87 -29969856.78 -29969856.68 0.0535 0.0358

Jupiter -86766-04-02 02:37 J -29969767.52 -29969767.39 -29969767.26 0.0532 0.0100

Moon -86766-08-22 18:13 J -29969624.88 -29969624.74 -29969624.60 0.2585 0.0545

Earth -86766-08-22 19:25 J -29969624.83 -29969624.69 -29969624.54 0.2583 0.0486 *

Moon -86763-02-23 08:08 J -29968709.21 -29968709.16 -29968709.11 0.2754 0.2461

Earth -86763-02-23 09:06 J -29968709.16 -29968709.12 -29968709.08 0.2751 0.2555 *

Venus -86763-05-23 13:11 J -29968620.06 -29968619.95 -29968619.84 0.3765 0.0264

Uranus -86762-06-28 01:54 J -29968219.42 -29968219.42 -29968219.39 0.0139 0.0139

Uranus -86762-09-24 08:37 J -29968131.22 -29968131.14 -29968131.03 0.0139 0.0115

Uranus -86762-12-21 15:20 J -29968042.98 -29968042.86 -29968042.71 0.0139 0.0092

Saturn -86761-01-26 06:42 J -29968007.30 -29968007.22 -29968007.14 0.0271 0.0219

Uranus -86761-03-18 22:03 J -29967954.72 -29967954.58 -29967954.41 0.0139 0.0069

Saturn -86761-04-23 18:13 J -29967918.86 -29967918.74 -29967918.62 0.0271 0.0131

Uranus -86761-06-15 04:47 J -29967866.46 -29967866.30 -29967866.13 0.0139 0.0046

Saturn -86761-07-21 05:59 J -29967830.39 -29967830.25 -29967830.11 0.0271 0.0041

Uranus -86761-09-11 11:15 J -29967778.20 -29967778.03 -29967777.85 0.0138 0.0024

Saturn -86761-10-17 17:59 J -29967741.89 -29967741.75 -29967741.61 0.0271 0.0051

Uranus -86761-12-08 17:44 J -29967689.93 -29967689.76 -29967689.58 0.0138 0.0004

Saturn -86760-01-14 05:59 J -29967653.37 -29967653.25 -29967653.13 0.0271 0.0143

Uranus -86760-03-07 00:13 J -29967601.66 -29967601.49 -29967601.31 0.0138 0.0021

Saturn -86760-04-12 18:13 J -29967564.80 -29967564.74 -29967564.67 0.0271 0.0237

Jupiter -86760-05-30 12:56 J -29967517.13 -29967516.96 -29967516.78 0.0495 0.0087

Uranus -86760-06-03 06:27 J -29967513.39 -29967513.23 -29967513.06 0.0138 0.0043

Jupiter -86760-08-28 15:20 J -29967426.95 -29967426.86 -29967426.76 0.0498 0.0408

Uranus -86760-08-30 12:42 J -29967425.12 -29967424.97 -29967424.81 0.0138 0.0065

Uranus -86760-11-26 18:56 J -29967336.84 -29967336.71 -29967336.57 0.0138 0.0086

Uranus -86759-02-23 00:56 J -29967248.56 -29967248.46 -29967248.34 0.0138 0.0107

Uranus -86759-05-22 06:56 J -29967160.26 -29967160.21 -29967160.13 0.0137 0.0128

Venus -86759-05-22 11:01 J -29967160.11 -29967160.04 -29967159.96 0.3604 0.2960

Mars -86759-09-22 13:25 J -29967037.07 -29967036.94 -29967036.82 0.1672 0.0074

Venus -86758-12-07 08:08 J -29966596.27 -29966596.16 -29966596.05 0.3761 0.0555

Moon -86756-02-16 02:08 J -29966159.51 -29966159.41 -29966159.31 0.2748 0.1410

Earth -86756-02-16 02:08 J -29966159.51 -29966159.41 -29966159.32 0.2755 0.1487 *

Jupiter -86755-10-21 20:51 J -29965546.69 -29965546.63 -29965546.57 0.0535 0.0469

Jupiter -86754-01-19 05:59 J -29965457.38 -29965457.25 -29965457.12 0.0532 0.0015

Jupiter -86754-04-18 15:49 J -29965367.91 -29965367.84 -29965367.77 0.0529 0.0445

Venus -86754-12-06 11:44 J -29965136.13 -29965136.01 -29965135.90 0.3608 0.1807

Moon -86753-08-24 20:23 J -29964873.78 -29964873.65 -29964873.52 0.2591 0.1178

Earth -86753-08-24 20:51 J -29964873.75 -29964873.63 -29964873.50 0.2585 0.1259 *

Venus -86752-06-22 03:20 J -29964572.46 -29964572.36 -29964572.25 0.3757 0.1410

Mars -86750-04-22 00:27 J -29963903.61 -29963903.48 -29963903.36 0.1871 0.0934

Mars -86749-02-12 22:32 J -29963606.68 -29963606.56 -29963606.44 0.1678 0.0488

Jupiter -86748-03-18 11:59 J -29963207.15 -29963207.00 -29963206.83 0.0494 0.0209

Jupiter -86748-06-16 14:51 J -29963117.02 -29963116.88 -29963116.74 0.0497 0.0288

Venus -86748-06-21 11:30 J -29963112.15 -29963112.02 -29963111.88 0.3612 0.0721

Venus -86746-01-05 23:01 J -29962548.63 -29962548.54 -29962548.45 0.3753 0.2275

Saturn -86746-02-23 16:47 J -29962499.92 -29962499.80 -29962499.66 0.0288 0.0190

Saturn -86746-05-23 14:08 J -29962411.08 -29962410.91 -29962410.74 0.0288 0.0050

Saturn -86746-08-20 11:01 J -29962322.20 -29962322.04 -29962321.88 0.0288 0.0087

Saturn -86746-11-17 07:11 J -29962233.30 -29962233.20 -29962233.08 0.0289 0.0221

Moon -86743-02-18 21:35 J -29961408.72 -29961408.60 -29961408.49 0.2747 0.0211

Earth -86743-02-18 22:03 J -29961408.70 -29961408.58 -29961408.47 0.2754 0.0112 *

Jupiter -86743-11-07 08:23 J -29961147.27 -29961147.15 -29961147.02 0.0533 0.0141

Venus -86742-01-05 11:15 J -29961088.16 -29961088.03 -29961087.90 0.3616 0.0349

Jupiter -86742-02-04 18:13 J -29961057.85 -29961057.74 -29961057.64 0.0530 0.0319

Venus -86741-07-21 18:42 J -29960524.78 -29960524.72 -29960524.66 0.3749 0.3166

Mars -86741-09-11 00:56 J -29960473.61 -29960473.46 -29960473.32 0.1863 0.0139

Mars -86740-07-05 07:39 J -29960176.28 -29960176.18 -29960176.08 0.1683 0.1035

Mars -86738-06-10 19:25 J -29959470.78 -29959470.69 -29959470.61 0.1660 0.1239

Venus -86737-07-21 10:18 J -29959064.19 -29959064.07 -29959063.95 0.3619 0.1361

Jupiter -86736-01-04 11:01 J -29958897.17 -29958897.04 -29958896.91 0.0494 0.0330

Jupiter -86736-04-04 14:08 J -29958807.07 -29958806.91 -29958806.75 0.0496 0.0168

Moon -86733-08-19 22:18 J -29957573.66 -29957573.57 -29957573.47 0.2582 0.1951

Earth -86733-08-19 23:44 J -29957573.61 -29957573.51 -29957573.41 0.2582 0.1897 *

Saturn -86732-06-14 09:49 J -29957275.15 -29957275.09 -29957275.02 0.0271 0.0237

Saturn -86732-09-10 21:20 J -29957186.72 -29957186.61 -29957186.49 0.0271 0.0149

Saturn -86732-12-08 09:06 J -29957098.26 -29957098.12 -29957097.98 0.0271 0.0059

Mars -86731-02-01 01:11 J -29957043.56 -29957043.45 -29957043.33 0.1855 0.1183

Venus -86731-02-04 09:06 J -29957040.22 -29957040.12 -29957040.02 0.3624 0.2328

Saturn -86731-03-06 21:06 J -29957009.76 -29957009.62 -29957009.48 0.0271 0.0033

Saturn -86731-06-03 09:06 J -29956921.25 -29956921.12 -29956921.00 0.0271 0.0124

Jupiter -86731-08-26 11:44 J -29956837.12 -29956837.01 -29956836.89 0.0534 0.0254

Saturn -86731-08-30 21:06 J -29956832.70 -29956832.62 -29956832.53 0.0270 0.0218

Jupiter -86731-11-23 21:20 J -29956747.73 -29956747.61 -29956747.49 0.0531 0.0205

Mars -86731-11-25 17:01 J -29956745.83 -29956745.79 -29956745.75 0.1690 0.1586

Moon -86730-02-21 17:01 J -29956657.89 -29956657.79 -29956657.68 0.2752 0.1347

Earth -86730-02-21 17:59 J -29956657.85 -29956657.75 -29956657.65 0.2752 0.1382 *

Venus -86729-10-29 09:20 J -29956042.17 -29956042.11 -29956042.05 0.3777 0.3131

Mars -86729-10-31 04:18 J -29956040.43 -29956040.32 -29956040.20 0.1665 0.0693

Venus -86726-08-21 07:25 J -29955016.24 -29955016.19 -29955016.13 0.3628 0.3258

Jupiter -86725-10-23 09:20 J -29954587.17 -29954587.11 -29954587.05 0.0493 0.0458

Jupiter -86724-01-21 12:42 J -29954497.14 -29954496.97 -29954496.79 0.0495 0.0042

Earth -86723-02-14 11:30 J -29954108.06 -29954108.02 -29954107.99 0.2756 0.2593

Moon -86723-02-14 11:59 J -29954108.05 -29954108.00 -29954107.95 0.2751 0.2478 *

Venus -86723-05-15 03:35 J -29954018.43 -29954018.35 -29954018.26 0.3774 0.2395

Moon -86720-08-23 00:27 J -29952822.62 -29952822.48 -29952822.34 0.2587 0.0296

Earth -86720-08-23 01:25 J -29952822.58 -29952822.44 -29952822.29 0.2584 0.0113 *

Mars -86719-03-23 13:25 J -29952610.07 -29952609.94 -29952609.81 0.1671 0.0138

Jupiter -86719-06-14 15:35 J -29952526.94 -29952526.85 -29952526.75 0.0535 0.0361

Jupiter -86719-09-12 00:56 J -29952437.59 -29952437.46 -29952437.32 0.0532 0.0098

Venus -86718-11-28 22:03 J -29951994.68 -29951994.58 -29951994.48 0.3771 0.1643

Uranus -86717-05-19 19:54 J -29951821.72 -29951821.67 -29951821.62 0.0139 0.0129

Saturn -86717-07-12 15:06 J -29951767.96 -29951767.87 -29951767.77 0.0288 0.0236

Uranus -86717-08-15 23:30 J -29951733.59 -29951733.52 -29951733.43 0.0140 0.0112

Saturn -86717-10-09 12:27 J -29951679.14 -29951678.98 -29951678.81 0.0288 0.0097

Uranus -86717-11-12 03:35 J -29951645.45 -29951645.35 -29951645.25 0.0140 0.0094

Saturn -86716-01-06 09:35 J -29951590.27 -29951590.10 -29951589.93 0.0288 0.0041

Uranus -86716-02-08 07:11 J -29951557.31 -29951557.20 -29951557.08 0.0140 0.0077

Saturn -86716-04-05 05:59 J -29951501.38 -29951501.25 -29951501.11 0.0288 0.0176

Uranus -86716-05-07 11:01 J -29951469.16 -29951469.04 -29951468.91 0.0140 0.0059

Uranus -86716-08-03 14:51 J -29951381.01 -29951380.88 -29951380.74 0.0140 0.0042

Neptune -86716-09-19 11:59 J -29951334.01 -29951334.00 -29951333.97 0.0088 0.0088

Uranus -86716-10-30 18:56 J -29951292.85 -29951292.71 -29951292.57 0.0140 0.0023

Neptune -86716-12-16 15:20 J -29951245.92 -29951245.86 -29951245.78 0.0088 0.0082

Uranus -86715-01-26 23:01 J -29951204.69 -29951204.54 -29951204.40 0.0140 0.0006

Neptune -86715-03-14 18:42 J -29951157.81 -29951157.72 -29951157.62 0.0088 0.0076

Uranus -86715-04-25 02:51 J -29951116.52 -29951116.38 -29951116.24 0.0141 0.0014

Neptune -86715-06-10 22:03 J -29951069.69 -29951069.58 -29951069.46 0.0088 0.0070

Uranus -86715-07-22 06:56 J -29951028.35 -29951028.21 -29951028.07 0.0141 0.0033

Neptune -86715-09-07 01:25 J -29950981.56 -29950981.44 -29950981.30 0.0088 0.0064

Uranus -86715-10-18 10:47 J -29950940.18 -29950940.05 -29950939.91 0.0141 0.0052

Neptune -86715-12-04 05:01 J -29950893.43 -29950893.29 -29950893.15 0.0088 0.0058

Uranus -86714-01-14 14:51 J -29950852.00 -29950851.88 -29950851.75 0.0141 0.0071

Neptune -86714-03-02 08:23 J -29950805.30 -29950805.15 -29950805.00 0.0088 0.0052

Uranus -86714-04-12 18:56 J -29950763.81 -29950763.71 -29950763.59 0.0141 0.0090

Neptune -86714-05-29 11:15 J -29950717.17 -29950717.03 -29950716.86 0.0088 0.0046

Uranus -86714-07-09 23:01 J -29950675.62 -29950675.54 -29950675.44 0.0141 0.0110

Neptune -86714-08-25 14:37 J -29950629.04 -29950628.89 -29950628.71 0.0088 0.0040

Uranus -86714-10-06 03:20 J -29950587.41 -29950587.36 -29950587.30 0.0142 0.0129

Neptune -86714-11-21 17:59 J -29950540.91 -29950540.75 -29950540.57 0.0088 0.0034

Neptune -86713-02-17 21:20 J -29950452.78 -29950452.61 -29950452.43 0.0088 0.0028

Neptune -86713-05-16 00:42 J -29950364.65 -29950364.47 -29950364.29 0.0088 0.0022

Neptune -86713-08-12 04:03 J -29950276.51 -29950276.33 -29950276.15 0.0088 0.0016

Neptune -86713-11-08 07:11 J -29950188.38 -29950188.20 -29950188.01 0.0088 0.0011

Jupiter -86713-11-09 11:44 J -29950187.18 -29950187.01 -29950186.84 0.0495 0.0080

Neptune -86712-02-04 10:32 J -29950100.25 -29950100.06 -29950099.87 0.0088 0.0005

Jupiter -86712-02-07 13:54 J -29950097.01 -29950096.92 -29950096.82 0.0498 0.0413

Neptune -86712-05-03 13:39 J -29950012.11 -29950011.93 -29950011.74 0.0088 0.0003

Venus -86712-06-13 16:47 J -29949970.91 -29949970.80 -29949970.69 0.3767 0.0864

Neptune -86712-07-30 17:01 J -29949923.98 -29949923.79 -29949923.61 0.0088 0.0007

Neptune -86712-10-26 20:08 J -29949835.84 -29949835.66 -29949835.47 0.0088 0.0013

Neptune -86711-01-22 23:15 J -29949747.70 -29949747.53 -29949747.34 0.0088 0.0019

Neptune -86711-04-21 02:23 J -29949659.57 -29949659.40 -29949659.21 0.0088 0.0024

Neptune -86711-07-18 05:44 J -29949571.43 -29949571.26 -29949571.09 0.0088 0.0030

Neptune -86711-10-14 08:51 J -29949483.29 -29949483.13 -29949482.96 0.0088 0.0036

Mars -86711-10-21 00:56 J -29949476.58 -29949476.46 -29949476.34 0.1871 0.1054

Neptune -86710-01-10 11:44 J -29949395.16 -29949395.01 -29949394.83 0.0088 0.0042

Moon -86710-02-17 06:56 J -29949357.31 -29949357.21 -29949357.10 0.2748 0.1256

Earth -86710-02-17 07:11 J -29949357.31 -29949357.20 -29949357.10 0.2755 0.1198 *

Neptune -86710-04-08 14:51 J -29949307.02 -29949306.88 -29949306.71 0.0088 0.0047

Neptune -86710-07-05 18:13 J -29949218.88 -29949218.74 -29949218.59 0.0088 0.0053

Mars -86710-08-13 22:32 J -29949179.68 -29949179.56 -29949179.44 0.1677 0.0413

Neptune -86710-10-01 21:06 J -29949130.74 -29949130.62 -29949130.47 0.0088 0.0059

Neptune -86710-12-29 00:27 J -29949042.60 -29949042.48 -29949042.35 0.0088 0.0064

Neptune -86709-03-26 03:20 J -29948954.46 -29948954.36 -29948954.24 0.0088 0.0070

Neptune -86709-06-22 06:42 J -29948866.31 -29948866.22 -29948866.12 0.0088 0.0075

Neptune -86709-09-18 09:20 J -29948778.16 -29948778.11 -29948778.02 0.0088 0.0081

Neptune -86709-12-15 12:42 J -29948690.00 -29948689.97 -29948689.92 0.0088 0.0086

Jupiter -86707-04-02 19:39 J -29948216.74 -29948216.68 -29948216.62 0.0536 0.0467

Jupiter -86707-07-01 04:47 J -29948127.44 -29948127.30 -29948127.17 0.0533 0.0016

Moon -86707-08-26 02:23 J -29948071.51 -29948071.40 -29948071.29 0.2591 0.1636

Earth -86707-08-26 02:51 J -29948071.49 -29948071.38 -29948071.27 0.2585 0.1623 *

Jupiter -86707-09-28 14:37 J -29948037.96 -29948037.89 -29948037.82 0.0529 0.0449

Venus -86707-12-28 11:30 J -29947947.13 -29947947.02 -29947946.91 0.3763 0.0059

Venus -86703-12-27 11:01 J -29946487.13 -29946487.04 -29946486.95 0.3605 0.2660

Saturn -86702-01-28 22:18 J -29946454.67 -29946454.57 -29946454.47 0.0271 0.0184

Saturn -86702-04-27 09:49 J -29946366.21 -29946366.09 -29946365.95 0.0271 0.0096

Saturn -86702-07-24 21:49 J -29946277.73 -29946277.59 -29946277.45 0.0271 0.0009

Saturn -86702-10-21 09:35 J -29946189.23 -29946189.10 -29946188.96 0.0271 0.0087

Saturn -86701-01-17 21:49 J -29946100.70 -29946100.59 -29946100.48 0.0271 0.0180

Mars -86701-03-12 01:25 J -29946046.59 -29946046.44 -29946046.29 0.1863 0.0008

Venus -86701-07-13 06:42 J -29945923.34 -29945923.22 -29945923.11 0.3760 0.0787

Jupiter -86701-08-28 10:32 J -29945877.22 -29945877.06 -29945876.89 0.0494 0.0204

Jupiter -86701-11-26 13:25 J -29945787.08 -29945786.94 -29945786.80 0.0497 0.0292

Mars -86700-01-03 07:39 J -29945749.28 -29945749.18 -29945749.07 0.1684 0.0963

Mars -86699-12-09 19:25 J -29945043.76 -29945043.69 -29945043.61 0.1660 0.1318

Moon -86697-02-20 02:23 J -29944606.51 -29944606.40 -29944606.28 0.2748 0.0245

Earth -86697-02-20 03:06 J -29944606.49 -29944606.37 -29944606.26 0.2754 0.0234 *

Venus -86697-07-12 11:15 J -29944463.15 -29944463.03 -29944462.90 0.3609 0.1530

Venus -86695-01-27 01:54 J -29943899.52 -29943899.42 -29943899.32 0.3756 0.1627

Jupiter -86695-04-19 08:08 J -29943817.29 -29943817.16 -29943817.03 0.0533 0.0125

Jupiter -86695-07-17 17:44 J -29943727.86 -29943727.76 -29943727.65 0.0530 0.0335

Mars -86692-08-02 01:25 J -29942616.56 -29942616.44 -29942616.32 0.1855 0.1087

Venus -86691-01-26 11:15 J -29942439.16 -29942439.03 -29942438.90 0.3613 0.0436

Mars -86691-05-26 17:01 J -29942318.84 -29942318.79 -29942318.73 0.1690 0.1507

Venus -86690-08-12 21:35 J -29941875.69 -29941875.60 -29941875.52 0.3752 0.2513

Pluto -86689-01-18 12:42 J -29941717.00 -29941716.97 -29941716.94 0.0085 0.0082

Pluto -86689-04-15 13:54 J -29941628.99 -29941628.92 -29941628.84 0.0085 0.0070

Mars -86689-05-01 04:32 J -29941613.43 -29941613.31 -29941613.20 0.1666 0.0768

Jupiter -86689-06-16 09:49 J -29941567.22 -29941567.09 -29941566.96 0.0494 0.0324

Pluto -86689-07-12 15:06 J -29941540.96 -29941540.87 -29941540.76 0.0084 0.0058

Jupiter -86689-09-14 12:56 J -29941477.12 -29941476.96 -29941476.80 0.0496 0.0174

Pluto -86689-10-08 16:32 J -29941452.92 -29941452.81 -29941452.70 0.0084 0.0046

Pluto -86688-01-04 17:44 J -29941364.87 -29941364.76 -29941364.63 0.0084 0.0034

Pluto -86688-04-02 19:11 J -29941276.83 -29941276.70 -29941276.57 0.0084 0.0021

Pluto -86688-06-29 20:23 J -29941188.78 -29941188.65 -29941188.51 0.0084 0.0010

Pluto -86688-09-25 21:49 J -29941100.73 -29941100.59 -29941100.46 0.0084 0.0003

Saturn -86688-11-29 12:42 J -29941035.98 -29941035.97 -29941035.94 0.0288 0.0285

Pluto -86688-12-22 23:01 J -29941012.67 -29941012.54 -29941012.41 0.0084 0.0014

Saturn -86687-02-26 10:18 J -29940947.21 -29940947.07 -29940946.91 0.0288 0.0144

Pluto -86687-03-21 00:13 J -29940924.61 -29940924.49 -29940924.36 0.0084 0.0026

Saturn -86687-05-26 07:39 J -29940858.35 -29940858.18 -29940858.01 0.0288 0.0005

Pluto -86687-06-17 01:25 J -29940836.55 -29940836.44 -29940836.32 0.0083 0.0037

Moon -86687-08-21 04:18 J -29940771.42 -29940771.32 -29940771.21 0.2582 0.1736

Earth -86687-08-21 05:44 J -29940771.38 -29940771.26 -29940771.14 0.2582 0.1515 *

Saturn -86687-08-23 04:18 J -29940769.47 -29940769.32 -29940769.17 0.0289 0.0131

Pluto -86687-09-13 02:51 J -29940748.49 -29940748.38 -29940748.28 0.0083 0.0049

Saturn -86687-11-20 00:42 J -29940680.53 -29940680.47 -29940680.40 0.0289 0.0264

Pluto -86687-12-10 03:49 J -29940660.42 -29940660.34 -29940660.24 0.0083 0.0060

Pluto -86686-03-08 05:15 J -29940572.35 -29940572.28 -29940572.22 0.0083 0.0071

Pluto -86686-06-04 06:13 J -29940484.24 -29940484.24 -29940484.22 0.0083 0.0083

Venus -86686-08-12 10:47 J -29940415.18 -29940415.05 -29940414.92 0.3617 0.0615

Moon -86684-02-21 22:18 J -29939855.67 -29939855.57 -29939855.48 0.2752 0.1503

Earth -86684-02-21 23:01 J -29939855.63 -29939855.54 -29939855.44 0.2752 0.1688 *

Venus -86684-02-25 17:15 J -29939851.82 -29939851.78 -29939851.73 0.3747 0.3410

Jupiter -86683-02-05 10:32 J -29939507.17 -29939507.06 -29939506.94 0.0534 0.0251

Jupiter -86683-05-05 20:08 J -29939417.78 -29939417.66 -29939417.54 0.0531 0.0208

Venus -86680-02-25 09:49 J -29938391.21 -29938391.09 -29938390.98 0.3621 0.1618

Mars -86680-09-21 13:39 J -29938183.06 -29938182.93 -29938182.81 0.1671 0.0221

Uranus -86678-07-18 09:49 J -29937518.14 -29937518.09 -29937518.02 0.0139 0.0132

Uranus -86678-10-14 16:32 J -29937429.91 -29937429.81 -29937429.69 0.0139 0.0108

Venus -86678-11-20 13:25 J -29937392.96 -29937392.94 -29937392.92 0.3780 0.3668

Uranus -86677-01-10 23:15 J -29937341.66 -29937341.53 -29937341.38 0.0139 0.0085

Earth -86677-02-15 16:32 J -29937305.87 -29937305.81 -29937305.75 0.2756 0.2301

Moon -86677-02-15 17:01 J -29937305.86 -29937305.79 -29937305.73 0.2751 0.2247 *

Jupiter -86677-04-04 08:37 J -29937257.21 -29937257.14 -29937257.06 0.0493 0.0446

Uranus -86677-04-08 05:59 J -29937253.40 -29937253.25 -29937253.08 0.0139 0.0062

Jupiter -86677-07-03 12:13 J -29937167.16 -29937166.99 -29937166.82 0.0495 0.0054

Uranus -86677-07-05 12:42 J -29937165.14 -29937164.97 -29937164.80 0.0139 0.0039

Uranus -86677-10-01 19:11 J -29937076.87 -29937076.70 -29937076.52 0.0138 0.0017

Uranus -86677-12-29 01:39 J -29936988.61 -29936988.43 -29936988.25 0.0138 0.0006

Uranus -86676-03-27 07:54 J -29936900.34 -29936900.17 -29936899.99 0.0138 0.0028

Uranus -86676-06-23 14:23 J -29936812.06 -29936811.90 -29936811.74 0.0138 0.0049

Uranus -86676-09-19 20:37 J -29936723.79 -29936723.64 -29936723.49 0.0138 0.0071

Uranus -86676-12-17 02:37 J -29936635.51 -29936635.39 -29936635.25 0.0138 0.0093

Uranus -86675-03-15 08:37 J -29936547.22 -29936547.14 -29936547.03 0.0138 0.0114

Uranus -86675-06-11 14:37 J -29936458.90 -29936458.89 -29936458.83 0.0137 0.0135

Venus -86675-09-11 08:23 J -29936367.24 -29936367.15 -29936367.06 0.3625 0.2583

Moon -86674-08-24 06:27 J -29936020.37 -29936020.23 -29936020.09 0.2589 0.0255

Earth -86674-08-24 07:25 J -29936020.34 -29936020.19 -29936020.05 0.2584 0.0262 *

Saturn -86673-06-17 01:25 J -29935722.53 -29935722.44 -29935722.35 0.0271 0.0203

Saturn -86673-09-13 12:56 J -29935634.08 -29935633.96 -29935633.83 0.0271 0.0114

Saturn -86673-12-11 00:42 J -29935545.61 -29935545.47 -29935545.33 0.0271 0.0025

Saturn -86672-03-09 12:42 J -29935457.11 -29935456.97 -29935456.83 0.0271 0.0068

Venus -86672-06-05 07:25 J -29935369.25 -29935369.19 -29935369.12 0.3776 0.2949

Saturn -86672-06-06 00:42 J -29935368.58 -29935368.47 -29935368.35 0.0270 0.0160

Saturn -86672-09-02 13:11 J -29935280.00 -29935279.95 -29935279.91 0.0270 0.0254

Jupiter -86672-11-24 14:08 J -29935197.01 -29935196.91 -29935196.82 0.0535 0.0363

Jupiter -86671-02-21 23:15 J -29935107.66 -29935107.53 -29935107.39 0.0532 0.0095

Mars -86671-04-21 01:25 J -29935049.55 -29935049.44 -29935049.32 0.1872 0.1174

Mars -86670-02-11 22:47 J -29934752.68 -29934752.55 -29934752.43 0.1677 0.0338

Venus -86669-03-27 06:42 J -29934343.25 -29934343.22 -29934343.19 0.3629 0.3498

Venus -86667-12-20 01:39 J -29933345.51 -29933345.43 -29933345.34 0.3773 0.2212

Jupiter -86665-04-21 10:32 J -29932857.23 -29932857.06 -29932856.88 0.0495 0.0075

Jupiter -86665-07-20 12:56 J -29932767.05 -29932766.96 -29932766.87 0.0497 0.0418

Moon -86664-02-17 11:59 J -29932555.11 -29932555.00 -29932554.89 0.2747 0.0886

Earth -86664-02-17 12:13 J -29932555.10 -29932554.99 -29932554.88 0.2755 0.0906 *

Mars -86662-09-11 01:54 J -29931619.57 -29931619.42 -29931619.27 0.1863 0.0110

Mars -86661-07-04 07:54 J -29931322.28 -29931322.17 -29931322.06 0.1683 0.0882

Venus -86661-07-04 20:08 J -29931321.76 -29931321.66 -29931321.55 0.3770 0.1452

Moon -86661-08-26 08:23 J -29931269.25 -29931269.15 -29931269.06 0.2591 0.1900

Earth -86661-08-26 08:37 J -29931269.23 -29931269.14 -29931269.05 0.2585 0.1982 *

Jupiter -86660-09-12 17:59 J -29930886.81 -29930886.75 -29930886.69 0.0536 0.0470

Jupiter -86660-12-11 03:06 J -29930797.50 -29930797.37 -29930797.24 0.0533 0.0015

Jupiter -86659-03-10 12:56 J -29930708.03 -29930707.96 -29930707.89 0.0530 0.0447

Mars -86659-06-09 19:39 J -29930616.75 -29930616.68 -29930616.61 0.1660 0.1397

Saturn -86658-07-16 08:51 J -29930215.25 -29930215.13 -29930214.99 0.0288 0.0189

Saturn -86658-10-13 06:13 J -29930126.41 -29930126.24 -29930126.07 0.0288 0.0050

Saturn -86657-01-10 03:06 J -29930037.53 -29930037.37 -29930037.20 0.0288 0.0087

Saturn -86657-04-07 23:15 J -29929948.62 -29929948.53 -29929948.41 0.0289 0.0222

Venus -86655-01-18 14:51 J -29929297.99 -29929297.88 -29929297.76 0.3766 0.0670

Jupiter -86653-02-08 09:35 J -29928547.26 -29928547.10 -29928546.94 0.0494 0.0196

Jupiter -86653-05-08 12:13 J -29928457.12 -29928456.99 -29928456.85 0.0497 0.0299

Mars -86652-01-31 02:08 J -29928189.54 -29928189.41 -29928189.28 0.1856 0.0958

Mars -86652-11-24 17:01 J -29927891.85 -29927891.79 -29927891.72 0.1690 0.1436

Venus -86651-01-17 10:18 J -29927838.10 -29927838.07 -29927838.05 0.3603 0.3534

Moon -86651-02-20 07:25 J -29927804.31 -29927804.19 -29927804.07 0.2750 0.0378

Earth -86651-02-20 08:08 J -29927804.27 -29927804.16 -29927804.05 0.2753 0.0522 *

Venus -86650-08-04 09:49 J -29927274.20 -29927274.09 -29927273.97 0.3762 0.0184

Mars -86650-10-31 04:32 J -29927186.42 -29927186.31 -29927186.20 0.1665 0.0849

Jupiter -86648-09-29 06:56 J -29926487.34 -29926487.21 -29926487.08 0.0534 0.0123

Jupiter -86648-12-27 16:32 J -29926397.91 -29926397.81 -29926397.71 0.0530 0.0337

Venus -86646-08-03 11:01 J -29925814.15 -29925814.04 -29925813.94 0.3606 0.2365

Venus -86644-02-17 05:01 J -29925250.40 -29925250.29 -29925250.18 0.3758 0.0999

Saturn -86644-11-04 02:23 J -29924990.46 -29924990.40 -29924990.33 0.0271 0.0238

Saturn -86643-01-31 13:54 J -29924902.03 -29924901.92 -29924901.80 0.0271 0.0150

Saturn -86643-04-30 01:39 J -29924813.57 -29924813.43 -29924813.30 0.0271 0.0061

Saturn -86643-07-27 13:25 J -29924725.08 -29924724.94 -29924724.80 0.0271 0.0030

Saturn -86643-10-24 01:25 J -29924636.57 -29924636.44 -29924636.31 0.0271 0.0122

Saturn -86642-01-20 13:39 J -29924548.02 -29924547.93 -29924547.85 0.0271 0.0216

Jupiter -86642-11-27 08:23 J -29924237.28 -29924237.15 -29924237.02 0.0494 0.0321

Jupiter -86641-02-25 11:30 J -29924147.18 -29924147.02 -29924146.86 0.0496 0.0178

Moon -86641-08-21 10:18 J -29923969.19 -29923969.07 -29923968.94 0.2583 0.1214

Earth -86641-08-21 11:44 J -29923969.14 -29923969.01 -29923968.88 0.2583 0.1142 *

Venus -86640-02-16 11:01 J -29923790.16 -29923790.04 -29923789.91 0.3610 0.1241

Mars -86640-03-22 13:39 J -29923756.06 -29923755.93 -29923755.80 0.1671 0.0294

Venus -86639-09-03 00:27 J -29923226.58 -29923226.48 -29923226.38 0.3754 0.1862

Moon -86638-02-23 03:20 J -29923053.44 -29923053.36 -29923053.28 0.2752 0.1948

Earth -86638-02-23 04:18 J -29923053.40 -29923053.32 -29923053.24 0.2752 0.1981 *

Jupiter -86636-07-18 10:18 J -29922177.18 -29922177.07 -29922176.95 0.0534 0.0234

Jupiter -86636-10-15 19:54 J -29922087.79 -29922087.67 -29922087.55 0.0531 0.0224

Venus -86635-09-02 11:01 J -29921766.18 -29921766.04 -29921765.91 0.3614 0.0182

Neptune -86634-03-24 09:49 J -29921563.11 -29921563.09 -29921563.05 0.0089 0.0086

Neptune -86634-06-20 11:01 J -29921475.07 -29921475.04 -29921474.97 0.0089 0.0082

Neptune -86634-09-16 12:42 J -29921387.03 -29921386.97 -29921386.90 0.0089 0.0077

Neptune -86634-12-13 14:08 J -29921298.98 -29921298.91 -29921298.83 0.0089 0.0073

Neptune -86633-03-10 15:35 J -29921210.93 -29921210.85 -29921210.76 0.0089 0.0069

Uranus -86633-03-13 00:13 J -29921208.49 -29921208.49 -29921208.48 0.0139 0.0139

Venus -86633-03-18 20:08 J -29921202.74 -29921202.66 -29921202.59 0.3750 0.2752

Neptune -86633-06-06 16:47 J -29921122.88 -29921122.80 -29921122.70 0.0089 0.0065

Uranus -86633-06-09 04:03 J -29921120.40 -29921120.33 -29921120.27 0.0139 0.0122

Neptune -86633-09-02 18:13 J -29921034.83 -29921034.74 -29921034.63 0.0089 0.0061

Uranus -86633-09-05 07:39 J -29921032.27 -29921032.18 -29921032.09 0.0140 0.0105

Neptune -86633-11-29 19:54 J -29920946.77 -29920946.67 -29920946.57 0.0089 0.0056

Uranus -86633-12-02 11:30 J -29920944.13 -29920944.02 -29920943.91 0.0140 0.0087

Neptune -86632-02-25 21:20 J -29920858.72 -29920858.61 -29920858.50 0.0089 0.0052

Uranus -86632-02-28 15:06 J -29920855.98 -29920855.87 -29920855.74 0.0140 0.0070

Neptune -86632-05-24 22:32 J -29920770.66 -29920770.56 -29920770.44 0.0089 0.0048

Uranus -86632-05-27 19:11 J -29920767.83 -29920767.70 -29920767.57 0.0140 0.0052

Neptune -86632-08-20 23:59 J -29920682.61 -29920682.50 -29920682.37 0.0089 0.0044

Uranus -86632-08-23 23:01 J -29920679.68 -29920679.54 -29920679.40 0.0140 0.0034

Mars -86632-10-20 01:54 J -29920622.53 -29920622.42 -29920622.32 0.1871 0.1281

Neptune -86632-11-17 01:39 J -29920594.55 -29920594.43 -29920594.31 0.0089 0.0039

Uranus -86632-11-20 02:51 J -29920591.52 -29920591.38 -29920591.24 0.0140 0.0016

Neptune -86631-02-13 03:06 J -29920506.49 -29920506.37 -29920506.24 0.0089 0.0035

Earth -86631-02-15 21:35 J -29920503.68 -29920503.60 -29920503.52 0.2756 0.2016

Moon -86631-02-15 21:49 J -29920503.67 -29920503.59 -29920503.51 0.2749 0.1992 *

Uranus -86631-02-16 06:56 J -29920503.35 -29920503.21 -29920503.07 0.0140 0.0003

Neptune -86631-05-12 04:32 J -29920418.44 -29920418.31 -29920418.18 0.0089 0.0031

Uranus -86631-05-15 10:47 J -29920415.19 -29920415.05 -29920414.91 0.0141 0.0022

Neptune -86631-08-08 05:59 J -29920330.38 -29920330.25 -29920330.12 0.0089 0.0026

Uranus -86631-08-11 14:51 J -29920327.01 -29920326.88 -29920326.74 0.0141 0.0040

Mars -86631-08-12 22:47 J -29920325.67 -29920325.55 -29920325.42 0.1677 0.0258

Neptune -86631-11-04 07:25 J -29920242.32 -29920242.19 -29920242.06 0.0089 0.0022

Uranus -86631-11-07 18:56 J -29920238.84 -29920238.71 -29920238.58 0.0141 0.0059

Neptune -86630-01-31 08:51 J -29920154.26 -29920154.13 -29920153.99 0.0089 0.0018

Uranus -86630-02-03 22:47 J -29920150.66 -29920150.55 -29920150.42 0.0141 0.0078

Neptune -86630-04-29 10:18 J -29920066.20 -29920066.07 -29920065.93 0.0089 0.0014

Uranus -86630-05-03 02:51 J -29920062.47 -29920062.38 -29920062.27 0.0141 0.0098

Neptune -86630-07-26 11:44 J -29919978.14 -29919978.01 -29919977.87 0.0089 0.0010

Uranus -86630-07-30 07:11 J -29919974.27 -29919974.20 -29919974.12 0.0141 0.0117

Jupiter -86630-09-15 07:25 J -29919927.26 -29919927.19 -29919927.11 0.0493 0.0441

Neptune -86630-10-22 13:25 J -29919890.08 -29919889.94 -29919889.81 0.0089 0.0005

Uranus -86630-10-26 11:30 J -29919886.06 -29919886.02 -29919885.98 0.0142 0.0136

Jupiter -86630-12-14 11:01 J -29919837.21 -29919837.04 -29919836.87 0.0496 0.0060

Neptune -86629-01-18 14:51 J -29919802.02 -29919801.88 -29919801.74 0.0089 0.0001

Venus -86629-03-18 10:18 J -29919742.20 -29919742.07 -29919741.94 0.3618 0.0884

Neptune -86629-04-15 16:18 J -29919713.96 -29919713.82 -29919713.68 0.0089 0.0004

Neptune -86629-07-12 17:44 J -29919625.89 -29919625.76 -29919625.62 0.0089 0.0009

Neptune -86629-10-08 19:11 J -29919537.83 -29919537.70 -29919537.56 0.0089 0.0013

Saturn -86629-12-02 05:59 J -29919483.33 -29919483.25 -29919483.15 0.0288 0.0241

Neptune -86628-01-04 20:51 J -29919449.77 -29919449.63 -29919449.50 0.0089 0.0017

Saturn -86628-03-01 03:35 J -29919394.51 -29919394.35 -29919394.18 0.0288 0.0101

Neptune -86628-04-02 22:03 J -29919361.70 -29919361.58 -29919361.44 0.0089 0.0022

Saturn -86628-05-29 00:42 J -29919305.64 -29919305.47 -29919305.30 0.0289 0.0038

Neptune -86628-06-29 23:44 J -29919273.64 -29919273.51 -29919273.37 0.0089 0.0026

Moon -86628-08-24 12:27 J -29919218.12 -29919217.98 -29919217.84 0.2589 0.0457

Earth -86628-08-24 13:11 J -29919218.09 -29919217.95 -29919217.81 0.2584 0.0632 *

Saturn -86628-08-25 21:20 J -29919216.74 -29919216.61 -29919216.47 0.0289 0.0174

Neptune -86628-09-26 01:11 J -29919185.57 -29919185.45 -29919185.31 0.0089 0.0031

Venus -86628-10-02 16:03 J -29919178.85 -29919178.83 -29919178.81 0.3746 0.3661

Neptune -86628-12-23 02:37 J -29919097.51 -29919097.39 -29919097.25 0.0089 0.0035

Neptune -86627-03-21 04:18 J -29919009.44 -29919009.32 -29919009.19 0.0089 0.0039

Neptune -86627-06-17 05:44 J -29918921.37 -29918921.26 -29918921.13 0.0089 0.0044

Neptune -86627-09-13 07:25 J -29918833.31 -29918833.19 -29918833.07 0.0089 0.0048

Neptune -86627-12-10 08:51 J -29918745.24 -29918745.13 -29918745.01 0.0089 0.0053

Neptune -86626-03-08 10:32 J -29918657.17 -29918657.06 -29918656.95 0.0089 0.0057

Neptune -86626-06-04 11:44 J -29918569.10 -29918569.01 -29918568.90 0.0089 0.0062

Neptune -86626-08-31 13:39 J -29918481.02 -29918480.93 -29918480.84 0.0089 0.0066

Neptune -86626-11-27 14:51 J -29918392.95 -29918392.88 -29918392.78 0.0089 0.0071

Neptune -86625-02-23 16:47 J -29918304.87 -29918304.80 -29918304.73 0.0089 0.0075

Neptune -86625-05-21 17:59 J -29918216.79 -29918216.75 -29918216.67 0.0089 0.0080

Neptune -86625-08-17 19:54 J -29918128.71 -29918128.67 -29918128.63 0.0089 0.0084

Neptune -86625-11-13 21:35 J -29918040.60 -29918040.60 -29918040.60 0.0089 0.0089

Jupiter -86624-05-06 12:56 J -29917867.06 -29917866.96 -29917866.86 0.0535 0.0358

Jupiter -86624-08-03 22:18 J -29917777.71 -29917777.57 -29917777.44 0.0532 0.0099

Venus -86624-10-02 09:06 J -29917718.23 -29917718.12 -29917718.00 0.3622 0.1883

Mars -86622-03-12 02:23 J -29917192.55 -29917192.40 -29917192.26 0.1864 0.0226

Mars -86621-01-03 08:08 J -29916895.27 -29916895.16 -29916895.05 0.1683 0.0806

Venus -86621-06-26 11:30 J -29916720.06 -29916720.02 -29916719.98 0.3779 0.3489

Mars -86620-12-08 19:54 J -29916189.73 -29916189.67 -29916189.62 0.1660 0.1481

Moon -86618-02-18 17:01 J -29915752.90 -29915752.79 -29915752.67 0.2748 0.0665

Earth -86618-02-18 17:15 J -29915752.89 -29915752.78 -29915752.66 0.2755 0.0615 *

Venus -86618-04-18 07:54 J -29915694.25 -29915694.17 -29915694.09 0.3626 0.2833

Jupiter -86618-10-02 10:18 J -29915527.25 -29915527.07 -29915526.90 0.0495 0.0062

Jupiter -86618-12-31 12:27 J -29915437.06 -29915436.98 -29915436.89 0.0498 0.0431

Venus -86615-01-10 05:44 J -29914696.34 -29914696.26 -29914696.19 0.3775 0.2765

Earth -86615-08-27 14:23 J -29914466.96 -29914466.90 -29914466.84 0.2585 0.2337

Moon -86615-08-27 14:23 J -29914466.94 -29914466.90 -29914466.85 0.2591 0.2427 *

Saturn -86614-03-24 05:30 J -29914258.31 -29914258.27 -29914258.23 0.0271 0.0257

Saturn -86614-06-20 17:01 J -29914169.90 -29914169.79 -29914169.68 0.0271 0.0169

Saturn -86614-09-17 04:32 J -29914081.44 -29914081.31 -29914081.17 0.0271 0.0080

Saturn -86614-12-14 16:32 J -29913992.95 -29913992.81 -29913992.67 0.0271 0.0013

Saturn -86613-03-12 04:18 J -29913904.45 -29913904.32 -29913904.18 0.0270 0.0104

Saturn -86613-06-08 16:32 J -29913815.91 -29913815.81 -29913815.71 0.0270 0.0196

Mars -86613-08-01 02:37 J -29913762.52 -29913762.39 -29913762.26 0.1856 0.0842

Jupiter -86612-02-22 16:18 J -29913556.88 -29913556.82 -29913556.76 0.0536 0.0471

Jupiter -86612-05-23 01:25 J -29913467.57 -29913467.44 -29913467.31 0.0533 0.0018

Mars -86612-05-25 17:15 J -29913464.85 -29913464.78 -29913464.71 0.1689 0.1361

Jupiter -86612-08-20 11:15 J -29913378.10 -29913378.03 -29913377.96 0.0530 0.0444

Mars -86610-05-01 04:47 J -29912759.41 -29912759.30 -29912759.20 0.1665 0.0926

Venus -86610-07-26 23:59 J -29912672.59 -29912672.50 -29912672.41 0.3772 0.2012

Earth -86608-08-19 15:49 J -29911917.84 -29911917.84 -29911917.84 0.2582 0.2582

Jupiter -86606-07-21 08:23 J -29911217.31 -29911217.15 -29911216.98 0.0494 0.0189

Jupiter -86606-10-19 11:01 J -29911127.17 -29911127.04 -29911126.90 0.0497 0.0306

Moon -86605-02-21 12:27 J -29911002.09 -29911001.98 -29911001.87 0.2750 0.0770

Earth -86605-02-21 13:11 J -29911002.06 -29911001.95 -29911001.84 0.2753 0.0825 *

Venus -86604-02-08 18:27 J -29910648.83 -29910648.73 -29910648.62 0.3769 0.1249

Mars -86601-09-20 13:54 J -29909329.05 -29909328.92 -29909328.80 0.1671 0.0378

Jupiter -86600-03-11 05:15 J -29909157.41 -29909157.28 -29909157.16 0.0534 0.0127

Jupiter -86600-06-08 14:51 J -29909067.98 -29909067.88 -29909067.78 0.0531 0.0335

Saturn -86599-04-21 05:15 J -29908751.31 -29908751.28 -29908751.26 0.0288 0.0284

Saturn -86599-07-19 02:37 J -29908662.53 -29908662.39 -29908662.23 0.0288 0.0143

Venus -86599-08-25 13:25 J -29908625.06 -29908624.94 -29908624.83 0.3765 0.0453

Saturn -86599-10-15 23:59 J -29908573.67 -29908573.50 -29908573.33 0.0289 0.0005

Saturn -86598-01-12 20:37 J -29908484.79 -29908484.64 -29908484.49 0.0289 0.0133

Saturn -86598-04-11 17:01 J -29908395.85 -29908395.79 -29908395.73 0.0289 0.0266

Moon -86595-08-22 16:18 J -29907166.95 -29907166.82 -29907166.68 0.2585 0.0926

Earth -86595-08-22 17:30 J -29907166.91 -29907166.77 -29907166.63 0.2583 0.0773 *

Venus -86595-08-24 10:18 J -29907165.13 -29907165.07 -29907165.01 0.3604 0.3225

Jupiter -86594-05-09 07:11 J -29906907.33 -29906907.20 -29906907.06 0.0493 0.0313

Jupiter -86594-08-07 10:18 J -29906817.23 -29906817.07 -29906816.91 0.0496 0.0185

Uranus -86594-08-07 17:01 J -29906816.85 -29906816.79 -29906816.70 0.0139 0.0126

Uranus -86594-11-04 00:13 J -29906728.61 -29906728.49 -29906728.37 0.0139 0.0102

Uranus -86593-01-31 06:56 J -29906640.36 -29906640.21 -29906640.07 0.0139 0.0079

Venus -86593-03-10 08:23 J -29906601.27 -29906601.15 -29906601.04 0.3761 0.0389

Uranus -86593-04-28 13:25 J -29906552.10 -29906551.94 -29906551.77 0.0139 0.0056

Uranus -86593-07-25 20:08 J -29906463.83 -29906463.66 -29906463.49 0.0139 0.0034

Uranus -86593-10-22 02:37 J -29906375.57 -29906375.39 -29906375.21 0.0138 0.0011

Uranus -86592-01-18 09:06 J -29906287.30 -29906287.12 -29906286.94 0.0138 0.0011

Moon -86592-02-23 08:37 J -29906251.22 -29906251.14 -29906251.07 0.2753 0.2112

Earth -86592-02-23 09:20 J -29906251.17 -29906251.11 -29906251.05 0.2751 0.2280 *

Uranus -86592-04-16 15:20 J -29906199.03 -29906198.86 -29906198.68 0.0138 0.0033

Mars -86592-04-20 02:23 J -29906195.50 -29906195.40 -29906195.31 0.1872 0.1397

Uranus -86592-07-13 21:35 J -29906110.75 -29906110.60 -29906110.43 0.0138 0.0055

Uranus -86592-10-10 03:49 J -29906022.48 -29906022.34 -29906022.18 0.0138 0.0077

Uranus -86591-01-06 10:03 J -29905934.19 -29905934.08 -29905933.95 0.0138 0.0098

Mars -86591-02-10 23:01 J -29905898.67 -29905898.54 -29905898.42 0.1677 0.0180

Uranus -86591-04-04 16:18 J -29905845.90 -29905845.82 -29905845.73 0.0138 0.0119

Venus -86589-03-09 10:47 J -29905141.16 -29905141.05 -29905140.94 0.3607 0.2065

Jupiter -86589-12-28 09:06 J -29904847.24 -29904847.12 -29904847.01 0.0534 0.0233

Jupiter -86588-03-27 18:27 J -29904757.85 -29904757.73 -29904757.61 0.0531 0.0226

Venus -86588-09-24 03:35 J -29904577.46 -29904577.35 -29904577.24 0.3757 0.1228

Earth -86585-02-17 02:37 J -29903701.48 -29903701.39 -29903701.30 0.2756 0.1733

Moon -86585-02-17 02:51 J -29903701.47 -29903701.38 -29903701.29 0.2748 0.1663 *

Saturn -86585-11-06 17:59 J -29903437.84 -29903437.75 -29903437.66 0.0271 0.0204

Saturn -86584-02-03 05:30 J -29903349.39 -29903349.27 -29903349.14 0.0271 0.0115

Saturn -86584-05-02 17:15 J -29903260.92 -29903260.78 -29903260.64 0.0271 0.0025

Saturn -86584-07-30 05:15 J -29903172.42 -29903172.28 -29903172.15 0.0271 0.0067

Venus -86584-09-23 10:47 J -29903117.17 -29903117.05 -29903116.92 0.3611 0.0955

Saturn -86584-10-26 17:15 J -29903083.90 -29903083.78 -29903083.67 0.0270 0.0159

Saturn -86583-01-23 05:15 J -29902995.32 -29902995.28 -29902995.22 0.0270 0.0253

Mars -86583-09-10 02:51 J -29902765.53 -29902765.38 -29902765.23 0.1864 0.0342

Jupiter -86582-02-25 05:59 J -29902597.33 -29902597.25 -29902597.17 0.0493 0.0437

Venus -86582-04-09 23:01 J -29902553.63 -29902553.54 -29902553.45 0.3753 0.2102

Jupiter -86582-05-26 09:20 J -29902507.28 -29902507.11 -29902506.93 0.0496 0.0064

Mars -86582-07-04 08:08 J -29902468.27 -29902468.16 -29902468.05 0.1683 0.0731

Moon -86582-08-25 18:13 J -29902415.87 -29902415.74 -29902415.61 0.2589 0.0987

Earth -86582-08-25 19:11 J -29902415.84 -29902415.70 -29902415.57 0.2584 0.0988 *

Mars -86580-06-08 19:54 J -29901762.71 -29901762.67 -29901762.63 0.1659 0.1557

Venus -86578-04-09 10:32 J -29901093.19 -29901093.06 -29901092.92 0.3615 0.0152

Jupiter -86577-10-16 12:42 J -29900537.07 -29900536.97 -29900536.87 0.0535 0.0343

Venus -86577-10-23 18:42 J -29900529.79 -29900529.72 -29900529.65 0.3749 0.2996

Jupiter -86576-01-13 21:49 J -29900447.72 -29900447.59 -29900447.46 0.0532 0.0115

Mars -86573-01-31 02:51 J -29899335.51 -29899335.38 -29899335.24 0.1856 0.0740

Venus -86573-10-23 09:49 J -29899069.21 -29899069.09 -29899068.97 0.3619 0.1151

Mars -86573-11-23 17:30 J -29899037.85 -29899037.77 -29899037.69 0.1689 0.1281

Moon -86572-02-18 22:03 J -29898950.70 -29898950.58 -29898950.47 0.2748 0.0369

Earth -86572-02-18 22:18 J -29898950.68 -29898950.57 -29898950.45 0.2754 0.0337 *

Mars -86571-10-30 04:47 J -29898332.40 -29898332.30 -29898332.19 0.1665 0.1010

Jupiter -86570-03-14 08:51 J -29898197.30 -29898197.13 -29898196.95 0.0495 0.0056

Jupiter -86570-06-12 11:15 J -29898107.11 -29898107.03 -29898106.95 0.0498 0.0437

Saturn -86570-12-05 23:30 J -29897930.64 -29897930.52 -29897930.39 0.0288 0.0197

Saturn -86569-03-03 21:06 J -29897841.79 -29897841.62 -29897841.45 0.0288 0.0056

Saturn -86569-05-31 17:59 J -29897752.91 -29897752.75 -29897752.58 0.0289 0.0082

Saturn -86569-08-28 14:23 J -29897664.00 -29897663.90 -29897663.78 0.0289 0.0217

Venus -86567-05-09 08:37 J -29897045.24 -29897045.14 -29897045.04 0.3623 0.2137

Jupiter -86565-08-04 15:06 J -29896226.93 -29896226.87 -29896226.80 0.0535 0.0467

Jupiter -86565-11-02 00:13 J -29896137.62 -29896137.49 -29896137.35 0.0533 0.0023

Jupiter -86564-01-30 10:03 J -29896048.14 -29896048.08 -29896048.00 0.0530 0.0448

Venus -86564-01-31 09:35 J -29896047.15 -29896047.10 -29896047.05 0.3778 0.3308

Mars -86564-06-22 03:06 J -29895905.40 -29895905.37 -29895905.34 0.1848 0.1805

Moon -86562-08-20 20:23 J -29895115.71 -29895115.65 -29895115.59 0.2580 0.2299

Earth -86562-08-20 21:35 J -29895115.67 -29895115.60 -29895115.52 0.2582 0.2208 *

Venus -86562-11-23 07:11 J -29895021.27 -29895021.20 -29895021.14 0.3627 0.3080

Mars -86561-03-21 13:54 J -29894902.04 -29894901.92 -29894901.79 0.1671 0.0461

Moon -86559-02-21 17:30 J -29894199.88 -29894199.77 -29894199.66 0.2750 0.0975

Earth -86559-02-21 18:27 J -29894199.84 -29894199.73 -29894199.63 0.2753 0.1123 *

Venus -86559-08-17 03:49 J -29894023.42 -29894023.34 -29894023.26 0.3774 0.2571

Jupiter -86559-12-31 07:54 J -29893887.33 -29893887.17 -29893887.00 0.0494 0.0177

Jupiter -86558-03-31 10:32 J -29893797.18 -29893797.06 -29893796.92 0.0497 0.0319

Saturn -86555-03-26 21:06 J -29892705.69 -29892705.62 -29892705.54 0.0271 0.0223

Saturn -86555-06-23 08:37 J -29892617.26 -29892617.14 -29892617.02 0.0271 0.0135

Saturn -86555-09-19 20:23 J -29892528.79 -29892528.65 -29892528.51 0.0271 0.0045

Saturn -86555-12-17 08:08 J -29892440.30 -29892440.16 -29892440.02 0.0271 0.0047

Saturn -86554-03-15 20:08 J -29892351.78 -29892351.66 -29892351.54 0.0270 0.0139

Saturn -86554-06-12 08:23 J -29892263.22 -29892263.15 -29892263.08 0.0270 0.0233

Venus -86553-03-01 22:18 J -29891999.67 -29891999.57 -29891999.47 0.3771 0.1813

Jupiter -86553-08-21 03:35 J -29891827.48 -29891827.35 -29891827.22 0.0534 0.0127

Mars -86553-10-19 02:51 J -29891768.46 -29891768.38 -29891768.29 0.1872 0.1523

Jupiter -86553-11-18 13:11 J -29891738.05 -29891737.95 -29891737.84 0.0531 0.0332

Moon -86552-02-14 12:42 J -29891649.99 -29891649.97 -29891649.95 0.2752 0.2688

Mars -86552-08-11 23:01 J -29891471.66 -29891471.54 -29891471.41 0.1677 0.0102

Neptune -86551-06-16 09:49 J -29891163.12 -29891163.09 -29891163.05 0.0088 0.0087

Neptune -86551-09-12 12:42 J -29891075.02 -29891074.97 -29891074.87 0.0088 0.0082

Neptune -86551-12-09 16:03 J -29890986.90 -29890986.83 -29890986.71 0.0088 0.0076

Neptune -86550-03-07 19:39 J -29890898.78 -29890898.68 -29890898.55 0.0088 0.0069

Neptune -86550-06-03 23:01 J -29890810.66 -29890810.54 -29890810.39 0.0088 0.0063

Neptune -86550-08-31 02:23 J -29890722.53 -29890722.40 -29890722.24 0.0088 0.0057

Neptune -86550-11-27 05:44 J -29890634.40 -29890634.26 -29890634.09 0.0088 0.0052

Neptune -86549-02-23 09:06 J -29890546.27 -29890546.12 -29890545.95 0.0088 0.0046

Uranus -86549-04-02 08:08 J -29890507.20 -29890507.16 -29890507.12 0.0139 0.0133

Neptune -86549-05-21 12:27 J -29890458.14 -29890457.98 -29890457.80 0.0088 0.0040

Uranus -86549-06-29 11:44 J -29890419.08 -29890419.01 -29890418.93 0.0139 0.0116

Neptune -86549-08-17 15:49 J -29890370.01 -29890369.84 -29890369.66 0.0088 0.0034

Moon -86549-08-22 22:18 J -29890364.71 -29890364.57 -29890364.43 0.2587 0.0519

Earth -86549-08-22 23:30 J -29890364.66 -29890364.52 -29890364.38 0.2583 0.0401 *

Uranus -86549-09-25 15:20 J -29890330.95 -29890330.86 -29890330.75 0.0140 0.0099

Neptune -86549-11-13 19:11 J -29890281.87 -29890281.70 -29890281.52 0.0088 0.0028

Uranus -86549-12-22 19:11 J -29890242.80 -29890242.70 -29890242.58 0.0140 0.0081

Neptune -86548-02-09 22:32 J -29890193.74 -29890193.56 -29890193.38 0.0088 0.0022

Uranus -86548-03-20 23:15 J -29890154.66 -29890154.53 -29890154.41 0.0140 0.0063

Neptune -86548-05-09 01:54 J -29890105.61 -29890105.42 -29890105.24 0.0088 0.0016

Uranus -86548-06-17 03:06 J -29890066.50 -29890066.37 -29890066.24 0.0140 0.0045

Neptune -86548-08-05 05:01 J -29890017.47 -29890017.29 -29890017.10 0.0088 0.0010

Uranus -86548-09-13 06:56 J -29889978.35 -29889978.21 -29889978.07 0.0140 0.0027

Venus -86548-09-15 16:47 J -29889975.90 -29889975.80 -29889975.69 0.3768 0.1044

Neptune -86548-11-01 08:23 J -29889929.34 -29889929.15 -29889928.96 0.0088 0.0004

Uranus -86548-12-10 10:47 J -29889890.19 -29889890.05 -29889889.91 0.0140 0.0009

Neptune -86547-01-28 11:30 J -29889841.20 -29889841.02 -29889840.83 0.0088 0.0003

Uranus -86547-03-08 14:51 J -29889802.02 -29889801.88 -29889801.74 0.0140 0.0010

Neptune -86547-04-26 14:51 J -29889753.07 -29889752.88 -29889752.70 0.0088 0.0008

Uranus -86547-06-04 18:42 J -29889713.86 -29889713.72 -29889713.58 0.0141 0.0028

Neptune -86547-07-23 17:59 J -29889664.93 -29889664.75 -29889664.56 0.0088 0.0014

Uranus -86547-08-31 22:47 J -29889625.68 -29889625.55 -29889625.42 0.0141 0.0047

Jupiter -86547-10-19 06:13 J -29889577.38 -29889577.24 -29889577.10 0.0493 0.0305

Neptune -86547-10-19 21:06 J -29889576.79 -29889576.62 -29889576.43 0.0088 0.0019

Uranus -86547-11-28 02:37 J -29889537.51 -29889537.39 -29889537.26 0.0141 0.0066

Neptune -86546-01-16 00:13 J -29889488.66 -29889488.49 -29889488.30 0.0088 0.0025

Jupiter -86546-01-17 09:20 J -29889487.27 -29889487.11 -29889486.95 0.0496 0.0192

Uranus -86546-02-24 06:56 J -29889449.32 -29889449.21 -29889449.10 0.0141 0.0085

Moon -86546-02-24 13:39 J -29889448.96 -29889448.93 -29889448.89 0.2755 0.2566

Earth -86546-02-24 14:37 J -29889448.93 -29889448.89 -29889448.86 0.2751 0.2588 *

Neptune -86546-04-14 03:35 J -29889400.52 -29889400.35 -29889400.18 0.0088 0.0031

Uranus -86546-05-23 10:47 J -29889361.13 -29889361.05 -29889360.94 0.0141 0.0104

Neptune -86546-07-11 06:42 J -29889312.38 -29889312.22 -29889312.05 0.0088 0.0036

Uranus -86546-08-19 15:06 J -29889272.93 -29889272.87 -29889272.80 0.0141 0.0123

Neptune -86546-10-07 09:35 J -29889224.24 -29889224.10 -29889223.92 0.0088 0.0043

Neptune -86545-01-03 13:11 J -29889136.11 -29889135.95 -29889135.80 0.0088 0.0048

Neptune -86545-03-31 16:03 J -29889047.97 -29889047.83 -29889047.68 0.0088 0.0054

Neptune -86545-06-27 18:56 J -29888959.83 -29888959.71 -29888959.56 0.0088 0.0060

Neptune -86545-09-23 22:18 J -29888871.68 -29888871.57 -29888871.44 0.0088 0.0065

Neptune -86545-12-21 01:11 J -29888783.54 -29888783.45 -29888783.32 0.0088 0.0071

Neptune -86544-03-19 04:47 J -29888695.39 -29888695.30 -29888695.21 0.0088 0.0076

Neptune -86544-06-15 07:25 J -29888607.24 -29888607.19 -29888607.11 0.0088 0.0082

Neptune -86544-09-11 10:47 J -29888519.08 -29888519.05 -29888519.02 0.0088 0.0087

Mars -86543-03-11 03:20 J -29888338.51 -29888338.36 -29888338.22 0.1864 0.0454

Mars -86542-01-02 08:08 J -29888041.27 -29888041.16 -29888041.04 0.1683 0.0654

Venus -86542-04-01 11:44 J -29887952.12 -29887952.01 -29887951.90 0.3764 0.0226

Jupiter -86541-06-09 07:11 J -29887517.31 -29887517.20 -29887517.08 0.0535 0.0237

Jupiter -86541-09-06 16:47 J -29887427.92 -29887427.80 -29887427.68 0.0532 0.0222

Mars -86541-12-07 20:08 J -29887335.68 -29887335.66 -29887335.65 0.1659 0.1639

Saturn -86540-04-23 23:01 J -29887198.63 -29887198.54 -29887198.44 0.0288 0.0236

Saturn -86540-07-21 20:37 J -29887109.81 -29887109.64 -29887109.48 0.0289 0.0096

Saturn -86540-10-18 17:30 J -29887020.93 -29887020.77 -29887020.59 0.0289 0.0044

Saturn -86539-01-15 14:08 J -29886932.04 -29886931.91 -29886931.77 0.0289 0.0179

Earth -86539-02-17 07:39 J -29886899.28 -29886899.18 -29886899.08 0.2755 0.1447

Moon -86539-02-17 07:54 J -29886899.27 -29886899.17 -29886899.08 0.2748 0.1472 *

Venus -86538-03-31 10:18 J -29886492.15 -29886492.07 -29886492.00 0.3605 0.2921

Venus -86537-10-15 06:42 J -29885928.33 -29885928.22 -29885928.11 0.3760 0.0611

Pluto -86537-11-07 23:15 J -29885904.58 -29885904.53 -29885904.45 0.0060 0.0057

Pluto -86536-02-04 00:27 J -29885816.56 -29885816.48 -29885816.35 0.0060 0.0051

Pluto -86536-05-03 01:54 J -29885728.53 -29885728.42 -29885728.26 0.0060 0.0045

Pluto -86536-07-30 03:35 J -29885640.49 -29885640.35 -29885640.19 0.0060 0.0038

Moon -86536-08-26 00:27 J -29885613.60 -29885613.48 -29885613.36 0.2590 0.1244

Earth -86536-08-26 00:56 J -29885613.58 -29885613.46 -29885613.34 0.2584 0.1351 *

Pluto -86536-10-26 05:01 J -29885552.44 -29885552.29 -29885552.11 0.0060 0.0032

Pluto -86535-01-22 06:42 J -29885464.39 -29885464.22 -29885464.04 0.0061 0.0025

Pluto -86535-04-20 08:08 J -29885376.34 -29885376.16 -29885375.97 0.0061 0.0019

Pluto -86535-07-17 09:20 J -29885288.28 -29885288.11 -29885287.90 0.0061 0.0013

Jupiter -86535-08-07 04:47 J -29885267.38 -29885267.30 -29885267.21 0.0493 0.0429

Pluto -86535-10-13 11:01 J -29885200.23 -29885200.04 -29885199.84 0.0061 0.0006

Jupiter -86535-11-05 08:23 J -29885177.33 -29885177.15 -29885176.98 0.0495 0.0070

Pluto -86534-01-09 12:42 J -29885112.17 -29885111.97 -29885111.78 0.0061 0.0001

Pluto -86534-04-07 14:08 J -29885024.10 -29885023.91 -29885023.72 0.0061 0.0007

Pluto -86534-07-04 15:20 J -29884936.04 -29884935.86 -29884935.66 0.0061 0.0014

Mars -86534-08-01 03:35 J -29884908.49 -29884908.35 -29884908.21 0.1856 0.0612

Pluto -86534-09-30 17:01 J -29884847.97 -29884847.79 -29884847.60 0.0061 0.0020

Pluto -86534-12-27 18:27 J -29884759.90 -29884759.73 -29884759.55 0.0061 0.0027

Pluto -86533-03-24 19:39 J -29884671.82 -29884671.68 -29884671.50 0.0061 0.0034

Mars -86533-05-24 17:30 J -29884610.86 -29884610.77 -29884610.69 0.1689 0.1207

Pluto -86533-06-20 21:20 J -29884583.74 -29884583.61 -29884583.45 0.0061 0.0041

Pluto -86533-09-16 22:47 J -29884495.66 -29884495.55 -29884495.41 0.0061 0.0047

Venus -86533-10-14 10:32 J -29884468.17 -29884468.06 -29884467.94 0.3608 0.1771

Pluto -86533-12-13 23:59 J -29884407.56 -29884407.50 -29884407.38 0.0061 0.0055

Pluto -86532-03-12 01:54 J -29884319.43 -29884319.42 -29884319.38 0.0061 0.0061

Mars -86531-04-30 05:01 J -29883905.39 -29883905.29 -29883905.19 0.1665 0.1086

Venus -86531-05-01 01:54 J -29883904.52 -29883904.42 -29883904.31 0.3756 0.1465

Jupiter -86529-03-28 11:15 J -29883207.13 -29883207.03 -29883206.93 0.0535 0.0343

Jupiter -86529-06-25 20:23 J -29883117.78 -29883117.65 -29883117.52 0.0532 0.0115

Venus -86527-04-30 10:32 J -29882444.19 -29882444.06 -29882443.93 0.3612 0.0665

Moon -86526-02-20 02:51 J -29882148.50 -29882148.38 -29882148.26 0.2749 0.0076

Earth -86526-02-20 03:35 J -29882148.47 -29882148.35 -29882148.24 0.2754 0.0114 *

Saturn -86526-08-13 22:18 J -29881973.61 -29881973.57 -29881973.52 0.0271 0.0256

Saturn -86526-11-10 09:49 J -29881885.19 -29881885.09 -29881884.98 0.0271 0.0168

Venus -86526-11-14 21:35 J -29881880.69 -29881880.60 -29881880.51 0.3752 0.2336

Saturn -86525-02-06 21:35 J -29881796.74 -29881796.60 -29881796.47 0.0271 0.0079

Saturn -86525-05-05 09:20 J -29881708.25 -29881708.11 -29881707.97 0.0271 0.0015

Saturn -86525-08-01 21:06 J -29881619.75 -29881619.62 -29881619.49 0.0270 0.0104

Saturn -86525-10-29 09:20 J -29881531.21 -29881531.11 -29881531.02 0.0270 0.0197

Mars -86525-12-21 03:35 J -29881478.40 -29881478.35 -29881478.29 0.1848 0.1688

Jupiter -86523-08-24 07:11 J -29880867.37 -29880867.20 -29880867.02 0.0495 0.0054

Jupiter -86523-11-22 09:35 J -29880777.18 -29880777.10 -29880777.02 0.0498 0.0438

Mars -86522-09-20 14:08 J -29880475.03 -29880474.91 -29880474.79 0.1671 0.0534

Venus -86522-11-14 10:03 J -29880420.21 -29880420.08 -29880419.94 0.3616 0.0415

Venus -86520-05-30 17:15 J -29879856.83 -29879856.78 -29879856.72 0.3748 0.3243

Jupiter -86517-01-15 14:51 J -29878896.95 -29878896.88 -29878896.81 0.0536 0.0452

Jupiter -86517-04-13 23:59 J -29878807.63 -29878807.50 -29878807.37 0.0533 0.0004

Jupiter -86517-07-12 09:49 J -29878718.15 -29878718.09 -29878718.03 0.0530 0.0463

Venus -86516-05-30 09:06 J -29878396.24 -29878396.12 -29878396.00 0.3620 0.1415

Moon -86516-08-21 02:23 J -29878313.49 -29878313.40 -29878313.31 0.2582 0.2014

Earth -86516-08-21 03:35 J -29878313.45 -29878313.35 -29878313.24 0.2582 0.1822 *

Moon -86513-02-22 22:32 J -29877397.66 -29877397.56 -29877397.45 0.2750 0.1343

Earth -86513-02-22 23:30 J -29877397.62 -29877397.52 -29877397.42 0.2752 0.1416 *

Mars -86513-04-19 03:06 J -29877341.44 -29877341.37 -29877341.30 0.1872 0.1618

Mars -86512-02-09 23:15 J -29877044.66 -29877044.53 -29877044.41 0.1677 0.0033

Jupiter -86511-06-12 06:42 J -29876557.39 -29876557.22 -29876557.06 0.0494 0.0173

Jupiter -86511-09-10 09:20 J -29876467.24 -29876467.11 -29876466.98 0.0497 0.0323

Saturn -86511-12-08 17:30 J -29876377.92 -29876377.77 -29876377.62 0.0288 0.0149

Venus -86511-12-14 07:54 J -29876372.26 -29876372.17 -29876372.07 0.3624 0.2395

Saturn -86510-03-07 14:37 J -29876289.06 -29876288.89 -29876288.71 0.0288 0.0013

Saturn -86510-06-04 11:30 J -29876200.17 -29876200.02 -29876199.86 0.0289 0.0128

Uranus -86510-08-28 01:25 J -29876115.53 -29876115.44 -29876115.35 0.0139 0.0119

Saturn -86510-09-01 07:54 J -29876111.23 -29876111.17 -29876111.10 0.0289 0.0261

Uranus -86510-11-24 08:08 J -29876027.29 -29876027.16 -29876027.03 0.0139 0.0095

Uranus -86509-02-20 14:51 J -29875939.03 -29875938.88 -29875938.73 0.0139 0.0072

Uranus -86509-05-18 21:20 J -29875850.77 -29875850.61 -29875850.44 0.0139 0.0049

Uranus -86509-08-15 04:03 J -29875762.51 -29875762.33 -29875762.16 0.0139 0.0026

Uranus -86509-11-11 10:32 J -29875674.24 -29875674.06 -29875673.88 0.0138 0.0004

Uranus -86508-02-07 17:01 J -29875585.97 -29875585.79 -29875585.62 0.0138 0.0018

Uranus -86508-05-06 23:15 J -29875497.69 -29875497.53 -29875497.36 0.0138 0.0040

Uranus -86508-08-03 05:30 J -29875409.42 -29875409.27 -29875409.11 0.0138 0.0062

Venus -86508-09-07 07:54 J -29875374.23 -29875374.17 -29875374.11 0.3777 0.3125

Uranus -86508-10-30 11:59 J -29875321.14 -29875321.00 -29875320.86 0.0138 0.0083

Uranus -86507-01-26 17:44 J -29875232.86 -29875232.76 -29875232.63 0.0138 0.0105

Uranus -86507-04-24 23:59 J -29875144.56 -29875144.50 -29875144.42 0.0138 0.0126

Earth -86506-02-15 17:01 J -29874847.83 -29874847.79 -29874847.75 0.2756 0.2545

Moon -86506-02-15 17:30 J -29874847.81 -29874847.77 -29874847.73 0.2750 0.2547 *

Jupiter -86505-02-01 02:23 J -29874497.53 -29874497.40 -29874497.27 0.0533 0.0123

Jupiter -86505-04-30 11:59 J -29874408.10 -29874408.00 -29874407.89 0.0530 0.0336

Venus -86505-06-29 06:13 J -29874348.29 -29874348.24 -29874348.19 0.3628 0.3317

Mars -86504-09-09 03:49 J -29873911.48 -29873911.34 -29873911.20 0.1865 0.0570

Mars -86503-07-03 08:23 J -29873614.27 -29873614.15 -29873614.03 0.1682 0.0572

Moon -86503-08-24 04:18 J -29873562.47 -29873562.32 -29873562.18 0.2587 0.0169

Earth -86503-08-24 05:30 J -29873562.42 -29873562.27 -29873562.13 0.2583 0.0078 *

Venus -86502-03-24 02:08 J -29873350.50 -29873350.41 -29873350.33 0.3774 0.2379

Jupiter -86499-03-31 05:30 J -29872247.41 -29872247.27 -29872247.13 0.0494 0.0294

Jupiter -86499-06-29 08:37 J -29872157.30 -29872157.14 -29872156.98 0.0496 0.0204

Venus -86497-10-06 20:37 J -29871326.74 -29871326.64 -29871326.54 0.3770 0.1618

Saturn -86496-03-29 12:56 J -29871153.06 -29871152.96 -29871152.86 0.0271 0.0188

Saturn -86496-06-26 00:27 J -29871064.61 -29871064.48 -29871064.35 0.0271 0.0099

Saturn -86496-09-22 12:13 J -29870976.13 -29870975.99 -29870975.85 0.0271 0.0008

Saturn -86496-12-20 00:13 J -29870887.63 -29870887.49 -29870887.36 0.0271 0.0084

Saturn -86495-03-18 12:13 J -29870799.10 -29870798.99 -29870798.88 0.0271 0.0177

Mars -86494-01-30 04:18 J -29870481.47 -29870481.32 -29870481.18 0.1856 0.0489

Jupiter -86494-11-20 05:44 J -29870187.38 -29870187.26 -29870187.14 0.0534 0.0238

Mars -86494-11-23 17:30 J -29870183.86 -29870183.77 -29870183.68 0.1689 0.1130

Jupiter -86493-02-17 15:06 J -29870097.99 -29870097.87 -29870097.75 0.0531 0.0220

Moon -86493-02-18 12:42 J -29870097.07 -29870096.97 -29870096.86 0.2748 0.1093

Earth -86493-02-18 12:42 J -29870097.07 -29870096.97 -29870096.86 0.2755 0.1158 *

Mars -86492-10-29 05:15 J -29869478.37 -29869478.28 -29869478.19 0.1664 0.1169

Venus -86491-04-22 15:06 J -29869302.98 -29869302.87 -29869302.76 0.3767 0.0835

Moon -86490-08-27 06:27 J -29868811.33 -29868811.23 -29868811.12 0.2591 0.1720

Earth -86490-08-27 06:56 J -29868811.32 -29868811.21 -29868811.11 0.2585 0.1710 *

Jupiter -86487-01-17 03:35 J -29867937.44 -29867937.35 -29867937.26 0.0493 0.0423

Jupiter -86487-04-17 06:56 J -29867847.38 -29867847.21 -29867847.03 0.0495 0.0077

Venus -86486-11-06 10:03 J -29867279.19 -29867279.08 -29867278.97 0.3763 0.0018

Mars -86485-06-21 04:03 J -29867051.41 -29867051.33 -29867051.25 0.1848 0.1578

Mars -86484-04-15 02:51 J -29866753.39 -29866753.38 -29866753.37 0.1695 0.1686

Mars -86482-03-21 14:08 J -29866048.03 -29866047.91 -29866047.79 0.1670 0.0612

Jupiter -86482-09-08 09:20 J -29865877.21 -29865877.11 -29865877.01 0.0535 0.0348

Venus -86482-11-05 10:03 J -29865819.17 -29865819.08 -29865818.99 0.3606 0.2618

Jupiter -86482-12-06 18:42 J -29865787.85 -29865787.72 -29865787.59 0.0532 0.0110

Saturn -86481-04-26 17:30 J -29865645.90 -29865645.77 -29865645.63 0.0288 0.0185

Saturn -86481-07-24 14:51 J -29865557.05 -29865556.88 -29865556.71 0.0289 0.0045

Saturn -86481-10-21 11:44 J -29865468.17 -29865468.01 -29865467.84 0.0289 0.0093

Saturn -86480-01-18 08:08 J -29865379.25 -29865379.16 -29865379.05 0.0289 0.0228

Moon -86480-02-20 07:54 J -29865346.29 -29865346.17 -29865346.05 0.2748 0.0140

Earth -86480-02-20 08:37 J -29865346.26 -29865346.14 -29865346.03 0.2754 0.0268 *

Venus -86480-05-22 05:15 J -29865255.39 -29865255.28 -29865255.17 0.3759 0.0834

Venus -86476-05-21 10:18 J -29863795.19 -29863795.07 -29863794.95 0.3609 0.1484

Jupiter -86475-02-03 05:59 J -29863537.43 -29863537.25 -29863537.08 0.0495 0.0048

Jupiter -86475-05-04 08:08 J -29863447.23 -29863447.16 -29863447.08 0.0497 0.0443

Venus -86475-12-06 00:27 J -29863231.58 -29863231.48 -29863231.38 0.3755 0.1687

Mars -86474-10-19 03:49 J -29862914.39 -29862914.34 -29862914.29 0.1873 0.1745

Mars -86473-08-10 23:15 J -29862617.65 -29862617.53 -29862617.40 0.1676 0.0062

Venus -86471-12-05 10:18 J -29861771.20 -29861771.07 -29861770.94 0.3613 0.0385

Jupiter -86470-06-27 13:11 J -29861567.01 -29861566.95 -29861566.88 0.0536 0.0455

Moon -86470-08-22 08:08 J -29861511.27 -29861511.16 -29861511.04 0.2583 0.1501

Earth -86470-08-22 09:35 J -29861511.22 -29861511.10 -29861510.98 0.2583 0.1444 *

Jupiter -86470-09-24 22:18 J -29861477.70 -29861477.57 -29861477.44 0.0533 0.0007

Neptune -86470-12-19 09:06 J -29861392.15 -29861392.12 -29861392.09 0.0089 0.0085

Jupiter -86470-12-23 08:08 J -29861388.22 -29861388.16 -29861388.09 0.0530 0.0461

Neptune -86469-03-16 10:18 J -29861304.11 -29861304.07 -29861304.01 0.0089 0.0081

Neptune -86469-06-12 11:44 J -29861216.07 -29861216.01 -29861215.94 0.0089 0.0077

Venus -86469-06-20 20:08 J -29861207.75 -29861207.66 -29861207.58 0.3751 0.2577

Neptune -86469-09-08 13:11 J -29861128.02 -29861127.95 -29861127.87 0.0089 0.0073

Neptune -86469-12-05 14:23 J -29861039.97 -29861039.90 -29861039.80 0.0089 0.0069

Neptune -86468-03-03 16:03 J -29860951.92 -29860951.83 -29860951.73 0.0089 0.0064

Neptune -86468-05-30 17:30 J -29860863.86 -29860863.77 -29860863.67 0.0089 0.0060

Neptune -86468-08-26 18:56 J -29860775.81 -29860775.71 -29860775.60 0.0089 0.0056

Neptune -86468-11-22 20:08 J -29860687.76 -29860687.66 -29860687.54 0.0089 0.0052

Neptune -86467-02-18 21:49 J -29860599.70 -29860599.59 -29860599.47 0.0089 0.0047

Moon -86467-02-23 03:49 J -29860595.44 -29860595.34 -29860595.25 0.2752 0.1621

Earth -86467-02-23 04:32 J -29860595.40 -29860595.31 -29860595.22 0.2752 0.1713 *

Neptune -86467-05-17 23:15 J -29860511.65 -29860511.53 -29860511.41 0.0089 0.0043

Neptune -86467-08-14 00:42 J -29860423.59 -29860423.47 -29860423.34 0.0089 0.0039

Saturn -86467-08-16 14:23 J -29860420.97 -29860420.90 -29860420.82 0.0271 0.0219

Neptune -86467-11-10 02:08 J -29860335.53 -29860335.41 -29860335.28 0.0089 0.0034

Saturn -86467-11-13 01:54 J -29860332.54 -29860332.42 -29860332.30 0.0271 0.0130

Neptune -86466-02-06 03:35 J -29860247.47 -29860247.35 -29860247.22 0.0089 0.0030

Saturn -86466-02-09 13:39 J -29860244.07 -29860243.93 -29860243.79 0.0271 0.0040

Neptune -86466-05-05 05:01 J -29860159.42 -29860159.29 -29860159.16 0.0089 0.0026

Saturn -86466-05-09 01:25 J -29860155.58 -29860155.44 -29860155.30 0.0270 0.0051

Neptune -86466-08-01 06:27 J -29860071.36 -29860071.23 -29860071.09 0.0089 0.0022

Saturn -86466-08-05 13:25 J -29860067.06 -29860066.94 -29860066.82 0.0270 0.0143

Neptune -86466-10-28 08:08 J -29859983.30 -29859983.16 -29859983.03 0.0089 0.0017

Saturn -86466-11-02 01:39 J -29859978.50 -29859978.43 -29859978.37 0.0270 0.0237

Neptune -86465-01-24 09:35 J -29859895.24 -29859895.10 -29859894.97 0.0089 0.0013

Neptune -86465-04-21 11:01 J -29859807.18 -29859807.04 -29859806.91 0.0089 0.0009

Uranus -86465-04-22 15:35 J -29859805.89 -29859805.85 -29859805.79 0.0139 0.0127

Venus -86465-06-20 09:35 J -29859747.23 -29859747.10 -29859746.97 0.3617 0.0662

Neptune -86465-07-18 12:27 J -29859719.12 -29859718.98 -29859718.84 0.0089 0.0004

Uranus -86465-07-19 19:25 J -29859717.77 -29859717.69 -29859717.60 0.0139 0.0110

Neptune -86465-10-14 13:54 J -29859631.06 -29859630.92 -29859630.78 0.0089 0.0001

Uranus -86465-10-15 23:15 J -29859629.63 -29859629.53 -29859629.42 0.0140 0.0092

Neptune -86464-01-10 15:20 J -29859542.99 -29859542.86 -29859542.72 0.0089 0.0005

Uranus -86464-01-12 03:06 J -29859541.49 -29859541.37 -29859541.25 0.0140 0.0075

Mars -86464-03-10 04:18 J -29859484.46 -29859484.32 -29859484.18 0.1865 0.0689

Neptune -86464-04-08 16:47 J -29859454.93 -29859454.80 -29859454.66 0.0089 0.0009

Uranus -86464-04-10 06:56 J -29859453.34 -29859453.21 -29859453.08 0.0140 0.0057

Neptune -86464-07-05 18:13 J -29859366.87 -29859366.74 -29859366.60 0.0089 0.0014

Uranus -86464-07-07 10:47 J -29859365.18 -29859365.05 -29859364.92 0.0140 0.0039

Neptune -86464-10-01 19:54 J -29859278.81 -29859278.67 -29859278.54 0.0089 0.0018

Uranus -86464-10-03 14:37 J -29859277.03 -29859276.89 -29859276.75 0.0140 0.0021

Jupiter -86464-11-22 04:32 J -29859227.47 -29859227.31 -29859227.14 0.0494 0.0173

Neptune -86464-12-28 21:20 J -29859190.74 -29859190.61 -29859190.47 0.0089 0.0022

Uranus -86464-12-30 18:27 J -29859188.87 -29859188.73 -29859188.58 0.0140 0.0006

Mars -86463-01-01 08:23 J -29859187.27 -29859187.15 -29859187.03 0.1683 0.0499

Venus -86463-01-04 15:49 J -29859183.88 -29859183.84 -29859183.80 0.3747 0.3488

Jupiter -86463-02-20 07:25 J -29859137.32 -29859137.19 -29859137.06 0.0497 0.0322

Neptune -86463-03-26 22:47 J -29859102.68 -29859102.55 -29859102.41 0.0089 0.0027

Uranus -86463-03-28 22:32 J -29859100.70 -29859100.56 -29859100.42 0.0140 0.0015

Neptune -86463-06-23 00:27 J -29859014.61 -29859014.48 -29859014.35 0.0089 0.0031

Uranus -86463-06-25 02:23 J -29859012.53 -29859012.40 -29859012.26 0.0141 0.0034

Neptune -86463-09-19 01:39 J -29858926.55 -29858926.43 -29858926.29 0.0089 0.0036

Uranus -86463-09-21 06:27 J -29858924.36 -29858924.23 -29858924.10 0.0141 0.0053

Neptune -86463-12-16 03:20 J -29858838.48 -29858838.36 -29858838.23 0.0089 0.0040

Uranus -86463-12-18 10:32 J -29858836.18 -29858836.06 -29858835.94 0.0141 0.0072

Neptune -86462-03-14 04:47 J -29858750.41 -29858750.30 -29858750.17 0.0089 0.0045

Uranus -86462-03-16 14:23 J -29858748.00 -29858747.90 -29858747.78 0.0141 0.0092

Neptune -86462-06-10 06:27 J -29858662.34 -29858662.23 -29858662.11 0.0089 0.0049

Uranus -86462-06-12 18:42 J -29858659.80 -29858659.72 -29858659.63 0.0141 0.0110

Neptune -86462-09-06 07:39 J -29858574.27 -29858574.18 -29858574.05 0.0089 0.0054

Uranus -86462-09-08 22:47 J -29858571.60 -29858571.55 -29858571.49 0.0141 0.0130

Neptune -86462-12-03 09:20 J -29858486.20 -29858486.11 -29858485.99 0.0089 0.0058

Neptune -86461-02-29 11:15 J -29858398.13 -29858398.03 -29858397.94 0.0089 0.0062

Neptune -86461-05-27 12:27 J -29858310.06 -29858309.98 -29858309.88 0.0089 0.0067

Neptune -86461-08-23 14:08 J -29858221.99 -29858221.91 -29858221.82 0.0089 0.0071

Neptune -86461-11-19 15:35 J -29858133.91 -29858133.85 -29858133.77 0.0089 0.0076

Neptune -86460-02-15 17:30 J -29858045.83 -29858045.77 -29858045.72 0.0089 0.0080

Earth -86460-02-15 22:03 J -29858045.64 -29858045.58 -29858045.52 0.2756 0.2265

Moon -86460-02-15 22:32 J -29858045.63 -29858045.56 -29858045.49 0.2750 0.2130 *

Neptune -86460-05-14 18:42 J -29857957.75 -29857957.72 -29857957.67 0.0089 0.0085

Venus -86459-01-04 08:37 J -29857723.25 -29857723.14 -29857723.02 0.3621 0.1674

Jupiter -86458-07-14 01:54 J -29857167.55 -29857167.42 -29857167.29 0.0534 0.0110

Jupiter -86458-10-11 11:30 J -29857078.12 -29857078.02 -29857077.92 0.0530 0.0349

Moon -86457-08-24 10:18 J -29856760.21 -29856760.07 -29856759.93 0.2587 0.0212

Earth -86457-08-24 11:15 J -29856760.17 -29856760.03 -29856759.88 0.2584 0.0352 *

Venus -86457-09-28 11:44 J -29856725.03 -29856725.01 -29856724.98 0.3779 0.3661

Mars -86455-07-31 04:18 J -29856054.46 -29856054.32 -29856054.17 0.1857 0.0395

Mars -86454-05-24 17:44 J -29855756.86 -29855756.76 -29855756.66 0.1689 0.1050

Venus -86454-07-21 07:11 J -29855699.29 -29855699.20 -29855699.11 0.3625 0.2636

Mars -86452-04-29 05:15 J -29855051.36 -29855051.28 -29855051.20 0.1665 0.1247

Jupiter -86452-09-10 03:49 J -29854917.48 -29854917.34 -29854917.19 0.0494 0.0292

Saturn -86452-09-13 14:08 J -29854914.00 -29854913.91 -29854913.81 0.0288 0.0241

Jupiter -86452-12-09 06:56 J -29854827.36 -29854827.21 -29854827.05 0.0496 0.0206

Saturn -86452-12-11 11:44 J -29854825.17 -29854825.01 -29854824.84 0.0288 0.0099

Saturn -86451-03-10 08:51 J -29854736.30 -29854736.13 -29854735.96 0.0288 0.0040

Venus -86451-04-14 05:59 J -29854701.32 -29854701.25 -29854701.18 0.3776 0.2933

Saturn -86451-06-07 05:44 J -29854647.40 -29854647.26 -29854647.13 0.0289 0.0176

Venus -86448-02-03 05:30 J -29853675.29 -29853675.27 -29853675.25 0.3630 0.3560

Moon -86447-02-18 17:30 J -29853294.87 -29853294.77 -29853294.66 0.2748 0.0957

Earth -86447-02-18 17:44 J -29853294.87 -29853294.76 -29853294.65 0.2755 0.0868 *

Jupiter -86446-05-02 04:32 J -29852857.43 -29852857.31 -29852857.19 0.0534 0.0234

Jupiter -86446-07-30 13:54 J -29852768.04 -29852767.92 -29852767.80 0.0531 0.0223

Venus -86446-10-29 00:13 J -29852677.58 -29852677.49 -29852677.40 0.3773 0.2186

Mars -86446-12-21 04:47 J -29852624.39 -29852624.30 -29852624.21 0.1849 0.1450

Mars -86445-10-14 02:51 J -29852326.41 -29852326.38 -29852326.34 0.1695 0.1609

Moon -86444-08-27 12:42 J -29852009.06 -29852008.97 -29852008.89 0.2592 0.2059

Earth -86444-08-27 12:42 J -29852009.05 -29852008.97 -29852008.88 0.2585 0.2073 *

Pluto -86443-03-12 03:20 J -29851812.39 -29851812.36 -29851812.30 0.0085 0.0080

Pluto -86443-06-08 04:47 J -29851724.37 -29851724.30 -29851724.21 0.0085 0.0068

Pluto -86443-09-04 05:59 J -29851636.34 -29851636.25 -29851636.14 0.0084 0.0056

Mars -86443-09-19 14:23 J -29851621.01 -29851620.90 -29851620.78 0.1670 0.0696

Pluto -86443-12-01 07:25 J -29851548.30 -29851548.19 -29851548.07 0.0084 0.0043

Pluto -86442-02-27 08:51 J -29851460.25 -29851460.13 -29851460.00 0.0084 0.0031

Pluto -86442-05-26 10:03 J -29851372.20 -29851372.08 -29851371.94 0.0084 0.0019

Pluto -86442-08-22 11:30 J -29851284.15 -29851284.02 -29851283.89 0.0084 0.0007

Pluto -86442-11-18 12:42 J -29851196.10 -29851195.97 -29851195.83 0.0084 0.0005

Pluto -86441-02-14 13:54 J -29851108.05 -29851107.92 -29851107.78 0.0084 0.0017

Pluto -86441-05-12 15:20 J -29851019.99 -29851019.86 -29851019.74 0.0084 0.0028

Pluto -86441-08-08 16:18 J -29850931.93 -29850931.82 -29850931.69 0.0083 0.0040

Pluto -86441-11-04 17:30 J -29850843.86 -29850843.77 -29850843.65 0.0083 0.0051

Pluto -86440-01-31 18:56 J -29850755.79 -29850755.71 -29850755.62 0.0083 0.0062

Pluto -86440-04-29 19:54 J -29850667.72 -29850667.67 -29850667.60 0.0083 0.0074

Venus -86440-05-13 18:42 J -29850653.82 -29850653.72 -29850653.61 0.3769 0.1418

Jupiter -86440-06-29 02:37 J -29850607.48 -29850607.39 -29850607.29 0.0493 0.0415

Jupiter -86440-09-27 06:13 J -29850517.41 -29850517.24 -29850517.07 0.0496 0.0085

Saturn -86437-01-03 17:30 J -29849688.83 -29849688.77 -29849688.71 0.0271 0.0240

Saturn -86437-04-01 05:01 J -29849600.41 -29849600.29 -29849600.18 0.0271 0.0151

Saturn -86437-06-28 16:32 J -29849511.94 -29849511.81 -29849511.67 0.0271 0.0061

Saturn -86437-09-25 04:18 J -29849423.45 -29849423.32 -29849423.18 0.0271 0.0032

Saturn -86437-12-22 16:18 J -29849334.94 -29849334.82 -29849334.69 0.0271 0.0123

Saturn -86436-03-21 04:32 J -29849246.39 -29849246.31 -29849246.23 0.0271 0.0217

Venus -86435-11-27 13:25 J -29848630.05 -29848629.94 -29848629.83 0.3766 0.0622

Jupiter -86434-02-18 07:39 J -29848547.27 -29848547.18 -29848547.08 0.0535 0.0349

Moon -86434-02-21 12:56 J -29848544.07 -29848543.96 -29848543.84 0.2748 0.0541

Earth -86434-02-21 13:39 J -29848544.04 -29848543.93 -29848543.82 0.2753 0.0560 *

Mars -86434-04-19 04:18 J -29848487.33 -29848487.32 -29848487.31 0.1873 0.1864

Jupiter -86434-05-18 17:01 J -29848457.92 -29848457.79 -29848457.66 0.0532 0.0107

Mars -86433-02-09 23:30 J -29848190.65 -29848190.52 -29848190.40 0.1676 0.0142

Venus -86431-11-26 09:20 J -29847170.14 -29847170.11 -29847170.08 0.3603 0.3495

Venus -86429-06-12 08:23 J -29846606.26 -29846606.15 -29846606.03 0.3762 0.0224

Jupiter -86428-07-16 04:32 J -29846207.49 -29846207.31 -29846207.14 0.0495 0.0044

Jupiter -86428-10-14 06:42 J -29846117.29 -29846117.22 -29846117.14 0.0497 0.0447

Uranus -86426-06-21 01:54 J -29845502.45 -29845502.42 -29845502.38 0.0139 0.0136

Uranus -86426-09-17 08:37 J -29845414.23 -29845414.14 -29845414.03 0.0139 0.0113

Uranus -86426-12-14 15:20 J -29845325.99 -29845325.86 -29845325.71 0.0139 0.0090

Uranus -86425-03-11 22:03 J -29845237.73 -29845237.58 -29845237.41 0.0139 0.0067

Uranus -86425-06-08 04:47 J -29845149.47 -29845149.30 -29845149.13 0.0139 0.0044

Venus -86425-06-11 09:49 J -29845146.19 -29845146.09 -29845145.99 0.3607 0.2328

Uranus -86425-09-04 11:15 J -29845061.20 -29845061.03 -29845060.85 0.0139 0.0022

Mars -86425-09-08 04:47 J -29845057.43 -29845057.30 -29845057.17 0.1865 0.0802

Uranus -86425-12-01 17:59 J -29844972.93 -29844972.75 -29844972.57 0.0138 0.0002

Uranus -86424-02-28 00:27 J -29844884.66 -29844884.48 -29844884.31 0.0138 0.0024

Uranus -86424-05-27 06:42 J -29844796.39 -29844796.22 -29844796.05 0.0138 0.0045

Mars -86424-07-02 08:37 J -29844760.26 -29844760.14 -29844760.02 0.1682 0.0419

Moon -86424-08-22 14:08 J -29844709.03 -29844708.91 -29844708.78 0.2584 0.1299

Earth -86424-08-22 15:35 J -29844708.98 -29844708.85 -29844708.72 0.2583 0.1064 *

Uranus -86424-08-23 12:56 J -29844708.11 -29844707.96 -29844707.80 0.0138 0.0067

Uranus -86424-11-19 18:56 J -29844619.83 -29844619.71 -29844619.56 0.0138 0.0089

Venus -86424-12-27 03:35 J -29844582.46 -29844582.35 -29844582.24 0.3758 0.1051

Uranus -86423-02-16 01:11 J -29844531.54 -29844531.45 -29844531.33 0.0138 0.0110

Uranus -86423-05-15 07:11 J -29844443.24 -29844443.20 -29844443.13 0.0138 0.0131

Jupiter -86423-12-07 11:15 J -29844237.09 -29844237.03 -29844236.96 0.0536 0.0461

Saturn -86422-01-31 14:51 J -29844181.93 -29844181.88 -29844181.82 0.0288 0.0273

Jupiter -86422-03-06 20:23 J -29844147.78 -29844147.65 -29844147.52 0.0533 0.0007

Saturn -86422-04-30 12:27 J -29844093.13 -29844092.98 -29844092.82 0.0289 0.0131

Jupiter -86422-06-04 06:13 J -29844058.31 -29844058.24 -29844058.17 0.0530 0.0455

Saturn -86422-07-28 09:49 J -29844004.26 -29844004.09 -29844003.92 0.0289 0.0010

Saturn -86422-10-25 06:27 J -29843915.37 -29843915.23 -29843915.08 0.0289 0.0146

Saturn -86421-01-22 02:37 J -29843826.42 -29843826.39 -29843826.34 0.0289 0.0280

Moon -86421-02-24 08:51 J -29843793.21 -29843793.13 -29843793.05 0.2754 0.1875

Earth -86421-02-24 09:49 J -29843793.17 -29843793.09 -29843793.02 0.2752 0.2014 *

Venus -86420-12-26 10:03 J -29843122.21 -29843122.08 -29843121.95 0.3611 0.1193

Venus -86418-07-12 23:01 J -29842558.64 -29842558.54 -29842558.44 0.3754 0.1923

Jupiter -86416-05-04 03:06 J -29841897.53 -29841897.37 -29841897.20 0.0494 0.0169

Jupiter -86416-08-02 05:59 J -29841807.38 -29841807.25 -29841807.12 0.0497 0.0326

Mars -86415-01-29 05:01 J -29841627.43 -29841627.29 -29841627.14 0.1857 0.0267

Mars -86415-11-22 17:44 J -29841329.86 -29841329.76 -29841329.66 0.1689 0.0977

Earth -86414-02-17 03:06 J -29841243.45 -29841243.37 -29841243.29 0.2756 0.1981

Moon -86414-02-17 03:35 J -29841243.43 -29841243.35 -29841243.27 0.2750 0.1982 *

Venus -86414-07-12 09:49 J -29841098.22 -29841098.09 -29841097.96 0.3614 0.0120

Mars -86413-10-28 05:30 J -29840624.35 -29840624.27 -29840624.20 0.1664 0.1329

Venus -86412-01-25 18:42 J -29840534.80 -29840534.72 -29840534.65 0.3750 0.2817

Moon -86411-08-25 16:32 J -29839957.95 -29839957.81 -29839957.68 0.2589 0.0691

Earth -86411-08-25 17:15 J -29839957.92 -29839957.78 -29839957.64 0.2584 0.0709 *

Jupiter -86411-12-24 00:13 J -29839837.62 -29839837.49 -29839837.36 0.0534 0.0115

Jupiter -86410-03-23 09:49 J -29839748.19 -29839748.09 -29839747.99 0.0531 0.0345

Venus -86408-01-25 09:06 J -29839074.25 -29839074.12 -29839073.99 0.3618 0.0934

Saturn -86408-05-22 19:25 J -29838956.71 -29838956.69 -29838956.67 0.0271 0.0267

Saturn -86408-08-19 06:42 J -29838868.32 -29838868.22 -29838868.11 0.0271 0.0180

Saturn -86408-11-15 18:13 J -29838779.86 -29838779.74 -29838779.60 0.0271 0.0091

Saturn -86407-02-12 05:59 J -29838691.39 -29838691.25 -29838691.11 0.0271 0.0008

Saturn -86407-05-11 17:59 J -29838602.88 -29838602.75 -29838602.62 0.0270 0.0092

Saturn -86407-08-08 05:59 J -29838514.35 -29838514.25 -29838514.14 0.0270 0.0185

Venus -86407-08-11 14:37 J -29838510.89 -29838510.89 -29838510.89 0.3745 0.3740

Mars -86406-06-21 05:01 J -29838197.39 -29838197.29 -29838197.19 0.1848 0.1346

Mars -86405-04-14 02:51 J -29837899.43 -29837899.38 -29837899.32 0.1695 0.1535

Jupiter -86404-02-20 01:39 J -29837587.57 -29837587.43 -29837587.28 0.0494 0.0294

Jupiter -86404-05-21 05:01 J -29837497.45 -29837497.29 -29837497.14 0.0496 0.0203

Mars -86403-03-20 14:23 J -29837194.01 -29837193.90 -29837193.78 0.1670 0.0773

Venus -86403-08-11 07:54 J -29837050.27 -29837050.17 -29837050.06 0.3622 0.1938

Moon -86401-02-19 22:32 J -29836492.67 -29836492.56 -29836492.45 0.2748 0.0547

Earth -86401-02-19 22:47 J -29836492.66 -29836492.55 -29836492.43 0.2755 0.0585 *

Venus -86400-05-05 10:03 J -29836052.12 -29836052.08 -29836052.04 0.3778 0.3481

Jupiter -86399-10-12 03:49 J -29835527.46 -29835527.34 -29835527.22 0.0534 0.0225

Jupiter -86398-01-09 13:11 J -29835438.07 -29835437.95 -29835437.83 0.0531 0.0234

Moon -86398-08-28 18:27 J -29835206.77 -29835206.73 -29835206.68 0.2592 0.2431

Earth -86398-08-28 18:42 J -29835206.77 -29835206.72 -29835206.68 0.2585 0.2436 *

Venus -86397-02-25 06:27 J -29835026.30 -29835026.23 -29835026.15 0.3626 0.2889

Venus -86395-11-19 04:03 J -29834028.40 -29834028.33 -29834028.25 0.3775 0.2748

Mars -86394-08-10 23:30 J -29833763.64 -29833763.52 -29833763.39 0.1676 0.0225

Saturn -86393-09-16 09:35 J -29833361.23 -29833361.10 -29833360.96 0.0288 0.0184

Jupiter -86393-12-09 00:56 J -29833277.56 -29833277.46 -29833277.37 0.0493 0.0415

Saturn -86393-12-14 06:56 J -29833272.38 -29833272.21 -29833272.03 0.0288 0.0044

Jupiter -86392-03-09 04:18 J -29833187.49 -29833187.32 -29833187.14 0.0496 0.0087

Saturn -86392-03-13 04:03 J -29833183.49 -29833183.33 -29833183.17 0.0288 0.0095

Saturn -86392-06-10 00:27 J -29833094.58 -29833094.48 -29833094.37 0.0288 0.0230

Earth -86391-08-20 19:39 J -29832657.71 -29832657.68 -29832657.65 0.2582 0.2513

Venus -86389-06-03 22:32 J -29832004.66 -29832004.56 -29832004.47 0.3772 0.1988

Moon -86388-02-21 17:59 J -29831741.86 -29831741.75 -29831741.63 0.2750 0.0703

Earth -86388-02-21 18:42 J -29831741.83 -29831741.72 -29831741.61 0.2753 0.0855 *

Jupiter -86387-07-31 06:27 J -29831217.33 -29831217.23 -29831217.13 0.0535 0.0346

Jupiter -86387-10-28 15:35 J -29831127.98 -29831127.85 -29831127.71 0.0532 0.0111

Neptune -86386-03-13 07:39 J -29830992.21 -29830992.18 -29830992.12 0.0088 0.0086

Neptune -86386-06-09 11:15 J -29830904.10 -29830904.03 -29830903.94 0.0088 0.0080

Neptune -86386-09-05 14:37 J -29830815.98 -29830815.89 -29830815.78 0.0088 0.0074

Neptune -86386-12-02 17:59 J -29830727.86 -29830727.75 -29830727.62 0.0088 0.0068

Neptune -86385-02-28 21:20 J -29830639.73 -29830639.61 -29830639.47 0.0088 0.0062

Mars -86385-03-09 05:15 J -29830630.41 -29830630.28 -29830630.16 0.1865 0.0917

Neptune -86385-05-27 00:42 J -29830551.61 -29830551.47 -29830551.31 0.0088 0.0056

Neptune -86385-08-23 04:03 J -29830463.48 -29830463.33 -29830463.17 0.0088 0.0050

Neptune -86385-11-19 07:25 J -29830375.35 -29830375.19 -29830375.02 0.0088 0.0044

Mars -86385-12-31 08:37 J -29830333.26 -29830333.14 -29830333.01 0.1682 0.0343

Neptune -86384-02-15 10:47 J -29830287.21 -29830287.05 -29830286.88 0.0088 0.0038

Neptune -86384-05-14 14:08 J -29830199.08 -29830198.91 -29830198.73 0.0088 0.0032

Neptune -86384-08-10 17:15 J -29830110.95 -29830110.78 -29830110.59 0.0088 0.0026

Neptune -86384-11-06 20:37 J -29830022.81 -29830022.64 -29830022.45 0.0088 0.0020

Venus -86384-12-18 17:01 J -29829980.89 -29829980.79 -29829980.68 0.3768 0.1209

Neptune -86383-02-02 23:59 J -29829934.68 -29829934.50 -29829934.31 0.0088 0.0014

Neptune -86383-05-02 03:20 J -29829846.55 -29829846.36 -29829846.17 0.0088 0.0008

Neptune -86383-07-29 06:27 J -29829758.41 -29829758.23 -29829758.04 0.0088 0.0004

Neptune -86383-10-25 09:49 J -29829670.27 -29829670.09 -29829669.90 0.0088 0.0003

Neptune -86382-01-21 12:56 J -29829582.14 -29829581.96 -29829581.77 0.0088 0.0010

Neptune -86382-04-19 16:03 J -29829494.00 -29829493.83 -29829493.64 0.0088 0.0016

Neptune -86382-07-16 19:25 J -29829405.87 -29829405.69 -29829405.51 0.0088 0.0021

Neptune -86382-10-12 22:32 J -29829317.73 -29829317.56 -29829317.38 0.0088 0.0027

Neptune -86381-01-09 01:39 J -29829229.59 -29829229.43 -29829229.25 0.0088 0.0033

Neptune -86381-04-06 04:47 J -29829141.45 -29829141.30 -29829141.12 0.0088 0.0038

Uranus -86381-05-12 23:01 J -29829104.59 -29829104.54 -29829104.47 0.0139 0.0123

Neptune -86381-07-03 08:08 J -29829053.31 -29829053.16 -29829053.00 0.0088 0.0044

Uranus -86381-08-09 02:51 J -29829016.46 -29829016.38 -29829016.29 0.0139 0.0105

Neptune -86381-09-29 11:15 J -29828965.18 -29828965.03 -29828964.87 0.0088 0.0049

Uranus -86381-11-05 06:42 J -29828928.33 -29828928.22 -29828928.11 0.0140 0.0088

Jupiter -86381-12-26 03:20 J -29828877.53 -29828877.36 -29828877.18 0.0495 0.0037

Neptune -86381-12-26 14:08 J -29828877.04 -29828876.91 -29828876.75 0.0088 0.0056

Uranus -86380-02-01 10:18 J -29828840.18 -29828840.07 -29828839.94 0.0140 0.0071

Neptune -86380-03-24 17:30 J -29828788.89 -29828788.77 -29828788.63 0.0088 0.0061

Jupiter -86380-03-26 05:44 J -29828787.32 -29828787.26 -29828787.19 0.0498 0.0455

Uranus -86380-04-30 14:08 J -29828752.03 -29828751.91 -29828751.77 0.0140 0.0053

Neptune -86380-06-20 20:23 J -29828700.75 -29828700.65 -29828700.51 0.0088 0.0067

Uranus -86380-07-27 18:13 J -29828663.88 -29828663.74 -29828663.61 0.0140 0.0035

Neptune -86380-09-16 23:30 J -29828612.61 -29828612.52 -29828612.40 0.0088 0.0072

Uranus -86380-10-23 22:03 J -29828575.72 -29828575.58 -29828575.44 0.0140 0.0017

Neptune -86380-12-14 02:37 J -29828524.46 -29828524.39 -29828524.29 0.0088 0.0078

Uranus -86379-01-20 01:54 J -29828487.56 -29828487.42 -29828487.28 0.0140 0.0004

Neptune -86379-03-12 05:30 J -29828436.31 -29828436.27 -29828436.19 0.0088 0.0084

Uranus -86379-04-18 05:59 J -29828399.39 -29828399.25 -29828399.11 0.0140 0.0020

Uranus -86379-07-15 09:49 J -29828311.22 -29828311.09 -29828310.95 0.0141 0.0039

Uranus -86379-10-11 13:54 J -29828223.05 -29828222.92 -29828222.79 0.0141 0.0058

Saturn -86378-01-06 09:35 J -29828136.18 -29828136.10 -29828136.00 0.0271 0.0202

Uranus -86378-01-07 17:44 J -29828134.87 -29828134.76 -29828134.63 0.0141 0.0077

Saturn -86378-04-04 21:20 J -29828047.74 -29828047.61 -29828047.49 0.0271 0.0112

Uranus -86378-04-05 21:49 J -29828046.68 -29828046.59 -29828046.47 0.0141 0.0096

Saturn -86378-07-02 09:06 J -29827959.26 -29827959.12 -29827958.98 0.0271 0.0022

Uranus -86378-07-03 01:54 J -29827958.49 -29827958.42 -29827958.32 0.0141 0.0116

Venus -86378-07-04 11:44 J -29827957.12 -29827957.01 -29827956.89 0.3765 0.0418

Moon -86378-08-23 20:08 J -29827906.80 -29827906.66 -29827906.52 0.2584 0.0740

Earth -86378-08-23 21:35 J -29827906.74 -29827906.60 -29827906.46 0.2583 0.0694 *

Saturn -86378-09-28 20:51 J -29827870.76 -29827870.63 -29827870.49 0.0271 0.0071

Uranus -86378-09-29 06:13 J -29827870.27 -29827870.24 -29827870.19 0.0141 0.0135

Saturn -86378-12-26 08:51 J -29827782.24 -29827782.13 -29827782.02 0.0271 0.0165

Saturn -86377-03-23 21:06 J -29827693.66 -29827693.62 -29827693.58 0.0271 0.0259

Mars -86376-07-30 05:30 J -29827200.41 -29827200.27 -29827200.12 0.1857 0.0156

Moon -86375-02-24 13:54 J -29826990.98 -29826990.92 -29826990.85 0.2754 0.2257

Earth -86375-02-24 14:51 J -29826990.94 -29826990.88 -29826990.82 0.2752 0.2313 *

Jupiter -86375-05-19 09:35 J -29826907.16 -29826907.10 -29826907.03 0.0535 0.0462

Mars -86375-05-23 17:44 J -29826902.86 -29826902.76 -29826902.65 0.1689 0.0901

Jupiter -86375-08-16 18:42 J -29826817.85 -29826817.72 -29826817.59 0.0533 0.0011

Jupiter -86375-11-14 04:32 J -29826728.38 -29826728.31 -29826728.24 0.0530 0.0451

Venus -86374-07-03 09:06 J -29826497.18 -29826497.12 -29826497.06 0.3604 0.3194

Mars -86373-04-28 05:30 J -29826197.33 -29826197.27 -29826197.20 0.1664 0.1409

Venus -86372-01-17 06:56 J -29825933.33 -29825933.21 -29825933.10 0.3761 0.0455

Jupiter -86369-10-14 01:25 J -29824567.60 -29824567.44 -29824567.27 0.0494 0.0167

Jupiter -86368-01-12 04:18 J -29824477.45 -29824477.32 -29824477.19 0.0497 0.0328

Venus -86368-01-16 09:35 J -29824473.21 -29824473.10 -29824472.98 0.3608 0.2031

Earth -86368-02-17 08:08 J -29824441.25 -29824441.16 -29824441.07 0.2756 0.1695

Moon -86368-02-17 08:23 J -29824441.24 -29824441.15 -29824441.05 0.2749 0.1621 *

Venus -86367-08-03 02:08 J -29823909.52 -29823909.41 -29823909.31 0.3757 0.1288

Mars -86367-12-20 05:44 J -29823770.37 -29823770.26 -29823770.15 0.1849 0.1220

Mars -86366-10-14 03:06 J -29823472.43 -29823472.37 -29823472.31 0.1695 0.1455

Moon -86365-08-25 22:32 J -29823155.69 -29823155.56 -29823155.42 0.2590 0.0943

Earth -86365-08-25 23:15 J -29823155.66 -29823155.53 -29823155.40 0.2584 0.1080 *

Mars -86364-09-18 14:37 J -29822767.00 -29822766.89 -29822766.78 0.1670 0.0854

Saturn -86363-02-03 10:32 J -29822629.17 -29822629.06 -29822628.93 0.0288 0.0214

Saturn -86363-05-03 08:08 J -29822540.32 -29822540.16 -29822539.99 0.0289 0.0072

Jupiter -86363-06-04 22:03 J -29822507.71 -29822507.58 -29822507.45 0.0534 0.0122

Saturn -86363-07-31 05:15 J -29822451.44 -29822451.28 -29822451.11 0.0289 0.0067

Venus -86363-08-02 09:49 J -29822449.22 -29822449.09 -29822448.96 0.3611 0.0907

Jupiter -86363-09-02 07:39 J -29822418.28 -29822418.18 -29822418.07 0.0531 0.0338

Saturn -86363-10-28 01:54 J -29822362.54 -29822362.42 -29822362.30 0.0289 0.0203

Venus -86361-02-16 21:35 J -29821885.70 -29821885.60 -29821885.51 0.3753 0.2161

Venus -86357-02-16 09:20 J -29820425.24 -29820425.11 -29820424.98 0.3615 0.0174

Jupiter -86357-08-01 23:59 J -29820257.64 -29820257.50 -29820257.35 0.0493 0.0292

Jupiter -86357-10-31 03:20 J -29820167.52 -29820167.36 -29820167.21 0.0496 0.0205

Venus -86356-09-01 17:15 J -29819861.84 -29819861.78 -29819861.71 0.3749 0.3068

Moon -86355-02-20 03:35 J -29819690.47 -29819690.35 -29819690.24 0.2747 0.0398

Earth -86355-02-20 03:49 J -29819690.45 -29819690.34 -29819690.22 0.2754 0.0305 *

Mars -86354-02-08 23:44 J -29819336.64 -29819336.51 -29819336.39 0.1676 0.0298

Venus -86352-09-01 08:37 J -29818401.26 -29818401.14 -29818401.02 0.3619 0.1207

Jupiter -86351-03-24 01:54 J -29818197.54 -29818197.42 -29818197.30 0.0535 0.0231

Jupiter -86351-06-21 11:15 J -29818108.15 -29818108.03 -29818107.91 0.0532 0.0227

Saturn -86349-05-25 11:59 J -29817404.07 -29817404.00 -29817403.92 0.0271 0.0226

Saturn -86349-08-21 23:30 J -29817315.64 -29817315.52 -29817315.40 0.0271 0.0137

Saturn -86349-11-18 11:01 J -29817227.17 -29817227.04 -29817226.90 0.0271 0.0048

Saturn -86348-02-14 23:01 J -29817138.68 -29817138.54 -29817138.40 0.0271 0.0045

Saturn -86348-05-14 10:47 J -29817050.17 -29817050.05 -29817049.92 0.0270 0.0137

Saturn -86348-08-10 23:01 J -29816961.61 -29816961.54 -29816961.47 0.0270 0.0230

Venus -86346-03-18 07:25 J -29816377.29 -29816377.19 -29816377.09 0.3623 0.2194

Mars -86346-09-08 05:44 J -29816203.38 -29816203.26 -29816203.14 0.1865 0.1034

Jupiter -86345-05-20 22:18 J -29815947.66 -29815947.57 -29815947.47 0.0493 0.0419

Mars -86345-07-01 08:51 J -29815906.26 -29815906.13 -29815906.01 0.1682 0.0265

Jupiter -86345-08-19 01:54 J -29815857.59 -29815857.42 -29815857.24 0.0495 0.0081

Moon -86345-08-21 00:13 J -29815855.57 -29815855.49 -29815855.42 0.2581 0.2218

Earth -86345-08-21 01:39 J -29815855.51 -29815855.43 -29815855.35 0.2582 0.2129 *

Venus -86344-12-10 08:08 J -29815379.21 -29815379.16 -29815379.11 0.3777 0.3297

Moon -86342-02-22 23:01 J -29814939.65 -29814939.54 -29814939.43 0.2752 0.1119

Earth -86342-02-22 23:44 J -29814939.61 -29814939.51 -29814939.40 0.2753 0.1150 *

Uranus -86342-07-11 09:20 J -29814801.16 -29814801.11 -29814801.03 0.0139 0.0131

Uranus -86342-10-07 16:03 J -29814712.93 -29814712.83 -29814712.70 0.0139 0.0107

Uranus -86341-01-03 23:15 J -29814624.67 -29814624.53 -29814624.39 0.0139 0.0083

Uranus -86341-04-01 05:44 J -29814536.42 -29814536.26 -29814536.09 0.0139 0.0061

Uranus -86341-06-28 12:27 J -29814448.15 -29814447.98 -29814447.81 0.0139 0.0038

Uranus -86341-09-24 18:56 J -29814359.88 -29814359.71 -29814359.53 0.0139 0.0015

Venus -86341-10-01 05:44 J -29814353.32 -29814353.26 -29814353.20 0.3628 0.3144

Uranus -86341-12-22 01:25 J -29814271.61 -29814271.44 -29814271.26 0.0138 0.0008

Uranus -86340-03-20 07:54 J -29814183.34 -29814183.17 -29814183.00 0.0138 0.0029

Uranus -86340-06-16 14:08 J -29814095.07 -29814094.91 -29814094.74 0.0138 0.0051

Uranus -86340-09-12 20:23 J -29814006.79 -29814006.65 -29814006.49 0.0138 0.0073

Uranus -86340-12-10 02:51 J -29813918.51 -29813918.38 -29813918.26 0.0138 0.0094

Jupiter -86339-01-10 05:30 J -29813887.37 -29813887.27 -29813887.17 0.0535 0.0340

Uranus -86339-03-08 08:37 J -29813830.22 -29813830.14 -29813830.03 0.0138 0.0116

Jupiter -86339-04-09 14:51 J -29813798.01 -29813797.88 -29813797.75 0.0532 0.0118

Uranus -86339-06-04 14:37 J -29813741.89 -29813741.89 -29813741.85 0.0138 0.0137

Venus -86338-06-26 02:23 J -29813355.48 -29813355.40 -29813355.32 0.3774 0.2556

Mars -86336-01-28 05:59 J -29812773.40 -29812773.25 -29812773.10 0.1857 0.0045

Mars -86336-11-21 17:59 J -29812475.86 -29812475.75 -29812475.64 0.1688 0.0818

Moon -86335-02-15 18:27 J -29812389.75 -29812389.73 -29812389.72 0.2752 0.2705

Saturn -86334-06-23 07:54 J -29811897.23 -29811897.17 -29811897.10 0.0288 0.0265

Saturn -86334-09-20 05:30 J -29811808.42 -29811808.27 -29811808.11 0.0288 0.0123

Mars -86334-10-28 05:44 J -29811770.31 -29811770.26 -29811770.21 0.1664 0.1493

Saturn -86334-12-18 02:51 J -29811719.55 -29811719.38 -29811719.21 0.0288 0.0017

Saturn -86333-03-15 23:44 J -29811630.66 -29811630.51 -29811630.37 0.0288 0.0154

Jupiter -86333-06-07 01:25 J -29811547.62 -29811547.44 -29811547.27 0.0495 0.0041

Saturn -86333-06-12 19:54 J -29811541.67 -29811541.67 -29811541.65 0.0288 0.0288

Jupiter -86333-09-05 03:49 J -29811457.41 -29811457.34 -29811457.27 0.0498 0.0453

Venus -86332-01-08 20:37 J -29811331.73 -29811331.64 -29811331.54 0.3771 0.1795

Moon -86332-08-24 02:23 J -29811104.55 -29811104.40 -29811104.26 0.2585 0.0524

Earth -86332-08-24 03:35 J -29811104.50 -29811104.35 -29811104.21 0.2583 0.0330 *

Moon -86329-02-25 19:11 J -29810188.75 -29810188.70 -29810188.65 0.2754 0.2462

Earth -86329-02-25 19:54 J -29810188.70 -29810188.67 -29810188.64 0.2751 0.2613 *

Jupiter -86328-10-29 08:23 J -29809577.21 -29809577.15 -29809577.08 0.0535 0.0459

Jupiter -86327-01-26 17:30 J -29809487.91 -29809487.77 -29809487.64 0.0532 0.0020

Jupiter -86327-04-26 03:06 J -29809398.44 -29809398.37 -29809398.30 0.0529 0.0452

Mars -86327-06-20 06:13 J -29809343.36 -29809343.24 -29809343.12 0.1849 0.1103

Venus -86327-07-25 15:20 J -29809307.97 -29809307.86 -29809307.75 0.3767 0.1000

Mars -86326-04-14 03:06 J -29809045.44 -29809045.37 -29809045.30 0.1695 0.1382

Mars -86324-03-19 14:51 J -29808339.99 -29808339.88 -29808339.78 0.1670 0.0937

Moon -86322-02-18 13:25 J -29807639.04 -29807638.94 -29807638.84 0.2748 0.1408

Earth -86322-02-18 13:11 J -29807639.04 -29807638.95 -29807638.85 0.2755 0.1407 *

Venus -86321-02-08 10:18 J -29807284.19 -29807284.07 -29807283.96 0.3764 0.0228

Jupiter -86321-03-25 23:59 J -29807237.66 -29807237.50 -29807237.33 0.0494 0.0163

Jupiter -86321-06-24 03:06 J -29807147.50 -29807147.37 -29807147.25 0.0497 0.0333

Saturn -86320-10-12 14:51 J -29806671.93 -29806671.88 -29806671.83 0.0272 0.0249

Saturn -86319-01-09 02:08 J -29806583.51 -29806583.41 -29806583.29 0.0272 0.0161

Saturn -86319-04-07 13:54 J -29806495.05 -29806494.92 -29806494.78 0.0271 0.0070

Saturn -86319-07-05 01:39 J -29806406.57 -29806406.43 -29806406.29 0.0271 0.0023

Moon -86319-08-27 04:32 J -29806353.43 -29806353.31 -29806353.20 0.2590 0.1471

Earth -86319-08-27 05:01 J -29806353.41 -29806353.29 -29806353.17 0.2584 0.1438 *

Saturn -86319-10-01 13:39 J -29806318.06 -29806317.93 -29806317.80 0.0271 0.0115

Saturn -86319-12-29 01:39 J -29806229.51 -29806229.43 -29806229.33 0.0271 0.0209

Venus -86317-02-07 09:06 J -29805824.20 -29805824.12 -29805824.04 0.3605 0.2885

Venus -86316-08-24 05:15 J -29805260.39 -29805260.28 -29805260.17 0.3760 0.0655

Jupiter -86316-11-14 20:23 J -29805177.78 -29805177.65 -29805177.52 0.0533 0.0124

Jupiter -86315-02-12 05:59 J -29805088.35 -29805088.25 -29805088.15 0.0530 0.0334

Mars -86315-08-09 23:44 J -29804909.63 -29804909.51 -29804909.38 0.1676 0.0375

Venus -86312-08-23 09:35 J -29803800.22 -29803800.10 -29803799.98 0.3609 0.1729

Venus -86310-03-10 00:27 J -29803236.58 -29803236.48 -29803236.37 0.3756 0.1526

Jupiter -86309-01-12 22:03 J -29802927.72 -29802927.58 -29802927.43 0.0493 0.0293

Moon -86309-02-21 08:37 J -29802888.26 -29802888.14 -29802888.02 0.2748 0.0024

Earth -86309-02-21 09:06 J -29802888.24 -29802888.12 -29802888.01 0.2754 0.0063 *

Jupiter -86309-04-12 01:25 J -29802837.60 -29802837.44 -29802837.28 0.0496 0.0205

Mars -86306-03-09 06:13 J -29801776.36 -29801776.24 -29801776.13 0.1866 0.1149

Venus -86306-03-09 09:35 J -29801776.24 -29801776.10 -29801775.97 0.3612 0.0627 *

Mars -86306-12-31 08:51 J -29801479.25 -29801479.13 -29801479.00 0.1682 0.0185

Neptune -86305-06-18 06:56 J -29801309.21 -29801309.21 -29801309.20 0.0089 0.0089

Neptune -86305-09-14 08:08 J -29801221.19 -29801221.16 -29801221.11 0.0089 0.0085

Venus -86305-09-22 20:08 J -29801212.75 -29801212.66 -29801212.57 0.3752 0.2404

Neptune -86305-12-11 09:49 J -29801133.15 -29801133.09 -29801133.04 0.0089 0.0080

Saturn -86304-02-06 07:25 J -29801076.34 -29801076.19 -29801076.04 0.0288 0.0148

Neptune -86304-03-09 11:01 J -29801045.10 -29801045.04 -29801044.97 0.0089 0.0076

Saturn -86304-05-06 04:47 J -29800987.47 -29800987.30 -29800987.13 0.0289 0.0007

Neptune -86304-06-05 12:27 J -29800957.05 -29800956.98 -29800956.90 0.0089 0.0072

Saturn -86304-08-03 01:39 J -29800898.58 -29800898.43 -29800898.28 0.0289 0.0131

Neptune -86304-09-01 13:54 J -29800869.00 -29800868.92 -29800868.83 0.0089 0.0068

Jupiter -86304-09-02 23:44 J -29800867.63 -29800867.51 -29800867.39 0.0535 0.0239

Saturn -86304-10-30 22:03 J -29800809.64 -29800809.58 -29800809.51 0.0289 0.0265

Neptune -86304-11-28 15:06 J -29800780.95 -29800780.87 -29800780.76 0.0089 0.0064

Jupiter -86304-12-01 09:06 J -29800778.24 -29800778.12 -29800778.00 0.0532 0.0219

Neptune -86303-02-24 16:47 J -29800692.90 -29800692.80 -29800692.70 0.0089 0.0059

Neptune -86303-05-23 18:13 J -29800604.84 -29800604.74 -29800604.63 0.0089 0.0055

Neptune -86303-08-19 19:39 J -29800516.79 -29800516.68 -29800516.57 0.0089 0.0051

Neptune -86303-11-15 20:51 J -29800428.73 -29800428.63 -29800428.50 0.0089 0.0047

Neptune -86302-02-11 22:32 J -29800340.68 -29800340.56 -29800340.44 0.0089 0.0042

Neptune -86302-05-10 23:59 J -29800252.62 -29800252.50 -29800252.37 0.0089 0.0038

Neptune -86302-08-07 01:25 J -29800164.56 -29800164.44 -29800164.31 0.0089 0.0034

Neptune -86302-11-03 02:51 J -29800076.51 -29800076.38 -29800076.25 0.0089 0.0029

Neptune -86301-01-30 04:18 J -29799988.45 -29799988.32 -29799988.19 0.0089 0.0025

Neptune -86301-04-27 05:44 J -29799900.39 -29799900.26 -29799900.12 0.0089 0.0021

Neptune -86301-07-24 07:11 J -29799812.33 -29799812.20 -29799812.06 0.0089 0.0017

Venus -86301-09-22 08:51 J -29799752.26 -29799752.13 -29799752.00 0.3616 0.0462

Neptune -86301-10-20 08:51 J -29799724.27 -29799724.13 -29799724.00 0.0089 0.0012

Neptune -86300-01-16 10:18 J -29799636.21 -29799636.07 -29799635.94 0.0089 0.0008

Neptune -86300-04-14 11:44 J -29799548.15 -29799548.01 -29799547.87 0.0089 0.0003

Neptune -86300-07-11 13:11 J -29799460.09 -29799459.95 -29799459.81 0.0089 0.0001

Neptune -86300-10-07 14:37 J -29799372.03 -29799371.89 -29799371.75 0.0089 0.0006

Neptune -86299-01-03 16:03 J -29799283.96 -29799283.83 -29799283.69 0.0089 0.0010

Neptune -86299-04-01 17:30 J -29799195.90 -29799195.77 -29799195.63 0.0089 0.0015

Venus -86299-04-08 15:49 J -29799188.89 -29799188.84 -29799188.78 0.3747 0.3324

Neptune -86299-06-28 18:56 J -29799107.84 -29799107.71 -29799107.57 0.0089 0.0019

Moon -86299-08-22 06:13 J -29799053.34 -29799053.24 -29799053.15 0.2581 0.1931

Earth -86299-08-22 07:25 J -29799053.29 -29799053.19 -29799053.08 0.2582 0.1752 *

Neptune -86299-09-24 20:37 J -29799019.77 -29799019.64 -29799019.51 0.0089 0.0023

Neptune -86299-12-21 22:03 J -29798931.71 -29798931.58 -29798931.45 0.0089 0.0028

Neptune -86298-03-19 23:30 J -29798843.64 -29798843.52 -29798843.39 0.0089 0.0032

Neptune -86298-06-16 00:56 J -29798755.58 -29798755.46 -29798755.33 0.0089 0.0037

Neptune -86298-09-12 02:37 J -29798667.51 -29798667.39 -29798667.27 0.0089 0.0041

Jupiter -86298-10-31 20:23 J -29798617.73 -29798617.65 -29798617.55 0.0493 0.0419

Neptune -86298-12-09 03:49 J -29798579.44 -29798579.34 -29798579.21 0.0089 0.0046

Jupiter -86297-01-30 00:13 J -29798527.67 -29798527.49 -29798527.32 0.0495 0.0081

Uranus -86297-03-06 02:37 J -29798491.41 -29798491.39 -29798491.35 0.0139 0.0136

Neptune -86297-03-06 05:30 J -29798491.38 -29798491.27 -29798491.15 0.0089 0.0050 *

Neptune -86297-06-02 07:11 J -29798403.31 -29798403.20 -29798403.09 0.0089 0.0054

Uranus -86297-06-02 06:27 J -29798403.30 -29798403.23 -29798403.16 0.0139 0.0118 *

Mars -86297-07-29 06:27 J -29798346.38 -29798346.23 -29798346.08 0.1858 0.0097

Neptune -86297-08-29 08:37 J -29798315.24 -29798315.14 -29798315.03 0.0089 0.0059

Uranus -86297-08-29 10:03 J -29798315.17 -29798315.08 -29798314.98 0.0139 0.0101 *

Neptune -86297-11-25 10:18 J -29798227.17 -29798227.07 -29798226.97 0.0089 0.0063

Uranus -86297-11-25 13:54 J -29798227.03 -29798226.92 -29798226.80 0.0140 0.0084 *

Neptune -86296-02-21 11:44 J -29798139.09 -29798139.01 -29798138.92 0.0089 0.0068

Uranus -86296-02-21 17:44 J -29798138.88 -29798138.76 -29798138.64 0.0140 0.0066

Moon -86296-02-23 04:03 J -29798137.43 -29798137.33 -29798137.23 0.2752 0.1263

Earth -86296-02-23 05:01 J -29798137.39 -29798137.29 -29798137.19 0.2753 0.1446 *

Neptune -86296-05-20 13:25 J -29798051.02 -29798050.94 -29798050.86 0.0089 0.0072

Uranus -86296-05-20 21:35 J -29798050.73 -29798050.60 -29798050.47 0.0140 0.0048

Mars -86296-05-22 17:59 J -29798048.86 -29798048.75 -29798048.63 0.1688 0.0746

Neptune -86296-08-16 14:37 J -29797962.94 -29797962.89 -29797962.81 0.0089 0.0077

Uranus -86296-08-17 01:25 J -29797962.57 -29797962.44 -29797962.30 0.0140 0.0031

Neptune -86296-11-12 16:32 J -29797874.86 -29797874.81 -29797874.75 0.0089 0.0081

Uranus -86296-11-13 05:15 J -29797874.42 -29797874.28 -29797874.14 0.0140 0.0013

Neptune -86295-02-08 17:44 J -29797786.78 -29797786.76 -29797786.71 0.0089 0.0086

Uranus -86295-02-09 09:20 J -29797786.25 -29797786.11 -29797785.97 0.0140 0.0007

Venus -86295-04-08 08:08 J -29797728.28 -29797728.16 -29797728.04 0.3620 0.1477

Uranus -86295-05-08 13:11 J -29797698.09 -29797697.95 -29797697.81 0.0140 0.0024

Uranus -86295-08-04 17:15 J -29797609.92 -29797609.78 -29797609.65 0.0141 0.0043

Uranus -86295-10-31 21:06 J -29797521.74 -29797521.62 -29797521.49 0.0141 0.0062

Uranus -86294-01-28 01:11 J -29797433.56 -29797433.45 -29797433.33 0.0141 0.0081

Uranus -86294-04-26 05:15 J -29797345.37 -29797345.28 -29797345.18 0.0141 0.0100

Mars -86294-04-28 05:44 J -29797343.30 -29797343.26 -29797343.22 0.1664 0.1572

Uranus -86294-07-23 09:20 J -29797257.18 -29797257.11 -29797257.03 0.0141 0.0120

Uranus -86294-10-19 13:25 J -29797168.95 -29797168.94 -29797168.90 0.0141 0.0139

Jupiter -86292-06-22 03:20 J -29796557.45 -29796557.36 -29796557.26 0.0535 0.0349

Jupiter -86292-09-19 12:42 J -29796468.10 -29796467.97 -29796467.84 0.0532 0.0108

Pluto -86291-10-04 12:13 J -29796088.02 -29796087.99 -29796087.94 0.0060 0.0059

Pluto -86291-12-31 13:25 J -29796000.02 -29795999.94 -29795999.83 0.0060 0.0053

Saturn -86290-03-01 17:30 J -29795939.77 -29795939.77 -29795939.77 0.0271 0.0271

Pluto -86290-03-29 14:37 J -29795911.99 -29795911.89 -29795911.74 0.0060 0.0047

Saturn -86290-05-29 04:47 J -29795851.40 -29795851.30 -29795851.19 0.0271 0.0183

Pluto -86290-06-25 16:32 J -29795823.95 -29795823.81 -29795823.66 0.0060 0.0040

Saturn -86290-08-25 16:18 J -29795762.94 -29795762.82 -29795762.68 0.0271 0.0094

Pluto -86290-09-21 17:44 J -29795735.91 -29795735.76 -29795735.58 0.0060 0.0034

Venus -86290-10-23 06:42 J -29795704.31 -29795704.22 -29795704.12 0.3625 0.2453

Saturn -86290-11-22 04:03 J -29795674.47 -29795674.33 -29795674.19 0.0271 0.0009

Pluto -86290-12-18 19:11 J -29795647.86 -29795647.70 -29795647.51 0.0061 0.0028

Earth -86289-02-16 22:47 J -29795587.60 -29795587.55 -29795587.51 0.2756 0.2506

Moon -86289-02-16 23:15 J -29795587.58 -29795587.53 -29795587.47 0.2752 0.2402 *

Saturn -86289-02-18 16:03 J -29795585.96 -29795585.83 -29795585.70 0.0271 0.0090

Pluto -86289-03-15 20:51 J -29795559.81 -29795559.63 -29795559.44 0.0061 0.0021

Saturn -86289-05-17 04:03 J -29795497.43 -29795497.33 -29795497.23 0.0270 0.0183

Pluto -86289-06-11 22:18 J -29795471.75 -29795471.57 -29795471.37 0.0061 0.0015

Pluto -86289-09-07 23:59 J -29795383.69 -29795383.50 -29795383.31 0.0061 0.0008

Pluto -86289-12-05 01:25 J -29795295.63 -29795295.44 -29795295.24 0.0061 0.0001

Pluto -86288-03-03 02:51 J -29795207.57 -29795207.38 -29795207.18 0.0061 0.0005

Pluto -86288-05-30 04:18 J -29795119.51 -29795119.32 -29795119.12 0.0061 0.0012

Pluto -86288-08-26 05:44 J -29795031.44 -29795031.26 -29795031.07 0.0061 0.0018

Pluto -86288-11-22 06:56 J -29794943.37 -29794943.21 -29794943.01 0.0061 0.0025

Mars -86288-12-19 06:42 J -29794916.35 -29794916.22 -29794916.10 0.1849 0.0991

Pluto -86287-02-18 08:37 J -29794855.29 -29794855.14 -29794854.96 0.0061 0.0032

Pluto -86287-05-17 10:03 J -29794767.22 -29794767.08 -29794766.91 0.0061 0.0038

Venus -86287-07-17 06:13 J -29794706.30 -29794706.24 -29794706.18 0.3777 0.3108

Pluto -86287-08-13 11:59 J -29794679.13 -29794679.00 -29794678.87 0.0061 0.0045

Mars -86287-10-13 03:20 J -29794618.44 -29794618.36 -29794618.28 0.1695 0.1302

Pluto -86287-11-09 13:11 J -29794591.04 -29794590.95 -29794590.83 0.0061 0.0052

Pluto -86286-02-05 14:23 J -29794502.93 -29794502.90 -29794502.81 0.0061 0.0059

Moon -86286-08-25 08:23 J -29794302.29 -29794302.15 -29794302.01 0.2587 0.0019

Earth -86286-08-25 09:20 J -29794302.25 -29794302.11 -29794301.96 0.2583 0.0090 *

Jupiter -86286-11-17 22:47 J -29794217.73 -29794217.55 -29794217.38 0.0495 0.0046

Jupiter -86285-02-16 01:11 J -29794127.52 -29794127.45 -29794127.37 0.0497 0.0446

Mars -86285-09-17 14:51 J -29793912.98 -29793912.88 -29793912.78 0.1670 0.1013

Venus -86284-05-08 05:01 J -29793680.33 -29793680.29 -29793680.25 0.3629 0.3394

Venus -86281-01-31 00:27 J -29792682.56 -29792682.48 -29792682.39 0.3773 0.2361

Jupiter -86280-04-10 07:11 J -29792247.27 -29792247.20 -29792247.13 0.0536 0.0457

Jupiter -86280-07-08 16:18 J -29792157.96 -29792157.82 -29792157.69 0.0533 0.0015

Jupiter -86280-10-06 01:54 J -29792068.48 -29792068.42 -29792068.35 0.0530 0.0457

Moon -86276-02-18 18:13 J -29790836.84 -29790836.74 -29790836.63 0.2747 0.1120

Earth -86276-02-18 18:13 J -29790836.84 -29790836.74 -29790836.63 0.2755 0.1122 *

Venus -86276-08-15 18:56 J -29790658.81 -29790658.71 -29790658.61 0.3770 0.1585

Mars -86275-02-07 23:59 J -29790482.62 -29790482.50 -29790482.38 0.1676 0.0458

Saturn -86275-06-26 04:47 J -29790344.42 -29790344.30 -29790344.17 0.0288 0.0199

Saturn -86275-09-23 02:23 J -29790255.57 -29790255.40 -29790255.23 0.0288 0.0057

Saturn -86275-12-20 23:30 J -29790166.69 -29790166.52 -29790166.36 0.0288 0.0081

Saturn -86274-03-19 19:54 J -29790077.77 -29790077.67 -29790077.55 0.0288 0.0217

Jupiter -86274-09-05 21:49 J -29789907.75 -29789907.59 -29789907.42 0.0494 0.0166

Jupiter -86274-12-05 00:42 J -29789817.60 -29789817.47 -29789817.34 0.0497 0.0329

Moon -86273-08-27 10:32 J -29789551.17 -29789551.06 -29789550.95 0.2590 0.1687

Earth -86273-08-27 11:01 J -29789551.14 -29789551.04 -29789550.94 0.2585 0.1810 *

Venus -86270-03-01 13:39 J -29788635.04 -29788634.93 -29788634.82 0.3766 0.0788

Jupiter -86268-04-26 19:11 J -29787847.83 -29787847.70 -29787847.58 0.0533 0.0124

Jupiter -86268-07-25 04:32 J -29787758.41 -29787758.31 -29787758.21 0.0530 0.0334

Mars -86267-09-07 06:42 J -29787349.33 -29787349.22 -29787349.12 0.1866 0.1267

Mars -86266-07-01 09:06 J -29787052.25 -29787052.12 -29787051.99 0.1681 0.0102

Venus -86265-09-14 08:37 J -29786611.26 -29786611.14 -29786611.03 0.3762 0.0070

Moon -86263-02-21 13:39 J -29786086.05 -29786085.93 -29786085.82 0.2749 0.0229

Earth -86263-02-21 14:08 J -29786086.03 -29786085.91 -29786085.80 0.2754 0.0303 *

Jupiter -86262-06-24 20:23 J -29785597.79 -29785597.65 -29785597.50 0.0494 0.0291

Jupiter -86262-09-22 23:44 J -29785507.67 -29785507.51 -29785507.35 0.0496 0.0207

Venus -86261-09-13 09:06 J -29785151.22 -29785151.12 -29785151.03 0.3606 0.2580

Saturn -86261-10-15 07:39 J -29785119.27 -29785119.18 -29785119.09 0.0272 0.0207

Saturn -86260-01-11 19:11 J -29785030.83 -29785030.70 -29785030.58 0.0272 0.0117

Saturn -86260-04-10 06:56 J -29784942.35 -29784942.21 -29784942.07 0.0271 0.0026

Saturn -86260-07-07 18:42 J -29784853.86 -29784853.72 -29784853.58 0.0271 0.0067

Saturn -86260-10-04 06:42 J -29784765.33 -29784765.22 -29784765.10 0.0271 0.0160

Saturn -86260-12-31 18:56 J -29784676.75 -29784676.71 -29784676.66 0.0271 0.0255

Venus -86259-03-31 03:49 J -29784587.46 -29784587.34 -29784587.23 0.3759 0.0896

Uranus -86258-07-31 16:18 J -29784099.88 -29784099.82 -29784099.73 0.0139 0.0126

Uranus -86258-10-27 23:15 J -29784011.64 -29784011.53 -29784011.40 0.0139 0.0103

Uranus -86257-01-24 05:59 J -29783923.39 -29783923.25 -29783923.10 0.0139 0.0079

Mars -86257-01-28 07:11 J -29783919.35 -29783919.20 -29783919.05 0.1858 0.0209

Uranus -86257-04-21 12:27 J -29783835.13 -29783834.98 -29783834.80 0.0139 0.0057

Uranus -86257-07-18 19:11 J -29783746.86 -29783746.70 -29783746.52 0.0139 0.0034

Uranus -86257-10-15 01:54 J -29783658.60 -29783658.42 -29783658.24 0.0139 0.0011

Mars -86257-11-20 18:13 J -29783621.86 -29783621.74 -29783621.63 0.1688 0.0666

Uranus -86256-01-11 08:23 J -29783570.33 -29783570.15 -29783569.97 0.0138 0.0011

Jupiter -86256-02-12 22:03 J -29783537.69 -29783537.58 -29783537.46 0.0534 0.0241

Uranus -86256-04-09 14:51 J -29783482.05 -29783481.88 -29783481.71 0.0138 0.0033

Jupiter -86256-05-13 07:25 J -29783448.31 -29783448.19 -29783448.07 0.0531 0.0216

Uranus -86256-07-06 21:06 J -29783393.78 -29783393.62 -29783393.46 0.0138 0.0055

Uranus -86256-10-03 03:20 J -29783305.50 -29783305.36 -29783305.21 0.0138 0.0077

Uranus -86256-12-30 09:35 J -29783217.22 -29783217.10 -29783216.97 0.0138 0.0098

Uranus -86255-03-28 15:35 J -29783128.92 -29783128.85 -29783128.75 0.0138 0.0120

Venus -86255-03-30 09:20 J -29783127.23 -29783127.11 -29783126.99 0.3610 0.1432

Mars -86255-10-27 05:59 J -29782916.26 -29782916.25 -29782916.24 0.1663 0.1653

Venus -86254-10-14 23:01 J -29782563.64 -29782563.54 -29782563.44 0.3755 0.1758

Moon -86253-08-22 12:13 J -29782251.11 -29782250.99 -29782250.87 0.2582 0.1493

Earth -86253-08-22 13:25 J -29782251.06 -29782250.94 -29782250.81 0.2582 0.1374 *

Moon -86250-02-24 09:06 J -29781335.21 -29781335.12 -29781335.03 0.2752 0.1710

Earth -86250-02-24 10:03 J -29781335.17 -29781335.08 -29781334.99 0.2752 0.1745 *

Jupiter -86250-04-12 18:13 J -29781287.82 -29781287.74 -29781287.64 0.0493 0.0422

Jupiter -86250-07-11 22:03 J -29781197.75 -29781197.58 -29781197.41 0.0495 0.0078

Venus -86250-10-14 09:06 J -29781103.25 -29781103.12 -29781102.99 0.3614 0.0331

Venus -86248-04-29 18:42 J -29780539.80 -29780539.72 -29780539.64 0.3750 0.2651

Mars -86248-06-19 07:11 J -29780489.33 -29780489.20 -29780489.07 0.1850 0.0878

Mars -86247-04-13 03:20 J -29780191.44 -29780191.36 -29780191.28 0.1694 0.1229

Saturn -86246-11-13 06:56 J -29779612.32 -29779612.21 -29779612.09 0.0288 0.0221

Saturn -86245-02-10 04:32 J -29779523.47 -29779523.31 -29779523.14 0.0288 0.0079

Mars -86245-03-18 14:51 J -29779485.97 -29779485.88 -29779485.78 0.1669 0.1094

Saturn -86245-05-09 01:39 J -29779434.60 -29779434.43 -29779434.26 0.0289 0.0060

Saturn -86245-08-05 22:18 J -29779345.69 -29779345.57 -29779345.44 0.0289 0.0197

Jupiter -86245-12-02 01:11 J -29779227.54 -29779227.45 -29779227.35 0.0535 0.0358

Jupiter -86244-03-01 10:32 J -29779138.19 -29779138.06 -29779137.93 0.0532 0.0099

Venus -86244-04-29 08:37 J -29779079.27 -29779079.14 -29779079.02 0.3618 0.0738

Earth -86243-02-17 03:49 J -29778785.41 -29778785.34 -29778785.28 0.2756 0.2225

Moon -86243-02-17 04:03 J -29778785.39 -29778785.33 -29778785.26 0.2750 0.2217 *

Venus -86243-11-13 14:37 J -29778515.92 -29778515.89 -29778515.86 0.3746 0.3573

Moon -86240-08-25 14:23 J -29777500.05 -29777499.90 -29777499.76 0.2588 0.0272

Earth -86240-08-25 15:20 J -29777500.00 -29777499.86 -29777499.72 0.2583 0.0424 *

Venus -86239-11-13 07:25 J -29777055.30 -29777055.19 -29777055.07 0.3622 0.1742

Jupiter -86238-04-29 20:51 J -29776887.81 -29776887.63 -29776887.46 0.0495 0.0048

Jupiter -86238-07-28 23:15 J -29776797.61 -29776797.53 -29776797.46 0.0497 0.0444

Venus -86236-08-07 10:18 J -29776057.10 -29776057.07 -29776057.05 0.3779 0.3652

Mars -86236-08-08 23:59 J -29776055.62 -29776055.50 -29776055.38 0.1675 0.0536

Venus -86233-05-29 05:59 J -29775031.33 -29775031.25 -29775031.16 0.3626 0.2707

Jupiter -86233-09-20 05:01 J -29774917.35 -29774917.29 -29774917.23 0.0536 0.0467

Jupiter -86233-12-18 14:08 J -29774828.05 -29774827.91 -29774827.78 0.0533 0.0022

Jupiter -86232-03-17 23:44 J -29774738.58 -29774738.51 -29774738.44 0.0530 0.0448

Saturn -86231-03-04 10:18 J -29774387.13 -29774387.07 -29774386.99 0.0271 0.0227

Saturn -86231-05-31 21:49 J -29774298.70 -29774298.59 -29774298.46 0.0271 0.0138

Saturn -86231-08-28 09:35 J -29774210.24 -29774210.10 -29774209.96 0.0271 0.0047

Saturn -86231-11-24 21:20 J -29774121.75 -29774121.61 -29774121.47 0.0271 0.0045

Moon -86230-02-19 23:15 J -29774034.64 -29774034.53 -29774034.42 0.2747 0.0822

Earth -86230-02-19 23:30 J -29774034.63 -29774034.52 -29774034.41 0.2755 0.0835 *

Venus -86230-02-21 04:18 J -29774033.38 -29774033.32 -29774033.25 0.3776 0.2921

Saturn -86230-02-21 09:20 J -29774033.23 -29774033.11 -29774032.99 0.0271 0.0137

Saturn -86230-05-20 21:20 J -29773944.67 -29773944.61 -29773944.53 0.0270 0.0231

Mars -86227-03-08 06:56 J -29772922.30 -29772922.21 -29772922.11 0.1866 0.1381

Moon -86227-08-28 16:47 J -29772748.87 -29772748.80 -29772748.73 0.2591 0.2238

Earth -86227-08-28 16:47 J -29772748.87 -29772748.80 -29772748.72 0.2585 0.2170 *

Mars -86227-12-30 09:06 J -29772625.25 -29772625.12 -29772624.99 0.1682 0.0029

Jupiter -86226-02-15 19:11 J -29772577.87 -29772577.70 -29772577.54 0.0494 0.0174

Jupiter -86226-05-16 22:03 J -29772487.71 -29772487.58 -29772487.45 0.0497 0.0321

Venus -86225-09-05 22:47 J -29772009.64 -29772009.55 -29772009.46 0.3772 0.2162

Neptune -86222-12-08 06:27 J -29770821.29 -29770821.23 -29770821.17 0.0089 0.0084

Neptune -86221-03-05 09:49 J -29770733.17 -29770733.09 -29770733.00 0.0089 0.0078

Neptune -86221-06-01 13:11 J -29770645.06 -29770644.95 -29770644.84 0.0088 0.0072

Neptune -86221-08-28 16:32 J -29770556.93 -29770556.81 -29770556.68 0.0088 0.0066

Jupiter -86221-10-06 17:44 J -29770517.89 -29770517.76 -29770517.64 0.0534 0.0124

Neptune -86221-11-24 19:54 J -29770468.80 -29770468.67 -29770468.53 0.0088 0.0060

Jupiter -86220-01-04 03:06 J -29770428.47 -29770428.37 -29770428.26 0.0531 0.0337

Neptune -86220-02-20 23:15 J -29770380.68 -29770380.53 -29770380.38 0.0088 0.0054

Neptune -86220-05-20 02:23 J -29770292.55 -29770292.40 -29770292.23 0.0088 0.0048

Neptune -86220-08-16 05:44 J -29770204.41 -29770204.26 -29770204.08 0.0088 0.0042

Neptune -86220-11-12 09:06 J -29770116.28 -29770116.12 -29770115.94 0.0088 0.0036

Neptune -86219-02-08 12:27 J -29770028.15 -29770027.98 -29770027.80 0.0088 0.0030

Venus -86219-03-22 17:15 J -29769985.88 -29769985.78 -29769985.68 0.3769 0.1377

Neptune -86219-05-07 15:49 J -29769940.02 -29769939.84 -29769939.66 0.0088 0.0024

Neptune -86219-08-03 19:11 J -29769851.88 -29769851.70 -29769851.52 0.0088 0.0018

Neptune -86219-10-30 22:32 J -29769763.75 -29769763.56 -29769763.38 0.0088 0.0012

Neptune -86218-01-27 01:39 J -29769675.61 -29769675.43 -29769675.24 0.0088 0.0007

Neptune -86218-04-25 05:01 J -29769587.48 -29769587.29 -29769587.10 0.0088 0.0001

Neptune -86218-07-22 08:08 J -29769499.34 -29769499.16 -29769498.97 0.0088 0.0006

Mars -86218-07-29 07:11 J -29769492.34 -29769492.20 -29769492.05 0.1858 0.0307

Neptune -86218-10-18 11:30 J -29769411.20 -29769411.02 -29769410.83 0.0088 0.0011

Neptune -86217-01-14 14:51 J -29769323.07 -29769322.88 -29769322.70 0.0088 0.0017

Moon -86217-02-22 18:27 J -29769283.84 -29769283.73 -29769283.61 0.2750 0.0510

Earth -86217-02-22 19:11 J -29769283.81 -29769283.70 -29769283.59 0.2754 0.0595 *

Neptune -86217-04-11 17:59 J -29769234.93 -29769234.75 -29769234.57 0.0088 0.0023

Mars -86217-05-21 18:13 J -29769194.85 -29769194.74 -29769194.62 0.1688 0.0588

Neptune -86217-07-08 21:06 J -29769146.79 -29769146.62 -29769146.44 0.0088 0.0028

Neptune -86217-10-05 00:13 J -29769058.65 -29769058.49 -29769058.31 0.0088 0.0034

Neptune -86216-01-01 03:35 J -29768970.52 -29768970.35 -29768970.19 0.0088 0.0040

Neptune -86216-03-30 06:27 J -29768882.38 -29768882.23 -29768882.06 0.0088 0.0046

Saturn -86216-04-01 04:47 J -29768880.36 -29768880.30 -29768880.24 0.0288 0.0270

Neptune -86216-06-26 09:35 J -29768794.24 -29768794.10 -29768793.94 0.0088 0.0052

Saturn -86216-06-29 02:23 J -29768791.55 -29768791.40 -29768791.24 0.0288 0.0128

Neptune -86216-09-22 12:42 J -29768706.09 -29768705.97 -29768705.82 0.0088 0.0057

Saturn -86216-09-25 23:44 J -29768702.68 -29768702.51 -29768702.34 0.0288 0.0013

Neptune -86216-12-19 16:03 J -29768617.95 -29768617.83 -29768617.70 0.0088 0.0063

Saturn -86216-12-23 20:37 J -29768613.78 -29768613.64 -29768613.49 0.0288 0.0150

Neptune -86215-03-17 18:56 J -29768529.81 -29768529.71 -29768529.58 0.0088 0.0069

Saturn -86215-03-22 16:47 J -29768524.81 -29768524.80 -29768524.76 0.0288 0.0285

Neptune -86215-06-13 22:18 J -29768441.66 -29768441.57 -29768441.47 0.0088 0.0074

Neptune -86215-09-10 01:11 J -29768353.51 -29768353.45 -29768353.36 0.0088 0.0080

Jupiter -86215-12-04 17:59 J -29768267.89 -29768267.75 -29768267.61 0.0494 0.0296

Neptune -86215-12-07 04:03 J -29768265.35 -29768265.33 -29768265.26 0.0088 0.0086

Jupiter -86214-03-04 21:20 J -29768177.77 -29768177.61 -29768177.45 0.0496 0.0202

Venus -86214-10-06 11:59 J -29767962.11 -29767962.00 -29767961.89 0.3765 0.0576

Uranus -86213-03-26 09:49 J -29767790.12 -29767790.09 -29767790.04 0.0139 0.0132

Uranus -86213-06-22 13:39 J -29767702.01 -29767701.93 -29767701.85 0.0139 0.0115

Uranus -86213-09-18 17:15 J -29767613.87 -29767613.78 -29767613.68 0.0139 0.0098

Uranus -86213-12-15 20:51 J -29767525.73 -29767525.63 -29767525.50 0.0140 0.0081

Uranus -86212-03-14 00:56 J -29767437.58 -29767437.46 -29767437.34 0.0140 0.0063

Uranus -86212-06-10 04:47 J -29767349.43 -29767349.30 -29767349.17 0.0140 0.0045

Uranus -86212-09-06 08:37 J -29767261.28 -29767261.14 -29767261.00 0.0140 0.0027

Uranus -86212-12-03 12:27 J -29767173.12 -29767172.98 -29767172.84 0.0140 0.0009

Uranus -86211-03-01 16:32 J -29767084.96 -29767084.81 -29767084.67 0.0140 0.0011

Uranus -86211-05-28 20:23 J -29766996.79 -29766996.65 -29766996.51 0.0140 0.0028

Uranus -86211-08-25 00:27 J -29766908.62 -29766908.48 -29766908.35 0.0141 0.0047

Uranus -86211-11-21 04:18 J -29766820.44 -29766820.32 -29766820.19 0.0141 0.0066

Uranus -86210-02-17 08:23 J -29766732.26 -29766732.15 -29766732.03 0.0141 0.0085

Uranus -86210-05-16 12:27 J -29766644.07 -29766643.98 -29766643.88 0.0141 0.0104

Uranus -86210-08-12 16:32 J -29766555.87 -29766555.81 -29766555.74 0.0141 0.0123

Venus -86210-10-05 08:23 J -29766502.19 -29766502.15 -29766502.12 0.3603 0.3461

Jupiter -86209-07-25 20:37 J -29766207.75 -29766207.64 -29766207.52 0.0534 0.0241

Jupiter -86209-10-23 05:59 J -29766118.37 -29766118.25 -29766118.13 0.0531 0.0216

Mars -86209-12-18 07:54 J -29766062.31 -29766062.17 -29766062.03 0.1850 0.0747

Venus -86208-04-21 06:56 J -29765938.32 -29765938.21 -29765938.10 0.3761 0.0263

Mars -86208-10-12 03:20 J -29765764.44 -29765764.36 -29765764.26 0.1694 0.1152

Moon -86207-08-23 18:13 J -29765448.87 -29765448.74 -29765448.61 0.2584 0.1105

Earth -86207-08-23 19:25 J -29765448.82 -29765448.69 -29765448.55 0.2583 0.0997 *

Mars -86206-09-17 15:06 J -29765058.96 -29765058.87 -29765058.78 0.1669 0.1179

Moon -86204-02-24 14:23 J -29764532.98 -29764532.90 -29764532.82 0.2752 0.1888

Earth -86204-02-24 15:06 J -29764532.94 -29764532.87 -29764532.79 0.2752 0.2047 *

Venus -86204-04-20 08:51 J -29764478.23 -29764478.13 -29764478.02 0.3607 0.2276

Jupiter -86203-09-22 16:32 J -29763957.90 -29763957.81 -29763957.72 0.0493 0.0422

Venus -86203-11-05 02:08 J -29763914.52 -29763914.41 -29763914.30 0.3758 0.1114

Jupiter -86203-12-21 20:08 J -29763867.83 -29763867.66 -29763867.48 0.0496 0.0080

Saturn -86202-07-22 12:56 J -29763655.00 -29763654.96 -29763654.91 0.0272 0.0252

Saturn -86202-10-19 00:27 J -29763566.59 -29763566.48 -29763566.37 0.0272 0.0163

Saturn -86201-01-15 12:13 J -29763478.13 -29763477.99 -29763477.86 0.0272 0.0073

Saturn -86201-04-12 23:59 J -29763389.64 -29763389.50 -29763389.36 0.0271 0.0021

Saturn -86201-07-10 11:44 J -29763301.14 -29763301.01 -29763300.88 0.0271 0.0113

Saturn -86201-10-06 23:59 J -29763212.59 -29763212.50 -29763212.41 0.0271 0.0207

Mars -86199-05-10 07:39 J -29762632.19 -29762632.18 -29762632.17 0.1841 0.1833

Venus -86199-11-04 09:06 J -29762454.25 -29762454.12 -29762454.00 0.3611 0.1142

Pluto -86197-02-05 17:59 J -29761995.75 -29761995.75 -29761995.71 0.0085 0.0084

Earth -86197-02-18 08:51 J -29761983.21 -29761983.13 -29761983.05 0.2756 0.1941

Moon -86197-02-18 09:06 J -29761983.20 -29761983.12 -29761983.03 0.2749 0.1828 *

Pluto -86197-05-03 19:25 J -29761907.75 -29761907.69 -29761907.61 0.0085 0.0071

Jupiter -86197-05-13 23:44 J -29761897.60 -29761897.51 -29761897.41 0.0535 0.0357

Venus -86197-05-20 21:35 J -29761890.70 -29761890.60 -29761890.50 0.3754 0.1994

Pluto -86197-07-30 21:06 J -29761819.72 -29761819.62 -29761819.53 0.0084 0.0059

Jupiter -86197-08-11 08:51 J -29761808.26 -29761808.13 -29761808.00 0.0532 0.0098

Pluto -86197-10-26 22:18 J -29761731.68 -29761731.57 -29761731.46 0.0084 0.0047

Pluto -86196-01-22 23:30 J -29761643.64 -29761643.52 -29761643.39 0.0084 0.0035

Mars -86196-02-07 00:13 J -29761628.61 -29761628.49 -29761628.38 0.1675 0.0616

Pluto -86196-04-21 00:42 J -29761555.59 -29761555.47 -29761555.33 0.0084 0.0024

Pluto -86196-07-18 02:08 J -29761467.54 -29761467.41 -29761467.27 0.0084 0.0011

Pluto -86196-10-14 03:35 J -29761379.49 -29761379.35 -29761379.22 0.0084 0.0003

Pluto -86195-01-10 04:47 J -29761291.43 -29761291.30 -29761291.17 0.0084 0.0013

Pluto -86195-04-08 05:59 J -29761203.38 -29761203.25 -29761203.12 0.0084 0.0024

Pluto -86195-07-05 07:11 J -29761115.32 -29761115.20 -29761115.08 0.0083 0.0036

Pluto -86195-10-01 08:23 J -29761027.25 -29761027.15 -29761027.04 0.0083 0.0047

Pluto -86195-12-28 09:35 J -29760939.19 -29760939.10 -29760939.00 0.0083 0.0059

Pluto -86194-03-26 10:32 J -29760851.11 -29760851.06 -29760850.97 0.0083 0.0070

Pluto -86194-06-22 11:59 J -29760763.02 -29760763.00 -29760762.97 0.0083 0.0081

Moon -86194-08-26 20:23 J -29760697.79 -29760697.65 -29760697.52 0.2588 0.0744

Earth -86194-08-26 21:20 J -29760697.75 -29760697.61 -29760697.47 0.2584 0.0796 *

Venus -86193-05-20 08:37 J -29760430.27 -29760430.14 -29760430.01 0.3615 0.0078

Venus -86192-12-04 17:15 J -29759866.85 -29759866.78 -29759866.71 0.3749 0.2896

Jupiter -86191-10-09 18:27 J -29759557.90 -29759557.73 -29759557.55 0.0495 0.0051

Jupiter -86190-01-07 21:06 J -29759467.70 -29759467.62 -29759467.54 0.0497 0.0441

Mars -86188-09-06 07:25 J -29758495.27 -29758495.19 -29758495.10 0.1866 0.1493

Venus -86188-12-04 07:54 J -29758406.29 -29758406.17 -29758406.04 0.3619 0.1011

Mars -86187-06-30 09:20 J -29758198.24 -29758198.11 -29758197.99 0.1681 0.0074

Saturn -86187-11-16 04:32 J -29758059.45 -29758059.31 -29758059.15 0.0288 0.0150

Saturn -86186-02-13 02:08 J -29757970.59 -29757970.41 -29757970.24 0.0288 0.0009

Saturn -86186-05-12 23:01 J -29757881.69 -29757881.54 -29757881.39 0.0289 0.0130

Saturn -86186-08-09 19:25 J -29757792.75 -29757792.69 -29757792.62 0.0289 0.0265

Jupiter -86185-03-02 02:51 J -29757587.44 -29757587.38 -29757587.32 0.0536 0.0476

Jupiter -86185-05-30 11:59 J -29757498.14 -29757498.00 -29757497.87 0.0533 0.0029

Jupiter -86185-08-27 21:35 J -29757408.67 -29757408.60 -29757408.52 0.0530 0.0438

Moon -86184-02-20 04:18 J -29757232.44 -29757232.32 -29757232.21 0.2748 0.0604

Earth -86184-02-20 04:32 J -29757232.43 -29757232.31 -29757232.20 0.2755 0.0547 *

Venus -86182-06-20 06:42 J -29756382.32 -29756382.22 -29756382.11 0.3623 0.1998

Earth -86181-08-28 22:47 J -29755946.58 -29755946.55 -29755946.53 0.2585 0.2531

Moon -86181-08-28 22:47 J -29755946.58 -29755946.55 -29755946.51 0.2591 0.2489 *

Venus -86179-03-14 08:23 J -29755384.19 -29755384.15 -29755384.11 0.3778 0.3464

Jupiter -86179-07-28 17:01 J -29755247.95 -29755247.79 -29755247.62 0.0494 0.0176

Jupiter -86179-10-26 19:54 J -29755157.80 -29755157.67 -29755157.53 0.0496 0.0319

Mars -86178-01-27 08:08 J -29755065.31 -29755065.16 -29755065.02 0.1858 0.0441

Mars -86178-11-20 18:27 J -29754767.85 -29754767.73 -29754767.61 0.1688 0.0513

Venus -86176-01-03 05:15 J -29754358.35 -29754358.28 -29754358.21 0.3627 0.2964

Uranus -86174-08-20 23:30 J -29753398.60 -29753398.52 -29753398.43 0.0139 0.0122

Moon -86174-08-21 22:03 J -29753397.61 -29753397.58 -29753397.54 0.2579 0.2485

Earth -86174-08-21 23:30 J -29753397.57 -29753397.52 -29753397.48 0.2582 0.2442 *

Venus -86174-09-28 02:37 J -29753360.47 -29753360.39 -29753360.32 0.3775 0.2726

Uranus -86174-11-17 06:13 J -29753310.36 -29753310.24 -29753310.11 0.0139 0.0098

Uranus -86173-02-13 12:56 J -29753222.10 -29753221.96 -29753221.80 0.0139 0.0075

Jupiter -86173-03-18 15:20 J -29753187.99 -29753187.86 -29753187.73 0.0534 0.0134

Uranus -86173-05-11 19:39 J -29753133.84 -29753133.68 -29753133.51 0.0139 0.0052

Jupiter -86173-06-16 00:56 J -29753098.56 -29753098.46 -29753098.35 0.0531 0.0326

Uranus -86173-08-08 02:23 J -29753045.57 -29753045.40 -29753045.23 0.0139 0.0029

Uranus -86173-11-04 08:51 J -29752957.31 -29752957.13 -29752956.95 0.0139 0.0007

Saturn -86173-12-08 16:03 J -29752922.83 -29752922.83 -29752922.82 0.0271 0.0270

Uranus -86172-01-31 15:20 J -29752869.03 -29752868.86 -29752868.68 0.0139 0.0016

Saturn -86172-03-07 03:35 J -29752834.45 -29752834.35 -29752834.25 0.0271 0.0182

Uranus -86172-04-29 21:49 J -29752780.76 -29752780.59 -29752780.42 0.0138 0.0038

Saturn -86172-06-03 15:06 J -29752746.00 -29752745.87 -29752745.74 0.0271 0.0092

Uranus -86172-07-27 03:49 J -29752692.48 -29752692.34 -29752692.17 0.0138 0.0061

Saturn -86172-08-31 02:51 J -29752657.52 -29752657.38 -29752657.24 0.0271 0.0001

Uranus -86172-10-23 10:18 J -29752604.20 -29752604.07 -29752603.92 0.0138 0.0081

Saturn -86172-11-27 14:37 J -29752569.02 -29752568.89 -29752568.75 0.0271 0.0092

Uranus -86171-01-19 16:32 J -29752515.92 -29752515.81 -29752515.69 0.0138 0.0103

Moon -86171-02-22 23:30 J -29752481.63 -29752481.52 -29752481.41 0.2750 0.0795

Earth -86171-02-23 00:13 J -29752481.60 -29752481.49 -29752481.38 0.2753 0.0889 *

Saturn -86171-02-24 02:37 J -29752480.49 -29752480.39 -29752480.28 0.0271 0.0186

Uranus -86171-04-17 22:32 J -29752427.62 -29752427.56 -29752427.47 0.0138 0.0124

Mars -86169-06-18 08:08 J -29751635.30 -29751635.16 -29751635.02 0.1850 0.0648

Mars -86168-04-12 03:35 J -29751337.45 -29751337.35 -29751337.25 0.1694 0.1072

Venus -86168-04-12 20:51 J -29751336.72 -29751336.63 -29751336.53 0.3771 0.1964

Jupiter -86167-05-16 15:20 J -29750938.00 -29750937.86 -29750937.72 0.0493 0.0304

Jupiter -86167-08-14 18:42 J -29750847.88 -29750847.72 -29750847.56 0.0496 0.0193

Mars -86166-03-18 15:06 J -29750631.95 -29750631.87 -29750631.78 0.1669 0.1257

Venus -86163-10-27 15:35 J -29749312.96 -29749312.85 -29749312.74 0.3768 0.1170

Jupiter -86161-01-05 19:11 J -29748877.82 -29748877.70 -29748877.59 0.0535 0.0243

Jupiter -86161-04-04 04:18 J -29748788.44 -29748788.32 -29748788.19 0.0532 0.0216

Moon -86161-08-24 00:13 J -29748646.63 -29748646.49 -29748646.35 0.2585 0.0798

Earth -86161-08-24 01:25 J -29748646.58 -29748646.44 -29748646.30 0.2583 0.0614 *

Mars -86160-11-08 08:08 J -29748205.21 -29748205.16 -29748205.11 0.1842 0.1718

Mars -86159-09-02 12:56 J -29747906.99 -29747906.96 -29747906.93 0.1701 0.1634

Moon -86158-02-25 19:25 J -29747730.75 -29747730.69 -29747730.62 0.2754 0.2280

Earth -86158-02-25 20:23 J -29747730.71 -29747730.65 -29747730.59 0.2752 0.2344 *

Saturn -86157-04-04 02:37 J -29747327.52 -29747327.39 -29747327.26 0.0288 0.0197

Venus -86157-05-12 10:18 J -29747289.18 -29747289.07 -29747288.95 0.3764 0.0369

Saturn -86157-07-02 00:13 J -29747238.66 -29747238.49 -29747238.32 0.0288 0.0056

Mars -86157-08-08 00:13 J -29747201.60 -29747201.49 -29747201.37 0.1675 0.0699

Saturn -86157-09-28 21:06 J -29747149.78 -29747149.62 -29747149.45 0.0288 0.0084

Saturn -86157-12-26 17:44 J -29747060.86 -29747060.76 -29747060.64 0.0288 0.0219

Jupiter -86155-03-04 14:08 J -29746628.00 -29746627.91 -29746627.83 0.0493 0.0427

Jupiter -86155-06-02 17:44 J -29746537.93 -29746537.76 -29746537.58 0.0495 0.0073

Venus -86153-05-11 08:08 J -29745829.22 -29745829.16 -29745829.09 0.3605 0.3150

Venus -86152-11-26 05:15 J -29745265.39 -29745265.28 -29745265.16 0.3761 0.0495

Earth -86151-02-18 13:54 J -29745181.01 -29745180.92 -29745180.83 0.2755 0.1652

Moon -86151-02-18 14:08 J -29745181.00 -29745180.91 -29745180.82 0.2748 0.1680 *

Jupiter -86150-10-24 22:18 J -29744567.66 -29744567.57 -29744567.47 0.0535 0.0358

Jupiter -86149-01-22 07:25 J -29744478.32 -29744478.19 -29744478.06 0.0532 0.0097

Mars -86148-03-07 07:54 J -29744068.24 -29744068.17 -29744068.10 0.1867 0.1611

Moon -86148-08-27 02:23 J -29743895.53 -29743895.40 -29743895.27 0.2589 0.1074

Earth -86148-08-27 03:06 J -29743895.50 -29743895.37 -29743895.24 0.2584 0.1161 *

Venus -86148-11-25 08:37 J -29743805.25 -29743805.14 -29743805.02 0.3608 0.1976

Mars -86148-12-29 09:20 J -29743771.23 -29743771.11 -29743770.98 0.1681 0.0135

Venus -86146-06-12 00:42 J -29743241.58 -29743241.47 -29743241.37 0.3757 0.1351

Jupiter -86143-03-21 16:32 J -29742227.99 -29742227.81 -29742227.64 0.0495 0.0052

Jupiter -86143-06-19 19:11 J -29742137.78 -29742137.70 -29742137.62 0.0498 0.0441

Saturn -86143-07-25 05:44 J -29742102.34 -29742102.26 -29742102.17 0.0272 0.0209

Saturn -86143-10-21 17:30 J -29742013.90 -29742013.77 -29742013.65 0.0272 0.0119

Saturn -86142-01-18 05:01 J -29741925.43 -29741925.29 -29741925.15 0.0272 0.0028

Saturn -86142-04-16 16:47 J -29741836.93 -29741836.80 -29741836.66 0.0271 0.0066

Venus -86142-06-11 08:37 J -29741781.27 -29741781.14 -29741781.01 0.3612 0.0855

Saturn -86142-07-14 04:47 J -29741748.41 -29741748.30 -29741748.18 0.0271 0.0159

Saturn -86142-10-10 17:01 J -29741659.83 -29741659.79 -29741659.74 0.0271 0.0253

Venus -86141-12-25 20:08 J -29741217.75 -29741217.66 -29741217.57 0.3752 0.2234

Neptune -86140-03-15 06:13 J -29741138.25 -29741138.24 -29741138.21 0.0089 0.0088

Neptune -86140-06-11 07:54 J -29741050.22 -29741050.17 -29741050.13 0.0089 0.0083

Neptune -86140-09-07 09:06 J -29740962.17 -29740962.12 -29740962.05 0.0089 0.0079

Neptune -86140-12-04 10:32 J -29740874.12 -29740874.06 -29740873.98 0.0089 0.0075

Neptune -86139-03-02 11:44 J -29740786.07 -29740786.01 -29740785.91 0.0089 0.0071

Neptune -86139-05-29 13:11 J -29740698.02 -29740697.95 -29740697.85 0.0089 0.0067

Mars -86139-07-28 08:23 J -29740638.29 -29740638.15 -29740638.01 0.1858 0.0551

Neptune -86139-08-25 14:51 J -29740609.97 -29740609.88 -29740609.78 0.0089 0.0062

Neptune -86139-11-21 16:18 J -29740521.92 -29740521.82 -29740521.72 0.0089 0.0058

Neptune -86138-02-17 17:30 J -29740433.86 -29740433.77 -29740433.65 0.0089 0.0054

Moon -86138-02-21 09:06 J -29740430.24 -29740430.12 -29740430.00 0.2748 0.0244

Earth -86138-02-21 09:35 J -29740430.22 -29740430.10 -29740429.99 0.2754 0.0254 *

Neptune -86138-05-16 18:56 J -29740345.81 -29740345.71 -29740345.59 0.0089 0.0050

Mars -86138-05-21 18:27 J -29740340.85 -29740340.73 -29740340.61 0.1688 0.0431

Neptune -86138-08-12 20:37 J -29740257.76 -29740257.64 -29740257.52 0.0089 0.0045

Jupiter -86138-08-13 01:25 J -29740257.49 -29740257.44 -29740257.38 0.0535 0.0473

Neptune -86138-11-08 22:03 J -29740169.70 -29740169.58 -29740169.46 0.0089 0.0041

Jupiter -86138-11-10 10:32 J -29740168.20 -29740168.06 -29740167.93 0.0533 0.0025

Neptune -86137-02-04 23:15 J -29740081.64 -29740081.53 -29740081.40 0.0089 0.0037

Jupiter -86137-02-07 20:08 J -29740078.74 -29740078.66 -29740078.59 0.0530 0.0437

Neptune -86137-05-03 00:56 J -29739993.58 -29739993.46 -29739993.33 0.0089 0.0032

Neptune -86137-07-30 02:23 J -29739905.53 -29739905.40 -29739905.27 0.0089 0.0028

Neptune -86137-10-26 03:49 J -29739817.47 -29739817.34 -29739817.21 0.0089 0.0024

Venus -86137-12-25 08:23 J -29739757.29 -29739757.15 -29739757.02 0.3616 0.0266

Neptune -86136-01-22 05:15 J -29739729.41 -29739729.28 -29739729.14 0.0089 0.0019

Neptune -86136-04-20 06:42 J -29739641.35 -29739641.22 -29739641.08 0.0089 0.0015

Neptune -86136-07-17 08:08 J -29739553.29 -29739553.16 -29739553.02 0.0089 0.0011

Neptune -86136-10-13 09:35 J -29739465.23 -29739465.10 -29739464.96 0.0089 0.0007

Neptune -86135-01-09 11:15 J -29739377.17 -29739377.03 -29739376.90 0.0089 0.0003

Neptune -86135-04-07 12:42 J -29739289.11 -29739288.97 -29739288.83 0.0089 0.0003

Neptune -86135-07-04 14:08 J -29739201.05 -29739200.91 -29739200.77 0.0089 0.0007

Venus -86135-07-11 15:49 J -29739193.90 -29739193.84 -29739193.78 0.3748 0.3148

Neptune -86135-09-30 15:35 J -29739112.98 -29739112.85 -29739112.71 0.0089 0.0011

Neptune -86135-12-27 17:01 J -29739024.92 -29739024.79 -29739024.65 0.0089 0.0016

Neptune -86134-03-25 18:42 J -29738936.86 -29738936.72 -29738936.59 0.0089 0.0020

Neptune -86134-06-21 19:54 J -29738848.79 -29738848.67 -29738848.53 0.0089 0.0025

Neptune -86134-09-17 21:35 J -29738760.73 -29738760.60 -29738760.47 0.0089 0.0029

Neptune -86134-12-14 23:01 J -29738672.66 -29738672.54 -29738672.41 0.0089 0.0034

Neptune -86133-03-12 00:27 J -29738584.60 -29738584.48 -29738584.35 0.0089 0.0038

Neptune -86133-06-08 02:08 J -29738496.53 -29738496.41 -29738496.29 0.0089 0.0042

Neptune -86133-09-04 03:35 J -29738408.46 -29738408.35 -29738408.23 0.0089 0.0047

Neptune -86133-12-01 05:15 J -29738320.40 -29738320.28 -29738320.17 0.0089 0.0051

Neptune -86132-02-27 06:27 J -29738232.33 -29738232.23 -29738232.11 0.0089 0.0056

Neptune -86132-05-26 08:08 J -29738144.26 -29738144.16 -29738144.05 0.0089 0.0060

Neptune -86132-08-22 09:35 J -29738056.18 -29738056.10 -29738056.00 0.0089 0.0065

Neptune -86132-11-18 11:15 J -29737968.11 -29737968.03 -29737967.94 0.0089 0.0069

Jupiter -86131-01-07 14:51 J -29737918.05 -29737917.88 -29737917.72 0.0494 0.0181

Neptune -86131-02-14 12:42 J -29737880.04 -29737879.97 -29737879.89 0.0089 0.0074

Jupiter -86131-04-07 17:44 J -29737827.89 -29737827.76 -29737827.62 0.0496 0.0315

Neptune -86131-05-13 14:23 J -29737791.96 -29737791.90 -29737791.83 0.0089 0.0078

Venus -86131-07-11 07:25 J -29737733.31 -29737733.19 -29737733.07 0.3620 0.1268

Neptune -86131-08-09 15:49 J -29737703.88 -29737703.84 -29737703.78 0.0089 0.0083

Neptune -86131-11-05 17:30 J -29737615.79 -29737615.77 -29737615.74 0.0089 0.0087

Mars -86130-12-18 08:37 J -29737208.28 -29737208.14 -29737207.99 0.1850 0.0523

Uranus -86129-04-15 17:15 J -29737088.83 -29737088.78 -29737088.72 0.0139 0.0127

Uranus -86129-07-12 20:51 J -29737000.70 -29737000.63 -29737000.54 0.0139 0.0111

Uranus -86129-10-09 00:27 J -29736912.57 -29736912.48 -29736912.36 0.0139 0.0094

Mars -86129-10-11 03:35 J -29736910.45 -29736910.35 -29736910.25 0.1694 0.0996

Uranus -86128-01-05 04:32 J -29736824.43 -29736824.31 -29736824.19 0.0140 0.0076

Uranus -86128-04-03 08:23 J -29736736.28 -29736736.15 -29736736.03 0.0140 0.0058

Uranus -86128-06-30 12:13 J -29736648.13 -29736647.99 -29736647.86 0.0140 0.0040

Saturn -86128-08-22 04:47 J -29736595.42 -29736595.30 -29736595.19 0.0288 0.0219

Moon -86128-08-22 04:03 J -29736595.40 -29736595.33 -29736595.26 0.2580 0.2273 *

Earth -86128-08-22 05:15 J -29736595.36 -29736595.28 -29736595.19 0.2582 0.2061 *

Uranus -86128-09-26 16:03 J -29736559.97 -29736559.83 -29736559.69 0.0140 0.0022

Saturn -86128-11-19 02:23 J -29736506.57 -29736506.40 -29736506.23 0.0288 0.0077

Uranus -86128-12-23 19:54 J -29736471.81 -29736471.67 -29736471.53 0.0140 0.0004

Saturn -86127-02-15 23:30 J -29736417.69 -29736417.52 -29736417.35 0.0289 0.0062

Uranus -86127-03-21 23:44 J -29736383.65 -29736383.51 -29736383.37 0.0140 0.0015

Saturn -86127-05-15 20:08 J -29736328.78 -29736328.66 -29736328.53 0.0289 0.0199

Uranus -86127-06-18 03:35 J -29736295.48 -29736295.35 -29736295.20 0.0140 0.0034

Uranus -86127-09-14 07:39 J -29736207.31 -29736207.18 -29736207.04 0.0141 0.0052

Mars -86127-09-16 15:20 J -29736204.93 -29736204.86 -29736204.78 0.1669 0.1337

Uranus -86127-12-11 11:44 J -29736119.13 -29736119.01 -29736118.89 0.0141 0.0071

Uranus -86126-03-09 15:35 J -29736030.95 -29736030.85 -29736030.73 0.0141 0.0090

Uranus -86126-06-05 19:39 J -29735942.76 -29735942.68 -29735942.58 0.0141 0.0109

Jupiter -86126-08-29 13:25 J -29735858.07 -29735857.94 -29735857.82 0.0534 0.0143

Uranus -86126-09-01 23:59 J -29735854.55 -29735854.50 -29735854.44 0.0141 0.0128

Jupiter -86126-11-26 22:47 J -29735768.66 -29735768.55 -29735768.44 0.0531 0.0316

Venus -86125-01-25 06:13 J -29735709.34 -29735709.24 -29735709.14 0.3624 0.2263

Moon -86125-02-24 04:32 J -29735679.41 -29735679.31 -29735679.20 0.2750 0.1067

Earth -86125-02-24 05:15 J -29735679.38 -29735679.28 -29735679.17 0.2753 0.1185 *

Venus -86123-10-19 06:27 J -29734711.28 -29734711.23 -29734711.17 0.3777 0.3279

Mars -86120-05-09 08:37 J -29733778.21 -29733778.14 -29733778.06 0.1842 0.1600

Venus -86120-08-10 04:32 J -29733685.37 -29733685.31 -29733685.25 0.3628 0.3213

Jupiter -86120-10-26 13:11 J -29733608.08 -29733607.95 -29733607.80 0.0493 0.0307

Jupiter -86119-01-24 16:47 J -29733517.96 -29733517.80 -29733517.64 0.0496 0.0192

Mars -86119-03-03 12:56 J -29733480.01 -29733479.96 -29733479.92 0.1701 0.1563

Earth -86118-02-16 23:15 J -29733129.53 -29733129.53 -29733129.52 0.2756 0.2746

Moon -86118-02-16 23:59 J -29733129.51 -29733129.50 -29733129.49 0.2751 0.2718

Mars -86117-02-07 00:27 J -29732774.60 -29732774.48 -29732774.37 0.1675 0.0775

Venus -86117-05-04 00:42 J -29732687.55 -29732687.47 -29732687.39 0.3774 0.2531

Moon -86115-08-25 06:13 J -29731844.39 -29731844.24 -29731844.10 0.2586 0.0311

Earth -86115-08-25 07:25 J -29731844.33 -29731844.19 -29731844.04 0.2583 0.0237 *

Jupiter -86114-06-17 16:47 J -29731547.91 -29731547.80 -29731547.68 0.0535 0.0254

Jupiter -86114-09-15 02:08 J -29731458.53 -29731458.41 -29731458.29 0.0532 0.0204

Saturn -86114-12-12 09:06 J -29731370.19 -29731370.12 -29731370.04 0.0271 0.0225

Saturn -86113-03-09 20:37 J -29731281.76 -29731281.64 -29731281.52 0.0271 0.0136

Saturn -86113-06-06 08:08 J -29731193.29 -29731193.16 -29731193.02 0.0271 0.0047

Saturn -86113-09-02 20:08 J -29731104.80 -29731104.66 -29731104.53 0.0271 0.0047

Saturn -86113-11-30 07:54 J -29731016.29 -29731016.17 -29731016.05 0.0271 0.0139

Moon -86112-02-26 00:42 J -29730928.52 -29730928.47 -29730928.43 0.2755 0.2544

Earth -86112-02-26 01:25 J -29730928.47 -29730928.44 -29730928.41 0.2752 0.2639 *

Saturn -86112-02-26 19:54 J -29730927.73 -29730927.67 -29730927.59 0.0270 0.0234

Venus -86112-11-17 19:11 J -29730663.80 -29730663.70 -29730663.60 0.3771 0.1758

Mars -86109-09-05 08:23 J -29729641.20 -29729641.15 -29729641.10 0.1867 0.1725

Mars -86108-06-29 09:35 J -29729344.23 -29729344.10 -29729343.98 0.1681 0.0221

Jupiter -86108-08-14 11:30 J -29729298.10 -29729298.02 -29729297.94 0.0493 0.0435

Jupiter -86108-11-12 15:06 J -29729208.04 -29729207.87 -29729207.69 0.0495 0.0065

Venus -86106-06-03 13:54 J -29728640.03 -29728639.92 -29728639.81 0.3767 0.0956

Moon -86105-02-19 18:56 J -29728378.81 -29728378.71 -29728378.60 0.2749 0.1280

Earth -86105-02-19 18:56 J -29728378.81 -29728378.71 -29728378.61 0.2755 0.1372 *

Jupiter -86102-04-05 20:37 J -29727237.74 -29727237.64 -29727237.55 0.0535 0.0362

Jupiter -86102-07-04 05:44 J -29727148.39 -29727148.26 -29727148.13 0.0533 0.0094

Moon -86102-08-28 08:37 J -29727093.25 -29727093.14 -29727093.02 0.2590 0.1478

Earth -86102-08-28 09:06 J -29727093.23 -29727093.12 -29727093.00 0.2584 0.1536 *

Venus -86101-12-17 08:37 J -29726616.25 -29726616.14 -29726616.02 0.3763 0.0168

Mars -86099-01-26 08:51 J -29726211.27 -29726211.13 -29726210.99 0.1859 0.0659

Mars -86099-11-19 18:42 J -29725913.84 -29725913.72 -29725913.60 0.1687 0.0349

Saturn -86098-01-09 02:37 J -29725863.45 -29725863.39 -29725863.32 0.0288 0.0267

Saturn -86098-04-08 00:27 J -29725774.64 -29725774.48 -29725774.32 0.0288 0.0125

Saturn -86098-07-05 21:49 J -29725685.77 -29725685.59 -29725685.42 0.0288 0.0016

Saturn -86098-10-02 18:42 J -29725596.87 -29725596.72 -29725596.58 0.0288 0.0154

Saturn -86098-12-30 15:06 J -29725507.87 -29725507.87 -29725507.86 0.0288 0.0288

Venus -86097-12-16 08:08 J -29725156.24 -29725156.16 -29725156.08 0.3606 0.2838

Jupiter -86096-08-31 14:08 J -29724898.08 -29724897.91 -29724897.73 0.0495 0.0057

Jupiter -86096-11-29 16:47 J -29724807.88 -29724807.80 -29724807.72 0.0497 0.0436

Venus -86095-07-03 03:49 J -29724592.45 -29724592.34 -29724592.23 0.3760 0.0712

Moon -86092-02-21 14:08 J -29723628.03 -29723627.91 -29723627.80 0.2748 0.0110

Earth -86092-02-21 14:37 J -29723628.01 -29723627.89 -29723627.78 0.2754 0.0047 *

Venus -86091-07-02 08:23 J -29723132.27 -29723132.15 -29723132.03 0.3609 0.1681

Jupiter -86090-01-22 23:59 J -29722927.55 -29722927.50 -29722927.44 0.0536 0.0474

Jupiter -86090-04-22 08:51 J -29722838.26 -29722838.13 -29722837.99 0.0533 0.0027

Mars -86090-06-18 09:06 J -29722781.26 -29722781.12 -29722780.97 0.1851 0.0406

Jupiter -86090-07-20 18:27 J -29722748.80 -29722748.73 -29722748.65 0.0530 0.0437

Uranus -86090-09-10 05:44 J -29722697.34 -29722697.26 -29722697.15 0.0139 0.0119

Uranus -86090-12-07 12:42 J -29722609.09 -29722608.97 -29722608.83 0.0139 0.0096

Venus -86089-01-16 23:01 J -29722568.64 -29722568.54 -29722568.43 0.3755 0.1588

Uranus -86089-03-04 19:25 J -29722520.83 -29722520.69 -29722520.53 0.0139 0.0073

Mars -86089-04-11 03:49 J -29722483.45 -29722483.34 -29722483.24 0.1694 0.0922

Uranus -86089-06-01 02:23 J -29722432.57 -29722432.40 -29722432.24 0.0139 0.0049

Uranus -86089-08-28 08:51 J -29722344.30 -29722344.13 -29722343.95 0.0139 0.0026

Uranus -86089-11-24 15:20 J -29722256.03 -29722255.86 -29722255.68 0.0139 0.0005

Uranus -86088-02-20 21:49 J -29722167.76 -29722167.59 -29722167.41 0.0138 0.0019

Uranus -86088-05-20 04:18 J -29722079.49 -29722079.32 -29722079.15 0.0138 0.0041

Uranus -86088-08-16 10:47 J -29721991.21 -29721991.05 -29721990.89 0.0138 0.0063

Uranus -86088-11-12 16:47 J -29721902.93 -29721902.80 -29721902.65 0.0138 0.0085

Uranus -86087-02-08 23:01 J -29721814.64 -29721814.54 -29721814.42 0.0138 0.0106

Mars -86087-03-17 15:35 J -29721777.92 -29721777.85 -29721777.79 0.1669 0.1420

Uranus -86087-05-08 05:15 J -29721726.34 -29721726.28 -29721726.20 0.0138 0.0127

Venus -86085-01-16 08:23 J -29721108.28 -29721108.15 -29721108.02 0.3613 0.0566

Saturn -86084-04-30 11:01 J -29720638.08 -29720638.04 -29720637.99 0.0272 0.0255

Jupiter -86084-06-19 12:42 J -29720588.13 -29720587.97 -29720587.80 0.0494 0.0182

Saturn -86084-07-27 22:32 J -29720549.66 -29720549.56 -29720549.45 0.0272 0.0166

Venus -86084-08-01 18:42 J -29720544.81 -29720544.72 -29720544.64 0.3751 0.2482

Jupiter -86084-09-17 15:49 J -29720497.97 -29720497.84 -29720497.70 0.0497 0.0314

Saturn -86084-10-24 10:03 J -29720461.21 -29720461.08 -29720460.94 0.0272 0.0076

Saturn -86083-01-20 21:49 J -29720372.73 -29720372.59 -29720372.45 0.0271 0.0019

Saturn -86083-04-19 09:49 J -29720284.22 -29720284.09 -29720283.96 0.0271 0.0110

Saturn -86083-07-16 21:49 J -29720195.68 -29720195.59 -29720195.49 0.0271 0.0204

Moon -86082-08-23 10:03 J -29719793.19 -29719793.08 -29719792.97 0.2582 0.1730

Earth -86082-08-23 11:30 J -29719793.13 -29719793.02 -29719792.91 0.2582 0.1679 *

Mars -86081-11-07 09:20 J -29719351.20 -29719351.11 -29719351.02 0.1842 0.1480

Venus -86080-08-01 07:54 J -29719084.30 -29719084.17 -29719084.04 0.3617 0.0519

Mars -86080-09-01 12:56 J -29719053.02 -29719052.96 -29719052.90 0.1700 0.1482

Moon -86079-02-24 09:35 J -29718877.20 -29718877.10 -29718877.00 0.2751 0.1427

Earth -86079-02-24 10:32 J -29718877.16 -29718877.06 -29718876.97 0.2753 0.1479 *

Jupiter -86078-02-08 11:59 J -29718528.12 -29718528.00 -29718527.87 0.0533 0.0140

Venus -86078-02-15 14:23 J -29718520.94 -29718520.90 -29718520.85 0.3747 0.3404

Jupiter -86078-05-08 21:35 J -29718438.71 -29718438.60 -29718438.50 0.0530 0.0319

Mars -86078-08-08 00:27 J -29718347.59 -29718347.48 -29718347.37 0.1675 0.0855

Venus -86074-02-15 06:42 J -29717060.33 -29717060.22 -29717060.10 0.3621 0.1544

Earth -86072-02-17 04:18 J -29716327.37 -29716327.32 -29716327.27 0.2756 0.2465

Moon -86072-02-17 05:01 J -29716327.35 -29716327.29 -29716327.24 0.2751 0.2346 *

Jupiter -86072-04-07 11:01 J -29716278.17 -29716278.04 -29716277.90 0.0493 0.0310

Jupiter -86072-07-06 14:37 J -29716188.05 -29716187.89 -29716187.73 0.0496 0.0188

Mars -86069-03-06 08:51 J -29715214.15 -29715214.13 -29715214.11 0.1867 0.1840

Saturn -86069-08-25 01:54 J -29715042.56 -29715042.42 -29715042.26 0.0288 0.0150

Moon -86069-08-25 12:13 J -29715042.14 -29715041.99 -29715041.85 0.2586 0.0052

Earth -86069-08-25 13:25 J -29715042.09 -29715041.94 -29715041.80 0.2583 0.0142 *

Venus -86069-08-31 05:30 J -29715036.36 -29715036.27 -29715036.18 0.3625 0.2526

Saturn -86069-11-21 23:30 J -29714953.69 -29714953.52 -29714953.35 0.0288 0.0008

Mars -86069-12-28 09:35 J -29714917.22 -29714917.10 -29714916.97 0.1681 0.0293

Saturn -86068-02-18 20:37 J -29714864.80 -29714864.64 -29714864.49 0.0289 0.0131

Saturn -86068-05-18 17:01 J -29714775.85 -29714775.79 -29714775.72 0.0289 0.0266

Jupiter -86067-11-27 14:51 J -29714217.99 -29714217.88 -29714217.77 0.0535 0.0261

Jupiter -86066-02-25 00:13 J -29714128.62 -29714128.49 -29714128.37 0.0532 0.0196

Venus -86066-05-26 04:47 J -29714038.36 -29714038.30 -29714038.24 0.3776 0.3088

Venus -86063-03-17 03:49 J -29713012.38 -29713012.34 -29713012.31 0.3629 0.3466

Venus -86061-12-08 23:01 J -29712014.63 -29712014.54 -29712014.46 0.3773 0.2334

Jupiter -86060-01-24 09:35 J -29711968.18 -29711968.10 -29711968.02 0.0493 0.0435

Jupiter -86060-04-24 13:25 J -29711878.12 -29711877.94 -29711877.77 0.0495 0.0065

Mars -86060-07-27 09:20 J -29711784.24 -29711784.11 -29711783.98 0.1859 0.0780

Moon -86059-02-19 23:59 J -29711576.61 -29711576.50 -29711576.40 0.2748 0.1135

Earth -86059-02-19 23:59 J -29711576.61 -29711576.50 -29711576.40 0.2755 0.1080 *

Mars -86059-05-20 18:42 J -29711486.85 -29711486.72 -29711486.60 0.1687 0.0277

Neptune -86057-06-07 01:25 J -29710738.45 -29710738.44 -29710738.40 0.0089 0.0088

Neptune -86057-09-03 05:01 J -29710650.35 -29710650.29 -29710650.21 0.0089 0.0082

Neptune -86057-11-30 08:23 J -29710562.24 -29710562.15 -29710562.04 0.0089 0.0076

Neptune -86056-02-26 11:44 J -29710474.12 -29710474.01 -29710473.88 0.0089 0.0070

Neptune -86056-05-25 15:06 J -29710385.99 -29710385.87 -29710385.73 0.0089 0.0064

Neptune -86056-08-21 18:27 J -29710297.86 -29710297.73 -29710297.58 0.0089 0.0058

Moon -86056-08-28 14:37 J -29710290.98 -29710290.89 -29710290.79 0.2591 0.1925

Earth -86056-08-28 15:06 J -29710290.97 -29710290.87 -29710290.78 0.2585 0.1902 *

Neptune -86056-11-17 21:49 J -29710209.73 -29710209.59 -29710209.43 0.0089 0.0052

Neptune -86055-02-14 01:11 J -29710121.60 -29710121.45 -29710121.28 0.0089 0.0046

Neptune -86055-05-13 04:32 J -29710033.47 -29710033.31 -29710033.13 0.0089 0.0040

Venus -86055-06-24 17:30 J -29709990.87 -29709990.77 -29709990.67 0.3770 0.1550

Neptune -86055-08-09 07:54 J -29709945.34 -29709945.17 -29709944.99 0.0089 0.0034

Jupiter -86055-09-15 18:27 J -29709907.82 -29709907.73 -29709907.64 0.0536 0.0373

Saturn -86055-09-17 14:37 J -29709905.90 -29709905.89 -29709905.88 0.0271 0.0270

Neptune -86055-11-05 11:15 J -29709857.20 -29709857.03 -29709856.85 0.0089 0.0028

Jupiter -86055-12-14 03:35 J -29709818.48 -29709818.35 -29709818.22 0.0533 0.0083

Saturn -86055-12-15 01:54 J -29709817.52 -29709817.42 -29709817.31 0.0271 0.0182

Neptune -86054-02-01 14:37 J -29709769.07 -29709768.89 -29709768.71 0.0088 0.0022

Saturn -86054-03-13 13:25 J -29709729.07 -29709728.94 -29709728.81 0.0271 0.0092

Neptune -86054-04-30 17:44 J -29709680.93 -29709680.76 -29709680.57 0.0088 0.0017

Saturn -86054-06-10 01:11 J -29709640.59 -29709640.45 -29709640.31 0.0271 0.0002

Neptune -86054-07-27 21:06 J -29709592.80 -29709592.62 -29709592.43 0.0088 0.0010

Saturn -86054-09-06 12:56 J -29709552.09 -29709551.96 -29709551.82 0.0271 0.0092

Neptune -86054-10-24 00:27 J -29709504.66 -29709504.48 -29709504.29 0.0088 0.0004

Saturn -86054-12-04 00:56 J -29709463.56 -29709463.46 -29709463.35 0.0270 0.0185

Neptune -86053-01-20 03:49 J -29709416.53 -29709416.34 -29709416.16 0.0088 0.0002

Neptune -86053-04-17 06:56 J -29709328.39 -29709328.21 -29709328.02 0.0088 0.0008

Neptune -86053-07-14 10:03 J -29709240.26 -29709240.08 -29709239.89 0.0088 0.0014

Neptune -86053-10-10 13:25 J -29709152.12 -29709151.94 -29709151.76 0.0088 0.0019

Neptune -86052-01-06 16:47 J -29709063.98 -29709063.80 -29709063.63 0.0088 0.0025

Neptune -86052-04-04 19:54 J -29708975.84 -29708975.67 -29708975.50 0.0088 0.0031

Neptune -86052-07-01 22:47 J -29708887.70 -29708887.55 -29708887.37 0.0088 0.0037

Neptune -86052-09-28 01:54 J -29708799.57 -29708799.42 -29708799.24 0.0088 0.0043

Neptune -86052-12-25 05:30 J -29708711.43 -29708711.27 -29708711.12 0.0088 0.0048

Neptune -86051-03-23 08:23 J -29708623.29 -29708623.15 -29708622.99 0.0088 0.0054

Neptune -86051-06-19 11:30 J -29708535.14 -29708535.02 -29708534.87 0.0088 0.0059

Neptune -86051-09-15 14:51 J -29708447.00 -29708446.88 -29708446.75 0.0088 0.0065

Neptune -86051-12-12 17:44 J -29708358.86 -29708358.76 -29708358.64 0.0088 0.0071

Mars -86051-12-17 09:35 J -29708354.25 -29708354.10 -29708353.95 0.1851 0.0293

Neptune -86050-03-10 20:37 J -29708270.71 -29708270.64 -29708270.53 0.0088 0.0077

Neptune -86050-06-06 23:59 J -29708182.55 -29708182.50 -29708182.42 0.0088 0.0082

Neptune -86050-09-03 02:51 J -29708094.38 -29708094.38 -29708094.33 0.0088 0.0088

Mars -86050-10-11 03:49 J -29708056.45 -29708056.34 -29708056.23 0.1694 0.0839

Venus -86049-01-08 12:13 J -29707967.10 -29707966.99 -29707966.88 0.3766 0.0746

Jupiter -86048-02-10 11:44 J -29707568.18 -29707568.01 -29707567.84 0.0494 0.0063

Jupiter -86048-05-11 14:23 J -29707477.98 -29707477.90 -29707477.81 0.0497 0.0429

Mars -86048-09-15 15:35 J -29707350.90 -29707350.85 -29707350.80 0.1669 0.1499

Moon -86046-02-22 19:11 J -29706825.82 -29706825.70 -29706825.59 0.2748 0.0342

Earth -86046-02-22 19:39 J -29706825.79 -29706825.68 -29706825.56 0.2754 0.0331 *

Uranus -86045-05-06 00:27 J -29706387.53 -29706387.48 -29706387.40 0.0139 0.0123

Uranus -86045-08-02 04:32 J -29706299.40 -29706299.31 -29706299.22 0.0139 0.0106

Uranus -86045-10-29 08:08 J -29706211.26 -29706211.16 -29706211.05 0.0139 0.0088

Pluto -86045-11-26 02:23 J -29706183.46 -29706183.40 -29706183.30 0.0060 0.0055

Uranus -86044-01-25 11:59 J -29706123.12 -29706123.00 -29706122.88 0.0140 0.0071

Pluto -86044-02-22 03:35 J -29706095.44 -29706095.35 -29706095.21 0.0060 0.0049

Uranus -86044-04-23 15:49 J -29706034.97 -29706034.84 -29706034.71 0.0140 0.0053

Pluto -86044-05-21 05:01 J -29706007.40 -29706007.29 -29706007.13 0.0060 0.0043

Uranus -86044-07-20 19:39 J -29705946.82 -29705946.68 -29705946.55 0.0140 0.0035

Venus -86044-07-24 07:11 J -29705943.32 -29705943.20 -29705943.09 0.3762 0.0172

Pluto -86044-08-17 06:42 J -29705919.36 -29705919.22 -29705919.05 0.0060 0.0036

Uranus -86044-10-16 23:30 J -29705858.66 -29705858.52 -29705858.38 0.0140 0.0017

Pluto -86044-11-13 08:08 J -29705831.31 -29705831.16 -29705830.98 0.0061 0.0030

Uranus -86043-01-13 03:20 J -29705770.50 -29705770.36 -29705770.22 0.0140 0.0002

Pluto -86043-02-09 09:49 J -29705743.26 -29705743.09 -29705742.91 0.0061 0.0023

Uranus -86043-04-11 07:11 J -29705682.33 -29705682.20 -29705682.06 0.0140 0.0020

Pluto -86043-05-08 11:15 J -29705655.21 -29705655.03 -29705654.84 0.0061 0.0017

Jupiter -86043-07-04 22:18 J -29705597.63 -29705597.57 -29705597.52 0.0536 0.0480

Uranus -86043-07-08 11:15 J -29705594.16 -29705594.03 -29705593.89 0.0140 0.0038

Pluto -86043-08-04 12:56 J -29705567.16 -29705566.96 -29705566.77 0.0061 0.0010

Jupiter -86043-10-02 07:11 J -29705508.33 -29705508.20 -29705508.07 0.0533 0.0027

Uranus -86043-10-04 15:20 J -29705505.99 -29705505.86 -29705505.73 0.0141 0.0057

Pluto -86043-10-31 14:23 J -29705479.10 -29705478.90 -29705478.71 0.0061 0.0004

Jupiter -86043-12-30 16:47 J -29705418.87 -29705418.80 -29705418.72 0.0530 0.0434

Uranus -86043-12-31 19:11 J -29705417.81 -29705417.70 -29705417.58 0.0141 0.0076

Pluto -86042-01-27 15:49 J -29705391.04 -29705390.84 -29705390.65 0.0061 0.0003

Uranus -86042-03-29 23:15 J -29705329.63 -29705329.53 -29705329.42 0.0141 0.0095

Pluto -86042-04-25 17:15 J -29705302.97 -29705302.78 -29705302.59 0.0061 0.0009

Uranus -86042-06-26 03:20 J -29705241.44 -29705241.36 -29705241.27 0.0141 0.0114

Pluto -86042-07-22 18:27 J -29705214.91 -29705214.73 -29705214.53 0.0061 0.0016

Uranus -86042-09-22 07:25 J -29705153.22 -29705153.19 -29705153.14 0.0141 0.0133

Pluto -86042-10-18 20:08 J -29705126.84 -29705126.66 -29705126.47 0.0061 0.0022

Pluto -86041-01-14 21:20 J -29705038.76 -29705038.61 -29705038.42 0.0061 0.0030

Pluto -86041-04-11 23:15 J -29704950.69 -29704950.53 -29704950.37 0.0061 0.0036

Mars -86041-05-08 09:35 J -29704924.20 -29704924.10 -29704924.00 0.1842 0.1371

Pluto -86041-07-09 00:27 J -29704862.61 -29704862.48 -29704862.33 0.0061 0.0043

Pluto -86041-10-05 01:54 J -29704774.52 -29704774.42 -29704774.29 0.0061 0.0049

Pluto -86040-01-01 03:49 J -29704686.42 -29704686.34 -29704686.26 0.0061 0.0056

Mars -86040-03-02 13:11 J -29704626.02 -29704625.95 -29704625.89 0.1700 0.1405

Venus -86040-07-23 07:54 J -29704483.26 -29704483.17 -29704483.07 0.3606 0.2537

Saturn -86039-01-11 23:59 J -29704310.62 -29704310.50 -29704310.37 0.0288 0.0197

Saturn -86039-04-10 21:35 J -29704221.77 -29704221.60 -29704221.42 0.0288 0.0055

Saturn -86039-07-08 18:56 J -29704132.88 -29704132.71 -29704132.55 0.0288 0.0085

Saturn -86039-10-05 15:20 J -29704043.96 -29704043.86 -29704043.74 0.0288 0.0222

Mars -86038-02-06 00:42 J -29703920.58 -29703920.47 -29703920.37 0.1675 0.0939

Venus -86038-02-07 02:08 J -29703919.52 -29703919.41 -29703919.30 0.3758 0.0946

Jupiter -86037-11-29 10:32 J -29703258.22 -29703258.06 -29703257.89 0.0494 0.0185

Jupiter -86036-02-27 13:39 J -29703168.06 -29703167.93 -29703167.80 0.0496 0.0310

Moon -86036-08-23 15:49 J -29702990.95 -29702990.84 -29702990.72 0.2583 0.1532

Earth -86036-08-23 17:15 J -29702990.90 -29702990.78 -29702990.65 0.2582 0.1299 *

Venus -86034-02-06 08:08 J -29702459.28 -29702459.16 -29702459.04 0.3610 0.1382

Moon -86033-02-25 14:37 J -29702074.98 -29702074.89 -29702074.79 0.2753 0.1606

Earth -86033-02-25 15:35 J -29702074.94 -29702074.85 -29702074.76 0.2753 0.1774 *

Venus -86033-08-22 21:35 J -29701895.70 -29701895.60 -29701895.50 0.3754 0.1825

Jupiter -86031-07-21 10:32 J -29701198.18 -29701198.06 -29701197.93 0.0534 0.0140

Jupiter -86031-10-18 20:08 J -29701108.77 -29701108.66 -29701108.56 0.0531 0.0319

Mars -86029-06-28 09:35 J -29700490.22 -29700490.10 -29700489.97 0.1680 0.0379

Venus -86029-08-22 07:54 J -29700435.30 -29700435.17 -29700435.03 0.3614 0.0285

Venus -86027-03-08 17:15 J -29699871.86 -29699871.78 -29699871.70 0.3750 0.2731

Earth -86026-02-18 09:20 J -29699525.17 -29699525.11 -29699525.04 0.2756 0.2181

Moon -86026-02-18 10:03 J -29699525.15 -29699525.08 -29699525.01 0.2750 0.2139 *

Saturn -86025-05-03 03:35 J -29699085.43 -29699085.35 -29699085.26 0.0272 0.0213

Saturn -86025-07-30 15:20 J -29698996.99 -29698996.86 -29698996.74 0.0272 0.0123

Jupiter -86025-09-17 09:06 J -29698948.26 -29698948.12 -29698947.98 0.0494 0.0312

Saturn -86025-10-27 02:51 J -29698908.52 -29698908.38 -29698908.24 0.0271 0.0032

Jupiter -86025-12-16 12:27 J -29698858.14 -29698857.98 -29698857.81 0.0496 0.0188

Saturn -86024-01-23 14:37 J -29698820.03 -29698819.89 -29698819.75 0.0271 0.0061

Saturn -86024-04-22 02:37 J -29698731.51 -29698731.39 -29698731.28 0.0271 0.0154

Saturn -86024-07-19 14:37 J -29698642.94 -29698642.89 -29698642.83 0.0271 0.0249

Venus -86023-03-08 07:25 J -29698411.32 -29698411.19 -29698411.07 0.3618 0.0800

Moon -86023-08-26 18:27 J -29698239.87 -29698239.73 -29698239.59 0.2588 0.0502

Earth -86023-08-26 19:25 J -29698239.84 -29698239.69 -29698239.55 0.2583 0.0514 *

Venus -86022-09-22 13:11 J -29697847.97 -29697847.95 -29697847.93 0.3746 0.3662

Mars -86020-01-25 09:49 J -29697357.22 -29697357.09 -29697356.96 0.1859 0.0899

Mars -86020-11-18 18:42 J -29697059.84 -29697059.72 -29697059.59 0.1687 0.0200

Jupiter -86019-05-09 13:54 J -29696888.04 -29696887.92 -29696887.81 0.0534 0.0254

Jupiter -86019-08-06 23:01 J -29696798.66 -29696798.54 -29696798.41 0.0531 0.0202

Venus -86018-09-22 06:13 J -29696387.35 -29696387.24 -29696387.13 0.3622 0.1811

Venus -86015-06-16 08:37 J -29695389.16 -29695389.14 -29695389.11 0.3779 0.3638

Moon -86013-02-21 04:47 J -29694774.41 -29694774.30 -29694774.19 0.2748 0.0765

Earth -86013-02-21 05:01 J -29694774.40 -29694774.29 -29694774.18 0.2755 0.0791 *

Jupiter -86013-07-06 07:25 J -29694638.26 -29694638.19 -29694638.11 0.0493 0.0438

Jupiter -86013-10-04 11:15 J -29694548.20 -29694548.03 -29694547.85 0.0495 0.0063

Venus -86012-04-07 04:47 J -29694363.38 -29694363.30 -29694363.22 0.3626 0.2786

Mars -86011-06-17 10:03 J -29693927.23 -29693927.08 -29693926.93 0.1851 0.0176

Mars -86010-04-11 03:49 J -29693629.45 -29693629.34 -29693629.23 0.1694 0.0765

Saturn -86010-06-01 00:56 J -29693578.56 -29693578.46 -29693578.35 0.0288 0.0226

Saturn -86010-08-28 22:47 J -29693489.72 -29693489.55 -29693489.38 0.0288 0.0083

Moon -86010-08-29 20:37 J -29693488.71 -29693488.64 -29693488.56 0.2591 0.2196

Earth -86010-08-29 20:51 J -29693488.69 -29693488.63 -29693488.56 0.2585 0.2269 *

Saturn -86010-11-25 20:08 J -29693400.83 -29693400.66 -29693400.49 0.0289 0.0058

Venus -86010-12-31 02:51 J -29693365.45 -29693365.38 -29693365.31 0.3775 0.2898

Saturn -86009-02-22 16:47 J -29693311.92 -29693311.80 -29693311.67 0.0289 0.0196

Mars -86008-03-16 15:49 J -29692923.88 -29692923.84 -29692923.81 0.1668 0.1581

Jupiter -86007-02-25 16:32 J -29692577.90 -29692577.81 -29692577.72 0.0535 0.0378

Jupiter -86007-05-26 01:39 J -29692488.56 -29692488.43 -29692488.30 0.0533 0.0078

Uranus -86006-07-04 05:59 J -29692084.26 -29692084.25 -29692084.22 0.0139 0.0139

Uranus -86006-09-30 12:42 J -29691996.06 -29691995.97 -29691995.86 0.0139 0.0115

Uranus -86006-12-27 19:39 J -29691907.81 -29691907.68 -29691907.54 0.0139 0.0092

Uranus -86005-03-25 02:23 J -29691819.55 -29691819.40 -29691819.24 0.0139 0.0068

Uranus -86005-06-21 09:06 J -29691731.28 -29691731.12 -29691730.94 0.0139 0.0045

Uranus -86005-09-17 15:49 J -29691643.02 -29691642.84 -29691642.66 0.0139 0.0022

Uranus -86005-12-14 22:18 J -29691554.74 -29691554.57 -29691554.39 0.0139 0.0003

Uranus -86004-03-13 04:47 J -29691466.47 -29691466.30 -29691466.12 0.0138 0.0023

Uranus -86004-06-09 11:15 J -29691378.19 -29691378.03 -29691377.86 0.0138 0.0045

Venus -86004-07-15 21:06 J -29691341.71 -29691341.62 -29691341.53 0.3772 0.2134

Uranus -86004-09-05 17:44 J -29691289.92 -29691289.76 -29691289.61 0.0138 0.0067

Uranus -86004-12-02 23:59 J -29691201.63 -29691201.50 -29691201.36 0.0138 0.0088

Uranus -86003-03-01 05:59 J -29691113.34 -29691113.25 -29691113.13 0.0138 0.0110

Uranus -86003-05-28 12:13 J -29691025.03 -29691024.99 -29691024.93 0.0138 0.0131

Mars -86002-11-07 10:18 J -29690497.18 -29690497.07 -29690496.96 0.1842 0.1243

Jupiter -86001-07-23 10:03 J -29690238.25 -29690238.08 -29690237.90 0.0494 0.0062

Mars -86001-08-31 13:11 J -29690199.03 -29690198.95 -29690198.88 0.1700 0.1330

Jupiter -86001-10-21 12:42 J -29690148.05 -29690147.97 -29690147.88 0.0497 0.0431

86TH MILLENNIUM BCE

This is a list of transits of Mercury in the 86th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Moon	**-86000-02-23 00:13 J**		**-29690023.61**	**-29690023.49**	**-29690023.38**	**0.2749**	**0.0486**	
Earth	**-86000-02-23 00:42 J**		**-29690023.58**	**-29690023.47**	**-29690023.36**	**0.2754**	**0.0630**	*
Mars	**-85999-08-07 00:42 J**		**-29689493.57**	**-29689493.47**	**-29689493.37**	**0.1674**	**0.1016**	
Venus	**-85998-01-29 15:49 J**		**-29689317.95**	**-29689317.84**	**-29689317.74**	**0.3768**	**0.1351**	
Saturn	**-85996-09-20 07:11 J**		**-29688353.27**	**-29688353.20**	**-29688353.13**	**0.0271**	**0.0228**	
Jupiter	**-85996-12-14 20:08 J**		**-29688267.71**	**-29688267.66**	**-29688267.61**	**0.0536**	**0.0489**	
Saturn	**-85996-12-17 18:27 J**		**-29688264.84**	**-29688264.73**	**-29688264.61**	**0.0271**	**0.0140**	
Jupiter	**-85995-03-14 05:01 J**		**-29688178.42**	**-29688178.29**	**-29688178.15**	**0.0534**	**0.0038**	
Saturn	**-85995-03-16 06:13 J**		**-29688176.38**	**-29688176.24**	**-29688176.11**	**0.0271**	**0.0049**	
Jupiter	**-85995-06-11 14:51 J**		**-29688088.96**	**-29688088.88**	**-29688088.80**	**0.0531**	**0.0425**	
Saturn	**-85995-06-12 17:59 J**		**-29688087.89**	**-29688087.75**	**-29688087.62**	**0.0270**	**0.0044**	
Saturn	**-85995-09-09 05:44 J**		**-29687999.38**	**-29687999.26**	**-29687999.14**	**0.0270**	**0.0136**	
Saturn	**-85995-12-06 17:44 J**		**-29687910.83**	**-29687910.76**	**-29687910.68**	**0.0270**	**0.0229**	
Venus	**-85993-08-14 10:32 J**		**-29687294.17**	**-29687294.06**	**-29687293.95**	**0.3765**	**0.0529**	
Moon	**-85990-08-24 22:03 J**		**-29686188.72**	**-29686188.58**	**-29686188.45**	**0.2583**	**0.0978**	
Earth	**-85990-08-24 23:30 J**		**-29686188.66**	**-29686188.52**	**-29686188.39**	**0.2582**	**0.0917**	*

Mars -85990-12-28 09:49 J -29686063.21 -29686063.09 -29686062.97 0.1681 0.0452

Jupiter -85989-05-11 08:23 J -29685928.31 -29685928.15 -29685927.98 0.0494 0.0189

Jupiter -85989-08-09 11:30 J -29685838.16 -29685838.02 -29685837.89 0.0496 0.0306

Venus -85989-08-13 07:11 J -29685834.24 -29685834.20 -29685834.16 0.3604 0.3417

Moon -85987-02-25 19:39 J -29685272.75 -29685272.68 -29685272.60 0.2753 0.2043

Earth -85987-02-25 20:37 J -29685272.71 -29685272.64 -29685272.56 0.2752 0.2072 *

Venus -85987-02-28 05:30 J -29685270.38 -29685270.27 -29685270.16 0.3761 0.0314

Jupiter -85984-12-31 08:51 J -29683868.26 -29683868.13 -29683868.00 0.0534 0.0144

Venus -85983-02-27 07:54 J -29683810.28 -29683810.17 -29683810.07 0.3607 0.2232

Jupiter -85983-03-30 18:13 J -29683778.84 -29683778.74 -29683778.63 0.0531 0.0316

Venus -85982-09-14 00:42 J -29683246.58 -29683246.47 -29683246.36 0.3757 0.1178

Mars -85981-07-26 10:03 J -29682930.20 -29682930.08 -29682929.96 0.1859 0.1000

Saturn -85981-10-17 22:47 J -29682846.59 -29682846.55 -29682846.49 0.0288 0.0274

Saturn -85980-01-14 20:51 J -29682757.78 -29682757.63 -29682757.47 0.0288 0.0130

Earth -85980-02-18 14:23 J -29682722.98 -29682722.90 -29682722.81 0.2756 0.1897

Moon -85980-02-18 14:51 J -29682722.96 -29682722.88 -29682722.79 0.2750 0.1833 *

Saturn -85980-04-13 18:13 J -29682668.91 -29682668.74 -29682668.56 0.0288 0.0012

Mars -85980-05-19 18:56 J -29682632.84 -29682632.71 -29682632.59 0.1687 0.0114

Saturn -85980-07-11 15:20 J -29682580.01 -29682579.86 -29682579.72 0.0289 0.0149

Saturn -85980-10-08 11:44 J -29682491.03 -29682491.01 -29682490.98 0.0289 0.0285

Venus -85978-09-13 07:54 J -29681786.30 -29681786.17 -29681786.04 0.3611 0.1084

Jupiter -85977-02-28 07:11 J -29681618.34 -29681618.20 -29681618.06 0.0493 0.0312

Jupiter -85977-05-28 10:32 J -29681528.22 -29681528.06 -29681527.89 0.0496 0.0186

Moon -85977-08-27 00:27 J -29681437.62 -29681437.48 -29681437.34 0.2589 0.0722

Earth -85977-08-27 01:11 J -29681437.58 -29681437.45 -29681437.31 0.2584 0.0885 *

Venus -85976-03-29 20:08 J -29681222.75 -29681222.66 -29681222.56 0.3753 0.2071

Neptune -85976-12-10 05:59 J -29680967.27 -29680967.25 -29680967.21 0.0089 0.0086

Neptune -85975-03-08 07:11 J -29680879.24 -29680879.20 -29680879.14 0.0089 0.0082

Neptune -85975-06-04 08:37 J -29680791.19 -29680791.14 -29680791.06 0.0089 0.0078

Neptune -85975-08-31 10:03 J -29680703.14 -29680703.08 -29680703.00 0.0089 0.0074

Neptune -85975-11-27 11:44 J -29680615.09 -29680615.01 -29680614.93 0.0089 0.0069

Neptune -85974-02-23 12:56 J -29680527.04 -29680526.96 -29680526.86 0.0089 0.0065

Neptune -85974-05-22 14:23 J -29680438.99 -29680438.90 -29680438.80 0.0089 0.0061

Neptune -85974-08-18 15:49 J -29680350.94 -29680350.84 -29680350.73 0.0089 0.0057

Neptune -85974-11-14 17:01 J -29680262.88 -29680262.79 -29680262.67 0.0089 0.0053

Neptune -85973-02-10 18:42 J -29680174.83 -29680174.72 -29680174.60 0.0089 0.0048

Neptune -85973-05-08 20:08 J -29680086.77 -29680086.66 -29680086.54 0.0089 0.0044

Neptune -85973-08-04 21:35 J -29679998.72 -29679998.60 -29679998.47 0.0089 0.0039

Neptune -85973-10-31 23:01 J -29679910.66 -29679910.54 -29679910.41 0.0089 0.0035

Neptune -85972-01-28 00:27 J -29679822.60 -29679822.48 -29679822.35 0.0089 0.0031

Venus -85972-03-29 07:39 J -29679762.32 -29679762.18 -29679762.05 0.3615 0.0073

Neptune -85972-04-26 01:54 J -29679734.55 -29679734.42 -29679734.29 0.0089 0.0027

Neptune -85972-07-23 03:20 J -29679646.49 -29679646.36 -29679646.22 0.0089 0.0022

Neptune -85972-10-19 04:47 J -29679558.43 -29679558.30 -29679558.16 0.0089 0.0018

Jupiter -85972-10-19 12:27 J -29679558.09 -29679557.98 -29679557.86 0.0535 0.0254

Mars -85972-12-16 10:47 J -29679500.20 -29679500.05 -29679499.90 0.1851 0.0046

Neptune -85971-01-15 06:13 J -29679470.37 -29679470.24 -29679470.10 0.0089 0.0014

Jupiter -85971-01-16 21:35 J -29679468.72 -29679468.60 -29679468.47 0.0532 0.0203

Neptune -85971-04-13 07:39 J -29679382.31 -29679382.18 -29679382.04 0.0089 0.0010

Neptune -85971-07-10 09:20 J -29679294.25 -29679294.11 -29679293.98 0.0089 0.0005

Neptune -85971-10-06 10:47 J -29679206.19 -29679206.05 -29679205.91 0.0089 0.0000

Mars -85971-10-10 04:03 J -29679202.44 -29679202.33 -29679202.22 0.1693 0.0684

Venus -85971-10-13 15:49 J -29679198.91 -29679198.84 -29679198.77 0.3749 0.2985

Neptune -85970-01-02 12:13 J -29679118.13 -29679117.99 -29679117.85 0.0089 0.0004

Neptune -85970-03-31 13:39 J -29679030.06 -29679029.93 -29679029.79 0.0089 0.0009

Neptune -85970-06-27 15:06 J -29678942.00 -29678941.87 -29678941.73 0.0089 0.0013

Neptune -85970-09-23 16:32 J -29678853.94 -29678853.81 -29678853.67 0.0089 0.0018

Neptune -85970-12-20 18:13 J -29678765.87 -29678765.74 -29678765.61 0.0089 0.0022

Neptune -85969-03-17 19:39 J -29678677.81 -29678677.68 -29678677.55 0.0089 0.0026

Neptune -85969-06-13 21:06 J -29678589.75 -29678589.62 -29678589.49 0.0089 0.0031

Neptune -85969-09-09 22:32 J -29678501.68 -29678501.56 -29678501.43 0.0089 0.0035

Mars -85969-09-14 15:49 J -29678496.84 -29678496.84 -29678496.83 0.1668 0.1666

Neptune -85969-12-06 23:59 J -29678413.61 -29678413.50 -29678413.37 0.0089 0.0040

Neptune -85968-03-05 01:39 J -29678325.55 -29678325.43 -29678325.31 0.0089 0.0044

Neptune -85968-06-01 03:06 J -29678237.48 -29678237.37 -29678237.25 0.0089 0.0049

Neptune -85968-08-28 04:32 J -29678149.41 -29678149.31 -29678149.19 0.0089 0.0053

Neptune -85968-11-24 05:59 J -29678061.34 -29678061.25 -29678061.13 0.0089 0.0058

Neptune -85967-02-20 07:39 J -29677973.27 -29677973.18 -29677973.07 0.0089 0.0062

Moon -85967-02-21 09:49 J -29677972.20 -29677972.09 -29677971.98 0.2747 0.0565

Earth -85967-02-21 10:03 J -29677972.19 -29677972.08 -29677971.97 0.2755 0.0501 *

Neptune -85967-05-19 09:06 J -29677885.20 -29677885.12 -29677885.02 0.0089 0.0067

Neptune -85967-08-15 10:47 J -29677797.13 -29677797.05 -29677796.96 0.0089 0.0071

Venus -85967-10-13 06:42 J -29677738.34 -29677738.22 -29677738.09 0.3619 0.1070

Neptune -85967-11-11 12:13 J -29677709.05 -29677708.99 -29677708.91 0.0089 0.0076

Saturn -85966-02-07 08:37 J -29677621.17 -29677621.14 -29677621.10 0.0272 0.0261

Neptune -85966-02-07 13:54 J -29677620.97 -29677620.92 -29677620.86 0.0089 0.0080

Neptune -85966-05-06 15:20 J -29677532.89 -29677532.86 -29677532.81 0.0089 0.0085

Saturn -85966-05-06 19:54 J -29677532.77 -29677532.67 -29677532.56 0.0271 0.0173

Saturn -85966-08-03 07:25 J -29677444.32 -29677444.19 -29677444.05 0.0271 0.0083

Saturn -85966-10-30 19:11 J -29677355.84 -29677355.70 -29677355.56 0.0271 0.0011

Jupiter -85966-12-17 05:30 J -29677308.35 -29677308.27 -29677308.19 0.0493 0.0439

Saturn -85965-01-27 06:56 J -29677267.33 -29677267.21 -29677267.07 0.0271 0.0103

Jupiter -85965-03-16 09:20 J -29677218.28 -29677218.11 -29677217.93 0.0495 0.0064

Saturn -85965-04-24 18:56 J -29677178.80 -29677178.71 -29677178.61 0.0271 0.0196

Mars -85962-05-08 10:47 J -29676070.17 -29676070.05 -29676069.94 0.1843 0.1136

Uranus -85961-02-28 04:18 J -29675774.34 -29675774.32 -29675774.28 0.0139 0.0135

Mars -85961-03-01 13:11 J -29675772.03 -29675771.95 -29675771.87 0.1700 0.1253

Venus -85961-04-28 05:44 J -29675714.37 -29675714.26 -29675714.16 0.3623 0.2081

Uranus -85961-05-26 08:08 J -29675686.23 -29675686.16 -29675686.09 0.0139 0.0118

Uranus -85961-08-22 11:44 J -29675598.10 -29675598.01 -29675597.91 0.0139 0.0101

Uranus -85961-11-18 15:35 J -29675509.96 -29675509.85 -29675509.74 0.0139 0.0084

Uranus -85960-02-14 19:11 J -29675421.81 -29675421.70 -29675421.57 0.0140 0.0067

Uranus -85960-05-13 23:01 J -29675333.66 -29675333.54 -29675333.40 0.0140 0.0049

Jupiter -85960-08-07 15:49 J -29675247.93 -29675247.84 -29675247.75 0.0535 0.0368

Uranus -85960-08-10 03:06 J -29675245.51 -29675245.37 -29675245.23 0.0140 0.0030

Jupiter -85960-11-05 00:56 J -29675158.59 -29675158.46 -29675158.33 0.0532 0.0087

Uranus -85960-11-06 06:56 J -29675157.35 -29675157.21 -29675157.07 0.0140 0.0012

Uranus -85959-02-02 10:47 J -29675069.19 -29675069.05 -29675068.91 0.0140 0.0007

Mars -85959-02-05 00:42 J -29675066.56 -29675066.47 -29675066.37 0.1674 0.1098

Uranus -85959-05-01 14:51 J -29674981.02 -29674980.88 -29674980.74 0.0140 0.0025

Uranus -85959-07-28 18:42 J -29674892.85 -29674892.72 -29674892.58 0.0140 0.0043

Uranus -85959-10-24 22:47 J -29674804.68 -29674804.55 -29674804.42 0.0141 0.0062

Uranus -85958-01-21 02:37 J -29674716.50 -29674716.39 -29674716.27 0.0141 0.0081

Venus -85958-01-21 06:42 J -29674716.26 -29674716.22 -29674716.18 0.3778 0.3454

Uranus -85958-04-19 06:42 J -29674628.31 -29674628.22 -29674628.11 0.0141 0.0100

Uranus -85958-07-16 10:47 J -29674540.12 -29674540.05 -29674539.97 0.0141 0.0119

Uranus -85958-10-12 15:06 J -29674451.89 -29674451.87 -29674451.84 0.0141 0.0138

Moon -85957-08-22 01:39 J -29674137.45 -29674137.43 -29674137.40 0.2580 0.2526

Earth -85957-08-22 03:06 J -29674137.42 -29674137.37 -29674137.31 0.2582 0.2380 *

Venus -85956-11-12 04:03 J -29673690.40 -29673690.33 -29673690.26 0.3627 0.3042

Moon -85954-02-24 05:01 J -29673221.40 -29673221.29 -29673221.18 0.2751 0.0889

Earth -85954-02-24 05:44 J -29673221.36 -29673221.26 -29673221.15 0.2754 0.0928 *

Jupiter -85953-01-03 08:23 J -29672908.33 -29672908.15 -29672907.98 0.0494 0.0062

Jupiter -85953-04-02 11:01 J -29672818.12 -29672818.04 -29672817.96 0.0497 0.0430

Venus -85953-08-06 00:56 J -29672692.53 -29672692.46 -29672692.38 0.3774 0.2701

Pluto -85951-03-30 10:18 J -29672091.13 -29672091.07 -29672091.00 0.0085 0.0074

Saturn -85951-06-03 20:51 J -29672025.77 -29672025.63 -29672025.48 0.0288 0.0165

Pluto -85951-06-26 11:30 J -29672003.10 -29672003.02 -29672002.92 0.0085 0.0062

Saturn -85951-08-31 18:27 J -29671936.90 -29671936.73 -29671936.55 0.0289 0.0022

Pluto -85951-09-22 12:56 J -29671915.06 -29671914.96 -29671914.85 0.0084 0.0049

Saturn -85951-11-28 15:35 J -29671848.00 -29671847.85 -29671847.69 0.0289 0.0118

Pluto -85951-12-19 14:23 J -29671827.02 -29671826.90 -29671826.78 0.0084 0.0037

Saturn -85950-02-25 12:27 J -29671759.06 -29671758.98 -29671758.90 0.0289 0.0254

Pluto -85950-03-17 15:35 J -29671738.97 -29671738.85 -29671738.72 0.0084 0.0025

Pluto -85950-06-13 16:47 J -29671650.92 -29671650.80 -29671650.66 0.0084 0.0014

Mars -85950-06-28 09:49 J -29671636.21 -29671636.09 -29671635.97 0.1680 0.0533

Pluto -85950-09-09 18:13 J -29671562.87 -29671562.74 -29671562.61 0.0084 0.0002

Pluto -85950-12-06 19:25 J -29671474.82 -29671474.69 -29671474.55 0.0084 0.0010

Pluto -85949-03-03 20:51 J -29671386.76 -29671386.63 -29671386.50 0.0084 0.0022

Pluto -85949-05-30 21:49 J -29671298.70 -29671298.59 -29671298.46 0.0084 0.0034

Pluto -85949-08-26 23:15 J -29671210.64 -29671210.53 -29671210.42 0.0083 0.0045

Pluto -85949-11-23 00:13 J -29671122.57 -29671122.49 -29671122.38 0.0083 0.0057

Pluto -85948-02-19 01:39 J -29671034.50 -29671034.43 -29671034.35 0.0083 0.0067

Pluto -85948-05-18 03:06 J -29670946.41 -29670946.37 -29670946.33 0.0083 0.0078

Jupiter -85948-05-26 18:27 J -29670937.78 -29670937.73 -29670937.68 0.0536 0.0492

Jupiter -85948-08-24 03:20 J -29670848.49 -29670848.36 -29670848.23 0.0534 0.0041

Jupiter -85948-11-21 13:11 J -29670759.03 -29670758.95 -29670758.87 0.0531 0.0421

Venus -85947-02-19 19:25 J -29670668.79 -29670668.69 -29670668.60 0.3771 0.1928

Moon -85944-08-25 04:03 J -29669386.47 -29669386.33 -29669386.19 0.2584 0.0718

Earth -85944-08-25 05:15 J -29669386.42 -29669386.28 -29669386.13 0.2583 0.0540 *

Venus -85942-09-05 14:08 J -29668645.02 -29668644.91 -29668644.81 0.3767 0.1137

Jupiter -85942-10-22 07:11 J -29668598.37 -29668598.20 -29668598.04 0.0494 0.0184

Jupiter -85941-01-20 10:03 J -29668508.21 -29668508.08 -29668507.94 0.0496 0.0310

Mars -85941-01-25 10:47 J -29668503.17 -29668503.05 -29668502.93 0.1860 0.1134

Moon -85941-02-27 00:56 J -29668470.53 -29668470.46 -29668470.39 0.2753 0.2195

Earth -85941-02-27 01:39 J -29668470.48 -29668470.43 -29668470.37 0.2752 0.2376 *

Mars -85941-11-17 18:56 J -29668205.83 -29668205.71 -29668205.58 0.1687 0.0043

Saturn -85937-09-22 23:30 J -29666800.62 -29666800.52 -29666800.42 0.0271 0.0188

Saturn -85937-12-20 11:01 J -29666712.17 -29666712.04 -29666711.91 0.0271 0.0099

Saturn -85936-03-18 22:32 J -29666623.70 -29666623.56 -29666623.42 0.0270 0.0008

Venus -85936-03-21 08:51 J -29666621.24 -29666621.13 -29666621.02 0.3764 0.0303

Jupiter -85936-06-12 06:56 J -29666538.34 -29666538.21 -29666538.09 0.0534 0.0152

Saturn -85936-06-15 10:18 J -29666535.20 -29666535.07 -29666534.94 0.0270 0.0085

Jupiter -85936-09-09 16:18 J -29666448.93 -29666448.82 -29666448.71 0.0532 0.0307

Saturn -85936-09-11 22:03 J -29666446.68 -29666446.58 -29666446.47 0.0270 0.0178

Earth -85934-02-19 19:25 J -29665920.78 -29665920.69 -29665920.59 0.2756 0.1615

Moon -85934-02-19 19:39 J -29665920.77 -29665920.68 -29665920.58 0.2749 0.1560 *

Venus -85932-03-20 07:11 J -29665161.27 -29665161.20 -29665161.13 0.3605 0.3102

Mars -85932-06-16 10:47 J -29665073.19 -29665073.05 -29665072.90 0.1851 0.0076

Mars -85931-04-10 04:03 J -29664775.44 -29664775.33 -29664775.21 0.1693 0.0606

Moon -85931-08-28 06:27 J -29664635.35 -29664635.23 -29664635.10 0.2590 0.1274

Earth -85931-08-28 07:11 J -29664635.32 -29664635.20 -29664635.07 0.2584 0.1259 *

Venus -85931-10-05 03:49 J -29664597.45 -29664597.34 -29664597.22 0.3760 0.0560

Jupiter -85930-08-10 05:15 J -29664288.41 -29664288.28 -29664288.14 0.0493 0.0312

Jupiter -85930-11-08 08:37 J -29664198.30 -29664198.14 -29664197.97 0.0495 0.0185

Venus -85927-10-04 07:39 J -29663137.30 -29663137.18 -29663137.07 0.3608 0.1922

Venus -85925-04-19 23:15 J -29662573.64 -29662573.53 -29662573.43 0.3756 0.1421

Jupiter -85924-03-31 10:32 J -29662228.17 -29662228.06 -29662227.94 0.0535 0.0260

Jupiter -85924-06-28 19:54 J -29662138.79 -29662138.67 -29662138.54 0.0532 0.0199

Mars -85923-11-06 11:15 J -29661643.16 -29661643.03 -29661642.91 0.1843 0.1016

Uranus -85922-07-24 12:56 J -29661383.00 -29661382.96 -29661382.91 0.0139 0.0135

Mars -85922-08-31 13:25 J -29661345.03 -29661344.94 -29661344.85 0.1700 0.1174

Uranus -85922-10-20 19:39 J -29661294.78 -29661294.68 -29661294.56 0.0139 0.0111

Saturn -85922-10-21 18:56 J -29661293.82 -29661293.71 -29661293.59 0.0288 0.0213

Uranus -85921-01-17 02:23 J -29661206.53 -29661206.40 -29661206.25 0.0139 0.0088

Saturn -85921-01-18 16:47 J -29661204.97 -29661204.80 -29661204.63 0.0288 0.0069

Moon -85921-02-22 14:51 J -29661170.00 -29661169.88 -29661169.77 0.2748 0.0227

Earth -85921-02-22 15:06 J -29661169.98 -29661169.87 -29661169.75 0.2754 0.0215 *

Uranus -85921-04-14 09:20 J -29661118.27 -29661118.11 -29661117.95 0.0139 0.0064

Saturn -85921-04-16 13:54 J -29661116.08 -29661115.92 -29661115.75 0.0289 0.0072

Venus -85921-04-19 07:39 J -29661113.31 -29661113.18 -29661113.05 0.3612 0.0788

Uranus -85921-07-11 15:49 J -29661030.00 -29661029.84 -29661029.66 0.0139 0.0042

Saturn -85921-07-14 10:47 J -29661027.16 -29661027.05 -29661026.93 0.0289 0.0209

Uranus -85921-10-07 22:32 J -29660941.73 -29660941.56 -29660941.38 0.0139 0.0019

Uranus -85920-01-04 05:15 J -29660853.46 -29660853.28 -29660853.10 0.0138 0.0004

Uranus -85920-04-02 11:44 J -29660765.19 -29660765.01 -29660764.84 0.0138 0.0026

Uranus -85920-06-29 17:59 J -29660676.91 -29660676.75 -29660676.58 0.0138 0.0049

Mars -85920-08-06 00:56 J -29660639.55 -29660639.46 -29660639.37 0.1674 0.1181

Uranus -85920-09-26 00:27 J -29660588.63 -29660588.48 -29660588.33 0.0138 0.0070

Venus -85920-11-03 18:42 J -29660549.81 -29660549.72 -29660549.63 0.3752 0.2319

Uranus -85920-12-23 06:42 J -29660500.34 -29660500.22 -29660500.08 0.0138 0.0092

Uranus -85919-03-21 12:56 J -29660412.05 -29660411.96 -29660411.85 0.0138 0.0113

Uranus -85919-06-17 18:56 J -29660323.73 -29660323.71 -29660323.66 0.0138 0.0135

Jupiter -85918-05-29 03:49 J -29659978.41 -29659978.34 -29659978.25 0.0492 0.0436

Jupiter -85918-08-27 07:39 J -29659888.35 -29659888.18 -29659888.00 0.0495 0.0065

Venus -85916-11-03 07:11 J -29659089.33 -29659089.20 -29659089.07 0.3616 0.0302

Venus -85914-05-20 14:23 J -29658525.95 -29658525.90 -29658525.84 0.3748 0.3244

Jupiter -85912-01-17 14:23 J -29657917.99 -29657917.90 -29657917.80 0.0535 0.0368

Jupiter -85912-04-16 23:30 J -29657828.65 -29657828.52 -29657828.39 0.0533 0.0087

Moon -85911-08-23 07:54 J -29657335.26 -29657335.17 -29657335.09 0.2580 0.2110

Earth -85911-08-23 09:06 J -29657335.21 -29657335.12 -29657335.02 0.2582 0.1993 *

Mars -85911-12-27 10:03 J -29657209.20 -29657209.08 -29657208.96 0.1680 0.0613

Venus -85910-05-20 06:13 J -29657065.36 -29657065.24 -29657065.12 0.3620 0.1342

Moon -85908-02-24 10:03 J -29656419.18 -29656419.08 -29656418.97 0.2751 0.1071

Earth -85908-02-24 11:01 J -29656419.15 -29656419.04 -29656418.94 0.2753 0.1222 *

Saturn -85907-02-10 00:42 J -29656068.54 -29656068.47 -29656068.39 0.0271 0.0222

Saturn -85907-05-09 12:13 J -29655980.11 -29655979.99 -29655979.87 0.0271 0.0133

Saturn -85907-08-05 23:44 J -29655891.65 -29655891.51 -29655891.37 0.0271 0.0043

Saturn -85907-11-02 11:30 J -29655803.16 -29655803.02 -29655802.89 0.0271 0.0050

Saturn -85906-01-29 23:15 J -29655714.65 -29655714.53 -29655714.41 0.0271 0.0142

Saturn -85906-04-28 11:15 J -29655626.09 -29655626.03 -29655625.96 0.0271 0.0236

Jupiter -85906-06-15 06:27 J -29655578.40 -29655578.23 -29655578.05 0.0494 0.0061

Jupiter -85906-09-13 09:20 J -29655488.19 -29655488.11 -29655488.03 0.0497 0.0432

Venus -85905-12-03 05:01 J -29655041.39 -29655041.29 -29655041.19 0.3624 0.2347

Mars -85902-07-26 11:01 J -29654076.14 -29654076.04 -29654075.93 0.1860 0.1243

Venus -85902-08-28 05:01 J -29654043.35 -29654043.29 -29654043.24 0.3777 0.3261

Earth -85901-02-18 05:01 J -29653869.31 -29653869.29 -29653869.27 0.2756 0.2703

Moon -85901-02-18 05:44 J -29653869.30 -29653869.26 -29653869.22 0.2753 0.2558 *

Mars -85901-05-18 19:11 J -29653778.83 -29653778.70 -29653778.58 0.1687 0.0076

Jupiter -85901-11-05 17:59 J -29653607.81 -29653607.75 -29653607.70 0.0536 0.0479

Jupiter -85900-02-03 02:51 J -29653518.51 -29653518.38 -29653518.25 0.0533 0.0028

Jupiter -85900-05-03 12:27 J -29653429.06 -29653428.98 -29653428.91 0.0530 0.0432

Venus -85899-06-19 03:20 J -29653017.41 -29653017.36 -29653017.31 0.3629 0.3295

Moon -85898-08-26 10:03 J -29652584.22 -29652584.08 -29652583.93 0.2586 0.0261

Earth -85898-08-26 11:15 J -29652584.17 -29652584.03 -29652583.88 0.2583 0.0163 *

Venus -85896-03-12 23:15 J -29652019.61 -29652019.53 -29652019.45 0.3773 0.2499

Moon -85895-02-27 06:13 J -29651668.27 -29651668.24 -29651668.22 0.2754 0.2652

Earth -85895-02-27 06:56 J -29651668.24 -29651668.21 -29651668.19 0.2752 0.2672 *

Jupiter -85894-04-03 05:30 J -29651268.43 -29651268.27 -29651268.11 0.0494 0.0183

Jupiter -85894-07-02 08:37 J -29651178.27 -29651178.14 -29651178.01 0.0496 0.0312

Mars -85893-12-15 11:30 J -29650646.17 -29650646.02 -29650645.87 0.1852 0.0182

Neptune -85892-03-04 00:13 J -29650567.52 -29650567.49 -29650567.42 0.0089 0.0086

Saturn -85892-03-09 17:59 J -29650561.83 -29650561.75 -29650561.66 0.0288 0.0253

Neptune -85892-05-31 03:35 J -29650479.41 -29650479.35 -29650479.25 0.0089 0.0080

Saturn -85892-06-06 15:49 J -29650472.99 -29650472.84 -29650472.67 0.0289 0.0109

Neptune -85892-08-27 06:56 J -29650391.29 -29650391.21 -29650391.08 0.0089 0.0074

Saturn -85892-09-03 13:25 J -29650384.11 -29650383.94 -29650383.77 0.0289 0.0034

Mars -85892-10-09 04:18 J -29650348.44 -29650348.32 -29650348.21 0.1693 0.0532

Neptune -85892-11-23 10:32 J -29650303.17 -29650303.06 -29650302.92 0.0089 0.0067

Saturn -85892-12-01 10:18 J -29650295.20 -29650295.07 -29650294.92 0.0289 0.0173

Neptune -85891-02-19 13:54 J -29650215.04 -29650214.92 -29650214.77 0.0089 0.0062

Neptune -85891-05-18 17:15 J -29650126.91 -29650126.78 -29650126.62 0.0089 0.0056

Neptune -85891-08-14 20:37 J -29650038.78 -29650038.64 -29650038.47 0.0089 0.0050

Venus -85891-09-26 17:44 J -29649995.86 -29649995.76 -29649995.66 0.3770 0.1720

Neptune -85891-11-10 23:59 J -29649950.65 -29649950.50 -29649950.32 0.0089 0.0044

Neptune -85890-02-07 03:20 J -29649862.51 -29649862.36 -29649862.17 0.0089 0.0038

Neptune -85890-05-06 06:42 J -29649774.38 -29649774.22 -29649774.03 0.0089 0.0032

Neptune -85890-08-02 10:03 J -29649686.25 -29649686.08 -29649685.89 0.0088 0.0026

Neptune -85890-10-29 13:39 J -29649598.11 -29649597.93 -29649597.75 0.0088 0.0019

Neptune -85889-01-25 16:47 J -29649509.98 -29649509.80 -29649509.61 0.0088 0.0014

Neptune -85889-04-22 20:08 J -29649421.84 -29649421.66 -29649421.47 0.0088 0.0008

Neptune -85889-07-19 23:30 J -29649333.70 -29649333.52 -29649333.33 0.0088 0.0002

Neptune -85889-10-16 02:51 J -29649245.57 -29649245.38 -29649245.19 0.0088 0.0004

Jupiter -85889-11-22 05:15 J -29649208.40 -29649208.28 -29649208.15 0.0534 0.0154

Neptune -85888-01-12 05:59 J -29649157.43 -29649157.25 -29649157.06 0.0088 0.0010

Jupiter -85888-02-19 14:51 J -29649118.99 -29649118.88 -29649118.77 0.0531 0.0306

Earth -85888-02-20 00:27 J -29649118.58 -29649118.48 -29649118.38 0.2755 0.1330

Moon -85888-02-20 00:42 J -29649118.57 -29649118.47 -29649118.37 0.2748 0.1351 *

Neptune -85888-04-10 09:06 J -29649069.29 -29649069.12 -29649068.93 0.0088 0.0017

Neptune -85888-07-07 12:27 J -29648981.16 -29648980.98 -29648980.80 0.0088 0.0022

Neptune -85888-10-03 15:35 J -29648893.02 -29648892.85 -29648892.67 0.0088 0.0028

Neptune -85888-12-30 18:42 J -29648804.88 -29648804.72 -29648804.54 0.0088 0.0034

Neptune -85887-03-28 21:49 J -29648716.74 -29648716.59 -29648716.41 0.0088 0.0040

Neptune -85887-06-25 01:25 J -29648628.60 -29648628.44 -29648628.28 0.0088 0.0045

Neptune -85887-09-21 04:18 J -29648540.46 -29648540.32 -29648540.16 0.0088 0.0051

Neptune -85887-12-18 07:25 J -29648452.32 -29648452.19 -29648452.04 0.0088 0.0057

Neptune -85886-03-16 10:32 J -29648364.18 -29648364.06 -29648363.92 0.0088 0.0062

Neptune -85886-06-12 13:54 J -29648276.03 -29648275.92 -29648275.80 0.0088 0.0068

Neptune -85886-09-08 16:47 J -29648187.89 -29648187.80 -29648187.68 0.0088 0.0074

Neptune -85886-12-05 20:08 J -29648099.73 -29648099.66 -29648099.57 0.0088 0.0079

Neptune -85885-03-02 23:01 J -29648011.58 -29648011.54 -29648011.47 0.0088 0.0085

Venus -85885-04-11 12:27 J -29647972.09 -29647971.98 -29647971.87 0.3766 0.0917

Moon -85885-08-28 12:27 J -29647833.10 -29647832.98 -29647832.86 0.2590 0.1492

Earth -85885-08-28 13:11 J -29647833.06 -29647832.95 -29647832.84 0.2584 0.1625 *

Mars -85883-05-07 11:44 J -29647216.14 -29647216.01 -29647215.88 0.1843 0.0900

Jupiter -85882-01-20 04:18 J -29646958.46 -29646958.32 -29646958.18 0.0493 0.0305

Mars -85882-03-01 13:25 J -29646918.04 -29646917.94 -29646917.85 0.1700 0.1101

Jupiter -85882-04-20 07:39 J -29646868.34 -29646868.18 -29646868.02 0.0495 0.0192

Mars -85880-02-04 00:56 J -29646212.54 -29646212.46 -29646212.37 0.1674 0.1259

Venus -85880-10-26 07:11 J -29645948.31 -29645948.20 -29645948.08 0.3763 0.0123

Saturn -85878-06-30 04:03 J -29645336.39 -29645336.33 -29645336.26 0.0271 0.0239

Saturn -85878-09-26 15:35 J -29645247.97 -29645247.85 -29645247.74 0.0271 0.0150

Saturn -85878-12-24 02:51 J -29645159.51 -29645159.38 -29645159.24 0.0270 0.0061

Uranus -85877-03-19 11:30 J -29645073.05 -29645073.02 -29645072.97 0.0139 0.0132

Saturn -85877-03-21 14:37 J -29645071.03 -29645070.89 -29645070.75 0.0270 0.0032

Uranus -85877-06-15 15:20 J -29644984.93 -29644984.86 -29644984.78 0.0139 0.0115

Saturn -85877-06-18 02:23 J -29644982.52 -29644982.40 -29644982.27 0.0270 0.0124

Jupiter -85877-09-10 08:51 J -29644898.24 -29644898.13 -29644898.02 0.0535 0.0266

Uranus -85877-09-11 18:56 J -29644896.80 -29644896.71 -29644896.60 0.0139 0.0098

Saturn -85877-09-14 14:23 J -29644893.98 -29644893.90 -29644893.82 0.0270 0.0217

Jupiter -85877-12-08 17:59 J -29644808.87 -29644808.75 -29644808.62 0.0532 0.0193

Uranus -85877-12-08 22:47 J -29644808.66 -29644808.55 -29644808.43 0.0139 0.0080 *

Uranus -85876-03-07 02:37 J -29644720.51 -29644720.39 -29644720.26 0.0140 0.0062

Uranus -85876-06-03 06:27 J -29644632.36 -29644632.23 -29644632.10 0.0140 0.0045

Uranus -85876-08-30 10:18 J -29644544.21 -29644544.07 -29644543.93 0.0140 0.0027

Venus -85876-10-25 07:11 J -29644488.29 -29644488.20 -29644488.12 0.3606 0.2788

Uranus -85876-11-26 14:08 J -29644456.05 -29644455.91 -29644455.77 0.0140 0.0009

Uranus -85875-02-22 17:59 J -29644367.89 -29644367.75 -29644367.61 0.0140 0.0010

Moon -85875-02-22 19:39 J -29644367.79 -29644367.68 -29644367.56 0.2749 0.0087 *

Earth -85875-02-22 20:08 J -29644367.77 -29644367.66 -29644367.54 0.2754 0.0103 *

Uranus -85875-05-21 22:03 J -29644279.72 -29644279.58 -29644279.44 0.0140 0.0028

Uranus -85875-08-18 01:54 J -29644191.55 -29644191.42 -29644191.28 0.0140 0.0047

Uranus -85875-11-14 05:59 J -29644103.38 -29644103.25 -29644103.13 0.0141 0.0066

Uranus -85874-02-10 09:49 J -29644015.19 -29644015.09 -29644014.97 0.0141 0.0085

Uranus -85874-05-09 13:54 J -29643927.01 -29643926.92 -29643926.82 0.0141 0.0104

Venus -85874-05-12 02:23 J -29643924.51 -29643924.40 -29643924.29 0.3759 0.0779

Uranus -85874-08-05 17:59 J -29643838.81 -29643838.75 -29643838.67 0.0141 0.0123

Mars -85873-07-21 22:47 J -29643487.58 -29643487.55 -29643487.53 0.1706 0.1665

Mars -85871-06-27 10:03 J -29642782.19 -29642782.08 -29642781.96 0.1680 0.0695

Jupiter -85871-11-08 02:23 J -29642648.48 -29642648.40 -29642648.32 0.0492 0.0433

Jupiter -85870-02-06 06:13 J -29642558.41 -29642558.24 -29642558.07 0.0495 0.0066

Venus -85870-05-11 07:25 J -29642464.31 -29642464.19 -29642464.07 0.3610 0.1618

Venus -85869-11-24 21:35 J -29641900.70 -29641900.60 -29641900.49 0.3755 0.1663

Jupiter -85865-06-29 12:42 J -29640588.06 -29640587.97 -29640587.88 0.0536 0.0372

Moon -85865-08-23 13:54 J -29640533.03 -29640532.92 -29640532.82 0.2581 0.1782

Earth -85865-08-23 15:06 J -29640532.98 -29640532.87 -29640532.75 0.2582 0.1609 *

Jupiter -85865-09-26 21:49 J -29640498.72 -29640498.59 -29640498.46 0.0533 0.0084

Venus -85865-11-24 07:25 J -29640440.33 -29640440.19 -29640440.06 0.3613 0.0507

Venus -85863-06-10 17:16 J -29639876.86 -29639876.78 -29639876.70 0.3751 0.2571

Saturn -85863-10-24 14:08 J -29639741.06 -29639740.91 -29639740.77 0.0289 0.0157

Saturn -85862-01-21 11:44 J -29639652.19 -29639652.01 -29639651.84 0.0289 0.0015

Mars -85862-01-24 11:30 J -29639649.12 -29639649.02 -29639648.92 0.1860 0.1352

Moon -85862-02-25 15:06 J -29639616.97 -29639616.87 -29639616.77 0.2751 0.1443

Earth -85862-02-25 16:04 J -29639616.93 -29639616.83 -29639616.74 0.2753 0.1511 *

Saturn -85862-04-20 08:52 J -29639563.29 -29639563.13 -29639562.98 0.0289 0.0126

Saturn -85862-07-18 05:30 J -29639474.33 -29639474.27 -29639474.20 0.0289 0.0263

Mars -85862-11-17 19:11 J -29639351.82 -29639351.70 -29639351.57 0.1686 0.0127

Venus -85859-06-10 06:42 J -29638416.35 -29638416.22 -29638416.09 0.3617 0.0583

Jupiter -85859-11-25 05:01 J -29638248.46 -29638248.29 -29638248.11 0.0494 0.0058

Jupiter -85858-02-23 07:54 J -29638158.25 -29638158.17 -29638158.09 0.0497 0.0435

Venus -85858-12-25 13:11 J -29637852.99 -29637852.95 -29637852.91 0.3746 0.3500

Earth -85855-02-18 10:04 J -29637067.13 -29637067.08 -29637067.03 0.2756 0.2423

Moon -85855-02-18 10:32 J -29637067.11 -29637067.06 -29637067.00 0.2751 0.2417 *

Venus -85854-12-25 05:44 J -29636392.38 -29636392.26 -29636392.14 0.3622 0.1620

Jupiter -85853-04-17 16:32 J -29636277.86 -29636277.81 -29636277.75 0.0536 0.0479

Mars -85853-06-15 11:59 J -29636219.14 -29636219.00 -29636218.85 0.1852 0.0298

Jupiter -85853-07-16 01:25 J -29636188.57 -29636188.44 -29636188.30 0.0534 0.0030

Jupiter -85853-10-13 11:01 J -29636099.11 -29636099.04 -29636098.96 0.0530 0.0434

Mars -85852-04-09 04:18 J -29635921.44 -29635921.32 -29635921.20 0.1693 0.0453

Moon -85852-08-26 16:04 J -29635781.97 -29635781.83 -29635781.68 0.2587 0.0125

Earth -85852-08-26 17:16 J -29635781.92 -29635781.78 -29635781.63 0.2583 0.0220 *

Saturn -85848-02-12 16:32 J -29634515.90 -29634515.81 -29634515.71 0.0271 0.0185

Saturn -85848-05-12 04:04 J -29634427.46 -29634427.33 -29634427.20 0.0271 0.0095

Venus -85848-07-10 04:18 J -29634368.41 -29634368.32 -29634368.23 0.3626 0.2604

Saturn -85848-08-08 15:35 J -29634338.99 -29634338.85 -29634338.71 0.0271 0.0007

Saturn -85848-11-05 03:20 J -29634250.49 -29634250.36 -29634250.23 0.0270 0.0088

Saturn -85847-02-01 15:06 J -29634161.97 -29634161.87 -29634161.76 0.0270 0.0181

Jupiter -85847-09-13 03:49 J -29633938.50 -29633938.34 -29633938.18 0.0494 0.0181

Jupiter -85847-12-12 06:56 J -29633848.34 -29633848.21 -29633848.07 0.0496 0.0315

Venus -85845-04-03 03:06 J -29633370.43 -29633370.37 -29633370.31 0.3776 0.3063

Mars -85844-11-05 12:13 J -29632789.13 -29632788.99 -29632788.85 0.1843 0.0780

Mars -85843-08-30 13:25 J -29632491.04 -29632490.94 -29632490.84 0.1699 0.1020

Venus -85842-01-24 02:37 J -29632344.42 -29632344.39 -29632344.37 0.3630 0.3553

Moon -85842-02-21 05:44 J -29632316.37 -29632316.26 -29632316.16 0.2748 0.0980

Earth -85842-02-21 05:30 J -29632316.37 -29632316.27 -29632316.16 0.2755 0.1045 *

Jupiter -85841-05-04 05:01 J -29631878.42 -29631878.29 -29631878.17 0.0534 0.0139

Jupiter -85841-08-01 14:23 J -29631789.01 -29631788.90 -29631788.79 0.0531 0.0319

Mars -85841-08-05 01:11 J -29631785.52 -29631785.45 -29631785.38 0.1674 0.1340

Venus -85840-10-17 21:20 J -29631346.69 -29631346.61 -29631346.52 0.3773 0.2303

Moon -85839-08-29 18:42 J -29631030.81 -29631030.72 -29631030.63 0.2590 0.2012

Earth -85839-08-29 18:56 J -29631030.80 -29631030.71 -29631030.61 0.2584 0.1993 *

Uranus -85838-08-13 19:40 J -29630681.73 -29630681.68 -29630681.60 0.0139 0.0131

Uranus -85838-11-10 02:52 J -29630593.49 -29630593.38 -29630593.27 0.0139 0.0107

Uranus -85837-02-06 09:35 J -29630505.24 -29630505.10 -29630504.95 0.0139 0.0083

Uranus -85837-05-04 16:18 J -29630416.98 -29630416.82 -29630416.65 0.0139 0.0060

Uranus -85837-07-31 23:01 J -29630328.71 -29630328.54 -29630328.37 0.0139 0.0037

Uranus -85837-10-28 05:44 J -29630240.44 -29630240.26 -29630240.08 0.0139 0.0014

Uranus -85836-01-24 12:13 J -29630152.17 -29630151.99 -29630151.81 0.0138 0.0008

Uranus -85836-04-22 18:42 J -29630063.89 -29630063.72 -29630063.54 0.0138 0.0031

Uranus -85836-07-20 00:56 J -29629975.61 -29629975.46 -29629975.29 0.0138 0.0053

Uranus -85836-10-16 07:11 J -29629887.33 -29629887.20 -29629887.04 0.0138 0.0075

Uranus -85835-01-12 13:40 J -29629799.05 -29629798.93 -29629798.80 0.0138 0.0096

Uranus -85835-04-10 19:54 J -29629710.75 -29629710.67 -29629710.57 0.0138 0.0118

Jupiter -85835-07-02 02:52 J -29629628.52 -29629628.38 -29629628.24 0.0493 0.0302

Jupiter -85835-09-30 06:13 J -29629538.40 -29629538.24 -29629538.08 0.0495 0.0196

Venus -85834-05-03 16:04 J -29629322.93 -29629322.83 -29629322.73 0.3769 0.1509

Mars -85833-01-20 22:32 J -29629060.60 -29629060.56 -29629060.51 0.1706 0.1596

Saturn -85833-03-12 12:28 J -29629009.11 -29629008.98 -29629008.86 0.0289 0.0202

Saturn -85833-06-09 10:04 J -29628920.25 -29628920.08 -29628919.90 0.0289 0.0058

Saturn -85833-09-06 07:25 J -29628831.35 -29628831.19 -29628831.02 0.0289 0.0084

Saturn -85833-12-04 04:18 J -29628742.42 -29628742.32 -29628742.20 0.0289 0.0223

Mars -85832-12-26 10:18 J -29628355.19 -29628355.07 -29628354.96 0.1680 0.0774

Jupiter -85829-02-21 07:25 J -29627568.30 -29627568.19 -29627568.07 0.0535 0.0264

Moon -85829-02-24 00:42 J -29627565.59 -29627565.47 -29627565.36 0.2749 0.0265

Earth -85829-02-24 01:11 J -29627565.56 -29627565.45 -29627565.33 0.2754 0.0376 *

Jupiter -85829-05-20 16:47 J -29627478.93 -29627478.80 -29627478.68 0.0532 0.0193

Venus -85829-11-16 10:47 J -29627299.16 -29627299.05 -29627298.94 0.3766 0.0704

Jupiter -85823-04-20 01:40 J -29625318.52 -29625318.43 -29625318.34 0.0492 0.0423

Venus -85823-06-02 05:44 J -29625275.38 -29625275.26 -29625275.15 0.3762 0.0182

Jupiter -85823-07-19 05:30 J -29625228.45 -29625228.27 -29625228.10 0.0495 0.0076

Mars -85823-07-25 11:59 J -29625222.09 -29625222.00 -29625221.91 0.1860 0.1472

Mars -85822-05-18 19:11 J -29624924.82 -29624924.70 -29624924.57 0.1686 0.0200

Venus -85819-06-01 06:56 J -29623815.31 -29623815.21 -29623815.11 0.3607 0.2481

Saturn -85819-07-02 19:54 J -29623783.76 -29623783.67 -29623783.58 0.0271 0.0203

Moon -85819-08-24 19:54 J -29623730.80 -29623730.67 -29623730.54 0.2583 0.1284

Earth -85819-08-24 21:20 J -29623730.74 -29623730.61 -29623730.48 0.2582 0.1218 *

Saturn -85819-09-29 07:11 J -29623695.32 -29623695.20 -29623695.07 0.0270 0.0114

Saturn -85819-12-26 18:42 J -29623606.85 -29623606.72 -29623606.58 0.0270 0.0025

Saturn -85818-03-25 06:28 J -29623518.36 -29623518.23 -29623518.09 0.0270 0.0069

Saturn -85818-06-21 18:13 J -29623429.85 -29623429.74 -29623429.62 0.0270 0.0162

Saturn -85818-09-18 06:13 J -29623341.28 -29623341.24 -29623341.19 0.0270 0.0256

Jupiter -85818-12-10 11:01 J -29623258.13 -29623258.04 -29623257.95 0.0536 0.0376

Venus -85818-12-17 00:42 J -29623251.58 -29623251.47 -29623251.36 0.3758 0.1015

Jupiter -85817-03-08 20:08 J -29623168.80 -29623168.66 -29623168.53 0.0533 0.0081

Moon -85816-02-25 20:23 J -29622814.74 -29622814.65 -29622814.56 0.2751 0.1686

Earth -85816-02-25 21:06 J -29622814.71 -29622814.62 -29622814.53 0.2753 0.1807 *

Mars -85814-12-15 12:28 J -29621792.13 -29621791.98 -29621791.84 0.1852 0.0406

Venus -85814-12-16 07:11 J -29621791.33 -29621791.20 -29621791.08 0.3611 0.1316

Mars -85813-10-08 04:18 J -29621494.44 -29621494.32 -29621494.19 0.1693 0.0373

Venus -85812-07-01 20:08 J -29621227.76 -29621227.66 -29621227.56 0.3754 0.1907

Jupiter -85811-05-07 03:49 J -29620918.51 -29620918.34 -29620918.16 0.0494 0.0051

Neptune -85811-06-10 04:32 J -29620884.32 -29620884.31 -29620884.29 0.0089 0.0088

Jupiter -85811-08-05 06:28 J -29620828.30 -29620828.23 -29620828.15 0.0496 0.0439

Neptune -85811-09-06 05:44 J -29620796.29 -29620796.26 -29620796.21 0.0089 0.0084

Neptune -85811-12-03 07:11 J -29620708.25 -29620708.20 -29620708.13 0.0089 0.0080

Neptune -85810-03-01 08:37 J -29620620.20 -29620620.14 -29620620.06 0.0089 0.0076

Neptune -85810-05-28 09:49 J -29620532.15 -29620532.09 -29620532.00 0.0089 0.0072

Neptune -85810-08-24 11:30 J -29620444.10 -29620444.02 -29620443.93 0.0089 0.0067

Neptune -85810-11-20 12:56 J -29620356.05 -29620355.96 -29620355.86 0.0089 0.0063

Neptune -85809-02-16 14:08 J -29620268.00 -29620267.91 -29620267.80 0.0089 0.0059

Earth -85809-02-19 15:06 J -29620264.94 -29620264.87 -29620264.80 0.2756 0.2140

Moon -85809-02-19 15:35 J -29620264.93 -29620264.85 -29620264.78 0.2750 0.2012 *

Neptune -85809-05-14 15:35 J -29620179.95 -29620179.85 -29620179.74 0.0089 0.0055

Neptune -85809-08-10 17:16 J -29620091.89 -29620091.78 -29620091.67 0.0089 0.0050

Neptune -85809-11-06 18:28 J -29620003.84 -29620003.73 -29620003.61 0.0089 0.0046

Neptune -85808-02-02 19:54 J -29619915.78 -29619915.67 -29619915.54 0.0089 0.0042

Neptune -85808-05-01 21:20 J -29619827.73 -29619827.61 -29619827.48 0.0089 0.0038

Venus -85808-07-01 06:42 J -29619767.35 -29619767.22 -29619767.08 0.3614 0.0240

Neptune -85808-07-28 23:01 J -29619739.67 -29619739.54 -29619739.42 0.0089 0.0033

Neptune -85808-10-25 00:13 J -29619651.61 -29619651.49 -29619651.36 0.0089 0.0029

Neptune -85807-01-21 01:40 J -29619563.56 -29619563.43 -29619563.29 0.0089 0.0025

Neptune -85807-04-19 03:06 J -29619475.50 -29619475.37 -29619475.23 0.0089 0.0020

Neptune -85807-07-16 04:32 J -29619387.44 -29619387.31 -29619387.17 0.0089 0.0016

Neptune -85807-10-12 05:59 J -29619299.38 -29619299.25 -29619299.11 0.0089 0.0012

Neptune -85806-01-08 07:40 J -29619211.32 -29619211.18 -29619211.05 0.0089 0.0007

Venus -85806-01-15 15:49 J -29619203.91 -29619203.84 -29619203.76 0.3749 0.2819

Neptune -85806-04-06 09:06 J -29619123.26 -29619123.12 -29619122.98 0.0089 0.0003

Neptune -85806-07-03 10:32 J -29619035.20 -29619035.06 -29619034.92 0.0089 0.0002

Moon -85806-08-27 22:04 J -29618979.72 -29618979.58 -29618979.43 0.2587 0.0480

Earth -85806-08-27 23:16 J -29618979.67 -29618979.53 -29618979.39 0.2583 0.0597 *

Jupiter -85806-09-28 14:52 J -29618947.93 -29618947.88 -29618947.83 0.0537 0.0483

Neptune -85806-09-29 11:59 J -29618947.14 -29618947.00 -29618946.86 0.0089 0.0006

Neptune -85806-12-26 13:25 J -29618859.07 -29618858.94 -29618858.80 0.0089 0.0011

Jupiter -85806-12-26 23:44 J -29618858.64 -29618858.51 -29618858.38 0.0534 0.0031

Neptune -85805-03-23 14:52 J -29618771.01 -29618770.88 -29618770.74 0.0089 0.0015

Jupiter -85805-03-25 09:20 J -29618769.18 -29618769.11 -29618769.03 0.0531 0.0432

Neptune -85805-06-19 16:18 J -29618682.95 -29618682.82 -29618682.68 0.0089 0.0020

Neptune -85805-09-15 17:59 J -29618594.88 -29618594.75 -29618594.62 0.0089 0.0024

Neptune -85805-12-12 19:25 J -29618506.82 -29618506.69 -29618506.56 0.0089 0.0028

Neptune -85804-03-10 20:52 J -29618418.75 -29618418.63 -29618418.50 0.0089 0.0033

Mars -85804-05-06 12:42 J -29618362.11 -29618361.97 -29618361.83 0.1844 0.0669

Neptune -85804-06-06 22:18 J -29618330.69 -29618330.57 -29618330.44 0.0089 0.0037

Saturn -85804-07-30 10:32 J -29618277.14 -29618277.06 -29618276.97 0.0289 0.0249

Neptune -85804-09-02 23:44 J -29618242.62 -29618242.51 -29618242.38 0.0089 0.0042

Saturn -85804-10-27 08:23 J -29618188.31 -29618188.15 -29618187.98 0.0289 0.0105

Neptune -85804-11-30 01:25 J -29618154.55 -29618154.44 -29618154.32 0.0089 0.0046

Saturn -85803-01-24 05:59 J -29618099.42 -29618099.25 -29618099.08 0.0289 0.0038

Neptune -85803-02-26 02:52 J -29618066.49 -29618066.38 -29618066.26 0.0089 0.0051

Mars -85803-02-28 13:40 J -29618064.04 -29618063.93 -29618063.83 0.1699 0.0943

Saturn -85803-04-23 03:06 J -29618010.50 -29618010.37 -29618010.24 0.0289 0.0177

Neptune -85803-05-25 04:18 J -29617978.42 -29617978.32 -29617978.20 0.0089 0.0055

Neptune -85803-08-21 05:44 J -29617890.35 -29617890.26 -29617890.14 0.0089 0.0060

Neptune -85803-11-17 07:25 J -29617802.28 -29617802.19 -29617802.09 0.0089 0.0064

Venus -85802-01-15 06:13 J -29617743.37 -29617743.24 -29617743.12 0.3619 0.0866

Neptune -85802-02-13 08:52 J -29617714.21 -29617714.13 -29617714.03 0.0089 0.0069

Neptune -85802-05-12 10:32 J -29617626.13 -29617626.06 -29617625.98 0.0089 0.0073

Neptune -85802-08-08 11:59 J -29617538.06 -29617538.00 -29617537.92 0.0089 0.0078

Neptune -85802-11-04 13:40 J -29617449.98 -29617449.93 -29617449.87 0.0089 0.0082

Neptune -85801-01-31 14:52 J -29617361.89 -29617361.88 -29617361.83 0.0089 0.0087

Mars -85801-02-04 01:25 J -29617358.51 -29617358.44 -29617358.38 0.1674 0.1425

Jupiter -85799-02-23 02:37 J -29616608.55 -29616608.39 -29616608.22 0.0493 0.0174

Jupiter -85799-05-24 05:44 J -29616518.39 -29616518.26 -29616518.13 0.0496 0.0320

Pluto -85799-07-26 15:06 J -29616454.87 -29616454.87 -29616454.85 0.0060 0.0060

Pluto -85799-10-22 16:04 J -29616366.89 -29616366.83 -29616366.72 0.0060 0.0055

Pluto -85798-01-18 17:59 J -29616278.86 -29616278.75 -29616278.63 0.0060 0.0048

Pluto -85798-04-16 19:11 J -29616190.82 -29616190.70 -29616190.54 0.0060 0.0042

Pluto -85798-07-13 20:37 J -29616102.78 -29616102.64 -29616102.47 0.0061 0.0036

Pluto -85798-10-09 22:18 J -29616014.73 -29616014.57 -29616014.39 0.0061 0.0029

Pluto -85797-01-05 23:30 J -29615926.68 -29615926.52 -29615926.32 0.0061 0.0023

Pluto -85797-04-03 00:56 J -29615838.63 -29615838.46 -29615838.26 0.0061 0.0017

Pluto -85797-06-30 02:37 J -29615750.58 -29615750.39 -29615750.19 0.0061 0.0010

Venus -85797-07-31 05:01 J -29615719.40 -29615719.29 -29615719.18 0.3623 0.1886

Pluto -85797-09-26 04:04 J -29615662.52 -29615662.33 -29615662.13 0.0061 0.0004

Pluto -85797-12-23 05:44 J -29615574.46 -29615574.26 -29615574.07 0.0061 0.0003

Moon -85796-02-21 10:32 J -29615514.17 -29615514.06 -29615513.95 0.2748 0.0817

Earth -85796-02-21 10:32 J -29615514.17 -29615514.06 -29615513.95 0.2755 0.0759 *

Pluto -85796-03-21 06:56 J -29615486.39 -29615486.21 -29615486.01 0.0061 0.0010

Pluto -85796-06-17 08:37 J -29615398.33 -29615398.14 -29615397.95 0.0061 0.0016

Pluto -85796-09-13 09:49 J -29615310.26 -29615310.09 -29615309.90 0.0061 0.0023

Pluto -85796-12-10 11:30 J -29615222.18 -29615222.02 -29615221.84 0.0061 0.0029

Pluto -85795-03-08 12:42 J -29615134.11 -29615133.97 -29615133.79 0.0061 0.0037

Pluto -85795-06-04 14:37 J -29615046.03 -29615045.89 -29615045.75 0.0061 0.0043

Pluto -85795-08-31 15:49 J -29614957.94 -29614957.84 -29614957.71 0.0061 0.0050

Mars -85795-09-26 12:42 J -29614932.01 -29614931.97 -29614931.92 0.1835 0.1737

Pluto -85795-11-27 17:01 J -29614869.84 -29614869.79 -29614869.69 0.0061 0.0057

Venus -85794-04-25 07:11 J -29614721.23 -29614721.20 -29614721.17 0.3778 0.3618

Mars -85794-07-21 22:47 J -29614633.61 -29614633.55 -29614633.50 0.1706 0.1518

Jupiter -85794-10-15 03:35 J -29614548.47 -29614548.35 -29614548.22 0.0534 0.0137

Jupiter -85793-01-12 12:56 J -29614459.06 -29614458.96 -29614458.85 0.0531 0.0322

Uranus -85793-04-08 18:28 J -29614371.77 -29614371.73 -29614371.67 0.0139 0.0129

Uranus -85793-07-05 22:04 J -29614283.65 -29614283.58 -29614283.48 0.0139 0.0113

Moon -85793-08-30 00:56 J -29614228.52 -29614228.46 -29614228.40 0.2591 0.2339

Earth -85793-08-30 00:56 J -29614228.52 -29614228.46 -29614228.40 0.2585 0.2357 *

Uranus -85793-10-02 02:08 J -29614195.51 -29614195.41 -29614195.31 0.0139 0.0094

Uranus -85793-12-29 05:44 J -29614107.37 -29614107.26 -29614107.14 0.0139 0.0077

Uranus -85792-03-27 09:35 J -29614019.22 -29614019.10 -29614018.97 0.0140 0.0059

Uranus -85792-06-23 13:25 J -29613931.07 -29613930.94 -29613930.81 0.0140 0.0042

Mars -85792-06-26 10:18 J -29613928.18 -29613928.07 -29613927.96 0.1680 0.0852

Uranus -85792-09-19 17:16 J -29613842.92 -29613842.78 -29613842.64 0.0140 0.0024

Uranus -85792-12-16 21:06 J -29613754.76 -29613754.62 -29613754.48 0.0140 0.0006

Venus -85791-02-14 03:35 J -29613695.43 -29613695.35 -29613695.28 0.3627 0.2867

Uranus -85791-03-15 00:56 J -29613666.59 -29613666.46 -29613666.32 0.0140 0.0014

Uranus -85791-06-11 05:01 J -29613578.43 -29613578.29 -29613578.15 0.0140 0.0031

Uranus -85791-09-07 08:52 J -29613490.26 -29613490.13 -29613489.99 0.0141 0.0050

Uranus -85791-12-04 12:56 J -29613402.08 -29613401.96 -29613401.84 0.0141 0.0069

Uranus -85790-03-02 16:47 J -29613313.90 -29613313.80 -29613313.68 0.0141 0.0088

Uranus -85790-05-29 20:52 J -29613225.71 -29613225.63 -29613225.53 0.0141 0.0107

Uranus -85790-08-26 00:56 J -29613137.51 -29613137.46 -29613137.39 0.0141 0.0126

Saturn -85790-11-19 20:52 J -29613051.69 -29613051.63 -29613051.56 0.0271 0.0238

Saturn -85789-02-16 08:23 J -29612963.27 -29612963.15 -29612963.04 0.0271 0.0149

Saturn -85789-05-14 19:40 J -29612874.81 -29612874.68 -29612874.54 0.0270 0.0059

Saturn -85789-08-11 07:25 J -29612786.33 -29612786.19 -29612786.05 0.0270 0.0033

Saturn -85789-11-07 19:11 J -29612697.82 -29612697.70 -29612697.58 0.0270 0.0125

Venus -85789-11-08 01:11 J -29612697.52 -29612697.45 -29612697.38 0.3775 0.2873

Saturn -85788-02-04 07:11 J -29612609.28 -29612609.20 -29612609.12 0.0270 0.0218

Jupiter -85788-12-12 01:11 J -29612298.59 -29612298.45 -29612298.30 0.0493 0.0299

Jupiter -85787-03-12 04:47 J -29612208.46 -29612208.30 -29612208.14 0.0496 0.0199

Mars -85783-01-23 12:28 J -29610795.05 -29610794.98 -29610794.90 0.1860 0.1591

Moon -85783-02-24 05:44 J -29610763.38 -29610763.26 -29610763.15 0.2749 0.0631

Earth -85783-02-24 06:13 J -29610763.35 -29610763.24 -29610763.12 0.2754 0.0670 *

Venus -85783-05-24 19:40 J -29610673.77 -29610673.68 -29610673.59 0.3772 0.2092

Mars -85783-11-16 19:25 J -29610497.82 -29610497.69 -29610497.57 0.1686 0.0284

Jupiter -85782-08-03 07:11 J -29610238.32 -29610238.20 -29610238.08 0.0535 0.0248

Jupiter -85782-10-31 16:18 J -29610148.94 -29610148.82 -29610148.69 0.0532 0.0209

Venus -85778-12-08 14:08 J -29608650.01 -29608649.91 -29608649.80 0.3768 0.1301

Jupiter -85776-09-30 00:13 J -29607988.58 -29607988.49 -29607988.40 0.0492 0.0419

Jupiter -85776-12-29 04:04 J -29607898.50 -29607898.33 -29607898.15 0.0495 0.0081

Saturn -85774-03-16 05:44 J -29607456.40 -29607456.26 -29607456.10 0.0289 0.0156

Saturn -85774-06-13 03:35 J -29607367.52 -29607367.35 -29607367.17 0.0289 0.0014

Mars -85774-06-15 12:56 J -29607365.11 -29607364.96 -29607364.82 0.1852 0.0524

Saturn -85774-09-10 00:56 J -29607278.61 -29607278.46 -29607278.30 0.0289 0.0129

Saturn -85774-12-07 21:35 J -29607189.65 -29607189.60 -29607189.53 0.0289 0.0268

Mars -85773-04-08 04:32 J -29607067.44 -29607067.31 -29607067.19 0.1693 0.0297

Moon -85773-08-25 01:54 J -29606928.55 -29606928.42 -29606928.29 0.2584 0.1059

Earth -85773-08-25 03:20 J -29606928.50 -29606928.36 -29606928.22 0.2583 0.0835 *

Venus -85772-06-23 09:06 J -29606626.24 -29606626.12 -29606626.01 0.3765 0.0491

Moon -85770-02-27 01:25 J -29606012.52 -29606012.44 -29606012.36 0.2753 0.1996

Earth -85770-02-27 02:08 J -29606012.48 -29606012.41 -29606012.33 0.2752 0.2106 *

Jupiter -85770-05-22 09:49 J -29605928.18 -29605928.09 -29605928.00 0.0536 0.0373

Jupiter -85770-08-19 18:56 J -29605838.85 -29605838.71 -29605838.58 0.0533 0.0084

Venus -85768-06-22 06:13 J -29605166.29 -29605166.24 -29605166.20 0.3604 0.3369

Venus -85766-01-07 04:04 J -29604602.45 -29604602.33 -29604602.22 0.3761 0.0389

Mars -85765-11-04 13:11 J -29603935.09 -29603934.95 -29603934.81 0.1844 0.0546

Mars -85764-08-29 13:40 J -29603637.04 -29603636.93 -29603636.83 0.1699 0.0866

Jupiter -85764-10-17 03:20 J -29603588.54 -29603588.36 -29603588.19 0.0494 0.0041

Jupiter -85763-01-15 05:59 J -29603498.32 -29603498.25 -29603498.18 0.0497 0.0451

Earth -85763-02-19 20:08 J -29603462.74 -29603462.66 -29603462.58 0.2756 0.1853

Moon -85763-02-19 20:37 J -29603462.72 -29603462.64 -29603462.56 0.2749 0.1864 *

Venus -85762-01-06 06:42 J -29603142.33 -29603142.22 -29603142.11 0.3608 0.2171

Mars -85762-08-05 01:25 J -29602931.50 -29602931.44 -29602931.39 0.1673 0.1501

Venus -85761-07-22 23:16 J -29602578.64 -29602578.53 -29602578.42 0.3757 0.1251

Saturn -85760-04-08 00:13 J -29602319.53 -29602319.49 -29602319.45 0.0271 0.0256

Saturn -85760-07-05 11:30 J -29602231.12 -29602231.02 -29602230.91 0.0271 0.0167

Moon -85760-08-28 04:18 J -29602177.45 -29602177.32 -29602177.18 0.2588 0.0922

Earth -85760-08-28 05:16 J -29602177.41 -29602177.28 -29602177.14 0.2584 0.0978 *

Saturn -85760-10-01 23:01 J -29602142.67 -29602142.54 -29602142.41 0.0270 0.0077

Saturn -85760-12-29 10:32 J -29602054.20 -29602054.06 -29602053.92 0.0270 0.0014

Saturn -85759-03-27 22:18 J -29601965.70 -29601965.57 -29601965.44 0.0270 0.0106

Saturn -85759-06-24 10:04 J -29601877.17 -29601877.08 -29601876.98 0.0270 0.0199

Jupiter -85758-03-10 13:11 J -29601618.00 -29601617.95 -29601617.89 0.0536 0.0485

Jupiter -85758-06-07 22:04 J -29601528.71 -29601528.58 -29601528.44 0.0534 0.0036

Jupiter -85758-09-05 07:54 J -29601439.25 -29601439.17 -29601439.10 0.0531 0.0428

Venus -85757-07-22 06:42 J -29601118.35 -29601118.22 -29601118.09 0.3612 0.1026

Venus -85755-02-05 18:42 J -29600554.81 -29600554.72 -29600554.63 0.3752 0.2149

Mars -85755-03-27 12:56 J -29600505.02 -29600504.96 -29600504.89 0.1835 0.1638

Mars -85754-01-19 22:47 J -29600206.61 -29600206.55 -29600206.48 0.1706 0.1438

Uranus -85754-09-03 02:23 J -29599980.46 -29599980.40 -29599980.32 0.0139 0.0127

Uranus -85754-11-30 09:20 J -29599892.22 -29599892.11 -29599891.98 0.0139 0.0103

Uranus -85753-02-26 16:04 J -29599803.97 -29599803.83 -29599803.67 0.0139 0.0080

Uranus -85753-05-24 23:01 J -29599715.70 -29599715.54 -29599715.37 0.0139 0.0057

Uranus -85753-08-21 05:44 J -29599627.43 -29599627.26 -29599627.09 0.0139 0.0034

Uranus -85753-11-17 12:13 J -29599539.16 -29599538.99 -29599538.81 0.0139 0.0012

Mars -85753-12-25 10:18 J -29599501.17 -29599501.07 -29599500.96 0.1680 0.0936

Uranus -85752-02-13 18:56 J -29599450.89 -29599450.71 -29599450.53 0.0138 0.0012

Uranus -85752-05-13 01:25 J -29599362.61 -29599362.44 -29599362.27 0.0138 0.0034

Jupiter -85752-08-05 01:40 J -29599278.60 -29599278.43 -29599278.27 0.0493 0.0167

Uranus -85752-08-09 07:40 J -29599274.33 -29599274.18 -29599274.01 0.0138 0.0056

Jupiter -85752-11-03 04:32 J -29599188.44 -29599188.31 -29599188.18 0.0496 0.0326

Uranus -85752-11-05 14:08 J -29599186.05 -29599185.91 -29599185.76 0.0138 0.0078

Uranus -85751-02-01 20:37 J -29599097.76 -29599097.64 -29599097.52 0.0138 0.0099

Venus -85751-02-05 06:28 J -29599094.37 -29599094.23 -29599094.10 0.3616 0.0124

Uranus -85751-05-01 02:37 J -29599009.46 -29599009.39 -29599009.30 0.0138 0.0121

Moon -85750-02-22 15:20 J -29598711.97 -29598711.86 -29598711.74 0.2748 0.0437

Earth -85750-02-22 15:35 J -29598711.96 -29598711.85 -29598711.73 0.2755 0.0478 *

Venus -85750-08-22 14:23 J -29598530.96 -29598530.90 -29598530.83 0.3748 0.3079

Jupiter -85746-03-27 01:54 J -29597218.55 -29597218.42 -29597218.29 0.0535 0.0140

Jupiter -85746-06-24 11:16 J -29597129.13 -29597129.03 -29597128.92 0.0532 0.0320

Venus -85746-08-22 05:30 J -29597070.39 -29597070.27 -29597070.14 0.3620 0.1149

Saturn -85745-08-02 04:32 J -29596724.44 -29596724.31 -29596724.19 0.0289 0.0201

Saturn -85745-10-30 02:23 J -29596635.57 -29596635.40 -29596635.23 0.0289 0.0057

Saturn -85744-01-26 23:44 J -29596546.68 -29596546.51 -29596546.35 0.0289 0.0085

Saturn -85744-04-25 20:37 J -29596457.74 -29596457.64 -29596457.53 0.0289 0.0224

Mars -85744-07-24 12:42 J -29596368.03 -29596367.97 -29596367.91 0.1861 0.1694

Mars -85743-05-17 19:25 J -29596070.81 -29596070.69 -29596070.56 0.1686 0.0366

Venus -85740-03-07 04:18 J -29595046.42 -29595046.32 -29595046.21 0.3624 0.2158

Jupiter -85740-05-24 00:13 J -29594968.63 -29594968.49 -29594968.34 0.0493 0.0290

Jupiter -85740-08-22 03:49 J -29594878.50 -29594878.34 -29594878.18 0.0495 0.0206

Moon -85740-08-23 05:44 J -29594877.29 -29594877.26 -29594877.23 0.2579 0.2505

Earth -85740-08-23 06:56 J -29594877.27 -29594877.21 -29594877.15 0.2582 0.2305 *

Venus -85738-11-30 05:16 J -29594048.33 -29594048.28 -29594048.24 0.3777 0.3433

Moon -85737-02-25 10:47 J -29593961.16 -29593961.05 -29593960.94 0.2749 0.0815

Earth -85737-02-25 11:30 J -29593961.13 -29593961.02 -29593960.92 0.2753 0.0960 *

Venus -85735-09-21 02:52 J -29593022.44 -29593022.38 -29593022.32 0.3628 0.3130

Mars -85735-12-14 13:25 J -29592938.07 -29592937.94 -29592937.80 0.1853 0.0653

Jupiter -85734-01-13 05:59 J -29592908.37 -29592908.25 -29592908.14 0.0535 0.0247

Jupiter -85734-04-12 15:06 J -29592818.99 -29592818.87 -29592818.75 0.0532 0.0211

Mars -85734-10-08 04:32 J -29592640.43 -29592640.31 -29592640.19 0.1692 0.0214

Venus -85732-06-14 23:30 J -29592024.60 -29592024.52 -29592024.44 0.3774 0.2670

Saturn -85731-11-22 12:28 J -29591499.06 -29591498.98 -29591498.88 0.0271 0.0203

Saturn -85730-02-18 23:59 J -29591410.62 -29591410.50 -29591410.37 0.0270 0.0113

Saturn -85730-05-18 11:30 J -29591322.16 -29591322.02 -29591321.88 0.0270 0.0023

Saturn -85730-08-14 23:01 J -29591233.67 -29591233.54 -29591233.40 0.0270 0.0070

Saturn -85730-11-11 10:47 J -29591145.16 -29591145.05 -29591144.93 0.0270 0.0162

Saturn -85729-02-07 22:47 J -29591056.59 -29591056.55 -29591056.50 0.0270 0.0255

Jupiter -85728-03-11 22:47 J -29590658.64 -29590658.55 -29590658.46 0.0492 0.0415

Jupiter -85728-06-10 02:37 J -29590568.56 -29590568.39 -29590568.21 0.0495 0.0084

Neptune -85728-11-28 23:16 J -29590396.58 -29590396.53 -29590396.45 0.0089 0.0083

Neptune -85727-02-25 02:52 J -29590308.46 -29590308.38 -29590308.28 0.0089 0.0077

Neptune -85727-05-24 06:13 J -29590220.34 -29590220.24 -29590220.12 0.0089 0.0071

Neptune -85727-08-20 09:35 J -29590132.21 -29590132.10 -29590131.96 0.0089 0.0065

Moon -85727-08-26 07:54 J -29590126.32 -29590126.17 -29590126.03 0.2585 0.0502

Earth -85727-08-26 09:20 J -29590126.26 -29590126.11 -29590125.97 0.2583 0.0457 *

Neptune -85727-11-16 12:56 J -29590044.09 -29590043.96 -29590043.80 0.0089 0.0059

Venus -85727-12-29 17:59 J -29590000.85 -29590000.75 -29590000.66 0.3771 0.1893

Neptune -85726-02-12 16:18 J -29589955.95 -29589955.82 -29589955.65 0.0089 0.0053

Neptune -85726-05-11 19:54 J -29589867.82 -29589867.67 -29589867.50 0.0089 0.0047

Neptune -85726-08-07 23:16 J -29589779.69 -29589779.53 -29589779.36 0.0089 0.0041

Neptune -85726-11-04 02:37 J -29589691.56 -29589691.39 -29589691.21 0.0089 0.0035

Neptune -85725-01-31 05:59 J -29589603.42 -29589603.25 -29589603.07 0.0089 0.0029

Neptune -85725-04-28 09:20 J -29589515.29 -29589515.11 -29589514.92 0.0089 0.0023

Mars -85725-05-05 13:25 J -29589508.08 -29589507.94 -29589507.79 0.1844 0.0441

Neptune -85725-07-25 12:42 J -29589427.15 -29589426.97 -29589426.78 0.0089 0.0017

Neptune -85725-10-21 16:04 J -29589339.01 -29589338.83 -29589338.64 0.0089 0.0011

Neptune -85724-01-17 19:25 J -29589250.88 -29589250.69 -29589250.50 0.0089 0.0005

Moon -85724-02-27 06:28 J -29589210.29 -29589210.23 -29589210.17 0.2755 0.2343

Earth -85724-02-27 07:25 J -29589210.25 -29589210.19 -29589210.14 0.2752 0.2404 *

Mars -85724-02-27 13:40 J -29589210.04 -29589209.93 -29589209.82 0.1699 0.0788

Neptune -85724-04-15 22:47 J -29589162.74 -29589162.55 -29589162.37 0.0089 0.0002

Neptune -85724-07-13 01:54 J -29589074.60 -29589074.42 -29589074.23 0.0088 0.0007

Neptune -85724-10-09 05:01 J -29588986.47 -29588986.29 -29588986.10 0.0088 0.0014

Neptune -85723-01-05 08:23 J -29588898.33 -29588898.15 -29588897.96 0.0088 0.0019

Neptune -85723-04-03 11:44 J -29588810.19 -29588810.01 -29588809.83 0.0088 0.0025

Neptune -85723-06-30 14:52 J -29588722.05 -29588721.88 -29588721.70 0.0088 0.0031

Neptune -85723-09-26 17:59 J -29588633.91 -29588633.75 -29588633.57 0.0088 0.0036

Jupiter -85723-11-01 09:35 J -29588598.20 -29588598.10 -29588598.01 0.0536 0.0357

Neptune -85723-12-23 21:06 J -29588545.77 -29588545.62 -29588545.45 0.0088 0.0042

Jupiter -85722-01-29 18:28 J -29588508.86 -29588508.73 -29588508.59 0.0533 0.0100

Mars -85722-02-03 01:25 J -29588504.48 -29588504.44 -29588504.40 0.1673 0.1583

Neptune -85722-03-22 00:28 J -29588457.63 -29588457.48 -29588457.32 0.0088 0.0048

Neptune -85722-06-18 03:35 J -29588369.49 -29588369.35 -29588369.20 0.0088 0.0054

Neptune -85722-09-14 06:28 J -29588281.35 -29588281.23 -29588281.08 0.0088 0.0060

Neptune -85722-12-11 10:04 J -29588193.20 -29588193.08 -29588192.96 0.0088 0.0065

Neptune -85721-03-08 12:56 J -29588105.06 -29588104.96 -29588104.84 0.0088 0.0071

Neptune -85721-06-04 15:49 J -29588016.91 -29588016.84 -29588016.73 0.0088 0.0077

Venus -85721-07-14 12:28 J -29587977.09 -29587976.98 -29587976.87 0.3767 0.1083

Neptune -85721-08-31 19:11 J -29587928.76 -29587928.70 -29587928.62 0.0088 0.0082

Neptune -85721-11-27 22:04 J -29587840.58 -29587840.58 -29587840.53 0.0088 0.0088

Earth -85717-02-21 01:11 J -29586660.54 -29586660.45 -29586660.36 0.2756 0.1570

Moon -85717-02-21 01:25 J -29586660.53 -29586660.44 -29586660.34 0.2749 0.1471 *

Jupiter -85716-03-29 02:08 J -29586258.59 -29586258.41 -29586258.24 0.0494 0.0036

Jupiter -85716-06-27 04:47 J -29586168.36 -29586168.30 -29586168.23 0.0497 0.0456

Mars -85716-09-25 13:40 J -29586078.01 -29586077.93 -29586077.84 0.1836 0.1504

Saturn -85716-12-20 01:25 J -29585992.52 -29585992.44 -29585992.36 0.0289 0.0255

Venus -85715-01-28 07:25 J -29585953.31 -29585953.19 -29585953.08 0.3763 0.0266

Saturn -85715-03-18 23:30 J -29585903.69 -29585903.52 -29585903.36 0.0289 0.0110

Saturn -85715-06-15 21:06 J -29585814.80 -29585814.62 -29585814.45 0.0289 0.0034

Mars -85715-07-20 22:47 J -29585779.62 -29585779.55 -29585779.47 0.1706 0.1364

Saturn -85715-09-12 17:59 J -29585725.88 -29585725.75 -29585725.60 0.0289 0.0174

Moon -85714-08-29 10:32 J -29585375.18 -29585375.06 -29585374.93 0.2589 0.1227

Earth -85714-08-29 11:16 J -29585375.16 -29585375.03 -29585374.91 0.2584 0.1347 *

Mars -85713-06-25 10:32 J -29585074.16 -29585074.06 -29585073.96 0.1679 0.1015

Venus -85711-01-27 06:13 J -29584493.31 -29584493.24 -29584493.17 0.3605 0.3052

Jupiter -85711-08-20 12:13 J -29584288.05 -29584287.99 -29584287.94 0.0536 0.0480

Jupiter -85711-11-17 21:06 J -29584198.75 -29584198.62 -29584198.49 0.0534 0.0030

Jupiter -85710-02-15 06:42 J -29584109.30 -29584109.22 -29584109.15 0.0531 0.0432

Venus -85710-08-14 02:23 J -29583929.51 -29583929.40 -29583929.29 0.3760 0.0612

Uranus -85709-04-29 01:11 J -29583670.49 -29583670.45 -29583670.38 0.0139 0.0127

Uranus -85709-07-26 05:16 J -29583582.36 -29583582.28 -29583582.20 0.0139 0.0110

Uranus -85709-10-22 08:52 J -29583494.23 -29583494.13 -29583494.02 0.0139 0.0092

Uranus -85708-01-18 12:42 J -29583406.09 -29583405.97 -29583405.86 0.0140 0.0075

Uranus -85708-04-16 16:18 J -29583317.94 -29583317.82 -29583317.69 0.0140 0.0058

Uranus -85708-07-13 20:08 J -29583229.79 -29583229.66 -29583229.52 0.0140 0.0040

Uranus -85708-10-09 23:59 J -29583141.63 -29583141.50 -29583141.36 0.0140 0.0022

Uranus -85707-01-06 03:49 J -29583053.48 -29583053.34 -29583053.20 0.0140 0.0006

Uranus -85707-04-04 07:54 J -29582965.31 -29582965.17 -29582965.03 0.0140 0.0015

Uranus -85707-07-01 11:44 J -29582877.15 -29582877.01 -29582876.87 0.0140 0.0033

Uranus -85707-09-27 15:35 J -29582788.98 -29582788.85 -29582788.71 0.0141 0.0052

Uranus -85707-12-24 19:40 J -29582700.80 -29582700.68 -29582700.56 0.0141 0.0071

Uranus -85706-03-22 23:30 J -29582612.62 -29582612.52 -29582612.40 0.0141 0.0090

Uranus -85706-06-19 03:35 J -29582524.43 -29582524.35 -29582524.25 0.0141 0.0109

Venus -85706-08-13 06:28 J -29582469.34 -29582469.23 -29582469.11 0.3609 0.1866

Uranus -85706-09-15 07:40 J -29582436.23 -29582436.18 -29582436.11 0.0141 0.0129

Pluto -85706-11-28 00:28 J -29582362.48 -29582362.48 -29582362.45 0.0085 0.0084

Pluto -85705-02-24 01:54 J -29582274.48 -29582274.42 -29582274.34 0.0085 0.0072

Pluto -85705-05-22 03:06 J -29582186.45 -29582186.37 -29582186.26 0.0084 0.0060

Pluto -85705-08-18 04:32 J -29582098.41 -29582098.31 -29582098.19 0.0084 0.0047

Pluto -85705-11-14 05:59 J -29582010.37 -29582010.25 -29582010.13 0.0084 0.0035

Jupiter -85704-01-15 00:56 J -29581948.62 -29581948.46 -29581948.29 0.0493 0.0155

Mars -85704-01-22 13:25 J -29581940.97 -29581940.94 -29581940.92 0.1861 0.1824

Pluto -85704-02-10 07:11 J -29581922.32 -29581922.20 -29581922.07 0.0084 0.0024

Moon -85704-02-22 20:23 J -29581909.76 -29581909.65 -29581909.53 0.2748 0.0288

Earth -85704-02-22 20:52 J -29581909.75 -29581909.63 -29581909.52 0.2755 0.0183 *

Venus -85704-02-26 21:49 J -29581905.70 -29581905.59 -29581905.49 0.3756 0.1499

Jupiter -85704-04-15 04:04 J -29581858.45 -29581858.33 -29581858.20 0.0496 0.0339

Pluto -85704-05-09 08:37 J -29581834.27 -29581834.14 -29581834.01 0.0084 0.0011

Pluto -85704-08-05 09:49 J -29581746.22 -29581746.09 -29581745.95 0.0084 0.0002

Pluto -85704-11-01 11:01 J -29581658.17 -29581658.04 -29581657.90 0.0084 0.0013

Mars -85704-11-15 19:25 J -29581643.81 -29581643.69 -29581643.56 0.1686 0.0444

Pluto -85703-01-28 12:28 J -29581570.11 -29581569.98 -29581569.85 0.0084 0.0024

Pluto -85703-04-26 13:25 J -29581482.05 -29581481.94 -29581481.81 0.0083 0.0036

Pluto -85703-07-23 14:52 J -29581393.99 -29581393.88 -29581393.77 0.0083 0.0047

Pluto -85703-10-19 15:49 J -29581305.92 -29581305.84 -29581305.73 0.0083 0.0059

Pluto -85702-01-15 17:16 J -29581217.85 -29581217.78 -29581217.70 0.0083 0.0069

Pluto -85702-04-13 18:28 J -29581129.75 -29581129.73 -29581129.69 0.0083 0.0080

Saturn -85701-04-10 15:49 J -29580766.92 -29580766.84 -29580766.77 0.0271 0.0222

Saturn -85701-07-08 03:06 J -29580678.49 -29580678.37 -29580678.25 0.0270 0.0133

Saturn -85701-10-04 14:37 J -29580590.03 -29580589.89 -29580589.76 0.0270 0.0043

Saturn -85700-01-01 02:08 J -29580501.55 -29580501.41 -29580501.27 0.0270 0.0049

Venus -85700-02-26 06:28 J -29580445.36 -29580445.23 -29580445.10 0.3613 0.0723

Saturn -85700-03-30 13:54 J -29580413.04 -29580412.92 -29580412.80 0.0270 0.0142

Saturn -85700-06-27 01:54 J -29580324.49 -29580324.42 -29580324.35 0.0270 0.0235

Jupiter -85699-09-06 00:28 J -29579888.61 -29579888.48 -29579888.36 0.0535 0.0142

Venus -85699-09-12 17:16 J -29579881.87 -29579881.78 -29579881.69 0.3751 0.2403

Jupiter -85699-12-04 09:49 J -29579799.20 -29579799.09 -29579798.98 0.0532 0.0317

Mars -85695-06-14 13:40 J -29578511.07 -29578510.93 -29578510.80 0.1852 0.0744

Venus -85695-09-12 05:59 J -29578421.38 -29578421.25 -29578421.12 0.3617 0.0373

Mars -85694-04-08 04:32 J -29578213.43 -29578213.31 -29578213.18 0.1692 0.0144

Moon -85694-08-24 11:30 J -29578075.11 -29578075.02 -29578074.93 0.2581 0.2003

Earth -85694-08-24 12:56 J -29578075.06 -29578074.96 -29578074.86 0.2582 0.1923 *

Venus -85693-03-28 13:11 J -29577858.00 -29577857.95 -29577857.90 0.3747 0.3344

Jupiter -85693-11-02 23:16 J -29577638.68 -29577638.53 -29577638.38 0.0493 0.0282

Jupiter -85692-02-01 02:37 J -29577548.54 -29577548.39 -29577548.23 0.0495 0.0214

Moon -85691-02-25 15:49 J -29577158.95 -29577158.84 -29577158.74 0.2751 0.1225

Earth -85691-02-25 16:32 J -29577158.91 -29577158.81 -29577158.71 0.2753 0.1250 *

Venus -85689-03-28 05:01 J -29576397.41 -29576397.29 -29576397.17 0.3621 0.1425

Jupiter -85687-06-25 04:04 J -29575578.44 -29575578.33 -29575578.21 0.0535 0.0251

Jupiter -85687-09-22 13:25 J -29575489.06 -29575488.94 -29575488.82 0.0533 0.0208

Saturn -85686-08-05 22:18 J -29575171.72 -29575171.57 -29575171.43 0.0289 0.0154

Saturn -85686-11-02 19:54 J -29575082.84 -29575082.67 -29575082.50 0.0289 0.0010

Mars -85686-11-04 14:08 J -29575081.06 -29575080.91 -29575080.76 0.1845 0.0314

Saturn -85685-01-30 17:01 J -29574993.94 -29574993.79 -29574993.63 0.0289 0.0132

Saturn -85685-04-28 13:54 J -29574904.97 -29574904.92 -29574904.85 0.0289 0.0269

Mars -85685-08-28 13:54 J -29574783.04 -29574782.92 -29574782.81 0.1699 0.0709

Earth -85684-02-18 10:47 J -29574609.08 -29574609.05 -29574609.02 0.2756 0.2658

Moon -85684-02-18 11:30 J -29574609.06 -29574609.02 -29574608.98 0.2751 0.2573 *

Venus -85684-10-12 03:49 J -29574373.44 -29574373.34 -29574373.25 0.3625 0.2430

Mars -85683-08-04 01:40 J -29574077.43 -29574077.43 -29574077.43 0.1673 0.1669

Venus -85681-07-06 03:20 J -29573375.41 -29573375.36 -29573375.30 0.3777 0.3236

Jupiter -85681-08-21 21:49 J -29573328.69 -29573328.59 -29573328.49 0.0492 0.0406

Moon -85681-08-26 13:54 J -29573324.06 -29573323.92 -29573323.77 0.2585 0.0295

Earth -85681-08-26 15:20 J -29573324.01 -29573323.86 -29573323.72 0.2583 0.0110 *

Jupiter -85681-11-20 01:40 J -29573238.60 -29573238.43 -29573238.26 0.0494 0.0092

Moon -85678-02-28 11:30 J -29572408.06 -29572408.02 -29572407.98 0.2755 0.2556

Earth -85678-02-28 12:28 J -29572408.00 -29572407.98 -29572407.96 0.2752 0.2701 *

Venus -85678-04-28 02:08 J -29572349.45 -29572349.41 -29572349.37 0.3629 0.3393

Mars -85676-03-26 14:08 J -29571651.00 -29571650.91 -29571650.81 0.1836 0.1389

Mars -85675-01-18 23:01 J -29571352.62 -29571352.54 -29571352.46 0.1706 0.1286

Venus -85675-01-19 21:35 J -29571351.68 -29571351.60 -29571351.51 0.3773 0.2471

Jupiter -85675-04-13 08:08 J -29571268.26 -29571268.16 -29571268.06 0.0536 0.0356

Jupiter -85675-07-11 17:16 J -29571178.91 -29571178.78 -29571178.65 0.0533 0.0100

Mars -85674-12-25 10:32 J -29570647.15 -29570647.06 -29570646.96 0.1679 0.1097

Saturn -85672-08-28 17:01 J -29570034.83 -29570034.79 -29570034.75 0.0271 0.0256

Saturn -85672-11-25 04:04 J -29569946.43 -29569946.33 -29569946.21 0.0270 0.0168

Earth -85671-02-21 06:13 J -29569858.34 -29569858.24 -29569858.14 0.2755 0.1284

Moon -85671-02-21 06:28 J -29569858.33 -29569858.23 -29569858.13 0.2749 0.1298 *

Saturn -85671-02-21 15:35 J -29569857.98 -29569857.85 -29569857.71 0.0270 0.0078

Saturn -85671-05-21 03:06 J -29569769.50 -29569769.37 -29569769.23 0.0270 0.0016

Saturn -85671-08-17 14:52 J -29569681.01 -29569680.88 -29569680.75 0.0270 0.0106

Saturn -85671-11-14 02:37 J -29569592.48 -29569592.39 -29569592.29 0.0270 0.0199

Venus -85670-08-05 16:04 J -29569327.93 -29569327.83 -29569327.73 0.3770 0.1679

Uranus -85670-09-23 09:20 J -29569279.19 -29569279.11 -29569279.03 0.0139 0.0124

Uranus -85670-12-20 16:04 J -29569190.95 -29569190.83 -29569190.70 0.0139 0.0100

Uranus -85669-03-17 22:47 J -29569102.69 -29569102.55 -29569102.39 0.0139 0.0077

Uranus -85669-06-14 05:30 J -29569014.43 -29569014.27 -29569014.09 0.0139 0.0054

Jupiter -85669-09-08 00:28 J -29568928.65 -29568928.48 -29568928.30 0.0494 0.0031

Uranus -85669-09-10 12:13 J -29568926.16 -29568925.99 -29568925.81 0.0139 0.0031

Jupiter -85669-12-07 03:06 J -29568838.43 -29568838.37 -29568838.30 0.0497 0.0460

Uranus -85669-12-07 18:56 J -29568837.88 -29568837.71 -29568837.53 0.0139 0.0008

Uranus -85668-03-06 01:40 J -29568749.61 -29568749.43 -29568749.25 0.0138 0.0015

Uranus -85668-06-02 07:54 J -29568661.33 -29568661.17 -29568660.99 0.0138 0.0038

Uranus -85668-08-29 14:23 J -29568573.05 -29568572.90 -29568572.73 0.0138 0.0059

Moon -85668-08-29 16:47 J -29568572.91 -29568572.80 -29568572.70 0.2590 0.1761 *

Earth -85668-08-29 17:16 J -29568572.89 -29568572.78 -29568572.68 0.2584 0.1719 *

Uranus -85668-11-25 20:52 J -29568484.77 -29568484.63 -29568484.48 0.0138 0.0081

Uranus -85667-02-22 02:52 J -29568396.48 -29568396.38 -29568396.25 0.0138 0.0103

Uranus -85667-05-21 09:20 J -29568308.18 -29568308.11 -29568308.03 0.0138 0.0124

Venus -85664-02-18 10:47 J -29567304.16 -29567304.05 -29567303.94 0.3766 0.0864

Mars -85664-05-16 19:40 J -29567216.80 -29567216.68 -29567216.56 0.1686 0.0521

Jupiter -85663-01-30 11:59 J -29566958.07 -29566958.00 -29566957.94 0.0536 0.0465

Jupiter -85663-04-29 20:52 J -29566868.77 -29566868.63 -29566868.50 0.0534 0.0017

Jupiter -85663-07-28 06:28 J -29566779.30 -29566779.23 -29566779.16 0.0531 0.0448

Venus -85659-09-04 05:44 J -29565280.37 -29565280.26 -29565280.15 0.3762 0.0021

Moon -85658-02-24 01:25 J -29565107.56 -29565107.44 -29565107.33 0.2748 0.0134

Earth -85658-02-24 01:54 J -29565107.54 -29565107.42 -29565107.31 0.2754 0.0136 *

Jupiter -85657-06-26 23:44 J -29564618.68 -29564618.51 -29564618.34 0.0494 0.0149

Jupiter -85657-09-25 02:52 J -29564528.50 -29564528.38 -29564528.25 0.0496 0.0345

Saturn -85657-12-22 18:42 J -29564439.84 -29564439.72 -29564439.60 0.0289 0.0210

Saturn -85656-03-21 16:32 J -29564350.97 -29564350.81 -29564350.63 0.0289 0.0066

Saturn -85656-06-18 14:08 J -29564262.08 -29564261.91 -29564261.74 0.0289 0.0077

Saturn -85656-09-15 11:16 J -29564173.14 -29564173.03 -29564172.92 0.0289 0.0217

Mars -85656-12-13 14:23 J -29564084.03 -29564083.90 -29564083.77 0.1853 0.0876

Venus -85655-09-03 05:59 J -29563820.33 -29563820.25 -29563820.16 0.3606 0.2730

Mars -85655-10-07 04:47 J -29563786.43 -29563786.30 -29563786.18 0.1692 0.0066

Venus -85653-03-20 00:56 J -29563256.57 -29563256.46 -29563256.35 0.3758 0.0855

Jupiter -85651-02-15 23:16 J -29562558.65 -29562558.53 -29562558.40 0.0534 0.0137

Jupiter -85651-05-16 08:37 J -29562469.24 -29562469.14 -29562469.03 0.0531 0.0322

Venus -85649-03-19 06:13 J -29561796.36 -29561796.24 -29561796.12 0.3610 0.1558

Moon -85648-08-24 17:30 J -29561272.88 -29561272.77 -29561272.66 0.2582 0.1723

Earth -85648-08-24 18:56 J -29561272.82 -29561272.71 -29561272.59 0.2582 0.1530 *

Venus -85648-10-03 20:08 J -29561232.76 -29561232.66 -29561232.55 0.3754 0.1747

Neptune -85646-03-07 04:32 J -29560713.34 -29560713.31 -29560713.28 0.0089 0.0086

Mars -85646-05-05 14:37 J -29560654.04 -29560653.89 -29560653.75 0.1844 0.0208

Neptune -85646-06-03 05:44 J -29560625.30 -29560625.26 -29560625.20 0.0089 0.0082

Neptune -85646-08-30 07:11 J -29560537.26 -29560537.20 -29560537.13 0.0089 0.0078

Neptune -85646-11-26 08:23 J -29560449.21 -29560449.15 -29560449.06 0.0089 0.0074

Neptune -85645-02-22 09:49 J -29560361.16 -29560361.09 -29560361.00 0.0089 0.0070

Moon -85645-02-26 20:52 J -29560356.73 -29560356.63 -29560356.53 0.2752 0.1375

Earth -85645-02-26 21:35 J -29560356.69 -29560356.60 -29560356.50 0.2753 0.1548 *

Mars -85645-02-27 13:54 J -29560356.04 -29560355.92 -29560355.81 0.1699 0.0631

Jupiter -85645-04-14 22:47 J -29560308.70 -29560308.55 -29560308.40 0.0493 0.0270

Neptune -85645-05-20 11:30 J -29560273.11 -29560273.02 -29560272.93 0.0089 0.0065

Jupiter -85645-07-14 02:08 J -29560218.56 -29560218.41 -29560218.25 0.0495 0.0227

Neptune -85645-08-16 12:42 J -29560185.06 -29560184.97 -29560184.86 0.0089 0.0061

Neptune -85645-11-12 14:08 J -29560097.01 -29560096.91 -29560096.80 0.0089 0.0057

Neptune -85644-02-08 15:35 J -29560008.95 -29560008.85 -29560008.74 0.0089 0.0053

Neptune -85644-05-07 16:47 J -29559920.90 -29559920.80 -29559920.67 0.0089 0.0049

Neptune -85644-08-03 18:28 J -29559832.84 -29559832.73 -29559832.61 0.0089 0.0044

Venus -85644-10-03 06:13 J -29559772.38 -29559772.24 -29559772.11 0.3614 0.0437

Neptune -85644-10-30 19:54 J -29559744.79 -29559744.67 -29559744.55 0.0089 0.0040

Neptune -85643-01-26 21:06 J -29559656.73 -29559656.62 -29559656.48 0.0089 0.0036

Neptune -85643-04-24 22:47 J -29559568.68 -29559568.55 -29559568.42 0.0089 0.0031

Neptune -85643-07-22 00:13 J -29559480.62 -29559480.49 -29559480.36 0.0089 0.0027

Neptune -85643-10-18 01:40 J -29559392.56 -29559392.43 -29559392.30 0.0089 0.0022

Neptune -85642-01-14 03:06 J -29559304.50 -29559304.37 -29559304.24 0.0089 0.0018

Neptune -85642-04-12 04:32 J -29559216.44 -29559216.31 -29559216.17 0.0089 0.0014

Saturn -85642-04-14 07:11 J -29559214.29 -29559214.20 -29559214.10 0.0271 0.0188

Venus -85642-04-19 15:49 J -29559208.92 -29559208.84 -29559208.76 0.3750 0.2662

Neptune -85642-07-09 05:59 J -29559128.38 -29559128.25 -29559128.11 0.0089 0.0009

Saturn -85642-07-11 18:42 J -29559125.85 -29559125.72 -29559125.59 0.0271 0.0098

Neptune -85642-10-05 07:25 J -29559040.32 -29559040.19 -29559040.05 0.0089 0.0005

Saturn -85642-10-08 06:13 J -29559037.38 -29559037.24 -29559037.10 0.0270 0.0007

Neptune -85641-01-01 08:52 J -29558952.26 -29558952.13 -29558951.99 0.0089 0.0002

Saturn -85641-01-04 17:44 J -29558948.89 -29558948.76 -29558948.62 0.0270 0.0086

Neptune -85641-03-29 10:18 J -29558864.20 -29558864.07 -29558863.93 0.0089 0.0005

Saturn -85641-04-02 05:44 J -29558860.37 -29558860.26 -29558860.16 0.0270 0.0178

Neptune -85641-06-25 11:44 J -29558776.14 -29558776.01 -29558775.87 0.0089 0.0009

Neptune -85641-09-21 13:25 J -29558688.08 -29558687.94 -29558687.81 0.0089 0.0013

Neptune -85641-12-18 14:52 J -29558600.02 -29558599.88 -29558599.75 0.0089 0.0017

Neptune -85640-03-16 16:18 J -29558511.95 -29558511.82 -29558511.68 0.0089 0.0021

Neptune -85640-06-12 17:44 J -29558423.89 -29558423.76 -29558423.62 0.0089 0.0026

Neptune -85640-09-08 19:11 J -29558335.82 -29558335.70 -29558335.56 0.0089 0.0031

Jupiter -85640-12-05 02:37 J -29558248.50 -29558248.39 -29558248.27 0.0535 0.0251

Neptune -85640-12-05 20:37 J -29558247.76 -29558247.64 -29558247.50 0.0089 0.0035

Neptune -85639-03-03 22:18 J -29558159.69 -29558159.57 -29558159.44 0.0089 0.0039

Jupiter -85639-03-04 11:59 J -29558159.13 -29558159.00 -29558158.88 0.0532 0.0207

Neptune -85639-05-30 23:44 J -29558071.62 -29558071.51 -29558071.39 0.0089 0.0044

Neptune -85639-08-27 01:25 J -29557983.56 -29557983.44 -29557983.33 0.0089 0.0048

Neptune -85639-11-23 02:37 J -29557895.49 -29557895.39 -29557895.27 0.0089 0.0053

Neptune -85638-02-19 04:18 J -29557807.42 -29557807.32 -29557807.21 0.0089 0.0057

Earth -85638-02-19 15:49 J -29557806.90 -29557806.84 -29557806.79 0.2756 0.2378

Moon -85638-02-19 16:32 J -29557806.88 -29557806.81 -29557806.75 0.2751 0.2284 *

Venus -85638-04-19 05:30 J -29557748.40 -29557748.27 -29557748.14 0.3618 0.0666

Neptune -85638-05-18 05:44 J -29557719.35 -29557719.26 -29557719.15 0.0089 0.0062

Neptune -85638-08-14 07:25 J -29557631.28 -29557631.19 -29557631.10 0.0089 0.0066

Neptune -85638-11-10 08:52 J -29557543.20 -29557543.13 -29557543.04 0.0089 0.0071

Neptune -85637-02-06 10:32 J -29557455.13 -29557455.06 -29557454.99 0.0089 0.0075

Neptune -85637-05-04 11:59 J -29557367.05 -29557367.00 -29557366.94 0.0089 0.0080

Neptune -85637-07-31 13:40 J -29557278.97 -29557278.93 -29557278.89 0.0089 0.0084

Mars -85637-09-24 14:37 J -29557224.00 -29557223.89 -29557223.79 0.1836 0.1284

Neptune -85637-10-27 15:20 J -29557190.86 -29557190.86 -29557190.86 0.0089 0.0089

Venus -85637-11-02 11:44 J -29557185.04 -29557185.01 -29557184.98 0.3746 0.3607

Mars -85636-07-19 23:01 J -29556925.62 -29556925.54 -29556925.45 0.1705 0.1204

Moon -85635-08-27 20:08 J -29556521.81 -29556521.66 -29556521.52 0.2586 0.0275

Earth -85635-08-27 21:06 J -29556521.76 -29556521.62 -29556521.47 0.2583 0.0309 *

Mars -85634-06-25 10:47 J -29556220.14 -29556220.05 -29556219.96 0.1679 0.1178

Jupiter -85633-02-01 20:52 J -29555998.73 -29555998.63 -29555998.53 0.0492 0.0398

Jupiter -85633-05-02 00:42 J -29555908.64 -29555908.47 -29555908.30 0.0494 0.0100

Venus -85633-11-02 04:32 J -29555724.43 -29555724.31 -29555724.20 0.3622 0.1702

Jupiter -85628-09-23 06:28 J -29553938.33 -29553938.23 -29553938.14 0.0536 0.0360

Jupiter -85628-12-21 15:35 J -29553848.98 -29553848.85 -29553848.72 0.0533 0.0097

Saturn -85627-05-11 17:59 J -29553707.83 -29553707.75 -29553707.66 0.0289 0.0252

Venus -85627-05-19 03:06 J -29553700.45 -29553700.37 -29553700.29 0.3626 0.2698

Saturn -85627-08-08 16:04 J -29553618.99 -29553618.83 -29553618.67 0.0289 0.0106

Saturn -85627-11-05 13:40 J -29553530.10 -29553529.93 -29553529.76 0.0289 0.0037

Saturn -85626-02-02 10:47 J -29553441.18 -29553441.05 -29553440.91 0.0289 0.0178

Moon -85625-02-22 11:16 J -29553056.14 -29553056.03 -29553055.92 0.2748 0.0989

Earth -85625-02-22 11:16 J -29553056.14 -29553056.03 -29553055.92 0.2755 0.0999 *

Uranus -85625-05-19 08:23 J -29552969.21 -29552969.15 -29552969.09 0.0139 0.0124

Uranus -85625-08-15 11:59 J -29552881.08 -29552881.00 -29552880.91 0.0139 0.0107

Uranus -85625-11-11 15:35 J -29552792.95 -29552792.85 -29552792.74 0.0139 0.0090

Mars -85625-11-14 19:40 J -29552789.79 -29552789.68 -29552789.56 0.1685 0.0608

Uranus -85624-02-07 19:25 J -29552704.80 -29552704.69 -29552704.57 0.0140 0.0073

Venus -85624-02-10 01:40 J -29552702.50 -29552702.43 -29552702.37 0.3775 0.3042

Uranus -85624-05-06 23:16 J -29552616.66 -29552616.53 -29552616.40 0.0140 0.0055

Uranus -85624-08-03 03:06 J -29552528.51 -29552528.37 -29552528.24 0.0140 0.0037

Uranus -85624-10-30 06:42 J -29552440.35 -29552440.22 -29552440.07 0.0140 0.0020

Uranus -85623-01-26 10:47 J -29552352.19 -29552352.05 -29552351.91 0.0140 0.0002

Uranus -85623-04-24 14:37 J -29552264.03 -29552263.89 -29552263.75 0.0140 0.0017

Uranus -85623-07-21 18:28 J -29552175.86 -29552175.73 -29552175.59 0.0140 0.0036

Uranus -85623-10-17 22:18 J -29552087.69 -29552087.57 -29552087.43 0.0141 0.0055

Uranus -85622-01-14 02:23 J -29551999.52 -29551999.40 -29551999.28 0.0141 0.0073

Uranus -85622-04-12 06:28 J -29551911.33 -29551911.23 -29551911.12 0.0141 0.0092

Uranus -85622-07-09 10:32 J -29551823.15 -29551823.06 -29551822.97 0.0141 0.0111

Moon -85622-08-30 22:32 J -29551770.65 -29551770.56 -29551770.46 0.2591 0.1964

Earth -85622-08-30 23:01 J -29551770.62 -29551770.54 -29551770.46 0.2584 0.2084 *

Uranus -85622-10-05 14:37 J -29551734.94 -29551734.89 -29551734.84 0.0141 0.0130

Jupiter -85621-02-18 23:30 J -29551598.70 -29551598.52 -29551598.34 0.0494 0.0023

Jupiter -85621-05-19 02:08 J -29551508.46 -29551508.41 -29551508.35 0.0496 0.0467

Venus -85619-08-26 19:54 J -29550678.76 -29550678.67 -29550678.58 0.3772 0.2261

Mars -85616-06-13 14:52 J -29549657.01 -29549656.88 -29549656.76 0.1853 0.0994

Jupiter -85616-07-12 10:18 J -29549628.13 -29549628.07 -29549628.00 0.0537 0.0466

Jupiter -85616-10-09 19:25 J -29549538.83 -29549538.69 -29549538.56 0.0534 0.0018

Jupiter -85615-01-07 05:01 J -29549449.36 -29549449.29 -29549449.22 0.0531 0.0448

Mars -85615-04-07 04:47 J -29549359.43 -29549359.30 -29549359.17 0.1692 0.0024

Venus -85613-03-11 14:23 J -29548655.00 -29548654.90 -29548654.80 0.3769 0.1462

Saturn -85613-08-31 08:37 J -29548482.21 -29548482.14 -29548482.06 0.0271 0.0220

Saturn -85613-11-27 19:54 J -29548393.78 -29548393.67 -29548393.55 0.0270 0.0131

Moon -85612-02-24 06:28 J -29548305.35 -29548305.23 -29548305.12 0.2748 0.0300

Earth -85612-02-24 06:56 J -29548305.33 -29548305.21 -29548305.10 0.2754 0.0410 *

Saturn -85612-02-24 07:25 J -29548305.33 -29548305.19 -29548305.05 0.0270 0.0041 *

Saturn -85612-05-23 18:56 J -29548216.84 -29548216.71 -29548216.57 0.0270 0.0051

Saturn -85612-08-20 06:42 J -29548128.34 -29548128.22 -29548128.10 0.0270 0.0143

Saturn -85612-11-16 18:42 J -29548039.79 -29548039.72 -29548039.66 0.0270 0.0237

Jupiter -85610-12-07 22:04 J -29547288.74 -29547288.58 -29547288.41 0.0493 0.0147

Jupiter -85609-03-07 01:11 J -29547198.57 -29547198.45 -29547198.32 0.0496 0.0347

Venus -85608-09-25 09:06 J -29546631.23 -29546631.12 -29546631.01 0.3765 0.0647

Mars -85607-11-03 15:06 J -29546227.02 -29546226.87 -29546226.72 0.1845 0.0088

Mars -85606-08-28 13:54 J -29545929.03 -29545928.92 -29545928.80 0.1698 0.0551

Jupiter -85604-07-28 23:01 J -29545228.67 -29545228.54 -29545228.41 0.0534 0.0122

Jupiter -85604-10-26 08:23 J -29545139.25 -29545139.15 -29545139.05 0.0532 0.0337

Venus -85602-04-11 04:04 J -29544607.44 -29544607.33 -29544607.21 0.3761 0.0259

Moon -85602-08-25 23:30 J -29544470.65 -29544470.52 -29544470.39 0.2582 0.1261

Earth -85602-08-26 00:56 J -29544470.59 -29544470.46 -29544470.33 0.2582 0.1150 *

Moon -85599-02-27 01:54 J -29543554.51 -29543554.42 -29543554.34 0.2753 0.1810

Earth -85599-02-27 02:37 J -29543554.47 -29543554.39 -29543554.30 0.2753 0.1843 *

Venus -85598-04-10 05:59 J -29543147.35 -29543147.25 -29543147.15 0.3607 0.2411

Jupiter -85598-09-25 21:20 J -29542978.76 -29542978.61 -29542978.46 0.0493 0.0266

Jupiter -85598-12-25 00:56 J -29542888.62 -29542888.46 -29542888.31 0.0495 0.0231

Saturn -85598-12-26 12:28 J -29542887.12 -29542886.98 -29542886.83 0.0289 0.0163

Saturn -85597-03-24 10:18 J -29542798.24 -29542798.07 -29542797.90 0.0289 0.0019

Mars -85597-03-25 15:06 J -29542796.99 -29542796.87 -29542796.75 0.1836 0.1157

Saturn -85597-06-21 07:40 J -29542709.33 -29542709.18 -29542709.02 0.0289 0.0123

Saturn -85597-09-18 04:32 J -29542620.38 -29542620.31 -29542620.24 0.0289 0.0262

Venus -85597-10-24 23:16 J -29542583.63 -29542583.53 -29542583.42 0.3757 0.1105

Mars -85596-01-17 23:01 J -29542498.63 -29542498.54 -29542498.45 0.1705 0.1133

Mars -85595-12-24 10:47 J -29541793.13 -29541793.05 -29541792.97 0.1679 0.1257

Venus -85593-10-24 05:59 J -29541123.37 -29541123.25 -29541123.12 0.3611 0.1251

Earth -85592-02-19 20:52 J -29541004.70 -29541004.63 -29541004.56 0.2756 0.2094

Moon -85592-02-19 21:20 J -29541004.68 -29541004.61 -29541004.53 0.2751 0.2052 *

Jupiter -85592-05-17 01:40 J -29540918.55 -29540918.43 -29540918.32 0.0535 0.0245

Jupiter -85592-08-14 10:47 J -29540829.17 -29540829.05 -29540828.93 0.0532 0.0211

Venus -85591-05-10 18:42 J -29540559.81 -29540559.72 -29540559.62 0.3753 0.1998

Moon -85589-08-28 02:23 J -29539719.55 -29539719.40 -29539719.26 0.2588 0.0533

Earth -85589-08-28 03:06 J -29539719.51 -29539719.37 -29539719.22 0.2583 0.0686 *

Venus -85587-05-10 05:44 J -29539099.39 -29539099.26 -29539099.13 0.3615 0.0130

Mars -85587-06-10 08:23 J -29539068.16 -29539068.15 -29539068.15 0.1712 0.1707

Jupiter -85586-07-14 20:08 J -29538668.77 -29538668.66 -29538668.55 0.0492 0.0387

Jupiter -85586-10-12 23:59 J -29538578.67 -29538578.50 -29538578.33 0.0495 0.0112

Uranus -85586-10-13 15:20 J -29538577.94 -29538577.86 -29538577.76 0.0139 0.0122

Venus -85586-11-24 14:23 J -29538535.97 -29538535.90 -29538535.83 0.3749 0.2923

Uranus -85585-01-09 22:18 J -29538489.69 -29538489.57 -29538489.44 0.0139 0.0098

Uranus -85585-04-07 05:16 J -29538401.43 -29538401.28 -29538401.13 0.0139 0.0074

Mars -85585-05-15 19:40 J -29538362.79 -29538362.68 -29538362.56 0.1685 0.0683

Uranus -85585-07-04 11:59 J -29538313.16 -29538313.00 -29538312.83 0.0139 0.0051

Uranus -85585-09-30 18:42 J -29538224.89 -29538224.72 -29538224.54 0.0139 0.0028

Uranus -85585-12-28 01:25 J -29538136.62 -29538136.44 -29538136.26 0.0139 0.0006

Uranus -85584-03-26 07:54 J -29538048.35 -29538048.17 -29538047.99 0.0138 0.0017

Uranus -85584-06-22 14:23 J -29537960.07 -29537959.90 -29537959.73 0.0138 0.0039

Uranus -85584-09-18 20:52 J -29537871.79 -29537871.63 -29537871.47 0.0138 0.0061

Uranus -85584-12-16 03:06 J -29537783.50 -29537783.37 -29537783.22 0.0138 0.0083

Saturn -85583-01-18 11:30 J -29537750.07 -29537750.02 -29537749.95 0.0271 0.0243

Uranus -85583-03-14 09:20 J -29537695.21 -29537695.11 -29537694.99 0.0138 0.0105

Saturn -85583-04-16 23:01 J -29537661.65 -29537661.54 -29537661.43 0.0271 0.0153

Uranus -85583-06-10 15:49 J -29537606.91 -29537606.84 -29537606.77 0.0138 0.0126

Saturn -85583-07-14 10:18 J -29537573.20 -29537573.07 -29537572.93 0.0271 0.0063

Saturn -85583-10-10 22:04 J -29537484.72 -29537484.58 -29537484.45 0.0270 0.0031

Saturn -85582-01-07 09:35 J -29537396.22 -29537396.10 -29537395.97 0.0270 0.0122

Saturn -85582-04-05 21:20 J -29537307.68 -29537307.61 -29537307.52 0.0270 0.0216

Venus -85582-11-24 05:01 J -29537075.41 -29537075.29 -29537075.16 0.3619 0.0952

Jupiter -85580-03-05 05:01 J -29536608.39 -29536608.29 -29536608.20 0.0536 0.0360

Jupiter -85580-06-02 13:54 J -29536519.05 -29536518.92 -29536518.79 0.0533 0.0095

Moon -85579-02-22 16:18 J -29536253.94 -29536253.82 -29536253.71 0.2747 0.0726

Earth -85579-02-22 16:18 J -29536253.93 -29536253.82 -29536253.71 0.2755 0.0714 *

Mars -85577-12-12 15:06 J -29535229.99 -29535229.87 -29535229.75 0.1853 0.1099

Venus -85576-06-09 03:49 J -29535051.45 -29535051.34 -29535051.23 0.3623 0.1973

Moon -85576-08-31 04:47 J -29534968.33 -29534968.30 -29534968.27 0.2590 0.2520

Earth -85576-08-31 05:01 J -29534968.33 -29534968.29 -29534968.25 0.2584 0.2455 *

Mars -85576-10-06 05:01 J -29534932.42 -29534932.29 -29534932.17 0.1692 0.0112

Jupiter -85574-07-31 22:18 J -29534268.74 -29534268.57 -29534268.39 0.0494 0.0017

Jupiter -85574-10-30 00:56 J -29534178.50 -29534178.46 -29534178.41 0.0496 0.0474

Venus -85573-03-03 05:30 J -29534053.30 -29534053.27 -29534053.24 0.3778 0.3594

Venus -85571-12-24 02:23 J -29533027.47 -29533027.40 -29533027.33 0.3627 0.2966

Jupiter -85569-12-22 08:37 J -29532298.20 -29532298.14 -29532298.08 0.0537 0.0470

Jupiter -85568-03-21 17:30 J -29532208.90 -29532208.77 -29532208.64 0.0534 0.0016

Saturn -85568-05-14 12:13 J -29532155.11 -29532154.99 -29532154.86 0.0289 0.0201

Jupiter -85568-06-19 03:06 J -29532119.44 -29532119.37 -29532119.30 0.0531 0.0444

Saturn -85568-08-11 10:04 J -29532066.25 -29532066.08 -29532065.90 0.0289 0.0057

Venus -85568-09-16 23:44 J -29532029.58 -29532029.51 -29532029.44 0.3775 0.2836

Saturn -85568-11-08 07:40 J -29531977.34 -29531977.18 -29531977.01 0.0289 0.0086

Saturn -85567-02-05 04:32 J -29531888.41 -29531888.31 -29531888.20 0.0290 0.0227

Mars -85567-05-04 15:20 J -29531800.01 -29531799.86 -29531799.71 0.1845 0.0052

Moon -85566-02-25 11:16 J -29531503.14 -29531503.03 -29531502.92 0.2750 0.0645

Earth -85566-02-25 11:59 J -29531503.11 -29531503.00 -29531502.89 0.2754 0.0700 *

Mars -85566-02-26 14:08 J -29531502.03 -29531501.91 -29531501.80 0.1698 0.0477

Neptune -85563-05-29 19:11 J -29530313.73 -29530313.70 -29530313.64 0.0089 0.0086

Neptune -85563-08-25 22:32 J -29530225.62 -29530225.56 -29530225.46 0.0089 0.0080

Neptune -85563-11-22 02:08 J -29530137.50 -29530137.41 -29530137.30 0.0089 0.0074

Neptune -85562-02-18 05:30 J -29530049.38 -29530049.27 -29530049.14 0.0089 0.0068

Venus -85562-04-02 18:13 J -29530005.84 -29530005.74 -29530005.65 0.3771 0.2050

Neptune -85562-05-17 08:52 J -29529961.25 -29529961.13 -29529960.98 0.0089 0.0062

Jupiter -85562-05-19 21:06 J -29529958.79 -29529958.62 -29529958.45 0.0493 0.0140

Neptune -85562-08-13 12:13 J -29529873.12 -29529872.99 -29529872.83 0.0089 0.0056

Jupiter -85562-08-17 23:59 J -29529868.61 -29529868.50 -29529868.37 0.0496 0.0354

Neptune -85562-11-09 15:35 J -29529784.99 -29529784.85 -29529784.68 0.0089 0.0050

Neptune -85561-02-05 19:11 J -29529696.86 -29529696.70 -29529696.53 0.0089 0.0043

Neptune -85561-05-03 22:32 J -29529608.72 -29529608.56 -29529608.38 0.0089 0.0037

Neptune -85561-07-31 01:54 J -29529520.59 -29529520.42 -29529520.23 0.0089 0.0032

Neptune -85561-10-27 05:16 J -29529432.45 -29529432.28 -29529432.09 0.0089 0.0026

Neptune -85560-01-23 08:37 J -29529344.32 -29529344.14 -29529343.95 0.0089 0.0020

Neptune -85560-04-21 11:59 J -29529256.18 -29529256.00 -29529255.81 0.0089 0.0014

Neptune -85560-07-18 15:20 J -29529168.04 -29529167.86 -29529167.67 0.0089 0.0008

Neptune -85560-10-14 18:42 J -29529079.90 -29529079.72 -29529079.53 0.0089 0.0002

Neptune -85559-01-10 22:04 J -29528991.77 -29528991.58 -29528991.39 0.0089 0.0005

Neptune -85559-04-09 01:25 J -29528903.63 -29528903.44 -29528903.26 0.0089 0.0011

Neptune -85559-07-06 04:32 J -29528815.49 -29528815.31 -29528815.12 0.0089 0.0016

Neptune -85559-10-02 07:40 J -29528727.35 -29528727.18 -29528726.99 0.0089 0.0023

Neptune -85559-12-29 10:47 J -29528639.21 -29528639.05 -29528638.86 0.0088 0.0029

Neptune -85558-03-27 14:23 J -29528551.07 -29528550.90 -29528550.73 0.0088 0.0034

Neptune -85558-06-23 17:30 J -29528462.93 -29528462.77 -29528462.60 0.0088 0.0040

Neptune -85558-09-19 20:37 J -29528374.79 -29528374.64 -29528374.47 0.0088 0.0046

Mars -85558-09-24 15:35 J -29528369.97 -29528369.85 -29528369.72 0.1836 0.1038

Neptune -85558-12-16 23:44 J -29528286.65 -29528286.51 -29528286.35 0.0088 0.0051

Neptune -85557-03-14 03:06 J -29528198.51 -29528198.37 -29528198.23 0.0088 0.0057

Neptune -85557-06-10 06:13 J -29528110.36 -29528110.24 -29528110.11 0.0088 0.0063

Mars -85557-07-18 23:16 J -29528071.63 -29528071.53 -29528071.44 0.1705 0.1053

Neptune -85557-09-06 09:06 J -29528022.22 -29528022.12 -29528021.99 0.0088 0.0069

Venus -85557-10-16 12:42 J -29527982.07 -29527981.97 -29527981.86 0.3768 0.1243

Neptune -85557-12-03 12:42 J -29527934.07 -29527933.97 -29527933.87 0.0088 0.0074

Jupiter -85556-01-07 21:20 J -29527898.74 -29527898.61 -29527898.48 0.0535 0.0124

Neptune -85556-03-01 15:35 J -29527845.92 -29527845.85 -29527845.76 0.0088 0.0080

Jupiter -85556-04-07 06:42 J -29527809.32 -29527809.22 -29527809.11 0.0532 0.0336

Neptune -85556-05-28 18:28 J -29527757.76 -29527757.73 -29527757.67 0.0088 0.0086

Moon -85556-08-26 05:44 J -29527668.40 -29527668.26 -29527668.12 0.2583 0.0904

Earth -85556-08-26 06:56 J -29527668.35 -29527668.21 -29527668.06 0.2582 0.0765 *

Mars -85555-06-24 11:01 J -29527366.12 -29527366.04 -29527365.97 0.1679 0.1340

Saturn -85554-09-04 00:28 J -29526929.57 -29526929.48 -29526929.37 0.0271 0.0184

Saturn -85554-12-01 11:59 J -29526841.13 -29526841.00 -29526840.87 0.0270 0.0094

Saturn -85553-02-27 23:30 J -29526752.66 -29526752.52 -29526752.38 0.0270 0.0006

Moon -85553-02-28 06:56 J -29526752.29 -29526752.21 -29526752.13 0.2752 0.1964

Earth -85553-02-28 07:40 J -29526752.25 -29526752.18 -29526752.10 0.2752 0.2142 *

Saturn -85553-05-26 11:01 J -29526664.17 -29526664.04 -29526663.91 0.0270 0.0089

Saturn -85553-08-22 22:47 J -29526575.65 -29526575.55 -29526575.44 0.0270 0.0182

Pluto -85553-09-17 05:30 J -29526550.33 -29526550.27 -29526550.17 0.0060 0.0055

Pluto -85553-12-14 06:56 J -29526462.31 -29526462.21 -29526462.08 0.0060 0.0049

Pluto -85552-03-12 08:08 J -29526374.27 -29526374.16 -29526374.00 0.0060 0.0043

Pluto -85552-06-08 10:04 J -29526286.23 -29526286.08 -29526285.92 0.0060 0.0036

Pluto -85552-09-04 11:16 J -29526198.18 -29526198.03 -29526197.85 0.0061 0.0030

Pluto -85552-12-01 12:42 J -29526110.13 -29526109.97 -29526109.77 0.0061 0.0024

Pluto -85551-02-27 14:23 J -29526022.08 -29526021.90 -29526021.71 0.0061 0.0017

Venus -85551-05-02 07:40 J -29525958.30 -29525958.18 -29525958.07 0.3764 0.0432

Pluto -85551-05-26 15:49 J -29525934.02 -29525933.84 -29525933.64 0.0061 0.0011

Pluto -85551-08-22 17:30 J -29525845.97 -29525845.77 -29525845.58 0.0061 0.0004

Pluto -85551-11-18 18:56 J -29525757.90 -29525757.71 -29525757.51 0.0061 0.0002

Pluto -85550-02-14 20:23 J -29525669.84 -29525669.65 -29525669.45 0.0061 0.0009

Jupiter -85550-03-07 19:25 J -29525648.83 -29525648.69 -29525648.54 0.0493 0.0265

Pluto -85550-05-13 21:49 J -29525581.77 -29525581.59 -29525581.40 0.0061 0.0015

Jupiter -85550-06-05 23:01 J -29525558.69 -29525558.54 -29525558.38 0.0495 0.0231

Pluto -85550-08-09 23:01 J -29525493.70 -29525493.54 -29525493.34 0.0061 0.0022

Pluto -85550-11-06 00:42 J -29525405.63 -29525405.47 -29525405.29 0.0061 0.0029

Pluto -85549-02-02 01:54 J -29525317.56 -29525317.42 -29525317.24 0.0061 0.0036

Pluto -85549-04-30 03:49 J -29525229.48 -29525229.34 -29525229.19 0.0061 0.0042

Pluto -85549-07-27 05:01 J -29525141.39 -29525141.29 -29525141.15 0.0061 0.0049

Pluto -85549-10-23 06:28 J -29525053.29 -29525053.23 -29525053.12 0.0061 0.0056

Mars -85548-12-09 08:23 J -29524641.18 -29524641.15 -29524641.12 0.1712 0.1631

Venus -85547-05-01 05:16 J -29524498.33 -29524498.28 -29524498.23 0.3605 0.3300

Earth -85546-02-21 01:54 J -29524202.51 -29524202.42 -29524202.34 0.2756 0.1815

Moon -85546-02-21 02:08 J -29524202.50 -29524202.41 -29524202.32 0.2749 0.1715 *

Mars -85546-11-14 19:54 J -29523935.78 -29523935.67 -29523935.56 0.1685 0.0765

Venus -85546-11-16 02:37 J -29523934.51 -29523934.39 -29523934.28 0.3760 0.0459

Jupiter -85545-10-27 01:11 J -29523588.57 -29523588.45 -29523588.34 0.0535 0.0234

Jupiter -85544-01-24 10:18 J -29523499.19 -29523499.07 -29523498.95 0.0532 0.0224

Moon -85543-08-29 08:08 J -29522917.29 -29522917.16 -29522917.02 0.2589 0.1021

Earth -85543-08-29 09:06 J -29522917.25 -29522917.12 -29522916.99 0.2583 0.1054 *

Venus -85542-11-15 05:44 J -29522474.37 -29522474.26 -29522474.15 0.3608 0.2100

Uranus -85541-03-12 11:44 J -29522356.02 -29522356.01 -29522356.00 0.0139 0.0138

Uranus -85541-06-08 15:20 J -29522267.92 -29522267.86 -29522267.79 0.0139 0.0121

Uranus -85541-09-04 18:56 J -29522179.80 -29522179.71 -29522179.62 0.0139 0.0104

Uranus -85541-12-01 22:32 J -29522091.66 -29522091.56 -29522091.44 0.0139 0.0087

Uranus -85540-02-28 02:23 J -29522003.52 -29522003.40 -29522003.28 0.0140 0.0070

Uranus -85540-05-27 06:13 J -29521915.37 -29521915.24 -29521915.11 0.0140 0.0052

Venus -85540-05-31 21:49 J -29521910.70 -29521910.59 -29521910.48 0.3756 0.1338

Uranus -85540-08-23 10:04 J -29521827.22 -29521827.08 -29521826.95 0.0140 0.0034

Uranus -85540-11-19 13:54 J -29521739.06 -29521738.92 -29521738.78 0.0140 0.0016

Uranus -85539-02-15 17:44 J -29521650.90 -29521650.76 -29521650.62 0.0140 0.0002

Uranus -85539-05-14 21:35 J -29521562.74 -29521562.60 -29521562.46 0.0140 0.0020

Uranus -85539-08-11 01:25 J -29521474.57 -29521474.44 -29521474.30 0.0140 0.0039

Saturn -85539-10-01 08:37 J -29521423.21 -29521423.14 -29521423.06 0.0288 0.0259

Uranus -85539-11-07 05:16 J -29521386.40 -29521386.28 -29521386.14 0.0141 0.0058

Jupiter -85539-12-24 18:28 J -29521338.83 -29521338.73 -29521338.61 0.0492 0.0385

Saturn -85539-12-29 06:42 J -29521334.38 -29521334.22 -29521334.05 0.0289 0.0113

Uranus -85538-02-03 09:20 J -29521298.22 -29521298.11 -29521297.99 0.0141 0.0076

Jupiter -85538-03-24 22:32 J -29521248.73 -29521248.56 -29521248.39 0.0495 0.0115

Saturn -85538-03-28 04:32 J -29521245.49 -29521245.31 -29521245.14 0.0289 0.0031

Uranus -85538-05-02 13:25 J -29521210.04 -29521209.94 -29521209.83 0.0141 0.0095

Saturn -85538-06-25 01:40 J -29521156.56 -29521156.43 -29521156.29 0.0289 0.0172

Uranus -85538-07-29 17:30 J -29521121.85 -29521121.77 -29521121.69 0.0141 0.0114

Uranus -85538-10-25 21:35 J -29521033.64 -29521033.60 -29521033.56 0.0141 0.0133

Mars -85537-06-12 15:35 J -29520802.96 -29520802.85 -29520802.74 0.1854 0.1219

Mars -85536-04-06 05:01 J -29520505.42 -29520505.29 -29520505.17 0.1692 0.0187

Venus -85536-05-31 05:44 J -29520450.39 -29520450.26 -29520450.13 0.3612 0.0949

Venus -85535-12-15 17:16 J -29519886.87 -29519886.78 -29519886.69 0.3752 0.2242

Moon -85533-02-23 21:20 J -29519451.73 -29519451.61 -29519451.50 0.2747 0.0470

Earth -85533-02-23 21:20 J -29519451.72 -29519451.61 -29519451.50 0.2755 0.0424 *

Jupiter -85533-08-15 03:49 J -29519278.44 -29519278.34 -29519278.24 0.0535 0.0355

Jupiter -85533-11-12 12:42 J -29519189.10 -29519188.97 -29519188.83 0.0533 0.0101

Venus -85531-12-15 05:16 J -29518426.41 -29518426.28 -29518426.15 0.3616 0.0183

Venus -85529-06-30 13:11 J -29517863.01 -29517862.95 -29517862.90 0.3748 0.3186

Mars -85528-11-02 15:49 J -29517372.99 -29517372.84 -29517372.69 0.1845 0.0161

Mars -85527-08-27 14:08 J -29517075.03 -29517074.91 -29517074.79 0.1698 0.0395

Jupiter -85526-01-10 21:35 J -29516938.78 -29516938.60 -29516938.43 0.0494 0.0008

Jupiter -85526-04-11 00:13 J -29516848.52 -29516848.49 -29516848.45 0.0497 0.0484

Venus -85525-06-30 04:18 J -29516402.44 -29516402.32 -29516402.19 0.3620 0.1231

Saturn -85524-01-21 03:20 J -29516197.44 -29516197.36 -29516197.27 0.0271 0.0206

Saturn -85524-04-19 14:52 J -29516109.01 -29516108.88 -29516108.76 0.0271 0.0116

Saturn -85524-07-17 02:23 J -29516020.54 -29516020.40 -29516020.27 0.0271 0.0026

Saturn -85524-10-13 13:54 J -29515932.05 -29515931.92 -29515931.78 0.0270 0.0068

Saturn -85523-01-10 01:40 J -29515843.54 -29515843.43 -29515843.32 0.0270 0.0161

Saturn -85523-04-08 13:25 J -29515754.97 -29515754.94 -29515754.89 0.0270 0.0255

Moon -85523-08-24 09:20 J -29515617.18 -29515617.11 -29515617.05 0.2579 0.2300

Earth -85523-08-24 10:47 J -29515617.13 -29515617.05 -29515616.98 0.2582 0.2242 *

Jupiter -85521-06-03 07:11 J -29514968.26 -29514968.20 -29514968.14 0.0536 0.0469

Jupiter -85521-08-31 16:04 J -29514878.96 -29514878.83 -29514878.70 0.0534 0.0021

Jupiter -85521-11-29 01:25 J -29514789.51 -29514789.44 -29514789.36 0.0531 0.0442

Moon -85520-02-25 16:18 J -29514700.93 -29514700.82 -29514700.71 0.2751 0.0894

Earth -85520-02-25 17:01 J -29514700.90 -29514700.79 -29514700.68 0.2754 0.0993 *

Venus -85519-01-14 03:06 J -29514378.47 -29514378.37 -29514378.27 0.3624 0.2251

Mars -85518-03-25 15:49 J -29513942.97 -29513942.84 -29513942.71 0.1837 0.0935

Mars -85517-01-17 23:16 J -29513644.63 -29513644.53 -29513644.43 0.1705 0.0970

Venus -85517-10-08 03:35 J -29513380.39 -29513380.35 -29513380.30 0.3777 0.3402

Mars -85516-12-23 11:01 J -29512939.10 -29512939.04 -29512938.97 0.1679 0.1424

Jupiter -85515-10-29 19:40 J -29512628.85 -29512628.68 -29512628.51 0.0493 0.0135

Jupiter -85514-01-27 22:47 J -29512538.67 -29512538.55 -29512538.43 0.0496 0.0358

Venus -85514-07-31 01:25 J -29512354.49 -29512354.44 -29512354.38 0.3628 0.3226

Moon -85513-02-19 12:13 J -29512151.00 -29512150.99 -29512150.98 0.2754 0.2728

Venus -85511-04-23 21:49 J -29511356.66 -29511356.59 -29511356.51 0.3774 0.2637

Moon -85510-08-27 11:44 J -29510866.15 -29510866.01 -29510865.86 0.2585 0.0538

Earth -85510-08-27 13:11 J -29510866.10 -29510865.95 -29510865.81 0.2583 0.0385 *

Saturn -85509-05-17 07:11 J -29510602.35 -29510602.20 -29510602.04 0.0289 0.0146

Jupiter -85509-06-19 19:25 J -29510568.81 -29510568.69 -29510568.56 0.0535 0.0130

Saturn -85509-08-14 05:01 J -29510513.46 -29510513.29 -29510513.11 0.0289 0.0002

Jupiter -85509-09-17 04:47 J -29510479.40 -29510479.30 -29510479.19 0.0532 0.0330

Saturn -85509-11-11 02:23 J -29510424.55 -29510424.40 -29510424.25 0.0289 0.0140

Saturn -85508-02-07 23:16 J -29510335.57 -29510335.53 -29510335.49 0.0290 0.0279

Mars -85508-06-09 08:23 J -29510214.20 -29510214.15 -29510214.10 0.1712 0.1555

Moon -85507-02-28 11:59 J -29509950.05 -29509950.00 -29509949.94 0.2753 0.2388

Earth -85507-02-28 12:56 J -29509950.02 -29509949.96 -29509949.91 0.2752 0.2435 *

Mars -85506-05-15 20:08 J -29509508.77 -29509508.66 -29509508.55 0.1685 0.0847

Venus -85506-11-07 16:18 J -29509332.91 -29509332.82 -29509332.72 0.3770 0.1843

Jupiter -85503-08-17 18:13 J -29508318.89 -29508318.74 -29508318.59 0.0493 0.0259

Jupiter -85503-11-15 21:49 J -29508228.75 -29508228.59 -29508228.44 0.0495 0.0236

Uranus -85502-11-02 21:35 J -29507876.67 -29507876.60 -29507876.49 0.0139 0.0120

Uranus -85501-01-30 04:47 J -29507788.43 -29507788.30 -29507788.16 0.0139 0.0095

Uranus -85501-04-27 11:30 J -29507700.16 -29507700.02 -29507699.86 0.0139 0.0072

Uranus -85501-07-24 18:28 J -29507611.90 -29507611.73 -29507611.56 0.0139 0.0049

Uranus -85501-10-21 01:11 J -29507523.63 -29507523.45 -29507523.27 0.0139 0.0026

Uranus -85500-01-17 07:54 J -29507435.35 -29507435.17 -29507434.99 0.0139 0.0004

Earth -85500-02-21 06:56 J -29507400.31 -29507400.21 -29507400.12 0.2755 0.1532

Moon -85500-02-21 07:11 J -29507400.30 -29507400.20 -29507400.11 0.2748 0.1564 *

Uranus -85500-04-15 14:23 J -29507347.08 -29507346.90 -29507346.72 0.0138 0.0020

Venus -85500-05-23 11:01 J -29507309.15 -29507309.04 -29507308.93 0.3767 0.1022

Uranus -85500-07-12 20:37 J -29507258.80 -29507258.64 -29507258.46 0.0138 0.0043

Uranus -85500-10-09 03:06 J -29507170.52 -29507170.37 -29507170.20 0.0138 0.0064

Uranus -85499-01-05 09:20 J -29507082.23 -29507082.11 -29507081.96 0.0138 0.0087

Uranus -85499-04-03 16:04 J -29506993.94 -29506993.83 -29506993.72 0.0138 0.0107

Uranus -85499-06-30 22:04 J -29506905.63 -29506905.58 -29506905.51 0.0138 0.0129

Mars -85498-12-12 16:04 J -29506375.93 -29506375.83 -29506375.72 0.1854 0.1347

Jupiter -85497-04-07 23:16 J -29506258.64 -29506258.53 -29506258.41 0.0535 0.0237

Jupiter -85497-07-06 08:37 J -29506169.26 -29506169.14 -29506169.02 0.0533 0.0220

Moon -85497-08-29 14:23 J -29506115.03 -29506114.90 -29506114.78 0.2589 0.1323

Earth -85497-08-29 15:06 J -29506114.99 -29506114.87 -29506114.75 0.2584 0.1436 *

Mars -85497-10-05 05:01 J -29506078.41 -29506078.29 -29506078.16 0.1691 0.0265

Saturn -85495-06-10 05:16 J -29505465.34 -29505465.28 -29505465.21 0.0271 0.0234

Saturn -85495-09-06 16:47 J -29505376.92 -29505376.80 -29505376.69 0.0271 0.0145

Saturn -85495-12-04 04:04 J -29505288.46 -29505288.33 -29505288.19 0.0270 0.0054

Venus -85495-12-07 05:44 J -29505285.37 -29505285.26 -29505285.14 0.3763 0.0242

Saturn -85494-03-02 15:35 J -29505199.99 -29505199.85 -29505199.71 0.0270 0.0038

Saturn -85494-05-30 03:20 J -29505111.48 -29505111.36 -29505111.24 0.0270 0.0130

Saturn -85494-08-26 15:06 J -29505022.94 -29505022.87 -29505022.79 0.0270 0.0224

Jupiter -85491-06-05 16:32 J -29504008.92 -29504008.81 -29504008.70 0.0492 0.0386

Jupiter -85491-09-03 20:23 J -29503918.82 -29503918.65 -29503918.47 0.0495 0.0113

Venus -85491-12-06 05:16 J -29503825.36 -29503825.28 -29503825.21 0.3606 0.2979

Venus -85489-06-22 00:56 J -29503261.57 -29503261.46 -29503261.35 0.3759 0.0690

Mars -85488-05-03 16:18 J -29502945.97 -29502945.82 -29502945.67 0.1845 0.0264

Moon -85487-02-24 02:08 J -29502649.53 -29502649.41 -29502649.30 0.2748 0.0141

Earth -85487-02-24 02:23 J -29502649.51 -29502649.40 -29502649.28 0.2754 0.0138 *

Mars -85487-02-25 14:08 J -29502648.03 -29502647.91 -29502647.79 0.1698 0.0315

Jupiter -85485-01-26 03:06 J -29501948.47 -29501948.37 -29501948.27 0.0536 0.0346

Jupiter -85485-04-24 12:13 J -29501859.12 -29501858.99 -29501858.86 0.0533 0.0111

Venus -85485-06-21 05:30 J -29501801.39 -29501801.27 -29501801.16 0.3609 0.1799

Venus -85483-01-05 20:08 J -29501237.76 -29501237.66 -29501237.55 0.3755 0.1586

Neptune -85482-09-05 03:06 J -29500630.38 -29500630.37 -29500630.35 0.0089 0.0088

Neptune -85482-12-02 04:18 J -29500542.35 -29500542.32 -29500542.27 0.0089 0.0084

Neptune -85481-02-28 05:44 J -29500454.31 -29500454.26 -29500454.19 0.0089 0.0080

Neptune -85481-05-26 07:11 J -29500366.26 -29500366.20 -29500366.12 0.0089 0.0076

Neptune -85481-08-22 08:23 J -29500278.21 -29500278.15 -29500278.06 0.0089 0.0072

Neptune -85481-11-18 10:04 J -29500190.16 -29500190.08 -29500189.99 0.0089 0.0067

Neptune -85480-02-14 11:30 J -29500102.11 -29500102.02 -29500101.92 0.0089 0.0063

Neptune -85480-05-13 12:42 J -29500014.06 -29500013.97 -29500013.86 0.0089 0.0059

Neptune -85480-08-09 14:08 J -29499926.01 -29499925.91 -29499925.79 0.0089 0.0055

Saturn -85480-10-04 03:49 J -29499870.46 -29499870.34 -29499870.21 0.0288 0.0202

Neptune -85480-11-05 15:49 J -29499837.95 -29499837.84 -29499837.73 0.0089 0.0050

Saturn -85479-01-01 01:54 J -29499781.59 -29499781.42 -29499781.25 0.0289 0.0057

Venus -85479-01-05 05:16 J -29499777.41 -29499777.28 -29499777.14 0.3613 0.0655

Neptune -85479-02-01 17:01 J -29499749.90 -29499749.79 -29499749.67 0.0089 0.0046

Saturn -85479-03-30 23:16 J -29499692.69 -29499692.53 -29499692.36 0.0289 0.0086

Neptune -85479-04-30 18:28 J -29499661.84 -29499661.73 -29499661.61 0.0089 0.0042

Jupiter -85479-06-22 19:54 J -29499608.85 -29499608.67 -29499608.50 0.0494 0.0014

Saturn -85479-06-27 20:23 J -29499603.75 -29499603.65 -29499603.54 0.0289 0.0226

Neptune -85479-07-27 19:54 J -29499573.79 -29499573.67 -29499573.54 0.0089 0.0037

Jupiter -85479-09-20 22:32 J -29499518.59 -29499518.56 -29499518.52 0.0497 0.0485

Mars -85479-09-23 16:47 J -29499515.94 -29499515.80 -29499515.67 0.1837 0.0802

Neptune -85479-10-23 21:20 J -29499485.73 -29499485.61 -29499485.48 0.0089 0.0033

Neptune -85478-01-19 22:47 J -29499397.68 -29499397.55 -29499397.42 0.0089 0.0029

Neptune -85478-04-18 00:13 J -29499309.62 -29499309.49 -29499309.36 0.0089 0.0024

Neptune -85478-07-15 01:40 J -29499221.56 -29499221.43 -29499221.30 0.0089 0.0020

Mars -85478-07-18 23:16 J -29499217.63 -29499217.53 -29499217.42 0.1705 0.0896

Venus -85478-07-22 15:49 J -29499213.92 -29499213.84 -29499213.75 0.3751 0.2499

Neptune -85478-10-11 03:06 J -29499133.50 -29499133.37 -29499133.23 0.0089 0.0016

Neptune -85477-01-07 04:32 J -29499045.44 -29499045.31 -29499045.17 0.0089 0.0011

Neptune -85477-04-04 05:59 J -29498957.38 -29498957.25 -29498957.11 0.0089 0.0007

Neptune -85477-07-01 07:25 J -29498869.32 -29498869.19 -29498869.05 0.0089 0.0003

Moon -85477-08-24 15:35 J -29498814.94 -29498814.85 -29498814.77 0.2580 0.2056

Earth -85477-08-24 16:47 J -29498814.90 -29498814.80 -29498814.70 0.2582 0.1843 *

Neptune -85477-09-27 08:52 J -29498781.26 -29498781.13 -29498780.99 0.0089 0.0003

Neptune -85477-12-24 10:18 J -29498693.20 -29498693.07 -29498692.93 0.0089 0.0006

Neptune -85476-03-22 11:44 J -29498605.14 -29498605.01 -29498604.87 0.0089 0.0011

Neptune -85476-06-18 13:11 J -29498517.08 -29498516.95 -29498516.81 0.0089 0.0015

Mars -85476-06-23 11:16 J -29498512.09 -29498512.03 -29498511.98 0.1678 0.1505

Neptune -85476-09-14 14:37 J -29498429.02 -29498428.89 -29498428.75 0.0089 0.0020

Neptune -85476-12-11 16:18 J -29498340.95 -29498340.82 -29498340.69 0.0089 0.0024

Neptune -85475-03-09 17:44 J -29498252.89 -29498252.76 -29498252.63 0.0089 0.0028

Neptune -85475-06-05 19:11 J -29498164.82 -29498164.70 -29498164.57 0.0089 0.0033

Neptune -85475-09-01 20:37 J -29498076.76 -29498076.64 -29498076.51 0.0089 0.0037

Neptune -85475-11-28 22:04 J -29497988.69 -29497988.58 -29497988.45 0.0089 0.0042

Neptune -85474-02-24 23:44 J -29497900.63 -29497900.51 -29497900.39 0.0089 0.0046

Moon -85474-02-26 21:20 J -29497898.72 -29497898.61 -29497898.51 0.2750 0.1178

Earth -85474-02-26 22:04 J -29497898.68 -29497898.58 -29497898.48 0.2753 0.1287 *

Neptune -85474-05-24 00:56 J -29497812.56 -29497812.46 -29497812.33 0.0089 0.0051

Venus -85474-07-22 04:47 J -29497753.43 -29497753.30 -29497753.17 0.3617 0.0453

Neptune -85474-08-20 02:37 J -29497724.49 -29497724.39 -29497724.27 0.0089 0.0055

Jupiter -85474-11-14 05:59 J -29497638.31 -29497638.25 -29497638.19 0.0536 0.0465

Neptune -85474-11-16 04:04 J -29497636.42 -29497636.33 -29497636.22 0.0089 0.0060

Jupiter -85473-02-11 14:52 J -29497549.01 -29497548.88 -29497548.75 0.0533 0.0017

Neptune -85473-02-12 05:44 J -29497548.35 -29497548.26 -29497548.16 0.0089 0.0064

Neptune -85473-05-10 07:11 J -29497460.28 -29497460.20 -29497460.10 0.0089 0.0069

Jupiter -85473-05-11 00:13 J -29497459.56 -29497459.49 -29497459.42 0.0530 0.0445

Neptune -85473-08-06 08:52 J -29497372.20 -29497372.13 -29497372.05 0.0089 0.0073

Neptune -85473-11-02 10:04 J -29497284.13 -29497284.08 -29497284.00 0.0089 0.0078

Neptune -85472-01-29 11:59 J -29497196.05 -29497196.00 -29497195.95 0.0089 0.0082

Venus -85472-02-04 11:44 J -29497190.06 -29497190.01 -29497189.97 0.3747 0.3445

Neptune -85472-04-27 13:11 J -29497107.96 -29497107.95 -29497107.91 0.0089 0.0087

Mars -85469-12-08 08:37 J -29495787.20 -29495787.14 -29495787.08 0.1712 0.1476

Venus -85468-02-04 03:49 J -29495729.46 -29495729.34 -29495729.22 0.3621 0.1508

Earth -85467-02-19 16:32 J -29495348.84 -29495348.81 -29495348.78 0.2756 0.2611

Moon -85467-02-19 17:16 J -29495348.82 -29495348.78 -29495348.75 0.2752 0.2592 *

Jupiter -85467-04-10 18:42 J -29495298.90 -29495298.72 -29495298.55 0.0494 0.0128

Jupiter -85467-07-09 21:49 J -29495208.71 -29495208.59 -29495208.47 0.0496 0.0366

Mars -85467-11-13 20:08 J -29495081.77 -29495081.66 -29495081.56 0.1685 0.0925

Saturn -85466-10-28 08:08 J -29494733.19 -29494733.16 -29494733.12 0.0272 0.0258

Saturn -85465-01-24 19:25 J -29494644.79 -29494644.69 -29494644.58 0.0271 0.0168

Saturn -85465-04-22 06:56 J -29494556.34 -29494556.21 -29494556.08 0.0271 0.0077

Saturn -85465-07-19 18:28 J -29494467.87 -29494467.73 -29494467.59 0.0271 0.0015

Saturn -85465-10-16 06:13 J -29494379.37 -29494379.24 -29494379.11 0.0271 0.0108

Saturn -85464-01-12 17:59 J -29494290.84 -29494290.75 -29494290.66 0.0270 0.0201

Moon -85464-08-27 17:59 J -29494063.90 -29494063.75 -29494063.61 0.2586 0.0102

Earth -85464-08-27 19:11 J -29494063.85 -29494063.70 -29494063.56 0.2583 0.0049 *

Venus -85463-08-21 02:37 J -29493705.49 -29493705.39 -29493705.30 0.3625 0.2522

Jupiter -85462-11-30 17:59 J -29493238.88 -29493238.75 -29493238.62 0.0534 0.0130

Jupiter -85461-02-28 03:20 J -29493149.47 -29493149.36 -29493149.26 0.0531 0.0327

Moon -85461-02-29 17:16 J -29493147.81 -29493147.78 -29493147.75 0.2755 0.2621

Earth -85461-02-29 17:59 J -29493147.76 -29493147.75 -29493147.74 0.2752 0.2733 *

Venus -85460-05-15 01:54 J -29492707.48 -29492707.42 -29492707.37 0.3776 0.3201

Pluto -85460-10-23 15:49 J -29492545.84 -29492545.84 -29492545.83 0.0085 0.0084

Pluto -85459-01-19 17:01 J -29492457.85 -29492457.79 -29492457.71 0.0085 0.0072

Pluto -85459-04-17 18:13 J -29492369.82 -29492369.74 -29492369.63 0.0085 0.0061

Pluto -85459-07-14 19:40 J -29492281.78 -29492281.68 -29492281.56 0.0084 0.0048

Pluto -85459-10-10 21:06 J -29492193.74 -29492193.62 -29492193.50 0.0084 0.0036

Pluto -85458-01-06 22:18 J -29492105.69 -29492105.57 -29492105.43 0.0084 0.0025

Pluto -85458-04-04 23:44 J -29492017.64 -29492017.51 -29492017.38 0.0084 0.0012

Mars -85458-06-12 16:18 J -29491948.91 -29491948.82 -29491948.73 0.1854 0.1440

Pluto -85458-07-02 01:11 J -29491929.59 -29491929.45 -29491929.32 0.0084 0.0003

Pluto -85458-09-28 02:23 J -29491841.53 -29491841.40 -29491841.27 0.0084 0.0011

Pluto -85458-12-25 03:35 J -29491753.48 -29491753.35 -29491753.22 0.0084 0.0023

Venus -85457-03-06 00:42 J -29491681.50 -29491681.47 -29491681.44 0.3630 0.3487

Pluto -85457-03-22 04:47 J -29491665.42 -29491665.30 -29491665.18 0.0084 0.0034

Uranus -85457-04-01 18:42 J -29491654.74 -29491654.72 -29491654.68 0.0139 0.0135

Mars -85457-04-05 05:16 J -29491651.41 -29491651.28 -29491651.16 0.1691 0.0350

Pluto -85457-06-18 05:59 J -29491577.36 -29491577.25 -29491577.13 0.0083 0.0046

Uranus -85457-06-28 22:18 J -29491566.63 -29491566.57 -29491566.49 0.0139 0.0118

Pluto -85457-09-14 07:11 J -29491489.29 -29491489.20 -29491489.10 0.0083 0.0057

Uranus -85457-09-25 01:54 J -29491478.50 -29491478.42 -29491478.31 0.0139 0.0102

Pluto -85457-12-11 08:23 J -29491401.22 -29491401.15 -29491401.07 0.0083 0.0068

Uranus -85457-12-22 05:44 J -29491390.36 -29491390.26 -29491390.14 0.0139 0.0084

Pluto -85456-03-09 09:49 J -29491313.13 -29491313.09 -29491313.06 0.0083 0.0079

Uranus -85456-03-20 09:20 J -29491302.22 -29491302.11 -29491301.98 0.0140 0.0067

Uranus -85456-06-16 13:11 J -29491214.07 -29491213.95 -29491213.81 0.0140 0.0049

Uranus -85456-09-12 17:01 J -29491125.92 -29491125.79 -29491125.65 0.0140 0.0031

Uranus -85456-12-09 21:06 J -29491037.76 -29491037.62 -29491037.49 0.0140 0.0013

Jupiter -85455-01-27 16:32 J -29490988.96 -29490988.81 -29490988.65 0.0493 0.0257

Uranus -85455-03-08 00:42 J -29490949.60 -29490949.47 -29490949.32 0.0140 0.0008

Jupiter -85455-04-27 20:08 J -29490898.81 -29490898.66 -29490898.51 0.0495 0.0239

Uranus -85455-06-04 04:32 J -29490861.44 -29490861.31 -29490861.16 0.0140 0.0025

Uranus -85455-08-31 08:37 J -29490773.27 -29490773.14 -29490773.00 0.0140 0.0042

Uranus -85455-11-27 12:42 J -29490685.10 -29490684.97 -29490684.85 0.0141 0.0061

Venus -85455-11-28 20:08 J -29490683.74 -29490683.66 -29490683.58 0.3773 0.2429

Earth -85454-02-22 11:59 J -29490598.10 -29490598.00 -29490597.90 0.2755 0.1244

Moon -85454-02-22 12:13 J -29490598.10 -29490597.99 -29490597.89 0.2748 0.1145 *

Uranus -85454-02-23 16:32 J -29490596.92 -29490596.81 -29490596.69 0.0141 0.0080

Uranus -85454-05-22 20:23 J -29490508.74 -29490508.65 -29490508.54 0.0141 0.0099

Uranus -85454-08-19 00:28 J -29490420.55 -29490420.48 -29490420.40 0.0141 0.0118

Uranus -85454-11-15 04:32 J -29490332.33 -29490332.31 -29490332.27 0.0141 0.0137

Moon -85451-08-30 20:23 J -29489312.75 -29489312.65 -29489312.54 0.2589 0.1766

Earth -85451-08-30 21:06 J -29489312.72 -29489312.62 -29489312.52 0.2584 0.1807 *

Saturn -85450-02-21 04:47 J -29489138.40 -29489138.30 -29489138.19 0.0289 0.0233

Saturn -85450-05-21 02:52 J -29489049.55 -29489049.38 -29489049.21 0.0289 0.0087

Saturn -85450-08-18 00:28 J -29488960.65 -29488960.48 -29488960.31 0.0289 0.0057

Jupiter -85450-09-18 21:20 J -29488928.73 -29488928.61 -29488928.49 0.0535 0.0244

Saturn -85450-11-14 21:35 J -29488871.72 -29488871.60 -29488871.47 0.0289 0.0197

Jupiter -85450-12-17 06:28 J -29488839.35 -29488839.23 -29488839.10 0.0533 0.0214

Venus -85449-06-13 14:37 J -29488659.99 -29488659.89 -29488659.79 0.3769 0.1625

Mars -85449-11-01 17:01 J -29488518.94 -29488518.79 -29488518.65 0.1846 0.0393

Mars -85448-08-26 14:23 J -29488221.03 -29488220.90 -29488220.78 0.1698 0.0236

Jupiter -85444-11-15 15:06 J -29486678.98 -29486678.87 -29486678.76 0.0492 0.0382

Venus -85444-12-28 09:20 J -29486636.22 -29486636.11 -29486636.00 0.3766 0.0802

Jupiter -85443-02-13 18:56 J -29486588.88 -29486588.71 -29486588.54 0.0494 0.0116

Moon -85441-02-25 06:56 J -29485847.32 -29485847.21 -29485847.09 0.2749 0.0048

Earth -85441-02-25 07:25 J -29485847.30 -29485847.19 -29485847.07 0.2754 0.0160 *

Mars -85439-03-24 17:01 J -29485088.93 -29485088.79 -29485088.65 0.1837 0.0688

Mars -85438-01-16 23:30 J -29484790.63 -29484790.52 -29484790.42 0.1705 0.0819

Jupiter -85438-07-08 01:11 J -29484618.55 -29484618.45 -29484618.35 0.0536 0.0352

Venus -85438-07-14 04:18 J -29484612.44 -29484612.32 -29484612.21 0.3762 0.0094

Jupiter -85438-10-05 10:18 J -29484529.20 -29484529.07 -29484528.94 0.0533 0.0104

Mars -85437-12-22 11:16 J -29484085.07 -29484085.03 -29484084.99 0.1678 0.1584

Saturn -85436-06-12 21:49 J -29483912.69 -29483912.59 -29483912.50 0.0271 0.0194

Saturn -85436-09-09 09:06 J -29483824.25 -29483824.12 -29483823.99 0.0271 0.0104

Saturn -85436-12-06 20:37 J -29483735.78 -29483735.64 -29483735.50 0.0270 0.0012

Saturn -85435-03-05 08:08 J -29483647.29 -29483647.16 -29483647.02 0.0270 0.0080

Saturn -85435-06-01 19:54 J -29483558.77 -29483558.67 -29483558.56 0.0270 0.0173

Saturn -85435-08-29 07:54 J -29483470.18 -29483470.17 -29483470.15 0.0270 0.0267

Venus -85434-07-13 05:01 J -29483152.38 -29483152.29 -29483152.20 0.3607 0.2668

Venus -85432-01-26 23:30 J -29482588.63 -29482588.52 -29482588.41 0.3758 0.0938

Jupiter -85432-12-02 17:30 J -29482278.95 -29482278.77 -29482278.59 0.0494 0.0009

Jupiter -85431-03-02 20:08 J -29482188.69 -29482188.66 -29482188.61 0.0497 0.0481

Moon -85431-08-25 21:20 J -29482012.73 -29482012.61 -29482012.49 0.2582 0.1510

Earth -85431-08-25 22:47 J -29482012.67 -29482012.55 -29482012.43 0.2582 0.1462 *

Mars -85430-08-14 17:01 J -29481658.83 -29481658.79 -29481658.76 0.1828 0.1770

Mars -85429-06-08 08:37 J -29481360.21 -29481360.14 -29481360.07 0.1712 0.1399

Venus -85428-01-26 05:16 J -29481128.40 -29481128.28 -29481128.16 0.3610 0.1485

Moon -85428-02-27 02:23 J -29481096.50 -29481096.40 -29481096.30 0.2751 0.1500

Earth -85428-02-27 03:06 J -29481096.46 -29481096.37 -29481096.27 0.2753 0.1578 *

Mars -85427-05-14 20:08 J -29480654.76 -29480654.66 -29480654.56 0.1685 0.1007

Venus -85427-08-12 18:42 J -29480564.82 -29480564.72 -29480564.62 0.3754 0.1834

Jupiter -85426-04-26 05:01 J -29480308.36 -29480308.29 -29480308.23 0.0536 0.0459

Jupiter -85426-07-24 13:54 J -29480219.05 -29480218.92 -29480218.79 0.0534 0.0009

Jupiter -85426-10-21 23:16 J -29480129.59 -29480129.53 -29480129.45 0.0531 0.0453

Venus -85423-08-12 05:01 J -29479104.42 -29479104.29 -29479104.16 0.3614 0.0350

Earth -85421-02-20 21:35 J -29478546.66 -29478546.60 -29478546.54 0.2756 0.2330

Moon -85421-02-20 22:04 J -29478546.64 -29478546.58 -29478546.51 0.2750 0.2209 *

Venus -85421-02-26 14:23 J -29478540.98 -29478540.90 -29478540.82 0.3750 0.2760

Saturn -85421-07-10 01:40 J -29478406.44 -29478406.43 -29478406.41 0.0288 0.0287

Saturn -85421-10-06 23:59 J -29478317.66 -29478317.50 -29478317.35 0.0288 0.0141

Saturn -85420-01-03 21:49 J -29478228.77 -29478228.59 -29478228.42 0.0289 0.0008

Saturn -85420-04-02 18:56 J -29478139.85 -29478139.71 -29478139.56 0.0289 0.0146

Saturn -85420-06-30 16:04 J -29478050.86 -29478050.83 -29478050.80 0.0289 0.0284

Jupiter -85420-09-20 16:32 J -29477968.98 -29477968.81 -29477968.64 0.0494 0.0129

Jupiter -85420-12-19 19:40 J -29477878.79 -29477878.68 -29477878.56 0.0496 0.0365

Mars -85419-12-11 17:01 J -29477521.87 -29477521.79 -29477521.72 0.1854 0.1575

Moon -85418-08-28 23:59 J -29477261.65 -29477261.50 -29477261.36 0.2586 0.0210

Earth -85418-08-29 01:11 J -29477261.60 -29477261.45 -29477261.31 0.2583 0.0393 *

Mars -85418-10-05 05:16 J -29477224.40 -29477224.28 -29477224.16 0.1691 0.0427

Uranus -85418-11-23 04:18 J -29477175.41 -29477175.32 -29477175.21 0.0139 0.0116

Uranus -85417-02-19 11:30 J -29477087.16 -29477087.02 -29477086.89 0.0139 0.0092

Venus -85417-02-26 04:18 J -29477080.45 -29477080.32 -29477080.19 0.3618 0.0746

Uranus -85417-05-17 18:13 J -29476998.89 -29476998.74 -29476998.58 0.0139 0.0069

Uranus -85417-08-14 00:56 J -29476910.63 -29476910.46 -29476910.29 0.0139 0.0046

Uranus -85417-11-10 07:40 J -29476822.35 -29476822.18 -29476822.00 0.0139 0.0023

Uranus -85416-02-06 14:23 J -29476734.08 -29476733.90 -29476733.72 0.0139 0.0001

Uranus -85416-05-05 20:52 J -29476645.80 -29476645.63 -29476645.45 0.0138 0.0022

Uranus -85416-08-02 03:20 J -29476557.52 -29476557.36 -29476557.19 0.0138 0.0045

Venus -85416-09-11 10:18 J -29476517.08 -29476517.07 -29476517.06 0.3745 0.3716

Uranus -85416-10-29 09:49 J -29476469.24 -29476469.09 -29476468.93 0.0138 0.0067

Uranus -85415-01-25 16:18 J -29476380.96 -29476380.82 -29476380.69 0.0138 0.0088

Uranus -85415-04-23 22:18 J -29476292.66 -29476292.57 -29476292.45 0.0138 0.0110

Uranus -85415-07-21 04:47 J -29476204.35 -29476204.30 -29476204.25 0.0138 0.0131

Jupiter -85414-05-12 16:32 J -29475908.93 -29475908.81 -29475908.68 0.0534 0.0129

Jupiter -85414-08-10 01:54 J -29475819.52 -29475819.42 -29475819.31 0.0531 0.0329

Venus -85412-09-11 03:20 J -29475056.47 -29475056.36 -29475056.25 0.3622 0.1794

Mars -85409-05-02 17:16 J -29474091.92 -29474091.78 -29474091.64 0.1846 0.0500

Venus -85409-06-05 05:44 J -29474058.26 -29474058.26 -29474058.25 0.3778 0.3762

Earth -85408-02-22 17:01 J -29473795.90 -29473795.79 -29473795.69 0.2755 0.0957

Moon -85408-02-22 17:01 J -29473795.89 -29473795.79 -29473795.68 0.2748 0.1006 *

Mars -85408-02-24 14:23 J -29473794.03 -29473793.90 -29473793.78 0.1698 0.0156

Jupiter -85408-07-09 15:06 J -29473659.02 -29473658.87 -29473658.71 0.0493 0.0253

Jupiter -85408-10-07 18:56 J -29473568.87 -29473568.71 -29473568.56 0.0496 0.0245

Saturn -85407-10-31 00:28 J -29473180.56 -29473180.48 -29473180.40 0.0272 0.0218

Saturn -85406-01-27 11:44 J -29473092.13 -29473092.01 -29473091.89 0.0271 0.0128

Venus -85406-03-28 01:54 J -29473032.50 -29473032.42 -29473032.34 0.3626 0.2795

Saturn -85406-04-25 23:16 J -29473003.67 -29473003.53 -29473003.39 0.0271 0.0036

Saturn -85406-07-23 10:47 J -29472915.18 -29472915.05 -29472914.91 0.0271 0.0057

Saturn -85406-10-19 22:32 J -29472826.67 -29472826.56 -29472826.44 0.0271 0.0150

Saturn -85405-01-16 10:32 J -29472738.12 -29472738.06 -29472738.00 0.0270 0.0244

Moon -85405-08-31 02:52 J -29472510.46 -29472510.38 -29472510.31 0.2590 0.2194

Earth -85405-08-31 03:06 J -29472510.45 -29472510.37 -29472510.29 0.2584 0.2183 *

Venus -85404-12-19 23:59 J -29472034.57 -29472034.50 -29472034.44 0.3775 0.3003

Jupiter -85402-02-28 19:54 J -29471598.79 -29471598.67 -29471598.56 0.0535 0.0244

Jupiter -85402-05-29 05:01 J -29471509.41 -29471509.29 -29471509.17 0.0532 0.0212

Mars -85400-09-22 17:30 J -29470661.92 -29470661.77 -29470661.63 0.1837 0.0582

Mars -85399-07-17 23:30 J -29470363.63 -29470363.52 -29470363.41 0.1704 0.0734

Neptune -85398-02-23 18:28 J -29470142.78 -29470142.73 -29470142.66 0.0089 0.0083

Neptune -85398-05-22 21:49 J -29470054.67 -29470054.59 -29470054.48 0.0089 0.0077

Venus -85398-07-05 18:28 J -29470010.82 -29470010.73 -29470010.65 0.3772 0.2223

Neptune -85398-08-19 01:25 J -29469966.54 -29469966.44 -29469966.32 0.0089 0.0071

Neptune -85398-11-15 04:47 J -29469878.42 -29469878.30 -29469878.16 0.0089 0.0065

Neptune -85397-02-11 08:08 J -29469790.29 -29469790.16 -29469790.01 0.0089 0.0059

Neptune -85397-05-09 11:30 J -29469702.16 -29469702.02 -29469701.85 0.0089 0.0053

Mars -85397-06-22 11:16 J -29469658.03 -29469658.03 -29469658.02 0.1678 0.1671

Neptune -85397-08-05 14:52 J -29469614.02 -29469613.88 -29469613.70 0.0089 0.0047

Neptune -85397-11-01 18:28 J -29469525.89 -29469525.73 -29469525.55 0.0089 0.0040

Neptune -85396-01-28 21:49 J -29469437.75 -29469437.59 -29469437.41 0.0089 0.0034

Neptune -85396-04-27 01:11 J -29469349.62 -29469349.45 -29469349.26 0.0089 0.0029

Jupiter -85396-04-27 13:11 J -29469349.06 -29469348.95 -29469348.84 0.0492 0.0382

Neptune -85396-07-24 04:32 J -29469261.48 -29469261.31 -29469261.12 0.0089 0.0023

Jupiter -85396-07-26 17:01 J -29469258.96 -29469258.79 -29469258.61 0.0495 0.0117

Neptune -85396-10-20 07:54 J -29469173.35 -29469173.17 -29469172.98 0.0089 0.0017

Neptune -85395-01-16 11:16 J -29469085.21 -29469085.03 -29469084.83 0.0089 0.0011

Moon -85395-02-25 11:59 J -29469045.12 -29469045.00 -29469044.89 0.2749 0.0444

Earth -85395-02-25 12:28 J -29469045.09 -29469044.98 -29469044.86 0.2754 0.0452 *

Neptune -85395-04-14 14:52 J -29468997.07 -29468996.88 -29468996.70 0.0088 0.0004

Neptune -85395-07-11 18:13 J -29468908.93 -29468908.74 -29468908.56 0.0088 0.0003

Neptune -85395-10-07 21:20 J -29468820.79 -29468820.61 -29468820.42 0.0088 0.0008

Neptune -85394-01-04 00:42 J -29468732.65 -29468732.47 -29468732.28 0.0088 0.0014

Neptune -85394-04-02 03:49 J -29468644.51 -29468644.34 -29468644.15 0.0088 0.0020

Neptune -85394-06-29 07:11 J -29468556.38 -29468556.20 -29468556.02 0.0088 0.0025

Neptune -85394-09-25 10:18 J -29468468.23 -29468468.07 -29468467.89 0.0088 0.0032

Neptune -85394-12-22 13:25 J -29468380.09 -29468379.94 -29468379.76 0.0088 0.0038

Neptune -85393-03-19 17:01 J -29468291.95 -29468291.79 -29468291.63 0.0088 0.0043

Neptune -85393-06-15 20:08 J -29468203.81 -29468203.66 -29468203.50 0.0088 0.0049

Neptune -85393-09-11 23:16 J -29468115.67 -29468115.53 -29468115.38 0.0088 0.0055

Neptune -85393-12-09 02:23 J -29468027.52 -29468027.40 -29468027.26 0.0088 0.0060

Venus -85392-01-18 12:56 J -29467987.07 -29467986.96 -29467986.86 0.3768 0.1410

Neptune -85392-03-07 05:44 J -29467939.38 -29467939.26 -29467939.13 0.0088 0.0066

Neptune -85392-06-03 08:52 J -29467851.23 -29467851.13 -29467851.02 0.0088 0.0072

Neptune -85392-08-30 11:44 J -29467763.08 -29467763.01 -29467762.91 0.0088 0.0078

Neptune -85392-11-26 15:20 J -29467674.92 -29467674.86 -29467674.80 0.0088 0.0083

Saturn -85391-02-24 01:25 J -29467585.58 -29467585.44 -29467585.29 0.0289 0.0167

Saturn -85391-05-23 23:16 J -29467496.70 -29467496.53 -29467496.35 0.0289 0.0023

Saturn -85391-08-20 20:52 J -29467407.79 -29467407.63 -29467407.48 0.0289 0.0121

Saturn -85391-11-17 17:30 J -29467318.83 -29467318.77 -29467318.69 0.0289 0.0261

Jupiter -85391-12-17 23:16 J -29467288.63 -29467288.53 -29467288.44 0.0536 0.0360

Mars -85390-02-12 17:44 J -29467231.83 -29467231.76 -29467231.70 0.1829 0.1643

Jupiter -85390-03-17 08:08 J -29467199.29 -29467199.16 -29467199.03 0.0533 0.0095

Mars -85390-12-08 08:37 J -29466933.22 -29466933.14 -29466933.06 0.1712 0.1322

Mars -85388-11-12 20:23 J -29466227.75 -29466227.65 -29466227.56 0.1684 0.1092

Venus -85387-08-04 07:40 J -29465963.29 -29465963.18 -29465963.07 0.3765 0.0573

Moon -85385-08-26 03:20 J -29465210.48 -29465210.36 -29465210.23 0.2583 0.1303

Earth -85385-08-26 04:47 J -29465210.43 -29465210.30 -29465210.16 0.2582 0.1071 *

Jupiter -85384-05-14 15:49 J -29464949.02 -29464948.84 -29464948.67 0.0494 0.0013

Jupiter -85384-08-12 18:28 J -29464858.76 -29464858.73 -29464858.69 0.0496 0.0481

Venus -85383-08-03 04:18 J -29464503.34 -29464503.32 -29464503.30 0.3604 0.3564

Moon -85382-02-28 07:25 J -29464294.28 -29464294.19 -29464294.10 0.2752 0.1727

Earth -85382-02-28 08:08 J -29464294.24 -29464294.16 -29464294.07 0.2753 0.1875 *

Venus -85381-02-18 02:37 J -29463939.50 -29463939.39 -29463939.28 0.3761 0.0286

Mars -85379-06-11 17:30 J -29463094.83 -29463094.77 -29463094.71 0.1854 0.1692

Jupiter -85379-10-06 02:52 J -29462978.44 -29462978.38 -29462978.31 0.0537 0.0468

Jupiter -85378-01-03 11:44 J -29462889.14 -29462889.01 -29462888.88 0.0534 0.0018

Jupiter -85378-04-02 21:20 J -29462799.68 -29462799.61 -29462799.54 0.0531 0.0445

Mars -85378-04-05 05:16 J -29462797.40 -29462797.28 -29462797.16 0.1691 0.0508

Venus -85377-02-17 04:47 J -29462479.40 -29462479.30 -29462479.20 0.3608 0.2347

Saturn -85377-03-19 03:06 J -29462448.43 -29462448.37 -29462448.31 0.0271 0.0241

Saturn -85377-06-15 14:23 J -29462360.01 -29462359.90 -29462359.78 0.0271 0.0151

Saturn -85377-09-12 01:54 J -29462271.56 -29462271.42 -29462271.29 0.0271 0.0060

Saturn -85377-12-09 13:25 J -29462183.08 -29462182.94 -29462182.80 0.0270 0.0032

Saturn -85376-03-08 00:56 J -29462094.58 -29462094.46 -29462094.33 0.0270 0.0125

Saturn -85376-06-04 12:56 J -29462006.04 -29462005.96 -29462005.88 0.0270 0.0218

Venus -85376-09-02 21:49 J -29461915.70 -29461915.59 -29461915.48 0.3757 0.1178

Earth -85375-02-21 02:37 J -29461744.47 -29461744.39 -29461744.32 0.2756 0.2053

Moon -85375-02-21 03:06 J -29461744.45 -29461744.37 -29461744.30 0.2750 0.2022 *

Uranus -85373-04-22 01:40 J -29460953.46 -29460953.43 -29460953.38 0.0139 0.0132

Uranus -85373-07-19 05:16 J -29460865.34 -29460865.28 -29460865.19 0.0139 0.0116

Uranus -85373-10-15 09:06 J -29460777.21 -29460777.12 -29460777.02 0.0139 0.0098

Uranus -85372-01-11 12:56 J -29460689.07 -29460688.96 -29460688.85 0.0139 0.0081

Jupiter -85372-03-02 14:08 J -29460639.08 -29460638.91 -29460638.74 0.0493 0.0135

Uranus -85372-04-09 16:32 J -29460600.93 -29460600.81 -29460600.68 0.0140 0.0063

Jupiter -85372-05-31 17:16 J -29460548.90 -29460548.78 -29460548.66 0.0496 0.0358

Uranus -85372-07-06 20:23 J -29460512.78 -29460512.65 -29460512.52 0.0140 0.0045

Moon -85372-08-29 05:59 J -29460459.39 -29460459.25 -29460459.11 0.2587 0.0732

Earth -85372-08-29 06:56 J -29460459.35 -29460459.21 -29460459.07 0.2583 0.0768 *

Venus -85372-09-02 05:01 J -29460455.42 -29460455.29 -29460455.17 0.3611 0.1172

Uranus -85372-10-03 00:13 J -29460424.63 -29460424.49 -29460424.35 0.0140 0.0028

Uranus -85372-12-30 04:04 J -29460336.47 -29460336.33 -29460336.19 0.0140 0.0010

Uranus -85371-03-28 07:54 J -29460248.31 -29460248.17 -29460248.03 0.0140 0.0009

Uranus -85371-06-24 11:44 J -29460160.15 -29460160.01 -29460159.87 0.0140 0.0027

Uranus -85371-09-20 15:35 J -29460071.98 -29460071.85 -29460071.71 0.0141 0.0046

Uranus -85371-12-17 19:25 J -29459983.81 -29459983.69 -29459983.56 0.0141 0.0065

Uranus -85370-03-15 23:44 J -29459895.63 -29459895.51 -29459895.40 0.0141 0.0083

Venus -85370-03-19 17:16 J -29459891.87 -29459891.78 -29459891.68 0.3753 0.2092

Uranus -85370-06-12 03:35 J -29459807.44 -29459807.35 -29459807.25 0.0141 0.0102

Uranus -85370-09-08 07:40 J -29459719.25 -29459719.18 -29459719.11 0.0141 0.0121

Mars -85370-11-01 17:44 J -29459664.90 -29459664.76 -29459664.62 0.1846 0.0620

Uranus -85370-12-05 11:44 J -29459631.01 -29459631.01 -29459631.00 0.0141 0.0141

Mars -85369-08-25 14:23 J -29459367.02 -29459366.90 -29459366.77 0.1698 0.0081

Jupiter -85367-10-22 15:35 J -29458578.98 -29458578.85 -29458578.73 0.0535 0.0125

Jupiter -85366-01-20 00:42 J -29458489.57 -29458489.47 -29458489.36 0.0532 0.0334

Venus -85366-03-19 04:32 J -29458431.44 -29458431.31 -29458431.17 0.3615 0.0088

Venus -85365-10-02 12:56 J -29457868.02 -29457867.96 -29457867.89 0.3748 0.3031

Moon -85362-02-23 21:49 J -29456993.70 -29456993.59 -29456993.47 0.2748 0.0632

Earth -85362-02-23 22:04 J -29456993.69 -29456993.58 -29456993.47 0.2755 0.0672 *

Saturn -85362-07-13 22:32 J -29456853.67 -29456853.56 -29456853.44 0.0288 0.0220

Saturn -85362-10-10 20:37 J -29456764.81 -29456764.64 -29456764.47 0.0288 0.0074

Saturn -85361-01-07 18:13 J -29456675.91 -29456675.74 -29456675.57 0.0289 0.0069

Saturn -85361-04-05 15:20 J -29456586.97 -29456586.86 -29456586.74 0.0289 0.0210

Venus -85361-10-02 03:49 J -29456407.46 -29456407.34 -29456407.21 0.3619 0.1039

Jupiter -85361-12-19 12:56 J -29456329.11 -29456328.96 -29456328.81 0.0493 0.0256

Jupiter -85360-03-19 16:32 J -29456238.96 -29456238.81 -29456238.65 0.0495 0.0241

Mars -85360-03-23 17:59 J -29456234.89 -29456234.75 -29456234.60 0.1837 0.0452

Mars -85359-01-15 23:30 J -29455936.63 -29455936.52 -29455936.40 0.1705 0.0660

Moon -85359-09-01 08:52 J -29455708.16 -29455708.13 -29455708.10 0.2591 0.2500

Earth -85359-09-01 08:52 J -29455708.14 -29455708.13 -29455708.11 0.2584 0.2552 *

Venus -85355-04-18 02:37 J -29454383.49 -29454383.39 -29454383.28 0.3624 0.2079

Jupiter -85355-08-10 18:28 J -29454268.84 -29454268.73 -29454268.61 0.0535 0.0243

Jupiter -85355-11-08 03:35 J -29454179.47 -29454179.35 -29454179.23 0.0532 0.0212

Venus -85352-01-10 03:49 J -29453385.37 -29453385.34 -29453385.30 0.3777 0.3571

Earth -85352-08-24 08:08 J -29453159.16 -29453159.16 -29453159.15 0.2582 0.2573

Mars -85351-08-13 17:59 J -29452804.83 -29452804.75 -29452804.67 0.1829 0.1538

Mars -85350-06-08 08:52 J -29452506.22 -29452506.13 -29452506.05 0.1712 0.1240

Venus -85350-11-02 01:11 J -29452359.52 -29452359.45 -29452359.39 0.3628 0.3066

Moon -85349-02-26 17:01 J -29452242.90 -29452242.79 -29452242.68 0.2749 0.0590

Earth -85349-02-26 17:30 J -29452242.88 -29452242.77 -29452242.66 0.2754 0.0746 *

Jupiter -85349-10-07 11:16 J -29452019.14 -29452019.03 -29452018.91 0.0493 0.0382

Jupiter -85348-01-05 15:20 J -29451929.03 -29451928.86 -29451928.68 0.0495 0.0119

Mars -85348-05-13 20:23 J -29451800.74 -29451800.65 -29451800.56 0.1684 0.1170

Saturn -85348-08-06 05:44 J -29451716.28 -29451716.26 -29451716.23 0.0272 0.0266

Saturn -85348-11-02 17:01 J -29451627.89 -29451627.79 -29451627.69 0.0272 0.0176

Saturn -85347-01-30 04:18 J -29451539.44 -29451539.32 -29451539.18 0.0271 0.0086

Saturn -85347-04-28 16:04 J -29451450.97 -29451450.83 -29451450.69 0.0271 0.0009

Saturn -85347-07-26 03:35 J -29451362.48 -29451362.35 -29451362.22 0.0271 0.0101

Venus -85347-07-26 22:04 J -29451361.65 -29451361.58 -29451361.50 0.3774 0.2802

Saturn -85347-10-22 15:20 J -29451273.95 -29451273.86 -29451273.76 0.0271 0.0195

Jupiter -85343-05-29 21:35 J -29449958.69 -29449958.60 -29449958.50 0.0535 0.0359

Jupiter -85343-08-27 06:42 J -29449869.35 -29449869.22 -29449869.09 0.0533 0.0096

Venus -85341-02-09 16:32 J -29449337.90 -29449337.81 -29449337.71 0.3771 0.2007

Mars -85340-12-10 17:44 J -29448667.80 -29448667.76 -29448667.73 0.1855 0.1796

Moon -85339-08-27 09:20 J -29448408.25 -29448408.11 -29448407.97 0.2584 0.0753

Earth -85339-08-27 10:47 J -29448408.19 -29448408.05 -29448407.91 0.2582 0.0692 *

Mars -85339-10-04 05:30 J -29448370.39 -29448370.27 -29448370.15 0.1691 0.0594

Jupiter -85337-10-24 13:40 J -29447619.11 -29447618.93 -29447618.75 0.0494 0.0011

Jupiter -85336-01-22 16:32 J -29447528.85 -29447528.81 -29447528.77 0.0496 0.0479

Moon -85336-02-28 12:28 J -29447492.05 -29447491.98 -29447491.91 0.2754 0.2136

Earth -85336-02-28 13:25 J -29447492.01 -29447491.94 -29447491.87 0.2753 0.2171 *

Venus -85336-08-25 11:16 J -29447314.14 -29447314.03 -29447313.93 0.3767 0.1185

Uranus -85334-09-16 04:04 J -29446562.35 -29446562.33 -29446562.28 0.0139 0.0137

Uranus -85334-12-13 11:16 J -29446474.13 -29446474.03 -29446473.92 0.0139 0.0112

Uranus -85333-03-10 17:59 J -29446385.88 -29446385.75 -29446385.60 0.0139 0.0089

Uranus -85333-06-07 00:42 J -29446297.61 -29446297.47 -29446297.30 0.0139 0.0066

Uranus -85333-09-03 07:40 J -29446209.35 -29446209.18 -29446209.00 0.0139 0.0042

Saturn -85333-11-30 00:28 J -29446121.57 -29446121.48 -29446121.38 0.0288 0.0244

Uranus -85333-11-30 14:23 J -29446121.07 -29446120.90 -29446120.72 0.0139 0.0020

Uranus -85332-02-26 21:06 J -29446032.80 -29446032.62 -29446032.44 0.0138 0.0003

Saturn -85332-02-26 22:32 J -29446032.72 -29446032.56 -29446032.39 0.0289 0.0098 *

Uranus -85332-05-26 03:35 J -29445944.52 -29445944.35 -29445944.17 0.0138 0.0026

Saturn -85332-05-26 20:23 J -29445943.82 -29445943.65 -29445943.48 0.0289 0.0047

Uranus -85332-08-22 10:04 J -29445856.24 -29445856.08 -29445855.91 0.0138 0.0048

Saturn -85332-08-23 17:30 J -29445854.89 -29445854.77 -29445854.64 0.0289 0.0188

Uranus -85332-11-18 16:18 J -29445767.96 -29445767.82 -29445767.66 0.0138 0.0071

Uranus -85331-02-14 22:47 J -29445679.67 -29445679.55 -29445679.41 0.0138 0.0092

Jupiter -85331-03-18 00:56 J -29445648.52 -29445648.46 -29445648.40 0.0536 0.0476

Uranus -85331-05-14 05:16 J -29445591.38 -29445591.28 -29445591.18 0.0138 0.0113

Jupiter -85331-06-15 09:35 J -29445559.23 -29445559.10 -29445558.96 0.0534 0.0028

Uranus -85331-08-10 11:16 J -29445503.05 -29445503.03 -29445502.98 0.0138 0.0134

Jupiter -85331-09-12 19:11 J -29445469.77 -29445469.70 -29445469.62 0.0531 0.0435

Venus -85330-03-11 05:59 J -29445290.36 -29445290.25 -29445290.13 0.3764 0.0351

Mars -85330-05-02 18:13 J -29445237.88 -29445237.74 -29445237.60 0.1846 0.0739

Earth -85329-02-22 07:40 J -29444942.27 -29444942.18 -29444942.10 0.2755 0.1774

Moon -85329-02-22 08:08 J -29444942.25 -29444942.16 -29444942.07 0.2749 0.1685 *

Mars -85329-02-24 14:37 J -29444940.02 -29444939.89 -29444939.77 0.1697 0.0055

Venus -85326-03-10 04:18 J -29443830.38 -29443830.32 -29443830.27 0.3605 0.3238

Moon -85326-08-30 12:13 J -29443657.12 -29443656.99 -29443656.85 0.2588 0.0985

Earth -85326-08-30 12:56 J -29443657.09 -29443656.96 -29443656.82 0.2583 0.1148 *

Jupiter -85325-08-12 12:13 J -29443309.16 -29443308.99 -29443308.82 0.0493 0.0136

Venus -85325-09-24 01:11 J -29443266.57 -29443266.45 -29443266.34 0.3760 0.0540

Jupiter -85325-11-10 15:20 J -29443218.98 -29443218.86 -29443218.74 0.0496 0.0357

Mars -85321-09-21 18:28 J -29441807.87 -29441807.73 -29441807.58 0.1838 0.0334

Venus -85321-09-23 04:47 J -29441806.42 -29441806.30 -29441806.19 0.3609 0.2029

Mars -85320-07-16 23:44 J -29441509.63 -29441509.51 -29441509.40 0.1704 0.0579

Jupiter -85319-04-03 13:11 J -29441249.07 -29441248.95 -29441248.82 0.0535 0.0136

Venus -85319-04-09 20:23 J -29441242.76 -29441242.65 -29441242.54 0.3756 0.1427

Jupiter -85319-07-01 22:32 J -29441159.66 -29441159.56 -29441159.45 0.0532 0.0324

Saturn -85318-03-22 19:54 J -29440895.76 -29440895.67 -29440895.57 0.0271 0.0196

Saturn -85318-06-19 07:11 J -29440807.32 -29440807.20 -29440807.07 0.0271 0.0106

Saturn -85318-09-15 18:42 J -29440718.86 -29440718.72 -29440718.58 0.0270 0.0016

Saturn -85318-12-13 06:28 J -29440630.37 -29440630.23 -29440630.10 0.0270 0.0078

Saturn -85317-03-10 18:13 J -29440541.85 -29440541.74 -29440541.64 0.0270 0.0172

Neptune -85317-06-01 03:06 J -29440459.39 -29440459.37 -29440459.33 0.0089 0.0086

Saturn -85317-06-07 05:59 J -29440453.27 -29440453.25 -29440453.22 0.0270 0.0266

Neptune -85317-08-28 04:32 J -29440371.35 -29440371.31 -29440371.25 0.0089 0.0082

Neptune -85317-11-24 05:44 J -29440283.31 -29440283.26 -29440283.18 0.0089 0.0078

Neptune -85316-02-20 07:25 J -29440195.26 -29440195.19 -29440195.11 0.0089 0.0073

Moon -85316-02-24 02:52 J -29440191.50 -29440191.38 -29440191.27 0.2748 0.0467

Earth -85316-02-24 03:06 J -29440191.49 -29440191.37 -29440191.26 0.2755 0.0389 *

Neptune -85316-05-19 08:37 J -29440107.21 -29440107.14 -29440107.05 0.0089 0.0069

Neptune -85316-08-15 10:04 J -29440019.16 -29440019.08 -29440018.98 0.0089 0.0065

Neptune -85316-11-11 11:30 J -29439931.11 -29439931.02 -29439930.92 0.0089 0.0061

Neptune -85315-02-07 12:56 J -29439843.06 -29439842.96 -29439842.85 0.0089 0.0056

Venus -85315-04-09 04:47 J -29439782.43 -29439782.30 -29439782.18 0.3612 0.0871

Neptune -85315-05-06 14:23 J -29439755.00 -29439754.90 -29439754.79 0.0089 0.0052

Neptune -85315-08-02 15:49 J -29439666.95 -29439666.84 -29439666.72 0.0089 0.0048

Neptune -85315-10-29 17:01 J -29439578.90 -29439578.79 -29439578.66 0.0089 0.0044

Neptune -85314-01-25 18:42 J -29439490.84 -29439490.72 -29439490.60 0.0089 0.0039

Neptune -85314-04-23 19:54 J -29439402.79 -29439402.67 -29439402.54 0.0089 0.0035

Neptune -85314-07-20 21:20 J -29439314.73 -29439314.61 -29439314.47 0.0089 0.0031

Neptune -85314-10-16 23:01 J -29439226.67 -29439226.54 -29439226.41 0.0089 0.0026

Venus -85314-10-24 15:49 J -29439218.93 -29439218.84 -29439218.75 0.3752 0.2352

Neptune -85313-01-13 00:13 J -29439138.61 -29439138.49 -29439138.35 0.0089 0.0022

Neptune -85313-04-10 01:40 J -29439050.56 -29439050.43 -29439050.29 0.0089 0.0018

Jupiter -85313-05-31 10:18 J -29438999.22 -29438999.07 -29438998.92 0.0493 0.0264

Neptune -85313-07-07 03:06 J -29438962.50 -29438962.37 -29438962.23 0.0089 0.0014

Jupiter -85313-08-29 13:54 J -29438909.07 -29438908.92 -29438908.76 0.0495 0.0233

Neptune -85313-10-03 04:47 J -29438874.44 -29438874.30 -29438874.17 0.0089 0.0009

Neptune -85313-12-30 06:13 J -29438786.38 -29438786.24 -29438786.11 0.0089 0.0005

Neptune -85312-03-28 07:40 J -29438698.32 -29438698.18 -29438698.05 0.0089 0.0002

Neptune -85312-06-24 09:06 J -29438610.26 -29438610.12 -29438609.99 0.0089 0.0005

Neptune -85312-09-20 10:32 J -29438522.20 -29438522.06 -29438521.93 0.0089 0.0009

Neptune -85312-12-17 11:59 J -29438434.14 -29438434.00 -29438433.86 0.0089 0.0013

Mars -85311-02-11 18:28 J -29438377.82 -29438377.73 -29438377.63 0.1829 0.1413

Neptune -85311-03-15 13:25 J -29438346.07 -29438345.94 -29438345.81 0.0089 0.0018

Neptune -85311-06-11 14:52 J -29438258.01 -29438257.88 -29438257.75 0.0089 0.0022

Neptune -85311-09-07 16:18 J -29438169.95 -29438169.82 -29438169.69 0.0089 0.0026

Neptune -85311-12-04 17:44 J -29438081.88 -29438081.76 -29438081.63 0.0089 0.0031

Mars -85311-12-07 08:52 J -29438079.22 -29438079.13 -29438079.04 0.1711 0.1163

Neptune -85310-03-02 19:25 J -29437993.82 -29437993.69 -29437993.57 0.0089 0.0035

Neptune -85310-05-29 20:37 J -29437905.75 -29437905.64 -29437905.51 0.0089 0.0040

Neptune -85310-08-25 22:18 J -29437817.69 -29437817.57 -29437817.45 0.0089 0.0044

Venus -85310-10-24 04:04 J -29437758.46 -29437758.33 -29437758.19 0.3616 0.0282

Neptune -85310-11-21 23:44 J -29437729.62 -29437729.51 -29437729.39 0.0089 0.0049

Neptune -85309-02-18 01:11 J -29437641.55 -29437641.45 -29437641.33 0.0089 0.0053

Neptune -85309-05-16 02:37 J -29437553.48 -29437553.39 -29437553.28 0.0089 0.0058

Neptune -85309-08-12 04:18 J -29437465.41 -29437465.32 -29437465.22 0.0089 0.0062

Neptune -85309-11-08 05:44 J -29437377.34 -29437377.26 -29437377.16 0.0089 0.0067

Mars -85309-11-11 20:37 J -29437373.73 -29437373.64 -29437373.56 0.1684 0.1256

Neptune -85308-02-04 07:25 J -29437289.27 -29437289.19 -29437289.11 0.0089 0.0071

Neptune -85308-05-03 08:37 J -29437201.20 -29437201.14 -29437201.05 0.0089 0.0076

Venus -85308-05-09 11:44 J -29437195.07 -29437195.01 -29437194.96 0.3747 0.3296

Neptune -85308-07-30 10:18 J -29437113.12 -29437113.07 -29437113.00 0.0089 0.0080

Neptune -85308-10-26 11:44 J -29437025.04 -29437025.01 -29437024.96 0.0089 0.0085

Jupiter -85307-01-20 17:01 J -29436938.91 -29436938.79 -29436938.67 0.0535 0.0244

Jupiter -85307-04-20 02:08 J -29436849.53 -29436849.41 -29436849.29 0.0533 0.0213

Pluto -85307-08-13 18:56 J -29436733.76 -29436733.71 -29436733.60 0.0060 0.0055

Pluto -85307-11-09 20:23 J -29436645.74 -29436645.65 -29436645.51 0.0060 0.0049

Pluto -85306-02-05 22:18 J -29436557.70 -29436557.57 -29436557.42 0.0060 0.0042

Pluto -85306-05-04 23:30 J -29436469.66 -29436469.52 -29436469.35 0.0061 0.0036

Pluto -85306-08-01 00:56 J -29436381.61 -29436381.46 -29436381.27 0.0061 0.0030

Moon -85306-08-25 12:56 J -29436357.02 -29436356.96 -29436356.89 0.2580 0.2301

Earth -85306-08-25 14:23 J -29436356.98 -29436356.90 -29436356.82 0.2582 0.2175 *

Pluto -85306-10-28 02:37 J -29436293.56 -29436293.39 -29436293.20 0.0061 0.0023

Pluto -85305-01-24 04:04 J -29436205.51 -29436205.33 -29436205.14 0.0061 0.0017

Pluto -85305-04-21 05:44 J -29436117.45 -29436117.26 -29436117.07 0.0061 0.0010

Pluto -85305-07-18 07:11 J -29436029.39 -29436029.20 -29436029.01 0.0061 0.0004

Pluto -85305-10-14 08:37 J -29435941.33 -29435941.14 -29435940.94 0.0061 0.0003

Pluto -85304-01-10 10:04 J -29435853.27 -29435853.08 -29435852.88 0.0061 0.0009

Pluto -85304-04-08 11:16 J -29435765.20 -29435765.03 -29435764.83 0.0061 0.0016

Venus -85304-05-09 03:20 J -29435734.48 -29435734.36 -29435734.24 0.3621 0.1327

Pluto -85304-07-05 12:56 J -29435677.13 -29435676.96 -29435676.77 0.0061 0.0022

Pluto -85304-10-01 14:08 J -29435589.06 -29435588.91 -29435588.72 0.0061 0.0029

Pluto -85304-12-28 15:49 J -29435500.99 -29435500.84 -29435500.67 0.0061 0.0036

Moon -85303-02-26 22:04 J -29435440.69 -29435440.58 -29435440.48 0.2750 0.1015

Earth -85303-02-26 22:32 J -29435440.66 -29435440.56 -29435440.45 0.2754 0.1031 *

Pluto -85303-03-26 17:01 J -29435412.91 -29435412.79 -29435412.62 0.0061 0.0043

Pluto -85303-06-22 18:56 J -29435324.82 -29435324.71 -29435324.58 0.0061 0.0049

Saturn -85303-07-16 20:23 J -29435300.80 -29435300.65 -29435300.50 0.0288 0.0148

Pluto -85303-09-18 20:08 J -29435236.72 -29435236.66 -29435236.56 0.0061 0.0056

Saturn -85303-10-13 18:13 J -29435211.92 -29435211.74 -29435211.57 0.0289 0.0006

Saturn -85302-01-10 15:20 J -29435123.00 -29435122.86 -29435122.70 0.0289 0.0140

Saturn -85302-04-09 12:28 J -29435034.02 -29435033.98 -29435033.93 0.0289 0.0279

Jupiter -85301-03-19 08:52 J -29434689.23 -29434689.13 -29434689.01 0.0492 0.0387

Jupiter -85301-06-17 13:11 J -29434599.12 -29434598.95 -29434598.78 0.0495 0.0113

Mars -85299-04-04 05:30 J -29433943.39 -29433943.27 -29433943.15 0.1691 0.0668

Venus -85299-11-23 02:08 J -29433710.51 -29433710.41 -29433710.32 0.3625 0.2356

Venus -85296-08-17 02:08 J -29432712.46 -29432712.41 -29432712.36 0.3776 0.3366

Jupiter -85296-11-08 20:08 J -29432628.75 -29432628.66 -29432628.56 0.0535 0.0360

Jupiter -85295-02-06 05:01 J -29432539.42 -29432539.29 -29432539.16 0.0533 0.0095

Venus -85293-06-08 00:13 J -29431686.53 -29431686.49 -29431686.44 0.3629 0.3332

Moon -85293-08-27 15:35 J -29431606.00 -29431605.85 -29431605.71 0.2584 0.0517

Earth -85293-08-27 16:47 J -29431605.94 -29431605.80 -29431605.65 0.2583 0.0304 *

Mars -85291-10-31 18:42 J -29430810.85 -29430810.72 -29430810.59 0.1846 0.0857

Moon -85290-03-01 17:30 J -29430689.83 -29430689.77 -29430689.70 0.2754 0.2294

Earth -85290-03-01 18:28 J -29430689.78 -29430689.73 -29430689.68 0.2752 0.2470 *

Venus -85290-03-02 20:23 J -29430688.73 -29430688.65 -29430688.57 0.3773 0.2590

Mars -85290-08-25 14:37 J -29430513.02 -29430512.89 -29430512.77 0.1697 0.0089

Jupiter -85289-04-05 11:44 J -29430289.19 -29430289.01 -29430288.83 0.0494 0.0011

Uranus -85289-05-12 08:37 J -29430252.18 -29430252.14 -29430252.09 0.0139 0.0130

Jupiter -85289-07-04 14:37 J -29430198.92 -29430198.89 -29430198.84 0.0497 0.0481

Uranus -85289-08-08 12:13 J -29430164.06 -29430163.99 -29430163.90 0.0139 0.0113

Saturn -85289-08-08 22:18 J -29430163.64 -29430163.57 -29430163.49 0.0272 0.0223

Uranus -85289-11-04 16:04 J -29430075.93 -29430075.83 -29430075.73 0.0139 0.0096

Saturn -85289-11-05 09:49 J -29430075.21 -29430075.09 -29430074.97 0.0272 0.0132

Uranus -85288-01-31 19:40 J -29429987.79 -29429987.68 -29429987.56 0.0140 0.0078

Saturn -85288-02-01 21:20 J -29429986.75 -29429986.61 -29429986.48 0.0271 0.0041

Uranus -85288-04-29 23:30 J -29429899.64 -29429899.52 -29429899.39 0.0140 0.0061

Saturn -85288-05-01 08:52 J -29429898.27 -29429898.13 -29429897.99 0.0271 0.0053

Uranus -85288-07-27 03:20 J -29429811.49 -29429811.36 -29429811.23 0.0140 0.0043

Saturn -85288-07-28 20:37 J -29429809.76 -29429809.64 -29429809.52 0.0271 0.0146

Uranus -85288-10-23 06:56 J -29429723.34 -29429723.21 -29429723.07 0.0140 0.0026

Saturn -85288-10-25 08:23 J -29429721.21 -29429721.15 -29429721.08 0.0271 0.0241

Uranus -85287-01-19 10:47 J -29429635.18 -29429635.05 -29429634.91 0.0140 0.0008

Uranus -85287-04-17 14:37 J -29429547.02 -29429546.89 -29429546.74 0.0140 0.0013

Uranus -85287-07-14 18:42 J -29429458.86 -29429458.72 -29429458.59 0.0140 0.0030

Uranus -85287-10-10 22:32 J -29429370.69 -29429370.56 -29429370.43 0.0141 0.0048

Uranus -85286-01-07 02:23 J -29429282.52 -29429282.40 -29429282.27 0.0141 0.0067

Uranus -85286-04-05 06:28 J -29429194.34 -29429194.23 -29429194.12 0.0141 0.0086

Uranus -85286-07-02 10:18 J -29429106.15 -29429106.07 -29429105.97 0.0141 0.0105

Uranus -85286-09-28 14:23 J -29429017.96 -29429017.90 -29429017.83 0.0141 0.0124

Venus -85285-09-15 14:52 J -29428664.98 -29428664.88 -29428664.78 0.3770 0.1790

Jupiter -85284-08-27 23:30 J -29428318.58 -29428318.52 -29428318.46 0.0536 0.0474

Jupiter -85284-11-25 08:08 J -29428229.29 -29428229.16 -29428229.03 0.0533 0.0026

Earth -85283-02-22 12:42 J -29428140.07 -29428139.97 -29428139.88 0.2755 0.1486

Moon -85283-02-22 12:56 J -29428140.06 -29428139.96 -29428139.86 0.2749 0.1444 *

Jupiter -85283-02-22 17:30 J -29428139.84 -29428139.77 -29428139.69 0.0531 0.0434

Mars -85281-03-22 18:56 J -29427380.86 -29427380.71 -29427380.56 0.1838 0.0229

Mars -85280-01-14 23:44 J -29427082.63 -29427082.51 -29427082.39 0.1704 0.0495

Moon -85280-08-30 18:28 J -29426854.85 -29426854.73 -29426854.62 0.2589 0.1549

Earth -85280-08-30 18:56 J -29426854.83 -29426854.71 -29426854.59 0.2584 0.1517 *

Venus -85279-04-01 09:35 J -29426641.21 -29426641.10 -29426640.99 0.3766 0.0961

Jupiter -85277-01-23 09:49 J -29425979.26 -29425979.09 -29425978.92 0.0493 0.0141

Jupiter -85277-04-22 13:11 J -29425889.07 -29425888.95 -29425888.83 0.0496 0.0354

Venus -85274-10-16 04:18 J -29424617.43 -29424617.32 -29424617.20 0.3763 0.0179

Saturn -85274-12-03 22:18 J -29424568.71 -29424568.57 -29424568.43 0.0289 0.0170

Saturn -85273-03-01 20:08 J -29424479.83 -29424479.66 -29424479.48 0.0289 0.0025

Saturn -85273-05-29 17:44 J -29424390.92 -29424390.76 -29424390.60 0.0289 0.0118

Saturn -85273-08-26 14:37 J -29424301.96 -29424301.89 -29424301.81 0.0289 0.0258

Mars -85272-08-12 19:11 J -29423950.81 -29423950.70 -29423950.60 0.1829 0.1289

Jupiter -85272-09-13 11:16 J -29423919.16 -29423919.03 -29423918.91 0.0535 0.0144

Jupiter -85272-12-11 20:23 J -29423829.75 -29423829.65 -29423829.54 0.0532 0.0315

Mars -85271-06-07 08:52 J -29423652.22 -29423652.13 -29423652.03 0.1711 0.1085

Moon -85270-02-25 07:40 J -29423389.29 -29423389.18 -29423389.06 0.2747 0.0145

Earth -85270-02-25 08:08 J -29423389.28 -29423389.16 -29423389.05 0.2754 0.0109 *

Venus -85270-10-15 04:04 J -29423157.41 -29423157.33 -29423157.25 0.3606 0.2912

Mars -85269-05-12 20:37 J -29422946.71 -29422946.64 -29422946.56 0.1684 0.1337

Venus -85268-04-30 23:30 J -29422593.63 -29422593.52 -29422593.41 0.3759 0.0774

Jupiter -85266-11-11 08:23 J -29421669.30 -29421669.15 -29421669.00 0.0493 0.0266

Jupiter -85265-02-09 11:59 J -29421579.15 -29421579.00 -29421578.85 0.0495 0.0231

Venus -85264-04-30 04:32 J -29421133.43 -29421133.31 -29421133.20 0.3610 0.1710

Venus -85263-11-14 18:56 J -29420569.82 -29420569.71 -29420569.61 0.3755 0.1681

Mars -85262-10-28 17:59 J -29420221.77 -29420221.75 -29420221.72 0.1718 0.1674

Jupiter -85260-07-02 14:52 J -29419609.00 -29419608.88 -29419608.77 0.0535 0.0255

Moon -85260-08-25 18:56 J -29419554.81 -29419554.71 -29419554.61 0.2581 0.1913

Earth -85260-08-25 20:23 J -29419554.76 -29419554.65 -29419554.54 0.2582 0.1783 *

Jupiter -85260-09-29 23:59 J -29419519.62 -29419519.50 -29419519.38 0.0533 0.0202

Mars -85260-10-03 05:30 J -29419516.38 -29419516.27 -29419516.15 0.1691 0.0756

Saturn -85260-12-27 01:40 J -29419431.49 -29419431.43 -29419431.36 0.0271 0.0240

Saturn -85259-03-25 12:56 J -29419343.07 -29419342.96 -29419342.84 0.0271 0.0150

Saturn -85259-06-22 00:28 J -29419254.62 -29419254.48 -29419254.35 0.0271 0.0059

Saturn -85259-09-18 11:59 J -29419166.14 -29419166.00 -29419165.86 0.0270 0.0033

Venus -85259-11-14 04:18 J -29419109.45 -29419109.32 -29419109.19 0.3614 0.0557

Saturn -85259-12-15 23:30 J -29419077.64 -29419077.52 -29419077.39 0.0270 0.0126

Saturn -85258-03-14 11:30 J -29418989.10 -29418989.02 -29418988.94 0.0270 0.0220

Moon -85257-02-28 02:52 J -29418638.48 -29418638.38 -29418638.27 0.2751 0.1171

Earth -85257-02-28 03:49 J -29418638.45 -29418638.34 -29418638.24 0.2753 0.1324 *

Venus -85257-05-30 14:23 J -29418545.98 -29418545.90 -29418545.81 0.3750 0.2612

Jupiter -85254-08-30 06:13 J -29417359.34 -29417359.24 -29417359.13 0.0492 0.0394

Jupiter -85254-11-28 10:18 J -29417269.24 -29417269.07 -29417268.89 0.0494 0.0105

Venus -85253-05-30 03:35 J -29417085.48 -29417085.35 -29417085.22 0.3618 0.0556

Venus -85252-12-14 10:18 J -29416522.10 -29416522.07 -29416522.04 0.3746 0.3562

Mars -85251-05-01 19:11 J -29416383.83 -29416383.70 -29416383.58 0.1847 0.0972

Earth -85250-02-20 22:18 J -29416088.61 -29416088.57 -29416088.53 0.2756 0.2569

Moon -85250-02-20 23:01 J -29416088.59 -29416088.54 -29416088.49 0.2752 0.2425 *

Mars -85250-02-23 14:37 J -29416086.01 -29416085.89 -29416085.76 0.1697 0.0178

Uranus -85250-10-06 11:01 J -29415861.09 -29415861.04 -29415860.98 0.0139 0.0133

Uranus -85249-01-02 17:44 J -29415772.86 -29415772.76 -29415772.63 0.0139 0.0109

Uranus -85249-03-31 00:56 J -29415684.60 -29415684.46 -29415684.32 0.0139 0.0085

Uranus -85249-06-27 07:40 J -29415596.34 -29415596.18 -29415596.01 0.0139 0.0062

Uranus -85249-09-23 14:23 J -29415508.07 -29415507.90 -29415507.72 0.0139 0.0039

Uranus -85249-12-20 21:06 J -29415419.80 -29415419.62 -29415419.44 0.0139 0.0016

Uranus -85248-03-19 03:49 J -29415331.52 -29415331.34 -29415331.16 0.0138 0.0007

Jupiter -85248-04-20 18:42 J -29415298.82 -29415298.72 -29415298.63 0.0536 0.0363

Uranus -85248-06-15 10:18 J -29415243.24 -29415243.07 -29415242.89 0.0138 0.0029

Jupiter -85248-07-19 03:35 J -29415209.48 -29415209.35 -29415209.22 0.0533 0.0092

Uranus -85248-09-11 16:47 J -29415154.96 -29415154.80 -29415154.63 0.0138 0.0051

Uranus -85248-12-08 23:01 J -29415066.68 -29415066.54 -29415066.38 0.0138 0.0073

Venus -85248-12-14 02:37 J -29415061.50 -29415061.39 -29415061.27 0.3622 0.1619

Uranus -85247-03-07 05:30 J -29414978.39 -29414978.27 -29414978.14 0.0138 0.0095

Uranus -85247-06-03 11:59 J -29414890.09 -29414890.00 -29414889.91 0.0138 0.0116

Moon -85247-08-28 21:35 J -29414803.74 -29414803.60 -29414803.45 0.2585 0.0051

Earth -85247-08-28 22:47 J -29414803.69 -29414803.55 -29414803.40 0.2583 0.0113 *

Uranus -85247-08-30 17:59 J -29414801.75 -29414801.75 -29414801.73 0.0138 0.0137

Moon -85244-03-01 22:47 J -29413887.56 -29413887.55 -29413887.55 0.2754 0.2741

Saturn -85244-04-21 20:08 J -29413836.77 -29413836.66 -29413836.55 0.0288 0.0219

Saturn -85244-07-19 18:13 J -29413747.91 -29413747.74 -29413747.57 0.0288 0.0073

Saturn -85244-10-16 15:49 J -29413659.01 -29413658.84 -29413658.67 0.0289 0.0070

Saturn -85243-01-13 12:56 J -29413570.07 -29413569.96 -29413569.84 0.0289 0.0212

Venus -85242-06-30 01:11 J -29413037.53 -29413037.45 -29413037.36 0.3626 0.2624

Jupiter -85242-09-16 09:20 J -29412959.29 -29412959.11 -29412958.93 0.0494 0.0017

Mars -85242-09-21 19:25 J -29412953.84 -29412953.69 -29412953.53 0.1838 0.0108

Jupiter -85242-12-15 12:13 J -29412869.03 -29412868.99 -29412868.94 0.0496 0.0475

Mars -85241-07-15 23:44 J -29412655.63 -29412655.51 -29412655.39 0.1704 0.0419

Venus -85239-03-24 00:13 J -29412039.55 -29412039.49 -29412039.43 0.3776 0.3164

Earth -85237-02-23 17:44 J -29411337.87 -29411337.76 -29411337.66 0.2755 0.1204

Moon -85237-02-23 17:44 J -29411337.86 -29411337.76 -29411337.66 0.2748 0.1207 *

Venus -85236-01-12 23:30 J -29411013.53 -29411013.52 -29411013.51 0.3630 0.3600

Jupiter -85236-02-06 22:04 J -29410988.64 -29410988.58 -29410988.52 0.0536 0.0476

Jupiter -85236-05-07 06:42 J -29410899.35 -29410899.22 -29410899.09 0.0533 0.0025

Jupiter -85236-08-04 16:04 J -29410809.90 -29410809.83 -29410809.75 0.0531 0.0432

Neptune -85234-08-24 14:23 J -29410059.93 -29410059.90 -29410059.84 0.0089 0.0086

Moon -85234-09-01 00:28 J -29410052.58 -29410052.48 -29410052.38 0.2590 0.1766

Earth -85234-09-01 00:56 J -29410052.55 -29410052.46 -29410052.36 0.2584 0.1901 *

Venus -85234-10-07 18:42 J -29410015.81 -29410015.72 -29410015.64 0.3772 0.2382

Neptune -85234-11-20 17:44 J -29409971.82 -29409971.76 -29409971.66 0.0089 0.0080

Neptune -85233-02-16 21:20 J -29409883.70 -29409883.61 -29409883.49 0.0089 0.0074

Neptune -85233-05-15 00:42 J -29409795.58 -29409795.47 -29409795.33 0.0089 0.0068

Neptune -85233-08-11 04:04 J -29409707.45 -29409707.33 -29409707.18 0.0089 0.0062

Neptune -85233-11-07 07:25 J -29409619.32 -29409619.19 -29409619.02 0.0089 0.0056

Neptune -85232-02-03 11:01 J -29409531.18 -29409531.04 -29409530.87 0.0089 0.0049

Mars -85232-02-10 19:25 J -29409523.81 -29409523.69 -29409523.58 0.1829 0.1184

Neptune -85232-05-02 14:37 J -29409443.05 -29409442.89 -29409442.72 0.0089 0.0043

Neptune -85232-07-29 17:59 J -29409354.92 -29409354.75 -29409354.57 0.0089 0.0037

Neptune -85232-10-25 21:35 J -29409266.78 -29409266.60 -29409266.43 0.0089 0.0031

Mars -85232-12-06 09:06 J -29409225.22 -29409225.12 -29409225.02 0.1711 0.1005

Neptune -85231-01-22 00:56 J -29409178.64 -29409178.46 -29409178.28 0.0089 0.0025

Neptune -85231-04-20 04:18 J -29409090.51 -29409090.32 -29409090.14 0.0089 0.0019

Neptune -85231-07-17 07:40 J -29409002.37 -29409002.18 -29409002.00 0.0089 0.0013

Neptune -85231-10-13 10:47 J -29408914.23 -29408914.05 -29408913.86 0.0089 0.0007

Neptune -85230-01-09 14:08 J -29408826.09 -29408825.91 -29408825.72 0.0089 0.0002

Neptune -85230-04-07 17:30 J -29408737.95 -29408737.77 -29408737.58 0.0089 0.0005

Saturn -85230-05-16 03:49 J -29408699.35 -29408699.34 -29408699.31 0.0272 0.0268

Neptune -85230-07-04 20:52 J -29408649.82 -29408649.63 -29408649.44 0.0089 0.0011

Jupiter -85230-07-05 07:40 J -29408649.34 -29408649.18 -29408649.00 0.0494 0.0143

Saturn -85230-08-12 15:20 J -29408610.96 -29408610.86 -29408610.76 0.0272 0.0178

Neptune -85230-10-01 00:13 J -29408561.68 -29408561.49 -29408561.31 0.0089 0.0017

Jupiter -85230-10-03 11:16 J -29408559.15 -29408559.03 -29408558.91 0.0496 0.0353

Saturn -85230-11-09 02:37 J -29408522.52 -29408522.39 -29408522.26 0.0271 0.0087

Mars -85230-11-11 20:37 J -29408519.70 -29408519.64 -29408519.57 0.1684 0.1420

Neptune -85230-12-28 03:20 J -29408473.54 -29408473.36 -29408473.18 0.0089 0.0023

Saturn -85229-02-05 14:08 J -29408434.05 -29408433.91 -29408433.77 0.0271 0.0007

Neptune -85229-03-25 06:42 J -29408385.39 -29408385.22 -29408385.04 0.0088 0.0029

Saturn -85229-05-04 01:54 J -29408345.55 -29408345.42 -29408345.29 0.0271 0.0099

Neptune -85229-06-21 09:49 J -29408297.25 -29408297.09 -29408296.91 0.0088 0.0035

Saturn -85229-07-31 13:40 J -29408257.03 -29408256.93 -29408256.83 0.0271 0.0193

Neptune -85229-09-17 12:56 J -29408209.11 -29408208.96 -29408208.78 0.0088 0.0041

Neptune -85229-12-14 16:04 J -29408120.97 -29408120.83 -29408120.66 0.0088 0.0047

Neptune -85228-03-12 19:25 J -29408032.83 -29408032.69 -29408032.53 0.0088 0.0052

Venus -85228-04-22 13:11 J -29407992.05 -29407991.95 -29407991.85 0.3769 0.1569

Neptune -85228-06-08 22:47 J -29407944.68 -29407944.55 -29407944.40 0.0088 0.0058

Neptune -85228-09-05 01:54 J -29407856.54 -29407856.42 -29407856.28 0.0088 0.0064

Neptune -85228-12-02 05:01 J -29407768.39 -29407768.29 -29407768.16 0.0088 0.0070

Neptune -85227-02-28 08:08 J -29407680.24 -29407680.16 -29407680.05 0.0088 0.0075

Neptune -85227-05-27 11:30 J -29407592.08 -29407592.02 -29407591.94 0.0088 0.0081

Neptune -85227-08-23 14:23 J -29407503.92 -29407503.90 -29407503.85 0.0088 0.0087

Jupiter -85224-02-23 09:49 J -29406589.22 -29406589.09 -29406588.96 0.0534 0.0142

Moon -85224-02-25 12:42 J -29406587.08 -29406586.97 -29406586.85 0.2748 0.0140

Earth -85224-02-25 13:11 J -29406587.07 -29406586.95 -29406586.84 0.2754 0.0200 *

Jupiter -85224-05-23 18:56 J -29406499.81 -29406499.71 -29406499.60 0.0531 0.0314

Venus -85223-11-06 07:54 J -29405968.28 -29405968.17 -29405968.06 0.3765 0.0734

Mars -85222-04-28 18:13 J -29405794.79 -29405794.74 -29405794.70 0.1718 0.1594

Mars -85220-04-03 05:44 J -29405089.37 -29405089.26 -29405089.15 0.1690 0.0839

Jupiter -85218-04-23 05:59 J -29404339.40 -29404339.25 -29404339.10 0.0493 0.0271

Jupiter -85218-07-22 09:49 J -29404249.25 -29404249.09 -29404248.94 0.0495 0.0226

Venus -85217-05-22 02:52 J -29403944.50 -29403944.38 -29403944.27 0.3762 0.0149

Saturn -85215-09-08 21:49 J -29403104.67 -29403104.59 -29403104.48 0.0288 0.0243

Saturn -85215-12-06 20:08 J -29403015.82 -29403015.66 -29403015.49 0.0289 0.0096

Saturn -85214-03-05 17:59 J -29402926.92 -29402926.75 -29402926.58 0.0289 0.0049

Saturn -85214-06-02 15:06 J -29402837.99 -29402837.87 -29402837.73 0.0289 0.0191

Moon -85214-08-27 01:11 J -29402752.57 -29402752.45 -29402752.34 0.2581 0.1561

Earth -85214-08-27 02:37 J -29402752.52 -29402752.39 -29402752.27 0.2582 0.1388 *

Pluto -85214-09-19 06:56 J -29402729.22 -29402729.21 -29402729.18 0.0085 0.0084

Pluto -85214-12-16 08:37 J -29402641.21 -29402641.14 -29402641.07 0.0085 0.0071

Pluto -85213-03-13 09:35 J -29402553.18 -29402553.10 -29402552.99 0.0084 0.0060

Venus -85213-05-21 04:04 J -29402484.43 -29402484.33 -29402484.24 0.3607 0.2591

Pluto -85213-06-09 11:01 J -29402465.14 -29402465.04 -29402464.92 0.0084 0.0047

Pluto -85213-09-05 12:28 J -29402377.10 -29402376.98 -29402376.85 0.0084 0.0035

Pluto -85213-12-02 13:40 J -29402289.05 -29402288.93 -29402288.79 0.0084 0.0024

Jupiter -85213-12-12 12:42 J -29402279.08 -29402278.97 -29402278.86 0.0535 0.0263

Pluto -85212-02-28 15:06 J -29402201.00 -29402200.87 -29402200.74 0.0084 0.0011

Jupiter -85212-03-11 21:49 J -29402189.71 -29402189.59 -29402189.47 0.0533 0.0193

Pluto -85212-05-27 16:18 J -29402112.95 -29402112.82 -29402112.68 0.0084 0.0003

Pluto -85212-08-23 17:44 J -29402024.89 -29402024.76 -29402024.63 0.0084 0.0012

Mars -85212-10-30 19:40 J -29401956.80 -29401956.68 -29401956.56 0.1847 0.1101

Pluto -85212-11-19 18:56 J -29401936.84 -29401936.71 -29401936.58 0.0084 0.0024

Venus -85212-12-05 21:49 J -29401920.70 -29401920.59 -29401920.48 0.3758 0.1027

Pluto -85211-02-15 20:08 J -29401848.78 -29401848.66 -29401848.54 0.0083 0.0035

Moon -85211-02-28 07:54 J -29401836.26 -29401836.17 -29401836.07 0.2752 0.1553

Earth -85211-02-28 08:52 J -29401836.23 -29401836.13 -29401836.04 0.2753 0.1615 *

Pluto -85211-05-14 21:20 J -29401760.71 -29401760.61 -29401760.49 0.0083 0.0047

Pluto -85211-08-10 22:32 J -29401672.65 -29401672.56 -29401672.46 0.0083 0.0058

Mars -85211-08-24 14:52 J -29401659.01 -29401658.88 -29401658.76 0.1697 0.0252

Pluto -85211-11-06 23:44 J -29401584.57 -29401584.51 -29401584.43 0.0083 0.0069

Pluto -85210-02-03 00:56 J -29401496.48 -29401496.46 -29401496.42 0.0083 0.0080

Venus -85208-12-05 04:18 J -29400460.45 -29400460.32 -29400460.20 0.3611 0.1398

Jupiter -85206-02-09 04:18 J -29400029.42 -29400029.32 -29400029.21 0.0492 0.0396

Jupiter -85206-05-10 08:23 J -29399939.32 -29399939.15 -29399938.98 0.0494 0.0102

Venus -85206-06-21 17:30 J -29399896.87 -29399896.77 -29399896.68 0.3754 0.1941

Uranus -85205-06-01 15:20 J -29399550.91 -29399550.86 -29399550.81 0.0139 0.0128

Uranus -85205-08-28 18:56 J -29399462.79 -29399462.71 -29399462.62 0.0139 0.0111

Uranus -85205-11-24 22:32 J -29399374.65 -29399374.56 -29399374.45 0.0139 0.0094

Uranus -85204-02-21 02:23 J -29399286.51 -29399286.40 -29399286.28 0.0140 0.0077

Earth -85204-02-21 03:20 J -29399286.42 -29399286.36 -29399286.30 0.2756 0.2292 *

Moon -85204-02-21 03:49 J -29399286.40 -29399286.34 -29399286.27 0.2752 0.2268 *

Uranus -85204-05-20 06:13 J -29399198.37 -29399198.24 -29399198.12 0.0140 0.0059

Uranus -85204-08-16 09:49 J -29399110.22 -29399110.09 -29399109.95 0.0140 0.0042

Uranus -85204-11-12 13:40 J -29399022.06 -29399021.93 -29399021.79 0.0140 0.0023

Uranus -85203-02-08 17:30 J -29398933.91 -29398933.77 -29398933.63 0.0140 0.0006

Uranus -85203-05-07 21:20 J -29398845.75 -29398845.61 -29398845.47 0.0140 0.0014

Uranus -85203-08-04 01:25 J -29398757.58 -29398757.44 -29398757.31 0.0140 0.0032

Uranus -85203-10-31 05:16 J -29398669.41 -29398669.28 -29398669.15 0.0141 0.0050

Uranus -85202-01-27 09:06 J -29398581.24 -29398581.12 -29398580.99 0.0141 0.0069

Mars -85202-03-22 19:54 J -29398526.82 -29398526.67 -29398526.52 0.1838 0.0030

Uranus -85202-04-25 13:11 J -29398493.06 -29398492.95 -29398492.84 0.0141 0.0088

Venus -85202-06-21 03:49 J -29398436.47 -29398436.34 -29398436.21 0.3615 0.0260

Uranus -85202-07-22 17:01 J -29398404.87 -29398404.79 -29398404.69 0.0141 0.0107

Uranus -85202-10-18 21:06 J -29398316.67 -29398316.62 -29398316.55 0.0141 0.0126

Mars -85201-01-14 23:59 J -29398228.63 -29398228.50 -29398228.38 0.1704 0.0342

Moon -85201-08-29 03:49 J -29398001.48 -29398001.34 -29398001.19 0.2587 0.0349

Earth -85201-08-29 04:47 J -29398001.44 -29398001.30 -29398001.15 0.2583 0.0476 *

Jupiter -85201-09-30 16:18 J -29397968.91 -29397968.82 -29397968.73 0.0536 0.0375

Jupiter -85201-12-29 01:11 J -29397879.58 -29397879.45 -29397879.32 0.0534 0.0081

Saturn -85201-12-29 18:42 J -29397878.81 -29397878.72 -29397878.62 0.0271 0.0194

Venus -85200-01-04 12:56 J -29397873.03 -29397872.96 -29397872.88 0.3749 0.2873

Saturn -85200-03-28 05:59 J -29397790.37 -29397790.25 -29397790.12 0.0271 0.0104

Saturn -85200-06-24 17:30 J -29397701.91 -29397701.77 -29397701.63 0.0270 0.0012

Saturn -85200-09-21 05:01 J -29397613.42 -29397613.29 -29397613.15 0.0270 0.0081

Saturn -85200-12-18 16:47 J -29397524.90 -29397524.80 -29397524.69 0.0270 0.0174

Saturn -85199-03-17 04:32 J -29397436.31 -29397436.31 -29397436.29 0.0270 0.0269

Venus -85196-01-04 03:06 J -29396412.49 -29396412.37 -29396412.24 0.3619 0.0848

Jupiter -85194-02-26 06:42 J -29395629.40 -29395629.22 -29395629.04 0.0494 0.0025

Jupiter -85194-05-27 09:35 J -29395539.15 -29395539.10 -29395539.04 0.0496 0.0466

Mars -85193-08-11 20:08 J -29395096.79 -29395096.66 -29395096.54 0.1830 0.1058

Mars -85192-06-06 09:06 J -29394798.23 -29394798.12 -29394798.02 0.1711 0.0925

Moon -85191-02-23 22:47 J -29394535.66 -29394535.55 -29394535.45 0.2747 0.0875

Earth -85191-02-23 22:32 J -29394535.66 -29394535.56 -29394535.45 0.2755 0.0926 *

Venus -85191-07-21 02:08 J -29394388.52 -29394388.41 -29394388.30 0.3623 0.1895

Mars -85190-05-12 20:52 J -29394092.69 -29394092.63 -29394092.58 0.1684 0.1502

Jupiter -85189-07-19 20:08 J -29393658.71 -29393658.66 -29393658.60 0.0537 0.0482

Jupiter -85189-10-17 05:01 J -29393569.43 -29393569.29 -29393569.16 0.0534 0.0033

Jupiter -85188-01-14 14:23 J -29393479.98 -29393479.90 -29393479.82 0.0531 0.0429

Venus -85188-04-14 04:18 J -29393390.33 -29393390.32 -29393390.31 0.3778 0.3728

Moon -85188-09-01 06:28 J -29393250.29 -29393250.23 -29393250.17 0.2590 0.2301

Earth -85188-09-01 06:56 J -29393250.28 -29393250.21 -29393250.14 0.2584 0.2270 *

Venus -85185-02-04 00:28 J -29392364.55 -29392364.48 -29392364.40 0.3627 0.2900

Saturn -85185-04-24 18:13 J -29392283.89 -29392283.74 -29392283.59 0.0288 0.0144

Saturn -85185-07-22 16:04 J -29392195.00 -29392194.83 -29392194.65 0.0289 0.0002

Saturn -85185-10-19 13:25 J -29392106.08 -29392105.94 -29392105.79 0.0289 0.0144

Saturn -85184-01-16 10:32 J -29392017.09 -29392017.06 -29392017.03 0.0289 0.0283

Mars -85183-10-27 18:13 J -29391367.80 -29391367.74 -29391367.68 0.1718 0.1516

Venus -85183-10-28 22:32 J -29391366.63 -29391366.56 -29391366.50 0.3775 0.2960

Jupiter -85183-12-15 05:30 J -29391319.44 -29391319.27 -29391319.10 0.0493 0.0147

Jupiter -85182-03-15 08:52 J -29391229.25 -29391229.13 -29391229.01 0.0496 0.0347

Mars -85181-10-02 05:44 J -29390662.36 -29390662.26 -29390662.15 0.1690 0.0920

Moon -85178-02-26 17:44 J -29389784.88 -29389784.76 -29389784.65 0.2749 0.0414

Earth -85178-02-26 18:13 J -29389784.85 -29389784.74 -29389784.63 0.2754 0.0484 *

Venus -85177-05-13 16:47 J -29389342.89 -29389342.80 -29389342.71 0.3771 0.2166

Jupiter -85177-08-05 08:23 J -29389259.28 -29389259.15 -29389259.03 0.0534 0.0144

Jupiter -85177-11-02 17:30 J -29389169.88 -29389169.77 -29389169.66 0.0531 0.0313

Mars -85172-04-30 19:54 J -29387529.78 -29387529.67 -29387529.55 0.1847 0.1207

Venus -85172-11-27 11:30 J -29387319.13 -29387319.02 -29387318.92 0.3768 0.1354

Mars -85171-02-22 14:52 J -29387232.00 -29387231.88 -29387231.76 0.1697 0.0332

Saturn -85171-05-18 20:52 J -29387146.71 -29387146.63 -29387146.55 0.0272 0.0223

Saturn -85171-08-15 08:08 J -29387058.28 -29387058.16 -29387058.04 0.0272 0.0132

Jupiter -85171-10-03 03:49 J -29387009.49 -29387009.34 -29387009.20 0.0493 0.0274

Saturn -85171-11-11 19:40 J -29386969.82 -29386969.68 -29386969.55 0.0271 0.0041

Jupiter -85170-01-01 07:40 J -29386919.34 -29386919.18 -29386919.03 0.0495 0.0224

Saturn -85170-02-08 07:11 J -29386881.34 -29386881.20 -29386881.06 0.0271 0.0052

Saturn -85170-05-07 18:56 J -29386792.83 -29386792.71 -29386792.60 0.0271 0.0146

Saturn -85170-08-04 06:42 J -29386704.28 -29386704.22 -29386704.16 0.0271 0.0240

Moon -85168-08-27 07:11 J -29385950.34 -29385950.20 -29385950.07 0.2582 0.1096

Earth -85168-08-27 08:37 J -29385950.28 -29385950.14 -29385950.01 0.2582 0.1005 *

Venus -85166-06-13 06:13 J -29385295.35 -29385295.24 -29385295.13 0.3764 0.0498

Uranus -85166-10-26 17:30 J -29385159.82 -29385159.77 -29385159.69 0.0139 0.0130

Uranus -85165-01-23 00:42 J -29385071.59 -29385071.47 -29385071.35 0.0139 0.0106

Moon -85165-02-29 12:56 J -29385034.05 -29385033.96 -29385033.87 0.2752 0.1766

Earth -85165-02-29 13:54 J -29385034.00 -29385033.92 -29385033.84 0.2753 0.1909 *

Uranus -85165-04-20 07:25 J -29384983.33 -29384983.19 -29384983.04 0.0139 0.0082

Jupiter -85165-05-24 11:30 J -29384949.13 -29384949.02 -29384948.90 0.0535 0.0260

Uranus -85165-07-17 14:08 J -29384895.06 -29384894.91 -29384894.74 0.0139 0.0059

Jupiter -85165-08-21 20:37 J -29384859.77 -29384859.64 -29384859.52 0.0532 0.0196

Uranus -85165-10-13 21:06 J -29384806.79 -29384806.62 -29384806.45 0.0139 0.0036

Uranus -85164-01-10 03:49 J -29384718.52 -29384718.34 -29384718.16 0.0139 0.0013

Uranus -85164-04-08 10:18 J -29384630.25 -29384630.07 -29384629.89 0.0138 0.0010

Uranus -85164-07-05 16:47 J -29384541.97 -29384541.80 -29384541.62 0.0138 0.0032

Uranus -85164-10-01 23:16 J -29384453.69 -29384453.53 -29384453.36 0.0138 0.0055

Uranus -85164-12-29 05:44 J -29384365.40 -29384365.26 -29384365.11 0.0138 0.0076

Uranus -85163-03-27 11:59 J -29384277.11 -29384277.00 -29384276.87 0.0138 0.0098

Uranus -85163-06-23 18:13 J -29384188.81 -29384188.74 -29384188.64 0.0138 0.0120

Mars -85163-09-20 20:23 J -29384099.80 -29384099.65 -29384099.50 0.1839 0.0136

Venus -85162-06-12 03:20 J -29383835.39 -29383835.36 -29383835.33 0.3604 0.3498

Mars -85162-07-15 23:59 J -29383801.62 -29383801.50 -29383801.37 0.1703 0.0255

Venus -85161-12-27 01:11 J -29383271.56 -29383271.45 -29383271.34 0.3760 0.0370

Jupiter -85159-07-22 01:54 J -29382699.52 -29382699.42 -29382699.32 0.0492 0.0402

Jupiter -85159-10-20 06:13 J -29382609.42 -29382609.24 -29382609.07 0.0494 0.0098

Earth -85158-02-22 08:23 J -29382484.23 -29382484.15 -29382484.08 0.2756 0.2011

Moon -85158-02-22 08:52 J -29382484.22 -29382484.13 -29382484.05 0.2750 0.1882 *

Venus -85157-12-26 03:49 J -29381811.44 -29381811.34 -29381811.24 0.3608 0.2262

Saturn -85156-09-11 19:40 J -29381551.82 -29381551.68 -29381551.53 0.0289 0.0169

Saturn -85156-12-09 17:44 J -29381462.94 -29381462.76 -29381462.59 0.0289 0.0023

Saturn -85155-03-08 15:20 J -29381374.02 -29381373.86 -29381373.70 0.0289 0.0121

Saturn -85155-06-05 12:13 J -29381285.05 -29381284.99 -29381284.91 0.0289 0.0262

Venus -85155-07-12 20:23 J -29381247.76 -29381247.65 -29381247.54 0.3757 0.1267

Moon -85155-08-30 09:49 J -29381199.23 -29381199.09 -29381198.95 0.2588 0.0747

Earth -85155-08-30 11:01 J -29381199.18 -29381199.04 -29381198.91 0.2583 0.0854 *

Mars -85153-02-10 20:37 J -29380669.77 -29380669.64 -29380669.51 0.1830 0.0928

Jupiter -85153-03-12 14:23 J -29380638.99 -29380638.90 -29380638.81 0.0536 0.0382

Jupiter -85153-06-09 23:16 J -29380549.66 -29380549.53 -29380549.40 0.0533 0.0072

Neptune -85153-11-30 01:40 J -29380376.43 -29380376.43 -29380376.40 0.0089 0.0088

Mars -85153-12-05 09:06 J -29380371.23 -29380371.12 -29380371.01 0.1711 0.0846

Neptune -85152-02-26 03:06 J -29380288.40 -29380288.37 -29380288.31 0.0089 0.0084

Neptune -85152-05-25 04:47 J -29380200.36 -29380200.30 -29380200.24 0.0089 0.0079

Neptune -85152-08-21 05:59 J -29380112.31 -29380112.25 -29380112.17 0.0089 0.0075

Neptune -85152-11-17 07:25 J -29380024.26 -29380024.19 -29380024.10 0.0089 0.0071

Neptune -85151-02-13 08:37 J -29379936.21 -29379936.14 -29379936.04 0.0089 0.0067

Neptune -85151-05-12 10:04 J -29379848.16 -29379848.08 -29379847.97 0.0089 0.0063

Venus -85151-07-12 03:49 J -29379787.47 -29379787.34 -29379787.21 0.3612 0.1090

Neptune -85151-08-08 11:44 J -29379760.11 -29379760.01 -29379759.91 0.0089 0.0058

Neptune -85151-11-04 12:56 J -29379672.06 -29379671.96 -29379671.85 0.0089 0.0054

Mars -85151-11-10 21:06 J -29379665.66 -29379665.62 -29379665.58 0.1683 0.1589

Neptune -85150-01-31 14:23 J -29379584.00 -29379583.90 -29379583.78 0.0089 0.0050

Neptune -85150-04-29 15:35 J -29379495.95 -29379495.85 -29379495.72 0.0089 0.0046

Neptune -85150-07-26 17:16 J -29379407.90 -29379407.78 -29379407.66 0.0089 0.0041

Neptune -85150-10-22 18:42 J -29379319.84 -29379319.72 -29379319.59 0.0089 0.0037

Neptune -85149-01-18 19:54 J -29379231.78 -29379231.67 -29379231.53 0.0089 0.0033

Venus -85149-01-26 15:49 J -29379223.93 -29379223.84 -29379223.74 0.3752 0.2192

Neptune -85149-04-15 21:35 J -29379143.73 -29379143.60 -29379143.47 0.0089 0.0028

Neptune -85149-07-12 23:01 J -29379055.67 -29379055.54 -29379055.41 0.0089 0.0024

Neptune -85149-10-09 00:13 J -29378967.61 -29378967.49 -29378967.35 0.0089 0.0020

Neptune -85148-01-05 01:54 J -29378879.55 -29378879.42 -29378879.29 0.0089 0.0015

Neptune -85148-04-03 03:20 J -29378791.50 -29378791.36 -29378791.23 0.0089 0.0011

Neptune -85148-06-30 04:47 J -29378703.44 -29378703.30 -29378703.16 0.0089 0.0006

Neptune -85148-09-26 06:13 J -29378615.38 -29378615.24 -29378615.10 0.0089 0.0002

Neptune -85148-12-23 07:40 J -29378527.32 -29378527.18 -29378527.04 0.0089 0.0002

Neptune -85147-03-21 09:06 J -29378439.26 -29378439.12 -29378438.98 0.0089 0.0007

Neptune -85147-06-17 10:32 J -29378351.19 -29378351.06 -29378350.92 0.0089 0.0011

Jupiter -85147-08-08 04:47 J -29378299.48 -29378299.30 -29378299.12 0.0494 0.0026

Neptune -85147-09-13 11:59 J -29378263.13 -29378263.00 -29378262.86 0.0089 0.0016

Jupiter -85147-11-06 07:40 J -29378209.23 -29378209.18 -29378209.12 0.0496 0.0465

Neptune -85147-12-10 13:25 J -29378175.07 -29378174.94 -29378174.80 0.0089 0.0020

Neptune -85146-03-08 14:52 J -29378087.01 -29378086.88 -29378086.74 0.0089 0.0025

Neptune -85146-06-04 16:18 J -29377998.94 -29377998.82 -29377998.68 0.0089 0.0029

Neptune -85146-08-31 17:59 J -29377910.88 -29377910.75 -29377910.63 0.0089 0.0033

Neptune -85146-11-27 19:11 J -29377822.82 -29377822.70 -29377822.57 0.0089 0.0038

Venus -85145-01-26 03:20 J -29377763.49 -29377763.36 -29377763.22 0.3616 0.0115

Neptune -85145-02-23 20:52 J -29377734.75 -29377734.63 -29377734.51 0.0089 0.0042

Moon -85145-02-25 03:35 J -29377733.46 -29377733.35 -29377733.24 0.2747 0.0691

Earth -85145-02-25 03:35 J -29377733.46 -29377733.35 -29377733.24 0.2755 0.0641 *

Neptune -85145-05-21 22:04 J -29377646.68 -29377646.58 -29377646.45 0.0089 0.0047

Neptune -85145-08-17 23:44 J -29377558.62 -29377558.51 -29377558.39 0.0089 0.0051

Neptune -85145-11-14 01:11 J -29377470.55 -29377470.45 -29377470.34 0.0089 0.0056

Neptune -85144-02-10 02:52 J -29377382.48 -29377382.38 -29377382.28 0.0089 0.0060

Neptune -85144-05-09 04:04 J -29377294.41 -29377294.33 -29377294.22 0.0089 0.0065

Neptune -85144-08-05 05:44 J -29377206.34 -29377206.26 -29377206.17 0.0089 0.0069

Venus -85144-08-11 11:30 J -29377200.08 -29377200.02 -29377199.95 0.3748 0.3144

Neptune -85144-11-01 07:11 J -29377118.26 -29377118.20 -29377118.11 0.0089 0.0074

Neptune -85143-01-28 08:52 J -29377030.19 -29377030.13 -29377030.06 0.0089 0.0078

Neptune -85143-04-26 10:18 J -29376942.11 -29376942.07 -29376942.01 0.0089 0.0083

Mars -85143-04-27 18:13 J -29376940.80 -29376940.74 -29376940.67 0.1718 0.1438

Neptune -85143-07-23 11:59 J -29376854.02 -29376854.00 -29376853.97 0.0089 0.0087

Saturn -85142-10-06 00:28 J -29376414.54 -29376414.48 -29376414.42 0.0271 0.0238

Jupiter -85142-12-30 17:59 J -29376328.80 -29376328.75 -29376328.70 0.0537 0.0493

Saturn -85141-01-02 11:44 J -29376326.13 -29376326.01 -29376325.90 0.0271 0.0148

Jupiter -85141-03-29 02:37 J -29376239.52 -29376239.39 -29376239.26 0.0534 0.0043

Saturn -85141-03-30 23:01 J -29376237.67 -29376237.54 -29376237.40 0.0271 0.0057

Mars -85141-04-02 05:59 J -29376235.35 -29376235.25 -29376235.15 0.1690 0.1000

Jupiter -85141-06-26 12:13 J -29376150.07 -29376149.99 -29376149.91 0.0532 0.0418

Saturn -85141-06-27 10:32 J -29376149.20 -29376149.06 -29376148.92 0.0270 0.0035

Saturn -85141-09-23 22:18 J -29376060.70 -29376060.57 -29376060.45 0.0270 0.0128

Saturn -85141-12-21 10:04 J -29375972.16 -29375972.08 -29375972.00 0.0270 0.0222

Venus -85140-08-11 02:37 J -29375739.51 -29375739.39 -29375739.27 0.3620 0.1134

Jupiter -85135-05-27 02:52 J -29373989.54 -29373989.38 -29373989.21 0.0493 0.0154

Jupiter -85135-08-25 06:13 J -29373899.36 -29373899.24 -29373899.11 0.0495 0.0340

Moon -85135-08-25 10:32 J -29373899.08 -29373899.06 -29373899.03 0.2578 0.2535

Earth -85135-08-25 11:59 J -29373899.04 -29373899.00 -29373898.97 0.2582 0.2505 *

Venus -85134-02-25 01:25 J -29373715.54 -29373715.44 -29373715.34 0.3624 0.2178

Mars -85133-10-29 20:37 J -29373102.74 -29373102.64 -29373102.54 0.1847 0.1330

Moon -85132-02-26 22:32 J -29372982.67 -29372982.56 -29372982.45 0.2750 0.0721

Earth -85132-02-26 23:16 J -29372982.64 -29372982.53 -29372982.42 0.2754 0.0771 *

Mars -85132-08-23 15:06 J -29372805.00 -29372804.87 -29372804.75 0.1697 0.0418

Venus -85132-11-19 02:23 J -29372717.44 -29372717.40 -29372717.36 0.3777 0.3532

Jupiter -85129-01-16 06:28 J -29371929.36 -29371929.23 -29371929.10 0.0535 0.0150

Jupiter -85129-04-14 15:49 J -29371839.95 -29371839.84 -29371839.74 0.0532 0.0309

Venus -85129-09-09 23:59 J -29371691.56 -29371691.50 -29371691.45 0.3628 0.3179

Saturn -85126-01-29 17:44 J -29370819.87 -29370819.76 -29370819.64 0.0288 0.0217

Saturn -85126-04-28 16:04 J -29370731.00 -29370730.83 -29370730.66 0.0289 0.0070

Venus -85126-06-04 20:37 J -29370693.71 -29370693.64 -29370693.56 0.3774 0.2750

Saturn -85126-07-26 13:40 J -29370642.10 -29370641.93 -29370641.76 0.0289 0.0074

Saturn -85126-10-23 10:47 J -29370553.15 -29370553.05 -29370552.93 0.0289 0.0216

Jupiter -85123-03-15 01:25 J -29369679.58 -29369679.44 -29369679.29 0.0493 0.0278

Mars -85123-03-21 20:52 J -29369672.77 -29369672.63 -29369672.48 0.1839 0.0268

Jupiter -85123-06-13 05:16 J -29369589.43 -29369589.28 -29369589.12 0.0495 0.0220

Mars -85122-01-13 23:59 J -29369374.62 -29369374.50 -29369374.37 0.1704 0.0181

Moon -85122-08-28 13:11 J -29369148.09 -29369147.95 -29369147.81 0.2584 0.0818

Earth -85122-08-28 14:37 J -29369148.03 -29369147.89 -29369147.75 0.2582 0.0608 *

Uranus -85121-06-21 21:49 J -29368849.64 -29368849.59 -29368849.53 0.0139 0.0127

Uranus -85121-09-18 01:25 J -29368761.51 -29368761.44 -29368761.35 0.0139 0.0110

Uranus -85121-12-15 05:16 J -29368673.38 -29368673.28 -29368673.18 0.0139 0.0093

Venus -85121-12-18 15:06 J -29368669.97 -29368669.87 -29368669.78 0.3771 0.1953

Uranus -85120-03-13 08:52 J -29368585.24 -29368585.13 -29368585.01 0.0140 0.0075

Uranus -85120-06-09 12:42 J -29368497.09 -29368496.97 -29368496.84 0.0140 0.0058

Uranus -85120-09-05 16:32 J -29368408.94 -29368408.81 -29368408.68 0.0140 0.0040

Uranus -85120-12-02 20:23 J -29368320.79 -29368320.65 -29368320.52 0.0140 0.0022

Uranus -85119-03-01 00:13 J -29368232.63 -29368232.49 -29368232.35 0.0140 0.0005

Moon -85119-03-01 17:59 J -29368231.82 -29368231.75 -29368231.67 0.2752 0.2119

Earth -85119-03-01 18:56 J -29368231.78 -29368231.71 -29368231.64 0.2753 0.2201 *

Uranus -85119-05-28 04:04 J -29368144.47 -29368144.33 -29368144.19 0.0140 0.0015

Uranus -85119-08-24 07:54 J -29368056.31 -29368056.17 -29368056.03 0.0140 0.0033

Uranus -85119-11-20 11:44 J -29367968.14 -29367968.01 -29367967.88 0.0141 0.0052

Uranus -85118-02-16 15:35 J -29367879.96 -29367879.85 -29367879.72 0.0141 0.0071

Uranus -85118-05-15 19:40 J -29367791.78 -29367791.68 -29367791.57 0.0141 0.0089

Uranus -85118-08-11 23:44 J -29367703.60 -29367703.51 -29367703.42 0.0141 0.0108

Jupiter -85118-11-04 10:04 J -29367619.19 -29367619.08 -29367618.97 0.0535 0.0261

Uranus -85118-11-08 03:49 J -29367615.40 -29367615.34 -29367615.28 0.0141 0.0128

Jupiter -85117-02-01 18:56 J -29367529.83 -29367529.71 -29367529.58 0.0532 0.0195

Venus -85115-07-04 09:35 J -29366646.20 -29366646.10 -29366645.99 0.3767 0.1130

Mars -85114-08-11 20:52 J -29366242.76 -29366242.63 -29366242.49 0.1830 0.0825

Mars -85113-06-05 09:20 J -29365944.22 -29365944.11 -29365944.00 0.1711 0.0762

Saturn -85112-02-22 02:08 J -29365682.42 -29365682.41 -29365682.39 0.0272 0.0269

Earth -85112-02-22 13:25 J -29365682.03 -29365681.94 -29365681.86 0.2755 0.1726

Moon -85112-02-22 13:40 J -29365682.02 -29365681.93 -29365681.84 0.2749 0.1742 *

Saturn -85112-05-21 13:25 J -29365594.04 -29365593.94 -29365593.83 0.0271 0.0179

Saturn -85112-08-18 00:56 J -29365505.59 -29365505.46 -29365505.33 0.0271 0.0088

Saturn -85112-11-14 12:28 J -29365417.12 -29365416.98 -29365416.85 0.0271 0.0010

Jupiter -85112-12-31 23:44 J -29365369.61 -29365369.51 -29365369.41 0.0492 0.0405

Saturn -85111-02-10 23:59 J -29365328.63 -29365328.50 -29365328.37 0.0271 0.0098

Jupiter -85111-04-01 04:04 J -29365279.50 -29365279.33 -29365279.16 0.0495 0.0096

Saturn -85111-05-10 11:44 J -29365240.11 -29365240.01 -29365239.91 0.0271 0.0192

Mars -85111-05-11 21:06 J -29365238.63 -29365238.62 -29365238.61 0.1684 0.1669

Venus -85109-01-18 04:32 J -29364622.42 -29364622.31 -29364622.20 0.3763 0.0266

Moon -85109-08-30 15:49 J -29364396.97 -29364396.84 -29364396.71 0.2588 0.1156

Earth -85109-08-30 17:01 J -29364396.92 -29364396.79 -29364396.67 0.2583 0.1231 *

Jupiter -85106-08-23 13:25 J -29363309.03 -29363308.94 -29363308.85 0.0536 0.0375

Jupiter -85106-11-20 22:04 J -29363219.71 -29363219.58 -29363219.44 0.0533 0.0080

Venus -85105-01-17 03:06 J -29363162.43 -29363162.37 -29363162.30 0.3605 0.3165

Venus -85104-08-02 23:30 J -29362598.63 -29362598.52 -29362598.40 0.3759 0.0628

Mars -85104-10-26 18:28 J -29362513.81 -29362513.73 -29362513.66 0.1717 0.1356

Mars -85102-10-02 06:13 J -29361808.34 -29361808.24 -29361808.15 0.1690 0.1089

Venus -85100-08-02 03:35 J -29361138.46 -29361138.35 -29361138.24 0.3609 0.1946

Jupiter -85099-01-18 02:37 J -29360969.57 -29360969.39 -29360969.21 0.0494 0.0030

Moon -85099-02-25 08:37 J -29360931.26 -29360931.14 -29360931.03 0.2748 0.0304

Earth -85099-02-25 08:37 J -29360931.25 -29360931.14 -29360931.02 0.2755 0.0362 *

Jupiter -85099-04-18 05:44 J -29360879.32 -29360879.26 -29360879.20 0.0496 0.0461

Venus -85098-02-16 18:56 J -29360574.82 -29360574.71 -29360574.61 0.3755 0.1521

Saturn -85097-06-17 18:28 J -29360087.81 -29360087.73 -29360087.63 0.0288 0.0247

Saturn -85097-09-14 16:47 J -29359998.96 -29359998.80 -29359998.63 0.0289 0.0099

Saturn -85097-12-12 14:37 J -29359910.06 -29359909.89 -29359909.72 0.0289 0.0046

Saturn -85096-03-11 12:13 J -29359821.12 -29359820.99 -29359820.86 0.0289 0.0189

Venus -85094-02-16 03:35 J -29359114.48 -29359114.35 -29359114.22 0.3613 0.0782

Jupiter -85094-06-11 16:04 J -29358998.87 -29358998.83 -29358998.78 0.0537 0.0498

Jupiter -85094-09-09 00:56 J -29358909.60 -29358909.46 -29358909.33 0.0534 0.0049

Jupiter -85094-12-07 10:18 J -29358820.16 -29358820.07 -29358819.99 0.0531 0.0412

Mars -85093-04-29 21:06 J -29358675.71 -29358675.62 -29358675.53 0.1848 0.1453

Venus -85093-09-01 14:23 J -29358550.98 -29358550.90 -29358550.81 0.3751 0.2458

Mars -85092-02-21 15:06 J -29358377.99 -29358377.87 -29358377.75 0.1696 0.0496

Moon -85089-08-25 16:47 J -29357096.87 -29357096.80 -29357096.74 0.2579 0.2328

Earth -85089-08-25 17:59 J -29357096.84 -29357096.75 -29357096.67 0.2582 0.2111 *

Venus -85089-09-01 03:06 J -29357090.50 -29357090.37 -29357090.24 0.3617 0.0357

Jupiter -85088-11-06 01:11 J -29356659.62 -29356659.45 -29356659.28 0.0493 0.0153

Jupiter -85087-02-04 04:32 J -29356569.43 -29356569.31 -29356569.18 0.0495 0.0341

Venus -85087-03-18 10:18 J -29356527.12 -29356527.07 -29356527.03 0.3747 0.3417

Moon -85086-02-28 03:35 J -29356180.46 -29356180.35 -29356180.24 0.2750 0.0919

Earth -85086-02-28 04:18 J -29356180.43 -29356180.32 -29356180.22 0.2754 0.1061 *

Mars -85084-09-19 21:35 J -29355245.75 -29355245.60 -29355245.46 0.1839 0.0385

Venus -85083-03-18 02:08 J -29355066.53 -29355066.41 -29355066.29 0.3621 0.1428

Mars -85083-07-15 00:13 J -29354947.62 -29354947.49 -29354947.37 0.1703 0.0092

Saturn -85083-10-08 17:01 J -29354861.88 -29354861.79 -29354861.69 0.0271 0.0194

Saturn -85082-01-05 04:18 J -29354773.44 -29354773.32 -29354773.19 0.0271 0.0104

Saturn -85082-04-03 15:49 J -29354684.98 -29354684.84 -29354684.70 0.0270 0.0012

Jupiter -85082-06-28 04:18 J -29354599.44 -29354599.32 -29354599.19 0.0535 0.0160

Saturn -85082-07-01 03:20 J -29354596.49 -29354596.36 -29354596.23 0.0270 0.0081

Jupiter -85082-09-25 13:40 J -29354510.04 -29354509.93 -29354509.82 0.0532 0.0299

Saturn -85082-09-27 15:06 J -29354507.98 -29354507.87 -29354507.76 0.0270 0.0174

Uranus -85082-11-16 00:13 J -29354458.56 -29354458.49 -29354458.42 0.0139 0.0127

Saturn -85082-12-25 02:52 J -29354419.39 -29354419.38 -29354419.37 0.0270 0.0269

Uranus -85081-02-12 06:56 J -29354370.32 -29354370.21 -29354370.08 0.0139 0.0103

Uranus -85081-05-10 13:54 J -29354282.07 -29354281.92 -29354281.77 0.0139 0.0080

Uranus -85081-08-06 20:37 J -29354193.80 -29354193.64 -29354193.47 0.0139 0.0056

Uranus -85081-11-03 03:35 J -29354105.53 -29354105.35 -29354105.18 0.0139 0.0033

Uranus -85080-01-30 10:04 J -29354017.25 -29354017.08 -29354016.90 0.0139 0.0011

Uranus -85080-04-28 16:47 J -29353928.98 -29353928.80 -29353928.62 0.0138 0.0012

Uranus -85080-07-25 23:16 J -29353840.70 -29353840.53 -29353840.35 0.0138 0.0035

Uranus -85080-10-22 05:44 J -29353752.42 -29353752.26 -29353752.09 0.0138 0.0057

Uranus -85079-01-18 12:13 J -29353664.13 -29353663.99 -29353663.84 0.0138 0.0079

Uranus -85079-04-16 18:28 J -29353575.84 -29353575.73 -29353575.60 0.0138 0.0101

Uranus -85079-07-14 00:56 J -29353487.54 -29353487.46 -29353487.38 0.0138 0.0122

Venus -85078-10-02 00:42 J -29353042.56 -29353042.47 -29353042.37 0.3625 0.2463

Jupiter -85076-08-24 23:16 J -29352349.67 -29352349.53 -29352349.38 0.0492 0.0281

Moon -85076-08-28 19:11 J -29352345.84 -29352345.70 -29352345.55 0.2585 0.0275

Earth -85076-08-28 20:37 J -29352345.79 -29352345.64 -29352345.49 0.2583 0.0224 *

Jupiter -85076-11-23 03:06 J -29352259.53 -29352259.37 -29352259.21 0.0495 0.0215

Venus -85075-06-26 00:28 J -29352044.53 -29352044.48 -29352044.43 0.3776 0.3330

Mars -85074-02-09 21:35 J -29351815.74 -29351815.60 -29351815.46 0.1830 0.0696

Mars -85074-12-05 09:20 J -29351517.23 -29351517.11 -29351517.00 0.1710 0.0686

Moon -85073-03-01 23:16 J -29351429.59 -29351429.53 -29351429.48 0.2754 0.2415

Earth -85073-03-01 23:59 J -29351429.55 -29351429.50 -29351429.45 0.2752 0.2494 *

Venus -85072-04-16 23:01 J -29351018.57 -29351018.54 -29351018.50 0.3629 0.3453

Jupiter -85070-04-16 08:08 J -29350289.27 -29350289.16 -29350289.05 0.0536 0.0268

Jupiter -85070-07-14 17:16 J -29350199.91 -29350199.78 -29350199.66 0.0533 0.0189

Venus -85069-01-09 18:56 J -29350020.80 -29350020.71 -29350020.63 0.3773 0.2545

Neptune -85069-02-22 10:47 J -29349977.05 -29349977.05 -29349977.05 0.0089 0.0089

Neptune -85069-05-20 13:40 J -29349888.98 -29349888.93 -29349888.84 0.0089 0.0083

Neptune -85069-08-16 17:16 J -29349800.86 -29349800.78 -29349800.67 0.0089 0.0077

Neptune -85069-11-12 20:37 J -29349712.74 -29349712.64 -29349712.51 0.0089 0.0071

Neptune -85068-02-08 23:59 J -29349624.61 -29349624.50 -29349624.35 0.0089 0.0065

Neptune -85068-05-08 03:49 J -29349536.48 -29349536.34 -29349536.19 0.0089 0.0058

Neptune -85068-08-04 07:11 J -29349448.35 -29349448.20 -29349448.04 0.0089 0.0052

Neptune -85068-10-31 10:32 J -29349360.21 -29349360.06 -29349359.89 0.0089 0.0046

Neptune -85067-01-27 14:08 J -29349272.08 -29349271.91 -29349271.74 0.0089 0.0040

Saturn -85067-02-01 15:06 J -29349267.02 -29349266.87 -29349266.72 0.0289 0.0146

Neptune -85067-04-25 17:30 J -29349183.94 -29349183.77 -29349183.59 0.0089 0.0034

Saturn -85067-05-01 12:56 J -29349178.13 -29349177.96 -29349177.78 0.0289 0.0006

Neptune -85067-07-22 20:52 J -29349095.81 -29349095.63 -29349095.45 0.0089 0.0028

Saturn -85067-07-29 10:32 J -29349089.21 -29349089.06 -29349088.91 0.0289 0.0143

Neptune -85067-10-19 00:13 J -29349007.67 -29349007.49 -29349007.30 0.0089 0.0022

Saturn -85067-10-26 07:25 J -29349000.21 -29349000.19 -29349000.15 0.0289 0.0283

Neptune -85066-01-15 03:35 J -29348919.53 -29348919.35 -29348919.16 0.0089 0.0016

Earth -85066-02-23 18:13 J -29348879.83 -29348879.74 -29348879.64 0.2755 0.1449

Moon -85066-02-23 18:42 J -29348879.82 -29348879.72 -29348879.62 0.2748 0.1334 *

Neptune -85066-04-13 06:56 J -29348831.39 -29348831.21 -29348831.02 0.0089 0.0010

Neptune -85066-07-10 10:18 J -29348743.25 -29348743.07 -29348742.88 0.0089 0.0004

Neptune -85066-10-06 13:40 J -29348655.12 -29348654.93 -29348654.74 0.0089 0.0003

Neptune -85065-01-02 17:01 J -29348566.98 -29348566.79 -29348566.60 0.0089 0.0008

Neptune -85065-03-30 20:08 J -29348478.84 -29348478.66 -29348478.47 0.0089 0.0015

Neptune -85065-06-26 23:30 J -29348390.70 -29348390.52 -29348390.33 0.0088 0.0021

Mars -85065-07-01 21:20 J -29348385.63 -29348385.61 -29348385.58 0.1821 0.1782

Neptune -85065-09-23 02:37 J -29348302.55 -29348302.39 -29348302.20 0.0088 0.0027

Neptune -85065-12-20 05:59 J -29348214.41 -29348214.25 -29348214.07 0.0088 0.0032

Neptune -85064-03-18 09:06 J -29348126.27 -29348126.12 -29348125.94 0.0088 0.0039

Mars -85064-04-26 18:28 J -29348086.81 -29348086.73 -29348086.65 0.1718 0.1280

Jupiter -85064-06-12 21:49 J -29348039.69 -29348039.59 -29348039.49 0.0492 0.0405

Neptune -85064-06-14 12:42 J -29348038.13 -29348037.97 -29348037.81 0.0088 0.0044

Venus -85064-07-25 13:25 J -29347997.04 -29347996.94 -29347996.85 0.3770 0.1736

Neptune -85064-09-10 15:49 J -29347949.99 -29347949.84 -29347949.68 0.0088 0.0050

Jupiter -85064-09-11 01:54 J -29347949.59 -29347949.42 -29347949.24 0.0494 0.0095

Neptune -85064-12-07 18:56 J -29347861.84 -29347861.71 -29347861.55 0.0088 0.0056

Neptune -85063-03-05 22:04 J -29347773.70 -29347773.58 -29347773.43 0.0088 0.0062

Neptune -85063-06-02 01:11 J -29347685.55 -29347685.45 -29347685.31 0.0088 0.0068

Neptune -85063-08-29 04:47 J -29347597.40 -29347597.30 -29347597.19 0.0088 0.0073

Moon -85063-08-31 22:04 J -29347594.69 -29347594.58 -29347594.46 0.2588 0.1504

Earth -85063-08-31 23:01 J -29347594.66 -29347594.54 -29347594.43 0.2584 0.1614 *

Neptune -85063-11-25 07:40 J -29347509.25 -29347509.18 -29347509.08 0.0088 0.0079

Neptune -85062-02-21 10:47 J -29347421.08 -29347421.05 -29347420.98 0.0088 0.0085

Mars -85062-04-02 06:13 J -29347381.33 -29347381.24 -29347381.15 0.1690 0.1166

Pluto -85061-07-09 08:23 J -29346917.20 -29346917.15 -29346917.05 0.0060 0.0056

Pluto -85061-10-05 09:35 J -29346829.18 -29346829.10 -29346828.96 0.0060 0.0050

Pluto -85060-01-01 11:30 J -29346741.15 -29346741.02 -29346740.88 0.0060 0.0043

Pluto -85060-03-30 12:42 J -29346653.11 -29346652.97 -29346652.80 0.0060 0.0037

Pluto -85060-06-26 14:08 J -29346565.06 -29346564.91 -29346564.73 0.0061 0.0031

Pluto -85060-09-22 16:04 J -29346477.01 -29346476.83 -29346476.66 0.0061 0.0024

Pluto -85060-12-19 17:16 J -29346388.96 -29346388.78 -29346388.59 0.0061 0.0018

Pluto -85059-03-17 18:42 J -29346300.90 -29346300.72 -29346300.52 0.0061 0.0012

Pluto -85059-06-13 20:23 J -29346212.85 -29346212.65 -29346212.46 0.0061 0.0005

Pluto -85059-09-09 21:49 J -29346124.79 -29346124.59 -29346124.40 0.0061 0.0002

Pluto -85059-12-06 23:01 J -29346036.72 -29346036.54 -29346036.34 0.0061 0.0008

Jupiter -85058-02-02 11:59 J -29345979.09 -29345979.00 -29345978.91 0.0536 0.0377

Venus -85058-02-08 07:54 J -29345973.28 -29345973.17 -29345973.06 0.3766 0.0902

Pluto -85058-03-05 00:42 J -29345948.66 -29345948.47 -29345948.28 0.0061 0.0014

Jupiter -85058-05-02 20:37 J -29345889.77 -29345889.64 -29345889.51 0.0533 0.0078

Pluto -85058-06-01 01:54 J -29345860.59 -29345860.42 -29345860.23 0.0061 0.0021

Pluto -85058-08-28 03:35 J -29345772.52 -29345772.35 -29345772.17 0.0061 0.0027

Pluto -85058-11-24 04:47 J -29345684.45 -29345684.30 -29345684.12 0.0061 0.0034

Pluto -85057-02-20 06:42 J -29345596.37 -29345596.22 -29345596.08 0.0061 0.0041

Pluto -85057-05-18 07:40 J -29345508.28 -29345508.18 -29345508.04 0.0061 0.0048

Pluto -85057-08-14 09:06 J -29345420.19 -29345420.12 -29345420.01 0.0061 0.0055

Pluto -85057-11-10 11:01 J -29345332.06 -29345332.04 -29345332.01 0.0061 0.0061

Mars -85054-10-29 21:35 J -29344248.68 -29344248.60 -29344248.53 0.1848 0.1568

Saturn -85053-02-25 18:42 J -29344129.79 -29344129.72 -29344129.64 0.0271 0.0226

Moon -85053-02-26 13:25 J -29344129.06 -29344128.94 -29344128.83 0.2748 0.0164

Earth -85053-02-26 13:40 J -29344129.04 -29344128.93 -29344128.81 0.2754 0.0108 *

Saturn -85053-05-24 05:59 J -29344041.37 -29344041.25 -29344041.13 0.0271 0.0136

Saturn -85053-08-20 17:30 J -29343952.91 -29343952.77 -29343952.64 0.0271 0.0045

Mars -85053-08-22 15:20 J -29343950.98 -29343950.86 -29343950.75 0.1696 0.0585

Venus -85053-08-24 02:52 J -29343949.49 -29343949.38 -29343949.26 0.3762 0.0066

Saturn -85053-11-17 04:47 J -29343864.43 -29343864.30 -29343864.16 0.0271 0.0049

Saturn -85052-02-13 16:32 J -29343775.93 -29343775.81 -29343775.69 0.0271 0.0142

Saturn -85052-05-13 04:18 J -29343687.38 -29343687.32 -29343687.25 0.0270 0.0236

Jupiter -85052-06-30 00:28 J -29343639.65 -29343639.48 -29343639.30 0.0494 0.0034

Jupiter -85052-09-28 03:35 J -29343549.40 -29343549.35 -29343549.28 0.0496 0.0461

Venus -85049-08-23 03:06 J -29342489.45 -29342489.37 -29342489.29 0.3606 0.2832

Venus -85047-03-09 22:04 J -29341925.69 -29341925.58 -29341925.47 0.3758 0.0864

Jupiter -85047-11-21 15:20 J -29341668.91 -29341668.86 -29341668.81 0.0536 0.0489

Jupiter -85046-02-18 23:59 J -29341579.63 -29341579.50 -29341579.37 0.0534 0.0039

Jupiter -85046-05-19 09:20 J -29341490.19 -29341490.11 -29341490.03 0.0531 0.0419

Mars -85044-03-20 21:49 J -29340818.74 -29340818.59 -29340818.45 0.1839 0.0492

Mars -85043-01-13 00:13 J -29340520.61 -29340520.49 -29340520.36 0.1703 0.0057

Venus -85043-03-09 03:20 J -29340465.48 -29340465.36 -29340465.24 0.3610 0.1627

Moon -85043-08-26 22:47 J -29340294.66 -29340294.55 -29340294.45 0.2581 0.1775

Earth -85043-08-26 23:59 J -29340294.61 -29340294.50 -29340294.39 0.2582 0.1719 *

Venus -85042-09-23 17:30 J -29339901.87 -29339901.77 -29339901.67 0.3754 0.1783

Moon -85040-02-28 08:37 J -29339378.24 -29339378.14 -29339378.04 0.2750 0.1323

Earth -85040-02-28 09:20 J -29339378.21 -29339378.11 -29339378.01 0.2753 0.1358 *

Jupiter -85040-04-17 23:16 J -29339329.70 -29339329.53 -29339329.36 0.0493 0.0155

Jupiter -85040-07-17 02:37 J -29339239.51 -29339239.39 -29339239.26 0.0495 0.0340

Saturn -85038-06-21 15:06 J -29338535.01 -29338534.87 -29338534.73 0.0289 0.0181

Saturn -85038-09-18 13:11 J -29338446.12 -29338445.95 -29338445.78 0.0289 0.0034

Venus -85038-09-23 03:06 J -29338441.50 -29338441.37 -29338441.24 0.3614 0.0466

Saturn -85038-12-16 10:47 J -29338357.21 -29338357.05 -29338356.88 0.0289 0.0111

Saturn -85037-03-14 08:08 J -29338268.24 -29338268.16 -29338268.08 0.0289 0.0252

Uranus -85037-07-12 04:32 J -29338148.36 -29338148.31 -29338148.25 0.0139 0.0125

Uranus -85037-10-08 08:08 J -29338060.24 -29338060.16 -29338060.07 0.0139 0.0108

Uranus -85036-01-04 11:44 J -29337972.10 -29337972.01 -29337971.90 0.0139 0.0091

Uranus -85036-04-02 15:35 J -29337883.96 -29337883.85 -29337883.73 0.0140 0.0074

Venus -85036-04-08 12:56 J -29337878.03 -29337877.96 -29337877.88 0.3750 0.2728

Uranus -85036-06-29 19:25 J -29337795.82 -29337795.69 -29337795.56 0.0140 0.0056

Uranus -85036-09-25 23:01 J -29337707.67 -29337707.54 -29337707.40 0.0140 0.0038

Uranus -85036-12-23 02:52 J -29337619.51 -29337619.38 -29337619.24 0.0140 0.0020

Uranus -85035-03-21 06:42 J -29337531.36 -29337531.22 -29337531.08 0.0140 0.0004

Uranus -85035-06-17 10:32 J -29337443.19 -29337443.06 -29337442.92 0.0140 0.0017

Mars -85035-08-10 22:04 J -29337388.72 -29337388.58 -29337388.43 0.1831 0.0573

Uranus -85035-09-13 14:37 J -29337355.03 -29337354.89 -29337354.76 0.0140 0.0035

Jupiter -85035-12-08 02:37 J -29337269.51 -29337269.39 -29337269.27 0.0535 0.0163

Uranus -85035-12-10 18:28 J -29337266.86 -29337266.73 -29337266.60 0.0141 0.0053

Jupiter -85034-03-07 11:44 J -29337180.12 -29337180.01 -29337179.90 0.0532 0.0294

Uranus -85034-03-08 22:18 J -29337178.68 -29337178.57 -29337178.44 0.0141 0.0072

Uranus -85034-06-05 02:23 J -29337090.50 -29337090.40 -29337090.29 0.0141 0.0091

Mars -85034-06-05 09:20 J -29337090.22 -29337090.11 -29337089.99 0.1710 0.0604

Uranus -85034-09-01 06:28 J -29337002.32 -29337002.23 -29337002.14 0.0141 0.0110

Uranus -85034-11-28 10:32 J -29336914.11 -29336914.06 -29336914.01 0.0141 0.0129

Earth -85033-02-22 04:04 J -29336828.37 -29336828.33 -29336828.29 0.2756 0.2526

Moon -85033-02-22 04:47 J -29336828.36 -29336828.30 -29336828.25 0.2751 0.2432 *

Venus -85032-04-08 02:37 J -29336417.52 -29336417.39 -29336417.26 0.3618 0.0655

Venus -85031-10-23 08:52 J -29335854.14 -29335854.13 -29335854.11 0.3746 0.3695

Moon -85030-08-30 01:25 J -29335543.59 -29335543.44 -29335543.30 0.2586 0.0083

Earth -85030-08-30 02:37 J -29335543.54 -29335543.39 -29335543.24 0.2583 0.0166 *

Jupiter -85028-02-03 21:49 J -29335019.73 -29335019.59 -29335019.44 0.0492 0.0278

Jupiter -85028-05-05 01:40 J -29334929.58 -29334929.43 -29334929.27 0.0495 0.0219

Moon -85027-03-03 04:18 J -29334627.35 -29334627.32 -29334627.29 0.2756 0.2663

Venus -85027-10-23 01:25 J -29334393.55 -29334393.44 -29334393.32 0.3622 0.1721

Mars -85026-12-31 22:04 J -29333958.64 -29333958.58 -29333958.52 0.1822 0.1655

Mars -85025-10-25 18:28 J -29333659.81 -29333659.73 -29333659.64 0.1717 0.1197

Saturn -85024-07-14 22:18 J -29333397.63 -29333397.57 -29333397.51 0.0271 0.0242

Saturn -85024-10-11 09:35 J -29333309.21 -29333309.10 -29333308.99 0.0271 0.0152

Saturn -85023-01-07 20:52 J -29333220.76 -29333220.63 -29333220.50 0.0270 0.0061

Saturn -85023-04-06 08:23 J -29333132.29 -29333132.15 -29333132.01 0.0270 0.0032

Saturn -85023-07-03 19:54 J -29333043.79 -29333043.67 -29333043.54 0.0270 0.0124

Jupiter -85023-09-26 05:59 J -29332959.36 -29332959.25 -29332959.13 0.0536 0.0277

Saturn -85023-09-30 07:40 J -29332955.26 -29332955.18 -29332955.10 0.0270 0.0218

Mars -85023-10-01 06:13 J -29332954.32 -29332954.24 -29332954.15 0.1690 0.1253

Jupiter -85023-12-24 15:06 J -29332869.99 -29332869.87 -29332869.74 0.0533 0.0180

Venus -85021-05-07 23:59 J -29332369.58 -29332369.50 -29332369.41 0.3626 0.2748

Earth -85020-02-23 23:16 J -29332077.63 -29332077.53 -29332077.42 0.2755 0.1165

Moon -85020-02-23 23:30 J -29332077.62 -29332077.52 -29332077.41 0.2748 0.1184 *

Venus -85018-01-30 22:47 J -29331371.61 -29331371.55 -29331371.49 0.3775 0.3128

Moon -85017-09-01 04:18 J -29330792.40 -29330792.32 -29330792.23 0.2590 0.2017

Earth -85017-09-01 04:47 J -29330792.39 -29330792.30 -29330792.20 0.2584 0.1987 *

Jupiter -85017-11-22 19:54 J -29330709.77 -29330709.67 -29330709.57 0.0492 0.0406

Jupiter -85016-02-21 00:13 J -29330619.67 -29330619.49 -29330619.32 0.0494 0.0093

Mars -85014-04-29 22:04 J -29329821.64 -29329821.58 -29329821.53 0.1848 0.1686

Mars -85013-02-21 15:20 J -29329523.98 -29329523.86 -29329523.75 0.1696 0.0663

Venus -85013-08-15 17:01 J -29329347.88 -29329347.79 -29329347.70 0.3772 0.2327

Jupiter -85011-07-15 10:04 J -29328649.17 -29328649.08 -29328648.99 0.0536 0.0383

Jupiter -85011-10-12 18:56 J -29328559.84 -29328559.71 -29328559.58 0.0534 0.0072

Jupiter -85010-01-10 04:32 J -29328470.31 -29328470.31 -29328470.31 0.0531 0.0531

Saturn -85009-11-07 13:11 J -29327803.05 -29327802.95 -29327802.84 0.0288 0.0229

Saturn -85008-02-04 11:30 J -29327714.19 -29327714.02 -29327713.85 0.0289 0.0081

Saturn -85008-05-04 09:20 J -29327625.28 -29327625.11 -29327624.94 0.0289 0.0064

Saturn -85008-08-01 06:28 J -29327536.34 -29327536.23 -29327536.10 0.0289 0.0207

Moon -85007-02-26 18:13 J -29327326.85 -29327326.74 -29327326.62 0.2748 0.0260

Earth -85007-02-26 18:42 J -29327326.83 -29327326.72 -29327326.60 0.2754 0.0255 *

Venus -85007-03-01 11:30 J -29327324.12 -29327324.02 -29327323.91 0.3769 0.1510

Mars -85005-09-18 22:32 J -29326391.71 -29326391.56 -29326391.42 0.1839 0.0624

Jupiter -85005-12-09 22:47 J -29326309.72 -29326309.55 -29326309.37 0.0493 0.0033

Jupiter -85004-03-10 01:54 J -29326219.48 -29326219.42 -29326219.35 0.0496 0.0461

Mars -85004-07-14 00:28 J -29326093.61 -29326093.48 -29326093.36 0.1703 0.0094

Venus -85002-09-15 06:13 J -29325300.35 -29325300.24 -29325300.12 0.3765 0.0675

85TH MILLENNIUM BCE

This is a list of transits of Mercury in the 85th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Jupiter -84999-05-03 13:54 J -29324338.97 -29324338.92 -29324338.87 0.0537 0.0490

Jupiter -84999-07-31 22:32 J -29324249.69 -29324249.56 -29324249.43 0.0534 0.0039

Jupiter -84999-10-29 07:54 J -29324160.25 -29324160.17 -29324160.09 0.0531 0.0419

Uranus -84998-12-06 06:28 J -29323757.31 -29323757.23 -29323757.15 0.0139 0.0125

Uranus -84997-03-03 13:11 J -29323669.07 -29323668.95 -29323668.82 0.0139 0.0101

Uranus -84997-05-30 20:08 J -29323580.81 -29323580.66 -29323580.50 0.0139 0.0077

Uranus -84997-08-27 02:52 J -29323492.54 -29323492.38 -29323492.21 0.0139 0.0054

Moon -84997-08-27 04:47 J -29323492.42 -29323492.30 -29323492.18 0.2582 0.1525 *

Earth -84997-08-27 05:59 J -29323492.37 -29323492.25 -29323492.12 0.2582 0.1329 *

Uranus -84997-11-23 09:49 J -29323404.27 -29323404.09 -29323403.91 0.0139 0.0031

Uranus -84996-02-19 16:32 J -29323315.99 -29323315.81 -29323315.63 0.0139 0.0008

Venus -84996-03-31 01:25 J -29323276.56 -29323276.44 -29323276.33 0.3761 0.0264

Uranus -84996-05-18 23:01 J -29323227.71 -29323227.54 -29323227.36 0.0138 0.0015

Uranus -84996-08-15 05:30 J -29323139.43 -29323139.27 -29323139.09 0.0138 0.0038

Uranus -84996-11-11 12:13 J -29323051.15 -29323050.99 -29323050.83 0.0138 0.0059

Uranus -84995-02-07 18:42 J -29322962.86 -29322962.72 -29322962.58 0.0138 0.0081

Mars -84995-02-08 22:32 J -29322961.71 -29322961.56 -29322961.42 0.1831 0.0464

Uranus -84995-05-07 00:56 J -29322874.57 -29322874.46 -29322874.34 0.0138 0.0103

Uranus -84995-08-03 07:11 J -29322786.26 -29322786.20 -29322786.12 0.0138 0.0125

Mars -84995-12-04 09:35 J -29322663.22 -29322663.10 -29322662.98 0.1710 0.0519

Saturn -84994-02-28 11:01 J -29322577.14 -29322577.04 -29322576.94 0.0271 0.0186

Moon -84994-03-01 13:40 J -29322576.03 -29322575.93 -29322575.83 0.2751 0.1488

Earth -84994-03-01 14:23 J -29322575.99 -29322575.90 -29322575.81 0.2753 0.1651 *

Saturn -84994-05-27 22:18 J -29322488.70 -29322488.57 -29322488.44 0.0271 0.0095

Saturn -84994-08-24 09:35 J -29322400.24 -29322400.10 -29322399.96 0.0271 0.0006

Saturn -84994-11-20 21:06 J -29322311.75 -29322311.62 -29322311.49 0.0270 0.0090

Saturn -84993-02-17 08:52 J -29322223.23 -29322223.13 -29322223.03 0.0270 0.0183

Jupiter -84993-09-27 21:20 J -29321999.78 -29321999.61 -29321999.44 0.0493 0.0155

Jupiter -84993-12-27 00:56 J -29321909.59 -29321909.46 -29321909.33 0.0496 0.0340

Venus -84992-03-30 02:52 J -29321816.47 -29321816.38 -29321816.28 0.3607 0.2505

Venus -84991-10-14 20:37 J -29321252.75 -29321252.64 -29321252.54 0.3757 0.1126

Neptune -84988-08-27 01:40 J -29320205.44 -29320205.43 -29320205.38 0.0089 0.0086

Neptune -84988-11-23 03:20 J -29320117.40 -29320117.36 -29320117.30 0.0089 0.0081

Neptune -84987-02-19 04:47 J -29320029.36 -29320029.30 -29320029.23 0.0089 0.0077

Earth -84987-02-22 09:06 J -29320026.19 -29320026.12 -29320026.06 0.2755 0.2246

Moon -84987-02-22 09:35 J -29320026.17 -29320026.10 -29320026.03 0.2750 0.2164 *

Neptune -84987-05-18 05:59 J -29319941.31 -29319941.25 -29319941.16 0.0089 0.0073

Jupiter -84987-05-20 01:54 J -29319939.54 -29319939.42 -29319939.29 0.0535 0.0153

Neptune -84987-08-14 07:25 J -29319853.26 -29319853.19 -29319853.10 0.0089 0.0069

Jupiter -84987-08-17 11:01 J -29319850.14 -29319850.04 -29319849.93 0.0532 0.0305

Venus -84987-10-14 03:06 J -29319792.50 -29319792.37 -29319792.25 0.3611 0.1307

Neptune -84987-11-10 09:06 J -29319765.21 -29319765.12 -29319765.03 0.0089 0.0064

Neptune -84986-02-06 10:18 J -29319677.16 -29319677.07 -29319676.96 0.0089 0.0060

Neptune -84986-05-05 11:44 J -29319589.11 -29319589.01 -29319588.90 0.0089 0.0056

Mars -84986-07-01 22:32 J -29319531.64 -29319531.56 -29319531.48 0.1822 0.1539

Neptune -84986-08-01 12:56 J -29319501.06 -29319500.96 -29319500.84 0.0089 0.0052

Neptune -84986-10-28 14:37 J -29319413.00 -29319412.89 -29319412.77 0.0089 0.0047

Neptune -84985-01-24 16:04 J -29319324.95 -29319324.83 -29319324.71 0.0089 0.0043

Neptune -84985-04-21 17:16 J -29319236.89 -29319236.78 -29319236.65 0.0089 0.0039

Mars -84985-04-25 18:42 J -29319232.81 -29319232.72 -29319232.63 0.1717 0.1116

Venus -84985-04-29 16:04 J -29319228.93 -29319228.83 -29319228.74 0.3753 0.2048

Neptune -84985-07-18 18:56 J -29319148.84 -29319148.71 -29319148.59 0.0089 0.0034

Neptune -84985-10-14 20:08 J -29319060.78 -29319060.66 -29319060.53 0.0089 0.0030

Neptune -84984-01-10 21:35 J -29318972.72 -29318972.60 -29318972.46 0.0089 0.0026

Neptune -84984-04-08 23:01 J -29318884.67 -29318884.54 -29318884.40 0.0089 0.0022

Neptune -84984-07-06 00:28 J -29318796.61 -29318796.48 -29318796.34 0.0089 0.0017

Moon -84984-08-30 07:25 J -29318741.33 -29318741.19 -29318741.05 0.2586 0.0512

Earth -84984-08-30 08:37 J -29318741.28 -29318741.14 -29318740.99 0.2583 0.0545 *

Neptune -84984-10-02 01:54 J -29318708.55 -29318708.42 -29318708.28 0.0089 0.0013

Neptune -84984-12-29 03:20 J -29318620.49 -29318620.36 -29318620.22 0.0089 0.0009

Neptune -84983-03-27 04:47 J -29318532.43 -29318532.30 -29318532.16 0.0089 0.0005

Mars -84983-04-01 06:28 J -29318527.31 -29318527.23 -29318527.16 0.1689 0.1339

Neptune -84983-06-23 06:13 J -29318444.37 -29318444.24 -29318444.10 0.0089 0.0003

Neptune -84983-09-19 07:40 J -29318356.31 -29318356.18 -29318356.04 0.0089 0.0006

Neptune -84983-12-16 09:06 J -29318268.25 -29318268.12 -29318267.98 0.0089 0.0010

Neptune -84982-03-14 10:32 J -29318180.19 -29318180.06 -29318179.92 0.0089 0.0014

Neptune -84982-06-10 12:13 J -29318092.13 -29318091.99 -29318091.86 0.0089 0.0018

Neptune -84982-09-06 13:25 J -29318004.06 -29318003.94 -29318003.80 0.0089 0.0023

Neptune -84982-12-03 15:06 J -29317916.00 -29317915.87 -29317915.74 0.0089 0.0027

Neptune -84981-02-29 16:18 J -29317827.94 -29317827.82 -29317827.68 0.0089 0.0032

Venus -84981-04-29 02:52 J -29317768.52 -29317768.38 -29317768.25 0.3615 0.0168

Neptune -84981-05-27 17:59 J -29317739.87 -29317739.75 -29317739.62 0.0089 0.0036

Jupiter -84981-07-16 20:08 J -29317689.81 -29317689.66 -29317689.51 0.0492 0.0278

Neptune -84981-08-23 19:11 J -29317651.81 -29317651.70 -29317651.56 0.0089 0.0041

Jupiter -84981-10-14 23:59 J -29317599.65 -29317599.50 -29317599.34 0.0495 0.0219

Neptune -84981-11-19 20:52 J -29317563.74 -29317563.63 -29317563.51 0.0089 0.0045

Neptune -84980-02-15 22:32 J -29317475.68 -29317475.56 -29317475.45 0.0089 0.0049

Neptune -84980-05-14 23:44 J -29317387.61 -29317387.51 -29317387.39 0.0089 0.0054

Neptune -84980-08-11 01:25 J -29317299.54 -29317299.44 -29317299.34 0.0089 0.0058

Neptune -84980-11-07 02:37 J -29317211.47 -29317211.39 -29317211.28 0.0089 0.0063

Venus -84980-11-13 11:44 J -29317205.08 -29317205.01 -29317204.95 0.3749 0.2999

Neptune -84979-02-03 04:18 J -29317123.40 -29317123.32 -29317123.22 0.0089 0.0067

Saturn -84979-03-27 11:59 J -29317071.05 -29317071.00 -29317070.93 0.0289 0.0270

Neptune -84979-05-02 05:44 J -29317035.33 -29317035.26 -29317035.17 0.0089 0.0072

Saturn -84979-06-24 10:32 J -29316982.22 -29316982.06 -29316981.90 0.0289 0.0122

Neptune -84979-07-29 07:25 J -29316947.26 -29316947.19 -29316947.12 0.0089 0.0076

Saturn -84979-09-21 08:23 J -29316893.32 -29316893.15 -29316892.97 0.0289 0.0026

Neptune -84979-10-25 08:52 J -29316859.18 -29316859.13 -29316859.07 0.0089 0.0081

Saturn -84979-12-19 05:59 J -29316804.39 -29316804.25 -29316804.11 0.0289 0.0169

Neptune -84978-01-21 10:32 J -29316771.09 -29316771.06 -29316771.02 0.0089 0.0085

Mars -84976-09-16 03:49 J -29315802.35 -29315802.34 -29315802.33 0.1724 0.1714

Venus -84976-11-13 02:08 J -29315744.54 -29315744.41 -29315744.29 0.3619 0.0955

Jupiter -84975-03-08 04:32 J -29315629.42 -29315629.31 -29315629.20 0.0536 0.0277

Jupiter -84975-06-05 13:40 J -29315540.06 -29315539.93 -29315539.81 0.0533 0.0179

Mars -84975-10-28 22:32 J -29315394.58 -29315394.56 -29315394.53 0.1848 0.1815

Earth -84974-02-25 04:18 J -29315275.43 -29315275.32 -29315275.21 0.2755 0.0882

Moon -84974-02-25 04:32 J -29315275.42 -29315275.31 -29315275.21 0.2748 0.0846 *

Mars -84974-08-22 15:20 J -29315096.97 -29315096.86 -29315096.75 0.1696 0.0746

Moon -84971-09-02 10:32 J -29313990.12 -29313990.06 -29313989.99 0.2591 0.2263

Earth -84971-09-02 11:01 J -29313990.10 -29313990.04 -29313989.99 0.2584 0.2365 *

Venus -84970-05-30 00:56 J -29313720.57 -29313720.46 -29313720.35 0.3623 0.2007

Jupiter -84969-05-04 18:42 J -29313379.82 -29313379.72 -29313379.61 0.0492 0.0400

Jupiter -84969-08-02 23:01 J -29313289.71 -29313289.54 -29313289.37 0.0494 0.0099

Pluto -84968-11-10 23:01 J -29312824.59 -29312824.54 -29312824.48 0.0085 0.0075

Pluto -84967-02-07 00:28 J -29312736.57 -29312736.48 -29312736.39 0.0085 0.0063

Venus -84967-02-21 02:37 J -29312722.41 -29312722.39 -29312722.37 0.3778 0.3695

Pluto -84967-05-06 01:40 J -29312648.53 -29312648.43 -29312648.32 0.0084 0.0051

Pluto -84967-08-02 03:06 J -29312560.49 -29312560.37 -29312560.25 0.0084 0.0039

Pluto -84967-10-29 04:18 J -29312472.44 -29312472.32 -29312472.19 0.0084 0.0027

Pluto -84966-01-25 05:44 J -29312384.39 -29312384.26 -29312384.13 0.0084 0.0015

Pluto -84966-04-23 06:56 J -29312296.34 -29312296.21 -29312296.07 0.0084 0.0004

Pluto -84966-07-20 08:23 J -29312208.29 -29312208.15 -29312208.02 0.0084 0.0009

Pluto -84966-10-16 09:35 J -29312120.23 -29312120.10 -29312119.97 0.0084 0.0020

Pluto -84965-01-12 10:47 J -29312032.17 -29312032.05 -29312031.92 0.0084 0.0032

Mars -84965-03-19 23:01 J -29311964.68 -29311964.54 -29311964.41 0.1839 0.0741

Pluto -84965-04-09 12:13 J -29311944.11 -29311943.99 -29311943.88 0.0083 0.0043

Pluto -84965-07-06 13:11 J -29311856.04 -29311855.95 -29311855.84 0.0083 0.0054

Saturn -84965-07-17 14:23 J -29311844.99 -29311844.90 -29311844.81 0.0271 0.0202

Pluto -84965-10-02 14:37 J -29311767.97 -29311767.89 -29311767.81 0.0083 0.0065

Saturn -84965-10-14 01:40 J -29311756.56 -29311756.43 -29311756.31 0.0271 0.0112

Venus -84965-12-12 23:30 J -29311696.59 -29311696.52 -29311696.45 0.3628 0.3026

Pluto -84965-12-29 15:35 J -29311679.89 -29311679.85 -29311679.79 0.0083 0.0077

Saturn -84964-01-10 12:56 J -29311668.10 -29311667.96 -29311667.82 0.0270 0.0021

Mars -84964-01-12 00:28 J -29311666.60 -29311666.48 -29311666.36 0.1703 0.0154

Saturn -84964-04-09 00:28 J -29311579.61 -29311579.48 -29311579.34 0.0270 0.0072

Saturn -84964-07-06 12:13 J -29311491.10 -29311490.99 -29311490.88 0.0270 0.0165

Saturn -84964-10-02 23:59 J -29311402.54 -29311402.50 -29311402.47 0.0270 0.0259

Jupiter -84964-12-25 08:08 J -29311319.25 -29311319.16 -29311319.07 0.0536 0.0389

Jupiter -84963-03-24 17:01 J -29311229.92 -29311229.79 -29311229.66 0.0534 0.0065

Jupiter -84963-06-22 02:37 J -29311140.41 -29311140.39 -29311140.37 0.0531 0.0524

Venus -84962-09-06 20:52 J -29310698.70 -29310698.63 -29310698.56 0.3774 0.2913

Moon -84961-02-27 23:16 J -29310524.64 -29310524.53 -29310524.41 0.2748 0.0397

Earth -84961-02-27 23:44 J -29310524.62 -29310524.51 -29310524.39 0.2754 0.0524 *

Jupiter -84957-05-21 21:20 J -29308979.79 -29308979.61 -29308979.43 0.0493 0.0028

Jupiter -84957-08-20 00:28 J -29308889.54 -29308889.48 -29308889.42 0.0496 0.0462

Venus -84956-03-22 15:20 J -29308674.95 -29308674.86 -29308674.77 0.3771 0.2107

Mars -84956-08-09 23:01 J -29308534.68 -29308534.54 -29308534.39 0.1831 0.0338

Mars -84955-06-04 09:35 J -29308236.22 -29308236.10 -29308235.98 0.1710 0.0439

Uranus -84953-08-01 11:30 J -29307447.08 -29307447.02 -29307446.95 0.0139 0.0122

Uranus -84953-10-28 15:06 J -29307358.95 -29307358.87 -29307358.78 0.0139 0.0105

Uranus -84952-01-24 18:42 J -29307270.82 -29307270.72 -29307270.60 0.0139 0.0089

Uranus -84952-04-22 22:32 J -29307182.67 -29307182.56 -29307182.44 0.0140 0.0071

Uranus -84952-07-20 02:23 J -29307094.53 -29307094.40 -29307094.27 0.0140 0.0053

Jupiter -84952-10-13 11:59 J -29307009.04 -29307009.00 -29307008.95 0.0537 0.0496

Uranus -84952-10-16 06:13 J -29307006.38 -29307006.24 -29307006.11 0.0140 0.0035

Jupiter -84951-01-10 20:52 J -29306919.77 -29306919.63 -29306919.50 0.0535 0.0046

Uranus -84951-01-12 09:49 J -29306918.22 -29306918.09 -29306917.95 0.0140 0.0018

Jupiter -84951-04-10 06:13 J -29306830.32 -29306830.24 -29306830.16 0.0532 0.0415

Uranus -84951-04-10 13:40 J -29306830.07 -29306829.93 -29306829.79 0.0140 0.0004

Uranus -84951-07-07 17:44 J -29306741.90 -29306741.76 -29306741.63 0.0140 0.0020

Moon -84951-08-28 10:47 J -29306690.19 -29306690.05 -29306689.92 0.2583 0.1039

Earth -84951-08-28 12:13 J -29306690.13 -29306689.99 -29306689.85 0.2582 0.0928 *

Uranus -84951-10-03 21:35 J -29306653.74 -29306653.60 -29306653.47 0.0140 0.0038

Venus -84951-10-06 09:49 J -29306651.19 -29306651.09 -29306650.98 0.3768 0.1281

Uranus -84951-12-31 01:25 J -29306565.57 -29306565.44 -29306565.31 0.0141 0.0056

Uranus -84950-03-29 05:30 J -29306477.39 -29306477.27 -29306477.16 0.0141 0.0075

Uranus -84950-06-25 09:20 J -29306389.21 -29306389.11 -29306389.00 0.0141 0.0094

Uranus -84950-09-21 13:25 J -29306301.02 -29306300.94 -29306300.86 0.0141 0.0113

Saturn -84950-11-11 08:37 J -29306250.28 -29306250.14 -29306249.99 0.0289 0.0170

Uranus -84950-12-18 17:30 J -29306212.82 -29306212.77 -29306212.72 0.0141 0.0132

Saturn -84949-02-08 06:42 J -29306161.39 -29306161.22 -29306161.04 0.0289 0.0024

Saturn -84949-05-07 04:32 J -29306072.47 -29306072.31 -29306072.15 0.0289 0.0122

Saturn -84949-08-04 01:40 J -29305983.49 -29305983.43 -29305983.36 0.0290 0.0264

Moon -84948-03-01 18:42 J -29305773.80 -29305773.72 -29305773.64 0.2753 0.1911

Earth -84948-03-01 19:25 J -29305773.77 -29305773.69 -29305773.61 0.2753 0.1940 *

Mars -84947-12-30 23:01 J -29305104.63 -29305104.54 -29305104.44 0.1822 0.1414

Mars -84946-10-25 18:42 J -29304805.82 -29304805.72 -29304805.62 0.1717 0.1036

Jupiter -84945-03-09 19:54 J -29304669.84 -29304669.67 -29304669.50 0.0493 0.0151

Venus -84945-04-21 04:47 J -29304627.41 -29304627.30 -29304627.19 0.3764 0.0426

Jupiter -84945-06-07 23:30 J -29304579.65 -29304579.52 -29304579.40 0.0495 0.0343

Mars -84944-09-30 06:28 J -29304100.29 -29304100.23 -29304100.16 0.1689 0.1419

Earth -84941-02-23 14:08 J -29303223.99 -29303223.91 -29303223.84 0.2755 0.1968

Moon -84941-02-23 14:37 J -29303223.97 -29303223.89 -29303223.81 0.2750 0.1904 *

Venus -84941-04-20 02:23 J -29303167.44 -29303167.40 -29303167.36 0.3605 0.3406

Jupiter -84940-10-30 00:42 J -29302609.60 -29302609.47 -29302609.35 0.0535 0.0152

Venus -84940-11-04 23:44 J -29302603.62 -29302603.51 -29302603.40 0.3760 0.0465

Jupiter -84939-01-27 09:49 J -29302520.20 -29302520.09 -29302519.98 0.0532 0.0305

Moon -84938-08-31 13:40 J -29301939.07 -29301938.93 -29301938.79 0.2587 0.0760

Earth -84938-08-31 14:37 J -29301939.02 -29301938.89 -29301938.75 0.2583 0.0932 *

Mars -84936-03-17 03:49 J -29301375.37 -29301375.34 -29301375.30 0.1724 0.1633

Venus -84936-11-04 02:52 J -29301143.49 -29301143.38 -29301143.28 0.3608 0.2178

Saturn -84936-12-04 15:35 J -29301112.91 -29301112.85 -29301112.78 0.0271 0.0237

Saturn -84935-03-03 02:52 J -29301024.49 -29301024.38 -29301024.26 0.0271 0.0147

Saturn -84935-05-30 14:08 J -29300936.04 -29300935.91 -29300935.77 0.0271 0.0056

Saturn -84935-08-27 01:40 J -29300847.57 -29300847.43 -29300847.29 0.0270 0.0036

Saturn -84935-11-23 13:11 J -29300759.07 -29300758.95 -29300758.83 0.0270 0.0129

Saturn -84934-02-20 00:56 J -29300670.54 -29300670.46 -29300670.38 0.0270 0.0223

Mars -84934-02-20 15:35 J -29300669.96 -29300669.85 -29300669.74 0.1696 0.0831

Venus -84934-05-21 18:56 J -29300579.81 -29300579.71 -29300579.60 0.3756 0.1377

Jupiter -84934-12-27 18:28 J -29300359.88 -29300359.73 -29300359.59 0.0493 0.0276

Jupiter -84933-03-26 22:18 J -29300269.73 -29300269.57 -29300269.41 0.0495 0.0221

Venus -84930-05-21 02:52 J -29299119.51 -29299119.38 -29299119.25 0.3612 0.0992

Venus -84929-12-04 14:23 J -29298555.99 -29298555.90 -29298555.81 0.3752 0.2308

Moon -84928-02-25 09:20 J -29298473.22 -29298473.11 -29298473.00 0.2748 0.0614

Earth -84928-02-25 09:20 J -29298473.22 -29298473.11 -29298473.00 0.2755 0.0594 *

Jupiter -84928-08-18 04:04 J -29298299.44 -29298299.33 -29298299.21 0.0535 0.0264

Jupiter -84928-11-15 13:11 J -29298210.07 -29298209.95 -29298209.83 0.0533 0.0192

Mars -84926-09-18 23:16 J -29297537.66 -29297537.53 -29297537.39 0.1840 0.0858

Mars -84925-07-13 00:42 J -29297239.60 -29297239.47 -29297239.35 0.1702 0.0243

Venus -84925-12-04 02:23 J -29297095.53 -29297095.40 -29297095.27 0.3616 0.0155

Venus -84923-06-20 10:18 J -29296532.13 -29296532.07 -29296532.02 0.3748 0.3272

Jupiter -84922-10-15 17:16 J -29296049.88 -29296049.78 -29296049.68 0.0492 0.0398

Jupiter -84921-01-13 21:20 J -29295959.78 -29295959.61 -29295959.43 0.0494 0.0103

Saturn -84920-03-30 06:56 J -29295518.33 -29295518.21 -29295518.10 0.0289 0.0216

Saturn -84920-06-27 05:01 J -29295429.46 -29295429.29 -29295429.11 0.0289 0.0068

Saturn -84920-09-24 02:52 J -29295340.54 -29295340.38 -29295340.21 0.0289 0.0079

Saturn -84920-12-22 00:13 J -29295251.59 -29295251.49 -29295251.37 0.0290 0.0222

Venus -84919-06-20 01:25 J -29295071.56 -29295071.44 -29295071.32 0.3620 0.1243

Earth -84918-08-26 15:35 J -29294638.90 -29294638.85 -29294638.81 0.2582 0.2444

Mars -84916-02-07 23:44 J -29294107.66 -29294107.51 -29294107.36 0.1831 0.0206

Jupiter -84916-06-06 06:42 J -29293989.30 -29293989.22 -29293989.13 0.0536 0.0388

Jupiter -84916-09-03 15:35 J -29293899.98 -29293899.85 -29293899.72 0.0534 0.0066

Jupiter -84916-12-02 01:11 J -29293810.47 -29293810.45 -29293810.43 0.0531 0.0525

Mars -84916-12-03 09:35 J -29293809.22 -29293809.10 -29293808.98 0.1710 0.0360

Moon -84915-02-28 04:18 J -29293722.43 -29293722.32 -29293722.21 0.2749 0.0782

Earth -84915-02-28 04:47 J -29293722.41 -29293722.30 -29293722.19 0.2754 0.0810 *

Uranus -84914-12-26 12:28 J -29293056.05 -29293055.98 -29293055.88 0.0139 0.0123

Venus -84913-01-04 00:13 J -29293047.59 -29293047.49 -29293047.39 0.3625 0.2297

Uranus -84913-03-23 19:40 J -29292967.80 -29292967.68 -29292967.55 0.0139 0.0098

Uranus -84913-06-20 02:23 J -29292879.54 -29292879.40 -29292879.23 0.0139 0.0075

Uranus -84913-09-16 09:35 J -29292791.27 -29292791.10 -29292790.93 0.0139 0.0051

Uranus -84913-12-13 16:18 J -29292703.00 -29292702.82 -29292702.64 0.0139 0.0028

Uranus -84912-03-11 23:01 J -29292614.72 -29292614.54 -29292614.36 0.0139 0.0005

Uranus -84912-06-08 05:30 J -29292526.44 -29292526.27 -29292526.09 0.0138 0.0018

Uranus -84912-09-04 11:59 J -29292438.16 -29292438.00 -29292437.82 0.0138 0.0041

Uranus -84912-12-01 18:42 J -29292349.88 -29292349.72 -29292349.56 0.0138 0.0062

Uranus -84911-02-28 01:11 J -29292261.59 -29292261.45 -29292261.31 0.0138 0.0084

Uranus -84911-05-27 07:25 J -29292173.29 -29292173.19 -29292173.07 0.0138 0.0106

Uranus -84911-08-23 13:40 J -29292084.98 -29292084.93 -29292084.85 0.0138 0.0128

Venus -84911-09-28 00:56 J -29292049.50 -29292049.46 -29292049.42 0.3777 0.3490

Jupiter -84910-11-01 20:23 J -29291649.82 -29291649.65 -29291649.47 0.0493 0.0022

Jupiter -84909-01-30 23:30 J -29291559.57 -29291559.52 -29291559.47 0.0496 0.0471

Venus -84908-07-19 22:32 J -29291023.61 -29291023.56 -29291023.51 0.3629 0.3296

Mars -84907-06-30 23:30 J -29290677.62 -29290677.52 -29290677.41 0.1822 0.1300

Saturn -84906-04-23 18:56 J -29290380.75 -29290380.71 -29290380.66 0.0271 0.0255

Mars -84906-04-25 18:42 J -29290378.82 -29290378.72 -29290378.62 0.1717 0.0957

Saturn -84906-07-21 05:59 J -29290292.35 -29290292.25 -29290292.14 0.0271 0.0166

Saturn -84906-10-17 17:16 J -29290203.91 -29290203.78 -29290203.64 0.0270 0.0075

Saturn -84905-01-14 04:47 J -29290115.44 -29290115.30 -29290115.16 0.0270 0.0017

Saturn -84905-04-11 16:18 J -29290026.94 -29290026.82 -29290026.69 0.0270 0.0110

Venus -84905-04-12 19:11 J -29290025.78 -29290025.70 -29290025.63 0.3773 0.2699

Saturn -84905-07-09 04:04 J -29289938.42 -29289938.33 -29289938.24 0.0270 0.0204

Moon -84905-08-28 16:47 J -29289887.94 -29289887.80 -29289887.66 0.2583 0.0711

Earth -84905-08-28 18:13 J -29289887.88 -29289887.74 -29289887.59 0.2583 0.0538 *

Neptune -84905-11-18 09:35 J -29289806.13 -29289806.10 -29289806.03 0.0089 0.0086

Neptune -84904-02-14 12:56 J -29289718.02 -29289717.96 -29289717.85 0.0089 0.0080

Jupiter -84904-03-25 10:18 J -29289679.11 -29289679.07 -29289679.02 0.0537 0.0500

Mars -84904-03-31 06:42 J -29289673.28 -29289673.22 -29289673.17 0.1689 0.1503

Neptune -84904-05-13 17:01 J -29289629.90 -29289629.79 -29289629.68 0.0089 0.0073

Jupiter -84904-06-22 18:56 J -29289589.84 -29289589.71 -29289589.58 0.0535 0.0050

Neptune -84904-08-09 20:23 J -29289541.77 -29289541.65 -29289541.52 0.0089 0.0067

Jupiter -84904-09-20 04:18 J -29289500.40 -29289500.32 -29289500.23 0.0532 0.0411

Neptune -84904-11-05 23:44 J -29289453.64 -29289453.51 -29289453.37 0.0089 0.0061

Neptune -84903-02-02 03:06 J -29289365.51 -29289365.37 -29289365.21 0.0089 0.0055

Neptune -84903-05-01 06:28 J -29289277.38 -29289277.23 -29289277.06 0.0089 0.0049

Neptune -84903-07-28 09:49 J -29289189.24 -29289189.09 -29289188.91 0.0089 0.0043

Neptune -84903-10-24 13:25 J -29289101.11 -29289100.94 -29289100.76 0.0089 0.0037

Neptune -84902-01-20 16:47 J -29289012.97 -29289012.80 -29289012.62 0.0089 0.0031

Moon -84902-03-02 23:44 J -29288971.59 -29288971.51 -29288971.44 0.2753 0.2056

Earth -84902-03-03 00:28 J -29288971.54 -29288971.48 -29288971.41 0.2753 0.2232 *

Neptune -84902-04-18 20:08 J -29288924.83 -29288924.66 -29288924.47 0.0089 0.0025

Neptune -84902-07-15 23:30 J -29288836.70 -29288836.52 -29288836.33 0.0089 0.0019

Neptune -84902-10-12 02:52 J -29288748.56 -29288748.38 -29288748.19 0.0089 0.0013

Neptune -84901-01-08 06:28 J -29288660.42 -29288660.23 -29288660.04 0.0089 0.0006

Neptune -84901-04-05 09:49 J -29288572.28 -29288572.09 -29288571.91 0.0089 0.0002

Neptune -84901-07-02 12:56 J -29288484.14 -29288483.96 -29288483.77 0.0089 0.0006

Neptune -84901-09-28 16:18 J -29288396.00 -29288395.82 -29288395.63 0.0089 0.0012

Neptune -84901-12-25 19:40 J -29288307.86 -29288307.68 -29288307.49 0.0089 0.0018

Neptune -84900-03-23 22:47 J -29288219.72 -29288219.55 -29288219.36 0.0089 0.0024

Neptune -84900-06-20 02:08 J -29288131.58 -29288131.41 -29288131.23 0.0089 0.0030

Neptune -84900-09-16 05:16 J -29288043.44 -29288043.28 -29288043.10 0.0089 0.0036

Venus -84900-10-27 13:40 J -29288002.03 -29288001.93 -29288001.84 0.3770 0.1887

Neptune -84900-12-13 08:37 J -29287955.29 -29287955.14 -29287954.97 0.0088 0.0041

Neptune -84899-03-11 11:44 J -29287867.15 -29287867.01 -29287866.84 0.0088 0.0048

Neptune -84899-06-07 15:20 J -29287779.01 -29287778.86 -29287778.71 0.0088 0.0053

Neptune -84899-09-03 18:28 J -29287690.86 -29287690.73 -29287690.59 0.0088 0.0059

Neptune -84899-11-30 21:35 J -29287602.72 -29287602.60 -29287602.46 0.0088 0.0065

Neptune -84898-02-27 00:42 J -29287514.57 -29287514.47 -29287514.35 0.0088 0.0071

Neptune -84898-05-26 04:18 J -29287426.41 -29287426.32 -29287426.23 0.0088 0.0076

Jupiter -84898-08-20 18:42 J -29287339.89 -29287339.72 -29287339.55 0.0493 0.0146

Neptune -84898-08-22 07:11 J -29287338.26 -29287338.20 -29287338.12 0.0088 0.0082

Neptune -84898-11-18 10:18 J -29287250.08 -29287250.07 -29287250.03 0.0088 0.0088

Jupiter -84898-11-18 22:04 J -29287249.70 -29287249.58 -29287249.45 0.0495 0.0347

Mars -84897-09-15 03:49 J -29286948.39 -29286948.34 -29286948.29 0.1724 0.1556

Earth -84895-02-23 18:56 J -29286421.79 -29286421.71 -29286421.62 0.2755 0.1691

Moon -84895-02-23 19:25 J -29286421.78 -29286421.69 -29286421.59 0.2750 0.1598 *

Mars -84895-08-21 15:35 J -29286242.95 -29286242.85 -29286242.74 0.1696 0.0914

Venus -84894-05-13 08:08 J -29285978.26 -29285978.16 -29285978.05 0.3766 0.1049

Jupiter -84892-04-10 22:47 J -29285279.67 -29285279.55 -29285279.42 0.0535 0.0157

Jupiter -84892-07-09 08:08 J -29285190.27 -29285190.16 -29285190.05 0.0533 0.0302

Moon -84892-08-31 19:54 J -29285136.79 -29285136.67 -29285136.54 0.2589 0.1301

Earth -84892-08-31 20:52 J -29285136.76 -29285136.63 -29285136.51 0.2583 0.1317 *

Saturn -84891-08-17 05:01 J -29284786.36 -29284786.29 -29284786.22 0.0289 0.0264

Saturn -84891-11-14 03:20 J -29284697.52 -29284697.36 -29284697.19 0.0289 0.0115

Saturn -84890-02-11 01:25 J -29284608.62 -29284608.44 -29284608.27 0.0289 0.0031

Saturn -84890-05-10 22:47 J -29284519.68 -29284519.55 -29284519.40 0.0290 0.0176

Venus -84889-11-26 03:06 J -29283954.48 -29283954.37 -29283954.26 0.3763 0.0192

Mars -84886-03-19 23:59 J -29283110.63 -29283110.50 -29283110.37 0.1840 0.0984

Jupiter -84886-06-08 17:16 J -29283029.93 -29283029.78 -29283029.63 0.0492 0.0269

Jupiter -84886-09-06 21:06 J -29282939.77 -29282939.62 -29282939.46 0.0494 0.0227

Mars -84885-01-12 00:42 J -29282812.59 -29282812.47 -29282812.35 0.1703 0.0320

Venus -84885-11-25 02:08 J -29282494.47 -29282494.41 -29282494.34 0.3606 0.3072

Venus -84883-06-11 22:04 J -29281930.69 -29281930.58 -29281930.46 0.3759 0.0728

Moon -84882-02-26 14:08 J -29281671.02 -29281670.91 -29281670.79 0.2747 0.0345

Earth -84882-02-26 14:23 J -29281671.01 -29281670.90 -29281670.79 0.2755 0.0309 *

Jupiter -84880-01-28 02:52 J -29280969.49 -29280969.38 -29280969.27 0.0536 0.0263

Jupiter -84880-04-27 11:44 J -29280880.13 -29280880.01 -29280879.88 0.0533 0.0194

Venus -84879-06-11 02:23 J -29280470.51 -29280470.40 -29280470.28 0.3610 0.1859

Venus -84878-12-26 17:30 J -29279906.88 -29279906.77 -29279906.67 0.3755 0.1630

Mars -84877-08-08 23:59 J -29279680.65 -29279680.50 -29279680.35 0.1831 0.0105

Saturn -84877-12-07 07:11 J -29279560.28 -29279560.20 -29279560.10 0.0271 0.0201

Saturn -84876-03-05 18:28 J -29279471.85 -29279471.73 -29279471.60 0.0270 0.0110

Saturn -84876-06-02 05:59 J -29279383.39 -29279383.25 -29279383.12 0.0270 0.0020

Mars -84876-06-03 09:49 J -29279382.21 -29279382.09 -29279381.97 0.1710 0.0273

Saturn -84876-08-29 17:16 J -29279294.91 -29279294.78 -29279294.64 0.0270 0.0074

Saturn -84876-11-26 05:01 J -29279206.40 -29279206.29 -29279206.18 0.0270 0.0167

Saturn -84875-02-22 16:32 J -29279117.83 -29279117.81 -29279117.77 0.0270 0.0261

Jupiter -84874-03-27 15:35 J -29278719.95 -29278719.85 -29278719.74 0.0492 0.0395

Jupiter -84874-06-25 19:54 J -29278629.84 -29278629.67 -29278629.50 0.0494 0.0104

Venus -84874-12-26 02:23 J -29278446.53 -29278446.40 -29278446.27 0.3613 0.0674

Venus -84872-07-11 12:56 J -29277883.04 -29277882.96 -29277882.87 0.3751 0.2580

Moon -84872-08-26 20:08 J -29277836.74 -29277836.66 -29277836.58 0.2580 0.2119

Earth -84872-08-26 21:35 J -29277836.69 -29277836.60 -29277836.51 0.2582 0.2047 *

Moon -84869-02-29 09:20 J -29276920.22 -29276920.11 -29276920.01 0.2750 0.0995

Earth -84869-02-29 09:49 J -29276920.19 -29276920.09 -29276919.98 0.2754 0.1104 *

Uranus -84869-05-25 14:52 J -29276833.90 -29276833.88 -29276833.85 0.0139 0.0136

Uranus -84869-08-21 18:28 J -29276745.79 -29276745.73 -29276745.65 0.0139 0.0120

Jupiter -84869-11-16 06:28 J -29276659.32 -29276659.23 -29276659.14 0.0536 0.0373

Uranus -84869-11-17 22:04 J -29276657.66 -29276657.58 -29276657.48 0.0139 0.0103

Jupiter -84868-02-13 15:20 J -29276569.99 -29276569.86 -29276569.73 0.0534 0.0081

Uranus -84868-02-14 01:54 J -29276569.52 -29276569.42 -29276569.31 0.0139 0.0085

Uranus -84868-05-13 05:30 J -29276481.38 -29276481.27 -29276481.14 0.0140 0.0068

Venus -84868-07-11 01:54 J -29276422.55 -29276422.42 -29276422.29 0.3617 0.0462

Uranus -84868-08-09 09:20 J -29276393.23 -29276393.11 -29276392.98 0.0140 0.0050

Uranus -84868-11-05 13:11 J -29276305.08 -29276304.95 -29276304.81 0.0140 0.0032

Mars -84868-12-30 00:13 J -29276250.61 -29276250.49 -29276250.37 0.1823 0.1169

Uranus -84867-02-01 17:01 J -29276216.93 -29276216.79 -29276216.65 0.0140 0.0014

Uranus -84867-04-30 20:52 J -29276128.77 -29276128.63 -29276128.49 0.0140 0.0004

Uranus -84867-07-28 00:42 J -29276040.61 -29276040.47 -29276040.33 0.0140 0.0023

Uranus -84867-10-24 04:32 J -29275952.44 -29275952.31 -29275952.17 0.0140 0.0041

Mars -84867-10-24 18:56 J -29275951.82 -29275951.71 -29275951.61 0.1716 0.0872

Uranus -84866-01-20 08:37 J -29275864.27 -29275864.14 -29275864.02 0.0141 0.0060

Venus -84866-01-25 08:52 J -29275859.16 -29275859.13 -29275859.10 0.3746 0.3546

Uranus -84866-04-18 12:28 J -29275776.09 -29275775.98 -29275775.86 0.0141 0.0079

Uranus -84866-07-15 16:18 J -29275687.91 -29275687.82 -29275687.71 0.0141 0.0098

Uranus -84866-10-11 20:23 J -29275599.72 -29275599.65 -29275599.57 0.0141 0.0117

Uranus -84865-01-08 00:28 J -29275511.51 -29275511.48 -29275511.44 0.0141 0.0136

Mars -84865-09-29 06:42 J -29275246.25 -29275246.22 -29275246.18 0.1689 0.1594

Venus -84862-01-25 00:56 J -29274398.58 -29274398.46 -29274398.34 0.3622 0.1541

Moon -84862-02-22 05:30 J -29274370.30 -29274370.27 -29274370.23 0.2753 0.2592

Jupiter -84862-04-13 19:11 J -29274319.88 -29274319.70 -29274319.53 0.0493 0.0017

Jupiter -84862-07-12 22:04 J -29274229.62 -29274229.58 -29274229.53 0.0496 0.0476

Saturn -84861-04-02 00:28 J -29273965.62 -29273965.48 -29273965.33 0.0289 0.0168

Saturn -84861-06-29 22:47 J -29273876.72 -29273876.55 -29273876.37 0.0289 0.0020

Saturn -84861-09-26 20:37 J -29273787.79 -29273787.64 -29273787.48 0.0289 0.0126

Saturn -84861-12-24 17:59 J -29273698.81 -29273698.75 -29273698.69 0.0290 0.0268

Moon -84859-08-29 23:01 J -29273085.69 -29273085.54 -29273085.39 0.2584 0.0281

Earth -84859-08-30 00:28 J -29273085.63 -29273085.48 -29273085.34 0.2583 0.0158 *

Mars -84857-03-16 04:04 J -29272521.39 -29272521.33 -29272521.27 0.1724 0.1474

Venus -84857-08-09 23:30 J -29272374.61 -29272374.52 -29272374.43 0.3626 0.2578

Jupiter -84857-09-04 09:06 J -29272349.16 -29272349.12 -29272349.07 0.0537 0.0496

Jupiter -84857-12-02 17:44 J -29272259.89 -29272259.76 -29272259.62 0.0534 0.0048

Jupiter -84856-03-02 03:06 J -29272170.45 -29272170.37 -29272170.28 0.0532 0.0413

Moon -84856-03-03 04:47 J -29272169.35 -29272169.30 -29272169.26 0.2753 0.2489

Earth -84856-03-03 05:30 J -29272169.31 -29272169.27 -29272169.22 0.2752 0.2528 *

Mars -84855-02-19 15:49 J -29271815.94 -29271815.84 -29271815.74 0.1695 0.0998

Venus -84854-05-04 23:01 J -29271376.59 -29271376.54 -29271376.49 0.3776 0.3281

Venus -84851-02-23 21:49 J -29270350.61 -29270350.59 -29270350.57 0.3630 0.3572

Jupiter -84850-01-30 17:59 J -29270009.92 -29270009.75 -29270009.58 0.0493 0.0135

Jupiter -84850-04-30 21:35 J -29269919.72 -29269919.60 -29269919.48 0.0495 0.0358

Earth -84849-02-24 23:59 J -29269619.59 -29269619.50 -29269619.40 0.2755 0.1408

Moon -84849-02-25 00:13 J -29269619.58 -29269619.49 -29269619.39 0.2749 0.1424 *

Venus -84849-11-17 17:16 J -29269352.86 -29269352.78 -29269352.70 0.3773 0.2485

Saturn -84847-04-26 10:32 J -29268828.14 -29268828.06 -29268827.98 0.0271 0.0220

Saturn -84847-07-23 21:49 J -29268739.71 -29268739.59 -29268739.47 0.0270 0.0130

Mars -84847-09-18 00:28 J -29268683.60 -29268683.48 -29268683.36 0.1840 0.1102

Saturn -84847-10-20 09:06 J -29268651.26 -29268651.12 -29268650.99 0.0270 0.0039

Saturn -84846-01-16 20:23 J -29268562.78 -29268562.65 -29268562.51 0.0270 0.0054

Saturn -84846-04-15 07:54 J -29268474.28 -29268474.17 -29268474.05 0.0270 0.0147

Saturn -84846-07-12 19:40 J -29268385.74 -29268385.68 -29268385.62 0.0269 0.0241

Mars -84846-07-13 00:42 J -29268385.59 -29268385.47 -29268385.35 0.1702 0.0407

Moon -84846-09-02 01:54 J -29268334.53 -29268334.42 -29268334.30 0.2589 0.1584

Earth -84846-09-02 02:37 J -29268334.50 -29268334.39 -29268334.28 0.2584 0.1696 *

Jupiter -84845-09-20 21:20 J -29267949.74 -29267949.61 -29267949.49 0.0535 0.0159

Jupiter -84845-12-19 06:28 J -29267860.34 -29267860.23 -29267860.12 0.0533 0.0299

Venus -84843-06-03 11:44 J -29267329.11 -29267329.01 -29267328.91 0.3769 0.1663

Jupiter -84839-11-18 16:18 J -29265699.97 -29265699.82 -29265699.67 0.0492 0.0262

Jupiter -84838-02-16 20:08 J -29265609.82 -29265609.66 -29265609.51 0.0494 0.0234

Venus -84838-12-18 06:28 J -29265305.34 -29265305.23 -29265305.12 0.3766 0.0815

Mars -84837-02-08 00:42 J -29265253.62 -29265253.47 -29265253.32 0.1832 0.0031

Mars -84837-12-02 09:49 J -29264955.21 -29264955.09 -29264954.97 0.1709 0.0195

Moon -84836-02-26 19:11 J -29264868.81 -29264868.70 -29264868.58 0.2747 0.0043

Earth -84836-02-26 19:25 J -29264868.80 -29264868.69 -29264868.58 0.2754 0.0033 *

Jupiter -84833-07-10 01:11 J -29263639.57 -29263639.45 -29263639.34 0.0536 0.0267

Jupiter -84833-10-07 10:04 J -29263550.20 -29263550.08 -29263549.95 0.0533 0.0190

Venus -84832-07-03 01:25 J -29263281.55 -29263281.44 -29263281.33 0.3762 0.0069

Saturn -84832-08-19 23:01 J -29263233.65 -29263233.54 -29263233.42 0.0289 0.0214

Saturn -84832-11-16 21:20 J -29263144.78 -29263144.61 -29263144.43 0.0289 0.0066

Saturn -84831-02-13 19:11 J -29263055.86 -29263055.70 -29263055.53 0.0290 0.0081

Saturn -84831-05-13 16:32 J -29262966.91 -29262966.81 -29262966.69 0.0290 0.0225

Uranus -84829-01-15 19:25 J -29262354.77 -29262354.69 -29262354.58 0.0139 0.0118

Uranus -84829-04-13 02:37 J -29262266.52 -29262266.39 -29262266.26 0.0139 0.0094

Uranus -84829-07-10 09:20 J -29262178.26 -29262178.11 -29262177.95 0.0139 0.0071

Uranus -84829-10-06 16:04 J -29262089.99 -29262089.83 -29262089.65 0.0139 0.0048

Uranus -84828-01-02 23:01 J -29262001.71 -29262001.54 -29262001.36 0.0139 0.0024

Uranus -84828-04-01 05:44 J -29261913.44 -29261913.26 -29261913.08 0.0138 0.0002

Uranus -84828-06-28 12:28 J -29261825.16 -29261824.98 -29261824.80 0.0138 0.0021

Mars -84828-06-30 00:42 J -29261823.60 -29261823.47 -29261823.35 0.1823 0.1055

Venus -84828-07-02 01:54 J -29261821.50 -29261821.42 -29261821.33 0.3607 0.2749

Uranus -84828-09-24 18:56 J -29261736.88 -29261736.71 -29261736.54 0.0138 0.0044

Uranus -84828-12-22 01:25 J -29261648.59 -29261648.44 -29261648.28 0.0138 0.0066

Uranus -84827-03-20 07:54 J -29261560.30 -29261560.17 -29261560.03 0.0138 0.0088

Mars -84827-04-24 18:56 J -29261524.82 -29261524.71 -29261524.60 0.1717 0.0792

Uranus -84827-06-16 14:08 J -29261472.00 -29261471.91 -29261471.79 0.0138 0.0110

Jupiter -84827-09-06 14:37 J -29261390.00 -29261389.89 -29261389.78 0.0492 0.0386

Uranus -84827-09-12 20:37 J -29261383.69 -29261383.64 -29261383.58 0.0138 0.0131

Jupiter -84827-12-05 18:56 J -29261299.88 -29261299.71 -29261299.54 0.0494 0.0112

Venus -84826-01-16 20:37 J -29261257.75 -29261257.64 -29261257.53 0.3758 0.0967

Moon -84826-08-28 02:08 J -29261034.51 -29261034.41 -29261034.30 0.2580 0.1875

Earth -84826-08-28 03:35 J -29261034.46 -29261034.35 -29261034.23 0.2582 0.1651 *

Mars -84825-03-30 06:56 J -29260819.23 -29260819.21 -29260819.20 0.1689 0.1673

Neptune -84823-02-25 00:28 J -29260122.49 -29260122.48 -29260122.45 0.0089 0.0088

Moon -84823-03-01 14:08 J -29260118.01 -29260117.91 -29260117.81 0.2751 0.1288

Earth -84823-03-01 14:52 J -29260117.97 -29260117.88 -29260117.78 0.2753 0.1391 *

Neptune -84823-05-24 02:08 J -29260034.45 -29260034.41 -29260034.37 0.0089 0.0083

Neptune -84823-08-20 03:20 J -29259946.41 -29259946.36 -29259946.29 0.0089 0.0079

Neptune -84823-11-16 04:47 J -29259858.37 -29259858.30 -29259858.23 0.0089 0.0075

Venus -84822-01-16 02:23 J -29259797.53 -29259797.40 -29259797.28 0.3611 0.1535

Neptune -84822-02-12 05:59 J -29259770.32 -29259770.25 -29259770.16 0.0089 0.0071

Neptune -84822-05-11 07:25 J -29259682.27 -29259682.19 -29259682.09 0.0089 0.0067

Neptune -84822-08-07 09:06 J -29259594.22 -29259594.12 -29259594.03 0.0089 0.0062

Neptune -84822-11-03 10:18 J -29259506.16 -29259506.07 -29259505.96 0.0089 0.0058

Neptune -84821-01-30 11:44 J -29259418.11 -29259418.01 -29259417.90 0.0089 0.0054

Neptune -84821-04-27 12:56 J -29259330.06 -29259329.96 -29259329.84 0.0089 0.0050

Jupiter -84821-04-28 05:01 J -29259329.38 -29259329.29 -29259329.19 0.0537 0.0373

Neptune -84821-07-24 14:37 J -29259242.00 -29259241.89 -29259241.77 0.0089 0.0045

Jupiter -84821-07-26 13:54 J -29259240.05 -29259239.92 -29259239.79 0.0534 0.0084

Venus -84821-08-01 16:04 J -29259233.93 -29259233.83 -29259233.74 0.3754 0.1896

Neptune -84821-10-20 15:49 J -29259153.95 -29259153.84 -29259153.71 0.0089 0.0041

Neptune -84820-01-16 17:16 J -29259065.89 -29259065.78 -29259065.65 0.0089 0.0037

Neptune -84820-04-14 18:56 J -29258977.84 -29258977.71 -29258977.59 0.0089 0.0032

Neptune -84820-07-11 20:08 J -29258889.78 -29258889.66 -29258889.52 0.0089 0.0028

Neptune -84820-10-07 21:35 J -29258801.72 -29258801.60 -29258801.46 0.0089 0.0024

Neptune -84819-01-03 23:16 J -29258713.67 -29258713.53 -29258713.40 0.0089 0.0019

Neptune -84819-04-02 00:28 J -29258625.61 -29258625.48 -29258625.34 0.0089 0.0015

Neptune -84819-06-29 01:54 J -29258537.55 -29258537.42 -29258537.28 0.0089 0.0011

Neptune -84819-09-25 03:20 J -29258449.49 -29258449.36 -29258449.22 0.0089 0.0007

Neptune -84819-12-22 05:01 J -29258361.43 -29258361.29 -29258361.16 0.0089 0.0003

Neptune -84818-03-20 06:28 J -29258273.37 -29258273.23 -29258273.10 0.0089 0.0004

Neptune -84818-06-16 07:40 J -29258185.31 -29258185.18 -29258185.04 0.0089 0.0008

Neptune -84818-09-12 09:20 J -29258097.25 -29258097.11 -29258096.98 0.0089 0.0012

Saturn -84818-09-13 11:44 J -29258096.05 -29258096.01 -29258095.97 0.0271 0.0255

Mars -84818-09-15 04:18 J -29258094.40 -29258094.32 -29258094.25 0.1724 0.1389

Neptune -84818-12-09 10:47 J -29258009.19 -29258009.05 -29258008.92 0.0089 0.0016

Saturn -84818-12-10 22:47 J -29258007.65 -29258007.55 -29258007.44 0.0270 0.0165

Neptune -84817-03-06 11:59 J -29257921.13 -29257921.00 -29257920.86 0.0089 0.0021

Saturn -84817-03-08 10:04 J -29257919.21 -29257919.08 -29257918.95 0.0270 0.0075

Neptune -84817-06-02 13:40 J -29257833.06 -29257832.93 -29257832.80 0.0089 0.0025

Saturn -84817-06-04 21:20 J -29257830.74 -29257830.61 -29257830.47 0.0270 0.0019

Venus -84817-08-01 01:54 J -29257773.55 -29257773.42 -29257773.28 0.3614 0.0379

Neptune -84817-08-29 14:52 J -29257745.00 -29257744.88 -29257744.74 0.0089 0.0030

Saturn -84817-09-01 08:52 J -29257742.25 -29257742.13 -29257742.00 0.0270 0.0110

Neptune -84817-11-25 16:32 J -29257656.94 -29257656.81 -29257656.68 0.0089 0.0034

Saturn -84817-11-28 20:23 J -29257653.73 -29257653.65 -29257653.55 0.0270 0.0204

Neptune -84816-02-21 17:44 J -29257568.87 -29257568.76 -29257568.62 0.0089 0.0039

Earth -84816-02-22 09:49 J -29257568.14 -29257568.09 -29257568.04 0.2755 0.2479

Moon -84816-02-22 10:32 J -29257568.11 -29257568.06 -29257568.01 0.2753 0.2458 *

Neptune -84816-05-20 19:25 J -29257480.81 -29257480.69 -29257480.57 0.0089 0.0043

Neptune -84816-08-16 20:37 J -29257392.74 -29257392.64 -29257392.51 0.0089 0.0048

Mars -84816-08-20 15:49 J -29257388.93 -29257388.84 -29257388.74 0.1695 0.1085

Neptune -84816-11-12 22:18 J -29257304.67 -29257304.57 -29257304.45 0.0089 0.0052

Neptune -84815-02-08 23:59 J -29257216.60 -29257216.50 -29257216.39 0.0089 0.0056

Venus -84815-02-15 11:30 J -29257210.09 -29257210.02 -29257209.94 0.3749 0.2848

Pluto -84815-03-08 21:06 J -29257188.63 -29257188.62 -29257188.56 0.0060 0.0060

Neptune -84815-05-08 01:11 J -29257128.54 -29257128.45 -29257128.34 0.0089 0.0061

Pluto -84815-06-04 22:32 J -29257100.62 -29257100.56 -29257100.45 0.0060 0.0054

Neptune -84815-08-04 02:52 J -29257040.47 -29257040.38 -29257040.28 0.0089 0.0065

Pluto -84815-08-31 23:59 J -29257012.60 -29257012.50 -29257012.36 0.0060 0.0048

Jupiter -84815-09-23 17:30 J -29256989.94 -29256989.77 -29256989.59 0.0493 0.0016

Neptune -84815-10-31 04:18 J -29256952.40 -29256952.32 -29256952.23 0.0089 0.0070

Pluto -84815-11-28 01:54 J -29256924.56 -29256924.42 -29256924.28 0.0060 0.0041

Jupiter -84815-12-22 20:52 J -29256899.67 -29256899.63 -29256899.59 0.0496 0.0479

Neptune -84814-01-27 05:59 J -29256864.32 -29256864.25 -29256864.17 0.0089 0.0074

Pluto -84814-02-24 03:06 J -29256836.52 -29256836.37 -29256836.20 0.0061 0.0035

Neptune -84814-04-25 07:11 J -29256776.25 -29256776.20 -29256776.12 0.0089 0.0079

Pluto -84814-05-23 04:32 J -29256748.47 -29256748.31 -29256748.13 0.0061 0.0029

Neptune -84814-07-22 09:06 J -29256688.17 -29256688.12 -29256688.08 0.0089 0.0083

Pluto -84814-08-19 06:13 J -29256660.42 -29256660.24 -29256660.06 0.0061 0.0022

Neptune -84814-10-18 10:18 J -29256600.08 -29256600.07 -29256600.04 0.0089 0.0088

Pluto -84814-11-15 07:40 J -29256572.36 -29256572.18 -29256571.99 0.0061 0.0016

Pluto -84813-02-11 09:06 J -29256484.31 -29256484.12 -29256483.92 0.0061 0.0009

Pluto -84813-05-09 10:32 J -29256396.25 -29256396.06 -29256395.86 0.0061 0.0003

Pluto -84813-08-05 11:59 J -29256308.19 -29256308.00 -29256307.80 0.0061 0.0004

Moon -84813-08-30 05:16 J -29256283.43 -29256283.28 -29256283.14 0.2586 0.0167

Earth -84813-08-30 06:28 J -29256283.38 -29256283.23 -29256283.09 0.2583 0.0244 *

Pluto -84813-11-01 13:25 J -29256220.13 -29256219.94 -29256219.74 0.0061 0.0010

Pluto -84812-01-28 14:52 J -29256132.06 -29256131.88 -29256131.68 0.0061 0.0016

Pluto -84812-04-26 16:18 J -29256043.99 -29256043.82 -29256043.63 0.0061 0.0023

Pluto -84812-07-23 17:44 J -29255955.92 -29255955.76 -29255955.58 0.0061 0.0030

Pluto -84812-10-19 18:56 J -29255867.84 -29255867.71 -29255867.53 0.0061 0.0037

Pluto -84811-01-15 20:52 J -29255779.76 -29255779.63 -29255779.49 0.0061 0.0043

Venus -84811-02-15 01:25 J -29255749.57 -29255749.44 -29255749.32 0.3618 0.0764

Pluto -84811-04-13 22:04 J -29255691.68 -29255691.58 -29255691.45 0.0061 0.0050

Pluto -84811-07-10 23:59 J -29255603.58 -29255603.50 -29255603.42 0.0061 0.0056

Moon -84810-03-04 09:49 J -29255367.11 -29255367.09 -29255367.07 0.2754 0.2679

Jupiter -84809-02-15 08:52 J -29255019.18 -29255019.13 -29255019.07 0.0537 0.0481

Jupiter -84809-05-14 17:30 J -29254929.90 -29254929.77 -29254929.64 0.0534 0.0031

Jupiter -84809-08-12 02:52 J -29254840.45 -29254840.38 -29254840.30 0.0532 0.0430

Mars -84807-03-19 00:42 J -29254256.58 -29254256.47 -29254256.35 0.1841 0.1218

Mars -84806-01-11 00:56 J -29253958.58 -29253958.46 -29253958.34 0.1702 0.0489

Venus -84806-09-01 00:13 J -29253725.60 -29253725.49 -29253725.37 0.3623 0.1836

Moon -84803-02-25 05:16 J -29252817.39 -29252817.28 -29252817.18 0.2748 0.1032

Earth -84803-02-25 05:01 J -29252817.39 -29252817.29 -29252817.18 0.2755 0.1124 *

Jupiter -84803-07-12 16:47 J -29252679.97 -29252679.80 -29252679.63 0.0493 0.0130

Jupiter -84803-10-10 20:08 J -29252589.77 -29252589.66 -29252589.54 0.0495 0.0364

Saturn -84802-01-06 19:25 J -29252501.74 -29252501.69 -29252501.62 0.0289 0.0271

Saturn -84802-04-05 18:13 J -29252412.90 -29252412.74 -29252412.58 0.0289 0.0121

Saturn -84802-07-03 16:18 J -29252324.00 -29252323.82 -29252323.65 0.0289 0.0026

Saturn -84802-09-30 13:54 J -29252235.06 -29252234.92 -29252234.78 0.0290 0.0171

Venus -84800-03-16 22:47 J -29251701.63 -29251701.55 -29251701.47 0.3627 0.2863

Moon -84800-09-02 08:08 J -29251532.25 -29251532.16 -29251532.07 0.2589 0.2044

Earth -84800-09-02 08:52 J -29251532.22 -29251532.13 -29251532.05 0.2584 0.2075 *

Mars -84798-08-09 01:11 J -29250826.60 -29250826.45 -29250826.30 0.1832 0.0159

Venus -84798-12-09 21:06 J -29250703.68 -29250703.62 -29250703.56 0.3775 0.3075

Jupiter -84797-03-02 20:08 J -29250619.78 -29250619.66 -29250619.53 0.0535 0.0154

Jupiter -84797-05-31 05:16 J -29250530.39 -29250530.28 -29250530.17 0.0532 0.0303

Mars -84797-06-02 09:49 J -29250528.21 -29250528.09 -29250527.96 0.1709 0.0126

Venus -84792-06-24 15:35 J -29248679.94 -29248679.85 -29248679.77 0.3772 0.2267

Jupiter -84791-04-30 15:35 J -29248370.00 -29248369.85 -29248369.69 0.0492 0.0250

Jupiter -84791-07-29 19:25 J -29248279.84 -29248279.69 -29248279.53 0.0495 0.0247

Moon -84790-02-28 00:13 J -29248066.61 -29248066.49 -29248066.38 0.2748 0.0207

Earth -84790-02-28 00:28 J -29248066.59 -29248066.48 -29248066.37 0.2754 0.0266 *

Mars -84789-12-29 01:25 J -29247396.58 -29247396.44 -29247396.31 0.1823 0.0927

Saturn -84788-04-29 01:54 J -29247275.52 -29247275.42 -29247275.32 0.0271 0.0186

Saturn -84788-07-26 13:11 J -29247187.08 -29247186.95 -29247186.82 0.0270 0.0095

Saturn -84788-10-23 00:28 J -29247098.62 -29247098.48 -29247098.34 0.0270 0.0004

Mars -84788-10-23 19:11 J -29247097.82 -29247097.70 -29247097.59 0.1716 0.0710

Saturn -84787-01-19 11:59 J -29247010.13 -29247010.00 -29247009.87 0.0270 0.0089

Saturn -84787-04-17 23:30 J -29246921.62 -29246921.52 -29246921.42 0.0270 0.0182

Venus -84786-01-08 10:04 J -29246656.18 -29246656.08 -29246655.98 0.3768 0.1435

Jupiter -84786-12-20 23:30 J -29246309.63 -29246309.52 -29246309.40 0.0536 0.0268

Jupiter -84785-03-19 08:37 J -29246220.26 -29246220.14 -29246220.02 0.0533 0.0189

Uranus -84785-06-14 22:04 J -29246132.61 -29246132.58 -29246132.54 0.0139 0.0133

Uranus -84785-09-11 01:40 J -29246044.50 -29246044.43 -29246044.35 0.0139 0.0116

Uranus -84785-12-08 05:16 J -29245956.37 -29245956.28 -29245956.18 0.0139 0.0099

Uranus -84784-03-06 09:06 J -29245868.23 -29245868.12 -29245868.01 0.0139 0.0082

Uranus -84784-06-02 12:42 J -29245780.09 -29245779.97 -29245779.84 0.0140 0.0064

Uranus -84784-08-29 16:32 J -29245691.94 -29245691.81 -29245691.68 0.0140 0.0047

Uranus -84784-11-25 20:23 J -29245603.79 -29245603.65 -29245603.52 0.0140 0.0029

Uranus -84783-02-22 00:13 J -29245515.63 -29245515.49 -29245515.36 0.0140 0.0011

Uranus -84783-05-21 03:49 J -29245427.47 -29245427.34 -29245427.20 0.0140 0.0009

Uranus -84783-08-17 07:40 J -29245339.31 -29245339.18 -29245339.04 0.0140 0.0027

Uranus -84783-11-13 11:44 J -29245251.14 -29245251.01 -29245250.88 0.0140 0.0045

Uranus -84782-02-09 15:35 J -29245162.97 -29245162.85 -29245162.72 0.0141 0.0063

Uranus -84782-05-08 19:40 J -29245074.80 -29245074.68 -29245074.57 0.0141 0.0082

Uranus -84782-08-04 23:30 J -29244986.61 -29244986.52 -29244986.42 0.0141 0.0101

Uranus -84782-11-01 03:35 J -29244898.42 -29244898.35 -29244898.28 0.0141 0.0120

Uranus -84781-01-28 07:40 J -29244810.20 -29244810.18 -29244810.16 0.0141 0.0139

Venus -84781-07-24 04:47 J -29244632.41 -29244632.30 -29244632.19 0.3765 0.0578

Moon -84780-08-28 08:23 J -29244232.28 -29244232.15 -29244232.02 0.2581 0.1306

Earth -84780-08-28 09:49 J -29244232.22 -29244232.09 -29244231.96 0.2582 0.1252 *

Jupiter -84779-02-16 13:40 J -29244060.04 -29244059.93 -29244059.81 0.0492 0.0378

Jupiter -84779-05-17 17:59 J -29243969.92 -29243969.75 -29243969.58 0.0494 0.0120

Mars -84778-03-16 04:04 J -29243667.40 -29243667.33 -29243667.25 0.1724 0.1315

Moon -84777-03-01 19:11 J -29243315.79 -29243315.70 -29243315.61 0.2751 0.1584

Earth -84777-03-01 19:54 J -29243315.76 -29243315.67 -29243315.58 0.2753 0.1681 *

Mars -84776-02-18 15:49 J -29242961.92 -29242961.84 -29242961.74 0.1695 0.1167

Venus -84775-02-06 23:44 J -29242608.62 -29242608.51 -29242608.39 0.3761 0.0317

Jupiter -84774-10-09 03:20 J -29241999.45 -29241999.36 -29241999.26 0.0537 0.0376

Jupiter -84773-01-06 12:13 J -29241910.12 -29241909.99 -29241909.86 0.0534 0.0080

Saturn -84773-08-22 16:32 J -29241680.94 -29241680.81 -29241680.66 0.0289 0.0168

Saturn -84773-11-19 14:52 J -29241592.05 -29241591.88 -29241591.70 0.0289 0.0020

Saturn -84772-02-16 12:42 J -29241503.12 -29241502.97 -29241502.81 0.0290 0.0127

Saturn -84772-05-16 10:04 J -29241414.13 -29241414.08 -29241414.02 0.0290 0.0270

Venus -84771-02-06 01:54 J -29241148.52 -29241148.42 -29241148.32 0.3608 0.2416

Earth -84770-02-23 14:52 J -29240765.95 -29240765.88 -29240765.82 0.2755 0.2204

Moon -84770-02-23 15:20 J -29240765.93 -29240765.86 -29240765.78 0.2751 0.2066 *

Venus -84770-08-23 18:56 J -29240584.81 -29240584.71 -29240584.60 0.3757 0.1227

Mars -84768-09-17 01:25 J -29239829.54 -29239829.44 -29239829.34 0.1841 0.1347

Jupiter -84767-03-05 16:47 J -29239659.98 -29239659.80 -29239659.63 0.0493 0.0007

Jupiter -84767-06-03 19:40 J -29239569.70 -29239569.68 -29239569.65 0.0496 0.0488

Mars -84767-07-12 00:56 J -29239531.58 -29239531.46 -29239531.34 0.1702 0.0571

Moon -84767-08-31 11:16 J -29239481.17 -29239481.03 -29239480.88 0.2587 0.0455

Earth -84767-08-31 12:28 J -29239481.12 -29239480.98 -29239480.84 0.2583 0.0629 *

Venus -84766-08-23 01:54 J -29239124.54 -29239124.42 -29239124.29 0.3611 0.1209

Venus -84764-03-08 14:23 J -29238560.99 -29238560.90 -29238560.80 0.3752 0.2160

Jupiter -84762-07-28 07:25 J -29237689.24 -29237689.19 -29237689.13 0.0537 0.0481

Jupiter -84762-10-25 16:18 J -29237599.95 -29237599.82 -29237599.69 0.0535 0.0031

Jupiter -84761-01-23 01:40 J -29237510.51 -29237510.43 -29237510.36 0.0532 0.0431

Venus -84760-03-08 01:40 J -29237100.57 -29237100.43 -29237100.30 0.3615 0.0109

Saturn -84759-09-16 03:20 J -29236543.44 -29236543.36 -29236543.29 0.0271 0.0220

Venus -84759-09-22 10:18 J -29236537.14 -29236537.07 -29236537.01 0.3748 0.3125

Saturn -84759-12-13 14:23 J -29236455.02 -29236454.90 -29236454.78 0.0270 0.0130

Mars -84758-02-07 01:40 J -29236399.58 -29236399.43 -29236399.28 0.1832 0.0268

Saturn -84758-03-12 01:40 J -29236366.57 -29236366.43 -29236366.29 0.0270 0.0039

Saturn -84758-06-08 12:56 J -29236278.09 -29236277.96 -29236277.82 0.0270 0.0054

Saturn -84758-09-05 00:28 J -29236189.59 -29236189.48 -29236189.36 0.0270 0.0146

Mars -84758-12-02 10:04 J -29236101.20 -29236101.08 -29236100.95 0.1709 0.0043

Saturn -84758-12-02 12:13 J -29236101.05 -29236100.99 -29236100.93 0.0269 0.0240 *

Earth -84757-02-26 10:04 J -29236015.19 -29236015.08 -29236014.97 0.2755 0.0835

Moon -84757-02-26 10:18 J -29236015.18 -29236015.07 -29236014.96 0.2747 0.0886 *

Jupiter -84756-12-22 15:20 J -29235350.03 -29235349.86 -29235349.69 0.0493 0.0126

Jupiter -84755-03-22 18:42 J -29235259.83 -29235259.72 -29235259.60 0.0495 0.0368

Venus -84755-09-22 00:56 J -29235076.59 -29235076.46 -29235076.34 0.3620 0.1070

Moon -84754-09-03 14:23 J -29234729.95 -29234729.90 -29234729.85 0.2590 0.2419

Earth -84754-09-03 14:37 J -29234729.93 -29234729.89 -29234729.84 0.2584 0.2447 *

Jupiter -84750-08-13 19:54 J -29233289.80 -29233289.67 -29233289.54 0.0535 0.0138

Jupiter -84750-11-11 05:01 J -29233200.39 -29233200.29 -29233200.18 0.0532 0.0320

Venus -84749-04-06 23:44 J -29233052.62 -29233052.51 -29233052.41 0.3624 0.2129

Mars -84749-06-29 01:40 J -29232969.56 -29232969.43 -29232969.29 0.1824 0.0809

Mars -84748-04-23 19:11 J -29232670.82 -29232670.70 -29232670.59 0.1716 0.0628

Venus -84747-12-31 01:11 J -29232054.48 -29232054.45 -29232054.43 0.3777 0.3652

Uranus -84746-11-08 19:25 J -29231741.70 -29231741.69 -29231741.65 0.0139 0.0138

Uranus -84745-02-05 02:37 J -29231653.49 -29231653.39 -29231653.28 0.0139 0.0113

Uranus -84745-05-03 09:20 J -29231565.23 -29231565.11 -29231564.96 0.0139 0.0090

Uranus -84745-07-30 16:32 J -29231476.97 -29231476.81 -29231476.65 0.0139 0.0066

Uranus -84745-10-26 23:16 J -29231388.70 -29231388.53 -29231388.35 0.0139 0.0043

Uranus -84744-01-23 06:13 J -29231300.42 -29231300.24 -29231300.06 0.0139 0.0020

Moon -84744-02-28 05:01 J -29231264.40 -29231264.29 -29231264.18 0.2749 0.0549

Earth -84744-02-28 05:30 J -29231264.38 -29231264.27 -29231264.16 0.2754 0.0556 *

Uranus -84744-04-21 12:56 J -29231212.14 -29231211.96 -29231211.78 0.0138 0.0004

Uranus -84744-07-18 19:25 J -29231123.86 -29231123.69 -29231123.51 0.0138 0.0026

Jupiter -84744-10-10 14:23 J -29231040.05 -29231039.90 -29231039.74 0.0492 0.0245

Uranus -84744-10-15 01:54 J -29231035.58 -29231035.42 -29231035.25 0.0138 0.0048

Venus -84744-10-21 22:04 J -29231028.64 -29231028.58 -29231028.52 0.3628 0.3148

Jupiter -84743-01-08 18:13 J -29230949.89 -29230949.74 -29230949.58 0.0495 0.0252

Saturn -84743-01-09 12:56 J -29230949.07 -29230948.96 -29230948.85 0.0289 0.0225

Uranus -84743-01-11 08:37 J -29230947.29 -29230947.14 -29230946.99 0.0138 0.0070

Saturn -84743-04-08 11:16 J -29230860.19 -29230860.03 -29230859.85 0.0289 0.0077

Uranus -84743-04-09 14:52 J -29230859.00 -29230858.88 -29230858.74 0.0138 0.0092

Saturn -84743-07-06 09:20 J -29230771.28 -29230771.11 -29230770.94 0.0289 0.0071

Uranus -84743-07-06 21:20 J -29230770.70 -29230770.61 -29230770.51 0.0138 0.0114

Uranus -84743-10-03 03:49 J -29230682.37 -29230682.34 -29230682.31 0.0138 0.0135

Saturn -84743-10-03 06:56 J -29230682.32 -29230682.21 -29230682.09 0.0290 0.0215 *

Venus -84741-07-15 19:25 J -29230030.77 -29230030.69 -29230030.62 0.3774 0.2865

Neptune -84740-05-19 05:44 J -29229723.26 -29229723.26 -29229723.24 0.0089 0.0088

Neptune -84740-08-15 08:52 J -29229635.17 -29229635.13 -29229635.04 0.0089 0.0083

Neptune -84740-11-11 12:56 J -29229547.05 -29229546.96 -29229546.86 0.0089 0.0076

Neptune -84739-02-07 16:18 J -29229458.93 -29229458.82 -29229458.70 0.0089 0.0070

Neptune -84739-05-06 19:40 J -29229370.80 -29229370.68 -29229370.54 0.0089 0.0064

Neptune -84739-08-02 23:01 J -29229282.67 -29229282.54 -29229282.38 0.0089 0.0058

Mars -84739-09-14 04:18 J -29229240.41 -29229240.32 -29229240.24 0.1723 0.1230

Neptune -84739-10-30 02:23 J -29229194.54 -29229194.40 -29229194.23 0.0089 0.0052

Neptune -84738-01-26 05:44 J -29229106.41 -29229106.26 -29229106.08 0.0089 0.0046

Neptune -84738-04-24 09:20 J -29229018.27 -29229018.11 -29229017.93 0.0089 0.0040

Jupiter -84738-06-01 22:32 J -29228979.67 -29228979.56 -29228979.44 0.0536 0.0261

Neptune -84738-07-21 12:42 J -29228930.13 -29228929.97 -29228929.78 0.0089 0.0034

Jupiter -84738-08-30 07:40 J -29228890.31 -29228890.18 -29228890.06 0.0533 0.0194

Neptune -84738-10-17 16:04 J -29228842.00 -29228841.83 -29228841.64 0.0089 0.0028

Neptune -84737-01-13 19:25 J -29228753.86 -29228753.69 -29228753.49 0.0089 0.0022

Neptune -84737-04-10 23:01 J -29228665.72 -29228665.54 -29228665.35 0.0089 0.0015

Neptune -84737-07-08 02:23 J -29228577.59 -29228577.40 -29228577.21 0.0089 0.0009

Mars -84737-08-19 16:04 J -29228534.91 -29228534.83 -29228534.75 0.1695 0.1250

Neptune -84737-10-04 05:44 J -29228489.45 -29228489.26 -29228489.07 0.0089 0.0003

Neptune -84737-12-31 09:06 J -29228401.31 -29228401.12 -29228400.93 0.0089 0.0003

Neptune -84736-03-29 12:28 J -29228313.17 -29228312.98 -29228312.79 0.0089 0.0009

Neptune -84736-06-25 15:49 J -29228225.03 -29228224.84 -29228224.66 0.0089 0.0015

Neptune -84736-09-21 19:11 J -29228136.89 -29228136.70 -29228136.52 0.0089 0.0021

Neptune -84736-12-18 22:18 J -29228048.74 -29228048.57 -29228048.39 0.0089 0.0027

Venus -84735-01-29 13:40 J -29228007.02 -29228006.93 -29228006.83 0.3771 0.2047

Neptune -84735-03-17 01:40 J -29227960.60 -29227960.43 -29227960.26 0.0089 0.0033

Neptune -84735-06-13 04:47 J -29227872.46 -29227872.30 -29227872.12 0.0089 0.0039

Neptune -84735-09-09 07:54 J -29227784.32 -29227784.17 -29227784.00 0.0089 0.0045

Neptune -84735-12-06 11:16 J -29227696.17 -29227696.03 -29227695.87 0.0089 0.0051

Neptune -84734-03-04 14:23 J -29227608.03 -29227607.90 -29227607.74 0.0088 0.0057

Neptune -84734-05-31 17:59 J -29227519.88 -29227519.75 -29227519.62 0.0088 0.0062

Neptune -84734-08-27 21:06 J -29227431.73 -29227431.62 -29227431.50 0.0088 0.0068

Moon -84734-08-29 14:23 J -29227430.03 -29227429.90 -29227429.76 0.2583 0.1090

Earth -84734-08-29 15:49 J -29227429.98 -29227429.84 -29227429.70 0.2582 0.0861 *

Neptune -84734-11-24 00:13 J -29227343.58 -29227343.49 -29227343.38 0.0088 0.0074

Neptune -84733-02-20 03:20 J -29227255.43 -29227255.36 -29227255.27 0.0088 0.0079

Neptune -84733-05-18 06:13 J -29227167.26 -29227167.24 -29227167.17 0.0088 0.0086

Jupiter -84732-07-29 13:11 J -29226730.07 -29226729.95 -29226729.83 0.0492 0.0365

Jupiter -84732-10-27 17:30 J -29226639.94 -29226639.77 -29226639.60 0.0494 0.0133

Moon -84731-03-03 00:13 J -29226513.57 -29226513.49 -29226513.40 0.2751 0.1846

Earth -84731-03-03 01:11 J -29226513.53 -29226513.45 -29226513.38 0.2753 0.1974 *

Venus -84730-08-15 08:23 J -29225983.26 -29225983.15 -29225983.05 0.3767 0.1202

Saturn -84729-02-03 06:13 J -29225811.30 -29225811.24 -29225811.18 0.0271 0.0242

Saturn -84729-05-01 17:16 J -29225722.89 -29225722.78 -29225722.67 0.0271 0.0152

Saturn -84729-07-29 04:32 J -29225634.44 -29225634.31 -29225634.18 0.0270 0.0061

Saturn -84729-10-25 15:49 J -29225545.97 -29225545.84 -29225545.70 0.0270 0.0032

Saturn -84728-01-22 03:20 J -29225457.48 -29225457.36 -29225457.23 0.0270 0.0124

Mars -84728-03-18 01:54 J -29225402.51 -29225402.42 -29225402.33 0.1841 0.1465

Saturn -84728-04-20 15:06 J -29225368.95 -29225368.87 -29225368.79 0.0270 0.0218

Mars -84727-01-10 01:11 J -29225104.57 -29225104.45 -29225104.34 0.1702 0.0658

Jupiter -84726-03-21 01:54 J -29224669.51 -29224669.42 -29224669.32 0.0536 0.0375

Jupiter -84726-06-18 10:47 J -29224580.18 -29224580.05 -29224579.92 0.0534 0.0079

Earth -84724-02-23 19:54 J -29223963.75 -29223963.67 -29223963.59 0.2755 0.1925

Moon -84724-02-23 20:23 J -29223963.73 -29223963.65 -29223963.57 0.2749 0.1908 *

Venus -84724-02-28 03:06 J -29223959.48 -29223959.37 -29223959.25 0.3763 0.0350

Pluto -84722-07-11 13:40 J -29223095.94 -29223095.93 -29223095.92 0.0085 0.0084

Pluto -84722-10-07 14:52 J -29223007.94 -29223007.88 -29223007.81 0.0085 0.0072

Pluto -84721-01-03 16:18 J -29222919.91 -29222919.82 -29222919.73 0.0085 0.0060

Pluto -84721-03-31 17:16 J -29222831.87 -29222831.78 -29222831.66 0.0084 0.0049

Pluto -84721-06-27 18:42 J -29222743.83 -29222743.72 -29222743.59 0.0084 0.0036

Moon -84721-08-31 17:16 J -29222678.91 -29222678.78 -29222678.64 0.2587 0.0974

Earth -84721-08-31 18:28 J -29222678.87 -29222678.73 -29222678.59 0.2583 0.1011 *

Pluto -84721-09-23 20:08 J -29222655.78 -29222655.66 -29222655.53 0.0084 0.0024

Pluto -84721-12-20 21:35 J -29222567.73 -29222567.60 -29222567.47 0.0084 0.0012

Venus -84720-02-27 01:11 J -29222499.50 -29222499.45 -29222499.40 0.3605 0.3324

Pluto -84720-03-18 22:47 J -29222479.68 -29222479.55 -29222479.42 0.0084 0.0001

Pluto -84720-06-14 23:59 J -29222391.63 -29222391.50 -29222391.36 0.0084 0.0012

Jupiter -84720-08-15 15:49 J -29222330.02 -29222329.84 -29222329.66 0.0493 0.0008

Pluto -84720-09-11 01:25 J -29222303.57 -29222303.44 -29222303.31 0.0084 0.0023

Jupiter -84720-11-13 18:42 J -29222239.72 -29222239.72 -29222239.71 0.0496 0.0496

Pluto -84720-12-08 02:23 J -29222215.51 -29222215.40 -29222215.27 0.0084 0.0035

Pluto -84719-03-06 03:49 J -29222127.45 -29222127.34 -29222127.23 0.0083 0.0046

Pluto -84719-06-02 04:47 J -29222039.38 -29222039.30 -29222039.19 0.0083 0.0057

Mars -84719-08-08 02:08 J -29221972.55 -29221972.41 -29221972.26 0.1832 0.0396

Pluto -84719-08-29 06:13 J -29221951.31 -29221951.24 -29221951.16 0.0083 0.0068

Venus -84719-09-13 22:18 J -29221935.68 -29221935.57 -29221935.46 0.3760 0.0567

Pluto -84719-11-25 07:25 J -29221863.22 -29221863.19 -29221863.15 0.0083 0.0079

Mars -84718-06-02 10:04 J -29221674.20 -29221674.08 -29221673.95 0.1709 0.0070

Venus -84715-09-13 01:40 J -29220475.54 -29220475.43 -29220475.32 0.3609 0.2078

Jupiter -84714-01-07 05:44 J -29220359.31 -29220359.26 -29220359.20 0.0537 0.0484

Jupiter -84714-04-06 14:23 J -29220270.03 -29220269.90 -29220269.76 0.0535 0.0037

Saturn -84714-05-29 11:44 J -29220217.06 -29220217.01 -29220216.93 0.0289 0.0269

Jupiter -84714-07-04 23:44 J -29220180.58 -29220180.51 -29220180.43 0.0532 0.0428

Saturn -84714-08-26 10:18 J -29220128.22 -29220128.07 -29220127.90 0.0289 0.0120

Saturn -84714-11-23 08:37 J -29220039.32 -29220039.14 -29220038.97 0.0290 0.0029

Saturn -84713-02-20 06:13 J -29219950.37 -29219950.24 -29219950.10 0.0290 0.0174

Venus -84713-03-29 17:30 J -29219911.87 -29219911.77 -29219911.66 0.3756 0.1485

Moon -84711-02-26 15:06 J -29219212.98 -29219212.87 -29219212.76 0.2748 0.0486

Earth -84711-02-26 15:06 J -29219212.98 -29219212.87 -29219212.76 0.2755 0.0555 *

Mars -84710-12-29 02:23 J -29218542.54 -29218542.40 -29218542.26 0.1823 0.0685

Venus -84709-03-29 01:40 J -29218451.56 -29218451.43 -29218451.30 0.3612 0.0884

Mars -84709-10-22 19:11 J -29218243.81 -29218243.70 -29218243.58 0.1716 0.0546

Jupiter -84708-06-03 14:23 J -29218020.07 -29218019.90 -29218019.73 0.0493 0.0117

Jupiter -84708-09-01 17:44 J -29217929.87 -29217929.76 -29217929.64 0.0495 0.0376

Venus -84708-10-13 13:11 J -29217888.04 -29217887.95 -29217887.87 0.3751 0.2435

Venus -84704-10-13 01:11 J -29216427.58 -29216427.45 -29216427.32 0.3617 0.0266

Jupiter -84702-01-23 18:28 J -29215959.86 -29215959.73 -29215959.60 0.0535 0.0138

Jupiter -84702-04-23 03:35 J -29215870.45 -29215870.35 -29215870.24 0.0533 0.0320

Venus -84702-04-29 08:52 J -29215864.18 -29215864.13 -29215864.08 0.3747 0.3407

Uranus -84701-07-05 04:47 J -29215431.34 -29215431.30 -29215431.25 0.0139 0.0131

Moon -84701-08-26 17:44 J -29215378.77 -29215378.76 -29215378.75 0.2578 0.2571

Earth -84701-08-26 18:56 J -29215378.76 -29215378.71 -29215378.65 0.2582 0.2388 *

Uranus -84701-10-01 08:23 J -29215343.22 -29215343.15 -29215343.07 0.0139 0.0114

Uranus -84701-12-28 12:13 J -29215255.09 -29215254.99 -29215254.89 0.0139 0.0097

Uranus -84700-03-26 15:49 J -29215166.95 -29215166.84 -29215166.72 0.0140 0.0080

Mars -84700-05-20 02:08 J -29215112.44 -29215112.41 -29215112.38 0.1815 0.1772

Uranus -84700-06-22 19:40 J -29215078.80 -29215078.68 -29215078.56 0.0140 0.0062

Saturn -84700-09-18 18:42 J -29214990.81 -29214990.72 -29214990.62 0.0270 0.0185

Uranus -84700-09-18 23:16 J -29214990.66 -29214990.53 -29214990.39 0.0140 0.0044 *

Uranus -84700-12-16 03:06 J -29214902.50 -29214902.37 -29214902.23 0.0140 0.0026

Saturn -84700-12-16 05:59 J -29214902.38 -29214902.25 -29214902.12 0.0270 0.0094 *

Uranus -84699-03-14 06:56 J -29214814.35 -29214814.21 -29214814.07 0.0140 0.0008

Saturn -84699-03-14 17:16 J -29214813.92 -29214813.78 -29214813.64 0.0270 0.0003

Mars -84699-03-15 04:18 J -29214813.41 -29214813.32 -29214813.22 0.1723 0.1148

Uranus -84699-06-10 10:47 J -29214726.19 -29214726.05 -29214725.91 0.0140 0.0010

Saturn -84699-06-11 04:47 J -29214725.44 -29214725.30 -29214725.17 0.0270 0.0090

Uranus -84699-09-06 14:37 J -29214638.03 -29214637.89 -29214637.75 0.0140 0.0028

Saturn -84699-09-07 16:18 J -29214636.92 -29214636.82 -29214636.72 0.0269 0.0183

Uranus -84699-12-03 18:28 J -29214549.86 -29214549.73 -29214549.60 0.0141 0.0047

Moon -84698-03-01 09:49 J -29214462.20 -29214462.09 -29214461.97 0.2749 0.0700

Earth -84698-03-01 10:32 J -29214462.17 -29214462.06 -29214461.95 0.2754 0.0846 *

Uranus -84698-03-01 22:18 J -29214461.69 -29214461.57 -29214461.44 0.0141 0.0066

Venus -84698-04-29 00:28 J -29214403.61 -29214403.48 -29214403.36 0.3621 0.1373

Uranus -84698-05-29 02:08 J -29214373.51 -29214373.41 -29214373.29 0.0141 0.0085

Uranus -84698-08-25 06:13 J -29214285.33 -29214285.24 -29214285.14 0.0141 0.0104

Uranus -84698-11-21 10:04 J -29214197.13 -29214197.08 -29214197.00 0.0141 0.0124

Mars -84697-02-18 16:18 J -29214107.90 -29214107.82 -29214107.75 0.1695 0.1340

Jupiter -84696-03-22 12:56 J -29213710.12 -29213709.96 -29213709.81 0.0492 0.0242

Jupiter -84696-06-20 16:47 J -29213619.95 -29213619.80 -29213619.65 0.0495 0.0254

Venus -84693-11-11 23:01 J -29212379.63 -29212379.54 -29212379.44 0.3625 0.2421

Jupiter -84691-11-11 22:18 J -29211649.69 -29211649.57 -29211649.46 0.0536 0.0247

Jupiter -84690-02-09 07:11 J -29211560.32 -29211560.20 -29211560.08 0.0533 0.0209

Venus -84690-08-06 23:16 J -29211381.57 -29211381.53 -29211381.49 0.3777 0.3441

Mars -84689-09-16 02:23 J -29210975.47 -29210975.40 -29210975.33 0.1841 0.1585

Mars -84688-07-11 01:11 J -29210677.56 -29210677.45 -29210677.33 0.1701 0.0745

Moon -84688-08-29 20:37 J -29210627.79 -29210627.64 -29210627.50 0.2585 0.0528

Earth -84688-08-29 21:49 J -29210627.73 -29210627.59 -29210627.44 0.2583 0.0477 *

Venus -84687-05-28 21:20 J -29210355.65 -29210355.61 -29210355.57 0.3629 0.3430

Moon -84685-03-03 05:16 J -29209711.34 -29209711.28 -29209711.21 0.2753 0.2219

Earth -84685-03-03 06:13 J -29209711.31 -29209711.24 -29209711.18 0.2753 0.2268 *

Jupiter -84684-01-08 11:44 J -29209400.12 -29209400.01 -29209399.88 0.0492 0.0361

Saturn -84684-01-12 06:28 J -29209396.37 -29209396.23 -29209396.09 0.0289 0.0179

Venus -84684-02-19 17:30 J -29209357.85 -29209357.77 -29209357.69 0.3773 0.2643

Jupiter -84684-04-08 16:04 J -29209309.99 -29209309.83 -29209309.66 0.0494 0.0138

Saturn -84684-04-11 04:47 J -29209307.47 -29209307.30 -29209307.12 0.0289 0.0031

Saturn -84684-07-09 02:37 J -29209218.55 -29209218.39 -29209218.23 0.0289 0.0116

Saturn -84684-10-06 00:13 J -29209129.56 -29209129.49 -29209129.42 0.0290 0.0259

Mars -84679-02-06 02:52 J -29207545.53 -29207545.38 -29207545.24 0.1833 0.0522

Jupiter -84679-08-31 00:56 J -29207339.55 -29207339.46 -29207339.36 0.0536 0.0369

Venus -84679-09-05 11:59 J -29207334.10 -29207334.00 -29207333.90 0.3770 0.1816

Jupiter -84679-11-28 09:49 J -29207250.22 -29207250.09 -29207249.96 0.0534 0.0085

Mars -84679-12-01 10:18 J -29207247.20 -29207247.07 -29207246.95 0.1709 0.0145

Earth -84678-02-25 00:42 J -29207161.56 -29207161.47 -29207161.38 0.2755 0.1649

Moon -84678-02-25 01:11 J -29207161.54 -29207161.45 -29207161.35 0.2749 0.1552 *

Moon -84675-09-01 23:30 J -29205876.65 -29205876.52 -29205876.39 0.2588 0.1222

Earth -84675-09-02 00:28 J -29205876.60 -29205876.48 -29205876.36 0.2583 0.1391 *

Venus -84673-03-21 06:42 J -29205310.33 -29205310.22 -29205310.11 0.3766 0.0963

Jupiter -84673-10-27 10:32 J -29205090.09 -29205090.06 -29205090.03 0.0491 0.0482

Jupiter -84672-01-25 15:06 J -29205000.04 -29204999.87 -29204999.69 0.0494 0.0020

Saturn -84670-02-05 21:35 J -29204258.68 -29204258.60 -29204258.51 0.0271 0.0208

Saturn -84670-05-05 08:52 J -29204170.25 -29204170.13 -29204170.01 0.0271 0.0117

Mars -84670-06-29 02:52 J -29204115.53 -29204115.38 -29204115.24 0.1824 0.0567

Saturn -84670-08-01 20:08 J -29204081.80 -29204081.66 -29204081.52 0.0270 0.0025

Saturn -84670-10-29 07:25 J -29203993.32 -29203993.19 -29203993.05 0.0270 0.0068

Saturn -84669-01-25 18:56 J -29203904.82 -29203904.71 -29203904.59 0.0270 0.0161

Mars -84669-04-22 19:25 J -29203816.81 -29203816.69 -29203816.58 0.1716 0.0466

Saturn -84669-04-23 06:42 J -29203816.26 -29203816.22 -29203816.17 0.0270 0.0255

Venus -84668-10-05 01:40 J -29203286.55 -29203286.43 -29203286.32 0.3762 0.0140

Jupiter -84667-06-19 04:32 J -29203029.37 -29203029.31 -29203029.26 0.0537 0.0482

Jupiter -84667-09-16 13:11 J -29202940.09 -29202939.95 -29202939.82 0.0534 0.0035

Jupiter -84667-12-14 22:18 J -29202850.64 -29202850.57 -29202850.49 0.0532 0.0427

Moon -84665-02-27 19:54 J -29202410.78 -29202410.67 -29202410.55 0.2748 0.0348

Earth -84665-02-27 20:08 J -29202410.77 -29202410.66 -29202410.55 0.2754 0.0270 *

Venus -84664-10-04 01:11 J -29201826.53 -29201826.45 -29201826.38 0.3606 0.2981

Venus -84662-04-20 20:37 J -29201262.75 -29201262.64 -29201262.53 0.3758 0.0826

Uranus -84662-11-29 02:52 J -29201040.43 -29201040.38 -29201040.33 0.0139 0.0133

Uranus -84661-02-25 09:35 J -29200952.20 -29200952.10 -29200951.98 0.0139 0.0109

Uranus -84661-05-23 16:32 J -29200863.94 -29200863.81 -29200863.66 0.0139 0.0085

Uranus -84661-08-19 23:30 J -29200775.68 -29200775.52 -29200775.35 0.0139 0.0062

Jupiter -84661-11-13 13:25 J -29200690.12 -29200689.94 -29200689.77 0.0493 0.0109

Uranus -84661-11-16 06:13 J -29200687.40 -29200687.24 -29200687.05 0.0139 0.0039

Mars -84661-11-18 02:52 J -29200685.44 -29200685.38 -29200685.31 0.1815 0.1633

Jupiter -84660-02-11 16:47 J -29200599.91 -29200599.80 -29200599.69 0.0495 0.0383

Uranus -84660-02-12 13:11 J -29200599.13 -29200598.95 -29200598.77 0.0138 0.0015

Uranus -84660-05-11 19:54 J -29200510.85 -29200510.67 -29200510.49 0.0138 0.0008

Uranus -84660-08-08 02:37 J -29200422.57 -29200422.39 -29200422.22 0.0138 0.0030

Mars -84660-09-13 04:32 J -29200386.41 -29200386.31 -29200386.22 0.1723 0.1068

Uranus -84660-11-04 08:52 J -29200334.28 -29200334.13 -29200333.95 0.0138 0.0053

Uranus -84659-01-31 15:35 J -29200246.00 -29200245.85 -29200245.70 0.0138 0.0075

Uranus -84659-04-29 21:49 J -29200157.70 -29200157.59 -29200157.45 0.0138 0.0097

Uranus -84659-07-27 04:32 J -29200069.40 -29200069.31 -29200069.22 0.0138 0.0118

Neptune -84659-11-22 00:42 J -29199951.50 -29199951.47 -29199951.43 0.0089 0.0085

Neptune -84658-02-18 02:08 J -29199863.46 -29199863.41 -29199863.36 0.0089 0.0081

Venus -84658-04-20 01:25 J -29199802.55 -29199802.44 -29199802.32 0.3610 0.1748

Neptune -84658-05-17 03:20 J -29199775.42 -29199775.36 -29199775.29 0.0089 0.0077

Neptune -84658-08-13 04:32 J -29199687.37 -29199687.31 -29199687.22 0.0089 0.0073

Mars -84658-08-19 16:18 J -29199680.88 -29199680.82 -29199680.75 0.1695 0.1423

Neptune -84658-11-09 05:59 J -29199599.32 -29199599.25 -29199599.15 0.0089 0.0069

Neptune -84657-02-05 07:40 J -29199511.27 -29199511.18 -29199511.09 0.0089 0.0064

Neptune -84657-05-03 08:52 J -29199423.22 -29199423.13 -29199423.02 0.0089 0.0060

Neptune -84657-07-30 10:18 J -29199335.17 -29199335.07 -29199334.96 0.0089 0.0056

Neptune -84657-10-26 11:30 J -29199247.12 -29199247.02 -29199246.90 0.0089 0.0052

Venus -84657-11-03 16:04 J -29199238.93 -29199238.83 -29199238.73 0.3754 0.1749

Neptune -84656-01-22 13:11 J -29199159.06 -29199158.95 -29199158.83 0.0089 0.0047

Neptune -84656-04-20 14:23 J -29199071.01 -29199070.90 -29199070.77 0.0089 0.0043

Neptune -84656-07-17 15:49 J -29198982.95 -29198982.84 -29198982.71 0.0089 0.0039

Neptune -84656-10-13 17:30 J -29198894.90 -29198894.77 -29198894.65 0.0089 0.0034

Neptune -84655-01-09 18:42 J -29198806.84 -29198806.72 -29198806.59 0.0089 0.0030

Neptune -84655-04-07 20:08 J -29198718.78 -29198718.66 -29198718.52 0.0089 0.0026

Saturn -84655-06-01 05:59 J -29198664.36 -29198664.25 -29198664.13 0.0289 0.0219

Neptune -84655-07-04 21:35 J -29198630.73 -29198630.60 -29198630.46 0.0089 0.0021

Jupiter -84655-07-05 16:47 J -29198629.93 -29198629.80 -29198629.68 0.0535 0.0143

Moon -84655-08-27 23:44 J -29198576.59 -29198576.51 -29198576.42 0.2580 0.2077

Earth -84655-08-28 01:11 J -29198576.55 -29198576.45 -29198576.36 0.2582 0.1987 *

Saturn -84655-08-29 04:18 J -29198575.49 -29198575.32 -29198575.14 0.0289 0.0070

Neptune -84655-09-30 23:01 J -29198542.67 -29198542.54 -29198542.40 0.0089 0.0017

Jupiter -84655-10-03 01:54 J -29198540.53 -29198540.42 -29198540.31 0.0533 0.0316

Saturn -84655-11-26 02:23 J -29198486.57 -29198486.40 -29198486.23 0.0290 0.0078

Neptune -84655-12-28 00:28 J -29198454.61 -29198454.48 -29198454.34 0.0089 0.0013

Saturn -84654-02-22 23:59 J -29198397.61 -29198397.50 -29198397.39 0.0290 0.0222

Neptune -84654-03-26 01:54 J -29198366.55 -29198366.42 -29198366.28 0.0089 0.0008

Neptune -84654-06-22 03:20 J -29198278.49 -29198278.36 -29198278.22 0.0089 0.0004

Neptune -84654-09-18 04:47 J -29198190.43 -29198190.30 -29198190.16 0.0089 0.0002

Neptune -84654-12-15 06:13 J -29198102.37 -29198102.24 -29198102.10 0.0089 0.0006

Neptune -84653-03-12 07:40 J -29198014.31 -29198014.18 -29198014.04 0.0089 0.0010

Neptune -84653-06-08 09:06 J -29197926.25 -29197926.12 -29197925.98 0.0089 0.0014

Neptune -84653-09-04 10:32 J -29197838.19 -29197838.06 -29197837.92 0.0089 0.0019

Venus -84653-11-03 01:25 J -29197778.58 -29197778.44 -29197778.31 0.3614 0.0576

Neptune -84653-12-01 11:59 J -29197750.13 -29197750.00 -29197749.86 0.0089 0.0023

Neptune -84652-02-27 13:25 J -29197662.06 -29197661.94 -29197661.80 0.0089 0.0028

Moon -84652-03-01 14:52 J -29197659.98 -29197659.88 -29197659.77 0.2749 0.1123

Earth -84652-03-01 15:35 J -29197659.95 -29197659.85 -29197659.75 0.2753 0.1131 *

Neptune -84652-05-26 14:52 J -29197574.00 -29197573.88 -29197573.74 0.0089 0.0032

Neptune -84652-08-22 16:32 J -29197485.94 -29197485.81 -29197485.69 0.0089 0.0036

Neptune -84652-11-18 17:44 J -29197397.87 -29197397.76 -29197397.63 0.0089 0.0041

Neptune -84651-02-14 19:25 J -29197309.81 -29197309.69 -29197309.57 0.0089 0.0045

Neptune -84651-05-13 20:37 J -29197221.74 -29197221.64 -29197221.51 0.0089 0.0050

Venus -84651-05-20 11:44 J -29197215.09 -29197215.01 -29197214.93 0.3750 0.2709

Neptune -84651-08-09 22:18 J -29197133.67 -29197133.57 -29197133.46 0.0089 0.0054

Neptune -84651-11-05 23:44 J -29197045.61 -29197045.51 -29197045.40 0.0089 0.0059

Neptune -84650-02-02 01:25 J -29196957.54 -29196957.44 -29196957.34 0.0089 0.0063

Mars -84650-02-03 13:40 J -29196955.96 -29196955.93 -29196955.90 0.1731 0.1671

Neptune -84650-05-01 02:37 J -29196869.47 -29196869.39 -29196869.29 0.0089 0.0068

Neptune -84650-07-28 04:18 J -29196781.39 -29196781.32 -29196781.24 0.0089 0.0072

Neptune -84650-10-24 05:44 J -29196693.32 -29196693.26 -29196693.18 0.0089 0.0077

Neptune -84649-01-20 07:25 J -29196605.24 -29196605.19 -29196605.13 0.0089 0.0081

Mars -84649-03-17 02:52 J -29196548.43 -29196548.38 -29196548.33 0.1841 0.1708

Neptune -84649-04-17 08:37 J -29196517.16 -29196517.14 -29196517.09 0.0089 0.0086

Jupiter -84649-09-01 11:44 J -29196380.16 -29196380.01 -29196379.85 0.0492 0.0234

Jupiter -84649-11-30 15:35 J -29196289.99 -29196289.85 -29196289.70 0.0494 0.0263

Mars -84648-01-09 01:11 J -29196250.55 -29196250.45 -29196250.34 0.1702 0.0826

Venus -84647-05-20 00:42 J -29195754.60 -29195754.47 -29195754.34 0.3618 0.0581

Venus -84646-12-04 07:25 J -29195191.20 -29195191.19 -29195191.17 0.3746 0.3690

Earth -84645-02-23 10:32 J -29195110.07 -29195110.06 -29195110.04 0.2755 0.2716

Moon -84645-02-23 11:16 J -29195110.05 -29195110.03 -29195110.00 0.2752 0.2651 *

Jupiter -84643-04-23 20:37 J -29194319.75 -29194319.64 -29194319.52 0.0536 0.0249

Jupiter -84643-07-22 05:44 J -29194230.38 -29194230.26 -29194230.14 0.0533 0.0208

Moon -84642-08-31 02:37 J -29193825.54 -29193825.39 -29193825.25 0.2585 0.0313

Earth -84642-08-31 03:49 J -29193825.48 -29193825.34 -29193825.19 0.2583 0.0114 *

Venus -84642-12-03 23:44 J -29193730.62 -29193730.51 -29193730.39 0.3622 0.1670

Saturn -84641-06-24 23:16 J -29193526.59 -29193526.53 -29193526.46 0.0271 0.0239

Saturn -84641-09-21 10:32 J -29193438.18 -29193438.06 -29193437.95 0.0270 0.0148

Saturn -84641-12-18 21:35 J -29193349.73 -29193349.60 -29193349.46 0.0270 0.0058

Saturn -84640-03-17 09:06 J -29193261.26 -29193261.12 -29193260.98 0.0270 0.0035

Saturn -84640-06-13 20:37 J -29193172.77 -29193172.64 -29193172.52 0.0270 0.0128

Mars -84640-08-07 03:06 J -29193118.51 -29193118.37 -29193118.23 0.1833 0.0626

Saturn -84640-09-10 08:08 J -29193084.24 -29193084.16 -29193084.08 0.0269 0.0221

Moon -84639-03-04 10:18 J -29192909.12 -29192909.07 -29192909.01 0.2755 0.2395

Earth -84639-03-04 11:16 J -29192909.07 -29192909.03 -29192908.99 0.2752 0.2559 *

Mars -84639-06-01 10:18 J -29192820.19 -29192820.07 -29192819.94 0.1708 0.0234

Jupiter -84637-06-20 10:04 J -29192070.20 -29192070.08 -29192069.95 0.0492 0.0359

Jupiter -84637-09-18 14:23 J -29191980.07 -29191979.90 -29191979.73 0.0494 0.0140

Venus -84636-06-18 22:18 J -29191706.65 -29191706.57 -29191706.49 0.3626 0.2708

Venus -84633-03-12 21:20 J -29190708.66 -29190708.61 -29190708.55 0.3776 0.3230

Earth -84632-02-25 05:44 J -29190359.35 -29190359.26 -29190359.16 0.2755 0.1366

Moon -84632-02-25 06:13 J -29190359.34 -29190359.24 -29190359.14 0.2749 0.1334 *

Jupiter -84631-02-10 00:28 J -29190009.57 -29190009.48 -29190009.38 0.0536 0.0357

Jupiter -84631-05-10 09:20 J -29189920.24 -29189920.11 -29189919.98 0.0534 0.0098

Mars -84631-12-28 03:35 J -29189688.50 -29189688.35 -29189688.20 0.1824 0.0433

Mars -84630-10-22 19:25 J -29189389.81 -29189389.69 -29189389.57 0.1715 0.0378

Moon -84629-09-02 05:44 J -29189074.36 -29189074.26 -29189074.15 0.2589 0.1795

Earth -84629-09-02 06:28 J -29189074.34 -29189074.23 -29189074.12 0.2584 0.1771 *

Venus -84628-09-26 15:49 J -29188684.93 -29188684.84 -29188684.76 0.3772 0.2422

Saturn -84626-10-19 02:08 J -29187932.45 -29187932.41 -29187932.37 0.0288 0.0279

Saturn -84625-01-16 00:42 J -29187843.63 -29187843.47 -29187843.31 0.0289 0.0129

Jupiter -84625-04-08 09:06 J -29187760.16 -29187760.12 -29187760.08 0.0491 0.0478

Saturn -84625-04-13 22:47 J -29187754.72 -29187754.55 -29187754.37 0.0289 0.0020

Jupiter -84625-07-07 13:40 J -29187670.10 -29187669.93 -29187669.75 0.0494 0.0023

Saturn -84625-07-11 20:37 J -29187665.78 -29187665.64 -29187665.50 0.0289 0.0165

Venus -84622-04-12 10:18 J -29186661.17 -29186661.07 -29186660.97 0.3769 0.1584

Mars -84621-05-19 03:20 J -29186258.44 -29186258.36 -29186258.27 0.1815 0.1518

Mars -84620-03-14 04:32 J -29185959.41 -29185959.31 -29185959.21 0.1723 0.0985

Jupiter -84620-11-29 03:20 J -29185699.41 -29185699.36 -29185699.30 0.0536 0.0476

Jupiter -84619-02-26 11:59 J -29185610.13 -29185610.00 -29185609.87 0.0534 0.0027

Moon -84619-02-28 00:42 J -29185608.58 -29185608.47 -29185608.35 0.2748 0.0089

Earth -84619-02-28 01:11 J -29185608.57 -29185608.45 -29185608.34 0.2754 0.0038 *

Jupiter -84619-05-26 21:20 J -29185520.69 -29185520.61 -29185520.53 0.0531 0.0431

Mars -84618-02-17 16:18 J -29185253.87 -29185253.82 -29185253.76 0.1694 0.1507

Uranus -84617-07-25 11:30 J -29184730.06 -29184730.02 -29184729.97 0.0139 0.0129

Uranus -84617-10-21 15:06 J -29184641.94 -29184641.87 -29184641.78 0.0139 0.0113

Venus -84617-10-26 05:01 J -29184637.40 -29184637.29 -29184637.18 0.3765 0.0723

Uranus -84616-01-17 18:42 J -29184553.81 -29184553.72 -29184553.61 0.0139 0.0096

Uranus -84616-04-15 22:32 J -29184465.67 -29184465.56 -29184465.44 0.0140 0.0078

Uranus -84616-07-13 02:23 J -29184377.53 -29184377.40 -29184377.28 0.0140 0.0060

Uranus -84616-10-09 05:59 J -29184289.38 -29184289.25 -29184289.11 0.0140 0.0043

Uranus -84615-01-05 09:49 J -29184201.23 -29184201.09 -29184200.95 0.0140 0.0024

Uranus -84615-04-03 13:40 J -29184113.07 -29184112.93 -29184112.79 0.0140 0.0006

Uranus -84615-06-30 17:30 J -29184024.91 -29184024.77 -29184024.63 0.0140 0.0012

Uranus -84615-09-26 21:20 J -29183936.75 -29183936.61 -29183936.47 0.0140 0.0030

Uranus -84615-12-24 01:11 J -29183848.58 -29183848.45 -29183848.32 0.0141 0.0049

Uranus -84614-03-22 05:01 J -29183760.41 -29183760.29 -29183760.16 0.0141 0.0068

Uranus -84614-06-18 09:06 J -29183672.23 -29183672.12 -29183672.01 0.0141 0.0086

Uranus -84614-09-14 13:11 J -29183584.05 -29183583.95 -29183583.86 0.0141 0.0105

Uranus -84614-12-11 17:01 J -29183495.85 -29183495.79 -29183495.72 0.0141 0.0125

Jupiter -84613-04-25 12:28 J -29183360.15 -29183359.98 -29183359.80 0.0493 0.0100

Jupiter -84613-07-24 16:04 J -29183269.93 -29183269.83 -29183269.72 0.0495 0.0394

Saturn -84612-11-12 02:08 J -29182794.44 -29182794.41 -29182794.38 0.0271 0.0262

Saturn -84611-02-08 13:11 J -29182706.05 -29182705.95 -29182705.84 0.0271 0.0172

Saturn -84611-05-08 00:28 J -29182617.61 -29182617.48 -29182617.35 0.0271 0.0081

Venus -84611-05-11 23:59 J -29182613.61 -29182613.50 -29182613.39 0.3761 0.0164

Saturn -84611-08-04 11:44 J -29182529.14 -29182529.01 -29182528.87 0.0270 0.0015

Mars -84611-08-04 13:40 J -29182528.97 -29182528.93 -29182528.89 0.1730 0.1593 *

Saturn -84611-10-31 23:16 J -29182440.66 -29182440.53 -29182440.40 0.0270 0.0105

Saturn -84610-01-28 10:47 J -29182352.14 -29182352.05 -29182351.95 0.0270 0.0199

Mars -84610-09-16 03:20 J -29182121.37 -29182121.36 -29182121.34 0.1842 0.1827

Mars -84609-07-10 01:25 J -29181823.54 -29181823.44 -29181823.33 0.1701 0.0910

Moon -84609-08-28 05:59 J -29181774.36 -29181774.25 -29181774.14 0.2582 0.1725

Earth -84609-08-28 07:11 J -29181774.31 -29181774.20 -29181774.08 0.2582 0.1584 *

Jupiter -84608-12-15 15:20 J -29181299.99 -29181299.86 -29181299.74 0.0535 0.0141

Jupiter -84607-03-15 00:28 J -29181210.59 -29181210.48 -29181210.38 0.0532 0.0315

Venus -84607-05-11 01:11 J -29181153.55 -29181153.45 -29181153.36 0.3607 0.2643

Moon -84606-03-02 19:54 J -29180857.77 -29180857.67 -29180857.57 0.2750 0.1264

Earth -84606-03-02 20:37 J -29180857.74 -29180857.64 -29180857.54 0.2753 0.1420 *

Venus -84606-11-25 19:11 J -29180589.81 -29180589.70 -29180589.59 0.3757 0.1077

Venus -84602-11-25 01:11 J -29179129.57 -29179129.45 -29179129.32 0.3611 0.1419

Jupiter -84601-02-12 10:32 J -29179050.21 -29179050.06 -29179049.90 0.0492 0.0228

Jupiter -84601-05-12 14:23 J -29178960.04 -29178959.90 -29178959.75 0.0494 0.0269

Mars -84600-02-05 03:49 J -29178691.48 -29178691.34 -29178691.20 0.1833 0.0764

Venus -84600-06-10 14:37 J -29178565.99 -29178565.89 -29178565.80 0.3753 0.2020

Mars -84600-11-30 10:32 J -29178393.19 -29178393.06 -29178392.94 0.1708 0.0313

Earth -84599-02-23 15:35 J -29178307.90 -29178307.85 -29178307.80 0.2755 0.2442

Moon -84599-02-23 16:18 J -29178307.88 -29178307.82 -29178307.76 0.2751 0.2310 *

Saturn -84596-06-04 00:42 J -29177111.62 -29177111.47 -29177111.33 0.0289 0.0165

Venus -84596-06-10 00:56 J -29177105.59 -29177105.46 -29177105.33 0.3615 0.0252

Moon -84596-08-31 08:37 J -29177023.28 -29177023.14 -29177022.99 0.2585 0.0256

Earth -84596-08-31 10:04 J -29177023.23 -29177023.08 -29177022.93 0.2583 0.0314 *

Saturn -84596-08-31 23:01 J -29177022.72 -29177022.54 -29177022.37 0.0289 0.0017

Jupiter -84596-10-03 18:56 J -29176989.83 -29176989.71 -29176989.60 0.0536 0.0254

Saturn -84596-11-28 20:52 J -29176933.79 -29176933.63 -29176933.48 0.0290 0.0130

Jupiter -84595-01-01 03:49 J -29176900.46 -29176900.34 -29176900.22 0.0533 0.0203

Saturn -84595-02-25 18:13 J -29176844.79 -29176844.74 -29176844.68 0.0290 0.0273

Venus -84595-12-25 10:18 J -29176542.14 -29176542.07 -29176542.01 0.3749 0.2984

Mars -84591-06-28 03:49 J -29175261.49 -29175261.34 -29175261.19 0.1824 0.0322

Venus -84591-12-25 00:13 J -29175081.62 -29175081.49 -29175081.36 0.3619 0.0887

Mars -84590-04-22 19:25 J -29174962.81 -29174962.69 -29174962.56 0.1716 0.0302

Jupiter -84590-12-01 08:52 J -29174740.25 -29174740.13 -29174740.00 0.0492 0.0352

Jupiter -84589-02-29 13:11 J -29174650.12 -29174649.95 -29174649.78 0.0494 0.0146

Earth -84586-02-26 10:47 J -29173557.15 -29173557.05 -29173556.94 0.2755 0.1082

Moon -84586-02-26 11:01 J -29173557.14 -29173557.04 -29173556.93 0.2748 0.1050 *

Venus -84585-07-09 23:01 J -29173057.65 -29173057.54 -29173057.43 0.3623 0.1961

Jupiter -84584-07-22 22:47 J -29172679.64 -29172679.55 -29172679.45 0.0537 0.0360

Jupiter -84584-10-20 07:40 J -29172590.31 -29172590.18 -29172590.05 0.0534 0.0094

Moon -84583-09-03 11:59 J -29172272.09 -29172272.00 -29172271.91 0.2590 0.2032

Earth -84583-09-03 12:28 J -29172272.06 -29172271.98 -29172271.90 0.2584 0.2153 *

Saturn -84582-06-28 15:20 J -29171973.95 -29171973.86 -29171973.77 0.0271 0.0200

Saturn -84582-09-25 02:23 J -29171885.52 -29171885.40 -29171885.27 0.0270 0.0110

Mars -84582-11-18 03:49 J -29171831.43 -29171831.34 -29171831.24 0.1816 0.1400

Saturn -84582-12-22 13:40 J -29171797.06 -29171796.93 -29171796.79 0.0270 0.0020

Saturn -84581-03-20 01:11 J -29171708.58 -29171708.45 -29171708.32 0.0270 0.0075

Saturn -84581-06-16 12:42 J -29171620.08 -29171619.97 -29171619.86 0.0270 0.0168

Mars -84581-09-12 04:47 J -29171532.41 -29171532.30 -29171532.20 0.1723 0.0900

Saturn -84581-09-13 00:13 J -29171531.51 -29171531.49 -29171531.45 0.0269 0.0263

Venus -84579-01-23 21:35 J -29171033.67 -29171033.60 -29171033.53 0.3627 0.2997

Mars -84579-08-18 16:32 J -29170826.85 -29170826.81 -29170826.77 0.1694 0.1595

Jupiter -84578-09-19 07:11 J -29170430.24 -29170430.20 -29170430.16 0.0491 0.0479

Jupiter -84578-12-18 11:44 J -29170340.19 -29170340.01 -29170339.83 0.0493 0.0022

Uranus -84578-12-19 09:35 J -29170339.16 -29170339.10 -29170339.02 0.0139 0.0128

Uranus -84577-03-16 16:47 J -29170250.92 -29170250.80 -29170250.68 0.0139 0.0104

Uranus -84577-06-12 23:30 J -29170162.65 -29170162.52 -29170162.36 0.0139 0.0081

Uranus -84577-09-09 06:42 J -29170074.39 -29170074.22 -29170074.05 0.0139 0.0057

Venus -84577-10-17 19:40 J -29170035.75 -29170035.68 -29170035.62 0.3775 0.3012

Uranus -84577-12-06 13:25 J -29169986.11 -29169985.94 -29169985.76 0.0139 0.0034

Uranus -84576-03-04 20:08 J -29169897.83 -29169897.66 -29169897.47 0.0138 0.0011

Uranus -84576-06-01 02:52 J -29169809.56 -29169809.38 -29169809.20 0.0138 0.0013

Uranus -84576-08-28 09:35 J -29169721.27 -29169721.10 -29169720.93 0.0138 0.0035

Uranus -84576-11-24 16:04 J -29169632.99 -29169632.83 -29169632.66 0.0138 0.0057

Neptune -84575-02-13 04:47 J -29169552.34 -29169552.30 -29169552.24 0.0089 0.0086

Uranus -84575-02-20 22:32 J -29169544.70 -29169544.56 -29169544.41 0.0138 0.0079

Neptune -84575-05-12 08:08 J -29169464.23 -29169464.16 -29169464.06 0.0089 0.0080

Uranus -84575-05-20 05:01 J -29169456.40 -29169456.29 -29169456.17 0.0138 0.0101

Neptune -84575-08-08 11:30 J -29169376.10 -29169376.02 -29169375.89 0.0089 0.0074

Uranus -84575-08-16 11:16 J -29169368.10 -29169368.03 -29169367.94 0.0138 0.0123

Neptune -84575-11-04 15:06 J -29169287.98 -29169287.87 -29169287.73 0.0089 0.0068

Neptune -84574-01-31 18:56 J -29169199.85 -29169199.71 -29169199.57 0.0089 0.0061

Neptune -84574-04-29 22:18 J -29169111.72 -29169111.57 -29169111.42 0.0089 0.0055

Neptune -84574-07-27 01:40 J -29169023.58 -29169023.43 -29169023.27 0.0089 0.0049

Neptune -84574-10-23 05:01 J -29168935.45 -29168935.29 -29168935.12 0.0089 0.0043

Neptune -84573-01-19 08:23 J -29168847.31 -29168847.15 -29168846.97 0.0089 0.0037

Moon -84573-02-29 05:44 J -29168806.37 -29168806.26 -29168806.14 0.2747 0.0230

Earth -84573-02-29 06:13 J -29168806.36 -29168806.24 -29168806.13 0.2754 0.0306 *

Neptune -84573-04-16 11:44 J -29168759.17 -29168759.01 -29168758.82 0.0089 0.0031

Neptune -84573-07-13 15:20 J -29168671.04 -29168670.86 -29168670.67 0.0089 0.0024

Neptune -84573-10-09 18:42 J -29168582.90 -29168582.72 -29168582.53 0.0089 0.0018

Neptune -84572-01-05 22:04 J -29168494.76 -29168494.58 -29168494.39 0.0089 0.0013

Neptune -84572-04-04 01:25 J -29168406.62 -29168406.44 -29168406.25 0.0089 0.0007

Jupiter -84572-05-11 02:37 J -29168369.45 -29168369.39 -29168369.33 0.0537 0.0467

Neptune -84572-07-01 04:47 J -29168318.48 -29168318.30 -29168318.11 0.0089 0.0003

Jupiter -84572-08-08 11:16 J -29168280.16 -29168280.03 -29168279.90 0.0535 0.0019

Neptune -84572-09-27 08:08 J -29168230.34 -29168230.16 -29168229.97 0.0089 0.0006

Jupiter -84572-11-05 20:37 J -29168190.71 -29168190.64 -29168190.57 0.0532 0.0443

Neptune -84572-12-24 11:30 J -29168142.20 -29168142.02 -29168141.83 0.0089 0.0012

Mars -84571-02-02 13:40 J -29168101.98 -29168101.93 -29168101.87 0.1730 0.1513

Neptune -84571-03-22 14:52 J -29168054.06 -29168053.88 -29168053.69 0.0089 0.0018

Venus -84571-05-03 13:54 J -29168012.00 -29168011.92 -29168011.83 0.3771 0.2200

Neptune -84571-06-18 18:13 J -29167965.92 -29167965.74 -29167965.56 0.0089 0.0024

Neptune -84571-09-14 21:20 J -29167877.78 -29167877.61 -29167877.43 0.0089 0.0030

Neptune -84571-12-12 00:42 J -29167789.64 -29167789.47 -29167789.29 0.0089 0.0036

Neptune -84570-03-10 03:49 J -29167701.49 -29167701.34 -29167701.16 0.0089 0.0042

Neptune -84570-06-06 07:11 J -29167613.35 -29167613.20 -29167613.04 0.0089 0.0047

Neptune -84570-09-02 10:18 J -29167525.20 -29167525.07 -29167524.91 0.0089 0.0054

Neptune -84570-11-29 13:54 J -29167437.06 -29167436.92 -29167436.78 0.0088 0.0059

Mars -84569-01-09 01:40 J -29167396.53 -29167396.43 -29167396.33 0.1701 0.0997

Pluto -84569-02-02 11:30 J -29167372.06 -29167372.02 -29167371.95 0.0060 0.0058

Neptune -84569-02-25 17:01 J -29167348.91 -29167348.79 -29167348.66 0.0088 0.0065

Pluto -84569-04-30 12:56 J -29167284.04 -29167283.96 -29167283.84 0.0060 0.0052

Neptune -84569-05-23 20:08 J -29167260.76 -29167260.66 -29167260.54 0.0088 0.0071

Pluto -84569-07-27 14:23 J -29167196.01 -29167195.90 -29167195.76 0.0060 0.0045

Neptune -84569-08-19 23:16 J -29167172.61 -29167172.53 -29167172.43 0.0088 0.0077

Pluto -84569-10-23 15:35 J -29167107.97 -29167107.85 -29167107.68 0.0060 0.0040

Neptune -84569-11-16 02:23 J -29167084.45 -29167084.40 -29167084.32 0.0088 0.0082

Pluto -84568-01-19 17:30 J -29167019.93 -29167019.77 -29167019.60 0.0061 0.0033

Neptune -84568-02-12 05:44 J -29166996.27 -29166996.26 -29166996.23 0.0088 0.0088

Pluto -84568-04-17 18:42 J -29166931.88 -29166931.72 -29166931.53 0.0061 0.0027

Pluto -84568-07-14 20:08 J -29166843.83 -29166843.66 -29166843.46 0.0061 0.0021

Pluto -84568-10-10 21:49 J -29166755.77 -29166755.59 -29166755.40 0.0061 0.0014

Pluto -84567-01-06 23:16 J -29166667.72 -29166667.53 -29166667.33 0.0061 0.0008

Pluto -84567-04-05 00:56 J -29166579.66 -29166579.46 -29166579.27 0.0061 0.0002

Pluto -84567-07-02 02:23 J -29166491.60 -29166491.40 -29166491.21 0.0061 0.0005

Pluto -84567-09-28 03:49 J -29166403.53 -29166403.34 -29166403.15 0.0061 0.0011

Saturn -84567-10-21 20:52 J -29166379.73 -29166379.63 -29166379.51 0.0288 0.0224

Pluto -84567-12-25 05:01 J -29166315.46 -29166315.29 -29166315.09 0.0061 0.0018

Saturn -84566-01-18 19:25 J -29166290.86 -29166290.69 -29166290.52 0.0289 0.0075

Pluto -84566-03-23 06:42 J -29166227.39 -29166227.22 -29166227.04 0.0061 0.0024

Saturn -84566-04-17 17:30 J -29166201.94 -29166201.77 -29166201.60 0.0289 0.0073

Pluto -84566-06-19 07:54 J -29166139.32 -29166139.17 -29166138.99 0.0061 0.0031

Saturn -84566-07-15 15:06 J -29166112.98 -29166112.87 -29166112.76 0.0289 0.0217

Pluto -84566-09-15 09:35 J -29166051.24 -29166051.10 -29166050.94 0.0061 0.0038

Jupiter -84566-10-06 10:47 J -29166030.22 -29166030.05 -29166029.87 0.0493 0.0098

Venus -84566-11-17 08:37 J -29165988.25 -29165988.14 -29165988.04 0.3768 0.1353

Pluto -84566-12-12 10:47 J -29165963.16 -29165963.05 -29165962.90 0.0061 0.0045

Jupiter -84565-01-04 14:23 J -29165940.00 -29165939.90 -29165939.79 0.0495 0.0396

Pluto -84565-03-09 12:42 J -29165875.07 -29165874.97 -29165874.86 0.0061 0.0051

Pluto -84565-06-05 13:54 J -29165786.97 -29165786.92 -29165786.84 0.0061 0.0058

Moon -84563-08-29 11:44 J -29164972.13 -29164972.01 -29164971.88 0.2582 0.1367

Earth -84563-08-29 13:25 J -29164972.08 -29164971.94 -29164971.81 0.2582 0.1190 *

Mars -84561-08-06 04:18 J -29164264.45 -29164264.32 -29164264.19 0.1833 0.0885

Moon -84560-03-03 00:56 J -29164055.55 -29164055.46 -29164055.37 0.2752 0.1666

Earth -84560-03-03 01:40 J -29164055.52 -29164055.43 -29164055.34 0.2753 0.1709 *

Jupiter -84560-05-27 14:08 J -29163970.03 -29163969.91 -29163969.78 0.0535 0.0137

Mars -84560-05-31 10:32 J -29163966.18 -29163966.06 -29163965.94 0.1708 0.0392

Venus -84560-06-02 03:20 J -29163964.47 -29163964.36 -29163964.25 0.3764 0.0482

Jupiter -84560-08-24 23:16 J -29163880.64 -29163880.53 -29163880.42 0.0532 0.0319

Venus -84556-06-01 00:13 J -29162504.50 -29162504.49 -29162504.47 0.3604 0.3573

Venus -84555-12-16 22:18 J -29161940.68 -29161940.57 -29161940.46 0.3760 0.0414

Jupiter -84554-07-25 09:35 J -29161720.26 -29161720.10 -29161719.94 0.0493 0.0220

Jupiter -84554-10-23 13:25 J -29161630.08 -29161629.94 -29161629.79 0.0495 0.0277

Earth -84553-02-24 20:37 J -29161505.71 -29161505.64 -29161505.57 0.2755 0.2160

Moon -84553-02-24 21:20 J -29161505.68 -29161505.61 -29161505.54 0.2751 0.2126 *

Saturn -84553-11-14 17:59 J -29161241.82 -29161241.75 -29161241.67 0.0272 0.0225

Saturn -84552-02-11 05:16 J -29161153.40 -29161153.28 -29161153.16 0.0271 0.0134

Saturn -84552-05-10 16:32 J -29161064.95 -29161064.81 -29161064.67 0.0271 0.0042

Saturn -84552-08-07 03:49 J -29160976.47 -29160976.34 -29160976.20 0.0271 0.0052

Saturn -84552-11-03 15:20 J -29160887.97 -29160887.86 -29160887.74 0.0270 0.0145

Mars -84552-12-27 04:32 J -29160834.46 -29160834.31 -29160834.16 0.1824 0.0193

Saturn -84551-01-31 03:06 J -29160799.43 -29160799.37 -29160799.31 0.0270 0.0239

Mars -84551-10-21 19:40 J -29160535.80 -29160535.68 -29160535.56 0.1715 0.0213

Venus -84551-12-16 00:56 J -29160480.56 -29160480.46 -29160480.36 0.3608 0.2302

Moon -84550-09-01 15:06 J -29160221.02 -29160220.87 -29160220.73 0.2586 0.0554

Earth -84550-09-01 16:04 J -29160220.97 -29160220.83 -29160220.68 0.2583 0.0706 *

Venus -84549-07-01 17:30 J -29159916.87 -29159916.77 -29159916.66 0.3756 0.1344

Jupiter -84548-03-15 17:30 J -29159659.89 -29159659.77 -29159659.66 0.0535 0.0252

Jupiter -84548-06-13 02:23 J -29159570.52 -29159570.40 -29159570.28 0.0533 0.0202

Venus -84545-07-01 00:42 J -29158456.59 -29158456.47 -29158456.34 0.3612 0.1107

Venus -84543-01-15 12:56 J -29157893.05 -29157892.96 -29157892.86 0.3752 0.2291

Jupiter -84542-05-13 07:25 J -29157410.31 -29157410.19 -29157410.06 0.0492 0.0349

Mars -84542-05-19 04:32 J -29157404.42 -29157404.31 -29157404.20 0.1815 0.1272

Jupiter -84542-08-11 11:44 J -29157320.18 -29157320.01 -29157319.84 0.0494 0.0149

Mars -84541-03-13 04:47 J -29157105.41 -29157105.30 -29157105.20 0.1723 0.0825

Moon -84540-02-26 15:49 J -29156754.95 -29156754.84 -29156754.73 0.2748 0.0765

Earth -84540-02-26 15:49 J -29156754.95 -29156754.84 -29156754.73 0.2755 0.0800 *

Venus -84539-01-15 00:28 J -29156432.61 -29156432.48 -29156432.35 0.3616 0.0075

Mars -84539-02-16 16:32 J -29156399.82 -29156399.81 -29156399.79 0.1694 0.1678

Venus -84538-08-01 08:52 J -29155869.19 -29155869.13 -29155869.08 0.3748 0.3263

Saturn -84537-03-09 21:35 J -29155647.67 -29155647.60 -29155647.51 0.0289 0.0256

Saturn -84537-06-06 20:08 J -29155558.82 -29155558.66 -29155558.49 0.0289 0.0106

Saturn -84537-09-03 18:28 J -29155469.91 -29155469.73 -29155469.56 0.0289 0.0043

Earth -84537-09-03 18:28 J -29155469.75 -29155469.73 -29155469.70 0.2584 0.2540 *

Moon -84537-09-03 18:13 J -29155469.74 -29155469.74 -29155469.74 0.2591 0.2590 *

Saturn -84537-12-01 16:04 J -29155380.96 -29155380.83 -29155380.70 0.0290 0.0188

Jupiter -84536-01-01 20:52 J -29155349.72 -29155349.63 -29155349.53 0.0536 0.0366

Jupiter -84536-04-01 05:44 J -29155260.39 -29155260.26 -29155260.13 0.0534 0.0088

Venus -84534-07-31 23:30 J -29154408.64 -29154408.52 -29154408.39 0.3620 0.1192

Uranus -84533-08-14 17:59 J -29154028.79 -29154028.75 -29154028.69 0.0139 0.0128

Uranus -84533-11-10 21:35 J -29153940.67 -29153940.60 -29153940.51 0.0139 0.0112

Uranus -84532-02-07 01:25 J -29153852.54 -29153852.44 -29153852.34 0.0139 0.0094

Uranus -84532-05-06 05:01 J -29153764.40 -29153764.29 -29153764.17 0.0140 0.0077

Uranus -84532-08-02 08:52 J -29153676.25 -29153676.13 -29153676.00 0.0140 0.0059

Mars -84532-08-03 13:54 J -29153674.99 -29153674.92 -29153674.85 0.1730 0.1425

Uranus -84532-10-29 12:42 J -29153588.11 -29153587.97 -29153587.84 0.0140 0.0041

Uranus -84531-01-25 16:18 J -29153499.95 -29153499.82 -29153499.68 0.0140 0.0023

Uranus -84531-04-23 20:08 J -29153411.80 -29153411.66 -29153411.52 0.0140 0.0005

Uranus -84531-07-20 23:59 J -29153323.64 -29153323.50 -29153323.36 0.0140 0.0013

Uranus -84531-10-17 03:49 J -29153235.48 -29153235.34 -29153235.20 0.0141 0.0031

Uranus -84530-01-13 07:40 J -29153147.31 -29153147.18 -29153147.05 0.0141 0.0050

Jupiter -84530-03-01 05:44 J -29153100.30 -29153100.26 -29153100.22 0.0491 0.0474

Uranus -84530-04-11 11:30 J -29153059.14 -29153059.02 -29153058.89 0.0141 0.0069

Jupiter -84530-05-30 10:18 J -29153010.24 -29153010.07 -29153009.89 0.0493 0.0027

Uranus -84530-07-08 15:20 J -29152970.96 -29152970.86 -29152970.74 0.0141 0.0088

Mars -84530-07-10 01:40 J -29152969.53 -29152969.43 -29152969.33 0.1701 0.1080

Uranus -84530-10-04 19:25 J -29152882.77 -29152882.69 -29152882.59 0.0141 0.0107

Uranus -84530-12-31 23:16 J -29152794.58 -29152794.53 -29152794.45 0.0141 0.0127

Venus -84528-02-13 22:18 J -29152384.67 -29152384.57 -29152384.46 0.3624 0.2261

Moon -84527-03-01 10:47 J -29152004.16 -29152004.05 -29152003.94 0.2748 0.0548

Earth -84527-03-01 11:16 J -29152004.14 -29152004.03 -29152003.92 0.2754 0.0593 *

Venus -84526-11-08 23:30 J -29151386.55 -29151386.52 -29151386.49 0.3777 0.3598

Jupiter -84525-10-21 00:56 J -29151039.52 -29151039.46 -29151039.40 0.0537 0.0473

Jupiter -84524-01-18 09:35 J -29150950.23 -29150950.10 -29150949.97 0.0535 0.0025

Jupiter -84524-04-17 18:56 J -29150860.79 -29150860.71 -29150860.64 0.0532 0.0437

Saturn -84523-04-03 20:23 J -29150509.70 -29150509.65 -29150509.60 0.0271 0.0250

Saturn -84523-07-01 07:25 J -29150421.29 -29150421.19 -29150421.07 0.0271 0.0160

Venus -84523-08-30 20:52 J -29150360.68 -29150360.63 -29150360.58 0.3628 0.3283

Saturn -84523-09-27 18:42 J -29150332.85 -29150332.72 -29150332.58 0.0270 0.0068

Saturn -84523-12-25 06:13 J -29150244.38 -29150244.24 -29150244.11 0.0270 0.0025

Saturn -84522-03-23 17:30 J -29150155.89 -29150155.77 -29150155.64 0.0270 0.0117

Saturn -84522-06-20 05:01 J -29150067.37 -29150067.29 -29150067.20 0.0270 0.0211

Mars -84521-02-05 04:32 J -29149837.43 -29149837.31 -29149837.18 0.1833 0.0997

Mars -84521-11-29 10:47 J -29149539.17 -29149539.05 -29149538.93 0.1708 0.0482

Venus -84520-05-24 17:44 J -29149362.83 -29149362.76 -29149362.68 0.3774 0.2795

Jupiter -84518-03-18 08:37 J -29148700.31 -29148700.14 -29148699.96 0.0493 0.0101

Jupiter -84518-06-16 12:13 J -29148610.09 -29148609.99 -29148609.88 0.0495 0.0392

Moon -84517-08-29 17:59 J -29148169.89 -29148169.75 -29148169.61 0.2582 0.0908

Earth -84517-08-29 19:25 J -29148169.83 -29148169.69 -29148169.55 0.2583 0.0794 *

Venus -84515-12-08 12:13 J -29147339.09 -29147338.99 -29147338.90 0.3771 0.1973

Moon -84514-03-04 05:59 J -29147253.34 -29147253.25 -29147253.17 0.2752 0.1861

Earth -84514-03-04 06:42 J -29147253.30 -29147253.22 -29147253.14 0.2753 0.2005 *

Jupiter -84513-11-06 13:11 J -29146640.07 -29146639.95 -29146639.82 0.0535 0.0131

Jupiter -84512-02-03 22:18 J -29146550.67 -29146550.57 -29146550.46 0.0533 0.0327

Mars -84512-06-27 05:01 J -29146407.44 -29146407.29 -29146407.14 0.1825 0.0073

Mars -84511-04-21 19:40 J -29146108.80 -29146108.68 -29146108.56 0.1715 0.0132

Venus -84509-06-23 06:56 J -29145315.32 -29145315.21 -29145315.11 0.3767 0.1119

Saturn -84508-10-24 16:47 J -29144826.94 -29144826.80 -29144826.65 0.0289 0.0163

Saturn -84507-01-21 15:06 J -29144738.04 -29144737.87 -29144737.69 0.0289 0.0015

Earth -84507-02-25 01:40 J -29144703.51 -29144703.43 -29144703.35 0.2755 0.1882

Moon -84507-02-25 02:08 J -29144703.49 -29144703.41 -29144703.32 0.2751 0.1748 *

Saturn -84507-04-20 12:56 J -29144649.11 -29144648.96 -29144648.80 0.0289 0.0133

Saturn -84507-07-18 10:18 J -29144560.11 -29144560.07 -29144560.01 0.0289 0.0277

Jupiter -84506-01-04 07:40 J -29144390.34 -29144390.18 -29144390.02 0.0492 0.0221

Jupiter -84506-04-04 11:30 J -29144300.16 -29144300.02 -29144299.87 0.0495 0.0276

Moon -84504-09-01 21:06 J -29143418.75 -29143418.62 -29143418.48 0.2588 0.1009

Earth -84504-09-01 22:04 J -29143418.71 -29143418.58 -29143418.44 0.2583 0.1091 *

Venus -84503-01-07 01:40 J -29143291.54 -29143291.43 -29143291.32 0.3763 0.0239

Mars -84503-11-17 05:01 J -29142977.40 -29142977.29 -29142977.17 0.1816 0.1146

Mars -84502-09-12 04:47 J -29142678.41 -29142678.30 -29142678.19 0.1722 0.0736

Jupiter -84501-08-25 16:18 J -29142329.94 -29142329.82 -29142329.71 0.0535 0.0249

Jupiter -84501-11-23 01:11 J -29142240.57 -29142240.45 -29142240.33 0.0533 0.0205

Venus -84499-01-06 00:13 J -29141831.55 -29141831.49 -29141831.43 0.3606 0.3224

Venus -84498-07-23 20:52 J -29141267.75 -29141267.63 -29141267.52 0.3759 0.0685

Jupiter -84495-10-23 05:59 J -29140080.37 -29140080.25 -29140080.12 0.0492 0.0345

Jupiter -84494-01-21 10:32 J -29139990.23 -29139990.06 -29139989.90 0.0494 0.0154

Moon -84494-02-27 20:52 J -29139952.74 -29139952.63 -29139952.52 0.2747 0.0567

Earth -84494-02-27 20:52 J -29139952.74 -29139952.63 -29139952.52 0.2755 0.0515 *

Neptune -84494-05-22 23:01 J -29139868.54 -29139868.54 -29139868.51 0.0089 0.0088

Venus -84494-07-23 00:28 J -29139807.59 -29139807.48 -29139807.36 0.3609 0.1979

Neptune -84494-08-19 00:28 J -29139780.51 -29139780.48 -29139780.43 0.0089 0.0084

Neptune -84494-11-15 01:54 J -29139692.47 -29139692.42 -29139692.35 0.0089 0.0079

Saturn -84494-11-18 10:18 J -29139689.17 -29139689.07 -29139688.97 0.0272 0.0185

Uranus -84493-01-08 16:32 J -29139637.88 -29139637.81 -29139637.72 0.0139 0.0124

Neptune -84493-02-11 03:20 J -29139604.42 -29139604.36 -29139604.29 0.0089 0.0075

Saturn -84493-02-14 21:20 J -29139600.73 -29139600.61 -29139600.48 0.0271 0.0094

Uranus -84493-04-05 23:30 J -29139549.63 -29139549.52 -29139549.38 0.0139 0.0101

Neptune -84493-05-09 04:32 J -29139516.38 -29139516.31 -29139516.22 0.0089 0.0071

Saturn -84493-05-13 08:52 J -29139512.27 -29139512.13 -29139511.99 0.0271 0.0005

Uranus -84493-07-03 06:42 J -29139461.37 -29139461.22 -29139461.07 0.0139 0.0076

Neptune -84493-08-05 05:59 J -29139428.33 -29139428.25 -29139428.15 0.0089 0.0067

Saturn -84493-08-09 20:08 J -29139423.79 -29139423.66 -29139423.53 0.0271 0.0094

Uranus -84493-09-29 13:25 J -29139373.10 -29139372.94 -29139372.76 0.0139 0.0053

Neptune -84493-11-01 07:40 J -29139340.28 -29139340.18 -29139340.09 0.0089 0.0062

Saturn -84493-11-06 07:54 J -29139335.27 -29139335.17 -29139335.07 0.0270 0.0187

Uranus -84493-12-26 20:23 J -29139284.83 -29139284.65 -29139284.47 0.0139 0.0030

Neptune -84492-01-28 08:52 J -29139252.23 -29139252.13 -29139252.02 0.0089 0.0058

Mars -84492-02-01 13:54 J -29139247.99 -29139247.92 -29139247.84 0.1730 0.1348

Venus -84492-02-05 16:04 J -29139243.93 -29139243.83 -29139243.73 0.3755 0.1600

Uranus -84492-03-25 03:06 J -29139196.55 -29139196.37 -29139196.19 0.0139 0.0007

Neptune -84492-04-26 10:04 J -29139164.17 -29139164.08 -29139163.96 0.0089 0.0054

Uranus -84492-06-21 09:49 J -29139108.27 -29139108.09 -29139107.91 0.0138 0.0016

Neptune -84492-07-23 11:30 J -29139076.12 -29139076.02 -29139075.90 0.0089 0.0050

Uranus -84492-09-17 16:32 J -29139019.98 -29139019.81 -29139019.64 0.0138 0.0039

Neptune -84492-10-19 13:11 J -29138988.07 -29138987.95 -29138987.84 0.0089 0.0045

Uranus -84492-12-14 23:01 J -29138931.70 -29138931.54 -29138931.38 0.0138 0.0061

Neptune -84491-01-15 14:23 J -29138900.01 -29138899.90 -29138899.77 0.0089 0.0041

Uranus -84491-03-13 05:30 J -29138843.41 -29138843.27 -29138843.12 0.0138 0.0083

Neptune -84491-04-13 15:49 J -29138811.96 -29138811.84 -29138811.71 0.0089 0.0037

Uranus -84491-06-09 11:44 J -29138755.11 -29138755.01 -29138754.88 0.0138 0.0105

Neptune -84491-07-10 17:16 J -29138723.90 -29138723.78 -29138723.65 0.0089 0.0032

Uranus -84491-09-05 17:59 J -29138666.80 -29138666.75 -29138666.66 0.0138 0.0127

Neptune -84491-10-06 18:42 J -29138635.85 -29138635.72 -29138635.59 0.0089 0.0028

Neptune -84490-01-02 20:08 J -29138547.79 -29138547.66 -29138547.53 0.0089 0.0023

Mars -84490-01-08 01:40 J -29138542.52 -29138542.43 -29138542.34 0.1701 0.1167

Neptune -84490-03-31 21:35 J -29138459.73 -29138459.60 -29138459.47 0.0089 0.0019

Neptune -84490-06-27 23:01 J -29138371.67 -29138371.54 -29138371.41 0.0089 0.0015

Neptune -84490-09-24 00:28 J -29138283.62 -29138283.48 -29138283.35 0.0089 0.0010

Neptune -84490-12-21 01:54 J -29138195.56 -29138195.42 -29138195.29 0.0089 0.0006

Neptune -84489-03-18 03:20 J -29138107.50 -29138107.36 -29138107.23 0.0089 0.0002

Jupiter -84489-06-13 19:25 J -29138019.78 -29138019.69 -29138019.59 0.0536 0.0365

Neptune -84489-06-14 04:47 J -29138019.44 -29138019.30 -29138019.17 0.0089 0.0003

Neptune -84489-09-10 06:13 J -29137931.38 -29137931.24 -29137931.11 0.0089 0.0007

Jupiter -84489-09-11 04:18 J -29137930.45 -29137930.32 -29137930.19 0.0533 0.0088

Neptune -84489-12-07 07:40 J -29137843.32 -29137843.18 -29137843.05 0.0089 0.0012

Venus -84488-02-05 00:28 J -29137783.61 -29137783.48 -29137783.35 0.3613 0.0773

Neptune -84488-03-05 09:06 J -29137755.25 -29137755.12 -29137754.99 0.0089 0.0016

Neptune -84488-06-01 10:32 J -29137667.19 -29137667.06 -29137666.93 0.0089 0.0021

Neptune -84488-08-28 11:59 J -29137579.13 -29137579.00 -29137578.87 0.0089 0.0025

Neptune -84488-11-24 13:25 J -29137491.07 -29137490.94 -29137490.81 0.0089 0.0029

Neptune -84487-02-20 14:52 J -29137403.00 -29137402.88 -29137402.75 0.0089 0.0034

Neptune -84487-05-19 16:18 J -29137314.94 -29137314.82 -29137314.69 0.0089 0.0038

Neptune -84487-08-15 17:44 J -29137226.87 -29137226.76 -29137226.63 0.0089 0.0043

Venus -84487-08-22 11:30 J -29137220.10 -29137220.02 -29137219.93 0.3751 0.2566

Neptune -84487-11-11 19:11 J -29137138.81 -29137138.70 -29137138.58 0.0089 0.0048

Neptune -84486-02-07 20:37 J -29137050.74 -29137050.64 -29137050.52 0.0089 0.0052

Neptune -84486-05-06 22:18 J -29136962.67 -29136962.57 -29136962.46 0.0089 0.0056

Neptune -84486-08-02 23:44 J -29136874.61 -29136874.51 -29136874.41 0.0089 0.0061

Neptune -84486-10-30 00:56 J -29136786.54 -29136786.46 -29136786.35 0.0089 0.0066

Neptune -84485-01-26 02:37 J -29136698.47 -29136698.39 -29136698.30 0.0089 0.0070

Neptune -84485-04-23 04:18 J -29136610.39 -29136610.32 -29136610.25 0.0089 0.0074

Neptune -84485-07-20 05:30 J -29136522.32 -29136522.27 -29136522.19 0.0089 0.0079

Neptune -84485-10-16 06:56 J -29136434.24 -29136434.21 -29136434.15 0.0089 0.0084

Neptune -84484-01-12 08:37 J -29136346.15 -29136346.14 -29136346.11 0.0089 0.0088

Moon -84484-08-27 21:06 J -29136118.68 -29136118.62 -29136118.56 0.2580 0.2369

Earth -84484-08-27 22:32 J -29136118.62 -29136118.56 -29136118.50 0.2582 0.2328 *

Jupiter -84483-08-11 03:49 J -29135770.38 -29135770.34 -29135770.29 0.0491 0.0474

Venus -84483-08-21 23:59 J -29135759.63 -29135759.50 -29135759.37 0.3617 0.0388

Jupiter -84483-11-09 08:37 J -29135680.32 -29135680.14 -29135679.96 0.0493 0.0026

Mars -84482-08-06 05:16 J -29135410.40 -29135410.28 -29135410.16 0.1834 0.1124

Moon -84481-03-01 15:35 J -29135201.96 -29135201.85 -29135201.74 0.2749 0.0822

Earth -84481-03-01 16:18 J -29135201.93 -29135201.82 -29135201.71 0.2754 0.0879 *

Venus -84481-03-07 07:25 J -29135196.22 -29135196.19 -29135196.16 0.3747 0.3549

Mars -84481-05-30 10:47 J -29135112.17 -29135112.05 -29135111.94 0.1708 0.0560

Saturn -84478-03-13 18:13 J -29134094.87 -29134094.74 -29134094.61 0.0289 0.0190

Saturn -84478-06-10 16:32 J -29134005.98 -29134005.81 -29134005.63 0.0289 0.0041

Saturn -84478-09-07 14:23 J -29133917.06 -29133916.90 -29133916.73 0.0289 0.0106

Saturn -84478-12-05 11:59 J -29133828.08 -29133828.00 -29133827.91 0.0290 0.0250

Venus -84477-03-06 23:01 J -29133735.66 -29133735.54 -29133735.42 0.3621 0.1495

Jupiter -84477-04-01 23:01 J -29133709.60 -29133709.54 -29133709.49 0.0537 0.0480

Jupiter -84477-06-30 07:25 J -29133620.32 -29133620.19 -29133620.06 0.0535 0.0031

Jupiter -84477-09-27 16:47 J -29133530.88 -29133530.80 -29133530.72 0.0532 0.0429

Pluto -84476-06-06 05:16 J -29133279.31 -29133279.28 -29133279.24 0.0085 0.0081

Pluto -84476-09-02 06:42 J -29133191.29 -29133191.22 -29133191.14 0.0085 0.0069

Pluto -84476-11-29 08:08 J -29133103.26 -29133103.16 -29133103.06 0.0084 0.0057

Pluto -84475-02-25 09:20 J -29133015.22 -29133015.11 -29133014.99 0.0084 0.0045

Pluto -84475-05-24 10:32 J -29132927.17 -29132927.06 -29132926.93 0.0084 0.0033

Pluto -84475-08-20 11:59 J -29132839.13 -29132839.00 -29132838.87 0.0084 0.0021

Pluto -84475-11-16 13:25 J -29132751.08 -29132750.94 -29132750.81 0.0084 0.0009

Pluto -84474-02-12 14:37 J -29132663.02 -29132662.89 -29132662.76 0.0084 0.0002

Pluto -84474-05-11 15:49 J -29132574.97 -29132574.84 -29132574.70 0.0084 0.0014

Pluto -84474-08-07 17:01 J -29132486.91 -29132486.79 -29132486.66 0.0084 0.0026

Pluto -84474-11-03 18:28 J -29132398.85 -29132398.73 -29132398.61 0.0083 0.0037

Pluto -84473-01-30 19:25 J -29132310.79 -29132310.69 -29132310.57 0.0083 0.0049

Pluto -84473-04-27 20:52 J -29132222.72 -29132222.63 -29132222.53 0.0083 0.0060

Pluto -84473-07-24 21:49 J -29132134.64 -29132134.59 -29132134.51 0.0083 0.0071

Pluto -84473-10-20 23:01 J -29132046.54 -29132046.54 -29132046.50 0.0083 0.0082

Mars -84473-12-26 05:30 J -29131980.42 -29131980.27 -29131980.12 0.1825 0.0050

Venus -84472-09-20 21:49 J -29131711.68 -29131711.59 -29131711.50 0.3625 0.2556

Mars -84472-10-20 19:54 J -29131681.80 -29131681.67 -29131681.55 0.1715 0.0060

Jupiter -84471-08-28 06:56 J -29131370.38 -29131370.21 -29131370.03 0.0493 0.0100

Moon -84471-08-31 00:13 J -29131367.64 -29131367.49 -29131367.35 0.2583 0.0602

Earth -84471-08-31 01:25 J -29131367.58 -29131367.44 -29131367.29 0.2583 0.0406 *

Jupiter -84471-11-26 10:32 J -29131280.16 -29131280.06 -29131279.95 0.0495 0.0394

Venus -84469-06-14 21:49 J -29130713.64 -29130713.59 -29130713.55 0.3776 0.3387

Moon -84468-03-04 10:47 J -29130451.11 -29130451.05 -29130450.98 0.2752 0.2219

Earth -84468-03-04 11:44 J -29130451.07 -29130451.01 -29130450.95 0.2753 0.2292 *

Venus -84466-04-06 20:08 J -29129687.68 -29129687.66 -29129687.64 0.3630 0.3570

Jupiter -84465-04-18 11:16 J -29129310.16 -29129310.03 -29129309.91 0.0535 0.0139

Jupiter -84465-07-16 20:23 J -29129220.76 -29129220.65 -29129220.55 0.0533 0.0319

Saturn -84464-04-06 12:56 J -29128957.04 -29128956.96 -29128956.87 0.0271 0.0207

Saturn -84464-07-03 23:59 J -29128868.62 -29128868.50 -29128868.37 0.0271 0.0117

Saturn -84464-09-30 11:30 J -29128780.16 -29128780.02 -29128779.89 0.0270 0.0025

Saturn -84464-12-27 22:47 J -29128691.68 -29128691.55 -29128691.42 0.0270 0.0069

Venus -84464-12-29 16:04 J -29128689.91 -29128689.83 -29128689.75 0.3773 0.2580

Saturn -84463-03-26 10:18 J -29128603.18 -29128603.07 -29128602.96 0.0270 0.0162

Mars -84463-05-18 05:30 J -29128550.40 -29128550.27 -29128550.15 0.1816 0.1033

Saturn -84463-06-22 21:49 J -29128514.62 -29128514.59 -29128514.54 0.0270 0.0257

Mars -84462-03-13 05:01 J -29128251.41 -29128251.29 -29128251.18 0.1722 0.0652

Earth -84461-02-26 06:42 J -29127901.31 -29127901.22 -29127901.13 0.2755 0.1603

Moon -84461-02-26 06:56 J -29127901.30 -29127901.21 -29127901.11 0.2749 0.1612 *

Jupiter -84459-06-16 05:16 J -29127060.44 -29127060.28 -29127060.12 0.0492 0.0226

Jupiter -84459-09-14 09:06 J -29126970.26 -29126970.12 -29126969.97 0.0494 0.0270

Venus -84458-07-15 10:32 J -29126666.16 -29126666.06 -29126665.96 0.3770 0.1742

Moon -84458-09-03 03:20 J -29126616.48 -29126616.36 -29126616.24 0.2589 0.1405

Earth -84458-09-03 04:18 J -29126616.45 -29126616.32 -29126616.20 0.2583 0.1475 *

Jupiter -84453-02-05 15:06 J -29124999.99 -29124999.87 -29124999.76 0.0536 0.0247

Jupiter -84453-05-04 23:59 J -29124910.62 -29124910.50 -29124910.38 0.0533 0.0209

Mars -84453-08-02 13:54 J -29124821.00 -29124820.92 -29124820.84 0.1730 0.1267

Venus -84452-01-28 05:16 J -29124642.39 -29124642.28 -29124642.18 0.3766 0.0886

Mars -84451-07-09 01:54 J -29124115.50 -29124115.42 -29124115.34 0.1700 0.1252

Saturn -84449-07-30 15:06 J -29123362.96 -29123362.87 -29123362.77 0.0288 0.0244

Uranus -84449-09-04 00:56 J -29123327.51 -29123327.46 -29123327.40 0.0139 0.0126

Saturn -84449-10-27 13:40 J -29123274.09 -29123273.93 -29123273.76 0.0289 0.0095

Uranus -84449-12-01 04:47 J -29123239.39 -29123239.30 -29123239.22 0.0139 0.0109

Saturn -84448-01-24 11:44 J -29123185.18 -29123185.01 -29123184.83 0.0289 0.0054

Uranus -84448-02-27 08:08 J -29123151.25 -29123151.16 -29123151.05 0.0139 0.0092

Moon -84448-02-28 01:40 J -29123150.54 -29123150.43 -29123150.31 0.2747 0.0211

Earth -84448-02-28 01:54 J -29123150.54 -29123150.42 -29123150.31 0.2754 0.0235 *

Saturn -84448-04-23 09:35 J -29123096.23 -29123096.10 -29123095.97 0.0289 0.0199

Uranus -84448-05-26 11:59 J -29123063.11 -29123063.00 -29123062.88 0.0140 0.0074

Uranus -84448-08-22 15:35 J -29122974.97 -29122974.85 -29122974.72 0.0140 0.0057

Uranus -84448-11-18 19:25 J -29122886.82 -29122886.69 -29122886.56 0.0140 0.0039

Uranus -84447-02-14 23:16 J -29122798.67 -29122798.53 -29122798.40 0.0140 0.0021

Jupiter -84447-04-04 03:49 J -29122750.46 -29122750.34 -29122750.21 0.0492 0.0348

Uranus -84447-05-14 03:06 J -29122710.51 -29122710.37 -29122710.24 0.0140 0.0005

Jupiter -84447-07-03 08:23 J -29122660.32 -29122660.15 -29122659.98 0.0494 0.0151

Uranus -84447-08-10 06:42 J -29122622.35 -29122622.22 -29122622.08 0.0140 0.0016

Venus -84447-08-13 23:59 J -29122618.61 -29122618.50 -29122618.38 0.3762 0.0130

Uranus -84447-11-06 10:32 J -29122534.19 -29122534.06 -29122533.92 0.0140 0.0034

Uranus -84446-02-02 14:23 J -29122446.02 -29122445.90 -29122445.76 0.0141 0.0053

Uranus -84446-05-01 18:28 J -29122357.85 -29122357.73 -29122357.61 0.0141 0.0071

Uranus -84446-07-28 22:18 J -29122269.67 -29122269.57 -29122269.46 0.0141 0.0090

Uranus -84446-10-25 02:08 J -29122181.49 -29122181.41 -29122181.31 0.0141 0.0109

Uranus -84445-01-21 06:13 J -29122093.29 -29122093.24 -29122093.18 0.0141 0.0128

Venus -84443-08-13 00:13 J -29121158.57 -29121158.49 -29121158.41 0.3606 0.2881

Mars -84442-02-04 05:44 J -29120983.36 -29120983.26 -29120983.15 0.1834 0.1254

Jupiter -84442-11-24 18:13 J -29120689.83 -29120689.74 -29120689.65 0.0536 0.0363

Mars -84442-11-29 10:47 J -29120685.16 -29120685.05 -29120684.93 0.1708 0.0646

Jupiter -84441-02-22 02:52 J -29120600.51 -29120600.38 -29120600.25 0.0533 0.0089

Venus -84441-02-27 19:11 J -29120594.81 -29120594.70 -29120594.59 0.3758 0.0928

Moon -84438-08-29 03:20 J -29119316.44 -29119316.36 -29119316.28 0.2580 0.2164

Earth -84438-08-29 04:32 J -29119316.40 -29119316.31 -29119316.21 0.2582 0.1927 *

Venus -84437-02-27 00:13 J -29119134.60 -29119134.49 -29119134.37 0.3610 0.1645

Venus -84436-09-12 14:37 J -29118570.99 -29118570.89 -29118570.79 0.3754 0.1875

Jupiter -84435-01-21 02:08 J -29118440.46 -29118440.41 -29118440.37 0.0492 0.0474

Moon -84435-03-02 20:37 J -29118399.75 -29118399.64 -29118399.54 0.2750 0.1038

Earth -84435-03-02 21:20 J -29118399.72 -29118399.61 -29118399.51 0.2754 0.1169 *

Jupiter -84435-04-21 06:56 J -29118350.39 -29118350.21 -29118350.03 0.0494 0.0028

Saturn -84435-08-24 15:35 J -29118224.92 -29118224.85 -29118224.78 0.0272 0.0233

Saturn -84435-11-21 02:37 J -29118136.50 -29118136.39 -29118136.27 0.0272 0.0142

Saturn -84434-02-17 13:54 J -29118048.05 -29118047.92 -29118047.78 0.0271 0.0050

Saturn -84434-05-17 01:25 J -29117959.58 -29117959.44 -29117959.31 0.0271 0.0044

Saturn -84434-08-13 12:56 J -29117871.08 -29117870.96 -29117870.84 0.0271 0.0138

Saturn -84434-11-10 00:28 J -29117782.54 -29117782.48 -29117782.41 0.0270 0.0233

Mars -84433-06-26 05:59 J -29117553.40 -29117553.25 -29117553.10 0.1825 0.0170

Mars -84432-04-20 19:54 J -29117254.79 -29117254.67 -29117254.55 0.1715 0.0039

Venus -84432-09-12 00:13 J -29117110.62 -29117110.49 -29117110.36 0.3614 0.0443

Venus -84430-03-29 10:18 J -29116547.15 -29116547.07 -29116547.00 0.3750 0.2847

Jupiter -84430-09-12 21:35 J -29116379.66 -29116379.60 -29116379.55 0.0536 0.0478

Jupiter -84430-12-11 05:59 J -29116290.38 -29116290.25 -29116290.12 0.0534 0.0029

Jupiter -84429-03-09 15:20 J -29116200.94 -29116200.86 -29116200.79 0.0531 0.0428

Earth -84428-02-23 16:32 J -29115849.84 -29115849.81 -29115849.79 0.2755 0.2674

Moon -84428-02-23 17:16 J -29115849.81 -29115849.78 -29115849.75 0.2754 0.2635 *

Venus -84426-03-28 23:30 J -29115086.65 -29115086.52 -29115086.39 0.3618 0.0702

Moon -84425-08-31 06:13 J -29114565.38 -29114565.24 -29114565.09 0.2585 0.0086

Earth -84425-08-31 07:40 J -29114565.33 -29114565.18 -29114565.03 0.2583 0.0031 *

Mars -84424-11-16 06:13 J -29114123.37 -29114123.24 -29114123.11 0.1816 0.0897

Jupiter -84423-02-07 05:01 J -29114040.46 -29114040.29 -29114040.12 0.0493 0.0101

Jupiter -84423-05-08 08:37 J -29113950.24 -29113950.14 -29113950.03 0.0495 0.0392

Mars -84423-09-11 05:01 J -29113824.41 -29113824.29 -29113824.18 0.1722 0.0572

Moon -84422-03-05 16:04 J -29113648.88 -29113648.83 -29113648.78 0.2753 0.2472

Earth -84422-03-05 16:47 J -29113648.83 -29113648.80 -29113648.76 0.2753 0.2587 *

Venus -84421-10-11 22:32 J -29113062.67 -29113062.56 -29113062.45 0.3622 0.1801

Saturn -84420-12-17 17:01 J -29112630.85 -29112630.79 -29112630.73 0.0288 0.0269

Saturn -84419-03-16 15:35 J -29112542.01 -29112541.85 -29112541.69 0.0289 0.0119

Saturn -84419-06-13 13:40 J -29112453.10 -29112452.93 -29112452.75 0.0289 0.0030

Saturn -84419-09-10 11:30 J -29112364.16 -29112364.02 -29112363.88 0.0289 0.0175

Jupiter -84418-09-29 09:06 J -29111980.24 -29111980.12 -29111979.99 0.0535 0.0147

Jupiter -84418-12-27 18:13 J -29111890.85 -29111890.74 -29111890.63 0.0533 0.0310

Earth -84415-02-26 11:30 J -29111099.11 -29111099.02 -29111098.92 0.2755 0.1326

Moon -84415-02-26 11:59 J -29111099.11 -29111099.00 -29111098.90 0.2748 0.1221 *

Venus -84415-04-27 21:06 J -29111038.70 -29111038.62 -29111038.54 0.3627 0.2854

Mars -84413-02-01 14:08 J -29110394.00 -29110393.91 -29110393.82 0.1730 0.1181

Venus -84412-01-19 19:54 J -29110040.73 -29110040.67 -29110040.61 0.3775 0.3169

Moon -84412-09-03 09:20 J -29109814.21 -29109814.11 -29109814.00 0.2589 0.1751

Earth -84412-09-03 10:18 J -29109814.17 -29109814.07 -29109813.97 0.2584 0.1857 *

Jupiter -84412-11-26 03:20 J -29109730.52 -29109730.36 -29109730.20 0.0492 0.0227

Mars -84411-01-07 01:54 J -29109688.49 -29109688.42 -29109688.34 0.1701 0.1335

Jupiter -84411-02-24 07:11 J -29109640.34 -29109640.20 -29109640.05 0.0494 0.0270

Neptune -84411-11-10 03:20 J -29109381.40 -29109381.36 -29109381.27 0.0089 0.0084

Neptune -84410-02-06 07:11 J -29109293.28 -29109293.20 -29109293.10 0.0089 0.0077

Neptune -84410-05-05 10:47 J -29109205.16 -29109205.05 -29109204.93 0.0089 0.0071

Neptune -84410-08-01 14:08 J -29109117.03 -29109116.91 -29109116.77 0.0089 0.0065

Neptune -84410-10-28 17:30 J -29109028.90 -29109028.77 -29109028.61 0.0089 0.0059

Neptune -84409-01-24 20:52 J -29108940.77 -29108940.63 -29108940.46 0.0089 0.0053

Uranus -84409-01-28 23:16 J -29108936.61 -29108936.53 -29108936.43 0.0139 0.0121

Neptune -84409-04-22 00:28 J -29108852.63 -29108852.48 -29108852.31 0.0089 0.0046

Uranus -84409-04-26 06:28 J -29108848.36 -29108848.23 -29108848.09 0.0139 0.0097

Neptune -84409-07-19 04:04 J -29108764.49 -29108764.33 -29108764.16 0.0089 0.0040

Uranus -84409-07-23 13:11 J -29108760.09 -29108759.95 -29108759.78 0.0139 0.0073

Neptune -84409-10-15 07:25 J -29108676.36 -29108676.19 -29108676.01 0.0089 0.0034

Uranus -84409-10-19 20:23 J -29108671.82 -29108671.65 -29108671.48 0.0139 0.0049

Neptune -84408-01-11 11:01 J -29108588.22 -29108588.04 -29108587.86 0.0089 0.0028

Uranus -84408-01-16 03:06 J -29108583.54 -29108583.37 -29108583.19 0.0139 0.0026

Neptune -84408-04-09 14:23 J -29108500.08 -29108499.90 -29108499.72 0.0089 0.0022

Uranus -84408-04-14 10:04 J -29108495.26 -29108495.08 -29108494.90 0.0139 0.0004

Neptune -84408-07-06 17:44 J -29108411.94 -29108411.76 -29108411.57 0.0089 0.0016

Uranus -84408-07-11 16:32 J -29108406.98 -29108406.81 -29108406.63 0.0138 0.0020

Neptune -84408-10-02 21:06 J -29108323.80 -29108323.62 -29108323.43 0.0089 0.0010

Uranus -84408-10-07 23:16 J -29108318.70 -29108318.53 -29108318.36 0.0138 0.0042

Neptune -84408-12-30 00:28 J -29108235.67 -29108235.48 -29108235.29 0.0089 0.0004

Uranus -84407-01-04 05:44 J -29108230.41 -29108230.26 -29108230.10 0.0138 0.0065

Neptune -84407-03-28 03:49 J -29108147.53 -29108147.34 -29108147.15 0.0089 0.0003

Uranus -84407-04-02 12:13 J -29108142.12 -29108141.99 -29108141.85 0.0138 0.0087

Neptune -84407-06-24 07:11 J -29108059.38 -29108059.20 -29108059.01 0.0089 0.0009

Uranus -84407-06-29 18:28 J -29108053.82 -29108053.73 -29108053.61 0.0138 0.0109

Venus -84407-08-05 14:08 J -29108016.99 -29108016.91 -29108016.82 0.3772 0.2351

Neptune -84407-09-20 10:32 J -29107971.24 -29107971.06 -29107970.87 0.0089 0.0015

Uranus -84407-09-26 01:11 J -29107965.50 -29107965.45 -29107965.39 0.0138 0.0130

Neptune -84407-12-17 13:54 J -29107883.10 -29107882.92 -29107882.74 0.0089 0.0021

Neptune -84406-03-15 17:01 J -29107794.96 -29107794.79 -29107794.60 0.0089 0.0027

Neptune -84406-06-11 20:23 J -29107706.82 -29107706.65 -29107706.47 0.0089 0.0033

Jupiter -84406-07-18 12:56 J -29107670.08 -29107669.96 -29107669.85 0.0536 0.0257

Neptune -84406-09-07 23:30 J -29107618.68 -29107618.52 -29107618.34 0.0089 0.0039

Jupiter -84406-10-15 21:49 J -29107580.71 -29107580.59 -29107580.47 0.0534 0.0199

Neptune -84406-12-05 02:52 J -29107530.53 -29107530.38 -29107530.21 0.0089 0.0044

Saturn -84405-01-11 18:28 J -29107492.77 -29107492.73 -29107492.68 0.0271 0.0254

Neptune -84405-03-02 05:59 J -29107442.39 -29107442.25 -29107442.08 0.0089 0.0051

Saturn -84405-04-09 05:30 J -29107404.37 -29107404.27 -29107404.15 0.0271 0.0163

Neptune -84405-05-29 09:35 J -29107354.24 -29107354.10 -29107353.95 0.0089 0.0056

Saturn -84405-07-06 16:47 J -29107315.93 -29107315.80 -29107315.66 0.0271 0.0072

Neptune -84405-08-25 12:42 J -29107266.09 -29107265.97 -29107265.83 0.0089 0.0062

Saturn -84405-10-03 04:18 J -29107227.46 -29107227.32 -29107227.18 0.0270 0.0022

Neptune -84405-11-21 15:49 J -29107177.95 -29107177.84 -29107177.71 0.0089 0.0068

Saturn -84405-12-30 15:49 J -29107138.97 -29107138.84 -29107138.72 0.0270 0.0116

Neptune -84404-02-17 18:56 J -29107089.80 -29107089.71 -29107089.59 0.0089 0.0074

Saturn -84404-03-29 03:06 J -29107050.45 -29107050.37 -29107050.27 0.0270 0.0210

Neptune -84404-05-16 22:04 J -29107001.64 -29107001.58 -29107001.48 0.0089 0.0080

Neptune -84404-08-13 01:40 J -29106913.48 -29106913.43 -29106913.38 0.0089 0.0085

Mars -84403-08-05 05:59 J -29106556.35 -29106556.25 -29106556.15 0.1834 0.1358

Moon -84402-03-01 06:42 J -29106348.34 -29106348.22 -29106348.11 0.2747 0.0047

Earth -84402-03-01 06:56 J -29106348.33 -29106348.21 -29106348.10 0.2754 0.0087 *

Mars -84402-05-30 11:01 J -29106258.15 -29106258.04 -29106257.93 0.1707 0.0734

Venus -84401-02-19 08:52 J -29105993.24 -29105993.13 -29105993.03 0.3768 0.1514

Jupiter -84400-09-14 01:11 J -29105420.57 -29105420.45 -29105420.32 0.0492 0.0355

Jupiter -84400-12-13 05:44 J -29105330.43 -29105330.26 -29105330.09 0.0494 0.0144

Venus -84396-09-04 03:35 J -29103969.46 -29103969.35 -29103969.24 0.3765 0.0641

Jupiter -84394-05-06 16:47 J -29103359.90 -29103359.80 -29103359.71 0.0536 0.0365

Jupiter -84394-08-04 01:25 J -29103270.57 -29103270.44 -29103270.31 0.0534 0.0089

Mars -84394-12-26 06:42 J -29103126.37 -29103126.22 -29103126.07 0.1826 0.0306

Mars -84393-10-19 19:54 J -29102827.79 -29102827.67 -29102827.54 0.1714 0.0138

Moon -84392-08-29 09:20 J -29102514.23 -29102514.11 -29102513.99 0.2580 0.1578

Earth -84392-08-29 10:47 J -29102514.17 -29102514.05 -29102513.93 0.2582 0.1533 *

Venus -84390-03-20 22:32 J -29101945.68 -29101945.56 -29101945.45 0.3761 0.0282

Saturn -84390-08-03 12:56 J -29101810.10 -29101809.96 -29101809.82 0.0288 0.0171

Saturn -84390-10-31 11:16 J -29101721.21 -29101721.03 -29101720.85 0.0289 0.0022

Saturn -84389-01-28 09:06 J -29101632.27 -29101632.12 -29101631.96 0.0289 0.0125

Moon -84389-03-03 01:25 J -29101597.53 -29101597.44 -29101597.34 0.2750 0.1413

Earth -84389-03-03 02:23 J -29101597.50 -29101597.40 -29101597.31 0.2753 0.1456 *

Saturn -84389-04-26 06:28 J -29101543.28 -29101543.23 -29101543.16 0.0289 0.0270

Jupiter -84388-07-02 23:44 J -29101110.54 -29101110.51 -29101110.47 0.0491 0.0478

Jupiter -84388-10-01 04:32 J -29101020.48 -29101020.31 -29101020.13 0.0493 0.0024

Venus -84386-03-19 23:59 J -29100485.59 -29100485.50 -29100485.40 0.3607 0.2534

Venus -84385-10-03 17:44 J -29099921.87 -29099921.76 -29099921.65 0.3757 0.1197

Mars -84384-05-17 06:42 J -29099696.36 -29099696.22 -29099696.09 0.1816 0.0785

Mars -84383-03-12 05:01 J -29099397.41 -29099397.29 -29099397.17 0.1722 0.0489

Jupiter -84382-02-22 20:08 J -29099049.72 -29099049.66 -29099049.61 0.0536 0.0479

Earth -84382-02-24 21:20 J -29099047.66 -29099047.61 -29099047.55 0.2755 0.2397

Moon -84382-02-24 22:04 J -29099047.64 -29099047.58 -29099047.52 0.2752 0.2270 *

Jupiter -84382-05-23 04:32 J -29098960.44 -29098960.31 -29098960.18 0.0534 0.0030

Jupiter -84382-08-20 13:40 J -29098871.00 -29098870.93 -29098870.85 0.0531 0.0427

Venus -84381-10-03 00:13 J -29098461.62 -29098461.49 -29098461.37 0.3611 0.1308

Venus -84379-04-19 13:11 J -29097898.05 -29097897.95 -29097897.86 0.3753 0.2152

Moon -84379-09-01 12:28 J -29097763.13 -29097762.98 -29097762.83 0.2587 0.0168

Earth -84379-09-01 13:40 J -29097763.08 -29097762.93 -29097762.78 0.2583 0.0383 *

Jupiter -84376-07-20 02:52 J -29096710.55 -29096710.38 -29096710.20 0.0493 0.0104

Saturn -84376-08-27 08:08 J -29096672.25 -29096672.16 -29096672.06 0.0272 0.0189

Jupiter -84376-10-18 06:42 J -29096620.32 -29096620.22 -29096620.11 0.0495 0.0392

Saturn -84376-11-23 19:25 J -29096583.82 -29096583.69 -29096583.56 0.0272 0.0097

Saturn -84375-02-20 06:42 J -29096495.36 -29096495.22 -29096495.08 0.0271 0.0004

Venus -84375-04-18 23:44 J -29096437.64 -29096437.51 -29096437.37 0.3615 0.0165

Saturn -84375-05-19 18:13 J -29096406.87 -29096406.74 -29096406.61 0.0271 0.0090

Saturn -84375-08-16 05:44 J -29096318.36 -29096318.26 -29096318.16 0.0271 0.0184

Mars -84374-08-02 14:08 J -29095967.00 -29095966.91 -29095966.82 0.1729 0.1102

Venus -84374-11-03 08:52 J -29095874.19 -29095874.13 -29095874.07 0.3749 0.3131

Mars -84372-07-08 02:08 J -29095261.48 -29095261.41 -29095261.35 0.1700 0.1423

Jupiter -84370-03-11 07:40 J -29094650.30 -29094650.18 -29094650.05 0.0535 0.0147

Jupiter -84370-06-08 16:47 J -29094560.91 -29094560.80 -29094560.69 0.0532 0.0309

Venus -84370-11-02 23:01 J -29094413.66 -29094413.54 -29094413.41 0.3619 0.1016

Earth -84369-02-27 16:32 J -29094296.91 -29094296.81 -29094296.70 0.2755 0.1042

Moon -84369-02-27 16:47 J -29094296.90 -29094296.80 -29094296.69 0.2747 0.1071 *

Moon -84366-09-04 15:35 J -29093011.92 -29093011.85 -29093011.77 0.2589 0.2237

Earth -84366-09-04 16:18 J -29093011.89 -29093011.82 -29093011.75 0.2584 0.2241 *

Uranus -84365-09-24 08:08 J -29092626.22 -29092626.16 -29092626.10 0.0139 0.0123

Uranus -84365-12-21 11:44 J -29092538.10 -29092538.01 -29092537.92 0.0139 0.0106

Mars -84365-12-22 23:16 J -29092536.54 -29092536.53 -29092536.51 0.1737 0.1715

Uranus -84364-03-19 15:20 J -29092449.96 -29092449.86 -29092449.75 0.0139 0.0088

Jupiter -84364-05-08 00:56 J -29092400.61 -29092400.46 -29092400.30 0.0492 0.0232

Venus -84364-05-18 22:04 J -29092389.69 -29092389.58 -29092389.48 0.3624 0.2109

Uranus -84364-06-15 19:11 J -29092361.82 -29092361.70 -29092361.59 0.0140 0.0071

Jupiter -84364-08-06 05:01 J -29092310.43 -29092310.29 -29092310.14 0.0494 0.0266

Uranus -84364-09-11 22:32 J -29092273.68 -29092273.56 -29092273.42 0.0140 0.0054

Uranus -84364-12-09 02:23 J -29092185.53 -29092185.40 -29092185.26 0.0140 0.0036

Mars -84363-02-03 06:56 J -29092129.30 -29092129.21 -29092129.13 0.1834 0.1497

Uranus -84363-03-07 06:13 J -29092097.38 -29092097.24 -29092097.10 0.0140 0.0018

Uranus -84363-06-03 10:04 J -29092009.22 -29092009.08 -29092008.94 0.0140 0.0002

Uranus -84363-08-30 13:54 J -29091921.06 -29091920.92 -29091920.78 0.0140 0.0019

Uranus -84363-11-26 17:30 J -29091832.90 -29091832.77 -29091832.63 0.0141 0.0038

Mars -84363-11-28 11:01 J -29091831.15 -29091831.04 -29091830.93 0.1707 0.0815

Uranus -84362-02-22 21:35 J -29091744.73 -29091744.60 -29091744.47 0.0141 0.0056

Uranus -84362-05-22 01:11 J -29091656.56 -29091656.45 -29091656.32 0.0141 0.0075

Uranus -84362-08-18 05:30 J -29091568.38 -29091568.27 -29091568.17 0.0141 0.0093

Uranus -84362-11-14 09:20 J -29091480.19 -29091480.11 -29091480.02 0.0141 0.0112

Uranus -84361-02-10 13:25 J -29091391.99 -29091391.94 -29091391.89 0.0141 0.0131

Venus -84361-02-10 23:44 J -29091391.51 -29091391.51 -29091391.50 0.3778 0.3757

Saturn -84361-12-20 14:52 J -29091078.01 -29091077.88 -29091077.75 0.0288 0.0193

Saturn -84360-03-19 13:11 J -29090989.12 -29090988.95 -29090988.77 0.0289 0.0045

Saturn -84360-06-16 11:16 J -29090900.19 -29090900.03 -29090899.86 0.0289 0.0103

Saturn -84360-09-13 08:37 J -29090811.21 -29090811.14 -29090811.04 0.0290 0.0249

Venus -84359-12-02 20:23 J -29090365.71 -29090365.65 -29090365.59 0.3628 0.3147

Jupiter -84359-12-28 10:47 J -29090340.16 -29090340.05 -29090339.94 0.0536 0.0266

Jupiter -84358-03-27 19:40 J -29090250.80 -29090250.68 -29090250.56 0.0533 0.0189

Moon -84356-03-01 11:30 J -29089546.14 -29089546.02 -29089545.91 0.2748 0.0353

Earth -84356-03-01 11:59 J -29089546.12 -29089546.00 -29089545.89 0.2754 0.0353 *

Venus -84356-08-26 17:59 J -29089367.81 -29089367.75 -29089367.68 0.3774 0.2950

Mars -84354-06-26 06:56 J -29088699.36 -29088699.21 -29088699.06 0.1825 0.0410

Mars -84353-04-19 20:08 J -29088400.79 -29088400.66 -29088400.54 0.1715 0.0211

Jupiter -84352-02-23 23:16 J -29088090.65 -29088090.53 -29088090.41 0.0492 0.0357

Jupiter -84352-05-25 03:35 J -29088000.51 -29088000.35 -29088000.18 0.0494 0.0142

Venus -84350-03-12 12:28 J -29087344.07 -29087343.98 -29087343.89 0.3771 0.2120

Jupiter -84347-10-16 14:23 J -29086029.99 -29086029.90 -29086029.80 0.0537 0.0377

Jupiter -84346-01-13 23:16 J -29085940.66 -29085940.53 -29085940.40 0.0534 0.0078

Saturn -84346-01-14 11:30 J -29085940.11 -29085940.02 -29085939.93 0.0271 0.0207

Saturn -84346-04-12 22:32 J -29085851.68 -29085851.56 -29085851.43 0.0271 0.0116

Saturn -84346-07-10 09:49 J -29085763.22 -29085763.09 -29085762.95 0.0271 0.0025

Moon -84346-08-30 15:35 J -29085711.98 -29085711.85 -29085711.73 0.2582 0.1341

Earth -84346-08-30 16:47 J -29085711.93 -29085711.80 -29085711.66 0.2583 0.1129 *

Saturn -84346-10-06 21:20 J -29085674.74 -29085674.61 -29085674.48 0.0270 0.0070

Saturn -84345-01-03 08:52 J -29085586.24 -29085586.13 -29085586.02 0.0270 0.0164

Saturn -84345-03-31 20:23 J -29085497.68 -29085497.65 -29085497.61 0.0270 0.0258

Venus -84345-09-25 06:56 J -29085320.31 -29085320.21 -29085320.10 0.3767 0.1275

Mars -84345-11-15 07:11 J -29085269.34 -29085269.20 -29085269.06 0.1817 0.0661

Mars -84344-09-10 05:16 J -29084970.40 -29084970.28 -29084970.16 0.1721 0.0403

Moon -84343-03-04 06:42 J -29084795.32 -29084795.22 -29084795.13 0.2750 0.1594

Earth -84343-03-04 07:25 J -29084795.28 -29084795.19 -29084795.11 0.2753 0.1749 *

Jupiter -84341-12-12 20:52 J -29083780.64 -29083780.63 -29083780.60 0.0491 0.0487

Jupiter -84340-03-13 01:54 J -29083690.60 -29083690.42 -29083690.24 0.0493 0.0015

Venus -84339-04-11 01:54 J -29083296.53 -29083296.42 -29083296.31 0.3764 0.0381

Earth -84336-02-25 02:23 J -29082245.47 -29082245.40 -29082245.33 0.2755 0.2118

Moon -84336-02-25 02:52 J -29082245.45 -29082245.38 -29082245.30 0.2750 0.2057 *

Mars -84335-04-07 07:11 J -29081839.24 -29081839.20 -29081839.15 0.1808 0.1728

Venus -84335-04-09 23:30 J -29081836.56 -29081836.52 -29081836.49 0.3605 0.3461

Jupiter -84335-08-04 18:13 J -29081719.79 -29081719.74 -29081719.68 0.0537 0.0484

Jupiter -84335-11-02 02:52 J -29081630.51 -29081630.38 -29081630.25 0.0535 0.0034

Jupiter -84334-01-30 12:13 J -29081541.07 -29081540.99 -29081540.91 0.0532 0.0425

Mars -84334-01-31 14:08 J -29081540.01 -29081539.91 -29081539.81 0.1729 0.1020

Venus -84334-10-25 20:52 J -29081272.74 -29081272.63 -29081272.52 0.3760 0.0532

Moon -84333-09-01 18:28 J -29080960.87 -29080960.73 -29080960.59 0.2587 0.0745

Earth -84333-09-01 19:40 J -29080960.82 -29080960.68 -29080960.53 0.2583 0.0775 *

Mars -84332-01-06 02:08 J -29080834.46 -29080834.41 -29080834.35 0.1700 0.1509

Saturn -84331-05-09 12:28 J -29080346.06 -29080345.98 -29080345.87 0.0288 0.0243

Saturn -84331-08-06 11:16 J -29080257.20 -29080257.03 -29080256.86 0.0288 0.0093

Saturn -84331-11-03 09:20 J -29080168.28 -29080168.11 -29080167.93 0.0289 0.0055

Saturn -84330-01-31 07:11 J -29080079.33 -29080079.20 -29080079.08 0.0289 0.0200

Venus -84330-10-24 23:44 J -29079812.61 -29079812.51 -29079812.40 0.3608 0.2194

Neptune -84329-02-16 23:01 J -29079697.56 -29079697.54 -29079697.50 0.0089 0.0086

Neptune -84329-05-15 00:13 J -29079609.53 -29079609.49 -29079609.43 0.0089 0.0082

Neptune -84329-08-11 01:40 J -29079521.48 -29079521.43 -29079521.36 0.0089 0.0078

Neptune -84329-11-07 03:06 J -29079433.44 -29079433.37 -29079433.29 0.0089 0.0073

Jupiter -84329-12-30 00:42 J -29079380.65 -29079380.47 -29079380.30 0.0493 0.0108

Neptune -84328-02-03 04:32 J -29079345.39 -29079345.31 -29079345.22 0.0089 0.0069

Jupiter -84328-03-30 04:18 J -29079290.43 -29079290.32 -29079290.21 0.0495 0.0386

Neptune -84328-05-02 05:44 J -29079257.34 -29079257.26 -29079257.16 0.0089 0.0065

Venus -84328-05-10 16:04 J -29079248.93 -29079248.83 -29079248.72 0.3756 0.1472

Neptune -84328-07-29 07:11 J -29079169.29 -29079169.20 -29079169.09 0.0089 0.0061

Neptune -84328-10-25 08:37 J -29079081.24 -29079081.14 -29079081.03 0.0089 0.0056

Neptune -84327-01-21 10:04 J -29078993.19 -29078993.08 -29078992.97 0.0089 0.0052

Neptune -84327-04-19 11:16 J -29078905.13 -29078905.03 -29078904.91 0.0089 0.0048

Neptune -84327-07-16 12:42 J -29078817.08 -29078816.97 -29078816.84 0.0089 0.0044

Neptune -84327-10-12 14:08 J -29078729.02 -29078728.91 -29078728.78 0.0089 0.0039

Neptune -84326-01-08 15:35 J -29078640.97 -29078640.85 -29078640.72 0.0089 0.0035

Neptune -84326-04-06 17:01 J -29078552.91 -29078552.79 -29078552.66 0.0089 0.0030

Neptune -84326-07-03 18:28 J -29078464.86 -29078464.73 -29078464.60 0.0089 0.0026

Neptune -84326-09-29 19:54 J -29078376.80 -29078376.67 -29078376.54 0.0089 0.0022

Neptune -84326-12-26 21:06 J -29078288.74 -29078288.62 -29078288.48 0.0089 0.0018

Uranus -84325-02-18 06:42 J -29078235.32 -29078235.22 -29078235.12 0.0139 0.0116

Neptune -84325-03-23 22:47 J -29078200.69 -29078200.55 -29078200.42 0.0089 0.0013

Uranus -84325-05-16 13:25 J -29078147.07 -29078146.94 -29078146.79 0.0139 0.0092

Neptune -84325-06-20 00:13 J -29078112.63 -29078112.49 -29078112.36 0.0089 0.0009

Mars -84325-06-22 23:16 J -29078109.56 -29078109.53 -29078109.49 0.1737 0.1634

Uranus -84325-08-12 20:37 J -29078058.80 -29078058.64 -29078058.48 0.0139 0.0068

Neptune -84325-09-16 01:40 J -29078024.57 -29078024.43 -29078024.30 0.0089 0.0005

Uranus -84325-11-09 03:20 J -29077970.53 -29077970.36 -29077970.18 0.0139 0.0045

Neptune -84325-12-13 03:06 J -29077936.51 -29077936.37 -29077936.24 0.0089 0.0002

Uranus -84324-02-05 10:18 J -29077882.25 -29077882.07 -29077881.89 0.0139 0.0021

Neptune -84324-03-11 04:18 J -29077848.45 -29077848.32 -29077848.18 0.0089 0.0006

Uranus -84324-05-04 17:01 J -29077793.97 -29077793.79 -29077793.61 0.0139 0.0002

Venus -84324-05-09 23:44 J -29077788.63 -29077788.51 -29077788.38 0.3612 0.0975

Neptune -84324-06-07 05:44 J -29077760.39 -29077760.26 -29077760.12 0.0089 0.0010

Uranus -84324-07-31 23:44 J -29077705.69 -29077705.51 -29077705.33 0.0138 0.0024

Mars -84324-08-04 07:11 J -29077702.27 -29077702.20 -29077702.13 0.1834 0.1612

Neptune -84324-09-03 07:11 J -29077672.33 -29077672.20 -29077672.06 0.0089 0.0014

Pluto -84324-10-02 01:40 J -29077643.45 -29077643.43 -29077643.41 0.0060 0.0060

Uranus -84324-10-28 06:13 J -29077617.40 -29077617.24 -29077617.06 0.0138 0.0047

Neptune -84324-11-30 08:52 J -29077584.27 -29077584.13 -29077584.00 0.0089 0.0018

Pluto -84324-12-29 02:52 J -29077555.46 -29077555.38 -29077555.29 0.0060 0.0054

Uranus -84323-01-24 12:42 J -29077529.11 -29077528.97 -29077528.81 0.0138 0.0070

Neptune -84323-02-26 10:04 J -29077496.21 -29077496.08 -29077495.94 0.0089 0.0023

Earth -84323-02-27 21:35 J -29077494.71 -29077494.60 -29077494.49 0.2754 0.0761

Moon -84323-02-27 21:49 J -29077494.70 -29077494.59 -29077494.48 0.2748 0.0688 *

Pluto -84323-03-27 04:04 J -29077467.43 -29077467.33 -29077467.20 0.0060 0.0048

Uranus -84323-04-22 19:11 J -29077440.82 -29077440.70 -29077440.56 0.0138 0.0091

Neptune -84323-05-25 11:30 J -29077408.14 -29077408.02 -29077407.88 0.0089 0.0027

Mars -84323-05-29 11:01 J -29077404.14 -29077404.04 -29077403.93 0.1707 0.0901

Pluto -84323-06-23 05:16 J -29077379.40 -29077379.28 -29077379.12 0.0060 0.0042

Uranus -84323-07-20 01:40 J -29077352.52 -29077352.43 -29077352.32 0.0138 0.0113

Jupiter -84323-08-21 06:13 J -29077320.36 -29077320.24 -29077320.11 0.0535 0.0148

Neptune -84323-08-21 13:11 J -29077320.08 -29077319.95 -29077319.82 0.0089 0.0031

Pluto -84323-09-19 06:42 J -29077291.35 -29077291.22 -29077291.04 0.0061 0.0036

Uranus -84323-10-16 07:54 J -29077264.19 -29077264.17 -29077264.12 0.0138 0.0135

Neptune -84323-11-17 14:23 J -29077232.01 -29077231.90 -29077231.76 0.0089 0.0036

Jupiter -84323-11-18 15:06 J -29077230.97 -29077230.87 -29077230.76 0.0532 0.0308

Venus -84323-11-24 11:44 J -29077225.10 -29077225.01 -29077224.93 0.3752 0.2429

Pluto -84323-12-16 08:37 J -29077203.31 -29077203.14 -29077202.97 0.0061 0.0029

Neptune -84322-02-13 16:04 J -29077143.95 -29077143.83 -29077143.71 0.0089 0.0040

Pluto -84322-03-14 09:49 J -29077115.26 -29077115.09 -29077114.90 0.0061 0.0023

Neptune -84322-05-12 17:16 J -29077055.89 -29077055.78 -29077055.65 0.0089 0.0045

Pluto -84322-06-10 11:16 J -29077027.21 -29077027.03 -29077026.83 0.0061 0.0017

Neptune -84322-08-08 18:56 J -29076967.82 -29076967.71 -29076967.59 0.0089 0.0049

Pluto -84322-09-06 12:56 J -29076939.15 -29076938.96 -29076938.77 0.0061 0.0010

Neptune -84322-11-04 20:23 J -29076879.75 -29076879.65 -29076879.53 0.0089 0.0054

Pluto -84322-12-03 14:23 J -29076851.09 -29076850.90 -29076850.70 0.0061 0.0004

Neptune -84321-01-31 22:04 J -29076791.68 -29076791.58 -29076791.48 0.0089 0.0058

Pluto -84321-02-29 15:49 J -29076763.03 -29076762.84 -29076762.64 0.0061 0.0003

Neptune -84321-04-28 23:16 J -29076703.62 -29076703.53 -29076703.42 0.0089 0.0063

Pluto -84321-05-27 17:16 J -29076674.97 -29076674.78 -29076674.58 0.0061 0.0009

Neptune -84321-07-26 00:56 J -29076615.55 -29076615.46 -29076615.37 0.0089 0.0067

Pluto -84321-08-23 18:28 J -29076586.90 -29076586.73 -29076586.53 0.0061 0.0016

Neptune -84321-10-22 02:08 J -29076527.47 -29076527.41 -29076527.31 0.0089 0.0072

Pluto -84321-11-19 20:08 J -29076498.83 -29076498.66 -29076498.47 0.0061 0.0022

Neptune -84320-01-18 03:49 J -29076439.40 -29076439.34 -29076439.26 0.0089 0.0076

Pluto -84320-02-15 21:49 J -29076410.76 -29076410.59 -29076410.42 0.0061 0.0029

Neptune -84320-04-16 05:16 J -29076351.32 -29076351.28 -29076351.21 0.0089 0.0081

Pluto -84320-05-14 23:01 J -29076322.69 -29076322.54 -29076322.37 0.0061 0.0035

Neptune -84320-07-13 06:56 J -29076263.24 -29076263.21 -29076263.17 0.0089 0.0085

Pluto -84320-08-11 00:42 J -29076234.61 -29076234.47 -29076234.32 0.0061 0.0042

Moon -84320-09-04 22:04 J -29076209.61 -29076209.58 -29076209.56 0.2590 0.2531

Pluto -84320-11-07 01:54 J -29076146.52 -29076146.42 -29076146.28 0.0061 0.0049

Pluto -84319-02-03 03:06 J -29076058.42 -29076058.37 -29076058.25 0.0061 0.0056

Venus -84319-11-23 23:30 J -29075764.66 -29075764.52 -29075764.39 0.3616 0.0232

Saturn -84317-06-02 13:40 J -29075207.99 -29075207.93 -29075207.86 0.0272 0.0236

Venus -84317-06-09 07:25 J -29075201.23 -29075201.19 -29075201.14 0.3747 0.3420

Saturn -84317-08-30 00:56 J -29075119.58 -29075119.46 -29075119.35 0.0272 0.0144

Jupiter -84317-10-17 22:47 J -29075070.71 -29075070.55 -29075070.39 0.0493 0.0235

Saturn -84317-11-26 12:13 J -29075031.13 -29075030.99 -29075030.86 0.0271 0.0051

Jupiter -84316-01-16 02:52 J -29074980.52 -29074980.38 -29074980.23 0.0495 0.0263

Saturn -84316-02-22 23:30 J -29074942.65 -29074942.52 -29074942.38 0.0271 0.0042

Saturn -84316-05-22 11:01 J -29074854.16 -29074854.04 -29074853.92 0.0271 0.0136

Saturn -84316-08-18 22:32 J -29074765.62 -29074765.56 -29074765.48 0.0271 0.0232

Mars -84315-12-25 07:40 J -29074272.33 -29074272.18 -29074272.04 0.1826 0.0543

Mars -84314-10-19 20:08 J -29073973.78 -29073973.66 -29073973.54 0.1714 0.0292

Venus -84313-06-08 22:32 J -29073740.68 -29073740.56 -29073740.44 0.3621 0.1324

Jupiter -84311-06-09 09:20 J -29073010.22 -29073010.11 -29073009.99 0.0535 0.0265

Jupiter -84311-09-06 18:13 J -29072920.86 -29072920.74 -29072920.61 0.0533 0.0190

Moon -84310-03-02 16:18 J -29072743.93 -29072743.82 -29072743.70 0.2748 0.0500

Earth -84310-03-02 17:01 J -29072743.91 -29072743.79 -29072743.68 0.2754 0.0634 *

Venus -84308-12-23 21:20 J -29071716.71 -29071716.61 -29071716.52 0.3625 0.2407

Mars -84305-05-16 07:40 J -29070842.32 -29070842.18 -29070842.03 0.1817 0.0535

Jupiter -84305-08-05 20:52 J -29070760.75 -29070760.63 -29070760.51 0.0492 0.0363

Venus -84305-09-16 22:04 J -29070718.62 -29070718.58 -29070718.55 0.3777 0.3540

Jupiter -84305-11-04 01:25 J -29070670.61 -29070670.44 -29070670.27 0.0494 0.0136

Mars -84304-03-11 05:16 J -29070543.40 -29070543.28 -29070543.16 0.1722 0.0326

Venus -84302-07-09 19:40 J -29069692.72 -29069692.68 -29069692.65 0.3629 0.3432

Saturn -84302-09-26 14:23 J -29069613.96 -29069613.90 -29069613.83 0.0288 0.0266

Saturn -84302-12-24 13:11 J -29069525.12 -29069524.95 -29069524.79 0.0289 0.0116

Saturn -84301-03-22 11:16 J -29069436.20 -29069436.03 -29069435.85 0.0289 0.0033

Saturn -84301-06-19 09:06 J -29069347.25 -29069347.12 -29069346.98 0.0289 0.0179

Moon -84300-08-30 21:35 J -29068909.74 -29068909.60 -29068909.46 0.2584 0.0827

Earth -84300-08-30 23:01 J -29068909.69 -29068909.54 -29068909.40 0.2583 0.0730 *

Jupiter -84299-03-28 12:28 J -29068700.07 -29068699.98 -29068699.89 0.0536 0.0385

Venus -84299-04-02 16:18 J -29068694.90 -29068694.82 -29068694.75 0.3773 0.2725

Jupiter -84299-06-25 21:06 J -29068610.75 -29068610.62 -29068610.49 0.0534 0.0068

Jupiter -84299-09-23 06:28 J -29068521.24 -29068521.23 -29068521.21 0.0531 0.0526

Moon -84297-03-04 11:30 J -29067993.09 -29067993.02 -29067992.94 0.2752 0.2007

Earth -84297-03-04 12:28 J -29067993.06 -29067992.98 -29067992.91 0.2753 0.2036 *

Mars -84296-10-06 07:40 J -29067412.25 -29067412.18 -29067412.11 0.1808 0.1617

Mars -84295-08-01 14:23 J -29067113.00 -29067112.90 -29067112.80 0.1729 0.0931

Venus -84294-10-17 10:47 J -29066671.15 -29066671.05 -29066670.96 0.3770 0.1889

Jupiter -84293-05-24 18:56 J -29066450.72 -29066450.71 -29066450.69 0.0491 0.0489

Mars -84293-07-07 02:23 J -29066407.44 -29066407.40 -29066407.36 0.1700 0.1595

Jupiter -84293-08-22 23:44 J -29066360.68 -29066360.51 -29066360.33 0.0493 0.0018

Earth -84290-02-26 07:25 J -29065443.27 -29065443.19 -29065443.11 0.2755 0.1841

Moon -84290-02-26 07:54 J -29065443.25 -29065443.17 -29065443.08 0.2749 0.1776 *

Venus -84288-05-02 05:16 J -29064647.38 -29064647.28 -29064647.17 0.3766 0.1030

Saturn -84288-10-20 17:16 J -29064475.83 -29064475.78 -29064475.73 0.0271 0.0251

Jupiter -84287-01-14 16:04 J -29064389.88 -29064389.83 -29064389.78 0.0537 0.0496

Saturn -84287-01-17 04:18 J -29064387.42 -29064387.32 -29064387.21 0.0271 0.0161

Jupiter -84287-04-14 00:42 J -29064300.60 -29064300.47 -29064300.34 0.0535 0.0045

Saturn -84287-04-15 15:35 J -29064298.98 -29064298.85 -29064298.71 0.0271 0.0068

Jupiter -84287-07-12 09:49 J -29064211.17 -29064211.09 -29064211.01 0.0532 0.0413

Saturn -84287-07-13 02:52 J -29064210.51 -29064210.38 -29064210.24 0.0270 0.0026

Moon -84287-09-03 00:42 J -29064158.61 -29064158.47 -29064158.33 0.2587 0.0967

Earth -84287-09-03 01:54 J -29064158.56 -29064158.42 -29064158.29 0.2583 0.1167 *

Saturn -84287-10-09 14:23 J -29064122.02 -29064121.90 -29064121.77 0.0270 0.0118

Saturn -84286-01-06 01:54 J -29064033.50 -29064033.42 -29064033.33 0.0270 0.0213

Mars -84286-12-22 23:30 J -29063682.57 -29063682.52 -29063682.47 0.1736 0.1553

Mars -84284-02-02 07:40 J -29063275.23 -29063275.18 -29063275.13 0.1835 0.1725

Mars -84284-11-27 11:16 J -29062977.13 -29062977.03 -29062976.93 0.1707 0.0989

Venus -84283-11-16 00:13 J -29062623.60 -29062623.49 -29062623.38 0.3763 0.0131

Jupiter -84281-06-10 21:49 J -29062050.76 -29062050.59 -29062050.41 0.0493 0.0116

Uranus -84281-07-18 11:59 J -29062013.03 -29062013.00 -29062012.98 0.0139 0.0135

Jupiter -84281-09-09 01:40 J -29061960.54 -29061960.43 -29061960.32 0.0495 0.0377

Uranus -84281-10-14 15:20 J -29061924.92 -29061924.86 -29061924.78 0.0139 0.0119

Uranus -84280-01-10 18:56 J -29061836.80 -29061836.71 -29061836.61 0.0139 0.0102

Uranus -84280-04-08 22:32 J -29061748.66 -29061748.56 -29061748.44 0.0140 0.0085

Uranus -84280-07-06 02:23 J -29061660.52 -29061660.40 -29061660.28 0.0140 0.0067

Uranus -84280-10-02 06:13 J -29061572.37 -29061572.24 -29061572.12 0.0140 0.0049

Uranus -84280-12-29 09:49 J -29061484.22 -29061484.09 -29061483.95 0.0140 0.0031

Uranus -84279-03-27 13:40 J -29061396.07 -29061395.93 -29061395.79 0.0140 0.0013

Uranus -84279-06-23 17:30 J -29061307.91 -29061307.77 -29061307.64 0.0140 0.0007

Uranus -84279-09-19 21:06 J -29061219.75 -29061219.62 -29061219.48 0.0140 0.0023

Venus -84279-11-14 23:16 J -29061163.60 -29061163.53 -29061163.46 0.3606 0.3110

Uranus -84279-12-17 00:56 J -29061131.59 -29061131.46 -29061131.32 0.0141 0.0042

Uranus -84278-03-15 04:47 J -29061043.42 -29061043.30 -29061043.17 0.0141 0.0061

Uranus -84278-06-11 08:52 J -29060955.25 -29060955.13 -29060955.01 0.0141 0.0079

Uranus -84278-09-07 12:42 J -29060867.07 -29060866.97 -29060866.87 0.0141 0.0098

Uranus -84278-12-04 16:32 J -29060778.88 -29060778.81 -29060778.72 0.0141 0.0117

Moon -84277-02-29 02:37 J -29060692.50 -29060692.39 -29060692.28 0.2748 0.0506

Earth -84277-02-29 02:37 J -29060692.50 -29060692.39 -29060692.28 0.2754 0.0480 *

Uranus -84277-03-01 20:37 J -29060690.66 -29060690.64 -29060690.60 0.0141 0.0137

Venus -84277-05-31 19:25 J -29060599.81 -29060599.69 -29060599.58 0.3759 0.0800

Jupiter -84275-01-31 04:18 J -29059990.44 -29059990.32 -29059990.19 0.0535 0.0155

Jupiter -84275-04-30 13:25 J -29059901.05 -29059900.94 -29059900.83 0.0533 0.0303

Mars -84275-06-25 08:08 J -29059845.30 -29059845.16 -29059845.02 0.1826 0.0666

Mars -84274-04-19 20:08 J -29059546.78 -29059546.66 -29059546.54 0.1714 0.0377

Venus -84273-05-30 23:30 J -29059139.63 -29059139.52 -29059139.40 0.3610 0.1857

Saturn -84272-05-12 11:01 J -29058793.18 -29058793.04 -29058792.89 0.0288 0.0165

Saturn -84272-08-09 09:35 J -29058704.28 -29058704.10 -29058703.93 0.0289 0.0016

Saturn -84272-11-06 07:25 J -29058615.34 -29058615.19 -29058615.03 0.0289 0.0132

Venus -84272-12-15 14:37 J -29058575.99 -29058575.89 -29058575.79 0.3755 0.1732

Saturn -84271-02-03 04:47 J -29058526.34 -29058526.30 -29058526.24 0.0289 0.0276

Jupiter -84269-03-29 20:23 J -29057740.80 -29057740.65 -29057740.49 0.0492 0.0240

Jupiter -84269-06-28 00:42 J -29057650.62 -29057650.47 -29057650.32 0.0494 0.0258

Venus -84268-12-14 23:30 J -29057115.65 -29057115.52 -29057115.39 0.3613 0.0638

Moon -84267-08-29 00:42 J -29056858.52 -29056858.47 -29056858.41 0.2579 0.2402

Earth -84267-08-29 01:54 J -29056858.49 -29056858.42 -29056858.35 0.2582 0.2269 *

Venus -84266-07-01 10:18 J -29056552.15 -29056552.07 -29056552.00 0.3751 0.2711

Mars -84266-11-15 08:23 J -29056415.30 -29056415.15 -29056415.00 0.1817 0.0411

Mars -84265-09-09 05:16 J -29056116.40 -29056116.28 -29056116.15 0.1721 0.0239

Moon -84264-03-02 21:20 J -29055941.72 -29055941.61 -29055941.50 0.2748 0.0902

Earth -84264-03-02 21:49 J -29055941.69 -29055941.59 -29055941.48 0.2754 0.0917 *

Jupiter -84264-11-19 07:54 J -29055680.28 -29055680.17 -29055680.06 0.0535 0.0266

Jupiter -84263-02-16 16:47 J -29055590.93 -29055590.80 -29055590.68 0.0533 0.0188

Venus -84262-06-30 22:47 J -29055091.68 -29055091.55 -29055091.42 0.3618 0.0517

Venus -84260-01-14 05:59 J -29054528.26 -29054528.25 -29054528.24 0.3746 0.3706

Saturn -84258-06-06 06:28 J -29053655.32 -29053655.23 -29053655.13 0.0272 0.0190

Saturn -84258-09-02 17:44 J -29053566.89 -29053566.76 -29053566.63 0.0272 0.0097

Saturn -84258-11-30 05:01 J -29053478.43 -29053478.29 -29053478.15 0.0271 0.0006

Jupiter -84257-01-16 18:28 J -29053430.85 -29053430.73 -29053430.61 0.0492 0.0368

Saturn -84257-02-26 16:32 J -29053389.94 -29053389.81 -29053389.68 0.0271 0.0090

Jupiter -84257-04-15 23:01 J -29053340.71 -29053340.54 -29053340.37 0.0494 0.0133

Saturn -84257-05-25 04:04 J -29053301.43 -29053301.33 -29053301.23 0.0271 0.0184

Venus -84256-01-13 21:49 J -29053067.70 -29053067.59 -29053067.47 0.3622 0.1640

Mars -84256-04-06 08:23 J -29052985.24 -29052985.15 -29052985.07 0.1808 0.1488

Mars -84255-01-30 14:23 J -29052686.01 -29052685.90 -29052685.80 0.1729 0.0855

Moon -84254-09-01 03:35 J -29052107.49 -29052107.35 -29052107.20 0.2584 0.0513

Earth -84254-09-01 05:16 J -29052107.43 -29052107.28 -29052107.14 0.2583 0.0332 *

Mars -84253-01-06 02:23 J -29051980.42 -29051980.40 -29051980.38 0.1700 0.1679

Jupiter -84252-09-07 11:16 J -29051370.12 -29051370.03 -29051369.94 0.0536 0.0381

Jupiter -84252-12-05 19:54 J -29051280.80 -29051280.67 -29051280.54 0.0534 0.0071

Jupiter -84251-03-05 05:16 J -29051191.29 -29051191.28 -29051191.27 0.0531 0.0527

Moon -84251-03-05 16:32 J -29051190.88 -29051190.81 -29051190.74 0.2753 0.2158

Earth -84251-03-05 17:30 J -29051190.83 -29051190.77 -29051190.71 0.2753 0.2328 *

Venus -84251-07-30 20:37 J -29051043.73 -29051043.64 -29051043.56 0.3626 0.2701

Venus -84248-04-23 20:08 J -29050045.71 -29050045.66 -29050045.61 0.3776 0.3319

Neptune -84246-05-10 22:32 J -29049298.57 -29049298.56 -29049298.52 0.0089 0.0088

Mars -84246-06-22 23:30 J -29049255.58 -29049255.52 -29049255.46 0.1736 0.1471

Neptune -84246-08-07 01:54 J -29049210.47 -29049210.42 -29049210.33 0.0089 0.0082

Neptune -84246-11-03 05:16 J -29049122.35 -29049122.28 -29049122.16 0.0089 0.0076

Neptune -84245-01-30 09:06 J -29049034.23 -29049034.12 -29049033.99 0.0089 0.0069

Jupiter -84245-02-02 21:20 J -29049030.78 -29049030.61 -29049030.43 0.0493 0.0015

Neptune -84245-04-27 12:42 J -29048946.10 -29048945.97 -29048945.83 0.0089 0.0063

Neptune -84245-07-24 16:04 J -29048857.96 -29048857.83 -29048857.67 0.0089 0.0057

Neptune -84245-10-20 19:25 J -29048769.83 -29048769.69 -29048769.52 0.0089 0.0051

Neptune -84244-01-16 22:47 J -29048681.70 -29048681.55 -29048681.37 0.0089 0.0045

Earth -84244-02-26 12:28 J -29048641.08 -29048640.98 -29048640.89 0.2755 0.1564

Moon -84244-02-26 12:56 J -29048641.06 -29048640.96 -29048640.87 0.2749 0.1476 *

Neptune -84244-04-15 02:37 J -29048593.56 -29048593.39 -29048593.22 0.0089 0.0038

Mars -84244-05-28 11:16 J -29048550.12 -29048550.03 -29048549.93 0.1707 0.1069

Neptune -84244-07-12 05:59 J -29048505.42 -29048505.25 -29048505.07 0.0089 0.0032

Neptune -84244-10-08 09:35 J -29048417.28 -29048417.10 -29048416.92 0.0089 0.0026

Neptune -84243-01-04 12:56 J -29048329.14 -29048328.96 -29048328.77 0.0089 0.0020

Neptune -84243-04-02 16:18 J -29048241.00 -29048240.82 -29048240.63 0.0089 0.0014

Neptune -84243-06-29 19:40 J -29048152.86 -29048152.68 -29048152.49 0.0089 0.0008

Neptune -84243-09-25 23:16 J -29048064.72 -29048064.53 -29048064.34 0.0089 0.0002

Saturn -84243-09-29 12:28 J -29048061.11 -29048060.98 -29048060.84 0.0288 0.0190

Venus -84243-11-07 14:23 J -29048021.98 -29048021.90 -29048021.81 0.3773 0.2501

Neptune -84243-12-23 02:37 J -29047976.58 -29047976.39 -29047976.20 0.0089 0.0005

Saturn -84243-12-27 11:01 J -29047972.21 -29047972.04 -29047971.86 0.0289 0.0040

Neptune -84242-03-21 05:59 J -29047888.44 -29047888.25 -29047888.07 0.0089 0.0011

Saturn -84242-03-26 09:06 J -29047883.28 -29047883.12 -29047882.95 0.0289 0.0108

Neptune -84242-06-17 09:06 J -29047800.30 -29047800.12 -29047799.93 0.0089 0.0017

Saturn -84242-06-23 06:42 J -29047794.29 -29047794.22 -29047794.13 0.0290 0.0254

Neptune -84242-09-13 12:28 J -29047712.16 -29047711.98 -29047711.79 0.0089 0.0023

Neptune -84242-12-10 15:49 J -29047624.01 -29047623.84 -29047623.66 0.0089 0.0029

Uranus -84242-12-12 06:42 J -29047622.25 -29047622.22 -29047622.16 0.0139 0.0134

Neptune -84241-03-07 19:11 J -29047535.87 -29047535.70 -29047535.53 0.0089 0.0035

Uranus -84241-03-09 13:54 J -29047534.02 -29047533.92 -29047533.80 0.0139 0.0110

Neptune -84241-06-03 22:18 J -29047447.73 -29047447.57 -29047447.39 0.0089 0.0041

Uranus -84241-06-05 20:52 J -29047445.76 -29047445.63 -29047445.48 0.0139 0.0086

Neptune -84241-08-31 01:40 J -29047359.58 -29047359.43 -29047359.26 0.0089 0.0047

Uranus -84241-09-02 03:49 J -29047357.49 -29047357.34 -29047357.17 0.0139 0.0063

Moon -84241-09-03 06:56 J -29047356.32 -29047356.21 -29047356.09 0.2588 0.1549

Earth -84241-09-03 07:54 J -29047356.29 -29047356.17 -29047356.05 0.2583 0.1556 *

Neptune -84241-11-27 04:47 J -29047271.44 -29047271.30 -29047271.14 0.0089 0.0053

Uranus -84241-11-29 10:47 J -29047269.22 -29047269.05 -29047268.87 0.0139 0.0039

Neptune -84240-02-23 07:54 J -29047183.29 -29047183.17 -29047183.01 0.0089 0.0059

Uranus -84240-02-25 17:44 J -29047180.94 -29047180.76 -29047180.58 0.0139 0.0016

Neptune -84240-05-22 11:16 J -29047095.14 -29047095.03 -29047094.89 0.0089 0.0065

Uranus -84240-05-25 00:28 J -29047092.66 -29047092.48 -29047092.30 0.0139 0.0007

Jupiter -84240-06-26 14:08 J -29047059.95 -29047059.91 -29047059.87 0.0537 0.0503

Neptune -84240-08-18 14:52 J -29047006.99 -29047006.88 -29047006.77 0.0089 0.0070

Uranus -84240-08-21 06:56 J -29047004.38 -29047004.21 -29047004.03 0.0138 0.0030

Jupiter -84240-09-23 22:32 J -29046970.69 -29046970.56 -29046970.43 0.0535 0.0055

Neptune -84240-11-14 17:59 J -29046918.84 -29046918.75 -29046918.65 0.0089 0.0076

Uranus -84240-11-17 13:40 J -29046916.09 -29046915.93 -29046915.76 0.0138 0.0052

Jupiter -84240-12-22 07:54 J -29046881.26 -29046881.17 -29046881.09 0.0532 0.0405

Neptune -84239-02-10 21:06 J -29046830.68 -29046830.62 -29046830.54 0.0088 0.0082

Uranus -84239-02-13 20:23 J -29046827.80 -29046827.65 -29046827.50 0.0138 0.0075

Neptune -84239-05-09 23:59 J -29046742.50 -29046742.50 -29046742.45 0.0088 0.0088

Uranus -84239-05-13 02:23 J -29046739.51 -29046739.40 -29046739.26 0.0138 0.0097

Uranus -84239-08-09 09:06 J -29046651.20 -29046651.12 -29046651.03 0.0138 0.0118

Venus -84237-05-23 08:52 J -29045998.23 -29045998.13 -29045998.03 0.3769 0.1657

Mars -84236-12-24 08:37 J -29045418.28 -29045418.14 -29045418.01 0.1826 0.0784

Mars -84235-10-18 20:23 J -29045119.77 -29045119.65 -29045119.53 0.1714 0.0464

Jupiter -84234-11-21 19:54 J -29044720.84 -29044720.67 -29044720.49 0.0493 0.0118

Jupiter -84233-02-19 23:44 J -29044630.62 -29044630.51 -29044630.40 0.0495 0.0376

Venus -84232-12-07 03:35 J -29043974.46 -29043974.35 -29043974.24 0.3766 0.0785

Moon -84231-03-01 07:25 J -29043890.30 -29043890.19 -29043890.08 0.2747 0.0215

Earth -84231-03-01 07:40 J -29043890.30 -29043890.18 -29043890.07 0.2754 0.0205 *

Pluto -84230-02-03 21:06 J -29043550.64 -29043550.62 -29043550.60 0.0085 0.0083

Pluto -84230-05-02 22:18 J -29043462.64 -29043462.57 -29043462.50 0.0085 0.0071

Pluto -84230-07-29 23:44 J -29043374.61 -29043374.51 -29043374.42 0.0084 0.0059

Pluto -84230-10-26 00:42 J -29043286.57 -29043286.47 -29043286.34 0.0084 0.0048

Pluto -84229-01-22 02:08 J -29043198.52 -29043198.41 -29043198.28 0.0084 0.0036

Pluto -84229-04-19 03:35 J -29043110.47 -29043110.35 -29043110.22 0.0084 0.0023

Pluto -84229-07-16 05:01 J -29043022.42 -29043022.29 -29043022.16 0.0084 0.0011

Pluto -84229-10-12 06:13 J -29042934.37 -29042934.24 -29042934.10 0.0084 0.0002

Saturn -84229-10-23 10:04 J -29042923.16 -29042923.08 -29042922.99 0.0271 0.0205

Pluto -84228-01-08 07:40 J -29042846.31 -29042846.18 -29042846.05 0.0084 0.0012

Saturn -84228-01-19 21:20 J -29042834.73 -29042834.61 -29042834.49 0.0271 0.0113

Pluto -84228-04-06 08:52 J -29042758.26 -29042758.13 -29042758.00 0.0084 0.0023

Saturn -84228-04-18 08:37 J -29042746.28 -29042746.14 -29042746.00 0.0271 0.0021

Pluto -84228-07-03 10:04 J -29042670.20 -29042670.08 -29042669.95 0.0083 0.0035

Jupiter -84228-07-13 02:08 J -29042660.53 -29042660.41 -29042660.29 0.0536 0.0165

Saturn -84228-07-15 19:54 J -29042657.80 -29042657.67 -29042657.53 0.0270 0.0072

Pluto -84228-09-29 11:16 J -29042582.13 -29042582.03 -29042581.91 0.0083 0.0046

Jupiter -84228-10-10 11:01 J -29042571.14 -29042571.04 -29042570.92 0.0533 0.0292

Saturn -84228-10-12 07:25 J -29042569.30 -29042569.19 -29042569.08 0.0270 0.0166

Pluto -84228-12-26 12:28 J -29042494.07 -29042493.98 -29042493.88 0.0083 0.0057

Saturn -84227-01-08 19:11 J -29042480.73 -29042480.70 -29042480.67 0.0270 0.0261

Pluto -84227-03-24 13:40 J -29042405.99 -29042405.93 -29042405.85 0.0083 0.0069

Pluto -84227-06-20 15:06 J -29042317.90 -29042317.87 -29042317.83 0.0083 0.0079

Mars -84226-05-16 08:37 J -29041988.29 -29041988.14 -29041987.99 0.1818 0.0297

Venus -84226-06-22 22:32 J -29041950.67 -29041950.56 -29041950.44 0.3762 0.0163

Mars -84225-03-10 05:30 J -29041689.40 -29041689.27 -29041689.15 0.1721 0.0158

Venus -84222-06-21 23:01 J -29040490.62 -29040490.54 -29040490.45 0.3607 0.2769

Jupiter -84222-09-09 17:44 J -29040410.91 -29040410.76 -29040410.60 0.0492 0.0247

Jupiter -84222-12-08 22:04 J -29040320.73 -29040320.58 -29040320.43 0.0494 0.0250

Moon -84221-08-29 06:42 J -29040056.32 -29040056.22 -29040056.12 0.2581 0.1951

Earth -84221-08-29 08:08 J -29040056.26 -29040056.16 -29040056.06 0.2582 0.1868 *

Venus -84220-01-05 17:44 J -29039926.87 -29039926.76 -29039926.65 0.3758 0.1053

Moon -84218-03-04 02:23 J -29039139.51 -29039139.40 -29039139.30 0.2749 0.1076

Earth -84218-03-04 02:52 J -29039139.48 -29039139.38 -29039139.27 0.2753 0.1202 *

Mars -84217-10-05 08:52 J -29038558.23 -29038558.13 -29038558.03 0.1808 0.1359

Venus -84216-01-04 23:16 J -29038466.65 -29038466.53 -29038466.41 0.3611 0.1515

Jupiter -84216-05-01 05:59 J -29038350.36 -29038350.25 -29038350.14 0.0536 0.0274

Jupiter -84216-07-29 14:52 J -29038261.01 -29038260.88 -29038260.76 0.0534 0.0182

Mars -84216-07-31 14:23 J -29038259.01 -29038258.90 -29038258.79 0.1729 0.0772

Venus -84215-07-22 13:11 J -29037903.05 -29037902.95 -29037902.86 0.3754 0.2010

Saturn -84213-02-16 10:32 J -29037329.15 -29037329.06 -29037328.95 0.0288 0.0238

Saturn -84213-05-15 09:20 J -29037240.28 -29037240.11 -29037239.94 0.0289 0.0087

Saturn -84213-08-12 07:40 J -29037151.35 -29037151.18 -29037151.01 0.0289 0.0062

Saturn -84213-11-09 05:16 J -29037062.39 -29037062.28 -29037062.15 0.0289 0.0208

Earth -84211-02-24 22:18 J -29036589.60 -29036589.57 -29036589.54 0.2755 0.2626

Moon -84211-02-24 23:01 J -29036589.59 -29036589.54 -29036589.49 0.2752 0.2465 *

Venus -84211-07-21 23:01 J -29036442.67 -29036442.54 -29036442.41 0.3614 0.0318

Jupiter -84210-06-28 16:18 J -29036100.94 -29036100.82 -29036100.70 0.0492 0.0371

Jupiter -84210-09-26 20:52 J -29036010.80 -29036010.63 -29036010.46 0.0494 0.0128

Venus -84209-02-05 08:52 J -29035879.20 -29035879.13 -29035879.07 0.3749 0.2994

Moon -84208-09-01 09:49 J -29035305.24 -29035305.09 -29035304.94 0.2584 0.0070

Earth -84208-09-01 11:16 J -29035305.18 -29035305.03 -29035304.88 0.2583 0.0072 *

Mars -84207-12-21 23:30 J -29034828.59 -29034828.52 -29034828.45 0.1736 0.1389

Venus -84205-02-04 22:18 J -29034418.69 -29034418.57 -29034418.44 0.3619 0.0841

Moon -84205-03-05 21:35 J -29034388.64 -29034388.60 -29034388.56 0.2754 0.2584

Earth -84205-03-05 22:32 J -29034388.60 -29034388.56 -29034388.53 0.2752 0.2618 *

Mars -84205-11-26 11:30 J -29034123.11 -29034123.02 -29034122.93 0.1707 0.1158

Jupiter -84204-02-17 09:35 J -29034040.18 -29034040.10 -29034040.01 0.0536 0.0384

Jupiter -84204-05-17 18:13 J -29033950.87 -29033950.74 -29033950.61 0.0534 0.0069

Jupiter -84204-08-15 03:35 J -29033861.36 -29033861.35 -29033861.33 0.0531 0.0525

Venus -84200-08-20 21:20 J -29032394.72 -29032394.61 -29032394.50 0.3623 0.1940

Saturn -84199-03-12 12:13 J -29032191.06 -29032190.99 -29032190.93 0.0272 0.0235

Saturn -84199-06-08 23:16 J -29032102.64 -29032102.53 -29032102.41 0.0272 0.0144

Saturn -84199-09-05 10:32 J -29032014.20 -29032014.06 -29032013.93 0.0271 0.0052

Saturn -84199-12-02 21:49 J -29031925.73 -29031925.59 -29031925.45 0.0271 0.0042

Earth -84198-02-27 17:30 J -29031838.87 -29031838.77 -29031838.68 0.2755 0.1283

Moon -84198-02-27 17:44 J -29031838.86 -29031838.76 -29031838.66 0.2749 0.1260 *

Saturn -84198-03-01 09:20 J -29031837.23 -29031837.11 -29031836.99 0.0271 0.0136

Saturn -84198-05-28 20:52 J -29031748.70 -29031748.63 -29031748.56 0.0270 0.0231

Jupiter -84198-07-15 19:11 J -29031700.88 -29031700.70 -29031700.52 0.0493 0.0002

Jupiter -84198-10-13 22:47 J -29031610.56 -29031610.55 -29031610.54 0.0496 0.0494

Uranus -84197-08-07 18:56 J -29031311.75 -29031311.71 -29031311.67 0.0139 0.0132

Uranus -84197-11-03 22:32 J -29031223.63 -29031223.56 -29031223.48 0.0139 0.0115

Uranus -84196-01-31 02:08 J -29031135.50 -29031135.41 -29031135.31 0.0139 0.0098

Uranus -84196-04-29 05:44 J -29031047.37 -29031047.26 -29031047.14 0.0140 0.0081

Mars -84196-06-24 09:06 J -29030991.25 -29030991.12 -29030990.99 0.1826 0.0905

Uranus -84196-07-26 09:20 J -29030959.22 -29030959.11 -29030958.98 0.0140 0.0064

Uranus -84196-10-22 13:11 J -29030871.08 -29030870.95 -29030870.82 0.0140 0.0046

Uranus -84195-01-18 17:01 J -29030782.93 -29030782.79 -29030782.66 0.0140 0.0028

Uranus -84195-04-16 20:37 J -29030694.77 -29030694.64 -29030694.50 0.0140 0.0011

Mars -84195-04-18 20:23 J -29030692.77 -29030692.65 -29030692.53 0.1714 0.0544

Uranus -84195-07-14 00:28 J -29030606.62 -29030606.48 -29030606.34 0.0140 0.0009

Moon -84195-09-04 13:25 J -29030554.04 -29030553.94 -29030553.84 0.2590 0.1839

Earth -84195-09-04 13:54 J -29030554.01 -29030553.92 -29030553.82 0.2584 0.1947 *

Uranus -84195-10-10 04:18 J -29030518.45 -29030518.32 -29030518.18 0.0140 0.0027

Uranus -84194-01-06 08:08 J -29030430.29 -29030430.16 -29030430.02 0.0141 0.0045

Venus -84194-03-06 19:54 J -29030370.74 -29030370.67 -29030370.60 0.3627 0.3000

Uranus -84194-04-04 12:13 J -29030342.12 -29030341.99 -29030341.87 0.0141 0.0064

Uranus -84194-07-01 16:04 J -29030253.94 -29030253.83 -29030253.72 0.0141 0.0083

Uranus -84194-09-27 19:54 J -29030165.76 -29030165.67 -29030165.57 0.0141 0.0102

Uranus -84194-12-24 23:44 J -29030077.57 -29030077.51 -29030077.43 0.0141 0.0121

Uranus -84193-03-22 03:49 J -29029989.34 -29029989.34 -29029989.32 0.0141 0.0141

Jupiter -84193-12-06 13:11 J -29029730.00 -29029729.95 -29029729.91 0.0537 0.0497

Jupiter -84192-03-05 21:35 J -29029640.73 -29029640.60 -29029640.47 0.0534 0.0048

Jupiter -84192-06-03 06:42 J -29029551.31 -29029551.22 -29029551.14 0.0532 0.0408

Venus -84192-11-28 18:13 J -29029372.80 -29029372.74 -29029372.68 0.3775 0.3104

Mars -84187-11-14 09:20 J -29027561.26 -29027561.11 -29027560.96 0.1817 0.0164

Jupiter -84186-05-03 17:30 J -29027390.94 -29027390.77 -29027390.59 0.0493 0.0124

Venus -84186-06-14 12:42 J -29027349.06 -29027348.97 -29027348.88 0.3772 0.2265

Jupiter -84186-08-01 21:35 J -29027300.72 -29027300.60 -29027300.49 0.0495 0.0371

Mars -84186-09-09 05:30 J -29027262.40 -29027262.27 -29027262.15 0.1721 0.0079

Moon -84185-03-01 12:28 J -29027088.10 -29027087.98 -29027087.87 0.2747 0.0132

Earth -84185-03-01 12:42 J -29027088.09 -29027087.97 -29027087.86 0.2754 0.0129 *

Saturn -84184-07-05 11:16 J -29026597.09 -29026597.03 -29026596.96 0.0288 0.0268

Saturn -84184-10-02 10:04 J -29026508.24 -29026508.08 -29026507.91 0.0289 0.0116

Saturn -84184-12-30 08:23 J -29026419.32 -29026419.15 -29026418.97 0.0289 0.0034

Saturn -84183-03-29 06:13 J -29026330.37 -29026330.24 -29026330.10 0.0289 0.0180

Jupiter -84181-12-23 00:13 J -29025330.61 -29025330.49 -29025330.36 0.0535 0.0172

Venus -84181-12-28 07:11 J -29025325.30 -29025325.20 -29025325.10 0.3768 0.1414

Jupiter -84180-03-22 09:06 J -29025241.23 -29025241.12 -29025241.00 0.0533 0.0285

Mars -84177-04-05 09:06 J -29024131.23 -29024131.12 -29024131.01 0.1809 0.1254

Mars -84176-01-29 14:37 J -29023832.00 -29023831.89 -29023831.78 0.1729 0.0684

Venus -84175-07-14 01:54 J -29023301.53 -29023301.42 -29023301.30 0.3765 0.0546

Moon -84175-08-30 12:42 J -29023254.08 -29023253.97 -29023253.85 0.2582 0.1692

Earth -84175-08-30 14:08 J -29023254.03 -29023253.91 -29023253.78 0.2583 0.1466 *

Jupiter -84174-02-19 16:04 J -29023080.98 -29023080.83 -29023080.67 0.0492 0.0247

Jupiter -84174-05-20 20:08 J -29022990.81 -29022990.66 -29022990.50 0.0494 0.0250

Moon -84172-03-04 07:11 J -29022337.29 -29022337.20 -29022337.10 0.2751 0.1418

Earth -84172-03-04 07:54 J -29022337.26 -29022337.17 -29022337.07 0.2753 0.1490 *

Saturn -84170-07-30 15:49 J -29021458.89 -29021458.84 -29021458.79 0.0271 0.0250

Saturn -84170-10-27 02:52 J -29021370.49 -29021370.38 -29021370.27 0.0271 0.0159

Saturn -84169-01-23 14:08 J -29021282.04 -29021281.91 -29021281.78 0.0271 0.0067

Venus -84169-01-27 20:52 J -29021277.74 -29021277.63 -29021277.51 0.3760 0.0411

Saturn -84169-04-21 01:25 J -29021193.58 -29021193.44 -29021193.30 0.0270 0.0026

Saturn -84169-07-18 12:42 J -29021105.09 -29021104.97 -29021104.84 0.0270 0.0120

Jupiter -84169-10-11 03:49 J -29021020.45 -29021020.34 -29021020.23 0.0536 0.0284

Saturn -84169-10-15 00:13 J -29021016.57 -29021016.49 -29021016.40 0.0270 0.0214

Jupiter -84168-01-08 12:42 J -29020931.10 -29020930.97 -29020930.85 0.0534 0.0171

Mars -84167-06-21 23:44 J -29020401.59 -29020401.51 -29020401.43 0.1736 0.1306

Venus -84165-01-26 22:47 J -29019817.64 -29019817.55 -29019817.45 0.3608 0.2424

Earth -84165-02-26 03:20 J -29019787.42 -29019787.36 -29019787.31 0.2755 0.2352

Moon -84165-02-26 04:04 J -29019787.39 -29019787.33 -29019787.28 0.2751 0.2331 *

Mars -84165-05-27 11:30 J -29019696.10 -29019696.02 -29019695.93 0.1706 0.1247

Neptune -84165-08-16 21:20 J -29019614.61 -29019614.61 -29019614.59 0.0089 0.0088

Neptune -84165-11-12 22:47 J -29019526.58 -29019526.55 -29019526.50 0.0089 0.0084

Neptune -84164-02-08 23:59 J -29019438.54 -29019438.50 -29019438.43 0.0089 0.0080

Neptune -84164-05-08 01:25 J -29019350.50 -29019350.44 -29019350.36 0.0089 0.0076

Neptune -84164-08-04 02:37 J -29019262.45 -29019262.39 -29019262.30 0.0089 0.0072

Venus -84164-08-12 16:18 J -29019253.93 -29019253.82 -29019253.72 0.3757 0.1330

Neptune -84164-10-31 04:18 J -29019174.40 -29019174.32 -29019174.23 0.0089 0.0067

Neptune -84163-01-27 05:44 J -29019086.35 -29019086.26 -29019086.17 0.0089 0.0063

Neptune -84163-04-25 06:56 J -29018998.30 -29018998.21 -29018998.10 0.0089 0.0059

Neptune -84163-07-22 08:23 J -29018910.25 -29018910.15 -29018910.04 0.0089 0.0055

Neptune -84163-10-18 09:49 J -29018822.20 -29018822.09 -29018821.98 0.0089 0.0050

Jupiter -84163-12-08 13:54 J -29018771.03 -29018770.92 -29018770.80 0.0491 0.0376

Neptune -84162-01-14 11:16 J -29018734.14 -29018734.03 -29018733.92 0.0089 0.0046

Jupiter -84162-03-08 18:28 J -29018680.90 -29018680.73 -29018680.56 0.0493 0.0123

Neptune -84162-04-12 12:28 J -29018646.09 -29018645.98 -29018645.85 0.0089 0.0042

Neptune -84162-07-09 13:54 J -29018558.04 -29018557.92 -29018557.79 0.0089 0.0037

Moon -84162-09-02 16:04 J -29018502.98 -29018502.83 -29018502.68 0.2585 0.0341

Earth -84162-09-02 17:16 J -29018502.92 -29018502.78 -29018502.63 0.2583 0.0463 *

Neptune -84162-10-05 15:20 J -29018469.98 -29018469.86 -29018469.73 0.0089 0.0033

Neptune -84161-01-01 16:47 J -29018381.93 -29018381.80 -29018381.67 0.0089 0.0029

Neptune -84161-03-29 17:59 J -29018293.87 -29018293.75 -29018293.61 0.0089 0.0025

Neptune -84161-06-25 19:40 J -29018205.81 -29018205.68 -29018205.55 0.0089 0.0020

Neptune -84161-09-21 20:52 J -29018117.76 -29018117.63 -29018117.49 0.0089 0.0016

Neptune -84161-12-18 22:18 J -29018029.70 -29018029.57 -29018029.43 0.0089 0.0012

Neptune -84160-03-16 23:44 J -29017941.64 -29017941.51 -29017941.37 0.0089 0.0007

Neptune -84160-06-13 01:11 J -29017853.58 -29017853.45 -29017853.31 0.0089 0.0003

Venus -84160-08-11 23:01 J -29017793.67 -29017793.54 -29017793.41 0.3612 0.1179

Neptune -84160-09-09 02:37 J -29017765.52 -29017765.39 -29017765.25 0.0089 0.0003

Neptune -84160-12-06 04:04 J -29017677.46 -29017677.33 -29017677.19 0.0089 0.0006

Neptune -84159-03-04 05:30 J -29017589.40 -29017589.27 -29017589.13 0.0089 0.0011

Moon -84159-03-07 02:37 J -29017586.39 -29017586.39 -29017586.38 0.2754 0.2745

Neptune -84159-05-31 06:56 J -29017501.34 -29017501.21 -29017501.07 0.0089 0.0015

Neptune -84159-08-27 08:23 J -29017413.28 -29017413.15 -29017413.02 0.0089 0.0020

Neptune -84159-11-23 09:49 J -29017325.22 -29017325.09 -29017324.96 0.0089 0.0024

Neptune -84158-02-19 11:16 J -29017237.16 -29017237.03 -29017236.90 0.0089 0.0028

Venus -84158-02-26 11:44 J -29017230.10 -29017230.01 -29017229.92 0.3752 0.2289

Neptune -84158-05-18 12:42 J -29017149.09 -29017148.97 -29017148.84 0.0089 0.0033

Neptune -84158-08-14 14:08 J -29017061.03 -29017060.91 -29017060.78 0.0089 0.0037

Neptune -84158-11-10 15:35 J -29016972.97 -29016972.85 -29016972.72 0.0089 0.0042

Uranus -84157-01-01 14:37 J -29016920.95 -29016920.89 -29016920.81 0.0139 0.0127

Neptune -84157-02-06 17:01 J -29016884.90 -29016884.79 -29016884.67 0.0089 0.0047

Uranus -84157-03-29 21:35 J -29016832.71 -29016832.60 -29016832.47 0.0139 0.0104

Neptune -84157-05-04 18:28 J -29016796.83 -29016796.73 -29016796.61 0.0089 0.0051

Uranus -84157-06-26 04:47 J -29016744.45 -29016744.30 -29016744.15 0.0139 0.0079

Jupiter -84157-07-30 07:40 J -29016710.27 -29016710.18 -29016710.09 0.0537 0.0392

Neptune -84157-07-31 20:08 J -29016708.77 -29016708.66 -29016708.55 0.0089 0.0055

Uranus -84157-09-22 11:30 J -29016656.18 -29016656.02 -29016655.84 0.0139 0.0056

Jupiter -84157-10-27 16:18 J -29016620.95 -29016620.82 -29016620.69 0.0534 0.0062

Neptune -84157-10-27 21:20 J -29016620.70 -29016620.61 -29016620.50 0.0089 0.0060 *

Uranus -84157-12-19 18:28 J -29016567.90 -29016567.73 -29016567.55 0.0139 0.0033

Mars -84157-12-23 09:49 J -29016564.22 -29016564.09 -29016563.97 0.1827 0.1039

Neptune -84156-01-23 22:47 J -29016532.63 -29016532.55 -29016532.44 0.0089 0.0065

Jupiter -84156-01-25 01:40 J -29016531.45 -29016531.43 -29016531.40 0.0532 0.0520

Uranus -84156-03-18 01:25 J -29016479.62 -29016479.44 -29016479.26 0.0139 0.0009

Neptune -84156-04-22 00:28 J -29016444.56 -29016444.48 -29016444.39 0.0089 0.0069

Uranus -84156-06-14 08:08 J -29016391.34 -29016391.16 -29016390.98 0.0138 0.0014

Neptune -84156-07-19 02:08 J -29016356.49 -29016356.41 -29016356.33 0.0089 0.0073

Uranus -84156-09-10 14:37 J -29016303.06 -29016302.89 -29016302.71 0.0138 0.0037

Neptune -84156-10-15 03:20 J -29016268.41 -29016268.36 -29016268.28 0.0089 0.0078

Mars -84156-10-17 20:37 J -29016265.76 -29016265.64 -29016265.53 0.1713 0.0632

Uranus -84156-12-07 21:20 J -29016214.77 -29016214.61 -29016214.45 0.0138 0.0059

Neptune -84155-01-11 04:47 J -29016180.33 -29016180.30 -29016180.24 0.0089 0.0083

Uranus -84155-03-06 03:49 J -29016126.48 -29016126.34 -29016126.19 0.0138 0.0081

Neptune -84155-04-09 06:28 J -29016092.25 -29016092.23 -29016092.20 0.0089 0.0087

Uranus -84155-06-02 10:18 J -29016038.18 -29016038.07 -29016037.95 0.0138 0.0103

Uranus -84155-08-29 16:32 J -29015949.87 -29015949.81 -29015949.72 0.0138 0.0125

Saturn -84154-02-19 08:37 J -29015776.29 -29015776.14 -29015776.00 0.0289 0.0163

Venus -84154-02-25 22:32 J -29015769.69 -29015769.56 -29015769.42 0.3616 0.0078

Saturn -84154-05-19 06:56 J -29015687.39 -29015687.21 -29015687.03 0.0289 0.0013

Saturn -84154-08-16 05:01 J -29015598.45 -29015598.29 -29015598.14 0.0289 0.0135

Saturn -84154-11-13 02:23 J -29015509.43 -29015509.40 -29015509.35 0.0290 0.0280

Venus -84153-09-11 07:25 J -29015206.24 -29015206.19 -29015206.14 0.3748 0.3285

Moon -84152-02-27 22:32 J -29015036.67 -29015036.56 -29015036.45 0.2748 0.0919

Earth -84152-02-27 22:18 J -29015036.67 -29015036.57 -29015036.46 0.2754 0.1003 *

Jupiter -84151-12-25 17:16 J -29014370.96 -29014370.78 -29014370.61 0.0493 0.0010

Jupiter -84150-03-25 20:37 J -29014280.66 -29014280.64 -29014280.62 0.0495 0.0491

Moon -84149-09-04 19:25 J -29013751.75 -29013751.69 -29013751.63 0.2590 0.2315

Earth -84149-09-04 19:54 J -29013751.73 -29013751.67 -29013751.60 0.2584 0.2326 *

Venus -84149-09-10 21:49 J -29013745.71 -29013745.59 -29013745.46 0.3620 0.1161

Mars -84147-05-15 09:49 J -29013134.25 -29013134.09 -29013133.94 0.1818 0.0061

Mars -84146-03-10 05:30 J -29012835.39 -29012835.27 -29012835.14 0.1721 0.0023

Jupiter -84145-05-18 11:30 J -29012400.06 -29012400.02 -29012399.97 0.0537 0.0500

Jupiter -84145-08-15 19:54 J -29012310.80 -29012310.67 -29012310.53 0.0535 0.0054

Jupiter -84145-11-13 05:01 J -29012221.37 -29012221.29 -29012221.20 0.0532 0.0407

Venus -84143-03-27 20:37 J -29011721.74 -29011721.64 -29011721.54 0.3624 0.2250

Venus -84141-12-19 22:18 J -29010723.59 -29010723.57 -29010723.55 0.3777 0.3694

Saturn -84140-03-15 04:32 J -29010638.40 -29010638.31 -29010638.21 0.0272 0.0192

Saturn -84140-06-11 15:49 J -29010549.97 -29010549.84 -29010549.71 0.0271 0.0099

Saturn -84140-09-08 03:06 J -29010461.51 -29010461.37 -29010461.23 0.0271 0.0007

Saturn -84140-12-05 14:23 J -29010373.03 -29010372.90 -29010372.76 0.0271 0.0087

Moon -84139-03-02 17:16 J -29010285.89 -29010285.78 -29010285.66 0.2747 0.0328

Earth -84139-03-02 17:44 J -29010285.88 -29010285.76 -29010285.65 0.2754 0.0389 *

Saturn -84139-03-04 01:54 J -29010284.52 -29010284.42 -29010284.31 0.0270 0.0181

Jupiter -84139-10-13 15:20 J -29010061.03 -29010060.86 -29010060.68 0.0493 0.0127

Jupiter -84138-01-11 19:11 J -29009970.81 -29009970.70 -29009970.58 0.0495 0.0370

Mars -84138-10-05 10:04 J -29009704.20 -29009704.08 -29009703.96 0.1809 0.1115

Venus -84138-10-11 19:11 J -29009697.75 -29009697.70 -29009697.65 0.3628 0.3301

Mars -84137-07-30 14:37 J -29009405.01 -29009404.89 -29009404.78 0.1728 0.0604

Venus -84135-07-05 16:32 J -29008699.88 -29008699.81 -29008699.74 0.3774 0.2879

Jupiter -84133-06-03 23:30 J -29008000.65 -29008000.52 -29008000.40 0.0535 0.0165

Jupiter -84133-09-01 08:23 J -29007911.26 -29007911.15 -29007911.04 0.0533 0.0291

Venus -84129-01-19 10:47 J -29006676.14 -29006676.05 -29006675.95 0.3771 0.2042

Moon -84129-08-30 18:56 J -29006451.85 -29006451.71 -29006451.58 0.2582 0.1136

Earth -84129-08-30 20:23 J -29006451.79 -29006451.65 -29006451.51 0.2583 0.1067 *

Mars -84128-12-20 23:44 J -29005974.60 -29005974.51 -29005974.43 0.1736 0.1224

Jupiter -84127-08-01 13:54 J -29005751.07 -29005750.92 -29005750.76 0.0492 0.0251

Jupiter -84127-10-30 18:13 J -29005660.89 -29005660.74 -29005660.59 0.0494 0.0247

Moon -84126-03-05 12:13 J -29005535.08 -29005534.99 -29005534.90 0.2752 0.1681

Earth -84126-03-05 12:56 J -29005535.04 -29005534.96 -29005534.87 0.2753 0.1782 *

Mars -84126-11-26 11:30 J -29005269.09 -29005269.02 -29005268.94 0.1706 0.1327

Saturn -84125-07-08 08:08 J -29005044.28 -29005044.16 -29005044.02 0.0289 0.0199

Saturn -84125-10-05 06:56 J -29004955.38 -29004955.21 -29004955.03 0.0289 0.0047

Saturn -84124-01-02 05:01 J -29004866.45 -29004866.29 -29004866.12 0.0289 0.0102

Saturn -84124-04-01 02:52 J -29004777.46 -29004777.38 -29004777.29 0.0290 0.0247

Venus -84124-08-04 05:30 J -29004652.38 -29004652.27 -29004652.16 0.3767 0.1170

Jupiter -84121-03-23 02:08 J -29003690.52 -29003690.41 -29003690.30 0.0536 0.0288

Jupiter -84121-06-20 10:47 J -29003601.17 -29003601.05 -29003600.92 0.0534 0.0167

Earth -84119-02-26 08:08 J -29002985.23 -29002985.16 -29002985.08 0.2755 0.2078

Moon -84119-02-26 08:52 J -29002985.21 -29002985.13 -29002985.05 0.2751 0.1920 *

Venus -84118-02-18 00:28 J -29002628.60 -29002628.48 -29002628.37 0.3763 0.0313

Mars -84117-06-23 09:49 J -29002137.21 -29002137.09 -29002136.97 0.1827 0.1139

Mars -84116-04-17 20:37 J -29001838.75 -29001838.64 -29001838.53 0.1714 0.0715

Moon -84116-09-02 22:18 J -29001700.71 -29001700.57 -29001700.43 0.2587 0.0697

Earth -84116-09-02 23:16 J -29001700.67 -29001700.53 -29001700.38 0.2583 0.0854 *

Jupiter -84115-05-20 12:28 J -29001441.10 -29001440.98 -29001440.86 0.0491 0.0373

Jupiter -84115-08-18 17:01 J -29001350.96 -29001350.79 -29001350.62 0.0493 0.0126

Venus -84114-02-16 22:18 J -29001168.62 -29001168.57 -29001168.52 0.3605 0.3349

Uranus -84113-08-28 02:08 J -29000610.46 -29000610.41 -29000610.36 0.0139 0.0129

Venus -84113-09-02 19:25 J -29000604.80 -29000604.69 -29000604.58 0.3759 0.0649

Uranus -84113-11-24 05:44 J -29000522.34 -29000522.26 -29000522.18 0.0139 0.0112

Uranus -84112-02-20 09:20 J -29000434.21 -29000434.11 -29000434.01 0.0139 0.0094

Uranus -84112-05-19 12:56 J -29000346.07 -29000345.96 -29000345.84 0.0140 0.0077

Uranus -84112-08-15 16:32 J -29000257.93 -29000257.81 -29000257.68 0.0140 0.0060

Uranus -84112-11-11 20:23 J -29000169.78 -29000169.65 -29000169.51 0.0140 0.0042

Uranus -84111-02-08 00:13 J -29000081.63 -29000081.49 -29000081.35 0.0140 0.0024

Uranus -84111-05-07 04:04 J -28999993.47 -28999993.33 -28999993.20 0.0140 0.0007

Saturn -84111-08-02 08:08 J -28999906.24 -28999906.16 -28999906.07 0.0271 0.0207

Uranus -84111-08-03 07:40 J -28999905.31 -28999905.18 -28999905.04 0.0140 0.0013

Saturn -84111-10-29 19:25 J -28999817.81 -28999817.69 -28999817.57 0.0271 0.0115

Uranus -84111-10-30 11:30 J -28999817.15 -28999817.02 -28999816.88 0.0140 0.0031

Saturn -84110-01-26 06:42 J -28999729.36 -28999729.22 -28999729.08 0.0270 0.0023

Uranus -84110-01-26 15:20 J -28999728.98 -28999728.86 -28999728.72 0.0141 0.0050

Saturn -84110-04-24 17:59 J -28999640.88 -28999640.75 -28999640.62 0.0270 0.0070

Uranus -84110-04-24 19:25 J -28999640.81 -28999640.69 -28999640.57 0.0141 0.0068 *

Uranus -84110-07-21 23:16 J -28999552.64 -28999552.53 -28999552.42 0.0141 0.0087

Saturn -84110-07-22 05:30 J -28999552.38 -28999552.27 -28999552.16 0.0270 0.0164

Uranus -84110-10-18 03:06 J -28999464.45 -28999464.37 -28999464.27 0.0141 0.0106

Saturn -84110-10-18 17:01 J -28999463.82 -28999463.79 -28999463.75 0.0270 0.0259

Jupiter -84109-01-10 05:44 J -28999380.35 -28999380.26 -28999380.18 0.0537 0.0401

Uranus -84109-01-14 07:11 J -28999376.26 -28999376.20 -28999376.13 0.0141 0.0125

Jupiter -84109-04-08 14:23 J -28999291.04 -28999290.90 -28999290.77 0.0535 0.0055

Jupiter -84109-07-06 23:30 J -28999201.55 -28999201.52 -28999201.48 0.0532 0.0511

Venus -84109-09-01 22:47 J -28999144.66 -28999144.55 -28999144.44 0.3609 0.2071

Mars -84108-11-13 10:18 J -28998707.22 -28998707.07 -28998706.92 0.1818 0.0078

Venus -84107-03-19 14:37 J -28998580.99 -28998580.89 -28998580.78 0.3755 0.1600

Mars -84107-09-08 05:44 J -28998408.39 -28998408.26 -28998408.14 0.1720 0.0108

Earth -84106-03-01 03:20 J -28998234.47 -28998234.36 -28998234.25 0.2754 0.0720

Moon -84106-03-01 03:20 J -28998234.46 -28998234.36 -28998234.25 0.2747 0.0782 *

Venus -84103-03-18 22:47 J -28997120.68 -28997120.55 -28997120.42 0.3613 0.0851

Jupiter -84103-06-06 15:06 J -28997041.05 -28997040.87 -28997040.69 0.0493 0.0007

Jupiter -84103-09-04 18:42 J -28996950.75 -28996950.72 -28996950.70 0.0495 0.0488

Venus -84102-10-03 10:18 J -28996557.16 -28996557.07 -28996556.99 0.3751 0.2575

Mars -84098-04-05 10:32 J -28995277.19 -28995277.06 -28995276.93 0.1809 0.0992

Venus -84098-10-02 22:18 J -28995096.70 -28995096.57 -28995096.44 0.3617 0.0351

Jupiter -84098-10-29 09:35 J -28995070.14 -28995070.10 -28995070.06 0.0537 0.0508

Jupiter -84097-01-26 17:59 J -28994980.88 -28994980.75 -28994980.62 0.0535 0.0059

Mars -84097-01-29 14:37 J -28994978.01 -28994977.89 -28994977.77 0.1728 0.0522

Jupiter -84097-04-25 03:06 J -28994891.45 -28994891.37 -28994891.28 0.0533 0.0402

Venus -84096-04-18 05:59 J -28994533.28 -28994533.25 -28994533.22 0.3747 0.3581

Saturn -84096-11-25 06:28 J -28994312.32 -28994312.23 -28994312.13 0.0288 0.0246

Saturn -84095-02-22 05:16 J -28994223.45 -28994223.28 -28994223.11 0.0289 0.0095

Saturn -84095-05-22 03:35 J -28994134.53 -28994134.35 -28994134.18 0.0289 0.0055

Saturn -84095-08-19 01:11 J -28994045.56 -28994045.45 -28994045.32 0.0289 0.0202

Moon -84093-03-02 22:18 J -28993483.69 -28993483.57 -28993483.46 0.2748 0.0659

Earth -84093-03-02 22:32 J -28993483.67 -28993483.56 -28993483.45 0.2754 0.0671 *

Venus -84092-04-17 21:20 J -28993072.73 -28993072.61 -28993072.49 0.3621 0.1473

Jupiter -84091-03-25 13:40 J -28992731.10 -28992730.93 -28992730.76 0.0492 0.0125

Jupiter -84091-06-23 17:30 J -28992640.88 -28992640.77 -28992640.65 0.0495 0.0369

Mars -84088-06-20 23:44 J -28991547.60 -28991547.51 -28991547.42 0.1736 0.1142

Venus -84087-11-01 20:08 J -28991048.75 -28991048.66 -28991048.57 0.3625 0.2558

Mars -84086-05-27 11:44 J -28990842.08 -28990842.01 -28990841.94 0.1706 0.1412

Jupiter -84086-11-14 21:49 J -28990670.71 -28990670.59 -28990670.46 0.0535 0.0166

Jupiter -84085-02-12 06:42 J -28990581.32 -28990581.22 -28990581.10 0.0533 0.0291

Venus -84084-07-26 20:23 J -28990050.69 -28990050.65 -28990050.61 0.3777 0.3474

Moon -84083-09-01 01:11 J -28989649.59 -28989649.45 -28989649.31 0.2582 0.0893

Earth -84083-09-01 02:37 J -28989649.54 -28989649.39 -28989649.25 0.2583 0.0661 *

Saturn -84082-12-20 09:49 J -28989174.14 -28989174.09 -28989174.02 0.0272 0.0240

Neptune -84081-02-04 20:52 J -28989127.67 -28989127.63 -28989127.58 0.0089 0.0086

Saturn -84081-03-17 21:06 J -28989085.73 -28989085.62 -28989085.51 0.0271 0.0148

Neptune -84081-05-03 00:13 J -28989039.56 -28989039.49 -28989039.40 0.0089 0.0080

Venus -84081-05-17 18:28 J -28989024.74 -28989024.73 -28989024.72 0.3629 0.3597

Saturn -84081-06-14 08:08 J -28988997.29 -28988997.16 -28988997.02 0.0271 0.0056

Neptune -84081-07-30 03:35 J -28988951.44 -28988951.35 -28988951.23 0.0089 0.0074

Saturn -84081-09-10 19:25 J -28988908.82 -28988908.69 -28988908.55 0.0271 0.0038

Neptune -84081-10-26 07:11 J -28988863.31 -28988863.20 -28988863.06 0.0089 0.0068

Saturn -84081-12-08 06:56 J -28988820.33 -28988820.21 -28988820.09 0.0270 0.0131

Neptune -84080-01-22 10:32 J -28988775.18 -28988775.06 -28988774.90 0.0089 0.0062

Moon -84080-03-05 17:16 J -28988732.86 -28988732.78 -28988732.70 0.2751 0.1950

Earth -84080-03-05 17:59 J -28988732.82 -28988732.75 -28988732.67 0.2753 0.2071 *

Saturn -84080-03-06 18:28 J -28988731.81 -28988731.73 -28988731.66 0.0270 0.0225

Neptune -84080-04-20 14:23 J -28988687.04 -28988686.90 -28988686.75 0.0089 0.0055

Neptune -84080-07-17 17:44 J -28988598.91 -28988598.76 -28988598.59 0.0089 0.0049

Neptune -84080-10-13 21:20 J -28988510.77 -28988510.61 -28988510.44 0.0089 0.0043

Neptune -84079-01-10 00:42 J -28988422.64 -28988422.47 -28988422.29 0.0089 0.0037

Jupiter -84079-01-11 11:59 J -28988421.16 -28988421.00 -28988420.85 0.0492 0.0252

Neptune -84079-04-08 04:04 J -28988334.50 -28988334.33 -28988334.14 0.0089 0.0031

Jupiter -84079-04-11 16:18 J -28988330.98 -28988330.82 -28988330.67 0.0494 0.0246

Neptune -84079-07-05 07:25 J -28988246.36 -28988246.19 -28988245.99 0.0089 0.0025

Neptune -84079-10-01 11:01 J -28988158.22 -28988158.04 -28988157.85 0.0089 0.0018

Neptune -84079-12-28 14:37 J -28988070.08 -28988069.89 -28988069.70 0.0089 0.0012

Venus -84078-02-09 14:37 J -28988026.96 -28988026.89 -28988026.81 0.3773 0.2652

Neptune -84078-03-26 17:59 J -28987981.94 -28987981.75 -28987981.56 0.0089 0.0006

Neptune -84078-06-22 21:20 J -28987893.80 -28987893.61 -28987893.42 0.0089 0.0001

Pluto -84078-08-28 16:18 J -28987826.88 -28987826.82 -28987826.76 0.0060 0.0057

Neptune -84078-09-19 00:42 J -28987805.66 -28987805.47 -28987805.28 0.0089 0.0006

Pluto -84078-11-24 17:30 J -28987738.86 -28987738.77 -28987738.66 0.0060 0.0051

Neptune -84078-12-16 04:04 J -28987717.51 -28987717.33 -28987717.14 0.0089 0.0012

Mars -84078-12-23 10:32 J -28987710.16 -28987710.06 -28987709.95 0.1827 0.1275

Pluto -84077-02-20 18:42 J -28987650.83 -28987650.72 -28987650.57 0.0060 0.0045

Neptune -84077-03-13 07:25 J -28987629.37 -28987629.19 -28987629.00 0.0089 0.0018

Pluto -84077-05-18 20:08 J -28987562.79 -28987562.66 -28987562.49 0.0061 0.0039

Neptune -84077-06-09 10:47 J -28987541.23 -28987541.05 -28987540.87 0.0089 0.0024

Pluto -84077-08-14 21:35 J -28987474.75 -28987474.60 -28987474.42 0.0061 0.0033

Neptune -84077-09-05 13:54 J -28987453.08 -28987452.92 -28987452.73 0.0089 0.0031

Mars -84077-10-16 20:37 J -28987411.75 -28987411.64 -28987411.53 0.1713 0.0801

Pluto -84077-11-10 23:16 J -28987386.70 -28987386.53 -28987386.35 0.0061 0.0026

Neptune -84077-12-02 17:16 J -28987364.94 -28987364.78 -28987364.60 0.0089 0.0037

Pluto -84076-02-07 00:42 J -28987298.65 -28987298.47 -28987298.28 0.0061 0.0020

Neptune -84076-02-28 20:37 J -28987276.79 -28987276.64 -28987276.47 0.0089 0.0043

Pluto -84076-05-06 02:08 J -28987210.59 -28987210.41 -28987210.21 0.0061 0.0014

Neptune -84076-05-27 23:44 J -28987188.65 -28987188.51 -28987188.34 0.0089 0.0049

Pluto -84076-08-02 03:49 J -28987122.54 -28987122.34 -28987122.15 0.0061 0.0007

Neptune -84076-08-24 03:06 J -28987100.50 -28987100.37 -28987100.21 0.0089 0.0055

Pluto -84076-10-29 05:16 J -28987034.48 -28987034.28 -28987034.09 0.0061 0.0001

Neptune -84076-11-20 06:13 J -28987012.36 -28987012.24 -28987012.08 0.0089 0.0061

Pluto -84075-01-25 06:28 J -28986946.42 -28986946.23 -28986946.03 0.0061 0.0006

Neptune -84075-02-16 09:49 J -28986924.21 -28986924.09 -28986923.96 0.0089 0.0066

Pluto -84075-04-23 07:54 J -28986858.35 -28986858.17 -28986857.97 0.0061 0.0012

Neptune -84075-05-15 12:56 J -28986836.06 -28986835.96 -28986835.84 0.0089 0.0072

Pluto -84075-07-20 09:35 J -28986770.29 -28986770.10 -28986769.92 0.0061 0.0019

Neptune -84075-08-11 16:04 J -28986747.90 -28986747.83 -28986747.73 0.0089 0.0078

Pluto -84075-10-16 10:47 J -28986682.22 -28986682.05 -28986681.86 0.0061 0.0025

Neptune -84075-11-07 19:11 J -28986659.74 -28986659.70 -28986659.62 0.0089 0.0084

Pluto -84074-01-12 12:28 J -28986594.14 -28986593.98 -28986593.81 0.0061 0.0032

Pluto -84074-04-10 13:40 J -28986506.07 -28986505.93 -28986505.76 0.0061 0.0038

Pluto -84074-07-07 15:20 J -28986417.98 -28986417.86 -28986417.72 0.0061 0.0045

Jupiter -84074-09-03 01:25 J -28986360.55 -28986360.44 -28986360.33 0.0536 0.0278

Pluto -84074-10-03 16:32 J -28986329.89 -28986329.81 -28986329.69 0.0061 0.0052

Jupiter -84074-12-01 10:04 J -28986271.20 -28986271.08 -28986270.95 0.0533 0.0177

Pluto -84074-12-30 17:44 J -28986241.79 -28986241.76 -28986241.67 0.0062 0.0059

Uranus -84073-01-21 22:32 J -28986219.65 -28986219.56 -28986219.47 0.0139 0.0121

Earth -84073-02-27 13:11 J -28986183.03 -28986182.95 -28986182.86 0.2755 0.1797

Moon -84073-02-27 13:40 J -28986183.01 -28986182.93 -28986182.84 0.2750 0.1787 *

Uranus -84073-04-19 05:16 J -28986131.40 -28986131.28 -28986131.14 0.0139 0.0097

Uranus -84073-07-16 12:13 J -28986043.13 -28986042.99 -28986042.82 0.0139 0.0073

Venus -84073-08-25 09:06 J -28986003.22 -28986003.12 -28986003.02 0.3770 0.1799

Uranus -84073-10-12 19:25 J -28985954.86 -28985954.69 -28985954.52 0.0139 0.0049

Uranus -84072-01-09 02:08 J -28985866.58 -28985866.41 -28985866.23 0.0139 0.0026

Uranus -84072-04-07 09:06 J -28985778.30 -28985778.12 -28985777.94 0.0139 0.0003

Uranus -84072-07-04 15:35 J -28985690.02 -28985689.85 -28985689.66 0.0138 0.0021

Uranus -84072-09-30 22:32 J -28985601.74 -28985601.56 -28985601.39 0.0138 0.0043

Uranus -84072-12-28 04:47 J -28985513.45 -28985513.30 -28985513.13 0.0138 0.0066

Uranus -84071-03-26 11:30 J -28985425.15 -28985425.02 -28985424.88 0.0138 0.0087

Uranus -84071-06-22 17:59 J -28985336.85 -28985336.75 -28985336.64 0.0138 0.0109

Uranus -84071-09-19 00:13 J -28985248.53 -28985248.49 -28985248.42 0.0138 0.0131

Moon -84070-09-04 04:32 J -28984898.44 -28984898.31 -28984898.18 0.2588 0.1217

Earth -84070-09-04 05:30 J -28984898.40 -28984898.27 -28984898.14 0.2583 0.1244 *

Mars -84068-05-14 10:47 J -28984280.20 -28984280.05 -28984279.90 0.1818 0.0201

Jupiter -84068-10-30 10:18 J -28984111.18 -28984111.07 -28984110.95 0.0492 0.0376

Jupiter -84067-01-28 15:06 J -28984021.04 -28984020.87 -28984020.70 0.0494 0.0124

Mars -84067-03-09 05:44 J -28983981.39 -28983981.26 -28983981.14 0.1721 0.0185

Venus -84067-03-11 03:49 J -28983979.45 -28983979.34 -28983979.23 0.3766 0.0921

Saturn -84066-04-14 05:16 J -28983580.28 -28983580.28 -28983580.27 0.0288 0.0288

Saturn -84066-07-12 04:18 J -28983491.48 -28983491.32 -28983491.17 0.0289 0.0136

Saturn -84066-10-09 02:37 J -28983402.57 -28983402.39 -28983402.21 0.0289 0.0015

Saturn -84065-01-06 00:42 J -28983313.61 -28983313.47 -28983313.32 0.0290 0.0163

Jupiter -84062-06-22 04:04 J -28982050.41 -28982050.33 -28982050.24 0.0537 0.0402

Jupiter -84062-09-19 12:42 J -28981961.10 -28981960.97 -28981960.84 0.0534 0.0050

Venus -84062-09-24 22:47 J -28981955.67 -28981955.55 -28981955.44 0.3762 0.0073

Jupiter -84062-12-17 22:04 J -28981871.62 -28981871.58 -28981871.54 0.0532 0.0508

Moon -84060-03-01 08:23 J -28981432.26 -28981432.15 -28981432.04 0.2747 0.0361

Earth -84060-03-01 08:23 J -28981432.26 -28981432.15 -28981432.04 0.2754 0.0437 *

Mars -84059-10-04 10:47 J -28980850.18 -28980850.05 -28980849.92 0.1809 0.0883

Mars -84058-07-30 14:52 J -28980551.00 -28980550.88 -28980550.76 0.1728 0.0434

Venus -84058-09-23 22:18 J -28980495.65 -28980495.57 -28980495.50 0.3606 0.2994

Venus -84056-04-09 17:44 J -28979931.87 -28979931.76 -28979931.64 0.3758 0.0932

Jupiter -84056-11-16 13:54 J -28979711.10 -28979710.92 -28979710.74 0.0493 0.0006

Jupiter -84055-02-14 17:16 J -28979620.78 -28979620.78 -28979620.76 0.0495 0.0494

Venus -84052-04-08 22:32 J -28978471.68 -28978471.56 -28978471.44 0.3610 0.1724

Saturn -84052-05-08 13:25 J -28978441.98 -28978441.94 -28978441.89 0.0271 0.0256

Saturn -84052-08-05 00:28 J -28978353.58 -28978353.48 -28978353.37 0.0271 0.0165

Saturn -84052-11-01 11:44 J -28978265.14 -28978265.01 -28978264.88 0.0271 0.0073

Saturn -84051-01-28 23:01 J -28978176.68 -28978176.54 -28978176.41 0.0270 0.0021

Saturn -84051-04-27 10:18 J -28978088.20 -28978088.07 -28978087.95 0.0270 0.0113

Saturn -84051-07-24 21:49 J -28977999.68 -28977999.59 -28977999.50 0.0270 0.0207

Venus -84051-10-24 13:11 J -28977908.05 -28977907.95 -28977907.85 0.3754 0.1877

Jupiter -84050-04-10 07:40 J -28977740.21 -28977740.18 -28977740.14 0.0537 0.0514

Jupiter -84050-07-08 16:04 J -28977650.96 -28977650.83 -28977650.70 0.0535 0.0065

Moon -84050-08-30 04:04 J -28977598.38 -28977598.33 -28977598.28 0.2579 0.2419

Earth -84050-08-30 05:30 J -28977598.35 -28977598.27 -28977598.20 0.2583 0.2214 *

Jupiter -84050-10-06 01:11 J -28977561.53 -28977561.45 -28977561.36 0.0533 0.0394

Mars -84049-12-19 23:44 J -28977120.60 -28977120.51 -28977120.41 0.1735 0.1061

Moon -84047-03-04 03:06 J -28976681.48 -28976681.37 -28976681.26 0.2749 0.0811

Earth -84047-03-04 03:35 J -28976681.45 -28976681.35 -28976681.24 0.2753 0.0955 *

Venus -84047-10-23 22:18 J -28976447.70 -28976447.57 -28976447.44 0.3614 0.0508

Mars -84047-11-25 11:59 J -28976415.06 -28976415.00 -28976414.95 0.1706 0.1504

Venus -84045-05-09 08:52 J -28975884.21 -28975884.13 -28975884.06 0.3750 0.2864

Jupiter -84044-09-04 11:59 J -28975401.17 -28975401.00 -28975400.82 0.0492 0.0124

Jupiter -84044-12-03 15:49 J -28975310.95 -28975310.84 -28975310.72 0.0494 0.0370

Venus -84041-05-08 21:49 J -28974423.72 -28974423.59 -28974423.46 0.3618 0.0669

Mars -84039-05-12 08:52 J -28973690.16 -28973690.13 -28973690.10 0.1743 0.1685

Jupiter -84038-04-26 19:54 J -28973340.79 -28973340.67 -28973340.54 0.0536 0.0173

Mars -84038-06-23 11:01 J -28973283.13 -28973283.04 -28973282.94 0.1827 0.1399

Jupiter -84038-07-25 05:01 J -28973251.40 -28973251.29 -28973251.18 0.0533 0.0285

Mars -84037-04-16 20:37 J -28972984.74 -28972984.64 -28972984.53 0.1713 0.0886

Moon -84037-09-01 07:11 J -28972847.35 -28972847.20 -28972847.05 0.2584 0.0318

Earth -84037-09-01 08:37 J -28972847.29 -28972847.14 -28972846.99 0.2583 0.0266 *

Saturn -84037-11-28 02:37 J -28972759.53 -28972759.39 -28972759.25 0.0289 0.0183

Saturn -84036-02-25 01:11 J -28972670.63 -28972670.45 -28972670.27 0.0289 0.0032

Saturn -84036-05-24 23:16 J -28972581.69 -28972581.53 -28972581.37 0.0289 0.0117

Saturn -84036-08-21 21:06 J -28972492.69 -28972492.62 -28972492.55 0.0290 0.0263

Venus -84036-11-22 20:52 J -28972399.75 -28972399.63 -28972399.52 0.3622 0.1790

Moon -84034-03-06 22:18 J -28971930.63 -28971930.57 -28971930.51 0.2751 0.2284

Earth -84034-03-06 23:01 J -28971930.59 -28971930.54 -28971930.48 0.2753 0.2360 *

Jupiter -84032-06-23 10:32 J -28971091.22 -28971091.06 -28971090.91 0.0492 0.0247

Jupiter -84032-09-21 14:52 J -28971001.04 -28971000.88 -28971000.73 0.0494 0.0249

Venus -84030-06-08 19:25 J -28970375.77 -28970375.69 -28970375.62 0.3626 0.2861

Uranus -84029-09-17 08:52 J -28969909.18 -28969909.13 -28969909.07 0.0139 0.0126

Mars -84029-11-12 11:16 J -28969853.18 -28969853.03 -28969852.88 0.1818 0.0325

Uranus -84029-12-14 12:28 J -28969821.05 -28969820.98 -28969820.89 0.0139 0.0109

Uranus -84028-03-12 16:04 J -28969732.92 -28969732.83 -28969732.72 0.0139 0.0092

Uranus -84028-06-08 19:54 J -28969644.78 -28969644.67 -28969644.55 0.0140 0.0075

Uranus -84028-09-04 23:30 J -28969556.64 -28969556.52 -28969556.39 0.0140 0.0057

Mars -84028-09-07 05:44 J -28969554.38 -28969554.26 -28969554.14 0.1720 0.0270

Uranus -84028-12-02 03:20 J -28969468.49 -28969468.36 -28969468.23 0.0140 0.0039

Earth -84027-02-27 18:13 J -28969380.83 -28969380.74 -28969380.65 0.2754 0.1517

Moon -84027-02-27 18:42 J -28969380.82 -28969380.72 -28969380.63 0.2748 0.1420 *

Uranus -84027-02-28 06:56 J -28969380.34 -28969380.21 -28969380.07 0.0140 0.0022

Venus -84027-03-02 18:28 J -28969377.78 -28969377.73 -28969377.67 0.3776 0.3255

Uranus -84027-05-27 10:47 J -28969292.19 -28969292.05 -28969291.91 0.0140 0.0005

Uranus -84027-08-23 14:37 J -28969204.03 -28969203.89 -28969203.75 0.0140 0.0015

Uranus -84027-11-19 18:28 J -28969115.86 -28969115.73 -28969115.59 0.0140 0.0034

Jupiter -84026-02-12 23:59 J -28969030.61 -28969030.50 -28969030.39 0.0536 0.0279

Uranus -84026-02-15 22:18 J -28969027.70 -28969027.57 -28969027.44 0.0141 0.0052

Jupiter -84026-05-13 08:37 J -28968941.26 -28968941.14 -28968941.01 0.0534 0.0177

Uranus -84026-05-15 02:08 J -28968939.52 -28968939.41 -28968939.28 0.0141 0.0071

Uranus -84026-08-11 05:59 J -28968851.35 -28968851.25 -28968851.13 0.0141 0.0090

Uranus -84026-11-07 10:04 J -28968763.16 -28968763.08 -28968762.99 0.0141 0.0109

Uranus -84025-02-03 13:54 J -28968674.96 -28968674.92 -28968674.85 0.0141 0.0129

Moon -84024-09-04 10:32 J -28968096.18 -28968096.06 -28968095.94 0.2589 0.1464

Earth -84024-09-04 11:30 J -28968096.13 -28968096.02 -28968095.90 0.2584 0.1636 *

Saturn -84023-12-23 01:54 J -28967621.50 -28967621.42 -28967621.32 0.0271 0.0199

Saturn -84022-03-21 13:11 J -28967533.08 -28967532.95 -28967532.83 0.0271 0.0108

Saturn -84022-06-18 00:13 J -28967444.62 -28967444.49 -28967444.35 0.0270 0.0017

Saturn -84022-09-14 11:30 J -28967356.15 -28967356.02 -28967355.88 0.0270 0.0079

Venus -84022-09-16 12:56 J -28967354.05 -28967353.96 -28967353.88 0.3772 0.2417

Saturn -84022-12-11 23:01 J -28967267.64 -28967267.54 -28967267.43 0.0270 0.0172

Saturn -84021-03-09 10:32 J -28967179.07 -28967179.06 -28967179.04 0.0270 0.0266

Jupiter -84020-04-11 08:37 J -28966781.25 -28966781.14 -28966781.02 0.0492 0.0375

Jupiter -84020-07-10 13:25 J -28966691.12 -28966690.94 -28966690.77 0.0494 0.0126

Mars -84019-04-04 11:30 J -28966423.16 -28966423.02 -28966422.88 0.1810 0.0753

Mars -84018-01-28 14:52 J -28966124.00 -28966123.88 -28966123.76 0.1728 0.0359

Venus -84016-04-01 07:25 J -28965330.29 -28965330.19 -28965330.09 0.3769 0.1555

Jupiter -84015-12-02 03:35 J -28964720.44 -28964720.35 -28964720.26 0.0537 0.0390

Jupiter -84014-03-01 12:13 J -28964631.12 -28964630.99 -28964630.86 0.0534 0.0063

Moon -84014-03-02 13:25 J -28964630.06 -28964629.94 -28964629.83 0.2747 0.0232

Earth -84014-03-02 13:25 J -28964630.05 -28964629.94 -28964629.83 0.2754 0.0156 *

Jupiter -84014-05-29 21:20 J -28964541.63 -28964541.61 -28964541.58 0.0531 0.0521

Venus -84011-10-16 02:08 J -28963306.52 -28963306.41 -28963306.30 0.3765 0.0670

Mars -84009-06-19 23:59 J -28962693.60 -28962693.50 -28962693.40 0.1736 0.0976

Jupiter -84008-04-28 12:13 J -28962381.17 -28962380.99 -28962380.81 0.0493 0.0009

Saturn -84007-04-17 00:13 J -28962027.59 -28962027.49 -28962027.38 0.0289 0.0232

Mars -84007-05-26 11:59 J -28961988.05 -28961988.00 -28961987.96 0.1706 0.1584

Saturn -84007-07-14 23:01 J -28961938.71 -28961938.54 -28961938.37 0.0289 0.0080

Saturn -84007-10-11 21:20 J -28961849.78 -28961849.61 -28961849.43 0.0289 0.0070

Saturn -84006-01-08 19:11 J -28961760.80 -28961760.70 -28961760.58 0.0290 0.0218

Venus -84005-04-30 21:06 J -28961282.73 -28961282.62 -28961282.51 0.3761 0.0248

Moon -84004-08-30 10:18 J -28960796.18 -28960796.07 -28960795.97 0.2580 0.1880

Earth -84004-08-30 11:30 J -28960796.12 -28960796.02 -28960795.91 0.2583 0.1808 *

Jupiter -84003-09-20 06:28 J -28960410.27 -28960410.23 -28960410.20 0.0537 0.0513

Jupiter -84003-12-18 14:52 J -28960321.01 -28960320.88 -28960320.75 0.0535 0.0063

Jupiter -84002-03-17 23:59 J -28960231.59 -28960231.50 -28960231.41 0.0532 0.0394

Moon -84001-03-04 07:54 J -28959879.27 -28959879.17 -28959879.06 0.2749 0.1223

Earth -84001-03-04 08:37 J -28959879.24 -28959879.14 -28959879.04 0.2753 0.1237 *

Venus -84001-04-29 22:04 J -28959822.67 -28959822.58 -28959822.49 0.3607 0.2636

84TH MILLENNIUM BCE

This is a list of transits of Mercury in the 84th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Neptune -84000-05-13 21:06 J -28959443.64 -28959443.62 -28959443.60 0.0089 0.0087

Neptune -84000-08-09 22:18 J -28959355.61 -28959355.57 -28959355.52 0.0089 0.0083

Neptune -84000-11-05 23:30 J -28959267.57 -28959267.52 -28959267.45 0.0089 0.0079

Mars -84000-11-10 09:06 J -28959263.17 -28959263.12 -28959263.08 0.1743 0.1599

Venus -84000-11-14 16:18 J -28959258.93 -28959258.82 -28959258.71 0.3757 0.1189

Neptune -83999-02-02 00:56 J -28959179.52 -28959179.46 -28959179.38 0.0089 0.0075

Neptune -83999-05-01 02:08 J -28959091.47 -28959091.41 -28959091.31 0.0089 0.0071

Neptune -83999-07-28 03:49 J -28959003.43 -28959003.34 -28959003.25 0.0089 0.0066

Neptune -83999-10-24 05:01 J -28958915.37 -28958915.29 -28958915.18 0.0089 0.0062

Mars -83999-12-22 11:30 J -28958856.11 -28958856.02 -28958855.94 0.1827 0.1511

Neptune -83998-01-20 06:28 J -28958827.32 -28958827.23 -28958827.12 0.0089 0.0058

Neptune -83998-04-18 07:40 J -28958739.27 -28958739.18 -28958739.06 0.0089 0.0054

Neptune -83998-07-15 09:20 J -28958651.22 -28958651.11 -28958651.00 0.0089 0.0049

Neptune -83998-10-11 10:32 J -28958563.17 -28958563.06 -28958562.93 0.0089 0.0045

Mars -83998-10-16 20:52 J -28958557.73 -28958557.63 -28958557.53 0.1713 0.0974

Neptune -83997-01-07 11:59 J -28958475.11 -28958475.00 -28958474.87 0.0089 0.0041

Neptune -83997-04-04 13:25 J -28958387.06 -28958386.94 -28958386.81 0.0089 0.0036

Neptune -83997-07-01 14:52 J -28958299.00 -28958298.88 -28958298.75 0.0089 0.0032

Neptune -83997-09-27 16:18 J -28958210.95 -28958210.82 -28958210.69 0.0089 0.0027

Neptune -83997-12-24 17:44 J -28958122.89 -28958122.76 -28958122.63 0.0089 0.0023

Jupiter -83996-02-14 11:01 J -28958071.21 -28958071.04 -28958070.86 0.0492 0.0116

Neptune -83996-03-22 19:11 J -28958034.83 -28958034.70 -28958034.57 0.0089 0.0019

Jupiter -83996-05-15 15:06 J -28957980.98 -28957980.87 -28957980.76 0.0494 0.0378

Neptune -83996-06-18 20:23 J -28957946.78 -28957946.65 -28957946.51 0.0089 0.0015

Neptune -83996-09-14 21:49 J -28957858.72 -28957858.59 -28957858.45 0.0089 0.0010

Venus -83996-11-13 22:18 J -28957798.70 -28957798.57 -28957798.45 0.3611 0.1381

Neptune -83996-12-11 23:16 J -28957770.66 -28957770.53 -28957770.39 0.0089 0.0006

Neptune -83995-03-10 00:42 J -28957682.60 -28957682.47 -28957682.33 0.0089 0.0002

Neptune -83995-06-06 02:08 J -28957594.54 -28957594.41 -28957594.27 0.0089 0.0003

Neptune -83995-09-02 03:35 J -28957506.48 -28957506.35 -28957506.21 0.0089 0.0008

Neptune -83995-11-29 05:01 J -28957418.42 -28957418.29 -28957418.15 0.0089 0.0012

Neptune -83994-02-25 06:28 J -28957330.36 -28957330.23 -28957330.10 0.0089 0.0016

Earth -83994-02-26 04:04 J -28957329.36 -28957329.33 -28957329.29 0.2755 0.2586

Moon -83994-02-26 04:47 J -28957329.34 -28957329.30 -28957329.25 0.2753 0.2490 *

Neptune -83994-05-24 07:54 J -28957242.30 -28957242.17 -28957242.04 0.0089 0.0021

Venus -83994-05-31 11:44 J -28957235.10 -28957235.01 -28957234.92 0.3753 0.2159

Neptune -83994-08-20 09:20 J -28957154.24 -28957154.11 -28957153.98 0.0089 0.0025

Neptune -83994-11-16 10:47 J -28957066.18 -28957066.05 -28957065.92 0.0089 0.0030

Neptune -83993-02-12 12:13 J -28956978.12 -28956977.99 -28956977.86 0.0089 0.0034

Neptune -83993-05-10 13:40 J -28956890.05 -28956889.93 -28956889.81 0.0089 0.0039

Saturn -83993-05-11 05:30 J -28956889.35 -28956889.27 -28956889.19 0.0271 0.0217

Neptune -83993-08-06 15:06 J -28956801.99 -28956801.87 -28956801.75 0.0089 0.0043

Saturn -83993-08-07 16:32 J -28956800.93 -28956800.81 -28956800.69 0.0271 0.0126

Neptune -83993-11-02 16:32 J -28956713.92 -28956713.81 -28956713.69 0.0089 0.0048

Saturn -83993-11-04 03:35 J -28956712.48 -28956712.35 -28956712.21 0.0270 0.0034

Neptune -83992-01-29 17:59 J -28956625.86 -28956625.75 -28956625.63 0.0089 0.0052

Saturn -83992-01-31 14:52 J -28956624.01 -28956623.88 -28956623.74 0.0270 0.0060

Neptune -83992-04-27 19:25 J -28956537.79 -28956537.69 -28956537.58 0.0089 0.0057

Saturn -83992-04-30 02:23 J -28956535.52 -28956535.40 -28956535.29 0.0270 0.0153

Neptune -83992-07-24 21:06 J -28956449.72 -28956449.62 -28956449.52 0.0089 0.0061

Saturn -83992-07-27 13:40 J -28956446.97 -28956446.93 -28956446.87 0.0269 0.0248

Neptune -83992-10-20 22:18 J -28956361.65 -28956361.57 -28956361.47 0.0089 0.0066

Neptune -83991-01-16 23:59 J -28956273.58 -28956273.50 -28956273.41 0.0089 0.0070

Neptune -83991-04-15 01:11 J -28956185.51 -28956185.45 -28956185.36 0.0089 0.0075

Neptune -83991-07-12 02:52 J -28956097.43 -28956097.38 -28956097.31 0.0089 0.0079

Moon -83991-09-02 13:25 J -28956045.08 -28956044.94 -28956044.79 0.2586 0.0103

Earth -83991-09-02 14:52 J -28956045.03 -28956044.88 -28956044.73 0.2583 0.0141 *

Jupiter -83991-10-06 18:13 J -28956010.86 -28956010.74 -28956010.61 0.0536 0.0177

Neptune -83991-10-08 04:18 J -28956009.35 -28956009.32 -28956009.27 0.0089 0.0084

Jupiter -83990-01-04 03:06 J -28955921.48 -28955921.37 -28955921.25 0.0533 0.0281

Neptune -83990-01-04 05:59 J -28955921.26 -28955921.25 -28955921.23 0.0089 0.0088 *

Venus -83990-05-30 22:04 J -28955774.72 -28955774.58 -28955774.45 0.3615 0.0209

Uranus -83990-11-14 22:47 J -28955606.55 -28955606.55 -28955606.51 0.0140 0.0139

Uranus -83989-02-11 05:59 J -28955518.34 -28955518.25 -28955518.13 0.0139 0.0114

Uranus -83989-05-09 12:56 J -28955430.08 -28955429.96 -28955429.81 0.0139 0.0091

Mars -83989-05-13 11:44 J -28955426.16 -28955426.01 -28955425.86 0.1819 0.0439

Uranus -83989-08-05 20:08 J -28955341.81 -28955341.66 -28955341.49 0.0139 0.0066

Uranus -83989-11-02 03:06 J -28955253.54 -28955253.37 -28955253.19 0.0139 0.0043

Venus -83989-12-14 07:25 J -28955211.25 -28955211.19 -28955211.13 0.3749 0.3153

Uranus -83988-01-29 10:04 J -28955165.26 -28955165.08 -28955164.90 0.0139 0.0019

Moon -83988-03-07 03:20 J -28955128.40 -28955128.36 -28955128.31 0.2753 0.2506

Earth -83988-03-07 04:04 J -28955128.35 -28955128.33 -28955128.30 0.2752 0.2652 *

Mars -83988-03-08 05:59 J -28955127.38 -28955127.25 -28955127.13 0.1720 0.0358

Uranus -83988-04-27 16:47 J -28955076.98 -28955076.80 -28955076.62 0.0139 0.0004

Uranus -83988-07-24 23:30 J -28954988.70 -28954988.52 -28954988.34 0.0138 0.0027

Uranus -83988-10-21 06:13 J -28954900.41 -28954900.24 -28954900.07 0.0138 0.0049

Uranus -83987-01-17 12:28 J -28954812.12 -28954811.98 -28954811.81 0.0138 0.0073

Uranus -83987-04-15 19:11 J -28954723.82 -28954723.70 -28954723.56 0.0138 0.0094

Uranus -83987-07-13 01:40 J -28954635.52 -28954635.43 -28954635.33 0.0138 0.0116

Uranus -83987-10-09 08:08 J -28954547.16 -28954547.16 -28954547.14 0.0138 0.0137

Jupiter -83985-12-03 09:06 J -28953761.27 -28953761.12 -28953760.96 0.0492 0.0243

Venus -83985-12-13 21:20 J -28953750.74 -28953750.61 -28953750.49 0.3619 0.0993

Pluto -83985-12-30 12:56 J -28953734.00 -28953733.96 -28953733.89 0.0085 0.0078

Jupiter -83984-03-03 13:25 J -28953671.09 -28953670.94 -28953670.79 0.0494 0.0253

Pluto -83984-03-28 14:23 J -28953645.97 -28953645.90 -28953645.81 0.0085 0.0066

Pluto -83984-06-24 15:49 J -28953557.94 -28953557.84 -28953557.73 0.0084 0.0053

Pluto -83984-09-20 17:16 J -28953469.90 -28953469.78 -28953469.66 0.0084 0.0041

Pluto -83984-12-17 18:28 J -28953381.85 -28953381.73 -28953381.60 0.0084 0.0030

Pluto -83983-03-15 19:54 J -28953293.80 -28953293.67 -28953293.54 0.0084 0.0018

Pluto -83983-06-11 21:06 J -28953205.75 -28953205.62 -28953205.48 0.0084 0.0007

Pluto -83983-09-07 22:32 J -28953117.70 -28953117.56 -28953117.43 0.0084 0.0006

Pluto -83983-12-04 23:44 J -28953029.64 -28953029.51 -28953029.38 0.0084 0.0017

Pluto -83982-03-03 00:56 J -28952941.58 -28952941.46 -28952941.33 0.0084 0.0029

Pluto -83982-05-30 02:08 J -28952853.52 -28952853.41 -28952853.29 0.0083 0.0040

Pluto -83982-08-26 03:20 J -28952765.45 -28952765.36 -28952765.25 0.0083 0.0052

Pluto -83982-11-22 04:47 J -28952677.38 -28952677.30 -28952677.21 0.0083 0.0062

Pluto -83981-02-18 05:59 J -28952589.31 -28952589.25 -28952589.19 0.0083 0.0073

Earth -83981-02-28 23:16 J -28952578.63 -28952578.53 -28952578.43 0.2754 0.1244

Moon -83981-02-28 23:30 J -28952578.62 -28952578.52 -28952578.42 0.2747 0.1223 *

Mars -83980-10-03 11:59 J -28951996.14 -28951996.00 -28951995.85 0.1810 0.0625

Venus -83979-06-29 20:08 J -28951726.77 -28951726.66 -28951726.56 0.3623 0.2095

Jupiter -83979-07-25 22:04 J -28951700.69 -28951700.58 -28951700.47 0.0537 0.0285

Mars -83979-07-29 14:52 J -28951697.00 -28951696.88 -28951696.76 0.1728 0.0270

Jupiter -83979-10-23 06:56 J -28951611.33 -28951611.21 -28951611.08 0.0534 0.0171

Saturn -83978-09-03 22:32 J -28951295.60 -28951295.56 -28951295.51 0.0289 0.0279

Moon -83978-09-05 16:47 J -28951293.89 -28951293.80 -28951293.71 0.2589 0.2024

Earth -83978-09-05 17:30 J -28951293.86 -28951293.77 -28951293.67 0.2584 0.2020 *

Saturn -83978-12-01 21:20 J -28951206.77 -28951206.61 -28951206.45 0.0289 0.0127

Saturn -83977-02-28 19:54 J -28951117.85 -28951117.67 -28951117.49 0.0289 0.0023

Saturn -83977-05-27 17:59 J -28951028.89 -28951028.75 -28951028.61 0.0290 0.0172

Venus -83973-01-13 18:42 J -28949702.78 -28949702.72 -28949702.66 0.3628 0.3165

Jupiter -83973-09-21 07:25 J -28949451.30 -28949451.19 -28949451.06 0.0491 0.0367

Jupiter -83973-12-20 12:13 J -28949361.16 -28949360.99 -28949360.82 0.0493 0.0132

Venus -83971-10-07 16:47 J -28948704.86 -28948704.80 -28948704.74 0.3775 0.3025

Mars -83970-02-23 11:59 J -28948566.05 -28948566.00 -28948565.96 0.1801 0.1707

Mars -83970-12-19 23:59 J -28948266.60 -28948266.50 -28948266.40 0.1735 0.0893

Moon -83968-03-02 18:13 J -28947827.86 -28947827.74 -28947827.63 0.2747 0.0175

Earth -83968-03-02 18:28 J -28947827.85 -28947827.73 -28947827.62 0.2754 0.0150 *

Mars -83968-11-24 11:59 J -28947561.02 -28947561.00 -28947560.98 0.1706 0.1672

Jupiter -83967-05-14 02:08 J -28947390.49 -28947390.41 -28947390.32 0.0537 0.0390

Jupiter -83967-08-11 10:47 J -28947301.18 -28947301.05 -28947300.92 0.0535 0.0064

Jupiter -83967-11-08 20:08 J -28947211.68 -28947211.66 -28947211.64 0.0532 0.0521

Venus -83965-04-22 11:16 J -28946681.12 -28946681.03 -28946680.94 0.3771 0.2184

Saturn -83964-09-28 06:56 J -28946157.26 -28946157.21 -28946157.16 0.0271 0.0251

Saturn -83964-12-25 17:44 J -28946068.86 -28946068.76 -28946068.65 0.0271 0.0161

Saturn -83963-03-24 05:01 J -28945980.42 -28945980.29 -28945980.16 0.0270 0.0069

Saturn -83963-06-20 16:18 J -28945891.96 -28945891.82 -28945891.69 0.0270 0.0026

Saturn -83963-09-17 03:20 J -28945803.48 -28945803.36 -28945803.23 0.0270 0.0118

Saturn -83963-12-14 14:52 J -28945714.96 -28945714.88 -28945714.79 0.0270 0.0211

Jupiter -83961-10-08 10:47 J -28945051.23 -28945051.05 -28945050.88 0.0493 0.0014

Mars -83960-05-11 08:52 J -28944836.18 -28944836.13 -28944836.07 0.1743 0.1526

Venus -83960-11-06 05:44 J -28944657.36 -28944657.26 -28944657.15 0.3768 0.1308

Mars -83959-06-22 11:59 J -28944429.07 -28944429.00 -28944428.94 0.1828 0.1633

Mars -83958-04-16 20:52 J -28944130.73 -28944130.63 -28944130.53 0.1713 0.1053

Moon -83958-08-31 16:18 J -28943993.94 -28943993.82 -28943993.70 0.2581 0.1568

Earth -83958-08-31 17:44 J -28943993.88 -28943993.76 -28943993.63 0.2583 0.1400 *

Jupiter -83955-03-02 05:59 J -28943080.29 -28943080.25 -28943080.20 0.0537 0.0498

Moon -83955-03-05 12:56 J -28943077.05 -28943076.96 -28943076.86 0.2749 0.1367

Earth -83955-03-05 13:40 J -28943077.02 -28943076.93 -28943076.83 0.2753 0.1527 *

Jupiter -83955-05-30 14:23 J -28942991.03 -28942990.90 -28942990.77 0.0535 0.0049

Jupiter -83955-08-27 23:30 J -28942901.60 -28942901.52 -28942901.43 0.0532 0.0409

Venus -83954-05-23 00:28 J -28942633.59 -28942633.48 -28942633.36 0.3764 0.0428

Venus -83950-05-21 21:20 J -28941173.62 -28941173.61 -28941173.60 0.3605 0.3583

Mars -83950-11-12 12:13 J -28940999.13 -28940998.99 -28940998.84 0.1819 0.0572

Jupiter -83949-07-27 09:35 J -28940741.27 -28940741.10 -28940740.92 0.0492 0.0113

Mars -83949-09-06 05:59 J -28940700.37 -28940700.25 -28940700.13 0.1720 0.0438

Jupiter -83949-10-25 13:25 J -28940651.04 -28940650.94 -28940650.82 0.0495 0.0382

Venus -83949-12-05 19:25 J -28940609.80 -28940609.69 -28940609.57 0.3760 0.0533

Earth -83948-02-26 09:06 J -28940527.18 -28940527.12 -28940527.06 0.2755 0.2306

Moon -83948-02-26 09:49 J -28940527.16 -28940527.09 -28940527.03 0.2751 0.2196 *

Saturn -83948-04-19 18:28 J -28940474.86 -28940474.73 -28940474.59 0.0289 0.0180

Saturn -83948-07-17 17:16 J -28940385.96 -28940385.78 -28940385.60 0.0289 0.0029

Saturn -83948-10-14 15:20 J -28940297.01 -28940296.86 -28940296.69 0.0290 0.0121

Saturn -83947-01-11 13:11 J -28940208.00 -28940207.95 -28940207.88 0.0290 0.0268

Moon -83945-09-02 19:25 J -28939242.83 -28939242.69 -28939242.54 0.2586 0.0480

Earth -83945-09-02 20:52 J -28939242.77 -28939242.63 -28939242.48 0.2583 0.0531 *

Uranus -83945-10-07 16:04 J -28939207.89 -28939207.83 -28939207.76 0.0139 0.0123

Venus -83945-12-04 22:04 J -28939149.69 -28939149.58 -28939149.48 0.3608 0.2283

Uranus -83944-01-03 19:40 J -28939119.76 -28939119.68 -28939119.59 0.0139 0.0106

Uranus -83944-04-01 23:16 J -28939031.63 -28939031.53 -28939031.42 0.0139 0.0089

Uranus -83944-06-29 02:52 J -28938943.49 -28938943.38 -28938943.25 0.0140 0.0072

Uranus -83944-09-25 06:42 J -28938855.34 -28938855.22 -28938855.09 0.0140 0.0053

Uranus -83944-12-22 10:32 J -28938767.20 -28938767.06 -28938766.93 0.0140 0.0036

Jupiter -83943-03-18 17:01 J -28938680.91 -28938680.79 -28938680.66 0.0536 0.0173

Uranus -83943-03-20 14:08 J -28938679.04 -28938678.91 -28938678.77 0.0140 0.0018

Jupiter -83943-06-16 01:54 J -28938591.53 -28938591.42 -28938591.30 0.0533 0.0283

Uranus -83943-06-16 17:59 J -28938590.89 -28938590.75 -28938590.61 0.0140 0.0001

Venus -83943-06-21 14:52 J -28938585.99 -28938585.88 -28938585.78 0.3756 0.1469

Uranus -83943-09-12 21:49 J -28938502.73 -28938502.59 -28938502.45 0.0140 0.0019

Uranus -83943-12-10 01:40 J -28938414.57 -28938414.43 -28938414.30 0.0140 0.0037

Uranus -83942-03-08 05:30 J -28938326.40 -28938326.27 -28938326.14 0.0141 0.0056

Uranus -83942-06-04 09:20 J -28938238.23 -28938238.11 -28938237.99 0.0141 0.0074

Uranus -83942-08-31 13:25 J -28938150.05 -28938149.94 -28938149.84 0.0141 0.0093

Uranus -83942-11-27 17:16 J -28938061.86 -28938061.78 -28938061.69 0.0141 0.0112

Uranus -83941-02-23 21:20 J -28937973.66 -28937973.61 -28937973.56 0.0141 0.0132

Mars -83940-04-03 12:13 J -28937569.13 -28937568.99 -28937568.84 0.1810 0.0519

Mars -83939-01-27 15:06 J -28937270.00 -28937269.87 -28937269.75 0.1727 0.0187

Venus -83939-06-20 21:49 J -28937125.71 -28937125.59 -28937125.46 0.3612 0.1047

Venus -83937-01-05 10:18 J -28936562.16 -28936562.07 -28936561.99 0.3752 0.2443

Jupiter -83937-05-15 08:23 J -28936431.30 -28936431.15 -28936430.99 0.0492 0.0233

Jupiter -83937-08-13 12:42 J -28936341.12 -28936340.97 -28936340.82 0.0494 0.0264

Earth -83935-03-01 04:04 J -28935776.43 -28935776.33 -28935776.22 0.2754 0.0968

Moon -83935-03-01 04:32 J -28935776.42 -28935776.31 -28935776.20 0.2748 0.0900 *

Saturn -83934-05-14 21:06 J -28935336.72 -28935336.62 -28935336.52 0.0271 0.0181

Saturn -83934-08-11 08:08 J -28935248.29 -28935248.16 -28935248.03 0.0271 0.0089

Saturn -83934-11-07 19:25 J -28935159.83 -28935159.69 -28935159.56 0.0270 0.0008

Venus -83933-01-04 21:35 J -28935101.73 -28935101.60 -28935101.47 0.3616 0.0163

Saturn -83933-02-04 06:42 J -28935071.35 -28935071.22 -28935071.09 0.0270 0.0097

Saturn -83933-05-02 17:59 J -28934982.84 -28934982.75 -28934982.65 0.0270 0.0191

Venus -83932-07-21 05:59 J -28934538.29 -28934538.25 -28934538.21 0.3748 0.3450

Moon -83932-09-05 23:16 J -28934491.60 -28934491.53 -28934491.47 0.2590 0.2286

Earth -83932-09-05 23:44 J -28934491.56 -28934491.51 -28934491.46 0.2584 0.2410 *

Jupiter -83931-01-04 20:37 J -28934370.75 -28934370.64 -28934370.53 0.0536 0.0286

Jupiter -83931-04-04 05:16 J -28934281.40 -28934281.28 -28934281.15 0.0534 0.0169

Mars -83931-08-24 12:28 J -28934139.05 -28934138.98 -28934138.90 0.1801 0.1580

Mars -83930-06-19 23:59 J -28933839.61 -28933839.50 -28933839.39 0.1735 0.0811

Venus -83928-07-20 20:37 J -28933077.76 -28933077.64 -28933077.52 0.3620 0.1305

Jupiter -83925-03-03 06:28 J -28932121.35 -28932121.23 -28932121.11 0.0491 0.0360

Jupiter -83925-06-01 11:01 J -28932031.21 -28932031.04 -28932030.87 0.0493 0.0138

Venus -83922-02-03 19:25 J -28931053.78 -28931053.69 -28931053.59 0.3624 0.2410

Moon -83922-03-03 23:01 J -28931025.66 -28931025.54 -28931025.43 0.2747 0.0329

Earth -83922-03-03 23:16 J -28931025.64 -28931025.53 -28931025.41 0.2754 0.0425 *

Mars -83921-11-09 09:06 J -28930409.19 -28930409.12 -28930409.05 0.1743 0.1440

Jupiter -83920-10-24 00:28 J -28930060.57 -28930060.48 -28930060.39 0.0537 0.0394

Venus -83920-10-28 20:37 J -28930055.66 -28930055.64 -28930055.61 0.3777 0.3622

Mars -83920-12-21 12:28 J -28930002.01 -28930001.98 -28930001.94 0.1828 0.1767

Jupiter -83919-01-21 09:06 J -28929971.25 -28929971.12 -28929970.99 0.0535 0.0059

Jupiter -83919-04-20 18:28 J -28929881.76 -28929881.73 -28929881.70 0.0532 0.0518

Saturn -83919-09-06 16:47 J -28929742.90 -28929742.80 -28929742.68 0.0289 0.0228

Mars -83919-10-15 21:06 J -28929703.72 -28929703.62 -28929703.53 0.1713 0.1140

Saturn -83919-12-04 15:35 J -28929654.02 -28929653.85 -28929653.68 0.0289 0.0076

Saturn -83918-03-03 13:54 J -28929565.09 -28929564.92 -28929564.75 0.0290 0.0075

Saturn -83918-05-31 11:44 J -28929476.11 -28929476.01 -28929475.89 0.0290 0.0223

Venus -83917-08-19 17:44 J -28929029.79 -28929029.76 -28929029.72 0.3629 0.3463

Neptune -83917-10-31 18:42 J -28928956.76 -28928956.72 -28928956.66 0.0089 0.0085

Neptune -83916-01-27 22:04 J -28928868.65 -28928868.58 -28928868.48 0.0089 0.0079

Neptune -83916-04-26 01:40 J -28928780.53 -28928780.43 -28928780.31 0.0089 0.0073

Neptune -83916-07-23 05:01 J -28928692.40 -28928692.29 -28928692.15 0.0089 0.0067

Neptune -83916-10-19 08:23 J -28928604.27 -28928604.15 -28928603.99 0.0089 0.0061

Neptune -83915-01-15 12:13 J -28928516.13 -28928515.99 -28928515.83 0.0089 0.0054

Neptune -83915-04-13 15:35 J -28928428.00 -28928427.85 -28928427.68 0.0089 0.0048

Neptune -83915-07-10 19:11 J -28928339.86 -28928339.70 -28928339.53 0.0089 0.0042

Neptune -83915-10-06 22:32 J -28928251.72 -28928251.56 -28928251.37 0.0089 0.0036

Neptune -83914-01-03 01:54 J -28928163.59 -28928163.42 -28928163.23 0.0089 0.0030

Neptune -83914-04-01 05:44 J -28928075.45 -28928075.26 -28928075.08 0.0089 0.0023

Venus -83914-05-14 14:52 J -28928031.95 -28928031.88 -28928031.80 0.3774 0.2797

Neptune -83914-06-28 09:06 J -28927987.31 -28927987.12 -28927986.93 0.0089 0.0017

Neptune -83914-09-24 12:28 J -28927899.17 -28927898.98 -28927898.79 0.0089 0.0011

Jupiter -83914-12-21 04:47 J -28927811.32 -28927811.30 -28927811.27 0.0491 0.0484

Neptune -83914-12-21 15:49 J -28927811.02 -28927810.84 -28927810.65 0.0089 0.0005

Neptune -83913-03-18 19:25 J -28927722.88 -28927722.69 -28927722.50 0.0089 0.0002

Jupiter -83913-03-20 09:49 J -28927721.27 -28927721.09 -28927720.92 0.0493 0.0018

Neptune -83913-06-14 22:47 J -28927634.74 -28927634.55 -28927634.36 0.0089 0.0008

Neptune -83913-09-11 02:08 J -28927546.60 -28927546.41 -28927546.22 0.0089 0.0014

Neptune -83913-12-08 05:30 J -28927458.45 -28927458.27 -28927458.09 0.0089 0.0020

Neptune -83912-03-06 08:52 J -28927370.31 -28927370.13 -28927369.95 0.0089 0.0026

Neptune -83912-06-02 12:13 J -28927282.17 -28927281.99 -28927281.81 0.0089 0.0032

Neptune -83912-08-29 15:20 J -28927194.02 -28927193.86 -28927193.68 0.0089 0.0038

Moon -83912-08-31 22:32 J -28927191.70 -28927191.56 -28927191.43 0.2583 0.1149

Earth -83912-08-31 23:59 J -28927191.64 -28927191.50 -28927191.36 0.2583 0.0994 *

Neptune -83912-11-25 18:42 J -28927105.88 -28927105.72 -28927105.55 0.0089 0.0044

Neptune -83911-02-21 22:04 J -28927017.73 -28927017.58 -28927017.42 0.0089 0.0050

Neptune -83911-05-21 01:11 J -28926929.58 -28926929.45 -28926929.29 0.0089 0.0056

Neptune -83911-08-17 04:32 J -28926841.43 -28926841.31 -28926841.17 0.0088 0.0062

Neptune -83911-11-13 07:40 J -28926753.28 -28926753.18 -28926753.04 0.0088 0.0068

Neptune -83910-02-09 10:47 J -28926665.13 -28926665.05 -28926664.92 0.0088 0.0074

Neptune -83910-05-08 14:08 J -28926576.97 -28926576.91 -28926576.81 0.0088 0.0079

Mars -83910-05-13 12:42 J -28926572.11 -28926571.97 -28926571.83 0.1819 0.0685

Neptune -83910-08-04 17:44 J -28926488.81 -28926488.76 -28926488.71 0.0088 0.0085

Moon -83909-03-05 17:59 J -28926274.84 -28926274.75 -28926274.66 0.2750 0.1785

Earth -83909-03-05 18:42 J -28926274.80 -28926274.72 -28926274.64 0.2753 0.1810 *

Mars -83909-03-07 05:59 J -28926273.37 -28926273.25 -28926273.13 0.1720 0.0522

Venus -83909-11-27 09:20 J -28926008.20 -28926008.11 -28926008.01 0.3770 0.1944

Jupiter -83908-08-12 04:32 J -28925750.35 -28925750.31 -28925750.26 0.0538 0.0499

Jupiter -83908-11-09 13:11 J -28925661.08 -28925660.95 -28925660.82 0.0535 0.0050

Jupiter -83907-02-06 22:18 J -28925571.66 -28925571.57 -28925571.49 0.0533 0.0410

Uranus -83906-12-05 06:13 J -28924905.28 -28924905.24 -28924905.16 0.0140 0.0133

Uranus -83905-03-02 13:25 J -28924817.04 -28924816.94 -28924816.81 0.0139 0.0109

Uranus -83905-05-29 20:37 J -28924728.78 -28924728.64 -28924728.49 0.0139 0.0084

Uranus -83905-08-26 03:35 J -28924640.51 -28924640.35 -28924640.18 0.0139 0.0061

Saturn -83905-09-30 22:18 J -28924604.65 -28924604.57 -28924604.48 0.0271 0.0215

Uranus -83905-11-22 10:32 J -28924552.23 -28924552.06 -28924551.88 0.0139 0.0037

Saturn -83905-12-28 09:20 J -28924516.23 -28924516.11 -28924515.99 0.0271 0.0124

Uranus -83904-02-18 17:30 J -28924463.95 -28924463.77 -28924463.59 0.0139 0.0013

Saturn -83904-03-26 20:37 J -28924427.78 -28924427.64 -28924427.51 0.0270 0.0032

Uranus -83904-05-18 00:13 J -28924375.67 -28924375.49 -28924375.30 0.0139 0.0011

Saturn -83904-06-23 07:40 J -28924339.31 -28924339.18 -28924339.04 0.0270 0.0062

Uranus -83904-08-14 07:11 J -28924287.38 -28924287.20 -28924287.03 0.0138 0.0033

Saturn -83904-09-19 19:11 J -28924250.81 -28924250.70 -28924250.59 0.0270 0.0155

Uranus -83904-11-10 13:40 J -28924199.09 -28924198.93 -28924198.76 0.0138 0.0055

Saturn -83904-12-17 06:28 J -28924162.27 -28924162.23 -28924162.17 0.0269 0.0249

Uranus -83903-02-06 20:08 J -28924110.80 -28924110.66 -28924110.50 0.0138 0.0078

Uranus -83903-05-06 02:37 J -28924022.50 -28924022.39 -28924022.25 0.0138 0.0100

Venus -83903-06-13 04:04 J -28923984.44 -28923984.33 -28923984.22 0.3767 0.1058

Uranus -83903-08-02 09:06 J -28923934.19 -28923934.12 -28923934.02 0.0138 0.0122

Earth -83902-02-27 14:08 J -28923724.99 -28923724.91 -28923724.84 0.2755 0.2029

Moon -83902-02-27 14:37 J -28923724.96 -28923724.89 -28923724.81 0.2750 0.1996 *

Jupiter -83901-01-07 08:08 J -28923411.33 -28923411.16 -28923410.98 0.0492 0.0109

Jupiter -83901-04-06 12:13 J -28923321.10 -28923320.99 -28923320.89 0.0495 0.0385

Mars -83901-10-02 13:11 J -28923142.10 -28923141.95 -28923141.80 0.1810 0.0383

Mars -83900-07-28 15:06 J -28922843.00 -28922842.87 -28922842.75 0.1727 0.0110

Moon -83899-09-04 01:40 J -28922440.57 -28922440.43 -28922440.28 0.2586 0.0747

Earth -83899-09-04 03:06 J -28922440.51 -28922440.37 -28922440.23 0.2583 0.0932 *

Venus -83898-12-27 22:47 J -28921960.66 -28921960.55 -28921960.43 0.3763 0.0175

Jupiter -83896-08-28 16:47 J -28921350.92 -28921350.80 -28921350.67 0.0536 0.0158

Jupiter -83896-11-26 01:40 J -28921261.54 -28921261.43 -28921261.32 0.0533 0.0299

Venus -83894-12-26 21:20 J -28920500.67 -28920500.61 -28920500.55 0.3606 0.3219

Venus -83892-07-12 17:59 J -28919936.86 -28919936.75 -28919936.64 0.3759 0.0783

Mars -83891-02-22 12:56 J -28919712.05 -28919711.96 -28919711.87 0.1801 0.1467

Mars -83891-12-18 23:59 J -28919412.61 -28919412.50 -28919412.39 0.1735 0.0729

Jupiter -83890-10-26 07:11 J -28919101.36 -28919101.20 -28919101.04 0.0492 0.0228

Jupiter -83889-01-24 11:30 J -28919011.17 -28919011.02 -28919010.87 0.0494 0.0269

Saturn -83889-01-24 12:56 J -28919010.97 -28919010.96 -28919010.93 0.0288 0.0287 *

Earth -83889-03-01 09:06 J -28918974.23 -28918974.12 -28918974.01 0.2754 0.0682

Moon -83889-03-01 09:20 J -28918974.22 -28918974.11 -28918974.00 0.2748 0.0649 *

Saturn -83889-04-22 11:59 J -28918922.15 -28918922.00 -28918921.84 0.0289 0.0134

Saturn -83889-07-20 10:47 J -28918833.23 -28918833.05 -28918832.88 0.0289 0.0019

Saturn -83889-10-17 08:52 J -28918744.27 -28918744.13 -28918743.99 0.0290 0.0167

Venus -83888-07-11 21:35 J -28918476.71 -28918476.60 -28918476.49 0.3609 0.1939

Venus -83886-01-26 13:11 J -28917913.05 -28917912.95 -28917912.85 0.3755 0.1743

Jupiter -83884-06-16 19:25 J -28917040.80 -28917040.69 -28917040.58 0.0536 0.0282

Jupiter -83884-09-14 04:18 J -28916951.45 -28916951.32 -28916951.20 0.0534 0.0173

Venus -83882-01-25 21:35 J -28916452.73 -28916452.60 -28916452.47 0.3613 0.0701

Mars -83881-05-10 09:06 J -28915982.19 -28915982.12 -28915982.04 0.1743 0.1356

Venus -83881-08-11 08:52 J -28915889.21 -28915889.13 -28915889.06 0.3751 0.2733

Mars -83879-04-15 21:06 J -28915276.70 -28915276.62 -28915276.53 0.1713 0.1228

Earth -83879-08-30 02:37 J -28915140.40 -28915140.39 -28915140.38 0.2583 0.2565

Jupiter -83878-08-14 05:44 J -28914791.38 -28914791.26 -28914791.13 0.0491 0.0349

Jupiter -83878-11-12 10:32 J -28914701.23 -28914701.06 -28914700.89 0.0493 0.0150

Venus -83877-08-10 21:06 J -28914428.75 -28914428.62 -28914428.49 0.3617 0.0491

Moon -83876-03-04 04:04 J -28914223.45 -28914223.33 -28914223.22 0.2747 0.0678

Earth -83876-03-04 04:18 J -28914223.43 -28914223.32 -28914223.21 0.2753 0.0705 *

Saturn -83875-02-18 01:25 J -28913872.50 -28913872.44 -28913872.37 0.0271 0.0237

Saturn -83875-05-17 12:28 J -28913784.09 -28913783.98 -28913783.87 0.0271 0.0146

Saturn -83875-08-13 23:30 J -28913695.65 -28913695.52 -28913695.38 0.0271 0.0054

Saturn -83875-11-10 10:47 J -28913607.19 -28913607.05 -28913606.91 0.0270 0.0040

Saturn -83874-02-06 22:04 J -28913518.70 -28913518.58 -28913518.46 0.0270 0.0133

Saturn -83874-05-06 09:35 J -28913430.17 -28913430.10 -28913430.03 0.0269 0.0227

Jupiter -83872-04-04 23:01 J -28912730.63 -28912730.54 -28912730.45 0.0537 0.0394

Jupiter -83872-07-03 07:40 J -28912641.31 -28912641.18 -28912641.05 0.0535 0.0059

Jupiter -83872-09-30 16:47 J -28912551.82 -28912551.80 -28912551.77 0.0532 0.0517

Venus -83871-02-24 20:08 J -28912404.78 -28912404.66 -28912404.55 0.3621 0.1627

Mars -83871-11-11 13:25 J -28912145.08 -28912144.94 -28912144.81 0.1820 0.0814

Mars -83870-09-06 06:13 J -28911846.36 -28911846.24 -28911846.13 0.1719 0.0611

Jupiter -83866-06-02 03:49 J -28910481.38 -28910481.34 -28910481.30 0.0491 0.0476

Jupiter -83866-08-31 08:52 J -28910391.31 -28910391.13 -28910390.95 0.0493 0.0025

Moon -83866-09-02 04:32 J -28910389.46 -28910389.31 -28910389.17 0.2584 0.0717

Earth -83866-09-02 05:59 J -28910389.39 -28910389.25 -28910389.10 0.2583 0.0597 *

Venus -83866-09-10 18:56 J -28910380.80 -28910380.71 -28910380.63 0.3625 0.2722

Moon -83863-03-06 23:01 J -28909472.62 -28909472.54 -28909472.46 0.2752 0.1951

Earth -83863-03-06 23:44 J -28909472.58 -28909472.51 -28909472.44 0.2753 0.2099 *

Venus -83863-06-04 18:56 J -28909382.76 -28909382.71 -28909382.67 0.3776 0.3397

Mars -83861-04-02 13:25 J -28908715.09 -28908714.94 -28908714.78 0.1810 0.0266

Uranus -83861-07-31 19:40 J -28908594.70 -28908594.68 -28908594.65 0.0139 0.0136

Uranus -83861-10-27 23:16 J -28908506.59 -28908506.53 -28908506.46 0.0139 0.0119

Jupiter -83860-01-22 02:52 J -28908420.42 -28908420.38 -28908420.33 0.0538 0.0502

Uranus -83860-01-24 02:52 J -28908418.47 -28908418.38 -28908418.28 0.0139 0.0102

Mars -83860-01-26 15:06 J -28908416.00 -28908415.87 -28908415.75 0.1727 0.0029

Jupiter -83860-04-21 11:30 J -28908331.15 -28908331.02 -28908330.89 0.0535 0.0054

Uranus -83860-04-22 06:28 J -28908330.33 -28908330.23 -28908330.12 0.0139 0.0085

Uranus -83860-07-19 10:04 J -28908242.19 -28908242.08 -28908241.95 0.0139 0.0068

Jupiter -83860-07-19 20:37 J -28908241.73 -28908241.64 -28908241.56 0.0533 0.0407

Saturn -83860-09-09 10:32 J -28908190.19 -28908190.06 -28908189.91 0.0289 0.0179

Uranus -83860-10-15 13:54 J -28908154.05 -28908153.92 -28908153.79 0.0140 0.0050

Saturn -83860-12-07 09:20 J -28908101.29 -28908101.11 -28908100.93 0.0289 0.0027

Uranus -83859-01-11 17:44 J -28908065.90 -28908065.76 -28908065.63 0.0140 0.0032

Saturn -83859-03-06 07:40 J -28908012.34 -28908012.18 -28908012.02 0.0290 0.0123

Uranus -83859-04-09 21:20 J -28907977.75 -28907977.61 -28907977.47 0.0140 0.0014

Saturn -83859-06-03 05:30 J -28907923.33 -28907923.27 -28907923.21 0.0290 0.0270

Uranus -83859-07-07 01:11 J -28907889.59 -28907889.45 -28907889.31 0.0140 0.0004

Uranus -83859-10-03 05:01 J -28907801.43 -28907801.29 -28907801.16 0.0140 0.0022

Uranus -83859-12-30 08:52 J -28907713.27 -28907713.13 -28907713.00 0.0140 0.0041

Uranus -83858-03-28 12:28 J -28907625.10 -28907624.98 -28907624.85 0.0141 0.0060

Uranus -83858-06-24 16:32 J -28907536.93 -28907536.81 -28907536.69 0.0141 0.0078

Uranus -83858-09-20 20:23 J -28907448.75 -28907448.65 -28907448.55 0.0141 0.0097

Uranus -83858-12-18 00:13 J -28907360.56 -28907360.49 -28907360.40 0.0141 0.0116

Venus -83858-12-19 13:11 J -28907359.03 -28907358.95 -28907358.87 0.3773 0.2565

Uranus -83857-03-15 04:18 J -28907272.35 -28907272.32 -28907272.28 0.0141 0.0135

Earth -83856-02-27 19:11 J -28906922.79 -28906922.70 -28906922.62 0.2754 0.1754

Moon -83856-02-27 19:40 J -28906922.77 -28906922.68 -28906922.59 0.2749 0.1617 *

Jupiter -83854-06-19 07:25 J -28906081.37 -28906081.19 -28906081.02 0.0492 0.0099

Jupiter -83854-09-17 11:16 J -28905991.13 -28905991.03 -28905990.93 0.0494 0.0394

Moon -83853-09-04 08:08 J -28905638.29 -28905638.16 -28905638.03 0.2587 0.1256

Earth -83853-09-04 09:06 J -28905638.25 -28905638.12 -28905637.99 0.2584 0.1321 *

Venus -83852-07-04 07:40 J -28905335.28 -28905335.18 -28905335.08 0.3770 0.1699

Mars -83852-08-23 13:25 J -28905285.04 -28905284.94 -28905284.84 0.1801 0.1341

Mars -83851-06-19 00:13 J -28904985.61 -28904985.49 -28904985.38 0.1735 0.0645

Jupiter -83848-02-07 15:20 J -28904020.98 -28904020.86 -28904020.73 0.0536 0.0158

Jupiter -83848-05-08 00:28 J -28903931.59 -28903931.48 -28903931.37 0.0533 0.0300

Venus -83846-01-18 02:23 J -28903311.51 -28903311.40 -28903311.29 0.3766 0.0815

Saturn -83846-07-08 02:52 J -28903140.38 -28903140.38 -28903140.37 0.0271 0.0270

Saturn -83846-10-04 13:54 J -28903052.02 -28903051.92 -28903051.82 0.0271 0.0180

Saturn -83845-01-01 00:56 J -28902963.59 -28902963.46 -28902963.33 0.0270 0.0088

Saturn -83845-03-29 11:59 J -28902875.13 -28902875.00 -28902874.86 0.0270 0.0009

Saturn -83845-06-25 23:16 J -28902786.65 -28902786.53 -28902786.40 0.0270 0.0098

Saturn -83845-09-22 10:47 J -28902698.15 -28902698.05 -28902697.96 0.0269 0.0191

Moon -83843-03-02 14:08 J -28902172.02 -28902171.91 -28902171.80 0.2747 0.0426

Earth -83843-03-02 14:08 J -28902172.02 -28902171.91 -28902171.80 0.2754 0.0395 *

Jupiter -83842-04-07 05:44 J -28901771.42 -28901771.26 -28901771.10 0.0492 0.0224

Jupiter -83842-07-06 09:49 J -28901681.23 -28901681.09 -28901680.94 0.0494 0.0273

Mars -83842-11-09 09:06 J -28901555.20 -28901555.12 -28901555.04 0.1743 0.1276

Venus -83841-08-02 21:20 J -28901287.73 -28901287.61 -28901287.50 0.3762 0.0191

Mars -83840-10-14 21:06 J -28900849.69 -28900849.62 -28900849.54 0.1712 0.1314

Venus -83837-08-01 21:06 J -28899827.70 -28899827.62 -28899827.54 0.3606 0.2867

Jupiter -83837-11-26 19:11 J -28899710.81 -28899710.70 -28899710.58 0.0536 0.0266

Jupiter -83836-02-24 04:04 J -28899621.45 -28899621.33 -28899621.21 0.0534 0.0189

Neptune -83835-02-07 20:37 J -28899272.67 -28899272.64 -28899272.62 0.0089 0.0086

Venus -83835-02-16 16:18 J -28899263.93 -28899263.82 -28899263.71 0.3758 0.1053

Neptune -83835-05-06 21:49 J -28899184.64 -28899184.59 -28899184.54 0.0089 0.0082

Neptune -83835-08-02 23:01 J -28899096.59 -28899096.54 -28899096.47 0.0089 0.0078

Neptune -83835-10-30 00:13 J -28899008.55 -28899008.49 -28899008.40 0.0089 0.0074

Neptune -83834-01-26 01:40 J -28898920.50 -28898920.43 -28898920.34 0.0089 0.0070

Neptune -83834-04-24 03:20 J -28898832.45 -28898832.36 -28898832.27 0.0089 0.0065

Neptune -83834-07-21 04:32 J -28898744.40 -28898744.31 -28898744.21 0.0089 0.0061

Neptune -83834-10-17 05:44 J -28898656.35 -28898656.26 -28898656.14 0.0089 0.0057

Neptune -83833-01-13 07:25 J -28898568.30 -28898568.19 -28898568.08 0.0089 0.0052

Neptune -83833-04-10 08:37 J -28898480.24 -28898480.14 -28898480.02 0.0089 0.0048

Neptune -83833-07-07 10:04 J -28898392.19 -28898392.08 -28898391.96 0.0089 0.0044

Moon -83833-08-30 07:25 J -28898338.26 -28898338.19 -28898338.11 0.2580 0.2203

Earth -83833-08-30 08:52 J -28898338.21 -28898338.13 -28898338.05 0.2583 0.2161 *

Neptune -83833-10-03 11:16 J -28898304.14 -28898304.03 -28898303.90 0.0089 0.0040

Neptune -83833-12-30 12:56 J -28898216.08 -28898215.96 -28898215.84 0.0089 0.0035

Neptune -83832-03-28 14:08 J -28898128.03 -28898127.91 -28898127.78 0.0089 0.0031

Pluto -83832-04-27 05:44 J -28898098.29 -28898098.26 -28898098.20 0.0060 0.0059

Neptune -83832-06-24 15:35 J -28898039.97 -28898039.85 -28898039.71 0.0089 0.0027

Pluto -83832-07-24 07:11 J -28898010.28 -28898010.20 -28898010.09 0.0060 0.0053

Neptune -83832-09-20 17:01 J -28897951.92 -28897951.79 -28897951.65 0.0089 0.0022

Pluto -83832-10-20 08:23 J -28897922.25 -28897922.15 -28897922.00 0.0060 0.0047

Neptune -83832-12-17 18:28 J -28897863.86 -28897863.73 -28897863.60 0.0089 0.0018

Pluto -83831-01-16 09:49 J -28897834.21 -28897834.09 -28897833.92 0.0060 0.0041

Venus -83831-02-15 21:20 J -28897803.73 -28897803.61 -28897803.49 0.3610 0.1591

Neptune -83831-03-15 19:54 J -28897775.80 -28897775.67 -28897775.54 0.0089 0.0013

Pluto -83831-04-14 11:16 J -28897746.17 -28897746.03 -28897745.85 0.0061 0.0035

Mars -83831-05-12 13:40 J -28897718.06 -28897717.93 -28897717.80 0.1819 0.0931

Neptune -83831-06-11 21:20 J -28897687.75 -28897687.61 -28897687.48 0.0089 0.0009

Pluto -83831-07-11 13:11 J -28897658.12 -28897657.95 -28897657.78 0.0061 0.0028

Neptune -83831-09-07 22:47 J -28897599.69 -28897599.55 -28897599.42 0.0089 0.0005

Pluto -83831-10-07 14:23 J -28897570.07 -28897569.90 -28897569.71 0.0061 0.0022

Neptune -83831-12-05 00:13 J -28897511.63 -28897511.49 -28897511.36 0.0089 0.0002

Pluto -83830-01-03 15:49 J -28897482.02 -28897481.84 -28897481.64 0.0061 0.0016

Jupiter -83830-01-24 04:32 J -28897461.43 -28897461.31 -28897461.18 0.0491 0.0343

Saturn -83830-01-27 06:42 J -28897458.32 -28897458.22 -28897458.12 0.0288 0.0240

Neptune -83830-03-03 01:40 J -28897423.57 -28897423.43 -28897423.30 0.0089 0.0005

Moon -83830-03-05 08:52 J -28897421.23 -28897421.13 -28897421.02 0.2748 0.0916

Earth -83830-03-05 09:20 J -28897421.21 -28897421.11 -28897421.00 0.2753 0.0990 *

Mars -83830-03-07 06:13 J -28897419.36 -28897419.24 -28897419.13 0.1720 0.0693

Pluto -83830-04-01 17:30 J -28897393.96 -28897393.77 -28897393.58 0.0061 0.0009

Jupiter -83830-04-24 09:20 J -28897371.28 -28897371.11 -28897370.94 0.0493 0.0156

Saturn -83830-04-26 05:30 J -28897369.44 -28897369.27 -28897369.10 0.0289 0.0087

Neptune -83830-05-30 02:52 J -28897335.51 -28897335.38 -28897335.24 0.0089 0.0009

Pluto -83830-06-28 18:56 J -28897305.90 -28897305.71 -28897305.51 0.0061 0.0003

Saturn -83830-07-24 03:49 J -28897280.51 -28897280.34 -28897280.16 0.0289 0.0064

Neptune -83830-08-26 04:18 J -28897247.45 -28897247.32 -28897247.18 0.0089 0.0013

Venus -83830-09-02 11:44 J -28897240.11 -28897240.01 -28897239.91 0.3754 0.2027

Pluto -83830-09-24 20:23 J -28897217.84 -28897217.65 -28897217.45 0.0061 0.0004

Saturn -83830-10-21 01:54 J -28897191.53 -28897191.42 -28897191.30 0.0290 0.0212

Neptune -83830-11-22 05:44 J -28897159.39 -28897159.26 -28897159.12 0.0089 0.0018

Pluto -83830-12-21 21:49 J -28897129.78 -28897129.59 -28897129.39 0.0061 0.0010

Neptune -83829-02-18 07:11 J -28897071.33 -28897071.20 -28897071.07 0.0089 0.0022

Pluto -83829-03-18 23:16 J -28897041.71 -28897041.53 -28897041.34 0.0061 0.0017

Neptune -83829-05-16 08:37 J -28896983.27 -28896983.14 -28896983.01 0.0089 0.0026

Pluto -83829-06-15 00:28 J -28896953.64 -28896953.48 -28896953.28 0.0061 0.0024

Neptune -83829-08-12 10:04 J -28896895.20 -28896895.08 -28896894.95 0.0089 0.0031

Pluto -83829-09-11 02:08 J -28896865.57 -28896865.41 -28896865.23 0.0061 0.0030

Neptune -83829-11-08 11:16 J -28896807.14 -28896807.03 -28896806.89 0.0089 0.0036

Pluto -83829-12-08 03:20 J -28896777.49 -28896777.36 -28896777.18 0.0061 0.0037

Neptune -83828-02-04 12:56 J -28896719.08 -28896718.96 -28896718.83 0.0089 0.0040

Pluto -83828-03-06 05:01 J -28896689.41 -28896689.29 -28896689.14 0.0061 0.0043

Neptune -83828-05-03 14:23 J -28896631.01 -28896630.90 -28896630.78 0.0089 0.0044

Pluto -83828-06-02 06:13 J -28896601.33 -28896601.24 -28896601.10 0.0061 0.0050

Neptune -83828-07-30 15:49 J -28896542.95 -28896542.84 -28896542.72 0.0089 0.0049

Pluto -83828-08-29 08:08 J -28896513.23 -28896513.16 -28896513.07 0.0062 0.0056

Neptune -83828-10-26 17:16 J -28896454.88 -28896454.78 -28896454.66 0.0089 0.0053

Neptune -83827-01-22 18:42 J -28896366.82 -28896366.72 -28896366.61 0.0089 0.0058

Neptune -83827-04-20 20:08 J -28896278.75 -28896278.66 -28896278.55 0.0089 0.0062

Neptune -83827-07-17 21:35 J -28896190.68 -28896190.60 -28896190.50 0.0089 0.0067

Neptune -83827-10-13 23:16 J -28896102.61 -28896102.53 -28896102.45 0.0089 0.0071

Neptune -83826-01-10 00:28 J -28896014.54 -28896014.48 -28896014.40 0.0089 0.0076

Neptune -83826-04-08 02:08 J -28895926.46 -28895926.41 -28895926.35 0.0089 0.0080

Neptune -83826-07-05 03:35 J -28895838.38 -28895838.35 -28895838.30 0.0089 0.0085

Venus -83826-09-01 21:20 J -28895779.75 -28895779.61 -28895779.48 0.3614 0.0380

Jupiter -83825-09-14 22:04 J -28895400.67 -28895400.58 -28895400.49 0.0537 0.0387

Jupiter -83825-12-13 06:42 J -28895311.35 -28895311.22 -28895311.09 0.0534 0.0066

Jupiter -83824-03-12 15:49 J -28895221.86 -28895221.84 -28895221.81 0.0532 0.0522

Venus -83824-03-18 07:25 J -28895216.26 -28895216.19 -28895216.13 0.3749 0.3027

Moon -83823-02-26 05:44 J -28894871.28 -28894871.26 -28894871.23 0.2753 0.2651

Mars -83822-10-02 13:54 J -28894288.08 -28894287.92 -28894287.77 0.1811 0.0151

Uranus -83822-12-25 14:08 J -28894203.98 -28894203.91 -28894203.83 0.0140 0.0126

Uranus -83821-03-22 21:20 J -28894115.73 -28894115.61 -28894115.48 0.0139 0.0102

Uranus -83821-06-19 04:18 J -28894027.46 -28894027.32 -28894027.16 0.0139 0.0078

Mars -83821-07-27 15:20 J -28893988.99 -28893988.86 -28893988.74 0.1727 0.0094

Uranus -83821-09-15 11:16 J -28893939.19 -28893939.03 -28893938.85 0.0139 0.0054

Uranus -83821-12-12 18:28 J -28893850.91 -28893850.73 -28893850.56 0.0139 0.0030

Uranus -83820-03-11 01:11 J -28893762.63 -28893762.45 -28893762.27 0.0139 0.0007

Venus -83820-03-17 20:37 J -28893755.77 -28893755.64 -28893755.51 0.3618 0.0818

Uranus -83820-06-07 07:54 J -28893674.34 -28893674.17 -28893673.98 0.0139 0.0017

Moon -83820-09-02 10:47 J -28893587.20 -28893587.05 -28893586.90 0.2584 0.0391

Earth -83820-09-02 12:13 J -28893587.14 -28893586.99 -28893586.84 0.2583 0.0193 *

Uranus -83820-09-03 14:37 J -28893586.06 -28893585.89 -28893585.71 0.0138 0.0040

Uranus -83820-11-30 21:20 J -28893497.77 -28893497.61 -28893497.44 0.0138 0.0062

Uranus -83819-02-27 03:49 J -28893409.47 -28893409.34 -28893409.19 0.0138 0.0085

Uranus -83819-05-26 10:32 J -28893321.17 -28893321.06 -28893320.94 0.0138 0.0106

Uranus -83819-08-22 17:01 J -28893232.85 -28893232.79 -28893232.72 0.0138 0.0128

Jupiter -83819-11-12 03:06 J -28893151.42 -28893151.37 -28893151.30 0.0491 0.0464

Jupiter -83818-02-10 08:23 J -28893061.33 -28893061.15 -28893060.98 0.0493 0.0038

Moon -83817-03-07 04:04 J -28892670.39 -28892670.33 -28892670.28 0.2753 0.2328

Earth -83817-03-07 04:47 J -28892670.35 -28892670.30 -28892670.24 0.2753 0.2392 *

Saturn -83816-02-20 16:47 J -28892319.89 -28892319.80 -28892319.71 0.0271 0.0204

Saturn -83816-05-20 03:49 J -28892231.47 -28892231.34 -28892231.22 0.0271 0.0112

Saturn -83816-08-16 14:52 J -28892143.01 -28892142.88 -28892142.74 0.0271 0.0019

Saturn -83816-11-13 02:08 J -28892054.54 -28892054.41 -28892054.28 0.0270 0.0074

Saturn -83815-02-09 13:25 J -28891966.04 -28891965.94 -28891965.83 0.0270 0.0169

Saturn -83815-05-09 00:56 J -28891877.48 -28891877.46 -28891877.43 0.0269 0.0263

Venus -83815-10-01 19:40 J -28891731.79 -28891731.68 -28891731.58 0.3622 0.1952

Jupiter -83813-07-04 01:40 J -28891090.48 -28891090.43 -28891090.39 0.0537 0.0500

Jupiter -83813-10-01 10:04 J -28891001.21 -28891001.08 -28891000.95 0.0535 0.0051

Jupiter -83813-12-29 19:11 J -28890911.79 -28890911.70 -28890911.62 0.0533 0.0407

Mars -83812-02-21 14:08 J -28890858.02 -28890857.91 -28890857.80 0.1802 0.1211

Mars -83812-12-18 00:13 J -28890558.61 -28890558.49 -28890558.38 0.1734 0.0561

Earth -83810-02-28 23:59 J -28890120.59 -28890120.50 -28890120.40 0.2754 0.1475

Moon -83810-03-01 00:28 J -28890120.57 -28890120.48 -28890120.38 0.2749 0.1469 *

Venus -83809-04-16 18:13 J -28889707.81 -28889707.74 -28889707.68 0.3627 0.3029

Moon -83807-09-05 14:23 J -28888836.01 -28888835.90 -28888835.79 0.2589 0.1639

Earth -83807-09-05 15:06 J -28888835.98 -28888835.87 -28888835.76 0.2584 0.1713 *

Jupiter -83807-11-29 06:28 J -28888751.40 -28888751.23 -28888751.05 0.0492 0.0090

Venus -83806-01-09 17:01 J -28888709.85 -28888709.79 -28888709.73 0.3775 0.3173

Jupiter -83806-02-27 10:18 J -28888661.17 -28888661.07 -28888660.97 0.0494 0.0403

Mars -83802-05-10 09:20 J -28887128.20 -28887128.11 -28887128.03 0.1742 0.1193

Saturn -83801-06-15 05:16 J -28886726.30 -28886726.28 -28886726.25 0.0289 0.0285

Jupiter -83801-07-20 13:40 J -28886691.05 -28886690.93 -28886690.80 0.0536 0.0161

Venus -83801-07-25 11:16 J -28886686.11 -28886686.03 -28886685.94 0.3772 0.2330

Saturn -83801-09-12 04:18 J -28886637.48 -28886637.32 -28886637.16 0.0289 0.0131

Jupiter -83801-10-17 22:47 J -28886601.66 -28886601.55 -28886601.44 0.0534 0.0297

Saturn -83801-12-10 02:52 J -28886548.56 -28886548.38 -28886548.20 0.0289 0.0020

Saturn -83800-03-09 00:56 J -28886459.60 -28886459.46 -28886459.31 0.0290 0.0169

Mars -83800-04-14 21:06 J -28886422.69 -28886422.62 -28886422.54 0.1712 0.1397

Moon -83797-03-02 18:56 J -28885369.82 -28885369.71 -28885369.59 0.2746 0.0123

Earth -83797-03-02 19:11 J -28885369.81 -28885369.70 -28885369.59 0.2754 0.0113 *

Venus -83795-02-08 05:59 J -28884662.36 -28884662.25 -28884662.15 0.3768 0.1458

Jupiter -83795-09-17 05:01 J -28884441.45 -28884441.29 -28884441.13 0.0492 0.0213

Jupiter -83795-12-16 09:06 J -28884351.26 -28884351.12 -28884350.97 0.0494 0.0282

Mars -83792-11-10 14:08 J -28883291.03 -28883290.91 -28883290.78 0.1820 0.1054

Mars -83791-09-05 06:13 J -28882992.35 -28882992.24 -28882992.13 0.1719 0.0777

Venus -83790-08-25 00:42 J -28882638.58 -28882638.47 -28882638.36 0.3765 0.0558

Jupiter -83789-05-08 17:44 J -28882380.87 -28882380.76 -28882380.64 0.0537 0.0266

Jupiter -83789-08-06 02:37 J -28882291.51 -28882291.39 -28882291.27 0.0534 0.0189

Saturn -83787-07-10 18:13 J -28881587.80 -28881587.74 -28881587.67 0.0271 0.0236

Moon -83787-08-31 13:40 J -28881536.03 -28881535.93 -28881535.84 0.2581 0.1989

Earth -83787-08-31 15:06 J -28881535.98 -28881535.87 -28881535.76 0.2583 0.1749 *

Saturn -83787-10-07 05:16 J -28881499.39 -28881499.28 -28881499.17 0.0271 0.0145

Saturn -83786-01-03 16:18 J -28881410.95 -28881410.82 -28881410.68 0.0270 0.0053

Saturn -83786-04-02 03:35 J -28881322.49 -28881322.35 -28881322.22 0.0270 0.0040

Saturn -83786-06-29 14:52 J -28881234.00 -28881233.88 -28881233.76 0.0270 0.0134

Saturn -83786-09-26 02:23 J -28881145.48 -28881145.40 -28881145.33 0.0269 0.0228

Moon -83784-03-05 13:54 J -28880619.03 -28880618.92 -28880618.82 0.2749 0.1182

Earth -83784-03-05 14:23 J -28880619.00 -28880618.90 -28880618.80 0.2753 0.1278 *

Venus -83784-03-09 19:40 J -28880614.79 -28880614.68 -28880614.57 0.3761 0.0378

Jupiter -83783-07-06 03:06 J -28880131.50 -28880131.37 -28880131.24 0.0491 0.0339

Jupiter -83783-10-04 07:54 J -28880041.34 -28880041.17 -28880041.00 0.0493 0.0160

Mars -83782-04-02 14:37 J -28879861.05 -28879860.89 -28879860.74 0.1811 0.0050

Mars -83781-01-26 15:06 J -28879561.99 -28879561.87 -28879561.74 0.1727 0.0161

Venus -83780-03-08 20:52 J -28879154.72 -28879154.63 -28879154.53 0.3607 0.2509

Venus -83779-09-23 14:52 J -28878590.99 -28878590.88 -28878590.78 0.3757 0.1331

Jupiter -83777-02-25 21:35 J -28878070.69 -28878070.60 -28878070.50 0.0537 0.0374

Earth -83777-02-27 10:04 J -28878069.12 -28878069.08 -28878069.04 0.2754 0.2533

Moon -83777-02-27 10:47 J -28878069.09 -28878069.05 -28878069.00 0.2752 0.2499 *

Jupiter -83777-05-25 06:13 J -28877981.37 -28877981.24 -28877981.11 0.0535 0.0081

Uranus -83777-08-21 03:35 J -28877893.39 -28877893.35 -28877893.30 0.0139 0.0130

Uranus -83777-11-17 07:11 J -28877805.28 -28877805.20 -28877805.12 0.0139 0.0113

Uranus -83776-02-13 10:32 J -28877717.15 -28877717.06 -28877716.95 0.0139 0.0097

Uranus -83776-05-12 14:23 J -28877629.01 -28877628.90 -28877628.79 0.0139 0.0079

Uranus -83776-08-08 17:59 J -28877540.87 -28877540.75 -28877540.62 0.0140 0.0061

Uranus -83776-11-04 21:49 J -28877452.72 -28877452.59 -28877452.46 0.0140 0.0044

Uranus -83775-02-01 01:25 J -28877364.57 -28877364.44 -28877364.30 0.0140 0.0026

Uranus -83775-04-30 05:16 J -28877276.42 -28877276.28 -28877276.14 0.0140 0.0008

Uranus -83775-07-27 08:52 J -28877188.26 -28877188.13 -28877187.99 0.0140 0.0011

Venus -83775-09-22 21:06 J -28877130.74 -28877130.62 -28877130.49 0.3611 0.1239

Uranus -83775-10-23 12:42 J -28877100.10 -28877099.97 -28877099.83 0.0140 0.0029

Uranus -83774-01-19 16:32 J -28877011.94 -28877011.81 -28877011.68 0.0140 0.0047

Uranus -83774-04-17 20:23 J -28876923.77 -28876923.65 -28876923.52 0.0141 0.0066

Uranus -83774-07-15 00:13 J -28876835.60 -28876835.49 -28876835.37 0.0141 0.0084

Moon -83774-09-03 16:47 J -28876784.95 -28876784.80 -28876784.65 0.2585 0.0139

Earth -83774-09-03 18:13 J -28876784.89 -28876784.74 -28876784.59 0.2583 0.0204 *

Uranus -83774-10-11 04:18 J -28876747.42 -28876747.32 -28876747.23 0.0141 0.0103

Uranus -83773-01-07 08:08 J -28876659.22 -28876659.16 -28876659.09 0.0141 0.0122

Venus -83773-04-08 10:18 J -28876567.16 -28876567.07 -28876566.98 0.3753 0.2316

Mars -83773-08-22 14:23 J -28876431.02 -28876430.90 -28876430.77 0.1802 0.1098

Mars -83772-06-18 00:13 J -28876131.60 -28876131.49 -28876131.37 0.1735 0.0476

Saturn -83771-01-29 23:59 J -28875905.63 -28875905.50 -28875905.36 0.0289 0.0194

Moon -83771-03-08 09:06 J -28875868.16 -28875868.12 -28875868.08 0.2753 0.2552

Earth -83771-03-08 09:49 J -28875868.11 -28875868.09 -28875868.07 0.2752 0.2685 *

Jupiter -83771-04-24 01:54 J -28875821.48 -28875821.42 -28875821.35 0.0491 0.0459

Saturn -83771-04-28 22:47 J -28875816.72 -28875816.55 -28875816.37 0.0289 0.0042

Jupiter -83771-07-23 06:56 J -28875731.38 -28875731.21 -28875731.03 0.0493 0.0044

Saturn -83771-07-26 21:06 J -28875727.78 -28875727.62 -28875727.45 0.0289 0.0109

Saturn -83771-10-23 18:56 J -28875638.78 -28875638.71 -28875638.62 0.0290 0.0257

Venus -83769-04-07 20:52 J -28875106.76 -28875106.63 -28875106.50 0.3615 0.0043

Venus -83768-10-23 05:59 J -28874543.30 -28874543.25 -28874543.20 0.3748 0.3325

Jupiter -83766-12-15 00:42 J -28873760.52 -28873760.47 -28873760.42 0.0537 0.0493

Jupiter -83765-03-13 09:06 J -28873671.25 -28873671.12 -28873670.99 0.0535 0.0044

Jupiter -83765-06-10 17:59 J -28873581.83 -28873581.75 -28873581.66 0.0532 0.0413

Earth -83764-03-01 05:01 J -28873318.39 -28873318.29 -28873318.19 0.2754 0.1197

Moon -83764-03-01 05:30 J -28873318.38 -28873318.27 -28873318.17 0.2748 0.1092 *

Venus -83764-10-22 20:08 J -28873082.79 -28873082.66 -28873082.54 0.3619 0.1150

Mars -83763-11-08 09:20 J -28872701.20 -28872701.11 -28872701.02 0.1742 0.1106

Moon -83761-09-05 20:37 J -28872033.73 -28872033.64 -28872033.55 0.2590 0.2014

Earth -83761-09-05 21:20 J -28872033.70 -28872033.61 -28872033.53 0.2584 0.2101 *

Mars -83761-10-13 21:20 J -28871995.67 -28871995.61 -28871995.55 0.1712 0.1488

Jupiter -83759-05-11 05:59 J -28871421.43 -28871421.25 -28871421.08 0.0493 0.0078

Jupiter -83759-08-09 09:49 J -28871331.18 -28871331.09 -28871330.99 0.0495 0.0416

Venus -83758-05-08 18:56 J -28871058.81 -28871058.71 -28871058.61 0.3624 0.2270

Saturn -83758-11-27 21:06 J -28870855.66 -28870855.62 -28870855.59 0.0272 0.0261

Saturn -83757-02-24 07:54 J -28870767.27 -28870767.17 -28870767.06 0.0271 0.0170

Saturn -83757-05-22 18:56 J -28870678.83 -28870678.71 -28870678.57 0.0271 0.0078

Saturn -83757-08-19 06:13 J -28870590.37 -28870590.24 -28870590.10 0.0271 0.0017

Saturn -83757-11-15 17:30 J -28870501.89 -28870501.77 -28870501.64 0.0270 0.0110

Saturn -83756-02-12 05:01 J -28870413.38 -28870413.29 -28870413.20 0.0270 0.0204

Venus -83755-01-30 20:52 J -28870060.63 -28870060.63 -28870060.62 0.3778 0.3774

Jupiter -83754-12-31 12:28 J -28869361.10 -28869360.98 -28869360.86 0.0535 0.0158

Jupiter -83753-03-29 21:20 J -28869271.72 -28869271.61 -28869271.50 0.0533 0.0297

Mars -83753-03-30 18:13 J -28869270.74 -28869270.74 -28869270.73 0.1750 0.1749

Venus -83753-11-21 17:30 J -28869034.82 -28869034.77 -28869034.73 0.3628 0.3338

Mars -83752-05-11 14:37 J -28868864.00 -28868863.89 -28868863.77 0.1820 0.1174

Neptune -83752-07-28 15:49 J -28868785.87 -28868785.84 -28868785.77 0.0089 0.0085

Neptune -83752-10-24 19:25 J -28868697.76 -28868697.69 -28868697.59 0.0089 0.0079

Neptune -83751-01-20 22:47 J -28868609.64 -28868609.55 -28868609.42 0.0089 0.0073

Moon -83751-03-03 23:59 J -28868567.61 -28868567.50 -28868567.38 0.2746 0.0096

Earth -83751-03-04 00:13 J -28868567.61 -28868567.49 -28868567.38 0.2754 0.0180 *

Mars -83751-03-06 06:13 J -28868565.34 -28868565.24 -28868565.13 0.1719 0.0864

Neptune -83751-04-19 02:37 J -28868521.51 -28868521.39 -28868521.25 0.0089 0.0066

Neptune -83751-07-16 06:13 J -28868433.38 -28868433.24 -28868433.09 0.0089 0.0060

Neptune -83751-10-12 09:35 J -28868345.24 -28868345.10 -28868344.94 0.0089 0.0054

Neptune -83750-01-08 12:56 J -28868257.11 -28868256.96 -28868256.78 0.0089 0.0048

Neptune -83750-04-06 16:18 J -28868168.97 -28868168.82 -28868168.63 0.0089 0.0042

Neptune -83750-07-03 20:08 J -28868080.83 -28868080.66 -28868080.48 0.0089 0.0035

Venus -83750-08-16 15:06 J -28868036.93 -28868036.87 -28868036.80 0.3774 0.2943

Neptune -83750-09-29 23:30 J -28867992.69 -28867992.52 -28867992.33 0.0089 0.0029

Neptune -83750-12-27 03:06 J -28867904.55 -28867904.37 -28867904.18 0.0089 0.0023

Neptune -83749-03-24 06:28 J -28867816.41 -28867816.23 -28867816.04 0.0089 0.0017

Neptune -83749-06-20 09:49 J -28867728.27 -28867728.09 -28867727.89 0.0089 0.0011

Neptune -83749-09-16 13:25 J -28867640.13 -28867639.94 -28867639.75 0.0089 0.0004

Neptune -83749-12-13 16:47 J -28867551.99 -28867551.80 -28867551.61 0.0089 0.0002

Neptune -83748-03-11 20:08 J -28867463.85 -28867463.66 -28867463.47 0.0089 0.0008

Neptune -83748-06-07 23:30 J -28867375.70 -28867375.52 -28867375.33 0.0089 0.0014

Neptune -83748-09-04 02:52 J -28867287.56 -28867287.38 -28867287.19 0.0089 0.0020

Neptune -83748-12-01 06:13 J -28867199.41 -28867199.24 -28867199.05 0.0088 0.0026

Jupiter -83747-02-27 04:04 J -28867111.50 -28867111.33 -28867111.17 0.0492 0.0205

Neptune -83747-02-27 09:35 J -28867111.27 -28867111.10 -28867110.92 0.0088 0.0032 *

Neptune -83747-05-26 12:42 J -28867023.12 -28867022.97 -28867022.79 0.0088 0.0039

Jupiter -83747-05-28 08:08 J -28867021.30 -28867021.16 -28867021.01 0.0494 0.0291

Neptune -83747-08-22 16:04 J -28866934.98 -28866934.83 -28866934.65 0.0088 0.0045

Neptune -83747-11-18 19:25 J -28866846.83 -28866846.69 -28866846.52 0.0088 0.0051

Neptune -83746-02-14 22:47 J -28866758.68 -28866758.55 -28866758.40 0.0088 0.0056

Neptune -83746-05-14 01:54 J -28866670.53 -28866670.42 -28866670.27 0.0088 0.0063

Neptune -83746-08-10 05:16 J -28866582.38 -28866582.28 -28866582.15 0.0088 0.0068

Neptune -83746-11-06 08:52 J -28866494.23 -28866494.13 -28866494.03 0.0088 0.0074

Neptune -83745-02-02 11:59 J -28866406.07 -28866406.00 -28866405.91 0.0088 0.0080

Neptune -83745-04-30 15:06 J -28866317.90 -28866317.87 -28866317.81 0.0088 0.0086

Venus -83744-03-01 09:35 J -28866013.19 -28866013.10 -28866013.01 0.3771 0.2087

Mars -83743-10-01 15:06 J -28865434.02 -28865433.87 -28865433.72 0.1811 0.0111

Saturn -83742-06-18 23:16 J -28865173.63 -28865173.53 -28865173.42 0.0289 0.0235

Mars -83742-07-27 15:20 J -28865134.98 -28865134.86 -28865134.74 0.1727 0.0238

Saturn -83742-09-15 22:04 J -28865084.75 -28865084.58 -28865084.40 0.0289 0.0083

Jupiter -83742-10-19 16:04 J -28865050.94 -28865050.83 -28865050.72 0.0536 0.0270

Saturn -83742-12-13 20:37 J -28864995.81 -28864995.64 -28864995.47 0.0290 0.0069

Jupiter -83741-01-17 00:56 J -28864961.59 -28864961.46 -28864961.34 0.0534 0.0186

Saturn -83741-03-11 18:28 J -28864906.83 -28864906.73 -28864906.61 0.0290 0.0218

Moon -83741-08-31 19:40 J -28864733.81 -28864733.68 -28864733.55 0.2581 0.1395

Earth -83741-08-31 21:06 J -28864733.74 -28864733.62 -28864733.49 0.2583 0.1343 *

Pluto -83739-08-30 04:47 J -28864005.34 -28864005.30 -28864005.25 0.0085 0.0080

Venus -83739-09-15 04:18 J -28863989.43 -28863989.32 -28863989.22 0.3767 0.1210

Pluto -83739-11-26 05:59 J -28863917.32 -28863917.25 -28863917.16 0.0085 0.0068

Pluto -83738-02-22 07:25 J -28863829.28 -28863829.19 -28863829.08 0.0084 0.0056

Moon -83738-03-06 18:42 J -28863816.82 -28863816.72 -28863816.63 0.2750 0.1509

Earth -83738-03-06 19:25 J -28863816.78 -28863816.69 -28863816.60 0.2753 0.1559 *

Pluto -83738-05-21 08:52 J -28863741.24 -28863741.13 -28863741.01 0.0084 0.0044

Pluto -83738-08-17 10:04 J -28863653.19 -28863653.08 -28863652.95 0.0084 0.0032

Pluto -83738-11-13 11:30 J -28863565.15 -28863565.02 -28863564.89 0.0084 0.0020

Uranus -83737-01-14 22:04 J -28863502.67 -28863502.58 -28863502.48 0.0140 0.0119

Pluto -83737-02-09 12:56 J -28863477.10 -28863476.96 -28863476.83 0.0084 0.0008

Uranus -83737-04-12 05:01 J -28863414.41 -28863414.29 -28863414.14 0.0139 0.0095

Pluto -83737-05-07 14:08 J -28863389.04 -28863388.91 -28863388.78 0.0084 0.0003

Uranus -83737-07-09 12:13 J -28863326.14 -28863325.99 -28863325.82 0.0139 0.0070

Pluto -83737-08-03 15:20 J -28863300.99 -28863300.86 -28863300.72 0.0084 0.0015

Uranus -83737-10-05 19:25 J -28863237.86 -28863237.69 -28863237.52 0.0139 0.0046

Pluto -83737-10-30 16:32 J -28863212.93 -28863212.81 -28863212.68 0.0084 0.0027

Uranus -83736-01-02 02:23 J -28863149.58 -28863149.40 -28863149.22 0.0139 0.0023

Pluto -83736-01-26 17:59 J -28863124.87 -28863124.75 -28863124.63 0.0083 0.0038

Uranus -83736-03-31 09:06 J -28863061.30 -28863061.12 -28863060.94 0.0139 0.0002

Pluto -83736-04-24 18:56 J -28863036.80 -28863036.71 -28863036.59 0.0083 0.0050

Uranus -83736-06-27 15:49 J -28862973.01 -28862972.84 -28862972.66 0.0139 0.0024

Pluto -83736-07-21 20:23 J -28862948.74 -28862948.65 -28862948.55 0.0083 0.0060

Uranus -83736-09-23 22:32 J -28862884.72 -28862884.56 -28862884.38 0.0138 0.0047

Pluto -83736-10-17 21:35 J -28862860.66 -28862860.60 -28862860.53 0.0083 0.0071

Jupiter -83736-12-16 02:23 J -28862801.53 -28862801.40 -28862801.27 0.0491 0.0329

Uranus -83736-12-21 05:16 J -28862796.43 -28862796.28 -28862796.12 0.0138 0.0069

Pluto -83735-01-13 22:47 J -28862772.55 -28862772.55 -28862772.53 0.0083 0.0082

Jupiter -83735-03-16 06:56 J -28862711.38 -28862711.21 -28862711.04 0.0493 0.0169

Uranus -83735-03-19 11:59 J -28862708.13 -28862708.00 -28862707.86 0.0138 0.0091

Uranus -83735-06-15 18:28 J -28862619.83 -28862619.73 -28862619.63 0.0138 0.0113

Uranus -83735-09-12 00:56 J -28862531.49 -28862531.46 -28862531.42 0.0138 0.0135

Mars -83733-02-21 15:06 J -28862004.00 -28862003.87 -28862003.74 0.1802 0.0972

Venus -83733-03-30 23:01 J -28861965.65 -28861965.54 -28861965.43 0.3764 0.0289

Mars -83733-12-17 00:13 J -28861704.61 -28861704.49 -28861704.37 0.1734 0.0396

Earth -83731-02-27 14:52 J -28861266.94 -28861266.88 -28861266.81 0.2754 0.2264

Moon -83731-02-27 15:49 J -28861266.91 -28861266.84 -28861266.77 0.2752 0.2113 *

Jupiter -83730-08-07 20:08 J -28860740.75 -28860740.66 -28860740.57 0.0537 0.0375

Jupiter -83730-11-05 04:47 J -28860651.43 -28860651.30 -28860651.17 0.0535 0.0078

Venus -83729-03-29 20:23 J -28860505.68 -28860505.65 -28860505.61 0.3605 0.3451

Saturn -83728-07-13 09:35 J -28860035.18 -28860035.10 -28860035.01 0.0271 0.0201

Moon -83728-09-03 23:16 J -28859982.68 -28859982.53 -28859982.38 0.2586 0.0402

Earth -83728-09-04 00:28 J -28859982.63 -28859982.48 -28859982.33 0.2583 0.0604 *

Saturn -83728-10-09 20:37 J -28859946.76 -28859946.64 -28859946.51 0.0271 0.0110

Venus -83728-10-14 17:59 J -28859941.86 -28859941.75 -28859941.63 0.3760 0.0657

Saturn -83727-01-06 07:54 J -28859858.31 -28859858.17 -28859858.04 0.0270 0.0018

Saturn -83727-04-04 18:56 J -28859769.84 -28859769.71 -28859769.57 0.0270 0.0077

Saturn -83727-07-02 06:13 J -28859681.34 -28859681.24 -28859681.13 0.0270 0.0171

Saturn -83727-09-28 17:59 J -28859592.77 -28859592.75 -28859592.73 0.0269 0.0265

Jupiter -83724-10-04 00:13 J -28858491.54 -28858491.49 -28858491.42 0.0491 0.0456

Venus -83724-10-13 20:52 J -28858481.74 -28858481.63 -28858481.52 0.3608 0.2145

Jupiter -83723-01-02 05:30 J -28858401.45 -28858401.27 -28858401.09 0.0493 0.0045

Mars -83723-05-09 09:20 J -28858274.21 -28858274.11 -28858274.01 0.1742 0.1030

Venus -83722-04-30 13:25 J -28857918.05 -28857917.94 -28857917.84 0.3756 0.1620

Mars -83721-04-13 21:20 J -28857568.65 -28857568.61 -28857568.56 0.1712 0.1568

Earth -83718-03-02 10:04 J -28856516.19 -28856516.08 -28856515.98 0.2754 0.0915

Moon -83718-03-02 10:18 J -28856516.18 -28856516.07 -28856515.97 0.2747 0.0950 *

Venus -83718-04-29 20:52 J -28856457.76 -28856457.63 -28856457.50 0.3612 0.0887

Jupiter -83718-05-27 00:13 J -28856430.55 -28856430.49 -28856430.44 0.0537 0.0481

Jupiter -83718-08-24 08:37 J -28856341.27 -28856341.14 -28856341.01 0.0535 0.0031

Jupiter -83718-11-21 17:44 J -28856251.84 -28856251.76 -28856251.68 0.0533 0.0427

Venus -83717-11-13 08:52 J -28855894.21 -28855894.13 -28855894.05 0.3751 0.2610

Moon -83715-09-07 02:37 J -28855231.43 -28855231.39 -28855231.35 0.2590 0.2466

Earth -83715-09-07 03:20 J -28855231.40 -28855231.36 -28855231.32 0.2584 0.2487 *

Mars -83714-09-29 18:28 J -28854843.76 -28854843.73 -28854843.69 0.1750 0.1658

Mars -83713-11-09 15:20 J -28854436.97 -28854436.86 -28854436.76 0.1820 0.1301

Venus -83713-11-12 20:23 J -28854433.78 -28854433.65 -28854433.52 0.3616 0.0317

Saturn -83712-02-01 17:59 J -28854352.90 -28854352.75 -28854352.60 0.0289 0.0145

Saturn -83712-05-01 16:32 J -28854263.98 -28854263.81 -28854263.63 0.0289 0.0009

Saturn -83712-07-29 14:52 J -28854175.03 -28854174.88 -28854174.73 0.0289 0.0157

Mars -83712-09-04 06:28 J -28854138.34 -28854138.23 -28854138.13 0.1719 0.0950

Jupiter -83712-10-21 04:32 J -28854091.49 -28854091.31 -28854091.13 0.0492 0.0073

Jupiter -83711-01-19 08:23 J -28854001.24 -28854001.15 -28854001.05 0.0495 0.0420

Venus -83711-05-30 04:32 J -28853870.33 -28853870.31 -28853870.28 0.3747 0.3632

Venus -83707-05-29 19:40 J -28852409.80 -28852409.68 -28852409.56 0.3621 0.1478

Jupiter -83706-06-12 11:30 J -28852031.15 -28852031.02 -28852030.90 0.0535 0.0152

Jupiter -83706-09-09 20:23 J -28851941.76 -28851941.65 -28851941.54 0.0533 0.0303

Moon -83705-03-04 04:47 J -28851765.41 -28851765.30 -28851765.18 0.2747 0.0490

Earth -83705-03-04 05:16 J -28851765.40 -28851765.28 -28851765.17 0.2753 0.0462 *

Mars -83703-04-01 15:20 J -28851007.01 -28851006.86 -28851006.71 0.1811 0.0217

Mars -83702-01-25 15:20 J -28850707.98 -28850707.86 -28850707.73 0.1727 0.0331

Venus -83702-12-13 18:13 J -28850385.82 -28850385.74 -28850385.65 0.3625 0.2588

Jupiter -83700-08-09 03:06 J -28849781.53 -28849781.37 -28849781.20 0.0492 0.0195

Jupiter -83700-11-07 07:25 J -28849691.32 -28849691.19 -28849691.05 0.0494 0.0302

Venus -83699-09-06 19:11 J -28849387.74 -28849387.70 -28849387.67 0.3777 0.3544

Saturn -83699-11-30 12:13 J -28849303.06 -28849302.99 -28849302.91 0.0272 0.0227

Saturn -83698-02-26 23:16 J -28849214.64 -28849214.53 -28849214.41 0.0271 0.0135

Saturn -83698-05-26 10:32 J -28849126.20 -28849126.06 -28849125.93 0.0271 0.0042

Saturn -83698-08-22 21:49 J -28849037.73 -28849037.59 -28849037.46 0.0271 0.0052

Saturn -83698-11-19 09:06 J -28848949.24 -28848949.12 -28848949.00 0.0270 0.0146

Saturn -83697-02-15 20:23 J -28848860.70 -28848860.65 -28848860.58 0.0270 0.0241

Moon -83695-09-02 01:54 J -28847931.55 -28847931.42 -28847931.29 0.2582 0.1171

Earth -83695-09-02 03:20 J -28847931.50 -28847931.36 -28847931.22 0.2583 0.0935 *

Jupiter -83694-03-31 14:52 J -28847720.99 -28847720.88 -28847720.77 0.0536 0.0266

Jupiter -83694-06-28 23:30 J -28847631.64 -28847631.52 -28847631.40 0.0534 0.0187

Mars -83694-08-22 15:35 J -28847576.98 -28847576.85 -28847576.71 0.1802 0.0844

Venus -83693-03-22 13:25 J -28847364.02 -28847363.94 -28847363.87 0.3773 0.2704

Mars -83693-06-17 00:28 J -28847277.60 -28847277.48 -28847277.36 0.1734 0.0314

Uranus -83693-09-10 11:01 J -28847192.09 -28847192.04 -28847191.97 0.0139 0.0125

Uranus -83693-12-07 14:37 J -28847103.97 -28847103.89 -28847103.80 0.0139 0.0108

Uranus -83692-03-05 18:28 J -28847015.83 -28847015.73 -28847015.63 0.0139 0.0091

Moon -83692-03-06 23:44 J -28847014.60 -28847014.51 -28847014.42 0.2750 0.1691

Earth -83692-03-07 00:28 J -28847014.56 -28847014.48 -28847014.40 0.2753 0.1846 *

Uranus -83692-06-01 22:04 J -28846927.70 -28846927.58 -28846927.46 0.0139 0.0073

Uranus -83692-08-29 01:40 J -28846839.55 -28846839.43 -28846839.30 0.0140 0.0056

Uranus -83692-11-25 05:16 J -28846751.41 -28846751.28 -28846751.14 0.0140 0.0039

Uranus -83691-02-21 09:06 J -28846663.26 -28846663.12 -28846662.98 0.0140 0.0020

Uranus -83691-05-20 12:56 J -28846575.10 -28846574.96 -28846574.83 0.0140 0.0004

Uranus -83691-08-16 16:32 J -28846486.94 -28846486.81 -28846486.67 0.0140 0.0016

Uranus -83691-11-12 20:23 J -28846398.78 -28846398.65 -28846398.51 0.0140 0.0034

Uranus -83690-02-09 00:13 J -28846310.62 -28846310.49 -28846310.36 0.0140 0.0053

Uranus -83690-05-08 04:04 J -28846222.45 -28846222.33 -28846222.21 0.0141 0.0071

Uranus -83690-08-04 07:54 J -28846134.27 -28846134.17 -28846134.06 0.0141 0.0090

Uranus -83690-10-31 11:44 J -28846046.09 -28846046.01 -28846045.91 0.0141 0.0109

Uranus -83689-01-27 15:49 J -28845957.89 -28845957.84 -28845957.78 0.0141 0.0128

Jupiter -83688-05-28 01:11 J -28845471.58 -28845471.45 -28845471.31 0.0491 0.0323

Jupiter -83688-08-26 05:44 J -28845381.42 -28845381.26 -28845381.09 0.0493 0.0176

Venus -83688-10-06 07:54 J -28845340.27 -28845340.17 -28845340.07 0.3770 0.1839

Earth -83685-02-28 19:54 J -28844464.74 -28844464.67 -28844464.59 0.2754 0.1987

Moon -83685-02-28 20:37 J -28844464.72 -28844464.64 -28844464.56 0.2751 0.1940 *

Mars -83684-11-07 09:20 J -28843847.21 -28843847.11 -28843847.00 0.1742 0.0942

Saturn -83683-06-21 17:44 J -28843620.90 -28843620.76 -28843620.62 0.0289 0.0183

Saturn -83683-09-18 16:18 J -28843531.99 -28843531.82 -28843531.64 0.0289 0.0031

Saturn -83683-12-16 14:37 J -28843443.04 -28843442.89 -28843442.72 0.0290 0.0120

Jupiter -83682-01-17 18:28 J -28843410.82 -28843410.73 -28843410.64 0.0537 0.0379

Saturn -83682-03-15 12:42 J -28843354.03 -28843353.97 -28843353.90 0.0290 0.0268

Jupiter -83682-04-17 03:06 J -28843321.50 -28843321.37 -28843321.24 0.0535 0.0075

Venus -83682-04-22 02:37 J -28843316.50 -28843316.39 -28843316.29 0.3766 0.0951

Moon -83682-09-05 05:30 J -28843180.41 -28843180.27 -28843180.14 0.2588 0.0984

Earth -83682-09-05 06:28 J -28843180.36 -28843180.23 -28843180.09 0.2584 0.1000 *

Mars -83682-10-13 21:35 J -28843141.63 -28843141.60 -28843141.58 0.1712 0.1657

Venus -83677-11-04 21:20 J -28841292.72 -28841292.61 -28841292.49 0.3763 0.0098

Jupiter -83676-03-15 23:16 J -28841161.59 -28841161.53 -28841161.45 0.0491 0.0448

Jupiter -83676-06-14 04:18 J -28841071.49 -28841071.32 -28841071.14 0.0493 0.0054

Mars -83674-03-30 18:28 J -28840416.78 -28840416.73 -28840416.68 0.1750 0.1582

Mars -83673-05-10 15:35 J -28840009.94 -28840009.85 -28840009.75 0.1820 0.1418

Venus -83673-11-03 20:23 J -28839832.72 -28839832.65 -28839832.58 0.3606 0.3084

Moon -83672-03-02 15:06 J -28839713.98 -28839713.87 -28839713.76 0.2746 0.0555

Earth -83672-03-02 15:06 J -28839713.98 -28839713.87 -28839713.77 0.2754 0.0645 *

Mars -83672-03-05 06:28 J -28839711.33 -28839711.23 -28839711.13 0.1719 0.1035

Venus -83671-05-21 16:32 J -28839268.92 -28839268.81 -28839268.70 0.3759 0.0926

Neptune -83671-11-04 19:25 J -28839101.71 -28839101.69 -28839101.65 0.0089 0.0086

Jupiter -83671-11-05 22:32 J -28839100.61 -28839100.56 -28839100.51 0.0537 0.0484

Neptune -83670-01-31 20:52 J -28839013.67 -28839013.63 -28839013.57 0.0089 0.0082

Jupiter -83670-02-03 06:56 J -28839011.34 -28839011.21 -28839011.08 0.0535 0.0034

Neptune -83670-04-29 22:04 J -28838925.63 -28838925.58 -28838925.50 0.0089 0.0078

Jupiter -83670-05-03 16:04 J -28838921.91 -28838921.83 -28838921.75 0.0533 0.0424

Neptune -83670-07-26 23:44 J -28838837.58 -28838837.51 -28838837.43 0.0089 0.0073

Neptune -83670-10-23 00:56 J -28838749.53 -28838749.46 -28838749.37 0.0089 0.0069

Neptune -83669-01-19 02:23 J -28838661.48 -28838661.40 -28838661.30 0.0089 0.0065

Neptune -83669-04-16 03:35 J -28838573.43 -28838573.35 -28838573.24 0.0089 0.0061

Saturn -83669-04-18 14:23 J -28838570.94 -28838570.90 -28838570.86 0.0271 0.0255

Neptune -83669-07-13 05:16 J -28838485.38 -28838485.28 -28838485.18 0.0089 0.0056

Saturn -83669-07-16 01:25 J -28838482.55 -28838482.44 -28838482.33 0.0271 0.0164

Neptune -83669-10-09 06:28 J -28838397.33 -28838397.23 -28838397.11 0.0089 0.0052

Saturn -83669-10-12 12:28 J -28838394.11 -28838393.98 -28838393.85 0.0271 0.0072

Neptune -83668-01-05 07:54 J -28838309.28 -28838309.17 -28838309.05 0.0089 0.0047

Saturn -83668-01-08 23:30 J -28838305.65 -28838305.52 -28838305.38 0.0270 0.0023

Neptune -83668-04-03 09:20 J -28838221.22 -28838221.11 -28838220.99 0.0089 0.0043

Saturn -83668-04-07 10:47 J -28838217.17 -28838217.05 -28838216.92 0.0270 0.0115

Neptune -83668-06-30 10:47 J -28838133.17 -28838133.05 -28838132.93 0.0089 0.0039

Saturn -83668-07-04 22:18 J -28838128.66 -28838128.57 -28838128.48 0.0269 0.0209

Neptune -83668-09-26 11:59 J -28838045.12 -28838045.00 -28838044.87 0.0089 0.0035

Neptune -83668-12-23 13:40 J -28837957.06 -28837956.93 -28837956.81 0.0089 0.0030

Neptune -83667-03-21 14:52 J -28837869.00 -28837868.88 -28837868.75 0.0089 0.0026

Venus -83667-05-20 20:37 J -28837808.76 -28837808.64 -28837808.52 0.3610 0.1788

Neptune -83667-06-17 16:18 J -28837780.95 -28837780.82 -28837780.69 0.0089 0.0021

Neptune -83667-09-13 17:44 J -28837692.89 -28837692.76 -28837692.63 0.0089 0.0017

Neptune -83667-12-10 19:11 J -28837604.83 -28837604.70 -28837604.57 0.0089 0.0013

Neptune -83666-03-08 20:37 J -28837516.78 -28837516.64 -28837516.51 0.0089 0.0008

Neptune -83666-06-04 21:49 J -28837428.72 -28837428.59 -28837428.45 0.0089 0.0005

Neptune -83666-08-31 23:16 J -28837340.66 -28837340.53 -28837340.39 0.0089 0.0003

Neptune -83666-11-28 00:42 J -28837252.60 -28837252.47 -28837252.33 0.0089 0.0006

Venus -83666-12-05 11:44 J -28837245.11 -28837245.01 -28837244.91 0.3755 0.1903

Neptune -83665-02-24 02:08 J -28837164.54 -28837164.41 -28837164.27 0.0089 0.0010

Neptune -83665-05-22 03:35 J -28837076.48 -28837076.35 -28837076.21 0.0089 0.0014

Neptune -83665-08-18 05:01 J -28836988.42 -28836988.29 -28836988.16 0.0089 0.0018

Neptune -83665-11-14 06:28 J -28836900.36 -28836900.23 -28836900.10 0.0089 0.0023

Neptune -83664-02-10 07:54 J -28836812.30 -28836812.17 -28836812.04 0.0089 0.0027

Jupiter -83664-04-02 02:37 J -28836761.56 -28836761.39 -28836761.21 0.0492 0.0074

Neptune -83664-05-09 09:20 J -28836724.24 -28836724.11 -28836723.98 0.0089 0.0032

Jupiter -83664-07-01 06:42 J -28836671.31 -28836671.22 -28836671.13 0.0494 0.0420

Neptune -83664-08-05 10:47 J -28836636.17 -28836636.05 -28836635.92 0.0089 0.0036

Mars -83664-09-30 16:04 J -28836579.98 -28836579.83 -28836579.68 0.1811 0.0354

Neptune -83664-11-01 11:59 J -28836548.11 -28836548.00 -28836547.87 0.0089 0.0041

Neptune -83663-01-28 13:40 J -28836460.04 -28836459.93 -28836459.81 0.0089 0.0045

Neptune -83663-04-26 14:52 J -28836371.98 -28836371.88 -28836371.75 0.0089 0.0050

Neptune -83663-07-23 16:32 J -28836283.91 -28836283.81 -28836283.70 0.0089 0.0054

Mars -83663-07-26 15:20 J -28836280.98 -28836280.86 -28836280.74 0.1726 0.0408

Neptune -83663-10-19 17:44 J -28836195.85 -28836195.76 -28836195.64 0.0089 0.0059

Neptune -83662-01-15 19:25 J -28836107.78 -28836107.69 -28836107.59 0.0089 0.0063

Neptune -83662-04-13 20:37 J -28836019.71 -28836019.64 -28836019.53 0.0089 0.0068

Neptune -83662-07-10 22:18 J -28835931.64 -28835931.57 -28835931.48 0.0089 0.0072

Earth -83662-08-31 05:59 J -28835880.28 -28835880.25 -28835880.22 0.2583 0.2515

Neptune -83662-10-06 23:44 J -28835843.57 -28835843.51 -28835843.43 0.0089 0.0077

Venus -83662-12-04 20:37 J -28835784.77 -28835784.64 -28835784.51 0.3613 0.0545

Neptune -83661-01-03 01:11 J -28835755.49 -28835755.45 -28835755.38 0.0089 0.0081

Neptune -83661-03-31 02:37 J -28835667.41 -28835667.39 -28835667.34 0.0089 0.0086

Venus -83660-06-20 07:25 J -28835221.26 -28835221.19 -28835221.12 0.3750 0.2907

Moon -83659-03-05 09:35 J -28834963.21 -28834963.10 -28834962.98 0.2748 0.0626

Earth -83659-03-05 10:04 J -28834963.18 -28834963.08 -28834962.97 0.2753 0.0745 *

Jupiter -83659-11-22 10:47 J -28834701.17 -28834701.05 -28834700.92 0.0536 0.0142

Jupiter -83658-02-19 19:40 J -28834611.78 -28834611.68 -28834611.57 0.0533 0.0314

Venus -83656-06-19 19:54 J -28833760.80 -28833760.67 -28833760.54 0.3618 0.0647

Mars -83654-02-20 16:04 J -28833149.97 -28833149.83 -28833149.69 0.1802 0.0731

Uranus -83654-11-07 23:30 J -28832889.56 -28832889.52 -28832889.47 0.0140 0.0134

Saturn -83654-11-08 13:25 J -28832889.02 -28832888.94 -28832888.84 0.0288 0.0244

Mars -83654-12-17 00:28 J -28832850.60 -28832850.48 -28832850.36 0.1734 0.0222

Uranus -83653-02-04 06:28 J -28832801.33 -28832801.23 -28832801.10 0.0139 0.0110

Saturn -83653-02-05 12:28 J -28832800.15 -28832799.98 -28832799.81 0.0289 0.0091

Uranus -83653-05-02 13:40 J -28832713.07 -28832712.93 -28832712.78 0.0139 0.0085

Saturn -83653-05-04 11:01 J -28832711.21 -28832711.04 -28832710.86 0.0289 0.0060

Uranus -83653-07-29 20:52 J -28832624.79 -28832624.63 -28832624.46 0.0139 0.0061

Saturn -83653-08-01 09:06 J -28832622.24 -28832622.12 -28832622.00 0.0290 0.0209

Uranus -83653-10-26 03:49 J -28832536.51 -28832536.34 -28832536.16 0.0139 0.0038

Jupiter -83652-01-19 01:40 J -28832451.59 -28832451.43 -28832451.26 0.0492 0.0192

Uranus -83652-01-22 10:47 J -28832448.23 -28832448.05 -28832447.87 0.0139 0.0014

Jupiter -83652-04-19 05:59 J -28832361.39 -28832361.25 -28832361.11 0.0494 0.0304

Uranus -83652-04-20 17:44 J -28832359.95 -28832359.76 -28832359.58 0.0139 0.0010

Uranus -83652-07-18 00:13 J -28832271.66 -28832271.49 -28832271.31 0.0139 0.0033

Uranus -83652-10-14 06:56 J -28832183.37 -28832183.21 -28832183.04 0.0138 0.0056

Uranus -83651-01-10 13:54 J -28832095.07 -28832094.92 -28832094.77 0.0138 0.0078

Uranus -83651-04-08 20:08 J -28832006.77 -28832006.66 -28832006.52 0.0138 0.0100

Uranus -83651-07-06 02:37 J -28831918.46 -28831918.39 -28831918.29 0.0138 0.0122

Venus -83650-01-03 18:56 J -28831736.82 -28831736.71 -28831736.59 0.3622 0.1804

Moon -83649-09-02 08:08 J -28831129.31 -28831129.16 -28831129.01 0.2583 0.0604

Earth -83649-09-02 09:35 J -28831129.25 -28831129.10 -28831128.95 0.2583 0.0531 *

Jupiter -83647-09-10 13:54 J -28830391.04 -28830390.92 -28830390.81 0.0536 0.0262

Jupiter -83647-12-08 22:32 J -28830301.69 -28830301.56 -28830301.44 0.0533 0.0192

Moon -83646-03-08 04:47 J -28830212.38 -28830212.30 -28830212.23 0.2750 0.2099

Earth -83646-03-08 05:30 J -28830212.34 -28830212.27 -28830212.20 0.2753 0.2136 *

Venus -83645-07-19 17:30 J -28829712.84 -28829712.77 -28829712.69 0.3626 0.2892

Mars -83644-05-08 09:35 J -28829420.21 -28829420.10 -28829420.00 0.1742 0.0857

Venus -83642-04-13 17:16 J -28828714.83 -28828714.78 -28828714.73 0.3776 0.3313

Jupiter -83641-11-06 23:59 J -28828141.63 -28828141.50 -28828141.36 0.0492 0.0316

Jupiter -83640-02-05 04:47 J -28828051.46 -28828051.30 -28828051.13 0.0494 0.0184

Saturn -83640-12-03 03:49 J -28827750.43 -28827750.34 -28827750.24 0.0272 0.0191

Earth -83639-03-01 00:56 J -28827662.55 -28827662.46 -28827662.37 0.2754 0.1711

Moon -83639-03-01 01:25 J -28827662.53 -28827662.44 -28827662.35 0.2749 0.1632 *

Saturn -83639-03-01 14:52 J -28827662.00 -28827661.88 -28827661.75 0.0271 0.0099

Saturn -83639-05-29 02:08 J -28827573.54 -28827573.41 -28827573.27 0.0271 0.0006

Saturn -83639-08-25 13:25 J -28827485.07 -28827484.94 -28827484.81 0.0271 0.0090

Saturn -83639-11-22 00:42 J -28827396.56 -28827396.47 -28827396.36 0.0270 0.0185

Venus -83637-10-27 11:30 J -28826691.10 -28826691.02 -28826690.93 0.3773 0.2470

Moon -83636-09-05 11:30 J -28826378.15 -28826378.02 -28826377.88 0.2588 0.1196

Earth -83636-09-05 12:42 J -28826378.09 -28826377.97 -28826377.84 0.2584 0.1399 *

Jupiter -83635-06-29 17:16 J -28826080.87 -28826080.78 -28826080.69 0.0536 0.0376

Jupiter -83635-09-27 01:40 J -28825991.56 -28825991.43 -28825991.30 0.0534 0.0076

Mars -83635-09-28 18:28 J -28825989.79 -28825989.73 -28825989.67 0.1750 0.1498

Mars -83634-11-09 16:18 J -28825582.90 -28825582.82 -28825582.75 0.1821 0.1546

Mars -83633-09-03 06:28 J -28825284.32 -28825284.23 -28825284.13 0.1719 0.1123

Venus -83631-05-13 06:13 J -28824667.34 -28824667.24 -28824667.14 0.3769 0.1592

Jupiter -83629-08-25 22:04 J -28823831.66 -28823831.58 -28823831.51 0.0491 0.0444

Jupiter -83629-11-24 03:06 J -28823741.55 -28823741.37 -28823741.19 0.0493 0.0057

Moon -83626-03-03 20:08 J -28822911.78 -28822911.66 -28822911.55 0.2747 0.0395

Earth -83626-03-03 19:54 J -28822911.78 -28822911.67 -28822911.56 0.2754 0.0361 *

Venus -83626-11-27 00:56 J -28822643.57 -28822643.46 -28822643.35 0.3765 0.0701

Saturn -83624-03-27 13:54 J -28822156.96 -28822156.92 -28822156.87 0.0288 0.0278

Mars -83624-03-31 16:32 J -28822152.96 -28822152.81 -28822152.66 0.1811 0.0474

Saturn -83624-06-24 12:56 J -28822068.12 -28822067.96 -28822067.80 0.0289 0.0124

Saturn -83624-09-21 11:30 J -28821979.20 -28821979.02 -28821978.84 0.0289 0.0027

Saturn -83624-12-19 09:49 J -28821890.23 -28821890.09 -28821889.95 0.0290 0.0177

Mars -83623-01-24 15:35 J -28821853.97 -28821853.85 -28821853.74 0.1726 0.0494

Jupiter -83623-04-17 20:37 J -28821770.68 -28821770.64 -28821770.58 0.0537 0.0490

Jupiter -83623-07-16 05:01 J -28821681.42 -28821681.29 -28821681.15 0.0535 0.0043

Jupiter -83623-10-13 14:08 J -28821591.99 -28821591.91 -28821591.83 0.0533 0.0418

Venus -83620-06-11 19:54 J -28820619.79 -28820619.67 -28820619.56 0.3761 0.0287

Jupiter -83617-09-12 01:25 J -28819431.62 -28819431.44 -28819431.26 0.0492 0.0068

Jupiter -83617-12-11 05:16 J -28819341.36 -28819341.28 -28819341.19 0.0494 0.0425

Venus -83616-06-10 20:08 J -28819159.75 -28819159.66 -28819159.57 0.3607 0.2723

Moon -83616-08-31 11:01 J -28819078.12 -28819078.04 -28819077.97 0.2579 0.2224

Earth -83616-08-31 12:13 J -28819078.08 -28819077.99 -28819077.90 0.2583 0.2099 *

Mars -83615-08-21 16:32 J -28818722.95 -28818722.81 -28818722.66 0.1803 0.0602

Venus -83615-12-26 14:52 J -28818595.99 -28818595.88 -28818595.77 0.3758 0.1200

Mars -83614-06-17 00:28 J -28818423.60 -28818423.48 -28818423.36 0.1734 0.0142

Moon -83613-03-05 14:37 J -28818161.00 -28818160.89 -28818160.79 0.2748 0.1012

Earth -83613-03-05 15:06 J -28818160.97 -28818160.87 -28818160.76 0.2753 0.1025 *

Jupiter -83611-05-04 09:06 J -28817371.25 -28817371.12 -28817371.00 0.0536 0.0148

Jupiter -83611-08-01 17:59 J -28817281.86 -28817281.75 -28817281.65 0.0533 0.0309

Venus -83611-12-25 20:23 J -28817135.77 -28817135.65 -28817135.53 0.3611 0.1431

Saturn -83610-04-22 06:13 J -28817018.32 -28817018.24 -28817018.16 0.0271 0.0217

Saturn -83610-07-19 17:16 J -28816929.90 -28816929.78 -28816929.66 0.0271 0.0125

Saturn -83610-10-16 04:18 J -28816841.45 -28816841.32 -28816841.18 0.0270 0.0033

Saturn -83609-01-12 15:35 J -28816752.98 -28816752.85 -28816752.71 0.0270 0.0062

Saturn -83609-04-10 02:52 J -28816664.49 -28816664.38 -28816664.26 0.0270 0.0156

Uranus -83609-07-04 15:20 J -28816578.88 -28816578.86 -28816578.83 0.0139 0.0136

Saturn -83609-07-07 14:23 J -28816575.95 -28816575.90 -28816575.85 0.0269 0.0251

Venus -83609-07-11 10:18 J -28816572.16 -28816572.07 -28816571.98 0.3753 0.2190

Uranus -83609-09-30 18:56 J -28816490.77 -28816490.71 -28816490.64 0.0139 0.0119

Uranus -83609-12-27 22:32 J -28816402.65 -28816402.56 -28816402.46 0.0139 0.0102

Uranus -83608-03-26 02:08 J -28816314.51 -28816314.41 -28816314.30 0.0139 0.0085

Uranus -83608-06-22 05:44 J -28816226.37 -28816226.26 -28816226.13 0.0139 0.0067

Uranus -83608-09-18 09:35 J -28816138.23 -28816138.10 -28816137.97 0.0140 0.0050

Uranus -83608-12-15 13:11 J -28816050.08 -28816049.95 -28816049.81 0.0140 0.0032

Uranus -83607-03-13 17:01 J -28815961.93 -28815961.79 -28815961.66 0.0140 0.0014

Uranus -83607-06-09 20:37 J -28815873.77 -28815873.64 -28815873.50 0.0140 0.0005

Uranus -83607-09-06 00:28 J -28815785.62 -28815785.48 -28815785.34 0.0140 0.0022

Uranus -83607-12-03 04:18 J -28815697.45 -28815697.32 -28815697.19 0.0140 0.0041

Moon -83606-02-27 11:44 J -28815611.03 -28815611.01 -28815610.99 0.2754 0.2699

Uranus -83606-03-01 07:54 J -28815609.29 -28815609.17 -28815609.03 0.0141 0.0060

Uranus -83606-05-28 11:59 J -28815521.11 -28815521.00 -28815520.88 0.0141 0.0078

Uranus -83606-08-24 15:49 J -28815432.94 -28815432.84 -28815432.74 0.0141 0.0097

Uranus -83606-11-20 19:40 J -28815344.75 -28815344.68 -28815344.59 0.0141 0.0116

Mars -83605-01-11 16:32 J -28815292.86 -28815292.81 -28815292.75 0.1794 0.1673

Uranus -83605-02-16 23:30 J -28815256.55 -28815256.52 -28815256.47 0.0141 0.0135

Jupiter -83605-06-30 23:30 J -28815121.68 -28815121.52 -28815121.35 0.0492 0.0195

Venus -83605-07-10 20:08 J -28815111.80 -28815111.66 -28815111.53 0.3615 0.0231

Jupiter -83605-09-29 03:49 J -28815031.47 -28815031.34 -28815031.20 0.0494 0.0302

Mars -83605-11-06 09:35 J -28814993.21 -28814993.10 -28814992.99 0.1742 0.0776

Venus -83603-01-25 05:59 J -28814548.31 -28814548.25 -28814548.19 0.3749 0.3203

Moon -83603-09-03 14:23 J -28814327.05 -28814326.90 -28814326.76 0.2585 0.0321

Earth -83603-09-03 15:35 J -28814327.00 -28814326.85 -28814326.70 0.2583 0.0141 *

Moon -83600-03-08 09:49 J -28813410.16 -28813410.09 -28813410.03 0.2752 0.2263

Earth -83600-03-08 10:32 J -28813410.11 -28813410.06 -28813410.01 0.2752 0.2427 *

Venus -83599-01-24 19:25 J -28813087.82 -28813087.69 -28813087.56 0.3619 0.0984

Jupiter -83599-02-20 12:56 J -28813061.08 -28813060.96 -28813060.85 0.0536 0.0255

Jupiter -83599-05-20 21:35 J -28812971.72 -28812971.60 -28812971.48 0.0534 0.0200

Mars -83595-03-29 18:28 J -28811562.79 -28811562.73 -28811562.66 0.1750 0.1414

Saturn -83595-11-11 09:06 J -28811336.25 -28811336.12 -28811335.98 0.0288 0.0184

Saturn -83594-02-08 07:54 J -28811247.35 -28811247.17 -28811246.99 0.0289 0.0032

Saturn -83594-05-08 06:13 J -28811158.40 -28811158.24 -28811158.07 0.0289 0.0119

Mars -83594-05-10 16:32 J -28811155.87 -28811155.81 -28811155.75 0.1820 0.1660

Saturn -83594-08-05 04:18 J -28811069.38 -28811069.32 -28811069.25 0.0290 0.0267

Venus -83594-08-10 18:13 J -28811063.84 -28811063.74 -28811063.63 0.3623 0.2119

Earth -83593-03-01 05:59 J -28810860.35 -28810860.25 -28810860.16 0.2754 0.1431

Moon -83593-03-01 06:28 J -28810860.33 -28810860.23 -28810860.14 0.2748 0.1357 *

Mars -83593-03-04 06:42 J -28810857.31 -28810857.22 -28810857.14 0.1719 0.1207

Jupiter -83593-04-18 22:18 J -28810811.71 -28810811.57 -28810811.43 0.0492 0.0315

Jupiter -83593-07-18 03:06 J -28810721.54 -28810721.37 -28810721.21 0.0494 0.0184

Moon -83590-09-06 17:44 J -28809575.86 -28809575.76 -28809575.65 0.2588 0.1780

Earth -83590-09-06 18:42 J -28809575.82 -28809575.72 -28809575.61 0.2584 0.1790 *

Venus -83588-02-23 16:47 J -28809039.85 -28809039.80 -28809039.74 0.3627 0.3207

Jupiter -83588-12-09 16:04 J -28808750.92 -28808750.83 -28808750.74 0.0536 0.0372

Jupiter -83587-03-09 00:28 J -28808661.61 -28808661.48 -28808661.35 0.0534 0.0080

Neptune -83587-04-24 13:11 J -28808614.99 -28808614.95 -28808614.88 0.0089 0.0085

Neptune -83587-07-21 16:32 J -28808526.87 -28808526.81 -28808526.70 0.0089 0.0079

Neptune -83587-10-17 20:23 J -28808438.75 -28808438.65 -28808438.53 0.0089 0.0072

Neptune -83586-01-13 23:59 J -28808350.62 -28808350.50 -28808350.37 0.0089 0.0066

Pluto -83586-03-23 20:23 J -28808281.71 -28808281.65 -28808281.56 0.0060 0.0056

Neptune -83586-04-12 03:20 J -28808262.49 -28808262.36 -28808262.21 0.0089 0.0060

Pluto -83586-06-19 21:49 J -28808193.68 -28808193.59 -28808193.47 0.0060 0.0050

Neptune -83586-07-09 06:42 J -28808174.35 -28808174.22 -28808174.05 0.0089 0.0054

Pluto -83586-09-15 23:16 J -28808105.65 -28808105.53 -28808105.38 0.0060 0.0044

Neptune -83586-10-05 10:32 J -28808086.22 -28808086.06 -28808085.90 0.0089 0.0047

Venus -83586-11-18 15:35 J -28808041.92 -28808041.85 -28808041.79 0.3775 0.3087

Pluto -83586-12-13 00:28 J -28808017.61 -28808017.48 -28808017.31 0.0061 0.0038

Neptune -83585-01-01 13:54 J -28807998.08 -28807997.92 -28807997.74 0.0089 0.0041

Pluto -83585-03-10 01:54 J -28807929.56 -28807929.42 -28807929.23 0.0061 0.0032

Neptune -83585-03-29 17:16 J -28807909.94 -28807909.78 -28807909.59 0.0089 0.0035

Pluto -83585-06-06 03:49 J -28807841.52 -28807841.34 -28807841.16 0.0061 0.0025

Neptune -83585-06-25 20:52 J -28807821.80 -28807821.63 -28807821.44 0.0089 0.0029

Pluto -83585-09-02 05:01 J -28807753.46 -28807753.29 -28807753.10 0.0061 0.0019

Neptune -83585-09-22 00:13 J -28807733.67 -28807733.49 -28807733.30 0.0089 0.0023

Mars -83585-09-29 16:47 J -28807725.94 -28807725.80 -28807725.65 0.1812 0.0591

Pluto -83585-11-29 06:28 J -28807665.41 -28807665.23 -28807665.03 0.0061 0.0013

Neptune -83585-12-19 03:49 J -28807645.52 -28807645.34 -28807645.15 0.0089 0.0016

Pluto -83584-02-25 08:08 J -28807577.35 -28807577.16 -28807576.97 0.0061 0.0006

Neptune -83584-03-17 07:11 J -28807557.38 -28807557.20 -28807557.01 0.0089 0.0010

Pluto -83584-05-24 09:35 J -28807489.29 -28807489.10 -28807488.91 0.0061 0.0000

Neptune -83584-06-13 10:47 J -28807469.24 -28807469.05 -28807468.86 0.0089 0.0004

Mars -83584-07-25 15:35 J -28807426.96 -28807426.85 -28807426.73 0.1726 0.0585

Pluto -83584-08-20 11:01 J -28807401.23 -28807401.04 -28807400.85 0.0061 0.0007

Neptune -83584-09-09 14:08 J -28807381.10 -28807380.91 -28807380.72 0.0089 0.0002

Pluto -83584-11-16 12:28 J -28807313.17 -28807312.98 -28807312.79 0.0061 0.0013

Neptune -83584-12-06 17:30 J -28807292.96 -28807292.77 -28807292.58 0.0089 0.0008

Pluto -83583-02-12 13:54 J -28807225.10 -28807224.92 -28807224.73 0.0061 0.0019

Neptune -83583-03-04 20:52 J -28807204.81 -28807204.63 -28807204.44 0.0089 0.0015

Pluto -83583-05-11 15:06 J -28807137.03 -28807136.87 -28807136.68 0.0061 0.0026

Neptune -83583-06-01 00:13 J -28807116.67 -28807116.49 -28807116.30 0.0089 0.0021

Pluto -83583-08-07 16:47 J -28807048.96 -28807048.80 -28807048.63 0.0061 0.0032

Neptune -83583-08-28 03:35 J -28807028.53 -28807028.35 -28807028.17 0.0089 0.0027

Pluto -83583-11-03 17:59 J -28806960.88 -28806960.75 -28806960.58 0.0061 0.0039

Neptune -83583-11-24 06:56 J -28806940.38 -28806940.21 -28806940.03 0.0088 0.0033

Pluto -83582-01-30 19:40 J -28806872.80 -28806872.68 -28806872.54 0.0061 0.0046

Neptune -83582-02-20 10:18 J -28806852.23 -28806852.07 -28806851.90 0.0088 0.0039

Pluto -83582-04-28 20:52 J -28806784.70 -28806784.63 -28806784.50 0.0061 0.0053

Neptune -83582-05-19 13:40 J -28806764.09 -28806763.93 -28806763.77 0.0088 0.0045

Pluto -83582-07-25 22:32 J -28806696.60 -28806696.56 -28806696.49 0.0062 0.0059

Neptune -83582-08-15 16:47 J -28806675.94 -28806675.80 -28806675.64 0.0088 0.0051

Neptune -83582-11-11 20:08 J -28806587.79 -28806587.66 -28806587.51 0.0088 0.0057

Jupiter -83581-02-05 20:23 J -28806501.72 -28806501.65 -28806501.56 0.0491 0.0441

Neptune -83581-02-07 23:30 J -28806499.64 -28806499.52 -28806499.38 0.0088 0.0063

Jupiter -83581-05-06 01:40 J -28806411.61 -28806411.43 -28806411.25 0.0493 0.0062

Neptune -83581-05-06 02:37 J -28806411.49 -28806411.39 -28806411.26 0.0088 0.0069 *

Neptune -83581-08-02 05:59 J -28806323.34 -28806323.25 -28806323.14 0.0088 0.0074

Saturn -83581-09-08 08:52 J -28806286.19 -28806286.13 -28806286.07 0.0272 0.0244

Neptune -83581-10-29 09:06 J -28806235.18 -28806235.12 -28806235.03 0.0088 0.0081

Saturn -83581-12-05 19:54 J -28806197.78 -28806197.67 -28806197.56 0.0272 0.0151

Neptune -83580-01-25 12:13 J -28806147.01 -28806146.99 -28806146.93 0.0088 0.0087

Moon -83580-03-04 00:56 J -28806109.58 -28806109.46 -28806109.35 0.2747 0.0074

Earth -83580-03-04 00:56 J -28806109.57 -28806109.46 -28806109.35 0.2754 0.0080 *

Saturn -83580-03-04 06:56 J -28806109.34 -28806109.21 -28806109.07 0.0271 0.0058

Saturn -83580-05-31 18:13 J -28806020.88 -28806020.74 -28806020.60 0.0271 0.0036

Venus -83580-06-03 09:49 J -28806018.18 -28806018.09 -28806018.00 0.3772 0.2222

Saturn -83580-08-28 05:30 J -28805932.39 -28805932.27 -28805932.15 0.0271 0.0131

Saturn -83580-11-24 17:01 J -28805843.86 -28805843.79 -28805843.72 0.0270 0.0226

Jupiter -83576-09-27 19:25 J -28804440.74 -28804440.69 -28804440.64 0.0537 0.0486

Jupiter -83576-12-26 03:49 J -28804351.47 -28804351.34 -28804351.21 0.0535 0.0038

Mars -83575-02-19 17:16 J -28804295.93 -28804295.78 -28804295.63 0.1803 0.0471

Jupiter -83575-03-25 12:42 J -28804262.05 -28804261.97 -28804261.89 0.0532 0.0418

Mars -83575-12-16 00:28 J -28803996.60 -28803996.48 -28803996.35 0.1734 0.0085

Venus -83575-12-18 04:18 J -28803994.42 -28803994.32 -28803994.21 0.3768 0.1344

Moon -83570-09-01 17:01 J -28802275.90 -28802275.79 -28802275.68 0.2580 0.1796

Earth -83570-09-01 18:28 J -28802275.85 -28802275.73 -28802275.62 0.2583 0.1691 *

Uranus -83570-11-28 07:54 J -28802188.24 -28802188.17 -28802188.07 0.0140 0.0125

Jupiter -83569-02-22 23:44 J -28802101.69 -28802101.51 -28802101.33 0.0492 0.0067

Uranus -83569-02-24 15:06 J -28802099.98 -28802099.87 -28802099.73 0.0139 0.0100

Uranus -83569-05-22 22:18 J -28802011.72 -28802011.57 -28802011.41 0.0139 0.0076

Jupiter -83569-05-23 03:49 J -28802011.43 -28802011.34 -28802011.25 0.0494 0.0427 *

Venus -83569-07-02 23:16 J -28801970.65 -28801970.53 -28801970.42 0.3764 0.0436

Uranus -83569-08-19 05:16 J -28801923.44 -28801923.28 -28801923.10 0.0139 0.0052

Uranus -83569-11-15 12:28 J -28801835.16 -28801834.98 -28801834.80 0.0139 0.0028

Uranus -83568-02-11 19:25 J -28801746.87 -28801746.69 -28801746.51 0.0139 0.0005

Uranus -83568-05-11 02:08 J -28801658.59 -28801658.41 -28801658.23 0.0139 0.0019

Uranus -83568-08-07 08:52 J -28801570.30 -28801570.13 -28801569.95 0.0139 0.0042

Uranus -83568-11-03 15:35 J -28801482.00 -28801481.85 -28801481.69 0.0138 0.0064

Uranus -83567-01-30 22:18 J -28801393.71 -28801393.57 -28801393.43 0.0138 0.0087

Moon -83567-03-06 19:40 J -28801358.79 -28801358.68 -28801358.58 0.2748 0.1172

Earth -83567-03-06 20:08 J -28801358.76 -28801358.66 -28801358.56 0.2753 0.1307 *

Uranus -83567-04-29 04:32 J -28801305.40 -28801305.31 -28801305.18 0.0138 0.0109

Uranus -83567-07-26 11:01 J -28801217.07 -28801217.04 -28801216.97 0.0138 0.0131

Mars -83566-07-12 17:01 J -28800865.86 -28800865.79 -28800865.72 0.1794 0.1559

Saturn -83565-03-30 10:04 J -28800604.19 -28800604.08 -28800603.95 0.0288 0.0214

Mars -83565-05-07 09:35 J -28800566.21 -28800566.10 -28800565.99 0.1741 0.0691

Saturn -83565-06-27 09:06 J -28800515.30 -28800515.12 -28800514.95 0.0289 0.0061

Saturn -83565-09-24 07:25 J -28800426.36 -28800426.19 -28800426.02 0.0289 0.0090

Saturn -83565-12-22 05:30 J -28800337.37 -28800337.27 -28800337.17 0.0290 0.0239

Jupiter -83564-10-14 07:11 J -28800041.33 -28800041.20 -28800041.08 0.0536 0.0154

Jupiter -83563-01-11 15:49 J -28799951.94 -28799951.84 -28799951.73 0.0533 0.0303

Venus -83563-01-16 18:13 J -28799946.86 -28799946.74 -28799946.63 0.3760 0.0528

Earth -83560-02-27 15:49 J -28798808.88 -28798808.84 -28798808.79 0.2754 0.2490

Moon -83560-02-27 16:32 J -28798808.86 -28798808.81 -28798808.75 0.2752 0.2345 *

Venus -83559-01-15 19:54 J -28798486.77 -28798486.67 -28798486.57 0.3608 0.2360

Venus -83558-08-02 13:25 J -28797923.05 -28797922.94 -28797922.84 0.3756 0.1486

Jupiter -83558-12-11 22:04 J -28797791.75 -28797791.58 -28797791.41 0.0492 0.0192

Jupiter -83557-03-11 02:23 J -28797701.54 -28797701.40 -28797701.26 0.0494 0.0304

Moon -83557-09-03 20:23 J -28797524.80 -28797524.65 -28797524.50 0.2586 0.0160

Earth -83557-09-03 21:49 J -28797524.74 -28797524.59 -28797524.44 0.2583 0.0280 *

Mars -83556-09-27 18:42 J -28797135.80 -28797135.72 -28797135.65 0.1749 0.1333

Mars -83555-11-08 17:16 J -28796728.81 -28796728.78 -28796728.76 0.1821 0.1788

Moon -83554-03-09 14:37 J -28796607.91 -28796607.89 -28796607.86 0.2754 0.2687

Earth -83554-03-09 15:35 J -28796607.87 -28796607.85 -28796607.84 0.2752 0.2712 *

Venus -83554-08-01 19:54 J -28796462.79 -28796462.67 -28796462.54 0.3612 0.1093

Mars -83554-09-03 06:42 J -28796430.30 -28796430.22 -28796430.14 0.1718 0.1294

Venus -83552-02-15 08:52 J -28795899.22 -28795899.13 -28795899.05 0.3752 0.2480

Jupiter -83552-08-02 10:47 J -28795731.16 -28795731.05 -28795730.93 0.0536 0.0264

Jupiter -83552-10-30 19:40 J -28795641.80 -28795641.68 -28795641.56 0.0534 0.0192

Saturn -83551-01-26 11:30 J -28795554.04 -28795554.02 -28795553.99 0.0272 0.0266

Saturn -83551-04-24 22:32 J -28795465.66 -28795465.56 -28795465.46 0.0271 0.0175

Saturn -83551-07-22 09:35 J -28795377.23 -28795377.10 -28795376.97 0.0271 0.0082

Saturn -83551-10-18 20:52 J -28795288.77 -28795288.63 -28795288.50 0.0270 0.0013

Saturn -83550-01-15 08:08 J -28795200.29 -28795200.16 -28795200.04 0.0270 0.0105

Saturn -83550-04-13 19:25 J -28795111.78 -28795111.69 -28795111.60 0.0270 0.0200

Venus -83548-02-14 19:40 J -28794438.81 -28794438.68 -28794438.55 0.3616 0.0141

Earth -83547-03-02 10:47 J -28794058.15 -28794058.05 -28794057.94 0.2754 0.1154

Moon -83547-03-02 11:16 J -28794058.13 -28794058.03 -28794057.92 0.2748 0.1113 *

Venus -83547-09-01 04:32 J -28793875.35 -28793875.31 -28793875.27 0.3748 0.3507

Jupiter -83546-09-29 19:54 J -28793481.80 -28793481.67 -28793481.53 0.0491 0.0320

Jupiter -83546-12-29 00:42 J -28793391.63 -28793391.47 -28793391.30 0.0493 0.0180

Mars -83545-03-30 17:30 J -28793298.91 -28793298.77 -28793298.63 0.1812 0.0722

Mars -83544-01-23 15:35 J -28792999.96 -28792999.85 -28792999.73 0.1726 0.0665

Moon -83544-09-07 00:13 J -28792773.58 -28792773.49 -28792773.40 0.2589 0.2054

Earth -83544-09-07 00:56 J -28792773.54 -28792773.46 -28792773.38 0.2584 0.2185 *

Venus -83543-08-31 18:56 J -28792414.83 -28792414.71 -28792414.59 0.3620 0.1315

Jupiter -83540-05-21 14:52 J -28791420.97 -28791420.88 -28791420.79 0.0537 0.0370

Jupiter -83540-08-18 23:30 J -28791331.65 -28791331.52 -28791331.40 0.0535 0.0085

Venus -83537-03-16 17:44 J -28790390.86 -28790390.76 -28790390.67 0.3624 0.2440

Saturn -83536-08-17 06:42 J -28789872.27 -28789872.22 -28789872.15 0.0288 0.0270

Mars -83536-08-20 17:30 J -28789868.92 -28789868.77 -28789868.62 0.1803 0.0361

Saturn -83536-11-14 05:59 J -28789783.42 -28789783.25 -28789783.09 0.0288 0.0117

Saturn -83535-02-11 04:32 J -28789694.49 -28789694.31 -28789694.14 0.0289 0.0035

Saturn -83535-05-11 02:37 J -28789605.52 -28789605.39 -28789605.25 0.0289 0.0185

Mars -83535-06-16 00:42 J -28789569.59 -28789569.47 -28789569.35 0.1734 0.0038

Venus -83535-12-09 19:25 J -28789392.71 -28789392.69 -28789392.67 0.3778 0.3691

Moon -83534-03-05 05:44 J -28789307.37 -28789307.26 -28789307.15 0.2747 0.0181

Earth -83534-03-05 05:59 J -28789307.36 -28789307.25 -28789307.14 0.2753 0.0213 *

Jupiter -83534-07-18 18:28 J -28789171.80 -28789171.73 -28789171.65 0.0491 0.0442

Jupiter -83534-10-16 23:44 J -28789081.69 -28789081.51 -28789081.34 0.0493 0.0060

Venus -83532-09-30 16:04 J -28788366.85 -28788366.83 -28788366.80 0.3628 0.3523

Venus -83529-06-24 13:40 J -28787369.00 -28787368.93 -28787368.86 0.3774 0.2846

Jupiter -83528-03-09 18:13 J -28787110.79 -28787110.74 -28787110.69 0.0537 0.0484

Jupiter -83528-06-07 02:23 J -28787021.53 -28787021.40 -28787021.26 0.0535 0.0041

Jupiter -83528-09-04 11:30 J -28786932.10 -28786932.02 -28786931.94 0.0532 0.0419

Mars -83526-01-10 17:30 J -28786438.86 -28786438.77 -28786438.67 0.1794 0.1433

Mars -83526-11-06 09:35 J -28786139.21 -28786139.10 -28786138.98 0.1741 0.0607

Uranus -83525-07-24 22:47 J -28785877.58 -28785877.55 -28785877.50 0.0139 0.0131

Uranus -83525-10-21 02:23 J -28785789.47 -28785789.40 -28785789.32 0.0139 0.0114

Uranus -83524-01-17 05:59 J -28785701.34 -28785701.25 -28785701.15 0.0139 0.0097

Uranus -83524-04-15 09:35 J -28785613.21 -28785613.10 -28785612.98 0.0139 0.0080

Uranus -83524-07-12 13:11 J -28785525.07 -28785524.95 -28785524.82 0.0139 0.0063

Moon -83524-09-01 23:01 J -28785473.66 -28785473.54 -28785473.41 0.2582 0.1490

Earth -83524-09-02 00:28 J -28785473.61 -28785473.48 -28785473.34 0.2583 0.1285 *

Uranus -83524-10-08 17:01 J -28785436.92 -28785436.79 -28785436.66 0.0140 0.0045

Uranus -83523-01-04 20:37 J -28785348.77 -28785348.64 -28785348.50 0.0140 0.0027

Venus -83523-01-08 08:08 J -28785345.26 -28785345.16 -28785345.07 0.3771 0.1984

Uranus -83523-04-03 00:28 J -28785260.62 -28785260.48 -28785260.35 0.0140 0.0010

Uranus -83523-06-30 04:04 J -28785172.47 -28785172.33 -28785172.19 0.0140 0.0009

Uranus -83523-09-26 07:54 J -28785084.31 -28785084.17 -28785084.03 0.0140 0.0027

Uranus -83523-12-23 11:44 J -28784996.14 -28784996.01 -28784995.88 0.0140 0.0045

Uranus -83522-03-21 15:35 J -28784907.97 -28784907.85 -28784907.73 0.0141 0.0064

Uranus -83522-06-17 19:25 J -28784819.80 -28784819.69 -28784819.58 0.0141 0.0083

Jupiter -83522-08-04 22:04 J -28784771.76 -28784771.58 -28784771.40 0.0493 0.0065

Saturn -83522-09-12 00:56 J -28784733.54 -28784733.46 -28784733.37 0.0272 0.0202

Uranus -83522-09-13 23:01 J -28784731.62 -28784731.54 -28784731.43 0.0141 0.0102

Jupiter -83522-11-03 02:08 J -28784681.49 -28784681.41 -28784681.32 0.0495 0.0430

Saturn -83522-12-09 12:13 J -28784645.12 -28784644.99 -28784644.87 0.0272 0.0109

Uranus -83522-12-11 03:06 J -28784643.43 -28784643.37 -28784643.29 0.0141 0.0121

Saturn -83521-03-06 23:16 J -28784556.66 -28784556.53 -28784556.39 0.0271 0.0015

Moon -83521-03-07 00:28 J -28784556.57 -28784556.48 -28784556.38 0.2749 0.1560 *

Earth -83521-03-07 01:11 J -28784556.54 -28784556.45 -28784556.36 0.2753 0.1595 *

Uranus -83521-03-08 06:56 J -28784555.21 -28784555.21 -28784555.18 0.0141 0.0140

Saturn -83521-06-03 10:32 J -28784468.19 -28784468.06 -28784467.93 0.0271 0.0079

Saturn -83521-08-30 21:49 J -28784379.69 -28784379.59 -28784379.48 0.0271 0.0175

Saturn -83521-11-27 09:20 J -28784291.11 -28784291.11 -28784291.10 0.0270 0.0270

Venus -83518-07-25 02:37 J -28783321.50 -28783321.39 -28783321.28 0.3767 0.1086

Jupiter -83516-03-26 05:44 J -28782711.38 -28782711.26 -28782711.13 0.0535 0.0152

Mars -83516-03-28 18:42 J -28782708.81 -28782708.72 -28782708.64 0.1749 0.1250

Jupiter -83516-06-23 14:23 J -28782622.00 -28782621.90 -28782621.79 0.0533 0.0303

Earth -83514-02-28 20:52 J -28782006.69 -28782006.63 -28782006.57 0.2754 0.2215

Moon -83514-02-28 21:35 J -28782006.67 -28782006.60 -28782006.54 0.2750 0.2195 *

Mars -83514-03-04 06:42 J -28782003.29 -28782003.22 -28782003.14 0.1718 0.1382

Venus -83512-02-06 21:35 J -28781297.72 -28781297.60 -28781297.49 0.3763 0.0199

Moon -83511-09-05 02:37 J -28780722.54 -28780722.39 -28780722.25 0.2586 0.0527

Earth -83511-09-05 04:04 J -28780722.48 -28780722.33 -28780722.19 0.2584 0.0678 *

Jupiter -83510-05-23 20:08 J -28780461.83 -28780461.66 -28780461.50 0.0492 0.0194

Jupiter -83510-08-22 00:28 J -28780371.62 -28780371.48 -28780371.34 0.0494 0.0303

Venus -83508-02-05 19:25 J -28779837.74 -28779837.69 -28779837.64 0.3605 0.3314

Venus -83507-08-23 16:32 J -28779273.92 -28779273.81 -28779273.70 0.3759 0.0792

Saturn -83506-04-03 07:11 J -28779051.35 -28779051.20 -28779051.04 0.0288 0.0143

Saturn -83506-07-01 05:59 J -28778962.43 -28778962.25 -28778962.07 0.0289 0.0010

Neptune -83506-08-01 18:28 J -28778930.75 -28778930.73 -28778930.69 0.0089 0.0086

Saturn -83506-09-28 04:04 J -28778873.47 -28778873.33 -28778873.18 0.0289 0.0159

Mars -83506-09-29 17:59 J -28778871.88 -28778871.75 -28778871.61 0.1812 0.0847

Neptune -83506-10-28 19:54 J -28778842.71 -28778842.67 -28778842.61 0.0089 0.0082

Neptune -83505-01-24 21:20 J -28778754.67 -28778754.61 -28778754.54 0.0089 0.0077

Neptune -83505-04-21 22:47 J -28778666.62 -28778666.55 -28778666.47 0.0089 0.0073

Neptune -83505-07-18 23:59 J -28778578.57 -28778578.50 -28778578.41 0.0089 0.0069

Mars -83505-07-24 15:49 J -28778572.95 -28778572.84 -28778572.73 0.1726 0.0753

Neptune -83505-10-15 01:11 J -28778490.52 -28778490.45 -28778490.34 0.0089 0.0065

Neptune -83504-01-11 02:52 J -28778402.47 -28778402.38 -28778402.28 0.0089 0.0060

Jupiter -83504-01-12 09:06 J -28778401.24 -28778401.12 -28778401.01 0.0536 0.0271

Neptune -83504-04-09 04:04 J -28778314.42 -28778314.33 -28778314.22 0.0089 0.0056

Jupiter -83504-04-11 17:30 J -28778311.89 -28778311.77 -28778311.64 0.0534 0.0185

Neptune -83504-07-06 05:30 J -28778226.37 -28778226.27 -28778226.15 0.0089 0.0052

Neptune -83504-10-02 06:42 J -28778138.32 -28778138.22 -28778138.09 0.0089 0.0048

Neptune -83504-12-29 08:23 J -28778050.26 -28778050.15 -28778050.03 0.0089 0.0043

Neptune -83503-03-27 09:35 J -28777962.21 -28777962.10 -28777961.97 0.0089 0.0039

Neptune -83503-06-23 11:16 J -28777874.16 -28777874.03 -28777873.91 0.0089 0.0034

Venus -83503-08-22 19:40 J -28777813.79 -28777813.68 -28777813.56 0.3609 0.2000

Neptune -83503-09-19 12:28 J -28777786.10 -28777785.98 -28777785.85 0.0089 0.0030

Neptune -83503-12-16 13:54 J -28777698.05 -28777697.92 -28777697.79 0.0089 0.0026

Neptune -83502-03-14 15:20 J -28777609.99 -28777609.86 -28777609.73 0.0089 0.0021

Neptune -83502-06-10 16:47 J -28777521.93 -28777521.80 -28777521.67 0.0089 0.0017

Neptune -83502-09-06 17:59 J -28777433.88 -28777433.75 -28777433.61 0.0089 0.0013

Neptune -83502-12-03 19:40 J -28777345.82 -28777345.68 -28777345.55 0.0089 0.0008

Neptune -83501-02-29 20:52 J -28777257.76 -28777257.63 -28777257.49 0.0089 0.0005

Earth -83501-03-02 15:49 J -28777255.94 -28777255.84 -28777255.73 0.2754 0.0874

Moon -83501-03-02 16:18 J -28777255.93 -28777255.82 -28777255.72 0.2748 0.0800 *

Venus -83501-03-08 11:44 J -28777250.11 -28777250.01 -28777249.91 0.3755 0.1776

Neptune -83501-05-27 22:18 J -28777169.70 -28777169.57 -28777169.43 0.0089 0.0003

Neptune -83501-08-23 23:44 J -28777081.64 -28777081.51 -28777081.37 0.0089 0.0006

Neptune -83501-11-20 01:11 J -28776993.58 -28776993.45 -28776993.31 0.0089 0.0010

Neptune -83500-02-16 02:37 J -28776905.52 -28776905.39 -28776905.25 0.0089 0.0014

Neptune -83500-05-15 04:04 J -28776817.46 -28776817.33 -28776817.20 0.0089 0.0019

Neptune -83500-08-11 05:30 J -28776729.40 -28776729.27 -28776729.14 0.0089 0.0023

Neptune -83500-11-07 06:42 J -28776641.34 -28776641.22 -28776641.08 0.0089 0.0028

Neptune -83499-02-03 08:23 J -28776553.28 -28776553.15 -28776553.02 0.0089 0.0032

Neptune -83499-05-02 09:35 J -28776465.21 -28776465.10 -28776464.97 0.0089 0.0037

Neptune -83499-07-29 11:01 J -28776377.15 -28776377.04 -28776376.91 0.0089 0.0041

Neptune -83499-10-25 12:42 J -28776289.09 -28776288.97 -28776288.85 0.0089 0.0045

Neptune -83498-01-21 13:54 J -28776201.02 -28776200.92 -28776200.80 0.0089 0.0050

Jupiter -83498-03-11 18:13 J -28776151.88 -28776151.74 -28776151.60 0.0491 0.0319

Neptune -83498-04-19 15:35 J -28776112.96 -28776112.85 -28776112.74 0.0089 0.0054

Jupiter -83498-06-09 23:01 J -28776061.71 -28776061.54 -28776061.38 0.0493 0.0179

Neptune -83498-07-16 16:47 J -28776024.89 -28776024.80 -28776024.69 0.0089 0.0059

Moon -83498-09-08 06:28 J -28775971.23 -28775971.23 -28775971.22 0.2590 0.2587

Earth -83498-09-08 06:56 J -28775971.21 -28775971.21 -28775971.20 0.2584 0.2576

Neptune -83498-10-12 18:28 J -28775936.82 -28775936.73 -28775936.63 0.0089 0.0063

Neptune -83497-01-08 19:40 J -28775848.75 -28775848.68 -28775848.58 0.0089 0.0068

Venus -83497-03-07 19:40 J -28775789.81 -28775789.68 -28775789.55 0.3613 0.0733

Neptune -83497-04-05 21:20 J -28775760.68 -28775760.61 -28775760.53 0.0089 0.0072

Neptune -83497-07-02 22:47 J -28775672.61 -28775672.55 -28775672.48 0.0089 0.0077

Neptune -83497-09-29 00:28 J -28775584.53 -28775584.48 -28775584.43 0.0089 0.0081

Neptune -83497-12-26 01:40 J -28775496.45 -28775496.43 -28775496.39 0.0089 0.0086

Mars -83496-02-18 18:13 J -28775441.90 -28775441.74 -28775441.59 0.1803 0.0233

Venus -83496-09-22 07:25 J -28775226.27 -28775226.19 -28775226.12 0.3751 0.2782

Mars -83496-12-15 00:42 J -28775142.59 -28775142.47 -28775142.35 0.1733 0.0116

Pluto -83493-07-25 20:52 J -28774188.68 -28774188.63 -28774188.56 0.0085 0.0075

Pluto -83493-10-21 22:18 J -28774100.65 -28774100.57 -28774100.48 0.0085 0.0063

Jupiter -83493-10-31 12:42 J -28774091.06 -28774090.97 -28774090.88 0.0537 0.0380

Pluto -83492-01-17 23:44 J -28774012.61 -28774012.51 -28774012.40 0.0084 0.0051

Jupiter -83492-01-28 21:20 J -28774001.74 -28774001.61 -28774001.48 0.0535 0.0074

Saturn -83492-01-29 04:04 J -28774001.40 -28774001.33 -28774001.25 0.0272 0.0222

Pluto -83492-04-16 00:56 J -28773924.57 -28773924.46 -28773924.33 0.0084 0.0039

Saturn -83492-04-27 15:06 J -28773912.99 -28773912.87 -28773912.75 0.0271 0.0130

Jupiter -83492-04-28 06:28 J -28773912.23 -28773912.23 -28773912.22 0.0532 0.0531

Pluto -83492-07-13 02:23 J -28773836.52 -28773836.40 -28773836.27 0.0084 0.0027

Saturn -83492-07-25 02:23 J -28773824.54 -28773824.40 -28773824.27 0.0271 0.0037

Venus -83492-09-21 19:11 J -28773765.83 -28773765.70 -28773765.57 0.3617 0.0492

Pluto -83492-10-09 03:35 J -28773748.48 -28773748.35 -28773748.21 0.0084 0.0016

Saturn -83492-10-21 13:25 J -28773736.07 -28773735.94 -28773735.80 0.0270 0.0058

Pluto -83491-01-05 05:01 J -28773660.42 -28773660.29 -28773660.16 0.0084 0.0004

Saturn -83491-01-18 00:42 J -28773647.58 -28773647.47 -28773647.35 0.0270 0.0152

Pluto -83491-04-03 06:13 J -28773572.37 -28773572.24 -28773572.10 0.0084 0.0008

Saturn -83491-04-16 12:13 J -28773559.04 -28773558.99 -28773558.93 0.0270 0.0247

Pluto -83491-06-30 07:25 J -28773484.31 -28773484.19 -28773484.05 0.0084 0.0020

Pluto -83491-09-26 08:52 J -28773396.25 -28773396.13 -28773396.01 0.0084 0.0031

Pluto -83491-12-23 10:04 J -28773308.19 -28773308.08 -28773307.96 0.0083 0.0042

Pluto -83490-03-21 11:16 J -28773220.13 -28773220.03 -28773219.92 0.0083 0.0053

Pluto -83490-06-17 12:28 J -28773132.06 -28773131.98 -28773131.89 0.0083 0.0064

Pluto -83490-09-13 13:40 J -28773043.97 -28773043.93 -28773043.87 0.0083 0.0075

Moon -83488-03-05 10:32 J -28772505.17 -28772505.06 -28772504.94 0.2746 0.0446

Earth -83488-03-05 11:01 J -28772505.15 -28772505.04 -28772504.93 0.2753 0.0497 *

Mars -83487-07-11 18:13 J -28772011.85 -28772011.74 -28772011.64 0.1794 0.1309

Jupiter -83487-12-28 16:04 J -28771841.90 -28771841.83 -28771841.76 0.0491 0.0448

Jupiter -83486-03-28 21:06 J -28771751.80 -28771751.62 -28771751.44 0.0493 0.0053

Venus -83486-04-07 18:28 J -28771741.85 -28771741.73 -28771741.62 0.3621 0.1651

Mars -83486-05-07 09:35 J -28771712.21 -28771712.10 -28771711.98 0.1741 0.0526

Uranus -83486-09-21 09:20 J -28771575.11 -28771575.11 -28771575.08 0.0140 0.0140

Uranus -83486-12-18 16:47 J -28771486.90 -28771486.80 -28771486.69 0.0140 0.0115

Uranus -83485-03-15 23:44 J -28771398.64 -28771398.51 -28771398.36 0.0139 0.0091

Uranus -83485-06-12 06:56 J -28771310.36 -28771310.21 -28771310.04 0.0139 0.0067

Uranus -83485-09-08 14:08 J -28771222.08 -28771221.91 -28771221.74 0.0139 0.0042

Uranus -83485-12-05 21:06 J -28771133.80 -28771133.62 -28771133.44 0.0139 0.0019

Uranus -83484-03-04 04:04 J -28771045.52 -28771045.33 -28771045.15 0.0139 0.0005

Uranus -83484-05-31 10:47 J -28770957.23 -28770957.05 -28770956.87 0.0139 0.0028

Uranus -83484-08-27 17:30 J -28770868.94 -28770868.77 -28770868.60 0.0139 0.0051

Uranus -83484-11-23 23:59 J -28770780.64 -28770780.50 -28770780.34 0.0138 0.0074

Uranus -83483-02-20 06:56 J -28770692.34 -28770692.21 -28770692.08 0.0138 0.0096

Uranus -83483-05-19 13:11 J -28770604.03 -28770603.95 -28770603.85 0.0138 0.0118

Jupiter -83481-08-19 16:47 J -28769780.86 -28769780.80 -28769780.75 0.0537 0.0486

Venus -83481-10-21 17:01 J -28769717.87 -28769717.79 -28769717.71 0.3625 0.2765

Jupiter -83481-11-17 00:56 J -28769691.59 -28769691.46 -28769691.32 0.0535 0.0041

Jupiter -83480-02-14 10:04 J -28769602.16 -28769602.08 -28769602.00 0.0533 0.0420

Venus -83478-07-16 17:30 J -28768719.81 -28768719.77 -28768719.73 0.3777 0.3461

Moon -83478-09-03 05:16 J -28768671.42 -28768671.28 -28768671.14 0.2583 0.0953

Earth -83478-09-03 06:42 J -28768671.36 -28768671.22 -28768671.08 0.2583 0.0880 *

Saturn -83477-08-20 04:32 J -28768319.44 -28768319.31 -28768319.18 0.0288 0.0196

Mars -83477-09-26 18:42 J -28768281.81 -28768281.72 -28768281.63 0.1749 0.1160

Saturn -83477-11-17 03:20 J -28768230.54 -28768230.36 -28768230.18 0.0289 0.0044

Saturn -83476-02-14 01:40 J -28768141.59 -28768141.43 -28768141.26 0.0289 0.0107

Saturn -83476-05-13 23:44 J -28768052.59 -28768052.51 -28768052.43 0.0289 0.0255

Moon -83475-03-08 05:30 J -28767754.36 -28767754.27 -28767754.18 0.2751 0.1776

Earth -83475-03-08 06:13 J -28767754.32 -28767754.24 -28767754.16 0.2753 0.1885 *

Mars -83475-09-02 06:56 J -28767576.27 -28767576.21 -28767576.15 0.1718 0.1470

Jupiter -83474-01-14 19:54 J -28767441.85 -28767441.67 -28767441.49 0.0492 0.0069

Jupiter -83474-04-14 23:44 J -28767351.59 -28767351.51 -28767351.41 0.0495 0.0426

Venus -83472-01-29 11:44 J -28766696.09 -28766696.01 -28766695.93 0.3773 0.2611

Jupiter -83469-09-05 04:18 J -28765381.44 -28765381.32 -28765381.19 0.0535 0.0152

Jupiter -83469-12-03 13:11 J -28765292.06 -28765291.95 -28765291.85 0.0533 0.0302

Earth -83468-03-01 01:54 J -28765204.50 -28765204.42 -28765204.35 0.2754 0.1944

Moon -83468-03-01 02:23 J -28765204.48 -28765204.40 -28765204.31 0.2750 0.1785 *

Venus -83467-08-15 06:13 J -28764672.34 -28764672.24 -28764672.14 0.3770 0.1732

Mars -83466-03-30 18:13 J -28764444.87 -28764444.74 -28764444.61 0.1812 0.0957

Mars -83465-01-23 15:49 J -28764145.95 -28764145.84 -28764145.73 0.1726 0.0841

Moon -83465-09-05 08:52 J -28763920.27 -28763920.13 -28763919.99 0.2587 0.0937

Earth -83465-09-05 10:04 J -28763920.21 -28763920.08 -28763919.94 0.2584 0.1073 *

Saturn -83463-06-18 06:28 J -28763269.28 -28763269.23 -28763269.17 0.0273 0.0250

Saturn -83463-09-14 17:30 J -28763180.87 -28763180.77 -28763180.66 0.0272 0.0157

Jupiter -83463-11-02 17:59 J -28763131.91 -28763131.75 -28763131.59 0.0492 0.0196

Saturn -83463-12-12 04:47 J -28763092.43 -28763092.30 -28763092.17 0.0272 0.0064

Jupiter -83462-01-31 22:32 J -28763041.70 -28763041.56 -28763041.42 0.0494 0.0303

Saturn -83462-03-10 15:49 J -28763003.97 -28763003.84 -28763003.70 0.0271 0.0032

Saturn -83462-06-07 03:06 J -28762915.48 -28762915.37 -28762915.24 0.0271 0.0126

Saturn -83462-09-03 14:37 J -28762826.96 -28762826.89 -28762826.81 0.0271 0.0221

Venus -83461-02-29 00:56 J -28762648.57 -28762648.46 -28762648.35 0.3766 0.0826

Jupiter -83457-06-24 07:40 J -28761071.29 -28761071.18 -28761071.07 0.0536 0.0268

Mars -83457-08-19 18:42 J -28761014.87 -28761014.72 -28761014.56 0.1804 0.0108

Jupiter -83457-09-21 16:18 J -28760981.95 -28760981.82 -28760981.70 0.0533 0.0185

Mars -83456-06-15 00:42 J -28760715.59 -28760715.47 -28760715.34 0.1733 0.0207

Venus -83456-09-13 19:54 J -28760624.78 -28760624.67 -28760624.56 0.3762 0.0114

Moon -83455-03-03 20:52 J -28760453.74 -28760453.63 -28760453.52 0.2747 0.0637

Earth -83455-03-03 20:52 J -28760453.74 -28760453.63 -28760453.52 0.2754 0.0598 *

Venus -83452-09-12 19:11 J -28759164.77 -28759164.70 -28759164.62 0.3606 0.2939

Jupiter -83451-08-21 15:49 J -28758821.97 -28758821.84 -28758821.70 0.0492 0.0325

Jupiter -83451-11-19 20:52 J -28758731.80 -28758731.63 -28758731.47 0.0493 0.0176

Venus -83450-03-30 15:06 J -28758600.98 -28758600.87 -28758600.76 0.3758 0.1083

Saturn -83447-01-07 06:13 J -28757587.35 -28757587.24 -28757587.12 0.0288 0.0220

Mars -83447-01-09 18:42 J -28757584.83 -28757584.72 -28757584.60 0.1794 0.1180

Saturn -83447-04-06 05:16 J -28757498.46 -28757498.28 -28757498.11 0.0289 0.0067

Saturn -83447-07-04 03:35 J -28757409.52 -28757409.35 -28757409.18 0.0289 0.0085

Saturn -83447-10-01 01:40 J -28757320.53 -28757320.43 -28757320.32 0.0290 0.0234

Mars -83447-11-05 09:49 J -28757285.21 -28757285.09 -28757284.97 0.1741 0.0434

Venus -83446-03-29 19:40 J -28757140.80 -28757140.68 -28757140.57 0.3610 0.1638

Jupiter -83445-04-12 10:47 J -28756761.14 -28756761.05 -28756760.96 0.0537 0.0388

Jupiter -83445-07-10 19:11 J -28756671.83 -28756671.70 -28756671.57 0.0535 0.0064

Moon -83445-08-31 08:08 J -28756620.20 -28756620.16 -28756620.12 0.2580 0.2489

Earth -83445-08-31 09:20 J -28756620.15 -28756620.11 -28756620.07 0.2583 0.2462 *

Jupiter -83445-10-08 04:18 J -28756582.34 -28756582.32 -28756582.29 0.0532 0.0521

Venus -83445-10-13 10:18 J -28756577.16 -28756577.07 -28756576.97 0.3754 0.2068

Moon -83442-03-06 15:35 J -28755702.96 -28755702.85 -28755702.74 0.2746 0.0757

Earth -83442-03-06 16:04 J -28755702.94 -28755702.83 -28755702.73 0.2753 0.0781 *

Uranus -83441-08-14 06:28 J -28755176.28 -28755176.23 -28755176.17 0.0139 0.0126

Venus -83441-10-12 19:25 J -28755116.82 -28755116.69 -28755116.56 0.3614 0.0383

Uranus -83441-11-10 10:04 J -28755088.16 -28755088.08 -28755088.00 0.0139 0.0109

Uranus -83440-02-06 13:25 J -28755000.03 -28754999.94 -28754999.83 0.0139 0.0092

Uranus -83440-05-05 17:16 J -28754911.90 -28754911.78 -28754911.67 0.0139 0.0075

Uranus -83440-08-01 20:52 J -28754823.75 -28754823.63 -28754823.51 0.0139 0.0057

Uranus -83440-10-29 00:28 J -28754735.61 -28754735.48 -28754735.35 0.0140 0.0040

Uranus -83439-01-25 04:04 J -28754647.46 -28754647.33 -28754647.19 0.0140 0.0023

Uranus -83439-04-23 07:54 J -28754559.31 -28754559.17 -28754559.03 0.0140 0.0004

Venus -83439-04-29 05:59 J -28754553.31 -28754553.25 -28754553.19 0.3750 0.3088

Jupiter -83439-06-09 13:54 J -28754511.98 -28754511.92 -28754511.85 0.0491 0.0450

Uranus -83439-07-20 11:44 J -28754471.15 -28754471.01 -28754470.88 0.0140 0.0014

Jupiter -83439-09-07 19:11 J -28754421.88 -28754421.70 -28754421.52 0.0493 0.0051

Uranus -83439-10-16 15:20 J -28754382.99 -28754382.86 -28754382.72 0.0140 0.0032

Uranus -83438-01-12 19:11 J -28754294.83 -28754294.70 -28754294.57 0.0140 0.0051

Uranus -83438-04-10 23:01 J -28754206.66 -28754206.54 -28754206.42 0.0141 0.0069

Uranus -83438-07-08 02:52 J -28754118.48 -28754118.38 -28754118.27 0.0141 0.0088

Uranus -83438-10-04 06:42 J -28754030.30 -28754030.22 -28754030.12 0.0141 0.0107

Uranus -83438-12-31 10:32 J -28753942.11 -28753942.06 -28753941.99 0.0141 0.0126

Mars -83437-03-27 18:42 J -28753854.81 -28753854.72 -28753854.62 0.1749 0.1082

Mars -83435-03-03 06:56 J -28753149.26 -28753149.21 -28753149.16 0.1718 0.1555

Venus -83435-04-28 18:56 J -28753092.84 -28753092.71 -28753092.59 0.3618 0.0835

Saturn -83434-11-05 10:04 J -28752537.10 -28752537.08 -28752537.06 0.0272 0.0267

Jupiter -83433-01-30 14:23 J -28752450.94 -28752450.90 -28752450.85 0.0537 0.0498

Saturn -83433-02-01 20:52 J -28752448.73 -28752448.63 -28752448.52 0.0272 0.0175

Jupiter -83433-04-28 22:47 J -28752361.68 -28752361.55 -28752361.42 0.0535 0.0048

Saturn -83433-04-30 08:08 J -28752360.29 -28752360.16 -28752360.04 0.0271 0.0082

Jupiter -83433-07-27 07:54 J -28752272.26 -28752272.17 -28752272.09 0.0533 0.0409

Saturn -83433-07-27 19:11 J -28752271.84 -28752271.70 -28752271.56 0.0271 0.0012

Saturn -83433-10-24 06:28 J -28752183.35 -28752183.23 -28752183.10 0.0270 0.0106

Saturn -83432-01-20 17:44 J -28752094.84 -28752094.76 -28752094.66 0.0270 0.0201

Moon -83432-09-03 11:16 J -28751869.17 -28751869.03 -28751868.88 0.2583 0.0722

Earth -83432-09-03 12:56 J -28751869.11 -28751868.96 -28751868.81 0.2583 0.0472 *

Venus -83430-11-12 17:44 J -28751068.87 -28751068.76 -28751068.65 0.3622 0.1978

Moon -83429-03-08 10:18 J -28750952.14 -28750952.07 -28750951.99 0.2752 0.2067

Earth -83429-03-08 11:16 J -28750952.10 -28750952.03 -28750951.96 0.2752 0.2172 *

Mars -83428-08-18 03:49 J -28750424.36 -28750424.34 -28750424.32 0.1757 0.1723

Jupiter -83427-06-26 17:16 J -28750111.96 -28750111.78 -28750111.61 0.0492 0.0078

Jupiter -83427-09-24 21:20 J -28750021.71 -28750021.61 -28750021.52 0.0494 0.0417

Mars -83427-09-28 18:56 J -28750017.83 -28750017.71 -28750017.58 0.1813 0.1094

Mars -83426-07-24 15:49 J -28749718.94 -28749718.84 -28749718.73 0.1725 0.0924

Venus -83424-05-28 16:18 J -28749044.88 -28749044.82 -28749044.75 0.3626 0.3089

Neptune -83422-01-19 10:18 J -28748444.11 -28748444.07 -28748444.01 0.0089 0.0085

Earth -83422-03-02 06:42 J -28748402.30 -28748402.22 -28748402.13 0.2754 0.1664

Moon -83422-03-02 07:25 J -28748402.28 -28748402.19 -28748402.10 0.2750 0.1648 *

Neptune -83422-04-17 13:40 J -28748356.00 -28748355.93 -28748355.83 0.0089 0.0079

Neptune -83422-07-14 17:01 J -28748267.88 -28748267.79 -28748267.66 0.0089 0.0073

Neptune -83422-10-10 21:06 J -28748179.75 -28748179.62 -28748179.49 0.0089 0.0066

Neptune -83421-01-07 00:28 J -28748091.61 -28748091.48 -28748091.33 0.0089 0.0060

Jupiter -83421-02-16 02:37 J -28748051.51 -28748051.39 -28748051.26 0.0536 0.0157

Venus -83421-02-20 15:49 J -28748046.90 -28748046.84 -28748046.79 0.3776 0.3230

Neptune -83421-04-04 03:49 J -28748003.48 -28748003.34 -28748003.18 0.0089 0.0054

Jupiter -83421-05-15 11:30 J -28747962.13 -28747962.02 -28747961.91 0.0533 0.0299

Neptune -83421-07-01 07:11 J -28747915.34 -28747915.20 -28747915.02 0.0089 0.0048

Neptune -83421-09-27 10:47 J -28747827.21 -28747827.05 -28747826.87 0.0089 0.0041

Neptune -83421-12-24 14:23 J -28747739.07 -28747738.90 -28747738.72 0.0089 0.0035

Neptune -83420-03-22 17:59 J -28747650.93 -28747650.75 -28747650.57 0.0089 0.0029

Neptune -83420-06-18 21:20 J -28747562.79 -28747562.61 -28747562.42 0.0089 0.0023

Neptune -83420-09-15 00:42 J -28747474.65 -28747474.47 -28747474.28 0.0089 0.0017

Neptune -83420-12-12 04:18 J -28747386.51 -28747386.32 -28747386.13 0.0089 0.0010

Neptune -83419-03-10 07:40 J -28747298.37 -28747298.18 -28747297.99 0.0089 0.0004

Neptune -83419-06-06 11:16 J -28747210.22 -28747210.03 -28747209.84 0.0088 0.0003

Neptune -83419-09-02 14:23 J -28747122.08 -28747121.90 -28747121.70 0.0088 0.0009

Moon -83419-09-06 15:06 J -28747117.99 -28747117.87 -28747117.74 0.2588 0.1425

Earth -83419-09-06 16:04 J -28747117.95 -28747117.83 -28747117.70 0.2584 0.1466 *

Neptune -83419-11-29 17:44 J -28747033.94 -28747033.76 -28747033.56 0.0088 0.0015

Neptune -83418-02-25 21:06 J -28746945.79 -28746945.62 -28746945.43 0.0088 0.0021

Neptune -83418-05-25 00:28 J -28746857.65 -28746857.48 -28746857.29 0.0088 0.0027

Saturn -83418-05-27 03:49 J -28746855.39 -28746855.34 -28746855.28 0.0288 0.0271

Neptune -83418-08-21 03:49 J -28746769.50 -28746769.34 -28746769.15 0.0088 0.0033

Saturn -83418-08-24 02:52 J -28746766.54 -28746766.38 -28746766.22 0.0288 0.0118

Neptune -83418-11-17 07:11 J -28746681.36 -28746681.20 -28746681.02 0.0088 0.0039

Saturn -83418-11-21 01:25 J -28746677.61 -28746677.44 -28746677.26 0.0289 0.0034

Neptune -83417-02-13 10:32 J -28746593.21 -28746593.06 -28746592.89 0.0088 0.0045

Saturn -83417-02-17 23:30 J -28746588.65 -28746588.52 -28746588.38 0.0289 0.0184

Mars -83417-02-18 19:11 J -28746587.86 -28746587.70 -28746587.55 0.1803 0.0038

Neptune -83417-05-11 13:54 J -28746505.06 -28746504.92 -28746504.76 0.0088 0.0051

Neptune -83417-08-07 17:16 J -28746416.92 -28746416.78 -28746416.63 0.0088 0.0057

Neptune -83417-11-03 20:23 J -28746328.77 -28746328.65 -28746328.50 0.0088 0.0063

Mars -83417-12-14 00:56 J -28746288.58 -28746288.46 -28746288.34 0.1733 0.0294

Neptune -83416-01-30 23:44 J -28746240.61 -28746240.51 -28746240.38 0.0088 0.0069

Neptune -83416-04-29 02:52 J -28746152.46 -28746152.38 -28746152.26 0.0088 0.0075

Neptune -83416-07-26 06:13 J -28746064.30 -28746064.24 -28746064.15 0.0088 0.0081

Venus -83416-09-05 10:04 J -28746023.17 -28746023.08 -28746022.99 0.3772 0.2361

Neptune -83416-10-22 09:20 J -28745976.12 -28745976.11 -28745976.04 0.0088 0.0087

Jupiter -83415-04-14 15:35 J -28745802.01 -28745801.85 -28745801.68 0.0492 0.0200

Jupiter -83415-07-13 20:08 J -28745711.80 -28745711.66 -28745711.52 0.0494 0.0297

Venus -83410-03-22 04:32 J -28743999.41 -28743999.31 -28743999.21 0.3769 0.1474

Jupiter -83410-12-05 05:59 J -28743741.36 -28743741.25 -28743741.13 0.0536 0.0271

Jupiter -83409-03-03 14:37 J -28743652.01 -28743651.89 -28743651.76 0.0533 0.0183

Moon -83409-03-04 01:54 J -28743651.54 -28743651.42 -28743651.31 0.2746 0.0264

Earth -83409-03-04 01:54 J -28743651.54 -28743651.42 -28743651.31 0.2753 0.0331 *

Mars -83408-07-10 19:11 J -28743157.82 -28743157.70 -28743157.58 0.1795 0.1063

Mars -83407-05-06 09:49 J -28742858.21 -28742858.09 -28742857.97 0.1741 0.0351

Venus -83405-10-04 23:16 J -28741975.64 -28741975.53 -28741975.42 0.3765 0.0565

Saturn -83404-06-20 23:16 J -28741716.62 -28741716.53 -28741716.44 0.0273 0.0203

Saturn -83404-09-17 10:18 J -28741628.19 -28741628.07 -28741627.94 0.0272 0.0110

Saturn -83404-12-14 21:35 J -28741539.74 -28741539.60 -28741539.46 0.0272 0.0016

Jupiter -83403-01-31 13:40 J -28741492.07 -28741491.93 -28741491.80 0.0492 0.0329

Saturn -83403-03-13 08:52 J -28741451.26 -28741451.13 -28741451.00 0.0271 0.0079

Jupiter -83403-05-01 18:28 J -28741401.89 -28741401.73 -28741401.56 0.0494 0.0172

Saturn -83403-06-09 20:08 J -28741362.76 -28741362.66 -28741362.55 0.0271 0.0174

Saturn -83403-09-06 07:40 J -28741274.18 -28741274.18 -28741274.17 0.0271 0.0270

Uranus -83402-10-11 17:44 J -28740873.81 -28740873.76 -28740873.68 0.0140 0.0131

Uranus -83401-01-08 01:11 J -28740785.56 -28740785.45 -28740785.32 0.0140 0.0106

Uranus -83401-04-05 08:23 J -28740697.29 -28740697.15 -28740697.00 0.0139 0.0082

Uranus -83401-07-02 15:35 J -28740609.02 -28740608.85 -28740608.68 0.0139 0.0058

Uranus -83401-09-28 22:18 J -28740520.74 -28740520.57 -28740520.38 0.0139 0.0035

Uranus -83401-12-26 05:30 J -28740432.45 -28740432.27 -28740432.09 0.0139 0.0010

Uranus -83400-03-24 12:13 J -28740344.16 -28740343.99 -28740343.80 0.0139 0.0014

Uranus -83400-06-20 18:56 J -28740255.87 -28740255.71 -28740255.52 0.0139 0.0037

Uranus -83400-09-17 01:40 J -28740167.58 -28740167.43 -28740167.26 0.0139 0.0060

Uranus -83400-12-14 08:37 J -28740079.28 -28740079.14 -28740079.00 0.0138 0.0082

Uranus -83399-03-12 14:52 J -28739990.98 -28739990.88 -28739990.75 0.0138 0.0105

Venus -83399-04-20 18:13 J -28739951.85 -28739951.74 -28739951.62 0.3761 0.0402

Uranus -83399-06-08 21:35 J -28739902.66 -28739902.60 -28739902.52 0.0138 0.0126

Moon -83399-09-01 14:08 J -28739817.98 -28739817.91 -28739817.84 0.2581 0.2257

Earth -83399-09-01 15:35 J -28739817.94 -28739817.85 -28739817.76 0.2583 0.2046 *

Jupiter -83398-09-23 09:35 J -28739431.19 -28739431.10 -28739431.02 0.0536 0.0385

Mars -83398-09-26 18:56 J -28739427.81 -28739427.71 -28739427.62 0.1749 0.0997

Jupiter -83398-12-21 17:59 J -28739341.88 -28739341.75 -28739341.62 0.0534 0.0068

Jupiter -83397-03-20 02:52 J -28739252.40 -28739252.38 -28739252.35 0.0531 0.0521

Moon -83396-03-06 20:23 J -28738900.75 -28738900.65 -28738900.54 0.2748 0.0955

Earth -83396-03-06 20:52 J -28738900.73 -28738900.63 -28738900.52 0.2753 0.1063 *

Mars -83396-09-01 06:56 J -28738722.24 -28738722.21 -28738722.17 0.1718 0.1644

Venus -83395-04-19 19:11 J -28738491.79 -28738491.70 -28738491.61 0.3607 0.2565

Venus -83394-11-04 13:25 J -28737928.04 -28737927.94 -28737927.83 0.3757 0.1367

Jupiter -83392-11-19 11:30 J -28737182.08 -28737182.02 -28737181.96 0.0491 0.0457

Jupiter -83391-02-17 16:47 J -28737091.98 -28737091.80 -28737091.62 0.0493 0.0045

Venus -83390-11-03 19:11 J -28736467.82 -28736467.70 -28736467.57 0.3611 0.1276

Earth -83389-02-28 16:47 J -28736350.81 -28736350.80 -28736350.78 0.2754 0.2718

Moon -83389-02-28 17:44 J -28736350.79 -28736350.76 -28736350.74 0.2753 0.2652 *

Saturn -83388-01-10 04:32 J -28736034.46 -28736034.31 -28736034.15 0.0288 0.0141

Mars -83388-02-16 03:49 J -28735997.38 -28735997.34 -28735997.30 0.1757 0.1641

Saturn -83388-04-09 03:20 J -28735945.54 -28735945.36 -28735945.18 0.0289 0.0011

Venus -83388-05-20 08:52 J -28735904.22 -28735904.13 -28735904.04 0.3753 0.2364

Saturn -83388-07-07 01:40 J -28735856.58 -28735856.43 -28735856.28 0.0289 0.0162

Mars -83387-03-29 19:25 J -28735590.80 -28735590.69 -28735590.57 0.1813 0.1215

Mars -83386-01-22 16:04 J -28735291.93 -28735291.83 -28735291.73 0.1725 0.1013

Jupiter -83386-07-12 12:28 J -28735121.02 -28735120.98 -28735120.94 0.0537 0.0506

Moon -83386-09-04 17:44 J -28735066.91 -28735066.76 -28735066.61 0.2584 0.0125

Earth -83386-09-04 19:11 J -28735066.85 -28735066.70 -28735066.55 0.2584 0.0063 *

Jupiter -83386-10-09 20:52 J -28735031.76 -28735031.63 -28735031.50 0.0535 0.0058

Jupiter -83385-01-07 05:44 J -28734942.35 -28734942.26 -28734942.17 0.0533 0.0400

Venus -83384-05-19 18:56 J -28734443.84 -28734443.71 -28734443.57 0.3615 0.0076

Moon -83383-03-09 15:20 J -28734149.91 -28734149.86 -28734149.80 0.2751 0.2369

Earth -83383-03-09 16:18 J -28734149.87 -28734149.82 -28734149.77 0.2752 0.2457 *

Venus -83383-12-04 04:32 J -28733880.36 -28733880.31 -28733880.26 0.3749 0.3393

Jupiter -83380-12-06 15:06 J -28732782.05 -28732781.87 -28732781.69 0.0492 0.0080

Jupiter -83379-03-06 19:11 J -28732691.79 -28732691.70 -28732691.60 0.0494 0.0414

Venus -83379-12-03 18:13 J -28732419.86 -28732419.74 -28732419.61 0.3619 0.1170

Mars -83378-08-19 19:40 J -28732160.83 -28732160.68 -28732160.52 0.1804 0.0151

Mars -83377-06-14 00:56 J -28731861.58 -28731861.46 -28731861.34 0.1733 0.0377

Earth -83376-03-02 11:44 J -28731600.11 -28731600.01 -28731599.91 0.2754 0.1390

Moon -83376-03-02 12:13 J -28731600.09 -28731599.99 -28731599.89 0.2749 0.1268 *

Saturn -83375-11-08 02:52 J -28730984.45 -28730984.38 -28730984.30 0.0272 0.0219

Saturn -83374-02-04 13:54 J -28730896.04 -28730895.92 -28730895.80 0.0271 0.0127

Saturn -83374-05-04 01:11 J -28730807.59 -28730807.45 -28730807.32 0.0271 0.0034

Jupiter -83374-07-29 00:28 J -28730721.61 -28730721.48 -28730721.36 0.0536 0.0169

Saturn -83374-07-31 12:13 J -28730719.12 -28730718.99 -28730718.85 0.0271 0.0062

Jupiter -83374-10-26 09:06 J -28730632.23 -28730632.12 -28730632.01 0.0534 0.0287

Saturn -83374-10-27 23:30 J -28730630.62 -28730630.52 -28730630.40 0.0270 0.0156

Saturn -83373-01-24 11:01 J -28730542.08 -28730542.04 -28730541.99 0.0270 0.0251

Venus -83373-06-18 17:01 J -28730395.88 -28730395.79 -28730395.69 0.3623 0.2308

Moon -83373-09-06 21:35 J -28730315.71 -28730315.60 -28730315.49 0.2589 0.1713

Earth -83373-09-06 22:18 J -28730315.67 -28730315.57 -28730315.47 0.2584 0.1868 *

Mars -83368-01-08 19:54 J -28728730.81 -28728730.67 -28728730.54 0.1795 0.0931

Jupiter -83368-09-24 12:56 J -28728472.12 -28728471.96 -28728471.80 0.0492 0.0209

Mars -83368-11-04 09:49 J -28728431.21 -28728431.09 -28728430.97 0.1741 0.0268

Jupiter -83368-12-23 17:16 J -28728381.91 -28728381.78 -28728381.63 0.0494 0.0289

Venus -83367-01-02 15:35 J -28728371.89 -28728371.85 -28728371.80 0.3628 0.3407

Venus -83365-09-26 13:54 J -28727373.99 -28727373.92 -28727373.85 0.3775 0.2987

Moon -83363-03-05 06:42 J -28726849.33 -28726849.22 -28726849.10 0.2746 0.0134

Earth -83363-03-05 06:42 J -28726849.33 -28726849.22 -28726849.10 0.2753 0.0104 *

Jupiter -83362-05-17 04:18 J -28726411.43 -28726411.32 -28726411.21 0.0536 0.0277

Jupiter -83362-08-14 12:56 J -28726322.09 -28726321.96 -28726321.84 0.0534 0.0177

Venus -83359-04-12 08:23 J -28725350.24 -28725350.15 -28725350.06 0.3771 0.2115

Saturn -83359-05-30 02:52 J -28725302.52 -28725302.38 -28725302.25 0.0288 0.0188

Saturn -83359-08-27 01:40 J -28725213.61 -28725213.43 -28725213.25 0.0288 0.0036

Saturn -83359-11-23 23:59 J -28725124.66 -28725124.50 -28725124.34 0.0289 0.0115

Saturn -83358-02-20 22:04 J -28725035.65 -28725035.58 -28725035.51 0.0289 0.0263

Mars -83358-03-27 18:56 J -28725000.81 -28725000.71 -28725000.61 0.1749 0.0907

Uranus -83357-06-07 10:18 J -28724563.07 -28724563.07 -28724563.07 0.0139 0.0139

Uranus -83357-09-03 13:40 J -28724474.99 -28724474.93 -28724474.86 0.0139 0.0122

Uranus -83357-11-30 17:16 J -28724386.86 -28724386.78 -28724386.69 0.0139 0.0105

Uranus -83356-02-26 20:52 J -28724298.73 -28724298.63 -28724298.52 0.0139 0.0088

Uranus -83356-05-26 00:28 J -28724210.59 -28724210.48 -28724210.36 0.0139 0.0071

Jupiter -83356-07-13 11:16 J -28724162.16 -28724162.03 -28724161.90 0.0491 0.0333

Uranus -83356-08-22 04:04 J -28724122.45 -28724122.33 -28724122.20 0.0139 0.0053

Jupiter -83356-10-11 16:04 J -28724071.99 -28724071.83 -28724071.66 0.0493 0.0167

Uranus -83356-11-18 07:40 J -28724034.31 -28724034.18 -28724034.04 0.0140 0.0036

Uranus -83355-02-14 11:30 J -28723946.16 -28723946.02 -28723945.88 0.0140 0.0018

Uranus -83355-05-13 15:06 J -28723858.00 -28723857.87 -28723857.73 0.0140 0.0003

Uranus -83355-08-09 18:56 J -28723769.85 -28723769.71 -28723769.57 0.0140 0.0018

Uranus -83355-11-05 22:47 J -28723681.69 -28723681.55 -28723681.42 0.0140 0.0037

Uranus -83354-02-02 02:23 J -28723593.52 -28723593.40 -28723593.27 0.0140 0.0055

Uranus -83354-05-01 06:13 J -28723505.35 -28723505.24 -28723505.12 0.0141 0.0073

Uranus -83354-07-28 10:04 J -28723417.18 -28723417.08 -28723416.97 0.0141 0.0092

Uranus -83354-10-24 13:54 J -28723329.00 -28723328.92 -28723328.83 0.0141 0.0111

Venus -83354-10-27 02:52 J -28723326.48 -28723326.38 -28723326.27 0.3768 0.1214

Uranus -83353-01-20 17:44 J -28723240.80 -28723240.76 -28723240.70 0.0141 0.0130

Moon -83353-09-01 20:08 J -28723015.77 -28723015.66 -28723015.54 0.2581 0.1718

Earth -83353-09-01 21:49 J -28723015.71 -28723015.59 -28723015.48 0.2583 0.1635 *

Jupiter -83350-03-05 07:54 J -28722101.26 -28722101.17 -28722101.08 0.0536 0.0388

Moon -83350-03-08 01:25 J -28722098.54 -28722098.44 -28722098.34 0.2749 0.1331

Earth -83350-03-08 01:54 J -28722098.52 -28722098.42 -28722098.32 0.2753 0.1347 *

Jupiter -83350-06-02 16:18 J -28722011.95 -28722011.82 -28722011.69 0.0534 0.0063

Jupiter -83350-08-31 01:11 J -28721922.47 -28721922.45 -28721922.42 0.0532 0.0519

Mars -83349-08-17 03:49 J -28721570.39 -28721570.34 -28721570.28 0.1756 0.1557

Venus -83348-05-11 21:35 J -28721302.71 -28721302.60 -28721302.48 0.3764 0.0317

Mars -83348-09-27 19:54 J -28721163.77 -28721163.67 -28721163.57 0.1813 0.1333

Mars -83347-07-23 16:04 J -28720864.92 -28720864.83 -28720864.73 0.1725 0.1105

Saturn -83345-03-27 05:01 J -28720252.33 -28720252.29 -28720252.23 0.0273 0.0249

Saturn -83345-06-23 16:18 J -28720163.93 -28720163.82 -28720163.71 0.0272 0.0156

Saturn -83345-09-20 03:20 J -28720075.49 -28720075.36 -28720075.23 0.0272 0.0062

Saturn -83345-12-17 14:37 J -28719987.03 -28719986.89 -28719986.76 0.0271 0.0034

Saturn -83344-03-16 01:40 J -28719898.54 -28719898.43 -28719898.30 0.0271 0.0128

Jupiter -83344-05-01 08:52 J -28719852.18 -28719852.13 -28719852.07 0.0491 0.0463

Venus -83344-05-10 18:28 J -28719842.75 -28719842.73 -28719842.71 0.3604 0.3529

Saturn -83344-06-12 13:11 J -28719810.02 -28719809.95 -28719809.87 0.0271 0.0223

Jupiter -83344-07-30 14:23 J -28719762.08 -28719761.90 -28719761.72 0.0493 0.0040

Earth -83343-02-28 21:49 J -28719548.64 -28719548.59 -28719548.54 0.2754 0.2445

Moon -83343-02-28 22:32 J -28719548.62 -28719548.56 -28719548.50 0.2753 0.2326 *

Venus -83343-11-25 16:47 J -28719278.92 -28719278.80 -28719278.69 0.3760 0.0678

Neptune -83341-04-27 17:30 J -28718759.79 -28718759.77 -28718759.73 0.0089 0.0086

Neptune -83341-07-24 18:42 J -28718671.76 -28718671.72 -28718671.66 0.0089 0.0082

Neptune -83341-10-20 20:23 J -28718583.71 -28718583.65 -28718583.59 0.0089 0.0077

Pluto -83341-11-20 09:49 J -28718553.11 -28718553.09 -28718553.01 0.0060 0.0059

Neptune -83340-01-16 21:35 J -28718495.67 -28718495.60 -28718495.52 0.0089 0.0073

Pluto -83340-02-16 11:16 J -28718465.10 -28718465.03 -28718464.91 0.0060 0.0052

Neptune -83340-04-14 23:01 J -28718407.62 -28718407.54 -28718407.45 0.0089 0.0069

Pluto -83340-05-15 13:11 J -28718377.07 -28718376.95 -28718376.82 0.0060 0.0046

Neptune -83340-07-12 00:13 J -28718319.57 -28718319.49 -28718319.39 0.0089 0.0065

Pluto -83340-08-11 14:23 J -28718289.03 -28718288.90 -28718288.75 0.0061 0.0040

Moon -83340-09-04 23:59 J -28718264.65 -28718264.50 -28718264.35 0.2586 0.0122

Earth -83340-09-05 01:11 J -28718264.59 -28718264.45 -28718264.30 0.2584 0.0353 *

Neptune -83340-10-08 01:54 J -28718231.52 -28718231.42 -28718231.32 0.0089 0.0060

Pluto -83340-11-07 15:49 J -28718200.99 -28718200.84 -28718200.67 0.0061 0.0034

Neptune -83339-01-04 03:06 J -28718143.47 -28718143.37 -28718143.26 0.0089 0.0056

Pluto -83339-02-03 17:01 J -28718112.94 -28718112.79 -28718112.60 0.0061 0.0028

Neptune -83339-04-02 04:18 J -28718055.42 -28718055.32 -28718055.20 0.0089 0.0052

Pluto -83339-05-02 18:28 J -28718024.89 -28718024.73 -28718024.53 0.0061 0.0022

Neptune -83339-06-29 05:59 J -28717967.36 -28717967.25 -28717967.14 0.0089 0.0047

Pluto -83339-07-29 20:08 J -28717936.84 -28717936.66 -28717936.47 0.0061 0.0015

Neptune -83339-09-25 07:11 J -28717879.31 -28717879.20 -28717879.08 0.0089 0.0043

Pluto -83339-10-25 21:35 J -28717848.79 -28717848.60 -28717848.40 0.0061 0.0009

Venus -83339-11-24 18:56 J -28717818.81 -28717818.71 -28717818.60 0.3608 0.2196

Neptune -83339-12-22 08:37 J -28717791.26 -28717791.14 -28717791.01 0.0089 0.0039

Jupiter -83339-12-22 11:16 J -28717791.07 -28717791.03 -28717790.98 0.0537 0.0502 *

Pluto -83338-01-21 23:01 J -28717760.73 -28717760.54 -28717760.34 0.0061 0.0003

Mars -83338-02-17 20:23 J -28717733.80 -28717733.65 -28717733.50 0.1804 0.0274

Neptune -83338-03-20 10:04 J -28717703.20 -28717703.08 -28717702.95 0.0089 0.0034

Jupiter -83338-03-21 19:40 J -28717701.81 -28717701.68 -28717701.55 0.0535 0.0056

Pluto -83338-04-20 00:42 J -28717672.67 -28717672.47 -28717672.28 0.0061 0.0004

Neptune -83338-06-16 11:30 J -28717615.15 -28717615.02 -28717614.89 0.0089 0.0030

Jupiter -83338-06-19 04:18 J -28717612.40 -28717612.32 -28717612.23 0.0532 0.0402

Pluto -83338-07-17 02:08 J -28717584.60 -28717584.41 -28717584.22 0.0061 0.0010

Neptune -83338-09-12 12:42 J -28717527.09 -28717526.97 -28717526.83 0.0089 0.0026

Pluto -83338-10-13 03:20 J -28717496.54 -28717496.36 -28717496.17 0.0061 0.0017

Neptune -83338-12-09 14:23 J -28717439.03 -28717438.90 -28717438.77 0.0089 0.0021

Mars -83338-12-14 00:56 J -28717434.58 -28717434.46 -28717434.34 0.1733 0.0462

Pluto -83337-01-09 04:47 J -28717408.47 -28717408.30 -28717408.11 0.0061 0.0023

Neptune -83337-03-06 15:35 J -28717350.98 -28717350.85 -28717350.71 0.0089 0.0017

Moon -83337-03-09 20:23 J -28717347.68 -28717347.65 -28717347.61 0.2752 0.2613

Earth -83337-03-09 21:20 J -28717347.62 -28717347.61 -28717347.61 0.2752 0.2746 *

Pluto -83337-04-06 06:28 J -28717320.40 -28717320.23 -28717320.06 0.0061 0.0030

Neptune -83337-06-02 17:01 J -28717262.92 -28717262.79 -28717262.65 0.0089 0.0013

Venus -83337-06-10 11:59 J -28717255.10 -28717255.00 -28717254.90 0.3756 0.1654

Pluto -83337-07-03 07:40 J -28717232.32 -28717232.18 -28717232.01 0.0061 0.0036

Neptune -83337-08-29 18:28 J -28717174.86 -28717174.73 -28717174.59 0.0089 0.0008

Pluto -83337-09-29 09:20 J -28717144.24 -28717144.11 -28717143.97 0.0061 0.0043

Neptune -83337-11-25 19:54 J -28717086.80 -28717086.67 -28717086.53 0.0089 0.0003

Pluto -83337-12-26 10:32 J -28717056.15 -28717056.06 -28717055.93 0.0061 0.0050

Neptune -83336-02-21 21:20 J -28716998.75 -28716998.61 -28716998.48 0.0089 0.0001

Pluto -83336-03-24 12:28 J -28716968.06 -28716967.98 -28716967.90 0.0062 0.0056

Neptune -83336-05-20 22:47 J -28716910.69 -28716910.55 -28716910.42 0.0089 0.0005

Neptune -83336-08-17 00:13 J -28716822.63 -28716822.49 -28716822.36 0.0089 0.0010

Neptune -83336-11-13 01:25 J -28716734.57 -28716734.44 -28716734.30 0.0089 0.0015

Neptune -83335-02-09 02:52 J -28716646.51 -28716646.38 -28716646.24 0.0089 0.0019

Neptune -83335-05-08 04:18 J -28716558.45 -28716558.32 -28716558.18 0.0089 0.0023

Neptune -83335-08-04 05:44 J -28716470.38 -28716470.26 -28716470.13 0.0089 0.0028

Neptune -83335-10-31 07:11 J -28716382.32 -28716382.20 -28716382.07 0.0089 0.0032

Neptune -83334-01-27 08:37 J -28716294.26 -28716294.14 -28716294.01 0.0089 0.0037

Neptune -83334-04-25 10:04 J -28716206.20 -28716206.08 -28716205.95 0.0089 0.0041

Neptune -83334-07-22 11:30 J -28716118.13 -28716118.02 -28716117.90 0.0089 0.0046

Neptune -83334-10-18 12:56 J -28716030.07 -28716029.96 -28716029.84 0.0089 0.0050

Neptune -83333-01-14 14:23 J -28715942.00 -28715941.90 -28715941.79 0.0089 0.0055

Neptune -83333-04-11 15:49 J -28715853.93 -28715853.84 -28715853.73 0.0089 0.0059

Venus -83333-06-09 18:56 J -28715794.84 -28715794.71 -28715794.58 0.3612 0.0918

Neptune -83333-07-08 17:16 J -28715765.87 -28715765.78 -28715765.68 0.0089 0.0064

Neptune -83333-10-04 18:42 J -28715677.80 -28715677.72 -28715677.62 0.0089 0.0068

Neptune -83333-12-31 20:08 J -28715589.73 -28715589.66 -28715589.57 0.0089 0.0073

Neptune -83332-03-29 21:35 J -28715501.66 -28715501.60 -28715501.52 0.0089 0.0077

Jupiter -83332-05-18 12:28 J -28715452.15 -28715451.98 -28715451.80 0.0492 0.0088

Neptune -83332-06-25 23:01 J -28715413.58 -28715413.54 -28715413.48 0.0089 0.0082

Jupiter -83332-08-16 16:47 J -28715361.90 -28715361.80 -28715361.70 0.0494 0.0408

Neptune -83332-09-22 00:42 J -28715325.50 -28715325.47 -28715325.43 0.0089 0.0086

Venus -83332-12-25 07:25 J -28715231.27 -28715231.19 -28715231.11 0.3752 0.2662

Earth -83330-03-03 16:47 J -28714797.90 -28714797.80 -28714797.70 0.2754 0.1113

Moon -83330-03-03 17:01 J -28714797.89 -28714797.79 -28714797.68 0.2747 0.1107 *

Saturn -83330-10-17 03:49 J -28714570.45 -28714570.34 -28714570.21 0.0288 0.0215

Saturn -83329-01-14 03:06 J -28714481.55 -28714481.37 -28714481.20 0.0289 0.0062

Saturn -83329-04-12 01:40 J -28714392.60 -28714392.43 -28714392.27 0.0289 0.0090

Mars -83329-07-09 20:08 J -28714303.79 -28714303.66 -28714303.52 0.1795 0.0815

Saturn -83329-07-09 23:44 J -28714303.61 -28714303.51 -28714303.41 0.0289 0.0240 *

Mars -83328-05-05 10:04 J -28714004.21 -28714004.08 -28714003.96 0.1740 0.0186

Venus -83328-12-24 18:42 J -28713770.86 -28713770.72 -28713770.59 0.3616 0.0336

Moon -83327-09-08 03:35 J -28713513.42 -28713513.35 -28713513.28 0.2590 0.2271

Earth -83327-09-08 04:32 J -28713513.38 -28713513.31 -28713513.24 0.2584 0.2264 *

Jupiter -83326-01-07 22:18 J -28713391.69 -28713391.57 -28713391.44 0.0536 0.0177

Jupiter -83326-04-07 07:11 J -28713302.31 -28713302.20 -28713302.09 0.0533 0.0278

Venus -83326-07-11 03:06 J -28713207.38 -28713207.37 -28713207.35 0.3747 0.3706

Venus -83322-07-10 17:44 J -28711746.88 -28711746.76 -28711746.64 0.3620 0.1495

Jupiter -83320-03-06 10:47 J -28711142.21 -28711142.05 -28711141.88 0.0492 0.0212

Jupiter -83320-06-04 15:20 J -28711052.00 -28711051.86 -28711051.71 0.0494 0.0286

Mars -83319-09-25 18:56 J -28710573.82 -28710573.71 -28710573.60 0.1748 0.0825

Uranus -83318-11-01 01:54 J -28710172.49 -28710172.42 -28710172.32 0.0140 0.0123

Uranus -83317-01-28 09:20 J -28710084.24 -28710084.11 -28710083.98 0.0140 0.0098

Moon -83317-03-05 11:44 J -28710047.13 -28710047.01 -28710046.90 0.2746 0.0306

Earth -83317-03-05 11:44 J -28710047.12 -28710047.01 -28710046.90 0.2753 0.0248 *

Uranus -83317-04-25 16:32 J -28709995.96 -28709995.81 -28709995.65 0.0140 0.0074

Uranus -83317-07-22 23:44 J -28709907.68 -28709907.51 -28709907.34 0.0139 0.0050

Uranus -83317-10-19 06:28 J -28709819.40 -28709819.23 -28709819.04 0.0139 0.0027

Uranus -83316-01-15 13:40 J -28709731.12 -28709730.93 -28709730.75 0.0139 0.0003

Venus -83316-01-23 16:32 J -28709722.90 -28709722.81 -28709722.72 0.3625 0.2632

Uranus -83316-04-13 20:23 J -28709642.83 -28709642.65 -28709642.47 0.0139 0.0021

Uranus -83316-07-11 03:20 J -28709554.53 -28709554.36 -28709554.19 0.0139 0.0044

Saturn -83316-08-14 08:52 J -28709520.16 -28709520.13 -28709520.10 0.0272 0.0263

Uranus -83316-10-07 10:04 J -28709466.24 -28709466.08 -28709465.92 0.0139 0.0067

Saturn -83316-11-10 19:54 J -28709431.77 -28709431.67 -28709431.57 0.0272 0.0171

Uranus -83315-01-03 16:32 J -28709377.94 -28709377.81 -28709377.67 0.0139 0.0090

Saturn -83315-02-07 06:56 J -28709343.34 -28709343.21 -28709343.08 0.0271 0.0078

Uranus -83315-04-01 23:16 J -28709289.63 -28709289.53 -28709289.42 0.0138 0.0112

Saturn -83315-05-06 18:13 J -28709254.88 -28709254.74 -28709254.61 0.0271 0.0018

Uranus -83315-06-29 05:30 J -28709201.30 -28709201.27 -28709201.21 0.0138 0.0134

Saturn -83315-08-03 05:16 J -28709166.40 -28709166.28 -28709166.15 0.0270 0.0112

Jupiter -83315-10-27 01:54 J -28709081.53 -28709081.42 -28709081.31 0.0536 0.0289

Saturn -83315-10-30 16:47 J -28709077.89 -28709077.80 -28709077.71 0.0270 0.0206

Jupiter -83314-01-24 10:32 J -28708992.18 -28708992.06 -28708991.94 0.0534 0.0164

Venus -83314-10-18 17:44 J -28708724.79 -28708724.76 -28708724.73 0.3777 0.3602

Mars -83309-02-16 04:04 J -28707143.40 -28707143.33 -28707143.27 0.1756 0.1471

Jupiter -83309-12-23 08:37 J -28706832.27 -28706832.14 -28706832.01 0.0491 0.0341

Jupiter -83308-03-23 13:25 J -28706742.10 -28706741.94 -28706741.77 0.0493 0.0159

Mars -83308-03-28 20:37 J -28706736.73 -28706736.64 -28706736.56 0.1813 0.1464

Venus -83308-05-03 12:13 J -28706701.07 -28706700.99 -28706700.92 0.3774 0.2747

Mars -83307-01-21 16:04 J -28706437.92 -28706437.83 -28706437.74 0.1725 0.1186

Moon -83307-09-03 02:23 J -28706213.52 -28706213.40 -28706213.27 0.2581 0.1425

Earth -83307-09-03 03:49 J -28706213.47 -28706213.34 -28706213.20 0.2583 0.1227 *

Moon -83304-03-08 06:13 J -28705296.33 -28705296.24 -28705296.14 0.2749 0.1467

Earth -83304-03-08 06:56 J -28705296.30 -28705296.21 -28705296.12 0.2753 0.1632 *

Jupiter -83303-08-15 05:44 J -28704771.34 -28704771.26 -28704771.17 0.0537 0.0398

Jupiter -83303-11-12 14:23 J -28704682.03 -28704681.90 -28704681.77 0.0535 0.0056

Venus -83303-11-17 06:28 J -28704677.32 -28704677.23 -28704677.13 0.3770 0.1865

Jupiter -83302-02-09 23:30 J -28704592.56 -28704592.52 -28704592.49 0.0532 0.0512

Saturn -83300-03-05 02:23 J -28703838.47 -28703838.40 -28703838.32 0.0288 0.0261

Saturn -83300-06-02 01:25 J -28703749.61 -28703749.44 -28703749.27 0.0288 0.0108

Saturn -83300-08-29 23:59 J -28703660.67 -28703660.50 -28703660.32 0.0289 0.0044

Saturn -83300-11-26 22:18 J -28703571.70 -28703571.57 -28703571.44 0.0289 0.0194

Mars -83299-08-18 20:37 J -28703306.79 -28703306.64 -28703306.49 0.1804 0.0382

Mars -83298-06-14 01:11 J -28703007.57 -28703007.45 -28703007.34 0.1733 0.0554

Earth -83297-03-01 02:52 J -28702746.45 -28702746.38 -28702746.32 0.2754 0.2173

Moon -83297-03-01 03:35 J -28702746.43 -28702746.35 -28702746.28 0.2752 0.2084 *

Venus -83297-06-02 01:11 J -28702653.56 -28702653.45 -28702653.34 0.3767 0.0950

Jupiter -83297-10-11 06:42 J -28702522.27 -28702522.22 -28702522.16 0.0491 0.0466

Jupiter -83296-01-09 11:59 J -28702432.17 -28702432.00 -28702431.82 0.0493 0.0038

Moon -83294-09-06 06:13 J -28701462.38 -28701462.24 -28701462.10 0.2587 0.0703

Earth -83294-09-06 07:25 J -28701462.33 -28701462.19 -28701462.04 0.2584 0.0748 *

Venus -83292-12-16 19:54 J -28700629.78 -28700629.67 -28700629.55 0.3763 0.0140

Jupiter -83291-06-03 09:35 J -28700461.14 -28700461.10 -28700461.06 0.0537 0.0506

Jupiter -83291-08-31 17:59 J -28700371.88 -28700371.75 -28700371.62 0.0535 0.0058

Jupiter -83291-11-29 02:52 J -28700282.47 -28700282.38 -28700282.30 0.0532 0.0398

Mars -83289-01-08 20:52 J -28699876.77 -28699876.63 -28699876.48 0.1795 0.0681

Mars -83289-11-03 10:04 J -28699577.20 -28699577.08 -28699576.96 0.1740 0.0092

Venus -83288-12-15 18:28 J -28699169.80 -28699169.73 -28699169.67 0.3606 0.3152

Saturn -83286-03-30 21:49 J -28698699.67 -28698699.59 -28698699.49 0.0272 0.0202

Saturn -83286-06-27 09:06 J -28698611.25 -28698611.12 -28698611.00 0.0272 0.0108

Venus -83286-07-02 15:06 J -28698605.98 -28698605.87 -28698605.76 0.3759 0.0954

Saturn -83286-09-23 20:08 J -28698522.79 -28698522.66 -28698522.52 0.0272 0.0014

Saturn -83286-12-21 07:25 J -28698434.32 -28698434.19 -28698434.06 0.0271 0.0081

Saturn -83285-03-18 18:42 J -28698345.82 -28698345.72 -28698345.61 0.0271 0.0176

Jupiter -83285-10-28 10:04 J -28698122.25 -28698122.08 -28698121.90 0.0493 0.0093

Jupiter -83284-01-26 14:23 J -28698032.00 -28698031.90 -28698031.80 0.0495 0.0404

Earth -83284-03-03 21:35 J -28697995.70 -28697995.60 -28697995.49 0.2754 0.0841

Moon -83284-03-03 22:04 J -28697995.69 -28697995.58 -28697995.47 0.2746 0.0767 *

Venus -83282-07-01 18:42 J -28697145.84 -28697145.72 -28697145.61 0.3609 0.1837

Moon -83281-09-08 10:04 J -28696711.12 -28696711.08 -28696711.05 0.2590 0.2516

Venus -83280-01-15 10:18 J -28696582.16 -28696582.07 -28696581.97 0.3755 0.1944

Mars -83280-05-30 20:52 J -28696446.65 -28696446.63 -28696446.60 0.1786 0.1751

Mars -83279-03-26 18:56 J -28696146.82 -28696146.71 -28696146.60 0.1748 0.0741

Jupiter -83279-06-19 21:20 J -28696061.73 -28696061.61 -28696061.49 0.0535 0.0172

Jupiter -83279-09-17 05:59 J -28695972.36 -28695972.25 -28695972.14 0.0533 0.0282

Venus -83276-01-14 18:42 J -28695121.86 -28695121.72 -28695121.59 0.3613 0.0567

Venus -83275-08-01 05:59 J -28694558.32 -28694558.25 -28694558.18 0.3751 0.2967

Uranus -83273-06-27 17:59 J -28693861.78 -28693861.75 -28693861.71 0.0139 0.0133

Jupiter -83273-08-16 08:23 J -28693812.31 -28693812.15 -28693811.99 0.0492 0.0218

Uranus -83273-09-23 21:35 J -28693773.67 -28693773.60 -28693773.52 0.0139 0.0116

Jupiter -83273-11-14 12:56 J -28693722.10 -28693721.96 -28693721.81 0.0494 0.0280

Uranus -83273-12-21 00:56 J -28693685.54 -28693685.46 -28693685.35 0.0139 0.0099

Uranus -83272-03-19 04:47 J -28693597.41 -28693597.30 -28693597.19 0.0139 0.0082

Uranus -83272-06-15 08:23 J -28693509.27 -28693509.15 -28693509.03 0.0139 0.0064

Uranus -83272-09-11 11:59 J -28693421.13 -28693421.00 -28693420.87 0.0139 0.0047

Uranus -83272-12-08 15:35 J -28693332.98 -28693332.85 -28693332.71 0.0140 0.0029

Moon -83271-03-06 16:32 J -28693244.93 -28693244.81 -28693244.70 0.2747 0.0447

Earth -83271-03-06 16:47 J -28693244.91 -28693244.80 -28693244.69 0.2753 0.0530 *

Uranus -83271-03-06 19:25 J -28693244.83 -28693244.69 -28693244.56 0.0140 0.0012 *

Uranus -83271-06-02 23:01 J -28693156.68 -28693156.54 -28693156.40 0.0140 0.0007

Venus -83271-07-31 17:59 J -28693097.88 -28693097.75 -28693097.62 0.3617 0.0664

Uranus -83271-08-30 02:37 J -28693068.52 -28693068.39 -28693068.25 0.0140 0.0025

Saturn -83271-10-20 02:08 J -28693017.56 -28693017.41 -28693017.25 0.0288 0.0137

Uranus -83271-11-26 06:28 J -28692980.36 -28692980.23 -28692980.09 0.0140 0.0043

Saturn -83270-01-17 00:56 J -28692928.64 -28692928.46 -28692928.28 0.0289 0.0016

Uranus -83270-02-22 10:18 J -28692892.19 -28692892.07 -28692891.94 0.0140 0.0061

Saturn -83270-04-15 23:30 J -28692839.67 -28692839.52 -28692839.38 0.0289 0.0167

Uranus -83270-05-21 14:08 J -28692804.02 -28692803.91 -28692803.79 0.0140 0.0080

Mars -83270-08-17 04:04 J -28692716.40 -28692716.33 -28692716.26 0.1756 0.1387

Uranus -83270-08-17 17:59 J -28692715.85 -28692715.75 -28692715.65 0.0141 0.0099

Uranus -83270-11-13 21:49 J -28692627.66 -28692627.59 -28692627.51 0.0141 0.0118

Uranus -83269-02-10 01:40 J -28692539.45 -28692539.43 -28692539.39 0.0141 0.0137

Mars -83269-09-26 21:06 J -28692309.69 -28692309.62 -28692309.55 0.1813 0.1587

Mars -83268-07-22 16:18 J -28692010.91 -28692010.82 -28692010.74 0.1725 0.1276

Jupiter -83267-04-07 23:59 J -28691751.60 -28691751.50 -28691751.39 0.0536 0.0296

Jupiter -83267-07-06 08:37 J -28691662.26 -28691662.14 -28691662.01 0.0534 0.0157

Venus -83265-02-14 17:01 J -28691073.90 -28691073.79 -28691073.67 0.3621 0.1836

Jupiter -83261-06-04 06:42 J -28689502.35 -28689502.22 -28689502.09 0.0491 0.0342

Jupiter -83261-09-02 11:44 J -28689412.18 -28689412.01 -28689411.84 0.0493 0.0158

Moon -83261-09-03 08:37 J -28689411.28 -28689411.14 -28689410.99 0.2583 0.0938

Earth -83261-09-03 10:04 J -28689411.22 -28689411.08 -28689410.93 0.2583 0.0817 *

Venus -83260-08-30 15:49 J -28689049.91 -28689049.84 -28689049.77 0.3626 0.2955

Mars -83259-02-16 21:20 J -28688879.76 -28688879.61 -28688879.46 0.1805 0.0519

Mars -83259-12-13 01:11 J -28688580.57 -28688580.45 -28688580.34 0.1732 0.0636

Moon -83258-03-09 11:16 J -28688494.11 -28688494.03 -28688493.95 0.2749 0.1894

Earth -83258-03-09 11:59 J -28688494.08 -28688494.00 -28688493.92 0.2752 0.1914 *

Neptune -83258-10-16 06:56 J -28688273.24 -28688273.21 -28688273.14 0.0089 0.0086

Neptune -83257-01-12 10:47 J -28688185.13 -28688185.05 -28688184.96 0.0089 0.0079

Neptune -83257-04-09 14:08 J -28688097.00 -28688096.91 -28688096.79 0.0089 0.0073

Venus -83257-05-24 16:04 J -28688051.88 -28688051.83 -28688051.78 0.3776 0.3363

Neptune -83257-07-06 17:30 J -28688008.88 -28688008.77 -28688008.62 0.0089 0.0067

Saturn -83257-08-17 01:40 J -28687967.50 -28687967.43 -28687967.34 0.0272 0.0216

Neptune -83257-10-02 21:06 J -28687920.74 -28687920.62 -28687920.46 0.0089 0.0061

Saturn -83257-11-13 12:42 J -28687879.09 -28687878.97 -28687878.85 0.0271 0.0123

Neptune -83257-12-30 00:56 J -28687832.61 -28687832.46 -28687832.31 0.0089 0.0054

Saturn -83256-02-09 23:59 J -28687790.64 -28687790.50 -28687790.37 0.0271 0.0030

Neptune -83256-03-28 04:18 J -28687744.47 -28687744.32 -28687744.15 0.0089 0.0048

Saturn -83256-05-09 11:01 J -28687702.17 -28687702.04 -28687701.90 0.0271 0.0065

Neptune -83256-06-24 07:40 J -28687656.34 -28687656.18 -28687656.00 0.0089 0.0042

Saturn -83256-08-05 22:18 J -28687613.68 -28687613.57 -28687613.46 0.0270 0.0160

Neptune -83256-09-20 11:01 J -28687568.20 -28687568.04 -28687567.85 0.0089 0.0036

Saturn -83256-11-02 09:49 J -28687525.13 -28687525.09 -28687525.05 0.0270 0.0255

Neptune -83256-12-17 14:37 J -28687480.06 -28687479.89 -28687479.70 0.0089 0.0029

Jupiter -83255-01-25 03:35 J -28687441.43 -28687441.35 -28687441.26 0.0537 0.0408

Neptune -83255-03-15 18:13 J -28687391.92 -28687391.74 -28687391.55 0.0089 0.0023

Jupiter -83255-04-24 11:59 J -28687352.13 -28687352.00 -28687351.87 0.0535 0.0047

Neptune -83255-06-11 21:49 J -28687303.78 -28687303.59 -28687303.41 0.0089 0.0017

Jupiter -83255-07-22 21:06 J -28687262.66 -28687262.62 -28687262.57 0.0532 0.0501

Neptune -83255-09-08 01:11 J -28687215.64 -28687215.45 -28687215.26 0.0089 0.0011

Neptune -83255-12-05 04:32 J -28687127.50 -28687127.31 -28687127.12 0.0089 0.0005

Neptune -83254-03-03 07:54 J -28687039.36 -28687039.17 -28687038.98 0.0089 0.0003

Neptune -83254-05-30 11:30 J -28686951.21 -28686951.02 -28686950.83 0.0088 0.0008

Neptune -83254-08-26 14:52 J -28686863.07 -28686862.88 -28686862.69 0.0088 0.0014

Neptune -83254-11-22 18:13 J -28686774.92 -28686774.74 -28686774.56 0.0088 0.0020

Neptune -83253-02-18 21:20 J -28686686.78 -28686686.61 -28686686.42 0.0088 0.0026

Neptune -83253-05-17 00:42 J -28686598.64 -28686598.47 -28686598.28 0.0088 0.0032

Neptune -83253-08-13 04:04 J -28686510.49 -28686510.33 -28686510.15 0.0088 0.0038

Neptune -83253-11-09 07:25 J -28686422.34 -28686422.19 -28686422.02 0.0088 0.0044

Neptune -83252-02-05 10:32 J -28686334.20 -28686334.06 -28686333.89 0.0088 0.0051

Neptune -83252-05-04 13:54 J -28686246.05 -28686245.92 -28686245.76 0.0088 0.0057

Neptune -83252-07-31 17:16 J -28686157.90 -28686157.78 -28686157.63 0.0088 0.0062

Neptune -83252-10-27 20:23 J -28686069.74 -28686069.65 -28686069.51 0.0088 0.0069

Venus -83252-12-08 10:18 J -28686028.15 -28686028.07 -28686027.99 0.3773 0.2501

Neptune -83251-01-24 00:13 J -28685981.59 -28685981.49 -28685981.39 0.0088 0.0074

Earth -83251-03-02 07:40 J -28685944.26 -28685944.18 -28685944.10 0.2753 0.1894

Moon -83251-03-02 08:23 J -28685944.23 -28685944.15 -28685944.07 0.2750 0.1840 *

Neptune -83251-04-22 03:20 J -28685893.43 -28685893.36 -28685893.27 0.0088 0.0080

Neptune -83251-07-19 06:42 J -28685805.26 -28685805.22 -28685805.17 0.0088 0.0086

Mars -83250-07-09 21:20 J -28685449.76 -28685449.61 -28685449.46 0.1795 0.0560

Jupiter -83249-03-23 04:18 J -28685192.36 -28685192.32 -28685192.27 0.0491 0.0472

Mars -83249-05-04 10:04 J -28685150.20 -28685150.08 -28685149.95 0.1740 0.0033

Jupiter -83249-06-21 09:35 J -28685102.27 -28685102.10 -28685101.92 0.0492 0.0033

Moon -83248-09-06 12:13 J -28684660.12 -28684659.99 -28684659.85 0.2588 0.0952

Earth -83248-09-06 13:40 J -28684660.07 -28684659.93 -28684659.80 0.2584 0.1144 *

Pluto -83247-03-25 12:28 J -28684460.03 -28684459.98 -28684459.93 0.0085 0.0078

Pluto -83247-06-21 13:25 J -28684372.01 -28684371.94 -28684371.84 0.0085 0.0067

Pluto -83247-09-17 14:52 J -28684283.97 -28684283.88 -28684283.77 0.0084 0.0055

Pluto -83247-12-14 16:18 J -28684195.93 -28684195.82 -28684195.70 0.0084 0.0042

Pluto -83246-03-12 17:44 J -28684107.88 -28684107.76 -28684107.63 0.0084 0.0030

Pluto -83246-06-08 18:56 J -28684019.83 -28684019.71 -28684019.57 0.0084 0.0019

Venus -83246-06-24 04:47 J -28684004.40 -28684004.30 -28684004.20 0.3769 0.1605

Pluto -83246-09-04 20:23 J -28683931.78 -28683931.65 -28683931.52 0.0084 0.0007

Pluto -83246-12-01 21:35 J -28683843.73 -28683843.60 -28683843.46 0.0084 0.0005

Pluto -83245-02-27 23:01 J -28683755.67 -28683755.54 -28683755.41 0.0084 0.0016

Pluto -83245-05-26 00:13 J -28683667.61 -28683667.49 -28683667.36 0.0084 0.0027

Pluto -83245-08-22 01:25 J -28683579.55 -28683579.44 -28683579.32 0.0083 0.0039

Pluto -83245-11-18 02:37 J -28683491.49 -28683491.39 -28683491.27 0.0083 0.0050

Pluto -83244-02-14 03:49 J -28683403.42 -28683403.34 -28683403.24 0.0083 0.0061

Pluto -83244-05-13 05:01 J -28683315.34 -28683315.29 -28683315.21 0.0083 0.0072

Jupiter -83244-11-13 07:40 J -28683131.22 -28683131.18 -28683131.15 0.0538 0.0515

Jupiter -83243-02-10 15:49 J -28683041.97 -28683041.84 -28683041.71 0.0536 0.0066

Jupiter -83243-05-11 00:42 J -28682952.55 -28682952.47 -28682952.38 0.0533 0.0391

Saturn -83241-03-08 00:42 J -28682285.60 -28682285.47 -28682285.33 0.0288 0.0183

Saturn -83241-06-04 23:30 J -28682196.69 -28682196.52 -28682196.34 0.0289 0.0030

Saturn -83241-09-01 22:04 J -28682107.74 -28682107.58 -28682107.42 0.0289 0.0122

Mars -83241-11-28 21:20 J -28682019.67 -28682019.61 -28682019.55 0.1786 0.1634

Saturn -83241-11-29 20:08 J -28682018.72 -28682018.66 -28682018.60 0.0289 0.0271

Venus -83240-01-06 23:30 J -28681980.63 -28681980.52 -28681980.41 0.3766 0.0689

Mars -83240-09-24 19:11 J -28681719.81 -28681719.70 -28681719.59 0.1748 0.0648

Earth -83238-03-05 02:37 J -28681193.50 -28681193.39 -28681193.28 0.2753 0.0556

Moon -83238-03-05 02:52 J -28681193.49 -28681193.38 -28681193.27 0.2746 0.0541 *

Jupiter -83237-04-09 08:08 J -28680792.34 -28680792.16 -28680791.98 0.0492 0.0094

Jupiter -83237-07-08 12:13 J -28680702.08 -28680701.99 -28680701.88 0.0494 0.0401

Venus -83235-07-23 18:28 J -28679956.85 -28679956.73 -28679956.62 0.3762 0.0275

Uranus -83234-08-25 03:06 J -28679559.38 -28679559.37 -28679559.35 0.0140 0.0139

Uranus -83234-11-21 10:04 J -28679471.17 -28679471.08 -28679470.96 0.0140 0.0115

Uranus -83233-02-17 17:16 J -28679382.91 -28679382.78 -28679382.63 0.0140 0.0091

Uranus -83233-05-16 00:42 J -28679294.63 -28679294.47 -28679294.31 0.0140 0.0066

Uranus -83233-08-12 07:40 J -28679206.35 -28679206.18 -28679206.00 0.0139 0.0042

Uranus -83233-11-08 14:37 J -28679118.07 -28679117.89 -28679117.70 0.0139 0.0019

Uranus -83232-02-04 21:35 J -28679029.78 -28679029.60 -28679029.41 0.0139 0.0006

Uranus -83232-05-04 04:32 J -28678941.49 -28678941.31 -28678941.13 0.0139 0.0029

Uranus -83232-07-31 11:16 J -28678853.19 -28678853.03 -28678852.86 0.0139 0.0052

Uranus -83232-10-27 17:59 J -28678764.90 -28678764.75 -28678764.59 0.0139 0.0075

Jupiter -83232-11-29 19:40 J -28678731.80 -28678731.68 -28678731.56 0.0536 0.0175

Uranus -83231-01-24 00:28 J -28678676.59 -28678676.48 -28678676.34 0.0139 0.0098

Jupiter -83231-02-27 04:18 J -28678642.43 -28678642.32 -28678642.20 0.0533 0.0279

Uranus -83231-04-22 07:11 J -28678588.28 -28678588.20 -28678588.10 0.0138 0.0119

Venus -83231-07-22 18:13 J -28678496.83 -28678496.74 -28678496.66 0.3606 0.2782

Mars -83230-02-15 04:04 J -28678289.41 -28678289.33 -28678289.25 0.1756 0.1304

Venus -83229-02-06 13:25 J -28677933.04 -28677932.94 -28677932.83 0.3758 0.1246

Mars -83229-03-27 21:20 J -28677882.66 -28677882.61 -28677882.56 0.1814 0.1703

Mars -83228-01-20 16:18 J -28677583.89 -28677583.82 -28677583.74 0.1724 0.1366

Earth -83228-09-01 12:28 J -28677360.03 -28677359.98 -28677359.93 0.2583 0.2415

Saturn -83227-01-04 03:35 J -28677235.40 -28677235.35 -28677235.29 0.0272 0.0248

Saturn -83227-04-02 14:37 J -28677147.00 -28677146.89 -28677146.78 0.0272 0.0155

Saturn -83227-06-30 01:40 J -28677058.56 -28677058.43 -28677058.30 0.0272 0.0061

Saturn -83227-09-26 12:56 J -28676970.10 -28676969.96 -28676969.83 0.0271 0.0033

Saturn -83227-12-24 00:13 J -28676881.61 -28676881.49 -28676881.37 0.0271 0.0128

Saturn -83226-03-22 11:30 J -28676793.09 -28676793.02 -28676792.94 0.0270 0.0223

Jupiter -83225-01-27 05:59 J -28676482.41 -28676482.25 -28676482.09 0.0492 0.0223

Venus -83225-02-05 18:28 J -28676472.85 -28676472.73 -28676472.61 0.3610 0.1468

Moon -83225-03-06 21:20 J -28676442.72 -28676442.61 -28676442.50 0.2747 0.0788

Earth -83225-03-06 21:49 J -28676442.70 -28676442.59 -28676442.49 0.2753 0.0815 *

Jupiter -83225-04-26 10:47 J -28676392.20 -28676392.05 -28676391.90 0.0494 0.0276

Venus -83224-08-22 08:52 J -28675909.22 -28675909.13 -28675909.04 0.3754 0.2244

Mars -83220-08-17 21:49 J -28674452.73 -28674452.59 -28674452.44 0.1805 0.0651

Venus -83220-08-21 18:13 J -28674448.87 -28674448.74 -28674448.61 0.3614 0.0207

Jupiter -83220-09-17 23:16 J -28674421.64 -28674421.53 -28674421.42 0.0536 0.0289

Jupiter -83220-12-16 07:40 J -28674332.30 -28674332.18 -28674332.05 0.0534 0.0164

Mars -83219-06-13 01:11 J -28674153.56 -28674153.45 -28674153.34 0.1732 0.0726

Venus -83218-03-08 04:32 J -28673885.36 -28673885.31 -28673885.26 0.3749 0.3274

Moon -83215-09-04 14:52 J -28672609.03 -28672608.88 -28672608.73 0.2585 0.0535

Earth -83215-09-04 16:18 J -28672608.97 -28672608.82 -28672608.67 0.2584 0.0407 *

Venus -83214-03-07 17:30 J -28672424.89 -28672424.77 -28672424.64 0.3618 0.1009

Jupiter -83214-11-15 04:18 J -28672172.44 -28672172.32 -28672172.19 0.0491 0.0348

Jupiter -83213-02-13 09:20 J -28672082.28 -28672082.11 -28672081.94 0.0493 0.0153

Moon -83212-03-09 16:18 J -28671691.90 -28671691.82 -28671691.75 0.2750 0.2042

Earth -83212-03-09 17:01 J -28671691.86 -28671691.79 -28671691.73 0.2752 0.2202 *

Saturn -83212-07-26 00:28 J -28671553.59 -28671553.48 -28671553.36 0.0288 0.0218

Saturn -83212-10-22 23:30 J -28671464.69 -28671464.52 -28671464.34 0.0289 0.0065

Saturn -83211-01-19 22:04 J -28671375.75 -28671375.58 -28671375.41 0.0289 0.0088

Saturn -83211-04-18 20:23 J -28671286.75 -28671286.65 -28671286.55 0.0289 0.0238

Mars -83210-01-07 22:04 J -28671022.73 -28671022.58 -28671022.43 0.1796 0.0429

Mars -83210-11-03 10:18 J -28670723.20 -28670723.07 -28670722.95 0.1740 0.0091

Venus -83209-09-20 16:32 J -28670400.91 -28670400.81 -28670400.70 0.3622 0.2171

Jupiter -83208-07-07 01:54 J -28670111.50 -28670111.42 -28670111.34 0.0537 0.0412

Jupiter -83208-10-04 10:18 J -28670022.20 -28670022.07 -28670021.94 0.0535 0.0038

Jupiter -83207-01-01 19:25 J -28669932.74 -28669932.69 -28669932.65 0.0532 0.0495

Earth -83205-03-02 12:42 J -28669142.06 -28669141.97 -28669141.88 0.2753 0.1623

Moon -83205-03-02 13:11 J -28669142.04 -28669141.95 -28669141.85 0.2748 0.1500 *

Venus -83203-04-06 15:06 J -28668376.92 -28668376.87 -28668376.82 0.3627 0.3279

Jupiter -83202-09-03 02:37 J -28667862.43 -28667862.39 -28667862.34 0.0491 0.0471

Moon -83202-09-07 18:28 J -28667857.85 -28667857.73 -28667857.60 0.2588 0.1490

Earth -83202-09-07 19:40 J -28667857.80 -28667857.68 -28667857.56 0.2584 0.1547 *

Jupiter -83202-12-02 08:08 J -28667772.34 -28667772.16 -28667771.98 0.0493 0.0032

Mars -83201-05-29 22:04 J -28667592.67 -28667592.58 -28667592.50 0.1787 0.1502

Venus -83201-12-29 14:08 J -28667378.97 -28667378.91 -28667378.85 0.3775 0.3126

Mars -83200-03-25 19:11 J -28667292.82 -28667292.70 -28667292.59 0.1748 0.0572

Saturn -83198-05-24 07:25 J -28666503.22 -28666503.19 -28666503.16 0.0272 0.0263

Saturn -83198-08-20 18:13 J -28666414.84 -28666414.74 -28666414.63 0.0272 0.0171

Saturn -83198-11-17 05:16 J -28666326.40 -28666326.28 -28666326.15 0.0271 0.0078

Saturn -83197-02-13 16:32 J -28666237.95 -28666237.81 -28666237.68 0.0271 0.0017

Saturn -83197-05-12 03:35 J -28666149.47 -28666149.35 -28666149.22 0.0270 0.0112

Saturn -83197-08-08 15:06 J -28666060.96 -28666060.87 -28666060.78 0.0270 0.0206

Jupiter -83196-04-25 05:30 J -28665801.29 -28665801.27 -28665801.24 0.0537 0.0524

Jupiter -83196-07-23 13:40 J -28665712.05 -28665711.93 -28665711.80 0.0536 0.0078

Jupiter -83196-10-20 22:32 J -28665622.65 -28665622.56 -28665622.46 0.0533 0.0382

Venus -83195-07-15 08:37 J -28665355.23 -28665355.14 -28665355.06 0.3772 0.2253

Moon -83192-03-05 07:40 J -28664391.29 -28664391.18 -28664391.06 0.2746 0.0285

Earth -83192-03-05 07:40 J -28664391.29 -28664391.18 -28664391.07 0.2753 0.0272 *

Mars -83191-08-16 04:18 J -28663862.41 -28663862.32 -28663862.24 0.1756 0.1215

Jupiter -83190-09-20 05:59 J -28663462.42 -28663462.25 -28663462.07 0.0492 0.0097

Jupiter -83190-12-19 10:18 J -28663372.17 -28663372.07 -28663371.97 0.0494 0.0397

Venus -83189-01-29 03:06 J -28663331.48 -28663331.37 -28663331.27 0.3768 0.1347

Uranus -83189-07-18 01:54 J -28663160.47 -28663160.42 -28663160.36 0.0139 0.0126

Mars -83189-07-21 16:18 J -28663156.88 -28663156.82 -28663156.75 0.1724 0.1452

Uranus -83189-10-14 05:30 J -28663072.35 -28663072.27 -28663072.18 0.0139 0.0109

Uranus -83188-01-10 09:06 J -28662984.22 -28662984.12 -28662984.02 0.0139 0.0092

Uranus -83188-04-08 12:28 J -28662896.08 -28662895.98 -28662895.86 0.0139 0.0075

Uranus -83188-07-05 16:18 J -28662807.94 -28662807.82 -28662807.70 0.0139 0.0057

Uranus -83188-10-01 19:54 J -28662719.80 -28662719.67 -28662719.54 0.0139 0.0040

Uranus -83188-12-28 23:30 J -28662631.65 -28662631.52 -28662631.38 0.0140 0.0023

Uranus -83187-03-27 03:20 J -28662543.50 -28662543.36 -28662543.23 0.0140 0.0005

Uranus -83187-06-23 06:56 J -28662455.35 -28662455.21 -28662455.07 0.0140 0.0014

Uranus -83187-09-19 10:32 J -28662367.19 -28662367.06 -28662366.92 0.0140 0.0032

Uranus -83187-12-16 14:23 J -28662279.03 -28662278.90 -28662278.77 0.0140 0.0050

Uranus -83186-03-14 18:13 J -28662190.86 -28662190.74 -28662190.62 0.0140 0.0068

Uranus -83186-06-10 22:04 J -28662102.69 -28662102.58 -28662102.47 0.0140 0.0087

Uranus -83186-09-07 01:54 J -28662014.51 -28662014.42 -28662014.33 0.0141 0.0106

Uranus -83186-12-04 05:44 J -28661926.32 -28661926.26 -28661926.19 0.0141 0.0125

Jupiter -83184-05-11 17:30 J -28661401.89 -28661401.77 -28661401.64 0.0536 0.0185

Jupiter -83184-08-09 02:23 J -28661312.51 -28661312.40 -28661312.29 0.0534 0.0271

Venus -83184-08-13 21:49 J -28661307.70 -28661307.59 -28661307.48 0.3765 0.0417

Saturn -83183-12-12 23:01 J -28660821.61 -28660821.54 -28660821.47 0.0288 0.0264

Saturn -83182-03-11 22:04 J -28660732.75 -28660732.58 -28660732.41 0.0288 0.0110

Saturn -83182-06-08 20:52 J -28660643.81 -28660643.63 -28660643.46 0.0289 0.0043

Moon -83182-09-02 17:30 J -28660557.86 -28660557.77 -28660557.68 0.2580 0.2048

Earth -83182-09-02 18:42 J -28660557.81 -28660557.72 -28660557.62 0.2583 0.2002 *

Saturn -83182-09-05 18:56 J -28660554.83 -28660554.71 -28660554.57 0.0289 0.0193

Mars -83180-02-15 22:18 J -28660025.71 -28660025.57 -28660025.43 0.1805 0.0761

Mars -83180-12-12 01:25 J -28659726.55 -28659726.44 -28659726.33 0.1732 0.0817

Moon -83179-03-08 02:08 J -28659640.51 -28659640.41 -28659640.30 0.2747 0.1015

Earth -83179-03-08 02:52 J -28659640.49 -28659640.38 -28659640.28 0.2753 0.1104 *

Venus -83178-02-27 16:47 J -28659283.91 -28659283.80 -28659283.69 0.3761 0.0542

Jupiter -83178-07-09 04:18 J -28659152.48 -28659152.32 -28659152.16 0.0492 0.0221

Jupiter -83178-10-07 08:52 J -28659062.27 -28659062.13 -28659061.98 0.0494 0.0276

Neptune -83176-01-22 16:32 J -28658588.84 -28658588.81 -28658588.78 0.0089 0.0086

Neptune -83176-04-20 17:44 J -28658500.80 -28658500.76 -28658500.71 0.0089 0.0082

Neptune -83176-07-17 18:56 J -28658412.76 -28658412.71 -28658412.64 0.0089 0.0078

Neptune -83176-10-13 20:08 J -28658324.72 -28658324.66 -28658324.57 0.0089 0.0074

Neptune -83175-01-09 21:49 J -28658236.67 -28658236.59 -28658236.50 0.0089 0.0069

Neptune -83175-04-07 23:01 J -28658148.62 -28658148.54 -28658148.44 0.0089 0.0065

Neptune -83175-07-05 00:28 J -28658060.57 -28658060.48 -28658060.38 0.0089 0.0061

Neptune -83175-10-01 01:40 J -28657972.52 -28657972.43 -28657972.31 0.0089 0.0057

Neptune -83175-12-28 03:20 J -28657884.47 -28657884.36 -28657884.25 0.0089 0.0052

Venus -83174-02-26 17:59 J -28657823.85 -28657823.75 -28657823.65 0.3607 0.2406

Neptune -83174-03-26 04:32 J -28657796.41 -28657796.31 -28657796.19 0.0089 0.0048

Neptune -83174-06-22 05:59 J -28657708.36 -28657708.25 -28657708.13 0.0089 0.0043

Neptune -83174-09-18 07:25 J -28657620.31 -28657620.19 -28657620.07 0.0089 0.0039

Neptune -83174-12-15 08:37 J -28657532.25 -28657532.14 -28657532.01 0.0089 0.0035

Neptune -83173-03-12 10:04 J -28657444.20 -28657444.08 -28657443.95 0.0089 0.0031

Neptune -83173-06-08 11:30 J -28657356.14 -28657356.02 -28657355.89 0.0089 0.0026

Neptune -83173-09-04 12:56 J -28657268.09 -28657267.96 -28657267.83 0.0089 0.0022

Venus -83173-09-12 11:59 J -28657260.10 -28657260.00 -28657259.90 0.3757 0.1532

Neptune -83173-12-01 14:23 J -28657180.03 -28657179.90 -28657179.77 0.0089 0.0017

Neptune -83172-02-27 15:49 J -28657091.97 -28657091.84 -28657091.71 0.0089 0.0013

Jupiter -83172-02-27 21:35 J -28657091.71 -28657091.60 -28657091.49 0.0536 0.0292 *

Earth -83172-02-28 22:47 J -28657090.57 -28657090.55 -28657090.53 0.2753 0.2674

Moon -83172-02-28 23:30 J -28657090.56 -28657090.52 -28657090.48 0.2753 0.2517 *

Neptune -83172-05-26 17:16 J -28657003.92 -28657003.78 -28657003.65 0.0089 0.0008

Jupiter -83172-05-28 06:13 J -28657002.37 -28657002.24 -28657002.12 0.0534 0.0162

Neptune -83172-08-22 18:42 J -28656915.86 -28656915.72 -28656915.59 0.0089 0.0004

Neptune -83172-11-18 20:08 J -28656827.80 -28656827.66 -28656827.53 0.0089 0.0002

Neptune -83171-02-14 21:20 J -28656739.74 -28656739.61 -28656739.47 0.0089 0.0006

Neptune -83171-05-13 22:47 J -28656651.68 -28656651.55 -28656651.41 0.0089 0.0010

Mars -83171-07-08 22:32 J -28656595.72 -28656595.56 -28656595.41 0.1796 0.0312

Neptune -83171-08-10 00:13 J -28656563.62 -28656563.49 -28656563.35 0.0089 0.0014

Neptune -83171-11-06 01:40 J -28656475.56 -28656475.43 -28656475.29 0.0089 0.0019

Neptune -83170-02-02 03:06 J -28656387.50 -28656387.37 -28656387.24 0.0089 0.0023

Neptune -83170-05-01 04:32 J -28656299.44 -28656299.31 -28656299.18 0.0089 0.0027

Mars -83170-05-04 10:18 J -28656296.19 -28656296.07 -28656295.95 0.1740 0.0169

Neptune -83170-07-28 05:59 J -28656211.37 -28656211.25 -28656211.12 0.0089 0.0032

Neptune -83170-10-24 07:25 J -28656123.31 -28656123.19 -28656123.06 0.0089 0.0036

Neptune -83169-01-20 08:52 J -28656035.25 -28656035.13 -28656035.01 0.0089 0.0041

Neptune -83169-04-17 10:18 J -28655947.18 -28655947.07 -28655946.95 0.0089 0.0045

Neptune -83169-07-14 11:44 J -28655859.12 -28655859.01 -28655858.90 0.0089 0.0050

Moon -83169-09-04 21:06 J -28655806.77 -28655806.62 -28655806.47 0.2585 0.0209

Earth -83169-09-04 22:32 J -28655806.71 -28655806.56 -28655806.41 0.2584 0.0038 *

Venus -83169-09-11 18:13 J -28655799.87 -28655799.74 -28655799.61 0.3611 0.1102

Neptune -83169-10-10 13:11 J -28655771.05 -28655770.95 -28655770.84 0.0089 0.0054

Neptune -83168-01-06 14:37 J -28655682.99 -28655682.89 -28655682.78 0.0089 0.0059

Saturn -83168-01-06 20:08 J -28655682.75 -28655682.66 -28655682.57 0.0272 0.0203

Neptune -83168-04-04 16:04 J -28655594.92 -28655594.83 -28655594.73 0.0089 0.0063

Saturn -83168-04-05 06:56 J -28655594.33 -28655594.21 -28655594.08 0.0272 0.0111

Neptune -83168-07-01 17:30 J -28655506.85 -28655506.77 -28655506.68 0.0089 0.0068

Saturn -83168-07-02 18:13 J -28655505.88 -28655505.74 -28655505.61 0.0271 0.0017

Neptune -83168-09-27 19:11 J -28655418.78 -28655418.70 -28655418.63 0.0089 0.0072

Saturn -83168-09-29 05:16 J -28655417.41 -28655417.28 -28655417.14 0.0271 0.0078

Neptune -83168-12-24 20:23 J -28655330.71 -28655330.65 -28655330.57 0.0089 0.0077

Saturn -83168-12-26 16:32 J -28655328.91 -28655328.81 -28655328.70 0.0270 0.0173

Neptune -83167-03-22 22:04 J -28655242.63 -28655242.58 -28655242.53 0.0089 0.0081

Saturn -83167-03-25 04:04 J -28655240.34 -28655240.33 -28655240.32 0.0270 0.0268

Venus -83167-03-29 07:25 J -28655236.27 -28655236.19 -28655236.11 0.3752 0.2549

Neptune -83167-06-18 23:16 J -28655154.55 -28655154.53 -28655154.49 0.0089 0.0086

Moon -83166-03-10 21:06 J -28654889.67 -28654889.62 -28654889.57 0.2752 0.2442

Earth -83166-03-10 22:04 J -28654889.63 -28654889.58 -28654889.54 0.2752 0.2490 *

Jupiter -83166-04-27 02:08 J -28654842.53 -28654842.41 -28654842.28 0.0491 0.0350

Jupiter -83166-07-26 07:11 J -28654752.36 -28654752.20 -28654752.03 0.0493 0.0151

Venus -83163-03-28 17:44 J -28653775.89 -28653775.76 -28653775.62 0.3615 0.0188

Venus -83162-10-13 03:06 J -28653212.40 -28653212.37 -28653212.34 0.3748 0.3590

Mars -83162-11-28 22:32 J -28653165.65 -28653165.56 -28653165.46 0.1787 0.1371

Mars -83161-09-23 19:11 J -28652865.81 -28652865.70 -28652865.58 0.1748 0.0481

Jupiter -83161-12-17 01:11 J -28652781.53 -28652781.45 -28652781.36 0.0537 0.0403

Jupiter -83160-03-16 09:35 J -28652692.23 -28652692.10 -28652691.97 0.0535 0.0048

Jupiter -83160-06-13 18:28 J -28652602.76 -28652602.73 -28652602.68 0.0532 0.0504

Earth -83159-03-03 17:44 J -28652339.86 -28652339.76 -28652339.67 0.2753 0.1349

Moon -83159-03-03 18:13 J -28652339.84 -28652339.74 -28652339.64 0.2748 0.1329 *

Venus -83158-10-12 17:01 J -28651751.91 -28651751.79 -28651751.67 0.3619 0.1356

Moon -83156-09-08 00:56 J -28651055.56 -28651055.46 -28651055.36 0.2589 0.1827

Earth -83156-09-08 01:54 J -28651055.52 -28651055.42 -28651055.32 0.2584 0.1941 *

Jupiter -83154-02-13 00:28 J -28650532.52 -28650532.48 -28650532.43 0.0491 0.0474

Jupiter -83154-05-14 05:59 J -28650442.43 -28650442.25 -28650442.07 0.0493 0.0029

Saturn -83153-07-28 20:52 J -28650000.78 -28650000.63 -28650000.47 0.0288 0.0152

Saturn -83153-10-25 19:54 J -28649911.85 -28649911.67 -28649911.49 0.0289 0.0003

Saturn -83152-01-22 18:28 J -28649822.88 -28649822.73 -28649822.58 0.0289 0.0154

Venus -83152-04-27 16:04 J -28649727.93 -28649727.83 -28649727.74 0.3624 0.2506

Mars -83151-02-14 04:18 J -28649435.41 -28649435.32 -28649435.23 0.1756 0.1131

Uranus -83150-09-14 11:01 J -28648858.09 -28648858.04 -28648857.96 0.0140 0.0131

Uranus -83150-12-11 18:28 J -28648769.84 -28648769.73 -28648769.60 0.0140 0.0106

Mars -83149-01-20 16:32 J -28648729.86 -28648729.81 -28648729.76 0.1724 0.1542

Venus -83149-01-20 17:59 J -28648729.76 -28648729.75 -28648729.73 0.3778 0.3744 *

Uranus -83149-03-09 01:40 J -28648681.57 -28648681.43 -28648681.27 0.0140 0.0082

Uranus -83149-06-05 08:52 J -28648593.29 -28648593.13 -28648592.96 0.0140 0.0058

Uranus -83149-09-01 15:49 J -28648505.01 -28648504.84 -28648504.66 0.0139 0.0034

Jupiter -83149-10-05 04:04 J -28648471.35 -28648471.33 -28648471.31 0.0537 0.0526

Uranus -83149-11-28 23:01 J -28648416.72 -28648416.54 -28648416.36 0.0139 0.0010

Jupiter -83148-01-02 12:13 J -28648382.12 -28648381.99 -28648381.86 0.0535 0.0078

Uranus -83148-02-25 05:59 J -28648328.43 -28648328.25 -28648328.07 0.0139 0.0014

Jupiter -83148-04-01 21:06 J -28648292.71 -28648292.62 -28648292.53 0.0533 0.0378

Uranus -83148-05-24 12:42 J -28648240.14 -28648239.97 -28648239.79 0.0139 0.0037

Uranus -83148-08-20 19:25 J -28648151.85 -28648151.69 -28648151.52 0.0139 0.0060

Uranus -83148-11-17 02:08 J -28648063.55 -28648063.41 -28648063.26 0.0139 0.0083

Uranus -83147-02-13 08:37 J -28647975.24 -28647975.14 -28647975.01 0.0139 0.0106

Uranus -83147-05-12 15:20 J -28647886.92 -28647886.86 -28647886.78 0.0138 0.0128

Venus -83147-11-11 14:23 J -28647703.91 -28647703.90 -28647703.89 0.3628 0.3603

Moon -83146-03-06 12:28 J -28647589.09 -28647588.98 -28647588.86 0.2746 0.0076

Earth -83146-03-06 12:42 J -28647589.09 -28647588.97 -28647588.86 0.2753 0.0070 *

Venus -83144-08-05 12:13 J -28646706.06 -28646705.99 -28646705.92 0.3775 0.2886

Jupiter -83142-03-02 04:32 J -28646132.48 -28646132.31 -28646132.13 0.0492 0.0094

Jupiter -83142-05-31 08:52 J -28646042.23 -28646042.13 -28646042.02 0.0494 0.0402

Mars -83141-08-16 22:47 J -28645598.68 -28645598.55 -28645598.41 0.1805 0.0896

Mars -83140-06-12 01:25 J -28645299.55 -28645299.44 -28645299.34 0.1732 0.0900

Saturn -83139-05-26 23:30 J -28644950.59 -28644950.52 -28644950.44 0.0272 0.0221

Saturn -83139-08-23 10:32 J -28644862.18 -28644862.06 -28644861.94 0.0271 0.0128

Saturn -83139-11-19 21:35 J -28644773.73 -28644773.60 -28644773.46 0.0271 0.0035

Saturn -83138-02-16 08:52 J -28644685.27 -28644685.13 -28644685.00 0.0271 0.0060

Venus -83138-02-19 06:42 J -28644682.31 -28644682.22 -28644682.13 0.3771 0.1999

Saturn -83138-05-15 19:54 J -28644596.77 -28644596.67 -28644596.55 0.0270 0.0155

Saturn -83138-08-12 07:25 J -28644508.24 -28644508.19 -28644508.14 0.0270 0.0250

Jupiter -83137-10-21 15:35 J -28644071.97 -28644071.85 -28644071.72 0.0536 0.0192

Jupiter -83136-01-19 00:28 J -28643982.60 -28643982.48 -28643982.37 0.0534 0.0264

Moon -83136-09-02 23:44 J -28643755.62 -28643755.51 -28643755.41 0.2582 0.1814

Earth -83136-09-03 00:56 J -28643755.58 -28643755.46 -28643755.34 0.2584 0.1587 *

Moon -83133-03-08 07:11 J -28642838.30 -28642838.20 -28642838.10 0.2747 0.1319

Earth -83133-03-08 07:40 J -28642838.27 -28642838.18 -28642838.08 0.2753 0.1383 *

Venus -83133-09-04 01:25 J -28642658.55 -28642658.44 -28642658.34 0.3767 0.1086

Mars -83131-01-06 23:01 J -28642168.69 -28642168.54 -28642168.38 0.1796 0.0181

Mars -83131-11-02 10:18 J -28641869.19 -28641869.07 -28641868.95 0.1740 0.0259

Jupiter -83131-12-19 02:37 J -28641822.55 -28641822.39 -28641822.23 0.0491 0.0221

Jupiter -83130-03-19 07:11 J -28641732.34 -28641732.20 -28641732.05 0.0493 0.0276

Venus -83127-03-20 20:08 J -28640634.77 -28640634.66 -28640634.55 0.3764 0.0142

Earth -83126-03-02 03:35 J -28640288.40 -28640288.35 -28640288.29 0.2753 0.2402

Moon -83126-03-02 04:32 J -28640288.37 -28640288.31 -28640288.26 0.2751 0.2375 *

Jupiter -83125-08-09 19:40 J -28639761.79 -28639761.68 -28639761.58 0.0537 0.0300

Jupiter -83125-11-07 04:04 J -28639672.45 -28639672.33 -28639672.20 0.0535 0.0156

Saturn -83124-12-15 19:25 J -28639268.82 -28639268.69 -28639268.56 0.0288 0.0198

Saturn -83123-03-14 18:28 J -28639179.91 -28639179.73 -28639179.56 0.0289 0.0045

Venus -83123-03-19 17:30 J -28639174.82 -28639174.77 -28639174.73 0.3605 0.3377

Saturn -83123-06-11 16:47 J -28639090.96 -28639090.80 -28639090.63 0.0289 0.0108

Moon -83123-09-06 03:06 J -28639004.52 -28639004.37 -28639004.22 0.2586 0.0314

Earth -83123-09-06 04:47 J -28639004.45 -28639004.30 -28639004.15 0.2584 0.0408 *

Saturn -83123-09-08 15:06 J -28639001.94 -28639001.87 -28639001.79 0.0290 0.0258

Mars -83122-05-29 23:01 J -28638738.65 -28638738.54 -28638738.43 0.1787 0.1260

Venus -83122-10-04 15:06 J -28638610.98 -28638610.87 -28638610.76 0.3759 0.0839

Mars -83121-03-24 19:25 J -28638438.81 -28638438.69 -28638438.57 0.1747 0.0391

Moon -83120-03-11 02:08 J -28638087.44 -28638087.41 -28638087.38 0.2753 0.2646

Jupiter -83119-10-07 00:42 J -28637512.59 -28637512.47 -28637512.34 0.0491 0.0346

Jupiter -83118-01-05 05:44 J -28637422.42 -28637422.26 -28637422.09 0.0493 0.0155

Venus -83118-10-03 17:59 J -28637150.87 -28637150.75 -28637150.64 0.3609 0.2030

Venus -83116-04-19 10:32 J -28636587.16 -28636587.06 -28636586.96 0.3756 0.1832

Earth -83113-03-03 22:32 J -28635537.66 -28635537.56 -28635537.46 0.2753 0.1071

Moon -83113-03-03 23:01 J -28635537.64 -28635537.54 -28635537.43 0.2748 0.0948 *

Jupiter -83113-05-28 23:44 J -28635451.60 -28635451.51 -28635451.43 0.0537 0.0405

Jupiter -83113-08-26 08:08 J -28635362.29 -28635362.16 -28635362.03 0.0535 0.0047

Jupiter -83113-11-23 17:01 J -28635272.83 -28635272.79 -28635272.74 0.0532 0.0503

Venus -83112-04-18 17:59 J -28635126.88 -28635126.75 -28635126.62 0.3612 0.0743

Mars -83112-08-15 04:18 J -28635008.42 -28635008.32 -28635008.22 0.1755 0.1045

Venus -83111-11-03 05:59 J -28634563.32 -28634563.25 -28634563.18 0.3751 0.2856

Mars -83110-07-21 16:32 J -28634302.84 -28634302.81 -28634302.77 0.1724 0.1634

Moon -83110-09-09 07:25 J -28634253.26 -28634253.19 -28634253.12 0.2590 0.2269

Earth -83110-09-09 07:54 J -28634253.23 -28634253.17 -28634253.10 0.2584 0.2334 *

Saturn -83110-10-14 01:11 J -28634218.49 -28634218.45 -28634218.40 0.0272 0.0254

Saturn -83109-01-10 12:13 J -28634130.10 -28634129.99 -28634129.88 0.0272 0.0161

Saturn -83109-04-07 23:16 J -28634041.66 -28634041.53 -28634041.40 0.0271 0.0068

Saturn -83109-07-05 10:18 J -28633953.21 -28633953.07 -28633952.93 0.0271 0.0026

Saturn -83109-10-01 21:35 J -28633864.72 -28633864.60 -28633864.48 0.0270 0.0120

Saturn -83109-12-29 08:52 J -28633776.21 -28633776.13 -28633776.05 0.0270 0.0215

Jupiter -83107-07-25 22:47 J -28633202.60 -28633202.55 -28633202.51 0.0491 0.0474

Jupiter -83107-10-24 04:04 J -28633112.51 -28633112.33 -28633112.15 0.0493 0.0028

Venus -83107-11-02 17:30 J -28633102.90 -28633102.77 -28633102.64 0.3616 0.0514

Uranus -83105-05-11 06:28 J -28632547.25 -28632547.23 -28632547.19 0.0138 0.0135

Uranus -83105-08-07 10:04 J -28632459.14 -28632459.08 -28632459.01 0.0139 0.0118

Uranus -83105-11-03 13:25 J -28632371.02 -28632370.94 -28632370.84 0.0139 0.0102

Uranus -83104-01-30 17:16 J -28632282.89 -28632282.78 -28632282.67 0.0139 0.0084

Uranus -83104-04-28 20:52 J -28632194.75 -28632194.63 -28632194.51 0.0139 0.0067

Uranus -83104-07-26 00:28 J -28632106.61 -28632106.48 -28632106.35 0.0139 0.0050

Uranus -83104-10-22 04:04 J -28632018.46 -28632018.33 -28632018.19 0.0139 0.0032

Uranus -83103-01-18 07:40 J -28631930.31 -28631930.18 -28631930.04 0.0140 0.0015

Uranus -83103-04-16 11:30 J -28631842.16 -28631842.02 -28631841.88 0.0140 0.0004

Uranus -83103-07-13 15:06 J -28631754.00 -28631753.87 -28631753.73 0.0140 0.0022

Uranus -83103-10-09 18:56 J -28631665.84 -28631665.71 -28631665.58 0.0140 0.0040

Mars -83102-01-05 13:25 J -28631577.97 -28631577.94 -28631577.91 0.1763 0.1700

Uranus -83102-01-05 22:47 J -28631577.68 -28631577.55 -28631577.42 0.0140 0.0058

Uranus -83102-04-04 02:37 J -28631489.51 -28631489.39 -28631489.28 0.0140 0.0077

Uranus -83102-07-01 06:13 J -28631401.33 -28631401.24 -28631401.13 0.0140 0.0096

Uranus -83102-09-27 10:04 J -28631313.15 -28631313.08 -28631312.99 0.0141 0.0115

Uranus -83102-12-24 14:08 J -28631224.95 -28631224.91 -28631224.86 0.0141 0.0133

Mars -83101-02-15 23:30 J -28631171.64 -28631171.52 -28631171.39 0.1805 0.1025

Jupiter -83101-03-17 03:20 J -28631141.39 -28631141.36 -28631141.32 0.0537 0.0515

Venus -83101-05-18 16:32 J -28631078.92 -28631078.81 -28631078.69 0.3621 0.1700

Jupiter -83101-06-14 11:44 J -28631052.14 -28631052.01 -28631051.88 0.0535 0.0067

Jupiter -83101-09-11 20:23 J -28630962.73 -28630962.65 -28630962.56 0.0533 0.0390

Mars -83101-12-11 01:25 J -28630872.54 -28630872.44 -28630872.34 0.1732 0.0988

Moon -83100-03-06 17:30 J -28630786.89 -28630786.77 -28630786.66 0.2746 0.0228

Earth -83100-03-06 17:30 J -28630786.88 -28630786.77 -28630786.65 0.2753 0.0301 *

Venus -83096-12-02 15:20 J -28629054.94 -28629054.86 -28629054.78 0.3625 0.2834

Jupiter -83095-08-12 02:52 J -28628802.56 -28628802.38 -28628802.20 0.0492 0.0093

Pluto -83095-10-17 00:42 J -28628736.53 -28628736.47 -28628736.38 0.0060 0.0056

Jupiter -83095-11-10 07:11 J -28628712.30 -28628712.20 -28628712.10 0.0494 0.0402

Pluto -83094-01-13 01:54 J -28628648.50 -28628648.42 -28628648.29 0.0060 0.0050

Pluto -83094-04-11 03:20 J -28628560.47 -28628560.36 -28628560.20 0.0060 0.0044

Saturn -83094-05-04 17:01 J -28628536.87 -28628536.79 -28628536.69 0.0288 0.0248

Pluto -83094-07-08 04:47 J -28628472.43 -28628472.30 -28628472.13 0.0061 0.0038

Saturn -83094-08-01 16:04 J -28628447.99 -28628447.83 -28628447.65 0.0289 0.0094

Pluto -83094-10-04 06:42 J -28628384.38 -28628384.22 -28628384.05 0.0061 0.0031

Saturn -83094-10-29 14:52 J -28628359.05 -28628358.88 -28628358.70 0.0289 0.0061

Pluto -83094-12-31 07:54 J -28628296.34 -28628296.17 -28628295.98 0.0061 0.0025

Saturn -83093-01-26 13:25 J -28628270.06 -28628269.94 -28628269.82 0.0290 0.0212

Pluto -83093-03-28 09:20 J -28628208.28 -28628208.11 -28628207.92 0.0061 0.0019

Pluto -83093-06-24 10:47 J -28628120.23 -28628120.05 -28628119.85 0.0061 0.0013

Neptune -83093-07-12 03:49 J -28628102.37 -28628102.34 -28628102.28 0.0088 0.0086

Venus -83093-08-26 16:18 J -28628056.86 -28628056.82 -28628056.78 0.3777 0.3502

Pluto -83093-09-20 12:28 J -28628032.17 -28628031.98 -28628031.79 0.0061 0.0006

Neptune -83093-10-08 07:25 J -28628014.26 -28628014.19 -28628014.10 0.0088 0.0080

Pluto -83093-12-17 13:54 J -28627944.11 -28627943.92 -28627943.73 0.0061 0.0000

Neptune -83092-01-04 10:47 J -28627926.14 -28627926.05 -28627925.92 0.0088 0.0074

Pluto -83092-03-15 15:20 J -28627856.05 -28627855.86 -28627855.67 0.0061 0.0006

Neptune -83092-04-02 14:37 J -28627838.01 -28627837.89 -28627837.76 0.0088 0.0067

Pluto -83092-06-11 16:32 J -28627767.99 -28627767.81 -28627767.61 0.0061 0.0013

Neptune -83092-06-29 17:59 J -28627749.88 -28627749.75 -28627749.60 0.0088 0.0061

Mars -83092-07-07 23:30 J -28627741.67 -28627741.52 -28627741.36 0.1796 0.0064

Pluto -83092-09-07 17:59 J -28627679.92 -28627679.75 -28627679.55 0.0061 0.0020

Neptune -83092-09-25 21:35 J -28627661.74 -28627661.60 -28627661.44 0.0088 0.0055

Pluto -83092-12-04 19:40 J -28627591.85 -28627591.68 -28627591.50 0.0061 0.0026

Neptune -83092-12-23 00:56 J -28627573.60 -28627573.46 -28627573.28 0.0088 0.0049

Pluto -83091-03-02 20:52 J -28627503.78 -28627503.63 -28627503.45 0.0061 0.0032

Neptune -83091-03-21 04:47 J -28627485.47 -28627485.30 -28627485.13 0.0088 0.0042

Mars -83091-05-03 10:32 J -28627442.18 -28627442.06 -28627441.94 0.1739 0.0349

Pluto -83091-05-29 22:32 J -28627415.70 -28627415.56 -28627415.40 0.0061 0.0039

Neptune -83091-06-17 08:08 J -28627397.33 -28627397.16 -28627396.98 0.0088 0.0036

Pluto -83091-08-25 23:44 J -28627327.62 -28627327.51 -28627327.36 0.0061 0.0046

Neptune -83091-09-13 11:30 J -28627309.19 -28627309.02 -28627308.83 0.0088 0.0030

Pluto -83091-11-22 01:25 J -28627239.53 -28627239.44 -28627239.33 0.0061 0.0052

Neptune -83091-12-10 15:06 J -28627221.05 -28627220.87 -28627220.68 0.0088 0.0023

Pluto -83090-02-18 02:37 J -28627151.43 -28627151.39 -28627151.31 0.0062 0.0059

Neptune -83090-03-08 18:28 J -28627132.91 -28627132.73 -28627132.53 0.0088 0.0018

Neptune -83090-06-04 22:04 J -28627044.77 -28627044.58 -28627044.39 0.0088 0.0011

Neptune -83090-09-01 01:25 J -28626956.63 -28626956.44 -28626956.24 0.0088 0.0005

Moon -83090-09-04 05:44 J -28626953.39 -28626953.26 -28626953.13 0.2583 0.1223

Earth -83090-09-04 07:11 J -28626953.33 -28626953.20 -28626953.06 0.2584 0.1169 *

Neptune -83090-11-28 05:01 J -28626868.48 -28626868.29 -28626868.10 0.0088 0.0002

Neptune -83089-02-24 08:23 J -28626780.34 -28626780.15 -28626779.96 0.0088 0.0008

Jupiter -83089-04-02 14:23 J -28626742.02 -28626741.90 -28626741.78 0.0536 0.0191

Neptune -83089-05-22 11:44 J -28626692.20 -28626692.01 -28626691.82 0.0088 0.0014

Jupiter -83089-06-30 23:01 J -28626652.65 -28626652.54 -28626652.43 0.0534 0.0264

Neptune -83089-08-18 15:06 J -28626604.05 -28626603.87 -28626603.68 0.0088 0.0020

Neptune -83089-11-14 18:28 J -28626515.91 -28626515.73 -28626515.55 0.0088 0.0026

Neptune -83088-02-10 21:49 J -28626427.76 -28626427.59 -28626427.41 0.0088 0.0032

Neptune -83088-05-10 01:11 J -28626339.62 -28626339.45 -28626339.28 0.0088 0.0038

Neptune -83088-08-06 04:32 J -28626251.47 -28626251.31 -28626251.14 0.0088 0.0044

Neptune -83088-11-02 07:54 J -28626163.32 -28626163.17 -28626163.01 0.0088 0.0050

Neptune -83087-01-29 11:16 J -28626075.17 -28626075.03 -28626074.88 0.0088 0.0056

Moon -83087-03-09 12:13 J -28626036.09 -28626035.99 -28626035.90 0.2749 0.1605

Earth -83087-03-09 12:42 J -28626036.06 -28626035.97 -28626035.88 0.2752 0.1666 *

Venus -83087-03-12 10:32 J -28626033.14 -28626033.06 -28626032.98 0.3773 0.2635

Neptune -83087-04-27 14:37 J -28625987.02 -28625986.89 -28625986.76 0.0088 0.0062

Neptune -83087-07-24 17:44 J -28625898.87 -28625898.76 -28625898.63 0.0088 0.0068

Neptune -83087-10-20 21:06 J -28625810.72 -28625810.62 -28625810.51 0.0088 0.0074

Neptune -83086-01-17 00:13 J -28625722.56 -28625722.49 -28625722.40 0.0088 0.0080

Neptune -83086-04-15 03:35 J -28625634.38 -28625634.35 -28625634.30 0.0088 0.0086

Jupiter -83083-05-31 01:25 J -28624492.60 -28624492.44 -28624492.27 0.0492 0.0214

Jupiter -83083-08-29 06:13 J -28624402.38 -28624402.24 -28624402.10 0.0493 0.0284

Mars -83083-11-27 23:44 J -28624311.63 -28624311.51 -28624311.39 0.1787 0.1116

Mars -83082-09-23 19:25 J -28624011.81 -28624011.69 -28624011.57 0.1747 0.0307

Venus -83082-09-26 05:01 J -28624009.39 -28624009.29 -28624009.19 0.3770 0.1738

Earth -83080-03-02 08:37 J -28623486.21 -28623486.14 -28623486.07 0.2753 0.2127

Moon -83080-03-02 09:20 J -28623486.18 -28623486.11 -28623486.03 0.2750 0.1972 *

Saturn -83080-05-29 15:35 J -28623397.95 -28623397.85 -28623397.75 0.0272 0.0180

Saturn -83080-08-26 02:37 J -28623309.52 -28623309.39 -28623309.26 0.0271 0.0087

Saturn -83080-11-22 13:40 J -28623221.07 -28623220.93 -28623220.79 0.0271 0.0007

Saturn -83079-02-19 00:42 J -28623132.59 -28623132.47 -28623132.34 0.0270 0.0102

Saturn -83079-05-18 11:59 J -28623044.09 -28623044.00 -28623043.90 0.0270 0.0196

Jupiter -83077-01-20 17:44 J -28622431.86 -28622431.76 -28622431.65 0.0537 0.0305

Jupiter -83077-04-19 02:23 J -28622342.53 -28622342.40 -28622342.27 0.0534 0.0150

Moon -83077-09-06 09:35 J -28622202.25 -28622202.10 -28622201.96 0.2586 0.0610

Earth -83077-09-06 10:47 J -28622202.19 -28622202.05 -28622201.90 0.2584 0.0809 *

Venus -83076-04-10 23:44 J -28621985.62 -28621985.51 -28621985.40 0.3766 0.0817

Mars -83072-02-13 04:18 J -28620581.42 -28620581.32 -28620581.22 0.1755 0.0959

Jupiter -83071-03-18 23:16 J -28620182.65 -28620182.53 -28620182.39 0.0491 0.0342

Jupiter -83071-06-17 04:18 J -28620092.48 -28620092.32 -28620092.15 0.0493 0.0158

Venus -83071-10-25 18:28 J -28619961.84 -28619961.73 -28619961.61 0.3762 0.0194

Mars -83070-01-19 16:32 J -28619875.81 -28619875.81 -28619875.80 0.1724 0.1718

Earth -83067-03-05 03:35 J -28618735.46 -28618735.35 -28618735.24 0.2753 0.0791

Moon -83067-03-05 03:49 J -28618735.45 -28618735.34 -28618735.23 0.2747 0.0814 *

Venus -83067-10-24 17:16 J -28618501.85 -28618501.78 -28618501.70 0.3606 0.2989

Uranus -83066-10-04 19:54 J -28618156.75 -28618156.67 -28618156.56 0.0140 0.0121

Jupiter -83066-11-08 21:49 J -28618121.67 -28618121.59 -28618121.51 0.0537 0.0412

Uranus -83065-01-01 03:20 J -28618068.49 -28618068.36 -28618068.22 0.0140 0.0096

Jupiter -83065-02-06 06:13 J -28618032.37 -28618032.24 -28618032.11 0.0535 0.0040

Uranus -83065-03-29 10:32 J -28617980.21 -28617980.06 -28617979.90 0.0140 0.0072

Jupiter -83065-05-05 15:20 J -28617942.91 -28617942.86 -28617942.82 0.0533 0.0498

Venus -83065-05-10 13:40 J -28617938.04 -28617937.93 -28617937.82 0.3758 0.1122

Uranus -83065-06-25 17:30 J -28617891.93 -28617891.77 -28617891.59 0.0140 0.0048

Uranus -83065-09-22 00:42 J -28617803.65 -28617803.47 -28617803.29 0.0139 0.0024

Saturn -83065-12-18 14:37 J -28617716.04 -28617715.89 -28617715.73 0.0289 0.0140

Uranus -83065-12-19 07:40 J -28617715.36 -28617715.18 -28617714.99 0.0139 0.0002

Saturn -83064-03-17 13:40 J -28617627.11 -28617626.93 -28617626.76 0.0289 0.0016

Uranus -83064-03-17 14:37 J -28617627.07 -28617626.89 -28617626.71 0.0139 0.0024 *

Uranus -83064-06-13 21:20 J -28617538.77 -28617538.61 -28617538.43 0.0139 0.0047

Saturn -83064-06-14 11:59 J -28617538.14 -28617538.00 -28617537.85 0.0290 0.0166

Uranus -83064-09-10 04:04 J -28617450.48 -28617450.33 -28617450.17 0.0139 0.0070

Uranus -83064-12-07 10:47 J -28617362.17 -28617362.05 -28617361.91 0.0139 0.0093

Uranus -83063-03-05 17:30 J -28617273.86 -28617273.77 -28617273.66 0.0138 0.0115

Uranus -83063-06-01 23:59 J -28617185.51 -28617185.50 -28617185.47 0.0138 0.0137

Mars -83063-07-06 13:25 J -28617150.98 -28617150.94 -28617150.89 0.1763 0.1611

Mars -83062-08-16 23:44 J -28616744.63 -28616744.51 -28616744.39 0.1805 0.1136

Venus -83061-05-09 17:44 J -28616477.88 -28616477.76 -28616477.64 0.3610 0.1654

Mars -83061-06-11 01:40 J -28616445.53 -28616445.43 -28616445.33 0.1732 0.1083

Venus -83060-11-24 09:06 J -28615914.22 -28615914.12 -28615914.03 0.3754 0.2136

Jupiter -83059-01-04 21:35 J -28615872.65 -28615872.60 -28615872.55 0.0491 0.0466

Jupiter -83059-04-05 02:52 J -28615782.56 -28615782.38 -28615782.20 0.0492 0.0036

Venus -83056-11-23 17:30 J -28614453.90 -28614453.77 -28614453.64 0.3613 0.0377

Moon -83054-03-07 22:18 J -28613984.68 -28613984.57 -28613984.46 0.2746 0.0597

Earth -83054-03-07 22:32 J -28613984.67 -28613984.56 -28613984.45 0.2753 0.0567 *

Venus -83054-06-10 04:32 J -28613890.37 -28613890.31 -28613890.25 0.3750 0.3167

Jupiter -83054-08-28 01:54 J -28613811.45 -28613811.42 -28613811.39 0.0538 0.0516

Jupiter -83054-11-25 10:04 J -28613722.20 -28613722.08 -28613721.95 0.0536 0.0070

Jupiter -83053-02-22 18:56 J -28613632.79 -28613632.71 -28613632.62 0.0533 0.0390

Mars -83052-01-06 00:13 J -28613314.64 -28613314.49 -28613314.33 0.1797 0.0082

Mars -83052-11-01 10:32 J -28613015.18 -28613015.06 -28613014.94 0.1739 0.0435

Saturn -83051-10-16 17:01 J -28612665.87 -28612665.79 -28612665.71 0.0272 0.0215

Saturn -83050-01-13 04:04 J -28612577.45 -28612577.33 -28612577.21 0.0271 0.0122

Saturn -83050-04-11 15:06 J -28612489.01 -28612488.87 -28612488.74 0.0271 0.0029

Venus -83050-06-09 17:01 J -28612429.92 -28612429.79 -28612429.67 0.3618 0.0858

Saturn -83050-07-09 02:08 J -28612400.54 -28612400.41 -28612400.28 0.0270 0.0066

Saturn -83050-10-05 13:25 J -28612312.05 -28612311.94 -28612311.83 0.0270 0.0160

Saturn -83049-01-02 00:42 J -28612223.51 -28612223.47 -28612223.43 0.0270 0.0255

Jupiter -83047-01-22 01:11 J -28611472.63 -28611472.45 -28611472.27 0.0492 0.0091

Jupiter -83047-04-22 05:30 J -28611382.37 -28611382.27 -28611382.17 0.0494 0.0404

Venus -83045-12-23 16:04 J -28610405.94 -28610405.83 -28610405.72 0.3622 0.2039

Moon -83044-09-04 11:59 J -28610151.14 -28610151.00 -28610150.86 0.2583 0.1006

Earth -83044-09-04 13:25 J -28610151.08 -28610150.94 -28610150.79 0.2584 0.0755 *

Mars -83043-05-29 00:13 J -28609884.62 -28609884.49 -28609884.36 0.1787 0.0997

Mars -83042-03-24 19:25 J -28609584.81 -28609584.69 -28609584.57 0.1747 0.0219

Jupiter -83042-09-13 13:54 J -28609412.04 -28609411.92 -28609411.80 0.0536 0.0177

Jupiter -83042-12-11 22:32 J -28609322.67 -28609322.56 -28609322.45 0.0534 0.0278

Moon -83041-03-09 17:01 J -28609233.88 -28609233.79 -28609233.71 0.2750 0.1809

Earth -83041-03-09 17:44 J -28609233.84 -28609233.76 -28609233.68 0.2752 0.1950 *

Venus -83039-07-09 14:37 J -28608381.95 -28608381.89 -28608381.83 0.3626 0.3159

Venus -83036-04-02 14:23 J -28607383.95 -28607383.90 -28607383.84 0.3776 0.3258

Jupiter -83036-11-09 23:59 J -28607162.66 -28607162.50 -28607162.34 0.0492 0.0212

Jupiter -83035-02-08 04:32 J -28607072.45 -28607072.31 -28607072.16 0.0494 0.0286

Saturn -83035-05-07 11:30 J -28606984.15 -28606984.02 -28606983.88 0.0288 0.0194

Saturn -83035-08-04 10:47 J -28606895.23 -28606895.05 -28606894.88 0.0289 0.0040

Saturn -83035-11-01 09:20 J -28606806.27 -28606806.11 -28606805.95 0.0289 0.0113

Saturn -83034-01-29 07:40 J -28606717.25 -28606717.18 -28606717.11 0.0290 0.0264

Earth -83034-03-03 13:40 J -28606684.01 -28606683.93 -28606683.85 0.2753 0.1854

Moon -83034-03-03 14:23 J -28606683.98 -28606683.90 -28606683.82 0.2750 0.1816 *

Mars -83033-08-14 04:32 J -28606154.42 -28606154.31 -28606154.21 0.1755 0.0873

Moon -83031-09-07 15:49 J -28605399.97 -28605399.84 -28605399.70 0.2588 0.1192

Earth -83031-09-07 17:01 J -28605399.92 -28605399.79 -28605399.65 0.2584 0.1217 *

Venus -83031-10-17 08:52 J -28605360.22 -28605360.13 -28605360.05 0.3772 0.2385

Jupiter -83030-07-02 16:32 J -28605101.91 -28605101.81 -28605101.70 0.0536 0.0302

Jupiter -83030-09-30 01:11 J -28605012.58 -28605012.45 -28605012.32 0.0534 0.0152

Venus -83025-05-02 03:20 J -28603336.47 -28603336.36 -28603336.26 0.3769 0.1475

Jupiter -83024-08-28 22:32 J -28602852.69 -28602852.56 -28602852.42 0.0491 0.0333

Jupiter -83024-11-27 03:35 J -28602762.51 -28602762.35 -28602762.18 0.0493 0.0168

Mars -83023-01-04 13:25 J -28602724.00 -28602723.94 -28602723.88 0.1763 0.1530

Mars -83022-02-15 00:28 J -28602317.58 -28602317.48 -28602317.37 0.1806 0.1276

Mars -83022-12-11 01:40 J -28602018.52 -28602018.43 -28602018.34 0.1731 0.1167

Saturn -83021-03-04 20:08 J -28601933.72 -28601933.66 -28601933.59 0.0272 0.0236

Moon -83021-03-05 08:37 J -28601933.25 -28601933.14 -28601933.03 0.2746 0.0434

Earth -83021-03-05 08:37 J -28601933.25 -28601933.14 -28601933.03 0.2753 0.0527 *

Uranus -83021-05-31 14:23 J -28601845.94 -28601845.90 -28601845.84 0.0138 0.0129

Saturn -83021-06-01 07:11 J -28601845.31 -28601845.20 -28601845.08 0.0271 0.0143

Uranus -83021-08-27 17:59 J -28601757.82 -28601757.75 -28601757.67 0.0139 0.0112

Saturn -83021-08-28 18:13 J -28601756.87 -28601756.74 -28601756.61 0.0271 0.0049

Uranus -83021-11-23 21:35 J -28601669.70 -28601669.60 -28601669.50 0.0139 0.0095

Saturn -83021-11-25 05:16 J -28601668.41 -28601668.28 -28601668.14 0.0271 0.0045

Uranus -83020-02-20 00:56 J -28601581.56 -28601581.46 -28601581.34 0.0139 0.0078

Saturn -83020-02-21 16:32 J -28601579.93 -28601579.81 -28601579.69 0.0270 0.0139

Uranus -83020-05-19 04:47 J -28601493.42 -28601493.30 -28601493.18 0.0139 0.0060

Saturn -83020-05-21 03:49 J -28601491.41 -28601491.34 -28601491.27 0.0270 0.0234

Uranus -83020-08-15 08:23 J -28601405.28 -28601405.15 -28601405.02 0.0139 0.0043

Uranus -83020-11-11 11:59 J -28601317.13 -28601317.00 -28601316.86 0.0139 0.0025

Venus -83020-11-15 22:04 J -28601312.69 -28601312.58 -28601312.47 0.3765 0.0547

Uranus -83019-02-07 15:49 J -28601228.98 -28601228.84 -28601228.71 0.0139 0.0009

Uranus -83019-05-06 19:25 J -28601140.83 -28601140.69 -28601140.55 0.0140 0.0010

Uranus -83019-08-02 23:01 J -28601052.67 -28601052.54 -28601052.40 0.0140 0.0029

Uranus -83019-10-30 02:52 J -28600964.51 -28600964.38 -28600964.25 0.0140 0.0047

Uranus -83018-01-26 06:42 J -28600876.34 -28600876.22 -28600876.10 0.0140 0.0065

Jupiter -83018-04-20 20:08 J -28600791.74 -28600791.66 -28600791.57 0.0537 0.0414

Uranus -83018-04-24 10:32 J -28600788.17 -28600788.06 -28600787.95 0.0140 0.0084

Jupiter -83018-07-19 04:32 J -28600702.44 -28600702.31 -28600702.18 0.0535 0.0039

Uranus -83018-07-21 14:23 J -28600699.99 -28600699.90 -28600699.80 0.0140 0.0102

Jupiter -83018-10-16 13:40 J -28600612.98 -28600612.93 -28600612.88 0.0533 0.0495

Uranus -83018-10-17 17:59 J -28600611.80 -28600611.75 -28600611.67 0.0141 0.0122

Uranus -83017-01-13 22:04 J -28600523.58 -28600523.58 -28600523.57 0.0141 0.0140

Venus -83014-06-01 17:01 J -28599288.91 -28599288.79 -28599288.68 0.3761 0.0437

Mars -83013-07-07 00:42 J -28598887.63 -28598887.47 -28598887.32 0.1797 0.0198

Mars -83012-05-02 10:32 J -28598588.17 -28598588.06 -28598587.94 0.1739 0.0522

Jupiter -83012-06-16 20:23 J -28598542.70 -28598542.65 -28598542.59 0.0491 0.0460

Jupiter -83012-09-15 01:54 J -28598452.60 -28598452.42 -28598452.24 0.0492 0.0042

Neptune -83012-10-19 15:06 J -28598417.89 -28598417.87 -28598417.84 0.0089 0.0087

Neptune -83011-01-15 16:18 J -28598329.85 -28598329.82 -28598329.76 0.0089 0.0083

Neptune -83011-04-13 17:59 J -28598241.81 -28598241.75 -28598241.69 0.0089 0.0078

Neptune -83011-07-10 19:11 J -28598153.77 -28598153.70 -28598153.62 0.0089 0.0074

Moon -83011-09-02 14:37 J -28598099.92 -28598099.89 -28598099.86 0.2581 0.2514

Earth -83011-09-02 15:49 J -28598099.90 -28598099.84 -28598099.78 0.2584 0.2363 *

Neptune -83011-10-06 20:23 J -28598065.72 -28598065.65 -28598065.56 0.0089 0.0070

Neptune -83010-01-02 21:49 J -28597977.67 -28597977.59 -28597977.49 0.0089 0.0066

Neptune -83010-03-31 23:16 J -28597889.62 -28597889.53 -28597889.43 0.0089 0.0061

Venus -83010-05-31 17:16 J -28597828.87 -28597828.78 -28597828.69 0.3607 0.2606

Neptune -83010-06-28 00:28 J -28597801.57 -28597801.48 -28597801.37 0.0089 0.0057

Neptune -83010-09-24 01:54 J -28597713.52 -28597713.42 -28597713.30 0.0089 0.0053

Neptune -83010-12-21 03:20 J -28597625.47 -28597625.36 -28597625.24 0.0089 0.0048

Neptune -83009-03-18 04:47 J -28597537.41 -28597537.30 -28597537.18 0.0089 0.0044

Neptune -83009-06-14 05:59 J -28597449.36 -28597449.25 -28597449.12 0.0089 0.0040

Neptune -83009-09-10 07:40 J -28597361.31 -28597361.18 -28597361.06 0.0089 0.0035

Neptune -83009-12-07 08:52 J -28597273.25 -28597273.13 -28597273.00 0.0089 0.0031

Venus -83009-12-15 11:59 J -28597265.10 -28597265.00 -28597264.89 0.3758 0.1417

Neptune -83008-03-05 10:18 J -28597185.20 -28597185.07 -28597184.94 0.0089 0.0026

Moon -83008-03-08 03:20 J -28597182.47 -28597182.36 -28597182.26 0.2746 0.0751

Earth -83008-03-08 03:35 J -28597182.46 -28597182.35 -28597182.24 0.2753 0.0851 *

Neptune -83008-06-01 11:44 J -28597097.14 -28597097.01 -28597096.88 0.0089 0.0022

Neptune -83008-08-28 12:56 J -28597009.08 -28597008.96 -28597008.82 0.0089 0.0018

Neptune -83008-11-24 14:23 J -28596921.03 -28596920.90 -28596920.76 0.0089 0.0014

Neptune -83007-02-20 15:49 J -28596832.97 -28596832.84 -28596832.70 0.0089 0.0009

Neptune -83007-05-19 17:16 J -28596744.91 -28596744.78 -28596744.64 0.0089 0.0005

Neptune -83007-08-15 18:42 J -28596656.85 -28596656.72 -28596656.58 0.0089 0.0001

Neptune -83007-11-11 20:08 J -28596568.79 -28596568.66 -28596568.52 0.0089 0.0005

Jupiter -83006-02-07 00:13 J -28596481.52 -28596481.49 -28596481.46 0.0538 0.0521

Neptune -83006-02-07 21:35 J -28596480.73 -28596480.60 -28596480.47 0.0089 0.0009

Neptune -83006-05-06 23:01 J -28596392.67 -28596392.54 -28596392.41 0.0089 0.0013

Jupiter -83006-05-07 08:23 J -28596392.28 -28596392.15 -28596392.02 0.0536 0.0072

Neptune -83006-08-03 00:28 J -28596304.61 -28596304.48 -28596304.35 0.0089 0.0018

Jupiter -83006-08-04 17:16 J -28596302.87 -28596302.78 -28596302.69 0.0534 0.0385

Saturn -83006-09-24 09:49 J -28596252.18 -28596252.09 -28596251.99 0.0288 0.0242

Neptune -83006-10-30 01:40 J -28596216.55 -28596216.43 -28596216.29 0.0089 0.0023

Saturn -83006-12-22 09:06 J -28596163.30 -28596163.12 -28596162.95 0.0289 0.0087

Neptune -83005-01-26 03:06 J -28596128.49 -28596128.37 -28596128.23 0.0089 0.0027

Saturn -83005-03-20 07:40 J -28596074.35 -28596074.18 -28596074.00 0.0289 0.0067

Neptune -83005-04-23 04:32 J -28596040.43 -28596040.31 -28596040.18 0.0089 0.0032

Saturn -83005-06-17 06:13 J -28595985.36 -28595985.24 -28595985.13 0.0290 0.0218

Neptune -83005-07-20 05:59 J -28595952.37 -28595952.25 -28595952.12 0.0089 0.0036

Neptune -83005-10-16 07:25 J -28595864.30 -28595864.19 -28595864.06 0.0089 0.0041

Venus -83005-12-14 17:30 J -28595804.90 -28595804.77 -28595804.65 0.3611 0.1281

Neptune -83004-01-12 08:52 J -28595776.24 -28595776.13 -28595776.01 0.0089 0.0045

Neptune -83004-04-10 10:18 J -28595688.18 -28595688.07 -28595687.95 0.0089 0.0050

Neptune -83004-07-07 11:44 J -28595600.11 -28595600.01 -28595599.89 0.0089 0.0054

Neptune -83004-10-03 13:11 J -28595512.04 -28595511.95 -28595511.84 0.0089 0.0059

Mars -83004-11-27 00:42 J -28595457.60 -28595457.47 -28595457.33 0.1788 0.0876

Neptune -83004-12-30 14:37 J -28595423.98 -28595423.89 -28595423.79 0.0089 0.0063

Neptune -83003-03-28 16:04 J -28595335.91 -28595335.83 -28595335.73 0.0089 0.0068

Neptune -83003-06-24 17:30 J -28595247.84 -28595247.77 -28595247.68 0.0089 0.0072

Venus -83003-07-01 07:25 J -28595241.27 -28595241.19 -28595241.10 0.3753 0.2440

Neptune -83003-09-20 18:56 J -28595159.77 -28595159.71 -28595159.63 0.0089 0.0077

Mars -83003-09-22 19:40 J -28595157.80 -28595157.68 -28595157.56 0.1747 0.0129

Neptune -83003-12-17 20:37 J -28595071.69 -28595071.64 -28595071.58 0.0089 0.0081

Neptune -83002-03-15 21:49 J -28594983.61 -28594983.59 -28594983.54 0.0089 0.0086

Pluto -83001-02-19 04:04 J -28594643.38 -28594643.33 -28594643.26 0.0085 0.0075

Pluto -83001-05-17 05:30 J -28594555.35 -28594555.27 -28594555.17 0.0085 0.0063

Pluto -83001-08-13 06:56 J -28594467.31 -28594467.21 -28594467.10 0.0084 0.0051

Pluto -83001-11-09 08:23 J -28594379.27 -28594379.15 -28594379.03 0.0084 0.0039

83RD MILLENNIUM BCE

This is a list of transits of Mercury in the 83rd millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Pluto	**-83000-02-05 09:35 J**		**-28594291.22**	**-28594291.10**	**-28594290.97**	**0.0084**	**0.0027**	
Pluto	**-83000-05-04 11:01 J**		**-28594203.17**	**-28594203.04**	**-28594202.91**	**0.0084**	**0.0015**	
Jupiter	**-83000-07-04 00:13 J**		**-28594142.66**	**-28594142.49**	**-28594142.31**	**0.0492**	**0.0082**	
Pluto	**-83000-07-31 12:13 J**		**-28594115.12**	**-28594114.99**	**-28594114.85**	**0.0084**	**0.0004**	
Jupiter	**-83000-10-02 04:32 J**		**-28594052.40**	**-28594052.31**	**-28594052.21**	**0.0494**	**0.0412**	
Pluto	**-83000-10-27 13:40 J**		**-28594027.06**	**-28594026.93**	**-28594026.80**	**0.0084**	**0.0008**	
Pluto	**-82999-01-23 14:52 J**		**-28593939.01**	**-28593938.88**	**-28593938.75**	**0.0084**	**0.0019**	
Pluto	**-82999-04-21 16:04 J**		**-28593850.95**	**-28593850.83**	**-28593850.70**	**0.0083**	**0.0031**	
Venus	**-82999-06-30 17:01 J**		**-28593780.92**	**-28593780.79**	**-28593780.65**	**0.3615**	**0.0092**	
Pluto	**-82999-07-18 17:16 J**		**-28593762.89**	**-28593762.78**	**-28593762.66**	**0.0083**	**0.0042**	
Pluto	**-82999-10-14 18:28 J**		**-28593674.82**	**-28593674.73**	**-28593674.62**	**0.0083**	**0.0054**	
Pluto	**-82998-01-10 19:54 J**		**-28593586.75**	**-28593586.67**	**-28593586.58**	**0.0083**	**0.0064**	
Pluto	**-82998-04-08 21:06 J**		**-28593498.67**	**-28593498.62**	**-28593498.56**	**0.0083**	**0.0075**	
Moon	**-82998-09-05 18:13 J**		**-28593348.89**	**-28593348.74**	**-28593348.59**	**0.2583**	**0.0415**	
Earth	**-82998-09-05 19:40 J**		**-28593348.83**	**-28593348.68**	**-28593348.53**	**0.2584**	**0.0349**	*****
Venus	**-82997-01-15 03:06 J**		**-28593217.41**	**-28593217.37**	**-28593217.33**	**0.3749**	**0.3480**	
Moon	**-82995-03-10 21:49 J**		**-28592431.65**	**-28592431.59**	**-28592431.52**	**0.2750**	**0.2192**	
Earth	**-82995-03-10 22:47 J**		**-28592431.62**	**-28592431.55**	**-28592431.49**	**0.2752**	**0.2234**	*****
Jupiter	**-82994-02-23 12:28 J**		**-28592082.10**	**-28592081.98**	**-28592081.86**	**0.0536**	**0.0178**	
Jupiter	**-82994-05-23 21:06 J**		**-28591992.73**	**-28591992.62**	**-28591992.50**	**0.0534**	**0.0279**	

Venus -82993-01-14 16:32 J -28591756.94 -28591756.81 -28591756.69 0.3619 0.1210

Mars -82993-02-13 04:32 J -28591727.42 -28591727.31 -28591727.20 0.1755 0.0787

Saturn -82992-07-22 21:35 J -28591201.60 -28591201.60 -28591201.58 0.0272 0.0270

Saturn -82992-10-19 08:37 J -28591113.24 -28591113.14 -28591113.04 0.0271 0.0177

Saturn -82991-01-15 19:40 J -28591024.81 -28591024.68 -28591024.55 0.0271 0.0084

Saturn -82991-04-14 06:42 J -28590936.36 -28590936.22 -28590936.08 0.0270 0.0010

Saturn -82991-07-11 17:44 J -28590847.88 -28590847.76 -28590847.63 0.0270 0.0104

Saturn -82991-10-08 05:01 J -28590759.38 -28590759.29 -28590759.19 0.0270 0.0198

Earth -82988-03-03 18:28 J -28589881.82 -28589881.73 -28589881.63 0.2753 0.1582

Moon -82988-03-03 19:11 J -28589881.79 -28589881.70 -28589881.61 0.2749 0.1464 *

Jupiter -82988-04-21 22:18 J -28589832.73 -28589832.57 -28589832.40 0.0492 0.0209

Jupiter -82988-07-21 03:06 J -28589742.51 -28589742.37 -28589742.22 0.0493 0.0289

Venus -82988-07-30 15:20 J -28589732.96 -28589732.86 -28589732.76 0.3623 0.2370

Moon -82985-09-07 22:18 J -28588597.70 -28588597.57 -28588597.45 0.2589 0.1425

Earth -82985-09-07 23:16 J -28588597.65 -28588597.53 -28588597.42 0.2584 0.1615 *

Mars -82984-07-05 13:40 J -28588297.00 -28588296.93 -28588296.87 0.1763 0.1440

Mars -82983-08-16 01:11 J -28587890.55 -28587890.45 -28587890.36 0.1806 0.1403

Jupiter -82983-12-12 16:18 J -28587771.93 -28587771.82 -28587771.71 0.0537 0.0286

Venus -82982-02-13 13:54 J -28587708.95 -28587708.92 -28587708.89 0.3627 0.3489

Jupiter -82982-03-12 00:56 J -28587682.59 -28587682.46 -28587682.34 0.0534 0.0168

Mars -82982-06-11 01:54 J -28587591.51 -28587591.42 -28587591.34 0.1731 0.1258

Uranus -82982-07-28 21:20 J -28587543.64 -28587543.61 -28587543.56 0.0140 0.0136

Uranus -82982-10-25 04:47 J -28587455.41 -28587455.30 -28587455.19 0.0140 0.0111

Uranus -82981-01-21 11:44 J -28587367.14 -28587367.01 -28587366.86 0.0140 0.0087

Uranus -82981-04-18 18:56 J -28587278.87 -28587278.71 -28587278.54 0.0140 0.0063

Uranus -82981-07-16 02:08 J -28587190.58 -28587190.41 -28587190.23 0.0140 0.0038

Uranus -82981-10-12 09:20 J -28587102.30 -28587102.11 -28587101.93 0.0139 0.0015

Uranus -82980-01-08 16:18 J -28587014.01 -28587013.82 -28587013.64 0.0139 0.0010

Uranus -82980-04-06 23:01 J -28586925.71 -28586925.54 -28586925.36 0.0139 0.0033

Uranus -82980-07-04 05:59 J -28586837.42 -28586837.25 -28586837.08 0.0139 0.0056

Uranus -82980-09-30 12:42 J -28586749.12 -28586748.97 -28586748.82 0.0139 0.0079

Venus -82980-11-07 12:42 J -28586711.04 -28586710.97 -28586710.91 0.3775 0.3014

Uranus -82980-12-27 19:11 J -28586660.81 -28586660.70 -28586660.57 0.0139 0.0102

Uranus -82979-03-26 02:08 J -28586572.49 -28586572.41 -28586572.33 0.0138 0.0124

Jupiter -82976-02-07 21:20 J -28585522.75 -28585522.61 -28585522.48 0.0491 0.0329

Jupiter -82976-05-09 02:23 J -28585432.57 -28585432.40 -28585432.24 0.0493 0.0172

Saturn -82976-05-10 05:16 J -28585431.43 -28585431.28 -28585431.12 0.0288 0.0146

Saturn -82976-08-07 04:18 J -28585342.50 -28585342.32 -28585342.14 0.0289 0.0009

Saturn -82976-11-04 02:37 J -28585253.53 -28585253.39 -28585253.23 0.0289 0.0162

Earth -82975-03-06 13:25 J -28585131.05 -28585130.94 -28585130.83 0.2753 0.0246

Moon -82975-03-06 13:40 J -28585131.04 -28585130.93 -28585130.82 0.2745 0.0282 *

Venus -82974-05-24 06:56 J -28584687.30 -28584687.21 -28584687.12 0.3772 0.2125

Mars -82973-01-06 01:11 J -28584460.60 -28584460.45 -28584460.29 0.1797 0.0332

Mars -82973-10-31 10:47 J -28584161.17 -28584161.05 -28584160.94 0.1739 0.0612

Jupiter -82971-09-30 19:11 J -28583461.78 -28583461.70 -28583461.62 0.0537 0.0408

Jupiter -82971-12-29 03:35 J -28583372.48 -28583372.35 -28583372.22 0.0535 0.0044

Jupiter -82970-03-28 12:28 J -28583283.02 -28583282.98 -28583282.93 0.0532 0.0499

Venus -82969-12-07 01:40 J -28582663.54 -28582663.43 -28582663.33 0.3768 0.1218

Moon -82965-09-02 20:37 J -28581297.73 -28581297.64 -28581297.55 0.2581 0.2090

Earth -82965-09-02 22:04 J -28581297.68 -28581297.58 -28581297.48 0.2584 0.1952 *

Jupiter -82965-11-26 19:54 J -28581212.74 -28581212.67 -28581212.60 0.0491 0.0449

Jupiter -82964-02-25 01:11 J -28581122.63 -28581122.45 -28581122.27 0.0493 0.0053

Mars -82964-05-28 01:25 J -28581030.58 -28581030.44 -28581030.30 0.1788 0.0741

Mars -82963-03-23 19:40 J -28580730.81 -28580730.68 -28580730.56 0.1747 0.0065

Venus -82963-06-22 20:23 J -28580639.76 -28580639.65 -28580639.54 0.3764 0.0261

Saturn -82962-03-08 11:44 J -28580381.10 -28580381.01 -28580380.92 0.0272 0.0200

Moon -82962-03-09 07:54 J -28580380.27 -28580380.17 -28580380.06 0.2748 0.1132

Earth -82962-03-09 08:37 J -28580380.25 -28580380.14 -28580380.04 0.2753 0.1132 *

Saturn -82962-06-04 22:32 J -28580292.68 -28580292.56 -28580292.43 0.0271 0.0107

Saturn -82962-09-01 09:35 J -28580204.23 -28580204.10 -28580203.96 0.0271 0.0016

Saturn -82962-11-28 20:52 J -28580115.76 -28580115.63 -28580115.50 0.0270 0.0081

Saturn -82961-02-25 07:54 J -28580027.27 -28580027.17 -28580027.06 0.0270 0.0176

Venus -82959-06-21 16:32 J -28579179.82 -28579179.81 -28579179.81 0.3604 0.3594

Jupiter -82959-07-19 22:47 J -28579151.58 -28579151.55 -28579151.52 0.0537 0.0520

Jupiter -82959-10-17 06:56 J -28579062.34 -28579062.21 -28579062.08 0.0536 0.0072

Jupiter -82958-01-14 15:49 J -28578972.93 -28578972.84 -28578972.75 0.0533 0.0384

Venus -82957-01-06 15:20 J -28578615.97 -28578615.86 -28578615.75 0.3760 0.0711

Earth -82955-03-02 04:47 J -28577830.33 -28577830.30 -28577830.27 0.2753 0.2627

Moon -82955-03-02 05:30 J -28577830.31 -28577830.27 -28577830.23 0.2753 0.2552 *

Mars -82954-08-14 04:32 J -28577300.42 -28577300.31 -28577300.19 0.1755 0.0697

Venus -82953-01-05 17:01 J -28577155.89 -28577155.79 -28577155.68 0.3608 0.2223

Jupiter -82953-12-13 23:16 J -28576812.70 -28576812.53 -28576812.35 0.0492 0.0074

Jupiter -82952-03-14 03:35 J -28576722.44 -28576722.35 -28576722.26 0.0494 0.0420

Venus -82952-07-22 10:32 J -28576592.16 -28576592.06 -28576591.96 0.3756 0.1714

Moon -82952-09-06 00:28 J -28576546.63 -28576546.48 -28576546.33 0.2585 0.0146

Earth -82952-09-06 01:54 J -28576546.57 -28576546.42 -28576546.27 0.2584 0.0065 *

Moon -82949-03-11 02:52 J -28575629.43 -28575629.38 -28575629.32 0.2750 0.2359

Earth -82949-03-11 03:49 J -28575629.39 -28575629.34 -28575629.30 0.2752 0.2523 *

Venus -82948-07-21 17:01 J -28575131.92 -28575131.79 -28575131.66 0.3612 0.0919

Jupiter -82947-08-05 10:47 J -28574752.17 -28574752.05 -28574751.93 0.0536 0.0181

Saturn -82947-09-27 03:35 J -28574699.47 -28574699.35 -28574699.21 0.0289 0.0193

Jupiter -82947-11-02 19:25 J -28574662.80 -28574662.69 -28574662.57 0.0534 0.0275

Saturn -82947-12-25 02:52 J -28574610.56 -28574610.38 -28574610.20 0.0289 0.0037

Venus -82946-02-05 05:59 J -28574568.33 -28574568.25 -28574568.17 0.3752 0.2743

Saturn -82946-03-24 01:25 J -28574521.60 -28574521.44 -28574521.27 0.0290 0.0116

Saturn -82946-06-20 23:44 J -28574432.57 -28574432.51 -28574432.44 0.0290 0.0267

Mars -82944-01-03 13:40 J -28573870.01 -28573869.93 -28573869.86 0.1763 0.1354

Mars -82943-02-14 01:25 J -28573463.52 -28573463.44 -28573463.36 0.1806 0.1515

Mars -82943-12-10 01:54 J -28573164.49 -28573164.42 -28573164.34 0.1731 0.1350

Venus -82942-02-04 16:47 J -28573107.93 -28573107.80 -28573107.67 0.3616 0.0352

Earth -82942-03-04 23:30 J -28573079.62 -28573079.52 -28573079.42 0.2753 0.1303

Moon -82942-03-04 23:59 J -28573079.60 -28573079.50 -28573079.40 0.2748 0.1246 *

Jupiter -82941-10-01 21:35 J -28572502.76 -28572502.60 -28572502.43 0.0491 0.0198

Jupiter -82941-12-31 02:23 J -28572412.54 -28572412.40 -28572412.26 0.0493 0.0299

Moon -82939-09-09 04:18 J -28571795.41 -28571795.32 -28571795.23 0.2589 0.2012

Earth -82939-09-09 05:16 J -28571795.37 -28571795.28 -28571795.18 0.2584 0.2012 *

Uranus -82937-06-20 22:18 J -28571144.63 -28571144.57 -28571144.50 0.0138 0.0122

Venus -82937-08-20 15:49 J -28571083.95 -28571083.84 -28571083.72 0.3620 0.1554

Uranus -82937-09-17 01:54 J -28571056.50 -28571056.42 -28571056.33 0.0139 0.0105

Uranus -82937-12-14 05:16 J -28570968.37 -28570968.28 -28570968.17 0.0139 0.0089

Uranus -82936-03-12 09:06 J -28570880.24 -28570880.12 -28570880.00 0.0139 0.0071

Uranus -82936-06-08 12:28 J -28570792.10 -28570791.98 -28570791.85 0.0139 0.0055

Uranus -82936-09-04 16:18 J -28570703.95 -28570703.82 -28570703.69 0.0139 0.0036

Uranus -82936-12-01 19:54 J -28570615.80 -28570615.67 -28570615.53 0.0139 0.0019

Uranus -82935-02-27 23:44 J -28570527.65 -28570527.51 -28570527.38 0.0140 0.0005

Jupiter -82935-05-24 14:52 J -28570441.99 -28570441.88 -28570441.77 0.0537 0.0287

Uranus -82935-05-27 03:20 J -28570439.50 -28570439.36 -28570439.22 0.0140 0.0017

Jupiter -82935-08-21 23:30 J -28570352.65 -28570352.52 -28570352.40 0.0535 0.0168

Uranus -82935-08-23 06:56 J -28570351.34 -28570351.21 -28570351.07 0.0140 0.0036

Uranus -82935-11-19 10:47 J -28570263.18 -28570263.05 -28570262.92 0.0140 0.0054

Uranus -82934-02-15 14:37 J -28570175.01 -28570174.89 -28570174.77 0.0140 0.0072

Uranus -82934-05-14 18:28 J -28570086.83 -28570086.73 -28570086.62 0.0140 0.0091

Mars -82934-07-07 01:54 J -28570033.57 -28570033.42 -28570033.27 0.1797 0.0455

Uranus -82934-08-10 22:04 J -28569998.65 -28569998.58 -28569998.48 0.0140 0.0110

Uranus -82934-11-07 01:54 J -28569910.46 -28569910.42 -28569910.35 0.0141 0.0129

Mars -82933-05-01 10:47 J -28569734.16 -28569734.05 -28569733.94 0.1739 0.0697

Saturn -82933-07-25 13:11 J -28569649.01 -28569648.95 -28569648.88 0.0272 0.0234

Saturn -82933-10-21 23:59 J -28569560.61 -28569560.50 -28569560.38 0.0271 0.0142

Saturn -82932-01-18 11:01 J -28569472.17 -28569472.04 -28569471.90 0.0271 0.0048

Saturn -82932-04-16 22:04 J -28569383.71 -28569383.58 -28569383.44 0.0270 0.0047

Saturn -82932-07-14 09:20 J -28569295.23 -28569295.11 -28569294.99 0.0270 0.0140

Saturn -82932-10-10 20:37 J -28569206.70 -28569206.64 -28569206.57 0.0269 0.0235

Venus -82931-03-06 14:37 J -28569059.97 -28569059.89 -28569059.80 0.3624 0.2709

Moon -82929-03-06 18:28 J -28568328.84 -28568328.73 -28568328.62 0.2746 0.0102

Earth -82929-03-06 18:28 J -28568328.84 -28568328.73 -28568328.62 0.2753 0.0045 *

Jupiter -82929-07-20 19:40 J -28568192.81 -28568192.68 -28568192.54 0.0491 0.0324

Jupiter -82929-10-19 00:56 J -28568102.63 -28568102.46 -28568102.30 0.0493 0.0176

Venus -82929-11-28 16:32 J -28568061.83 -28568061.81 -28568061.78 0.3778 0.3637

Neptune -82928-04-08 00:28 J -28567931.50 -28567931.48 -28567931.43 0.0088 0.0087

Neptune -82928-07-05 03:49 J -28567843.39 -28567843.34 -28567843.24 0.0088 0.0081

Neptune -82928-10-01 07:54 J -28567755.27 -28567755.17 -28567755.06 0.0088 0.0074

Neptune -82928-12-28 11:16 J -28567667.14 -28567667.03 -28567666.90 0.0088 0.0068

Neptune -82927-03-26 14:37 J -28567579.01 -28567578.89 -28567578.74 0.0088 0.0062

Neptune -82927-06-22 18:13 J -28567490.88 -28567490.74 -28567490.58 0.0088 0.0055

Neptune -82927-09-18 22:04 J -28567402.74 -28567402.58 -28567402.42 0.0088 0.0049

Neptune -82927-12-16 01:25 J -28567314.60 -28567314.44 -28567314.27 0.0088 0.0043

Neptune -82926-03-14 04:47 J -28567226.46 -28567226.30 -28567226.11 0.0088 0.0037

Neptune -82926-06-10 08:23 J -28567138.32 -28567138.15 -28567137.96 0.0088 0.0030

Neptune -82926-09-06 11:59 J -28567050.18 -28567050.00 -28567049.81 0.0088 0.0024

Neptune -82926-12-03 15:20 J -28566962.04 -28566961.86 -28566961.67 0.0088 0.0018

Neptune -82925-02-29 18:56 J -28566873.90 -28566873.71 -28566873.52 0.0088 0.0011

Neptune -82925-05-27 22:18 J -28566785.76 -28566785.57 -28566785.38 0.0088 0.0005

Neptune -82925-08-24 01:40 J -28566697.62 -28566697.43 -28566697.23 0.0088 0.0003

Neptune -82925-11-20 05:01 J -28566609.47 -28566609.29 -28566609.09 0.0088 0.0008

Mars -82925-11-26 02:08 J -28566603.56 -28566603.41 -28566603.27 0.1788 0.0610

Neptune -82924-02-16 08:23 J -28566521.33 -28566521.15 -28566520.95 0.0088 0.0014

Neptune -82924-05-15 11:59 J -28566433.18 -28566433.00 -28566432.81 0.0088 0.0019

Neptune -82924-08-11 15:20 J -28566345.04 -28566344.86 -28566344.68 0.0088 0.0025

Mars -82924-09-21 19:40 J -28566303.80 -28566303.68 -28566303.56 0.1747 0.0060

Neptune -82924-11-07 18:42 J -28566256.89 -28566256.72 -28566256.54 0.0088 0.0031

Neptune -82923-02-03 22:04 J -28566168.75 -28566168.58 -28566168.41 0.0088 0.0037

Jupiter -82923-03-12 18:56 J -28566131.80 -28566131.71 -28566131.63 0.0537 0.0394

Neptune -82923-05-03 01:25 J -28566080.60 -28566080.44 -28566080.27 0.0088 0.0044

Jupiter -82923-06-10 03:20 J -28566042.49 -28566042.36 -28566042.23 0.0535 0.0060

Venus -82923-06-14 10:47 J -28566038.12 -28566038.05 -28566037.97 0.3774 0.2762

Neptune -82923-07-30 04:32 J -28565992.45 -28565992.31 -28565992.14 0.0088 0.0050

Jupiter -82923-09-07 12:13 J -28565953.02 -28565952.99 -28565952.96 0.0533 0.0515

Neptune -82923-10-26 07:54 J -28565904.30 -28565904.17 -28565904.01 0.0088 0.0056

Neptune -82922-01-22 11:16 J -28565816.15 -28565816.03 -28565815.88 0.0088 0.0062

Neptune -82922-04-20 14:37 J -28565728.00 -28565727.89 -28565727.76 0.0088 0.0068

Neptune -82922-07-17 17:44 J -28565639.85 -28565639.76 -28565639.64 0.0088 0.0074

Neptune -82922-10-13 21:06 J -28565551.69 -28565551.62 -28565551.52 0.0088 0.0080

Neptune -82921-01-10 00:13 J -28565463.51 -28565463.49 -28565463.42 0.0088 0.0086

Moon -82919-09-04 02:52 J -28564495.50 -28564495.38 -28564495.26 0.2581 0.1662

Earth -82919-09-04 04:18 J -28564495.44 -28564495.32 -28564495.20 0.2584 0.1530 *

Venus -82918-12-29 05:16 J -28564014.38 -28564014.28 -28564014.19 0.3771 0.1869

Saturn -82917-02-13 23:16 J -28563967.61 -28563967.53 -28563967.44 0.0288 0.0256

Jupiter -82917-05-08 18:28 J -28563882.80 -28563882.73 -28563882.65 0.0491 0.0444

Saturn -82917-05-12 22:32 J -28563878.73 -28563878.56 -28563878.39 0.0289 0.0100

Jupiter -82917-08-06 23:59 J -28563792.68 -28563792.50 -28563792.32 0.0493 0.0058

Saturn -82917-08-09 21:20 J -28563789.78 -28563789.61 -28563789.43 0.0289 0.0054

Saturn -82917-11-06 19:54 J -28563700.79 -28563700.67 -28563700.54 0.0290 0.0206

Moon -82916-03-09 12:56 J -28563578.06 -28563577.96 -28563577.86 0.2748 0.1273

Earth -82916-03-09 13:40 J -28563578.03 -28563577.93 -28563577.84 0.2752 0.1420 *

Mars -82915-04-18 02:08 J -28563173.46 -28563173.41 -28563173.36 0.1779 0.1680

Mars -82914-02-12 04:47 J -28562873.42 -28562873.30 -28562873.19 0.1755 0.0614

Venus -82912-07-13 23:44 J -28561990.61 -28561990.51 -28561990.40 0.3767 0.0947

Jupiter -82912-12-29 21:49 J -28561821.62 -28561821.59 -28561821.55 0.0537 0.0513

Jupiter -82911-03-29 05:59 J -28561732.38 -28561732.25 -28561732.12 0.0535 0.0065

Jupiter -82911-06-26 14:52 J -28561642.97 -28561642.88 -28561642.79 0.0533 0.0390

Earth -82909-03-02 09:35 J -28561028.15 -28561028.10 -28561028.04 0.2753 0.2355

Moon -82909-03-02 10:18 J -28561028.13 -28561028.07 -28561028.00 0.2753 0.2227 *

Venus -82906-01-27 18:42 J -28559966.83 -28559966.72 -28559966.61 0.3763 0.0057

Moon -82906-09-07 06:42 J -28559744.37 -28559744.22 -28559744.07 0.2587 0.0363

Earth -82906-09-07 08:08 J -28559744.31 -28559744.16 -28559744.02 0.2584 0.0470 *

Jupiter -82905-05-25 22:47 J -28559482.73 -28559482.55 -28559482.37 0.0492 0.0062

Mars -82905-07-04 13:40 J -28559443.01 -28559442.93 -28559442.85 0.1763 0.1271

Jupiter -82905-08-24 03:06 J -28559392.45 -28559392.37 -28559392.28 0.0494 0.0433

Mars -82904-08-15 02:08 J -28559036.47 -28559036.41 -28559036.35 0.1807 0.1650

Saturn -82904-12-12 16:04 J -28558916.87 -28558916.83 -28558916.79 0.0272 0.0258

Saturn -82903-03-11 02:52 J -28558828.48 -28558828.38 -28558828.27 0.0272 0.0166

Saturn -82903-06-07 13:54 J -28558740.05 -28558739.92 -28558739.79 0.0271 0.0072

Mars -82903-06-10 01:54 J -28558737.49 -28558737.42 -28558737.35 0.1731 0.1434

Saturn -82903-09-04 00:56 J -28558651.59 -28558651.46 -28558651.32 0.0271 0.0024

Saturn -82903-12-01 12:13 J -28558563.11 -28558562.99 -28558562.87 0.0270 0.0117

Venus -82902-01-26 16:18 J -28558506.88 -28558506.82 -28558506.76 0.3605 0.3203

Saturn -82902-02-27 23:30 J -28558474.61 -28558474.52 -28558474.44 0.0270 0.0212

Venus -82901-08-12 13:40 J -28557943.04 -28557942.93 -28557942.82 0.3759 0.1002

Jupiter -82899-01-15 09:35 J -28557422.23 -28557422.10 -28557421.98 0.0536 0.0180

Jupiter -82899-04-14 18:13 J -28557332.86 -28557332.74 -28557332.63 0.0534 0.0276

Uranus -82898-08-18 05:59 J -28556842.32 -28556842.25 -28556842.16 0.0140 0.0127

Uranus -82898-11-14 13:11 J -28556754.06 -28556753.95 -28556753.81 0.0140 0.0102

Uranus -82897-02-10 20:37 J -28556665.79 -28556665.64 -28556665.48 0.0140 0.0077

Uranus -82897-05-09 03:49 J -28556577.51 -28556577.34 -28556577.17 0.0140 0.0053

Uranus -82897-08-05 10:47 J -28556489.22 -28556489.05 -28556488.86 0.0140 0.0029

Venus -82897-08-11 16:47 J -28556482.92 -28556482.80 -28556482.69 0.3609 0.1852

Uranus -82897-11-01 17:59 J -28556400.93 -28556400.75 -28556400.57 0.0139 0.0005

Uranus -82896-01-29 00:56 J -28556312.64 -28556312.46 -28556312.28 0.0139 0.0019

Earth -82896-03-05 04:32 J -28556277.42 -28556277.31 -28556277.21 0.2753 0.1028

Moon -82896-03-05 04:47 J -28556277.40 -28556277.30 -28556277.19 0.2746 0.0991 *

Uranus -82896-04-27 07:54 J -28556224.35 -28556224.17 -28556224.00 0.0139 0.0042

Uranus -82896-07-24 14:23 J -28556136.05 -28556135.90 -28556135.73 0.0139 0.0066

Uranus -82896-10-20 21:06 J -28556047.75 -28556047.62 -28556047.47 0.0139 0.0089

Uranus -82895-01-17 04:04 J -28555959.43 -28555959.33 -28555959.22 0.0139 0.0111

Venus -82895-02-26 09:06 J -28555919.22 -28555919.12 -28555919.03 0.3755 0.2017

Uranus -82895-04-15 10:32 J -28555871.09 -28555871.06 -28555871.00 0.0138 0.0133

Mars -82894-01-05 02:23 J -28555606.55 -28555606.40 -28555606.25 0.1797 0.0583

Mars -82894-10-31 10:47 J -28555307.15 -28555307.05 -28555306.94 0.1739 0.0792

Jupiter -82893-03-13 20:52 J -28555172.80 -28555172.63 -28555172.46 0.0491 0.0189

Jupiter -82893-06-12 01:25 J -28555082.57 -28555082.44 -28555082.30 0.0493 0.0308

Moon -82893-09-09 10:32 J -28554993.13 -28554993.06 -28554992.99 0.2589 0.2244

Earth -82893-09-09 11:30 J -28554993.07 -28554993.02 -28554992.97 0.2584 0.2407 *

Venus -82891-02-25 16:47 J -28554458.93 -28554458.80 -28554458.67 0.3613 0.0554

Venus -82890-09-12 04:32 J -28553895.38 -28553895.31 -28553895.25 0.3751 0.3056

Saturn -82888-09-29 21:06 J -28553146.77 -28553146.62 -28553146.46 0.0289 0.0146

Jupiter -82888-11-03 13:11 J -28553112.05 -28553111.95 -28553111.84 0.0537 0.0290

Saturn -82888-12-27 20:08 J -28553057.84 -28553057.66 -28553057.48 0.0289 0.0011

Jupiter -82887-01-31 21:49 J -28553022.71 -28553022.59 -28553022.47 0.0535 0.0165

Saturn -82887-03-26 18:42 J -28552968.86 -28552968.72 -28552968.57 0.0290 0.0163

Venus -82886-09-11 16:18 J -28552434.95 -28552434.82 -28552434.69 0.3617 0.0702

Mars -82885-05-27 02:23 J -28552176.55 -28552176.40 -28552176.25 0.1788 0.0496

Mars -82884-03-22 19:54 J -28551876.79 -28551876.67 -28551876.55 0.1746 0.0140

Moon -82883-03-07 23:16 J -28551526.64 -28551526.53 -28551526.41 0.2746 0.0292

Earth -82883-03-07 23:30 J -28551526.63 -28551526.52 -28551526.41 0.2753 0.0331 *

Jupiter -82882-12-31 19:11 J -28550862.84 -28550862.70 -28550862.56 0.0491 0.0313

Jupiter -82881-03-31 00:13 J -28550772.66 -28550772.49 -28550772.33 0.0493 0.0186

Venus -82880-03-27 15:20 J -28550410.97 -28550410.86 -28550410.75 0.3621 0.1898

Jupiter -82876-08-22 17:30 J -28548801.86 -28548801.77 -28548801.69 0.0537 0.0394

Mars -82876-10-17 02:52 J -28548746.46 -28548746.38 -28548746.31 0.1780 0.1545

Jupiter -82876-11-20 01:54 J -28548712.55 -28548712.42 -28548712.29 0.0535 0.0059

Jupiter -82875-02-17 10:47 J -28548623.07 -28548623.05 -28548623.01 0.0533 0.0516

Mars -82875-08-13 04:47 J -28548446.42 -28548446.30 -28548446.19 0.1754 0.0525

Venus -82875-10-11 14:08 J -28548386.98 -28548386.91 -28548386.84 0.3625 0.3049

Saturn -82874-07-29 04:32 J -28548096.40 -28548096.31 -28548096.22 0.0271 0.0198

Saturn -82874-10-25 15:35 J -28548007.98 -28548007.85 -28548007.73 0.0271 0.0105

Saturn -82873-01-22 02:37 J -28547919.53 -28547919.39 -28547919.26 0.0271 0.0014

Saturn -82873-04-19 13:40 J -28547831.06 -28547830.93 -28547830.80 0.0270 0.0083

Saturn -82873-07-17 00:42 J -28547742.57 -28547742.47 -28547742.36 0.0270 0.0177

Moon -82873-09-04 09:06 J -28547693.25 -28547693.12 -28547692.99 0.2582 0.1294

Earth -82873-09-04 10:32 J -28547693.20 -28547693.06 -28547692.92 0.2584 0.1119 *

Venus -82872-07-05 14:37 J -28547388.93 -28547388.89 -28547388.84 0.3777 0.3395

Moon -82870-03-10 17:59 J -28546775.84 -28546775.75 -28546775.67 0.2748 0.1675

Earth -82870-03-10 18:28 J -28546775.81 -28546775.73 -28546775.64 0.2752 0.1701 *

Jupiter -82870-10-19 17:01 J -28546552.86 -28546552.79 -28546552.71 0.0491 0.0440

Jupiter -82869-01-17 22:32 J -28546462.74 -28546462.56 -28546462.38 0.0492 0.0062

Venus -82866-01-19 08:52 J -28545365.21 -28545365.13 -28545365.04 0.3773 0.2517

Mars -82865-01-03 13:40 J -28545016.01 -28545015.93 -28545015.84 0.1762 0.1183

Mars -82864-02-13 02:37 J -28544609.41 -28544609.39 -28544609.36 0.1807 0.1784

Jupiter -82864-06-10 21:35 J -28544491.65 -28544491.60 -28544491.56 0.0538 0.0500

Jupiter -82864-09-08 05:44 J -28544402.39 -28544402.26 -28544402.13 0.0536 0.0051

Jupiter -82864-12-06 14:23 J -28544312.98 -28544312.90 -28544312.81 0.0533 0.0407

Mars -82864-12-09 02:08 J -28544310.47 -28544310.41 -28544310.36 0.1731 0.1526

Earth -82863-03-03 14:37 J -28544225.96 -28544225.89 -28544225.82 0.2753 0.2082

Moon -82863-03-03 15:20 J -28544225.94 -28544225.86 -28544225.79 0.2751 0.2049 *

Venus -82861-08-04 03:20 J -28543341.46 -28543341.36 -28543341.26 0.3770 0.1609

Moon -82860-09-07 12:56 J -28542942.11 -28542941.96 -28542941.82 0.2587 0.0727

Earth -82860-09-07 14:08 J -28542942.05 -28542941.91 -28542941.76 0.2584 0.0878 *

Saturn -82858-02-16 16:47 J -28542414.92 -28542414.80 -28542414.67 0.0288 0.0209

Saturn -82858-05-16 15:49 J -28542326.01 -28542325.84 -28542325.66 0.0289 0.0055

Saturn -82858-08-13 14:37 J -28542237.05 -28542236.89 -28542236.72 0.0289 0.0100

Jupiter -82858-11-05 21:35 J -28542152.78 -28542152.60 -28542152.42 0.0492 0.0056

Saturn -82858-11-10 12:56 J -28542148.04 -28542147.96 -28542147.86 0.0290 0.0252

Jupiter -82857-02-04 01:54 J -28542062.50 -28542062.42 -28542062.34 0.0494 0.0438

Venus -82855-02-17 22:04 J -28541317.69 -28541317.58 -28541317.47 0.3766 0.0671

Mars -82855-07-06 02:52 J -28541179.52 -28541179.38 -28541179.24 0.1798 0.0705

Mars -82854-05-01 11:01 J -28540880.15 -28540880.04 -28540879.94 0.1738 0.0878

Uranus -82853-04-14 02:23 J -28540531.42 -28540531.40 -28540531.36 0.0138 0.0134

Uranus -82853-07-11 05:44 J -28540443.32 -28540443.26 -28540443.18 0.0138 0.0117

Uranus -82853-10-07 09:20 J -28540355.19 -28540355.11 -28540355.01 0.0139 0.0100

Uranus -82852-01-03 13:11 J -28540267.06 -28540266.95 -28540266.85 0.0139 0.0083

Uranus -82852-04-01 16:32 J -28540178.92 -28540178.81 -28540178.69 0.0139 0.0066

Jupiter -82852-06-27 08:37 J -28540092.26 -28540092.14 -28540092.02 0.0536 0.0172

Uranus -82852-06-28 20:08 J -28540090.78 -28540090.66 -28540090.53 0.0139 0.0049

Jupiter -82852-09-24 17:16 J -28540002.89 -28540002.78 -28540002.67 0.0534 0.0282

Uranus -82852-09-24 23:44 J -28540002.64 -28540002.51 -28540002.37 0.0139 0.0031

Uranus -82852-12-22 03:35 J -28539914.49 -28539914.35 -28539914.22 0.0139 0.0014

Uranus -82851-03-20 07:11 J -28539826.34 -28539826.20 -28539826.06 0.0139 0.0005

Uranus -82851-06-16 10:47 J -28539738.18 -28539738.05 -28539737.91 0.0140 0.0023

Uranus -82851-09-12 14:37 J -28539650.02 -28539649.89 -28539649.76 0.0140 0.0041

Uranus -82851-12-09 18:13 J -28539561.86 -28539561.74 -28539561.61 0.0140 0.0059

Earth -82850-03-06 09:20 J -28539475.21 -28539475.11 -28539475.00 0.2753 0.0756

Moon -82850-03-06 09:49 J -28539475.20 -28539475.09 -28539474.98 0.2746 0.0675 *

Uranus -82850-03-07 22:04 J -28539473.69 -28539473.58 -28539473.46 0.0140 0.0078

Uranus -82850-06-04 01:54 J -28539385.51 -28539385.42 -28539385.31 0.0140 0.0096

Uranus -82850-08-31 05:59 J -28539297.33 -28539297.25 -28539297.17 0.0140 0.0115

Venus -82850-09-03 17:01 J -28539293.90 -28539293.79 -28539293.68 0.3762 0.0303

Uranus -82850-11-27 09:35 J -28539209.13 -28539209.10 -28539209.05 0.0141 0.0134

Pluto -82849-06-15 13:54 J -28539007.94 -28539007.92 -28539007.86 0.0060 0.0059

Pluto -82849-09-11 15:20 J -28538919.94 -28538919.86 -28538919.75 0.0060 0.0053

Pluto -82849-12-08 16:47 J -28538831.91 -28538831.80 -28538831.66 0.0060 0.0047

Pluto -82848-03-06 18:13 J -28538743.87 -28538743.74 -28538743.58 0.0061 0.0041

Pluto -82848-06-02 19:25 J -28538655.83 -28538655.69 -28538655.51 0.0061 0.0035

Pluto -82848-08-29 20:52 J -28538567.78 -28538567.63 -28538567.44 0.0061 0.0029

Pluto -82848-11-25 22:47 J -28538479.73 -28538479.55 -28538479.37 0.0061 0.0022

Pluto -82847-02-21 23:59 J -28538391.68 -28538391.50 -28538391.30 0.0061 0.0016

Pluto -82847-05-21 01:25 J -28538303.62 -28538303.44 -28538303.24 0.0061 0.0010

Neptune -82847-07-16 13:54 J -28538246.94 -28538246.92 -28538246.89 0.0089 0.0087

Pluto -82847-08-17 03:06 J -28538215.56 -28538215.37 -28538215.18 0.0061 0.0003

Neptune -82847-10-12 15:06 J -28538158.90 -28538158.87 -28538158.81 0.0089 0.0083

Pluto -82847-11-13 04:32 J -28538127.50 -28538127.31 -28538127.12 0.0061 0.0003

Neptune -82846-01-08 16:32 J -28538070.86 -28538070.81 -28538070.74 0.0089 0.0079

Pluto -82846-02-09 05:59 J -28538039.44 -28538039.25 -28538039.06 0.0061 0.0009

Neptune -82846-04-06 17:44 J -28537982.82 -28537982.76 -28537982.68 0.0089 0.0075

Pluto -82846-05-08 07:11 J -28537951.37 -28537951.20 -28537951.00 0.0061 0.0016

Neptune -82846-07-03 19:25 J -28537894.77 -28537894.69 -28537894.61 0.0089 0.0070

Pluto -82846-08-04 08:37 J -28537863.31 -28537863.14 -28537862.95 0.0061 0.0023

Jupiter -82846-08-24 20:08 J -28537842.82 -28537842.66 -28537842.49 0.0492 0.0177

Venus -82846-09-02 16:18 J -28537833.90 -28537833.82 -28537833.74 0.3606 0.2813

Neptune -82846-09-29 20:37 J -28537806.72 -28537806.64 -28537806.55 0.0089 0.0066

Pluto -82846-10-31 10:18 J -28537775.23 -28537775.07 -28537774.89 0.0061 0.0029

Jupiter -82846-11-23 00:56 J -28537752.59 -28537752.46 -28537752.32 0.0494 0.0321

Mars -82846-11-26 03:20 J -28537749.52 -28537749.36 -28537749.21 0.1789 0.0357

Neptune -82846-12-26 21:49 J -28537718.67 -28537718.59 -28537718.48 0.0089 0.0062

Pluto -82845-01-27 11:30 J -28537687.16 -28537687.02 -28537686.84 0.0061 0.0036

Neptune -82845-03-23 23:30 J -28537630.62 -28537630.52 -28537630.42 0.0089 0.0057

Pluto -82845-04-24 13:11 J -28537599.08 -28537598.95 -28537598.80 0.0061 0.0042

Neptune -82845-06-20 00:42 J -28537542.57 -28537542.47 -28537542.36 0.0089 0.0053

Pluto -82845-07-21 14:23 J -28537511.00 -28537510.90 -28537510.76 0.0061 0.0049

Neptune -82845-09-16 01:54 J -28537454.52 -28537454.42 -28537454.30 0.0089 0.0049

Mars -82845-09-20 19:54 J -28537449.79 -28537449.67 -28537449.55 0.1746 0.0224

Pluto -82845-10-17 16:04 J -28537422.90 -28537422.83 -28537422.73 0.0062 0.0055

Neptune -82845-12-13 03:20 J -28537366.47 -28537366.36 -28537366.24 0.0089 0.0045

Saturn -82845-12-15 07:11 J -28537364.27 -28537364.20 -28537364.12 0.0272 0.0224

Pluto -82844-01-13 17:30 J -28537334.77 -28537334.77 -28537334.74 0.0062 0.0062

Neptune -82844-03-11 04:47 J -28537278.41 -28537278.30 -28537278.17 0.0089 0.0040

Saturn -82844-03-13 18:13 J -28537275.86 -28537275.74 -28537275.62 0.0272 0.0131

Venus -82844-03-19 12:13 J -28537270.10 -28537269.99 -28537269.89 0.3758 0.1301

Neptune -82844-06-07 06:13 J -28537190.36 -28537190.24 -28537190.11 0.0089 0.0036

Saturn -82844-06-10 05:16 J -28537187.42 -28537187.28 -28537187.15 0.0271 0.0037

Neptune -82844-09-03 07:40 J -28537102.31 -28537102.18 -28537102.05 0.0089 0.0031

Saturn -82844-09-06 16:18 J -28537098.95 -28537098.82 -28537098.69 0.0271 0.0058

Neptune -82844-11-30 08:52 J -28537014.25 -28537014.13 -28537013.99 0.0089 0.0027

Saturn -82844-12-04 03:35 J -28537010.46 -28537010.35 -28537010.24 0.0270 0.0153

Neptune -82843-02-26 10:18 J -28536926.19 -28536926.07 -28536925.93 0.0089 0.0023

Saturn -82843-03-02 14:52 J -28536921.93 -28536921.88 -28536921.83 0.0270 0.0248

Neptune -82843-05-25 11:44 J -28536838.14 -28536838.01 -28536837.87 0.0089 0.0018

Neptune -82843-08-21 13:11 J -28536750.08 -28536749.95 -28536749.82 0.0089 0.0014

Neptune -82843-11-17 14:37 J -28536662.02 -28536661.89 -28536661.76 0.0089 0.0009

Neptune -82842-02-13 16:04 J -28536573.97 -28536573.83 -28536573.70 0.0089 0.0005

Neptune -82842-05-12 17:30 J -28536485.91 -28536485.77 -28536485.64 0.0089 0.0002

Neptune -82842-08-08 18:42 J -28536397.85 -28536397.72 -28536397.58 0.0089 0.0005

Neptune -82842-11-04 20:08 J -28536309.79 -28536309.66 -28536309.52 0.0089 0.0009

Neptune -82841-01-31 21:35 J -28536221.73 -28536221.60 -28536221.46 0.0089 0.0013

Neptune -82841-04-28 23:01 J -28536133.67 -28536133.54 -28536133.40 0.0089 0.0017

Neptune -82841-07-26 00:28 J -28536045.61 -28536045.48 -28536045.35 0.0089 0.0022

Neptune -82841-10-22 01:40 J -28535957.55 -28535957.43 -28535957.29 0.0089 0.0027

Neptune -82840-01-18 03:20 J -28535869.49 -28535869.36 -28535869.23 0.0089 0.0031

Venus -82840-03-18 16:32 J -28535809.93 -28535809.81 -28535809.69 0.3610 0.1471

Jupiter -82840-04-15 11:59 J -28535782.10 -28535782.00 -28535781.89 0.0536 0.0286

Neptune -82840-04-16 04:32 J -28535781.42 -28535781.31 -28535781.17 0.0089 0.0036

Neptune -82840-07-13 06:13 J -28535693.36 -28535693.24 -28535693.12 0.0089 0.0040

Jupiter -82840-07-13 20:37 J -28535692.77 -28535692.64 -28535692.52 0.0534 0.0167

Neptune -82840-10-09 07:25 J -28535605.30 -28535605.19 -28535605.06 0.0089 0.0045

Neptune -82839-01-05 09:06 J -28535517.23 -28535517.12 -28535517.01 0.0089 0.0049

Neptune -82839-04-03 10:18 J -28535429.17 -28535429.07 -28535428.95 0.0089 0.0054

Neptune -82839-06-30 11:59 J -28535341.10 -28535341.00 -28535340.90 0.0089 0.0058

Neptune -82839-09-26 13:11 J -28535253.03 -28535252.95 -28535252.84 0.0089 0.0063

Venus -82839-10-03 07:25 J -28535246.28 -28535246.19 -28535246.10 0.3754 0.2327

Neptune -82839-12-23 14:52 J -28535164.96 -28535164.88 -28535164.79 0.0089 0.0067

Neptune -82838-03-21 16:04 J -28535076.89 -28535076.83 -28535076.74 0.0089 0.0072

Neptune -82838-06-17 17:44 J -28534988.82 -28534988.76 -28534988.69 0.0089 0.0076

Neptune -82838-09-13 19:11 J -28534900.75 -28534900.70 -28534900.64 0.0089 0.0081

Neptune -82838-12-10 20:52 J -28534812.67 -28534812.63 -28534812.59 0.0089 0.0085

Moon -82837-03-08 04:04 J -28534724.44 -28534724.33 -28534724.22 0.2746 0.0565

Earth -82837-03-08 04:32 J -28534724.42 -28534724.31 -28534724.21 0.2752 0.0618 *

Mars -82836-04-17 03:06 J -28534319.46 -28534319.37 -28534319.28 0.1779 0.1434

Mars -82835-02-11 04:47 J -28534019.41 -28534019.30 -28534019.18 0.1754 0.0435

Venus -82835-10-02 16:18 J -28533785.95 -28533785.82 -28533785.68 0.3614 0.0211

Jupiter -82834-06-12 18:13 J -28533532.88 -28533532.74 -28533532.60 0.0491 0.0304

Jupiter -82834-09-10 23:16 J -28533442.69 -28533442.53 -28533442.37 0.0493 0.0195

Venus -82833-04-18 03:06 J -28533222.42 -28533222.37 -28533222.32 0.3750 0.3379

Venus -82829-04-17 15:49 J -28531761.97 -28531761.84 -28531761.71 0.3618 0.1059

Saturn -82829-07-05 15:49 J -28531682.93 -28531682.84 -28531682.76 0.0288 0.0253

Saturn -82829-10-02 14:52 J -28531594.05 -28531593.88 -28531593.71 0.0289 0.0097

Saturn -82829-12-30 13:40 J -28531505.10 -28531504.93 -28531504.75 0.0289 0.0058

Jupiter -82828-02-01 15:49 J -28531471.93 -28531471.84 -28531471.75 0.0537 0.0397

Saturn -82828-03-29 12:13 J -28531416.11 -28531415.99 -28531415.87 0.0290 0.0210

Jupiter -82828-05-02 00:13 J -28531382.62 -28531382.49 -28531382.36 0.0535 0.0056

Jupiter -82828-07-30 09:06 J -28531293.15 -28531293.12 -28531293.08 0.0533 0.0513

Moon -82827-09-05 15:06 J -28530891.01 -28530890.87 -28530890.72 0.2584 0.0793

Earth -82827-09-05 16:47 J -28530890.95 -28530890.80 -28530890.66 0.2584 0.0710 *

Mars -82826-07-04 13:54 J -28530589.02 -28530588.92 -28530588.83 0.1762 0.1092

Moon -82824-03-10 22:47 J -28529973.63 -28529973.55 -28529973.46 0.2748 0.1856

Earth -82824-03-10 23:30 J -28529973.60 -28529973.52 -28529973.44 0.2752 0.1984 *

Mars -82824-06-09 02:08 J -28529883.45 -28529883.41 -28529883.37 0.1730 0.1622

Venus -82824-11-01 14:52 J -28529737.98 -28529737.88 -28529737.78 0.3622 0.2247

Jupiter -82822-03-31 16:32 J -28529222.90 -28529222.81 -28529222.73 0.0491 0.0429

Jupiter -82822-06-29 21:49 J -28529132.77 -28529132.59 -28529132.41 0.0492 0.0072

Venus -82818-05-18 13:25 J -28527713.98 -28527713.94 -28527713.90 0.3626 0.3385

Earth -82817-03-03 19:25 J -28527423.77 -28527423.69 -28527423.60 0.2753 0.1812

Moon -82817-03-03 20:08 J -28527423.75 -28527423.66 -28527423.57 0.2749 0.1658 *

Jupiter -82817-11-20 19:54 J -28527161.71 -28527161.67 -28527161.62 0.0538 0.0502

Mars -82817-11-23 22:47 J -28527158.56 -28527158.55 -28527158.54 0.1771 0.1762

Jupiter -82816-02-18 04:18 J -28527072.45 -28527072.32 -28527072.19 0.0536 0.0055

Jupiter -82816-05-18 12:56 J -28526983.04 -28526982.96 -28526982.87 0.0533 0.0405

Mars -82815-01-04 03:35 J -28526752.48 -28526752.35 -28526752.21 0.1798 0.0843

Venus -82815-02-09 12:56 J -28526716.02 -28526715.96 -28526715.91 0.3776 0.3152

Saturn -82815-05-04 09:06 J -28526632.16 -28526632.12 -28526632.08 0.0272 0.0255

Saturn -82815-07-31 19:54 J -28526543.77 -28526543.67 -28526543.56 0.0271 0.0163

Saturn -82815-10-28 06:56 J -28526455.34 -28526455.21 -28526455.08 0.0271 0.0069

Mars -82815-10-30 11:01 J -28526453.14 -28526453.04 -28526452.94 0.1738 0.0967

Saturn -82814-01-24 17:59 J -28526366.88 -28526366.75 -28526366.61 0.0270 0.0025

Saturn -82814-04-23 05:01 J -28526278.41 -28526278.29 -28526278.16 0.0270 0.0120

Saturn -82814-07-20 16:18 J -28526189.90 -28526189.82 -28526189.73 0.0270 0.0215

Uranus -82814-09-07 13:40 J -28526141.01 -28526140.93 -28526140.81 0.0140 0.0120

Moon -82814-09-08 18:56 J -28526139.84 -28526139.71 -28526139.57 0.2587 0.1145

Earth -82814-09-08 20:23 J -28526139.78 -28526139.65 -28526139.52 0.2584 0.1273 *

Uranus -82814-12-04 21:06 J -28526052.74 -28526052.62 -28526052.47 0.0140 0.0095

Uranus -82813-03-02 04:18 J -28525964.46 -28525964.32 -28525964.15 0.0140 0.0070

Uranus -82813-05-29 11:44 J -28525876.18 -28525876.01 -28525875.83 0.0140 0.0045

Uranus -82813-08-25 18:56 J -28525787.89 -28525787.71 -28525787.53 0.0140 0.0021

Uranus -82813-11-22 01:54 J -28525699.60 -28525699.42 -28525699.24 0.0139 0.0003

Uranus -82812-02-18 08:52 J -28525611.31 -28525611.13 -28525610.95 0.0139 0.0027

Uranus -82812-05-17 15:35 J -28525523.01 -28525522.85 -28525522.67 0.0139 0.0051

Uranus -82812-08-13 22:32 J -28525434.71 -28525434.56 -28525434.40 0.0139 0.0073

Uranus -82812-11-10 05:16 J -28525346.40 -28525346.28 -28525346.14 0.0139 0.0096

Uranus -82811-02-06 11:59 J -28525258.08 -28525258.00 -28525257.90 0.0139 0.0119

Jupiter -82810-04-17 20:08 J -28524822.84 -28524822.66 -28524822.48 0.0492 0.0053

Jupiter -82810-07-17 00:28 J -28524732.56 -28524732.48 -28524732.40 0.0494 0.0441

Venus -82810-08-26 07:11 J -28524692.29 -28524692.20 -28524692.11 0.3772 0.2254

Mars -82806-05-27 03:35 J -28523322.50 -28523322.35 -28523322.19 0.1789 0.0238

Mars -82805-03-21 19:54 J -28523022.79 -28523022.67 -28523022.55 0.1746 0.0312

Jupiter -82805-12-07 08:08 J -28522762.28 -28522762.16 -28522762.04 0.0536 0.0159

Earth -82804-03-06 14:23 J -28522673.01 -28522672.90 -28522672.79 0.2753 0.0472

Moon -82804-03-06 14:37 J -28522673.00 -28522672.89 -28522672.78 0.2746 0.0478 *

Jupiter -82804-03-06 16:47 J -28522672.91 -28522672.80 -28522672.69 0.0534 0.0296 *

Venus -82804-03-11 01:40 J -28522668.53 -28522668.43 -28522668.32 0.3769 0.1338

Saturn -82799-02-19 10:32 J -28520862.21 -28520862.06 -28520861.91 0.0288 0.0161

Saturn -82799-05-19 09:35 J -28520773.28 -28520773.10 -28520772.92 0.0289 0.0009

Saturn -82799-08-16 08:08 J -28520684.31 -28520684.16 -28520684.01 0.0289 0.0147

Venus -82799-09-24 20:23 J -28520644.76 -28520644.65 -28520644.53 0.3765 0.0405

Jupiter -82798-02-03 18:56 J -28520512.88 -28520512.71 -28520512.54 0.0492 0.0172

Jupiter -82798-05-04 23:44 J -28520422.64 -28520422.51 -28520422.38 0.0494 0.0326

Mars -82797-10-16 03:49 J -28519892.44 -28519892.34 -28519892.23 0.1780 0.1294

Mars -82796-08-12 05:01 J -28519592.41 -28519592.29 -28519592.18 0.1754 0.0352

Moon -82794-09-03 17:44 J -28518839.82 -28518839.76 -28518839.69 0.2580 0.2337

Earth -82794-09-03 18:56 J -28518839.77 -28518839.71 -28518839.65 0.2584 0.2323 *

Venus -82793-04-09 15:20 J -28518620.97 -28518620.86 -28518620.74 0.3761 0.0605

Jupiter -82793-09-25 11:01 J -28518452.14 -28518452.04 -28518451.92 0.0536 0.0280

Jupiter -82793-12-23 19:40 J -28518362.81 -28518362.68 -28518362.56 0.0534 0.0174

Moon -82791-03-09 09:06 J -28517922.23 -28517922.12 -28517922.02 0.2746 0.0859

Earth -82791-03-09 09:20 J -28517922.21 -28517922.11 -28517922.00 0.2752 0.0886 *

Venus -82789-04-08 16:04 J -28517160.92 -28517160.83 -28517160.73 0.3607 0.2427

Venus -82788-10-24 10:32 J -28516597.16 -28516597.06 -28516596.95 0.3757 0.1604

Jupiter -82787-11-22 17:30 J -28516202.92 -28516202.77 -28516202.63 0.0491 0.0294

Mars -82786-01-02 13:54 J -28516162.02 -28516161.92 -28516161.82 0.1762 0.1010

Jupiter -82786-02-20 22:32 J -28516112.72 -28516112.56 -28516112.40 0.0493 0.0206

Saturn -82786-12-18 22:32 J -28515811.65 -28515811.56 -28515811.46 0.0272 0.0189

Saturn -82785-03-16 09:35 J -28515723.23 -28515723.10 -28515722.97 0.0272 0.0095

Saturn -82785-06-12 20:37 J -28515634.77 -28515634.64 -28515634.50 0.0271 0.0002

Saturn -82785-09-09 07:40 J -28515546.30 -28515546.18 -28515546.05 0.0271 0.0095

Saturn -82785-12-06 18:56 J -28515457.80 -28515457.71 -28515457.61 0.0270 0.0190

Mars -82785-12-08 02:08 J -28515456.42 -28515456.41 -28515456.39 0.1730 0.1706

Moon -82784-03-02 06:28 J -28515372.25 -28515372.23 -28515372.22 0.2754 0.2709

Venus -82784-10-23 16:18 J -28515136.95 -28515136.82 -28515136.69 0.3611 0.1091

Venus -82782-05-10 05:59 J -28514573.33 -28514573.25 -28514573.17 0.3753 0.2638

Jupiter -82781-07-14 14:37 J -28514141.97 -28514141.89 -28514141.80 0.0537 0.0392

Moon -82781-09-05 21:20 J -28514088.76 -28514088.61 -28514088.46 0.2585 0.0539

Earth -82781-09-05 23:01 J -28514088.69 -28514088.54 -28514088.39 0.2584 0.0299 *

Jupiter -82781-10-11 23:01 J -28514052.67 -28514052.54 -28514052.41 0.0535 0.0059

Jupiter -82780-01-09 07:54 J -28513963.20 -28513963.17 -28513963.14 0.0532 0.0514

Moon -82778-03-12 03:49 J -28513171.41 -28513171.34 -28513171.28 0.2750 0.2189

Earth -82778-03-12 04:32 J -28513171.37 -28513171.31 -28513171.25 0.2752 0.2267 *

Venus -82778-05-09 16:04 J -28513112.96 -28513112.83 -28513112.70 0.3615 0.0191

Mars -82777-05-24 23:01 J -28512731.58 -28512731.54 -28512731.51 0.1770 0.1671

Venus -82777-11-23 01:40 J -28512549.44 -28512549.43 -28512549.41 0.3749 0.3705

Mars -82776-07-05 03:49 J -28512325.47 -28512325.34 -28512325.21 0.1798 0.0956

Mars -82775-04-30 11:01 J -28512026.13 -28512026.04 -28512025.94 0.1738 0.1057

Jupiter -82775-09-10 15:20 J -28511892.95 -28511892.86 -28511892.77 0.0491 0.0422

Jupiter -82775-12-09 20:52 J -28511802.81 -28511802.63 -28511802.46 0.0492 0.0080

Venus -82773-11-22 15:20 J -28511088.98 -28511088.86 -28511088.74 0.3619 0.1416

Earth -82771-03-05 00:28 J -28510621.57 -28510621.48 -28510621.39 0.2753 0.1537

Moon -82771-03-05 01:11 J -28510621.55 -28510621.45 -28510621.36 0.2748 0.1528 *

Saturn -82770-07-09 09:49 J -28510130.21 -28510130.09 -28510129.95 0.0288 0.0201

Saturn -82770-10-06 09:06 J -28510041.30 -28510041.12 -28510040.94 0.0289 0.0045

Saturn -82769-01-03 07:54 J -28509952.33 -28509952.17 -28509952.00 0.0289 0.0109

Saturn -82769-04-01 06:13 J -28509863.31 -28509863.24 -28509863.16 0.0290 0.0261

Jupiter -82769-05-02 18:13 J -28509831.78 -28509831.74 -28509831.69 0.0537 0.0505

Uranus -82769-05-04 10:04 J -28509830.12 -28509830.08 -28509830.02 0.0138 0.0128

Jupiter -82769-07-31 02:37 J -28509742.52 -28509742.39 -28509742.26 0.0536 0.0057

Uranus -82769-07-31 13:40 J -28509742.01 -28509741.93 -28509741.85 0.0138 0.0111

Uranus -82769-10-27 17:01 J -28509653.88 -28509653.79 -28509653.68 0.0139 0.0095

Jupiter -82769-10-28 11:16 J -28509653.11 -28509653.03 -28509652.94 0.0533 0.0401

Uranus -82768-01-23 20:37 J -28509565.75 -28509565.64 -28509565.52 0.0139 0.0078

Uranus -82768-04-22 00:13 J -28509477.61 -28509477.49 -28509477.36 0.0139 0.0060

Uranus -82768-07-19 03:49 J -28509389.46 -28509389.34 -28509389.20 0.0139 0.0043

Moon -82768-09-09 01:25 J -28509337.56 -28509337.44 -28509337.32 0.2588 0.1594

Earth -82768-09-09 02:37 J -28509337.50 -28509337.39 -28509337.28 0.2584 0.1678 *

Uranus -82768-10-15 07:40 J -28509301.32 -28509301.18 -28509301.05 0.0139 0.0026

Uranus -82767-01-11 11:16 J -28509213.17 -28509213.03 -28509212.89 0.0139 0.0008

Uranus -82767-04-09 14:52 J -28509125.02 -28509124.88 -28509124.74 0.0139 0.0010

Venus -82767-06-08 14:08 J -28509065.00 -28509064.91 -28509064.82 0.3623 0.2591

Uranus -82767-07-06 18:28 J -28509036.86 -28509036.73 -28509036.59 0.0140 0.0029

Uranus -82767-10-02 22:18 J -28508948.70 -28508948.57 -28508948.44 0.0140 0.0046

Mars -82767-11-25 04:18 J -28508895.48 -28508895.32 -28508895.17 0.1789 0.0118

Uranus -82767-12-30 01:54 J -28508860.53 -28508860.42 -28508860.29 0.0140 0.0065

Uranus -82766-03-28 05:44 J -28508772.37 -28508772.26 -28508772.14 0.0140 0.0083

Uranus -82766-06-24 09:20 J -28508684.19 -28508684.11 -28508684.00 0.0140 0.0103

Uranus -82766-09-20 13:25 J -28508596.00 -28508595.94 -28508595.87 0.0140 0.0121

Mars -82766-09-20 20:08 J -28508595.78 -28508595.66 -28508595.54 0.1746 0.0406

Uranus -82766-12-17 17:16 J -28508507.79 -28508507.78 -28508507.76 0.0141 0.0140

Venus -82764-03-02 16:47 J -28508066.80 -28508066.80 -28508066.80 0.3778 0.3773

Neptune -82763-01-02 21:35 J -28507760.62 -28507760.60 -28507760.56 0.0088 0.0087

Neptune -82763-04-01 00:56 J -28507672.52 -28507672.46 -28507672.36 0.0088 0.0081

Neptune -82763-06-28 04:32 J -28507584.40 -28507584.31 -28507584.19 0.0088 0.0074

Neptune -82763-09-24 08:23 J -28507496.27 -28507496.15 -28507496.02 0.0088 0.0068

Jupiter -82763-09-27 19:11 J -28507492.88 -28507492.70 -28507492.52 0.0492 0.0044

Neptune -82763-12-21 11:44 J -28507408.14 -28507408.01 -28507407.86 0.0088 0.0062

Jupiter -82763-12-26 23:30 J -28507402.59 -28507402.52 -28507402.45 0.0494 0.0449

Neptune -82762-03-19 15:06 J -28507320.00 -28507319.87 -28507319.70 0.0088 0.0056

Neptune -82762-06-15 18:42 J -28507231.86 -28507231.72 -28507231.55 0.0088 0.0049

Neptune -82762-09-11 22:32 J -28507143.73 -28507143.56 -28507143.39 0.0088 0.0043

Neptune -82762-12-09 01:54 J -28507055.59 -28507055.42 -28507055.24 0.0088 0.0037

Neptune -82761-03-06 05:16 J -28506967.45 -28506967.28 -28506967.09 0.0088 0.0031

Neptune -82761-06-02 08:52 J -28506879.31 -28506879.13 -28506878.94 0.0088 0.0024

Neptune -82761-08-29 12:28 J -28506791.16 -28506790.98 -28506790.79 0.0088 0.0018

Neptune -82761-11-25 16:04 J -28506703.02 -28506702.83 -28506702.64 0.0088 0.0012

Neptune -82760-02-21 19:25 J -28506614.88 -28506614.69 -28506614.50 0.0088 0.0005

Neptune -82760-05-20 22:47 J -28506526.74 -28506526.55 -28506526.36 0.0088 0.0002

Neptune -82760-08-17 02:08 J -28506438.59 -28506438.41 -28506438.21 0.0088 0.0008

Neptune -82760-11-13 05:30 J -28506350.45 -28506350.27 -28506350.07 0.0088 0.0014

Neptune -82759-02-09 09:06 J -28506262.30 -28506262.12 -28506261.93 0.0088 0.0019

Neptune -82759-05-08 12:28 J -28506174.16 -28506173.98 -28506173.79 0.0088 0.0025

Neptune -82759-08-04 15:49 J -28506086.01 -28506085.84 -28506085.66 0.0088 0.0032

Venus -82759-09-16 11:01 J -28506043.11 -28506043.04 -28506042.97 0.3775 0.2896

Neptune -82759-10-31 19:11 J -28505997.87 -28505997.70 -28505997.52 0.0088 0.0038

Neptune -82758-01-27 22:32 J -28505909.72 -28505909.56 -28505909.39 0.0088 0.0044

Earth -82758-03-07 19:25 J -28505870.81 -28505870.69 -28505870.58 0.2753 0.0214

Moon -82758-03-07 19:25 J -28505870.80 -28505870.69 -28505870.58 0.2746 0.0130 *

Neptune -82758-04-26 01:54 J -28505821.57 -28505821.42 -28505821.26 0.0088 0.0050

Neptune -82758-07-23 05:16 J -28505733.42 -28505733.28 -28505733.13 0.0088 0.0056

Neptune -82758-10-19 08:23 J -28505645.27 -28505645.15 -28505645.00 0.0088 0.0062

Neptune -82757-01-15 11:44 J -28505557.12 -28505557.01 -28505556.88 0.0088 0.0068

Neptune -82757-04-12 15:06 J -28505468.96 -28505468.87 -28505468.76 0.0088 0.0074

Mars -82757-04-16 04:32 J -28505465.43 -28505465.31 -28505465.19 0.1780 0.1163

Jupiter -82757-05-19 06:28 J -28505432.35 -28505432.23 -28505432.10 0.0536 0.0163

Neptune -82757-07-09 18:13 J -28505380.80 -28505380.74 -28505380.64 0.0088 0.0080

Jupiter -82757-08-16 15:06 J -28505342.97 -28505342.87 -28505342.76 0.0534 0.0294

Neptune -82757-10-05 21:35 J -28505292.63 -28505292.60 -28505292.54 0.0088 0.0086

Mars -82756-02-10 05:01 J -28505165.41 -28505165.29 -28505165.17 0.1754 0.0261

Saturn -82756-05-07 00:42 J -28505079.55 -28505079.47 -28505079.39 0.0272 0.0218

Saturn -82756-08-03 11:30 J -28504991.13 -28504991.02 -28504990.90 0.0271 0.0125

Pluto -82756-10-18 19:40 J -28504914.73 -28504914.68 -28504914.64 0.0085 0.0079

Saturn -82756-10-30 22:32 J -28504902.69 -28504902.56 -28504902.42 0.0271 0.0032

Pluto -82755-01-14 20:37 J -28504826.70 -28504826.64 -28504826.54 0.0085 0.0068

Saturn -82755-01-27 09:35 J -28504814.23 -28504814.10 -28504813.96 0.0270 0.0064

Pluto -82755-04-12 22:04 J -28504738.67 -28504738.58 -28504738.47 0.0084 0.0056

Saturn -82755-04-25 20:52 J -28504725.74 -28504725.63 -28504725.52 0.0270 0.0158

Pluto -82755-07-09 23:30 J -28504650.63 -28504650.52 -28504650.40 0.0084 0.0044

Saturn -82755-07-23 08:08 J -28504637.20 -28504637.16 -28504637.11 0.0270 0.0253

Pluto -82755-10-06 00:56 J -28504562.58 -28504562.46 -28504562.33 0.0084 0.0032

Pluto -82754-01-02 02:08 J -28504474.53 -28504474.41 -28504474.27 0.0084 0.0020

Pluto -82754-03-31 03:35 J -28504386.48 -28504386.35 -28504386.22 0.0084 0.0008

Pluto -82754-06-27 04:47 J -28504298.43 -28504298.30 -28504298.16 0.0084 0.0004

Pluto -82754-09-23 06:13 J -28504210.37 -28504210.24 -28504210.11 0.0084 0.0015

Pluto -82754-12-20 07:25 J -28504122.31 -28504122.19 -28504122.06 0.0084 0.0026

Pluto -82753-03-17 08:37 J -28504034.25 -28504034.14 -28504034.02 0.0083 0.0037

Venus -82753-04-01 05:30 J -28504019.37 -28504019.27 -28504019.18 0.3771 0.1993

Pluto -82753-06-13 09:49 J -28503946.19 -28503946.09 -28503945.97 0.0083 0.0049

Pluto -82753-09-09 11:16 J -28503858.12 -28503858.03 -28503857.94 0.0083 0.0060

Pluto -82753-12-06 12:13 J -28503770.05 -28503769.99 -28503769.91 0.0083 0.0071

Pluto -82752-03-04 13:25 J -28503681.95 -28503681.94 -28503681.91 0.0083 0.0082

Jupiter -82751-07-16 17:16 J -28503182.95 -28503182.78 -28503182.61 0.0492 0.0170

Jupiter -82751-10-14 22:04 J -28503092.71 -28503092.58 -28503092.45 0.0493 0.0327

Moon -82748-09-03 23:59 J -28502037.59 -28502037.50 -28502037.41 0.2581 0.2108

Earth -82748-09-04 01:11 J -28502037.55 -28502037.45 -28502037.34 0.2584 0.1898 *

Venus -82748-10-15 23:59 J -28501995.61 -28501995.50 -28501995.39 0.3768 0.1063

Mars -82747-07-03 13:54 J -28501735.02 -28501734.92 -28501734.81 0.1762 0.0919

Jupiter -82745-03-07 10:32 J -28501122.17 -28501122.06 -28501121.95 0.0537 0.0269

Moon -82745-03-09 13:54 J -28501120.02 -28501119.92 -28501119.81 0.2746 0.1083

Earth -82745-03-09 14:23 J -28501120.00 -28501119.90 -28501119.80 0.2752 0.1168 *

Jupiter -82745-06-04 18:56 J -28501032.83 -28501032.71 -28501032.58 0.0534 0.0185

Venus -82742-05-01 18:56 J -28499971.83 -28499971.71 -28499971.60 0.3764 0.0162

Saturn -82741-11-25 05:30 J -28499398.33 -28499398.27 -28499398.19 0.0288 0.0264

Saturn -82740-02-22 04:47 J -28499309.46 -28499309.30 -28499309.13 0.0288 0.0108

Saturn -82740-05-22 03:49 J -28499220.52 -28499220.34 -28499220.16 0.0289 0.0047

Saturn -82740-08-19 02:23 J -28499131.53 -28499131.40 -28499131.27 0.0289 0.0199

Jupiter -82739-05-04 16:04 J -28498872.98 -28498872.83 -28498872.69 0.0491 0.0291

Jupiter -82739-08-02 21:06 J -28498782.78 -28498782.62 -28498782.46 0.0493 0.0210

Earth -82738-03-03 10:32 J -28498570.09 -28498570.06 -28498570.02 0.2753 0.2582

Moon -82738-03-03 11:16 J -28498570.07 -28498570.03 -28498569.98 0.2752 0.2533 *

Venus -82738-04-30 15:35 J -28498511.89 -28498511.85 -28498511.81 0.3604 0.3404

Mars -82738-11-23 22:47 J -28498304.60 -28498304.55 -28498304.50 0.1770 0.1592

Venus -82737-11-14 13:54 J -28497948.03 -28497947.92 -28497947.81 0.3760 0.0892

Mars -82736-01-03 04:32 J -28497898.43 -28497898.31 -28497898.19 0.1798 0.1092

Mars -82736-10-29 11:16 J -28497599.12 -28497599.03 -28497598.94 0.1738 0.1147

Moon -82735-09-07 03:35 J -28497286.50 -28497286.35 -28497286.20 0.2585 0.0058

Earth -82735-09-07 05:16 J -28497286.44 -28497286.28 -28497286.13 0.2584 0.0130 *

Jupiter -82734-12-25 13:40 J -28496812.02 -28496811.93 -28496811.84 0.0536 0.0387

Jupiter -82733-03-23 21:49 J -28496722.71 -28496722.59 -28496722.46 0.0534 0.0066

Jupiter -82733-06-21 06:42 J -28496633.24 -28496633.22 -28496633.19 0.0532 0.0519

Venus -82733-11-13 16:04 J -28496487.94 -28496487.83 -28496487.72 0.3608 0.2037

Moon -82732-03-12 08:37 J -28496369.18 -28496369.14 -28496369.09 0.2752 0.2462

Earth -82732-03-12 09:35 J -28496369.14 -28496369.10 -28496369.06 0.2752 0.2552 *

Venus -82731-05-31 09:06 J -28495924.22 -28495924.12 -28495924.02 0.3756 0.1908

Uranus -82730-07-01 14:23 J -28495527.92 -28495527.90 -28495527.84 0.0140 0.0137

Uranus -82730-09-27 21:49 J -28495439.69 -28495439.59 -28495439.47 0.0140 0.0112

Uranus -82730-12-25 05:16 J -28495351.42 -28495351.28 -28495351.13 0.0140 0.0087

Uranus -82729-03-22 12:28 J -28495263.14 -28495262.98 -28495262.81 0.0140 0.0062

Uranus -82729-06-18 19:40 J -28495174.85 -28495174.68 -28495174.50 0.0140 0.0038

Uranus -82729-09-15 02:52 J -28495086.56 -28495086.38 -28495086.20 0.0140 0.0013

Uranus -82729-12-12 09:49 J -28494998.27 -28494998.09 -28494997.90 0.0139 0.0011

Uranus -82728-03-10 16:47 J -28494909.97 -28494909.80 -28494909.62 0.0139 0.0034

Uranus -82728-06-06 23:44 J -28494821.67 -28494821.51 -28494821.34 0.0139 0.0058

Uranus -82728-09-03 06:28 J -28494733.37 -28494733.23 -28494733.07 0.0139 0.0081

Uranus -82728-11-30 13:11 J -28494645.06 -28494644.95 -28494644.82 0.0139 0.0104

Jupiter -82727-02-20 14:08 J -28494563.00 -28494562.91 -28494562.81 0.0491 0.0415

Uranus -82727-02-26 20:08 J -28494556.73 -28494556.66 -28494556.59 0.0139 0.0126

Jupiter -82727-05-21 19:40 J -28494472.85 -28494472.68 -28494472.50 0.0493 0.0089

Mars -82727-05-26 04:47 J -28494468.45 -28494468.30 -28494468.14 0.1789 0.0042

Venus -82727-05-30 16:04 J -28494463.96 -28494463.83 -28494463.70 0.3612 0.0714

Saturn -82727-09-24 03:06 J -28494347.42 -28494347.37 -28494347.31 0.0273 0.0247

Saturn -82727-12-21 14:08 J -28494259.02 -28494258.91 -28494258.80 0.0272 0.0153

Saturn -82726-03-20 01:11 J -28494170.59 -28494170.45 -28494170.32 0.0272 0.0059

Mars -82726-03-21 20:08 J -28494168.78 -28494168.66 -28494168.55 0.1746 0.0489

Saturn -82726-06-16 12:13 J -28494082.13 -28494081.99 -28494081.86 0.0271 0.0037

Saturn -82726-09-12 23:16 J -28493993.64 -28493993.53 -28493993.41 0.0271 0.0132

Saturn -82726-12-10 10:47 J -28493905.13 -28493905.05 -28493904.98 0.0270 0.0228

Venus -82726-12-15 04:32 J -28493900.38 -28493900.31 -28493900.24 0.3752 0.2953

Earth -82725-03-05 05:30 J -28493819.37 -28493819.27 -28493819.18 0.2753 0.1268

Moon -82725-03-05 05:59 J -28493819.35 -28493819.25 -28493819.15 0.2748 0.1119 *

Moon -82722-09-10 07:54 J -28492535.27 -28492535.17 -28492535.07 0.2589 0.1941

Earth -82722-09-10 08:37 J -28492535.22 -28492535.14 -28492535.05 0.2584 0.2079 *

Jupiter -82722-10-13 17:16 J -28492501.83 -28492501.78 -28492501.74 0.0537 0.0500

Venus -82722-12-14 15:35 J -28492439.98 -28492439.85 -28492439.72 0.3616 0.0562

Jupiter -82721-01-11 01:11 J -28492412.57 -28492412.45 -28492412.32 0.0535 0.0055

Jupiter -82721-04-09 10:04 J -28492323.17 -28492323.08 -28492323.00 0.0533 0.0403

Mars -82718-10-16 04:47 J -28491038.42 -28491038.30 -28491038.17 0.1780 0.1049

Mars -82717-08-11 05:01 J -28490738.41 -28490738.29 -28490738.16 0.1754 0.0176

Venus -82716-06-29 14:37 J -28490416.00 -28490415.89 -28490415.77 0.3620 0.1769

Jupiter -82715-03-09 17:59 J -28490162.93 -28490162.75 -28490162.58 0.0492 0.0041

Jupiter -82715-06-07 22:04 J -28490072.64 -28490072.58 -28490072.51 0.0494 0.0455

Moon -82712-03-08 00:13 J -28489068.60 -28489068.49 -28489068.38 0.2745 0.0039

Earth -82712-03-08 00:13 J -28489068.60 -28489068.49 -28489068.37 0.2752 0.0114 *

Saturn -82711-07-12 05:01 J -28488577.44 -28488577.29 -28488577.13 0.0288 0.0143

Saturn -82711-10-09 04:04 J -28488488.51 -28488488.33 -28488488.15 0.0289 0.0012

Saturn -82710-01-06 02:37 J -28488399.53 -28488399.39 -28488399.24 0.0289 0.0165

Venus -82710-01-13 13:40 J -28488392.01 -28488391.93 -28488391.86 0.3625 0.2938

Jupiter -82710-10-30 04:47 J -28488102.42 -28488102.30 -28488102.18 0.0536 0.0166

Jupiter -82709-01-27 13:25 J -28488013.05 -28488012.94 -28488012.83 0.0534 0.0288

Venus -82708-10-07 15:06 J -28487393.91 -28487393.87 -28487393.84 0.3777 0.3528

Mars -82707-01-01 13:54 J -28487308.02 -28487307.92 -28487307.81 0.1762 0.0836

Jupiter -82704-12-26 16:04 J -28485853.00 -28485852.83 -28485852.66 0.0492 0.0164

Jupiter -82703-03-26 20:52 J -28485762.76 -28485762.63 -28485762.50 0.0493 0.0333

Venus -82702-04-23 09:20 J -28485370.19 -28485370.11 -28485370.04 0.3774 0.2639

Moon -82702-09-05 05:59 J -28485235.37 -28485235.25 -28485235.13 0.2583 0.1564

Earth -82702-09-05 07:25 J -28485235.31 -28485235.19 -28485235.06 0.2584 0.1486 *

Moon -82699-03-10 18:42 J -28484317.81 -28484317.72 -28484317.62 0.2747 0.1433

Earth -82699-03-10 19:25 J -28484317.79 -28484317.69 -28484317.60 0.2752 0.1451 *

Mars -82698-05-24 23:01 J -28483877.60 -28483877.54 -28483877.48 0.1770 0.1502

Jupiter -82698-08-18 08:37 J -28483792.25 -28483792.14 -28483792.02 0.0537 0.0275

Jupiter -82698-11-15 17:16 J -28483702.90 -28483702.78 -28483702.66 0.0535 0.0180

Saturn -82697-05-09 16:18 J -28483526.91 -28483526.82 -28483526.71 0.0272 0.0180

Mars -82697-07-04 05:01 J -28483471.40 -28483471.29 -28483471.17 0.1799 0.1221

Saturn -82697-08-06 03:20 J -28483438.49 -28483438.36 -28483438.23 0.0271 0.0086

Saturn -82697-11-02 14:23 J -28483350.03 -28483349.90 -28483349.76 0.0271 0.0011

Venus -82697-11-06 03:49 J -28483346.44 -28483346.34 -28483346.25 0.3770 0.1730

Saturn -82696-01-30 01:40 J -28483261.56 -28483261.43 -28483261.31 0.0270 0.0104

Saturn -82696-04-28 12:42 J -28483173.06 -28483172.97 -28483172.87 0.0270 0.0199

Mars -82696-04-29 11:16 J -28483172.11 -28483172.03 -28483171.94 0.1738 0.1235

Earth -82692-03-03 15:35 J -28481767.91 -28481767.85 -28481767.79 0.2753 0.2309

Moon -82692-03-03 16:18 J -28481767.88 -28481767.82 -28481767.75 0.2751 0.2186 *

Jupiter -82692-10-14 14:08 J -28481543.06 -28481542.91 -28481542.77 0.0491 0.0291

Jupiter -82691-01-12 19:11 J -28481452.86 -28481452.70 -28481452.54 0.0493 0.0208

Venus -82691-05-22 22:18 J -28481322.68 -28481322.57 -28481322.46 0.3767 0.0785

Moon -82689-09-07 10:04 J -28480484.23 -28480484.08 -28480483.93 0.2585 0.0296

Earth -82689-09-07 11:30 J -28480484.17 -28480484.02 -28480483.87 0.2584 0.0534 *

Mars -82688-11-24 05:30 J -28480041.43 -28480041.27 -28480041.12 0.1789 0.0155

Mars -82687-09-19 20:08 J -28479741.77 -28479741.66 -28479741.54 0.1746 0.0585

Moon -82686-03-13 13:40 J -28479566.95 -28479566.93 -28479566.91 0.2751 0.2709

Jupiter -82686-06-06 12:42 J -28479482.06 -28479481.97 -28479481.88 0.0537 0.0381

Jupiter -82686-09-03 21:06 J -28479392.75 -28479392.62 -28479392.49 0.0535 0.0071

Jupiter -82686-12-02 05:59 J -28479303.26 -28479303.25 -28479303.23 0.0533 0.0528

Venus -82686-12-06 17:16 J -28479298.90 -28479298.78 -28479298.67 0.3763 0.0209

Uranus -82685-02-26 14:37 J -28479216.89 -28479216.89 -28479216.88 0.0138 0.0138

Uranus -82685-05-24 17:59 J -28479128.80 -28479128.75 -28479128.68 0.0138 0.0121

Uranus -82685-08-20 21:35 J -28479040.68 -28479040.60 -28479040.51 0.0138 0.0105

Uranus -82685-11-17 01:11 J -28478952.55 -28478952.45 -28478952.34 0.0138 0.0088

Uranus -82684-02-13 04:32 J -28478864.42 -28478864.31 -28478864.19 0.0139 0.0071

Uranus -82684-05-12 08:08 J -28478776.28 -28478776.16 -28478776.03 0.0139 0.0054

Uranus -82684-08-08 11:44 J -28478688.14 -28478688.01 -28478687.87 0.0139 0.0036

Uranus -82684-11-04 15:20 J -28478599.99 -28478599.86 -28478599.72 0.0139 0.0020

Uranus -82683-01-31 19:11 J -28478511.84 -28478511.70 -28478511.56 0.0139 0.0001

Uranus -82683-04-29 22:47 J -28478423.69 -28478423.55 -28478423.41 0.0139 0.0017

Uranus -82683-07-27 02:23 J -28478335.53 -28478335.40 -28478335.26 0.0140 0.0035

Uranus -82683-10-23 06:13 J -28478247.37 -28478247.24 -28478247.11 0.0140 0.0053

Uranus -82682-01-19 09:49 J -28478159.20 -28478159.09 -28478158.96 0.0140 0.0072

Neptune -82682-04-12 12:28 J -28478075.98 -28478075.98 -28478075.95 0.0089 0.0088

Uranus -82682-04-17 13:40 J -28478071.03 -28478070.93 -28478070.82 0.0140 0.0090

Neptune -82682-07-09 13:54 J -28477987.95 -28477987.92 -28477987.87 0.0089 0.0084

Uranus -82682-07-14 17:30 J -28477982.85 -28477982.77 -28477982.68 0.0140 0.0109

Neptune -82682-10-05 15:20 J -28477899.91 -28477899.86 -28477899.80 0.0089 0.0079

Uranus -82682-10-10 21:20 J -28477894.66 -28477894.61 -28477894.55 0.0140 0.0127

Saturn -82682-11-29 00:56 J -28477845.58 -28477845.46 -28477845.32 0.0288 0.0204

Venus -82682-12-05 15:35 J -28477838.93 -28477838.85 -28477838.78 0.3605 0.3013

Neptune -82681-01-01 16:32 J -28477811.87 -28477811.81 -28477811.73 0.0089 0.0075

Saturn -82681-02-26 00:13 J -28477756.66 -28477756.49 -28477756.31 0.0288 0.0048

Neptune -82681-03-29 17:59 J -28477723.82 -28477723.75 -28477723.66 0.0089 0.0071

Saturn -82681-05-24 23:01 J -28477667.70 -28477667.54 -28477667.37 0.0289 0.0106

Neptune -82681-06-25 19:11 J -28477635.77 -28477635.70 -28477635.60 0.0089 0.0067

Saturn -82681-08-21 21:20 J -28477578.68 -28477578.61 -28477578.52 0.0289 0.0257

Neptune -82681-09-21 20:52 J -28477547.72 -28477547.63 -28477547.54 0.0089 0.0062

Neptune -82681-12-18 22:04 J -28477459.67 -28477459.58 -28477459.47 0.0089 0.0058

Neptune -82680-03-16 23:16 J -28477371.62 -28477371.53 -28477371.41 0.0089 0.0054

Neptune -82680-06-13 00:56 J -28477283.57 -28477283.46 -28477283.35 0.0089 0.0049

Venus -82680-06-21 12:13 J -28477275.09 -28477274.99 -28477274.88 0.3759 0.1197

Jupiter -82680-08-02 12:28 J -28477233.07 -28477232.98 -28477232.88 0.0491 0.0413

Neptune -82680-09-09 02:08 J -28477195.52 -28477195.41 -28477195.29 0.0089 0.0045

Jupiter -82680-10-31 17:59 J -28477142.92 -28477142.75 -28477142.57 0.0493 0.0090

Neptune -82680-12-06 03:20 J -28477107.47 -28477107.36 -28477107.23 0.0089 0.0041

Neptune -82679-03-04 05:01 J -28477019.41 -28477019.29 -28477019.17 0.0089 0.0036

Earth -82679-03-06 10:18 J -28477017.17 -28477017.07 -28477016.96 0.2753 0.0987

Moon -82679-03-06 10:47 J -28477017.15 -28477017.05 -28477016.94 0.2747 0.0983 *

Neptune -82679-05-31 06:13 J -28476931.36 -28476931.24 -28476931.11 0.0089 0.0032

Neptune -82679-08-27 07:40 J -28476843.30 -28476843.18 -28476843.05 0.0089 0.0028

Neptune -82679-11-23 09:06 J -28476755.25 -28476755.12 -28476754.99 0.0089 0.0023

Neptune -82678-02-19 10:32 J -28476667.19 -28476667.06 -28476666.93 0.0089 0.0019

Mars -82678-04-16 05:30 J -28476611.40 -28476611.27 -28476611.14 0.1780 0.0916

Neptune -82678-05-18 11:59 J -28476579.13 -28476579.00 -28476578.87 0.0089 0.0014

Neptune -82678-08-14 13:25 J -28476491.08 -28476490.94 -28476490.81 0.0089 0.0010

Neptune -82678-11-10 14:37 J -28476403.02 -28476402.89 -28476402.75 0.0089 0.0006

Neptune -82677-02-06 16:04 J -28476314.96 -28476314.83 -28476314.69 0.0089 0.0001

Mars -82677-02-10 05:01 J -28476311.41 -28476311.29 -28476311.16 0.1754 0.0096

Neptune -82677-05-04 17:30 J -28476226.90 -28476226.77 -28476226.63 0.0089 0.0004

Neptune -82677-07-31 18:56 J -28476138.85 -28476138.71 -28476138.58 0.0089 0.0008

Neptune -82677-10-27 20:23 J -28476050.79 -28476050.65 -28476050.52 0.0089 0.0013

Neptune -82676-01-23 21:49 J -28475962.73 -28475962.59 -28475962.46 0.0089 0.0017

Neptune -82676-04-21 23:01 J -28475874.67 -28475874.54 -28475874.40 0.0089 0.0022

Venus -82676-06-20 15:49 J -28475814.96 -28475814.84 -28475814.72 0.3609 0.1656

Neptune -82676-07-19 00:28 J -28475786.61 -28475786.48 -28475786.35 0.0089 0.0026

Moon -82676-09-10 14:08 J -28475732.94 -28475732.91 -28475732.87 0.2590 0.2504

Earth -82676-09-10 14:52 J -28475732.91 -28475732.88 -28475732.84 0.2584 0.2483 *

Neptune -82676-10-15 01:54 J -28475698.54 -28475698.42 -28475698.29 0.0089 0.0030

Neptune -82675-01-11 03:20 J -28475610.48 -28475610.36 -28475610.23 0.0089 0.0035

Neptune -82675-04-09 04:32 J -28475522.42 -28475522.31 -28475522.18 0.0089 0.0040

Neptune -82675-07-06 06:13 J -28475434.35 -28475434.24 -28475434.12 0.0089 0.0044

Neptune -82675-10-02 07:25 J -28475346.29 -28475346.19 -28475346.06 0.0089 0.0049

Neptune -82675-12-29 09:06 J -28475258.22 -28475258.12 -28475258.01 0.0089 0.0053

Venus -82674-01-05 07:40 J -28475251.28 -28475251.18 -28475251.09 0.3755 0.2218

Jupiter -82674-03-25 16:04 J -28475171.87 -28475171.83 -28475171.78 0.0537 0.0496

Neptune -82674-03-27 10:18 J -28475170.16 -28475170.07 -28475169.95 0.0089 0.0058

Jupiter -82674-06-23 00:13 J -28475082.62 -28475082.49 -28475082.36 0.0535 0.0049

Neptune -82674-06-23 11:59 J -28475082.09 -28475082.00 -28475081.90 0.0089 0.0062

Neptune -82674-09-19 13:11 J -28474994.02 -28474993.95 -28474993.84 0.0089 0.0067

Jupiter -82674-09-20 08:52 J -28474993.21 -28474993.13 -28474993.04 0.0533 0.0406

Neptune -82674-12-16 14:52 J -28474905.95 -28474905.88 -28474905.79 0.0089 0.0071

Neptune -82673-03-13 16:18 J -28474817.88 -28474817.82 -28474817.74 0.0089 0.0076

Neptune -82673-06-09 17:44 J -28474729.81 -28474729.76 -28474729.69 0.0089 0.0080

Neptune -82673-09-05 19:11 J -28474641.73 -28474641.70 -28474641.65 0.0089 0.0085

Venus   -82670-01-04 15:35 J -28473790.98 -28473790.85 -28473790.71 0.3613 0.0361

Venus   -82669-07-21 03:06 J -28473227.42 -28473227.37 -28473227.31 0.3751 0.3276

Mars   -82668-07-02 14:08 J -28472881.02 -28472880.91 -28472880.80 0.1762 0.0747

Jupiter -82668-08-19 16:32 J -28472832.99 -28472832.81 -28472832.63 0.0492 0.0035

Saturn   -82668-09-26 18:56 J -28472794.80 -28472794.71 -28472794.63 0.0273 0.0208

Jupiter -82668-11-17 20:52 J -28472742.68 -28472742.63 -28472742.56 0.0494 0.0461

Saturn   -82668-12-24 05:44 J -28472706.38 -28472706.26 -28472706.13 0.0272 0.0114

Saturn   -82667-03-22 17:01 J -28472617.93 -28472617.79 -28472617.66 0.0272 0.0020

Saturn   -82667-06-19 04:04 J -28472529.46 -28472529.33 -28472529.20 0.0271 0.0077

Saturn   -82667-09-15 15:20 J -28472440.97 -28472440.86 -28472440.76 0.0271 0.0173

Saturn   -82667-12-13 02:37 J -28472352.40 -28472352.39 -28472352.38 0.0271 0.0269

Moon   -82666-03-09 05:16 J -28472266.39 -28472266.28 -28472266.17 0.2745 0.0424

Earth   -82666-03-09 05:16 J -28472266.39 -28472266.28 -28472266.17 0.2752 0.0361 *

Venus   -82665-07-20 15:06 J -28471767.00 -28471766.87 -28471766.74 0.3617 0.0911

Jupiter -82662-04-11 03:35 J -28470772.47 -28470772.35 -28470772.23 0.0535 0.0163

Jupiter -82662-07-09 11:59 J -28470683.10 -28470683.00 -28470682.89 0.0533 0.0291

Venus   -82659-02-03 14:08 J -28469743.01 -28469742.91 -28469742.80 0.3622 0.2117

Mars   -82659-11-22 23:01 J -28469450.61 -28469450.54 -28469450.46 0.1770 0.1410

Mars   -82657-01-03 05:44 J -28469044.36 -28469044.26 -28469044.16 0.1799 0.1345

Mars   -82657-10-28 11:30 J -28468745.10 -28468745.02 -28468744.94 0.1738 0.1330

Jupiter -82656-06-07 14:23 J -28468523.07 -28468522.90 -28468522.73 0.0492 0.0163

Moon -82656-09-05 12:13 J -28468433.12 -28468432.99 -28468432.86 0.2583 0.1283

Earth -82656-09-05 13:40 J -28468433.07 -28468432.93 -28468432.79 0.2584 0.1068 *

Jupiter -82656-09-05 19:11 J -28468432.82 -28468432.70 -28468432.57 0.0494 0.0335 *

Venus -82654-08-20 12:42 J -28467719.02 -28467718.97 -28467718.91 0.3626 0.3271

Moon -82653-03-10 23:44 J -28467515.60 -28467515.51 -28467515.42 0.2748 0.1583

Earth -82653-03-11 00:13 J -28467515.57 -28467515.49 -28467515.40 0.2752 0.1734 *

Saturn -82652-04-17 01:54 J -28467113.52 -28467113.42 -28467113.31 0.0288 0.0234

Saturn -82652-07-15 01:11 J -28467024.63 -28467024.45 -28467024.28 0.0288 0.0079

Saturn -82652-10-11 23:59 J -28466935.67 -28466935.50 -28466935.33 0.0289 0.0076

Saturn -82651-01-08 22:32 J -28466846.67 -28466846.56 -28466846.46 0.0289 0.0228

Venus -82651-05-14 13:11 J -28466721.00 -28466720.95 -28466720.90 0.3776 0.3275

Jupiter -82650-01-28 06:56 J -28466462.32 -28466462.21 -28466462.10 0.0536 0.0279

Jupiter -82650-04-27 15:20 J -28466372.98 -28466372.86 -28466372.73 0.0534 0.0174

Mars -82648-05-25 05:44 J -28465614.41 -28465614.26 -28465614.10 0.1790 0.0271

Mars -82647-03-20 20:23 J -28465314.77 -28465314.65 -28465314.54 0.1745 0.0673

Earth -82646-03-04 20:23 J -28464965.72 -28464965.65 -28464965.57 0.2752 0.2041

Moon -82646-03-04 21:20 J -28464965.69 -28464965.61 -28464965.54 0.2751 0.1960 *

Uranus -82646-07-21 21:49 J -28464826.64 -28464826.59 -28464826.51 0.0140 0.0131

Uranus -82646-10-18 05:16 J -28464738.39 -28464738.28 -28464738.14 0.0140 0.0106

Venus -82646-11-28 07:25 J -28464697.27 -28464697.19 -28464697.10 0.3773 0.2379

Uranus -82645-01-14 12:42 J -28464650.11 -28464649.97 -28464649.81 0.0140 0.0080

Uranus -82645-04-11 19:54 J -28464561.83 -28464561.67 -28464561.49 0.0140 0.0056

Uranus -82645-07-09 03:20 J -28464473.54 -28464473.36 -28464473.18 0.0140 0.0031

Uranus -82645-10-05 10:18 J -28464385.25 -28464385.07 -28464384.88 0.0140 0.0008

Uranus -82644-01-01 17:30 J -28464296.95 -28464296.77 -28464296.59 0.0140 0.0017

Jupiter -82644-03-26 12:42 J -28464213.12 -28464212.97 -28464212.83 0.0491 0.0288

Uranus -82644-03-31 00:28 J -28464208.66 -28464208.48 -28464208.31 0.0139 0.0041

Jupiter -82644-06-24 17:44 J -28464122.92 -28464122.76 -28464122.60 0.0493 0.0212

Uranus -82644-06-27 07:11 J -28464120.35 -28464120.20 -28464120.03 0.0139 0.0064

Uranus -82644-09-23 13:54 J -28464032.05 -28464031.92 -28464031.77 0.0139 0.0088

Uranus -82644-12-20 20:52 J -28463943.73 -28463943.63 -28463943.52 0.0139 0.0110

Uranus -82643-03-19 03:20 J -28463855.39 -28463855.36 -28463855.29 0.0139 0.0133

Moon -82643-09-08 16:18 J -28463681.96 -28463681.82 -28463681.68 0.2587 0.0893

Earth -82643-09-08 17:30 J -28463681.91 -28463681.77 -28463681.63 0.2584 0.0933 *

Venus -82640-06-13 01:54 J -28462673.52 -28462673.42 -28462673.32 0.3769 0.1455

Mars -82639-10-15 06:13 J -28462184.38 -28462184.24 -28462184.10 0.1781 0.0778

Jupiter -82639-11-16 10:47 J -28462152.13 -28462152.05 -28462151.96 0.0537 0.0388

Jupiter -82638-02-13 19:11 J -28462062.83 -28462062.70 -28462062.57 0.0535 0.0064

Saturn -82638-02-13 21:35 J -28462062.67 -28462062.60 -28462062.53 0.0272 0.0232 *

Saturn -82638-05-13 08:23 J -28461974.26 -28461974.15 -28461974.03 0.0272 0.0138

Jupiter -82638-05-14 04:04 J -28461973.35 -28461973.33 -28461973.30 0.0533 0.0521

Saturn -82638-08-09 19:25 J -28461885.82 -28461885.69 -28461885.55 0.0271 0.0044

Mars -82638-08-11 05:16 J -28461884.40 -28461884.28 -28461884.16 0.1753 0.0038

Saturn -82638-11-06 06:42 J -28461797.36 -28461797.22 -28461797.09 0.0271 0.0052

Saturn -82637-02-02 17:44 J -28461708.87 -28461708.76 -28461708.64 0.0270 0.0147

Saturn -82637-05-01 05:01 J -28461620.35 -28461620.29 -28461620.23 0.0270 0.0242

Venus -82635-12-27 20:37 J -28460649.75 -28460649.64 -28460649.53 0.3766 0.0505

Earth -82633-03-06 15:20 J -28460214.97 -28460214.86 -28460214.75 0.2753 0.0708

Moon -82633-03-06 15:35 J -28460214.96 -28460214.85 -28460214.74 0.2746 0.0632 *

Jupiter -82632-01-12 10:18 J -28459903.16 -28459903.07 -28459902.97 0.0491 0.0417

Jupiter -82632-04-12 15:49 J -28459813.01 -28459812.84 -28459812.66 0.0492 0.0086

Venus -82629-07-12 15:35 J -28458625.96 -28458625.85 -28458625.74 0.3762 0.0482

Mars -82629-12-31 14:08 J -28458454.02 -28458453.91 -28458453.80 0.1761 0.0656

Jupiter -82627-09-04 14:52 J -28457841.93 -28457841.88 -28457841.83 0.0537 0.0494

Jupiter -82627-12-02 23:01 J -28457752.67 -28457752.54 -28457752.41 0.0536 0.0045

Jupiter -82626-03-02 07:54 J -28457663.26 -28457663.17 -28457663.09 0.0533 0.0411

Venus -82625-07-11 15:06 J -28457165.96 -28457165.87 -28457165.77 0.3606 0.2628

Venus -82623-01-26 10:47 J -28456602.16 -28456602.05 -28456601.95 0.3758 0.1496

Saturn -82623-12-01 21:35 J -28456292.75 -28456292.60 -28456292.44 0.0288 0.0137

Saturn -82622-02-28 20:37 J -28456203.82 -28456203.64 -28456203.46 0.0288 0.0019

Saturn -82622-05-28 19:11 J -28456114.84 -28456114.70 -28456114.55 0.0289 0.0171

Jupiter -82620-01-29 14:37 J -28455503.07 -28455502.89 -28455502.71 0.0492 0.0035

Moon -82620-03-09 10:04 J -28455464.19 -28455464.08 -28455463.97 0.2745 0.0561

Earth -82620-03-09 10:18 J -28455464.18 -28455464.07 -28455463.96 0.2752 0.0644 *

Jupiter -82620-04-29 18:56 J -28455412.77 -28455412.71 -28455412.64 0.0494 0.0460

Venus -82619-01-25 15:35 J -28455141.98 -28455141.85 -28455141.73 0.3610 0.1273

Mars -82619-05-23 23:01 J -28455023.61 -28455023.54 -28455023.46 0.1770 0.1330

Mars -82618-07-04 06:13 J -28454617.33 -28454617.24 -28454617.16 0.1799 0.1468

Venus -82618-08-12 05:59 J -28454578.33 -28454578.25 -28454578.16 0.3754 0.2529

Mars -82617-04-28 11:30 J -28454318.09 -28454318.02 -28454317.95 0.1737 0.1416

Jupiter -82615-09-21 02:23 J -28453442.53 -28453442.40 -28453442.28 0.0535 0.0162

Jupiter -82615-12-19 10:47 J -28453353.16 -28453353.05 -28453352.94 0.0533 0.0292

Venus -82614-08-11 15:20 J -28453118.00 -28453117.86 -28453117.73 0.3614 0.0124

Venus -82612-02-25 01:40 J -28452554.46 -28452554.43 -28452554.40 0.3749 0.3596

Moon -82610-09-06 18:28 J -28451630.88 -28451630.73 -28451630.59 0.2583 0.0767

Earth -82610-09-06 19:54 J -28451630.82 -28451630.67 -28451630.52 0.2584 0.0657 *

Saturn -82609-07-02 23:59 J -28451330.54 -28451330.50 -28451330.46 0.0273 0.0261

Saturn -82609-09-29 10:47 J -28451242.15 -28451242.05 -28451241.94 0.0273 0.0167

Jupiter -82609-11-17 12:42 J -28451193.14 -28451192.97 -28451192.80 0.0492 0.0162

Mars -82609-11-23 06:42 J -28451187.38 -28451187.22 -28451187.07 0.1790 0.0415

Saturn -82609-12-26 21:49 J -28451153.72 -28451153.59 -28451153.46 0.0272 0.0072

Jupiter -82608-02-15 17:30 J -28451102.89 -28451102.77 -28451102.64 0.0494 0.0338

Venus -82608-02-24 14:37 J -28451094.01 -28451093.89 -28451093.77 0.3618 0.1273

Saturn -82608-03-25 09:06 J -28451065.26 -28451065.12 -28451064.99 0.0272 0.0025

Saturn -82608-06-21 20:08 J -28450976.78 -28450976.66 -28450976.53 0.0271 0.0120

Saturn -82608-09-18 07:25 J -28450888.27 -28450888.19 -28450888.11 0.0271 0.0216

Mars -82608-09-18 20:23 J -28450887.76 -28450887.65 -28450887.54 0.1745 0.0758

Moon -82607-03-12 04:32 J -28450713.39 -28450713.31 -28450713.23 0.2749 0.1991

Earth -82607-03-12 05:16 J -28450713.35 -28450713.28 -28450713.20 0.2752 0.2014 *

Pluto -82603-05-12 03:49 J -28449191.37 -28449191.34 -28449191.25 0.0060 0.0058

Jupiter -82603-07-10 05:44 J -28449132.37 -28449132.26 -28449132.15 0.0536 0.0277

Pluto -82603-08-08 05:16 J -28449103.36 -28449103.28 -28449103.15 0.0060 0.0052

Venus -82603-09-10 13:40 J -28449070.03 -28449069.93 -28449069.84 0.3623 0.2468

Jupiter -82603-10-07 14:08 J -28449043.04 -28449042.91 -28449042.79 0.0534 0.0175

Pluto -82603-11-04 06:42 J -28449015.32 -28449015.22 -28449015.07 0.0060 0.0046

Pluto -82602-01-31 08:37 J -28448927.28 -28448927.14 -28448926.99 0.0061 0.0039

Pluto -82602-04-29 09:49 J -28448839.24 -28448839.09 -28448838.92 0.0061 0.0033

Pluto -82602-07-26 11:16 J -28448751.19 -28448751.03 -28448750.85 0.0061 0.0027

Pluto -82602-10-22 12:42 J -28448663.14 -28448662.97 -28448662.78 0.0061 0.0021

Pluto -82601-01-18 14:08 J -28448575.09 -28448574.91 -28448574.71 0.0061 0.0015

Uranus -82601-03-17 22:32 J -28448515.59 -28448515.56 -28448515.51 0.0138 0.0131

Pluto -82601-04-15 15:49 J -28448487.03 -28448486.84 -28448486.65 0.0061 0.0008

Uranus -82601-06-14 02:08 J -28448427.48 -28448427.41 -28448427.33 0.0138 0.0114

Pluto -82601-07-12 17:16 J -28448398.97 -28448398.78 -28448398.59 0.0061 0.0002

Uranus -82601-09-10 05:44 J -28448339.35 -28448339.26 -28448339.16 0.0138 0.0097

Pluto -82601-10-08 18:42 J -28448310.91 -28448310.72 -28448310.53 0.0061 0.0004

Uranus -82601-12-07 09:06 J -28448251.22 -28448251.12 -28448251.00 0.0139 0.0081

Pluto -82600-01-04 19:54 J -28448222.85 -28448222.67 -28448222.47 0.0061 0.0011

Earth -82600-03-05 01:25 J -28448163.52 -28448163.44 -28448163.36 0.2752 0.1767

Moon -82600-03-05 02:08 J -28448163.50 -28448163.41 -28448163.32 0.2750 0.1677 *

Uranus -82600-03-05 12:42 J -28448163.08 -28448162.97 -28448162.84 0.0139 0.0064

Pluto -82600-04-02 21:20 J -28448134.78 -28448134.61 -28448134.41 0.0061 0.0017

Uranus -82600-06-01 16:18 J -28448074.94 -28448074.82 -28448074.69 0.0139 0.0046

Pluto -82600-06-29 23:01 J -28448046.72 -28448046.54 -28448046.36 0.0061 0.0024

Uranus -82600-08-28 19:54 J -28447986.80 -28447986.67 -28447986.53 0.0139 0.0029

Pluto -82600-09-26 00:13 J -28447958.64 -28447958.49 -28447958.31 0.0061 0.0030

Uranus -82600-11-24 23:30 J -28447898.65 -28447898.52 -28447898.38 0.0139 0.0012

Pluto -82600-12-23 01:40 J -28447870.57 -28447870.43 -28447870.26 0.0061 0.0037

Uranus -82599-02-21 03:20 J -28447810.50 -28447810.36 -28447810.22 0.0139 0.0007

Pluto -82599-03-21 02:52 J -28447782.49 -28447782.38 -28447782.21 0.0061 0.0044

Mars -82599-04-15 06:28 J -28447757.37 -28447757.23 -28447757.08 0.1781 0.0669

Uranus -82599-05-20 06:56 J -28447722.34 -28447722.21 -28447722.07 0.0139 0.0025

Pluto -82599-06-17 04:32 J -28447694.40 -28447694.31 -28447694.18 0.0061 0.0050

Uranus -82599-08-16 10:32 J -28447634.19 -28447634.06 -28447633.92 0.0140 0.0043

Pluto -82599-09-13 06:28 J -28447606.30 -28447606.23 -28447606.15 0.0062 0.0056

Neptune -82599-09-29 18:13 J -28447589.75 -28447589.74 -28447589.68 0.0088 0.0088

Uranus -82599-11-12 14:23 J -28447546.02 -28447545.90 -28447545.78 0.0140 0.0061

Neptune -82599-12-26 22:04 J -28447501.64 -28447501.58 -28447501.49 0.0088 0.0081

Uranus -82598-02-08 18:13 J -28447457.86 -28447457.74 -28447457.63 0.0140 0.0079

Mars -82598-02-09 05:16 J -28447457.40 -28447457.28 -28447457.16 0.1753 0.0110

Neptune -82598-03-25 01:40 J -28447413.52 -28447413.43 -28447413.32 0.0088 0.0075

Uranus -82598-05-07 21:49 J -28447369.68 -28447369.59 -28447369.49 0.0140 0.0098

Neptune -82598-06-21 05:01 J -28447325.39 -28447325.29 -28447325.15 0.0088 0.0069

Uranus -82598-08-04 01:40 J -28447281.50 -28447281.43 -28447281.35 0.0140 0.0117

Neptune -82598-09-17 08:52 J -28447237.26 -28447237.13 -28447236.99 0.0088 0.0062

Uranus -82598-10-31 05:30 J -28447193.30 -28447193.27 -28447193.23 0.0140 0.0135

Neptune -82598-12-14 12:13 J -28447149.12 -28447148.99 -28447148.83 0.0088 0.0056

Neptune -82597-03-11 15:49 J -28447060.99 -28447060.84 -28447060.67 0.0088 0.0049

Venus -82597-03-26 12:13 J -28447046.00 -28447045.99 -28447045.99 0.3627 0.3610

Neptune -82597-06-07 19:40 J -28446972.85 -28446972.68 -28446972.51 0.0088 0.0043

Neptune -82597-09-03 23:01 J -28446884.71 -28446884.54 -28446884.36 0.0088 0.0037

Jupiter -82597-09-05 10:32 J -28446883.20 -28446883.06 -28446882.91 0.0491 0.0290

Moon -82597-09-08 22:32 J -28446879.69 -28446879.56 -28446879.42 0.2589 0.1160

Earth -82597-09-08 23:44 J -28446879.64 -28446879.51 -28446879.38 0.2584 0.1343 *

Neptune -82597-12-01 02:23 J -28446796.57 -28446796.40 -28446796.21 0.0088 0.0031

Jupiter -82597-12-04 15:49 J -28446793.00 -28446792.84 -28446792.68 0.0493 0.0211

Neptune -82596-02-27 05:59 J -28446708.43 -28446708.25 -28446708.06 0.0088 0.0024

Neptune -82596-05-26 09:35 J -28446620.29 -28446620.10 -28446619.91 0.0088 0.0018

Neptune -82596-08-22 13:11 J -28446532.14 -28446531.95 -28446531.76 0.0088 0.0012

Neptune -82596-11-18 16:32 J -28446444.00 -28446443.81 -28446443.62 0.0088 0.0005

Neptune -82595-02-14 19:54 J -28446355.86 -28446355.67 -28446355.47 0.0088 0.0003

Neptune -82595-05-13 23:30 J -28446267.71 -28446267.52 -28446267.33 0.0088 0.0007

Neptune -82595-08-10 02:52 J -28446179.57 -28446179.38 -28446179.19 0.0088 0.0013

Neptune -82595-11-06 06:13 J -28446091.42 -28446091.24 -28446091.05 0.0088 0.0019

Venus -82595-12-19 11:16 J -28446048.09 -28446048.03 -28446047.97 0.3776 0.3027

Neptune -82594-02-02 09:35 J -28446003.27 -28446003.10 -28446002.91 0.0088 0.0026

Neptune -82594-05-01 12:56 J -28445915.13 -28445914.96 -28445914.77 0.0088 0.0032

Neptune -82594-07-28 16:32 J -28445826.98 -28445826.81 -28445826.64 0.0088 0.0038

Neptune -82594-10-24 19:54 J -28445738.83 -28445738.67 -28445738.50 0.0088 0.0044

Neptune -82593-01-20 23:16 J -28445650.68 -28445650.53 -28445650.37 0.0088 0.0050

Neptune -82593-04-18 02:37 J -28445562.53 -28445562.39 -28445562.24 0.0088 0.0056

Saturn -82593-04-19 22:47 J -28445560.69 -28445560.55 -28445560.40 0.0288 0.0164

Neptune -82593-07-15 05:59 J -28445474.38 -28445474.25 -28445474.11 0.0088 0.0062

Saturn -82593-07-17 22:04 J -28445471.76 -28445471.58 -28445471.40 0.0288 0.0011

Neptune -82593-10-11 09:20 J -28445386.23 -28445386.11 -28445385.99 0.0088 0.0068

Saturn -82593-10-14 20:37 J -28445382.79 -28445382.64 -28445382.48 0.0289 0.0145

Neptune -82592-01-07 12:42 J -28445298.07 -28445297.97 -28445297.87 0.0088 0.0074

Neptune -82592-04-05 15:49 J -28445209.91 -28445209.84 -28445209.75 0.0088 0.0080

Neptune -82592-07-02 19:11 J -28445121.74 -28445121.70 -28445121.65 0.0088 0.0086

Jupiter -82591-04-28 08:52 J -28444822.21 -28444822.13 -28444822.04 0.0537 0.0395

Jupiter -82591-07-26 17:16 J -28444732.91 -28444732.78 -28444732.65 0.0535 0.0057

Jupiter -82591-10-24 02:08 J -28444643.44 -28444643.41 -28444643.38 0.0533 0.0513

Mars -82590-09-05 06:42 J -28444327.25 -28444327.22 -28444327.18 0.1772 0.1721

Mars -82589-07-01 14:23 J -28444027.02 -28444026.90 -28444026.79 0.1761 0.0570

Venus -82589-07-04 05:44 J -28444024.35 -28444024.26 -28444024.17 0.3772 0.2118

Earth -82587-03-07 20:23 J -28443412.77 -28443412.65 -28443412.54 0.2752 0.0448

Moon -82587-03-07 20:37 J -28443412.76 -28443412.64 -28443412.53 0.2745 0.0441 *

Jupiter -82585-06-24 08:37 J -28442573.23 -28442573.14 -28442573.04 0.0491 0.0416

Jupiter -82585-09-22 14:08 J -28442483.09 -28442482.91 -28442482.73 0.0492 0.0086

Venus -82583-01-18 00:13 J -28442000.60 -28442000.49 -28442000.39 0.3768 0.1183

Mars -82580-11-21 23:01 J -28440596.62 -28440596.54 -28440596.45 0.1770 0.1243

Jupiter -82579-02-14 12:42 J -28440512.01 -28440511.97 -28440511.92 0.0537 0.0503

Saturn -82579-02-16 13:54 J -28440510.01 -28440509.92 -28440509.82 0.0272 0.0188

Jupiter -82579-05-14 20:52 J -28440422.75 -28440422.63 -28440422.50 0.0536 0.0057

Saturn -82579-05-16 00:56 J -28440421.59 -28440421.46 -28440421.33 0.0272 0.0093

Jupiter -82579-08-12 05:44 J -28440333.35 -28440333.26 -28440333.17 0.0533 0.0402

Saturn -82579-08-12 11:59 J -28440333.14 -28440333.00 -28440332.86 0.0271 0.0002

Saturn -82579-11-08 23:01 J -28440244.66 -28440244.54 -28440244.41 0.0271 0.0097

Mars -82578-01-02 06:56 J -28440190.28 -28440190.21 -28440190.15 0.1799 0.1606

Saturn -82578-02-05 10:18 J -28440156.16 -28440156.07 -28440155.97 0.0270 0.0193

Venus -82578-08-03 18:56 J -28439976.82 -28439976.71 -28439976.60 0.3765 0.0219

Mars -82578-10-28 11:30 J -28439891.08 -28439891.02 -28439890.96 0.1737 0.1506

Moon -82577-09-03 20:52 J -28439579.68 -28439579.63 -28439579.59 0.2581 0.2468

Earth -82577-09-03 22:04 J -28439579.65 -28439579.58 -28439579.51 0.2584 0.2278 *

Moon -82574-03-10 14:52 J -28438661.99 -28438661.88 -28438661.77 0.2746 0.0924

Earth -82574-03-10 15:20 J -28438661.97 -28438661.86 -28438661.76 0.2752 0.0929 *

Jupiter -82573-07-11 12:13 J -28438173.17 -28438172.99 -28438172.81 0.0492 0.0042

Jupiter -82573-10-09 16:32 J -28438082.87 -28438082.81 -28438082.74 0.0494 0.0453

Venus -82572-02-16 13:54 J -28437953.03 -28437952.92 -28437952.81 0.3761 0.0776

Mars -82569-05-24 06:56 J -28436760.35 -28436760.21 -28436760.06 0.1790 0.0534

Venus -82568-02-15 15:06 J -28436492.98 -28436492.87 -28436492.77 0.3608 0.2231

Mars -82568-03-19 20:23 J -28436460.75 -28436460.65 -28436460.54 0.1745 0.0850

Jupiter -82567-03-03 00:56 J -28436112.59 -28436112.46 -28436112.34 0.0536 0.0163

Jupiter -82567-05-31 09:20 J -28436023.21 -28436023.11 -28436023.00 0.0534 0.0293

Venus -82567-09-02 09:06 J -28435929.22 -28435929.12 -28435929.02 0.3757 0.1797

Saturn -82564-09-06 19:54 J -28434828.78 -28434828.67 -28434828.54 0.0287 0.0218

Moon -82564-09-07 00:42 J -28434828.62 -28434828.47 -28434828.32 0.2584 0.0404 *

Earth -82564-09-07 02:08 J -28434828.56 -28434828.41 -28434828.26 0.2584 0.0242 *

Saturn -82564-12-04 19:11 J -28434739.87 -28434739.70 -28434739.52 0.0288 0.0062

Saturn -82563-03-03 17:59 J -28434650.92 -28434650.75 -28434650.58 0.0288 0.0092

Saturn -82563-05-31 16:32 J -28434561.90 -28434561.81 -28434561.72 0.0289 0.0243

Venus -82563-09-01 15:06 J -28434469.00 -28434468.87 -28434468.74 0.3611 0.0896

Uranus -82562-08-11 06:28 J -28434125.31 -28434125.23 -28434125.13 0.0140 0.0121

Uranus -82562-11-07 13:54 J -28434037.05 -28434036.92 -28434036.78 0.0140 0.0096

Uranus -82561-02-03 20:52 J -28433948.77 -28433948.63 -28433948.46 0.0140 0.0073

Moon -82561-03-12 09:35 J -28433911.17 -28433911.10 -28433911.03 0.2749 0.2132

Earth -82561-03-12 10:18 J -28433911.13 -28433911.07 -28433911.01 0.2752 0.2302 *

Venus -82561-03-18 04:32 J -28433905.38 -28433905.31 -28433905.23 0.3752 0.2847

Jupiter -82561-04-29 10:32 J -28433863.23 -28433863.06 -28433862.89 0.0492 0.0164

Uranus -82561-05-02 04:18 J -28433860.49 -28433860.32 -28433860.14 0.0140 0.0047

Jupiter -82561-07-28 15:20 J -28433772.98 -28433772.86 -28433772.72 0.0494 0.0335

Uranus -82561-07-29 11:30 J -28433772.20 -28433772.02 -28433771.83 0.0140 0.0023

Uranus -82561-10-25 18:42 J -28433683.90 -28433683.72 -28433683.54 0.0140 0.0002

Uranus -82560-01-22 01:40 J -28433595.61 -28433595.43 -28433595.25 0.0139 0.0026

Uranus -82560-04-20 08:37 J -28433507.31 -28433507.14 -28433506.96 0.0139 0.0049

Uranus -82560-07-17 15:35 J -28433419.00 -28433418.85 -28433418.69 0.0139 0.0072

Uranus -82560-10-13 22:32 J -28433330.69 -28433330.56 -28433330.43 0.0139 0.0095

Mars -82560-10-14 07:25 J -28433330.34 -28433330.19 -28433330.04 0.1781 0.0527

Uranus -82559-01-10 05:16 J -28433242.37 -28433242.28 -28433242.19 0.0139 0.0118

Mars -82559-08-10 05:16 J -28433030.40 -28433030.28 -28433030.15 0.1753 0.0197

Venus -82557-03-17 14:52 J -28432445.01 -28432444.88 -28432444.75 0.3615 0.0399

Jupiter -82556-12-20 04:18 J -28431802.43 -28431802.32 -28431802.21 0.0536 0.0277

Jupiter -82555-03-19 12:42 J -28431713.10 -28431712.97 -28431712.85 0.0534 0.0175

Earth -82554-03-06 06:28 J -28431361.33 -28431361.23 -28431361.14 0.2752 0.1495

Moon -82554-03-06 06:56 J -28431361.30 -28431361.21 -28431361.11 0.2748 0.1389 *

Venus -82552-10-01 14:08 J -28430421.03 -28430420.91 -28430420.79 0.3620 0.1635

Moon -82551-09-10 04:47 J -28430077.41 -28430077.30 -28430077.19 0.2589 0.1696

Earth -82551-09-10 05:59 J -28430077.36 -28430077.25 -28430077.14 0.2584 0.1741 *

Mars -82550-03-06 07:11 J -28429900.26 -28429900.20 -28429900.13 0.1772 0.1596

Saturn -82550-07-06 16:04 J -28429777.90 -28429777.83 -28429777.74 0.0273 0.0218

Saturn -82550-10-03 03:06 J -28429689.48 -28429689.37 -28429689.25 0.0273 0.0123

Saturn -82550-12-30 14:23 J -28429601.04 -28429600.90 -28429600.77 0.0272 0.0028

Mars -82550-12-31 14:08 J -28429600.02 -28429599.91 -28429599.79 0.1761 0.0486

Jupiter -82549-02-16 08:23 J -28429553.29 -28429553.15 -28429553.00 0.0492 0.0293

Saturn -82549-03-28 01:25 J -28429512.57 -28429512.44 -28429512.31 0.0272 0.0069

Jupiter -82549-05-16 13:54 J -28429463.08 -28429462.92 -28429462.76 0.0493 0.0210

Saturn -82549-06-24 12:28 J -28429424.08 -28429423.98 -28429423.86 0.0271 0.0166

Saturn -82549-09-20 23:59 J -28429335.53 -28429335.50 -28429335.47 0.0271 0.0261

Venus -82546-04-17 12:56 J -28428397.04 -28428396.96 -28428396.88 0.3624 0.2817

Jupiter -82544-10-08 07:40 J -28427492.26 -28427492.18 -28427492.09 0.0536 0.0391

Jupiter -82543-01-05 15:49 J -28427402.97 -28427402.84 -28427402.71 0.0534 0.0061

Venus -82543-01-09 15:20 J -28427398.89 -28427398.86 -28427398.84 0.3778 0.3659

Jupiter -82543-04-05 00:42 J -28427313.50 -28427313.47 -28427313.44 0.0532 0.0513

Earth -82541-03-08 01:11 J -28426610.56 -28426610.45 -28426610.34 0.2752 0.0165

Moon -82541-03-08 01:25 J -28426610.55 -28426610.44 -28426610.33 0.2745 0.0121 *

Mars -82540-05-22 23:16 J -28426169.62 -28426169.53 -28426169.44 0.1769 0.1148

Mars -82539-07-03 07:11 J -28425763.25 -28425763.20 -28425763.16 0.1799 0.1717

Mars -82538-04-28 11:44 J -28425464.06 -28425464.01 -28425463.97 0.1737 0.1598

Venus -82538-07-26 09:35 J -28425375.18 -28425375.10 -28425375.03 0.3775 0.2771

Jupiter -82538-12-05 06:13 J -28425243.33 -28425243.24 -28425243.14 0.0491 0.0422

Jupiter -82537-03-04 11:59 J -28425153.18 -28425153.00 -28425152.82 0.0493 0.0082

Saturn -82534-01-24 21:35 J -28424096.69 -28424096.60 -28424096.50 0.0287 0.0242

Saturn -82534-04-23 20:52 J -28424007.80 -28424007.63 -28424007.46 0.0288 0.0087

Saturn -82534-07-21 19:40 J -28423918.85 -28423918.68 -28423918.51 0.0289 0.0067

Saturn -82534-10-18 18:13 J -28423829.85 -28423829.74 -28423829.63 0.0289 0.0220

Venus -82532-02-08 03:49 J -28423351.43 -28423351.34 -28423351.24 0.3771 0.1851

Jupiter -82532-07-27 10:47 J -28423182.08 -28423182.05 -28423182.01 0.0537 0.0510

Jupiter -82532-10-24 18:56 J -28423092.84 -28423092.71 -28423092.58 0.0535 0.0063

Jupiter -82531-01-22 03:49 J -28423003.43 -28423003.34 -28423003.26 0.0533 0.0393

Moon -82531-09-05 02:52 J -28422777.48 -28422777.38 -28422777.28 0.2581 0.1926

Earth -82531-09-05 04:18 J -28422777.42 -28422777.32 -28422777.21 0.2584 0.1862 *

Mars -82530-11-23 07:40 J -28422333.33 -28422333.18 -28422333.04 0.1790 0.0660

Mars -82529-09-17 20:37 J -28422033.74 -28422033.64 -28422033.54 0.1745 0.0944

Moon -82528-03-10 19:40 J -28421859.78 -28421859.68 -28421859.58 0.2747 0.1107

Earth -82528-03-10 20:08 J -28421859.76 -28421859.66 -28421859.56 0.2752 0.1204 *

Venus -82527-08-24 22:32 J -28421327.67 -28421327.56 -28421327.45 0.3767 0.0906

Jupiter -82526-12-22 10:04 J -28420843.25 -28420843.08 -28420842.90 0.0492 0.0045

Jupiter -82525-03-21 14:37 J -28420752.96 -28420752.89 -28420752.82 0.0494 0.0452

Earth -82521-03-03 16:32 J -28419309.85 -28419309.81 -28419309.77 0.2752 0.2536

Moon -82521-03-03 17:16 J -28419309.83 -28419309.78 -28419309.72 0.2753 0.2380 *

Venus -82521-03-09 17:16 J -28419303.89 -28419303.78 -28419303.67 0.3763 0.0083

Saturn -82521-11-22 19:40 J -28419045.75 -28419045.68 -28419045.62 0.0273 0.0235

Saturn -82520-02-19 06:28 J -28418957.34 -28418957.23 -28418957.11 0.0272 0.0141

Mars -82520-04-14 07:54 J -28418903.32 -28418903.17 -28418903.02 0.1781 0.0398

Saturn -82520-05-18 17:30 J -28418868.90 -28418868.77 -28418868.63 0.0272 0.0047

Jupiter -82520-08-12 22:47 J -28418782.68 -28418782.55 -28418782.43 0.0536 0.0174

Saturn -82520-08-15 04:47 J -28418780.44 -28418780.30 -28418780.17 0.0271 0.0050

Jupiter -82520-11-10 07:11 J -28418693.31 -28418693.20 -28418693.09 0.0534 0.0281

Saturn -82520-11-11 15:49 J -28418691.95 -28418691.84 -28418691.72 0.0271 0.0145

Saturn -82519-02-08 03:06 J -28418603.43 -28418603.37 -28418603.31 0.0270 0.0241

Mars -82519-02-08 05:30 J -28418603.39 -28418603.27 -28418603.15 0.1753 0.0279 *

Moon -82518-09-08 06:56 J -28418026.36 -28418026.21 -28418026.05 0.2586 0.0048

Earth -82518-09-08 08:23 J -28418026.30 -28418026.15 -28418026.00 0.2584 0.0178 *

Neptune -82517-01-07 11:30 J -28417905.03 -28417905.02 -28417905.00 0.0089 0.0088

Venus -82517-03-08 14:23 J -28417843.96 -28417843.90 -28417843.84 0.3605 0.3222

Neptune -82517-04-04 12:42 J -28417817.00 -28417816.97 -28417816.92 0.0089 0.0084

Uranus -82517-04-07 06:56 J -28417814.27 -28417814.21 -28417814.15 0.0138 0.0123

Neptune -82517-07-01 14:08 J -28417728.96 -28417728.91 -28417728.84 0.0089 0.0080

Uranus -82517-07-04 10:04 J -28417726.15 -28417726.08 -28417725.98 0.0138 0.0108

Neptune -82517-09-27 15:35 J -28417640.91 -28417640.85 -28417640.78 0.0089 0.0075

Uranus -82517-09-30 13:40 J -28417638.02 -28417637.93 -28417637.82 0.0138 0.0090

Neptune -82517-12-24 16:47 J -28417552.87 -28417552.80 -28417552.71 0.0089 0.0071

Uranus -82517-12-27 17:16 J -28417549.89 -28417549.78 -28417549.66 0.0139 0.0073

Neptune -82516-03-22 18:13 J -28417464.82 -28417464.74 -28417464.65 0.0089 0.0067

Uranus -82516-03-25 20:52 J -28417461.75 -28417461.63 -28417461.50 0.0139 0.0056

Neptune -82516-06-18 19:40 J -28417376.77 -28417376.68 -28417376.58 0.0089 0.0062

Uranus -82516-06-22 00:28 J -28417373.61 -28417373.48 -28417373.35 0.0139 0.0039

Neptune -82516-09-14 20:52 J -28417288.72 -28417288.63 -28417288.52 0.0089 0.0058

Uranus -82516-09-18 04:04 J -28417285.46 -28417285.33 -28417285.19 0.0139 0.0021

Venus -82516-09-23 12:28 J -28417280.09 -28417279.98 -28417279.88 0.3759 0.1087

Neptune -82516-12-11 22:18 J -28417200.67 -28417200.57 -28417200.46 0.0089 0.0054

Uranus -82516-12-15 07:40 J -28417197.31 -28417197.18 -28417197.04 0.0139 0.0004

Neptune -82515-03-09 23:44 J -28417112.62 -28417112.51 -28417112.40 0.0089 0.0049

Uranus -82515-03-13 11:16 J -28417109.16 -28417109.03 -28417108.89 0.0139 0.0015

Moon -82515-03-13 14:37 J -28417108.93 -28417108.89 -28417108.85 0.2750 0.2555 *

Earth -82515-03-13 15:20 J -28417108.90 -28417108.86 -28417108.83 0.2752 0.2584 *

Neptune -82515-06-06 00:56 J -28417024.56 -28417024.46 -28417024.34 0.0089 0.0045

Uranus -82515-06-09 15:06 J -28417021.01 -28417020.87 -28417020.74 0.0139 0.0032

Neptune -82515-09-02 02:23 J -28416936.51 -28416936.40 -28416936.27 0.0089 0.0041

Uranus -82515-09-05 18:42 J -28416932.85 -28416932.72 -28416932.59 0.0140 0.0050

Neptune -82515-11-29 03:49 J -28416848.46 -28416848.34 -28416848.21 0.0089 0.0036

Uranus -82515-12-02 22:18 J -28416844.68 -28416844.57 -28416844.44 0.0140 0.0069

Neptune -82514-02-25 05:16 J -28416760.40 -28416760.28 -28416760.15 0.0089 0.0032

Uranus -82514-03-01 02:08 J -28416756.51 -28416756.41 -28416756.30 0.0140 0.0087

Neptune -82514-05-24 06:28 J -28416672.35 -28416672.23 -28416672.09 0.0089 0.0028

Uranus -82514-05-28 05:59 J -28416668.34 -28416668.25 -28416668.16 0.0140 0.0106

Neptune -82514-08-20 08:08 J -28416584.29 -28416584.16 -28416584.03 0.0089 0.0023

Uranus -82514-08-24 09:49 J -28416580.15 -28416580.09 -28416580.02 0.0140 0.0124

Jupiter -82514-10-10 07:54 J -28416533.33 -28416533.17 -28416533.00 0.0492 0.0172

Neptune -82514-11-16 09:20 J -28416496.24 -28416496.11 -28416495.97 0.0089 0.0019

Jupiter -82513-01-08 12:42 J -28416443.09 -28416442.97 -28416442.83 0.0493 0.0327

Neptune -82513-02-12 10:47 J -28416408.18 -28416408.05 -28416407.92 0.0089 0.0014

Neptune -82513-05-10 12:13 J -28416320.12 -28416319.99 -28416319.86 0.0089 0.0010

Neptune -82513-08-06 13:40 J -28416232.07 -28416231.93 -28416231.80 0.0089 0.0006

Neptune -82513-11-02 15:06 J -28416144.01 -28416143.87 -28416143.74 0.0089 0.0003

Neptune -82512-01-29 16:18 J -28416055.95 -28416055.82 -28416055.68 0.0089 0.0004

Neptune -82512-04-27 17:44 J -28415967.89 -28415967.76 -28415967.62 0.0089 0.0008

Neptune -82512-07-24 19:11 J -28415879.83 -28415879.70 -28415879.57 0.0089 0.0012

Venus -82512-09-22 14:52 J -28415819.99 -28415819.88 -28415819.76 0.3608 0.1835

Neptune -82512-10-20 20:37 J -28415791.77 -28415791.64 -28415791.51 0.0089 0.0017

Neptune -82511-01-16 21:49 J -28415703.71 -28415703.59 -28415703.45 0.0089 0.0022

Neptune -82511-04-14 23:16 J -28415615.65 -28415615.53 -28415615.39 0.0089 0.0026

Neptune -82511-07-12 00:42 J -28415527.59 -28415527.47 -28415527.34 0.0089 0.0030

Mars -82511-09-04 07:54 J -28415473.26 -28415473.17 -28415473.08 0.1772 0.1469

Neptune -82511-10-08 02:08 J -28415439.53 -28415439.41 -28415439.28 0.0089 0.0035

Neptune -82510-01-04 03:35 J -28415351.47 -28415351.35 -28415351.22 0.0089 0.0039

Neptune -82510-04-02 05:01 J -28415263.40 -28415263.29 -28415263.17 0.0089 0.0044

Venus -82510-04-09 07:40 J -28415256.28 -28415256.18 -28415256.09 0.3755 0.2112

Neptune -82510-06-29 06:28 J -28415175.34 -28415175.23 -28415175.11 0.0089 0.0048

Mars -82510-07-01 14:23 J -28415173.02 -28415172.90 -28415172.78 0.1761 0.0391

Pluto -82510-09-14 10:47 J -28415098.09 -28415098.05 -28415097.99 0.0085 0.0078

Neptune -82510-09-25 07:54 J -28415087.28 -28415087.17 -28415087.06 0.0089 0.0053

Pluto -82510-12-11 12:13 J -28415010.06 -28415009.99 -28415009.90 0.0085 0.0066

Neptune -82510-12-22 09:20 J -28414999.21 -28414999.11 -28414999.00 0.0089 0.0057

Pluto -82509-03-08 13:40 J -28414922.03 -28414921.93 -28414921.82 0.0084 0.0054

Neptune -82509-03-19 10:47 J -28414911.14 -28414911.05 -28414910.95 0.0089 0.0062

Pluto -82509-06-04 14:52 J -28414833.98 -28414833.88 -28414833.75 0.0084 0.0042

Neptune -82509-06-15 11:59 J -28414823.07 -28414823.00 -28414822.90 0.0089 0.0067

Pluto -82509-08-31 16:18 J -28414745.94 -28414745.82 -28414745.69 0.0084 0.0030

Neptune -82509-09-11 13:40 J -28414735.00 -28414734.93 -28414734.84 0.0089 0.0071

Pluto -82509-11-27 17:44 J -28414657.89 -28414657.76 -28414657.63 0.0084 0.0018

Neptune -82509-12-08 14:52 J -28414646.93 -28414646.88 -28414646.79 0.0089 0.0076

Pluto -82508-02-23 19:11 J -28414569.84 -28414569.70 -28414569.57 0.0084 0.0007

Earth -82508-03-06 11:16 J -28414559.13 -28414559.03 -28414558.93 0.2752 0.1220

Moon -82508-03-06 11:44 J -28414559.11 -28414559.01 -28414558.91 0.2747 0.1205 *

Neptune -82508-03-06 16:32 J -28414558.86 -28414558.81 -28414558.74 0.0089 0.0080

Pluto -82508-05-22 20:23 J -28414481.78 -28414481.65 -28414481.51 0.0084 0.0005

Jupiter -82508-06-01 02:37 J -28414472.50 -28414472.39 -28414472.28 0.0537 0.0281

Neptune -82508-06-02 17:59 J -28414470.78 -28414470.75 -28414470.70 0.0089 0.0085

Pluto -82508-08-18 21:35 J -28414393.72 -28414393.60 -28414393.46 0.0084 0.0017

Jupiter -82508-08-29 11:01 J -28414383.16 -28414383.04 -28414382.92 0.0534 0.0172

Pluto -82508-11-14 22:47 J -28414305.67 -28414305.55 -28414305.41 0.0084 0.0028

Pluto -82507-02-11 00:13 J -28414217.61 -28414217.49 -28414217.37 0.0083 0.0039

Pluto -82507-05-10 01:11 J -28414129.54 -28414129.45 -28414129.33 0.0083 0.0051

Pluto -82507-08-06 02:37 J -28414041.47 -28414041.39 -28414041.29 0.0083 0.0061

Pluto -82507-11-02 03:49 J -28413953.39 -28413953.34 -28413953.27 0.0083 0.0072

Pluto -82506-01-29 05:16 J -28413865.28 -28413865.28 -28413865.27 0.0083 0.0083

Venus -82506-04-08 14:52 J -28413796.01 -28413795.88 -28413795.75 0.3612 0.0508

Saturn -82505-09-09 18:13 J -28413275.89 -28413275.74 -28413275.57 0.0288 0.0139

Moon -82505-09-10 11:01 J -28413275.13 -28413275.04 -28413274.94 0.2589 0.2000

Earth -82505-09-10 12:13 J -28413275.07 -28413274.99 -28413274.91 0.2585 0.2150 *

Venus -82505-10-23 03:06 J -28413232.43 -28413232.37 -28413232.31 0.3751 0.3173

Saturn -82505-12-07 17:30 J -28413186.95 -28413186.77 -28413186.59 0.0288 0.0017

Saturn -82504-03-06 15:49 J -28413097.97 -28413097.84 -28413097.69 0.0289 0.0170

Jupiter -82502-07-29 06:13 J -28412223.38 -28412223.24 -28412223.09 0.0491 0.0296

Jupiter -82502-10-27 11:30 J -28412133.18 -28412133.02 -28412132.86 0.0493 0.0205

Venus -82501-10-22 14:23 J -28411772.03 -28411771.90 -28411771.77 0.3616 0.0776

Mars -82501-11-20 23:16 J -28411742.63 -28411742.53 -28411742.43 0.1769 0.1067

Mars -82499-10-27 11:44 J -28411037.03 -28411037.01 -28411036.98 0.1737 0.1689

Jupiter -82496-03-20 06:13 J -28410162.33 -28410162.24 -28410162.15 0.0536 0.0393

Jupiter -82496-06-17 14:23 J -28410073.03 -28410072.90 -28410072.77 0.0534 0.0056

Jupiter -82496-09-14 23:16 J -28409983.56 -28409983.53 -28409983.50 0.0532 0.0511

Moon -82495-03-09 06:13 J -28409808.35 -28409808.24 -28409808.13 0.2745 0.0142

Earth -82495-03-09 06:13 J -28409808.35 -28409808.24 -28409808.13 0.2752 0.0126 *

Venus -82495-05-08 13:40 J -28409748.04 -28409747.93 -28409747.82 0.3621 0.1998

Saturn -82491-04-11 21:49 J -28408313.61 -28408313.59 -28408313.55 0.0274 0.0265

Mars -82491-04-13 08:08 J -28408312.18 -28408312.16 -28408312.14 0.1778 0.1742

Saturn -82491-07-09 08:52 J -28408225.23 -28408225.13 -28408225.02 0.0273 0.0170

Saturn -82491-10-05 19:54 J -28408136.80 -28408136.67 -28408136.54 0.0273 0.0075

Saturn -82490-01-02 06:56 J -28408048.34 -28408048.21 -28408048.07 0.0272 0.0021

Saturn -82490-03-31 18:13 J -28407959.86 -28407959.74 -28407959.62 0.0272 0.0117

Jupiter -82490-05-17 03:49 J -28407913.42 -28407913.34 -28407913.25 0.0491 0.0427

Mars -82490-05-24 08:08 J -28407906.30 -28407906.16 -28407906.02 0.1790 0.0791

Saturn -82490-06-28 05:30 J -28407871.35 -28407871.27 -28407871.19 0.0271 0.0213

Jupiter -82490-08-15 09:35 J -28407823.27 -28407823.10 -28407822.92 0.0493 0.0078

Venus -82490-11-22 12:13 J -28407724.05 -28407723.99 -28407723.93 0.3625 0.3167

Mars -82489-03-18 20:37 J -28407606.74 -28407606.64 -28407606.54 0.1745 0.1027

Venus -82487-08-16 13:25 J -28406725.99 -28406725.94 -28406725.90 0.3777 0.3407

Moon -82485-09-05 09:20 J -28405975.23 -28405975.11 -28405974.99 0.2581 0.1650

Earth -82485-09-05 10:47 J -28405975.18 -28405975.05 -28405974.93 0.2584 0.1438 *

Jupiter -82484-01-06 09:49 J -28405852.13 -28405852.09 -28405852.06 0.0537 0.0507

Jupiter -82484-04-05 17:44 J -28405762.89 -28405762.76 -28405762.63 0.0535 0.0060

Jupiter -82484-07-04 02:23 J -28405673.49 -28405673.40 -28405673.31 0.0533 0.0394

Moon -82482-03-12 00:42 J -28405057.57 -28405057.47 -28405057.38 0.2746 0.1433

Earth -82482-03-12 01:11 J -28405057.54 -28405057.45 -28405057.36 0.2752 0.1484 *

Venus -82481-03-01 07:40 J -28404702.26 -28404702.18 -28404702.10 0.3773 0.2506

Mars -82481-10-13 08:08 J -28404476.31 -28404476.16 -28404476.00 0.1781 0.0288

Mars -82480-08-09 05:30 J -28404176.39 -28404176.27 -28404176.15 0.1753 0.0371

Jupiter -82478-06-03 07:40 J -28403513.36 -28403513.18 -28403513.00 0.0492 0.0050

Uranus -82478-06-04 07:11 J -28403512.22 -28403512.20 -28403512.17 0.0140 0.0139

Uranus -82478-08-31 14:23 J -28403423.99 -28403423.90 -28403423.78 0.0140 0.0114

Jupiter -82478-09-01 12:13 J -28403423.06 -28403422.99 -28403422.91 0.0494 0.0446

Uranus -82478-11-27 21:49 J -28403335.72 -28403335.59 -28403335.44 0.0140 0.0089

Uranus -82477-02-24 05:01 J -28403247.44 -28403247.29 -28403247.12 0.0140 0.0064

Uranus -82477-05-22 12:28 J -28403159.16 -28403158.98 -28403158.80 0.0140 0.0039

Uranus -82477-08-18 19:40 J -28403070.86 -28403070.68 -28403070.50 0.0140 0.0015

Uranus -82477-11-15 02:37 J -28402982.57 -28402982.39 -28402982.20 0.0140 0.0010

Uranus -82476-02-11 09:35 J -28402894.27 -28402894.10 -28402893.92 0.0139 0.0033

Uranus -82476-05-10 16:47 J -28402805.97 -28402805.80 -28402805.64 0.0139 0.0057

Uranus -82476-08-06 23:30 J -28402717.66 -28402717.52 -28402717.37 0.0139 0.0080

Venus -82476-09-15 02:08 J -28402678.51 -28402678.41 -28402678.31 0.3770 0.1575

Uranus -82476-11-03 06:13 J -28402629.35 -28402629.24 -28402629.11 0.0139 0.0103

Saturn -82475-01-27 19:54 J -28402543.81 -28402543.67 -28402543.52 0.0288 0.0163

Uranus -82475-01-30 12:56 J -28402541.02 -28402540.96 -28402540.87 0.0139 0.0126

Earth -82475-03-04 21:35 J -28402507.67 -28402507.60 -28402507.54 0.2752 0.2271

Moon -82475-03-04 22:18 J -28402507.64 -28402507.57 -28402507.51 0.2752 0.2247 *

Saturn -82475-04-26 19:11 J -28402454.88 -28402454.70 -28402454.52 0.0288 0.0010

Saturn -82475-07-24 17:44 J -28402365.91 -28402365.76 -28402365.60 0.0289 0.0146

Jupiter -82472-01-22 20:37 J -28401452.76 -28401452.64 -28401452.52 0.0536 0.0182

Jupiter -82472-04-22 05:16 J -28401363.39 -28401363.28 -28401363.17 0.0534 0.0272

Moon -82472-09-08 13:11 J -28401224.10 -28401223.95 -28401223.80 0.2587 0.0490

Earth -82472-09-08 14:37 J -28401224.04 -28401223.89 -28401223.74 0.2584 0.0582 *

Mars -82471-03-05 08:23 J -28401046.25 -28401046.15 -28401046.04 0.1773 0.1340

Mars -82471-12-30 14:23 J -28400746.02 -28400745.90 -28400745.78 0.1761 0.0305

Venus -82470-03-31 20:52 J -28400654.74 -28400654.63 -28400654.52 0.3766 0.0621

Moon -82469-03-13 19:25 J -28400306.70 -28400306.69 -28400306.67 0.2752 0.2726

Jupiter -82466-03-22 05:44 J -28399203.42 -28399203.26 -28399203.09 0.0492 0.0176

Jupiter -82466-06-20 10:47 J -28399113.18 -28399113.05 -28399112.92 0.0493 0.0323

Venus -82465-10-14 15:35 J -28398630.96 -28398630.85 -28398630.73 0.3762 0.0400

Earth -82462-03-07 16:18 J -28397756.93 -28397756.82 -28397756.72 0.2752 0.0947

Moon -82462-03-07 16:47 J -28397756.91 -28397756.80 -28397756.69 0.2746 0.0821 *

Saturn -82462-11-26 12:28 J -28397493.07 -28397492.98 -28397492.88 0.0273 0.0187

Saturn -82461-02-22 23:30 J -28397404.65 -28397404.52 -28397404.39 0.0272 0.0092

Saturn -82461-05-21 10:32 J -28397316.20 -28397316.06 -28397315.93 0.0272 0.0004

Mars -82461-05-21 23:16 J -28397315.63 -28397315.53 -28397315.43 0.1769 0.0978

Saturn -82461-08-17 21:35 J -28397227.72 -28397227.60 -28397227.47 0.0271 0.0099

Venus -82461-10-13 14:23 J -28397170.98 -28397170.90 -28397170.82 0.3606 0.2814

Jupiter -82461-11-11 00:13 J -28397142.59 -28397142.49 -28397142.38 0.0537 0.0294

Saturn -82461-11-14 08:52 J -28397139.22 -28397139.13 -28397139.03 0.0271 0.0195

Jupiter -82460-02-08 08:37 J -28397053.26 -28397053.14 -28397053.01 0.0535 0.0160

Venus -82459-04-30 10:47 J -28396607.15 -28396607.05 -28396606.94 0.3758 0.1386

Moon -82459-09-11 17:30 J -28396472.81 -28396472.77 -28396472.73 0.2590 0.2494

Earth -82459-09-11 18:13 J -28396472.76 -28396472.74 -28396472.72 0.2585 0.2548 *

Venus -82455-04-29 14:37 J -28395147.01 -28395146.89 -28395146.76 0.3609 0.1447

Jupiter -82454-01-08 03:35 J -28394893.49 -28394893.35 -28394893.21 0.0491 0.0305

Jupiter -82454-04-08 08:52 J -28394803.30 -28394803.13 -28394802.97 0.0493 0.0196

Venus -82454-11-14 06:13 J -28394583.33 -28394583.24 -28394583.16 0.3754 0.2433

Mars -82452-10-12 08:23 J -28393885.19 -28393885.15 -28393885.11 0.1777 0.1656

Mars -82451-11-22 08:37 J -28393479.27 -28393479.14 -28393479.00 0.1791 0.0918

Mars -82450-09-17 20:37 J -28393179.73 -28393179.64 -28393179.54 0.1745 0.1122

Venus -82450-11-13 14:37 J -28393123.03 -28393122.89 -28393122.76 0.3613 0.0138

Moon -82449-03-09 11:01 J -28393006.15 -28393006.04 -28393005.93 0.2745 0.0348

Earth -82449-03-09 11:16 J -28393006.15 -28393006.03 -28393005.92 0.2752 0.0415 *

Jupiter -82449-08-30 04:18 J -28392832.41 -28392832.32 -28392832.24 0.0537 0.0401

Jupiter -82449-11-27 12:28 J -28392743.11 -28392742.98 -28392742.85 0.0535 0.0050

Jupiter -82448-02-24 21:20 J -28392653.65 -28392653.61 -28392653.57 0.0533 0.0506

Venus -82448-05-30 01:40 J -28392559.46 -28392559.43 -28392559.39 0.3750 0.3505

Saturn -82446-06-16 17:59 J -28391811.86 -28391811.75 -28391811.62 0.0287 0.0211

Saturn -82446-09-13 17:16 J -28391722.95 -28391722.78 -28391722.60 0.0288 0.0055

Saturn -82446-12-11 16:04 J -28391633.99 -28391633.83 -28391633.66 0.0288 0.0099

Saturn -82445-03-09 14:23 J -28391544.97 -28391544.90 -28391544.80 0.0289 0.0251

Venus -82444-05-29 13:54 J -28391099.04 -28391098.92 -28391098.79 0.3618 0.1150

Jupiter -82443-10-27 01:40 J -28390583.52 -28390583.43 -28390583.34 0.0491 0.0430

Jupiter -82442-01-25 07:11 J -28390493.37 -28390493.20 -28390493.02 0.0492 0.0074

Mars -82441-04-13 08:52 J -28390049.28 -28390049.13 -28390048.97 0.1782 0.0154

Mars -82440-02-07 05:30 J -28389749.39 -28389749.27 -28389749.15 0.1753 0.0453

Moon -82439-09-06 15:20 J -28389173.00 -28389172.86 -28389172.72 0.2583 0.1076

Earth -82439-09-06 17:01 J -28389172.94 -28389172.79 -28389172.65 0.2584 0.1024 *

Venus -82439-12-13 12:56 J -28389075.05 -28389074.96 -28389074.86 0.3622 0.2358

Jupiter -82437-06-18 08:08 J -28388522.20 -28388522.16 -28388522.13 0.0537 0.0511

Jupiter -82437-09-15 16:04 J -28388432.96 -28388432.83 -28388432.70 0.0535 0.0064

Jupiter -82437-12-14 00:42 J -28388343.56 -28388343.47 -28388343.38 0.0533 0.0391

Moon -82436-03-12 05:30 J -28388255.36 -28388255.27 -28388255.18 0.2747 0.1686

Earth -82436-03-12 06:13 J -28388255.33 -28388255.24 -28388255.16 0.2752 0.1768 *

Neptune -82434-06-26 15:49 J -28387418.86 -28387418.84 -28387418.79 0.0088 0.0087

Neptune -82434-09-22 19:25 J -28387330.75 -28387330.69 -28387330.60 0.0088 0.0081

Neptune -82434-12-19 22:47 J -28387242.63 -28387242.55 -28387242.42 0.0088 0.0075

Uranus -82433-01-30 11:01 J -28387201.06 -28387201.04 -28387201.00 0.0138 0.0134

Neptune -82433-03-17 02:37 J -28387154.50 -28387154.39 -28387154.26 0.0088 0.0068

Uranus -82433-04-27 14:37 J -28387112.95 -28387112.89 -28387112.82 0.0138 0.0117

Neptune -82433-06-13 06:13 J -28387066.37 -28387066.24 -28387066.09 0.0088 0.0062

Venus -82433-06-28 11:30 J -28387051.04 -28387051.02 -28387050.99 0.3626 0.3510

Uranus -82433-07-24 18:13 J -28387024.83 -28387024.74 -28387024.65 0.0138 0.0101

Neptune -82433-09-09 09:35 J -28386978.23 -28386978.10 -28386977.93 0.0088 0.0056

Uranus -82433-10-20 21:49 J -28386936.70 -28386936.59 -28386936.49 0.0138 0.0084

Neptune -82433-12-06 13:25 J -28386890.10 -28386889.94 -28386889.78 0.0088 0.0049

Uranus -82432-01-17 01:11 J -28386848.57 -28386848.45 -28386848.33 0.0139 0.0067

Neptune -82432-03-04 16:47 J -28386801.96 -28386801.80 -28386801.62 0.0088 0.0043

Saturn -82432-04-14 14:37 J -28386760.97 -28386760.89 -28386760.81 0.0273 0.0217

Uranus -82432-04-15 04:47 J -28386760.43 -28386760.30 -28386760.17 0.0139 0.0050

Neptune -82432-05-31 20:23 J -28386713.82 -28386713.65 -28386713.47 0.0088 0.0036

Saturn -82432-07-12 01:40 J -28386672.55 -28386672.43 -28386672.31 0.0273 0.0122

Uranus -82432-07-12 08:23 J -28386672.28 -28386672.15 -28386672.02 0.0139 0.0032

Neptune -82432-08-27 23:44 J -28386625.68 -28386625.51 -28386625.32 0.0088 0.0030

Mars -82432-09-03 09:06 J -28386619.24 -28386619.12 -28386619.01 0.1773 0.1211

Uranus -82432-10-08 11:59 J -28386584.14 -28386584.00 -28386583.86 0.0139 0.0015

Saturn -82432-10-08 12:42 J -28386584.10 -28386583.97 -28386583.83 0.0272 0.0026 *

Neptune -82432-11-24 03:35 J -28386537.54 -28386537.35 -28386537.17 0.0088 0.0024

Uranus -82431-01-04 15:35 J -28386495.99 -28386495.85 -28386495.71 0.0139 0.0003

Saturn -82431-01-04 23:59 J -28386495.64 -28386495.50 -28386495.37 0.0272 0.0070

Neptune -82431-02-20 06:56 J -28386449.39 -28386449.21 -28386449.02 0.0088 0.0018

Uranus -82431-04-02 19:11 J -28386407.83 -28386407.70 -28386407.56 0.0139 0.0021

Saturn -82431-04-03 11:01 J -28386407.14 -28386407.04 -28386406.93 0.0271 0.0166

Neptune -82431-05-19 10:18 J -28386361.25 -28386361.07 -28386360.87 0.0088 0.0012

Uranus -82431-06-29 22:47 J -28386319.68 -28386319.55 -28386319.41 0.0140 0.0039

Mars -82431-06-30 14:23 J -28386319.02 -28386318.90 -28386318.78 0.1761 0.0221

Saturn -82431-06-30 22:18 J -28386318.60 -28386318.57 -28386318.53 0.0271 0.0263

Neptune -82431-08-15 13:54 J -28386273.11 -28386272.92 -28386272.73 0.0088 0.0005

Uranus -82431-09-26 02:37 J -28386231.52 -28386231.39 -28386231.26 0.0140 0.0057

Neptune -82431-11-11 17:30 J -28386184.96 -28386184.77 -28386184.58 0.0088 0.0002

Jupiter -82431-11-13 05:16 J -28386183.46 -28386183.28 -28386183.10 0.0492 0.0057

Uranus -82431-12-23 06:28 J -28386143.35 -28386143.23 -28386143.12 0.0140 0.0075

Neptune -82430-02-07 20:52 J -28386096.82 -28386096.63 -28386096.44 0.0088 0.0007

Jupiter -82430-02-11 09:49 J -28386093.16 -28386093.09 -28386093.01 0.0494 0.0441

Uranus -82430-03-21 09:49 J -28386055.18 -28386055.09 -28386054.97 0.0140 0.0094

Venus -82430-03-23 11:30 J -28386053.08 -28386053.02 -28386052.96 0.3776 0.3150

Neptune -82430-05-07 00:13 J -28386008.67 -28386008.49 -28386008.30 0.0088 0.0014

Uranus -82430-06-17 13:54 J -28385967.00 -28385966.92 -28385966.84 0.0140 0.0112

Neptune -82430-08-03 03:49 J -28385920.53 -28385920.34 -28385920.16 0.0088 0.0020

Uranus -82430-09-13 17:30 J -28385878.81 -28385878.77 -28385878.71 0.0140 0.0131

Neptune -82430-10-30 06:56 J -28385832.38 -28385832.21 -28385832.02 0.0088 0.0026

Neptune -82429-01-26 10:18 J -28385744.23 -28385744.07 -28385743.88 0.0088 0.0033

Earth -82429-03-05 02:23 J -28385705.47 -28385705.40 -28385705.32 0.2752 0.1999

Moon -82429-03-05 03:06 J -28385705.45 -28385705.37 -28385705.29 0.2749 0.1846 *

Neptune -82429-04-23 13:40 J -28385656.09 -28385655.93 -28385655.74 0.0088 0.0039

Neptune -82429-07-20 17:16 J -28385567.94 -28385567.78 -28385567.61 0.0088 0.0044

Neptune -82429-10-16 20:37 J -28385479.79 -28385479.64 -28385479.48 0.0088 0.0050

Neptune -82428-01-12 23:59 J -28385391.64 -28385391.50 -28385391.35 0.0088 0.0057

Neptune -82428-04-11 03:20 J -28385303.48 -28385303.36 -28385303.22 0.0088 0.0063

Neptune -82428-07-08 06:42 J -28385215.33 -28385215.22 -28385215.09 0.0088 0.0069

Neptune -82428-10-04 09:49 J -28385127.17 -28385127.09 -28385126.97 0.0088 0.0075

Neptune -82428-12-31 13:11 J -28385039.01 -28385038.95 -28385038.86 0.0088 0.0081

Neptune -82427-03-29 16:32 J -28384950.83 -28384950.81 -28384950.76 0.0088 0.0087

Moon -82426-09-09 19:25 J -28384421.83 -28384421.69 -28384421.54 0.2587 0.0794

Earth -82426-09-09 20:52 J -28384421.77 -28384421.63 -28384421.49 0.2585 0.1000 *

Jupiter -82425-07-04 19:25 J -28384122.81 -28384122.69 -28384122.57 0.0535 0.0179

Jupiter -82425-10-02 03:49 J -28384033.45 -28384033.34 -28384033.22 0.0533 0.0274

Venus -82425-10-06 05:59 J -28384029.34 -28384029.25 -28384029.17 0.3772 0.2241

Mars -82422-11-20 23:30 J -28382888.62 -28382888.52 -28382888.42 0.1769 0.0884

Venus -82419-04-22 00:28 J -28382005.59 -28382005.48 -28382005.38 0.3769 0.1296

Jupiter -82419-09-01 03:20 J -28381873.53 -28381873.36 -28381873.20 0.0492 0.0184

Jupiter -82419-11-30 08:08 J -28381783.29 -28381783.16 -28381783.02 0.0494 0.0316

Saturn -82417-11-02 19:11 J -28381079.80 -28381079.70 -28381079.59 0.0287 0.0238

Saturn -82416-01-30 18:28 J -28380990.90 -28380990.73 -28380990.55 0.0288 0.0082

Earth -82416-03-07 21:06 J -28380954.72 -28380954.62 -28380954.51 0.2752 0.0678

Moon -82416-03-07 21:35 J -28380954.71 -28380954.60 -28380954.49 0.2746 0.0679 *

Saturn -82416-04-29 17:30 J -28380901.94 -28380901.77 -28380901.60 0.0288 0.0073

Saturn -82416-07-27 15:49 J -28380812.94 -28380812.84 -28380812.72 0.0289 0.0226

Venus -82414-11-05 19:11 J -28379981.81 -28379981.70 -28379981.59 0.3765 0.0329

Jupiter -82413-04-22 22:18 J -28379812.67 -28379812.57 -28379812.46 0.0536 0.0302

Jupiter -82413-07-21 06:42 J -28379723.35 -28379723.22 -28379723.09 0.0534 0.0150

Mars -82412-04-12 08:23 J -28379458.21 -28379458.15 -28379458.10 0.1777 0.1574

Mars -82411-05-23 09:06 J -28379052.24 -28379052.12 -28379051.99 0.1791 0.1036

Mars -82410-03-18 20:52 J -28378752.72 -28378752.63 -28378752.55 0.1744 0.1211

Venus -82408-05-21 14:08 J -28377958.02 -28377957.91 -28377957.80 0.3761 0.0672

Jupiter -82407-06-20 01:25 J -28377563.58 -28377563.44 -28377563.30 0.0491 0.0308

Jupiter -82407-09-18 06:42 J -28377473.38 -28377473.22 -28377473.05 0.0493 0.0193

Venus -82404-05-20 14:23 J -28376498.00 -28376497.90 -28376497.80 0.3607 0.2413

Moon -82403-03-10 15:49 J -28376203.95 -28376203.84 -28376203.73 0.2745 0.0696

Earth -82403-03-10 16:04 J -28376203.94 -28376203.83 -28376203.72 0.2752 0.0677 *

Saturn -82403-09-01 18:28 J -28376028.79 -28376028.73 -28376028.66 0.0273 0.0232

Saturn -82403-11-29 05:30 J -28375940.39 -28375940.27 -28375940.16 0.0272 0.0137

Venus -82403-12-05 09:20 J -28375934.22 -28375934.11 -28375934.01 0.3757 0.1699

Saturn -82402-02-25 16:32 J -28375851.95 -28375851.81 -28375851.68 0.0272 0.0042

Saturn -82402-05-25 03:35 J -28375763.48 -28375763.35 -28375763.22 0.0271 0.0054

Saturn -82402-08-21 14:37 J -28375675.00 -28375674.89 -28375674.77 0.0271 0.0150

Mars -82402-10-13 09:35 J -28375622.25 -28375622.10 -28375621.94 0.1782 0.0034

Saturn -82402-11-18 01:54 J -28375586.47 -28375586.42 -28375586.36 0.0270 0.0246

Jupiter -82401-02-10 01:54 J -28375502.50 -28375502.42 -28375502.33 0.0537 0.0414

Jupiter -82401-05-09 10:18 J -28375413.20 -28375413.07 -28375412.94 0.0535 0.0040

Jupiter -82401-08-06 19:11 J -28375323.75 -28375323.70 -28375323.66 0.0533 0.0493

Mars -82401-08-08 05:44 J -28375322.38 -28375322.26 -28375322.15 0.1752 0.0547

Venus -82399-12-04 14:23 J -28374474.03 -28374473.90 -28374473.77 0.3611 0.1057

Venus -82397-06-20 04:32 J -28373910.38 -28373910.31 -28373910.23 0.3753 0.2756

Jupiter -82395-04-07 22:47 J -28373253.62 -28373253.55 -28373253.46 0.0491 0.0439

Jupiter -82395-07-07 04:32 J -28373163.48 -28373163.31 -28373163.13 0.0492 0.0066

Uranus -82394-06-24 15:35 J -28372810.91 -28372810.85 -28372810.77 0.0140 0.0130

Uranus -82394-09-20 23:01 J -28372722.66 -28372722.54 -28372722.41 0.0140 0.0104

Uranus -82394-12-18 06:28 J -28372634.38 -28372634.23 -28372634.08 0.0140 0.0079

Uranus -82393-03-15 13:40 J -28372546.10 -28372545.93 -28372545.76 0.0140 0.0055

Uranus -82393-06-11 20:52 J -28372457.81 -28372457.63 -28372457.45 0.0140 0.0030

Venus -82393-06-19 14:08 J -28372450.04 -28372449.91 -28372449.78 0.3615 0.0250

Moon -82393-09-06 21:35 J -28372370.74 -28372370.60 -28372370.45 0.2585 0.0850

Earth -82393-09-06 23:16 J -28372370.68 -28372370.53 -28372370.38 0.2584 0.0597 *

Uranus -82393-09-08 04:04 J -28372369.51 -28372369.33 -28372369.15 0.0140 0.0006

Uranus -82393-12-05 11:01 J -28372281.22 -28372281.04 -28372280.85 0.0140 0.0019

Uranus -82392-03-03 18:13 J -28372192.92 -28372192.74 -28372192.57 0.0139 0.0042

Mars -82392-03-04 09:35 J -28372192.22 -28372192.10 -28372191.97 0.1773 0.1085

Uranus -82392-05-31 00:56 J -28372104.61 -28372104.46 -28372104.29 0.0139 0.0065

Uranus -82392-08-27 07:54 J -28372016.31 -28372016.17 -28372016.03 0.0139 0.0088

Uranus -82392-11-23 14:52 J -28371927.99 -28371927.88 -28371927.78 0.0139 0.0111

Mars -82392-12-29 14:37 J -28371892.01 -28371891.89 -28371891.77 0.1760 0.0128

Uranus -82391-02-19 21:20 J -28371839.64 -28371839.61 -28371839.56 0.0139 0.0134

Moon -82390-03-13 10:32 J -28371453.14 -28371453.06 -28371452.98 0.2748 0.1946

Earth -82390-03-13 11:16 J -28371453.11 -28371453.03 -28371452.96 0.2752 0.2054 *

Jupiter -82390-11-29 05:59 J -28371192.28 -28371192.25 -28371192.22 0.0538 0.0521

Jupiter -82389-02-26 14:08 J -28371103.04 -28371102.91 -28371102.79 0.0536 0.0074

Jupiter -82389-05-25 22:47 J -28371013.64 -28371013.55 -28371013.46 0.0533 0.0383

Venus -82387-01-03 13:25 J -28370426.05 -28370425.94 -28370425.82 0.3619 0.1513

Saturn -82387-03-22 17:44 J -28370347.78 -28370347.76 -28370347.73 0.0287 0.0283

Saturn -82387-06-19 17:01 J -28370258.95 -28370258.79 -28370258.62 0.0288 0.0127

Saturn -82387-09-16 16:04 J -28370170.01 -28370169.83 -28370169.65 0.0288 0.0028

Saturn -82387-12-14 14:37 J -28370081.02 -28370080.89 -28370080.75 0.0289 0.0181

Earth -82383-03-06 07:25 J -28368903.28 -28368903.19 -28368903.11 0.2752 0.1720

Moon -82383-03-06 08:08 J -28368903.25 -28368903.16 -28368903.07 0.2749 0.1689 *

Jupiter -82383-04-25 02:52 J -28368853.56 -28368853.38 -28368853.20 0.0492 0.0060

Jupiter -82383-07-24 07:40 J -28368763.26 -28368763.18 -28368763.10 0.0494 0.0436

Mars -82382-05-21 23:30 J -28368461.63 -28368461.52 -28368461.42 0.1769 0.0807

Venus -82382-07-20 12:28 J -28368402.07 -28368401.98 -28368401.90 0.3623 0.2705

Moon -82380-09-10 01:54 J -28367619.55 -28367619.42 -28367619.30 0.2587 0.1350

Earth -82380-09-10 03:06 J -28367619.50 -28367619.37 -28367619.24 0.2585 0.1404 *

Jupiter -82378-12-15 17:44 J -28366792.88 -28366792.76 -28366792.64 0.0536 0.0183

Jupiter -82377-03-14 02:08 J -28366703.52 -28366703.41 -28366703.29 0.0534 0.0271

Venus -82374-10-28 09:49 J -28365380.16 -28365380.09 -28365380.02 0.3775 0.2889

Saturn -82373-01-19 20:37 J -28365296.67 -28365296.64 -28365296.60 0.0273 0.0262

Saturn -82373-04-17 07:40 J -28365208.29 -28365208.18 -28365208.08 0.0273 0.0167

Saturn -82373-07-14 18:42 J -28365119.85 -28365119.72 -28365119.59 0.0272 0.0073

Saturn -82373-10-11 05:44 J -28365031.40 -28365031.26 -28365031.13 0.0272 0.0024

Mars -82373-10-11 08:23 J -28365031.21 -28365031.15 -28365031.08 0.1777 0.1479 *

Saturn -82372-01-07 16:47 J -28364942.92 -28364942.80 -28364942.68 0.0272 0.0120

Saturn -82372-04-06 04:04 J -28364854.41 -28364854.33 -28364854.25 0.0271 0.0216

Mars -82372-11-21 09:49 J -28364625.20 -28364625.09 -28364624.97 0.1791 0.1176

Jupiter -82371-02-11 00:42 J -28364543.64 -28364543.47 -28364543.30 0.0492 0.0190

Jupiter -82371-05-12 05:44 J -28364453.39 -28364453.26 -28364453.12 0.0494 0.0310

Mars -82371-09-16 20:52 J -28364325.71 -28364325.63 -28364325.55 0.1744 0.1299

Earth -82370-03-09 02:08 J -28364152.52 -28364152.41 -28364152.30 0.2752 0.0396

Moon -82370-03-09 02:23 J -28364152.51 -28364152.40 -28364152.29 0.2746 0.0303 *

Venus -82368-05-13 04:04 J -28363356.42 -28363356.33 -28363356.23 0.3772 0.1969

Jupiter -82366-10-03 21:20 J -28362482.72 -28362482.61 -28362482.50 0.0536 0.0297

Jupiter -82365-01-01 05:30 J -28362393.39 -28362393.27 -28362393.14 0.0534 0.0155

Venus -82363-11-26 22:47 J -28361332.66 -28361332.55 -28361332.45 0.3768 0.1023

Mars -82362-04-13 09:49 J -28361195.24 -28361195.09 -28361194.93 0.1782 0.0105

Mars -82361-02-07 05:44 J -28360895.37 -28360895.26 -28360895.14 0.1752 0.0639

Moon -82360-09-04 23:59 J -28360319.55 -28360319.50 -28360319.44 0.2581 0.2401

Earth -82360-09-05 01:11 J -28360319.52 -28360319.45 -28360319.38 0.2585 0.2237 *

Jupiter -82360-11-29 22:47 J -28360233.69 -28360233.55 -28360233.41 0.0491 0.0317

Jupiter -82359-02-28 04:18 J -28360143.49 -28360143.32 -28360143.16 0.0493 0.0186

Saturn -82358-11-06 17:44 J -28359526.91 -28359526.76 -28359526.61 0.0288 0.0157

Saturn -82357-02-03 16:47 J -28359437.98 -28359437.80 -28359437.61 0.0288 0.0008

Moon -82357-03-10 20:52 J -28359401.74 -28359401.63 -28359401.53 0.2745 0.0860

Earth -82357-03-10 21:06 J -28359401.73 -28359401.62 -28359401.52 0.2752 0.0957 *

Pluto -82357-04-06 17:44 J -28359374.79 -28359374.76 -28359374.68 0.0060 0.0058

Saturn -82357-05-02 15:35 J -28359349.00 -28359348.85 -28359348.69 0.0289 0.0153

Venus -82357-06-11 17:30 J -28359308.88 -28359308.77 -28359308.66 0.3764 0.0038

Pluto -82357-07-03 19:11 J -28359286.78 -28359286.70 -28359286.58 0.0060 0.0052

Pluto -82357-09-29 20:37 J -28359198.75 -28359198.64 -28359198.49 0.0060 0.0046

Pluto -82357-12-26 22:04 J -28359110.71 -28359110.58 -28359110.42 0.0061 0.0040

Pluto -82356-03-24 23:16 J -28359022.66 -28359022.53 -28359022.34 0.0061 0.0034

Pluto -82356-06-21 01:11 J -28358934.62 -28358934.45 -28358934.27 0.0061 0.0027

Pluto -82356-09-17 02:37 J -28358846.57 -28358846.39 -28358846.21 0.0061 0.0021

Pluto -82356-12-14 03:49 J -28358758.51 -28358758.34 -28358758.14 0.0061 0.0015

Pluto -82355-03-12 05:16 J -28358670.46 -28358670.28 -28358670.08 0.0061 0.0009

Pluto -82355-06-08 06:56 J -28358582.40 -28358582.21 -28358582.02 0.0061 0.0002

Pluto -82355-09-04 08:23 J -28358494.34 -28358494.15 -28358493.96 0.0061 0.0004

Pluto -82355-12-01 09:49 J -28358406.28 -28358406.09 -28358405.90 0.0061 0.0010

Pluto -82354-02-27 11:01 J -28358318.21 -28358318.04 -28358317.84 0.0061 0.0017

Pluto -82354-05-26 12:28 J -28358230.15 -28358229.98 -28358229.79 0.0061 0.0023

Jupiter -82354-07-23 00:13 J -28358172.57 -28358172.49 -28358172.41 0.0537 0.0420

Pluto -82354-08-22 14:08 J -28358142.08 -28358141.91 -28358141.74 0.0061 0.0030

Jupiter -82354-10-20 08:23 J -28358083.28 -28358083.15 -28358083.02 0.0535 0.0032

Pluto -82354-11-18 15:20 J -28358054.00 -28358053.86 -28358053.69 0.0061 0.0036

Jupiter -82353-01-17 17:01 J -28357993.84 -28357993.79 -28357993.73 0.0533 0.0485

Pluto -82353-02-14 16:47 J -28357965.92 -28357965.80 -28357965.64 0.0061 0.0043

Pluto -82353-05-12 17:59 J -28357877.84 -28357877.75 -28357877.61 0.0061 0.0050

Venus -82353-06-10 13:40 J -28357848.97 -28357848.93 -28357848.90 0.3604 0.3425

Pluto -82353-08-08 19:40 J -28357789.74 -28357789.68 -28357789.58 0.0062 0.0056

Mars -82353-09-02 10:18 J -28357765.20 -28357765.07 -28357764.94 0.1773 0.0955

Neptune -82353-10-03 10:32 J -28357734.07 -28357734.06 -28357734.04 0.0089 0.0088

Neptune -82353-12-30 11:44 J -28357646.04 -28357646.01 -28357645.96 0.0089 0.0084

Neptune -82352-03-28 12:56 J -28357558.00 -28357557.96 -28357557.89 0.0089 0.0080

Neptune -82352-06-24 14:37 J -28357469.96 -28357469.89 -28357469.82 0.0089 0.0075

Mars -82352-06-29 14:37 J -28357465.01 -28357464.89 -28357464.77 0.1760 0.0037

Neptune -82352-09-20 15:49 J -28357381.91 -28357381.84 -28357381.75 0.0089 0.0071

Neptune -82352-12-17 17:01 J -28357293.86 -28357293.79 -28357293.69 0.0089 0.0067

Venus -82352-12-26 12:28 J -28357285.09 -28357284.98 -28357284.87 0.3760 0.0968

Neptune -82351-03-15 18:42 J -28357205.81 -28357205.72 -28357205.63 0.0089 0.0062

Neptune -82351-06-11 19:54 J -28357117.76 -28357117.67 -28357117.56 0.0089 0.0058

Neptune -82351-09-07 21:06 J -28357029.71 -28357029.62 -28357029.50 0.0089 0.0054

Neptune -82351-12-04 22:47 J -28356941.66 -28356941.55 -28356941.44 0.0089 0.0049

Neptune -82350-03-02 23:59 J -28356853.61 -28356853.50 -28356853.38 0.0089 0.0045

Moon -82350-03-04 18:28 J -28356851.76 -28356851.73 -28356851.71 0.2753 0.2680

Neptune -82350-05-30 01:25 J -28356765.55 -28356765.44 -28356765.32 0.0089 0.0041

Neptune -82350-08-26 02:52 J -28356677.50 -28356677.38 -28356677.26 0.0089 0.0036

Neptune -82350-11-22 04:04 J -28356589.45 -28356589.33 -28356589.20 0.0089 0.0032

Neptune -82349-02-18 05:30 J -28356501.39 -28356501.27 -28356501.14 0.0089 0.0028

Uranus -82349-02-19 18:42 J -28356499.76 -28356499.72 -28356499.66 0.0138 0.0129

Neptune -82349-05-16 06:56 J -28356413.34 -28356413.21 -28356413.08 0.0089 0.0023

Uranus -82349-05-17 22:18 J -28356411.64 -28356411.57 -28356411.49 0.0138 0.0112

Neptune -82349-08-12 08:23 J -28356325.28 -28356325.15 -28356325.02 0.0089 0.0019

Uranus -82349-08-14 01:40 J -28356323.52 -28356323.43 -28356323.33 0.0138 0.0096

Neptune -82349-11-08 09:49 J -28356237.23 -28356237.09 -28356236.96 0.0089 0.0014

Uranus -82349-11-10 05:16 J -28356235.39 -28356235.28 -28356235.17 0.0138 0.0078

Neptune -82348-02-04 11:01 J -28356149.17 -28356149.04 -28356148.90 0.0089 0.0010

Uranus -82348-02-06 08:37 J -28356147.25 -28356147.14 -28356147.01 0.0139 0.0062

Neptune -82348-05-03 12:28 J -28356061.11 -28356060.98 -28356060.84 0.0089 0.0006

Uranus -82348-05-05 12:28 J -28356059.11 -28356058.98 -28356058.85 0.0139 0.0044

Neptune -82348-07-30 13:54 J -28355973.05 -28355972.92 -28355972.78 0.0089 0.0001

Uranus -82348-08-01 16:04 J -28355970.97 -28355970.83 -28355970.70 0.0139 0.0027

Jupiter -82348-09-17 20:52 J -28355923.70 -28355923.63 -28355923.55 0.0491 0.0441

Neptune -82348-10-26 15:20 J -28355885.00 -28355884.86 -28355884.73 0.0089 0.0004

Uranus -82348-10-28 19:40 J -28355882.82 -28355882.68 -28355882.55 0.0139 0.0010

Jupiter -82348-12-17 02:37 J -28355833.57 -28355833.39 -28355833.21 0.0492 0.0063

Venus -82348-12-25 14:08 J -28355825.02 -28355824.91 -28355824.80 0.3608 0.2012

Neptune -82347-01-22 16:47 J -28355796.94 -28355796.80 -28355796.67 0.0089 0.0008

Uranus -82347-01-24 23:16 J -28355794.67 -28355794.53 -28355794.40 0.0139 0.0009

Neptune -82347-04-20 17:59 J -28355708.88 -28355708.75 -28355708.61 0.0089 0.0013

Uranus -82347-04-23 02:52 J -28355706.52 -28355706.38 -28355706.24 0.0139 0.0026

Neptune -82347-07-17 19:25 J -28355620.82 -28355620.69 -28355620.55 0.0089 0.0017

Uranus -82347-07-20 06:28 J -28355618.36 -28355618.23 -28355618.10 0.0140 0.0045

Moon -82347-09-08 03:49 J -28355568.49 -28355568.34 -28355568.19 0.2585 0.0250

Earth -82347-09-08 05:30 J -28355568.42 -28355568.27 -28355568.12 0.2585 0.0184 *

Neptune -82347-10-13 20:52 J -28355532.76 -28355532.63 -28355532.50 0.0089 0.0021

Uranus -82347-10-16 10:04 J -28355530.20 -28355530.08 -28355529.95 0.0140 0.0063

Neptune -82346-01-09 22:18 J -28355444.70 -28355444.57 -28355444.44 0.0089 0.0026

Uranus -82346-01-12 13:54 J -28355442.03 -28355441.92 -28355441.80 0.0140 0.0081

Neptune -82346-04-07 23:44 J -28355356.64 -28355356.51 -28355356.38 0.0089 0.0030

Uranus -82346-04-10 17:44 J -28355353.86 -28355353.76 -28355353.66 0.0140 0.0099

Neptune -82346-07-05 00:56 J -28355268.57 -28355268.46 -28355268.33 0.0089 0.0035

Uranus -82346-07-07 21:20 J -28355265.67 -28355265.61 -28355265.53 0.0140 0.0118

Venus -82346-07-12 07:40 J -28355261.27 -28355261.18 -28355261.08 0.3756 0.2013

Neptune -82346-10-01 02:37 J -28355180.51 -28355180.39 -28355180.27 0.0089 0.0039

Uranus -82346-10-04 01:25 J -28355177.47 -28355177.44 -28355177.41 0.0140 0.0137

Neptune -82346-12-28 03:49 J -28355092.45 -28355092.34 -28355092.21 0.0089 0.0044

Neptune -82345-03-25 05:30 J -28355004.39 -28355004.27 -28355004.16 0.0089 0.0048

Neptune -82345-06-21 06:42 J -28354916.32 -28354916.22 -28354916.10 0.0089 0.0053

Neptune -82345-09-17 08:08 J -28354828.25 -28354828.16 -28354828.05 0.0089 0.0058

Neptune -82345-12-14 09:35 J -28354740.19 -28354740.10 -28354740.00 0.0089 0.0062

Neptune -82344-03-12 11:01 J -28354652.12 -28354652.04 -28354651.94 0.0089 0.0067

Moon -82344-03-13 15:20 J -28354650.92 -28354650.86 -28354650.80 0.2750 0.2281

Earth -82344-03-13 16:04 J -28354650.89 -28354650.83 -28354650.77 0.2752 0.2330 *

Neptune -82344-06-08 12:28 J -28354564.05 -28354563.98 -28354563.89 0.0089 0.0071

Saturn -82344-09-04 11:30 J -28354476.12 -28354476.02 -28354475.92 0.0273 0.0183

Neptune -82344-09-04 13:54 J -28354475.98 -28354475.92 -28354475.84 0.0089 0.0076 *

Neptune -82344-12-01 15:35 J -28354387.91 -28354387.85 -28354387.79 0.0089 0.0080

Saturn -82344-12-01 22:18 J -28354387.69 -28354387.57 -28354387.44 0.0272 0.0088

Neptune -82343-02-27 16:47 J -28354299.83 -28354299.80 -28354299.75 0.0089 0.0085

Saturn -82343-02-28 09:20 J -28354299.24 -28354299.11 -28354298.97 0.0272 0.0011

Saturn -82343-05-27 20:37 J -28354210.77 -28354210.64 -28354210.52 0.0271 0.0103

Saturn -82343-08-24 07:40 J -28354122.27 -28354122.18 -28354122.08 0.0271 0.0200

Mars -82343-11-19 23:30 J -28354034.63 -28354034.52 -28354034.41 0.1769 0.0713

Jupiter -82342-05-11 03:35 J -28353862.36 -28353862.35 -28353862.33 0.0537 0.0533

Venus -82342-07-11 14:08 J -28353801.04 -28353800.91 -28353800.78 0.3612 0.0676

Jupiter -82342-08-08 11:44 J -28353773.14 -28353773.01 -28353772.88 0.0536 0.0085

Jupiter -82342-11-05 20:23 J -28353683.74 -28353683.65 -28353683.55 0.0534 0.0371

Venus -82340-01-25 03:06 J -28353237.43 -28353237.37 -28353237.30 0.3752 0.3073

Earth -82337-03-06 12:13 J -28352101.08 -28352100.99 -28352100.89 0.2752 0.1452

Moon -82337-03-06 12:56 J -28352101.05 -28352100.96 -28352100.86 0.2749 0.1311 *

Venus -82336-01-24 13:40 J -28351777.06 -28351776.93 -28351776.80 0.3616 0.0635

Jupiter -82336-10-05 00:28 J -28351523.66 -28351523.48 -28351523.30 0.0492 0.0066

Jupiter -82335-01-03 05:01 J -28351433.37 -28351433.29 -28351433.20 0.0494 0.0429

Moon -82334-09-11 08:23 J -28350817.27 -28350817.15 -28350817.04 0.2589 0.1631

Earth -82334-09-11 09:20 J -28350817.22 -28350817.11 -28350817.00 0.2585 0.1817 *

Mars -82333-04-11 08:23 J -28350604.22 -28350604.15 -28350604.08 0.1777 0.1396

Mars -82332-05-22 10:18 J -28350198.18 -28350198.07 -28350197.97 0.1791 0.1295

Mars -82331-03-17 20:52 J -28349898.70 -28349898.63 -28349898.55 0.1744 0.1392

Venus -82331-08-10 12:56 J -28349753.07 -28349752.96 -28349752.85 0.3620 0.1866

Jupiter -82330-05-27 15:35 J -28349462.97 -28349462.85 -28349462.73 0.0536 0.0194

Jupiter -82330-08-25 00:13 J -28349373.61 -28349373.49 -28349373.38 0.0534 0.0261

Saturn -82328-03-25 16:18 J -28348794.95 -28348794.82 -28348794.69 0.0287 0.0203

Saturn -82328-06-22 15:35 J -28348706.03 -28348705.85 -28348705.67 0.0288 0.0047

Saturn -82328-09-19 14:23 J -28348617.07 -28348616.90 -28348616.73 0.0289 0.0107

Saturn -82328-12-17 12:42 J -28348528.04 -28348527.97 -28348527.89 0.0289 0.0260

Venus -82325-02-24 11:44 J -28347729.08 -28347729.01 -28347728.94 0.3624 0.3055

Moon -82324-03-09 07:11 J -28347350.31 -28347350.20 -28347350.09 0.2745 0.0168

Earth -82324-03-09 07:11 J -28347350.31 -28347350.20 -28347350.09 0.2752 0.0129 *

Jupiter -82324-07-23 22:32 J -28347213.72 -28347213.56 -28347213.39 0.0491 0.0192

Jupiter -82324-10-22 03:35 J -28347123.48 -28347123.35 -28347123.21 0.0493 0.0308

Mars -82323-10-12 10:47 J -28346768.21 -28346768.05 -28346767.90 0.1782 0.0244

Venus -82323-11-18 13:40 J -28346730.96 -28346730.93 -28346730.89 0.3778 0.3529

Mars -82322-08-08 05:44 J -28346468.37 -28346468.26 -28346468.15 0.1752 0.0723

Jupiter -82318-03-15 19:40 J -28345152.79 -28345152.68 -28345152.58 0.0536 0.0302

Jupiter -82318-06-13 03:49 J -28345063.46 -28345063.34 -28345063.21 0.0534 0.0151

Venus -82317-06-03 07:54 J -28344707.25 -28344707.17 -28344707.09 0.3774 0.2625

Saturn -82314-01-22 13:25 J -28343744.02 -28343743.94 -28343743.85 0.0273 0.0213

Saturn -82314-04-21 00:28 J -28343655.60 -28343655.48 -28343655.36 0.0273 0.0118

Saturn -82314-07-18 11:30 J -28343567.16 -28343567.02 -28343566.89 0.0272 0.0023

Moon -82314-09-06 06:13 J -28343517.35 -28343517.24 -28343517.14 0.2582 0.1937

Earth -82314-09-06 07:25 J -28343517.29 -28343517.19 -28343517.08 0.2585 0.1814 *

Saturn -82314-10-14 22:32 J -28343478.69 -28343478.56 -28343478.43 0.0272 0.0073

Saturn -82313-01-11 09:35 J -28343390.20 -28343390.10 -28343389.99 0.0271 0.0169

Mars -82313-03-03 10:47 J -28343338.19 -28343338.05 -28343337.91 0.1773 0.0832

Saturn -82313-04-08 20:52 J -28343301.65 -28343301.63 -28343301.60 0.0271 0.0266

Mars -82313-12-28 14:37 J -28343038.01 -28343037.89 -28343037.77 0.1760 0.0054

Jupiter -82312-05-11 20:23 J -28342903.79 -28342903.65 -28342903.52 0.0491 0.0323

Jupiter -82312-08-10 01:40 J -28342813.59 -28342813.43 -28342813.26 0.0493 0.0181

Venus -82312-12-18 02:23 J -28342683.50 -28342683.40 -28342683.30 0.3771 0.1695

Moon -82311-03-12 01:40 J -28342599.53 -28342599.43 -28342599.33 0.2746 0.1255

Earth -82311-03-12 02:08 J -28342599.51 -28342599.41 -28342599.31 0.2752 0.1242 *

Uranus -82310-07-14 23:16 J -28342109.61 -28342109.53 -28342109.43 0.0140 0.0123

Uranus -82310-10-11 06:42 J -28342021.35 -28342021.22 -28342021.08 0.0140 0.0098

Uranus -82309-01-07 13:54 J -28341933.07 -28341932.92 -28341932.75 0.0140 0.0073

Uranus -82309-04-04 21:20 J -28341844.78 -28341844.61 -28341844.43 0.0140 0.0048

Uranus -82309-07-02 04:32 J -28341756.49 -28341756.31 -28341756.13 0.0140 0.0024

Uranus -82309-09-28 11:44 J -28341668.20 -28341668.01 -28341667.83 0.0140 0.0001

Uranus -82309-12-25 18:42 J -28341579.90 -28341579.72 -28341579.54 0.0140 0.0025

Uranus -82308-03-24 01:40 J -28341491.60 -28341491.43 -28341491.25 0.0139 0.0048

Uranus -82308-06-20 08:37 J -28341403.29 -28341403.14 -28341402.98 0.0139 0.0072

Uranus -82308-09-16 15:20 J -28341314.98 -28341314.86 -28341314.72 0.0139 0.0095

Uranus -82308-12-13 22:04 J -28341226.66 -28341226.58 -28341226.47 0.0139 0.0118

Jupiter -82306-01-01 23:16 J -28340842.61 -28340842.53 -28340842.45 0.0537 0.0414

Jupiter -82306-04-01 07:25 J -28340753.32 -28340753.19 -28340753.06 0.0535 0.0039

Jupiter -82306-06-29 16:04 J -28340663.88 -28340663.83 -28340663.78 0.0532 0.0490

Venus -82306-07-03 21:06 J -28340659.73 -28340659.62 -28340659.51 0.3767 0.0740

Earth -82304-03-04 22:32 J -28340049.60 -28340049.56 -28340049.52 0.2752 0.2492

Moon -82304-03-04 23:16 J -28340049.58 -28340049.53 -28340049.48 0.2751 0.2414 *

Mars -82303-05-20 23:44 J -28339607.63 -28339607.51 -28339607.40 0.1768 0.0623

Moon -82301-09-08 10:04 J -28338766.23 -28338766.08 -28338765.92 0.2585 0.0058

Earth -82301-09-08 11:44 J -28338766.17 -28338766.01 -28338765.86 0.2585 0.0236 *

Venus -82300-01-16 15:49 J -28338635.95 -28338635.84 -28338635.73 0.3763 0.0259

Jupiter -82300-02-27 18:28 J -28338593.80 -28338593.73 -28338593.66 0.0491 0.0448

Jupiter -82300-05-29 00:13 J -28338503.67 -28338503.49 -28338503.31 0.0492 0.0056

Saturn -82299-08-12 16:04 J -28338062.93 -28338062.83 -28338062.73 0.0287 0.0239

Saturn -82299-11-09 15:20 J -28337974.03 -28337973.86 -28337973.68 0.0288 0.0082

Saturn -82298-02-06 14:23 J -28337885.07 -28337884.90 -28337884.72 0.0289 0.0073

Moon -82298-03-14 20:23 J -28337848.70 -28337848.65 -28337848.60 0.2750 0.2452

Earth -82298-03-14 21:06 J -28337848.65 -28337848.62 -28337848.59 0.2751 0.2614 *

Saturn -82298-05-06 13:11 J -28337796.06 -28337795.95 -28337795.84 0.0289 0.0226

Venus -82296-01-15 13:25 J -28337176.01 -28337175.94 -28337175.86 0.3605 0.3012

Venus -82295-08-02 10:47 J -28336612.15 -28336612.05 -28336611.94 0.3759 0.1282

Jupiter -82295-10-21 02:08 J -28336532.42 -28336532.41 -28336532.41 0.0537 0.0537

Jupiter -82294-01-18 10:04 J -28336443.21 -28336443.08 -28336442.95 0.0536 0.0090

Jupiter -82294-04-17 18:42 J -28336353.82 -28336353.72 -28336353.63 0.0533 0.0365

Mars -82294-10-11 08:23 J -28336177.23 -28336177.15 -28336177.07 0.1777 0.1309

Mars -82293-11-20 10:47 J -28335771.14 -28335771.05 -28335770.96 0.1792 0.1424

Mars -82292-09-15 21:06 J -28335471.68 -28335471.62 -28335471.56 0.1744 0.1484

Earth -82291-03-07 17:16 J -28335298.88 -28335298.78 -28335298.68 0.2752 0.1176

Moon -82291-03-07 17:44 J -28335298.86 -28335298.76 -28335298.65 0.2748 0.1139 *

Venus -82291-08-01 13:54 J -28335152.04 -28335151.92 -28335151.80 0.3609 0.1630

Venus -82289-02-16 06:13 J -28334588.33 -28334588.24 -28334588.15 0.3755 0.2328

Jupiter -82288-03-16 22:47 J -28334193.73 -28334193.55 -28334193.37 0.0492 0.0067

Jupiter -82288-06-15 03:20 J -28334103.44 -28334103.36 -28334103.27 0.0494 0.0430

Moon -82288-09-11 14:37 J -28334014.96 -28334014.89 -28334014.82 0.2590 0.2231

Earth -82288-09-11 15:35 J -28334014.93 -28334014.85 -28334014.78 0.2585 0.2216 *

Venus -82285-02-15 13:40 J -28333128.06 -28333127.93 -28333127.79 0.3613 0.0310

Saturn -82285-06-10 17:16 J -28333011.85 -28333011.78 -28333011.71 0.0273 0.0229

Saturn -82285-09-07 04:18 J -28332923.44 -28332923.32 -28332923.21 0.0272 0.0134

Saturn -82285-12-04 15:06 J -28332835.00 -28332834.87 -28332834.73 0.0272 0.0040

Saturn -82284-03-03 02:08 J -28332746.54 -28332746.41 -28332746.27 0.0271 0.0057

Saturn -82284-05-30 13:25 J -28332658.05 -28332657.94 -28332657.83 0.0271 0.0152

Saturn -82284-08-27 00:42 J -28332569.52 -28332569.47 -28332569.42 0.0270 0.0248

Venus -82284-09-01 01:40 J -28332564.47 -28332564.43 -28332564.38 0.3751 0.3404

Mars -82283-04-12 11:16 J -28332341.18 -28332341.03 -28332340.88 0.1783 0.0366

Jupiter -82283-11-06 13:40 J -28332133.05 -28332132.93 -28332132.81 0.0536 0.0204

Jupiter -82282-02-03 22:04 J -28332043.70 -28332043.58 -28332043.47 0.0534 0.0251

Mars -82282-02-06 05:44 J -28332041.37 -28332041.26 -28332041.15 0.1752 0.0812

Venus -82280-08-31 13:11 J -28331104.07 -28331103.95 -28331103.82 0.3617 0.1003

Moon -82278-03-10 12:13 J -28330548.11 -28330547.99 -28330547.88 0.2744 0.0241

Earth -82278-03-10 11:59 J -28330548.11 -28330548.00 -28330547.88 0.2752 0.0193 *

Jupiter -82276-01-02 20:23 J -28329883.81 -28329883.65 -28329883.48 0.0491 0.0195

Jupiter -82276-04-03 01:25 J -28329793.58 -28329793.44 -28329793.30 0.0493 0.0304

Venus -82274-03-17 12:28 J -28329080.09 -28329079.98 -28329079.88 0.3621 0.2234

Mars -82274-09-02 11:16 J -28328911.17 -28328911.03 -28328910.88 0.1774 0.0703

Mars -82273-06-28 14:52 J -28328611.01 -28328610.88 -28328610.76 0.1760 0.0155

Jupiter -82271-08-25 17:30 J -28327822.88 -28327822.77 -28327822.67 0.0537 0.0312

Jupiter -82271-11-23 01:54 J -28327733.55 -28327733.42 -28327733.30 0.0535 0.0142

Saturn -82270-12-30 14:37 J -28327330.91 -28327330.89 -28327330.85 0.0287 0.0283

Neptune -82269-03-22 13:54 J -28327247.96 -28327247.92 -28327247.88 0.0088 0.0086

Saturn -82269-03-28 14:08 J -28327242.07 -28327241.91 -28327241.74 0.0288 0.0126

Neptune -82269-06-18 17:01 J -28327159.85 -28327159.79 -28327159.69 0.0088 0.0080

Saturn -82269-06-25 13:11 J -28327153.13 -28327152.95 -28327152.77 0.0288 0.0030

Neptune -82269-09-14 20:37 J -28327071.73 -28327071.64 -28327071.52 0.0088 0.0074

Saturn -82269-09-22 11:59 J -28327064.14 -28327064.00 -28327063.86 0.0289 0.0183

Venus -82269-09-30 11:01 J -28327056.08 -28327056.04 -28327056.00 0.3625 0.3412

Neptune -82269-12-12 00:28 J -28326983.60 -28326983.48 -28326983.35 0.0088 0.0067

Neptune -82268-03-10 03:49 J -28326895.47 -28326895.34 -28326895.19 0.0088 0.0061

Neptune -82268-06-06 07:25 J -28326807.33 -28326807.19 -28326807.03 0.0088 0.0054

Neptune -82268-09-02 10:47 J -28326719.19 -28326719.05 -28326718.87 0.0088 0.0049

Moon -82268-09-06 12:13 J -28326715.11 -28326714.99 -28326714.87 0.2583 0.1542

Earth -82268-09-06 13:40 J -28326715.06 -28326714.93 -28326714.80 0.2585 0.1398 *

Neptune -82268-11-29 14:37 J -28326631.06 -28326630.89 -28326630.72 0.0088 0.0042

Neptune -82267-02-25 17:59 J -28326542.91 -28326542.75 -28326542.56 0.0088 0.0036

Neptune -82267-05-24 21:35 J -28326454.77 -28326454.60 -28326454.41 0.0088 0.0029

Neptune -82267-08-21 01:11 J -28326366.63 -28326366.45 -28326366.26 0.0088 0.0023

Neptune -82267-11-17 04:47 J -28326278.49 -28326278.30 -28326278.11 0.0088 0.0017

Neptune -82266-02-13 08:08 J -28326190.35 -28326190.16 -28326189.97 0.0088 0.0010

Neptune -82266-05-12 11:44 J -28326102.20 -28326102.01 -28326101.82 0.0088 0.0004

Venus -82266-06-25 11:44 J -28326058.06 -28326058.01 -28326057.95 0.3777 0.3274

Neptune -82266-08-08 15:06 J -28326014.06 -28326013.87 -28326013.67 0.0088 0.0003

Neptune -82266-11-04 18:42 J -28325925.91 -28325925.72 -28325925.53 0.0088 0.0008

Neptune -82265-01-31 22:04 J -28325837.77 -28325837.58 -28325837.39 0.0088 0.0015

Uranus -82265-03-11 01:54 J -28325798.46 -28325798.42 -28325798.35 0.0138 0.0125

Moon -82265-03-12 06:28 J -28325797.32 -28325797.23 -28325797.13 0.2747 0.1391

Earth -82265-03-12 06:56 J -28325797.30 -28325797.21 -28325797.11 0.2752 0.1525 *

Neptune -82265-04-29 01:40 J -28325749.62 -28325749.43 -28325749.25 0.0088 0.0021

Uranus -82265-06-07 05:30 J -28325710.34 -28325710.27 -28325710.18 0.0138 0.0108

Neptune -82265-07-26 04:47 J -28325661.47 -28325661.30 -28325661.11 0.0088 0.0027

Uranus -82265-09-03 09:06 J -28325622.22 -28325622.12 -28325622.02 0.0138 0.0091

Jupiter -82265-10-21 18:28 J -28325573.86 -28325573.73 -28325573.59 0.0491 0.0321

Neptune -82265-10-22 08:08 J -28325573.32 -28325573.16 -28325572.97 0.0088 0.0034

Uranus -82265-11-30 12:28 J -28325534.09 -28325533.98 -28325533.86 0.0138 0.0075

Neptune -82264-01-18 11:30 J -28325485.18 -28325485.02 -28325484.84 0.0088 0.0040

Jupiter -82264-01-19 23:59 J -28325483.67 -28325483.50 -28325483.33 0.0493 0.0181

Mars -82264-01-22 11:30 J -28325481.03 -28325481.02 -28325481.01 0.1765 0.1757

Uranus -82264-02-26 16:04 J -28325445.95 -28325445.83 -28325445.70 0.0139 0.0057

Neptune -82264-04-16 15:06 J -28325397.03 -28325396.87 -28325396.70 0.0088 0.0045

Uranus -82264-05-25 19:40 J -28325357.81 -28325357.68 -28325357.55 0.0139 0.0040

Neptune -82264-07-13 18:28 J -28325308.88 -28325308.73 -28325308.57 0.0088 0.0052

Pluto -82264-08-10 02:23 J -28325281.45 -28325281.40 -28325281.33 0.0085 0.0076

Uranus -82264-08-21 23:16 J -28325269.66 -28325269.53 -28325269.39 0.0139 0.0023

Neptune -82264-10-09 21:49 J -28325220.72 -28325220.59 -28325220.44 0.0088 0.0058

Pluto -82264-11-06 03:49 J -28325193.42 -28325193.34 -28325193.25 0.0084 0.0064

Uranus -82264-11-18 02:52 J -28325181.52 -28325181.38 -28325181.24 0.0139 0.0005

Mars -82264-11-18 23:30 J -28325180.63 -28325180.52 -28325180.40 0.1768 0.0542

Neptune -82263-01-06 01:11 J -28325132.57 -28325132.45 -28325132.31 0.0088 0.0064

Pluto -82263-02-02 05:16 J -28325105.38 -28325105.28 -28325105.17 0.0084 0.0052

Uranus -82263-02-14 06:28 J -28325093.36 -28325093.23 -28325093.09 0.0139 0.0013

Neptune -82263-04-04 04:32 J -28325044.42 -28325044.31 -28325044.19 0.0088 0.0070

Pluto -82263-05-01 06:28 J -28325017.34 -28325017.23 -28325017.10 0.0084 0.0040

Uranus -82263-05-13 10:04 J -28325005.21 -28325005.08 -28325004.94 0.0139 0.0031

Neptune -82263-07-01 07:54 J -28324956.26 -28324956.17 -28324956.07 0.0088 0.0076

Pluto -82263-07-28 07:54 J -28324929.29 -28324929.17 -28324929.04 0.0084 0.0028

Uranus -82263-08-09 13:54 J -28324917.05 -28324916.92 -28324916.79 0.0139 0.0049

Neptune -82263-09-27 11:16 J -28324868.09 -28324868.03 -28324867.95 0.0088 0.0082

Pluto -82263-10-24 09:06 J -28324841.24 -28324841.12 -28324840.98 0.0084 0.0017

Uranus -82263-11-05 17:30 J -28324828.89 -28324828.77 -28324828.65 0.0140 0.0067

Neptune -82263-12-24 14:37 J -28324779.90 -28324779.89 -28324779.86 0.0088 0.0088

Pluto -82262-01-20 10:32 J -28324753.19 -28324753.06 -28324752.92 0.0084 0.0005

Uranus -82262-02-01 21:20 J -28324740.72 -28324740.61 -28324740.50 0.0140 0.0085

Pluto -82262-04-18 11:59 J -28324665.14 -28324665.00 -28324664.87 0.0084 0.0007

Uranus -82262-05-01 00:56 J -28324652.55 -28324652.46 -28324652.36 0.0140 0.0104

Pluto -82262-07-15 13:11 J -28324577.08 -28324576.95 -28324576.82 0.0084 0.0018

Uranus -82262-07-28 04:47 J -28324564.36 -28324564.30 -28324564.23 0.0140 0.0122

Pluto -82262-10-11 14:23 J -28324489.02 -28324488.90 -28324488.77 0.0083 0.0029

Pluto -82261-01-07 15:35 J -28324400.96 -28324400.85 -28324400.72 0.0083 0.0041

Pluto -82261-04-04 17:01 J -28324312.89 -28324312.79 -28324312.68 0.0083 0.0051

Pluto -82261-07-01 18:13 J -28324224.82 -28324224.74 -28324224.65 0.0083 0.0062

Pluto -82261-09-27 19:40 J -28324136.74 -28324136.68 -28324136.62 0.0083 0.0073

Venus -82260-01-08 05:59 J -28324034.33 -28324034.25 -28324034.16 0.3773 0.2366

Jupiter -82259-06-13 21:35 J -28323512.68 -28323512.60 -28323512.52 0.0537 0.0418

Jupiter -82259-09-11 05:44 J -28323423.39 -28323423.26 -28323423.13 0.0535 0.0033

Jupiter -82259-12-09 14:23 J -28323333.95 -28323333.90 -28323333.85 0.0533 0.0488

Earth -82258-03-06 03:20 J -28323247.42 -28323247.36 -28323247.29 0.2752 0.2227

Moon -82258-03-06 04:18 J -28323247.39 -28323247.32 -28323247.25 0.2751 0.2098 *

Saturn -82256-10-28 19:11 J -28322279.73 -28322279.70 -28322279.66 0.0273 0.0261

Saturn -82255-01-25 05:59 J -28322191.35 -28322191.25 -28322191.14 0.0273 0.0167

Saturn -82255-04-23 17:01 J -28322102.92 -28322102.79 -28322102.66 0.0272 0.0072

Saturn -82255-07-21 04:04 J -28322014.46 -28322014.33 -28322014.19 0.0272 0.0024

Venus -82255-07-25 00:42 J -28322010.58 -28322010.47 -28322010.37 0.3770 0.1420

Moon -82255-09-09 16:32 J -28321963.96 -28321963.81 -28321963.66 0.2586 0.0562

Earth -82255-09-09 17:59 J -28321963.90 -28321963.75 -28321963.60 0.2585 0.0644 *

Saturn -82255-10-17 15:06 J -28321925.99 -28321925.87 -28321925.74 0.0271 0.0120

Saturn -82254-01-14 02:23 J -28321837.48 -28321837.40 -28321837.32 0.0271 0.0216

Mars -82254-04-11 08:37 J -28321750.23 -28321750.14 -28321750.06 0.1777 0.1220

Mars -82253-05-21 11:16 J -28321344.10 -28321344.03 -28321343.95 0.1792 0.1550

Jupiter -82253-08-09 16:04 J -28321263.89 -28321263.83 -28321263.76 0.0491 0.0452

Jupiter -82253-11-07 22:04 J -28321173.76 -28321173.58 -28321173.40 0.0492 0.0053

Mars -82252-03-16 21:06 J -28321044.67 -28321044.62 -28321044.57 0.1744 0.1569

Venus -82249-02-07 19:11 J -28319986.81 -28319986.70 -28319986.58 0.3766 0.0460

Jupiter -82247-04-02 01:11 J -28319202.47 -28319202.45 -28319202.43 0.0537 0.0528

Jupiter -82247-06-30 09:20 J -28319113.24 -28319113.11 -28319112.99 0.0535 0.0082

Jupiter -82247-09-27 17:44 J -28319023.85 -28319023.76 -28319023.66 0.0533 0.0374

Earth -82245-03-07 22:04 J -28318496.68 -28318496.58 -28318496.47 0.2752 0.0912

Moon -82245-03-07 22:32 J -28318496.66 -28318496.56 -28318496.45 0.2746 0.0845 *

Venus -82244-08-23 14:08 J -28317963.02 -28317962.91 -28317962.80 0.3762 0.0561

Mars -82244-10-11 11:30 J -28317914.17 -28317914.02 -28317913.87 0.1783 0.0482

Mars -82243-08-07 05:59 J -28317614.35 -28317614.25 -28317614.15 0.1752 0.0908

Moon -82242-09-12 20:52 J -28317212.67 -28317212.63 -28317212.58 0.2591 0.2454

Jupiter -82241-08-26 20:23 J -28316863.82 -28316863.65 -28316863.47 0.0492 0.0071

Jupiter -82241-11-25 01:11 J -28316773.53 -28316773.45 -28316773.36 0.0494 0.0427

Saturn -82240-08-15 12:56 J -28316510.11 -28316509.96 -28316509.81 0.0288 0.0169

Venus -82240-08-22 13:25 J -28316503.04 -28316502.94 -28316502.85 0.3606 0.2610

Saturn -82240-11-12 12:13 J -28316421.17 -28316420.99 -28316420.81 0.0288 0.0013

Saturn -82239-02-09 11:01 J -28316332.19 -28316332.04 -28316331.88 0.0289 0.0142

Venus -82238-03-09 09:20 J -28315939.21 -28315939.11 -28315939.01 0.3758 0.1589

Jupiter -82235-04-18 11:59 J -28314803.12 -28314803.00 -28314802.88 0.0536 0.0206

Jupiter -82235-07-16 20:23 J -28314713.76 -28314713.65 -28314713.53 0.0534 0.0248

Mars -82234-03-03 11:59 J -28314484.15 -28314484.00 -28314483.85 0.1774 0.0571

Venus -82234-03-08 13:40 J -28314479.06 -28314478.93 -28314478.81 0.3610 0.1231

Mars -82234-12-28 14:52 J -28314184.00 -28314183.88 -28314183.76 0.1760 0.0234

Venus -82233-09-22 04:32 J -28313915.38 -28313915.31 -28313915.22 0.3754 0.2656

Moon -82232-03-10 17:01 J -28313745.90 -28313745.79 -28313745.68 0.2744 0.0393

Earth -82232-03-10 17:01 J -28313745.90 -28313745.79 -28313745.68 0.2752 0.0438 *

Jupiter -82229-06-14 18:56 J -28312553.87 -28312553.71 -28312553.54 0.0491 0.0192

Jupiter -82229-09-12 23:59 J -28312463.63 -28312463.50 -28312463.36 0.0493 0.0307

Venus -82229-09-21 13:25 J -28312455.07 -28312454.94 -28312454.81 0.3614 0.0108

Venus -82227-04-08 00:13 J -28311891.49 -28311891.49 -28311891.48 0.3750 0.3743

Saturn -82226-06-14 09:49 J -28311459.19 -28311459.09 -28311458.99 0.0273 0.0184

Uranus -82226-08-04 06:56 J -28311408.30 -28311408.21 -28311408.10 0.0141 0.0116

Saturn -82226-09-10 20:37 J -28311370.76 -28311370.64 -28311370.51 0.0272 0.0089

Uranus -82226-10-31 14:08 J -28311320.04 -28311319.91 -28311319.76 0.0140 0.0092

Saturn -82226-12-08 07:40 J -28311282.31 -28311282.18 -28311282.04 0.0272 0.0007

Uranus -82225-01-27 21:35 J -28311231.75 -28311231.60 -28311231.43 0.0140 0.0067

Saturn -82225-03-05 18:42 J -28311193.84 -28311193.72 -28311193.59 0.0271 0.0102

Uranus -82225-04-25 04:47 J -28311143.46 -28311143.30 -28311143.11 0.0140 0.0043

Saturn -82225-06-02 05:44 J -28311105.34 -28311105.26 -28311105.16 0.0271 0.0199

Uranus -82225-07-22 12:13 J -28311055.17 -28311054.99 -28311054.81 0.0140 0.0017

Mars -82225-07-23 11:59 J -28311054.06 -28311054.00 -28311053.95 0.1765 0.1636

Uranus -82225-10-18 19:25 J -28310966.88 -28310966.69 -28310966.51 0.0140 0.0007

Uranus -82224-01-15 02:23 J -28310878.58 -28310878.40 -28310878.22 0.0140 0.0031

Uranus -82224-04-13 09:20 J -28310790.28 -28310790.11 -28310789.94 0.0139 0.0055

Mars -82224-05-19 23:44 J -28310753.63 -28310753.51 -28310753.40 0.1768 0.0449

Uranus -82224-07-10 16:04 J -28310701.97 -28310701.83 -28310701.67 0.0139 0.0078

Uranus -82224-10-06 23:01 J -28310613.66 -28310613.54 -28310613.41 0.0139 0.0101

Uranus -82223-01-03 05:44 J -28310525.33 -28310525.26 -28310525.17 0.0139 0.0124

Jupiter -82223-02-04 15:35 J -28310492.95 -28310492.85 -28310492.75 0.0537 0.0319

Venus -82223-04-07 12:42 J -28310431.09 -28310430.97 -28310430.84 0.3618 0.1380

Jupiter -82223-05-04 23:44 J -28310403.63 -28310403.51 -28310403.38 0.0535 0.0134

Moon -82222-09-07 18:28 J -28309912.86 -28309912.73 -28309912.59 0.2583 0.1145

Earth -82222-09-07 20:08 J -28309912.81 -28309912.66 -28309912.52 0.2585 0.0971 *

Moon -82219-03-13 11:16 J -28308995.11 -28308995.03 -28308994.94 0.2747 0.1779

Earth -82219-03-13 11:59 J -28308995.08 -28308995.00 -28308994.91 0.2752 0.1803 *

Venus -82218-10-22 11:44 J -28308407.10 -28308407.01 -28308406.92 0.3622 0.2598

Jupiter -82217-04-02 16:47 J -28308243.94 -28308243.80 -28308243.66 0.0491 0.0321

Jupiter -82217-07-01 22:04 J -28308153.74 -28308153.58 -28308153.41 0.0492 0.0180

Mars -82215-10-10 08:37 J -28307323.23 -28307323.14 -28307323.05 0.1776 0.1134

Mars -82214-11-20 11:44 J -28306917.06 -28306917.01 -28306916.95 0.1792 0.1678

Mars -82213-09-14 21:06 J -28306617.65 -28306617.62 -28306617.58 0.1744 0.1663

Earth -82212-03-06 08:23 J -28306445.23 -28306445.15 -28306445.07 0.2752 0.1948

Moon -82212-03-06 09:06 J -28306445.20 -28306445.12 -28306445.04 0.2751 0.1893 *

Jupiter -82212-11-23 19:25 J -28306182.76 -28306182.69 -28306182.61 0.0537 0.0427

Jupiter -82211-02-21 03:35 J -28306093.48 -28306093.35 -28306093.22 0.0536 0.0026

Jupiter -82211-05-21 12:28 J -28306004.03 -28306003.98 -28306003.93 0.0533 0.0480

Saturn -82210-01-02 11:30 J -28305778.14 -28305778.02 -28305777.90 0.0288 0.0214

Saturn -82210-04-01 10:47 J -28305689.22 -28305689.05 -28305688.87 0.0288 0.0058

Saturn -82210-06-29 09:49 J -28305600.26 -28305600.09 -28305599.92 0.0289 0.0097

Saturn -82210-09-26 08:23 J -28305511.23 -28305511.15 -28305511.06 0.0289 0.0251

Venus -82209-01-30 10:04 J -28305385.15 -28305385.08 -28305385.02 0.3776 0.3014

Moon -82209-09-09 22:47 J -28305161.69 -28305161.55 -28305161.41 0.2588 0.0902

Earth -82209-09-10 00:13 J -28305161.63 -28305161.49 -28305161.35 0.2585 0.1054 *

Jupiter -82205-01-20 14:37 J -28303933.96 -28303933.89 -28303933.81 0.0490 0.0447

Jupiter -82205-04-19 20:23 J -28303843.82 -28303843.65 -28303843.47 0.0492 0.0058

Mars -82204-04-11 12:13 J -28303487.13 -28303486.99 -28303486.84 0.1783 0.0618

Venus -82204-08-15 04:18 J -28303361.41 -28303361.32 -28303361.23 0.3772 0.2087

Mars -82203-02-05 05:59 J -28303187.35 -28303187.25 -28303187.15 0.1752 0.0992

Jupiter -82200-09-11 23:44 J -28301872.53 -28301872.51 -28301872.50 0.0538 0.0532

Jupiter -82200-12-10 07:40 J -28301783.31 -28301783.18 -28301783.05 0.0536 0.0084

Earth -82199-03-09 03:06 J -28301694.48 -28301694.37 -28301694.26 0.2752 0.0629

Moon -82199-03-09 03:35 J -28301694.46 -28301694.35 -28301694.24 0.2745 0.0569 *

Jupiter -82199-03-09 16:18 J -28301693.91 -28301693.82 -28301693.73 0.0534 0.0371

Venus -82198-02-28 22:47 J -28301337.65 -28301337.55 -28301337.44 0.3769 0.1139

Saturn -82197-10-31 11:30 J -28300727.10 -28300727.02 -28300726.94 0.0273 0.0216

Saturn -82196-01-27 22:18 J -28300638.68 -28300638.57 -28300638.44 0.0272 0.0123

Saturn -82196-04-26 09:20 J -28300550.24 -28300550.11 -28300549.97 0.0272 0.0028

Saturn -82196-07-23 20:23 J -28300461.78 -28300461.65 -28300461.52 0.0271 0.0069

Saturn -82196-10-20 07:25 J -28300373.29 -28300373.19 -28300373.08 0.0271 0.0165

Saturn -82195-01-16 18:56 J -28300284.75 -28300284.71 -28300284.68 0.0270 0.0261

Mars -82195-09-01 12:28 J -28300057.13 -28300056.98 -28300056.83 0.1774 0.0449

Mars -82194-06-28 14:52 J -28299757.00 -28299756.88 -28299756.76 0.1760 0.0322

Jupiter -82193-02-06 18:28 J -28299533.91 -28299533.73 -28299533.55 0.0492 0.0072

Jupiter -82193-05-06 23:16 J -28299443.62 -28299443.53 -28299443.44 0.0494 0.0425

Venus -82193-09-13 17:30 J -28299313.88 -28299313.77 -28299313.65 0.3765 0.0216

Neptune -82188-06-30 09:35 J -28297563.11 -28297563.10 -28297563.07 0.0089 0.0088

Neptune -82188-09-26 10:47 J -28297475.08 -28297475.05 -28297474.99 0.0089 0.0084

Jupiter -82188-09-28 11:16 J -28297473.15 -28297473.03 -28297472.91 0.0536 0.0195

Neptune -82188-12-23 12:28 J -28297387.04 -28297386.98 -28297386.92 0.0089 0.0079

Jupiter -82188-12-26 19:54 J -28297383.79 -28297383.67 -28297383.56 0.0534 0.0259

Neptune -82187-03-21 13:40 J -28297298.99 -28297298.93 -28297298.85 0.0089 0.0075

Venus -82187-03-30 12:28 J -28297290.09 -28297289.98 -28297289.86 0.3761 0.0881

Neptune -82187-06-17 14:52 J -28297210.94 -28297210.88 -28297210.79 0.0089 0.0071

Neptune -82187-09-13 16:32 J -28297122.90 -28297122.81 -28297122.72 0.0089 0.0066

Neptune -82187-12-10 17:44 J -28297034.85 -28297034.76 -28297034.66 0.0089 0.0062

Neptune -82186-03-08 18:56 J -28296946.80 -28296946.71 -28296946.60 0.0089 0.0058

Moon -82186-03-11 21:49 J -28296943.70 -28296943.59 -28296943.48 0.2745 0.0713

Earth -82186-03-11 22:04 J -28296943.69 -28296943.58 -28296943.47 0.2752 0.0718 *

Neptune -82186-06-04 20:37 J -28296858.75 -28296858.64 -28296858.53 0.0089 0.0053

Neptune -82186-08-31 21:49 J -28296770.69 -28296770.59 -28296770.47 0.0089 0.0049

Neptune -82186-11-27 23:01 J -28296682.64 -28296682.54 -28296682.41 0.0089 0.0045

Mars -82185-01-22 12:28 J -28296627.06 -28296626.98 -28296626.90 0.1765 0.1516

Neptune -82185-02-24 00:42 J -28296594.59 -28296594.47 -28296594.35 0.0089 0.0040

Neptune -82185-05-22 01:54 J -28296506.53 -28296506.42 -28296506.29 0.0089 0.0036

Neptune -82185-08-18 03:20 J -28296418.48 -28296418.36 -28296418.23 0.0089 0.0031

Neptune -82185-11-14 04:47 J -28296330.43 -28296330.30 -28296330.17 0.0089 0.0027

Mars -82185-11-17 23:44 J -28296326.63 -28296326.51 -28296326.39 0.1768 0.0357

Neptune -82184-02-10 05:59 J -28296242.37 -28296242.25 -28296242.11 0.0089 0.0023

Neptune -82184-05-09 07:40 J -28296154.32 -28296154.18 -28296154.05 0.0089 0.0018

Neptune -82184-08-05 08:52 J -28296066.26 -28296066.13 -28296065.99 0.0089 0.0014

Neptune -82184-11-01 10:18 J -28295978.20 -28295978.07 -28295977.94 0.0089 0.0009

Neptune -82183-01-28 11:44 J -28295890.15 -28295890.01 -28295889.88 0.0089 0.0005

Venus -82183-03-29 13:11 J -28295830.06 -28295829.95 -28295829.84 0.3607 0.2203

Neptune -82183-04-26 13:11 J -28295802.09 -28295801.95 -28295801.82 0.0089 0.0003

Neptune -82183-07-23 14:23 J -28295714.03 -28295713.90 -28295713.76 0.0089 0.0005

Neptune -82183-10-19 15:49 J -28295625.97 -28295625.84 -28295625.70 0.0089 0.0009

Neptune -82182-01-15 17:16 J -28295537.91 -28295537.78 -28295537.65 0.0089 0.0013

Neptune -82182-04-13 18:28 J -28295449.85 -28295449.73 -28295449.59 0.0089 0.0018

Neptune -82182-07-10 20:08 J -28295361.79 -28295361.66 -28295361.53 0.0089 0.0022

Neptune -82182-10-06 21:20 J -28295273.73 -28295273.61 -28295273.48 0.0089 0.0027

Venus -82182-10-14 07:54 J -28295266.27 -28295266.17 -28295266.08 0.3757 0.1915

Jupiter -82182-11-25 17:01 J -28295223.96 -28295223.79 -28295223.62 0.0491 0.0194

Neptune -82181-01-02 22:47 J -28295185.67 -28295185.55 -28295185.42 0.0089 0.0031

Uranus -82181-01-03 06:13 J -28295185.25 -28295185.24 -28295185.22 0.0138 0.0136

Jupiter -82181-02-23 22:04 J -28295133.71 -28295133.58 -28295133.44 0.0493 0.0306

Neptune -82181-03-30 23:59 J -28295097.61 -28295097.50 -28295097.36 0.0089 0.0036

Uranus -82181-03-31 09:35 J -28295097.16 -28295097.10 -28295097.03 0.0138 0.0120

Saturn -82181-05-21 09:06 J -28295046.18 -28295046.12 -28295046.04 0.0287 0.0264

Neptune -82181-06-27 01:40 J -28295009.55 -28295009.43 -28295009.31 0.0089 0.0040

Uranus -82181-06-27 12:56 J -28295009.04 -28295008.96 -28295008.86 0.0138 0.0103

Saturn -82181-08-18 08:52 J -28294957.30 -28294957.13 -28294956.96 0.0288 0.0106

Neptune -82181-09-23 02:52 J -28294921.48 -28294921.38 -28294921.25 0.0089 0.0045

Uranus -82181-09-23 16:32 J -28294920.91 -28294920.81 -28294920.70 0.0138 0.0086

Saturn -82181-11-15 07:54 J -28294868.35 -28294868.17 -28294867.99 0.0288 0.0050

Neptune -82181-12-20 04:32 J -28294833.42 -28294833.31 -28294833.20 0.0089 0.0049

Uranus -82181-12-20 20:08 J -28294832.78 -28294832.66 -28294832.54 0.0138 0.0070

Saturn -82180-02-12 06:42 J -28294779.34 -28294779.22 -28294779.09 0.0289 0.0204

Neptune -82180-03-18 05:44 J -28294745.36 -28294745.26 -28294745.14 0.0089 0.0054

Uranus -82180-03-18 23:30 J -28294744.64 -28294744.52 -28294744.39 0.0139 0.0053

Neptune -82180-06-14 07:11 J -28294657.29 -28294657.20 -28294657.09 0.0089 0.0058

Uranus -82180-06-15 03:06 J -28294656.50 -28294656.37 -28294656.24 0.0139 0.0035

Neptune -82180-09-10 08:37 J -28294569.22 -28294569.14 -28294569.03 0.0089 0.0063

Uranus -82180-09-11 06:42 J -28294568.36 -28294568.22 -28294568.08 0.0139 0.0018

Neptune -82180-12-07 10:04 J -28294481.16 -28294481.08 -28294480.98 0.0089 0.0067

Uranus -82180-12-08 10:18 J -28294480.21 -28294480.07 -28294479.93 0.0139 0.0001

Neptune -82179-03-05 11:30 J -28294393.09 -28294393.02 -28294392.93 0.0089 0.0072

Uranus -82179-03-06 13:54 J -28294392.05 -28294391.92 -28294391.78 0.0139 0.0018

Neptune -82179-06-01 12:56 J -28294305.02 -28294304.96 -28294304.88 0.0089 0.0076

Uranus -82179-06-02 17:30 J -28294303.90 -28294303.77 -28294303.63 0.0139 0.0036

Neptune -82179-08-28 14:23 J -28294216.94 -28294216.90 -28294216.83 0.0089 0.0081

Uranus -82179-08-29 21:06 J -28294215.74 -28294215.62 -28294215.49 0.0139 0.0054

Neptune -82179-11-24 16:04 J -28294128.86 -28294128.83 -28294128.79 0.0089 0.0085

Uranus -82179-11-26 00:56 J -28294127.58 -28294127.46 -28294127.34 0.0140 0.0072

Uranus -82178-02-22 04:32 J -28294039.41 -28294039.31 -28294039.20 0.0140 0.0090

Uranus -82178-05-21 08:08 J -28293951.23 -28293951.16 -28293951.06 0.0140 0.0109

Uranus -82178-08-17 11:59 J -28293863.04 -28293863.00 -28293862.93 0.0140 0.0128

Venus -82178-10-13 13:25 J -28293806.07 -28293805.94 -28293805.81 0.3611 0.0830

Venus -82176-04-29 03:06 J -28293242.43 -28293242.37 -28293242.30 0.3753 0.2985

Jupiter -82176-07-17 14:08 J -28293163.01 -28293162.91 -28293162.81 0.0537 0.0319

Moon -82176-09-08 00:56 J -28293110.61 -28293110.46 -28293110.31 0.2584 0.0657

Earth -82176-09-08 02:23 J -28293110.55 -28293110.40 -28293110.25 0.2585 0.0548 *

Jupiter -82176-10-14 22:18 J -28293073.69 -28293073.57 -28293073.44 0.0535 0.0134

Mars -82175-04-10 08:37 J -28292896.24 -28292896.14 -28292896.05 0.1776 0.1048

Moon -82173-03-13 16:18 J -28292192.90 -28292192.82 -28292192.74 0.2747 0.1939

Earth -82173-03-13 17:01 J -28292192.86 -28292192.79 -28292192.72 0.2751 0.2084 *

Venus -82172-04-28 13:11 J -28291782.09 -28291781.95 -28291781.82 0.3615 0.0502

Jupiter -82170-09-13 15:35 J -28290913.99 -28290913.85 -28290913.71 0.0491 0.0316

Jupiter -82170-12-12 20:52 J -28290823.79 -28290823.63 -28290823.46 0.0493 0.0187

Saturn -82167-03-20 14:52 J -28289994.94 -28289994.88 -28289994.81 0.0273 0.0236

Saturn -82167-06-17 01:54 J -28289906.53 -28289906.42 -28289906.31 0.0272 0.0141

Saturn -82167-09-13 12:56 J -28289818.10 -28289817.96 -28289817.83 0.0272 0.0047

Venus -82167-11-12 12:13 J -28289758.10 -28289757.99 -28289757.87 0.3619 0.1750

Saturn -82167-12-10 23:44 J -28289729.64 -28289729.51 -28289729.37 0.0271 0.0050

Earth -82166-03-07 13:25 J -28289643.03 -28289642.94 -28289642.86 0.2752 0.1683

Moon -82166-03-07 13:54 J -28289643.01 -28289642.92 -28289642.82 0.2749 0.1542 *

Saturn -82166-03-09 10:47 J -28289641.16 -28289641.05 -28289640.93 0.0271 0.0146

Saturn -82166-06-05 22:04 J -28289552.63 -28289552.58 -28289552.52 0.0270 0.0241

Mars -82166-08-31 17:30 J -28289465.79 -28289465.77 -28289465.74 0.1784 0.1730

Mars -82165-10-10 12:56 J -28289060.10 -28289059.96 -28289059.82 0.1783 0.0751

Jupiter -82164-05-05 17:44 J -28288852.83 -28288852.76 -28288852.68 0.0537 0.0431

Jupiter -82164-08-03 01:54 J -28288763.55 -28288763.42 -28288763.29 0.0535 0.0019

Mars -82164-08-06 05:59 J -28288760.34 -28288760.25 -28288760.15 0.1751 0.1085

Jupiter -82164-10-31 10:32 J -28288674.11 -28288674.06 -28288674.00 0.0533 0.0475

Moon -82163-09-11 05:01 J -28288359.41 -28288359.29 -28288359.16 0.2589 0.1351

Earth -82163-09-11 06:28 J -28288359.36 -28288359.23 -28288359.11 0.2585 0.1468 *

Venus -82161-05-28 11:16 J -28287734.10 -28287734.03 -28287733.96 0.3623 0.2958

Venus -82158-02-20 13:54 J -28286735.94 -28286735.92 -28286735.89 0.3778 0.3657

Jupiter -82158-07-02 13:11 J -28286604.02 -28286603.95 -28286603.87 0.0490 0.0444

Jupiter -82158-09-30 18:56 J -28286513.88 -28286513.71 -28286513.53 0.0492 0.0060

Mars -82155-03-02 12:56 J -28285630.11 -28285629.96 -28285629.81 0.1774 0.0322

Mars -82155-12-27 14:52 J -28285330.00 -28285329.88 -28285329.76 0.1759 0.0410

Earth -82153-03-09 08:08 J -28284892.27 -28284892.16 -28284892.05 0.2752 0.0359

Moon -82153-03-09 08:23 J -28284892.26 -28284892.15 -28284892.04 0.2745 0.0338 *

Venus -82153-09-05 08:08 J -28284712.23 -28284712.16 -28284712.08 0.3775 0.2746

Jupiter -82152-05-22 05:44 J -28284453.39 -28284453.26 -28284453.13 0.0536 0.0091

Jupiter -82152-08-19 14:23 J -28284363.99 -28284363.90 -28284363.81 0.0534 0.0365

Saturn -82151-01-05 07:25 J -28284225.35 -28284225.19 -28284225.04 0.0288 0.0152

Saturn -82151-04-04 06:28 J -28284136.41 -28284136.23 -28284136.05 0.0289 0.0004

Saturn -82151-07-02 05:16 J -28284047.43 -28284047.28 -28284047.13 0.0289 0.0159

Venus -82147-03-22 02:37 J -28282688.49 -28282688.39 -28282688.30 0.3771 0.1810

Jupiter -82146-07-19 17:16 J -28282203.96 -28282203.78 -28282203.60 0.0492 0.0065

Mars -82146-07-23 12:56 J -28282200.05 -28282199.96 -28282199.86 0.1765 0.1383

Jupiter -82146-10-17 22:04 J -28282113.66 -28282113.58 -28282113.50 0.0493 0.0431

Mars -82145-05-18 23:44 J -28281899.63 -28281899.51 -28281899.39 0.1768 0.0274

Moon -82143-09-06 03:06 J -28281059.45 -28281059.37 -28281059.30 0.2581 0.2218

Earth -82143-09-06 04:18 J -28281059.40 -28281059.32 -28281059.24 0.2585 0.2192 *

Uranus -82142-05-28 06:13 J -28280795.27 -28280795.24 -28280795.20 0.0141 0.0138

Uranus -82142-08-24 13:40 J -28280707.03 -28280706.93 -28280706.82 0.0141 0.0113

Venus -82142-10-05 21:06 J -28280664.73 -28280664.62 -28280664.51 0.3768 0.0847

Uranus -82142-11-20 21:06 J -28280618.76 -28280618.62 -28280618.47 0.0140 0.0088

Uranus -82141-02-17 04:18 J -28280530.48 -28280530.32 -28280530.15 0.0140 0.0063

Uranus -82141-05-15 11:44 J -28280442.19 -28280442.01 -28280441.83 0.0140 0.0038

Uranus -82141-08-11 18:56 J -28280353.90 -28280353.71 -28280353.53 0.0140 0.0014

Uranus -82141-11-08 01:54 J -28280265.60 -28280265.42 -28280265.23 0.0140 0.0011

Uranus -82140-02-04 08:52 J -28280177.30 -28280177.13 -28280176.94 0.0140 0.0035

Jupiter -82140-03-10 09:49 J -28280143.21 -28280143.09 -28280142.97 0.0536 0.0197

Moon -82140-03-12 02:37 J -28280141.50 -28280141.39 -28280141.28 0.2745 0.0959

Earth -82140-03-12 02:52 J -28280141.48 -28280141.38 -28280141.27 0.2752 0.1005 *

Uranus -82140-05-03 15:49 J -28280089.00 -28280088.84 -28280088.66 0.0140 0.0059

Jupiter -82140-06-07 18:13 J -28280053.85 -28280053.74 -28280053.62 0.0534 0.0258

Uranus -82140-07-30 23:01 J -28280000.69 -28280000.54 -28280000.39 0.0139 0.0082

Uranus -82140-10-27 05:30 J -28279912.37 -28279912.27 -28279912.14 0.0139 0.0105

Uranus -82139-01-23 12:13 J -28279824.04 -28279823.99 -28279823.90 0.0139 0.0129

Saturn -82138-08-07 16:32 J -28279262.82 -28279262.81 -28279262.79 0.0273 0.0270

Saturn -82138-11-04 03:20 J -28279174.45 -28279174.36 -28279174.25 0.0272 0.0176

Saturn -82137-01-31 14:23 J -28279086.03 -28279085.90 -28279085.77 0.0272 0.0081

Saturn -82137-04-29 01:25 J -28278997.58 -28278997.44 -28278997.31 0.0271 0.0015

Saturn -82137-07-26 12:28 J -28278909.11 -28278908.98 -28278908.86 0.0271 0.0110

Saturn -82137-10-22 23:30 J -28278820.60 -28278820.52 -28278820.43 0.0270 0.0206

Venus -82136-04-20 16:04 J -28278640.95 -28278640.83 -28278640.72 0.3764 0.0202

Mars -82136-10-09 08:37 J -28278469.24 -28278469.14 -28278469.04 0.1776 0.0953

Jupiter -82134-05-07 15:06 J -28277894.03 -28277893.87 -28277893.70 0.0491 0.0194

Jupiter -82134-08-05 20:23 J -28277803.79 -28277803.65 -28277803.51 0.0493 0.0307

Earth -82133-03-04 23:30 J -28277591.53 -28277591.52 -28277591.50 0.2751 0.2718

Moon -82133-03-05 00:13 J -28277591.52 -28277591.49 -28277591.45 0.2754 0.2561 *

Venus -82132-04-19 12:28 J -28277181.03 -28277180.98 -28277180.92 0.3604 0.3209

Venus -82131-11-04 11:01 J -28276617.15 -28276617.04 -28276616.93 0.3760 0.1178

Moon -82130-09-09 07:11 J -28276308.35 -28276308.20 -28276308.05 0.2585 0.0349

Earth -82130-09-09 08:37 J -28276308.29 -28276308.14 -28276307.98 0.2585 0.0131 *

Jupiter -82129-12-27 13:40 J -28275833.03 -28275832.93 -28275832.82 0.0537 0.0306

Jupiter -82128-03-26 22:04 J -28275743.71 -28275743.58 -28275743.46 0.0535 0.0147

Moon -82127-03-14 21:20 J -28275390.67 -28275390.61 -28275390.55 0.2748 0.2317

Earth -82127-03-14 22:04 J -28275390.64 -28275390.58 -28275390.53 0.2751 0.2367 *

Venus -82127-11-03 12:56 J -28275157.07 -28275156.96 -28275156.84 0.3608 0.1797

Mars -82126-03-01 17:30 J -28275038.81 -28275038.77 -28275038.72 0.1784 0.1645

Mars -82125-04-10 13:11 J -28274633.09 -28274632.95 -28274632.82 0.1783 0.0860

Venus -82125-05-20 06:13 J -28274593.33 -28274593.24 -28274593.15 0.3756 0.2232

Mars -82124-02-04 06:13 J -28274333.33 -28274333.24 -28274333.15 0.1751 0.1179

Jupiter -82122-02-23 13:54 J -28273584.06 -28273583.92 -28273583.78 0.0491 0.0314

Jupiter -82122-05-24 19:25 J -28273493.86 -28273493.69 -28273493.53 0.0493 0.0188

Saturn -82122-05-25 04:04 J -28273493.45 -28273493.33 -28273493.20 0.0287 0.0208

Saturn -82122-08-22 03:35 J -28273404.53 -28273404.35 -28273404.17 0.0288 0.0051

Saturn -82122-11-19 02:23 J -28273315.56 -28273315.40 -28273315.23 0.0289 0.0106

Saturn -82121-02-16 00:56 J -28273226.52 -28273226.46 -28273226.37 0.0289 0.0260

Venus -82121-05-19 13:11 J -28273133.09 -28273132.95 -28273132.82 0.3612 0.0447

Earth -82120-03-07 18:13 J -28272840.83 -28272840.74 -28272840.64 0.2752 0.1408

Moon -82120-03-07 18:56 J -28272840.81 -28272840.71 -28272840.62 0.2747 0.1399 *

Venus -82120-12-04 01:40 J -28272569.48 -28272569.43 -28272569.37 0.3752 0.3318

Moon -82117-09-11 11:16 J -28271557.13 -28271557.03 -28271556.92 0.2589 0.1769

Earth -82117-09-11 12:42 J -28271557.08 -28271556.97 -28271556.87 0.2585 0.1876 *

Jupiter -82117-10-15 16:32 J -28271522.88 -28271522.81 -28271522.73 0.0537 0.0428

Jupiter -82116-01-13 00:42 J -28271433.60 -28271433.47 -28271433.34 0.0535 0.0022

Jupiter -82116-04-12 09:20 J -28271344.16 -28271344.11 -28271344.05 0.0533 0.0477

Mars -82116-08-31 13:40 J -28271203.09 -28271202.93 -28271202.78 0.1775 0.0193

Venus -82116-12-03 12:42 J -28271109.10 -28271108.97 -28271108.84 0.3616 0.0872

Mars -82115-06-27 14:52 J -28270902.99 -28270902.88 -28270902.76 0.1759 0.0502

Pluto -82111-03-03 06:42 J -28269558.23 -28269558.22 -28269558.18 0.0060 0.0060

Pluto -82111-05-30 08:08 J -28269470.23 -28269470.16 -28269470.06 0.0060 0.0054

Pluto -82111-08-26 09:35 J -28269382.21 -28269382.10 -28269381.98 0.0060 0.0048

Pluto -82111-11-22 11:01 J -28269294.17 -28269294.04 -28269293.90 0.0060 0.0042

Jupiter -82111-12-12 12:13 J -28269274.07 -28269273.99 -28269273.90 0.0491 0.0436

Pluto -82110-02-18 12:13 J -28269206.13 -28269205.99 -28269205.82 0.0061 0.0036

Jupiter -82110-03-12 18:13 J -28269183.92 -28269183.74 -28269183.56 0.0492 0.0069

Pluto -82110-05-17 13:40 J -28269118.08 -28269117.93 -28269117.75 0.0061 0.0030

Venus -82110-06-19 11:44 J -28269085.11 -28269085.01 -28269084.90 0.3620 0.2117

Pluto -82110-08-13 15:06 J -28269030.04 -28269029.87 -28269029.68 0.0061 0.0024

Pluto -82110-11-09 16:32 J -28268941.98 -28268941.81 -28268941.61 0.0061 0.0018

Pluto -82109-02-05 18:13 J -28268853.93 -28268853.74 -28268853.55 0.0061 0.0011

Pluto -82109-05-03 19:40 J -28268765.87 -28268765.68 -28268765.49 0.0061 0.0005

Pluto -82109-07-30 21:06 J -28268677.81 -28268677.62 -28268677.43 0.0061 0.0001

Pluto -82109-10-26 22:18 J -28268589.75 -28268589.57 -28268589.37 0.0061 0.0008

Pluto -82108-01-22 23:44 J -28268501.69 -28268501.51 -28268501.31 0.0061 0.0014

Saturn -82108-03-23 06:42 J -28268442.31 -28268442.22 -28268442.13 0.0273 0.0197

Pluto -82108-04-21 01:11 J -28268413.62 -28268413.45 -28268413.26 0.0061 0.0020

Saturn -82108-06-19 17:30 J -28268353.89 -28268353.77 -28268353.64 0.0272 0.0102

Pluto -82108-07-18 02:52 J -28268325.55 -28268325.38 -28268325.21 0.0061 0.0027

Saturn -82108-09-16 04:32 J -28268265.44 -28268265.31 -28268265.17 0.0272 0.0007

Pluto -82108-10-14 03:49 J -28268237.48 -28268237.34 -28268237.16 0.0061 0.0034

Saturn -82108-12-13 15:35 J -28268176.98 -28268176.85 -28268176.72 0.0271 0.0089

Pluto -82107-01-10 05:30 J -28268149.40 -28268149.27 -28268149.11 0.0061 0.0040

Earth -82107-03-10 12:56 J -28268090.07 -28268089.96 -28268089.84 0.2752 0.0117

Moon -82107-03-10 13:11 J -28268090.06 -28268089.95 -28268089.83 0.2745 0.0095 *

Saturn -82107-03-12 02:37 J -28268088.48 -28268088.39 -28268088.29 0.0271 0.0185

Pluto -82107-04-08 07:11 J -28268061.32 -28268061.20 -28268061.07 0.0061 0.0046

Pluto -82107-07-05 08:23 J -28267973.23 -28267973.15 -28267973.03 0.0061 0.0053

Pluto -82107-10-01 10:04 J -28267885.12 -28267885.08 -28267885.02 0.0062 0.0059

Mars -82106-01-21 13:40 J -28267773.04 -28267772.93 -28267772.82 0.1765 0.1251

Mars -82106-11-17 23:44 J -28267472.63 -28267472.51 -28267472.39 0.1768 0.0191

Jupiter -82105-11-01 04:04 J -28267123.45 -28267123.33 -28267123.20 0.0536 0.0094

Neptune -82105-12-17 11:30 J -28267077.06 -28267077.02 -28267076.95 0.0089 0.0085

Venus -82104-01-02 10:32 J -28267061.11 -28267061.06 -28267061.01 0.3625 0.3318

Jupiter -82104-01-29 12:42 J -28267034.06 -28267033.97 -28267033.87 0.0534 0.0362

Neptune -82104-03-15 14:52 J -28266988.95 -28266988.88 -28266988.77 0.0089 0.0079

Neptune -82104-06-11 18:28 J -28266900.82 -28266900.73 -28266900.60 0.0089 0.0073

Neptune -82104-09-07 22:18 J -28266812.69 -28266812.57 -28266812.43 0.0089 0.0066

Neptune -82104-12-05 01:40 J -28266724.56 -28266724.43 -28266724.27 0.0088 0.0060

Neptune -82103-03-03 05:16 J -28266636.42 -28266636.28 -28266636.11 0.0088 0.0053

Neptune -82103-05-30 09:06 J -28266548.28 -28266548.12 -28266547.96 0.0088 0.0047

Neptune -82103-08-26 12:28 J -28266460.14 -28266459.98 -28266459.80 0.0088 0.0041

Neptune -82103-11-22 15:49 J -28266372.00 -28266371.84 -28266371.65 0.0088 0.0035

Neptune -82102-02-18 19:40 J -28266283.86 -28266283.68 -28266283.50 0.0088 0.0028

Neptune -82102-05-17 23:01 J -28266195.72 -28266195.54 -28266195.35 0.0088 0.0022

Neptune -82102-08-14 02:37 J -28266107.58 -28266107.39 -28266107.20 0.0088 0.0015

Venus -82102-09-27 12:13 J -28266063.04 -28266062.99 -28266062.95 0.3777 0.3399

Neptune -82102-11-10 05:59 J -28266019.43 -28266019.25 -28266019.05 0.0088 0.0010

Neptune -82101-02-06 09:35 J -28265931.29 -28265931.10 -28265930.91 0.0088 0.0003

Neptune -82101-05-04 13:11 J -28265843.14 -28265842.95 -28265842.76 0.0088 0.0004

Neptune -82101-07-31 16:32 J -28265755.00 -28265754.81 -28265754.62 0.0088 0.0010

Neptune -82101-10-27 20:08 J -28265666.85 -28265666.66 -28265666.48 0.0088 0.0016

Neptune -82100-01-23 23:16 J -28265578.70 -28265578.53 -28265578.33 0.0088 0.0023

Neptune -82100-04-22 02:37 J -28265490.56 -28265490.39 -28265490.20 0.0088 0.0029

Neptune -82100-07-19 06:13 J -28265402.41 -28265402.24 -28265402.06 0.0088 0.0035

Neptune -82100-10-15 09:35 J -28265314.26 -28265314.10 -28265313.92 0.0088 0.0041

Neptune -82099-01-11 13:11 J -28265226.11 -28265225.95 -28265225.79 0.0088 0.0047

Neptune -82099-04-09 16:32 J -28265137.96 -28265137.81 -28265137.66 0.0088 0.0053

Neptune -82099-07-06 19:54 J -28265049.81 -28265049.67 -28265049.53 0.0088 0.0059

Neptune -82099-10-02 23:01 J -28264961.65 -28264961.54 -28264961.40 0.0088 0.0065

Jupiter -82099-12-29 16:18 J -28264874.00 -28264873.82 -28264873.64 0.0492 0.0060

Neptune -82099-12-30 02:23 J -28264873.49 -28264873.40 -28264873.27 0.0088 0.0071

Neptune -82098-03-28 05:30 J -28264785.33 -28264785.27 -28264785.15 0.0088 0.0078

Jupiter -82098-03-29 20:52 J -28264783.71 -28264783.63 -28264783.55 0.0493 0.0437

Neptune -82098-06-24 08:52 J -28264697.17 -28264697.13 -28264697.04 0.0088 0.0084

Uranus -82097-01-23 13:54 J -28264483.96 -28264483.92 -28264483.88 0.0138 0.0131

Uranus -82097-04-20 17:01 J -28264395.85 -28264395.79 -28264395.71 0.0138 0.0115

Uranus -82097-07-17 20:37 J -28264307.73 -28264307.64 -28264307.54 0.0138 0.0098

Moon -82097-09-06 09:20 J -28264257.21 -28264257.11 -28264257.01 0.2581 0.1992

Earth -82097-09-06 10:32 J -28264257.17 -28264257.06 -28264256.95 0.2585 0.1769 *

Uranus -82097-10-13 23:59 J -28264219.60 -28264219.50 -28264219.38 0.0138 0.0082

Uranus -82096-01-10 03:35 J -28264131.47 -28264131.35 -28264131.23 0.0138 0.0064

Uranus -82096-04-08 07:11 J -28264043.33 -28264043.20 -28264043.07 0.0139 0.0047

Mars -82096-04-09 08:37 J -28264042.24 -28264042.14 -28264042.03 0.1776 0.0871

Venus -82096-04-12 06:28 J -28264039.32 -28264039.23 -28264039.15 0.3774 0.2478

Uranus -82096-07-05 10:47 J -28263955.18 -28263955.05 -28263954.92 0.0139 0.0030

Uranus -82096-10-01 14:23 J -28263867.04 -28263866.90 -28263866.77 0.0139 0.0013

Uranus -82096-12-28 17:59 J -28263778.89 -28263778.75 -28263778.62 0.0139 0.0006

Uranus -82095-03-26 21:35 J -28263690.74 -28263690.60 -28263690.47 0.0139 0.0023

Uranus -82095-06-23 01:11 J -28263602.58 -28263602.45 -28263602.32 0.0139 0.0041

Uranus -82095-09-19 04:47 J -28263514.42 -28263514.30 -28263514.17 0.0139 0.0059

Uranus -82095-12-16 08:23 J -28263426.26 -28263426.15 -28263426.03 0.0140 0.0078

Moon -82094-03-13 07:25 J -28263339.29 -28263339.19 -28263339.09 0.2745 0.1197

Earth -82094-03-13 07:54 J -28263339.27 -28263339.17 -28263339.07 0.2751 0.1278 *

Uranus -82094-03-14 12:13 J -28263338.08 -28263337.99 -28263337.88 0.0140 0.0096

Uranus -82094-06-10 16:04 J -28263249.91 -28263249.83 -28263249.75 0.0140 0.0114

Uranus -82094-09-06 19:40 J -28263161.71 -28263161.68 -28263161.63 0.0140 0.0133

Jupiter -82093-08-20 08:08 J -28262813.28 -28262813.16 -28262813.04 0.0537 0.0203

Saturn -82093-10-11 02:23 J -28262761.48 -28262761.40 -28262761.31 0.0288 0.0255

Jupiter -82093-11-17 16:32 J -28262723.93 -28262723.81 -28262723.70 0.0535 0.0253

Saturn -82092-01-08 01:54 J -28262672.59 -28262672.42 -28262672.25 0.0288 0.0097

Saturn -82092-04-07 00:56 J -28262583.63 -28262583.46 -28262583.28 0.0289 0.0059

Saturn -82092-07-04 23:44 J -28262494.63 -28262494.51 -28262494.39 0.0289 0.0214

Venus -82091-10-27 00:56 J -28262015.57 -28262015.46 -28262015.36 0.3770 0.1533

Earth -82087-03-06 04:32 J -28260789.36 -28260789.31 -28260789.26 0.2751 0.2443

Moon -82087-03-06 05:16 J -28260789.33 -28260789.28 -28260789.23 0.2753 0.2416 *

Mars -82087-08-30 17:30 J -28260611.82 -28260611.77 -28260611.71 0.1784 0.1560

Jupiter -82087-10-17 14:23 J -28260564.07 -28260563.90 -28260563.73 0.0491 0.0183

Jupiter -82086-01-15 19:25 J -28260473.82 -28260473.69 -28260473.55 0.0493 0.0316

Mars -82086-10-10 13:54 J -28260206.05 -28260205.92 -28260205.79 0.1784 0.1000

Venus -82085-05-11 19:25 J -28259991.80 -28259991.69 -28259991.58 0.3767 0.0556

Mars -82085-08-05 06:13 J -28259906.33 -28259906.24 -28259906.16 0.1751 0.1263

Moon -82084-09-09 13:25 J -28259506.09 -28259505.94 -28259505.79 0.2587 0.0229

Earth -82084-09-09 14:52 J -28259506.03 -28259505.88 -28259505.73 0.2585 0.0288 *

Moon -82081-03-15 02:08 J -28258588.45 -28258588.41 -28258588.37 0.2750 0.2542

Earth -82081-03-15 02:52 J -28258588.40 -28258588.38 -28258588.35 0.2751 0.2651 *

Jupiter -82081-06-08 12:13 J -28258503.09 -28258502.99 -28258502.89 0.0537 0.0307

Jupiter -82081-09-05 20:37 J -28258413.77 -28258413.64 -28258413.52 0.0535 0.0146

Venus -82080-11-25 14:23 J -28257968.01 -28257967.90 -28257967.79 0.3763 0.0460

Saturn -82079-08-10 08:23 J -28257710.22 -28257710.15 -28257710.08 0.0273 0.0231

Saturn -82079-11-06 19:11 J -28257621.82 -28257621.70 -28257621.59 0.0272 0.0136

Saturn -82078-02-03 05:59 J -28257533.38 -28257533.25 -28257533.11 0.0271 0.0042

Saturn -82078-05-02 17:01 J -28257444.92 -28257444.79 -28257444.66 0.0271 0.0054

Saturn -82078-07-30 04:04 J -28257356.44 -28257356.33 -28257356.21 0.0270 0.0150

Saturn -82078-10-26 15:20 J -28257267.92 -28257267.86 -28257267.81 0.0270 0.0245

Mars -82076-03-01 13:54 J -28256776.07 -28256775.92 -28256775.76 0.1774 0.0085

Venus -82076-11-24 12:28 J -28256508.06 -28256507.98 -28256507.90 0.3605 0.2793

Mars -82076-12-26 15:06 J -28256475.99 -28256475.87 -28256475.76 0.1759 0.0592

Jupiter -82075-08-05 12:13 J -28256254.12 -28256253.99 -28256253.85 0.0491 0.0311

Jupiter -82075-11-03 17:44 J -28256163.92 -28256163.76 -28256163.59 0.0493 0.0191

Earth -82074-03-08 23:16 J -28256038.63 -28256038.53 -28256038.43 0.2752 0.1138

Moon -82074-03-08 23:44 J -28256038.61 -28256038.51 -28256038.40 0.2747 0.0988 *

Venus -82074-06-11 09:20 J -28255944.21 -28255944.11 -28255944.00 0.3759 0.1501

Moon -82071-09-12 17:44 J -28254754.84 -28254754.76 -28254754.67 0.2589 0.2157

Earth -82071-09-12 18:56 J -28254754.78 -28254754.71 -28254754.64 0.2585 0.2287 *

Venus -82070-06-10 12:42 J -28254484.09 -28254483.97 -28254483.84 0.3609 0.1397

Jupiter -82069-03-27 16:04 J -28254192.91 -28254192.83 -28254192.75 0.0537 0.0415

Jupiter -82069-06-25 00:13 J -28254103.62 -28254103.49 -28254103.36 0.0535 0.0038

Jupiter -82069-09-22 09:06 J -28254014.17 -28254014.12 -28254014.07 0.0533 0.0492

Venus -82069-12-25 04:47 J -28253920.39 -28253920.30 -28253920.22 0.3755 0.2557

Mars -82067-07-22 14:08 J -28253346.03 -28253345.91 -28253345.79 0.1766 0.1137

Mars -82066-05-18 23:59 J -28253045.62 -28253045.50 -28253045.38 0.1767 0.0089

Venus -82065-12-24 12:42 J -28252460.10 -28252459.97 -28252459.84 0.3613 0.0057

Jupiter -82063-05-24 11:01 J -28251944.13 -28251944.04 -28251943.96 0.0491 0.0432

Saturn -82063-05-27 22:04 J -28251940.73 -28251940.58 -28251940.42 0.0288 0.0157

Venus -82063-07-11 00:13 J -28251896.51 -28251896.49 -28251896.46 0.3751 0.3658

Jupiter -82063-08-22 16:47 J -28251853.98 -28251853.80 -28251853.62 0.0492 0.0072

Saturn -82063-08-24 21:20 J -28251851.79 -28251851.61 -28251851.43 0.0288 0.0005

Saturn -82063-11-21 20:23 J -28251762.80 -28251762.65 -28251762.50 0.0289 0.0155

Moon -82061-03-10 17:59 J -28251287.86 -28251287.75 -28251287.64 0.2745 0.0159

Earth -82061-03-10 17:59 J -28251287.86 -28251287.75 -28251287.64 0.2752 0.0199 *

Venus -82059-07-10 12:13 J -28250436.12 -28250435.99 -28250435.87 0.3617 0.1247

Uranus -82058-06-17 13:25 J -28250093.99 -28250093.94 -28250093.88 0.0141 0.0133

Uranus -82058-09-13 20:52 J -28250005.74 -28250005.63 -28250005.51 0.0141 0.0108

Uranus -82058-12-11 04:18 J -28249917.47 -28249917.32 -28249917.17 0.0140 0.0083

Jupiter -82057-01-14 19:11 J -28249882.71 -28249882.70 -28249882.69 0.0537 0.0535

Uranus -82057-03-08 11:30 J -28249829.18 -28249829.02 -28249828.85 0.0140 0.0058

Jupiter -82057-04-13 03:06 J -28249793.50 -28249793.37 -28249793.24 0.0536 0.0088

Uranus -82057-06-04 18:42 J -28249740.89 -28249740.72 -28249740.53 0.0140 0.0034

Jupiter -82057-07-11 11:44 J -28249704.11 -28249704.01 -28249703.92 0.0534 0.0367

Uranus -82057-09-01 02:08 J -28249652.60 -28249652.41 -28249652.23 0.0140 0.0009

Mars -82057-10-08 08:37 J -28249615.24 -28249615.14 -28249615.03 0.1776 0.0784

Uranus -82057-11-28 09:06 J -28249564.30 -28249564.12 -28249563.93 0.0140 0.0016

Uranus -82056-02-24 16:04 J -28249476.00 -28249475.83 -28249475.65 0.0140 0.0040

Uranus -82056-05-23 23:01 J -28249387.69 -28249387.54 -28249387.37 0.0140 0.0064

Uranus -82056-08-20 05:59 J -28249299.38 -28249299.25 -28249299.10 0.0139 0.0087

Uranus -82056-11-16 12:42 J -28249211.07 -28249210.97 -28249210.85 0.0139 0.0110

Uranus -82055-02-12 19:25 J -28249122.72 -28249122.69 -28249122.62 0.0139 0.0133

Venus -82053-01-24 11:16 J -28248412.12 -28248412.03 -28248411.94 0.3622 0.2486

Jupiter -82051-06-10 15:35 J -28247544.03 -28247543.85 -28247543.67 0.0492 0.0048

Moon -82051-09-07 15:35 J -28247454.98 -28247454.85 -28247454.72 0.2583 0.1396

Earth -82051-09-07 17:01 J -28247454.92 -28247454.79 -28247454.66 0.2585 0.1343 *

Jupiter -82051-09-08 20:08 J -28247453.72 -28247453.66 -28247453.58 0.0494 0.0449

Saturn -82050-12-28 11:16 J -28246978.07 -28246978.03 -28246977.99 0.0273 0.0255

Saturn -82049-03-25 22:04 J -28246889.69 -28246889.58 -28246889.47 0.0273 0.0161

Saturn -82049-06-22 08:52 J -28246801.26 -28246801.13 -28246800.99 0.0272 0.0066

Saturn -82049-09-18 19:54 J -28246712.80 -28246712.67 -28246712.53 0.0271 0.0030

Saturn -82049-12-16 06:56 J -28246624.33 -28246624.21 -28246624.09 0.0271 0.0126

Moon -82048-03-13 12:28 J -28246537.07 -28246536.98 -28246536.89 0.2745 0.1527

Earth -82048-03-13 12:56 J -28246537.05 -28246536.96 -28246536.87 0.2751 0.1555 *

Saturn -82048-03-14 18:13 J -28246535.82 -28246535.74 -28246535.67 0.0270 0.0222

Mars -82047-02-28 17:44 J -28246184.83 -28246184.76 -28246184.70 0.1784 0.1472

Mars -82046-04-10 14:23 J -28245779.02 -28245778.90 -28245778.78 0.1784 0.1127

Jupiter -82045-01-31 06:42 J -28245483.34 -28245483.22 -28245483.10 0.0536 0.0201

Mars -82045-02-04 06:13 J -28245479.32 -28245479.24 -28245479.16 0.1751 0.1354

Jupiter -82045-04-29 15:06 J -28245393.99 -28245393.87 -28245393.76 0.0534 0.0252

Venus -82045-05-03 10:18 J -28245390.13 -28245390.07 -28245390.01 0.3776 0.3129

Earth -82041-03-06 09:20 J -28243987.17 -28243987.11 -28243987.04 0.2751 0.2176

Moon -82041-03-06 10:04 J -28243987.15 -28243987.08 -28243987.00 0.2750 0.2045 *

Venus -82040-11-17 04:32 J -28243366.40 -28243366.31 -28243366.22 0.3773 0.2200

Jupiter -82039-03-29 13:25 J -28243234.11 -28243233.94 -28243233.77 0.0491 0.0175

Jupiter -82039-06-27 18:28 J -28243143.86 -28243143.73 -28243143.59 0.0493 0.0324

Moon -82038-09-10 19:40 J -28242703.83 -28242703.68 -28242703.53 0.2587 0.0451

Earth -82038-09-10 21:06 J -28242703.76 -28242703.62 -28242703.47 0.2585 0.0704 *

Mars -82037-08-30 14:37 J -28242349.05 -28242348.89 -28242348.73 0.1775 0.0062

Mars -82036-06-26 15:06 J -28242048.98 -28242048.87 -28242048.76 0.1759 0.0681

Venus -82034-06-02 23:01 J -28241342.64 -28241342.54 -28241342.43 0.3769 0.1245

Saturn -82034-10-14 20:23 J -28241208.77 -28241208.65 -28241208.52 0.0288 0.0204

Jupiter -82034-11-19 10:32 J -28241173.17 -28241173.06 -28241172.96 0.0537 0.0311

Saturn -82033-01-11 19:40 J -28241119.85 -28241119.68 -28241119.50 0.0288 0.0048

Jupiter -82033-02-16 18:42 J -28241083.84 -28241083.72 -28241083.59 0.0535 0.0143

Saturn -82033-04-09 18:42 J -28241030.88 -28241030.72 -28241030.55 0.0289 0.0109

Saturn -82033-07-07 17:16 J -28240941.84 -28240941.78 -28240941.70 0.0290 0.0264

Venus -82029-12-16 17:44 J -28239318.87 -28239318.76 -28239318.65 0.3766 0.0260

Earth -82028-03-09 04:04 J -28239236.43 -28239236.33 -28239236.22 0.2751 0.0861

Moon -82028-03-09 04:47 J -28239236.41 -28239236.30 -28239236.20 0.2747 0.0852 *

Jupiter -82027-01-15 11:44 J -28238924.15 -28238924.01 -28238923.87 0.0491 0.0300

Mars -82027-01-20 14:52 J -28238919.01 -28238918.88 -28238918.75 0.1766 0.0995

Jupiter -82027-04-15 17:01 J -28238833.95 -28238833.79 -28238833.62 0.0492 0.0202

Mars -82027-11-16 23:59 J -28238618.62 -28238618.50 -28238618.38 0.1767 0.0042

Neptune -82023-03-27 08:52 J -28237392.14 -28237392.13 -28237392.10 0.0089 0.0087

Neptune -82023-06-23 10:18 J -28237304.11 -28237304.07 -28237304.02 0.0089 0.0083

Venus -82023-07-02 12:42 J -28237295.08 -28237294.97 -28237294.86 0.3762 0.0768

Neptune -82023-09-19 11:30 J -28237216.07 -28237216.02 -28237215.95 0.0089 0.0079

Neptune -82023-12-16 12:56 J -28237128.02 -28237127.96 -28237127.88 0.0089 0.0074

Neptune -82022-03-14 14:23 J -28237039.98 -28237039.90 -28237039.81 0.0089 0.0070

Neptune -82022-06-10 15:35 J -28236951.93 -28236951.85 -28236951.75 0.0089 0.0066

Neptune -82022-09-06 17:16 J -28236863.88 -28236863.78 -28236863.69 0.0089 0.0061

Jupiter -82022-09-07 14:37 J -28236862.96 -28236862.89 -28236862.80 0.0537 0.0416

Neptune -82022-12-03 18:28 J -28236775.83 -28236775.73 -28236775.62 0.0089 0.0057

Jupiter -82022-12-05 23:01 J -28236773.67 -28236773.54 -28236773.41 0.0536 0.0041

Neptune -82021-02-29 19:40 J -28236687.78 -28236687.68 -28236687.56 0.0089 0.0053

Jupiter -82021-03-04 07:40 J -28236684.23 -28236684.18 -28236684.13 0.0533 0.0492

Neptune -82021-05-27 21:20 J -28236599.72 -28236599.61 -28236599.50 0.0089 0.0048

Neptune -82021-08-23 22:32 J -28236511.67 -28236511.56 -28236511.44 0.0089 0.0044

Neptune -82021-11-19 23:59 J -28236423.62 -28236423.50 -28236423.38 0.0089 0.0039

Neptune -82020-02-16 01:25 J -28236335.56 -28236335.44 -28236335.32 0.0089 0.0035

Neptune -82020-05-15 02:37 J -28236247.51 -28236247.39 -28236247.26 0.0089 0.0031

Neptune -82020-08-11 04:04 J -28236159.45 -28236159.33 -28236159.20 0.0089 0.0026

Saturn -82020-08-12 23:30 J -28236157.61 -28236157.52 -28236157.42 0.0272 0.0195

Neptune -82020-11-07 05:30 J -28236071.40 -28236071.27 -28236071.14 0.0089 0.0022

Saturn -82020-11-09 10:32 J -28236069.19 -28236069.06 -28236068.94 0.0272 0.0100

Neptune -82019-02-03 06:56 J -28235983.34 -28235983.21 -28235983.08 0.0089 0.0017

Saturn -82019-02-05 21:20 J -28235980.74 -28235980.61 -28235980.47 0.0271 0.0009

Neptune -82019-05-02 08:08 J -28235895.29 -28235895.16 -28235895.02 0.0089 0.0013

Saturn -82019-05-05 08:23 J -28235892.28 -28235892.15 -28235892.02 0.0271 0.0090

Venus -82019-07-01 12:13 J -28235835.09 -28235834.99 -28235834.89 0.3606 0.2387

Neptune -82019-07-29 09:35 J -28235807.23 -28235807.10 -28235806.96 0.0089 0.0008

Saturn -82019-08-01 19:25 J -28235803.78 -28235803.69 -28235803.59 0.0270 0.0186

Neptune -82019-10-25 11:01 J -28235719.17 -28235719.04 -28235718.91 0.0089 0.0004

Neptune -82018-01-21 12:28 J -28235631.12 -28235630.98 -28235630.85 0.0089 0.0001

Neptune -82018-04-19 13:40 J -28235543.06 -28235542.93 -28235542.79 0.0089 0.0006

Pluto -82018-07-06 16:32 J -28235464.83 -28235464.81 -28235464.78 0.0085 0.0083

Neptune -82018-07-16 15:06 J -28235455.00 -28235454.87 -28235454.73 0.0089 0.0010

Pluto -82018-10-02 17:59 J -28235376.82 -28235376.75 -28235376.68 0.0085 0.0071

Neptune -82018-10-12 16:32 J -28235366.94 -28235366.81 -28235366.67 0.0089 0.0014

Pluto -82018-12-29 19:25 J -28235288.79 -28235288.69 -28235288.60 0.0084 0.0059

Neptune -82017-01-08 17:59 J -28235278.88 -28235278.75 -28235278.62 0.0089 0.0018

Venus -82017-01-16 07:54 J -28235271.27 -28235271.17 -28235271.07 0.3758 0.1812

Pluto -82017-03-26 20:23 J -28235200.75 -28235200.65 -28235200.53 0.0084 0.0048

Neptune -82017-04-05 19:25 J -28235190.82 -28235190.69 -28235190.56 0.0089 0.0023

Mars -82017-04-08 08:52 J -28235188.24 -28235188.13 -28235188.02 0.1776 0.0691

Pluto -82017-06-22 21:49 J -28235112.70 -28235112.59 -28235112.46 0.0084 0.0036

Neptune -82017-07-02 20:37 J -28235102.76 -28235102.64 -28235102.50 0.0089 0.0028

Pluto -82017-09-18 23:16 J -28235024.65 -28235024.53 -28235024.40 0.0084 0.0024

Neptune -82017-09-28 22:04 J -28235014.70 -28235014.58 -28235014.45 0.0089 0.0032

Pluto -82017-12-16 00:42 J -28234936.60 -28234936.47 -28234936.34 0.0084 0.0012

Neptune -82017-12-25 23:30 J -28234926.64 -28234926.52 -28234926.39 0.0089 0.0037

Pluto -82016-03-14 01:54 J -28234848.55 -28234848.42 -28234848.28 0.0084 0.0003

Neptune -82016-03-24 00:56 J -28234838.57 -28234838.46 -28234838.34 0.0089 0.0041

Pluto -82016-06-10 03:20 J -28234760.50 -28234760.36 -28234760.23 0.0084 0.0011

Neptune -82016-06-20 02:08 J -28234750.51 -28234750.41 -28234750.28 0.0089 0.0046

Pluto -82016-09-06 04:32 J -28234672.44 -28234672.31 -28234672.18 0.0084 0.0022

Neptune -82016-09-16 03:49 J -28234662.45 -28234662.34 -28234662.23 0.0089 0.0050

Jupiter -82016-11-03 09:20 J -28234614.19 -28234614.11 -28234614.01 0.0491 0.0428

Pluto -82016-12-03 05:44 J -28234584.38 -28234584.26 -28234584.13 0.0083 0.0034

Neptune -82016-12-13 05:01 J -28234574.38 -28234574.29 -28234574.17 0.0089 0.0055

Jupiter -82015-02-01 15:20 J -28234524.04 -28234523.86 -28234523.68 0.0492 0.0077

Pluto -82015-03-01 07:11 J -28234496.31 -28234496.20 -28234496.09 0.0083 0.0045

Neptune -82015-03-11 06:42 J -28234486.32 -28234486.22 -28234486.12 0.0089 0.0059

Moon -82015-03-11 22:47 J -28234485.66 -28234485.55 -28234485.44 0.2744 0.0532

Earth -82015-03-11 23:01 J -28234485.65 -28234485.54 -28234485.43 0.2752 0.0481 *

Pluto -82015-05-28 08:08 J -28234408.25 -28234408.16 -28234408.05 0.0083 0.0056

Neptune -82015-06-07 07:54 J -28234398.25 -28234398.17 -28234398.06 0.0089 0.0064

Pluto -82015-08-24 09:20 J -28234320.17 -28234320.11 -28234320.02 0.0083 0.0067

Neptune -82015-09-03 09:35 J -28234310.18 -28234310.10 -28234310.01 0.0089 0.0068

Pluto -82015-11-20 10:32 J -28234232.09 -28234232.06 -28234232.00 0.0083 0.0078

Neptune -82015-11-30 10:47 J -28234222.11 -28234222.05 -28234221.96 0.0089 0.0073

Neptune -82014-02-26 12:28 J -28234134.04 -28234133.98 -28234133.91 0.0089 0.0077

Neptune -82014-05-25 13:40 J -28234045.97 -28234045.93 -28234045.86 0.0089 0.0082

Neptune -82014-08-21 15:20 J -28233957.89 -28233957.86 -28233957.83 0.0089 0.0086

Venus -82013-01-15 12:28 J -28233811.10 -28233810.98 -28233810.85 0.3610 0.0994

Uranus -82013-02-12 21:20 J -28233782.65 -28233782.61 -28233782.55 0.0138 0.0126

Uranus -82013-05-11 00:56 J -28233694.54 -28233694.46 -28233694.37 0.0138 0.0109

Uranus -82013-08-07 04:18 J -28233606.41 -28233606.32 -28233606.21 0.0138 0.0092

Uranus -82013-11-03 07:54 J -28233518.28 -28233518.17 -28233518.05 0.0138 0.0075

Uranus -82012-01-30 11:16 J -28233430.15 -28233430.03 -28233429.90 0.0138 0.0059

Uranus -82012-04-28 14:52 J -28233342.00 -28233341.88 -28233341.74 0.0139 0.0041

Uranus -82012-07-25 18:28 J -28233253.86 -28233253.73 -28233253.59 0.0139 0.0024

Venus -82012-08-01 03:06 J -28233247.44 -28233247.37 -28233247.29 0.3754 0.2892

Uranus -82012-10-21 22:04 J -28233165.71 -28233165.58 -28233165.44 0.0139 0.0007

Uranus -82011-01-18 01:40 J -28233077.56 -28233077.43 -28233077.29 0.0139 0.0012

Uranus -82011-04-16 05:16 J -28232989.41 -28232989.28 -28232989.14 0.0139 0.0030

Uranus -82011-07-13 09:06 J -28232901.25 -28232901.12 -28232900.99 0.0139 0.0047

Uranus -82011-10-09 12:42 J -28232813.09 -28232812.97 -28232812.85 0.0139 0.0066

Uranus -82010-01-05 16:18 J -28232724.92 -28232724.82 -28232724.70 0.0140 0.0084

Uranus -82010-04-03 20:08 J -28232636.75 -28232636.66 -28232636.56 0.0140 0.0102

Jupiter -82010-06-26 18:42 J -28232552.74 -28232552.72 -28232552.69 0.0538 0.0521

Uranus -82010-06-30 23:44 J -28232548.57 -28232548.51 -28232548.43 0.0140 0.0121

Jupiter -82010-09-24 02:52 J -28232463.51 -28232463.38 -28232463.25 0.0536 0.0073

Uranus -82010-09-27 03:49 J -28232460.35 -28232460.34 -28232460.33 0.0140 0.0139

Jupiter -82010-12-22 11:16 J -28232374.11 -28232374.03 -28232373.93 0.0534 0.0383

Venus -82008-07-31 12:13 J -28231787.12 -28231786.99 -28231786.86 0.3614 0.0342

Mars -82008-08-29 17:44 J -28231757.83 -28231757.76 -28231757.69 0.1784 0.1380

Mars -82007-10-09 14:37 J -28231351.99 -28231351.89 -28231351.78 0.1784 0.1245

Mars -82006-08-05 06:28 J -28231052.30 -28231052.23 -28231052.17 0.1751 0.1452

Moon -82005-09-07 21:35 J -28230652.73 -28230652.60 -28230652.46 0.2584 0.1139

Earth -82005-09-07 23:16 J -28230652.68 -28230652.53 -28230652.39 0.2585 0.0923 *

Saturn -82004-03-02 15:35 J -28230476.90 -28230476.85 -28230476.77 0.0287 0.0270

Saturn -82004-05-30 15:20 J -28230388.02 -28230387.86 -28230387.69 0.0288 0.0111

Saturn -82004-08-27 14:37 J -28230299.07 -28230298.89 -28230298.71 0.0288 0.0046

Jupiter -82004-11-20 14:08 J -28230214.09 -28230213.91 -28230213.73 0.0492 0.0044

Saturn -82004-11-24 13:25 J -28230210.06 -28230209.94 -28230209.81 0.0289 0.0201

Jupiter -82003-02-18 18:56 J -28230123.77 -28230123.71 -28230123.64 0.0494 0.0454

Venus -82002-02-14 11:44 J -28229763.13 -28229763.01 -28229762.90 0.3618 0.1627

Moon -82002-03-14 17:16 J -28229734.86 -28229734.78 -28229734.69 0.2746 0.1716

Earth -82002-03-14 17:44 J -28229734.84 -28229734.76 -28229734.67 0.2751 0.1838 *

82ND MILLENNIUM BCE

This is a list of transits of Mercury in the 82nd millennium BCE.

FROM	MAX-TRANSIT	C	START	MAX	END	SUNRAD	DEPTH	S

Jupiter -81998-07-13 05:44 J -28228153.38 -28228153.26 -28228153.14 0.0536 0.0195

Jupiter -81998-10-10 14:08 J -28228064.03 -28228063.91 -28228063.80 0.0534 0.0258

Mars -81997-02-29 15:20 J -28227922.02 -28227921.86 -28227921.71 0.1775 0.0200

Venus -81997-08-30 10:32 J -28227739.14 -28227739.06 -28227738.98 0.3623 0.2848

Mars -81997-12-25 15:06 J -28227621.98 -28227621.87 -28227621.76 0.1759 0.0769

Earth -81995-03-07 14:23 J -28227184.98 -28227184.90 -28227184.82 0.2751 0.1904

Moon -81995-03-07 15:06 J -28227184.95 -28227184.87 -28227184.79 0.2749 0.1833 *

Venus -81994-05-25 14:23 J -28226740.90 -28226740.90 -28226740.90 0.3779 0.3776

Jupiter -81992-09-08 12:56 J -28225904.13 -28225903.96 -28225903.79 0.0492 0.0163

Moon -81992-09-11 01:54 J -28225901.55 -28225901.42 -28225901.28 0.2587 0.1071

Earth -81992-09-11 03:20 J -28225901.49 -28225901.36 -28225901.22 0.2585 0.1118 *

Jupiter -81992-12-07 17:59 J -28225813.87 -28225813.75 -28225813.62 0.0493 0.0337

Saturn -81991-12-31 02:23 J -28225425.48 -28225425.40 -28225425.32 0.0273 0.0221

Saturn -81990-03-29 13:11 J -28225337.07 -28225336.95 -28225336.83 0.0272 0.0126

Saturn -81990-06-26 00:13 J -28225248.63 -28225248.49 -28225248.36 0.0272 0.0031

Saturn -81990-09-22 11:16 J -28225160.16 -28225160.03 -28225159.90 0.0271 0.0066

Saturn -81990-12-19 22:04 J -28225071.68 -28225071.58 -28225071.46 0.0271 0.0162

Saturn -81989-03-17 09:20 J -28224983.14 -28224983.11 -28224983.07 0.0270 0.0258

Venus -81989-12-08 08:23 J -28224717.22 -28224717.15 -28224717.08 0.3776 0.2865

Mars -81988-07-21 15:06 J -28224492.00 -28224491.87 -28224491.73 0.1766 0.0878

Mars -81987-05-17 23:59 J -28224191.62 -28224191.50 -28224191.38 0.1767 0.0086

Jupiter -81986-05-01 09:20 J -28223843.22 -28223843.11 -28223843.01 0.0536 0.0308

Jupiter -81986-07-29 17:30 J -28223753.89 -28223753.77 -28223753.64 0.0535 0.0144

Venus -81983-06-24 02:52 J -28222693.48 -28222693.38 -28222693.29 0.3772 0.1918

Earth -81982-03-10 09:06 J -28222434.23 -28222434.12 -28222434.01 0.2751 0.0586

Moon -81982-03-10 09:35 J -28222434.21 -28222434.10 -28222433.99 0.2746 0.0480 *

Jupiter -81980-06-27 10:47 J -28221594.19 -28221594.05 -28221593.90 0.0491 0.0291

Jupiter -81980-09-25 16:18 J -28221503.98 -28221503.82 -28221503.66 0.0493 0.0211

Mars -81978-10-08 08:52 J -28220761.24 -28220761.13 -28220761.02 0.1775 0.0603

Venus -81977-01-07 21:20 J -28220669.72 -28220669.61 -28220669.50 0.3768 0.0954

Saturn -81975-10-17 13:54 J -28219656.07 -28219655.92 -28219655.77 0.0288 0.0157

Saturn -81974-01-14 13:11 J -28219567.13 -28219566.95 -28219566.77 0.0289 0.0002

Jupiter -81974-02-17 13:11 J -28219533.03 -28219532.95 -28219532.87 0.0537 0.0418

Saturn -81974-04-13 11:59 J -28219478.14 -28219478.00 -28219477.84 0.0289 0.0157

Jupiter -81974-05-17 21:20 J -28219443.74 -28219443.61 -28219443.48 0.0536 0.0034

Uranus -81974-07-07 20:37 J -28219392.71 -28219392.64 -28219392.57 0.0141 0.0128

Jupiter -81974-08-15 05:59 J -28219354.30 -28219354.25 -28219354.20 0.0533 0.0489

Uranus -81974-10-04 04:04 J -28219304.46 -28219304.33 -28219304.21 0.0141 0.0103

Uranus -81974-12-31 11:01 J -28219216.18 -28219216.04 -28219215.87 0.0140 0.0079

Uranus -81973-03-28 18:28 J -28219127.89 -28219127.73 -28219127.55 0.0140 0.0053

Uranus -81973-06-25 01:54 J -28219039.60 -28219039.42 -28219039.24 0.0140 0.0028

Uranus -81973-09-21 09:06 J -28218951.30 -28218951.12 -28218950.94 0.0140 0.0004

Uranus -81973-12-18 16:04 J -28218863.01 -28218862.83 -28218862.64 0.0140 0.0021

Uranus -81972-03-16 23:01 J -28218774.70 -28218774.54 -28218774.36 0.0140 0.0045

Uranus -81972-06-13 06:13 J -28218686.40 -28218686.24 -28218686.08 0.0139 0.0068

Venus -81972-07-23 16:04 J -28218645.94 -28218645.83 -28218645.72 0.3765 0.0089

Uranus -81972-09-09 12:56 J -28218598.08 -28218597.96 -28218597.81 0.0139 0.0092

Uranus -81972-12-06 19:54 J -28218509.76 -28218509.67 -28218509.56 0.0139 0.0115

Uranus -81971-03-05 02:52 J -28218421.40 -28218421.38 -28218421.35 0.0139 0.0137

Moon -81969-03-12 03:49 J -28217683.45 -28217683.34 -28217683.23 0.2744 0.0671

Earth -81969-03-12 03:49 J -28217683.44 -28217683.34 -28217683.23 0.2751 0.0765 *

Mars -81968-02-27 17:44 J -28217330.84 -28217330.76 -28217330.68 0.1784 0.1297

Jupiter -81968-04-15 08:52 J -28217284.22 -28217284.13 -28217284.03 0.0490 0.0416

Jupiter -81968-07-14 14:37 J -28217194.06 -28217193.89 -28217193.71 0.0492 0.0089

Venus -81968-07-22 11:30 J -28217186.06 -28217186.02 -28217185.98 0.3604 0.3408

Mars -81967-04-09 15:20 J -28216924.95 -28216924.86 -28216924.76 0.1784 0.1380

Mars -81966-02-03 06:28 J -28216625.29 -28216625.23 -28216625.18 0.1751 0.1536

Venus -81966-02-06 11:01 J -28216622.15 -28216622.04 -28216621.93 0.3761 0.1079

Jupiter -81963-12-06 17:16 J -28215222.80 -28215222.78 -28215222.75 0.0538 0.0522

Venus -81962-02-05 12:13 J -28215162.11 -28215161.99 -28215161.88 0.3608 0.1973

Jupiter -81962-03-06 01:25 J -28215133.57 -28215133.44 -28215133.31 0.0536 0.0073

Jupiter -81962-06-03 10:04 J -28215044.17 -28215044.08 -28215043.99 0.0534 0.0383

Saturn -81961-05-19 03:49 J -28214693.38 -28214693.34 -28214693.29 0.0273 0.0255

Saturn -81961-08-15 14:52 J -28214604.99 -28214604.88 -28214604.77 0.0272 0.0160

Venus -81961-08-22 06:13 J -28214598.33 -28214598.24 -28214598.14 0.3757 0.2136

Saturn -81961-11-12 01:40 J -28214516.56 -28214516.43 -28214516.30 0.0272 0.0065

Saturn -81960-02-08 12:42 J -28214428.11 -28214427.97 -28214427.84 0.0271 0.0030

Saturn -81960-05-07 23:44 J -28214339.63 -28214339.51 -28214339.39 0.0271 0.0126

Saturn -81960-08-04 10:47 J -28214251.12 -28214251.05 -28214250.97 0.0270 0.0222

Moon -81959-09-09 03:49 J -28213850.49 -28213850.34 -28213850.19 0.2585 0.0618

Earth -81959-09-09 05:30 J -28213850.42 -28213850.27 -28213850.12 0.2585 0.0502 *

Mars -81958-08-30 15:35 J -28213495.00 -28213494.85 -28213494.70 0.1775 0.0311

Mars -81957-06-25 15:06 J -28213194.97 -28213194.87 -28213194.76 0.1759 0.0864

Venus -81957-08-21 12:13 J -28213138.12 -28213137.99 -28213137.86 0.3611 0.0595

Moon -81956-03-14 22:04 J -28212932.65 -28212932.58 -28212932.50 0.2748 0.2099

Earth -81956-03-14 22:47 J -28212932.62 -28212932.55 -28212932.48 0.2751 0.2119 *

Jupiter -81956-05-02 12:56 J -28212884.14 -28212883.96 -28212883.78 0.0492 0.0038

Jupiter -81956-07-31 17:44 J -28212793.82 -28212793.76 -28212793.70 0.0494 0.0458

Venus -81955-03-08 01:40 J -28212574.48 -28212574.43 -28212574.37 0.3752 0.3225

Venus -81951-03-07 11:59 J -28211114.13 -28211114.00 -28211113.87 0.3615 0.0739

Jupiter -81951-12-23 05:16 J -28210823.40 -28210823.28 -28210823.15 0.0536 0.0181

Jupiter -81950-03-22 13:40 J -28210734.04 -28210733.93 -28210733.81 0.0534 0.0275

Earth -81949-03-07 19:11 J -28210382.78 -28210382.70 -28210382.61 0.2751 0.1639

Moon -81949-03-07 20:08 J -28210382.76 -28210382.66 -28210382.57 0.2749 0.1531 *

Mars -81948-01-19 15:49 J -28210064.98 -28210064.84 -28210064.70 0.1766 0.0750

Mars -81948-11-16 00:13 J -28209764.62 -28209764.49 -28209764.37 0.1767 0.0191

Moon -81946-09-12 08:23 J -28209099.28 -28209099.15 -28209099.02 0.2588 0.1320

Earth -81946-09-12 09:35 J -28209099.22 -28209099.10 -28209098.98 0.2585 0.1526 *

Venus -81946-09-21 11:16 J -28209090.14 -28209090.03 -28209089.93 0.3619 0.2003

Saturn -81945-03-05 09:06 J -28208924.23 -28208924.12 -28208924.00 0.0287 0.0223

Saturn -81945-06-02 08:37 J -28208835.32 -28208835.14 -28208834.96 0.0288 0.0066

Saturn -81945-08-30 07:40 J -28208746.35 -28208746.18 -28208746.01 0.0289 0.0091

Saturn -81945-11-27 06:28 J -28208657.32 -28208657.23 -28208657.14 0.0289 0.0245

Jupiter -81944-02-18 11:44 J -28208574.18 -28208574.01 -28208573.84 0.0491 0.0157

Jupiter -81944-05-19 16:47 J -28208483.92 -28208483.80 -28208483.67 0.0493 0.0343

Venus -81940-04-06 10:04 J -28207066.14 -28207066.08 -28207066.03 0.3624 0.3215

Neptune -81940-09-13 10:04 J -28206906.14 -28206906.08 -28206906.01 0.0089 0.0083

Neptune -81940-12-10 13:25 J -28206818.02 -28206817.94 -28206817.83 0.0089 0.0077

Neptune -81939-03-08 16:47 J -28206729.89 -28206729.80 -28206729.66 0.0089 0.0071

Neptune -81939-06-04 20:37 J -28206641.76 -28206641.64 -28206641.50 0.0089 0.0064

Neptune -81939-09-01 00:13 J -28206553.63 -28206553.49 -28206553.34 0.0089 0.0058

Jupiter -81939-10-11 08:23 J -28206513.25 -28206513.15 -28206513.04 0.0536 0.0301

Neptune -81939-11-28 03:35 J -28206465.49 -28206465.35 -28206465.18 0.0089 0.0052

Jupiter -81938-01-08 16:32 J -28206423.93 -28206423.81 -28206423.68 0.0534 0.0152

Neptune -81938-02-24 07:25 J -28206377.35 -28206377.19 -28206377.02 0.0089 0.0045

Mars -81938-04-08 08:52 J -28206334.25 -28206334.13 -28206334.02 0.1775 0.0516

Neptune -81938-05-23 10:47 J -28206289.21 -28206289.05 -28206288.87 0.0089 0.0039

Neptune -81938-08-19 14:23 J -28206201.07 -28206200.90 -28206200.71 0.0089 0.0032

Neptune -81938-11-15 17:59 J -28206112.93 -28206112.75 -28206112.56 0.0088 0.0026

Venus -81938-12-30 12:28 J -28206068.02 -28206067.98 -28206067.95 0.3778 0.3520

Neptune -81937-02-11 21:35 J -28206024.79 -28206024.60 -28206024.41 0.0088 0.0020

Neptune -81937-05-10 00:56 J -28205936.64 -28205936.46 -28205936.26 0.0088 0.0014

Neptune -81937-08-06 04:32 J -28205848.50 -28205848.31 -28205848.12 0.0088 0.0007

Neptune -81937-11-02 08:08 J -28205760.36 -28205760.16 -28205759.97 0.0088 0.0002

Neptune -81936-01-29 11:30 J -28205672.21 -28205672.02 -28205671.83 0.0088 0.0005

Earth -81936-03-10 14:08 J -28205632.03 -28205631.91 -28205631.80 0.2751 0.0327

Moon -81936-03-10 14:23 J -28205632.01 -28205631.90 -28205631.79 0.2745 0.0320 *

Neptune -81936-04-27 14:52 J -28205584.06 -28205583.88 -28205583.68 0.0088 0.0012

Neptune -81936-07-24 18:28 J -28205495.92 -28205495.73 -28205495.54 0.0088 0.0018

Neptune -81936-10-20 21:35 J -28205407.77 -28205407.60 -28205407.40 0.0088 0.0025

Neptune -81935-01-17 01:11 J -28205319.62 -28205319.45 -28205319.26 0.0088 0.0030

Neptune -81935-04-15 04:32 J -28205231.47 -28205231.31 -28205231.13 0.0088 0.0037

Neptune -81935-07-12 08:08 J -28205143.32 -28205143.16 -28205142.99 0.0088 0.0043

Neptune -81935-10-08 11:30 J -28205055.17 -28205055.02 -28205054.86 0.0088 0.0049

Neptune -81934-01-04 14:52 J -28204967.02 -28204966.88 -28204966.73 0.0088 0.0055

Neptune -81934-04-02 18:28 J -28204878.87 -28204878.73 -28204878.60 0.0088 0.0061

Neptune -81934-06-29 21:20 J -28204790.71 -28204790.61 -28204790.47 0.0088 0.0068

Neptune -81934-09-26 00:42 J -28204702.55 -28204702.47 -28204702.35 0.0088 0.0074

Neptune -81934-12-23 04:04 J -28204614.39 -28204614.33 -28204614.23 0.0088 0.0080

Neptune -81933-03-20 07:25 J -28204526.22 -28204526.19 -28204526.12 0.0088 0.0086

Jupiter -81933-12-07 10:04 J -28204264.22 -28204264.08 -28204263.92 0.0491 0.0280

Jupiter -81932-03-07 15:49 J -28204174.00 -28204173.84 -28204173.68 0.0493 0.0224

Venus -81932-07-15 06:42 J -28204044.30 -28204044.22 -28204044.14 0.3775 0.2592

Saturn -81931-01-02 17:16 J -28203872.87 -28203872.78 -28203872.68 0.0273 0.0188

Saturn -81931-04-01 04:18 J -28203784.45 -28203784.32 -28203784.19 0.0272 0.0092

Saturn -81931-06-28 15:20 J -28203696.00 -28203695.86 -28203695.73 0.0272 0.0008

Saturn -81931-09-25 02:08 J -28203607.53 -28203607.41 -28203607.28 0.0271 0.0100

Saturn -81931-12-22 13:25 J -28203519.03 -28203518.94 -28203518.85 0.0271 0.0196

Uranus -81930-12-07 01:40 J -28203169.44 -28203169.43 -28203169.41 0.0138 0.0137

Uranus -81929-03-04 05:16 J -28203081.35 -28203081.28 -28203081.22 0.0138 0.0120

Uranus -81929-05-31 08:23 J -28202993.23 -28202993.15 -28202993.05 0.0138 0.0104

Uranus -81929-08-27 11:59 J -28202905.10 -28202905.00 -28202904.89 0.0138 0.0087

Mars -81929-08-28 17:44 J -28202903.84 -28202903.76 -28202903.67 0.1784 0.1205

Uranus -81929-11-23 15:20 J -28202816.97 -28202816.86 -28202816.73 0.0138 0.0070

Uranus -81928-02-19 18:56 J -28202728.83 -28202728.71 -28202728.58 0.0138 0.0053

Uranus -81928-05-18 22:32 J -28202640.69 -28202640.56 -28202640.43 0.0139 0.0036

Uranus -81928-08-15 02:08 J -28202552.54 -28202552.41 -28202552.27 0.0139 0.0018

Mars -81928-10-08 16:04 J -28202497.91 -28202497.83 -28202497.75 0.1784 0.1509

Uranus -81928-11-11 05:44 J -28202464.40 -28202464.26 -28202464.12 0.0139 0.0001

Uranus -81927-02-07 09:20 J -28202376.24 -28202376.11 -28202375.97 0.0139 0.0017

Uranus -81927-05-06 12:56 J -28202288.09 -28202287.96 -28202287.82 0.0139 0.0035

Jupiter -81927-07-30 11:59 J -28202203.08 -28202203.00 -28202202.92 0.0537 0.0413

Uranus -81927-08-02 16:32 J -28202199.93 -28202199.81 -28202199.68 0.0139 0.0053

Mars -81927-08-04 06:28 J -28202198.27 -28202198.23 -28202198.19 0.1750 0.1627

Jupiter -81927-10-27 20:08 J -28202113.79 -28202113.66 -28202113.53 0.0535 0.0037

Uranus -81927-10-29 20:23 J -28202111.77 -28202111.65 -28202111.53 0.0139 0.0071

Jupiter -81926-01-25 04:47 J -28202024.35 -28202024.30 -28202024.25 0.0533 0.0492

Uranus -81926-01-25 23:59 J -28202023.60 -28202023.50 -28202023.39 0.0140 0.0090

Venus -81926-01-29 00:56 J -28202020.56 -28202020.46 -28202020.36 0.3771 0.1642

Uranus -81926-04-24 03:49 J -28201935.42 -28201935.34 -28201935.25 0.0140 0.0108

Uranus -81926-07-21 07:25 J -28201847.24 -28201847.19 -28201847.12 0.0140 0.0127

Moon -81926-09-07 05:59 J -28201799.31 -28201799.25 -28201799.18 0.2582 0.2322

Earth -81926-09-07 07:11 J -28201799.28 -28201799.20 -28201799.11 0.2585 0.2160 *

Moon -81923-03-13 08:37 J -28200881.24 -28200881.14 -28200881.04 0.2744 0.1069

Earth -81923-03-13 08:52 J -28200881.23 -28200881.13 -28200881.03 0.2751 0.1035 *

Venus -81921-08-13 19:40 J -28199996.79 -28199996.68 -28199996.57 0.3768 0.0659

Jupiter -81921-09-25 08:08 J -28199954.26 -28199954.16 -28199954.06 0.0491 0.0406

Jupiter -81921-12-24 13:54 J -28199864.09 -28199863.92 -28199863.74 0.0492 0.0098

Mars -81918-02-28 16:18 J -28199067.98 -28199067.82 -28199067.67 0.1775 0.0445

Mars -81918-12-25 15:20 J -28198767.97 -28198767.86 -28198767.76 0.1759 0.0951

Earth -81916-03-06 05:30 J -28198331.29 -28198331.27 -28198331.24 0.2751 0.2667

Moon -81916-03-06 06:28 J -28198331.26 -28198331.23 -28198331.21 0.2752 0.2629 *

Saturn -81916-07-23 07:54 J -28198192.24 -28198192.17 -28198192.11 0.0287 0.0268

Saturn -81916-10-20 07:11 J -28198103.36 -28198103.20 -28198103.03 0.0288 0.0110

Saturn -81915-01-17 06:28 J -28198014.41 -28198014.23 -28198014.05 0.0289 0.0047

Venus -81915-02-27 14:23 J -28197973.01 -28197972.90 -28197972.79 0.3764 0.0362

Saturn -81915-04-16 05:16 J -28197925.40 -28197925.28 -28197925.15 0.0289 0.0202

Jupiter -81915-05-18 15:49 J -28197892.86 -28197892.84 -28197892.81 0.0538 0.0523

Jupiter -81915-08-15 23:44 J -28197803.64 -28197803.51 -28197803.38 0.0536 0.0076

Jupiter -81915-11-13 08:23 J -28197714.24 -28197714.15 -28197714.06 0.0534 0.0380

Moon -81913-09-09 10:04 J -28197048.23 -28197048.08 -28197047.92 0.2585 0.0287

Earth -81913-09-09 11:44 J -28197048.16 -28197048.01 -28197047.86 0.2585 0.0085 *

Venus -81911-02-26 11:30 J -28196513.10 -28196513.02 -28196512.95 0.3605 0.2988

Moon -81910-03-16 03:06 J -28196130.44 -28196130.37 -28196130.31 0.2749 0.2233

Earth -81910-03-16 03:49 J -28196130.39 -28196130.34 -28196130.29 0.2751 0.2402 *

Venus -81910-09-13 09:35 J -28195949.21 -28195949.10 -28195949.00 0.3760 0.1400

Mars -81909-07-20 16:18 J -28195637.96 -28195637.82 -28195637.67 0.1766 0.0619

Jupiter -81909-10-12 12:13 J -28195554.17 -28195553.99 -28195553.81 0.0492 0.0027

Jupiter -81908-01-10 17:01 J -28195463.84 -28195463.79 -28195463.74 0.0493 0.0469

Mars -81908-05-16 23:59 J -28195337.62 -28195337.50 -28195337.38 0.1767 0.0266

Venus -81906-09-12 11:59 J -28194489.12 -28194489.00 -28194488.88 0.3608 0.1561

Venus -81904-03-29 04:47 J -28193925.39 -28193925.30 -28193925.22 0.3755 0.2463

Earth -81903-03-09 00:13 J -28193580.59 -28193580.49 -28193580.39 0.2751 0.1363

Moon -81903-03-09 00:56 J -28193580.56 -28193580.46 -28193580.36 0.2749 0.1274 *

Jupiter -81903-06-04 03:49 J -28193493.46 -28193493.34 -28193493.21 0.0536 0.0182

Jupiter -81903-09-01 12:28 J -28193404.10 -28193403.98 -28193403.87 0.0534 0.0274

Saturn -81902-05-22 19:11 J -28193140.78 -28193140.70 -28193140.62 0.0273 0.0220

Saturn -81902-08-19 05:59 J -28193052.37 -28193052.25 -28193052.13 0.0272 0.0125

Saturn -81902-11-15 17:01 J -28192963.93 -28192963.79 -28192963.66 0.0272 0.0030

Saturn -81901-02-12 03:49 J -28192875.47 -28192875.34 -28192875.20 0.0271 0.0067

Saturn -81901-05-10 14:52 J -28192786.98 -28192786.88 -28192786.76 0.0270 0.0163

Saturn -81901-08-07 02:08 J -28192698.44 -28192698.41 -28192698.37 0.0270 0.0258

Venus -81900-03-28 11:59 J -28192465.14 -28192465.00 -28192464.87 0.3612 0.0228

Moon -81900-09-12 14:52 J -28192296.98 -28192296.88 -28192296.78 0.2590 0.1907

Earth -81900-09-12 15:49 J -28192296.94 -28192296.84 -28192296.74 0.2585 0.1936 *

Mars -81900-12-10 16:18 J -28192207.86 -28192207.82 -28192207.77 0.1757 0.1678

Mars -81899-10-07 09:06 J -28191907.24 -28191907.12 -28191907.01 0.1775 0.0423

Venus -81899-10-13 00:13 J -28191901.52 -28191901.49 -28191901.45 0.3751 0.3565

Jupiter -81897-07-31 10:18 J -28191244.24 -28191244.07 -28191243.90 0.0491 0.0153

Jupiter -81897-10-29 15:20 J -28191153.98 -28191153.86 -28191153.73 0.0493 0.0347

Venus -81895-10-12 11:30 J -28190441.15 -28190441.02 -28190440.90 0.3616 0.1122

Jupiter -81891-03-23 07:54 J -28189183.28 -28189183.17 -28189183.06 0.0537 0.0288

Jupiter -81891-06-20 16:18 J -28189093.95 -28189093.82 -28189093.70 0.0535 0.0165

Earth -81890-03-11 18:56 J -28188829.82 -28188829.71 -28188829.60 0.2751 0.0043

Moon -81890-03-11 19:11 J -28188829.81 -28188829.70 -28188829.59 0.2744 0.0040 *

Uranus -81890-07-28 04:04 J -28188691.41 -28188691.33 -28188691.23 0.0141 0.0122

Uranus -81890-10-24 11:30 J -28188603.15 -28188603.02 -28188602.88 0.0140 0.0096

Uranus -81889-01-20 18:56 J -28188514.87 -28188514.71 -28188514.55 0.0140 0.0071

Mars -81889-02-27 17:44 J -28188476.85 -28188476.76 -28188476.67 0.1783 0.1120

Uranus -81889-04-18 02:23 J -28188426.58 -28188426.40 -28188426.23 0.0140 0.0046

Venus -81889-04-27 10:32 J -28188417.15 -28188417.06 -28188416.96 0.3621 0.2377

Uranus -81889-07-15 09:35 J -28188338.28 -28188338.10 -28188337.92 0.0140 0.0022

Uranus -81889-10-11 16:47 J -28188249.99 -28188249.80 -28188249.62 0.0140 0.0003

Uranus -81888-01-07 23:44 J -28188161.69 -28188161.51 -28188161.33 0.0140 0.0027

Uranus -81888-04-06 06:42 J -28188073.38 -28188073.22 -28188073.04 0.0140 0.0051

Mars -81888-04-08 16:18 J -28188070.89 -28188070.82 -28188070.76 0.1784 0.1620

Uranus -81888-07-03 13:40 J -28187985.07 -28187984.93 -28187984.77 0.0139 0.0075

Uranus -81888-09-29 20:52 J -28187896.76 -28187896.63 -28187896.50 0.0139 0.0098

Uranus -81888-12-27 03:20 J -28187808.43 -28187808.36 -28187808.26 0.0139 0.0121

Mars -81887-02-02 06:28 J -28187771.24 -28187771.23 -28187771.21 0.1750 0.1723

Saturn -81886-03-09 02:23 J -28187371.54 -28187371.40 -28187371.25 0.0287 0.0177

Saturn -81886-06-06 01:54 J -28187282.60 -28187282.42 -28187282.24 0.0288 0.0019

Saturn -81886-09-03 00:56 J -28187193.62 -28187193.46 -28187193.30 0.0289 0.0137

Jupiter -81885-05-19 09:06 J -28186934.27 -28186934.12 -28186933.97 0.0491 0.0273

Jupiter -81885-08-17 14:37 J -28186844.05 -28186843.89 -28186843.73 0.0493 0.0229

Venus -81884-11-11 09:20 J -28186393.13 -28186393.11 -28186393.09 0.3625 0.3580

Venus -81881-08-05 10:32 J -28185395.11 -28185395.06 -28185395.01 0.3777 0.3252

Moon -81880-09-07 12:13 J -28184997.10 -28184996.99 -28184996.88 0.2583 0.1800

Earth -81880-09-07 13:40 J -28184997.04 -28184996.93 -28184996.81 0.2585 0.1724 *

Jupiter -81879-01-09 11:16 J -28184873.12 -28184873.03 -28184872.95 0.0537 0.0406

Jupiter -81879-04-08 19:11 J -28184783.83 -28184783.70 -28184783.57 0.0535 0.0044

Jupiter -81879-07-07 03:49 J -28184694.38 -28184694.34 -28184694.29 0.0533 0.0498

Mars -81879-08-29 16:47 J -28184640.94 -28184640.80 -28184640.65 0.1776 0.0578

Mars -81878-06-25 15:20 J -28184340.96 -28184340.86 -28184340.76 0.1758 0.1040

Moon -81877-03-13 13:25 J -28184079.04 -28184078.94 -28184078.84 0.2745 0.1218

Earth -81877-03-13 13:54 J -28184079.02 -28184078.92 -28184078.83 0.2751 0.1316 *

Venus -81875-02-19 04:47 J -28183371.39 -28183371.30 -28183371.21 0.3774 0.2317

Jupiter -81873-03-07 07:11 J -28182624.30 -28182624.20 -28182624.09 0.0491 0.0397

Jupiter -81873-06-05 13:11 J -28182534.12 -28182533.95 -28182533.77 0.0493 0.0109

Saturn -81873-10-08 21:35 J -28182408.65 -28182408.60 -28182408.55 0.0274 0.0249

Saturn -81872-01-05 08:23 J -28182320.26 -28182320.15 -28182320.04 0.0273 0.0154

Saturn -81872-04-03 19:25 J -28182231.82 -28182231.69 -28182231.56 0.0272 0.0058

Saturn -81872-07-01 06:28 J -28182143.37 -28182143.23 -28182143.10 0.0272 0.0039

Saturn -81872-09-27 17:30 J -28182054.89 -28182054.77 -28182054.65 0.0271 0.0135

Saturn -81872-12-25 04:32 J -28181966.38 -28181966.31 -28181966.24 0.0271 0.0231

Earth -81870-03-07 10:32 J -28181529.11 -28181529.06 -28181529.01 0.2751 0.2401

Moon -81870-03-07 11:16 J -28181529.09 -28181529.03 -28181528.97 0.2752 0.2243 *

Venus -81870-09-04 23:16 J -28181347.63 -28181347.53 -28181347.43 0.3770 0.1352

Mars -81869-01-19 17:01 J -28181210.94 -28181210.79 -28181210.64 0.1766 0.0488

Mars -81869-11-15 00:13 J -28180910.61 -28180910.49 -28180910.37 0.1767 0.0359

Jupiter -81868-10-28 14:37 J -28180562.91 -28180562.89 -28180562.85 0.0537 0.0518

Jupiter -81867-01-25 22:47 J -28180473.68 -28180473.55 -28180473.43 0.0535 0.0072

Jupiter -81867-04-25 07:11 J -28180384.29 -28180384.20 -28180384.11 0.0533 0.0383

Moon -81867-09-10 16:32 J -28180245.96 -28180245.81 -28180245.66 0.2586 0.0198

Earth -81867-09-10 17:59 J -28180245.90 -28180245.75 -28180245.59 0.2585 0.0344 *

Pluto -81865-04-24 19:25 J -28179653.70 -28179653.69 -28179653.62 0.0060 0.0059

Pluto -81865-07-21 20:52 J -28179565.70 -28179565.63 -28179565.52 0.0060 0.0053

Pluto -81865-10-17 22:18 J -28179477.67 -28179477.57 -28179477.43 0.0060 0.0047

Pluto -81864-01-14 00:13 J -28179389.63 -28179389.49 -28179389.35 0.0060 0.0041

Moon -81864-03-16 07:54 J -28179328.19 -28179328.17 -28179328.14 0.2748 0.2657

Earth -81864-03-16 08:52 J -28179328.15 -28179328.13 -28179328.11 0.2751 0.2683 *

Venus -81864-03-20 17:59 J -28179323.86 -28179323.75 -28179323.64 0.3766 0.0366

Pluto -81864-04-12 01:40 J -28179301.59 -28179301.43 -28179301.27 0.0060 0.0035

Pluto -81864-07-09 02:52 J -28179213.54 -28179213.38 -28179213.20 0.0061 0.0029

Pluto -81864-10-05 04:18 J -28179125.49 -28179125.32 -28179125.14 0.0061 0.0023

Pluto -81863-01-01 05:44 J -28179037.44 -28179037.26 -28179037.07 0.0061 0.0017

Pluto -81863-03-30 07:11 J -28178949.38 -28178949.20 -28178949.01 0.0061 0.0011

Pluto -81863-06-26 08:37 J -28178861.33 -28178861.14 -28178860.94 0.0061 0.0005

Pluto -81863-09-22 10:04 J -28178773.27 -28178773.08 -28178772.88 0.0061 0.0002

Pluto -81863-12-19 11:30 J -28178685.21 -28178685.02 -28178684.82 0.0061 0.0008

Pluto -81862-03-17 12:56 J -28178597.14 -28178596.96 -28178596.77 0.0061 0.0015

Pluto -81862-06-13 14:08 J -28178509.07 -28178508.91 -28178508.71 0.0061 0.0021

Pluto -81862-09-09 15:35 J -28178421.01 -28178420.85 -28178420.66 0.0061 0.0028

Pluto -81862-12-06 17:16 J -28178332.93 -28178332.78 -28178332.61 0.0061 0.0034

Pluto -81861-03-03 18:28 J -28178244.86 -28178244.73 -28178244.56 0.0061 0.0040

Jupiter -81861-03-24 11:16 J -28178224.21 -28178224.03 -28178223.85 0.0492 0.0021

Pluto -81861-05-30 19:54 J -28178156.77 -28178156.67 -28178156.52 0.0061 0.0047

Jupiter -81861-06-22 16:04 J -28178133.87 -28178133.83 -28178133.78 0.0494 0.0477

Pluto -81861-08-26 21:49 J -28178068.68 -28178068.59 -28178068.49 0.0061 0.0053

Pluto -81861-11-22 22:47 J -28177980.57 -28177980.55 -28177980.48 0.0062 0.0060

Mars -81860-06-10 17:01 J -28177780.86 -28177780.79 -28177780.72 0.1758 0.1547

Mars -81859-04-07 08:52 J -28177480.25 -28177480.13 -28177480.01 0.1775 0.0340

Venus -81859-10-04 12:56 J -28177300.08 -28177299.96 -28177299.85 0.3762 0.0682

Neptune -81859-12-22 08:23 J -28177221.17 -28177221.15 -28177221.11 0.0089 0.0086

Neptune -81858-03-20 09:35 J -28177133.13 -28177133.10 -28177133.03 0.0089 0.0082

Neptune -81858-06-16 11:16 J -28177045.09 -28177045.03 -28177044.96 0.0089 0.0077

Neptune -81858-09-12 12:28 J -28176957.04 -28176956.98 -28176956.90 0.0089 0.0073

Neptune -81858-12-09 13:54 J -28176869.00 -28176868.92 -28176868.83 0.0089 0.0069

Neptune -81857-03-06 15:06 J -28176780.95 -28176780.87 -28176780.77 0.0089 0.0065

Earth -81857-03-09 05:16 J -28176778.39 -28176778.28 -28176778.18 0.2751 0.1091

Moon -81857-03-09 05:44 J -28176778.36 -28176778.26 -28176778.16 0.2747 0.1041 *

Neptune -81857-06-02 16:32 J -28176692.90 -28176692.81 -28176692.71 0.0089 0.0060

Saturn -81857-07-26 01:40 J -28176639.54 -28176639.43 -28176639.30 0.0287 0.0217

Neptune -81857-08-29 17:44 J -28176604.85 -28176604.76 -28176604.64 0.0089 0.0056

Saturn -81857-10-23 01:11 J -28176550.63 -28176550.45 -28176550.27 0.0288 0.0060

Neptune -81857-11-25 19:25 J -28176516.80 -28176516.69 -28176516.58 0.0089 0.0051

Saturn -81856-01-20 00:13 J -28176461.66 -28176461.49 -28176461.32 0.0289 0.0097

Neptune -81856-02-21 20:37 J -28176428.75 -28176428.64 -28176428.52 0.0089 0.0047

Saturn -81856-04-18 23:01 J -28176372.62 -28176372.54 -28176372.45 0.0289 0.0252

Neptune -81856-05-20 22:04 J -28176340.69 -28176340.58 -28176340.46 0.0089 0.0043

Neptune -81856-08-16 23:30 J -28176252.64 -28176252.52 -28176252.40 0.0089 0.0038

Neptune -81856-11-13 00:42 J -28176164.59 -28176164.47 -28176164.34 0.0089 0.0034

Jupiter -81856-11-14 02:23 J -28176163.52 -28176163.40 -28176163.28 0.0536 0.0184

Neptune -81855-02-09 02:08 J -28176076.53 -28176076.41 -28176076.28 0.0089 0.0029

Jupiter -81855-02-11 10:47 J -28176074.16 -28176074.05 -28176073.94 0.0534 0.0270

Neptune -81855-05-08 03:35 J -28175988.48 -28175988.35 -28175988.22 0.0089 0.0025

Neptune -81855-08-04 04:47 J -28175900.42 -28175900.30 -28175900.16 0.0089 0.0021

Venus -81855-10-03 11:30 J -28175840.12 -28175840.02 -28175839.93 0.3606 0.2562

Neptune -81855-10-31 06:28 J -28175812.37 -28175812.23 -28175812.10 0.0089 0.0016

Neptune -81854-01-27 07:40 J -28175724.31 -28175724.18 -28175724.04 0.0089 0.0012

Neptune -81854-04-25 09:06 J -28175636.25 -28175636.12 -28175635.99 0.0089 0.0007

Neptune -81854-07-22 10:32 J -28175548.20 -28175548.06 -28175547.93 0.0089 0.0003

Moon -81854-09-13 21:06 J -28175494.70 -28175494.62 -28175494.54 0.2591 0.2195

Earth -81854-09-13 22:04 J -28175494.64 -28175494.58 -28175494.52 0.2585 0.2342 *

Neptune -81854-10-18 11:59 J -28175460.14 -28175460.00 -28175459.87 0.0089 0.0003

Neptune -81853-01-14 13:11 J -28175372.08 -28175371.95 -28175371.81 0.0089 0.0007

Neptune -81853-04-11 14:37 J -28175284.02 -28175283.89 -28175283.75 0.0089 0.0011

Venus -81853-04-19 07:54 J -28175276.27 -28175276.17 -28175276.07 0.3758 0.1720

Neptune -81853-07-08 16:04 J -28175195.96 -28175195.83 -28175195.70 0.0089 0.0015

Neptune -81853-10-04 17:30 J -28175107.90 -28175107.77 -28175107.64 0.0089 0.0020

Neptune -81853-12-31 18:56 J -28175019.84 -28175019.71 -28175019.58 0.0089 0.0024

Neptune -81852-03-29 20:08 J -28174931.78 -28174931.66 -28174931.53 0.0089 0.0029

Neptune -81852-06-25 21:35 J -28174843.72 -28174843.60 -28174843.47 0.0089 0.0033

Neptune -81852-09-21 23:01 J -28174755.66 -28174755.54 -28174755.41 0.0089 0.0038

Neptune -81852-12-19 00:28 J -28174667.60 -28174667.48 -28174667.36 0.0089 0.0042

Neptune -81851-03-17 01:40 J -28174579.53 -28174579.43 -28174579.30 0.0089 0.0047

Neptune -81851-06-13 03:20 J -28174491.47 -28174491.36 -28174491.25 0.0089 0.0051

Neptune -81851-09-09 04:32 J -28174403.40 -28174403.31 -28174403.19 0.0089 0.0056

Neptune -81851-12-06 06:13 J -28174315.34 -28174315.24 -28174315.14 0.0089 0.0060

Neptune -81850-03-04 07:25 J -28174227.27 -28174227.19 -28174227.09 0.0089 0.0065

Neptune -81850-05-31 09:06 J -28174139.20 -28174139.12 -28174139.04 0.0089 0.0069

Neptune -81850-08-27 10:18 J -28174051.13 -28174051.07 -28174050.99 0.0089 0.0074

Mars -81850-08-28 17:44 J -28174049.85 -28174049.76 -28174049.66 0.1784 0.1032

Neptune -81850-11-23 11:59 J -28173963.06 -28173963.00 -28173962.94 0.0089 0.0078

Jupiter -81849-01-11 09:35 J -28173914.27 -28173914.10 -28173913.93 0.0491 0.0143

Neptune -81849-02-19 13:11 J -28173874.99 -28173874.95 -28173874.89 0.0089 0.0083

Jupiter -81849-04-10 14:37 J -28173824.01 -28173823.89 -28173823.77 0.0493 0.0356

Venus -81849-04-18 11:44 J -28173816.14 -28173816.01 -28173815.88 0.3609 0.1151

Neptune -81849-05-17 14:37 J -28173786.90 -28173786.89 -28173786.86 0.0089 0.0088

Mars -81849-10-07 17:01 J -28173643.81 -28173643.79 -28173643.77 0.1785 0.1762

Venus -81848-11-03 03:20 J -28173252.44 -28173252.36 -28173252.29 0.3754 0.2800

Uranus -81846-12-27 08:52 J -28172468.15 -28172468.13 -28172468.08 0.0138 0.0133

Uranus -81845-03-24 12:28 J -28172380.05 -28172379.98 -28172379.90 0.0138 0.0116

Uranus -81845-06-20 15:49 J -28172291.92 -28172291.84 -28172291.74 0.0138 0.0100

Uranus -81845-09-16 19:25 J -28172203.79 -28172203.69 -28172203.58 0.0138 0.0082

Uranus -81845-12-13 23:01 J -28172115.66 -28172115.54 -28172115.42 0.0138 0.0065

Earth -81844-03-11 23:59 J -28172027.61 -28172027.50 -28172027.39 0.2751 0.0248

Moon -81844-03-11 23:59 J -28172027.61 -28172027.50 -28172027.38 0.2744 0.0268 *

Uranus -81844-03-12 02:23 J -28172027.52 -28172027.40 -28172027.27 0.0138 0.0048 *

Uranus -81844-06-08 05:59 J -28171939.38 -28171939.25 -28171939.11 0.0139 0.0031

Jupiter -81844-09-02 06:28 J -28171853.34 -28171853.23 -28171853.12 0.0537 0.0290

Uranus -81844-09-04 09:35 J -28171851.23 -28171851.10 -28171850.96 0.0139 0.0014

Venus -81844-11-02 11:30 J -28171792.15 -28171792.02 -28171791.88 0.3613 0.0219

Jupiter -81844-11-30 14:37 J -28171764.01 -28171763.89 -28171763.76 0.0535 0.0163

Uranus -81844-12-01 13:11 J -28171763.08 -28171762.95 -28171762.81 0.0139 0.0005

Uranus -81843-02-27 16:47 J -28171674.93 -28171674.80 -28171674.66 0.0139 0.0022

Saturn -81843-05-25 10:32 J -28171588.16 -28171588.06 -28171587.96 0.0273 0.0184

Uranus -81843-05-26 20:23 J -28171586.78 -28171586.65 -28171586.51 0.0139 0.0040

Saturn -81843-08-21 21:20 J -28171499.74 -28171499.61 -28171499.48 0.0272 0.0089

Uranus -81843-08-22 23:59 J -28171498.62 -28171498.50 -28171498.37 0.0139 0.0059

Saturn -81843-11-18 08:23 J -28171411.29 -28171411.15 -28171411.02 0.0271 0.0009

Uranus -81843-11-19 03:49 J -28171410.45 -28171410.34 -28171410.22 0.0139 0.0076

Saturn -81842-02-14 19:25 J -28171322.82 -28171322.69 -28171322.57 0.0271 0.0103

Uranus -81842-02-15 07:25 J -28171322.28 -28171322.19 -28171322.08 0.0140 0.0095

Saturn -81842-05-14 06:28 J -28171234.32 -28171234.23 -28171234.14 0.0270 0.0199

Uranus -81842-05-14 11:16 J -28171234.10 -28171234.03 -28171233.94 0.0140 0.0113

Uranus -81842-08-10 14:52 J -28171145.91 -28171145.88 -28171145.82 0.0140 0.0132

Mars -81840-01-18 02:52 J -28170619.41 -28170619.38 -28170619.36 0.1792 0.1726

Mars -81839-02-27 17:16 J -28170213.93 -28170213.78 -28170213.64 0.1775 0.0695

Mars -81839-12-24 15:20 J -28169913.95 -28169913.86 -28169913.77 0.1758 0.1135

Venus -81838-05-19 11:01 J -28169768.16 -28169768.04 -28169767.92 0.3618 0.1509

Jupiter -81838-10-30 07:25 J -28169604.34 -28169604.19 -28169604.04 0.0491 0.0270

Jupiter -81837-01-28 12:56 J -28169514.12 -28169513.96 -28169513.80 0.0493 0.0232

Moon -81834-09-08 18:28 J -28168194.85 -28168194.73 -28168194.60 0.2583 0.1528

Earth -81834-09-08 19:54 J -28168194.80 -28168194.67 -28168194.53 0.2585 0.1299 *

Venus -81833-12-02 10:04 J -28167744.16 -28167744.08 -28167744.00 0.3622 0.2750

Jupiter -81832-06-21 10:32 J -28167543.15 -28167543.06 -28167542.98 0.0537 0.0396

Jupiter -81832-09-18 18:42 J -28167453.85 -28167453.72 -28167453.59 0.0535 0.0057

Jupiter -81832-12-17 03:20 J -28167364.39 -28167364.36 -28167364.32 0.0533 0.0511

Moon -81831-03-14 18:13 J -28167276.83 -28167276.74 -28167276.65 0.2746 0.1547

Earth -81831-03-14 18:42 J -28167276.81 -28167276.72 -28167276.63 0.2751 0.1591 *

Mars -81830-07-20 17:16 J -28166783.93 -28166783.78 -28166783.62 0.1767 0.0373

Mars -81829-05-16 00:13 J -28166483.61 -28166483.49 -28166483.37 0.1766 0.0448

Saturn -81828-12-12 20:52 J -28165907.65 -28165907.63 -28165907.60 0.0287 0.0284

Saturn -81827-03-11 20:37 J -28165818.81 -28165818.64 -28165818.48 0.0287 0.0126

Saturn -81827-06-08 19:40 J -28165729.86 -28165729.68 -28165729.50 0.0288 0.0032

Saturn -81827-09-05 18:42 J -28165640.85 -28165640.72 -28165640.58 0.0289 0.0187

Jupiter -81826-08-18 05:59 J -28165294.36 -28165294.25 -28165294.14 0.0491 0.0391

Jupiter -81826-11-16 11:59 J -28165204.18 -28165204.00 -28165203.83 0.0492 0.0113

Earth -81824-03-07 15:20 J -28164726.92 -28164726.86 -28164726.79 0.2751 0.2132

Moon -81824-03-07 16:18 J -28164726.89 -28164726.82 -28164726.75 0.2752 0.2102 *

Venus -81824-03-12 08:37 J -28164722.20 -28164722.14 -28164722.07 0.3776 0.2982

Moon -81821-09-10 23:01 J -28163443.69 -28163443.54 -28163443.39 0.2588 0.0654

Earth -81821-09-11 00:28 J -28163443.63 -28163443.48 -28163443.34 0.2585 0.0762 *

Mars -81821-12-09 17:44 J -28163353.85 -28163353.76 -28163353.67 0.1758 0.1411

Jupiter -81820-04-09 13:54 J -28163232.96 -28163232.92 -28163232.89 0.0537 0.0511

Jupiter -81820-07-07 21:49 J -28163143.72 -28163143.59 -28163143.46 0.0535 0.0065

Jupiter -81820-10-05 06:13 J -28163054.33 -28163054.24 -28163054.15 0.0533 0.0389

Mars -81820-10-06 09:06 J -28163053.24 -28163053.12 -28163053.00 0.1775 0.0255

Venus -81819-09-26 03:06 J -28162698.47 -28162698.37 -28162698.28 0.3773 0.2035

Jupiter -81814-09-04 10:18 J -28160894.25 -28160894.07 -28160893.89 0.0492 0.0012

Saturn -81814-10-12 12:42 J -28160856.04 -28160855.97 -28160855.88 0.0274 0.0214

Jupiter -81814-12-03 15:06 J -28160803.89 -28160803.87 -28160803.84 0.0494 0.0487

Saturn -81813-01-08 23:44 J -28160767.63 -28160767.51 -28160767.39 0.0273 0.0117

Saturn -81813-04-06 10:47 J -28160679.19 -28160679.05 -28160678.92 0.0273 0.0021

Venus -81813-04-10 21:35 J -28160674.71 -28160674.60 -28160674.49 0.3769 0.1056

Saturn -81813-07-03 21:49 J -28160590.72 -28160590.59 -28160590.46 0.0272 0.0075

Saturn -81813-09-30 08:52 J -28160502.23 -28160502.13 -28160502.02 0.0271 0.0172

Saturn -81813-12-27 20:08 J -28160413.67 -28160413.66 -28160413.65 0.0271 0.0269

Earth -81811-03-10 10:04 J -28159976.18 -28159976.08 -28159975.97 0.2751 0.0820

Moon -81811-03-10 10:32 J -28159976.17 -28159976.06 -28159975.95 0.2745 0.0707 *

Mars -81810-02-26 17:59 J -28159622.86 -28159622.75 -28159622.65 0.1783 0.0943

Jupiter -81808-04-26 01:11 J -28158833.57 -28158833.45 -28158833.33 0.0536 0.0179

Jupiter -81808-07-24 09:35 J -28158744.21 -28158744.10 -28158743.99 0.0534 0.0274

Venus -81808-10-25 16:18 J -28158650.93 -28158650.82 -28158650.71 0.3765 0.0058

Uranus -81806-08-17 11:01 J -28157990.13 -28157990.04 -28157989.92 0.0141 0.0117

Uranus -81806-11-13 18:28 J -28157901.85 -28157901.73 -28157901.57 0.0140 0.0092

Uranus -81805-02-10 01:54 J -28157813.57 -28157813.42 -28157813.24 0.0140 0.0067

Uranus -81805-05-08 09:20 J -28157725.28 -28157725.11 -28157724.93 0.0140 0.0042

Uranus -81805-08-04 16:47 J -28157636.99 -28157636.80 -28157636.62 0.0140 0.0017

Uranus -81805-10-31 23:59 J -28157548.69 -28157548.50 -28157548.32 0.0140 0.0008

Uranus -81804-01-28 06:56 J -28157460.39 -28157460.21 -28157460.03 0.0140 0.0032

Uranus -81804-04-26 13:54 J -28157372.08 -28157371.92 -28157371.75 0.0139 0.0056

Uranus -81804-07-23 20:52 J -28157283.77 -28157283.63 -28157283.47 0.0139 0.0079

Uranus -81804-10-20 03:49 J -28157195.45 -28157195.34 -28157195.21 0.0139 0.0103

Venus -81804-10-24 10:32 J -28157191.06 -28157191.06 -28157191.05 0.3603 0.3601

Uranus -81803-01-16 10:32 J -28157107.12 -28157107.06 -28157106.97 0.0139 0.0126

Venus -81802-05-11 11:16 J -28156627.14 -28156627.03 -28156626.92 0.3761 0.0985

Jupiter -81802-06-23 08:23 J -28156584.32 -28156584.15 -28156583.98 0.0492 0.0138

Jupiter -81802-09-21 13:25 J -28156494.05 -28156493.94 -28156493.82 0.0493 0.0362

Mars -81801-07-19 02:37 J -28156192.43 -28156192.39 -28156192.34 0.1792 0.1645

Mars -81800-08-28 17:44 J -28155786.89 -28155786.76 -28155786.62 0.1776 0.0827

Mars -81799-06-24 15:35 J -28155486.94 -28155486.85 -28155486.77 0.1758 0.1225

Moon -81798-03-13 04:47 J -28155225.41 -28155225.30 -28155225.19 0.2744 0.0520

Earth -81798-03-13 04:47 J -28155225.41 -28155225.30 -28155225.19 0.2751 0.0521 *

Venus -81798-05-10 11:16 J -28155167.13 -28155167.03 -28155166.92 0.3607 0.2140

Saturn -81798-07-29 20:23 J -28155086.80 -28155086.65 -28155086.50 0.0287 0.0162

Saturn -81798-10-26 19:40 J -28154997.86 -28154997.68 -28154997.50 0.0288 0.0005

Saturn -81797-01-23 18:42 J -28154908.87 -28154908.72 -28154908.57 0.0289 0.0151

Venus -81797-11-24 06:28 J -28154603.33 -28154603.23 -28154603.14 0.3757 0.2049

Jupiter -81796-02-12 04:47 J -28154523.41 -28154523.30 -28154523.19 0.0537 0.0293

Jupiter -81796-05-12 12:56 J -28154434.08 -28154433.96 -28154433.83 0.0535 0.0159

Venus -81793-11-23 11:30 J -28153143.15 -28153143.02 -28153142.89 0.3610 0.0745

Venus -81791-06-10 01:54 J -28152579.48 -28152579.42 -28152579.36 0.3753 0.3142

Mars -81790-01-18 17:59 J -28152356.90 -28152356.75 -28152356.59 0.1767 0.0236

Jupiter -81790-04-11 06:28 J -28152274.38 -28152274.23 -28152274.08 0.0491 0.0263

Jupiter -81790-07-10 11:59 J -28152184.16 -28152184.00 -28152183.84 0.0493 0.0239

Mars -81790-11-15 00:13 J -28152056.61 -28152056.49 -28152056.38 0.1767 0.0534

Moon -81788-09-09 00:56 J -28151392.61 -28151392.46 -28151392.32 0.2583 0.0936

Earth -81788-09-09 02:23 J -28151392.55 -28151392.40 -28151392.26 0.2585 0.0875 *

Venus -81787-06-09 11:16 J -28151119.16 -28151119.03 -28151118.90 0.3615 0.0604

Moon -81785-03-14 23:16 J -28150474.62 -28150474.53 -28150474.45 0.2746 0.1783

Earth -81785-03-14 23:44 J -28150474.59 -28150474.51 -28150474.43 0.2751 0.1874 *

Jupiter -81785-12-01 08:52 J -28150213.22 -28150213.13 -28150213.05 0.0537 0.0400

Saturn -81784-02-28 15:06 J -28150123.92 -28150123.87 -28150123.80 0.0273 0.0241

Jupiter -81784-02-28 17:01 J -28150123.92 -28150123.79 -28150123.66 0.0535 0.0052 *

Saturn -81784-05-28 01:54 J -28150035.52 -28150035.42 -28150035.30 0.0273 0.0146

Jupiter -81784-05-29 01:40 J -28150034.47 -28150034.43 -28150034.39 0.0533 0.0507

Saturn -81784-08-24 12:56 J -28149947.09 -28149946.96 -28149946.83 0.0272 0.0050

Saturn -81784-11-20 23:59 J -28149858.63 -28149858.50 -28149858.37 0.0271 0.0046

Saturn -81783-02-17 11:01 J -28149770.15 -28149770.04 -28149769.92 0.0271 0.0143

Saturn -81783-05-16 22:04 J -28149681.63 -28149681.58 -28149681.51 0.0270 0.0239

Venus -81782-12-24 10:32 J -28149095.17 -28149095.06 -28149094.95 0.3619 0.1892

Mars -81781-06-09 17:59 J -28148926.85 -28148926.75 -28148926.64 0.1758 0.1301

Mars -81780-04-06 09:06 J -28148626.24 -28148626.12 -28148626.00 0.1775 0.0153

Jupiter -81778-01-28 04:18 J -28147964.43 -28147964.32 -28147964.21 0.0491 0.0391

Earth -81778-03-08 20:23 J -28147924.73 -28147924.65 -28147924.57 0.2751 0.1861

Moon -81778-03-08 21:06 J -28147924.71 -28147924.62 -28147924.54 0.2750 0.1704 *

Jupiter -81778-04-28 10:04 J -28147874.25 -28147874.08 -28147873.90 0.0492 0.0113

Venus -81776-07-09 09:20 J -28147071.17 -28147071.11 -28147071.04 0.3623 0.3120

Neptune -81775-03-14 04:32 J -28146823.32 -28146823.31 -28146823.26 0.0089 0.0088

Neptune -81775-06-10 08:37 J -28146735.21 -28146735.14 -28146735.06 0.0089 0.0081

Neptune -81775-09-06 11:59 J -28146647.09 -28146647.00 -28146646.89 0.0089 0.0075

Moon -81775-09-12 05:16 J -28146641.42 -28146641.28 -28146641.14 0.2589 0.0979

Earth -81775-09-12 06:42 J -28146641.36 -28146641.22 -28146641.09 0.2585 0.1175 *

Neptune -81775-12-03 15:20 J -28146558.96 -28146558.86 -28146558.72 0.0089 0.0069

Neptune -81774-03-01 19:11 J -28146470.83 -28146470.70 -28146470.55 0.0089 0.0062

Neptune -81774-05-28 22:32 J -28146382.69 -28146382.56 -28146382.39 0.0089 0.0056

Neptune -81774-08-25 02:08 J -28146294.55 -28146294.41 -28146294.23 0.0089 0.0050

Neptune -81774-11-21 05:59 J -28146206.42 -28146206.25 -28146206.08 0.0089 0.0043

Neptune -81773-02-17 09:20 J -28146118.28 -28146118.11 -28146117.92 0.0089 0.0037

Venus -81773-04-02 12:42 J -28146073.00 -28146072.97 -28146072.94 0.3778 0.3632

Neptune -81773-05-15 12:56 J -28146030.13 -28146029.96 -28146029.77 0.0089 0.0030

Neptune -81773-08-11 16:32 J -28145941.99 -28145941.81 -28145941.62 0.0089 0.0024

Jupiter -81773-09-19 12:56 J -28145903.00 -28145902.96 -28145902.92 0.0537 0.0505

Neptune -81773-11-07 19:54 J -28145853.85 -28145853.67 -28145853.47 0.0089 0.0018

Jupiter -81773-12-17 20:52 J -28145813.76 -28145813.63 -28145813.50 0.0536 0.0057

Neptune -81772-02-03 23:30 J -28145765.70 -28145765.52 -28145765.32 0.0089 0.0011

Jupiter -81772-03-17 05:30 J -28145724.36 -28145724.27 -28145724.18 0.0534 0.0398

Neptune -81772-05-03 03:06 J -28145677.56 -28145677.37 -28145677.18 0.0088 0.0005

Neptune -81772-07-30 06:42 J -28145589.42 -28145589.22 -28145589.03 0.0088 0.0002

Pluto -81772-08-28 06:56 J -28145560.23 -28145560.21 -28145560.16 0.0085 0.0082

Neptune -81772-10-26 10:04 J -28145501.27 -28145501.08 -28145500.89 0.0088 0.0008

Pluto -81772-11-24 08:23 J -28145472.21 -28145472.15 -28145472.06 0.0085 0.0070

Neptune -81771-01-22 13:25 J -28145413.12 -28145412.94 -28145412.75 0.0088 0.0014

Pluto -81771-02-20 10:04 J -28145384.18 -28145384.08 -28145383.98 0.0084 0.0058

Neptune -81771-04-20 16:47 J -28145324.98 -28145324.80 -28145324.60 0.0088 0.0021

Pluto -81771-05-19 11:16 J -28145296.14 -28145296.03 -28145295.91 0.0084 0.0046

Neptune -81771-07-17 20:23 J -28145236.83 -28145236.65 -28145236.46 0.0088 0.0026

Pluto -81771-08-15 12:42 J -28145208.09 -28145207.97 -28145207.85 0.0084 0.0034

Mars -81771-08-27 17:59 J -28145195.86 -28145195.75 -28145195.65 0.1783 0.0851

Neptune -81771-10-13 23:44 J -28145148.68 -28145148.51 -28145148.33 0.0088 0.0033

Pluto -81771-11-11 13:54 J -28145120.04 -28145119.92 -28145119.78 0.0084 0.0023

Neptune -81770-01-10 03:06 J -28145060.53 -28145060.37 -28145060.19 0.0088 0.0039

Pluto -81770-02-07 15:20 J -28145031.99 -28145031.86 -28145031.73 0.0084 0.0011

Neptune -81770-04-08 06:42 J -28144972.38 -28144972.22 -28144972.05 0.0088 0.0045

Pluto -81770-05-06 16:47 J -28144943.94 -28144943.80 -28144943.67 0.0084 0.0002

Neptune -81770-07-05 09:49 J -28144884.23 -28144884.09 -28144883.92 0.0088 0.0051

Pluto -81770-08-02 17:59 J -28144855.88 -28144855.75 -28144855.62 0.0084 0.0012

Neptune -81770-10-01 13:11 J -28144796.08 -28144795.95 -28144795.79 0.0088 0.0058

Pluto -81770-10-29 19:11 J -28144767.82 -28144767.70 -28144767.57 0.0084 0.0023

Neptune -81770-12-28 16:32 J -28144707.92 -28144707.81 -28144707.66 0.0088 0.0064

Pluto -81769-01-25 20:23 J -28144679.76 -28144679.65 -28144679.52 0.0083 0.0035

Neptune -81769-03-25 19:54 J -28144619.77 -28144619.67 -28144619.53 0.0088 0.0070

Pluto -81769-04-22 21:49 J -28144591.70 -28144591.59 -28144591.48 0.0083 0.0046

Neptune -81769-06-21 23:30 J -28144531.61 -28144531.52 -28144531.41 0.0088 0.0076

Pluto -81769-07-19 23:01 J -28144503.63 -28144503.54 -28144503.44 0.0083 0.0057

Neptune -81769-09-18 02:52 J -28144443.44 -28144443.38 -28144443.30 0.0088 0.0082

Pluto -81769-10-15 23:59 J -28144415.56 -28144415.50 -28144415.41 0.0083 0.0068

Neptune -81769-12-15 06:13 J -28144355.25 -28144355.24 -28144355.20 0.0088 0.0088

Saturn -81769-12-15 16:04 J -28144354.94 -28144354.83 -28144354.71 0.0287 0.0225

Pluto -81768-01-12 01:11 J -28144327.47 -28144327.45 -28144327.39 0.0083 0.0079

Saturn -81768-03-14 15:35 J -28144266.03 -28144265.85 -28144265.67 0.0288 0.0068

Saturn -81768-06-11 14:37 J -28144177.06 -28144176.89 -28144176.71 0.0288 0.0089

Saturn -81768-09-08 13:25 J -28144088.03 -28144087.94 -28144087.84 0.0289 0.0244

Venus -81768-10-17 06:56 J -28144049.29 -28144049.21 -28144049.14 0.3775 0.2704

Jupiter -81766-02-14 08:52 J -28143564.31 -28143564.13 -28143563.95 0.0492 0.0008

Jupiter -81766-05-15 13:40 J -28143473.95 -28143473.93 -28143473.91 0.0494 0.0489

Earth -81765-03-10 15:06 J -28143173.98 -28143173.87 -28143173.76 0.2751 0.0547

Moon -81765-03-10 15:35 J -28143173.96 -28143173.85 -28143173.74 0.2745 0.0551 *

Venus -81762-05-03 01:11 J -28142025.54 -28142025.45 -28142025.35 0.3772 0.1748

Uranus -81761-01-16 16:04 J -28141766.87 -28141766.83 -28141766.78 0.0138 0.0129

Mars -81761-01-18 02:52 J -28141765.44 -28141765.38 -28141765.33 0.1792 0.1556

Uranus -81761-04-13 19:25 J -28141678.75 -28141678.69 -28141678.60 0.0138 0.0113

Uranus -81761-07-10 23:01 J -28141590.63 -28141590.54 -28141590.44 0.0138 0.0096

Jupiter -81761-10-06 00:13 J -28141503.61 -28141503.49 -28141503.37 0.0536 0.0174

Uranus -81761-10-07 02:23 J -28141502.50 -28141502.40 -28141502.28 0.0138 0.0080

Uranus -81760-01-03 05:59 J -28141414.37 -28141414.25 -28141414.12 0.0138 0.0062

Jupiter -81760-01-03 08:23 J -28141414.26 -28141414.15 -28141414.03 0.0534 0.0279 *

Mars -81760-02-26 18:28 J -28141359.86 -28141359.73 -28141359.60 0.1776 0.0959

Uranus -81760-04-01 09:35 J -28141326.23 -28141326.10 -28141325.97 0.0138 0.0045

Uranus -81760-06-28 13:11 J -28141238.08 -28141237.95 -28141237.82 0.0139 0.0028

Uranus -81760-09-24 16:47 J -28141149.94 -28141149.80 -28141149.67 0.0139 0.0010

Uranus -81760-12-21 20:23 J -28141061.79 -28141061.65 -28141061.52 0.0139 0.0008

Mars -81760-12-23 15:20 J -28141059.93 -28141059.86 -28141059.78 0.1758 0.1313

Uranus -81759-03-19 23:59 J -28140973.64 -28140973.50 -28140973.37 0.0139 0.0025

Uranus -81759-06-16 03:35 J -28140885.48 -28140885.35 -28140885.22 0.0139 0.0043

Uranus -81759-09-12 07:11 J -28140797.32 -28140797.20 -28140797.07 0.0139 0.0061

Uranus -81759-12-09 10:47 J -28140709.15 -28140709.05 -28140708.93 0.0140 0.0080

Uranus -81758-03-07 14:37 J -28140620.98 -28140620.89 -28140620.79 0.0140 0.0098

Uranus -81758-06-03 18:28 J -28140532.80 -28140532.73 -28140532.65 0.0140 0.0116

Uranus -81758-08-30 22:04 J -28140444.60 -28140444.58 -28140444.54 0.0140 0.0135

Venus -81757-11-15 19:54 J -28140001.78 -28140001.67 -28140001.56 0.3768 0.0759

Saturn -81755-07-18 17:30 J -28139391.79 -28139391.77 -28139391.75 0.0274 0.0271

Earth -81755-09-07 04:04 J -28139341.36 -28139341.33 -28139341.31 0.2586 0.2551

Saturn -81755-10-15 04:18 J -28139303.42 -28139303.32 -28139303.21 0.0274 0.0175

Jupiter -81755-12-03 06:56 J -28139254.38 -28139254.21 -28139254.03 0.0492 0.0133

Saturn -81754-01-11 15:20 J -28139214.99 -28139214.86 -28139214.73 0.0273 0.0079

Jupiter -81754-03-03 12:13 J -28139164.10 -28139163.99 -28139163.87 0.0494 0.0368

Saturn -81754-04-10 02:23 J -28139126.54 -28139126.40 -28139126.27 0.0273 0.0018

Saturn -81754-07-07 13:25 J -28139038.06 -28139037.94 -28139037.82 0.0272 0.0115

Saturn -81754-10-04 00:42 J -28138949.56 -28138949.47 -28138949.39 0.0271 0.0212

Moon -81752-03-13 09:35 J -28138423.21 -28138423.10 -28138422.99 0.2744 0.0806

Earth -81752-03-13 09:49 J -28138423.20 -28138423.09 -28138422.98 0.2751 0.0792 *

Venus -81751-06-01 14:37 J -28137978.00 -28137977.89 -28137977.78 0.3764 0.0258

Mars -81751-07-19 18:28 J -28137929.88 -28137929.73 -28137929.57 0.1767 0.0114

Mars -81750-05-16 00:13 J -28137629.60 -28137629.49 -28137629.37 0.1766 0.0629

Jupiter -81749-07-25 03:35 J -28137193.45 -28137193.35 -28137193.24 0.0536 0.0289

Jupiter -81749-10-22 11:44 J -28137104.13 -28137104.01 -28137103.88 0.0534 0.0163

Venus -81747-05-31 10:32 J -28136518.12 -28136518.06 -28136517.99 0.3604 0.3169

Venus -81746-12-16 09:35 J -28135954.20 -28135954.10 -28135953.99 0.3760 0.1302

Jupiter -81743-09-21 04:47 J -28134944.45 -28134944.30 -28134944.14 0.0491 0.0262

Jupiter -81743-12-20 10:32 J -28134854.22 -28134854.06 -28134853.91 0.0493 0.0242

Moon -81742-09-10 07:11 J -28134590.35 -28134590.20 -28134590.05 0.2585 0.0699

Earth -81742-09-10 08:37 J -28134590.29 -28134590.14 -28134589.99 0.2585 0.0456 *

Mars -81742-12-09 18:56 J -28134499.83 -28134499.71 -28134499.59 0.1758 0.1156

Venus -81742-12-15 11:16 J -28134494.15 -28134494.03 -28134493.92 0.3608 0.1723

Mars -81741-10-05 09:06 J -28134199.24 -28134199.12 -28134199.00 0.1775 0.0067

Venus -81740-07-01 04:47 J -28133930.38 -28133930.30 -28133930.21 0.3756 0.2382

Moon -81739-03-16 04:04 J -28133672.40 -28133672.33 -28133672.26 0.2746 0.2072

Earth -81739-03-16 04:47 J -28133672.37 -28133672.30 -28133672.24 0.2751 0.2153 *

Saturn -81739-05-04 16:18 J -28133622.89 -28133622.82 -28133622.74 0.0287 0.0258

Saturn -81739-08-01 15:49 J -28133534.01 -28133533.84 -28133533.66 0.0287 0.0101

Saturn -81739-10-29 15:06 J -28133445.05 -28133444.87 -28133444.69 0.0288 0.0056

Saturn -81738-01-26 13:54 J -28133356.04 -28133355.92 -28133355.79 0.0289 0.0211

Jupiter -81737-05-13 07:11 J -28132883.28 -28132883.20 -28132883.12 0.0537 0.0404

Jupiter -81737-08-10 15:06 J -28132794.00 -28132793.87 -28132793.74 0.0535 0.0049

Jupiter -81737-11-07 23:59 J -28132704.54 -28132704.50 -28132704.46 0.0533 0.0501

Venus -81736-06-30 11:01 J -28132470.17 -28132470.04 -28132469.90 0.3612 0.0364

Venus -81734-01-15 00:13 J -28131906.53 -28131906.49 -28131906.45 0.3752 0.3480

Earth -81732-03-09 01:25 J -28131122.53 -28131122.44 -28131122.36 0.2751 0.1592

Moon -81732-03-09 01:54 J -28131122.51 -28131122.42 -28131122.33 0.2748 0.1566 *

Mars -81731-02-25 17:59 J -28130768.86 -28130768.75 -28130768.64 0.1783 0.0764

Jupiter -81731-07-10 02:52 J -28130634.49 -28130634.38 -28130634.27 0.0491 0.0387

Jupiter -81731-10-08 08:52 J -28130544.31 -28130544.13 -28130543.96 0.0492 0.0118

Venus -81730-01-14 10:47 J -28130446.18 -28130446.05 -28130445.92 0.3616 0.1000

Moon -81729-09-12 11:30 J -28129839.14 -28129839.02 -28129838.90 0.2589 0.1525

Earth -81729-09-12 12:56 J -28129839.08 -28129838.96 -28129838.84 0.2585 0.1587 *

Jupiter -81725-03-01 11:01 J -28128573.07 -28128573.04 -28128573.00 0.0537 0.0512

Saturn -81725-03-03 07:11 J -28128571.29 -28128571.20 -28128571.11 0.0273 0.0200

Jupiter -81725-05-29 18:56 J -28128483.83 -28128483.71 -28128483.58 0.0536 0.0066

Saturn -81725-05-30 17:59 J -28128482.87 -28128482.75 -28128482.63 0.0273 0.0104

Venus -81725-07-30 09:49 J -28128422.19 -28128422.09 -28128421.98 0.3620 0.2271

Jupiter -81725-08-27 03:35 J -28128394.44 -28128394.35 -28128394.26 0.0534 0.0392

Saturn -81725-08-27 05:01 J -28128394.43 -28128394.29 -28128394.16 0.0272 0.0008 *

Saturn -81725-11-23 16:04 J -28128305.96 -28128305.83 -28128305.70 0.0271 0.0089

Saturn -81724-02-20 03:06 J -28128217.47 -28128217.37 -28128217.27 0.0271 0.0185

Uranus -81722-06-10 10:47 J -28127377.08 -28127377.05 -28127377.00 0.0141 0.0137

Mars -81722-07-19 02:52 J -28127338.45 -28127338.38 -28127338.31 0.1791 0.1461

Uranus -81722-09-06 18:13 J -28127288.84 -28127288.74 -28127288.61 0.0141 0.0112

Uranus -81722-12-04 01:40 J -28127200.56 -28127200.43 -28127200.27 0.0140 0.0087

Uranus -81721-03-01 09:06 J -28127112.28 -28127112.12 -28127111.94 0.0140 0.0062

Uranus -81721-05-28 16:32 J -28127023.98 -28127023.81 -28127023.63 0.0140 0.0036

Uranus -81721-08-24 23:59 J -28126935.69 -28126935.50 -28126935.32 0.0140 0.0012

Mars -81721-08-27 18:42 J -28126932.84 -28126932.72 -28126932.59 0.1776 0.1075

Uranus -81721-11-21 07:11 J -28126847.39 -28126847.20 -28126847.02 0.0140 0.0013

Uranus -81720-02-17 14:08 J -28126759.09 -28126758.91 -28126758.73 0.0140 0.0037

Uranus -81720-05-16 21:06 J -28126670.78 -28126670.62 -28126670.45 0.0139 0.0061

Mars -81720-06-23 15:35 J -28126632.92 -28126632.85 -28126632.78 0.1758 0.1409

Uranus -81720-08-13 04:04 J -28126582.47 -28126582.33 -28126582.18 0.0139 0.0084

Uranus -81720-11-09 11:01 J -28126494.15 -28126494.04 -28126493.92 0.0139 0.0108

Uranus -81719-02-05 17:44 J -28126405.81 -28126405.76 -28126405.69 0.0139 0.0131

Venus -81719-02-13 08:52 J -28126398.16 -28126398.13 -28126398.10 0.3624 0.3491

Earth -81719-03-11 19:54 J -28126371.78 -28126371.67 -28126371.56 0.2751 0.0278

Moon -81719-03-11 20:23 J -28126371.76 -28126371.65 -28126371.54 0.2745 0.0157 *

Jupiter -81719-07-27 06:42 J -28126234.40 -28126234.22 -28126234.04 0.0492 0.0012

Jupiter -81719-10-25 11:30 J -28126144.04 -28126144.02 -28126143.99 0.0494 0.0486

Venus -81717-11-07 10:47 J -28125400.09 -28125400.05 -28125400.00 0.3778 0.3363

Jupiter -81713-03-17 23:01 J -28124173.66 -28124173.54 -28124173.42 0.0536 0.0171

Jupiter -81713-06-15 07:25 J -28124084.30 -28124084.19 -28124084.08 0.0534 0.0283

Mars -81711-01-17 19:11 J -28123502.86 -28123502.70 -28123502.54 0.1767 0.0031

Venus -81711-05-24 05:01 J -28123376.37 -28123376.29 -28123376.20 0.3774 0.2425

Mars -81711-11-14 00:28 J -28123202.59 -28123202.48 -28123202.37 0.1766 0.0722

Saturn -81710-12-19 12:13 J -28122802.14 -28122801.99 -28122801.83 0.0287 0.0160

Saturn -81709-03-17 11:44 J -28122713.20 -28122713.01 -28122712.83 0.0288 0.0007

Saturn -81709-06-14 10:32 J -28122624.21 -28122624.06 -28122623.90 0.0288 0.0153

Moon -81709-09-07 09:06 J -28122539.19 -28122539.12 -28122539.05 0.2581 0.2303

Earth -81709-09-07 10:18 J -28122539.15 -28122539.07 -28122538.98 0.2586 0.2115 *

Jupiter -81707-05-15 05:16 J -28121924.45 -28121924.28 -28121924.11 0.0492 0.0132

Jupiter -81707-08-13 10:32 J -28121834.18 -28121834.06 -28121833.94 0.0493 0.0368

Moon -81706-03-14 14:23 J -28121621.00 -28121620.90 -28121620.79 0.2744 0.0977

Earth -81706-03-14 14:52 J -28121620.99 -28121620.88 -28121620.78 0.2751 0.1077 *

Venus -81706-12-07 23:30 J -28121352.62 -28121352.52 -28121352.42 0.3771 0.1456

Mars -81702-06-09 19:25 J -28120072.82 -28120072.69 -28120072.56 0.1758 0.1031

Jupiter -81701-01-05 02:37 J -28119863.50 -28119863.39 -28119863.29 0.0536 0.0286

Jupiter -81701-04-03 10:32 J -28119774.18 -28119774.06 -28119773.93 0.0534 0.0166

Mars -81701-04-05 09:06 J -28119772.24 -28119772.12 -28119772.00 0.1774 0.0028

Venus -81700-06-22 18:13 J -28119328.85 -28119328.74 -28119328.63 0.3767 0.0463

Earth -81699-03-07 11:30 J -28119071.05 -28119071.02 -28119070.98 0.2750 0.2622

Moon -81699-03-07 12:13 J -28119071.02 -28119070.99 -28119070.95 0.2753 0.2576 *

Saturn -81696-07-21 09:20 J -28117839.18 -28117839.11 -28117839.04 0.0274 0.0230

Moon -81696-09-10 13:25 J -28117788.10 -28117787.94 -28117787.79 0.2586 0.0101

Earth -81696-09-10 14:52 J -28117788.03 -28117787.88 -28117787.72 0.2585 0.0049 *

Saturn -81696-10-17 20:23 J -28117750.77 -28117750.65 -28117750.54 0.0274 0.0133

Saturn -81695-01-14 07:25 J -28117662.33 -28117662.19 -28117662.06 0.0273 0.0038

Jupiter -81695-03-03 03:06 J -28117614.52 -28117614.37 -28117614.21 0.0492 0.0260

Saturn -81695-04-12 18:13 J -28117573.87 -28117573.74 -28117573.60 0.0273 0.0061

Jupiter -81695-06-01 08:52 J -28117524.29 -28117524.13 -28117523.97 0.0493 0.0244

Saturn -81695-07-10 05:30 J -28117485.38 -28117485.27 -28117485.16 0.0272 0.0158

Saturn -81695-10-06 16:32 J -28117396.85 -28117396.81 -28117396.76 0.0271 0.0255

Venus -81694-01-06 12:56 J -28117305.07 -28117304.96 -28117304.85 0.3763 0.0568

Neptune -81694-06-22 06:56 J -28117138.21 -28117138.21 -28117138.20 0.0089 0.0089

Neptune -81694-09-18 08:08 J -28117050.19 -28117050.16 -28117050.11 0.0089 0.0085

Neptune -81694-12-15 09:35 J -28116962.15 -28116962.10 -28116962.04 0.0089 0.0080

Neptune -81693-03-12 10:47 J -28116874.11 -28116874.05 -28116873.97 0.0089 0.0076

Moon -81693-03-16 09:06 J -28116870.18 -28116870.12 -28116870.07 0.2747 0.2367

Earth -81693-03-16 09:35 J -28116870.15 -28116870.10 -28116870.05 0.2751 0.2433 *

Neptune -81693-06-08 11:59 J -28116786.06 -28116786.00 -28116785.91 0.0089 0.0072

Neptune -81693-09-04 13:40 J -28116698.01 -28116697.93 -28116697.84 0.0089 0.0067

Neptune -81693-12-01 14:52 J -28116609.96 -28116609.88 -28116609.78 0.0089 0.0063

Neptune -81692-02-27 16:04 J -28116521.91 -28116521.83 -28116521.72 0.0089 0.0059

Neptune -81692-05-26 17:44 J -28116433.86 -28116433.76 -28116433.65 0.0089 0.0054

Neptune -81692-08-22 18:56 J -28116345.81 -28116345.71 -28116345.59 0.0089 0.0050

Mars -81692-08-26 17:59 J -28116341.86 -28116341.75 -28116341.64 0.1783 0.0673

Neptune -81692-11-18 20:08 J -28116257.76 -28116257.66 -28116257.53 0.0089 0.0046

Neptune -81691-02-14 21:49 J -28116169.71 -28116169.59 -28116169.47 0.0089 0.0041

Neptune -81691-05-13 23:01 J -28116081.65 -28116081.54 -28116081.41 0.0089 0.0037

Neptune -81691-08-10 00:28 J -28115993.60 -28115993.48 -28115993.35 0.0089 0.0032

Neptune -81691-11-06 01:54 J -28115905.55 -28115905.42 -28115905.29 0.0089 0.0028

Venus -81690-01-05 10:32 J -28115845.15 -28115845.06 -28115844.97 0.3605 0.2737

Neptune -81690-02-02 03:06 J -28115817.49 -28115817.37 -28115817.23 0.0089 0.0024

Neptune -81690-05-01 04:32 J -28115729.44 -28115729.31 -28115729.17 0.0089 0.0019

Neptune -81690-07-28 05:59 J -28115641.38 -28115641.25 -28115641.12 0.0089 0.0015

Jupiter -81690-10-24 05:59 J -28115553.33 -28115553.25 -28115553.16 0.0536 0.0400

Neptune -81690-10-24 07:25 J -28115553.32 -28115553.19 -28115553.06 0.0089 0.0010 *

Neptune -81689-01-20 08:52 J -28115465.27 -28115465.13 -28115465.00 0.0089 0.0006

Jupiter -81689-01-21 13:54 J -28115464.05 -28115463.92 -28115463.79 0.0535 0.0050

Neptune -81689-04-17 10:18 J -28115377.21 -28115377.07 -28115376.94 0.0089 0.0003

Jupiter -81689-04-19 22:32 J -28115374.60 -28115374.56 -28115374.52 0.0532 0.0503

Neptune -81689-07-14 11:30 J -28115289.15 -28115289.02 -28115288.88 0.0089 0.0004

Venus -81689-07-22 08:08 J -28115281.27 -28115281.16 -28115281.06 0.3759 0.1633

Neptune -81689-10-10 12:56 J -28115201.09 -28115200.96 -28115200.82 0.0089 0.0008

Neptune -81688-01-06 14:23 J -28115113.03 -28115112.90 -28115112.77 0.0089 0.0012

Neptune -81688-04-04 15:49 J -28115024.97 -28115024.84 -28115024.71 0.0089 0.0017

Neptune -81688-07-01 17:01 J -28114936.91 -28114936.79 -28114936.65 0.0089 0.0022

Neptune -81688-09-27 18:28 J -28114848.85 -28114848.73 -28114848.60 0.0089 0.0026

Neptune -81688-12-24 19:54 J -28114760.79 -28114760.67 -28114760.54 0.0089 0.0030

Neptune -81687-03-22 21:20 J -28114672.73 -28114672.61 -28114672.48 0.0089 0.0035

Neptune -81687-06-18 22:32 J -28114584.67 -28114584.56 -28114584.43 0.0089 0.0040

Neptune -81687-09-15 00:13 J -28114496.61 -28114496.49 -28114496.37 0.0089 0.0044

Neptune -81687-12-12 01:25 J -28114408.54 -28114408.44 -28114408.32 0.0089 0.0049

Neptune -81686-03-10 02:52 J -28114320.48 -28114320.38 -28114320.26 0.0089 0.0053

Earth -81686-03-10 06:13 J -28114320.34 -28114320.24 -28114320.14 0.2751 0.1316 *

Moon -81686-03-10 06:56 J -28114320.31 -28114320.21 -28114320.11 0.2747 0.1176 *

Neptune -81686-06-06 04:18 J -28114232.41 -28114232.32 -28114232.21 0.0089 0.0058

Neptune -81686-09-02 05:44 J -28114144.35 -28114144.26 -28114144.16 0.0089 0.0062

Neptune -81686-11-29 07:11 J -28114056.28 -28114056.20 -28114056.10 0.0089 0.0067

Neptune -81685-02-25 08:37 J -28113968.21 -28113968.14 -28113968.05 0.0089 0.0071

Neptune -81685-05-23 10:04 J -28113880.14 -28113880.08 -28113880.00 0.0089 0.0076

Venus -81685-07-21 10:47 J -28113821.17 -28113821.05 -28113820.92 0.3609 0.1317

Neptune -81685-08-19 11:30 J -28113792.07 -28113792.02 -28113791.96 0.0089 0.0080

Neptune -81685-11-15 12:56 J -28113703.99 -28113703.96 -28113703.91 0.0089 0.0085

Jupiter -81684-12-20 00:56 J -28113304.57 -28113304.46 -28113304.35 0.0491 0.0389

Venus -81683-02-05 03:20 J -28113257.44 -28113257.36 -28113257.28 0.3755 0.2713

Jupiter -81683-03-20 06:56 J -28113214.38 -28113214.21 -28113214.04 0.0492 0.0117

Moon -81683-09-13 17:59 J -28113036.86 -28113036.75 -28113036.65 0.2589 0.1801

Earth -81683-09-13 19:11 J -28113036.80 -28113036.70 -28113036.61 0.2585 0.1999 *

Mars -81682-01-17 02:52 J -28112911.46 -28112911.38 -28112911.31 0.1791 0.1380

Mars -81681-02-26 19:25 J -28112505.80 -28112505.69 -28112505.58 0.1776 0.1211

Mars -81681-12-22 15:35 J -28112205.91 -28112205.85 -28112205.79 0.1758 0.1497

Saturn -81680-05-07 13:11 J -28112070.08 -28112069.95 -28112069.80 0.0287 0.0188

Saturn -81680-08-04 12:42 J -28111981.15 -28111980.97 -28111980.79 0.0288 0.0031

Saturn -81680-11-01 11:44 J -28111892.17 -28111892.01 -28111891.85 0.0288 0.0125

Saturn -81679-01-29 10:18 J -28111803.10 -28111803.07 -28111803.02 0.0289 0.0280

Venus -81679-02-04 10:47 J -28111797.18 -28111797.05 -28111796.91 0.3613 0.0086

Jupiter -81678-08-12 09:20 J -28111243.14 -28111243.11 -28111243.08 0.0537 0.0517

Jupiter -81678-11-09 17:16 J -28111153.91 -28111153.78 -28111153.65 0.0536 0.0069

Uranus -81677-02-05 23:01 J -28111065.58 -28111065.54 -28111065.48 0.0138 0.0127

Jupiter -81677-02-07 01:40 J -28111064.52 -28111064.43 -28111064.34 0.0534 0.0385

Uranus -81677-05-04 02:37 J -28110977.47 -28110977.39 -28110977.31 0.0138 0.0110

Uranus -81677-07-31 05:59 J -28110889.34 -28110889.25 -28110889.15 0.0138 0.0094

Uranus -81677-10-27 09:35 J -28110801.21 -28110801.10 -28110800.99 0.0138 0.0077

Uranus -81676-01-23 12:56 J -28110713.08 -28110712.96 -28110712.83 0.0138 0.0060

Uranus -81676-04-21 16:32 J -28110624.94 -28110624.81 -28110624.68 0.0138 0.0042

Uranus -81676-07-18 19:54 J -28110536.80 -28110536.67 -28110536.53 0.0139 0.0026

Uranus -81676-10-14 23:44 J -28110448.65 -28110448.51 -28110448.38 0.0139 0.0008

Uranus -81675-01-11 03:20 J -28110360.50 -28110360.36 -28110360.23 0.0139 0.0011

Uranus -81675-04-09 06:42 J -28110272.35 -28110272.22 -28110272.08 0.0139 0.0028

Uranus -81675-07-06 10:18 J -28110184.19 -28110184.07 -28110183.93 0.0139 0.0046

Uranus -81675-10-02 14:08 J -28110096.03 -28110095.91 -28110095.79 0.0139 0.0064

Uranus -81675-12-29 17:44 J -28110007.87 -28110007.76 -28110007.64 0.0140 0.0082

Uranus -81674-03-27 21:20 J -28109919.69 -28109919.61 -28109919.51 0.0140 0.0101

Uranus -81674-06-24 01:11 J -28109831.51 -28109831.45 -28109831.37 0.0140 0.0119

Venus -81674-08-21 10:18 J -28109773.19 -28109773.07 -28109772.95 0.3617 0.1380

Uranus -81674-09-20 05:01 J -28109743.31 -28109743.29 -28109743.26 0.0140 0.0137

Earth -81673-03-12 00:56 J -28109569.57 -28109569.46 -28109569.35 0.2751 0.0032

Moon -81673-03-12 01:11 J -28109569.56 -28109569.45 -28109569.34 0.2745 0.0028 *

Mars -81672-07-18 19:40 J -28109075.84 -28109075.68 -28109075.52 0.1767 0.0149

Jupiter -81671-01-06 05:01 J -28108904.47 -28108904.29 -28108904.11 0.0492 0.0013

Jupiter -81671-04-06 09:49 J -28108814.11 -28108814.09 -28108814.06 0.0494 0.0488

Mars -81671-05-15 00:28 J -28108775.59 -28108775.48 -28108775.38 0.1766 0.0809

Venus -81668-03-06 09:20 J -28107749.20 -28107749.11 -28107749.02 0.3621 0.2647

Saturn -81667-12-08 12:28 J -28107107.03 -28107106.98 -28107106.93 0.0274 0.0251

Saturn -81666-03-06 23:16 J -28107018.63 -28107018.53 -28107018.42 0.0273 0.0155

Saturn -81666-06-03 10:18 J -28106930.20 -28106930.07 -28106929.94 0.0273 0.0059

Jupiter -81666-08-28 21:06 J -28106843.74 -28106843.62 -28106843.50 0.0536 0.0180

Saturn -81666-08-30 21:20 J -28106841.74 -28106841.61 -28106841.48 0.0272 0.0038

Jupiter -81666-11-26 05:30 J -28106754.39 -28106754.27 -28106754.16 0.0534 0.0275

Saturn -81666-11-27 08:23 J -28106753.27 -28106753.15 -28106753.03 0.0271 0.0135

Saturn -81665-02-23 19:25 J -28106664.75 -28106664.69 -28106664.61 0.0271 0.0232

Moon -81663-09-08 15:20 J -28105736.97 -28105736.86 -28105736.75 0.2582 0.1771

Earth -81663-09-08 16:32 J -28105736.92 -28105736.81 -28105736.69 0.2586 0.1693 *

Mars -81663-12-08 19:54 J -28105645.81 -28105645.67 -28105645.54 0.1758 0.0914

Mars -81662-10-05 09:20 J -28105345.23 -28105345.11 -28105344.99 0.1774 0.0126

Moon -81660-03-14 19:25 J -28104818.79 -28104818.69 -28104818.59 0.2744 0.1367

Earth -81660-03-14 19:40 J -28104818.77 -28104818.68 -28104818.58 0.2751 0.1350 *

Venus -81660-06-14 09:06 J -28104727.19 -28104727.12 -28104727.06 0.3777 0.3091

Jupiter -81660-10-25 02:52 J -28104594.55 -28104594.38 -28104594.20 0.0491 0.0137

Jupiter -81659-01-23 08:08 J -28104504.28 -28104504.16 -28104504.04 0.0493 0.0362

Venus -81655-12-29 03:20 J -28102703.45 -28102703.36 -28102703.27 0.3773 0.2148

Jupiter -81654-06-17 00:56 J -28102533.56 -28102533.46 -28102533.35 0.0537 0.0288

Jupiter -81654-09-14 09:20 J -28102444.24 -28102444.11 -28102443.99 0.0535 0.0166

Earth -81653-03-07 16:32 J -28102268.86 -28102268.81 -28102268.75 0.2750 0.2351

Moon -81653-03-07 17:16 J -28102268.84 -28102268.78 -28102268.72 0.2751 0.2257 *

Mars -81652-02-24 17:59 J -28101914.86 -28101914.75 -28101914.63 0.1783 0.0587

Saturn -81651-09-24 10:04 J -28101338.16 -28101338.08 -28101337.97 0.0286 0.0244

Saturn -81651-12-22 09:49 J -28101249.27 -28101249.09 -28101248.92 0.0287 0.0086

Saturn -81650-03-21 08:52 J -28101160.30 -28101160.13 -28101159.95 0.0288 0.0070

Saturn -81650-06-18 07:40 J -28101071.29 -28101071.18 -28101071.07 0.0288 0.0225

Moon -81650-09-11 19:40 J -28100985.83 -28100985.68 -28100985.53 0.2587 0.0144

Earth -81650-09-11 21:06 J -28100985.77 -28100985.62 -28100985.46 0.2586 0.0400 *

Venus -81649-07-13 21:49 J -28100679.70 -28100679.59 -28100679.49 0.3770 0.1163

Jupiter -81648-08-13 01:11 J -28100284.60 -28100284.45 -28100284.30 0.0491 0.0261

Jupiter -81648-11-11 06:56 J -28100194.37 -28100194.21 -28100194.06 0.0493 0.0242

Moon -81647-03-17 13:54 J -28100067.96 -28100067.92 -28100067.88 0.2749 0.2571

Earth -81647-03-17 14:37 J -28100067.90 -28100067.89 -28100067.88 0.2751 0.2715 *

Venus -81643-01-27 16:18 J -28098655.93 -28098655.82 -28098655.70 0.3766 0.0197

Mars -81643-07-18 02:52 J -28098484.46 -28098484.38 -28098484.30 0.1791 0.1286

Jupiter -81642-04-05 04:47 J -28098223.39 -28098223.30 -28098223.22 0.0536 0.0400

Jupiter -81642-07-03 12:42 J -28098134.10 -28098133.97 -28098133.84 0.0535 0.0050

Mars -81642-08-27 20:08 J -28098078.76 -28098078.66 -28098078.56 0.1777 0.1345

Jupiter -81642-09-30 21:06 J -28098044.65 -28098044.62 -28098044.57 0.0532 0.0503

Mars -81641-06-22 15:35 J -28097778.89 -28097778.85 -28097778.80 0.1757 0.1590

Earth -81640-03-10 11:16 J -28097518.14 -28097518.03 -28097517.93 0.2751 0.1053

Moon -81640-03-10 11:44 J -28097518.11 -28097518.01 -28097517.90 0.2747 0.1013 *

Uranus -81638-06-30 17:30 J -28096675.82 -28096675.77 -28096675.72 0.0141 0.0134

Venus -81638-08-13 11:16 J -28096632.14 -28096632.03 -28096631.92 0.3762 0.0887

Uranus -81638-09-27 00:42 J -28096587.58 -28096587.47 -28096587.34 0.0141 0.0109

Uranus -81638-12-24 08:08 J -28096499.30 -28096499.16 -28096499.00 0.0140 0.0084

Uranus -81637-03-21 15:35 J -28096411.01 -28096410.85 -28096410.67 0.0140 0.0059

Uranus -81637-06-17 23:01 J -28096322.72 -28096322.54 -28096322.36 0.0140 0.0033

Saturn -81637-07-24 01:40 J -28096286.53 -28096286.43 -28096286.33 0.0274 0.0185

Moon -81637-09-14 00:28 J -28096234.53 -28096234.48 -28096234.43 0.2590 0.2412

Earth -81637-09-14 01:25 J -28096234.49 -28096234.44 -28096234.39 0.2586 0.2413 *

Uranus -81637-09-14 06:13 J -28096234.42 -28096234.24 -28096234.05 0.0140 0.0009 *

Saturn -81637-10-20 12:42 J -28096198.10 -28096197.97 -28096197.85 0.0274 0.0089

Uranus -81637-12-11 13:25 J -28096146.12 -28096145.94 -28096145.75 0.0140 0.0016

Saturn -81636-01-16 23:44 J -28096109.65 -28096109.51 -28096109.38 0.0273 0.0012

Uranus -81636-03-09 20:37 J -28096057.82 -28096057.64 -28096057.46 0.0140 0.0040

Saturn -81636-04-15 10:47 J -28096021.18 -28096021.05 -28096020.93 0.0272 0.0106

Jupiter -81636-05-31 22:47 J -28095974.66 -28095974.55 -28095974.44 0.0491 0.0392

Uranus -81636-06-06 03:35 J -28095969.51 -28095969.35 -28095969.18 0.0139 0.0064

Saturn -81636-07-12 21:49 J -28095932.68 -28095932.59 -28095932.50 0.0272 0.0204

Jupiter -81636-08-30 04:47 J -28095884.47 -28095884.30 -28095884.12 0.0493 0.0116

Uranus -81636-09-02 10:32 J -28095881.19 -28095881.06 -28095880.91 0.0139 0.0087

Uranus -81636-11-29 17:30 J -28095792.87 -28095792.77 -28095792.65 0.0139 0.0110

Uranus -81635-02-26 00:28 J -28095704.52 -28095704.48 -28095704.43 0.0139 0.0133

Venus -81634-08-12 10:18 J -28095172.17 -28095172.07 -28095171.97 0.3606 0.2321

Mars -81632-01-16 20:23 J -28094648.81 -28094648.65 -28094648.50 0.1768 0.0284

Venus -81632-02-26 06:28 J -28094608.33 -28094608.23 -28094608.13 0.3758 0.1952

Mars -81632-11-13 00:28 J -28094348.58 -28094348.48 -28094348.38 0.1766 0.0902

Jupiter -81630-01-22 08:08 J -28093913.19 -28093913.16 -28093913.12 0.0537 0.0513

Jupiter -81630-04-21 16:04 J -28093823.96 -28093823.83 -28093823.70 0.0535 0.0067

Jupiter -81630-07-20 00:28 J -28093734.57 -28093734.48 -28093734.39 0.0533 0.0386

Venus -81628-02-25 10:32 J -28093148.19 -28093148.06 -28093147.93 0.3610 0.0902

Earth -81627-03-13 05:44 J -28092767.37 -28092767.26 -28092767.15 0.2751 0.0297

Moon -81627-03-13 05:59 J -28092767.36 -28092767.25 -28092767.14 0.2744 0.0354 *

Venus -81627-09-12 01:54 J -28092584.49 -28092584.42 -28092584.36 0.3754 0.3056

Jupiter -81624-06-18 02:52 J -28091574.56 -28091574.38 -28091574.20 0.0492 0.0014

Jupiter -81624-09-16 07:54 J -28091484.20 -28091484.17 -28091484.14 0.0494 0.0484

Mars -81623-06-08 20:23 J -28091218.79 -28091218.65 -28091218.51 0.1759 0.0778

Venus -81623-09-11 10:32 J -28091124.20 -28091124.06 -28091123.93 0.3614 0.0477

Mars -81622-04-05 09:06 J -28090918.24 -28090918.12 -28090918.00 0.1774 0.0211

Saturn -81621-02-11 11:30 J -28090606.07 -28090606.02 -28090605.96 0.0286 0.0269

Saturn -81621-05-10 11:01 J -28090517.20 -28090517.04 -28090516.87 0.0287 0.0112

Saturn -81621-08-07 10:18 J -28090428.25 -28090428.07 -28090427.89 0.0288 0.0045

Saturn -81621-11-04 09:06 J -28090339.24 -28090339.12 -28090338.99 0.0288 0.0200

Pluto -81619-06-17 08:37 J -28089749.16 -28089749.14 -28089749.11 0.0060 0.0060

Pluto -81619-09-13 10:04 J -28089661.16 -28089661.08 -28089661.00 0.0060 0.0054

Pluto -81619-12-10 11:30 J -28089573.14 -28089573.02 -28089572.91 0.0060 0.0048

Jupiter -81618-02-07 19:11 J -28089513.82 -28089513.70 -28089513.58 0.0536 0.0187

Pluto -81618-03-08 12:42 J -28089485.10 -28089484.97 -28089484.83 0.0060 0.0042

Jupiter -81618-05-08 03:20 J -28089424.47 -28089424.36 -28089424.24 0.0534 0.0267

Pluto -81618-06-04 14:08 J -28089397.06 -28089396.91 -28089396.75 0.0060 0.0036

Pluto -81618-08-31 15:20 J -28089309.02 -28089308.86 -28089308.68 0.0061 0.0030

Pluto -81618-11-27 16:47 J -28089220.97 -28089220.80 -28089220.62 0.0061 0.0024

Pluto -81617-02-23 18:13 J -28089132.92 -28089132.74 -28089132.55 0.0061 0.0018

Venus -81617-03-27 09:49 J -28089100.21 -28089100.09 -28089099.98 0.3618 0.1773

Pluto -81617-05-21 19:40 J -28089044.86 -28089044.68 -28089044.49 0.0061 0.0012

Pluto -81617-08-17 21:06 J -28088956.81 -28088956.62 -28088956.42 0.0061 0.0006

Moon -81617-09-08 21:35 J -28088934.73 -28088934.60 -28088934.47 0.2584 0.1414

Earth -81617-09-08 23:01 J -28088934.67 -28088934.54 -28088934.41 0.2586 0.1261 *

Pluto -81617-11-13 22:32 J -28088868.75 -28088868.56 -28088868.36 0.0061 0.0001

Pluto -81616-02-09 23:59 J -28088780.69 -28088780.50 -28088780.30 0.0061 0.0007

Pluto -81616-05-09 01:25 J -28088692.62 -28088692.44 -28088692.25 0.0061 0.0013

Pluto -81616-08-05 02:37 J -28088604.56 -28088604.39 -28088604.19 0.0061 0.0020

Pluto -81616-11-01 04:04 J -28088516.49 -28088516.33 -28088516.14 0.0061 0.0026

Pluto -81615-01-28 05:30 J -28088428.42 -28088428.27 -28088428.09 0.0061 0.0033

Pluto -81615-04-26 07:11 J -28088340.34 -28088340.20 -28088340.04 0.0061 0.0039

Pluto -81615-07-23 08:23 J -28088252.26 -28088252.15 -28088252.00 0.0061 0.0045

Pluto -81615-10-19 10:04 J -28088164.17 -28088164.08 -28088163.97 0.0061 0.0052

Pluto -81614-01-15 11:01 J -28088076.07 -28088076.04 -28088075.95 0.0061 0.0059

Moon -81614-03-16 00:13 J -28088016.58 -28088016.49 -28088016.39 0.2745 0.1516

Earth -81614-03-16 00:42 J -28088016.56 -28088016.47 -28088016.38 0.2751 0.1633 *

Mars -81613-08-25 18:13 J -28087487.86 -28087487.74 -28087487.63 0.1783 0.0495

Jupiter -81612-04-06 00:56 J -28087264.63 -28087264.46 -28087264.28 0.0492 0.0139

Jupiter -81612-07-05 06:13 J -28087174.36 -28087174.24 -28087174.12 0.0493 0.0361

Venus -81612-10-11 08:52 J -28087076.20 -28087076.13 -28087076.06 0.3622 0.3030

Neptune -81611-12-09 03:35 J -28086652.39 -28086652.35 -28086652.29 0.0089 0.0085

Neptune -81610-03-07 06:56 J -28086564.28 -28086564.21 -28086564.10 0.0089 0.0079

Neptune -81610-06-03 11:01 J -28086476.15 -28086476.04 -28086475.93 0.0089 0.0072

Neptune -81610-08-30 14:23 J -28086388.02 -28086387.90 -28086387.76 0.0089 0.0066

Neptune -81610-11-26 17:44 J -28086299.88 -28086299.76 -28086299.60 0.0089 0.0060

Neptune -81609-02-22 21:35 J -28086211.75 -28086211.60 -28086211.44 0.0089 0.0053

Neptune -81609-05-21 01:11 J -28086123.61 -28086123.45 -28086123.28 0.0089 0.0047

Venus -81609-07-05 12:56 J -28086077.97 -28086077.96 -28086077.95 0.3779 0.3748

Neptune -81609-08-17 04:32 J -28086035.47 -28086035.31 -28086035.12 0.0089 0.0041

Neptune -81609-11-13 08:23 J -28085947.33 -28085947.15 -28085946.97 0.0089 0.0034

Neptune -81608-02-09 11:44 J -28085859.18 -28085859.01 -28085858.82 0.0089 0.0028

Neptune -81608-05-08 15:20 J -28085771.04 -28085770.86 -28085770.67 0.0089 0.0021

Neptune -81608-08-04 18:56 J -28085682.90 -28085682.71 -28085682.52 0.0089 0.0015

Neptune -81608-10-31 22:32 J -28085594.75 -28085594.56 -28085594.37 0.0089 0.0008

Saturn -81608-12-11 05:01 J -28085554.38 -28085554.29 -28085554.20 0.0274 0.0204

Neptune -81607-01-28 02:08 J -28085506.61 -28085506.41 -28085506.22 0.0089 0.0003

Earth -81607-03-08 21:20 J -28085466.68 -28085466.61 -28085466.54 0.2750 0.2087

Moon -81607-03-08 22:18 J -28085466.65 -28085466.57 -28085466.50 0.2749 0.1973 *

Saturn -81607-03-09 15:49 J -28085465.96 -28085465.84 -28085465.71 0.0273 0.0108

Neptune -81607-04-26 05:30 J -28085418.46 -28085418.27 -28085418.08 0.0089 0.0004

Saturn -81607-06-06 02:52 J -28085377.51 -28085377.38 -28085377.24 0.0273 0.0014

Neptune -81607-07-23 08:52 J -28085330.31 -28085330.13 -28085329.93 0.0089 0.0011

Saturn -81607-09-02 13:54 J -28085289.04 -28085288.92 -28085288.79 0.0272 0.0087

Neptune -81607-10-19 12:28 J -28085242.17 -28085241.98 -28085241.79 0.0089 0.0017

Jupiter -81607-11-26 22:47 J -28085203.65 -28085203.55 -28085203.44 0.0537 0.0299

Saturn -81607-11-30 01:11 J -28085200.55 -28085200.45 -28085200.35 0.0271 0.0183

Neptune -81606-01-15 15:49 J -28085154.02 -28085153.84 -28085153.65 0.0089 0.0023

Jupiter -81606-02-24 07:11 J -28085114.33 -28085114.20 -28085114.08 0.0535 0.0155

Neptune -81606-04-13 19:11 J -28085065.87 -28085065.70 -28085065.51 0.0089 0.0029

Neptune -81606-07-10 22:32 J -28084977.72 -28084977.56 -28084977.37 0.0089 0.0036

Neptune -81606-10-07 01:54 J -28084889.57 -28084889.42 -28084889.24 0.0088 0.0042

Neptune -81605-01-03 05:30 J -28084801.42 -28084801.27 -28084801.10 0.0088 0.0048

Neptune -81605-03-31 08:52 J -28084713.27 -28084713.13 -28084712.97 0.0088 0.0054

Neptune -81605-06-27 12:28 J -28084625.12 -28084624.98 -28084624.84 0.0088 0.0060

Neptune -81605-09-23 15:20 J -28084536.96 -28084536.86 -28084536.71 0.0088 0.0067

Neptune -81605-12-20 18:42 J -28084448.80 -28084448.72 -28084448.59 0.0088 0.0073

Neptune -81604-03-18 22:04 J -28084360.64 -28084360.58 -28084360.47 0.0088 0.0079

Neptune -81604-06-15 01:25 J -28084272.47 -28084272.44 -28084272.36 0.0088 0.0085

Moon -81604-09-12 01:54 J -28084183.57 -28084183.42 -28084183.27 0.2587 0.0731

Earth -81604-09-12 03:35 J -28084183.50 -28084183.35 -28084183.21 0.2586 0.0809 *

Mars -81603-01-16 03:06 J -28084057.46 -28084057.37 -28084057.29 0.1791 0.1195

Venus -81603-01-19 07:11 J -28084054.28 -28084054.20 -28084054.13 0.3776 0.2819

Mars -81602-02-25 20:23 J -28083651.74 -28083651.65 -28083651.56 0.1777 0.1459

Mars -81602-12-22 15:49 J -28083351.87 -28083351.84 -28083351.81 0.1757 0.1685

Jupiter -81600-01-22 22:32 J -28082954.71 -28082954.56 -28082954.40 0.0491 0.0269

Jupiter -81600-04-23 04:18 J -28082864.48 -28082864.32 -28082864.16 0.0493 0.0234

Venus -81598-08-05 01:25 J -28082030.53 -28082030.44 -28082030.34 0.3773 0.1856

Jupiter -81595-09-15 02:52 J -28080893.46 -28080893.38 -28080893.29 0.0537 0.0405

Jupiter -81595-12-13 11:01 J -28080804.17 -28080804.04 -28080803.91 0.0535 0.0046

Earth -81594-03-11 16:04 J -28080715.94 -28080715.83 -28080715.72 0.2751 0.0776

Moon -81594-03-11 16:32 J -28080715.91 -28080715.81 -28080715.70 0.2746 0.0677 *

Jupiter -81594-03-12 19:25 J -28080714.72 -28080714.69 -28080714.64 0.0533 0.0502

Uranus -81593-02-26 06:13 J -28080364.30 -28080364.24 -28080364.18 0.0138 0.0124

Uranus -81593-05-24 09:20 J -28080276.18 -28080276.11 -28080276.02 0.0138 0.0108

Mars -81593-07-17 20:37 J -28080221.79 -28080221.64 -28080221.48 0.1768 0.0401

Uranus -81593-08-20 12:56 J -28080188.06 -28080187.96 -28080187.85 0.0138 0.0091

Uranus -81593-11-16 16:18 J -28080099.92 -28080099.82 -28080099.70 0.0138 0.0074

Uranus -81592-02-12 19:54 J -28080011.79 -28080011.67 -28080011.54 0.0138 0.0057

Venus -81592-02-17 19:54 J -28080006.77 -28080006.67 -28080006.56 0.3769 0.0874

Uranus -81592-05-11 23:30 J -28079923.65 -28079923.52 -28079923.39 0.0138 0.0040

Mars -81592-05-14 00:28 J -28079921.58 -28079921.48 -28079921.38 0.1765 0.0994

Uranus -81592-08-08 03:06 J -28079835.51 -28079835.37 -28079835.24 0.0139 0.0022

Saturn -81592-09-27 08:37 J -28079785.28 -28079785.14 -28079784.98 0.0287 0.0163

Uranus -81592-11-04 06:28 J -28079747.36 -28079747.23 -28079747.09 0.0139 0.0007

Saturn -81592-12-25 08:08 J -28079696.34 -28079696.16 -28079695.98 0.0287 0.0006

Uranus -81591-01-31 10:04 J -28079659.21 -28079659.08 -28079658.94 0.0139 0.0014

Saturn -81591-03-24 07:11 J -28079607.35 -28079607.20 -28079607.05 0.0288 0.0150

Uranus -81591-04-29 13:40 J -28079571.06 -28079570.93 -28079570.79 0.0139 0.0031

Uranus -81591-07-26 17:30 J -28079482.90 -28079482.77 -28079482.64 0.0139 0.0049

Uranus -81591-10-22 21:06 J -28079394.74 -28079394.62 -28079394.50 0.0139 0.0067

Uranus -81590-01-19 00:42 J -28079306.58 -28079306.47 -28079306.36 0.0140 0.0085

Uranus -81590-04-17 04:32 J -28079218.40 -28079218.31 -28079218.22 0.0140 0.0103

Uranus -81590-07-14 07:54 J -28079130.22 -28079130.17 -28079130.09 0.0140 0.0122

Jupiter -81589-11-10 20:37 J -28078644.74 -28078644.64 -28078644.53 0.0491 0.0394

Jupiter -81588-02-09 02:37 J -28078554.56 -28078554.39 -28078554.21 0.0492 0.0112

Venus -81587-09-03 14:52 J -28077983.00 -28077982.88 -28077982.77 0.3765 0.0222

Mars -81584-12-07 21:06 J -28076791.76 -28076791.62 -28076791.47 0.1759 0.0641

Jupiter -81583-07-04 06:42 J -28076583.25 -28076583.22 -28076583.19 0.0537 0.0515

Venus -81583-09-02 09:35 J -28076523.14 -28076523.10 -28076523.05 0.3603 0.3361

Jupiter -81583-10-01 14:37 J -28076494.02 -28076493.89 -28076493.77 0.0535 0.0071

Mars -81583-10-04 09:20 J -28076491.23 -28076491.11 -28076490.99 0.1774 0.0297

Jupiter -81583-12-29 22:47 J -28076404.63 -28076404.55 -28076404.45 0.0533 0.0385

Moon -81581-03-13 10:47 J -28075965.16 -28075965.05 -28075964.94 0.2743 0.0501

Earth -81581-03-13 10:47 J -28075965.16 -28075965.05 -28075964.94 0.2751 0.0557 *

Venus -81581-03-19 09:49 J -28075959.20 -28075959.09 -28075958.99 0.3761 0.1216

Saturn -81578-04-30 07:25 J -28074822.26 -28074822.19 -28074822.12 0.0275 0.0234

Saturn -81578-07-27 18:13 J -28074733.85 -28074733.74 -28074733.62 0.0274 0.0137

Saturn -81578-10-24 05:16 J -28074645.41 -28074645.28 -28074645.15 0.0273 0.0040

Saturn -81577-01-20 16:18 J -28074556.95 -28074556.82 -28074556.69 0.0273 0.0057

Venus -81577-03-18 10:18 J -28074499.19 -28074499.07 -28074498.96 0.3607 0.1899

Saturn -81577-04-18 03:20 J -28074468.47 -28074468.36 -28074468.24 0.0272 0.0155

Saturn -81577-07-15 14:37 J -28074379.94 -28074379.89 -28074379.84 0.0272 0.0253

Jupiter -81577-11-28 00:28 J -28074244.66 -28074244.48 -28074244.30 0.0492 0.0019

Jupiter -81576-02-26 05:30 J -28074154.30 -28074154.27 -28074154.23 0.0494 0.0481

Venus -81576-10-03 05:01 J -28073935.38 -28073935.29 -28073935.20 0.3757 0.2294

Mars -81574-04-29 21:06 J -28073361.65 -28073361.62 -28073361.58 0.1750 0.1699

Mars -81573-02-24 18:13 J -28073060.86 -28073060.74 -28073060.63 0.1782 0.0404

Venus -81572-10-02 10:18 J -28072475.20 -28072475.07 -28072474.93 0.3611 0.0493

Jupiter -81571-07-20 17:59 J -28072183.87 -28072183.75 -28072183.63 0.0535 0.0184

Moon -81571-09-10 03:49 J -28072132.49 -28072132.34 -28072132.20 0.2585 0.1020

Earth -81571-09-10 05:16 J -28072132.42 -28072132.28 -28072132.13 0.2586 0.0837 *

Jupiter -81571-10-18 02:08 J -28072094.52 -28072094.41 -28072094.30 0.0533 0.0268

Venus -81570-04-19 00:13 J -28071911.53 -28071911.49 -28071911.44 0.3753 0.3405

Moon -81568-03-16 05:01 J -28071214.37 -28071214.29 -28071214.21 0.2746 0.1899

Earth -81568-03-16 05:44 J -28071214.34 -28071214.26 -28071214.19 0.2751 0.1910 *

Venus -81566-04-18 10:04 J -28070451.21 -28070451.08 -28070450.95 0.3615 0.0867

Jupiter -81565-09-15 22:18 J -28069934.74 -28069934.57 -28069934.39 0.0492 0.0147

Jupiter -81565-12-15 03:49 J -28069844.46 -28069844.34 -28069844.22 0.0493 0.0355

Mars -81564-07-17 02:52 J -28069630.47 -28069630.38 -28069630.28 0.1791 0.1112

Mars -81563-08-26 21:06 J -28069224.69 -28069224.62 -28069224.56 0.1777 0.1593

Saturn -81562-02-14 10:04 J -28069053.21 -28069053.08 -28069052.93 0.0287 0.0188

Saturn -81562-05-14 09:35 J -28068964.28 -28068964.10 -28068963.92 0.0287 0.0031

Saturn -81562-08-11 08:37 J -28068875.30 -28068875.14 -28068874.97 0.0288 0.0126

Saturn -81562-11-08 07:11 J -28068786.23 -28068786.20 -28068786.15 0.0289 0.0281

Earth -81561-03-09 02:23 J -28068664.48 -28068664.40 -28068664.32 0.2750 0.1816

Moon -81561-03-09 03:06 J -28068664.45 -28068664.37 -28068664.28 0.2749 0.1751 *

Venus -81561-11-01 09:20 J -28068427.21 -28068427.11 -28068427.01 0.3619 0.2166

Jupiter -81559-05-08 21:06 J -28067873.73 -28067873.62 -28067873.52 0.0536 0.0306

Jupiter -81559-08-06 05:01 J -28067784.41 -28067784.29 -28067784.16 0.0535 0.0147

Moon -81558-09-13 08:23 J -28067381.29 -28067381.15 -28067381.01 0.2588 0.1033

Earth -81558-09-13 09:49 J -28067381.23 -28067381.09 -28067380.96 0.2586 0.1227 *

Venus -81555-05-18 08:08 J -28066403.20 -28066403.16 -28066403.11 0.3623 0.3409

Uranus -81554-07-20 23:30 J -28065974.57 -28065974.52 -28065974.45 0.0141 0.0132

Uranus -81554-10-17 06:56 J -28065886.32 -28065886.21 -28065886.08 0.0141 0.0107

Uranus -81553-01-13 14:23 J -28065798.04 -28065797.90 -28065797.74 0.0140 0.0082

Mars -81553-01-16 21:20 J -28065794.76 -28065794.61 -28065794.46 0.1768 0.0539

Uranus -81553-04-10 21:49 J -28065709.75 -28065709.59 -28065709.41 0.0140 0.0056

Jupiter -81553-07-04 20:23 J -28065624.80 -28065624.65 -28065624.50 0.0491 0.0273

Uranus -81553-07-08 05:16 J -28065621.46 -28065621.28 -28065621.09 0.0140 0.0031

Jupiter -81553-10-03 02:08 J -28065534.57 -28065534.41 -28065534.25 0.0493 0.0231

Uranus -81553-10-04 12:42 J -28065533.16 -28065532.97 -28065532.79 0.0140 0.0007

Mars -81553-11-12 00:28 J -28065494.57 -28065494.48 -28065494.38 0.1766 0.1085

Uranus -81553-12-31 19:54 J -28065444.85 -28065444.67 -28065444.49 0.0140 0.0018

Venus -81552-02-09 11:01 J -28065405.08 -28065405.04 -28065405.00 0.3778 0.3480

Uranus -81552-03-30 02:52 J -28065356.55 -28065356.38 -28065356.20 0.0140 0.0042

Uranus -81552-06-26 09:49 J -28065268.24 -28065268.09 -28065267.92 0.0140 0.0066

Uranus -81552-09-22 17:01 J -28065179.93 -28065179.79 -28065179.65 0.0139 0.0090

Uranus -81552-12-19 23:44 J -28065091.60 -28065091.51 -28065091.39 0.0139 0.0113

Uranus -81551-03-18 06:42 J -28065003.24 -28065003.22 -28065003.18 0.0139 0.0136

Saturn -81549-09-16 10:47 J -28064090.09 -28064090.05 -28064089.99 0.0274 0.0252

Saturn -81549-12-13 21:49 J -28064001.70 -28064001.59 -28064001.48 0.0274 0.0155

Earth -81548-03-11 20:52 J -28063913.73 -28063913.63 -28063913.52 0.2751 0.0516

Moon -81548-03-11 21:20 J -28063913.72 -28063913.61 -28063913.50 0.2745 0.0458 *

Saturn -81548-03-12 08:52 J -28063913.26 -28063913.13 -28063913.00 0.0273 0.0058

Saturn -81548-06-08 19:54 J -28063824.81 -28063824.67 -28063824.54 0.0272 0.0039

Saturn -81548-09-05 06:56 J -28063736.33 -28063736.21 -28063736.09 0.0272 0.0136

Saturn -81548-12-02 17:59 J -28063647.81 -28063647.75 -28063647.68 0.0271 0.0234

Jupiter -81547-02-25 00:42 J -28063563.55 -28063563.47 -28063563.39 0.0537 0.0417

Jupiter -81547-05-25 08:37 J -28063474.27 -28063474.14 -28063474.01 0.0535 0.0035

Jupiter -81547-08-22 17:16 J -28063384.83 -28063384.78 -28063384.73 0.0533 0.0488

Venus -81547-08-26 05:16 J -28063381.36 -28063381.28 -28063381.20 0.3775 0.2535

Mars -81544-06-07 21:20 J -28062364.76 -28062364.61 -28062364.46 0.1759 0.0531

Mars -81543-04-04 09:20 J -28062064.22 -28062064.11 -28062063.99 0.1774 0.0396

Venus -81541-03-10 23:44 J -28061357.61 -28061357.51 -28061357.41 0.3771 0.1563

Jupiter -81541-04-22 17:59 J -28061314.85 -28061314.75 -28061314.65 0.0491 0.0403

Jupiter -81541-07-21 23:59 J -28061224.68 -28061224.50 -28061224.32 0.0492 0.0103

Earth -81538-09-08 06:56 J -28060081.24 -28060081.21 -28060081.17 0.2586 0.2508

Venus -81536-09-24 18:13 J -28059333.85 -28059333.74 -28059333.63 0.3768 0.0566

Jupiter -81536-12-14 04:32 J -28059253.33 -28059253.31 -28059253.28 0.0537 0.0525

Jupiter -81535-03-13 12:28 J -28059164.10 -28059163.98 -28059163.85 0.0536 0.0078

Moon -81535-03-14 15:35 J -28059162.95 -28059162.85 -28059162.74 0.2743 0.0867

Earth -81535-03-14 15:49 J -28059162.95 -28059162.84 -28059162.74 0.2751 0.0837 *

Jupiter -81535-06-10 21:06 J -28059074.71 -28059074.62 -28059074.53 0.0534 0.0379

Mars -81535-10-28 21:49 J -28058934.66 -28058934.59 -28058934.52 0.1751 0.1562

Mars -81534-08-25 18:13 J -28058633.86 -28058633.74 -28058633.62 0.1782 0.0313

Saturn -81533-07-03 08:23 J -28058321.25 -28058321.15 -28058321.04 0.0286 0.0235

Saturn -81533-09-30 07:54 J -28058232.34 -28058232.17 -28058231.99 0.0287 0.0077

Saturn -81533-12-28 07:11 J -28058143.38 -28058143.20 -28058143.03 0.0288 0.0079

Saturn -81532-03-27 05:44 J -28058054.36 -28058054.26 -28058054.15 0.0288 0.0234

Venus -81530-04-10 13:11 J -28057310.06 -28057309.95 -28057309.84 0.3764 0.0485

Neptune -81529-03-18 06:42 J -28056967.23 -28056967.22 -28056967.19 0.0089 0.0087

Jupiter -81529-05-09 22:18 J -28056914.75 -28056914.57 -28056914.39 0.0492 0.0023

Neptune -81529-06-14 07:54 J -28056879.20 -28056879.17 -28056879.11 0.0089 0.0083

Jupiter -81529-08-08 03:06 J -28056824.41 -28056824.37 -28056824.32 0.0494 0.0476

Neptune -81529-09-10 09:06 J -28056791.16 -28056791.12 -28056791.04 0.0089 0.0079

Neptune -81529-12-07 10:47 J -28056703.12 -28056703.05 -28056702.97 0.0089 0.0074

Neptune -81528-03-05 11:59 J -28056615.07 -28056615.00 -28056614.91 0.0089 0.0070

Neptune -81528-06-01 13:11 J -28056527.02 -28056526.95 -28056526.85 0.0089 0.0066

Neptune -81528-08-28 14:52 J -28056438.97 -28056438.88 -28056438.78 0.0089 0.0061

Neptune -81528-11-24 16:04 J -28056350.92 -28056350.83 -28056350.72 0.0089 0.0057

Neptune -81527-02-20 17:16 J -28056262.87 -28056262.78 -28056262.66 0.0089 0.0053

Neptune -81527-05-19 18:56 J -28056174.82 -28056174.71 -28056174.60 0.0089 0.0048

Neptune -81527-08-15 20:08 J -28056086.77 -28056086.66 -28056086.54 0.0089 0.0044

Neptune -81527-11-11 21:35 J -28055998.72 -28055998.60 -28055998.48 0.0089 0.0039

Neptune -81526-02-07 22:47 J -28055910.66 -28055910.55 -28055910.42 0.0089 0.0035

Venus -81526-04-09 09:35 J -28055850.18 -28055850.10 -28055850.02 0.3604 0.2923

Neptune -81526-05-07 00:13 J -28055822.61 -28055822.49 -28055822.36 0.0089 0.0031

Neptune -81526-08-03 01:40 J -28055734.56 -28055734.43 -28055734.30 0.0089 0.0026

Neptune -81526-10-30 02:52 J -28055646.50 -28055646.38 -28055646.24 0.0089 0.0022

Pluto -81525-01-16 21:49 J -28055567.64 -28055567.59 -28055567.52 0.0085 0.0076

Neptune -81525-01-26 04:18 J -28055558.45 -28055558.32 -28055558.18 0.0089 0.0017

Pluto -81525-04-13 23:16 J -28055479.61 -28055479.53 -28055479.43 0.0084 0.0064

Neptune -81525-04-23 05:44 J -28055470.39 -28055470.26 -28055470.13 0.0089 0.0013

Pluto -81525-07-11 00:42 J -28055391.57 -28055391.47 -28055391.36 0.0084 0.0052

Neptune -81525-07-20 07:11 J -28055382.33 -28055382.20 -28055382.07 0.0089 0.0008

Moon -81525-09-10 10:04 J -28055330.23 -28055330.08 -28055329.93 0.2585 0.0532

Earth -81525-09-10 11:44 J -28055330.16 -28055330.01 -28055329.86 0.2586 0.0403 *

Pluto -81525-10-07 01:54 J -28055303.53 -28055303.42 -28055303.29 0.0084 0.0041

Neptune -81525-10-16 08:37 J -28055294.28 -28055294.14 -28055294.01 0.0089 0.0004

Venus -81525-10-24 08:08 J -28055286.26 -28055286.16 -28055286.06 0.3760 0.1537

Pluto -81524-01-03 03:35 J -28055215.48 -28055215.35 -28055215.22 0.0084 0.0028

Neptune -81524-01-12 10:04 J -28055206.22 -28055206.08 -28055205.95 0.0089 0.0003

Mars -81524-01-15 03:06 J -28055203.47 -28055203.37 -28055203.28 0.1791 0.1020

Pluto -81524-04-01 04:47 J -28055127.43 -28055127.30 -28055127.16 0.0084 0.0017

Neptune -81524-04-10 11:16 J -28055118.16 -28055118.03 -28055117.89 0.0089 0.0005

Pluto -81524-06-28 06:13 J -28055039.38 -28055039.24 -28055039.11 0.0084 0.0005

Neptune -81524-07-07 12:42 J -28055030.10 -28055029.97 -28055029.84 0.0089 0.0010

Pluto -81524-09-24 07:25 J -28054951.32 -28054951.19 -28054951.05 0.0084 0.0007

Neptune -81524-10-03 14:08 J -28054942.04 -28054941.91 -28054941.78 0.0089 0.0014

Pluto -81524-12-21 08:52 J -28054863.26 -28054863.13 -28054863.00 0.0084 0.0018

Neptune -81524-12-30 15:35 J -28054853.98 -28054853.85 -28054853.72 0.0089 0.0019

Jupiter -81524-12-30 16:18 J -28054853.94 -28054853.82 -28054853.70 0.0536 0.0188 *

Mars -81523-02-24 21:35 J -28054797.63 -28054797.60 -28054797.56 0.1777 0.1729

Pluto -81523-03-19 10:04 J -28054775.20 -28054775.08 -28054774.95 0.0083 0.0029

Neptune -81523-03-28 17:01 J -28054765.92 -28054765.79 -28054765.66 0.0089 0.0023

Jupiter -81523-03-30 00:28 J -28054764.59 -28054764.48 -28054764.36 0.0534 0.0265

Pluto -81523-06-15 11:16 J -28054687.14 -28054687.03 -28054686.91 0.0083 0.0040

Neptune -81523-06-24 18:13 J -28054677.86 -28054677.74 -28054677.61 0.0089 0.0028

Pluto -81523-09-11 12:28 J -28054599.08 -28054598.98 -28054598.87 0.0083 0.0051

Neptune -81523-09-20 19:40 J -28054589.80 -28054589.68 -28054589.55 0.0089 0.0032

Pluto -81523-12-08 13:40 J -28054511.01 -28054510.93 -28054510.83 0.0083 0.0062

Neptune -81523-12-17 21:06 J -28054501.74 -28054501.62 -28054501.49 0.0089 0.0037

Pluto -81522-03-06 14:52 J -28054422.93 -28054422.88 -28054422.80 0.0083 0.0073

Neptune -81522-03-15 22:32 J -28054413.68 -28054413.56 -28054413.44 0.0089 0.0041

Moon -81522-03-17 10:04 J -28054412.16 -28054412.08 -28054412.01 0.2747 0.2046

Earth -81522-03-17 10:32 J -28054412.12 -28054412.06 -28054411.99 0.2751 0.2188 *

Neptune -81522-06-11 23:44 J -28054325.61 -28054325.51 -28054325.38 0.0089 0.0046

Neptune -81522-09-08 01:25 J -28054237.55 -28054237.44 -28054237.33 0.0089 0.0050

Neptune -81522-12-05 02:37 J -28054149.49 -28054149.39 -28054149.28 0.0089 0.0055

Neptune -81521-03-02 04:04 J -28054061.42 -28054061.33 -28054061.22 0.0089 0.0060

Neptune -81521-05-29 05:30 J -28053973.35 -28053973.27 -28053973.17 0.0089 0.0064

Neptune -81521-08-25 06:56 J -28053885.29 -28053885.21 -28053885.12 0.0089 0.0069

Venus -81521-10-23 10:04 J -28053826.20 -28053826.08 -28053825.96 0.3608 0.1468

Neptune -81521-11-21 08:23 J -28053797.22 -28053797.15 -28053797.07 0.0089 0.0073

Neptune -81520-02-17 09:49 J -28053709.15 -28053709.09 -28053709.02 0.0089 0.0078

Neptune -81520-05-16 11:16 J -28053621.07 -28053621.03 -28053620.97 0.0089 0.0082

Neptune -81520-08-12 12:42 J -28053532.99 -28053532.97 -28053532.94 0.0089 0.0087

Saturn -81519-05-03 00:13 J -28053269.59 -28053269.49 -28053269.40 0.0274 0.0185

Venus -81519-05-10 03:20 J -28053262.44 -28053262.36 -28053262.28 0.3756 0.2633

Saturn -81519-07-30 11:01 J -28053181.16 -28053181.04 -28053180.91 0.0274 0.0088

Saturn -81519-10-26 22:04 J -28053092.71 -28053092.58 -28053092.44 0.0273 0.0010

Saturn -81518-01-23 09:06 J -28053004.24 -28053004.12 -28053003.99 0.0273 0.0107

Saturn -81518-04-21 20:23 J -28052915.74 -28052915.65 -28052915.56 0.0272 0.0205

Jupiter -81517-02-26 19:54 J -28052604.84 -28052604.67 -28052604.50 0.0492 0.0154

Jupiter -81517-05-27 01:11 J -28052514.57 -28052514.45 -28052514.32 0.0494 0.0349

Earth -81515-03-10 07:11 J -28051862.29 -28051862.20 -28051862.11 0.2750 0.1550

Moon -81515-03-10 07:54 J -28051862.26 -28051862.17 -28051862.07 0.2749 0.1418 *

Venus -81515-05-09 10:04 J -28051802.21 -28051802.08 -28051801.94 0.3612 0.0089

Mars -81515-06-07 11:44 J -28051773.03 -28051773.01 -28051772.98 0.1799 0.1732

Mars -81514-07-17 21:49 J -28051367.73 -28051367.59 -28051367.44 0.1768 0.0661

Mars -81513-05-13 00:42 J -28051067.56 -28051067.47 -28051067.38 0.1765 0.1178

Moon -81512-09-13 14:52 J -28050579.00 -28050578.88 -28050578.76 0.2590 0.1545

Earth -81512-09-13 16:04 J -28050578.95 -28050578.83 -28050578.71 0.2586 0.1644 *

Jupiter -81512-10-18 19:54 J -28050543.78 -28050543.67 -28050543.57 0.0536 0.0302

Jupiter -81511-01-16 03:49 J -28050454.46 -28050454.34 -28050454.21 0.0534 0.0148

Venus -81510-11-23 09:35 J -28049778.22 -28049778.10 -28049777.97 0.3616 0.1269

Uranus -81510-12-20 09:49 J -28049751.09 -28049751.09 -28049751.07 0.0138 0.0137

Uranus -81509-03-17 13:25 J -28049663.00 -28049662.94 -28049662.88 0.0138 0.0120

Uranus -81509-06-13 16:47 J -28049574.88 -28049574.80 -28049574.71 0.0138 0.0104

Uranus -81509-09-09 20:08 J -28049486.76 -28049486.66 -28049486.55 0.0138 0.0087

Uranus -81509-12-06 23:44 J -28049398.63 -28049398.51 -28049398.39 0.0138 0.0070

Uranus -81508-03-05 03:06 J -28049310.49 -28049310.37 -28049310.24 0.0138 0.0053

Uranus -81508-06-01 06:42 J -28049222.35 -28049222.22 -28049222.09 0.0138 0.0036

Uranus -81508-08-28 10:18 J -28049134.21 -28049134.07 -28049133.94 0.0139 0.0018

Uranus -81508-11-24 13:54 J -28049046.06 -28049045.92 -28049045.79 0.0139 0.0004

Uranus -81507-02-20 17:30 J -28048957.91 -28048957.77 -28048957.64 0.0139 0.0017

Uranus -81507-05-19 20:52 J -28048869.76 -28048869.63 -28048869.49 0.0139 0.0035

Uranus -81507-08-16 00:42 J -28048781.60 -28048781.47 -28048781.35 0.0139 0.0052

Uranus -81507-11-12 04:18 J -28048693.44 -28048693.32 -28048693.20 0.0139 0.0070

Uranus -81506-02-08 07:54 J -28048605.27 -28048605.17 -28048605.06 0.0140 0.0089

Uranus -81506-05-07 11:44 J -28048517.10 -28048517.01 -28048516.92 0.0140 0.0107

Uranus -81506-08-03 15:06 J -28048428.91 -28048428.87 -28048428.80 0.0140 0.0126

Jupiter -81506-12-15 17:44 J -28048294.91 -28048294.76 -28048294.61 0.0491 0.0282

Jupiter -81505-03-14 23:30 J -28048204.68 -28048204.52 -28048204.36 0.0493 0.0223

Mars -81505-12-06 22:18 J -28047937.72 -28047937.57 -28047937.42 0.1759 0.0383

Venus -81504-06-08 08:52 J -28047754.22 -28047754.13 -28047754.04 0.3620 0.2556

Mars -81504-10-03 09:20 J -28047637.22 -28047637.11 -28047636.99 0.1774 0.0481

Saturn -81504-11-20 09:35 J -28047589.17 -28047589.10 -28047589.02 0.0286 0.0261

Saturn -81503-02-17 09:06 J -28047500.29 -28047500.12 -28047499.95 0.0287 0.0104

Saturn -81503-05-17 08:23 J -28047411.33 -28047411.15 -28047410.97 0.0288 0.0053

Saturn -81503-08-14 07:11 J -28047322.32 -28047322.20 -28047322.07 0.0288 0.0209

Earth -81502-03-13 01:54 J -28047111.53 -28047111.42 -28047111.31 0.2750 0.0229

Moon -81502-03-13 02:08 J -28047111.52 -28047111.41 -28047111.29 0.2744 0.0226 *

Jupiter -81500-08-06 22:47 J -28046233.63 -28046233.55 -28046233.47 0.0537 0.0424

Jupiter -81500-11-04 06:42 J -28046144.35 -28046144.22 -28046144.09 0.0535 0.0025

Jupiter -81499-02-01 15:20 J -28046054.92 -28046054.86 -28046054.81 0.0533 0.0479

Venus -81496-09-16 09:20 J -28044732.17 -28044732.11 -28044732.06 0.3777 0.3205

Mars -81495-04-28 22:18 J -28044507.66 -28044507.57 -28044507.48 0.1750 0.1445

Mars -81494-02-23 18:13 J -28044206.86 -28044206.74 -28044206.62 0.1782 0.0222

Jupiter -81494-10-03 15:35 J -28043984.94 -28043984.85 -28043984.74 0.0491 0.0408

Jupiter -81493-01-01 21:49 J -28043894.77 -28043894.59 -28043894.41 0.0492 0.0099

Moon -81492-09-08 11:59 J -28043279.09 -28043279.00 -28043278.92 0.2583 0.2120

Earth -81492-09-08 13:11 J -28043279.04 -28043278.95 -28043278.86 0.2586 0.2084 *

Venus -81490-04-02 03:35 J -28042708.44 -28042708.35 -28042708.27 0.3774 0.2251

Saturn -81490-09-20 03:49 J -28042537.42 -28042537.34 -28042537.25 0.0274 0.0201

Saturn -81490-12-17 14:52 J -28042449.00 -28042448.88 -28042448.76 0.0273 0.0104

Moon -81489-03-14 20:23 J -28042360.75 -28042360.65 -28042360.54 0.2744 0.1070

Earth -81489-03-14 20:37 J -28042360.74 -28042360.64 -28042360.54 0.2751 0.1109 *

Saturn -81489-03-15 01:54 J -28042360.56 -28042360.42 -28042360.29 0.0273 0.0008 *

Saturn -81489-06-11 12:56 J -28042272.09 -28042271.96 -28042271.83 0.0272 0.0091

Saturn -81489-09-07 23:59 J -28042183.59 -28042183.50 -28042183.40 0.0272 0.0188

Jupiter -81488-05-26 02:23 J -28041923.40 -28041923.40 -28041923.39 0.0537 0.0536

Jupiter -81488-08-23 10:18 J -28041834.20 -28041834.07 -28041833.94 0.0536 0.0089

Jupiter -81488-11-20 18:42 J -28041744.81 -28041744.72 -28041744.62 0.0534 0.0366

Mars -81485-07-16 03:06 J -28040776.47 -28040776.37 -28040776.27 0.1790 0.0924

Venus -81485-10-15 22:04 J -28040684.69 -28040684.58 -28040684.48 0.3770 0.1270

Earth -81482-03-08 17:44 J -28039810.80 -28039810.76 -28039810.73 0.2750 0.2574

Moon -81482-03-08 18:28 J -28039810.78 -28039810.73 -28039810.68 0.2752 0.2414 *

Jupiter -81482-10-20 19:25 J -28039584.87 -28039584.69 -28039584.50 0.0492 0.0033

Jupiter -81481-01-19 00:42 J -28039494.53 -28039494.47 -28039494.42 0.0493 0.0467

Venus -81479-05-01 16:32 J -28038660.92 -28038660.81 -28038660.70 0.3767 0.0263

Moon -81479-09-11 16:32 J -28038527.97 -28038527.81 -28038527.66 0.2585 0.0189

Earth -81479-09-11 17:59 J -28038527.90 -28038527.75 -28038527.59 0.2586 0.0033 *

Moon -81476-03-17 14:52 J -28037609.93 -28037609.88 -28037609.83 0.2747 0.2423

Earth -81476-03-17 15:35 J -28037609.90 -28037609.85 -28037609.80 0.2750 0.2466 *

Jupiter -81476-06-11 14:08 J -28037524.03 -28037523.91 -28037523.79 0.0536 0.0198

Jupiter -81476-09-08 22:32 J -28037434.68 -28037434.56 -28037434.45 0.0534 0.0256

Mars -81476-12-06 11:44 J -28037346.05 -28037346.01 -28037345.96 0.1799 0.1644

Mars -81474-01-15 22:32 J -28036940.70 -28036940.56 -28036940.42 0.1769 0.0796

Saturn -81474-07-07 07:54 J -28036768.33 -28036768.17 -28036768.01 0.0287 0.0148

Saturn -81474-10-04 07:11 J -28036679.38 -28036679.20 -28036679.02 0.0287 0.0009

Mars -81474-11-12 00:42 J -28036640.55 -28036640.47 -28036640.38 0.1765 0.1272

Venus -81474-11-15 11:30 J -28036637.13 -28036637.02 -28036636.91 0.3763 0.0798

Saturn -81473-01-01 06:13 J -28036590.39 -28036590.24 -28036590.09 0.0288 0.0164

Jupiter -81470-08-08 17:30 J -28035274.94 -28035274.77 -28035274.59 0.0491 0.0157

Uranus -81470-08-10 05:44 J -28035273.32 -28035273.26 -28035273.18 0.0141 0.0130

Uranus -81470-11-06 13:25 J -28035185.06 -28035184.94 -28035184.81 0.0140 0.0104

Jupiter -81470-11-06 23:01 J -28035184.67 -28035184.54 -28035184.41 0.0493 0.0345

Venus -81470-11-14 09:35 J -28035177.20 -28035177.10 -28035177.01 0.3605 0.2489

Uranus -81469-02-02 20:52 J -28035096.78 -28035096.63 -28035096.47 0.0140 0.0079

Earth -81469-03-10 12:13 J -28035060.09 -28035059.99 -28035059.89 0.2750 0.1275

Moon -81469-03-10 12:56 J -28035060.06 -28035059.96 -28035059.86 0.2748 0.1245 *

Uranus -81469-05-01 04:18 J -28035008.49 -28035008.32 -28035008.14 0.0140 0.0053

Uranus -81469-07-28 11:30 J -28034920.19 -28034920.02 -28034919.83 0.0140 0.0029

Uranus -81469-10-24 18:56 J -28034831.89 -28034831.71 -28034831.52 0.0140 0.0004

Uranus -81468-01-21 02:08 J -28034743.59 -28034743.41 -28034743.23 0.0140 0.0020

Uranus -81468-04-19 09:06 J -28034655.29 -28034655.12 -28034654.94 0.0140 0.0045

Venus -81468-05-31 06:42 J -28034613.32 -28034613.22 -28034613.13 0.3759 0.1878

Uranus -81468-07-16 16:18 J -28034566.97 -28034566.82 -28034566.66 0.0139 0.0069

Uranus -81468-10-12 23:16 J -28034478.66 -28034478.53 -28034478.39 0.0139 0.0092

Uranus -81467-01-09 06:13 J -28034390.33 -28034390.24 -28034390.13 0.0139 0.0115

Uranus -81467-04-07 13:11 J -28034301.96 -28034301.95 -28034301.93 0.0139 0.0138

Moon -81466-09-14 21:20 J -28033776.71 -28033776.61 -28033776.52 0.2591 0.1967

Earth -81466-09-14 22:18 J -28033776.66 -28033776.57 -28033776.48 0.2586 0.2066 *

Mars -81465-06-06 22:47 J -28033510.71 -28033510.55 -28033510.39 0.1759 0.0260

Jupiter -81464-03-30 17:59 J -28033213.85 -28033213.75 -28033213.64 0.0536 0.0308

Mars -81464-04-03 09:20 J -28033210.22 -28033210.11 -28033209.99 0.1774 0.0572

Venus -81464-05-30 09:49 J -28033153.22 -28033153.09 -28033152.96 0.3609 0.1044

Jupiter -81464-06-28 02:08 J -28033124.53 -28033124.41 -28033124.28 0.0534 0.0143

Venus -81463-12-15 01:54 J -28032589.49 -28032589.42 -28032589.35 0.3755 0.2975

Saturn -81460-02-06 05:59 J -28031805.31 -28031805.25 -28031805.17 0.0275 0.0231

Saturn -81460-05-05 17:01 J -28031716.90 -28031716.79 -28031716.67 0.0274 0.0134

Saturn -81460-08-02 04:04 J -28031628.47 -28031628.33 -28031628.20 0.0273 0.0037

Saturn -81460-10-29 15:06 J -28031540.00 -28031539.87 -28031539.74 0.0273 0.0061

Saturn -81459-01-26 02:08 J -28031451.52 -28031451.41 -28031451.30 0.0272 0.0158

Saturn -81459-04-24 13:11 J -28031362.99 -28031362.95 -28031362.90 0.0272 0.0256

Venus -81459-12-14 09:49 J -28031129.22 -28031129.09 -28031128.96 0.3613 0.0346

Jupiter -81458-05-27 15:06 J -28030965.02 -28030964.87 -28030964.73 0.0491 0.0289

Jupiter -81458-08-25 20:52 J -28030874.79 -28030874.63 -28030874.47 0.0493 0.0216

Earth -81456-03-13 06:56 J -28030309.33 -28030309.21 -28030309.10 0.2751 0.0110

Moon -81456-03-13 07:11 J -28030309.31 -28030309.20 -28030309.09 0.2743 0.0125 *

Mars -81456-10-27 23:01 J -28030080.64 -28030080.54 -28030080.44 0.1751 0.1308

Mars -81455-08-24 18:13 J -28029779.86 -28029779.74 -28029779.62 0.1782 0.0145

Venus -81453-06-29 09:06 J -28029105.23 -28029105.12 -28029105.00 0.3617 0.1667

Jupiter -81452-01-16 21:35 J -28028903.67 -28028903.60 -28028903.52 0.0536 0.0420

Jupiter -81452-04-16 05:30 J -28028814.40 -28028814.27 -28028814.14 0.0535 0.0030

Jupiter -81452-07-14 14:08 J -28028724.97 -28028724.91 -28028724.86 0.0533 0.0482

Venus -81447-01-13 08:23 J -28027081.23 -28027081.15 -28027081.08 0.3621 0.2943

Jupiter -81446-03-15 12:56 J -28026655.05 -28026654.96 -28026654.86 0.0491 0.0417

Jupiter -81446-06-13 19:11 J -28026564.88 -28026564.70 -28026564.52 0.0492 0.0090

Neptune -81446-09-05 02:08 J -28026481.45 -28026481.41 -28026481.31 0.0089 0.0083

Moon -81446-09-09 18:13 J -28026476.84 -28026476.74 -28026476.63 0.2583 0.1892

Earth -81446-09-09 19:40 J -28026476.80 -28026476.68 -28026476.56 0.2586 0.1648 *

Neptune -81446-12-02 06:13 J -28026393.33 -28026393.24 -28026393.13 0.0089 0.0076

Mars -81445-01-15 03:06 J -28026349.48 -28026349.37 -28026349.27 0.1790 0.0840

Neptune -81445-02-28 09:35 J -28026305.20 -28026305.10 -28026304.96 0.0089 0.0070

Neptune -81445-05-26 13:25 J -28026217.07 -28026216.94 -28026216.80 0.0089 0.0063

Neptune -81445-08-22 16:47 J -28026128.93 -28026128.80 -28026128.64 0.0089 0.0057

Neptune -81445-11-18 20:23 J -28026040.79 -28026040.65 -28026040.47 0.0089 0.0051

Saturn -81445-11-23 08:23 J -28026036.29 -28026036.15 -28026036.00 0.0287 0.0179

Neptune -81444-02-15 00:13 J -28025952.65 -28025952.49 -28025952.32 0.0089 0.0044

Saturn -81444-02-20 07:54 J -28025947.35 -28025947.17 -28025946.99 0.0287 0.0021

Neptune -81444-05-14 03:35 J -28025864.51 -28025864.35 -28025864.16 0.0089 0.0038

Saturn -81444-05-20 06:56 J -28025858.37 -28025858.21 -28025858.05 0.0288 0.0135

Neptune -81444-08-10 07:25 J -28025776.37 -28025776.19 -28025776.01 0.0089 0.0031

Neptune -81444-11-06 10:47 J -28025688.22 -28025688.05 -28025687.85 0.0089 0.0025

Neptune -81443-02-02 14:23 J -28025600.08 -28025599.90 -28025599.70 0.0089 0.0018

Moon -81443-03-16 01:11 J -28025558.54 -28025558.45 -28025558.35 0.2745 0.1329

Earth -81443-03-16 01:40 J -28025558.53 -28025558.43 -28025558.34 0.2750 0.1387 *

Neptune -81443-05-01 17:59 J -28025511.94 -28025511.75 -28025511.55 0.0089 0.0012

Neptune -81443-07-28 21:35 J -28025423.79 -28025423.60 -28025423.41 0.0089 0.0005

Neptune -81443-10-25 01:11 J -28025335.64 -28025335.45 -28025335.26 0.0089 0.0001

Neptune -81442-01-21 04:32 J -28025247.50 -28025247.31 -28025247.11 0.0089 0.0007

Neptune -81442-04-19 08:08 J -28025159.35 -28025159.16 -28025158.97 0.0089 0.0013

Neptune -81442-07-16 11:30 J -28025071.20 -28025071.02 -28025070.83 0.0089 0.0020

Neptune -81442-10-12 15:06 J -28024983.05 -28024982.87 -28024982.69 0.0089 0.0026

Neptune -81441-01-08 18:13 J -28024894.90 -28024894.74 -28024894.55 0.0089 0.0033

Neptune -81441-04-05 21:49 J -28024806.75 -28024806.59 -28024806.41 0.0089 0.0039

Neptune -81441-07-03 01:11 J -28024718.60 -28024718.45 -28024718.28 0.0088 0.0045

Neptune -81441-09-29 04:47 J -28024630.45 -28024630.30 -28024630.14 0.0088 0.0051

Neptune -81441-12-26 07:54 J -28024542.30 -28024542.17 -28024542.01 0.0088 0.0057

Jupiter -81440-02-02 08:23 J -28024504.28 -28024504.15 -28024504.02 0.0536 0.0096

Neptune -81440-03-24 11:16 J -28024454.14 -28024454.03 -28024453.88 0.0088 0.0064

Jupiter -81440-05-02 16:47 J -28024414.90 -28024414.80 -28024414.70 0.0534 0.0358

Neptune -81440-06-20 14:37 J -28024365.99 -28024365.89 -28024365.75 0.0088 0.0070

Neptune -81440-09-16 17:59 J -28024277.83 -28024277.75 -28024277.63 0.0088 0.0076

Neptune -81440-12-13 21:20 J -28024189.66 -28024189.61 -28024189.52 0.0088 0.0082

Neptune -81439-03-12 00:42 J -28024101.47 -28024101.47 -28024101.42 0.0088 0.0088

Venus -81439-04-23 07:25 J -28024059.26 -28024059.19 -28024059.12 0.3776 0.2921

Earth -81436-03-08 22:32 J -28023008.62 -28023008.56 -28023008.50 0.2750 0.2306

Moon -81436-03-08 23:16 J -28023008.59 -28023008.53 -28023008.47 0.2752 0.2285 *

Mars -81436-06-06 11:59 J -28022919.06 -28022919.00 -28022918.94 0.1799 0.1546

Mars -81435-07-16 23:01 J -28022513.68 -28022513.54 -28022513.41 0.1768 0.0921

Jupiter -81434-04-01 17:30 J -28022254.95 -28022254.77 -28022254.59 0.0492 0.0035

Mars -81434-05-13 00:42 J -28022213.54 -28022213.47 -28022213.39 0.1765 0.1360

Jupiter -81434-06-30 22:18 J -28022164.62 -28022164.57 -28022164.50 0.0494 0.0465

Venus -81434-11-07 01:40 J -28022035.52 -28022035.43 -28022035.33 0.3773 0.1957

Moon -81433-09-11 22:47 J -28021725.70 -28021725.55 -28021725.40 0.2587 0.0371

Earth -81433-09-12 00:13 J -28021725.64 -28021725.49 -28021725.33 0.2586 0.0447 *

Saturn -81431-06-26 10:04 J -28021073.14 -28021073.08 -28021073.03 0.0274 0.0247

Saturn -81431-09-22 20:52 J -28020984.74 -28020984.63 -28020984.52 0.0274 0.0150

Saturn -81431-12-20 07:54 J -28020896.30 -28020896.17 -28020896.04 0.0273 0.0053

Saturn -81430-03-18 18:42 J -28020807.85 -28020807.72 -28020807.58 0.0272 0.0045

Moon -81430-03-18 19:54 J -28020807.70 -28020807.67 -28020807.64 0.2747 0.2614 *

Earth -81430-03-18 20:23 J -28020807.65 -28020807.65 -28020807.64 0.2750 0.2750 *

Saturn -81430-06-15 05:44 J -28020719.37 -28020719.26 -28020719.14 0.0272 0.0142

Saturn -81430-09-11 17:01 J -28020630.85 -28020630.79 -28020630.73 0.0271 0.0239

Jupiter -81429-11-21 11:59 J -28020194.12 -28020194.00 -28020193.88 0.0536 0.0210

Jupiter -81428-02-18 20:08 J -28020104.77 -28020104.66 -28020104.54 0.0534 0.0243

Venus -81428-05-22 20:08 J -28020011.76 -28020011.66 -28020011.55 0.3769 0.0968

Mars -81426-12-06 23:16 J -28019083.69 -28019083.53 -28019083.37 0.1760 0.0138

Uranus -81425-01-09 17:16 J -28019049.81 -28019049.78 -28019049.75 0.0138 0.0133

Uranus -81425-04-06 20:23 J -28018961.71 -28018961.65 -28018961.57 0.0138 0.0117

Uranus -81425-07-03 23:59 J -28018873.59 -28018873.50 -28018873.40 0.0138 0.0100

Uranus -81425-09-30 03:20 J -28018785.46 -28018785.36 -28018785.24 0.0138 0.0084

Mars -81425-10-02 09:35 J -28018783.21 -28018783.10 -28018782.99 0.1773 0.0671

Uranus -81425-12-27 06:56 J -28018697.33 -28018697.21 -28018697.09 0.0138 0.0066

Uranus -81424-03-25 10:18 J -28018609.19 -28018609.07 -28018608.94 0.0138 0.0050

Uranus -81424-06-21 13:54 J -28018521.05 -28018520.92 -28018520.78 0.0139 0.0032

Uranus -81424-09-17 17:30 J -28018432.90 -28018432.77 -28018432.63 0.0139 0.0015

Uranus -81424-12-14 21:06 J -28018344.76 -28018344.62 -28018344.48 0.0139 0.0003

Earth -81423-03-11 17:01 J -28018257.89 -28018257.79 -28018257.68 0.2750 0.1009

Moon -81423-03-11 17:44 J -28018257.87 -28018257.76 -28018257.66 0.2746 0.0865 *

Uranus -81423-03-13 00:42 J -28018256.61 -28018256.47 -28018256.34 0.0139 0.0021

Uranus -81423-06-09 04:18 J -28018168.45 -28018168.32 -28018168.19 0.0139 0.0039

Uranus -81423-09-05 07:54 J -28018080.29 -28018080.17 -28018080.04 0.0139 0.0057

Uranus -81423-12-02 11:30 J -28017992.13 -28017992.02 -28017991.90 0.0139 0.0075

Venus -81423-12-06 14:52 J -28017987.99 -28017987.88 -28017987.76 0.3766 0.0131

Jupiter -81422-01-18 15:06 J -28017945.04 -28017944.87 -28017944.70 0.0491 0.0164

Uranus -81422-02-28 15:20 J -28017903.96 -28017903.86 -28017903.76 0.0140 0.0093

Jupiter -81422-04-18 20:23 J -28017854.77 -28017854.65 -28017854.52 0.0493 0.0337

Uranus -81422-05-27 18:56 J -28017815.79 -28017815.71 -28017815.63 0.0140 0.0111

Uranus -81422-08-23 22:32 J -28017727.60 -28017727.56 -28017727.50 0.0140 0.0130

Moon -81420-09-15 03:35 J -28016974.42 -28016974.35 -28016974.29 0.2591 0.2346

Earth -81420-09-15 04:32 J -28016974.35 -28016974.31 -28016974.27 0.2586 0.2474 *

Venus -81419-12-05 08:52 J -28016528.16 -28016528.13 -28016528.11 0.3602 0.3542

Venus -81417-06-21 09:49 J -28015964.20 -28015964.09 -28015963.98 0.3762 0.1125

Jupiter -81417-09-09 15:49 J -28015883.94 -28015883.84 -28015883.74 0.0537 0.0319

Jupiter -81417-12-07 23:59 J -28015794.63 -28015794.50 -28015794.37 0.0535 0.0133

Mars -81416-04-27 23:44 J -28015653.63 -28015653.51 -28015653.40 0.1751 0.1176

Mars -81415-02-22 18:13 J -28015352.86 -28015352.74 -28015352.61 0.1782 0.0082

Saturn -81415-04-12 07:11 J -28015304.31 -28015304.20 -28015304.08 0.0286 0.0222

Saturn -81415-07-10 06:42 J -28015215.39 -28015215.22 -28015215.04 0.0287 0.0065

Saturn -81415-10-07 05:59 J -28015126.42 -28015126.25 -28015126.08 0.0288 0.0092

Saturn -81414-01-04 04:32 J -28015037.39 -28015037.31 -28015037.21 0.0288 0.0248

Venus -81413-06-20 09:20 J -28014504.22 -28014504.11 -28014504.00 0.3606 0.2060

Venus -81411-01-05 05:01 J -28013940.38 -28013940.29 -28013940.20 0.3758 0.2205

Jupiter -81411-11-06 12:56 J -28013635.10 -28013634.96 -28013634.81 0.0491 0.0291

Jupiter -81410-02-04 18:42 J -28013544.88 -28013544.72 -28013544.55 0.0493 0.0213

Earth -81410-03-14 11:44 J -28013507.12 -28013507.01 -28013506.90 0.2751 0.0328

Moon -81410-03-14 11:59 J -28013507.11 -28013507.00 -28013506.89 0.2744 0.0309 *

Venus -81407-01-04 09:35 J -28012480.23 -28012480.10 -28012479.97 0.3610 0.0623

Mars -81406-07-16 03:06 J -28011922.47 -28011922.37 -28011922.26 0.1790 0.0747

Venus -81406-07-22 00:28 J -28011916.53 -28011916.48 -28011916.43 0.3754 0.3325

Jupiter -81405-06-28 19:54 J -28011573.75 -28011573.67 -28011573.59 0.0537 0.0426

Jupiter -81405-09-26 03:49 J -28011484.47 -28011484.34 -28011484.21 0.0535 0.0023

Jupiter -81405-12-24 12:13 J -28011395.04 -28011394.99 -28011394.93 0.0533 0.0478

Venus -81402-07-21 09:20 J -28010456.24 -28010456.11 -28010455.98 0.3614 0.0743

Saturn -81401-02-09 23:01 J -28010252.64 -28010252.54 -28010252.44 0.0274 0.0181

Saturn -81401-05-08 09:49 J -28010164.21 -28010164.09 -28010163.96 0.0273 0.0084

Saturn -81401-08-04 20:52 J -28010075.76 -28010075.63 -28010075.49 0.0273 0.0014

Saturn -81401-11-01 07:54 J -28009987.29 -28009987.17 -28009987.04 0.0272 0.0111

Saturn -81400-01-28 18:56 J -28009898.79 -28009898.71 -28009898.62 0.0272 0.0209

Moon -81400-09-10 00:28 J -28009674.61 -28009674.48 -28009674.34 0.2583 0.1268

Earth -81400-09-10 01:54 J -28009674.55 -28009674.42 -28009674.28 0.2586 0.1225 *

Jupiter -81399-08-25 10:18 J -28009325.16 -28009325.07 -28009324.98 0.0491 0.0424

Jupiter -81399-11-23 16:32 J -28009234.99 -28009234.81 -28009234.63 0.0492 0.0083

Moon -81397-03-16 05:59 J -28008756.33 -28008756.25 -28008756.16 0.2745 0.1629

Earth -81397-03-16 06:42 J -28008756.31 -28008756.22 -28008756.14 0.2751 0.1667 *

Mars -81397-12-05 11:59 J -28008492.07 -28008492.00 -28008491.93 0.1799 0.1464

Venus -81396-02-03 08:37 J -28008432.24 -28008432.14 -28008432.03 0.3618 0.2063

Mars -81395-01-14 23:30 J -28008086.64 -28008086.52 -28008086.39 0.1769 0.1054

Mars -81395-11-11 00:56 J -28007786.53 -28007786.46 -28007786.40 0.1765 0.1457

Jupiter -81393-07-15 07:25 J -28007174.32 -28007174.19 -28007174.06 0.0535 0.0091

Jupiter -81393-10-12 15:49 J -28007084.94 -28007084.84 -28007084.75 0.0533 0.0363

Venus -81391-08-20 07:40 J -28006408.23 -28006408.18 -28006408.13 0.3623 0.3317

Earth -81390-03-10 03:35 J -28006206.43 -28006206.35 -28006206.28 0.2750 0.2042

Moon -81390-03-10 04:18 J -28006206.40 -28006206.32 -28006206.25 0.2751 0.1893 *

Venus -81388-05-14 11:30 J -28005410.05 -28005410.02 -28005409.99 0.3779 0.3589

Jupiter -81387-09-11 14:52 J -28004925.06 -28004924.88 -28004924.70 0.0492 0.0042

Moon -81387-09-13 05:16 J -28004923.43 -28004923.28 -28004923.13 0.2589 0.0625

Earth -81387-09-13 06:42 J -28004923.37 -28004923.22 -28004923.08 0.2586 0.0864 *

Jupiter -81387-12-10 19:54 J -28004834.73 -28004834.67 -28004834.60 0.0494 0.0457

Mars -81386-06-06 23:59 J -28004656.66 -28004656.50 -28004656.34 0.1760 0.0018

Saturn -81386-08-30 07:11 J -28004572.28 -28004572.20 -28004572.12 0.0286 0.0257

Uranus -81386-08-30 12:56 J -28004572.04 -28004571.96 -28004571.88 0.0141 0.0125

Uranus -81386-11-26 20:23 J -28004483.78 -28004483.65 -28004483.52 0.0140 0.0100

Saturn -81386-11-27 06:42 J -28004483.39 -28004483.22 -28004483.05 0.0287 0.0100

Uranus -81385-02-23 03:49 J -28004395.49 -28004395.34 -28004395.18 0.0140 0.0074

Saturn -81385-02-24 05:59 J -28004394.43 -28004394.25 -28004394.07 0.0288 0.0058

Mars -81385-04-02 09:35 J -28004356.21 -28004356.10 -28004355.99 0.1773 0.0753

Uranus -81385-05-21 11:16 J -28004307.20 -28004307.03 -28004306.86 0.0140 0.0049

Saturn -81385-05-23 05:01 J -28004305.41 -28004305.29 -28004305.17 0.0288 0.0213

Uranus -81385-08-17 18:28 J -28004218.91 -28004218.73 -28004218.54 0.0140 0.0025

Uranus -81385-11-14 01:54 J -28004130.61 -28004130.42 -28004130.24 0.0140 0.0002

Uranus -81384-02-10 08:52 J -28004042.30 -28004042.13 -28004041.94 0.0140 0.0025

Uranus -81384-05-09 16:04 J -28003954.00 -28003953.83 -28003953.65 0.0140 0.0049

Uranus -81384-08-05 23:01 J -28003865.69 -28003865.54 -28003865.37 0.0139 0.0073

Uranus -81384-11-02 05:59 J -28003777.37 -28003777.25 -28003777.11 0.0139 0.0096

Uranus -81383-01-29 12:56 J -28003689.04 -28003688.96 -28003688.86 0.0139 0.0120

Venus -81383-11-28 05:30 J -28003386.34 -28003386.27 -28003386.19 0.3776 0.2641

Jupiter -81381-05-03 10:04 J -28002864.19 -28002864.08 -28002863.96 0.0536 0.0216

Jupiter -81381-07-31 18:28 J -28002774.85 -28002774.73 -28002774.62 0.0534 0.0237

Earth -81377-03-11 22:04 J -28001455.69 -28001455.58 -28001455.47 0.2750 0.0732

Moon -81377-03-11 22:32 J -28001455.66 -28001455.56 -28001455.45 0.2745 0.0733 *

Venus -81377-06-12 23:59 J -28001362.60 -28001362.50 -28001362.40 0.3772 0.1660

Mars -81377-10-27 00:13 J -28001226.62 -28001226.49 -28001226.37 0.1751 0.1051

Mars -81376-08-23 18:28 J -28000925.85 -28000925.73 -28000925.61 0.1782 0.0057

Jupiter -81375-06-30 13:11 J -28000615.12 -28000614.95 -28000614.78 0.0491 0.0166

Jupiter -81375-09-28 18:42 J -28000524.85 -28000524.72 -28000524.59 0.0493 0.0336

Pluto -81373-11-04 21:35 J -27999756.64 -27999756.60 -27999756.51 0.0060 0.0057

Pluto -81372-01-31 23:01 J -27999668.62 -27999668.54 -27999668.41 0.0060 0.0051

Pluto -81372-04-30 00:28 J -27999580.59 -27999580.48 -27999580.33 0.0060 0.0045

Saturn -81372-06-29 02:52 J -27999520.47 -27999520.38 -27999520.29 0.0274 0.0197

Pluto -81372-07-27 01:54 J -27999492.55 -27999492.42 -27999492.25 0.0060 0.0039

Saturn -81372-09-25 13:40 J -27999432.05 -27999431.93 -27999431.80 0.0273 0.0100

Pluto -81372-10-23 03:20 J -27999404.51 -27999404.36 -27999404.18 0.0061 0.0033

Saturn -81372-12-23 00:42 J -27999343.61 -27999343.47 -27999343.34 0.0273 0.0005

Venus -81372-12-27 18:28 J -27999338.84 -27999338.73 -27999338.62 0.3769 0.0657

Pluto -81371-01-19 04:47 J -27999316.46 -27999316.30 -27999316.11 0.0061 0.0027

Saturn -81371-03-21 11:44 J -27999255.14 -27999255.01 -27999254.89 0.0272 0.0094

Pluto -81371-04-17 06:13 J -27999228.41 -27999228.24 -27999228.05 0.0061 0.0021

Saturn -81371-06-17 22:47 J -27999166.65 -27999166.55 -27999166.46 0.0272 0.0191

Pluto -81371-07-14 07:54 J -27999140.36 -27999140.17 -27999139.98 0.0061 0.0014

Pluto -81371-10-10 09:20 J -27999052.30 -27999052.11 -27999051.92 0.0061 0.0008

Pluto -81370-01-06 10:47 J -27998964.24 -27998964.05 -27998963.86 0.0061 0.0002

Pluto -81370-04-04 11:59 J -27998876.18 -27998876.00 -27998875.80 0.0061 0.0005

Pluto -81370-07-01 13:25 J -27998788.12 -27998787.94 -27998787.74 0.0061 0.0011

Pluto -81370-09-27 14:52 J -27998700.06 -27998699.88 -27998699.69 0.0061 0.0017

Pluto -81370-12-24 16:18 J -27998611.99 -27998611.82 -27998611.64 0.0061 0.0023

Jupiter -81369-02-20 13:40 J -27998554.03 -27998553.93 -27998553.82 0.0537 0.0329

Pluto -81369-03-21 17:44 J -27998523.92 -27998523.76 -27998523.58 0.0061 0.0030

Jupiter -81369-05-19 21:49 J -27998464.72 -27998464.59 -27998464.46 0.0535 0.0122

Pluto -81369-06-17 18:56 J -27998435.85 -27998435.71 -27998435.54 0.0061 0.0036

Pluto -81369-09-13 20:23 J -27998347.77 -27998347.65 -27998347.49 0.0061 0.0043

Pluto -81369-12-10 22:04 J -27998259.68 -27998259.58 -27998259.45 0.0061 0.0049

Pluto -81368-03-08 23:16 J -27998171.59 -27998171.53 -27998171.43 0.0061 0.0056

Mars -81366-01-14 03:20 J -27997495.47 -27997495.36 -27997495.25 0.1790 0.0654

Venus -81366-07-13 13:11 J -27997315.06 -27997314.95 -27997314.83 0.3765 0.0405

Neptune -81365-12-13 06:42 J -27996796.25 -27996796.22 -27996796.17 0.0089 0.0085

Neptune -81364-03-11 07:54 J -27996708.21 -27996708.17 -27996708.10 0.0089 0.0081

Moon -81364-03-14 16:47 J -27996704.91 -27996704.80 -27996704.69 0.2744 0.0652

Earth -81364-03-14 16:47 J -27996704.91 -27996704.80 -27996704.69 0.2750 0.0597 *

Neptune -81364-06-07 09:35 J -27996620.17 -27996620.10 -27996620.03 0.0089 0.0076

Neptune -81364-09-03 10:47 J -27996532.12 -27996532.05 -27996531.97 0.0089 0.0072

Neptune -81364-11-30 11:59 J -27996444.07 -27996444.00 -27996443.90 0.0089 0.0068

Neptune -81363-02-26 13:40 J -27996356.03 -27996355.93 -27996355.84 0.0089 0.0063

Jupiter -81363-04-18 10:32 J -27996305.20 -27996305.06 -27996304.91 0.0491 0.0296

Neptune -81363-05-25 14:52 J -27996267.98 -27996267.88 -27996267.78 0.0089 0.0059

Jupiter -81363-07-17 16:32 J -27996214.97 -27996214.81 -27996214.65 0.0492 0.0208

Neptune -81363-08-21 16:04 J -27996179.93 -27996179.83 -27996179.72 0.0089 0.0055

Neptune -81363-11-17 17:30 J -27996091.87 -27996091.77 -27996091.66 0.0089 0.0050

Neptune -81362-02-13 18:42 J -27996003.82 -27996003.72 -27996003.60 0.0089 0.0046

Neptune -81362-05-12 20:08 J -27995915.77 -27995915.66 -27995915.54 0.0089 0.0042

Venus -81362-07-12 08:37 J -27995855.21 -27995855.14 -27995855.07 0.3604 0.3106

Neptune -81362-08-08 21:35 J -27995827.72 -27995827.60 -27995827.48 0.0089 0.0037

Neptune -81362-11-04 22:47 J -27995739.67 -27995739.55 -27995739.42 0.0089 0.0033

Neptune -81361-02-01 00:13 J -27995651.61 -27995651.49 -27995651.36 0.0089 0.0028

Neptune -81361-04-29 01:40 J -27995563.56 -27995563.43 -27995563.30 0.0089 0.0024

Neptune -81361-07-26 02:52 J -27995475.50 -27995475.38 -27995475.24 0.0089 0.0020

Neptune -81361-10-22 04:18 J -27995387.45 -27995387.32 -27995387.18 0.0089 0.0015

Neptune -81360-01-18 05:44 J -27995299.39 -27995299.26 -27995299.13 0.0089 0.0011

Venus -81360-01-26 08:08 J -27995291.26 -27995291.16 -27995291.05 0.3761 0.1451

Neptune -81360-04-16 07:11 J -27995211.34 -27995211.20 -27995211.07 0.0089 0.0006

Neptune -81360-07-13 08:37 J -27995123.28 -27995123.14 -27995123.01 0.0089 0.0003

Neptune -81360-10-09 09:49 J -27995035.22 -27995035.09 -27995034.95 0.0089 0.0004

Neptune -81359-01-05 11:16 J -27994947.16 -27994947.03 -27994946.89 0.0089 0.0007

Neptune -81359-04-03 12:42 J -27994859.10 -27994858.97 -27994858.84 0.0089 0.0012

Neptune -81359-06-30 13:54 J -27994771.05 -27994770.92 -27994770.78 0.0089 0.0017

Neptune -81359-09-26 15:20 J -27994682.99 -27994682.86 -27994682.72 0.0089 0.0021

Neptune -81359-12-23 16:47 J -27994594.93 -27994594.80 -27994594.67 0.0089 0.0025

Neptune -81358-03-21 18:13 J -27994506.86 -27994506.74 -27994506.61 0.0089 0.0030

Neptune -81358-06-17 19:25 J -27994418.80 -27994418.69 -27994418.56 0.0089 0.0035

Neptune -81358-09-13 21:06 J -27994330.74 -27994330.62 -27994330.50 0.0089 0.0039

Jupiter -81358-12-09 17:44 J -27994243.83 -27994243.76 -27994243.69 0.0537 0.0437

Neptune -81358-12-10 22:18 J -27994242.68 -27994242.57 -27994242.44 0.0089 0.0044

Neptune -81357-03-07 23:44 J -27994154.62 -27994154.51 -27994154.39 0.0089 0.0048

Jupiter -81357-03-08 01:40 J -27994154.56 -27994154.43 -27994154.30 0.0536 0.0012 *

Neptune -81357-06-04 01:11 J -27994066.55 -27994066.45 -27994066.34 0.0089 0.0053

Jupiter -81357-06-05 10:04 J -27994065.13 -27994065.08 -27994065.01 0.0533 0.0469

Mars -81357-06-05 11:59 J -27994065.07 -27994065.00 -27994064.92 0.1799 0.1372 *

Neptune -81357-08-31 02:37 J -27993978.49 -27993978.39 -27993978.28 0.0089 0.0057

Neptune -81357-11-27 03:49 J -27993890.42 -27993890.34 -27993890.23 0.0089 0.0062

Venus -81356-01-25 09:06 J -27993831.24 -27993831.12 -27993831.00 0.3607 0.1629

Neptune -81356-02-23 05:30 J -27993802.35 -27993802.27 -27993802.18 0.0089 0.0066

Saturn -81356-04-15 05:30 J -27993751.42 -27993751.27 -27993751.11 0.0287 0.0143

Neptune -81356-05-22 06:42 J -27993714.29 -27993714.22 -27993714.12 0.0089 0.0071

Saturn -81356-07-13 05:01 J -27993662.47 -27993662.29 -27993662.11 0.0288 0.0015

Mars -81356-07-15 23:59 J -27993659.61 -27993659.50 -27993659.38 0.1769 0.1181

Neptune -81356-08-18 08:23 J -27993626.22 -27993626.15 -27993626.08 0.0089 0.0075

Saturn -81356-10-10 03:49 J -27993573.48 -27993573.34 -27993573.19 0.0288 0.0172

Neptune -81356-11-14 09:49 J -27993538.14 -27993538.09 -27993538.03 0.0089 0.0080

Neptune -81355-02-10 11:01 J -27993450.06 -27993450.04 -27993449.99 0.0089 0.0085

Mars -81355-05-12 00:56 J -27993359.52 -27993359.46 -27993359.40 0.1764 0.1548

Venus -81355-08-12 03:20 J -27993267.44 -27993267.36 -27993267.27 0.3757 0.2550

Moon -81354-09-11 06:56 J -27992872.35 -27992872.21 -27992872.07 0.2584 0.1015

Earth -81354-09-11 08:23 J -27992872.30 -27992872.15 -27992872.00 0.2586 0.0788 *

Jupiter -81351-02-04 08:37 J -27991995.23 -27991995.14 -27991995.05 0.0491 0.0423

Moon -81351-03-17 11:01 J -27991954.12 -27991954.04 -27991953.96 0.2744 0.1837

Earth -81351-03-17 11:30 J -27991954.10 -27991954.02 -27991953.94 0.2750 0.1944 *

Jupiter -81351-05-05 14:37 J -27991905.06 -27991904.89 -27991904.71 0.0492 0.0084

Venus -81351-08-11 09:20 J -27991807.25 -27991807.11 -27991806.98 0.3611 0.0246

Venus -81349-02-25 22:47 J -27991243.57 -27991243.55 -27991243.53 0.3752 0.3675

Mars -81347-12-06 00:42 J -27990229.63 -27990229.47 -27990229.32 0.1760 0.0142

Mars -81346-10-02 09:35 J -27989929.20 -27989929.10 -27989928.99 0.1773 0.0854

Jupiter -81346-12-26 05:44 J -27989844.39 -27989844.26 -27989844.14 0.0536 0.0097

Venus -81345-02-25 08:52 J -27989783.25 -27989783.13 -27989783.00 0.3615 0.1150

Jupiter -81345-03-24 13:54 J -27989755.01 -27989754.92 -27989754.82 0.0534 0.0358

Earth -81344-03-10 08:23 J -27989404.23 -27989404.15 -27989404.07 0.2750 0.1771

Moon -81344-03-10 09:06 J -27989404.21 -27989404.12 -27989404.04 0.2749 0.1721 *

Saturn -81343-11-16 04:47 J -27988788.37 -27988788.30 -27988788.22 0.0274 0.0229

Saturn -81342-02-12 15:35 J -27988699.96 -27988699.85 -27988699.73 0.0274 0.0133

Saturn -81342-05-12 02:37 J -27988611.52 -27988611.39 -27988611.26 0.0273 0.0035

Saturn -81342-08-08 13:40 J -27988523.06 -27988522.93 -27988522.80 0.0272 0.0062

Saturn -81342-11-05 00:42 J -27988434.58 -27988434.47 -27988434.36 0.0272 0.0160

Uranus -81341-01-30 00:13 J -27988348.52 -27988348.49 -27988348.44 0.0138 0.0130

Saturn -81341-02-01 11:44 J -27988346.04 -27988346.01 -27988345.96 0.0271 0.0257

Uranus -81341-04-27 03:49 J -27988260.41 -27988260.34 -27988260.26 0.0138 0.0113

Uranus -81341-07-24 06:56 J -27988172.29 -27988172.21 -27988172.10 0.0138 0.0097

Moon -81341-09-13 11:30 J -27988121.16 -27988121.02 -27988120.89 0.2589 0.1238

Earth -81341-09-13 12:56 J -27988121.09 -27988120.96 -27988120.83 0.2586 0.1280 *

Uranus -81341-10-20 10:32 J -27988084.16 -27988084.06 -27988083.94 0.0138 0.0080

Uranus -81340-01-16 14:08 J -27987996.03 -27987995.91 -27987995.79 0.0138 0.0063

Uranus -81340-04-14 17:44 J -27987907.89 -27987907.76 -27987907.64 0.0138 0.0046

Uranus -81340-07-11 21:06 J -27987819.75 -27987819.62 -27987819.48 0.0139 0.0028

Venus -81340-09-10 08:08 J -27987759.26 -27987759.16 -27987759.06 0.3619 0.2451

Uranus -81340-10-08 00:42 J -27987731.61 -27987731.47 -27987731.33 0.0139 0.0011

Uranus -81339-01-04 04:18 J -27987643.46 -27987643.32 -27987643.19 0.0139 0.0007

Jupiter -81339-02-21 12:28 J -27987595.16 -27987594.98 -27987594.80 0.0492 0.0047

Uranus -81339-04-02 07:54 J -27987555.31 -27987555.17 -27987555.04 0.0139 0.0024

Jupiter -81339-05-22 17:30 J -27987504.83 -27987504.77 -27987504.70 0.0494 0.0453

Uranus -81339-06-29 11:30 J -27987467.15 -27987467.02 -27987466.89 0.0139 0.0042

Uranus -81339-09-25 15:06 J -27987378.99 -27987378.87 -27987378.75 0.0139 0.0060

Uranus -81339-12-22 18:42 J -27987290.83 -27987290.72 -27987290.60 0.0139 0.0078

Uranus -81338-03-20 22:18 J -27987202.66 -27987202.57 -27987202.47 0.0140 0.0097

Uranus -81338-06-17 02:08 J -27987114.49 -27987114.41 -27987114.33 0.0140 0.0115

Uranus -81338-09-13 05:44 J -27987026.29 -27987026.26 -27987026.21 0.0140 0.0134

Mars -81337-04-27 00:42 J -27986799.60 -27986799.47 -27986799.33 0.1751 0.0921

Mars -81336-02-21 18:28 J -27986498.85 -27986498.73 -27986498.61 0.1781 0.0145

Jupiter -81334-10-14 09:20 J -27985534.23 -27985534.11 -27985533.99 0.0536 0.0208

Jupiter -81333-01-11 17:30 J -27985444.89 -27985444.77 -27985444.66 0.0534 0.0244

Venus -81332-12-19 09:35 J -27984737.15 -27984737.10 -27984737.05 0.3778 0.3315

Earth -81331-03-13 02:52 J -27984653.48 -27984653.38 -27984653.27 0.2750 0.0474

Moon -81331-03-13 03:35 J -27984653.46 -27984653.35 -27984653.24 0.2745 0.0336 *

Jupiter -81328-12-10 10:47 J -27983285.22 -27983285.05 -27983284.88 0.0491 0.0172

Jupiter -81327-03-10 16:18 J -27983194.95 -27983194.82 -27983194.69 0.0493 0.0331

Mars -81327-07-15 03:20 J -27983068.48 -27983068.36 -27983068.25 0.1790 0.0569

Saturn -81327-09-02 04:18 J -27983019.45 -27983019.32 -27983019.18 0.0287 0.0186

Saturn -81327-11-30 03:49 J -27982930.52 -27982930.34 -27982930.16 0.0287 0.0028

Saturn -81326-02-27 02:52 J -27982841.53 -27982841.38 -27982841.21 0.0288 0.0130

Saturn -81326-05-27 01:54 J -27982752.44 -27982752.42 -27982752.39 0.0289 0.0285

Venus -81326-07-05 03:49 J -27982713.43 -27982713.34 -27982713.26 0.3775 0.2349

Jupiter -81322-08-02 11:59 J -27981224.09 -27981224.00 -27981223.89 0.0536 0.0333

Jupiter -81322-10-30 20:08 J -27981134.79 -27981134.66 -27981134.53 0.0535 0.0119

Earth -81321-09-08 09:49 J -27980821.13 -27980821.09 -27980821.05 0.2587 0.2486

Venus -81320-01-17 22:04 J -27980689.68 -27980689.58 -27980689.47 0.3771 0.1368

Moon -81318-03-15 21:35 J -27979902.71 -27979902.60 -27979902.49 0.2743 0.0786

Earth -81318-03-15 21:35 J -27979902.70 -27979902.60 -27979902.49 0.2750 0.0877 *

Mars -81318-12-05 12:13 J -27979638.08 -27979637.99 -27979637.91 0.1798 0.1276

Mars -81316-01-14 00:42 J -27979232.57 -27979232.47 -27979232.37 0.1769 0.1316

Jupiter -81316-09-28 09:06 J -27978975.27 -27978975.12 -27978974.98 0.0491 0.0294

Mars -81316-11-10 00:56 J -27978932.50 -27978932.46 -27978932.42 0.1765 0.1643

Jupiter -81316-12-27 14:52 J -27978885.04 -27978884.88 -27978884.72 0.0493 0.0210

Venus -81315-08-03 16:47 J -27978665.91 -27978665.80 -27978665.69 0.3768 0.0344

Saturn -81313-04-04 08:23 J -27978056.20 -27978056.15 -27978056.09 0.0274 0.0247

Saturn -81313-07-01 19:25 J -27977967.80 -27977967.69 -27977967.58 0.0274 0.0150

Saturn -81313-09-28 06:13 J -27977879.37 -27977879.24 -27977879.10 0.0273 0.0054

Saturn -81313-12-25 17:16 J -27977790.91 -27977790.78 -27977790.65 0.0272 0.0045

Saturn -81312-03-24 04:18 J -27977702.43 -27977702.32 -27977702.20 0.0272 0.0142

Saturn -81312-06-20 15:20 J -27977613.92 -27977613.86 -27977613.79 0.0271 0.0239

Moon -81311-03-08 19:25 J -27977352.70 -27977352.69 -27977352.68 0.2754 0.2720

Jupiter -81310-05-21 15:49 J -27976913.91 -27976913.84 -27976913.77 0.0537 0.0445

Jupiter -81310-08-18 23:44 J -27976824.64 -27976824.51 -27976824.38 0.0535 0.0016

Jupiter -81310-11-16 08:08 J -27976735.22 -27976735.16 -27976735.09 0.0533 0.0459

Venus -81309-02-17 11:30 J -27976642.13 -27976642.02 -27976641.91 0.3764 0.0713

Moon -81308-09-11 13:11 J -27976070.11 -27976069.95 -27976069.80 0.2586 0.0470

Earth -81308-09-11 14:37 J -27976070.04 -27976069.89 -27976069.73 0.2586 0.0368 *

Mars -81307-06-06 00:56 J -27975802.62 -27975802.46 -27975802.31 0.1760 0.0250

Mars -81306-04-02 09:49 J -27975502.19 -27975502.09 -27975501.99 0.1773 0.0947

Venus -81305-02-16 08:37 J -27975182.23 -27975182.14 -27975182.05 0.3605 0.2666

Moon -81305-03-17 15:49 J -27975151.90 -27975151.84 -27975151.77 0.2745 0.2200

Earth -81305-03-17 16:32 J -27975151.88 -27975151.81 -27975151.75 0.2750 0.2221 *

Jupiter -81304-07-17 06:28 J -27974665.31 -27974665.23 -27974665.13 0.0490 0.0424

Venus -81304-09-02 06:42 J -27974618.32 -27974618.22 -27974618.12 0.3760 0.1787

Jupiter -81304-10-15 12:42 J -27974575.14 -27974574.97 -27974574.79 0.0492 0.0082

Uranus -81302-09-19 19:40 J -27973870.76 -27973870.68 -27973870.57 0.0140 0.0121

Uranus -81302-12-17 03:06 J -27973782.49 -27973782.37 -27973782.22 0.0140 0.0096

Uranus -81301-03-14 10:32 J -27973694.21 -27973694.06 -27973693.89 0.0140 0.0070

Uranus -81301-06-10 17:59 J -27973605.92 -27973605.75 -27973605.57 0.0140 0.0045

Uranus -81301-09-07 01:25 J -27973517.62 -27973517.44 -27973517.25 0.0140 0.0020

Uranus -81301-12-04 08:37 J -27973429.32 -27973429.14 -27973428.95 0.0140 0.0006

Uranus -81300-03-02 15:49 J -27973341.02 -27973340.84 -27973340.66 0.0140 0.0029

Uranus -81300-05-29 23:01 J -27973252.71 -27973252.54 -27973252.37 0.0139 0.0053

Uranus -81300-08-26 05:59 J -27973164.40 -27973164.25 -27973164.09 0.0139 0.0077

Venus -81300-09-01 09:06 J -27973158.25 -27973158.12 -27973158.00 0.3608 0.1207

Uranus -81300-11-22 12:42 J -27973076.08 -27973075.97 -27973075.83 0.0139 0.0101

Uranus -81299-02-18 19:54 J -27972987.75 -27972987.67 -27972987.58 0.0139 0.0123

Earth -81298-03-11 13:11 J -27972602.04 -27972601.95 -27972601.85 0.2750 0.1506

Moon -81298-03-11 13:54 J -27972602.01 -27972601.92 -27972601.82 0.2747 0.1395 *

Venus -81298-03-19 01:54 J -27972594.49 -27972594.42 -27972594.35 0.3755 0.2892

Jupiter -81298-06-07 03:35 J -27972514.48 -27972514.35 -27972514.23 0.0536 0.0106

Jupiter -81298-09-04 11:59 J -27972425.10 -27972425.00 -27972424.91 0.0534 0.0349

Mars -81298-10-27 01:25 J -27972372.58 -27972372.44 -27972372.30 0.1752 0.0783

Saturn -81297-01-20 03:06 J -27972287.47 -27972287.37 -27972287.26 0.0287 0.0229

Saturn -81297-04-18 02:37 J -27972198.56 -27972198.39 -27972198.21 0.0287 0.0072

Saturn -81297-07-16 01:54 J -27972109.59 -27972109.42 -27972109.24 0.0288 0.0086

Mars -81297-08-22 18:28 J -27972071.85 -27972071.73 -27972071.61 0.1781 0.0239

Saturn -81297-10-13 00:42 J -27972020.56 -27972020.47 -27972020.36 0.0289 0.0243

Moon -81295-09-14 17:44 J -27971318.88 -27971318.76 -27971318.63 0.2589 0.1467

Earth -81295-09-14 19:11 J -27971318.81 -27971318.70 -27971318.58 0.2586 0.1700 *

Venus -81294-03-18 08:52 J -27971134.26 -27971134.13 -27971133.99 0.3612 0.0211

Jupiter -81292-08-03 10:47 J -27970265.23 -27970265.05 -27970264.86 0.0492 0.0045

Jupiter -81292-11-01 16:04 J -27970174.90 -27970174.83 -27970174.76 0.0493 0.0455

Venus -81289-10-01 08:37 J -27969110.26 -27969110.14 -27969110.03 0.3616 0.1561

Mars -81287-01-13 03:20 J -27968641.48 -27968641.36 -27968641.24 0.1790 0.0471

Jupiter -81286-03-26 07:40 J -27968204.30 -27968204.18 -27968204.06 0.0536 0.0212

Jupiter -81286-06-23 15:49 J -27968114.96 -27968114.84 -27968114.72 0.0534 0.0241

Earth -81285-03-13 07:54 J -27967851.28 -27967851.17 -27967851.06 0.2750 0.0189

Moon -81285-03-13 08:23 J -27967851.26 -27967851.15 -27967851.04 0.2745 0.0200 *

Saturn -81284-11-18 21:06 J -27967235.71 -27967235.62 -27967235.51 0.0274 0.0183

Saturn -81283-02-15 08:08 J -27967147.29 -27967147.16 -27967147.03 0.0273 0.0086

Venus -81283-04-17 07:40 J -27967086.26 -27967086.18 -27967086.10 0.3621 0.2844

Saturn -81283-05-14 19:11 J -27967058.84 -27967058.70 -27967058.57 0.0272 0.0013

Saturn -81283-08-11 05:59 J -27966970.37 -27966970.25 -27966970.12 0.0272 0.0109

Saturn -81283-11-07 17:01 J -27966881.87 -27966881.79 -27966881.70 0.0271 0.0206

Neptune -81281-03-04 21:49 J -27966398.62 -27966398.59 -27966398.53 0.0089 0.0086

Neptune -81281-06-01 01:25 J -27966310.51 -27966310.44 -27966310.34 0.0089 0.0080

Neptune -81281-08-28 05:16 J -27966222.38 -27966222.28 -27966222.16 0.0089 0.0073

Neptune -81281-11-24 08:37 J -27966134.25 -27966134.14 -27966133.99 0.0089 0.0067

Neptune -81280-02-20 12:42 J -27966046.11 -27966045.97 -27966045.83 0.0089 0.0060

Neptune -81280-05-19 16:04 J -27965957.97 -27965957.83 -27965957.67 0.0089 0.0054

Jupiter -81280-05-22 08:37 J -27965955.31 -27965955.14 -27965954.97 0.0491 0.0174

Neptune -81280-08-15 19:25 J -27965869.83 -27965869.69 -27965869.51 0.0089 0.0048

Jupiter -81280-08-20 14:08 J -27965865.04 -27965864.91 -27965864.78 0.0493 0.0329

Neptune -81280-11-11 23:16 J -27965781.69 -27965781.53 -27965781.35 0.0089 0.0041

Neptune -81279-02-08 02:37 J -27965693.55 -27965693.39 -27965693.20 0.0089 0.0035

Pluto -81279-03-10 11:44 J -27965663.05 -27965663.01 -27965662.96 0.0085 0.0080

Neptune -81279-05-07 06:28 J -27965605.41 -27965605.23 -27965605.04 0.0089 0.0028

Pluto -81279-06-06 13:11 J -27965575.03 -27965574.95 -27965574.87 0.0085 0.0068

Neptune -81279-08-03 10:04 J -27965517.26 -27965517.08 -27965516.89 0.0089 0.0022

Pluto -81279-09-02 14:23 J -27965486.99 -27965486.90 -27965486.79 0.0084 0.0056

Neptune -81279-10-30 13:25 J -27965429.12 -27965428.94 -27965428.74 0.0089 0.0016

Pluto -81279-11-29 15:49 J -27965398.95 -27965398.84 -27965398.72 0.0084 0.0044

Neptune -81278-01-26 17:16 J -27965340.97 -27965340.78 -27965340.59 0.0089 0.0009

Pluto -81278-02-25 17:16 J -27965310.90 -27965310.78 -27965310.65 0.0084 0.0033

Neptune -81278-04-24 20:37 J -27965252.83 -27965252.64 -27965252.44 0.0089 0.0003

Pluto -81278-05-24 18:28 J -27965222.85 -27965222.73 -27965222.59 0.0084 0.0021

Mars -81278-06-05 12:13 J -27965211.08 -27965210.99 -27965210.90 0.1798 0.1190

Neptune -81278-07-22 00:13 J -27965164.68 -27965164.49 -27965164.30 0.0089 0.0004

Pluto -81278-08-20 19:54 J -27965134.80 -27965134.67 -27965134.54 0.0084 0.0010

Neptune -81278-10-18 03:35 J -27965076.53 -27965076.35 -27965076.15 0.0089 0.0011

Pluto -81278-11-16 21:20 J -27965046.75 -27965046.61 -27965046.48 0.0084 0.0003

Neptune -81277-01-14 07:11 J -27964988.38 -27964988.20 -27964988.01 0.0089 0.0017

Pluto -81277-02-12 22:32 J -27964958.69 -27964958.56 -27964958.43 0.0084 0.0013

Neptune -81277-04-11 10:47 J -27964900.24 -27964900.05 -27964899.87 0.0089 0.0023

Pluto -81277-05-10 23:44 J -27964870.63 -27964870.51 -27964870.38 0.0084 0.0025

Neptune -81277-07-08 13:54 J -27964812.09 -27964811.92 -27964811.72 0.0089 0.0030

Mars -81277-07-15 01:11 J -27964805.54 -27964805.45 -27964805.36 0.1769 0.1438

Pluto -81277-08-07 01:11 J -27964782.57 -27964782.45 -27964782.33 0.0083 0.0036

Neptune -81277-10-04 17:30 J -27964723.94 -27964723.77 -27964723.59 0.0089 0.0036

Pluto -81277-11-03 02:23 J -27964694.51 -27964694.40 -27964694.29 0.0083 0.0047

Neptune -81277-12-31 20:52 J -27964635.79 -27964635.63 -27964635.45 0.0089 0.0042

Pluto -81276-01-30 03:20 J -27964606.44 -27964606.36 -27964606.25 0.0083 0.0058

Neptune -81276-03-30 00:28 J -27964547.63 -27964547.48 -27964547.31 0.0089 0.0048

Pluto -81276-04-28 04:32 J -27964518.37 -27964518.31 -27964518.22 0.0083 0.0069

Mars -81276-05-11 01:11 J -27964505.47 -27964505.45 -27964505.44 0.1764 0.1737

Neptune -81276-06-26 03:35 J -27964459.48 -27964459.35 -27964459.18 0.0089 0.0055

Pluto -81276-07-25 05:44 J -27964430.27 -27964430.26 -27964430.21 0.0083 0.0080

Neptune -81276-09-22 07:11 J -27964371.33 -27964371.20 -27964371.05 0.0089 0.0060

Neptune -81276-12-19 10:32 J -27964283.17 -27964283.06 -27964282.92 0.0089 0.0067

Neptune -81275-03-17 13:54 J -27964195.01 -27964194.92 -27964194.80 0.0088 0.0073

Neptune -81275-06-13 17:16 J -27964106.85 -27964106.78 -27964106.68 0.0088 0.0079

Venus -81275-07-26 07:40 J -27964064.24 -27964064.18 -27964064.12 0.3777 0.3031

Moon -81275-09-09 15:06 J -27964018.95 -27964018.87 -27964018.79 0.2582 0.2167

Earth -81275-09-09 16:18 J -27964018.92 -27964018.82 -27964018.73 0.2587 0.2049 *

Neptune -81275-09-09 20:52 J -27964018.67 -27964018.63 -27964018.57 0.0088 0.0085

Jupiter -81274-01-12 11:30 J -27963894.12 -27963894.02 -27963893.92 0.0537 0.0323

Jupiter -81274-04-11 19:25 J -27963804.81 -27963804.69 -27963804.56 0.0535 0.0129

Moon -81272-03-16 02:23 J -27963100.50 -27963100.40 -27963100.30 0.2743 0.1184

Earth -81272-03-16 02:37 J -27963100.49 -27963100.39 -27963100.29 0.2750 0.1146 *

Venus -81269-02-09 01:54 J -27962040.51 -27962040.42 -27962040.33 0.3774 0.2059

Jupiter -81268-03-10 06:56 J -27961645.36 -27961645.21 -27961645.07 0.0491 0.0297

Saturn -81268-06-08 00:56 J -27961555.50 -27961555.46 -27961555.42 0.0286 0.0278

Jupiter -81268-06-08 12:56 J -27961555.13 -27961554.96 -27961554.80 0.0493 0.0208

Saturn -81268-09-05 00:28 J -27961466.64 -27961466.48 -27961466.30 0.0287 0.0120

Saturn -81268-12-02 23:59 J -27961377.68 -27961377.50 -27961377.32 0.0288 0.0039

Mars -81268-12-05 01:40 J -27961375.58 -27961375.43 -27961375.27 0.1760 0.0397

Saturn -81267-03-01 23:01 J -27961288.67 -27961288.54 -27961288.40 0.0288 0.0195

Mars -81267-10-01 09:49 J -27961075.19 -27961075.09 -27961074.99 0.1773 0.1033

Earth -81265-03-08 23:44 J -27960550.55 -27960550.51 -27960550.47 0.2749 0.2532

Moon -81265-03-09 00:13 J -27960550.53 -27960550.49 -27960550.44 0.2752 0.2482 *

Venus -81264-08-24 20:23 J -27960016.76 -27960016.65 -27960016.54 0.3770 0.1059

Jupiter -81263-10-31 14:23 J -27959583.97 -27959583.90 -27959583.83 0.0537 0.0445

Jupiter -81262-01-28 22:18 J -27959494.70 -27959494.57 -27959494.44 0.0535 0.0017

Jupiter -81262-04-28 06:42 J -27959405.29 -27959405.22 -27959405.16 0.0533 0.0458

Moon -81262-09-12 19:25 J -27959267.84 -27959267.69 -27959267.54 0.2587 0.0138

Earth -81262-09-12 21:06 J -27959267.78 -27959267.62 -27959267.47 0.2586 0.0074 *

Moon -81259-03-18 20:52 J -27958349.69 -27958349.63 -27958349.58 0.2747 0.2351

Earth -81259-03-18 21:20 J -27958349.65 -27958349.61 -27958349.56 0.2750 0.2503 *

Venus -81258-03-10 15:06 J -27957992.98 -27957992.87 -27957992.76 0.3766 0.0050

Mars -81258-04-27 01:54 J -27957945.57 -27957945.42 -27957945.28 0.1751 0.0665

Uranus -81257-02-19 07:11 J -27957647.24 -27957647.20 -27957647.14 0.0138 0.0128

Mars -81257-02-21 18:42 J -27957644.84 -27957644.72 -27957644.61 0.1781 0.0336

Uranus -81257-05-17 10:32 J -27957559.13 -27957559.06 -27957558.97 0.0138 0.0111

Uranus -81257-08-13 14:08 J -27957471.01 -27957470.91 -27957470.81 0.0138 0.0094

Uranus -81257-11-09 17:30 J -27957382.88 -27957382.77 -27957382.65 0.0138 0.0077

Jupiter -81257-12-27 05:16 J -27957335.37 -27957335.28 -27957335.19 0.0491 0.0420

Uranus -81256-02-05 20:52 J -27957294.74 -27957294.63 -27957294.50 0.0138 0.0061

Jupiter -81256-03-27 11:30 J -27957245.20 -27957245.02 -27957244.84 0.0492 0.0087

Uranus -81256-05-05 00:28 J -27957206.60 -27957206.48 -27957206.35 0.0139 0.0043

Uranus -81256-08-01 04:04 J -27957118.46 -27957118.33 -27957118.20 0.0139 0.0026

Uranus -81256-10-28 07:40 J -27957030.32 -27957030.18 -27957030.05 0.0139 0.0009

Uranus -81255-01-24 11:16 J -27956942.17 -27956942.03 -27956941.90 0.0139 0.0010

Uranus -81255-04-22 14:52 J -27956854.02 -27956853.88 -27956853.75 0.0139 0.0027

Uranus -81255-07-19 18:13 J -27956765.86 -27956765.74 -27956765.60 0.0139 0.0045

Uranus -81255-10-15 21:49 J -27956677.70 -27956677.59 -27956677.46 0.0139 0.0063

Uranus -81254-01-12 01:25 J -27956589.54 -27956589.44 -27956589.32 0.0139 0.0082

Saturn -81254-04-08 00:42 J -27956503.55 -27956503.47 -27956503.38 0.0274 0.0202

Uranus -81254-04-10 05:16 J -27956501.37 -27956501.28 -27956501.18 0.0140 0.0099

Saturn -81254-07-05 11:44 J -27956415.14 -27956415.01 -27956414.89 0.0273 0.0105

Uranus -81254-07-07 08:52 J -27956413.19 -27956413.13 -27956413.05 0.0140 0.0118

Saturn -81254-10-01 22:32 J -27956326.69 -27956326.56 -27956326.42 0.0273 0.0008

Uranus -81254-10-03 12:56 J -27956324.99 -27956324.96 -27956324.94 0.0140 0.0136

Saturn -81254-12-29 09:35 J -27956238.23 -27956238.10 -27956237.97 0.0272 0.0089

Saturn -81253-03-26 20:37 J -27956149.74 -27956149.64 -27956149.54 0.0271 0.0186

Venus -81253-09-23 10:04 J -27955969.19 -27955969.08 -27955968.98 0.3762 0.1045

Earth -81252-03-11 18:13 J -27955799.84 -27955799.74 -27955799.64 0.2750 0.1234

Moon -81252-03-11 18:56 J -27955799.81 -27955799.71 -27955799.61 0.2747 0.1150 *

Jupiter -81251-11-17 01:40 J -27955184.55 -27955184.43 -27955184.30 0.0536 0.0112

Jupiter -81250-02-14 10:04 J -27955095.18 -27955095.08 -27955094.98 0.0534 0.0343

Moon -81249-09-15 00:13 J -27954516.58 -27954516.49 -27954516.40 0.2590 0.2079

Earth -81249-09-15 01:25 J -27954516.53 -27954516.44 -27954516.35 0.2586 0.2107 *

Mars -81249-09-16 02:08 J -27954515.44 -27954515.41 -27954515.38 0.1743 0.1705

Venus -81249-09-22 08:23 J -27954509.25 -27954509.15 -27954509.04 0.3605 0.2224

Mars -81248-07-14 03:35 J -27954214.47 -27954214.35 -27954214.24 0.1789 0.0380

Venus -81247-04-09 05:01 J -27953945.38 -27953945.29 -27953945.19 0.3758 0.2126

Jupiter -81244-01-13 09:20 J -27952935.29 -27952935.11 -27952934.93 0.0492 0.0041

Jupiter -81244-04-13 14:23 J -27952844.96 -27952844.90 -27952844.83 0.0493 0.0457

Venus -81243-04-08 08:37 J -27952485.27 -27952485.14 -27952485.00 0.3609 0.0782

Venus -81242-10-24 00:28 J -27951921.54 -27951921.48 -27951921.43 0.3754 0.3246

Earth -81239-03-14 12:56 J -27951049.08 -27951048.96 -27951048.85 0.2750 0.0134

Moon -81239-03-14 13:11 J -27951049.07 -27951048.95 -27951048.84 0.2744 0.0183 *

Jupiter -81239-09-05 05:44 J -27950874.38 -27950874.26 -27950874.15 0.0537 0.0221

Jupiter -81239-12-03 13:54 J -27950785.04 -27950784.92 -27950784.80 0.0535 0.0233

Mars -81239-12-04 12:13 J -27950784.09 -27950783.99 -27950783.90 0.1798 0.1100

Saturn -81238-01-22 23:01 J -27950734.68 -27950734.54 -27950734.38 0.0287 0.0166

Saturn -81238-04-21 22:32 J -27950645.74 -27950645.56 -27950645.37 0.0288 0.0009

Saturn -81238-07-19 21:35 J -27950556.75 -27950556.60 -27950556.44 0.0288 0.0150

Venus -81238-10-23 08:37 J -27950461.27 -27950461.14 -27950461.01 0.3613 0.0626

Mars -81237-01-14 01:54 J -27950378.49 -27950378.42 -27950378.35 0.1770 0.1576

Jupiter -81233-11-01 07:25 J -27948625.36 -27948625.19 -27948625.02 0.0491 0.0167

Jupiter -81232-01-30 12:42 J -27948535.09 -27948534.97 -27948534.83 0.0493 0.0335

Venus -81232-05-08 08:08 J -27948437.27 -27948437.16 -27948437.05 0.3617 0.1963

Moon -81229-09-09 21:20 J -27947216.73 -27947216.61 -27947216.50 0.2584 0.1701

Earth -81229-09-09 22:32 J -27947216.68 -27947216.56 -27947216.44 0.2587 0.1615 *

Mars -81228-06-05 02:08 J -27946948.56 -27946948.41 -27946948.26 0.1761 0.0523

Mars -81227-04-01 09:49 J -27946648.18 -27946648.09 -27946648.00 0.1773 0.1128

Jupiter -81227-06-24 09:49 J -27946564.19 -27946564.09 -27946563.99 0.0537 0.0326

Jupiter -81227-09-21 17:59 J -27946474.88 -27946474.75 -27946474.63 0.0535 0.0127

Venus -81227-11-22 06:56 J -27946413.26 -27946413.21 -27946413.15 0.3622 0.3239

Moon -81226-03-17 07:25 J -27946298.29 -27946298.19 -27946298.10 0.2743 0.1328

Earth -81226-03-17 07:40 J -27946298.28 -27946298.18 -27946298.09 0.2750 0.1426 *

Saturn -81225-08-25 02:37 J -27945771.46 -27945771.39 -27945771.32 0.0274 0.0235

Saturn -81225-11-21 13:25 J -27945683.05 -27945682.94 -27945682.82 0.0273 0.0138

Saturn -81224-02-18 00:13 J -27945594.62 -27945594.49 -27945594.35 0.0273 0.0042

Saturn -81224-05-17 11:16 J -27945506.16 -27945506.03 -27945505.90 0.0272 0.0055

Saturn -81224-08-13 22:18 J -27945417.68 -27945417.57 -27945417.46 0.0271 0.0152

Venus -81224-08-16 11:44 J -27945415.03 -27945415.01 -27945415.00 0.3780 0.3702

Saturn -81224-11-10 09:20 J -27945329.16 -27945329.11 -27945329.06 0.0271 0.0250

Jupiter -81221-08-20 05:01 J -27944315.43 -27944315.29 -27944315.14 0.0491 0.0297

Jupiter -81221-11-18 11:01 J -27944225.20 -27944225.04 -27944224.88 0.0493 0.0208

Earth -81219-03-10 04:32 J -27943748.37 -27943748.31 -27943748.25 0.2749 0.2264

Moon -81219-03-10 05:16 J -27943748.35 -27943748.28 -27943748.21 0.2750 0.2123 *

Mars -81219-10-26 02:37 J -27943518.54 -27943518.39 -27943518.24 0.1752 0.0525

Venus -81218-03-02 05:44 J -27943391.33 -27943391.26 -27943391.18 0.3776 0.2749

Mars -81218-08-22 18:42 J -27943217.84 -27943217.72 -27943217.60 0.1781 0.0426

Uranus -81218-10-10 02:37 J -27943169.48 -27943169.39 -27943169.28 0.0140 0.0116

Uranus -81217-01-06 10:18 J -27943081.21 -27943081.07 -27943080.93 0.0140 0.0091

Uranus -81217-04-03 17:44 J -27942992.92 -27942992.76 -27942992.60 0.0140 0.0066

Uranus -81217-07-01 00:56 J -27942904.63 -27942904.46 -27942904.28 0.0140 0.0041

Uranus -81217-09-27 08:23 J -27942816.33 -27942816.15 -27942815.97 0.0140 0.0016

Uranus -81217-12-24 15:35 J -27942728.03 -27942727.85 -27942727.66 0.0140 0.0009

Uranus -81216-03-22 22:47 J -27942639.73 -27942639.55 -27942639.37 0.0140 0.0033

Uranus -81216-06-19 05:59 J -27942551.42 -27942551.25 -27942551.09 0.0139 0.0057

Moon -81216-09-13 01:40 J -27942465.58 -27942465.43 -27942465.28 0.2587 0.0347

Earth -81216-09-13 03:20 J -27942465.51 -27942465.36 -27942465.21 0.2586 0.0485 *

Uranus -81216-09-15 12:42 J -27942463.11 -27942462.97 -27942462.81 0.0139 0.0081

Uranus -81216-12-12 19:40 J -27942374.79 -27942374.68 -27942374.55 0.0139 0.0104

Uranus -81215-03-11 02:37 J -27942286.45 -27942286.39 -27942286.31 0.0139 0.0127

Jupiter -81215-04-12 13:40 J -27942254.00 -27942253.93 -27942253.85 0.0537 0.0434

Jupiter -81215-07-10 21:35 J -27942164.73 -27942164.60 -27942164.47 0.0535 0.0021

Jupiter -81215-10-08 06:13 J -27942075.30 -27942075.24 -27942075.18 0.0533 0.0470

Venus -81213-09-15 00:13 J -27941367.59 -27941367.49 -27941367.40 0.3773 0.1765

Mars -81209-03-17 02:52 J -27940088.45 -27940088.38 -27940088.31 0.1743 0.1569

Jupiter -81209-06-08 03:20 J -27940005.45 -27940005.36 -27940005.26 0.0491 0.0420

Saturn -81209-06-10 20:08 J -27940002.78 -27940002.66 -27940002.55 0.0286 0.0221

Jupiter -81209-09-06 09:35 J -27939915.27 -27939915.10 -27939914.92 0.0492 0.0088

Saturn -81209-09-07 19:40 J -27939913.86 -27939913.68 -27939913.50 0.0287 0.0062

Saturn -81209-12-05 18:56 J -27939824.88 -27939824.71 -27939824.54 0.0288 0.0096

Mars -81208-01-12 03:20 J -27939787.48 -27939787.36 -27939787.24 0.1790 0.0294

Saturn -81208-03-04 17:44 J -27939735.83 -27939735.76 -27939735.66 0.0288 0.0253

Venus -81207-03-31 18:42 J -27939343.83 -27939343.72 -27939343.61 0.3769 0.0749

Earth -81206-03-12 23:01 J -27938997.64 -27938997.54 -27938997.43 0.2750 0.0969

Moon -81206-03-12 23:44 J -27938997.61 -27938997.51 -27938997.40 0.2747 0.0884 *

Jupiter -81203-04-29 00:28 J -27937854.61 -27937854.48 -27937854.35 0.0536 0.0109

Jupiter -81203-07-27 08:52 J -27937765.23 -27937765.13 -27937765.03 0.0534 0.0345

Moon -81203-09-16 06:56 J -27937714.27 -27937714.21 -27937714.16 0.2591 0.2384

Earth -81203-09-16 07:40 J -27937714.20 -27937714.18 -27937714.15 0.2586 0.2529 *

Venus -81202-10-15 13:25 J -27937320.05 -27937319.94 -27937319.83 0.3765 0.0295

Neptune -81200-06-13 05:30 J -27936713.29 -27936713.27 -27936713.24 0.0089 0.0087

Neptune -81200-09-09 06:42 J -27936625.25 -27936625.22 -27936625.16 0.0089 0.0083

Neptune -81200-12-06 07:54 J -27936537.21 -27936537.17 -27936537.09 0.0089 0.0079

Neptune -81199-03-04 09:35 J -27936449.17 -27936449.10 -27936449.03 0.0089 0.0074

Neptune -81199-05-31 10:47 J -27936361.12 -27936361.05 -27936360.96 0.0089 0.0070

Mars -81199-06-04 12:13 J -27936357.08 -27936356.99 -27936356.89 0.1798 0.1002

Neptune -81199-08-27 11:59 J -27936273.08 -27936273.00 -27936272.90 0.0089 0.0066

Neptune -81199-11-23 13:25 J -27936185.03 -27936184.94 -27936184.84 0.0089 0.0061

Neptune -81198-02-19 14:52 J -27936096.98 -27936096.88 -27936096.77 0.0089 0.0057

Neptune -81198-05-18 16:18 J -27936008.93 -27936008.82 -27936008.71 0.0089 0.0052

Mars -81198-07-15 02:23 J -27935951.44 -27935951.40 -27935951.36 0.1770 0.1698

Neptune -81198-08-14 17:30 J -27935920.88 -27935920.77 -27935920.65 0.0089 0.0048

Venus -81198-10-14 07:40 J -27935860.23 -27935860.18 -27935860.12 0.3603 0.3279

Neptune -81198-11-10 18:42 J -27935832.82 -27935832.72 -27935832.59 0.0089 0.0044

Neptune -81197-02-06 20:23 J -27935744.77 -27935744.65 -27935744.53 0.0089 0.0039

Neptune -81197-05-04 21:35 J -27935656.72 -27935656.60 -27935656.47 0.0089 0.0035

Jupiter -81197-06-25 08:23 J -27935605.33 -27935605.15 -27935604.97 0.0492 0.0035

Neptune -81197-07-31 22:47 J -27935568.67 -27935568.55 -27935568.41 0.0089 0.0031

Jupiter -81197-09-23 13:25 J -27935514.99 -27935514.94 -27935514.88 0.0493 0.0465

Neptune -81197-10-28 00:13 J -27935480.61 -27935480.49 -27935480.36 0.0089 0.0026

Neptune -81196-01-24 01:40 J -27935392.56 -27935392.43 -27935392.30 0.0089 0.0022

Neptune -81196-04-22 03:06 J -27935304.50 -27935304.37 -27935304.24 0.0089 0.0017

Venus -81196-04-30 08:23 J -27935296.26 -27935296.15 -27935296.05 0.3761 0.1371

Neptune -81196-07-19 04:18 J -27935216.45 -27935216.32 -27935216.18 0.0089 0.0013

Neptune -81196-10-15 05:44 J -27935128.39 -27935128.26 -27935128.12 0.0089 0.0008

Neptune -81195-01-11 07:11 J -27935040.33 -27935040.20 -27935040.07 0.0089 0.0004

Saturn -81195-01-12 05:44 J -27935039.30 -27935039.26 -27935039.21 0.0274 0.0257

Neptune -81195-04-09 08:37 J -27934952.28 -27934952.14 -27934952.01 0.0089 0.0001

Saturn -81195-04-10 16:32 J -27934950.91 -27934950.81 -27934950.70 0.0274 0.0161

Neptune -81195-07-06 09:49 J -27934864.22 -27934864.09 -27934863.95 0.0089 0.0006

Saturn -81195-07-08 03:35 J -27934862.48 -27934862.35 -27934862.22 0.0273 0.0063

Neptune -81195-10-02 11:16 J -27934776.16 -27934776.03 -27934775.89 0.0089 0.0010

Saturn -81195-10-04 14:23 J -27934774.03 -27934773.90 -27934773.76 0.0272 0.0035

Neptune -81195-12-29 12:42 J -27934688.10 -27934687.97 -27934687.84 0.0089 0.0014

Saturn -81194-01-01 01:25 J -27934685.56 -27934685.44 -27934685.32 0.0272 0.0131

Neptune -81194-03-27 14:08 J -27934600.04 -27934599.91 -27934599.78 0.0089 0.0019

Saturn -81194-03-30 12:28 J -27934597.05 -27934596.98 -27934596.90 0.0271 0.0228

Neptune -81194-06-23 15:20 J -27934511.98 -27934511.86 -27934511.72 0.0089 0.0024

Neptune -81194-09-19 16:47 J -27934423.92 -27934423.80 -27934423.67 0.0089 0.0028

Neptune -81194-12-16 18:13 J -27934335.86 -27934335.74 -27934335.61 0.0089 0.0032

Neptune -81193-03-13 19:40 J -27934247.80 -27934247.68 -27934247.56 0.0089 0.0037

Moon -81193-03-14 17:59 J -27934246.87 -27934246.75 -27934246.64 0.2743 0.0373

Earth -81193-03-14 17:44 J -27934246.87 -27934246.76 -27934246.65 0.2750 0.0357 *

Neptune -81193-06-09 21:06 J -27934159.74 -27934159.62 -27934159.50 0.0089 0.0041

Neptune -81193-09-05 22:18 J -27934071.68 -27934071.57 -27934071.45 0.0089 0.0046

Neptune -81193-12-02 23:44 J -27933983.61 -27933983.51 -27933983.39 0.0089 0.0051

Neptune -81192-03-01 01:11 J -27933895.55 -27933895.45 -27933895.34 0.0089 0.0055

Venus -81192-04-29 08:23 J -27933836.27 -27933836.15 -27933836.03 0.3606 0.1781

Neptune -81192-05-28 02:23 J -27933807.48 -27933807.40 -27933807.29 0.0089 0.0060

Neptune -81192-08-24 04:04 J -27933719.42 -27933719.33 -27933719.23 0.0089 0.0064

Neptune -81192-11-20 05:16 J -27933631.35 -27933631.28 -27933631.18 0.0089 0.0069

Jupiter -81191-02-15 04:04 J -27933544.45 -27933544.33 -27933544.21 0.0536 0.0222

Neptune -81191-02-16 06:56 J -27933543.28 -27933543.21 -27933543.13 0.0089 0.0073

Neptune -81191-05-15 08:08 J -27933455.21 -27933455.16 -27933455.08 0.0089 0.0078

Jupiter -81191-05-15 12:13 J -27933455.11 -27933454.99 -27933454.87 0.0534 0.0230 *

Neptune -81191-08-11 09:49 J -27933367.13 -27933367.09 -27933367.04 0.0089 0.0082

Neptune -81191-11-07 11:16 J -27933279.05 -27933279.03 -27933279.00 0.0089 0.0087

Venus -81191-11-14 03:35 J -27933272.44 -27933272.35 -27933272.27 0.3757 0.2473

Mars -81190-10-25 21:06 J -27932926.65 -27932926.62 -27932926.59 0.1806 0.1729

Mars -81189-12-04 02:37 J -27932521.53 -27932521.39 -27932521.24 0.1761 0.0649

Mars -81188-09-30 10:04 J -27932221.17 -27932221.08 -27932220.99 0.1772 0.1230

Venus -81187-11-13 08:23 J -27931812.28 -27931812.15 -27931812.01 0.3610 0.0362

Jupiter -81185-04-13 06:13 J -27931295.41 -27931295.24 -27931295.07 0.0491 0.0162

Venus -81185-05-29 23:01 J -27931248.57 -27931248.54 -27931248.51 0.3753 0.3606

Jupiter -81185-07-12 11:44 J -27931205.14 -27931205.01 -27931204.88 0.0493 0.0340

Moon -81183-09-11 03:35 J -27930414.48 -27930414.35 -27930414.22 0.2585 0.1407

Earth -81183-09-11 05:01 J -27930414.43 -27930414.29 -27930414.15 0.2587 0.1176 *

Venus -81181-05-29 08:23 J -27929788.28 -27929788.15 -27929788.03 0.3615 0.1048

Moon -81180-03-17 12:13 J -27929496.08 -27929495.99 -27929495.91 0.2744 0.1695

Earth -81180-03-17 12:28 J -27929496.07 -27929495.98 -27929495.89 0.2750 0.1698 *

Saturn -81180-10-28 18:28 J -27929270.79 -27929270.73 -27929270.66 0.0287 0.0267

Jupiter -81180-12-04 07:54 J -27929234.27 -27929234.17 -27929234.07 0.0537 0.0332

Saturn -81179-01-25 17:59 J -27929181.91 -27929181.75 -27929181.57 0.0287 0.0109

Jupiter -81179-03-03 16:04 J -27929144.96 -27929144.83 -27929144.70 0.0535 0.0120

Saturn -81179-04-24 17:30 J -27929092.95 -27929092.77 -27929092.59 0.0288 0.0050

Mars -81179-04-26 03:20 J -27929091.52 -27929091.36 -27929091.21 0.1752 0.0393

Saturn -81179-07-22 16:32 J -27929003.93 -27929003.81 -27929003.68 0.0289 0.0207

Mars -81178-02-20 18:42 J -27928790.83 -27928790.72 -27928790.60 0.1781 0.0515

Venus -81176-12-13 07:25 J -27927764.28 -27927764.19 -27927764.09 0.3619 0.2364

Jupiter -81173-01-31 04:04 J -27926985.47 -27926985.33 -27926985.18 0.0491 0.0288

Earth -81173-03-10 09:35 J -27926946.18 -27926946.10 -27926946.03 0.2749 0.1996

Moon -81173-03-10 10:18 J -27926946.15 -27926946.07 -27926946.00 0.2750 0.1962 *

Uranus -81173-03-10 13:54 J -27926945.97 -27926945.92 -27926945.86 0.0138 0.0126

Jupiter -81173-04-30 10:04 J -27926895.24 -27926895.08 -27926894.92 0.0492 0.0216

Uranus -81173-06-06 17:30 J -27926857.85 -27926857.77 -27926857.69 0.0138 0.0109

Uranus -81173-09-02 20:37 J -27926769.73 -27926769.64 -27926769.53 0.0138 0.0093

Uranus -81173-11-29 23:59 J -27926681.60 -27926681.50 -27926681.38 0.0138 0.0077

Uranus -81172-02-26 03:35 J -27926593.47 -27926593.35 -27926593.22 0.0138 0.0059

Uranus -81172-05-25 07:11 J -27926505.33 -27926505.20 -27926505.07 0.0139 0.0042

Uranus -81172-08-21 10:47 J -27926417.19 -27926417.05 -27926416.92 0.0139 0.0024

Uranus -81172-11-17 14:08 J -27926329.04 -27926328.91 -27926328.77 0.0139 0.0008

Uranus -81171-02-13 17:44 J -27926240.89 -27926240.76 -27926240.62 0.0139 0.0011

Uranus -81171-05-12 21:20 J -27926152.74 -27926152.61 -27926152.47 0.0139 0.0029

Uranus -81171-08-09 00:56 J -27926064.59 -27926064.46 -27926064.33 0.0139 0.0046

Uranus -81171-11-05 04:32 J -27925976.43 -27925976.31 -27925976.18 0.0139 0.0065

Uranus -81170-02-01 08:08 J -27925888.26 -27925888.16 -27925888.04 0.0140 0.0083

Uranus -81170-04-30 11:59 J -27925800.09 -27925800.00 -27925799.91 0.0140 0.0101

Uranus -81170-07-27 15:35 J -27925711.91 -27925711.85 -27925711.77 0.0140 0.0120

Moon -81170-09-14 08:08 J -27925663.30 -27925663.16 -27925663.01 0.2587 0.0761

Earth -81170-09-14 09:35 J -27925663.24 -27925663.10 -27925662.95 0.2586 0.0916 *

Mars -81170-09-16 03:20 J -27925661.44 -27925661.36 -27925661.27 0.1743 0.1441

Uranus -81170-10-23 19:25 J -27925623.71 -27925623.69 -27925623.67 0.0140 0.0138

Mars -81169-07-13 03:35 J -27925360.47 -27925360.35 -27925360.23 0.1789 0.0196

Jupiter -81168-09-22 12:13 J -27924924.06 -27924923.99 -27924923.92 0.0537 0.0436

Jupiter -81168-12-20 20:08 J -27924834.79 -27924834.66 -27924834.53 0.0536 0.0014

Jupiter -81167-03-20 04:32 J -27924745.36 -27924745.31 -27924745.24 0.0534 0.0470

Venus -81167-03-23 09:49 J -27924742.13 -27924742.09 -27924742.05 0.3779 0.3419

Saturn -81166-08-28 18:13 J -27924218.82 -27924218.74 -27924218.64 0.0273 0.0195

Saturn -81166-11-25 05:16 J -27924130.41 -27924130.28 -27924130.16 0.0273 0.0098

Saturn -81165-02-21 16:04 J -27924041.96 -27924041.83 -27924041.69 0.0272 0.0005

Saturn -81165-05-20 03:06 J -27923953.50 -27923953.37 -27923953.24 0.0272 0.0096

Saturn -81165-08-16 14:08 J -27923865.00 -27923864.91 -27923864.82 0.0271 0.0193

Venus -81162-10-07 04:04 J -27922718.41 -27922718.33 -27922718.25 0.3775 0.2454

Jupiter -81162-11-19 01:54 J -27922675.52 -27922675.42 -27922675.33 0.0491 0.0417

Jupiter -81161-02-17 08:08 J -27922585.34 -27922585.16 -27922584.98 0.0492 0.0090

Earth -81160-03-13 04:04 J -27922195.44 -27922195.33 -27922195.22 0.2750 0.0692

Moon -81160-03-13 04:32 J -27922195.42 -27922195.31 -27922195.20 0.2746 0.0596 *

Mars -81160-12-03 12:13 J -27921930.09 -27921929.99 -27921929.89 0.1798 0.0917

Venus -81156-04-21 22:18 J -27920694.67 -27920694.57 -27920694.46 0.3772 0.1461

Jupiter -81156-10-08 23:59 J -27920524.62 -27920524.50 -27920524.37 0.0536 0.0096

Jupiter -81155-01-06 08:23 J -27920435.24 -27920435.15 -27920435.05 0.0534 0.0359

Venus -81151-11-05 17:01 J -27918670.90 -27918670.79 -27918670.68 0.3768 0.0437

Mars -81150-04-25 21:06 J -27918499.67 -27918499.62 -27918499.58 0.1807 0.1640

Saturn -81150-06-14 13:54 J -27918450.06 -27918449.92 -27918449.76 0.0287 0.0170

Saturn -81150-09-11 13:40 J -27918361.11 -27918360.93 -27918360.75 0.0287 0.0011

Jupiter -81150-12-06 06:42 J -27918275.40 -27918275.22 -27918275.04 0.0492 0.0032

Saturn -81150-12-09 12:56 J -27918272.11 -27918271.96 -27918271.80 0.0288 0.0147

Jupiter -81149-03-05 11:59 J -27918185.05 -27918185.00 -27918184.94 0.0493 0.0468

Mars -81149-06-04 03:20 J -27918094.50 -27918094.36 -27918094.22 0.1761 0.0786

Mars -81148-03-31 10:04 J -27917794.16 -27917794.08 -27917794.00 0.1772 0.1315

Moon -81147-03-15 22:47 J -27917444.66 -27917444.55 -27917444.44 0.2742 0.0644

Earth -81147-03-15 22:47 J -27917444.66 -27917444.55 -27917444.45 0.2750 0.0639 *

Venus -81145-05-21 11:44 J -27916647.12 -27916647.01 -27916646.90 0.3764 0.0621

Jupiter -81144-07-28 03:06 J -27916214.49 -27916214.37 -27916214.26 0.0536 0.0218

Jupiter -81144-10-25 11:01 J -27916125.15 -27916125.04 -27916124.92 0.0534 0.0235

Venus -81141-05-20 07:40 J -27915187.26 -27915187.18 -27915187.10 0.3604 0.2828

Mars -81140-10-25 03:35 J -27914664.50 -27914664.35 -27914664.19 0.1752 0.0272

Venus -81140-12-05 06:42 J -27914623.32 -27914623.22 -27914623.12 0.3760 0.1710

Mars -81139-08-21 18:56 J -27914363.83 -27914363.71 -27914363.60 0.1781 0.0618

Jupiter -81138-09-24 05:16 J -27913965.45 -27913965.28 -27913965.10 0.0491 0.0152

Jupiter -81138-12-23 11:01 J -27913875.17 -27913875.04 -27913874.92 0.0493 0.0350

Moon -81137-09-11 09:35 J -27913612.24 -27913612.10 -27913611.95 0.2585 0.0829

Earth -81137-09-11 11:16 J -27913612.18 -27913612.03 -27913611.88 0.2587 0.0755 *

Saturn -81136-01-14 21:20 J -27913486.69 -27913486.61 -27913486.53 0.0274 0.0219

Saturn -81136-04-13 08:08 J -27913398.27 -27913398.16 -27913398.04 0.0274 0.0122

Saturn -81136-07-10 19:11 J -27913309.84 -27913309.70 -27913309.57 0.0273 0.0025

Saturn -81136-10-07 05:59 J -27913221.38 -27913221.25 -27913221.12 0.0272 0.0073

Venus -81136-12-04 08:08 J -27913163.28 -27913163.16 -27913163.03 0.3607 0.1345

Saturn -81135-01-03 17:01 J -27913132.89 -27913132.79 -27913132.68 0.0272 0.0170

Saturn -81135-04-02 04:18 J -27913044.34 -27913044.32 -27913044.31 0.0271 0.0267

Moon -81134-03-18 16:47 J -27912693.88 -27912693.80 -27912693.72 0.2745 0.1879

Earth -81134-03-18 17:30 J -27912693.85 -27912693.77 -27912693.70 0.2750 0.1975 *

Venus -81134-06-21 01:54 J -27912599.49 -27912599.42 -27912599.34 0.3756 0.2825

Uranus -81134-08-03 01:25 J -27912556.45 -27912556.44 -27912556.39 0.0141 0.0139

Uranus -81134-10-30 09:20 J -27912468.22 -27912468.11 -27912468.00 0.0140 0.0113

Uranus -81133-01-26 16:47 J -27912379.94 -27912379.80 -27912379.65 0.0140 0.0088

Uranus -81133-04-24 00:13 J -27912291.65 -27912291.49 -27912291.32 0.0140 0.0062

Uranus -81133-07-21 07:40 J -27912203.36 -27912203.18 -27912203.00 0.0140 0.0038

Uranus -81133-10-17 14:52 J -27912115.06 -27912114.88 -27912114.69 0.0140 0.0013

Uranus -81132-01-13 22:04 J -27912026.76 -27912026.58 -27912026.39 0.0140 0.0012

Uranus -81132-04-12 05:16 J -27911938.46 -27911938.28 -27911938.10 0.0140 0.0036

Jupiter -81132-05-16 06:42 J -27911904.32 -27911904.22 -27911904.12 0.0536 0.0331

Uranus -81132-07-09 12:28 J -27911850.15 -27911849.98 -27911849.82 0.0139 0.0060

Jupiter -81132-08-13 14:37 J -27911815.02 -27911814.89 -27911814.76 0.0535 0.0120

Uranus -81132-10-05 19:25 J -27911761.84 -27911761.69 -27911761.54 0.0139 0.0084

Uranus -81131-01-02 02:08 J -27911673.51 -27911673.41 -27911673.28 0.0139 0.0107

Uranus -81131-03-31 09:06 J -27911585.17 -27911585.12 -27911585.05 0.0139 0.0130

Mars -81130-03-17 03:49 J -27911234.44 -27911234.34 -27911234.23 0.1744 0.1316

Venus -81130-06-20 08:08 J -27911139.29 -27911139.16 -27911139.02 0.3612 0.0094

Mars -81129-01-12 03:35 J -27910933.47 -27910933.35 -27910933.23 0.1789 0.0102

Earth -81127-03-11 14:23 J -27910143.98 -27910143.90 -27910143.81 0.2749 0.1726

Moon -81127-03-11 15:06 J -27910143.96 -27910143.87 -27910143.78 0.2750 0.1564 *

Pluto -81127-12-28 09:35 J -27909852.11 -27909852.10 -27909852.04 0.0060 0.0059

Pluto -81126-03-26 11:01 J -27909764.11 -27909764.04 -27909763.93 0.0060 0.0053

Pluto -81126-06-22 12:28 J -27909676.08 -27909675.98 -27909675.84 0.0060 0.0047

Jupiter -81126-07-13 03:06 J -27909655.51 -27909655.37 -27909655.21 0.0491 0.0280

Pluto -81126-09-18 13:54 J -27909588.04 -27909587.92 -27909587.76 0.0060 0.0041

Jupiter -81126-10-11 09:06 J -27909565.28 -27909565.12 -27909564.96 0.0492 0.0224

Pluto -81126-12-15 15:20 J -27909500.00 -27909499.86 -27909499.69 0.0060 0.0036

Pluto -81125-03-12 16:47 J -27909411.95 -27909411.80 -27909411.62 0.0061 0.0030

Pluto -81125-06-08 18:13 J -27909323.91 -27909323.74 -27909323.55 0.0061 0.0023

Pluto -81125-09-04 19:25 J -27909235.86 -27909235.69 -27909235.49 0.0061 0.0018

Pluto -81125-12-01 21:20 J -27909147.80 -27909147.61 -27909147.42 0.0061 0.0011

Venus -81124-01-03 07:54 J -27909115.29 -27909115.17 -27909115.05 0.3616 0.1455

Pluto -81124-02-27 22:47 J -27909059.74 -27909059.55 -27909059.36 0.0061 0.0005

Pluto -81124-05-26 23:59 J -27908971.69 -27908971.50 -27908971.30 0.0061 0.0002

Pluto -81124-08-23 01:25 J -27908883.63 -27908883.44 -27908883.24 0.0061 0.0008

Moon -81124-09-14 14:37 J -27908861.02 -27908860.89 -27908860.75 0.2589 0.1162

Earth -81124-09-14 16:04 J -27908860.96 -27908860.83 -27908860.70 0.2586 0.1333 *

Pluto -81124-11-19 02:37 J -27908795.56 -27908795.39 -27908795.19 0.0061 0.0014

Pluto -81123-02-15 04:04 J -27908707.50 -27908707.33 -27908707.13 0.0061 0.0020

Pluto -81123-05-14 05:30 J -27908619.43 -27908619.27 -27908619.08 0.0061 0.0027

Pluto -81123-08-10 07:11 J -27908531.36 -27908531.20 -27908531.03 0.0061 0.0032

Pluto -81123-11-06 08:08 J -27908443.28 -27908443.16 -27908442.99 0.0061 0.0040

Pluto -81122-02-02 09:49 J -27908355.20 -27908355.09 -27908354.94 0.0061 0.0045

Pluto -81122-05-01 11:30 J -27908267.11 -27908267.02 -27908266.91 0.0061 0.0052

Pluto -81122-07-28 12:28 J -27908179.01 -27908178.98 -27908178.89 0.0061 0.0059

Saturn -81121-10-31 12:28 J -27907718.10 -27907717.98 -27907717.86 0.0287 0.0216

Saturn -81120-01-28 11:59 J -27907629.17 -27907629.00 -27907628.82 0.0287 0.0058

Jupiter -81120-03-04 10:32 J -27907594.13 -27907594.06 -27907593.99 0.0537 0.0440

Saturn -81120-04-27 11:16 J -27907540.19 -27907540.03 -27907539.85 0.0288 0.0101

Jupiter -81120-06-01 18:28 J -27907504.86 -27907504.73 -27907504.60 0.0536 0.0010

Mars -81120-06-03 12:28 J -27907503.09 -27907502.98 -27907502.88 0.1798 0.0824

Saturn -81120-07-25 10:18 J -27907451.14 -27907451.07 -27907450.98 0.0289 0.0258

Jupiter -81120-08-30 02:52 J -27907415.44 -27907415.38 -27907415.31 0.0534 0.0465

Venus -81119-07-20 06:56 J -27907091.29 -27907091.21 -27907091.13 0.3620 0.2754

Neptune -81117-11-29 21:06 J -27906227.67 -27906227.62 -27906227.53 0.0089 0.0083

Neptune -81116-02-26 01:11 J -27906139.55 -27906139.45 -27906139.35 0.0089 0.0076

Neptune -81116-05-25 04:32 J -27906051.42 -27906051.31 -27906051.18 0.0089 0.0070

Neptune -81116-08-21 07:54 J -27905963.28 -27905963.17 -27905963.01 0.0089 0.0064

Neptune -81116-11-17 11:44 J -27905875.15 -27905875.01 -27905874.85 0.0089 0.0057

Neptune -81115-02-13 15:20 J -27905787.01 -27905786.86 -27905786.69 0.0089 0.0050

Neptune -81115-05-12 18:56 J -27905698.87 -27905698.71 -27905698.53 0.0089 0.0044

Neptune -81115-08-08 22:32 J -27905610.72 -27905610.56 -27905610.37 0.0089 0.0038

Neptune -81115-11-05 02:23 J -27905522.58 -27905522.40 -27905522.22 0.0089 0.0031

Neptune -81114-02-01 05:44 J -27905434.44 -27905434.26 -27905434.07 0.0089 0.0025

Earth -81114-03-14 08:52 J -27905393.24 -27905393.13 -27905393.02 0.2750 0.0431

Moon -81114-03-14 09:20 J -27905393.22 -27905393.11 -27905393.00 0.2744 0.0419 *

Neptune -81114-04-30 09:20 J -27905346.29 -27905346.11 -27905345.91 0.0089 0.0018

Jupiter -81114-05-01 01:11 J -27905345.55 -27905345.45 -27905345.35 0.0490 0.0406

Neptune -81114-07-27 12:56 J -27905258.15 -27905257.96 -27905257.76 0.0089 0.0012

Jupiter -81114-07-30 07:25 J -27905255.37 -27905255.19 -27905255.01 0.0492 0.0101

Neptune -81114-10-23 16:32 J -27905170.00 -27905169.81 -27905169.62 0.0089 0.0005

Neptune -81113-01-19 20:08 J -27905081.85 -27905081.66 -27905081.47 0.0089 0.0001

Neptune -81113-04-16 23:30 J -27904993.71 -27904993.52 -27904993.32 0.0089 0.0008

Neptune -81113-07-14 03:06 J -27904905.56 -27904905.37 -27904905.18 0.0089 0.0014

Neptune -81113-10-10 06:28 J -27904817.41 -27904817.23 -27904817.03 0.0089 0.0020

Neptune -81112-01-06 10:04 J -27904729.26 -27904729.08 -27904728.89 0.0089 0.0026

Neptune -81112-04-04 13:25 J -27904641.11 -27904640.94 -27904640.75 0.0089 0.0033

Neptune -81112-07-01 17:01 J -27904552.96 -27904552.79 -27904552.61 0.0089 0.0039

Neptune -81112-09-27 20:08 J -27904464.80 -27904464.66 -27904464.48 0.0089 0.0046

Neptune -81112-12-24 23:44 J -27904376.65 -27904376.51 -27904376.34 0.0089 0.0052

Neptune -81111-03-23 03:20 J -27904288.50 -27904288.36 -27904288.21 0.0089 0.0058

Neptune -81111-06-19 06:42 J -27904200.34 -27904200.22 -27904200.08 0.0089 0.0064

Neptune -81111-09-15 10:18 J -27904112.18 -27904112.07 -27904111.95 0.0089 0.0070

Mars -81111-10-24 21:06 J -27904072.68 -27904072.62 -27904072.56 0.1806 0.1546

Venus -81111-10-28 07:54 J -27904069.23 -27904069.17 -27904069.11 0.3778 0.3135

Neptune -81111-12-12 13:11 J -27904024.02 -27904023.95 -27904023.83 0.0089 0.0077

Neptune -81110-03-10 16:47 J -27903935.85 -27903935.80 -27903935.72 0.0089 0.0083

Neptune -81110-06-06 20:23 J -27903847.65 -27903847.65 -27903847.63 0.0088 0.0088

Mars -81110-12-04 04:04 J -27903667.46 -27903667.33 -27903667.20 0.1761 0.0919

Mars -81109-09-29 10:04 J -27903367.15 -27903367.08 -27903367.01 0.1772 0.1414

Jupiter -81108-03-20 22:32 J -27903194.68 -27903194.56 -27903194.43 0.0536 0.0097

Jupiter -81108-06-18 06:56 J -27903105.30 -27903105.21 -27903105.11 0.0534 0.0359

Saturn -81107-06-03 23:01 J -27902754.59 -27902754.54 -27902754.49 0.0274 0.0253

Saturn -81107-08-31 09:49 J -27902666.20 -27902666.09 -27902665.98 0.0273 0.0156

Saturn -81107-11-27 20:37 J -27902577.77 -27902577.64 -27902577.50 0.0273 0.0060

Saturn -81106-02-24 07:40 J -27902489.31 -27902489.18 -27902489.05 0.0272 0.0038

Saturn -81106-05-23 18:42 J -27902400.84 -27902400.72 -27902400.61 0.0271 0.0135

Saturn -81106-08-20 05:30 J -27902312.33 -27902312.27 -27902312.19 0.0271 0.0232

Venus -81105-05-13 02:08 J -27902045.50 -27902045.41 -27902045.32 0.3774 0.2157

Moon -81104-09-09 11:30 J -27901561.06 -27901561.02 -27901560.98 0.2583 0.2487

Earth -81104-09-09 12:42 J -27901561.02 -27901560.97 -27901560.93 0.2587 0.2456 *

Jupiter -81102-05-18 05:30 J -27900945.45 -27900945.27 -27900945.09 0.0492 0.0028

Jupiter -81102-08-16 10:32 J -27900855.10 -27900855.06 -27900855.01 0.0493 0.0472

Moon -81101-03-16 03:35 J -27900642.45 -27900642.35 -27900642.24 0.2743 0.0919

Earth -81101-03-16 03:35 J -27900642.45 -27900642.35 -27900642.24 0.2750 0.0907 *

Mars -81100-04-25 04:18 J -27900237.48 -27900237.32 -27900237.16 0.1752 0.0136

Venus -81100-11-26 20:37 J -27900021.74 -27900021.64 -27900021.53 0.3771 0.1150

Mars -81099-02-19 18:56 J -27899936.82 -27899936.71 -27899936.60 0.1780 0.0705

Jupiter -81096-01-07 02:37 J -27898884.51 -27898884.39 -27898884.27 0.0536 0.0204

Jupiter -81096-04-06 10:47 J -27898795.16 -27898795.05 -27898794.93 0.0535 0.0250

Moon -81094-03-10 01:25 J -27898092.47 -27898092.44 -27898092.41 0.2752 0.2621

Venus -81094-06-12 15:20 J -27897997.97 -27897997.86 -27897997.75 0.3767 0.0134

Saturn -81091-03-20 07:54 J -27896986.20 -27896986.17 -27896986.13 0.0286 0.0280

Saturn -81091-06-17 07:40 J -27896897.34 -27896897.18 -27896897.01 0.0287 0.0121

Moon -81091-09-12 16:04 J -27896809.98 -27896809.83 -27896809.67 0.2585 0.0575

Earth -81091-09-12 17:44 J -27896809.92 -27896809.76 -27896809.61 0.2587 0.0325 *

Saturn -81091-09-14 07:11 J -27896808.38 -27896808.20 -27896808.02 0.0288 0.0038

Mars -81091-09-15 04:47 J -27896807.42 -27896807.30 -27896807.19 0.1744 0.1175

Saturn -81091-12-12 06:13 J -27896719.36 -27896719.24 -27896719.10 0.0288 0.0195

Jupiter -81090-03-06 04:04 J -27896635.50 -27896635.33 -27896635.16 0.0491 0.0147

Jupiter -81090-06-04 09:35 J -27896545.22 -27896545.10 -27896544.97 0.0493 0.0356

Mars -81090-07-13 03:35 J -27896506.47 -27896506.35 -27896506.23 0.1789 0.0026

Uranus -81089-03-30 20:23 J -27896244.70 -27896244.65 -27896244.59 0.0138 0.0125

Uranus -81089-06-26 23:44 J -27896156.58 -27896156.51 -27896156.42 0.0138 0.0109

Uranus -81089-09-23 03:06 J -27896068.46 -27896068.37 -27896068.26 0.0138 0.0092

Uranus -81089-12-20 06:42 J -27895980.33 -27895980.22 -27895980.10 0.0138 0.0075

Venus -81089-12-26 10:04 J -27895974.19 -27895974.08 -27895973.97 0.3763 0.0951

Uranus -81088-03-18 10:04 J -27895892.20 -27895892.08 -27895891.95 0.0138 0.0058

Moon -81088-03-18 21:49 J -27895891.66 -27895891.59 -27895891.53 0.2745 0.2178

Earth -81088-03-18 22:18 J -27895891.63 -27895891.57 -27895891.50 0.2750 0.2252 *

Uranus -81088-06-14 13:40 J -27895804.06 -27895803.93 -27895803.80 0.0139 0.0041

Uranus -81088-09-10 17:16 J -27895715.92 -27895715.78 -27895715.65 0.0139 0.0023

Uranus -81088-12-07 20:37 J -27895627.77 -27895627.64 -27895627.50 0.0139 0.0008

Uranus -81087-03-06 00:13 J -27895539.62 -27895539.49 -27895539.35 0.0139 0.0012

Uranus -81087-06-02 03:49 J -27895451.47 -27895451.34 -27895451.20 0.0139 0.0030

Uranus -81087-08-29 07:25 J -27895363.32 -27895363.19 -27895363.06 0.0139 0.0047

Uranus -81087-11-25 11:01 J -27895275.16 -27895275.04 -27895274.91 0.0139 0.0066

Uranus -81086-02-21 14:37 J -27895186.99 -27895186.89 -27895186.77 0.0139 0.0084

Uranus -81086-05-20 18:28 J -27895098.82 -27895098.73 -27895098.64 0.0140 0.0102

Uranus -81086-08-16 22:04 J -27895010.64 -27895010.58 -27895010.51 0.0140 0.0121

Uranus -81086-11-13 01:54 J -27894922.43 -27894922.42 -27894922.40 0.0140 0.0139

Jupiter -81085-10-26 05:44 J -27894574.36 -27894574.26 -27894574.16 0.0536 0.0324

Venus -81085-12-25 07:40 J -27894514.28 -27894514.18 -27894514.08 0.3605 0.2378

Jupiter -81084-01-23 13:40 J -27894485.06 -27894484.93 -27894484.80 0.0535 0.0126

Venus -81083-07-12 05:16 J -27893950.38 -27893950.28 -27893950.19 0.3759 0.2053

Earth -81081-03-11 19:11 J -27893341.79 -27893341.70 -27893341.60 0.2749 0.1462

Moon -81081-03-11 19:54 J -27893341.76 -27893341.67 -27893341.57 0.2749 0.1440 *

Mars -81081-12-02 12:28 J -27893076.09 -27893075.98 -27893075.87 0.1797 0.0724

Venus -81079-07-11 07:54 J -27892490.30 -27892490.17 -27892490.04 0.3609 0.0916

Jupiter -81079-12-23 02:23 J -27892325.54 -27892325.40 -27892325.24 0.0491 0.0270

Jupiter -81078-03-23 08:23 J -27892235.30 -27892235.15 -27892234.99 0.0493 0.0237

Moon -81078-09-15 20:52 J -27892058.74 -27892058.63 -27892058.51 0.2590 0.1694

Earth -81078-09-15 22:18 J -27892058.68 -27892058.57 -27892058.46 0.2586 0.1746 *

Saturn -81077-01-18 12:28 J -27891934.07 -27891933.98 -27891933.87 0.0274 0.0183

Venus -81077-01-26 00:28 J -27891926.54 -27891926.48 -27891926.42 0.3755 0.3173

Saturn -81077-04-15 23:30 J -27891845.65 -27891845.52 -27891845.39 0.0273 0.0086

Saturn -81077-07-13 10:18 J -27891757.20 -27891757.07 -27891756.93 0.0273 0.0014

Saturn -81077-10-09 21:20 J -27891668.73 -27891668.61 -27891668.49 0.0272 0.0109

Saturn -81076-01-06 08:23 J -27891580.23 -27891580.15 -27891580.06 0.0272 0.0207

Venus -81073-01-25 07:54 J -27890466.30 -27890466.17 -27890466.04 0.3613 0.0506

Jupiter -81073-08-14 09:20 J -27890264.18 -27890264.11 -27890264.04 0.0537 0.0436

Jupiter -81073-11-11 17:16 J -27890174.91 -27890174.78 -27890174.65 0.0535 0.0015

Jupiter -81072-02-09 01:40 J -27890085.49 -27890085.43 -27890085.37 0.0533 0.0467

Mars -81071-04-24 21:06 J -27889645.69 -27889645.62 -27889645.55 0.1806 0.1458

Mars -81070-06-04 04:18 J -27889240.44 -27889240.32 -27889240.19 0.1762 0.1034

Mars -81069-03-30 10:18 J -27888940.13 -27888940.07 -27888940.01 0.1772 0.1510

Earth -81068-03-14 13:54 J -27888591.03 -27888590.92 -27888590.81 0.2750 0.0148

Moon -81068-03-14 14:23 J -27888591.02 -27888590.90 -27888590.79 0.2743 0.0103 *

Venus -81068-08-10 07:11 J -27888442.31 -27888442.20 -27888442.08 0.3617 0.1858

Jupiter -81067-10-11 00:13 J -27888015.59 -27888015.49 -27888015.38 0.0491 0.0397

Jupiter -81066-01-09 06:42 J -27887925.40 -27887925.22 -27887925.05 0.0492 0.0110

Venus -81062-02-24 06:28 J -27886418.29 -27886418.23 -27886418.17 0.3621 0.3153

Saturn -81062-11-04 05:59 J -27886165.39 -27886165.25 -27886165.10 0.0287 0.0168

Saturn -81061-02-01 05:30 J -27886076.45 -27886076.27 -27886076.08 0.0288 0.0011

Saturn -81061-04-30 04:47 J -27885987.45 -27885987.30 -27885987.14 0.0288 0.0149

Jupiter -81061-08-30 21:06 J -27885864.75 -27885864.62 -27885864.50 0.0536 0.0100

Mars -81061-10-24 05:01 J -27885810.45 -27885810.29 -27885810.13 0.1753 0.0033

Jupiter -81061-11-28 05:16 J -27885775.37 -27885775.28 -27885775.18 0.0534 0.0356

Mars -81060-08-20 18:56 J -27885509.82 -27885509.71 -27885509.60 0.1780 0.0798

Moon -81058-09-10 17:44 J -27884758.84 -27884758.76 -27884758.68 0.2583 0.2228

Earth -81058-09-10 18:56 J -27884758.80 -27884758.71 -27884758.61 0.2587 0.2021 *

Moon -81055-03-17 08:23 J -27883840.25 -27883840.15 -27883840.05 0.2743 0.1120

Earth -81055-03-17 08:37 J -27883840.24 -27883840.14 -27883840.04 0.2750 0.1185 *

Jupiter -81055-10-28 04:47 J -27883615.48 -27883615.30 -27883615.12 0.0492 0.0017

Jupiter -81054-01-26 10:04 J -27883525.11 -27883525.08 -27883525.05 0.0493 0.0484

Venus -81054-06-04 06:13 J -27883396.31 -27883396.24 -27883396.17 0.3777 0.2846

Mars -81051-03-16 05:16 J -27882380.41 -27882380.28 -27882380.15 0.1744 0.1047

Mars -81050-01-11 03:49 J -27882079.46 -27882079.34 -27882079.22 0.1789 0.0107

Uranus -81050-08-23 07:40 J -27881855.21 -27881855.18 -27881855.13 0.0141 0.0137

Uranus -81050-11-19 15:06 J -27881766.97 -27881766.87 -27881766.74 0.0141 0.0112

Uranus -81049-02-15 22:32 J -27881678.69 -27881678.56 -27881678.40 0.0140 0.0087

Uranus -81049-05-14 05:59 J -27881590.40 -27881590.25 -27881590.07 0.0140 0.0062

Jupiter -81049-06-19 01:11 J -27881554.57 -27881554.45 -27881554.33 0.0537 0.0204

Uranus -81049-08-10 13:25 J -27881502.11 -27881501.94 -27881501.75 0.0140 0.0037

Jupiter -81049-09-16 09:20 J -27881465.22 -27881465.11 -27881464.99 0.0535 0.0250

Uranus -81049-11-06 20:52 J -27881413.81 -27881413.63 -27881413.44 0.0140 0.0012

Venus -81049-12-18 00:28 J -27881372.58 -27881372.48 -27881372.39 0.3774 0.1861

Uranus -81048-02-03 04:04 J -27881325.51 -27881325.33 -27881325.14 0.0140 0.0014

Earth -81048-03-10 05:44 J -27881290.30 -27881290.26 -27881290.22 0.2749 0.2482

Moon -81048-03-10 06:28 J -27881290.28 -27881290.23 -27881290.18 0.2752 0.2444 *

Uranus -81048-05-02 11:16 J -27881237.20 -27881237.03 -27881236.85 0.0140 0.0038

Saturn -81048-06-06 14:08 J -27881201.98 -27881201.91 -27881201.82 0.0274 0.0217

Uranus -81048-07-29 18:28 J -27881148.89 -27881148.73 -27881148.56 0.0140 0.0062

Saturn -81048-09-03 01:11 J -27881113.57 -27881113.45 -27881113.33 0.0273 0.0120

Uranus -81048-10-26 01:25 J -27881060.58 -27881060.44 -27881060.29 0.0139 0.0086

Saturn -81048-11-30 11:59 J -27881025.13 -27881025.00 -27881024.87 0.0272 0.0023

Uranus -81047-01-22 08:08 J -27880972.25 -27880972.16 -27880972.03 0.0139 0.0110

Saturn -81047-02-26 23:01 J -27880936.67 -27880936.54 -27880936.41 0.0272 0.0074

Uranus -81047-04-20 15:20 J -27880883.91 -27880883.86 -27880883.80 0.0139 0.0132

Saturn -81047-05-26 10:04 J -27880848.19 -27880848.08 -27880847.98 0.0271 0.0172

Saturn -81047-08-22 20:52 J -27880759.63 -27880759.63 -27880759.61 0.0271 0.0269

Moon -81045-09-12 22:18 J -27880007.72 -27880007.57 -27880007.41 0.2586 0.0082

Earth -81045-09-12 23:59 J -27880007.66 -27880007.50 -27880007.35 0.2587 0.0098 *

Venus -81043-07-03 18:56 J -27879348.82 -27879348.71 -27879348.60 0.3770 0.0836

Jupiter -81043-08-16 02:52 J -27879305.56 -27879305.38 -27879305.21 0.0491 0.0142

Jupiter -81043-11-14 08:23 J -27879215.27 -27879215.15 -27879215.03 0.0493 0.0360

Moon -81042-03-20 02:37 J -27879089.44 -27879089.39 -27879089.34 0.2745 0.2446

Earth -81042-03-20 03:20 J -27879089.40 -27879089.36 -27879089.32 0.2750 0.2530 *

Mars -81041-06-02 12:28 J -27878649.09 -27878648.98 -27878648.87 0.1797 0.0638

Venus -81037-01-17 13:40 J -27877325.05 -27877324.93 -27877324.82 0.3766 0.0256

Jupiter -81037-04-07 05:16 J -27877244.38 -27877244.28 -27877244.17 0.0537 0.0311

Jupiter -81037-07-05 13:25 J -27877155.07 -27877154.94 -27877154.82 0.0535 0.0142

Neptune -81035-03-10 05:30 J -27876542.29 -27876542.27 -27876542.22 0.0089 0.0085

Earth -81035-03-13 00:13 J -27876539.59 -27876539.49 -27876539.39 0.2749 0.1192

Moon -81035-03-13 00:56 J -27876539.57 -27876539.46 -27876539.36 0.2746 0.1050 *

Neptune -81035-06-06 06:42 J -27876454.26 -27876454.22 -27876454.15 0.0089 0.0081

Neptune -81035-09-02 08:23 J -27876366.21 -27876366.15 -27876366.08 0.0089 0.0076

Neptune -81035-11-29 09:35 J -27876278.17 -27876278.10 -27876278.02 0.0089 0.0072

Neptune -81034-02-25 10:47 J -27876190.12 -27876190.05 -27876189.95 0.0089 0.0068

Neptune -81034-05-24 12:13 J -27876102.07 -27876101.99 -27876101.89 0.0089 0.0063

Neptune -81034-08-20 13:25 J -27876014.03 -27876013.94 -27876013.83 0.0089 0.0059

Neptune -81034-11-16 15:06 J -27875925.98 -27875925.87 -27875925.77 0.0089 0.0054

Venus -81033-01-16 06:42 J -27875865.25 -27875865.22 -27875865.18 0.3602 0.3456

Neptune -81033-02-12 16:18 J -27875837.92 -27875837.82 -27875837.71 0.0089 0.0050

Neptune -81033-05-10 17:30 J -27875749.87 -27875749.77 -27875749.65 0.0089 0.0046

Pluto -81033-07-29 02:08 J -27875670.46 -27875670.41 -27875670.34 0.0085 0.0076

Neptune -81033-08-06 18:56 J -27875661.82 -27875661.71 -27875661.59 0.0089 0.0041

Pluto -81033-10-25 03:49 J -27875582.43 -27875582.34 -27875582.26 0.0084 0.0064

Neptune -81033-11-02 20:23 J -27875573.77 -27875573.65 -27875573.53 0.0089 0.0037

Pluto -81032-01-21 04:47 J -27875494.39 -27875494.30 -27875494.18 0.0084 0.0053

Neptune -81032-01-29 21:49 J -27875485.72 -27875485.59 -27875485.47 0.0089 0.0032

Saturn -81032-03-23 00:56 J -27875433.55 -27875433.46 -27875433.34 0.0286 0.0235

Pluto -81032-04-19 06:13 J -27875406.35 -27875406.24 -27875406.11 0.0084 0.0041

Neptune -81032-04-27 23:01 J -27875397.66 -27875397.54 -27875397.41 0.0089 0.0028

Saturn -81032-06-20 00:56 J -27875344.64 -27875344.46 -27875344.29 0.0287 0.0076

Pluto -81032-07-16 07:40 J -27875318.30 -27875318.18 -27875318.05 0.0084 0.0029

Neptune -81032-07-25 00:28 J -27875309.61 -27875309.48 -27875309.35 0.0089 0.0023

Venus -81032-08-02 08:23 J -27875301.25 -27875301.15 -27875301.04 0.3762 0.1295

Moon -81032-09-16 03:20 J -27875256.46 -27875256.36 -27875256.26 0.2591 0.1965

Earth -81032-09-16 04:32 J -27875256.39 -27875256.31 -27875256.23 0.2587 0.2166 *

Saturn -81032-09-17 00:13 J -27875255.66 -27875255.49 -27875255.31 0.0288 0.0083

Pluto -81032-10-12 09:06 J -27875230.25 -27875230.12 -27875229.99 0.0084 0.0017

Neptune -81032-10-21 01:54 J -27875221.55 -27875221.42 -27875221.29 0.0089 0.0019

Mars -81032-10-23 21:06 J -27875218.69 -27875218.62 -27875218.54 0.1806 0.1366

Saturn -81032-12-14 23:16 J -27875166.62 -27875166.53 -27875166.43 0.0288 0.0240

Pluto -81031-01-08 10:18 J -27875142.20 -27875142.07 -27875141.93 0.0084 0.0006

Neptune -81031-01-17 03:06 J -27875133.50 -27875133.37 -27875133.23 0.0089 0.0015

Pluto -81031-04-06 11:44 J -27875054.15 -27875054.01 -27875053.88 0.0084 0.0006

Neptune -81031-04-15 04:32 J -27875045.44 -27875045.31 -27875045.18 0.0089 0.0010

Jupiter -81031-06-04 01:25 J -27874995.59 -27874995.44 -27874995.29 0.0491 0.0262

Pluto -81031-07-03 12:56 J -27874966.09 -27874965.96 -27874965.82 0.0084 0.0017

Neptune -81031-07-12 05:59 J -27874957.39 -27874957.25 -27874957.12 0.0089 0.0006

Jupiter -81031-09-02 07:25 J -27874905.35 -27874905.19 -27874905.04 0.0493 0.0243

Pluto -81031-09-29 14:08 J -27874878.03 -27874877.91 -27874877.78 0.0083 0.0029

Neptune -81031-10-08 07:25 J -27874869.33 -27874869.19 -27874869.06 0.0089 0.0003

Mars -81031-12-03 05:16 J -27874813.40 -27874813.28 -27874813.17 0.1762 0.1182

Pluto -81031-12-26 15:35 J -27874789.97 -27874789.85 -27874789.73 0.0083 0.0039

Neptune -81030-01-04 08:37 J -27874781.27 -27874781.14 -27874781.00 0.0089 0.0003

Pluto -81030-03-24 16:47 J -27874701.90 -27874701.80 -27874701.69 0.0083 0.0050

Neptune -81030-04-02 10:04 J -27874693.21 -27874693.08 -27874692.95 0.0089 0.0008

Pluto -81030-06-20 17:59 J -27874613.83 -27874613.75 -27874613.65 0.0083 0.0061

Neptune -81030-06-29 11:16 J -27874605.16 -27874605.03 -27874604.89 0.0089 0.0013

Pluto -81030-09-16 19:11 J -27874525.75 -27874525.70 -27874525.63 0.0083 0.0072

Neptune -81030-09-25 12:42 J -27874517.10 -27874516.97 -27874516.83 0.0089 0.0017

Mars -81030-09-29 10:18 J -27874513.12 -27874513.07 -27874513.02 0.1772 0.1599

Neptune -81030-12-22 14:08 J -27874429.04 -27874428.91 -27874428.78 0.0089 0.0021

Neptune -81029-03-19 15:20 J -27874340.98 -27874340.86 -27874340.72 0.0089 0.0026

Neptune -81029-06-15 17:01 J -27874252.92 -27874252.79 -27874252.67 0.0089 0.0030

Neptune -81029-09-11 18:13 J -27874164.86 -27874164.74 -27874164.61 0.0089 0.0035

Neptune -81029-12-08 19:40 J -27874076.80 -27874076.68 -27874076.56 0.0089 0.0039

Neptune -81028-03-06 20:52 J -27873988.74 -27873988.63 -27873988.50 0.0089 0.0044

Neptune -81028-06-02 22:32 J -27873900.67 -27873900.56 -27873900.45 0.0089 0.0048

Venus -81028-08-01 07:25 J -27873841.30 -27873841.19 -27873841.08 0.3606 0.1942

Neptune -81028-08-29 23:44 J -27873812.61 -27873812.51 -27873812.39 0.0089 0.0053

Neptune -81028-11-26 01:11 J -27873724.54 -27873724.45 -27873724.34 0.0089 0.0058

Neptune -81027-02-22 02:37 J -27873636.48 -27873636.39 -27873636.29 0.0089 0.0062

Neptune -81027-05-21 03:49 J -27873548.41 -27873548.34 -27873548.24 0.0089 0.0067

Neptune -81027-08-17 05:30 J -27873460.35 -27873460.27 -27873460.19 0.0089 0.0071

Neptune -81027-11-13 06:42 J -27873372.27 -27873372.22 -27873372.14 0.0089 0.0076

Neptune -81026-02-09 08:23 J -27873284.20 -27873284.15 -27873284.09 0.0089 0.0080

Venus -81026-02-16 03:35 J -27873277.44 -27873277.35 -27873277.26 0.3758 0.2393

Neptune -81026-05-08 09:35 J -27873196.12 -27873196.10 -27873196.05 0.0089 0.0085

Jupiter -81025-01-25 08:37 J -27872934.22 -27872934.14 -27872934.07 0.0537 0.0429

Jupiter -81025-04-23 16:18 J -27872844.95 -27872844.82 -27872844.69 0.0535 0.0022

Jupiter -81025-07-22 00:42 J -27872755.52 -27872755.47 -27872755.41 0.0533 0.0474

Venus -81022-02-15 07:40 J -27871817.31 -27871817.18 -27871817.05 0.3610 0.0482

Earth -81022-03-15 18:42 J -27871788.83 -27871788.72 -27871788.61 0.2750 0.0147

Moon -81022-03-15 19:11 J -27871788.81 -27871788.70 -27871788.59 0.2743 0.0107 *

Mars -81021-04-24 05:30 J -27871383.43 -27871383.27 -27871383.12 0.1753 0.0128

Venus -81021-08-31 23:01 J -27871253.58 -27871253.54 -27871253.51 0.3754 0.3533

Mars -81020-02-18 18:56 J -27871082.81 -27871082.71 -27871082.60 0.1780 0.0898

Jupiter -81019-03-22 23:44 J -27870685.62 -27870685.51 -27870685.40 0.0491 0.0386

Jupiter -81019-06-21 05:59 J -27870595.42 -27870595.25 -27870595.07 0.0492 0.0122

Saturn -81019-10-24 16:47 J -27870469.85 -27870469.80 -27870469.74 0.0275 0.0246

Saturn -81018-01-21 03:35 J -27870381.46 -27870381.35 -27870381.23 0.0274 0.0149

Saturn -81018-04-19 14:37 J -27870293.02 -27870292.89 -27870292.76 0.0273 0.0051

Saturn -81018-07-17 01:25 J -27870204.57 -27870204.44 -27870204.30 0.0273 0.0047

Saturn -81018-10-13 12:28 J -27870116.09 -27870115.98 -27870115.86 0.0272 0.0145

Saturn -81017-01-09 23:30 J -27870027.57 -27870027.52 -27870027.46 0.0272 0.0242

Venus -81017-08-31 07:25 J -27869793.32 -27869793.19 -27869793.06 0.3614 0.0920

Jupiter -81013-02-10 19:54 J -27868534.80 -27868534.67 -27868534.54 0.0535 0.0094

Jupiter -81013-05-10 04:04 J -27868445.42 -27868445.33 -27868445.23 0.0534 0.0360

Moon -81012-09-10 23:59 J -27867956.62 -27867956.50 -27867956.38 0.2583 0.1655

Earth -81012-09-11 01:25 J -27867956.56 -27867956.44 -27867956.32 0.2587 0.1586 *

Mars -81012-09-14 05:44 J -27867953.39 -27867953.26 -27867953.12 0.1744 0.0918

Venus -81011-03-17 06:42 J -27867769.32 -27867769.22 -27867769.11 0.3618 0.2266

Mars -81011-07-12 03:49 J -27867652.46 -27867652.34 -27867652.22 0.1788 0.0183

Moon -81009-03-17 13:11 J -27867038.05 -27867037.95 -27867037.86 0.2743 0.1466

Earth -81009-03-17 13:25 J -27867038.03 -27867037.94 -27867037.84 0.2750 0.1457 *

Jupiter -81007-04-09 04:04 J -27866285.51 -27866285.33 -27866285.15 0.0492 0.0007

Venus -81006-10-01 05:44 J -27865745.28 -27865745.26 -27865745.23 0.3622 0.3553

Uranus -81005-04-20 03:20 J -27865543.42 -27865543.36 -27865543.31 0.0138 0.0123

Uranus -81005-07-17 06:28 J -27865455.31 -27865455.23 -27865455.14 0.0138 0.0107

Uranus -81005-10-13 09:49 J -27865367.18 -27865367.09 -27865366.98 0.0138 0.0090

Uranus -81004-01-09 13:25 J -27865279.05 -27865278.94 -27865278.82 0.0138 0.0073

Uranus -81004-04-07 16:47 J -27865190.92 -27865190.80 -27865190.67 0.0138 0.0057

Uranus -81004-07-04 20:23 J -27865102.78 -27865102.65 -27865102.52 0.0138 0.0039

Uranus -81004-09-30 23:59 J -27865014.64 -27865014.50 -27865014.37 0.0139 0.0022

Uranus -81004-12-28 03:20 J -27864926.49 -27864926.36 -27864926.22 0.0139 0.0006

Uranus -81003-03-26 06:56 J -27864838.34 -27864838.21 -27864838.07 0.0139 0.0014

Uranus -81003-06-22 10:32 J -27864750.19 -27864750.06 -27864749.92 0.0139 0.0031

Venus -81003-06-25 10:04 J -27864747.11 -27864747.08 -27864747.04 0.3779 0.3521

Saturn -81003-08-09 23:44 J -27864701.54 -27864701.51 -27864701.47 0.0286 0.0279

Uranus -81003-09-18 14:08 J -27864662.03 -27864661.91 -27864661.78 0.0139 0.0049

Saturn -81003-11-06 23:30 J -27864612.69 -27864612.52 -27864612.35 0.0287 0.0120

Uranus -81003-12-15 17:44 J -27864573.87 -27864573.76 -27864573.64 0.0139 0.0067

Saturn -81002-02-03 23:01 J -27864523.72 -27864523.54 -27864523.36 0.0288 0.0039

Earth -81002-03-11 10:32 J -27864488.12 -27864488.06 -27864487.99 0.2749 0.2219

Moon -81002-03-11 11:16 J -27864488.10 -27864488.03 -27864487.96 0.2752 0.2101 *

Uranus -81002-03-13 21:20 J -27864485.71 -27864485.61 -27864485.49 0.0139 0.0086

Saturn -81002-05-03 22:04 J -27864434.71 -27864434.58 -27864434.44 0.0288 0.0196

Uranus -81002-06-10 01:11 J -27864397.54 -27864397.45 -27864397.36 0.0140 0.0104

Uranus -81002-09-06 05:01 J -27864309.36 -27864309.29 -27864309.23 0.0140 0.0122

Jupiter -81002-11-29 23:44 J -27864224.63 -27864224.51 -27864224.39 0.0536 0.0206

Mars -81002-12-02 12:28 J -27864222.09 -27864221.98 -27864221.86 0.1797 0.0546

Jupiter -81001-02-27 07:54 J -27864135.29 -27864135.17 -27864135.06 0.0535 0.0247

81ST MILLENNIUM BCE

This is a list of transits of Mercury in the 81st millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Moon	-80999-09-14 04:47	J	-27863205.45	-27863205.30	-27863205.14	0.2588	0.0289	
Earth	-80999-09-14 06:13	J	-27863205.39	-27863205.24	-27863205.08	0.2587	0.0533	*
Venus	-80997-01-09 04:18	J	-27862723.40	-27862723.32	-27862723.24	0.3776	0.2556	
Moon	-80996-03-20 07:40	J	-27862287.20	-27862287.18	-27862287.16	0.2746	0.2701	
Jupiter	-80995-01-26 02:08	J	-27861975.58	-27861975.41	-27861975.23	0.0491	0.0131	
Jupiter	-80995-04-26 07:40	J	-27861885.29	-27861885.18	-27861885.06	0.0493	0.0372	
Mars	-80992-04-23 21:20	J	-27860791.70	-27860791.61	-27860791.53	0.1806	0.1273	
Venus	-80992-07-24 22:32	J	-27860699.66	-27860699.56	-27860699.46	0.3773	0.1555	
Mars	-80991-06-03 05:44	J	-27860386.36	-27860386.26	-27860386.16	0.1762	0.1307	
Mars	-80990-03-30 10:18	J	-27860086.10	-27860086.07	-27860086.04	0.1771	0.1696	
Jupiter	-80990-09-18 03:49	J	-27859914.44	-27859914.34	-27859914.23	0.0537	0.0312	
Jupiter	-80990-12-16 11:59	J	-27859825.13	-27859825.00	-27859824.88	0.0535	0.0141	
Earth	-80989-03-13 05:01	J	-27859737.39	-27859737.29	-27859737.18	0.2749	0.0925	
Moon	-80989-03-13 05:44	J	-27859737.36	-27859737.26	-27859737.15	0.2745	0.0891	*
Saturn	-80989-06-09 05:30	J	-27859649.37	-27859649.27	-27859649.17	0.0274	0.0181	
Saturn	-80989-09-05 16:18	J	-27859560.95	-27859560.82	-27859560.69	0.0273	0.0084	
Saturn	-80989-12-03 03:20	J	-27859472.50	-27859472.36	-27859472.23	0.0272	0.0016	
Saturn	-80988-03-01 14:08	J	-27859384.03	-27859383.91	-27859383.79	0.0272	0.0111	
Saturn	-80988-05-29 01:11	J	-27859295.53	-27859295.45	-27859295.36	0.0271	0.0208	
Venus	-80986-02-07 17:01	J	-27858675.90	-27858675.79	-27858675.68	0.3769	0.0541	
Moon	-80986-09-17 09:35	J	-27858454.12	-27858454.10	-27858454.08	0.2591	0.2553	
Earth	-80986-09-17 10:47	J	-27858454.06	-27858454.05	-27858454.04	0.2586	0.2577	

Jupiter -80984-11-13 23:59 J -27857665.65 -27857665.50 -27857665.34 0.0491 0.0258

Jupiter -80983-02-12 05:59 J -27857575.40 -27857575.25 -27857575.09 0.0492 0.0247

Mars -80982-10-24 06:13 J -27856956.40 -27856956.24 -27856956.08 0.1753 0.0264

Mars -80981-08-19 19:11 J -27856655.80 -27856655.70 -27856655.60 0.1780 0.0989

Venus -80981-08-23 11:59 J -27856652.12 -27856652.00 -27856651.89 0.3765 0.0555

Jupiter -80978-07-07 07:54 J -27855604.24 -27855604.17 -27855604.08 0.0537 0.0417

Jupiter -80978-10-04 15:49 J -27855514.96 -27855514.84 -27855514.71 0.0535 0.0039

Jupiter -80977-01-02 00:28 J -27855425.53 -27855425.48 -27855425.43 0.0533 0.0489

Venus -80977-08-22 06:42 J -27855192.29 -27855192.22 -27855192.15 0.3603 0.3007

Earth -80976-03-15 23:44 J -27854986.62 -27854986.51 -27854986.40 0.2750 0.0396

Moon -80976-03-15 23:59 J -27854986.61 -27854986.50 -27854986.39 0.2743 0.0485 *

Venus -80975-03-09 06:56 J -27854628.32 -27854628.21 -27854628.11 0.3761 0.1629

Saturn -80973-03-25 18:42 J -27853880.86 -27853880.72 -27853880.58 0.0286 0.0188

Saturn -80973-06-22 18:13 J -27853791.92 -27853791.74 -27853791.56 0.0287 0.0029

Saturn -80973-09-19 17:30 J -27853702.93 -27853702.77 -27853702.61 0.0288 0.0129

Saturn -80973-12-17 16:32 J -27853613.83 -27853613.81 -27853613.79 0.0288 0.0285

Mars -80972-03-15 06:28 J -27853526.37 -27853526.23 -27853526.09 0.1744 0.0784

Jupiter -80972-09-01 22:32 J -27853355.67 -27853355.56 -27853355.44 0.0491 0.0379

Jupiter -80972-12-01 04:47 J -27853265.47 -27853265.30 -27853265.12 0.0492 0.0129

Mars -80971-01-10 03:49 J -27853225.46 -27853225.34 -27853225.22 0.1789 0.0271

Venus -80971-03-08 07:11 J -27853168.32 -27853168.20 -27853168.07 0.3607 0.1499

Venus -80970-09-23 02:08 J -27852604.49 -27852604.41 -27852604.34 0.3757 0.2750

Jupiter -80966-04-25 11:16 J -27851294.04 -27851294.03 -27851294.01 0.0537 0.0533

Jupiter -80966-07-23 19:11 J -27851204.83 -27851204.70 -27851204.58 0.0535 0.0088

Moon -80966-09-12 06:28 J -27851154.37 -27851154.23 -27851154.10 0.2584 0.1331

Earth -80966-09-12 07:54 J -27851154.31 -27851154.17 -27851154.03 0.2587 0.1155 *

Uranus -80966-09-12 13:25 J -27851153.97 -27851153.94 -27851153.88 0.0141 0.0136

Venus -80966-09-22 07:25 J -27851144.32 -27851144.19 -27851144.06 0.3611 0.0048

Jupiter -80966-10-21 03:20 J -27851115.45 -27851115.36 -27851115.27 0.0534 0.0366

Uranus -80966-12-09 20:52 J -27851065.73 -27851065.63 -27851065.50 0.0141 0.0111

Uranus -80965-03-07 04:47 J -27850977.45 -27850977.30 -27850977.15 0.0140 0.0085

Uranus -80965-06-03 12:13 J -27850889.16 -27850888.99 -27850888.82 0.0140 0.0060

Uranus -80965-08-30 19:25 J -27850800.87 -27850800.69 -27850800.50 0.0140 0.0035

Uranus -80965-11-27 02:52 J -27850712.57 -27850712.38 -27850712.20 0.0140 0.0010

Uranus -80964-02-23 10:04 J -27850624.26 -27850624.08 -27850623.89 0.0140 0.0015

Uranus -80964-05-22 17:16 J -27850535.96 -27850535.78 -27850535.60 0.0140 0.0039

Uranus -80964-08-19 00:13 J -27850447.65 -27850447.49 -27850447.32 0.0140 0.0063

Uranus -80964-11-15 07:11 J -27850359.33 -27850359.20 -27850359.04 0.0139 0.0087

Uranus -80963-02-11 14:23 J -27850271.00 -27850270.90 -27850270.79 0.0139 0.0110

Moon -80963-03-18 17:59 J -27850235.84 -27850235.75 -27850235.66 0.2743 0.1613

Earth -80963-03-18 18:28 J -27850235.82 -27850235.73 -27850235.65 0.2750 0.1732 *

Uranus -80963-05-10 21:06 J -27850182.65 -27850182.62 -27850182.56 0.0139 0.0134

Mars -80962-06-02 12:42 J -27849795.09 -27849794.97 -27849794.86 0.1797 0.0444

Venus -80960-04-07 06:56 J -27849120.33 -27849120.21 -27849120.08 0.3615 0.1344

Jupiter -80960-09-19 03:20 J -27848955.54 -27848955.36 -27848955.18 0.0492 0.0009

Saturn -80960-10-27 07:40 J -27848917.26 -27848917.18 -27848917.09 0.0275 0.0212

Saturn -80959-01-23 18:42 J -27848828.84 -27848828.72 -27848828.60 0.0274 0.0115

Saturn -80959-04-22 05:30 J -27848740.40 -27848740.27 -27848740.14 0.0273 0.0017

Saturn -80959-07-19 16:32 J -27848651.94 -27848651.81 -27848651.68 0.0273 0.0082

Saturn -80959-10-16 03:35 J -27848563.45 -27848563.35 -27848563.25 0.0272 0.0180

Earth -80956-03-11 15:35 J -27847685.93 -27847685.85 -27847685.78 0.2749 0.1951

Moon -80956-03-11 16:18 J -27847685.90 -27847685.82 -27847685.74 0.2750 0.1872 *

Venus -80955-10-22 06:28 J -27847096.32 -27847096.23 -27847096.15 0.3619 0.2676

Jupiter -80954-05-11 22:47 J -27846894.67 -27846894.55 -27846894.43 0.0536 0.0201

Jupiter -80954-08-09 06:42 J -27846805.33 -27846805.22 -27846805.10 0.0534 0.0252

Moon -80953-09-14 11:01 J -27846403.18 -27846403.04 -27846402.89 0.2589 0.0880

Earth -80953-09-14 12:42 J -27846403.12 -27846402.97 -27846402.83 0.2587 0.0951 *

Mars -80953-10-22 21:20 J -27846364.70 -27846364.61 -27846364.52 0.1805 0.1179

Neptune -80952-05-30 16:47 J -27846144.83 -27846144.80 -27846144.74 0.0089 0.0086

Neptune -80952-08-26 20:23 J -27846056.72 -27846056.65 -27846056.55 0.0089 0.0080

Neptune -80952-11-23 00:13 J -27845968.59 -27845968.49 -27845968.37 0.0089 0.0073

Mars -80952-12-02 06:13 J -27845959.33 -27845959.24 -27845959.15 0.1762 0.1434

Neptune -80951-02-19 03:35 J -27845880.46 -27845880.35 -27845880.20 0.0089 0.0067

Neptune -80951-05-18 07:40 J -27845792.32 -27845792.18 -27845792.04 0.0089 0.0060

Neptune -80951-08-14 11:01 J -27845704.18 -27845704.04 -27845703.88 0.0089 0.0054

Neptune -80951-11-10 14:52 J -27845616.04 -27845615.88 -27845615.72 0.0089 0.0047

Neptune -80950-02-06 18:13 J -27845527.90 -27845527.74 -27845527.56 0.0089 0.0041

Neptune -80950-05-05 21:49 J -27845439.76 -27845439.59 -27845439.40 0.0089 0.0034

Neptune -80950-08-02 01:25 J -27845351.61 -27845351.44 -27845351.25 0.0089 0.0028

Neptune -80950-10-29 05:01 J -27845263.47 -27845263.29 -27845263.09 0.0089 0.0022

Neptune -80949-01-25 08:52 J -27845175.32 -27845175.13 -27845174.94 0.0089 0.0015

Neptune -80949-04-22 12:13 J -27845087.18 -27845086.99 -27845086.79 0.0089 0.0009

Neptune -80949-07-19 15:49 J -27844999.03 -27844998.84 -27844998.65 0.0089 0.0002

Neptune -80949-10-15 19:25 J -27844910.88 -27844910.69 -27844910.50 0.0089 0.0004

Neptune -80948-01-11 23:01 J -27844822.73 -27844822.54 -27844822.35 0.0089 0.0011

Neptune -80948-04-10 02:08 J -27844734.59 -27844734.41 -27844734.21 0.0089 0.0018

Neptune -80948-07-07 05:44 J -27844646.44 -27844646.26 -27844646.07 0.0089 0.0024

Jupiter -80948-07-08 01:25 J -27844645.62 -27844645.44 -27844645.27 0.0491 0.0121

Neptune -80948-10-03 09:20 J -27844558.28 -27844558.11 -27844557.92 0.0089 0.0030

Jupiter -80948-10-06 06:56 J -27844555.32 -27844555.21 -27844555.10 0.0493 0.0381

Neptune -80948-12-30 12:56 J -27844470.13 -27844469.96 -27844469.78 0.0089 0.0036

Neptune -80947-03-28 16:04 J -27844381.98 -27844381.83 -27844381.65 0.0089 0.0043

Neptune -80947-06-24 19:40 J -27844293.83 -27844293.68 -27844293.51 0.0088 0.0049

Neptune -80947-09-20 23:16 J -27844205.67 -27844205.53 -27844205.38 0.0088 0.0055

Neptune -80947-12-18 02:52 J -27844117.52 -27844117.38 -27844117.24 0.0088 0.0061

Venus -80946-01-30 08:08 J -27844074.21 -27844074.16 -27844074.10 0.3779 0.3239

Neptune -80946-03-16 05:59 J -27844029.36 -27844029.25 -27844029.11 0.0088 0.0067

Neptune -80946-06-12 09:20 J -27843941.20 -27843941.11 -27843940.99 0.0088 0.0074

Neptune -80946-09-08 12:56 J -27843853.03 -27843852.96 -27843852.87 0.0088 0.0080

Neptune -80946-12-05 16:18 J -27843764.85 -27843764.82 -27843764.76 0.0088 0.0086

Saturn -80944-08-12 17:30 J -27843148.87 -27843148.77 -27843148.66 0.0286 0.0230

Saturn -80944-11-09 17:16 J -27843059.96 -27843059.78 -27843059.60 0.0287 0.0071

Saturn -80943-02-06 16:32 J -27842970.98 -27842970.81 -27842970.64 0.0288 0.0087

Earth -80943-03-14 10:04 J -27842935.19 -27842935.08 -27842934.97 0.2749 0.0651

Moon -80943-03-14 10:32 J -27842935.16 -27842935.06 -27842934.95 0.2745 0.0539 *

Saturn -80943-05-06 15:35 J -27842881.94 -27842881.85 -27842881.75 0.0288 0.0244

Jupiter -80942-02-28 02:23 J -27842584.50 -27842584.40 -27842584.30 0.0537 0.0313

Mars -80942-04-24 06:42 J -27842529.37 -27842529.22 -27842529.06 0.1753 0.0399

Jupiter -80942-05-28 10:18 J -27842495.19 -27842495.07 -27842494.94 0.0535 0.0139

Mars -80941-02-18 19:11 J -27842228.80 -27842228.70 -27842228.61 0.1780 0.1080

Venus -80941-08-15 02:23 J -27842050.49 -27842050.40 -27842050.31 0.3775 0.2257

Jupiter -80936-04-25 23:30 J -27840335.68 -27840335.52 -27840335.36 0.0491 0.0247

Jupiter -80936-07-25 05:16 J -27840245.43 -27840245.28 -27840245.12 0.0492 0.0258

Venus -80935-02-28 20:52 J -27840026.74 -27840026.63 -27840026.53 0.3772 0.1246

Mars -80933-09-13 06:56 J -27839099.35 -27839099.21 -27839099.06 0.1744 0.0656

Mars -80932-07-11 03:49 J -27838798.45 -27838798.34 -27838798.22 0.1788 0.0373

Jupiter -80931-12-17 06:28 J -27838274.31 -27838274.23 -27838274.15 0.0537 0.0419

Saturn -80930-03-16 09:35 J -27838185.15 -27838185.10 -27838185.03 0.0274 0.0243

Jupiter -80930-03-16 14:23 J -27838185.03 -27838184.90 -27838184.77 0.0536 0.0032 *

Moon -80930-03-17 04:47 J -27838184.41 -27838184.30 -27838184.20 0.2743 0.0626

Earth -80930-03-17 04:32 J -27838184.41 -27838184.31 -27838184.20 0.2750 0.0675 *

Saturn -80930-06-12 20:37 J -27838096.75 -27838096.64 -27838096.53 0.0274 0.0146

Jupiter -80930-06-13 22:47 J -27838095.60 -27838095.55 -27838095.49 0.0534 0.0488

Saturn -80930-09-09 07:25 J -27838008.32 -27838008.19 -27838008.06 0.0273 0.0049

Venus -80930-09-14 15:20 J -27838002.97 -27838002.86 -27838002.75 0.3768 0.0225

Saturn -80930-12-06 18:28 J -27837919.86 -27837919.73 -27837919.60 0.0272 0.0049

Saturn -80929-03-04 05:30 J -27837831.39 -27837831.27 -27837831.16 0.0272 0.0147

Saturn -80929-05-31 16:32 J -27837742.87 -27837742.81 -27837742.76 0.0271 0.0245

Jupiter -80924-02-11 21:06 J -27836025.73 -27836025.62 -27836025.50 0.0491 0.0375

Venus -80924-03-30 10:18 J -27835979.18 -27835979.07 -27835978.96 0.3764 0.0875

Jupiter -80924-05-13 03:20 J -27835935.53 -27835935.36 -27835935.18 0.0492 0.0133

Mars -80923-02-03 07:25 J -27835669.23 -27835669.19 -27835669.16 0.1736 0.1689

Mars -80923-12-01 12:42 J -27835368.09 -27835367.97 -27835367.86 0.1797 0.0362

Uranus -80921-02-12 06:42 J -27834930.22 -27834930.22 -27834930.20 0.0138 0.0137

Uranus -80921-05-10 10:04 J -27834842.13 -27834842.08 -27834842.01 0.0138 0.0121

Uranus -80921-08-06 13:25 J -27834754.02 -27834753.94 -27834753.84 0.0138 0.0104

Uranus -80921-11-02 17:01 J -27834665.89 -27834665.79 -27834665.68 0.0138 0.0087

Uranus -80920-01-29 20:23 J -27834577.76 -27834577.65 -27834577.53 0.0138 0.0070

Venus -80920-03-29 06:42 J -27834519.32 -27834519.22 -27834519.13 0.3604 0.2552

Uranus -80920-04-27 23:59 J -27834489.62 -27834489.50 -27834489.38 0.0138 0.0053

Uranus -80920-07-25 03:20 J -27834401.49 -27834401.36 -27834401.22 0.0138 0.0036

Moon -80920-09-12 12:42 J -27834352.12 -27834351.97 -27834351.82 0.2586 0.0868

Earth -80920-09-12 14:08 J -27834352.05 -27834351.91 -27834351.76 0.2587 0.0719 *

Uranus -80920-10-21 06:56 J -27834313.34 -27834313.21 -27834313.07 0.0139 0.0018

Uranus -80919-01-17 10:32 J -27834225.20 -27834225.06 -27834224.93 0.0139 0.0002

Uranus -80919-04-15 14:08 J -27834137.05 -27834136.91 -27834136.78 0.0139 0.0017

Uranus -80919-07-12 17:30 J -27834048.90 -27834048.77 -27834048.63 0.0139 0.0035

Jupiter -80919-10-05 10:47 J -27833964.08 -27833964.05 -27833964.03 0.0537 0.0523

Uranus -80919-10-08 21:20 J -27833960.74 -27833960.61 -27833960.49 0.0139 0.0053

Venus -80919-10-14 05:16 J -27833955.38 -27833955.28 -27833955.18 0.3760 0.1971

Jupiter -80918-01-02 18:28 J -27833874.86 -27833874.73 -27833874.60 0.0536 0.0076

Uranus -80918-01-05 00:56 J -27833872.58 -27833872.46 -27833872.34 0.0139 0.0071

Jupiter -80918-04-02 02:52 J -27833785.47 -27833785.38 -27833785.29 0.0534 0.0379

Uranus -80918-04-03 04:32 J -27833784.41 -27833784.31 -27833784.20 0.0139 0.0089

Uranus -80918-06-30 08:08 J -27833696.24 -27833696.16 -27833696.07 0.0140 0.0107

Uranus -80918-09-26 11:44 J -27833608.06 -27833608.01 -27833607.94 0.0140 0.0126

Moon -80917-03-18 23:01 J -27833433.62 -27833433.54 -27833433.47 0.2743 0.2017

Earth -80917-03-18 23:16 J -27833433.60 -27833433.53 -27833433.45 0.2750 0.2011 *

Venus -80915-10-13 07:11 J -27832495.33 -27832495.20 -27832495.07 0.3608 0.1057

Saturn -80914-03-29 12:28 J -27832328.14 -27832327.98 -27832327.82 0.0286 0.0138

Saturn -80914-06-26 11:59 J -27832239.18 -27832239.00 -27832238.82 0.0287 0.0021

Saturn -80914-09-23 11:01 J -27832150.18 -27832150.04 -27832149.89 0.0288 0.0179

Mars -80913-04-22 21:20 J -27831937.70 -27831937.61 -27831937.51 0.1806 0.1087

Venus -80913-04-29 00:28 J -27831931.54 -27831931.48 -27831931.42 0.3756 0.3108

Jupiter -80912-03-01 02:08 J -27831625.59 -27831625.41 -27831625.23 0.0492 0.0012

Mars -80912-06-02 06:56 J -27831532.28 -27831532.21 -27831532.14 0.1762 0.1571

Earth -80910-03-12 20:23 J -27830883.73 -27830883.65 -27830883.56 0.2749 0.1687

Moon -80910-03-12 21:06 J -27830883.71 -27830883.62 -27830883.53 0.2748 0.1616 *

Venus -80909-04-28 07:11 J -27830471.34 -27830471.20 -27830471.07 0.3612 0.0391

Moon -80907-09-15 17:30 J -27829600.91 -27829600.77 -27829600.63 0.2589 0.1152

Earth -80907-09-15 18:56 J -27829600.84 -27829600.71 -27829600.58 0.2587 0.1377 *

Jupiter -80907-10-21 21:49 J -27829564.71 -27829564.59 -27829564.47 0.0536 0.0193

Jupiter -80906-01-19 05:59 J -27829475.37 -27829475.25 -27829475.14 0.0534 0.0259

Venus -80904-11-12 06:42 J -27828447.34 -27828447.22 -27828447.11 0.3616 0.1759

Mars -80903-10-23 07:11 J -27828102.35 -27828102.20 -27828102.05 0.1753 0.0518

Mars -80902-08-19 19:11 J -27827801.79 -27827801.70 -27827801.61 0.1780 0.1181

Saturn -80901-08-02 11:59 J -27827453.00 -27827453.00 -27827452.99 0.0276 0.0275

Saturn -80901-10-29 22:47 J -27827364.65 -27827364.55 -27827364.45 0.0275 0.0177

Jupiter -80901-12-18 00:28 J -27827315.66 -27827315.48 -27827315.31 0.0492 0.0113

Saturn -80900-01-26 09:49 J -27827276.22 -27827276.09 -27827275.97 0.0274 0.0079

Jupiter -80900-03-18 05:59 J -27827225.35 -27827225.25 -27827225.14 0.0493 0.0391

Saturn -80900-04-24 20:37 J -27827187.77 -27827187.64 -27827187.50 0.0274 0.0020

Saturn -80900-07-22 07:40 J -27827099.30 -27827099.18 -27827099.06 0.0273 0.0118

Saturn -80900-10-18 18:42 J -27827010.80 -27827010.72 -27827010.64 0.0272 0.0216

Venus -80898-05-29 05:44 J -27826423.32 -27826423.26 -27826423.19 0.3620 0.3083

Earth -80897-03-14 14:52 J -27826132.99 -27826132.88 -27826132.77 0.2749 0.0387

Moon -80897-03-14 15:35 J -27826132.96 -27826132.85 -27826132.74 0.2745 0.0352 *

Jupiter -80895-08-10 01:25 J -27825254.54 -27825254.44 -27825254.34 0.0536 0.0306

Jupiter -80895-11-07 09:20 J -27825165.24 -27825165.11 -27825164.99 0.0534 0.0144

Mars -80893-03-14 07:40 J -27824672.33 -27824672.18 -27824672.03 0.1745 0.0523

Mars -80892-01-09 04:04 J -27824371.45 -27824371.33 -27824371.22 0.1788 0.0464

Venus -80890-09-06 06:13 J -27823401.30 -27823401.24 -27823401.17 0.3778 0.2951

Jupiter -80889-10-05 22:18 J -27823005.73 -27823005.57 -27823005.41 0.0491 0.0241

Jupiter -80888-01-04 04:18 J -27822915.47 -27822915.32 -27822915.17 0.0493 0.0264

Earth -80887-09-10 15:35 J -27822300.90 -27822300.85 -27822300.80 0.2587 0.2426

Saturn -80885-08-15 11:59 J -27821596.14 -27821596.00 -27821595.85 0.0286 0.0175

Saturn -80885-11-12 11:30 J -27821507.20 -27821507.02 -27821506.83 0.0287 0.0017

Saturn -80884-02-09 10:47 J -27821418.21 -27821418.05 -27821417.89 0.0288 0.0141

Moon -80884-03-17 09:35 J -27821382.21 -27821382.10 -27821382.00 0.2742 0.0982

Earth -80884-03-17 09:35 J -27821382.20 -27821382.10 -27821382.00 0.2749 0.0943 *

Venus -80884-03-22 00:42 J -27821377.57 -27821377.47 -27821377.38 0.3774 0.1960

Mars -80884-08-04 07:54 J -27821242.23 -27821242.17 -27821242.10 0.1736 0.1558

Jupiter -80883-05-29 05:01 J -27820944.37 -27820944.29 -27820944.21 0.0537 0.0420

Mars -80883-06-01 12:42 J -27820941.09 -27820940.97 -27820940.85 0.1797 0.0263

Jupiter -80883-08-26 12:56 J -27820855.09 -27820854.96 -27820854.83 0.0535 0.0032

Jupiter -80883-11-23 21:20 J -27820765.66 -27820765.61 -27820765.56 0.0533 0.0484

Uranus -80882-10-02 19:40 J -27820452.72 -27820452.68 -27820452.61 0.0141 0.0134

Uranus -80882-12-30 03:20 J -27820364.47 -27820364.36 -27820364.23 0.0141 0.0108

Uranus -80881-03-27 10:47 J -27820276.19 -27820276.05 -27820275.89 0.0140 0.0083

Uranus -80881-06-23 18:13 J -27820187.90 -27820187.74 -27820187.56 0.0140 0.0058

Uranus -80881-09-20 01:40 J -27820099.60 -27820099.43 -27820099.24 0.0140 0.0033

Uranus -80881-12-17 09:06 J -27820011.30 -27820011.12 -27820010.93 0.0140 0.0007

Uranus -80880-03-15 16:18 J -27819923.00 -27819922.82 -27819922.63 0.0140 0.0017

Pluto -80880-05-17 22:18 J -27819859.60 -27819859.57 -27819859.51 0.0060 0.0058

Uranus -80880-06-11 23:30 J -27819834.69 -27819834.52 -27819834.34 0.0140 0.0042

Pluto -80880-08-13 23:44 J -27819771.59 -27819771.51 -27819771.41 0.0060 0.0053

Uranus -80880-09-08 06:42 J -27819746.38 -27819746.22 -27819746.06 0.0139 0.0066

Pluto -80880-11-10 01:11 J -27819683.56 -27819683.45 -27819683.32 0.0060 0.0047

Uranus -80880-12-05 13:40 J -27819658.06 -27819657.93 -27819657.78 0.0139 0.0090

Pluto -80879-02-06 02:37 J -27819595.52 -27819595.39 -27819595.24 0.0060 0.0041

Uranus -80879-03-03 20:37 J -27819569.74 -27819569.64 -27819569.53 0.0139 0.0113

Pluto -80879-05-05 03:49 J -27819507.48 -27819507.34 -27819507.17 0.0060 0.0035

Uranus -80879-05-31 03:35 J -27819481.37 -27819481.35 -27819481.31 0.0139 0.0136

Pluto -80879-08-01 05:16 J -27819419.44 -27819419.28 -27819419.10 0.0061 0.0029

Venus -80879-10-05 19:11 J -27819353.81 -27819353.70 -27819353.60 0.3770 0.0941

Pluto -80879-10-28 06:42 J -27819331.39 -27819331.22 -27819331.03 0.0061 0.0023

Pluto -80878-01-24 08:08 J -27819243.34 -27819243.16 -27819242.97 0.0061 0.0017

Pluto -80878-04-22 09:35 J -27819155.28 -27819155.10 -27819154.90 0.0061 0.0011

Pluto -80878-07-19 11:01 J -27819067.22 -27819067.04 -27819066.84 0.0061 0.0005

Pluto -80878-10-15 12:42 J -27818979.17 -27818978.97 -27818978.78 0.0061 0.0002

Pluto -80877-01-11 13:54 J -27818891.11 -27818890.92 -27818890.72 0.0061 0.0008

Earth -80877-03-10 06:56 J -27818832.23 -27818832.21 -27818832.19 0.2748 0.2699

Moon -80877-03-10 07:25 J -27818832.21 -27818832.19 -27818832.17 0.2753 0.2690 *

Pluto -80877-04-08 15:20 J -27818803.04 -27818802.86 -27818802.67 0.0061 0.0014

Pluto -80877-07-05 16:47 J -27818714.98 -27818714.80 -27818714.61 0.0061 0.0020

Jupiter -80877-07-24 20:23 J -27818695.77 -27818695.65 -27818695.53 0.0491 0.0367

Pluto -80877-10-01 18:28 J -27818626.91 -27818626.73 -27818626.56 0.0061 0.0027

Jupiter -80877-10-23 02:37 J -27818605.57 -27818605.39 -27818605.22 0.0492 0.0140

Pluto -80877-12-28 19:25 J -27818538.84 -27818538.69 -27818538.51 0.0061 0.0033

Pluto -80876-03-26 20:52 J -27818450.76 -27818450.63 -27818450.47 0.0061 0.0040

Pluto -80876-06-22 22:32 J -27818362.68 -27818362.56 -27818362.42 0.0061 0.0046

Pluto -80876-09-18 23:30 J -27818274.59 -27818274.52 -27818274.39 0.0061 0.0053

Pluto -80876-12-16 01:11 J -27818186.48 -27818186.45 -27818186.37 0.0061 0.0059

Moon -80874-09-13 18:56 J -27817549.86 -27817549.71 -27817549.56 0.2587 0.0422

Earth -80874-09-13 20:37 J -27817549.80 -27817549.64 -27817549.49 0.2587 0.0292 *

Mars -80874-10-22 21:20 J -27817510.71 -27817510.61 -27817510.51 0.1805 0.0995

Venus -80873-04-20 13:40 J -27817330.04 -27817329.93 -27817329.82 0.3767 0.0151

Mars -80873-12-01 07:25 J -27817105.22 -27817105.19 -27817105.15 0.1762 0.1703

Jupiter -80871-03-17 09:06 J -27816634.14 -27816634.12 -27816634.10 0.0537 0.0526

Saturn -80871-03-19 00:56 J -27816632.54 -27816632.46 -27816632.37 0.0274 0.0206

Moon -80871-03-20 03:49 J -27816631.41 -27816631.34 -27816631.27 0.2745 0.2152

Earth -80871-03-20 04:18 J -27816631.38 -27816631.32 -27816631.26 0.2750 0.2286 *

Jupiter -80871-06-14 16:47 J -27816544.92 -27816544.80 -27816544.67 0.0536 0.0081

Saturn -80871-06-15 11:59 J -27816544.12 -27816544.00 -27816543.88 0.0274 0.0109

Neptune -80871-09-08 04:18 J -27816459.33 -27816459.32 -27816459.28 0.0089 0.0087

Saturn -80871-09-11 22:47 J -27816455.68 -27816455.55 -27816455.41 0.0273 0.0012

Jupiter -80871-09-12 01:11 J -27816455.54 -27816455.45 -27816455.36 0.0534 0.0376 *

Neptune -80871-12-05 05:30 J -27816371.30 -27816371.27 -27816371.21 0.0089 0.0083

Saturn -80871-12-09 09:49 J -27816367.22 -27816367.09 -27816366.96 0.0272 0.0087

Neptune -80870-03-03 07:11 J -27816283.26 -27816283.20 -27816283.14 0.0089 0.0078

Saturn -80870-03-07 20:52 J -27816278.73 -27816278.63 -27816278.53 0.0272 0.0185

Neptune -80870-05-30 08:23 J -27816195.21 -27816195.15 -27816195.07 0.0089 0.0074

Neptune -80870-08-26 09:35 J -27816107.17 -27816107.10 -27816107.01 0.0089 0.0070

Neptune -80870-11-22 11:01 J -27816019.12 -27816019.04 -27816018.94 0.0089 0.0065

Neptune -80869-02-18 12:13 J -27815931.07 -27815930.99 -27815930.88 0.0089 0.0061

Neptune -80869-05-16 13:54 J -27815843.02 -27815842.92 -27815842.82 0.0089 0.0056

Neptune -80869-08-12 15:06 J -27815754.97 -27815754.87 -27815754.76 0.0089 0.0052

Neptune -80869-11-08 16:18 J -27815666.92 -27815666.82 -27815666.70 0.0089 0.0048

Neptune -80868-02-04 17:44 J -27815578.87 -27815578.76 -27815578.64 0.0089 0.0043

Neptune -80868-05-03 19:11 J -27815490.82 -27815490.70 -27815490.58 0.0089 0.0039

Neptune -80868-07-30 20:37 J -27815402.76 -27815402.64 -27815402.52 0.0089 0.0034

Neptune -80868-10-26 21:49 J -27815314.71 -27815314.59 -27815314.46 0.0089 0.0030

Venus -80868-11-04 08:37 J -27815306.25 -27815306.14 -27815306.03 0.3763 0.1209

Neptune -80867-01-22 23:16 J -27815226.66 -27815226.53 -27815226.40 0.0089 0.0025

Neptune -80867-04-21 00:42 J -27815138.60 -27815138.47 -27815138.34 0.0089 0.0021

Neptune -80867-07-18 01:54 J -27815050.55 -27815050.42 -27815050.28 0.0089 0.0017

Neptune -80867-10-14 03:20 J -27814962.49 -27814962.36 -27814962.23 0.0089 0.0012

Neptune -80866-01-10 04:47 J -27814874.44 -27814874.30 -27814874.17 0.0089 0.0008

Neptune -80866-04-08 05:59 J -27814786.38 -27814786.25 -27814786.11 0.0089 0.0004

Neptune -80866-07-05 07:25 J -27814698.32 -27814698.19 -27814698.05 0.0089 0.0002

Neptune -80866-10-01 08:52 J -27814610.27 -27814610.13 -27814610.00 0.0089 0.0006

Neptune -80866-12-28 10:04 J -27814522.21 -27814522.08 -27814521.94 0.0089 0.0011

Neptune -80865-03-25 11:30 J -27814434.15 -27814434.02 -27814433.88 0.0089 0.0015

Neptune -80865-06-21 12:56 J -27814346.09 -27814345.96 -27814345.83 0.0089 0.0019

Jupiter -80865-08-11 00:28 J -27814295.66 -27814295.48 -27814295.30 0.0492 0.0014

Neptune -80865-09-17 14:23 J -27814258.03 -27814257.90 -27814257.77 0.0089 0.0024

Neptune -80865-12-14 15:35 J -27814169.97 -27814169.85 -27814169.72 0.0089 0.0029

Neptune -80864-03-12 17:01 J -27814081.91 -27814081.79 -27814081.66 0.0089 0.0033

Earth -80864-03-13 01:25 J -27814081.54 -27814081.44 -27814081.35 0.2749 0.1420

Moon -80864-03-13 02:08 J -27814081.51 -27814081.41 -27814081.32 0.2747 0.1287 *

Mars -80864-03-14 06:13 J -27814080.28 -27814080.24 -27814080.21 0.1814 0.1736

Neptune -80864-06-08 18:13 J -27813993.85 -27813993.74 -27813993.61 0.0089 0.0038

Neptune -80864-09-04 19:40 J -27813905.79 -27813905.68 -27813905.55 0.0089 0.0042

Venus -80864-11-03 06:28 J -27813846.34 -27813846.23 -27813846.12 0.3605 0.2094

Neptune -80864-12-01 21:06 J -27813817.73 -27813817.62 -27813817.50 0.0089 0.0047

Neptune -80863-02-27 22:32 J -27813729.66 -27813729.56 -27813729.44 0.0089 0.0051

Mars -80863-04-23 07:54 J -27813675.32 -27813675.17 -27813675.02 0.1754 0.0655

Neptune -80863-05-26 23:44 J -27813641.60 -27813641.51 -27813641.39 0.0089 0.0056

Neptune -80863-08-23 01:25 J -27813553.54 -27813553.44 -27813553.34 0.0089 0.0060

Neptune -80863-11-19 02:37 J -27813465.47 -27813465.39 -27813465.29 0.0089 0.0065

Neptune -80862-02-15 04:18 J -27813377.40 -27813377.32 -27813377.24 0.0089 0.0069

Mars -80862-02-17 19:11 J -27813374.78 -27813374.70 -27813374.61 0.1779 0.1271

Neptune -80862-05-14 05:30 J -27813289.33 -27813289.27 -27813289.19 0.0089 0.0074

Venus -80862-05-21 03:35 J -27813282.43 -27813282.35 -27813282.26 0.3759 0.2329

Neptune -80862-08-10 07:11 J -27813201.26 -27813201.20 -27813201.14 0.0089 0.0078

Neptune -80862-11-06 08:23 J -27813113.19 -27813113.15 -27813113.09 0.0089 0.0083

Neptune -80861-02-02 09:35 J -27813025.10 -27813025.10 -27813025.06 0.0089 0.0088

Moon -80861-09-15 23:59 J -27812798.61 -27812798.50 -27812798.39 0.2590 0.1714

Earth -80861-09-16 01:25 J -27812798.55 -27812798.44 -27812798.33 0.2587 0.1799 *

Jupiter -80859-04-02 20:52 J -27812234.75 -27812234.63 -27812234.50 0.0536 0.0186

Jupiter -80859-07-01 05:01 J -27812145.40 -27812145.29 -27812145.17 0.0534 0.0268

Venus -80858-05-20 06:56 J -27811822.34 -27811822.21 -27811822.08 0.3609 0.0608

Venus -80857-12-03 23:01 J -27811258.58 -27811258.54 -27811258.50 0.3755 0.3469

Saturn -80855-01-02 07:25 J -27810864.28 -27810864.19 -27810864.09 0.0286 0.0240

Saturn -80855-04-01 07:11 J -27810775.38 -27810775.20 -27810775.02 0.0286 0.0081

Saturn -80855-06-29 06:28 J -27810686.40 -27810686.23 -27810686.05 0.0287 0.0077

Saturn -80855-09-26 05:30 J -27810597.37 -27810597.27 -27810597.16 0.0288 0.0234

Mars -80854-09-13 08:23 J -27810245.31 -27810245.15 -27810245.00 0.1745 0.0388

Jupiter -80853-05-29 23:01 J -27809985.72 -27809985.54 -27809985.36 0.0492 0.0109

Mars -80853-07-10 04:04 J -27809944.45 -27809944.33 -27809944.22 0.1788 0.0555

Jupiter -80853-08-28 04:32 J -27809895.41 -27809895.31 -27809895.20 0.0493 0.0394

Venus -80853-12-03 06:42 J -27809798.35 -27809798.22 -27809798.09 0.3613 0.0814

Earth -80851-03-15 19:54 J -27809330.78 -27809330.67 -27809330.56 0.2749 0.0133

Moon -80851-03-15 20:08 J -27809330.77 -27809330.66 -27809330.54 0.2744 0.0116 *

Jupiter -80847-01-20 00:28 J -27807924.59 -27807924.48 -27807924.38 0.0536 0.0301

Jupiter -80847-04-19 08:23 J -27807835.28 -27807835.15 -27807835.03 0.0534 0.0149

Venus -80847-06-19 06:13 J -27807774.34 -27807774.24 -27807774.14 0.3617 0.2176

Mars -80844-02-02 08:23 J -27806815.24 -27806815.15 -27806815.06 0.1736 0.1438

Mars -80844-11-30 12:56 J -27806514.08 -27806513.96 -27806513.85 0.1796 0.0180

Saturn -80842-08-06 03:06 J -27805900.43 -27805900.37 -27805900.30 0.0276 0.0239

Saturn -80842-11-02 14:08 J -27805812.03 -27805811.91 -27805811.80 0.0275 0.0140

Venus -80841-01-03 05:16 J -27805750.31 -27805750.28 -27805750.25 0.3621 0.3482

Saturn -80841-01-30 00:56 J -27805723.59 -27805723.46 -27805723.32 0.0274 0.0042

Jupiter -80841-03-17 20:52 J -27805675.78 -27805675.63 -27805675.46 0.0492 0.0237

Saturn -80841-04-27 11:59 J -27805635.13 -27805635.00 -27805634.87 0.0274 0.0057

Jupiter -80841-06-16 03:06 J -27805585.52 -27805585.37 -27805585.22 0.0493 0.0271

Saturn -80841-07-24 23:01 J -27805546.65 -27805546.54 -27805546.43 0.0273 0.0156

Moon -80841-09-10 20:37 J -27805498.73 -27805498.64 -27805498.54 0.2584 0.2023

Earth -80841-09-10 21:49 J -27805498.68 -27805498.59 -27805498.49 0.2587 0.1992 *

Saturn -80841-10-21 10:04 J -27805458.12 -27805458.08 -27805458.03 0.0272 0.0254

Venus -80839-09-27 10:18 J -27804752.09 -27804752.07 -27804752.04 0.3780 0.3627

Moon -80838-03-18 14:23 J -27804580.00 -27804579.90 -27804579.80 0.2742 0.1159

Earth -80838-03-18 14:23 J -27804580.00 -27804579.90 -27804579.80 0.2749 0.1217 *

Uranus -80837-03-03 13:54 J -27804228.94 -27804228.92 -27804228.89 0.0138 0.0134

Uranus -80837-05-30 17:16 J -27804140.84 -27804140.78 -27804140.71 0.0138 0.0117

Uranus -80837-08-26 20:37 J -27804052.72 -27804052.64 -27804052.54 0.0138 0.0101

Uranus -80837-11-22 23:59 J -27803964.60 -27803964.50 -27803964.38 0.0138 0.0084

Uranus -80836-02-19 03:35 J -27803876.46 -27803876.35 -27803876.23 0.0138 0.0067

Uranus -80836-05-18 07:11 J -27803788.33 -27803788.20 -27803788.08 0.0138 0.0050

Uranus -80836-08-14 10:32 J -27803700.19 -27803700.06 -27803699.92 0.0138 0.0032

Jupiter -80836-11-08 04:04 J -27803614.41 -27803614.33 -27803614.25 0.0536 0.0414

Uranus -80836-11-10 14:08 J -27803612.04 -27803611.91 -27803611.77 0.0139 0.0015

Jupiter -80835-02-05 11:44 J -27803525.14 -27803525.01 -27803524.88 0.0535 0.0036

Uranus -80835-02-06 17:44 J -27803523.90 -27803523.76 -27803523.63 0.0139 0.0003

Uranus -80835-05-05 21:06 J -27803435.75 -27803435.62 -27803435.48 0.0139 0.0021

Jupiter -80835-05-05 20:08 J -27803435.71 -27803435.66 -27803435.61 0.0533 0.0487 *

Uranus -80835-08-02 00:56 J -27803347.60 -27803347.46 -27803347.33 0.0139 0.0038

Uranus -80835-10-29 04:18 J -27803259.44 -27803259.32 -27803259.19 0.0139 0.0057

Uranus -80834-01-25 07:54 J -27803171.28 -27803171.17 -27803171.05 0.0139 0.0075

Mars -80834-04-22 21:20 J -27803083.71 -27803083.61 -27803083.50 0.1805 0.0907

Uranus -80834-04-23 11:44 J -27803083.11 -27803083.01 -27803082.91 0.0140 0.0093

Uranus -80834-07-20 15:20 J -27802994.94 -27802994.86 -27802994.77 0.0140 0.0111

Uranus -80834-10-16 18:56 J -27802906.75 -27802906.71 -27802906.65 0.0140 0.0130

Venus -80833-04-12 04:32 J -27802728.39 -27802728.31 -27802728.23 0.3777 0.2649

Earth -80831-03-11 11:44 J -27802030.06 -27802030.01 -27802029.96 0.2748 0.2437

Moon -80831-03-11 12:28 J -27802030.04 -27802029.98 -27802029.92 0.2751 0.2294 *

Jupiter -80829-01-04 18:42 J -27801365.84 -27801365.72 -27801365.59 0.0491 0.0365

Jupiter -80829-04-04 01:11 J -27801275.62 -27801275.45 -27801275.28 0.0492 0.0144

Moon -80828-09-14 01:25 J -27800747.60 -27800747.44 -27800747.29 0.2587 0.0102

Earth -80828-09-14 02:52 J -27800747.53 -27800747.38 -27800747.22 0.2587 0.0163 *

Venus -80828-10-26 22:47 J -27800704.65 -27800704.55 -27800704.45 0.3773 0.1647

Saturn -80826-05-22 07:25 J -27800132.23 -27800132.19 -27800132.14 0.0285 0.0274

Saturn -80826-08-19 07:11 J -27800043.37 -27800043.20 -27800043.03 0.0286 0.0116

Saturn -80826-11-16 06:42 J -27799954.40 -27799954.22 -27799954.04 0.0287 0.0042

Saturn -80825-02-13 05:44 J -27799865.39 -27799865.26 -27799865.13 0.0288 0.0200

Moon -80825-03-20 08:37 J -27799829.18 -27799829.14 -27799829.10 0.2746 0.2526

Earth -80825-03-20 09:20 J -27799829.15 -27799829.11 -27799829.08 0.2749 0.2563 *

Mars -80825-09-12 06:13 J -27799653.29 -27799653.24 -27799653.19 0.1814 0.1636

Jupiter -80824-08-27 07:25 J -27799304.20 -27799304.19 -27799304.17 0.0537 0.0529

Mars -80824-10-22 08:37 J -27799248.28 -27799248.14 -27799248.00 0.1754 0.0796

Jupiter -80824-11-24 15:20 J -27799214.99 -27799214.86 -27799214.74 0.0536 0.0083

Jupiter -80823-02-21 23:30 J -27799125.61 -27799125.52 -27799125.43 0.0534 0.0371

Mars -80823-08-18 19:25 J -27798947.77 -27798947.69 -27798947.62 0.1779 0.1366

Venus -80822-05-12 17:16 J -27798680.89 -27798680.78 -27798680.67 0.3770 0.0620

Earth -80818-03-14 06:13 J -27797279.34 -27797279.24 -27797279.14 0.2749 0.1146

Moon -80818-03-14 06:56 J -27797279.31 -27797279.21 -27797279.11 0.2747 0.1096 *

Jupiter -80817-01-21 23:16 J -27796965.71 -27796965.53 -27796965.35 0.0492 0.0019

Venus -80817-11-25 11:59 J -27796657.11 -27796657.00 -27796656.88 0.3766 0.0479

Moon -80815-09-17 06:28 J -27795996.31 -27795996.23 -27795996.14 0.2591 0.2101

Earth -80815-09-17 07:40 J -27795996.26 -27795996.18 -27795996.10 0.2587 0.2217 *

Mars -80814-03-14 08:52 J -27795818.29 -27795818.13 -27795817.97 0.1745 0.0259

Mars -80813-01-09 04:04 J -27795517.44 -27795517.33 -27795517.22 0.1788 0.0651

Venus -80813-11-24 05:44 J -27795197.32 -27795197.26 -27795197.20 0.3602 0.3170

Saturn -80813-12-23 05:44 J -27795168.29 -27795168.26 -27795168.22 0.0275 0.0264

Saturn -80812-03-21 16:32 J -27795079.91 -27795079.81 -27795079.70 0.0274 0.0167

Saturn -80812-06-18 03:35 J -27794991.48 -27794991.35 -27794991.22 0.0274 0.0068

Jupiter -80812-09-12 19:11 J -27794904.82 -27794904.70 -27794904.58 0.0536 0.0191

Saturn -80812-09-14 14:37 J -27794903.03 -27794902.89 -27794902.76 0.0273 0.0031

Jupiter -80812-12-11 03:20 J -27794815.47 -27794815.36 -27794815.25 0.0534 0.0262

Saturn -80812-12-12 01:25 J -27794814.55 -27794814.44 -27794814.32 0.0272 0.0129

Saturn -80811-03-10 12:28 J -27794726.05 -27794725.98 -27794725.90 0.0272 0.0227

Venus -80811-06-11 06:56 J -27794633.31 -27794633.21 -27794633.10 0.3762 0.1557

Venus -80807-06-10 06:28 J -27793173.35 -27793173.23 -27793173.11 0.3606 0.1639

Jupiter -80806-11-09 21:06 J -27792655.80 -27792655.62 -27792655.44 0.0491 0.0110

Venus -80806-12-26 02:08 J -27792609.49 -27792609.41 -27792609.33 0.3758 0.2679

Jupiter -80805-02-08 02:37 J -27792565.49 -27792565.39 -27792565.28 0.0493 0.0393

Earth -80805-03-16 00:42 J -27792528.58 -27792528.47 -27792528.36 0.2749 0.0177

Moon -80805-03-16 00:56 J -27792528.57 -27792528.46 -27792528.34 0.2742 0.0240 *

Mars -80805-08-03 09:06 J -27792388.22 -27792388.12 -27792388.01 0.1736 0.1299

Mars -80804-05-31 12:42 J -27792087.09 -27792086.97 -27792086.85 0.1796 0.0093

Venus -80802-12-25 06:42 J -27791149.35 -27791149.22 -27791149.09 0.3610 0.0169

Jupiter -80800-07-01 23:16 J -27790594.63 -27790594.53 -27790594.42 0.0537 0.0298

Jupiter -80800-09-29 07:11 J -27790505.32 -27790505.20 -27790505.07 0.0535 0.0155

Uranus -80798-10-23 02:52 J -27789751.45 -27789751.38 -27789751.31 0.0141 0.0129

Uranus -80797-01-19 10:04 J -27789663.19 -27789663.08 -27789662.94 0.0140 0.0104

Uranus -80797-04-16 17:44 J -27789574.91 -27789574.76 -27789574.60 0.0140 0.0078

Uranus -80797-07-14 01:11 J -27789486.62 -27789486.45 -27789486.27 0.0140 0.0053

Uranus -80797-10-10 08:37 J -27789398.32 -27789398.14 -27789397.96 0.0140 0.0028

Saturn -80796-01-05 03:20 J -27789311.50 -27789311.36 -27789311.21 0.0286 0.0176

Uranus -80796-01-06 16:04 J -27789310.02 -27789309.83 -27789309.65 0.0140 0.0004

Saturn -80796-04-04 02:52 J -27789222.56 -27789222.38 -27789222.19 0.0287 0.0019

Uranus -80796-04-04 23:16 J -27789221.71 -27789221.53 -27789221.35 0.0140 0.0021

Saturn -80796-07-02 02:08 J -27789133.56 -27789133.41 -27789133.25 0.0287 0.0140

Uranus -80796-07-02 06:28 J -27789133.41 -27789133.23 -27789133.06 0.0140 0.0046 *

Venus -80796-07-10 06:28 J -27789125.36 -27789125.23 -27789125.11 0.3614 0.1239

Uranus -80796-09-28 13:25 J -27789045.09 -27789044.94 -27789044.78 0.0139 0.0070

Uranus -80796-12-25 20:37 J -27788956.77 -27788956.64 -27788956.50 0.0139 0.0093

Uranus -80795-03-24 03:20 J -27788868.44 -27788868.36 -27788868.25 0.0139 0.0117

Moon -80795-09-12 02:52 J -27788696.49 -27788696.38 -27788696.27 0.2585 0.1796

Earth -80795-09-12 04:18 J -27788696.45 -27788696.32 -27788696.20 0.2587 0.1557 *

Mars -80795-10-21 21:35 J -27788656.71 -27788656.60 -27788656.49 0.1805 0.0806

Jupiter -80794-08-28 19:25 J -27788345.85 -27788345.69 -27788345.53 0.0491 0.0233

Jupiter -80794-11-27 01:25 J -27788255.59 -27788255.44 -27788255.29 0.0493 0.0272

Moon -80792-03-18 19:11 J -27787777.79 -27787777.70 -27787777.60 0.2743 0.1477

Earth -80792-03-18 19:25 J -27787777.78 -27787777.69 -27787777.60 0.2749 0.1488 *

Venus -80790-01-24 05:44 J -27787101.35 -27787101.26 -27787101.17 0.3618 0.2591

Jupiter -80788-04-20 02:52 J -27786284.46 -27786284.38 -27786284.30 0.0536 0.0411

Jupiter -80788-07-18 10:47 J -27786195.18 -27786195.05 -27786194.92 0.0535 0.0040

Jupiter -80788-10-15 18:56 J -27786105.75 -27786105.71 -27786105.66 0.0533 0.0491

Neptune -80787-02-24 16:04 J -27785973.87 -27785973.83 -27785973.73 0.0089 0.0083

Neptune -80787-05-23 19:54 J -27785885.75 -27785885.67 -27785885.55 0.0089 0.0076

Neptune -80787-08-19 23:30 J -27785797.62 -27785797.52 -27785797.38 0.0089 0.0070

Pluto -80787-09-20 15:20 J -27785765.86 -27785765.86 -27785765.86 0.0085 0.0085

Neptune -80787-11-16 03:20 J -27785709.49 -27785709.36 -27785709.22 0.0089 0.0063

Pluto -80787-12-17 16:32 J -27785677.87 -27785677.81 -27785677.73 0.0085 0.0073

Neptune -80786-02-12 06:42 J -27785621.35 -27785621.22 -27785621.05 0.0089 0.0057

Pluto -80786-03-15 17:44 J -27785589.84 -27785589.76 -27785589.65 0.0084 0.0062

Neptune -80786-05-11 10:32 J -27785533.21 -27785533.06 -27785532.89 0.0089 0.0050

Pluto -80786-06-11 19:11 J -27785501.80 -27785501.70 -27785501.58 0.0084 0.0050

Neptune -80786-08-07 14:08 J -27785445.07 -27785444.91 -27785444.73 0.0089 0.0044

Pluto -80786-09-07 20:52 J -27785413.75 -27785413.63 -27785413.51 0.0084 0.0038

Neptune -80786-11-03 17:59 J -27785356.93 -27785356.75 -27785356.58 0.0089 0.0037

Pluto -80786-12-04 22:04 J -27785325.70 -27785325.58 -27785325.45 0.0084 0.0026

Neptune -80785-01-30 21:20 J -27785268.79 -27785268.61 -27785268.42 0.0089 0.0031

Pluto -80785-03-01 23:16 J -27785237.65 -27785237.53 -27785237.39 0.0084 0.0015

Earth -80785-03-11 16:47 J -27785227.87 -27785227.80 -27785227.74 0.2748 0.2173

Moon -80785-03-11 17:30 J -27785227.84 -27785227.77 -27785227.71 0.2750 0.2151 *

Mars -80785-03-13 06:13 J -27785226.30 -27785226.24 -27785226.18 0.1813 0.1544

Neptune -80785-04-28 00:42 J -27785180.64 -27785180.47 -27785180.27 0.0089 0.0025

Pluto -80785-05-29 00:42 J -27785149.60 -27785149.47 -27785149.33 0.0084 0.0004

Neptune -80785-07-25 04:32 J -27785092.50 -27785092.31 -27785092.12 0.0089 0.0018

Pluto -80785-08-25 02:08 J -27785061.55 -27785061.41 -27785061.28 0.0084 0.0008

Neptune -80785-10-21 08:08 J -27785004.35 -27785004.16 -27785003.97 0.0089 0.0011

Pluto -80785-11-21 03:20 J -27784973.49 -27784973.36 -27784973.23 0.0084 0.0020

Neptune -80784-01-17 11:44 J -27784916.20 -27784916.01 -27784915.82 0.0089 0.0005

Pluto -80784-02-17 04:47 J -27784885.43 -27784885.30 -27784885.18 0.0083 0.0031

Neptune -80784-04-15 15:20 J -27784828.06 -27784827.86 -27784827.67 0.0089 0.0002

Mars -80784-04-22 08:52 J -27784821.26 -27784821.13 -27784820.99 0.1754 0.0912

Pluto -80784-05-16 05:44 J -27784797.37 -27784797.26 -27784797.14 0.0083 0.0042

Neptune -80784-07-12 18:42 J -27784739.91 -27784739.72 -27784739.52 0.0089 0.0008

Pluto -80784-08-12 06:56 J -27784709.30 -27784709.21 -27784709.10 0.0083 0.0053

Neptune -80784-10-08 22:18 J -27784651.76 -27784651.57 -27784651.38 0.0089 0.0014

Pluto -80784-11-08 08:08 J -27784621.23 -27784621.16 -27784621.06 0.0083 0.0064

Neptune -80783-01-05 01:40 J -27784563.61 -27784563.43 -27784563.23 0.0089 0.0021

Pluto -80783-02-04 09:20 J -27784533.15 -27784533.11 -27784533.04 0.0083 0.0075

Mars -80783-02-16 19:25 J -27784520.75 -27784520.69 -27784520.62 0.1779 0.1466

Neptune -80783-04-03 05:16 J -27784475.46 -27784475.28 -27784475.09 0.0089 0.0027

Neptune -80783-06-30 08:37 J -27784387.31 -27784387.14 -27784386.95 0.0089 0.0034

Saturn -80783-08-08 18:42 J -27784347.81 -27784347.72 -27784347.63 0.0276 0.0199

Neptune -80783-09-26 12:13 J -27784299.15 -27784298.99 -27784298.81 0.0089 0.0040

Saturn -80783-11-05 05:44 J -27784259.39 -27784259.26 -27784259.14 0.0275 0.0100

Neptune -80783-12-23 15:49 J -27784211.00 -27784210.84 -27784210.68 0.0089 0.0046

Saturn -80782-02-01 16:47 J -27784170.94 -27784170.80 -27784170.67 0.0274 0.0009

Neptune -80782-03-21 18:56 J -27784122.85 -27784122.71 -27784122.54 0.0089 0.0053

Saturn -80782-05-01 03:35 J -27784082.47 -27784082.35 -27784082.22 0.0273 0.0098

Venus -80782-05-04 08:37 J -27784079.19 -27784079.14 -27784079.10 0.3779 0.3336

Jupiter -80782-06-16 17:01 J -27784035.91 -27784035.79 -27784035.67 0.0491 0.0364

Neptune -80782-06-17 22:32 J -27784034.69 -27784034.56 -27784034.41 0.0089 0.0059

Saturn -80782-07-28 14:37 J -27783993.98 -27783993.89 -27783993.79 0.0273 0.0197

Neptune -80782-09-14 01:54 J -27783946.53 -27783946.42 -27783946.28 0.0089 0.0065

Jupiter -80782-09-14 23:30 J -27783945.69 -27783945.52 -27783945.35 0.0493 0.0146

Moon -80782-09-15 07:40 J -27783945.33 -27783945.18 -27783945.03 0.2587 0.0468

Earth -80782-09-15 09:20 J -27783945.26 -27783945.11 -27783944.96 0.2587 0.0570 *

Neptune -80782-12-11 05:30 J -27783858.37 -27783858.27 -27783858.15 0.0089 0.0071

Neptune -80781-03-08 09:06 J -27783770.21 -27783770.12 -27783770.03 0.0088 0.0077

Neptune -80781-06-04 11:59 J -27783682.04 -27783682.00 -27783681.91 0.0088 0.0084

Moon -80779-03-21 13:25 J -27783026.96 -27783026.94 -27783026.92 0.2746 0.2693

Venus -80777-11-17 02:37 J -27782055.47 -27782055.39 -27782055.30 0.3776 0.2349

Jupiter -80776-02-06 06:28 J -27781974.25 -27781974.23 -27781974.20 0.0536 0.0523

Jupiter -80776-05-06 14:08 J -27781885.04 -27781884.91 -27781884.78 0.0535 0.0078

Jupiter -80776-08-03 22:18 J -27781795.66 -27781795.57 -27781795.48 0.0533 0.0375

Mars -80775-09-12 09:35 J -27781391.26 -27781391.10 -27781390.95 0.1746 0.0136

Mars -80774-07-10 04:04 J -27781090.43 -27781090.33 -27781090.22 0.1787 0.0749

Earth -80772-03-14 11:01 J -27780477.14 -27780477.04 -27780476.93 0.2749 0.0886

Moon -80772-03-14 11:44 J -27780477.11 -27780477.01 -27780476.90 0.2746 0.0743 *

Venus -80771-06-02 21:06 J -27780031.72 -27780031.62 -27780031.52 0.3772 0.1329

Jupiter -80770-07-03 21:35 J -27779635.78 -27779635.60 -27779635.42 0.0492 0.0019

Moon -80769-09-17 12:56 J -27779193.99 -27779193.96 -27779193.93 0.2592 0.2528

Saturn -80767-05-25 03:49 J -27778579.46 -27778579.34 -27778579.20 0.0286 0.0207

Saturn -80767-08-22 03:35 J -27778490.53 -27778490.35 -27778490.17 0.0286 0.0048

Saturn -80767-11-19 02:52 J -27778401.54 -27778401.38 -27778401.21 0.0287 0.0110

Saturn -80766-02-16 01:54 J -27778312.48 -27778312.42 -27778312.35 0.0288 0.0266

Venus -80766-12-17 15:35 J -27778007.96 -27778007.85 -27778007.74 0.3769 0.0290

Mars -80765-02-02 09:49 J -27777961.21 -27777961.09 -27777960.97 0.1737 0.1163

Mars -80765-11-29 12:56 J -27777660.08 -27777659.96 -27777659.84 0.1796 0.0048

Jupiter -80764-02-22 17:30 J -27777574.89 -27777574.77 -27777574.65 0.0536 0.0196

Jupiter -80764-05-23 01:40 J -27777485.55 -27777485.43 -27777485.32 0.0534 0.0257

Venus -80760-07-02 10:18 J -27775984.18 -27775984.07 -27775983.96 0.3765 0.0809

Earth -80759-03-17 05:44 J -27775726.37 -27775726.26 -27775726.15 0.2749 0.0439

Moon -80759-03-17 05:59 J -27775726.36 -27775726.25 -27775726.14 0.2742 0.0430 *

Jupiter -80758-04-21 19:40 J -27775325.86 -27775325.68 -27775325.51 0.0492 0.0109

Jupiter -80758-07-21 01:11 J -27775235.55 -27775235.45 -27775235.34 0.0493 0.0395

Venus -80756-07-01 05:44 J -27774524.35 -27774524.26 -27774524.17 0.3603 0.2711

Mars -80755-04-21 21:35 J -27774229.71 -27774229.60 -27774229.49 0.1805 0.0716

Venus -80754-01-16 05:16 J -27773960.37 -27773960.28 -27773960.18 0.3761 0.1899

Saturn -80754-12-26 21:35 J -27773615.67 -27773615.60 -27773615.52 0.0275 0.0222

Uranus -80753-03-23 20:52 J -27773527.66 -27773527.63 -27773527.59 0.0138 0.0131

Saturn -80753-03-24 08:37 J -27773527.26 -27773527.14 -27773527.02 0.0274 0.0123

Uranus -80753-06-20 00:13 J -27773439.56 -27773439.49 -27773439.41 0.0138 0.0115

Saturn -80753-06-20 19:40 J -27773438.82 -27773438.68 -27773438.55 0.0274 0.0026

Uranus -80753-09-16 03:35 J -27773351.43 -27773351.35 -27773351.25 0.0138 0.0098

Saturn -80753-09-17 06:28 J -27773350.36 -27773350.23 -27773350.10 0.0273 0.0074

Jupiter -80753-12-11 21:20 J -27773264.71 -27773264.61 -27773264.50 0.0536 0.0306

Uranus -80753-12-13 07:11 J -27773263.31 -27773263.20 -27773263.09 0.0138 0.0081

Saturn -80753-12-14 17:30 J -27773261.87 -27773261.77 -27773261.66 0.0272 0.0172

Jupiter -80752-03-11 05:16 J -27773175.40 -27773175.28 -27773175.15 0.0535 0.0147

Uranus -80752-03-11 10:32 J -27773175.17 -27773175.06 -27773174.93 0.0138 0.0064 *

Saturn -80752-03-13 04:32 J -27773173.31 -27773173.31 -27773173.29 0.0272 0.0271

Uranus -80752-06-07 14:08 J -27773087.04 -27773086.91 -27773086.78 0.0138 0.0047

Uranus -80752-09-03 17:30 J -27772998.90 -27772998.77 -27772998.63 0.0139 0.0030

Uranus -80752-11-30 21:06 J -27772910.75 -27772910.62 -27772910.48 0.0139 0.0012

Uranus -80751-02-27 00:42 J -27772822.60 -27772822.47 -27772822.33 0.0139 0.0006

Uranus -80751-05-26 04:18 J -27772734.45 -27772734.32 -27772734.19 0.0139 0.0024

Uranus -80751-08-22 07:54 J -27772646.30 -27772646.17 -27772646.04 0.0139 0.0041

Uranus -80751-11-18 11:30 J -27772558.14 -27772558.02 -27772557.90 0.0139 0.0059

Venus -80750-01-15 06:13 J -27772500.37 -27772500.24 -27772500.11 0.3607 0.1189

Uranus -80750-02-14 15:06 J -27772469.98 -27772469.87 -27772469.75 0.0139 0.0078

Uranus -80750-05-13 18:42 J -27772381.81 -27772381.72 -27772381.62 0.0140 0.0096

Uranus -80750-08-09 22:18 J -27772293.64 -27772293.57 -27772293.48 0.0140 0.0115

Uranus -80750-11-06 02:08 J -27772205.44 -27772205.41 -27772205.36 0.0140 0.0133

Venus -80749-08-01 00:42 J -27771936.54 -27771936.47 -27771936.41 0.3757 0.3042

Moon -80749-09-12 09:06 J -27771894.26 -27771894.12 -27771893.98 0.2585 0.1177

Earth -80749-09-12 10:47 J -27771894.19 -27771894.05 -27771893.91 0.2588 0.1125 *

Jupiter -80746-02-07 17:01 J -27771015.94 -27771015.79 -27771015.62 0.0491 0.0239

Moon -80746-03-19 23:59 J -27770975.59 -27770975.50 -27770975.41 0.2744 0.1726

Earth -80746-03-20 00:28 J -27770975.57 -27770975.48 -27770975.40 0.2749 0.1770 *

Jupiter -80746-05-08 23:16 J -27770925.68 -27770925.53 -27770925.38 0.0493 0.0268

Mars -80746-09-12 06:13 J -27770799.31 -27770799.24 -27770799.17 0.1813 0.1457

Venus -80745-07-31 06:13 J -27770476.37 -27770476.24 -27770476.10 0.3611 0.0266

Mars -80745-10-21 09:49 J -27770394.22 -27770394.09 -27770393.97 0.1754 0.1053

Mars -80744-08-17 19:25 J -27770093.74 -27770093.69 -27770093.63 0.1779 0.1555

Jupiter -80741-09-30 01:25 J -27768954.52 -27768954.44 -27768954.36 0.0537 0.0412

Jupiter -80741-12-28 09:20 J -27768865.24 -27768865.11 -27768864.98 0.0535 0.0038

Jupiter -80740-03-27 17:44 J -27768775.81 -27768775.76 -27768775.71 0.0533 0.0492

Venus -80739-02-14 05:59 J -27768452.37 -27768452.25 -27768452.13 0.3615 0.1660

Earth -80739-03-12 21:35 J -27768425.68 -27768425.60 -27768425.52 0.2748 0.1910

Moon -80739-03-12 22:18 J -27768425.65 -27768425.57 -27768425.49 0.2750 0.1748 *

Saturn -80738-10-12 00:42 J -27767847.53 -27767847.47 -27767847.40 0.0285 0.0263

Saturn -80737-01-09 00:28 J -27767758.65 -27767758.48 -27767758.31 0.0286 0.0105

Saturn -80737-04-06 23:44 J -27767669.69 -27767669.51 -27767669.33 0.0287 0.0053

Saturn -80737-07-04 23:01 J -27767580.66 -27767580.54 -27767580.42 0.0287 0.0210

Moon -80736-09-15 14:08 J -27767143.05 -27767142.91 -27767142.76 0.2589 0.0770

Earth -80736-09-15 15:35 J -27767142.99 -27767142.85 -27767142.70 0.2587 0.0997 *

Mars -80735-03-13 10:04 J -27766964.24 -27766964.08 -27766963.92 0.1745 0.0005

Jupiter -80735-11-26 15:20 J -27766705.98 -27766705.86 -27766705.74 0.0491 0.0363

Mars -80734-01-08 04:04 J -27766663.43 -27766663.33 -27766663.22 0.1788 0.0840

Jupiter -80734-02-24 21:35 J -27766615.77 -27766615.60 -27766615.42 0.0492 0.0146

Venus -80734-08-31 05:01 J -27766428.36 -27766428.29 -27766428.21 0.3619 0.2997

Jupiter -80729-07-19 05:16 J -27764644.30 -27764644.28 -27764644.25 0.0536 0.0522

Jupiter -80729-10-16 12:56 J -27764555.09 -27764554.96 -27764554.83 0.0535 0.0078

Jupiter -80728-01-13 21:06 J -27764465.71 -27764465.62 -27764465.53 0.0533 0.0376

Earth -80726-03-15 16:04 J -27763674.94 -27763674.83 -27763674.72 0.2749 0.0613

Moon -80726-03-15 16:32 J -27763674.92 -27763674.81 -27763674.70 0.2744 0.0606 *

Mars -80726-08-03 10:18 J -27763534.20 -27763534.07 -27763533.95 0.1737 0.1045

Venus -80726-12-09 06:42 J -27763406.29 -27763406.22 -27763406.16 0.3778 0.3044

Mars -80725-05-30 12:56 J -27763233.08 -27763232.96 -27763232.84 0.1796 0.0125

Saturn -80724-05-14 23:59 J -27762883.55 -27762883.50 -27762883.45 0.0276 0.0253

Saturn -80724-08-11 10:47 J -27762795.16 -27762795.05 -27762794.94 0.0275 0.0155

Saturn -80724-11-07 21:49 J -27762706.72 -27762706.59 -27762706.46 0.0275 0.0056

Saturn -80723-02-04 08:52 J -27762618.27 -27762618.13 -27762618.00 0.0274 0.0044

Saturn -80723-05-03 19:54 J -27762529.79 -27762529.67 -27762529.56 0.0273 0.0143

Saturn -80723-07-31 06:56 J -27762441.27 -27762441.21 -27762441.15 0.0273 0.0242

Jupiter -80723-12-13 19:25 J -27762305.87 -27762305.69 -27762305.51 0.0492 0.0017

Venus -80720-06-24 00:56 J -27761382.55 -27761382.46 -27761382.37 0.3775 0.2043

Jupiter -80717-08-04 16:18 J -27760244.94 -27760244.82 -27760244.70 0.0535 0.0192

Jupiter -80717-11-02 00:28 J -27760155.60 -27760155.48 -27760155.37 0.0534 0.0260

Mars -80716-10-20 21:35 J -27759802.71 -27759802.60 -27759802.49 0.1804 0.0624

Venus -80714-01-07 19:11 J -27759358.80 -27759358.70 -27759358.59 0.3771 0.1025

Uranus -80714-11-12 09:35 J -27759050.17 -27759050.10 -27759050.00 0.0140 0.0124

Uranus -80713-02-08 17:16 J -27758961.90 -27758961.78 -27758961.64 0.0140 0.0099

Moon -80713-03-17 10:47 J -27758924.16 -27758924.05 -27758923.94 0.2742 0.0773

Earth -80713-03-17 10:32 J -27758924.16 -27758924.06 -27758923.95 0.2749 0.0712 *

Uranus -80713-05-07 00:42 J -27758873.62 -27758873.47 -27758873.30 0.0140 0.0074

Uranus -80713-08-03 08:08 J -27758785.33 -27758785.16 -27758784.98 0.0140 0.0048

Uranus -80713-10-30 15:49 J -27758697.03 -27758696.84 -27758696.66 0.0140 0.0023

Uranus -80712-01-26 23:01 J -27758608.72 -27758608.54 -27758608.35 0.0140 0.0002

Uranus -80712-04-25 06:13 J -27758520.42 -27758520.24 -27758520.05 0.0140 0.0026

Uranus -80712-07-22 13:25 J -27758432.11 -27758431.94 -27758431.77 0.0139 0.0050

Uranus -80712-10-18 20:23 J -27758343.79 -27758343.65 -27758343.48 0.0139 0.0075

Uranus -80711-01-15 03:35 J -27758255.47 -27758255.35 -27758255.22 0.0139 0.0098

Uranus -80711-04-13 10:18 J -27758167.14 -27758167.07 -27758166.97 0.0139 0.0122

Jupiter -80711-10-01 17:16 J -27757995.95 -27757995.78 -27757995.60 0.0492 0.0113

Jupiter -80711-12-30 23:01 J -27757905.64 -27757905.54 -27757905.43 0.0493 0.0392

Venus -80709-07-23 13:54 J -27757335.03 -27757334.92 -27757334.81 0.3768 0.0055

Saturn -80708-05-28 01:25 J -27757026.60 -27757026.44 -27757026.27 0.0286 0.0132

Saturn -80708-08-25 00:56 J -27756937.64 -27756937.46 -27756937.28 0.0287 0.0026

Saturn -80708-11-21 23:59 J -27756848.63 -27756848.50 -27756848.35 0.0287 0.0183

Mars -80706-03-13 06:13 J -27756372.31 -27756372.24 -27756372.16 0.1813 0.1364

Neptune -80706-06-05 04:18 J -27756288.34 -27756288.32 -27756288.27 0.0089 0.0085

Neptune -80706-09-01 05:59 J -27756200.30 -27756200.25 -27756200.20 0.0089 0.0080

Neptune -80706-11-28 07:11 J -27756112.26 -27756112.20 -27756112.13 0.0089 0.0076

Neptune -80705-02-24 08:23 J -27756024.22 -27756024.15 -27756024.06 0.0089 0.0072

Mars -80705-04-21 10:18 J -27755967.18 -27755967.07 -27755966.95 0.1754 0.1185

Neptune -80705-05-22 09:49 J -27755936.17 -27755936.09 -27755936.00 0.0089 0.0067

Jupiter -80705-05-23 19:40 J -27755934.79 -27755934.68 -27755934.58 0.0536 0.0311

Neptune -80705-08-18 11:01 J -27755848.12 -27755848.04 -27755847.94 0.0089 0.0063

Jupiter -80705-08-21 03:35 J -27755845.48 -27755845.35 -27755845.23 0.0535 0.0140

Neptune -80705-11-14 12:28 J -27755760.07 -27755759.98 -27755759.87 0.0089 0.0059

Neptune -80704-02-10 13:54 J -27755672.02 -27755671.92 -27755671.81 0.0089 0.0054

Mars -80704-02-15 19:25 J -27755666.73 -27755666.69 -27755666.64 0.1779 0.1649

Neptune -80704-05-09 15:06 J -27755583.97 -27755583.87 -27755583.75 0.0089 0.0050

Neptune -80704-08-05 16:32 J -27755495.92 -27755495.81 -27755495.69 0.0089 0.0045

Neptune -80704-11-01 17:59 J -27755407.87 -27755407.75 -27755407.63 0.0089 0.0041

Neptune -80703-01-28 19:11 J -27755319.81 -27755319.70 -27755319.57 0.0089 0.0037

Venus -80703-02-06 08:37 J -27755311.24 -27755311.14 -27755311.03 0.3764 0.1138

Neptune -80703-04-26 20:37 J -27755231.76 -27755231.64 -27755231.51 0.0089 0.0032

Neptune -80703-07-23 21:49 J -27755143.71 -27755143.59 -27755143.45 0.0089 0.0028

Moon -80703-09-13 15:35 J -27755092.00 -27755091.85 -27755091.71 0.2585 0.0944

Earth -80703-09-13 17:01 J -27755091.94 -27755091.79 -27755091.64 0.2587 0.0690 *

Neptune -80703-10-19 23:16 J -27755055.65 -27755055.53 -27755055.40 0.0089 0.0023

Neptune -80702-01-16 00:42 J -27754967.60 -27754967.47 -27754967.34 0.0089 0.0019

Neptune -80702-04-14 02:08 J -27754879.54 -27754879.41 -27754879.28 0.0089 0.0014

Neptune -80702-07-11 03:20 J -27754791.49 -27754791.36 -27754791.22 0.0089 0.0010

Neptune -80702-10-07 04:47 J -27754703.43 -27754703.30 -27754703.17 0.0089 0.0005

Neptune -80701-01-03 06:13 J -27754615.38 -27754615.24 -27754615.11 0.0089 0.0001

Neptune -80701-03-31 07:25 J -27754527.32 -27754527.19 -27754527.05 0.0089 0.0005

Neptune -80701-06-27 08:52 J -27754439.26 -27754439.13 -27754438.99 0.0089 0.0008

Neptune -80701-09-23 10:18 J -27754351.20 -27754351.07 -27754350.94 0.0089 0.0013

Neptune -80701-12-20 11:30 J -27754263.15 -27754263.02 -27754262.88 0.0089 0.0018

Neptune -80700-03-18 12:56 J -27754175.09 -27754174.96 -27754174.83 0.0089 0.0022

Moon -80700-03-20 04:47 J -27754173.38 -27754173.30 -27754173.22 0.2744 0.1944

Earth -80700-03-20 05:16 J -27754173.35 -27754173.28 -27754173.21 0.2749 0.2045 *

Neptune -80700-06-14 14:23 J -27754087.03 -27754086.90 -27754086.77 0.0089 0.0026

Neptune -80700-09-10 15:49 J -27753998.97 -27753998.84 -27753998.72 0.0089 0.0031

Neptune -80700-12-07 17:01 J -27753910.91 -27753910.79 -27753910.66 0.0089 0.0036

Venus -80699-02-05 05:44 J -27753851.37 -27753851.26 -27753851.16 0.3604 0.2252

Neptune -80699-03-05 18:28 J -27753822.85 -27753822.73 -27753822.61 0.0089 0.0040

Neptune -80699-06-01 19:40 J -27753734.78 -27753734.68 -27753734.55 0.0089 0.0045

Jupiter -80699-07-20 15:20 J -27753686.02 -27753685.86 -27753685.70 0.0491 0.0239

Neptune -80699-08-28 21:20 J -27753646.72 -27753646.61 -27753646.50 0.0089 0.0049

Jupiter -80699-10-18 21:20 J -27753595.76 -27753595.61 -27753595.46 0.0493 0.0267

Neptune -80699-11-24 22:32 J -27753558.66 -27753558.56 -27753558.44 0.0089 0.0054

Neptune -80698-02-20 23:59 J -27753470.59 -27753470.50 -27753470.39 0.0089 0.0058

Neptune -80698-05-20 01:25 J -27753382.53 -27753382.44 -27753382.34 0.0089 0.0063

Neptune -80698-08-16 02:52 J -27753294.46 -27753294.38 -27753294.29 0.0089 0.0067

Venus -80698-08-23 03:49 J -27753287.43 -27753287.34 -27753287.25 0.3760 0.2252

Neptune -80698-11-12 04:04 J -27753206.39 -27753206.33 -27753206.24 0.0089 0.0072

Neptune -80697-02-08 05:44 J -27753118.32 -27753118.26 -27753118.19 0.0089 0.0076

Neptune -80697-05-06 06:56 J -27753030.25 -27753030.21 -27753030.14 0.0089 0.0081

Neptune -80697-08-02 08:23 J -27752942.17 -27752942.15 -27752942.10 0.0089 0.0086

Mars -80696-09-11 10:47 J -27752537.21 -27752537.05 -27752536.90 0.1746 0.0143

Mars -80695-07-09 04:18 J -27752236.42 -27752236.32 -27752236.22 0.1787 0.0936

Saturn -80695-10-02 03:06 J -27752151.38 -27752151.37 -27752151.35 0.0276 0.0274

Saturn -80695-12-29 14:08 J -27752063.01 -27752062.91 -27752062.81 0.0275 0.0175

Saturn -80694-03-28 00:56 J -27751974.58 -27751974.46 -27751974.33 0.0274 0.0077

Saturn -80694-06-24 11:59 J -27751886.13 -27751886.00 -27751885.87 0.0274 0.0022

Venus -80694-08-22 05:59 J -27751827.38 -27751827.25 -27751827.12 0.3608 0.0749

Saturn -80694-09-20 23:01 J -27751797.66 -27751797.54 -27751797.42 0.0273 0.0121

Saturn -80694-12-18 10:04 J -27751709.15 -27751709.08 -27751709.00 0.0272 0.0220

Jupiter -80693-03-11 23:30 J -27751624.60 -27751624.52 -27751624.45 0.0537 0.0422

Earth -80693-03-13 02:23 J -27751623.48 -27751623.40 -27751623.31 0.2748 0.1642

Moon -80693-03-13 03:06 J -27751623.45 -27751623.37 -27751623.28 0.2749 0.1613 *

Jupiter -80693-06-09 07:11 J -27751535.33 -27751535.20 -27751535.07 0.0535 0.0028

Jupiter -80693-09-06 15:35 J -27751445.90 -27751445.85 -27751445.80 0.0533 0.0482

Venus -80692-03-07 23:01 J -27751263.59 -27751263.54 -27751263.49 0.3755 0.3400

Moon -80690-09-16 20:37 J -27750340.77 -27750340.64 -27750340.51 0.2590 0.1379

Earth -80690-09-16 22:04 J -27750340.71 -27750340.58 -27750340.46 0.2587 0.1417 *

Venus -80688-03-07 05:59 J -27749803.38 -27749803.25 -27749803.12 0.3612 0.0697

Jupiter -80687-05-08 12:42 J -27749376.09 -27749375.97 -27749375.85 0.0491 0.0370

Jupiter -80687-08-06 19:11 J -27749285.87 -27749285.70 -27749285.53 0.0492 0.0139

Mars -80686-02-01 11:01 J -27749107.17 -27749107.04 -27749106.90 0.1737 0.0900

Mars -80686-11-29 12:56 J -27748806.08 -27748805.96 -27748805.84 0.1796 0.0204

Venus -80683-09-21 05:30 J -27747779.38 -27747779.27 -27747779.16 0.3616 0.2081

Jupiter -80682-12-30 03:35 J -27747314.37 -27747314.35 -27747314.33 0.0537 0.0528

Jupiter -80681-03-28 11:16 J -27747225.16 -27747225.03 -27747224.91 0.0536 0.0082

Jupiter -80681-06-25 19:25 J -27747135.78 -27747135.69 -27747135.60 0.0534 0.0373

Earth -80680-03-15 20:52 J -27746872.74 -27746872.63 -27746872.52 0.2749 0.0352

Moon -80680-03-15 21:20 J -27746872.72 -27746872.61 -27746872.50 0.2743 0.0231 *

Saturn -80679-10-14 23:01 J -27746294.68 -27746294.54 -27746294.40 0.0285 0.0183

Saturn -80678-01-11 22:32 J -27746205.74 -27746205.56 -27746205.37 0.0286 0.0026

Saturn -80678-04-10 21:49 J -27746116.75 -27746116.59 -27746116.43 0.0287 0.0132

Venus -80677-04-06 04:32 J -27745755.35 -27745755.31 -27745755.27 0.3620 0.3402

Mars -80676-04-20 21:35 J -27745375.71 -27745375.60 -27745375.48 0.1805 0.0531

Jupiter -80675-05-25 17:30 J -27744975.96 -27744975.77 -27744975.59 0.0492 0.0018

Venus -80675-12-30 10:47 J -27744757.07 -27744757.05 -27744757.04 0.3781 0.3730

Moon -80670-09-11 17:01 J -27743040.81 -27743040.79 -27743040.76 0.2584 0.2536

Earth -80670-09-11 18:13 J -27743040.79 -27743040.74 -27743040.68 0.2588 0.2403 *

Jupiter -80669-01-15 14:52 J -27742915.00 -27742914.88 -27742914.76 0.0535 0.0194

Uranus -80669-04-13 03:49 J -27742826.38 -27742826.34 -27742826.29 0.0138 0.0129

Jupiter -80669-04-13 22:47 J -27742825.66 -27742825.55 -27742825.43 0.0534 0.0259

Uranus -80669-07-10 07:11 J -27742738.27 -27742738.20 -27742738.12 0.0138 0.0112

Venus -80669-07-15 04:47 J -27742733.37 -27742733.30 -27742733.23 0.3777 0.2743

Uranus -80669-10-06 10:47 J -27742650.15 -27742650.05 -27742649.96 0.0138 0.0096

Uranus -80668-01-02 14:08 J -27742562.02 -27742561.91 -27742561.80 0.0138 0.0079

Uranus -80668-03-31 17:30 J -27742473.89 -27742473.77 -27742473.65 0.0138 0.0062

Uranus -80668-06-27 20:52 J -27742385.75 -27742385.63 -27742385.49 0.0138 0.0045

Uranus -80668-09-24 00:28 J -27742297.61 -27742297.48 -27742297.34 0.0139 0.0027

Uranus -80668-12-21 04:04 J -27742209.47 -27742209.33 -27742209.20 0.0139 0.0010

Moon -80667-03-18 15:35 J -27742121.96 -27742121.85 -27742121.75 0.2742 0.0924

Earth -80667-03-18 15:35 J -27742121.96 -27742121.85 -27742121.75 0.2749 0.0980 *

Uranus -80667-03-19 07:40 J -27742121.32 -27742121.18 -27742121.05 0.0139 0.0009

Uranus -80667-06-15 11:01 J -27742033.17 -27742033.04 -27742032.90 0.0139 0.0026

Mars -80667-09-11 06:28 J -27741945.31 -27741945.23 -27741945.15 0.1813 0.1265

Uranus -80667-09-11 14:37 J -27741945.01 -27741944.89 -27741944.75 0.0139 0.0044

Uranus -80667-12-08 18:13 J -27741856.86 -27741856.74 -27741856.61 0.0139 0.0062

Uranus -80666-03-06 21:49 J -27741768.69 -27741768.59 -27741768.47 0.0139 0.0080

Uranus -80666-06-03 01:25 J -27741680.53 -27741680.44 -27741680.33 0.0140 0.0099

Uranus -80666-08-30 05:16 J -27741592.35 -27741592.28 -27741592.20 0.0140 0.0117

Mars -80666-10-21 10:47 J -27741540.16 -27741540.05 -27741539.95 0.1755 0.1306

Uranus -80666-11-26 09:06 J -27741504.15 -27741504.12 -27741504.09 0.0140 0.0135

Saturn -80665-05-17 16:18 J -27741330.90 -27741330.82 -27741330.73 0.0276 0.0206

Saturn -80665-08-14 03:20 J -27741242.49 -27741242.36 -27741242.24 0.0275 0.0107

Mars -80665-08-16 19:40 J -27741239.70 -27741239.68 -27741239.66 0.1779 0.1752

Saturn -80665-11-10 14:08 J -27741154.04 -27741153.91 -27741153.77 0.0274 0.0011

Saturn -80664-02-07 01:11 J -27741065.57 -27741065.45 -27741065.32 0.0274 0.0092

Saturn -80664-05-06 12:13 J -27740977.08 -27740976.99 -27740976.89 0.0273 0.0191

Venus -80663-01-28 23:01 J -27740709.64 -27740709.54 -27740709.44 0.3774 0.1736

Jupiter -80663-03-13 14:52 J -27740666.05 -27740665.88 -27740665.70 0.0492 0.0118

Jupiter -80663-06-11 20:52 J -27740575.74 -27740575.63 -27740575.52 0.0494 0.0388

Earth -80660-03-11 12:56 J -27739571.98 -27739571.96 -27739571.94 0.2748 0.2658

Moon -80660-03-11 13:40 J -27739571.97 -27739571.93 -27739571.90 0.2752 0.2589 *

Venus -80658-08-14 17:30 J -27738685.88 -27738685.77 -27738685.66 0.3770 0.0696

Jupiter -80658-11-03 18:28 J -27738604.83 -27738604.73 -27738604.63 0.0536 0.0308

Jupiter -80657-02-01 02:23 J -27738515.53 -27738515.40 -27738515.28 0.0534 0.0143

Moon -80657-09-13 22:04 J -27738289.74 -27738289.58 -27738289.43 0.2586 0.0333

Earth -80657-09-13 23:30 J -27738289.68 -27738289.52 -27738289.37 0.2588 0.0253 *

Mars -80656-03-12 11:16 J -27738110.19 -27738110.03 -27738109.87 0.1746 0.0269

Mars -80655-01-07 04:18 J -27737809.42 -27737809.32 -27737809.22 0.1787 0.1030

Moon -80654-03-21 09:35 J -27737371.15 -27737371.10 -27737371.04 0.2743 0.2288

Earth -80654-03-21 10:18 J -27737371.13 -27737371.07 -27737371.02 0.2749 0.2319 *

Venus -80652-02-27 12:13 J -27736662.10 -27736661.99 -27736661.88 0.3767 0.0378

Jupiter -80652-12-30 12:42 J -27736356.13 -27736355.97 -27736355.81 0.0491 0.0247

Jupiter -80651-03-30 18:56 J -27736265.86 -27736265.71 -27736265.56 0.0493 0.0261

Saturn -80649-03-03 00:13 J -27735562.62 -27735562.49 -27735562.37 0.0285 0.0211

Saturn -80649-05-30 23:44 J -27735473.69 -27735473.51 -27735473.33 0.0286 0.0052

Saturn -80649-08-27 23:01 J -27735384.71 -27735384.54 -27735384.37 0.0287 0.0105

Saturn -80649-11-24 22:04 J -27735295.65 -27735295.58 -27735295.50 0.0288 0.0262

Venus -80648-02-26 04:47 J -27735202.35 -27735202.30 -27735202.25 0.3602 0.3344

Earth -80647-03-14 07:25 J -27734821.29 -27734821.19 -27734821.10 0.2748 0.1377

Moon -80647-03-14 08:08 J -27734821.26 -27734821.16 -27734821.07 0.2747 0.1250 *

Mars -80647-08-02 11:30 J -27734680.16 -27734680.02 -27734679.87 0.1737 0.0774

Venus -80647-09-13 07:11 J -27734638.31 -27734638.20 -27734638.10 0.3763 0.1485

Mars -80646-05-30 12:56 J -27734379.08 -27734378.96 -27734378.84 0.1796 0.0303

Jupiter -80646-08-22 21:35 J -27734294.67 -27734294.60 -27734294.52 0.0536 0.0428

Jupiter -80646-11-20 05:16 J -27734205.41 -27734205.28 -27734205.15 0.0535 0.0024

Jupiter -80645-02-17 13:40 J -27734115.99 -27734115.93 -27734115.87 0.0533 0.0474

Moon -80644-09-17 02:52 J -27733538.50 -27733538.38 -27733538.26 0.2591 0.1609

Earth -80644-09-17 04:18 J -27733538.43 -27733538.32 -27733538.21 0.2587 0.1844 *

Venus -80643-09-12 05:30 J -27733178.39 -27733178.27 -27733178.15 0.3605 0.1793

Venus -80641-03-29 02:08 J -27732614.49 -27732614.41 -27732614.33 0.3759 0.2610

Jupiter -80640-10-18 10:32 J -27732046.17 -27732046.06 -27732045.94 0.0491 0.0374

Jupiter -80639-01-16 17:01 J -27731955.96 -27731955.79 -27731955.61 0.0492 0.0136

Venus -80637-03-28 05:44 J -27731154.39 -27731154.26 -27731154.13 0.3609 0.0300

Mars -80637-10-19 21:49 J -27730948.71 -27730948.59 -27730948.48 0.1804 0.0438

Saturn -80636-10-04 19:54 J -27730598.74 -27730598.67 -27730598.59 0.0276 0.0224

Saturn -80635-01-01 06:56 J -27730510.33 -27730510.21 -27730510.09 0.0275 0.0125

Saturn -80635-03-30 17:44 J -27730421.89 -27730421.76 -27730421.62 0.0274 0.0027

Saturn -80635-06-27 04:47 J -27730333.43 -27730333.30 -27730333.17 0.0273 0.0073

Saturn -80635-09-23 15:49 J -27730244.94 -27730244.84 -27730244.73 0.0273 0.0172

Saturn -80635-12-21 02:52 J -27730156.38 -27730156.38 -27730156.36 0.0272 0.0271

Earth -80634-03-17 01:54 J -27730070.53 -27730070.42 -27730070.31 0.2749 0.0077

Moon -80634-03-17 02:23 J -27730070.51 -27730070.40 -27730070.29 0.2743 0.0072 *

Jupiter -80634-09-08 09:06 J -27729895.25 -27729895.12 -27729895.00 0.0536 0.0095

Pluto -80634-10-06 10:04 J -27729867.09 -27729867.08 -27729867.02 0.0060 0.0059

Jupiter -80634-12-06 17:16 J -27729805.88 -27729805.78 -27729805.69 0.0534 0.0361

Pluto -80633-01-02 11:30 J -27729779.09 -27729779.02 -27729778.91 0.0060 0.0053

Pluto -80633-03-30 12:42 J -27729691.06 -27729690.97 -27729690.83 0.0060 0.0048

Pluto -80633-06-26 14:08 J -27729603.02 -27729602.91 -27729602.75 0.0060 0.0042

Pluto -80633-09-22 15:35 J -27729514.98 -27729514.85 -27729514.67 0.0060 0.0036

Pluto -80633-12-19 17:01 J -27729426.94 -27729426.79 -27729426.60 0.0061 0.0030

Pluto -80632-03-17 18:28 J -27729338.89 -27729338.73 -27729338.54 0.0061 0.0024

Pluto -80632-06-13 19:54 J -27729250.84 -27729250.67 -27729250.47 0.0061 0.0018

Pluto -80632-09-09 21:20 J -27729162.79 -27729162.61 -27729162.41 0.0061 0.0012

Venus -80632-10-12 05:44 J -27729130.39 -27729130.26 -27729130.14 0.3613 0.1141

Pluto -80632-12-06 23:01 J -27729074.73 -27729074.54 -27729074.35 0.0061 0.0005

Pluto -80631-03-05 00:28 J -27728986.67 -27728986.48 -27728986.29 0.0061 0.0001

Pluto -80631-06-01 01:54 J -27728898.61 -27728898.42 -27728898.23 0.0061 0.0007

Pluto -80631-08-28 03:20 J -27728810.55 -27728810.36 -27728810.17 0.0061 0.0013

Pluto -80631-11-24 04:32 J -27728722.48 -27728722.31 -27728722.12 0.0061 0.0020

Pluto -80630-02-20 05:59 J -27728634.41 -27728634.25 -27728634.06 0.0061 0.0026

Pluto -80630-05-19 07:25 J -27728546.34 -27728546.19 -27728546.01 0.0061 0.0032

Pluto -80630-08-15 08:52 J -27728458.27 -27728458.13 -27728457.97 0.0061 0.0039

Pluto -80630-11-11 10:32 J -27728370.19 -27728370.06 -27728369.93 0.0061 0.0045

Uranus -80630-12-02 16:32 J -27728348.89 -27728348.81 -27728348.70 0.0140 0.0120

Pluto -80629-02-07 11:30 J -27728282.10 -27728282.02 -27728281.89 0.0061 0.0052

Uranus -80629-02-29 00:28 J -27728260.62 -27728260.48 -27728260.34 0.0140 0.0094

Pluto -80629-05-05 13:11 J -27728194.00 -27728193.95 -27728193.87 0.0061 0.0058

Uranus -80629-05-27 07:54 J -27728172.33 -27728172.17 -27728172.00 0.0140 0.0068

Uranus -80629-08-23 15:20 J -27728084.03 -27728083.86 -27728083.68 0.0140 0.0043

Uranus -80629-11-19 22:47 J -27727995.74 -27727995.55 -27727995.37 0.0140 0.0018

Uranus -80628-02-16 05:59 J -27727907.43 -27727907.25 -27727907.06 0.0140 0.0007

Uranus -80628-05-15 13:25 J -27727819.12 -27727818.94 -27727818.76 0.0140 0.0031

Uranus -80628-08-11 20:23 J -27727730.81 -27727730.65 -27727730.47 0.0139 0.0055

Jupiter -80628-11-04 14:37 J -27727646.07 -27727645.89 -27727645.70 0.0492 0.0014

Uranus -80628-11-08 03:20 J -27727642.50 -27727642.36 -27727642.20 0.0139 0.0080

Uranus -80627-02-04 10:32 J -27727554.17 -27727554.06 -27727553.93 0.0139 0.0103

Mars -80627-03-12 06:28 J -27727518.32 -27727518.23 -27727518.14 0.1813 0.1180

Uranus -80627-05-03 17:30 J -27727465.83 -27727465.77 -27727465.69 0.0139 0.0126

Mars -80626-04-21 11:30 J -27727113.11 -27727113.02 -27727112.94 0.1755 0.1445

Venus -80626-04-28 05:01 J -27727106.38 -27727106.29 -27727106.20 0.3617 0.2502

Moon -80624-09-11 23:30 J -27726238.61 -27726238.52 -27726238.43 0.2583 0.2088

Earth -80624-09-12 00:42 J -27726238.57 -27726238.47 -27726238.37 0.2588 0.1964 *

Neptune -80623-08-25 11:59 J -27725891.03 -27725891.00 -27725890.93 0.0089 0.0086

Neptune -80623-11-21 15:49 J -27725802.92 -27725802.84 -27725802.75 0.0089 0.0079

Neptune -80622-02-17 19:11 J -27725714.79 -27725714.70 -27725714.57 0.0089 0.0073

Neptune -80622-05-16 23:16 J -27725626.66 -27725626.53 -27725626.40 0.0089 0.0066

Jupiter -80622-06-27 12:56 J -27725585.08 -27725584.96 -27725584.84 0.0536 0.0202

Neptune -80622-08-13 02:37 J -27725538.52 -27725538.39 -27725538.24 0.0089 0.0060

Jupiter -80622-09-24 21:06 J -27725495.74 -27725495.62 -27725495.51 0.0534 0.0252

Neptune -80622-11-09 06:28 J -27725450.38 -27725450.23 -27725450.07 0.0089 0.0053

Neptune -80621-02-05 09:49 J -27725362.24 -27725362.09 -27725361.91 0.0089 0.0047

Moon -80621-03-18 20:23 J -27725319.75 -27725319.65 -27725319.56 0.2742 0.1291

Earth -80621-03-18 20:23 J -27725319.74 -27725319.65 -27725319.55 0.2749 0.1254 *

Neptune -80621-05-03 13:25 J -27725274.10 -27725273.94 -27725273.76 0.0089 0.0040

Neptune -80621-07-30 17:01 J -27725185.96 -27725185.79 -27725185.60 0.0089 0.0034

Neptune -80621-10-26 20:37 J -27725097.82 -27725097.64 -27725097.45 0.0089 0.0027

Neptune -80620-01-23 00:28 J -27725009.67 -27725009.48 -27725009.29 0.0089 0.0021

Neptune -80620-04-21 03:49 J -27724921.52 -27724921.34 -27724921.14 0.0089 0.0015

Neptune -80620-07-18 07:25 J -27724833.38 -27724833.19 -27724832.99 0.0089 0.0008

Saturn -80620-07-20 22:18 J -27724830.64 -27724830.57 -27724830.49 0.0285 0.0258

Neptune -80620-10-14 11:01 J -27724745.23 -27724745.04 -27724744.84 0.0089 0.0002

Saturn -80620-10-17 22:04 J -27724741.75 -27724741.58 -27724741.41 0.0286 0.0099

Neptune -80619-01-10 14:37 J -27724657.08 -27724656.89 -27724656.70 0.0089 0.0005

Saturn -80619-01-14 21:20 J -27724652.78 -27724652.61 -27724652.43 0.0287 0.0059

Neptune -80619-04-08 17:59 J -27724568.93 -27724568.75 -27724568.55 0.0089 0.0012

Saturn -80619-04-13 20:23 J -27724563.76 -27724563.65 -27724563.52 0.0287 0.0216

Neptune -80619-07-05 21:35 J -27724480.78 -27724480.60 -27724480.41 0.0089 0.0018

Neptune -80619-10-02 01:11 J -27724392.63 -27724392.45 -27724392.26 0.0089 0.0024

Neptune -80619-12-29 04:32 J -27724304.48 -27724304.31 -27724304.12 0.0089 0.0031

Neptune -80618-03-27 08:08 J -27724216.33 -27724216.16 -27724215.98 0.0089 0.0037

Neptune -80618-06-23 11:44 J -27724128.18 -27724128.01 -27724127.84 0.0089 0.0043

Venus -80618-08-06 08:52 J -27724084.18 -27724084.13 -27724084.09 0.3780 0.3438

Neptune -80618-09-19 14:52 J -27724040.02 -27724039.88 -27724039.71 0.0089 0.0050

Neptune -80618-12-16 18:28 J -27723951.87 -27723951.73 -27723951.57 0.0089 0.0056

Neptune -80617-03-13 22:04 J -27723863.71 -27723863.58 -27723863.44 0.0089 0.0062

Neptune -80617-06-10 01:11 J -27723775.55 -27723775.45 -27723775.31 0.0088 0.0069

Neptune -80617-09-06 04:47 J -27723687.39 -27723687.30 -27723687.18 0.0088 0.0075

Mars -80617-09-10 11:44 J -27723683.16 -27723683.01 -27723682.85 0.1746 0.0402

Neptune -80617-12-03 08:08 J -27723599.22 -27723599.16 -27723599.07 0.0088 0.0081

Neptune -80616-03-01 11:44 J -27723511.03 -27723511.01 -27723510.96 0.0088 0.0087

Mars -80616-07-08 04:18 J -27723382.41 -27723382.32 -27723382.22 0.1787 0.1124

Jupiter -80616-08-23 12:42 J -27723336.14 -27723335.97 -27723335.79 0.0492 0.0121

Jupiter -80616-11-21 18:28 J -27723245.84 -27723245.73 -27723245.61 0.0493 0.0384

Earth -80614-03-12 17:44 J -27722769.81 -27722769.76 -27722769.71 0.2748 0.2397

Moon -80614-03-12 18:28 J -27722769.79 -27722769.73 -27722769.67 0.2752 0.2328 *

Venus -80612-02-19 02:52 J -27722060.46 -27722060.38 -27722060.29 0.3776 0.2445

Moon -80611-09-15 04:18 J -27721487.47 -27721487.32 -27721487.16 0.2588 0.0027

Earth -80611-09-15 05:44 J -27721487.41 -27721487.26 -27721487.10 0.2588 0.0198 *

Jupiter -80610-04-15 16:47 J -27721274.90 -27721274.80 -27721274.69 0.0536 0.0312

Jupiter -80610-07-14 00:42 J -27721185.60 -27721185.47 -27721185.35 0.0534 0.0138

Moon -80608-03-21 14:37 J -27720568.94 -27720568.89 -27720568.84 0.2744 0.2463

Earth -80608-03-21 15:06 J -27720568.90 -27720568.87 -27720568.83 0.2749 0.2593 *

Mars -80607-01-31 11:59 J -27720253.14 -27720253.00 -27720252.85 0.1737 0.0650

Venus -80607-09-04 21:20 J -27720036.72 -27720036.61 -27720036.51 0.3773 0.1425

Mars -80607-11-28 13:11 J -27719952.07 -27719951.95 -27719951.83 0.1795 0.0399

Saturn -80606-02-21 22:18 J -27719866.62 -27719866.57 -27719866.52 0.0276 0.0254

Saturn -80606-05-21 09:06 J -27719778.23 -27719778.12 -27719778.01 0.0275 0.0155

Saturn -80606-08-17 20:08 J -27719689.79 -27719689.66 -27719689.53 0.0275 0.0056

Saturn -80606-11-14 07:11 J -27719601.34 -27719601.20 -27719601.07 0.0274 0.0044

Saturn -80605-02-10 18:13 J -27719512.86 -27719512.74 -27719512.63 0.0274 0.0143

Saturn -80605-05-09 05:16 J -27719424.34 -27719424.28 -27719424.22 0.0273 0.0242

Jupiter -80604-06-11 10:04 J -27719026.24 -27719026.08 -27719025.92 0.0492 0.0255

Jupiter -80604-09-09 16:18 J -27718935.97 -27718935.82 -27718935.66 0.0493 0.0254

Earth -80601-03-14 12:13 J -27718019.09 -27718018.99 -27718018.89 0.2748 0.1109

Moon -80601-03-14 12:56 J -27718019.06 -27718018.96 -27718018.86 0.2745 0.1038 *

Venus -80601-03-20 15:49 J -27718012.95 -27718012.84 -27718012.73 0.3769 0.0373

Jupiter -80598-02-01 20:23 J -27716964.72 -27716964.65 -27716964.57 0.0536 0.0425

Jupiter -80598-05-02 04:04 J -27716875.46 -27716875.33 -27716875.20 0.0535 0.0025

Mars -80598-06-23 12:28 J -27716823.01 -27716822.98 -27716822.94 0.1729 0.1674

Jupiter -80598-07-30 12:28 J -27716786.04 -27716785.98 -27716785.93 0.0533 0.0476

Moon -80598-09-18 09:20 J -27716736.19 -27716736.11 -27716736.04 0.2591 0.2236

Earth -80598-09-18 10:47 J -27716736.13 -27716736.05 -27716735.98 0.2587 0.2268 *

Mars -80597-04-19 21:49 J -27716521.71 -27716521.59 -27716521.48 0.1804 0.0346

Venus -80596-10-04 10:32 J -27715989.17 -27715989.06 -27715988.95 0.3765 0.0716

Jupiter -80592-03-30 07:54 J -27714716.29 -27714716.17 -27714716.06 0.0491 0.0383

Jupiter -80592-06-28 14:23 J -27714626.07 -27714625.90 -27714625.72 0.0492 0.0127

Venus -80592-10-03 04:47 J -27714529.38 -27714529.30 -27714529.22 0.3603 0.2868

Saturn -80591-12-07 23:16 J -27714098.53 -27714098.53 -27714098.52 0.0285 0.0285

Saturn -80590-03-06 23:01 J -27714009.70 -27714009.54 -27714009.37 0.0286 0.0127

Venus -80590-04-20 05:30 J -27713965.37 -27713965.27 -27713965.17 0.3762 0.1831

Saturn -80590-06-03 22:47 J -27713920.74 -27713920.55 -27713920.37 0.0286 0.0033

Saturn -80590-08-31 21:49 J -27713831.72 -27713831.59 -27713831.45 0.0287 0.0189

Earth -80588-03-17 06:42 J -27713268.33 -27713268.22 -27713268.11 0.2749 0.0207

Moon -80588-03-17 07:11 J -27713268.31 -27713268.20 -27713268.09 0.2743 0.0303 *

Mars -80588-09-10 06:28 J -27713091.32 -27713091.23 -27713091.13 0.1813 0.1081

Mars -80587-10-20 11:59 J -27712686.06 -27712686.00 -27712685.93 0.1755 0.1583

Jupiter -80586-02-18 06:56 J -27712565.33 -27712565.21 -27712565.08 0.0535 0.0103

Venus -80586-04-19 05:16 J -27712505.40 -27712505.28 -27712505.15 0.3606 0.1336

Jupiter -80586-05-18 15:06 J -27712475.96 -27712475.87 -27712475.77 0.0534 0.0353

Uranus -80585-05-03 10:18 J -27712125.11 -27712125.07 -27712125.02 0.0138 0.0128

Uranus -80585-07-30 13:40 J -27712037.00 -27712036.93 -27712036.84 0.0138 0.0111

Uranus -80585-10-26 17:16 J -27711948.88 -27711948.78 -27711948.68 0.0138 0.0094

Venus -80585-11-03 00:42 J -27711941.54 -27711941.47 -27711941.40 0.3757 0.2974

Uranus -80584-01-22 20:37 J -27711860.75 -27711860.64 -27711860.53 0.0138 0.0077

Uranus -80584-04-20 23:59 J -27711772.62 -27711772.50 -27711772.37 0.0138 0.0061

Uranus -80584-07-18 03:35 J -27711684.48 -27711684.35 -27711684.22 0.0139 0.0043

Uranus -80584-10-14 07:11 J -27711596.34 -27711596.20 -27711596.07 0.0139 0.0026

Uranus -80583-01-10 10:32 J -27711508.19 -27711508.06 -27711507.92 0.0139 0.0009

Uranus -80583-04-08 14:08 J -27711420.05 -27711419.91 -27711419.77 0.0139 0.0009

Uranus -80583-07-05 17:44 J -27711331.90 -27711331.76 -27711331.63 0.0139 0.0027

Uranus -80583-10-01 21:06 J -27711243.74 -27711243.62 -27711243.48 0.0139 0.0046

Uranus -80583-12-29 00:42 J -27711155.58 -27711155.47 -27711155.34 0.0139 0.0064

Uranus -80582-03-27 04:18 J -27711067.42 -27711067.32 -27711067.20 0.0140 0.0082

Uranus -80582-06-23 08:08 J -27710979.25 -27710979.16 -27710979.06 0.0140 0.0099

Uranus -80582-09-19 11:44 J -27710891.07 -27710891.01 -27710890.93 0.0140 0.0118

Uranus -80582-12-16 15:35 J -27710802.87 -27710802.85 -27710802.82 0.0140 0.0136

Venus -80581-11-02 05:30 J -27710481.40 -27710481.27 -27710481.13 0.3610 0.0152

Jupiter -80580-04-16 12:28 J -27710316.16 -27710315.98 -27710315.80 0.0492 0.0006

Moon -80578-09-13 05:44 J -27709436.38 -27709436.26 -27709436.13 0.2584 0.1633

Earth -80578-09-13 07:11 J -27709436.33 -27709436.20 -27709436.08 0.2588 0.1527 *

Mars -80577-03-11 12:28 J -27709256.13 -27709255.98 -27709255.83 0.1746 0.0529

Saturn -80577-07-11 01:54 J -27709134.43 -27709134.42 -27709134.39 0.0276 0.0271

Saturn -80577-10-07 12:56 J -27709046.06 -27709045.96 -27709045.86 0.0275 0.0172

Saturn -80576-01-03 23:44 J -27708957.63 -27708957.51 -27708957.38 0.0275 0.0074

Mars -80576-01-06 04:32 J -27708955.40 -27708955.31 -27708955.23 0.1787 0.1218

Saturn -80576-04-02 10:47 J -27708869.18 -27708869.05 -27708868.91 0.0274 0.0027

Saturn -80576-06-29 21:49 J -27708780.71 -27708780.59 -27708780.47 0.0273 0.0125

Saturn -80576-09-26 08:52 J -27708692.20 -27708692.13 -27708692.05 0.0273 0.0225

Moon -80575-03-20 01:11 J -27708517.55 -27708517.45 -27708517.36 0.2742 0.1425

Earth -80575-03-20 01:25 J -27708517.53 -27708517.44 -27708517.35 0.2749 0.1529 *

Venus -80575-05-19 05:16 J -27708457.40 -27708457.28 -27708457.16 0.3614 0.1570

Jupiter -80575-12-07 10:47 J -27708255.17 -27708255.05 -27708254.94 0.0536 0.0214

Jupiter -80574-03-06 18:42 J -27708165.84 -27708165.72 -27708165.60 0.0534 0.0239

Venus -80570-12-03 04:32 J -27706433.39 -27706433.31 -27706433.23 0.3618 0.2921

Jupiter -80568-02-02 10:04 J -27706006.26 -27706006.08 -27706005.91 0.0491 0.0130

Earth -80568-03-12 22:47 J -27705967.62 -27705967.55 -27705967.49 0.2748 0.2131

Moon -80568-03-12 23:16 J -27705967.60 -27705967.53 -27705967.45 0.2751 0.2028 *

Jupiter -80568-05-03 15:49 J -27705915.95 -27705915.84 -27705915.72 0.0493 0.0374

Mars -80568-08-01 12:42 J -27705826.12 -27705825.97 -27705825.81 0.1738 0.0511

Mars -80567-05-29 13:11 J -27705525.07 -27705524.95 -27705524.84 0.1795 0.0488

Moon -80565-09-15 10:47 J -27704685.21 -27704685.05 -27704684.90 0.2589 0.0483

Earth -80565-09-15 12:13 J -27704685.14 -27704684.99 -27704684.84 0.2588 0.0614 *

Jupiter -80563-09-25 14:37 J -27703944.99 -27703944.89 -27703944.79 0.0536 0.0323

Jupiter -80563-12-23 22:32 J -27703855.69 -27703855.56 -27703855.43 0.0535 0.0129

Venus -80561-03-12 06:56 J -27703411.27 -27703411.21 -27703411.15 0.3779 0.3141

Saturn -80561-07-23 21:49 J -27703277.73 -27703277.59 -27703277.44 0.0285 0.0170

Saturn -80561-10-20 21:20 J -27703188.79 -27703188.61 -27703188.42 0.0286 0.0013

Saturn -80560-01-17 20:37 J -27703099.79 -27703099.64 -27703099.48 0.0287 0.0145

Mars -80559-12-22 12:56 J -27702396.02 -27702395.96 -27702395.89 0.1729 0.1548

Mars -80558-10-19 21:49 J -27702094.71 -27702094.59 -27702094.47 0.1804 0.0246

Jupiter -80557-11-21 07:54 J -27701696.33 -27701696.17 -27701696.01 0.0491 0.0257

Jupiter -80556-02-19 13:54 J -27701606.07 -27701605.92 -27701605.76 0.0493 0.0251

Venus -80556-09-26 01:11 J -27701387.54 -27701387.45 -27701387.36 0.3775 0.2135

Earth -80555-03-15 17:01 J -27701216.89 -27701216.79 -27701216.68 0.2748 0.0849

Moon -80555-03-15 17:44 J -27701216.86 -27701216.76 -27701216.65 0.2745 0.0755 *

Moon -80552-09-18 15:49 J -27699933.87 -27699933.84 -27699933.80 0.2591 0.2503

Jupiter -80551-07-14 18:42 J -27699634.80 -27699634.72 -27699634.65 0.0536 0.0431

Jupiter -80551-10-12 02:23 J -27699545.53 -27699545.40 -27699545.27 0.0535 0.0017

Jupiter -80550-01-09 10:32 J -27699456.11 -27699456.06 -27699456.00 0.0533 0.0471

Venus -80550-04-11 19:25 J -27699363.79 -27699363.69 -27699363.58 0.3772 0.1104

Mars -80548-03-11 06:28 J -27698664.32 -27698664.23 -27698664.13 0.1812 0.0991

Saturn -80547-02-24 15:20 J -27698313.95 -27698313.86 -27698313.78 0.0276 0.0202

Mars -80547-04-20 12:28 J -27698259.02 -27698258.98 -27698258.95 0.1755 0.1695

Saturn -80547-05-24 02:08 J -27698225.53 -27698225.41 -27698225.29 0.0275 0.0103

Saturn -80547-08-20 13:11 J -27698137.09 -27698136.95 -27698136.82 0.0274 0.0006

Saturn -80547-11-17 00:13 J -27698048.62 -27698048.49 -27698048.37 0.0274 0.0096

Saturn -80546-02-13 11:16 J -27697960.13 -27697960.03 -27697959.94 0.0273 0.0195

Uranus -80546-12-22 23:30 J -27697647.61 -27697647.52 -27697647.40 0.0140 0.0115

Uranus -80545-03-20 07:11 J -27697559.34 -27697559.20 -27697559.05 0.0140 0.0090

Uranus -80545-06-16 14:37 J -27697471.05 -27697470.89 -27697470.72 0.0140 0.0064

Jupiter -80545-09-09 05:01 J -27697386.40 -27697386.29 -27697386.18 0.0491 0.0392

Uranus -80545-09-12 22:04 J -27697382.75 -27697382.58 -27697382.39 0.0140 0.0039

Venus -80545-10-25 14:08 J -27697340.02 -27697339.91 -27697339.80 0.3768 0.0056

Jupiter -80545-12-08 11:44 J -27697296.19 -27697296.01 -27697295.84 0.0493 0.0119

Uranus -80545-12-10 05:30 J -27697294.45 -27697294.27 -27697294.08 0.0140 0.0014

Uranus -80544-03-08 12:56 J -27697206.15 -27697205.96 -27697205.78 0.0140 0.0011

Uranus -80544-06-04 20:08 J -27697117.84 -27697117.66 -27697117.48 0.0140 0.0035

Uranus -80544-09-01 03:06 J -27697029.53 -27697029.37 -27697029.19 0.0139 0.0060

Uranus -80544-11-28 10:18 J -27696941.21 -27696941.07 -27696940.92 0.0139 0.0083

Uranus -80543-02-24 17:16 J -27696852.88 -27696852.78 -27696852.65 0.0139 0.0107

Uranus -80543-05-24 00:28 J -27696764.54 -27696764.48 -27696764.41 0.0139 0.0130

Earth -80542-03-18 11:44 J -27696466.12 -27696466.01 -27696465.90 0.2749 0.0474

Moon -80542-03-18 11:59 J -27696466.11 -27696466.00 -27696465.89 0.2742 0.0469 *

Neptune -80542-12-04 03:06 J -27696205.38 -27696205.37 -27696205.33 0.0089 0.0087

Neptune -80541-03-01 04:47 J -27696117.35 -27696117.30 -27696117.25 0.0089 0.0082

Neptune -80541-05-28 05:59 J -27696029.31 -27696029.25 -27696029.19 0.0089 0.0078

Neptune -80541-08-24 07:11 J -27695941.26 -27695941.20 -27695941.12 0.0089 0.0074

Neptune -80541-11-20 08:37 J -27695853.22 -27695853.14 -27695853.05 0.0089 0.0069

Neptune -80540-02-16 09:49 J -27695765.17 -27695765.09 -27695764.99 0.0089 0.0065

Pluto -80540-05-07 05:44 J -27695685.31 -27695685.26 -27695685.19 0.0085 0.0076

Neptune -80540-05-15 11:01 J -27695677.12 -27695677.04 -27695676.93 0.0089 0.0061

Pluto -80540-08-03 07:11 J -27695597.28 -27695597.20 -27695597.11 0.0084 0.0064

Neptune -80540-08-11 12:42 J -27695589.07 -27695588.97 -27695588.87 0.0089 0.0056

Pluto -80540-10-30 08:23 J -27695509.24 -27695509.15 -27695509.03 0.0084 0.0053

Neptune -80540-11-07 13:54 J -27695501.02 -27695500.92 -27695500.81 0.0089 0.0052

Pluto -80539-01-26 10:04 J -27695421.20 -27695421.08 -27695420.96 0.0084 0.0040

Neptune -80539-02-03 15:20 J -27695412.97 -27695412.86 -27695412.75 0.0089 0.0047

Pluto -80539-04-24 11:16 J -27695333.15 -27695333.03 -27695332.90 0.0084 0.0029

Neptune -80539-05-02 16:32 J -27695324.92 -27695324.81 -27695324.69 0.0089 0.0043

Venus -80539-05-11 08:52 J -27695316.24 -27695316.13 -27695316.02 0.3764 0.1064

Pluto -80539-07-21 12:42 J -27695245.10 -27695244.97 -27695244.84 0.0084 0.0017

Neptune -80539-07-29 17:59 J -27695236.87 -27695236.75 -27695236.63 0.0089 0.0038

Jupiter -80539-07-31 05:59 J -27695235.38 -27695235.25 -27695235.13 0.0535 0.0098

Mars -80539-08-01 15:06 J -27695233.90 -27695233.87 -27695233.83 0.1821 0.1740

Pluto -80539-10-17 14:08 J -27695157.05 -27695156.91 -27695156.78 0.0084 0.0006

Neptune -80539-10-25 19:25 J -27695148.81 -27695148.69 -27695148.57 0.0089 0.0034

Jupiter -80539-10-28 13:54 J -27695146.01 -27695145.92 -27695145.82 0.0533 0.0356

Pluto -80538-01-13 15:20 J -27695068.99 -27695068.86 -27695068.72 0.0084 0.0006

Neptune -80538-01-21 20:37 J -27695060.76 -27695060.64 -27695060.51 0.0089 0.0030

Pluto -80538-04-11 16:47 J -27694980.93 -27694980.80 -27694980.67 0.0084 0.0017

Neptune -80538-04-19 22:04 J -27694972.70 -27694972.58 -27694972.45 0.0089 0.0025

Pluto -80538-07-08 17:59 J -27694892.87 -27694892.75 -27694892.62 0.0083 0.0028

Neptune -80538-07-16 23:30 J -27694884.65 -27694884.52 -27694884.39 0.0089 0.0021

Mars -80538-09-10 12:56 J -27694829.10 -27694828.96 -27694828.81 0.1747 0.0665

Pluto -80538-10-04 19:11 J -27694804.81 -27694804.70 -27694804.58 0.0083 0.0039

Neptune -80538-10-13 00:56 J -27694796.60 -27694796.46 -27694796.33 0.0089 0.0016

Pluto -80538-12-31 20:23 J -27694716.75 -27694716.65 -27694716.54 0.0083 0.0050

Neptune -80537-01-09 02:08 J -27694708.54 -27694708.41 -27694708.28 0.0089 0.0012

Pluto -80537-03-28 21:35 J -27694628.68 -27694628.60 -27694628.50 0.0083 0.0061

Neptune -80537-04-06 03:35 J -27694620.48 -27694620.35 -27694620.22 0.0089 0.0007

Pluto -80537-06-24 22:47 J -27694540.60 -27694540.55 -27694540.47 0.0083 0.0072

Neptune -80537-07-03 05:01 J -27694532.43 -27694532.29 -27694532.16 0.0089 0.0003

Mars -80537-07-07 04:32 J -27694528.39 -27694528.31 -27694528.23 0.1786 0.1313

Pluto -80537-09-21 00:28 J -27694452.50 -27694452.48 -27694452.47 0.0083 0.0082

Neptune -80537-09-29 06:13 J -27694444.37 -27694444.24 -27694444.10 0.0089 0.0003

Neptune -80537-12-26 07:40 J -27694356.31 -27694356.18 -27694356.05 0.0089 0.0006

Neptune -80536-03-24 09:06 J -27694268.26 -27694268.12 -27694267.99 0.0089 0.0011

Neptune -80536-06-20 10:18 J -27694180.20 -27694180.07 -27694179.93 0.0089 0.0016

Neptune -80536-09-16 11:44 J -27694092.14 -27694092.01 -27694091.88 0.0089 0.0020

Neptune -80536-12-13 12:56 J -27694004.08 -27694003.96 -27694003.82 0.0089 0.0025

Neptune -80535-03-11 14:23 J -27693916.02 -27693915.90 -27693915.77 0.0089 0.0029

Venus -80535-05-10 04:47 J -27693856.40 -27693856.30 -27693856.20 0.3604 0.2398

Neptune -80535-06-07 15:49 J -27693827.96 -27693827.84 -27693827.71 0.0089 0.0034

Neptune -80535-09-03 17:16 J -27693739.90 -27693739.78 -27693739.66 0.0089 0.0038

Neptune -80535-11-30 18:28 J -27693651.84 -27693651.73 -27693651.60 0.0089 0.0043

Neptune -80534-02-26 19:54 J -27693563.78 -27693563.67 -27693563.55 0.0089 0.0047

Neptune -80534-05-25 21:20 J -27693475.71 -27693475.61 -27693475.50 0.0089 0.0052

Neptune -80534-08-21 22:47 J -27693387.65 -27693387.55 -27693387.44 0.0089 0.0056

Neptune -80534-11-17 23:59 J -27693299.59 -27693299.50 -27693299.39 0.0089 0.0061

Venus -80534-11-25 03:49 J -27693292.43 -27693292.34 -27693292.24 0.3760 0.2193

Neptune -80533-02-14 01:40 J -27693211.52 -27693211.43 -27693211.34 0.0089 0.0065

Neptune -80533-05-12 02:52 J -27693123.45 -27693123.38 -27693123.29 0.0089 0.0070

Neptune -80533-08-08 04:32 J -27693035.38 -27693035.31 -27693035.24 0.0089 0.0074

Jupiter -80533-09-26 09:35 J -27692986.28 -27692986.10 -27692985.91 0.0492 0.0015

Neptune -80533-11-04 05:44 J -27692947.31 -27692947.26 -27692947.19 0.0089 0.0079

Jupiter -80533-12-25 15:20 J -27692895.86 -27692895.86 -27692895.86 0.0494 0.0494

Neptune -80532-01-31 06:56 J -27692859.24 -27692859.21 -27692859.15 0.0089 0.0084

Neptune -80532-04-29 08:37 J -27692771.15 -27692771.14 -27692771.12 0.0089 0.0088

Moon -80532-09-13 12:13 J -27692634.13 -27692633.99 -27692633.86 0.2585 0.1287

Earth -80532-09-13 13:25 J -27692634.08 -27692633.94 -27692633.79 0.2588 0.1092 *

Saturn -80532-12-10 22:18 J -27692545.69 -27692545.57 -27692545.43 0.0285 0.0201

Saturn -80531-03-09 22:04 J -27692456.76 -27692456.58 -27692456.40 0.0286 0.0042

Saturn -80531-06-06 21:20 J -27692367.77 -27692367.61 -27692367.44 0.0287 0.0116

Saturn -80531-09-03 20:23 J -27692278.70 -27692278.65 -27692278.59 0.0287 0.0273

Venus -80530-11-24 05:16 J -27691832.41 -27691832.28 -27691832.15 0.3607 0.0876

Moon -80529-03-20 05:59 J -27691715.33 -27691715.25 -27691715.17 0.2742 0.1819

Earth -80529-03-20 06:13 J -27691715.32 -27691715.24 -27691715.15 0.2749 0.1801 *

Mars -80528-01-30 13:25 J -27691399.09 -27691398.94 -27691398.78 0.1738 0.0375

Venus -80528-06-09 23:01 J -27691268.58 -27691268.54 -27691268.49 0.3756 0.3347

Mars -80528-11-27 13:11 J -27691098.06 -27691097.95 -27691097.84 0.1795 0.0584

Jupiter -80527-05-19 08:52 J -27690925.25 -27690925.13 -27690925.01 0.0536 0.0221

Jupiter -80527-08-16 16:47 J -27690835.92 -27690835.80 -27690835.68 0.0534 0.0231

Venus -80524-06-09 05:16 J -27689808.41 -27689808.28 -27689808.15 0.3612 0.0594

Earth -80522-03-14 03:35 J -27689165.43 -27689165.35 -27689165.27 0.2748 0.1861

Moon -80522-03-14 04:18 J -27689165.40 -27689165.32 -27689165.24 0.2748 0.1824 *

Jupiter -80521-07-15 07:40 J -27688676.35 -27688676.18 -27688676.00 0.0492 0.0135

Jupiter -80521-10-13 13:40 J -27688586.04 -27688585.93 -27688585.81 0.0493 0.0371

Mars -80519-06-22 13:40 J -27687969.02 -27687968.93 -27687968.84 0.1729 0.1416

Moon -80519-09-16 17:01 J -27687882.94 -27687882.79 -27687882.65 0.2589 0.0864

Earth -80519-09-16 18:42 J -27687882.87 -27687882.72 -27687882.58 0.2588 0.1039 *

Venus -80519-12-24 04:47 J -27687784.41 -27687784.30 -27687784.19 0.3615 0.2001

Mars -80518-04-19 21:49 J -27687667.71 -27687667.59 -27687667.47 0.1804 0.0157

Saturn -80518-07-14 19:11 J -27687581.78 -27687581.70 -27687581.62 0.0276 0.0218

Saturn -80518-10-11 05:59 J -27687493.37 -27687493.25 -27687493.13 0.0275 0.0119

Saturn -80517-01-07 17:01 J -27687404.92 -27687404.79 -27687404.66 0.0274 0.0020

Saturn -80517-04-05 04:04 J -27687316.46 -27687316.33 -27687316.21 0.0274 0.0080

Saturn -80517-07-02 14:52 J -27687227.97 -27687227.88 -27687227.77 0.0273 0.0179

Jupiter -80515-03-07 12:28 J -27686615.08 -27686614.98 -27686614.88 0.0536 0.0334

Jupiter -80515-06-04 20:23 J -27686525.78 -27686525.65 -27686525.53 0.0535 0.0117

Venus -80513-07-09 04:04 J -27685760.38 -27685760.33 -27685760.29 0.3620 0.3337

Earth -80509-03-15 22:04 J -27684414.69 -27684414.58 -27684414.47 0.2748 0.0571

Moon -80509-03-15 22:47 J -27684414.66 -27684414.55 -27684414.44 0.2745 0.0481 *

Jupiter -80509-05-03 05:16 J -27684366.43 -27684366.28 -27684366.13 0.0491 0.0265

Jupiter -80509-08-01 11:30 J -27684276.18 -27684276.02 -27684275.86 0.0492 0.0242

Mars -80509-09-09 06:28 J -27684237.33 -27684237.23 -27684237.12 0.1813 0.0900

Venus -80505-10-17 05:01 J -27682738.36 -27682738.29 -27682738.22 0.3778 0.2838

Jupiter -80504-12-24 16:32 J -27682304.88 -27682304.81 -27682304.74 0.0537 0.0443

Jupiter -80503-03-24 00:13 J -27682215.62 -27682215.49 -27682215.36 0.0535 0.0013

Jupiter -80503-06-21 08:23 J -27682126.21 -27682126.15 -27682126.08 0.0534 0.0461

Saturn -80502-04-29 21:35 J -27681813.69 -27681813.60 -27681813.50 0.0285 0.0242

Saturn -80502-07-27 21:06 J -27681724.79 -27681724.62 -27681724.44 0.0286 0.0084

Saturn -80502-10-24 20:37 J -27681635.81 -27681635.64 -27681635.46 0.0287 0.0074

Saturn -80501-01-21 19:40 J -27681546.78 -27681546.68 -27681546.57 0.0287 0.0232

Uranus -80501-05-23 16:47 J -27681423.84 -27681423.80 -27681423.74 0.0138 0.0127

Uranus -80501-08-19 20:23 J -27681335.73 -27681335.65 -27681335.57 0.0138 0.0110

Uranus -80501-11-15 23:44 J -27681247.60 -27681247.51 -27681247.41 0.0138 0.0093

Uranus -80500-02-12 03:06 J -27681159.48 -27681159.37 -27681159.25 0.0138 0.0077

Uranus -80500-05-11 06:42 J -27681071.34 -27681071.22 -27681071.10 0.0138 0.0059

Uranus -80500-08-07 10:04 J -27680983.21 -27680983.08 -27680982.95 0.0139 0.0042

Uranus -80500-11-03 13:40 J -27680895.07 -27680894.93 -27680894.80 0.0139 0.0025

Uranus -80499-01-30 17:01 J -27680806.92 -27680806.79 -27680806.65 0.0139 0.0009

Mars -80499-01-30 15:20 J -27680806.91 -27680806.86 -27680806.81 0.1821 0.1642 *

Uranus -80499-04-28 20:37 J -27680718.77 -27680718.64 -27680718.50 0.0139 0.0010

Venus -80499-05-02 23:16 J -27680714.62 -27680714.53 -27680714.43 0.3775 0.1820

Uranus -80499-07-26 00:13 J -27680630.62 -27680630.49 -27680630.36 0.0139 0.0028

Uranus -80499-10-22 03:35 J -27680542.47 -27680542.35 -27680542.21 0.0139 0.0047

Uranus -80498-01-18 07:25 J -27680454.31 -27680454.19 -27680454.07 0.0139 0.0064

Mars -80498-03-11 13:40 J -27680402.07 -27680401.93 -27680401.79 0.1746 0.0794

Uranus -80498-04-16 11:01 J -27680366.15 -27680366.04 -27680365.93 0.0140 0.0082

Uranus -80498-07-13 14:23 J -27680277.98 -27680277.90 -27680277.79 0.0140 0.0101

Uranus -80498-10-09 18:13 J -27680189.80 -27680189.74 -27680189.66 0.0140 0.0119

Uranus -80497-01-05 22:04 J -27680101.60 -27680101.58 -27680101.55 0.0140 0.0137

Mars -80497-01-06 04:32 J -27680101.38 -27680101.31 -27680101.24 0.1787 0.1408

Jupiter -80497-02-20 02:52 J -27680056.48 -27680056.38 -27680056.27 0.0491 0.0394

Jupiter -80497-05-20 09:35 J -27679966.28 -27679966.10 -27679965.93 0.0492 0.0116

Moon -80496-03-18 16:47 J -27679663.91 -27679663.80 -27679663.70 0.2741 0.0769

Earth -80496-03-18 16:32 J -27679663.91 -27679663.81 -27679663.70 0.2749 0.0744 *

Venus -80494-11-16 17:44 J -27678690.87 -27678690.76 -27678690.65 0.3771 0.0774

Jupiter -80491-01-10 04:04 J -27677905.45 -27677905.33 -27677905.20 0.0535 0.0104

Jupiter -80491-04-09 12:13 J -27677816.09 -27677815.99 -27677815.89 0.0534 0.0350

Mars -80489-07-31 13:54 J -27676972.08 -27676971.92 -27676971.76 0.1738 0.0258

Saturn -80489-11-30 21:20 J -27676849.66 -27676849.61 -27676849.55 0.0276 0.0248

Saturn -80488-02-27 08:23 J -27676761.26 -27676761.15 -27676761.04 0.0275 0.0149

Saturn -80488-05-26 19:11 J -27676672.83 -27676672.70 -27676672.57 0.0275 0.0050

Mars -80488-05-28 13:25 J -27676671.05 -27676670.94 -27676670.83 0.1795 0.0685

Venus -80488-06-01 12:28 J -27676667.09 -27676666.98 -27676666.87 0.3767 0.0313

Saturn -80488-08-23 06:13 J -27676584.37 -27676584.24 -27676584.11 0.0274 0.0049

Saturn -80488-11-19 17:16 J -27676495.89 -27676495.78 -27676495.67 0.0273 0.0149

Saturn -80487-02-16 04:18 J -27676407.37 -27676407.32 -27676407.27 0.0273 0.0248

Moon -80486-09-14 18:28 J -27675831.88 -27675831.73 -27675831.58 0.2587 0.0729

Earth -80486-09-14 19:54 J -27675831.82 -27675831.67 -27675831.52 0.2588 0.0653 *

Jupiter -80485-03-08 06:56 J -27675656.39 -27675656.21 -27675656.03 0.0492 0.0017

Jupiter -80485-06-06 12:28 J -27675566.00 -27675565.98 -27675565.94 0.0494 0.0487

Venus -80484-05-31 03:49 J -27675207.37 -27675207.34 -27675207.31 0.3601 0.3502

Moon -80483-03-21 10:47 J -27674913.12 -27674913.05 -27674912.97 0.2743 0.1975

Earth -80483-03-21 11:16 J -27674913.10 -27674913.03 -27674912.96 0.2749 0.2073 *

Venus -80483-12-16 07:11 J -27674643.30 -27674643.20 -27674643.09 0.3764 0.1413

Jupiter -80480-10-29 07:40 J -27673595.29 -27673595.18 -27673595.06 0.0536 0.0217

Mars -80480-12-21 14:23 J -27673542.00 -27673541.90 -27673541.79 0.1729 0.1277

Jupiter -80479-01-26 15:35 J -27673505.96 -27673505.85 -27673505.73 0.0534 0.0236

Mars -80479-10-18 21:49 J -27673240.71 -27673240.59 -27673240.47 0.1804 0.0076

Venus -80479-12-15 04:32 J -27673183.42 -27673183.31 -27673183.19 0.3605 0.1933

Venus -80477-07-01 02:23 J -27672619.48 -27672619.40 -27672619.32 0.3759 0.2551

Earth -80476-03-14 08:37 J -27672363.23 -27672363.14 -27672363.06 0.2748 0.1602

Moon -80476-03-14 09:20 J -27672363.21 -27672363.11 -27672363.02 0.2747 0.1441 *

Jupiter -80474-12-26 05:01 J -27671346.46 -27671346.29 -27671346.11 0.0492 0.0143

Jupiter -80473-03-25 11:01 J -27671256.16 -27671256.04 -27671255.92 0.0493 0.0363

Venus -80473-06-30 05:01 J -27671159.43 -27671159.29 -27671159.16 0.3609 0.0425

Saturn -80473-09-15 21:20 J -27671081.64 -27671081.61 -27671081.57 0.0285 0.0278

Moon -80473-09-16 23:30 J -27671080.65 -27671080.52 -27671080.39 0.2589 0.1309

Earth -80473-09-17 00:56 J -27671080.59 -27671080.46 -27671080.33 0.2588 0.1467 *

Saturn -80473-12-13 21:06 J -27670992.78 -27670992.62 -27670992.45 0.0286 0.0119

Saturn -80472-03-12 20:37 J -27670903.82 -27670903.64 -27670903.46 0.0286 0.0040

Saturn -80472-06-09 19:54 J -27670814.80 -27670814.67 -27670814.54 0.0287 0.0197

Venus -80471-01-14 21:35 J -27670595.61 -27670595.60 -27670595.59 0.3755 0.3714

Mars -80469-03-10 06:42 J -27669810.33 -27669810.22 -27669810.12 0.1812 0.0805

Jupiter -80468-08-17 10:32 J -27669285.15 -27669285.06 -27669284.96 0.0536 0.0340

Jupiter -80468-11-14 18:28 J -27669195.86 -27669195.73 -27669195.60 0.0535 0.0110

Venus -80467-01-14 05:01 J -27669135.42 -27669135.29 -27669135.17 0.3613 0.1042

Earth -80463-03-17 03:06 J -27667612.48 -27667612.37 -27667612.27 0.2748 0.0318

Moon -80463-03-17 03:35 J -27667612.46 -27667612.35 -27667612.24 0.2744 0.0255 *

Venus -80462-07-31 04:18 J -27667111.42 -27667111.32 -27667111.22 0.3617 0.2418

Jupiter -80462-10-14 03:06 J -27667036.52 -27667036.37 -27667036.21 0.0491 0.0268

Uranus -80462-10-15 22:04 J -27667034.59 -27667034.58 -27667034.53 0.0141 0.0139

Uranus -80461-01-12 05:59 J -27666946.36 -27666946.25 -27666946.13 0.0140 0.0113

Jupiter -80461-01-12 09:20 J -27666946.26 -27666946.11 -27666945.95 0.0493 0.0241 *

Uranus -80461-04-09 13:25 J -27666858.08 -27666857.94 -27666857.78 0.0140 0.0087

Uranus -80461-07-06 21:06 J -27666769.79 -27666769.62 -27666769.45 0.0140 0.0062

Uranus -80461-10-03 04:32 J -27666681.49 -27666681.31 -27666681.13 0.0140 0.0036

Uranus -80461-12-30 11:59 J -27666593.19 -27666593.00 -27666592.81 0.0140 0.0011

Uranus -80460-03-28 19:11 J -27666504.88 -27666504.70 -27666504.51 0.0140 0.0014

Uranus -80460-06-25 02:37 J -27666416.57 -27666416.39 -27666416.21 0.0140 0.0038

Mars -80460-07-31 15:20 J -27666379.92 -27666379.86 -27666379.80 0.1821 0.1556

Uranus -80460-09-21 09:35 J -27666328.26 -27666328.10 -27666327.93 0.0139 0.0062

Uranus -80460-12-18 16:32 J -27666239.94 -27666239.81 -27666239.65 0.0139 0.0087

Uranus -80459-03-16 23:59 J -27666151.61 -27666151.50 -27666151.39 0.0139 0.0110

Saturn -80459-04-20 01:11 J -27666117.48 -27666117.45 -27666117.41 0.0276 0.0265

Uranus -80459-06-13 06:42 J -27666063.26 -27666063.22 -27666063.16 0.0139 0.0133

Saturn -80459-07-17 11:59 J -27666029.10 -27666029.00 -27666028.89 0.0275 0.0166

Mars -80459-09-09 14:08 J -27665975.04 -27665974.91 -27665974.77 0.1747 0.0925

Saturn -80459-10-13 23:01 J -27665940.67 -27665940.54 -27665940.41 0.0275 0.0067

Saturn -80458-01-10 10:04 J -27665852.22 -27665852.08 -27665851.95 0.0274 0.0033

Saturn -80458-04-08 20:52 J -27665763.74 -27665763.63 -27665763.51 0.0273 0.0132

Neptune -80458-05-22 11:01 J -27665720.08 -27665720.04 -27665719.94 0.0089 0.0083

Saturn -80458-07-06 08:08 J -27665675.23 -27665675.16 -27665675.09 0.0273 0.0231

Mars -80458-07-07 04:32 J -27665674.37 -27665674.31 -27665674.24 0.1786 0.1507

Neptune -80458-08-18 14:52 J -27665631.96 -27665631.88 -27665631.76 0.0089 0.0076

Neptune -80458-11-14 18:28 J -27665543.83 -27665543.73 -27665543.59 0.0089 0.0070

Neptune -80457-02-10 22:18 J -27665455.70 -27665455.57 -27665455.42 0.0089 0.0063

Neptune -80457-05-09 01:40 J -27665367.56 -27665367.43 -27665367.26 0.0089 0.0057

Neptune -80457-08-05 05:30 J -27665279.42 -27665279.27 -27665279.10 0.0089 0.0050

Neptune -80457-11-01 09:06 J -27665191.28 -27665191.12 -27665190.94 0.0089 0.0044

Neptune -80456-01-28 12:42 J -27665103.14 -27665102.97 -27665102.78 0.0089 0.0037

Neptune -80456-04-26 16:18 J -27665014.99 -27665014.82 -27665014.63 0.0089 0.0031

Jupiter -80456-06-05 14:23 J -27664974.97 -27664974.90 -27664974.84 0.0537 0.0453

Neptune -80456-07-23 20:08 J -27664926.85 -27664926.66 -27664926.48 0.0089 0.0024

Jupiter -80456-09-02 22:04 J -27664885.71 -27664885.58 -27664885.45 0.0535 0.0013

Neptune -80456-10-19 23:30 J -27664838.70 -27664838.52 -27664838.32 0.0089 0.0018

Jupiter -80456-12-01 06:13 J -27664796.31 -27664796.24 -27664796.17 0.0533 0.0449

Neptune -80455-01-16 03:06 J -27664750.56 -27664750.37 -27664750.17 0.0089 0.0011

Neptune -80455-04-14 06:42 J -27664662.41 -27664662.22 -27664662.02 0.0089 0.0005

Neptune -80455-07-11 10:18 J -27664574.26 -27664574.07 -27664573.88 0.0089 0.0002

Neptune -80455-10-07 13:40 J -27664486.11 -27664485.93 -27664485.73 0.0089 0.0009

Neptune -80454-01-03 17:16 J -27664397.96 -27664397.78 -27664397.58 0.0089 0.0015

Neptune -80454-04-01 20:52 J -27664309.82 -27664309.63 -27664309.44 0.0089 0.0021

Neptune -80454-06-29 00:13 J -27664221.66 -27664221.49 -27664221.30 0.0089 0.0028

Neptune -80454-09-25 03:49 J -27664133.51 -27664133.34 -27664133.16 0.0089 0.0034

Venus -80454-11-08 09:06 J -27664089.16 -27664089.12 -27664089.08 0.3780 0.3528

Neptune -80454-12-22 07:25 J -27664045.36 -27664045.19 -27664045.02 0.0089 0.0040

Neptune -80453-03-19 10:32 J -27663957.21 -27663957.06 -27663956.88 0.0089 0.0047

Neptune -80453-06-15 14:08 J -27663869.05 -27663868.91 -27663868.75 0.0089 0.0053

Neptune -80453-09-11 17:44 J -27663780.90 -27663780.76 -27663780.61 0.0089 0.0059

Moon -80453-09-11 19:54 J -27663780.72 -27663780.67 -27663780.61 0.2584 0.2387 *

Earth -80453-09-11 21:06 J -27663780.68 -27663780.62 -27663780.57 0.2588 0.2387 *

Neptune -80453-12-08 20:52 J -27663692.74 -27663692.63 -27663692.48 0.0089 0.0066

Neptune -80452-03-07 00:28 J -27663604.58 -27663604.48 -27663604.35 0.0089 0.0072

Neptune -80452-06-03 03:49 J -27663516.41 -27663516.34 -27663516.23 0.0089 0.0078

Neptune -80452-08-30 07:25 J -27663428.24 -27663428.19 -27663428.12 0.0089 0.0084

Moon -80450-03-19 21:35 J -27662861.70 -27662861.60 -27662861.50 0.2741 0.1020

Earth -80450-03-19 21:35 J -27662861.70 -27662861.60 -27662861.50 0.2749 0.1019 *

Jupiter -80450-08-02 00:28 J -27662726.58 -27662726.48 -27662726.37 0.0491 0.0399

Jupiter -80450-10-31 07:11 J -27662636.38 -27662636.20 -27662636.02 0.0492 0.0111

Mars -80449-01-30 14:37 J -27662545.05 -27662544.89 -27662544.73 0.1738 0.0113

Mars -80449-11-26 13:11 J -27662244.06 -27662243.95 -27662243.84 0.1795 0.0770

Venus -80448-05-24 03:20 J -27662065.44 -27662065.36 -27662065.28 0.3777 0.2533

Jupiter -80444-06-22 01:54 J -27660575.55 -27660575.42 -27660575.30 0.0536 0.0115

Jupiter -80444-09-19 10:04 J -27660486.18 -27660486.08 -27660485.98 0.0534 0.0339

Earth -80443-03-12 18:56 J -27660311.74 -27660311.71 -27660311.68 0.2747 0.2615

Moon -80443-03-12 19:40 J -27660311.73 -27660311.68 -27660311.64 0.2751 0.2493 *

Saturn -80443-05-02 20:08 J -27660260.81 -27660260.66 -27660260.50 0.0286 0.0161

Saturn -80443-07-30 19:54 J -27660171.86 -27660171.67 -27660171.49 0.0286 0.0004

Saturn -80443-10-27 19:11 J -27660082.85 -27660082.70 -27660082.55 0.0287 0.0156

Venus -80443-12-07 21:35 J -27660041.70 -27660041.60 -27660041.50 0.3774 0.1503

Mars -80440-06-21 14:37 J -27659115.00 -27659114.89 -27659114.77 0.1729 0.1162

Moon -80440-09-15 00:42 J -27659029.62 -27659029.47 -27659029.32 0.2587 0.0483

Earth -80440-09-15 02:23 J -27659029.56 -27659029.40 -27659029.25 0.2588 0.0221 *

Mars -80439-04-18 22:04 J -27658813.70 -27658813.58 -27658813.46 0.1804 0.0061

Jupiter -80438-08-19 05:01 J -27658326.47 -27658326.29 -27658326.10 0.0492 0.0020

Jupiter -80438-11-17 10:32 J -27658236.08 -27658236.06 -27658236.02 0.0493 0.0486

Moon -80437-03-21 15:35 J -27658110.91 -27658110.85 -27658110.79 0.2744 0.2297

Earth -80437-03-21 16:04 J -27658110.88 -27658110.83 -27658110.77 0.2749 0.2351 *

Venus -80437-06-22 16:04 J -27658017.94 -27658017.83 -27658017.72 0.3770 0.0443

Jupiter -80432-04-10 05:59 J -27656265.37 -27656265.25 -27656265.13 0.0536 0.0222

Jupiter -80432-07-08 13:54 J -27656176.04 -27656175.92 -27656175.80 0.0534 0.0230

Venus -80431-01-06 10:47 J -27655994.17 -27655994.05 -27655993.94 0.3766 0.0656

Earth -80430-03-15 13:25 J -27655561.04 -27655560.94 -27655560.84 0.2748 0.1330

Moon -80430-03-15 14:08 J -27655561.00 -27655560.91 -27655560.81 0.2747 0.1304 *

Mars -80430-09-09 06:42 J -27655383.33 -27655383.22 -27655383.11 0.1812 0.0707

Saturn -80430-12-04 14:23 J -27655296.99 -27655296.90 -27655296.81 0.0275 0.0197

Saturn -80429-03-02 01:11 J -27655208.57 -27655208.45 -27655208.32 0.0275 0.0098

Saturn -80429-05-29 12:13 J -27655120.13 -27655119.99 -27655119.86 0.0274 0.0007

Saturn -80429-08-25 23:01 J -27655031.66 -27655031.54 -27655031.41 0.0273 0.0101

Saturn -80429-11-22 10:04 J -27654943.17 -27654943.08 -27654942.99 0.0273 0.0200

Venus -80427-01-05 03:49 J -27654534.41 -27654534.34 -27654534.27 0.3602 0.3025

Moon -80427-09-18 05:59 J -27654278.36 -27654278.25 -27654278.14 0.2591 0.1807

Earth -80427-09-18 07:25 J -27654278.30 -27654278.19 -27654278.09 0.2588 0.1892 *

Jupiter -80426-06-07 02:23 J -27654016.57 -27654016.40 -27654016.22 0.0492 0.0150

Venus -80426-07-23 05:30 J -27653970.36 -27653970.27 -27653970.17 0.3762 0.1773

Jupiter -80426-09-05 08:23 J -27653926.27 -27653926.15 -27653926.02 0.0493 0.0357

Venus -80422-07-22 04:32 J -27652510.44 -27652510.31 -27652510.19 0.3606 0.1475

Jupiter -80420-01-27 09:35 J -27651955.19 -27651955.10 -27651954.99 0.0536 0.0335

Mars -80420-01-29 15:20 J -27651952.93 -27651952.86 -27651952.79 0.1821 0.1463

Venus -80420-02-05 00:42 J -27651946.54 -27651946.47 -27651946.40 0.3758 0.2911

Jupiter -80420-04-26 17:30 J -27651865.90 -27651865.77 -27651865.64 0.0535 0.0116

Mars -80419-03-10 14:52 J -27651548.01 -27651547.88 -27651547.76 0.1747 0.1058

Mars -80418-01-05 04:47 J -27651247.36 -27651247.30 -27651247.25 0.1786 0.1598

Earth -80417-03-17 07:54 J -27650810.28 -27650810.17 -27650810.06 0.2748 0.0034

Moon -80417-03-17 08:23 J -27650810.26 -27650810.15 -27650810.04 0.2742 0.0109 *

Uranus -80417-06-12 23:44 J -27650722.56 -27650722.51 -27650722.45 0.0138 0.0125

Uranus -80417-09-09 03:06 J -27650634.45 -27650634.37 -27650634.28 0.0138 0.0108

Uranus -80417-12-06 06:28 J -27650546.32 -27650546.23 -27650546.12 0.0138 0.0092

Venus -80416-02-04 04:47 J -27650486.44 -27650486.30 -27650486.17 0.3610 0.0071

Uranus -80416-03-04 10:04 J -27650458.20 -27650458.08 -27650457.97 0.0138 0.0075

Uranus -80416-05-31 13:25 J -27650370.06 -27650369.94 -27650369.82 0.0138 0.0057

Uranus -80416-08-27 16:47 J -27650281.92 -27650281.80 -27650281.67 0.0139 0.0041

Uranus -80416-11-23 20:23 J -27650193.78 -27650193.65 -27650193.52 0.0139 0.0023

Uranus -80415-02-19 23:44 J -27650105.64 -27650105.51 -27650105.37 0.0139 0.0007

Uranus -80415-05-19 03:20 J -27650017.49 -27650017.36 -27650017.22 0.0139 0.0012

Uranus -80415-08-15 06:56 J -27649929.34 -27649929.21 -27649929.08 0.0139 0.0030

Uranus -80415-11-11 10:32 J -27649841.19 -27649841.06 -27649840.93 0.0139 0.0048

Uranus -80414-02-07 14:08 J -27649753.03 -27649752.91 -27649752.79 0.0139 0.0066

Jupiter -80414-03-26 00:28 J -27649706.63 -27649706.48 -27649706.32 0.0491 0.0275

Uranus -80414-05-06 17:44 J -27649664.87 -27649664.76 -27649664.65 0.0140 0.0084

Jupiter -80414-06-24 06:56 J -27649616.37 -27649616.21 -27649616.05 0.0493 0.0234

Uranus -80414-08-02 21:20 J -27649576.70 -27649576.61 -27649576.51 0.0140 0.0102

Saturn -80414-09-19 19:11 J -27649528.82 -27649528.70 -27649528.56 0.0285 0.0202

Uranus -80414-10-30 00:56 J -27649488.52 -27649488.46 -27649488.39 0.0140 0.0121

Saturn -80414-12-17 18:56 J -27649439.89 -27649439.71 -27649439.53 0.0286 0.0043

Uranus -80413-01-26 04:32 J -27649400.31 -27649400.31 -27649400.29 0.0140 0.0139

Saturn -80413-03-15 18:28 J -27649350.90 -27649350.73 -27649350.57 0.0287 0.0116

Saturn -80413-06-12 17:30 J -27649261.82 -27649261.77 -27649261.71 0.0287 0.0273

Venus -80411-08-21 04:32 J -27648462.43 -27648462.31 -27648462.19 0.3614 0.1469

Mars -80410-07-31 15:06 J -27648118.03 -27648117.87 -27648117.71 0.1738 0.0015

Mars -80409-05-27 13:25 J -27647817.05 -27647816.94 -27647816.84 0.1795 0.0869

Jupiter -80409-11-15 12:42 J -27647645.04 -27647644.97 -27647644.91 0.0537 0.0456

Jupiter -80408-02-12 20:23 J -27647555.78 -27647555.65 -27647555.52 0.0535 0.0013

Jupiter -80408-05-13 04:32 J -27647466.38 -27647466.31 -27647466.24 0.0533 0.0445

Moon -80407-09-13 02:08 J -27646978.50 -27646978.41 -27646978.32 0.2585 0.2148

Earth -80407-09-13 03:20 J -27646978.46 -27646978.36 -27646978.25 0.2589 0.1945 *

Venus -80405-03-06 03:49 J -27646438.42 -27646438.34 -27646438.26 0.3618 0.2843

Moon -80404-03-20 02:23 J -27646059.50 -27646059.40 -27646059.30 0.2741 0.1270

Earth -80404-03-20 02:23 J -27646059.49 -27646059.40 -27646059.30 0.2749 0.1293 *

Jupiter -80402-01-11 22:47 J -27645396.66 -27645396.55 -27645396.45 0.0491 0.0399

Jupiter -80402-04-12 05:16 J -27645306.45 -27645306.28 -27645306.10 0.0492 0.0112

Mars -80401-12-20 15:35 J -27644687.98 -27644687.85 -27644687.72 0.1730 0.1017

Saturn -80400-04-22 17:59 J -27644564.83 -27644564.75 -27644564.66 0.0276 0.0215

Saturn -80400-07-20 05:01 J -27644476.41 -27644476.29 -27644476.17 0.0275 0.0116

Saturn -80400-10-16 15:49 J -27644387.97 -27644387.84 -27644387.71 0.0274 0.0017

Mars -80400-10-17 22:04 J -27644386.70 -27644386.58 -27644386.46 0.1803 0.0131

Saturn -80399-01-13 02:52 J -27644299.51 -27644299.38 -27644299.25 0.0273 0.0083

Saturn -80399-04-11 13:54 J -27644211.02 -27644210.92 -27644210.82 0.0273 0.0182

Earth -80397-03-12 23:59 J -27643509.56 -27643509.50 -27643509.45 0.2747 0.2349

Moon -80397-03-13 00:28 J -27643509.53 -27643509.48 -27643509.42 0.2750 0.2320 *

Venus -80397-06-14 07:11 J -27643416.25 -27643416.20 -27643416.14 0.3780 0.3229

Jupiter -80397-12-01 23:44 J -27643245.63 -27643245.51 -27643245.38 0.0536 0.0125

Jupiter -80396-03-01 07:54 J -27643156.27 -27643156.17 -27643156.07 0.0534 0.0330

Moon -80394-09-16 07:11 J -27642227.36 -27642227.20 -27642227.05 0.2587 0.0160

Earth -80394-09-16 08:52 J -27642227.29 -27642227.13 -27642226.98 0.2588 0.0227 *

Venus -80392-12-29 01:25 J -27641392.53 -27641392.44 -27641392.35 0.3776 0.2225

Moon -80391-03-22 20:23 J -27641308.68 -27641308.65 -27641308.61 0.2745 0.2539

Earth -80391-03-22 21:06 J -27641308.65 -27641308.62 -27641308.59 0.2749 0.2630 *

Jupiter -80390-01-29 03:06 J -27640996.55 -27640996.37 -27640996.19 0.0492 0.0019

Mars -80390-03-10 06:42 J -27640956.33 -27640956.22 -27640956.11 0.1812 0.0620

Jupiter -80390-04-29 08:37 J -27640906.17 -27640906.14 -27640906.10 0.0493 0.0483

Pluto -80387-05-22 22:18 J -27639786.60 -27639786.57 -27639786.48 0.0060 0.0058

Pluto -80387-08-18 23:44 J -27639698.58 -27639698.51 -27639698.39 0.0060 0.0052

Pluto -80387-11-15 01:11 J -27639610.55 -27639610.45 -27639610.30 0.0060 0.0046

Pluto -80386-02-11 02:37 J -27639522.52 -27639522.39 -27639522.23 0.0060 0.0040

Pluto -80386-05-10 04:04 J -27639434.47 -27639434.33 -27639434.16 0.0060 0.0034

Venus -80386-07-14 19:40 J -27639368.78 -27639368.68 -27639368.57 0.3773 0.1183

Pluto -80386-08-06 05:30 J -27639346.43 -27639346.27 -27639346.09 0.0061 0.0028

Pluto -80386-11-02 06:56 J -27639258.38 -27639258.21 -27639258.02 0.0061 0.0022

Pluto -80385-01-29 08:23 J -27639170.33 -27639170.15 -27639169.96 0.0061 0.0016

Pluto -80385-04-26 09:49 J -27639082.27 -27639082.09 -27639081.90 0.0061 0.0010

Pluto -80385-07-23 11:16 J -27638994.22 -27638994.03 -27638993.83 0.0061 0.0004

Jupiter -80385-09-20 03:49 J -27638935.46 -27638935.34 -27638935.23 0.0536 0.0233

Pluto -80385-10-19 12:42 J -27638906.16 -27638905.97 -27638905.78 0.0061 0.0003

Jupiter -80385-12-18 11:44 J -27638846.13 -27638846.01 -27638845.89 0.0535 0.0219

Pluto -80384-01-15 14:08 J -27638818.10 -27638817.91 -27638817.72 0.0061 0.0009

Saturn -80384-02-05 18:13 J -27638796.83 -27638796.74 -27638796.64 0.0285 0.0244

Earth -80384-03-15 18:13 J -27638758.84 -27638758.74 -27638758.64 0.2748 0.1069

Moon -80384-03-15 18:56 J -27638758.81 -27638758.71 -27638758.60 0.2747 0.0911 *

Pluto -80384-04-13 15:20 J -27638730.03 -27638729.86 -27638729.66 0.0061 0.0015

Saturn -80384-05-05 17:59 J -27638707.92 -27638707.75 -27638707.57 0.0286 0.0085

Pluto -80384-07-10 16:47 J -27638641.97 -27638641.80 -27638641.61 0.0061 0.0022

Saturn -80384-08-02 17:30 J -27638618.95 -27638618.77 -27638618.59 0.0287 0.0074

Pluto -80384-10-06 18:28 J -27638553.90 -27638553.73 -27638553.56 0.0061 0.0028

Saturn -80384-10-30 16:47 J -27638529.91 -27638529.80 -27638529.70 0.0287 0.0232

Pluto -80383-01-02 19:25 J -27638465.83 -27638465.69 -27638465.51 0.0061 0.0034

Pluto -80383-03-31 20:52 J -27638377.75 -27638377.63 -27638377.46 0.0061 0.0041

Pluto -80383-06-27 22:32 J -27638289.67 -27638289.56 -27638289.42 0.0061 0.0047

Pluto -80383-09-24 00:13 J -27638201.58 -27638201.49 -27638201.39 0.0061 0.0053

Pluto -80383-12-21 01:11 J -27638113.47 -27638113.45 -27638113.38 0.0061 0.0060

Mars -80381-07-30 15:20 J -27637525.93 -27637525.86 -27637525.78 0.1821 0.1364

Moon -80381-09-18 12:28 J -27637476.06 -27637475.98 -27637475.89 0.2592 0.2128

Earth -80381-09-18 13:40 J -27637476.00 -27637475.93 -27637475.86 0.2588 0.2311 *

Venus -80380-01-27 14:08 J -27637345.02 -27637344.91 -27637344.79 0.3769 0.0178

Mars -80380-09-08 15:06 J -27637120.98 -27637120.87 -27637120.75 0.1747 0.1184

Mars -80379-07-06 04:47 J -27636820.34 -27636820.30 -27636820.27 0.1786 0.1694

Jupiter -80379-11-17 00:56 J -27636686.63 -27636686.46 -27636686.28 0.0491 0.0146

Jupiter -80378-02-15 06:56 J -27636596.33 -27636596.21 -27636596.09 0.0493 0.0359

Uranus -80378-11-05 04:32 J -27636333.34 -27636333.31 -27636333.25 0.0141 0.0136

Uranus -80377-02-01 11:59 J -27636245.10 -27636245.00 -27636244.87 0.0140 0.0111

Uranus -80377-04-29 19:54 J -27636156.81 -27636156.67 -27636156.52 0.0140 0.0084

Uranus -80377-07-27 03:20 J -27636068.52 -27636068.36 -27636068.18 0.0140 0.0059

Neptune -80377-08-30 03:06 J -27636034.39 -27636034.37 -27636034.32 0.0089 0.0085

Uranus -80377-10-23 10:47 J -27635980.22 -27635980.05 -27635979.86 0.0140 0.0034

Neptune -80377-11-26 04:47 J -27635946.36 -27635946.30 -27635946.25 0.0089 0.0080

Uranus -80376-01-19 18:13 J -27635891.92 -27635891.74 -27635891.55 0.0140 0.0010

Neptune -80376-02-22 05:59 J -27635858.31 -27635858.25 -27635858.18 0.0089 0.0076

Uranus -80376-04-18 01:40 J -27635803.61 -27635803.43 -27635803.24 0.0140 0.0016

Neptune -80376-05-21 07:11 J -27635770.27 -27635770.20 -27635770.12 0.0089 0.0072

Uranus -80376-07-15 08:52 J -27635715.30 -27635715.13 -27635714.95 0.0140 0.0040

Neptune -80376-08-17 08:37 J -27635682.22 -27635682.14 -27635682.05 0.0089 0.0067

Uranus -80376-10-11 16:04 J -27635626.99 -27635626.83 -27635626.66 0.0139 0.0065

Neptune -80376-11-13 09:49 J -27635594.17 -27635594.09 -27635593.99 0.0089 0.0063

Uranus -80375-01-07 23:16 J -27635538.67 -27635538.53 -27635538.39 0.0139 0.0089

Neptune -80375-02-09 11:01 J -27635506.13 -27635506.04 -27635505.93 0.0089 0.0059

Uranus -80375-04-06 06:13 J -27635450.34 -27635450.24 -27635450.13 0.0139 0.0112

Neptune -80375-05-08 12:42 J -27635418.08 -27635417.97 -27635417.87 0.0089 0.0054

Uranus -80375-07-03 12:56 J -27635361.98 -27635361.96 -27635361.90 0.0139 0.0136

Neptune -80375-08-04 13:54 J -27635330.02 -27635329.92 -27635329.81 0.0089 0.0050

Venus -80375-08-13 09:06 J -27635321.23 -27635321.12 -27635321.02 0.3765 0.0997

Neptune -80375-10-31 15:20 J -27635241.97 -27635241.86 -27635241.75 0.0089 0.0045

Neptune -80374-01-27 16:32 J -27635153.92 -27635153.81 -27635153.69 0.0089 0.0041

Neptune -80374-04-25 17:44 J -27635065.87 -27635065.76 -27635065.63 0.0089 0.0037

Neptune -80374-07-22 19:25 J -27634977.81 -27634977.69 -27634977.57 0.0089 0.0032

Neptune -80374-10-18 20:37 J -27634889.76 -27634889.64 -27634889.51 0.0089 0.0028

Neptune -80373-01-14 22:04 J -27634801.71 -27634801.58 -27634801.45 0.0089 0.0023

Neptune -80373-04-11 23:16 J -27634713.65 -27634713.53 -27634713.39 0.0089 0.0019

Neptune -80373-07-09 00:42 J -27634625.60 -27634625.47 -27634625.33 0.0089 0.0014

Jupiter -80373-07-09 07:54 J -27634625.26 -27634625.17 -27634625.07 0.0537 0.0339

Neptune -80373-10-05 02:08 J -27634537.54 -27634537.41 -27634537.28 0.0089 0.0010

Jupiter -80373-10-06 15:49 J -27634535.97 -27634535.84 -27634535.71 0.0535 0.0111

Neptune -80372-01-01 03:35 J -27634449.49 -27634449.35 -27634449.22 0.0089 0.0005

Neptune -80372-03-30 04:47 J -27634361.43 -27634361.30 -27634361.16 0.0089 0.0003

Neptune -80372-06-26 06:13 J -27634273.37 -27634273.24 -27634273.10 0.0089 0.0004

Neptune -80372-09-22 07:40 J -27634185.31 -27634185.18 -27634185.05 0.0089 0.0009

Neptune -80372-12-19 09:06 J -27634097.26 -27634097.12 -27634096.99 0.0089 0.0013

Neptune -80371-03-17 10:18 J -27634009.20 -27634009.07 -27634008.94 0.0089 0.0018

Earth -80371-03-18 12:42 J -27634008.08 -27634007.97 -27634007.86 0.2748 0.0256

Moon -80371-03-18 13:11 J -27634008.06 -27634007.95 -27634007.84 0.2741 0.0222 *

Neptune -80371-06-13 11:44 J -27633921.14 -27633921.01 -27633920.88 0.0089 0.0022

Venus -80371-08-12 03:35 J -27633861.44 -27633861.35 -27633861.25 0.3603 0.2561

Neptune -80371-09-09 12:56 J -27633833.08 -27633832.96 -27633832.82 0.0089 0.0027

Saturn -80371-09-09 20:08 J -27633832.72 -27633832.66 -27633832.61 0.0276 0.0247

Neptune -80371-12-06 14:37 J -27633745.02 -27633744.89 -27633744.77 0.0089 0.0031

Saturn -80371-12-07 06:56 J -27633744.32 -27633744.21 -27633744.10 0.0275 0.0148

Mars -80370-01-29 15:35 J -27633691.01 -27633690.85 -27633690.69 0.1739 0.0145

Neptune -80370-03-04 15:49 J -27633656.96 -27633656.84 -27633656.71 0.0089 0.0036

Saturn -80370-03-05 17:44 J -27633655.89 -27633655.76 -27633655.63 0.0274 0.0049

Neptune -80370-05-31 17:16 J -27633568.90 -27633568.78 -27633568.66 0.0089 0.0040

Saturn -80370-06-02 04:47 J -27633567.43 -27633567.30 -27633567.17 0.0274 0.0050

Neptune -80370-08-27 18:28 J -27633480.84 -27633480.73 -27633480.61 0.0089 0.0045

Saturn -80370-08-29 15:35 J -27633478.96 -27633478.85 -27633478.73 0.0273 0.0149

Neptune -80370-11-23 19:54 J -27633392.77 -27633392.67 -27633392.55 0.0089 0.0050

Saturn -80370-11-26 02:37 J -27633390.44 -27633390.39 -27633390.33 0.0272 0.0248

Mars -80370-11-26 13:25 J -27633390.04 -27633389.94 -27633389.84 0.1794 0.0967

Neptune -80369-02-19 21:20 J -27633304.71 -27633304.61 -27633304.50 0.0089 0.0054

Venus -80369-02-27 04:04 J -27633297.43 -27633297.33 -27633297.24 0.3761 0.2123

Neptune -80369-05-17 22:32 J -27633216.65 -27633216.56 -27633216.45 0.0089 0.0059

Neptune -80369-08-14 00:13 J -27633128.58 -27633128.49 -27633128.39 0.0089 0.0063

Neptune -80369-11-10 01:25 J -27633040.52 -27633040.44 -27633040.34 0.0089 0.0068

Neptune -80368-02-06 03:06 J -27632952.45 -27632952.37 -27632952.29 0.0089 0.0072

Neptune -80368-05-05 04:18 J -27632864.38 -27632864.32 -27632864.25 0.0089 0.0077

Neptune -80368-08-01 05:59 J -27632776.30 -27632776.25 -27632776.20 0.0089 0.0081

Neptune -80368-10-28 07:11 J -27632688.23 -27632688.20 -27632688.16 0.0089 0.0086

Jupiter -80367-09-04 22:18 J -27632376.72 -27632376.57 -27632376.42 0.0491 0.0279

Jupiter -80367-12-04 04:47 J -27632286.46 -27632286.30 -27632286.14 0.0493 0.0230

Venus -80365-02-26 04:18 J -27631837.45 -27631837.32 -27631837.19 0.3607 0.1007

Venus -80364-09-11 23:16 J -27631273.59 -27631273.53 -27631273.48 0.3757 0.3284

Jupiter -80361-04-27 11:44 J -27630315.07 -27630315.01 -27630314.94 0.0537 0.0449

Mars -80361-06-20 16:04 J -27630260.96 -27630260.83 -27630260.69 0.1730 0.0887

Jupiter -80361-07-25 19:40 J -27630225.81 -27630225.68 -27630225.56 0.0535 0.0019

Moon -80361-09-13 08:23 J -27630176.27 -27630176.15 -27630176.02 0.2586 0.1582

Earth -80361-09-13 09:49 J -27630176.21 -27630176.09 -27630175.96 0.2588 0.1501 *

Jupiter -80361-10-23 03:49 J -27630136.41 -27630136.34 -27630136.27 0.0533 0.0454

Mars -80360-04-17 22:04 J -27629959.70 -27629959.58 -27629959.46 0.1803 0.0222

Venus -80360-09-11 04:18 J -27629813.45 -27629813.32 -27629813.18 0.3611 0.0489

Moon -80358-03-21 07:11 J -27629257.29 -27629257.20 -27629257.11 0.2742 0.1571

Earth -80358-03-21 07:25 J -27629257.28 -27629257.19 -27629257.10 0.2748 0.1563 *

Jupiter -80355-06-23 20:23 J -27628066.75 -27628066.65 -27628066.54 0.0491 0.0404

Jupiter -80355-09-22 03:06 J -27627976.55 -27627976.37 -27627976.19 0.0492 0.0107

Saturn -80355-09-22 16:04 J -27627975.99 -27627975.83 -27627975.67 0.0286 0.0133

Saturn -80355-12-20 15:35 J -27627887.03 -27627886.85 -27627886.67 0.0286 0.0027

Saturn -80354-03-19 14:52 J -27627798.01 -27627797.88 -27627797.74 0.0287 0.0185

Venus -80354-03-28 04:04 J -27627789.44 -27627789.33 -27627789.22 0.3615 0.1905

Earth -80351-03-14 04:47 J -27626707.37 -27626707.30 -27626707.23 0.2747 0.2084

Moon -80351-03-14 05:30 J -27626707.34 -27626707.27 -27626707.19 0.2750 0.1955 *

Mars -80351-09-08 06:42 J -27626529.33 -27626529.22 -27626529.10 0.1812 0.0522

Jupiter -80349-05-13 22:18 J -27625915.69 -27625915.57 -27625915.44 0.0536 0.0126

Jupiter -80349-08-11 06:28 J -27625826.33 -27625826.23 -27625826.13 0.0534 0.0328

Venus -80349-10-11 03:20 J -27625765.41 -27625765.36 -27625765.30 0.3619 0.3273

Moon -80348-09-16 13:25 J -27625425.09 -27625424.94 -27625424.78 0.2588 0.0399

Earth -80348-09-16 15:06 J -27625425.02 -27625424.87 -27625424.72 0.2588 0.0642 *

Jupiter -80343-07-11 01:40 J -27623666.61 -27623666.43 -27623666.25 0.0492 0.0017

Jupiter -80343-10-09 07:11 J -27623576.22 -27623576.20 -27623576.17 0.0493 0.0487

Saturn -80341-01-27 23:30 J -27623100.54 -27623100.52 -27623100.49 0.0276 0.0267

Mars -80341-01-29 15:20 J -27623098.94 -27623098.86 -27623098.78 0.1821 0.1281

Saturn -80341-04-25 10:18 J -27623012.17 -27623012.07 -27623011.96 0.0275 0.0169

Saturn -80341-07-22 21:20 J -27622923.74 -27622923.61 -27622923.48 0.0275 0.0069

Saturn -80341-10-19 08:08 J -27622835.29 -27622835.16 -27622835.02 0.0274 0.0031

Saturn -80340-01-15 19:11 J -27622746.82 -27622746.70 -27622746.58 0.0273 0.0129

Venus -80340-01-19 05:16 J -27622743.35 -27622743.28 -27622743.21 0.3779 0.2931

Mars -80340-03-09 15:49 J -27622693.94 -27622693.84 -27622693.74 0.1747 0.1316

Saturn -80340-04-14 06:13 J -27622658.31 -27622658.24 -27622658.17 0.0272 0.0228

Earth -80338-03-16 23:16 J -27621956.64 -27621956.53 -27621956.43 0.2748 0.0797

Moon -80338-03-16 23:59 J -27621956.61 -27621956.50 -27621956.40 0.2745 0.0782 *

Jupiter -80337-03-02 01:54 J -27621605.53 -27621605.42 -27621605.30 0.0536 0.0239

Jupiter -80337-05-30 09:49 J -27621516.20 -27621516.09 -27621515.97 0.0534 0.0214

Venus -80335-08-04 23:30 J -27620719.61 -27620719.52 -27620719.42 0.3775 0.1908

Uranus -80333-07-03 06:42 J -27620021.27 -27620021.22 -27620021.15 0.0138 0.0122

Uranus -80333-09-29 10:04 J -27619933.15 -27619933.08 -27619932.98 0.0138 0.0105

Uranus -80333-12-26 13:40 J -27619845.03 -27619844.93 -27619844.82 0.0138 0.0088

Uranus -80332-03-24 17:01 J -27619756.90 -27619756.79 -27619756.67 0.0138 0.0071

Uranus -80332-06-20 20:23 J -27619668.77 -27619668.65 -27619668.52 0.0138 0.0055

Uranus -80332-09-16 23:59 J -27619580.63 -27619580.50 -27619580.37 0.0139 0.0037

Uranus -80332-12-14 03:35 J -27619492.49 -27619492.35 -27619492.22 0.0139 0.0020

Uranus -80331-03-12 06:56 J -27619404.34 -27619404.21 -27619404.07 0.0139 0.0003

Jupiter -80331-04-28 23:16 J -27619356.70 -27619356.53 -27619356.35 0.0491 0.0145

Uranus -80331-06-08 10:32 J -27619316.20 -27619316.06 -27619315.93 0.0139 0.0016

Jupiter -80331-07-28 05:16 J -27619266.40 -27619266.28 -27619266.16 0.0493 0.0360

Mars -80331-07-30 16:18 J -27619263.98 -27619263.82 -27619263.66 0.1739 0.0277

Uranus -80331-09-04 14:08 J -27619228.04 -27619227.91 -27619227.78 0.0139 0.0033

Uranus -80331-12-01 17:30 J -27619139.89 -27619139.77 -27619139.64 0.0139 0.0052

Uranus -80330-02-27 21:06 J -27619051.73 -27619051.62 -27619051.50 0.0139 0.0070

Uranus -80330-05-27 00:42 J -27618963.57 -27618963.47 -27618963.36 0.0140 0.0088

Mars -80330-05-27 13:25 J -27618963.04 -27618962.94 -27618962.84 0.1794 0.1055

Uranus -80330-08-23 04:18 J -27618875.40 -27618875.32 -27618875.22 0.0140 0.0106

Uranus -80330-11-19 08:08 J -27618787.22 -27618787.16 -27618787.10 0.0140 0.0124

Venus -80329-02-18 17:59 J -27618695.86 -27618695.75 -27618695.64 0.3772 0.0858

Jupiter -80326-12-20 05:59 J -27617295.35 -27617295.25 -27617295.16 0.0537 0.0348

Saturn -80325-02-09 14:37 J -27617244.03 -27617243.89 -27617243.74 0.0286 0.0177

Jupiter -80325-03-18 13:40 J -27617206.05 -27617205.93 -27617205.80 0.0535 0.0104

Earth -80325-03-18 17:44 J -27617205.87 -27617205.76 -27617205.65 0.2748 0.0511 *

Moon -80325-03-18 17:59 J -27617205.86 -27617205.75 -27617205.64 0.2742 0.0614 *

Saturn -80325-05-08 14:23 J -27617155.08 -27617154.90 -27617154.72 0.0286 0.0018

Saturn -80325-08-05 13:40 J -27617066.08 -27617065.93 -27617065.77 0.0287 0.0141

Venus -80324-09-03 12:28 J -27616672.09 -27616671.98 -27616671.87 0.3768 0.0246

Mars -80322-12-20 16:32 J -27615833.95 -27615833.81 -27615833.66 0.1730 0.0764

Mars -80321-10-16 22:04 J -27615532.69 -27615532.58 -27615532.46 0.1803 0.0326

Jupiter -80319-02-14 21:06 J -27615046.77 -27615046.62 -27615046.47 0.0491 0.0272

Jupiter -80319-05-16 03:20 J -27614956.51 -27614956.36 -27614956.20 0.0492 0.0236

Venus -80318-03-20 07:25 J -27614648.30 -27614648.19 -27614648.09 0.3764 0.1342

Moon -80315-09-14 14:52 J -27613374.02 -27613373.88 -27613373.74 0.2585 0.1260

Earth -80315-09-14 16:18 J -27613373.96 -27613373.82 -27613373.67 0.2589 0.1056 *

Venus -80314-03-19 03:35 J -27613188.46 -27613188.35 -27613188.24 0.3604 0.2082

Jupiter -80314-10-08 10:04 J -27612985.14 -27612985.08 -27612985.01 0.0537 0.0453

Jupiter -80313-01-05 17:59 J -27612895.88 -27612895.75 -27612895.63 0.0536 0.0017

Jupiter -80313-04-04 02:08 J -27612806.48 -27612806.41 -27612806.34 0.0534 0.0451

Venus -80313-10-03 02:23 J -27612624.48 -27612624.40 -27612624.32 0.3760 0.2486

Moon -80312-03-21 11:59 J -27612455.09 -27612455.00 -27612454.92 0.2742 0.1728

Earth -80312-03-21 12:13 J -27612455.07 -27612454.99 -27612454.91 0.2749 0.1835 *

Saturn -80312-09-12 12:13 J -27612280.07 -27612279.99 -27612279.90 0.0275 0.0202

Saturn -80312-12-09 23:16 J -27612191.66 -27612191.53 -27612191.41 0.0274 0.0103

Saturn -80311-03-08 10:04 J -27612103.21 -27612103.08 -27612102.95 0.0274 0.0004

Mars -80311-03-09 06:42 J -27612102.33 -27612102.22 -27612102.10 0.1811 0.0432

Saturn -80311-06-04 20:52 J -27612014.75 -27612014.63 -27612014.50 0.0273 0.0096

Saturn -80311-09-01 07:54 J -27611926.26 -27611926.17 -27611926.07 0.0272 0.0195

Venus -80309-10-02 04:04 J -27611164.46 -27611164.33 -27611164.19 0.3608 0.0549

Jupiter -80308-12-03 18:28 J -27610736.83 -27610736.73 -27610736.62 0.0491 0.0404

Jupiter -80307-03-04 01:11 J -27610646.63 -27610646.45 -27610646.27 0.0492 0.0106

Venus -80307-04-18 21:35 J -27610600.62 -27610600.60 -27610600.58 0.3756 0.3663

Earth -80305-03-14 09:35 J -27609905.18 -27609905.10 -27609905.01 0.2747 0.1824

Moon -80305-03-14 10:18 J -27609905.15 -27609905.07 -27609904.98 0.2750 0.1768 *

Venus -80303-04-18 04:04 J -27609140.46 -27609140.33 -27609140.20 0.3612 0.0930

Mars -80302-07-30 15:20 J -27608671.95 -27608671.86 -27608671.77 0.1820 0.1183

Moon -80302-09-17 20:08 J -27608622.81 -27608622.66 -27608622.52 0.2590 0.1021

Earth -80302-09-17 21:35 J -27608622.74 -27608622.60 -27608622.46 0.2588 0.1079 *

Jupiter -80302-10-24 21:49 J -27608585.72 -27608585.59 -27608585.47 0.0536 0.0114

Jupiter -80301-01-22 05:44 J -27608496.36 -27608496.26 -27608496.16 0.0534 0.0340

Mars -80301-09-07 16:32 J -27608266.90 -27608266.81 -27608266.73 0.1748 0.1452

Venus -80298-11-02 03:35 J -27607116.45 -27607116.35 -27607116.25 0.3616 0.2345

Saturn -80296-06-28 11:44 J -27606512.11 -27606512.01 -27606511.90 0.0285 0.0231

Saturn -80296-09-25 11:30 J -27606423.20 -27606423.02 -27606422.84 0.0286 0.0072

Jupiter -80296-12-20 23:44 J -27606336.70 -27606336.51 -27606336.33 0.0492 0.0019

Saturn -80296-12-23 11:01 J -27606334.21 -27606334.04 -27606333.86 0.0287 0.0088

Jupiter -80295-03-21 05:16 J -27606246.30 -27606246.28 -27606246.25 0.0493 0.0486

Saturn -80295-03-22 10:18 J -27606245.16 -27606245.07 -27606244.98 0.0287 0.0245

Pluto -80294-09-25 18:13 J -27605692.76 -27605692.74 -27605692.70 0.0085 0.0083

Neptune -80294-11-20 06:42 J -27605637.25 -27605637.22 -27605637.16 0.0089 0.0086

Uranus -80294-11-25 11:30 J -27605632.08 -27605632.02 -27605631.95 0.0141 0.0132

Pluto -80294-12-22 19:40 J -27605604.75 -27605604.68 -27605604.60 0.0084 0.0071

Neptune -80293-02-16 10:18 J -27605549.14 -27605549.07 -27605548.97 0.0089 0.0080

Uranus -80293-02-21 19:11 J -27605543.82 -27605543.70 -27605543.57 0.0140 0.0106

Pluto -80293-03-19 20:52 J -27605516.71 -27605516.63 -27605516.52 0.0084 0.0059

Neptune -80293-05-14 14:08 J -27605461.01 -27605460.91 -27605460.79 0.0089 0.0073

Uranus -80293-05-20 02:37 J -27605455.53 -27605455.39 -27605455.23 0.0140 0.0081

Pluto -80293-06-15 22:18 J -27605428.67 -27605428.57 -27605428.45 0.0084 0.0048

Neptune -80293-08-10 17:30 J -27605372.88 -27605372.77 -27605372.62 0.0089 0.0067

Uranus -80293-08-16 10:04 J -27605367.24 -27605367.08 -27605366.90 0.0140 0.0056

Pluto -80293-09-11 23:59 J -27605340.62 -27605340.50 -27605340.38 0.0084 0.0036

Neptune -80293-11-06 21:20 J -27605284.74 -27605284.61 -27605284.45 0.0089 0.0060

Uranus -80293-11-12 17:44 J -27605278.94 -27605278.76 -27605278.58 0.0140 0.0030

Pluto -80293-12-09 01:11 J -27605252.58 -27605252.45 -27605252.32 0.0084 0.0024

Neptune -80292-02-03 00:56 J -27605196.60 -27605196.46 -27605196.29 0.0089 0.0054

Uranus -80292-02-09 01:11 J -27605190.64 -27605190.45 -27605190.26 0.0140 0.0005

Pluto -80292-03-07 02:37 J -27605164.52 -27605164.39 -27605164.26 0.0084 0.0013

Earth -80292-03-17 04:04 J -27605154.44 -27605154.33 -27605154.22 0.2748 0.0530

Moon -80292-03-17 04:47 J -27605154.41 -27605154.30 -27605154.19 0.2743 0.0415 *

Neptune -80292-05-02 04:47 J -27605108.46 -27605108.30 -27605108.13 0.0089 0.0047

Uranus -80292-05-08 08:23 J -27605102.33 -27605102.15 -27605101.96 0.0140 0.0020

Pluto -80292-06-03 03:49 J -27605076.47 -27605076.34 -27605076.20 0.0084 0.0003

Neptune -80292-07-29 08:08 J -27605020.32 -27605020.16 -27605019.97 0.0089 0.0041

Uranus -80292-08-04 15:35 J -27605014.02 -27605013.85 -27605013.67 0.0140 0.0045

Pluto -80292-08-30 05:16 J -27604988.41 -27604988.28 -27604988.15 0.0084 0.0010

Neptune -80292-10-25 11:59 J -27604932.17 -27604932.00 -27604931.82 0.0089 0.0034

Uranus -80292-10-31 22:47 J -27604925.70 -27604925.55 -27604925.38 0.0139 0.0069

Pluto -80292-11-26 06:28 J -27604900.36 -27604900.23 -27604900.10 0.0083 0.0021

Neptune -80291-01-21 15:20 J -27604844.03 -27604843.86 -27604843.66 0.0089 0.0028

Uranus -80291-01-28 05:59 J -27604837.38 -27604837.25 -27604837.11 0.0139 0.0093

Mars -80291-01-28 17:01 J -27604836.95 -27604836.79 -27604836.64 0.1739 0.0412

Pluto -80291-02-22 07:40 J -27604812.30 -27604812.18 -27604812.05 0.0083 0.0033

Neptune -80291-04-19 19:11 J -27604755.89 -27604755.70 -27604755.51 0.0089 0.0021

Uranus -80291-04-26 12:56 J -27604749.05 -27604748.96 -27604748.85 0.0139 0.0116

Pluto -80291-05-21 09:06 J -27604724.23 -27604724.12 -27604724.00 0.0083 0.0043

Neptune -80291-07-16 22:47 J -27604667.74 -27604667.55 -27604667.36 0.0089 0.0014

Pluto -80291-08-17 10:18 J -27604636.17 -27604636.07 -27604635.96 0.0083 0.0054

Neptune -80291-10-13 02:23 J -27604579.59 -27604579.40 -27604579.21 0.0089 0.0008

Pluto -80291-11-13 11:30 J -27604548.09 -27604548.02 -27604547.93 0.0083 0.0065

Mars -80291-11-25 13:25 J -27604536.03 -27604535.94 -27604535.85 0.1794 0.1154

Neptune -80290-01-09 05:59 J -27604491.44 -27604491.25 -27604491.06 0.0089 0.0001

Pluto -80290-02-09 12:42 J -27604460.01 -27604459.97 -27604459.91 0.0083 0.0076

Neptune -80290-04-07 09:20 J -27604403.30 -27604403.11 -27604402.91 0.0089 0.0006

Neptune -80290-07-04 12:56 J -27604315.15 -27604314.96 -27604314.76 0.0089 0.0012

Jupiter -80290-08-13 00:42 J -27604275.58 -27604275.47 -27604275.36 0.0536 0.0237

Neptune -80290-09-30 16:32 J -27604227.00 -27604226.81 -27604226.62 0.0089 0.0018

Jupiter -80290-11-10 08:37 J -27604186.26 -27604186.14 -27604186.02 0.0534 0.0215

Neptune -80290-12-27 19:54 J -27604138.85 -27604138.67 -27604138.48 0.0089 0.0024

Venus -80289-02-10 09:20 J -27604094.14 -27604094.11 -27604094.08 0.3781 0.3624

Neptune -80289-03-24 23:30 J -27604050.70 -27604050.52 -27604050.33 0.0089 0.0031

Neptune -80289-06-21 03:06 J -27603962.54 -27603962.37 -27603962.19 0.0089 0.0037

Neptune -80289-09-17 06:13 J -27603874.39 -27603874.24 -27603874.06 0.0089 0.0044

Neptune -80289-12-14 09:49 J -27603786.24 -27603786.09 -27603785.92 0.0089 0.0050

Neptune -80288-03-12 13:25 J -27603698.08 -27603697.94 -27603697.78 0.0089 0.0056

Neptune -80288-06-08 16:32 J -27603609.92 -27603609.81 -27603609.65 0.0089 0.0063

Neptune -80288-09-04 20:08 J -27603521.76 -27603521.66 -27603521.52 0.0089 0.0069

Neptune -80288-12-01 23:44 J -27603433.60 -27603433.51 -27603433.40 0.0089 0.0075

Neptune -80287-02-28 03:20 J -27603345.43 -27603345.36 -27603345.28 0.0089 0.0081

Neptune -80287-05-27 06:56 J -27603257.24 -27603257.21 -27603257.18 0.0089 0.0087

Venus -80284-08-26 03:20 J -27602070.43 -27602070.36 -27602070.28 0.3778 0.2625

Jupiter -80284-10-08 22:04 J -27602026.75 -27602026.58 -27602026.40 0.0492 0.0139

Jupiter -80283-01-07 04:04 J -27601936.44 -27601936.33 -27601936.21 0.0493 0.0367

Saturn -80282-01-30 15:20 J -27601547.93 -27601547.86 -27601547.78 0.0276 0.0225

Saturn -80282-04-29 02:23 J -27601459.52 -27601459.40 -27601459.28 0.0275 0.0125

Mars -80282-06-20 17:16 J -27601406.93 -27601406.78 -27601406.63 0.1730 0.0630

Saturn -80282-07-26 13:11 J -27601371.08 -27601370.95 -27601370.81 0.0274 0.0027

Saturn -80282-10-23 00:13 J -27601282.62 -27601282.49 -27601282.36 0.0274 0.0073

Saturn -80281-01-19 11:16 J -27601194.14 -27601194.03 -27601193.93 0.0273 0.0172

Mars -80281-04-16 22:04 J -27601105.70 -27601105.58 -27601105.46 0.1803 0.0407

Saturn -80281-04-16 22:04 J -27601105.58 -27601105.58 -27601105.56 0.0272 0.0271 *

Earth -80279-03-19 22:32 J -27600403.66 -27600403.56 -27600403.45 0.2748 0.0786

Moon -80279-03-19 22:47 J -27600403.65 -27600403.55 -27600403.44 0.2742 0.0749 *

Venus -80278-03-11 21:49 J -27600046.69 -27600046.59 -27600046.49 0.3774 0.1593

Jupiter -80278-06-01 04:18 J -27599965.41 -27599965.32 -27599965.22 0.0536 0.0350

Jupiter -80278-08-29 12:13 J -27599876.12 -27599875.99 -27599875.87 0.0535 0.0101

Venus -80273-09-24 16:18 J -27598022.94 -27598022.82 -27598022.71 0.3771 0.0543

Mars -80273-11-09 17:44 J -27597976.80 -27597976.76 -27597976.72 0.1722 0.1654

Moon -80272-03-12 20:52 J -27597853.64 -27597853.63 -27597853.63 0.2752 0.2735

Jupiter -80272-07-27 19:40 J -27597716.83 -27597716.68 -27597716.52 0.0491 0.0268

Mars -80272-09-07 06:42 J -27597675.33 -27597675.22 -27597675.10 0.1812 0.0341

Jupiter -80272-10-26 02:08 J -27597626.57 -27597626.41 -27597626.25 0.0492 0.0240

Moon -80269-09-14 21:20 J -27596571.76 -27596571.61 -27596571.46 0.2586 0.0739

Earth -80269-09-14 22:47 J -27596571.70 -27596571.55 -27596571.40 0.2588 0.0622 *

Venus -80267-04-10 10:47 J -27595999.16 -27595999.05 -27595998.94 0.3767 0.0577

Saturn -80267-11-15 10:04 J -27595780.11 -27595780.08 -27595780.03 0.0285 0.0277

Saturn -80266-02-12 10:04 J -27595691.25 -27595691.08 -27595690.91 0.0286 0.0117

Jupiter -80266-03-20 08:23 J -27595655.22 -27595655.15 -27595655.09 0.0537 0.0460

Moon -80266-03-22 16:47 J -27595652.87 -27595652.80 -27595652.73 0.2742 0.2113

Earth -80266-03-22 17:16 J -27595652.85 -27595652.78 -27595652.71 0.2748 0.2108 *

Saturn -80266-05-12 09:35 J -27595602.28 -27595602.10 -27595601.92 0.0287 0.0042

Jupiter -80266-06-17 16:04 J -27595565.96 -27595565.83 -27595565.70 0.0536 0.0015

Saturn -80266-08-09 08:52 J -27595513.25 -27595513.13 -27595513.00 0.0287 0.0201

Jupiter -80266-09-15 00:13 J -27595476.56 -27595476.49 -27595476.42 0.0534 0.0444

Venus -80263-04-09 02:52 J -27594539.44 -27594539.38 -27594539.32 0.3601 0.3194

Mars -80262-01-28 15:35 J -27594244.95 -27594244.85 -27594244.76 0.1820 0.1085

Venus -80262-10-25 05:44 J -27593975.36 -27593975.26 -27593975.16 0.3763 0.1698

Mars -80261-03-08 17:01 J -27593839.86 -27593839.79 -27593839.73 0.1748 0.1576

Jupiter -80260-05-15 17:44 J -27593406.87 -27593406.76 -27593406.66 0.0491 0.0395

Jupiter -80260-08-14 00:13 J -27593316.66 -27593316.49 -27593316.31 0.0492 0.0115

Earth -80259-03-15 14:37 J -27593102.98 -27593102.89 -27593102.80 0.2747 0.1554

Moon -80259-03-15 15:20 J -27593102.95 -27593102.86 -27593102.77 0.2748 0.1458 *

Venus -80258-10-24 03:35 J -27592515.47 -27592515.35 -27592515.23 0.3605 0.1601

Venus -80256-05-10 00:42 J -27591951.54 -27591951.47 -27591951.39 0.3759 0.2859

Moon -80256-09-18 02:23 J -27591820.53 -27591820.40 -27591820.26 0.2591 0.1292

Earth -80256-09-18 03:49 J -27591820.46 -27591820.34 -27591820.21 0.2588 0.1512 *

Jupiter -80254-04-05 20:08 J -27591255.78 -27591255.66 -27591255.53 0.0536 0.0117

Jupiter -80254-07-04 04:18 J -27591166.42 -27591166.32 -27591166.22 0.0534 0.0338

Saturn -80253-06-18 17:16 J -27590815.82 -27590815.78 -27590815.73 0.0275 0.0258

Saturn -80253-09-15 04:04 J -27590727.43 -27590727.33 -27590727.22 0.0275 0.0160

Saturn -80253-12-12 15:06 J -27590639.00 -27590638.87 -27590638.74 0.0274 0.0061

Saturn -80252-03-11 01:54 J -27590550.55 -27590550.42 -27590550.29 0.0273 0.0038

Venus -80252-05-09 03:49 J -27590491.47 -27590491.34 -27590491.20 0.3609 0.0139

Saturn -80252-06-07 12:42 J -27590462.08 -27590461.97 -27590461.85 0.0273 0.0138

Mars -80252-07-29 17:16 J -27590409.93 -27590409.78 -27590409.63 0.1739 0.0529

Saturn -80252-09-03 23:44 J -27590373.57 -27590373.51 -27590373.44 0.0272 0.0236

Mars -80251-05-26 13:40 J -27590109.02 -27590108.93 -27590108.85 0.1794 0.1251

Uranus -80249-04-26 10:32 J -27589408.08 -27589408.06 -27589408.03 0.0138 0.0135

Uranus -80249-07-23 14:08 J -27589319.98 -27589319.91 -27589319.85 0.0138 0.0118

Uranus -80249-10-19 17:16 J -27589231.86 -27589231.78 -27589231.68 0.0138 0.0102

Uranus -80248-01-15 20:37 J -27589143.74 -27589143.64 -27589143.53 0.0138 0.0085

Uranus -80248-04-13 23:59 J -27589055.61 -27589055.50 -27589055.37 0.0138 0.0069

Jupiter -80248-06-01 22:04 J -27589006.76 -27589006.58 -27589006.40 0.0492 0.0014

Uranus -80248-07-11 03:35 J -27588967.47 -27588967.35 -27588967.22 0.0138 0.0051

Jupiter -80248-08-31 03:35 J -27588916.37 -27588916.35 -27588916.32 0.0493 0.0488

Uranus -80248-10-07 07:11 J -27588879.33 -27588879.20 -27588879.07 0.0139 0.0034

Uranus -80247-01-03 10:32 J -27588791.19 -27588791.06 -27588790.92 0.0139 0.0016

Uranus -80247-04-01 14:08 J -27588703.05 -27588702.91 -27588702.77 0.0139 0.0001

Uranus -80247-06-28 17:44 J -27588614.90 -27588614.76 -27588614.63 0.0139 0.0019

Uranus -80247-09-24 21:06 J -27588526.75 -27588526.62 -27588526.48 0.0139 0.0037

Venus -80247-11-23 03:49 J -27588467.46 -27588467.34 -27588467.22 0.3613 0.1380

Uranus -80247-12-22 00:42 J -27588438.59 -27588438.47 -27588438.34 0.0139 0.0055

Earth -80246-03-18 09:06 J -27588352.23 -27588352.12 -27588352.01 0.2748 0.0279

Moon -80246-03-18 09:35 J -27588352.21 -27588352.10 -27588351.99 0.2743 0.0227 *

Uranus -80246-03-20 04:18 J -27588350.43 -27588350.32 -27588350.20 0.0139 0.0073

Uranus -80246-06-16 07:54 J -27588262.27 -27588262.17 -27588262.06 0.0140 0.0091

Uranus -80246-09-12 11:30 J -27588174.10 -27588174.02 -27588173.93 0.0140 0.0110

Uranus -80246-12-09 15:20 J -27588085.91 -27588085.86 -27588085.81 0.0140 0.0128

Mars -80243-12-19 17:59 J -27586979.90 -27586979.75 -27586979.60 0.1730 0.0490

Jupiter -80242-01-23 00:13 J -27586945.61 -27586945.49 -27586945.37 0.0536 0.0225

Jupiter -80242-04-22 08:08 J -27586856.28 -27586856.16 -27586856.04 0.0535 0.0228

Mars -80242-10-16 22:04 J -27586678.69 -27586678.58 -27586678.46 0.1803 0.0508

Venus -80241-06-08 03:20 J -27586443.45 -27586443.36 -27586443.28 0.3617 0.2782

Saturn -80237-07-01 05:59 J -27584959.39 -27584959.25 -27584959.10 0.0285 0.0178

Saturn -80237-09-28 05:44 J -27584870.44 -27584870.26 -27584870.07 0.0286 0.0019

Saturn -80237-12-26 05:16 J -27584781.44 -27584781.28 -27584781.12 0.0287 0.0141

Jupiter -80236-03-20 20:37 J -27584696.82 -27584696.64 -27584696.47 0.0491 0.0137

Jupiter -80236-06-19 02:23 J -27584606.51 -27584606.40 -27584606.27 0.0493 0.0370

Moon -80236-09-12 22:32 J -27584520.58 -27584520.56 -27584520.53 0.2584 0.2539

Earth -80236-09-12 23:44 J -27584520.57 -27584520.51 -27584520.45 0.2589 0.2362 *

Earth -80233-03-20 03:35 J -27583601.46 -27583601.35 -27583601.25 0.2748 0.1054

Moon -80233-03-20 03:35 J -27583601.45 -27583601.35 -27583601.25 0.2741 0.1105 *

Mars -80233-05-10 18:13 J -27583549.81 -27583549.74 -27583549.67 0.1722 0.1527

Venus -80233-09-16 07:25 J -27583421.24 -27583421.19 -27583421.14 0.3780 0.3324

Mars -80232-03-08 06:56 J -27583248.33 -27583248.21 -27583248.10 0.1811 0.0249

Jupiter -80231-11-11 03:20 J -27582635.46 -27582635.36 -27582635.27 0.0536 0.0346

Jupiter -80230-02-08 11:01 J -27582546.17 -27582546.04 -27582545.91 0.0535 0.0104

Venus -80227-04-02 01:40 J -27581397.52 -27581397.43 -27581397.35 0.3777 0.2308

Earth -80226-03-14 01:11 J -27581051.49 -27581051.45 -27581051.42 0.2747 0.2564

Moon -80226-03-14 01:40 J -27581051.47 -27581051.43 -27581051.39 0.2752 0.2549 *

Jupiter -80224-01-06 18:56 J -27580386.87 -27580386.71 -27580386.56 0.0491 0.0259

Jupiter -80224-04-07 01:11 J -27580296.60 -27580296.45 -27580296.29 0.0493 0.0250

Saturn -80223-02-02 07:11 J -27579995.30 -27579995.20 -27579995.11 0.0276 0.0185

Saturn -80223-05-01 17:59 J -27579906.88 -27579906.75 -27579906.63 0.0275 0.0086

Saturn -80223-07-29 04:47 J -27579818.43 -27579818.30 -27579818.16 0.0274 0.0015

Mars -80223-07-29 15:20 J -27579817.95 -27579817.86 -27579817.76 0.1820 0.1002

Moon -80223-09-16 03:35 J -27579769.50 -27579769.35 -27579769.19 0.2588 0.0336

Earth -80223-09-16 05:16 J -27579769.44 -27579769.28 -27579769.13 0.2588 0.0189 *

Saturn -80223-10-25 15:49 J -27579729.96 -27579729.84 -27579729.72 0.0273 0.0113

Saturn -80222-01-22 02:52 J -27579641.47 -27579641.38 -27579641.30 0.0273 0.0212

Mars -80222-09-07 17:30 J -27579412.80 -27579412.77 -27579412.74 0.1748 0.1708

Venus -80222-10-16 19:54 J -27579373.77 -27579373.67 -27579373.56 0.3773 0.1263

Moon -80220-03-22 21:49 J -27578850.66 -27578850.59 -27578850.53 0.2742 0.2256

Earth -80220-03-22 22:04 J -27578850.63 -27578850.58 -27578850.52 0.2748 0.2387 *

Jupiter -80219-08-30 06:56 J -27578325.27 -27578325.21 -27578325.14 0.0537 0.0458

Jupiter -80219-11-27 14:37 J -27578236.02 -27578235.89 -27578235.76 0.0535 0.0010

Jupiter -80218-02-24 22:47 J -27578146.62 -27578146.55 -27578146.48 0.0533 0.0444

Venus -80216-05-01 14:23 J -27577350.01 -27577349.90 -27577349.79 0.3770 0.0213

Mars -80214-12-20 00:13 J -27576387.52 -27576387.49 -27576387.46 0.1829 0.1757

Earth -80213-03-15 19:25 J -27576300.78 -27576300.69 -27576300.59 0.2747 0.1288

Moon -80213-03-15 20:08 J -27576300.76 -27576300.66 -27576300.56 0.2746 0.1177 *

Jupiter -80213-10-25 16:32 J -27576076.92 -27576076.81 -27576076.69 0.0491 0.0388

Jupiter -80212-01-23 23:16 J -27575986.70 -27575986.53 -27575986.35 0.0492 0.0122

Mars -80212-01-27 17:59 J -27575982.89 -27575982.75 -27575982.60 0.1739 0.0673

Neptune -80212-02-28 01:54 J -27575951.44 -27575951.42 -27575951.39 0.0089 0.0087

Neptune -80212-05-27 03:06 J -27575863.40 -27575863.37 -27575863.31 0.0089 0.0083

Neptune -80212-08-23 04:47 J -27575775.36 -27575775.30 -27575775.24 0.0089 0.0078

Neptune -80212-11-19 05:59 J -27575687.32 -27575687.25 -27575687.18 0.0089 0.0074

Mars -80212-11-24 13:25 J -27575682.01 -27575681.94 -27575681.86 0.1794 0.1340

Neptune -80211-02-15 07:11 J -27575599.27 -27575599.20 -27575599.11 0.0089 0.0070

Neptune -80211-05-14 08:37 J -27575511.23 -27575511.14 -27575511.05 0.0089 0.0065

Neptune -80211-08-10 09:49 J -27575423.18 -27575423.09 -27575422.99 0.0089 0.0061

Neptune -80211-11-06 11:01 J -27575335.13 -27575335.04 -27575334.93 0.0089 0.0057

Venus -80211-11-15 09:06 J -27575326.22 -27575326.12 -27575326.01 0.3766 0.0934

Neptune -80210-02-02 12:28 J -27575247.08 -27575246.98 -27575246.87 0.0089 0.0052

Neptune -80210-05-01 13:40 J -27575159.03 -27575158.93 -27575158.81 0.0089 0.0048

Neptune -80210-07-28 15:20 J -27575070.98 -27575070.86 -27575070.75 0.0089 0.0043

Moon -80210-09-19 08:52 J -27575018.24 -27575018.13 -27575018.03 0.2591 0.1854

Earth -80210-09-19 10:18 J -27575018.17 -27575018.07 -27575017.97 0.2588 0.1934 *

Neptune -80210-10-24 16:32 J -27574982.92 -27574982.81 -27574982.69 0.0089 0.0039

Uranus -80210-12-15 18:56 J -27574930.78 -27574930.71 -27574930.62 0.0141 0.0126

Neptune -80209-01-20 17:59 J -27574894.87 -27574894.75 -27574894.63 0.0089 0.0034

Uranus -80209-03-13 02:37 J -27574842.52 -27574842.39 -27574842.25 0.0140 0.0100

Neptune -80209-04-17 19:11 J -27574806.82 -27574806.70 -27574806.57 0.0089 0.0030

Uranus -80209-06-09 10:04 J -27574754.23 -27574754.08 -27574753.91 0.0140 0.0075

Neptune -80209-07-14 20:37 J -27574718.77 -27574718.64 -27574718.51 0.0089 0.0025

Uranus -80209-09-05 17:30 J -27574665.93 -27574665.77 -27574665.58 0.0140 0.0050

Neptune -80209-10-10 22:04 J -27574630.71 -27574630.58 -27574630.45 0.0089 0.0021

Uranus -80209-12-03 01:11 J -27574577.63 -27574577.45 -27574577.27 0.0140 0.0024

Neptune -80208-01-06 23:16 J -27574542.66 -27574542.53 -27574542.39 0.0089 0.0017

Uranus -80208-03-01 08:37 J -27574489.33 -27574489.14 -27574488.96 0.0140 0.0002

Neptune -80208-04-05 00:42 J -27574454.60 -27574454.47 -27574454.34 0.0089 0.0012

Uranus -80208-05-28 15:49 J -27574401.02 -27574400.84 -27574400.66 0.0140 0.0026

Neptune -80208-07-02 02:08 J -27574366.55 -27574366.41 -27574366.28 0.0089 0.0008

Uranus -80208-08-24 22:47 J -27574312.71 -27574312.55 -27574312.36 0.0140 0.0051

Neptune -80208-09-28 03:20 J -27574278.49 -27574278.36 -27574278.22 0.0089 0.0004

Saturn -80208-11-18 04:18 J -27574227.42 -27574227.32 -27574227.20 0.0285 0.0225

Uranus -80208-11-21 05:59 J -27574224.39 -27574224.25 -27574224.08 0.0139 0.0075

Neptune -80208-12-25 04:47 J -27574190.43 -27574190.30 -27574190.17 0.0089 0.0002

Saturn -80207-02-15 04:18 J -27574138.50 -27574138.32 -27574138.14 0.0286 0.0065

Uranus -80207-02-17 13:11 J -27574136.07 -27574135.95 -27574135.81 0.0139 0.0098

Neptune -80207-03-23 06:13 J -27574102.38 -27574102.24 -27574102.11 0.0089 0.0006

Saturn -80207-05-15 03:35 J -27574049.52 -27574049.35 -27574049.17 0.0287 0.0095

Uranus -80207-05-16 20:08 J -27574047.73 -27574047.66 -27574047.56 0.0139 0.0122

Neptune -80207-06-19 07:25 J -27574014.32 -27574014.19 -27574014.05 0.0089 0.0011

Saturn -80207-08-12 02:52 J -27573960.46 -27573960.38 -27573960.29 0.0288 0.0253

Neptune -80207-09-15 08:52 J -27573926.26 -27573926.13 -27573926.00 0.0089 0.0015

Jupiter -80207-09-15 18:28 J -27573925.86 -27573925.73 -27573925.60 0.0536 0.0121

Venus -80207-11-14 02:52 J -27573866.47 -27573866.38 -27573866.29 0.3602 0.2703

Neptune -80207-12-12 10:18 J -27573838.20 -27573838.07 -27573837.94 0.0089 0.0020

Jupiter -80207-12-14 02:37 J -27573836.49 -27573836.39 -27573836.29 0.0534 0.0333

Neptune -80206-03-10 11:44 J -27573750.14 -27573750.01 -27573749.88 0.0089 0.0024

Neptune -80206-06-06 12:56 J -27573662.08 -27573661.96 -27573661.83 0.0089 0.0029

Neptune -80206-09-02 14:23 J -27573574.02 -27573573.90 -27573573.78 0.0089 0.0033

Neptune -80206-11-29 15:35 J -27573485.96 -27573485.85 -27573485.72 0.0089 0.0038

Neptune -80205-02-25 17:01 J -27573397.90 -27573397.79 -27573397.67 0.0089 0.0043

Neptune -80205-05-23 18:28 J -27573309.84 -27573309.73 -27573309.61 0.0089 0.0047

Venus -80205-05-31 04:04 J -27573302.42 -27573302.33 -27573302.23 0.3762 0.2064

Neptune -80205-08-19 19:40 J -27573221.78 -27573221.68 -27573221.56 0.0089 0.0052

Neptune -80205-11-15 21:20 J -27573133.71 -27573133.61 -27573133.51 0.0089 0.0056

Neptune -80204-02-11 22:32 J -27573045.65 -27573045.56 -27573045.45 0.0089 0.0061

Neptune -80204-05-10 23:59 J -27572957.58 -27572957.50 -27572957.40 0.0089 0.0065

Neptune -80204-08-07 01:25 J -27572869.52 -27572869.44 -27572869.35 0.0089 0.0070

Neptune -80204-11-03 02:52 J -27572781.45 -27572781.38 -27572781.30 0.0089 0.0074

Neptune -80203-01-30 04:04 J -27572693.38 -27572693.33 -27572693.26 0.0089 0.0079

Neptune -80203-04-28 05:30 J -27572605.30 -27572605.27 -27572605.21 0.0089 0.0084

Mars -80203-06-19 18:13 J -27572552.89 -27572552.74 -27572552.58 0.1730 0.0376

Neptune -80203-07-25 06:56 J -27572517.21 -27572517.21 -27572517.18 0.0089 0.0088

Mars -80202-04-16 22:18 J -27572251.68 -27572251.57 -27572251.46 0.1803 0.0605

Venus -80201-05-30 03:35 J -27571842.48 -27571842.35 -27571842.22 0.3606 0.1130

Jupiter -80201-11-11 21:20 J -27571676.79 -27571676.61 -27571676.43 0.0492 0.0006

Earth -80200-03-18 13:54 J -27571550.03 -27571549.92 -27571549.81 0.2748 0.0010

Moon -80200-03-18 14:23 J -27571550.01 -27571549.90 -27571549.79 0.2743 0.0125 *

Venus -80200-12-14 23:16 J -27571278.59 -27571278.53 -27571278.47 0.3758 0.3231

Venus -80196-12-14 03:35 J -27569818.48 -27569818.35 -27569818.21 0.3610 0.0392

Jupiter -80195-07-04 22:47 J -27569615.67 -27569615.55 -27569615.44 0.0536 0.0227

Jupiter -80195-10-02 06:42 J -27569526.34 -27569526.22 -27569526.10 0.0535 0.0227

Saturn -80194-06-22 08:52 J -27569263.21 -27569263.13 -27569263.06 0.0275 0.0220

Saturn -80194-09-18 19:40 J -27569174.80 -27569174.68 -27569174.56 0.0274 0.0121

Mars -80194-11-09 18:56 J -27569122.80 -27569122.71 -27569122.62 0.1722 0.1393

Saturn -80194-12-16 06:28 J -27569086.36 -27569086.23 -27569086.10 0.0274 0.0022

Saturn -80193-03-13 17:16 J -27568997.90 -27568997.78 -27568997.65 0.0273 0.0078

Saturn -80193-06-10 04:18 J -27568909.42 -27568909.32 -27568909.22 0.0272 0.0176

Mars -80193-09-06 06:56 J -27568821.33 -27568821.21 -27568821.09 0.1811 0.0146

Venus -80190-06-30 03:20 J -27567794.47 -27567794.36 -27567794.24 0.3614 0.1822

Moon -80190-09-14 05:01 J -27567718.39 -27567718.29 -27567718.19 0.2584 0.1952

Earth -80190-09-14 06:13 J -27567718.34 -27567718.24 -27567718.14 0.2589 0.1917 *

Jupiter -80189-08-30 19:11 J -27567366.88 -27567366.70 -27567366.53 0.0491 0.0132

Jupiter -80189-11-29 00:56 J -27567276.57 -27567276.46 -27567276.34 0.0493 0.0374

Moon -80187-03-21 08:23 J -27566799.25 -27566799.15 -27566799.05 0.2741 0.1263

Earth -80187-03-21 08:23 J -27566799.24 -27566799.15 -27566799.05 0.2748 0.1327 *

Venus -80184-01-13 02:52 J -27565770.44 -27565770.38 -27565770.33 0.3618 0.3212

Mars -80183-01-27 15:35 J -27565390.96 -27565390.85 -27565390.75 0.1820 0.0907

Jupiter -80183-04-23 02:52 J -27565305.48 -27565305.38 -27565305.28 0.0537 0.0333

Jupiter -80183-07-21 10:32 J -27565216.18 -27565216.06 -27565215.93 0.0535 0.0119

Earth -80180-03-14 05:59 J -27564249.31 -27564249.25 -27564249.19 0.2746 0.2300

Moon -80180-03-14 06:42 J -27564249.29 -27564249.22 -27564249.16 0.2751 0.2181 *

Saturn -80178-07-04 23:44 J -27563406.67 -27563406.51 -27563406.35 0.0286 0.0130

Saturn -80178-10-01 23:16 J -27563317.71 -27563317.53 -27563317.34 0.0286 0.0031

Saturn -80178-12-29 22:32 J -27563228.69 -27563228.56 -27563228.41 0.0287 0.0189

Jupiter -80177-06-18 17:30 J -27563056.92 -27563056.77 -27563056.61 0.0491 0.0254

Moon -80177-09-16 09:49 J -27562967.24 -27562967.09 -27562966.93 0.2589 0.0084

Earth -80177-09-16 11:30 J -27562967.17 -27562967.02 -27562966.86 0.2588 0.0249 *

Jupiter -80177-09-16 23:59 J -27562966.66 -27562966.50 -27562966.35 0.0493 0.0254

Venus -80176-04-23 05:30 J -27562748.33 -27562748.27 -27562748.20 0.3779 0.3018

Moon -80174-03-24 02:37 J -27562048.42 -27562048.39 -27562048.37 0.2744 0.2645

Earth -80174-03-24 03:06 J -27562048.40 -27562048.37 -27562048.35 0.2748 0.2655 *

Mars -80174-06-20 00:13 J -27561960.54 -27561960.49 -27561960.44 0.1828 0.1663

Mars -80173-07-28 18:28 J -27561555.87 -27561555.73 -27561555.58 0.1739 0.0799

Mars -80172-05-25 13:40 J -27561255.00 -27561254.93 -27561254.86 0.1794 0.1438

Jupiter -80171-02-09 05:59 J -27560995.31 -27560995.25 -27560995.18 0.0536 0.0452

Jupiter -80171-05-09 13:40 J -27560906.06 -27560905.93 -27560905.80 0.0535 0.0005

Jupiter -80171-08-06 21:49 J -27560816.66 -27560816.59 -27560816.52 0.0533 0.0449

Venus -80171-11-06 23:44 J -27560724.60 -27560724.51 -27560724.41 0.3776 0.1989

Earth -80167-03-17 00:28 J -27559498.59 -27559498.48 -27559498.38 0.2747 0.1022

Moon -80167-03-17 01:11 J -27559498.56 -27559498.45 -27559498.35 0.2745 0.0968 *

Jupiter -80165-04-06 15:49 J -27558746.95 -27558746.84 -27558746.72 0.0491 0.0378

Uranus -80165-05-16 17:30 J -27558706.79 -27558706.77 -27558706.72 0.0138 0.0132

Venus -80165-05-22 18:13 J -27558700.85 -27558700.74 -27558700.63 0.3772 0.0929

Jupiter -80165-07-05 22:32 J -27558656.73 -27558656.56 -27558656.38 0.0492 0.0134

Uranus -80165-08-12 21:06 J -27558618.69 -27558618.62 -27558618.54 0.0138 0.0115

Saturn -80165-11-08 11:16 J -27558531.08 -27558531.03 -27558530.97 0.0276 0.0248

Uranus -80165-11-09 00:28 J -27558530.57 -27558530.48 -27558530.38 0.0138 0.0098

Saturn -80164-02-04 22:18 J -27558442.68 -27558442.57 -27558442.46 0.0275 0.0148

Uranus -80164-02-05 03:49 J -27558442.44 -27558442.34 -27558442.23 0.0138 0.0082

Uranus -80164-05-04 07:25 J -27558354.31 -27558354.19 -27558354.07 0.0138 0.0064

Saturn -80164-05-04 09:06 J -27558354.25 -27558354.12 -27558353.99 0.0275 0.0049 *

Uranus -80164-07-31 10:47 J -27558266.17 -27558266.05 -27558265.92 0.0138 0.0047

Saturn -80164-07-31 20:08 J -27558265.79 -27558265.66 -27558265.53 0.0274 0.0051

Moon -80164-09-19 15:20 J -27558215.94 -27558215.86 -27558215.78 0.2591 0.2189

Earth -80164-09-19 16:32 J -27558215.87 -27558215.81 -27558215.75 0.2588 0.2359 *

Uranus -80164-10-27 14:08 J -27558178.04 -27558177.91 -27558177.77 0.0139 0.0031

Saturn -80164-10-28 06:56 J -27558177.32 -27558177.21 -27558177.09 0.0273 0.0150

Mars -80164-12-18 19:11 J -27558125.86 -27558125.70 -27558125.54 0.1731 0.0231

Uranus -80163-01-23 17:44 J -27558089.89 -27558089.76 -27558089.62 0.0139 0.0013

Saturn -80163-01-24 17:59 J -27558088.80 -27558088.75 -27558088.69 0.0273 0.0249

Uranus -80163-04-21 21:20 J -27558001.75 -27558001.61 -27558001.48 0.0139 0.0006

Uranus -80163-07-19 00:42 J -27557913.60 -27557913.47 -27557913.33 0.0139 0.0023

Uranus -80163-10-15 04:18 J -27557825.45 -27557825.32 -27557825.19 0.0139 0.0041

Mars -80163-10-15 22:18 J -27557824.68 -27557824.57 -27557824.46 0.1802 0.0695

Uranus -80162-01-11 07:54 J -27557737.29 -27557737.17 -27557737.04 0.0139 0.0059

Uranus -80162-04-09 11:30 J -27557649.13 -27557649.02 -27557648.90 0.0139 0.0077

Uranus -80162-07-06 15:06 J -27557560.96 -27557560.87 -27557560.77 0.0140 0.0095

Uranus -80162-10-02 18:42 J -27557472.79 -27557472.72 -27557472.63 0.0140 0.0114

Uranus -80162-12-29 22:18 J -27557384.60 -27557384.57 -27557384.52 0.0140 0.0132

Venus -80160-12-06 12:42 J -27556677.08 -27556676.97 -27556676.86 0.3769 0.0173

Jupiter -80159-02-25 17:16 J -27556595.90 -27556595.78 -27556595.65 0.0535 0.0118

Jupiter -80159-05-26 01:11 J -27556506.55 -27556506.45 -27556506.34 0.0534 0.0336

Earth -80154-03-19 18:42 J -27554747.82 -27554747.72 -27554747.61 0.2748 0.0302

Moon -80154-03-19 19:11 J -27554747.81 -27554747.70 -27554747.59 0.2742 0.0329 *

Mars -80154-05-10 19:25 J -27554695.80 -27554695.69 -27554695.58 0.1722 0.1267

Venus -80154-06-22 07:25 J -27554653.29 -27554653.19 -27554653.08 0.3765 0.1291

Mars -80153-03-07 06:56 J -27554394.33 -27554394.21 -27554394.09 0.1811 0.0080

Jupiter -80153-04-23 20:37 J -27554346.82 -27554346.64 -27554346.46 0.0492 0.0008

Venus -80150-06-21 02:52 J -27553193.49 -27553193.38 -27553193.28 0.3603 0.2220

Saturn -80149-11-20 21:49 J -27552674.73 -27552674.59 -27552674.44 0.0285 0.0177

Venus -80148-01-05 02:23 J -27552629.48 -27552629.40 -27552629.31 0.3761 0.2430

Saturn -80148-02-17 21:35 J -27552585.78 -27552585.60 -27552585.42 0.0286 0.0017

Saturn -80148-05-17 20:52 J -27552496.78 -27552496.63 -27552496.46 0.0287 0.0142

Jupiter -80148-12-14 21:06 J -27552285.73 -27552285.62 -27552285.50 0.0536 0.0229

Jupiter -80147-03-14 05:01 J -27552196.41 -27552196.29 -27552196.17 0.0535 0.0224

Venus -80144-01-04 03:20 J -27551169.49 -27551169.36 -27551169.23 0.3607 0.0658

Mars -80144-07-28 15:35 J -27550963.95 -27550963.85 -27550963.74 0.1820 0.0804

Moon -80144-09-14 11:30 J -27550916.14 -27550916.02 -27550915.90 0.2585 0.1689

Earth -80144-09-14 12:42 J -27550916.10 -27550915.97 -27550915.84 0.2589 0.1473 *

Venus -80143-07-21 21:49 J -27550605.62 -27550605.59 -27550605.57 0.3757 0.3613

Jupiter -80141-02-10 18:42 J -27550036.90 -27550036.72 -27550036.55 0.0491 0.0120

Moon -80141-03-21 13:11 J -27549997.04 -27549996.95 -27549996.86 0.2741 0.1607

Earth -80141-03-21 13:25 J -27549997.03 -27549996.94 -27549996.85 0.2748 0.1598 *

Jupiter -80141-05-11 00:28 J -27549946.58 -27549946.48 -27549946.36 0.0493 0.0386

Pluto -80140-01-06 10:18 J -27549706.12 -27549706.07 -27549705.99 0.0060 0.0057

Pluto -80140-04-04 11:59 J -27549618.10 -27549618.00 -27549617.90 0.0060 0.0051

Pluto -80140-07-01 13:25 J -27549530.07 -27549529.94 -27549529.81 0.0060 0.0045

Pluto -80140-09-27 14:08 J -27549442.03 -27549441.91 -27549441.74 0.0060 0.0040

Pluto -80140-12-24 15:35 J -27549353.99 -27549353.85 -27549353.67 0.0060 0.0034

Pluto -80139-03-22 17:01 J -27549265.94 -27549265.79 -27549265.60 0.0061 0.0028

Pluto -80139-06-18 18:28 J -27549177.89 -27549177.73 -27549177.53 0.0061 0.0022

Venus -80139-07-21 03:20 J -27549145.49 -27549145.36 -27549145.23 0.3611 0.0829

Pluto -80139-09-14 19:54 J -27549089.84 -27549089.67 -27549089.47 0.0061 0.0016

Pluto -80139-12-11 21:20 J -27549001.79 -27549001.61 -27549001.41 0.0061 0.0010

Pluto -80138-03-09 23:01 J -27548913.73 -27548913.54 -27548913.35 0.0061 0.0003

Pluto -80138-06-06 00:28 J -27548825.67 -27548825.48 -27548825.29 0.0061 0.0003

Pluto -80138-09-02 01:54 J -27548737.61 -27548737.42 -27548737.23 0.0061 0.0009

Pluto -80138-11-29 03:06 J -27548649.55 -27548649.37 -27548649.18 0.0061 0.0015

Pluto -80137-02-25 04:47 J -27548561.48 -27548561.30 -27548561.12 0.0061 0.0021

Pluto -80137-05-23 05:44 J -27548473.41 -27548473.26 -27548473.07 0.0061 0.0028

Pluto -80137-08-19 07:11 J -27548385.34 -27548385.20 -27548385.02 0.0061 0.0034

Pluto -80137-11-15 08:37 J -27548297.27 -27548297.14 -27548296.98 0.0061 0.0041

Pluto -80136-02-11 10:18 J -27548209.19 -27548209.07 -27548208.94 0.0061 0.0047

Pluto -80136-05-10 11:16 J -27548121.10 -27548121.03 -27548120.91 0.0061 0.0054

Pluto -80136-08-06 12:56 J -27548032.99 -27548032.96 -27548032.90 0.0061 0.0060

Jupiter -80136-10-03 01:25 J -27547975.54 -27547975.44 -27547975.34 0.0537 0.0334

Jupiter -80136-12-31 09:06 J -27547886.24 -27547886.12 -27547885.99 0.0535 0.0119

Saturn -80135-06-24 23:59 J -27547710.60 -27547710.50 -27547710.40 0.0275 0.0183

Saturn -80135-09-21 10:47 J -27547622.17 -27547622.05 -27547621.92 0.0274 0.0084

Saturn -80135-12-18 21:49 J -27547533.73 -27547533.59 -27547533.46 0.0274 0.0017

Mars -80135-12-19 00:13 J -27547533.55 -27547533.49 -27547533.43 0.1828 0.1574 *

Earth -80134-03-15 10:47 J -27547447.12 -27547447.05 -27547446.97 0.2747 0.2042

Moon -80134-03-15 11:30 J -27547447.09 -27547447.02 -27547446.95 0.2749 0.2024 *

Saturn -80134-03-17 08:37 J -27547445.26 -27547445.14 -27547445.02 0.0273 0.0115

Saturn -80134-06-13 19:40 J -27547356.76 -27547356.68 -27547356.60 0.0272 0.0213

Mars -80133-01-27 19:11 J -27547128.84 -27547128.70 -27547128.57 0.1740 0.0929

Venus -80133-02-04 02:52 J -27547121.48 -27547121.38 -27547121.27 0.3615 0.2270

Mars -80133-11-23 13:40 J -27546827.99 -27546827.93 -27546827.87 0.1793 0.1538

Moon -80131-09-17 16:18 J -27546164.97 -27546164.82 -27546164.67 0.2589 0.0576

Earth -80131-09-17 17:59 J -27546164.90 -27546164.75 -27546164.60 0.2588 0.0685 *

Jupiter -80130-11-29 16:18 J -27545726.98 -27545726.82 -27545726.66 0.0491 0.0249

Jupiter -80129-02-27 22:47 J -27545636.71 -27545636.55 -27545636.40 0.0492 0.0260

Neptune -80129-08-16 05:16 J -27545466.32 -27545466.28 -27545466.20 0.0089 0.0084

Neptune -80129-11-12 09:20 J -27545378.20 -27545378.11 -27545378.01 0.0089 0.0077

Neptune -80128-02-08 12:42 J -27545290.07 -27545289.97 -27545289.84 0.0089 0.0071

Neptune -80128-05-07 16:32 J -27545201.94 -27545201.81 -27545201.67 0.0089 0.0064

Neptune -80128-08-03 19:54 J -27545113.80 -27545113.67 -27545113.51 0.0089 0.0058

Neptune -80128-10-30 23:44 J -27545025.66 -27545025.51 -27545025.34 0.0089 0.0051

Neptune -80127-01-27 03:20 J -27544937.52 -27544937.36 -27544937.18 0.0089 0.0045

Neptune -80127-04-25 06:56 J -27544849.37 -27544849.21 -27544849.02 0.0089 0.0038

Neptune -80127-07-22 10:32 J -27544761.23 -27544761.06 -27544760.87 0.0089 0.0032

Neptune -80127-10-18 14:23 J -27544673.09 -27544672.90 -27544672.71 0.0089 0.0025

Neptune -80126-01-14 17:44 J -27544584.94 -27544584.76 -27544584.56 0.0089 0.0019

Neptune -80126-04-12 21:35 J -27544496.79 -27544496.60 -27544496.41 0.0089 0.0012

Neptune -80126-07-10 01:11 J -27544408.64 -27544408.45 -27544408.26 0.0089 0.0005

Neptune -80126-10-06 04:47 J -27544320.50 -27544320.30 -27544320.11 0.0089 0.0001

Neptune -80125-01-02 08:08 J -27544232.35 -27544232.16 -27544231.96 0.0089 0.0008

Uranus -80125-01-05 02:23 J -27544229.48 -27544229.40 -27544229.29 0.0141 0.0119

Neptune -80125-03-30 11:44 J -27544144.20 -27544144.01 -27544143.82 0.0089 0.0014

Uranus -80125-04-02 10:04 J -27544141.21 -27544141.08 -27544140.93 0.0140 0.0094

Venus -80125-05-14 09:35 J -27544099.11 -27544099.10 -27544099.08 0.3782 0.3716

Neptune -80125-06-26 15:20 J -27544056.05 -27544055.86 -27544055.67 0.0089 0.0020

Uranus -80125-06-29 17:30 J -27544052.92 -27544052.77 -27544052.59 0.0140 0.0069

Neptune -80125-09-22 18:56 J -27543967.89 -27543967.71 -27543967.53 0.0089 0.0027

Uranus -80125-09-26 01:11 J -27543964.62 -27543964.45 -27543964.27 0.0140 0.0043

Neptune -80125-12-19 22:04 J -27543879.74 -27543879.58 -27543879.39 0.0089 0.0034

Uranus -80125-12-23 08:37 J -27543876.32 -27543876.14 -27543875.95 0.0140 0.0018

Neptune -80124-03-18 01:40 J -27543791.59 -27543791.43 -27543791.25 0.0089 0.0040

Uranus -80124-03-21 16:04 J -27543788.02 -27543787.83 -27543787.64 0.0140 0.0007

Neptune -80124-06-14 05:16 J -27543703.44 -27543703.28 -27543703.11 0.0089 0.0046

Uranus -80124-06-17 23:16 J -27543699.71 -27543699.53 -27543699.35 0.0140 0.0032

Mars -80124-06-18 19:40 J -27543698.84 -27543698.68 -27543698.52 0.1731 0.0102

Jupiter -80124-07-22 05:44 J -27543665.34 -27543665.26 -27543665.19 0.0537 0.0439

Neptune -80124-09-10 08:37 J -27543615.28 -27543615.14 -27543614.97 0.0089 0.0053

Uranus -80124-09-14 06:28 J -27543611.39 -27543611.23 -27543611.06 0.0140 0.0056

Jupiter -80124-10-19 13:11 J -27543576.08 -27543575.95 -27543575.82 0.0535 0.0019

Neptune -80124-12-07 12:13 J -27543527.12 -27543526.99 -27543526.84 0.0089 0.0059

Uranus -80124-12-11 13:40 J -27543523.08 -27543522.93 -27543522.78 0.0139 0.0080

Jupiter -80123-01-16 21:35 J -27543486.66 -27543486.60 -27543486.54 0.0534 0.0465

Neptune -80123-03-05 15:35 J -27543438.97 -27543438.85 -27543438.71 0.0089 0.0065

Uranus -80123-03-09 20:37 J -27543434.75 -27543434.64 -27543434.51 0.0139 0.0104

Mars -80123-04-15 22:18 J -27543397.68 -27543397.57 -27543397.46 0.1802 0.0787

Neptune -80123-06-01 19:25 J -27543350.80 -27543350.69 -27543350.58 0.0089 0.0071

Uranus -80123-06-06 03:35 J -27543346.41 -27543346.35 -27543346.27 0.0139 0.0128

Neptune -80123-08-28 22:18 J -27543262.64 -27543262.57 -27543262.46 0.0089 0.0078

Neptune -80123-11-25 01:54 J -27543174.46 -27543174.42 -27543174.34 0.0089 0.0084

Earth -80121-03-17 05:16 J -27542696.39 -27542696.28 -27542696.17 0.2747 0.0754

Moon -80121-03-17 05:59 J -27542696.36 -27542696.25 -27542696.14 0.2745 0.0614 *

Venus -80120-11-28 03:49 J -27542075.42 -27542075.34 -27542075.27 0.3779 0.2703

Saturn -80119-04-09 16:47 J -27541942.89 -27541942.80 -27541942.70 0.0285 0.0245

Saturn -80119-07-07 16:47 J -27541853.98 -27541853.80 -27541853.62 0.0286 0.0085

Saturn -80119-10-04 16:18 J -27541765.00 -27541764.82 -27541764.64 0.0286 0.0075

Saturn -80118-01-01 15:35 J -27541675.95 -27541675.85 -27541675.74 0.0287 0.0233

Jupiter -80118-09-17 14:37 J -27541417.00 -27541416.89 -27541416.77 0.0491 0.0371

Jupiter -80118-12-16 21:20 J -27541326.78 -27541326.61 -27541326.43 0.0492 0.0140

Mars -80115-11-08 20:08 J -27540268.78 -27540268.66 -27540268.54 0.1722 0.1133

Venus -80114-06-13 22:04 J -27540051.68 -27540051.58 -27540051.48 0.3775 0.1665

Mars -80114-09-06 06:56 J -27539967.33 -27539967.21 -27539967.09 0.1811 0.0043

Jupiter -80112-08-07 16:32 J -27539265.94 -27539265.81 -27539265.69 0.0535 0.0111

Jupiter -80112-11-05 00:28 J -27539176.58 -27539176.48 -27539176.38 0.0534 0.0342

Venus -80109-12-27 16:18 J -27538027.93 -27538027.82 -27538027.71 0.3772 0.0611

Earth -80108-03-19 23:44 J -27537945.62 -27537945.51 -27537945.40 0.2748 0.0552

Moon -80108-03-19 23:59 J -27537945.61 -27537945.50 -27537945.39 0.2741 0.0559 *

Jupiter -80106-10-04 19:54 J -27537016.85 -27537016.67 -27537016.49 0.0492 0.0018

Saturn -80106-11-12 02:23 J -27536978.48 -27536978.40 -27536978.32 0.0276 0.0213

Saturn -80105-02-08 13:11 J -27536890.07 -27536889.95 -27536889.83 0.0275 0.0114

Saturn -80105-05-07 00:13 J -27536801.62 -27536801.49 -27536801.36 0.0275 0.0014

Saturn -80105-08-03 11:01 J -27536713.16 -27536713.04 -27536712.91 0.0274 0.0086

Saturn -80105-10-30 22:04 J -27536624.68 -27536624.58 -27536624.48 0.0273 0.0185

Mars -80104-01-26 15:35 J -27536536.96 -27536536.85 -27536536.74 0.1820 0.0721

Venus -80103-07-13 11:01 J -27536004.15 -27536004.04 -27536003.93 0.3768 0.0509

Jupiter -80100-05-26 20:08 J -27534955.78 -27534955.66 -27534955.54 0.0536 0.0223

Jupiter -80100-08-24 04:04 J -27534866.45 -27534866.33 -27534866.22 0.0534 0.0229

Venus -80099-07-12 01:54 J -27534544.47 -27534544.42 -27534544.38 0.3601 0.3353

Moon -80098-09-15 17:30 J -27534113.91 -27534113.77 -27534113.63 0.2587 0.1093

Earth -80098-09-15 18:56 J -27534113.85 -27534113.71 -27534113.56 0.2589 0.1042 *

Venus -80097-01-27 05:44 J -27533980.36 -27533980.26 -27533980.16 0.3764 0.1638

Moon -80095-03-22 17:59 J -27533194.83 -27533194.75 -27533194.66 0.2741 0.1824

Earth -80095-03-22 18:13 J -27533194.82 -27533194.74 -27533194.66 0.2748 0.1873 *

Mars -80095-06-19 00:13 J -27533106.56 -27533106.49 -27533106.42 0.1828 0.1475

Jupiter -80094-07-23 17:59 J -27532706.93 -27532706.75 -27532706.58 0.0492 0.0111

Mars -80094-07-28 19:40 J -27532701.80 -27532701.68 -27532701.55 0.1740 0.1061

Jupiter -80094-10-21 23:44 J -27532616.61 -27532616.51 -27532616.40 0.0493 0.0396

Venus -80093-01-26 02:37 J -27532520.51 -27532520.39 -27532520.27 0.3604 0.1738

Mars -80093-05-24 13:40 J -27532400.98 -27532400.93 -27532400.88 0.1794 0.1625

Venus -80092-08-12 00:56 J -27531956.54 -27531956.46 -27531956.39 0.3760 0.2799

Saturn -80090-11-24 15:20 J -27531122.03 -27531121.86 -27531121.70 0.0286 0.0130

Saturn -80089-02-21 14:52 J -27531033.06 -27531032.88 -27531032.70 0.0286 0.0030

Saturn -80089-05-20 14:23 J -27530944.04 -27530943.90 -27530943.77 0.0287 0.0189

Jupiter -80088-03-14 23:59 J -27530645.60 -27530645.50 -27530645.40 0.0536 0.0335

Earth -80088-03-15 15:49 J -27530644.92 -27530644.84 -27530644.76 0.2747 0.1775

Moon -80088-03-15 16:32 J -27530644.90 -27530644.81 -27530644.72 0.2748 0.1618 *

Jupiter -80088-06-12 07:40 J -27530556.30 -27530556.18 -27530556.05 0.0535 0.0116

Venus -80088-08-11 03:06 J -27530496.51 -27530496.37 -27530496.24 0.3608 0.0217

Moon -80085-09-17 22:47 J -27529362.70 -27529362.55 -27529362.40 0.2589 0.0883

Earth -80085-09-18 00:28 J -27529362.62 -27529362.48 -27529362.34 0.2588 0.1116 *

Mars -80085-12-17 20:08 J -27529271.82 -27529271.66 -27529271.50 0.1731 0.0033

Mars -80084-10-14 22:18 J -27528970.67 -27528970.57 -27528970.46 0.1802 0.0892

Venus -80082-02-25 03:06 J -27528472.50 -27528472.37 -27528472.25 0.3612 0.1289

Jupiter -80082-05-11 15:49 J -27528397.00 -27528396.84 -27528396.68 0.0491 0.0237

Jupiter -80082-08-09 22:04 J -27528306.72 -27528306.58 -27528306.42 0.0492 0.0272

Uranus -80081-06-06 00:28 J -27528005.51 -27528005.48 -27528005.43 0.0138 0.0130

Uranus -80081-09-02 03:49 J -27527917.41 -27527917.34 -27527917.26 0.0138 0.0113

Uranus -80081-11-29 07:11 J -27527829.29 -27527829.20 -27527829.10 0.0138 0.0097

Uranus -80080-02-25 10:47 J -27527741.16 -27527741.05 -27527740.94 0.0138 0.0079

Uranus -80080-05-24 14:08 J -27527653.03 -27527652.91 -27527652.79 0.0138 0.0062

Uranus -80080-08-20 17:30 J -27527564.89 -27527564.77 -27527564.64 0.0139 0.0045

Uranus -80080-11-16 21:06 J -27527476.75 -27527476.62 -27527476.49 0.0139 0.0028

Uranus -80079-02-13 00:28 J -27527388.61 -27527388.48 -27527388.34 0.0139 0.0012

Uranus -80079-05-12 04:04 J -27527300.46 -27527300.33 -27527300.19 0.0139 0.0007

Uranus -80079-08-08 07:40 J -27527212.31 -27527212.18 -27527212.05 0.0139 0.0025

Uranus -80079-11-04 11:01 J -27527124.16 -27527124.04 -27527123.90 0.0139 0.0044

Uranus -80078-01-31 14:37 J -27527036.00 -27527035.89 -27527035.76 0.0139 0.0061

Uranus -80078-04-29 18:13 J -27526947.84 -27526947.74 -27526947.62 0.0140 0.0080

Uranus -80078-07-26 21:49 J -27526859.68 -27526859.59 -27526859.48 0.0140 0.0098

Uranus -80078-10-23 01:40 J -27526771.50 -27526771.43 -27526771.35 0.0140 0.0116

Uranus -80077-01-19 05:16 J -27526683.31 -27526683.28 -27526683.24 0.0140 0.0135

Venus -80077-09-10 02:37 J -27526448.48 -27526448.39 -27526448.31 0.3616 0.2703

Jupiter -80076-01-01 04:18 J -27526335.40 -27526335.32 -27526335.25 0.0537 0.0440

Saturn -80076-03-31 04:04 J -27526246.38 -27526246.33 -27526246.27 0.0276 0.0247

Jupiter -80076-03-31 11:44 J -27526246.13 -27526246.01 -27526245.88 0.0536 0.0021

Saturn -80076-06-27 15:06 J -27526157.98 -27526157.87 -27526157.76 0.0275 0.0147

Jupiter -80076-06-28 20:08 J -27526156.72 -27526156.66 -27526156.60 0.0534 0.0465

Saturn -80076-09-24 01:54 J -27526069.55 -27526069.42 -27526069.29 0.0274 0.0048

Saturn -80076-12-21 12:42 J -27525981.10 -27525980.97 -27525980.83 0.0273 0.0053

Earth -80075-03-18 10:04 J -27525894.18 -27525894.08 -27525893.97 0.2747 0.0497

Moon -80075-03-18 10:47 J -27525894.16 -27525894.05 -27525893.94 0.2745 0.0460 *

Saturn -80075-03-19 23:44 J -27525892.62 -27525892.51 -27525892.40 0.0273 0.0151

Mars -80075-05-09 20:37 J -27525841.77 -27525841.64 -27525841.51 0.1723 0.1002

Saturn -80075-06-16 10:47 J -27525804.10 -27525804.05 -27525804.00 0.0272 0.0249

Mars -80074-03-07 06:56 J -27525540.33 -27525540.21 -27525540.09 0.1811 0.0137

Jupiter -80070-02-27 13:25 J -27524087.06 -27524086.94 -27524086.82 0.0491 0.0366

Jupiter -80070-05-28 20:08 J -27523996.83 -27523996.66 -27523996.49 0.0492 0.0145

Venus -80069-12-19 07:54 J -27523426.22 -27523426.17 -27523426.13 0.3781 0.3414

Mars -80065-07-27 15:35 J -27522109.96 -27522109.85 -27522109.74 0.1819 0.0620

Jupiter -80064-01-17 16:04 J -27521935.96 -27521935.83 -27521935.71 0.0536 0.0098

Jupiter -80064-04-16 23:59 J -27521846.59 -27521846.50 -27521846.40 0.0534 0.0357

Venus -80063-07-05 01:54 J -27521402.50 -27521402.42 -27521402.34 0.3778 0.2386

Earth -80062-03-21 04:32 J -27521143.41 -27521143.31 -27521143.20 0.2748 0.0823

Moon -80062-03-21 04:47 J -27521143.40 -27521143.30 -27521143.19 0.2740 0.0878 *

Saturn -80060-04-12 10:04 J -27520390.21 -27520390.08 -27520389.95 0.0285 0.0199

Saturn -80060-07-10 09:49 J -27520301.28 -27520301.09 -27520300.91 0.0286 0.0040

Saturn -80060-10-07 09:20 J -27520212.28 -27520212.11 -27520211.95 0.0287 0.0120

Saturn -80059-01-04 08:23 J -27520123.19 -27520123.15 -27520123.10 0.0287 0.0278

Jupiter -80059-12-16 11:44 J -27519777.02 -27519777.01 -27519776.99 0.0491 0.0488

Jupiter -80058-03-16 18:42 J -27519686.90 -27519686.72 -27519686.53 0.0492 0.0028

Venus -80057-01-18 20:08 J -27519378.76 -27519378.66 -27519378.56 0.3774 0.1339

Mars -80056-12-18 00:13 J -27518679.56 -27518679.49 -27518679.41 0.1828 0.1387

Moon -80055-03-14 02:52 J -27518593.40 -27518593.38 -27518593.37 0.2751 0.2701

Mars -80054-01-26 20:23 J -27518274.77 -27518274.65 -27518274.54 0.1740 0.1193

Mars -80054-11-23 13:40 J -27517973.96 -27517973.93 -27517973.90 0.1793 0.1725

Jupiter -80053-11-05 19:11 J -27517625.81 -27517625.70 -27517625.58 0.0536 0.0216

Jupiter -80052-02-03 03:06 J -27517536.48 -27517536.37 -27517536.25 0.0534 0.0236

Venus -80052-08-03 14:37 J -27517355.00 -27517354.89 -27517354.78 0.3771 0.0260

Moon -80052-09-15 23:59 J -27517311.65 -27517311.50 -27517311.36 0.2588 0.0861

Earth -80052-09-16 01:25 J -27517311.59 -27517311.44 -27517311.28 0.2589 0.0598 *

Moon -80049-03-22 22:47 J -27516392.62 -27516392.55 -27516392.48 0.2742 0.2083

Earth -80049-03-22 23:16 J -27516392.60 -27516392.53 -27516392.46 0.2748 0.2146 *

Neptune -80048-11-25 01:54 J -27515780.45 -27515780.42 -27515780.38 0.0089 0.0085

Neptune -80047-02-21 03:06 J -27515692.41 -27515692.37 -27515692.31 0.0089 0.0081

Pluto -80047-05-12 07:11 J -27515612.21 -27515612.20 -27515612.18 0.0085 0.0084

Neptune -80047-05-20 04:18 J -27515604.37 -27515604.32 -27515604.24 0.0089 0.0077

Pluto -80047-08-08 08:37 J -27515524.21 -27515524.14 -27515524.07 0.0084 0.0072

Neptune -80047-08-16 05:44 J -27515516.33 -27515516.26 -27515516.18 0.0089 0.0072

Pluto -80047-11-04 09:49 J -27515436.17 -27515436.09 -27515435.99 0.0084 0.0060

Neptune -80047-11-12 06:56 J -27515428.28 -27515428.21 -27515428.11 0.0089 0.0068

Saturn -80047-11-14 17:16 J -27515425.88 -27515425.78 -27515425.68 0.0276 0.0179

Jupiter -80046-01-02 17:01 J -27515376.96 -27515376.79 -27515376.61 0.0492 0.0100

Pluto -80046-01-31 11:16 J -27515348.13 -27515348.03 -27515347.91 0.0084 0.0049

Neptune -80046-02-08 08:08 J -27515340.23 -27515340.16 -27515340.05 0.0089 0.0064

Saturn -80046-02-11 04:04 J -27515337.45 -27515337.33 -27515337.20 0.0275 0.0080

Venus -80046-02-17 09:20 J -27515331.22 -27515331.11 -27515331.00 0.3767 0.0858

Jupiter -80046-04-02 23:16 J -27515286.63 -27515286.53 -27515286.43 0.0493 0.0407

Pluto -80046-04-29 12:42 J -27515260.09 -27515259.97 -27515259.85 0.0084 0.0037

Neptune -80046-05-07 09:49 J -27515252.19 -27515252.09 -27515251.99 0.0089 0.0059

Saturn -80046-05-10 15:06 J -27515249.00 -27515248.87 -27515248.74 0.0275 0.0022

Pluto -80046-07-26 14:08 J -27515172.04 -27515171.91 -27515171.78 0.0084 0.0025

Neptune -80046-08-03 11:01 J -27515164.14 -27515164.04 -27515163.93 0.0089 0.0055

Saturn -80046-08-07 02:08 J -27515160.53 -27515160.41 -27515160.29 0.0274 0.0121

Pluto -80046-10-22 15:20 J -27515083.99 -27515083.86 -27515083.72 0.0084 0.0014

Neptune -80046-10-30 12:28 J -27515076.09 -27515075.98 -27515075.87 0.0089 0.0050

Saturn -80046-11-03 12:56 J -27515072.03 -27515071.96 -27515071.87 0.0273 0.0221

Pluto -80045-01-18 16:47 J -27514995.93 -27514995.80 -27514995.66 0.0084 0.0003

Neptune -80045-01-26 13:40 J -27514988.04 -27514987.93 -27514987.81 0.0089 0.0046

Pluto -80045-04-15 18:13 J -27514907.88 -27514907.74 -27514907.61 0.0084 0.0009

Neptune -80045-04-23 14:52 J -27514899.98 -27514899.88 -27514899.75 0.0089 0.0042

Mars -80045-06-17 20:52 J -27514844.79 -27514844.63 -27514844.48 0.1731 0.0164

Pluto -80045-07-12 19:25 J -27514819.82 -27514819.69 -27514819.56 0.0083 0.0020

Neptune -80045-07-20 16:18 J -27514811.93 -27514811.82 -27514811.69 0.0089 0.0037

Pluto -80045-10-08 20:37 J -27514731.76 -27514731.64 -27514731.51 0.0083 0.0031

Neptune -80045-10-16 17:44 J -27514723.88 -27514723.76 -27514723.63 0.0089 0.0032

Pluto -80044-01-04 21:49 J -27514643.70 -27514643.59 -27514643.47 0.0083 0.0042

Neptune -80044-01-12 19:11 J -27514635.83 -27514635.70 -27514635.57 0.0089 0.0028

Pluto -80044-04-02 23:01 J -27514555.63 -27514555.54 -27514555.43 0.0083 0.0053

Neptune -80044-04-10 20:23 J -27514547.77 -27514547.65 -27514547.52 0.0089 0.0024

Mars -80044-04-14 22:18 J -27514543.67 -27514543.57 -27514543.47 0.1802 0.0977

Pluto -80044-06-30 00:13 J -27514467.56 -27514467.49 -27514467.39 0.0083 0.0064

Neptune -80044-07-07 21:49 J -27514459.72 -27514459.59 -27514459.46 0.0089 0.0019

Pluto -80044-09-26 01:25 J -27514379.48 -27514379.44 -27514379.37 0.0083 0.0075

Neptune -80044-10-03 23:16 J -27514371.66 -27514371.53 -27514371.40 0.0089 0.0015

Neptune -80044-12-31 00:28 J -27514283.61 -27514283.48 -27514283.34 0.0089 0.0010

Neptune -80043-03-29 01:54 J -27514195.55 -27514195.42 -27514195.29 0.0089 0.0006

Neptune -80043-06-25 03:20 J -27514107.50 -27514107.36 -27514107.23 0.0089 0.0003

Neptune -80043-09-21 04:32 J -27514019.44 -27514019.31 -27514019.17 0.0089 0.0004

Neptune -80043-12-18 05:59 J -27513931.38 -27513931.25 -27513931.12 0.0089 0.0008

Venus -80042-02-16 01:54 J -27513871.50 -27513871.42 -27513871.34 0.3602 0.2856

Neptune -80042-03-16 07:11 J -27513843.33 -27513843.20 -27513843.06 0.0089 0.0013

Earth -80042-03-16 20:37 J -27513842.73 -27513842.64 -27513842.55 0.2747 0.1510

Moon -80042-03-16 21:20 J -27513842.70 -27513842.61 -27513842.51 0.2747 0.1483 *

Neptune -80042-06-12 08:37 J -27513755.27 -27513755.14 -27513755.01 0.0089 0.0017

Neptune -80042-09-08 10:04 J -27513667.21 -27513667.08 -27513666.95 0.0089 0.0022

Uranus -80042-10-29 02:23 J -27513616.42 -27513616.40 -27513616.36 0.0141 0.0139

Neptune -80042-12-05 11:30 J -27513579.15 -27513579.02 -27513578.89 0.0089 0.0026

Uranus -80041-01-25 10:04 J -27513528.18 -27513528.08 -27513527.96 0.0141 0.0113

Neptune -80041-03-02 12:42 J -27513491.09 -27513490.97 -27513490.84 0.0089 0.0031

Uranus -80041-04-22 17:30 J -27513439.90 -27513439.77 -27513439.61 0.0140 0.0088

Neptune -80041-05-29 14:08 J -27513403.03 -27513402.91 -27513402.78 0.0089 0.0035

Uranus -80041-07-20 01:25 J -27513351.61 -27513351.44 -27513351.27 0.0140 0.0061

Jupiter -80041-08-24 23:01 J -27513315.64 -27513315.54 -27513315.44 0.0536 0.0328

Neptune -80041-08-25 15:35 J -27513314.97 -27513314.85 -27513314.73 0.0089 0.0040

Venus -80041-09-02 04:18 J -27513307.42 -27513307.32 -27513307.23 0.3763 0.2004

Uranus -80041-10-16 08:52 J -27513263.31 -27513263.13 -27513262.95 0.0140 0.0036

Neptune -80041-11-21 17:01 J -27513226.91 -27513226.79 -27513226.68 0.0089 0.0044

Jupiter -80041-11-22 06:42 J -27513226.35 -27513226.22 -27513226.09 0.0534 0.0122

Uranus -80040-01-12 16:18 J -27513175.01 -27513174.82 -27513174.64 0.0140 0.0011

Neptune -80040-02-17 18:13 J -27513138.85 -27513138.74 -27513138.62 0.0089 0.0049

Uranus -80040-04-10 23:30 J -27513086.70 -27513086.52 -27513086.33 0.0140 0.0014

Neptune -80040-05-16 19:25 J -27513050.78 -27513050.69 -27513050.57 0.0089 0.0054

Uranus -80040-07-08 06:42 J -27512998.39 -27512998.22 -27512998.03 0.0140 0.0039

Neptune -80040-08-12 21:06 J -27512962.72 -27512962.62 -27512962.52 0.0089 0.0058

Uranus -80040-10-04 13:54 J -27512910.08 -27512909.92 -27512909.75 0.0139 0.0063

Neptune -80040-11-08 22:18 J -27512874.65 -27512874.57 -27512874.46 0.0089 0.0063

Uranus -80040-12-31 21:06 J -27512821.76 -27512821.62 -27512821.47 0.0139 0.0087

Neptune -80039-02-04 23:59 J -27512786.59 -27512786.50 -27512786.41 0.0089 0.0067

Uranus -80039-03-30 04:18 J -27512733.43 -27512733.32 -27512733.21 0.0139 0.0110

Neptune -80039-05-04 01:11 J -27512698.52 -27512698.45 -27512698.36 0.0089 0.0072

Uranus -80039-06-26 11:01 J -27512645.07 -27512645.04 -27512644.98 0.0139 0.0134

Neptune -80039-07-31 02:52 J -27512610.45 -27512610.38 -27512610.32 0.0089 0.0076

Moon -80039-09-19 05:16 J -27512560.41 -27512560.28 -27512560.15 0.2590 0.1482

Earth -80039-09-19 06:42 J -27512560.34 -27512560.22 -27512560.09 0.2588 0.1542 *

Neptune -80039-10-27 04:04 J -27512522.38 -27512522.33 -27512522.27 0.0089 0.0081

Neptune -80038-01-23 05:16 J -27512434.30 -27512434.28 -27512434.23 0.0089 0.0086

Venus -80037-09-01 02:37 J -27511847.52 -27511847.39 -27511847.27 0.3605 0.1272

Mars -80036-11-07 21:20 J -27511414.75 -27511414.61 -27511414.48 0.1723 0.0870

Venus -80035-03-18 23:16 J -27511283.59 -27511283.53 -27511283.47 0.3759 0.3174

Mars -80035-09-05 06:56 J -27511113.33 -27511113.21 -27511113.09 0.1811 0.0234

Jupiter -80035-10-21 14:52 J -27511067.04 -27511066.88 -27511066.71 0.0491 0.0229

Jupiter -80034-01-19 21:20 J -27510976.75 -27510976.61 -27510976.46 0.0493 0.0281

Venus -80031-03-18 02:52 J -27509823.52 -27509823.38 -27509823.25 0.3609 0.0280

Saturn -80031-08-30 08:37 J -27509658.23 -27509658.14 -27509658.04 0.0285 0.0242

Saturn -80031-11-27 08:37 J -27509569.32 -27509569.14 -27509568.96 0.0286 0.0082

Saturn -80030-02-24 08:08 J -27509480.34 -27509480.16 -27509479.98 0.0286 0.0077

Saturn -80030-05-24 07:25 J -27509391.29 -27509391.19 -27509391.09 0.0287 0.0235

Earth -80029-03-18 15:06 J -27509091.98 -27509091.87 -27509091.76 0.2747 0.0226

Moon -80029-03-18 15:35 J -27509091.96 -27509091.85 -27509091.74 0.2743 0.0088 *

Jupiter -80029-06-13 02:37 J -27509005.45 -27509005.39 -27509005.31 0.0537 0.0441

Jupiter -80029-09-10 10:18 J -27508916.20 -27508916.07 -27508915.94 0.0535 0.0018

Jupiter -80029-12-08 18:42 J -27508826.79 -27508826.72 -27508826.66 0.0534 0.0463

Venus -80026-10-02 02:37 J -27507799.50 -27507799.39 -27507799.27 0.3613 0.1737

Mars -80025-01-26 15:49 J -27507682.96 -27507682.84 -27507682.73 0.1819 0.0528

Jupiter -80023-08-09 12:56 J -27506757.09 -27506756.96 -27506756.83 0.0491 0.0355

Jupiter -80023-11-07 19:40 J -27506666.85 -27506666.68 -27506666.51 0.0492 0.0156

Venus -80020-04-17 02:08 J -27505775.48 -27505775.41 -27505775.35 0.3617 0.3142

Moon -80019-09-14 01:25 J -27505260.48 -27505260.44 -27505260.40 0.2585 0.2473

Earth -80019-09-14 02:23 J -27505260.46 -27505260.40 -27505260.33 0.2590 0.2337 *

Saturn -80017-04-02 19:11 J -27504693.78 -27504693.70 -27504693.61 0.0276 0.0211

Jupiter -80017-06-29 14:37 J -27504606.02 -27504605.89 -27504605.77 0.0536 0.0100

Saturn -80017-06-30 06:13 J -27504605.36 -27504605.24 -27504605.12 0.0275 0.0111

Saturn -80017-09-26 17:01 J -27504516.92 -27504516.79 -27504516.65 0.0274 0.0013

Jupiter -80017-09-26 22:32 J -27504516.65 -27504516.56 -27504516.46 0.0534 0.0356 *

Saturn -80017-12-24 04:04 J -27504428.46 -27504428.33 -27504428.20 0.0273 0.0088

Moon -80016-03-21 09:49 J -27504341.20 -27504341.09 -27504340.99 0.2740 0.1062

Earth -80016-03-21 09:35 J -27504341.20 -27504341.10 -27504341.00 0.2748 0.1091 *

Saturn -80016-03-22 14:52 J -27504339.97 -27504339.88 -27504339.78 0.0273 0.0188

Mars -80016-06-18 00:13 J -27504252.57 -27504252.49 -27504252.41 0.1828 0.1294

Mars -80015-07-27 20:37 J -27503847.74 -27503847.64 -27503847.53 0.1740 0.1315

Venus -80012-07-26 05:59 J -27502753.31 -27502753.25 -27502753.19 0.3780 0.3102

Jupiter -80011-05-28 10:32 J -27502447.09 -27502447.06 -27502447.03 0.0491 0.0484

Jupiter -80011-08-26 17:30 J -27502356.95 -27502356.77 -27502356.59 0.0492 0.0029

Earth -80009-03-14 07:11 J -27501791.24 -27501791.20 -27501791.16 0.2746 0.2519

Moon -80009-03-14 07:54 J -27501791.22 -27501791.17 -27501791.13 0.2750 0.2471 *

Venus -80006-02-08 23:59 J -27500729.59 -27500729.50 -27500729.41 0.3777 0.2071

Moon -80006-09-17 06:13 J -27500509.39 -27500509.24 -27500509.08 0.2587 0.0233

Earth -80006-09-17 07:54 J -27500509.32 -27500509.17 -27500509.01 0.2589 0.0163 *

Mars -80006-12-17 21:35 J -27500417.76 -27500417.60 -27500417.45 0.1731 0.0300

Jupiter -80005-04-17 18:42 J -27500295.84 -27500295.72 -27500295.60 0.0536 0.0205

Jupiter -80005-07-16 02:37 J -27500206.50 -27500206.39 -27500206.28 0.0535 0.0248

Mars -80005-10-13 22:18 J -27500116.66 -27500116.57 -27500116.47 0.1802 0.1078

Moon -80003-03-24 03:35 J -27499590.40 -27499590.35 -27499590.30 0.2743 0.2378

Earth -80003-03-24 04:04 J -27499590.38 -27499590.33 -27499590.28 0.2748 0.2418 *

Saturn -80001-04-15 03:35 J -27498837.50 -27498837.35 -27498837.19 0.0285 0.0150

Saturn -80001-07-13 03:20 J -27498748.54 -27498748.36 -27498748.18 0.0286 0.0010

Venus -80001-08-24 18:28 J -27498705.84 -27498705.73 -27498705.63 0.3773 0.1015

Saturn -80001-10-10 02:37 J -27498659.53 -27498659.39 -27498659.24 0.0287 0.0169

80TH MILLENNIUM BCE

This is a list of transits of Mercury in the 80th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Jupiter	**-79999-06-14 16:04**	**J**	**-27498047.01**	**-27498046.83**	**-27498046.65**	**0.0492**	**0.0093**	
Jupiter	**-79999-09-12 22:04**	**J**	**-27497956.67**	**-27497956.58**	**-27497956.48**	**0.0493**	**0.0413**	
Uranus	**-79997-06-26 07:11**	**J**	**-27497304.24**	**-27497304.20**	**-27497304.14**	**0.0138**	**0.0128**	
Uranus	**-79997-09-22 10:47**	**J**	**-27497216.13**	**-27497216.05**	**-27497215.97**	**0.0138**	**0.0111**	
Uranus	**-79997-12-19 14:08**	**J**	**-27497128.01**	**-27497127.91**	**-27497127.81**	**0.0138**	**0.0094**	
Earth	**-79996-03-17 01:25**	**J**	**-27497040.53**	**-27497040.44**	**-27497040.34**	**0.2747**	**0.1252**	
Moon	**-79996-03-17 02:23**	**J**	**-27497040.50**	**-27497040.40**	**-27497040.30**	**0.2747**	**0.1099**	*****
Uranus	**-79996-03-17 17:30**	**J**	**-27497039.88**	**-27497039.77**	**-27497039.66**	**0.0138**	**0.0077**	
Mars	**-79996-05-08 21:49**	**J**	**-27496987.74**	**-27496987.59**	**-27496987.45**	**0.1723**	**0.0742**	
Uranus	**-79996-06-13 20:52**	**J**	**-27496951.75**	**-27496951.63**	**-27496951.50**	**0.0138**	**0.0060**	
Uranus	**-79996-09-10 00:13**	**J**	**-27496863.61**	**-27496863.49**	**-27496863.35**	**0.0139**	**0.0044**	
Uranus	**-79996-12-07 03:49**	**J**	**-27496775.47**	**-27496775.34**	**-27496775.20**	**0.0139**	**0.0026**	
Uranus	**-79995-03-05 07:25**	**J**	**-27496687.33**	**-27496687.19**	**-27496687.06**	**0.0139**	**0.0009**	
Mars	**-79995-03-06 06:56**	**J**	**-27496686.32**	**-27496686.21**	**-27496686.09**	**0.1810**	**0.0333**	
Venus	**-79995-03-10 12:56**	**J**	**-27496682.07**	**-27496681.96**	**-27496681.85**	**0.3769**	**0.0110**	
Uranus	**-79995-06-01 10:47**	**J**	**-27496599.18**	**-27496599.05**	**-27496598.91**	**0.0139**	**0.0010**	
Uranus	**-79995-08-28 14:23**	**J**	**-27496511.03**	**-27496510.90**	**-27496510.77**	**0.0139**	**0.0027**	
Uranus	**-79995-11-24 17:59**	**J**	**-27496422.88**	**-27496422.75**	**-27496422.62**	**0.0139**	**0.0045**	
Uranus	**-79994-02-20 21:20**	**J**	**-27496334.72**	**-27496334.61**	**-27496334.48**	**0.0139**	**0.0064**	

Uranus -79994-05-20 00:56 J -27496246.56 -27496246.46 -27496246.34 0.0140 0.0082

Uranus -79994-08-16 04:47 J -27496158.39 -27496158.30 -27496158.20 0.0140 0.0100

Uranus -79994-11-12 08:23 J -27496070.22 -27496070.15 -27496070.07 0.0140 0.0118

Jupiter -79993-02-04 22:18 J -27495985.68 -27495985.57 -27495985.47 0.0536 0.0321

Uranus -79993-02-08 11:59 J -27495982.02 -27495982.00 -27495981.96 0.0140 0.0137

Jupiter -79993-05-04 05:59 J -27495896.38 -27495896.25 -27495896.13 0.0534 0.0130

Moon -79993-09-19 11:44 J -27495758.12 -27495758.01 -27495757.89 0.2592 0.1751

Earth -79993-09-19 13:11 J -27495758.05 -27495757.95 -27495757.85 0.2588 0.1972 *

Venus -79990-09-24 07:40 J -27494658.29 -27494658.18 -27494658.07 0.3766 0.1215

Saturn -79988-08-20 21:20 J -27493961.67 -27493961.61 -27493961.55 0.0277 0.0244

Saturn -79988-11-17 08:23 J -27493873.26 -27493873.15 -27493873.04 0.0276 0.0144

Saturn -79987-02-13 19:11 J -27493784.83 -27493784.70 -27493784.57 0.0275 0.0043

Jupiter -79987-04-02 14:08 J -27493737.08 -27493736.91 -27493736.75 0.0492 0.0220

Saturn -79987-05-13 06:13 J -27493696.37 -27493696.24 -27493696.11 0.0275 0.0057

Jupiter -79987-07-01 20:23 J -27493646.79 -27493646.65 -27493646.50 0.0493 0.0291

Saturn -79987-08-09 17:01 J -27493607.89 -27493607.79 -27493607.67 0.0274 0.0158

Saturn -79987-11-06 04:04 J -27493519.36 -27493519.33 -27493519.28 0.0273 0.0258

Mars -79986-07-27 15:35 J -27493255.96 -27493255.85 -27493255.73 0.1819 0.0437

Venus -79986-09-23 01:54 J -27493198.53 -27493198.42 -27493198.32 0.3602 0.2365

Venus -79984-04-09 02:37 J -27492634.48 -27492634.39 -27492634.30 0.3762 0.2370

Earth -79983-03-19 19:54 J -27492289.78 -27492289.67 -27492289.56 0.2747 0.0066

Moon -79983-03-19 20:23 J -27492289.76 -27492289.65 -27492289.54 0.2741 0.0057 *

Jupiter -79982-11-24 01:54 J -27491675.49 -27491675.42 -27491675.35 0.0536 0.0432

Jupiter -79981-02-21 09:35 J -27491586.23 -27491586.10 -27491585.98 0.0535 0.0025

Jupiter -79981-05-20 17:30 J -27491496.83 -27491496.77 -27491496.71 0.0533 0.0468

Venus -79980-04-08 02:23 J -27491174.53 -27491174.40 -27491174.27 0.3606 0.0786

Venus -79979-10-23 21:49 J -27490610.63 -27490610.59 -27490610.56 0.3757 0.3557

Mars -79977-12-17 00:13 J -27489825.57 -27489825.49 -27489825.40 0.1828 0.1198

Jupiter -79975-01-19 11:44 J -27489427.13 -27489427.01 -27489426.88 0.0491 0.0349

Mars -79975-01-25 21:20 J -27489420.69 -27489420.61 -27489420.52 0.1740 0.1459

Jupiter -79975-04-19 18:42 J -27489336.89 -27489336.72 -27489336.55 0.0492 0.0164

Venus -79975-10-23 02:37 J -27489150.52 -27489150.39 -27489150.26 0.3610 0.0741

Moon -79973-09-14 07:40 J -27488458.28 -27488458.18 -27488458.09 0.2586 0.2024

Earth -79973-09-14 08:52 J -27488458.23 -27488458.13 -27488458.02 0.2589 0.1893 *

Saturn -79972-09-02 02:52 J -27488105.52 -27488105.38 -27488105.24 0.0285 0.0190

Saturn -79972-11-30 02:37 J -27488016.58 -27488016.39 -27488016.21 0.0286 0.0031

Saturn -79971-02-27 01:54 J -27487927.58 -27487927.42 -27487927.25 0.0286 0.0129

Saturn -79971-05-27 01:11 J -27487838.46 -27487838.45 -27487838.43 0.0287 0.0286

Moon -79970-03-22 14:23 J -27487538.99 -27487538.90 -27487538.80 0.2741 0.1416

Earth -79970-03-22 14:23 J -27487538.99 -27487538.90 -27487538.80 0.2748 0.1362 *

Jupiter -79970-12-10 13:11 J -27487276.08 -27487275.95 -27487275.83 0.0535 0.0101

Jupiter -79969-03-08 21:06 J -27487186.72 -27487186.62 -27487186.52 0.0534 0.0354

Venus -79969-05-08 02:23 J -27487126.51 -27487126.40 -27487126.30 0.3614 0.2192

Mars -79966-06-17 21:49 J -27485990.75 -27485990.59 -27485990.44 0.1731 0.0412

Mars -79965-04-13 22:32 J -27485689.65 -27485689.56 -27485689.47 0.1802 0.1176

Neptune -79964-02-14 00:28 J -27485383.50 -27485383.48 -27485383.46 0.0089 0.0088

Neptune -79964-05-13 03:49 J -27485295.40 -27485295.34 -27485295.25 0.0089 0.0082

Neptune -79964-08-09 07:40 J -27485207.27 -27485207.18 -27485207.07 0.0089 0.0075

Neptune -79964-11-05 11:01 J -27485119.14 -27485119.04 -27485118.90 0.0089 0.0069

Jupiter -79964-11-07 09:35 J -27485117.14 -27485117.10 -27485117.05 0.0491 0.0475

Venus -79964-11-22 01:25 J -27485102.45 -27485102.44 -27485102.42 0.3618 0.3580

Neptune -79963-02-01 14:52 J -27485031.00 -27485030.88 -27485030.73 0.0089 0.0062

Jupiter -79963-02-05 16:47 J -27485026.98 -27485026.80 -27485026.62 0.0492 0.0039

Earth -79963-03-15 12:13 J -27484989.05 -27484988.99 -27484988.93 0.2746 0.2257

Moon -79963-03-15 12:42 J -27484989.03 -27484988.97 -27484988.90 0.2750 0.2182 *

Neptune -79963-04-30 18:28 J -27484942.87 -27484942.73 -27484942.56 0.0089 0.0056

Neptune -79963-07-27 22:18 J -27484854.72 -27484854.57 -27484854.40 0.0089 0.0049

Neptune -79963-10-24 02:08 J -27484766.58 -27484766.41 -27484766.24 0.0089 0.0042

Neptune -79962-01-20 05:30 J -27484678.44 -27484678.27 -27484678.08 0.0089 0.0036

Neptune -79962-04-18 09:20 J -27484590.29 -27484590.11 -27484589.93 0.0089 0.0029

Neptune -79962-07-15 12:42 J -27484502.15 -27484501.97 -27484501.77 0.0089 0.0023

Neptune -79962-10-11 16:32 J -27484414.00 -27484413.81 -27484413.62 0.0089 0.0016

Neptune -79961-01-07 20:08 J -27484325.85 -27484325.66 -27484325.47 0.0089 0.0009

Neptune -79961-04-04 23:44 J -27484237.70 -27484237.51 -27484237.32 0.0089 0.0003

Neptune -79961-07-02 03:20 J -27484149.55 -27484149.36 -27484149.17 0.0089 0.0004

Neptune -79961-09-28 06:56 J -27484061.40 -27484061.21 -27484061.02 0.0089 0.0010

Neptune -79961-12-25 10:18 J -27483973.25 -27483973.07 -27483972.87 0.0089 0.0017

Neptune -79960-03-23 13:54 J -27483885.10 -27483884.92 -27483884.73 0.0089 0.0023

Neptune -79960-06-19 17:16 J -27483796.95 -27483796.78 -27483796.59 0.0089 0.0030

Neptune -79960-09-15 20:52 J -27483708.80 -27483708.63 -27483708.45 0.0089 0.0036

Moon -79960-09-17 12:56 J -27483707.12 -27483706.96 -27483706.80 0.2588 0.0060

Earth -79960-09-17 14:23 J -27483707.05 -27483706.90 -27483706.74 0.2589 0.0294 *

Neptune -79960-12-13 00:28 J -27483620.64 -27483620.48 -27483620.31 0.0089 0.0042

Neptune -79959-03-11 03:49 J -27483532.49 -27483532.34 -27483532.17 0.0089 0.0049

Neptune -79959-06-07 07:25 J -27483444.33 -27483444.19 -27483444.03 0.0089 0.0055

Neptune -79959-09-03 11:01 J -27483356.18 -27483356.04 -27483355.90 0.0089 0.0061

Neptune -79959-11-30 14:08 J -27483268.02 -27483267.91 -27483267.77 0.0089 0.0068

Saturn -79958-01-07 23:30 J -27483229.53 -27483229.52 -27483229.50 0.0277 0.0274

Neptune -79958-02-26 17:44 J -27483179.85 -27483179.76 -27483179.64 0.0089 0.0074

Saturn -79958-04-06 10:32 J -27483141.16 -27483141.06 -27483140.96 0.0276 0.0174

Neptune -79958-05-25 21:20 J -27483091.68 -27483091.61 -27483091.52 0.0089 0.0080

Saturn -79958-07-03 21:20 J -27483052.73 -27483052.61 -27483052.48 0.0275 0.0074

Neptune -79958-08-22 00:56 J -27483003.50 -27483003.46 -27483003.42 0.0089 0.0086

Jupiter -79958-09-28 17:16 J -27482965.90 -27482965.78 -27482965.67 0.0536 0.0208

Saturn -79958-09-30 08:23 J -27482964.28 -27482964.15 -27482964.02 0.0274 0.0027

Uranus -79958-11-18 09:20 J -27482915.15 -27482915.11 -27482915.03 0.0141 0.0134

Jupiter -79958-12-27 00:56 J -27482876.57 -27482876.46 -27482876.34 0.0535 0.0246

Saturn -79958-12-27 19:25 J -27482875.81 -27482875.69 -27482875.57 0.0274 0.0127

Uranus -79957-02-14 17:16 J -27482826.89 -27482826.78 -27482826.65 0.0141 0.0108

Moon -79957-03-24 08:23 J -27482788.18 -27482788.15 -27482788.11 0.2743 0.2567

Earth -79957-03-24 09:06 J -27482788.14 -27482788.12 -27482788.10 0.2748 0.2691 *

Saturn -79957-03-25 06:28 J -27482787.31 -27482787.23 -27482787.16 0.0273 0.0226

Uranus -79957-05-13 00:56 J -27482738.61 -27482738.46 -27482738.30 0.0140 0.0082

Uranus -79957-08-09 08:23 J -27482650.31 -27482650.15 -27482649.97 0.0140 0.0057

Uranus -79957-11-05 15:49 J -27482562.01 -27482561.84 -27482561.65 0.0140 0.0032

Mars -79957-11-06 22:32 J -27482560.71 -27482560.56 -27482560.41 0.1723 0.0606

Uranus -79956-02-01 23:30 J -27482473.71 -27482473.52 -27482473.34 0.0140 0.0006

Uranus -79956-05-01 06:42 J -27482385.40 -27482385.22 -27482385.03 0.0140 0.0019

Uranus -79956-07-28 13:54 J -27482297.09 -27482296.92 -27482296.74 0.0140 0.0044

Mars -79956-09-04 07:11 J -27482259.32 -27482259.20 -27482259.09 0.1810 0.0425

Uranus -79956-10-24 21:06 J -27482208.77 -27482208.62 -27482208.45 0.0140 0.0068

Uranus -79955-01-21 04:32 J -27482120.45 -27482120.31 -27482120.18 0.0139 0.0092

Venus -79955-03-02 04:04 J -27482080.40 -27482080.33 -27482080.26 0.3779 0.2791

Uranus -79955-04-19 11:30 J -27482032.12 -27482032.02 -27482031.92 0.0139 0.0116

Uranus -79955-07-16 18:42 J -27481943.72 -27481943.72 -27481943.72 0.0139 0.0139

Jupiter -79952-11-24 14:23 J -27480717.08 -27480716.90 -27480716.72 0.0492 0.0091

Jupiter -79951-02-22 20:23 J -27480626.74 -27480626.65 -27480626.55 0.0493 0.0416

Earth -79950-03-18 06:28 J -27480238.33 -27480238.23 -27480238.13 0.2747 0.0980

Moon -79950-03-18 07:11 J -27480238.30 -27480238.20 -27480238.10 0.2746 0.0933 *

Venus -79950-09-15 22:18 J -27480056.67 -27480056.57 -27480056.48 0.3776 0.1747

Mars -79947-03-29 22:47 J -27479130.59 -27479130.55 -27479130.50 0.1715 0.1630

Moon -79947-09-20 18:13 J -27478955.79 -27478955.74 -27478955.68 0.2593 0.2387

Earth -79947-09-20 19:40 J -27478955.74 -27478955.68 -27478955.63 0.2588 0.2405 *

Mars -79946-01-25 15:35 J -27478828.96 -27478828.85 -27478828.73 0.1819 0.0346

Jupiter -79946-07-17 21:20 J -27478655.71 -27478655.61 -27478655.51 0.0536 0.0313

Jupiter -79946-10-15 05:01 J -27478566.41 -27478566.29 -27478566.16 0.0535 0.0139

Venus -79944-03-31 16:32 J -27478032.92 -27478032.81 -27478032.70 0.3772 0.0673

Saturn -79942-01-19 22:18 J -27477373.65 -27477373.57 -27477373.49 0.0284 0.0254

Saturn -79942-04-18 22:04 J -27477284.75 -27477284.58 -27477284.40 0.0285 0.0095

Saturn -79942-07-16 21:35 J -27477195.78 -27477195.60 -27477195.42 0.0286 0.0064

Saturn -79942-10-13 20:52 J -27477106.74 -27477106.63 -27477106.51 0.0287 0.0222

Jupiter -79940-09-12 12:42 J -27476407.13 -27476406.97 -27476406.80 0.0491 0.0214

Jupiter -79940-12-11 19:11 J -27476316.84 -27476316.70 -27476316.55 0.0493 0.0296

Venus -79939-10-15 11:16 J -27476009.14 -27476009.03 -27476008.92 0.3768 0.0448

Earth -79937-03-20 00:56 J -27475487.57 -27475487.46 -27475487.35 0.2747 0.0329

Moon -79937-03-20 01:11 J -27475487.55 -27475487.45 -27475487.34 0.2741 0.0450 *

Mars -79937-06-17 00:13 J -27475398.58 -27475398.49 -27475398.39 0.1828 0.1106

Mars -79936-07-26 21:49 J -27474993.65 -27474993.59 -27474993.52 0.1740 0.1583

Venus -79935-10-14 00:56 J -27474549.49 -27474549.46 -27474549.44 0.3600 0.3503

Jupiter -79934-05-06 00:56 J -27474345.53 -27474345.46 -27474345.38 0.0536 0.0427

Jupiter -79934-08-03 08:37 J -27474256.27 -27474256.14 -27474256.02 0.0535 0.0027

Jupiter -79934-10-31 16:32 J -27474166.86 -27474166.81 -27474166.75 0.0533 0.0474

Venus -79933-04-30 05:59 J -27473985.35 -27473985.25 -27473985.15 0.3765 0.1579

Venus -79929-04-29 01:40 J -27472525.54 -27472525.43 -27472525.31 0.3603 0.1877

Saturn -79929-08-23 12:28 J -27472409.06 -27472408.98 -27472408.89 0.0277 0.0207

Saturn -79929-11-19 23:30 J -27472320.64 -27472320.52 -27472320.40 0.0276 0.0106

Saturn -79928-02-16 10:32 J -27472232.20 -27472232.06 -27472231.93 0.0275 0.0008

Saturn -79928-05-15 21:20 J -27472143.73 -27472143.61 -27472143.48 0.0275 0.0096

Jupiter -79928-07-01 10:32 J -27472097.19 -27472097.06 -27472096.93 0.0492 0.0343

Saturn -79928-08-12 08:23 J -27472055.24 -27472055.15 -27472055.05 0.0274 0.0196

Jupiter -79928-09-29 17:30 J -27472006.94 -27472006.77 -27472006.60 0.0493 0.0170

Venus -79928-11-14 00:56 J -27471961.53 -27471961.46 -27471961.38 0.3761 0.2750

Moon -79927-09-15 13:54 J -27471656.04 -27471655.92 -27471655.79 0.2586 0.1580

Earth -79927-09-15 15:20 J -27471655.99 -27471655.86 -27471655.73 0.2589 0.1453 *

Mars -79927-12-16 22:32 J -27471563.71 -27471563.56 -27471563.41 0.1732 0.0556

Mars -79926-10-13 22:32 J -27471262.65 -27471262.56 -27471262.48 0.1801 0.1266

Moon -79924-03-22 19:11 J -27470736.79 -27470736.70 -27470736.61 0.2741 0.1544

Earth -79924-03-22 19:25 J -27470736.78 -27470736.69 -27470736.60 0.2748 0.1634 *

Venus -79924-11-13 02:08 J -27470501.54 -27470501.41 -27470501.27 0.3607 0.0318

Jupiter -79922-05-22 12:13 J -27469946.12 -27469945.99 -27469945.87 0.0535 0.0094

Jupiter -79922-08-19 19:54 J -27469856.76 -27469856.67 -27469856.57 0.0533 0.0360

Venus -79918-05-30 02:23 J -27468477.53 -27468477.40 -27468477.28 0.3611 0.1205

Earth -79917-03-15 17:01 J -27468186.86 -27468186.79 -27468186.72 0.2746 0.1991

Moon -79917-03-15 17:44 J -27468186.84 -27468186.76 -27468186.69 0.2750 0.1902 *

Mars -79917-05-07 23:01 J -27468133.70 -27468133.54 -27468133.39 0.1723 0.0483

Mars -79916-03-05 07:11 J -27467832.32 -27467832.20 -27467832.09 0.1810 0.0518

Jupiter -79916-04-19 08:08 J -27467787.20 -27467787.16 -27467787.11 0.0491 0.0473

Jupiter -79916-07-18 15:20 J -27467697.04 -27467696.86 -27467696.68 0.0492 0.0042

Moon -79914-09-18 19:11 J -27466904.85 -27466904.70 -27466904.54 0.2590 0.0609

Earth -79914-09-18 20:52 J -27466904.78 -27466904.63 -27466904.48 0.2589 0.0718 *

Uranus -79913-07-16 14:08 J -27466602.96 -27466602.91 -27466602.86 0.0138 0.0126

Saturn -79913-09-04 21:49 J -27466552.75 -27466552.59 -27466552.42 0.0285 0.0131

Uranus -79913-10-12 17:16 J -27466514.85 -27466514.78 -27466514.69 0.0138 0.0110

Saturn -79913-12-02 21:35 J -27466463.78 -27466463.60 -27466463.42 0.0286 0.0029

Venus -79913-12-13 01:54 J -27466453.51 -27466453.42 -27466453.33 0.3615 0.2637

Uranus -79912-01-08 20:37 J -27466426.73 -27466426.64 -27466426.53 0.0138 0.0093

Saturn -79912-03-01 20:52 J -27466374.76 -27466374.63 -27466374.49 0.0286 0.0187

Uranus -79912-04-06 23:59 J -27466338.60 -27466338.50 -27466338.38 0.0138 0.0077

Uranus -79912-07-04 03:35 J -27466250.47 -27466250.35 -27466250.23 0.0138 0.0059

Uranus -79912-09-30 07:11 J -27466162.33 -27466162.20 -27466162.08 0.0138 0.0042

Uranus -79912-12-27 10:32 J -27466074.19 -27466074.06 -27466073.93 0.0139 0.0024

Uranus -79911-03-25 13:54 J -27465986.05 -27465985.92 -27465985.78 0.0139 0.0009

Uranus -79911-06-21 17:30 J -27465897.90 -27465897.77 -27465897.63 0.0139 0.0011

Uranus -79911-09-17 21:06 J -27465809.75 -27465809.62 -27465809.49 0.0139 0.0029

Uranus -79911-12-15 00:42 J -27465721.60 -27465721.47 -27465721.34 0.0139 0.0047

Jupiter -79910-03-10 15:35 J -27465635.97 -27465635.85 -27465635.73 0.0536 0.0210

Uranus -79910-03-13 04:04 J -27465633.44 -27465633.33 -27465633.20 0.0139 0.0065

Jupiter -79910-06-07 23:30 J -27465546.64 -27465546.52 -27465546.41 0.0534 0.0242

Uranus -79910-06-09 07:54 J -27465545.28 -27465545.17 -27465545.06 0.0139 0.0083

Uranus -79910-09-05 11:30 J -27465457.11 -27465457.02 -27465456.93 0.0140 0.0101

Uranus -79910-12-02 14:52 J -27465368.94 -27465368.88 -27465368.80 0.0140 0.0120

Uranus -79909-02-28 18:42 J -27465280.73 -27465280.72 -27465280.69 0.0140 0.0138

Mars -79908-09-27 23:16 J -27464703.60 -27464703.53 -27464703.45 0.1715 0.1505

Mars -79907-07-26 15:49 J -27464401.96 -27464401.84 -27464401.72 0.1819 0.0237

Earth -79904-03-18 11:16 J -27463436.13 -27463436.03 -27463435.92 0.2747 0.0716

Moon -79904-03-18 11:59 J -27463436.11 -27463436.00 -27463435.89 0.2744 0.0612 *

Venus -79904-03-23 08:08 J -27463431.20 -27463431.16 -27463431.12 0.3782 0.3499

Jupiter -79904-05-06 13:25 J -27463387.12 -27463386.94 -27463386.76 0.0492 0.0085

Jupiter -79904-08-04 19:25 J -27463296.78 -27463296.69 -27463296.60 0.0493 0.0422

Saturn -79899-01-10 15:06 J -27461676.93 -27461676.87 -27461676.80 0.0277 0.0234

Saturn -79899-04-09 01:54 J -27461588.53 -27461588.42 -27461588.30 0.0276 0.0134

Saturn -79899-07-06 12:56 J -27461500.09 -27461499.96 -27461499.83 0.0275 0.0033

Saturn -79899-10-02 23:59 J -27461411.63 -27461411.50 -27461411.37 0.0274 0.0067

Venus -79899-10-07 02:08 J -27461407.49 -27461407.41 -27461407.33 0.3778 0.2469

Jupiter -79899-12-27 19:40 J -27461325.78 -27461325.68 -27461325.58 0.0536 0.0318

Saturn -79899-12-30 11:01 J -27461323.15 -27461323.04 -27461322.94 0.0274 0.0167

Jupiter -79898-03-27 03:20 J -27461236.48 -27461236.36 -27461236.23 0.0535 0.0133

Saturn -79898-03-28 22:04 J -27461234.60 -27461234.58 -27461234.56 0.0273 0.0267

Mars -79898-12-17 00:13 J -27460971.58 -27460971.49 -27460971.39 0.1828 0.1015

Mars -79896-01-24 22:32 J -27460566.58 -27460566.56 -27460566.54 0.1741 0.1715

Pluto -79894-08-23 20:37 J -27459625.65 -27459625.64 -27459625.59 0.0060 0.0060

Pluto -79894-11-19 22:18 J -27459537.65 -27459537.57 -27459537.48 0.0060 0.0054

Pluto -79893-02-15 23:16 J -27459449.62 -27459449.53 -27459449.39 0.0060 0.0048

Venus -79893-04-21 20:23 J -27459383.75 -27459383.65 -27459383.55 0.3775 0.1410

Pluto -79893-05-14 00:42 J -27459361.59 -27459361.47 -27459361.31 0.0060 0.0042

Pluto -79893-08-10 02:08 J -27459273.55 -27459273.41 -27459273.24 0.0060 0.0036

Pluto -79893-11-06 03:35 J -27459185.50 -27459185.35 -27459185.17 0.0060 0.0031

Pluto -79892-02-02 05:01 J -27459097.45 -27459097.29 -27459097.10 0.0061 0.0025

Jupiter -79892-02-22 11:01 J -27459077.20 -27459077.04 -27459076.88 0.0491 0.0214

Pluto -79892-05-01 06:28 J -27459009.40 -27459009.23 -27459009.04 0.0061 0.0019

Jupiter -79892-05-23 17:16 J -27458986.92 -27458986.78 -27458986.63 0.0493 0.0296

Pluto -79892-07-28 07:54 J -27458921.35 -27458921.17 -27458920.98 0.0061 0.0013

Pluto -79892-10-24 09:20 J -27458833.29 -27458833.11 -27458832.91 0.0061 0.0007

Pluto -79891-01-20 10:47 J -27458745.24 -27458745.05 -27458744.85 0.0061 0.0001

Earth -79891-03-21 05:44 J -27458685.37 -27458685.26 -27458685.15 0.2747 0.0588

Moon -79891-03-21 06:13 J -27458685.35 -27458685.24 -27458685.13 0.2741 0.0585 *

Pluto -79891-04-18 12:13 J -27458657.18 -27458656.99 -27458656.80 0.0061 0.0006

Pluto -79891-07-15 13:40 J -27458569.12 -27458568.93 -27458568.74 0.0061 0.0012

Pluto -79891-10-11 14:52 J -27458481.05 -27458480.88 -27458480.69 0.0061 0.0018

Pluto -79890-01-07 16:18 J -27458392.99 -27458392.82 -27458392.63 0.0061 0.0024

Pluto -79890-04-05 17:44 J -27458304.92 -27458304.76 -27458304.58 0.0061 0.0031

Pluto -79890-07-02 19:25 J -27458216.84 -27458216.69 -27458216.54 0.0061 0.0037

Pluto -79890-09-28 20:23 J -27458128.76 -27458128.65 -27458128.49 0.0061 0.0043

Pluto -79890-12-25 21:49 J -27458040.68 -27458040.59 -27458040.46 0.0061 0.0050

Pluto -79889-03-22 23:30 J -27457952.59 -27457952.52 -27457952.43 0.0061 0.0056

Mars -79888-05-08 08:52 J -27457541.15 -27457541.13 -27457541.10 0.1836 0.1784

Venus -79888-11-05 14:52 J -27457359.99 -27457359.88 -27457359.77 0.3771 0.0323

Mars -79887-06-16 23:01 J -27457136.68 -27457136.54 -27457136.39 0.1732 0.0685

Jupiter -79887-10-15 23:59 J -27457015.58 -27457015.50 -27457015.43 0.0537 0.0424

Jupiter -79886-01-13 07:25 J -27456926.32 -27456926.19 -27456926.06 0.0535 0.0028

Jupiter -79886-04-12 15:35 J -27456836.90 -27456836.85 -27456836.79 0.0533 0.0480

Mars -79886-04-13 22:32 J -27456835.64 -27456835.56 -27456835.49 0.1801 0.1360

Saturn -79883-01-22 17:59 J -27455820.88 -27455820.75 -27455820.61 0.0284 0.0191

Saturn -79883-04-21 17:44 J -27455731.94 -27455731.76 -27455731.58 0.0285 0.0033

Neptune -79883-05-26 00:13 J -27455697.50 -27455697.49 -27455697.47 0.0089 0.0088

Saturn -79883-07-19 17:01 J -27455642.95 -27455642.79 -27455642.62 0.0286 0.0126

Neptune -79883-08-22 01:25 J -27455609.47 -27455609.44 -27455609.39 0.0089 0.0084

Saturn -79883-10-16 16:04 J -27455553.84 -27455553.83 -27455553.79 0.0287 0.0284

Neptune -79883-11-18 02:37 J -27455521.43 -27455521.39 -27455521.32 0.0089 0.0080

Neptune -79882-02-14 04:04 J -27455433.39 -27455433.33 -27455433.25 0.0089 0.0075

Neptune -79882-05-13 05:16 J -27455345.34 -27455345.28 -27455345.19 0.0089 0.0071

Venus -79882-05-22 09:35 J -27455336.21 -27455336.10 -27455335.99 0.3767 0.0804

Neptune -79882-08-09 06:56 J -27455257.30 -27455257.21 -27455257.12 0.0089 0.0066

Neptune -79882-11-05 08:08 J -27455169.25 -27455169.16 -27455169.06 0.0089 0.0062

Neptune -79881-02-01 09:20 J -27455081.20 -27455081.11 -27455081.00 0.0089 0.0058

Neptune -79881-04-29 10:47 J -27454993.15 -27454993.05 -27454992.94 0.0089 0.0053

Neptune -79881-07-26 11:59 J -27454905.10 -27454905.00 -27454904.88 0.0089 0.0049

Moon -79881-09-15 20:23 J -27454853.79 -27454853.65 -27454853.51 0.2586 0.1183

Earth -79881-09-15 21:49 J -27454853.73 -27454853.59 -27454853.45 0.2589 0.1010 *

Neptune -79881-10-22 13:40 J -27454817.05 -27454816.93 -27454816.82 0.0089 0.0044

Jupiter -79881-12-11 09:06 J -27454767.25 -27454767.12 -27454766.99 0.0491 0.0339

Neptune -79880-01-18 14:52 J -27454729.00 -27454728.88 -27454728.76 0.0089 0.0040

Jupiter -79880-03-11 15:49 J -27454677.01 -27454676.84 -27454676.67 0.0492 0.0174

Neptune -79880-04-16 16:04 J -27454640.95 -27454640.83 -27454640.70 0.0089 0.0035

Neptune -79880-07-13 17:30 J -27454552.89 -27454552.77 -27454552.64 0.0089 0.0031

Neptune -79880-10-09 18:42 J -27454464.84 -27454464.72 -27454464.59 0.0089 0.0027

Neptune -79879-01-05 20:08 J -27454376.79 -27454376.66 -27454376.53 0.0089 0.0022

Neptune -79879-04-03 21:20 J -27454288.73 -27454288.61 -27454288.47 0.0089 0.0018

Neptune -79879-06-30 22:47 J -27454200.68 -27454200.55 -27454200.41 0.0089 0.0013

Neptune -79879-09-27 00:13 J -27454112.62 -27454112.49 -27454112.36 0.0089 0.0009

Neptune -79879-12-24 01:40 J -27454024.57 -27454024.43 -27454024.30 0.0089 0.0005

Neptune -79878-03-22 02:52 J -27453936.51 -27453936.38 -27453936.24 0.0089 0.0001

Moon -79878-03-23 23:59 J -27453934.58 -27453934.50 -27453934.42 0.2741 0.1923

Earth -79878-03-24 00:13 J -27453934.57 -27453934.49 -27453934.41 0.2748 0.1904 *

Venus -79878-05-21 00:56 J -27453876.54 -27453876.46 -27453876.39 0.3601 0.2996

Neptune -79878-06-18 04:18 J -27453848.45 -27453848.32 -27453848.19 0.0089 0.0005

Neptune -79878-09-14 05:30 J -27453760.40 -27453760.27 -27453760.13 0.0089 0.0010

Mars -79878-11-06 23:44 J -27453706.67 -27453706.51 -27453706.36 0.1723 0.0347

Neptune -79878-12-11 06:56 J -27453672.34 -27453672.21 -27453672.08 0.0089 0.0014

Neptune -79877-03-08 08:08 J -27453584.28 -27453584.16 -27453584.02 0.0089 0.0019

Neptune -79877-06-04 09:35 J -27453496.22 -27453496.10 -27453495.97 0.0089 0.0023

Neptune -79877-08-31 11:01 J -27453408.16 -27453408.04 -27453407.91 0.0089 0.0028

Mars -79877-09-03 07:11 J -27453405.31 -27453405.20 -27453405.09 0.1810 0.0614

Neptune -79877-11-27 12:28 J -27453320.11 -27453319.98 -27453319.86 0.0089 0.0032

Venus -79877-12-05 04:18 J -27453312.41 -27453312.32 -27453312.22 0.3764 0.1949

Neptune -79876-02-23 13:40 J -27453232.05 -27453231.93 -27453231.80 0.0089 0.0037

Neptune -79876-05-22 14:52 J -27453143.98 -27453143.88 -27453143.75 0.0089 0.0042

Neptune -79876-08-18 16:32 J -27453055.92 -27453055.81 -27453055.69 0.0089 0.0046

Neptune -79876-11-14 17:44 J -27452967.86 -27452967.76 -27452967.64 0.0089 0.0051

Neptune -79875-02-10 19:11 J -27452879.80 -27452879.70 -27452879.59 0.0089 0.0055

Neptune -79875-05-09 20:37 J -27452791.73 -27452791.64 -27452791.54 0.0089 0.0060

Jupiter -79875-08-04 03:35 J -27452705.35 -27452705.35 -27452705.34 0.0536 0.0535

Neptune -79875-08-05 22:04 J -27452703.67 -27452703.58 -27452703.48 0.0089 0.0064

Jupiter -79875-11-01 11:01 J -27452616.17 -27452616.04 -27452615.91 0.0535 0.0090

Neptune -79875-11-01 23:16 J -27452615.60 -27452615.53 -27452615.43 0.0089 0.0069

Neptune -79874-01-29 00:56 J -27452527.53 -27452527.46 -27452527.38 0.0089 0.0073

Jupiter -79874-01-29 18:56 J -27452526.80 -27452526.71 -27452526.61 0.0533 0.0362

Neptune -79874-04-27 02:08 J -27452439.46 -27452439.41 -27452439.34 0.0089 0.0078

Neptune -79874-07-24 03:20 J -27452351.39 -27452351.36 -27452351.29 0.0089 0.0083

Neptune -79874-10-20 05:01 J -27452263.31 -27452263.29 -27452263.26 0.0089 0.0087

Uranus -79874-12-08 16:32 J -27452213.88 -27452213.81 -27452213.73 0.0141 0.0129

Uranus -79873-03-05 23:59 J -27452125.61 -27452125.50 -27452125.36 0.0141 0.0104

Uranus -79873-06-02 07:40 J -27452037.33 -27452037.18 -27452037.01 0.0140 0.0078

Uranus -79873-08-29 15:20 J -27451949.03 -27451948.86 -27451948.68 0.0140 0.0052

Uranus -79873-11-25 22:47 J -27451860.73 -27451860.55 -27451860.36 0.0140 0.0027

Venus -79873-12-04 01:40 J -27451852.56 -27451852.43 -27451852.30 0.3604 0.1386

Uranus -79872-02-22 06:13 J -27451772.42 -27451772.24 -27451772.05 0.0140 0.0004

Uranus -79872-05-21 13:40 J -27451684.11 -27451683.93 -27451683.74 0.0140 0.0023

Uranus -79872-08-17 20:52 J -27451595.80 -27451595.63 -27451595.45 0.0140 0.0048

Uranus -79872-11-14 04:04 J -27451507.48 -27451507.33 -27451507.16 0.0140 0.0072

Uranus -79871-02-10 11:16 J -27451419.16 -27451419.03 -27451418.89 0.0139 0.0096

Earth -79871-03-16 21:49 J -27451384.67 -27451384.59 -27451384.50 0.2746 0.1730

Moon -79871-03-16 22:32 J -27451384.65 -27451384.56 -27451384.47 0.2749 0.1676 *

Uranus -79871-05-09 18:13 J -27451330.82 -27451330.74 -27451330.64 0.0139 0.0120

Venus -79871-06-20 23:30 J -27451288.58 -27451288.52 -27451288.46 0.3759 0.3129

Saturn -79870-05-30 17:01 J -27450944.81 -27450944.79 -27450944.75 0.0278 0.0269

Saturn -79870-08-27 04:04 J -27450856.43 -27450856.33 -27450856.22 0.0277 0.0167

Saturn -79870-11-23 15:06 J -27450768.00 -27450767.87 -27450767.74 0.0276 0.0066

Saturn -79869-02-20 01:54 J -27450679.55 -27450679.42 -27450679.28 0.0275 0.0036

Saturn -79869-05-18 12:56 J -27450591.07 -27450590.96 -27450590.84 0.0275 0.0136

Saturn -79869-08-14 23:59 J -27450502.56 -27450502.50 -27450502.43 0.0274 0.0237

Jupiter -79869-09-29 06:28 J -27450457.27 -27450457.23 -27450457.18 0.0491 0.0472

Jupiter -79869-12-28 13:40 J -27450367.11 -27450366.93 -27450366.74 0.0492 0.0046

Mars -79868-03-28 23:59 J -27450276.59 -27450276.50 -27450276.40 0.1715 0.1365

Moon -79868-09-19 01:40 J -27450102.57 -27450102.43 -27450102.28 0.2591 0.0987

Earth -79868-09-19 03:20 J -27450102.50 -27450102.36 -27450102.22 0.2589 0.1154 *

Mars -79867-01-24 15:49 J -27449974.96 -27449974.84 -27449974.73 0.1819 0.0164

Venus -79867-06-20 02:08 J -27449828.55 -27449828.41 -27449828.28 0.3608 0.0212

Jupiter -79863-08-20 14:37 J -27448306.01 -27448305.89 -27448305.77 0.0535 0.0204

Jupiter -79863-11-17 22:32 J -27448216.68 -27448216.56 -27448216.45 0.0534 0.0248

Venus -79861-01-04 01:54 J -27447804.54 -27447804.42 -27447804.30 0.3612 0.1662

Earth -79858-03-19 16:18 J -27446633.93 -27446633.82 -27446633.72 0.2747 0.0453

Moon -79858-03-19 16:47 J -27446633.91 -27446633.80 -27446633.69 0.2743 0.0372 *

Mars -79858-06-17 00:28 J -27446544.58 -27446544.48 -27446544.38 0.1828 0.0912

Jupiter -79857-10-16 11:44 J -27446057.19 -27446057.01 -27446056.83 0.0492 0.0085

Jupiter -79856-01-14 17:44 J -27445966.85 -27445966.76 -27445966.67 0.0493 0.0423

Venus -79856-07-20 01:25 J -27445780.51 -27445780.44 -27445780.38 0.3617 0.3079

Saturn -79854-06-11 18:13 J -27445088.84 -27445088.74 -27445088.62 0.0284 0.0223

Saturn -79854-09-08 17:59 J -27444999.92 -27444999.75 -27444999.56 0.0285 0.0065

Saturn -79854-12-06 17:30 J -27444910.94 -27444910.77 -27444910.59 0.0286 0.0094

Saturn -79853-03-04 16:47 J -27444821.88 -27444821.80 -27444821.71 0.0287 0.0252

Jupiter -79851-06-08 18:13 J -27443995.85 -27443995.74 -27443995.64 0.0536 0.0321

Jupiter -79851-09-06 01:40 J -27443906.55 -27443906.43 -27443906.30 0.0534 0.0130

Mars -79849-11-06 09:06 J -27443114.17 -27443114.12 -27443114.08 0.1836 0.1689

Venus -79848-10-28 06:13 J -27442758.30 -27442758.24 -27442758.18 0.3781 0.3184

Mars -79848-12-15 23:30 J -27442709.66 -27442709.52 -27442709.38 0.1732 0.0810

Mars -79847-10-12 22:47 J -27442408.62 -27442408.55 -27442408.49 0.1801 0.1468

Earth -79845-03-21 10:47 J -27441883.16 -27441883.05 -27441882.95 0.2747 0.0864

Moon -79845-03-21 10:47 J -27441883.15 -27441883.05 -27441882.94 0.2741 0.0924 *

Jupiter -79845-08-04 09:35 J -27441747.27 -27441747.10 -27441746.94 0.0491 0.0212

Jupiter -79845-11-02 16:04 J -27441656.97 -27441656.83 -27441656.69 0.0493 0.0298

Venus -79842-05-14 00:13 J -27440734.58 -27440734.49 -27440734.40 0.3777 0.2148

Saturn -79840-01-13 06:56 J -27440124.30 -27440124.21 -27440124.11 0.0277 0.0192

Saturn -79840-04-11 17:59 J -27440035.88 -27440035.75 -27440035.63 0.0276 0.0091

Saturn -79840-07-09 04:47 J -27439947.43 -27439947.30 -27439947.16 0.0275 0.0013

Saturn -79840-10-05 15:49 J -27439858.96 -27439858.84 -27439858.72 0.0274 0.0111

Saturn -79839-01-02 02:52 J -27439770.46 -27439770.38 -27439770.29 0.0274 0.0211

Jupiter -79839-03-27 22:04 J -27439685.66 -27439685.58 -27439685.51 0.0536 0.0430

Jupiter -79839-06-25 05:30 J -27439596.39 -27439596.27 -27439596.14 0.0535 0.0027

Jupiter -79839-09-22 13:40 J -27439506.98 -27439506.93 -27439506.87 0.0533 0.0473

Earth -79838-03-15 08:23 J -27439333.15 -27439333.15 -27439333.14 0.2745 0.2735

Mars -79838-05-08 00:13 J -27439279.65 -27439279.49 -27439279.33 0.1724 0.0211

Mars -79837-03-04 07:11 J -27438978.31 -27438978.20 -27438978.09 0.1810 0.0706

Venus -79837-11-26 18:42 J -27438710.83 -27438710.72 -27438710.62 0.3774 0.1077

Moon -79835-09-17 02:52 J -27438051.54 -27438051.38 -27438051.23 0.2587 0.0663

Earth -79835-09-17 04:18 J -27438051.47 -27438051.32 -27438051.17 0.2589 0.0571 *

Jupiter -79833-05-23 06:56 J -27437437.34 -27437437.21 -27437437.08 0.0491 0.0343

Jupiter -79833-08-21 13:40 J -27437347.09 -27437346.93 -27437346.75 0.0492 0.0170

Moon -79832-03-24 04:47 J -27437132.37 -27437132.30 -27437132.22 0.2741 0.2073

Earth -79832-03-24 05:16 J -27437132.35 -27437132.28 -27437132.22 0.2748 0.2179 *

Venus -79831-06-12 13:11 J -27436687.06 -27436686.95 -27436686.84 0.3770 0.0058

Uranus -79829-08-05 21:06 J -27435901.67 -27435901.62 -27435901.55 0.0138 0.0123

Mars -79829-09-27 00:42 J -27435849.58 -27435849.47 -27435849.36 0.1715 0.1234

Uranus -79829-11-02 00:28 J -27435813.55 -27435813.48 -27435813.39 0.0138 0.0106

Uranus -79828-01-29 04:04 J -27435725.43 -27435725.33 -27435725.23 0.0138 0.0089

Uranus -79828-04-27 07:25 J -27435637.30 -27435637.19 -27435637.07 0.0138 0.0072

Uranus -79828-07-24 10:47 J -27435549.17 -27435549.05 -27435548.92 0.0138 0.0055

Mars -79828-07-25 15:49 J -27435547.96 -27435547.84 -27435547.72 0.1819 0.0051

Uranus -79828-10-20 14:23 J -27435461.03 -27435460.90 -27435460.77 0.0138 0.0038

Jupiter -79827-01-14 02:08 J -27435375.41 -27435375.41 -27435375.40 0.0537 0.0536

Uranus -79827-01-16 17:44 J -27435372.89 -27435372.76 -27435372.62 0.0139 0.0021

Jupiter -79827-04-13 09:35 J -27435286.22 -27435286.10 -27435285.97 0.0536 0.0091

Uranus -79827-04-14 21:20 J -27435284.75 -27435284.61 -27435284.48 0.0139 0.0004

Jupiter -79827-07-11 17:44 J -27435196.86 -27435196.76 -27435196.67 0.0534 0.0364

Uranus -79827-07-12 00:42 J -27435196.60 -27435196.47 -27435196.33 0.0139 0.0015

Uranus -79827-10-08 04:18 J -27435108.45 -27435108.32 -27435108.19 0.0139 0.0032

Uranus -79826-01-04 07:54 J -27435020.30 -27435020.17 -27435020.04 0.0139 0.0050

Uranus -79826-04-02 11:30 J -27434932.14 -27434932.02 -27434931.90 0.0139 0.0068

Uranus -79826-06-29 15:06 J -27434843.98 -27434843.87 -27434843.77 0.0139 0.0087

Uranus -79826-09-25 18:42 J -27434755.81 -27434755.72 -27434755.63 0.0140 0.0105

Uranus -79826-12-22 22:04 J -27434667.63 -27434667.58 -27434667.50 0.0140 0.0124

Venus -79826-12-27 07:54 J -27434663.28 -27434663.17 -27434663.07 0.3767 0.1161

Earth -79825-03-17 02:52 J -27434582.48 -27434582.38 -27434582.29 0.2746 0.1469

Moon -79825-03-17 03:20 J -27434582.45 -27434582.36 -27434582.26 0.2747 0.1334 *

Saturn -79825-10-28 15:06 J -27434356.89 -27434356.87 -27434356.83 0.0284 0.0279

Saturn -79824-01-25 14:52 J -27434268.04 -27434267.88 -27434267.71 0.0284 0.0121

Saturn -79824-04-24 14:37 J -27434179.08 -27434178.89 -27434178.71 0.0285 0.0038

Saturn -79824-07-22 13:40 J -27434090.05 -27434089.93 -27434089.79 0.0286 0.0196

Moon -79822-09-20 07:54 J -27433300.29 -27433300.17 -27433300.04 0.2591 0.1423

Earth -79822-09-20 09:35 J -27433300.22 -27433300.10 -27433299.98 0.2589 0.1581 *

Venus -79822-12-26 00:56 J -27433203.56 -27433203.46 -27433203.36 0.3602 0.2497

Jupiter -79821-03-11 04:47 J -27433127.34 -27433127.30 -27433127.24 0.0491 0.0469

Jupiter -79821-06-09 11:59 J -27433037.18 -27433037.00 -27433036.82 0.0492 0.0047

Venus -79820-07-12 02:52 J -27432639.47 -27432639.38 -27432639.30 0.3763 0.2327

Mars -79819-12-16 00:28 J -27432117.59 -27432117.48 -27432117.38 0.1827 0.0825

Venus -79816-07-11 01:25 J -27431179.57 -27431179.44 -27431179.30 0.3606 0.0909

Jupiter -79815-01-30 13:25 J -27430976.06 -27430975.94 -27430975.82 0.0535 0.0202

Jupiter -79815-04-29 21:06 J -27430886.73 -27430886.62 -27430886.50 0.0534 0.0249

Venus -79814-01-25 21:49 J -27430615.63 -27430615.59 -27430615.55 0.3758 0.3509

Earth -79812-03-19 21:06 J -27429831.73 -27429831.62 -27429831.51 0.2747 0.0180

Moon -79812-03-19 21:49 J -27429831.70 -27429831.59 -27429831.48 0.2743 0.0117 *

Saturn -79811-06-02 09:06 J -27429392.20 -27429392.12 -27429392.05 0.0278 0.0224

Saturn -79811-08-29 19:54 J -27429303.78 -27429303.67 -27429303.55 0.0277 0.0123

Saturn -79811-11-26 06:56 J -27429215.34 -27429215.21 -27429215.08 0.0276 0.0022

Venus -79810-01-25 01:54 J -27429155.56 -27429155.42 -27429155.29 0.3609 0.0655

Saturn -79810-02-22 17:59 J -27429126.88 -27429126.75 -27429126.62 0.0275 0.0080

Saturn -79810-05-22 05:01 J -27429038.39 -27429038.29 -27429038.19 0.0275 0.0181

Jupiter -79809-03-28 09:35 J -27428727.28 -27428727.10 -27428726.92 0.0492 0.0087

Mars -79809-05-07 08:52 J -27428687.18 -27428687.13 -27428687.07 0.1836 0.1601

Jupiter -79809-06-26 15:49 J -27428636.93 -27428636.84 -27428636.75 0.0494 0.0422

Mars -79808-06-16 00:13 J -27428282.62 -27428282.49 -27428282.36 0.1732 0.0948

Mars -79807-04-12 22:32 J -27427981.62 -27427981.56 -27427981.50 0.1801 0.1553

Venus -79805-08-10 01:25 J -27427131.54 -27427131.44 -27427131.33 0.3613 0.2112

Jupiter -79804-11-18 17:01 J -27426665.89 -27426665.79 -27426665.69 0.0535 0.0316

Jupiter -79803-02-16 00:42 J -27426576.60 -27426576.47 -27426576.35 0.0534 0.0133

Moon -79802-09-15 04:04 J -27426000.40 -27426000.33 -27426000.27 0.2585 0.2325

Earth -79802-09-15 05:01 J -27426000.36 -27426000.29 -27426000.22 0.2590 0.2329 *

Pluto -79800-03-24 20:37 J -27425443.69 -27425443.64 -27425443.59 0.0085 0.0078

Pluto -79800-06-20 21:49 J -27425355.66 -27425355.59 -27425355.50 0.0084 0.0066

Pluto -79800-09-16 23:16 J -27425267.62 -27425267.53 -27425267.42 0.0084 0.0055

Neptune -79800-11-10 22:04 J -27425212.60 -27425212.58 -27425212.52 0.0089 0.0087

Pluto -79800-12-14 00:28 J -27425179.58 -27425179.48 -27425179.35 0.0084 0.0044

Neptune -79799-02-07 02:08 J -27425124.49 -27425124.41 -27425124.32 0.0089 0.0080

Venus -79799-02-24 00:56 J -27425107.49 -27425107.46 -27425107.44 0.3618 0.3522

Pluto -79799-03-12 02:08 J -27425091.53 -27425091.41 -27425091.28 0.0084 0.0031

Moon -79799-03-22 15:35 J -27425080.95 -27425080.85 -27425080.75 0.2740 0.1123

Earth -79799-03-22 15:35 J -27425080.95 -27425080.85 -27425080.75 0.2747 0.1129 *

Neptune -79799-05-06 05:30 J -27425036.36 -27425036.27 -27425036.15 0.0089 0.0074

Pluto -79799-06-08 03:20 J -27425003.48 -27425003.36 -27425003.22 0.0084 0.0020

Neptune -79799-08-02 09:20 J -27424948.23 -27424948.11 -27424947.97 0.0089 0.0067

Pluto -79799-09-04 04:47 J -27424915.43 -27424915.30 -27424915.16 0.0084 0.0008

Neptune -79799-10-29 12:42 J -27424860.09 -27424859.97 -27424859.81 0.0089 0.0061

Mars -79799-11-06 00:42 J -27424852.63 -27424852.47 -27424852.31 0.1724 0.0086

Pluto -79799-12-01 06:13 J -27424827.38 -27424827.24 -27424827.11 0.0084 0.0003

Neptune -79798-01-25 16:32 J -27424771.95 -27424771.81 -27424771.64 0.0089 0.0054

Pluto -79798-02-27 07:25 J -27424739.32 -27424739.19 -27424739.06 0.0084 0.0014

Neptune -79798-04-23 20:08 J -27424683.81 -27424683.66 -27424683.48 0.0089 0.0048

Pluto -79798-05-26 08:37 J -27424651.26 -27424651.14 -27424651.01 0.0083 0.0026

Neptune -79798-07-20 23:59 J -27424595.67 -27424595.50 -27424595.32 0.0089 0.0041

Pluto -79798-08-22 09:49 J -27424563.20 -27424563.09 -27424562.96 0.0083 0.0037

Mars -79798-09-03 07:11 J -27424551.30 -27424551.20 -27424551.09 0.1810 0.0806

Neptune -79798-10-17 03:49 J -27424507.52 -27424507.34 -27424507.16 0.0089 0.0034

Pluto -79798-11-18 11:16 J -27424475.14 -27424475.03 -27424474.92 0.0083 0.0047

Neptune -79797-01-13 07:11 J -27424419.37 -27424419.20 -27424419.01 0.0089 0.0028

Jupiter -79797-01-15 07:25 J -27424417.36 -27424417.19 -27424417.03 0.0492 0.0216

Pluto -79797-02-14 12:28 J -27424387.07 -27424386.98 -27424386.88 0.0083 0.0058

Neptune -79797-04-10 11:01 J -27424331.23 -27424331.04 -27424330.85 0.0089 0.0021

Jupiter -79797-04-14 13:54 J -27424327.06 -27424326.92 -27424326.77 0.0493 0.0295

Pluto -79797-05-12 13:40 J -27424298.99 -27424298.93 -27424298.85 0.0083 0.0069

Neptune -79797-07-07 14:37 J -27424243.08 -27424242.89 -27424242.70 0.0089 0.0014

Pluto -79797-08-08 14:52 J -27424210.90 -27424210.88 -27424210.83 0.0083 0.0080

Neptune -79797-10-03 18:13 J -27424154.93 -27424154.74 -27424154.55 0.0089 0.0008

Neptune -79797-12-30 21:49 J -27424066.78 -27424066.59 -27424066.40 0.0089 0.0001

Neptune -79796-03-29 01:25 J -27423978.63 -27423978.44 -27423978.25 0.0089 0.0005

Neptune -79796-06-25 05:01 J -27423890.48 -27423890.29 -27423890.10 0.0089 0.0012

Neptune -79796-09-21 08:23 J -27423802.33 -27423802.15 -27423801.95 0.0089 0.0018

Neptune -79796-12-18 11:59 J -27423714.18 -27423714.00 -27423713.81 0.0089 0.0025

Neptune -79795-03-16 15:35 J -27423626.03 -27423625.85 -27423625.66 0.0089 0.0031

Neptune -79795-06-12 18:56 J -27423537.87 -27423537.71 -27423537.52 0.0089 0.0038

Saturn -79795-06-14 15:49 J -27423536.00 -27423535.84 -27423535.68 0.0284 0.0149

Neptune -79795-09-08 22:32 J -27423449.72 -27423449.56 -27423449.38 0.0089 0.0044

Saturn -79795-09-11 15:35 J -27423447.04 -27423446.85 -27423446.67 0.0285 0.0012

Neptune -79795-12-06 01:54 J -27423361.56 -27423361.42 -27423361.25 0.0089 0.0051

Saturn -79795-12-09 14:52 J -27423358.03 -27423357.88 -27423357.73 0.0286 0.0168

Neptune -79794-03-04 05:30 J -27423273.40 -27423273.27 -27423273.11 0.0089 0.0057

Neptune -79794-05-31 09:06 J -27423185.24 -27423185.12 -27423184.98 0.0089 0.0063

Neptune -79794-08-27 12:28 J -27423097.08 -27423096.98 -27423096.85 0.0089 0.0069

Neptune -79794-11-23 15:49 J -27423008.92 -27423008.84 -27423008.72 0.0089 0.0076

Neptune -79793-02-19 19:25 J -27422920.75 -27422920.69 -27422920.60 0.0089 0.0082

Neptune -79793-05-17 23:16 J -27422832.55 -27422832.53 -27422832.51 0.0089 0.0088

Earth -79792-03-15 13:25 J -27422530.99 -27422530.94 -27422530.90 0.2745 0.2473

Moon -79792-03-15 13:54 J -27422530.98 -27422530.92 -27422530.87 0.2751 0.2355 *

Jupiter -79792-09-06 20:23 J -27422355.72 -27422355.65 -27422355.58 0.0536 0.0434

Jupiter -79792-12-05 03:49 J -27422266.47 -27422266.34 -27422266.21 0.0535 0.0017

Jupiter -79791-03-04 11:59 J -27422177.06 -27422177.00 -27422176.94 0.0533 0.0467

Venus -79791-06-04 04:18 J -27422085.39 -27422085.32 -27422085.25 0.3780 0.2866

Uranus -79790-12-28 23:16 J -27421512.60 -27421512.53 -27421512.43 0.0141 0.0125

Uranus -79789-03-26 07:11 J -27421424.33 -27421424.20 -27421424.07 0.0141 0.0099

Mars -79789-03-28 01:11 J -27421422.58 -27421422.45 -27421422.33 0.1716 0.1114

Uranus -79789-06-22 14:37 J -27421336.04 -27421335.89 -27421335.72 0.0140 0.0073

Moon -79789-09-17 09:06 J -27421249.27 -27421249.12 -27421248.96 0.2589 0.0378

Earth -79789-09-17 10:47 J -27421249.21 -27421249.05 -27421248.89 0.2589 0.0127 *

Uranus -79789-09-18 22:18 J -27421247.74 -27421247.57 -27421247.39 0.0140 0.0048

Uranus -79789-12-16 05:44 J -27421159.44 -27421159.26 -27421159.07 0.0140 0.0022

Mars -79788-01-23 15:49 J -27421120.96 -27421120.84 -27421120.72 0.1818 0.0061

Uranus -79788-03-14 13:11 J -27421071.13 -27421070.95 -27421070.76 0.0140 0.0004

Uranus -79788-06-10 20:37 J -27420982.82 -27420982.64 -27420982.46 0.0140 0.0028

Uranus -79788-09-07 03:49 J -27420894.51 -27420894.34 -27420894.16 0.0140 0.0053

Uranus -79788-12-04 11:01 J -27420806.19 -27420806.04 -27420805.88 0.0140 0.0077

Uranus -79787-03-02 18:28 J -27420717.86 -27420717.73 -27420717.61 0.0139 0.0101

Uranus -79787-05-30 01:11 J -27420629.51 -27420629.45 -27420629.35 0.0139 0.0125

Moon -79786-03-25 09:49 J -27420330.14 -27420330.09 -27420330.05 0.2742 0.2442

Earth -79786-03-25 10:04 J -27420330.12 -27420330.08 -27420330.03 0.2748 0.2451 *

Jupiter -79786-11-03 05:01 J -27420107.41 -27420107.29 -27420107.15 0.0491 0.0344

Venus -79786-12-18 22:32 J -27420061.66 -27420061.56 -27420061.47 0.3777 0.1816

Jupiter -79785-02-01 11:59 J -27420017.17 -27420017.00 -27420016.83 0.0492 0.0169

Saturn -79782-10-20 12:13 J -27418660.05 -27418659.99 -27418659.93 0.0277 0.0247

Saturn -79781-01-16 23:01 J -27418571.65 -27418571.54 -27418571.42 0.0277 0.0146

Saturn -79781-04-14 10:04 J -27418483.21 -27418483.08 -27418482.95 0.0276 0.0044

Saturn -79781-07-11 21:06 J -27418394.75 -27418394.62 -27418394.49 0.0275 0.0057

Saturn -79781-10-08 08:08 J -27418306.27 -27418306.16 -27418306.05 0.0274 0.0158

Saturn -79780-01-04 18:56 J -27418217.74 -27418217.71 -27418217.66 0.0273 0.0259

Venus -79780-07-03 16:47 J -27418037.91 -27418037.80 -27418037.69 0.3773 0.0739

Jupiter -79780-09-23 07:40 J -27417956.31 -27417956.18 -27417956.05 0.0535 0.0099

Jupiter -79780-12-21 15:35 J -27417866.94 -27417866.85 -27417866.75 0.0534 0.0355

Earth -79779-03-18 07:40 J -27417780.28 -27417780.18 -27417780.08 0.2746 0.1202

Moon -79779-03-18 08:23 J -27417780.25 -27417780.15 -27417780.05 0.2745 0.1174 *

Mars -79779-06-16 00:28 J -27417690.59 -27417690.48 -27417690.37 0.1827 0.0728

Moon -79776-09-20 14:37 J -27416498.00 -27416497.89 -27416497.79 0.2591 0.1890

Earth -79776-09-20 16:04 J -27416497.93 -27416497.83 -27416497.73 0.2589 0.2016 *

Venus -79774-01-17 11:16 J -27416014.14 -27416014.03 -27416013.91 0.3769 0.0400

Jupiter -79774-08-22 02:23 J -27415797.44 -27415797.40 -27415797.35 0.0491 0.0475

Jupiter -79774-11-20 09:35 J -27415707.28 -27415707.10 -27415706.92 0.0492 0.0040

Mars -79770-11-06 09:06 J -27414260.19 -27414260.12 -27414260.06 0.1836 0.1500

Venus -79769-08-02 06:13 J -27413990.35 -27413990.24 -27413990.14 0.3766 0.1526

Mars -79769-12-15 00:56 J -27413855.58 -27413855.46 -27413855.34 0.1732 0.1086

Jupiter -79768-07-12 11:44 J -27413646.13 -27413646.01 -27413645.89 0.0536 0.0207

Jupiter -79768-10-09 19:25 J -27413556.80 -27413556.69 -27413556.57 0.0534 0.0247

Mars -79768-10-11 22:47 J -27413554.60 -27413554.55 -27413554.51 0.1801 0.1654

Earth -79766-03-21 02:08 J -27413029.52 -27413029.41 -27413029.30 0.2747 0.0145

Moon -79766-03-21 02:37 J -27413029.50 -27413029.39 -27413029.28 0.2743 0.0191 *

Saturn -79766-11-01 13:25 J -27412804.07 -27412803.94 -27412803.81 0.0284 0.0200

Saturn -79765-01-29 13:11 J -27412715.14 -27412714.95 -27412714.77 0.0285 0.0042

Saturn -79765-04-27 12:28 J -27412626.15 -27412625.98 -27412625.81 0.0285 0.0117

Saturn -79765-07-25 11:44 J -27412537.06 -27412537.01 -27412536.96 0.0286 0.0274

Venus -79765-08-01 00:42 J -27412530.58 -27412530.47 -27412530.36 0.3603 0.2012

Venus -79763-02-16 01:11 J -27411966.53 -27411966.45 -27411966.38 0.3761 0.2698

Jupiter -79762-09-08 07:40 J -27411397.36 -27411397.18 -27411397.00 0.0492 0.0087

Jupiter -79762-12-07 13:40 J -27411307.01 -27411306.93 -27411306.83 0.0493 0.0422

Venus -79759-02-15 01:25 J -27410506.58 -27410506.44 -27410506.31 0.3607 0.0421

Mars -79759-05-07 01:25 J -27410425.60 -27410425.44 -27410425.28 0.1724 0.0064

Mars -79758-03-04 07:11 J -27410124.30 -27410124.20 -27410124.09 0.1810 0.0900

Jupiter -79756-04-30 15:35 J -27409335.95 -27409335.85 -27409335.75 0.0536 0.0317

Jupiter -79756-07-28 23:16 J -27409246.66 -27409246.53 -27409246.41 0.0534 0.0132

Moon -79756-09-15 10:32 J -27409198.16 -27409198.06 -27409197.97 0.2586 0.2081

Earth -79756-09-15 11:30 J -27409198.12 -27409198.02 -27409197.91 0.2590 0.1879 *

Venus -79754-09-01 01:25 J -27408482.57 -27408482.44 -27408482.31 0.3610 0.1103

Moon -79753-03-22 20:23 J -27408278.74 -27408278.65 -27408278.55 0.2739 0.1390

Earth -79753-03-22 20:23 J -27408278.74 -27408278.65 -27408278.55 0.2747 0.1402 *

Saturn -79752-06-05 01:25 J -27407839.54 -27407839.44 -27407839.34 0.0277 0.0178

Saturn -79752-09-01 12:13 J -27407751.12 -27407750.99 -27407750.86 0.0277 0.0076

Saturn -79752-11-28 23:16 J -27407662.66 -27407662.53 -27407662.40 0.0276 0.0026

Saturn -79751-02-25 10:18 J -27407574.19 -27407574.07 -27407573.95 0.0275 0.0127

Saturn -79751-05-24 21:20 J -27407485.68 -27407485.61 -27407485.53 0.0274 0.0228

Jupiter -79750-06-27 04:47 J -27407087.46 -27407087.30 -27407087.13 0.0492 0.0222

Jupiter -79750-09-25 11:30 J -27406997.16 -27406997.02 -27406996.87 0.0493 0.0291

Mars -79750-09-27 01:54 J -27406995.55 -27406995.42 -27406995.29 0.1716 0.0968

Mars -79749-07-24 15:49 J -27406693.96 -27406693.84 -27406693.72 0.1818 0.0136

Venus -79748-03-17 01:11 J -27406458.55 -27406458.45 -27406458.36 0.3615 0.2569

Earth -79746-03-16 18:13 J -27405728.80 -27405728.74 -27405728.68 0.2745 0.2211

Moon -79746-03-16 18:42 J -27405728.78 -27405728.72 -27405728.65 0.2750 0.2209 *

Uranus -79745-05-30 01:11 J -27405288.47 -27405288.45 -27405288.42 0.0138 0.0135

Uranus -79745-08-26 04:32 J -27405200.37 -27405200.31 -27405200.24 0.0138 0.0118

Uranus -79745-11-22 07:54 J -27405112.25 -27405112.17 -27405112.07 0.0138 0.0102

Jupiter -79744-02-16 19:11 J -27405025.77 -27405025.70 -27405025.62 0.0536 0.0431

Uranus -79744-02-18 11:16 J -27405024.13 -27405024.03 -27405023.92 0.0138 0.0085

Jupiter -79744-05-17 02:52 J -27404936.51 -27404936.38 -27404936.26 0.0534 0.0024

Uranus -79744-05-17 14:37 J -27404936.00 -27404935.89 -27404935.76 0.0138 0.0068

Uranus -79744-08-13 18:13 J -27404847.86 -27404847.74 -27404847.61 0.0138 0.0051

Jupiter -79744-08-14 10:47 J -27404847.11 -27404847.05 -27404846.99 0.0533 0.0469

Uranus -79744-11-09 21:35 J -27404759.73 -27404759.60 -27404759.46 0.0138 0.0034

Uranus -79743-02-06 01:11 J -27404671.58 -27404671.45 -27404671.32 0.0139 0.0016

Uranus -79743-05-05 04:32 J -27404583.44 -27404583.31 -27404583.17 0.0139 0.0005

Uranus -79743-08-01 08:08 J -27404495.29 -27404495.16 -27404495.02 0.0139 0.0019

Moon -79743-09-18 15:20 J -27404447.01 -27404446.86 -27404446.70 0.2590 0.0242

Earth -79743-09-18 17:01 J -27404446.94 -27404446.79 -27404446.63 0.2589 0.0315 *

Uranus -79743-10-28 11:44 J -27404407.14 -27404407.01 -27404406.88 0.0139 0.0037

Uranus -79742-01-24 15:06 J -27404318.99 -27404318.87 -27404318.74 0.0139 0.0055

Uranus -79742-04-22 18:42 J -27404230.83 -27404230.72 -27404230.60 0.0139 0.0073

Uranus -79742-07-19 22:18 J -27404142.67 -27404142.57 -27404142.46 0.0139 0.0091

Uranus -79742-10-16 01:54 J -27404054.50 -27404054.42 -27404054.33 0.0140 0.0110

Uranus -79741-01-12 05:44 J -27403966.31 -27403966.26 -27403966.21 0.0140 0.0128

Moon -79740-03-25 14:37 J -27403527.92 -27403527.89 -27403527.87 0.2743 0.2630

Earth -79740-03-25 15:06 J -27403527.88 -27403527.87 -27403527.86 0.2747 0.2724 *

Venus -79740-06-25 08:23 J -27403436.18 -27403436.15 -27403436.12 0.3782 0.3577

Mars -79740-12-15 00:28 J -27403263.59 -27403263.48 -27403263.37 0.1827 0.0628

Jupiter -79738-04-15 02:37 J -27402777.52 -27402777.39 -27402777.26 0.0491 0.0351

Jupiter -79738-07-14 09:35 J -27402687.27 -27402687.10 -27402686.93 0.0493 0.0163

Saturn -79736-03-20 14:08 J -27402072.01 -27402071.91 -27402071.79 0.0284 0.0228

Saturn -79736-06-17 14:08 J -27401983.09 -27401982.91 -27401982.73 0.0284 0.0069

Saturn -79736-09-14 13:40 J -27401894.11 -27401893.93 -27401893.76 0.0285 0.0089

Saturn -79736-12-12 12:42 J -27401805.05 -27401804.97 -27401804.87 0.0286 0.0247

Venus -79734-01-09 02:23 J -27401412.48 -27401412.40 -27401412.32 0.3779 0.2551

Earth -79733-03-18 12:28 J -27400978.08 -27400977.98 -27400977.87 0.2746 0.0939

Moon -79733-03-18 13:11 J -27400978.05 -27400977.95 -27400977.84 0.2745 0.0778 *

Jupiter -79732-03-05 05:59 J -27400626.38 -27400626.25 -27400626.13 0.0535 0.0106

Jupiter -79732-06-02 13:40 J -27400537.02 -27400536.93 -27400536.83 0.0534 0.0348

Mars -79730-05-07 09:06 J -27399833.19 -27399833.12 -27399833.05 0.1836 0.1408

Moon -79730-09-21 21:06 J -27399695.69 -27399695.62 -27399695.55 0.2592 0.2275

Earth -79730-09-21 22:32 J -27399695.61 -27399695.56 -27399695.52 0.2589 0.2445 *

Mars -79729-06-15 01:11 J -27399428.56 -27399428.45 -27399428.34 0.1733 0.1199

Venus -79729-07-24 20:37 J -27399388.74 -27399388.64 -27399388.54 0.3776 0.1483

Mars -79728-04-11 22:47 J -27399127.57 -27399127.55 -27399127.53 0.1801 0.1753

Jupiter -79726-02-01 00:13 J -27398467.52 -27398467.49 -27398467.45 0.0491 0.0479

Jupiter -79726-05-02 07:40 J -27398377.37 -27398377.18 -27398377.00 0.0492 0.0038

Venus -79723-02-07 15:06 J -27397364.98 -27397364.87 -27397364.76 0.3772 0.0402

Saturn -79723-10-23 04:47 J -27397107.39 -27397107.30 -27397107.21 0.0277 0.0197

Saturn -79722-01-19 15:49 J -27397018.96 -27397018.84 -27397018.72 0.0276 0.0095

Saturn -79722-04-18 02:52 J -27396930.52 -27396930.38 -27396930.25 0.0276 0.0010

Saturn -79722-07-15 13:40 J -27396842.05 -27396841.93 -27396841.80 0.0275 0.0108

Saturn -79722-10-12 00:42 J -27396753.55 -27396753.47 -27396753.38 0.0274 0.0208

Jupiter -79721-12-22 09:35 J -27396316.22 -27396316.10 -27396315.98 0.0536 0.0217

Earth -79720-03-21 06:56 J -27396227.32 -27396227.21 -27396227.10 0.2747 0.0359

Moon -79720-03-21 07:25 J -27396227.30 -27396227.19 -27396227.08 0.2741 0.0370 *

Jupiter -79720-03-21 17:16 J -27396226.89 -27396226.78 -27396226.66 0.0534 0.0235

Mars -79720-11-05 02:08 J -27395998.57 -27395998.41 -27395998.25 0.1724 0.0192

Mars -79719-09-02 07:25 J -27395697.29 -27395697.19 -27395697.10 0.1809 0.0997

Neptune -79718-02-19 23:44 J -27395526.52 -27395526.51 -27395526.48 0.0089 0.0087

Neptune -79718-05-19 00:56 J -27395438.49 -27395438.46 -27395438.40 0.0089 0.0083

Neptune -79718-08-15 02:37 J -27395350.45 -27395350.39 -27395350.33 0.0089 0.0078

Venus -79718-08-24 09:35 J -27395341.21 -27395341.10 -27395340.99 0.3768 0.0739

Neptune -79718-11-11 03:35 J -27395262.41 -27395262.35 -27395262.26 0.0089 0.0074

Neptune -79717-02-07 05:16 J -27395174.36 -27395174.28 -27395174.20 0.0089 0.0069

Neptune -79717-05-05 06:28 J -27395086.31 -27395086.23 -27395086.14 0.0089 0.0065

Neptune -79717-08-01 07:40 J -27394998.27 -27394998.18 -27394998.07 0.0089 0.0061

Neptune -79717-10-28 09:06 J -27394910.22 -27394910.12 -27394910.01 0.0089 0.0056

Neptune -79716-01-24 10:18 J -27394822.17 -27394822.07 -27394821.95 0.0089 0.0052

Neptune -79716-04-22 11:30 J -27394734.12 -27394734.02 -27394733.89 0.0089 0.0048

Neptune -79716-07-19 12:56 J -27394646.07 -27394645.96 -27394645.83 0.0089 0.0043

Neptune -79716-10-15 14:23 J -27394558.01 -27394557.90 -27394557.78 0.0089 0.0038

Neptune -79715-01-11 15:49 J -27394469.96 -27394469.84 -27394469.72 0.0089 0.0034

Neptune -79715-04-09 17:01 J -27394381.91 -27394381.79 -27394381.66 0.0089 0.0030

Neptune -79715-07-06 18:28 J -27394293.86 -27394293.73 -27394293.60 0.0089 0.0025

Neptune -79715-10-02 19:40 J -27394205.80 -27394205.68 -27394205.54 0.0089 0.0021

Neptune -79715-12-29 21:06 J -27394117.75 -27394117.62 -27394117.49 0.0089 0.0016

Jupiter -79714-02-18 05:01 J -27394067.47 -27394067.29 -27394067.11 0.0492 0.0095

Neptune -79714-03-27 22:32 J -27394029.69 -27394029.56 -27394029.43 0.0089 0.0012

Jupiter -79714-05-19 11:16 J -27393977.13 -27393977.03 -27393976.93 0.0493 0.0412

Neptune -79714-06-23 23:44 J -27393941.64 -27393941.51 -27393941.37 0.0089 0.0007

Venus -79714-08-22 23:44 J -27393881.57 -27393881.51 -27393881.44 0.3600 0.3156

Neptune -79714-09-20 01:11 J -27393853.58 -27393853.45 -27393853.32 0.0089 0.0003

Neptune -79714-12-17 02:37 J -27393765.53 -27393765.39 -27393765.26 0.0089 0.0003

Neptune -79713-03-14 03:49 J -27393677.47 -27393677.34 -27393677.20 0.0089 0.0007

Neptune -79713-06-10 05:16 J -27393589.41 -27393589.28 -27393589.15 0.0089 0.0011

Neptune -79713-09-06 06:28 J -27393501.36 -27393501.23 -27393501.09 0.0089 0.0016

Neptune -79713-12-03 07:54 J -27393413.30 -27393413.17 -27393413.04 0.0089 0.0020

Neptune -79712-03-01 09:06 J -27393325.24 -27393325.12 -27393324.98 0.0089 0.0025

Venus -79712-03-09 04:32 J -27393317.41 -27393317.31 -27393317.22 0.3764 0.1892

Neptune -79712-05-28 10:32 J -27393237.18 -27393237.06 -27393236.93 0.0089 0.0029

Neptune -79712-08-24 11:59 J -27393149.12 -27393149.00 -27393148.87 0.0089 0.0034

Neptune -79712-11-20 13:25 J -27393061.06 -27393060.94 -27393060.82 0.0089 0.0038

Neptune -79711-02-16 14:37 J -27392973.00 -27392972.89 -27392972.77 0.0089 0.0043

Neptune -79711-05-15 15:49 J -27392884.94 -27392884.84 -27392884.71 0.0089 0.0048

Neptune -79711-08-11 17:16 J -27392796.88 -27392796.78 -27392796.66 0.0089 0.0052

Neptune -79711-11-07 18:42 J -27392708.81 -27392708.72 -27392708.61 0.0089 0.0057

Neptune -79710-02-03 20:08 J -27392620.75 -27392620.66 -27392620.56 0.0089 0.0061

Mars -79710-03-28 02:23 J -27392568.54 -27392568.40 -27392568.26 0.1716 0.0840

Neptune -79710-05-02 21:20 J -27392532.68 -27392532.61 -27392532.51 0.0089 0.0066

Neptune -79710-07-29 23:01 J -27392444.62 -27392444.54 -27392444.46 0.0089 0.0070

Moon -79710-09-16 16:32 J -27392395.93 -27392395.81 -27392395.68 0.2587 0.1496

Earth -79710-09-16 17:59 J -27392395.88 -27392395.75 -27392395.62 0.2590 0.1433 *

Neptune -79710-10-26 00:13 J -27392356.55 -27392356.49 -27392356.41 0.0089 0.0075

Neptune -79709-01-22 01:54 J -27392268.48 -27392268.42 -27392268.36 0.0089 0.0079

Mars -79709-01-23 15:49 J -27392266.95 -27392266.84 -27392266.72 0.1818 0.0244

Neptune -79709-04-19 03:06 J -27392180.40 -27392180.37 -27392180.32 0.0089 0.0084

Neptune -79709-07-16 04:32 J -27392092.31 -27392092.31 -27392092.29 0.0089 0.0089

Jupiter -79709-10-10 13:40 J -27392006.03 -27392005.93 -27392005.83 0.0536 0.0326

Jupiter -79708-01-07 21:20 J -27391916.74 -27391916.61 -27391916.49 0.0535 0.0125

Venus -79708-03-08 00:42 J -27391857.59 -27391857.47 -27391857.35 0.3604 0.1513

Moon -79707-03-24 01:25 J -27391476.53 -27391476.44 -27391476.36 0.2740 0.1677

Earth -79707-03-24 01:25 J -27391476.53 -27391476.44 -27391476.35 0.2747 0.1668 *

Saturn -79707-08-07 12:42 J -27391340.01 -27391339.97 -27391339.92 0.0283 0.0273

Venus -79707-09-22 23:30 J -27391293.58 -27391293.52 -27391293.46 0.3760 0.3077

Saturn -79707-11-04 12:28 J -27391251.15 -27391250.98 -27391250.81 0.0284 0.0115

Saturn -79706-02-01 11:59 J -27391162.18 -27391162.00 -27391161.82 0.0285 0.0043

Saturn -79706-05-01 11:16 J -27391073.16 -27391073.03 -27391072.90 0.0286 0.0201

Uranus -79705-01-18 07:11 J -27390811.30 -27390811.20 -27390811.09 0.0141 0.0118

Uranus -79705-04-15 14:52 J -27390723.02 -27390722.88 -27390722.73 0.0141 0.0092

Uranus -79705-07-12 22:18 J -27390634.72 -27390634.57 -27390634.39 0.0140 0.0067

Uranus -79705-10-09 05:59 J -27390546.42 -27390546.25 -27390546.06 0.0140 0.0041

Uranus -79704-01-05 13:40 J -27390458.12 -27390457.93 -27390457.75 0.0140 0.0015

Uranus -79704-04-03 21:06 J -27390369.81 -27390369.62 -27390369.44 0.0140 0.0010

Uranus -79704-07-01 04:18 J -27390281.50 -27390281.32 -27390281.14 0.0140 0.0035

Uranus -79704-09-27 11:30 J -27390193.18 -27390193.02 -27390192.84 0.0140 0.0060

Uranus -79704-12-24 18:56 J -27390104.86 -27390104.71 -27390104.56 0.0139 0.0084

Uranus -79703-03-23 02:08 J -27390016.52 -27390016.41 -27390016.29 0.0139 0.0108

Uranus -79703-06-19 09:20 J -27389928.17 -27389928.11 -27389928.05 0.0139 0.0132

Venus -79703-09-22 01:11 J -27389833.59 -27389833.45 -27389833.32 0.3607 0.0076

Jupiter -79703-12-07 02:52 J -27389757.54 -27389757.38 -27389757.22 0.0491 0.0223

Jupiter -79702-03-07 09:20 J -27389667.25 -27389667.11 -27389666.96 0.0493 0.0288

Earth -79700-03-16 23:01 J -27388926.61 -27388926.54 -27388926.46 0.2745 0.1954

Moon -79700-03-16 23:44 J -27388926.59 -27388926.51 -27388926.43 0.2748 0.1827 *

Mars -79700-06-15 00:28 J -27388836.59 -27388836.48 -27388836.36 0.1827 0.0537

Venus -79697-04-07 01:11 J -27387809.57 -27387809.45 -27387809.33 0.3611 0.1575

Jupiter -79697-07-29 17:30 J -27387695.84 -27387695.77 -27387695.69 0.0536 0.0435

Moon -79697-09-18 22:04 J -27387644.74 -27387644.58 -27387644.43 0.2589 0.0483

Earth -79697-09-18 23:44 J -27387644.66 -27387644.51 -27387644.36 0.2589 0.0755 *

Jupiter -79697-10-27 01:11 J -27387606.58 -27387606.45 -27387606.32 0.0535 0.0015

Jupiter -79696-01-24 09:06 J -27387517.18 -27387517.12 -27387517.06 0.0533 0.0466

Saturn -79693-03-11 06:56 J -27386375.28 -27386375.21 -27386375.13 0.0278 0.0229

Saturn -79693-06-07 17:59 J -27386286.87 -27386286.75 -27386286.63 0.0277 0.0127

Saturn -79693-09-04 05:01 J -27386198.43 -27386198.29 -27386198.16 0.0276 0.0026

Saturn -79693-12-01 16:04 J -27386109.96 -27386109.83 -27386109.71 0.0275 0.0077

Saturn -79692-02-28 02:52 J -27386021.47 -27386021.38 -27386021.27 0.0275 0.0178

Venus -79692-10-22 00:42 J -27385785.54 -27385785.47 -27385785.40 0.3616 0.3023

Jupiter -79691-09-24 23:44 J -27385447.63 -27385447.51 -27385447.38 0.0492 0.0360

Mars -79691-11-05 09:06 J -27385406.20 -27385406.12 -27385406.04 0.1836 0.1318

Jupiter -79691-12-24 06:56 J -27385357.38 -27385357.21 -27385357.04 0.0493 0.0155

Mars -79690-12-15 02:08 J -27385001.51 -27385001.41 -27385001.32 0.1733 0.1347

Earth -79687-03-19 17:30 J -27384175.88 -27384175.77 -27384175.67 0.2746 0.0680

Moon -79687-03-19 18:13 J -27384175.85 -27384175.74 -27384175.64 0.2745 0.0654 *

Jupiter -79685-08-15 04:47 J -27383296.43 -27383296.30 -27383296.18 0.0535 0.0102

Jupiter -79685-11-12 12:28 J -27383207.07 -27383206.98 -27383206.88 0.0533 0.0350

Venus -79683-01-30 06:28 J -27382763.28 -27382763.23 -27382763.18 0.3781 0.3268

Mars -79680-05-06 02:23 J -27381571.55 -27381571.40 -27381571.24 0.1724 0.0315

Mars -79679-03-03 07:25 J -27381270.29 -27381270.19 -27381270.10 0.1810 0.1094

Jupiter -79679-07-13 21:35 J -27381137.61 -27381137.60 -27381137.59 0.0491 0.0490

Jupiter -79679-10-12 04:47 J -27381047.48 -27381047.30 -27381047.12 0.0492 0.0027

Venus -79678-08-16 00:28 J -27380739.56 -27380739.48 -27380739.39 0.3778 0.2227

Saturn -79677-03-23 13:25 J -27380519.10 -27380518.94 -27380518.78 0.0284 0.0143

Saturn -79677-06-20 12:56 J -27380430.14 -27380429.96 -27380429.77 0.0285 0.0016

Saturn -79677-09-17 12:13 J -27380341.13 -27380340.99 -27380340.84 0.0286 0.0174

Earth -79674-03-22 11:44 J -27379425.11 -27379425.01 -27379424.90 0.2747 0.0629

Moon -79674-03-22 12:13 J -27379425.10 -27379424.99 -27379424.89 0.2740 0.0734 *

Jupiter -79673-06-03 07:40 J -27378986.29 -27378986.18 -27378986.06 0.0535 0.0225

Jupiter -79673-08-31 15:20 J -27378896.97 -27378896.86 -27378896.74 0.0534 0.0228

Venus -79672-02-28 18:56 J -27378715.82 -27378715.71 -27378715.61 0.3775 0.1158

Mars -79671-09-26 03:06 J -27378141.52 -27378141.37 -27378141.23 0.1716 0.0713

Mars -79670-07-24 16:04 J -27377839.95 -27377839.83 -27377839.71 0.1818 0.0337

Jupiter -79667-07-31 02:37 J -27376737.56 -27376737.39 -27376737.21 0.0492 0.0101

Venus -79667-09-14 13:11 J -27376692.06 -27376691.95 -27376691.83 0.3771 0.0147

Jupiter -79667-10-29 09:06 J -27376647.22 -27376647.12 -27376647.02 0.0493 0.0408

Saturn -79664-07-29 10:47 J -27375643.11 -27375643.05 -27375642.99 0.0278 0.0246

Moon -79664-09-16 23:01 J -27375593.68 -27375593.54 -27375593.40 0.2588 0.1195

Earth -79664-09-17 00:28 J -27375593.62 -27375593.48 -27375593.33 0.2590 0.0985 *

Saturn -79664-10-25 21:35 J -27375554.71 -27375554.60 -27375554.48 0.0277 0.0145

Saturn -79663-01-22 08:37 J -27375466.27 -27375466.14 -27375466.01 0.0276 0.0043

Saturn -79663-04-20 19:40 J -27375377.81 -27375377.68 -27375377.55 0.0275 0.0058

Saturn -79663-07-18 06:42 J -27375289.33 -27375289.22 -27375289.11 0.0275 0.0159

Saturn -79663-10-14 17:44 J -27375200.80 -27375200.76 -27375200.72 0.0274 0.0260

Jupiter -79661-03-22 11:30 J -27374676.12 -27374676.02 -27374675.92 0.0536 0.0337

Moon -79661-03-24 06:13 J -27374674.32 -27374674.24 -27374674.16 0.2741 0.1877

Earth -79661-03-24 06:13 J -27374674.31 -27374674.24 -27374674.16 0.2747 0.1943 *

Venus -79661-03-30 07:54 J -27374668.28 -27374668.17 -27374668.06 0.3767 0.1100

Uranus -79661-06-19 08:52 J -27374587.17 -27374587.13 -27374587.08 0.0138 0.0129

Jupiter -79661-06-19 18:56 J -27374586.83 -27374586.71 -27374586.58 0.0535 0.0114

Uranus -79661-09-15 12:13 J -27374499.06 -27374498.99 -27374498.91 0.0138 0.0113

Uranus -79661-12-12 15:35 J -27374410.94 -27374410.85 -27374410.75 0.0138 0.0096

Mars -79661-12-14 00:28 J -27374409.59 -27374409.48 -27374409.36 0.1827 0.0445

Uranus -79660-03-10 18:56 J -27374322.81 -27374322.71 -27374322.59 0.0138 0.0079

Uranus -79660-06-06 22:32 J -27374234.68 -27374234.56 -27374234.44 0.0138 0.0062

Uranus -79660-09-03 01:54 J -27374146.55 -27374146.42 -27374146.29 0.0138 0.0045

Uranus -79660-11-30 05:16 J -27374058.41 -27374058.28 -27374058.14 0.0138 0.0028

Uranus -79659-02-26 08:52 J -27373970.27 -27373970.13 -27373970.00 0.0139 0.0010

Uranus -79659-05-25 12:13 J -27373882.12 -27373881.99 -27373881.85 0.0139 0.0009

Uranus -79659-08-21 15:49 J -27373793.97 -27373793.84 -27373793.70 0.0139 0.0025

Uranus -79659-11-17 19:25 J -27373705.82 -27373705.69 -27373705.56 0.0139 0.0043

Uranus -79658-02-13 22:47 J -27373617.66 -27373617.55 -27373617.42 0.0139 0.0061

Uranus -79658-05-13 02:23 J -27373529.50 -27373529.40 -27373529.28 0.0139 0.0079

Uranus -79658-08-09 05:59 J -27373441.34 -27373441.25 -27373441.15 0.0140 0.0097

Uranus -79658-11-05 09:35 J -27373353.17 -27373353.10 -27373353.02 0.0140 0.0116

Uranus -79657-02-01 13:25 J -27373264.97 -27373264.94 -27373264.90 0.0140 0.0134

Venus -79657-03-28 23:44 J -27373208.60 -27373208.51 -27373208.42 0.3601 0.2649

Venus -79656-10-14 02:52 J -27372644.47 -27372644.38 -27372644.29 0.3763 0.2268

Jupiter -79655-05-18 23:59 J -27372427.66 -27372427.50 -27372427.33 0.0491 0.0233

Jupiter -79655-08-17 06:42 J -27372337.37 -27372337.22 -27372337.07 0.0493 0.0279

Earth -79654-03-18 04:04 J -27372124.42 -27372124.33 -27372124.25 0.2746 0.1686

Moon -79654-03-18 04:47 J -27372124.39 -27372124.30 -27372124.22 0.2748 0.1633 *

Venus -79652-10-13 00:42 J -27371184.60 -27371184.47 -27371184.34 0.3605 0.1015

Mars -79651-05-06 09:06 J -27370979.21 -27370979.12 -27370979.03 0.1835 0.1218

Moon -79651-09-20 04:32 J -27370842.45 -27370842.31 -27370842.17 0.2590 0.1126

Earth -79651-09-20 05:59 J -27370842.39 -27370842.25 -27370842.11 0.2589 0.1184 *

Venus -79650-04-29 21:49 J -27370620.63 -27370620.59 -27370620.54 0.3759 0.3470

Mars -79650-06-15 02:37 J -27370574.47 -27370574.39 -27370574.31 0.1733 0.1476

Jupiter -79649-01-09 15:20 J -27370365.92 -27370365.86 -27370365.79 0.0536 0.0446

Jupiter -79649-04-07 23:01 J -27370276.67 -27370276.54 -27370276.41 0.0535 0.0006

Jupiter -79649-07-06 06:56 J -27370187.27 -27370187.21 -27370187.14 0.0533 0.0457

Saturn -79648-08-10 11:59 J -27369787.13 -27369787.00 -27369786.85 0.0284 0.0187

Saturn -79648-11-07 11:59 J -27369698.19 -27369698.00 -27369697.82 0.0285 0.0029

Saturn -79647-02-04 11:16 J -27369609.19 -27369609.03 -27369608.86 0.0285 0.0130

Pluto -79647-07-06 07:54 J -27369457.20 -27369457.17 -27369457.10 0.0060 0.0058

Pluto -79647-10-02 09:20 J -27369369.18 -27369369.11 -27369369.00 0.0060 0.0052

Pluto -79647-12-29 10:47 J -27369281.15 -27369281.05 -27369280.91 0.0060 0.0047

Pluto -79646-03-27 12:13 J -27369193.12 -27369192.99 -27369192.84 0.0060 0.0041

Venus -79646-04-29 00:56 J -27369160.59 -27369160.46 -27369160.33 0.3608 0.0543

Pluto -79646-06-23 13:40 J -27369105.08 -27369104.93 -27369104.77 0.0060 0.0035

Pluto -79646-09-19 15:06 J -27369017.03 -27369016.87 -27369016.70 0.0060 0.0029

Pluto -79646-12-16 16:32 J -27368928.98 -27368928.81 -27368928.63 0.0061 0.0023

Pluto -79645-03-13 17:59 J -27368840.93 -27368840.75 -27368840.57 0.0061 0.0017

Pluto -79645-06-09 19:25 J -27368752.88 -27368752.69 -27368752.50 0.0061 0.0011

Pluto -79645-09-05 20:52 J -27368664.82 -27368664.63 -27368664.44 0.0061 0.0005

Pluto -79645-12-02 22:04 J -27368576.77 -27368576.58 -27368576.38 0.0061 0.0002

Pluto -79644-02-28 23:30 J -27368488.71 -27368488.52 -27368488.33 0.0061 0.0007

Pluto -79644-05-28 00:56 J -27368400.64 -27368400.46 -27368400.27 0.0061 0.0013

Pluto -79644-08-24 02:23 J -27368312.58 -27368312.40 -27368312.22 0.0061 0.0019

Pluto -79644-11-20 03:49 J -27368224.51 -27368224.34 -27368224.16 0.0061 0.0026

Pluto -79643-02-16 04:47 J -27368136.44 -27368136.30 -27368136.11 0.0061 0.0032

Jupiter -79643-03-06 21:35 J -27368117.72 -27368117.60 -27368117.47 0.0491 0.0362

Pluto -79643-05-15 06:13 J -27368048.37 -27368048.24 -27368048.07 0.0061 0.0039

Jupiter -79643-06-05 04:47 J -27368027.48 -27368027.30 -27368027.13 0.0492 0.0152

Pluto -79643-08-11 07:54 J -27367960.29 -27367960.17 -27367960.03 0.0061 0.0044

Pluto -79643-11-07 09:20 J -27367872.20 -27367872.11 -27367871.99 0.0061 0.0051

Pluto -79642-02-03 11:01 J -27367784.10 -27367784.04 -27367783.97 0.0061 0.0057

Earth -79641-03-19 22:18 J -27367373.68 -27367373.57 -27367373.46 0.2746 0.0408

Moon -79641-03-19 23:01 J -27367373.65 -27367373.54 -27367373.43 0.2744 0.0278 *

Mars -79641-11-04 03:06 J -27367144.52 -27367144.37 -27367144.21 0.1725 0.0453

Venus -79641-11-12 00:42 J -27367136.58 -27367136.47 -27367136.36 0.3613 0.2045

Mars -79640-09-01 07:25 J -27366843.28 -27366843.19 -27366843.10 0.1809 0.1192

Jupiter -79637-01-26 02:52 J -27365966.50 -27365966.38 -27365966.25 0.0535 0.0108

Jupiter -79637-04-24 10:47 J -27365877.15 -27365877.05 -27365876.95 0.0533 0.0345

Venus -79635-05-29 00:13 J -27365112.52 -27365112.49 -27365112.46 0.3617 0.3476

Neptune -79635-08-07 19:54 J -27365041.70 -27365041.67 -27365041.60 0.0089 0.0086

Neptune -79635-11-03 23:44 J -27364953.59 -27364953.51 -27364953.41 0.0089 0.0079

Saturn -79635-12-16 12:56 J -27364910.96 -27364910.96 -27364910.95 0.0278 0.0277

Neptune -79634-01-31 03:06 J -27364865.46 -27364865.37 -27364865.24 0.0089 0.0073

Saturn -79634-03-14 23:59 J -27364822.60 -27364822.50 -27364822.40 0.0277 0.0175

Neptune -79634-04-29 07:11 J -27364777.32 -27364777.20 -27364777.07 0.0089 0.0066

Saturn -79634-06-11 11:01 J -27364734.17 -27364734.04 -27364733.92 0.0276 0.0074

Neptune -79634-07-26 10:32 J -27364689.19 -27364689.06 -27364688.90 0.0089 0.0060

Saturn -79634-09-07 21:49 J -27364645.72 -27364645.59 -27364645.45 0.0276 0.0030

Neptune -79634-10-22 14:23 J -27364601.05 -27364600.90 -27364600.73 0.0089 0.0053

Saturn -79634-12-05 08:52 J -27364557.24 -27364557.13 -27364557.01 0.0275 0.0130

Neptune -79633-01-18 18:13 J -27364512.90 -27364512.74 -27364512.57 0.0089 0.0046

Saturn -79633-03-02 20:08 J -27364468.73 -27364468.66 -27364468.59 0.0274 0.0231

Neptune -79633-04-15 21:35 J -27364424.76 -27364424.60 -27364424.41 0.0089 0.0040

Neptune -79633-07-13 01:25 J -27364336.62 -27364336.44 -27364336.26 0.0089 0.0033

Neptune -79633-10-09 05:01 J -27364248.47 -27364248.29 -27364248.10 0.0089 0.0026

Neptune -79632-01-05 08:37 J -27364160.32 -27364160.14 -27364159.94 0.0089 0.0020

Neptune -79632-04-03 12:13 J -27364072.18 -27364071.99 -27364071.79 0.0089 0.0014

Neptune -79632-06-30 16:04 J -27363984.03 -27363983.83 -27363983.64 0.0089 0.0007

Neptune -79632-09-26 19:40 J -27363895.88 -27363895.68 -27363895.49 0.0089 0.0001

Neptune -79632-12-23 23:01 J -27363807.73 -27363807.54 -27363807.34 0.0089 0.0007

Neptune -79631-03-22 02:37 J -27363719.58 -27363719.39 -27363719.19 0.0089 0.0013

Jupiter -79631-03-24 01:54 J -27363717.60 -27363717.42 -27363717.23 0.0492 0.0019

Mars -79631-03-27 03:49 J -27363714.50 -27363714.34 -27363714.19 0.1716 0.0575

Neptune -79631-06-18 06:13 J -27363631.42 -27363631.24 -27363631.05 0.0089 0.0019

Neptune -79631-09-14 09:49 J -27363543.27 -27363543.09 -27363542.90 0.0089 0.0026

Neptune -79631-12-11 13:11 J -27363455.12 -27363454.95 -27363454.76 0.0089 0.0033

Mars -79630-01-22 16:04 J -27363412.95 -27363412.83 -27363412.72 0.1818 0.0428

Neptune -79630-03-09 16:47 J -27363366.96 -27363366.80 -27363366.62 0.0089 0.0039

Neptune -79630-06-05 20:37 J -27363278.81 -27363278.64 -27363278.48 0.0089 0.0045

Neptune -79630-09-01 23:44 J -27363190.65 -27363190.51 -27363190.34 0.0089 0.0052

Neptune -79630-11-29 03:20 J -27363102.49 -27363102.36 -27363102.20 0.0089 0.0058

Neptune -79629-02-25 06:42 J -27363014.33 -27363014.22 -27363014.07 0.0089 0.0065

Neptune -79629-05-23 10:18 J -27362926.17 -27362926.07 -27362925.94 0.0089 0.0071

Neptune -79629-08-19 13:54 J -27362838.00 -27362837.92 -27362837.82 0.0089 0.0077

Neptune -79629-11-15 17:30 J -27362749.83 -27362749.77 -27362749.70 0.0089 0.0083

Earth -79628-03-22 16:47 J -27362622.91 -27362622.80 -27362622.70 0.2747 0.0898

Moon -79628-03-22 17:01 J -27362622.90 -27362622.79 -27362622.69 0.2740 0.0860 *

Venus -79627-09-06 04:32 J -27362090.38 -27362090.31 -27362090.24 0.3780 0.2948

Jupiter -79626-11-14 06:42 J -27361656.34 -27361656.22 -27361656.11 0.0535 0.0222

Jupiter -79625-02-11 14:23 J -27361567.02 -27361566.90 -27361566.79 0.0534 0.0230

Mars -79622-08-17 04:04 J -27360284.39 -27360284.33 -27360284.28 0.1708 0.1601

Uranus -79622-11-11 07:54 J -27360198.22 -27360198.17 -27360198.12 0.0141 0.0135

Uranus -79621-02-07 15:06 J -27360109.97 -27360109.87 -27360109.73 0.0141 0.0110

Earth -79621-03-15 14:37 J -27360072.91 -27360072.89 -27360072.87 0.2745 0.2686

Moon -79621-03-15 15:06 J -27360072.90 -27360072.87 -27360072.84 0.2750 0.2628 *

Venus -79621-03-21 22:47 J -27360066.65 -27360066.55 -27360066.46 0.3777 0.1893

Uranus -79621-05-05 23:01 J -27360021.68 -27360021.54 -27360021.38 0.0141 0.0083

Mars -79621-06-14 00:42 J -27359982.59 -27359982.47 -27359982.36 0.1827 0.0341

Uranus -79621-08-02 06:42 J -27359933.39 -27359933.22 -27359933.04 0.0140 0.0058

Uranus -79621-10-29 14:08 J -27359845.08 -27359844.91 -27359844.72 0.0140 0.0033

Uranus -79620-01-25 21:49 J -27359756.78 -27359756.59 -27359756.40 0.0140 0.0007

Uranus -79620-04-24 05:16 J -27359668.47 -27359668.28 -27359668.10 0.0140 0.0018

Uranus -79620-07-21 12:42 J -27359580.15 -27359579.97 -27359579.80 0.0140 0.0043

Uranus -79620-10-17 19:54 J -27359491.83 -27359491.67 -27359491.51 0.0140 0.0068

Jupiter -79619-01-09 23:44 J -27359407.69 -27359407.51 -27359407.33 0.0492 0.0111

Uranus -79619-01-14 02:52 J -27359403.51 -27359403.38 -27359403.23 0.0139 0.0092

Jupiter -79619-04-10 06:13 J -27359317.34 -27359317.24 -27359317.14 0.0493 0.0399

Uranus -79619-04-12 10:04 J -27359315.17 -27359315.08 -27359314.97 0.0139 0.0116

Saturn -79619-12-28 12:42 J -27359055.08 -27359054.97 -27359054.85 0.0284 0.0217

Saturn -79618-03-27 12:28 J -27358966.16 -27358965.98 -27358965.80 0.0284 0.0058

Saturn -79618-06-24 11:59 J -27358877.17 -27358877.00 -27358876.82 0.0285 0.0101

Moon -79618-09-18 05:30 J -27358791.43 -27358791.27 -27358791.12 0.2588 0.0664

Earth -79618-09-18 06:56 J -27358791.36 -27358791.21 -27358791.05 0.2590 0.0545 *

Saturn -79618-09-21 11:16 J -27358788.10 -27358788.03 -27358787.95 0.0286 0.0258

Venus -79616-10-05 17:01 J -27358042.90 -27358042.79 -27358042.68 0.3774 0.0802

Moon -79615-03-25 10:47 J -27357872.11 -27357872.05 -27357871.98 0.2741 0.2213

Earth -79615-03-25 11:16 J -27357872.10 -27357872.03 -27357871.97 0.2747 0.2210 *

Jupiter -79614-09-02 09:35 J -27357346.20 -27357346.10 -27357346.00 0.0536 0.0344

Jupiter -79614-11-30 17:16 J -27357256.91 -27357256.78 -27357256.66 0.0534 0.0106

Mars -79612-11-04 09:06 J -27356552.21 -27356552.12 -27356552.02 0.1835 0.1123

Mars -79611-12-14 03:06 J -27356147.43 -27356147.37 -27356147.31 0.1733 0.1602

Venus -79610-04-21 11:30 J -27356019.13 -27356019.02 -27356018.91 0.3770 0.0326

Earth -79608-03-18 08:52 J -27355322.22 -27355322.13 -27355322.04 0.2746 0.1422

Moon -79608-03-18 09:35 J -27355322.19 -27355322.10 -27355322.00 0.2748 0.1305 *

Jupiter -79608-10-28 21:49 J -27355097.75 -27355097.59 -27355097.43 0.0491 0.0238

Jupiter -79607-01-27 04:18 J -27355007.46 -27355007.32 -27355007.16 0.0493 0.0275

Saturn -79605-08-01 03:49 J -27354090.43 -27354090.34 -27354090.24 0.0277 0.0192

Moon -79605-09-20 11:01 J -27354040.17 -27354040.04 -27354039.91 0.2592 0.1403

Earth -79605-09-20 12:28 J -27354040.10 -27354039.98 -27354039.86 0.2589 0.1626 *

Saturn -79605-10-28 14:52 J -27354002.01 -27354001.88 -27354001.76 0.0276 0.0091

Venus -79605-11-04 06:13 J -27353995.34 -27353995.24 -27353995.13 0.3766 0.1470

Saturn -79604-01-25 01:40 J -27353913.56 -27353913.43 -27353913.29 0.0276 0.0013

Saturn -79604-04-23 12:42 J -27353825.09 -27353824.97 -27353824.85 0.0275 0.0112

Saturn -79604-07-20 23:44 J -27353736.59 -27353736.51 -27353736.42 0.0274 0.0213

Jupiter -79602-06-21 13:11 J -27353036.01 -27353035.95 -27353035.88 0.0536 0.0457

Jupiter -79602-09-18 20:37 J -27352946.76 -27352946.64 -27352946.51 0.0535 0.0022

Jupiter -79602-12-17 04:47 J -27352857.37 -27352857.30 -27352857.23 0.0533 0.0444

Mars -79601-05-05 03:49 J -27352717.49 -27352717.34 -27352717.19 0.1725 0.0584

Venus -79601-11-02 23:44 J -27352535.61 -27352535.51 -27352535.40 0.3602 0.2138

Mars -79600-03-02 07:25 J -27352416.27 -27352416.19 -27352416.11 0.1809 0.1285

Venus -79599-05-21 01:11 J -27351971.53 -27351971.45 -27351971.37 0.3762 0.2651

Jupiter -79596-08-16 18:56 J -27350787.82 -27350787.71 -27350787.58 0.0491 0.0370

Jupiter -79596-11-15 01:54 J -27350697.59 -27350697.42 -27350697.24 0.0492 0.0145

Earth -79595-03-21 03:06 J -27350571.48 -27350571.37 -27350571.26 0.2746 0.0166

Moon -79595-03-21 03:49 J -27350571.45 -27350571.34 -27350571.23 0.2742 0.0122 *

Venus -79595-05-20 00:28 J -27350511.61 -27350511.48 -27350511.34 0.3606 0.0526

Mars -79592-09-25 04:18 J -27349287.47 -27349287.32 -27349287.16 0.1716 0.0441

Mars -79591-07-23 16:04 J -27348985.94 -27348985.83 -27348985.72 0.1818 0.0526

Jupiter -79590-07-08 00:42 J -27348636.60 -27348636.47 -27348636.35 0.0536 0.0120

Jupiter -79590-10-05 08:23 J -27348547.24 -27348547.15 -27348547.04 0.0534 0.0334

Venus -79590-12-04 00:42 J -27348487.60 -27348487.47 -27348487.34 0.3610 0.1024

Saturn -79589-05-16 11:59 J -27348323.07 -27348323.00 -27348322.92 0.0284 0.0257

Saturn -79589-08-13 11:44 J -27348234.18 -27348234.01 -27348233.83 0.0284 0.0099

Saturn -79589-11-10 11:16 J -27348145.21 -27348145.03 -27348144.85 0.0285 0.0060

Saturn -79588-02-07 10:32 J -27348056.17 -27348056.06 -27348055.94 0.0286 0.0218

Moon -79585-09-15 06:28 J -27346740.27 -27346740.23 -27346740.18 0.2586 0.2480

Earth -79585-09-15 07:40 J -27346740.25 -27346740.18 -27346740.11 0.2591 0.2309 *

Venus -79584-06-19 00:28 J -27346463.57 -27346463.48 -27346463.39 0.3614 0.2509

Jupiter -79584-09-02 23:59 J -27346387.69 -27346387.50 -27346387.32 0.0492 0.0020

Mars -79582-02-15 04:47 J -27345857.38 -27345857.30 -27345857.22 0.1708 0.1458

Earth -79582-03-23 21:35 J -27345820.70 -27345820.60 -27345820.50 0.2747 0.1162

Moon -79582-03-23 21:49 J -27345820.69 -27345820.59 -27345820.49 0.2740 0.1247 *

Mars -79582-12-14 00:42 J -27345555.59 -27345555.47 -27345555.36 0.1826 0.0257

Jupiter -79578-04-26 04:47 J -27344326.42 -27344326.30 -27344326.19 0.0536 0.0228

Jupiter -79578-07-24 12:28 J -27344237.10 -27344236.98 -27344236.86 0.0534 0.0223

Uranus -79577-07-09 16:04 J -27343885.87 -27343885.83 -27343885.76 0.0138 0.0126

Uranus -79577-10-05 19:25 J -27343797.76 -27343797.69 -27343797.60 0.0138 0.0109

Uranus -79576-01-01 23:01 J -27343709.64 -27343709.54 -27343709.44 0.0138 0.0092

Uranus -79576-03-31 02:23 J -27343621.51 -27343621.40 -27343621.28 0.0138 0.0075

Uranus -79576-06-27 05:44 J -27343533.38 -27343533.26 -27343533.13 0.0138 0.0058

Uranus -79576-09-23 09:20 J -27343445.24 -27343445.11 -27343444.98 0.0138 0.0041

Venus -79576-09-27 08:37 J -27343441.16 -27343441.14 -27343441.11 0.3783 0.3663

Saturn -79576-12-19 06:13 J -27343358.32 -27343358.24 -27343358.17 0.0277 0.0223

Uranus -79576-12-20 12:42 J -27343357.10 -27343356.97 -27343356.84 0.0139 0.0023

Earth -79575-03-16 19:25 J -27343270.74 -27343270.69 -27343270.64 0.2745 0.2428

Moon -79575-03-16 20:08 J -27343270.71 -27343270.66 -27343270.61 0.2749 0.2408 *

Saturn -79575-03-17 17:01 J -27343269.91 -27343269.79 -27343269.67 0.0277 0.0121

Uranus -79575-03-18 16:18 J -27343268.96 -27343268.82 -27343268.69 0.0139 0.0007

Saturn -79575-06-14 04:04 J -27343181.46 -27343181.33 -27343181.20 0.0276 0.0020

Uranus -79575-06-14 19:40 J -27343180.81 -27343180.68 -27343180.54 0.0139 0.0012

Saturn -79575-09-10 15:06 J -27343093.00 -27343092.87 -27343092.75 0.0275 0.0082

Uranus -79575-09-10 23:16 J -27343092.66 -27343092.53 -27343092.40 0.0139 0.0029

Saturn -79575-12-08 01:54 J -27343004.51 -27343004.42 -27343004.31 0.0274 0.0183

Uranus -79575-12-08 02:52 J -27343004.51 -27343004.38 -27343004.26 0.0139 0.0047 *

Uranus -79574-03-06 06:13 J -27342916.36 -27342916.24 -27342916.12 0.0139 0.0066

Uranus -79574-06-02 09:49 J -27342828.19 -27342828.09 -27342827.98 0.0139 0.0084

Uranus -79574-08-29 13:25 J -27342740.03 -27342739.94 -27342739.84 0.0140 0.0102

Uranus -79574-11-25 17:16 J -27342651.85 -27342651.78 -27342651.72 0.0140 0.0120

Uranus -79573-02-21 20:37 J -27342563.64 -27342563.64 -27342563.62 0.0140 0.0139

Mars -79572-05-05 09:06 J -27342125.21 -27342125.12 -27342125.02 0.1835 0.1030

Jupiter -79572-06-21 21:06 J -27342077.80 -27342077.62 -27342077.45 0.0492 0.0120

Moon -79572-09-18 11:44 J -27341989.16 -27341989.01 -27341988.85 0.2588 0.0295

Earth -79572-09-18 13:25 J -27341989.10 -27341988.94 -27341988.78 0.2590 0.0103 *

Jupiter -79572-09-20 03:20 J -27341987.46 -27341987.36 -27341987.25 0.0493 0.0390

Venus -79570-04-13 02:37 J -27341417.46 -27341417.39 -27341417.31 0.3780 0.2625

Moon -79569-03-25 15:35 J -27341069.90 -27341069.85 -27341069.79 0.2741 0.2350

Earth -79569-03-25 16:04 J -27341069.87 -27341069.83 -27341069.78 0.2747 0.2481 *

Jupiter -79566-02-12 08:23 J -27340016.24 -27340016.15 -27340016.05 0.0536 0.0341

Jupiter -79566-05-12 16:04 J -27339926.96 -27339926.83 -27339926.70 0.0534 0.0109

Venus -79565-10-26 20:52 J -27339393.73 -27339393.63 -27339393.53 0.3776 0.1554

Mars -79563-09-25 17:44 J -27338694.78 -27338694.76 -27338694.74 0.1844 0.1809

Earth -79562-03-19 13:40 J -27338520.02 -27338519.93 -27338519.83 0.2746 0.1160

Moon -79562-03-19 14:23 J -27338520.00 -27338519.90 -27338519.80 0.2747 0.1081 *

Mars -79562-11-04 04:18 J -27338290.47 -27338290.32 -27338290.17 0.1725 0.0711

Mars -79561-08-31 07:25 J -27337989.26 -27337989.19 -27337989.11 0.1809 0.1388

Jupiter -79560-04-09 18:42 J -27337767.87 -27337767.72 -27337767.56 0.0492 0.0249

Jupiter -79560-07-09 01:40 J -27337677.58 -27337677.43 -27337677.28 0.0493 0.0265

Saturn -79560-12-31 11:44 J -27337502.18 -27337502.01 -27337501.85 0.0284 0.0134

Saturn -79559-03-30 11:16 J -27337413.21 -27337413.03 -27337412.85 0.0285 0.0025

Venus -79559-05-12 15:20 J -27337369.97 -27337369.86 -27337369.75 0.3773 0.0453

Saturn -79559-06-27 10:47 J -27337324.19 -27337324.05 -27337323.91 0.0286 0.0183

Moon -79559-09-21 17:30 J -27337237.87 -27337237.77 -27337237.67 0.2593 0.1984

Earth -79559-09-21 18:56 J -27337237.81 -27337237.71 -27337237.62 0.2589 0.2052 *

Jupiter -79555-12-01 11:30 J -27335706.08 -27335706.02 -27335705.96 0.0536 0.0463

Jupiter -79554-02-28 18:56 J -27335616.84 -27335616.71 -27335616.58 0.0535 0.0017

Jupiter -79554-05-29 02:52 J -27335527.45 -27335527.38 -27335527.31 0.0533 0.0437

Neptune -79554-11-16 23:16 J -27335355.55 -27335355.53 -27335355.50 0.0089 0.0086

Venus -79554-11-26 09:49 J -27335346.20 -27335346.09 -27335345.98 0.3769 0.0686

Pluto -79553-02-05 09:06 J -27335275.17 -27335275.12 -27335275.06 0.0084 0.0077

Neptune -79553-02-13 00:28 J -27335267.52 -27335267.48 -27335267.42 0.0089 0.0082

Pluto -79553-05-03 10:18 J -27335187.14 -27335187.07 -27335186.97 0.0084 0.0065

Neptune -79553-05-11 01:40 J -27335179.48 -27335179.43 -27335179.35 0.0089 0.0078

Pluto -79553-07-30 11:44 J -27335099.11 -27335099.01 -27335098.90 0.0084 0.0054

Neptune -79553-08-07 03:06 J -27335091.43 -27335091.37 -27335091.29 0.0089 0.0073

Pluto -79553-10-26 13:11 J -27335011.06 -27335010.95 -27335010.83 0.0084 0.0042

Neptune -79553-11-03 04:18 J -27335003.39 -27335003.32 -27335003.22 0.0089 0.0069

Pluto -79552-01-22 14:37 J -27334923.01 -27334922.89 -27334922.76 0.0084 0.0030

Neptune -79552-01-30 05:59 J -27334915.34 -27334915.25 -27334915.16 0.0089 0.0064

Mars -79552-03-26 04:47 J -27334860.46 -27334860.30 -27334860.14 0.1717 0.0316

Pluto -79552-04-20 16:04 J -27334834.96 -27334834.83 -27334834.70 0.0084 0.0019

Neptune -79552-04-28 07:11 J -27334827.29 -27334827.20 -27334827.10 0.0089 0.0060

Pluto -79552-07-17 17:16 J -27334746.91 -27334746.78 -27334746.64 0.0084 0.0008

Neptune -79552-07-25 08:23 J -27334739.24 -27334739.15 -27334739.04 0.0089 0.0055

Pluto -79552-10-13 18:42 J -27334658.86 -27334658.72 -27334658.59 0.0084 0.0004

Neptune -79552-10-21 09:49 J -27334651.19 -27334651.09 -27334650.98 0.0089 0.0051

Pluto -79551-01-09 19:54 J -27334570.80 -27334570.67 -27334570.53 0.0083 0.0015

Neptune -79551-01-17 11:01 J -27334563.14 -27334563.04 -27334562.92 0.0089 0.0047

Mars -79551-01-21 16:04 J -27334558.94 -27334558.83 -27334558.71 0.1817 0.0628

Pluto -79551-04-07 21:06 J -27334482.74 -27334482.62 -27334482.48 0.0083 0.0026

Neptune -79551-04-15 12:28 J -27334475.09 -27334474.98 -27334474.86 0.0089 0.0042

Pluto -79551-07-04 22:18 J -27334394.68 -27334394.57 -27334394.44 0.0083 0.0037

Neptune -79551-07-12 13:40 J -27334387.04 -27334386.93 -27334386.80 0.0089 0.0038

Pluto -79551-09-30 23:30 J -27334306.62 -27334306.52 -27334306.40 0.0083 0.0048

Neptune -79551-10-08 15:06 J -27334298.99 -27334298.87 -27334298.74 0.0089 0.0033

Pluto -79551-12-28 00:42 J -27334218.55 -27334218.47 -27334218.36 0.0083 0.0059

Neptune -79550-01-04 16:32 J -27334210.93 -27334210.81 -27334210.68 0.0089 0.0029

Pluto -79550-03-26 02:23 J -27334130.47 -27334130.40 -27334130.33 0.0083 0.0069

Neptune -79550-04-02 17:59 J -27334122.88 -27334122.75 -27334122.63 0.0089 0.0024

Pluto -79550-06-22 03:35 J -27334042.38 -27334042.35 -27334042.32 0.0083 0.0080

Neptune -79550-06-29 19:11 J -27334034.83 -27334034.70 -27334034.57 0.0089 0.0020

Neptune -79550-09-25 20:37 J -27333946.77 -27333946.64 -27333946.51 0.0089 0.0015

Venus -79550-11-24 22:47 J -27333886.60 -27333886.55 -27333886.49 0.3599 0.3298

Neptune -79550-12-22 21:49 J -27333858.72 -27333858.59 -27333858.45 0.0089 0.0011

Neptune -79549-03-19 23:16 J -27333770.66 -27333770.53 -27333770.40 0.0089 0.0006

Earth -79549-03-21 08:08 J -27333769.27 -27333769.16 -27333769.05 0.2746 0.0140

Moon -79549-03-21 08:37 J -27333769.25 -27333769.14 -27333769.03 0.2741 0.0234 *

Neptune -79549-06-16 00:28 J -27333682.61 -27333682.48 -27333682.34 0.0089 0.0003

Neptune -79549-09-12 01:54 J -27333594.55 -27333594.42 -27333594.29 0.0089 0.0003

Neptune -79549-12-09 03:20 J -27333506.50 -27333506.36 -27333506.23 0.0089 0.0008

Jupiter -79548-01-26 16:47 J -27333457.92 -27333457.80 -27333457.68 0.0491 0.0374

Neptune -79548-03-07 04:32 J -27333418.44 -27333418.31 -27333418.17 0.0089 0.0012

Jupiter -79548-04-26 23:44 J -27333367.68 -27333367.51 -27333367.33 0.0492 0.0141

Neptune -79548-06-03 05:59 J -27333330.38 -27333330.25 -27333330.12 0.0089 0.0016

Venus -79548-06-11 04:32 J -27333322.40 -27333322.31 -27333322.21 0.3765 0.1850

Neptune -79548-08-30 07:25 J -27333242.32 -27333242.19 -27333242.06 0.0089 0.0021

Neptune -79548-11-26 08:37 J -27333154.27 -27333154.14 -27333154.01 0.0089 0.0026

Neptune -79547-02-22 10:04 J -27333066.21 -27333066.08 -27333065.95 0.0089 0.0030

Neptune -79547-05-21 11:16 J -27332978.15 -27332978.03 -27332977.90 0.0089 0.0035

Neptune -79547-08-17 12:42 J -27332890.09 -27332889.97 -27332889.85 0.0089 0.0039

Neptune -79547-11-13 13:54 J -27332802.03 -27332801.92 -27332801.79 0.0089 0.0044

Neptune -79546-02-09 15:35 J -27332713.96 -27332713.85 -27332713.74 0.0089 0.0048

Saturn -79546-05-08 10:04 J -27332626.14 -27332626.08 -27332626.01 0.0278 0.0240

Neptune -79546-05-08 16:47 J -27332625.90 -27332625.80 -27332625.69 0.0089 0.0053

Neptune -79546-08-04 17:59 J -27332537.84 -27332537.75 -27332537.64 0.0089 0.0058

Saturn -79546-08-04 21:06 J -27332537.74 -27332537.62 -27332537.51 0.0277 0.0138 *

Neptune -79546-10-31 19:25 J -27332449.77 -27332449.69 -27332449.58 0.0089 0.0062

Saturn -79546-11-01 07:54 J -27332449.30 -27332449.17 -27332449.04 0.0276 0.0037

Neptune -79545-01-27 20:52 J -27332361.71 -27332361.63 -27332361.53 0.0089 0.0067

Saturn -79545-01-28 18:56 J -27332360.84 -27332360.71 -27332360.58 0.0275 0.0065

Neptune -79545-04-24 22:18 J -27332273.64 -27332273.57 -27332273.48 0.0089 0.0071

Saturn -79545-04-26 05:44 J -27332272.36 -27332272.26 -27332272.15 0.0274 0.0167

Neptune -79545-07-21 23:30 J -27332185.57 -27332185.52 -27332185.44 0.0089 0.0076

Saturn -79545-07-23 17:01 J -27332183.82 -27332183.79 -27332183.77 0.0274 0.0267

Neptune -79545-10-18 01:11 J -27332097.50 -27332097.45 -27332097.39 0.0089 0.0080

Neptune -79544-01-14 02:23 J -27332009.43 -27332009.40 -27332009.35 0.0089 0.0085

Venus -79544-06-09 23:59 J -27331862.63 -27331862.50 -27331862.38 0.3603 0.1632

Mars -79543-08-16 05:30 J -27331430.37 -27331430.27 -27331430.17 0.1708 0.1321

Jupiter -79543-12-17 22:32 J -27331306.69 -27331306.56 -27331306.44 0.0535 0.0131

Venus -79543-12-25 23:30 J -27331298.58 -27331298.52 -27331298.45 0.3761 0.3040

Jupiter -79542-03-17 06:13 J -27331217.34 -27331217.24 -27331217.13 0.0534 0.0323

Mars -79542-06-14 00:42 J -27331128.59 -27331128.47 -27331128.35 0.1826 0.0155

Moon -79539-09-16 12:42 J -27329938.07 -27329937.97 -27329937.86 0.2586 0.1920

Earth -79539-09-16 14:08 J -27329938.02 -27329937.91 -27329937.80 0.2591 0.1867 *

Venus -79539-12-25 00:28 J -27329838.62 -27329838.48 -27329838.35 0.3607 0.0126

Uranus -79538-12-01 16:04 J -27329496.90 -27329496.83 -27329496.73 0.0141 0.0126

Uranus -79537-02-27 23:59 J -27329408.62 -27329408.50 -27329408.36 0.0141 0.0100

Uranus -79537-05-26 07:40 J -27329320.33 -27329320.18 -27329320.01 0.0140 0.0074

Uranus -79537-08-22 15:06 J -27329232.03 -27329231.87 -27329231.68 0.0140 0.0049

Uranus -79537-11-18 23:01 J -27329143.73 -27329143.54 -27329143.36 0.0140 0.0023

Jupiter -79536-02-12 21:20 J -27329057.79 -27329057.61 -27329057.43 0.0492 0.0010

Uranus -79536-02-15 06:28 J -27329055.42 -27329055.23 -27329055.05 0.0140 0.0003

Moon -79536-03-24 02:37 J -27329018.49 -27329018.39 -27329018.30 0.2740 0.1383

Earth -79536-03-24 02:37 J -27329018.49 -27329018.39 -27329018.30 0.2747 0.1439 *

Uranus -79536-05-14 13:40 J -27328967.11 -27328966.93 -27328966.74 0.0140 0.0028

Uranus -79536-08-10 21:06 J -27328878.79 -27328878.62 -27328878.44 0.0140 0.0053

Uranus -79536-11-07 04:32 J -27328790.47 -27328790.31 -27328790.16 0.0140 0.0077

Uranus -79535-02-03 11:30 J -27328702.14 -27328702.02 -27328701.89 0.0139 0.0101

Uranus -79535-05-02 18:42 J -27328613.79 -27328613.72 -27328613.63 0.0139 0.0125

Venus -79533-07-10 00:28 J -27327814.60 -27327814.48 -27327814.36 0.3611 0.1500

Mars -79533-11-03 09:20 J -27327698.21 -27327698.11 -27327698.01 0.1835 0.0932

Jupiter -79531-10-06 02:23 J -27326996.51 -27326996.40 -27326996.28 0.0536 0.0241

Jupiter -79530-01-03 10:04 J -27326907.19 -27326907.08 -27326906.96 0.0534 0.0211

Saturn -79530-05-20 11:01 J -27326770.19 -27326770.04 -27326769.89 0.0284 0.0174

Saturn -79530-08-17 10:32 J -27326681.24 -27326681.06 -27326680.87 0.0285 0.0017

Saturn -79530-11-14 10:04 J -27326592.24 -27326592.08 -27326591.92 0.0286 0.0144

Earth -79529-03-17 00:28 J -27326468.55 -27326468.48 -27326468.42 0.2745 0.2172

Moon -79529-03-17 00:56 J -27326468.53 -27326468.46 -27326468.39 0.2750 0.2051 *

Venus -79527-01-23 23:59 J -27325790.57 -27325790.50 -27325790.42 0.3615 0.2969

Moon -79526-09-19 18:28 J -27325186.89 -27325186.73 -27325186.58 0.2589 0.0185

Earth -79526-09-19 19:54 J -27325186.82 -27325186.67 -27325186.51 0.2590 0.0340 *

Jupiter -79525-12-01 19:11 J -27324747.88 -27324747.70 -27324747.53 0.0492 0.0120

Jupiter -79524-03-02 01:25 J -27324657.55 -27324657.44 -27324657.33 0.0493 0.0389

Mars -79523-03-26 17:44 J -27324267.80 -27324267.76 -27324267.72 0.1844 0.1727

Mars -79522-05-05 05:01 J -27323863.43 -27323863.29 -27323863.15 0.1725 0.0846

Mars -79521-03-01 07:25 J -27323562.25 -27323562.19 -27323562.12 0.1809 0.1483

Venus -79519-05-04 06:42 J -27322768.26 -27322768.22 -27322768.17 0.3782 0.3345

Jupiter -79519-07-25 06:42 J -27322686.32 -27322686.22 -27322686.13 0.0536 0.0348

Jupiter -79519-10-22 14:08 J -27322597.03 -27322596.91 -27322596.78 0.0535 0.0102

Saturn -79517-09-24 12:13 J -27321894.01 -27321893.99 -27321893.96 0.0278 0.0271

Saturn -79517-12-21 23:16 J -27321805.63 -27321805.53 -27321805.43 0.0277 0.0169

Earth -79516-03-19 18:42 J -27321717.83 -27321717.72 -27321717.62 0.2746 0.0899

Moon -79516-03-19 19:25 J -27321717.80 -27321717.69 -27321717.59 0.2745 0.0834 *

Saturn -79516-03-20 10:04 J -27321717.20 -27321717.08 -27321716.95 0.0276 0.0068

Saturn -79516-06-16 21:06 J -27321628.75 -27321628.62 -27321628.49 0.0275 0.0034

Saturn -79516-09-13 08:08 J -27321540.28 -27321540.16 -27321540.05 0.0275 0.0135

Saturn -79516-12-10 19:11 J -27321451.77 -27321451.70 -27321451.64 0.0274 0.0236

Venus -79514-11-18 00:56 J -27320744.55 -27320744.46 -27320744.38 0.3779 0.2293

Jupiter -79513-09-19 16:04 J -27320437.98 -27320437.83 -27320437.67 0.0491 0.0256

Moon -79513-09-21 23:59 J -27320435.57 -27320435.50 -27320435.43 0.2593 0.2297

Earth -79513-09-22 01:11 J -27320435.49 -27320435.45 -27320435.40 0.2589 0.2482 *

Mars -79513-09-24 05:30 J -27320433.43 -27320433.27 -27320433.11 0.1717 0.0177

Jupiter -79513-12-18 23:01 J -27320347.70 -27320347.54 -27320347.39 0.0493 0.0257

Mars -79512-07-22 16:04 J -27320131.94 -27320131.83 -27320131.72 0.1817 0.0718

Venus -79508-06-02 19:11 J -27318720.81 -27318720.70 -27318720.60 0.3775 0.1215

Jupiter -79507-05-13 10:32 J -27318376.13 -27318376.06 -27318376.00 0.0536 0.0458

Jupiter -79507-08-10 17:59 J -27318286.88 -27318286.75 -27318286.62 0.0535 0.0015

Jupiter -79507-11-08 01:54 J -27318197.49 -27318197.42 -27318197.35 0.0533 0.0442

Mars -79503-02-14 05:59 J -27317003.37 -27317003.25 -27317003.14 0.1708 0.1201

Earth -79503-03-22 12:56 J -27316967.07 -27316966.96 -27316966.85 0.2746 0.0398

Moon -79503-03-22 13:25 J -27316967.05 -27316966.94 -27316966.83 0.2741 0.0444 *

Mars -79503-12-13 00:42 J -27316701.59 -27316701.47 -27316701.35 0.1826 0.0064

Venus -79503-12-17 13:25 J -27316697.05 -27316696.94 -27316696.82 0.3772 0.0169

Jupiter -79501-07-08 13:54 J -27316128.03 -27316127.92 -27316127.80 0.0491 0.0383

Saturn -79501-10-06 10:04 J -27316038.20 -27316038.08 -27316037.96 0.0284 0.0215

Jupiter -79501-10-06 21:06 J -27316037.79 -27316037.62 -27316037.44 0.0492 0.0132

Saturn -79500-01-03 09:49 J -27315949.27 -27315949.09 -27315948.91 0.0284 0.0056

Saturn -79500-04-02 09:20 J -27315860.28 -27315860.11 -27315859.94 0.0285 0.0104

Saturn -79500-06-30 08:37 J -27315771.20 -27315771.14 -27315771.06 0.0286 0.0262

Venus -79497-07-02 08:08 J -27314673.27 -27314673.16 -27314673.05 0.3768 0.1049

Jupiter -79495-05-29 20:52 J -27313976.76 -27313976.63 -27313976.51 0.0535 0.0135

Jupiter -79495-08-27 04:32 J -27313887.41 -27313887.31 -27313887.20 0.0534 0.0317

Uranus -79493-05-02 20:23 J -27313272.65 -27313272.65 -27313272.64 0.0138 0.0137

Mars -79493-05-04 09:20 J -27313271.22 -27313271.11 -27313271.01 0.1835 0.0840

Venus -79493-06-30 22:47 J -27313213.63 -27313213.55 -27313213.46 0.3600 0.2785

Uranus -79493-07-29 23:44 J -27313184.57 -27313184.51 -27313184.44 0.0138 0.0121

Moon -79493-09-16 19:25 J -27313135.82 -27313135.69 -27313135.57 0.2586 0.1633

Earth -79493-09-16 20:37 J -27313135.77 -27313135.64 -27313135.51 0.2591 0.1414 *

Uranus -79493-10-26 03:06 J -27313096.45 -27313096.37 -27313096.28 0.0138 0.0104

Uranus -79492-01-22 06:28 J -27313008.33 -27313008.23 -27313008.12 0.0138 0.0087

Uranus -79492-04-20 09:49 J -27312920.20 -27312920.09 -27312919.97 0.0138 0.0070

Uranus -79492-07-17 13:11 J -27312832.07 -27312831.95 -27312831.82 0.0138 0.0053

Uranus -79492-10-13 16:32 J -27312743.93 -27312743.81 -27312743.67 0.0138 0.0037

Uranus -79491-01-09 20:08 J -27312655.79 -27312655.66 -27312655.52 0.0139 0.0019

Venus -79491-01-16 02:52 J -27312649.47 -27312649.38 -27312649.29 0.3764 0.2222

Uranus -79491-04-07 23:44 J -27312567.65 -27312567.51 -27312567.38 0.0139 0.0004

Uranus -79491-07-05 03:06 J -27312479.50 -27312479.37 -27312479.23 0.0139 0.0017

Uranus -79491-10-01 06:42 J -27312391.35 -27312391.22 -27312391.09 0.0139 0.0034

Uranus -79491-12-28 10:04 J -27312303.20 -27312303.08 -27312302.95 0.0139 0.0052

Moon -79490-03-25 07:11 J -27312216.28 -27312216.20 -27312216.11 0.2740 0.1725

Earth -79490-03-25 07:25 J -27312216.27 -27312216.19 -27312216.10 0.2747 0.1705 *

Uranus -79490-03-26 13:40 J -27312215.04 -27312214.93 -27312214.81 0.0139 0.0070

Uranus -79490-06-22 17:16 J -27312126.88 -27312126.78 -27312126.67 0.0140 0.0088

Uranus -79490-09-18 20:52 J -27312038.71 -27312038.63 -27312038.54 0.0140 0.0107

Uranus -79490-12-16 00:28 J -27311950.53 -27311950.48 -27311950.41 0.0140 0.0125

Jupiter -79489-07-25 19:25 J -27311727.87 -27311727.69 -27311727.51 0.0492 0.0008

Venus -79487-01-14 23:44 J -27311189.64 -27311189.51 -27311189.38 0.3604 0.1124

Saturn -79487-05-11 03:06 J -27311073.47 -27311073.37 -27311073.28 0.0277 0.0187

Saturn -79487-08-07 13:54 J -27310985.04 -27310984.92 -27310984.79 0.0276 0.0085

Saturn -79487-11-04 00:56 J -27310896.60 -27310896.46 -27310896.33 0.0276 0.0018

Saturn -79486-01-31 11:44 J -27310808.13 -27310808.01 -27310807.89 0.0275 0.0117

Saturn -79486-04-29 22:47 J -27310719.63 -27310719.55 -27310719.47 0.0274 0.0218

Venus -79486-08-01 22:04 J -27310625.63 -27310625.58 -27310625.54 0.3760 0.3428

Mars -79484-09-24 17:44 J -27309840.81 -27309840.76 -27309840.70 0.1844 0.1624

Jupiter -79483-03-18 00:28 J -27309666.59 -27309666.48 -27309666.37 0.0536 0.0249

Earth -79483-03-18 05:16 J -27309666.36 -27309666.28 -27309666.20 0.2745 0.1902

Moon -79483-03-18 05:44 J -27309666.33 -27309666.26 -27309666.18 0.2749 0.1893 *

Jupiter -79483-06-15 08:08 J -27309577.28 -27309577.16 -27309577.04 0.0534 0.0202

Mars -79483-11-03 05:44 J -27309436.39 -27309436.26 -27309436.13 0.1725 0.0988

Venus -79482-07-31 23:59 J -27309165.63 -27309165.50 -27309165.36 0.3608 0.0454

Mars -79482-08-31 07:40 J -27309135.24 -27309135.18 -27309135.13 0.1808 0.1580

Moon -79480-09-20 00:42 J -27308384.62 -27308384.47 -27308384.32 0.2591 0.0664

Earth -79480-09-20 02:23 J -27308384.55 -27308384.40 -27308384.25 0.2590 0.0773 *

Jupiter -79477-05-13 17:01 J -27307417.97 -27307417.79 -27307417.62 0.0491 0.0124

Jupiter -79477-08-11 23:16 J -27307327.64 -27307327.53 -27307327.42 0.0493 0.0386

Venus -79476-02-13 23:59 J -27307141.61 -27307141.50 -27307141.39 0.3612 0.1972

Mars -79473-03-25 06:13 J -27306006.40 -27306006.24 -27306006.08 0.1717 0.0049

Mars -79472-01-20 16:18 J -27305704.93 -27305704.82 -27305704.72 0.1817 0.0820

Jupiter -79471-01-04 04:18 J -27305356.41 -27305356.32 -27305356.22 0.0536 0.0360

Saturn -79471-02-23 08:52 J -27305306.19 -27305306.13 -27305306.04 0.0284 0.0257

Jupiter -79471-04-03 11:59 J -27305267.13 -27305267.00 -27305266.87 0.0535 0.0091

Saturn -79471-05-23 08:52 J -27305217.30 -27305217.13 -27305216.95 0.0285 0.0097

Saturn -79471-08-20 08:37 J -27305128.32 -27305128.14 -27305127.96 0.0285 0.0062

Venus -79471-08-30 23:30 J -27305117.56 -27305117.52 -27305117.48 0.3616 0.3418

Saturn -79471-11-17 07:40 J -27305039.28 -27305039.18 -27305039.05 0.0286 0.0221

Earth -79470-03-20 23:30 J -27304915.63 -27304915.52 -27304915.41 0.2746 0.0631

Moon -79470-03-21 00:13 J -27304915.60 -27304915.49 -27304915.38 0.2743 0.0500 *

Neptune -79470-05-04 17:30 J -27304870.81 -27304870.77 -27304870.71 0.0089 0.0085

Neptune -79470-07-31 20:52 J -27304782.69 -27304782.63 -27304782.52 0.0089 0.0079

Neptune -79470-10-28 00:56 J -27304694.57 -27304694.46 -27304694.34 0.0089 0.0072

Neptune -79469-01-24 04:18 J -27304606.43 -27304606.32 -27304606.17 0.0089 0.0066

Neptune -79469-04-21 08:08 J -27304518.29 -27304518.16 -27304518.00 0.0089 0.0059

Neptune -79469-07-18 11:59 J -27304430.15 -27304430.00 -27304429.84 0.0089 0.0052

Neptune -79469-10-14 15:20 J -27304342.01 -27304341.86 -27304341.68 0.0089 0.0046

Neptune -79468-01-10 19:11 J -27304253.87 -27304253.70 -27304253.52 0.0089 0.0039

Neptune -79468-04-08 22:47 J -27304165.72 -27304165.55 -27304165.36 0.0089 0.0033

Neptune -79468-07-06 02:37 J -27304077.58 -27304077.39 -27304077.20 0.0089 0.0026

Neptune -79468-10-02 05:59 J -27303989.43 -27303989.25 -27303989.05 0.0089 0.0020

Neptune -79468-12-29 09:49 J -27303901.28 -27303901.09 -27303900.90 0.0089 0.0013

Neptune -79467-03-27 13:25 J -27303813.13 -27303812.94 -27303812.74 0.0089 0.0006

Neptune -79467-06-23 17:01 J -27303724.98 -27303724.79 -27303724.59 0.0089 0.0001

Neptune -79467-09-19 20:37 J -27303636.83 -27303636.64 -27303636.45 0.0089 0.0007

Neptune -79467-12-17 00:13 J -27303548.68 -27303548.49 -27303548.30 0.0089 0.0013

Neptune -79466-03-15 03:49 J -27303460.53 -27303460.34 -27303460.15 0.0089 0.0020

Neptune -79466-06-11 07:11 J -27303372.37 -27303372.20 -27303372.01 0.0089 0.0027

Neptune -79466-09-07 11:01 J -27303284.22 -27303284.04 -27303283.86 0.0089 0.0033

Neptune -79466-12-04 14:08 J -27303196.07 -27303195.91 -27303195.72 0.0089 0.0040

Jupiter -79465-03-01 14:37 J -27303108.05 -27303107.89 -27303107.73 0.0491 0.0253

Neptune -79465-03-01 17:59 J -27303107.91 -27303107.75 -27303107.58 0.0089 0.0046 *

Neptune -79465-05-28 21:20 J -27303019.75 -27303019.61 -27303019.44 0.0089 0.0052

Jupiter -79465-05-30 21:20 J -27303017.76 -27303017.61 -27303017.46 0.0492 0.0259

Neptune -79465-08-25 00:56 J -27302931.59 -27302931.46 -27302931.31 0.0089 0.0059

Neptune -79465-11-21 04:32 J -27302843.43 -27302843.31 -27302843.18 0.0088 0.0065

Neptune -79464-02-17 07:40 J -27302755.27 -27302755.18 -27302755.05 0.0088 0.0072

Neptune -79464-05-16 11:30 J -27302667.10 -27302667.02 -27302666.92 0.0088 0.0078

Neptune -79464-08-12 15:06 J -27302578.92 -27302578.87 -27302578.81 0.0088 0.0084

Mars -79464-08-15 06:42 J -27302576.35 -27302576.22 -27302576.10 0.1709 0.1060

Mars -79463-06-13 00:42 J -27302274.59 -27302274.47 -27302274.35 0.1826 0.0042

Venus -79463-12-09 04:47 J -27302095.36 -27302095.30 -27302095.23 0.3781 0.3026

Jupiter -79460-10-23 08:37 J -27301046.20 -27301046.14 -27301046.08 0.0536 0.0465

Jupiter -79459-01-20 16:04 J -27300956.96 -27300956.83 -27300956.70 0.0535 0.0018

Jupiter -79459-04-19 23:59 J -27300867.57 -27300867.50 -27300867.42 0.0534 0.0437

Saturn -79458-09-28 05:16 J -27300341.36 -27300341.28 -27300341.20 0.0277 0.0218

Saturn -79458-12-25 16:04 J -27300252.95 -27300252.83 -27300252.71 0.0276 0.0117

Earth -79457-03-22 17:44 J -27300164.86 -27300164.76 -27300164.65 0.2746 0.0672

Moon -79457-03-22 18:13 J -27300164.84 -27300164.74 -27300164.63 0.2741 0.0718 *

Saturn -79457-03-23 03:06 J -27300164.51 -27300164.37 -27300164.24 0.0276 0.0017

Saturn -79457-06-19 13:54 J -27300076.04 -27300075.92 -27300075.79 0.0275 0.0086

Venus -79457-06-23 23:01 J -27300071.63 -27300071.54 -27300071.45 0.3778 0.1956

Saturn -79457-09-16 00:56 J -27299987.56 -27299987.46 -27299987.36 0.0274 0.0187

Mars -79454-11-03 09:20 J -27298844.22 -27298844.11 -27298844.00 0.1835 0.0741

Jupiter -79454-12-19 11:30 J -27298798.12 -27298798.02 -27298797.90 0.0491 0.0388

Uranus -79454-12-22 00:42 J -27298795.56 -27298795.47 -27298795.36 0.0141 0.0117

Jupiter -79453-03-18 18:42 J -27298707.89 -27298707.72 -27298707.54 0.0492 0.0128

Uranus -79453-03-19 08:23 J -27298707.28 -27298707.15 -27298707.00 0.0141 0.0091

Uranus -79453-06-15 16:04 J -27298618.99 -27298618.83 -27298618.66 0.0140 0.0065

Uranus -79453-09-11 23:44 J -27298530.69 -27298530.51 -27298530.33 0.0140 0.0039

Uranus -79453-12-09 07:25 J -27298442.38 -27298442.19 -27298442.01 0.0140 0.0014

Uranus -79452-03-07 14:52 J -27298354.07 -27298353.88 -27298353.70 0.0140 0.0012

Uranus -79452-06-03 22:04 J -27298265.75 -27298265.58 -27298265.39 0.0140 0.0037

Uranus -79452-08-31 05:16 J -27298177.43 -27298177.28 -27298177.10 0.0140 0.0062

Uranus -79452-11-27 12:42 J -27298089.11 -27298088.97 -27298088.82 0.0140 0.0086

Venus -79451-01-07 17:16 J -27298047.89 -27298047.78 -27298047.67 0.3775 0.0867

Uranus -79451-02-23 20:08 J -27298000.78 -27298000.66 -27298000.55 0.0139 0.0110

Uranus -79451-05-23 02:52 J -27297912.41 -27297912.38 -27297912.32 0.0139 0.0134

Jupiter -79448-11-08 19:54 J -27296646.79 -27296646.67 -27296646.54 0.0535 0.0128

Jupiter -79447-02-06 03:49 J -27296557.44 -27296557.34 -27296557.24 0.0534 0.0325

Moon -79447-09-18 01:40 J -27296333.57 -27296333.43 -27296333.28 0.2587 0.1015

Earth -79447-09-18 03:06 J -27296333.51 -27296333.37 -27296333.22 0.2591 0.0970 *

Venus -79446-07-24 11:44 J -27296024.12 -27296024.01 -27296023.90 0.3771 0.0266

Moon -79444-03-25 12:13 J -27295414.07 -27295413.99 -27295413.92 0.2739 0.1915

Earth -79444-03-25 12:13 J -27295414.06 -27295413.99 -27295413.91 0.2747 0.1977 *

Mars -79444-03-25 17:59 J -27295413.82 -27295413.75 -27295413.69 0.1843 0.1525

Mars -79443-05-04 05:59 J -27295009.37 -27295009.25 -27295009.12 0.1725 0.1110

Mars -79442-03-01 07:40 J -27294708.22 -27294708.18 -27294708.14 0.1809 0.1681

Saturn -79442-10-10 06:56 J -27294485.36 -27294485.21 -27294485.04 0.0284 0.0144

Jupiter -79441-01-05 17:01 J -27294397.97 -27294397.79 -27294397.61 0.0492 0.0006

Saturn -79441-01-07 06:56 J -27294396.40 -27294396.21 -27294396.03 0.0285 0.0017

Saturn -79441-04-05 06:13 J -27294307.38 -27294307.24 -27294307.09 0.0286 0.0175

Venus -79440-02-06 06:28 J -27294000.34 -27294000.23 -27294000.13 0.3767 0.1416

Earth -79437-03-18 10:04 J -27292864.17 -27292864.08 -27292863.99 0.2745 0.1643

Moon -79437-03-18 10:47 J -27292864.14 -27292864.05 -27292863.96 0.2748 0.1503 *

Venus -79436-02-04 23:01 J -27292540.65 -27292540.54 -27292540.44 0.3601 0.2268

Jupiter -79436-08-27 22:47 J -27292336.66 -27292336.55 -27292336.43 0.0536 0.0252

Jupiter -79436-11-25 06:28 J -27292247.35 -27292247.23 -27292247.11 0.0534 0.0200

Venus -79435-08-23 01:25 J -27291976.52 -27291976.44 -27291976.36 0.3763 0.2606

Moon -79434-09-21 07:11 J -27291582.35 -27291582.20 -27291582.06 0.2592 0.0978

Earth -79434-09-21 08:52 J -27291582.27 -27291582.13 -27291581.99 0.2590 0.1215 *

Mars -79434-09-24 06:42 J -27291579.38 -27291579.22 -27291579.06 0.1717 0.0088

Mars -79433-07-21 16:18 J -27291277.92 -27291277.82 -27291277.72 0.1817 0.0919

Venus -79431-08-21 23:30 J -27290516.65 -27290516.52 -27290516.38 0.3605 0.0638

Jupiter -79430-10-24 15:06 J -27290088.04 -27290087.87 -27290087.69 0.0492 0.0123

Jupiter -79429-01-22 21:49 J -27289997.70 -27289997.59 -27289997.48 0.0493 0.0388

Saturn -79428-02-14 08:52 J -27289609.20 -27289609.13 -27289609.07 0.0278 0.0238

Saturn -79428-05-13 19:40 J -27289520.79 -27289520.68 -27289520.56 0.0277 0.0137

Saturn -79428-08-10 06:42 J -27289432.36 -27289432.22 -27289432.09 0.0276 0.0036

Saturn -79428-11-06 17:30 J -27289343.90 -27289343.77 -27289343.64 0.0275 0.0066

Saturn -79427-02-03 04:32 J -27289255.42 -27289255.31 -27289255.21 0.0274 0.0167

Saturn -79427-05-02 15:35 J -27289166.87 -27289166.85 -27289166.83 0.0274 0.0268

Venus -79425-03-06 23:44 J -27288492.64 -27288492.51 -27288492.38 0.3609 0.0941

Mars -79424-02-13 07:25 J -27288149.33 -27288149.19 -27288149.06 0.1709 0.0923

Earth -79424-03-21 04:18 J -27288113.43 -27288113.32 -27288113.21 0.2746 0.0371

Moon -79424-03-21 05:01 J -27288113.40 -27288113.29 -27288113.18 0.2743 0.0334 *

Jupiter -79424-06-16 02:37 J -27288026.48 -27288026.39 -27288026.30 0.0536 0.0365

Jupiter -79424-09-13 10:04 J -27287937.21 -27287937.08 -27287936.95 0.0535 0.0085

Mars -79424-12-12 00:42 J -27287847.59 -27287847.47 -27287847.35 0.1826 0.0141

Venus -79420-09-20 23:44 J -27286468.61 -27286468.51 -27286468.42 0.3613 0.2438

Jupiter -79418-08-12 12:42 J -27285778.12 -27285777.97 -27285777.81 0.0491 0.0253

Jupiter -79418-11-10 19:40 J -27285687.84 -27285687.68 -27285687.53 0.0492 0.0260

Mars -79414-05-04 09:20 J -27284417.22 -27284417.11 -27284417.00 0.1835 0.0642

Saturn -79412-02-26 05:59 J -27283753.38 -27283753.25 -27283753.10 0.0284 0.0186

Jupiter -79412-04-04 06:28 J -27283716.28 -27283716.23 -27283716.17 0.0537 0.0475

Saturn -79412-05-26 05:59 J -27283664.44 -27283664.25 -27283664.07 0.0285 0.0027

Jupiter -79412-07-02 13:54 J -27283627.05 -27283626.92 -27283626.79 0.0535 0.0028

Saturn -79412-08-23 05:30 J -27283575.44 -27283575.27 -27283575.11 0.0286 0.0133

Jupiter -79412-09-29 21:49 J -27283537.66 -27283537.59 -27283537.51 0.0534 0.0428

Venus -79412-12-30 09:06 J -27283446.14 -27283446.12 -27283446.11 0.3784 0.3745

Earth -79411-03-23 22:47 J -27283362.65 -27283362.55 -27283362.45 0.2746 0.0932

Moon -79411-03-23 23:01 J -27283362.64 -27283362.54 -27283362.44 0.2740 0.0982 *

Uranus -79409-05-23 03:20 J -27282571.38 -27282571.36 -27282571.33 0.0138 0.0134

Uranus -79409-08-19 06:42 J -27282483.28 -27282483.22 -27282483.15 0.0138 0.0118

Uranus -79409-11-15 10:04 J -27282395.16 -27282395.08 -27282394.99 0.0138 0.0101

Uranus -79408-02-11 13:25 J -27282307.04 -27282306.94 -27282306.83 0.0138 0.0084

Uranus -79408-05-10 17:01 J -27282218.91 -27282218.79 -27282218.68 0.0138 0.0068

Uranus -79408-08-06 20:23 J -27282130.78 -27282130.65 -27282130.53 0.0138 0.0050

Uranus -79408-11-02 23:44 J -27282042.64 -27282042.51 -27282042.38 0.0138 0.0033

Uranus -79407-01-30 03:06 J -27281954.50 -27281954.37 -27281954.23 0.0139 0.0016

Uranus -79407-04-28 06:42 J -27281866.36 -27281866.22 -27281866.09 0.0139 0.0004

Uranus -79407-07-25 10:04 J -27281778.21 -27281778.08 -27281777.94 0.0139 0.0019

Uranus -79407-10-21 13:40 J -27281690.06 -27281689.93 -27281689.80 0.0139 0.0037

Uranus -79406-01-17 17:01 J -27281601.91 -27281601.79 -27281601.66 0.0139 0.0055

Uranus -79406-04-15 20:37 J -27281513.75 -27281513.64 -27281513.52 0.0139 0.0073

Jupiter -79406-05-31 10:18 J -27281468.18 -27281468.07 -27281467.95 0.0491 0.0382

Uranus -79406-07-12 23:59 J -27281425.59 -27281425.50 -27281425.38 0.0139 0.0092

Venus -79406-07-16 03:06 J -27281422.45 -27281422.37 -27281422.30 0.3780 0.2695

Jupiter -79406-08-29 17:30 J -27281377.95 -27281377.77 -27281377.60 0.0492 0.0133

Uranus -79406-10-09 03:35 J -27281337.42 -27281337.35 -27281337.25 0.0140 0.0110

Uranus -79405-01-05 07:25 J -27281249.24 -27281249.19 -27281249.13 0.0140 0.0128

Mars -79405-09-23 17:44 J -27280986.83 -27280986.76 -27280986.68 0.1843 0.1437

Earth -79404-03-16 20:37 J -27280812.66 -27280812.64 -27280812.61 0.2744 0.2649

Moon -79404-03-16 21:06 J -27280812.66 -27280812.62 -27280812.58 0.2751 0.2555 *

Mars -79404-11-02 06:42 J -27280582.32 -27280582.22 -27280582.11 0.1726 0.1250

Mars -79403-08-30 07:40 J -27280281.19 -27280281.18 -27280281.16 0.1808 0.1779

Moon -79401-09-18 08:08 J -27279531.31 -27279531.16 -27279531.01 0.2589 0.0774

Earth -79401-09-18 09:35 J -27279531.25 -27279531.10 -27279530.94 0.2590 0.0524 *

Venus -79400-01-28 21:06 J -27279398.72 -27279398.62 -27279398.52 0.3777 0.1622

Jupiter -79400-04-20 18:13 J -27279316.87 -27279316.74 -27279316.62 0.0536 0.0133

Pluto -79400-05-18 18:13 J -27279288.74 -27279288.74 -27279288.72 0.0060 0.0060

Jupiter -79400-07-19 01:54 J -27279227.52 -27279227.42 -27279227.31 0.0534 0.0321

Pluto -79400-08-14 19:25 J -27279200.75 -27279200.69 -27279200.59 0.0060 0.0054

Pluto -79400-11-10 20:52 J -27279112.73 -27279112.63 -27279112.51 0.0060 0.0049

Pluto -79399-02-06 22:18 J -27279024.69 -27279024.57 -27279024.43 0.0060 0.0043

Pluto -79399-05-05 23:16 J -27278936.66 -27278936.53 -27278936.36 0.0060 0.0038

Saturn -79399-07-04 10:47 J -27278877.07 -27278877.05 -27278877.02 0.0277 0.0271

Pluto -79399-08-02 00:42 J -27278848.61 -27278848.47 -27278848.29 0.0060 0.0032

Saturn -79399-09-30 21:49 J -27278788.70 -27278788.59 -27278788.49 0.0277 0.0170

Pluto -79399-10-29 02:08 J -27278760.56 -27278760.41 -27278760.22 0.0060 0.0026

Saturn -79399-12-28 08:37 J -27278700.27 -27278700.14 -27278700.01 0.0276 0.0068

Pluto -79398-01-25 03:35 J -27278672.51 -27278672.35 -27278672.15 0.0061 0.0020

Moon -79398-03-26 17:01 J -27278611.85 -27278611.79 -27278611.73 0.2740 0.2220

Earth -79398-03-26 17:16 J -27278611.84 -27278611.78 -27278611.72 0.2747 0.2242 *

Saturn -79398-03-26 19:25 J -27278611.82 -27278611.69 -27278611.55 0.0275 0.0034 *

Pluto -79398-04-23 05:01 J -27278584.46 -27278584.29 -27278584.09 0.0061 0.0014

Saturn -79398-06-23 06:28 J -27278523.34 -27278523.23 -27278523.11 0.0274 0.0134

Pluto -79398-07-20 06:28 J -27278496.41 -27278496.23 -27278496.03 0.0061 0.0008

Saturn -79398-09-19 17:30 J -27278434.84 -27278434.77 -27278434.70 0.0274 0.0235

Pluto -79398-10-16 08:08 J -27278408.35 -27278408.16 -27278407.97 0.0061 0.0001

Pluto -79397-01-12 09:35 J -27278320.29 -27278320.10 -27278319.91 0.0061 0.0005

Pluto -79397-04-09 10:47 J -27278232.23 -27278232.05 -27278231.85 0.0061 0.0011

Pluto -79397-07-06 12:13 J -27278144.17 -27278143.99 -27278143.80 0.0061 0.0017

Pluto -79397-10-02 13:40 J -27278056.10 -27278055.93 -27278055.75 0.0061 0.0023

Pluto -79397-12-29 14:52 J -27277968.03 -27277967.88 -27277967.70 0.0061 0.0030

Pluto -79396-03-27 16:32 J -27277879.96 -27277879.81 -27277879.65 0.0061 0.0035

Pluto -79396-06-23 17:59 J -27277791.88 -27277791.75 -27277791.61 0.0061 0.0042

Pluto -79396-09-19 18:56 J -27277703.80 -27277703.71 -27277703.57 0.0061 0.0049

Pluto -79396-12-16 20:37 J -27277615.71 -27277615.64 -27277615.54 0.0061 0.0055

Pluto -79395-03-14 22:04 J -27277527.59 -27277527.58 -27277527.53 0.0061 0.0061

Venus -79395-08-14 15:35 J -27277374.96 -27277374.85 -27277374.74 0.3774 0.0528

Mars -79394-03-25 07:25 J -27277152.35 -27277152.19 -27277152.03 0.1717 0.0226

Jupiter -79394-06-17 14:52 J -27277068.06 -27277067.88 -27277067.69 0.0492 0.0009

Mars -79393-01-20 16:18 J -27276850.92 -27276850.82 -27276850.72 0.1817 0.1009

Earth -79391-03-19 14:52 J -27276061.97 -27276061.88 -27276061.78 0.2745 0.1384

Moon -79391-03-19 15:35 J -27276061.94 -27276061.85 -27276061.75 0.2746 0.1361 *

Venus -79389-02-28 10:04 J -27275351.19 -27275351.08 -27275350.97 0.3770 0.0628

Neptune -79389-08-12 22:18 J -27275184.59 -27275184.57 -27275184.52 0.0089 0.0086

Neptune -79389-11-08 23:59 J -27275096.55 -27275096.50 -27275096.45 0.0089 0.0081

Neptune -79388-02-05 01:11 J -27275008.51 -27275008.45 -27275008.38 0.0089 0.0077

Jupiter -79388-02-06 22:04 J -27275006.69 -27275006.58 -27275006.46 0.0536 0.0243

Neptune -79388-05-04 02:23 J -27274920.46 -27274920.40 -27274920.32 0.0089 0.0073

Jupiter -79388-05-07 05:44 J -27274917.37 -27274917.26 -27274917.14 0.0534 0.0211

Neptune -79388-07-31 03:49 J -27274832.42 -27274832.34 -27274832.25 0.0089 0.0068

Moon -79388-09-21 13:40 J -27274780.06 -27274779.93 -27274779.81 0.2591 0.1568

Earth -79388-09-21 15:06 J -27274779.99 -27274779.87 -27274779.75 0.2590 0.1648 *

Neptune -79388-10-27 05:01 J -27274744.37 -27274744.29 -27274744.19 0.0089 0.0064

Neptune -79387-01-23 06:28 J -27274656.32 -27274656.23 -27274656.13 0.0089 0.0059

Neptune -79387-04-21 07:40 J -27274568.27 -27274568.18 -27274568.07 0.0089 0.0055

Neptune -79387-07-18 08:52 J -27274480.22 -27274480.13 -27274480.01 0.0089 0.0051

Neptune -79387-10-14 10:18 J -27274392.17 -27274392.07 -27274391.95 0.0089 0.0046

Neptune -79386-01-10 11:44 J -27274304.12 -27274304.01 -27274303.89 0.0089 0.0041

Neptune -79386-04-08 13:11 J -27274216.07 -27274215.95 -27274215.83 0.0089 0.0037

Neptune -79386-07-05 14:23 J -27274128.02 -27274127.90 -27274127.77 0.0089 0.0033

Neptune -79386-10-01 15:49 J -27274039.97 -27274039.84 -27274039.71 0.0089 0.0028

Neptune -79386-12-28 17:01 J -27273951.91 -27273951.79 -27273951.66 0.0089 0.0024

Venus -79385-02-26 21:49 J -27273891.63 -27273891.59 -27273891.56 0.3599 0.3449

Neptune -79385-03-25 18:28 J -27273863.86 -27273863.73 -27273863.60 0.0089 0.0019

Neptune -79385-06-21 19:40 J -27273775.80 -27273775.68 -27273775.54 0.0089 0.0015

Mars -79385-08-14 07:54 J -27273722.32 -27273722.17 -27273722.03 0.1709 0.0802

Neptune -79385-09-17 21:06 J -27273687.75 -27273687.62 -27273687.48 0.0089 0.0010

Neptune -79385-12-14 22:32 J -27273599.69 -27273599.56 -27273599.43 0.0089 0.0005

Neptune -79384-03-12 23:44 J -27273511.64 -27273511.51 -27273511.37 0.0089 0.0003

Neptune -79384-06-09 01:11 J -27273423.58 -27273423.45 -27273423.32 0.0089 0.0004

Mars -79384-06-12 00:56 J -27273420.58 -27273420.46 -27273420.34 0.1826 0.0245

Neptune -79384-09-05 02:37 J -27273335.53 -27273335.39 -27273335.26 0.0089 0.0008

Venus -79384-09-13 04:47 J -27273327.40 -27273327.30 -27273327.20 0.3766 0.1793

Neptune -79384-12-02 03:49 J -27273247.47 -27273247.34 -27273247.20 0.0089 0.0013

Neptune -79383-02-28 05:16 J -27273159.41 -27273159.28 -27273159.15 0.0089 0.0017

Neptune -79383-05-27 06:28 J -27273071.35 -27273071.23 -27273071.10 0.0089 0.0022

Saturn -79383-07-16 03:06 J -27273021.46 -27273021.37 -27273021.27 0.0284 0.0240

Neptune -79383-08-23 07:54 J -27272983.30 -27272983.17 -27272983.04 0.0089 0.0026

Saturn -79383-10-13 03:06 J -27272932.55 -27272932.37 -27272932.20 0.0284 0.0081

Neptune -79383-11-19 09:20 J -27272895.24 -27272895.11 -27272894.99 0.0089 0.0031

Saturn -79382-01-10 02:37 J -27272843.57 -27272843.39 -27272843.21 0.0285 0.0079

Neptune -79382-02-15 10:32 J -27272807.18 -27272807.06 -27272806.93 0.0089 0.0035

Jupiter -79382-04-05 13:11 J -27272758.13 -27272757.95 -27272757.77 0.0492 0.0124

Saturn -79382-04-09 01:54 J -27272754.51 -27272754.42 -27272754.31 0.0286 0.0238

Neptune -79382-05-14 11:59 J -27272719.12 -27272719.00 -27272718.88 0.0089 0.0040

Jupiter -79382-07-04 19:40 J -27272667.79 -27272667.68 -27272667.57 0.0493 0.0386

Neptune -79382-08-10 13:11 J -27272631.06 -27272630.95 -27272630.83 0.0089 0.0045

Neptune -79382-11-06 14:37 J -27272542.99 -27272542.89 -27272542.77 0.0089 0.0049

Neptune -79381-02-02 15:49 J -27272454.93 -27272454.84 -27272454.72 0.0089 0.0054

Neptune -79381-04-30 17:30 J -27272366.87 -27272366.77 -27272366.67 0.0089 0.0058

Neptune -79381-07-27 18:42 J -27272278.81 -27272278.72 -27272278.62 0.0089 0.0063

Neptune -79381-10-23 20:23 J -27272190.74 -27272190.65 -27272190.57 0.0089 0.0067

Neptune -79380-01-19 21:35 J -27272102.67 -27272102.60 -27272102.52 0.0089 0.0072

Neptune -79380-04-17 22:47 J -27272014.60 -27272014.55 -27272014.47 0.0089 0.0077

Neptune -79380-07-15 00:13 J -27271926.53 -27271926.49 -27271926.43 0.0089 0.0081

Venus -79380-09-11 22:47 J -27271867.67 -27271867.55 -27271867.43 0.3602 0.1760

Neptune -79380-10-11 01:25 J -27271838.45 -27271838.44 -27271838.39 0.0089 0.0086

Earth -79378-03-22 09:20 J -27271311.22 -27271311.11 -27271311.00 0.2746 0.0127

Moon -79378-03-22 09:49 J -27271311.20 -27271311.09 -27271310.98 0.2743 0.0108 *

Venus -79378-03-29 23:44 J -27271303.58 -27271303.51 -27271303.45 0.3762 0.2990

Jupiter -79377-11-26 01:11 J -27270696.54 -27270696.45 -27270696.35 0.0536 0.0364

Jupiter -79376-02-23 08:52 J -27270607.26 -27270607.13 -27270607.01 0.0535 0.0087

Mars -79375-11-02 09:20 J -27269990.22 -27269990.11 -27269989.99 0.1834 0.0546

Venus -79374-03-28 23:16 J -27269843.66 -27269843.53 -27269843.39 0.3606 0.0185

Jupiter -79370-01-22 11:16 J -27268448.18 -27268448.03 -27268447.87 0.0491 0.0249

Jupiter -79370-04-22 18:13 J -27268357.89 -27268357.74 -27268357.59 0.0493 0.0265

Uranus -79370-10-15 00:56 J -27268182.50 -27268182.46 -27268182.39 0.0141 0.0135

Uranus -79369-01-11 08:37 J -27268094.24 -27268094.14 -27268094.00 0.0141 0.0109

Saturn -79369-02-18 00:56 J -27268056.55 -27268056.46 -27268056.36 0.0277 0.0193

Uranus -79369-04-08 16:32 J -27268005.95 -27268005.81 -27268005.65 0.0141 0.0083

Saturn -79369-05-16 11:44 J -27267968.13 -27267968.01 -27267967.88 0.0276 0.0092

Uranus -79369-07-06 00:13 J -27267917.66 -27267917.49 -27267917.31 0.0141 0.0057

Saturn -79369-08-12 22:47 J -27267879.68 -27267879.55 -27267879.42 0.0276 0.0011

Uranus -79369-10-02 07:54 J -27267829.35 -27267829.17 -27267828.98 0.0140 0.0031

Venus -79369-10-11 23:30 J -27267819.64 -27267819.52 -27267819.39 0.3610 0.1426

Saturn -79369-11-09 09:49 J -27267791.21 -27267791.09 -27267790.97 0.0275 0.0112

Uranus -79369-12-29 15:35 J -27267741.04 -27267740.85 -27267740.67 0.0140 0.0006

Saturn -79368-02-05 20:37 J -27267702.72 -27267702.64 -27267702.55 0.0274 0.0213

Uranus -79368-03-27 22:47 J -27267652.73 -27267652.55 -27267652.36 0.0140 0.0021

Uranus -79368-06-24 06:13 J -27267564.41 -27267564.24 -27267564.06 0.0140 0.0045

Moon -79368-09-16 09:20 J -27267480.16 -27267480.11 -27267480.06 0.2586 0.2450

Earth -79368-09-16 10:18 J -27267480.14 -27267480.07 -27267480.00 0.2591 0.2299 *

Uranus -79368-09-20 13:25 J -27267476.09 -27267475.94 -27267475.77 0.0140 0.0070

Uranus -79368-12-17 20:52 J -27267387.76 -27267387.63 -27267387.49 0.0140 0.0094

Uranus -79367-03-16 03:49 J -27267299.42 -27267299.34 -27267299.23 0.0139 0.0119

Earth -79365-03-24 03:35 J -27266560.45 -27266560.35 -27266560.25 0.2746 0.1203

Moon -79365-03-24 03:49 J -27266560.44 -27266560.34 -27266560.24 0.2739 0.1171 *

Mars -79365-03-24 17:59 J -27266559.83 -27266559.75 -27266559.67 0.1843 0.1340

Jupiter -79365-09-14 05:01 J -27266386.35 -27266386.29 -27266386.24 0.0536 0.0476

Jupiter -79365-12-12 12:28 J -27266297.11 -27266296.98 -27266296.86 0.0535 0.0033

Jupiter -79364-03-11 20:23 J -27266207.73 -27266207.65 -27266207.58 0.0533 0.0424

Mars -79364-05-03 07:25 J -27266155.28 -27266155.19 -27266155.10 0.1726 0.1384

Venus -79363-04-27 23:16 J -27265795.61 -27265795.53 -27265795.45 0.3614 0.2906

Jupiter -79359-11-10 09:06 J -27264138.24 -27264138.12 -27264138.01 0.0491 0.0378

Jupiter -79358-02-08 16:04 J -27264048.00 -27264047.83 -27264047.65 0.0492 0.0136

Earth -79358-03-18 01:40 J -27264010.48 -27264010.43 -27264010.38 0.2744 0.2383

Moon -79358-03-18 02:08 J -27264010.47 -27264010.41 -27264010.36 0.2750 0.2382 *

Venus -79355-08-06 07:11 J -27262773.25 -27262773.20 -27262773.16 0.3783 0.3425

Moon -79355-09-19 14:23 J -27262729.06 -27262728.90 -27262728.74 0.2590 0.0160

Earth -79355-09-19 16:04 J -27262728.98 -27262728.83 -27262728.67 0.2590 0.0098 *

Mars -79355-09-23 08:08 J -27262725.32 -27262725.16 -27262725.01 0.1717 0.0363

Mars -79354-07-21 16:18 J -27262423.91 -27262423.82 -27262423.72 0.1817 0.1115

Saturn -79353-03-01 01:40 J -27262200.60 -27262200.43 -27262200.26 0.0284 0.0125

Saturn -79353-05-29 01:25 J -27262111.63 -27262111.44 -27262111.26 0.0285 0.0035

Saturn -79353-08-26 00:42 J -27262022.60 -27262022.47 -27262022.33 0.0286 0.0195

Jupiter -79353-09-30 16:18 J -27261986.95 -27261986.82 -27261986.70 0.0536 0.0141

Jupiter -79353-12-28 23:59 J -27261897.60 -27261897.50 -27261897.39 0.0534 0.0313

Moon -79352-03-26 21:49 J -27261809.64 -27261809.59 -27261809.55 0.2741 0.2470

Earth -79352-03-26 22:04 J -27261809.62 -27261809.58 -27261809.53 0.2747 0.2515 *

Venus -79349-02-20 01:11 J -27260749.54 -27260749.45 -27260749.37 0.3779 0.2368

Jupiter -79347-11-27 13:54 J -27259738.10 -27259737.92 -27259737.73 0.0492 0.0014

Mars -79345-02-13 08:37 J -27259295.29 -27259295.14 -27259294.99 0.1709 0.0656

Earth -79345-03-19 19:54 J -27259259.77 -27259259.67 -27259259.57 0.2745 0.1124

Moon -79345-03-19 20:37 J -27259259.74 -27259259.64 -27259259.54 0.2745 0.0964 *

Mars -79345-12-11 00:56 J -27258993.58 -27258993.46 -27258993.35 0.1825 0.0338

Venus -79344-09-04 19:11 J -27258725.80 -27258725.70 -27258725.59 0.3776 0.1288

Moon -79342-09-22 20:08 J -27257977.76 -27257977.66 -27257977.55 0.2592 0.1857

Earth -79342-09-22 21:35 J -27257977.69 -27257977.60 -27257977.50 0.2590 0.2087 *

Jupiter -79341-07-19 20:37 J -27257676.76 -27257676.64 -27257676.53 0.0536 0.0246

Jupiter -79341-10-17 04:18 J -27257587.44 -27257587.32 -27257587.20 0.0535 0.0206

Saturn -79340-07-07 02:52 J -27257324.45 -27257324.38 -27257324.30 0.0277 0.0226

Saturn -79340-10-03 13:54 J -27257236.04 -27257235.92 -27257235.81 0.0276 0.0125

Saturn -79340-12-31 00:42 J -27257147.60 -27257147.47 -27257147.34 0.0275 0.0023

Saturn -79339-03-29 11:30 J -27257059.14 -27257059.02 -27257058.89 0.0275 0.0079

Saturn -79339-06-25 22:32 J -27256970.66 -27256970.56 -27256970.46 0.0274 0.0179

Venus -79338-03-21 13:40 J -27256702.04 -27256701.93 -27256701.82 0.3772 0.0169

Mars -79336-07-05 08:52 J -27255865.15 -27255865.13 -27255865.10 0.1701 0.1677

Mars -79335-05-03 09:20 J -27255563.22 -27255563.11 -27255562.99 0.1835 0.0452

Jupiter -79335-09-15 11:30 J -27255428.20 -27255428.02 -27255427.84 0.0492 0.0122

Jupiter -79335-12-14 17:59 J -27255337.86 -27255337.75 -27255337.64 0.0493 0.0388

Venus -79333-10-04 08:23 J -27254678.26 -27254678.15 -27254678.05 0.3769 0.1000

Earth -79332-03-22 14:08 J -27254509.02 -27254508.91 -27254508.80 0.2746 0.0166

Moon -79332-03-22 14:37 J -27254509.00 -27254508.89 -27254508.78 0.2742 0.0185 *

Jupiter -79329-05-08 00:42 J -27253366.57 -27253366.47 -27253366.38 0.0536 0.0353

Jupiter -79329-08-05 08:08 J -27253277.28 -27253277.16 -27253277.03 0.0535 0.0097

Venus -79329-10-02 21:49 J -27253218.67 -27253218.59 -27253218.51 0.3599 0.2918

Venus -79327-04-20 03:06 J -27252654.46 -27252654.37 -27252654.28 0.3765 0.2176

Mars -79326-09-23 17:59 J -27252132.83 -27252132.75 -27252132.66 0.1843 0.1234

Uranus -79325-06-12 10:47 J -27251870.08 -27251870.05 -27251870.00 0.0137 0.0130

Uranus -79325-09-08 14:08 J -27251781.98 -27251781.91 -27251781.83 0.0138 0.0113

Mars -79325-11-01 07:54 J -27251728.24 -27251728.17 -27251728.09 0.1726 0.1511

Uranus -79325-12-05 17:30 J -27251693.86 -27251693.77 -27251693.67 0.0138 0.0097

Uranus -79324-03-03 20:52 J -27251605.74 -27251605.63 -27251605.52 0.0138 0.0080

Uranus -79324-05-31 00:13 J -27251517.61 -27251517.49 -27251517.37 0.0138 0.0063

Saturn -79324-07-18 21:49 J -27251468.72 -27251468.59 -27251468.44 0.0284 0.0184

Uranus -79324-08-27 03:35 J -27251429.47 -27251429.35 -27251429.22 0.0138 0.0046

Saturn -79324-10-15 21:49 J -27251379.78 -27251379.59 -27251379.41 0.0285 0.0024

Uranus -79324-11-23 06:56 J -27251341.34 -27251341.21 -27251341.07 0.0138 0.0029

Saturn -79323-01-12 21:20 J -27251290.77 -27251290.61 -27251290.45 0.0285 0.0136

Uranus -79323-02-19 10:32 J -27251253.20 -27251253.06 -27251252.93 0.0139 0.0012

Venus -79323-04-18 22:47 J -27251194.68 -27251194.55 -27251194.42 0.3603 0.1247

Uranus -79323-05-18 13:54 J -27251165.05 -27251164.92 -27251164.78 0.0139 0.0007

Jupiter -79323-07-04 09:35 J -27251118.25 -27251118.10 -27251117.94 0.0491 0.0247

Uranus -79323-08-14 17:30 J -27251076.91 -27251076.77 -27251076.64 0.0139 0.0024

Jupiter -79323-10-02 16:32 J -27251027.96 -27251027.81 -27251027.66 0.0493 0.0267

Uranus -79323-11-10 20:52 J -27250988.76 -27250988.63 -27250988.50 0.0139 0.0041

Uranus -79322-02-07 00:28 J -27250900.60 -27250900.48 -27250900.36 0.0139 0.0059

Uranus -79322-05-06 03:49 J -27250812.44 -27250812.34 -27250812.22 0.0139 0.0078

Uranus -79322-08-02 07:25 J -27250724.28 -27250724.19 -27250724.08 0.0139 0.0096

Moon -79322-09-17 15:35 J -27250677.95 -27250677.85 -27250677.74 0.2587 0.1934

Earth -79322-09-17 16:47 J -27250677.91 -27250677.80 -27250677.69 0.2591 0.1847 *

Uranus -79322-10-29 11:01 J -27250636.11 -27250636.04 -27250635.95 0.0140 0.0114

Venus -79322-11-03 22:04 J -27250630.62 -27250630.58 -27250630.53 0.3761 0.3389

Uranus -79321-01-25 14:52 J -27250547.92 -27250547.88 -27250547.84 0.0140 0.0132

Earth -79319-03-25 08:37 J -27249758.24 -27249758.14 -27249758.05 0.2746 0.1468

Moon -79319-03-25 08:37 J -27249758.23 -27249758.14 -27249758.05 0.2739 0.1527 *

Venus -79318-11-02 23:16 J -27249170.66 -27249170.53 -27249170.40 0.3607 0.0366

Jupiter -79317-02-25 03:49 J -27249056.40 -27249056.34 -27249056.28 0.0536 0.0473

Jupiter -79317-05-24 11:16 J -27248967.16 -27248967.03 -27248966.90 0.0535 0.0027

Jupiter -79317-08-21 19:11 J -27248877.78 -27248877.70 -27248877.63 0.0533 0.0427

Mars -79315-03-24 08:37 J -27248298.30 -27248298.14 -27248297.99 0.1718 0.0490

Mars -79314-01-19 16:32 J -27247996.90 -27247996.81 -27247996.73 0.1816 0.1214

Earth -79312-03-18 06:28 J -27247208.30 -27247208.23 -27247208.16 0.2744 0.2120

Moon -79312-03-18 06:56 J -27247208.28 -27247208.21 -27247208.13 0.2748 0.2043 *

Venus -79312-05-18 23:16 J -27247146.64 -27247146.53 -27247146.42 0.3611 0.1904

Jupiter -79311-04-22 07:54 J -27246808.29 -27246808.17 -27246808.05 0.0491 0.0371

Jupiter -79311-07-21 15:06 J -27246718.05 -27246717.87 -27246717.70 0.0492 0.0145

Saturn -79311-11-24 05:59 J -27246592.30 -27246592.25 -27246592.20 0.0278 0.0252

Saturn -79310-02-20 16:47 J -27246503.91 -27246503.80 -27246503.69 0.0277 0.0150

Saturn -79310-05-20 03:35 J -27246415.48 -27246415.35 -27246415.22 0.0276 0.0049

Saturn -79310-08-16 14:37 J -27246327.02 -27246326.89 -27246326.76 0.0275 0.0053

Saturn -79310-11-13 01:25 J -27246238.54 -27246238.44 -27246238.32 0.0275 0.0155

Saturn -79309-02-09 12:28 J -27246150.02 -27246149.98 -27246149.93 0.0274 0.0256

Moon -79309-09-19 20:52 J -27245926.79 -27245926.63 -27245926.47 0.2590 0.0101

Earth -79309-09-19 22:32 J -27245926.71 -27245926.56 -27245926.40 0.2590 0.0362 *

Venus -79307-12-02 22:47 J -27245122.59 -27245122.55 -27245122.50 0.3615 0.3376

Pluto -79307-12-18 20:37 J -27245106.67 -27245106.64 -27245106.60 0.0085 0.0081

Pluto -79306-03-16 21:49 J -27245018.65 -27245018.59 -27245018.50 0.0084 0.0070

Moon -79306-03-28 02:37 J -27245007.41 -27245007.39 -27245007.37 0.2742 0.2678

Pluto -79306-06-12 23:30 J -27244930.61 -27244930.52 -27244930.42 0.0084 0.0057

Mars -79306-08-14 09:20 J -27244868.27 -27244868.11 -27244867.96 0.1709 0.0522

Pluto -79306-09-09 00:56 J -27244842.57 -27244842.46 -27244842.35 0.0084 0.0046

Pluto -79306-12-06 02:08 J -27244754.53 -27244754.41 -27244754.28 0.0084 0.0034

Neptune -79305-01-29 14:37 J -27244699.93 -27244699.89 -27244699.83 0.0089 0.0085

Pluto -79305-03-03 03:35 J -27244666.48 -27244666.35 -27244666.22 0.0084 0.0023

Jupiter -79305-03-12 14:52 J -27244657.00 -27244656.88 -27244656.75 0.0535 0.0140

Neptune -79305-04-26 17:59 J -27244611.82 -27244611.75 -27244611.64 0.0089 0.0079

Pluto -79305-05-30 05:01 J -27244578.42 -27244578.29 -27244578.16 0.0084 0.0011

Jupiter -79305-06-09 22:47 J -27244567.66 -27244567.55 -27244567.45 0.0534 0.0313

Mars -79305-06-11 00:56 J -27244566.58 -27244566.46 -27244566.34 0.1825 0.0434

Neptune -79305-07-23 21:49 J -27244523.69 -27244523.59 -27244523.46 0.0089 0.0072

Pluto -79305-08-26 06:13 J -27244490.37 -27244490.24 -27244490.10 0.0084 0.0003

Neptune -79305-10-20 01:25 J -27244435.55 -27244435.44 -27244435.29 0.0089 0.0066

Pluto -79305-11-22 07:40 J -27244402.31 -27244402.18 -27244402.05 0.0084 0.0011

Neptune -79304-01-16 05:16 J -27244347.42 -27244347.28 -27244347.13 0.0089 0.0059

Pluto -79304-02-18 08:52 J -27244314.26 -27244314.13 -27244314.00 0.0083 0.0022

Neptune -79304-04-14 09:06 J -27244259.28 -27244259.12 -27244258.96 0.0089 0.0052

Pluto -79304-05-17 10:04 J -27244226.19 -27244226.08 -27244225.95 0.0083 0.0033

Neptune -79304-07-11 12:28 J -27244171.13 -27244170.98 -27244170.80 0.0089 0.0046

Pluto -79304-08-13 11:16 J -27244138.13 -27244138.03 -27244137.90 0.0083 0.0045

Neptune -79304-10-07 16:18 J -27244082.99 -27244082.82 -27244082.64 0.0089 0.0039

Pluto -79304-11-09 12:42 J -27244050.06 -27244049.97 -27244049.86 0.0083 0.0055

Neptune -79303-01-03 19:40 J -27243994.85 -27243994.68 -27243994.48 0.0089 0.0033

Pluto -79303-02-05 13:54 J -27243961.99 -27243961.92 -27243961.83 0.0083 0.0066

Neptune -79303-04-01 23:30 J -27243906.70 -27243906.52 -27243906.33 0.0089 0.0026

Pluto -79303-05-04 15:20 J -27243873.91 -27243873.86 -27243873.81 0.0083 0.0076

Neptune -79303-06-29 03:06 J -27243818.55 -27243818.37 -27243818.17 0.0089 0.0019

Neptune -79303-09-25 06:56 J -27243730.40 -27243730.21 -27243730.02 0.0089 0.0013

Neptune -79303-12-22 10:32 J -27243642.26 -27243642.06 -27243641.87 0.0089 0.0006

Neptune -79302-03-20 14:08 J -27243554.11 -27243553.91 -27243553.72 0.0089 0.0001

Neptune -79302-06-16 17:44 J -27243465.96 -27243465.76 -27243465.57 0.0089 0.0007

Neptune -79302-09-12 21:06 J -27243377.80 -27243377.62 -27243377.42 0.0089 0.0014

Neptune -79302-12-10 00:56 J -27243289.65 -27243289.46 -27243289.27 0.0089 0.0020

Neptune -79301-03-07 04:18 J -27243201.50 -27243201.32 -27243201.13 0.0089 0.0027

Neptune -79301-06-03 07:54 J -27243113.34 -27243113.17 -27243112.99 0.0089 0.0033

Neptune -79301-08-30 11:16 J -27243025.19 -27243025.03 -27243024.84 0.0089 0.0040

Neptune -79301-11-26 15:06 J -27242937.03 -27242936.87 -27242936.70 0.0088 0.0046

Neptune -79300-02-22 18:13 J -27242848.88 -27242848.74 -27242848.57 0.0088 0.0053

Neptune -79300-05-21 22:04 J -27242760.72 -27242760.58 -27242760.43 0.0088 0.0059

Neptune -79300-08-18 01:11 J -27242672.56 -27242672.45 -27242672.30 0.0088 0.0066

Neptune -79300-11-14 04:47 J -27242584.39 -27242584.30 -27242584.17 0.0088 0.0072

Neptune -79299-02-10 08:37 J -27242496.22 -27242496.14 -27242496.04 0.0088 0.0078

Earth -79299-03-21 00:42 J -27242457.57 -27242457.47 -27242457.37 0.2745 0.0852

Moon -79299-03-21 01:25 J -27242457.54 -27242457.44 -27242457.33 0.2745 0.0817 *

Jupiter -79299-05-09 12:56 J -27242408.14 -27242407.96 -27242407.78 0.0492 0.0016

Neptune -79299-05-09 11:44 J -27242408.04 -27242408.01 -27242407.93 0.0088 0.0085 *

Venus -79298-03-13 05:16 J -27242100.34 -27242100.28 -27242100.22 0.3782 0.3099

Mars -79296-01-03 09:49 J -27241438.16 -27241438.09 -27241438.03 0.1701 0.1538

Moon -79296-09-23 02:52 J -27241175.42 -27241175.38 -27241175.34 0.2594 0.2493

Earth -79296-09-23 04:04 J -27241175.36 -27241175.33 -27241175.30 0.2590 0.2513 *

Mars -79296-11-01 09:35 J -27241136.22 -27241136.10 -27241135.99 0.1834 0.0356

Saturn -79295-12-05 20:23 J -27240736.76 -27240736.65 -27240736.54 0.0284 0.0229

Saturn -79294-03-04 20:08 J -27240647.84 -27240647.66 -27240647.48 0.0285 0.0070

Saturn -79294-06-01 19:54 J -27240558.85 -27240558.67 -27240558.50 0.0285 0.0090

Saturn -79294-08-29 19:11 J -27240469.78 -27240469.70 -27240469.61 0.0286 0.0249

Jupiter -79294-12-30 18:42 J -27240346.83 -27240346.72 -27240346.60 0.0536 0.0251

Jupiter -79293-03-29 02:23 J -27240257.52 -27240257.40 -27240257.28 0.0535 0.0202

Venus -79293-09-25 23:16 J -27240076.62 -27240076.53 -27240076.44 0.3778 0.2026

Jupiter -79287-02-25 10:47 J -27238098.23 -27238098.05 -27238097.87 0.0491 0.0112

Venus -79287-04-11 17:30 J -27238052.88 -27238052.77 -27238052.66 0.3775 0.0925

Jupiter -79287-05-26 17:16 J -27238007.88 -27238007.78 -27238007.67 0.0493 0.0398

Earth -79286-03-23 18:56 J -27237706.81 -27237706.71 -27237706.60 0.2746 0.0441

Moon -79286-03-23 19:25 J -27237706.80 -27237706.69 -27237706.58 0.2740 0.0550 *

Mars -79286-03-24 17:59 J -27237705.84 -27237705.75 -27237705.66 0.1843 0.1149

Uranus -79286-11-04 08:37 J -27237481.20 -27237481.14 -27237481.05 0.0141 0.0128

Uranus -79285-01-31 16:32 J -27237392.93 -27237392.81 -27237392.67 0.0141 0.0102

Uranus -79285-04-29 00:13 J -27237304.64 -27237304.49 -27237304.32 0.0141 0.0076

Mars -79285-05-02 08:37 J -27237301.18 -27237301.14 -27237301.10 0.1726 0.1648

Uranus -79285-07-26 07:54 J -27237216.34 -27237216.17 -27237215.99 0.0141 0.0050

Uranus -79285-10-22 15:35 J -27237128.03 -27237127.85 -27237127.66 0.0140 0.0024

Uranus -79284-01-18 23:01 J -27237039.72 -27237039.54 -27237039.35 0.0140 0.0003

Uranus -79284-04-17 06:42 J -27236951.41 -27236951.22 -27236951.04 0.0140 0.0027

Uranus -79284-07-14 13:54 J -27236863.09 -27236862.92 -27236862.74 0.0140 0.0051

Uranus -79284-10-10 21:20 J -27236774.77 -27236774.61 -27236774.45 0.0140 0.0076

Uranus -79283-01-07 04:18 J -27236686.43 -27236686.32 -27236686.18 0.0140 0.0101

Uranus -79283-04-05 11:30 J -27236598.09 -27236598.02 -27236597.93 0.0140 0.0125

Jupiter -79282-10-18 23:01 J -27236036.63 -27236036.54 -27236036.44 0.0536 0.0356

Venus -79282-10-26 11:59 J -27236029.11 -27236029.00 -27236028.89 0.3771 0.0207

Jupiter -79281-01-16 06:42 J -27235947.35 -27235947.22 -27235947.09 0.0535 0.0095

Saturn -79281-07-09 18:28 J -27235771.82 -27235771.73 -27235771.63 0.0277 0.0185

Saturn -79281-10-06 05:30 J -27235683.40 -27235683.27 -27235683.15 0.0276 0.0084

Saturn -79280-01-02 16:18 J -27235594.95 -27235594.82 -27235594.69 0.0275 0.0018

Saturn -79280-04-01 03:06 J -27235506.48 -27235506.37 -27235506.24 0.0274 0.0119

Saturn -79280-06-28 14:08 J -27235417.98 -27235417.91 -27235417.83 0.0274 0.0220

Venus -79276-05-11 06:42 J -27234005.33 -27234005.22 -27234005.12 0.3768 0.1377

Moon -79276-09-17 21:49 J -27233875.72 -27233875.59 -27233875.46 0.2588 0.1534

Earth -79276-09-17 23:16 J -27233875.66 -27233875.53 -27233875.40 0.2591 0.1400 *

Mars -79276-09-22 09:20 J -27233871.26 -27233871.11 -27233870.96 0.1718 0.0631

Jupiter -79276-12-14 08:23 J -27233788.31 -27233788.15 -27233787.99 0.0491 0.0243

Jupiter -79275-03-14 15:06 J -27233698.02 -27233697.87 -27233697.72 0.0492 0.0270

Mars -79275-07-20 16:32 J -27233569.90 -27233569.81 -27233569.73 0.1817 0.1309

Moon -79273-03-25 13:25 J -27232956.03 -27232955.94 -27232955.85 0.2739 0.1674

Earth -79273-03-25 13:25 J -27232956.02 -27232955.94 -27232955.86 0.2746 0.1734 *

Venus -79272-05-09 22:04 J -27232545.69 -27232545.58 -27232545.48 0.3600 0.2396

Venus -79271-11-25 01:25 J -27231981.52 -27231981.44 -27231981.36 0.3764 0.2565

Jupiter -79270-08-07 03:20 J -27231726.42 -27231726.36 -27231726.30 0.0536 0.0461

Jupiter -79270-11-04 10:47 J -27231637.18 -27231637.05 -27231636.92 0.0535 0.0013

Jupiter -79269-02-01 18:42 J -27231547.79 -27231547.72 -27231547.65 0.0534 0.0441

Venus -79267-11-23 22:47 J -27230521.69 -27230521.55 -27230521.42 0.3604 0.0745

Mars -79266-02-12 09:35 J -27230441.25 -27230441.10 -27230440.94 0.1709 0.0402

Earth -79266-03-19 11:16 J -27230406.11 -27230406.03 -27230405.95 0.2744 0.1863

Moon -79266-03-19 11:59 J -27230406.08 -27230406.00 -27230405.92 0.2747 0.1776 *

Mars -79266-12-11 00:56 J -27230139.57 -27230139.46 -27230139.34 0.1825 0.0539

Saturn -79265-07-21 15:49 J -27229916.00 -27229915.84 -27229915.68 0.0284 0.0134

Saturn -79265-10-18 15:35 J -27229827.04 -27229826.85 -27229826.67 0.0285 0.0026

Saturn -79264-01-15 14:52 J -27229738.01 -27229737.88 -27229737.73 0.0286 0.0186

Jupiter -79264-10-02 06:28 J -27229478.35 -27229478.23 -27229478.11 0.0491 0.0367

Jupiter -79264-12-31 13:40 J -27229388.10 -27229387.93 -27229387.76 0.0492 0.0149

Moon -79263-09-21 03:20 J -27229124.51 -27229124.36 -27229124.21 0.2590 0.0712

Earth -79263-09-21 05:01 J -27229124.44 -27229124.29 -27229124.14 0.2590 0.0804 *

Venus -79261-06-08 23:01 J -27228497.67 -27228497.54 -27228497.41 0.3608 0.0864

Jupiter -79258-08-23 13:54 J -27227327.04 -27227326.92 -27227326.79 0.0535 0.0134

Jupiter -79258-11-20 21:35 J -27227237.70 -27227237.60 -27227237.49 0.0534 0.0319

Mars -79257-07-04 10:18 J -27227011.16 -27227011.07 -27227010.98 0.1702 0.1406

Mars -79256-05-02 09:35 J -27226709.22 -27226709.10 -27226708.99 0.1834 0.0260

Venus -79256-12-23 23:01 J -27226473.64 -27226473.54 -27226473.44 0.3612 0.2383

Earth -79253-03-21 05:30 J -27225655.37 -27225655.27 -27225655.16 0.2745 0.0595

Moon -79253-03-21 06:13 J -27225655.35 -27225655.24 -27225655.13 0.2744 0.0463 *

Jupiter -79252-10-19 12:13 J -27225078.18 -27225077.99 -27225077.81 0.0492 0.0028

Saturn -79252-11-26 21:06 J -27225039.70 -27225039.62 -27225039.53 0.0278 0.0214

Saturn -79251-02-23 08:08 J -27224951.28 -27224951.16 -27224951.04 0.0277 0.0112

Saturn -79251-05-22 18:56 J -27224862.84 -27224862.71 -27224862.58 0.0276 0.0010

Saturn -79251-08-19 05:59 J -27224774.38 -27224774.25 -27224774.13 0.0275 0.0092

Saturn -79251-11-15 16:47 J -27224685.89 -27224685.80 -27224685.70 0.0275 0.0193

Mars -79247-09-22 17:59 J -27223278.84 -27223278.75 -27223278.65 0.1843 0.1044

Jupiter -79246-06-11 17:44 J -27223016.88 -27223016.76 -27223016.65 0.0535 0.0247

Jupiter -79246-09-09 01:11 J -27222927.56 -27222927.45 -27222927.33 0.0534 0.0205

Venus -79242-10-18 03:20 J -27221427.44 -27221427.36 -27221427.29 0.3781 0.2767

Uranus -79241-07-02 18:28 J -27221168.78 -27221168.73 -27221168.68 0.0137 0.0125

Uranus -79241-09-28 21:35 J -27221080.67 -27221080.60 -27221080.51 0.0138 0.0109

Uranus -79241-12-26 00:56 J -27220992.55 -27220992.46 -27220992.35 0.0138 0.0092

Earth -79240-03-23 23:59 J -27220904.61 -27220904.50 -27220904.40 0.2746 0.0704

Moon -79240-03-24 00:28 J -27220904.59 -27220904.48 -27220904.38 0.2739 0.0698 *

Uranus -79240-03-24 04:18 J -27220904.43 -27220904.32 -27220904.20 0.0138 0.0075 *

Uranus -79240-06-20 07:40 J -27220816.30 -27220816.18 -27220816.05 0.0138 0.0058

Jupiter -79240-08-07 09:49 J -27220768.26 -27220768.09 -27220767.90 0.0492 0.0104

Uranus -79240-09-16 11:01 J -27220728.16 -27220728.04 -27220727.90 0.0138 0.0042

Jupiter -79240-11-05 16:18 J -27220677.91 -27220677.82 -27220677.71 0.0493 0.0408

Uranus -79240-12-13 14:37 J -27220640.02 -27220639.89 -27220639.76 0.0138 0.0024

Uranus -79239-03-11 17:59 J -27220551.88 -27220551.75 -27220551.61 0.0138 0.0007

Uranus -79239-06-07 21:35 J -27220463.74 -27220463.60 -27220463.47 0.0139 0.0012

Uranus -79239-09-04 00:56 J -27220375.59 -27220375.46 -27220375.33 0.0139 0.0029

Uranus -79239-12-01 04:18 J -27220287.44 -27220287.32 -27220287.19 0.0139 0.0047

Uranus -79238-02-27 07:54 J -27220199.29 -27220199.17 -27220199.05 0.0139 0.0064

Uranus -79238-05-26 11:30 J -27220111.13 -27220111.02 -27220110.91 0.0139 0.0082

Uranus -79238-08-22 15:06 J -27220022.96 -27220022.87 -27220022.78 0.0139 0.0100

Uranus -79238-11-18 18:42 J -27219934.79 -27219934.72 -27219934.65 0.0140 0.0119

Mars -79237-02-13 02:37 J -27219848.40 -27219848.39 -27219848.39 0.1851 0.1848

Uranus -79237-02-14 22:18 J -27219846.59 -27219846.57 -27219846.55 0.0140 0.0137

Mars -79236-03-23 09:49 J -27219444.23 -27219444.09 -27219443.95 0.1718 0.0760

Venus -79236-05-02 21:20 J -27219403.71 -27219403.61 -27219403.51 0.3778 0.1685

Saturn -79236-12-08 14:08 J -27219184.05 -27219183.91 -27219183.77 0.0284 0.0180

Mars -79235-01-18 16:32 J -27219142.89 -27219142.81 -27219142.74 0.1816 0.1408

Saturn -79235-03-07 13:54 J -27219095.11 -27219094.92 -27219094.74 0.0285 0.0020

Saturn -79235-06-04 13:25 J -27219006.10 -27219005.94 -27219005.78 0.0286 0.0139

Jupiter -79234-03-30 21:35 J -27218706.69 -27218706.60 -27218706.51 0.0536 0.0358

Jupiter -79234-06-28 05:01 J -27218617.41 -27218617.29 -27218617.16 0.0535 0.0093

Venus -79231-11-16 15:49 J -27217379.95 -27217379.84 -27217379.73 0.3774 0.0581

Moon -79230-09-19 04:04 J -27217073.47 -27217073.33 -27217073.18 0.2588 0.1147

Earth -79230-09-19 05:44 J -27217073.41 -27217073.26 -27217073.11 0.2591 0.0955 *

Jupiter -79228-05-26 07:54 J -27216458.33 -27216458.17 -27216458.01 0.0491 0.0230

Jupiter -79228-08-24 14:37 J -27216368.04 -27216367.89 -27216367.74 0.0492 0.0282

Moon -79227-03-26 18:13 J -27216153.81 -27216153.74 -27216153.67 0.2740 0.2036

Earth -79227-03-26 18:28 J -27216153.81 -27216153.73 -27216153.66 0.2746 0.2006 *

Mars -79227-08-13 10:32 J -27216014.22 -27216014.06 -27216013.90 0.1710 0.0257

Mars -79226-06-11 00:56 J -27215712.57 -27215712.46 -27215712.35 0.1825 0.0630

Venus -79225-06-01 10:18 J -27215356.18 -27215356.07 -27215355.96 0.3770 0.0583

Neptune -79224-05-09 21:20 J -27215013.63 -27215013.61 -27215013.56 0.0089 0.0086

Neptune -79224-08-05 23:01 J -27214925.59 -27214925.54 -27214925.49 0.0089 0.0081

Neptune -79224-11-02 00:13 J -27214837.55 -27214837.49 -27214837.42 0.0089 0.0077

Neptune -79223-01-29 01:25 J -27214749.50 -27214749.44 -27214749.36 0.0089 0.0073

Neptune -79223-04-27 02:52 J -27214661.46 -27214661.38 -27214661.29 0.0089 0.0068

Neptune -79223-07-24 04:04 J -27214573.41 -27214573.33 -27214573.23 0.0089 0.0064

Neptune -79223-10-20 05:30 J -27214485.36 -27214485.27 -27214485.17 0.0089 0.0059

Neptune -79222-01-16 06:42 J -27214397.31 -27214397.22 -27214397.11 0.0089 0.0055

Jupiter -79222-01-17 01:54 J -27214396.48 -27214396.42 -27214396.36 0.0537 0.0463

Neptune -79222-04-14 08:23 J -27214309.26 -27214309.15 -27214309.05 0.0089 0.0050

Saturn -79222-04-15 23:01 J -27214307.60 -27214307.54 -27214307.49 0.0277 0.0249

Jupiter -79222-04-16 09:20 J -27214307.24 -27214307.11 -27214306.98 0.0535 0.0014

Neptune -79222-07-11 09:35 J -27214221.21 -27214221.10 -27214220.99 0.0089 0.0046

Saturn -79222-07-13 09:49 J -27214219.20 -27214219.09 -27214218.98 0.0277 0.0147

Jupiter -79222-07-14 17:16 J -27214217.85 -27214217.78 -27214217.71 0.0534 0.0441

Neptune -79222-10-07 10:47 J -27214133.16 -27214133.05 -27214132.93 0.0089 0.0041

Saturn -79222-10-09 20:37 J -27214130.77 -27214130.64 -27214130.51 0.0276 0.0046

Neptune -79221-01-03 12:13 J -27214045.11 -27214044.99 -27214044.87 0.0089 0.0037

Saturn -79221-01-06 07:40 J -27214042.31 -27214042.18 -27214042.05 0.0275 0.0056

Neptune -79221-03-31 13:25 J -27213957.06 -27213956.94 -27213956.81 0.0089 0.0033

Saturn -79221-04-03 18:28 J -27213953.83 -27213953.73 -27213953.62 0.0274 0.0157

Venus -79221-05-30 20:52 J -27213896.64 -27213896.63 -27213896.62 0.3598 0.3582

Neptune -79221-06-27 14:52 J -27213869.00 -27213868.88 -27213868.75 0.0089 0.0028

Saturn -79221-07-01 05:30 J -27213865.31 -27213865.27 -27213865.23 0.0273 0.0258

Neptune -79221-09-23 16:04 J -27213780.95 -27213780.83 -27213780.69 0.0089 0.0024

Neptune -79221-12-20 17:30 J -27213692.90 -27213692.77 -27213692.64 0.0089 0.0019

Neptune -79220-03-18 18:56 J -27213604.84 -27213604.71 -27213604.58 0.0089 0.0014

Earth -79220-03-19 16:18 J -27213603.91 -27213603.82 -27213603.74 0.2744 0.1603

Moon -79220-03-19 16:47 J -27213603.88 -27213603.80 -27213603.71 0.2748 0.1539 *

Neptune -79220-06-14 20:23 J -27213516.79 -27213516.65 -27213516.52 0.0089 0.0010

Neptune -79220-09-10 21:35 J -27213428.73 -27213428.60 -27213428.47 0.0089 0.0005

Neptune -79220-12-07 23:01 J -27213340.68 -27213340.54 -27213340.41 0.0089 0.0002

Venus -79220-12-16 05:01 J -27213332.39 -27213332.29 -27213332.19 0.3767 0.1754

Neptune -79219-03-06 00:13 J -27213252.62 -27213252.49 -27213252.35 0.0089 0.0004

Neptune -79219-06-02 01:40 J -27213164.56 -27213164.43 -27213164.30 0.0089 0.0008

Neptune -79219-08-29 02:52 J -27213076.51 -27213076.38 -27213076.24 0.0089 0.0013

Neptune -79219-11-25 04:18 J -27212988.45 -27212988.32 -27212988.19 0.0089 0.0018

Neptune -79218-02-21 05:44 J -27212900.39 -27212900.26 -27212900.13 0.0089 0.0022

Neptune -79218-05-20 06:56 J -27212812.33 -27212812.21 -27212812.08 0.0089 0.0027

Neptune -79218-08-16 08:23 J -27212724.27 -27212724.15 -27212724.02 0.0089 0.0031

Neptune -79218-11-12 09:35 J -27212636.21 -27212636.10 -27212635.97 0.0089 0.0036

Mars -79217-01-03 11:01 J -27212584.15 -27212584.04 -27212583.93 0.1702 0.1269

Neptune -79217-02-08 11:01 J -27212548.15 -27212548.04 -27212547.92 0.0089 0.0040

Neptune -79217-05-06 12:28 J -27212460.09 -27212459.98 -27212459.86 0.0089 0.0045

Neptune -79217-08-02 13:40 J -27212372.03 -27212371.93 -27212371.81 0.0089 0.0050

Moon -79217-09-21 09:49 J -27212322.23 -27212322.09 -27212321.94 0.2591 0.1048

Earth -79217-09-21 11:30 J -27212322.16 -27212322.02 -27212321.88 0.2590 0.1238 *

Neptune -79217-10-29 15:06 J -27212283.97 -27212283.87 -27212283.76 0.0089 0.0054

Mars -79217-10-31 09:35 J -27212282.22 -27212282.10 -27212281.98 0.1834 0.0154

Neptune -79216-01-25 16:18 J -27212195.91 -27212195.82 -27212195.71 0.0089 0.0059

Jupiter -79216-03-14 05:16 J -27212148.40 -27212148.28 -27212148.15 0.0491 0.0361

Neptune -79216-04-23 17:59 J -27212107.84 -27212107.75 -27212107.66 0.0089 0.0063

Jupiter -79216-06-12 12:28 J -27212058.15 -27212057.98 -27212057.81 0.0492 0.0154

Neptune -79216-07-20 19:11 J -27212019.78 -27212019.70 -27212019.61 0.0089 0.0068

Neptune -79216-10-16 20:52 J -27211931.71 -27211931.63 -27211931.56 0.0089 0.0072

Venus -79216-12-14 21:49 J -27211872.70 -27211872.59 -27211872.47 0.3601 0.1876

Neptune -79215-01-12 22:04 J -27211843.64 -27211843.58 -27211843.51 0.0089 0.0077

Neptune -79215-04-10 23:16 J -27211755.57 -27211755.53 -27211755.47 0.0089 0.0082

Neptune -79215-07-08 00:42 J -27211667.49 -27211667.47 -27211667.43 0.0089 0.0086

Venus -79214-07-01 23:44 J -27211308.57 -27211308.51 -27211308.44 0.3763 0.2961

Jupiter -79210-02-02 13:25 J -27209997.06 -27209996.94 -27209996.81 0.0536 0.0121

Jupiter -79210-05-02 21:20 J -27209907.71 -27209907.61 -27209907.51 0.0534 0.0333

Venus -79210-06-30 22:32 J -27209848.69 -27209848.56 -27209848.42 0.3605 0.0232

Earth -79207-03-22 10:32 J -27208853.17 -27208853.06 -27208852.95 0.2745 0.0327

Moon -79207-03-22 11:16 J -27208853.14 -27208853.03 -27208852.93 0.2742 0.0282 *

Mars -79207-03-23 18:13 J -27208851.84 -27208851.74 -27208851.64 0.1842 0.0946

Saturn -79206-04-27 09:06 J -27208452.20 -27208452.12 -27208452.03 0.0283 0.0247

Saturn -79206-07-25 09:06 J -27208363.30 -27208363.12 -27208362.94 0.0284 0.0087

Saturn -79206-10-22 08:37 J -27208274.31 -27208274.14 -27208273.96 0.0285 0.0073

Saturn -79205-01-19 08:08 J -27208185.26 -27208185.16 -27208185.05 0.0286 0.0232

Jupiter -79205-12-31 03:20 J -27207838.38 -27207838.36 -27207838.33 0.0491 0.0485

Venus -79204-01-13 22:47 J -27207824.67 -27207824.55 -27207824.42 0.3609 0.1353

Jupiter -79204-03-31 11:01 J -27207748.22 -27207748.04 -27207747.86 0.0492 0.0033

Uranus -79202-11-24 16:32 J -27206779.89 -27206779.81 -27206779.70 0.0141 0.0121

Uranus -79201-02-21 00:28 J -27206691.61 -27206691.48 -27206691.34 0.0141 0.0094

Uranus -79201-05-19 08:23 J -27206603.32 -27206603.15 -27206602.99 0.0141 0.0068

Uranus -79201-08-15 15:49 J -27206515.02 -27206514.84 -27206514.66 0.0141 0.0042

Uranus -79201-11-11 23:30 J -27206426.71 -27206426.52 -27206426.33 0.0141 0.0017

Uranus -79200-02-08 06:56 J -27206338.39 -27206338.21 -27206338.02 0.0140 0.0009

Uranus -79200-05-07 14:23 J -27206250.08 -27206249.90 -27206249.71 0.0140 0.0034

Uranus -79200-08-03 21:35 J -27206161.76 -27206161.60 -27206161.42 0.0140 0.0060

Uranus -79200-10-31 05:01 J -27206073.43 -27206073.29 -27206073.13 0.0140 0.0084

Uranus -79199-01-27 12:13 J -27205985.09 -27205984.99 -27205984.86 0.0140 0.0108

Uranus -79199-04-25 19:40 J -27205896.74 -27205896.68 -27205896.62 0.0140 0.0132

Venus -79199-07-30 22:32 J -27205800.64 -27205800.56 -27205800.48 0.3613 0.2853

Jupiter -79199-11-21 16:47 J -27205686.91 -27205686.80 -27205686.68 0.0535 0.0240

Jupiter -79198-02-19 00:28 J -27205597.60 -27205597.48 -27205597.36 0.0534 0.0211

Mars -79198-08-14 02:37 J -27205421.43 -27205421.39 -27205421.36 0.1851 0.1751

Mars -79197-09-21 10:32 J -27205017.20 -27205017.06 -27205016.93 0.1718 0.0894

Mars -79196-07-19 16:32 J -27204715.87 -27204715.81 -27204715.74 0.1816 0.1510

Earth -79194-03-25 04:47 J -27204102.40 -27204102.30 -27204102.20 0.2746 0.0968

Moon -79194-03-25 05:16 J -27204102.38 -27204102.28 -27204102.18 0.2739 0.1065 *

Saturn -79193-11-29 11:59 J -27203487.10 -27203487.00 -27203486.90 0.0278 0.0179

Jupiter -79192-01-17 09:06 J -27203438.29 -27203438.12 -27203437.93 0.0492 0.0093

Saturn -79192-02-25 23:01 J -27203398.67 -27203398.54 -27203398.42 0.0277 0.0077

Jupiter -79192-04-17 15:49 J -27203347.93 -27203347.84 -27203347.75 0.0493 0.0419

Saturn -79192-05-25 09:49 J -27203310.22 -27203310.09 -27203309.95 0.0276 0.0026

Saturn -79192-08-21 20:52 J -27203221.75 -27203221.63 -27203221.51 0.0275 0.0127

Saturn -79192-11-18 07:54 J -27203133.24 -27203133.17 -27203133.10 0.0274 0.0228

Venus -79191-11-08 07:25 J -27202778.23 -27202778.19 -27202778.15 0.3783 0.3494

Mars -79187-02-11 11:16 J -27201587.19 -27201587.03 -27201586.87 0.1710 0.0121

Earth -79187-03-18 02:52 J -27201552.41 -27201552.38 -27201552.35 0.2743 0.2597

Moon -79187-03-18 03:20 J -27201552.39 -27201552.36 -27201552.33 0.2749 0.2614 *

Jupiter -79187-09-09 20:37 J -27201376.74 -27201376.64 -27201376.55 0.0536 0.0351

Jupiter -79187-12-08 04:04 J -27201287.46 -27201287.33 -27201287.20 0.0534 0.0098

Mars -79187-12-10 01:11 J -27201285.56 -27201285.45 -27201285.35 0.1825 0.0732

Venus -79185-05-24 01:25 J -27200754.52 -27200754.44 -27200754.36 0.3780 0.2430

Moon -79184-09-19 10:32 J -27200271.21 -27200271.06 -27200270.90 0.2588 0.0627

Earth -79184-09-19 12:13 J -27200271.14 -27200270.99 -27200270.84 0.2591 0.0513 *

Moon -79181-03-26 23:01 J -27199351.61 -27199351.54 -27199351.48 0.2740 0.2170

Earth -79181-03-26 23:16 J -27199351.59 -27199351.53 -27199351.47 0.2746 0.2278 *

Jupiter -79181-11-05 06:56 J -27199128.37 -27199128.21 -27199128.04 0.0492 0.0221

Jupiter -79180-02-03 13:54 J -27199038.06 -27199037.92 -27199037.77 0.0493 0.0293

Venus -79180-12-07 19:40 J -27198730.79 -27198730.68 -27198730.58 0.3777 0.1337

Mars -79178-07-04 11:30 J -27198157.14 -27198157.02 -27198156.90 0.1702 0.1140

Mars -79177-05-01 09:35 J -27197855.22 -27197855.10 -27197854.98 0.1834 0.0059

Saturn -79177-12-11 07:25 J -27197631.36 -27197631.19 -27197631.03 0.0284 0.0133

Saturn -79176-03-10 07:11 J -27197542.39 -27197542.20 -27197542.02 0.0285 0.0027

Saturn -79176-06-07 06:28 J -27197453.36 -27197453.23 -27197453.09 0.0286 0.0186

Jupiter -79175-06-29 00:28 J -27197066.54 -27197066.48 -27197066.42 0.0536 0.0463

Jupiter -79175-09-26 07:54 J -27196977.30 -27196977.17 -27196977.04 0.0535 0.0017

Jupiter -79175-12-24 15:49 J -27196887.91 -27196887.84 -27196887.77 0.0534 0.0439

Earth -79174-03-20 21:06 J -27196801.72 -27196801.62 -27196801.53 0.2744 0.1341

Moon -79174-03-20 21:49 J -27196801.69 -27196801.59 -27196801.50 0.2747 0.1230 *

Venus -79174-06-23 13:54 J -27196707.03 -27196706.92 -27196706.81 0.3773 0.0225

Moon -79171-09-22 16:32 J -27195519.94 -27195519.81 -27195519.69 0.2593 0.1533

Earth -79171-09-22 17:59 J -27195519.87 -27195519.75 -27195519.63 0.2590 0.1676 *

Jupiter -79169-08-24 05:01 J -27194818.42 -27194818.29 -27194818.17 0.0491 0.0349

Jupiter -79169-11-22 11:59 J -27194728.17 -27194728.00 -27194727.83 0.0492 0.0167

Venus -79168-01-06 08:23 J -27194683.25 -27194683.15 -27194683.04 0.3770 0.0956

Mars -79168-09-21 17:59 J -27194424.85 -27194424.75 -27194424.64 0.1842 0.0856

Venus -79164-01-04 20:52 J -27193223.70 -27193223.63 -27193223.56 0.3599 0.3048

Saturn -79163-04-18 13:54 J -27192755.00 -27192754.92 -27192754.84 0.0277 0.0214

Jupiter -79163-07-15 11:59 J -27192667.12 -27192667.00 -27192666.87 0.0536 0.0123

Saturn -79163-07-16 00:42 J -27192666.59 -27192666.47 -27192666.35 0.0277 0.0112

Venus -79163-07-23 03:20 J -27192659.46 -27192659.36 -27192659.27 0.3766 0.2139

Saturn -79163-10-12 11:44 J -27192578.15 -27192578.01 -27192577.88 0.0276 0.0012

Jupiter -79163-10-12 19:54 J -27192577.77 -27192577.67 -27192577.57 0.0534 0.0333

Saturn -79162-01-08 22:32 J -27192489.68 -27192489.56 -27192489.43 0.0275 0.0092

Saturn -79162-04-07 09:35 J -27192401.19 -27192401.10 -27192401.01 0.0274 0.0193

Earth -79161-03-22 15:20 J -27192050.97 -27192050.86 -27192050.75 0.2745 0.0062

Moon -79161-03-22 16:04 J -27192050.94 -27192050.83 -27192050.72 0.2741 0.0088 *

Venus -79159-07-21 21:49 J -27191199.72 -27191199.59 -27191199.46 0.3603 0.1363

Mars -79158-02-12 02:37 J -27190994.44 -27190994.39 -27190994.34 0.1851 0.1649

Venus -79157-02-05 22:18 J -27190635.62 -27190635.57 -27190635.53 0.3762 0.3354

Mars -79157-03-22 11:01 J -27190590.16 -27190590.04 -27190589.91 0.1718 0.1031

Uranus -79157-04-25 23:01 J -27190555.56 -27190555.54 -27190555.51 0.0137 0.0134

Jupiter -79157-06-12 02:23 J -27190508.44 -27190508.40 -27190508.36 0.0491 0.0479

Uranus -79157-07-23 02:23 J -27190467.46 -27190467.40 -27190467.33 0.0137 0.0118

Jupiter -79157-09-10 09:49 J -27190418.27 -27190418.09 -27190417.91 0.0492 0.0039

Uranus -79157-10-19 05:30 J -27190379.35 -27190379.27 -27190379.17 0.0138 0.0102

Uranus -79156-01-15 09:06 J -27190291.22 -27190291.12 -27190291.01 0.0138 0.0085

Mars -79156-01-17 16:32 J -27190288.86 -27190288.81 -27190288.75 0.1816 0.1603

Uranus -79156-04-13 12:28 J -27190203.10 -27190202.98 -27190202.86 0.0138 0.0068

Uranus -79156-07-10 15:49 J -27190114.96 -27190114.84 -27190114.71 0.0138 0.0051

Uranus -79156-10-06 19:11 J -27190026.83 -27190026.70 -27190026.57 0.0138 0.0034

Uranus -79155-01-02 22:32 J -27189938.69 -27189938.56 -27189938.42 0.0138 0.0017

Uranus -79155-04-01 02:08 J -27189850.55 -27189850.41 -27189850.28 0.0139 0.0002

Uranus -79155-06-28 05:30 J -27189762.40 -27189762.27 -27189762.13 0.0139 0.0019

Uranus -79155-09-24 09:06 J -27189674.25 -27189674.12 -27189673.99 0.0139 0.0036

Uranus -79155-12-21 12:28 J -27189586.10 -27189585.98 -27189585.85 0.0139 0.0054

Uranus -79154-03-19 16:04 J -27189497.94 -27189497.83 -27189497.71 0.0139 0.0072

Uranus -79154-06-15 19:25 J -27189409.78 -27189409.69 -27189409.58 0.0139 0.0090

Uranus -79154-09-11 23:01 J -27189321.62 -27189321.54 -27189321.45 0.0139 0.0109

Uranus -79154-12-09 02:37 J -27189233.44 -27189233.39 -27189233.33 0.0140 0.0127

Venus -79153-02-04 22:18 J -27189175.70 -27189175.57 -27189175.43 0.3606 0.0305

Pluto -79153-06-27 05:30 J -27189032.32 -27189032.27 -27189032.22 0.0060 0.0058

Pluto -79153-09-23 06:13 J -27188944.31 -27188944.24 -27188944.12 0.0060 0.0052

Pluto -79153-12-20 07:40 J -27188856.28 -27188856.18 -27188856.04 0.0060 0.0047

Pluto -79152-03-18 09:06 J -27188768.25 -27188768.12 -27188767.97 0.0060 0.0041

Pluto -79152-06-14 10:32 J -27188680.20 -27188680.06 -27188679.89 0.0060 0.0035

Pluto -79152-09-10 11:59 J -27188592.16 -27188592.00 -27188591.83 0.0060 0.0029

Pluto -79152-12-07 13:25 J -27188504.11 -27188503.94 -27188503.76 0.0060 0.0023

Pluto -79151-03-05 14:52 J -27188416.06 -27188415.88 -27188415.70 0.0061 0.0017

Jupiter -79151-05-03 16:18 J -27188356.93 -27188356.82 -27188356.70 0.0536 0.0227

Pluto -79151-06-01 16:18 J -27188328.01 -27188327.82 -27188327.63 0.0061 0.0011

Jupiter -79151-07-31 23:59 J -27188267.62 -27188267.50 -27188267.38 0.0534 0.0225

Pluto -79151-08-28 17:30 J -27188239.95 -27188239.77 -27188239.57 0.0061 0.0005

Moon -79151-09-17 11:30 J -27188220.09 -27188220.02 -27188219.95 0.2587 0.2306

Earth -79151-09-17 12:42 J -27188220.04 -27188219.97 -27188219.90 0.2592 0.2293 *

Pluto -79151-11-24 18:56 J -27188151.90 -27188151.71 -27188151.51 0.0061 0.0002

Pluto -79150-02-20 20:23 J -27188063.84 -27188063.65 -27188063.46 0.0061 0.0007

Pluto -79150-05-19 21:49 J -27187975.78 -27187975.59 -27187975.40 0.0061 0.0013

Pluto -79150-08-15 23:01 J -27187887.71 -27187887.54 -27187887.35 0.0061 0.0019

Pluto -79150-11-12 00:28 J -27187799.64 -27187799.48 -27187799.30 0.0061 0.0025

Pluto -79149-02-08 01:54 J -27187711.57 -27187711.42 -27187711.25 0.0061 0.0032

Pluto -79149-05-06 03:35 J -27187623.50 -27187623.35 -27187623.20 0.0061 0.0038

Pluto -79149-08-02 04:32 J -27187535.42 -27187535.31 -27187535.16 0.0061 0.0044

Pluto -79149-10-29 05:59 J -27187447.34 -27187447.25 -27187447.12 0.0061 0.0051

Pluto -79148-01-25 07:25 J -27187359.24 -27187359.19 -27187359.10 0.0061 0.0057

Earth -79148-03-25 09:49 J -27187300.19 -27187300.09 -27187300.00 0.2746 0.1239

Moon -79148-03-25 10:04 J -27187300.18 -27187300.08 -27187299.99 0.2739 0.1232 *

Mars -79148-08-12 11:30 J -27187160.18 -27187160.02 -27187159.85 0.1710 0.0038

Venus -79148-08-20 22:18 J -27187151.68 -27187151.57 -27187151.45 0.3610 0.1832

Saturn -79147-04-30 02:08 J -27186899.54 -27186899.41 -27186899.28 0.0283 0.0202

Mars -79147-06-10 01:11 J -27186858.55 -27186858.45 -27186858.34 0.1825 0.0836

Saturn -79147-07-28 01:54 J -27186810.60 -27186810.42 -27186810.23 0.0284 0.0043

Saturn -79147-10-25 01:25 J -27186721.60 -27186721.44 -27186721.27 0.0285 0.0117

Saturn -79146-01-22 00:56 J -27186632.50 -27186632.46 -27186632.41 0.0286 0.0275

Jupiter -79145-06-29 08:08 J -27186108.34 -27186108.16 -27186107.98 0.0492 0.0085

Jupiter -79145-09-27 14:37 J -27186017.97 -27186017.89 -27186017.80 0.0493 0.0427

Venus -79142-03-06 22:04 J -27185127.63 -27185127.58 -27185127.53 0.3614 0.3327

Earth -79141-03-18 07:40 J -27184750.23 -27184750.18 -27184750.12 0.2743 0.2341

Moon -79141-03-18 08:08 J -27184750.22 -27184750.16 -27184750.09 0.2749 0.2220 *

Neptune -79141-10-25 11:44 J -27184529.06 -27184529.01 -27184528.95 0.0089 0.0085

Neptune -79140-01-21 15:06 J -27184440.94 -27184440.87 -27184440.76 0.0089 0.0079

Neptune -79140-04-19 18:56 J -27184352.81 -27184352.71 -27184352.59 0.0089 0.0072

Neptune -79140-07-16 22:18 J -27184264.68 -27184264.57 -27184264.42 0.0089 0.0066

Neptune -79140-10-13 02:08 J -27184176.54 -27184176.41 -27184176.25 0.0089 0.0059

Neptune -79139-01-09 05:44 J -27184088.40 -27184088.26 -27184088.09 0.0089 0.0053

Jupiter -79139-02-19 19:54 J -27184046.77 -27184046.67 -27184046.58 0.0535 0.0344

Neptune -79139-04-07 09:35 J -27184000.26 -27184000.10 -27183999.93 0.0089 0.0046

Jupiter -79139-05-20 03:20 J -27183957.49 -27183957.36 -27183957.24 0.0534 0.0106

Neptune -79139-07-04 13:25 J -27183912.12 -27183911.94 -27183911.77 0.0089 0.0039

Neptune -79139-09-30 16:47 J -27183823.97 -27183823.80 -27183823.61 0.0089 0.0033

Neptune -79139-12-27 20:37 J -27183735.83 -27183735.64 -27183735.45 0.0089 0.0026

Mars -79138-01-02 12:28 J -27183730.11 -27183729.98 -27183729.85 0.1702 0.0998

Neptune -79138-03-25 23:59 J -27183647.68 -27183647.50 -27183647.30 0.0089 0.0020

Neptune -79138-06-22 03:49 J -27183559.53 -27183559.34 -27183559.15 0.0089 0.0013

Neptune -79138-09-18 07:25 J -27183471.38 -27183471.19 -27183470.99 0.0089 0.0006

Moon -79138-09-20 17:16 J -27183468.94 -27183468.78 -27183468.63 0.2589 0.0294

Earth -79138-09-20 18:42 J -27183468.88 -27183468.72 -27183468.56 0.2591 0.0066 *

Mars -79138-10-31 09:35 J -27183428.22 -27183428.10 -27183427.98 0.1833 0.0059

Neptune -79138-12-15 11:01 J -27183383.23 -27183383.04 -27183382.84 0.0089 0.0001

Neptune -79137-03-12 14:37 J -27183295.08 -27183294.89 -27183294.69 0.0089 0.0007

Neptune -79137-06-08 18:13 J -27183206.93 -27183206.74 -27183206.55 0.0089 0.0013

Neptune -79137-09-04 21:49 J -27183118.78 -27183118.59 -27183118.40 0.0089 0.0020

Neptune -79137-12-02 01:11 J -27183030.63 -27183030.45 -27183030.26 0.0089 0.0027

Neptune -79136-02-28 05:01 J -27182942.47 -27182942.29 -27182942.11 0.0089 0.0033

Neptune -79136-05-27 08:08 J -27182854.32 -27182854.16 -27182853.97 0.0089 0.0040

Neptune -79136-08-23 11:59 J -27182766.16 -27182766.00 -27182765.83 0.0088 0.0046

Neptune -79136-11-19 15:20 J -27182678.00 -27182677.86 -27182677.69 0.0088 0.0052

Neptune -79135-02-15 18:56 J -27182589.84 -27182589.71 -27182589.56 0.0088 0.0059

Moon -79135-03-28 03:49 J -27182549.38 -27182549.34 -27182549.30 0.2739 0.2548

Earth -79135-03-28 04:04 J -27182549.36 -27182549.33 -27182549.29 0.2746 0.2548 *

Neptune -79135-05-14 22:18 J -27182501.68 -27182501.57 -27182501.42 0.0088 0.0065

Neptune -79135-08-11 01:54 J -27182413.52 -27182413.42 -27182413.30 0.0088 0.0072

Neptune -79135-11-07 05:30 J -27182325.35 -27182325.27 -27182325.17 0.0088 0.0078

Neptune -79134-02-03 08:37 J -27182237.17 -27182237.14 -27182237.06 0.0088 0.0085

Venus -79134-06-15 05:30 J -27182105.33 -27182105.27 -27182105.21 0.3782 0.3164

Saturn -79134-09-05 15:49 J -27182022.89 -27182022.84 -27182022.78 0.0279 0.0248

Saturn -79134-12-03 02:52 J -27181934.49 -27181934.38 -27181934.27 0.0278 0.0145

Saturn -79133-02-29 13:40 J -27181846.06 -27181845.93 -27181845.79 0.0277 0.0044

Jupiter -79133-04-17 06:13 J -27181798.40 -27181798.24 -27181798.07 0.0492 0.0211

Saturn -79133-05-28 00:42 J -27181757.60 -27181757.47 -27181757.34 0.0276 0.0060

Jupiter -79133-07-16 13:11 J -27181708.09 -27181707.95 -27181707.81 0.0493 0.0304

Saturn -79133-08-24 11:44 J -27181669.12 -27181669.01 -27181668.90 0.0275 0.0162

Saturn -79133-11-20 22:32 J -27181580.59 -27181580.56 -27181580.52 0.0274 0.0264

Venus -79129-12-28 23:30 J -27180081.61 -27180081.52 -27180081.43 0.3779 0.2093

Earth -79128-03-21 01:54 J -27179999.52 -27179999.42 -27179999.32 0.2744 0.1075

Moon -79128-03-21 02:37 J -27179999.49 -27179999.39 -27179999.29 0.2745 0.1036 *

Mars -79128-03-22 18:13 J -27179997.85 -27179997.74 -27179997.64 0.1842 0.0757

Jupiter -79128-12-08 23:44 J -27179736.58 -27179736.51 -27179736.45 0.0536 0.0455

Jupiter -79127-03-08 06:56 J -27179647.34 -27179647.21 -27179647.08 0.0535 0.0012

Jupiter -79127-06-05 14:52 J -27179557.95 -27179557.88 -27179557.81 0.0533 0.0445

Moon -79125-09-22 22:47 J -27178717.65 -27178717.55 -27178717.45 0.2594 0.1979

Earth -79125-09-23 00:13 J -27178717.58 -27178717.49 -27178717.40 0.2590 0.2106 *

Venus -79123-07-14 17:44 J -27178057.87 -27178057.76 -27178057.65 0.3776 0.0982

Jupiter -79121-02-04 04:04 J -27177488.46 -27177488.33 -27177488.20 0.0491 0.0340

Jupiter -79121-05-04 11:16 J -27177398.20 -27177398.03 -27177397.86 0.0492 0.0177

Mars -79119-08-13 02:37 J -27176567.45 -27176567.39 -27176567.33 0.1851 0.1554

Saturn -79118-09-17 00:42 J -27176167.56 -27176167.47 -27176167.38 0.0283 0.0245

Uranus -79118-09-17 17:30 J -27176166.80 -27176166.77 -27176166.72 0.0141 0.0137

Mars -79118-09-21 11:44 J -27176163.13 -27176163.01 -27176162.89 0.1718 0.1165

Saturn -79118-12-15 00:28 J -27176078.65 -27176078.48 -27176078.30 0.0284 0.0087

Uranus -79118-12-15 01:11 J -27176078.55 -27176078.45 -27176078.32 0.0141 0.0111 *

Venus -79117-01-28 12:13 J -27176034.11 -27176033.99 -27176033.88 0.3772 0.0198

Uranus -79117-03-12 08:52 J -27175990.27 -27175990.13 -27175989.97 0.0141 0.0085

Saturn -79117-03-13 00:13 J -27175989.67 -27175989.49 -27175989.31 0.0285 0.0073

Uranus -79117-06-08 16:47 J -27175901.97 -27175901.80 -27175901.62 0.0141 0.0059

Saturn -79117-06-09 23:44 J -27175900.62 -27175900.51 -27175900.41 0.0286 0.0232

Mars -79117-07-18 16:47 J -27175861.84 -27175861.80 -27175861.77 0.1816 0.1709

Uranus -79117-09-05 00:28 J -27175813.66 -27175813.48 -27175813.30 0.0141 0.0033

Uranus -79117-12-02 08:08 J -27175725.35 -27175725.16 -27175724.98 0.0140 0.0008

Uranus -79116-02-28 15:35 J -27175637.04 -27175636.85 -27175636.67 0.0140 0.0018

Uranus -79116-05-27 23:01 J -27175548.72 -27175548.54 -27175548.36 0.0140 0.0043

Uranus -79116-08-24 06:13 J -27175460.40 -27175460.24 -27175460.07 0.0140 0.0068

Uranus -79116-11-20 13:25 J -27175372.07 -27175371.94 -27175371.79 0.0140 0.0093

Jupiter -79116-12-25 10:47 J -27175337.18 -27175337.05 -27175336.93 0.0535 0.0122

Uranus -79115-02-16 20:52 J -27175283.72 -27175283.63 -27175283.53 0.0140 0.0117

Earth -79115-03-23 20:08 J -27175248.77 -27175248.66 -27175248.55 0.2745 0.0223

Moon -79115-03-23 20:52 J -27175248.74 -27175248.63 -27175248.52 0.2741 0.0299 *

Jupiter -79115-03-24 18:28 J -27175247.83 -27175247.73 -27175247.63 0.0534 0.0332

Venus -79112-08-13 06:42 J -27174010.32 -27174010.22 -27174010.11 0.3769 0.1325

Jupiter -79110-11-23 01:54 J -27173178.47 -27173178.42 -27173178.37 0.0491 0.0467

Jupiter -79109-02-21 09:20 J -27173088.29 -27173088.11 -27173087.93 0.0492 0.0051

Mars -79108-02-10 12:28 J -27172733.14 -27172732.98 -27172732.82 0.1710 0.0150

Venus -79108-08-11 20:52 J -27172550.73 -27172550.63 -27172550.53 0.3600 0.2528

Mars -79108-12-09 01:11 J -27172431.55 -27172431.45 -27172431.35 0.1825 0.0924

Venus -79106-02-27 01:40 J -27171986.52 -27171986.43 -27171986.35 0.3765 0.2525

Moon -79105-09-17 17:59 J -27171417.84 -27171417.75 -27171417.65 0.2587 0.2063

Earth -79105-09-17 19:25 J -27171417.81 -27171417.69 -27171417.58 0.2592 0.1839 *

Saturn -79104-04-21 04:47 J -27171202.40 -27171202.30 -27171202.20 0.0277 0.0179

Saturn -79104-07-18 15:35 J -27171113.98 -27171113.85 -27171113.72 0.0277 0.0077

Jupiter -79104-10-13 14:52 J -27171026.99 -27171026.88 -27171026.76 0.0536 0.0228

Saturn -79104-10-15 02:37 J -27171025.53 -27171025.39 -27171025.26 0.0276 0.0026

Jupiter -79103-01-10 22:32 J -27170937.68 -27170937.56 -27170937.44 0.0535 0.0225

Saturn -79103-01-11 13:25 J -27170937.05 -27170936.94 -27170936.82 0.0275 0.0127

Saturn -79103-04-10 00:28 J -27170848.55 -27170848.48 -27170848.41 0.0274 0.0228

Venus -79102-02-25 21:49 J -27170526.73 -27170526.59 -27170526.46 0.3604 0.0845

Moon -79102-03-26 14:37 J -27170497.98 -27170497.89 -27170497.80 0.2739 0.1507

Earth -79102-03-26 14:37 J -27170497.98 -27170497.89 -27170497.80 0.2746 0.1499 *

Venus -79101-09-11 20:37 J -27169962.64 -27169962.64 -27169962.64 0.3761 0.3753

Mars -79099-07-03 12:42 J -27169303.10 -27169302.97 -27169302.83 0.1702 0.0876

Mars -79098-05-01 09:35 J -27169001.21 -27169001.10 -27169000.98 0.1834 0.0149

Jupiter -79098-12-10 06:56 J -27168778.39 -27168778.21 -27168778.02 0.0492 0.0080

Jupiter -79097-03-09 13:25 J -27168688.02 -27168687.94 -27168687.85 0.0493 0.0432

Venus -79097-09-10 22:04 J -27168502.71 -27168502.58 -27168502.44 0.3607 0.0775

Earth -79095-03-19 12:42 J -27167948.04 -27167947.97 -27167947.90 0.2743 0.2082

Moon -79095-03-19 13:11 J -27167948.02 -27167947.95 -27167947.88 0.2749 0.2093 *

Jupiter -79092-08-01 19:11 J -27166716.80 -27166716.70 -27166716.60 0.0536 0.0333

Moon -79092-09-20 23:30 J -27166666.67 -27166666.52 -27166666.36 0.2591 0.0321

Earth -79092-09-21 01:11 J -27166666.60 -27166666.45 -27166666.29 0.2591 0.0384 *

Jupiter -79092-10-30 02:37 J -27166627.51 -27166627.39 -27166627.26 0.0535 0.0119

Venus -79091-03-27 22:04 J -27166478.68 -27166478.58 -27166478.48 0.3611 0.2319

Moon -79089-03-28 08:37 J -27165747.15 -27165747.14 -27165747.13 0.2740 0.2709

Mars -79089-09-20 18:13 J -27165570.85 -27165570.74 -27165570.63 0.1842 0.0650

Saturn -79088-05-02 19:25 J -27165346.84 -27165346.69 -27165346.53 0.0283 0.0155

Saturn -79088-07-30 19:11 J -27165257.88 -27165257.70 -27165257.51 0.0284 0.0005

Saturn -79088-10-27 18:42 J -27165168.87 -27165168.72 -27165168.57 0.0285 0.0163

Jupiter -79086-09-28 05:16 J -27164468.44 -27164468.28 -27164468.11 0.0492 0.0202

Jupiter -79086-12-27 12:13 J -27164378.13 -27164377.99 -27164377.85 0.0493 0.0312

Earth -79082-03-22 06:42 J -27163197.32 -27163197.22 -27163197.11 0.2744 0.0822

Moon -79082-03-22 07:25 J -27163197.29 -27163197.19 -27163197.08 0.2743 0.0668 *

Jupiter -79080-05-20 22:47 J -27162406.61 -27162406.55 -27162406.48 0.0536 0.0447

Jupiter -79080-08-18 06:13 J -27162317.37 -27162317.24 -27162317.11 0.0534 0.0005

Jupiter -79080-11-15 13:54 J -27162227.98 -27162227.92 -27162227.85 0.0533 0.0453

Mars -79079-02-11 02:37 J -27162140.46 -27162140.39 -27162140.32 0.1851 0.1460

Moon -79079-09-24 05:16 J -27161915.34 -27161915.28 -27161915.22 0.2593 0.2373

Earth -79079-09-24 06:42 J -27161915.24 -27161915.22 -27161915.19 0.2590 0.2547 *

Mars -79078-03-22 12:13 J -27161736.09 -27161735.99 -27161735.88 0.1719 0.1297

Mars -79077-01-17 16:47 J -27161434.81 -27161434.80 -27161434.79 0.1815 0.1806

Venus -79077-01-20 03:35 J -27161432.42 -27161432.35 -27161432.28 0.3782 0.2838

Saturn -79075-09-08 06:28 J -27160470.31 -27160470.23 -27160470.14 0.0279 0.0215

Saturn -79075-12-05 17:30 J -27160381.89 -27160381.77 -27160381.65 0.0278 0.0112

Saturn -79074-03-04 04:32 J -27160293.44 -27160293.31 -27160293.18 0.0277 0.0009

Saturn -79074-05-31 15:35 J -27160204.98 -27160204.85 -27160204.73 0.0276 0.0094

Jupiter -79074-07-17 03:06 J -27160158.50 -27160158.37 -27160158.23 0.0492 0.0332

Saturn -79074-08-28 02:23 J -27160116.49 -27160116.40 -27160116.30 0.0275 0.0196

Jupiter -79074-10-15 10:18 J -27160068.23 -27160068.07 -27160067.90 0.0493 0.0187

Uranus -79073-05-16 06:42 J -27159854.25 -27159854.22 -27159854.16 0.0137 0.0129

Uranus -79073-08-12 10:18 J -27159766.14 -27159766.07 -27159765.99 0.0137 0.0111

Uranus -79073-11-08 13:40 J -27159678.03 -27159677.93 -27159677.84 0.0138 0.0095

Uranus -79072-02-04 17:01 J -27159589.90 -27159589.79 -27159589.68 0.0138 0.0078

Uranus -79072-05-03 20:23 J -27159501.77 -27159501.65 -27159501.53 0.0138 0.0061

Uranus -79072-07-30 23:44 J -27159413.64 -27159413.51 -27159413.38 0.0138 0.0044

Venus -79072-08-04 21:35 J -27159408.69 -27159408.60 -27159408.50 0.3779 0.1751

Uranus -79072-10-27 03:06 J -27159325.50 -27159325.37 -27159325.24 0.0138 0.0027

Uranus -79071-01-23 06:28 J -27159237.36 -27159237.23 -27159237.09 0.0138 0.0010

Uranus -79071-04-21 10:04 J -27159149.22 -27159149.08 -27159148.95 0.0138 0.0009

Uranus -79071-07-18 13:25 J -27159061.07 -27159060.94 -27159060.81 0.0139 0.0025

Uranus -79071-10-14 17:01 J -27158972.92 -27158972.79 -27158972.66 0.0139 0.0043

Uranus -79070-01-10 20:23 J -27158884.77 -27158884.65 -27158884.53 0.0139 0.0061

Uranus -79070-04-08 23:44 J -27158796.61 -27158796.51 -27158796.39 0.0139 0.0080

Uranus -79070-07-06 03:20 J -27158708.45 -27158708.36 -27158708.25 0.0139 0.0097

Uranus -79070-10-02 06:56 J -27158620.28 -27158620.21 -27158620.13 0.0139 0.0116

Uranus -79070-12-29 10:32 J -27158532.09 -27158532.06 -27158532.01 0.0140 0.0134

Earth -79069-03-24 01:11 J -27158446.56 -27158446.45 -27158446.34 0.2745 0.0476

Moon -79069-03-24 01:40 J -27158446.54 -27158446.43 -27158446.32 0.2741 0.0512 *

Mars -79069-08-11 12:56 J -27158306.12 -27158305.96 -27158305.80 0.1710 0.0283

Jupiter -79068-06-06 09:49 J -27158007.21 -27158007.09 -27158006.96 0.0535 0.0114

Mars -79068-06-09 01:11 J -27158004.55 -27158004.45 -27158004.35 0.1824 0.1026

Jupiter -79068-09-03 17:30 J -27157917.87 -27157917.77 -27157917.67 0.0533 0.0339

Venus -79066-02-18 15:49 J -27157384.94 -27157384.84 -27157384.73 0.3775 0.0645

Jupiter -79062-05-05 00:56 J -27155848.52 -27155848.46 -27155848.40 0.0491 0.0461

Jupiter -79062-08-03 08:23 J -27155758.33 -27155758.15 -27155757.97 0.0492 0.0058

Venus -79061-09-03 10:18 J -27155361.18 -27155361.07 -27155360.96 0.3771 0.0538

Mars -79059-01-01 13:40 J -27154876.08 -27154875.93 -27154875.79 0.1702 0.0731

Pluto -79059-01-27 08:37 J -27154850.18 -27154850.14 -27154850.08 0.0084 0.0078

Neptune -79059-02-03 20:23 J -27154842.67 -27154842.65 -27154842.61 0.0089 0.0086

Pluto -79059-04-25 09:49 J -27154762.16 -27154762.09 -27154761.99 0.0084 0.0067

Neptune -79059-05-02 21:35 J -27154754.63 -27154754.60 -27154754.53 0.0089 0.0082

Pluto -79059-07-22 11:30 J -27154674.12 -27154674.02 -27154673.91 0.0084 0.0054

Neptune -79059-07-29 23:16 J -27154666.59 -27154666.53 -27154666.47 0.0089 0.0077

Moon -79059-09-19 00:28 J -27154615.61 -27154615.48 -27154615.34 0.2587 0.1420

Earth -79059-09-19 01:54 J -27154615.55 -27154615.42 -27154615.29 0.2592 0.1390 *

Saturn -79059-09-19 18:13 J -27154614.87 -27154614.74 -27154614.60 0.0283 0.0197

Pluto -79059-10-18 12:42 J -27154586.08 -27154585.97 -27154585.84 0.0084 0.0043

Neptune -79059-10-26 00:28 J -27154578.55 -27154578.48 -27154578.40 0.0089 0.0073

Mars -79059-10-30 09:49 J -27154574.21 -27154574.09 -27154573.97 0.1833 0.0242

Saturn -79059-12-17 17:59 J -27154525.93 -27154525.75 -27154525.56 0.0284 0.0038

Pluto -79058-01-14 14:23 J -27154498.03 -27154497.90 -27154497.78 0.0084 0.0031

Neptune -79058-01-22 01:54 J -27154490.50 -27154490.42 -27154490.34 0.0089 0.0068

Saturn -79058-03-16 17:44 J -27154436.93 -27154436.76 -27154436.60 0.0285 0.0122

Pluto -79058-04-12 15:35 J -27154409.98 -27154409.85 -27154409.72 0.0084 0.0020

Neptune -79058-04-20 03:06 J -27154402.46 -27154402.37 -27154402.27 0.0089 0.0064

Saturn -79058-06-13 17:01 J -27154347.82 -27154347.79 -27154347.75 0.0286 0.0280

Pluto -79058-07-09 17:01 J -27154321.93 -27154321.79 -27154321.66 0.0084 0.0009

Neptune -79058-07-17 04:18 J -27154314.41 -27154314.32 -27154314.21 0.0089 0.0060

Pluto -79058-10-05 18:13 J -27154233.87 -27154233.74 -27154233.60 0.0084 0.0004

Neptune -79058-10-13 05:44 J -27154226.36 -27154226.26 -27154226.15 0.0089 0.0055

Pluto -79057-01-01 19:40 J -27154145.81 -27154145.68 -27154145.55 0.0083 0.0014

Neptune -79057-01-09 06:56 J -27154138.31 -27154138.21 -27154138.09 0.0089 0.0051

Pluto -79057-03-29 20:52 J -27154057.75 -27154057.63 -27154057.50 0.0083 0.0025

Neptune -79057-04-06 08:23 J -27154050.26 -27154050.15 -27154050.03 0.0089 0.0046

Pluto -79057-06-25 22:18 J -27153969.69 -27153969.57 -27153969.45 0.0083 0.0036

Neptune -79057-07-03 09:35 J -27153962.21 -27153962.10 -27153961.97 0.0089 0.0042

Pluto -79057-09-21 23:30 J -27153881.63 -27153881.52 -27153881.41 0.0083 0.0046

Neptune -79057-09-29 11:01 J -27153874.15 -27153874.04 -27153873.91 0.0089 0.0037

Pluto -79057-12-19 00:42 J -27153793.56 -27153793.47 -27153793.37 0.0083 0.0057

Neptune -79057-12-26 12:28 J -27153786.10 -27153785.98 -27153785.86 0.0089 0.0032

Pluto -79056-03-17 01:54 J -27153705.48 -27153705.42 -27153705.33 0.0083 0.0068

Neptune -79056-03-24 13:54 J -27153698.05 -27153697.92 -27153697.80 0.0089 0.0028

Jupiter -79056-03-25 13:40 J -27153697.05 -27153696.93 -27153696.82 0.0535 0.0228

Moon -79056-03-26 19:25 J -27153695.77 -27153695.69 -27153695.61 0.2738 0.1768

Earth -79056-03-26 19:25 J -27153695.77 -27153695.69 -27153695.60 0.2746 0.1771 *

Pluto -79056-06-13 03:06 J -27153617.40 -27153617.37 -27153617.32 0.0083 0.0079

Neptune -79056-06-20 15:06 J -27153610.00 -27153609.87 -27153609.74 0.0089 0.0023

Jupiter -79056-06-22 21:06 J -27153607.73 -27153607.62 -27153607.50 0.0534 0.0224

Neptune -79056-09-16 16:32 J -27153521.94 -27153521.81 -27153521.68 0.0089 0.0019

Neptune -79056-12-13 17:44 J -27153433.89 -27153433.76 -27153433.62 0.0089 0.0015

Neptune -79055-03-11 19:11 J -27153345.83 -27153345.70 -27153345.57 0.0089 0.0010

Venus -79055-03-20 05:01 J -27153337.39 -27153337.29 -27153337.19 0.3767 0.1703

Neptune -79055-06-07 20:37 J -27153257.78 -27153257.64 -27153257.51 0.0089 0.0006

Neptune -79055-09-03 21:49 J -27153169.72 -27153169.59 -27153169.46 0.0089 0.0001

Neptune -79055-11-30 23:16 J -27153081.67 -27153081.53 -27153081.40 0.0089 0.0004

Neptune -79054-02-27 00:28 J -27152993.61 -27152993.48 -27152993.34 0.0089 0.0009

Neptune -79054-05-26 01:54 J -27152905.55 -27152905.42 -27152905.29 0.0089 0.0013

Neptune -79054-08-22 03:06 J -27152817.49 -27152817.37 -27152817.23 0.0089 0.0018

Neptune -79054-11-18 04:32 J -27152729.44 -27152729.31 -27152729.18 0.0089 0.0022

Neptune -79053-02-14 05:44 J -27152641.38 -27152641.26 -27152641.12 0.0089 0.0027

Neptune -79053-05-12 07:25 J -27152553.32 -27152553.19 -27152553.07 0.0089 0.0031

Neptune -79053-08-08 08:37 J -27152465.26 -27152465.14 -27152465.01 0.0089 0.0036

Neptune -79053-11-04 10:04 J -27152377.20 -27152377.08 -27152376.96 0.0089 0.0040

Neptune -79052-01-31 11:16 J -27152289.14 -27152289.03 -27152288.91 0.0089 0.0045

Neptune -79052-04-29 12:28 J -27152201.08 -27152200.98 -27152200.86 0.0089 0.0050

Neptune -79052-07-26 14:08 J -27152113.01 -27152112.91 -27152112.80 0.0089 0.0054

Neptune -79052-10-22 15:20 J -27152024.95 -27152024.86 -27152024.75 0.0089 0.0059

Neptune -79051-01-18 16:47 J -27151936.89 -27151936.80 -27151936.70 0.0089 0.0063

Venus -79051-03-18 20:52 J -27151877.74 -27151877.63 -27151877.52 0.3601 0.1999

Neptune -79051-04-16 17:59 J -27151848.82 -27151848.75 -27151848.65 0.0089 0.0068

Neptune -79051-07-13 19:40 J -27151760.76 -27151760.68 -27151760.60 0.0089 0.0072

Neptune -79051-10-09 20:52 J -27151672.69 -27151672.63 -27151672.56 0.0089 0.0077

Neptune -79050-01-05 22:04 J -27151584.62 -27151584.58 -27151584.51 0.0089 0.0082

Neptune -79050-04-03 23:44 J -27151496.54 -27151496.51 -27151496.48 0.0089 0.0086

Jupiter -79050-05-22 06:13 J -27151448.42 -27151448.24 -27151448.05 0.0492 0.0070

Jupiter -79050-08-20 12:56 J -27151358.04 -27151357.96 -27151357.88 0.0493 0.0442

Venus -79050-10-03 23:59 J -27151313.57 -27151313.50 -27151313.43 0.3763 0.2919

Earth -79049-03-19 17:30 J -27151145.85 -27151145.77 -27151145.69 0.2744 0.1821

Moon -79049-03-19 17:59 J -27151145.83 -27151145.75 -27151145.66 0.2748 0.1697 *

Mars -79049-03-21 18:13 J -27151143.85 -27151143.74 -27151143.63 0.1842 0.0563

Moon -79046-09-22 05:59 J -27149864.40 -27149864.25 -27149864.09 0.2592 0.0552

Earth -79046-09-22 07:40 J -27149864.33 -27149864.18 -27149864.03 0.2591 0.0824 *

Venus -79046-10-02 21:35 J -27149853.73 -27149853.60 -27149853.46 0.3604 0.0343

Saturn -79045-01-26 08:37 J -27149738.19 -27149738.14 -27149738.08 0.0278 0.0246

Saturn -79045-04-23 19:40 J -27149649.79 -27149649.68 -27149649.57 0.0277 0.0143

Saturn -79045-07-21 06:42 J -27149561.36 -27149561.22 -27149561.09 0.0277 0.0042

Saturn -79045-10-17 17:30 J -27149472.90 -27149472.77 -27149472.64 0.0276 0.0062

Jupiter -79044-01-11 17:44 J -27149386.86 -27149386.76 -27149386.66 0.0536 0.0335

Saturn -79044-01-14 04:32 J -27149384.42 -27149384.31 -27149384.20 0.0275 0.0164

Jupiter -79044-04-11 01:11 J -27149297.57 -27149297.45 -27149297.32 0.0535 0.0116

Saturn -79044-04-12 15:35 J -27149295.88 -27149295.85 -27149295.82 0.0274 0.0265

Venus -79040-04-17 21:49 J -27147829.71 -27147829.59 -27147829.46 0.3608 0.1272

Mars -79040-08-12 02:52 J -27147713.46 -27147713.38 -27147713.30 0.1851 0.1355

Mars -79039-09-20 12:56 J -27147309.05 -27147308.96 -27147308.87 0.1719 0.1432

Jupiter -79038-03-10 04:04 J -27147138.50 -27147138.33 -27147138.17 0.0491 0.0199

Jupiter -79038-06-08 10:47 J -27147048.19 -27147048.05 -27147047.91 0.0493 0.0315

Earth -79036-03-22 11:44 J -27146395.12 -27146395.01 -27146394.90 0.2744 0.0553

Moon -79036-03-22 12:28 J -27146395.09 -27146394.98 -27146394.87 0.2743 0.0528 *

Venus -79035-11-01 21:49 J -27145805.67 -27145805.59 -27145805.51 0.3612 0.2807

Uranus -79034-10-08 02:23 J -27145465.47 -27145465.40 -27145465.31 0.0141 0.0127

Uranus -79033-01-04 10:04 J -27145377.20 -27145377.08 -27145376.93 0.0141 0.0100

Uranus -79033-04-01 17:59 J -27145288.90 -27145288.75 -27145288.58 0.0141 0.0074

Uranus -79033-06-29 01:40 J -27145200.60 -27145200.43 -27145200.25 0.0141 0.0048

Uranus -79033-09-25 09:20 J -27145112.29 -27145112.11 -27145111.92 0.0141 0.0022

Jupiter -79033-10-30 22:04 J -27145076.65 -27145076.58 -27145076.51 0.0536 0.0440

Uranus -79033-12-22 17:01 J -27145023.98 -27145023.79 -27145023.60 0.0140 0.0004

Jupiter -79032-01-28 05:30 J -27144987.40 -27144987.27 -27144987.14 0.0535 0.0016

Uranus -79032-03-21 00:13 J -27144935.66 -27144935.49 -27144935.30 0.0140 0.0030

Jupiter -79032-04-27 13:25 J -27144898.00 -27144897.94 -27144897.88 0.0533 0.0463

Uranus -79032-06-17 07:40 J -27144847.34 -27144847.18 -27144847.00 0.0140 0.0054

Uranus -79032-09-13 15:06 J -27144759.02 -27144758.87 -27144758.71 0.0140 0.0079

Uranus -79032-12-10 22:18 J -27144670.68 -27144670.57 -27144670.44 0.0140 0.0104

Uranus -79031-03-09 05:30 J -27144582.33 -27144582.27 -27144582.18 0.0140 0.0128

Saturn -79029-02-06 13:25 J -27143883.00 -27143882.94 -27143882.86 0.0283 0.0262

Mars -79029-02-10 13:25 J -27143879.09 -27143878.94 -27143878.78 0.1711 0.0409

Saturn -79029-05-05 13:25 J -27143794.11 -27143793.94 -27143793.77 0.0283 0.0103

Saturn -79029-08-02 12:56 J -27143705.14 -27143704.96 -27143704.77 0.0284 0.0056

Saturn -79029-10-30 12:28 J -27143616.10 -27143615.98 -27143615.86 0.0285 0.0214

Mars -79029-12-08 01:25 J -27143577.53 -27143577.44 -27143577.35 0.1824 0.1132

Jupiter -79027-12-27 02:08 J -27142828.55 -27142828.41 -27142828.27 0.0491 0.0324

Venus -79026-02-10 07:40 J -27142783.21 -27142783.18 -27142783.15 0.3784 0.3568

Jupiter -79026-03-27 09:20 J -27142738.28 -27142738.11 -27142737.94 0.0493 0.0193

Earth -79023-03-25 05:59 J -27141644.36 -27141644.25 -27141644.14 0.2745 0.0733

Moon -79023-03-25 06:28 J -27141644.34 -27141644.23 -27141644.13 0.2740 0.0833 *

Venus -79021-08-26 01:40 J -27140759.51 -27140759.43 -27140759.35 0.3781 0.2500

Jupiter -79021-11-16 09:06 J -27140677.25 -27140677.12 -27140677.00 0.0535 0.0107

Jupiter -79020-02-13 16:47 J -27140587.90 -27140587.80 -27140587.70 0.0533 0.0345

Mars -79020-07-02 14:08 J -27140449.06 -27140448.91 -27140448.75 0.1703 0.0599

Mars -79019-04-30 09:49 J -27140147.21 -27140147.09 -27140146.98 0.1833 0.0337

Saturn -79016-09-10 21:20 J -27138917.70 -27138917.61 -27138917.50 0.0279 0.0180

Saturn -79016-12-08 08:23 J -27138829.27 -27138829.15 -27138829.02 0.0278 0.0076

Saturn -79015-03-06 19:25 J -27138740.82 -27138740.69 -27138740.56 0.0277 0.0028

Venus -79015-03-11 19:54 J -27138735.78 -27138735.67 -27138735.57 0.3777 0.1404

Saturn -79015-06-03 06:28 J -27138652.35 -27138652.23 -27138652.11 0.0276 0.0130

Saturn -79015-08-30 17:30 J -27138563.84 -27138563.77 -27138563.70 0.0275 0.0232

Jupiter -79015-10-14 23:30 J -27138518.58 -27138518.52 -27138518.45 0.0492 0.0456

Jupiter -79014-01-13 07:11 J -27138428.38 -27138428.20 -27138428.02 0.0493 0.0065

Moon -79013-09-19 06:56 J -27137813.35 -27137813.21 -27137813.07 0.2589 0.1157

Earth -79013-09-19 08:23 J -27137813.30 -27137813.15 -27137813.01 0.2592 0.0944 *

Mars -79011-11-22 14:52 J -27137018.93 -27137018.88 -27137018.83 0.1695 0.1601

Moon -79010-03-28 00:13 J -27136893.56 -27136893.49 -27136893.41 0.2738 0.1999

Earth -79010-03-28 00:28 J -27136893.56 -27136893.48 -27136893.41 0.2746 0.2040 *

Mars -79010-09-20 18:13 J -27136716.85 -27136716.74 -27136716.62 0.1842 0.0460

Venus -79010-09-25 14:08 J -27136712.02 -27136711.91 -27136711.80 0.3774 0.0267

Jupiter -79009-09-04 12:42 J -27136367.08 -27136366.97 -27136366.85 0.0535 0.0220

Jupiter -79009-12-02 20:23 J -27136277.77 -27136277.65 -27136277.54 0.0534 0.0231

Venus -79004-04-10 08:37 J -27134688.25 -27134688.14 -27134688.03 0.3770 0.0900

Earth -79003-03-20 22:18 J -27134343.66 -27134343.57 -27134343.48 0.2744 0.1559

Moon -79003-03-20 23:01 J -27134343.63 -27134343.54 -27134343.45 0.2746 0.1525 *

Jupiter -79003-11-01 05:01 J -27134118.47 -27134118.29 -27134118.10 0.0492 0.0065

Jupiter -79002-01-30 11:44 J -27134028.08 -27134028.01 -27134027.94 0.0493 0.0448

79TH MILLENNIUM BCE

This is a list of transits of Mercury in the 79th millennium BCE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Mars -79000-02-10 02:37 J -27133286.47 -27133286.39 -27133286.30 0.1850 0.1268

Venus -79000-04-08 19:40 J -27133228.74 -27133228.68 -27133228.61 0.3598 0.3195

Moon -79000-09-22 12:28 J -27133062.12 -27133061.98 -27133061.84 0.2592 0.1201

Saturn -79000-09-22 12:42 J -27133062.12 -27133061.97 -27133061.80 0.0283 0.0141 *

Earth -79000-09-22 14:08 J -27133062.04 -27133061.91 -27133061.77 0.2591 0.1266 *

Saturn -79000-12-20 12:28 J -27132973.16 -27132972.98 -27132972.79 0.0284 0.0019

Saturn -78999-03-19 11:59 J -27132884.14 -27132884.00 -27132883.85 0.0285 0.0177

Mars -78999-03-21 13:25 J -27132882.00 -27132881.94 -27132881.87 0.1719 0.1565

Venus -78999-10-25 03:20 J -27132664.45 -27132664.36 -27132664.27 0.3766 0.2093

Jupiter -78997-06-23 16:18 J -27132056.92 -27132056.82 -27132056.72 0.0536 0.0335

Jupiter -78997-09-20 23:44 J -27131967.63 -27131967.51 -27131967.38 0.0534 0.0116

Venus -78995-10-23 20:52 J -27131204.75 -27131204.63 -27131204.50 0.3602 0.1467

Venus -78993-05-09 22:18 J -27130640.62 -27130640.57 -27130640.52 0.3762 0.3320

Jupiter -78991-08-20 03:06 J -27129808.54 -27129808.37 -27129808.21 0.0492 0.0192

Jupiter -78991-11-18 09:49 J -27129718.22 -27129718.09 -27129717.95 0.0493 0.0323

Earth -78990-03-23 16:32 J -27129592.92 -27129592.81 -27129592.70 0.2745 0.0290

Moon -78990-03-23 17:16 J -27129592.89 -27129592.78 -27129592.67 0.2743 0.0130 *

Mars -78990-08-11 14:23 J -27129452.06 -27129451.90 -27129451.75 0.1711 0.0553

Venus -78989-05-08 21:35 J -27129180.74 -27129180.60 -27129180.47 0.3605 0.0194

Uranus -78989-06-05 14:52 J -27129152.93 -27129152.88 -27129152.81 0.0137 0.0121

Mars -78989-06-08 01:25 J -27129150.53 -27129150.44 -27129150.36 0.1824 0.1225

Uranus -78989-09-01 18:13 J -27129064.82 -27129064.74 -27129064.65 0.0138 0.0105

Uranus -78989-11-28 21:35 J -27128976.70 -27128976.60 -27128976.50 0.0138 0.0088

Uranus -78988-02-25 00:56 J -27128888.57 -27128888.46 -27128888.35 0.0138 0.0071

Uranus -78988-05-24 04:18 J -27128800.44 -27128800.32 -27128800.20 0.0138 0.0054

Uranus -78988-08-20 07:40 J -27128712.31 -27128712.18 -27128712.05 0.0138 0.0037

Uranus -78988-11-16 11:01 J -27128624.17 -27128624.04 -27128623.90 0.0138 0.0020

Uranus -78987-02-12 14:37 J -27128536.03 -27128535.89 -27128535.76 0.0138 0.0004

Uranus -78987-05-11 17:59 J -27128447.88 -27128447.75 -27128447.62 0.0139 0.0015

Uranus -78987-08-07 21:20 J -27128359.74 -27128359.61 -27128359.47 0.0139 0.0033

Uranus -78987-11-04 00:56 J -27128271.58 -27128271.46 -27128271.33 0.0139 0.0050

Saturn -78986-01-28 23:59 J -27128185.59 -27128185.50 -27128185.42 0.0278 0.0209

Uranus -78986-01-31 04:32 J -27128183.43 -27128183.31 -27128183.19 0.0139 0.0068

Saturn -78986-04-27 10:47 J -27128097.17 -27128097.05 -27128096.93 0.0277 0.0106

Uranus -78986-04-29 07:54 J -27128095.27 -27128095.17 -27128095.06 0.0139 0.0087

Saturn -78986-07-24 21:49 J -27128008.72 -27128008.59 -27128008.46 0.0277 0.0003

Uranus -78986-07-26 11:30 J -27128007.10 -27128007.02 -27128006.93 0.0139 0.0105

Saturn -78986-10-21 08:52 J -27127920.26 -27127920.13 -27127920.01 0.0276 0.0100

Uranus -78986-10-22 15:20 J -27127918.93 -27127918.86 -27127918.80 0.0139 0.0123

Saturn -78985-01-17 19:54 J -27127831.76 -27127831.67 -27127831.58 0.0275 0.0202

Jupiter -78985-04-11 20:23 J -27127746.72 -27127746.65 -27127746.58 0.0536 0.0443

Jupiter -78985-07-10 03:49 J -27127657.47 -27127657.34 -27127657.21 0.0535 0.0005

Jupiter -78985-10-07 11:44 J -27127568.07 -27127568.01 -27127567.95 0.0533 0.0460

Venus -78984-11-22 21:35 J -27127156.71 -27127156.60 -27127156.48 0.3609 0.1772

Mars -78981-12-31 14:52 J -27126022.04 -27126021.88 -27126021.73 0.1703 0.0466

Mars -78980-10-29 09:49 J -27125720.20 -27125720.09 -27125719.97 0.1833 0.0441

Jupiter -78979-06-08 00:28 J -27125498.62 -27125498.48 -27125498.34 0.0491 0.0323

Jupiter -78979-09-06 07:40 J -27125408.35 -27125408.18 -27125408.01 0.0492 0.0194

Venus -78978-06-08 21:20 J -27125132.66 -27125132.61 -27125132.55 0.3614 0.3293

Earth -78977-03-25 10:47 J -27124842.15 -27124842.05 -27124841.94 0.2745 0.1005

Moon -78977-03-25 11:16 J -27124842.14 -27124842.03 -27124841.93 0.2739 0.0976 *

Neptune -78976-07-22 08:08 J -27124358.19 -27124358.16 -27124358.10 0.0089 0.0086

Neptune -78976-10-18 11:44 J -27124270.08 -27124270.01 -27124269.91 0.0089 0.0079

Neptune -78975-01-14 15:35 J -27124181.95 -27124181.85 -27124181.73 0.0089 0.0073

Neptune -78975-04-12 19:25 J -27124093.82 -27124093.69 -27124093.56 0.0089 0.0066

Neptune -78975-07-09 22:47 J -27124005.68 -27124005.55 -27124005.39 0.0089 0.0060

Neptune -78975-10-06 02:37 J -27123917.54 -27123917.39 -27123917.23 0.0089 0.0053

Neptune -78974-01-02 05:59 J -27123829.40 -27123829.25 -27123829.06 0.0089 0.0047

Neptune -78974-03-31 09:49 J -27123741.25 -27123741.09 -27123740.90 0.0089 0.0040

Neptune -78974-06-27 13:40 J -27123653.11 -27123652.93 -27123652.75 0.0089 0.0033

Neptune -78974-09-23 17:16 J -27123564.96 -27123564.78 -27123564.59 0.0089 0.0026

Neptune -78974-12-20 20:52 J -27123476.81 -27123476.63 -27123476.44 0.0089 0.0020

Neptune -78973-03-18 00:28 J -27123388.67 -27123388.48 -27123388.28 0.0089 0.0013

Jupiter -78973-04-28 07:54 J -27123347.29 -27123347.17 -27123347.04 0.0535 0.0104

Neptune -78973-06-14 04:18 J -27123300.52 -27123300.32 -27123300.13 0.0089 0.0007

Jupiter -78973-07-26 15:49 J -27123257.94 -27123257.84 -27123257.75 0.0534 0.0352

Neptune -78973-09-10 07:54 J -27123212.37 -27123212.17 -27123211.98 0.0089 0.0002

Neptune -78973-12-07 11:16 J -27123124.22 -27123124.03 -27123123.83 0.0088 0.0007

Neptune -78972-03-05 14:52 J -27123036.07 -27123035.88 -27123035.68 0.0088 0.0013

Neptune -78972-06-01 18:28 J -27122947.91 -27122947.73 -27122947.54 0.0088 0.0020

Neptune -78972-08-28 22:04 J -27122859.76 -27122859.58 -27122859.39 0.0088 0.0026

Neptune -78972-11-25 01:25 J -27122771.61 -27122771.44 -27122771.25 0.0088 0.0033

Neptune -78971-02-21 05:16 J -27122683.45 -27122683.28 -27122683.11 0.0088 0.0039

Neptune -78971-05-20 08:37 J -27122595.30 -27122595.14 -27122594.97 0.0088 0.0045

Mars -78971-05-23 15:20 J -27122591.94 -27122591.86 -27122591.78 0.1695 0.1478

Neptune -78971-08-16 12:13 J -27122507.14 -27122506.99 -27122506.83 0.0088 0.0052

Neptune -78971-11-12 15:35 J -27122418.98 -27122418.85 -27122418.69 0.0088 0.0059

Neptune -78970-02-08 19:11 J -27122330.82 -27122330.70 -27122330.56 0.0088 0.0065

Saturn -78970-02-09 08:37 J -27122330.27 -27122330.14 -27122330.01 0.0283 0.0204

Earth -78970-03-19 09:06 J -27122292.16 -27122292.12 -27122292.09 0.2743 0.2553

Moon -78970-03-19 09:20 J -27122292.15 -27122292.11 -27122292.07 0.2750 0.2538 *

Mars -78970-03-21 18:13 J -27122289.85 -27122289.74 -27122289.62 0.1841 0.0366

Neptune -78970-05-07 22:32 J -27122242.66 -27122242.56 -27122242.43 0.0088 0.0071

Saturn -78970-05-09 08:23 J -27122241.34 -27122241.15 -27122240.97 0.0283 0.0045

Neptune -78970-08-04 02:08 J -27122154.49 -27122154.41 -27122154.30 0.0088 0.0078

Saturn -78970-08-06 07:54 J -27122152.34 -27122152.17 -27122152.00 0.0284 0.0114

Venus -78970-09-17 05:44 J -27122110.31 -27122110.26 -27122110.20 0.3783 0.3238

Neptune -78970-10-31 05:44 J -27122066.31 -27122066.26 -27122066.19 0.0088 0.0084

Saturn -78970-11-03 07:11 J -27122063.25 -27122063.20 -27122063.14 0.0285 0.0272

Jupiter -78967-03-26 22:18 J -27121188.64 -27121188.57 -27121188.49 0.0491 0.0449

Jupiter -78967-06-25 05:59 J -27121098.43 -27121098.25 -27121098.07 0.0492 0.0070

Moon -78967-09-20 13:11 J -27121011.10 -27121010.95 -27121010.79 0.2590 0.0614

Earth -78967-09-20 14:52 J -27121011.04 -27121010.88 -27121010.73 0.2591 0.0494 *

Moon -78964-03-28 05:01 J -27120091.34 -27120091.29 -27120091.23 0.2739 0.2314

Earth -78964-03-28 05:16 J -27120091.34 -27120091.28 -27120091.22 0.2746 0.2304 *

Venus -78964-04-01 23:44 J -27120086.60 -27120086.51 -27120086.42 0.3780 0.2157

Jupiter -78961-02-15 11:44 J -27119037.13 -27119037.01 -27119036.89 0.0535 0.0215

Jupiter -78961-05-14 19:11 J -27118947.81 -27118947.70 -27118947.58 0.0534 0.0237

Mars -78961-08-11 02:52 J -27118859.47 -27118859.38 -27118859.29 0.1850 0.1167

Mars -78960-09-19 14:08 J -27118454.93 -27118454.91 -27118454.89 0.1719 0.1701

Venus -78959-10-16 17:59 J -27118062.86 -27118062.75 -27118062.64 0.3776 0.1041

Earth -78957-03-21 03:06 J -27117541.46 -27117541.37 -27117541.27 0.2744 0.1300

Moon -78957-03-21 03:49 J -27117541.43 -27117541.34 -27117541.24 0.2745 0.1180 *

Saturn -78957-06-17 01:40 J -27117453.49 -27117453.43 -27117453.36 0.0279 0.0244

Saturn -78957-09-13 12:42 J -27117365.08 -27117364.97 -27117364.85 0.0279 0.0140

Saturn -78957-12-10 23:44 J -27117276.64 -27117276.51 -27117276.38 0.0278 0.0037

Saturn -78956-03-09 10:47 J -27117188.18 -27117188.05 -27117187.92 0.0277 0.0067

Saturn -78956-06-05 21:49 J -27117099.70 -27117099.59 -27117099.49 0.0276 0.0170

Saturn -78956-09-02 08:52 J -27117011.14 -27117011.13 -27117011.11 0.0275 0.0272

Jupiter -78955-04-13 03:35 J -27116788.53 -27116788.35 -27116788.17 0.0492 0.0061

Jupiter -78955-07-12 10:18 J -27116698.14 -27116698.07 -27116698.00 0.0494 0.0452

Moon -78954-09-23 18:56 J -27116259.84 -27116259.71 -27116259.58 0.2592 0.1445

Earth -78954-09-23 20:37 J -27116259.76 -27116259.64 -27116259.52 0.2591 0.1700 *

Venus -78953-05-01 12:28 J -27116039.10 -27116038.98 -27116038.87 0.3773 0.0169

Mars -78950-02-09 14:52 J -27115025.02 -27115024.88 -27115024.73 0.1711 0.0689

Uranus -78950-08-01 04:04 J -27114852.33 -27114852.33 -27114852.33 0.0141 0.0141

Uranus -78950-10-28 11:30 J -27114764.11 -27114764.02 -27114763.90 0.0141 0.0115

Jupiter -78950-12-04 15:35 J -27114726.95 -27114726.85 -27114726.75 0.0535 0.0327

Mars -78950-12-08 01:25 J -27114723.52 -27114723.44 -27114723.36 0.1824 0.1325

Uranus -78949-01-24 19:25 J -27114675.83 -27114675.69 -27114675.54 0.0141 0.0089

Jupiter -78949-03-02 22:47 J -27114637.67 -27114637.55 -27114637.42 0.0534 0.0123

Uranus -78949-04-22 03:20 J -27114587.53 -27114587.36 -27114587.19 0.0141 0.0062

Uranus -78949-07-19 10:47 J -27114499.23 -27114499.05 -27114498.86 0.0141 0.0037

Uranus -78949-10-15 18:28 J -27114410.91 -27114410.73 -27114410.54 0.0141 0.0011

Uranus -78948-01-12 01:54 J -27114322.60 -27114322.42 -27114322.23 0.0140 0.0016

Uranus -78948-04-10 09:20 J -27114234.28 -27114234.11 -27114233.92 0.0140 0.0041

Uranus -78948-07-07 16:47 J -27114145.96 -27114145.80 -27114145.63 0.0140 0.0065

Uranus -78948-10-03 23:59 J -27114057.63 -27114057.50 -27114057.34 0.0140 0.0090

Venus -78948-11-15 06:56 J -27114015.31 -27114015.21 -27114015.10 0.3769 0.1281

Uranus -78948-12-31 07:40 J -27113969.29 -27113969.18 -27113969.08 0.0140 0.0114

Uranus -78947-03-29 14:37 J -27113880.90 -27113880.89 -27113880.86 0.0140 0.0139

Earth -78944-03-23 21:20 J -27112790.71 -27112790.61 -27112790.50 0.2745 0.0111

Moon -78944-03-23 22:04 J -27112790.69 -27112790.58 -27112790.47 0.2742 0.0054 *

Venus -78944-11-13 19:54 J -27112555.76 -27112555.67 -27112555.58 0.3599 0.2649

Jupiter -78943-01-30 01:25 J -27112478.61 -27112478.44 -27112478.27 0.0492 0.0191

Jupiter -78943-04-30 08:23 J -27112388.29 -27112388.15 -27112388.02 0.0493 0.0325

Venus -78942-06-01 01:40 J -27111991.51 -27111991.43 -27111991.34 0.3765 0.2492

Saturn -78941-06-28 08:23 J -27111598.24 -27111598.15 -27111598.04 0.0282 0.0238

Mars -78941-07-01 15:20 J -27111595.01 -27111594.86 -27111594.70 0.1703 0.0336

Saturn -78941-09-25 08:23 J -27111509.33 -27111509.15 -27111508.97 0.0283 0.0079

Saturn -78941-12-23 07:54 J -27111420.34 -27111420.17 -27111419.99 0.0284 0.0080

Saturn -78940-03-22 07:11 J -27111331.29 -27111331.20 -27111331.09 0.0285 0.0238

Mars -78940-04-29 09:49 J -27111293.20 -27111293.09 -27111292.98 0.1833 0.0534

Venus -78938-05-30 20:52 J -27110531.76 -27110531.63 -27110531.50 0.3603 0.0938

Jupiter -78938-09-22 18:56 J -27110416.78 -27110416.71 -27110416.64 0.0536 0.0444

Jupiter -78938-12-21 02:23 J -27110327.53 -27110327.40 -27110327.27 0.0535 0.0009

Jupiter -78937-03-19 10:04 J -27110238.14 -27110238.08 -27110238.01 0.0533 0.0457

Venus -78937-12-14 20:37 J -27109967.65 -27109967.64 -27109967.62 0.3761 0.3732

Moon -78934-09-18 14:23 J -27108959.96 -27108959.90 -27108959.85 0.2587 0.2408

Earth -78934-09-18 15:06 J -27108959.94 -27108959.87 -27108959.79 0.2592 0.2291 *

Venus -78933-12-13 21:20 J -27108507.74 -27108507.61 -27108507.48 0.3606 0.0695

Jupiter -78932-11-17 23:01 J -27108168.68 -27108168.54 -27108168.40 0.0492 0.0319

Mars -78932-11-21 16:04 J -27108164.93 -27108164.83 -27108164.73 0.1695 0.1332

Jupiter -78931-02-16 06:13 J -27108078.40 -27108078.24 -27108078.07 0.0493 0.0199

Earth -78931-03-26 15:49 J -27108039.94 -27108039.84 -27108039.75 0.2745 0.1268

Moon -78931-03-26 16:04 J -27108039.93 -27108039.83 -27108039.74 0.2738 0.1361 *

Mars -78931-09-19 18:13 J -27107862.85 -27107862.74 -27107862.62 0.1842 0.0272

Saturn -78928-11-04 04:32 J -27106721.34 -27106721.31 -27106721.28 0.0279 0.0270

Saturn -78927-01-31 15:20 J -27106632.96 -27106632.86 -27106632.75 0.0278 0.0167

Saturn -78927-04-30 02:23 J -27106544.52 -27106544.40 -27106544.27 0.0277 0.0064

Venus -78927-06-29 21:20 J -27106483.71 -27106483.61 -27106483.50 0.3611 0.2268

Saturn -78927-07-27 13:25 J -27106456.07 -27106455.94 -27106455.81 0.0277 0.0040

Saturn -78927-10-24 00:28 J -27106367.59 -27106367.48 -27106367.37 0.0276 0.0143

Saturn -78926-01-20 11:30 J -27106279.08 -27106279.02 -27106278.96 0.0275 0.0245

Jupiter -78926-10-09 06:13 J -27106017.36 -27106017.24 -27106017.11 0.0535 0.0107

Jupiter -78925-01-06 13:54 J -27105928.01 -27105927.92 -27105927.82 0.0534 0.0346

Earth -78924-03-19 13:54 J -27105489.98 -27105489.92 -27105489.86 0.2743 0.2295

Moon -78924-03-19 14:23 J -27105489.96 -27105489.90 -27105489.84 0.2748 0.2270 *

Mars -78921-02-10 02:52 J -27104432.47 -27104432.38 -27104432.28 0.1850 0.1062

Moon -78921-09-20 19:40 J -27104208.84 -27104208.68 -27104208.52 0.2590 0.0246

Earth -78921-09-20 21:20 J -27104208.77 -27104208.61 -27104208.45 0.2592 0.0046 *

Jupiter -78920-09-05 20:23 J -27103858.72 -27103858.65 -27103858.58 0.0491 0.0451

Jupiter -78920-12-05 04:04 J -27103768.51 -27103768.33 -27103768.15 0.0492 0.0068

Moon -78918-03-29 09:49 J -27103289.14 -27103289.09 -27103289.04 0.2740 0.2467

Earth -78918-03-29 10:04 J -27103289.11 -27103289.08 -27103289.04 0.2746 0.2577 *

Jupiter -78914-07-28 10:18 J -27101707.18 -27101707.07 -27101706.95 0.0535 0.0215

Jupiter -78914-10-25 17:59 J -27101617.86 -27101617.75 -27101617.63 0.0534 0.0238

Venus -78913-04-23 03:49 J -27101437.41 -27101437.34 -27101437.27 0.3782 0.2901

Saturn -78911-02-12 05:01 J -27100777.45 -27100777.29 -27100777.12 0.0283 0.0136

Earth -78911-03-22 08:08 J -27100739.26 -27100739.16 -27100739.06 0.2744 0.1038

Moon -78911-03-22 08:52 J -27100739.23 -27100739.13 -27100739.03 0.2745 0.0966 *

Saturn -78911-05-12 04:47 J -27100688.49 -27100688.30 -27100688.12 0.0284 0.0023

Saturn -78911-08-09 04:04 J -27100599.47 -27100599.33 -27100599.18 0.0285 0.0181

Mars -78911-08-10 15:20 J -27100598.00 -27100597.86 -27100597.72 0.1711 0.0809

Mars -78910-06-08 01:25 J -27100296.51 -27100296.44 -27100296.36 0.1824 0.1432

Jupiter -78908-09-23 02:08 J -27099458.59 -27099458.41 -27099458.23 0.0492 0.0058

Moon -78908-09-24 01:40 J -27099457.52 -27099457.43 -27099457.34 0.2593 0.2082

Earth -78908-09-24 03:06 J -27099457.46 -27099457.37 -27099457.28 0.2591 0.2141 *

Venus -78908-11-06 22:04 J -27099413.68 -27099413.58 -27099413.49 0.3779 0.1809

Jupiter -78908-12-22 08:37 J -27099368.20 -27099368.14 -27099368.07 0.0493 0.0454

Pluto -78906-08-06 14:52 J -27098775.90 -27098775.88 -27098775.85 0.0060 0.0060

Pluto -78906-11-02 15:35 J -27098687.90 -27098687.85 -27098687.74 0.0060 0.0055

Pluto -78905-01-29 17:16 J -27098599.88 -27098599.78 -27098599.65 0.0060 0.0048

Uranus -78905-03-29 19:11 J -27098539.73 -27098539.70 -27098539.66 0.0137 0.0132

Pluto -78905-04-26 18:42 J -27098511.84 -27098511.72 -27098511.58 0.0060 0.0043

Uranus -78905-06-25 22:18 J -27098451.63 -27098451.57 -27098451.49 0.0137 0.0116

Pluto -78905-07-23 20:08 J -27098423.80 -27098423.66 -27098423.50 0.0060 0.0037

Uranus -78905-09-22 01:40 J -27098363.51 -27098363.43 -27098363.33 0.0137 0.0100

Pluto -78905-10-19 21:35 J -27098335.76 -27098335.60 -27098335.44 0.0060 0.0031

Uranus -78905-12-19 05:01 J -27098275.39 -27098275.29 -27098275.18 0.0138 0.0083

Pluto -78904-01-15 22:32 J -27098247.71 -27098247.56 -27098247.37 0.0060 0.0026

Uranus -78904-03-17 08:23 J -27098187.26 -27098187.15 -27098187.03 0.0138 0.0066

Pluto -78904-04-13 23:59 J -27098159.67 -27098159.50 -27098159.30 0.0061 0.0020

Uranus -78904-06-13 11:44 J -27098099.13 -27098099.01 -27098098.88 0.0138 0.0049

Pluto -78904-07-11 01:25 J -27098071.61 -27098071.44 -27098071.24 0.0061 0.0014

Uranus -78904-09-09 15:20 J -27098010.99 -27098010.86 -27098010.73 0.0138 0.0032

Pluto -78904-10-07 02:52 J -27097983.56 -27097983.38 -27097983.18 0.0061 0.0008

Uranus -78904-12-06 18:42 J -27097922.85 -27097922.72 -27097922.59 0.0138 0.0014

Pluto -78903-01-03 04:18 J -27097895.51 -27097895.32 -27097895.12 0.0061 0.0002

Uranus -78903-03-04 22:04 J -27097834.71 -27097834.58 -27097834.44 0.0138 0.0005

Pluto -78903-04-01 05:44 J -27097807.45 -27097807.26 -27097807.07 0.0061 0.0005

Uranus -78903-06-01 01:40 J -27097746.57 -27097746.43 -27097746.30 0.0138 0.0021

Pluto -78903-06-28 06:56 J -27097719.39 -27097719.21 -27097719.01 0.0061 0.0011

Uranus -78903-08-28 05:01 J -27097658.42 -27097658.29 -27097658.16 0.0139 0.0038

Pluto -78903-09-24 08:23 J -27097631.32 -27097631.15 -27097630.96 0.0061 0.0017

Uranus -78903-11-24 08:37 J -27097570.27 -27097570.14 -27097570.02 0.0139 0.0056

Pluto -78903-12-21 09:49 J -27097543.26 -27097543.09 -27097542.90 0.0061 0.0023

Uranus -78902-02-20 11:59 J -27097482.11 -27097482.00 -27097481.88 0.0139 0.0074

Pluto -78902-03-19 11:01 J -27097455.19 -27097455.04 -27097454.85 0.0061 0.0030

Jupiter -78902-05-16 14:23 J -27097397.00 -27097396.90 -27097396.80 0.0535 0.0326

Uranus -78902-05-19 15:35 J -27097393.95 -27097393.85 -27097393.74 0.0139 0.0092

Venus -78902-05-23 16:18 J -27097389.93 -27097389.82 -27097389.72 0.3776 0.0694

Pluto -78902-06-15 12:28 J -27097367.12 -27097366.98 -27097366.81 0.0061 0.0036

Jupiter -78902-08-13 21:49 J -27097307.72 -27097307.59 -27097307.47 0.0534 0.0124

Uranus -78902-08-15 19:11 J -27097305.78 -27097305.70 -27097305.62 0.0139 0.0110

Pluto -78902-09-11 13:54 J -27097279.04 -27097278.92 -27097278.76 0.0061 0.0042

Uranus -78902-11-11 22:47 J -27097217.60 -27097217.55 -27097217.50 0.0139 0.0129

Pluto -78902-12-08 15:35 J -27097190.96 -27097190.85 -27097190.73 0.0061 0.0048

Mars -78902-12-31 16:18 J -27097167.98 -27097167.82 -27097167.66 0.1703 0.0194

Pluto -78901-03-05 16:32 J -27097102.87 -27097102.81 -27097102.69 0.0061 0.0055

Pluto -78901-06-01 17:59 J -27097014.76 -27097014.75 -27097014.69 0.0061 0.0061

Mars -78901-10-28 09:49 J -27096866.20 -27096866.09 -27096865.98 0.1832 0.0634

Earth -78898-03-25 02:23 J -27095988.51 -27095988.40 -27095988.29 0.2745 0.0250

Moon -78898-03-25 02:52 J -27095988.49 -27095988.38 -27095988.27 0.2740 0.0358 *

Saturn -78898-06-20 17:16 J -27095900.86 -27095900.78 -27095900.68 0.0279 0.0202

Saturn -78898-09-17 04:18 J -27095812.44 -27095812.32 -27095812.19 0.0278 0.0098

Saturn -78898-12-14 15:20 J -27095723.99 -27095723.86 -27095723.72 0.0278 0.0009

Saturn -78897-03-12 02:23 J -27095635.52 -27095635.40 -27095635.28 0.0277 0.0110

Saturn -78897-06-08 13:25 J -27095547.02 -27095546.94 -27095546.85 0.0276 0.0213

Venus -78897-12-06 10:32 J -27095366.17 -27095366.06 -27095365.95 0.3772 0.0497

Jupiter -78896-07-11 23:16 J -27095148.69 -27095148.53 -27095148.36 0.0492 0.0193

Jupiter -78896-10-10 06:28 J -27095058.37 -27095058.23 -27095058.10 0.0493 0.0324

Neptune -78895-10-31 19:11 J -27094671.71 -27094671.70 -27094671.66 0.0089 0.0087

Neptune -78894-01-27 20:37 J -27094583.68 -27094583.64 -27094583.58 0.0089 0.0082

Neptune -78894-04-25 21:49 J -27094495.64 -27094495.59 -27094495.51 0.0089 0.0078

Neptune -78894-07-22 23:16 J -27094407.60 -27094407.53 -27094407.45 0.0089 0.0073

Neptune -78894-10-19 00:28 J -27094319.55 -27094319.48 -27094319.39 0.0089 0.0069

Neptune -78893-01-15 02:08 J -27094231.50 -27094231.41 -27094231.32 0.0089 0.0064

Neptune -78893-04-12 03:06 J -27094143.45 -27094143.37 -27094143.26 0.0089 0.0060

Neptune -78893-07-09 04:32 J -27094055.41 -27094055.31 -27094055.20 0.0089 0.0055

Neptune -78893-10-05 05:59 J -27093967.36 -27093967.25 -27093967.14 0.0089 0.0051

Neptune -78892-01-01 07:11 J -27093879.31 -27093879.20 -27093879.08 0.0089 0.0047

Neptune -78892-03-30 08:37 J -27093791.25 -27093791.14 -27093791.02 0.0089 0.0042

Mars -78892-05-22 16:47 J -27093737.92 -27093737.80 -27093737.69 0.1695 0.1203

Neptune -78892-06-26 09:49 J -27093703.20 -27093703.09 -27093702.96 0.0089 0.0038

Neptune -78892-09-22 11:16 J -27093615.15 -27093615.03 -27093614.90 0.0089 0.0033

Neptune -78892-12-19 12:28 J -27093527.10 -27093526.98 -27093526.85 0.0089 0.0029

Neptune -78891-03-17 13:54 J -27093439.04 -27093438.92 -27093438.79 0.0089 0.0024

Mars -78891-03-20 18:28 J -27093435.85 -27093435.73 -27093435.62 0.1841 0.0167

Neptune -78891-06-13 15:20 J -27093350.99 -27093350.86 -27093350.73 0.0089 0.0019

Venus -78891-06-22 05:16 J -27093342.38 -27093342.28 -27093342.18 0.3768 0.1667

Neptune -78891-09-09 16:32 J -27093262.94 -27093262.81 -27093262.67 0.0089 0.0015

Neptune -78891-12-06 17:59 J -27093174.88 -27093174.75 -27093174.62 0.0089 0.0010

Neptune -78890-03-04 19:25 J -27093086.83 -27093086.69 -27093086.56 0.0089 0.0006

Jupiter -78890-03-04 17:59 J -27093086.82 -27093086.75 -27093086.67 0.0535 0.0438 *

Neptune -78890-05-31 20:37 J -27092998.77 -27092998.64 -27092998.50 0.0089 0.0003

Jupiter -78890-06-02 01:25 J -27092997.57 -27092997.44 -27092997.31 0.0534 0.0013

Neptune -78890-08-27 22:04 J -27092910.71 -27092910.58 -27092910.45 0.0089 0.0003

Jupiter -78890-08-30 09:06 J -27092908.18 -27092908.12 -27092908.06 0.0533 0.0461

Neptune -78890-11-23 23:16 J -27092822.66 -27092822.53 -27092822.39 0.0089 0.0009

Neptune -78889-02-20 00:42 J -27092734.60 -27092734.47 -27092734.34 0.0089 0.0013

Neptune -78889-05-18 02:08 J -27092646.54 -27092646.41 -27092646.28 0.0089 0.0017

Neptune -78889-08-14 03:20 J -27092558.48 -27092558.36 -27092558.23 0.0089 0.0022

Neptune -78889-11-10 04:47 J -27092470.43 -27092470.30 -27092470.17 0.0089 0.0026

Neptune -78888-02-06 05:59 J -27092382.37 -27092382.25 -27092382.12 0.0089 0.0031

Neptune -78888-05-05 07:25 J -27092294.31 -27092294.19 -27092294.06 0.0089 0.0036

Neptune -78888-08-01 08:52 J -27092206.25 -27092206.13 -27092206.01 0.0089 0.0040

Moon -78888-09-18 20:23 J -27092157.75 -27092157.65 -27092157.54 0.2589 0.1898

Earth -78888-09-18 21:49 J -27092157.70 -27092157.59 -27092157.48 0.2592 0.1838 *

Neptune -78888-10-28 10:04 J -27092118.19 -27092118.08 -27092117.96 0.0089 0.0045

Neptune -78887-01-24 11:30 J -27092030.13 -27092030.02 -27092029.90 0.0089 0.0049

Neptune -78887-04-22 12:56 J -27091942.06 -27091941.96 -27091941.85 0.0089 0.0054

Venus -78887-06-20 19:54 J -27091882.78 -27091882.67 -27091882.56 0.3600 0.2111

Neptune -78887-07-19 14:08 J -27091854.00 -27091853.91 -27091853.80 0.0089 0.0059

Neptune -78887-10-15 15:35 J -27091765.94 -27091765.85 -27091765.75 0.0089 0.0063

Neptune -78886-01-11 16:47 J -27091677.87 -27091677.80 -27091677.70 0.0089 0.0068

Neptune -78886-04-09 18:28 J -27091589.80 -27091589.73 -27091589.65 0.0089 0.0072

Neptune -78886-07-06 19:40 J -27091501.74 -27091501.68 -27091501.61 0.0089 0.0077

Neptune -78886-10-02 20:52 J -27091413.66 -27091413.63 -27091413.56 0.0089 0.0082

Neptune -78886-12-29 22:32 J -27091325.58 -27091325.56 -27091325.52 0.0089 0.0086

Venus -78885-01-05 23:59 J -27091318.57 -27091318.50 -27091318.43 0.3764 0.2888

Earth -78885-03-26 20:37 J -27091237.73 -27091237.64 -27091237.55 0.2745 0.1540

Moon -78885-03-26 20:52 J -27091237.72 -27091237.63 -27091237.54 0.2738 0.1495 *

Jupiter -78884-04-29 21:06 J -27090838.76 -27090838.62 -27090838.49 0.0492 0.0323

Jupiter -78884-07-29 04:18 J -27090748.48 -27090748.32 -27090748.15 0.0493 0.0196

Saturn -78882-07-02 05:30 J -27090045.42 -27090045.27 -27090045.12 0.0282 0.0167

Mars -78882-08-11 02:52 J -27090005.48 -27090005.38 -27090005.28 0.1850 0.0970

Saturn -78882-09-29 05:01 J -27089956.47 -27089956.29 -27089956.10 0.0283 0.0011

Saturn -78882-12-27 04:32 J -27089867.46 -27089867.31 -27089867.15 0.0284 0.0150

Venus -78881-01-04 20:52 J -27089858.77 -27089858.63 -27089858.50 0.3604 0.0418

Earth -78878-03-20 18:42 J -27088687.79 -27088687.72 -27088687.65 0.2743 0.2039

Moon -78878-03-20 19:11 J -27088687.77 -27088687.70 -27088687.62 0.2747 0.1938 *

Jupiter -78878-03-21 04:47 J -27088687.43 -27088687.30 -27088687.18 0.0535 0.0112

Jupiter -78878-06-18 12:13 J -27088598.08 -27088597.99 -27088597.89 0.0533 0.0342

Venus -78876-07-20 21:06 J -27087834.75 -27087834.62 -27087834.49 0.3608 0.1198

Moon -78875-09-22 02:08 J -27087406.57 -27087406.41 -27087406.25 0.2590 0.0238

Earth -78875-09-22 03:49 J -27087406.50 -27087406.34 -27087406.18 0.2591 0.0394 *

Mars -78873-12-31 11:16 J -27086575.06 -27086575.03 -27086575.00 0.1859 0.1784

Jupiter -78872-02-15 18:42 J -27086528.79 -27086528.72 -27086528.65 0.0491 0.0451

Jupiter -78872-05-17 02:23 J -27086438.58 -27086438.40 -27086438.22 0.0492 0.0069

Mars -78871-02-08 16:04 J -27086170.96 -27086170.83 -27086170.69 0.1711 0.0955

Mars -78871-12-07 01:25 J -27085869.50 -27085869.44 -27085869.38 0.1824 0.1519

Venus -78870-02-03 21:06 J -27085810.70 -27085810.62 -27085810.54 0.3612 0.2760

Saturn -78869-11-06 20:23 J -27085168.72 -27085168.65 -27085168.57 0.0279 0.0226

Saturn -78868-02-03 07:25 J -27085080.30 -27085080.19 -27085080.07 0.0278 0.0121

Saturn -78868-05-02 18:28 J -27084991.86 -27084991.73 -27084991.60 0.0277 0.0018

Saturn -78868-07-30 05:30 J -27084903.39 -27084903.27 -27084903.14 0.0277 0.0086

Saturn -78868-10-26 16:32 J -27084814.90 -27084814.81 -27084814.71 0.0276 0.0189

Jupiter -78866-01-07 08:37 J -27084377.26 -27084377.14 -27084377.03 0.0535 0.0222

Jupiter -78866-04-06 16:04 J -27084287.94 -27084287.83 -27084287.71 0.0534 0.0230

Uranus -78866-08-21 12:28 J -27084151.04 -27084150.98 -27084150.90 0.0141 0.0131

Uranus -78866-11-17 20:23 J -27084062.77 -27084062.65 -27084062.52 0.0141 0.0105

Uranus -78865-02-14 04:04 J -27083974.48 -27083974.33 -27083974.17 0.0141 0.0079

Earth -78865-03-22 12:56 J -27083937.06 -27083936.96 -27083936.86 0.2744 0.0775

Moon -78865-03-22 13:40 J -27083937.04 -27083936.93 -27083936.82 0.2745 0.0676 *

Uranus -78865-05-12 11:59 J -27083886.18 -27083886.00 -27083885.83 0.0141 0.0052

Uranus -78865-08-08 19:25 J -27083797.87 -27083797.69 -27083797.50 0.0141 0.0027

Uranus -78865-11-05 03:06 J -27083709.55 -27083709.37 -27083709.18 0.0141 0.0002

Uranus -78864-02-01 10:32 J -27083621.24 -27083621.06 -27083620.87 0.0140 0.0026

Uranus -78864-04-30 17:59 J -27083532.92 -27083532.75 -27083532.57 0.0140 0.0051

Uranus -78864-07-28 01:25 J -27083444.59 -27083444.44 -27083444.28 0.0140 0.0075

Uranus -78864-10-24 08:37 J -27083356.26 -27083356.14 -27083356.00 0.0140 0.0100

Uranus -78863-01-20 16:18 J -27083267.90 -27083267.82 -27083267.74 0.0140 0.0124

Venus -78862-05-15 08:08 J -27082788.19 -27082788.16 -27082788.14 0.3784 0.3637

Mars -78862-07-01 16:32 J -27082740.97 -27082740.81 -27082740.65 0.1703 0.0075

Moon -78862-09-25 08:23 J -27082655.21 -27082655.15 -27082655.10 0.2595 0.2403

Earth -78862-09-25 09:35 J -27082655.11 -27082655.10 -27082655.09 0.2591 0.2576 *

Mars -78861-04-28 10:04 J -27082439.19 -27082439.08 -27082438.98 0.1833 0.0737

Jupiter -78860-03-04 23:44 J -27082128.69 -27082128.51 -27082128.33 0.0492 0.0063

Jupiter -78860-06-03 06:13 J -27082038.30 -27082038.24 -27082038.16 0.0493 0.0450

Venus -78857-11-28 01:54 J -27080764.50 -27080764.42 -27080764.34 0.3781 0.2561

Jupiter -78855-10-26 12:42 J -27080067.07 -27080066.97 -27080066.87 0.0536 0.0330

Jupiter -78854-01-23 20:08 J -27079977.79 -27079977.66 -27079977.53 0.0534 0.0121

Saturn -78853-11-18 02:52 J -27079313.49 -27079313.38 -27079313.26 0.0282 0.0218

Mars -78853-11-20 17:16 J -27079310.90 -27079310.78 -27079310.65 0.1695 0.1070

Saturn -78852-02-15 02:37 J -27079224.57 -27079224.39 -27079224.21 0.0283 0.0060

Earth -78852-03-25 07:11 J -27079186.31 -27079186.20 -27079186.09 0.2745 0.0508

Moon -78852-03-25 07:40 J -27079186.29 -27079186.18 -27079186.07 0.2739 0.0542 *

Saturn -78852-05-15 02:08 J -27079135.58 -27079135.41 -27079135.23 0.0284 0.0098

Saturn -78852-08-12 01:25 J -27079046.51 -27079046.44 -27079046.36 0.0285 0.0256

Mars -78852-09-18 18:28 J -27079008.85 -27079008.73 -27079008.61 0.1841 0.0066

Venus -78851-06-13 20:08 J -27078740.76 -27078740.66 -27078740.56 0.3778 0.1451

Jupiter -78849-12-21 21:35 J -27077818.77 -27077818.60 -27077818.43 0.0492 0.0191

Jupiter -78848-03-22 04:32 J -27077728.44 -27077728.31 -27077728.17 0.0493 0.0325

Venus -78846-12-28 14:23 J -27076717.01 -27076716.90 -27076716.79 0.3775 0.0315

Jupiter -78843-08-14 16:32 J -27075756.87 -27075756.81 -27075756.73 0.0535 0.0440

Jupiter -78843-11-11 23:59 J -27075667.63 -27075667.50 -27075667.37 0.0534 0.0008

Mars -78842-02-09 02:52 J -27075578.48 -27075578.38 -27075578.28 0.1850 0.0875

Jupiter -78842-02-09 07:40 J -27075578.24 -27075578.18 -27075578.11 0.0533 0.0461

Moon -78842-09-20 02:52 J -27075355.51 -27075355.38 -27075355.26 0.2589 0.1623

Earth -78842-09-20 04:18 J -27075355.45 -27075355.32 -27075355.19 0.2592 0.1388 *

Venus -78840-07-13 08:52 J -27074693.24 -27074693.13 -27074693.02 0.3771 0.0861

Saturn -78839-03-26 22:32 J -27074436.60 -27074436.56 -27074436.51 0.0280 0.0259

Earth -78839-03-28 01:40 J -27074435.52 -27074435.43 -27074435.35 0.2745 0.1806

Moon -78839-03-28 01:40 J -27074435.51 -27074435.43 -27074435.35 0.2739 0.1855 *

Saturn -78839-06-23 09:35 J -27074348.21 -27074348.10 -27074347.99 0.0279 0.0154

Saturn -78839-09-19 20:37 J -27074259.77 -27074259.64 -27074259.51 0.0278 0.0050

Saturn -78839-12-17 07:40 J -27074171.31 -27074171.18 -27074171.05 0.0277 0.0054

Saturn -78838-03-15 18:42 J -27074082.83 -27074082.72 -27074082.61 0.0277 0.0158

Saturn -78838-06-12 05:44 J -27073994.30 -27073994.26 -27073994.22 0.0276 0.0261

Jupiter -78837-10-09 18:42 J -27073508.86 -27073508.72 -27073508.59 0.0492 0.0328

Jupiter -78836-01-08 01:54 J -27073418.58 -27073418.42 -27073418.25 0.0493 0.0192

Venus -78836-07-11 18:42 J -27073233.77 -27073233.72 -27073233.67 0.3597 0.3326

Venus -78834-01-27 03:35 J -27072669.45 -27072669.35 -27072669.26 0.3767 0.2056

Mars -78833-07-01 11:30 J -27072148.07 -27072148.02 -27072147.98 0.1858 0.1681

Earth -78832-03-20 23:30 J -27071885.60 -27071885.52 -27071885.43 0.2743 0.1781

Moon -78832-03-21 00:13 J -27071885.57 -27071885.49 -27071885.41 0.2747 0.1758 *

Mars -78832-08-09 16:47 J -27071743.93 -27071743.80 -27071743.68 0.1711 0.1087

Mars -78831-06-07 01:25 J -27071442.49 -27071442.44 -27071442.38 0.1824 0.1626

Jupiter -78831-08-31 03:35 J -27071357.47 -27071357.35 -27071357.22 0.0534 0.0106

Jupiter -78831-11-28 11:16 J -27071268.13 -27071268.03 -27071267.93 0.0533 0.0345

Venus -78830-01-25 19:54 J -27071209.79 -27071209.67 -27071209.54 0.3601 0.1573

Venus -78829-08-11 22:32 J -27070645.62 -27070645.56 -27070645.51 0.3763 0.3293

Moon -78829-09-22 08:37 J -27070604.29 -27070604.14 -27070603.99 0.2591 0.0697

Earth -78829-09-22 10:18 J -27070604.22 -27070604.07 -27070603.92 0.2591 0.0839 *

Jupiter -78825-07-28 16:04 J -27069198.89 -27069198.83 -27069198.76 0.0492 0.0459

Venus -78825-08-10 20:37 J -27069185.78 -27069185.64 -27069185.51 0.3605 0.0105

Jupiter -78825-10-26 23:44 J -27069108.69 -27069108.51 -27069108.32 0.0493 0.0063

Saturn -78823-04-07 03:49 J -27068581.43 -27068581.34 -27068581.25 0.0282 0.0246

Saturn -78823-07-05 03:35 J -27068492.53 -27068492.35 -27068492.17 0.0283 0.0088

Saturn -78823-10-02 03:06 J -27068403.55 -27068403.37 -27068403.19 0.0284 0.0070

Saturn -78823-12-30 02:23 J -27068314.50 -27068314.40 -27068314.28 0.0284 0.0228

Mars -78823-12-30 17:30 J -27068313.93 -27068313.77 -27068313.61 0.1703 0.0080

Mars -78822-10-28 10:04 J -27068012.19 -27068012.08 -27068011.98 0.1832 0.0834

Uranus -78821-04-19 02:37 J -27067838.43 -27067838.39 -27067838.33 0.0137 0.0128

Uranus -78821-07-16 06:13 J -27067750.32 -27067750.24 -27067750.16 0.0137 0.0111

Uranus -78821-10-12 09:20 J -27067662.20 -27067662.11 -27067662.01 0.0137 0.0094

Uranus -78820-01-08 12:42 J -27067574.08 -27067573.97 -27067573.86 0.0138 0.0077

Uranus -78820-04-06 16:04 J -27067485.95 -27067485.83 -27067485.71 0.0138 0.0061

Uranus -78820-07-03 19:25 J -27067397.81 -27067397.69 -27067397.56 0.0138 0.0044

Uranus -78820-09-29 22:47 J -27067309.68 -27067309.55 -27067309.41 0.0138 0.0027

Uranus -78820-12-27 02:23 J -27067221.54 -27067221.40 -27067221.27 0.0138 0.0010

Venus -78819-02-24 20:52 J -27067161.75 -27067161.63 -27067161.51 0.3609 0.1706

Earth -78819-03-23 17:44 J -27067134.87 -27067134.76 -27067134.65 0.2744 0.0515

Moon -78819-03-23 18:28 J -27067134.84 -27067134.73 -27067134.62 0.2743 0.0408 *

Uranus -78819-03-25 05:44 J -27067133.39 -27067133.26 -27067133.13 0.0138 0.0008

Jupiter -78819-06-19 06:56 J -27067047.33 -27067047.21 -27067047.10 0.0535 0.0227

Uranus -78819-06-21 09:06 J -27067045.25 -27067045.12 -27067044.98 0.0138 0.0026

Jupiter -78819-09-16 14:23 J -27066958.02 -27066957.90 -27066957.78 0.0534 0.0224

Uranus -78819-09-17 12:42 J -27066957.10 -27066956.97 -27066956.84 0.0139 0.0044

Uranus -78819-12-14 16:04 J -27066868.95 -27066868.83 -27066868.70 0.0139 0.0062

Uranus -78818-03-12 19:40 J -27066780.79 -27066780.68 -27066780.57 0.0139 0.0079

Uranus -78818-06-08 23:16 J -27066692.63 -27066692.53 -27066692.43 0.0139 0.0097

Uranus -78818-09-05 02:52 J -27066604.45 -27066604.38 -27066604.31 0.0139 0.0116

Uranus -78818-12-02 06:28 J -27066516.26 -27066516.23 -27066516.20 0.0139 0.0134

Venus -78814-09-10 20:37 J -27065137.70 -27065137.64 -27065137.58 0.3613 0.3237

Mars -78813-05-21 17:59 J -27064883.88 -27064883.75 -27064883.61 0.1695 0.0933

Jupiter -78813-08-14 21:35 J -27064798.78 -27064798.60 -27064798.41 0.0492 0.0067

Jupiter -78813-11-13 04:18 J -27064708.39 -27064708.32 -27064708.24 0.0493 0.0447

Pluto -78812-03-07 19:40 J -27064593.71 -27064593.68 -27064593.64 0.0084 0.0081

Mars -78812-03-19 18:28 J -27064581.85 -27064581.73 -27064581.61 0.1841 0.0042

Pluto -78812-06-03 20:52 J -27064505.69 -27064505.63 -27064505.54 0.0084 0.0070

Pluto -78812-08-30 22:32 J -27064417.66 -27064417.56 -27064417.46 0.0084 0.0057

Pluto -78812-11-26 23:44 J -27064329.61 -27064329.51 -27064329.39 0.0084 0.0046

Pluto -78811-02-23 01:11 J -27064241.57 -27064241.45 -27064241.32 0.0084 0.0035

Neptune -78811-04-18 04:47 J -27064187.32 -27064187.30 -27064187.25 0.0089 0.0087

Pluto -78811-05-22 02:37 J -27064153.52 -27064153.39 -27064153.26 0.0084 0.0023

Neptune -78811-07-15 08:37 J -27064099.21 -27064099.14 -27064099.05 0.0089 0.0080

Pluto -78811-08-18 04:04 J -27064065.47 -27064065.33 -27064065.20 0.0084 0.0012

Neptune -78811-10-11 11:59 J -27064011.09 -27064011.00 -27064010.87 0.0089 0.0074

Pluto -78811-11-14 05:16 J -27063977.41 -27063977.28 -27063977.14 0.0084 0.0002

Neptune -78810-01-07 15:49 J -27063922.95 -27063922.84 -27063922.70 0.0089 0.0067

Pluto -78810-02-10 06:42 J -27063889.36 -27063889.22 -27063889.09 0.0083 0.0011

Neptune -78810-04-05 19:40 J -27063834.81 -27063834.68 -27063834.53 0.0089 0.0060

Pluto -78810-05-09 07:54 J -27063801.30 -27063801.17 -27063801.04 0.0083 0.0022

Neptune -78810-07-02 23:01 J -27063746.67 -27063746.54 -27063746.36 0.0089 0.0054

Pluto -78810-08-05 09:20 J -27063713.24 -27063713.11 -27063712.99 0.0083 0.0033

Saturn -78810-08-14 02:08 J -27063704.42 -27063704.41 -27063704.41 0.0280 0.0279

Neptune -78810-09-29 02:52 J -27063658.53 -27063658.38 -27063658.20 0.0089 0.0047

Pluto -78810-11-01 10:32 J -27063625.17 -27063625.06 -27063624.94 0.0083 0.0043

Saturn -78810-11-10 12:56 J -27063616.06 -27063615.96 -27063615.85 0.0279 0.0175

Neptune -78810-12-26 06:28 J -27063570.39 -27063570.23 -27063570.04 0.0089 0.0041

Pluto -78809-01-28 11:44 J -27063537.10 -27063537.01 -27063536.90 0.0083 0.0054

Saturn -78809-02-06 23:59 J -27063527.62 -27063527.50 -27063527.37 0.0278 0.0071

Neptune -78809-03-23 10:18 J -27063482.24 -27063482.07 -27063481.88 0.0089 0.0034

Pluto -78809-04-25 12:56 J -27063449.03 -27063448.96 -27063448.87 0.0083 0.0065

Saturn -78809-05-05 11:01 J -27063439.17 -27063439.04 -27063438.91 0.0277 0.0034

Neptune -78809-06-19 14:08 J -27063394.10 -27063393.91 -27063393.73 0.0089 0.0027

Pluto -78809-07-22 14:08 J -27063360.95 -27063360.91 -27063360.84 0.0083 0.0076

Saturn -78809-08-01 22:04 J -27063350.69 -27063350.58 -27063350.46 0.0276 0.0137

Neptune -78809-09-15 17:30 J -27063305.95 -27063305.77 -27063305.57 0.0089 0.0021

Saturn -78809-10-29 09:06 J -27063262.18 -27063262.12 -27063262.05 0.0276 0.0240

Neptune -78809-12-12 21:20 J -27063217.80 -27063217.61 -27063217.42 0.0088 0.0014

Neptune -78808-03-11 00:56 J -27063129.65 -27063129.46 -27063129.27 0.0088 0.0007

Neptune -78808-06-07 04:32 J -27063041.51 -27063041.31 -27063041.12 0.0088 0.0001

Neptune -78808-09-03 08:08 J -27062953.35 -27062953.16 -27062952.97 0.0088 0.0006

Neptune -78808-11-30 11:44 J -27062865.20 -27062865.01 -27062864.82 0.0088 0.0013

Neptune -78807-02-26 15:06 J -27062777.05 -27062776.87 -27062776.67 0.0088 0.0019

Jupiter -78807-04-07 10:32 J -27062737.15 -27062737.06 -27062736.96 0.0535 0.0339

Neptune -78807-05-25 18:42 J -27062688.90 -27062688.72 -27062688.53 0.0088 0.0026

Jupiter -78807-07-05 17:59 J -27062647.87 -27062647.75 -27062647.62 0.0534 0.0111

Neptune -78807-08-21 22:04 J -27062600.75 -27062600.58 -27062600.38 0.0088 0.0033

Neptune -78807-11-18 01:40 J -27062512.59 -27062512.43 -27062512.24 0.0088 0.0039

Neptune -78806-02-14 05:30 J -27062424.43 -27062424.27 -27062424.10 0.0088 0.0045

Earth -78806-03-26 11:59 J -27062384.10 -27062384.00 -27062383.89 0.2745 0.0775

Moon -78806-03-26 12:28 J -27062384.08 -27062383.98 -27062383.87 0.2739 0.0857 *

Neptune -78806-05-13 08:52 J -27062336.28 -27062336.13 -27062335.96 0.0088 0.0052

Neptune -78806-08-09 12:28 J -27062248.12 -27062247.98 -27062247.83 0.0088 0.0058

Neptune -78806-11-05 15:49 J -27062159.96 -27062159.84 -27062159.70 0.0088 0.0064

Venus -78806-12-20 06:13 J -27062115.29 -27062115.24 -27062115.19 0.3784 0.3305

Neptune -78805-02-01 19:25 J -27062071.79 -27062071.69 -27062071.57 0.0088 0.0071

Neptune -78805-04-29 22:32 J -27061983.63 -27061983.56 -27061983.44 0.0088 0.0078

Neptune -78805-07-27 02:08 J -27061895.45 -27061895.41 -27061895.33 0.0088 0.0084

Mars -78803-08-10 03:06 J -27061151.48 -27061151.37 -27061151.27 0.1850 0.0769

Jupiter -78801-06-02 18:56 J -27060488.87 -27060488.71 -27060488.54 0.0492 0.0199

Jupiter -78801-09-01 02:08 J -27060398.55 -27060398.41 -27060398.28 0.0493 0.0317

Venus -78800-07-05 00:13 J -27060091.58 -27060091.49 -27060091.41 0.3781 0.2214

Moon -78796-09-20 09:20 J -27058553.26 -27058553.11 -27058552.96 0.2589 0.0982

Earth -78796-09-20 10:47 J -27058553.19 -27058553.05 -27058552.90 0.2592 0.0932 *

Jupiter -78795-01-24 14:37 J -27058426.95 -27058426.89 -27058426.82 0.0536 0.0448

Jupiter -78795-04-23 22:04 J -27058337.71 -27058337.58 -27058337.45 0.0535 0.0003

Jupiter -78795-07-22 05:44 J -27058248.32 -27058248.26 -27058248.19 0.0533 0.0455

Venus -78794-01-18 18:13 J -27058067.84 -27058067.74 -27058067.63 0.3777 0.1096

Saturn -78794-11-22 01:54 J -27057760.59 -27057760.42 -27057760.26 0.0282 0.0135

Mars -78794-12-31 11:30 J -27057721.08 -27057721.02 -27057720.96 0.1858 0.1587

Saturn -78793-02-19 01:25 J -27057671.62 -27057671.44 -27057671.25 0.0283 0.0024

Moon -78793-03-28 06:13 J -27057633.31 -27057633.24 -27057633.16 0.2738 0.2011

Earth -78793-03-28 06:28 J -27057633.30 -27057633.23 -27057633.16 0.2745 0.2071 *

Saturn -78793-05-18 00:56 J -27057582.60 -27057582.46 -27057582.32 0.0284 0.0181

Mars -78792-02-07 17:16 J -27057316.89 -27057316.78 -27057316.67 0.1712 0.1215

Mars -78792-12-06 01:40 J -27057015.46 -27057015.43 -27057015.39 0.1823 0.1729

Jupiter -78789-03-21 16:32 J -27056178.94 -27056178.81 -27056178.67 0.0492 0.0329

Jupiter -78789-06-19 23:59 J -27056088.67 -27056088.50 -27056088.33 0.0493 0.0190

Venus -78789-08-03 12:42 J -27056044.09 -27056043.97 -27056043.86 0.3774 0.0150

Earth -78786-03-22 04:32 J -27055083.40 -27055083.31 -27055083.22 0.2743 0.1520

Moon -78786-03-22 05:01 J -27055083.38 -27055083.29 -27055083.19 0.2747 0.1385 *

Jupiter -78783-02-10 01:54 J -27054027.54 -27054027.42 -27054027.29 0.0535 0.0112

Venus -78783-02-17 07:11 J -27054020.31 -27054020.20 -27054020.10 0.3770 0.1243

Jupiter -78783-05-10 09:35 J -27053938.20 -27053938.10 -27053938.00 0.0533 0.0342

Mars -78783-06-30 17:59 J -27053886.91 -27053886.75 -27053886.59 0.1704 0.0211

Moon -78783-09-23 15:06 J -27053802.01 -27053801.87 -27053801.72 0.2593 0.1069

Earth -78783-09-23 16:47 J -27053801.94 -27053801.80 -27053801.66 0.2591 0.1281 *

Mars -78782-04-28 10:04 J -27053585.18 -27053585.08 -27053584.98 0.1832 0.0929

Uranus -78782-09-10 20:52 J -27053449.72 -27053449.63 -27053449.53 0.0141 0.0123

Uranus -78782-12-08 04:32 J -27053361.44 -27053361.31 -27053361.16 0.0141 0.0096

Uranus -78781-03-05 12:28 J -27053273.14 -27053272.98 -27053272.81 0.0141 0.0070

Uranus -78781-06-01 20:08 J -27053184.83 -27053184.66 -27053184.48 0.0141 0.0044

Uranus -78781-08-29 03:49 J -27053096.52 -27053096.34 -27053096.15 0.0141 0.0018

Uranus -78781-11-25 11:30 J -27053008.21 -27053008.02 -27053007.83 0.0141 0.0008

Uranus -78780-02-21 18:56 J -27052919.89 -27052919.71 -27052919.52 0.0141 0.0034

Saturn -78780-03-29 15:06 J -27052883.95 -27052883.87 -27052883.78 0.0280 0.0208

Uranus -78780-05-21 02:23 J -27052831.56 -27052831.40 -27052831.22 0.0140 0.0059

Saturn -78780-06-26 02:08 J -27052795.53 -27052795.41 -27052795.28 0.0279 0.0103

Uranus -78780-08-17 09:35 J -27052743.23 -27052743.10 -27052742.94 0.0140 0.0085

Saturn -78780-09-22 13:11 J -27052707.08 -27052706.95 -27052706.81 0.0278 0.0008

Uranus -78780-11-13 17:01 J -27052654.89 -27052654.79 -27052654.66 0.0140 0.0109

Saturn -78780-12-20 00:13 J -27052618.61 -27052618.49 -27052618.36 0.0277 0.0106

Uranus -78779-02-10 00:28 J -27052566.53 -27052566.48 -27052566.42 0.0140 0.0133

Venus -78779-02-15 18:56 J -27052560.80 -27052560.71 -27052560.63 0.3598 0.2779

Saturn -78779-03-18 11:16 J -27052530.11 -27052530.03 -27052529.94 0.0276 0.0209

Venus -78778-09-03 01:54 J -27051996.51 -27051996.42 -27051996.34 0.3766 0.2453

Jupiter -78777-01-08 13:25 J -27051868.99 -27051868.94 -27051868.89 0.0492 0.0467

Jupiter -78777-04-07 21:06 J -27051778.80 -27051778.62 -27051778.43 0.0493 0.0055

Venus -78774-09-01 19:54 J -27050536.80 -27050536.67 -27050536.54 0.3602 0.1050

Mars -78774-11-20 18:42 J -27050456.86 -27050456.72 -27050456.58 0.1696 0.0799

Earth -78773-03-23 22:47 J -27050332.66 -27050332.55 -27050332.45 0.2744 0.0272

Moon -78773-03-23 23:16 J -27050332.64 -27050332.53 -27050332.42 0.2741 0.0225 *

Mars -78773-09-17 18:28 J -27050154.85 -27050154.73 -27050154.61 0.1841 0.0141

Venus -78772-03-18 20:52 J -27049972.65 -27049972.63 -27049972.62 0.3762 0.3696

Jupiter -78772-11-29 05:44 J -27049717.38 -27049717.26 -27049717.14 0.0535 0.0223

Jupiter -78771-02-26 13:11 J -27049628.07 -27049627.95 -27049627.83 0.0533 0.0227

Venus -78768-03-17 20:23 J -27048512.78 -27048512.65 -27048512.51 0.3606 0.0614

Jupiter -78765-01-25 18:56 J -27047468.89 -27047468.71 -27047468.53 0.0492 0.0076

Jupiter -78765-04-25 01:40 J -27047378.51 -27047378.43 -27047378.35 0.0494 0.0439

Saturn -78764-04-10 02:37 J -27047028.54 -27047028.39 -27047028.23 0.0282 0.0163

Saturn -78764-07-08 02:23 J -27046939.59 -27046939.40 -27046939.21 0.0283 0.0005

Saturn -78764-10-05 01:40 J -27046850.58 -27046850.43 -27046850.27 0.0284 0.0154

Mars -78763-02-08 02:52 J -27046724.49 -27046724.38 -27046724.27 0.1850 0.0681

Venus -78763-10-01 20:37 J -27046488.75 -27046488.64 -27046488.54 0.3610 0.2207

Earth -78760-03-26 17:01 J -27045581.89 -27045581.79 -27045581.69 0.2745 0.1038

Moon -78760-03-26 17:16 J -27045581.88 -27045581.78 -27045581.67 0.2739 0.1089 *

Jupiter -78760-09-17 08:52 J -27045407.23 -27045407.13 -27045407.03 0.0535 0.0345

Jupiter -78760-12-15 16:18 J -27045317.95 -27045317.82 -27045317.70 0.0534 0.0105

Mars -78754-07-01 11:30 J -27043294.09 -27043294.02 -27043293.95 0.1858 0.1488

Jupiter -78754-11-13 16:47 J -27043158.97 -27043158.80 -27043158.64 0.0492 0.0204

Jupiter -78753-02-11 23:44 J -27043068.65 -27043068.51 -27043068.37 0.0493 0.0313

Earth -78753-03-19 15:06 J -27043031.91 -27043031.87 -27043031.82 0.2742 0.2514

Moon -78753-03-19 15:35 J -27043031.90 -27043031.85 -27043031.80 0.2748 0.2418 *

Mars -78753-08-08 17:59 J -27042889.85 -27042889.75 -27042889.65 0.1712 0.1356

Mars -78752-06-06 01:40 J -27042588.43 -27042588.43 -27042588.43 0.1823 0.1820

Saturn -78751-08-16 18:56 J -27042151.78 -27042151.71 -27042151.63 0.0279 0.0226

Saturn -78751-11-13 05:59 J -27042063.37 -27042063.25 -27042063.13 0.0279 0.0121

Saturn -78750-02-09 17:01 J -27041974.92 -27041974.79 -27041974.66 0.0278 0.0017

Saturn -78750-05-09 04:04 J -27041886.46 -27041886.33 -27041886.21 0.0277 0.0087

Saturn -78750-08-05 15:06 J -27041797.97 -27041797.87 -27041797.78 0.0276 0.0190

Moon -78750-09-21 16:04 J -27041750.99 -27041750.83 -27041750.68 0.2589 0.0727

Earth -78750-09-21 17:30 J -27041750.93 -27041750.77 -27041750.62 0.2592 0.0478 *

Venus -78749-07-26 04:04 J -27041442.39 -27041442.33 -27041442.26 0.3783 0.2968

Jupiter -78748-07-06 12:42 J -27041097.04 -27041096.97 -27041096.91 0.0536 0.0458

Jupiter -78748-10-03 19:54 J -27041007.80 -27041007.67 -27041007.54 0.0535 0.0010

Jupiter -78747-01-01 03:35 J -27040918.42 -27040918.35 -27040918.28 0.0533 0.0443

Moon -78747-03-29 11:01 J -27040831.09 -27040831.04 -27040830.98 0.2738 0.2324

Earth -78747-03-29 11:16 J -27040831.08 -27040831.03 -27040830.97 0.2745 0.2338 *

Mars -78744-12-29 18:28 J -27039459.88 -27039459.73 -27039459.57 0.1704 0.0340

Venus -78743-02-08 22:18 J -27039418.67 -27039418.57 -27039418.48 0.3780 0.1871

Mars -78743-10-27 10:04 J -27039158.17 -27039158.08 -27039157.98 0.1832 0.1036

Jupiter -78742-09-01 13:54 J -27038849.05 -27038848.92 -27038848.78 0.0491 0.0337

Jupiter -78742-11-30 21:20 J -27038758.78 -27038758.61 -27038758.44 0.0492 0.0181

Earth -78740-03-22 09:20 J -27038281.21 -27038281.11 -27038281.01 0.2743 0.1257

Moon -78740-03-22 10:04 J -27038281.18 -27038281.08 -27038280.99 0.2746 0.1246 *

Venus -78738-08-25 16:18 J -27037394.92 -27037394.82 -27037394.71 0.3776 0.0744

Uranus -78737-05-09 10:32 J -27037137.12 -27037137.06 -27037137.00 0.0137 0.0122

Uranus -78737-08-05 13:40 J -27037049.01 -27037048.93 -27037048.84 0.0137 0.0105

Moon -78737-09-23 21:49 J -27036999.71 -27036999.59 -27036999.47 0.2594 0.1657

Earth -78737-09-23 23:16 J -27036999.64 -27036999.53 -27036999.41 0.2591 0.1730 *

Uranus -78737-11-01 17:01 J -27036960.89 -27036960.79 -27036960.69 0.0137 0.0089

Uranus -78736-01-28 20:23 J -27036872.76 -27036872.65 -27036872.54 0.0137 0.0072

Uranus -78736-04-26 23:44 J -27036784.63 -27036784.51 -27036784.39 0.0138 0.0055

Jupiter -78736-07-22 23:44 J -27036697.63 -27036697.51 -27036697.38 0.0535 0.0122

Uranus -78736-07-24 03:06 J -27036696.50 -27036696.37 -27036696.24 0.0138 0.0038

Uranus -78736-10-20 06:28 J -27036608.36 -27036608.23 -27036608.09 0.0138 0.0021

Jupiter -78736-10-20 07:25 J -27036608.29 -27036608.19 -27036608.08 0.0534 0.0333 *

Uranus -78735-01-16 09:49 J -27036520.22 -27036520.09 -27036519.95 0.0138 0.0005

Uranus -78735-04-14 13:25 J -27036432.08 -27036431.94 -27036431.81 0.0138 0.0014

Uranus -78735-07-11 16:47 J -27036343.93 -27036343.80 -27036343.67 0.0138 0.0031

Saturn -78735-08-28 01:40 J -27036296.55 -27036296.43 -27036296.30 0.0282 0.0204

Uranus -78735-10-07 20:08 J -27036255.78 -27036255.66 -27036255.53 0.0139 0.0049

Saturn -78735-11-25 01:25 J -27036207.62 -27036207.44 -27036207.25 0.0283 0.0046

Uranus -78734-01-03 23:44 J -27036167.63 -27036167.51 -27036167.39 0.0139 0.0067

Saturn -78734-02-22 00:56 J -27036118.63 -27036118.46 -27036118.29 0.0284 0.0112

Uranus -78734-04-02 03:06 J -27036079.47 -27036079.37 -27036079.26 0.0139 0.0085

Mars -78734-05-21 19:11 J -27036029.85 -27036029.70 -27036029.55 0.1696 0.0670

Saturn -78734-05-22 00:13 J -27036029.54 -27036029.49 -27036029.43 0.0285 0.0270

Uranus -78734-06-29 06:42 J -27035991.31 -27035991.22 -27035991.13 0.0139 0.0103

Uranus -78734-09-25 10:04 J -27035903.13 -27035903.08 -27035903.00 0.0139 0.0122

Uranus -78734-12-22 13:54 J -27035814.92 -27035814.92 -27035814.91 0.0139 0.0139

Mars -78733-03-18 18:28 J -27035727.84 -27035727.73 -27035727.61 0.1841 0.0243

Venus -78732-03-10 10:47 J -27035371.16 -27035371.05 -27035370.94 0.3773 0.0431

Jupiter -78730-06-20 11:16 J -27034539.08 -27034539.03 -27034538.97 0.0491 0.0469

Neptune -78730-07-28 18:13 J -27034500.76 -27034500.74 -27034500.72 0.0089 0.0087

Jupiter -78730-09-18 19:11 J -27034448.89 -27034448.70 -27034448.52 0.0492 0.0053

Neptune -78730-10-24 19:25 J -27034412.73 -27034412.69 -27034412.64 0.0089 0.0083

Neptune -78729-01-20 20:52 J -27034324.69 -27034324.63 -27034324.57 0.0089 0.0078

Neptune -78729-04-17 22:04 J -27034236.65 -27034236.58 -27034236.50 0.0089 0.0074

Neptune -78729-07-14 23:16 J -27034148.60 -27034148.53 -27034148.44 0.0089 0.0070

Neptune -78729-10-11 00:42 J -27034060.55 -27034060.47 -27034060.38 0.0089 0.0065

Neptune -78728-01-07 01:54 J -27033972.51 -27033972.42 -27033972.32 0.0089 0.0061

Neptune -78728-04-05 03:20 J -27033884.46 -27033884.36 -27033884.25 0.0089 0.0056

Neptune -78728-07-02 04:32 J -27033796.41 -27033796.31 -27033796.19 0.0089 0.0052

Neptune -78728-09-28 05:59 J -27033708.36 -27033708.25 -27033708.13 0.0089 0.0047

Neptune -78728-12-25 07:11 J -27033620.31 -27033620.20 -27033620.08 0.0089 0.0043

Neptune -78727-03-23 08:37 J -27033532.26 -27033532.14 -27033532.02 0.0089 0.0038

Earth -78727-03-25 03:35 J -27033530.46 -27033530.35 -27033530.24 0.2744 0.0056

Moon -78727-03-25 04:18 J -27033530.43 -27033530.32 -27033530.21 0.2741 0.0179 *

Neptune -78727-06-19 09:49 J -27033444.20 -27033444.09 -27033443.96 0.0089 0.0034

Neptune -78727-09-15 11:16 J -27033356.15 -27033356.03 -27033355.90 0.0089 0.0029

Venus -78727-09-24 05:16 J -27033347.38 -27033347.28 -27033347.18 0.3769 0.1632

Neptune -78727-12-12 12:42 J -27033268.10 -27033267.97 -27033267.84 0.0089 0.0025

Neptune -78726-03-10 13:54 J -27033180.04 -27033179.92 -27033179.79 0.0089 0.0020

Neptune -78726-06-06 15:20 J -27033091.99 -27033091.86 -27033091.73 0.0089 0.0015

Neptune -78726-09-02 16:47 J -27033003.94 -27033003.80 -27033003.67 0.0089 0.0011

Neptune -78726-11-29 17:59 J -27032915.88 -27032915.75 -27032915.61 0.0089 0.0007

Neptune -78725-02-25 19:25 J -27032827.82 -27032827.69 -27032827.56 0.0089 0.0002

Neptune -78725-05-23 20:37 J -27032739.77 -27032739.64 -27032739.50 0.0089 0.0004

Neptune -78725-08-19 22:04 J -27032651.71 -27032651.58 -27032651.45 0.0089 0.0007

Mars -78725-10-10 20:08 J -27032599.69 -27032599.66 -27032599.64 0.1688 0.1657

Neptune -78725-11-15 23:30 J -27032563.65 -27032563.52 -27032563.39 0.0089 0.0012

Neptune -78724-02-12 00:42 J -27032475.60 -27032475.47 -27032475.34 0.0089 0.0017

Neptune -78724-05-11 02:08 J -27032387.54 -27032387.41 -27032387.28 0.0089 0.0021

Jupiter -78724-05-11 04:04 J -27032387.45 -27032387.33 -27032387.22 0.0535 0.0230 *

Neptune -78724-08-07 03:20 J -27032299.48 -27032299.36 -27032299.23 0.0089 0.0026

Jupiter -78724-08-08 11:30 J -27032298.14 -27032298.02 -27032297.91 0.0534 0.0222

Mars -78724-08-09 03:06 J -27032297.49 -27032297.37 -27032297.26 0.1849 0.0579

Neptune -78724-11-03 04:47 J -27032211.42 -27032211.30 -27032211.17 0.0089 0.0030

Neptune -78723-01-30 06:13 J -27032123.36 -27032123.24 -27032123.12 0.0089 0.0035

Neptune -78723-04-28 07:25 J -27032035.30 -27032035.19 -27032035.06 0.0089 0.0040

Neptune -78723-07-25 08:52 J -27031947.24 -27031947.13 -27031947.01 0.0089 0.0044

Venus -78723-09-22 18:56 J -27031887.82 -27031887.71 -27031887.60 0.3599 0.2233

Neptune -78723-10-21 10:04 J -27031859.18 -27031859.08 -27031858.96 0.0089 0.0049

Neptune -78722-01-17 11:44 J -27031771.12 -27031771.01 -27031770.90 0.0089 0.0053

Neptune -78722-04-15 12:56 J -27031683.05 -27031682.96 -27031682.85 0.0089 0.0058

Neptune -78722-07-12 14:08 J -27031594.99 -27031594.91 -27031594.80 0.0089 0.0063

Neptune -78722-10-08 15:35 J -27031506.93 -27031506.85 -27031506.75 0.0089 0.0067

Saturn -78721-01-03 21:20 J -27031419.66 -27031419.61 -27031419.56 0.0280 0.0257

Neptune -78721-01-04 17:01 J -27031418.86 -27031418.79 -27031418.70 0.0089 0.0072

Saturn -78721-04-01 08:08 J -27031331.26 -27031331.16 -27031331.04 0.0279 0.0153

Neptune -78721-04-01 18:42 J -27031330.79 -27031330.72 -27031330.66 0.0089 0.0076

Venus -78721-04-09 00:13 J -27031323.56 -27031323.49 -27031323.42 0.3765 0.2852

Saturn -78721-06-28 19:11 J -27031242.83 -27031242.70 -27031242.57 0.0278 0.0049

Neptune -78721-06-28 19:40 J -27031242.72 -27031242.68 -27031242.61 0.0089 0.0081 *

Neptune -78721-09-24 21:06 J -27031154.64 -27031154.62 -27031154.58 0.0089 0.0086

Saturn -78721-09-25 06:13 J -27031154.37 -27031154.24 -27031154.11 0.0277 0.0057

Saturn -78721-12-22 17:16 J -27031065.88 -27031065.78 -27031065.67 0.0277 0.0160

Saturn -78720-03-21 04:32 J -27030977.35 -27030977.31 -27030977.28 0.0276 0.0263

Jupiter -78718-07-07 16:04 J -27030139.01 -27030138.83 -27030138.65 0.0492 0.0085

Jupiter -78718-10-05 22:47 J -27030048.63 -27030048.55 -27030048.46 0.0494 0.0430

Venus -78717-04-07 19:40 J -27029863.81 -27029863.68 -27029863.54 0.3603 0.0530

Moon -78717-09-18 16:32 J -27029699.85 -27029699.81 -27029699.76 0.2588 0.2457

Earth -78717-09-18 17:44 J -27029699.83 -27029699.76 -27029699.69 0.2593 0.2281 *

Mars -78715-12-30 11:30 J -27028867.10 -27028867.02 -27028866.94 0.1858 0.1390

Earth -78714-03-27 21:49 J -27028779.68 -27028779.59 -27028779.49 0.2745 0.1305

Moon -78714-03-27 22:04 J -27028779.67 -27028779.58 -27028779.48 0.2738 0.1311 *

Mars -78713-02-07 18:42 J -27028462.80 -27028462.72 -27028462.65 0.1712 0.1491

Jupiter -78712-02-27 07:40 J -27028077.27 -27028077.18 -27028077.08 0.0535 0.0342

Jupiter -78712-05-27 15:06 J -27027988.00 -27027987.87 -27027987.75 0.0534 0.0107

Venus -78712-10-22 20:23 J -27027839.78 -27027839.65 -27027839.53 0.3607 0.1140

Earth -78707-03-20 20:08 J -27026229.72 -27026229.66 -27026229.60 0.2742 0.2253

Moon -78707-03-20 20:23 J -27026229.71 -27026229.65 -27026229.59 0.2749 0.2264 *

Jupiter -78706-04-25 13:40 J -27025829.09 -27025828.93 -27025828.76 0.0492 0.0216

Venus -78706-05-08 20:23 J -27025815.74 -27025815.65 -27025815.57 0.3611 0.2709

Jupiter -78706-07-24 20:52 J -27025738.77 -27025738.63 -27025738.49 0.0493 0.0302

Saturn -78705-01-15 02:08 J -27025564.50 -27025564.41 -27025564.30 0.0282 0.0235

Saturn -78705-04-13 02:08 J -27025475.59 -27025475.41 -27025475.23 0.0283 0.0076

Saturn -78705-07-11 01:40 J -27025386.60 -27025386.43 -27025386.25 0.0283 0.0082

Saturn -78705-10-08 00:56 J -27025297.55 -27025297.46 -27025297.35 0.0284 0.0240

Mars -78704-06-29 19:11 J -27025032.85 -27025032.70 -27025032.54 0.1704 0.0473

Moon -78704-09-21 22:18 J -27024948.73 -27024948.57 -27024948.41 0.2591 0.0096

Earth -78704-09-21 23:59 J -27024948.66 -27024948.50 -27024948.34 0.2592 0.0052 *

Mars -78703-04-27 10:04 J -27024731.17 -27024731.08 -27024730.99 0.1832 0.1128

Moon -78701-03-29 16:04 J -27024028.87 -27024028.83 -27024028.80 0.2738 0.2553

Earth -78701-03-29 16:18 J -27024028.85 -27024028.82 -27024028.79 0.2745 0.2607 *

Jupiter -78701-12-16 10:47 J -27023767.11 -27023767.05 -27023766.99 0.0535 0.0464

Jupiter -78700-03-15 17:59 J -27023677.88 -27023677.75 -27023677.62 0.0534 0.0020

Jupiter -78700-06-13 01:40 J -27023588.50 -27023588.43 -27023588.35 0.0533 0.0436

Venus -78698-08-17 08:23 J -27022793.17 -27022793.15 -27022793.13 0.3785 0.3707

Uranus -78698-10-01 04:04 J -27022748.42 -27022748.33 -27022748.21 0.0142 0.0117

Uranus -78698-12-28 12:13 J -27022660.14 -27022659.99 -27022659.84 0.0141 0.0090

Uranus -78697-03-25 19:54 J -27022571.84 -27022571.67 -27022571.50 0.0141 0.0063

Uranus -78697-06-22 03:35 J -27022483.53 -27022483.35 -27022483.16 0.0141 0.0037

Uranus -78697-09-18 11:30 J -27022395.21 -27022395.02 -27022394.84 0.0141 0.0011

Uranus -78697-12-15 18:56 J -27022306.89 -27022306.71 -27022306.52 0.0141 0.0015

Uranus -78696-03-14 02:23 J -27022218.57 -27022218.40 -27022218.21 0.0141 0.0041

Uranus -78696-06-10 10:04 J -27022130.24 -27022130.08 -27022129.92 0.0140 0.0066

Uranus -78696-09-06 17:30 J -27022041.91 -27022041.77 -27022041.63 0.0140 0.0091

Uranus -78696-12-04 00:42 J -27021953.57 -27021953.47 -27021953.36 0.0140 0.0116

Uranus -78695-03-02 08:08 J -27021865.16 -27021865.16 -27021865.16 0.0140 0.0140

Mars -78695-11-19 19:54 J -27021602.82 -27021602.67 -27021602.51 0.1696 0.0528

Jupiter -78694-02-11 11:30 J -27021519.15 -27021519.02 -27021518.89 0.0492 0.0344

Earth -78694-03-23 14:08 J -27021479.01 -27021478.91 -27021478.81 0.2743 0.0997

Moon -78694-03-23 14:52 J -27021478.98 -27021478.88 -27021478.78 0.2744 0.0846 *

Jupiter -78694-05-12 18:56 J -27021428.88 -27021428.71 -27021428.54 0.0493 0.0176

Mars -78694-09-17 18:28 J -27021300.84 -27021300.73 -27021300.61 0.1841 0.0335

Venus -78692-03-02 02:08 J -27020769.48 -27020769.41 -27020769.33 0.3782 0.2628

Saturn -78692-05-23 01:11 J -27020687.47 -27020687.45 -27020687.43 0.0280 0.0275

Saturn -78692-08-19 11:59 J -27020599.10 -27020599.00 -27020598.89 0.0279 0.0171

Saturn -78692-11-15 23:01 J -27020510.66 -27020510.54 -27020510.41 0.0278 0.0066

Saturn -78691-02-12 10:04 J -27020422.21 -27020422.08 -27020421.95 0.0277 0.0038

Saturn -78691-05-11 21:06 J -27020333.73 -27020333.62 -27020333.50 0.0277 0.0142

Saturn -78691-08-08 08:08 J -27020245.22 -27020245.16 -27020245.10 0.0276 0.0245

Moon -78691-09-25 04:18 J -27020197.43 -27020197.32 -27020197.22 0.2594 0.1923

Earth -78691-09-25 05:44 J -27020197.34 -27020197.26 -27020197.17 0.2591 0.2168 *

Jupiter -78688-01-01 21:35 J -27019367.72 -27019367.60 -27019367.47 0.0535 0.0133

Jupiter -78688-04-01 05:16 J -27019278.38 -27019278.28 -27019278.18 0.0534 0.0320

Venus -78687-09-15 20:23 J -27018745.75 -27018745.65 -27018745.55 0.3779 0.1511

Mars -78685-04-10 20:23 J -27018172.71 -27018172.65 -27018172.58 0.1688 0.1538

Mars -78684-02-07 03:06 J -27017870.48 -27017870.37 -27017870.26 0.1849 0.0472

Jupiter -78683-11-30 08:37 J -27017209.18 -27017209.14 -27017209.10 0.0491 0.0477

Jupiter -78682-02-28 16:18 J -27017119.00 -27017118.82 -27017118.64 0.0492 0.0044

Earth -78681-03-25 08:23 J -27016728.26 -27016728.15 -27016728.04 0.2744 0.0283

Moon -78681-03-25 09:06 J -27016728.23 -27016728.12 -27016728.01 0.2741 0.0303 *

Venus -78681-03-31 14:37 J -27016722.00 -27016721.89 -27016721.78 0.3775 0.0365

Jupiter -78677-10-21 01:40 J -27015057.54 -27015057.43 -27015057.32 0.0535 0.0242

Jupiter -78676-01-18 09:06 J -27014968.24 -27014968.12 -27014968.00 0.0534 0.0209

Saturn -78676-06-03 01:54 J -27014832.46 -27014832.42 -27014832.38 0.0282 0.0273

Saturn -78676-08-31 01:25 J -27014743.60 -27014743.44 -27014743.26 0.0283 0.0116

Venus -78676-10-15 09:06 J -27014698.23 -27014698.12 -27014698.01 0.3772 0.0818

Saturn -78676-11-28 01:11 J -27014654.63 -27014654.45 -27014654.27 0.0283 0.0043

Saturn -78675-02-25 00:28 J -27014565.60 -27014565.48 -27014565.34 0.0284 0.0201

Mars -78675-06-30 11:30 J -27014440.10 -27014440.02 -27014439.94 0.1858 0.1294

Mars -78674-08-08 18:56 J -27014035.76 -27014035.71 -27014035.66 0.1712 0.1612

Venus -78672-10-13 17:44 J -27013238.80 -27013238.76 -27013238.73 0.3596 0.3455

Moon -78671-09-19 23:01 J -27012897.65 -27012897.54 -27012897.43 0.2588 0.1889

Earth -78671-09-20 00:13 J -27012897.60 -27012897.49 -27012897.38 0.2593 0.1834 *

Jupiter -78671-12-17 13:54 J -27012809.10 -27012808.92 -27012808.74 0.0492 0.0087

Jupiter -78670-03-17 20:37 J -27012718.72 -27012718.64 -27012718.54 0.0493 0.0427

Venus -78670-05-01 03:35 J -27012674.44 -27012674.35 -27012674.25 0.3768 0.2031

Moon -78668-03-28 02:52 J -27011977.47 -27011977.38 -27011977.29 0.2737 0.1619

Earth -78668-03-28 02:37 J -27011977.47 -27011977.39 -27011977.30 0.2745 0.1571 *

Venus -78666-04-29 18:56 J -27011214.83 -27011214.71 -27011214.59 0.3600 0.1686

Jupiter -78665-08-09 05:44 J -27010747.35 -27010747.26 -27010747.16 0.0535 0.0350

Jupiter -78665-11-06 13:11 J -27010658.08 -27010657.95 -27010657.82 0.0534 0.0100

Venus -78665-11-13 22:32 J -27010650.61 -27010650.56 -27010650.51 0.3764 0.3262

Mars -78665-12-28 19:54 J -27010605.82 -27010605.67 -27010605.52 0.1704 0.0619

Mars -78664-10-26 10:04 J -27010304.16 -27010304.08 -27010303.99 0.1832 0.1231

Saturn -78662-01-06 14:23 J -27009866.98 -27009866.90 -27009866.81 0.0279 0.0201

Saturn -78662-04-05 01:25 J -27009778.56 -27009778.44 -27009778.31 0.0278 0.0097

Saturn -78662-07-02 12:28 J -27009690.11 -27009689.98 -27009689.85 0.0278 0.0008

Saturn -78662-09-28 23:30 J -27009601.64 -27009601.52 -27009601.40 0.0277 0.0112

Saturn -78662-12-26 10:32 J -27009513.14 -27009513.06 -27009512.98 0.0276 0.0215

Earth -78661-03-21 00:56 J -27009427.53 -27009427.46 -27009427.39 0.2742 0.1993

Moon -78661-03-21 01:25 J -27009427.52 -27009427.44 -27009427.37 0.2748 0.1907 *

Venus -78661-11-12 19:40 J -27009190.81 -27009190.68 -27009190.54 0.3604 0.0062

Jupiter -78659-10-05 10:47 J -27008499.21 -27008499.05 -27008498.89 0.0492 0.0225

Pluto -78659-12-12 00:56 J -27008431.51 -27008431.46 -27008431.41 0.0060 0.0058

Jupiter -78658-01-03 17:59 J -27008408.89 -27008408.75 -27008408.60 0.0493 0.0293

Pluto -78658-03-10 01:40 J -27008343.50 -27008343.43 -27008343.31 0.0060 0.0052

Pluto -78658-06-06 03:06 J -27008255.47 -27008255.37 -27008255.23 0.0060 0.0047

Pluto -78658-09-02 04:32 J -27008167.44 -27008167.31 -27008167.16 0.0060 0.0041

Moon -78658-09-23 04:47 J -27008146.46 -27008146.30 -27008146.14 0.2592 0.0161

Earth -78658-09-23 06:28 J -27008146.39 -27008146.23 -27008146.08 0.2592 0.0416 *

Pluto -78658-11-29 06:13 J -27008079.39 -27008079.24 -27008079.09 0.0060 0.0035

Pluto -78657-02-25 07:11 J -27007991.35 -27007991.20 -27007991.02 0.0060 0.0029

Pluto -78657-05-23 08:37 J -27007903.30 -27007903.14 -27007902.95 0.0060 0.0024

Pluto -78657-08-19 10:04 J -27007815.25 -27007815.08 -27007814.89 0.0061 0.0018

Pluto -78657-11-15 11:30 J -27007727.20 -27007727.02 -27007726.83 0.0061 0.0012

Pluto -78656-02-11 12:56 J -27007639.15 -27007638.96 -27007638.77 0.0061 0.0006

Pluto -78656-05-10 14:23 J -27007551.09 -27007550.90 -27007550.71 0.0061 0.0001

Pluto -78656-08-06 15:35 J -27007463.03 -27007462.85 -27007462.65 0.0061 0.0007

Pluto -78656-11-02 17:01 J -27007374.97 -27007374.79 -27007374.60 0.0061 0.0013

Pluto -78655-01-29 18:13 J -27007286.91 -27007286.74 -27007286.54 0.0061 0.0019

Pluto -78655-04-27 19:40 J -27007198.84 -27007198.68 -27007198.49 0.0061 0.0025

Mars -78655-05-20 20:37 J -27007175.80 -27007175.64 -27007175.49 0.1696 0.0400

Venus -78655-05-29 20:08 J -27007166.78 -27007166.66 -27007166.54 0.3608 0.1651

Pluto -78655-07-24 20:52 J -27007110.77 -27007110.63 -27007110.44 0.0061 0.0032

Pluto -78655-10-20 22:18 J -27007022.70 -27007022.57 -27007022.40 0.0061 0.0037

Pluto -78654-01-16 23:44 J -27006934.62 -27006934.51 -27006934.35 0.0061 0.0044

Mars -78654-03-18 18:42 J -27006873.84 -27006873.72 -27006873.61 0.1840 0.0434

Pluto -78654-04-15 01:11 J -27006846.54 -27006846.45 -27006846.32 0.0061 0.0050

Pluto -78654-07-12 02:52 J -27006758.45 -27006758.38 -27006758.29 0.0061 0.0056

Uranus -78653-03-02 15:06 J -27006523.90 -27006523.87 -27006523.83 0.0137 0.0131

Jupiter -78653-05-28 09:35 J -27006437.16 -27006437.10 -27006437.03 0.0535 0.0461

Uranus -78653-05-29 18:28 J -27006435.80 -27006435.73 -27006435.65 0.0137 0.0114

Jupiter -78653-08-25 16:47 J -27006347.92 -27006347.80 -27006347.67 0.0534 0.0021

Uranus -78653-08-25 21:35 J -27006347.68 -27006347.60 -27006347.50 0.0137 0.0099 *

Uranus -78653-11-22 01:11 J -27006259.56 -27006259.45 -27006259.34 0.0137 0.0081

Jupiter -78653-11-23 00:28 J -27006258.55 -27006258.48 -27006258.40 0.0533 0.0439

Uranus -78652-02-18 04:32 J -27006171.43 -27006171.31 -27006171.19 0.0137 0.0065

Uranus -78652-05-17 07:54 J -27006083.30 -27006083.17 -27006083.05 0.0138 0.0048

Uranus -78652-08-13 11:16 J -27005995.16 -27005995.03 -27005994.90 0.0138 0.0031

Uranus -78652-11-09 14:37 J -27005907.03 -27005906.89 -27005906.76 0.0138 0.0014

Uranus -78651-02-05 17:59 J -27005818.88 -27005818.75 -27005818.61 0.0138 0.0004

Uranus -78651-05-04 21:20 J -27005730.74 -27005730.61 -27005730.47 0.0138 0.0021

Uranus -78651-08-01 00:42 J -27005642.59 -27005642.47 -27005642.33 0.0138 0.0039

Uranus -78651-10-28 04:18 J -27005554.44 -27005554.32 -27005554.20 0.0139 0.0056

Uranus -78650-01-24 07:40 J -27005466.29 -27005466.18 -27005466.06 0.0139 0.0075

Uranus -78650-04-22 11:16 J -27005378.13 -27005378.03 -27005377.93 0.0139 0.0092

Uranus -78650-07-19 14:52 J -27005289.96 -27005289.88 -27005289.80 0.0139 0.0110

Uranus -78650-10-15 18:28 J -27005201.78 -27005201.73 -27005201.68 0.0139 0.0128

Venus -78650-12-13 19:54 J -27005142.73 -27005142.67 -27005142.61 0.3612 0.3203

Earth -78648-03-23 18:56 J -27004676.81 -27004676.71 -27004676.60 0.2743 0.0742

Moon -78648-03-23 19:54 J -27004676.78 -27004676.67 -27004676.57 0.2743 0.0704 *

Jupiter -78647-07-24 08:23 J -27004189.27 -27004189.15 -27004189.02 0.0492 0.0355

Jupiter -78647-10-22 15:49 J -27004099.01 -27004098.84 -27004098.66 0.0493 0.0166

Neptune -78646-01-13 01:11 J -27004016.46 -27004016.45 -27004016.39 0.0088 0.0088

Saturn -78646-01-18 01:40 J -27004011.59 -27004011.43 -27004011.27 0.0282 0.0149

Neptune -78646-04-11 05:01 J -27003928.35 -27003928.29 -27003928.19 0.0088 0.0081

Saturn -78646-04-17 01:25 J -27003922.63 -27003922.44 -27003922.26 0.0283 0.0010

Neptune -78646-07-08 09:06 J -27003840.22 -27003840.12 -27003840.01 0.0088 0.0074

Saturn -78646-07-15 00:42 J -27003833.61 -27003833.47 -27003833.31 0.0284 0.0168

Neptune -78646-10-04 12:28 J -27003752.09 -27003751.98 -27003751.84 0.0088 0.0068

Mars -78646-10-10 21:20 J -27003745.70 -27003745.61 -27003745.52 0.1688 0.1392

Neptune -78646-12-31 16:18 J -27003663.95 -27003663.82 -27003663.67 0.0088 0.0061

Neptune -78645-03-28 20:08 J -27003575.81 -27003575.66 -27003575.50 0.0088 0.0054

Neptune -78645-06-24 23:30 J -27003487.67 -27003487.52 -27003487.34 0.0088 0.0048

Mars -78645-08-08 03:06 J -27003443.49 -27003443.37 -27003443.26 0.1849 0.0384

Neptune -78645-09-21 03:20 J -27003399.53 -27003399.36 -27003399.18 0.0088 0.0041

Moon -78645-09-25 10:47 J -27003395.07 -27003395.05 -27003395.03 0.2594 0.2557

Neptune -78645-12-18 07:11 J -27003311.38 -27003311.20 -27003311.02 0.0088 0.0034

Neptune -78644-03-16 10:32 J -27003223.23 -27003223.06 -27003222.86 0.0088 0.0028

Neptune -78644-06-12 14:23 J -27003135.09 -27003134.90 -27003134.71 0.0088 0.0021

Neptune -78644-09-08 17:59 J -27003046.94 -27003046.75 -27003046.55 0.0088 0.0014

Neptune -78644-12-05 21:49 J -27002958.79 -27002958.59 -27002958.40 0.0088 0.0008

Neptune -78643-03-04 01:25 J -27002870.64 -27002870.44 -27002870.25 0.0088 0.0002

Neptune -78643-05-31 05:01 J -27002782.49 -27002782.29 -27002782.10 0.0088 0.0006

Neptune -78643-08-27 08:23 J -27002694.34 -27002694.15 -27002693.95 0.0088 0.0012

Neptune -78643-11-23 11:59 J -27002606.18 -27002606.00 -27002605.80 0.0088 0.0019

Neptune -78642-02-19 15:35 J -27002518.03 -27002517.85 -27002517.66 0.0088 0.0025

Neptune -78642-05-18 19:11 J -27002429.88 -27002429.70 -27002429.51 0.0088 0.0032

Neptune -78642-08-14 22:32 J -27002341.72 -27002341.56 -27002341.37 0.0088 0.0039

Neptune -78642-11-11 02:23 J -27002253.57 -27002253.40 -27002253.23 0.0088 0.0045

Neptune -78641-02-07 05:30 J -27002165.41 -27002165.27 -27002165.09 0.0088 0.0052

Venus -78641-03-23 06:28 J -27002120.28 -27002120.23 -27002120.19 0.3784 0.3370

Neptune -78641-05-05 09:20 J -27002077.25 -27002077.11 -27002076.96 0.0088 0.0058

Jupiter -78641-06-13 19:54 J -27002037.80 -27002037.67 -27002037.55 0.0535 0.0138

Neptune -78641-08-01 12:28 J -27001989.09 -27001988.98 -27001988.82 0.0088 0.0065

Jupiter -78641-09-11 03:20 J -27001948.46 -27001948.36 -27001948.25 0.0533 0.0314

Neptune -78641-10-28 16:18 J -27001900.92 -27001900.82 -27001900.69 0.0088 0.0071

Neptune -78640-01-24 19:54 J -27001812.76 -27001812.67 -27001812.57 0.0088 0.0077

Neptune -78640-04-22 23:01 J -27001724.58 -27001724.54 -27001724.45 0.0088 0.0084

Venus -78636-10-07 00:28 J -27000096.57 -27000096.48 -27000096.40 0.3781 0.2275

Mars -78636-12-29 11:30 J -27000013.11 -27000013.02 -27000012.93 0.1858 0.1197

Earth -78635-03-26 13:11 J -26999926.05 -26999925.95 -26999925.84 0.2744 0.0555

Moon -78635-03-26 13:54 J -26999926.03 -26999925.92 -26999925.82 0.2740 0.0676 *

Jupiter -78635-05-12 05:59 J -26999879.27 -26999879.25 -26999879.21 0.0491 0.0484

Jupiter -78635-08-10 13:54 J -26999789.10 -26999788.92 -26999788.73 0.0492 0.0041

Saturn -78633-05-25 18:13 J -26999134.81 -26999134.74 -26999134.65 0.0279 0.0219

Saturn -78633-08-22 05:16 J -26999046.40 -26999046.28 -26999046.16 0.0279 0.0114

Saturn -78633-11-18 16:18 J -26998957.95 -26998957.82 -26998957.69 0.0278 0.0011

Saturn -78632-02-15 03:20 J -26998869.48 -26998869.36 -26998869.23 0.0277 0.0094

Saturn -78632-05-14 14:23 J -26998780.99 -26998780.90 -26998780.81 0.0276 0.0198

Venus -78630-04-22 18:28 J -26998072.83 -26998072.73 -26998072.62 0.3778 0.1146

Jupiter -78629-04-01 23:30 J -26997727.63 -26997727.52 -26997727.41 0.0535 0.0253

Jupiter -78629-06-30 06:56 J -26997638.33 -26997638.21 -26997638.09 0.0534 0.0198

Mars -78625-06-28 20:23 J -26996178.80 -26996178.65 -26996178.51 0.1704 0.0736

Moon -78625-09-20 05:30 J -26996095.40 -26996095.27 -26996095.14 0.2589 0.1519

Earth -78625-09-20 06:56 J -26996095.35 -26996095.21 -26996095.08 0.2593 0.1374 *

Venus -78625-11-05 12:42 J -26996049.08 -26996048.97 -26996048.85 0.3774 0.0151

Mars -78624-04-26 10:18 J -26995877.15 -26995877.07 -26995876.99 0.1832 0.1334

Jupiter -78623-05-29 11:16 J -26995479.21 -26995479.03 -26995478.84 0.0492 0.0095

Jupiter -78623-08-27 17:59 J -26995388.83 -26995388.75 -26995388.65 0.0493 0.0420

Moon -78622-03-29 07:40 J -26995175.26 -26995175.18 -26995175.10 0.2737 0.1783

Earth -78622-03-29 07:40 J -26995175.26 -26995175.18 -26995175.10 0.2745 0.1837 *

Venus -78619-05-22 07:11 J -26994025.30 -26994025.20 -26994025.09 0.3771 0.1213

Jupiter -78617-01-20 03:20 J -26993417.45 -26993417.36 -26993417.26 0.0536 0.0364

Jupiter -78617-04-18 10:47 J -26993328.18 -26993328.05 -26993327.92 0.0535 0.0087

Saturn -78617-06-06 01:11 J -26993279.58 -26993279.45 -26993279.30 0.0282 0.0187

Saturn -78617-09-03 00:56 J -26993190.64 -26993190.46 -26993190.27 0.0283 0.0029

Saturn -78617-12-01 00:28 J -26993101.64 -26993101.48 -26993101.31 0.0284 0.0130

Mars -78616-11-18 21:06 J -26992748.78 -26992748.62 -26992748.46 0.1696 0.0267

Earth -78615-03-22 05:44 J -26992625.34 -26992625.26 -26992625.18 0.2742 0.1733

Moon -78615-03-22 06:13 J -26992625.32 -26992625.24 -26992625.15 0.2747 0.1690 *

Venus -78615-05-20 17:44 J -26992565.84 -26992565.76 -26992565.67 0.3597 0.2897

Mars -78615-09-16 18:42 J -26992446.83 -26992446.72 -26992446.61 0.1840 0.0532

Uranus -78614-07-25 04:18 J -26992135.36 -26992135.32 -26992135.25 0.0142 0.0135

Uranus -78614-10-21 12:28 J -26992047.10 -26992046.98 -26992046.85 0.0142 0.0108

Venus -78614-12-06 02:08 J -26992001.50 -26992001.41 -26992001.33 0.3767 0.2430

Uranus -78613-01-17 20:08 J -26991958.80 -26991958.66 -26991958.49 0.0141 0.0082

Uranus -78613-04-15 04:04 J -26991870.50 -26991870.33 -26991870.15 0.0141 0.0055

Uranus -78613-07-12 11:59 J -26991782.19 -26991782.00 -26991781.82 0.0141 0.0028

Uranus -78613-10-08 19:40 J -26991693.87 -26991693.68 -26991693.49 0.0141 0.0003

Uranus -78612-01-05 03:06 J -26991605.55 -26991605.37 -26991605.18 0.0141 0.0024

Uranus -78612-04-03 10:47 J -26991517.23 -26991517.05 -26991516.88 0.0141 0.0049

Uranus -78612-06-30 17:59 J -26991428.90 -26991428.75 -26991428.58 0.0140 0.0075

Moon -78612-09-23 11:01 J -26991344.19 -26991344.04 -26991343.88 0.2592 0.0764

Earth -78612-09-23 12:56 J -26991344.11 -26991343.96 -26991343.81 0.2592 0.0857 *

Uranus -78612-09-27 01:25 J -26991340.56 -26991340.44 -26991340.30 0.0140 0.0099

Uranus -78612-12-24 08:52 J -26991252.20 -26991252.13 -26991252.04 0.0140 0.0124

Jupiter -78611-03-17 08:52 J -26991169.29 -26991169.13 -26991168.97 0.0492 0.0226

Jupiter -78611-06-15 16:04 J -26991078.98 -26991078.83 -26991078.68 0.0493 0.0292

Venus -78610-12-04 18:56 J -26990541.84 -26990541.71 -26990541.58 0.3601 0.1142

Venus -78608-06-20 20:52 J -26989977.65 -26989977.63 -26989977.61 0.3763 0.3678

Mars -78606-04-10 21:49 J -26989318.69 -26989318.59 -26989318.48 0.1689 0.1261

Jupiter -78606-11-08 07:40 J -26989107.24 -26989107.18 -26989107.12 0.0536 0.0469

Jupiter -78605-02-05 14:52 J -26989018.00 -26989017.88 -26989017.75 0.0535 0.0027

Mars -78605-02-07 03:06 J -26989016.49 -26989016.37 -26989016.26 0.1849 0.0286

Jupiter -78605-05-04 22:47 J -26988928.63 -26988928.55 -26988928.48 0.0533 0.0432

Venus -78604-06-19 19:40 J -26988517.82 -26988517.68 -26988517.55 0.3605 0.0548

Saturn -78604-10-12 20:37 J -26988402.69 -26988402.64 -26988402.58 0.0279 0.0250

Saturn -78603-01-09 07:40 J -26988314.29 -26988314.18 -26988314.07 0.0279 0.0145

Saturn -78603-04-07 18:42 J -26988225.85 -26988225.72 -26988225.59 0.0278 0.0042

Saturn -78603-07-05 05:30 J -26988137.40 -26988137.27 -26988137.14 0.0277 0.0063

Saturn -78603-10-01 16:32 J -26988048.91 -26988048.81 -26988048.70 0.0276 0.0167

Saturn -78603-12-29 03:35 J -26987960.37 -26987960.35 -26987960.32 0.0275 0.0270

Earth -78602-03-24 23:59 J -26987874.61 -26987874.50 -26987874.39 0.2743 0.0472

Moon -78602-03-25 00:42 J -26987874.58 -26987874.47 -26987874.36 0.2743 0.0321 *

Jupiter -78599-01-03 05:44 J -26986859.39 -26986859.26 -26986859.14 0.0492 0.0364

Jupiter -78599-04-03 13:11 J -26986769.12 -26986768.95 -26986768.78 0.0493 0.0157

Venus -78598-01-03 19:54 J -26986493.78 -26986493.67 -26986493.57 0.3609 0.2161

Mars -78596-06-29 11:30 J -26985586.11 -26985586.02 -26985585.92 0.1857 0.1096

Jupiter -78594-11-24 18:42 J -26984707.84 -26984707.72 -26984707.59 0.0535 0.0135

Jupiter -78593-02-22 02:23 J -26984618.50 -26984618.40 -26984618.30 0.0533 0.0318

Earth -78589-03-26 18:13 J -26983123.85 -26983123.74 -26983123.64 0.2744 0.0810

Moon -78589-03-26 18:42 J -26983123.83 -26983123.72 -26983123.62 0.2738 0.0803 *

Saturn -78588-10-24 00:13 J -26982547.59 -26982547.49 -26982547.37 0.0282 0.0227

Jupiter -78587-01-20 11:01 J -26982459.22 -26982459.04 -26982458.85 0.0492 0.0031

Saturn -78587-01-21 00:13 J -26982458.67 -26982458.49 -26982458.30 0.0283 0.0068

Saturn -78587-04-19 23:59 J -26982369.68 -26982369.50 -26982369.33 0.0283 0.0091

Saturn -78587-07-17 23:16 J -26982280.61 -26982280.53 -26982280.44 0.0284 0.0249

Mars -78586-12-28 21:06 J -26981751.75 -26981751.62 -26981751.48 0.1704 0.0882

Mars -78585-10-25 10:18 J -26981450.14 -26981450.07 -26981450.00 0.1831 0.1430

Venus -78585-10-28 04:32 J -26981447.38 -26981447.31 -26981447.25 0.3784 0.3027

Moon -78582-03-20 16:32 J -26980573.82 -26980573.81 -26980573.79 0.2749 0.2691

Earth -78582-03-20 16:32 J -26980573.82 -26980573.81 -26980573.80 0.2741 0.2723 *

Jupiter -78582-09-12 21:49 J -26980397.70 -26980397.59 -26980397.48 0.0535 0.0258

Jupiter -78582-12-11 05:16 J -26980308.40 -26980308.28 -26980308.16 0.0534 0.0193

Venus -78579-05-13 22:32 J -26979423.66 -26979423.56 -26979423.47 0.3780 0.1917

Moon -78579-09-21 11:44 J -26979293.15 -26979293.01 -26979292.86 0.2590 0.1098

Earth -78579-09-21 13:25 J -26979293.09 -26979292.94 -26979292.79 0.2593 0.0924 *

Earth -78576-03-29 12:28 J -26978373.05 -26978372.98 -26978372.91 0.2745 0.2103

Moon -78576-03-29 12:28 J -26978373.04 -26978372.98 -26978372.91 0.2738 0.2155 *

Mars -78576-05-19 21:49 J -26978321.75 -26978321.59 -26978321.43 0.1696 0.0132

Jupiter -78576-11-08 09:06 J -26978149.30 -26978149.12 -26978148.94 0.0492 0.0098

Jupiter -78575-02-06 16:04 J -26978058.92 -26978058.83 -26978058.73 0.0493 0.0418

Mars -78575-03-17 18:42 J -26978019.83 -26978019.72 -26978019.61 0.1840 0.0626

Saturn -78574-03-02 00:28 J -26977670.51 -26977670.48 -26977670.44 0.0280 0.0268

Saturn -78574-05-29 11:16 J -26977582.13 -26977582.03 -26977581.92 0.0279 0.0164

Saturn -78574-08-25 22:18 J -26977493.69 -26977493.57 -26977493.44 0.0278 0.0060

Saturn -78574-11-22 09:20 J -26977405.24 -26977405.11 -26977404.98 0.0277 0.0045

Venus -78574-11-27 16:47 J -26977399.91 -26977399.80 -26977399.70 0.3777 0.0785

Saturn -78573-02-18 20:23 J -26977316.76 -26977316.65 -26977316.54 0.0276 0.0148

Saturn -78573-05-17 07:25 J -26977228.24 -26977228.19 -26977228.14 0.0276 0.0251

Jupiter -78570-07-02 01:25 J -26976087.53 -26976087.44 -26976087.35 0.0535 0.0372

Jupiter -78570-09-29 08:52 J -26975998.26 -26975998.13 -26975998.01 0.0534 0.0079

Jupiter -78570-12-27 16:32 J -26975908.81 -26975908.81 -26975908.80 0.0533 0.0531

Earth -78569-03-22 10:32 J -26975823.15 -26975823.06 -26975822.97 0.2742 0.1477

Moon -78569-03-22 11:16 J -26975823.12 -26975823.03 -26975822.94 0.2745 0.1405 *

Uranus -78569-03-22 23:30 J -26975822.58 -26975822.52 -26975822.47 0.0137 0.0123

Uranus -78569-06-19 02:37 J -26975734.47 -26975734.39 -26975734.30 0.0137 0.0107

Uranus -78569-09-15 05:59 J -26975646.35 -26975646.25 -26975646.15 0.0137 0.0090

Uranus -78569-12-12 09:20 J -26975558.22 -26975558.11 -26975558.00 0.0137 0.0074

Uranus -78568-03-10 12:42 J -26975470.09 -26975469.97 -26975469.85 0.0137 0.0057

Uranus -78568-06-06 16:04 J -26975381.96 -26975381.83 -26975381.70 0.0138 0.0040

Venus -78568-06-12 11:01 J -26975376.15 -26975376.04 -26975375.93 0.3773 0.0396

Uranus -78568-09-02 19:25 J -26975293.83 -26975293.69 -26975293.56 0.0138 0.0023

Uranus -78568-11-29 22:47 J -26975205.69 -26975205.55 -26975205.42 0.0138 0.0006

Uranus -78567-02-26 02:08 J -26975117.54 -26975117.41 -26975117.28 0.0138 0.0012

Uranus -78567-05-25 05:30 J -26975029.40 -26975029.27 -26975029.13 0.0138 0.0029

Uranus -78567-08-21 09:06 J -26974941.25 -26974941.12 -26974941.00 0.0138 0.0047

Mars -78567-10-09 22:18 J -26974891.69 -26974891.57 -26974891.45 0.1689 0.1135

Uranus -78567-11-17 12:28 J -26974853.10 -26974852.98 -26974852.86 0.0139 0.0064

Uranus -78566-02-13 15:49 J -26974764.94 -26974764.84 -26974764.72 0.0139 0.0083

Uranus -78566-05-12 19:11 J -26974676.78 -26974676.70 -26974676.59 0.0139 0.0101

Mars -78566-08-08 03:20 J -26974589.48 -26974589.36 -26974589.25 0.1849 0.0187

Uranus -78566-08-08 23:01 J -26974588.61 -26974588.54 -26974588.47 0.0139 0.0118

Moon -78566-09-24 17:44 J -26974541.90 -26974541.76 -26974541.62 0.2592 0.1071

Earth -78566-09-24 19:25 J -26974541.83 -26974541.69 -26974541.55 0.2592 0.1305 *

Uranus -78566-11-05 02:37 J -26974500.41 -26974500.39 -26974500.37 0.0139 0.0137

Neptune -78565-04-23 16:47 J -26974329.81 -26974329.80 -26974329.77 0.0089 0.0088

Pluto -78565-07-13 06:56 J -26974249.25 -26974249.21 -26974249.16 0.0084 0.0079

Neptune -78565-07-20 18:28 J -26974241.78 -26974241.73 -26974241.69 0.0089 0.0083

Pluto -78565-10-09 08:08 J -26974161.23 -26974161.16 -26974161.07 0.0084 0.0068

Neptune -78565-10-16 19:25 J -26974153.74 -26974153.69 -26974153.62 0.0089 0.0079

Pluto -78564-01-05 09:49 J -26974073.19 -26974073.09 -26974072.99 0.0084 0.0056

Neptune -78564-01-12 20:37 J -26974065.69 -26974065.64 -26974065.55 0.0089 0.0075

Pluto -78564-04-03 11:01 J -26973985.15 -26973985.04 -26973984.92 0.0084 0.0044

Neptune -78564-04-10 22:04 J -26973977.65 -26973977.58 -26973977.49 0.0089 0.0070

Pluto -78564-06-30 12:13 J -26973897.10 -26973896.99 -26973896.86 0.0084 0.0033

Neptune -78564-07-07 23:16 J -26973889.60 -26973889.53 -26973889.43 0.0089 0.0066

Jupiter -78564-08-27 06:28 J -26973839.39 -26973839.23 -26973839.06 0.0492 0.0230

Pluto -78564-09-26 13:40 J -26973809.05 -26973808.93 -26973808.79 0.0084 0.0022

Neptune -78564-10-04 00:42 J -26973801.56 -26973801.47 -26973801.37 0.0089 0.0061

Jupiter -78564-11-25 13:40 J -26973749.07 -26973748.93 -26973748.78 0.0493 0.0287

Pluto -78564-12-23 15:06 J -26973721.00 -26973720.87 -26973720.73 0.0084 0.0010

Neptune -78564-12-31 01:54 J -26973713.51 -26973713.42 -26973713.31 0.0089 0.0057

Pluto -78563-03-21 16:32 J -26973632.95 -26973632.81 -26973632.68 0.0084 0.0002

Neptune -78563-03-29 03:35 J -26973625.46 -26973625.35 -26973625.25 0.0089 0.0052

Pluto -78563-06-17 17:44 J -26973544.89 -26973544.76 -26973544.62 0.0083 0.0012

Neptune -78563-06-25 04:32 J -26973537.41 -26973537.31 -26973537.19 0.0089 0.0048

Pluto -78563-09-13 18:56 J -26973456.83 -26973456.71 -26973456.57 0.0083 0.0024

Neptune -78563-09-21 06:13 J -26973449.36 -26973449.24 -26973449.13 0.0089 0.0043

Pluto -78563-12-10 20:23 J -26973368.77 -26973368.65 -26973368.53 0.0083 0.0034

Neptune -78563-12-18 07:25 J -26973361.31 -26973361.19 -26973361.07 0.0089 0.0039

Venus -78563-12-27 05:30 J -26973352.37 -26973352.27 -26973352.17 0.3770 0.1601

Pluto -78562-03-08 21:35 J -26973280.71 -26973280.60 -26973280.48 0.0083 0.0045

Neptune -78562-03-16 08:52 J -26973273.25 -26973273.13 -26973273.01 0.0089 0.0034

Pluto -78562-06-04 22:47 J -26973192.64 -26973192.55 -26973192.44 0.0083 0.0056

Neptune -78562-06-12 10:04 J -26973185.20 -26973185.08 -26973184.95 0.0089 0.0030

Pluto -78562-08-31 23:59 J -26973104.57 -26973104.50 -26973104.41 0.0083 0.0067

Neptune -78562-09-08 11:30 J -26973097.15 -26973097.02 -26973096.90 0.0089 0.0025

Pluto -78562-11-28 01:25 J -26973016.48 -26973016.44 -26973016.39 0.0083 0.0077

Neptune -78562-12-05 12:42 J -26973009.10 -26973008.97 -26973008.84 0.0089 0.0021

Neptune -78561-03-02 14:08 J -26972921.04 -26972920.91 -26972920.78 0.0089 0.0016

Neptune -78561-05-29 15:20 J -26972832.99 -26972832.86 -26972832.72 0.0089 0.0012

Neptune -78561-08-25 16:47 J -26972744.93 -26972744.80 -26972744.67 0.0089 0.0007

Neptune -78561-11-21 17:59 J -26972656.88 -26972656.75 -26972656.61 0.0089 0.0004

Neptune -78560-02-17 19:25 J -26972568.82 -26972568.69 -26972568.56 0.0089 0.0002

Neptune -78560-05-16 20:52 J -26972480.77 -26972480.63 -26972480.50 0.0089 0.0007

Neptune -78560-08-12 22:04 J -26972392.71 -26972392.58 -26972392.44 0.0089 0.0011

Neptune -78560-11-08 23:30 J -26972304.65 -26972304.52 -26972304.39 0.0089 0.0016

Neptune -78559-02-05 00:42 J -26972216.59 -26972216.47 -26972216.33 0.0089 0.0021

Neptune -78559-05-04 02:08 J -26972128.54 -26972128.41 -26972128.28 0.0089 0.0025

Neptune -78559-07-31 03:20 J -26972040.48 -26972040.36 -26972040.23 0.0089 0.0030

Neptune -78559-10-27 04:47 J -26971952.42 -26971952.30 -26971952.17 0.0089 0.0034

Venus -78559-12-25 17:59 J -26971892.85 -26971892.75 -26971892.65 0.3598 0.2339

Neptune -78558-01-23 06:13 J -26971864.36 -26971864.24 -26971864.12 0.0089 0.0039

Saturn -78558-03-12 23:44 J -26971815.56 -26971815.51 -26971815.44 0.0282 0.0266

Jupiter -78558-04-20 05:16 J -26971777.33 -26971777.28 -26971777.22 0.0536 0.0483

Neptune -78558-04-21 07:25 J -26971776.30 -26971776.19 -26971776.06 0.0089 0.0044

Saturn -78558-06-09 23:44 J -26971726.68 -26971726.51 -26971726.34 0.0283 0.0107

Neptune -78558-07-18 08:52 J -26971688.24 -26971688.13 -26971688.01 0.0089 0.0048

Jupiter -78558-07-18 12:42 J -26971688.10 -26971687.97 -26971687.84 0.0535 0.0036 *

Saturn -78558-09-06 23:16 J -26971637.71 -26971637.53 -26971637.34 0.0284 0.0053

Neptune -78558-10-14 10:04 J -26971600.17 -26971600.08 -26971599.96 0.0089 0.0053

Jupiter -78558-10-15 20:23 J -26971598.73 -26971598.65 -26971598.57 0.0534 0.0419

Saturn -78558-12-04 22:47 J -26971548.67 -26971548.55 -26971548.42 0.0284 0.0211

Neptune -78557-01-10 11:44 J -26971512.11 -26971512.01 -26971511.91 0.0089 0.0057

Neptune -78557-04-07 12:56 J -26971424.05 -26971423.96 -26971423.86 0.0089 0.0062

Neptune -78557-07-04 14:08 J -26971335.98 -26971335.91 -26971335.81 0.0089 0.0067

Venus -78557-07-12 00:28 J -26971328.56 -26971328.48 -26971328.41 0.3766 0.2833

Neptune -78557-09-30 15:49 J -26971247.92 -26971247.84 -26971247.76 0.0089 0.0071

Neptune -78557-12-27 17:01 J -26971159.85 -26971159.79 -26971159.71 0.0089 0.0076

Mars -78557-12-28 11:30 J -26971159.12 -26971159.02 -26971158.92 0.1857 0.1002

Earth -78556-03-25 04:47 J -26971072.41 -26971072.30 -26971072.19 0.2743 0.0209

Moon -78556-03-25 05:30 J -26971072.38 -26971072.27 -26971072.16 0.2743 0.0162 *

Neptune -78556-03-25 18:42 J -26971071.78 -26971071.72 -26971071.67 0.0089 0.0080

Neptune -78556-06-21 19:54 J -26970983.70 -26970983.67 -26970983.63 0.0089 0.0085

Venus -78553-07-10 18:56 J -26969868.85 -26969868.71 -26969868.58 0.3602 0.0608

Jupiter -78552-06-15 04:04 J -26969529.46 -26969529.33 -26969529.21 0.0491 0.0362

Jupiter -78552-09-13 11:30 J -26969439.19 -26969439.02 -26969438.85 0.0492 0.0158

Venus -78547-01-24 19:25 J -26967844.82 -26967844.69 -26967844.56 0.3606 0.1074

Mars -78547-05-20 19:54 J -26967728.69 -26967728.67 -26967728.64 0.1866 0.1826

Jupiter -78546-05-06 16:47 J -26967377.92 -26967377.80 -26967377.67 0.0535 0.0142

Mars -78546-06-28 21:49 J -26967324.72 -26967324.59 -26967324.47 0.1705 0.1014

Jupiter -78546-08-04 00:28 J -26967288.58 -26967288.48 -26967288.38 0.0534 0.0311

Mars -78545-04-25 10:18 J -26967023.14 -26967023.07 -26967023.01 0.1831 0.1525

Saturn -78545-10-15 13:40 J -26966850.02 -26966849.93 -26966849.83 0.0279 0.0195

Saturn -78544-01-12 00:42 J -26966761.60 -26966761.47 -26966761.35 0.0278 0.0091

Saturn -78544-04-10 11:44 J -26966673.15 -26966673.01 -26966672.88 0.0277 0.0016

Saturn -78544-07-07 22:32 J -26966584.68 -26966584.56 -26966584.44 0.0276 0.0117

Saturn -78544-10-04 09:35 J -26966496.17 -26966496.10 -26966496.02 0.0276 0.0220

Earth -78543-03-27 23:01 J -26966321.64 -26966321.54 -26966321.44 0.2744 0.1076

Moon -78543-03-27 23:30 J -26966321.62 -26966321.52 -26966321.42 0.2737 0.1176 *

Venus -78542-08-10 19:25 J -26965820.78 -26965820.69 -26965820.60 0.3610 0.2658

Jupiter -78540-07-02 08:37 J -26965129.32 -26965129.14 -26965128.96 0.0492 0.0023

Mars -78537-11-17 22:32 J -26963894.73 -26963894.56 -26963894.40 0.1697 0.0036

Earth -78536-03-20 21:20 J -26963771.65 -26963771.61 -26963771.56 0.2741 0.2466

Moon -78536-03-20 21:35 J -26963771.64 -26963771.60 -26963771.56 0.2748 0.2491 *

Mars -78536-09-15 18:42 J -26963592.83 -26963592.72 -26963592.61 0.1840 0.0731

Jupiter -78534-02-22 20:52 J -26963067.74 -26963067.63 -26963067.52 0.0535 0.0252

Jupiter -78534-05-23 04:18 J -26962978.44 -26962978.32 -26962978.20 0.0534 0.0199

Venus -78534-11-19 08:37 J -26962798.14 -26962798.14 -26962798.13 0.3786 0.3769

Moon -78533-09-21 18:13 J -26962490.90 -26962490.74 -26962490.59 0.2591 0.0596

Earth -78533-09-21 19:54 J -26962490.83 -26962490.67 -26962490.51 0.2593 0.0476 *

Moon -78530-03-30 17:16 J -26961570.84 -26961570.78 -26961570.72 0.2738 0.2286

Earth -78530-03-30 17:30 J -26961570.83 -26961570.77 -26961570.72 0.2745 0.2374 *

Uranus -78530-08-14 12:42 J -26961434.04 -26961433.97 -26961433.87 0.0142 0.0126

Uranus -78530-11-10 20:37 J -26961345.76 -26961345.64 -26961345.49 0.0141 0.0099

Uranus -78529-02-07 04:32 J -26961257.46 -26961257.31 -26961257.14 0.0141 0.0072

Uranus -78529-05-05 12:28 J -26961169.16 -26961168.98 -26961168.80 0.0141 0.0046

Uranus -78529-08-01 20:08 J -26961080.84 -26961080.66 -26961080.47 0.0141 0.0020

Saturn -78529-10-26 22:04 J -26960994.73 -26960994.58 -26960994.42 0.0282 0.0152

Uranus -78529-10-29 03:49 J -26960992.52 -26960992.34 -26960992.15 0.0141 0.0007

Saturn -78528-01-23 21:49 J -26960905.77 -26960905.59 -26960905.40 0.0283 0.0007

Uranus -78528-01-25 11:30 J -26960904.20 -26960904.02 -26960903.84 0.0141 0.0033

Jupiter -78528-04-20 06:28 J -26960819.41 -26960819.23 -26960819.05 0.0492 0.0105

Saturn -78528-04-22 21:20 J -26960816.76 -26960816.61 -26960816.46 0.0284 0.0166

Uranus -78528-04-23 18:56 J -26960815.87 -26960815.71 -26960815.53 0.0141 0.0058

Venus -78528-06-04 02:37 J -26960774.47 -26960774.39 -26960774.32 0.3783 0.2677

Jupiter -78528-07-19 13:25 J -26960729.03 -26960728.94 -26960728.84 0.0493 0.0411

Uranus -78528-07-21 02:23 J -26960727.54 -26960727.40 -26960727.24 0.0140 0.0083

Uranus -78528-10-17 09:49 J -26960639.20 -26960639.09 -26960638.96 0.0140 0.0108

Uranus -78527-01-13 17:01 J -26960550.83 -26960550.79 -26960550.72 0.0140 0.0133

Mars -78527-04-09 23:16 J -26960464.66 -26960464.53 -26960464.40 0.1689 0.0992

Mars -78526-02-06 03:06 J -26960162.49 -26960162.37 -26960162.25 0.1849 0.0088

Earth -78523-03-23 15:35 J -26959020.95 -26959020.85 -26959020.76 0.2742 0.1219

Moon -78523-03-23 16:04 J -26959020.92 -26959020.83 -26959020.73 0.2745 0.1111 *

Jupiter -78523-12-11 23:44 J -26958757.59 -26958757.51 -26958757.41 0.0535 0.0375

Venus -78523-12-18 20:37 J -26958750.74 -26958750.64 -26958750.54 0.3780 0.1557

Jupiter -78522-03-11 07:11 J -26958668.33 -26958668.20 -26958668.07 0.0534 0.0074

Jupiter -78522-06-08 14:52 J -26958578.89 -26958578.88 -26958578.86 0.0533 0.0528

Moon -78520-09-25 00:13 J -26957739.61 -26957739.49 -26957739.36 0.2593 0.1621

Earth -78520-09-25 01:54 J -26957739.54 -26957739.42 -26957739.31 0.2592 0.1741 *

Mars -78517-06-28 11:30 J -26956732.12 -26956732.02 -26956731.91 0.1858 0.0903

Venus -78517-07-03 14:52 J -26956726.99 -26956726.88 -26956726.77 0.3776 0.0403

Jupiter -78516-02-06 04:32 J -26956509.47 -26956509.31 -26956509.14 0.0492 0.0231

Jupiter -78516-05-07 11:59 J -26956419.15 -26956419.00 -26956418.86 0.0493 0.0288

Saturn -78515-03-04 17:16 J -26956117.86 -26956117.78 -26956117.70 0.0279 0.0216

Saturn -78515-06-01 04:18 J -26956029.44 -26956029.32 -26956029.20 0.0279 0.0112

Saturn -78515-08-28 15:06 J -26955941.00 -26955940.87 -26955940.73 0.0278 0.0011

Saturn -78515-11-25 02:08 J -26955852.53 -26955852.41 -26955852.28 0.0277 0.0097

Saturn -78514-02-21 13:11 J -26955764.04 -26955763.95 -26955763.86 0.0276 0.0200

Venus -78511-01-17 09:20 J -26954703.22 -26954703.11 -26954703.01 0.3773 0.0787

Jupiter -78511-09-30 03:35 J -26954447.40 -26954447.35 -26954447.30 0.0536 0.0488

Jupiter -78511-12-28 10:47 J -26954358.18 -26954358.05 -26954357.92 0.0535 0.0041

Earth -78510-03-26 09:35 J -26954270.20 -26954270.10 -26954269.99 0.2743 0.0122

Moon -78510-03-26 10:18 J -26954270.18 -26954270.07 -26954269.96 0.2741 0.0158 *

Jupiter -78510-03-27 18:28 J -26954268.81 -26954268.73 -26954268.65 0.0533 0.0412

Mars -78508-11-18 20:08 J -26953301.70 -26953301.66 -26953301.62 0.1866 0.1725

Venus -78507-01-15 16:32 J -26953243.81 -26953243.81 -26953243.80 0.3596 0.3584

Mars -78507-12-27 22:18 J -26952897.69 -26952897.57 -26952897.46 0.1705 0.1141

Venus -78506-08-03 03:49 J -26952679.43 -26952679.34 -26952679.24 0.3769 0.1996

Mars -78506-10-25 10:18 J -26952596.12 -26952596.07 -26952596.02 0.1831 0.1634

Jupiter -78505-11-25 01:54 J -26952199.54 -26952199.42 -26952199.29 0.0491 0.0363

Jupiter -78504-02-23 09:35 J -26952109.27 -26952109.10 -26952108.93 0.0492 0.0157

Venus -78502-08-01 17:59 J -26951219.87 -26951219.75 -26951219.63 0.3599 0.1797

Venus -78500-02-15 22:32 J -26950655.61 -26950655.56 -26950655.50 0.3765 0.3236

Moon -78500-09-19 19:11 J -26950439.78 -26950439.70 -26950439.63 0.2589 0.2290

Earth -78500-09-19 20:08 J -26950439.73 -26950439.66 -26950439.59 0.2594 0.2284 *

Saturn -78499-03-15 21:06 J -26950262.75 -26950262.62 -26950262.48 0.0282 0.0193

Saturn -78499-06-12 21:06 J -26950173.81 -26950173.62 -26950173.44 0.0283 0.0034

Saturn -78499-09-09 20:37 J -26950084.80 -26950084.64 -26950084.47 0.0284 0.0125

Jupiter -78499-10-16 14:37 J -26950048.01 -26950047.89 -26950047.76 0.0535 0.0153

Saturn -78499-12-07 19:54 J -26949995.68 -26949995.67 -26949995.65 0.0285 0.0284

Jupiter -78498-01-13 22:18 J -26949958.68 -26949958.57 -26949958.47 0.0534 0.0300

Earth -78497-03-28 04:04 J -26949519.43 -26949519.33 -26949519.24 0.2744 0.1343

Moon -78497-03-28 04:18 J -26949519.42 -26949519.32 -26949519.22 0.2737 0.1328 *

Mars -78497-05-18 23:01 J -26949467.70 -26949467.54 -26949467.38 0.1697 0.0137

Venus -78496-02-14 18:42 J -26949195.85 -26949195.72 -26949195.58 0.3603 0.0130

Mars -78496-03-16 18:42 J -26949165.82 -26949165.72 -26949165.61 0.1840 0.0829

Jupiter -78493-12-12 07:11 J -26947799.38 -26947799.20 -26947799.01 0.0492 0.0029

Venus -78491-08-31 19:11 J -26947171.82 -26947171.70 -26947171.58 0.3607 0.1582

Earth -78490-03-22 02:08 J -26946969.47 -26946969.41 -26946969.34 0.2741 0.2212

Moon -78490-03-22 02:37 J -26946969.46 -26946969.39 -26946969.32 0.2747 0.2114 *

Mars -78488-10-08 23:44 J -26946037.65 -26946037.51 -26946037.37 0.1689 0.0858

Jupiter -78487-08-04 18:56 J -26945737.82 -26945737.71 -26945737.60 0.0536 0.0259

Mars -78487-08-07 03:06 J -26945735.48 -26945735.37 -26945735.25 0.1849 0.0059

Moon -78487-09-23 00:42 J -26945688.63 -26945688.47 -26945688.31 0.2591 0.0254

Earth -78487-09-23 02:23 J -26945688.56 -26945688.40 -26945688.24 0.2593 0.0029 *

Jupiter -78487-11-02 02:23 J -26945648.52 -26945648.40 -26945648.28 0.0534 0.0193

Saturn -78486-07-22 19:25 J -26945385.75 -26945385.69 -26945385.63 0.0279 0.0248

Saturn -78486-10-19 06:13 J -26945297.35 -26945297.24 -26945297.12 0.0278 0.0144

Uranus -78485-01-15 04:18 J -26945209.35 -26945209.32 -26945209.29 0.0137 0.0132

Saturn -78485-01-15 17:16 J -26945208.91 -26945208.78 -26945208.65 0.0277 0.0040

Venus -78485-03-16 19:11 J -26945147.76 -26945147.70 -26945147.64 0.3611 0.3164

Uranus -78485-04-12 07:25 J -26945121.25 -26945121.19 -26945121.11 0.0137 0.0116

Saturn -78485-04-13 04:18 J -26945120.45 -26945120.32 -26945120.19 0.0277 0.0064

Uranus -78485-07-09 10:47 J -26945033.14 -26945033.05 -26945032.96 0.0137 0.0099

Saturn -78485-07-10 15:20 J -26945031.97 -26945031.86 -26945031.76 0.0276 0.0167

Uranus -78485-10-05 13:54 J -26944945.01 -26944944.92 -26944944.80 0.0137 0.0083

Saturn -78485-10-07 02:08 J -26944943.43 -26944943.41 -26944943.38 0.0275 0.0270

Uranus -78484-01-01 17:16 J -26944856.89 -26944856.78 -26944856.65 0.0137 0.0067

Uranus -78484-03-30 20:37 J -26944768.76 -26944768.64 -26944768.51 0.0138 0.0050

Moon -78484-03-30 22:04 J -26944768.61 -26944768.58 -26944768.56 0.2738 0.2646 *

Earth -78484-03-30 22:18 J -26944768.60 -26944768.57 -26944768.54 0.2745 0.2636 *

Uranus -78484-06-26 23:59 J -26944680.62 -26944680.50 -26944680.36 0.0138 0.0033

Uranus -78484-09-23 03:35 J -26944592.49 -26944592.35 -26944592.22 0.0138 0.0015

Uranus -78484-12-20 06:56 J -26944504.35 -26944504.21 -26944504.08 0.0138 0.0003

Uranus -78483-03-18 10:18 J -26944416.20 -26944416.07 -26944415.94 0.0138 0.0020

Uranus -78483-06-14 13:40 J -26944328.06 -26944327.93 -26944327.80 0.0138 0.0037

Uranus -78483-09-10 17:16 J -26944239.91 -26944239.78 -26944239.66 0.0138 0.0055

Uranus -78483-12-07 20:37 J -26944151.75 -26944151.64 -26944151.52 0.0139 0.0072

Uranus -78482-03-05 23:59 J -26944063.59 -26944063.50 -26944063.39 0.0139 0.0091

Uranus -78482-06-02 03:20 J -26943975.43 -26943975.36 -26943975.26 0.0139 0.0109

Uranus -78482-08-29 07:11 J -26943887.25 -26943887.20 -26943887.14 0.0139 0.0127

Neptune -78482-10-09 22:18 J -26943845.58 -26943845.57 -26943845.54 0.0088 0.0088

Neptune -78481-01-06 01:40 J -26943757.48 -26943757.43 -26943757.33 0.0088 0.0082

Neptune -78481-04-03 05:30 J -26943669.36 -26943669.27 -26943669.15 0.0088 0.0075

Neptune -78481-06-30 09:20 J -26943581.23 -26943581.11 -26943580.98 0.0088 0.0068

Neptune -78481-09-26 12:42 J -26943493.09 -26943492.97 -26943492.81 0.0088 0.0062

Jupiter -78481-09-30 04:18 J -26943489.49 -26943489.32 -26943489.14 0.0492 0.0108

Neptune -78481-12-23 16:32 J -26943404.95 -26943404.81 -26943404.64 0.0088 0.0055

Jupiter -78481-12-29 11:16 J -26943399.12 -26943399.03 -26943398.92 0.0493 0.0408

Neptune -78480-03-21 20:23 J -26943316.81 -26943316.65 -26943316.48 0.0088 0.0048

Neptune -78480-06-17 23:59 J -26943228.66 -26943228.50 -26943228.32 0.0088 0.0041

Neptune -78480-09-14 03:49 J -26943140.52 -26943140.34 -26943140.16 0.0088 0.0035

Neptune -78480-12-11 07:40 J -26943052.37 -26943052.18 -26943052.00 0.0088 0.0028

Neptune -78479-03-09 11:01 J -26942964.22 -26942964.04 -26942963.84 0.0088 0.0022

Neptune -78479-06-05 14:52 J -26942876.07 -26942875.88 -26942875.69 0.0088 0.0015

Neptune -78479-09-01 18:28 J -26942787.92 -26942787.73 -26942787.54 0.0088 0.0008

Neptune -78479-11-28 22:04 J -26942699.77 -26942699.58 -26942699.38 0.0088 0.0002

Neptune -78478-02-25 01:40 J -26942611.62 -26942611.43 -26942611.23 0.0088 0.0005

Neptune -78478-05-24 05:16 J -26942523.47 -26942523.28 -26942523.08 0.0088 0.0012

Neptune -78478-08-20 08:52 J -26942435.32 -26942435.13 -26942434.94 0.0088 0.0018

Neptune -78478-11-16 12:28 J -26942347.16 -26942346.98 -26942346.79 0.0088 0.0025

Mars -78478-12-28 11:30 J -26942305.12 -26942305.02 -26942304.91 0.1857 0.0807

Neptune -78477-02-12 15:49 J -26942259.01 -26942258.84 -26942258.65 0.0088 0.0032

Earth -78477-03-23 20:23 J -26942218.75 -26942218.65 -26942218.55 0.2742 0.0956

Moon -78477-03-23 21:06 J -26942218.73 -26942218.62 -26942218.52 0.2745 0.0904 *

Neptune -78477-05-10 19:40 J -26942170.85 -26942170.68 -26942170.50 0.0088 0.0038

Venus -78477-06-25 06:42 J -26942125.26 -26942125.22 -26942125.17 0.3785 0.3428

Neptune -78477-08-06 23:01 J -26942082.70 -26942082.54 -26942082.36 0.0088 0.0045

Neptune -78477-11-03 02:52 J -26941994.54 -26941994.38 -26941994.22 0.0088 0.0051

Neptune -78476-01-30 05:59 J -26941906.38 -26941906.25 -26941906.09 0.0088 0.0058

Neptune -78476-04-28 09:49 J -26941818.22 -26941818.09 -26941817.95 0.0088 0.0064

Neptune -78476-07-25 12:56 J -26941730.05 -26941729.96 -26941729.82 0.0088 0.0071

Neptune -78476-10-21 16:47 J -26941641.89 -26941641.80 -26941641.70 0.0088 0.0077

Neptune -78475-01-17 19:54 J -26941553.71 -26941553.67 -26941553.58 0.0088 0.0084

Jupiter -78475-05-23 23:01 J -26941427.63 -26941427.54 -26941427.45 0.0536 0.0367

Jupiter -78475-08-21 06:28 J -26941338.36 -26941338.23 -26941338.11 0.0534 0.0084

Moon -78474-09-26 06:56 J -26940937.30 -26940937.21 -26940937.11 0.2595 0.2055

Earth -78474-09-26 08:23 J -26940937.23 -26940937.15 -26940937.07 0.2592 0.2184 *

Venus -78471-01-09 00:42 J -26940101.56 -26940101.47 -26940101.39 0.3782 0.2330

Saturn -78470-08-02 18:28 J -26939530.82 -26939530.73 -26939530.64 0.0282 0.0246

Saturn -78470-10-30 18:28 J -26939441.91 -26939441.73 -26939441.56 0.0283 0.0087

Saturn -78469-01-27 17:59 J -26939352.93 -26939352.75 -26939352.57 0.0283 0.0073

Saturn -78469-04-25 17:30 J -26939263.87 -26939263.77 -26939263.66 0.0284 0.0231

Jupiter -78469-07-19 02:23 J -26939179.56 -26939179.40 -26939179.24 0.0492 0.0234

Jupiter -78469-10-17 09:35 J -26939089.24 -26939089.10 -26939088.95 0.0493 0.0284

Mars -78468-05-19 19:54 J -26938874.72 -26938874.67 -26938874.61 0.1866 0.1636

Mars -78467-06-27 22:47 J -26938470.65 -26938470.55 -26938470.44 0.1705 0.1278

Mars -78466-04-25 10:18 J -26938169.11 -26938169.07 -26938169.03 0.1831 0.1726

Venus -78466-07-25 18:42 J -26938077.82 -26938077.72 -26938077.61 0.3779 0.1196

Earth -78464-03-26 14:37 J -26937468.00 -26937467.89 -26937467.78 0.2743 0.0328

Moon -78464-03-26 15:06 J -26937467.98 -26937467.87 -26937467.76 0.2739 0.0403 *

Jupiter -78463-03-12 02:08 J -26937117.46 -26937117.41 -26937117.36 0.0536 0.0488

Jupiter -78463-06-09 09:20 J -26937028.24 -26937028.11 -26937027.98 0.0535 0.0042

Jupiter -78463-09-06 17:01 J -26936938.87 -26936938.79 -26936938.71 0.0533 0.0412

Venus -78460-02-07 12:56 J -26936054.07 -26936053.96 -26936053.85 0.3775 0.0084

Mars -78458-11-17 23:44 J -26935040.67 -26935040.51 -26935040.35 0.1697 0.0276

Jupiter -78457-05-07 00:28 J -26934869.60 -26934869.48 -26934869.36 0.0492 0.0361

Jupiter -78457-08-05 08:08 J -26934779.34 -26934779.16 -26934778.99 0.0493 0.0161

Mars -78457-09-14 18:42 J -26934738.82 -26934738.72 -26934738.62 0.1840 0.0926

Saturn -78457-12-08 22:32 J -26934653.58 -26934653.56 -26934653.52 0.0280 0.0272

Saturn -78456-03-07 09:35 J -26934565.20 -26934565.10 -26934564.99 0.0279 0.0167

Saturn -78456-06-03 20:37 J -26934476.77 -26934476.64 -26934476.51 0.0278 0.0063

Saturn -78456-08-31 07:40 J -26934388.31 -26934388.18 -26934388.05 0.0277 0.0042

Saturn -78456-11-27 18:28 J -26934299.84 -26934299.73 -26934299.61 0.0276 0.0145

Saturn -78455-02-24 05:30 J -26934211.32 -26934211.27 -26934211.21 0.0276 0.0248

Venus -78455-08-24 07:25 J -26934030.29 -26934030.19 -26934030.08 0.3772 0.1168

Moon -78454-09-21 01:25 J -26933637.53 -26933637.44 -26933637.34 0.2590 0.2047

Earth -78454-09-21 02:52 J -26933637.50 -26933637.38 -26933637.27 0.2594 0.1819 *

Jupiter -78451-03-28 12:56 J -26932718.08 -26932717.96 -26932717.83 0.0535 0.0157

Earth -78451-03-29 08:52 J -26932717.22 -26932717.13 -26932717.04 0.2744 0.1604

Moon -78451-03-29 09:06 J -26932717.21 -26932717.12 -26932717.03 0.2738 0.1662 *

Jupiter -78451-06-25 20:37 J -26932628.75 -26932628.64 -26932628.53 0.0534 0.0297

Venus -78451-08-22 16:47 J -26932570.88 -26932570.80 -26932570.73 0.3597 0.3028

Venus -78449-03-09 02:08 J -26932006.50 -26932006.41 -26932006.32 0.3768 0.2392

Mars -78448-04-09 00:13 J -26931610.64 -26931610.49 -26931610.34 0.1689 0.0737

Mars -78447-02-05 03:20 J -26931308.48 -26931308.36 -26931308.25 0.1848 0.0127

Uranus -78446-06-07 13:54 J -26930820.92 -26930820.92 -26930820.88 0.0142 0.0141

Uranus -78446-09-03 22:04 J -26930732.68 -26930732.58 -26930732.46 0.0142 0.0114

Uranus -78446-12-01 05:44 J -26930644.39 -26930644.26 -26930644.10 0.0141 0.0088

Uranus -78445-02-27 13:54 J -26930556.09 -26930555.92 -26930555.75 0.0141 0.0060

Venus -78445-03-07 17:59 J -26930546.88 -26930546.75 -26930546.62 0.3600 0.1245

Jupiter -78445-05-24 05:44 J -26930469.44 -26930469.26 -26930469.08 0.0492 0.0030

Uranus -78445-05-25 21:35 J -26930467.78 -26930467.60 -26930467.41 0.0141 0.0034

Uranus -78445-08-22 05:30 J -26930379.46 -26930379.27 -26930379.09 0.0141 0.0008

Uranus -78445-11-18 12:56 J -26930291.14 -26930290.96 -26930290.77 0.0141 0.0018

Uranus -78444-02-14 20:37 J -26930202.82 -26930202.64 -26930202.46 0.0141 0.0044

Earth -78444-03-22 07:11 J -26930167.28 -26930167.20 -26930167.13 0.2742 0.1952

Moon -78444-03-22 07:40 J -26930167.26 -26930167.18 -26930167.11 0.2747 0.1960 *

Uranus -78444-05-14 03:49 J -26930114.49 -26930114.34 -26930114.16 0.0140 0.0070

Uranus -78444-08-10 11:30 J -26930026.15 -26930026.02 -26930025.88 0.0140 0.0094

Venus -78444-09-22 21:06 J -26929982.65 -26929982.62 -26929982.60 0.3764 0.3653

Uranus -78444-11-06 18:42 J -26929937.80 -26929937.72 -26929937.61 0.0140 0.0120

Moon -78441-09-23 07:25 J -26928886.35 -26928886.19 -26928886.04 0.2591 0.0344

Earth -78441-09-23 09:06 J -26928886.28 -26928886.12 -26928885.97 0.2593 0.0435 *

Saturn -78440-03-18 17:01 J -26928709.95 -26928709.79 -26928709.62 0.0283 0.0130

Saturn -78440-06-15 17:01 J -26928620.98 -26928620.79 -26928620.61 0.0284 0.0030

Saturn -78440-09-12 16:18 J -26928531.95 -26928531.82 -26928531.67 0.0284 0.0189

Venus -78440-09-21 18:42 J -26928522.86 -26928522.72 -26928522.59 0.3604 0.0465

Jupiter -78439-01-14 17:01 J -26928407.90 -26928407.79 -26928407.68 0.0536 0.0267

Jupiter -78439-04-14 00:28 J -26928318.60 -26928318.48 -26928318.36 0.0534 0.0185

Mars -78438-06-28 11:44 J -26927878.12 -26927878.01 -26927877.91 0.1857 0.0711

Venus -78434-04-07 18:56 J -26926498.82 -26926498.71 -26926498.60 0.3608 0.2100

Jupiter -78433-03-12 03:20 J -26926159.54 -26926159.36 -26926159.18 0.0492 0.0100

Jupiter -78433-06-10 10:18 J -26926069.16 -26926069.07 -26926068.97 0.0493 0.0415

Earth -78431-03-25 01:11 J -26925416.55 -26925416.45 -26925416.34 0.2742 0.0694

Moon -78431-03-25 01:54 J -26925416.53 -26925416.42 -26925416.31 0.2744 0.0560 *

Mars -78429-11-17 20:08 J -26924447.73 -26924447.66 -26924447.60 0.1866 0.1532

Moon -78428-09-26 13:25 J -26924134.99 -26924134.94 -26924134.89 0.2596 0.2454

Jupiter -78428-11-02 21:20 J -26924097.70 -26924097.61 -26924097.52 0.0536 0.0373

Mars -78428-12-26 23:30 J -26924043.60 -26924043.52 -26924043.43 0.1705 0.1421

Jupiter -78427-01-31 04:32 J -26924008.43 -26924008.31 -26924008.18 0.0535 0.0080

Jupiter -78427-04-30 12:28 J -26923918.98 -26923918.98 -26923918.98 0.0533 0.0533

Saturn -78427-07-25 11:30 J -26923833.10 -26923833.02 -26923832.92 0.0279 0.0201

Saturn -78427-10-21 22:32 J -26923744.68 -26923744.56 -26923744.43 0.0278 0.0097

Mars -78427-10-24 10:18 J -26923742.07 -26923742.07 -26923742.06 0.1831 0.1827

Saturn -78426-01-18 09:35 J -26923656.23 -26923656.10 -26923655.97 0.0277 0.0008

Saturn -78426-04-16 20:23 J -26923567.77 -26923567.65 -26923567.52 0.0276 0.0111

Saturn -78426-07-14 07:25 J -26923479.27 -26923479.19 -26923479.10 0.0275 0.0214

Jupiter -78422-12-30 00:42 J -26921849.64 -26921849.47 -26921849.31 0.0492 0.0234

Jupiter -78421-03-29 07:54 J -26921759.32 -26921759.17 -26921759.02 0.0493 0.0284

Venus -78420-01-30 04:47 J -26921452.36 -26921452.30 -26921452.24 0.3784 0.3087

Earth -78418-03-27 19:25 J -26920665.80 -26920665.69 -26920665.58 0.2743 0.0580

Moon -78418-03-27 19:54 J -26920665.77 -26920665.67 -26920665.56 0.2739 0.0639 *

Mars -78418-05-19 00:13 J -26920613.65 -26920613.49 -26920613.33 0.1697 0.0404

Mars -78417-03-15 18:42 J -26920311.81 -26920311.72 -26920311.62 0.1840 0.1030

Jupiter -78416-08-22 01:25 J -26919787.49 -26919787.44 -26919787.38 0.0536 0.0479

Jupiter -78416-11-19 08:37 J -26919698.26 -26919698.14 -26919698.01 0.0535 0.0034

Jupiter -78415-02-16 16:18 J -26919608.89 -26919608.82 -26919608.74 0.0533 0.0423

Venus -78415-08-15 22:47 J -26919428.64 -26919428.55 -26919428.46 0.3781 0.1971

Pluto -78411-07-15 10:04 J -26917999.14 -26917999.08 -26917999.00 0.0060 0.0055

Saturn -78411-08-05 13:25 J -26917978.07 -26917977.94 -26917977.79 0.0282 0.0188

Pluto -78411-10-11 11:30 J -26917911.12 -26917911.02 -26917910.91 0.0060 0.0050

Saturn -78411-11-02 13:25 J -26917889.12 -26917888.94 -26917888.75 0.0283 0.0028

Pluto -78410-01-07 12:28 J -26917823.09 -26917822.98 -26917822.83 0.0060 0.0044

Saturn -78410-01-30 13:11 J -26917800.12 -26917799.95 -26917799.79 0.0284 0.0131

Pluto -78410-04-05 13:54 J -26917735.05 -26917734.92 -26917734.76 0.0060 0.0039

Pluto -78410-07-02 15:20 J -26917647.01 -26917646.86 -26917646.69 0.0060 0.0033

Pluto -78410-09-28 17:01 J -26917558.96 -26917558.79 -26917558.62 0.0060 0.0027

Jupiter -78410-10-17 22:32 J -26917539.68 -26917539.56 -26917539.43 0.0491 0.0360

Pluto -78410-12-25 18:28 J -26917470.91 -26917470.73 -26917470.55 0.0060 0.0021

Jupiter -78409-01-16 06:13 J -26917449.41 -26917449.24 -26917449.07 0.0493 0.0161

Venus -78409-02-29 16:47 J -26917404.90 -26917404.80 -26917404.69 0.3778 0.0841

Pluto -78409-03-22 19:25 J -26917382.86 -26917382.69 -26917382.49 0.0061 0.0016

Pluto -78409-06-18 20:52 J -26917294.81 -26917294.63 -26917294.43 0.0061 0.0010

Pluto -78409-09-14 22:32 J -26917206.75 -26917206.56 -26917206.37 0.0061 0.0003

Mars -78409-10-08 01:11 J -26917183.61 -26917183.45 -26917183.30 0.1689 0.0593

Pluto -78409-12-11 23:44 J -26917118.69 -26917118.51 -26917118.31 0.0061 0.0003

Pluto -78408-03-10 01:11 J -26917030.63 -26917030.45 -26917030.26 0.0061 0.0009

Pluto -78408-06-06 02:23 J -26916942.57 -26916942.40 -26916942.20 0.0061 0.0015

Mars -78408-08-06 03:06 J -26916881.48 -26916881.37 -26916881.25 0.1848 0.0217

Pluto -78408-09-02 03:49 J -26916854.51 -26916854.34 -26916854.15 0.0061 0.0021

Moon -78408-09-21 07:54 J -26916835.31 -26916835.17 -26916835.04 0.2589 0.1409

Earth -78408-09-21 09:20 J -26916835.25 -26916835.11 -26916834.98 0.2593 0.1370 *

Pluto -78408-11-29 05:01 J -26916766.44 -26916766.29 -26916766.10 0.0061 0.0027

Pluto -78407-02-25 06:28 J -26916678.37 -26916678.23 -26916678.05 0.0061 0.0033

Pluto -78407-05-24 07:54 J -26916590.30 -26916590.17 -26916590.01 0.0061 0.0039

Pluto -78407-08-20 09:20 J -26916502.22 -26916502.11 -26916501.97 0.0061 0.0045

Pluto -78407-11-16 10:47 J -26916414.14 -26916414.05 -26916413.93 0.0061 0.0052

Pluto -78406-02-12 12:13 J -26916326.04 -26916325.99 -26916325.91 0.0061 0.0058

Moon -78405-03-29 13:40 J -26915915.01 -26915914.93 -26915914.85 0.2737 0.1864

Earth -78405-03-29 13:40 J -26915915.01 -26915914.93 -26915914.85 0.2744 0.1868 *

Jupiter -78404-09-07 11:59 J -26915388.13 -26915388.00 -26915387.88 0.0535 0.0154

Venus -78404-09-14 11:16 J -26915381.14 -26915381.03 -26915380.92 0.3774 0.0357

Jupiter -78404-12-05 19:25 J -26915298.80 -26915298.69 -26915298.59 0.0534 0.0299

Uranus -78401-02-04 11:59 J -26914508.04 -26914508.00 -26914507.94 0.0137 0.0126

Uranus -78401-05-02 15:20 J -26914419.93 -26914419.86 -26914419.77 0.0137 0.0109

Uranus -78401-07-29 18:42 J -26914331.81 -26914331.72 -26914331.62 0.0137 0.0093

Uranus -78401-10-25 22:04 J -26914243.69 -26914243.58 -26914243.47 0.0137 0.0076

Neptune -78400-01-18 15:35 J -26914158.85 -26914158.85 -26914158.83 0.0089 0.0089

Uranus -78400-01-22 01:25 J -26914155.56 -26914155.44 -26914155.32 0.0137 0.0059

Neptune -78400-04-16 17:01 J -26914070.82 -26914070.79 -26914070.74 0.0089 0.0084

Uranus -78400-04-20 04:32 J -26914067.43 -26914067.31 -26914067.17 0.0138 0.0043

Neptune -78400-07-13 18:13 J -26913982.79 -26913982.74 -26913982.67 0.0089 0.0080

Uranus -78400-07-17 08:08 J -26913979.29 -26913979.16 -26913979.03 0.0138 0.0025

Neptune -78400-10-09 19:40 J -26913894.74 -26913894.68 -26913894.61 0.0089 0.0075

Uranus -78400-10-13 11:30 J -26913891.16 -26913891.02 -26913890.89 0.0138 0.0008

Neptune -78399-01-05 20:52 J -26913806.70 -26913806.63 -26913806.54 0.0089 0.0071

Uranus -78399-01-09 14:52 J -26913803.02 -26913802.88 -26913802.75 0.0138 0.0009

Mars -78399-02-28 01:40 J -26913753.48 -26913753.43 -26913753.38 0.1682 0.1590

Neptune -78399-04-03 22:18 J -26913718.65 -26913718.57 -26913718.48 0.0089 0.0066

Uranus -78399-04-07 18:13 J -26913714.87 -26913714.74 -26913714.61 0.0138 0.0027

Neptune -78399-06-30 23:30 J -26913630.61 -26913630.52 -26913630.42 0.0089 0.0062

Uranus -78399-07-04 21:35 J -26913626.72 -26913626.60 -26913626.47 0.0138 0.0044

Neptune -78399-09-27 00:56 J -26913542.56 -26913542.46 -26913542.36 0.0089 0.0057

Uranus -78399-10-01 01:11 J -26913538.57 -26913538.45 -26913538.33 0.0138 0.0062

Neptune -78399-12-24 02:08 J -26913454.51 -26913454.41 -26913454.30 0.0089 0.0053

Mars -78399-12-27 11:44 J -26913451.12 -26913451.01 -26913450.90 0.1857 0.0608

Uranus -78399-12-28 04:32 J -26913450.42 -26913450.31 -26913450.20 0.0139 0.0080

Neptune -78398-03-22 03:35 J -26913366.46 -26913366.35 -26913366.24 0.0089 0.0048

Earth -78398-03-23 11:59 J -26913365.09 -26913365.00 -26913364.92 0.2742 0.1691

Moon -78398-03-23 12:28 J -26913365.07 -26913364.98 -26913364.89 0.2747 0.1560 *

Uranus -78398-03-26 07:54 J -26913362.26 -26913362.17 -26913362.06 0.0139 0.0098

Venus -78398-03-31 05:44 J -26913357.36 -26913357.26 -26913357.16 0.3770 0.1559

Neptune -78398-06-18 04:47 J -26913278.41 -26913278.30 -26913278.18 0.0089 0.0044

Uranus -78398-06-22 11:30 J -26913274.09 -26913274.02 -26913273.94 0.0139 0.0116

Jupiter -78398-08-05 20:37 J -26913229.66 -26913229.64 -26913229.62 0.0492 0.0487

Neptune -78398-09-14 06:13 J -26913190.36 -26913190.24 -26913190.12 0.0089 0.0039

Uranus -78398-09-18 14:52 J -26913185.90 -26913185.88 -26913185.83 0.0139 0.0134

Jupiter -78398-11-04 04:32 J -26913139.49 -26913139.31 -26913139.13 0.0492 0.0037

Neptune -78398-12-11 07:25 J -26913102.30 -26913102.19 -26913102.06 0.0089 0.0035

Saturn -78398-12-12 14:37 J -26913100.96 -26913100.89 -26913100.82 0.0280 0.0228

Neptune -78397-03-08 08:52 J -26913014.25 -26913014.13 -26913014.00 0.0089 0.0030

Saturn -78397-03-10 01:40 J -26913012.55 -26913012.43 -26913012.32 0.0279 0.0123

Neptune -78397-06-04 10:04 J -26912926.20 -26912926.08 -26912925.95 0.0089 0.0026

Saturn -78397-06-06 12:28 J -26912924.11 -26912923.98 -26912923.85 0.0278 0.0019

Neptune -78397-08-31 11:30 J -26912838.15 -26912838.02 -26912837.89 0.0089 0.0021

Saturn -78397-09-02 23:30 J -26912835.65 -26912835.52 -26912835.40 0.0277 0.0086

Neptune -78397-11-27 12:42 J -26912750.09 -26912749.97 -26912749.83 0.0089 0.0017

Saturn -78397-11-30 10:18 J -26912747.16 -26912747.07 -26912746.97 0.0276 0.0190

Neptune -78396-02-23 14:08 J -26912662.04 -26912661.91 -26912661.78 0.0089 0.0012

Neptune -78396-05-22 15:35 J -26912573.98 -26912573.85 -26912573.72 0.0089 0.0007

Neptune -78396-08-18 16:47 J -26912485.93 -26912485.80 -26912485.66 0.0089 0.0004

Neptune -78396-11-14 18:13 J -26912397.87 -26912397.74 -26912397.61 0.0089 0.0002

Neptune -78395-02-10 19:25 J -26912309.82 -26912309.69 -26912309.55 0.0089 0.0007

Neptune -78395-05-09 20:52 J -26912221.76 -26912221.63 -26912221.50 0.0089 0.0011

Neptune -78395-08-05 22:04 J -26912133.70 -26912133.58 -26912133.44 0.0089 0.0016

Moon -78395-09-24 13:54 J -26912084.07 -26912083.92 -26912083.76 0.2593 0.0626

Earth -78395-09-24 15:35 J -26912084.00 -26912083.85 -26912083.70 0.2593 0.0880 *

Neptune -78395-11-01 23:30 J -26912045.65 -26912045.52 -26912045.39 0.0089 0.0020

Neptune -78394-01-29 00:42 J -26911957.59 -26911957.47 -26911957.33 0.0089 0.0025

Venus -78394-03-29 16:47 J -26911897.90 -26911897.80 -26911897.70 0.3598 0.2461

Neptune -78394-04-27 02:23 J -26911869.53 -26911869.40 -26911869.28 0.0089 0.0029

Neptune -78394-07-24 03:35 J -26911781.47 -26911781.35 -26911781.22 0.0089 0.0034

Neptune -78394-10-20 04:47 J -26911693.41 -26911693.30 -26911693.17 0.0089 0.0039

Neptune -78393-01-16 06:13 J -26911605.35 -26911605.24 -26911605.12 0.0089 0.0043

Neptune -78393-04-13 07:25 J -26911517.29 -26911517.19 -26911517.07 0.0089 0.0048

Neptune -78393-07-10 09:06 J -26911429.23 -26911429.12 -26911429.01 0.0089 0.0052

Neptune -78393-10-06 10:18 J -26911341.16 -26911341.07 -26911340.96 0.0089 0.0057

Venus -78393-10-14 00:28 J -26911333.55 -26911333.48 -26911333.41 0.3767 0.2800

Neptune -78392-01-02 11:30 J -26911253.10 -26911253.02 -26911252.91 0.0089 0.0062

Neptune -78392-03-31 13:11 J -26911165.04 -26911164.95 -26911164.86 0.0089 0.0066

Jupiter -78392-06-26 15:35 J -26911077.96 -26911077.85 -26911077.74 0.0535 0.0266

Neptune -78392-06-27 14:23 J -26911076.97 -26911076.90 -26911076.81 0.0089 0.0071

Neptune -78392-09-23 16:04 J -26910988.90 -26910988.83 -26910988.76 0.0089 0.0075

Jupiter -78392-09-23 23:01 J -26910988.66 -26910988.54 -26910988.42 0.0534 0.0184

Neptune -78392-12-20 17:16 J -26910900.83 -26910900.78 -26910900.72 0.0089 0.0080

Neptune -78391-03-18 18:28 J -26910812.75 -26910812.73 -26910812.68 0.0089 0.0085

Mars -78389-05-18 20:08 J -26910020.73 -26910020.66 -26910020.59 0.1865 0.1430

Venus -78389-10-12 17:59 J -26909873.89 -26909873.75 -26909873.62 0.3601 0.0695

Mars -78388-06-26 23:59 J -26909616.57 -26909616.50 -26909616.44 0.1705 0.1536

Jupiter -78386-08-23 02:08 J -26908829.59 -26908829.41 -26908829.23 0.0492 0.0094

Jupiter -78386-11-21 09:06 J -26908739.21 -26908739.12 -26908739.03 0.0493 0.0421

Earth -78385-03-25 05:59 J -26908614.35 -26908614.25 -26908614.14 0.2743 0.0442

Moon -78385-03-25 06:42 J -26908614.32 -26908614.22 -26908614.11 0.2742 0.0414 *

Venus -78383-04-28 18:28 J -26907849.86 -26907849.73 -26907849.60 0.3605 0.0999

Saturn -78382-12-23 11:59 J -26907246.10 -26907246.00 -26907245.89 0.0282 0.0233

Saturn -78381-03-21 11:44 J -26907157.19 -26907157.01 -26907156.82 0.0283 0.0074

Saturn -78381-06-18 11:30 J -26907068.20 -26907068.02 -26907067.84 0.0284 0.0086

Saturn -78381-09-15 11:01 J -26906979.13 -26906979.04 -26906978.95 0.0285 0.0245

Jupiter -78380-04-14 19:25 J -26906767.77 -26906767.69 -26906767.60 0.0536 0.0378

Jupiter -78380-07-13 02:52 J -26906678.51 -26906678.38 -26906678.25 0.0535 0.0072

Jupiter -78380-10-10 10:32 J -26906589.07 -26906589.06 -26906589.04 0.0533 0.0527

Mars -78379-11-17 00:56 J -26906186.61 -26906186.46 -26906186.31 0.1697 0.0541

Mars -78378-09-14 18:56 J -26905884.81 -26905884.71 -26905884.62 0.1839 0.1127

Venus -78378-11-12 18:42 J -26905825.81 -26905825.72 -26905825.63 0.3609 0.2621

Jupiter -78374-06-10 23:59 J -26904519.67 -26904519.50 -26904519.34 0.0492 0.0224

Jupiter -78374-09-09 07:11 J -26904429.35 -26904429.20 -26904429.06 0.0493 0.0294

Earth -78372-03-28 00:13 J -26903863.59 -26903863.49 -26903863.38 0.2743 0.0846

Moon -78372-03-28 00:56 J -26903863.57 -26903863.46 -26903863.36 0.2739 0.0949 *

Mars -78369-04-08 01:40 J -26902756.59 -26902756.43 -26902756.27 0.1689 0.0458

Jupiter -78368-01-31 23:44 J -26902457.56 -26902457.51 -26902457.45 0.0536 0.0483

Mars -78368-02-04 03:20 J -26902454.48 -26902454.36 -26902454.25 0.1848 0.0317

Saturn -78368-04-30 16:32 J -26902368.85 -26902368.81 -26902368.77 0.0279 0.0261

Jupiter -78368-05-01 07:11 J -26902368.33 -26902368.20 -26902368.07 0.0535 0.0035

Saturn -78368-07-28 03:20 J -26902280.46 -26902280.36 -26902280.25 0.0278 0.0158

Jupiter -78368-07-29 14:52 J -26902278.96 -26902278.88 -26902278.80 0.0534 0.0420

Saturn -78368-10-24 14:23 J -26902192.03 -26902191.90 -26902191.77 0.0278 0.0053

Saturn -78367-01-21 01:25 J -26902103.57 -26902103.44 -26902103.31 0.0277 0.0051

Saturn -78367-04-19 12:28 J -26902015.09 -26902014.98 -26902014.88 0.0276 0.0154

Saturn -78367-07-16 23:16 J -26901926.57 -26901926.53 -26901926.48 0.0275 0.0257

Moon -78365-03-20 22:47 J -26901313.57 -26901313.55 -26901313.52 0.2747 0.2637

Earth -78365-03-20 22:47 J -26901313.57 -26901313.55 -26901313.53 0.2741 0.2680 *

Venus -78364-09-06 02:52 J -26900779.45 -26900779.38 -26900779.31 0.3784 0.2738

Jupiter -78362-03-29 21:06 J -26900209.74 -26900209.62 -26900209.49 0.0491 0.0357

Uranus -78362-06-27 22:47 J -26900119.62 -26900119.55 -26900119.48 0.0142 0.0131

Jupiter -78362-06-28 04:32 J -26900119.48 -26900119.31 -26900119.13 0.0492 0.0165 *

Moon -78362-09-22 14:23 J -26900033.04 -26900032.90 -26900032.75 0.2590 0.1149

Earth -78362-09-22 15:49 J -26900032.99 -26900032.84 -26900032.69 0.2593 0.0916 *

Uranus -78362-09-24 06:28 J -26900031.35 -26900031.23 -26900031.09 0.0142 0.0104

Uranus -78362-12-21 14:23 J -26899943.05 -26899942.90 -26899942.73 0.0141 0.0078

Uranus -78361-03-18 22:18 J -26899854.74 -26899854.57 -26899854.39 0.0141 0.0051

Uranus -78361-06-15 06:13 J -26899766.43 -26899766.24 -26899766.06 0.0141 0.0025

Uranus -78361-09-11 13:54 J -26899678.11 -26899677.92 -26899677.73 0.0141 0.0002

Uranus -78361-12-08 21:20 J -26899589.79 -26899589.61 -26899589.42 0.0141 0.0028

Uranus -78360-03-07 05:01 J -26899501.46 -26899501.29 -26899501.11 0.0141 0.0053

Uranus -78360-06-03 12:28 J -26899413.13 -26899412.98 -26899412.82 0.0140 0.0079

Mars -78360-08-29 02:23 J -26899326.48 -26899326.40 -26899326.32 0.1682 0.1453

Uranus -78360-08-30 19:54 J -26899324.79 -26899324.67 -26899324.54 0.0140 0.0104

Uranus -78360-11-27 03:20 J -26899236.43 -26899236.36 -26899236.28 0.0140 0.0128

Moon -78359-03-30 18:28 J -26899112.80 -26899112.73 -26899112.66 0.2737 0.2101

Earth -78359-03-30 18:28 J -26899112.79 -26899112.73 -26899112.66 0.2744 0.2137 *

Mars -78359-06-27 11:44 J -26899024.12 -26899024.01 -26899023.90 0.1857 0.0507

Venus -78358-03-22 20:52 J -26898755.73 -26898755.63 -26898755.53 0.3780 0.1611

Jupiter -78356-02-17 11:16 J -26898058.15 -26898058.03 -26898057.90 0.0535 0.0142

Jupiter -78356-05-17 18:56 J -26897968.82 -26897968.71 -26897968.61 0.0534 0.0312

Venus -78353-10-05 15:06 J -26896731.98 -26896731.87 -26896731.76 0.3777 0.0452

Earth -78352-03-23 16:47 J -26896562.89 -26896562.80 -26896562.71 0.2742 0.1430

Moon -78352-03-23 17:16 J -26896562.87 -26896562.78 -26896562.68 0.2747 0.1429 *

Saturn -78352-08-08 07:25 J -26896425.35 -26896425.19 -26896425.02 0.0282 0.0137

Saturn -78352-11-05 07:25 J -26896336.38 -26896336.19 -26896336.01 0.0283 0.0023

Saturn -78351-02-02 06:56 J -26896247.35 -26896247.21 -26896247.07 0.0284 0.0182

Jupiter -78350-01-15 18:56 J -26895899.73 -26895899.71 -26895899.67 0.0491 0.0483

Jupiter -78350-04-16 03:06 J -26895809.56 -26895809.37 -26895809.19 0.0492 0.0041

Mars -78350-11-17 19:54 J -26895593.74 -26895593.67 -26895593.59 0.1866 0.1346

Moon -78349-09-24 20:23 J -26895281.79 -26895281.65 -26895281.52 0.2594 0.1260

Earth -78349-09-24 22:04 J -26895281.72 -26895281.58 -26895281.45 0.2592 0.1318 *

Mars -78349-12-26 00:42 J -26895189.49 -26895189.47 -26895189.45 0.1705 0.1682

Venus -78347-04-21 09:20 J -26894708.21 -26894708.11 -26894708.00 0.3773 0.0755

Jupiter -78345-12-06 14:37 J -26893748.00 -26893747.89 -26893747.78 0.0535 0.0261

Jupiter -78344-03-05 22:04 J -26893658.70 -26893658.58 -26893658.46 0.0534 0.0190

Venus -78342-11-05 04:04 J -26892684.43 -26892684.33 -26892684.24 0.3769 0.1962

Earth -78339-03-26 11:01 J -26891812.15 -26891812.04 -26891811.93 0.2743 0.0178

Moon -78339-03-26 11:44 J -26891812.12 -26891812.01 -26891811.90 0.2741 0.0067 *

Mars -78339-05-18 01:25 J -26891759.59 -26891759.44 -26891759.29 0.1697 0.0672

Saturn -78339-12-15 05:59 J -26891548.34 -26891548.25 -26891548.15 0.0280 0.0187

Jupiter -78338-02-02 01:11 J -26891499.63 -26891499.45 -26891499.27 0.0492 0.0086

Saturn -78338-03-13 17:01 J -26891459.91 -26891459.79 -26891459.66 0.0279 0.0082

Mars -78338-03-15 18:56 J -26891457.80 -26891457.71 -26891457.63 0.1840 0.1224

Jupiter -78338-05-03 08:08 J -26891409.24 -26891409.16 -26891409.07 0.0493 0.0431

Saturn -78338-06-10 04:04 J -26891371.46 -26891371.33 -26891371.20 0.0278 0.0023

Saturn -78338-09-06 14:52 J -26891282.99 -26891282.88 -26891282.76 0.0277 0.0127

Venus -78338-11-03 17:01 J -26891224.91 -26891224.79 -26891224.68 0.3599 0.1894

Saturn -78338-12-04 01:54 J -26891194.49 -26891194.42 -26891194.34 0.0276 0.0230

Venus -78336-05-20 22:47 J -26890660.60 -26890660.55 -26890660.49 0.3766 0.3217

Jupiter -78333-09-24 18:28 J -26889437.82 -26889437.73 -26889437.64 0.0535 0.0373

Jupiter -78333-12-23 01:40 J -26889348.56 -26889348.43 -26889348.30 0.0534 0.0075

Jupiter -78332-03-22 09:20 J -26889259.12 -26889259.11 -26889259.09 0.0533 0.0529

Venus -78332-05-19 17:59 J -26889200.89 -26889200.75 -26889200.62 0.3602 0.0159

Mars -78330-10-08 02:08 J -26888329.57 -26888329.41 -26888329.25 0.1690 0.0332

Mars -78329-08-05 03:20 J -26888027.47 -26888027.36 -26888027.24 0.1848 0.0421

Jupiter -78327-11-20 23:01 J -26887189.71 -26887189.54 -26887189.38 0.0492 0.0216

Venus -78327-12-03 18:28 J -26887176.86 -26887176.73 -26887176.61 0.3606 0.1533

Jupiter -78326-02-19 06:13 J -26887099.38 -26887099.24 -26887099.10 0.0493 0.0303

Earth -78326-03-29 05:16 J -26887061.38 -26887061.28 -26887061.18 0.2744 0.1113

Moon -78326-03-29 05:30 J -26887061.37 -26887061.27 -26887061.17 0.2738 0.1120 *

Saturn -78323-12-26 05:44 J -26885693.39 -26885693.26 -26885693.11 0.0282 0.0182

Saturn -78322-03-25 05:44 J -26885604.45 -26885604.26 -26885604.07 0.0283 0.0023

Saturn -78322-06-22 05:16 J -26885515.44 -26885515.28 -26885515.11 0.0284 0.0137

Venus -78321-06-18 18:28 J -26885152.79 -26885152.73 -26885152.67 0.3610 0.3139

Jupiter -78321-07-13 22:18 J -26885127.62 -26885127.57 -26885127.52 0.0536 0.0485

Jupiter -78321-10-11 05:30 J -26885038.40 -26885038.27 -26885038.14 0.0535 0.0038

Jupiter -78320-01-08 13:11 J -26884949.03 -26884948.95 -26884948.87 0.0534 0.0417

Mars -78320-02-27 03:06 J -26884899.47 -26884899.37 -26884899.27 0.1682 0.1317

Mars -78320-12-26 11:44 J -26884597.13 -26884597.01 -26884596.90 0.1857 0.0416

Earth -78319-03-22 03:35 J -26884511.40 -26884511.35 -26884511.30 0.2741 0.2421

Moon -78319-03-22 03:49 J -26884511.39 -26884511.34 -26884511.29 0.2748 0.2414 *

Uranus -78318-11-28 16:32 J -26883894.81 -26883894.81 -26883894.80 0.0137 0.0136

Pluto -78317-02-14 17:44 J -26883816.81 -26883816.76 -26883816.69 0.0084 0.0074

Uranus -78317-02-24 19:54 J -26883806.73 -26883806.67 -26883806.61 0.0137 0.0120

Pluto -78317-05-12 19:11 J -26883728.78 -26883728.70 -26883728.60 0.0084 0.0062

Uranus -78317-05-22 23:01 J -26883718.62 -26883718.54 -26883718.45 0.0137 0.0104

Neptune -78317-07-05 19:25 J -26883674.71 -26883674.69 -26883674.66 0.0088 0.0088

Pluto -78317-08-08 20:37 J -26883640.74 -26883640.64 -26883640.53 0.0084 0.0051

Uranus -78317-08-19 02:23 J -26883630.50 -26883630.40 -26883630.30 0.0137 0.0087

Neptune -78317-10-01 22:47 J -26883586.61 -26883586.55 -26883586.46 0.0088 0.0081

Pluto -78317-11-04 22:04 J -26883552.70 -26883552.58 -26883552.46 0.0084 0.0039

Uranus -78317-11-15 05:44 J -26883542.38 -26883542.26 -26883542.15 0.0137 0.0071

Neptune -78317-12-29 02:37 J -26883498.48 -26883498.39 -26883498.27 0.0088 0.0075

Pluto -78316-01-31 23:16 J -26883464.65 -26883464.53 -26883464.39 0.0084 0.0028

Uranus -78316-02-11 09:06 J -26883454.25 -26883454.12 -26883454.00 0.0137 0.0054

Neptune -78316-03-27 06:28 J -26883410.35 -26883410.23 -26883410.10 0.0088 0.0068

Pluto -78316-04-30 00:42 J -26883376.60 -26883376.47 -26883376.33 0.0084 0.0017

Uranus -78316-05-10 12:13 J -26883366.11 -26883365.99 -26883365.86 0.0138 0.0037

Neptune -78316-06-23 09:49 J -26883322.21 -26883322.09 -26883321.93 0.0088 0.0062

Pluto -78316-07-27 02:08 J -26883288.54 -26883288.41 -26883288.27 0.0084 0.0005

Uranus -78316-08-06 15:35 J -26883277.98 -26883277.85 -26883277.71 0.0138 0.0020

Neptune -78316-09-19 13:40 J -26883234.07 -26883233.93 -26883233.76 0.0088 0.0055

Moon -78316-09-22 20:52 J -26883230.79 -26883230.63 -26883230.47 0.2591 0.0551

Earth -78316-09-22 22:18 J -26883230.72 -26883230.57 -26883230.41 0.2593 0.0470 *

Pluto -78316-10-23 03:20 J -26883200.49 -26883200.36 -26883200.22 0.0084 0.0007

Uranus -78316-11-02 18:56 J -26883189.84 -26883189.71 -26883189.57 0.0138 0.0006

Neptune -78316-12-16 17:30 J -26883145.93 -26883145.77 -26883145.60 0.0088 0.0048

Pluto -78315-01-19 04:47 J -26883112.43 -26883112.30 -26883112.17 0.0083 0.0017

Uranus -78315-01-29 22:32 J -26883101.70 -26883101.56 -26883101.43 0.0138 0.0015

Neptune -78315-03-14 20:52 J -26883057.78 -26883057.63 -26883057.44 0.0088 0.0042

Pluto -78315-04-17 05:59 J -26883024.37 -26883024.25 -26883024.12 0.0083 0.0028

Uranus -78315-04-28 01:54 J -26883013.55 -26883013.42 -26883013.29 0.0138 0.0032

Neptune -78315-06-11 00:42 J -26882969.64 -26882969.47 -26882969.28 0.0088 0.0035

Pluto -78315-07-14 07:11 J -26882936.31 -26882936.20 -26882936.07 0.0083 0.0039

Uranus -78315-07-25 05:16 J -26882925.40 -26882925.28 -26882925.15 0.0138 0.0050

Neptune -78315-09-07 04:32 J -26882881.49 -26882881.31 -26882881.12 0.0088 0.0028

Jupiter -78315-09-08 20:23 J -26882879.77 -26882879.65 -26882879.51 0.0491 0.0346

Pluto -78315-10-10 08:23 J -26882848.24 -26882848.15 -26882848.03 0.0083 0.0050

Uranus -78315-10-21 08:37 J -26882837.25 -26882837.14 -26882837.02 0.0138 0.0067

Neptune -78315-12-04 08:08 J -26882793.34 -26882793.16 -26882792.96 0.0088 0.0021

Jupiter -78315-12-08 04:04 J -26882789.50 -26882789.33 -26882789.15 0.0492 0.0176

Pluto -78314-01-06 09:35 J -26882760.17 -26882760.10 -26882759.99 0.0083 0.0061

Uranus -78314-01-17 12:13 J -26882749.10 -26882748.99 -26882748.88 0.0139 0.0085

Neptune -78314-03-02 11:44 J -26882705.20 -26882705.01 -26882704.81 0.0088 0.0015

Pluto -78314-04-04 11:01 J -26882672.10 -26882672.04 -26882671.96 0.0083 0.0071

Uranus -78314-04-15 15:35 J -26882660.93 -26882660.85 -26882660.75 0.0139 0.0103

Neptune -78314-05-29 15:35 J -26882617.05 -26882616.85 -26882616.66 0.0088 0.0008

Pluto -78314-07-01 12:13 J -26882584.00 -26882583.99 -26882583.96 0.0083 0.0082

Uranus -78314-07-12 19:11 J -26882572.76 -26882572.70 -26882572.63 0.0139 0.0121

Neptune -78314-08-25 19:11 J -26882528.89 -26882528.70 -26882528.50 0.0088 0.0001

Neptune -78314-11-21 22:47 J -26882440.74 -26882440.55 -26882440.35 0.0088 0.0005

Neptune -78313-02-18 02:23 J -26882352.59 -26882352.40 -26882352.20 0.0088 0.0012

Moon -78313-03-30 23:16 J -26882310.58 -26882310.53 -26882310.48 0.2737 0.2404

Earth -78313-03-30 23:30 J -26882310.57 -26882310.52 -26882310.47 0.2744 0.2399 *

Neptune -78313-05-16 05:59 J -26882264.44 -26882264.25 -26882264.06 0.0088 0.0019

Neptune -78313-08-12 09:20 J -26882176.28 -26882176.11 -26882175.91 0.0088 0.0026

Venus -78313-09-27 06:56 J -26882130.24 -26882130.21 -26882130.17 0.3786 0.3493

Neptune -78313-11-08 13:11 J -26882088.13 -26882087.95 -26882087.77 0.0088 0.0032

Neptune -78312-02-04 16:32 J -26881999.97 -26881999.81 -26881999.62 0.0088 0.0039

Neptune -78312-05-03 20:23 J -26881911.82 -26881911.65 -26881911.48 0.0088 0.0045

Neptune -78312-07-30 23:44 J -26881823.66 -26881823.51 -26881823.34 0.0088 0.0051

Neptune -78312-10-27 03:20 J -26881735.50 -26881735.36 -26881735.21 0.0088 0.0058

Neptune -78311-01-23 06:42 J -26881647.33 -26881647.22 -26881647.07 0.0088 0.0065

Neptune -78311-04-21 10:18 J -26881559.17 -26881559.07 -26881558.94 0.0088 0.0071

Neptune -78311-07-18 13:40 J -26881471.00 -26881470.93 -26881470.82 0.0088 0.0078

Neptune -78311-10-14 17:16 J -26881382.82 -26881382.78 -26881382.70 0.0088 0.0084

Mars -78310-05-18 20:08 J -26881166.75 -26881166.66 -26881166.58 0.1865 0.1239

Saturn -78309-05-03 07:54 J -26880816.25 -26880816.17 -26880816.09 0.0279 0.0222

Jupiter -78309-07-30 09:49 J -26880728.21 -26880728.09 -26880727.97 0.0535 0.0143

Saturn -78309-07-30 18:56 J -26880727.83 -26880727.71 -26880727.60 0.0278 0.0117

Saturn -78309-10-27 05:44 J -26880639.39 -26880639.26 -26880639.13 0.0277 0.0014

Jupiter -78309-10-27 17:16 J -26880638.88 -26880638.78 -26880638.67 0.0534 0.0311

Saturn -78308-01-23 16:47 J -26880550.93 -26880550.80 -26880550.68 0.0277 0.0091

Saturn -78308-04-22 03:49 J -26880462.44 -26880462.34 -26880462.25 0.0276 0.0194

Venus -78307-04-13 00:56 J -26880106.54 -26880106.46 -26880106.38 0.3783 0.2381

Earth -78306-03-24 21:35 J -26879760.69 -26879760.60 -26879760.50 0.2742 0.1176

Moon -78306-03-24 22:18 J -26879760.67 -26879760.57 -26879760.47 0.2745 0.1051 *

Jupiter -78303-06-27 17:44 J -26878569.79 -26878569.76 -26878569.71 0.0491 0.0478

Jupiter -78303-09-26 01:40 J -26878479.61 -26878479.43 -26878479.24 0.0492 0.0046

Moon -78303-09-26 02:52 J -26878479.51 -26878479.38 -26878479.25 0.2594 0.1494 *

Earth -78303-09-26 04:32 J -26878479.43 -26878479.31 -26878479.20 0.2592 0.1765 *

Venus -78302-10-27 18:56 J -26878082.81 -26878082.71 -26878082.60 0.3779 0.1246

Mars -78300-11-16 02:08 J -26877332.55 -26877332.41 -26877332.27 0.1697 0.0809

Mars -78299-09-13 18:56 J -26877030.79 -26877030.71 -26877030.63 0.1839 0.1329

Jupiter -78297-05-18 14:08 J -26876418.02 -26876417.91 -26876417.80 0.0535 0.0250

Jupiter -78297-08-15 21:35 J -26876328.72 -26876328.60 -26876328.48 0.0534 0.0203

Venus -78296-05-12 13:11 J -26876059.06 -26876058.95 -26876058.84 0.3776 0.0127

Earth -78293-03-26 15:49 J -26875009.95 -26875009.84 -26875009.73 0.2743 0.0096

Moon -78293-03-26 16:32 J -26875009.92 -26875009.81 -26875009.70 0.2741 0.0116 *

Saturn -78293-05-14 00:56 J -26874961.54 -26874961.46 -26874961.37 0.0281 0.0249

Saturn -78293-08-11 00:42 J -26874872.64 -26874872.47 -26874872.29 0.0282 0.0090

Saturn -78293-11-08 00:28 J -26874783.66 -26874783.48 -26874783.30 0.0283 0.0069

Saturn -78292-02-04 23:59 J -26874694.60 -26874694.50 -26874694.39 0.0284 0.0228

Jupiter -78291-07-14 23:59 J -26874169.68 -26874169.50 -26874169.32 0.0492 0.0079

Jupiter -78291-10-13 06:56 J -26874079.29 -26874079.21 -26874079.12 0.0493 0.0437

Venus -78291-11-26 07:40 J -26874035.28 -26874035.18 -26874035.07 0.3772 0.1140

Mars -78290-04-08 02:52 J -26873902.54 -26873902.38 -26873902.22 0.1690 0.0192

Mars -78289-02-04 03:20 J -26873600.48 -26873600.36 -26873600.25 0.1848 0.0509

Venus -78287-11-24 15:35 J -26872575.91 -26872575.85 -26872575.78 0.3596 0.3143

Jupiter -78285-03-06 17:30 J -26872107.86 -26872107.77 -26872107.68 0.0535 0.0367

Jupiter -78285-06-04 00:42 J -26872018.59 -26872018.47 -26872018.34 0.0534 0.0083

Venus -78285-06-11 02:23 J -26872011.49 -26872011.40 -26872011.32 0.3768 0.2371

Moon -78283-09-20 21:35 J -26871179.66 -26871179.60 -26871179.54 0.2589 0.2390

Earth -78283-09-20 22:32 J -26871179.63 -26871179.56 -26871179.49 0.2594 0.2283 *

Venus -78281-06-09 17:01 J -26870551.92 -26870551.79 -26870551.66 0.3600 0.1332

Mars -78281-08-28 03:35 J -26870472.47 -26870472.35 -26870472.24 0.1682 0.1192

Earth -78280-03-29 10:04 J -26870259.17 -26870259.08 -26870258.99 0.2744 0.1373

Moon -78280-03-29 10:18 J -26870259.16 -26870259.07 -26870258.98 0.2737 0.1463 *

Mars -78280-06-26 11:44 J -26870170.13 -26870170.01 -26870169.90 0.1857 0.0309

Saturn -78280-09-20 10:04 J -26870084.13 -26870084.08 -26870084.02 0.0280 0.0255

Saturn -78280-12-17 21:06 J -26869995.73 -26869995.62 -26869995.51 0.0280 0.0150

Venus -78280-12-25 21:06 J -26869987.64 -26869987.62 -26869987.59 0.3765 0.3640

Saturn -78279-03-16 08:08 J -26869907.29 -26869907.16 -26869907.03 0.0279 0.0044

Jupiter -78279-05-02 22:04 J -26869859.75 -26869859.58 -26869859.41 0.0492 0.0206

Saturn -78279-06-12 19:11 J -26869818.83 -26869818.70 -26869818.57 0.0278 0.0061

Jupiter -78279-08-01 05:16 J -26869769.41 -26869769.28 -26869769.13 0.0493 0.0315

Saturn -78279-09-09 05:59 J -26869730.35 -26869730.25 -26869730.14 0.0277 0.0165

Saturn -78279-12-06 17:01 J -26869641.81 -26869641.79 -26869641.75 0.0276 0.0268

Uranus -78278-07-18 06:56 J -26869418.29 -26869418.21 -26869418.09 0.0142 0.0122

Uranus -78278-10-14 15:06 J -26869330.00 -26869329.87 -26869329.72 0.0142 0.0095

Uranus -78277-01-10 23:01 J -26869241.70 -26869241.54 -26869241.37 0.0141 0.0068

Uranus -78277-04-08 06:56 J -26869153.39 -26869153.21 -26869153.03 0.0141 0.0041

Uranus -78277-07-05 14:37 J -26869065.07 -26869064.89 -26869064.70 0.0141 0.0015

Uranus -78277-10-01 22:18 J -26868976.75 -26868976.57 -26868976.38 0.0141 0.0012

Uranus -78277-12-29 05:59 J -26868888.43 -26868888.25 -26868888.07 0.0141 0.0037

Uranus -78276-03-27 13:25 J -26868800.10 -26868799.94 -26868799.76 0.0141 0.0063

Uranus -78276-06-23 21:06 J -26868711.76 -26868711.62 -26868711.47 0.0141 0.0088

Uranus -78276-09-20 04:32 J -26868623.42 -26868623.31 -26868623.20 0.0140 0.0113

Uranus -78276-12-17 11:59 J -26868535.03 -26868535.00 -26868534.97 0.0140 0.0138

Venus -78276-12-24 17:44 J -26868527.89 -26868527.76 -26868527.62 0.3603 0.0408

Jupiter -78274-12-24 21:20 J -26867797.66 -26867797.61 -26867797.55 0.0535 0.0478

Earth -78273-03-22 08:23 J -26867709.21 -26867709.15 -26867709.08 0.2741 0.2164

Moon -78273-03-22 08:37 J -26867709.20 -26867709.14 -26867709.07 0.2748 0.2131 *

Jupiter -78273-03-23 04:32 J -26867708.44 -26867708.31 -26867708.18 0.0534 0.0031

Jupiter -78273-06-20 12:13 J -26867619.07 -26867618.99 -26867618.91 0.0533 0.0422

Mars -78271-11-16 20:08 J -26866739.75 -26866739.66 -26866739.57 0.1865 0.1138

Venus -78270-07-10 18:13 J -26866503.85 -26866503.74 -26866503.63 0.3607 0.2056

Moon -78270-09-24 03:20 J -26866428.52 -26866428.36 -26866428.20 0.2592 0.0213

Earth -78270-09-24 05:01 J -26866428.45 -26866428.29 -26866428.13 0.2593 0.0066 *

Jupiter -78267-02-18 19:40 J -26865549.81 -26865549.68 -26865549.54 0.0492 0.0337

Moon -78267-04-01 04:18 J -26865508.35 -26865508.32 -26865508.29 0.2737 0.2599

Earth -78267-04-01 04:18 J -26865508.34 -26865508.32 -26865508.29 0.2744 0.2670 *

Jupiter -78267-05-20 03:20 J -26865459.53 -26865459.36 -26865459.19 0.0493 0.0186

Saturn -78264-12-28 23:01 J -26864140.70 -26864140.54 -26864140.37 0.0282 0.0136

Saturn -78263-03-27 22:47 J -26864051.73 -26864051.55 -26864051.36 0.0283 0.0025

Saturn -78263-06-24 22:18 J -26863962.70 -26863962.57 -26863962.42 0.0284 0.0183

Jupiter -78261-01-10 08:23 J -26863398.27 -26863398.15 -26863398.03 0.0535 0.0144

Jupiter -78261-04-08 15:49 J -26863308.94 -26863308.84 -26863308.73 0.0534 0.0309

Earth -78260-03-25 02:37 J -26862958.50 -26862958.39 -26862958.29 0.2742 0.0916

Moon -78260-03-25 03:20 J -26862958.47 -26862958.36 -26862958.26 0.2743 0.0856 *

Mars -78260-05-17 02:37 J -26862905.52 -26862905.39 -26862905.25 0.1698 0.0942

Mars -78259-03-14 18:56 J -26862603.78 -26862603.71 -26862603.64 0.1839 0.1424

Moon -78257-09-26 09:20 J -26861677.20 -26861677.11 -26861677.02 0.2594 0.2141

Earth -78257-09-26 11:01 J -26861677.12 -26861677.04 -26861676.96 0.2592 0.2201 *

Venus -78256-05-04 05:01 J -26861457.34 -26861457.29 -26861457.23 0.3785 0.3142

Jupiter -78256-12-07 17:16 J -26861239.83 -26861239.78 -26861239.71 0.0491 0.0466

Jupiter -78255-03-08 01:25 J -26861149.62 -26861149.44 -26861149.26 0.0492 0.0058

Mars -78251-10-07 03:35 J -26859475.51 -26859475.35 -26859475.19 0.1690 0.0060

Venus -78251-11-17 23:01 J -26859433.63 -26859433.54 -26859433.45 0.3782 0.2019

Saturn -78250-05-06 23:01 J -26859263.64 -26859263.54 -26859263.44 0.0279 0.0184

Saturn -78250-08-03 09:49 J -26859175.21 -26859175.09 -26859174.96 0.0278 0.0080

Mars -78250-08-05 03:20 J -26859173.47 -26859173.36 -26859173.25 0.1848 0.0610

Jupiter -78250-10-29 12:42 J -26859088.08 -26859087.97 -26859087.86 0.0535 0.0250

Saturn -78250-10-30 20:52 J -26859086.76 -26859086.63 -26859086.49 0.0277 0.0026

Jupiter -78249-01-26 20:08 J -26858998.78 -26858998.66 -26858998.54 0.0534 0.0202

Saturn -78249-01-27 07:54 J -26858998.29 -26858998.17 -26858998.05 0.0276 0.0129

Saturn -78249-04-24 18:56 J -26858909.78 -26858909.71 -26858909.64 0.0276 0.0232

Earth -78247-03-27 20:37 J -26858207.75 -26858207.64 -26858207.53 0.2743 0.0359

Moon -78247-03-27 21:20 J -26858207.72 -26858207.61 -26858207.50 0.2740 0.0500 *

Venus -78245-06-02 17:16 J -26857409.89 -26857409.78 -26857409.68 0.3778 0.0871

Jupiter -78244-12-24 23:01 J -26856839.73 -26856839.54 -26856839.36 0.0492 0.0074

Jupiter -78243-03-25 05:44 J -26856749.33 -26856749.26 -26856749.18 0.0493 0.0443

Mars -78241-02-27 04:18 J -26856045.45 -26856045.32 -26856045.20 0.1682 0.1055

Mars -78241-12-25 11:44 J -26855743.13 -26855743.01 -26855742.89 0.1856 0.0213

Venus -78240-12-17 11:30 J -26855386.13 -26855386.02 -26855385.91 0.3775 0.0322

Jupiter -78238-08-17 17:01 J -26854777.88 -26854777.79 -26854777.70 0.0536 0.0355

Jupiter -78238-11-15 00:13 J -26854688.61 -26854688.49 -26854688.36 0.0535 0.0096

Moon -78237-09-21 04:04 J -26854377.44 -26854377.33 -26854377.22 0.2589 0.1894

Earth -78237-09-21 05:01 J -26854377.40 -26854377.29 -26854377.18 0.2594 0.1829 *

Neptune -78236-10-15 14:37 J -26853987.89 -26853987.89 -26853987.88 0.0089 0.0089

Neptune -78235-01-11 16:04 J -26853899.87 -26853899.83 -26853899.79 0.0089 0.0084

Neptune -78235-04-09 17:01 J -26853811.83 -26853811.79 -26853811.72 0.0089 0.0080

Neptune -78235-07-06 18:13 J -26853723.79 -26853723.74 -26853723.65 0.0089 0.0076

Neptune -78235-10-02 19:54 J -26853635.75 -26853635.67 -26853635.59 0.0089 0.0071

Neptune -78235-12-29 20:52 J -26853547.70 -26853547.63 -26853547.53 0.0089 0.0067

Neptune -78234-03-27 22:32 J -26853459.65 -26853459.56 -26853459.47 0.0089 0.0062

Moon -78234-03-30 15:06 J -26853456.96 -26853456.87 -26853456.78 0.2736 0.1591

Earth -78234-03-30 14:52 J -26853456.96 -26853456.88 -26853456.79 0.2744 0.1639 *

Saturn -78234-05-17 18:13 J -26853408.87 -26853408.74 -26853408.61 0.0282 0.0203

Neptune -78234-06-23 23:44 J -26853371.60 -26853371.51 -26853371.40 0.0089 0.0058

Venus -78234-07-03 05:59 J -26853362.35 -26853362.25 -26853362.15 0.3771 0.1535

Saturn -78234-08-14 17:59 J -26853319.94 -26853319.75 -26853319.57 0.0282 0.0044

Neptune -78234-09-20 01:11 J -26853283.55 -26853283.45 -26853283.34 0.0089 0.0053

Saturn -78234-11-11 17:30 J -26853230.93 -26853230.77 -26853230.60 0.0283 0.0115

Neptune -78234-12-17 02:23 J -26853195.51 -26853195.40 -26853195.29 0.0089 0.0049

Uranus -78234-12-18 23:59 J -26853193.53 -26853193.50 -26853193.46 0.0137 0.0132

Saturn -78233-02-08 16:47 J -26853141.83 -26853141.80 -26853141.74 0.0284 0.0275

Neptune -78233-03-14 03:49 J -26853107.45 -26853107.34 -26853107.23 0.0089 0.0044

Uranus -78233-03-16 03:06 J -26853105.43 -26853105.37 -26853105.29 0.0137 0.0116

Neptune -78233-06-10 05:01 J -26853019.40 -26853019.29 -26853019.17 0.0089 0.0040

Uranus -78233-06-12 06:28 J -26853017.31 -26853017.23 -26853017.13 0.0137 0.0099

Neptune -78233-09-06 06:28 J -26852931.35 -26852931.23 -26852931.11 0.0089 0.0035

Uranus -78233-09-08 09:49 J -26852929.19 -26852929.09 -26852928.98 0.0137 0.0083

Neptune -78233-12-03 07:40 J -26852843.30 -26852843.18 -26852843.05 0.0089 0.0031

Uranus -78233-12-05 12:56 J -26852841.07 -26852840.96 -26852840.83 0.0137 0.0066

Neptune -78232-03-01 09:06 J -26852755.25 -26852755.12 -26852754.99 0.0089 0.0026

Uranus -78232-03-03 16:18 J -26852752.94 -26852752.82 -26852752.69 0.0137 0.0050

Neptune -78232-05-28 10:18 J -26852667.19 -26852667.07 -26852666.94 0.0089 0.0022

Uranus -78232-05-30 19:40 J -26852664.81 -26852664.68 -26852664.54 0.0138 0.0033

Neptune -78232-08-24 11:44 J -26852579.14 -26852579.01 -26852578.88 0.0089 0.0017

Uranus -78232-08-26 23:01 J -26852576.67 -26852576.54 -26852576.40 0.0138 0.0016

Jupiter -78232-10-12 21:06 J -26852529.79 -26852529.62 -26852529.45 0.0492 0.0198

Neptune -78232-11-20 12:56 J -26852491.09 -26852490.96 -26852490.82 0.0089 0.0013

Uranus -78232-11-23 02:23 J -26852488.53 -26852488.40 -26852488.26 0.0138 0.0005

Jupiter -78231-01-11 04:18 J -26852439.45 -26852439.32 -26852439.18 0.0493 0.0322

Neptune -78231-02-16 14:23 J -26852403.03 -26852402.90 -26852402.77 0.0089 0.0008

Uranus -78231-02-19 05:44 J -26852400.39 -26852400.26 -26852400.12 0.0138 0.0020

Neptune -78231-05-15 15:49 J -26852314.98 -26852314.84 -26852314.71 0.0089 0.0004

Mars -78231-05-17 20:08 J -26852312.76 -26852312.66 -26852312.57 0.1865 0.1049

Uranus -78231-05-18 09:06 J -26852312.24 -26852312.12 -26852311.98 0.0138 0.0037

Neptune -78231-08-11 17:01 J -26852226.92 -26852226.79 -26852226.66 0.0089 0.0002

Uranus -78231-08-14 12:42 J -26852224.09 -26852223.97 -26852223.85 0.0138 0.0054

Neptune -78231-11-07 18:28 J -26852138.87 -26852138.73 -26852138.60 0.0089 0.0006

Uranus -78231-11-10 16:04 J -26852135.94 -26852135.83 -26852135.71 0.0138 0.0072

Neptune -78230-02-03 19:40 J -26852050.81 -26852050.68 -26852050.55 0.0089 0.0011

Uranus -78230-02-06 19:25 J -26852047.78 -26852047.69 -26852047.58 0.0139 0.0090

Neptune -78230-05-02 21:06 J -26851962.75 -26851962.62 -26851962.49 0.0089 0.0015

Uranus -78230-05-05 23:01 J -26851959.62 -26851959.54 -26851959.45 0.0139 0.0108

Venus -78230-07-01 15:49 J -26851902.94 -26851902.84 -26851902.74 0.3597 0.2568

Neptune -78230-07-29 22:18 J -26851874.70 -26851874.57 -26851874.44 0.0089 0.0020

Uranus -78230-08-02 02:23 J -26851871.44 -26851871.40 -26851871.33 0.0139 0.0126

Neptune -78230-10-25 23:44 J -26851786.64 -26851786.51 -26851786.38 0.0089 0.0024

Neptune -78229-01-22 00:56 J -26851698.58 -26851698.46 -26851698.33 0.0089 0.0029

Neptune -78229-04-19 02:23 J -26851610.52 -26851610.40 -26851610.27 0.0089 0.0033

Neptune -78229-07-16 03:49 J -26851522.46 -26851522.34 -26851522.22 0.0089 0.0038

Neptune -78229-10-12 05:01 J -26851434.40 -26851434.29 -26851434.17 0.0089 0.0043

Neptune -78228-01-08 06:28 J -26851346.34 -26851346.23 -26851346.11 0.0089 0.0047

Venus -78228-01-16 00:42 J -26851338.55 -26851338.47 -26851338.40 0.3768 0.2779

Neptune -78228-04-06 07:40 J -26851258.28 -26851258.18 -26851258.06 0.0089 0.0052

Neptune -78228-07-03 08:52 J -26851170.22 -26851170.13 -26851170.01 0.0089 0.0057

Neptune -78228-09-29 10:32 J -26851082.15 -26851082.06 -26851081.96 0.0089 0.0061

Neptune -78228-12-26 11:44 J -26850994.09 -26850994.01 -26850993.91 0.0089 0.0066

Earth -78227-03-23 13:11 J -26850907.02 -26850906.95 -26850906.87 0.2741 0.1907

Moon -78227-03-23 13:40 J -26850907.01 -26850906.93 -26850906.85 0.2747 0.1850 *

Neptune -78227-03-24 13:25 J -26850906.02 -26850905.94 -26850905.86 0.0089 0.0070

Neptune -78227-06-20 14:37 J -26850817.95 -26850817.89 -26850817.81 0.0089 0.0075

Neptune -78227-09-16 15:49 J -26850729.88 -26850729.84 -26850729.77 0.0089 0.0080

Neptune -78227-12-13 17:30 J -26850641.81 -26850641.77 -26850641.73 0.0089 0.0084

Neptune -78226-03-11 18:56 J -26850553.71 -26850553.71 -26850553.71 0.0089 0.0089

Jupiter -78226-06-05 20:37 J -26850467.70 -26850467.64 -26850467.58 0.0535 0.0470

Jupiter -78226-09-03 03:49 J -26850378.47 -26850378.34 -26850378.21 0.0534 0.0026

Jupiter -78226-12-01 11:16 J -26850289.10 -26850289.03 -26850288.95 0.0533 0.0430

Venus -78224-01-14 17:01 J -26849878.92 -26849878.79 -26849878.66 0.3601 0.0774

Moon -78224-09-24 09:49 J -26849626.25 -26849626.09 -26849625.94 0.2593 0.0280

Earth -78224-09-24 11:30 J -26849626.18 -26849626.02 -26849625.86 0.2593 0.0437 *

Saturn -78221-09-23 00:56 J -26848531.54 -26848531.46 -26848531.38 0.0280 0.0220

Mars -78221-11-15 03:20 J -26848478.49 -26848478.36 -26848478.24 0.1698 0.1075

Saturn -78221-12-20 11:59 J -26848443.12 -26848443.00 -26848442.88 0.0279 0.0114

Saturn -78220-03-18 23:01 J -26848354.67 -26848354.54 -26848354.41 0.0279 0.0009

Saturn -78220-06-15 10:04 J -26848266.21 -26848266.08 -26848265.96 0.0278 0.0096

Jupiter -78220-07-31 18:56 J -26848219.85 -26848219.71 -26848219.57 0.0492 0.0327

Saturn -78220-09-11 20:52 J -26848177.71 -26848177.63 -26848177.53 0.0277 0.0201

Mars -78220-09-12 18:56 J -26848176.77 -26848176.71 -26848176.65 0.1839 0.1524

Jupiter -78220-10-30 02:37 J -26848129.55 -26848129.39 -26848129.22 0.0493 0.0196

Venus -78219-07-31 17:30 J -26847854.90 -26847854.77 -26847854.63 0.3604 0.0941

Earth -78214-03-26 07:25 J -26846156.30 -26846156.19 -26846156.09 0.2742 0.0653

Moon -78214-03-26 08:08 J -26846156.27 -26846156.16 -26846156.05 0.2743 0.0543 *

Jupiter -78214-06-22 07:40 J -26846068.31 -26846068.18 -26846068.06 0.0534 0.0137

Jupiter -78214-09-19 15:06 J -26845978.98 -26845978.87 -26845978.77 0.0533 0.0316

Venus -78213-02-14 17:59 J -26845830.85 -26845830.75 -26845830.66 0.3609 0.2583

Mars -78211-04-07 03:49 J -26845048.50 -26845048.34 -26845048.17 0.1690 0.0082

Moon -78211-09-27 16:04 J -26844874.88 -26844874.83 -26844874.78 0.2595 0.2440

Mars -78210-02-03 03:20 J -26844746.47 -26844746.36 -26844746.25 0.1848 0.0717

Jupiter -78208-05-19 16:32 J -26843909.87 -26843909.81 -26843909.74 0.0492 0.0457

Jupiter -78208-08-18 00:28 J -26843819.66 -26843819.48 -26843819.29 0.0493 0.0069

Saturn -78205-10-03 16:32 J -26842676.89 -26842676.81 -26842676.72 0.0281 0.0246

Saturn -78205-12-31 16:18 J -26842587.99 -26842587.82 -26842587.64 0.0282 0.0088

Saturn -78204-03-30 16:04 J -26842499.01 -26842498.83 -26842498.65 0.0283 0.0071

Saturn -78204-06-27 15:35 J -26842409.96 -26842409.85 -26842409.74 0.0284 0.0229

Jupiter -78202-04-10 11:16 J -26841758.14 -26841758.03 -26841757.91 0.0535 0.0250

Jupiter -78202-07-08 18:42 J -26841668.84 -26841668.72 -26841668.60 0.0534 0.0202

Mars -78202-08-28 05:01 J -26841618.43 -26841618.29 -26841618.16 0.1683 0.0916

Earth -78201-03-28 01:25 J -26841405.54 -26841405.44 -26841405.33 0.2743 0.0629

Moon -78201-03-28 02:08 J -26841405.52 -26841405.41 -26841405.30 0.2739 0.0643 *

Mars -78201-06-25 11:44 J -26841316.13 -26841316.01 -26841315.89 0.1856 0.0114

Venus -78200-12-09 03:06 J -26840784.44 -26840784.37 -26840784.29 0.3784 0.2790

Jupiter -78196-06-05 22:32 J -26839509.75 -26839509.56 -26839509.38 0.0492 0.0061

Jupiter -78196-09-04 05:30 J -26839419.34 -26839419.27 -26839419.20 0.0493 0.0455

Venus -78194-06-24 21:06 J -26838760.71 -26838760.62 -26838760.52 0.3781 0.1657

Uranus -78194-08-07 14:23 J -26838717.00 -26838716.90 -26838716.79 0.0142 0.0116

Uranus -78194-11-03 22:04 J -26838628.71 -26838628.58 -26838628.42 0.0142 0.0090

Uranus -78193-01-31 06:13 J -26838540.41 -26838540.24 -26838540.07 0.0142 0.0063

Uranus -78193-04-28 13:54 J -26838452.09 -26838451.92 -26838451.73 0.0141 0.0037

Uranus -78193-07-25 21:49 J -26838363.78 -26838363.59 -26838363.40 0.0141 0.0010

Uranus -78193-10-22 05:30 J -26838275.45 -26838275.27 -26838275.08 0.0141 0.0017

Uranus -78192-01-18 13:11 J -26838187.13 -26838186.95 -26838186.77 0.0141 0.0042

Uranus -78192-04-16 20:37 J -26838098.80 -26838098.64 -26838098.47 0.0141 0.0068

Uranus -78192-07-14 04:04 J -26838010.46 -26838010.33 -26838010.18 0.0141 0.0094

Uranus -78192-10-10 11:30 J -26837922.11 -26837922.02 -26837921.91 0.0140 0.0119

Mars -78192-11-15 20:08 J -26837885.76 -26837885.66 -26837885.56 0.1865 0.0943

Saturn -78191-02-10 02:52 J -26837799.43 -26837799.38 -26837799.33 0.0280 0.0254

Saturn -78191-05-09 13:54 J -26837711.03 -26837710.92 -26837710.81 0.0279 0.0149

Saturn -78191-08-06 00:56 J -26837622.59 -26837622.46 -26837622.33 0.0278 0.0044

Moon -78191-09-22 10:18 J -26837575.19 -26837575.07 -26837574.94 0.2591 0.1570

Earth -78191-09-22 11:44 J -26837575.15 -26837575.01 -26837574.88 0.2594 0.1366 *

Saturn -78191-11-02 11:44 J -26837534.13 -26837534.01 -26837533.88 0.0277 0.0062

Jupiter -78190-01-27 15:35 J -26837447.94 -26837447.85 -26837447.75 0.0536 0.0356

Saturn -78190-01-29 22:47 J -26837445.65 -26837445.55 -26837445.44 0.0277 0.0165

Jupiter -78190-04-26 22:47 J -26837358.67 -26837358.55 -26837358.42 0.0535 0.0096

Saturn -78190-04-28 09:49 J -26837357.11 -26837357.09 -26837357.06 0.0276 0.0268

Venus -78188-01-07 15:20 J -26836736.97 -26836736.86 -26836736.75 0.3778 0.0491

Earth -78188-03-30 19:54 J -26836654.75 -26836654.67 -26836654.60 0.2744 0.1904

Moon -78188-03-30 19:54 J -26836654.74 -26836654.67 -26836654.59 0.2736 0.1982 *

Jupiter -78184-03-24 19:54 J -26835199.83 -26835199.67 -26835199.50 0.0492 0.0192

Jupiter -78184-06-23 03:20 J -26835109.50 -26835109.36 -26835109.23 0.0493 0.0327

Venus -78183-07-24 09:35 J -26834713.20 -26834713.10 -26834712.99 0.3774 0.0731

Mars -78182-04-08 04:18 J -26834455.35 -26834455.32 -26834455.28 0.1873 0.1794

Earth -78181-03-23 17:59 J -26834104.83 -26834104.75 -26834104.66 0.2741 0.1653

Moon -78181-03-23 18:42 J -26834104.81 -26834104.72 -26834104.64 0.2745 0.1629 *

Mars -78181-05-16 03:49 J -26834051.45 -26834051.34 -26834051.23 0.1698 0.1205

Mars -78180-03-13 18:56 J -26833749.76 -26833749.71 -26833749.66 0.1839 0.1625

Jupiter -78179-11-15 19:54 J -26833137.73 -26833137.67 -26833137.60 0.0536 0.0461

Jupiter -78178-02-13 03:06 J -26833048.50 -26833048.37 -26833048.24 0.0535 0.0017

Jupiter -78178-05-13 10:47 J -26832959.12 -26832959.05 -26832958.98 0.0533 0.0442

Moon -78178-09-25 16:18 J -26832823.98 -26832823.82 -26832823.67 0.2593 0.0713

Earth -78178-09-25 17:59 J -26832823.90 -26832823.75 -26832823.60 0.2593 0.0883 *

Venus -78177-02-07 04:18 J -26832689.42 -26832689.32 -26832689.23 0.3770 0.1940

Saturn -78175-05-20 11:16 J -26831856.18 -26831856.03 -26831855.87 0.0281 0.0156

Saturn -78175-08-17 11:01 J -26831767.22 -26831767.04 -26831766.85 0.0282 0.0006

Saturn -78175-11-14 10:32 J -26831678.21 -26831678.06 -26831677.90 0.0283 0.0162

Venus -78173-02-05 15:49 J -26831229.95 -26831229.84 -26831229.72 0.3598 0.2000

Jupiter -78172-01-10 17:59 J -26830889.88 -26830889.75 -26830889.60 0.0492 0.0318

Jupiter -78172-04-11 01:40 J -26830799.59 -26830799.43 -26830799.26 0.0493 0.0205

Venus -78172-08-22 23:01 J -26830665.60 -26830665.54 -26830665.49 0.3767 0.3198

Mars -78172-10-06 04:47 J -26830621.46 -26830621.30 -26830621.14 0.1690 0.0212

Mars -78171-08-04 03:20 J -26830319.47 -26830319.36 -26830319.25 0.1847 0.0807

Earth -78168-03-26 12:13 J -26829354.10 -26829353.99 -26829353.88 0.2742 0.0391

Moon -78168-03-26 12:56 J -26829354.07 -26829353.96 -26829353.85 0.2743 0.0304 *

Venus -78168-08-21 16:47 J -26829205.93 -26829205.80 -26829205.66 0.3602 0.0256

Jupiter -78167-12-02 06:42 J -26828738.34 -26828738.22 -26828738.09 0.0534 0.0129

Jupiter -78166-03-01 14:08 J -26828649.01 -26828648.91 -26828648.80 0.0533 0.0324

Pluto -78163-02-15 17:59 J -26827566.79 -26827566.75 -26827566.65 0.0060 0.0056

Pluto -78163-05-14 19:25 J -26827478.77 -26827478.69 -26827478.56 0.0060 0.0051

Pluto -78163-08-10 21:06 J -26827390.74 -26827390.62 -26827390.49 0.0060 0.0044

Pluto -78163-11-06 22:32 J -26827302.70 -26827302.56 -26827302.41 0.0060 0.0039

Pluto -78162-02-02 23:30 J -26827214.66 -26827214.52 -26827214.34 0.0060 0.0033

Mars -78162-02-26 05:30 J -26827191.42 -26827191.27 -26827191.13 0.1682 0.0792

Venus -78162-03-07 17:30 J -26827181.89 -26827181.77 -26827181.65 0.3606 0.1470

Pluto -78162-05-02 00:56 J -26827126.61 -26827126.46 -26827126.28 0.0060 0.0028

Pluto -78162-07-29 02:23 J -26827038.57 -26827038.40 -26827038.21 0.0060 0.0022

Saturn -78162-09-26 15:35 J -26826978.94 -26826978.85 -26826978.75 0.0280 0.0185

Pluto -78162-10-25 03:49 J -26826950.52 -26826950.34 -26826950.15 0.0060 0.0016

Saturn -78162-12-24 02:37 J -26826890.51 -26826890.39 -26826890.26 0.0280 0.0080

Mars -78162-12-25 11:44 J -26826889.13 -26826889.01 -26826888.89 0.1856 0.0033

Pluto -78161-01-21 05:16 J -26826862.46 -26826862.28 -26826862.09 0.0061 0.0010

Saturn -78161-03-21 13:40 J -26826802.06 -26826801.93 -26826801.80 0.0279 0.0027

Pluto -78161-04-18 06:42 J -26826774.41 -26826774.22 -26826774.03 0.0061 0.0004

Saturn -78161-06-18 00:42 J -26826713.58 -26826713.47 -26826713.35 0.0278 0.0132

Pluto -78161-07-15 08:08 J -26826686.35 -26826686.16 -26826685.97 0.0061 0.0002

Saturn -78161-09-14 11:44 J -26826625.07 -26826625.01 -26826624.94 0.0277 0.0236

Pluto -78161-10-11 09:20 J -26826598.29 -26826598.11 -26826597.91 0.0061 0.0008

Jupiter -78161-10-29 15:35 J -26826579.92 -26826579.85 -26826579.77 0.0492 0.0449

Pluto -78160-01-07 10:47 J -26826510.23 -26826510.05 -26826509.86 0.0061 0.0014

Jupiter -78160-01-27 23:44 J -26826489.69 -26826489.51 -26826489.33 0.0493 0.0076

Pluto -78160-04-05 11:59 J -26826422.17 -26826422.00 -26826421.81 0.0061 0.0020

Pluto -78160-07-02 13:25 J -26826334.10 -26826333.94 -26826333.76 0.0061 0.0026

Pluto -78160-09-28 14:37 J -26826246.03 -26826245.89 -26826245.71 0.0061 0.0033

Pluto -78160-12-25 16:04 J -26826157.96 -26826157.83 -26826157.66 0.0061 0.0038

Pluto -78159-03-23 17:30 J -26826069.88 -26826069.77 -26826069.62 0.0061 0.0045

Pluto -78159-06-19 18:56 J -26825981.80 -26825981.71 -26825981.58 0.0061 0.0051

Pluto -78159-09-15 20:37 J -26825893.70 -26825893.64 -26825893.56 0.0061 0.0057

Venus -78157-09-20 17:30 J -26825157.83 -26825157.77 -26825157.70 0.3609 0.3094

Earth -78155-03-29 06:28 J -26824603.34 -26824603.23 -26824603.13 0.2743 0.0882

Moon -78155-03-29 06:56 J -26824603.31 -26824603.21 -26824603.11 0.2737 0.0966 *

Jupiter -78155-09-20 10:32 J -26824428.17 -26824428.06 -26824427.94 0.0534 0.0241

Jupiter -78155-12-18 17:59 J -26824338.87 -26824338.75 -26824338.63 0.0533 0.0210

Neptune -78152-04-01 16:18 J -26823503.83 -26823503.82 -26823503.78 0.0088 0.0088

Mars -78152-05-16 20:08 J -26823458.76 -26823458.66 -26823458.55 0.1865 0.0845

Neptune -78152-06-28 20:23 J -26823415.73 -26823415.65 -26823415.57 0.0088 0.0081

Neptune -78152-09-24 23:44 J -26823327.60 -26823327.51 -26823327.39 0.0088 0.0075

Neptune -78152-12-22 03:35 J -26823239.47 -26823239.35 -26823239.22 0.0088 0.0068

Neptune -78151-03-20 07:25 J -26823151.33 -26823151.19 -26823151.05 0.0088 0.0061

Neptune -78151-06-16 10:47 J -26823063.19 -26823063.05 -26823062.88 0.0088 0.0055

Neptune -78151-09-12 14:37 J -26822975.05 -26822974.89 -26822974.72 0.0088 0.0048

Neptune -78151-12-09 18:28 J -26822886.90 -26822886.73 -26822886.56 0.0088 0.0041

Neptune -78150-03-07 21:49 J -26822798.76 -26822798.59 -26822798.40 0.0088 0.0035

Neptune -78150-06-04 01:40 J -26822710.61 -26822710.43 -26822710.24 0.0088 0.0028

Neptune -78150-08-31 05:16 J -26822622.46 -26822622.28 -26822622.08 0.0088 0.0021

Neptune -78150-11-27 09:06 J -26822534.31 -26822534.12 -26822533.93 0.0088 0.0014

Uranus -78149-01-08 07:25 J -26822492.23 -26822492.19 -26822492.13 0.0137 0.0127

Neptune -78149-02-23 12:42 J -26822446.16 -26822445.97 -26822445.77 0.0088 0.0008

Uranus -78149-04-05 10:47 J -26822404.12 -26822404.05 -26822403.97 0.0137 0.0110

Neptune -78149-05-21 16:18 J -26822358.01 -26822357.82 -26822357.62 0.0088 0.0002

Uranus -78149-07-02 14:08 J -26822316.01 -26822315.91 -26822315.81 0.0137 0.0094

Neptune -78149-08-17 19:54 J -26822269.86 -26822269.67 -26822269.47 0.0088 0.0006

Uranus -78149-09-28 17:30 J -26822227.88 -26822227.77 -26822227.66 0.0137 0.0078

Neptune -78149-11-13 23:30 J -26822181.71 -26822181.52 -26822181.32 0.0088 0.0013

Jupiter -78149-11-15 21:35 J -26822179.78 -26822179.60 -26822179.42 0.0492 0.0053

Uranus -78149-12-25 20:37 J -26822139.76 -26822139.64 -26822139.52 0.0137 0.0061

Venus -78149-12-30 07:25 J -26822135.23 -26822135.19 -26822135.16 0.3787 0.3547

Neptune -78148-02-10 03:20 J -26822093.55 -26822093.36 -26822093.17 0.0088 0.0019

Jupiter -78148-02-14 04:32 J -26822089.36 -26822089.31 -26822089.25 0.0493 0.0464

Earth -78148-03-22 05:01 J -26822053.32 -26822053.29 -26822053.27 0.2740 0.2632

Moon -78148-03-22 05:01 J -26822053.31 -26822053.29 -26822053.28 0.2747 0.2698 *

Uranus -78148-03-23 23:59 J -26822051.63 -26822051.50 -26822051.37 0.0137 0.0044

Neptune -78148-05-09 06:42 J -26822005.40 -26822005.22 -26822005.03 0.0088 0.0026

Uranus -78148-06-20 03:20 J -26821963.49 -26821963.36 -26821963.23 0.0137 0.0027

Neptune -78148-08-05 10:18 J -26821917.24 -26821917.07 -26821916.88 0.0088 0.0032

Uranus -78148-09-16 06:42 J -26821875.36 -26821875.22 -26821875.09 0.0138 0.0010

Neptune -78148-11-01 13:54 J -26821829.09 -26821828.92 -26821828.74 0.0088 0.0039

Uranus -78148-12-13 10:04 J -26821787.22 -26821787.08 -26821786.95 0.0138 0.0007

Neptune -78147-01-28 17:16 J -26821740.93 -26821740.78 -26821740.60 0.0088 0.0046

Uranus -78147-03-11 13:25 J -26821699.07 -26821698.94 -26821698.81 0.0138 0.0024

Neptune -78147-04-26 21:06 J -26821652.77 -26821652.62 -26821652.46 0.0088 0.0052

Uranus -78147-06-07 16:47 J -26821610.93 -26821610.80 -26821610.67 0.0138 0.0042

Neptune -78147-07-24 00:28 J -26821564.61 -26821564.48 -26821564.32 0.0088 0.0059

Uranus -78147-09-03 20:08 J -26821522.78 -26821522.66 -26821522.54 0.0138 0.0059

Neptune -78147-10-20 04:18 J -26821476.45 -26821476.32 -26821476.18 0.0088 0.0065

Uranus -78147-11-30 23:30 J -26821434.62 -26821434.52 -26821434.40 0.0138 0.0077

Neptune -78146-01-16 07:25 J -26821388.28 -26821388.19 -26821388.05 0.0088 0.0072

Uranus -78146-02-27 03:06 J -26821346.47 -26821346.37 -26821346.27 0.0139 0.0095

Neptune -78146-04-14 11:16 J -26821300.11 -26821300.03 -26821299.93 0.0088 0.0078

Uranus -78146-05-26 06:28 J -26821258.30 -26821258.23 -26821258.15 0.0139 0.0113

Neptune -78146-07-11 14:37 J -26821211.93 -26821211.89 -26821211.81 0.0088 0.0084

Uranus -78146-08-22 10:04 J -26821170.12 -26821170.08 -26821170.03 0.0139 0.0131

Saturn -78146-10-07 10:04 J -26821124.21 -26821124.08 -26821123.94 0.0281 0.0197

Saturn -78145-01-04 10:04 J -26821035.27 -26821035.08 -26821034.90 0.0282 0.0039

Saturn -78145-04-02 09:35 J -26820946.27 -26820946.10 -26820945.93 0.0283 0.0120

Saturn -78145-06-30 08:52 J -26820857.16 -26820857.13 -26820857.09 0.0284 0.0278

Moon -78145-09-22 16:47 J -26820772.95 -26820772.80 -26820772.66 0.2591 0.0979

Earth -78145-09-22 18:13 J -26820772.89 -26820772.74 -26820772.59 0.2594 0.0915 *

Jupiter -78143-07-09 14:23 J -26820117.99 -26820117.90 -26820117.81 0.0535 0.0355

Venus -78143-07-16 01:11 J -26820111.53 -26820111.45 -26820111.36 0.3783 0.2431

Jupiter -78143-10-06 21:35 J -26820028.73 -26820028.60 -26820028.47 0.0534 0.0095

Mars -78143-10-07 04:32 J -26820028.36 -26820028.31 -26820028.27 0.1873 0.1691

Moon -78142-04-01 00:42 J -26819852.54 -26819852.47 -26819852.40 0.2737 0.2115

Earth -78142-04-01 00:42 J -26819852.54 -26819852.47 -26819852.41 0.2744 0.2168 *

Mars -78142-11-15 04:32 J -26819624.41 -26819624.31 -26819624.21 0.1698 0.1345

Mars -78141-09-11 18:56 J -26819322.74 -26819322.71 -26819322.67 0.1838 0.1727

Venus -78137-01-29 19:11 J -26818087.80 -26818087.70 -26818087.59 0.3780 0.1291

Jupiter -78137-09-03 19:25 J -26817869.86 -26817869.69 -26817869.52 0.0492 0.0181

Jupiter -78137-12-03 02:37 J -26817779.52 -26817779.39 -26817779.25 0.0493 0.0339

Earth -78135-03-24 23:01 J -26817302.64 -26817302.54 -26817302.45 0.2741 0.1394

Moon -78135-03-24 23:30 J -26817302.61 -26817302.52 -26817302.42 0.2745 0.1265 *

Saturn -78132-02-12 17:44 J -26816246.84 -26816246.76 -26816246.68 0.0280 0.0218

Mars -78132-04-06 05:16 J -26816194.43 -26816194.28 -26816194.12 0.1690 0.0347

Saturn -78132-05-12 04:47 J -26816158.42 -26816158.30 -26816158.18 0.0279 0.0112

Saturn -78132-08-08 15:49 J -26816069.97 -26816069.84 -26816069.71 0.0278 0.0007

Venus -78132-08-14 13:25 J -26816064.05 -26816063.94 -26816063.83 0.3777 0.0140

Moon -78132-09-25 22:47 J -26816021.69 -26816021.55 -26816021.40 0.2593 0.1146

Earth -78132-09-26 00:28 J -26816021.61 -26816021.48 -26816021.34 0.2593 0.1337 *

Saturn -78132-11-05 02:52 J -26815981.50 -26815981.38 -26815981.26 0.0277 0.0098

Saturn -78131-02-01 13:40 J -26815893.01 -26815892.93 -26815892.83 0.0277 0.0203

Mars -78131-02-02 03:20 J -26815892.46 -26815892.36 -26815892.26 0.1847 0.0911

Jupiter -78131-04-27 18:28 J -26815807.79 -26815807.73 -26815807.66 0.0536 0.0462

Jupiter -78131-07-26 01:40 J -26815718.55 -26815718.43 -26815718.30 0.0535 0.0020

Jupiter -78131-10-23 09:20 J -26815629.18 -26815629.11 -26815629.04 0.0533 0.0441

Venus -78126-02-28 07:54 J -26814040.28 -26814040.17 -26814040.07 0.3773 0.1104

Jupiter -78125-06-22 16:47 J -26813559.94 -26813559.80 -26813559.66 0.0492 0.0313

Jupiter -78125-09-21 00:28 J -26813469.64 -26813469.48 -26813469.31 0.0493 0.0209

Mars -78123-08-27 06:13 J -26812764.39 -26812764.24 -26812764.09 0.1683 0.0654

Venus -78122-02-26 14:37 J -26812580.95 -26812580.89 -26812580.84 0.3595 0.3264

Earth -78122-03-27 17:01 J -26812551.90 -26812551.79 -26812551.68 0.2742 0.0138

Moon -78122-03-27 17:44 J -26812551.87 -26812551.76 -26812551.65 0.2742 0.0064 *

Mars -78122-06-25 11:44 J -26812462.12 -26812462.01 -26812461.89 0.1856 0.0097

Venus -78121-09-13 02:23 J -26812016.48 -26812016.40 -26812016.31 0.3769 0.2345

Jupiter -78119-05-14 05:59 J -26811408.37 -26811408.25 -26811408.12 0.0535 0.0120

Jupiter -78119-08-11 13:25 J -26811319.03 -26811318.94 -26811318.83 0.0534 0.0335

Venus -78117-09-11 15:49 J -26810556.96 -26810556.84 -26810556.71 0.3599 0.1441

Saturn -78116-02-23 05:30 J -26810392.33 -26810392.27 -26810392.20 0.0281 0.0262

Saturn -78116-05-23 05:16 J -26810303.45 -26810303.28 -26810303.10 0.0282 0.0104

Saturn -78116-08-20 05:01 J -26810214.48 -26810214.29 -26810214.11 0.0282 0.0054

Saturn -78116-11-17 04:18 J -26810125.43 -26810125.32 -26810125.19 0.0283 0.0213

Venus -78115-03-29 21:20 J -26809992.64 -26809992.61 -26809992.58 0.3765 0.3616

Mars -78113-01-17 06:56 J -26809334.24 -26809334.21 -26809334.18 0.1675 0.1639

Jupiter -78113-04-10 14:37 J -26809249.96 -26809249.89 -26809249.80 0.0492 0.0440

Jupiter -78113-07-09 22:47 J -26809159.73 -26809159.55 -26809159.37 0.0493 0.0085

Mars -78113-11-14 20:08 J -26809031.77 -26809031.66 -26809031.55 0.1865 0.0753

Venus -78111-03-28 16:47 J -26808532.93 -26808532.80 -26808532.66 0.3603 0.0325

Uranus -78110-05-31 13:25 J -26808103.97 -26808103.94 -26808103.88 0.0142 0.0138

Uranus -78110-08-27 21:35 J -26808015.71 -26808015.60 -26808015.48 0.0142 0.0111

Uranus -78110-11-24 05:30 J -26807927.42 -26807927.27 -26807927.11 0.0142 0.0084

Uranus -78109-02-20 13:25 J -26807839.11 -26807838.94 -26807838.76 0.0142 0.0057

Earth -78109-03-29 11:16 J -26807801.13 -26807801.03 -26807800.93 0.2743 0.1143

Moon -78109-03-29 11:44 J -26807801.11 -26807801.01 -26807800.91 0.2737 0.1184 *

Uranus -78109-05-18 21:20 J -26807750.79 -26807750.61 -26807750.42 0.0141 0.0030

Uranus -78109-08-15 05:01 J -26807662.48 -26807662.29 -26807662.10 0.0141 0.0005

Uranus -78109-11-11 12:42 J -26807574.15 -26807573.97 -26807573.78 0.0141 0.0022

Uranus -78108-02-07 20:23 J -26807485.82 -26807485.65 -26807485.47 0.0141 0.0048

Uranus -78108-05-07 03:49 J -26807397.49 -26807397.34 -26807397.17 0.0141 0.0074

Uranus -78108-08-03 11:16 J -26807309.15 -26807309.03 -26807308.89 0.0141 0.0099

Uranus -78108-10-30 18:56 J -26807220.79 -26807220.71 -26807220.62 0.0141 0.0124

Jupiter -78107-03-02 09:49 J -26807098.20 -26807098.09 -26807097.98 0.0534 0.0233

Jupiter -78107-05-30 17:01 J -26807008.90 -26807008.79 -26807008.67 0.0533 0.0217

Venus -78106-10-12 17:16 J -26806508.89 -26806508.78 -26806508.67 0.3606 0.2008

Mars -78103-04-07 04:32 J -26805601.37 -26805601.31 -26805601.25 0.1873 0.1586

Saturn -78103-07-02 19:25 J -26805514.74 -26805514.69 -26805514.64 0.0281 0.0257

Saturn -78103-09-29 06:28 J -26805426.34 -26805426.23 -26805426.12 0.0281 0.0150

Saturn -78103-12-26 17:30 J -26805337.90 -26805337.77 -26805337.64 0.0280 0.0044

Moon -78102-03-23 09:49 J -26805251.14 -26805251.09 -26805251.03 0.2747 0.2306

Earth -78102-03-23 09:49 J -26805251.14 -26805251.09 -26805251.04 0.2740 0.2377 *

Saturn -78102-03-25 04:32 J -26805249.44 -26805249.31 -26805249.18 0.0279 0.0062

Mars -78102-05-16 05:01 J -26805197.37 -26805197.29 -26805197.21 0.1698 0.1474

Saturn -78102-06-21 15:35 J -26805160.95 -26805160.85 -26805160.74 0.0278 0.0167

Saturn -78102-09-18 02:37 J -26805072.41 -26805072.39 -26805072.36 0.0277 0.0272

Mars -78101-03-12 18:56 J -26804895.72 -26804895.71 -26804895.70 0.1839 0.1825

Jupiter -78101-04-27 20:23 J -26804849.83 -26804849.65 -26804849.46 0.0493 0.0047

Jupiter -78101-07-27 03:35 J -26804759.40 -26804759.35 -26804759.30 0.0494 0.0472

Moon -78099-09-23 23:16 J -26803970.68 -26803970.53 -26803970.38 0.2591 0.0722

Earth -78099-09-24 00:56 J -26803970.62 -26803970.46 -26803970.31 0.2594 0.0455 *

Moon -78096-04-01 05:30 J -26803050.32 -26803050.27 -26803050.22 0.2737 0.2444

Earth -78096-04-01 05:30 J -26803050.31 -26803050.27 -26803050.22 0.2744 0.2435 *

Jupiter -78096-12-19 13:40 J -26802788.03 -26802787.93 -26802787.83 0.0535 0.0345

Jupiter -78095-03-18 20:52 J -26802698.76 -26802698.63 -26802698.50 0.0534 0.0103

Mars -78093-10-05 05:44 J -26801767.41 -26801767.26 -26801767.10 0.1691 0.0472

Mars -78092-08-03 03:35 J -26801465.45 -26801465.35 -26801465.25 0.1847 0.1018

Venus -78092-08-06 05:30 J -26801462.33 -26801462.27 -26801462.22 0.3786 0.3197

Jupiter -78089-02-14 18:13 J -26800539.91 -26800539.74 -26800539.57 0.0492 0.0176

Earth -78089-03-25 03:49 J -26800500.44 -26800500.34 -26800500.24 0.2741 0.1129

Moon -78089-03-25 04:32 J -26800500.41 -26800500.31 -26800500.21 0.2745 0.1115 *

Jupiter -78089-05-15 01:40 J -26800449.56 -26800449.43 -26800449.30 0.0493 0.0345

Saturn -78087-10-10 04:32 J -26799571.47 -26799571.31 -26799571.15 0.0281 0.0143

Saturn -78086-01-07 04:18 J -26799482.51 -26799482.32 -26799482.14 0.0282 0.0016

Venus -78086-02-19 23:16 J -26799438.62 -26799438.53 -26799438.44 0.3782 0.2071

Saturn -78086-04-06 03:49 J -26799393.49 -26799393.34 -26799393.20 0.0283 0.0173

Moon -78086-09-27 05:30 J -26799219.39 -26799219.27 -26799219.15 0.2595 0.1692

Earth -78086-09-27 07:11 J -26799219.32 -26799219.20 -26799219.09 0.2593 0.1781 *

Jupiter -78084-10-07 17:16 J -26798477.84 -26798477.78 -26798477.71 0.0535 0.0460

Jupiter -78083-01-05 00:28 J -26798388.61 -26798388.48 -26798388.35 0.0534 0.0013

Mars -78083-02-25 06:42 J -26798337.37 -26798337.22 -26798337.06 0.1683 0.0518

Jupiter -78083-04-04 07:54 J -26798299.24 -26798299.17 -26798299.09 0.0533 0.0441

Mars -78083-12-24 11:44 J -26798035.13 -26798035.01 -26798034.89 0.1856 0.0181

Venus -78081-09-04 17:30 J -26797414.88 -26797414.77 -26797414.67 0.3779 0.0919

Jupiter -78078-12-03 15:49 J -26796229.98 -26796229.84 -26796229.69 0.0492 0.0306

Jupiter -78077-03-02 23:30 J -26796139.68 -26796139.52 -26796139.35 0.0493 0.0218

Earth -78076-03-27 22:04 J -26795749.69 -26795749.58 -26795749.48 0.2742 0.0175

Moon -78076-03-27 22:32 J -26795749.67 -26795749.56 -26795749.45 0.2740 0.0262 *

Venus -78075-03-21 11:44 J -26795391.12 -26795391.01 -26795390.90 0.3776 0.0296

Mars -78074-07-18 07:25 J -26794907.26 -26794907.19 -26794907.12 0.1675 0.1510

Saturn -78073-02-16 08:37 J -26794694.23 -26794694.14 -26794694.03 0.0280 0.0182

Saturn -78073-05-14 19:54 J -26794605.80 -26794605.67 -26794605.55 0.0279 0.0076

Mars -78073-05-15 20:08 J -26794604.77 -26794604.66 -26794604.55 0.1864 0.0649

Saturn -78073-08-11 06:56 J -26794517.35 -26794517.21 -26794517.08 0.0278 0.0032

Saturn -78073-11-07 17:59 J -26794428.87 -26794428.75 -26794428.64 0.0278 0.0136

Saturn -78072-02-04 05:01 J -26794340.36 -26794340.29 -26794340.23 0.0277 0.0240

Jupiter -78072-10-24 04:32 J -26794078.44 -26794078.31 -26794078.19 0.0535 0.0122

Jupiter -78071-01-21 11:59 J -26793989.10 -26793989.00 -26793988.90 0.0534 0.0331

Neptune -78071-10-08 14:37 J -26793728.91 -26793728.89 -26793728.83 0.0089 0.0085

Neptune -78070-01-04 16:18 J -26793640.87 -26793640.82 -26793640.76 0.0089 0.0080

Neptune -78070-04-02 17:16 J -26793552.83 -26793552.78 -26793552.70 0.0089 0.0076

Neptune -78070-06-29 18:56 J -26793464.79 -26793464.71 -26793464.63 0.0089 0.0071

Pluto -78070-09-18 03:06 J -26793384.41 -26793384.37 -26793384.31 0.0084 0.0078

Neptune -78070-09-25 20:08 J -26793376.74 -26793376.66 -26793376.57 0.0089 0.0067

Venus -78070-10-05 06:13 J -26793367.35 -26793367.24 -26793367.14 0.3772 0.1511

Pluto -78070-12-15 04:18 J -26793296.38 -26793296.32 -26793296.22 0.0084 0.0067

Neptune -78070-12-22 21:35 J -26793288.69 -26793288.60 -26793288.51 0.0089 0.0062

Pluto -78069-03-12 05:59 J -26793208.35 -26793208.25 -26793208.14 0.0084 0.0054

Neptune -78069-03-19 22:47 J -26793200.64 -26793200.55 -26793200.44 0.0089 0.0058

Pluto -78069-06-08 07:11 J -26793120.30 -26793120.20 -26793120.07 0.0084 0.0044

Neptune -78069-06-16 00:13 J -26793112.59 -26793112.49 -26793112.38 0.0089 0.0053

Pluto -78069-09-04 08:52 J -26793032.25 -26793032.13 -26793032.00 0.0084 0.0031

Neptune -78069-09-12 01:25 J -26793024.54 -26793024.44 -26793024.32 0.0089 0.0049

Pluto -78069-12-01 10:18 J -26792944.20 -26792944.07 -26792943.94 0.0084 0.0020

Neptune -78069-12-09 02:52 J -26792936.49 -26792936.38 -26792936.26 0.0089 0.0044

Pluto -78068-02-27 11:30 J -26792856.15 -26792856.02 -26792855.88 0.0084 0.0009

Neptune -78068-03-07 04:04 J -26792848.44 -26792848.33 -26792848.21 0.0089 0.0040

Pluto -78068-05-26 12:56 J -26792768.10 -26792767.96 -26792767.83 0.0084 0.0002

Neptune -78068-06-03 05:30 J -26792760.39 -26792760.27 -26792760.15 0.0089 0.0035

Pluto -78068-08-22 14:08 J -26792680.04 -26792679.91 -26792679.77 0.0083 0.0013

Neptune -78068-08-30 06:42 J -26792672.34 -26792672.22 -26792672.09 0.0089 0.0031

Pluto -78068-11-18 15:20 J -26792591.98 -26792591.86 -26792591.72 0.0083 0.0025

Neptune -78068-11-26 08:08 J -26792584.29 -26792584.16 -26792584.03 0.0089 0.0026

Pluto -78067-02-14 16:47 J -26792503.92 -26792503.80 -26792503.67 0.0083 0.0035

Neptune -78067-02-22 09:20 J -26792496.23 -26792496.11 -26792495.98 0.0089 0.0022

Pluto -78067-05-13 17:59 J -26792415.85 -26792415.75 -26792415.63 0.0083 0.0046

Neptune -78067-05-21 10:47 J -26792408.18 -26792408.05 -26792407.92 0.0089 0.0017

Pluto -78067-08-09 19:11 J -26792327.79 -26792327.70 -26792327.59 0.0083 0.0057

Neptune -78067-08-17 11:59 J -26792320.13 -26792320.00 -26792319.86 0.0089 0.0013

Pluto -78067-11-05 20:37 J -26792239.71 -26792239.64 -26792239.56 0.0083 0.0067

Neptune -78067-11-13 13:25 J -26792232.07 -26792231.94 -26792231.81 0.0089 0.0008

Pluto -78066-02-01 21:49 J -26792151.63 -26792151.59 -26792151.54 0.0083 0.0078

Neptune -78066-02-09 14:52 J -26792144.02 -26792143.88 -26792143.75 0.0089 0.0004

Neptune -78066-05-08 16:04 J -26792055.96 -26792055.83 -26792055.70 0.0089 0.0002

Neptune -78066-08-04 17:30 J -26791967.91 -26791967.77 -26791967.64 0.0089 0.0006

Jupiter -78066-09-21 13:11 J -26791920.03 -26791919.95 -26791919.86 0.0492 0.0438

Moon -78066-09-21 23:44 J -26791919.56 -26791919.51 -26791919.46 0.2590 0.2462

Earth -78066-09-22 00:56 J -26791919.54 -26791919.46 -26791919.39 0.2595 0.2287 *

Venus -78066-10-03 14:52 J -26791907.98 -26791907.88 -26791907.79 0.3596 0.2684

Neptune -78066-10-31 18:42 J -26791879.85 -26791879.72 -26791879.58 0.0089 0.0011

Uranus -78066-11-01 12:13 J -26791878.99 -26791878.99 -26791878.98 0.0136 0.0136

Jupiter -78066-12-20 21:20 J -26791829.79 -26791829.61 -26791829.43 0.0492 0.0088

Neptune -78065-01-27 20:08 J -26791791.79 -26791791.66 -26791791.53 0.0089 0.0015

Uranus -78065-01-28 15:20 J -26791790.91 -26791790.86 -26791790.79 0.0137 0.0120

Neptune -78065-04-24 21:20 J -26791703.73 -26791703.61 -26791703.48 0.0089 0.0020

Uranus -78065-04-25 18:42 J -26791702.80 -26791702.72 -26791702.63 0.0137 0.0104

Neptune -78065-07-21 22:32 J -26791615.68 -26791615.56 -26791615.42 0.0089 0.0025

Uranus -78065-07-22 21:49 J -26791614.68 -26791614.59 -26791614.48 0.0137 0.0088

Neptune -78065-10-17 23:59 J -26791527.62 -26791527.50 -26791527.37 0.0089 0.0029

Uranus -78065-10-19 01:11 J -26791526.56 -26791526.45 -26791526.33 0.0137 0.0071

Neptune -78064-01-14 01:25 J -26791439.56 -26791439.44 -26791439.31 0.0089 0.0034

Uranus -78064-01-15 04:32 J -26791438.43 -26791438.31 -26791438.19 0.0137 0.0054

Neptune -78064-04-12 02:52 J -26791351.50 -26791351.38 -26791351.26 0.0089 0.0038

Uranus -78064-04-13 07:54 J -26791350.30 -26791350.17 -26791350.04 0.0137 0.0037

Venus -78064-04-20 00:42 J -26791343.54 -26791343.47 -26791343.39 0.3768 0.2761

Neptune -78064-07-09 04:04 J -26791263.44 -26791263.33 -26791263.21 0.0089 0.0043

Uranus -78064-07-10 11:16 J -26791262.17 -26791262.03 -26791261.90 0.0137 0.0021

Neptune -78064-10-05 05:16 J -26791175.38 -26791175.28 -26791175.16 0.0089 0.0048

Mars -78064-10-06 04:32 J -26791174.38 -26791174.31 -26791174.24 0.1873 0.1494

Uranus -78064-10-06 14:37 J -26791174.03 -26791173.89 -26791173.76 0.0138 0.0005

Neptune -78063-01-01 06:42 J -26791087.32 -26791087.22 -26791087.10 0.0089 0.0052

Uranus -78063-01-02 17:44 J -26791085.89 -26791085.76 -26791085.62 0.0138 0.0015

Neptune -78063-03-30 08:08 J -26790999.26 -26790999.16 -26790999.05 0.0089 0.0057

Earth -78063-03-30 16:04 J -26790998.92 -26790998.83 -26790998.73 0.2743 0.1407

Moon -78063-03-30 16:32 J -26790998.90 -26790998.81 -26790998.72 0.2737 0.1454 *

Uranus -78063-03-31 21:20 J -26790997.74 -26790997.61 -26790997.48 0.0138 0.0031

Neptune -78063-06-26 09:35 J -26790911.19 -26790911.10 -26790911.00 0.0089 0.0061

Uranus -78063-06-28 00:42 J -26790909.60 -26790909.47 -26790909.34 0.0138 0.0049

Neptune -78063-09-22 10:47 J -26790823.13 -26790823.05 -26790822.95 0.0089 0.0066

Uranus -78063-09-24 04:04 J -26790821.45 -26790821.33 -26790821.21 0.0138 0.0066

Mars -78063-11-14 05:44 J -26790770.31 -26790770.26 -26790770.21 0.1698 0.1611

Neptune -78063-12-19 11:59 J -26790735.06 -26790735.00 -26790734.90 0.0089 0.0071

Uranus -78063-12-21 07:25 J -26790733.29 -26790733.19 -26790733.08 0.0138 0.0084

Neptune -78062-03-17 13:40 J -26790647.00 -26790646.93 -26790646.86 0.0089 0.0075

Uranus -78062-03-19 11:01 J -26790645.13 -26790645.04 -26790644.95 0.0138 0.0102

Neptune -78062-06-13 14:52 J -26790558.92 -26790558.88 -26790558.81 0.0089 0.0080

Uranus -78062-06-15 14:23 J -26790556.96 -26790556.90 -26790556.83 0.0139 0.0120

Neptune -78062-09-09 16:04 J -26790470.85 -26790470.83 -26790470.77 0.0089 0.0085

Uranus -78062-09-11 17:59 J -26790468.76 -26790468.75 -26790468.73 0.0139 0.0138

Venus -78060-04-18 16:04 J -26789883.97 -26789883.83 -26789883.70 0.3600 0.0876

Jupiter -78060-08-12 08:52 J -26789768.25 -26789768.13 -26789768.02 0.0535 0.0228

Jupiter -78060-11-09 16:04 J -26789678.94 -26789678.83 -26789678.71 0.0534 0.0225

Saturn -78057-02-27 00:13 J -26788839.61 -26788839.49 -26788839.36 0.0281 0.0205

Saturn -78057-05-25 23:59 J -26788750.68 -26788750.50 -26788750.31 0.0282 0.0047

Saturn -78057-08-22 23:30 J -26788661.69 -26788661.52 -26788661.34 0.0283 0.0111

Saturn -78057-11-19 23:01 J -26788572.59 -26788572.54 -26788572.48 0.0283 0.0269

Earth -78056-03-23 14:37 J -26788448.96 -26788448.89 -26788448.82 0.2740 0.2117

Moon -78056-03-23 14:52 J -26788448.94 -26788448.88 -26788448.81 0.2746 0.2137 *

Venus -78055-11-02 16:47 J -26787859.93 -26787859.80 -26787859.67 0.3604 0.0877

Jupiter -78054-10-08 19:25 J -26787519.88 -26787519.69 -26787519.51 0.0492 0.0040

Jupiter -78053-01-07 02:23 J -26787429.44 -26787429.40 -26787429.36 0.0493 0.0478

Mars -78053-04-05 06:28 J -26787340.38 -26787340.23 -26787340.07 0.1691 0.0613

Moon -78053-09-24 05:44 J -26787168.42 -26787168.26 -26787168.10 0.2591 0.0069

Earth -78053-09-24 07:25 J -26787168.35 -26787168.19 -26787168.03 0.2594 0.0004 *

Mars -78052-02-01 03:20 J -26787038.45 -26787038.36 -26787038.26 0.1847 0.1105

Moon -78050-04-02 10:18 J -26786248.10 -26786248.07 -26786248.05 0.2737 0.2638

Earth -78050-04-02 10:32 J -26786248.08 -26786248.06 -26786248.05 0.2744 0.2699 *

Venus -78049-05-18 17:01 J -26785835.88 -26785835.79 -26785835.69 0.3607 0.2542

Jupiter -78048-05-31 12:42 J -26785458.07 -26785457.97 -26785457.87 0.0535 0.0340

Jupiter -78048-08-28 19:54 J -26785368.80 -26785368.67 -26785368.54 0.0534 0.0109

Saturn -78044-07-05 10:18 J -26783962.14 -26783962.07 -26783961.98 0.0281 0.0219

Mars -78044-08-26 07:11 J -26783910.36 -26783910.20 -26783910.04 0.1683 0.0392

Saturn -78044-10-01 21:35 J -26783873.72 -26783873.60 -26783873.48 0.0280 0.0112

Saturn -78044-12-29 08:37 J -26783785.27 -26783785.14 -26783785.01 0.0280 0.0006

Earth -78043-03-26 08:37 J -26783698.24 -26783698.14 -26783698.03 0.2741 0.0873

Moon -78043-03-26 09:20 J -26783698.22 -26783698.11 -26783698.01 0.2745 0.0728 *

Saturn -78043-03-27 19:40 J -26783696.80 -26783696.68 -26783696.56 0.0279 0.0100

Saturn -78043-06-24 06:42 J -26783608.30 -26783608.22 -26783608.13 0.0278 0.0206

Mars -78043-06-24 11:59 J -26783608.12 -26783608.00 -26783607.89 0.1856 0.0296

Jupiter -78042-07-27 16:47 J -26783209.98 -26783209.80 -26783209.63 0.0493 0.0174

Jupiter -78042-10-26 00:13 J -26783119.62 -26783119.49 -26783119.36 0.0494 0.0349

Moon -78040-09-27 12:13 J -26782417.09 -26782416.99 -26782416.89 0.2596 0.1996

Earth -78040-09-27 13:40 J -26782417.01 -26782416.93 -26782416.85 0.2593 0.2230 *

Jupiter -78036-03-19 16:32 J -26781147.87 -26781147.81 -26781147.74 0.0535 0.0451

Jupiter -78036-06-16 23:44 J -26781058.64 -26781058.51 -26781058.39 0.0534 0.0019

Jupiter -78036-09-14 07:11 J -26780969.27 -26780969.20 -26780969.13 0.0532 0.0447

Venus -78035-03-13 03:35 J -26780789.42 -26780789.35 -26780789.28 0.3785 0.2847

Mars -78034-01-16 08:08 J -26780480.25 -26780480.16 -26780480.07 0.1676 0.1375

Mars -78034-11-14 20:08 J -26780177.77 -26780177.66 -26780177.54 0.1864 0.0551

Earth -78030-03-29 02:52 J -26778947.49 -26778947.38 -26778947.27 0.2742 0.0397

Moon -78030-03-29 03:35 J -26778947.46 -26778947.35 -26778947.25 0.2739 0.0431 *

Jupiter -78030-05-15 14:23 J -26778900.05 -26778899.90 -26778899.76 0.0492 0.0304

Jupiter -78030-08-13 22:04 J -26778809.74 -26778809.58 -26778809.41 0.0493 0.0220

Venus -78030-09-26 21:20 J -26778765.70 -26778765.61 -26778765.51 0.3782 0.1704

Saturn -78028-07-15 23:59 J -26778107.59 -26778107.50 -26778107.40 0.0280 0.0240

Saturn -78028-10-12 23:44 J -26778018.68 -26778018.51 -26778018.32 0.0281 0.0083

Saturn -78027-01-09 23:30 J -26777929.70 -26777929.52 -26777929.34 0.0282 0.0076

Saturn -78027-04-08 22:47 J -26777840.65 -26777840.55 -26777840.44 0.0283 0.0234

Uranus -78026-06-20 20:23 J -26777402.70 -26777402.65 -26777402.57 0.0142 0.0133

Uranus -78026-09-17 04:32 J -26777314.43 -26777314.31 -26777314.17 0.0142 0.0106

Uranus -78026-12-14 12:28 J -26777226.13 -26777225.98 -26777225.81 0.0142 0.0079

Uranus -78025-03-11 20:37 J -26777137.82 -26777137.64 -26777137.47 0.0142 0.0052

Uranus -78025-06-08 04:18 J -26777049.50 -26777049.32 -26777049.13 0.0141 0.0025

Uranus -78025-09-04 11:59 J -26776961.18 -26776961.00 -26776960.81 0.0141 0.0004

Uranus -78025-12-01 19:40 J -26776872.86 -26776872.68 -26776872.49 0.0141 0.0027

Uranus -78024-02-28 03:20 J -26776784.53 -26776784.36 -26776784.18 0.0141 0.0053

Jupiter -78024-04-05 03:06 J -26776748.49 -26776748.37 -26776748.24 0.0534 0.0123

Mars -78024-04-06 04:32 J -26776747.39 -26776747.31 -26776747.24 0.1873 0.1398

Venus -78024-04-11 15:35 J -26776741.96 -26776741.85 -26776741.74 0.3778 0.0528

Uranus -78024-05-27 10:47 J -26776696.20 -26776696.05 -26776695.89 0.0141 0.0079

Jupiter -78024-07-03 10:32 J -26776659.16 -26776659.06 -26776658.96 0.0533 0.0330

Uranus -78024-08-23 18:13 J -26776607.85 -26776607.74 -26776607.60 0.0141 0.0104

Uranus -78024-11-20 01:54 J -26776519.49 -26776519.42 -26776519.35 0.0140 0.0129

Moon -78020-09-22 06:13 J -26775117.35 -26775117.24 -26775117.13 0.2590 0.1899

Earth -78020-09-22 07:25 J -26775117.30 -26775117.19 -26775117.07 0.2595 0.1828 *

Venus -78019-10-26 09:49 J -26774718.20 -26774718.09 -26774717.98 0.3775 0.0684

Jupiter -78018-03-03 11:59 J -26774590.08 -26774590.00 -26774589.91 0.0492 0.0433

Jupiter -78018-06-01 19:54 J -26774499.85 -26774499.67 -26774499.49 0.0493 0.0093

Earth -78017-03-30 21:06 J -26774196.71 -26774196.62 -26774196.54 0.2743 0.1673

Moon -78017-03-30 21:20 J -26774196.70 -26774196.61 -26774196.53 0.2737 0.1721 *

Saturn -78015-11-22 12:56 J -26773230.02 -26773229.96 -26773229.90 0.0281 0.0248

Saturn -78014-02-18 23:59 J -26773141.61 -26773141.50 -26773141.38 0.0280 0.0142

Saturn -78014-05-18 11:01 J -26773053.17 -26773053.04 -26773052.91 0.0279 0.0036

Saturn -78014-08-14 22:04 J -26772964.70 -26772964.58 -26772964.45 0.0278 0.0072

Mars -78014-10-05 07:11 J -26772913.34 -26772913.20 -26772913.05 0.1691 0.0746

Saturn -78014-11-11 09:06 J -26772876.21 -26772876.12 -26772876.01 0.0278 0.0177

Venus -78013-05-11 04:18 J -26772694.41 -26772694.32 -26772694.22 0.3771 0.1916

Mars -78013-08-02 03:35 J -26772611.44 -26772611.35 -26772611.27 0.1847 0.1213

Jupiter -78012-01-22 07:11 J -26772438.32 -26772438.20 -26772438.09 0.0535 0.0233

Jupiter -78012-04-21 14:23 J -26772349.01 -26772348.90 -26772348.78 0.0534 0.0220

Earth -78010-03-24 19:25 J -26771646.77 -26771646.69 -26771646.61 0.2740 0.1865

Moon -78010-03-24 19:54 J -26771646.75 -26771646.67 -26771646.59 0.2746 0.1769 *

Venus -78009-05-09 14:52 J -26771234.99 -26771234.88 -26771234.77 0.3597 0.2103

Venus -78008-11-24 23:01 J -26770670.59 -26770670.54 -26770670.48 0.3767 0.3183

Moon -78007-09-25 12:28 J -26770366.14 -26770365.98 -26770365.82 0.2593 0.0199

Earth -78007-09-25 13:54 J -26770366.07 -26770365.92 -26770365.76 0.2594 0.0448 *

Jupiter -78006-03-20 17:30 J -26770189.95 -26770189.77 -26770189.59 0.0492 0.0040

Jupiter -78006-06-19 00:28 J -26770099.52 -26770099.48 -26770099.43 0.0493 0.0478

Mars -78004-02-24 08:08 J -26769483.33 -26769483.16 -26769483.00 0.1683 0.0254

Venus -78004-11-23 16:04 J -26769210.97 -26769210.83 -26769210.70 0.3601 0.0318

Mars -78004-12-23 11:44 J -26769181.12 -26769181.01 -26769180.89 0.1855 0.0391

Jupiter -78001-11-10 11:30 J -26768128.12 -26768128.02 -26768127.93 0.0535 0.0339

78TH MILLENNIUM BCE

This is a list of transits of Mercury in the 78th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Jupiter -78000-02-07 18:42 J -26768038.85 -26768038.72 -26768038.60 0.0534 0.0112

Saturn -77998-03-01 20:23 J -26767286.81 -26767286.65 -26767286.48 0.0281 0.0139

Saturn -77998-05-29 20:08 J -26767197.85 -26767197.66 -26767197.48 0.0282 0.0019

Venus -77998-06-09 16:32 J -26767186.93 -26767186.81 -26767186.68 0.3605 0.1429

Saturn -77998-08-26 19:25 J -26767108.83 -26767108.69 -26767108.54 0.0283 0.0176

Earth -77997-03-26 13:25 J -26766896.04 -26766895.94 -26766895.83 0.2741 0.0619

Moon -77997-03-26 14:08 J -26766896.01 -26766895.91 -26766895.80 0.2743 0.0593 *

Mars -77995-07-17 08:37 J -26766053.24 -26766053.14 -26766053.03 0.1676 0.1242

Jupiter -77994-01-06 15:20 J -26765880.03 -26765879.86 -26765879.68 0.0492 0.0168

Jupiter -77994-04-06 22:47 J -26765789.67 -26765789.55 -26765789.42 0.0493 0.0353

Mars -77994-05-15 20:08 J -26765750.77 -26765750.66 -26765750.55 0.1864 0.0455

Venus -77993-12-23 16:47 J -26765162.87 -26765162.80 -26765162.73 0.3609 0.3070

Jupiter -77989-08-29 15:20 J -26763817.92 -26763817.86 -26763817.79 0.0535 0.0449

Jupiter -77989-11-26 22:32 J -26763728.69 -26763728.56 -26763728.43 0.0534 0.0004

Jupiter -77988-02-24 05:59 J -26763639.31 -26763639.25 -26763639.18 0.0532 0.0450

Neptune -77988-12-27 14:08 J -26763332.94 -26763332.91 -26763332.87 0.0089 0.0087

Neptune -77987-03-25 17:30 J -26763244.83 -26763244.77 -26763244.67 0.0089 0.0081

Neptune -77987-06-21 21:20 J -26763156.70 -26763156.61 -26763156.49 0.0089 0.0074

Neptune -77987-09-18 01:11 J -26763068.57 -26763068.45 -26763068.32 0.0089 0.0067

Neptune -77987-12-15 04:32 J -26762980.43 -26762980.31 -26762980.15 0.0089 0.0061

Neptune -77986-03-13 08:23 J -26762892.29 -26762892.15 -26762891.98 0.0088 0.0054

Neptune -77986-06-09 12:13 J -26762804.15 -26762803.99 -26762803.82 0.0088 0.0047

Neptune -77986-09-05 15:35 J -26762716.00 -26762715.85 -26762715.66 0.0088 0.0041

Neptune -77986-12-02 19:25 J -26762627.86 -26762627.69 -26762627.50 0.0088 0.0034

Neptune -77985-02-28 23:16 J -26762539.71 -26762539.53 -26762539.34 0.0088 0.0027

Neptune -77985-05-27 02:52 J -26762451.56 -26762451.38 -26762451.18 0.0088 0.0020

Saturn -77985-07-08 01:54 J -26762409.52 -26762409.42 -26762409.32 0.0281 0.0178

Neptune -77985-08-23 06:42 J -26762363.41 -26762363.22 -26762363.03 0.0088 0.0013

Saturn -77985-10-04 12:56 J -26762321.09 -26762320.96 -26762320.83 0.0280 0.0071

Mars -77985-10-05 04:32 J -26762320.39 -26762320.31 -26762320.22 0.1873 0.1290

Neptune -77985-11-19 10:18 J -26762275.26 -26762275.07 -26762274.87 0.0088 0.0007

Saturn -77985-12-31 23:59 J -26762232.63 -26762232.50 -26762232.37 0.0279 0.0036

Neptune -77984-02-15 13:54 J -26762187.11 -26762186.92 -26762186.72 0.0088 0.0001

Earth -77984-03-29 07:40 J -26762145.28 -26762145.18 -26762145.07 0.2742 0.0657

Moon -77984-03-29 08:23 J -26762145.26 -26762145.15 -26762145.05 0.2739 0.0800 *

Saturn -77984-03-30 11:01 J -26762144.15 -26762144.04 -26762143.92 0.0279 0.0142

Venus -77984-04-03 07:40 J -26762140.21 -26762140.18 -26762140.15 0.3787 0.3604

Neptune -77984-05-14 17:30 J -26762098.96 -26762098.77 -26762098.57 0.0088 0.0007

Saturn -77984-06-26 22:18 J -26762055.63 -26762055.57 -26762055.51 0.0278 0.0247

Neptune -77984-08-10 21:06 J -26762010.81 -26762010.62 -26762010.42 0.0088 0.0013

Neptune -77984-11-07 00:42 J -26761922.65 -26761922.47 -26761922.27 0.0088 0.0020

Neptune -77983-02-03 04:18 J -26761834.50 -26761834.32 -26761834.13 0.0088 0.0027

Neptune -77983-05-02 07:40 J -26761746.34 -26761746.18 -26761745.98 0.0088 0.0034

Neptune -77983-07-29 11:30 J -26761658.19 -26761658.02 -26761657.84 0.0088 0.0040

Jupiter -77983-10-25 12:28 J -26761570.13 -26761569.98 -26761569.84 0.0492 0.0305

Neptune -77983-10-25 14:52 J -26761570.03 -26761569.88 -26761569.70 0.0088 0.0047 *

Neptune -77982-01-21 18:42 J -26761481.87 -26761481.72 -26761481.56 0.0088 0.0053

Jupiter -77982-01-23 20:08 J -26761479.82 -26761479.66 -26761479.49 0.0493 0.0221

Neptune -77982-04-19 22:04 J -26761393.71 -26761393.58 -26761393.42 0.0088 0.0060

Neptune -77982-07-17 01:54 J -26761305.54 -26761305.42 -26761305.29 0.0088 0.0066

Neptune -77982-10-13 05:01 J -26761217.38 -26761217.29 -26761217.16 0.0088 0.0073

Uranus -77982-11-21 19:54 J -26761177.69 -26761177.67 -26761177.62 0.0137 0.0131

Neptune -77981-01-09 08:52 J -26761129.20 -26761129.13 -26761129.03 0.0088 0.0079

Uranus -77981-02-17 23:16 J -26761089.60 -26761089.53 -26761089.45 0.0137 0.0114

Neptune -77981-04-06 12:13 J -26761041.02 -26761040.99 -26761040.92 0.0088 0.0085

Uranus -77981-05-16 02:23 J -26761001.48 -26761001.40 -26761001.30 0.0137 0.0098

Uranus -77981-08-12 05:44 J -26760913.36 -26760913.26 -26760913.15 0.0137 0.0081

Uranus -77981-11-08 09:06 J -26760825.24 -26760825.12 -26760825.00 0.0137 0.0064

Uranus -77980-02-04 12:28 J -26760737.11 -26760736.98 -26760736.86 0.0137 0.0048

Uranus -77980-05-03 15:35 J -26760648.97 -26760648.85 -26760648.71 0.0137 0.0032

Uranus -77980-07-30 19:11 J -26760560.84 -26760560.70 -26760560.57 0.0137 0.0014

Uranus -77980-10-26 22:32 J -26760472.70 -26760472.56 -26760472.43 0.0138 0.0006

Uranus -77979-01-23 01:54 J -26760384.56 -26760384.42 -26760384.29 0.0138 0.0021

Uranus -77979-04-21 05:16 J -26760296.41 -26760296.28 -26760296.15 0.0138 0.0038

Uranus -77979-07-18 08:23 J -26760208.26 -26760208.15 -26760208.02 0.0138 0.0056

Uranus -77979-10-14 11:59 J -26760120.11 -26760120.00 -26760119.88 0.0138 0.0073

Venus -77979-10-18 01:25 J -26760116.52 -26760116.44 -26760116.35 0.3784 0.2486

Uranus -77978-01-10 15:20 J -26760031.95 -26760031.86 -26760031.75 0.0138 0.0091

Uranus -77978-04-08 18:56 J -26759943.79 -26759943.71 -26759943.62 0.0138 0.0109

Uranus -77978-07-05 22:32 J -26759855.61 -26759855.56 -26759855.51 0.0139 0.0127

Jupiter -77977-09-15 02:23 J -26759418.53 -26759418.40 -26759418.28 0.0534 0.0116

Jupiter -77977-12-13 09:35 J -26759329.20 -26759329.10 -26759329.00 0.0533 0.0336

Mars -77974-04-05 07:40 J -26758486.32 -26758486.18 -26758486.04 0.1691 0.0871

Moon -77974-09-23 12:42 J -26758315.10 -26758314.97 -26758314.84 0.2590 0.1544

Earth -77974-09-23 14:08 J -26758315.05 -26758314.91 -26758314.78 0.2595 0.1375 *

Mars -77973-02-01 03:35 J -26758184.43 -26758184.35 -26758184.27 0.1847 0.1317

Venus -77973-05-02 19:40 J -26758092.79 -26758092.68 -26758092.58 0.3781 0.1334

Moon -77971-04-01 02:08 J -26757394.49 -26757394.41 -26757394.34 0.2736 0.1903

Earth -77971-04-01 01:54 J -26757394.49 -26757394.42 -26757394.34 0.2743 0.1938 *

Jupiter -77971-08-13 09:49 J -26757260.17 -26757260.09 -26757260.00 0.0492 0.0437

Jupiter -77971-11-11 17:59 J -26757169.93 -26757169.75 -26757169.57 0.0493 0.0091

Saturn -77969-07-18 20:23 J -26756554.79 -26756554.65 -26756554.49 0.0280 0.0172

Saturn -77969-10-15 20:08 J -26756465.84 -26756465.66 -26756465.47 0.0281 0.0015

Saturn -77968-01-12 19:40 J -26756376.84 -26756376.68 -26756376.52 0.0282 0.0143

Venus -77968-11-16 13:40 J -26756069.04 -26756068.93 -26756068.82 0.3777 0.0179

Jupiter -77965-07-04 05:44 J -26755108.38 -26755108.26 -26755108.15 0.0534 0.0234

Mars -77965-08-25 08:37 J -26755056.30 -26755056.14 -26755055.97 0.1683 0.0118

Jupiter -77965-10-01 12:56 J -26755019.08 -26755018.96 -26755018.84 0.0533 0.0217

Earth -77964-03-25 00:13 J -26754844.57 -26754844.49 -26754844.40 0.2740 0.1609

Moon -77964-03-25 00:42 J -26754844.56 -26754844.47 -26754844.38 0.2746 0.1597 *

Mars -77964-06-23 11:59 J -26754754.12 -26754754.00 -26754753.89 0.1855 0.0489

Venus -77962-06-02 08:08 J -26754045.27 -26754045.16 -26754045.06 0.3774 0.1079

Moon -77961-09-25 18:56 J -26753563.87 -26753563.71 -26753563.56 0.2595 0.0812

Earth -77961-09-25 20:23 J -26753563.79 -26753563.65 -26753563.50 0.2594 0.0899 *

Jupiter -77959-08-30 15:49 J -26752860.02 -26752859.84 -26752859.65 0.0493 0.0039

Jupiter -77959-11-28 23:01 J -26752769.58 -26752769.54 -26752769.50 0.0494 0.0479

Venus -77958-05-31 13:40 J -26752585.98 -26752585.93 -26752585.89 0.3594 0.3375

Venus -77957-12-16 02:37 J -26752021.47 -26752021.39 -26752021.30 0.3770 0.2329

Saturn -77956-11-25 04:47 J -26751677.39 -26751677.30 -26751677.21 0.0281 0.0204

Mars -77955-01-15 09:20 J -26751626.23 -26751626.11 -26751625.98 0.1676 0.1107

Saturn -77955-02-21 15:49 J -26751588.96 -26751588.84 -26751588.71 0.0280 0.0097

Saturn -77955-05-21 02:52 J -26751500.51 -26751500.38 -26751500.24 0.0279 0.0012

Saturn -77955-08-17 13:54 J -26751412.03 -26751411.92 -26751411.80 0.0278 0.0116

Mars -77955-11-13 20:08 J -26751323.77 -26751323.66 -26751323.54 0.1864 0.0356

Saturn -77955-11-14 00:56 J -26751323.53 -26751323.46 -26751323.37 0.0277 0.0222

Jupiter -77953-04-22 09:35 J -26750798.19 -26750798.10 -26750798.00 0.0535 0.0345

Jupiter -77953-07-20 16:47 J -26750708.92 -26750708.80 -26750708.67 0.0534 0.0105

Venus -77953-12-14 14:52 J -26750562.00 -26750561.88 -26750561.75 0.3598 0.1527

Earth -77951-03-27 18:28 J -26750093.84 -26750093.73 -26750093.63 0.2741 0.0365

Moon -77951-03-27 19:11 J -26750093.81 -26750093.70 -26750093.60 0.2741 0.0227 *

Venus -77951-07-01 21:20 J -26749997.63 -26749997.61 -26749997.58 0.3766 0.3610

Jupiter -77947-06-18 13:11 J -26748550.12 -26748549.95 -26748549.78 0.0492 0.0172

Venus -77947-06-30 16:04 J -26748537.97 -26748537.83 -26748537.70 0.3602 0.0286

Jupiter -77947-09-16 20:37 J -26748459.77 -26748459.64 -26748459.51 0.0493 0.0349

Mars -77945-04-05 04:32 J -26747893.40 -26747893.31 -26747893.22 0.1873 0.1202

Uranus -77942-07-11 04:47 J -26746701.38 -26746701.30 -26746701.20 0.0142 0.0124

Uranus -77942-10-07 12:56 J -26746613.10 -26746612.96 -26746612.82 0.0142 0.0097

Uranus -77941-01-03 20:52 J -26746524.79 -26746524.63 -26746524.47 0.0142 0.0070

Venus -77941-01-14 16:32 J -26746513.92 -26746513.81 -26746513.70 0.3606 0.1970

Jupiter -77941-02-09 13:54 J -26746487.99 -26746487.92 -26746487.86 0.0535 0.0453

Uranus -77941-04-01 04:32 J -26746436.48 -26746436.31 -26746436.12 0.0141 0.0044

Jupiter -77941-05-08 20:52 J -26746398.75 -26746398.63 -26746398.50 0.0534 0.0014

Uranus -77941-06-28 12:28 J -26746348.17 -26746347.98 -26746347.79 0.0141 0.0017

Jupiter -77941-08-06 04:32 J -26746309.38 -26746309.31 -26746309.24 0.0533 0.0450

Uranus -77941-09-24 20:08 J -26746259.84 -26746259.66 -26746259.47 0.0141 0.0010

Uranus -77941-12-22 03:49 J -26746171.52 -26746171.34 -26746171.15 0.0141 0.0035

Uranus -77940-03-20 11:30 J -26746083.19 -26746083.02 -26746082.85 0.0141 0.0061

Uranus -77940-06-16 18:56 J -26745994.85 -26745994.71 -26745994.56 0.0141 0.0087

Uranus -77940-09-13 02:23 J -26745906.50 -26745906.40 -26745906.28 0.0141 0.0112

Saturn -77940-12-05 17:59 J -26745822.86 -26745822.75 -26745822.63 0.0280 0.0223

Uranus -77940-12-10 10:04 J -26745818.12 -26745818.08 -26745818.04 0.0140 0.0137

Saturn -77939-03-04 17:44 J -26745733.94 -26745733.76 -26745733.58 0.0281 0.0066

Saturn -77939-06-01 17:16 J -26745644.96 -26745644.78 -26745644.60 0.0282 0.0091

Saturn -77939-08-29 16:32 J -26745555.89 -26745555.81 -26745555.72 0.0283 0.0249

Earth -77938-03-30 12:28 J -26745343.08 -26745342.98 -26745342.87 0.2742 0.0922

Moon -77938-03-30 13:11 J -26745343.05 -26745342.95 -26745342.85 0.2738 0.0928 *

Venus -77936-07-30 16:32 J -26744489.82 -26744489.81 -26744489.80 0.3610 0.3591

Jupiter -77935-04-06 10:47 J -26744240.19 -26744240.05 -26744239.90 0.0492 0.0302

Jupiter -77935-07-05 18:42 J -26744149.88 -26744149.72 -26744149.56 0.0493 0.0222

Mars -77935-10-04 08:23 J -26744059.27 -26744059.15 -26744059.02 0.1691 0.1018

Mars -77934-08-02 03:35 J -26743757.43 -26743757.35 -26743757.28 0.1847 0.1411

Moon -77931-03-23 11:16 J -26742793.07 -26742793.03 -26742793.00 0.2746 0.2563

Earth -77931-03-23 11:01 J -26742793.07 -26742793.04 -26742793.00 0.2739 0.2590 *

Jupiter -77929-02-26 00:56 J -26742088.59 -26742088.46 -26742088.34 0.0534 0.0115

Jupiter -77929-05-25 08:23 J -26741999.25 -26741999.15 -26741999.05 0.0533 0.0336

Moon -77928-09-23 19:25 J -26741512.84 -26741512.69 -26741512.55 0.2591 0.1035

Earth -77928-09-23 20:37 J -26741512.79 -26741512.64 -26741512.49 0.2595 0.0912 *

Venus -77928-11-08 05:44 J -26741467.31 -26741467.26 -26741467.21 0.3786 0.3248

Saturn -77926-04-14 06:42 J -26740945.29 -26740945.22 -26740945.15 0.0282 0.0240

Saturn -77926-07-11 17:44 J -26740856.87 -26740856.76 -26740856.64 0.0281 0.0132

Saturn -77926-10-08 04:47 J -26740768.43 -26740768.30 -26740768.17 0.0280 0.0026

Saturn -77925-01-04 15:49 J -26740679.96 -26740679.84 -26740679.71 0.0279 0.0082

Mars -77925-02-24 09:06 J -26740629.28 -26740629.12 -26740628.96 0.1683 0.0020

Earth -77925-04-01 06:42 J -26740592.28 -26740592.22 -26740592.15 0.2743 0.2205

Moon -77925-04-01 06:56 J -26740592.27 -26740592.21 -26740592.15 0.2735 0.2256 *

Saturn -77925-04-02 03:06 J -26740591.47 -26740591.37 -26740591.27 0.0278 0.0187

Mars -77925-12-22 11:59 J -26740327.11 -26740327.00 -26740326.89 0.1856 0.0589

Jupiter -77923-01-23 07:40 J -26739930.26 -26739930.18 -26739930.10 0.0492 0.0442

Jupiter -77923-04-23 15:49 J -26739840.02 -26739839.84 -26739839.66 0.0493 0.0086

Venus -77922-05-24 23:44 J -26739443.60 -26739443.51 -26739443.42 0.3783 0.2113

Earth -77918-03-26 05:01 J -26738042.38 -26738042.29 -26738042.19 0.2740 0.1352

Moon -77918-03-26 05:44 J -26738042.36 -26738042.26 -26738042.17 0.2745 0.1271 *

Jupiter -77918-12-15 04:47 J -26737778.42 -26737778.30 -26737778.19 0.0534 0.0229

Jupiter -77917-03-13 11:59 J -26737689.12 -26737689.00 -26737688.88 0.0533 0.0221

Venus -77917-12-07 17:44 J -26737419.87 -26737419.76 -26737419.66 0.3780 0.0943

Mars -77916-07-16 09:49 J -26737199.22 -26737199.09 -26737198.95 0.1676 0.0980

Pluto -77916-12-16 01:40 J -26737046.47 -26737046.43 -26737046.33 0.0060 0.0056

Pluto -77915-03-14 03:20 J -26736958.45 -26736958.36 -26736958.24 0.0060 0.0050

Mars -77915-05-14 20:23 J -26736896.77 -26736896.65 -26736896.54 0.1864 0.0258

Pluto -77915-06-10 04:47 J -26736870.41 -26736870.30 -26736870.16 0.0060 0.0044

Pluto -77915-09-06 06:28 J -26736782.38 -26736782.23 -26736782.09 0.0060 0.0039

Moon -77915-09-27 01:25 J -26736761.59 -26736761.44 -26736761.30 0.2595 0.1109

Earth -77915-09-27 03:06 J -26736761.51 -26736761.37 -26736761.24 0.2594 0.1345 *

Pluto -77915-12-03 07:25 J -26736694.33 -26736694.19 -26736694.02 0.0060 0.0033

Pluto -77914-03-01 08:52 J -26736606.29 -26736606.13 -26736605.95 0.0060 0.0027

Pluto -77914-05-28 10:18 J -26736518.24 -26736518.07 -26736517.89 0.0060 0.0022

Pluto -77914-08-24 11:44 J -26736430.19 -26736430.01 -26736429.83 0.0060 0.0016

Pluto -77914-11-20 13:11 J -26736342.14 -26736341.95 -26736341.76 0.0061 0.0010

Pluto -77913-02-16 14:23 J -26736254.08 -26736253.90 -26736253.70 0.0061 0.0004

Pluto -77913-05-14 15:49 J -26736166.03 -26736165.84 -26736165.65 0.0061 0.0002

Pluto -77913-08-10 17:16 J -26736077.97 -26736077.78 -26736077.59 0.0061 0.0008

Pluto -77913-11-06 18:28 J -26735989.91 -26735989.73 -26735989.54 0.0061 0.0014

Pluto -77912-02-02 19:40 J -26735901.84 -26735901.68 -26735901.48 0.0061 0.0020

Pluto -77912-05-01 21:06 J -26735813.78 -26735813.62 -26735813.43 0.0061 0.0026

Pluto -77912-07-28 22:18 J -26735725.71 -26735725.57 -26735725.38 0.0061 0.0032

Pluto -77912-10-24 23:44 J -26735637.64 -26735637.51 -26735637.34 0.0061 0.0038

Pluto -77911-01-21 01:11 J -26735549.56 -26735549.45 -26735549.30 0.0061 0.0044

Jupiter -77911-02-09 13:25 J -26735530.12 -26735529.94 -26735529.76 0.0493 0.0045

Pluto -77911-04-19 02:37 J -26735461.48 -26735461.39 -26735461.26 0.0061 0.0050

Jupiter -77911-05-10 20:37 J -26735439.68 -26735439.64 -26735439.59 0.0494 0.0475

Venus -77911-06-23 11:59 J -26735396.11 -26735396.00 -26735395.89 0.3776 0.0258

Pluto -77911-07-16 04:04 J -26735373.38 -26735373.33 -26735373.23 0.0061 0.0057

Saturn -77910-04-24 18:13 J -26735090.80 -26735090.74 -26735090.65 0.0280 0.0254

Saturn -77910-07-22 18:13 J -26735001.92 -26735001.74 -26735001.56 0.0281 0.0097

Saturn -77910-10-19 17:44 J -26734912.94 -26734912.76 -26734912.57 0.0282 0.0061

Saturn -77909-01-16 17:01 J -26734823.90 -26734823.79 -26734823.66 0.0283 0.0219

Neptune -77906-04-08 12:42 J -26733645.97 -26733645.97 -26733645.96 0.0089 0.0089

Neptune -77906-07-05 14:08 J -26733557.95 -26733557.91 -26733557.87 0.0089 0.0084

Neptune -77906-10-01 15:20 J -26733469.91 -26733469.86 -26733469.80 0.0089 0.0080

Jupiter -77906-10-03 08:08 J -26733468.26 -26733468.16 -26733468.07 0.0535 0.0349

Mars -77906-10-05 04:32 J -26733466.40 -26733466.31 -26733466.21 0.1873 0.1097

Neptune -77906-12-28 16:47 J -26733381.87 -26733381.80 -26733381.73 0.0089 0.0075

Jupiter -77906-12-31 15:06 J -26733378.99 -26733378.87 -26733378.74 0.0534 0.0101

Venus -77905-01-07 06:13 J -26733372.34 -26733372.24 -26733372.13 0.3773 0.1489

Neptune -77905-03-25 17:59 J -26733293.82 -26733293.75 -26733293.67 0.0089 0.0071

Earth -77905-03-27 23:16 J -26733291.64 -26733291.53 -26733291.42 0.2741 0.0092

Moon -77905-03-27 23:59 J -26733291.61 -26733291.50 -26733291.39 0.2741 0.0052 *

Neptune -77905-06-21 19:25 J -26733205.78 -26733205.69 -26733205.60 0.0089 0.0066

Neptune -77905-09-17 20:37 J -26733117.73 -26733117.64 -26733117.54 0.0089 0.0062

Neptune -77905-12-14 22:04 J -26733029.68 -26733029.58 -26733029.48 0.0089 0.0057

Neptune -77904-03-12 23:16 J -26732941.63 -26732941.53 -26732941.42 0.0089 0.0053

Neptune -77904-06-09 00:42 J -26732853.58 -26732853.47 -26732853.36 0.0089 0.0048

Neptune -77904-09-05 01:54 J -26732765.53 -26732765.42 -26732765.30 0.0089 0.0044

Neptune -77904-12-02 03:20 J -26732677.48 -26732677.36 -26732677.24 0.0089 0.0039

Neptune -77903-02-28 04:32 J -26732589.43 -26732589.31 -26732589.18 0.0089 0.0035

Neptune -77903-05-27 05:59 J -26732501.37 -26732501.25 -26732501.13 0.0089 0.0030

Neptune -77903-08-23 07:11 J -26732413.32 -26732413.20 -26732413.07 0.0089 0.0026

Neptune -77903-11-19 08:37 J -26732325.27 -26732325.14 -26732325.01 0.0089 0.0021

Neptune -77902-02-15 09:49 J -26732237.22 -26732237.09 -26732236.95 0.0089 0.0017

Neptune -77902-05-14 11:16 J -26732149.16 -26732149.03 -26732148.90 0.0089 0.0012

Neptune -77902-08-10 12:28 J -26732061.11 -26732060.98 -26732060.84 0.0089 0.0008

Neptune -77902-11-06 13:54 J -26731973.05 -26731972.92 -26731972.79 0.0089 0.0003

Venus -77901-01-05 13:40 J -26731913.01 -26731912.93 -26731912.84 0.3595 0.2786

Neptune -77901-02-02 15:20 J -26731885.00 -26731884.86 -26731884.73 0.0089 0.0003

Neptune -77901-04-30 16:32 J -26731796.94 -26731796.81 -26731796.68 0.0089 0.0007

Neptune -77901-07-27 17:59 J -26731708.88 -26731708.75 -26731708.62 0.0089 0.0011

Neptune -77901-10-23 19:11 J -26731620.83 -26731620.70 -26731620.57 0.0089 0.0016

Neptune -77900-01-19 20:37 J -26731532.77 -26731532.64 -26731532.51 0.0089 0.0020

Neptune -77900-04-17 21:49 J -26731444.71 -26731444.59 -26731444.46 0.0089 0.0025

Neptune -77900-07-14 23:01 J -26731356.65 -26731356.54 -26731356.40 0.0089 0.0030

Venus -77900-07-23 00:56 J -26731348.53 -26731348.46 -26731348.38 0.3769 0.2747

Neptune -77900-10-11 00:28 J -26731268.60 -26731268.48 -26731268.35 0.0089 0.0034

Jupiter -77900-11-28 11:16 J -26731220.21 -26731220.03 -26731219.86 0.0492 0.0175

Neptune -77899-01-07 01:54 J -26731180.54 -26731180.42 -26731180.30 0.0089 0.0039

Jupiter -77899-02-26 18:42 J -26731129.85 -26731129.72 -26731129.59 0.0493 0.0348

Neptune -77899-04-05 03:20 J -26731092.48 -26731092.36 -26731092.24 0.0089 0.0043

Neptune -77899-07-02 04:32 J -26731004.42 -26731004.31 -26731004.19 0.0089 0.0048

Neptune -77899-09-28 05:44 J -26730916.35 -26730916.26 -26730916.14 0.0089 0.0053

Neptune -77899-12-25 07:25 J -26730828.29 -26730828.19 -26730828.09 0.0089 0.0057

Neptune -77898-03-23 08:37 J -26730740.23 -26730740.14 -26730740.04 0.0089 0.0062

Neptune -77898-06-19 09:49 J -26730652.16 -26730652.09 -26730651.99 0.0089 0.0067

Neptune -77898-09-15 11:16 J -26730564.10 -26730564.03 -26730563.94 0.0089 0.0071

Uranus -77898-12-12 04:04 J -26730476.38 -26730476.33 -26730476.28 0.0137 0.0124

Neptune -77898-12-12 12:42 J -26730476.03 -26730475.97 -26730475.89 0.0089 0.0076

Uranus -77897-03-09 07:11 J -26730388.28 -26730388.20 -26730388.12 0.0137 0.0108

Neptune -77897-03-09 14:08 J -26730387.96 -26730387.91 -26730387.85 0.0089 0.0080

Uranus -77897-06-05 10:32 J -26730300.16 -26730300.06 -26730299.96 0.0137 0.0091

Neptune -77897-06-05 15:20 J -26730299.88 -26730299.86 -26730299.81 0.0089 0.0085

Saturn -77897-08-31 09:49 J -26730213.13 -26730213.09 -26730213.04 0.0282 0.0263

Uranus -77897-09-01 13:40 J -26730212.04 -26730211.93 -26730211.82 0.0137 0.0075

Saturn -77897-11-27 21:06 J -26730124.73 -26730124.62 -26730124.51 0.0281 0.0155

Uranus -77897-11-28 17:01 J -26730123.91 -26730123.79 -26730123.67 0.0137 0.0058

Saturn -77896-02-24 08:08 J -26730036.29 -26730036.16 -26730036.03 0.0280 0.0048

Uranus -77896-02-24 20:08 J -26730035.78 -26730035.66 -26730035.53 0.0137 0.0042

Saturn -77896-05-23 19:11 J -26729947.83 -26729947.70 -26729947.57 0.0279 0.0058

Uranus -77896-05-23 23:30 J -26729947.65 -26729947.52 -26729947.38 0.0137 0.0025 *

Venus -77896-07-21 15:06 J -26729889.01 -26729888.87 -26729888.74 0.3599 0.0960

Uranus -77896-08-20 02:52 J -26729859.51 -26729859.38 -26729859.24 0.0138 0.0008

Saturn -77896-08-20 06:13 J -26729859.34 -26729859.24 -26729859.13 0.0278 0.0164 *

Uranus -77896-11-16 06:13 J -26729771.37 -26729771.24 -26729771.10 0.0138 0.0011

Saturn -77896-11-16 17:30 J -26729770.80 -26729770.77 -26729770.75 0.0277 0.0270

Uranus -77895-02-12 09:35 J -26729683.23 -26729683.10 -26729682.96 0.0138 0.0028

Mars -77895-04-04 09:06 J -26729632.24 -26729632.12 -26729632.00 0.1691 0.1148

Uranus -77895-05-11 12:56 J -26729595.08 -26729594.96 -26729594.83 0.0138 0.0045

Uranus -77895-08-07 16:32 J -26729506.93 -26729506.81 -26729506.69 0.0138 0.0062

Uranus -77895-11-03 19:54 J -26729418.78 -26729418.67 -26729418.56 0.0138 0.0080

Uranus -77894-01-30 23:16 J -26729330.62 -26729330.53 -26729330.43 0.0138 0.0098

Mars -77894-01-31 03:35 J -26729330.42 -26729330.35 -26729330.28 0.1847 0.1514

Uranus -77894-04-29 02:52 J -26729242.45 -26729242.38 -26729242.30 0.0139 0.0116

Jupiter -77894-07-22 11:44 J -26729158.07 -26729158.01 -26729157.94 0.0535 0.0461

Uranus -77894-07-26 06:28 J -26729154.26 -26729154.23 -26729154.20 0.0139 0.0134

Jupiter -77894-10-19 18:56 J -26729068.84 -26729068.71 -26729068.58 0.0534 0.0013

Jupiter -77893-01-17 02:23 J -26728979.47 -26728979.40 -26728979.32 0.0533 0.0441

Earth -77892-03-30 17:30 J -26728540.87 -26728540.77 -26728540.67 0.2742 0.1179

Moon -77892-03-30 17:44 J -26728540.85 -26728540.76 -26728540.66 0.2737 0.1294 *

Venus -77890-02-04 15:49 J -26727864.97 -26727864.84 -26727864.71 0.3603 0.0819

Jupiter -77888-09-16 08:23 J -26726910.29 -26726910.15 -26726910.01 0.0492 0.0309

Jupiter -77888-12-15 16:04 J -26726819.99 -26726819.83 -26726819.66 0.0493 0.0216

Mars -77886-08-25 09:49 J -26726202.25 -26726202.09 -26726201.92 0.1684 0.0153

Earth -77885-03-23 16:04 J -26725990.89 -26725990.83 -26725990.78 0.2739 0.2337

Moon -77885-03-23 16:04 J -26725990.88 -26725990.83 -26725990.77 0.2747 0.2358 *

Mars -77885-06-22 11:59 J -26725900.11 -26725900.00 -26725899.89 0.1855 0.0687

Venus -77885-08-20 16:04 J -26725840.92 -26725840.83 -26725840.73 0.3607 0.2503

Jupiter -77882-08-07 23:01 J -26724758.66 -26724758.54 -26724758.41 0.0535 0.0123

Moon -77882-09-25 01:40 J -26724710.58 -26724710.43 -26724710.27 0.2593 0.0582

Earth -77882-09-25 03:20 J -26724710.52 -26724710.36 -26724710.21 0.2595 0.0457 *

Jupiter -77882-11-05 06:28 J -26724669.33 -26724669.23 -26724669.13 0.0533 0.0330

Saturn -77881-12-08 16:18 J -26724269.98 -26724269.82 -26724269.65 0.0280 0.0143

Saturn -77880-03-07 16:04 J -26724181.02 -26724180.83 -26724180.65 0.0281 0.0014

Saturn -77880-06-04 15:20 J -26724092.00 -26724091.86 -26724091.71 0.0282 0.0172

Moon -77879-04-02 11:44 J -26723790.06 -26723790.01 -26723789.96 0.2736 0.2393

Earth -77879-04-02 11:44 J -26723790.06 -26723790.01 -26723789.97 0.2743 0.2465 *

Mars -77876-01-14 10:47 J -26722772.19 -26722772.05 -26722771.91 0.1676 0.0836

Jupiter -77876-07-05 05:44 J -26722600.33 -26722600.26 -26722600.17 0.0492 0.0440

Jupiter -77876-10-03 13:54 J -26722510.10 -26722509.92 -26722509.74 0.0493 0.0086

Mars -77876-11-12 20:08 J -26722469.77 -26722469.66 -26722469.54 0.1864 0.0169

Earth -77872-03-26 10:04 J -26721240.18 -26721240.08 -26721239.98 0.2740 0.1094

Moon -77872-03-26 10:32 J -26721240.16 -26721240.06 -26721239.96 0.2743 0.1007 *

Venus -77871-06-15 03:49 J -26720794.41 -26720794.34 -26720794.27 0.3785 0.2888

Jupiter -77870-05-27 03:06 J -26720448.48 -26720448.37 -26720448.25 0.0534 0.0232

Jupiter -77870-08-24 10:18 J -26720359.18 -26720359.07 -26720358.95 0.0533 0.0220

Moon -77869-09-27 07:54 J -26719959.29 -26719959.17 -26719959.05 0.2595 0.1676

Earth -77869-09-27 09:35 J -26719959.21 -26719959.10 -26719958.99 0.2594 0.1794 *

Saturn -77867-04-16 23:01 J -26719392.63 -26719392.54 -26719392.44 0.0281 0.0189

Saturn -77867-07-14 10:18 J -26719304.20 -26719304.07 -26719303.95 0.0281 0.0082

Saturn -77867-10-10 21:20 J -26719215.74 -26719215.61 -26719215.48 0.0280 0.0026

Saturn -77866-01-07 08:23 J -26719127.26 -26719127.15 -26719127.03 0.0279 0.0132

Mars -77866-04-05 04:32 J -26719039.40 -26719039.31 -26719039.21 0.1872 0.0995

Saturn -77866-04-05 19:25 J -26719038.75 -26719038.69 -26719038.62 0.0278 0.0238

Venus -77866-12-29 21:49 J -26718770.69 -26718770.59 -26718770.50 0.3782 0.1744

Jupiter -77864-07-22 10:47 J -26718200.23 -26718200.05 -26718199.87 0.0493 0.0053

Jupiter -77864-10-20 17:59 J -26718109.80 -26718109.75 -26718109.69 0.0494 0.0468

Venus -77860-07-14 15:49 J -26716746.95 -26716746.84 -26716746.73 0.3779 0.0560

Earth -77859-03-29 04:04 J -26716489.44 -26716489.33 -26716489.22 0.2741 0.0172

Moon -77859-03-29 04:47 J -26716489.41 -26716489.30 -26716489.19 0.2741 0.0303 *

Jupiter -77858-03-15 06:56 J -26716138.30 -26716138.21 -26716138.11 0.0534 0.0344

Jupiter -77858-06-12 14:08 J -26716049.04 -26716048.91 -26716048.79 0.0533 0.0104

Uranus -77858-07-31 12:28 J -26716000.07 -26715999.98 -26715999.86 0.0142 0.0117

Uranus -77858-10-27 20:37 J -26715911.78 -26715911.64 -26715911.49 0.0142 0.0090

Uranus -77857-01-24 04:32 J -26715823.48 -26715823.31 -26715823.14 0.0142 0.0063

Uranus -77857-04-21 12:13 J -26715735.16 -26715734.99 -26715734.80 0.0141 0.0037

Uranus -77857-07-18 20:08 J -26715646.84 -26715646.66 -26715646.47 0.0141 0.0010

Mars -77857-08-25 12:56 J -26715608.98 -26715608.96 -26715608.94 0.1880 0.1851

Uranus -77857-10-15 03:49 J -26715558.52 -26715558.34 -26715558.15 0.0141 0.0017

Uranus -77856-01-11 11:30 J -26715470.19 -26715470.02 -26715469.83 0.0141 0.0043

Uranus -77856-04-09 18:56 J -26715381.86 -26715381.71 -26715381.53 0.0141 0.0069

Uranus -77856-07-07 02:37 J -26715293.52 -26715293.39 -26715293.24 0.0141 0.0094

Mars -77856-10-03 09:35 J -26715205.21 -26715205.10 -26715205.00 0.1692 0.1276

Uranus -77856-10-03 10:18 J -26715205.17 -26715205.07 -26715204.97 0.0140 0.0119 *

Mars -77855-08-01 03:35 J -26714903.40 -26714903.35 -26714903.29 0.1846 0.1622

Venus -77854-01-28 10:04 J -26714723.19 -26714723.08 -26714722.97 0.3776 0.0649

Jupiter -77852-05-10 08:23 J -26713890.32 -26713890.15 -26713889.98 0.0493 0.0184

Jupiter -77852-08-08 15:49 J -26713799.96 -26713799.84 -26713799.70 0.0494 0.0340

Saturn -77851-04-27 17:01 J -26713537.94 -26713537.79 -26713537.64 0.0280 0.0173

Saturn -77851-07-25 16:47 J -26713448.99 -26713448.80 -26713448.62 0.0281 0.0016

Saturn -77851-10-22 16:04 J -26713359.98 -26713359.83 -26713359.66 0.0282 0.0142

Venus -77849-08-13 04:32 J -26712699.40 -26712699.31 -26712699.21 0.3772 0.1894

Moon -77849-09-22 02:23 J -26712659.47 -26712659.40 -26712659.33 0.2590 0.2280

Earth -77849-09-22 03:20 J -26712659.44 -26712659.36 -26712659.29 0.2596 0.2289 *

Jupiter -77846-01-01 10:18 J -26711828.13 -26711828.07 -26711828.01 0.0535 0.0465

Mars -77846-02-23 10:32 J -26711775.22 -26711775.06 -26711774.90 0.1684 0.0292

Jupiter -77846-03-31 17:16 J -26711738.91 -26711738.78 -26711738.65 0.0534 0.0019

Earth -77846-03-31 22:18 J -26711738.66 -26711738.57 -26711738.48 0.2742 0.1444 *

Moon -77846-03-31 22:32 J -26711738.65 -26711738.56 -26711738.46 0.2736 0.1431 *

Jupiter -77846-06-29 00:42 J -26711649.54 -26711649.47 -26711649.40 0.0533 0.0434

Mars -77846-12-22 11:59 J -26711473.11 -26711473.00 -26711472.90 0.1855 0.0785

Venus -77845-08-11 13:40 J -26711240.03 -26711239.93 -26711239.82 0.3596 0.2208

Venus -77843-02-26 23:16 J -26710675.59 -26710675.53 -26710675.47 0.3768 0.3164

Jupiter -77840-02-26 05:59 J -26709580.39 -26709580.25 -26709580.11 0.0492 0.0314

Jupiter -77840-05-27 13:54 J -26709490.08 -26709489.92 -26709489.75 0.0493 0.0211

Venus -77839-02-25 15:06 J -26709216.01 -26709215.87 -26709215.74 0.3600 0.0393

Moon -77839-03-24 21:06 J -26709188.70 -26709188.62 -26709188.55 0.2746 0.2022

Earth -77839-03-24 20:52 J -26709188.70 -26709188.63 -26709188.56 0.2739 0.2082 *

Saturn -77838-09-04 02:37 J -26708660.47 -26708660.39 -26708660.30 0.0282 0.0209

Saturn -77838-12-01 13:54 J -26708572.05 -26708571.92 -26708571.80 0.0281 0.0102

Saturn -77837-02-28 00:56 J -26708483.59 -26708483.46 -26708483.33 0.0280 0.0007

Saturn -77837-05-26 11:59 J -26708395.12 -26708395.00 -26708394.88 0.0279 0.0112

Mars -77837-07-15 11:16 J -26708345.18 -26708345.03 -26708344.88 0.1676 0.0706

Saturn -77837-08-22 23:01 J -26708306.62 -26708306.54 -26708306.46 0.0278 0.0217

Mars -77836-05-13 20:23 J -26708042.77 -26708042.65 -26708042.54 0.1864 0.0064

Moon -77836-09-25 08:08 J -26707908.32 -26707908.16 -26707908.00 0.2594 0.0232

Earth -77836-09-25 09:49 J -26707908.25 -26707908.09 -26707907.93 0.2594 0.0041 *

Jupiter -77834-01-17 20:52 J -26707428.75 -26707428.63 -26707428.50 0.0534 0.0134

Jupiter -77834-04-17 04:18 J -26707339.42 -26707339.32 -26707339.22 0.0533 0.0320

Venus -77834-09-11 15:35 J -26707191.97 -26707191.85 -26707191.72 0.3604 0.1366

Earth -77833-04-02 16:32 J -26706987.82 -26706987.81 -26706987.80 0.2743 0.2727

Jupiter -77829-12-15 03:06 J -26705270.44 -26705270.37 -26705270.29 0.0492 0.0449

Jupiter -77828-03-15 11:16 J -26705180.21 -26705180.03 -26705179.85 0.0493 0.0078

Venus -77828-03-27 15:49 J -26705167.91 -26705167.84 -26705167.76 0.3608 0.3040

Mars -77827-10-04 04:32 J -26704612.41 -26704612.31 -26704612.21 0.1872 0.0901

Earth -77826-03-27 14:52 J -26704437.98 -26704437.88 -26704437.78 0.2741 0.0834

Moon -77826-03-27 15:35 J -26704437.96 -26704437.85 -26704437.75 0.2743 0.0776 *

Neptune -77823-09-23 11:44 J -26703162.04 -26703162.01 -26703161.95 0.0089 0.0086

Moon -77823-09-28 14:37 J -26703156.99 -26703156.89 -26703156.80 0.2595 0.2056

Earth -77823-09-28 16:04 J -26703156.91 -26703156.83 -26703156.75 0.2594 0.2238 *

Jupiter -77823-11-06 00:56 J -26703118.57 -26703118.46 -26703118.34 0.0535 0.0243

Neptune -77823-12-20 15:49 J -26703073.93 -26703073.84 -26703073.75 0.0089 0.0079

Jupiter -77822-02-03 08:23 J -26703029.27 -26703029.15 -26703029.04 0.0534 0.0209

Neptune -77822-03-18 19:11 J -26702985.80 -26702985.70 -26702985.57 0.0089 0.0073

Neptune -77822-06-14 23:01 J -26702897.66 -26702897.54 -26702897.40 0.0089 0.0066

Pluto -77822-07-18 12:13 J -26702864.03 -26702863.99 -26702863.93 0.0084 0.0079

Neptune -77822-09-11 02:52 J -26702809.52 -26702809.38 -26702809.23 0.0089 0.0059

Saturn -77822-09-14 15:49 J -26702805.95 -26702805.84 -26702805.71 0.0280 0.0215

Pluto -77822-10-14 13:54 J -26702776.01 -26702775.92 -26702775.84 0.0084 0.0067

Neptune -77822-12-08 06:13 J -26702721.38 -26702721.24 -26702721.07 0.0089 0.0053

Saturn -77822-12-12 15:49 J -26702717.03 -26702716.84 -26702716.66 0.0281 0.0057

Pluto -77821-01-10 15:06 J -26702687.97 -26702687.87 -26702687.76 0.0084 0.0055

Neptune -77821-03-05 10:04 J -26702633.24 -26702633.08 -26702632.90 0.0089 0.0046

Saturn -77821-03-10 15:06 J -26702628.04 -26702627.87 -26702627.69 0.0282 0.0101

Pluto -77821-04-07 16:18 J -26702599.92 -26702599.82 -26702599.69 0.0084 0.0044

Neptune -77821-06-01 13:54 J -26702545.09 -26702544.92 -26702544.74 0.0088 0.0039

Saturn -77821-06-07 14:37 J -26702538.96 -26702538.89 -26702538.81 0.0283 0.0258

Pluto -77821-07-04 17:59 J -26702511.88 -26702511.75 -26702511.63 0.0084 0.0032

Neptune -77821-08-28 17:16 J -26702456.95 -26702456.78 -26702456.58 0.0088 0.0033

Pluto -77821-09-30 19:25 J -26702423.83 -26702423.69 -26702423.56 0.0084 0.0021

Neptune -77821-11-24 21:06 J -26702368.80 -26702368.62 -26702368.43 0.0088 0.0026

Pluto -77821-12-27 20:37 J -26702335.77 -26702335.64 -26702335.50 0.0084 0.0010

Neptune -77820-02-21 00:56 J -26702280.65 -26702280.46 -26702280.27 0.0088 0.0019

Pluto -77820-03-25 22:04 J -26702247.72 -26702247.58 -26702247.45 0.0084 0.0002

Neptune -77820-05-20 04:32 J -26702192.50 -26702192.31 -26702192.12 0.0088 0.0012

Pluto -77820-06-21 23:16 J -26702159.66 -26702159.53 -26702159.39 0.0083 0.0012

Venus -77820-07-06 08:08 J -26702145.19 -26702145.16 -26702145.14 0.3788 0.3651

Neptune -77820-08-16 08:08 J -26702104.35 -26702104.16 -26702103.96 0.0088 0.0006

Pluto -77820-09-18 00:28 J -26702071.60 -26702071.48 -26702071.34 0.0083 0.0024

Neptune -77820-11-12 11:44 J -26702016.20 -26702016.01 -26702015.81 0.0088 0.0002

Pluto -77820-12-15 01:54 J -26701983.54 -26701983.42 -26701983.29 0.0083 0.0034

Neptune -77819-02-08 15:20 J -26701928.05 -26701927.86 -26701927.66 0.0088 0.0008

Pluto -77819-03-13 03:06 J -26701895.48 -26701895.37 -26701895.25 0.0083 0.0045

Neptune -77819-05-07 19:11 J -26701839.89 -26701839.70 -26701839.51 0.0088 0.0015

Pluto -77819-06-09 04:18 J -26701807.41 -26701807.32 -26701807.21 0.0083 0.0056

Neptune -77819-08-03 22:32 J -26701751.74 -26701751.56 -26701751.36 0.0088 0.0022

Pluto -77819-09-05 05:44 J -26701719.33 -26701719.26 -26701719.18 0.0083 0.0066

Neptune -77819-10-31 02:23 J -26701663.58 -26701663.40 -26701663.22 0.0088 0.0028

Pluto -77819-12-02 06:56 J -26701631.25 -26701631.21 -26701631.16 0.0083 0.0077

Neptune -77818-01-27 05:44 J -26701575.43 -26701575.26 -26701575.07 0.0088 0.0035

Neptune -77818-04-25 09:20 J -26701487.27 -26701487.11 -26701486.93 0.0088 0.0041

Neptune -77818-07-22 12:56 J -26701399.11 -26701398.96 -26701398.79 0.0088 0.0048

Neptune -77818-10-18 16:18 J -26701310.95 -26701310.82 -26701310.65 0.0088 0.0055

Neptune -77817-01-14 20:08 J -26701222.79 -26701222.66 -26701222.51 0.0088 0.0061

Mars -77817-02-24 12:56 J -26701182.00 -26701181.96 -26701181.92 0.1881 0.1752

Neptune -77817-04-11 23:30 J -26701134.62 -26701134.52 -26701134.38 0.0088 0.0068

Neptune -77817-07-09 03:20 J -26701046.46 -26701046.36 -26701046.25 0.0088 0.0074

Neptune -77817-10-05 06:42 J -26700958.28 -26700958.22 -26700958.12 0.0088 0.0081

Jupiter -77816-01-01 08:52 J -26700870.31 -26700870.13 -26700869.95 0.0492 0.0053

Neptune -77816-01-01 10:32 J -26700870.09 -26700870.06 -26700870.02 0.0088 0.0087 *

Jupiter -77816-04-01 16:04 J -26700779.89 -26700779.83 -26700779.77 0.0494 0.0466

Mars -77816-04-03 10:18 J -26700778.16 -26700778.07 -26700777.98 0.1691 0.1417

Mars -77815-01-30 03:35 J -26700476.39 -26700476.35 -26700476.31 0.1846 0.1711

Venus -77814-01-20 01:54 J -26700121.50 -26700121.42 -26700121.34 0.3785 0.2528

Uranus -77814-10-05 08:08 J -26699863.17 -26699863.16 -26699863.14 0.0136 0.0136

Uranus -77813-01-01 11:30 J -26699775.08 -26699775.02 -26699774.96 0.0137 0.0119

Earth -77813-03-29 08:52 J -26699687.23 -26699687.13 -26699687.02 0.2741 0.0442

Moon -77813-03-29 09:35 J -26699687.21 -26699687.10 -26699686.99 0.2739 0.0496 *

Uranus -77813-03-29 14:37 J -26699686.97 -26699686.89 -26699686.80 0.0137 0.0103

Uranus -77813-06-25 17:59 J -26699598.85 -26699598.75 -26699598.65 0.0137 0.0086

Uranus -77813-09-21 21:06 J -26699510.73 -26699510.62 -26699510.50 0.0137 0.0070

Uranus -77813-12-19 00:28 J -26699422.60 -26699422.48 -26699422.35 0.0137 0.0053

Uranus -77812-03-17 03:49 J -26699334.47 -26699334.34 -26699334.21 0.0137 0.0036

Uranus -77812-06-13 07:11 J -26699246.33 -26699246.20 -26699246.07 0.0137 0.0019

Uranus -77812-09-09 10:32 J -26699158.19 -26699158.06 -26699157.93 0.0138 0.0002

Uranus -77812-12-06 13:54 J -26699070.05 -26699069.92 -26699069.79 0.0138 0.0015

Uranus -77811-03-04 17:16 J -26698981.91 -26698981.78 -26698981.65 0.0138 0.0033

Uranus -77811-05-31 20:37 J -26698893.76 -26698893.64 -26698893.51 0.0138 0.0050

Jupiter -77811-08-25 05:16 J -26698808.38 -26698808.28 -26698808.19 0.0535 0.0350

Uranus -77811-08-27 23:59 J -26698805.61 -26698805.50 -26698805.38 0.0138 0.0068

Jupiter -77811-11-22 12:13 J -26698719.11 -26698718.99 -26698718.86 0.0534 0.0100

Uranus -77811-11-24 03:35 J -26698717.46 -26698717.35 -26698717.24 0.0138 0.0086

Uranus -77810-02-20 06:56 J -26698629.29 -26698629.21 -26698629.12 0.0138 0.0104

Uranus -77810-05-19 10:18 J -26698541.12 -26698541.07 -26698541.00 0.0139 0.0122

Venus -77809-08-04 19:54 J -26698097.77 -26698097.67 -26698097.57 0.3782 0.1364

Saturn -77808-01-21 04:47 J -26697928.36 -26697928.30 -26697928.23 0.0282 0.0242

Saturn -77808-04-19 16:04 J -26697839.95 -26697839.83 -26697839.72 0.0281 0.0134

Saturn -77808-07-17 03:06 J -26697751.50 -26697751.37 -26697751.24 0.0280 0.0027

Saturn -77808-10-13 14:08 J -26697663.03 -26697662.91 -26697662.78 0.0279 0.0080

Saturn -77807-01-10 01:11 J -26697574.54 -26697574.45 -26697574.35 0.0278 0.0186

Mars -77807-08-24 11:01 J -26697348.20 -26697348.04 -26697347.88 0.1684 0.0416

Mars -77806-06-22 11:59 J -26697046.10 -26697046.00 -26697045.89 0.1855 0.0898

Jupiter -77805-10-20 05:30 J -26696560.44 -26696560.27 -26696560.10 0.0492 0.0194

Jupiter -77804-01-18 13:11 J -26696470.08 -26696469.95 -26696469.82 0.0494 0.0330

Venus -77803-02-18 13:54 J -26696074.03 -26696073.92 -26696073.81 0.3778 0.0192

Moon -77803-09-23 08:52 J -26695857.23 -26695857.13 -26695857.03 0.2591 0.2032

Earth -77803-09-23 09:49 J -26695857.20 -26695857.09 -26695856.98 0.2595 0.1830 *

Earth -77800-04-01 03:06 J -26694936.45 -26694936.37 -26694936.28 0.2742 0.1706

Moon -77800-04-01 03:20 J -26694936.44 -26694936.36 -26694936.27 0.2735 0.1787 *

Jupiter -77799-06-13 09:06 J -26694498.18 -26694498.12 -26694498.06 0.0535 0.0462

Jupiter -77799-09-10 16:04 J -26694408.96 -26694408.83 -26694408.70 0.0534 0.0016

Jupiter -77799-12-08 23:30 J -26694319.59 -26694319.52 -26694319.45 0.0532 0.0437

Venus -77798-09-04 08:23 J -26694050.26 -26694050.15 -26694050.05 0.3775 0.1056

Mars -77797-01-14 11:59 J -26693918.15 -26693918.00 -26693917.85 0.1677 0.0568

Mars -77797-11-11 20:23 J -26693615.77 -26693615.65 -26693615.53 0.1863 0.0053

Venus -77794-09-02 12:13 J -26692591.01 -26692590.99 -26692590.96 0.3594 0.3506

Earth -77793-03-25 01:40 J -26692386.51 -26692386.43 -26692386.35 0.2740 0.1819

Moon -77793-03-25 01:54 J -26692386.49 -26692386.42 -26692386.34 0.2745 0.1840 *

Jupiter -77793-08-08 02:52 J -26692250.51 -26692250.38 -26692250.24 0.0492 0.0326

Jupiter -77793-11-06 11:01 J -26692160.21 -26692160.04 -26692159.88 0.0493 0.0201

Saturn -77792-01-31 16:18 J -26692073.90 -26692073.82 -26692073.72 0.0280 0.0246

Venus -77792-03-20 02:52 J -26692026.47 -26692026.38 -26692026.29 0.3771 0.2307

Saturn -77792-04-30 16:04 J -26691985.00 -26691984.83 -26691984.65 0.0281 0.0089

Saturn -77792-07-28 15:35 J -26691896.02 -26691895.85 -26691895.66 0.0281 0.0070

Saturn -77792-10-25 15:06 J -26691806.97 -26691806.87 -26691806.76 0.0282 0.0226

Moon -77790-09-26 14:37 J -26691106.05 -26691105.89 -26691105.73 0.2593 0.0352

Earth -77790-09-26 16:32 J -26691105.97 -26691105.81 -26691105.66 0.2594 0.0459 *

Venus -77788-03-18 13:54 J -26690567.04 -26690566.92 -26690566.80 0.3597 0.1618

Mars -77788-06-05 12:42 J -26690488.02 -26690487.97 -26690487.91 0.1669 0.1550

Mars -77787-04-04 04:32 J -26690185.41 -26690185.31 -26690185.20 0.1872 0.0801

Jupiter -77787-06-29 19:11 J -26690098.82 -26690098.70 -26690098.58 0.0534 0.0138

Jupiter -77787-09-27 02:23 J -26690009.50 -26690009.40 -26690009.29 0.0533 0.0314

Venus -77787-10-03 21:35 J -26690002.63 -26690002.60 -26690002.57 0.3767 0.3593

Venus -77783-10-02 14:52 J -26688543.01 -26688542.88 -26688542.74 0.3601 0.0207

Jupiter -77781-05-27 00:42 J -26687940.54 -26687940.47 -26687940.41 0.0492 0.0455

Jupiter -77781-08-25 08:52 J -26687850.31 -26687850.13 -26687849.95 0.0493 0.0072

Earth -77780-03-27 19:40 J -26687635.78 -26687635.68 -26687635.57 0.2741 0.0576

Moon -77780-03-27 20:23 J -26687635.76 -26687635.65 -26687635.54 0.2743 0.0449 *

Saturn -77779-06-10 08:52 J -26687196.18 -26687196.13 -26687196.08 0.0282 0.0260

Saturn -77779-09-06 19:54 J -26687107.78 -26687107.67 -26687107.56 0.0281 0.0152

Saturn -77779-12-04 06:56 J -26687019.34 -26687019.21 -26687019.08 0.0280 0.0045

Saturn -77778-03-02 17:59 J -26686930.88 -26686930.75 -26686930.62 0.0279 0.0062

Saturn -77778-05-30 05:01 J -26686842.39 -26686842.29 -26686842.18 0.0278 0.0168

Mars -77778-08-25 12:56 J -26686755.01 -26686754.96 -26686754.91 0.1880 0.1650

Saturn -77778-08-26 16:04 J -26686753.84 -26686753.83 -26686753.80 0.0277 0.0274

Venus -77777-04-17 15:35 J -26686518.97 -26686518.85 -26686518.74 0.3605 0.1917

Moon -77777-09-28 21:20 J -26686354.64 -26686354.61 -26686354.58 0.2597 0.2541

Mars -77777-10-02 11:01 J -26686351.10 -26686351.04 -26686350.98 0.1692 0.1554

Mars -77776-07-31 03:49 J -26686049.36 -26686049.34 -26686049.33 0.1846 0.1822

Jupiter -77775-04-17 22:47 J -26685788.66 -26685788.55 -26685788.43 0.0535 0.0254

Jupiter -77775-07-16 05:59 J -26685699.36 -26685699.25 -26685699.13 0.0534 0.0199

Uranus -77774-05-24 12:28 J -26685387.01 -26685386.98 -26685386.91 0.0142 0.0136

Uranus -77774-08-20 20:52 J -26685298.75 -26685298.63 -26685298.50 0.0142 0.0108

Uranus -77774-11-17 04:32 J -26685210.45 -26685210.31 -26685210.14 0.0142 0.0082

Uranus -77773-02-13 12:42 J -26685122.14 -26685121.97 -26685121.79 0.0142 0.0054

Uranus -77773-05-11 20:37 J -26685033.83 -26685033.64 -26685033.46 0.0141 0.0028

Uranus -77773-08-08 04:18 J -26684945.51 -26684945.32 -26684945.13 0.0141 0.0002

Uranus -77773-11-04 11:59 J -26684857.18 -26684857.00 -26684856.81 0.0141 0.0025

Uranus -77772-01-31 19:40 J -26684768.85 -26684768.68 -26684768.50 0.0141 0.0051

Uranus -77772-04-30 03:06 J -26684680.52 -26684680.37 -26684680.20 0.0141 0.0077

Uranus -77772-07-27 10:47 J -26684592.17 -26684592.05 -26684591.92 0.0141 0.0102

Uranus -77772-10-23 17:59 J -26684503.81 -26684503.75 -26684503.66 0.0140 0.0128

Venus -77772-11-01 15:35 J -26684494.86 -26684494.85 -26684494.83 0.3609 0.3577

Jupiter -77769-06-13 05:59 J -26683540.43 -26683540.25 -26683540.06 0.0492 0.0063

Jupiter -77769-09-11 13:11 J -26683450.01 -26683449.95 -26683449.88 0.0493 0.0457

Mars -77767-02-22 11:44 J -26682921.16 -26682921.01 -26682920.85 0.1684 0.0559

Earth -77767-03-30 13:54 J -26682885.03 -26682884.92 -26682884.82 0.2742 0.0694

Moon -77767-03-30 14:23 J -26682885.00 -26682884.90 -26682884.79 0.2738 0.0751 *

Mars -77767-12-21 11:59 J -26682619.10 -26682619.00 -26682618.90 0.1855 0.0989

Jupiter -77763-02-04 02:52 J -26681478.47 -26681478.38 -26681478.29 0.0535 0.0364

Venus -77763-02-10 05:59 J -26681472.30 -26681472.25 -26681472.20 0.3787 0.3302

Jupiter -77763-05-04 10:04 J -26681389.21 -26681389.08 -26681388.95 0.0534 0.0086

Saturn -77763-09-17 15:35 J -26681253.01 -26681252.85 -26681252.68 0.0281 0.0127

Saturn -77763-12-15 15:20 J -26681164.05 -26681163.86 -26681163.67 0.0281 0.0031

Saturn -77762-03-14 14:52 J -26681075.02 -26681074.88 -26681074.74 0.0282 0.0189

Mars -77758-07-15 12:28 J -26679491.14 -26679490.98 -26679490.82 0.1676 0.0439

Venus -77758-08-26 23:59 J -26679448.59 -26679448.50 -26679448.41 0.3784 0.2158

Jupiter -77757-04-01 03:20 J -26679230.52 -26679230.36 -26679230.19 0.0492 0.0196

Mars -77757-05-12 20:23 J -26679188.77 -26679188.65 -26679188.54 0.1864 0.0157

Jupiter -77757-06-30 11:01 J -26679140.17 -26679140.04 -26679139.90 0.0493 0.0328

Moon -77757-09-23 15:06 J -26679055.01 -26679054.87 -26679054.74 0.2592 0.1411

Earth -77757-09-23 16:32 J -26679054.95 -26679054.81 -26679054.68 0.2595 0.1368 *

Earth -77754-04-02 08:08 J -26678134.24 -26678134.16 -26678134.09 0.2742 0.1971

Moon -77754-04-02 08:23 J -26678134.23 -26678134.15 -26678134.08 0.2736 0.1962 *

Venus -77752-03-11 17:59 J -26677424.86 -26677424.75 -26677424.65 0.3781 0.0986

Jupiter -77752-11-23 07:11 J -26677168.26 -26677168.20 -26677168.14 0.0535 0.0470

Jupiter -77751-02-20 14:08 J -26677079.04 -26677078.91 -26677078.78 0.0534 0.0025

Jupiter -77751-05-20 21:35 J -26676989.67 -26676989.60 -26676989.52 0.0533 0.0430

Saturn -77749-01-24 22:18 J -26676375.67 -26676375.57 -26676375.47 0.0281 0.0183

Saturn -77749-04-22 09:20 J -26676287.24 -26676287.11 -26676286.98 0.0280 0.0076

Saturn -77749-07-19 20:23 J -26676198.78 -26676198.65 -26676198.52 0.0279 0.0031

Saturn -77749-10-16 07:25 J -26676110.30 -26676110.19 -26676110.07 0.0279 0.0137

Mars -77749-12-04 13:25 J -26676061.03 -26676060.94 -26676060.86 0.1669 0.1420

Saturn -77748-01-12 18:28 J -26676021.79 -26676021.73 -26676021.66 0.0278 0.0243

Mars -77748-10-03 04:47 J -26675758.41 -26675758.30 -26675758.19 0.1872 0.0690

Earth -77747-03-26 06:28 J -26675584.32 -26675584.23 -26675584.14 0.2740 0.1563

Moon -77747-03-26 06:56 J -26675584.30 -26675584.21 -26675584.12 0.2745 0.1442 *

Venus -77747-09-25 12:13 J -26675401.10 -26675400.99 -26675400.88 0.3777 0.0257

Jupiter -77745-01-18 23:59 J -26674920.63 -26674920.50 -26674920.36 0.0492 0.0336

Jupiter -77745-04-18 07:54 J -26674830.33 -26674830.17 -26674830.00 0.0493 0.0190

Moon -77744-09-26 21:20 J -26674303.77 -26674303.61 -26674303.46 0.2593 0.0652

Earth -77744-09-26 23:01 J -26674303.69 -26674303.54 -26674303.39 0.2594 0.0907 *

Neptune -77741-01-03 11:59 J -26673475.00 -26673475.00 -26673474.97 0.0089 0.0088

Neptune -77741-03-31 13:11 J -26673386.98 -26673386.95 -26673386.89 0.0089 0.0084

Venus -77741-04-10 06:28 J -26673377.33 -26673377.23 -26673377.13 0.3774 0.1458

Neptune -77741-06-27 14:37 J -26673298.94 -26673298.89 -26673298.82 0.0089 0.0079

Neptune -77741-09-23 15:49 J -26673210.89 -26673210.84 -26673210.76 0.0089 0.0075

Neptune -77741-12-20 17:16 J -26673122.85 -26673122.78 -26673122.69 0.0089 0.0070

Neptune -77740-03-18 18:28 J -26673034.80 -26673034.73 -26673034.63 0.0089 0.0066

Neptune -77740-06-14 20:08 J -26672946.75 -26672946.66 -26672946.57 0.0089 0.0061

Neptune -77740-09-10 21:06 J -26672858.71 -26672858.62 -26672858.50 0.0089 0.0057

Neptune -77740-12-07 22:32 J -26672770.66 -26672770.56 -26672770.44 0.0089 0.0052

Jupiter -77740-12-09 17:59 J -26672768.87 -26672768.75 -26672768.63 0.0534 0.0136

Neptune -77739-03-05 23:44 J -26672682.61 -26672682.51 -26672682.38 0.0089 0.0048

Jupiter -77739-03-09 01:25 J -26672679.55 -26672679.44 -26672679.34 0.0533 0.0316

Neptune -77739-06-02 01:25 J -26672594.56 -26672594.44 -26672594.33 0.0089 0.0043

Neptune -77739-08-29 02:37 J -26672506.50 -26672506.39 -26672506.27 0.0089 0.0038

Neptune -77739-11-25 03:49 J -26672418.45 -26672418.34 -26672418.21 0.0089 0.0034

Neptune -77738-02-21 05:16 J -26672330.40 -26672330.28 -26672330.15 0.0089 0.0029

Mars -77738-02-23 12:56 J -26672328.02 -26672327.96 -26672327.90 0.1880 0.1554

Neptune -77738-05-20 06:42 J -26672242.35 -26672242.22 -26672242.09 0.0089 0.0025

Neptune -77738-08-16 07:54 J -26672154.29 -26672154.17 -26672154.04 0.0089 0.0020

Neptune -77738-11-12 09:20 J -26672066.24 -26672066.11 -26672065.98 0.0089 0.0016

Neptune -77737-02-08 10:32 J -26671978.19 -26671978.06 -26671977.92 0.0089 0.0011

Mars -77737-04-02 11:30 J -26671924.04 -26671924.02 -26671924.01 0.1692 0.1681

Venus -77737-04-08 12:28 J -26671918.06 -26671917.98 -26671917.90 0.3595 0.2904

Neptune -77737-05-06 11:59 J -26671890.13 -26671890.00 -26671889.87 0.0089 0.0006

Neptune -77737-08-02 13:11 J -26671802.08 -26671801.95 -26671801.81 0.0089 0.0004

Neptune -77737-10-29 14:37 J -26671714.02 -26671713.89 -26671713.76 0.0089 0.0003

Neptune -77736-01-25 15:49 J -26671625.97 -26671625.84 -26671625.70 0.0089 0.0008

Neptune -77736-04-23 17:16 J -26671537.91 -26671537.78 -26671537.65 0.0089 0.0012

Neptune -77736-07-20 18:28 J -26671449.85 -26671449.73 -26671449.59 0.0089 0.0017

Neptune -77736-10-16 19:54 J -26671361.80 -26671361.67 -26671361.54 0.0089 0.0021

Venus -77736-10-25 01:11 J -26671353.53 -26671353.45 -26671353.38 0.3770 0.2729

Neptune -77735-01-12 21:20 J -26671273.74 -26671273.61 -26671273.48 0.0089 0.0026

Neptune -77735-04-10 22:32 J -26671185.68 -26671185.56 -26671185.43 0.0089 0.0031

Neptune -77735-07-07 23:59 J -26671097.62 -26671097.50 -26671097.38 0.0089 0.0035

Neptune -77735-10-04 01:11 J -26671009.56 -26671009.45 -26671009.32 0.0089 0.0040

Neptune -77735-12-31 02:37 J -26670921.50 -26670921.39 -26670921.27 0.0089 0.0044

Earth -77734-03-29 00:28 J -26670833.58 -26670833.48 -26670833.37 0.2741 0.0329

Moon -77734-03-29 01:11 J -26670833.55 -26670833.45 -26670833.34 0.2742 0.0286 *

Neptune -77734-03-29 03:49 J -26670833.44 -26670833.34 -26670833.22 0.0089 0.0049 *

Neptune -77734-06-25 05:16 J -26670745.38 -26670745.28 -26670745.17 0.0089 0.0054

Neptune -77734-09-21 06:42 J -26670657.32 -26670657.22 -26670657.12 0.0089 0.0058

Jupiter -77734-11-06 21:20 J -26670610.66 -26670610.61 -26670610.55 0.0492 0.0468

Neptune -77734-12-18 07:54 J -26670569.25 -26670569.17 -26670569.07 0.0089 0.0063

Saturn -77733-02-04 15:49 J -26670520.99 -26670520.84 -26670520.68 0.0280 0.0160

Jupiter -77733-02-05 05:44 J -26670520.44 -26670520.26 -26670520.08 0.0493 0.0060

Neptune -77733-03-15 09:06 J -26670481.19 -26670481.12 -26670481.02 0.0089 0.0068

Saturn -77733-05-03 15:35 J -26670432.04 -26670431.85 -26670431.66 0.0281 0.0003

Neptune -77733-06-11 10:47 J -26670393.12 -26670393.05 -26670392.97 0.0089 0.0072

Saturn -77733-07-31 15:06 J -26670343.03 -26670342.87 -26670342.72 0.0282 0.0155

Neptune -77733-09-07 11:59 J -26670305.06 -26670305.00 -26670304.92 0.0089 0.0077

Neptune -77733-12-04 13:25 J -26670216.98 -26670216.94 -26670216.88 0.0089 0.0081

Neptune -77732-03-02 14:37 J -26670128.91 -26670128.89 -26670128.84 0.0089 0.0086

Venus -77732-10-23 13:54 J -26669894.05 -26669893.92 -26669893.78 0.3598 0.1034

Uranus -77730-10-25 15:20 J -26669161.88 -26669161.86 -26669161.82 0.0136 0.0132

Uranus -77729-01-21 18:28 J -26669073.78 -26669073.73 -26669073.65 0.0137 0.0116

Uranus -77729-04-18 22:04 J -26668985.67 -26668985.58 -26668985.49 0.0137 0.0099

Uranus -77729-07-16 01:11 J -26668897.55 -26668897.45 -26668897.34 0.0137 0.0082

Uranus -77729-10-12 04:32 J -26668809.43 -26668809.31 -26668809.19 0.0137 0.0066

Uranus -77728-01-08 07:40 J -26668721.30 -26668721.18 -26668721.05 0.0137 0.0049

Uranus -77728-04-06 11:01 J -26668633.16 -26668633.04 -26668632.90 0.0137 0.0033

Uranus -77728-07-03 14:23 J -26668545.03 -26668544.90 -26668544.76 0.0137 0.0016

Mars -77728-08-23 12:28 J -26668494.13 -26668493.98 -26668493.83 0.1684 0.0695

Jupiter -77728-09-27 21:06 J -26668458.73 -26668458.62 -26668458.51 0.0534 0.0259

Uranus -77728-09-29 17:44 J -26668456.89 -26668456.76 -26668456.62 0.0138 0.0005

Jupiter -77728-12-26 04:18 J -26668369.44 -26668369.32 -26668369.20 0.0533 0.0191

Uranus -77728-12-26 21:06 J -26668368.75 -26668368.62 -26668368.48 0.0138 0.0020

Uranus -77727-03-25 00:42 J -26668280.60 -26668280.47 -26668280.34 0.0138 0.0037

Uranus -77727-06-21 04:04 J -26668192.46 -26668192.33 -26668192.21 0.0138 0.0054

Mars -77727-06-21 11:59 J -26668192.09 -26668192.00 -26668191.90 0.1855 0.1091

Uranus -77727-09-17 07:25 J -26668104.30 -26668104.19 -26668104.07 0.0138 0.0072

Uranus -77727-12-14 10:47 J -26668016.15 -26668016.05 -26668015.94 0.0138 0.0090

Uranus -77726-03-12 14:23 J -26667927.98 -26667927.90 -26667927.82 0.0138 0.0108

Venus -77726-05-09 14:52 J -26667870.01 -26667869.88 -26667869.75 0.3602 0.0755

Uranus -77726-06-08 17:44 J -26667839.81 -26667839.76 -26667839.70 0.0139 0.0126

Jupiter -77722-11-24 03:35 J -26666210.53 -26666210.35 -26666210.17 0.0493 0.0068

Jupiter -77721-02-22 10:47 J -26666120.11 -26666120.05 -26666119.97 0.0494 0.0453

Earth -77721-03-30 18:42 J -26666082.82 -26666082.72 -26666082.62 0.2742 0.0951

Moon -77721-03-30 19:11 J -26666082.80 -26666082.70 -26666082.60 0.2737 0.1051 *

Venus -77721-11-22 15:20 J -26665845.96 -26665845.86 -26665845.76 0.3606 0.2471

Saturn -77720-06-13 02:08 J -26665643.50 -26665643.41 -26665643.32 0.0282 0.0201

Saturn -77720-09-09 13:11 J -26665555.07 -26665554.95 -26665554.83 0.0281 0.0094

Saturn -77720-12-07 00:13 J -26665466.62 -26665466.49 -26665466.36 0.0280 0.0014

Saturn -77719-03-05 11:16 J -26665378.15 -26665378.03 -26665377.91 0.0279 0.0120

Saturn -77719-06-01 22:32 J -26665289.64 -26665289.56 -26665289.49 0.0278 0.0225

Mars -77718-01-13 13:11 J -26665064.11 -26665063.95 -26665063.78 0.1677 0.0301

Mars -77718-11-11 20:23 J -26664761.77 -26664761.65 -26664761.53 0.1863 0.0255

Jupiter -77716-07-17 00:42 J -26664148.56 -26664148.47 -26664148.38 0.0535 0.0374

Jupiter -77716-10-14 07:54 J -26664059.30 -26664059.17 -26664059.04 0.0534 0.0075

Jupiter -77715-01-11 15:20 J -26663969.86 -26663969.86 -26663969.84 0.0532 0.0529

Moon -77714-03-24 17:16 J -26663532.82 -26663532.78 -26663532.74 0.2745 0.2508

Earth -77714-03-24 17:16 J -26663532.81 -26663532.78 -26663532.74 0.2738 0.2547 *

Moon -77711-09-24 21:35 J -26662252.75 -26662252.60 -26662252.46 0.2592 0.1162

Earth -77711-09-24 23:01 J -26662252.69 -26662252.54 -26662252.39 0.2595 0.0911 *

Jupiter -77710-09-12 00:42 J -26661900.63 -26661900.47 -26661900.30 0.0492 0.0203

Jupiter -77710-12-11 08:23 J -26661810.29 -26661810.15 -26661810.01 0.0493 0.0320

Mars -77709-06-04 14:08 J -26661634.01 -26661633.91 -26661633.81 0.1669 0.1279

Moon -77708-04-02 12:56 J -26661332.02 -26661331.96 -26661331.90 0.2736 0.2241

Earth -77708-04-02 12:56 J -26661332.02 -26661331.96 -26661331.90 0.2743 0.2229 *

Mars -77708-04-03 04:32 J -26661331.42 -26661331.31 -26661331.20 0.1872 0.0604

Venus -77707-09-17 04:04 J -26660799.40 -26660799.33 -26660799.26 0.3786 0.2940

Jupiter -77704-05-05 04:47 J -26659838.35 -26659838.30 -26659838.25 0.0535 0.0485

Saturn -77704-06-23 15:20 J -26659788.98 -26659788.86 -26659788.72 0.0280 0.0197

Jupiter -77704-08-02 11:44 J -26659749.14 -26659749.01 -26659748.88 0.0534 0.0038

Saturn -77704-09-20 15:06 J -26659700.05 -26659699.87 -26659699.68 0.0281 0.0040

Jupiter -77704-10-30 19:11 J -26659659.77 -26659659.70 -26659659.62 0.0533 0.0417

Saturn -77704-12-18 14:52 J -26659611.05 -26659610.88 -26659610.71 0.0282 0.0118

Saturn -77703-03-17 13:54 J -26659521.95 -26659521.92 -26659521.87 0.0283 0.0276

Earth -77701-03-26 11:16 J -26658782.12 -26658782.03 -26658781.93 0.2740 0.1308

Moon -77701-03-26 11:59 J -26658782.10 -26658782.00 -26658781.91 0.2745 0.1308 *

Venus -77701-04-01 22:04 J -26658775.68 -26658775.58 -26658775.49 0.3783 0.1785

Mars -77699-08-24 12:56 J -26657901.03 -26657900.96 -26657900.88 0.1880 0.1449

Jupiter -77698-06-30 22:04 J -26657590.71 -26657590.58 -26657590.44 0.0492 0.0336

Moon -77698-09-28 03:49 J -26657501.47 -26657501.34 -26657501.20 0.2595 0.1290

Earth -77698-09-28 05:30 J -26657501.40 -26657501.27 -26657501.13 0.2594 0.1356 *

Jupiter -77698-09-29 05:59 J -26657500.42 -26657500.25 -26657500.08 0.0493 0.0189

Venus -77696-10-16 16:04 J -26656751.94 -26656751.83 -26656751.72 0.3780 0.0596

Jupiter -77692-05-21 16:04 J -26655438.95 -26655438.83 -26655438.71 0.0534 0.0145

Jupiter -77692-08-18 23:16 J -26655349.63 -26655349.53 -26655349.42 0.0533 0.0308

Saturn -77691-10-31 04:32 J -26654911.38 -26654911.31 -26654911.24 0.0281 0.0232

Saturn -77690-01-27 15:35 J -26654822.96 -26654822.85 -26654822.73 0.0281 0.0125

Saturn -77690-04-26 02:37 J -26654734.52 -26654734.39 -26654734.26 0.0280 0.0019

Venus -77690-05-02 10:18 J -26654728.18 -26654728.07 -26654727.96 0.3776 0.0626

Uranus -77690-06-13 19:54 J -26654685.74 -26654685.67 -26654685.59 0.0142 0.0130

Saturn -77690-07-23 13:40 J -26654646.05 -26654645.93 -26654645.80 0.0279 0.0089

Uranus -77690-09-10 04:04 J -26654597.46 -26654597.33 -26654597.20 0.0142 0.0103

Saturn -77690-10-20 00:42 J -26654557.56 -26654557.47 -26654557.37 0.0278 0.0195

Uranus -77690-12-07 11:59 J -26654509.16 -26654509.00 -26654508.84 0.0142 0.0076

Uranus -77689-03-04 19:40 J -26654420.85 -26654420.68 -26654420.49 0.0142 0.0050

Uranus -77689-06-01 03:35 J -26654332.53 -26654332.35 -26654332.16 0.0141 0.0023

Uranus -77689-08-28 11:30 J -26654244.21 -26654244.02 -26654243.83 0.0141 0.0004

Uranus -77689-11-24 19:11 J -26654155.88 -26654155.70 -26654155.52 0.0141 0.0030

Uranus -77688-02-21 02:52 J -26654067.55 -26654067.38 -26654067.21 0.0141 0.0056

Mars -77688-02-21 12:56 J -26654067.10 -26654066.96 -26654066.82 0.1684 0.0820

Earth -77688-03-29 05:30 J -26654031.38 -26654031.27 -26654031.16 0.2741 0.0099

Moon -77688-03-29 05:59 J -26654031.35 -26654031.25 -26654031.14 0.2740 0.0151 *

Uranus -77688-05-20 10:18 J -26653979.21 -26653979.07 -26653978.91 0.0141 0.0082

Uranus -77688-08-16 17:59 J -26653890.87 -26653890.75 -26653890.63 0.0141 0.0107

Uranus -77688-11-13 01:11 J -26653802.50 -26653802.45 -26653802.38 0.0140 0.0133

Mars -77688-12-20 12:13 J -26653765.08 -26653764.99 -26653764.90 0.1855 0.1199

Jupiter -77686-04-18 18:42 J -26653280.77 -26653280.72 -26653280.68 0.0492 0.0477

Jupiter -77686-07-18 02:52 J -26653190.56 -26653190.38 -26653190.20 0.0493 0.0051

Venus -77685-11-15 04:47 J -26652704.40 -26652704.30 -26652704.20 0.3773 0.1874

Venus -77681-11-13 12:42 J -26651245.07 -26651244.97 -26651244.86 0.3596 0.2298

Jupiter -77680-03-09 19:54 J -26651128.78 -26651128.67 -26651128.56 0.0535 0.0256

Jupiter -77680-06-07 03:06 J -26651039.49 -26651039.37 -26651039.25 0.0533 0.0195

Venus -77679-05-31 23:30 J -26650680.58 -26650680.52 -26650680.47 0.3769 0.3158

Mars -77679-07-14 13:54 J -26650637.08 -26650636.92 -26650636.76 0.1677 0.0167

Mars -77678-05-12 20:23 J -26650334.76 -26650334.65 -26650334.53 0.1863 0.0356

Earth -77675-03-31 23:30 J -26649280.61 -26649280.52 -26649280.42 0.2742 0.1219

Moon -77675-04-01 00:13 J -26649280.59 -26649280.49 -26649280.40 0.2737 0.1249 *

Venus -77675-05-30 14:08 J -26649221.05 -26649220.91 -26649220.78 0.3599 0.0457

Saturn -77675-11-10 14:52 J -26649056.97 -26649056.88 -26649056.77 0.0280 0.0235

Saturn -77674-02-07 14:37 J -26648968.07 -26648967.89 -26648967.70 0.0281 0.0078

Jupiter -77674-05-06 00:28 J -26648880.66 -26648880.48 -26648880.29 0.0493 0.0080

Saturn -77674-05-07 14:23 J -26648879.08 -26648878.90 -26648878.72 0.0282 0.0080

Jupiter -77674-08-04 07:54 J -26648790.24 -26648790.17 -26648790.09 0.0494 0.0442

Saturn -77674-08-04 13:40 J -26648790.02 -26648789.93 -26648789.82 0.0282 0.0238

Mars -77670-12-04 14:52 J -26647207.00 -26647206.88 -26647206.76 0.1670 0.1141

Venus -77670-12-14 14:52 J -26647197.01 -26647196.88 -26647196.76 0.3603 0.1320

Mars -77669-10-02 04:47 J -26646904.42 -26646904.30 -26646904.19 0.1872 0.0495

Jupiter -77669-12-26 23:01 J -26646818.63 -26646818.54 -26646818.45 0.0535 0.0379

Moon -77668-03-24 22:18 J -26646730.63 -26646730.57 -26646730.51 0.2745 0.2308

Earth -77668-03-24 22:04 J -26646730.63 -26646730.58 -26646730.52 0.2739 0.2293 *

Jupiter -77668-03-26 06:13 J -26646729.37 -26646729.24 -26646729.12 0.0534 0.0072

Jupiter -77668-06-23 13:40 J -26646639.95 -26646639.93 -26646639.91 0.0532 0.0523

Pluto -77668-10-15 08:52 J -26646526.15 -26646526.13 -26646526.05 0.0060 0.0058

Pluto -77667-01-11 10:18 J -26646438.14 -26646438.07 -26646437.96 0.0060 0.0052

Pluto -77667-04-09 11:59 J -26646350.11 -26646350.00 -26646349.88 0.0060 0.0046

Pluto -77667-07-06 12:56 J -26646262.08 -26646261.96 -26646261.80 0.0060 0.0041

Pluto -77667-10-02 14:23 J -26646174.04 -26646173.90 -26646173.73 0.0060 0.0035

Pluto -77667-12-29 15:49 J -26646085.99 -26646085.84 -26646085.66 0.0060 0.0030

Pluto -77666-03-27 17:30 J -26645997.95 -26645997.77 -26645997.60 0.0060 0.0024

Pluto -77666-06-23 18:28 J -26645909.90 -26645909.73 -26645909.54 0.0060 0.0018

Pluto -77666-09-19 19:54 J -26645821.85 -26645821.67 -26645821.48 0.0060 0.0013

Pluto -77666-12-16 21:20 J -26645733.79 -26645733.61 -26645733.42 0.0061 0.0007

Pluto -77665-03-13 22:47 J -26645645.74 -26645645.55 -26645645.36 0.0061 0.0001

Pluto -77665-06-09 23:59 J -26645557.68 -26645557.50 -26645557.30 0.0061 0.0006

Pluto -77665-09-06 01:25 J -26645469.62 -26645469.44 -26645469.25 0.0061 0.0011

Moon -77665-09-25 04:04 J -26645450.49 -26645450.33 -26645450.17 0.2592 0.0526

Earth -77665-09-25 05:44 J -26645450.42 -26645450.26 -26645450.11 0.2595 0.0460 *

Pluto -77665-12-03 02:52 J -26645381.56 -26645381.38 -26645381.19 0.0061 0.0017

Pluto -77664-03-01 04:18 J -26645293.49 -26645293.32 -26645293.14 0.0061 0.0023

Pluto -77664-05-28 05:30 J -26645205.43 -26645205.27 -26645205.09 0.0061 0.0029

Venus -77664-06-29 15:06 J -26645172.94 -26645172.87 -26645172.79 0.3607 0.3018

Pluto -77664-08-24 06:56 J -26645117.36 -26645117.21 -26645117.05 0.0061 0.0035

Pluto -77664-11-20 08:08 J -26645029.28 -26645029.16 -26645029.00 0.0061 0.0042

Pluto -77663-02-16 09:35 J -26644941.20 -26644941.10 -26644940.96 0.0061 0.0048

Pluto -77663-05-15 11:01 J -26644853.11 -26644853.04 -26644852.93 0.0061 0.0054

Pluto -77663-08-11 12:42 J -26644765.00 -26644764.97 -26644764.92 0.0061 0.0060

Jupiter -77662-02-21 22:18 J -26644570.73 -26644570.57 -26644570.40 0.0492 0.0208

Moon -77662-04-03 17:44 J -26644529.80 -26644529.76 -26644529.72 0.2735 0.2493

Earth -77662-04-03 17:44 J -26644529.80 -26644529.76 -26644529.72 0.2743 0.2496 *

Jupiter -77662-05-23 06:13 J -26644480.38 -26644480.24 -26644480.10 0.0493 0.0317

Saturn -77661-03-19 08:23 J -26644179.20 -26644179.15 -26644179.09 0.0282 0.0251

Saturn -77661-06-15 19:25 J -26644090.80 -26644090.69 -26644090.57 0.0281 0.0143

Saturn -77661-09-12 06:28 J -26644002.36 -26644002.23 -26644002.10 0.0280 0.0037

Saturn -77661-12-09 17:30 J -26643913.89 -26643913.77 -26643913.64 0.0279 0.0072

Saturn -77660-03-08 04:32 J -26643825.40 -26643825.31 -26643825.20 0.0278 0.0177

Mars -77659-02-22 12:56 J -26643474.04 -26643473.96 -26643473.88 0.1880 0.1354

Neptune -77658-06-20 10:18 J -26642991.13 -26642991.07 -26642991.01 0.0089 0.0084

Neptune -77658-09-16 13:25 J -26642903.01 -26642902.94 -26642902.82 0.0089 0.0078

Neptune -77658-12-13 17:16 J -26642814.88 -26642814.78 -26642814.65 0.0089 0.0071

Neptune -77657-03-10 21:06 J -26642726.74 -26642726.62 -26642726.47 0.0089 0.0064

Neptune -77657-06-07 00:42 J -26642638.60 -26642638.47 -26642638.31 0.0089 0.0057

Neptune -77657-09-03 04:18 J -26642550.46 -26642550.32 -26642550.14 0.0089 0.0051

Jupiter -77657-10-15 02:37 J -26642508.43 -26642508.39 -26642508.34 0.0535 0.0493

Neptune -77657-11-30 08:08 J -26642462.32 -26642462.16 -26642461.98 0.0089 0.0044

Jupiter -77656-01-12 09:49 J -26642419.22 -26642419.09 -26642418.97 0.0534 0.0048

Neptune -77656-02-26 11:44 J -26642374.17 -26642374.01 -26642373.82 0.0089 0.0038

Jupiter -77656-04-11 17:16 J -26642329.87 -26642329.78 -26642329.70 0.0533 0.0407

Neptune -77656-05-25 15:35 J -26642286.03 -26642285.85 -26642285.66 0.0089 0.0030

Neptune -77656-08-21 19:11 J -26642197.88 -26642197.70 -26642197.50 0.0089 0.0024

Venus -77656-10-08 08:23 J -26642150.17 -26642150.15 -26642150.13 0.3788 0.3705

Neptune -77656-11-17 23:01 J -26642109.73 -26642109.54 -26642109.35 0.0089 0.0017

Neptune -77655-02-14 02:37 J -26642021.58 -26642021.39 -26642021.19 0.0089 0.0010

Earth -77655-03-27 16:04 J -26641979.93 -26641979.83 -26641979.73 0.2740 0.1058

Moon -77655-03-27 16:47 J -26641979.90 -26641979.80 -26641979.70 0.2745 0.0922 *

Neptune -77655-05-13 06:13 J -26641933.43 -26641933.24 -26641933.04 0.0089 0.0004

Neptune -77655-08-09 10:04 J -26641845.28 -26641845.08 -26641844.89 0.0089 0.0003

Neptune -77655-11-05 13:40 J -26641757.13 -26641756.93 -26641756.74 0.0088 0.0010

Neptune -77654-02-01 17:01 J -26641668.97 -26641668.79 -26641668.59 0.0088 0.0017

Neptune -77654-04-30 20:52 J -26641580.82 -26641580.63 -26641580.44 0.0088 0.0023

Neptune -77654-07-28 00:13 J -26641492.66 -26641492.49 -26641492.30 0.0088 0.0030

Neptune -77654-10-24 03:49 J -26641404.51 -26641404.34 -26641404.15 0.0088 0.0037

Neptune -77653-01-20 07:40 J -26641316.35 -26641316.18 -26641316.01 0.0088 0.0043

Neptune -77653-04-17 11:01 J -26641228.19 -26641228.04 -26641227.87 0.0088 0.0050

Neptune -77653-07-14 14:52 J -26641140.03 -26641139.88 -26641139.73 0.0088 0.0056

Neptune -77653-10-10 18:13 J -26641051.86 -26641051.74 -26641051.59 0.0088 0.0063

Neptune -77652-01-06 21:35 J -26640963.70 -26640963.60 -26640963.46 0.0088 0.0070

Neptune -77652-04-05 01:25 J -26640875.53 -26640875.44 -26640875.33 0.0088 0.0076

Neptune -77652-07-02 04:47 J -26640787.35 -26640787.30 -26640787.21 0.0088 0.0082

Moon -77652-09-28 10:32 J -26640699.19 -26640699.06 -26640698.94 0.2596 0.1544

Earth -77652-09-28 11:59 J -26640699.11 -26640699.00 -26640698.88 0.2594 0.1800 *

Jupiter -77651-12-10 19:40 J -26640260.81 -26640260.68 -26640260.55 0.0492 0.0342

Jupiter -77650-03-11 03:35 J -26640170.52 -26640170.35 -26640170.18 0.0493 0.0184

Venus -77650-04-24 02:08 J -26640126.49 -26640126.41 -26640126.33 0.3785 0.2568

Mars -77649-08-22 13:40 J -26639640.06 -26639639.93 -26639639.80 0.1685 0.0963

Mars -77648-06-20 12:13 J -26639338.08 -26639337.99 -26639337.91 0.1854 0.1296

Uranus -77646-11-14 22:32 J -26638460.60 -26638460.56 -26638460.51 0.0136 0.0128

Uranus -77645-02-11 01:54 J -26638372.49 -26638372.42 -26638372.35 0.0137 0.0112

Saturn -77645-03-29 14:52 J -26638324.93 -26638324.88 -26638324.84 0.0280 0.0271

Uranus -77645-05-09 05:01 J -26638284.38 -26638284.29 -26638284.19 0.0137 0.0096

Saturn -77645-06-26 14:23 J -26638236.07 -26638235.90 -26638235.72 0.0281 0.0114

Uranus -77645-08-05 08:23 J -26638196.26 -26638196.15 -26638196.04 0.0137 0.0079

Saturn -77645-09-23 14:08 J -26638147.10 -26638146.91 -26638146.73 0.0282 0.0044

Jupiter -77645-10-31 13:40 J -26638109.05 -26638108.93 -26638108.81 0.0535 0.0158

Uranus -77645-11-01 11:30 J -26638108.13 -26638108.02 -26638107.90 0.0137 0.0063

Venus -77645-11-06 20:08 J -26638102.76 -26638102.66 -26638102.56 0.3782 0.1400

Saturn -77645-12-21 13:40 J -26638058.06 -26638057.93 -26638057.80 0.0283 0.0202

Uranus -77644-01-28 14:52 J -26638020.00 -26638019.88 -26638019.75 0.0137 0.0046

Jupiter -77644-01-28 20:52 J -26638019.73 -26638019.63 -26638019.52 0.0534 0.0296

Uranus -77644-04-26 18:13 J -26637931.87 -26637931.74 -26637931.61 0.0137 0.0029

Uranus -77644-07-23 21:35 J -26637843.73 -26637843.60 -26637843.47 0.0137 0.0012

Uranus -77644-10-20 00:56 J -26637755.60 -26637755.46 -26637755.33 0.0138 0.0005

Uranus -77643-01-16 04:18 J -26637667.45 -26637667.32 -26637667.19 0.0138 0.0023

Uranus -77643-04-14 07:40 J -26637579.31 -26637579.18 -26637579.05 0.0138 0.0040

Uranus -77643-07-11 11:01 J -26637491.16 -26637491.04 -26637490.92 0.0138 0.0057

Uranus -77643-10-07 14:23 J -26637403.01 -26637402.90 -26637402.78 0.0138 0.0075

Uranus -77642-01-03 17:44 J -26637314.85 -26637314.76 -26637314.65 0.0138 0.0093

Earth -77642-03-30 10:18 J -26637229.18 -26637229.07 -26637228.96 0.2741 0.0209

Moon -77642-03-30 11:01 J -26637229.15 -26637229.04 -26637228.93 0.2739 0.0230 *

Uranus -77642-04-01 21:20 J -26637226.69 -26637226.61 -26637226.53 0.0138 0.0111

Uranus -77642-06-29 00:42 J -26637138.51 -26637138.47 -26637138.41 0.0139 0.0129

Mars -77639-01-12 14:37 J -26636210.06 -26636209.89 -26636209.73 0.1677 0.0036

Venus -77639-05-23 14:08 J -26636079.02 -26636078.91 -26636078.80 0.3779 0.0238

Jupiter -77639-09-28 16:47 J -26635950.84 -26635950.80 -26635950.75 0.0492 0.0476

Mars -77639-11-10 20:23 J -26635907.76 -26635907.65 -26635907.53 0.1863 0.0456

Jupiter -77639-12-28 01:11 J -26635860.64 -26635860.45 -26635860.27 0.0492 0.0053

Venus -77634-12-07 08:37 J -26634055.25 -26634055.14 -26634055.04 0.3775 0.1038

Jupiter -77633-08-19 17:59 J -26633798.86 -26633798.75 -26633798.64 0.0535 0.0265

Jupiter -77633-11-17 01:11 J -26633709.57 -26633709.45 -26633709.33 0.0534 0.0187

Saturn -77632-08-06 10:47 J -26633447.05 -26633447.05 -26633447.04 0.0282 0.0281

Moon -77632-09-23 04:18 J -26633399.37 -26633399.32 -26633399.26 0.2591 0.2426

Earth -77632-09-23 05:30 J -26633399.34 -26633399.27 -26633399.20 0.2596 0.2302 *

Saturn -77632-11-02 21:49 J -26633358.69 -26633358.59 -26633358.48 0.0281 0.0174

Saturn -77631-01-30 08:52 J -26633270.25 -26633270.13 -26633270.00 0.0280 0.0067

Saturn -77631-04-28 19:54 J -26633181.80 -26633181.67 -26633181.54 0.0279 0.0040

Saturn -77631-07-26 06:56 J -26633093.32 -26633093.21 -26633093.09 0.0278 0.0146

Saturn -77631-10-22 17:59 J -26633004.80 -26633004.75 -26633004.69 0.0277 0.0251

Mars -77630-06-04 15:20 J -26632779.99 -26632779.86 -26632779.73 0.1670 0.1020

Earth -77629-04-01 04:32 J -26632478.41 -26632478.31 -26632478.22 0.2742 0.1481

Moon -77629-04-01 04:47 J -26632478.39 -26632478.30 -26632478.21 0.2737 0.1579 *

Mars -77629-04-02 04:47 J -26632477.41 -26632477.30 -26632477.19 0.1871 0.0390

Venus -77628-06-22 03:06 J -26632031.46 -26632031.37 -26632031.28 0.3772 0.2296

Jupiter -77627-10-15 21:49 J -26631550.77 -26631550.59 -26631550.40 0.0492 0.0087

Jupiter -77626-01-14 05:16 J -26631460.36 -26631460.28 -26631460.19 0.0493 0.0435

Venus -77624-06-20 12:56 J -26630572.08 -26630571.96 -26630571.84 0.3597 0.1698

Venus -77622-01-05 21:49 J -26630007.63 -26630007.59 -26630007.56 0.3768 0.3590

Earth -77622-03-26 03:06 J -26629928.45 -26629928.37 -26629928.30 0.2739 0.2036

Moon -77622-03-26 03:20 J -26629928.43 -26629928.36 -26629928.29 0.2745 0.1992 *

Jupiter -77621-06-07 22:04 J -26629488.67 -26629488.58 -26629488.49 0.0535 0.0375

Jupiter -77621-09-05 05:01 J -26629399.41 -26629399.29 -26629399.16 0.0534 0.0075

Jupiter -77621-12-03 12:42 J -26629309.98 -26629309.97 -26629309.96 0.0532 0.0528

Mars -77620-08-23 12:56 J -26629047.04 -26629046.96 -26629046.87 0.1880 0.1253

Moon -77619-09-26 10:32 J -26628648.22 -26628648.06 -26628647.90 0.2593 0.0233

Earth -77619-09-26 12:13 J -26628648.15 -26628647.99 -26628647.83 0.2595 0.0038 *

Venus -77618-01-04 14:08 J -26628548.05 -26628547.91 -26628547.78 0.3600 0.0170

Moon -77616-04-03 22:32 J -26627727.58 -26627727.56 -26627727.55 0.2735 0.2697

Saturn -77616-11-13 12:56 J -26627504.11 -26627503.96 -26627503.80 0.0280 0.0158

Saturn -77615-02-10 12:42 J -26627415.15 -26627414.97 -26627414.78 0.0281 0.0006

Saturn -77615-05-10 12:13 J -26627326.14 -26627325.99 -26627325.83 0.0282 0.0158

Jupiter -77615-08-03 19:40 J -26627240.85 -26627240.68 -26627240.52 0.0492 0.0216

Jupiter -77615-11-02 03:20 J -26627150.50 -26627150.36 -26627150.22 0.0493 0.0308

Venus -77613-07-20 14:37 J -26626524.00 -26626523.89 -26626523.77 0.3604 0.1880

Mars -77609-02-21 14:23 J -26625213.02 -26625212.90 -26625212.78 0.1685 0.1103

Jupiter -77609-03-27 01:11 J -26625178.49 -26625178.45 -26625178.41 0.0535 0.0496

Earth -77609-03-27 21:06 J -26625177.73 -26625177.62 -26625177.52 0.2740 0.0795

Moon -77609-03-27 21:35 J -26625177.70 -26625177.60 -26625177.49 0.2743 0.0768 *

Jupiter -77609-06-24 08:08 J -26625089.29 -26625089.16 -26625089.03 0.0534 0.0050

Jupiter -77609-09-21 15:35 J -26624999.94 -26624999.85 -26624999.77 0.0533 0.0403

Mars -77609-12-19 12:13 J -26624911.07 -26624910.99 -26624910.92 0.1854 0.1397

Venus -77607-02-03 14:52 J -26624499.89 -26624499.88 -26624499.86 0.3608 0.3562

Uranus -77606-07-04 02:23 J -26623984.47 -26623984.40 -26623984.30 0.0142 0.0127

Moon -77606-09-29 17:01 J -26623896.87 -26623896.79 -26623896.71 0.2597 0.2191

Earth -77606-09-29 18:42 J -26623896.80 -26623896.72 -26623896.65 0.2594 0.2247 *

Uranus -77606-09-30 10:18 J -26623896.19 -26623896.07 -26623895.92 0.0142 0.0100

Uranus -77606-12-27 18:28 J -26623807.89 -26623807.73 -26623807.56 0.0142 0.0072

Uranus -77605-03-25 02:23 J -26623719.57 -26623719.40 -26623719.21 0.0142 0.0046

Uranus -77605-06-21 10:18 J -26623631.25 -26623631.07 -26623630.88 0.0141 0.0019

Uranus -77605-09-17 18:13 J -26623542.93 -26623542.74 -26623542.55 0.0141 0.0008

Uranus -77605-12-15 01:54 J -26623454.60 -26623454.42 -26623454.24 0.0141 0.0034

Uranus -77604-03-13 09:35 J -26623366.27 -26623366.10 -26623365.93 0.0141 0.0060

Uranus -77604-06-09 17:01 J -26623277.93 -26623277.79 -26623277.63 0.0141 0.0086

Uranus -77604-09-06 00:28 J -26623189.58 -26623189.48 -26623189.35 0.0141 0.0112

Uranus -77604-12-03 07:54 J -26623101.19 -26623101.17 -26623101.11 0.0140 0.0137

Jupiter -77603-05-22 17:30 J -26622930.90 -26622930.77 -26622930.64 0.0492 0.0345

Jupiter -77603-08-21 01:25 J -26622840.60 -26622840.44 -26622840.26 0.0493 0.0183

Saturn -77602-03-23 01:25 J -26622626.53 -26622626.44 -26622626.34 0.0282 0.0195

Saturn -77602-06-19 12:28 J -26622538.10 -26622537.98 -26622537.85 0.0281 0.0088

Saturn -77602-09-15 23:30 J -26622449.65 -26622449.52 -26622449.39 0.0280 0.0020

Saturn -77602-12-13 10:32 J -26622361.17 -26622361.06 -26622360.94 0.0279 0.0126

Saturn -77601-03-10 21:35 J -26622272.67 -26622272.60 -26622272.52 0.0278 0.0232

Mars -77600-07-13 15:06 J -26621783.03 -26621782.87 -26621782.70 0.1677 0.0105

Mars -77599-05-11 20:23 J -26621480.76 -26621480.65 -26621480.53 0.1863 0.0562

Venus -77599-05-15 06:28 J -26621477.28 -26621477.23 -26621477.18 0.3788 0.3345

Jupiter -77597-04-12 11:44 J -26620779.13 -26620779.01 -26620778.89 0.0534 0.0165

Jupiter -77597-07-10 18:56 J -26620689.81 -26620689.71 -26620689.60 0.0533 0.0289

Earth -77596-03-30 15:06 J -26620426.98 -26620426.87 -26620426.76 0.2741 0.0464

Moon -77596-03-30 15:49 J -26620426.95 -26620426.84 -26620426.73 0.2738 0.0621 *

Venus -77594-11-29 00:13 J -26619453.58 -26619453.49 -26619453.40 0.3784 0.2194

Jupiter -77591-03-10 14:37 J -26618620.92 -26618620.89 -26618620.84 0.0492 0.0479

Jupiter -77591-06-08 23:01 J -26618530.72 -26618530.54 -26618530.36 0.0492 0.0049

Mars -77591-12-03 16:04 J -26618352.97 -26618352.83 -26618352.69 0.1670 0.0873

Mars -77590-10-02 04:47 J -26618050.42 -26618050.30 -26618050.19 0.1871 0.0300

Venus -77588-06-13 18:13 J -26617429.84 -26617429.74 -26617429.63 0.3781 0.1014

Saturn -77586-04-02 12:28 J -26616772.11 -26616771.98 -26616771.84 0.0280 0.0196

Saturn -77586-06-30 12:13 J -26616683.17 -26616682.99 -26616682.80 0.0281 0.0039

Moon -77586-09-24 11:01 J -26616597.15 -26616597.04 -26616596.93 0.2591 0.1917

Earth -77586-09-24 12:13 J -26616597.10 -26616596.99 -26616596.88 0.2596 0.1835 *

Saturn -77586-09-27 11:44 J -26616594.17 -26616594.01 -26616593.84 0.0282 0.0120

Saturn -77586-12-25 11:01 J -26616505.06 -26616505.04 -26616505.00 0.0283 0.0278

Jupiter -77585-01-30 15:49 J -26616468.95 -26616468.84 -26616468.74 0.0535 0.0277

Jupiter -77585-04-28 23:01 J -26616379.66 -26616379.54 -26616379.42 0.0534 0.0175

Earth -77583-04-02 09:20 J -26615676.20 -26615676.11 -26615676.03 0.2742 0.1738

Moon -77583-04-02 09:35 J -26615676.19 -26615676.10 -26615676.02 0.2736 0.1710 *

Venus -77583-12-28 12:28 J -26615406.09 -26615405.98 -26615405.87 0.3778 0.0211

Mars -77580-02-21 13:11 J -26614620.04 -26614619.95 -26614619.86 0.1880 0.1149

Jupiter -77579-03-27 20:23 J -26614220.83 -26614220.65 -26614220.46 0.0492 0.0084

Jupiter -77579-06-26 03:49 J -26614130.42 -26614130.34 -26614130.26 0.0493 0.0438

Venus -77577-07-13 06:42 J -26613382.32 -26613382.22 -26613382.12 0.3774 0.1447

Neptune -77577-09-29 11:30 J -26613304.03 -26613304.02 -26613303.99 0.0089 0.0087

Neptune -77577-12-26 12:42 J -26613216.00 -26613215.97 -26613215.91 0.0089 0.0083

Neptune -77576-03-24 14:08 J -26613127.96 -26613127.91 -26613127.84 0.0089 0.0078

Earth -77576-03-26 07:54 J -26613126.25 -26613126.17 -26613126.09 0.2739 0.1782

Moon -77576-03-26 08:08 J -26613126.24 -26613126.16 -26613126.08 0.2746 0.1747 *

Neptune -77576-06-20 15:20 J -26613039.92 -26613039.86 -26613039.77 0.0089 0.0074

Neptune -77576-09-16 16:47 J -26612951.87 -26612951.80 -26612951.71 0.0089 0.0069

Neptune -77576-12-13 17:59 J -26612863.83 -26612863.75 -26612863.65 0.0089 0.0065

Neptune -77575-03-11 19:25 J -26612775.78 -26612775.69 -26612775.59 0.0089 0.0060

Neptune -77575-06-07 20:37 J -26612687.73 -26612687.64 -26612687.52 0.0089 0.0056

Neptune -77575-09-03 22:04 J -26612599.68 -26612599.58 -26612599.46 0.0089 0.0051

Neptune -77575-11-30 23:16 J -26612511.63 -26612511.53 -26612511.40 0.0089 0.0047

Neptune -77574-02-27 00:42 J -26612423.58 -26612423.47 -26612423.35 0.0089 0.0042

Neptune -77574-05-26 01:54 J -26612335.53 -26612335.42 -26612335.29 0.0089 0.0038

Pluto -77574-08-13 21:20 J -26612255.66 -26612255.61 -26612255.54 0.0084 0.0075

Neptune -77574-08-22 03:20 J -26612247.47 -26612247.36 -26612247.23 0.0089 0.0033

Pluto -77574-11-09 23:01 J -26612167.63 -26612167.54 -26612167.45 0.0084 0.0063

Neptune -77574-11-18 04:47 J -26612159.42 -26612159.30 -26612159.17 0.0089 0.0028

Jupiter -77574-11-18 20:08 J -26612158.75 -26612158.66 -26612158.58 0.0535 0.0383

Pluto -77573-02-06 00:13 J -26612079.59 -26612079.49 -26612079.38 0.0084 0.0052

Neptune -77573-02-14 05:59 J -26612071.37 -26612071.25 -26612071.11 0.0089 0.0024

Jupiter -77573-02-16 03:06 J -26612069.49 -26612069.37 -26612069.24 0.0534 0.0069

Pluto -77573-05-04 01:40 J -26611991.54 -26611991.43 -26611991.31 0.0084 0.0041

Neptune -77573-05-12 07:25 J -26611983.32 -26611983.19 -26611983.06 0.0089 0.0019

Jupiter -77573-05-15 10:47 J -26611980.07 -26611980.05 -26611980.03 0.0533 0.0522

Venus -77573-07-11 11:30 J -26611923.10 -26611923.02 -26611922.95 0.3594 0.3004

Pluto -77573-07-31 03:06 J -26611903.49 -26611903.37 -26611903.24 0.0084 0.0029

Neptune -77573-08-08 08:52 J -26611895.26 -26611895.13 -26611895.00 0.0089 0.0014

Saturn -77573-08-09 03:49 J -26611894.42 -26611894.34 -26611894.27 0.0281 0.0227

Moon -77573-09-26 17:01 J -26611845.94 -26611845.79 -26611845.63 0.2595 0.0321

Earth -77573-09-26 18:42 J -26611845.87 -26611845.72 -26611845.56 0.2595 0.0456 *

Pluto -77573-10-27 04:32 J -26611815.44 -26611815.31 -26611815.18 0.0084 0.0018

Neptune -77573-11-04 10:04 J -26611807.21 -26611807.08 -26611806.94 0.0089 0.0010

Saturn -77573-11-05 14:52 J -26611806.00 -26611805.88 -26611805.76 0.0280 0.0119

Pluto -77572-01-23 05:44 J -26611727.39 -26611727.26 -26611727.12 0.0084 0.0008

Neptune -77572-01-31 11:30 J -26611719.15 -26611719.02 -26611718.89 0.0089 0.0005

Saturn -77572-02-02 01:54 J -26611717.55 -26611717.42 -26611717.29 0.0279 0.0013

Pluto -77572-04-21 07:11 J -26611639.33 -26611639.20 -26611639.06 0.0084 0.0004

Neptune -77572-04-29 12:42 J -26611631.10 -26611630.97 -26611630.83 0.0089 0.0003

Saturn -77572-05-01 12:56 J -26611629.09 -26611628.96 -26611628.84 0.0279 0.0094

Pluto -77572-07-18 08:23 J -26611551.28 -26611551.15 -26611551.01 0.0083 0.0016

Neptune -77572-07-26 14:08 J -26611543.04 -26611542.91 -26611542.78 0.0089 0.0004

Saturn -77572-07-28 23:44 J -26611540.59 -26611540.51 -26611540.41 0.0278 0.0200

Pluto -77572-10-14 09:49 J -26611463.22 -26611463.09 -26611462.96 0.0083 0.0026

Neptune -77572-10-22 15:35 J -26611454.99 -26611454.85 -26611454.72 0.0089 0.0009

Pluto -77571-01-10 11:01 J -26611375.15 -26611375.04 -26611374.91 0.0083 0.0037

Neptune -77571-01-18 16:47 J -26611366.93 -26611366.80 -26611366.67 0.0089 0.0013

Venus -77571-01-27 01:11 J -26611358.52 -26611358.45 -26611358.37 0.3771 0.2717

Pluto -77571-04-08 12:13 J -26611287.09 -26611286.99 -26611286.87 0.0083 0.0048

Neptune -77571-04-16 18:13 J -26611278.87 -26611278.74 -26611278.61 0.0089 0.0018

Pluto -77571-07-05 13:40 J -26611199.02 -26611198.93 -26611198.83 0.0083 0.0058

Neptune -77571-07-13 19:25 J -26611190.82 -26611190.69 -26611190.56 0.0089 0.0023

Pluto -77571-10-01 14:52 J -26611110.94 -26611110.88 -26611110.80 0.0083 0.0069

Neptune -77571-10-09 20:52 J -26611102.76 -26611102.63 -26611102.50 0.0089 0.0027

Pluto -77571-12-28 16:04 J -26611022.85 -26611022.83 -26611022.78 0.0083 0.0080

Neptune -77570-01-05 22:04 J -26611014.70 -26611014.58 -26611014.45 0.0089 0.0032

Neptune -77570-04-03 23:16 J -26610926.64 -26610926.53 -26610926.40 0.0089 0.0037

Neptune -77570-07-01 00:42 J -26610838.58 -26610838.47 -26610838.34 0.0089 0.0041

Mars -77570-08-22 14:52 J -26610785.99 -26610785.88 -26610785.77 0.1685 0.1226

Neptune -77570-09-27 02:08 J -26610750.52 -26610750.41 -26610750.29 0.0089 0.0046

Neptune -77570-12-24 03:35 J -26610662.46 -26610662.35 -26610662.24 0.0089 0.0050

Neptune -77569-03-21 04:47 J -26610574.40 -26610574.30 -26610574.19 0.0089 0.0055

Neptune -77569-06-17 05:59 J -26610486.33 -26610486.25 -26610486.14 0.0089 0.0060

Mars -77569-06-19 12:13 J -26610484.05 -26610483.99 -26610483.92 0.1854 0.1510

Neptune -77569-09-13 07:40 J -26610398.27 -26610398.18 -26610398.09 0.0089 0.0064

Neptune -77569-12-10 08:52 J -26610310.21 -26610310.13 -26610310.04 0.0089 0.0069

Neptune -77568-03-08 10:04 J -26610222.14 -26610222.08 -26610221.99 0.0089 0.0074

Neptune -77568-06-04 11:30 J -26610134.07 -26610134.02 -26610133.95 0.0089 0.0078

Neptune -77568-08-31 12:56 J -26610046.00 -26610045.96 -26610045.91 0.0089 0.0083

Neptune -77568-11-27 14:23 J -26609957.92 -26609957.90 -26609957.87 0.0089 0.0087

Jupiter -77567-01-13 17:16 J -26609910.94 -26609910.78 -26609910.61 0.0492 0.0220

Venus -77567-01-25 12:56 J -26609899.09 -26609898.96 -26609898.83 0.3598 0.1108

Jupiter -77567-04-14 01:11 J -26609820.60 -26609820.45 -26609820.31 0.0493 0.0304

Earth -77563-03-29 01:54 J -26608375.53 -26608375.42 -26608375.31 0.2740 0.0532

Moon -77563-03-29 02:37 J -26608375.50 -26608375.39 -26608375.29 0.2741 0.0425 *

Venus -77562-08-11 13:54 J -26607875.05 -26607874.92 -26607874.78 0.3601 0.0698

Jupiter -77562-09-07 00:13 J -26607848.54 -26607848.49 -26607848.44 0.0535 0.0490

Jupiter -77562-12-05 07:11 J -26607759.33 -26607759.20 -26607759.07 0.0534 0.0043

Uranus -77562-12-05 05:44 J -26607759.30 -26607759.26 -26607759.20 0.0136 0.0125 *

Uranus -77561-03-02 08:52 J -26607671.19 -26607671.13 -26607671.04 0.0137 0.0109

Jupiter -77561-03-03 14:37 J -26607669.97 -26607669.89 -26607669.81 0.0533 0.0411

Uranus -77561-05-29 12:13 J -26607583.08 -26607582.99 -26607582.88 0.0137 0.0092

Uranus -77561-08-25 15:35 J -26607494.96 -26607494.85 -26607494.74 0.0137 0.0075

Uranus -77561-11-21 18:42 J -26607406.83 -26607406.72 -26607406.59 0.0137 0.0059

Mars -77560-01-11 15:49 J -26607356.00 -26607355.84 -26607355.68 0.1678 0.0246

Uranus -77560-02-17 22:04 J -26607318.70 -26607318.58 -26607318.45 0.0137 0.0042

Uranus -77560-05-17 01:25 J -26607230.57 -26607230.44 -26607230.30 0.0137 0.0025

Uranus -77560-08-13 04:47 J -26607142.43 -26607142.30 -26607142.16 0.0137 0.0008

Moon -77560-09-29 23:30 J -26607094.57 -26607094.52 -26607094.47 0.2597 0.2443

Uranus -77560-11-09 08:08 J -26607054.29 -26607054.16 -26607054.02 0.0137 0.0010

Mars -77560-11-09 20:37 J -26607053.75 -26607053.64 -26607053.54 0.1863 0.0664

Uranus -77559-02-05 11:30 J -26606966.15 -26606966.02 -26606965.89 0.0138 0.0027

Uranus -77559-05-04 14:52 J -26606878.00 -26606877.88 -26606877.75 0.0138 0.0044

Uranus -77559-07-31 18:13 J -26606789.86 -26606789.74 -26606789.62 0.0138 0.0062

Uranus -77559-10-27 21:35 J -26606701.70 -26606701.60 -26606701.48 0.0138 0.0079

Uranus -77558-01-24 00:56 J -26606613.54 -26606613.46 -26606613.35 0.0138 0.0097

Uranus -77558-04-22 04:32 J -26606525.38 -26606525.31 -26606525.23 0.0138 0.0115

Uranus -77558-07-19 08:08 J -26606437.19 -26606437.16 -26606437.12 0.0139 0.0133

Saturn -77557-08-19 09:49 J -26606040.16 -26606040.09 -26606039.99 0.0280 0.0247

Saturn -77557-11-16 09:49 J -26605951.26 -26605951.09 -26605950.91 0.0281 0.0089

Saturn -77556-02-13 09:35 J -26605862.28 -26605862.10 -26605861.92 0.0282 0.0070

Venus -77556-02-24 14:37 J -26605850.99 -26605850.89 -26605850.80 0.3605 0.2439

Saturn -77556-05-13 09:06 J -26605773.22 -26605773.12 -26605773.01 0.0282 0.0228

Jupiter -77556-11-01 15:06 J -26605601.00 -26605600.87 -26605600.74 0.0492 0.0350

Jupiter -77555-01-30 23:01 J -26605510.71 -26605510.54 -26605510.36 0.0493 0.0178

Mars -77551-06-03 16:47 J -26603925.95 -26603925.80 -26603925.65 0.1670 0.0740

Earth -77550-03-31 19:54 J -26603624.77 -26603624.67 -26603624.56 0.2741 0.0732

Moon -77550-03-31 20:37 J -26603624.74 -26603624.64 -26603624.53 0.2738 0.0751 *

Mars -77550-04-02 04:47 J -26603623.42 -26603623.30 -26603623.18 0.1871 0.0192

Jupiter -77550-09-23 10:18 J -26603449.19 -26603449.07 -26603448.95 0.0534 0.0166

Jupiter -77550-12-21 17:30 J -26603359.87 -26603359.77 -26603359.66 0.0533 0.0287

Jupiter -77544-08-20 12:56 J -26601291.00 -26601290.96 -26601290.92 0.0492 0.0478

Jupiter -77544-11-18 21:20 J -26601200.79 -26601200.61 -26601200.43 0.0493 0.0051

Saturn -77544-12-27 07:11 J -26601162.26 -26601162.20 -26601162.14 0.0282 0.0250

Moon -77543-03-24 18:42 J -26601074.73 -26601074.72 -26601074.72 0.2745 0.2729

Saturn -77543-03-25 17:59 J -26601073.85 -26601073.75 -26601073.63 0.0281 0.0144

Saturn -77543-06-22 05:16 J -26600985.41 -26600985.28 -26600985.15 0.0280 0.0036

Saturn -77543-09-18 16:18 J -26600896.95 -26600896.82 -26600896.69 0.0279 0.0072

Saturn -77543-12-16 03:20 J -26600808.46 -26600808.36 -26600808.26 0.0278 0.0178

Venus -77543-12-20 04:32 J -26600804.38 -26600804.31 -26600804.25 0.3787 0.2980

Mars -77541-08-22 13:11 J -26600193.05 -26600192.95 -26600192.86 0.1879 0.1048

Moon -77540-09-24 17:30 J -26599794.90 -26599794.77 -26599794.64 0.2591 0.1545

Earth -77540-09-24 18:42 J -26599794.85 -26599794.72 -26599794.58 0.2596 0.1377 *

Jupiter -77538-07-12 14:08 J -26599139.02 -26599138.91 -26599138.80 0.0535 0.0280

Jupiter -77538-10-09 21:20 J -26599049.74 -26599049.61 -26599049.49 0.0534 0.0172

Earth -77537-04-02 14:08 J -26598873.98 -26598873.91 -26598873.84 0.2742 0.1996

Moon -77537-04-02 14:23 J -26598873.97 -26598873.90 -26598873.83 0.2735 0.2076 *

Venus -77537-07-04 22:18 J -26598780.66 -26598780.57 -26598780.47 0.3784 0.1816

Jupiter -77532-09-06 18:42 J -26596890.90 -26596890.72 -26596890.53 0.0492 0.0082

Jupiter -77532-12-06 02:08 J -26596800.49 -26596800.41 -26596800.33 0.0493 0.0440

Venus -77531-01-18 16:18 J -26596756.93 -26596756.82 -26596756.71 0.3781 0.0629

Mars -77530-02-20 15:35 J -26596358.94 -26596358.85 -26596358.76 0.1685 0.1370

Earth -77530-03-27 12:42 J -26596324.06 -26596323.97 -26596323.88 0.2739 0.1524

Moon -77530-03-27 12:56 J -26596324.04 -26596323.96 -26596323.87 0.2745 0.1502 *

Mars -77530-12-19 12:13 J -26596057.05 -26596056.99 -26596056.93 0.1854 0.1600

Saturn -77527-04-05 09:06 J -26595219.29 -26595219.12 -26595218.95 0.0281 0.0129

Saturn -77527-07-03 08:52 J -26595130.32 -26595130.13 -26595129.95 0.0282 0.0030

Moon -77527-09-27 23:44 J -26595043.67 -26595043.51 -26595043.36 0.2596 0.0744

Earth -77527-09-28 01:25 J -26595043.59 -26595043.44 -26595043.29 0.2595 0.0910 *

Saturn -77527-09-30 08:08 J -26595041.29 -26595041.16 -26595041.01 0.0282 0.0188

Jupiter -77526-04-30 17:59 J -26594828.83 -26594828.75 -26594828.66 0.0535 0.0392

Jupiter -77526-07-29 01:11 J -26594739.58 -26594739.45 -26594739.32 0.0534 0.0059

Venus -77526-08-04 10:32 J -26594733.17 -26594733.06 -26594732.95 0.3777 0.0608

Jupiter -77526-10-26 08:37 J -26594650.17 -26594650.14 -26594650.10 0.0533 0.0513

Uranus -77522-07-24 08:23 J -26593283.23 -26593283.15 -26593283.05 0.0142 0.0125

Uranus -77522-10-20 16:18 J -26593194.94 -26593194.82 -26593194.67 0.0142 0.0098

Uranus -77521-01-17 00:28 J -26593106.64 -26593106.48 -26593106.31 0.0142 0.0071

Uranus -77521-04-14 08:23 J -26593018.32 -26593018.15 -26593017.96 0.0142 0.0044

Uranus -77521-07-11 16:32 J -26592930.00 -26592929.81 -26592929.62 0.0141 0.0017

Mars -77521-07-12 16:18 J -26592928.98 -26592928.82 -26592928.66 0.1677 0.0375

Uranus -77521-10-08 00:13 J -26592841.68 -26592841.49 -26592841.30 0.0141 0.0010

Uranus -77520-01-04 07:54 J -26592753.35 -26592753.17 -26592752.98 0.0141 0.0036

Venus -77520-02-17 05:01 J -26592709.39 -26592709.29 -26592709.20 0.3773 0.1860

Uranus -77520-04-02 15:35 J -26592665.01 -26592664.85 -26592664.68 0.0141 0.0062

Mars -77520-05-10 20:23 J -26592626.75 -26592626.65 -26592626.54 0.1863 0.0764

Jupiter -77520-06-25 16:18 J -26592580.99 -26592580.82 -26592580.66 0.0492 0.0213

Uranus -77520-06-29 23:16 J -26592576.67 -26592576.53 -26592576.38 0.0141 0.0088

Jupiter -77520-09-23 23:59 J -26592490.64 -26592490.50 -26592490.36 0.0493 0.0311

Uranus -77520-09-26 06:42 J -26592488.32 -26592488.22 -26592488.10 0.0141 0.0114

Uranus -77520-12-23 14:08 J -26592399.92 -26592399.91 -26592399.87 0.0140 0.0139

Earth -77517-03-29 06:42 J -26591573.33 -26591573.22 -26591573.11 0.2740 0.0277

Moon -77517-03-29 07:25 J -26591573.30 -26591573.19 -26591573.08 0.2741 0.0196 *

Venus -77516-02-15 11:44 J -26591250.12 -26591250.01 -26591249.91 0.3595 0.2396

Venus -77515-09-02 23:30 J -26590685.58 -26590685.52 -26590685.46 0.3770 0.3144

Jupiter -77514-02-16 22:18 J -26590518.61 -26590518.57 -26590518.52 0.0535 0.0497

Jupiter -77514-05-17 05:30 J -26590429.40 -26590429.27 -26590429.15 0.0535 0.0051

Saturn -77514-08-12 20:08 J -26590341.76 -26590341.66 -26590341.56 0.0281 0.0177

Jupiter -77514-08-14 12:56 J -26590340.04 -26590339.96 -26590339.88 0.0533 0.0406

Saturn -77514-11-09 07:11 J -26590253.32 -26590253.20 -26590253.07 0.0280 0.0070

Saturn -77513-02-05 18:13 J -26590164.87 -26590164.74 -26590164.61 0.0279 0.0038

Saturn -77513-05-04 05:16 J -26590076.39 -26590076.28 -26590076.17 0.0278 0.0143

Saturn -77513-07-31 16:18 J -26589987.87 -26589987.82 -26589987.76 0.0277 0.0248

Mars -77512-12-02 17:16 J -26589498.93 -26589498.78 -26589498.62 0.1670 0.0609

Venus -77511-09-01 12:56 J -26589226.10 -26589225.96 -26589225.82 0.3599 0.0532

Mars -77511-10-01 05:01 J -26589196.41 -26589196.29 -26589196.18 0.1871 0.0100

Jupiter -77508-04-13 13:11 J -26588271.08 -26588270.95 -26588270.82 0.0492 0.0350

Jupiter -77508-07-12 21:20 J -26588180.78 -26588180.61 -26588180.44 0.0493 0.0177

Venus -77505-03-17 13:54 J -26587202.05 -26587201.92 -26587201.79 0.3602 0.1270

Earth -77504-04-01 00:42 J -26586822.57 -26586822.47 -26586822.36 0.2741 0.0993

Moon -77504-04-01 01:25 J -26586822.54 -26586822.44 -26586822.34 0.2737 0.1105 *

Jupiter -77502-03-05 09:35 J -26586119.22 -26586119.10 -26586118.98 0.0535 0.0157

Mars -77502-04-24 18:28 J -26586068.78 -26586068.73 -26586068.68 0.1663 0.1575

Jupiter -77502-06-02 16:47 J -26586029.90 -26586029.80 -26586029.69 0.0533 0.0296

Mars -77501-02-21 13:11 J -26585766.05 -26585765.95 -26585765.85 0.1879 0.0952

Venus -77500-10-01 14:08 J -26585177.98 -26585177.91 -26585177.83 0.3606 0.2986

Saturn -77498-08-23 05:44 J -26584487.40 -26584487.26 -26584487.12 0.0280 0.0185

Saturn -77498-11-20 05:30 J -26584398.46 -26584398.27 -26584398.08 0.0281 0.0027

Saturn -77497-02-17 05:01 J -26584309.45 -26584309.29 -26584309.12 0.0282 0.0131

Earth -77497-03-24 23:30 J -26584272.56 -26584272.52 -26584272.48 0.2738 0.2502

Moon -77497-03-24 23:30 J -26584272.55 -26584272.52 -26584272.48 0.2745 0.2569 *

Jupiter -77496-01-30 10:47 J -26583961.08 -26583961.05 -26583961.00 0.0492 0.0479

Jupiter -77496-04-30 19:25 J -26583870.88 -26583870.69 -26583870.51 0.0493 0.0052

Moon -77494-09-25 23:59 J -26582992.65 -26582992.50 -26582992.35 0.2593 0.0978

Earth -77494-09-26 01:25 J -26582992.59 -26582992.44 -26582992.29 0.2596 0.0916 *

Neptune -77494-12-19 05:01 J -26582908.29 -26582908.29 -26582908.29 0.0089 0.0089

Neptune -77493-03-16 08:37 J -26582820.21 -26582820.14 -26582820.06 0.0089 0.0082

Neptune -77493-06-12 12:28 J -26582732.08 -26582731.98 -26582731.88 0.0089 0.0075

Neptune -77493-09-08 15:49 J -26582643.95 -26582643.84 -26582643.70 0.0089 0.0069

Neptune -77493-12-05 19:40 J -26582555.81 -26582555.68 -26582555.53 0.0089 0.0062

Neptune -77492-03-03 23:30 J -26582467.67 -26582467.52 -26582467.36 0.0089 0.0055

Neptune -77492-05-31 02:52 J -26582379.53 -26582379.38 -26582379.20 0.0089 0.0049

Mars -77492-07-13 21:20 J -26582335.64 -26582335.61 -26582335.58 0.1888 0.1810

Neptune -77492-08-27 06:42 J -26582291.38 -26582291.22 -26582291.04 0.0089 0.0042

Neptune -77492-11-23 10:32 J -26582203.24 -26582203.06 -26582202.88 0.0089 0.0035

Venus -77491-01-10 08:37 J -26582155.15 -26582155.14 -26582155.13 0.3789 0.3759

Neptune -77491-02-19 14:23 J -26582115.09 -26582114.90 -26582114.72 0.0089 0.0028

Earth -77491-04-03 18:56 J -26582071.77 -26582071.71 -26582071.65 0.2742 0.2265

Moon -77491-04-03 19:11 J -26582071.76 -26582071.70 -26582071.64 0.2734 0.2208 *

Neptune -77491-05-18 17:44 J -26582026.94 -26582026.76 -26582026.56 0.0089 0.0022

Neptune -77491-08-14 21:35 J -26581938.79 -26581938.60 -26581938.41 0.0089 0.0015

Mars -77491-08-21 16:18 J -26581931.89 -26581931.82 -26581931.75 0.1685 0.1507

Neptune -77491-11-11 01:11 J -26581850.64 -26581850.45 -26581850.25 0.0089 0.0008

Jupiter -77491-12-22 12:56 J -26581809.07 -26581808.96 -26581808.86 0.0534 0.0279

Neptune -77490-02-07 04:47 J -26581762.49 -26581762.30 -26581762.10 0.0089 0.0003

Jupiter -77490-03-21 19:54 J -26581719.79 -26581719.67 -26581719.54 0.0533 0.0173

Neptune -77490-05-06 08:37 J -26581674.34 -26581674.14 -26581673.95 0.0089 0.0006

Mars -77490-06-19 12:13 J -26581630.03 -26581629.99 -26581629.94 0.1854 0.1705

Neptune -77490-08-02 11:59 J -26581586.18 -26581586.00 -26581585.80 0.0089 0.0013

Neptune -77490-10-29 15:49 J -26581498.03 -26581497.84 -26581497.65 0.0089 0.0019

Neptune -77489-01-25 19:11 J -26581409.88 -26581409.70 -26581409.50 0.0089 0.0026

Neptune -77489-04-22 22:47 J -26581321.72 -26581321.55 -26581321.36 0.0089 0.0033

Neptune -77489-07-20 02:37 J -26581233.56 -26581233.39 -26581233.21 0.0089 0.0039

Neptune -77489-10-16 05:59 J -26581145.40 -26581145.25 -26581145.07 0.0088 0.0046

Neptune -77488-01-12 09:49 J -26581057.24 -26581057.09 -26581056.93 0.0088 0.0052

Neptune -77488-04-10 13:11 J -26580969.08 -26580968.95 -26580968.79 0.0088 0.0059

Neptune -77488-07-07 16:32 J -26580880.92 -26580880.81 -26580880.66 0.0088 0.0066

Neptune -77488-10-03 20:23 J -26580792.75 -26580792.65 -26580792.53 0.0088 0.0072

Neptune -77488-12-30 23:44 J -26580704.58 -26580704.51 -26580704.40 0.0088 0.0079

Neptune -77487-03-29 03:35 J -26580616.39 -26580616.35 -26580616.29 0.0088 0.0085

Venus -77486-07-27 02:37 J -26580131.47 -26580131.39 -26580131.32 0.3786 0.2611

Saturn -77485-12-29 23:01 J -26579609.62 -26579609.54 -26579609.44 0.0282 0.0204

Jupiter -77484-02-16 17:30 J -26579560.96 -26579560.77 -26579560.59 0.0493 0.0078

Earth -77484-03-27 17:30 J -26579521.86 -26579521.77 -26579521.67 0.2739 0.1268

Moon -77484-03-27 17:59 J -26579521.85 -26579521.75 -26579521.65 0.2744 0.1173 *

Saturn -77484-03-28 10:18 J -26579521.20 -26579521.07 -26579520.95 0.0281 0.0096

Jupiter -77484-05-18 00:56 J -26579470.54 -26579470.46 -26579470.39 0.0494 0.0446

Saturn -77484-06-24 21:20 J -26579432.74 -26579432.61 -26579432.48 0.0280 0.0013

Saturn -77484-09-21 08:23 J -26579344.27 -26579344.15 -26579344.03 0.0279 0.0118

Saturn -77484-12-18 19:11 J -26579255.77 -26579255.70 -26579255.62 0.0278 0.0224

Mars -77481-01-11 17:16 J -26578501.94 -26578501.78 -26578501.63 0.1678 0.0518

Moon -77481-09-28 06:13 J -26578241.38 -26578241.24 -26578241.10 0.2595 0.1159

Earth -77481-09-28 07:54 J -26578241.30 -26578241.17 -26578241.03 0.2595 0.1359 *

Mars -77481-11-08 20:37 J -26578199.74 -26578199.64 -26578199.54 0.1862 0.0868

Venus -77480-02-08 20:23 J -26578107.75 -26578107.65 -26578107.55 0.3783 0.1438

Jupiter -77479-10-10 16:32 J -26577498.89 -26577498.81 -26577498.72 0.0535 0.0392

Jupiter -77478-01-07 23:44 J -26577409.64 -26577409.51 -26577409.38 0.0534 0.0058

Jupiter -77478-04-07 07:11 J -26577320.23 -26577320.20 -26577320.17 0.0532 0.0512

Uranus -77478-09-28 10:04 J -26577146.08 -26577146.08 -26577146.07 0.0136 0.0136

Uranus -77478-12-25 13:25 J -26577058.00 -26577057.94 -26577057.88 0.0136 0.0120

Uranus -77477-03-22 16:32 J -26576969.89 -26576969.81 -26576969.72 0.0137 0.0104

Uranus -77477-06-18 19:54 J -26576881.77 -26576881.67 -26576881.57 0.0137 0.0087

Uranus -77477-09-14 23:01 J -26576793.65 -26576793.54 -26576793.42 0.0137 0.0071

Uranus -77477-12-12 02:23 J -26576705.52 -26576705.40 -26576705.28 0.0137 0.0054

Uranus -77476-03-10 05:44 J -26576617.39 -26576617.26 -26576617.13 0.0137 0.0037

Uranus -77476-06-06 09:06 J -26576529.26 -26576529.12 -26576528.99 0.0137 0.0020

Uranus -77476-09-02 12:13 J -26576441.12 -26576440.99 -26576440.85 0.0137 0.0005

Uranus -77476-11-29 15:35 J -26576352.98 -26576352.85 -26576352.71 0.0138 0.0015

Uranus -77475-02-25 18:56 J -26576264.84 -26576264.71 -26576264.58 0.0138 0.0032

Uranus -77475-05-24 22:18 J -26576176.69 -26576176.57 -26576176.44 0.0138 0.0049

Uranus -77475-08-21 01:40 J -26576088.54 -26576088.43 -26576088.31 0.0138 0.0067

Venus -77475-08-25 14:23 J -26576084.01 -26576083.90 -26576083.79 0.3780 0.0263

Uranus -77475-11-17 05:01 J -26576000.39 -26576000.29 -26576000.18 0.0138 0.0085

Uranus -77474-02-13 08:23 J -26575912.23 -26575912.15 -26575912.05 0.0138 0.0103

Uranus -77474-05-12 11:59 J -26575824.06 -26575824.00 -26575823.93 0.0138 0.0120

Uranus -77474-08-08 15:35 J -26575735.86 -26575735.85 -26575735.84 0.0139 0.0138

Jupiter -77473-12-05 14:52 J -26575251.04 -26575250.88 -26575250.71 0.0492 0.0209

Jupiter -77472-03-05 22:32 J -26575160.69 -26575160.56 -26575160.41 0.0493 0.0316

Mars -77472-06-02 17:59 J -26575071.90 -26575071.75 -26575071.59 0.1670 0.0469

Earth -77471-03-30 11:30 J -26574771.13 -26574771.02 -26574770.91 0.2740 0.0077

Moon -77471-03-30 12:13 J -26574771.09 -26574770.99 -26574770.88 0.2741 0.0128 *

Mars -77471-04-01 04:47 J -26574769.42 -26574769.30 -26574769.18 0.1871 0.0010

Venus -77469-03-10 08:37 J -26574060.24 -26574060.14 -26574060.03 0.3776 0.1016

Saturn -77468-01-09 04:18 J -26573755.42 -26573755.32 -26573755.21 0.0280 0.0228

Saturn -77468-04-08 04:04 J -26573666.51 -26573666.33 -26573666.14 0.0281 0.0071

Saturn -77468-07-06 03:49 J -26573577.52 -26573577.34 -26573577.16 0.0282 0.0088

Saturn -77468-10-03 03:20 J -26573488.45 -26573488.36 -26573488.27 0.0283 0.0246

Jupiter -77467-07-29 20:37 J -26573188.68 -26573188.64 -26573188.60 0.0535 0.0503

Jupiter -77467-10-27 03:35 J -26573099.48 -26573099.35 -26573099.22 0.0534 0.0055

Jupiter -77466-01-24 11:01 J -26573010.12 -26573010.04 -26573009.96 0.0533 0.0399

Venus -77464-09-24 03:06 J -26572036.45 -26572036.37 -26572036.28 0.3772 0.2280

Mars -77463-10-23 18:56 J -26571641.79 -26571641.71 -26571641.63 0.1663 0.1446

Mars -77462-08-22 13:11 J -26571339.05 -26571338.95 -26571338.85 0.1880 0.0841

Jupiter -77461-09-23 12:13 J -26570941.11 -26570940.99 -26570940.85 0.0492 0.0341

Jupiter -77461-12-22 20:23 J -26570850.82 -26570850.65 -26570850.48 0.0493 0.0187

Venus -77460-09-22 11:44 J -26570577.13 -26570577.01 -26570576.89 0.3596 0.1798

Earth -77458-04-02 05:44 J -26570020.36 -26570020.26 -26570020.17 0.2741 0.1247

Moon -77458-04-02 06:13 J -26570020.34 -26570020.24 -26570020.15 0.2736 0.1278 *

Venus -77458-04-09 21:49 J -26570012.62 -26570012.59 -26570012.56 0.3769 0.3578

Saturn -77455-05-19 00:56 J -26568877.52 -26568877.46 -26568877.38 0.0281 0.0239

Jupiter -77455-08-15 07:54 J -26568789.29 -26568789.17 -26568789.05 0.0535 0.0161

Saturn -77455-08-15 12:13 J -26568789.11 -26568788.99 -26568788.88 0.0280 0.0131 *

Saturn -77455-11-11 23:16 J -26568700.66 -26568700.53 -26568700.40 0.0280 0.0024

Jupiter -77455-11-12 15:20 J -26568699.97 -26568699.86 -26568699.76 0.0534 0.0293

Saturn -77454-02-08 10:18 J -26568612.20 -26568612.07 -26568611.95 0.0279 0.0083

Venus -77454-04-08 12:56 J -26568553.10 -26568552.96 -26568552.82 0.3599 0.0066

Saturn -77454-05-07 21:20 J -26568523.71 -26568523.61 -26568523.52 0.0278 0.0189

Mars -77452-01-11 21:20 J -26567908.65 -26567908.61 -26567908.56 0.1887 0.1712

Mars -77451-02-19 16:47 J -26567504.84 -26567504.80 -26567504.77 0.1685 0.1634

Moon -77451-03-26 04:32 J -26567470.38 -26567470.31 -26567470.25 0.2745 0.2188

Earth -77451-03-26 04:18 J -26567470.38 -26567470.32 -26567470.26 0.2738 0.2247 *

Mars -77451-12-18 12:28 J -26567203.00 -26567202.98 -26567202.96 0.1854 0.1816

Jupiter -77449-07-12 09:20 J -26566631.15 -26566631.11 -26566631.06 0.0492 0.0476

Jupiter -77449-10-10 17:44 J -26566540.94 -26566540.76 -26566540.58 0.0492 0.0053

Venus -77449-10-22 13:40 J -26566529.04 -26566528.93 -26566528.81 0.3603 0.1846

Moon -77448-09-26 06:28 J -26566190.39 -26566190.23 -26566190.08 0.2594 0.0726

Earth -77448-09-26 07:54 J -26566190.33 -26566190.17 -26566190.01 0.2596 0.0464 *

Moon -77445-04-03 23:59 J -26565269.54 -26565269.50 -26565269.47 0.2735 0.2576

Earth -77445-04-03 23:59 J -26565269.54 -26565269.50 -26565269.46 0.2742 0.2524 *

Venus -77443-05-08 14:08 J -26564504.94 -26564504.91 -26564504.89 0.3607 0.3538

Jupiter -77443-06-03 12:13 J -26564479.10 -26564478.99 -26564478.88 0.0535 0.0268

Jupiter -77443-08-31 19:25 J -26564389.81 -26564389.69 -26564389.57 0.0534 0.0184

Mars -77442-07-12 17:44 J -26564074.91 -26564074.76 -26564074.61 0.1678 0.0650

Mars -77441-05-09 20:37 J -26563772.74 -26563772.64 -26563772.54 0.1862 0.0967

Saturn -77439-08-25 23:59 J -26562934.66 -26562934.50 -26562934.33 0.0280 0.0132

Saturn -77439-11-22 23:44 J -26562845.69 -26562845.51 -26562845.32 0.0281 0.0027

Saturn -77438-02-19 23:16 J -26562756.66 -26562756.53 -26562756.38 0.0282 0.0185

Earth -77438-03-28 22:18 J -26562719.67 -26562719.57 -26562719.47 0.2739 0.1011

Moon -77438-03-28 23:01 J -26562719.64 -26562719.54 -26562719.44 0.2743 0.0990 *

Uranus -77438-08-13 15:20 J -26562581.95 -26562581.86 -26562581.75 0.0142 0.0120

Uranus -77438-11-09 23:30 J -26562493.66 -26562493.52 -26562493.37 0.0142 0.0093

Uranus -77437-02-06 07:25 J -26562405.35 -26562405.19 -26562405.01 0.0142 0.0066

Uranus -77437-05-04 15:35 J -26562317.04 -26562316.85 -26562316.67 0.0141 0.0039

Jupiter -77437-07-29 15:49 J -26562231.02 -26562230.84 -26562230.66 0.0492 0.0074

Uranus -77437-07-31 23:16 J -26562228.71 -26562228.53 -26562228.34 0.0141 0.0012

Jupiter -77437-10-27 23:16 J -26562140.60 -26562140.53 -26562140.45 0.0493 0.0448

Uranus -77437-10-28 07:11 J -26562140.39 -26562140.20 -26562140.01 0.0141 0.0014

Uranus -77436-01-24 14:52 J -26562052.06 -26562051.88 -26562051.70 0.0141 0.0041

Uranus -77436-04-22 22:18 J -26561963.72 -26561963.57 -26561963.39 0.0141 0.0067

Uranus -77436-07-20 05:59 J -26561875.38 -26561875.25 -26561875.10 0.0141 0.0093

Uranus -77436-10-16 13:40 J -26561787.02 -26561786.93 -26561786.82 0.0141 0.0118

Venus -77435-08-17 06:42 J -26561482.26 -26561482.22 -26561482.17 0.3788 0.3392

Moon -77435-09-29 12:42 J -26561439.09 -26561438.97 -26561438.84 0.2595 0.1679

Earth -77435-09-29 14:37 J -26561439.01 -26561438.89 -26561438.78 0.2595 0.1809 *

Mars -77433-12-01 18:42 J -26560644.88 -26560644.72 -26560644.56 0.1671 0.0332

Mars -77432-09-30 05:01 J -26560342.41 -26560342.29 -26560342.18 0.1871 0.0136

Jupiter -77431-03-22 15:35 J -26560168.93 -26560168.85 -26560168.76 0.0535 0.0387

Jupiter -77431-06-19 22:32 J -26560079.68 -26560079.56 -26560079.43 0.0534 0.0064

Jupiter -77431-09-17 06:13 J -26559990.27 -26559990.24 -26559990.21 0.0532 0.0516

Venus -77429-03-02 00:28 J -26559458.56 -26559458.48 -26559458.39 0.3785 0.2238

Saturn -77426-10-06 03:35 J -26558145.38 -26558145.35 -26558145.31 0.0283 0.0270

Saturn -77425-01-02 14:37 J -26558056.99 -26558056.89 -26558056.78 0.0282 0.0162

Earth -77425-03-30 16:18 J -26557968.92 -26557968.82 -26557968.71 0.2740 0.0267

Moon -77425-03-30 17:01 J -26557968.89 -26557968.79 -26557968.68 0.2740 0.0361 *

Saturn -77425-03-31 01:40 J -26557968.56 -26557968.43 -26557968.30 0.0281 0.0054

Jupiter -77425-05-17 13:40 J -26557921.09 -26557920.93 -26557920.76 0.0492 0.0203

Saturn -77425-06-27 12:42 J -26557880.10 -26557879.97 -26557879.84 0.0280 0.0054

Jupiter -77425-08-15 21:35 J -26557830.73 -26557830.60 -26557830.46 0.0493 0.0324

Saturn -77425-09-23 23:44 J -26557791.61 -26557791.51 -26557791.40 0.0279 0.0160

Saturn -77425-12-21 10:47 J -26557703.08 -26557703.05 -26557703.01 0.0278 0.0266

Venus -77424-09-15 18:28 J -26557434.83 -26557434.73 -26557434.62 0.3782 0.1048

Mars -77423-04-23 19:40 J -26557214.78 -26557214.68 -26557214.58 0.1664 0.1307

Mars -77422-02-20 13:11 J -26556912.06 -26556911.95 -26556911.85 0.1879 0.0747

Pluto -77420-11-10 16:18 J -26555917.85 -26555917.82 -26555917.74 0.0060 0.0057

Jupiter -77419-01-08 19:25 J -26555858.73 -26555858.69 -26555858.64 0.0535 0.0499

Pluto -77419-02-06 17:59 J -26555829.84 -26555829.75 -26555829.65 0.0060 0.0051

Jupiter -77419-04-08 02:23 J -26555769.53 -26555769.40 -26555769.27 0.0534 0.0052

Pluto -77419-05-05 18:56 J -26555741.81 -26555741.71 -26555741.57 0.0060 0.0046

Jupiter -77419-07-06 09:49 J -26555680.17 -26555680.09 -26555680.01 0.0533 0.0401

Pluto -77419-08-01 20:23 J -26555653.77 -26555653.65 -26555653.49 0.0060 0.0040

Pluto -77419-10-28 21:49 J -26555565.73 -26555565.59 -26555565.42 0.0060 0.0035

Pluto -77418-01-24 23:01 J -26555477.69 -26555477.54 -26555477.36 0.0060 0.0029

Venus -77418-04-01 12:42 J -26555411.08 -26555410.97 -26555410.86 0.3779 0.0196

Pluto -77418-04-23 00:28 J -26555389.64 -26555389.48 -26555389.29 0.0060 0.0023

Pluto -77418-07-20 01:54 J -26555301.59 -26555301.42 -26555301.23 0.0060 0.0018

Pluto -77418-10-16 03:20 J -26555213.54 -26555213.36 -26555213.17 0.0060 0.0012

Pluto -77417-01-12 04:47 J -26555125.49 -26555125.30 -26555125.11 0.0061 0.0006

Pluto -77417-04-09 06:13 J -26555037.43 -26555037.24 -26555037.05 0.0061 0.0001

Pluto -77417-07-06 07:25 J -26554949.37 -26554949.19 -26554949.00 0.0061 0.0006

Pluto -77417-10-02 08:52 J -26554861.31 -26554861.13 -26554860.94 0.0061 0.0012

Pluto -77417-12-29 10:04 J -26554773.25 -26554773.08 -26554772.89 0.0061 0.0018

Pluto -77416-03-27 11:16 J -26554685.19 -26554685.03 -26554684.84 0.0061 0.0024

Pluto -77416-06-23 12:42 J -26554597.12 -26554596.97 -26554596.79 0.0061 0.0030

Pluto -77416-09-19 13:54 J -26554509.05 -26554508.92 -26554508.74 0.0061 0.0036

Pluto -77416-12-16 15:20 J -26554420.98 -26554420.86 -26554420.70 0.0061 0.0042

Pluto -77415-03-14 16:47 J -26554332.89 -26554332.80 -26554332.66 0.0061 0.0048

Pluto -77415-06-10 18:13 J -26554244.81 -26554244.74 -26554244.63 0.0061 0.0054

Pluto -77415-09-06 19:40 J -26554156.69 -26554156.68 -26554156.62 0.0061 0.0060

Moon -77415-09-24 06:56 J -26554139.25 -26554139.21 -26554139.16 0.2592 0.2475

Earth -77415-09-24 07:54 J -26554139.24 -26554139.17 -26554139.10 0.2597 0.2310 *

Jupiter -77413-03-05 11:16 J -26553611.16 -26553611.03 -26553610.89 0.0492 0.0334

Jupiter -77413-06-03 19:25 J -26553520.86 -26553520.69 -26553520.52 0.0493 0.0194

Mars -77413-07-12 21:20 J -26553481.66 -26553481.61 -26553481.55 0.1888 0.1613

Venus -77413-10-15 06:56 J -26553387.31 -26553387.21 -26553387.11 0.3775 0.1424

Earth -77412-04-02 10:32 J -26553218.15 -26553218.06 -26553217.97 0.2741 0.1506

Moon -77412-04-02 11:01 J -26553218.13 -26553218.04 -26553217.95 0.2735 0.1563 *

Neptune -77412-06-26 11:16 J -26553133.05 -26553133.03 -26553132.99 0.0089 0.0086

Neptune -77412-09-22 12:42 J -26553045.02 -26553044.97 -26553044.91 0.0089 0.0081

Neptune -77412-12-19 13:54 J -26552956.97 -26552956.92 -26552956.85 0.0089 0.0077

Neptune -77411-03-17 15:20 J -26552868.93 -26552868.86 -26552868.78 0.0089 0.0072

Neptune -77411-06-13 16:32 J -26552780.89 -26552780.81 -26552780.72 0.0089 0.0068

Neptune -77411-09-09 17:59 J -26552692.84 -26552692.75 -26552692.66 0.0089 0.0063

Neptune -77411-12-06 19:11 J -26552604.79 -26552604.70 -26552604.59 0.0089 0.0059

Neptune -77410-03-04 20:37 J -26552516.74 -26552516.64 -26552516.53 0.0089 0.0054

Neptune -77410-05-31 21:49 J -26552428.69 -26552428.59 -26552428.48 0.0089 0.0050

Neptune -77410-08-27 23:16 J -26552340.64 -26552340.53 -26552340.42 0.0089 0.0045

Neptune -77410-11-24 00:28 J -26552252.59 -26552252.48 -26552252.36 0.0089 0.0040

Saturn -77409-01-12 22:32 J -26552202.71 -26552202.56 -26552202.41 0.0280 0.0176

Neptune -77409-02-20 01:54 J -26552164.54 -26552164.42 -26552164.30 0.0089 0.0036

Saturn -77409-04-10 22:18 J -26552113.76 -26552113.57 -26552113.38 0.0281 0.0019

Neptune -77409-05-18 03:06 J -26552076.49 -26552076.37 -26552076.24 0.0089 0.0031

Saturn -77409-07-08 21:49 J -26552024.75 -26552024.59 -26552024.43 0.0282 0.0140

Neptune -77409-08-14 04:18 J -26551988.44 -26551988.32 -26551988.19 0.0089 0.0027

Venus -77409-10-13 10:18 J -26551928.14 -26551928.07 -26551928.00 0.3593 0.3108

Neptune -77409-11-10 05:44 J -26551900.38 -26551900.26 -26551900.13 0.0089 0.0022

Neptune -77408-02-06 07:11 J -26551812.33 -26551812.20 -26551812.07 0.0089 0.0017

Neptune -77408-05-05 08:23 J -26551724.28 -26551724.15 -26551724.01 0.0089 0.0013

Neptune -77408-08-01 09:49 J -26551636.22 -26551636.09 -26551635.96 0.0089 0.0008

Neptune -77408-10-28 11:01 J -26551548.17 -26551548.04 -26551547.90 0.0089 0.0005

Neptune -77407-01-24 12:28 J -26551460.11 -26551459.98 -26551459.85 0.0089 0.0001

Jupiter -77407-01-25 06:13 J -26551459.36 -26551459.24 -26551459.11 0.0535 0.0166

Neptune -77407-04-22 13:54 J -26551372.06 -26551371.92 -26551371.79 0.0089 0.0006

Jupiter -77407-04-24 13:40 J -26551370.04 -26551369.93 -26551369.82 0.0533 0.0289

Venus -77407-05-01 01:25 J -26551363.52 -26551363.44 -26551363.36 0.3771 0.2707

Neptune -77407-07-19 15:06 J -26551284.00 -26551283.87 -26551283.74 0.0089 0.0010

Neptune -77407-10-15 16:32 J -26551195.94 -26551195.81 -26551195.68 0.0089 0.0015

Neptune -77406-01-11 17:44 J -26551107.89 -26551107.76 -26551107.63 0.0089 0.0020

Neptune -77406-04-09 19:11 J -26551019.83 -26551019.70 -26551019.57 0.0089 0.0024

Neptune -77406-07-06 20:23 J -26550931.77 -26550931.65 -26550931.52 0.0089 0.0029

Neptune -77406-10-02 21:49 J -26550843.71 -26550843.59 -26550843.47 0.0089 0.0033

Neptune -77406-12-29 23:01 J -26550755.65 -26550755.54 -26550755.41 0.0089 0.0038

Earth -77405-03-26 09:06 J -26550668.19 -26550668.12 -26550668.04 0.2738 0.1996

Moon -77405-03-26 09:20 J -26550668.18 -26550668.11 -26550668.04 0.2745 0.2040 *

Neptune -77405-03-27 00:28 J -26550667.59 -26550667.48 -26550667.36 0.0089 0.0043

Neptune -77405-06-23 01:54 J -26550579.53 -26550579.42 -26550579.31 0.0089 0.0047

Neptune -77405-09-19 03:06 J -26550491.47 -26550491.37 -26550491.26 0.0089 0.0052

Neptune -77405-12-16 04:18 J -26550403.41 -26550403.32 -26550403.21 0.0089 0.0057

Neptune -77404-03-14 05:59 J -26550315.35 -26550315.25 -26550315.16 0.0089 0.0061

Neptune -77404-06-10 07:11 J -26550227.28 -26550227.20 -26550227.11 0.0089 0.0066

Neptune -77404-09-06 08:23 J -26550139.22 -26550139.15 -26550139.06 0.0089 0.0071

Neptune -77404-12-03 09:49 J -26550051.15 -26550051.09 -26550051.01 0.0089 0.0075

Neptune -77403-03-01 11:01 J -26549963.08 -26549963.04 -26549962.97 0.0089 0.0080

Venus -77403-04-29 11:59 J -26549904.13 -26549904.00 -26549903.87 0.3597 0.1202

Neptune -77403-05-28 12:42 J -26549875.01 -26549874.97 -26549874.93 0.0089 0.0084

Mars -77402-01-10 18:28 J -26549647.88 -26549647.73 -26549647.59 0.1678 0.0786

Moon -77402-09-27 12:56 J -26549388.13 -26549387.96 -26549387.80 0.2594 0.0104

Earth -77402-09-27 14:37 J -26549388.05 -26549387.89 -26549387.73 0.2596 0.0024 *

Mars -77402-11-08 20:37 J -26549345.73 -26549345.64 -26549345.54 0.1862 0.1072

Jupiter -77402-12-23 08:52 J -26549301.19 -26549301.13 -26549301.07 0.0492 0.0465

Jupiter -77401-03-22 17:16 J -26549210.96 -26549210.78 -26549210.60 0.0493 0.0065

Moon -77399-04-05 04:47 J -26548467.31 -26548467.30 -26548467.30 0.2735 0.2730

Venus -77398-11-13 12:56 J -26547880.09 -26547879.96 -26547879.82 0.3600 0.0655

Saturn -77396-05-21 16:32 J -26547324.90 -26547324.81 -26547324.72 0.0281 0.0197

Saturn -77396-08-18 03:35 J -26547236.47 -26547236.35 -26547236.23 0.0280 0.0090

Jupiter -77396-11-13 10:32 J -26547149.16 -26547149.06 -26547148.95 0.0535 0.0271

Saturn -77396-11-14 14:37 J -26547148.02 -26547147.89 -26547147.76 0.0279 0.0017

Jupiter -77395-02-10 17:44 J -26547059.88 -26547059.76 -26547059.63 0.0534 0.0183

Saturn -77395-02-11 01:40 J -26547059.55 -26547059.43 -26547059.31 0.0278 0.0124

Saturn -77395-05-10 12:42 J -26546971.04 -26546970.97 -26546970.90 0.0278 0.0229

Uranus -77394-10-18 17:30 J -26546444.79 -26546444.77 -26546444.73 0.0136 0.0132

Uranus -77393-01-14 20:37 J -26546356.69 -26546356.64 -26546356.56 0.0136 0.0116

Uranus -77393-04-11 23:59 J -26546268.58 -26546268.50 -26546268.40 0.0137 0.0099

Mars -77393-06-01 19:11 J -26546217.86 -26546217.70 -26546217.53 0.1671 0.0207

Uranus -77393-07-09 03:20 J -26546180.46 -26546180.36 -26546180.25 0.0137 0.0082

Uranus -77393-10-05 06:28 J -26546092.34 -26546092.23 -26546092.10 0.0137 0.0066

Uranus -77392-01-01 09:49 J -26546004.21 -26546004.09 -26546003.96 0.0137 0.0049

Earth -77392-03-29 03:06 J -26545917.47 -26545917.37 -26545917.26 0.2739 0.0761

Moon -77392-03-29 03:49 J -26545917.44 -26545917.34 -26545917.23 0.2743 0.0607 *

Uranus -77392-03-30 13:11 J -26545916.08 -26545915.95 -26545915.82 0.0137 0.0032

Mars -77392-03-31 05:01 J -26545915.41 -26545915.29 -26545915.18 0.1871 0.0225

Venus -77392-05-29 13:40 J -26545856.03 -26545855.93 -26545855.83 0.3604 0.2408

Uranus -77392-06-26 16:32 J -26545827.94 -26545827.81 -26545827.68 0.0137 0.0015

Uranus -77392-09-22 19:54 J -26545739.81 -26545739.67 -26545739.54 0.0137 0.0003

Uranus -77392-12-19 23:16 J -26545651.67 -26545651.53 -26545651.40 0.0138 0.0020

Uranus -77391-03-18 02:37 J -26545563.52 -26545563.39 -26545563.26 0.0138 0.0037

Uranus -77391-06-14 05:59 J -26545475.38 -26545475.25 -26545475.13 0.0138 0.0054

Uranus -77391-09-10 09:06 J -26545387.23 -26545387.12 -26545387.00 0.0138 0.0072

Uranus -77391-12-07 12:42 J -26545299.07 -26545298.97 -26545298.87 0.0138 0.0089

Uranus -77390-03-05 16:04 J -26545210.91 -26545210.83 -26545210.74 0.0138 0.0107

Uranus -77390-06-01 19:25 J -26545122.74 -26545122.69 -26545122.62 0.0138 0.0126

Jupiter -77389-01-09 14:37 J -26544901.07 -26544900.89 -26544900.71 0.0492 0.0069

Jupiter -77389-04-08 22:04 J -26544810.65 -26544810.58 -26544810.51 0.0493 0.0453

Moon -77389-09-29 19:25 J -26544636.78 -26544636.69 -26544636.59 0.2597 0.2037

Earth -77389-09-29 21:06 J -26544636.70 -26544636.62 -26544636.55 0.2595 0.2253 *

Jupiter -77384-09-01 15:06 J -26542838.96 -26542838.87 -26542838.78 0.0535 0.0376

Mars -77384-10-22 20:23 J -26542787.76 -26542787.65 -26542787.53 0.1664 0.1165

Jupiter -77384-11-29 22:04 J -26542749.71 -26542749.58 -26542749.45 0.0534 0.0075

Jupiter -77383-02-27 05:44 J -26542660.27 -26542660.26 -26542660.25 0.0533 0.0529

Mars -77383-08-21 13:11 J -26542485.06 -26542484.95 -26542484.84 0.1879 0.0643

Saturn -77380-05-31 17:30 J -26541470.85 -26541470.77 -26541470.67 0.0279 0.0242

Saturn -77380-08-28 17:30 J -26541381.95 -26541381.77 -26541381.59 0.0280 0.0085

Saturn -77380-11-25 17:01 J -26541292.97 -26541292.79 -26541292.60 0.0281 0.0074

Saturn -77379-02-22 16:47 J -26541203.91 -26541203.80 -26541203.70 0.0282 0.0232

Earth -77379-03-31 21:20 J -26541166.72 -26541166.61 -26541166.51 0.2740 0.0507

Moon -77379-03-31 22:04 J -26541166.69 -26541166.58 -26541166.48 0.2738 0.0559 *

Venus -77378-03-24 04:47 J -26540809.36 -26540809.30 -26540809.24 0.3787 0.3024

Jupiter -77378-10-28 12:42 J -26540591.14 -26540590.97 -26540590.80 0.0492 0.0196

Jupiter -77377-01-26 20:23 J -26540500.78 -26540500.65 -26540500.51 0.0493 0.0330

Mars -77373-01-11 21:35 J -26539054.67 -26539054.60 -26539054.54 0.1887 0.1508

Venus -77373-10-06 22:32 J -26538785.65 -26538785.56 -26538785.46 0.3784 0.1855

Jupiter -77372-06-20 18:28 J -26538528.77 -26538528.73 -26538528.68 0.0535 0.0493

Jupiter -77372-09-18 01:40 J -26538439.56 -26538439.43 -26538439.31 0.0534 0.0049

Jupiter -77372-12-16 08:52 J -26538350.21 -26538350.13 -26538350.05 0.0533 0.0408

Moon -77369-09-24 13:11 J -26537337.06 -26537336.95 -26537336.84 0.2593 0.1908

Earth -77369-09-24 14:23 J -26537337.01 -26537336.90 -26537336.79 0.2597 0.1855 *

Venus -77367-04-22 16:32 J -26536761.91 -26536761.81 -26536761.70 0.3781 0.0660

Saturn -77367-10-08 18:42 J -26536592.79 -26536592.72 -26536592.65 0.0282 0.0232

Saturn -77366-01-05 05:44 J -26536504.38 -26536504.26 -26536504.14 0.0281 0.0123

Earth -77366-04-03 15:20 J -26536415.94 -26536415.86 -26536415.77 0.2741 0.1770

Saturn -77366-04-03 16:47 J -26536415.93 -26536415.80 -26536415.67 0.0281 0.0016 *

Moon -77366-04-03 15:49 J -26536415.92 -26536415.84 -26536415.76 0.2735 0.1817 *

Saturn -77366-07-01 03:49 J -26536327.46 -26536327.34 -26536327.21 0.0280 0.0092

Jupiter -77366-08-16 10:18 J -26536281.20 -26536281.07 -26536280.93 0.0492 0.0326

Saturn -77366-09-27 14:52 J -26536238.97 -26536238.88 -26536238.78 0.0279 0.0198

Jupiter -77366-11-14 18:28 J -26536190.89 -26536190.73 -26536190.56 0.0493 0.0204

Mars -77363-07-11 18:56 J -26535220.84 -26535220.71 -26535220.57 0.1678 0.0919

Mars -77362-05-09 20:37 J -26534918.73 -26534918.64 -26534918.55 0.1862 0.1173

Venus -77362-11-06 10:47 J -26534738.16 -26534738.05 -26534737.94 0.3778 0.0581

Jupiter -77360-07-07 05:30 J -26534129.40 -26534129.27 -26534129.15 0.0534 0.0159

Jupiter -77360-10-04 12:42 J -26534040.08 -26534039.97 -26534039.87 0.0533 0.0294

Earth -77359-03-27 14:08 J -26533866.00 -26533865.91 -26533865.83 0.2738 0.1740

Moon -77359-03-27 14:23 J -26533865.98 -26533865.90 -26533865.81 0.2744 0.1651 *

Venus -77356-05-22 05:16 J -26532714.38 -26532714.28 -26532714.19 0.3774 0.1851

Moon -77356-09-27 19:25 J -26532585.85 -26532585.69 -26532585.53 0.2594 0.0175

Earth -77356-09-27 21:06 J -26532585.77 -26532585.62 -26532585.46 0.2596 0.0454 *

Jupiter -77354-06-04 08:08 J -26531971.23 -26531971.16 -26531971.10 0.0492 0.0457

Uranus -77354-06-06 14:37 J -26531968.89 -26531968.89 -26531968.88 0.0142 0.0142

Jupiter -77354-09-02 16:18 J -26531881.00 -26531880.82 -26531880.63 0.0493 0.0075

Uranus -77354-09-02 22:32 J -26531880.66 -26531880.56 -26531880.44 0.0142 0.0115 *

Uranus -77354-11-30 06:28 J -26531792.36 -26531792.23 -26531792.06 0.0142 0.0088

Mars -77354-12-01 20:08 J -26531790.82 -26531790.66 -26531790.50 0.1671 0.0056

Uranus -77353-02-26 14:37 J -26531704.05 -26531703.89 -26531703.71 0.0142 0.0060

Uranus -77353-05-24 22:32 J -26531615.74 -26531615.56 -26531615.37 0.0141 0.0034

Uranus -77353-08-21 06:28 J -26531527.42 -26531527.23 -26531527.04 0.0141 0.0007

Mars -77353-09-29 05:01 J -26531488.41 -26531488.29 -26531488.18 0.1871 0.0324

Uranus -77353-11-17 14:23 J -26531439.09 -26531438.90 -26531438.71 0.0141 0.0020

Uranus -77352-02-13 22:04 J -26531350.76 -26531350.58 -26531350.40 0.0141 0.0046

Uranus -77352-05-13 05:44 J -26531262.42 -26531262.26 -26531262.10 0.0141 0.0072

Venus -77352-05-20 10:32 J -26531255.16 -26531255.06 -26531254.96 0.3594 0.2489

Uranus -77352-08-09 13:11 J -26531174.08 -26531173.95 -26531173.81 0.0141 0.0098

Uranus -77352-11-05 20:37 J -26531085.71 -26531085.64 -26531085.54 0.0140 0.0123

Venus -77351-12-05 23:44 J -26530690.57 -26530690.51 -26530690.45 0.3770 0.3141

Saturn -77350-01-15 15:49 J -26530650.01 -26530649.84 -26530649.68 0.0280 0.0129

Saturn -77350-04-14 15:20 J -26530561.04 -26530560.86 -26530560.67 0.0281 0.0029

Saturn -77350-07-12 15:06 J -26530472.01 -26530471.87 -26530471.73 0.0282 0.0186

Jupiter -77348-04-25 09:20 J -26529819.22 -26529819.11 -26529819.00 0.0535 0.0271

Jupiter -77348-07-23 16:18 J -26529729.94 -26529729.82 -26529729.69 0.0534 0.0182

Venus -77347-12-04 11:59 J -26529231.14 -26529231.00 -26529230.86 0.3598 0.0593

Earth -77346-03-30 08:08 J -26529115.27 -26529115.16 -26529115.06 0.2739 0.0503

Moon -77346-03-30 08:37 J -26529115.24 -26529115.14 -26529115.03 0.2743 0.0491 *

Mars -77344-04-22 20:52 J -26528360.76 -26528360.63 -26528360.50 0.1664 0.1041

Mars -77343-02-19 13:11 J -26528058.06 -26528057.95 -26528057.83 0.1879 0.0539

Jupiter -77342-06-21 14:08 J -26527571.09 -26527570.91 -26527570.73 0.0492 0.0056

Jupiter -77342-09-19 21:35 J -26527480.65 -26527480.60 -26527480.54 0.0493 0.0466

Venus -77341-06-19 12:56 J -26527207.09 -26527206.96 -26527206.83 0.3601 0.1235

Saturn -77337-02-25 20:23 J -26525860.68 -26525860.65 -26525860.61 0.0282 0.0268

Saturn -77337-05-24 07:25 J -26525772.29 -26525772.19 -26525772.08 0.0281 0.0160

Saturn -77337-08-20 18:28 J -26525683.85 -26525683.73 -26525683.60 0.0280 0.0053

Saturn -77337-11-17 05:44 J -26525595.39 -26525595.26 -26525595.14 0.0279 0.0056

Jupiter -77336-02-11 13:40 J -26525509.02 -26525508.93 -26525508.84 0.0535 0.0377

Saturn -77336-02-13 16:47 J -26525506.91 -26525506.80 -26525506.70 0.0278 0.0161

Jupiter -77336-05-11 20:37 J -26525419.76 -26525419.64 -26525419.51 0.0534 0.0074

Saturn -77336-05-13 03:49 J -26525418.37 -26525418.34 -26525418.31 0.0277 0.0267

Jupiter -77336-08-09 04:18 J -26525330.33 -26525330.32 -26525330.31 0.0533 0.0529

Venus -77335-01-03 13:25 J -26525183.01 -26525182.94 -26525182.86 0.3605 0.2972

Mars -77334-07-12 21:35 J -26524627.68 -26524627.60 -26524627.53 0.1887 0.1405

Earth -77333-04-01 02:08 J -26524364.52 -26524364.41 -26524364.31 0.2740 0.0760

Moon -77333-04-01 02:52 J -26524364.49 -26524364.38 -26524364.28 0.2737 0.0903 *

Jupiter -77330-04-09 11:30 J -26523261.19 -26523261.02 -26523260.85 0.0492 0.0189

Jupiter -77330-07-08 19:25 J -26523170.83 -26523170.69 -26523170.56 0.0493 0.0336

Neptune -77329-09-14 03:06 J -26522737.39 -26522737.37 -26522737.31 0.0089 0.0087

Neptune -77329-12-11 06:56 J -26522649.28 -26522649.21 -26522649.11 0.0089 0.0080

Neptune -77328-03-09 10:47 J -26522561.15 -26522561.05 -26522560.93 0.0089 0.0073

Neptune -77328-06-05 14:37 J -26522473.01 -26522472.89 -26522472.75 0.0089 0.0066

Neptune -77328-09-01 17:59 J -26522384.87 -26522384.75 -26522384.58 0.0089 0.0060

Neptune -77328-11-28 21:49 J -26522296.73 -26522296.59 -26522296.42 0.0089 0.0053

Neptune -77327-02-25 01:40 J -26522208.59 -26522208.43 -26522208.25 0.0089 0.0046

Neptune -77327-05-24 05:30 J -26522120.44 -26522120.27 -26522120.09 0.0089 0.0039

Neptune -77327-08-20 09:06 J -26522032.29 -26522032.12 -26522031.93 0.0089 0.0032

Neptune -77327-11-16 12:42 J -26521944.15 -26521943.97 -26521943.77 0.0089 0.0026

Neptune -77326-02-12 16:32 J -26521856.00 -26521855.81 -26521855.61 0.0089 0.0019

Moon -77326-03-26 00:42 J -26521814.48 -26521814.47 -26521814.46 0.2744 0.2723

Earth -77326-03-26 00:56 J -26521814.47 -26521814.46 -26521814.45 0.2737 0.2714 *

Neptune -77326-05-11 20:08 J -26521767.85 -26521767.66 -26521767.46 0.0089 0.0012

Neptune -77326-08-07 23:59 J -26521679.70 -26521679.50 -26521679.31 0.0089 0.0005

Pluto -77326-09-09 05:59 J -26521647.30 -26521647.25 -26521647.18 0.0084 0.0075

Neptune -77326-11-04 03:35 J -26521591.54 -26521591.35 -26521591.15 0.0089 0.0002

Pluto -77326-12-06 07:25 J -26521559.27 -26521559.19 -26521559.09 0.0084 0.0063

Neptune -77325-01-31 07:11 J -26521503.39 -26521503.20 -26521503.00 0.0089 0.0008

Pluto -77325-03-03 09:06 J -26521471.23 -26521471.12 -26521471.01 0.0084 0.0051

Neptune -77325-04-28 10:47 J -26521415.24 -26521415.05 -26521414.85 0.0089 0.0015

Pluto -77325-05-30 10:18 J -26521383.18 -26521383.07 -26521382.94 0.0084 0.0040

Neptune -77325-07-25 14:23 J -26521327.08 -26521326.90 -26521326.70 0.0089 0.0022

Pluto -77325-08-26 11:44 J -26521295.13 -26521295.01 -26521294.88 0.0084 0.0029

Neptune -77325-10-21 17:59 J -26521238.93 -26521238.75 -26521238.56 0.0089 0.0028

Pluto -77325-11-22 13:11 J -26521207.08 -26521206.95 -26521206.82 0.0084 0.0018

Jupiter -77325-11-30 17:59 J -26521198.80 -26521198.75 -26521198.70 0.0535 0.0482

Neptune -77324-01-17 21:35 J -26521150.77 -26521150.60 -26521150.41 0.0089 0.0035

Pluto -77324-02-18 14:37 J -26521119.03 -26521118.89 -26521118.76 0.0084 0.0007

Jupiter -77324-02-28 00:56 J -26521109.59 -26521109.46 -26521109.33 0.0534 0.0034

Neptune -77324-04-16 01:11 J -26521062.61 -26521062.45 -26521062.27 0.0089 0.0042

Pluto -77324-05-17 15:49 J -26521030.97 -26521030.84 -26521030.70 0.0084 0.0005

Jupiter -77324-05-28 08:23 J -26521020.23 -26521020.15 -26521020.07 0.0533 0.0421

Neptune -77324-07-13 04:32 J -26520974.45 -26520974.31 -26520974.13 0.0089 0.0049

Pluto -77324-08-13 17:16 J -26520942.91 -26520942.78 -26520942.65 0.0083 0.0016

Neptune -77324-10-09 08:23 J -26520886.29 -26520886.15 -26520885.99 0.0089 0.0055

Pluto -77324-11-09 18:28 J -26520854.85 -26520854.73 -26520854.60 0.0083 0.0027

Neptune -77323-01-05 11:44 J -26520798.13 -26520798.01 -26520797.85 0.0089 0.0062

Mars -77323-01-09 19:54 J -26520793.80 -26520793.67 -26520793.55 0.1678 0.1063

Pluto -77323-02-05 19:54 J -26520766.79 -26520766.67 -26520766.55 0.0083 0.0037

Neptune -77323-04-03 15:35 J -26520709.96 -26520709.85 -26520709.72 0.0088 0.0068

Pluto -77323-05-04 21:06 J -26520678.73 -26520678.62 -26520678.51 0.0083 0.0048

Neptune -77323-06-30 18:56 J -26520621.79 -26520621.71 -26520621.59 0.0088 0.0075

Pluto -77323-07-31 22:18 J -26520590.66 -26520590.57 -26520590.47 0.0083 0.0059

Moon -77323-09-25 19:40 J -26520534.81 -26520534.68 -26520534.55 0.2593 0.1572

Earth -77323-09-25 21:06 J -26520534.76 -26520534.62 -26520534.49 0.2597 0.1392 *

Neptune -77323-09-26 22:47 J -26520533.62 -26520533.55 -26520533.47 0.0088 0.0081

Pluto -77323-10-27 23:44 J -26520502.58 -26520502.51 -26520502.44 0.0083 0.0069

Mars -77323-11-07 20:37 J -26520491.72 -26520491.64 -26520491.55 0.1862 0.1278

Neptune -77323-12-24 02:08 J -26520445.42 -26520445.41 -26520445.37 0.0088 0.0088

Pluto -77322-01-24 00:42 J -26520414.49 -26520414.47 -26520414.42 0.0083 0.0080

Venus -77322-10-29 02:52 J -26520136.46 -26520136.38 -26520136.31 0.3787 0.2649

Saturn -77321-06-03 10:47 J -26519918.19 -26519918.05 -26519917.92 0.0280 0.0197

Saturn -77321-08-31 10:18 J -26519829.25 -26519829.07 -26519828.88 0.0280 0.0040

Saturn -77321-11-28 10:04 J -26519740.25 -26519740.08 -26519739.91 0.0281 0.0119

Saturn -77320-02-25 09:20 J -26519651.14 -26519651.11 -26519651.07 0.0282 0.0277

Earth -77320-04-03 20:23 J -26519613.72 -26519613.65 -26519613.58 0.2741 0.2035

Moon -77320-04-03 20:37 J -26519613.71 -26519613.64 -26519613.57 0.2735 0.2045 *

Jupiter -77318-01-26 09:35 J -26518951.24 -26518951.10 -26518950.96 0.0492 0.0316

Jupiter -77318-04-26 17:44 J -26518860.93 -26518860.76 -26518860.60 0.0493 0.0212

Venus -77316-05-13 20:37 J -26518112.74 -26518112.64 -26518112.54 0.3784 0.1469

Mars -77314-06-01 20:37 J -26517363.80 -26517363.64 -26517363.47 0.1671 0.0086

Earth -77313-03-27 18:56 J -26517063.80 -26517063.71 -26517063.62 0.2738 0.1484

Moon -77313-03-27 19:25 J -26517063.78 -26517063.69 -26517063.60 0.2744 0.1478 *

Mars -77313-03-30 05:01 J -26517061.41 -26517061.29 -26517061.18 0.1871 0.0425

Jupiter -77313-12-17 04:32 J -26516799.43 -26516799.31 -26516799.19 0.0534 0.0151

Jupiter -77312-03-16 11:44 J -26516710.11 -26516710.01 -26516709.90 0.0533 0.0302

Venus -77311-11-27 14:52 J -26516088.99 -26516088.88 -26516088.77 0.3780 0.0282

Moon -77310-09-29 02:08 J -26515783.57 -26515783.41 -26515783.26 0.2595 0.0832

Earth -77310-09-29 03:49 J -26515783.49 -26515783.34 -26515783.19 0.2596 0.0902 *

Uranus -77310-11-08 00:56 J -26515743.50 -26515743.46 -26515743.41 0.0136 0.0127

Uranus -77309-02-04 04:18 J -26515655.40 -26515655.32 -26515655.25 0.0137 0.0111

Uranus -77309-05-02 07:25 J -26515567.28 -26515567.19 -26515567.09 0.0137 0.0095

Uranus -77309-07-29 10:47 J -26515479.16 -26515479.05 -26515478.94 0.0137 0.0078

Uranus -77309-10-25 13:54 J -26515391.04 -26515390.92 -26515390.80 0.0137 0.0061

Uranus -77308-01-21 17:16 J -26515302.91 -26515302.78 -26515302.65 0.0137 0.0045

Uranus -77308-04-19 20:23 J -26515214.77 -26515214.65 -26515214.51 0.0137 0.0028

Uranus -77308-07-16 23:44 J -26515126.64 -26515126.51 -26515126.37 0.0137 0.0011

Saturn -77308-10-11 09:20 J -26515040.20 -26515040.11 -26515040.02 0.0282 0.0197

Uranus -77308-10-13 03:06 J -26515038.50 -26515038.37 -26515038.23 0.0138 0.0007

Saturn -77307-01-07 20:23 J -26514951.77 -26514951.65 -26514951.52 0.0281 0.0089

Uranus -77307-01-09 06:28 J -26514950.36 -26514950.23 -26514950.10 0.0138 0.0024

Saturn -77307-04-06 07:40 J -26514863.32 -26514863.18 -26514863.05 0.0281 0.0022

Uranus -77307-04-07 09:49 J -26514862.22 -26514862.09 -26514861.96 0.0138 0.0041

Saturn -77307-07-03 18:28 J -26514774.84 -26514774.73 -26514774.61 0.0280 0.0128

Uranus -77307-07-04 13:11 J -26514774.07 -26514773.95 -26514773.83 0.0138 0.0059

Saturn -77307-09-30 05:44 J -26514686.33 -26514686.26 -26514686.19 0.0279 0.0233

Uranus -77307-09-30 16:32 J -26514685.92 -26514685.81 -26514685.69 0.0138 0.0076

Jupiter -77307-11-14 06:56 J -26514641.28 -26514641.21 -26514641.13 0.0492 0.0449

Uranus -77307-12-27 19:54 J -26514597.76 -26514597.67 -26514597.56 0.0138 0.0094

Jupiter -77306-02-12 15:35 J -26514551.03 -26514550.85 -26514550.67 0.0493 0.0084

Uranus -77306-03-25 23:30 J -26514509.60 -26514509.52 -26514509.44 0.0138 0.0112

Uranus -77306-06-22 02:52 J -26514421.42 -26514421.38 -26514421.33 0.0139 0.0130

Venus -77305-06-12 09:06 J -26514065.23 -26514065.12 -26514065.02 0.3777 0.1004

Mars -77305-10-21 21:49 J -26513933.73 -26513933.59 -26513933.46 0.1664 0.0897

Mars -77304-08-20 13:11 J -26513631.06 -26513630.95 -26513630.83 0.1879 0.0441

Jupiter -77301-10-05 08:37 J -26512489.25 -26512489.14 -26512489.03 0.0534 0.0262

Jupiter -77300-01-02 15:35 J -26512399.97 -26512399.85 -26512399.73 0.0533 0.0188

Earth -77300-03-30 12:56 J -26512313.07 -26512312.96 -26512312.85 0.2739 0.0246

Moon -77300-03-30 13:40 J -26512313.04 -26512312.93 -26512312.83 0.2741 0.0147 *

Venus -77300-12-27 03:20 J -26512041.44 -26512041.36 -26512041.27 0.3773 0.2276

Venus -77296-12-25 10:47 J -26510582.17 -26510582.05 -26510581.93 0.3595 0.1878

Jupiter -77295-12-01 13:25 J -26510241.12 -26510240.94 -26510240.76 0.0493 0.0047

Mars -77294-01-10 21:20 J -26510200.69 -26510200.61 -26510200.52 0.1887 0.1313

Jupiter -77294-03-01 20:52 J -26510150.67 -26510150.63 -26510150.58 0.0494 0.0477

Venus -77294-07-12 22:04 J -26510017.61 -26510017.58 -26510017.55 0.3769 0.3583

Saturn -77292-10-21 08:52 J -26509186.22 -26509186.13 -26509186.03 0.0279 0.0242

Saturn -77291-01-18 08:37 J -26509097.32 -26509097.14 -26509096.96 0.0280 0.0085

Saturn -77291-04-17 08:08 J -26509008.34 -26509008.16 -26509007.97 0.0281 0.0073

Saturn -77291-07-15 07:40 J -26508919.28 -26508919.18 -26508919.07 0.0282 0.0231

Venus -77290-07-11 11:59 J -26508558.13 -26508558.00 -26508557.86 0.3599 0.0076

Jupiter -77289-07-24 12:28 J -26508179.07 -26508178.98 -26508178.89 0.0535 0.0376

Jupiter -77289-10-21 19:25 J -26508089.82 -26508089.69 -26508089.56 0.0534 0.0074

Jupiter -77288-01-19 02:52 J -26508000.39 -26508000.38 -26508000.37 0.0533 0.0529

Earth -77287-04-02 06:56 J -26507562.31 -26507562.21 -26507562.11 0.2740 0.1021

Moon -77287-04-02 07:40 J -26507562.28 -26507562.18 -26507562.08 0.2736 0.1033 *

Venus -77284-01-24 12:56 J -26506534.08 -26506533.96 -26506533.84 0.3603 0.1809

Mars -77284-07-10 20:23 J -26506366.77 -26506366.65 -26506366.54 0.1678 0.1190

Mars -77283-05-08 20:37 J -26506064.71 -26506064.64 -26506064.56 0.1862 0.1383

Jupiter -77283-09-19 11:01 J -26505931.21 -26505931.04 -26505930.86 0.0492 0.0177

Jupiter -77283-12-18 18:56 J -26505840.84 -26505840.71 -26505840.58 0.0493 0.0349

Moon -77280-03-26 05:44 J -26505012.30 -26505012.26 -26505012.22 0.2744 0.2478

Earth -77280-03-26 05:44 J -26505012.30 -26505012.26 -26505012.21 0.2737 0.2459 *

Venus -77279-08-10 13:11 J -26504509.97 -26504509.95 -26504509.92 0.3607 0.3523

Saturn -77278-02-28 11:16 J -26504308.10 -26504308.03 -26504307.96 0.0282 0.0233

Saturn -77278-05-27 22:18 J -26504219.69 -26504219.57 -26504219.45 0.0281 0.0124

Saturn -77278-08-24 09:20 J -26504131.24 -26504131.11 -26504130.98 0.0280 0.0017

Saturn -77278-11-20 20:23 J -26504042.77 -26504042.65 -26504042.52 0.0279 0.0091

Saturn -77277-02-17 07:25 J -26503954.28 -26503954.19 -26503954.09 0.0278 0.0198

Jupiter -77277-05-12 16:32 J -26503868.86 -26503868.81 -26503868.75 0.0535 0.0482

Jupiter -77277-08-09 23:30 J -26503779.64 -26503779.52 -26503779.39 0.0534 0.0039

Moon -77277-09-26 02:08 J -26503732.56 -26503732.41 -26503732.26 0.2593 0.1059

Earth -77277-09-26 03:35 J -26503732.50 -26503732.35 -26503732.20 0.2597 0.0934 *

Jupiter -77277-11-07 06:56 J -26503690.28 -26503690.21 -26503690.13 0.0533 0.0422

Mars -77275-11-30 21:20 J -26502936.77 -26502936.61 -26502936.45 0.1671 0.0209

Earth -77274-04-05 01:11 J -26502811.51 -26502811.45 -26502811.39 0.2741 0.2291

Moon -77274-04-05 01:11 J -26502811.50 -26502811.45 -26502811.39 0.2735 0.2342 *

Mars -77274-09-29 05:01 J -26502634.40 -26502634.29 -26502634.17 0.1870 0.0539

Jupiter -77271-07-08 08:37 J -26501621.29 -26501621.14 -26501621.00 0.0492 0.0309

Jupiter -77271-10-06 16:32 J -26501530.97 -26501530.81 -26501530.64 0.0493 0.0219

Venus -77271-11-19 07:11 J -26501487.25 -26501487.20 -26501487.16 0.3789 0.3432

Uranus -77270-06-26 22:18 J -26501267.62 -26501267.57 -26501267.51 0.0142 0.0135

Uranus -77270-09-23 06:13 J -26501179.35 -26501179.24 -26501179.11 0.0142 0.0108

Uranus -77270-12-20 14:08 J -26501091.05 -26501090.91 -26501090.74 0.0142 0.0081

Uranus -77269-03-17 22:18 J -26501002.74 -26501002.57 -26501002.39 0.0141 0.0054

Uranus -77269-06-14 06:13 J -26500914.43 -26500914.24 -26500914.05 0.0141 0.0027

Uranus -77269-09-10 14:08 J -26500826.10 -26500825.91 -26500825.72 0.0141 0.0001

Uranus -77269-12-07 21:49 J -26500737.77 -26500737.59 -26500737.40 0.0141 0.0026

Uranus -77268-03-06 05:30 J -26500649.44 -26500649.27 -26500649.09 0.0141 0.0053

Uranus -77268-06-02 12:56 J -26500561.10 -26500560.96 -26500560.79 0.0141 0.0079

Uranus -77268-08-29 20:52 J -26500472.75 -26500472.63 -26500472.50 0.0141 0.0104

Uranus -77268-11-26 04:04 J -26500384.38 -26500384.33 -26500384.24 0.0140 0.0130

Earth -77267-03-28 23:44 J -26500261.61 -26500261.51 -26500261.41 0.2738 0.1228

Moon -77267-03-29 00:13 J -26500261.59 -26500261.49 -26500261.39 0.2744 0.1138 *

Mars -77265-04-21 22:18 J -26499506.71 -26499506.57 -26499506.42 0.1664 0.0762

Jupiter -77265-05-29 04:04 J -26499469.46 -26499469.33 -26499469.21 0.0535 0.0140

Venus -77265-06-04 00:56 J -26499463.55 -26499463.46 -26499463.38 0.3786 0.2268

Jupiter -77265-08-26 11:16 J -26499380.13 -26499380.03 -26499379.93 0.0533 0.0314

Mars -77264-02-18 13:11 J -26499204.06 -26499203.95 -26499203.83 0.1879 0.0341

Moon -77264-09-29 08:37 J -26498981.28 -26498981.14 -26498980.99 0.2597 0.1119

Earth -77264-09-29 10:18 J -26498981.21 -26498981.07 -26498980.93 0.2596 0.1354 *

Saturn -77262-06-07 03:20 J -26498365.51 -26498365.36 -26498365.19 0.0280 0.0153

Saturn -77262-09-04 03:20 J -26498276.55 -26498276.36 -26498276.18 0.0280 0.0008

Saturn -77262-12-02 02:52 J -26498187.53 -26498187.38 -26498187.23 0.0281 0.0163

Venus -77260-12-18 18:42 J -26497439.82 -26497439.72 -26497439.61 0.3783 0.1082

Jupiter -77259-04-26 06:13 J -26497311.31 -26497311.24 -26497311.15 0.0492 0.0437

Jupiter -77259-07-25 14:52 J -26497221.06 -26497220.88 -26497220.70 0.0493 0.0094

Mars -77255-07-11 21:35 J -26495773.69 -26495773.60 -26495773.51 0.1887 0.1200

Earth -77254-03-31 17:44 J -26495510.87 -26495510.76 -26495510.65 0.2739 0.0022

Moon -77254-03-31 18:28 J -26495510.84 -26495510.73 -26495510.62 0.2739 0.0059 *

Venus -77254-07-04 12:56 J -26495416.07 -26495415.96 -26495415.85 0.3779 0.0160

Jupiter -77253-03-17 07:40 J -26495159.29 -26495159.18 -26495159.06 0.0534 0.0255

Jupiter -77253-06-14 14:52 J -26495070.00 -26495069.88 -26495069.76 0.0533 0.0197

Saturn -77249-07-17 12:42 J -26493576.00 -26493575.97 -26493575.93 0.0283 0.0272

Saturn -77249-10-13 23:59 J -26493487.61 -26493487.50 -26493487.39 0.0282 0.0163

Saturn -77248-01-10 11:01 J -26493399.17 -26493399.04 -26493398.91 0.0281 0.0054

Venus -77248-01-17 07:11 J -26493392.30 -26493392.20 -26493392.10 0.3776 0.1410

Saturn -77248-04-08 22:04 J -26493310.70 -26493310.58 -26493310.45 0.0281 0.0055

Saturn -77248-07-06 09:20 J -26493222.22 -26493222.11 -26493222.01 0.0280 0.0162

Saturn -77248-10-02 20:23 J -26493133.68 -26493133.65 -26493133.62 0.0279 0.0268

Neptune -77248-12-25 10:04 J -26493050.09 -26493050.08 -26493050.07 0.0089 0.0088

Neptune -77247-03-23 11:16 J -26492962.06 -26492962.03 -26492961.98 0.0089 0.0084

Jupiter -77247-05-13 12:28 J -26492911.16 -26492910.98 -26492910.79 0.0493 0.0039

Neptune -77247-06-19 12:42 J -26492874.03 -26492873.97 -26492873.91 0.0089 0.0079

Jupiter -77247-08-11 19:54 J -26492820.69 -26492820.67 -26492820.63 0.0494 0.0487

Neptune -77247-09-15 13:40 J -26492785.98 -26492785.93 -26492785.85 0.0089 0.0075

Neptune -77247-12-12 15:20 J -26492697.94 -26492697.86 -26492697.78 0.0089 0.0070

Neptune -77246-03-10 16:18 J -26492609.89 -26492609.82 -26492609.72 0.0089 0.0066

Neptune -77246-06-06 17:59 J -26492521.85 -26492521.75 -26492521.66 0.0089 0.0061

Neptune -77246-09-02 18:56 J -26492433.80 -26492433.71 -26492433.60 0.0089 0.0057

Neptune -77246-11-29 20:23 J -26492345.75 -26492345.65 -26492345.54 0.0089 0.0052

Neptune -77245-02-25 21:35 J -26492257.70 -26492257.60 -26492257.48 0.0089 0.0048

Neptune -77245-05-23 23:01 J -26492169.65 -26492169.54 -26492169.42 0.0089 0.0043

Neptune -77245-08-20 00:13 J -26492081.60 -26492081.49 -26492081.36 0.0089 0.0039

Neptune -77245-11-16 01:40 J -26491993.55 -26491993.43 -26491993.30 0.0089 0.0034

Mars -77244-01-08 21:06 J -26491939.72 -26491939.62 -26491939.52 0.1679 0.1334

Venus -77244-01-15 09:20 J -26491933.17 -26491933.11 -26491933.05 0.3593 0.3206

Neptune -77244-02-12 03:06 J -26491905.50 -26491905.37 -26491905.25 0.0089 0.0029

Neptune -77244-05-11 04:18 J -26491817.44 -26491817.32 -26491817.19 0.0089 0.0025

Neptune -77244-08-07 05:44 J -26491729.39 -26491729.26 -26491729.13 0.0089 0.0020

Neptune -77244-11-03 06:56 J -26491641.34 -26491641.21 -26491641.08 0.0089 0.0016

Mars -77244-11-06 20:52 J -26491637.70 -26491637.63 -26491637.56 0.1861 0.1487

Neptune -77243-01-30 08:23 J -26491553.28 -26491553.15 -26491553.02 0.0089 0.0011

Neptune -77243-04-28 09:35 J -26491465.23 -26491465.10 -26491464.96 0.0089 0.0007

Neptune -77243-07-25 11:01 J -26491377.17 -26491377.04 -26491376.91 0.0089 0.0002

Venus -77243-08-03 01:40 J -26491368.51 -26491368.43 -26491368.35 0.3772 0.2703

Neptune -77243-10-21 12:13 J -26491289.12 -26491288.99 -26491288.85 0.0089 0.0004

Neptune -77242-01-17 13:40 J -26491201.06 -26491200.93 -26491200.80 0.0089 0.0008

Neptune -77242-04-15 14:52 J -26491113.01 -26491112.88 -26491112.74 0.0089 0.0013

Neptune -77242-07-12 16:18 J -26491024.95 -26491024.82 -26491024.69 0.0089 0.0017

Neptune -77242-10-08 17:30 J -26490936.89 -26490936.77 -26490936.63 0.0089 0.0022

Jupiter -77241-01-04 11:44 J -26490849.10 -26490849.01 -26490848.92 0.0534 0.0365

Neptune -77241-01-04 18:56 J -26490848.83 -26490848.71 -26490848.58 0.0089 0.0026

Neptune -77241-04-01 20:08 J -26490760.77 -26490760.66 -26490760.53 0.0089 0.0031

Earth -77241-04-02 11:44 J -26490760.10 -26490760.01 -26490759.91 0.2741 0.1282

Moon -77241-04-02 12:28 J -26490760.07 -26490759.98 -26490759.89 0.2737 0.1415 *

Jupiter -77241-04-02 18:42 J -26490759.85 -26490759.72 -26490759.59 0.0533 0.0084

Neptune -77241-06-28 21:35 J -26490672.72 -26490672.60 -26490672.47 0.0089 0.0036

Neptune -77241-09-24 23:01 J -26490584.66 -26490584.54 -26490584.42 0.0089 0.0040

Neptune -77241-12-22 00:13 J -26490496.60 -26490496.49 -26490496.37 0.0089 0.0045

Neptune -77240-03-20 01:25 J -26490408.54 -26490408.44 -26490408.32 0.0089 0.0050

Neptune -77240-06-16 03:06 J -26490320.47 -26490320.37 -26490320.26 0.0089 0.0054

Neptune -77240-09-12 04:18 J -26490232.41 -26490232.32 -26490232.21 0.0089 0.0059

Neptune -77240-12-09 05:44 J -26490144.35 -26490144.26 -26490144.16 0.0089 0.0063

Neptune -77239-03-07 06:56 J -26490056.28 -26490056.21 -26490056.12 0.0089 0.0068

Neptune -77239-06-03 08:08 J -26489968.22 -26489968.16 -26489968.07 0.0089 0.0073

Venus -77239-08-01 10:47 J -26489909.18 -26489909.05 -26489908.92 0.3596 0.1275

Neptune -77239-08-30 09:49 J -26489880.15 -26489880.09 -26489880.02 0.0089 0.0077

Neptune -77239-11-26 11:01 J -26489792.08 -26489792.04 -26489791.98 0.0089 0.0082

Neptune -77238-02-22 12:13 J -26489704.00 -26489703.99 -26489703.95 0.0089 0.0087

Jupiter -77235-03-01 10:18 J -26488601.24 -26488601.07 -26488600.90 0.0493 0.0169

Jupiter -77235-05-30 18:13 J -26488510.87 -26488510.74 -26488510.62 0.0494 0.0359

Mars -77235-05-31 22:04 J -26488509.74 -26488509.58 -26488509.42 0.1671 0.0349

Earth -77234-03-27 10:32 J -26488210.12 -26488210.06 -26488210.00 0.2737 0.2207

Moon -77234-03-27 10:47 J -26488210.11 -26488210.05 -26488209.99 0.2744 0.2223 *

Mars -77234-03-30 05:01 J -26488207.40 -26488207.29 -26488207.18 0.1870 0.0624

Venus -77233-02-15 11:59 J -26487885.13 -26487885.00 -26487884.86 0.3600 0.0603

Saturn -77233-10-24 02:08 J -26487633.54 -26487633.41 -26487633.27 0.0279 0.0194

Saturn -77232-01-21 01:54 J -26487544.61 -26487544.42 -26487544.24 0.0280 0.0038

Saturn -77232-04-20 01:11 J -26487455.61 -26487455.45 -26487455.27 0.0281 0.0120

Saturn -77232-07-18 00:42 J -26487366.49 -26487366.47 -26487366.43 0.0282 0.0277

Moon -77231-09-27 08:52 J -26486930.29 -26486930.13 -26486929.97 0.2593 0.0616

Earth -77231-09-27 10:18 J -26486930.23 -26486930.07 -26486929.91 0.2597 0.0464 *

Jupiter -77230-10-23 15:35 J -26486538.90 -26486538.85 -26486538.80 0.0535 0.0479

Jupiter -77229-01-20 22:32 J -26486449.69 -26486449.56 -26486449.44 0.0534 0.0036

Jupiter -77229-04-19 05:44 J -26486360.34 -26486360.26 -26486360.18 0.0533 0.0422

Moon -77228-04-05 05:59 J -26486009.29 -26486009.25 -26486009.20 0.2734 0.2485

Earth -77228-04-05 05:59 J -26486009.28 -26486009.25 -26486009.21 0.2741 0.2554 *

Venus -77228-08-31 12:42 J -26485861.07 -26485860.97 -26485860.87 0.3604 0.2373

Mars -77226-10-21 23:01 J -26485079.70 -26485079.54 -26485079.39 0.1664 0.0634

Uranus -77226-11-28 07:54 J -26485042.21 -26485042.17 -26485042.11 0.0137 0.0125

Uranus -77225-02-24 11:16 J -26484954.11 -26484954.03 -26484953.95 0.0137 0.0108

Uranus -77225-05-22 14:23 J -26484865.99 -26484865.90 -26484865.79 0.0137 0.0092

Uranus -77225-08-18 17:44 J -26484777.87 -26484777.76 -26484777.65 0.0137 0.0075

Mars -77225-08-19 13:25 J -26484777.06 -26484776.94 -26484776.83 0.1879 0.0227

Uranus -77225-11-14 21:06 J -26484689.74 -26484689.62 -26484689.50 0.0137 0.0058

Uranus -77224-02-11 00:13 J -26484601.61 -26484601.49 -26484601.36 0.0137 0.0042

Uranus -77224-05-10 03:35 J -26484513.48 -26484513.35 -26484513.22 0.0137 0.0025

Uranus -77224-08-06 06:56 J -26484425.35 -26484425.21 -26484425.08 0.0137 0.0008

Uranus -77224-11-02 10:18 J -26484337.21 -26484337.07 -26484336.94 0.0138 0.0010

Jupiter -77224-12-18 07:54 J -26484291.31 -26484291.17 -26484291.02 0.0492 0.0298

Uranus -77223-01-29 13:40 J -26484249.07 -26484248.93 -26484248.80 0.0138 0.0027

Jupiter -77223-03-18 16:04 J -26484200.99 -26484200.83 -26484200.67 0.0493 0.0231

Uranus -77223-04-27 16:47 J -26484160.92 -26484160.80 -26484160.67 0.0138 0.0045

Uranus -77223-07-24 20:08 J -26484072.77 -26484072.66 -26484072.53 0.0138 0.0062

Uranus -77223-10-20 23:44 J -26483984.62 -26483984.51 -26483984.40 0.0138 0.0079

Uranus -77222-01-17 03:06 J -26483896.46 -26483896.37 -26483896.27 0.0138 0.0097

Uranus -77222-04-15 06:28 J -26483808.30 -26483808.23 -26483808.15 0.0138 0.0115

Uranus -77222-07-12 10:04 J -26483720.11 -26483720.08 -26483720.04 0.0139 0.0133

Earth -77221-03-29 04:32 J -26483459.41 -26483459.31 -26483459.21 0.2738 0.0973

Moon -77221-03-29 05:01 J -26483459.39 -26483459.29 -26483459.19 0.2744 0.0933 *

Saturn -77219-03-03 01:54 J -26482755.51 -26482755.42 -26482755.33 0.0282 0.0198

Saturn -77219-05-30 12:56 J -26482667.08 -26482666.96 -26482666.83 0.0281 0.0089

Saturn -77219-08-27 00:13 J -26482578.63 -26482578.49 -26482578.36 0.0280 0.0021

Saturn -77219-11-23 11:16 J -26482490.15 -26482490.03 -26482489.91 0.0279 0.0126

Saturn -77218-02-19 22:18 J -26482401.64 -26482401.57 -26482401.50 0.0278 0.0233

Moon -77218-09-30 15:06 J -26482178.98 -26482178.87 -26482178.75 0.2598 0.1696

Earth -77218-09-30 16:47 J -26482178.91 -26482178.80 -26482178.68 0.2595 0.1810 *

Jupiter -77218-11-09 02:37 J -26482139.51 -26482139.39 -26482139.27 0.0534 0.0140

Jupiter -77217-02-06 09:49 J -26482050.19 -26482050.09 -26482049.98 0.0533 0.0314

Mars -77216-03-12 23:59 J -26481649.54 -26481649.50 -26481649.46 0.1658 0.1596

Mars -77215-01-09 21:35 J -26481346.69 -26481346.60 -26481346.51 0.1887 0.1101

Venus -77214-06-26 05:01 J -26480814.35 -26480814.29 -26480814.22 0.3788 0.3064

Jupiter -77212-10-06 05:16 J -26479981.36 -26479981.28 -26479981.19 0.0492 0.0431

Jupiter -77211-01-04 13:40 J -26479891.11 -26479890.93 -26479890.75 0.0493 0.0099

Venus -77208-01-08 23:01 J -26478790.64 -26478790.54 -26478790.45 0.3785 0.1893

Earth -77208-03-31 22:32 J -26478708.67 -26478708.56 -26478708.45 0.2739 0.0280

Moon -77208-03-31 23:16 J -26478708.64 -26478708.53 -26478708.42 0.2738 0.0416 *

Jupiter -77206-08-28 06:56 J -26477829.32 -26477829.21 -26477829.09 0.0535 0.0246

Jupiter -77206-11-25 14:08 J -26477740.03 -26477739.91 -26477739.79 0.0534 0.0207

Mars -77205-07-09 21:35 J -26477512.67 -26477512.60 -26477512.52 0.1679 0.1468

Mars -77204-05-07 20:52 J -26477210.69 -26477210.63 -26477210.57 0.1861 0.1585

Saturn -77203-03-12 21:06 J -26476901.68 -26476901.62 -26476901.55 0.0279 0.0260

Saturn -77203-06-09 20:52 J -26476812.80 -26476812.63 -26476812.45 0.0280 0.0104

Venus -77203-07-25 17:01 J -26476766.90 -26476766.79 -26476766.69 0.3782 0.0686

Saturn -77203-09-06 20:23 J -26476723.83 -26476723.65 -26476723.46 0.0280 0.0053

Saturn -77203-12-04 19:54 J -26476634.79 -26476634.67 -26476634.54 0.0281 0.0210

Jupiter -77200-10-23 11:44 J -26475581.19 -26475581.01 -26475580.83 0.0493 0.0028

Moon -77198-09-25 08:52 J -26474879.20 -26474879.13 -26474879.06 0.2592 0.2338

Earth -77198-09-25 10:04 J -26474879.15 -26474879.08 -26474879.01 0.2598 0.2330 *

Venus -77197-02-08 11:01 J -26474743.15 -26474743.04 -26474742.93 0.3779 0.0561

Mars -77196-11-29 22:47 J -26474082.71 -26474082.55 -26474082.40 0.1671 0.0487

Earth -77195-04-03 16:47 J -26473957.89 -26473957.80 -26473957.71 0.2740 0.1542

Moon -77195-04-03 17:16 J -26473957.87 -26473957.78 -26473957.69 0.2736 0.1537 *

Mars -77195-09-28 05:01 J -26473780.39 -26473780.29 -26473780.18 0.1870 0.0739

Jupiter -77194-06-16 11:01 J -26473519.14 -26473519.04 -26473518.95 0.0534 0.0358

Jupiter -77194-09-13 17:59 J -26473429.88 -26473429.75 -26473429.63 0.0533 0.0092

Venus -77192-08-24 05:16 J -26472719.37 -26472719.28 -26472719.18 0.3775 0.1841

Saturn -77190-07-21 03:35 J -26472023.42 -26472023.35 -26472023.29 0.0283 0.0238

Saturn -77190-10-17 14:37 J -26471935.01 -26471934.89 -26471934.77 0.0283 0.0128

Saturn -77189-01-14 01:40 J -26471846.56 -26471846.43 -26471846.30 0.0282 0.0021

Saturn -77189-04-11 12:56 J -26471758.09 -26471757.96 -26471757.84 0.0281 0.0090

Saturn -77189-07-08 23:59 J -26471669.59 -26471669.50 -26471669.41 0.0280 0.0197

Earth -77188-03-27 15:20 J -26471407.93 -26471407.86 -26471407.78 0.2737 0.1954

Moon -77188-03-27 15:35 J -26471407.92 -26471407.85 -26471407.77 0.2745 0.1897 *

Jupiter -77188-08-11 09:06 J -26471271.29 -26471271.12 -26471270.94 0.0493 0.0162

Venus -77188-08-22 09:20 J -26471260.20 -26471260.11 -26471260.01 0.3593 0.2592

Jupiter -77188-11-09 17:01 J -26471180.91 -26471180.79 -26471180.66 0.0494 0.0367

Venus -77186-03-09 23:59 J -26470695.56 -26470695.50 -26470695.44 0.3771 0.3137

Mars -77186-04-21 23:44 J -26470652.67 -26470652.51 -26470652.35 0.1664 0.0490

Uranus -77186-07-17 05:16 J -26470566.34 -26470566.28 -26470566.19 0.0142 0.0130

Uranus -77186-10-13 13:11 J -26470478.06 -26470477.95 -26470477.80 0.0142 0.0103

Uranus -77185-01-09 21:20 J -26470389.76 -26470389.61 -26470389.44 0.0142 0.0076

Mars -77185-02-18 13:25 J -26470350.06 -26470349.94 -26470349.83 0.1878 0.0144

Uranus -77185-04-07 05:16 J -26470301.45 -26470301.28 -26470301.09 0.0141 0.0049

Uranus -77185-07-04 13:25 J -26470213.13 -26470212.94 -26470212.75 0.0141 0.0021

Moon -77185-09-27 15:20 J -26470128.02 -26470127.86 -26470127.70 0.2595 0.0200

Earth -77185-09-27 17:01 J -26470127.95 -26470127.79 -26470127.63 0.2596 0.0070 *

Uranus -77185-09-30 21:20 J -26470124.80 -26470124.61 -26470124.42 0.0141 0.0006

Uranus -77185-12-28 05:01 J -26470036.48 -26470036.29 -26470036.11 0.0141 0.0031

Uranus -77184-03-26 12:28 J -26469948.14 -26469947.98 -26469947.80 0.0141 0.0058

Uranus -77184-06-22 20:08 J -26469859.80 -26469859.66 -26469859.50 0.0141 0.0084

Uranus -77184-09-19 03:49 J -26469771.45 -26469771.34 -26469771.22 0.0141 0.0109

Uranus -77184-12-16 11:01 J -26469683.07 -26469683.04 -26469682.97 0.0140 0.0135

Venus -77182-03-08 11:01 J -26469236.18 -26469236.04 -26469235.91 0.3597 0.0668

Jupiter -77182-04-04 14:52 J -26469208.94 -26469208.88 -26469208.82 0.0534 0.0468

Jupiter -77182-07-02 21:49 J -26469119.72 -26469119.59 -26469119.46 0.0533 0.0023

Jupiter -77182-09-30 05:01 J -26469030.36 -26469030.29 -26469030.21 0.0532 0.0431

Mars -77177-09-11 00:42 J -26467222.55 -26467222.47 -26467222.39 0.1657 0.1458

Venus -77177-09-21 11:59 J -26467212.13 -26467212.00 -26467211.87 0.3601 0.1177

Jupiter -77176-05-30 06:42 J -26466961.36 -26466961.22 -26466961.07 0.0493 0.0293

Mars -77176-07-10 21:35 J -26466919.70 -26466919.60 -26466919.50 0.1887 0.1000

Jupiter -77176-08-28 15:06 J -26466871.03 -26466870.87 -26466870.71 0.0493 0.0237

Earth -77175-03-30 09:20 J -26466657.21 -26466657.11 -26466657.00 0.2739 0.0718

Moon -77175-03-30 10:04 J -26466657.19 -26466657.08 -26466656.98 0.2742 0.0655 *

Saturn -77174-10-27 19:54 J -26466080.83 -26466080.67 -26466080.51 0.0279 0.0144

Saturn -77173-01-24 19:25 J -26465991.88 -26465991.69 -26465991.50 0.0280 0.0013

Saturn -77173-04-22 18:56 J -26465902.86 -26465902.71 -26465902.56 0.0281 0.0169

Moon -77172-09-30 21:49 J -26465376.68 -26465376.59 -26465376.49 0.2598 0.2063

Earth -77172-09-30 23:30 J -26465376.59 -26465376.52 -26465376.44 0.2595 0.2265 *

Pluto -77172-12-06 23:30 J -26465309.55 -26465309.52 -26465309.44 0.0060 0.0057

Pluto -77171-03-05 01:11 J -26465221.54 -26465221.45 -26465221.34 0.0060 0.0051

Venus -77171-04-07 12:28 J -26465188.05 -26465187.98 -26465187.90 0.3605 0.2947

Pluto -77171-06-01 02:08 J -26465133.51 -26465133.41 -26465133.26 0.0060 0.0046

Pluto -77171-08-28 03:35 J -26465045.47 -26465045.35 -26465045.19 0.0060 0.0041

Pluto -77171-11-24 05:16 J -26464957.43 -26464957.28 -26464957.12 0.0060 0.0034

Pluto -77170-02-20 06:13 J -26464869.39 -26464869.24 -26464869.06 0.0060 0.0029

Jupiter -77170-04-21 01:25 J -26464809.56 -26464809.44 -26464809.32 0.0534 0.0137

Pluto -77170-05-19 07:40 J -26464781.34 -26464781.18 -26464780.99 0.0060 0.0023

Jupiter -77170-07-19 08:37 J -26464720.24 -26464720.14 -26464720.04 0.0533 0.0315

Pluto -77170-08-15 09:06 J -26464693.29 -26464693.12 -26464692.93 0.0060 0.0018

Pluto -77170-11-11 10:32 J -26464605.24 -26464605.06 -26464604.87 0.0060 0.0012

Pluto -77169-02-07 11:59 J -26464517.19 -26464517.00 -26464516.81 0.0060 0.0006

Pluto -77169-05-05 13:11 J -26464429.13 -26464428.95 -26464428.75 0.0061 0.0002

Pluto -77169-08-01 14:37 J -26464341.08 -26464340.89 -26464340.70 0.0061 0.0006

Pluto -77169-10-28 15:49 J -26464253.02 -26464252.84 -26464252.64 0.0061 0.0012

Pluto -77168-01-24 17:16 J -26464164.95 -26464164.78 -26464164.59 0.0061 0.0018

Pluto -77168-04-22 18:28 J -26464076.89 -26464076.73 -26464076.54 0.0061 0.0024

Pluto -77168-07-19 20:08 J -26463988.82 -26463988.66 -26463988.49 0.0061 0.0029

Pluto -77168-10-15 21:35 J -26463900.75 -26463900.60 -26463900.44 0.0061 0.0035

Pluto -77167-01-11 22:47 J -26463812.68 -26463812.55 -26463812.40 0.0061 0.0042

Pluto -77167-04-10 00:13 J -26463724.60 -26463724.49 -26463724.36 0.0061 0.0048

Pluto -77167-07-07 01:40 J -26463636.51 -26463636.43 -26463636.33 0.0061 0.0054

Pluto -77167-10-03 03:20 J -26463548.40 -26463548.36 -26463548.32 0.0061 0.0060

Mars -77167-12-01 05:59 J -26463489.27 -26463489.25 -26463489.24 0.1895 0.1874

Mars -77165-01-08 22:18 J -26463085.62 -26463085.57 -26463085.53 0.1679 0.1601

Mars -77165-11-05 20:52 J -26462783.68 -26462783.63 -26462783.58 0.1862 0.1693

Jupiter -77164-03-18 04:18 J -26462651.41 -26462651.32 -26462651.22 0.0492 0.0423

Neptune -77164-06-11 02:08 J -26462566.46 -26462566.41 -26462566.33 0.0089 0.0084

Jupiter -77164-06-16 12:56 J -26462561.14 -26462560.96 -26462560.78 0.0493 0.0109

Neptune -77164-09-07 05:59 J -26462478.33 -26462478.25 -26462478.14 0.0089 0.0077

Neptune -77164-12-04 09:49 J -26462390.20 -26462390.09 -26462389.96 0.0089 0.0070

Neptune -77163-03-02 13:40 J -26462302.06 -26462301.93 -26462301.79 0.0089 0.0063

Neptune -77163-05-29 17:01 J -26462213.92 -26462213.79 -26462213.62 0.0089 0.0057

Neptune -77163-08-25 20:52 J -26462125.78 -26462125.63 -26462125.46 0.0089 0.0050

Neptune -77163-11-22 00:42 J -26462037.64 -26462037.47 -26462037.29 0.0089 0.0043

Neptune -77162-02-18 04:32 J -26461949.49 -26461949.31 -26461949.13 0.0089 0.0036

Earth -77162-04-02 03:20 J -26461906.46 -26461906.36 -26461906.25 0.2740 0.0541

Moon -77162-04-02 04:04 J -26461906.43 -26461906.33 -26461906.22 0.2739 0.0600 *

Neptune -77162-05-17 07:54 J -26461861.34 -26461861.17 -26461860.97 0.0089 0.0030

Neptune -77162-08-13 11:44 J -26461773.19 -26461773.01 -26461772.81 0.0089 0.0023

Neptune -77162-11-09 15:35 J -26461685.04 -26461684.85 -26461684.66 0.0089 0.0016

Neptune -77161-02-05 19:11 J -26461596.89 -26461596.70 -26461596.50 0.0089 0.0009

Neptune -77161-05-03 23:01 J -26461508.74 -26461508.54 -26461508.35 0.0089 0.0002

Neptune -77161-07-31 02:37 J -26461420.59 -26461420.39 -26461420.19 0.0089 0.0005

Neptune -77161-10-27 06:13 J -26461332.43 -26461332.24 -26461332.04 0.0089 0.0011

Saturn -77161-12-07 05:44 J -26461291.30 -26461291.26 -26461291.23 0.0283 0.0271

Neptune -77160-01-23 09:49 J -26461244.28 -26461244.09 -26461243.89 0.0089 0.0018

Saturn -77160-03-05 16:47 J -26461202.91 -26461202.80 -26461202.69 0.0282 0.0161

Neptune -77160-04-21 13:25 J -26461156.12 -26461155.94 -26461155.75 0.0089 0.0025

Saturn -77160-06-02 03:49 J -26461114.46 -26461114.34 -26461114.21 0.0281 0.0053

Neptune -77160-07-18 17:01 J -26461067.96 -26461067.79 -26461067.60 0.0089 0.0032

Saturn -77160-08-29 15:06 J -26461026.00 -26461025.87 -26461025.74 0.0280 0.0057

Neptune -77160-10-14 20:52 J -26460979.81 -26460979.63 -26460979.46 0.0089 0.0038

Saturn -77160-11-26 02:08 J -26460937.51 -26460937.41 -26460937.30 0.0279 0.0164

Neptune -77159-01-11 00:13 J -26460891.65 -26460891.49 -26460891.31 0.0089 0.0045

Saturn -77159-02-22 13:11 J -26460848.97 -26460848.95 -26460848.92 0.0278 0.0271

Neptune -77159-04-09 03:35 J -26460803.49 -26460803.35 -26460803.17 0.0089 0.0052

Neptune -77159-07-06 07:40 J -26460715.33 -26460715.18 -26460715.03 0.0089 0.0058

Neptune -77159-10-02 11:01 J -26460627.16 -26460627.04 -26460626.90 0.0089 0.0065

Neptune -77159-12-29 14:23 J -26460538.99 -26460538.90 -26460538.77 0.0089 0.0072

Jupiter -77158-02-07 05:30 J -26460499.38 -26460499.27 -26460499.15 0.0534 0.0247

Neptune -77158-03-27 18:13 J -26460450.82 -26460450.74 -26460450.64 0.0089 0.0078

Jupiter -77158-05-07 12:42 J -26460410.09 -26460409.97 -26460409.85 0.0533 0.0205

Neptune -77158-06-23 21:20 J -26460362.64 -26460362.61 -26460362.53 0.0089 0.0085

Venus -77157-01-31 03:06 J -26460141.44 -26460141.37 -26460141.29 0.3787 0.2687

Mars -77156-05-30 23:16 J -26459655.68 -26459655.53 -26459655.38 0.1672 0.0615

Mars -77155-03-29 05:16 J -26459353.39 -26459353.28 -26459353.18 0.1870 0.0842

Jupiter -77152-04-04 10:18 J -26458251.25 -26458251.07 -26458250.88 0.0493 0.0025

Venus -77152-08-15 21:06 J -26458117.72 -26458117.62 -26458117.52 0.3784 0.1500

Moon -77152-09-25 15:35 J -26458076.95 -26458076.85 -26458076.75 0.2592 0.2064

Earth -77152-09-25 16:32 J -26458076.92 -26458076.81 -26458076.70 0.2598 0.1865 *

Earth -77149-04-03 21:35 J -26457155.68 -26457155.60 -26457155.52 0.2741 0.1799

Moon -77149-04-03 21:49 J -26457155.67 -26457155.59 -26457155.51 0.2734 0.1885 *

Mars -77147-10-21 00:28 J -26456225.64 -26456225.48 -26456225.32 0.1665 0.0349

Jupiter -77147-11-26 10:04 J -26456189.18 -26456189.08 -26456188.99 0.0535 0.0353

Jupiter -77146-02-23 17:01 J -26456099.92 -26456099.79 -26456099.67 0.0534 0.0098

Venus -77146-03-01 15:06 J -26456093.98 -26456093.87 -26456093.77 0.3781 0.0316

Mars -77146-08-19 13:25 J -26455923.06 -26455922.94 -26455922.83 0.1878 0.0040

Saturn -77144-03-15 15:35 J -26455348.97 -26455348.85 -26455348.72 0.0279 0.0206

Saturn -77144-06-12 15:20 J -26455260.05 -26455259.86 -26455259.67 0.0280 0.0049

Saturn -77144-09-09 14:52 J -26455171.05 -26455170.88 -26455170.71 0.0281 0.0107

Saturn -77144-12-07 13:54 J -26455081.97 -26455081.92 -26455081.84 0.0282 0.0265

Earth -77142-03-28 20:08 J -26454605.74 -26454605.66 -26454605.57 0.2737 0.1701

Moon -77142-03-28 20:23 J -26454605.73 -26454605.65 -26454605.56 0.2745 0.1726 *

Uranus -77142-12-18 14:52 J -26454340.94 -26454340.88 -26454340.83 0.0137 0.0123

Uranus -77141-03-15 17:59 J -26454252.83 -26454252.75 -26454252.67 0.0137 0.0106

Uranus -77141-06-11 21:06 J -26454164.71 -26454164.62 -26454164.51 0.0137 0.0090

Uranus -77141-09-08 00:13 J -26454076.59 -26454076.49 -26454076.37 0.0137 0.0074

Venus -77141-09-14 09:06 J -26454070.22 -26454070.12 -26454070.01 0.3778 0.0986

Uranus -77141-12-05 03:35 J -26453988.46 -26453988.35 -26453988.22 0.0137 0.0057

Jupiter -77140-01-21 08:23 J -26453941.33 -26453941.15 -26453940.98 0.0493 0.0153

Uranus -77140-03-03 06:56 J -26453900.33 -26453900.21 -26453900.08 0.0137 0.0040

Jupiter -77140-04-21 16:04 J -26453850.94 -26453850.83 -26453850.71 0.0494 0.0375

Uranus -77140-05-30 10:18 J -26453812.20 -26453812.07 -26453811.94 0.0137 0.0023

Uranus -77140-08-26 13:40 J -26453724.07 -26453723.93 -26453723.80 0.0137 0.0006

Uranus -77140-11-22 17:01 J -26453635.93 -26453635.79 -26453635.66 0.0138 0.0012

Uranus -77139-02-18 20:08 J -26453547.79 -26453547.66 -26453547.52 0.0138 0.0029

Uranus -77139-05-17 23:30 J -26453459.64 -26453459.52 -26453459.39 0.0138 0.0046

Uranus -77139-08-14 03:06 J -26453371.49 -26453371.37 -26453371.25 0.0138 0.0064

Moon -77139-09-28 21:49 J -26453325.75 -26453325.59 -26453325.43 0.2596 0.0346

Earth -77139-09-28 23:30 J -26453325.68 -26453325.52 -26453325.36 0.2596 0.0446 *

Uranus -77139-11-10 06:13 J -26453283.34 -26453283.24 -26453283.12 0.0138 0.0081

Uranus -77138-02-06 09:49 J -26453195.18 -26453195.09 -26453195.00 0.0138 0.0099

Uranus -77138-05-05 13:11 J -26453107.02 -26453106.95 -26453106.88 0.0138 0.0117

Uranus -77138-08-01 16:32 J -26453018.83 -26453018.81 -26453018.77 0.0139 0.0135

Mars -77137-03-12 01:25 J -26452795.54 -26452795.44 -26452795.35 0.1658 0.1326

Mars -77136-01-08 21:35 J -26452492.70 -26452492.60 -26452492.50 0.1887 0.0897

Venus -77135-03-31 03:35 J -26452046.44 -26452046.35 -26452046.26 0.3774 0.2260

Jupiter -77135-09-14 13:54 J -26451878.98 -26451878.92 -26451878.85 0.0534 0.0463

Jupiter -77135-12-12 20:52 J -26451789.76 -26451789.63 -26451789.50 0.0533 0.0015

Jupiter -77134-03-12 04:04 J -26451700.40 -26451700.33 -26451700.25 0.0532 0.0437

Venus -77131-03-29 09:35 J -26450587.22 -26450587.10 -26450586.98 0.3594 0.1969

Saturn -77131-07-23 18:13 J -26450470.83 -26450470.74 -26450470.64 0.0283 0.0201

Saturn -77131-10-20 05:30 J -26450382.39 -26450382.27 -26450382.15 0.0282 0.0091

Saturn -77130-01-16 16:32 J -26450293.94 -26450293.81 -26450293.68 0.0282 0.0020

Saturn -77130-04-15 03:49 J -26450205.46 -26450205.34 -26450205.22 0.0281 0.0127

Saturn -77130-07-12 14:52 J -26450116.95 -26450116.88 -26450116.81 0.0280 0.0235

Venus -77130-10-14 22:04 J -26450022.61 -26450022.58 -26450022.54 0.3770 0.3580

Earth -77129-03-30 14:08 J -26449855.01 -26449854.91 -26449854.80 0.2739 0.0468

Moon -77129-03-30 14:52 J -26449854.99 -26449854.88 -26449854.77 0.2741 0.0346 *

Jupiter -77129-11-09 05:16 J -26449631.42 -26449631.28 -26449631.13 0.0493 0.0290

Jupiter -77128-02-07 13:40 J -26449541.09 -26449540.93 -26449540.77 0.0494 0.0242

Mars -77127-06-01 05:44 J -26449062.29 -26449062.26 -26449062.22 0.1895 0.1783

Moon -77126-10-02 04:32 J -26448574.33 -26448574.31 -26448574.30 0.2597 0.2571

Venus -77126-10-13 11:01 J -26448563.18 -26448563.04 -26448562.90 0.3598 0.0057

Mars -77125-05-06 20:52 J -26448356.66 -26448356.63 -26448356.60 0.1861 0.1794

Jupiter -77123-10-01 00:42 J -26447479.59 -26447479.47 -26447479.34 0.0533 0.0128

Jupiter -77123-12-29 07:54 J -26447390.27 -26447390.17 -26447390.07 0.0532 0.0323

Venus -77120-04-28 11:59 J -26446539.12 -26446539.00 -26446538.89 0.3602 0.1768

Jupiter -77117-08-28 02:52 J -26445321.47 -26445321.38 -26445321.28 0.0493 0.0422

Jupiter -77117-11-26 11:30 J -26445231.20 -26445231.02 -26445230.84 0.0493 0.0112

Mars -77117-11-28 23:59 J -26445228.64 -26445228.50 -26445228.35 0.1672 0.0763

Earth -77116-04-02 08:23 J -26445104.26 -26445104.15 -26445104.05 0.2740 0.0797

Moon -77116-04-02 09:06 J -26445104.23 -26445104.12 -26445104.02 0.2738 0.0906 *

Mars -77116-09-27 05:01 J -26444926.39 -26444926.29 -26444926.18 0.1870 0.0941

Saturn -77115-08-02 15:06 J -26444616.96 -26444616.87 -26444616.78 0.0278 0.0242

Saturn -77115-10-30 14:37 J -26444528.07 -26444527.89 -26444527.71 0.0279 0.0087

Venus -77115-11-12 12:28 J -26444515.01 -26444514.98 -26444514.96 0.3606 0.3520

Saturn -77114-01-27 14:08 J -26444439.09 -26444438.91 -26444438.72 0.0280 0.0070

Saturn -77114-04-26 13:25 J -26444350.04 -26444349.94 -26444349.82 0.0281 0.0227

Jupiter -77111-07-20 04:18 J -26443169.43 -26443169.32 -26443169.20 0.0534 0.0245

Jupiter -77111-10-17 11:30 J -26443080.14 -26443080.02 -26443079.90 0.0533 0.0206

Earth -77109-03-26 07:11 J -26442554.22 -26442554.20 -26442554.18 0.2736 0.2669

Mars -77107-04-21 00:56 J -26441798.63 -26441798.46 -26441798.30 0.1665 0.0228

Mars -77106-02-17 13:25 J -26441496.05 -26441495.94 -26441495.82 0.1878 0.0087

Venus -77106-02-21 07:25 J -26441492.23 -26441492.19 -26441492.15 0.3790 0.3475

Moon -77106-09-26 22:04 J -26441274.72 -26441274.58 -26441274.45 0.2593 0.1423

Earth -77106-09-26 23:16 J -26441274.66 -26441274.53 -26441274.40 0.2597 0.1407 *

Jupiter -77105-09-14 09:20 J -26440921.30 -26440921.11 -26440920.93 0.0493 0.0021

Earth -77103-04-05 02:23 J -26440353.47 -26440353.40 -26440353.33 0.2741 0.2059

Moon -77103-04-05 02:37 J -26440353.46 -26440353.39 -26440353.32 0.2734 0.2046 *

Uranus -77102-08-06 11:59 J -26439865.08 -26439865.00 -26439864.91 0.0142 0.0126

Uranus -77102-11-02 19:54 J -26439776.79 -26439776.67 -26439776.52 0.0142 0.0099

Saturn -77102-12-10 20:52 J -26439738.71 -26439738.63 -26439738.56 0.0283 0.0232

Uranus -77101-01-30 04:04 J -26439688.49 -26439688.33 -26439688.16 0.0142 0.0072

Saturn -77101-03-08 07:54 J -26439650.29 -26439650.17 -26439650.05 0.0282 0.0122

Uranus -77101-04-27 11:59 J -26439600.17 -26439600.00 -26439599.81 0.0141 0.0045

Saturn -77101-06-04 19:11 J -26439561.83 -26439561.70 -26439561.57 0.0281 0.0014

Uranus -77101-07-24 19:54 J -26439511.85 -26439511.67 -26439511.48 0.0141 0.0018

Saturn -77101-09-01 06:13 J -26439473.36 -26439473.24 -26439473.12 0.0280 0.0096

Venus -77101-09-06 01:11 J -26439468.54 -26439468.45 -26439468.37 0.3787 0.2305

Uranus -77101-10-21 03:49 J -26439423.53 -26439423.34 -26439423.15 0.0141 0.0009

Saturn -77101-11-28 17:16 J -26439384.86 -26439384.78 -26439384.68 0.0280 0.0204

Uranus -77100-01-17 11:30 J -26439335.20 -26439335.02 -26439334.83 0.0141 0.0035

Uranus -77100-04-15 19:11 J -26439246.86 -26439246.70 -26439246.52 0.0141 0.0061

Uranus -77100-07-13 02:52 J -26439158.52 -26439158.38 -26439158.23 0.0141 0.0087

Uranus -77100-10-09 10:18 J -26439070.17 -26439070.07 -26439069.95 0.0141 0.0113

Uranus -77099-01-05 17:59 J -26438981.78 -26438981.75 -26438981.71 0.0140 0.0138

Jupiter -77099-05-08 08:23 J -26438859.24 -26438859.15 -26438859.05 0.0534 0.0355

Jupiter -77099-08-05 15:20 J -26438769.98 -26438769.86 -26438769.73 0.0534 0.0096

Mars -77098-09-11 02:08 J -26438368.53 -26438368.41 -26438368.30 0.1658 0.1189

Mars -77097-07-09 21:35 J -26438065.70 -26438065.60 -26438065.49 0.1886 0.0796

Earth -77096-03-29 01:11 J -26437803.55 -26437803.45 -26437803.36 0.2737 0.1447

Moon -77096-03-29 01:25 J -26437803.53 -26437803.44 -26437803.35 0.2744 0.1354 *

Venus -77095-03-22 19:11 J -26437444.81 -26437444.70 -26437444.60 0.3783 0.1113

Jupiter -77093-07-03 06:42 J -26436611.40 -26436611.22 -26436611.05 0.0493 0.0152

Moon -77093-09-29 04:18 J -26436523.48 -26436523.32 -26436523.17 0.2596 0.0630

Earth -77093-09-29 05:59 J -26436523.40 -26436523.25 -26436523.10 0.2596 0.0901 *

Jupiter -77093-10-01 14:23 J -26436521.01 -26436520.90 -26436520.78 0.0493 0.0376

Venus -77090-10-06 13:11 J -26435421.06 -26435420.95 -26435420.84 0.3780 0.0157

Mars -77088-11-30 05:59 J -26434635.31 -26434635.25 -26434635.20 0.1895 0.1677

Jupiter -77087-02-24 12:42 J -26434549.03 -26434548.97 -26434548.91 0.0535 0.0461

Jupiter -77087-05-24 19:40 J -26434459.81 -26434459.68 -26434459.55 0.0534 0.0013

Jupiter -77087-08-22 03:06 J -26434370.44 -26434370.37 -26434370.30 0.0533 0.0442

Saturn -77085-03-18 11:16 J -26433796.19 -26433796.03 -26433795.87 0.0279 0.0144

Saturn -77085-06-15 10:47 J -26433707.24 -26433707.05 -26433706.86 0.0280 0.0012

Saturn -77085-09-12 10:04 J -26433618.22 -26433618.08 -26433617.92 0.0281 0.0169

Venus -77084-04-21 07:25 J -26433397.29 -26433397.19 -26433397.09 0.3777 0.1399

Earth -77083-03-31 19:11 J -26433052.81 -26433052.70 -26433052.60 0.2739 0.0224

Moon -77083-03-31 19:54 J -26433052.78 -26433052.67 -26433052.57 0.2741 0.0177 *

Neptune -77083-09-21 10:04 J -26432879.11 -26432879.08 -26432879.05 0.0089 0.0086

Neptune -77083-12-18 11:01 J -26432791.07 -26432791.04 -26432790.98 0.0089 0.0082

Neptune -77082-03-16 12:42 J -26432703.03 -26432702.97 -26432702.91 0.0089 0.0077

Neptune -77082-06-12 13:40 J -26432614.99 -26432614.93 -26432614.84 0.0089 0.0073

Neptune -77082-09-08 15:20 J -26432526.94 -26432526.86 -26432526.78 0.0089 0.0068

Neptune -77082-12-05 16:18 J -26432438.90 -26432438.82 -26432438.72 0.0089 0.0064

Neptune -77081-03-02 17:44 J -26432350.85 -26432350.76 -26432350.66 0.0089 0.0059

Jupiter -77081-04-21 04:18 J -26432301.47 -26432301.32 -26432301.17 0.0492 0.0282

Neptune -77081-05-29 18:56 J -26432262.80 -26432262.71 -26432262.60 0.0089 0.0055

Jupiter -77081-07-20 12:28 J -26432211.14 -26432210.98 -26432210.82 0.0493 0.0249

Neptune -77081-08-25 20:23 J -26432174.75 -26432174.65 -26432174.54 0.0089 0.0050

Neptune -77081-11-21 21:35 J -26432086.70 -26432086.60 -26432086.48 0.0089 0.0046

Neptune -77080-02-17 23:01 J -26431998.65 -26431998.54 -26431998.42 0.0089 0.0041

Venus -77080-04-19 07:54 J -26431938.22 -26431938.17 -26431938.11 0.3592 0.3319

Neptune -77080-05-17 00:13 J -26431910.60 -26431910.49 -26431910.36 0.0089 0.0037

Neptune -77080-08-13 01:40 J -26431822.55 -26431822.43 -26431822.30 0.0089 0.0032

Neptune -77080-11-09 03:06 J -26431734.50 -26431734.37 -26431734.25 0.0089 0.0027

Neptune -77079-02-05 04:18 J -26431646.45 -26431646.32 -26431646.19 0.0089 0.0023

Neptune -77079-05-04 05:44 J -26431558.39 -26431558.26 -26431558.13 0.0089 0.0018

Neptune -77079-07-31 06:56 J -26431470.34 -26431470.21 -26431470.08 0.0089 0.0013

Neptune -77079-10-27 08:23 J -26431382.29 -26431382.15 -26431382.02 0.0089 0.0009

Venus -77079-11-05 01:54 J -26431373.50 -26431373.42 -26431373.35 0.3773 0.2697

Neptune -77078-01-23 09:35 J -26431294.23 -26431294.10 -26431293.97 0.0089 0.0004

Neptune -77078-04-21 11:01 J -26431206.18 -26431206.04 -26431205.91 0.0089 0.0003

Neptune -77078-07-18 12:13 J -26431118.12 -26431117.99 -26431117.86 0.0089 0.0005

Pluto -77078-10-05 14:23 J -26431038.95 -26431038.90 -26431038.85 0.0084 0.0077

Neptune -77078-10-14 13:40 J -26431030.06 -26431029.93 -26431029.80 0.0089 0.0010

Pluto -77077-01-01 15:35 J -26430950.92 -26430950.85 -26430950.76 0.0084 0.0066

Neptune -77077-01-10 14:52 J -26430942.01 -26430941.88 -26430941.75 0.0089 0.0014

Pluto -77077-03-29 17:01 J -26430862.89 -26430862.79 -26430862.68 0.0084 0.0054

Neptune -77077-04-07 16:18 J -26430853.95 -26430853.82 -26430853.69 0.0089 0.0019

Mars -77077-05-30 00:42 J -26430801.61 -26430801.47 -26430801.33 0.1672 0.0892

Pluto -77077-06-25 18:13 J -26430774.84 -26430774.74 -26430774.61 0.0084 0.0043

Neptune -77077-07-04 17:30 J -26430765.89 -26430765.77 -26430765.64 0.0089 0.0024

Pluto -77077-09-21 19:54 J -26430686.79 -26430686.67 -26430686.54 0.0084 0.0031

Neptune -77077-09-30 18:56 J -26430677.84 -26430677.71 -26430677.58 0.0089 0.0028

Pluto -77077-12-18 21:20 J -26430598.74 -26430598.61 -26430598.48 0.0084 0.0020

Neptune -77077-12-27 20:08 J -26430589.78 -26430589.66 -26430589.53 0.0089 0.0033

Pluto -77076-03-16 22:47 J -26430510.69 -26430510.55 -26430510.42 0.0084 0.0009

Neptune -77076-03-25 21:20 J -26430501.72 -26430501.61 -26430501.48 0.0089 0.0038

Mars -77076-03-28 05:16 J -26430499.38 -26430499.28 -26430499.19 0.1870 0.1046

Pluto -77076-06-12 23:59 J -26430422.63 -26430422.50 -26430422.36 0.0083 0.0003

Neptune -77076-06-21 22:47 J -26430413.66 -26430413.55 -26430413.43 0.0089 0.0042

Pluto -77076-09-09 01:25 J -26430334.57 -26430334.44 -26430334.31 0.0083 0.0013

Neptune -77076-09-18 00:13 J -26430325.60 -26430325.49 -26430325.37 0.0089 0.0047

Pluto -77076-12-06 02:37 J -26430246.51 -26430246.39 -26430246.25 0.0083 0.0024

Neptune -77076-12-15 01:25 J -26430237.54 -26430237.44 -26430237.32 0.0089 0.0052

Pluto -77075-03-04 03:49 J -26430158.45 -26430158.34 -26430158.21 0.0083 0.0035

Jupiter -77075-03-12 23:44 J -26430149.64 -26430149.51 -26430149.39 0.0533 0.0124

Neptune -77075-03-13 02:52 J -26430149.48 -26430149.38 -26430149.27 0.0089 0.0056 *

Pluto -77075-05-31 05:01 J -26430070.39 -26430070.29 -26430070.16 0.0083 0.0046

Neptune -77075-06-09 04:04 J -26430061.41 -26430061.33 -26430061.22 0.0089 0.0061

Jupiter -77075-06-10 06:56 J -26430060.31 -26430060.21 -26430060.11 0.0532 0.0328

Pluto -77075-08-27 06:42 J -26429982.32 -26429982.22 -26429982.12 0.0083 0.0056

Neptune -77075-09-05 05:30 J -26429973.35 -26429973.27 -26429973.17 0.0089 0.0066

Venus -77075-11-03 09:49 J -26429914.22 -26429914.09 -26429913.96 0.3595 0.1341

Pluto -77075-11-23 07:40 J -26429894.24 -26429894.18 -26429894.09 0.0083 0.0067

Neptune -77075-12-02 06:56 J -26429885.28 -26429885.21 -26429885.12 0.0089 0.0070

Pluto -77074-02-19 09:20 J -26429806.16 -26429806.11 -26429806.07 0.0083 0.0077

Neptune -77074-02-28 08:08 J -26429797.22 -26429797.16 -26429797.08 0.0089 0.0075

Neptune -77074-05-27 09:35 J -26429709.15 -26429709.10 -26429709.03 0.0089 0.0080

Neptune -77074-08-23 11:01 J -26429621.07 -26429621.04 -26429620.99 0.0089 0.0084

Neptune -77074-11-19 12:28 J -26429532.98 -26429532.98 -26429532.97 0.0089 0.0089

Saturn -77072-04-28 22:32 J -26429006.60 -26429006.56 -26429006.53 0.0284 0.0271

Saturn -77072-07-26 09:35 J -26428918.20 -26428918.10 -26428917.99 0.0283 0.0160

Saturn -77072-10-22 20:52 J -26428829.76 -26428829.63 -26428829.50 0.0282 0.0050

Saturn -77071-01-19 07:54 J -26428741.30 -26428741.17 -26428741.04 0.0281 0.0060

Saturn -77071-04-17 19:11 J -26428652.81 -26428652.70 -26428652.60 0.0280 0.0168

Saturn -77071-07-15 06:28 J -26428564.25 -26428564.23 -26428564.22 0.0280 0.0276

Earth -77070-04-03 13:11 J -26428302.05 -26428301.95 -26428301.85 0.2740 0.1054

Moon -77070-04-03 13:40 J -26428302.03 -26428301.93 -26428301.83 0.2736 0.1137 *

Jupiter -77069-02-08 00:56 J -26427991.55 -26427991.46 -26427991.36 0.0493 0.0422

Jupiter -77069-05-08 09:35 J -26427901.27 -26427901.10 -26427900.92 0.0494 0.0113

Venus -77069-05-19 11:01 J -26427890.17 -26427890.04 -26427889.90 0.3599 0.0546

Mars -77068-10-20 01:40 J -26427371.59 -26427371.43 -26427371.26 0.1665 0.0085

Mars -77067-08-18 13:25 J -26427069.06 -26427068.94 -26427068.82 0.1878 0.0178

Venus -77064-12-03 11:44 J -26425866.11 -26425866.01 -26425865.90 0.3603 0.2355

Jupiter -77064-12-30 03:35 J -26425839.46 -26425839.35 -26425839.24 0.0534 0.0236

Moon -77063-03-27 11:59 J -26425752.06 -26425752.00 -26425751.95 0.2744 0.2381

Earth -77063-03-27 11:59 J -26425752.05 -26425752.00 -26425751.95 0.2736 0.2419 *

Jupiter -77063-03-29 10:32 J -26425750.17 -26425750.06 -26425749.94 0.0533 0.0214

Moon -77060-09-27 04:32 J -26424472.46 -26424472.31 -26424472.17 0.2594 0.1175

Earth -77060-09-27 05:59 J -26424472.40 -26424472.25 -26424472.10 0.2597 0.0938 *

Mars -77058-03-12 02:37 J -26423941.51 -26423941.39 -26423941.26 0.1658 0.1053

Uranus -77057-01-07 21:20 J -26423639.66 -26423639.61 -26423639.55 0.0136 0.0122

Mars -77057-01-08 21:35 J -26423638.70 -26423638.60 -26423638.49 0.1887 0.0697

Jupiter -77057-02-25 07:25 J -26423591.38 -26423591.19 -26423591.01 0.0493 0.0020

Uranus -77057-04-05 00:28 J -26423551.55 -26423551.48 -26423551.39 0.0137 0.0106

Earth -77057-04-05 07:11 J -26423551.25 -26423551.20 -26423551.14 0.2741 0.2323

Moon -77057-04-05 07:25 J -26423551.24 -26423551.19 -26423551.13 0.2734 0.2374 *

Uranus -77057-07-02 03:49 J -26423463.44 -26423463.34 -26423463.24 0.0137 0.0089

Uranus -77057-09-28 07:11 J -26423375.31 -26423375.20 -26423375.09 0.0137 0.0072

Uranus -77057-12-25 10:18 J -26423287.19 -26423287.07 -26423286.95 0.0137 0.0056

Uranus -77056-03-23 13:40 J -26423199.06 -26423198.93 -26423198.80 0.0137 0.0039

Uranus -77056-06-19 16:47 J -26423110.93 -26423110.80 -26423110.66 0.0137 0.0022

Saturn -77056-08-05 11:01 J -26423064.18 -26423064.04 -26423063.89 0.0278 0.0178

Uranus -77056-09-15 20:08 J -26423022.79 -26423022.66 -26423022.52 0.0137 0.0005

Saturn -77056-11-02 10:47 J -26422975.24 -26422975.05 -26422974.86 0.0279 0.0021

Uranus -77056-12-12 23:30 J -26422934.65 -26422934.52 -26422934.39 0.0138 0.0012

Saturn -77055-01-30 10:04 J -26422886.24 -26422886.08 -26422885.91 0.0280 0.0136

Uranus -77055-03-11 02:52 J -26422846.51 -26422846.38 -26422846.25 0.0138 0.0030

Uranus -77055-06-07 06:13 J -26422758.37 -26422758.24 -26422758.11 0.0138 0.0047

Uranus -77055-09-03 09:20 J -26422670.22 -26422670.11 -26422669.98 0.0138 0.0065

Uranus -77055-11-30 12:56 J -26422582.07 -26422581.96 -26422581.85 0.0138 0.0082

Uranus -77054-02-26 16:18 J -26422493.91 -26422493.82 -26422493.72 0.0138 0.0100

Uranus -77054-05-25 19:54 J -26422405.74 -26422405.67 -26422405.60 0.0138 0.0118

Uranus -77054-08-21 23:16 J -26422317.55 -26422317.53 -26422317.50 0.0139 0.0136

Jupiter -77052-10-18 07:11 J -26421529.30 -26421529.20 -26421529.11 0.0534 0.0355

Jupiter -77051-01-15 14:08 J -26421440.04 -26421439.91 -26421439.79 0.0533 0.0097

Earth -77050-03-30 05:59 J -26421001.35 -26421001.25 -26421001.16 0.2738 0.1191

Moon -77050-03-30 06:28 J -26421001.33 -26421001.23 -26421001.14 0.2743 0.1197 *

Venus -77050-09-28 05:30 J -26420819.33 -26420819.27 -26420819.21 0.3789 0.3103

Mars -77048-05-31 05:59 J -26420208.31 -26420208.25 -26420208.19 0.1894 0.1565

Moon -77047-09-30 11:01 J -26419721.18 -26419721.04 -26419720.91 0.2596 0.1277

Earth -77047-09-30 12:42 J -26419721.11 -26419720.97 -26419720.83 0.2596 0.1356 *

Jupiter -77046-12-14 05:01 J -26419281.46 -26419281.29 -26419281.11 0.0493 0.0150

Jupiter -77045-03-13 12:56 J -26419191.07 -26419190.96 -26419190.84 0.0494 0.0379

Venus -77044-04-12 23:16 J -26418795.62 -26418795.53 -26418795.44 0.3786 0.1917

Saturn -77043-12-13 12:28 J -26418186.08 -26418185.98 -26418185.88 0.0283 0.0188

Saturn -77042-03-11 23:30 J -26418097.64 -26418097.52 -26418097.39 0.0282 0.0078

Saturn -77042-06-08 10:47 J -26418009.18 -26418009.05 -26418008.92 0.0281 0.0032

Saturn -77042-09-04 22:04 J -26417920.70 -26417920.58 -26417920.47 0.0280 0.0141

Saturn -77042-12-02 09:06 J -26417832.18 -26417832.12 -26417832.06 0.0279 0.0248

Jupiter -77040-08-06 11:01 J -26417219.10 -26417219.04 -26417218.98 0.0534 0.0466

Jupiter -77040-11-03 17:59 J -26417129.88 -26417129.75 -26417129.62 0.0534 0.0018

Jupiter -77039-02-01 01:11 J -26417040.52 -26417040.45 -26417040.37 0.0533 0.0436

Venus -77039-10-27 17:16 J -26416771.89 -26416771.78 -26416771.68 0.3782 0.0709

Mars -77038-11-29 01:11 J -26416374.57 -26416374.45 -26416374.32 0.1672 0.1027

Earth -77037-03-31 23:59 J -26416250.61 -26416250.50 -26416250.39 0.2739 0.0069

Moon -77037-04-01 00:42 J -26416250.58 -26416250.47 -26416250.36 0.2740 0.0204 *

Mars -77037-09-26 05:16 J -26416072.37 -26416072.28 -26416072.19 0.1869 0.1153

Jupiter -77034-10-02 02:08 J -26414971.55 -26414971.41 -26414971.25 0.0492 0.0285

Jupiter -77034-12-31 10:18 J -26414881.22 -26414881.07 -26414880.90 0.0493 0.0247

Venus -77033-05-12 11:16 J -26414748.14 -26414748.03 -26414747.92 0.3779 0.0552

Mars -77028-04-20 02:23 J -26412944.56 -26412944.40 -26412944.24 0.1665 0.0056

Jupiter -77028-08-22 22:04 J -26412819.70 -26412819.58 -26412819.45 0.0534 0.0127

Jupiter -77028-11-20 05:16 J -26412730.38 -26412730.28 -26412730.17 0.0533 0.0328

Venus -77028-11-26 05:30 J -26412724.36 -26412724.27 -26412724.17 0.3776 0.1833

Mars -77027-02-16 13:25 J -26412642.06 -26412641.94 -26412641.82 0.1878 0.0279

Saturn -77027-12-23 08:37 J -26412332.24 -26412332.14 -26412332.03 0.0278 0.0228

Saturn -77026-03-22 08:08 J -26412243.34 -26412243.16 -26412242.97 0.0279 0.0073

Saturn -77026-06-19 07:40 J -26412154.36 -26412154.18 -26412154.00 0.0280 0.0084

Saturn -77026-09-16 06:56 J -26412065.30 -26412065.21 -26412065.11 0.0281 0.0240

Earth -77024-04-03 17:59 J -26411499.84 -26411499.75 -26411499.65 0.2740 0.1314

Moon -77024-04-03 18:28 J -26411499.82 -26411499.73 -26411499.63 0.2735 0.1347 *

Venus -77024-11-24 08:23 J -26411265.25 -26411265.15 -26411265.06 0.3593 0.2681

Venus -77022-06-11 23:59 J -26410700.56 -26410700.50 -26410700.44 0.3772 0.3141

Jupiter -77022-07-20 23:44 J -26410661.60 -26410661.51 -26410661.41 0.0492 0.0416

Jupiter -77022-10-19 08:23 J -26410571.33 -26410571.15 -26410570.98 0.0493 0.0117

Mars -77019-09-10 03:20 J -26409514.49 -26409514.36 -26409514.22 0.1658 0.0916

Venus -77018-06-10 10:04 J -26409241.22 -26409241.08 -26409240.95 0.3596 0.0729

Mars -77018-07-09 21:49 J -26409211.70 -26409211.59 -26409211.48 0.1886 0.0586

Uranus -77018-08-26 17:44 J -26409163.84 -26409163.76 -26409163.67 0.0142 0.0125

Uranus -77018-11-23 01:40 J -26409075.56 -26409075.43 -26409075.28 0.0142 0.0098

Uranus -77017-02-19 09:49 J -26408987.25 -26408987.09 -26408986.92 0.0142 0.0071

Moon -77017-03-27 16:47 J -26408949.86 -26408949.80 -26408949.74 0.2744 0.2227

Earth -77017-03-27 16:47 J -26408949.86 -26408949.80 -26408949.73 0.2736 0.2164 *

Uranus -77017-05-17 17:44 J -26408898.94 -26408898.76 -26408898.58 0.0142 0.0044

Uranus -77017-08-14 01:40 J -26408810.62 -26408810.43 -26408810.24 0.0141 0.0017

Uranus -77017-11-10 09:35 J -26408722.29 -26408722.10 -26408721.91 0.0141 0.0010

Uranus -77016-02-06 17:16 J -26408633.96 -26408633.78 -26408633.60 0.0141 0.0036

Uranus -77016-05-06 00:56 J -26408545.63 -26408545.46 -26408545.29 0.0141 0.0062

Jupiter -77016-06-11 02:23 J -26408509.52 -26408509.40 -26408509.29 0.0534 0.0236

Uranus -77016-08-02 08:23 J -26408457.29 -26408457.15 -26408456.99 0.0141 0.0088

Jupiter -77016-09-08 09:20 J -26408420.23 -26408420.11 -26408419.99 0.0533 0.0215

Uranus -77016-10-29 16:04 J -26408368.93 -26408368.83 -26408368.71 0.0141 0.0114

Uranus -77015-01-25 23:44 J -26408280.53 -26408280.51 -26408280.48 0.0141 0.0139

Moon -77014-09-28 10:47 J -26407670.21 -26407670.05 -26407669.89 0.2595 0.0566

Earth -77014-09-28 12:28 J -26407670.14 -26407669.98 -26407669.82 0.2597 0.0484 *

Saturn -77013-05-01 14:08 J -26407453.99 -26407453.91 -26407453.83 0.0284 0.0226

Saturn -77013-07-29 01:25 J -26407365.56 -26407365.44 -26407365.32 0.0283 0.0115

Saturn -77013-10-25 12:28 J -26407277.11 -26407276.98 -26407276.85 0.0282 0.0009

Venus -77013-12-24 11:01 J -26407217.17 -26407217.04 -26407216.91 0.3600 0.1141

Saturn -77012-01-21 23:44 J -26407188.63 -26407188.51 -26407188.39 0.0281 0.0105

Saturn -77012-04-20 10:47 J -26407100.13 -26407100.05 -26407099.96 0.0280 0.0214

Earth -77011-04-06 12:13 J -26406749.03 -26406748.99 -26406748.96 0.2741 0.2583

Moon -77011-04-06 12:13 J -26406749.02 -26406748.99 -26406748.95 0.2734 0.2579 *

Jupiter -77010-08-07 05:16 J -26406261.47 -26406261.28 -26406261.10 0.0493 0.0025

Mars -77009-11-29 05:59 J -26405781.33 -26405781.25 -26405781.18 0.1894 0.1480

Venus -77007-07-10 11:44 J -26405193.09 -26405193.01 -26405192.93 0.3604 0.2934

Jupiter -77004-03-30 06:13 J -26404199.33 -26404199.24 -26404199.14 0.0534 0.0348

Earth -77004-03-30 10:47 J -26404199.15 -26404199.05 -26404198.95 0.2738 0.0934 *

Moon -77004-03-30 11:16 J -26404199.13 -26404199.03 -26404198.92 0.2742 0.0804 *

Jupiter -77004-06-27 13:11 J -26404110.08 -26404109.95 -26404109.83 0.0533 0.0101

Moon -77001-09-30 17:44 J -26402918.89 -26402918.76 -26402918.64 0.2597 0.1548

Earth -77001-09-30 19:11 J -26402918.81 -26402918.70 -26402918.58 0.2596 0.1812 *

77TH MILLENNIUM BCE

This is a list of transits of Mercury in the 77th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Neptune	**-77000-12-09 21:20**	**J**	**-26402483.62**	**-26402483.61**	**-26402483.56**	**0.0089**	**0.0088**	
Neptune	**-76999-03-08 01:11**	**J**	**-26402395.51**	**-26402395.45**	**-26402395.35**	**0.0089**	**0.0081**	
Neptune	**-76999-06-04 05:01**	**J**	**-26402307.39**	**-26402307.29**	**-26402307.17**	**0.0089**	**0.0074**	
Neptune	**-76999-08-31 08:52**	**J**	**-26402219.25**	**-26402219.13**	**-26402219.00**	**0.0089**	**0.0067**	
Neptune	**-76999-11-27 12:42**	**J**	**-26402131.11**	**-26402130.97**	**-26402130.82**	**0.0089**	**0.0060**	
Neptune	**-76998-02-23 16:04**	**J**	**-26402042.97**	**-26402042.83**	**-26402042.66**	**0.0089**	**0.0054**	
Neptune	**-76998-05-22 19:54**	**J**	**-26401954.82**	**-26401954.67**	**-26401954.49**	**0.0089**	**0.0047**	
Jupiter	**-76998-05-26 02:37**	**J**	**-26401951.56**	**-26401951.39**	**-26401951.21**	**0.0493**	**0.0156**	
Mars	**-76998-05-30 01:54**	**J**	**-26401947.53**	**-26401947.42**	**-26401947.30**	**0.1672**	**0.1165**	
Neptune	**-76998-08-18 23:44**	**J**	**-26401866.68**	**-26401866.51**	**-26401866.33**	**0.0089**	**0.0040**	
Jupiter	**-76998-08-24 10:47**	**J**	**-26401861.17**	**-26401861.05**	**-26401860.93**	**0.0494**	**0.0374**	
Neptune	**-76998-11-15 03:35**	**J**	**-26401778.53**	**-26401778.35**	**-26401778.17**	**0.0089**	**0.0033**	
Neptune	**-76997-02-11 06:56**	**J**	**-26401690.38**	**-26401690.21**	**-26401690.01**	**0.0089**	**0.0027**	

Mars -76997-03-27 05:16 J -26401645.37 -26401645.28 -26401645.20 0.1870 0.1246

Neptune -76997-05-09 10:47 J -26401602.23 -26401602.05 -26401601.85 0.0089 0.0020

Saturn -76997-05-11 08:52 J -26401600.19 -26401600.13 -26401600.06 0.0277 0.0259

Neptune -76997-08-05 14:37 J -26401514.08 -26401513.89 -26401513.69 0.0089 0.0013

Saturn -76997-08-08 08:23 J -26401511.32 -26401511.15 -26401510.97 0.0278 0.0105

Neptune -76997-11-01 18:28 J -26401425.93 -26401425.73 -26401425.54 0.0089 0.0006

Saturn -76997-11-05 08:08 J -26401422.35 -26401422.16 -26401421.98 0.0279 0.0052

Neptune -76996-01-28 22:04 J -26401337.78 -26401337.58 -26401337.38 0.0089 0.0001

Saturn -76996-02-02 07:25 J -26401333.31 -26401333.19 -26401333.06 0.0280 0.0208

Neptune -76996-04-27 01:40 J -26401249.62 -26401249.43 -26401249.23 0.0089 0.0008

Neptune -76996-07-24 05:16 J -26401161.47 -26401161.28 -26401161.08 0.0089 0.0015

Neptune -76996-10-20 08:52 J -26401073.31 -26401073.13 -26401072.93 0.0089 0.0022

Neptune -76995-01-16 12:28 J -26400985.15 -26400984.98 -26400984.78 0.0089 0.0028

Neptune -76995-04-14 16:18 J -26400897.00 -26400896.82 -26400896.64 0.0089 0.0035

Neptune -76995-07-11 19:40 J -26400808.84 -26400808.68 -26400808.49 0.0089 0.0042

Neptune -76995-10-07 23:16 J -26400720.68 -26400720.53 -26400720.35 0.0089 0.0049

Neptune -76994-01-04 03:06 J -26400632.52 -26400632.37 -26400632.21 0.0089 0.0055

Neptune -76994-04-02 06:28 J -26400544.35 -26400544.23 -26400544.07 0.0089 0.0062

Neptune -76994-06-29 10:04 J -26400456.19 -26400456.08 -26400455.94 0.0089 0.0068

Neptune -76994-09-25 13:54 J -26400368.01 -26400367.92 -26400367.81 0.0089 0.0075

Neptune -76994-12-22 17:16 J -26400279.84 -26400279.78 -26400279.69 0.0089 0.0082

Neptune -76993-03-19 21:06 J -26400191.63 -26400191.62 -26400191.59 0.0089 0.0088

Venus -76993-05-04 03:20 J -26400146.43 -26400146.36 -26400146.28 0.3788 0.2723

Jupiter -76992-01-16 09:35 J -26399889.16 -26399889.10 -26399889.04 0.0534 0.0467

Jupiter -76992-04-15 16:32 J -26399799.94 -26399799.81 -26399799.69 0.0533 0.0023

Jupiter -76992-07-13 23:44 J -26399710.58 -26399710.51 -26399710.44 0.0532 0.0433

Earth -76991-04-02 04:47 J -26399448.41 -26399448.30 -26399448.19 0.2739 0.0313

Moon -76991-04-02 05:30 J -26399448.38 -26399448.27 -26399448.16 0.2739 0.0341 *

Mars -76989-10-19 02:52 J -26398517.54 -26398517.38 -26398517.21 0.1665 0.0186

Mars -76988-08-17 13:40 J -26398215.05 -26398214.93 -26398214.82 0.1878 0.0397

Venus -76988-11-17 21:20 J -26398122.71 -26398122.61 -26398122.51 0.3785 0.1522

Jupiter -76986-03-14 00:13 J -26397641.64 -26397641.49 -26397641.34 0.0493 0.0286

Jupiter -76986-06-12 08:37 J -26397551.30 -26397551.14 -26397550.98 0.0494 0.0245

Saturn -76984-09-18 17:16 J -26396721.83 -26396721.78 -26396721.72 0.0284 0.0250

Saturn -76984-12-16 04:32 J -26396633.42 -26396633.31 -26396633.20 0.0283 0.0139

Saturn -76983-03-14 15:49 J -26396544.97 -26396544.84 -26396544.71 0.0282 0.0030

Saturn -76983-06-11 02:52 J -26396456.50 -26396456.38 -26396456.25 0.0281 0.0080

Saturn -76983-09-07 13:54 J -26396368.01 -26396367.92 -26396367.82 0.0280 0.0189

Venus -76982-06-03 15:20 J -26396098.97 -26396098.86 -26396098.75 0.3782 0.0306

Moon -76981-09-25 11:16 J -26395619.08 -26395619.03 -26395618.97 0.2593 0.2422

Earth -76981-09-25 12:13 J -26395619.06 -26395618.99 -26395618.92 0.2599 0.2347 *

Jupiter -76980-02-01 20:23 J -26395489.78 -26395489.65 -26395489.53 0.0534 0.0134

Jupiter -76980-05-02 03:20 J -26395400.46 -26395400.36 -26395400.25 0.0533 0.0320

Mars -76979-03-11 04:04 J -26395087.48 -26395087.33 -26395087.18 0.1658 0.0780

Mars -76978-01-07 21:49 J -26394784.71 -26394784.59 -26394784.48 0.1886 0.0490

Earth -76978-04-04 22:47 J -26394697.64 -26394697.55 -26394697.46 0.2740 0.1573

Moon -76978-04-04 23:16 J -26394697.61 -26394697.53 -26394697.44 0.2734 0.1680 *

Venus -76977-12-17 09:35 J -26394075.21 -26394075.10 -26394075.00 0.3778 0.0982

Jupiter -76975-12-30 21:20 J -26393331.70 -26393331.61 -26393331.51 0.0492 0.0422

Jupiter -76974-03-31 05:59 J -26393241.43 -26393241.25 -26393241.07 0.0493 0.0111

Uranus -76974-11-01 00:56 J -26393026.46 -26393026.46 -26393026.44 0.0136 0.0136

Uranus -76973-01-28 04:04 J -26392938.38 -26392938.33 -26392938.26 0.0136 0.0120

Uranus -76973-04-25 07:40 J -26392850.27 -26392850.18 -26392850.10 0.0137 0.0103

Uranus -76973-07-22 10:32 J -26392762.15 -26392762.06 -26392761.95 0.0137 0.0087

Uranus -76973-10-18 13:54 J -26392674.03 -26392673.92 -26392673.80 0.0137 0.0070

Uranus -76972-01-14 17:16 J -26392585.90 -26392585.78 -26392585.66 0.0137 0.0053

Uranus -76972-04-12 20:23 J -26392497.77 -26392497.65 -26392497.52 0.0137 0.0037

Uranus -76972-07-09 23:44 J -26392409.64 -26392409.51 -26392409.38 0.0137 0.0020

Uranus -76972-10-06 03:06 J -26392321.51 -26392321.37 -26392321.24 0.0137 0.0004

Uranus -76971-01-02 06:13 J -26392233.37 -26392233.24 -26392233.10 0.0138 0.0016

Moon -76971-03-28 21:49 J -26392147.67 -26392147.59 -26392147.52 0.2743 0.1878

Earth -76971-03-28 21:35 J -26392147.67 -26392147.60 -26392147.52 0.2737 0.1915 *

Uranus -76971-03-31 09:35 J -26392145.23 -26392145.10 -26392144.96 0.0138 0.0032

Uranus -76971-06-27 12:56 J -26392057.08 -26392056.96 -26392056.83 0.0138 0.0050

Venus -76971-07-03 03:49 J -26392051.43 -26392051.34 -26392051.25 0.3775 0.2260

Uranus -76971-09-23 16:18 J -26391968.93 -26391968.82 -26391968.70 0.0138 0.0067

Uranus -76971-12-20 19:40 J -26391880.78 -26391880.68 -26391880.57 0.0138 0.0085

Uranus -76970-03-18 23:16 J -26391792.62 -26391792.53 -26391792.44 0.0138 0.0102

Uranus -76970-06-15 02:37 J -26391704.45 -26391704.39 -26391704.32 0.0138 0.0120

Uranus -76970-09-11 05:59 J -26391616.25 -26391616.25 -26391616.24 0.0138 0.0138

Mars -76969-05-30 05:59 J -26391354.33 -26391354.25 -26391354.17 0.1894 0.1370

Jupiter -76969-11-21 00:28 J -26391179.59 -26391179.48 -26391179.37 0.0534 0.0243

Jupiter -76968-02-18 07:25 J -26391090.30 -26391090.19 -26391090.07 0.0533 0.0210

Moon -76968-09-28 17:30 J -26390867.93 -26390867.77 -26390867.61 0.2595 0.0266

Earth -76968-09-28 19:11 J -26390867.86 -26390867.70 -26390867.54 0.2597 0.0019 *

Saturn -76968-12-26 06:56 J -26390779.37 -26390779.21 -26390779.05 0.0278 0.0149

Saturn -76967-03-25 06:28 J -26390690.42 -26390690.23 -26390690.04 0.0279 0.0007

Saturn -76967-06-22 05:44 J -26390601.41 -26390601.26 -26390601.10 0.0280 0.0163

Venus -76967-07-01 08:37 J -26390592.26 -26390592.14 -26390592.03 0.3594 0.2045

Venus -76965-01-16 22:18 J -26390027.60 -26390027.57 -26390027.54 0.3771 0.3581

Jupiter -76962-01-17 03:35 J -26388931.54 -26388931.35 -26388931.17 0.0493 0.0022

Venus -76961-01-15 10:04 J -26388568.22 -26388568.08 -26388567.94 0.3597 0.0111

Mars -76959-11-28 02:37 J -26387520.49 -26387520.39 -26387520.29 0.1672 0.1303

Earth -76958-03-31 15:35 J -26387396.95 -26387396.85 -26387396.74 0.2738 0.0677

Moon -76958-03-31 16:04 J -26387396.93 -26387396.83 -26387396.72 0.2742 0.0677 *

Mars -76958-09-26 05:16 J -26387218.36 -26387218.28 -26387218.20 0.1869 0.1360

Jupiter -76957-09-09 04:47 J -26386869.40 -26386869.30 -26386869.21 0.0534 0.0351

Jupiter -76957-12-07 11:30 J -26386780.14 -26386780.02 -26386779.89 0.0533 0.0101

Venus -76956-07-31 11:01 J -26386544.16 -26386544.04 -26386543.92 0.3601 0.1735

Moon -76955-10-02 00:13 J -26386116.57 -26386116.49 -26386116.41 0.2598 0.2202

Earth -76955-10-02 01:54 J -26386116.50 -26386116.42 -26386116.35 0.2596 0.2253 *

Saturn -76954-05-05 06:28 J -26385901.33 -26385901.23 -26385901.12 0.0284 0.0175

Saturn -76954-08-01 17:44 J -26385812.89 -26385812.76 -26385812.63 0.0283 0.0064

Saturn -76954-10-29 05:01 J -26385724.42 -26385724.29 -26385724.16 0.0282 0.0046

Saturn -76953-01-25 16:04 J -26385635.94 -26385635.83 -26385635.72 0.0281 0.0155

Saturn -76953-04-23 03:20 J -26385547.40 -26385547.36 -26385547.32 0.0280 0.0263

Jupiter -76951-11-04 23:59 J -26384621.67 -26384621.50 -26384621.32 0.0493 0.0163

Jupiter -76950-02-03 08:08 J -26384531.28 -26384531.16 -26384531.04 0.0494 0.0368

Venus -76950-02-14 11:30 J -26384520.04 -26384520.02 -26384519.99 0.3605 0.3512

Mars -76949-04-19 03:35 J -26384090.51 -26384090.35 -26384090.18 0.1665 0.0330

Mars -76948-02-15 13:25 J -26383788.05 -26383787.94 -26383787.83 0.1878 0.0488

Earth -76945-04-02 09:35 J -26382646.20 -26382646.10 -26382645.99 0.2739 0.0572

Moon -76945-04-02 10:18 J -26382646.18 -26382646.07 -26382645.97 0.2737 0.0720 *

Jupiter -76945-06-28 08:37 J -26382559.20 -26382559.14 -26382559.08 0.0534 0.0462

Jupiter -76945-09-25 15:20 J -26382469.98 -26382469.86 -26382469.73 0.0533 0.0021

Jupiter -76945-12-23 22:32 J -26382380.63 -26382380.56 -26382380.48 0.0532 0.0437

Venus -76942-05-26 07:54 J -26381497.21 -26381497.17 -26381497.14 0.3790 0.3514

Mars -76940-09-09 04:47 J -26380660.46 -26380660.30 -26380660.15 0.1658 0.0648

Mars -76939-07-08 21:49 J -26380357.71 -26380357.59 -26380357.48 0.1886 0.0387

Jupiter -76939-08-23 21:35 J -26380311.75 -26380311.60 -26380311.46 0.0493 0.0296

Jupiter -76939-11-22 05:59 J -26380221.41 -26380221.25 -26380221.09 0.0494 0.0237

Saturn -76938-05-15 07:25 J -26380047.33 -26380047.19 -26380047.04 0.0278 0.0179

Saturn -76938-08-12 07:11 J -26379958.39 -26379958.20 -26379958.02 0.0279 0.0024

Saturn -76938-11-09 06:28 J -26379869.39 -26379869.23 -26379869.06 0.0280 0.0133

Venus -76937-12-09 01:25 J -26379473.52 -26379473.44 -26379473.35 0.3787 0.2335

Moon -76935-09-26 17:44 J -26378816.87 -26378816.76 -26378816.66 0.2594 0.1969

Earth -76935-09-26 18:56 J -26378816.82 -26378816.71 -26378816.60 0.2598 0.1879 *

Uranus -76934-09-15 23:01 J -26378462.61 -26378462.54 -26378462.43 0.0142 0.0125

Uranus -76934-12-13 07:25 J -26378374.32 -26378374.19 -26378374.05 0.0142 0.0097

Uranus -76933-03-10 15:35 J -26378286.02 -26378285.85 -26378285.69 0.0142 0.0070

Uranus -76933-06-06 23:16 J -26378197.70 -26378197.53 -26378197.34 0.0142 0.0043

Jupiter -76933-07-14 18:42 J -26378159.84 -26378159.72 -26378159.60 0.0533 0.0137

Uranus -76933-09-03 07:11 J -26378109.38 -26378109.20 -26378109.01 0.0141 0.0017

Jupiter -76933-10-12 01:40 J -26378070.53 -26378070.43 -26378070.32 0.0532 0.0315

Uranus -76933-11-30 15:06 J -26378021.06 -26378020.87 -26378020.68 0.0141 0.0010

Uranus -76932-02-26 22:47 J -26377932.73 -26377932.55 -26377932.36 0.0141 0.0037

Earth -76932-04-05 03:49 J -26377895.42 -26377895.34 -26377895.26 0.2740 0.1834

Moon -76932-04-05 04:18 J -26377895.40 -26377895.32 -26377895.24 0.2735 0.1838 *

Uranus -76932-05-26 06:28 J -26377844.39 -26377844.23 -26377844.05 0.0141 0.0063

Uranus -76932-08-22 14:08 J -26377756.05 -26377755.91 -26377755.76 0.0141 0.0089

Uranus -76932-11-18 21:35 J -26377667.69 -26377667.60 -26377667.48 0.0141 0.0115

Uranus -76931-02-15 05:16 J -26377579.28 -26377579.28 -26377579.26 0.0141 0.0140

Venus -76931-06-24 19:25 J -26377449.79 -26377449.69 -26377449.59 0.3784 0.1121

Mars -76930-01-30 05:30 J -26377230.30 -26377230.27 -26377230.23 0.1652 0.1615

Mars -76930-11-29 05:59 J -26376927.33 -26376927.25 -26376927.16 0.1894 0.1263

Jupiter -76927-06-11 18:56 J -26376001.80 -26376001.71 -26376001.61 0.0493 0.0427

Jupiter -76927-09-10 03:35 J -26375911.53 -26375911.35 -26375911.17 0.0493 0.0107

Venus -76925-01-08 13:25 J -26375426.05 -26375425.94 -26375425.83 0.3781 0.0119

Earth -76925-03-29 02:23 J -26375345.48 -26375345.40 -26375345.31 0.2737 0.1661

Moon -76925-03-29 02:52 J -26375345.47 -26375345.38 -26375345.30 0.2743 0.1641 *

Saturn -76925-09-21 10:04 J -26375169.18 -26375169.08 -26375168.99 0.0284 0.0197

Saturn -76925-12-18 21:06 J -26375080.74 -26375080.62 -26375080.49 0.0283 0.0087

Saturn -76924-03-17 08:23 J -26374992.28 -26374992.15 -26374992.02 0.0282 0.0024

Saturn -76924-06-13 19:25 J -26374903.80 -26374903.69 -26374903.57 0.0281 0.0133

Saturn -76924-09-10 06:42 J -26374815.28 -26374815.22 -26374815.15 0.0280 0.0241

Pluto -76923-01-02 06:28 J -26374701.25 -26374701.23 -26374701.17 0.0060 0.0058

Pluto -76923-03-31 07:25 J -26374613.25 -26374613.19 -26374613.07 0.0060 0.0053

Pluto -76923-06-27 09:06 J -26374525.22 -26374525.12 -26374524.99 0.0060 0.0047

Pluto -76923-09-23 10:47 J -26374437.19 -26374437.05 -26374436.92 0.0060 0.0042

Pluto -76923-12-20 11:30 J -26374349.15 -26374349.02 -26374348.85 0.0060 0.0037

Pluto -76922-03-18 13:11 J -26374261.11 -26374260.95 -26374260.78 0.0060 0.0030

Pluto -76922-06-14 14:37 J -26374173.06 -26374172.89 -26374172.72 0.0060 0.0025

Pluto -76922-09-10 15:35 J -26374085.01 -26374084.85 -26374084.66 0.0060 0.0020

Moon -76922-09-29 23:59 J -26374065.66 -26374065.50 -26374065.34 0.2595 0.0334

Earth -76922-09-30 01:40 J -26374065.58 -26374065.43 -26374065.27 0.2597 0.0440 *

Pluto -76922-12-07 17:01 J -26373996.96 -26373996.79 -26373996.60 0.0060 0.0014

Pluto -76921-03-04 18:28 J -26373908.91 -26373908.73 -26373908.54 0.0061 0.0008

Jupiter -76921-05-02 22:32 J -26373849.67 -26373849.56 -26373849.45 0.0534 0.0251

Pluto -76921-05-31 19:54 J -26373820.86 -26373820.67 -26373820.48 0.0061 0.0002

Jupiter -76921-07-31 05:30 J -26373760.39 -26373760.27 -26373760.15 0.0533 0.0200

Pluto -76921-08-27 21:20 J -26373732.80 -26373732.61 -26373732.42 0.0061 0.0004

Pluto -76921-11-23 22:32 J -26373644.74 -26373644.56 -26373644.37 0.0061 0.0010

Pluto -76920-02-19 23:44 J -26373556.68 -26373556.51 -26373556.31 0.0061 0.0016

Pluto -76920-05-19 01:11 J -26373468.62 -26373468.45 -26373468.26 0.0061 0.0022

Venus -76920-07-24 07:40 J -26373402.28 -26373402.18 -26373402.08 0.3777 0.1395

Pluto -76920-08-15 02:23 J -26373380.55 -26373380.40 -26373380.21 0.0061 0.0028

Pluto -76920-11-11 03:49 J -26373292.48 -26373292.34 -26373292.17 0.0061 0.0034

Pluto -76919-02-07 05:01 J -26373204.41 -26373204.29 -26373204.12 0.0061 0.0040

Pluto -76919-05-06 06:28 J -26373116.33 -26373116.23 -26373116.08 0.0061 0.0046

Mars -76919-05-29 03:06 J -26373093.45 -26373093.37 -26373093.28 0.1673 0.1434

Pluto -76919-08-02 07:54 J -26373028.25 -26373028.17 -26373028.05 0.0061 0.0052

Pluto -76919-10-29 09:20 J -26372940.15 -26372940.11 -26372940.03 0.0061 0.0058

Neptune -76918-03-22 08:37 J -26372796.14 -26372796.14 -26372796.12 0.0089 0.0089

Mars -76918-03-27 05:16 J -26372791.35 -26372791.28 -26372791.20 0.1869 0.1464

Neptune -76918-06-18 10:04 J -26372708.11 -26372708.08 -26372708.03 0.0089 0.0084

Neptune -76918-09-14 11:30 J -26372620.08 -26372620.02 -26372619.96 0.0089 0.0079

Neptune -76918-12-11 12:42 J -26372532.03 -26372531.97 -26372531.90 0.0089 0.0075

Neptune -76917-03-08 14:08 J -26372443.99 -26372443.91 -26372443.83 0.0089 0.0070

Neptune -76917-06-04 15:06 J -26372355.94 -26372355.87 -26372355.77 0.0089 0.0066

Neptune -76917-08-31 16:47 J -26372267.90 -26372267.80 -26372267.71 0.0089 0.0061

Neptune -76917-11-27 17:44 J -26372179.85 -26372179.76 -26372179.65 0.0089 0.0057

Neptune -76916-02-23 19:11 J -26372091.80 -26372091.70 -26372091.59 0.0089 0.0052

Neptune -76916-05-22 20:23 J -26372003.75 -26372003.65 -26372003.53 0.0089 0.0048

Venus -76916-07-22 06:56 J -26371943.25 -26371943.21 -26371943.17 0.3591 0.3418

Neptune -76916-08-18 21:49 J -26371915.70 -26371915.59 -26371915.47 0.0089 0.0043

Neptune -76916-11-14 23:01 J -26371827.65 -26371827.54 -26371827.41 0.0089 0.0039

Neptune -76915-02-11 00:28 J -26371739.60 -26371739.48 -26371739.36 0.0089 0.0034

Neptune -76915-05-10 01:40 J -26371651.55 -26371651.43 -26371651.30 0.0089 0.0030

Jupiter -76915-06-29 00:56 J -26371601.65 -26371601.46 -26371601.28 0.0493 0.0030

Neptune -76915-08-06 03:06 J -26371563.50 -26371563.37 -26371563.24 0.0089 0.0025

Neptune -76915-11-02 04:32 J -26371475.44 -26371475.31 -26371475.18 0.0089 0.0020

Neptune -76914-01-29 05:44 J -26371387.39 -26371387.26 -26371387.13 0.0089 0.0016

Venus -76914-02-07 01:54 J -26371378.49 -26371378.42 -26371378.34 0.3774 0.2698

Neptune -76914-04-27 07:11 J -26371299.34 -26371299.20 -26371299.07 0.0089 0.0011

Neptune -76914-07-24 08:23 J -26371211.28 -26371211.15 -26371211.02 0.0089 0.0006

Neptune -76914-10-20 09:35 J -26371123.23 -26371123.10 -26371122.96 0.0089 0.0004

Neptune -76913-01-16 11:01 J -26371035.17 -26371035.04 -26371034.91 0.0089 0.0003

Neptune -76913-04-13 12:28 J -26370947.12 -26370946.98 -26370946.85 0.0089 0.0008

Neptune -76913-07-10 13:40 J -26370859.06 -26370858.93 -26370858.80 0.0089 0.0012

Neptune -76913-10-06 14:52 J -26370771.00 -26370770.88 -26370770.74 0.0089 0.0017

Neptune -76912-01-02 16:18 J -26370682.95 -26370682.82 -26370682.69 0.0089 0.0021

Neptune -76912-03-31 17:44 J -26370594.89 -26370594.76 -26370594.64 0.0089 0.0026

Earth -76912-03-31 20:23 J -26370594.76 -26370594.65 -26370594.54 0.2738 0.0428 *

Moon -76912-03-31 21:06 J -26370594.73 -26370594.62 -26370594.52 0.2742 0.0310 *

Neptune -76912-06-27 18:56 J -26370506.83 -26370506.71 -26370506.58 0.0089 0.0031

Neptune -76912-09-23 20:23 J -26370418.77 -26370418.65 -26370418.53 0.0089 0.0035

Neptune -76912-12-20 21:35 J -26370330.71 -26370330.60 -26370330.48 0.0089 0.0040

Neptune -76911-03-18 22:47 J -26370242.65 -26370242.55 -26370242.43 0.0089 0.0045

Neptune -76911-06-15 00:28 J -26370154.59 -26370154.48 -26370154.37 0.0089 0.0049

Neptune -76911-09-11 01:40 J -26370066.53 -26370066.43 -26370066.32 0.0089 0.0054

Neptune -76911-12-08 02:52 J -26369978.47 -26369978.38 -26369978.27 0.0089 0.0059

Venus -76910-02-05 08:52 J -26369919.26 -26369919.13 -26369919.01 0.3595 0.1416

Neptune -76910-03-06 04:18 J -26369890.41 -26369890.32 -26369890.22 0.0089 0.0063

Neptune -76910-06-02 05:30 J -26369802.34 -26369802.27 -26369802.17 0.0089 0.0068

Neptune -76910-08-29 06:56 J -26369714.28 -26369714.21 -26369714.13 0.0089 0.0073

Mars -76910-10-19 04:18 J -26369663.47 -26369663.32 -26369663.16 0.1665 0.0468

Neptune -76910-11-25 08:23 J -26369626.21 -26369626.15 -26369626.08 0.0089 0.0077

Jupiter -76909-02-20 02:37 J -26369539.48 -26369539.39 -26369539.30 0.0534 0.0361

Neptune -76909-02-21 09:35 J -26369538.14 -26369538.10 -26369538.04 0.0089 0.0082

Jupiter -76909-05-19 09:35 J -26369450.23 -26369450.10 -26369449.98 0.0533 0.0089

Neptune -76909-05-19 10:47 J -26369450.06 -26369450.05 -26369450.01 0.0089 0.0087 *

Mars -76909-08-16 13:25 J -26369361.05 -26369360.94 -26369360.82 0.1878 0.0597

Saturn -76909-10-01 06:42 J -26369315.33 -26369315.22 -26369315.10 0.0278 0.0219

Moon -76909-10-02 06:56 J -26369314.25 -26369314.21 -26369314.16 0.2600 0.2474

Saturn -76909-12-29 06:13 J -26369226.42 -26369226.24 -26369226.06 0.0279 0.0064

Saturn -76908-03-28 05:30 J -26369137.44 -26369137.27 -26369137.09 0.0280 0.0092

Saturn -76908-06-25 04:47 J -26369048.38 -26369048.30 -26369048.21 0.0281 0.0248

Venus -76905-08-21 10:04 J -26367895.22 -26367895.08 -26367894.95 0.3598 0.0497

Jupiter -76903-04-16 22:18 J -26367291.75 -26367291.57 -26367291.40 0.0493 0.0162

Jupiter -76903-07-16 06:13 J -26367201.36 -26367201.24 -26367201.12 0.0494 0.0367

Mars -76900-03-10 05:16 J -26366233.43 -26366233.28 -26366233.12 0.1659 0.0512

Mars -76899-01-06 21:49 J -26365930.71 -26365930.59 -26365930.48 0.1886 0.0282

Venus -76899-03-07 11:01 J -26365871.15 -26365871.04 -26365870.94 0.3602 0.2331

Earth -76899-04-03 14:23 J -26365844.00 -26365843.90 -26365843.79 0.2739 0.0830

Moon -76899-04-03 15:06 J -26365843.97 -26365843.87 -26365843.76 0.2736 0.0848 *

Jupiter -76898-12-09 06:56 J -26365229.27 -26365229.21 -26365229.15 0.0534 0.0468

Jupiter -76897-03-07 13:40 J -26365140.06 -26365139.93 -26365139.80 0.0533 0.0021

Jupiter -76897-06-04 20:52 J -26365050.70 -26365050.63 -26365050.55 0.0532 0.0432

Saturn -76895-02-08 11:59 J -26364437.07 -26364437.00 -26364436.92 0.0284 0.0231

Saturn -76895-05-07 23:16 J -26364348.64 -26364348.53 -26364348.41 0.0283 0.0120

Saturn -76895-08-04 10:32 J -26364260.19 -26364260.06 -26364259.93 0.0282 0.0010

Saturn -76895-10-31 21:49 J -26364171.72 -26364171.59 -26364171.47 0.0281 0.0100

Saturn -76894-01-28 08:52 J -26364083.21 -26364083.13 -26364083.04 0.0280 0.0209

Moon -76892-03-27 13:11 J -26363293.98 -26363293.95 -26363293.93 0.2742 0.2645

Earth -76892-03-27 13:25 J -26363293.97 -26363293.94 -26363293.92 0.2736 0.2629 *

Jupiter -76891-02-02 18:28 J -26362981.87 -26362981.73 -26362981.58 0.0493 0.0306

Jupiter -76891-05-04 02:52 J -26362891.54 -26362891.38 -26362891.21 0.0494 0.0228

Mars -76891-07-31 06:28 J -26362803.30 -26362803.23 -26362803.16 0.1652 0.1472

Mars -76890-05-30 05:59 J -26362500.34 -26362500.25 -26362500.16 0.1894 0.1170

Uranus -76890-11-21 08:08 J -26362325.18 -26362325.16 -26362325.13 0.0136 0.0132

Uranus -76889-02-17 11:16 J -26362237.09 -26362237.03 -26362236.96 0.0136 0.0116

Uranus -76889-05-15 14:37 J -26362148.98 -26362148.89 -26362148.80 0.0137 0.0100

Uranus -76889-08-11 17:44 J -26362060.86 -26362060.76 -26362060.65 0.0137 0.0083

Moon -76889-09-27 00:13 J -26362014.62 -26362014.49 -26362014.36 0.2594 0.1599

Earth -76889-09-27 01:40 J -26362014.57 -26362014.43 -26362014.30 0.2598 0.1411 *

Uranus -76889-11-07 20:52 J -26361972.74 -26361972.63 -26361972.51 0.0137 0.0067

Uranus -76888-02-04 00:13 J -26361884.61 -26361884.49 -26361884.36 0.0137 0.0050

Uranus -76888-05-03 03:35 J -26361796.48 -26361796.35 -26361796.22 0.0137 0.0033

Uranus -76888-07-30 06:56 J -26361708.35 -26361708.21 -26361708.08 0.0137 0.0017

Uranus -76888-10-26 10:04 J -26361620.21 -26361620.08 -26361619.94 0.0137 0.0004

Uranus -76887-01-22 13:25 J -26361532.07 -26361531.94 -26361531.81 0.0138 0.0018

Uranus -76887-04-20 16:47 J -26361443.93 -26361443.80 -26361443.67 0.0138 0.0036

Uranus -76887-07-17 20:08 J -26361355.78 -26361355.66 -26361355.53 0.0138 0.0053

Uranus -76887-10-13 23:30 J -26361267.63 -26361267.52 -26361267.40 0.0138 0.0071

Uranus -76886-01-10 02:52 J -26361179.48 -26361179.38 -26361179.27 0.0138 0.0088

Earth -76886-04-06 08:37 J -26361093.21 -26361093.14 -26361093.07 0.2740 0.2091

Moon -76886-04-06 08:52 J -26361093.19 -26361093.13 -26361093.07 0.2734 0.2181 *

Uranus -76886-04-08 06:13 J -26361091.32 -26361091.24 -26361091.15 0.0138 0.0106

Uranus -76886-07-05 09:35 J -26361003.15 -26361003.10 -26361003.03 0.0138 0.0124

Jupiter -76886-12-25 17:30 J -26360829.89 -26360829.77 -26360829.64 0.0533 0.0134

Venus -76886-12-31 05:44 J -26360824.32 -26360824.26 -26360824.20 0.3790 0.3134

Jupiter -76885-03-24 00:42 J -26360740.57 -26360740.47 -26360740.37 0.0532 0.0318

Venus -76880-07-15 23:30 J -26358800.61 -26358800.52 -26358800.42 0.3786 0.1940

Jupiter -76880-11-21 15:49 J -26358671.92 -26358671.84 -26358671.75 0.0493 0.0440

Mars -76880-11-27 03:49 J -26358666.39 -26358666.34 -26358666.28 0.1673 0.1577

Saturn -76879-02-18 06:56 J -26358583.28 -26358583.21 -26358583.12 0.0277 0.0250

Jupiter -76879-02-20 00:42 J -26358581.65 -26358581.47 -26358581.29 0.0493 0.0096

Earth -76879-03-30 07:25 J -26358543.29 -26358543.19 -26358543.10 0.2737 0.1409

Moon -76879-03-30 07:40 J -26358543.27 -26358543.18 -26358543.09 0.2744 0.1370 *

Saturn -76879-05-18 06:42 J -26358494.40 -26358494.22 -26358494.04 0.0278 0.0095

Saturn -76879-08-15 06:13 J -26358405.43 -26358405.24 -26358405.06 0.0279 0.0061

Mars -76879-09-25 05:16 J -26358364.34 -26358364.28 -26358364.21 0.1869 0.1561

Saturn -76879-11-12 05:16 J -26358316.38 -26358316.28 -26358316.15 0.0280 0.0217

Moon -76876-09-30 06:42 J -26357263.37 -26357263.22 -26357263.06 0.2596 0.0718

Earth -76876-09-30 08:23 J -26357263.30 -26357263.15 -26357263.00 0.2597 0.0902 *

Venus -76874-01-29 17:30 J -26356776.88 -26356776.77 -26356776.67 0.3783 0.0726

Jupiter -76874-10-13 20:52 J -26356519.75 -26356519.63 -26356519.52 0.0534 0.0257

Jupiter -76873-01-11 03:49 J -26356430.46 -26356430.34 -26356430.22 0.0533 0.0195

Mars -76870-04-19 04:47 J -26355236.45 -26355236.30 -26355236.15 0.1665 0.0589

Mars -76869-02-15 13:40 J -26354934.04 -26354933.93 -26354933.82 0.1877 0.0702

Venus -76869-08-14 11:30 J -26354753.13 -26354753.02 -26354752.91 0.3780 0.0544

Jupiter -76868-12-08 22:18 J -26354271.75 -26354271.57 -26354271.38 0.0493 0.0035

Jupiter -76867-03-09 05:59 J -26354181.26 -26354181.25 -26354181.23 0.0494 0.0492

Earth -76866-04-02 01:11 J -26353792.55 -26353792.45 -26353792.34 0.2738 0.0194

Moon -76866-04-02 01:54 J -26353792.53 -26353792.42 -26353792.31 0.2740 0.0117 *

Saturn -76866-06-28 15:49 J -26353704.89 -26353704.84 -26353704.78 0.0284 0.0251

Saturn -76866-09-25 03:06 J -26353616.48 -26353616.37 -26353616.26 0.0283 0.0140

Saturn -76866-12-22 14:23 J -26353528.03 -26353527.90 -26353527.77 0.0282 0.0030

Saturn -76865-03-20 01:25 J -26353439.56 -26353439.44 -26353439.31 0.0281 0.0081

Saturn -76865-06-16 12:28 J -26353351.07 -26353350.98 -26353350.88 0.0281 0.0190

Venus -76863-02-28 05:44 J -26352729.35 -26352729.26 -26352729.16 0.3776 0.1818

Jupiter -76862-08-02 00:28 J -26352209.57 -26352209.48 -26352209.39 0.0534 0.0371

Jupiter -76862-10-30 07:25 J -26352120.32 -26352120.19 -26352120.06 0.0533 0.0079

Mars -76861-09-08 05:59 J -26351806.41 -26351806.25 -26351806.09 0.1659 0.0373

Mars -76860-07-07 21:49 J -26351503.71 -26351503.59 -26351503.47 0.1885 0.0177

Venus -76859-02-26 07:11 J -26351270.29 -26351270.20 -26351270.11 0.3592 0.2772

Venus -76858-09-14 00:13 J -26350705.55 -26350705.49 -26350705.43 0.3773 0.3136

Jupiter -76856-09-26 19:25 J -26349961.86 -26349961.69 -26349961.51 0.0493 0.0171

Jupiter -76856-12-26 03:20 J -26349871.48 -26349871.36 -26349871.23 0.0494 0.0359

Venus -76854-09-12 08:52 J -26349246.27 -26349246.13 -26349246.00 0.3595 0.0803

Earth -76853-04-03 19:25 J -26349041.79 -26349041.69 -26349041.60 0.2739 0.1090

Moon -76853-04-03 19:54 J -26349041.76 -26349041.67 -26349041.57 0.2736 0.1231 *

Mars -76851-01-29 07:11 J -26348376.30 -26348376.20 -26348376.11 0.1652 0.1336

Mars -76851-11-28 05:59 J -26348073.34 -26348073.25 -26348073.15 0.1894 0.1062

Jupiter -76850-05-21 04:32 J -26347899.36 -26347899.31 -26347899.26 0.0534 0.0482

Jupiter -76850-08-18 11:30 J -26347810.15 -26347810.02 -26347809.90 0.0534 0.0038

Saturn -76850-10-05 06:28 J -26347762.40 -26347762.23 -26347762.07 0.0278 0.0132

Uranus -76850-10-06 05:30 J -26347761.36 -26347761.27 -26347761.16 0.0142 0.0122

Jupiter -76850-11-15 18:42 J -26347720.80 -26347720.72 -26347720.64 0.0533 0.0420

Saturn -76849-01-02 05:59 J -26347673.44 -26347673.25 -26347673.07 0.0279 0.0025

Uranus -76849-01-02 13:25 J -26347673.07 -26347672.94 -26347672.78 0.0142 0.0095 *

Uranus -76849-03-30 21:35 J -26347584.76 -26347584.60 -26347584.42 0.0142 0.0067

Saturn -76849-03-31 05:16 J -26347584.42 -26347584.28 -26347584.14 0.0280 0.0180 *

Uranus -76849-06-27 05:30 J -26347496.44 -26347496.27 -26347496.08 0.0141 0.0041

Uranus -76849-09-23 13:40 J -26347408.12 -26347407.93 -26347407.74 0.0141 0.0014

Uranus -76849-12-20 21:20 J -26347319.80 -26347319.61 -26347319.42 0.0141 0.0013

Uranus -76848-03-19 05:01 J -26347231.46 -26347231.29 -26347231.10 0.0141 0.0040

Venus -76848-03-28 10:04 J -26347222.21 -26347222.08 -26347221.95 0.3599 0.1101

Uranus -76848-06-15 12:42 J -26347143.13 -26347142.97 -26347142.79 0.0141 0.0066

Uranus -76848-09-11 20:23 J -26347054.78 -26347054.65 -26347054.50 0.0141 0.0092

Uranus -76848-12-09 03:49 J -26346966.43 -26346966.34 -26346966.22 0.0141 0.0118

Moon -76846-03-28 18:13 J -26346491.79 -26346491.74 -26346491.70 0.2742 0.2441

Earth -76846-03-28 18:13 J -26346491.79 -26346491.74 -26346491.69 0.2736 0.2375 *

Jupiter -76844-07-15 16:32 J -26345651.95 -26345651.81 -26345651.66 0.0492 0.0306

Jupiter -76844-10-14 00:56 J -26345561.62 -26345561.46 -26345561.29 0.0493 0.0226

Moon -76843-09-28 06:42 J -26345212.37 -26345212.22 -26345212.07 0.2594 0.1026

Earth -76843-09-28 08:08 J -26345212.31 -26345212.16 -26345212.01 0.2598 0.0955 *

Venus -76843-10-12 10:47 J -26345198.13 -26345198.05 -26345197.97 0.3603 0.2914

Moon -76840-04-06 13:40 J -26344290.99 -26344290.93 -26344290.88 0.2733 0.2300

Earth -76840-04-06 13:25 J -26344290.99 -26344290.94 -26344290.89 0.2740 0.2349 *

Mars -76839-03-26 05:16 J -26343937.33 -26343937.28 -26343937.22 0.1869 0.1669

Jupiter -76838-06-06 15:35 J -26343499.97 -26343499.85 -26343499.72 0.0534 0.0142

Jupiter -76838-09-03 22:47 J -26343410.65 -26343410.55 -26343410.45 0.0533 0.0311

Saturn -76837-11-14 17:59 J -26342972.75 -26342972.75 -26342972.73 0.0284 0.0284

Saturn -76836-02-11 05:16 J -26342884.38 -26342884.28 -26342884.17 0.0283 0.0172

Saturn -76836-05-10 16:32 J -26342795.94 -26342795.81 -26342795.68 0.0282 0.0062

Saturn -76836-08-07 03:49 J -26342707.47 -26342707.34 -26342707.21 0.0282 0.0049

Saturn -76836-11-03 14:52 J -26342618.99 -26342618.88 -26342618.77 0.0281 0.0157

Saturn -76835-01-31 01:54 J -26342530.45 -26342530.42 -26342530.37 0.0280 0.0266

Neptune -76835-09-05 20:52 J -26342312.68 -26342312.63 -26342312.56 0.0089 0.0084

Neptune -76835-12-03 00:13 J -26342224.56 -26342224.49 -26342224.37 0.0089 0.0078

Neptune -76834-03-01 04:04 J -26342136.43 -26342136.33 -26342136.19 0.0089 0.0071

Neptune -76834-05-28 07:54 J -26342048.29 -26342048.17 -26342048.02 0.0089 0.0064

Neptune -76834-08-24 11:44 J -26341960.15 -26341960.01 -26341959.85 0.0089 0.0057

Neptune -76834-11-20 15:35 J -26341872.01 -26341871.85 -26341871.69 0.0089 0.0050

Neptune -76833-02-16 18:56 J -26341783.86 -26341783.71 -26341783.52 0.0089 0.0044

Earth -76833-03-30 12:13 J -26341741.09 -26341740.99 -26341740.89 0.2737 0.1150

Moon -76833-03-30 12:28 J -26341741.08 -26341740.98 -26341740.88 0.2743 0.1089 *

Neptune -76833-05-14 22:47 J -26341695.72 -26341695.55 -26341695.36 0.0089 0.0037

Neptune -76833-08-11 02:37 J -26341607.57 -26341607.39 -26341607.20 0.0089 0.0030

Neptune -76833-11-07 06:28 J -26341519.42 -26341519.23 -26341519.04 0.0089 0.0023

Neptune -76832-02-03 10:04 J -26341431.27 -26341431.08 -26341430.88 0.0089 0.0016

Neptune -76832-05-02 13:40 J -26341343.12 -26341342.93 -26341342.73 0.0089 0.0010

Jupiter -76832-05-03 12:56 J -26341342.03 -26341341.96 -26341341.89 0.0493 0.0450

Neptune -76832-07-29 17:30 J -26341254.96 -26341254.77 -26341254.57 0.0089 0.0003

Jupiter -76832-08-01 21:35 J -26341251.78 -26341251.60 -26341251.42 0.0493 0.0085

Neptune -76832-10-25 21:06 J -26341166.81 -26341166.62 -26341166.42 0.0089 0.0005

Neptune -76831-01-22 00:42 J -26341078.66 -26341078.47 -26341078.27 0.0089 0.0012

Neptune -76831-04-20 04:32 J -26340990.50 -26340990.31 -26340990.12 0.0089 0.0018

Neptune -76831-07-17 08:08 J -26340902.34 -26340902.16 -26340901.97 0.0089 0.0025

Neptune -76831-10-13 11:44 J -26340814.19 -26340814.01 -26340813.82 0.0089 0.0032

Mars -76831-10-18 05:44 J -26340809.41 -26340809.26 -26340809.12 0.1666 0.0737

Neptune -76830-01-09 15:20 J -26340726.03 -26340725.86 -26340725.68 0.0089 0.0038

Neptune -76830-04-07 19:11 J -26340637.87 -26340637.70 -26340637.53 0.0089 0.0045

Neptune -76830-07-04 22:32 J -26340549.70 -26340549.56 -26340549.39 0.0089 0.0052

Mars -76830-08-16 13:40 J -26340507.04 -26340506.93 -26340506.83 0.1877 0.0800

Neptune -76830-10-01 02:08 J -26340461.54 -26340461.41 -26340461.25 0.0089 0.0059

Moon -76830-10-01 13:25 J -26340461.09 -26340460.94 -26340460.80 0.2598 0.1165

Earth -76830-10-01 15:06 J -26340461.01 -26340460.87 -26340460.74 0.2597 0.1355 *

Pluto -76830-10-31 22:32 J -26340430.60 -26340430.56 -26340430.51 0.0084 0.0079

Neptune -76830-12-28 05:59 J -26340373.38 -26340373.25 -26340373.11 0.0089 0.0065

Pluto -76829-01-27 23:44 J -26340342.58 -26340342.51 -26340342.41 0.0084 0.0068

Neptune -76829-03-25 09:20 J -26340285.21 -26340285.11 -26340284.98 0.0089 0.0072

Pluto -76829-04-25 01:11 J -26340254.54 -26340254.45 -26340254.34 0.0084 0.0056

Neptune -76829-06-21 12:42 J -26340197.03 -26340196.97 -26340196.86 0.0089 0.0079

Pluto -76829-07-22 02:52 J -26340166.49 -26340166.38 -26340166.26 0.0084 0.0044

Venus -76829-08-06 03:49 J -26340151.41 -26340151.34 -26340151.27 0.3789 0.2749

Neptune -76829-09-17 16:47 J -26340108.85 -26340108.80 -26340108.74 0.0089 0.0085

Pluto -76829-10-18 04:18 J -26340078.45 -26340078.32 -26340078.20 0.0084 0.0033

Pluto -76828-01-14 05:30 J -26339990.39 -26339990.27 -26339990.13 0.0084 0.0022

Pluto -76828-04-12 06:56 J -26339902.34 -26339902.21 -26339902.07 0.0084 0.0011

Pluto -76828-07-09 08:23 J -26339814.29 -26339814.15 -26339814.01 0.0084 0.0001

Pluto -76828-10-05 09:49 J -26339726.23 -26339726.09 -26339725.96 0.0083 0.0012

Pluto -76827-01-01 11:01 J -26339638.17 -26339638.04 -26339637.91 0.0083 0.0022

Pluto -76827-03-30 12:13 J -26339550.11 -26339549.99 -26339549.86 0.0083 0.0033

Pluto -76827-06-26 13:25 J -26339462.04 -26339461.94 -26339461.81 0.0083 0.0044

Pluto -76827-09-22 15:06 J -26339373.97 -26339373.87 -26339373.77 0.0083 0.0054

Pluto -76827-12-19 16:04 J -26339285.90 -26339285.83 -26339285.74 0.0083 0.0065

Pluto -76826-03-17 17:16 J -26339197.82 -26339197.78 -26339197.71 0.0083 0.0076

Jupiter -76826-03-25 19:25 J -26339189.80 -26339189.69 -26339189.57 0.0534 0.0255

Jupiter -76826-06-23 02:37 J -26339100.51 -26339100.39 -26339100.27 0.0533 0.0197

Venus -76823-02-19 21:35 J -26338127.70 -26338127.60 -26338127.50 0.3786 0.1549

Mars -76821-03-09 06:42 J -26337379.39 -26337379.22 -26337379.06 0.1659 0.0239

Mars -76820-01-05 21:49 J -26337076.71 -26337076.59 -26337076.47 0.1886 0.0076

Saturn -76820-02-21 06:28 J -26337030.38 -26337030.23 -26337030.07 0.0278 0.0165

Earth -76820-04-02 06:13 J -26336990.35 -26336990.24 -26336990.14 0.2738 0.0131

Moon -76820-04-02 06:56 J -26336990.32 -26336990.21 -26336990.11 0.2738 0.0208 *

Jupiter -76820-05-20 19:11 J -26336941.89 -26336941.70 -26336941.52 0.0493 0.0048

Saturn -76820-05-21 06:13 J -26336941.43 -26336941.24 -26336941.05 0.0279 0.0011

Saturn -76820-08-18 05:30 J -26336852.43 -26336852.27 -26336852.11 0.0280 0.0147

Jupiter -76820-08-19 02:52 J -26336851.41 -26336851.38 -26336851.33 0.0494 0.0480

Venus -76818-09-05 15:35 J -26336103.96 -26336103.85 -26336103.74 0.3783 0.0317

Jupiter -76814-01-11 22:47 J -26334879.64 -26334879.55 -26334879.46 0.0534 0.0377

Jupiter -76814-04-11 05:30 J -26334790.39 -26334790.27 -26334790.14 0.0533 0.0074

Jupiter -76814-07-09 12:56 J -26334700.98 -26334700.96 -26334700.95 0.0532 0.0525

Venus -76812-03-21 09:35 J -26334080.20 -26334080.10 -26334079.99 0.3779 0.0963

Mars -76812-07-30 07:40 J -26333949.29 -26333949.18 -26333949.07 0.1652 0.1210

Mars -76811-05-29 06:13 J -26333646.34 -26333646.24 -26333646.14 0.1894 0.0956

Jupiter -76808-03-08 16:47 J -26332631.97 -26332631.80 -26332631.63 0.0493 0.0178

Jupiter -76808-06-07 00:56 J -26332541.58 -26332541.46 -26332541.33 0.0494 0.0352

Earth -76807-04-05 00:13 J -26332239.59 -26332239.49 -26332239.40 0.2739 0.1346

Moon -76807-04-05 00:42 J -26332239.56 -26332239.47 -26332239.37 0.2736 0.1373 *

Saturn -76807-07-01 09:20 J -26332152.21 -26332152.11 -26332152.02 0.0284 0.0191

Saturn -76807-09-27 20:23 J -26332063.77 -26332063.65 -26332063.52 0.0283 0.0080

Venus -76807-10-05 04:04 J -26332056.42 -26332056.33 -26332056.25 0.3776 0.2256

Saturn -76807-12-25 07:40 J -26331975.31 -26331975.18 -26331975.05 0.0282 0.0031

Saturn -76806-03-23 18:42 J -26331886.83 -26331886.72 -26331886.61 0.0281 0.0139

Saturn -76806-06-20 05:59 J -26331798.31 -26331798.25 -26331798.19 0.0280 0.0247

Uranus -76806-12-11 15:06 J -26331623.90 -26331623.87 -26331623.82 0.0136 0.0130

Uranus -76805-03-08 18:13 J -26331535.80 -26331535.74 -26331535.66 0.0137 0.0114

Uranus -76805-06-04 21:35 J -26331447.69 -26331447.60 -26331447.50 0.0137 0.0097

Uranus -76805-09-01 00:56 J -26331359.57 -26331359.46 -26331359.35 0.0137 0.0080

Uranus -76805-11-28 04:04 J -26331271.44 -26331271.33 -26331271.21 0.0137 0.0064

Uranus -76804-02-24 07:25 J -26331183.32 -26331183.19 -26331183.07 0.0137 0.0047

Uranus -76804-05-23 10:32 J -26331095.18 -26331095.06 -26331094.92 0.0137 0.0030

Uranus -76804-08-19 13:54 J -26331007.05 -26331006.92 -26331006.78 0.0137 0.0013

Uranus -76804-11-15 17:16 J -26330918.91 -26330918.78 -26330918.64 0.0137 0.0005

Uranus -76803-02-11 20:37 J -26330830.77 -26330830.64 -26330830.51 0.0138 0.0022

Uranus -76803-05-10 23:59 J -26330742.63 -26330742.50 -26330742.37 0.0138 0.0039

Uranus -76803-08-07 03:20 J -26330654.48 -26330654.36 -26330654.24 0.0138 0.0057

Venus -76803-10-03 07:25 J -26330597.30 -26330597.19 -26330597.08 0.3593 0.2132

Jupiter -76803-10-31 02:23 J -26330569.44 -26330569.40 -26330569.35 0.0534 0.0491

Uranus -76803-11-03 06:42 J -26330566.33 -26330566.22 -26330566.11 0.0138 0.0074

Jupiter -76802-01-28 09:20 J -26330480.24 -26330480.11 -26330479.99 0.0533 0.0045

Uranus -76802-01-30 10:04 J -26330478.17 -26330478.08 -26330477.98 0.0138 0.0092

Jupiter -76802-04-27 16:32 J -26330390.89 -26330390.81 -26330390.73 0.0532 0.0410

Uranus -76802-04-28 13:25 J -26330390.01 -26330389.94 -26330389.85 0.0138 0.0110

Uranus -76802-07-25 17:01 J -26330301.84 -26330301.79 -26330301.74 0.0138 0.0128

Mars -76802-10-19 14:08 J -26330215.93 -26330215.91 -26330215.89 0.1902 0.1859

Venus -76801-04-19 22:32 J -26330032.59 -26330032.56 -26330032.53 0.3772 0.3584

Moon -76800-03-28 23:01 J -26329689.61 -26329689.54 -26329689.47 0.2743 0.2069

Earth -76800-03-28 23:01 J -26329689.61 -26329689.54 -26329689.47 0.2736 0.2126 *

Mars -76800-09-24 05:30 J -26329510.30 -26329510.27 -26329510.24 0.1868 0.1774

Venus -76797-04-18 08:52 J -26328573.27 -26328573.13 -26328572.99 0.3596 0.0178

Moon -76797-09-28 13:25 J -26328410.10 -26328409.94 -26328409.79 0.2595 0.0718

Earth -76797-09-28 14:52 J -26328410.04 -26328409.88 -26328409.72 0.2598 0.0491 *

Jupiter -76797-12-25 13:54 J -26328322.06 -26328321.92 -26328321.78 0.0492 0.0315

Jupiter -76796-03-25 22:18 J -26328231.74 -26328231.57 -26328231.41 0.0493 0.0217

Earth -76794-04-07 18:13 J -26327488.77 -26327488.74 -26327488.71 0.2740 0.2610

Moon -76794-04-07 18:28 J -26327488.75 -26327488.73 -26327488.71 0.2733 0.2673 *

Venus -76792-11-02 10:04 J -26326549.20 -26326549.08 -26326548.96 0.3600 0.1710

Mars -76791-04-18 06:13 J -26326382.38 -26326382.24 -26326382.10 0.1666 0.0873

Saturn -76791-07-11 06:28 J -26326298.36 -26326298.23 -26326298.10 0.0278 0.0200

Saturn -76791-10-08 05:59 J -26326209.44 -26326209.25 -26326209.06 0.0279 0.0045

Jupiter -76791-11-16 13:11 J -26326170.07 -26326169.95 -26326169.83 0.0534 0.0156

Saturn -76790-01-05 05:16 J -26326120.44 -26326120.28 -26326120.10 0.0280 0.0112

Jupiter -76790-02-13 20:23 J -26326080.76 -26326080.65 -26326080.55 0.0533 0.0297

Mars -76790-02-14 13:40 J -26326080.03 -26326079.93 -26326079.83 0.1877 0.0903

Saturn -76790-04-04 04:47 J -26326031.35 -26326031.30 -26326031.25 0.0281 0.0268

Earth -76787-03-31 17:01 J -26324938.89 -26324938.79 -26324938.69 0.2737 0.0895

Moon -76787-03-31 17:30 J -26324938.87 -26324938.77 -26324938.67 0.2742 0.0877 *

Venus -76786-05-19 10:32 J -26324525.09 -26324525.06 -26324525.03 0.3604 0.3497

Jupiter -76785-10-13 11:01 J -26324012.11 -26324012.04 -26324011.97 0.0492 0.0450

Jupiter -76784-01-11 19:40 J -26323921.86 -26323921.68 -26323921.50 0.0493 0.0084

Moon -76784-10-01 19:54 J -26323658.79 -26323658.67 -26323658.55 0.2598 0.1672

Earth -76784-10-01 21:35 J -26323658.71 -26323658.60 -26323658.49 0.2597 0.1803 *

Mars -76782-09-08 07:25 J -26322952.36 -26322952.19 -26322952.03 0.1659 0.0104

Mars -76781-07-06 21:49 J -26322649.70 -26322649.59 -26322649.47 0.1885 0.0052

Jupiter -76779-09-04 17:30 J -26321859.88 -26321859.77 -26321859.66 0.0534 0.0264

Jupiter -76779-12-03 00:28 J -26321770.60 -26321770.48 -26321770.36 0.0533 0.0188

Venus -76778-08-28 08:08 J -26321502.19 -26321502.16 -26321502.13 0.3791 0.3549

Saturn -76778-11-18 11:44 J -26321420.09 -26321420.01 -26321419.93 0.0284 0.0222

Saturn -76777-02-14 22:47 J -26321331.67 -26321331.55 -26321331.43 0.0283 0.0112

Saturn -76777-05-13 10:04 J -26321243.21 -26321243.08 -26321242.95 0.0282 0.0002

Saturn -76777-08-09 21:06 J -26321154.74 -26321154.62 -26321154.49 0.0281 0.0108

Saturn -76777-11-06 08:08 J -26321066.23 -26321066.16 -26321066.07 0.0280 0.0217

Earth -76774-04-03 11:01 J -26320188.15 -26320188.04 -26320187.93 0.2738 0.0354

Moon -76774-04-03 11:44 J -26320188.12 -26320188.01 -26320187.90 0.2738 0.0453 *

Jupiter -76773-10-30 16:04 J -26319612.01 -26319611.83 -26319611.64 0.0493 0.0059

Mars -76772-01-28 08:23 J -26319522.27 -26319522.15 -26319522.02 0.1652 0.1066

Jupiter -76772-01-28 23:59 J -26319521.55 -26319521.50 -26319521.44 0.0494 0.0470

Venus -76772-03-13 01:54 J -26319478.51 -26319478.42 -26319478.34 0.3788 0.2366

Mars -76772-11-27 05:59 J -26319219.35 -26319219.25 -26319219.15 0.1894 0.0865

Jupiter -76767-06-23 21:35 J -26317549.69 -26317549.60 -26317549.51 0.0534 0.0375

Jupiter -76767-09-21 04:18 J -26317460.44 -26317460.32 -26317460.19 0.0533 0.0077

Venus -76767-09-26 19:40 J -26317454.78 -26317454.68 -26317454.58 0.3785 0.1146

Jupiter -76767-12-19 11:44 J -26317371.02 -26317371.01 -26317371.00 0.0532 0.0528

Uranus -76766-10-26 12:28 J -26317060.08 -26317059.98 -26317059.87 0.0142 0.0117

Uranus -76765-01-22 20:23 J -26316971.78 -26316971.65 -26316971.49 0.0142 0.0090

Uranus -76765-04-20 04:32 J -26316883.48 -26316883.31 -26316883.13 0.0142 0.0063

Uranus -76765-07-17 12:28 J -26316795.16 -26316794.98 -26316794.79 0.0141 0.0036

Uranus -76765-10-13 20:23 J -26316706.84 -26316706.65 -26316706.46 0.0141 0.0009

Uranus -76764-01-10 04:18 J -26316618.51 -26316618.32 -26316618.13 0.0141 0.0018

Uranus -76764-04-08 11:59 J -26316530.18 -26316530.00 -26316529.82 0.0141 0.0044

Uranus -76764-07-05 19:40 J -26316441.84 -26316441.68 -26316441.51 0.0141 0.0070

Moon -76764-09-26 13:25 J -26316358.96 -26316358.94 -26316358.91 0.2593 0.2550

Earth -76764-09-26 14:23 J -26316358.96 -26316358.90 -26316358.84 0.2599 0.2365 *

Uranus -76764-10-02 03:06 J -26316353.49 -26316353.37 -26316353.22 0.0141 0.0097

Uranus -76764-12-29 11:01 J -26316265.13 -26316265.04 -26316264.94 0.0140 0.0122

Mars -76762-04-19 14:08 J -26315788.95 -26315788.91 -26315788.87 0.1902 0.1752

Saturn -76762-11-28 05:59 J -26315566.34 -26315566.25 -26315566.15 0.0278 0.0237

Saturn -76761-02-25 05:44 J -26315477.44 -26315477.26 -26315477.08 0.0278 0.0082

Earth -76761-04-05 05:01 J -26315437.38 -26315437.29 -26315437.20 0.2739 0.1604

Moon -76761-04-05 05:30 J -26315437.35 -26315437.27 -26315437.18 0.2734 0.1685 *

Venus -76761-04-11 13:40 J -26315431.04 -26315430.93 -26315430.82 0.3782 0.0103

Saturn -76761-05-24 05:16 J -26315388.46 -26315388.28 -26315388.10 0.0279 0.0075

Jupiter -76761-08-18 13:40 J -26315302.10 -26315301.93 -26315301.76 0.0493 0.0191

Saturn -76761-08-21 04:32 J -26315299.41 -26315299.31 -26315299.20 0.0280 0.0231

Jupiter -76761-11-16 21:49 J -26315211.72 -26315211.59 -26315211.46 0.0494 0.0340

Venus -76756-10-26 07:54 J -26313407.28 -26313407.17 -26313407.07 0.3778 0.1386

Jupiter -76755-04-12 00:42 J -26313239.51 -26313239.47 -26313239.43 0.0534 0.0497

Jupiter -76755-07-10 07:25 J -26313150.31 -26313150.19 -26313150.06 0.0533 0.0050

Jupiter -76755-10-07 14:37 J -26313060.97 -26313060.89 -26313060.81 0.0532 0.0403

Earth -76754-03-30 03:49 J -26312887.42 -26312887.34 -26312887.26 0.2736 0.1870

Moon -76754-03-30 04:04 J -26312887.41 -26312887.33 -26312887.26 0.2743 0.1933 *

Neptune -76754-12-17 08:52 J -26312625.15 -26312625.13 -26312625.09 0.0089 0.0086

Neptune -76753-03-14 10:04 J -26312537.12 -26312537.08 -26312537.02 0.0089 0.0082

Neptune -76753-06-10 11:30 J -26312449.08 -26312449.02 -26312448.95 0.0089 0.0077

Neptune -76753-09-06 12:42 J -26312361.04 -26312360.97 -26312360.89 0.0089 0.0073

Neptune -76753-12-03 14:08 J -26312272.99 -26312272.91 -26312272.82 0.0089 0.0068

Neptune -76752-03-01 15:20 J -26312184.94 -26312184.86 -26312184.76 0.0089 0.0064

Neptune -76752-05-28 16:47 J -26312096.90 -26312096.80 -26312096.70 0.0089 0.0059

Neptune -76752-08-24 17:44 J -26312008.85 -26312008.76 -26312008.64 0.0089 0.0055

Mars -76752-10-17 06:42 J -26311955.35 -26311955.22 -26311955.09 0.1666 0.1000

Venus -76752-10-24 05:44 J -26311948.29 -26311948.26 -26311948.24 0.3590 0.3513

Neptune -76752-11-20 19:11 J -26311920.80 -26311920.70 -26311920.58 0.0089 0.0050

Neptune -76751-02-16 20:37 J -26311832.75 -26311832.64 -26311832.52 0.0089 0.0045

Neptune -76751-05-15 21:49 J -26311744.70 -26311744.59 -26311744.46 0.0089 0.0041

Neptune -76751-08-11 23:16 J -26311656.65 -26311656.53 -26311656.41 0.0089 0.0036

Mars -76751-08-15 13:40 J -26311653.02 -26311652.93 -26311652.83 0.1877 0.1017

Moon -76751-09-29 19:40 J -26311607.84 -26311607.68 -26311607.52 0.2596 0.0111

Earth -76751-09-29 21:20 J -26311607.77 -26311607.61 -26311607.45 0.2598 0.0048 *

Neptune -76751-11-08 00:28 J -26311568.60 -26311568.48 -26311568.35 0.0089 0.0032

Neptune -76750-02-04 01:54 J -26311480.54 -26311480.42 -26311480.29 0.0089 0.0027

Neptune -76750-05-03 03:06 J -26311392.49 -26311392.37 -26311392.24 0.0089 0.0023

Venus -76750-05-12 02:08 J -26311383.48 -26311383.41 -26311383.33 0.3775 0.2698

Neptune -76750-07-30 04:32 J -26311304.44 -26311304.31 -26311304.18 0.0089 0.0018

Neptune -76750-10-26 05:44 J -26311216.39 -26311216.26 -26311216.12 0.0089 0.0014

Neptune -76749-01-22 07:11 J -26311128.33 -26311128.20 -26311128.07 0.0089 0.0008

Neptune -76749-04-19 08:37 J -26311040.28 -26311040.14 -26311040.01 0.0089 0.0005

Jupiter -76749-06-06 11:16 J -26310992.17 -26310992.03 -26310991.89 0.0493 0.0321

Neptune -76749-07-16 09:49 J -26310952.22 -26310952.09 -26310951.96 0.0089 0.0001

Jupiter -76749-09-04 19:40 J -26310901.84 -26310901.68 -26310901.51 0.0493 0.0213

Neptune -76749-10-12 11:16 J -26310864.17 -26310864.03 -26310863.90 0.0089 0.0006

Neptune -76748-01-08 12:28 J -26310776.11 -26310775.98 -26310775.85 0.0089 0.0010

Neptune -76748-04-06 13:40 J -26310688.05 -26310687.93 -26310687.79 0.0089 0.0015

Saturn -76748-04-06 15:35 J -26310687.92 -26310687.85 -26310687.79 0.0284 0.0241 *

Neptune -76748-07-03 15:06 J -26310600.00 -26310599.87 -26310599.74 0.0089 0.0019

Saturn -76748-07-04 02:37 J -26310599.50 -26310599.39 -26310599.27 0.0283 0.0131

Neptune -76748-09-29 16:18 J -26310511.94 -26310511.82 -26310511.69 0.0089 0.0024

Saturn -76748-09-30 13:54 J -26310511.05 -26310510.92 -26310510.79 0.0282 0.0021

Neptune -76748-12-26 17:44 J -26310423.88 -26310423.76 -26310423.63 0.0089 0.0029

Saturn -76748-12-28 00:56 J -26310422.58 -26310422.46 -26310422.33 0.0281 0.0089

Neptune -76747-03-24 19:11 J -26310335.83 -26310335.70 -26310335.58 0.0089 0.0033

Saturn -76747-03-26 11:59 J -26310334.09 -26310334.00 -26310333.90 0.0280 0.0198

Neptune -76747-06-20 20:23 J -26310247.77 -26310247.65 -26310247.53 0.0089 0.0038

Neptune -76747-09-16 21:35 J -26310159.71 -26310159.60 -26310159.48 0.0089 0.0043

Neptune -76747-12-13 23:01 J -26310071.65 -26310071.54 -26310071.42 0.0089 0.0047

Neptune -76746-03-12 00:13 J -26309983.59 -26309983.49 -26309983.37 0.0089 0.0052

Venus -76746-05-10 07:40 J -26309924.31 -26309924.18 -26309924.06 0.3594 0.1495

Neptune -76746-06-08 01:40 J -26309895.53 -26309895.43 -26309895.32 0.0089 0.0057

Neptune -76746-09-04 03:06 J -26309807.46 -26309807.37 -26309807.27 0.0089 0.0061

Neptune -76746-12-01 04:18 J -26309719.40 -26309719.32 -26309719.22 0.0089 0.0066

Neptune -76745-02-27 05:30 J -26309631.34 -26309631.27 -26309631.18 0.0089 0.0071

Neptune -76745-05-25 07:11 J -26309543.27 -26309543.20 -26309543.13 0.0089 0.0075

Neptune -76745-08-21 08:23 J -26309455.20 -26309455.15 -26309455.09 0.0089 0.0080

Neptune -76745-11-17 09:35 J -26309367.12 -26309367.10 -26309367.05 0.0089 0.0085

Jupiter -76743-04-28 11:16 J -26308840.15 -26308840.03 -26308839.91 0.0534 0.0166

Jupiter -76743-07-26 18:13 J -26308750.85 -26308750.74 -26308750.63 0.0533 0.0287

Mars -76742-03-09 08:08 J -26308525.33 -26308525.16 -26308525.00 0.1659 0.0059

Mars -76741-01-05 21:49 J -26308222.71 -26308222.59 -26308222.47 0.1885 0.0129

Earth -76741-03-31 21:49 J -26308136.70 -26308136.59 -26308136.48 0.2737 0.0641

Moon -76741-03-31 22:18 J -26308136.67 -26308136.57 -26308136.46 0.2741 0.0522 *

Venus -76741-11-23 09:06 J -26307900.26 -26307900.12 -26307899.99 0.3597 0.0463

Moon -76738-10-03 02:23 J -26306856.49 -26306856.40 -26306856.30 0.2598 0.2034

Earth -76738-10-03 04:18 J -26306856.40 -26306856.32 -26306856.25 0.2597 0.2257 *

Jupiter -76737-03-25 08:23 J -26306682.21 -26306682.15 -26306682.08 0.0492 0.0458

Jupiter -76737-06-23 17:01 J -26306591.97 -26306591.79 -26306591.61 0.0493 0.0077

Venus -76735-06-09 10:04 J -26305876.19 -26305876.08 -26305875.98 0.3601 0.2313

Mars -76733-07-29 09:06 J -26305095.26 -26305095.12 -26305094.99 0.1652 0.0933

Saturn -76732-04-16 05:59 J -26304834.28 -26304834.25 -26304834.22 0.0278 0.0272

Mars -76732-05-28 05:59 J -26304792.35 -26304792.25 -26304792.14 0.1894 0.0756

Saturn -76732-07-14 05:30 J -26304745.44 -26304745.27 -26304745.10 0.0279 0.0117

Saturn -76732-10-11 05:01 J -26304656.47 -26304656.29 -26304656.10 0.0280 0.0040

Saturn -76731-01-08 04:18 J -26304567.44 -26304567.32 -26304567.18 0.0280 0.0197

Jupiter -76731-02-14 15:06 J -26304529.98 -26304529.87 -26304529.76 0.0534 0.0278

Jupiter -76731-05-14 22:04 J -26304440.70 -26304440.58 -26304440.46 0.0533 0.0174

Earth -76728-04-03 15:49 J -26303385.95 -26303385.84 -26303385.73 0.2738 0.0605

Moon -76728-04-03 16:32 J -26303385.92 -26303385.81 -26303385.71 0.2738 0.0677 *

Jupiter -76725-04-11 14:23 J -26302282.08 -26302281.90 -26302281.72 0.0493 0.0058

Jupiter -76725-07-10 22:04 J -26302191.63 -26302191.58 -26302191.52 0.0494 0.0470

Mars -76723-10-18 14:08 J -26301361.96 -26301361.91 -26301361.85 0.1901 0.1653

Uranus -76722-12-31 22:18 J -26300922.62 -26300922.57 -26300922.52 0.0136 0.0127

Uranus -76721-03-29 01:25 J -26300834.51 -26300834.44 -26300834.36 0.0137 0.0110

Venus -76721-04-03 06:13 J -26300829.30 -26300829.24 -26300829.19 0.3790 0.3174

Uranus -76721-06-25 04:32 J -26300746.40 -26300746.31 -26300746.21 0.0137 0.0094

Uranus -76721-09-21 07:54 J -26300658.28 -26300658.17 -26300658.06 0.0137 0.0077

Uranus -76721-12-18 11:01 J -26300570.15 -26300570.04 -26300569.91 0.0137 0.0061

Uranus -76720-03-16 14:23 J -26300482.02 -26300481.90 -26300481.77 0.0137 0.0044

Uranus -76720-06-12 17:44 J -26300393.89 -26300393.76 -26300393.63 0.0137 0.0027

Uranus -76720-09-08 21:06 J -26300305.76 -26300305.62 -26300305.49 0.0137 0.0010

Jupiter -76720-12-03 19:25 J -26300219.77 -26300219.69 -26300219.60 0.0534 0.0385

Uranus -76720-12-06 00:28 J -26300217.62 -26300217.48 -26300217.35 0.0138 0.0009

Jupiter -76719-03-03 02:23 J -26300130.53 -26300130.40 -26300130.27 0.0534 0.0066

Uranus -76719-03-04 03:35 J -26300129.48 -26300129.35 -26300129.21 0.0138 0.0025

Uranus -76719-05-31 06:56 J -26300041.33 -26300041.21 -26300041.08 0.0138 0.0043

Jupiter -76719-05-31 09:35 J -26300041.12 -26300041.10 -26300041.07 0.0532 0.0520 *

Saturn -76719-08-24 17:59 J -26299955.78 -26299955.75 -26299955.72 0.0284 0.0272

Uranus -76719-08-27 10:18 J -26299953.18 -26299953.07 -26299952.94 0.0138 0.0060

Saturn -76719-11-21 05:01 J -26299867.39 -26299867.29 -26299867.18 0.0283 0.0162

Uranus -76719-11-23 13:40 J -26299865.03 -26299864.93 -26299864.81 0.0138 0.0078

Saturn -76718-02-17 16:18 J -26299778.95 -26299778.82 -26299778.69 0.0282 0.0051

Uranus -76718-02-19 17:16 J -26299776.88 -26299776.78 -26299776.68 0.0138 0.0095

Saturn -76718-05-17 03:20 J -26299690.48 -26299690.36 -26299690.23 0.0281 0.0058

Uranus -76718-05-18 20:37 J -26299688.71 -26299688.64 -26299688.56 0.0138 0.0113

Saturn -76718-08-13 14:23 J -26299602.00 -26299601.90 -26299601.79 0.0280 0.0167

Uranus -76718-08-14 23:59 J -26299600.53 -26299600.50 -26299600.45 0.0138 0.0131

Moon -76718-09-27 19:54 J -26299556.77 -26299556.67 -26299556.56 0.2594 0.1910

Earth -76718-09-27 21:06 J -26299556.73 -26299556.62 -26299556.51 0.2599 0.1901 *

Saturn -76718-11-10 01:40 J -26299513.45 -26299513.43 -26299513.41 0.0279 0.0275

Venus -76716-10-17 23:44 J -26298805.60 -26298805.51 -26298805.41 0.3787 0.1974

Earth -76715-04-06 09:49 J -26298635.17 -26298635.09 -26298635.01 0.2739 0.1864

Moon -76715-04-06 10:18 J -26298635.15 -26298635.07 -26298634.99 0.2733 0.1904 *

Jupiter -76713-01-29 10:47 J -26297972.21 -26297972.05 -26297971.88 0.0493 0.0199

Jupiter -76713-04-28 18:56 J -26297881.84 -26297881.71 -26297881.57 0.0494 0.0332

Mars -76712-04-17 07:40 J -26297528.30 -26297528.18 -26297528.07 0.1666 0.1141

Mars -76711-02-13 13:40 J -26297226.03 -26297225.93 -26297225.84 0.1877 0.1106

Venus -76710-05-03 17:44 J -26296781.87 -26296781.76 -26296781.65 0.3784 0.0738

Moon -76708-03-30 08:52 J -26296085.22 -26296085.13 -26296085.04 0.2743 0.1545

Earth -76708-03-30 08:37 J -26296085.22 -26296085.14 -26296085.05 0.2736 0.1620 *

Jupiter -76708-09-21 23:30 J -26295909.56 -26295909.52 -26295909.47 0.0534 0.0494

Jupiter -76708-12-20 06:28 J -26295820.36 -26295820.23 -26295820.11 0.0534 0.0050

Jupiter -76707-03-19 13:40 J -26295731.02 -26295730.93 -26295730.85 0.0532 0.0408

Moon -76705-09-30 02:23 J -26294805.56 -26294805.40 -26294805.24 0.2597 0.0152

Earth -76705-09-30 04:04 J -26294805.49 -26294805.33 -26294805.17 0.2598 0.0430 *

Venus -76705-11-16 11:44 J -26294758.12 -26294758.01 -26294757.90 0.3781 0.0534

Mars -76703-09-07 08:37 J -26294098.31 -26294098.14 -26294097.98 0.1659 0.0167

Saturn -76703-12-01 04:04 J -26294013.48 -26294013.33 -26294013.17 0.0278 0.0160

Saturn -76702-02-28 03:49 J -26293924.53 -26293924.34 -26293924.15 0.0279 0.0005

Saturn -76702-05-28 03:20 J -26293835.51 -26293835.36 -26293835.20 0.0280 0.0153

Mars -76702-07-06 21:49 J -26293795.70 -26293795.59 -26293795.47 0.1885 0.0239

Jupiter -76702-11-17 08:23 J -26293662.29 -26293662.15 -26293662.02 0.0493 0.0332

Jupiter -76701-02-15 16:47 J -26293571.96 -26293571.80 -26293571.63 0.0493 0.0202

Venus -76699-06-02 05:59 J -26292734.34 -26292734.25 -26292734.15 0.3777 0.1820

Jupiter -76696-10-08 09:35 J -26291510.22 -26291510.10 -26291509.98 0.0534 0.0170

Jupiter -76695-01-05 16:32 J -26291420.92 -26291420.81 -26291420.70 0.0533 0.0282

Earth -76695-04-02 02:37 J -26291334.50 -26291334.39 -26291334.28 0.2737 0.0384

Moon -76695-04-02 03:20 J -26291334.47 -26291334.36 -26291334.25 0.2740 0.0366 *

Venus -76695-05-31 05:59 J -26291275.33 -26291275.25 -26291275.16 0.3591 0.2854

Venus -76694-12-17 00:28 J -26290710.54 -26290710.48 -26290710.42 0.3774 0.3145

Mars -76693-01-28 09:35 J -26290668.24 -26290668.10 -26290667.95 0.1653 0.0801

Mars -76693-11-26 06:13 J -26290365.35 -26290365.24 -26290365.13 0.1893 0.0649

Jupiter -76690-09-05 05:59 J -26289352.31 -26289352.25 -26289352.19 0.0493 0.0462

Jupiter -76690-12-04 14:52 J -26289262.06 -26289261.88 -26289261.70 0.0493 0.0074

Venus -76690-12-15 07:40 J -26289251.31 -26289251.18 -26289251.04 0.3595 0.0861

Saturn -76689-04-09 08:52 J -26289135.23 -26289135.13 -26289135.03 0.0284 0.0182

Saturn -76689-07-06 19:54 J -26289046.79 -26289046.67 -26289046.54 0.0283 0.0072

Saturn -76689-10-03 07:11 J -26288958.33 -26288958.20 -26288958.07 0.0282 0.0039

Saturn -76689-12-30 18:13 J -26288869.85 -26288869.74 -26288869.63 0.0281 0.0147

Saturn -76688-03-29 05:16 J -26288781.33 -26288781.28 -26288781.22 0.0280 0.0256

Venus -76684-06-30 09:06 J -26287227.25 -26287227.12 -26287226.99 0.3598 0.1072

Jupiter -76684-07-27 13:11 J -26287200.05 -26287199.95 -26287199.84 0.0534 0.0285

Jupiter -76684-10-24 20:08 J -26287110.78 -26287110.66 -26287110.54 0.0533 0.0166

Mars -76683-04-18 14:08 J -26286934.97 -26286934.91 -26286934.85 0.1901 0.1555

Earth -76682-04-04 20:37 J -26286583.74 -26286583.64 -26286583.54 0.2738 0.0863

Moon -76682-04-04 21:20 J -26286583.71 -26286583.61 -26286583.51 0.2737 0.0983 *

Uranus -76682-08-19 11:30 J -26286447.05 -26286447.02 -26286446.98 0.0142 0.0139

Uranus -76682-11-15 19:25 J -26286358.79 -26286358.69 -26286358.56 0.0142 0.0112

Uranus -76681-02-12 03:35 J -26286270.49 -26286270.35 -26286270.19 0.0142 0.0085

Uranus -76681-05-10 11:30 J -26286182.18 -26286182.02 -26286181.83 0.0141 0.0058

Uranus -76681-08-06 19:40 J -26286093.86 -26286093.68 -26286093.49 0.0141 0.0030

Uranus -76681-11-03 03:35 J -26286005.54 -26286005.35 -26286005.16 0.0141 0.0003

Uranus -76680-01-30 11:30 J -26285917.21 -26285917.02 -26285916.83 0.0141 0.0023

Uranus -76680-04-28 18:56 J -26285828.88 -26285828.71 -26285828.52 0.0141 0.0050

Uranus -76680-07-26 02:37 J -26285740.54 -26285740.39 -26285740.22 0.0141 0.0076

Uranus -76680-10-22 10:18 J -26285652.19 -26285652.07 -26285651.93 0.0141 0.0102

Uranus -76679-01-18 18:13 J -26285563.82 -26285563.74 -26285563.66 0.0140 0.0127

Venus -76678-01-14 09:49 J -26285203.16 -26285203.09 -26285203.01 0.3602 0.2909

Jupiter -76678-09-22 11:59 J -26284952.18 -26284952.00 -26284951.81 0.0493 0.0063

Jupiter -76678-12-21 19:54 J -26284861.72 -26284861.67 -26284861.61 0.0494 0.0466

Moon -76675-03-28 19:25 J -26284033.72 -26284033.69 -26284033.66 0.2742 0.2592

Earth -76675-03-28 19:40 J -26284033.71 -26284033.68 -26284033.65 0.2735 0.2589 *

Pluto -76675-04-26 14:08 J -26284004.96 -26284004.91 -26284004.82 0.0060 0.0055

Pluto -76675-07-23 15:35 J -26283916.94 -26283916.85 -26283916.73 0.0060 0.0049

Pluto -76675-10-19 16:32 J -26283828.91 -26283828.81 -26283828.66 0.0060 0.0045

Pluto -76674-01-15 18:13 J -26283740.87 -26283740.74 -26283740.58 0.0060 0.0038

Pluto -76674-04-13 19:40 J -26283652.83 -26283652.68 -26283652.52 0.0060 0.0033

Pluto -76674-07-10 20:37 J -26283564.79 -26283564.64 -26283564.45 0.0060 0.0028

Pluto -76674-10-06 22:04 J -26283476.74 -26283476.58 -26283476.39 0.0060 0.0022

Pluto -76673-01-02 23:44 J -26283388.69 -26283388.51 -26283388.33 0.0060 0.0016

Pluto -76673-03-31 00:42 J -26283300.64 -26283300.47 -26283300.27 0.0060 0.0011

Saturn -76673-04-19 03:49 J -26283281.47 -26283281.34 -26283281.20 0.0278 0.0196

Pluto -76673-06-27 02:23 J -26283212.59 -26283212.40 -26283212.21 0.0061 0.0004

Saturn -76673-07-17 03:35 J -26283192.54 -26283192.35 -26283192.16 0.0279 0.0040

Pluto -76673-09-23 03:49 J -26283124.53 -26283124.34 -26283124.15 0.0061 0.0002

Saturn -76673-10-14 02:52 J -26283103.54 -26283103.38 -26283103.20 0.0280 0.0117

Mars -76673-10-16 08:08 J -26283101.26 -26283101.16 -26283101.05 0.1666 0.1279

Pluto -76673-12-20 05:01 J -26283036.48 -26283036.29 -26283036.10 0.0061 0.0007

Saturn -76672-01-11 02:08 J -26283014.43 -26283014.41 -26283014.36 0.0281 0.0274

Pluto -76672-03-18 06:13 J -26282948.42 -26282948.24 -26282948.05 0.0061 0.0014

Jupiter -76672-05-15 17:01 J -26282889.87 -26282889.79 -26282889.70 0.0534 0.0398

Pluto -76672-06-14 07:40 J -26282860.35 -26282860.18 -26282859.99 0.0061 0.0019

Jupiter -76672-08-12 23:59 J -26282800.63 -26282800.50 -26282800.37 0.0534 0.0053

Mars -76672-08-14 13:40 J -26282799.02 -26282798.93 -26282798.84 0.1877 0.1213

Pluto -76672-09-10 09:06 J -26282772.29 -26282772.12 -26282771.94 0.0061 0.0025

Moon -76672-09-28 02:23 J -26282754.53 -26282754.40 -26282754.27 0.2595 0.1614

Earth -76672-09-28 03:35 J -26282754.48 -26282754.35 -26282754.21 0.2599 0.1438 *

Jupiter -76672-11-10 07:25 J -26282711.23 -26282711.19 -26282711.16 0.0532 0.0507

Pluto -76672-12-07 10:18 J -26282684.22 -26282684.07 -26282683.90 0.0061 0.0031

Pluto -76671-03-05 11:30 J -26282596.15 -26282596.02 -26282595.85 0.0061 0.0037

Pluto -76671-06-01 12:56 J -26282508.08 -26282507.96 -26282507.81 0.0061 0.0043

Pluto -76671-08-28 14:23 J -26282420.00 -26282419.90 -26282419.77 0.0061 0.0049

Pluto -76671-11-24 15:35 J -26282331.91 -26282331.85 -26282331.75 0.0061 0.0056

Pluto -76670-02-20 17:30 J -26282243.77 -26282243.77 -26282243.77 0.0061 0.0061

Neptune -76670-03-06 16:04 J -26282229.84 -26282229.83 -26282229.77 0.0089 0.0088

Neptune -76670-06-02 19:54 J -26282141.73 -26282141.67 -26282141.57 0.0089 0.0081

Neptune -76670-08-29 23:44 J -26282053.60 -26282053.51 -26282053.39 0.0089 0.0074

Neptune -76670-11-26 03:35 J -26281965.47 -26281965.35 -26281965.21 0.0089 0.0067

Neptune -76669-02-22 07:25 J -26281877.33 -26281877.19 -26281877.04 0.0089 0.0060

Earth -76669-04-06 14:37 J -26281832.95 -26281832.89 -26281832.82 0.2739 0.2122

Moon -76669-04-06 15:06 J -26281832.94 -26281832.87 -26281832.80 0.2733 0.2149 *

Neptune -76669-05-20 10:47 J -26281789.18 -26281789.05 -26281788.87 0.0089 0.0054

Neptune -76669-08-16 14:37 J -26281701.04 -26281700.89 -26281700.71 0.0089 0.0047

Neptune -76669-11-12 18:28 J -26281612.89 -26281612.73 -26281612.54 0.0089 0.0040

Neptune -76668-02-08 22:18 J -26281524.75 -26281524.57 -26281524.38 0.0089 0.0033

Neptune -76668-05-08 02:08 J -26281436.60 -26281436.41 -26281436.22 0.0089 0.0026

Neptune -76668-08-04 05:44 J -26281348.45 -26281348.26 -26281348.06 0.0089 0.0019

Neptune -76668-10-31 09:20 J -26281260.30 -26281260.11 -26281259.91 0.0089 0.0013

Neptune -76667-01-27 13:11 J -26281172.14 -26281171.95 -26281171.75 0.0089 0.0006

Neptune -76667-04-25 16:47 J -26281083.99 -26281083.80 -26281083.60 0.0089 0.0003

Neptune -76667-07-22 20:37 J -26280995.84 -26280995.64 -26280995.45 0.0089 0.0008

Neptune -76667-10-19 00:13 J -26280907.68 -26280907.49 -26280907.29 0.0089 0.0015

Neptune -76666-01-15 03:49 J -26280819.52 -26280819.34 -26280819.14 0.0089 0.0022

Neptune -76666-04-13 07:25 J -26280731.37 -26280731.19 -26280731.00 0.0089 0.0029

Neptune -76666-07-10 11:01 J -26280643.21 -26280643.04 -26280642.85 0.0089 0.0036

Jupiter -76666-07-11 09:20 J -26280642.28 -26280642.11 -26280641.94 0.0493 0.0196

Neptune -76666-10-06 14:52 J -26280555.05 -26280554.88 -26280554.70 0.0089 0.0042

Jupiter -76666-10-09 17:30 J -26280551.90 -26280551.77 -26280551.64 0.0493 0.0335

Neptune -76665-01-02 18:28 J -26280466.89 -26280466.73 -26280466.56 0.0089 0.0049

Neptune -76665-03-30 21:49 J -26280378.72 -26280378.59 -26280378.42 0.0089 0.0056

Neptune -76665-06-27 01:25 J -26280290.56 -26280290.44 -26280290.28 0.0089 0.0063

Neptune -76665-09-23 05:16 J -26280202.39 -26280202.28 -26280202.15 0.0089 0.0069

Venus -76665-11-08 04:04 J -26280156.40 -26280156.33 -26280156.25 0.3789 0.2782

Neptune -76665-12-20 08:37 J -26280114.22 -26280114.14 -26280114.02 0.0089 0.0076

Neptune -76664-03-18 12:42 J -26280026.04 -26280025.97 -26280025.90 0.0089 0.0082

Mars -76663-03-08 09:20 J -26279671.27 -26279671.11 -26279670.95 0.1659 0.0305

Mars -76662-01-04 21:49 J -26279368.70 -26279368.59 -26279368.47 0.1885 0.0343

Earth -76662-03-31 13:25 J -26279283.03 -26279282.94 -26279282.84 0.2736 0.1368

Moon -76662-03-31 13:54 J -26279283.02 -26279282.92 -26279282.83 0.2742 0.1383 *

Jupiter -76660-03-03 21:35 J -26278579.64 -26278579.60 -26278579.56 0.0535 0.0503

Jupiter -76660-06-01 04:18 J -26278490.45 -26278490.32 -26278490.19 0.0534 0.0055

Saturn -76660-08-27 11:16 J -26278403.12 -26278403.03 -26278402.95 0.0283 0.0214

Jupiter -76660-08-29 11:30 J -26278401.10 -26278401.02 -26278400.93 0.0533 0.0399

Saturn -76660-11-23 22:18 J -26278314.69 -26278314.57 -26278314.45 0.0282 0.0103

Saturn -76659-02-20 09:35 J -26278226.23 -26278226.10 -26278225.97 0.0281 0.0010

Saturn -76659-05-19 20:37 J -26278137.76 -26278137.64 -26278137.52 0.0281 0.0115

Venus -76659-05-24 21:49 J -26278132.68 -26278132.59 -26278132.49 0.3786 0.1571

Saturn -76659-08-16 07:40 J -26278049.25 -26278049.18 -26278049.10 0.0280 0.0224

Moon -76659-10-01 08:52 J -26278003.28 -26278003.13 -26278002.98 0.2597 0.0809

Earth -76659-10-01 10:32 J -26278003.21 -26278003.06 -26278002.90 0.2598 0.0886 *

Jupiter -76654-04-29 05:59 J -26276332.39 -26276332.25 -26276332.12 0.0492 0.0337

Jupiter -76654-07-28 14:23 J -26276242.07 -26276241.90 -26276241.73 0.0493 0.0197

Mars -76654-07-29 10:18 J -26276241.22 -26276241.07 -26276240.92 0.1653 0.0661

Venus -76654-12-08 15:49 J -26276108.95 -26276108.84 -26276108.73 0.3783 0.0327

Mars -76653-05-27 05:59 J -26275938.36 -26275938.25 -26275938.14 0.1893 0.0555

Earth -76649-04-02 07:25 J -26274532.30 -26274532.19 -26274532.08 0.2737 0.0143

Moon -76649-04-02 08:08 J -26274532.27 -26274532.16 -26274532.05 0.2740 0.0026 *

Jupiter -76648-03-20 08:23 J -26274180.27 -26274180.15 -26274180.03 0.0534 0.0165

Jupiter -76648-06-17 15:35 J -26274090.96 -26274090.85 -26274090.74 0.0533 0.0288

Venus -76648-06-23 10:04 J -26274085.19 -26274085.08 -26274084.98 0.3780 0.0961

Mars -76645-12-18 11:16 J -26272811.05 -26272811.03 -26272811.00 0.1646 0.1625

Saturn -76644-09-06 01:54 J -26272549.51 -26272549.42 -26272549.33 0.0278 0.0244

Mars -76644-10-17 14:08 J -26272507.98 -26272507.91 -26272507.83 0.1901 0.1446

Saturn -76644-12-04 01:25 J -26272460.62 -26272460.44 -26272460.26 0.0279 0.0088

Saturn -76643-03-03 01:11 J -26272371.64 -26272371.45 -26272371.27 0.0280 0.0069

Saturn -76643-05-31 00:28 J -26272282.58 -26272282.48 -26272282.36 0.0280 0.0226

Venus -76642-01-07 04:18 J -26272061.41 -26272061.32 -26272061.23 0.3776 0.2261

Jupiter -76642-02-15 03:20 J -26272022.41 -26272022.36 -26272022.30 0.0492 0.0469

Jupiter -76642-05-16 12:13 J -26271932.17 -26271931.99 -26271931.81 0.0493 0.0067

Venus -76638-01-05 06:13 J -26270602.35 -26270602.24 -26270602.13 0.3592 0.2204

Uranus -76637-01-21 05:01 J -26270221.34 -26270221.29 -26270221.24 0.0137 0.0125

Uranus -76637-04-18 08:08 J -26270133.23 -26270133.16 -26270133.08 0.0137 0.0109

Uranus -76637-07-15 11:30 J -26270045.12 -26270045.02 -26270044.92 0.0137 0.0092

Venus -76637-07-22 22:47 J -26270037.58 -26270037.55 -26270037.52 0.3773 0.3599

Uranus -76637-10-11 14:37 J -26269957.00 -26269956.89 -26269956.78 0.0137 0.0075

Jupiter -76636-01-06 11:44 J -26269870.12 -26269870.01 -26269869.90 0.0534 0.0287

Uranus -76636-01-07 17:44 J -26269868.87 -26269868.76 -26269868.63 0.0137 0.0059

Earth -76636-04-05 01:25 J -26269781.54 -26269781.44 -26269781.34 0.2739 0.1123

Moon -76636-04-05 02:08 J -26269781.51 -26269781.41 -26269781.31 0.2735 0.1138 *

Jupiter -76636-04-05 18:42 J -26269780.84 -26269780.72 -26269780.60 0.0533 0.0164

Uranus -76636-04-05 21:06 J -26269780.74 -26269780.62 -26269780.49 0.0137 0.0042 *

Uranus -76636-07-03 00:28 J -26269692.61 -26269692.48 -26269692.35 0.0137 0.0025

Uranus -76636-09-29 03:49 J -26269604.47 -26269604.34 -26269604.21 0.0137 0.0008

Uranus -76636-12-26 07:11 J -26269516.33 -26269516.20 -26269516.07 0.0138 0.0010

Uranus -76635-03-24 10:32 J -26269428.19 -26269428.06 -26269427.93 0.0138 0.0027

Uranus -76635-06-20 13:40 J -26269340.05 -26269339.93 -26269339.80 0.0138 0.0045

Uranus -76635-09-16 17:16 J -26269251.90 -26269251.78 -26269251.66 0.0138 0.0062

Uranus -76635-12-13 20:23 J -26269163.75 -26269163.65 -26269163.53 0.0138 0.0080

Uranus -76634-03-11 23:59 J -26269075.59 -26269075.50 -26269075.40 0.0138 0.0098

Uranus -76634-06-08 03:20 J -26268987.43 -26268987.36 -26268987.28 0.0138 0.0116

Uranus -76634-09-04 06:42 J -26268899.24 -26268899.22 -26268899.18 0.0139 0.0134

Mars -76633-04-16 08:37 J -26268674.22 -26268674.14 -26268674.05 0.1666 0.1403

Venus -76633-07-21 07:54 J -26268578.31 -26268578.17 -26268578.03 0.3596 0.0226

Mars -76632-02-12 13:40 J -26268372.01 -26268371.93 -26268371.84 0.1877 0.1326

Saturn -76630-01-14 14:37 J -26267670.96 -26267670.89 -26267670.82 0.0284 0.0238

Jupiter -76630-03-04 10:04 J -26267622.26 -26267622.08 -26267621.89 0.0493 0.0063

Saturn -76630-04-13 01:40 J -26267582.54 -26267582.43 -26267582.31 0.0283 0.0127

Jupiter -76630-06-02 17:59 J -26267531.80 -26267531.75 -26267531.69 0.0494 0.0467

Saturn -76630-07-10 12:56 J -26267494.09 -26267493.96 -26267493.83 0.0282 0.0018

Saturn -76630-10-06 23:59 J -26267405.62 -26267405.50 -26267405.38 0.0281 0.0093

Saturn -76629-01-03 11:01 J -26267317.13 -26267317.04 -26267316.95 0.0280 0.0202

Moon -76629-03-29 00:13 J -26267231.54 -26267231.49 -26267231.44 0.2742 0.2393

Earth -76629-03-29 00:28 J -26267231.53 -26267231.48 -26267231.43 0.2735 0.2337 *

Venus -76627-02-04 09:06 J -26266554.24 -26266554.12 -26266554.00 0.3599 0.1686

Moon -76626-09-29 08:52 J -26265952.28 -26265952.13 -26265951.98 0.2596 0.1098

Earth -76626-09-29 10:18 J -26265952.22 -26265952.07 -26265951.92 0.2599 0.0970 *

Jupiter -76625-10-25 15:35 J -26265559.93 -26265559.85 -26265559.77 0.0534 0.0401

Jupiter -76624-01-22 22:18 J -26265470.70 -26265470.57 -26265470.44 0.0533 0.0049

Jupiter -76624-04-22 05:30 J -26265381.30 -26265381.27 -26265381.23 0.0532 0.0502

Mars -76624-09-06 10:04 J -26265244.24 -26265244.08 -26265243.92 0.1660 0.0444

Earth -76623-04-07 19:40 J -26265030.73 -26265030.68 -26265030.63 0.2739 0.2380

Moon -76623-04-07 19:54 J -26265030.72 -26265030.67 -26265030.62 0.2733 0.2433 *

Mars -76623-07-05 21:49 J -26264941.70 -26264941.59 -26264941.47 0.1885 0.0447

Venus -76622-08-21 09:35 J -26264530.13 -26264530.10 -26264530.07 0.3603 0.3493

Jupiter -76619-12-21 07:25 J -26263312.36 -26263312.19 -26263312.02 0.0493 0.0197

Jupiter -76618-03-21 15:35 J -26263221.98 -26263221.85 -26263221.71 0.0493 0.0335

Earth -76616-03-31 18:28 J -26262480.83 -26262480.73 -26262480.64 0.2736 0.1120

Moon -76616-03-31 18:42 J -26262480.82 -26262480.72 -26262480.62 0.2742 0.1026 *

Mars -76614-01-27 11:01 J -26261814.20 -26261814.04 -26261813.88 0.1653 0.0525

Saturn -76614-04-23 00:42 J -26261728.64 -26261728.47 -26261728.30 0.0278 0.0128

Saturn -76614-07-21 00:13 J -26261639.67 -26261639.49 -26261639.30 0.0279 0.0029

Saturn -76614-10-17 23:30 J -26261550.65 -26261550.52 -26261550.37 0.0280 0.0187

Mars -76614-11-26 05:59 J -26261511.36 -26261511.25 -26261511.13 0.1893 0.0452

Venus -76614-11-30 08:37 J -26261507.18 -26261507.14 -26261507.11 0.3791 0.3581

Jupiter -76613-08-13 19:25 J -26261249.72 -26261249.69 -26261249.66 0.0534 0.0514

Moon -76613-10-01 15:35 J -26261200.99 -26261200.85 -26261200.70 0.2597 0.1075

Earth -76613-10-01 17:16 J -26261200.91 -26261200.78 -26261200.64 0.2597 0.1343 *

Jupiter -76613-11-11 02:08 J -26261160.53 -26261160.41 -26261160.28 0.0534 0.0068

Jupiter -76612-02-08 09:20 J -26261071.19 -26261071.11 -26261071.02 0.0533 0.0389

Venus -76608-06-15 02:08 J -26259483.49 -26259483.41 -26259483.33 0.3788 0.2385

Jupiter -76607-10-09 04:32 J -26259002.44 -26259002.31 -26259002.17 0.0492 0.0332

Jupiter -76606-01-07 13:11 J -26258912.12 -26258911.95 -26258911.78 0.0493 0.0202

Mars -76605-06-18 11:59 J -26258384.07 -26258384.00 -26258383.93 0.1646 0.1487

Mars -76604-04-17 14:08 J -26258080.99 -26258080.91 -26258080.83 0.1901 0.1351

Earth -76603-04-03 12:13 J -26257730.09 -26257729.99 -26257729.88 0.2737 0.0153

Moon -76603-04-03 12:56 J -26257730.07 -26257729.96 -26257729.85 0.2740 0.0152 *

Venus -76603-12-29 19:54 J -26257459.77 -26257459.67 -26257459.56 0.3786 0.1166

Saturn -76601-06-02 16:47 J -26256938.83 -26256938.80 -26256938.76 0.0284 0.0270

Saturn -76601-08-30 04:04 J -26256850.44 -26256850.33 -26256850.23 0.0283 0.0159

Jupiter -76601-08-30 06:28 J -26256850.35 -26256850.23 -26256850.10 0.0534 0.0173 *

Saturn -76601-11-26 15:06 J -26256762.00 -26256761.87 -26256761.74 0.0282 0.0049

Jupiter -76601-11-27 13:40 J -26256761.04 -26256760.93 -26256760.82 0.0533 0.0281

Saturn -76600-02-23 02:08 J -26256673.53 -26256673.41 -26256673.28 0.0281 0.0061

Saturn -76600-05-22 13:25 J -26256585.05 -26256584.94 -26256584.84 0.0280 0.0169

Saturn -76600-08-19 00:28 J -26256496.49 -26256496.48 -26256496.46 0.0279 0.0276

Uranus -76598-09-08 18:42 J -26255745.78 -26255745.72 -26255745.66 0.0142 0.0134

Uranus -76598-12-06 02:37 J -26255657.51 -26255657.39 -26255657.26 0.0142 0.0107

Uranus -76597-03-03 10:32 J -26255569.21 -26255569.06 -26255568.89 0.0142 0.0080

Uranus -76597-05-30 18:42 J -26255480.89 -26255480.72 -26255480.54 0.0141 0.0052

Venus -76597-07-14 13:54 J -26255436.03 -26255435.92 -26255435.81 0.3782 0.0141

Uranus -76597-08-27 02:37 J -26255392.57 -26255392.39 -26255392.20 0.0141 0.0025

Uranus -76597-11-23 10:32 J -26255304.25 -26255304.06 -26255303.87 0.0141 0.0002

Uranus -76596-02-19 18:28 J -26255215.92 -26255215.73 -26255215.55 0.0141 0.0028

Uranus -76596-05-19 02:08 J -26255127.58 -26255127.41 -26255127.23 0.0141 0.0054

Uranus -76596-08-15 09:35 J -26255039.24 -26255039.10 -26255038.93 0.0141 0.0081

Uranus -76596-11-11 17:16 J -26254950.89 -26254950.78 -26254950.64 0.0141 0.0107

Uranus -76595-02-08 00:56 J -26254862.51 -26254862.46 -26254862.39 0.0140 0.0132

Jupiter -76595-07-28 01:25 J -26254692.49 -26254692.44 -26254692.39 0.0492 0.0470

Jupiter -76595-10-26 10:04 J -26254602.26 -26254602.08 -26254601.89 0.0493 0.0066

Mars -76594-10-16 09:35 J -26254247.16 -26254247.10 -26254247.05 0.1667 0.1550

Mars -76593-08-13 13:40 J -26253945.00 -26253944.93 -26253944.85 0.1876 0.1420

Venus -76591-01-28 08:08 J -26253412.26 -26253412.16 -26253412.06 0.3779 0.1381

Earth -76590-04-06 06:28 J -26252979.33 -26252979.23 -26252979.14 0.2739 0.1380

Moon -76590-04-06 06:56 J -26252979.30 -26252979.21 -26252979.12 0.2734 0.1515 *

Neptune -76589-06-16 07:54 J -26252542.18 -26252542.17 -26252542.16 0.0089 0.0088

Jupiter -76589-06-18 10:47 J -26252540.16 -26252540.05 -26252539.94 0.0534 0.0281

Neptune -76589-09-12 08:52 J -26252454.16 -26252454.13 -26252454.08 0.0089 0.0084

Jupiter -76589-09-15 17:44 J -26252450.88 -26252450.76 -26252450.64 0.0533 0.0172

Neptune -76589-12-09 10:32 J -26252366.12 -26252366.06 -26252366.01 0.0089 0.0079

Neptune -76588-03-07 11:30 J -26252278.08 -26252278.02 -26252277.94 0.0089 0.0075

Neptune -76588-06-03 12:56 J -26252190.03 -26252189.96 -26252189.88 0.0089 0.0070

Neptune -76588-08-30 14:08 J -26252101.99 -26252101.91 -26252101.81 0.0089 0.0066

Neptune -76588-11-26 15:35 J -26252013.94 -26252013.85 -26252013.75 0.0089 0.0061

Neptune -76587-02-22 16:47 J -26251925.89 -26251925.80 -26251925.69 0.0089 0.0057

Neptune -76587-05-21 18:13 J -26251837.84 -26251837.74 -26251837.63 0.0089 0.0052

Neptune -76587-08-17 19:25 J -26251749.79 -26251749.69 -26251749.57 0.0089 0.0047

Neptune -76587-11-13 20:37 J -26251661.74 -26251661.64 -26251661.51 0.0089 0.0043

Neptune -76586-02-09 22:04 J -26251573.69 -26251573.58 -26251573.46 0.0089 0.0038

Neptune -76586-05-08 23:16 J -26251485.64 -26251485.53 -26251485.40 0.0089 0.0034

Neptune -76586-08-05 00:42 J -26251397.59 -26251397.47 -26251397.34 0.0089 0.0029

Venus -76586-08-14 02:23 J -26251388.47 -26251388.40 -26251388.32 0.3775 0.2703

Neptune -76586-11-01 01:54 J -26251309.54 -26251309.42 -26251309.28 0.0089 0.0025

Neptune -76585-01-28 03:20 J -26251221.49 -26251221.36 -26251221.23 0.0089 0.0020

Neptune -76585-04-25 04:47 J -26251133.43 -26251133.30 -26251133.17 0.0089 0.0015

Neptune -76585-07-22 05:59 J -26251045.38 -26251045.25 -26251045.12 0.0089 0.0011

Saturn -76585-09-08 21:49 J -26250996.74 -26250996.59 -26250996.45 0.0278 0.0181

Neptune -76585-10-18 07:25 J -26250957.32 -26250957.19 -26250957.06 0.0089 0.0006

Saturn -76585-12-06 21:20 J -26250907.80 -26250907.61 -26250907.42 0.0279 0.0025

Neptune -76584-01-14 08:37 J -26250869.27 -26250869.14 -26250869.01 0.0089 0.0002

Saturn -76584-03-05 20:52 J -26250818.79 -26250818.63 -26250818.46 0.0280 0.0132

Mars -76584-03-07 10:32 J -26250817.22 -26250817.06 -26250816.91 0.1659 0.0572

Neptune -76584-04-12 10:04 J -26250781.22 -26250781.08 -26250780.95 0.0089 0.0004

Neptune -76584-07-09 11:16 J -26250693.16 -26250693.03 -26250692.90 0.0089 0.0008

Neptune -76584-10-05 12:42 J -26250605.10 -26250604.97 -26250604.84 0.0089 0.0013

Neptune -76583-01-01 13:54 J -26250517.05 -26250516.92 -26250516.79 0.0089 0.0017

Mars -76583-01-03 21:49 J -26250514.70 -26250514.59 -26250514.47 0.1885 0.0550

Moon -76583-03-30 05:16 J -26250429.35 -26250429.28 -26250429.21 0.2742 0.2095

Earth -76583-03-30 05:16 J -26250429.35 -26250429.28 -26250429.21 0.2735 0.2081 *

Neptune -76583-03-30 15:20 J -26250428.99 -26250428.86 -26250428.73 0.0089 0.0022

Neptune -76583-06-26 16:32 J -26250340.93 -26250340.81 -26250340.68 0.0089 0.0027

Jupiter -76583-08-14 07:54 J -26250292.35 -26250292.17 -26250291.98 0.0493 0.0065

Neptune -76583-09-22 17:59 J -26250252.88 -26250252.75 -26250252.63 0.0089 0.0031

Jupiter -76583-11-12 15:49 J -26250201.89 -26250201.84 -26250201.78 0.0494 0.0465

Neptune -76583-12-19 19:11 J -26250164.82 -26250164.70 -26250164.58 0.0089 0.0036

Neptune -76582-03-17 20:23 J -26250076.76 -26250076.65 -26250076.52 0.0089 0.0041

Neptune -76582-06-13 21:49 J -26249988.70 -26249988.59 -26249988.47 0.0089 0.0045

Venus -76582-08-12 06:28 J -26249929.36 -26249929.23 -26249929.11 0.3593 0.1564

Neptune -76582-09-09 23:01 J -26249900.64 -26249900.54 -26249900.42 0.0089 0.0050

Neptune -76582-12-07 00:13 J -26249812.58 -26249812.49 -26249812.37 0.0089 0.0055

Pluto -76581-02-23 07:11 J -26249734.25 -26249734.20 -26249734.12 0.0084 0.0074

Neptune -76581-03-04 01:54 J -26249724.52 -26249724.42 -26249724.32 0.0089 0.0059

Pluto -76581-05-21 08:52 J -26249646.22 -26249646.13 -26249646.03 0.0084 0.0061

Neptune -76581-05-31 03:06 J -26249636.46 -26249636.37 -26249636.27 0.0089 0.0064

Pluto -76581-08-17 10:18 J -26249558.18 -26249558.07 -26249557.96 0.0084 0.0050

Neptune -76581-08-27 04:18 J -26249548.39 -26249548.32 -26249548.22 0.0089 0.0069

Pluto -76581-11-13 11:30 J -26249470.13 -26249470.02 -26249469.89 0.0084 0.0039

Neptune -76581-11-23 05:44 J -26249460.32 -26249460.26 -26249460.18 0.0089 0.0073

Pluto -76580-02-09 12:56 J -26249382.08 -26249381.96 -26249381.82 0.0084 0.0028

Neptune -76580-02-19 06:56 J -26249372.26 -26249372.21 -26249372.13 0.0089 0.0078

Pluto -76580-05-08 14:23 J -26249294.03 -26249293.90 -26249293.76 0.0084 0.0017

Neptune -76580-05-18 08:23 J -26249284.19 -26249284.15 -26249284.09 0.0089 0.0083

Pluto -76580-08-04 15:49 J -26249205.97 -26249205.84 -26249205.70 0.0084 0.0006

Neptune -76580-08-14 09:49 J -26249196.11 -26249196.09 -26249196.06 0.0089 0.0087

Moon -76580-09-29 15:20 J -26249150.02 -26249149.86 -26249149.70 0.2596 0.0675

Earth -76580-09-29 17:01 J -26249149.95 -26249149.79 -26249149.63 0.2599 0.0507 *

Pluto -76580-10-31 17:16 J -26249117.92 -26249117.78 -26249117.64 0.0083 0.0006

Pluto -76579-01-27 18:28 J -26249029.86 -26249029.73 -26249029.59 0.0083 0.0017

Pluto -76579-04-25 19:54 J -26248941.80 -26248941.67 -26248941.54 0.0083 0.0028

Pluto -76579-07-22 21:06 J -26248853.73 -26248853.62 -26248853.49 0.0083 0.0038

Pluto -76579-10-18 22:18 J -26248765.67 -26248765.57 -26248765.45 0.0083 0.0049

Pluto -76578-01-14 23:30 J -26248677.60 -26248677.52 -26248677.41 0.0083 0.0060

Pluto -76578-04-13 00:56 J -26248589.52 -26248589.46 -26248589.38 0.0083 0.0070

Pluto -76578-07-10 02:08 J -26248501.42 -26248501.41 -26248501.37 0.0082 0.0081

Jupiter -76577-04-06 14:08 J -26248229.99 -26248229.91 -26248229.82 0.0534 0.0401

Earth -76577-04-08 00:28 J -26248228.51 -26248228.48 -26248228.45 0.2740 0.2638

Moon -76577-04-08 00:42 J -26248228.50 -26248228.47 -26248228.44 0.2733 0.2609 *

Jupiter -76577-07-04 21:06 J -26248140.75 -26248140.62 -26248140.50 0.0533 0.0051

Jupiter -76577-10-02 04:18 J -26248051.36 -26248051.32 -26248051.28 0.0532 0.0502

Venus -76576-02-25 07:54 J -26247905.30 -26247905.17 -26247905.03 0.3597 0.0421

Mars -76575-07-28 11:30 J -26247387.18 -26247387.02 -26247386.86 0.1653 0.0399

Mars -76574-05-27 06:13 J -26247084.36 -26247084.24 -26247084.13 0.1893 0.0343

Saturn -76571-01-17 06:56 J -26246118.30 -26246118.21 -26246118.11 0.0284 0.0186

Saturn -76571-04-15 18:13 J -26246029.87 -26246029.74 -26246029.62 0.0283 0.0076

Jupiter -76571-06-02 05:44 J -26245982.43 -26245982.26 -26245982.09 0.0493 0.0195

Saturn -76571-07-13 05:16 J -26245941.41 -26245941.28 -26245941.15 0.0282 0.0035

Jupiter -76571-08-31 14:08 J -26245892.04 -26245891.91 -26245891.78 0.0494 0.0338

Venus -76571-09-11 08:52 J -26245881.23 -26245881.13 -26245881.02 0.3600 0.2284

Saturn -76571-10-09 16:18 J -26245852.93 -26245852.82 -26245852.70 0.0281 0.0144

Saturn -76570-01-06 03:35 J -26245764.40 -26245764.35 -26245764.30 0.0280 0.0252

Earth -76570-04-01 23:16 J -26245678.64 -26245678.53 -26245678.43 0.2736 0.0859

Moon -76570-04-01 23:44 J -26245678.61 -26245678.51 -26245678.41 0.2742 0.0827 *

Moon -76567-10-02 22:18 J -26244398.69 -26244398.57 -26244398.45 0.2599 0.1703

Earth -76567-10-02 23:59 J -26244398.62 -26244398.50 -26244398.39 0.2597 0.1798 *

Mars -76566-12-18 12:56 J -26243957.06 -26243956.96 -26243956.87 0.1647 0.1346

Jupiter -76565-01-24 17:59 J -26243919.78 -26243919.75 -26243919.71 0.0534 0.0513

Jupiter -76565-04-23 00:42 J -26243830.59 -26243830.47 -26243830.34 0.0533 0.0068

Jupiter -76565-07-21 07:54 J -26243741.26 -26243741.17 -26243741.08 0.0532 0.0387

Mars -76565-10-16 14:08 J -26243653.99 -26243653.91 -26243653.82 0.1901 0.1247

Jupiter -76559-03-21 03:06 J -26241672.50 -26241672.37 -26241672.23 0.0493 0.0329

Jupiter -76559-06-19 11:44 J -26241582.18 -26241582.01 -26241581.84 0.0493 0.0206

Earth -76557-04-03 17:16 J -26240927.89 -26240927.78 -26240927.68 0.2738 0.0394

Moon -76557-04-03 17:44 J -26240927.86 -26240927.76 -26240927.65 0.2738 0.0526 *

Venus -76557-07-06 06:28 J -26240834.28 -26240834.23 -26240834.17 0.3791 0.3195

Saturn -76555-01-26 20:37 J -26240264.75 -26240264.64 -26240264.52 0.0278 0.0222

Saturn -76555-04-25 20:23 J -26240175.84 -26240175.65 -26240175.47 0.0279 0.0066

Saturn -76555-07-23 19:54 J -26240086.85 -26240086.67 -26240086.49 0.0280 0.0091

Saturn -76555-10-20 19:25 J -26239997.78 -26239997.69 -26239997.61 0.0281 0.0248

Jupiter -76553-02-10 04:47 J -26239520.42 -26239520.30 -26239520.18 0.0534 0.0180

Uranus -76553-02-10 11:30 J -26239520.07 -26239520.02 -26239519.96 0.0136 0.0124

Mars -76553-02-12 13:40 J -26239517.99 -26239517.93 -26239517.86 0.1876 0.1525

Uranus -76553-05-08 14:37 J -26239431.96 -26239431.89 -26239431.80 0.0137 0.0108

Jupiter -76553-05-09 11:44 J -26239431.12 -26239431.01 -26239430.90 0.0533 0.0274

Uranus -76553-08-04 17:59 J -26239343.84 -26239343.75 -26239343.65 0.0137 0.0091

Uranus -76553-10-31 21:06 J -26239255.72 -26239255.62 -26239255.50 0.0137 0.0075

Uranus -76552-01-28 00:28 J -26239167.60 -26239167.48 -26239167.36 0.0137 0.0058

Uranus -76552-04-26 03:49 J -26239079.47 -26239079.34 -26239079.21 0.0137 0.0041

Uranus -76552-07-23 06:56 J -26238991.34 -26238991.21 -26238991.07 0.0137 0.0024

Uranus -76552-10-19 10:18 J -26238903.20 -26238903.07 -26238902.93 0.0137 0.0007

Uranus -76551-01-15 13:40 J -26238815.06 -26238814.93 -26238814.80 0.0138 0.0010

Venus -76551-01-20 00:13 J -26238810.58 -26238810.49 -26238810.40 0.3788 0.1993

Uranus -76551-04-13 17:01 J -26238726.92 -26238726.79 -26238726.66 0.0138 0.0028

Uranus -76551-07-10 20:23 J -26238638.78 -26238638.65 -26238638.52 0.0138 0.0045

Uranus -76551-10-06 23:30 J -26238550.63 -26238550.52 -26238550.39 0.0138 0.0063

Uranus -76550-01-03 03:06 J -26238462.48 -26238462.37 -26238462.26 0.0138 0.0080

Uranus -76550-04-01 06:28 J -26238374.32 -26238374.23 -26238374.13 0.0138 0.0098

Uranus -76550-06-28 09:49 J -26238286.16 -26238286.09 -26238286.01 0.0138 0.0116

Uranus -76550-09-24 13:11 J -26238197.97 -26238197.95 -26238197.91 0.0139 0.0134

Jupiter -76547-01-07 00:28 J -26237362.54 -26237362.48 -26237362.42 0.0492 0.0462

Jupiter -76547-04-07 09:20 J -26237272.30 -26237272.11 -26237271.93 0.0493 0.0074

Moon -76547-09-27 15:35 J -26237098.91 -26237098.85 -26237098.79 0.2595 0.2399

Earth -76547-09-27 16:32 J -26237098.87 -26237098.81 -26237098.75 0.2600 0.2386 *

Venus -76546-08-05 17:59 J -26236786.85 -26236786.75 -26236786.64 0.3785 0.0758

Mars -76545-09-05 11:16 J -26236390.18 -26236390.03 -26236389.88 0.1660 0.0710

Earth -76544-04-06 11:16 J -26236177.12 -26236177.03 -26236176.95 0.2739 0.1635

Moon -76544-04-06 11:44 J -26236177.10 -26236177.01 -26236176.92 0.2734 0.1637 *

Mars -76544-07-04 22:04 J -26236087.69 -26236087.58 -26236087.47 0.1885 0.0652

Saturn -76542-06-06 09:06 J -26235386.20 -26235386.12 -26235386.04 0.0284 0.0220

Saturn -76542-09-02 20:08 J -26235297.77 -26235297.66 -26235297.54 0.0283 0.0110

Jupiter -76542-11-29 09:06 J -26235210.23 -26235210.12 -26235210.01 0.0534 0.0286

Saturn -76542-11-30 07:25 J -26235209.32 -26235209.19 -26235209.06 0.0282 0.0002

Jupiter -76541-02-26 16:04 J -26235120.95 -26235120.83 -26235120.71 0.0533 0.0167

Saturn -76541-02-26 18:28 J -26235120.85 -26235120.73 -26235120.61 0.0281 0.0110 *

Saturn -76541-05-25 05:30 J -26235032.35 -26235032.27 -26235032.18 0.0280 0.0218

Venus -76540-02-18 11:59 J -26234763.11 -26234763.00 -26234762.89 0.3781 0.0522

Earth -76537-03-30 10:04 J -26233627.16 -26233627.08 -26233627.00 0.2735 0.1830

Moon -76537-03-30 10:18 J -26233627.15 -26233627.07 -26233626.99 0.2742 0.1803 *

Jupiter -76535-01-24 06:13 J -26232962.42 -26232962.24 -26232962.05 0.0493 0.0064

Mars -76535-01-26 12:28 J -26232960.15 -26232959.98 -26232959.82 0.1653 0.0258

Jupiter -76535-04-24 14:08 J -26232871.96 -26232871.91 -26232871.85 0.0494 0.0466

Venus -76535-09-04 06:13 J -26232739.33 -26232739.24 -26232739.14 0.3778 0.1818

Mars -76535-11-25 05:59 J -26232657.36 -26232657.25 -26232657.13 0.1893 0.0250

Moon -76534-09-30 22:04 J -26232347.74 -26232347.58 -26232347.42 0.2595 0.0217

Earth -76534-09-30 23:44 J -26232347.67 -26232347.51 -26232347.35 0.2598 0.0047 *

Venus -76531-09-02 04:47 J -26231280.38 -26231280.30 -26231280.22 0.3591 0.2952

Jupiter -76530-09-17 13:25 J -26230900.03 -26230899.94 -26230899.86 0.0534 0.0393

Jupiter -76530-12-15 20:23 J -26230810.78 -26230810.65 -26230810.53 0.0534 0.0061

Jupiter -76529-03-14 03:35 J -26230721.38 -26230721.35 -26230721.32 0.0532 0.0513

Venus -76529-03-20 00:42 J -26230715.53 -26230715.47 -26230715.41 0.3774 0.3148

Mars -76526-06-18 13:11 J -26229530.06 -26229529.95 -26229529.84 0.1646 0.1223

Saturn -76526-09-12 16:32 J -26229443.98 -26229443.81 -26229443.64 0.0278 0.0126

Saturn -76526-12-10 16:04 J -26229355.02 -26229354.83 -26229354.64 0.0279 0.0031

Saturn -76525-03-08 15:35 J -26229265.99 -26229265.85 -26229265.71 0.0280 0.0188

Venus -76525-03-18 06:42 J -26229256.36 -26229256.22 -26229256.09 0.3594 0.0924

Mars -76525-04-16 14:23 J -26229227.00 -26229226.90 -26229226.81 0.1901 0.1139

Earth -76524-04-02 04:04 J -26228876.44 -26228876.33 -26228876.23 0.2736 0.0601

Moon -76524-04-02 04:32 J -26228876.42 -26228876.31 -26228876.20 0.2742 0.0520 *

Jupiter -76524-11-12 04:04 J -26228652.50 -26228652.33 -26228652.16 0.0493 0.0193

Jupiter -76523-02-10 12:28 J -26228562.11 -26228561.98 -26228561.85 0.0494 0.0340

Moon -76521-10-03 05:01 J -26227596.39 -26227596.29 -26227596.20 0.2600 0.2067

Earth -76521-10-03 06:28 J -26227596.30 -26227596.23 -26227596.15 0.2597 0.2257 *

Venus -76520-10-02 07:54 J -26227232.30 -26227232.17 -26227232.03 0.3597 0.1031

Jupiter -76518-07-06 17:01 J -26226589.83 -26226589.79 -26226589.76 0.0534 0.0510

Jupiter -76518-10-03 23:44 J -26226500.64 -26226500.51 -26226500.39 0.0533 0.0064

Jupiter -76517-01-01 06:42 J -26226411.30 -26226411.22 -26226411.13 0.0532 0.0391

Venus -76514-04-18 08:52 J -26225208.21 -26225208.13 -26225208.05 0.3601 0.2887

Mars -76514-08-13 13:54 J -26225090.98 -26225090.92 -26225090.87 0.1876 0.1638

Uranus -76514-09-29 00:56 J -26225044.53 -26225044.46 -26225044.39 0.0142 0.0131

Uranus -76514-12-26 08:52 J -26224956.25 -26224956.13 -26224955.99 0.0142 0.0104

Uranus -76513-03-23 17:01 J -26224867.94 -26224867.79 -26224867.62 0.0142 0.0076

Uranus -76513-06-20 00:56 J -26224779.63 -26224779.46 -26224779.27 0.0141 0.0050

Uranus -76513-09-16 09:06 J -26224691.31 -26224691.12 -26224690.93 0.0141 0.0022

Saturn -76513-10-23 11:44 J -26224654.07 -26224654.01 -26224653.96 0.0285 0.0252

Uranus -76513-12-13 17:01 J -26224602.98 -26224602.79 -26224602.60 0.0141 0.0005

Saturn -76512-01-19 22:47 J -26224565.66 -26224565.55 -26224565.44 0.0284 0.0141

Uranus -76512-03-12 00:42 J -26224514.65 -26224514.47 -26224514.28 0.0141 0.0031

Saturn -76512-04-18 10:04 J -26224477.21 -26224477.08 -26224476.95 0.0283 0.0031

Uranus -76512-06-08 08:23 J -26224426.31 -26224426.15 -26224425.97 0.0141 0.0058

Saturn -76512-07-15 21:06 J -26224388.75 -26224388.62 -26224388.49 0.0282 0.0080

Jupiter -76512-08-31 01:54 J -26224342.56 -26224342.42 -26224342.28 0.0493 0.0324

Uranus -76512-09-04 16:04 J -26224337.97 -26224337.83 -26224337.67 0.0141 0.0084

Saturn -76512-10-12 08:08 J -26224300.25 -26224300.16 -26224300.06 0.0281 0.0190

Jupiter -76512-11-29 10:18 J -26224252.23 -26224252.07 -26224251.90 0.0494 0.0213

Uranus -76512-12-01 23:44 J -26224249.61 -26224249.51 -26224249.38 0.0141 0.0110

Uranus -76511-02-28 07:40 J -26224161.23 -26224161.18 -26224161.13 0.0140 0.0135

Earth -76511-04-04 22:04 J -26224125.69 -26224125.58 -26224125.48 0.2738 0.0642

Moon -76511-04-04 22:47 J -26224125.66 -26224125.55 -26224125.45 0.2736 0.0693 *

Jupiter -76506-07-23 03:35 J -26222190.47 -26222190.35 -26222190.23 0.0533 0.0176

Jupiter -76506-10-20 10:32 J -26222101.17 -26222101.06 -26222100.95 0.0533 0.0276

Neptune -76506-12-01 15:49 J -26222058.89 -26222058.84 -26222058.77 0.0089 0.0084

Neptune -76505-02-27 19:40 J -26221970.77 -26221970.68 -26221970.58 0.0089 0.0077

Mars -76505-03-06 11:59 J -26221963.14 -26221963.00 -26221962.86 0.1660 0.0849

Neptune -76505-05-25 23:01 J -26221882.64 -26221882.54 -26221882.40 0.0089 0.0071

Neptune -76505-08-22 02:37 J -26221794.50 -26221794.39 -26221794.23 0.0089 0.0064

Neptune -76505-11-18 06:28 J -26221706.36 -26221706.23 -26221706.06 0.0089 0.0057

Mars -76504-01-02 21:49 J -26221660.69 -26221660.59 -26221660.48 0.1884 0.0751

Neptune -76504-02-14 10:18 J -26221618.22 -26221618.07 -26221617.90 0.0089 0.0050

Neptune -76504-05-13 14:08 J -26221530.08 -26221529.91 -26221529.73 0.0089 0.0043

Neptune -76504-08-09 17:59 J -26221441.93 -26221441.75 -26221441.57 0.0089 0.0036

Neptune -76504-11-05 21:20 J -26221353.78 -26221353.61 -26221353.41 0.0089 0.0030

Neptune -76503-02-02 01:11 J -26221265.63 -26221265.45 -26221265.25 0.0089 0.0023

Neptune -76503-05-01 05:01 J -26221177.48 -26221177.29 -26221177.09 0.0089 0.0016

Neptune -76503-07-28 08:52 J -26221089.33 -26221089.13 -26221088.94 0.0089 0.0009

Neptune -76503-10-24 12:28 J -26221001.17 -26221000.98 -26221000.78 0.0089 0.0002

Neptune -76502-01-20 16:04 J -26220913.02 -26220912.83 -26220912.63 0.0089 0.0005

Neptune -76502-04-18 19:54 J -26220824.87 -26220824.67 -26220824.48 0.0089 0.0012

Neptune -76502-07-15 23:30 J -26220736.71 -26220736.52 -26220736.33 0.0089 0.0018

Neptune -76502-10-12 02:52 J -26220648.55 -26220648.38 -26220648.18 0.0089 0.0026

Neptune -76501-01-08 06:56 J -26220560.39 -26220560.21 -26220560.03 0.0089 0.0032

Neptune -76501-04-05 10:18 J -26220472.23 -26220472.07 -26220471.88 0.0089 0.0039

Neptune -76501-07-02 13:54 J -26220384.07 -26220383.92 -26220383.74 0.0089 0.0046

Moon -76501-09-27 22:04 J -26220296.67 -26220296.58 -26220296.49 0.2595 0.2140

Earth -76501-09-27 23:16 J -26220296.64 -26220296.53 -26220296.43 0.2600 0.1922 *

Neptune -76501-09-28 17:30 J -26220295.91 -26220295.77 -26220295.60 0.0089 0.0053

Neptune -76501-12-25 21:20 J -26220207.75 -26220207.61 -26220207.46 0.0089 0.0059

Venus -76500-02-10 04:32 J -26220161.38 -26220161.31 -26220161.24 0.3790 0.2811

Neptune -76500-03-24 00:56 J -26220119.58 -26220119.46 -26220119.32 0.0089 0.0066

Jupiter -76500-06-18 23:16 J -26220032.59 -26220032.53 -26220032.46 0.0493 0.0457

Neptune -76500-06-20 04:18 J -26220031.41 -26220031.32 -26220031.19 0.0089 0.0073

Neptune -76500-09-16 08:23 J -26219943.23 -26219943.15 -26219943.06 0.0089 0.0079

Jupiter -76500-09-17 08:08 J -26219942.34 -26219942.16 -26219941.98 0.0493 0.0080

Neptune -76500-12-13 11:44 J -26219855.04 -26219855.01 -26219854.95 0.0089 0.0086

Earth -76498-04-07 16:04 J -26219374.91 -26219374.83 -26219374.75 0.2739 0.1889

Moon -76498-04-07 16:32 J -26219374.88 -26219374.81 -26219374.74 0.2734 0.2006 *

Saturn -76496-01-29 15:06 J -26218712.02 -26218711.87 -26218711.72 0.0278 0.0168

Saturn -76496-04-28 14:37 J -26218623.08 -26218622.89 -26218622.70 0.0279 0.0013

Saturn -76496-07-26 14:08 J -26218534.07 -26218533.91 -26218533.75 0.0280 0.0145

Mars -76496-07-27 12:56 J -26218533.12 -26218532.96 -26218532.79 0.1653 0.0122

Mars -76495-05-26 06:13 J -26218230.36 -26218230.24 -26218230.13 0.1893 0.0145

Venus -76495-08-26 22:18 J -26218137.67 -26218137.57 -26218137.48 0.3787 0.1595

Jupiter -76494-05-11 07:25 J -26217880.29 -26217880.19 -26217880.08 0.0534 0.0290

Jupiter -76494-08-08 14:23 J -26217791.02 -26217790.90 -26217790.78 0.0533 0.0162

Earth -76491-03-31 14:52 J -26216824.96 -26216824.88 -26216824.79 0.2735 0.1578

Moon -76491-03-31 15:06 J -26216824.95 -26216824.87 -26216824.78 0.2742 0.1597 *

Venus -76489-03-11 16:04 J -26216113.94 -26216113.83 -26216113.72 0.3784 0.0342

Jupiter -76488-07-06 05:44 J -26215632.45 -26215632.26 -26215632.08 0.0493 0.0052

Moon -76488-10-01 04:47 J -26215545.47 -26215545.30 -26215545.14 0.2597 0.0303

Earth -76488-10-01 06:13 J -26215545.40 -26215545.24 -26215545.08 0.2598 0.0419 *

Jupiter -76488-10-04 13:40 J -26215541.97 -26215541.93 -26215541.89 0.0494 0.0477

Mars -76487-12-17 14:08 J -26215103.03 -26215102.91 -26215102.79 0.1647 0.1077

Mars -76486-10-16 14:08 J -26214800.00 -26214799.91 -26214799.81 0.1901 0.1042

Venus -76484-09-25 10:04 J -26214090.18 -26214090.08 -26214089.97 0.3781 0.0951

Saturn -76483-06-09 00:42 J -26213833.57 -26213833.47 -26213833.37 0.0283 0.0176

Saturn -76483-09-05 11:59 J -26213745.13 -26213745.00 -26213744.87 0.0282 0.0065

Saturn -76483-12-02 23:01 J -26213656.67 -26213656.54 -26213656.41 0.0281 0.0045

Jupiter -76482-02-27 11:44 J -26213570.09 -26213570.01 -26213569.92 0.0534 0.0396

Saturn -76482-03-01 10:18 J -26213568.18 -26213568.07 -26213567.96 0.0280 0.0154

Jupiter -76482-05-27 18:42 J -26213480.85 -26213480.72 -26213480.59 0.0534 0.0055

Saturn -76482-05-28 21:20 J -26213479.65 -26213479.61 -26213479.57 0.0280 0.0262

Jupiter -76482-08-25 01:54 J -26213391.45 -26213391.42 -26213391.38 0.0533 0.0511

Earth -76478-04-03 08:52 J -26212074.24 -26212074.13 -26212074.02 0.2736 0.0345

Moon -76478-04-03 09:20 J -26212074.21 -26212074.11 -26212074.00 0.2740 0.0288 *

Venus -76478-04-11 04:32 J -26212066.40 -26212066.31 -26212066.23 0.3777 0.2262

Jupiter -76476-04-24 02:52 J -26211322.55 -26211322.38 -26211322.21 0.0493 0.0188

Jupiter -76476-07-23 11:01 J -26211232.17 -26211232.04 -26211231.91 0.0493 0.0344

Moon -76475-10-04 11:30 J -26210794.04 -26210794.02 -26210794.00 0.2600 0.2570

Mars -76474-02-11 13:40 J -26210663.97 -26210663.93 -26210663.89 0.1876 0.1728

Venus -76474-04-09 05:01 J -26210607.40 -26210607.29 -26210607.18 0.3591 0.2290

Venus -76473-10-24 22:47 J -26210042.58 -26210042.55 -26210042.52 0.3773 0.3602

Jupiter -76471-12-16 16:18 J -26209259.86 -26209259.82 -26209259.78 0.0535 0.0501

Jupiter -76470-03-15 23:01 J -26209170.67 -26209170.54 -26209170.41 0.0534 0.0052

Jupiter -76470-06-13 06:13 J -26209081.32 -26209081.24 -26209081.16 0.0533 0.0403

Uranus -76469-03-01 17:59 J -26208818.79 -26208818.75 -26208818.69 0.0136 0.0123

Uranus -76469-05-28 21:20 J -26208730.69 -26208730.61 -26208730.53 0.0137 0.0107

Uranus -76469-08-25 00:28 J -26208642.57 -26208642.48 -26208642.38 0.0137 0.0090

Venus -76469-10-23 06:42 J -26208583.35 -26208583.22 -26208583.08 0.3595 0.0299

Uranus -76469-11-21 03:35 J -26208554.45 -26208554.35 -26208554.23 0.0137 0.0074

Uranus -76468-02-17 06:56 J -26208466.33 -26208466.21 -26208466.08 0.0137 0.0057

Uranus -76468-05-16 10:18 J -26208378.20 -26208378.07 -26208377.94 0.0137 0.0040

Uranus -76468-08-12 13:40 J -26208290.07 -26208289.93 -26208289.80 0.0137 0.0024

Uranus -76468-11-08 16:47 J -26208201.93 -26208201.80 -26208201.66 0.0137 0.0007

Uranus -76467-02-04 20:08 J -26208113.79 -26208113.66 -26208113.53 0.0138 0.0011

Uranus -76467-05-03 23:30 J -26208025.65 -26208025.52 -26208025.39 0.0138 0.0028

Saturn -76467-06-18 10:32 J -26207980.16 -26207980.06 -26207979.95 0.0277 0.0231

Uranus -76467-07-31 02:52 J -26207937.51 -26207937.38 -26207937.26 0.0138 0.0046

Saturn -76467-09-15 10:18 J -26207891.25 -26207891.07 -26207890.89 0.0278 0.0075

Uranus -76467-10-27 06:13 J -26207849.36 -26207849.24 -26207849.12 0.0138 0.0063

Saturn -76467-12-13 09:49 J -26207802.27 -26207802.09 -26207801.91 0.0279 0.0082

Uranus -76466-01-23 09:20 J -26207761.21 -26207761.11 -26207760.99 0.0138 0.0082

Saturn -76466-03-12 09:20 J -26207713.20 -26207713.11 -26207713.01 0.0280 0.0238

Uranus -76466-04-21 12:42 J -26207673.05 -26207672.97 -26207672.87 0.0138 0.0099

Uranus -76466-07-18 16:18 J -26207584.89 -26207584.82 -26207584.75 0.0138 0.0117

Mars -76466-09-05 12:28 J -26207536.11 -26207535.98 -26207535.85 0.1660 0.0978

Uranus -76466-10-14 19:40 J -26207496.70 -26207496.68 -26207496.64 0.0139 0.0135

Earth -76465-04-05 02:52 J -26207323.48 -26207323.38 -26207323.28 0.2738 0.0896

Moon -76465-04-05 03:35 J -26207323.45 -26207323.35 -26207323.25 0.2736 0.1016 *

Mars -76465-07-03 22:04 J -26207233.69 -26207233.58 -26207233.48 0.1885 0.0859

Jupiter -76464-02-10 00:28 J -26207012.61 -26207012.48 -26207012.33 0.0493 0.0318

Jupiter -76464-05-11 09:06 J -26206922.28 -26206922.12 -26206921.95 0.0493 0.0218

Venus -76463-05-09 08:08 J -26206559.29 -26206559.16 -26206559.04 0.3598 0.1653

Jupiter -76458-01-02 02:37 J -26204860.51 -26204860.39 -26204860.27 0.0533 0.0171

Moon -76458-03-30 01:40 J -26204773.46 -26204773.43 -26204773.41 0.2740 0.2644

Earth -76458-03-30 01:54 J -26204773.46 -26204773.42 -26204773.38 0.2734 0.2544 *

Jupiter -76458-04-01 09:35 J -26204771.21 -26204771.10 -26204770.99 0.0532 0.0282

Venus -76458-11-23 08:52 J -26204535.16 -26204535.13 -26204535.10 0.3602 0.3497

Mars -76456-01-25 13:40 J -26204106.10 -26204105.93 -26204105.77 0.1653 0.0039

Mars -76456-11-24 06:13 J -26203803.36 -26203803.24 -26203803.13 0.1892 0.0041

Moon -76455-09-29 04:32 J -26203494.44 -26203494.31 -26203494.18 0.2595 0.1476

Earth -76455-09-29 05:44 J -26203494.39 -26203494.26 -26203494.12 0.2600 0.1459 *

Saturn -76454-10-27 02:52 J -26203101.46 -26203101.38 -26203101.29 0.0285 0.0211

Saturn -76453-01-23 14:08 J -26203013.03 -26203012.91 -26203012.79 0.0284 0.0099

Saturn -76453-04-21 01:11 J -26202924.58 -26202924.45 -26202924.31 0.0283 0.0015

Saturn -76453-07-18 12:28 J -26202836.10 -26202835.98 -26202835.86 0.0282 0.0122

Saturn -76453-10-14 23:30 J -26202747.59 -26202747.52 -26202747.44 0.0281 0.0231

Jupiter -76453-11-28 22:18 J -26202702.65 -26202702.57 -26202702.50 0.0493 0.0450

Jupiter -76452-02-27 07:11 J -26202612.38 -26202612.20 -26202612.02 0.0494 0.0088

Earth -76452-04-07 20:52 J -26202572.69 -26202572.63 -26202572.56 0.2739 0.2153

Moon -76452-04-07 21:20 J -26202572.68 -26202572.61 -26202572.55 0.2733 0.2141 *

Venus -76449-03-03 08:52 J -26201512.16 -26201512.13 -26201512.10 0.3792 0.3615

Mars -76447-06-17 14:37 J -26200676.02 -26200675.89 -26200675.75 0.1647 0.0947

Jupiter -76447-10-21 06:28 J -26200550.33 -26200550.23 -26200550.12 0.0533 0.0283

Jupiter -76446-01-18 13:25 J -26200461.06 -26200460.94 -26200460.82 0.0533 0.0168

Mars -76446-04-16 14:08 J -26200373.01 -26200372.91 -26200372.81 0.1901 0.0942

Earth -76445-03-31 19:40 J -26200022.77 -26200022.68 -26200022.58 0.2735 0.1330

Moon -76445-03-31 19:54 J -26200022.76 -26200022.67 -26200022.57 0.2742 0.1253 *

Venus -76444-09-17 02:23 J -26199488.48 -26199488.40 -26199488.31 0.3789 0.2417

Moon -76442-10-02 11:16 J -26198743.19 -26198743.03 -26198742.87 0.2598 0.0628

Earth -76442-10-02 12:56 J -26198743.11 -26198742.96 -26198742.81 0.2598 0.0876 *

Jupiter -76441-12-16 04:47 J -26198302.48 -26198302.30 -26198302.11 0.0493 0.0044

Jupiter -76440-03-16 12:56 J -26198211.99 -26198211.96 -26198211.94 0.0494 0.0486

Venus -76438-04-02 20:23 J -26197464.76 -26197464.65 -26197464.55 0.3786 0.1192

Saturn -76438-11-05 09:06 J -26197248.14 -26197248.12 -26197248.09 0.0277 0.0273

Saturn -76437-02-02 08:37 J -26197159.30 -26197159.14 -26197158.96 0.0278 0.0119

Saturn -76437-05-01 08:23 J -26197070.34 -26197070.15 -26197069.97 0.0279 0.0038

Saturn -76437-07-29 07:40 J -26196981.31 -26196981.18 -26196981.04 0.0280 0.0194

Mars -76437-09-05 22:18 J -26196942.59 -26196942.57 -26196942.54 0.1908 0.1842

Jupiter -76435-08-09 10:32 J -26196240.15 -26196240.06 -26196239.98 0.0534 0.0396

Mars -76435-08-12 13:54 J -26196236.94 -26196236.92 -26196236.90 0.1876 0.1839

Jupiter -76435-11-06 17:16 J -26196150.91 -26196150.78 -26196150.65 0.0533 0.0054

Jupiter -76434-02-04 00:28 J -26196061.51 -26196061.48 -26196061.44 0.0532 0.0509

Venus -76433-10-16 14:08 J -26195441.02 -26195440.91 -26195440.80 0.3783 0.0119

Earth -76432-04-03 13:40 J -26195272.04 -26195271.93 -26195271.82 0.2737 0.0098

Moon -76432-04-03 14:23 J -26195272.01 -26195271.90 -26195271.79 0.2739 0.0046 *

Uranus -76430-10-19 06:13 J -26194343.29 -26194343.24 -26194343.15 0.0142 0.0131

Uranus -76429-01-15 14:37 J -26194255.01 -26194254.89 -26194254.75 0.0142 0.0103

Uranus -76429-04-12 22:47 J -26194166.71 -26194166.55 -26194166.38 0.0142 0.0076

Uranus -76429-07-10 06:42 J -26194078.39 -26194078.22 -26194078.03 0.0141 0.0049

Jupiter -76429-10-04 02:23 J -26193992.57 -26193992.40 -26193992.23 0.0493 0.0176

Uranus -76429-10-06 14:52 J -26193990.07 -26193989.88 -26193989.69 0.0141 0.0021

Jupiter -76428-01-02 10:32 J -26193902.18 -26193902.06 -26193901.93 0.0494 0.0357

Uranus -76428-01-02 22:47 J -26193901.74 -26193901.55 -26193901.36 0.0141 0.0006

Uranus -76428-04-01 06:42 J -26193813.41 -26193813.22 -26193813.04 0.0141 0.0032

Uranus -76428-06-28 14:08 J -26193725.07 -26193724.91 -26193724.73 0.0141 0.0059

Uranus -76428-09-24 22:04 J -26193636.73 -26193636.58 -26193636.43 0.0141 0.0085

Uranus -76428-12-22 05:30 J -26193548.37 -26193548.27 -26193548.14 0.0141 0.0111

Uranus -76427-03-20 13:11 J -26193459.98 -26193459.95 -26193459.89 0.0140 0.0136

Venus -76427-05-02 08:23 J -26193417.25 -26193417.15 -26193417.05 0.3780 0.1381

Pluto -76427-05-22 20:23 J -26193396.68 -26193396.65 -26193396.60 0.0060 0.0058

Pluto -76427-08-18 21:20 J -26193308.67 -26193308.61 -26193308.50 0.0060 0.0053

Pluto -76427-11-14 22:47 J -26193220.65 -26193220.55 -26193220.42 0.0060 0.0048

Pluto -76426-02-10 23:59 J -26193132.61 -26193132.50 -26193132.35 0.0060 0.0042

Mars -76426-03-06 13:11 J -26193109.07 -26193108.95 -26193108.83 0.1660 0.1117

Pluto -76426-05-10 01:25 J -26193044.58 -26193044.44 -26193044.28 0.0060 0.0036

Pluto -76426-08-06 02:52 J -26192956.53 -26192956.38 -26192956.21 0.0060 0.0031

Pluto -76426-11-02 04:04 J -26192868.49 -26192868.33 -26192868.15 0.0060 0.0025

Mars -76425-01-02 22:04 J -26192806.68 -26192806.58 -26192806.48 0.1884 0.0960

Pluto -76425-01-29 05:30 J -26192780.44 -26192780.27 -26192780.08 0.0060 0.0019

Pluto -76425-04-26 06:56 J -26192692.39 -26192692.21 -26192692.02 0.0060 0.0014

Pluto -76425-07-23 08:23 J -26192604.34 -26192604.15 -26192603.97 0.0061 0.0008

Pluto -76425-10-19 09:35 J -26192516.29 -26192516.10 -26192515.91 0.0061 0.0002

Pluto -76424-01-15 11:01 J -26192428.23 -26192428.04 -26192427.85 0.0061 0.0004

Neptune -76424-03-13 07:54 J -26192371.20 -26192371.17 -26192371.14 0.0089 0.0086

Saturn -76424-03-15 04:32 J -26192369.36 -26192369.31 -26192369.24 0.0285 0.0249

Pluto -76424-04-13 12:13 J -26192340.17 -26192339.99 -26192339.80 0.0061 0.0010

Neptune -76424-06-09 08:52 J -26192283.16 -26192283.13 -26192283.06 0.0089 0.0082

Saturn -76424-06-11 15:49 J -26192280.95 -26192280.84 -26192280.72 0.0283 0.0137

Pluto -76424-07-10 13:40 J -26192252.11 -26192251.93 -26192251.75 0.0061 0.0015

Neptune -76424-09-05 10:18 J -26192195.12 -26192195.07 -26192195.00 0.0089 0.0077

Saturn -76424-09-08 03:06 J -26192192.50 -26192192.37 -26192192.24 0.0282 0.0026

Pluto -76424-10-06 14:52 J -26192164.05 -26192163.88 -26192163.69 0.0061 0.0021

Neptune -76424-12-02 11:30 J -26192107.08 -26192107.02 -26192106.93 0.0089 0.0073

Saturn -76424-12-05 14:08 J -26192104.03 -26192103.91 -26192103.78 0.0281 0.0084

Pluto -76423-01-02 16:18 J -26192075.98 -26192075.82 -26192075.65 0.0061 0.0027

Neptune -76423-02-28 12:56 J -26192019.03 -26192018.96 -26192018.87 0.0089 0.0068

Saturn -76423-03-04 01:11 J -26192015.54 -26192015.45 -26192015.35 0.0280 0.0194

Pluto -76423-03-31 17:30 J -26191987.92 -26191987.77 -26191987.60 0.0061 0.0033

Neptune -76423-05-27 14:23 J -26191930.99 -26191930.90 -26191930.80 0.0089 0.0063

Jupiter -76423-05-28 14:52 J -26191929.92 -26191929.88 -26191929.84 0.0534 0.0502

Pluto -76423-06-27 18:42 J -26191899.84 -26191899.72 -26191899.55 0.0061 0.0040

Neptune -76423-08-23 15:35 J -26191842.94 -26191842.85 -26191842.74 0.0089 0.0059

Jupiter -76423-08-25 21:35 J -26191840.73 -26191840.60 -26191840.47 0.0534 0.0053

Pluto -76423-09-23 20:08 J -26191811.77 -26191811.66 -26191811.51 0.0061 0.0045

Neptune -76423-11-19 17:01 J -26191754.89 -26191754.79 -26191754.68 0.0089 0.0054

Jupiter -76423-11-23 04:47 J -26191751.38 -26191751.30 -26191751.22 0.0533 0.0402

Pluto -76423-12-20 21:35 J -26191723.69 -26191723.60 -26191723.48 0.0061 0.0051

Neptune -76422-02-15 18:13 J -26191666.84 -26191666.74 -26191666.62 0.0089 0.0050

Pluto -76422-03-18 22:47 J -26191635.59 -26191635.55 -26191635.46 0.0061 0.0058

Neptune -76422-05-14 19:40 J -26191578.79 -26191578.68 -26191578.56 0.0089 0.0045

Neptune -76422-08-10 20:52 J -26191490.74 -26191490.63 -26191490.51 0.0089 0.0040

Neptune -76422-11-06 22:18 J -26191402.69 -26191402.57 -26191402.45 0.0089 0.0036

Venus -76422-11-16 02:37 J -26191393.46 -26191393.39 -26191393.31 0.3776 0.2706

Neptune -76421-02-02 23:30 J -26191314.64 -26191314.52 -26191314.39 0.0089 0.0031

Neptune -76421-05-01 00:42 J -26191226.59 -26191226.47 -26191226.33 0.0089 0.0027

Neptune -76421-07-28 02:08 J -26191138.53 -26191138.41 -26191138.28 0.0089 0.0022

Neptune -76421-10-24 03:35 J -26191050.48 -26191050.35 -26191050.22 0.0089 0.0017

Neptune -76420-01-20 04:47 J -26190962.43 -26190962.30 -26190962.16 0.0089 0.0013

Neptune -76420-04-18 06:13 J -26190874.37 -26190874.24 -26190874.11 0.0089 0.0008

Neptune -76420-07-15 07:25 J -26190786.32 -26190786.19 -26190786.05 0.0089 0.0004

Neptune -76420-10-11 08:52 J -26190698.26 -26190698.13 -26190698.00 0.0089 0.0002

Neptune -76419-01-07 10:04 J -26190610.21 -26190610.08 -26190609.94 0.0089 0.0007

Neptune -76419-04-05 11:30 J -26190522.15 -26190522.02 -26190521.89 0.0089 0.0011

Earth -76419-04-06 07:40 J -26190521.28 -26190521.18 -26190521.08 0.2738 0.1155

Moon -76419-04-06 08:23 J -26190521.25 -26190521.15 -26190521.05 0.2736 0.1223 *

Neptune -76419-07-02 12:42 J -26190434.10 -26190433.97 -26190433.84 0.0089 0.0016

Neptune -76419-09-28 14:08 J -26190346.04 -26190345.91 -26190345.78 0.0089 0.0020

Neptune -76419-12-25 15:20 J -26190257.98 -26190257.86 -26190257.73 0.0089 0.0025

Neptune -76418-03-23 16:47 J -26190169.93 -26190169.80 -26190169.68 0.0089 0.0029

Neptune -76418-06-19 17:59 J -26190081.87 -26190081.75 -26190081.62 0.0089 0.0034

Neptune -76418-09-15 19:11 J -26189993.81 -26189993.70 -26189993.57 0.0089 0.0039

Venus -76418-11-14 05:16 J -26189934.40 -26189934.28 -26189934.15 0.3592 0.1629

Neptune -76418-12-12 20:37 J -26189905.75 -26189905.64 -26189905.52 0.0089 0.0043

Neptune -76417-03-09 22:04 J -26189817.69 -26189817.58 -26189817.47 0.0089 0.0048

Neptune -76417-06-05 23:16 J -26189729.63 -26189729.53 -26189729.42 0.0089 0.0053

Jupiter -76417-07-22 23:30 J -26189682.66 -26189682.52 -26189682.37 0.0492 0.0311

Mars -76417-07-26 14:08 J -26189679.07 -26189678.91 -26189678.74 0.1653 0.0152

Neptune -76417-09-02 00:42 J -26189641.57 -26189641.47 -26189641.37 0.0089 0.0057

Jupiter -76417-10-21 08:08 J -26189592.33 -26189592.16 -26189592.00 0.0493 0.0224

Neptune -76417-11-29 01:54 J -26189553.51 -26189553.42 -26189553.32 0.0089 0.0062

Neptune -76416-02-25 03:06 J -26189465.44 -26189465.37 -26189465.27 0.0089 0.0067

Neptune -76416-05-24 04:47 J -26189377.38 -26189377.30 -26189377.22 0.0089 0.0071

Mars -76416-05-25 05:59 J -26189376.36 -26189376.25 -26189376.13 0.1893 0.0090

Neptune -76416-08-20 05:59 J -26189289.31 -26189289.25 -26189289.18 0.0089 0.0076

Neptune -76416-11-16 07:11 J -26189201.24 -26189201.20 -26189201.13 0.0089 0.0081

Neptune -76415-02-12 08:37 J -26189113.17 -26189113.14 -26189113.10 0.0089 0.0085

Moon -76412-03-30 06:42 J -26187971.28 -26187971.22 -26187971.17 0.2741 0.2258

Earth -76412-03-30 06:42 J -26187971.28 -26187971.22 -26187971.16 0.2734 0.2291 *

Venus -76412-05-30 06:56 J -26187910.35 -26187910.21 -26187910.07 0.3596 0.0371

Jupiter -76411-06-14 01:54 J -26187530.54 -26187530.42 -26187530.30 0.0534 0.0160

Jupiter -76411-09-11 09:06 J -26187441.23 -26187441.12 -26187441.02 0.0533 0.0294

Moon -76409-09-29 11:16 J -26186692.18 -26186692.03 -26186691.89 0.2595 0.1226

Earth -76409-09-29 12:28 J -26186692.13 -26186691.98 -26186691.83 0.2599 0.0993 *

Saturn -76408-06-21 03:49 J -26186427.48 -26186427.34 -26186427.19 0.0277 0.0184

Saturn -76408-09-18 03:35 J -26186338.54 -26186338.35 -26186338.16 0.0278 0.0029

Saturn -76408-12-16 02:52 J -26186249.54 -26186249.38 -26186249.21 0.0279 0.0128

Mars -76408-12-16 15:20 J -26186249.01 -26186248.86 -26186248.72 0.1647 0.0817

Mars -76407-10-15 14:23 J -26185946.01 -26185945.90 -26185945.80 0.1901 0.0829

Venus -76407-12-14 08:08 J -26185886.27 -26185886.16 -26185886.06 0.3599 0.2272

Earth -76406-04-09 01:40 J -26185770.47 -26185770.43 -26185770.38 0.2739 0.2412

Moon -76406-04-09 01:54 J -26185770.46 -26185770.42 -26185770.37 0.2732 0.2466 *

Jupiter -76405-05-10 21:20 J -26185372.69 -26185372.61 -26185372.53 0.0492 0.0440

Jupiter -76405-08-09 06:13 J -26185282.42 -26185282.24 -26185282.06 0.0493 0.0097

Earth -76399-04-02 00:42 J -26183220.57 -26183220.47 -26183220.37 0.2735 0.1075

Moon -76399-04-02 00:56 J -26183220.56 -26183220.46 -26183220.36 0.2742 0.1093 *

Jupiter -76399-04-02 05:44 J -26183220.37 -26183220.26 -26183220.15 0.0533 0.0276 *

Jupiter -76399-06-30 12:28 J -26183131.10 -26183130.98 -26183130.85 0.0533 0.0177

Mars -76397-03-06 22:18 J -26182515.61 -26182515.57 -26182515.52 0.1908 0.1744

Moon -76396-10-02 17:44 J -26181940.90 -26181940.76 -26181940.62 0.2599 0.1249

Earth -76396-10-02 19:25 J -26181940.82 -26181940.69 -26181940.55 0.2598 0.1329 *

Saturn -76395-10-29 17:44 J -26181548.86 -26181548.76 -26181548.66 0.0285 0.0175

Saturn -76394-01-26 04:47 J -26181460.42 -26181460.30 -26181460.17 0.0284 0.0064

Saturn -76394-04-24 16:04 J -26181371.96 -26181371.83 -26181371.70 0.0283 0.0048

Saturn -76394-07-22 03:20 J -26181283.47 -26181283.36 -26181283.25 0.0282 0.0158

Saturn -76394-10-18 14:23 J -26181194.93 -26181194.90 -26181194.86 0.0281 0.0268

Jupiter -76393-05-28 03:49 J -26180972.52 -26180972.34 -26180972.15 0.0493 0.0036

Venus -76393-10-08 06:42 J -26180839.27 -26180839.22 -26180839.16 0.3791 0.3229

Jupiter -76387-01-19 09:49 J -26178910.18 -26178910.09 -26178910.01 0.0533 0.0387

Jupiter -76387-04-18 16:32 J -26178820.94 -26178820.81 -26178820.68 0.0533 0.0063

Venus -76387-04-24 00:28 J -26178815.57 -26178815.48 -26178815.39 0.3788 0.2011

Jupiter -76387-07-16 23:44 J -26178731.54 -26178731.51 -26178731.48 0.0532 0.0516

Mars -76387-09-04 13:54 J -26178682.03 -26178681.92 -26178681.82 0.1660 0.1255

Earth -76386-04-04 18:28 J -26178469.84 -26178469.73 -26178469.62 0.2737 0.0178

Moon -76386-04-04 19:11 J -26178469.80 -26178469.70 -26178469.59 0.2738 0.0309 *

Mars -76386-07-03 22:04 J -26178379.68 -26178379.58 -26178379.49 0.1884 0.1062

Uranus -76385-03-22 01:11 J -26178117.51 -26178117.45 -26178117.39 0.0136 0.0121

Uranus -76385-06-18 04:04 J -26178029.40 -26178029.33 -26178029.24 0.0137 0.0105

Uranus -76385-09-14 07:25 J -26177941.29 -26177941.19 -26177941.09 0.0137 0.0088

Uranus -76385-12-11 10:32 J -26177853.17 -26177853.06 -26177852.94 0.0137 0.0072

Uranus -76384-03-09 13:54 J -26177765.04 -26177764.92 -26177764.80 0.0137 0.0055

Uranus -76384-06-05 17:01 J -26177676.91 -26177676.79 -26177676.66 0.0137 0.0038

Uranus -76384-09-01 20:23 J -26177588.78 -26177588.65 -26177588.52 0.0137 0.0021

Uranus -76384-11-28 23:44 J -26177500.65 -26177500.51 -26177500.38 0.0137 0.0004

Uranus -76383-02-25 02:52 J -26177412.51 -26177412.38 -26177412.24 0.0138 0.0014

Uranus -76383-05-24 06:13 J -26177324.37 -26177324.24 -26177324.11 0.0138 0.0031

Uranus -76383-08-20 09:35 J -26177236.22 -26177236.10 -26177235.97 0.0138 0.0048

Uranus -76383-11-16 12:56 J -26177148.08 -26177147.96 -26177147.84 0.0138 0.0066

Uranus -76382-02-12 16:18 J -26177059.92 -26177059.82 -26177059.71 0.0138 0.0083

Uranus -76382-05-11 19:40 J -26176971.77 -26176971.68 -26176971.59 0.0138 0.0101

Uranus -76382-08-07 23:01 J -26176883.60 -26176883.54 -26176883.47 0.0138 0.0119

Uranus -76382-11-04 02:37 J -26176795.41 -26176795.39 -26176795.37 0.0139 0.0137

Venus -76382-11-07 18:28 J -26176791.84 -26176791.73 -26176791.63 0.3785 0.0780

Jupiter -76381-03-16 01:40 J -26176662.61 -26176662.43 -26176662.26 0.0493 0.0167

Jupiter -76381-06-14 09:49 J -26176572.21 -26176572.09 -26176571.96 0.0494 0.0367

Saturn -76379-11-08 02:23 J -26175695.51 -26175695.40 -26175695.30 0.0277 0.0227

Saturn -76378-02-05 01:54 J -26175606.61 -26175606.42 -26175606.24 0.0278 0.0073

Saturn -76378-05-05 01:25 J -26175517.62 -26175517.44 -26175517.26 0.0279 0.0083

Saturn -76378-08-02 00:42 J -26175428.56 -26175428.47 -26175428.37 0.0280 0.0239

Mars -76377-01-25 14:52 J -26175252.04 -26175251.88 -26175251.72 0.1653 0.0285

Mars -76377-11-23 06:13 J -26174949.36 -26174949.24 -26174949.13 0.1892 0.0182

Venus -76376-05-23 12:13 J -26174768.09 -26174767.99 -26174767.88 0.3782 0.0532

Jupiter -76376-11-07 13:40 J -26174599.97 -26174599.93 -26174599.89 0.0534 0.0500

Jupiter -76375-02-04 20:23 J -26174510.78 -26174510.65 -26174510.52 0.0533 0.0052

Jupiter -76375-05-05 03:20 J -26174421.44 -26174421.36 -26174421.27 0.0532 0.0403

Earth -76373-04-06 12:28 J -26173719.07 -26173718.98 -26173718.88 0.2738 0.1410

Moon -76373-04-06 13:11 J -26173719.04 -26173718.95 -26173718.86 0.2735 0.1476 *

Venus -76371-12-07 06:28 J -26172744.32 -26172744.23 -26172744.13 0.3779 0.1824

Jupiter -76369-01-02 23:01 J -26172352.68 -26172352.54 -26172352.39 0.0493 0.0299

Jupiter -76369-04-02 07:40 J -26172262.34 -26172262.18 -26172262.02 0.0493 0.0237

Mars -76368-06-16 16:04 J -26171821.98 -26171821.83 -26171821.68 0.1647 0.0676

Mars -76367-04-15 14:08 J -26171519.01 -26171518.91 -26171518.80 0.1900 0.0737

Venus -76367-12-05 03:35 J -26171285.42 -26171285.35 -26171285.27 0.3590 0.3031

Moon -76366-03-31 11:30 J -26171169.09 -26171169.02 -26171168.95 0.2742 0.2113

Earth -76366-03-31 11:30 J -26171169.09 -26171169.02 -26171168.95 0.2734 0.2041 *

Saturn -76365-03-17 19:25 J -26170816.77 -26170816.69 -26170816.60 0.0285 0.0212

Saturn -76365-06-14 06:42 J -26170728.34 -26170728.22 -26170728.10 0.0284 0.0100

Venus -76365-06-22 00:56 J -26170720.52 -26170720.46 -26170720.41 0.3775 0.3161

Saturn -76365-09-10 17:59 J -26170639.88 -26170639.75 -26170639.62 0.0282 0.0013

Saturn -76365-12-08 05:01 J -26170551.41 -26170551.29 -26170551.17 0.0281 0.0121

Saturn -76364-03-06 16:18 J -26170462.89 -26170462.82 -26170462.75 0.0280 0.0230

Jupiter -76364-11-24 00:42 J -26170200.59 -26170200.47 -26170200.35 0.0534 0.0160

Jupiter -76363-02-21 07:40 J -26170111.29 -26170111.18 -26170111.07 0.0533 0.0294

Moon -76363-09-30 17:44 J -26169889.92 -26169889.76 -26169889.60 0.2597 0.0587

Earth -76363-09-30 19:11 J -26169889.86 -26169889.70 -26169889.54 0.2599 0.0526 *

Venus -76361-06-20 05:30 J -26169261.40 -26169261.27 -26169261.13 0.3593 0.0974

Moon -76360-04-09 06:42 J -26168968.24 -26168968.22 -26168968.19 0.2732 0.2663

Earth -76360-04-09 06:42 J -26168968.24 -26168968.22 -26168968.20 0.2739 0.2669 *

Mars -76359-11-06 17:16 J -26168391.80 -26168391.78 -26168391.77 0.1641 0.1627

Mars -76358-09-05 22:18 J -26168088.62 -26168088.57 -26168088.51 0.1908 0.1640

Jupiter -76358-10-21 20:08 J -26168042.74 -26168042.66 -26168042.56 0.0492 0.0434

Jupiter -76357-01-20 05:16 J -26167952.46 -26167952.28 -26167952.10 0.0493 0.0104

Venus -76355-01-04 06:56 J -26167237.34 -26167237.21 -26167237.07 0.3597 0.1007

Earth -76353-04-02 05:30 J -26166418.38 -26166418.27 -26166418.17 0.2736 0.0823

Moon -76353-04-02 05:44 J -26166418.36 -26166418.26 -26166418.15 0.2741 0.0714 *

Jupiter -76352-09-12 05:01 J -26165890.40 -26165890.29 -26165890.18 0.0534 0.0266

Jupiter -76352-12-10 11:59 J -26165801.12 -26165801.00 -26165800.88 0.0533 0.0188

Venus -76350-07-21 07:54 J -26165213.25 -26165213.17 -26165213.09 0.3601 0.2888

Moon -76350-10-04 00:28 J -26165138.61 -26165138.48 -26165138.35 0.2599 0.1507

Earth -76350-10-04 02:08 J -26165138.52 -26165138.41 -26165138.29 0.2598 0.1791 *

Saturn -76349-06-23 20:52 J -26164874.79 -26164874.63 -26164874.46 0.0277 0.0138

Saturn -76349-09-20 20:23 J -26164785.83 -26164785.65 -26164785.46 0.0278 0.0019

Saturn -76349-12-18 19:54 J -26164696.81 -26164696.67 -26164696.52 0.0279 0.0173

Mars -76347-03-05 14:23 J -26164254.99 -26164254.90 -26164254.82 0.1660 0.1382

Mars -76346-01-01 22:04 J -26163952.67 -26163952.58 -26163952.49 0.1884 0.1168

Jupiter -76346-11-08 03:06 J -26163642.55 -26163642.37 -26163642.18 0.0493 0.0025

Uranus -76346-11-08 12:13 J -26163642.05 -26163641.99 -26163641.90 0.0142 0.0129

Uranus -76345-02-04 20:37 J -26163553.77 -26163553.64 -26163553.50 0.0142 0.0101

Uranus -76345-05-03 04:47 J -26163465.46 -26163465.30 -26163465.14 0.0142 0.0074

Uranus -76345-07-30 12:42 J -26163377.15 -26163376.97 -26163376.78 0.0141 0.0047

Uranus -76345-10-26 20:52 J -26163288.82 -26163288.63 -26163288.44 0.0141 0.0019

Uranus -76344-01-23 04:47 J -26163200.49 -26163200.30 -26163200.11 0.0141 0.0008

Uranus -76344-04-21 12:28 J -26163112.16 -26163111.98 -26163111.79 0.0141 0.0034

Uranus -76344-07-18 20:08 J -26163023.82 -26163023.66 -26163023.48 0.0141 0.0061

Uranus -76344-10-15 03:49 J -26162935.48 -26162935.34 -26162935.18 0.0141 0.0087

Uranus -76343-01-11 11:30 J -26162847.12 -26162847.02 -26162846.90 0.0141 0.0113

Uranus -76343-04-09 19:11 J -26162758.72 -26162758.70 -26162758.66 0.0140 0.0138

Neptune -76341-05-31 11:30 J -26161976.05 -26161976.02 -26161975.98 0.0089 0.0087

Neptune -76341-08-27 14:52 J -26161887.94 -26161887.88 -26161887.78 0.0089 0.0081

Neptune -76341-11-23 18:42 J -26161799.81 -26161799.72 -26161799.59 0.0089 0.0074

Neptune -76340-02-19 22:32 J -26161711.68 -26161711.56 -26161711.42 0.0089 0.0067

Earth -76340-04-04 23:30 J -26161667.63 -26161667.52 -26161667.42 0.2737 0.0436

Moon -76340-04-05 00:13 J -26161667.60 -26161667.49 -26161667.39 0.2738 0.0468 *

Neptune -76340-05-19 02:23 J -26161623.54 -26161623.40 -26161623.25 0.0089 0.0060

Jupiter -76340-07-01 09:06 J -26161580.21 -26161580.12 -26161580.04 0.0533 0.0379

Neptune -76340-08-15 05:59 J -26161535.39 -26161535.25 -26161535.08 0.0089 0.0053

Jupiter -76340-09-28 15:49 J -26161490.97 -26161490.84 -26161490.72 0.0533 0.0071

Neptune -76340-11-11 09:49 J -26161447.25 -26161447.09 -26161446.91 0.0089 0.0046

Jupiter -76340-12-26 23:01 J -26161401.56 -26161401.54 -26161401.53 0.0532 0.0524

Neptune -76339-02-07 13:25 J -26161359.10 -26161358.94 -26161358.75 0.0089 0.0039

Neptune -76339-05-06 17:01 J -26161270.96 -26161270.79 -26161270.59 0.0089 0.0033

Neptune -76339-08-02 20:52 J -26161182.81 -26161182.63 -26161182.43 0.0089 0.0026

Neptune -76339-10-30 00:42 J -26161094.66 -26161094.47 -26161094.27 0.0089 0.0019

Neptune -76338-01-26 04:32 J -26161006.51 -26161006.31 -26161006.12 0.0089 0.0012

Neptune -76338-04-24 08:08 J -26160918.35 -26160918.16 -26160917.96 0.0089 0.0005

Neptune -76338-07-21 11:44 J -26160830.20 -26160830.01 -26160829.81 0.0089 0.0003

Mars -76338-07-26 15:20 J -26160825.02 -26160824.86 -26160824.70 0.1654 0.0416

Neptune -76338-10-17 15:35 J -26160742.05 -26160741.85 -26160741.66 0.0089 0.0009

Neptune -76337-01-13 19:11 J -26160653.89 -26160653.70 -26160653.51 0.0089 0.0015

Neptune -76337-04-10 22:47 J -26160565.73 -26160565.55 -26160565.36 0.0089 0.0022

Mars -76337-05-24 06:13 J -26160522.36 -26160522.24 -26160522.13 0.1892 0.0279

Neptune -76337-07-08 02:37 J -26160477.58 -26160477.39 -26160477.21 0.0089 0.0029

Neptune -76337-10-04 05:59 J -26160389.42 -26160389.25 -26160389.06 0.0089 0.0036

Neptune -76337-12-31 09:35 J -26160301.26 -26160301.10 -26160300.92 0.0089 0.0043

Neptune -76336-03-29 13:11 J -26160213.10 -26160212.95 -26160212.77 0.0089 0.0050

Venus -76336-05-15 04:47 J -26160166.37 -26160166.30 -26160166.23 0.3791 0.2831

Neptune -76336-06-25 17:01 J -26160124.93 -26160124.79 -26160124.63 0.0089 0.0056

Saturn -76336-08-04 20:52 J -26160084.68 -26160084.63 -26160084.57 0.0286 0.0254

Neptune -76336-09-21 20:37 J -26160036.77 -26160036.64 -26160036.49 0.0089 0.0063

Saturn -76336-11-01 08:08 J -26159996.27 -26159996.16 -26159996.05 0.0285 0.0141

Neptune -76336-12-18 23:59 J -26159948.60 -26159948.50 -26159948.36 0.0089 0.0070

Saturn -76335-01-28 19:25 J -26159907.82 -26159907.69 -26159907.56 0.0284 0.0029

Neptune -76335-03-17 04:04 J -26159860.43 -26159860.33 -26159860.23 0.0089 0.0076

Saturn -76335-04-27 06:42 J -26159819.35 -26159819.22 -26159819.10 0.0283 0.0083

Neptune -76335-06-13 07:25 J -26159772.24 -26159772.19 -26159772.11 0.0089 0.0083

Saturn -76335-07-24 17:44 J -26159730.85 -26159730.76 -26159730.66 0.0282 0.0193

Jupiter -76334-08-27 00:42 J -26159332.65 -26159332.47 -26159332.30 0.0493 0.0159

Jupiter -76334-11-25 09:06 J -26159242.24 -26159242.12 -26159242.00 0.0494 0.0377

Pluto -76333-03-20 14:52 J -26159125.91 -26159125.88 -26159125.82 0.0084 0.0079

Pluto -76333-06-16 16:18 J -26159037.89 -26159037.82 -26159037.72 0.0084 0.0067

Pluto -76333-09-12 17:59 J -26158949.85 -26158949.75 -26158949.64 0.0084 0.0055

Pluto -76333-12-09 19:25 J -26158861.80 -26158861.69 -26158861.57 0.0084 0.0044

Pluto -76332-03-07 20:37 J -26158773.76 -26158773.64 -26158773.51 0.0084 0.0033

Pluto -76332-06-03 22:04 J -26158685.70 -26158685.58 -26158685.44 0.0084 0.0022

Pluto -76332-08-30 23:30 J -26158597.65 -26158597.52 -26158597.38 0.0084 0.0011

Pluto -76332-11-27 00:56 J -26158509.60 -26158509.46 -26158509.32 0.0083 0.0001

Pluto -76331-02-23 02:23 J -26158421.54 -26158421.40 -26158421.27 0.0083 0.0012

Pluto -76331-05-22 03:35 J -26158333.48 -26158333.35 -26158333.22 0.0083 0.0022

Pluto -76331-08-18 04:47 J -26158245.42 -26158245.30 -26158245.17 0.0083 0.0033

Pluto -76331-11-14 05:59 J -26158157.35 -26158157.25 -26158157.12 0.0083 0.0044

Venus -76331-11-28 22:32 J -26158142.66 -26158142.56 -26158142.46 0.3788 0.1604

Pluto -76330-02-10 07:40 J -26158069.28 -26158069.18 -26158069.08 0.0083 0.0054

Pluto -76330-05-09 08:37 J -26157981.21 -26157981.14 -26157981.05 0.0083 0.0065

Pluto -76330-08-05 09:49 J -26157893.13 -26157893.09 -26157893.02 0.0083 0.0076

Moon -76330-09-28 17:44 J -26157838.81 -26157838.76 -26157838.70 0.2595 0.2451

Earth -76330-09-28 18:42 J -26157838.78 -26157838.72 -26157838.66 0.2601 0.2410 *

Mars -76329-12-15 16:47 J -26157394.96 -26157394.80 -26157394.64 0.1647 0.0535

Jupiter -76328-04-19 13:11 J -26157270.00 -26157269.95 -26157269.91 0.0533 0.0489

Jupiter -76328-07-17 19:40 J -26157180.80 -26157180.68 -26157180.55 0.0533 0.0043

Mars -76328-10-14 14:08 J -26157092.01 -26157091.91 -26157091.80 0.1900 0.0633

Jupiter -76328-10-15 02:37 J -26157091.46 -26157091.39 -26157091.30 0.0532 0.0412

Earth -76327-04-07 17:30 J -26156916.86 -26156916.77 -26156916.69 0.2738 0.1668

Moon -76327-04-07 17:59 J -26156916.84 -26156916.75 -26156916.67 0.2733 0.1759 *

Venus -76325-06-13 16:32 J -26156118.92 -26156118.81 -26156118.71 0.3784 0.0382

Jupiter -76322-06-14 22:18 J -26155022.72 -26155022.57 -26155022.42 0.0493 0.0291

Jupiter -76322-09-13 06:56 J -26154932.37 -26154932.21 -26154932.05 0.0494 0.0247

Moon -76320-03-31 16:18 J -26154366.90 -26154366.82 -26154366.74 0.2742 0.1752

Earth -76320-03-31 16:18 J -26154366.90 -26154366.82 -26154366.74 0.2734 0.1792 *

Saturn -76320-11-10 19:25 J -26154142.83 -26154142.69 -26154142.55 0.0277 0.0181

Venus -76320-12-28 10:32 J -26154095.17 -26154095.06 -26154094.96 0.3781 0.0951

Saturn -76319-02-07 18:56 J -26154053.90 -26154053.71 -26154053.52 0.0278 0.0027

Saturn -76319-05-07 18:13 J -26153964.90 -26153964.74 -26153964.57 0.0279 0.0129

Mars -76319-05-07 17:44 J -26153964.82 -26153964.76 -26153964.69 0.1641 0.1494 *

Mars -76318-03-06 22:18 J -26153661.63 -26153661.57 -26153661.50 0.1908 0.1539

Moon -76317-10-01 00:13 J -26153087.65 -26153087.49 -26153087.33 0.2598 0.0303

Earth -76317-10-01 01:54 J -26153087.58 -26153087.42 -26153087.26 0.2599 0.0063 *

Jupiter -76316-05-05 23:30 J -26152870.64 -26152870.52 -26152870.40 0.0533 0.0157

Jupiter -76316-08-03 06:28 J -26152781.33 -26152781.23 -26152781.12 0.0532 0.0296

Venus -76314-07-14 04:47 J -26152071.39 -26152071.30 -26152071.22 0.3778 0.2270

Jupiter -76310-04-02 19:54 J -26150712.77 -26150712.67 -26150712.58 0.0493 0.0422

Jupiter -76310-07-02 04:47 J -26150622.48 -26150622.30 -26150622.12 0.0493 0.0117

Venus -76310-07-12 04:04 J -26150612.44 -26150612.33 -26150612.23 0.3591 0.2363

Venus -76308-01-26 23:01 J -26150047.57 -26150047.54 -26150047.51 0.3774 0.3617

Mars -76308-09-03 15:06 J -26149827.94 -26149827.87 -26149827.81 0.1661 0.1522

Earth -76307-04-03 10:18 J -26149616.18 -26149616.07 -26149615.97 0.2736 0.0567

Moon -76307-04-03 10:47 J -26149616.15 -26149616.05 -26149615.94 0.2740 0.0557 *

Mars -76307-07-02 22:04 J -26149525.67 -26149525.58 -26149525.50 0.1884 0.1271

Saturn -76306-03-21 10:04 J -26149264.18 -26149264.08 -26149263.98 0.0285 0.0178

Saturn -76306-06-17 21:20 J -26149175.74 -26149175.61 -26149175.49 0.0284 0.0066

Saturn -76306-09-14 08:23 J -26149087.28 -26149087.15 -26149087.02 0.0283 0.0046

Saturn -76306-12-11 19:40 J -26148998.79 -26148998.68 -26148998.57 0.0282 0.0156

Saturn -76305-03-09 06:56 J -26148910.25 -26148910.21 -26148910.17 0.0281 0.0265

Venus -76304-01-25 05:44 J -26148588.40 -26148588.26 -26148588.12 0.3594 0.0321

Jupiter -76304-02-22 03:49 J -26148560.45 -26148560.34 -26148560.23 0.0534 0.0265

Jupiter -76304-05-22 10:47 J -26148471.17 -26148471.05 -26148470.93 0.0533 0.0188

Moon -76304-10-04 07:11 J -26148336.29 -26148336.20 -26148336.12 0.2599 0.2183

Earth -76304-10-04 08:52 J -26148336.21 -26148336.13 -26148336.05 0.2598 0.2246 *

Uranus -76301-01-14 04:47 J -26147504.31 -26147504.30 -26147504.27 0.0136 0.0134

Uranus -76301-04-11 07:54 J -26147416.23 -26147416.17 -26147416.10 0.0136 0.0118

Uranus -76301-07-08 11:16 J -26147328.12 -26147328.03 -26147327.94 0.0137 0.0102

Uranus -76301-10-04 14:23 J -26147240.00 -26147239.90 -26147239.79 0.0137 0.0085

Uranus -76301-12-31 17:30 J -26147151.88 -26147151.77 -26147151.65 0.0137 0.0069

Uranus -76300-03-29 20:52 J -26147063.75 -26147063.63 -26147063.50 0.0137 0.0052

Uranus -76300-06-26 00:13 J -26146975.62 -26146975.49 -26146975.36 0.0137 0.0035

Uranus -76300-09-22 03:20 J -26146887.49 -26146887.36 -26146887.22 0.0137 0.0018

Uranus -76300-12-19 06:42 J -26146799.35 -26146799.22 -26146799.08 0.0137 0.0002

Uranus -76299-03-17 10:04 J -26146711.21 -26146711.08 -26146710.95 0.0138 0.0017

Uranus -76299-06-13 13:25 J -26146623.07 -26146622.94 -26146622.81 0.0138 0.0034

Venus -76299-08-11 06:56 J -26146564.33 -26146564.21 -26146564.08 0.3598 0.1626

Uranus -76299-09-09 16:32 J -26146534.93 -26146534.81 -26146534.68 0.0138 0.0052

Uranus -76299-12-06 19:54 J -26146446.78 -26146446.67 -26146446.55 0.0138 0.0069

Mars -76298-01-24 16:18 J -26146397.98 -26146397.82 -26146397.67 0.1654 0.0559

Uranus -76298-03-04 23:30 J -26146358.63 -26146358.52 -26146358.42 0.0138 0.0087

Jupiter -76298-04-20 02:08 J -26146312.59 -26146312.41 -26146312.22 0.0493 0.0017

Uranus -76298-06-01 02:37 J -26146270.47 -26146270.39 -26146270.30 0.0138 0.0105

Uranus -76298-08-28 05:59 J -26146182.30 -26146182.25 -26146182.18 0.0138 0.0123

Mars -76298-11-23 06:13 J -26146095.36 -26146095.24 -26146095.13 0.1892 0.0381

Earth -76294-04-06 04:18 J -26144865.43 -26144865.32 -26144865.22 0.2737 0.0679

Moon -76294-04-06 04:47 J -26144865.40 -26144865.30 -26144865.19 0.2738 0.0830 *

Venus -76293-02-25 07:54 J -26144540.20 -26144540.17 -26144540.14 0.3602 0.3498

Jupiter -76293-12-11 08:08 J -26144250.25 -26144250.16 -26144250.07 0.0534 0.0371

Jupiter -76292-03-10 15:06 J -26144161.00 -26144160.87 -26144160.75 0.0533 0.0082

Saturn -76290-03-30 14:37 J -26143410.97 -26143410.89 -26143410.80 0.0276 0.0245

Saturn -76290-06-27 14:08 J -26143322.09 -26143321.91 -26143321.73 0.0277 0.0092

Saturn -76290-09-24 13:40 J -26143233.12 -26143232.93 -26143232.75 0.0278 0.0064

Saturn -76290-12-22 12:42 J -26143144.07 -26143143.97 -26143143.84 0.0279 0.0220

Mars -76289-06-15 17:16 J -26142967.94 -26142967.78 -26142967.62 0.1647 0.0415

Mars -76288-04-14 14:23 J -26142665.01 -26142664.90 -26142664.79 0.1900 0.0522

Jupiter -76286-02-05 23:59 J -26142002.67 -26142002.50 -26142002.32 0.0493 0.0146

Jupiter -76286-05-07 08:08 J -26141912.26 -26141912.16 -26141912.04 0.0494 0.0388

Venus -76285-06-05 09:20 J -26141517.14 -26141517.11 -26141517.09 0.3793 0.3642

Moon -76284-09-29 00:28 J -26141036.58 -26141036.48 -26141036.38 0.2595 0.2037

Earth -76284-09-29 01:25 J -26141036.55 -26141036.44 -26141036.34 0.2600 0.1942 *

Earth -76281-04-07 22:18 J -26140114.65 -26140114.57 -26140114.50 0.2738 0.1926

Moon -76281-04-07 22:47 J -26140114.63 -26140114.55 -26140114.48 0.2732 0.1932 *

Jupiter -76281-09-29 12:13 J -26139940.04 -26139939.99 -26139939.93 0.0533 0.0481

Jupiter -76281-12-27 18:56 J -26139850.84 -26139850.71 -26139850.58 0.0533 0.0034

Jupiter -76280-03-27 01:54 J -26139761.49 -26139761.42 -26139761.34 0.0532 0.0420

Mars -76280-11-05 18:28 J -26139537.82 -26139537.73 -26139537.64 0.1641 0.1357

Venus -76280-12-20 02:52 J -26139493.46 -26139493.38 -26139493.30 0.3790 0.2430

Mars -76279-09-04 22:18 J -26139234.64 -26139234.57 -26139234.49 0.1908 0.1437

Saturn -76277-08-07 11:16 J -26138532.11 -26138532.03 -26138531.94 0.0286 0.0220

Saturn -76277-11-03 22:32 J -26138443.68 -26138443.56 -26138443.43 0.0285 0.0107

Saturn -76276-01-31 09:49 J -26138355.22 -26138355.09 -26138354.96 0.0284 0.0010

Saturn -76276-04-29 21:06 J -26138266.74 -26138266.62 -26138266.50 0.0283 0.0117

Saturn -76276-07-27 08:23 J -26138178.23 -26138178.15 -26138178.07 0.0282 0.0227

Jupiter -76275-11-24 21:06 J -26137692.77 -26137692.62 -26137692.46 0.0493 0.0284

Jupiter -76274-02-23 05:59 J -26137602.41 -26137602.25 -26137602.09 0.0494 0.0255

Earth -76274-04-01 21:06 J -26137564.71 -26137564.62 -26137564.53 0.2735 0.1541

Moon -76274-04-01 21:20 J -26137564.70 -26137564.61 -26137564.53 0.2741 0.1564 *

Venus -76274-07-05 20:37 J -26137469.74 -26137469.64 -26137469.54 0.3787 0.1189

Moon -76271-10-02 06:42 J -26136285.38 -26136285.22 -26136285.06 0.2598 0.0288

Earth -76271-10-02 08:37 J -26136285.30 -26136285.14 -26136284.98 0.2599 0.0406 *

Jupiter -76269-10-15 23:01 J -26135540.66 -26135540.54 -26135540.42 0.0533 0.0145

Jupiter -76268-01-13 05:59 J -26135451.36 -26135451.25 -26135451.15 0.0532 0.0307

Venus -76268-01-18 14:23 J -26135446.00 -26135445.90 -26135445.79 0.3784 0.0176

Mars -76268-12-31 22:04 J -26135098.66 -26135098.58 -26135098.50 0.1884 0.1372

Venus -76263-08-04 08:37 J -26133422.24 -26133422.14 -26133422.04 0.3780 0.1385

Jupiter -76263-09-12 18:42 J -26133382.81 -26133382.72 -26133382.62 0.0493 0.0416

Jupiter -76263-12-12 03:49 J -26133292.52 -26133292.34 -26133292.17 0.0494 0.0124

Uranus -76262-11-28 18:56 J -26132940.78 -26132940.71 -26132940.60 0.0142 0.0125

Uranus -76261-02-25 03:20 J -26132852.49 -26132852.36 -26132852.21 0.0142 0.0097

Earth -76261-04-03 15:06 J -26132813.98 -26132813.87 -26132813.76 0.2736 0.0314

Moon -76261-04-03 15:35 J -26132813.95 -26132813.85 -26132813.74 0.2740 0.0212 *

Uranus -76261-05-23 11:30 J -26132764.18 -26132764.02 -26132763.85 0.0142 0.0069

Uranus -76261-08-19 19:25 J -26132675.86 -26132675.69 -26132675.50 0.0141 0.0043

Saturn -76261-11-13 12:42 J -26132590.13 -26132589.97 -26132589.79 0.0277 0.0133

Uranus -76261-11-16 03:35 J -26132587.54 -26132587.35 -26132587.16 0.0141 0.0015

Saturn -76260-02-10 12:13 J -26132501.17 -26132500.99 -26132500.80 0.0278 0.0023

Uranus -76260-02-12 11:30 J -26132499.21 -26132499.02 -26132498.83 0.0141 0.0012

Saturn -76260-05-10 11:44 J -26132412.15 -26132412.01 -26132411.87 0.0279 0.0177

Uranus -76260-05-11 19:25 J -26132410.88 -26132410.69 -26132410.51 0.0141 0.0038

Uranus -76260-08-08 02:52 J -26132322.54 -26132322.38 -26132322.20 0.0141 0.0065

Neptune -76260-09-11 06:42 J -26132288.23 -26132288.22 -26132288.21 0.0089 0.0088

Uranus -76260-11-04 10:47 J -26132234.19 -26132234.05 -26132233.90 0.0141 0.0091

Neptune -76260-12-08 07:54 J -26132200.20 -26132200.17 -26132200.12 0.0089 0.0084

Uranus -76259-01-31 18:13 J -26132145.83 -26132145.74 -26132145.62 0.0141 0.0117

Neptune -76259-03-06 09:20 J -26132112.17 -26132112.11 -26132112.05 0.0089 0.0079

Neptune -76259-06-02 10:18 J -26132024.13 -26132024.07 -26132023.99 0.0089 0.0075

Mars -76259-07-25 16:47 J -26131970.95 -26131970.80 -26131970.65 0.1654 0.0689

Neptune -76259-08-29 11:44 J -26131936.08 -26131936.01 -26131935.92 0.0089 0.0070

Neptune -76259-11-25 12:56 J -26131848.03 -26131847.96 -26131847.86 0.0089 0.0066

Neptune -76258-02-21 14:23 J -26131759.99 -26131759.90 -26131759.80 0.0089 0.0061

Neptune -76258-05-20 15:35 J -26131671.94 -26131671.85 -26131671.74 0.0089 0.0057

Mars -76258-05-24 06:13 J -26131668.35 -26131668.24 -26131668.13 0.1892 0.0486

Neptune -76258-08-16 17:01 J -26131583.89 -26131583.79 -26131583.68 0.0089 0.0052

Moon -76258-10-05 13:54 J -26131533.96 -26131533.92 -26131533.87 0.2600 0.2463

Neptune -76258-11-12 18:28 J -26131495.84 -26131495.73 -26131495.62 0.0089 0.0047

Neptune -76257-02-08 19:40 J -26131407.79 -26131407.68 -26131407.56 0.0089 0.0043

Venus -76257-02-18 02:52 J -26131398.46 -26131398.38 -26131398.31 0.3777 0.2712

Neptune -76257-05-06 21:06 J -26131319.74 -26131319.62 -26131319.50 0.0089 0.0038

Neptune -76257-08-02 22:18 J -26131231.69 -26131231.57 -26131231.44 0.0089 0.0033

Jupiter -76257-08-04 02:37 J -26131230.50 -26131230.39 -26131230.28 0.0533 0.0261

Neptune -76257-10-29 23:30 J -26131143.64 -26131143.52 -26131143.39 0.0089 0.0029

Jupiter -76257-11-01 09:35 J -26131141.22 -26131141.10 -26131140.98 0.0533 0.0191

Neptune -76256-01-26 00:56 J -26131055.58 -26131055.46 -26131055.33 0.0089 0.0024

Neptune -76256-04-24 02:08 J -26130967.53 -26130967.41 -26130967.27 0.0089 0.0020

Neptune -76256-07-21 03:35 J -26130879.48 -26130879.35 -26130879.22 0.0089 0.0015

Neptune -76256-10-17 04:47 J -26130791.42 -26130791.30 -26130791.16 0.0089 0.0011

Neptune -76255-01-13 06:13 J -26130703.37 -26130703.24 -26130703.11 0.0089 0.0006

Neptune -76255-04-11 07:40 J -26130615.32 -26130615.18 -26130615.05 0.0089 0.0002

Neptune -76255-07-08 08:52 J -26130527.26 -26130527.13 -26130527.00 0.0089 0.0004

Neptune -76255-10-04 10:18 J -26130439.21 -26130439.07 -26130438.94 0.0089 0.0009

Neptune -76255-12-31 11:30 J -26130351.15 -26130351.02 -26130350.89 0.0089 0.0013

Neptune -76254-03-29 12:42 J -26130263.09 -26130262.97 -26130262.83 0.0089 0.0018

Neptune -76254-06-25 14:08 J -26130175.04 -26130174.91 -26130174.78 0.0089 0.0022

Neptune -76254-09-21 15:35 J -26130086.98 -26130086.85 -26130086.73 0.0089 0.0027

Neptune -76254-12-18 16:47 J -26129998.92 -26129998.80 -26129998.67 0.0089 0.0032

Venus -76253-02-16 04:18 J -26129939.45 -26129939.32 -26129939.20 0.3592 0.1696

Neptune -76253-03-15 17:59 J -26129910.86 -26129910.75 -26129910.62 0.0089 0.0037

Neptune -76253-06-11 19:25 J -26129822.80 -26129822.69 -26129822.57 0.0089 0.0041

Neptune -76253-09-07 20:37 J -26129734.75 -26129734.64 -26129734.52 0.0089 0.0046

Neptune -76253-12-04 21:49 J -26129646.69 -26129646.59 -26129646.47 0.0089 0.0051

Neptune -76252-03-02 23:16 J -26129558.62 -26129558.53 -26129558.42 0.0089 0.0055

Neptune -76252-05-30 00:42 J -26129470.56 -26129470.47 -26129470.37 0.0089 0.0060

Neptune -76252-08-26 01:54 J -26129382.50 -26129382.42 -26129382.32 0.0089 0.0065

Neptune -76252-11-22 03:20 J -26129294.44 -26129294.36 -26129294.27 0.0089 0.0069

Neptune -76251-02-18 04:32 J -26129206.37 -26129206.31 -26129206.23 0.0089 0.0074

Neptune -76251-05-17 05:44 J -26129118.30 -26129118.26 -26129118.18 0.0089 0.0079

Neptune -76251-08-13 07:25 J -26129030.23 -26129030.19 -26129030.14 0.0089 0.0083

Jupiter -76251-09-30 01:25 J -26128982.62 -26128982.44 -26128982.25 0.0493 0.0008

Neptune -76251-11-09 08:37 J -26128942.15 -26128942.14 -26128942.11 0.0089 0.0088

Mars -76250-12-15 17:59 J -26128540.91 -26128540.75 -26128540.58 0.1647 0.0269

Mars -76249-10-13 14:08 J -26128238.02 -26128237.91 -26128237.79 0.1900 0.0430

Earth -76248-04-06 09:06 J -26128063.22 -26128063.12 -26128063.02 0.2737 0.0930

Moon -76248-04-06 09:49 J -26128063.20 -26128063.09 -26128062.99 0.2735 0.0953 *

Venus -76248-09-01 05:44 J -26127915.40 -26127915.26 -26127915.12 0.3595 0.0328

Saturn -76248-12-25 13:25 J -26127800.00 -26127799.94 -26127799.89 0.0286 0.0256

Saturn -76247-03-24 00:28 J -26127711.59 -26127711.48 -26127711.36 0.0285 0.0144

Saturn -76247-06-20 11:44 J -26127623.14 -26127623.01 -26127622.88 0.0284 0.0032

Saturn -76247-09-16 23:01 J -26127534.66 -26127534.54 -26127534.41 0.0283 0.0081

Saturn -76247-12-14 10:18 J -26127446.16 -26127446.07 -26127445.97 0.0282 0.0191

Jupiter -76245-05-23 06:56 J -26126920.30 -26126920.21 -26126920.12 0.0534 0.0370

Jupiter -76245-08-20 13:40 J -26126831.05 -26126830.93 -26126830.80 0.0533 0.0081

Venus -76242-03-18 06:56 J -26125891.31 -26125891.21 -26125891.10 0.3599 0.2254

Moon -76241-03-30 07:54 J -26125513.21 -26125513.17 -26125513.13 0.2740 0.2532

Earth -76241-03-30 08:08 J -26125513.20 -26125513.16 -26125513.12 0.2733 0.2500 *

Mars -76240-05-06 19:11 J -26125110.81 -26125110.70 -26125110.60 0.1641 0.1227

Mars -76239-03-05 22:18 J -26124807.65 -26124807.57 -26124807.49 0.1908 0.1336

Jupiter -76239-07-18 22:47 J -26124672.73 -26124672.55 -26124672.37 0.0493 0.0142

Jupiter -76239-10-17 06:56 J -26124582.31 -26124582.21 -26124582.09 0.0494 0.0393

Moon -76238-09-30 06:42 J -26124234.34 -26124234.22 -26124234.09 0.2596 0.1648

Earth -76238-09-30 08:08 J -26124234.30 -26124234.16 -26124234.03 0.2600 0.1476 *

Earth -76235-04-09 03:06 J -26123312.43 -26123312.37 -26123312.31 0.2738 0.2179

Moon -76235-04-09 03:35 J -26123312.41 -26123312.35 -26123312.29 0.2732 0.2284 *

Jupiter -76233-03-11 11:16 J -26122610.08 -26122610.03 -26122609.97 0.0534 0.0476

Jupiter -76233-06-08 17:59 J -26122520.87 -26122520.75 -26122520.62 0.0533 0.0031

Jupiter -76233-09-06 01:11 J -26122431.52 -26122431.45 -26122431.37 0.0532 0.0429

Saturn -76231-04-02 08:23 J -26121858.27 -26121858.15 -26121858.01 0.0276 0.0195

Saturn -76231-06-30 08:08 J -26121769.35 -26121769.16 -26121768.98 0.0277 0.0041

Saturn -76231-09-27 07:25 J -26121680.36 -26121680.19 -26121680.02 0.0278 0.0115

Saturn -76231-12-25 06:42 J -26121591.26 -26121591.22 -26121591.17 0.0279 0.0270

Venus -76228-01-10 07:11 J -26120844.25 -26120844.20 -26120844.15 0.3792 0.3251

Earth -76228-04-02 01:54 J -26120762.51 -26120762.42 -26120762.32 0.2735 0.1289

Moon -76228-04-02 02:23 J -26120762.50 -26120762.40 -26120762.31 0.2741 0.1250 *

Mars -76228-07-01 22:04 J -26120671.65 -26120671.58 -26120671.51 0.1884 0.1484

Jupiter -76227-05-06 20:37 J -26120362.80 -26120362.64 -26120362.49 0.0493 0.0272

Jupiter -76227-08-05 05:01 J -26120272.44 -26120272.29 -26120272.13 0.0494 0.0266

Moon -76225-10-02 13:25 J -26119483.10 -26119482.94 -26119482.78 0.2598 0.0640

Earth -76225-10-02 15:06 J -26119483.02 -26119482.87 -26119482.71 0.2599 0.0864 *

Venus -76223-07-27 00:56 J -26118820.55 -26118820.46 -26118820.37 0.3789 0.2030

Jupiter -76221-03-27 22:04 J -26118210.70 -26118210.58 -26118210.45 0.0533 0.0139

Jupiter -76221-06-25 05:01 J -26118121.39 -26118121.29 -26118121.19 0.0532 0.0314

Mars -76219-01-23 17:30 J -26117543.91 -26117543.77 -26117543.63 0.1654 0.0824

Mars -76219-11-22 06:13 J -26117241.35 -26117241.24 -26117241.13 0.1892 0.0589

Saturn -76218-08-11 01:54 J -26116979.52 -26116979.42 -26116979.32 0.0286 0.0185

Saturn -76218-11-07 13:11 J -26116891.07 -26116890.95 -26116890.82 0.0285 0.0072

Uranus -76217-02-03 11:44 J -26116803.03 -26116803.01 -26116802.96 0.0136 0.0132

Saturn -76217-02-04 00:28 J -26116802.61 -26116802.48 -26116802.35 0.0284 0.0040

Venus -76217-02-09 18:42 J -26116796.83 -26116796.72 -26116796.62 0.3786 0.0787

Uranus -76217-05-01 15:06 J -26116714.93 -26116714.87 -26116714.79 0.0137 0.0115

Saturn -76217-05-02 11:44 J -26116714.12 -26116714.01 -26116713.90 0.0283 0.0151

Uranus -76217-07-28 18:13 J -26116626.82 -26116626.74 -26116626.64 0.0137 0.0099

Saturn -76217-07-29 23:01 J -26116625.59 -26116625.54 -26116625.50 0.0282 0.0262

Uranus -76217-10-24 21:35 J -26116538.70 -26116538.60 -26116538.49 0.0137 0.0082

Uranus -76216-01-21 00:42 J -26116450.58 -26116450.47 -26116450.35 0.0137 0.0065

Uranus -76216-04-19 04:04 J -26116362.45 -26116362.33 -26116362.20 0.0137 0.0048

Uranus -76216-07-16 07:25 J -26116274.32 -26116274.19 -26116274.06 0.0137 0.0032

Uranus -76216-10-12 10:32 J -26116186.19 -26116186.06 -26116185.93 0.0137 0.0014

Uranus -76215-01-08 13:54 J -26116098.05 -26116097.92 -26116097.79 0.0138 0.0003

Jupiter -76215-02-22 17:16 J -26116052.87 -26116052.78 -26116052.67 0.0493 0.0413

Earth -76215-04-04 19:54 J -26116011.78 -26116011.67 -26116011.56 0.2736 0.0066

Moon -76215-04-04 20:37 J -26116011.75 -26116011.64 -26116011.53 0.2740 0.0070 *

Uranus -76215-04-06 17:16 J -26116009.91 -26116009.78 -26116009.65 0.0138 0.0020

Jupiter -76215-05-24 02:23 J -26115962.57 -26115962.40 -26115962.22 0.0494 0.0129

Uranus -76215-07-03 20:23 J -26115921.77 -26115921.65 -26115921.52 0.0138 0.0038

Uranus -76215-09-29 23:44 J -26115833.63 -26115833.51 -26115833.38 0.0138 0.0055

Uranus -76215-12-27 03:06 J -26115745.48 -26115745.37 -26115745.25 0.0138 0.0073

Uranus -76214-03-25 06:28 J -26115657.32 -26115657.23 -26115657.12 0.0138 0.0091

Uranus -76214-06-21 09:49 J -26115569.16 -26115569.09 -26115569.00 0.0138 0.0108

Uranus -76214-09-17 13:11 J -26115480.99 -26115480.95 -26115480.89 0.0138 0.0126

Venus -76212-08-25 12:42 J -26114773.08 -26114772.97 -26114772.87 0.3783 0.0527

Mars -76210-06-15 18:42 J -26114113.89 -26114113.72 -26114113.56 0.1647 0.0137

Jupiter -76209-01-15 02:08 J -26113900.52 -26113900.41 -26113900.30 0.0533 0.0250

Jupiter -76209-04-13 08:52 J -26113811.25 -26113811.13 -26113811.01 0.0532 0.0201

Mars -76209-04-13 14:08 J -26113811.02 -26113810.91 -26113810.79 0.1900 0.0327 *

Venus -76206-03-11 06:42 J -26112749.32 -26112749.22 -26112749.12 0.3779 0.1821

Jupiter -76203-03-12 00:13 J -26111652.68 -26111652.49 -26111652.31 0.0494 0.0011

Venus -76202-03-09 02:23 J -26111290.47 -26111290.40 -26111290.33 0.3589 0.3118

Earth -76202-04-07 13:54 J -26111261.02 -26111260.92 -26111260.82 0.2737 0.1182

Moon -76202-04-07 14:37 J -26111260.99 -26111260.89 -26111260.80 0.2734 0.1326 *

Saturn -76202-08-20 07:40 J -26111126.28 -26111126.18 -26111126.08 0.0276 0.0233

Saturn -76202-11-17 06:56 J -26111037.39 -26111037.21 -26111037.02 0.0277 0.0080

Saturn -76201-02-14 06:28 J -26110948.41 -26110948.23 -26110948.05 0.0278 0.0075

Saturn -76201-05-13 05:30 J -26110859.36 -26110859.27 -26110859.15 0.0279 0.0230

Venus -76201-09-24 00:56 J -26110725.51 -26110725.46 -26110725.40 0.3776 0.3170

Mars -76201-11-04 19:54 J -26110683.79 -26110683.67 -26110683.55 0.1641 0.1086

Mars -76200-09-03 22:18 J -26110380.65 -26110380.57 -26110380.48 0.1908 0.1229

Jupiter -76198-11-03 05:44 J -26109590.35 -26109590.26 -26109590.16 0.0533 0.0367

Jupiter -76197-01-31 12:28 J -26109501.10 -26109500.98 -26109500.85 0.0533 0.0085

Venus -76197-09-22 04:18 J -26109266.45 -26109266.32 -26109266.18 0.3592 0.1041

Moon -76195-03-31 12:42 J -26108711.02 -26108710.97 -26108710.91 0.2740 0.2321

Earth -76195-03-31 12:56 J -26108711.02 -26108710.96 -26108710.90 0.2733 0.2251 *

Moon -76192-09-30 13:11 J -26107432.10 -26107431.95 -26107431.80 0.2597 0.1091

Earth -76192-09-30 14:37 J -26107432.03 -26107431.89 -26107431.74 0.2600 0.1010 *

Jupiter -76192-12-28 21:49 J -26107342.77 -26107342.59 -26107342.41 0.0493 0.0135

Jupiter -76191-03-29 05:59 J -26107252.35 -26107252.25 -26107252.14 0.0494 0.0401

Venus -76191-04-08 05:59 J -26107242.39 -26107242.25 -26107242.12 0.3596 0.0965

Earth -76189-04-09 07:54 J -26106510.22 -26106510.17 -26106510.12 0.2738 0.2436

Moon -76189-04-09 08:23 J -26106510.20 -26106510.15 -26106510.11 0.2732 0.2417 *

Saturn -76189-12-28 04:04 J -26106247.41 -26106247.33 -26106247.24 0.0286 0.0219

Mars -76189-12-30 22:04 J -26106244.64 -26106244.58 -26106244.52 0.1883 0.1581

Saturn -76188-03-26 15:35 J -26106158.97 -26106158.85 -26106158.73 0.0285 0.0106

Saturn -76188-06-23 02:52 J -26106070.52 -26106070.38 -26106070.25 0.0284 0.0012

Saturn -76188-09-19 13:54 J -26105982.03 -26105981.92 -26105981.80 0.0283 0.0119

Saturn -76188-12-17 01:11 J -26105893.52 -26105893.45 -26105893.37 0.0282 0.0229

Jupiter -76186-08-22 10:04 J -26105280.14 -26105280.08 -26105280.03 0.0534 0.0476

Venus -76186-10-23 06:56 J -26105218.29 -26105218.21 -26105218.13 0.3600 0.2882

Jupiter -76186-11-19 16:32 J -26105190.93 -26105190.81 -26105190.68 0.0533 0.0031

Jupiter -76185-02-16 23:44 J -26105101.59 -26105101.51 -26105101.44 0.0532 0.0427

Earth -76182-04-03 06:56 J -26103960.31 -26103960.21 -26103960.11 0.2735 0.1037

Moon -76182-04-03 07:11 J -26103960.30 -26103960.20 -26103960.10 0.2741 0.0976 *

Mars -76180-07-24 17:59 J -26103116.88 -26103116.75 -26103116.61 0.1654 0.0959

Jupiter -76180-10-16 18:56 J -26103032.86 -26103032.71 -26103032.55 0.0493 0.0270

Jupiter -76179-01-15 03:35 J -26102942.50 -26102942.35 -26102942.19 0.0494 0.0268

Mars -76179-05-23 06:13 J -26102814.35 -26102814.24 -26102814.14 0.1892 0.0688

Pluto -76179-09-14 03:06 J -26102700.41 -26102700.37 -26102700.31 0.0060 0.0057

Moon -76179-10-03 20:08 J -26102680.80 -26102680.66 -26102680.52 0.2599 0.1166

Earth -76179-10-03 21:49 J -26102680.73 -26102680.59 -26102680.45 0.2599 0.1324 *

Pluto -76179-12-11 04:04 J -26102612.40 -26102612.33 -26102612.21 0.0060 0.0052

Pluto -76178-03-09 05:44 J -26102524.37 -26102524.26 -26102524.13 0.0060 0.0046

Pluto -76178-06-05 06:42 J -26102436.34 -26102436.22 -26102436.06 0.0060 0.0041

Pluto -76178-09-01 08:23 J -26102348.30 -26102348.15 -26102347.99 0.0060 0.0035

Pluto -76178-11-28 09:20 J -26102260.25 -26102260.11 -26102259.93 0.0060 0.0030

Uranus -76178-12-19 02:37 J -26102239.48 -26102239.39 -26102239.27 0.0142 0.0118

Pluto -76177-02-24 10:47 J -26102172.21 -26102172.05 -26102171.86 0.0060 0.0025

Uranus -76177-03-16 10:47 J -26102151.19 -26102151.05 -26102150.90 0.0142 0.0091

Pluto -76177-05-22 12:13 J -26102084.16 -26102083.99 -26102083.80 0.0060 0.0019

Uranus -76177-06-12 18:42 J -26102062.88 -26102062.72 -26102062.54 0.0141 0.0064

Pluto -76177-08-18 13:25 J -26101996.11 -26101995.94 -26101995.74 0.0060 0.0014

Uranus -76177-09-09 02:52 J -26101974.56 -26101974.38 -26101974.19 0.0141 0.0036

Pluto -76177-11-14 14:52 J -26101908.06 -26101907.88 -26101907.68 0.0060 0.0008

Uranus -76177-12-06 11:01 J -26101886.23 -26101886.04 -26101885.85 0.0141 0.0009

Pluto -76176-02-10 16:32 J -26101820.00 -26101819.81 -26101819.63 0.0061 0.0002

Neptune -76176-02-25 10:32 J -26101805.11 -26101805.06 -26101804.99 0.0089 0.0084

Uranus -76176-03-04 18:42 J -26101797.90 -26101797.72 -26101797.52 0.0141 0.0019

Pluto -76176-05-09 17:44 J -26101731.95 -26101731.76 -26101731.57 0.0061 0.0004

Neptune -76176-05-24 14:23 J -26101716.99 -26101716.90 -26101716.80 0.0089 0.0077

Uranus -76176-06-01 02:23 J -26101709.57 -26101709.40 -26101709.21 0.0141 0.0045

Pluto -76176-08-05 19:11 J -26101643.89 -26101643.70 -26101643.52 0.0061 0.0010

Neptune -76176-08-20 18:13 J -26101628.85 -26101628.74 -26101628.62 0.0089 0.0070

Uranus -76176-08-28 10:18 J -26101621.23 -26101621.07 -26101620.90 0.0141 0.0071

Pluto -76176-11-01 20:23 J -26101555.83 -26101555.65 -26101555.46 0.0061 0.0016

Neptune -76176-11-16 21:35 J -26101540.72 -26101540.60 -26101540.44 0.0089 0.0064

Uranus -76176-11-24 17:59 J -26101532.88 -26101532.75 -26101532.60 0.0141 0.0097

Pluto -76175-01-28 21:35 J -26101467.77 -26101467.60 -26101467.41 0.0061 0.0022

Neptune -76175-02-13 01:25 J -26101452.58 -26101452.44 -26101452.27 0.0089 0.0057

Uranus -76175-02-21 01:40 J -26101444.51 -26101444.43 -26101444.33 0.0140 0.0123

Pluto -76175-04-26 22:47 J -26101379.70 -26101379.55 -26101379.36 0.0061 0.0028

Neptune -76175-05-12 05:16 J -26101364.43 -26101364.28 -26101364.11 0.0089 0.0050

Pluto -76175-07-23 23:59 J -26101291.63 -26101291.50 -26101291.32 0.0061 0.0034

Neptune -76175-08-08 08:52 J -26101276.29 -26101276.13 -26101275.94 0.0089 0.0043

Pluto -76175-10-20 01:54 J -26101203.56 -26101203.42 -26101203.27 0.0061 0.0040

Neptune -76175-11-04 12:42 J -26101188.14 -26101187.97 -26101187.78 0.0089 0.0036

Pluto -76174-01-16 03:20 J -26101115.48 -26101115.36 -26101115.23 0.0061 0.0046

Neptune -76174-01-31 16:32 J -26101099.99 -26101099.81 -26101099.62 0.0089 0.0029

Pluto -76174-04-14 04:32 J -26101027.40 -26101027.31 -26101027.20 0.0061 0.0052

Neptune -76174-04-29 20:08 J -26101011.84 -26101011.66 -26101011.46 0.0089 0.0022

Pluto -76174-07-11 05:59 J -26100939.30 -26100939.25 -26100939.18 0.0061 0.0058

Neptune -76174-07-26 23:44 J -26100923.69 -26100923.51 -26100923.31 0.0089 0.0016

Jupiter -76174-09-07 20:52 J -26100880.75 -26100880.63 -26100880.50 0.0533 0.0136

Neptune -76174-10-23 03:35 J -26100835.54 -26100835.35 -26100835.15 0.0089 0.0009

Jupiter -76174-12-06 03:49 J -26100791.44 -26100791.34 -26100791.23 0.0533 0.0319

Neptune -76173-01-19 07:25 J -26100747.39 -26100747.19 -26100747.00 0.0089 0.0002

Neptune -76173-04-16 11:01 J -26100659.23 -26100659.04 -26100658.84 0.0089 0.0005

Neptune -76173-07-13 14:37 J -26100571.08 -26100570.89 -26100570.69 0.0089 0.0012

Neptune -76173-10-09 18:28 J -26100482.92 -26100482.73 -26100482.54 0.0089 0.0019

Neptune -76172-01-05 22:04 J -26100394.77 -26100394.58 -26100394.39 0.0089 0.0026

Neptune -76172-04-04 01:25 J -26100306.61 -26100306.44 -26100306.24 0.0089 0.0033

Saturn -76172-04-05 03:35 J -26100305.52 -26100305.35 -26100305.19 0.0277 0.0137

Neptune -76172-07-01 05:01 J -26100218.45 -26100218.29 -26100218.10 0.0089 0.0040

Saturn -76172-07-03 02:52 J -26100216.57 -26100216.38 -26100216.19 0.0277 0.0017

Venus -76172-08-17 05:16 J -26100171.35 -26100171.28 -26100171.21 0.3791 0.2855

Neptune -76172-09-27 09:06 J -26100130.29 -26100130.12 -26100129.95 0.0089 0.0046

Saturn -76172-09-30 02:08 J -26100127.55 -26100127.41 -26100127.26 0.0278 0.0172

Neptune -76172-12-24 12:28 J -26100042.12 -26100041.98 -26100041.81 0.0089 0.0053

Neptune -76171-03-22 16:04 J -26099953.96 -26099953.83 -26099953.67 0.0089 0.0060

Neptune -76171-06-18 19:40 J -26099865.79 -26099865.68 -26099865.54 0.0089 0.0067

Neptune -76171-09-14 23:30 J -26099777.62 -26099777.52 -26099777.40 0.0089 0.0073

Neptune -76171-12-12 02:52 J -26099689.44 -26099689.38 -26099689.28 0.0089 0.0080

Mars -76171-12-14 19:11 J -26099686.86 -26099686.70 -26099686.53 0.1648 0.0014

Neptune -76170-03-10 06:28 J -26099601.25 -26099601.23 -26099601.17 0.0089 0.0087

Mars -76170-10-13 14:23 J -26099384.01 -26099383.90 -26099383.78 0.1900 0.0206

Earth -76169-04-05 00:42 J -26099209.58 -26099209.47 -26099209.36 0.2736 0.0213

Moon -76169-04-05 01:25 J -26099209.55 -26099209.44 -26099209.33 0.2738 0.0309 *

Jupiter -76168-08-04 16:32 J -26098722.91 -26098722.81 -26098722.70 0.0493 0.0402

Jupiter -76168-11-03 01:25 J -26098632.61 -26098632.44 -26098632.26 0.0494 0.0139

Venus -76166-03-02 22:47 J -26098147.64 -26098147.55 -26098147.45 0.3788 0.1623

Jupiter -76162-06-27 01:11 J -26096570.56 -26096570.45 -26096570.34 0.0533 0.0245

Jupiter -76162-09-24 07:54 J -26096481.29 -26096481.17 -26096481.05 0.0532 0.0206

Mars -76161-05-05 20:23 J -26096256.78 -26096256.65 -26096256.51 0.1641 0.0953

Venus -76161-09-15 16:47 J -26096123.91 -26096123.80 -26096123.70 0.3785 0.0379

Mars -76160-03-04 22:18 J -26095953.66 -26095953.57 -26095953.48 0.1908 0.1130

Saturn -76159-05-17 05:30 J -26095515.32 -26095515.27 -26095515.22 0.0287 0.0261

Saturn -76159-08-13 16:47 J -26095426.91 -26095426.80 -26095426.68 0.0286 0.0147

Saturn -76159-11-10 04:04 J -26095338.45 -26095338.33 -26095338.20 0.0285 0.0036

Saturn -76158-02-06 15:20 J -26095249.98 -26095249.86 -26095249.73 0.0284 0.0079

Saturn -76158-05-06 02:37 J -26095161.48 -26095161.39 -26095161.29 0.0283 0.0190

Earth -76156-04-07 18:42 J -26094458.81 -26094458.72 -26094458.63 0.2737 0.1443

Moon -76156-04-07 19:25 J -26094458.78 -26094458.69 -26094458.60 0.2734 0.1466 *

Jupiter -76156-08-21 22:32 J -26094322.75 -26094322.56 -26094322.38 0.0494 0.0008

Venus -76155-04-01 10:47 J -26094100.16 -26094100.05 -26094099.95 0.3782 0.0948

Jupiter -76150-04-15 05:01 J -26092260.38 -26092260.29 -26092260.19 0.0533 0.0357

Jupiter -76150-07-13 11:44 J -26092171.13 -26092171.01 -26092170.88 0.0532 0.0095

Venus -76150-10-16 04:47 J -26092076.38 -26092076.30 -26092076.21 0.3779 0.2275

Moon -76149-03-31 17:44 J -26091908.84 -26091908.76 -26091908.69 0.2740 0.1980

Earth -76149-03-31 17:44 J -26091908.83 -26091908.76 -26091908.69 0.2733 0.2003 *

Mars -76149-06-30 22:04 J -26091817.63 -26091817.58 -26091817.53 0.1883 0.1685

Moon -76146-10-01 19:54 J -26090629.83 -26090629.67 -26090629.52 0.2596 0.0786

Earth -76146-10-01 21:20 J -26090629.77 -26090629.61 -26090629.45 0.2600 0.0545 *

Venus -76146-10-14 02:37 J -26090617.49 -26090617.39 -26090617.28 0.3590 0.2442

Venus -76144-04-30 23:16 J -26090052.56 -26090052.53 -26090052.50 0.3775 0.3633

Jupiter -76144-06-09 19:54 J -26090012.84 -26090012.67 -26090012.49 0.0494 0.0135

Jupiter -76144-09-08 04:32 J -26089922.42 -26089922.31 -26089922.21 0.0494 0.0402

Earth -76143-04-10 12:42 J -26089707.98 -26089707.97 -26089707.95 0.2738 0.2694

Saturn -76143-08-23 02:52 J -26089573.52 -26089573.38 -26089573.22 0.0276 0.0173

Saturn -76143-11-20 02:23 J -26089484.59 -26089484.40 -26089484.21 0.0277 0.0020

Saturn -76142-02-17 01:40 J -26089395.59 -26089395.43 -26089395.26 0.0278 0.0135

Mars -76140-01-22 18:42 J -26088689.84 -26088689.72 -26088689.59 0.1654 0.1098

Venus -76140-04-29 04:32 J -26088593.45 -26088593.31 -26088593.17 0.3593 0.0380

Mars -76140-11-21 06:13 J -26088387.35 -26088387.24 -26088387.13 0.1892 0.0797

Jupiter -76138-02-01 08:52 J -26087950.19 -26087950.13 -26087950.08 0.0533 0.0474

Jupiter -76138-05-01 15:20 J -26087860.99 -26087860.86 -26087860.73 0.0533 0.0027

Jupiter -76138-07-29 22:18 J -26087771.64 -26087771.57 -26087771.49 0.0532 0.0428

Earth -76136-04-03 11:44 J -26087158.12 -26087158.01 -26087157.91 0.2735 0.0782

Moon -76136-04-03 11:59 J -26087158.10 -26087158.00 -26087157.89 0.2741 0.0763 *

Venus -76135-11-13 05:59 J -26086569.37 -26086569.25 -26086569.12 0.3597 0.1610

Uranus -76133-02-23 18:56 J -26086101.75 -26086101.71 -26086101.67 0.0137 0.0129

Uranus -76133-05-21 22:04 J -26086013.65 -26086013.58 -26086013.50 0.0137 0.0112

Uranus -76133-08-18 01:11 J -26085925.53 -26085925.45 -26085925.35 0.0137 0.0096

Moon -76133-10-04 02:52 J -26085878.50 -26085878.38 -26085878.26 0.2600 0.1650

Earth -76133-10-04 04:32 J -26085878.43 -26085878.31 -26085878.20 0.2599 0.1781 *

Uranus -76133-11-14 04:32 J -26085837.42 -26085837.31 -26085837.20 0.0137 0.0079

Uranus -76132-02-10 07:54 J -26085749.29 -26085749.17 -26085749.06 0.0137 0.0063

Jupiter -76132-03-28 17:30 J -26085702.92 -26085702.77 -26085702.61 0.0493 0.0267

Uranus -76132-05-09 11:01 J -26085661.16 -26085661.04 -26085660.91 0.0137 0.0046

Jupiter -76132-06-27 02:23 J -26085612.55 -26085612.40 -26085612.25 0.0494 0.0272

Uranus -76132-08-05 14:23 J -26085573.03 -26085572.90 -26085572.77 0.0137 0.0029

Uranus -76132-11-01 17:30 J -26085484.90 -26085484.77 -26085484.63 0.0137 0.0012

Uranus -76131-01-28 20:52 J -26085396.76 -26085396.63 -26085396.50 0.0138 0.0006

Uranus -76131-04-27 00:13 J -26085308.62 -26085308.49 -26085308.36 0.0138 0.0023

Mars -76131-06-14 19:54 J -26085259.83 -26085259.67 -26085259.50 0.1648 0.0140

Uranus -76131-07-24 03:20 J -26085220.48 -26085220.36 -26085220.23 0.0138 0.0041

Uranus -76131-10-20 06:42 J -26085132.34 -26085132.22 -26085132.09 0.0138 0.0058

Uranus -76130-01-16 10:04 J -26085044.19 -26085044.08 -26085043.96 0.0138 0.0076

Mars -76130-04-13 14:08 J -26084957.02 -26084956.91 -26084956.79 0.1900 0.0132

Uranus -76130-04-14 13:25 J -26084956.03 -26084955.94 -26084955.84 0.0138 0.0094

Uranus -76130-07-11 16:47 J -26084867.87 -26084867.80 -26084867.71 0.0138 0.0112

Uranus -76130-10-07 20:08 J -26084779.69 -26084779.66 -26084779.60 0.0139 0.0130

Saturn -76130-12-31 19:25 J -26084694.79 -26084694.69 -26084694.59 0.0286 0.0178

Saturn -76129-03-29 06:42 J -26084606.34 -26084606.22 -26084606.09 0.0285 0.0065

Venus -76129-05-29 06:56 J -26084545.24 -26084545.21 -26084545.18 0.3601 0.3499

Saturn -76129-06-25 17:59 J -26084517.88 -26084517.75 -26084517.62 0.0284 0.0048

Saturn -76129-09-22 05:16 J -26084429.39 -26084429.28 -26084429.17 0.0283 0.0160

Saturn -76129-12-19 16:32 J -26084340.84 -26084340.81 -26084340.78 0.0282 0.0270

Jupiter -76126-02-17 19:25 J -26083550.81 -26083550.69 -26083550.57 0.0533 0.0138

Jupiter -76126-05-18 02:23 J -26083461.50 -26083461.40 -26083461.30 0.0532 0.0315

Earth -76123-04-06 05:30 J -26082407.37 -26082407.27 -26082407.16 0.2736 0.0464

Moon -76123-04-06 06:13 J -26082407.34 -26082407.24 -26082407.13 0.2736 0.0546 *

Mars -76122-11-04 21:06 J -26081829.76 -26081829.62 -26081829.48 0.1641 0.0819

Mars -76121-09-02 22:18 J -26081526.66 -26081526.57 -26081526.47 0.1908 0.1024

Venus -76121-09-07 09:35 J -26081522.12 -26081522.10 -26081522.08 0.3793 0.3669

Jupiter -76120-01-14 14:37 J -26081392.99 -26081392.89 -26081392.78 0.0493 0.0403

Jupiter -76120-04-14 23:44 J -26081302.69 -26081302.51 -26081302.34 0.0494 0.0137

Venus -76115-03-24 03:06 J -26079498.45 -26079498.37 -26079498.29 0.3790 0.2455

Jupiter -76115-12-06 23:44 J -26079240.62 -26079240.51 -26079240.40 0.0534 0.0247

Jupiter -76114-03-06 06:28 J -26079151.34 -26079151.23 -26079151.11 0.0533 0.0207

Saturn -76113-01-09 23:59 J -26078841.60 -26078841.50 -26078841.38 0.0276 0.0225

Saturn -76113-04-07 23:30 J -26078752.70 -26078752.52 -26078752.33 0.0277 0.0072

Saturn -76113-07-05 22:47 J -26078663.72 -26078663.55 -26078663.36 0.0278 0.0083

Earth -76113-09-28 20:37 J -26078578.69 -26078578.64 -26078578.58 0.2601 0.2443

Saturn -76113-10-02 22:04 J -26078574.67 -26078574.58 -26078574.48 0.0279 0.0237

Earth -76110-04-08 23:30 J -26077656.60 -26077656.52 -26077656.43 0.2737 0.1701

Moon -76110-04-09 00:13 J -26077656.57 -26077656.49 -26077656.41 0.2734 0.1819 *

Venus -76110-10-07 20:52 J -26077474.73 -26077474.63 -26077474.53 0.3788 0.1205

Mars -76110-12-30 22:04 J -26077390.61 -26077390.58 -26077390.55 0.1884 0.1796

Jupiter -76108-01-31 21:20 J -26076992.80 -26076992.61 -26076992.43 0.0493 0.0006

Venus -76104-04-22 14:52 J -26075450.99 -26075450.88 -26075450.78 0.3784 0.0152

Earth -76103-04-01 22:32 J -26075106.64 -26075106.56 -26075106.48 0.2734 0.1752

Moon -76103-04-01 22:47 J -26075106.63 -26075106.55 -26075106.47 0.2741 0.1811 *

Jupiter -76103-09-25 04:04 J -26074930.43 -26074930.33 -26074930.24 0.0533 0.0355

Jupiter -76103-12-23 10:47 J -26074841.18 -26074841.05 -26074840.93 0.0532 0.0097

Mars -76101-07-23 19:25 J -26074262.80 -26074262.69 -26074262.58 0.1655 0.1229

Saturn -76100-05-19 21:06 J -26073962.70 -26073962.62 -26073962.54 0.0286 0.0217

Mars -76100-05-22 06:13 J -26073960.34 -26073960.24 -26073960.14 0.1891 0.0902

Saturn -76100-08-16 08:23 J -26073874.27 -26073874.15 -26073874.03 0.0285 0.0104

Moon -76100-10-02 02:23 J -26073827.56 -26073827.40 -26073827.23 0.2597 0.0157

Earth -76100-10-02 04:04 J -26073827.49 -26073827.33 -26073827.17 0.2600 0.0082 *

Saturn -76100-11-12 19:40 J -26073785.81 -26073785.68 -26073785.55 0.0284 0.0010

Saturn -76099-02-09 06:56 J -26073697.33 -26073697.21 -26073697.09 0.0283 0.0122

Saturn -76099-05-08 18:13 J -26073608.81 -26073608.74 -26073608.67 0.0282 0.0233

Venus -76099-11-06 08:52 J -26073427.23 -26073427.13 -26073427.03 0.3781 0.1384

Jupiter -76097-11-19 17:59 J -26072682.93 -26072682.75 -26072682.57 0.0494 0.0137

Jupiter -76096-02-18 02:23 J -26072592.50 -26072592.40 -26072592.29 0.0495 0.0400

Neptune -76095-06-08 06:42 J -26072117.24 -26072117.22 -26072117.19 0.0089 0.0086

Neptune -76095-09-04 07:54 J -26072029.21 -26072029.17 -26072029.11 0.0089 0.0082

Neptune -76095-12-01 09:20 J -26071941.17 -26071941.11 -26071941.04 0.0089 0.0077

Neptune -76094-02-27 10:18 J -26071853.13 -26071853.07 -26071852.98 0.0089 0.0073

Neptune -76094-05-26 11:44 J -26071765.08 -26071765.01 -26071764.92 0.0089 0.0068

Neptune -76094-08-22 12:56 J -26071677.04 -26071676.96 -26071676.85 0.0089 0.0064

Uranus -76094-10-12 02:08 J -26071626.43 -26071626.41 -26071626.36 0.0142 0.0139

Neptune -76094-11-18 14:23 J -26071588.99 -26071588.90 -26071588.79 0.0089 0.0059

Uranus -76093-01-08 10:18 J -26071538.18 -26071538.07 -26071537.94 0.0142 0.0111

Neptune -76093-02-14 15:49 J -26071500.94 -26071500.84 -26071500.73 0.0089 0.0054

Uranus -76093-04-05 18:28 J -26071449.88 -26071449.73 -26071449.57 0.0142 0.0084

Neptune -76093-05-12 17:01 J -26071412.89 -26071412.79 -26071412.67 0.0089 0.0050

Venus -76093-05-22 03:06 J -26071403.45 -26071403.37 -26071403.30 0.3778 0.2726

Uranus -76093-07-03 02:23 J -26071361.56 -26071361.40 -26071361.21 0.0141 0.0057

Neptune -76093-08-08 18:28 J -26071324.84 -26071324.73 -26071324.61 0.0089 0.0045

Uranus -76093-09-29 10:32 J -26071273.24 -26071273.06 -26071272.87 0.0141 0.0029

Neptune -76093-11-04 19:40 J -26071236.79 -26071236.68 -26071236.56 0.0089 0.0040

Uranus -76093-12-26 18:28 J -26071184.92 -26071184.73 -26071184.53 0.0141 0.0004

Neptune -76092-01-31 21:06 J -26071148.74 -26071148.62 -26071148.50 0.0089 0.0036

Uranus -76092-03-25 02:23 J -26071096.59 -26071096.40 -26071096.21 0.0141 0.0025

Neptune -76092-04-29 22:18 J -26071060.69 -26071060.57 -26071060.44 0.0089 0.0031

Uranus -76092-06-21 10:18 J -26071008.25 -26071008.07 -26071007.89 0.0141 0.0051

Neptune -76092-07-26 23:30 J -26070972.64 -26070972.52 -26070972.38 0.0089 0.0027

Uranus -76092-09-17 17:44 J -26070919.91 -26070919.76 -26070919.59 0.0141 0.0078

Neptune -76092-10-23 00:56 J -26070884.58 -26070884.46 -26070884.33 0.0089 0.0022

Mars -76092-12-13 20:37 J -26070832.80 -26070832.64 -26070832.47 0.1648 0.0277

Uranus -76092-12-15 01:25 J -26070831.55 -26070831.44 -26070831.30 0.0141 0.0104

Neptune -76091-01-19 02:23 J -26070796.53 -26070796.40 -26070796.27 0.0089 0.0017

Uranus -76091-03-13 09:20 J -26070743.18 -26070743.11 -26070743.04 0.0140 0.0129

Neptune -76091-04-17 03:35 J -26070708.48 -26070708.35 -26070708.21 0.0089 0.0013

Neptune -76091-07-14 05:01 J -26070620.42 -26070620.29 -26070620.16 0.0089 0.0008

Jupiter -76091-07-14 07:54 J -26070620.22 -26070620.17 -26070620.11 0.0533 0.0466 *

Neptune -76091-10-10 06:13 J -26070532.37 -26070532.24 -26070532.10 0.0089 0.0004

Jupiter -76091-10-11 14:37 J -26070531.02 -26070530.89 -26070530.76 0.0532 0.0018

Mars -76091-10-12 14:23 J -26070530.02 -26070529.90 -26070529.79 0.1900 0.0044

Neptune -76090-01-06 07:40 J -26070444.31 -26070444.18 -26070444.05 0.0089 0.0002

Jupiter -76090-01-08 21:35 J -26070441.67 -26070441.60 -26070441.53 0.0531 0.0434

Neptune -76090-04-04 08:52 J -26070356.26 -26070356.13 -26070355.99 0.0089 0.0007

Earth -76090-04-04 16:32 J -26070355.92 -26070355.81 -26070355.71 0.2735 0.0531

Moon -76090-04-04 17:01 J -26070355.90 -26070355.79 -26070355.69 0.2741 0.0445 *

Neptune -76090-07-01 10:18 J -26070268.20 -26070268.07 -26070267.94 0.0089 0.0011

Neptune -76090-09-27 11:30 J -26070180.15 -26070180.02 -26070179.89 0.0089 0.0016

Neptune -76090-12-24 12:56 J -26070092.09 -26070091.96 -26070091.83 0.0089 0.0020

Neptune -76089-03-21 14:08 J -26070004.03 -26070003.91 -26070003.78 0.0089 0.0025

Venus -76089-05-20 03:06 J -26069944.49 -26069944.37 -26069944.25 0.3591 0.1762

Neptune -76089-06-17 15:20 J -26069915.98 -26069915.86 -26069915.73 0.0089 0.0030

Neptune -76089-09-13 16:47 J -26069827.92 -26069827.80 -26069827.67 0.0089 0.0034

Neptune -76089-12-10 18:13 J -26069739.86 -26069739.74 -26069739.62 0.0089 0.0039

Neptune -76088-03-08 19:25 J -26069651.80 -26069651.69 -26069651.57 0.0089 0.0044

Neptune -76088-06-04 20:52 J -26069563.74 -26069563.63 -26069563.52 0.0089 0.0048

Neptune -76088-08-31 22:04 J -26069475.68 -26069475.58 -26069475.47 0.0089 0.0053

Neptune -76088-11-27 23:16 J -26069387.62 -26069387.53 -26069387.42 0.0089 0.0058

Neptune -76087-02-24 00:56 J -26069299.56 -26069299.46 -26069299.37 0.0089 0.0062

Neptune -76087-05-23 02:08 J -26069211.49 -26069211.41 -26069211.32 0.0089 0.0067

Neptune -76087-08-19 03:20 J -26069123.43 -26069123.36 -26069123.27 0.0089 0.0072

Moon -76087-10-05 09:20 J -26069076.21 -26069076.11 -26069076.01 0.2601 0.2011

Earth -76087-10-05 11:01 J -26069076.12 -26069076.04 -26069075.96 0.2598 0.2235 *

Neptune -76087-11-15 04:32 J -26069035.36 -26069035.31 -26069035.23 0.0089 0.0077

Neptune -76086-02-11 05:59 J -26068947.29 -26068947.25 -26068947.19 0.0089 0.0081

Neptune -76086-05-10 07:25 J -26068859.21 -26068859.19 -26068859.15 0.0089 0.0086

Pluto -76085-07-12 22:47 J -26068429.58 -26068429.55 -26068429.48 0.0084 0.0079

Jupiter -76085-09-07 15:20 J -26068373.01 -26068372.86 -26068372.71 0.0494 0.0271

Pluto -76085-10-09 00:28 J -26068341.56 -26068341.48 -26068341.39 0.0084 0.0066

Jupiter -76085-12-07 00:13 J -26068282.65 -26068282.49 -26068282.34 0.0494 0.0269

Pluto -76084-01-05 01:54 J -26068253.52 -26068253.42 -26068253.31 0.0084 0.0055

Pluto -76084-04-03 03:06 J -26068165.47 -26068165.37 -26068165.24 0.0084 0.0044

Saturn -76084-05-29 00:13 J -26068109.55 -26068109.49 -26068109.42 0.0275 0.0258

Pluto -76084-06-30 04:32 J -26068077.43 -26068077.31 -26068077.17 0.0084 0.0033

Saturn -76084-08-25 23:30 J -26068020.69 -26068020.52 -26068020.34 0.0276 0.0105

Pluto -76084-09-26 05:59 J -26067989.37 -26067989.25 -26067989.11 0.0084 0.0022

Saturn -76084-11-22 23:01 J -26067931.73 -26067931.54 -26067931.36 0.0277 0.0049

Venus -76084-12-04 04:47 J -26067920.44 -26067920.30 -26067920.16 0.3594 0.0288

Pluto -76084-12-23 07:25 J -26067901.32 -26067901.19 -26067901.05 0.0084 0.0010

Saturn -76083-02-19 22:04 J -26067842.70 -26067842.58 -26067842.44 0.0278 0.0203

Pluto -76083-03-21 08:52 J -26067813.27 -26067813.13 -26067812.99 0.0083 0.0001

Pluto -76083-06-17 10:18 J -26067725.21 -26067725.07 -26067724.94 0.0083 0.0012

Pluto -76083-09-13 11:30 J -26067637.15 -26067637.02 -26067636.89 0.0083 0.0023

Pluto -76083-12-10 12:42 J -26067549.09 -26067548.97 -26067548.84 0.0083 0.0034

Pluto -76082-03-08 14:08 J -26067461.02 -26067460.91 -26067460.79 0.0083 0.0044

Mars -76082-05-05 21:49 J -26067402.74 -26067402.59 -26067402.44 0.1642 0.0683

Pluto -76082-06-04 15:20 J -26067372.95 -26067372.86 -26067372.75 0.0083 0.0055

Pluto -76082-08-31 16:47 J -26067284.88 -26067284.80 -26067284.72 0.0083 0.0065

Pluto -76082-11-27 17:44 J -26067196.80 -26067196.76 -26067196.69 0.0083 0.0076

Mars -76081-03-03 22:18 J -26067099.67 -26067099.57 -26067099.47 0.1907 0.0922

Jupiter -76079-07-30 17:59 J -26066220.87 -26066220.75 -26066220.62 0.0533 0.0139

Jupiter -76079-10-28 00:56 J -26066131.56 -26066131.46 -26066131.36 0.0532 0.0314

Venus -76078-06-20 06:13 J -26065896.35 -26065896.24 -26065896.14 0.3598 0.2253

Earth -76077-04-06 10:32 J -26065605.17 -26065605.06 -26065604.96 0.2736 0.0716

Moon -76077-04-06 11:16 J -26065605.14 -26065605.03 -26065604.93 0.2736 0.0789 *

Jupiter -76073-06-26 12:56 J -26064063.07 -26064062.96 -26064062.86 0.0493 0.0404

Jupiter -76073-09-24 21:49 J -26063972.76 -26063972.59 -26063972.41 0.0494 0.0138

Mars -76073-09-24 23:01 J -26063972.55 -26063972.54 -26063972.52 0.1636 0.1625 *

Mars -76072-07-25 06:28 J -26063669.26 -26063669.23 -26063669.20 0.1915 0.1845

Saturn -76071-10-06 23:59 J -26063230.56 -26063230.50 -26063230.43 0.0287 0.0245

Saturn -76070-01-03 11:16 J -26063142.14 -26063142.03 -26063141.91 0.0286 0.0131

Earth -76070-03-31 09:35 J -26063055.11 -26063055.10 -26063055.09 0.2732 0.2712

Saturn -76070-04-01 22:32 J -26063053.69 -26063053.56 -26063053.43 0.0285 0.0019

Saturn -76070-06-29 09:49 J -26062965.21 -26062965.09 -26062964.96 0.0284 0.0096

Saturn -76070-09-25 21:06 J -26062876.70 -26062876.62 -26062876.53 0.0282 0.0207

Jupiter -76067-05-18 22:04 J -26061910.70 -26061910.58 -26061910.47 0.0533 0.0252

Jupiter -76067-08-16 04:47 J -26061821.42 -26061821.30 -26061821.18 0.0532 0.0201

Moon -76067-09-30 02:08 J -26061776.51 -26061776.41 -26061776.30 0.2596 0.1992

Earth -76067-09-30 03:20 J -26061776.46 -26061776.36 -26061776.25 0.2601 0.1971 *

Earth -76064-04-09 04:32 J -26060854.39 -26060854.31 -26060854.24 0.2737 0.1957

Moon -76064-04-09 05:01 J -26060854.37 -26060854.29 -26060854.22 0.2733 0.1989 *

Venus -76064-04-14 07:25 J -26060849.24 -26060849.19 -26060849.13 0.3793 0.3280

Mars -76061-01-22 20:08 J -26059835.75 -26059835.66 -26059835.57 0.1654 0.1370

Jupiter -76061-07-13 19:11 J -26059662.89 -26059662.70 -26059662.52 0.0493 0.0007

Mars -76061-11-20 06:13 J -26059533.34 -26059533.24 -26059533.14 0.1892 0.1001

Venus -76059-10-29 01:11 J -26058825.54 -26058825.45 -26058825.36 0.3790 0.2046

Earth -76057-04-02 03:20 J -26058304.45 -26058304.36 -26058304.27 0.2734 0.1501

Moon -76057-04-02 03:35 J -26058304.44 -26058304.35 -26058304.26 0.2741 0.1423 *

Jupiter -76055-03-07 02:08 J -26057600.50 -26057600.41 -26057600.32 0.0534 0.0361

Jupiter -76055-06-04 08:52 J -26057511.25 -26057511.13 -26057511.00 0.0533 0.0091

Saturn -76054-01-12 21:49 J -26057288.75 -26057288.59 -26057288.43 0.0276 0.0151

Saturn -76054-04-11 21:06 J -26057199.81 -26057199.62 -26057199.43 0.0277 0.0006

Saturn -76054-07-09 20:23 J -26057110.80 -26057110.65 -26057110.49 0.0278 0.0157

Moon -76054-10-03 09:06 J -26057025.28 -26057025.12 -26057024.96 0.2599 0.0119

Earth -76054-10-03 10:47 J -26057025.21 -26057025.05 -26057024.90 0.2600 0.0386 *

Venus -76053-05-13 18:56 J -26056801.82 -26056801.71 -26056801.60 0.3787 0.0783

Mars -76052-06-13 21:06 J -26056405.78 -26056405.62 -26056405.46 0.1648 0.0398

Mars -76051-04-12 14:23 J -26056103.02 -26056102.90 -26056102.78 0.1900 0.0103

Uranus -76049-03-15 01:40 J -26055400.47 -26055400.43 -26055400.38 0.0137 0.0127

Jupiter -76049-05-01 16:32 J -26055352.99 -26055352.81 -26055352.63 0.0493 0.0133

Uranus -76049-06-11 04:47 J -26055312.37 -26055312.30 -26055312.21 0.0137 0.0111

Jupiter -76049-07-31 00:56 J -26055262.56 -26055262.46 -26055262.35 0.0494 0.0403

Uranus -76049-09-07 08:08 J -26055224.25 -26055224.16 -26055224.06 0.0137 0.0094

Uranus -76049-12-04 11:16 J -26055136.13 -26055136.03 -26055135.91 0.0137 0.0077

Uranus -76048-03-02 14:37 J -26055048.01 -26055047.89 -26055047.77 0.0137 0.0060

Uranus -76048-05-29 17:44 J -26054959.88 -26054959.76 -26054959.63 0.0137 0.0044

Uranus -76048-08-25 21:06 J -26054871.75 -26054871.62 -26054871.49 0.0137 0.0027

Uranus -76048-11-22 00:28 J -26054783.62 -26054783.48 -26054783.35 0.0137 0.0010

Venus -76048-11-27 12:56 J -26054778.07 -26054777.96 -26054777.85 0.3784 0.0513

Uranus -76047-02-18 03:35 J -26054695.48 -26054695.35 -26054695.21 0.0138 0.0009

Uranus -76047-05-17 06:56 J -26054607.34 -26054607.21 -26054607.08 0.0138 0.0025

Uranus -76047-08-13 10:18 J -26054519.20 -26054519.07 -26054518.94 0.0138 0.0043

Uranus -76047-11-09 13:40 J -26054431.05 -26054430.93 -26054430.81 0.0138 0.0060

Uranus -76046-02-05 16:47 J -26054342.90 -26054342.80 -26054342.68 0.0138 0.0079

Uranus -76046-05-04 20:23 J -26054254.74 -26054254.65 -26054254.55 0.0138 0.0096

Uranus -76046-07-31 23:44 J -26054166.58 -26054166.51 -26054166.43 0.0138 0.0114

Uranus -76046-10-28 03:06 J -26054078.40 -26054078.37 -26054078.32 0.0139 0.0132

Earth -76044-04-04 21:20 J -26053553.72 -26053553.61 -26053553.50 0.2735 0.0273

Moon -76044-04-04 21:49 J -26053553.69 -26053553.59 -26053553.48 0.2739 0.0268 *

Jupiter -76044-12-24 06:28 J -26053290.28 -26053290.23 -26053290.17 0.0533 0.0468

Jupiter -76043-03-23 13:11 J -26053201.08 -26053200.95 -26053200.82 0.0533 0.0020

Jupiter -76043-06-20 20:08 J -26053111.73 -26053111.66 -26053111.59 0.0532 0.0434

Mars -76043-11-03 22:32 J -26052975.72 -26052975.56 -26052975.40 0.1642 0.0543

Venus -76042-06-13 06:56 J -26052754.30 -26052754.21 -26052754.11 0.3780 0.1833

Mars -76042-09-02 22:18 J -26052672.67 -26052672.57 -26052672.46 0.1907 0.0819

Saturn -76041-02-24 01:40 J -26052498.44 -26052498.43 -26052498.40 0.0287 0.0283

Saturn -76041-05-22 13:11 J -26052410.05 -26052409.95 -26052409.85 0.0286 0.0168

Saturn -76041-08-19 00:28 J -26052321.61 -26052321.48 -26052321.35 0.0285 0.0055

Moon -76041-10-05 16:04 J -26052273.84 -26052273.83 -26052273.83 0.2601 0.2595

Saturn -76041-11-15 11:44 J -26052233.14 -26052233.01 -26052232.88 0.0284 0.0059

Saturn -76040-02-11 23:01 J -26052144.64 -26052144.54 -26052144.43 0.0283 0.0170

Saturn -76040-05-11 10:18 J -26052056.07 -26052056.07 -26052056.06 0.0282 0.0281

Venus -76038-06-11 01:11 J -26051295.51 -26051295.45 -26051295.39 0.3588 0.3193

Jupiter -76037-02-18 12:56 J -26051043.12 -26051042.96 -26051042.81 0.0494 0.0278

Jupiter -76037-05-18 21:35 J -26050952.75 -26050952.60 -26050952.44 0.0494 0.0263

Venus -76037-12-27 01:11 J -26050730.50 -26050730.45 -26050730.39 0.3777 0.3192

Mars -76033-03-25 23:44 J -26049545.58 -26049545.51 -26049545.45 0.1636 0.1492

Venus -76033-12-25 03:20 J -26049271.49 -26049271.36 -26049271.23 0.3592 0.1086

Mars -76032-01-23 06:28 J -26049242.27 -26049242.23 -26049242.18 0.1915 0.1735

Jupiter -76031-01-09 17:01 J -26048890.91 -26048890.79 -26048890.66 0.0533 0.0133

Earth -76031-04-07 15:20 J -26048802.96 -26048802.86 -26048802.76 0.2736 0.0963

Moon -76031-04-07 16:04 J -26048802.93 -26048802.83 -26048802.73 0.2736 0.1080 *

Jupiter -76031-04-08 23:59 J -26048801.60 -26048801.50 -26048801.40 0.0532 0.0320

Venus -76027-07-11 05:01 J -26047247.43 -26047247.29 -26047247.16 0.3595 0.0944

Jupiter -76026-12-07 10:04 J -26046733.18 -26046733.08 -26046732.98 0.0493 0.0413

Jupiter -76025-03-06 19:11 J -26046642.88 -26046642.70 -26046642.52 0.0494 0.0130

Saturn -76025-05-31 22:04 J -26046556.72 -26046556.58 -26046556.44 0.0276 0.0183

Saturn -76025-08-28 21:20 J -26046467.80 -26046467.61 -26046467.42 0.0277 0.0030

Saturn -76025-11-25 20:37 J -26046378.80 -26046378.64 -26046378.47 0.0277 0.0124

Moon -76024-03-31 14:08 J -26046252.95 -26046252.91 -26046252.87 0.2739 0.2464

Earth -76024-03-31 14:23 J -26046252.94 -26046252.90 -26046252.85 0.2732 0.2463 *

Mars -76022-07-23 20:37 J -26045408.71 -26045408.64 -26045408.57 0.1655 0.1500

Venus -76021-01-25 06:13 J -26045223.32 -26045223.24 -26045223.16 0.3599 0.2883

Mars -76021-05-21 06:13 J -26045106.33 -26045106.24 -26045106.15 0.1891 0.1110

Moon -76021-09-30 09:06 J -26044974.25 -26044974.12 -26044974.00 0.2596 0.1688

Earth -76021-09-30 10:18 J -26044974.21 -26044974.07 -26044973.94 0.2601 0.1495 *

Jupiter -76020-10-28 20:23 J -26044580.76 -26044580.65 -26044580.54 0.0533 0.0254

Jupiter -76019-01-26 03:06 J -26044491.48 -26044491.37 -26044491.25 0.0532 0.0199

Earth -76018-04-10 09:20 J -26044052.17 -26044052.11 -26044052.05 0.2738 0.2210

Moon -76018-04-10 09:35 J -26044052.16 -26044052.10 -26044052.04 0.2731 0.2249 *

Jupiter -76014-12-24 16:47 J -26042332.98 -26042332.80 -26042332.61 0.0494 0.0010

Mars -76013-12-12 22:04 J -26041978.74 -26041978.58 -26041978.43 0.1648 0.0548

Neptune -76012-08-26 05:44 J -26041722.27 -26041722.26 -26041722.22 0.0089 0.0088

Saturn -76012-10-09 16:32 J -26041677.91 -26041677.81 -26041677.72 0.0286 0.0192

Mars -76012-10-11 14:23 J -26041676.02 -26041675.90 -26041675.79 0.1899 0.0208

Neptune -76012-11-22 09:35 J -26041634.17 -26041634.10 -26041634.01 0.0089 0.0081

Saturn -76011-01-06 03:49 J -26041589.46 -26041589.34 -26041589.21 0.0285 0.0078

Neptune -76011-02-18 13:25 J -26041546.04 -26041545.94 -26041545.83 0.0089 0.0074

Earth -76011-04-03 08:08 J -26041502.25 -26041502.16 -26041502.06 0.2734 0.1253

Moon -76011-04-03 08:23 J -26041502.24 -26041502.15 -26041502.05 0.2741 0.1297 *

Saturn -76011-04-04 15:06 J -26041501.00 -26041500.87 -26041500.74 0.0284 0.0035

Neptune -76011-05-17 17:16 J -26041457.90 -26041457.78 -26041457.65 0.0089 0.0067

Saturn -76011-07-02 02:23 J -26041412.51 -26041412.40 -26041412.29 0.0283 0.0147

Neptune -76011-08-13 21:06 J -26041369.76 -26041369.62 -26041369.48 0.0089 0.0060

Saturn -76011-09-28 13:40 J -26041323.98 -26041323.93 -26041323.88 0.0282 0.0258

Neptune -76011-11-10 00:28 J -26041281.62 -26041281.48 -26041281.31 0.0089 0.0054

Neptune -76010-02-06 04:04 J -26041193.48 -26041193.33 -26041193.14 0.0089 0.0047

Neptune -76010-05-05 07:54 J -26041105.33 -26041105.17 -26041104.98 0.0089 0.0040

Neptune -76010-08-01 11:44 J -26041017.18 -26041017.01 -26041016.82 0.0089 0.0033

Neptune -76010-10-28 15:35 J -26040929.03 -26040928.85 -26040928.66 0.0089 0.0026

Uranus -76010-11-01 09:20 J -26040925.15 -26040925.11 -26040925.02 0.0142 0.0133

Neptune -76009-01-24 19:25 J -26040840.88 -26040840.69 -26040840.50 0.0089 0.0019

Uranus -76009-01-28 17:44 J -26040836.88 -26040836.76 -26040836.62 0.0142 0.0105

Neptune -76009-04-21 23:01 J -26040752.73 -26040752.54 -26040752.34 0.0089 0.0012

Uranus -76009-04-26 01:40 J -26040748.58 -26040748.43 -26040748.25 0.0142 0.0078

Neptune -76009-07-19 02:37 J -26040664.58 -26040664.39 -26040664.19 0.0089 0.0006

Uranus -76009-07-23 09:49 J -26040660.26 -26040660.09 -26040659.90 0.0141 0.0050

Neptune -76009-10-15 06:28 J -26040576.43 -26040576.23 -26040576.03 0.0089 0.0002

Uranus -76009-10-19 17:59 J -26040571.94 -26040571.75 -26040571.56 0.0141 0.0023

Neptune -76008-01-11 10:04 J -26040488.27 -26040488.08 -26040487.88 0.0089 0.0009

Uranus -76008-01-16 01:54 J -26040483.61 -26040483.42 -26040483.23 0.0141 0.0004

Neptune -76008-04-09 13:40 J -26040400.12 -26040399.93 -26040399.73 0.0089 0.0016

Uranus -76008-04-14 09:35 J -26040395.28 -26040395.10 -26040394.91 0.0141 0.0031

Neptune -76008-07-06 17:16 J -26040311.96 -26040311.78 -26040311.58 0.0089 0.0022

Uranus -76008-07-11 17:30 J -26040306.94 -26040306.77 -26040306.59 0.0141 0.0057

Jupiter -76008-08-17 00:13 J -26040270.58 -26040270.49 -26040270.39 0.0533 0.0368

Neptune -76008-10-02 21:06 J -26040223.80 -26040223.62 -26040223.43 0.0089 0.0029

Moon -76008-10-03 15:35 J -26040223.00 -26040222.85 -26040222.69 0.2600 0.0772

Earth -76008-10-03 17:30 J -26040222.93 -26040222.77 -26040222.62 0.2600 0.0848 *

Uranus -76008-10-08 00:56 J -26040218.60 -26040218.46 -26040218.29 0.0141 0.0084

Jupiter -76008-11-14 06:56 J -26040181.33 -26040181.21 -26040181.08 0.0533 0.0084

Venus -76008-11-19 05:30 J -26040176.34 -26040176.27 -26040176.20 0.3792 0.2873

Neptune -76008-12-30 00:42 J -26040135.64 -26040135.47 -26040135.29 0.0089 0.0036

Uranus -76007-01-04 08:37 J -26040130.24 -26040130.14 -26040130.00 0.0141 0.0110

Neptune -76007-03-28 04:18 J -26040047.48 -26040047.32 -26040047.14 0.0089 0.0043

Uranus -76007-04-02 16:32 J -26040041.85 -26040041.81 -26040041.75 0.0140 0.0135

Neptune -76007-06-24 07:40 J -26039959.32 -26039959.18 -26039959.00 0.0089 0.0050

Neptune -76007-09-20 11:44 J -26039871.16 -26039871.01 -26039870.86 0.0089 0.0056

Neptune -76007-12-17 15:06 J -26039782.99 -26039782.87 -26039782.72 0.0089 0.0063

Neptune -76006-03-15 18:42 J -26039694.83 -26039694.72 -26039694.59 0.0089 0.0070

Neptune -76006-06-11 22:04 J -26039606.65 -26039606.58 -26039606.46 0.0089 0.0077

Neptune -76006-09-08 02:08 J -26039518.47 -26039518.41 -26039518.34 0.0089 0.0083

Mars -76003-05-04 23:01 J -26038548.70 -26038548.54 -26038548.38 0.1642 0.0414

Mars -76002-03-03 22:18 J -26038245.67 -26038245.57 -26038245.46 0.1908 0.0715

Venus -76002-06-04 23:16 J -26038152.63 -26038152.53 -26038152.44 0.3789 0.1633

Jupiter -76002-10-12 13:54 J -26038023.09 -26038022.92 -26038022.74 0.0493 0.0140

Jupiter -76001-01-10 22:18 J -26037932.67 -26037932.57 -26037932.46 0.0494 0.0397

76TH MILLENNIUM BCE

This is a list of transits of Mercury in the 76th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Earth	**-75998-04-06 02:08**	**J**	**-26036751.52**	**-26036751.41**	**-26036751.30**	**0.2735**	**0.0021**	
Moon	**-75998-04-06 02:52**	**J**	**-26036751.49**	**-26036751.38**	**-26036751.27**	**0.2738**	**0.0142**	*****
Venus	**-75997-12-18 17:01**	**J**	**-26036128.90**	**-26036128.79**	**-26036128.68**	**0.3786**	**0.0356**	
Jupiter	**-75996-06-05 04:32**	**J**	**-26035960.37**	**-26035960.31**	**-26035960.26**	**0.0534**	**0.0478**	
Jupiter	**-75996-09-02 11:01**	**J**	**-26035871.16**	**-26035871.04**	**-26035870.91**	**0.0533**	**0.0032**	
Saturn	**-75996-10-18 21:06**	**J**	**-26035824.73**	**-26035824.62**	**-26035824.51**	**0.0276**	**0.0223**	
Jupiter	**-75996-11-30 18:13**	**J**	**-26035781.82**	**-26035781.74**	**-26035781.67**	**0.0532**	**0.0426**	
Saturn	**-75995-01-15 20:23**	**J**	**-26035735.83**	**-26035735.65**	**-26035735.46**	**0.0277**	**0.0070**	
Saturn	**-75995-04-14 19:40**	**J**	**-26035646.85**	**-26035646.68**	**-26035646.49**	**0.0277**	**0.0084**	
Saturn	**-75995-07-12 18:56**	**J**	**-26035557.80**	**-26035557.71**	**-26035557.61**	**0.0278**	**0.0238**	
Mars	**-75994-09-25 00:13**	**J**	**-26035118.58**	**-26035118.49**	**-26035118.40**	**0.1636**	**0.1361**	
Mars	**-75993-07-24 06:28**	**J**	**-26034815.28**	**-26034815.23**	**-26034815.17**	**0.1915**	**0.1628**	
Venus	**-75991-07-04 11:01**	**J**	**-26034105.15**	**-26034105.04**	**-26034104.93**	**0.3783**	**0.0950**	
Jupiter	**-75990-07-31 11:16**	**J**	**-26033713.19**	**-26033713.03**	**-26033712.88**	**0.0493**	**0.0275**	
Jupiter	**-75990-10-29 19:54**	**J**	**-26033622.82**	**-26033622.67**	**-26033622.51**	**0.0494**	**0.0264**	
Venus	**-75985-01-18 05:01**	**J**	**-26032081.37**	**-26032081.29**	**-26032081.20**	**0.3779**	**0.2287**	
Earth	**-75985-04-07 20:08**	**J**	**-26032000.76**	**-26032000.66**	**-26032000.56**	**0.2736**	**0.1220**	
Moon	**-75985-04-07 20:52**	**J**	**-26032000.73**	**-26032000.63**	**-26032000.54**	**0.2735**	**0.1267**	*****

Jupiter -75984-06-21 15:20 J -26031560.98 -26031560.86 -26031560.73 0.0533 0.0138

Jupiter -75984-09-18 22:18 J -26031471.67 -26031471.57 -26031471.47 0.0532 0.0315

Mars -75982-01-21 21:20 J -26030981.63 -26030981.61 -26030981.59 0.1655 0.1639

Saturn -75982-02-26 18:28 J -26030945.80 -26030945.73 -26030945.65 0.0286 0.0228

Saturn -75982-05-26 05:59 J -26030857.37 -26030857.25 -26030857.13 0.0285 0.0113

Saturn -75982-08-22 17:16 J -26030768.91 -26030768.78 -26030768.65 0.0284 0.0001

Saturn -75982-11-19 04:32 J -26030680.43 -26030680.31 -26030680.19 0.0284 0.0113

Mars -75982-11-20 06:13 J -26030679.33 -26030679.24 -26030679.15 0.1891 0.1214

Venus -75981-01-16 01:40 J -26030622.53 -26030622.43 -26030622.33 0.3589 0.2506

Saturn -75981-02-15 15:49 J -26030591.92 -26030591.84 -26030591.76 0.0283 0.0225

Venus -75980-08-02 23:30 J -26030057.54 -26030057.52 -26030057.50 0.3776 0.3654

Moon -75978-04-01 18:56 J -26029450.76 -26029450.71 -26029450.65 0.2740 0.2274

Earth -75978-04-01 19:11 J -26029450.76 -26029450.70 -26029450.64 0.2733 0.2212 *

Jupiter -75978-05-19 07:25 J -26029403.29 -26029403.19 -26029403.10 0.0493 0.0422

Jupiter -75978-08-17 16:32 J -26029312.99 -26029312.81 -26029312.64 0.0494 0.0121

Venus -75976-08-01 03:35 J -26028598.49 -26028598.35 -26028598.21 0.3593 0.0427

Moon -75975-10-01 15:35 J -26028172.00 -26028171.85 -26028171.71 0.2597 0.1115

Earth -75975-10-01 16:47 J -26028171.95 -26028171.80 -26028171.65 0.2601 0.1033 *

Mars -75973-06-12 22:32 J -26027551.71 -26027551.56 -26027551.41 0.1648 0.0680

Jupiter -75972-04-09 19:25 J -26027250.80 -26027250.69 -26027250.58 0.0533 0.0249

Earth -75972-04-10 14:08 J -26027249.95 -26027249.91 -26027249.87 0.2738 0.2465

Moon -75972-04-10 14:23 J -26027249.94 -26027249.90 -26027249.86 0.2731 0.2516 *

Mars -75972-04-11 14:23 J -26027249.02 -26027248.90 -26027248.79 0.1899 0.0307

Jupiter -75972-07-08 02:08 J -26027161.53 -26027161.41 -26027161.29 0.0532 0.0202

Venus -75970-02-15 05:01 J -26026574.41 -26026574.29 -26026574.17 0.3596 0.1592

Saturn -75966-03-07 21:35 J -26025092.67 -26025092.60 -26025092.53 0.0275 0.0253

Saturn -75966-06-04 20:52 J -26025003.80 -26025003.63 -26025003.45 0.0276 0.0101

Jupiter -75966-06-05 13:54 J -26025003.11 -26025002.92 -26025002.74 0.0494 0.0016

Saturn -75966-09-01 20:23 J -26024914.84 -26024914.65 -26024914.47 0.0277 0.0053

Saturn -75966-11-29 19:40 J -26024825.81 -26024825.68 -26024825.56 0.0278 0.0207

Earth -75965-04-03 13:11 J -26024700.05 -26024699.95 -26024699.85 0.2734 0.1000

Moon -75965-04-03 13:25 J -26024700.04 -26024699.94 -26024699.84 0.2740 0.0917 *

Uranus -75965-04-04 08:23 J -26024699.20 -26024699.15 -26024699.10 0.0137 0.0126

Uranus -75965-07-01 11:16 J -26024611.10 -26024611.03 -26024610.94 0.0137 0.0110

Venus -75965-08-31 05:59 J -26024550.28 -26024550.25 -26024550.22 0.3600 0.3499

Uranus -75965-09-27 14:37 J -26024522.98 -26024522.89 -26024522.79 0.0137 0.0093

Uranus -75965-12-24 17:59 J -26024434.86 -26024434.75 -26024434.64 0.0137 0.0076

Uranus -75964-03-22 21:06 J -26024346.74 -26024346.62 -26024346.50 0.0137 0.0060

Uranus -75964-06-19 00:13 J -26024258.61 -26024258.49 -26024258.36 0.0137 0.0043

Uranus -75964-09-15 03:35 J -26024170.48 -26024170.35 -26024170.22 0.0137 0.0026

Mars -75964-11-02 23:59 J -26024121.67 -26024121.50 -26024121.34 0.1642 0.0275

Uranus -75964-12-12 06:56 J -26024082.35 -26024082.21 -26024082.08 0.0137 0.0009

Uranus -75963-03-10 10:04 J -26023994.21 -26023994.08 -26023993.94 0.0138 0.0010

Uranus -75963-06-06 13:25 J -26023906.07 -26023905.94 -26023905.81 0.0138 0.0026

Mars -75963-09-01 22:32 J -26023818.67 -26023818.56 -26023818.45 0.1907 0.0609

Uranus -75963-09-02 16:47 J -26023817.93 -26023817.80 -26023817.67 0.0138 0.0043

Uranus -75963-11-29 20:08 J -26023729.78 -26023729.66 -26023729.54 0.0138 0.0061

Uranus -75962-02-25 23:16 J -26023641.63 -26023641.53 -26023641.41 0.0138 0.0079

Uranus -75962-05-25 02:52 J -26023553.47 -26023553.38 -26023553.28 0.0138 0.0096

Uranus -75962-08-21 06:13 J -26023465.31 -26023465.24 -26023465.16 0.0138 0.0114

Moon -75962-10-04 22:18 J -26023420.72 -26023420.57 -26023420.42 0.2600 0.1028

Earth -75962-10-04 23:59 J -26023420.63 -26023420.50 -26023420.36 0.2599 0.1312 *

Uranus -75962-11-17 09:35 J -26023377.13 -26023377.10 -26023377.06 0.0139 0.0133

Jupiter -75960-01-26 22:47 J -26022940.64 -26022940.55 -26022940.46 0.0533 0.0371

Jupiter -75960-04-26 05:16 J -26022851.40 -26022851.28 -26022851.15 0.0532 0.0080

Venus -75957-12-10 10:04 J -26021527.10 -26021527.08 -26021527.06 0.3794 0.3691

Jupiter -75954-03-24 11:30 J -26020693.20 -26020693.02 -26020692.85 0.0494 0.0146

Mars -75954-03-26 00:56 J -26020691.56 -26020691.46 -26020691.35 0.1636 0.1222

Jupiter -75954-06-22 19:54 J -26020602.78 -26020602.67 -26020602.56 0.0494 0.0392

Mars -75953-01-23 06:28 J -26020388.30 -26020388.23 -26020388.17 0.1915 0.1538

Saturn -75953-07-15 22:04 J -26020213.63 -26020213.58 -26020213.51 0.0287 0.0249

Saturn -75953-10-12 09:35 J -26020125.21 -26020125.10 -26020124.99 0.0286 0.0134

Saturn -75952-01-08 20:52 J -26020036.76 -26020036.63 -26020036.50 0.0285 0.0021

Earth -75952-04-06 06:56 J -26019949.32 -26019949.21 -26019949.10 0.2735 0.0235

Moon -75952-04-06 07:40 J -26019949.29 -26019949.18 -26019949.07 0.2738 0.0252 *

Saturn -75952-04-07 08:08 J -26019948.28 -26019948.16 -26019948.04 0.0284 0.0092

Saturn -75952-07-04 19:25 J -26019859.78 -26019859.69 -26019859.60 0.0283 0.0204

Venus -75951-06-26 03:35 J -26019503.43 -26019503.35 -26019503.27 0.3791 0.2467

Jupiter -75949-11-15 02:37 J -26018630.44 -26018630.39 -26018630.34 0.0533 0.0486

Jupiter -75948-02-12 09:06 J -26018541.25 -26018541.12 -26018540.99 0.0533 0.0037

Jupiter -75948-05-12 16:04 J -26018451.91 -26018451.83 -26018451.75 0.0532 0.0416

Venus -75945-01-09 21:20 J -26017479.72 -26017479.61 -26017479.51 0.3788 0.1224

Jupiter -75942-01-10 08:23 J -26016383.30 -26016383.15 -26016383.00 0.0493 0.0284

Jupiter -75942-04-10 17:16 J -26016292.94 -26016292.78 -26016292.62 0.0494 0.0255

Mars -75942-05-21 06:13 J -26016252.32 -26016252.24 -26016252.16 0.1891 0.1316

Venus -75940-07-25 15:06 J -26015455.98 -26015455.87 -26015455.76 0.3785 0.0077

Earth -75939-04-09 00:56 J -26015198.55 -26015198.46 -26015198.37 0.2737 0.1471

Moon -75939-04-09 01:25 J -26015198.52 -26015198.44 -26015198.35 0.2733 0.1604 *

Saturn -75937-10-21 20:37 J -26014271.80 -26014271.64 -26014271.47 0.0276 0.0137

Jupiter -75937-12-01 13:11 J -26014231.07 -26014230.95 -26014230.83 0.0533 0.0150

Saturn -75936-01-18 19:54 J -26014182.85 -26014182.67 -26014182.48 0.0277 0.0018

Jupiter -75936-02-28 19:54 J -26014141.77 -26014141.67 -26014141.56 0.0532 0.0304

Saturn -75936-04-17 19:11 J -26014093.84 -26014093.70 -26014093.55 0.0278 0.0171

Venus -75934-02-08 09:06 J -26013432.22 -26013432.12 -26013432.02 0.3782 0.1389

Mars -75934-12-12 23:16 J -26013124.68 -26013124.53 -26013124.39 0.1648 0.0813

Mars -75933-10-10 14:23 J -26012822.01 -26012821.90 -26012821.78 0.1899 0.0425

Moon -75932-04-01 23:59 J -26012648.58 -26012648.50 -26012648.43 0.2740 0.1973

Earth -75932-04-01 23:59 J -26012648.57 -26012648.50 -26012648.42 0.2733 0.1963 *

Jupiter -75931-10-29 05:30 J -26012073.37 -26012073.27 -26012073.18 0.0493 0.0421

Neptune -75931-12-07 05:30 J -26012034.27 -26012034.27 -26012034.27 0.0089 0.0089

Pluto -75930-01-06 09:06 J -26012004.14 -26012004.12 -26012004.04 0.0060 0.0058

Jupiter -75930-01-27 14:37 J -26011983.07 -26011982.89 -26011982.72 0.0494 0.0121

Neptune -75930-03-05 06:42 J -26011946.26 -26011946.22 -26011946.18 0.0089 0.0084

Pluto -75930-04-04 10:47 J -26011916.13 -26011916.05 -26011915.95 0.0060 0.0052

Neptune -75930-06-01 07:54 J -26011858.22 -26011858.17 -26011858.11 0.0089 0.0080

Pluto -75930-07-01 11:44 J -26011828.10 -26011828.01 -26011827.87 0.0060 0.0048

Neptune -75930-08-28 09:20 J -26011770.18 -26011770.11 -26011770.04 0.0089 0.0075

Pluto -75930-09-27 13:25 J -26011740.07 -26011739.94 -26011739.79 0.0060 0.0041

Neptune -75930-11-24 10:18 J -26011682.13 -26011682.07 -26011681.98 0.0089 0.0071

Pluto -75930-12-24 14:23 J -26011652.03 -26011651.90 -26011651.73 0.0060 0.0037

Neptune -75929-02-20 11:44 J -26011594.09 -26011594.01 -26011593.91 0.0089 0.0066

Pluto -75929-03-21 16:04 J -26011563.98 -26011563.83 -26011563.66 0.0060 0.0030

Neptune -75929-05-18 12:56 J -26011506.04 -26011505.96 -26011505.85 0.0089 0.0062

Pluto -75929-06-17 17:30 J -26011475.94 -26011475.77 -26011475.60 0.0060 0.0025

Neptune -75929-08-14 14:23 J -26011417.99 -26011417.90 -26011417.79 0.0089 0.0057

Venus -75929-08-24 03:20 J -26011408.44 -26011408.36 -26011408.29 0.3779 0.2742

Pluto -75929-09-13 18:28 J -26011387.89 -26011387.73 -26011387.53 0.0060 0.0020

Moon -75929-10-01 22:04 J -26011369.74 -26011369.58 -26011369.43 0.2598 0.0734

Earth -75929-10-01 23:30 J -26011369.68 -26011369.52 -26011369.36 0.2601 0.0566 *

Neptune -75929-11-10 15:49 J -26011329.94 -26011329.84 -26011329.73 0.0089 0.0052

Pluto -75929-12-10 20:08 J -26011299.84 -26011299.66 -26011299.47 0.0060 0.0013

Neptune -75928-02-06 17:01 J -26011241.90 -26011241.79 -26011241.67 0.0089 0.0048

Pluto -75928-03-08 21:35 J -26011211.79 -26011211.60 -26011211.42 0.0061 0.0008

Neptune -75928-05-05 18:13 J -26011153.85 -26011153.74 -26011153.62 0.0089 0.0043

Pluto -75928-06-04 22:47 J -26011123.74 -26011123.55 -26011123.36 0.0061 0.0002

Neptune -75928-08-01 19:40 J -26011065.79 -26011065.68 -26011065.56 0.0089 0.0038

Pluto -75928-09-01 00:13 J -26011035.68 -26011035.49 -26011035.30 0.0061 0.0004

Neptune -75928-10-28 20:52 J -26010977.74 -26010977.63 -26010977.50 0.0089 0.0034

Pluto -75928-11-28 01:25 J -26010947.62 -26010947.44 -26010947.25 0.0061 0.0010

Neptune -75927-01-24 22:18 J -26010889.69 -26010889.57 -26010889.44 0.0089 0.0029

Pluto -75927-02-24 02:37 J -26010859.56 -26010859.39 -26010859.20 0.0061 0.0016

Neptune -75927-04-22 23:30 J -26010801.64 -26010801.52 -26010801.39 0.0089 0.0025

Pluto -75927-05-23 04:04 J -26010771.50 -26010771.33 -26010771.14 0.0061 0.0021

Neptune -75927-07-20 00:56 J -26010713.59 -26010713.46 -26010713.33 0.0089 0.0020

Pluto -75927-08-19 05:30 J -26010683.43 -26010683.27 -26010683.10 0.0061 0.0027

Neptune -75927-10-16 02:08 J -26010625.53 -26010625.41 -26010625.27 0.0089 0.0016

Pluto -75927-11-15 06:42 J -26010595.37 -26010595.22 -26010595.05 0.0061 0.0033

Neptune -75926-01-12 03:35 J -26010537.48 -26010537.35 -26010537.22 0.0089 0.0010

Pluto -75926-02-11 07:54 J -26010507.30 -26010507.17 -26010507.01 0.0061 0.0039

Neptune -75926-04-10 04:47 J -26010449.43 -26010449.30 -26010449.16 0.0089 0.0007

Earth -75926-04-11 18:56 J -26010447.72 -26010447.71 -26010447.70 0.2738 0.2723

Moon -75926-04-11 19:11 J -26010447.70 -26010447.70 -26010447.69 0.2731 0.2724 *

Pluto -75926-05-10 09:20 J -26010419.22 -26010419.11 -26010418.97 0.0061 0.0045

Neptune -75926-07-07 06:13 J -26010361.37 -26010361.24 -26010361.11 0.0089 0.0001

Pluto -75926-08-06 10:32 J -26010331.14 -26010331.06 -26010330.93 0.0061 0.0052

Neptune -75926-10-03 07:25 J -26010273.32 -26010273.19 -26010273.05 0.0089 0.0005

Pluto -75926-11-02 11:59 J -26010243.04 -26010243.00 -26010242.91 0.0061 0.0057

Uranus -75926-11-21 16:04 J -26010223.89 -26010223.83 -26010223.73 0.0142 0.0129

Neptune -75926-12-30 08:52 J -26010185.26 -26010185.13 -26010185.00 0.0089 0.0008

Uranus -75925-02-18 00:28 J -26010135.61 -26010135.48 -26010135.34 0.0142 0.0101

Neptune -75925-03-27 10:04 J -26010097.21 -26010097.08 -26010096.94 0.0089 0.0013

Uranus -75925-05-16 08:23 J -26010047.30 -26010047.15 -26010046.97 0.0142 0.0074

Neptune -75925-06-23 11:30 J -26010009.15 -26010009.02 -26010008.89 0.0089 0.0018

Uranus -75925-08-12 16:47 J -26009958.98 -26009958.80 -26009958.62 0.0142 0.0046

Venus -75925-08-22 01:54 J -26009949.54 -26009949.42 -26009949.30 0.3590 0.1827

Neptune -75925-09-19 12:42 J -26009921.09 -26009920.97 -26009920.84 0.0089 0.0022

Jupiter -75925-09-19 17:30 J -26009920.88 -26009920.77 -26009920.66 0.0533 0.0257 *

Uranus -75925-11-09 00:42 J -26009870.66 -26009870.47 -26009870.28 0.0141 0.0019

Neptune -75925-12-16 14:08 J -26009833.04 -26009832.91 -26009832.78 0.0089 0.0027

Jupiter -75925-12-18 00:13 J -26009831.61 -26009831.49 -26009831.37 0.0532 0.0194

Uranus -75924-02-05 08:37 J -26009782.33 -26009782.14 -26009781.95 0.0141 0.0008

Neptune -75924-03-14 15:20 J -26009744.98 -26009744.86 -26009744.73 0.0089 0.0032

Mars -75924-05-04 00:28 J -26009694.64 -26009694.48 -26009694.31 0.1642 0.0138

Uranus -75924-05-04 16:18 J -26009694.00 -26009693.82 -26009693.63 0.0141 0.0035

Neptune -75924-06-10 16:32 J -26009656.92 -26009656.81 -26009656.68 0.0089 0.0037

Uranus -75924-08-01 00:13 J -26009605.66 -26009605.49 -26009605.32 0.0141 0.0061

Neptune -75924-09-06 17:59 J -26009568.86 -26009568.75 -26009568.63 0.0089 0.0041

Uranus -75924-10-28 07:40 J -26009517.31 -26009517.18 -26009517.01 0.0141 0.0088

Saturn -75924-12-03 00:28 J -26009481.50 -26009481.48 -26009481.46 0.0287 0.0282

Neptune -75924-12-03 19:25 J -26009480.80 -26009480.69 -26009480.57 0.0089 0.0046

Uranus -75923-01-24 15:35 J -26009428.95 -26009428.85 -26009428.73 0.0141 0.0114

Saturn -75923-03-01 11:44 J -26009393.11 -26009393.01 -26009392.90 0.0286 0.0168

Neptune -75923-03-01 20:37 J -26009392.74 -26009392.64 -26009392.52 0.0089 0.0051

Mars -75923-03-02 22:18 J -26009391.68 -26009391.57 -26009391.45 0.1907 0.0511

Uranus -75923-04-22 23:01 J -26009340.55 -26009340.54 -26009340.50 0.0140 0.0140

Neptune -75923-05-28 22:04 J -26009304.68 -26009304.58 -26009304.47 0.0089 0.0055

Saturn -75923-05-28 23:16 J -26009304.66 -26009304.53 -26009304.41 0.0285 0.0054 *

Neptune -75923-08-24 23:16 J -26009216.62 -26009216.53 -26009216.42 0.0089 0.0060

Saturn -75923-08-25 10:32 J -26009216.19 -26009216.06 -26009215.94 0.0284 0.0060

Neptune -75923-11-21 00:28 J -26009128.56 -26009128.48 -26009128.38 0.0089 0.0065

Saturn -75923-11-21 21:35 J -26009127.70 -26009127.60 -26009127.49 0.0283 0.0172

Neptune -75922-02-17 02:08 J -26009040.49 -26009040.41 -26009040.33 0.0089 0.0069

Neptune -75922-05-16 03:20 J -26008952.42 -26008952.36 -26008952.28 0.0089 0.0074

Neptune -75922-08-12 04:32 J -26008864.36 -26008864.31 -26008864.24 0.0089 0.0079

Neptune -75922-11-08 06:13 J -26008776.28 -26008776.24 -26008776.20 0.0089 0.0083

Neptune -75921-02-04 07:25 J -26008688.20 -26008688.19 -26008688.17 0.0089 0.0088

Venus -75919-03-08 03:49 J -26007925.48 -26007925.34 -26007925.21 0.3594 0.0275

Earth -75919-04-04 17:59 J -26007897.86 -26007897.75 -26007897.65 0.2734 0.0748

Moon -75919-04-04 18:13 J -26007897.84 -26007897.74 -26007897.63 0.2739 0.0736 *

Jupiter -75919-11-15 10:47 J -26007673.23 -26007673.05 -26007672.86 0.0494 0.0025

Moon -75916-10-05 05:01 J -26006618.42 -26006618.29 -26006618.17 0.2600 0.1678

Earth -75916-10-05 06:42 J -26006618.34 -26006618.22 -26006618.10 0.2599 0.1765 *

Mars -75915-09-24 01:40 J -26006264.55 -26006264.43 -26006264.30 0.1636 0.1086

Mars -75914-07-24 06:28 J -26005961.30 -26005961.23 -26005961.15 0.1915 0.1423

Venus -75914-09-22 05:01 J -26005901.40 -26005901.29 -26005901.18 0.3597 0.2227

Jupiter -75913-07-08 21:35 J -26005610.69 -26005610.60 -26005610.51 0.0533 0.0369

Jupiter -75913-10-06 04:04 J -26005521.45 -26005521.33 -26005521.20 0.0532 0.0082

Saturn -75907-03-10 20:52 J -26003539.77 -26003539.63 -26003539.48 0.0276 0.0170

Saturn -75907-06-07 20:23 J -26003450.84 -26003450.65 -26003450.46 0.0277 0.0016

Jupiter -75907-09-03 08:08 J -26003363.34 -26003363.16 -26003362.98 0.0494 0.0159

Saturn -75907-09-04 19:25 J -26003361.84 -26003361.69 -26003361.52 0.0277 0.0139

Jupiter -75907-12-02 16:47 J -26003272.92 -26003272.80 -26003272.68 0.0494 0.0379

Earth -75906-04-07 11:44 J -26003147.11 -26003147.01 -26003146.90 0.2736 0.0491

Moon -75906-04-07 12:28 J -26003147.08 -26003146.98 -26003146.87 0.2738 0.0638 *

Mars -75903-11-19 06:13 J -26001825.31 -26001825.24 -26001825.16 0.1891 0.1429

Jupiter -75901-04-27 00:42 J -26001300.51 -26001300.47 -26001300.42 0.0533 0.0491

Jupiter -75901-07-25 07:25 J -26001211.32 -26001211.19 -26001211.07 0.0533 0.0045

Jupiter -75901-10-22 14:08 J -26001121.98 -26001121.91 -26001121.82 0.0532 0.0411

Venus -75900-07-17 07:54 J -26000854.22 -26000854.17 -26000854.12 0.3793 0.3291

Moon -75896-09-29 22:04 J -25999318.63 -25999318.58 -25999318.53 0.2596 0.2472

Earth -75896-09-29 22:47 J -25999318.60 -25999318.55 -25999318.50 0.2602 0.2466 *

Jupiter -75895-06-22 05:30 J -25999053.41 -25999053.27 -25999053.11 0.0493 0.0293

Jupiter -75895-09-20 14:37 J -25998963.05 -25998962.89 -25998962.73 0.0494 0.0249

Venus -75894-01-31 01:25 J -25998830.53 -25998830.44 -25998830.35 0.3791 0.2062

Mars -75894-06-12 23:59 J -25998697.64 -25998697.50 -25998697.37 0.1648 0.0953

Saturn -75894-07-19 15:35 J -25998660.94 -25998660.85 -25998660.75 0.0286 0.0187

Saturn -75894-10-16 03:06 J -25998572.50 -25998572.37 -25998572.25 0.0285 0.0073

Saturn -75893-01-12 14:23 J -25998484.03 -25998483.90 -25998483.77 0.0284 0.0041

Earth -75893-04-09 05:44 J -25998396.34 -25998396.26 -25998396.17 0.2737 0.1728

Moon -75893-04-09 06:28 J -25998396.32 -25998396.23 -25998396.15 0.2732 0.1730 *

Saturn -75893-04-10 01:25 J -25998395.54 -25998395.44 -25998395.32 0.0283 0.0153

Mars -75893-04-10 14:23 J -25998395.01 -25998394.90 -25998394.79 0.1899 0.0513

Saturn -75893-07-07 12:42 J -25998307.01 -25998306.97 -25998306.92 0.0282 0.0264

Jupiter -75889-05-13 11:01 J -25996901.16 -25996901.04 -25996900.92 0.0533 0.0159

Jupiter -75889-08-10 17:59 J -25996811.86 -25996811.75 -25996811.65 0.0532 0.0294

Venus -75889-08-15 19:11 J -25996806.80 -25996806.70 -25996806.59 0.3788 0.0796

Moon -75886-04-03 04:47 J -25995846.38 -25995846.30 -25995846.22 0.2740 0.1727

Earth -75886-04-03 04:47 J -25995846.38 -25995846.30 -25995846.21 0.2733 0.1712 *

Mars -75885-11-02 01:11 J -25995267.62 -25995267.45 -25995267.29 0.1642 0.0042

Mars -75884-08-31 22:32 J -25994964.68 -25994964.56 -25994964.45 0.1907 0.0399

Venus -75883-03-01 13:11 J -25994783.06 -25994782.95 -25994782.84 0.3784 0.0513

Jupiter -75883-04-10 02:37 J -25994743.48 -25994743.39 -25994743.30 0.0493 0.0430

Jupiter -75883-07-09 11:44 J -25994653.19 -25994653.01 -25994652.83 0.0494 0.0111

Moon -75883-10-03 04:32 J -25994567.48 -25994567.31 -25994567.15 0.2599 0.0308

Earth -75883-10-03 06:13 J -25994567.40 -25994567.24 -25994567.08 0.2600 0.0109 *

Uranus -75881-04-24 14:52 J -25993997.92 -25993997.88 -25993997.82 0.0136 0.0125

Uranus -75881-07-21 18:13 J -25993909.82 -25993909.74 -25993909.66 0.0137 0.0108

Uranus -75881-10-17 21:20 J -25993821.70 -25993821.61 -25993821.51 0.0137 0.0091

Uranus -75880-01-14 00:28 J -25993733.58 -25993733.48 -25993733.36 0.0137 0.0075

Uranus -75880-04-12 03:49 J -25993645.46 -25993645.34 -25993645.22 0.0137 0.0058

Uranus -75880-07-09 06:56 J -25993557.33 -25993557.21 -25993557.08 0.0137 0.0042

Uranus -75880-10-05 10:18 J -25993469.20 -25993469.07 -25993468.94 0.0137 0.0024

Uranus -75879-01-01 13:40 J -25993381.07 -25993380.93 -25993380.80 0.0137 0.0007

Uranus -75879-03-30 16:47 J -25993292.93 -25993292.80 -25993292.66 0.0138 0.0011

Uranus -75879-06-26 20:08 J -25993204.79 -25993204.66 -25993204.53 0.0138 0.0028

Uranus -75879-09-22 23:30 J -25993116.65 -25993116.52 -25993116.39 0.0138 0.0045

Uranus -75879-12-20 02:52 J -25993028.50 -25993028.38 -25993028.26 0.0138 0.0063

Uranus -75878-03-18 06:13 J -25992940.35 -25992940.24 -25992940.13 0.0138 0.0080

Uranus -75878-06-14 09:35 J -25992852.19 -25992852.10 -25992852.00 0.0138 0.0098

Saturn -75878-07-28 21:06 J -25992807.75 -25992807.62 -25992807.49 0.0276 0.0203

Uranus -75878-09-10 12:56 J -25992764.03 -25992763.96 -25992763.88 0.0138 0.0116

Venus -75878-09-15 07:11 J -25992759.29 -25992759.20 -25992759.10 0.3781 0.1839

Saturn -75878-10-25 20:23 J -25992718.83 -25992718.65 -25992718.46 0.0277 0.0050

Uranus -75878-12-07 16:18 J -25992675.84 -25992675.82 -25992675.78 0.0138 0.0134

Saturn -75877-01-22 19:54 J -25992629.85 -25992629.67 -25992629.50 0.0278 0.0105

Jupiter -75877-03-01 15:06 J -25992590.98 -25992590.87 -25992590.76 0.0533 0.0272

Saturn -75877-04-20 18:56 J -25992540.77 -25992540.71 -25992540.64 0.0279 0.0259

Jupiter -75877-05-29 21:49 J -25992501.71 -25992501.59 -25992501.47 0.0533 0.0180

Mars -75875-03-25 02:23 J -25991837.54 -25991837.40 -25991837.27 0.1636 0.0954

Mars -75874-01-22 06:28 J -25991534.31 -25991534.23 -25991534.14 0.1914 0.1319

Venus -75874-09-12 23:44 J -25991300.56 -25991300.51 -25991300.45 0.3588 0.3291

Earth -75873-04-04 22:47 J -25991095.66 -25991095.55 -25991095.45 0.2734 0.0491

Moon -75873-04-04 23:16 J -25991095.64 -25991095.53 -25991095.42 0.2739 0.0403 *

Venus -75872-03-31 01:25 J -25990735.49 -25990735.44 -25990735.38 0.3777 0.3200

Jupiter -75871-04-27 08:52 J -25990343.31 -25990343.13 -25990342.94 0.0493 0.0025

Moon -75870-10-06 11:44 J -25989816.11 -25989816.01 -25989815.91 0.2601 0.1997

Earth -75870-10-06 13:25 J -25989816.03 -25989815.94 -25989815.86 0.2599 0.2221 *

Venus -75868-03-29 02:08 J -25989276.54 -25989276.41 -25989276.28 0.3591 0.1143

Jupiter -75866-12-19 19:25 J -25988280.78 -25988280.69 -25988280.60 0.0533 0.0379

Jupiter -75865-03-18 02:08 J -25988191.54 -25988191.41 -25988191.28 0.0533 0.0072

Jupiter -75865-06-15 09:06 J -25988102.13 -25988102.12 -25988102.10 0.0532 0.0526

Saturn -75865-12-05 18:13 J -25987928.82 -25987928.74 -25987928.66 0.0286 0.0218

Saturn -75864-03-04 05:30 J -25987840.39 -25987840.27 -25987840.15 0.0285 0.0104

Saturn -75864-05-31 16:47 J -25987751.93 -25987751.80 -25987751.67 0.0284 0.0010

Saturn -75864-08-28 04:04 J -25987663.45 -25987663.33 -25987663.21 0.0283 0.0122

Saturn -75864-11-24 15:20 J -25987574.93 -25987574.86 -25987574.79 0.0282 0.0233

Mars -75863-05-20 06:13 J -25987398.30 -25987398.24 -25987398.17 0.1891 0.1531

Venus -75863-10-13 03:49 J -25987252.47 -25987252.34 -25987252.21 0.3594 0.0907

Earth -75860-04-07 16:32 J -25986344.91 -25986344.81 -25986344.70 0.2736 0.0751

Moon -75860-04-07 17:16 J -25986344.88 -25986344.78 -25986344.67 0.2736 0.0778 *

Jupiter -75859-02-13 05:01 J -25986033.46 -25986033.29 -25986033.11 0.0493 0.0171

Jupiter -75859-05-14 13:40 J -25985943.05 -25985942.93 -25985942.80 0.0494 0.0369

Venus -75857-04-28 05:01 J -25985228.37 -25985228.29 -25985228.21 0.3598 0.2870

Mars -75855-12-12 00:28 J -25984270.60 -25984270.48 -25984270.35 0.1649 0.1092

Jupiter -75854-10-07 23:30 J -25983970.57 -25983970.52 -25983970.47 0.0533 0.0489

Mars -75854-10-10 14:23 J -25983968.01 -25983967.90 -25983967.79 0.1899 0.0623

Jupiter -75853-01-05 06:13 J -25983881.37 -25983881.24 -25983881.12 0.0533 0.0044

Moon -75853-03-31 15:20 J -25983794.87 -25983794.86 -25983794.84 0.2738 0.2682

Earth -75853-03-31 15:49 J -25983794.86 -25983794.84 -25983794.82 0.2731 0.2671 *

Jupiter -75853-04-03 12:56 J -25983792.03 -25983791.96 -25983791.88 0.0532 0.0413

Moon -75850-10-01 04:32 J -25982516.40 -25982516.31 -25982516.23 0.2597 0.2182

Earth -75850-10-01 05:30 J -25982516.37 -25982516.27 -25982516.17 0.2602 0.1995 *

Saturn -75849-12-14 21:06 J -25982075.72 -25982075.62 -25982075.53 0.0275 0.0238

Saturn -75848-03-13 20:23 J -25981986.83 -25981986.65 -25981986.47 0.0276 0.0085

Saturn -75848-06-10 19:40 J -25981897.86 -25981897.68 -25981897.49 0.0277 0.0070

Saturn -75848-09-07 18:56 J -25981808.81 -25981808.71 -25981808.59 0.0278 0.0224

Jupiter -75848-12-02 02:23 J -25981723.54 -25981723.40 -25981723.25 0.0493 0.0305

Jupiter -75847-03-02 11:16 J -25981633.19 -25981633.03 -25981632.87 0.0494 0.0236

Earth -75847-04-10 10:32 J -25981594.13 -25981594.06 -25981593.98 0.2737 0.1983

Moon -75847-04-10 11:16 J -25981594.10 -25981594.03 -25981593.97 0.2732 0.2114 *

Neptune -75847-05-23 04:47 J -25981551.35 -25981551.30 -25981551.24 0.0089 0.0085

Neptune -75847-08-19 08:37 J -25981463.23 -25981463.14 -25981463.05 0.0089 0.0078

Neptune -75847-11-15 11:44 J -25981375.10 -25981375.01 -25981374.87 0.0089 0.0072

Neptune -75846-02-11 15:35 J -25981286.96 -25981286.85 -25981286.69 0.0089 0.0065

Neptune -75846-05-10 19:25 J -25981198.82 -25981198.69 -25981198.52 0.0089 0.0058

Neptune -75846-08-06 23:16 J -25981110.68 -25981110.53 -25981110.36 0.0089 0.0051

Neptune -75846-11-03 03:06 J -25981022.53 -25981022.37 -25981022.19 0.0089 0.0044

Neptune -75845-01-30 06:56 J -25980934.38 -25980934.21 -25980934.03 0.0089 0.0037

Neptune -75845-04-27 10:32 J -25980846.24 -25980846.06 -25980845.87 0.0089 0.0030

Mars -75845-05-03 01:54 J -25980840.59 -25980840.42 -25980840.26 0.1642 0.0138

Neptune -75845-07-24 14:23 J -25980758.09 -25980757.90 -25980757.71 0.0089 0.0023

Neptune -75845-10-20 18:13 J -25980669.93 -25980669.74 -25980669.55 0.0089 0.0016

Neptune -75844-01-16 21:49 J -25980581.78 -25980581.59 -25980581.39 0.0089 0.0009

Mars -75844-03-01 22:32 J -25980537.68 -25980537.56 -25980537.45 0.1907 0.0303

Neptune -75844-04-15 01:40 J -25980493.63 -25980493.43 -25980493.24 0.0089 0.0002

Neptune -75844-07-12 05:16 J -25980405.47 -25980405.28 -25980405.08 0.0089 0.0005

Neptune -75844-10-08 08:52 J -25980317.32 -25980317.13 -25980316.93 0.0089 0.0012

Neptune -75843-01-04 12:28 J -25980229.16 -25980228.98 -25980228.78 0.0089 0.0019

Venus -75843-02-21 05:44 J -25980181.32 -25980181.26 -25980181.19 0.3793 0.2899

Neptune -75843-04-02 16:04 J -25980141.00 -25980140.83 -25980140.63 0.0089 0.0026

Neptune -75843-06-29 20:08 J -25980052.85 -25980052.66 -25980052.48 0.0089 0.0032

Neptune -75843-09-25 23:30 J -25979964.69 -25979964.52 -25979964.34 0.0089 0.0039

Neptune -75843-12-23 03:06 J -25979876.53 -25979876.37 -25979876.19 0.0089 0.0046

Neptune -75842-03-21 06:42 J -25979788.36 -25979788.22 -25979788.05 0.0089 0.0053

Neptune -75842-06-17 10:18 J -25979700.20 -25979700.07 -25979699.91 0.0089 0.0060

Neptune -75842-09-13 14:08 J -25979612.03 -25979611.91 -25979611.77 0.0089 0.0066

Jupiter -75842-10-24 09:20 J -25979571.23 -25979571.11 -25979570.99 0.0533 0.0165

Neptune -75842-12-10 17:44 J -25979523.86 -25979523.76 -25979523.64 0.0089 0.0073

Uranus -75842-12-11 22:04 J -25979522.64 -25979522.58 -25979522.47 0.0142 0.0127

Jupiter -75841-01-21 16:04 J -25979481.93 -25979481.83 -25979481.72 0.0532 0.0288

Neptune -75841-03-07 21:06 J -25979435.68 -25979435.62 -25979435.52 0.0089 0.0080

Uranus -75841-03-09 06:28 J -25979434.36 -25979434.23 -25979434.08 0.0142 0.0099

Neptune -75841-06-04 01:11 J -25979347.49 -25979347.45 -25979347.41 0.0089 0.0086

Uranus -75841-06-05 14:37 J -25979346.05 -25979345.89 -25979345.72 0.0142 0.0071

Uranus -75841-09-01 22:47 J -25979257.73 -25979257.55 -25979257.37 0.0142 0.0044

Uranus -75841-11-29 06:42 J -25979169.41 -25979169.22 -25979169.03 0.0141 0.0017

Uranus -75840-02-25 14:37 J -25979081.08 -25979080.89 -25979080.69 0.0141 0.0011

Earth -75840-04-03 09:35 J -25979044.19 -25979044.10 -25979044.00 0.2733 0.1465

Moon -75840-04-03 09:49 J -25979044.18 -25979044.09 -25979044.00 0.2740 0.1479 *

Uranus -75840-05-24 22:32 J -25978992.74 -25978992.56 -25978992.37 0.0141 0.0037

Uranus -75840-08-21 06:13 J -25978904.40 -25978904.24 -25978904.06 0.0141 0.0064

Uranus -75840-11-17 14:08 J -25978816.05 -25978815.91 -25978815.76 0.0141 0.0090

Uranus -75839-02-13 21:49 J -25978727.69 -25978727.59 -25978727.48 0.0141 0.0116

Venus -75838-09-06 23:30 J -25978157.62 -25978157.52 -25978157.42 0.3790 0.1644

Moon -75837-10-03 11:01 J -25977765.20 -25977765.04 -25977764.87 0.2598 0.0231

Earth -75837-10-03 12:56 J -25977765.12 -25977764.96 -25977764.80 0.2600 0.0364 *

Pluto -75837-11-04 07:11 J -25977733.25 -25977733.20 -25977733.14 0.0084 0.0077

Pluto -75836-01-31 08:37 J -25977645.22 -25977645.14 -25977645.05 0.0084 0.0065

Pluto -75836-04-29 09:49 J -25977557.18 -25977557.09 -25977556.97 0.0084 0.0054

Pluto -75836-07-26 11:16 J -25977469.14 -25977469.03 -25977468.90 0.0084 0.0043

Jupiter -75836-09-19 23:44 J -25977413.58 -25977413.51 -25977413.42 0.0493 0.0439

Mars -75836-09-23 03:06 J -25977410.51 -25977410.37 -25977410.22 0.1636 0.0811

Pluto -75836-10-22 12:56 J -25977381.09 -25977380.96 -25977380.83 0.0084 0.0031

Jupiter -75836-12-19 09:06 J -25977323.30 -25977323.12 -25977322.94 0.0494 0.0105

Pluto -75835-01-18 14:08 J -25977293.04 -25977292.91 -25977292.77 0.0084 0.0021

Pluto -75835-04-16 15:35 J -25977204.98 -25977204.85 -25977204.71 0.0084 0.0009

Saturn -75835-04-24 21:49 J -25977196.65 -25977196.59 -25977196.51 0.0287 0.0239

Pluto -75835-07-13 17:01 J -25977116.93 -25977116.79 -25977116.65 0.0083 0.0002

Saturn -75835-07-22 09:06 J -25977108.23 -25977108.12 -25977108.00 0.0286 0.0125

Mars -75835-07-23 06:28 J -25977107.32 -25977107.23 -25977107.14 0.1915 0.1221

Pluto -75835-10-09 18:13 J -25977028.87 -25977028.74 -25977028.60 0.0083 0.0013

Saturn -75835-10-18 20:37 J -25977019.77 -25977019.64 -25977019.51 0.0285 0.0013

Pluto -75834-01-05 19:40 J -25976940.81 -25976940.68 -25976940.55 0.0083 0.0023

Saturn -75834-01-15 07:40 J -25976931.30 -25976931.18 -25976931.05 0.0284 0.0103

Pluto -75834-04-03 20:52 J -25976852.75 -25976852.63 -25976852.50 0.0083 0.0034

Saturn -75834-04-13 18:56 J -25976842.79 -25976842.71 -25976842.62 0.0283 0.0214

Pluto -75834-06-30 22:04 J -25976764.68 -25976764.58 -25976764.45 0.0083 0.0045

Pluto -75834-09-26 23:44 J -25976676.61 -25976676.51 -25976676.41 0.0083 0.0055

Pluto -75834-12-24 00:42 J -25976588.54 -25976588.47 -25976588.38 0.0083 0.0066

Pluto -75833-03-21 02:23 J -25976500.45 -25976500.40 -25976500.35 0.0083 0.0076

Venus -75832-03-22 17:16 J -25976133.89 -25976133.78 -25976133.67 0.3787 0.0365

Jupiter -75830-08-12 12:56 J -25975261.06 -25975260.96 -25975260.85 0.0533 0.0281

Jupiter -75830-11-09 19:40 J -25975171.80 -25975171.68 -25975171.55 0.0532 0.0172

Earth -75827-04-06 03:35 J -25974293.46 -25974293.35 -25974293.24 0.2734 0.0238

Moon -75827-04-06 04:04 J -25974293.44 -25974293.33 -25974293.22 0.2740 0.0188 *

Venus -75827-10-06 11:16 J -25974110.14 -25974110.03 -25974109.93 0.3783 0.0951

Moon -75824-10-06 18:28 J -25973013.76 -25973013.73 -25973013.70 0.2602 0.2556

Jupiter -75824-10-07 06:13 J -25973013.43 -25973013.24 -25973013.06 0.0493 0.0033

Mars -75824-11-18 06:13 J -25972971.29 -25972971.24 -25972971.18 0.1891 0.1634

Venus -75821-04-21 05:16 J -25972086.36 -25972086.28 -25972086.19 0.3780 0.2298

Saturn -75819-05-03 21:06 J -25971343.65 -25971343.62 -25971343.58 0.0275 0.0271

Saturn -75819-07-31 20:23 J -25971254.81 -25971254.65 -25971254.47 0.0276 0.0118

Saturn -75819-10-28 19:54 J -25971165.86 -25971165.67 -25971165.48 0.0277 0.0036

Saturn -75818-01-25 19:11 J -25971076.83 -25971076.70 -25971076.56 0.0278 0.0191

Jupiter -75818-05-31 17:01 J -25970950.87 -25970950.79 -25970950.71 0.0534 0.0394

Jupiter -75818-08-28 23:44 J -25970861.64 -25970861.51 -25970861.39 0.0533 0.0057

Jupiter -75818-11-26 06:42 J -25970772.25 -25970772.22 -25970772.19 0.0532 0.0512

Venus -75817-04-19 00:13 J -25970627.58 -25970627.49 -25970627.39 0.3588 0.2585

Venus -75816-11-04 23:44 J -25970062.54 -25970062.51 -25970062.49 0.3776 0.3670

Mars -75815-06-12 00:56 J -25969843.57 -25969843.46 -25969843.35 0.1649 0.1217

Earth -75814-04-08 21:35 J -25969542.70 -25969542.60 -25969542.50 0.2736 0.1000

Moon -75814-04-08 22:18 J -25969542.67 -25969542.57 -25969542.48 0.2734 0.1122 *

Mars -75814-04-10 14:23 J -25969541.00 -25969540.90 -25969540.79 0.1899 0.0735

Jupiter -75812-07-26 03:20 J -25968703.54 -25968703.36 -25968703.19 0.0493 0.0170

Jupiter -75812-10-24 11:59 J -25968613.12 -25968613.00 -25968612.88 0.0494 0.0368

Venus -75812-11-03 02:23 J -25968603.54 -25968603.40 -25968603.26 0.3592 0.0458

Moon -75807-04-01 20:23 J -25966992.69 -25966992.65 -25966992.62 0.2738 0.2538

Earth -75807-04-01 20:37 J -25966992.68 -25966992.64 -25966992.59 0.2732 0.2421 *

Jupiter -75806-03-19 21:20 J -25966640.65 -25966640.61 -25966640.57 0.0534 0.0501

Venus -75806-05-20 04:04 J -25966579.46 -25966579.33 -25966579.21 0.3595 0.1572

Jupiter -75806-06-17 04:04 J -25966551.46 -25966551.33 -25966551.21 0.0533 0.0053

Saturn -75806-09-12 00:28 J -25966464.52 -25966464.48 -25966464.43 0.0286 0.0269

Jupiter -75806-09-14 11:01 J -25966462.12 -25966462.04 -25966461.96 0.0532 0.0403

Mars -75806-11-02 02:37 J -25966413.55 -25966413.39 -25966413.23 0.1643 0.0276

Saturn -75806-12-09 11:44 J -25966376.11 -25966376.01 -25966375.90 0.0285 0.0155

Saturn -75805-03-06 23:01 J -25966287.67 -25966287.54 -25966287.41 0.0284 0.0042

Saturn -75805-06-03 10:18 J -25966199.19 -25966199.07 -25966198.94 0.0284 0.0072

Saturn -75805-08-30 21:35 J -25966110.70 -25966110.60 -25966110.50 0.0283 0.0183

Mars -75805-08-30 22:32 J -25966110.68 -25966110.56 -25966110.45 0.1907 0.0194 *

Moon -75804-10-01 10:47 J -25965714.18 -25965714.05 -25965713.92 0.2598 0.1568

Earth -75804-10-01 12:13 J -25965714.12 -25965713.99 -25965713.86 0.2602 0.1534 *

Earth -75801-04-10 15:35 J -25964791.91 -25964791.85 -25964791.79 0.2737 0.2241

Moon -75801-04-10 16:04 J -25964791.89 -25964791.83 -25964791.77 0.2732 0.2235 *

Venus -75801-12-03 05:01 J -25964555.32 -25964555.29 -25964555.26 0.3599 0.3511

Jupiter -75800-05-13 23:30 J -25964393.66 -25964393.52 -25964393.38 0.0493 0.0315

Jupiter -75800-08-12 08:23 J -25964303.31 -25964303.15 -25964302.98 0.0494 0.0227

Uranus -75797-05-14 21:49 J -25963296.64 -25963296.59 -25963296.52 0.0136 0.0122

Uranus -75797-08-11 00:56 J -25963208.53 -25963208.46 -25963208.36 0.0137 0.0106

Uranus -75797-11-07 04:18 J -25963120.41 -25963120.32 -25963120.21 0.0137 0.0089

Uranus -75796-02-03 07:40 J -25963032.29 -25963032.18 -25963032.07 0.0137 0.0072

Mars -75796-03-24 03:49 J -25962983.49 -25962983.34 -25962983.19 0.1636 0.0679

Uranus -75796-05-02 10:47 J -25962944.17 -25962944.05 -25962943.93 0.0137 0.0055

Uranus -75796-07-29 14:08 J -25962856.04 -25962855.91 -25962855.79 0.0137 0.0038

Uranus -75796-10-25 17:16 J -25962767.91 -25962767.78 -25962767.65 0.0137 0.0021

Mars -75795-01-21 06:28 J -25962680.32 -25962680.23 -25962680.13 0.1914 0.1112

Uranus -75795-01-21 20:37 J -25962679.77 -25962679.64 -25962679.51 0.0137 0.0004

Uranus -75795-04-19 23:59 J -25962591.64 -25962591.50 -25962591.37 0.0137 0.0014

Uranus -75795-07-17 03:06 J -25962503.50 -25962503.37 -25962503.24 0.0138 0.0031

Uranus -75795-10-13 06:28 J -25962415.35 -25962415.23 -25962415.10 0.0138 0.0048

Uranus -75794-01-09 09:49 J -25962327.21 -25962327.09 -25962326.97 0.0138 0.0066

Earth -75794-04-04 14:37 J -25962241.99 -25962241.89 -25962241.80 0.2733 0.1213

Moon -75794-04-04 14:52 J -25962241.98 -25962241.88 -25962241.79 0.2740 0.1147 *

Jupiter -75794-04-05 08:08 J -25962241.28 -25962241.16 -25962241.04 0.0533 0.0163

Uranus -75794-04-07 13:11 J -25962239.05 -25962238.95 -25962238.84 0.0138 0.0083

Jupiter -75794-07-03 14:52 J -25962151.98 -25962151.88 -25962151.77 0.0532 0.0291

Uranus -75794-07-04 16:32 J -25962150.90 -25962150.81 -25962150.72 0.0138 0.0101

Uranus -75794-09-30 19:54 J -25962062.73 -25962062.67 -25962062.60 0.0138 0.0119

Uranus -75794-12-27 23:16 J -25961974.54 -25961974.53 -25961974.51 0.0138 0.0137

Venus -75792-03-14 10:18 J -25961532.09 -25961532.07 -25961532.05 0.3794 0.3717

Moon -75791-10-04 17:44 J -25960962.91 -25960962.76 -25960962.60 0.2599 0.0602

Earth -75791-10-04 19:25 J -25960962.84 -25960962.69 -25960962.53 0.2600 0.0827 *

Saturn -75790-12-18 19:40 J -25960522.83 -25960522.68 -25960522.52 0.0276 0.0158

Saturn -75789-03-16 19:11 J -25960433.89 -25960433.70 -25960433.51 0.0277 0.0004

Saturn -75789-06-13 18:28 J -25960344.89 -25960344.73 -25960344.57 0.0278 0.0151

Jupiter -75788-03-01 20:37 J -25960083.71 -25960083.64 -25960083.56 0.0493 0.0450

Jupiter -75788-05-31 05:59 J -25959993.43 -25959993.25 -25959993.07 0.0494 0.0093

Mars -75787-08-14 05:01 J -25959553.31 -25959553.29 -25959553.27 0.1631 0.1618

Venus -75787-09-28 03:49 J -25959508.42 -25959508.34 -25959508.26 0.3792 0.2485

Mars -75784-05-19 06:28 J -25958544.28 -25958544.23 -25958544.19 0.1891 0.1743

Jupiter -75782-01-22 11:16 J -25957931.13 -25957931.03 -25957930.92 0.0533 0.0286

Jupiter -75782-04-21 17:59 J -25957841.87 -25957841.75 -25957841.63 0.0532 0.0166

Earth -75781-04-06 08:23 J -25957491.26 -25957491.15 -25957491.04 0.2734 0.0028

Moon -75781-04-06 08:52 J -25957491.23 -25957491.13 -25957491.02 0.2739 0.0137 *

Venus -75781-04-12 21:35 J -25957484.70 -25957484.60 -25957484.50 0.3789 0.1224

Jupiter -75776-03-19 03:49 J -25955683.53 -25955683.34 -25955683.16 0.0494 0.0040

Saturn -75776-04-27 15:35 J -25955643.95 -25955643.85 -25955643.75 0.0286 0.0176

Saturn -75776-07-25 02:52 J -25955555.51 -25955555.38 -25955555.26 0.0285 0.0062

Saturn -75776-10-21 14:08 J -25955467.04 -25955466.91 -25955466.78 0.0284 0.0052

Venus -75776-10-27 15:20 J -25955460.97 -25955460.86 -25955460.75 0.3786 0.0075

Mars -75776-12-11 01:54 J -25955416.51 -25955416.42 -25955416.33 0.1649 0.1366

Saturn -75775-01-18 01:11 J -25955378.55 -25955378.45 -25955378.34 0.0283 0.0164

Saturn -75775-04-16 12:28 J -25955290.00 -25955289.98 -25955289.95 0.0282 0.0275

Mars -75775-10-09 14:23 J -25955114.00 -25955113.90 -25955113.80 0.1899 0.0830

Jupiter -75771-11-10 15:06 J -25953620.95 -25953620.87 -25953620.79 0.0533 0.0401

Jupiter -75770-02-07 21:49 J -25953531.72 -25953531.59 -25953531.47 0.0533 0.0050

Jupiter -75770-05-08 04:47 J -25953442.34 -25953442.30 -25953442.26 0.0532 0.0503

Venus -75770-05-13 09:20 J -25953437.21 -25953437.11 -25953437.01 0.3783 0.1399

Earth -75768-04-09 02:23 J -25952740.50 -25952740.40 -25952740.31 0.2736 0.1250

Moon -75768-04-09 03:06 J -25952740.47 -25952740.37 -25952740.28 0.2733 0.1316 *

Mars -75766-05-03 03:06 J -25951986.53 -25951986.37 -25951986.21 0.1642 0.0403

Neptune -75766-09-03 05:16 J -25951863.30 -25951863.28 -25951863.25 0.0089 0.0087

Neptune -75766-11-30 06:42 J -25951775.27 -25951775.22 -25951775.17 0.0089 0.0082

Neptune -75765-02-26 07:40 J -25951687.23 -25951687.18 -25951687.11 0.0089 0.0078

Mars -75765-02-29 22:32 J -25951683.68 -25951683.56 -25951683.45 0.1907 0.0085

Neptune -75765-05-24 09:06 J -25951599.19 -25951599.12 -25951599.04 0.0089 0.0073

Neptune -75765-08-20 10:18 J -25951511.14 -25951511.07 -25951510.98 0.0089 0.0069

Neptune -75765-11-16 11:44 J -25951423.09 -25951423.01 -25951422.91 0.0089 0.0064

Venus -75765-11-26 03:35 J -25951413.43 -25951413.35 -25951413.28 0.3779 0.2758

Jupiter -75764-01-05 00:42 J -25951373.64 -25951373.47 -25951373.29 0.0493 0.0176

Neptune -75764-02-12 12:56 J -25951335.05 -25951334.96 -25951334.85 0.0089 0.0060

Jupiter -75764-04-05 09:35 J -25951283.23 -25951283.10 -25951282.98 0.0494 0.0363

Neptune -75764-05-11 14:23 J -25951247.00 -25951246.90 -25951246.79 0.0089 0.0055

Neptune -75764-08-07 15:49 J -25951158.95 -25951158.84 -25951158.74 0.0089 0.0050

Neptune -75764-11-03 16:47 J -25951070.90 -25951070.80 -25951070.68 0.0089 0.0046

Neptune -75763-01-30 18:13 J -25950982.85 -25950982.74 -25950982.62 0.0089 0.0041

Neptune -75763-04-28 19:25 J -25950894.80 -25950894.69 -25950894.56 0.0089 0.0037

Neptune -75763-07-25 20:52 J -25950806.75 -25950806.63 -25950806.50 0.0089 0.0032

Neptune -75763-10-21 22:18 J -25950718.70 -25950718.57 -25950718.45 0.0089 0.0027

Neptune -75762-01-17 23:30 J -25950630.65 -25950630.52 -25950630.39 0.0089 0.0022

Neptune -75762-04-16 00:42 J -25950542.59 -25950542.47 -25950542.33 0.0089 0.0018

Neptune -75762-07-13 02:08 J -25950454.54 -25950454.41 -25950454.28 0.0089 0.0013

Neptune -75762-10-09 03:20 J -25950366.49 -25950366.36 -25950366.22 0.0089 0.0009

Neptune -75761-01-05 04:47 J -25950278.43 -25950278.30 -25950278.17 0.0089 0.0004

Moon -75761-04-02 01:11 J -25950190.51 -25950190.45 -25950190.39 0.2738 0.2160

Earth -75761-04-02 01:25 J -25950190.50 -25950190.44 -25950190.37 0.2732 0.2175 *

Neptune -75761-04-02 05:59 J -25950190.38 -25950190.25 -25950190.11 0.0089 0.0003 *

Neptune -75761-06-29 07:25 J -25950102.32 -25950102.19 -25950102.06 0.0089 0.0006

Neptune -75761-09-25 08:37 J -25950014.27 -25950014.14 -25950014.01 0.0089 0.0010

Venus -75761-11-24 00:42 J -25949954.59 -25949954.47 -25949954.35 0.3589 0.1881

Neptune -75761-12-22 10:04 J -25949926.21 -25949926.08 -25949925.95 0.0089 0.0015

Neptune -75760-03-20 11:16 J -25949838.16 -25949838.03 -25949837.90 0.0089 0.0020

Saturn -75760-05-06 19:40 J -25949790.81 -25949790.68 -25949790.54 0.0276 0.0191

Neptune -75760-06-16 12:28 J -25949750.10 -25949749.98 -25949749.85 0.0089 0.0025

Saturn -75760-08-03 19:11 J -25949701.89 -25949701.70 -25949701.51 0.0277 0.0038

Neptune -75760-09-12 13:54 J -25949662.04 -25949661.92 -25949661.79 0.0089 0.0029

Saturn -75760-10-31 18:28 J -25949612.90 -25949612.73 -25949612.55 0.0278 0.0117

Neptune -75760-12-09 15:06 J -25949573.99 -25949573.87 -25949573.74 0.0089 0.0034

Saturn -75759-01-28 17:44 J -25949523.79 -25949523.76 -25949523.72 0.0279 0.0272

Neptune -75759-03-07 16:18 J -25949485.93 -25949485.82 -25949485.69 0.0089 0.0039

Neptune -75759-06-03 17:59 J -25949397.87 -25949397.75 -25949397.64 0.0089 0.0043

Jupiter -75759-08-29 18:56 J -25949310.73 -25949310.71 -25949310.67 0.0534 0.0515

Neptune -75759-08-30 19:11 J -25949309.81 -25949309.70 -25949309.58 0.0089 0.0048

Neptune -75759-11-26 20:23 J -25949221.75 -25949221.65 -25949221.53 0.0089 0.0053

Jupiter -75759-11-27 01:40 J -25949221.56 -25949221.43 -25949221.30 0.0533 0.0066 *

Neptune -75758-02-22 21:49 J -25949133.69 -25949133.59 -25949133.48 0.0089 0.0057

Jupiter -75758-02-24 08:37 J -25949132.23 -25949132.14 -25949132.05 0.0532 0.0389

Neptune -75758-05-21 23:01 J -25949045.62 -25949045.54 -25949045.43 0.0089 0.0062

Neptune -75758-08-18 00:28 J -25948957.56 -25948957.48 -25948957.39 0.0089 0.0067

Moon -75758-10-02 17:30 J -25948911.91 -25948911.77 -25948911.63 0.2598 0.1321

Earth -75758-10-02 18:56 J -25948911.86 -25948911.71 -25948911.56 0.2602 0.1063 *

Neptune -75758-11-14 01:54 J -25948869.49 -25948869.42 -25948869.34 0.0089 0.0071

Uranus -75757-01-01 04:47 J -25948821.38 -25948821.30 -25948821.19 0.0142 0.0123

Neptune -75757-02-10 03:06 J -25948781.43 -25948781.37 -25948781.29 0.0089 0.0076

Uranus -75757-03-29 13:11 J -25948733.09 -25948732.95 -25948732.80 0.0142 0.0095

Neptune -75757-05-08 04:18 J -25948693.36 -25948693.32 -25948693.25 0.0089 0.0081

Uranus -75757-06-25 21:06 J -25948644.78 -25948644.62 -25948644.44 0.0142 0.0068

Neptune -75757-08-04 05:59 J -25948605.28 -25948605.25 -25948605.21 0.0089 0.0085

Mars -75757-09-22 04:18 J -25948556.47 -25948556.32 -25948556.16 0.1637 0.0546

Uranus -75757-09-22 05:16 J -25948556.46 -25948556.28 -25948556.09 0.0142 0.0040 *

Uranus -75757-12-19 13:25 J -25948468.13 -25948467.94 -25948467.75 0.0141 0.0013

Uranus -75756-03-17 21:20 J -25948379.80 -25948379.61 -25948379.42 0.0141 0.0014

Uranus -75756-06-14 05:01 J -25948291.46 -25948291.29 -25948291.10 0.0141 0.0041

Mars -75756-07-22 06:42 J -25948253.32 -25948253.22 -25948253.13 0.1914 0.1004

Uranus -75756-09-10 12:56 J -25948203.12 -25948202.96 -25948202.79 0.0141 0.0068

Uranus -75756-12-07 20:37 J -25948114.77 -25948114.64 -25948114.49 0.0141 0.0094

Uranus -75755-03-06 04:32 J -25948026.40 -25948026.31 -25948026.21 0.0141 0.0120

Earth -75755-04-11 20:23 J -25947989.69 -25947989.65 -25947989.61 0.2737 0.2494

Moon -75755-04-11 20:37 J -25947989.67 -25947989.64 -25947989.61 0.2731 0.2579 *

Venus -75755-06-10 02:37 J -25947930.53 -25947930.39 -25947930.25 0.3593 0.0219

Jupiter -75753-10-23 21:49 J -25947063.73 -25947063.59 -25947063.44 0.0493 0.0313

Jupiter -75752-01-22 06:42 J -25946973.38 -25946973.22 -25946973.05 0.0494 0.0228

Venus -75750-12-25 04:04 J -25945906.44 -25945906.33 -25945906.22 0.3596 0.2225

Earth -75748-04-04 19:25 J -25945439.80 -25945439.69 -25945439.59 0.2733 0.0963

Moon -75748-04-04 19:40 J -25945439.78 -25945439.68 -25945439.58 0.2740 0.0981 *

Mars -75747-02-12 05:44 J -25945126.33 -25945126.26 -25945126.19 0.1631 0.1480

Saturn -75747-09-14 17:59 J -25944911.84 -25944911.75 -25944911.66 0.0286 0.0207

Jupiter -75747-09-15 05:59 J -25944911.37 -25944911.25 -25944911.13 0.0533 0.0173

Saturn -75747-12-12 05:16 J -25944823.40 -25944823.28 -25944823.16 0.0285 0.0094

Jupiter -75747-12-13 12:56 J -25944822.07 -25944821.96 -25944821.86 0.0532 0.0281

Saturn -75746-03-10 16:32 J -25944734.94 -25944734.81 -25944734.68 0.0284 0.0020

Saturn -75746-06-07 03:35 J -25944646.46 -25944646.35 -25944646.23 0.0283 0.0132

Saturn -75746-09-03 14:52 J -25944557.94 -25944557.88 -25944557.81 0.0282 0.0243

Moon -75745-10-05 00:28 J -25944160.62 -25944160.48 -25944160.34 0.2600 0.1195

Earth -75745-10-05 02:08 J -25944160.55 -25944160.41 -25944160.27 0.2600 0.1282 *

Mars -75745-11-17 06:28 J -25944117.25 -25944117.23 -25944117.21 0.1890 0.1847

Jupiter -75741-08-11 18:13 J -25942753.81 -25942753.74 -25942753.67 0.0493 0.0456

Jupiter -75741-11-10 03:20 J -25942663.54 -25942663.36 -25942663.17 0.0494 0.0087

Mars -75736-06-11 02:37 J -25940989.46 -25940989.39 -25940989.33 0.1649 0.1498

Venus -75736-10-19 08:08 J -25940859.20 -25940859.16 -25940859.11 0.3794 0.3319

Earth -75735-04-07 13:11 J -25940689.06 -25940688.95 -25940688.84 0.2735 0.0270

Moon -75735-04-07 13:54 J -25940689.03 -25940688.92 -25940688.81 0.2737 0.0382 *

Mars -75735-04-09 14:23 J -25940687.00 -25940686.90 -25940686.80 0.1899 0.0940

Jupiter -75735-07-04 10:04 J -25940601.18 -25940601.08 -25940600.97 0.0533 0.0284

Jupiter -75735-10-01 17:01 J -25940511.91 -25940511.79 -25940511.67 0.0533 0.0170

Saturn -75731-09-23 17:59 J -25939058.84 -25939058.75 -25939058.65 0.0275 0.0237

Saturn -75731-12-21 17:30 J -25938969.95 -25938969.77 -25938969.59 0.0276 0.0084

Saturn -75730-03-20 16:47 J -25938880.98 -25938880.80 -25938880.61 0.0277 0.0071

Venus -75730-05-05 01:54 J -25938835.51 -25938835.42 -25938835.33 0.3791 0.2069

Saturn -75730-06-17 16:04 J -25938791.93 -25938791.83 -25938791.71 0.0278 0.0226

Jupiter -75729-08-29 00:56 J -25938353.64 -25938353.46 -25938353.28 0.0493 0.0046

Jupiter -75729-11-27 09:20 J -25938263.13 -25938263.11 -25938263.09 0.0494 0.0490

Mars -75727-11-01 03:49 J -25937559.49 -25937559.34 -25937559.18 0.1643 0.0547

Mars -75726-08-30 22:32 J -25937256.68 -25937256.56 -25937256.45 0.1906 0.0028

Venus -75725-11-17 19:40 J -25936811.79 -25936811.68 -25936811.58 0.3788 0.0803

Jupiter -75723-04-22 13:25 J -25936291.02 -25936290.94 -25936290.85 0.0533 0.0405

Jupiter -75723-07-20 20:08 J -25936201.79 -25936201.66 -25936201.53 0.0532 0.0046

Jupiter -75723-10-18 03:06 J -25936112.41 -25936112.37 -25936112.33 0.0531 0.0500

Earth -75722-04-10 07:11 J -25935938.29 -25935938.20 -25935938.11 0.2736 0.1501

Moon -75722-04-10 07:54 J -25935938.26 -25935938.17 -25935938.08 0.2734 0.1599 *

Venus -75719-06-03 13:25 J -25934788.05 -25934787.94 -25934787.83 0.3785 0.0516

Saturn -75717-02-01 21:06 J -25934179.69 -25934179.62 -25934179.54 0.0287 0.0232

Mars -75717-03-23 05:01 J -25934129.45 -25934129.29 -25934129.12 0.1637 0.0407

Saturn -75717-04-30 08:37 J -25934091.26 -25934091.14 -25934091.02 0.0286 0.0117

Jupiter -75717-06-16 22:32 J -25934043.73 -25934043.56 -25934043.38 0.0494 0.0179

Saturn -75717-07-27 19:54 J -25934002.80 -25934002.67 -25934002.54 0.0285 0.0004

Jupiter -75717-09-15 07:25 J -25933953.32 -25933953.19 -25933953.07 0.0494 0.0362

Saturn -75717-10-24 07:11 J -25933914.32 -25933914.20 -25933914.08 0.0284 0.0109

Mars -75716-01-20 06:28 J -25933826.33 -25933826.23 -25933826.13 0.1914 0.0909

Saturn -75716-01-20 18:13 J -25933825.81 -25933825.74 -25933825.65 0.0283 0.0221

Moon -75715-04-03 06:13 J -25933388.31 -25933388.24 -25933388.17 0.2739 0.2002

Earth -75715-04-03 06:13 J -25933388.31 -25933388.24 -25933388.16 0.2732 0.1924 *

Venus -75714-12-18 07:25 J -25932764.28 -25932764.19 -25932764.09 0.3782 0.1857

Uranus -75713-03-08 02:08 J -25932683.43 -25932683.41 -25932683.38 0.0136 0.0134

Uranus -75713-06-04 05:16 J -25932595.34 -25932595.28 -25932595.21 0.0136 0.0117

Uranus -75713-08-31 08:37 J -25932507.23 -25932507.14 -25932507.05 0.0137 0.0101

Uranus -75713-11-27 11:44 J -25932419.11 -25932419.01 -25932418.90 0.0137 0.0084

Uranus -75712-02-23 14:52 J -25932330.99 -25932330.88 -25932330.76 0.0137 0.0068

Uranus -75712-05-22 18:13 J -25932242.86 -25932242.74 -25932242.62 0.0137 0.0051

Uranus -75712-08-18 21:20 J -25932154.73 -25932154.61 -25932154.48 0.0137 0.0034

Moon -75712-10-02 23:59 J -25932109.65 -25932109.50 -25932109.34 0.2598 0.0643

Earth -75712-10-03 01:40 J -25932109.59 -25932109.43 -25932109.27 0.2601 0.0598 *

Uranus -75712-11-15 00:42 J -25932066.60 -25932066.47 -25932066.34 0.0137 0.0017

Jupiter -75711-02-08 17:16 J -25931980.80 -25931980.78 -25931980.75 0.0533 0.0519

Uranus -75711-02-11 04:04 J -25931978.47 -25931978.33 -25931978.20 0.0137 0.0002

Jupiter -75711-05-08 23:59 J -25931891.63 -25931891.50 -25931891.38 0.0533 0.0070

Uranus -75711-05-10 07:11 J -25931890.33 -25931890.20 -25931890.06 0.0137 0.0019

Jupiter -75711-08-06 06:42 J -25931802.30 -25931802.22 -25931802.13 0.0532 0.0384

Uranus -75711-08-06 10:32 J -25931802.19 -25931802.06 -25931801.93 0.0138 0.0035 *

Uranus -75711-11-02 13:54 J -25931714.04 -25931713.92 -25931713.80 0.0138 0.0053

Uranus -75710-01-29 17:16 J -25931625.89 -25931625.78 -25931625.66 0.0138 0.0070

Uranus -75710-04-27 20:37 J -25931537.74 -25931537.64 -25931537.54 0.0138 0.0088

Uranus -75710-07-24 23:44 J -25931449.58 -25931449.51 -25931449.41 0.0138 0.0107

Uranus -75710-10-21 03:06 J -25931361.41 -25931361.37 -25931361.30 0.0138 0.0125

Venus -75710-12-15 22:47 J -25931305.60 -25931305.55 -25931305.51 0.3587 0.3360

Venus -75708-07-03 01:40 J -25930740.48 -25930740.43 -25930740.37 0.3778 0.3225

Mars -75708-08-13 06:13 J -25930699.33 -25930699.24 -25930699.15 0.1631 0.1353

Mars -75707-06-12 14:37 J -25930395.92 -25930395.89 -25930395.85 0.1921 0.1827

Jupiter -75705-04-04 19:54 J -25929733.82 -25929733.67 -25929733.53 0.0493 0.0315

Jupiter -75705-07-04 04:47 J -25929643.46 -25929643.30 -25929643.14 0.0494 0.0226

Venus -75704-07-01 00:56 J -25929281.59 -25929281.46 -25929281.32 0.3590 0.1186

Earth -75702-04-06 00:13 J -25928637.60 -25928637.49 -25928637.39 0.2733 0.0711

Moon -75702-04-06 00:28 J -25928637.58 -25928637.48 -25928637.38 0.2740 0.0610 *

Saturn -75701-02-10 17:30 J -25928326.79 -25928326.77 -25928326.75 0.0275 0.0273

Saturn -75701-05-09 17:01 J -25928237.96 -25928237.79 -25928237.62 0.0276 0.0120

Saturn -75701-08-06 16:18 J -25928149.00 -25928148.82 -25928148.63 0.0277 0.0035

Saturn -75701-11-03 15:35 J -25928059.98 -25928059.85 -25928059.70 0.0278 0.0189

Jupiter -75699-02-25 03:49 J -25927581.46 -25927581.34 -25927581.22 0.0533 0.0184

Jupiter -75699-05-25 10:32 J -25927492.16 -25927492.06 -25927491.94 0.0532 0.0270

Moon -75699-10-06 07:11 J -25927358.33 -25927358.20 -25927358.07 0.2602 0.1467

Earth -75699-10-06 08:52 J -25927358.25 -25927358.13 -25927358.01 0.2600 0.1740 *

Venus -75698-01-15 02:52 J -25927257.52 -25927257.38 -25927257.25 0.3594 0.0895

Mars -75697-12-10 03:06 J -25926562.39 -25926562.37 -25926562.35 0.1649 0.1630

Mars -75696-10-08 14:37 J -25926259.99 -25926259.89 -25926259.80 0.1898 0.1055

Jupiter -75693-01-22 16:47 J -25925423.87 -25925423.80 -25925423.72 0.0493 0.0452

Jupiter -75693-04-22 02:08 J -25925333.60 -25925333.41 -25925333.23 0.0494 0.0092

Venus -75693-07-31 04:04 J -25925233.41 -25925233.33 -25925233.25 0.3597 0.2875

Earth -75689-04-07 17:59 J -25923886.85 -25923886.75 -25923886.64 0.2735 0.0523

Moon -75689-04-07 18:42 J -25923886.82 -25923886.72 -25923886.61 0.2736 0.0560 *

Saturn -75688-06-20 23:44 J -25923447.56 -25923447.51 -25923447.46 0.0286 0.0263

Saturn -75688-09-17 11:01 J -25923359.15 -25923359.04 -25923358.93 0.0285 0.0149

Jupiter -75688-12-14 08:08 J -25923271.26 -25923271.16 -25923271.05 0.0534 0.0292

Saturn -75688-12-14 22:18 J -25923270.70 -25923270.57 -25923270.44 0.0284 0.0036

Saturn -75687-03-13 09:35 J -25923182.23 -25923182.10 -25923181.98 0.0283 0.0077

Jupiter -75687-03-13 14:52 J -25923182.00 -25923181.88 -25923181.75 0.0533 0.0162 *

Mars -75687-05-02 04:32 J -25923132.46 -25923132.31 -25923132.16 0.1643 0.0683

Saturn -75687-06-09 20:37 J -25923093.73 -25923093.64 -25923093.54 0.0282 0.0188

Mars -75686-02-28 22:32 J -25922829.68 -25922829.56 -25922829.45 0.1906 0.0135

Neptune -75682-02-17 03:06 J -25921380.43 -25921380.37 -25921380.30 0.0089 0.0083

Pluto -75682-04-30 15:20 J -25921307.87 -25921307.86 -25921307.82 0.0060 0.0059

Neptune -75682-05-16 06:56 J -25921292.31 -25921292.21 -25921292.11 0.0089 0.0076

Pluto -75682-07-27 16:18 J -25921219.87 -25921219.82 -25921219.71 0.0060 0.0054

Neptune -75682-08-12 10:04 J -25921204.18 -25921204.08 -25921203.93 0.0089 0.0070

Pluto -75682-10-23 17:59 J -25921131.85 -25921131.75 -25921131.63 0.0060 0.0048

Neptune -75682-11-08 13:54 J -25921116.04 -25921115.92 -25921115.76 0.0089 0.0063

Pluto -75681-01-19 18:56 J -25921043.82 -25921043.71 -25921043.56 0.0060 0.0043

Neptune -75681-02-04 17:44 J -25921027.90 -25921027.76 -25921027.59 0.0089 0.0056

Jupiter -75681-02-08 22:47 J -25921023.73 -25921023.55 -25921023.37 0.0493 0.0050

Pluto -75681-04-16 20:37 J -25920955.78 -25920955.64 -25920955.49 0.0060 0.0037

Neptune -75681-05-02 21:35 J -25920939.75 -25920939.60 -25920939.42 0.0089 0.0049

Jupiter -75681-05-09 06:56 J -25920933.23 -25920933.21 -25920933.17 0.0494 0.0487

Pluto -75681-07-13 21:35 J -25920867.74 -25920867.60 -25920867.42 0.0060 0.0033

Neptune -75681-07-30 01:25 J -25920851.60 -25920851.44 -25920851.26 0.0089 0.0042

Pluto -75681-10-09 23:01 J -25920779.69 -25920779.54 -25920779.36 0.0060 0.0027

Neptune -75681-10-26 05:16 J -25920763.46 -25920763.28 -25920763.09 0.0089 0.0035

Pluto -75680-01-06 00:42 J -25920691.65 -25920691.47 -25920691.29 0.0060 0.0021

Neptune -75680-01-22 08:52 J -25920675.31 -25920675.13 -25920674.93 0.0089 0.0028

Pluto -75680-04-04 01:40 J -25920603.60 -25920603.43 -25920603.23 0.0060 0.0016

Neptune -75680-04-20 12:42 J -25920587.16 -25920586.97 -25920586.77 0.0089 0.0021

Pluto -75680-07-01 03:20 J -25920515.55 -25920515.36 -25920515.17 0.0060 0.0010

Neptune -75680-07-17 16:32 J -25920499.00 -25920498.81 -25920498.62 0.0089 0.0014

Pluto -75680-09-27 04:32 J -25920427.49 -25920427.31 -25920427.12 0.0061 0.0004

Neptune -75680-10-13 20:08 J -25920410.85 -25920410.66 -25920410.46 0.0089 0.0007

Pluto -75680-12-24 05:59 J -25920339.44 -25920339.25 -25920339.06 0.0061 0.0002

Neptune -75679-01-09 23:59 J -25920322.70 -25920322.50 -25920322.30 0.0089 0.0000

Pluto -75679-03-22 07:11 J -25920251.38 -25920251.20 -25920251.01 0.0061 0.0008

Neptune -75679-04-08 03:35 J -25920234.54 -25920234.35 -25920234.15 0.0089 0.0007

Venus -75679-05-26 06:13 J -25920186.31 -25920186.24 -25920186.17 0.3793 0.2906

Pluto -75679-06-18 08:23 J -25920163.32 -25920163.15 -25920162.95 0.0061 0.0014

Neptune -75679-07-05 07:25 J -25920146.39 -25920146.19 -25920146.00 0.0089 0.0014

Pluto -75679-09-14 10:04 J -25920075.26 -25920075.08 -25920074.90 0.0061 0.0019

Moon -75679-09-30 23:44 J -25920058.53 -25920058.51 -25920058.48 0.2597 0.2563

Earth -75679-10-01 00:56 J -25920058.50 -25920058.46 -25920058.42 0.2603 0.2497 *

Neptune -75679-10-01 11:01 J -25920058.23 -25920058.04 -25920057.85 0.0089 0.0021

Pluto -75679-12-11 11:16 J -25919987.20 -25919987.03 -25919986.85 0.0061 0.0025

Neptune -75679-12-28 14:37 J -25919970.07 -25919969.89 -25919969.70 0.0089 0.0028

Pluto -75678-03-09 12:28 J -25919899.13 -25919898.98 -25919898.80 0.0061 0.0031

Neptune -75678-03-26 18:13 J -25919881.91 -25919881.74 -25919881.55 0.0089 0.0035

Pluto -75678-06-05 13:40 J -25919811.06 -25919810.93 -25919810.76 0.0061 0.0037

Neptune -75678-06-22 21:49 J -25919793.75 -25919793.59 -25919793.40 0.0089 0.0042

Pluto -75678-09-01 15:06 J -25919722.99 -25919722.87 -25919722.72 0.0061 0.0043

Neptune -75678-09-19 01:40 J -25919705.59 -25919705.43 -25919705.26 0.0089 0.0048

Mars -75678-09-22 05:44 J -25919702.42 -25919702.26 -25919702.09 0.1637 0.0270

Pluto -75678-11-28 16:18 J -25919634.91 -25919634.82 -25919634.68 0.0061 0.0049

Neptune -75678-12-16 05:16 J -25919617.42 -25919617.28 -25919617.12 0.0089 0.0055

Pluto -75677-02-24 17:44 J -25919546.82 -25919546.76 -25919546.65 0.0061 0.0055

Neptune -75677-03-13 08:52 J -25919529.26 -25919529.13 -25919528.98 0.0089 0.0062

Pluto -75677-05-22 19:11 J -25919458.70 -25919458.70 -25919458.66 0.0061 0.0061

Neptune -75677-06-09 12:13 J -25919441.09 -25919440.99 -25919440.84 0.0089 0.0069

Mars -75677-07-21 06:42 J -25919399.33 -25919399.22 -25919399.12 0.1914 0.0792

Neptune -75677-09-05 16:18 J -25919352.92 -25919352.82 -25919352.71 0.0089 0.0075

Neptune -75677-12-02 19:54 J -25919264.74 -25919264.67 -25919264.59 0.0089 0.0082

Neptune -75676-02-28 23:30 J -25919176.52 -25919176.52 -25919176.51 0.0089 0.0088

Earth -75676-04-10 11:59 J -25919136.08 -25919136.00 -25919135.92 0.2736 0.1755

Moon -75676-04-10 12:42 J -25919136.05 -25919135.97 -25919135.89 0.2733 0.1839 *

Jupiter -75676-10-02 12:28 J -25918961.06 -25918960.98 -25918960.90 0.0534 0.0400

Jupiter -75676-12-30 19:11 J -25918871.83 -25918871.70 -25918871.57 0.0533 0.0052

Jupiter -75675-03-30 02:08 J -25918782.44 -25918782.41 -25918782.37 0.0532 0.0507

Venus -75674-12-09 23:59 J -25918162.60 -25918162.50 -25918162.41 0.3790 0.1653

Uranus -75673-01-21 12:28 J -25918120.08 -25918119.98 -25918119.87 0.0142 0.0116

Uranus -75673-04-18 20:23 J -25918031.79 -25918031.65 -25918031.49 0.0142 0.0089

Uranus -75673-07-16 04:47 J -25917943.47 -25917943.30 -25917943.13 0.0142 0.0061

Uranus -75673-10-12 12:42 J -25917855.15 -25917854.97 -25917854.78 0.0142 0.0034

Uranus -75672-01-08 20:52 J -25917766.82 -25917766.63 -25917766.44 0.0141 0.0006

Uranus -75672-04-07 04:47 J -25917678.49 -25917678.30 -25917678.11 0.0141 0.0021

Uranus -75672-07-04 12:42 J -25917590.15 -25917589.97 -25917589.79 0.0141 0.0047

Saturn -75672-09-26 14:23 J -25917506.05 -25917505.90 -25917505.75 0.0276 0.0171

Uranus -75672-09-30 20:23 J -25917501.81 -25917501.65 -25917501.48 0.0141 0.0074

Saturn -75672-12-24 13:54 J -25917417.11 -25917416.92 -25917416.73 0.0277 0.0017

Uranus -75672-12-28 04:18 J -25917413.45 -25917413.32 -25917413.19 0.0141 0.0100

Saturn -75671-03-23 13:11 J -25917328.11 -25917327.95 -25917327.78 0.0278 0.0138

Uranus -75671-03-26 11:44 J -25917325.08 -25917325.01 -25917324.92 0.0141 0.0127

Jupiter -75670-11-27 20:23 J -25916713.83 -25916713.65 -25916713.48 0.0493 0.0183

Jupiter -75669-02-26 05:01 J -25916623.42 -25916623.29 -25916623.16 0.0494 0.0357

Moon -75669-04-03 11:01 J -25916586.12 -25916586.04 -25916585.95 0.2740 0.1632

Earth -75669-04-03 11:01 J -25916586.12 -25916586.04 -25916585.95 0.2732 0.1678 *

Mars -75668-02-11 07:11 J -25916272.31 -25916272.20 -25916272.09 0.1631 0.1207

Venus -75668-06-24 17:44 J -25916138.87 -25916138.76 -25916138.66 0.3787 0.0386

Mars -75668-12-11 14:37 J -25915968.94 -25915968.89 -25915968.85 0.1921 0.1737

Moon -75666-10-04 06:56 J -25915307.38 -25915307.21 -25915307.05 0.2599 0.0372

Earth -75666-10-04 08:23 J -25915307.31 -25915307.15 -25915306.99 0.2601 0.0122 *

Jupiter -75664-07-21 16:04 J -25914650.86 -25914650.83 -25914650.81 0.0533 0.0519

Jupiter -75664-10-18 22:32 J -25914561.69 -25914561.56 -25914561.44 0.0533 0.0071

Jupiter -75663-01-16 05:16 J -25914472.36 -25914472.28 -25914472.19 0.0532 0.0383

Venus -75662-01-08 11:30 J -25914115.12 -25914115.02 -25914114.91 0.3784 0.0964

Saturn -75658-02-04 13:54 J -25912627.02 -25912626.92 -25912626.82 0.0286 0.0177

Saturn -75658-05-04 01:11 J -25912538.58 -25912538.45 -25912538.32 0.0285 0.0063

Saturn -75658-07-31 12:28 J -25912450.11 -25912449.98 -25912449.85 0.0284 0.0050

Jupiter -75658-09-15 17:59 J -25912403.89 -25912403.75 -25912403.61 0.0493 0.0316

Saturn -75658-10-27 23:44 J -25912361.62 -25912361.51 -25912361.40 0.0283 0.0162

Jupiter -75658-12-15 02:52 J -25912313.54 -25912313.38 -25912313.21 0.0494 0.0228

Saturn -75657-01-24 10:47 J -25912273.07 -25912273.05 -25912273.01 0.0282 0.0274

Venus -75657-07-24 05:44 J -25912091.35 -25912091.26 -25912091.18 0.3781 0.2320

Earth -75656-04-06 05:01 J -25911835.40 -25911835.29 -25911835.19 0.2734 0.0458

Moon -75656-04-06 05:30 J -25911835.38 -25911835.27 -25911835.17 0.2739 0.0476 *

Mars -75656-04-08 14:23 J -25911832.99 -25911832.90 -25911832.81 0.1899 0.1144

Venus -75653-07-21 23:01 J -25910632.63 -25910632.54 -25910632.44 0.3588 0.2650

Moon -75653-10-06 13:40 J -25910556.01 -25910555.93 -25910555.84 0.2602 0.2142

Earth -75653-10-06 15:35 J -25910555.93 -25910555.85 -25910555.77 0.2600 0.2204 *

Jupiter -75652-08-07 02:23 J -25910251.52 -25910251.40 -25910251.28 0.0533 0.0185

Jupiter -75652-11-04 09:06 J -25910162.23 -25910162.12 -25910162.01 0.0532 0.0268

Venus -75651-02-06 23:59 J -25910067.52 -25910067.50 -25910067.48 0.3777 0.3695

Mars -75648-10-31 05:01 J -25908705.43 -25908705.29 -25908705.14 0.1643 0.0815

Venus -75647-02-05 01:11 J -25908608.58 -25908608.45 -25908608.31 0.3591 0.0508

Mars -75647-08-29 22:32 J -25908402.67 -25908402.56 -25908402.44 0.1906 0.0245

Jupiter -75646-07-04 15:06 J -25908093.94 -25908093.87 -25908093.79 0.0493 0.0451

Jupiter -75646-10-03 00:28 J -25908003.66 -25908003.48 -25908003.30 0.0494 0.0093

Earth -75643-04-08 22:47 J -25907084.65 -25907084.55 -25907084.44 0.2735 0.0776

Moon -75643-04-08 23:30 J -25907084.62 -25907084.52 -25907084.41 0.2736 0.0929 *

Saturn -75642-02-13 13:40 J -25906774.05 -25906773.93 -25906773.81 0.0276 0.0210

Saturn -75642-05-13 12:56 J -25906685.14 -25906684.96 -25906684.77 0.0276 0.0057

Saturn -75642-08-10 12:13 J -25906596.16 -25906595.99 -25906595.81 0.0277 0.0099

Venus -75642-08-22 02:52 J -25906584.50 -25906584.38 -25906584.25 0.3595 0.1552

Saturn -75642-11-07 11:30 J -25906507.09 -25906507.02 -25906506.93 0.0278 0.0254

Jupiter -75640-05-26 06:13 J -25905941.34 -25905941.24 -25905941.13 0.0533 0.0300

Jupiter -75640-08-23 12:56 J -25905852.08 -25905851.96 -25905851.84 0.0533 0.0153

Mars -75638-03-23 06:28 J -25905275.39 -25905275.23 -25905275.06 0.1637 0.0133

Mars -75637-01-20 06:42 J -25904972.33 -25904972.22 -25904972.11 0.1914 0.0689

Venus -75636-03-07 04:04 J -25904560.35 -25904560.33 -25904560.30 0.3598 0.3521

Moon -75636-04-01 21:35 J -25904534.61 -25904534.60 -25904534.58 0.2736 0.2676

Earth -75636-04-01 22:04 J -25904534.60 -25904534.58 -25904534.55 0.2731 0.2631 *

Jupiter -75634-07-21 21:49 J -25903693.78 -25903693.59 -25903693.41 0.0493 0.0044

Moon -75633-10-01 06:28 J -25903256.32 -25903256.23 -25903256.14 0.2597 0.2144

Earth -75633-10-01 07:40 J -25903256.28 -25903256.18 -25903256.08 0.2603 0.2031 *

Earth -75630-04-11 16:47 J -25902333.87 -25902333.80 -25902333.73 0.2736 0.2010

Moon -75630-04-11 17:16 J -25902333.85 -25902333.78 -25902333.71 0.2731 0.2038 *

Uranus -75629-03-28 09:35 J -25901982.14 -25901982.10 -25901982.06 0.0136 0.0130

Saturn -75629-06-23 16:04 J -25901894.91 -25901894.83 -25901894.74 0.0286 0.0211

Uranus -75629-06-24 12:28 J -25901894.04 -25901893.98 -25901893.90 0.0136 0.0114

Mars -75629-08-12 07:54 J -25901845.30 -25901845.17 -25901845.05 0.1631 0.1073

Saturn -75629-09-20 03:20 J -25901806.48 -25901806.36 -25901806.24 0.0285 0.0098

Uranus -75629-09-20 15:49 J -25901805.93 -25901805.84 -25901805.75 0.0137 0.0097

Saturn -75629-12-17 14:37 J -25901718.02 -25901717.89 -25901717.76 0.0284 0.0016

Uranus -75629-12-17 18:56 J -25901717.81 -25901717.71 -25901717.60 0.0137 0.0080 *

Jupiter -75628-03-14 10:47 J -25901631.13 -25901631.05 -25901630.97 0.0534 0.0407

Uranus -75628-03-15 22:04 J -25901629.69 -25901629.58 -25901629.45 0.0137 0.0064

Saturn -75628-03-16 01:54 J -25901629.54 -25901629.42 -25901629.30 0.0283 0.0128 *

Mars -75628-06-11 14:37 J -25901541.95 -25901541.89 -25901541.83 0.1921 0.1628

Jupiter -75628-06-11 17:16 J -25901541.90 -25901541.78 -25901541.65 0.0533 0.0047 *

Uranus -75628-06-12 01:25 J -25901541.56 -25901541.44 -25901541.31 0.0137 0.0047

Saturn -75628-06-12 12:56 J -25901541.02 -25901540.96 -25901540.88 0.0282 0.0239

Venus -75628-06-16 10:47 J -25901537.07 -25901537.05 -25901537.04 0.3795 0.3732

Uranus -75628-09-08 04:47 J -25901453.43 -25901453.30 -25901453.17 0.0137 0.0030

Jupiter -75628-09-09 00:28 J -25901452.52 -25901452.48 -25901452.44 0.0532 0.0501

Uranus -75628-12-05 07:54 J -25901365.30 -25901365.17 -25901365.03 0.0137 0.0013

Uranus -75627-03-03 11:16 J -25901277.16 -25901277.03 -25901276.90 0.0137 0.0005

Uranus -75627-05-30 14:37 J -25901189.02 -25901188.89 -25901188.76 0.0138 0.0022

Uranus -75627-08-26 17:44 J -25901100.88 -25901100.76 -25901100.62 0.0138 0.0040

Uranus -75627-11-22 21:20 J -25901012.74 -25901012.61 -25901012.49 0.0138 0.0057

Uranus -75626-02-19 00:28 J -25900924.59 -25900924.48 -25900924.36 0.0138 0.0075

Uranus -75626-05-18 04:04 J -25900836.43 -25900836.33 -25900836.23 0.0138 0.0093

Uranus -75626-08-14 07:11 J -25900748.27 -25900748.20 -25900748.11 0.0138 0.0111

Uranus -75626-11-10 10:32 J -25900660.10 -25900660.06 -25900660.00 0.0138 0.0129

Earth -75623-04-04 16:04 J -25899783.93 -25899783.83 -25899783.74 0.2732 0.1424

Moon -75623-04-04 16:04 J -25899783.92 -25899783.83 -25899783.74 0.2740 0.1472 *

Venus -75623-12-31 04:18 J -25899513.40 -25899513.32 -25899513.24 0.3793 0.2493

Jupiter -75622-05-09 18:28 J -25899383.90 -25899383.73 -25899383.55 0.0493 0.0182

Jupiter -75622-08-08 03:06 J -25899293.49 -25899293.37 -25899293.24 0.0494 0.0358

Moon -75620-10-04 13:11 J -25898505.11 -25898504.95 -25898504.78 0.2600 0.0230

Earth -75620-10-04 15:06 J -25898505.03 -25898504.87 -25898504.71 0.2601 0.0343 *

Venus -75617-07-15 21:49 J -25897489.69 -25897489.59 -25897489.49 0.3790 0.1224

Mars -75617-10-07 14:37 J -25897405.98 -25897405.89 -25897405.81 0.1898 0.1262

Jupiter -75617-12-31 14:52 J -25897320.90 -25897320.88 -25897320.84 0.0534 0.0514

Jupiter -75616-03-30 21:35 J -25897231.72 -25897231.60 -25897231.47 0.0533 0.0064

Jupiter -75616-06-28 04:32 J -25897142.39 -25897142.31 -25897142.22 0.0532 0.0392

Saturn -75613-07-02 09:49 J -25896042.13 -25896042.09 -25896042.04 0.0275 0.0267

Saturn -75613-09-29 09:20 J -25895953.28 -25895953.11 -25895952.93 0.0276 0.0114

Saturn -75613-12-27 08:52 J -25895864.32 -25895864.13 -25895863.94 0.0277 0.0041

Saturn -75612-03-26 08:08 J -25895775.29 -25895775.16 -25895775.02 0.0278 0.0196

Venus -75611-01-29 15:35 J -25895465.96 -25895465.85 -25895465.74 0.3787 0.0126

Jupiter -75610-02-25 16:04 J -25895073.97 -25895073.83 -25895073.69 0.0493 0.0314

Earth -75610-04-07 09:49 J -25895033.20 -25895033.09 -25895032.98 0.2734 0.0205

Moon -75610-04-07 10:18 J -25895033.17 -25895033.07 -25895032.96 0.2738 0.0105 *

Jupiter -75610-05-27 01:11 J -25894983.62 -25894983.45 -25894983.29 0.0494 0.0228

Mars -75608-05-01 05:59 J -25894278.39 -25894278.25 -25894278.12 0.1643 0.0957

Mars -75607-02-27 22:32 J -25893975.67 -25893975.56 -25893975.45 0.1906 0.0340

Moon -75607-10-07 20:37 J -25893753.70 -25893753.64 -25893753.58 0.2602 0.2395

Venus -75606-08-15 09:35 J -25893442.20 -25893442.10 -25893442.00 0.3783 0.1414

Jupiter -75604-01-17 01:11 J -25892921.57 -25892921.45 -25892921.33 0.0533 0.0184

Jupiter -75604-04-16 07:54 J -25892832.28 -25892832.17 -25892832.06 0.0532 0.0269

Neptune -75601-05-30 04:47 J -25891692.32 -25891692.30 -25891692.25 0.0089 0.0086

Neptune -75601-08-26 06:13 J -25891604.28 -25891604.24 -25891604.18 0.0089 0.0081

Neptune -75601-11-22 07:40 J -25891516.24 -25891516.18 -25891516.11 0.0089 0.0076

Neptune -75600-02-18 08:52 J -25891428.20 -25891428.13 -25891428.05 0.0089 0.0072

Venus -75600-02-28 03:49 J -25891418.42 -25891418.34 -25891418.27 0.3780 0.2775

Neptune -75600-05-17 10:18 J -25891340.15 -25891340.07 -25891339.98 0.0089 0.0067

Neptune -75600-08-13 11:16 J -25891252.11 -25891252.03 -25891251.92 0.0089 0.0063

Neptune -75600-11-09 12:42 J -25891164.06 -25891163.97 -25891163.86 0.0089 0.0058

Saturn -75600-11-10 18:42 J -25891162.79 -25891162.72 -25891162.66 0.0287 0.0243

Neptune -75599-02-05 14:08 J -25891076.01 -25891075.91 -25891075.80 0.0089 0.0053

Saturn -75599-02-07 05:59 J -25891074.37 -25891074.25 -25891074.13 0.0286 0.0129

Neptune -75599-05-04 15:20 J -25890987.96 -25890987.86 -25890987.74 0.0089 0.0049

Saturn -75599-05-06 17:16 J -25890985.91 -25890985.78 -25890985.65 0.0285 0.0015

Neptune -75599-07-31 16:47 J -25890899.91 -25890899.80 -25890899.69 0.0089 0.0044

Saturn -75599-08-03 04:32 J -25890897.43 -25890897.31 -25890897.19 0.0284 0.0098

Mars -75599-09-21 07:11 J -25890848.37 -25890848.20 -25890848.03 0.1637 0.0009

Neptune -75599-10-27 17:59 J -25890811.86 -25890811.75 -25890811.63 0.0089 0.0039

Saturn -75599-10-30 15:49 J -25890808.93 -25890808.84 -25890808.76 0.0283 0.0210

Jupiter -75599-12-14 13:40 J -25890764.01 -25890763.93 -25890763.86 0.0493 0.0449

Neptune -75598-01-23 19:11 J -25890723.81 -25890723.70 -25890723.57 0.0089 0.0035

Jupiter -75598-03-14 23:01 J -25890673.72 -25890673.54 -25890673.36 0.0494 0.0097

Neptune -75598-04-21 20:37 J -25890635.76 -25890635.64 -25890635.51 0.0089 0.0030

Neptune -75598-07-18 21:49 J -25890547.71 -25890547.59 -25890547.46 0.0089 0.0026

Mars -75598-07-21 06:42 J -25890545.33 -25890545.22 -25890545.12 0.1914 0.0593

Neptune -75598-10-14 23:16 J -25890459.66 -25890459.53 -25890459.40 0.0089 0.0021

Neptune -75597-01-11 00:28 J -25890371.60 -25890371.48 -25890371.34 0.0089 0.0016

Neptune -75597-04-08 01:54 J -25890283.55 -25890283.42 -25890283.29 0.0089 0.0011

Earth -75597-04-09 03:49 J -25890282.44 -25890282.34 -25890282.24 0.2735 0.1031

Moon -75597-04-09 04:32 J -25890282.41 -25890282.31 -25890282.22 0.2736 0.1057 *

Neptune -75597-07-05 03:06 J -25890195.50 -25890195.37 -25890195.23 0.0089 0.0007

Neptune -75597-10-01 04:32 J -25890107.44 -25890107.31 -25890107.18 0.0089 0.0002

Neptune -75597-12-28 05:44 J -25890019.39 -25890019.26 -25890019.13 0.0089 0.0003

Venus -75596-02-25 23:30 J -25889959.64 -25889959.52 -25889959.40 0.3589 0.1941

Neptune -75596-03-26 07:11 J -25889931.33 -25889931.20 -25889931.07 0.0089 0.0007

Neptune -75596-06-22 08:23 J -25889843.28 -25889843.15 -25889843.02 0.0089 0.0012

Neptune -75596-09-18 09:35 J -25889755.22 -25889755.10 -25889754.96 0.0089 0.0017

Neptune -75596-12-15 11:01 J -25889667.17 -25889667.04 -25889666.91 0.0089 0.0021

Neptune -75595-03-13 12:13 J -25889579.11 -25889578.99 -25889578.86 0.0089 0.0026

Neptune -75595-06-09 13:40 J -25889491.05 -25889490.93 -25889490.80 0.0089 0.0031

Neptune -75595-09-05 14:52 J -25889402.99 -25889402.88 -25889402.75 0.0089 0.0036

Neptune -75595-12-02 16:18 J -25889314.94 -25889314.82 -25889314.70 0.0089 0.0040

Neptune -75594-02-28 17:30 J -25889226.88 -25889226.77 -25889226.65 0.0089 0.0045

Neptune -75594-05-27 18:42 J -25889138.82 -25889138.72 -25889138.60 0.0089 0.0050

Neptune -75594-08-23 20:23 J -25889050.76 -25889050.65 -25889050.55 0.0089 0.0054

Neptune -75594-11-19 21:35 J -25888962.69 -25888962.60 -25888962.50 0.0089 0.0059

Neptune -75593-02-15 22:47 J -25888874.63 -25888874.55 -25888874.45 0.0089 0.0064

Neptune -75593-05-14 00:13 J -25888786.57 -25888786.49 -25888786.40 0.0089 0.0068

Neptune -75593-08-10 01:25 J -25888698.50 -25888698.44 -25888698.36 0.0089 0.0073

Jupiter -75593-11-05 05:01 J -25888611.39 -25888611.29 -25888611.18 0.0533 0.0297

Neptune -75593-11-06 02:52 J -25888610.43 -25888610.38 -25888610.31 0.0089 0.0078

Neptune -75592-02-02 04:04 J -25888522.36 -25888522.33 -25888522.27 0.0089 0.0083

Jupiter -75592-02-02 11:44 J -25888522.13 -25888522.01 -25888521.89 0.0532 0.0155

Neptune -75592-05-01 05:30 J -25888434.28 -25888434.27 -25888434.24 0.0089 0.0087

Venus -75591-09-12 01:25 J -25887935.58 -25887935.44 -25887935.30 0.3592 0.0179

Moon -75590-04-03 02:37 J -25887732.44 -25887732.39 -25887732.34 0.2737 0.2423

Earth -75590-04-03 02:52 J -25887732.43 -25887732.38 -25887732.33 0.2731 0.2383 *

Uranus -75590-11-14 12:28 J -25887507.03 -25887506.98 -25887506.92 0.0142 0.0135

Uranus -75589-02-10 20:23 J -25887418.76 -25887418.65 -25887418.51 0.0142 0.0108

Mars -75589-02-11 08:23 J -25887418.29 -25887418.15 -25887418.02 0.1631 0.0945

Uranus -75589-05-09 04:47 J -25887330.45 -25887330.30 -25887330.14 0.0142 0.0080

Uranus -75589-08-05 12:42 J -25887242.14 -25887241.97 -25887241.78 0.0142 0.0053

Uranus -75589-11-01 21:06 J -25887153.81 -25887153.62 -25887153.43 0.0141 0.0025

Mars -75589-12-10 14:37 J -25887114.96 -25887114.89 -25887114.82 0.1921 0.1516

Uranus -75588-01-29 05:01 J -25887065.48 -25887065.29 -25887065.10 0.0141 0.0003

Pluto -75588-02-26 14:08 J -25887036.94 -25887036.91 -25887036.87 0.0084 0.0082

Uranus -75588-04-27 12:56 J -25886977.14 -25886976.96 -25886976.77 0.0141 0.0029

Pluto -75588-05-25 15:20 J -25886948.92 -25886948.86 -25886948.77 0.0084 0.0071

Uranus -75588-07-24 20:52 J -25886888.80 -25886888.63 -25886888.45 0.0141 0.0056

Pluto -75588-08-21 16:47 J -25886860.88 -25886860.80 -25886860.69 0.0084 0.0059

Uranus -75588-10-21 04:32 J -25886800.46 -25886800.31 -25886800.15 0.0141 0.0083

Pluto -75588-11-17 18:28 J -25886772.84 -25886772.73 -25886772.62 0.0084 0.0047

Uranus -75587-01-17 12:13 J -25886712.10 -25886711.99 -25886711.86 0.0141 0.0109

Pluto -75587-02-13 19:54 J -25886684.79 -25886684.67 -25886684.55 0.0084 0.0036

Uranus -75587-04-15 20:08 J -25886623.71 -25886623.66 -25886623.61 0.0141 0.0135

Pluto -75587-05-12 21:20 J -25886596.74 -25886596.61 -25886596.48 0.0084 0.0025

Pluto -75587-08-08 22:32 J -25886508.69 -25886508.56 -25886508.42 0.0084 0.0014

Moon -75587-10-02 13:11 J -25886454.08 -25886453.95 -25886453.83 0.2598 0.1686

Earth -75587-10-02 14:08 J -25886454.03 -25886453.91 -25886453.78 0.2603 0.1565 *

Pluto -75587-11-04 23:59 J -25886420.63 -25886420.50 -25886420.36 0.0083 0.0003

Jupiter -75587-12-31 20:23 J -25886363.83 -25886363.65 -25886363.46 0.0494 0.0038

Pluto -75586-02-01 01:25 J -25886332.58 -25886332.44 -25886332.31 0.0083 0.0008

Pluto -75586-04-30 02:37 J -25886244.52 -25886244.39 -25886244.25 0.0083 0.0019

Pluto -75586-07-27 04:04 J -25886156.46 -25886156.33 -25886156.20 0.0083 0.0029

Pluto -75586-10-23 05:16 J -25886068.39 -25886068.28 -25886068.16 0.0083 0.0040

Pluto -75585-01-19 06:28 J -25885980.33 -25885980.23 -25885980.11 0.0083 0.0051

Venus -75585-03-28 02:52 J -25885911.48 -25885911.38 -25885911.27 0.3596 0.2219

Pluto -75585-04-16 07:54 J -25885892.26 -25885892.17 -25885892.08 0.0083 0.0061

Pluto -75585-07-13 09:06 J -25885804.18 -25885804.12 -25885804.05 0.0083 0.0071

Pluto -75585-10-09 10:18 J -25885716.07 -25885716.07 -25885716.04 0.0082 0.0082

Earth -75584-04-11 21:35 J -25885531.66 -25885531.60 -25885531.54 0.2736 0.2264

Moon -75584-04-11 22:04 J -25885531.63 -25885531.58 -25885531.53 0.2730 0.2362 *

Saturn -75583-02-16 08:08 J -25885221.31 -25885221.16 -25885221.00 0.0276 0.0155

Saturn -75583-05-16 07:40 J -25885132.37 -25885132.18 -25885131.99 0.0277 0.0003

Saturn -75583-08-13 06:56 J -25885043.36 -25885043.21 -25885043.05 0.0278 0.0154

Jupiter -75581-08-24 09:06 J -25884301.20 -25884301.12 -25884301.04 0.0533 0.0411

Jupiter -75581-11-21 15:35 J -25884211.97 -25884211.85 -25884211.72 0.0533 0.0042

Jupiter -75580-02-18 22:32 J -25884122.60 -25884122.56 -25884122.51 0.0532 0.0496

Moon -75577-04-04 20:52 J -25882981.73 -25882981.63 -25882981.53 0.2739 0.1135

Earth -75577-04-04 20:52 J -25882981.73 -25882981.63 -25882981.54 0.2732 0.1175 *

Mars -75577-04-07 14:37 J -25882978.97 -25882978.89 -25882978.81 0.1898 0.1371

Jupiter -75575-10-19 17:44 J -25882053.93 -25882053.76 -25882053.58 0.0493 0.0172

Jupiter -75574-01-18 02:23 J -25881963.52 -25881963.40 -25881963.27 0.0494 0.0368

Moon -75574-10-05 19:54 J -25881702.83 -25881702.67 -25881702.51 0.2601 0.0577

Earth -75574-10-05 21:35 J -25881702.75 -25881702.60 -25881702.44 0.2601 0.0804 *

Venus -75571-01-21 08:37 J -25880864.19 -25880864.14 -25880864.09 0.3795 0.3333

Saturn -75570-03-30 20:37 J -25880430.66 -25880430.64 -25880430.61 0.0287 0.0279

Saturn -75570-06-27 07:54 J -25880342.27 -25880342.17 -25880342.06 0.0286 0.0165

Saturn -75570-09-23 19:11 J -25880253.82 -25880253.70 -25880253.57 0.0285 0.0051

Saturn -75570-12-21 06:28 J -25880165.35 -25880165.23 -25880165.10 0.0284 0.0063

Saturn -75569-03-18 17:44 J -25880076.86 -25880076.76 -25880076.66 0.0283 0.0174

Jupiter -75569-06-12 13:25 J -25879990.97 -25879990.94 -25879990.91 0.0534 0.0517

Jupiter -75569-09-09 19:54 J -25879901.79 -25879901.67 -25879901.54 0.0533 0.0069

Mars -75569-10-30 06:42 J -25879851.35 -25879851.22 -25879851.10 0.1643 0.1098

Jupiter -75569-12-08 02:52 J -25879812.46 -25879812.38 -25879812.29 0.0532 0.0388

Mars -75568-08-28 22:32 J -25879548.67 -25879548.56 -25879548.45 0.1906 0.0447

Venus -75566-08-07 02:08 J -25878840.50 -25878840.41 -25878840.32 0.3792 0.2077

Earth -75564-04-07 14:37 J -25878231.00 -25878230.89 -25878230.78 0.2734 0.0049

Moon -75564-04-07 15:20 J -25878230.97 -25878230.86 -25878230.76 0.2737 0.0106 *

Jupiter -75563-08-07 14:37 J -25877744.03 -25877743.89 -25877743.74 0.0493 0.0311

Jupiter -75563-11-05 23:44 J -25877653.67 -25877653.51 -25877653.35 0.0494 0.0232

Venus -75560-02-19 19:54 J -25876816.78 -25876816.67 -25876816.57 0.3789 0.0799

Mars -75559-03-22 07:54 J -25876421.34 -25876421.17 -25876421.01 0.1637 0.0143

Mars -75558-01-19 06:42 J -25876118.33 -25876118.22 -25876118.11 0.1914 0.0479

Jupiter -75557-06-29 00:28 J -25875591.60 -25875591.48 -25875591.36 0.0533 0.0175

Jupiter -75557-09-26 07:11 J -25875502.31 -25875502.20 -25875502.09 0.0532 0.0280

Venus -75555-09-05 13:40 J -25874793.04 -25874792.93 -25874792.82 0.3786 0.0527

Saturn -75554-07-06 04:04 J -25874489.45 -25874489.33 -25874489.21 0.0275 0.0215

Saturn -75554-10-03 03:20 J -25874400.54 -25874400.36 -25874400.17 0.0276 0.0063

Saturn -75554-12-31 02:52 J -25874311.56 -25874311.38 -25874311.20 0.0277 0.0092

Saturn -75553-03-29 02:08 J -25874222.49 -25874222.41 -25874222.32 0.0278 0.0247

Earth -75551-04-10 08:37 J -25873480.24 -25873480.14 -25873480.05 0.2735 0.1280

Moon -75551-04-10 09:06 J -25873480.21 -25873480.12 -25873480.02 0.2734 0.1428 *

Jupiter -75551-05-26 12:13 J -25873434.06 -25873433.99 -25873433.91 0.0493 0.0443

Jupiter -75551-08-24 21:35 J -25873343.78 -25873343.60 -25873343.42 0.0494 0.0102

Mars -75550-08-12 09:06 J -25872991.26 -25872991.12 -25872990.97 0.1631 0.0800

Venus -75549-03-21 07:40 J -25872769.27 -25872769.18 -25872769.08 0.3782 0.1866

Mars -75549-06-10 14:37 J -25872687.97 -25872687.89 -25872687.81 0.1921 0.1420

Venus -75545-03-18 21:20 J -25871310.64 -25871310.61 -25871310.57 0.3586 0.3440

Jupiter -75545-04-17 04:04 J -25871281.43 -25871281.33 -25871281.22 0.0533 0.0292

Uranus -75545-04-17 16:47 J -25871280.84 -25871280.80 -25871280.75 0.0136 0.0126

Uranus -75545-07-14 19:54 J -25871192.74 -25871192.67 -25871192.58 0.0137 0.0109

Jupiter -75545-07-15 10:47 J -25871192.17 -25871192.05 -25871191.93 0.0532 0.0160

Uranus -75545-10-10 23:01 J -25871104.63 -25871104.54 -25871104.43 0.0137 0.0093

Uranus -75544-01-07 02:23 J -25871016.51 -25871016.40 -25871016.29 0.0137 0.0076

Moon -75544-04-03 07:25 J -25870930.25 -25870930.19 -25870930.12 0.2738 0.2200

Earth -75544-04-03 07:40 J -25870930.24 -25870930.18 -25870930.11 0.2731 0.2135 *

Uranus -75544-04-05 05:30 J -25870928.38 -25870928.27 -25870928.14 0.0137 0.0059

Uranus -75544-07-02 08:52 J -25870840.25 -25870840.13 -25870840.00 0.0137 0.0042

Uranus -75544-09-28 12:13 J -25870752.12 -25870751.99 -25870751.86 0.0137 0.0025

Venus -75544-10-05 01:54 J -25870745.47 -25870745.42 -25870745.37 0.3779 0.3240

Uranus -75544-12-25 15:20 J -25870663.99 -25870663.86 -25870663.72 0.0137 0.0009

Uranus -75543-03-23 18:42 J -25870575.85 -25870575.72 -25870575.59 0.0137 0.0009

Uranus -75543-06-19 22:04 J -25870487.71 -25870487.58 -25870487.45 0.0138 0.0027

Uranus -75543-09-16 01:11 J -25870399.57 -25870399.45 -25870399.32 0.0138 0.0045

Uranus -75543-12-13 04:32 J -25870311.42 -25870311.31 -25870311.19 0.0138 0.0062

Uranus -75542-03-11 07:54 J -25870223.27 -25870223.17 -25870223.06 0.0138 0.0080

Uranus -75542-06-07 11:16 J -25870135.12 -25870135.03 -25870134.93 0.0138 0.0097

Uranus -75542-09-03 14:37 J -25870046.96 -25870046.89 -25870046.81 0.0138 0.0115

Uranus -75542-11-30 17:59 J -25869958.77 -25869958.75 -25869958.71 0.0139 0.0133

Moon -75541-10-02 19:40 J -25869651.83 -25869651.68 -25869651.54 0.2599 0.1182

Earth -75541-10-02 20:52 J -25869651.77 -25869651.63 -25869651.48 0.2602 0.1096 *

Saturn -75541-11-13 10:04 J -25869610.17 -25869610.08 -25869609.99 0.0287 0.0201

Saturn -75540-02-09 21:20 J -25869521.73 -25869521.61 -25869521.48 0.0286 0.0086

Saturn -75540-05-09 08:37 J -25869433.27 -25869433.14 -25869433.01 0.0285 0.0029

Saturn -75540-08-05 19:54 J -25869344.78 -25869344.67 -25869344.56 0.0284 0.0141

Venus -75540-10-02 23:44 J -25869286.64 -25869286.51 -25869286.38 0.3589 0.1248

Saturn -75540-11-02 07:11 J -25869256.25 -25869256.20 -25869256.14 0.0283 0.0253

Jupiter -75539-06-12 19:11 J -25869033.88 -25869033.70 -25869033.51 0.0494 0.0032

Earth -75538-04-13 02:37 J -25868729.43 -25868729.39 -25868729.35 0.2736 0.2521

Moon -75538-04-13 02:52 J -25868729.42 -25868729.38 -25868729.34 0.2730 0.2507 *

Mars -75538-10-07 14:37 J -25868551.97 -25868551.89 -25868551.82 0.1898 0.1470

Venus -75534-04-19 01:40 J -25867262.57 -25867262.43 -25867262.30 0.3593 0.0862

Jupiter -75533-02-04 08:08 J -25866971.24 -25866971.16 -25866971.08 0.0533 0.0404

Jupiter -75533-05-03 14:37 J -25866882.02 -25866881.89 -25866881.76 0.0532 0.0047

Jupiter -75533-07-31 21:35 J -25866792.64 -25866792.60 -25866792.56 0.0531 0.0500

Earth -75531-04-06 01:40 J -25866179.53 -25866179.43 -25866179.33 0.2732 0.0922

Moon -75531-04-06 01:54 J -25866179.52 -25866179.42 -25866179.32 0.2739 0.0900 *

Mars -75529-04-30 07:11 J -25865424.31 -25865424.20 -25865424.10 0.1643 0.1223

Venus -75529-11-02 03:06 J -25865238.45 -25865238.37 -25865238.29 0.3597 0.2878

Mars -75528-02-26 22:32 J -25865121.67 -25865121.56 -25865121.45 0.1906 0.0562

Moon -75528-10-06 02:23 J -25864900.54 -25864900.40 -25864900.25 0.2600 0.1099

Earth -75528-10-06 04:18 J -25864900.46 -25864900.32 -25864900.18 0.2601 0.1256 *

Jupiter -75527-03-31 16:47 J -25864723.98 -25864723.80 -25864723.63 0.0494 0.0166

Jupiter -75527-06-30 01:25 J -25864633.55 -25864633.44 -25864633.32 0.0494 0.0376

Saturn -75525-11-22 02:08 J -25863757.46 -25863757.41 -25863757.34 0.0275 0.0259

Saturn -75524-02-19 01:54 J -25863668.60 -25863668.42 -25863668.25 0.0276 0.0106

Saturn -75524-05-19 01:11 J -25863579.64 -25863579.45 -25863579.26 0.0277 0.0048

Saturn -75524-08-16 00:28 J -25863490.60 -25863490.48 -25863490.35 0.0278 0.0202

Jupiter -75522-11-23 11:59 J -25862661.02 -25862661.00 -25862660.97 0.0533 0.0518

Jupiter -75521-02-20 18:28 J -25862571.85 -25862571.73 -25862571.60 0.0533 0.0071

Jupiter -75521-05-20 01:25 J -25862482.53 -25862482.44 -25862482.35 0.0532 0.0386

Mars -75520-09-20 08:37 J -25861994.31 -25861994.14 -25861993.98 0.1637 0.0281

Mars -75519-07-20 06:42 J -25861691.33 -25861691.22 -25861691.11 0.1913 0.0369

Earth -75518-04-08 19:25 J -25861428.80 -25861428.69 -25861428.58 0.2734 0.0301

Moon -75518-04-08 20:08 J -25861428.77 -25861428.66 -25861428.56 0.2738 0.0427 *

Neptune -75518-08-17 21:06 J -25861297.62 -25861297.62 -25861297.58 0.0089 0.0089

Neptune -75518-11-14 00:42 J -25861209.52 -25861209.47 -25861209.37 0.0089 0.0082

Neptune -75517-02-10 04:32 J -25861121.39 -25861121.31 -25861121.18 0.0089 0.0075

Neptune -75517-05-08 08:23 J -25861033.26 -25861033.15 -25861033.01 0.0089 0.0068

Neptune -75517-08-04 12:13 J -25860945.12 -25860944.99 -25860944.83 0.0089 0.0061

Neptune -75517-10-31 16:04 J -25860856.98 -25860856.83 -25860856.66 0.0089 0.0054

Neptune -75516-01-27 19:40 J -25860768.83 -25860768.68 -25860768.50 0.0089 0.0047

Neptune -75516-04-25 23:30 J -25860680.68 -25860680.52 -25860680.33 0.0089 0.0040

Neptune -75516-07-23 03:20 J -25860592.54 -25860592.36 -25860592.17 0.0089 0.0033

Neptune -75516-10-19 07:11 J -25860504.39 -25860504.20 -25860504.01 0.0089 0.0026

Neptune -75515-01-15 11:01 J -25860416.23 -25860416.04 -25860415.85 0.0089 0.0019

Jupiter -75515-01-17 14:08 J -25860414.06 -25860413.91 -25860413.76 0.0493 0.0299

Neptune -75515-04-13 14:37 J -25860328.08 -25860327.89 -25860327.69 0.0089 0.0012

Jupiter -75515-04-17 23:16 J -25860323.69 -25860323.53 -25860323.37 0.0494 0.0244

Neptune -75515-07-10 18:28 J -25860239.93 -25860239.73 -25860239.54 0.0089 0.0005

Venus -75515-08-28 06:42 J -25860191.29 -25860191.22 -25860191.16 0.3794 0.2923

Neptune -75515-10-06 22:04 J -25860151.77 -25860151.58 -25860151.38 0.0089 0.0002

Neptune -75514-01-03 01:54 J -25860063.62 -25860063.42 -25860063.23 0.0089 0.0009

Neptune -75514-04-01 05:30 J -25859975.46 -25859975.27 -25859975.08 0.0089 0.0016

Neptune -75514-06-28 09:06 J -25859887.30 -25859887.12 -25859886.92 0.0089 0.0023

Neptune -75514-09-24 12:42 J -25859799.14 -25859798.97 -25859798.78 0.0089 0.0030

Neptune -75514-12-21 16:18 J -25859710.98 -25859710.82 -25859710.63 0.0089 0.0037

Neptune -75513-03-18 19:54 J -25859622.82 -25859622.67 -25859622.48 0.0089 0.0044

Neptune -75513-06-14 23:59 J -25859534.66 -25859534.50 -25859534.34 0.0089 0.0050

Neptune -75513-09-11 03:35 J -25859446.50 -25859446.35 -25859446.20 0.0089 0.0057

Neptune -75513-12-08 06:56 J -25859358.33 -25859358.21 -25859358.06 0.0089 0.0064

Neptune -75512-03-06 10:32 J -25859270.16 -25859270.06 -25859269.92 0.0089 0.0071

Neptune -75512-06-02 14:08 J -25859181.98 -25859181.91 -25859181.80 0.0089 0.0078

Neptune -75512-08-29 17:59 J -25859093.80 -25859093.75 -25859093.68 0.0089 0.0084

Saturn -75511-04-02 11:44 J -25858878.07 -25858878.01 -25858877.93 0.0287 0.0238

Saturn -75511-06-29 23:16 J -25858789.65 -25858789.53 -25858789.41 0.0286 0.0123

Saturn -75511-09-26 10:32 J -25858701.19 -25858701.06 -25858700.93 0.0285 0.0009

Saturn -75511-12-23 21:49 J -25858612.71 -25858612.59 -25858612.47 0.0284 0.0104

Mars -75510-02-10 09:49 J -25858564.24 -25858564.09 -25858563.93 0.1631 0.0662

Saturn -75510-03-22 09:06 J -25858524.20 -25858524.12 -25858524.04 0.0283 0.0216

Jupiter -75510-12-09 23:01 J -25858261.66 -25858261.54 -25858261.42 0.0533 0.0177

Mars -75510-12-10 14:37 J -25858260.97 -25858260.89 -25858260.81 0.1921 0.1312

Jupiter -75509-03-08 05:44 J -25858172.37 -25858172.26 -25858172.15 0.0532 0.0278

Venus -75509-03-13 00:13 J -25858167.59 -25858167.49 -25858167.40 0.3791 0.1659

Uranus -75506-12-04 20:52 J -25856805.71 -25856805.63 -25856805.54 0.0142 0.0126

Uranus -75505-03-02 04:47 J -25856717.42 -25856717.30 -25856717.15 0.0142 0.0099

Earth -75505-04-10 13:25 J -25856678.03 -25856677.94 -25856677.85 0.2735 0.1533

Moon -75505-04-10 13:54 J -25856678.00 -25856677.92 -25856677.83 0.2732 0.1554 *

Uranus -75505-05-29 13:11 J -25856629.11 -25856628.95 -25856628.78 0.0142 0.0071

Uranus -75505-08-25 21:06 J -25856540.79 -25856540.62 -25856540.43 0.0142 0.0044

Uranus -75505-11-22 05:16 J -25856452.47 -25856452.28 -25856452.08 0.0141 0.0016

Uranus -75504-02-18 13:25 J -25856364.13 -25856363.94 -25856363.75 0.0141 0.0012

Uranus -75504-05-17 21:20 J -25856275.80 -25856275.61 -25856275.43 0.0141 0.0038

Uranus -75504-08-14 05:01 J -25856187.45 -25856187.29 -25856187.12 0.0141 0.0065

Venus -75504-09-26 17:59 J -25856143.86 -25856143.75 -25856143.65 0.3788 0.0381

Jupiter -75504-11-05 11:01 J -25856104.12 -25856104.04 -25856103.95 0.0493 0.0437

Uranus -75504-11-10 12:42 J -25856099.10 -25856098.97 -25856098.81 0.0141 0.0092

Jupiter -75503-02-03 20:23 J -25856013.83 -25856013.65 -25856013.47 0.0494 0.0108

Uranus -75503-02-06 20:23 J -25856010.74 -25856010.65 -25856010.53 0.0141 0.0118

Mars -75501-07-02 11:01 J -25855134.06 -25855134.04 -25855134.01 0.1626 0.1604

Moon -75498-04-04 12:13 J -25854128.06 -25854127.99 -25854127.91 0.2738 0.1891

Earth -75498-04-04 12:42 J -25854128.05 -25854127.97 -25854127.90 0.2731 0.1886 *

Mars -75498-04-07 14:37 J -25854124.95 -25854124.89 -25854124.83 0.1898 0.1579

Venus -75498-04-12 11:44 J -25854120.11 -25854120.01 -25854119.90 0.3785 0.0970

Jupiter -75498-09-28 03:20 J -25853951.47 -25853951.36 -25853951.25 0.0533 0.0283

Jupiter -75498-12-26 10:04 J -25853862.20 -25853862.08 -25853861.96 0.0533 0.0171

Saturn -75495-07-08 21:06 J -25852936.76 -25852936.62 -25852936.46 0.0275 0.0169

Moon -75495-10-04 02:08 J -25852849.57 -25852849.41 -25852849.26 0.2600 0.0872

Earth -75495-10-04 03:35 J -25852849.50 -25852849.35 -25852849.19 0.2602 0.0628 *

Saturn -75495-10-05 20:37 J -25852847.83 -25852847.64 -25852847.45 0.0276 0.0016

Saturn -75494-01-02 19:54 J -25852758.83 -25852758.67 -25852758.50 0.0277 0.0138

Venus -75493-10-26 05:44 J -25852096.34 -25852096.26 -25852096.17 0.3782 0.2332

Jupiter -75492-11-22 18:13 J -25851703.92 -25851703.74 -25851703.55 0.0494 0.0023

Mars -75490-10-30 07:54 J -25850997.26 -25850997.17 -25850997.08 0.1643 0.1368

Mars -75489-08-27 22:32 J -25850694.67 -25850694.56 -25850694.45 0.1906 0.0662

Venus -75489-10-23 21:49 J -25850637.68 -25850637.59 -25850637.50 0.3587 0.2715

Venus -75487-05-11 23:59 J -25850072.51 -25850072.50 -25850072.48 0.3778 0.3720

Jupiter -75486-07-17 07:11 J -25849641.28 -25849641.20 -25849641.11 0.0533 0.0398

Jupiter -75486-10-14 13:54 J -25849552.05 -25849551.92 -25849551.80 0.0532 0.0055

Jupiter -75485-01-11 20:37 J -25849462.67 -25849462.64 -25849462.60 0.0531 0.0508

Earth -75485-04-06 06:28 J -25849377.34 -25849377.23 -25849377.13 0.2733 0.0674

Moon -75485-04-06 06:42 J -25849377.32 -25849377.22 -25849377.11 0.2739 0.0651 *

Venus -75483-05-09 23:59 J -25848613.64 -25848613.50 -25848613.36 0.3590 0.0550

Saturn -75482-08-20 13:25 J -25848145.96 -25848145.94 -25848145.90 0.0288 0.0278

Moon -75482-10-07 09:20 J -25848098.24 -25848098.11 -25848097.98 0.2601 0.1548

Earth -75482-10-07 11:01 J -25848098.16 -25848098.04 -25848097.92 0.2601 0.1723 *

Saturn -75482-11-17 00:56 J -25848057.56 -25848057.46 -25848057.35 0.0287 0.0162

Saturn -75481-02-13 12:13 J -25847969.11 -25847968.99 -25847968.86 0.0286 0.0048

Saturn -75481-05-11 23:30 J -25847880.64 -25847880.52 -25847880.39 0.0285 0.0068

Saturn -75481-08-08 11:01 J -25847792.14 -25847792.04 -25847791.94 0.0284 0.0180

Mars -75480-03-21 09:06 J -25847567.28 -25847567.12 -25847566.95 0.1637 0.0420

Jupiter -75480-09-10 15:49 J -25847394.02 -25847393.84 -25847393.67 0.0494 0.0158

Jupiter -75480-12-10 00:42 J -25847303.59 -25847303.47 -25847303.36 0.0495 0.0385

Mars -75479-01-18 06:42 J -25847264.34 -25847264.22 -25847264.11 0.1914 0.0275

Venus -75478-11-24 01:54 J -25846589.55 -25846589.42 -25846589.30 0.3594 0.1548

Jupiter -75474-05-05 11:16 J -25845331.06 -25845331.03 -25845330.99 0.0533 0.0508

Jupiter -75474-08-02 17:44 J -25845241.88 -25845241.76 -25845241.63 0.0532 0.0062

Jupiter -75474-10-31 00:42 J -25845152.56 -25845152.47 -25845152.39 0.0531 0.0394

Earth -75472-04-09 00:13 J -25844626.59 -25844626.49 -25844626.38 0.2734 0.0555

Moon -75472-04-09 00:56 J -25844626.57 -25844626.46 -25844626.36 0.2737 0.0605 *

Venus -75472-06-09 03:06 J -25844565.39 -25844565.37 -25844565.35 0.3597 0.3536

Mars -75471-08-11 10:18 J -25844137.22 -25844137.07 -25844136.91 0.1631 0.0536

Mars -75470-06-10 14:52 J -25843833.97 -25843833.88 -25843833.79 0.1921 0.1196

Jupiter -75468-06-29 13:11 J -25843084.10 -25843083.95 -25843083.80 0.0494 0.0292

Jupiter -75468-09-27 22:18 J -25842993.73 -25842993.57 -25842993.41 0.0494 0.0253

Saturn -75466-11-25 19:40 J -25842204.80 -25842204.68 -25842204.56 0.0275 0.0212

Saturn -75465-02-22 18:56 J -25842115.90 -25842115.71 -25842115.52 0.0276 0.0060

Saturn -75465-05-21 18:13 J -25842026.92 -25842026.74 -25842026.56 0.0277 0.0094

Saturn -75465-08-18 17:16 J -25841937.85 -25841937.78 -25841937.68 0.0278 0.0249

Venus -75464-09-18 11:01 J -25841542.05 -25841542.04 -25841542.03 0.3796 0.3755

Jupiter -75462-05-21 21:35 J -25840931.71 -25840931.60 -25840931.47 0.0533 0.0176

Jupiter -75462-08-19 04:32 J -25840842.42 -25840842.31 -25840842.20 0.0532 0.0279

Earth -75462-10-02 02:52 J -25840798.41 -25840798.38 -25840798.35 0.2604 0.2539

Mars -75461-01-01 11:59 J -25840707.07 -25840707.00 -25840706.93 0.1626 0.1462

Uranus -75461-05-07 23:44 J -25840579.56 -25840579.51 -25840579.45 0.0136 0.0123

Uranus -75461-08-04 02:52 J -25840491.45 -25840491.38 -25840491.29 0.0137 0.0107

Uranus -75461-10-31 06:13 J -25840403.34 -25840403.24 -25840403.14 0.0137 0.0090

Uranus -75460-01-27 09:20 J -25840315.22 -25840315.11 -25840315.00 0.0137 0.0073

Uranus -75460-04-25 12:28 J -25840227.09 -25840226.98 -25840226.85 0.0137 0.0057

Uranus -75460-07-22 15:49 J -25840138.97 -25840138.84 -25840138.71 0.0137 0.0040

Uranus -75460-10-18 19:11 J -25840050.83 -25840050.70 -25840050.57 0.0137 0.0023

Uranus -75459-01-14 22:18 J -25839962.70 -25839962.57 -25839962.43 0.0137 0.0006

Earth -75459-04-11 18:13 J -25839875.82 -25839875.74 -25839875.66 0.2735 0.1785

Moon -75459-04-11 18:56 J -25839875.79 -25839875.71 -25839875.64 0.2731 0.1914 *

Uranus -75459-04-13 01:40 J -25839874.56 -25839874.43 -25839874.30 0.0138 0.0012

Uranus -75459-07-10 04:47 J -25839786.42 -25839786.30 -25839786.16 0.0138 0.0030

Uranus -75459-10-06 08:08 J -25839698.28 -25839698.16 -25839698.03 0.0138 0.0047

Mars -75459-10-06 14:37 J -25839697.94 -25839697.89 -25839697.84 0.1898 0.1693

Uranus -75458-01-02 11:30 J -25839610.13 -25839610.02 -25839609.90 0.0138 0.0064

Uranus -75458-03-31 14:52 J -25839521.98 -25839521.88 -25839521.77 0.0138 0.0082

Venus -75458-04-04 04:32 J -25839518.39 -25839518.31 -25839518.23 0.3793 0.2506

Uranus -75458-06-27 17:59 J -25839433.83 -25839433.75 -25839433.65 0.0138 0.0101

Uranus -75458-09-23 21:35 J -25839345.66 -25839345.60 -25839345.53 0.0138 0.0118

Uranus -75458-12-21 00:56 J -25839257.48 -25839257.46 -25839257.43 0.0139 0.0136

Jupiter -75456-04-17 10:32 J -25838774.14 -25838774.06 -25838773.96 0.0493 0.0425

Jupiter -75456-07-16 19:54 J -25838683.84 -25838683.67 -25838683.49 0.0494 0.0121

Venus -75453-10-17 22:04 J -25837494.68 -25837494.58 -25837494.47 0.3790 0.1237

Moon -75452-04-04 17:16 J -25837325.86 -25837325.78 -25837325.70 0.2738 0.1702

Earth -75452-04-04 17:30 J -25837325.86 -25837325.77 -25837325.69 0.2731 0.1638 *

Saturn -75452-04-05 02:37 J -25837325.48 -25837325.39 -25837325.29 0.0287 0.0201

Saturn -75452-07-02 14:08 J -25837237.04 -25837236.91 -25837236.79 0.0286 0.0085

Saturn -75452-09-29 01:25 J -25837148.57 -25837148.44 -25837148.31 0.0285 0.0029

Saturn -75452-12-26 12:42 J -25837060.08 -25837059.97 -25837059.86 0.0284 0.0142

Saturn -75451-03-24 23:59 J -25836971.55 -25836971.50 -25836971.44 0.0283 0.0254

Jupiter -75450-03-10 02:08 J -25836621.52 -25836621.41 -25836621.31 0.0533 0.0283

Mars -75450-04-30 08:37 J -25836570.20 -25836570.14 -25836570.08 0.1644 0.1506

Jupiter -75450-06-07 08:37 J -25836532.26 -25836532.14 -25836532.01 0.0533 0.0172

Mars -75449-02-26 22:32 J -25836267.66 -25836267.56 -25836267.45 0.1906 0.0765

Moon -75449-10-04 08:37 J -25836047.30 -25836047.14 -25836046.98 0.2600 0.0245

Earth -75449-10-04 10:18 J -25836047.23 -25836047.07 -25836046.91 0.2602 0.0166 *

Venus -75447-05-03 16:04 J -25835470.94 -25835470.83 -25835470.73 0.3787 0.0168

Jupiter -75444-05-04 17:16 J -25834373.96 -25834373.78 -25834373.59 0.0494 0.0015

Venus -75442-11-17 09:49 J -25833447.19 -25833447.09 -25833446.99 0.3784 0.1427

Mars -75441-09-19 09:49 J -25833140.24 -25833140.09 -25833139.93 0.1637 0.0558

Mars -75440-07-19 06:42 J -25832837.33 -25832837.22 -25832837.10 0.1913 0.0158

Earth -75439-04-07 11:16 J -25832575.14 -25832575.03 -25832574.92 0.2733 0.0422

Moon -75439-04-07 11:44 J -25832575.12 -25832575.01 -25832574.91 0.2739 0.0342 *

Jupiter -75439-12-27 06:28 J -25832311.31 -25832311.23 -25832311.14 0.0533 0.0389

Jupiter -75438-03-26 13:11 J -25832222.08 -25832221.95 -25832221.82 0.0533 0.0064

Jupiter -75438-06-23 20:08 J -25832132.68 -25832132.66 -25832132.63 0.0532 0.0520

Neptune -75437-11-28 03:20 J -25831609.36 -25831609.36 -25831609.35 0.0089 0.0089

Neptune -75436-02-24 04:32 J -25831521.34 -25831521.31 -25831521.26 0.0089 0.0084

Neptune -75436-05-23 05:44 J -25831433.30 -25831433.26 -25831433.19 0.0089 0.0080

Venus -75436-06-02 04:04 J -25831423.40 -25831423.33 -25831423.26 0.3781 0.2798

Saturn -75436-07-11 14:08 J -25831384.08 -25831383.91 -25831383.74 0.0275 0.0124

Neptune -75436-08-19 07:11 J -25831345.26 -25831345.20 -25831345.12 0.0089 0.0075

Moon -75436-10-07 16:04 J -25831295.93 -25831295.83 -25831295.73 0.2603 0.1982

Earth -75436-10-07 17:44 J -25831295.85 -25831295.76 -25831295.68 0.2601 0.2181 *

Saturn -75436-10-08 13:25 J -25831295.13 -25831294.94 -25831294.75 0.0276 0.0029

Neptune -75436-11-15 08:37 J -25831257.22 -25831257.14 -25831257.06 0.0089 0.0070

Saturn -75435-01-05 12:42 J -25831206.11 -25831205.97 -25831205.83 0.0277 0.0183

Neptune -75435-02-11 09:49 J -25831169.17 -25831169.09 -25831169.00 0.0089 0.0066

Neptune -75435-05-10 11:16 J -25831081.13 -25831081.03 -25831080.94 0.0089 0.0061

Neptune -75435-08-06 12:13 J -25830993.08 -25830992.99 -25830992.88 0.0089 0.0057

Neptune -75435-11-02 13:40 J -25830905.03 -25830904.93 -25830904.82 0.0089 0.0052

Neptune -75434-01-29 15:06 J -25830816.98 -25830816.87 -25830816.76 0.0089 0.0047

Neptune -75434-04-27 16:18 J -25830728.93 -25830728.82 -25830728.70 0.0089 0.0043

Neptune -75434-07-24 17:44 J -25830640.88 -25830640.76 -25830640.64 0.0089 0.0038

Neptune -75434-10-20 18:56 J -25830552.83 -25830552.71 -25830552.59 0.0089 0.0033

Pluto -75434-11-18 22:18 J -25830523.62 -25830523.57 -25830523.49 0.0060 0.0056

Neptune -75433-01-16 20:08 J -25830464.78 -25830464.66 -25830464.53 0.0089 0.0029

Pluto -75433-02-14 23:16 J -25830435.60 -25830435.53 -25830435.40 0.0060 0.0051

Neptune -75433-04-13 21:35 J -25830376.73 -25830376.60 -25830376.47 0.0089 0.0024

Pluto -75433-05-13 00:56 J -25830347.57 -25830347.46 -25830347.32 0.0060 0.0045

Neptune -75433-07-10 22:47 J -25830288.67 -25830288.55 -25830288.42 0.0089 0.0020

Pluto -75433-08-09 02:08 J -25830259.53 -25830259.41 -25830259.25 0.0060 0.0040

Neptune -75433-10-07 00:13 J -25830200.62 -25830200.49 -25830200.36 0.0089 0.0015

Pluto -75433-11-05 03:35 J -25830171.49 -25830171.35 -25830171.18 0.0060 0.0034

Neptune -75432-01-03 01:25 J -25830112.57 -25830112.44 -25830112.31 0.0089 0.0010

Pluto -75432-02-01 05:01 J -25830083.45 -25830083.29 -25830083.12 0.0060 0.0029

Jupiter -75432-02-20 15:06 J -25830064.05 -25830063.87 -25830063.69 0.0494 0.0146

Neptune -75432-04-01 02:52 J -25830024.52 -25830024.38 -25830024.25 0.0089 0.0006

Pluto -75432-04-30 06:13 J -25829995.40 -25829995.24 -25829995.06 0.0060 0.0023

Jupiter -75432-05-21 23:44 J -25829973.61 -25829973.51 -25829973.40 0.0494 0.0396

Venus -75432-05-30 22:18 J -25829964.69 -25829964.57 -25829964.45 0.3588 0.1996

Neptune -75432-06-28 04:04 J -25829936.46 -25829936.33 -25829936.20 0.0089 0.0001

Pluto -75432-07-27 07:40 J -25829907.35 -25829907.18 -25829906.99 0.0060 0.0018

Neptune -75432-09-24 05:30 J -25829848.41 -25829848.27 -25829848.14 0.0089 0.0005

Pluto -75432-10-23 09:06 J -25829819.30 -25829819.12 -25829818.94 0.0060 0.0012

Neptune -75432-12-21 06:42 J -25829760.35 -25829760.22 -25829760.09 0.0089 0.0009

Pluto -75431-01-19 10:18 J -25829731.25 -25829731.07 -25829730.88 0.0061 0.0006

Mars -75431-02-09 11:16 J -25829710.19 -25829710.03 -25829709.87 0.1632 0.0388

Neptune -75431-03-19 07:54 J -25829672.30 -25829672.17 -25829672.04 0.0089 0.0013

Pluto -75431-04-17 11:44 J -25829643.20 -25829643.01 -25829642.82 0.0061 0.0001

Neptune -75431-06-15 09:20 J -25829584.24 -25829584.11 -25829583.98 0.0089 0.0018

Pluto -75431-07-14 12:56 J -25829555.14 -25829554.96 -25829554.77 0.0061 0.0005

Neptune -75431-09-11 10:32 J -25829496.18 -25829496.06 -25829495.93 0.0089 0.0023

Pluto -75431-10-10 14:23 J -25829467.08 -25829466.90 -25829466.71 0.0061 0.0011

Neptune -75431-12-08 11:44 J -25829408.13 -25829408.01 -25829407.88 0.0089 0.0028

Mars -75431-12-09 14:37 J -25829406.98 -25829406.89 -25829406.80 0.1921 0.1105

Pluto -75430-01-06 15:35 J -25829379.02 -25829378.85 -25829378.66 0.0061 0.0017

Neptune -75430-03-06 13:11 J -25829320.07 -25829319.95 -25829319.82 0.0089 0.0032

Pluto -75430-04-04 16:47 J -25829290.96 -25829290.80 -25829290.61 0.0061 0.0023

Neptune -75430-06-02 14:23 J -25829232.01 -25829231.90 -25829231.77 0.0089 0.0037

Pluto -75430-07-01 18:28 J -25829202.89 -25829202.73 -25829202.56 0.0061 0.0028

Neptune -75430-08-29 15:35 J -25829143.95 -25829143.85 -25829143.72 0.0089 0.0042

Pluto -75430-09-27 19:40 J -25829114.83 -25829114.68 -25829114.51 0.0061 0.0034

Neptune -75430-11-25 17:16 J -25829055.89 -25829055.78 -25829055.67 0.0089 0.0046

Pluto -75430-12-24 20:52 J -25829026.75 -25829026.63 -25829026.47 0.0061 0.0040

Neptune -75429-02-21 18:28 J -25828967.83 -25828967.73 -25828967.62 0.0089 0.0051

Pluto -75429-03-21 22:18 J -25828938.68 -25828938.57 -25828938.43 0.0061 0.0046

Neptune -75429-05-19 19:40 J -25828879.77 -25828879.68 -25828879.57 0.0089 0.0056

Pluto -75429-06-17 23:30 J -25828850.60 -25828850.52 -25828850.40 0.0061 0.0053

Neptune -75429-08-15 21:06 J -25828791.71 -25828791.62 -25828791.52 0.0089 0.0060

Pluto -75429-09-14 00:56 J -25828762.50 -25828762.46 -25828762.38 0.0061 0.0058

Neptune -75429-11-11 22:18 J -25828703.65 -25828703.57 -25828703.47 0.0089 0.0065

Neptune -75428-02-07 23:30 J -25828615.59 -25828615.52 -25828615.42 0.0089 0.0070

Neptune -75428-05-07 01:11 J -25828527.52 -25828527.45 -25828527.38 0.0089 0.0074

Neptune -75428-08-03 02:23 J -25828439.45 -25828439.40 -25828439.34 0.0089 0.0079

Neptune -75428-10-30 03:35 J -25828351.38 -25828351.35 -25828351.30 0.0089 0.0084

Neptune -75427-01-26 05:01 J -25828263.29 -25828263.29 -25828263.27 0.0089 0.0088

Jupiter -75427-10-15 10:32 J -25828001.10 -25828001.06 -25828001.02 0.0533 0.0500

Venus -75427-12-15 00:28 J -25827940.63 -25827940.48 -25827940.34 0.3591 0.0197

Jupiter -75426-01-12 17:01 J -25827911.92 -25827911.79 -25827911.66 0.0532 0.0052

Earth -75426-04-10 05:01 J -25827824.39 -25827824.29 -25827824.18 0.2734 0.0807

Moon -75426-04-10 05:44 J -25827824.36 -25827824.26 -25827824.16 0.2735 0.0890 *

Jupiter -75426-04-11 23:44 J -25827822.59 -25827822.51 -25827822.42 0.0531 0.0403

Saturn -75423-08-23 04:04 J -25826593.39 -25826593.33 -25826593.26 0.0288 0.0243

Saturn -75423-11-19 15:35 J -25826504.97 -25826504.85 -25826504.73 0.0287 0.0126

Saturn -75422-02-16 02:52 J -25826416.51 -25826416.38 -25826416.25 0.0286 0.0013

Saturn -75422-05-15 14:23 J -25826328.03 -25826327.90 -25826327.78 0.0285 0.0103

Mars -75422-07-02 12:28 J -25826280.07 -25826279.98 -25826279.89 0.1626 0.1334

Saturn -75422-08-12 01:25 J -25826239.52 -25826239.44 -25826239.35 0.0284 0.0216

Uranus -75422-12-25 04:47 J -25826104.39 -25826104.30 -25826104.18 0.0142 0.0118

Uranus -75421-03-22 13:11 J -25826016.09 -25826015.95 -25826015.79 0.0142 0.0090

Uranus -75421-06-18 21:20 J -25825927.78 -25825927.61 -25825927.43 0.0142 0.0062

Venus -75421-06-30 01:54 J -25825916.52 -25825916.42 -25825916.31 0.3595 0.2225

Uranus -75421-09-15 05:30 J -25825839.45 -25825839.27 -25825839.08 0.0142 0.0034

Jupiter -75421-12-09 12:13 J -25825754.14 -25825753.99 -25825753.84 0.0494 0.0284

Uranus -75421-12-12 13:40 J -25825751.12 -25825750.93 -25825750.74 0.0141 0.0007

Jupiter -75420-03-09 21:20 J -25825663.76 -25825663.61 -25825663.45 0.0495 0.0262

Uranus -75420-03-10 21:35 J -25825662.79 -25825662.60 -25825662.41 0.0141 0.0020

Uranus -75420-06-07 05:16 J -25825574.45 -25825574.28 -25825574.09 0.0141 0.0048

Uranus -75420-09-03 13:11 J -25825486.10 -25825485.95 -25825485.78 0.0141 0.0074

Uranus -75420-11-30 21:06 J -25825397.75 -25825397.62 -25825397.48 0.0141 0.0100

Uranus -75419-02-27 05:01 J -25825309.37 -25825309.29 -25825309.21 0.0141 0.0126

Earth -75419-04-03 04:18 J -25825274.35 -25825274.32 -25825274.28 0.2730 0.2593

Moon -75419-04-03 03:49 J -25825274.34 -25825274.34 -25825274.33 0.2735 0.2728 *

Mars -75419-04-06 14:37 J -25825270.93 -25825270.89 -25825270.86 0.1898 0.1786

Moon -75416-10-02 08:23 J -25823996.25 -25823996.15 -25823996.06 0.2599 0.2096

Earth -75416-10-02 09:35 J -25823996.20 -25823996.10 -25823996.01 0.2604 0.2070 *

Jupiter -75415-10-31 21:06 J -25823601.74 -25823601.62 -25823601.50 0.0532 0.0164

Jupiter -75414-01-29 03:49 J -25823512.45 -25823512.34 -25823512.23 0.0531 0.0289

Earth -75413-04-11 23:01 J -25823073.61 -25823073.54 -25823073.47 0.2735 0.2038

Moon -75413-04-11 23:44 J -25823073.58 -25823073.51 -25823073.44 0.2732 0.2069 *

Mars -75411-10-29 09:06 J -25822143.13 -25822143.12 -25822143.11 0.1644 0.1636

Mars -75410-08-27 22:47 J -25821840.65 -25821840.55 -25821840.45 0.1906 0.0883

Jupiter -75409-09-27 09:35 J -25821444.19 -25821444.10 -25821443.99 0.0494 0.0418

Jupiter -75409-12-26 19:11 J -25821353.88 -25821353.70 -25821353.52 0.0494 0.0130

Venus -75407-04-25 09:06 J -25820869.17 -25820869.12 -25820869.08 0.3795 0.3345

Saturn -75407-11-28 12:28 J -25820652.13 -25820651.98 -25820651.83 0.0275 0.0167

Saturn -75406-02-25 11:44 J -25820563.20 -25820563.01 -25820562.82 0.0276 0.0016

Moon -75406-04-05 22:18 J -25820523.67 -25820523.57 -25820523.48 0.2738 0.1334

Earth -75406-04-05 22:18 J -25820523.67 -25820523.57 -25820523.48 0.2731 0.1393 *

Saturn -75406-05-25 11:01 J -25820474.20 -25820474.04 -25820473.87 0.0277 0.0139

Jupiter -75403-08-20 00:56 J -25819291.57 -25819291.46 -25819291.35 0.0533 0.0279

Moon -75403-10-05 15:20 J -25819245.02 -25819244.86 -25819244.69 0.2600 0.0057

Earth -75403-10-05 17:01 J -25819244.95 -25819244.79 -25819244.63 0.2602 0.0309 *

Jupiter -75403-11-17 07:40 J -25819202.30 -25819202.18 -25819202.06 0.0532 0.0174

Venus -75402-11-09 02:37 J -25818845.48 -25818845.39 -25818845.30 0.3792 0.2085

Mars -75401-03-20 10:32 J -25818713.21 -25818713.06 -25818712.91 0.1638 0.0690

Mars -75400-01-17 06:42 J -25818410.33 -25818410.22 -25818410.10 0.1913 0.0060

Jupiter -75397-10-14 16:47 J -25817043.98 -25817043.80 -25817043.61 0.0494 0.0004

Venus -75396-05-24 20:08 J -25816821.76 -25816821.66 -25816821.55 0.3790 0.0796

Saturn -75393-01-10 05:59 J -25815861.27 -25815861.25 -25815861.22 0.0288 0.0281

Earth -75393-04-07 16:04 J -25815772.94 -25815772.83 -25815772.72 0.2733 0.0176

Moon -75393-04-07 16:32 J -25815772.92 -25815772.81 -25815772.70 0.2739 0.0163 *

Saturn -75393-04-07 17:16 J -25815772.88 -25815772.78 -25815772.67 0.0287 0.0165 *

Saturn -75393-07-05 04:47 J -25815684.43 -25815684.30 -25815684.17 0.0286 0.0049

Saturn -75393-10-01 16:04 J -25815595.96 -25815595.83 -25815595.70 0.0285 0.0065

Saturn -75393-12-29 03:20 J -25815507.46 -25815507.36 -25815507.26 0.0284 0.0178

Mars -75392-08-10 11:59 J -25815283.17 -25815283.00 -25815282.84 0.1632 0.0253

Jupiter -75391-06-08 05:16 J -25814981.36 -25814981.28 -25814981.19 0.0533 0.0387

Mars -75391-06-09 14:37 J -25814979.98 -25814979.89 -25814979.79 0.1921 0.0995

Jupiter -75391-09-05 11:59 J -25814892.13 -25814892.00 -25814891.88 0.0533 0.0067

Jupiter -75391-12-03 18:56 J -25814802.73 -25814802.71 -25814802.69 0.0532 0.0520

Venus -75391-12-08 14:08 J -25814798.02 -25814797.91 -25814797.81 0.3786 0.0550

Moon -75390-10-08 22:47 J -25814493.58 -25814493.55 -25814493.53 0.2604 0.2559

Venus -75385-06-23 07:54 J -25812774.26 -25812774.17 -25812774.07 0.3783 0.1894

Jupiter -75385-08-02 14:08 J -25812734.09 -25812733.91 -25812733.73 0.0494 0.0139

Jupiter -75385-10-31 22:47 J -25812643.65 -25812643.55 -25812643.44 0.0494 0.0403

Mars -75383-12-31 13:11 J -25811853.06 -25811852.95 -25811852.83 0.1626 0.1190

Venus -75381-06-20 20:08 J -25811315.68 -25811315.66 -25811315.63 0.3586 0.3503

Earth -75380-04-10 09:49 J -25811022.19 -25811022.09 -25811021.99 0.2734 0.1061

Moon -75380-04-10 10:32 J -25811022.15 -25811022.06 -25811021.96 0.2733 0.1171 *

Venus -75379-01-07 02:08 J -25810750.46 -25810750.41 -25810750.36 0.3780 0.3271

Jupiter -75379-03-27 09:49 J -25810671.14 -25810671.09 -25810671.05 0.0533 0.0492

Jupiter -75379-06-24 16:18 J -25810581.95 -25810581.82 -25810581.69 0.0533 0.0042

Jupiter -75379-09-21 23:16 J -25810492.61 -25810492.53 -25810492.45 0.0532 0.0413

Saturn -75377-04-16 07:54 J -25809920.27 -25809920.17 -25809920.06 0.0274 0.0229

Uranus -75377-05-28 06:42 J -25809878.27 -25809878.22 -25809878.15 0.0136 0.0120

Saturn -75377-07-14 07:11 J -25809831.38 -25809831.20 -25809831.01 0.0275 0.0078

Uranus -75377-08-24 10:04 J -25809790.16 -25809790.08 -25809790.00 0.0136 0.0104

Saturn -75377-10-11 06:28 J -25809742.41 -25809742.23 -25809742.04 0.0276 0.0075

Uranus -75377-11-20 12:56 J -25809702.05 -25809701.96 -25809701.85 0.0137 0.0088

Saturn -75376-01-08 05:44 J -25809653.36 -25809653.26 -25809653.15 0.0277 0.0229

Uranus -75376-02-16 16:18 J -25809613.93 -25809613.82 -25809613.70 0.0137 0.0071

Uranus -75376-05-15 19:25 J -25809525.80 -25809525.69 -25809525.56 0.0137 0.0054

Uranus -75376-08-11 22:47 J -25809437.68 -25809437.55 -25809437.42 0.0137 0.0037

Uranus -75376-11-08 02:08 J -25809349.54 -25809349.41 -25809349.28 0.0137 0.0020

Venus -75375-01-04 22:32 J -25809291.69 -25809291.56 -25809291.43 0.3589 0.1289

Uranus -75375-02-04 05:16 J -25809261.41 -25809261.28 -25809261.14 0.0137 0.0004

Uranus -75375-05-03 08:37 J -25809173.27 -25809173.14 -25809173.01 0.0137 0.0015

Uranus -75375-07-30 11:44 J -25809085.13 -25809085.01 -25809084.88 0.0138 0.0032

Uranus -75375-10-26 15:06 J -25808996.99 -25808996.87 -25808996.74 0.0138 0.0049

Uranus -75374-01-22 18:28 J -25808908.85 -25808908.73 -25808908.61 0.0138 0.0067

Uranus -75374-04-20 21:35 J -25808820.69 -25808820.60 -25808820.48 0.0138 0.0085

Uranus -75374-07-18 01:11 J -25808732.54 -25808732.45 -25808732.36 0.0138 0.0102

Uranus -75374-10-14 04:18 J -25808644.37 -25808644.32 -25808644.24 0.0138 0.0121

Uranus -75373-01-10 07:54 J -25808556.17 -25808556.17 -25808556.16 0.0139 0.0138

Moon -75373-04-03 08:52 J -25808472.19 -25808472.13 -25808472.08 0.2735 0.2350

Earth -75373-04-03 09:20 J -25808472.17 -25808472.11 -25808472.06 0.2730 0.2345 *

Jupiter -75373-05-21 11:44 J -25808424.16 -25808424.01 -25808423.85 0.0493 0.0270

Jupiter -75373-08-19 20:52 J -25808333.78 -25808333.63 -25808333.48 0.0494 0.0274

Mars -75370-02-25 22:47 J -25807413.65 -25807413.55 -25807413.46 0.1905 0.0982

Venus -75370-07-22 00:28 J -25807267.61 -25807267.48 -25807267.34 0.3592 0.0854

Moon -75370-10-03 14:52 J -25807193.99 -25807193.88 -25807193.76 0.2599 0.1804

Earth -75370-10-03 16:18 J -25807193.95 -25807193.82 -25807193.69 0.2603 0.1591 *

Jupiter -75367-04-12 20:23 J -25806271.77 -25806271.65 -25806271.53 0.0532 0.0155

Earth -75367-04-13 03:49 J -25806271.39 -25806271.34 -25806271.28 0.2735 0.2292

Moon -75367-04-13 04:18 J -25806271.37 -25806271.32 -25806271.26 0.2731 0.2379 *

Jupiter -75367-07-11 03:06 J -25806182.48 -25806182.37 -25806182.27 0.0531 0.0298

Venus -75364-02-04 02:08 J -25805243.49 -25805243.41 -25805243.33 0.3596 0.2891

Saturn -75364-08-25 18:42 J -25805040.81 -25805040.72 -25805040.63 0.0288 0.0208

Saturn -75364-11-22 05:59 J -25804952.37 -25804952.25 -25804952.12 0.0287 0.0092

Saturn -75363-02-18 17:30 J -25804863.90 -25804863.77 -25804863.64 0.0286 0.0024

Saturn -75363-05-18 04:47 J -25804775.41 -25804775.30 -25804775.19 0.0285 0.0138

Saturn -75363-08-14 16:04 J -25804686.89 -25804686.83 -25804686.77 0.0284 0.0251

Mars -75362-09-19 11:16 J -25804286.17 -25804286.03 -25804285.89 0.1638 0.0828

Jupiter -75361-03-09 08:37 J -25804114.24 -25804114.14 -25804114.03 0.0494 0.0411

Jupiter -75361-06-07 18:13 J -25804023.92 -25804023.74 -25804023.56 0.0494 0.0138

Mars -75361-07-18 06:42 J -25803983.34 -25803983.22 -25803983.10 0.1913 0.0050

Earth -75360-04-06 03:06 J -25803721.47 -25803721.37 -25803721.27 0.2732 0.1138

Moon -75360-04-06 03:06 J -25803721.46 -25803721.37 -25803721.27 0.2739 0.1188 *

Moon -75357-10-05 22:04 J -25802442.74 -25802442.58 -25802442.42 0.2601 0.0702

Earth -75357-10-05 23:44 J -25802442.66 -25802442.51 -25802442.35 0.2602 0.0768 *

Jupiter -75355-01-30 00:28 J -25801961.59 -25801961.48 -25801961.37 0.0532 0.0266

Jupiter -75355-04-29 07:11 J -25801872.32 -25801872.20 -25801872.08 0.0532 0.0186

Neptune -75353-05-13 18:42 J -25801126.73 -25801126.72 -25801126.67 0.0089 0.0088

Neptune -75353-08-09 22:32 J -25801038.62 -25801038.56 -25801038.46 0.0089 0.0081

Neptune -75353-11-06 02:08 J -25800950.50 -25800950.41 -25800950.28 0.0089 0.0074

Neptune -75352-02-02 05:59 J -25800862.36 -25800862.25 -25800862.10 0.0089 0.0067

Mars -75352-02-08 12:28 J -25800856.14 -25800855.98 -25800855.81 0.1632 0.0124

Neptune -75352-05-01 09:49 J -25800774.22 -25800774.09 -25800773.93 0.0089 0.0060

Neptune -75352-07-28 13:40 J -25800686.08 -25800685.93 -25800685.76 0.0089 0.0053

Neptune -75352-10-24 17:30 J -25800597.93 -25800597.77 -25800597.59 0.0089 0.0046

Mars -75352-12-08 14:52 J -25800552.98 -25800552.88 -25800552.78 0.1920 0.0880

Neptune -75351-01-20 21:06 J -25800509.78 -25800509.62 -25800509.43 0.0089 0.0039

Neptune -75351-04-19 00:56 J -25800421.64 -25800421.46 -25800421.27 0.0089 0.0032

Neptune -75351-07-16 04:47 J -25800333.48 -25800333.30 -25800333.11 0.0089 0.0025

Neptune -75351-10-12 08:37 J -25800245.33 -25800245.14 -25800244.95 0.0089 0.0018

Venus -75351-11-30 06:56 J -25800196.27 -25800196.21 -25800196.14 0.3794 0.2929

Neptune -75350-01-08 12:13 J -25800157.18 -25800156.99 -25800156.79 0.0089 0.0011

Neptune -75350-04-06 16:04 J -25800069.03 -25800068.83 -25800068.63 0.0089 0.0004

Neptune -75350-07-03 19:40 J -25799980.87 -25799980.68 -25799980.48 0.0089 0.0004

Neptune -75350-09-29 23:30 J -25799892.72 -25799892.52 -25799892.32 0.0089 0.0010

Neptune -75350-12-27 03:06 J -25799804.56 -25799804.37 -25799804.17 0.0089 0.0017

Neptune -75349-03-24 06:42 J -25799716.40 -25799716.22 -25799716.02 0.0089 0.0024

Jupiter -75349-03-26 15:49 J -25799714.02 -25799713.84 -25799713.65 0.0494 0.0005

Neptune -75349-06-20 10:32 J -25799628.24 -25799628.06 -25799627.87 0.0089 0.0031

Neptune -75349-09-16 14:08 J -25799540.08 -25799539.91 -25799539.73 0.0089 0.0038

Neptune -75349-12-13 17:44 J -25799451.92 -25799451.76 -25799451.58 0.0089 0.0045

Neptune -75348-03-11 21:20 J -25799363.75 -25799363.61 -25799363.44 0.0089 0.0052

Neptune -75348-06-08 01:25 J -25799275.59 -25799275.44 -25799275.29 0.0089 0.0058

Saturn -75348-09-03 06:28 J -25799188.25 -25799188.23 -25799188.20 0.0274 0.0271

Neptune -75348-09-04 05:01 J -25799187.42 -25799187.29 -25799187.16 0.0089 0.0065

Saturn -75348-12-01 05:59 J -25799099.42 -25799099.25 -25799099.08 0.0275 0.0120

Neptune -75348-12-01 08:23 J -25799099.25 -25799099.15 -25799099.02 0.0089 0.0072 *

Neptune -75347-02-27 11:59 J -25799011.07 -25799011.00 -25799010.89 0.0089 0.0079

Saturn -75347-02-28 05:01 J -25799010.47 -25799010.29 -25799010.10 0.0276 0.0033

Earth -75347-04-08 20:52 J -25798970.74 -25798970.63 -25798970.52 0.2733 0.0078

Moon -75347-04-08 21:20 J -25798970.72 -25798970.61 -25798970.50 0.2737 0.0205 *

Neptune -75347-05-26 15:35 J -25798922.88 -25798922.85 -25798922.78 0.0089 0.0086

Saturn -75347-05-28 04:18 J -25798921.46 -25798921.32 -25798921.18 0.0277 0.0185

Venus -75345-06-15 00:28 J -25798172.57 -25798172.48 -25798172.38 0.3792 0.1660

Jupiter -75344-11-18 04:18 J -25797651.41 -25797651.32 -25797651.23 0.0533 0.0382

Jupiter -75343-02-15 10:47 J -25797562.17 -25797562.05 -25797561.92 0.0532 0.0070

Jupiter -75343-05-15 17:44 J -25797472.78 -25797472.76 -25797472.74 0.0531 0.0524

Mars -75343-07-01 13:54 J -25797426.04 -25797425.92 -25797425.79 0.1626 0.1055

Mars -75342-04-30 22:32 J -25797122.59 -25797122.56 -25797122.52 0.1927 0.1840

Pluto -75340-09-16 22:47 J -25796252.61 -25796252.55 -25796252.47 0.0084 0.0073

Pluto -75340-12-14 00:28 J -25796164.57 -25796164.48 -25796164.39 0.0084 0.0062

Venus -75340-12-29 18:13 J -25796148.85 -25796148.74 -25796148.63 0.3789 0.0352

Pluto -75339-03-12 01:54 J -25796076.53 -25796076.42 -25796076.31 0.0084 0.0050

Pluto -75339-06-08 03:06 J -25795988.48 -25795988.37 -25795988.24 0.0084 0.0039

Pluto -75339-09-04 04:32 J -25795900.44 -25795900.31 -25795900.18 0.0084 0.0028

Pluto -75339-12-01 05:59 J -25795812.38 -25795812.25 -25795812.11 0.0084 0.0017

Pluto -75338-02-27 07:25 J -25795724.33 -25795724.19 -25795724.05 0.0084 0.0006

Pluto -75338-05-26 08:37 J -25795636.27 -25795636.14 -25795636.00 0.0083 0.0006

Pluto -75338-08-22 10:04 J -25795548.21 -25795548.08 -25795547.94 0.0083 0.0016

Uranus -75338-10-18 03:49 J -25795491.36 -25795491.34 -25795491.29 0.0142 0.0140

Pluto -75338-11-18 11:30 J -25795460.15 -25795460.02 -25795459.89 0.0083 0.0027

Jupiter -75337-01-13 13:25 J -25795404.12 -25795403.94 -25795403.76 0.0494 0.0128

Uranus -75337-01-14 12:13 J -25795403.10 -25795402.99 -25795402.86 0.0142 0.0112

Pluto -75337-02-14 12:42 J -25795372.09 -25795371.97 -25795371.85 0.0083 0.0037

Uranus -75337-04-11 20:23 J -25795314.79 -25795314.65 -25795314.49 0.0142 0.0084

Jupiter -75337-04-12 22:18 J -25795313.67 -25795313.57 -25795313.47 0.0495 0.0415

Pluto -75337-05-12 13:54 J -25795284.02 -25795283.92 -25795283.80 0.0083 0.0048

Uranus -75337-07-09 04:47 J -25795226.48 -25795226.30 -25795226.12 0.0142 0.0056

Pluto -75337-08-08 15:20 J -25795195.95 -25795195.86 -25795195.76 0.0083 0.0058

Uranus -75337-10-05 12:42 J -25795138.15 -25795137.97 -25795137.78 0.0142 0.0029

Pluto -75337-11-04 16:32 J -25795107.88 -25795107.81 -25795107.73 0.0083 0.0069

Uranus -75336-01-01 20:52 J -25795049.82 -25795049.63 -25795049.44 0.0141 0.0001

Pluto -75336-01-31 17:44 J -25795019.79 -25795019.76 -25795019.71 0.0082 0.0079

Uranus -75336-03-31 04:47 J -25794961.48 -25794961.30 -25794961.11 0.0141 0.0026

Uranus -75336-06-27 12:42 J -25794873.14 -25794872.97 -25794872.79 0.0141 0.0053

Uranus -75336-09-23 20:23 J -25794784.79 -25794784.65 -25794784.48 0.0141 0.0080

Uranus -75336-12-21 04:18 J -25794696.43 -25794696.32 -25794696.19 0.0141 0.0106

Uranus -75335-03-19 12:13 J -25794608.05 -25794607.99 -25794607.92 0.0141 0.0132

Saturn -75334-01-12 20:23 J -25794308.71 -25794308.65 -25794308.58 0.0288 0.0247

Saturn -75334-04-11 07:54 J -25794220.28 -25794220.17 -25794220.05 0.0287 0.0130

Earth -75334-04-11 14:52 J -25794219.98 -25794219.88 -25794219.79 0.2734 0.1311

Moon -75334-04-11 15:35 J -25794219.95 -25794219.85 -25794219.76 0.2733 0.1367 *

Saturn -75334-07-08 19:11 J -25794131.83 -25794131.70 -25794131.57 0.0286 0.0018

Venus -75334-07-15 12:13 J -25794125.10 -25794124.99 -25794124.89 0.3786 0.0996

Saturn -75334-10-05 06:42 J -25794043.34 -25794043.22 -25794043.10 0.0285 0.0100

Saturn -75333-01-01 17:59 J -25793954.83 -25793954.75 -25793954.66 0.0284 0.0213

Jupiter -75332-09-06 08:37 J -25793341.19 -25793341.14 -25793341.10 0.0533 0.0491

Jupiter -75332-12-04 15:06 J -25793252.00 -25793251.87 -25793251.74 0.0533 0.0042

Jupiter -75331-03-03 21:49 J -25793162.67 -25793162.59 -25793162.51 0.0532 0.0414

Mars -75331-08-26 22:47 J -25792986.65 -25792986.55 -25792986.46 0.1905 0.1087

Venus -75328-01-28 06:13 J -25792101.33 -25792101.24 -25792101.16 0.3782 0.2352

Moon -75327-04-04 13:40 J -25791669.99 -25791669.93 -25791669.86 0.2736 0.2184

Earth -75327-04-04 14:08 J -25791669.98 -25791669.91 -25791669.85 0.2730 0.2094 *

Jupiter -75326-11-01 10:32 J -25791094.21 -25791094.06 -25791093.90 0.0494 0.0265

Jupiter -75325-01-30 19:40 J -25791003.83 -25791003.68 -25791003.52 0.0494 0.0281

Venus -75324-01-25 20:37 J -25790642.73 -25790642.64 -25790642.55 0.3586 0.2774

Moon -75324-10-03 21:35 J -25790391.74 -25790391.60 -25790391.45 0.2599 0.1195

Earth -75324-10-03 23:01 J -25790391.68 -25790391.54 -25790391.39 0.2603 0.1124 *

Venus -75323-08-14 00:13 J -25790077.49 -25790077.49 -25790077.48 0.3779 0.3753

Mars -75322-03-20 11:59 J -25789859.13 -25789859.00 -25789858.87 0.1638 0.0965

Mars -75321-01-17 06:42 J -25789556.33 -25789556.22 -25789556.10 0.1913 0.0169

Earth -75321-04-13 08:37 J -25789469.17 -25789469.14 -25789469.10 0.2736 0.2546

Moon -75321-04-13 09:06 J -25789469.15 -25789469.12 -25789469.09 0.2730 0.2585 *

Jupiter -75320-09-22 19:25 J -25788941.81 -25788941.69 -25788941.57 0.0533 0.0149

Jupiter -75320-12-21 02:08 J -25788852.51 -25788852.41 -25788852.30 0.0532 0.0307

Venus -75319-08-11 22:47 J -25788618.69 -25788618.55 -25788618.41 0.3590 0.0589

Saturn -75318-04-20 01:40 J -25788367.57 -25788367.43 -25788367.28 0.0274 0.0180

Saturn -75318-07-18 00:56 J -25788278.65 -25788278.46 -25788278.27 0.0275 0.0028

Saturn -75318-10-15 00:13 J -25788189.66 -25788189.49 -25788189.32 0.0276 0.0125

Moon -75314-04-07 08:08 J -25786919.27 -25786919.16 -25786919.06 0.2739 0.0811

Earth -75314-04-07 07:54 J -25786919.27 -25786919.17 -25786919.07 0.2732 0.0889 *

Jupiter -75314-08-20 08:23 J -25786784.26 -25786784.15 -25786784.04 0.0493 0.0397

Jupiter -75314-11-18 17:30 J -25786693.94 -25786693.77 -25786693.59 0.0494 0.0150

Venus -75313-02-26 00:42 J -25786594.59 -25786594.47 -25786594.34 0.3593 0.1535

Mars -75313-08-09 13:25 J -25786429.11 -25786428.94 -25786428.78 0.1632 0.0034

Mars -75312-06-08 14:37 J -25786125.99 -25786125.89 -25786125.78 0.1920 0.0786

Moon -75311-10-07 04:47 J -25785640.45 -25785640.30 -25785640.15 0.2602 0.0975

Earth -75311-10-07 06:28 J -25785640.37 -25785640.23 -25785640.09 0.2602 0.1243 *

Jupiter -75308-07-11 23:44 J -25784631.62 -25784631.51 -25784631.40 0.0532 0.0259

Venus -75308-09-11 01:54 J -25784570.44 -25784570.42 -25784570.40 0.3597 0.3545

Jupiter -75308-10-09 06:13 J -25784542.36 -25784542.24 -25784542.12 0.0532 0.0193

Saturn -75305-08-28 09:06 J -25783488.22 -25783488.12 -25783488.02 0.0288 0.0174

Saturn -75305-11-24 20:37 J -25783399.77 -25783399.64 -25783399.51 0.0287 0.0057

Saturn -75304-02-21 07:54 J -25783311.29 -25783311.17 -25783311.04 0.0286 0.0059

Saturn -75304-05-20 19:11 J -25783222.80 -25783222.70 -25783222.59 0.0285 0.0174

Mars -75304-12-30 14:37 J -25782999.03 -25782998.89 -25782998.75 0.1626 0.0920

Mars -75303-10-29 22:47 J -25782695.60 -25782695.55 -25782695.50 0.1928 0.1728

Jupiter -75302-09-06 14:37 J -25782384.08 -25782383.89 -25782383.71 0.0494 0.0010

Earth -75301-04-09 01:40 J -25782168.54 -25782168.43 -25782168.32 0.2733 0.0333

Moon -75301-04-09 02:23 J -25782168.51 -25782168.40 -25782168.29 0.2736 0.0352 *

Venus -75300-12-21 11:30 J -25781547.03 -25781547.02 -25781547.01 0.3796 0.3765

Jupiter -75296-04-30 03:49 J -25780321.43 -25780321.34 -25780321.25 0.0532 0.0369

Jupiter -75296-07-28 10:18 J -25780232.20 -25780232.07 -25780231.94 0.0532 0.0081

Venus -75294-07-07 05:01 J -25779523.37 -25779523.29 -25779523.21 0.3794 0.2510

Uranus -75293-03-21 10:47 J -25779265.07 -25779265.05 -25779265.03 0.0136 0.0134

Uranus -75293-06-17 13:40 J -25779176.98 -25779176.93 -25779176.86 0.0136 0.0118

Uranus -75293-09-13 16:47 J -25779088.88 -25779088.80 -25779088.70 0.0136 0.0102

Uranus -75293-12-10 20:08 J -25779000.76 -25779000.66 -25779000.55 0.0137 0.0084

Uranus -75292-03-08 23:16 J -25778912.64 -25778912.53 -25778912.41 0.0137 0.0068

Uranus -75292-06-05 02:37 J -25778824.51 -25778824.39 -25778824.27 0.0137 0.0051

Uranus -75292-09-01 05:44 J -25778736.39 -25778736.26 -25778736.13 0.0137 0.0034

Uranus -75292-11-28 08:52 J -25778648.26 -25778648.13 -25778647.99 0.0137 0.0018

Uranus -75291-02-24 12:13 J -25778560.12 -25778559.99 -25778559.86 0.0137 0.0000

Mars -75291-02-24 22:47 J -25778559.64 -25778559.55 -25778559.46 0.1905 0.1201

Uranus -75291-05-23 15:35 J -25778471.99 -25778471.85 -25778471.72 0.0137 0.0017

Uranus -75291-08-19 18:42 J -25778383.85 -25778383.72 -25778383.59 0.0138 0.0035

Uranus -75291-11-15 22:04 J -25778295.70 -25778295.58 -25778295.46 0.0138 0.0052

Uranus -75290-02-12 01:11 J -25778207.56 -25778207.45 -25778207.33 0.0138 0.0070

Uranus -75290-05-11 04:32 J -25778119.41 -25778119.31 -25778119.20 0.0138 0.0087

Jupiter -75290-06-25 12:13 J -25778074.17 -25778073.99 -25778073.81 0.0494 0.0124

Uranus -75290-08-07 07:54 J -25778031.25 -25778031.17 -25778031.08 0.0138 0.0105

Jupiter -75290-09-23 21:06 J -25777983.71 -25777983.62 -25777983.52 0.0495 0.0421

Uranus -75290-11-03 11:30 J -25777943.08 -25777943.02 -25777942.96 0.0138 0.0123

Saturn -75289-09-06 00:42 J -25777635.58 -25777635.47 -25777635.35 0.0274 0.0218

Saturn -75289-12-03 23:59 J -25777546.68 -25777546.50 -25777546.31 0.0275 0.0068

Venus -75288-01-19 22:32 J -25777499.66 -25777499.56 -25777499.46 0.3791 0.1227

Saturn -75288-03-02 23:16 J -25777457.71 -25777457.53 -25777457.35 0.0276 0.0085

Earth -75288-04-11 19:40 J -25777417.77 -25777417.68 -25777417.59 0.2734 0.1560

Moon -75288-04-11 20:23 J -25777417.74 -25777417.65 -25777417.57 0.2733 0.1689 *

Saturn -75288-05-30 22:04 J -25777368.66 -25777368.58 -25777368.47 0.0277 0.0238

Jupiter -75284-02-16 07:40 J -25776011.23 -25776011.18 -25776011.13 0.0533 0.0486

Jupiter -75284-05-16 13:54 J -25775922.04 -25775921.92 -25775921.79 0.0532 0.0042

Jupiter -75284-08-13 20:52 J -25775832.71 -25775832.63 -25775832.55 0.0531 0.0417

Venus -75283-08-05 16:18 J -25775475.93 -25775475.82 -25775475.71 0.3788 0.0096

Mars -75283-09-18 12:42 J -25775432.09 -25775431.97 -25775431.85 0.1638 0.1104

Mars -75282-07-18 06:56 J -25775129.33 -25775129.21 -25775129.10 0.1913 0.0279

Moon -75281-04-04 18:42 J -25774867.80 -25774867.72 -25774867.64 0.2737 0.1850

Earth -75281-04-04 18:56 J -25774867.79 -25774867.71 -25774867.64 0.2730 0.1849 *

Jupiter -75278-04-13 09:35 J -25773764.25 -25773764.10 -25773763.94 0.0494 0.0257

Jupiter -75278-07-12 18:56 J -25773673.86 -25773673.71 -25773673.56 0.0494 0.0290

Moon -75278-10-05 04:18 J -25773589.48 -25773589.32 -25773589.17 0.2599 0.0844

Earth -75278-10-05 05:44 J -25773589.42 -25773589.26 -25773589.10 0.2603 0.0661 *

Venus -75277-02-19 10:04 J -25773452.18 -25773452.08 -25773451.98 0.3785 0.1443

Saturn -75275-01-15 11:16 J -25772756.12 -25772756.03 -25772755.94 0.0288 0.0209

Saturn -75275-04-13 22:47 J -25772667.68 -25772667.55 -25772667.43 0.0287 0.0093

Saturn -75275-07-11 10:04 J -25772579.21 -25772579.08 -25772578.95 0.0286 0.0024

Saturn -75275-10-07 21:20 J -25772490.72 -25772490.61 -25772490.49 0.0285 0.0138

Saturn -75274-01-04 08:52 J -25772402.19 -25772402.13 -25772402.07 0.0284 0.0251

Mars -75273-02-08 14:08 J -25772002.08 -25772001.91 -25772001.75 0.1632 0.0166

Mars -75273-12-07 14:37 J -25771698.99 -25771698.89 -25771698.78 0.1920 0.0679

Jupiter -75272-03-04 18:13 J -25771611.86 -25771611.74 -25771611.62 0.0533 0.0148

Jupiter -75272-06-02 00:56 J -25771522.57 -25771522.46 -25771522.36 0.0532 0.0306

Neptune -75272-08-25 02:37 J -25771438.39 -25771438.39 -25771438.36 0.0089 0.0088

Venus -75272-09-04 04:18 J -25771428.39 -25771428.32 -25771428.25 0.3782 0.2820

Neptune -75272-11-21 04:18 J -25771350.37 -25771350.32 -25771350.28 0.0089 0.0083

Neptune -75271-02-17 05:16 J -25771262.33 -25771262.28 -25771262.21 0.0089 0.0079

Neptune -75271-05-16 06:42 J -25771174.29 -25771174.22 -25771174.14 0.0089 0.0074

Neptune -75271-08-12 07:54 J -25771086.24 -25771086.17 -25771086.08 0.0089 0.0070

Neptune -75271-11-08 09:20 J -25770998.20 -25770998.11 -25770998.02 0.0089 0.0065

Neptune -75270-02-04 10:47 J -25770910.15 -25770910.05 -25770909.96 0.0089 0.0060

Neptune -75270-05-03 11:44 J -25770822.10 -25770822.01 -25770821.90 0.0089 0.0056

Neptune -75270-07-30 13:11 J -25770734.05 -25770733.95 -25770733.84 0.0089 0.0051

Neptune -75270-10-26 14:37 J -25770646.00 -25770645.89 -25770645.78 0.0089 0.0046

Neptune -75269-01-22 15:49 J -25770557.95 -25770557.84 -25770557.72 0.0089 0.0042

Neptune -75269-04-19 17:01 J -25770469.90 -25770469.79 -25770469.66 0.0089 0.0037

Neptune -75269-07-16 18:13 J -25770381.85 -25770381.74 -25770381.61 0.0089 0.0033

Neptune -75269-10-12 19:40 J -25770293.80 -25770293.68 -25770293.55 0.0089 0.0028

Neptune -75268-01-08 21:06 J -25770205.75 -25770205.62 -25770205.49 0.0089 0.0023

Neptune -75268-04-06 22:18 J -25770117.70 -25770117.57 -25770117.44 0.0089 0.0018

Earth -75268-04-07 12:42 J -25770117.08 -25770116.97 -25770116.87 0.2732 0.0635

Moon -75268-04-07 12:56 J -25770117.06 -25770116.96 -25770116.86 0.2738 0.0658 *

Neptune -75268-07-03 23:44 J -25770029.64 -25770029.51 -25770029.38 0.0089 0.0014

Venus -75268-09-01 20:52 J -25769969.74 -25769969.63 -25769969.51 0.3587 0.2065

Neptune -75268-09-30 00:56 J -25769941.59 -25769941.46 -25769941.33 0.0089 0.0009

Neptune -75268-12-27 02:23 J -25769853.54 -25769853.40 -25769853.27 0.0089 0.0005

Neptune -75267-03-25 03:35 J -25769765.48 -25769765.35 -25769765.22 0.0089 0.0000

Neptune -75267-06-21 04:47 J -25769677.43 -25769677.30 -25769677.16 0.0089 0.0006

Neptune -75267-09-17 06:13 J -25769589.37 -25769589.24 -25769589.11 0.0089 0.0010

Neptune -75267-12-14 07:25 J -25769501.32 -25769501.19 -25769501.06 0.0089 0.0015

Jupiter -75266-01-30 06:56 J -25769454.32 -25769454.21 -25769454.10 0.0494 0.0393

Neptune -75266-03-12 08:52 J -25769413.26 -25769413.13 -25769413.00 0.0089 0.0019

Jupiter -75266-04-30 16:18 J -25769364.00 -25769363.82 -25769363.65 0.0494 0.0154

Neptune -75266-06-08 10:04 J -25769325.20 -25769325.08 -25769324.95 0.0089 0.0024

Neptune -75266-09-04 11:16 J -25769237.15 -25769237.03 -25769236.90 0.0089 0.0029

Neptune -75266-12-01 12:42 J -25769149.09 -25769148.97 -25769148.85 0.0089 0.0033

Neptune -75265-02-27 13:54 J -25769061.03 -25769060.92 -25769060.79 0.0089 0.0038

Neptune -75265-05-25 15:06 J -25768972.97 -25768972.87 -25768972.74 0.0089 0.0043

Neptune -75265-08-21 16:32 J -25768884.92 -25768884.81 -25768884.69 0.0089 0.0047

Moon -75265-10-07 11:16 J -25768838.15 -25768838.03 -25768837.90 0.2603 0.1608

Earth -75265-10-07 13:11 J -25768838.07 -25768837.95 -25768837.83 0.2601 0.1697 *

Neptune -75265-11-17 17:59 J -25768796.86 -25768796.75 -25768796.64 0.0089 0.0052

Neptune -75264-02-13 19:11 J -25768708.79 -25768708.70 -25768708.59 0.0089 0.0057

Neptune -75264-05-12 20:23 J -25768620.73 -25768620.65 -25768620.54 0.0089 0.0062

Mars -75264-06-30 15:20 J -25768572.01 -25768571.86 -25768571.72 0.1626 0.0784

Neptune -75264-08-08 21:49 J -25768532.67 -25768532.59 -25768532.50 0.0089 0.0066

Neptune -75264-11-04 23:01 J -25768444.61 -25768444.54 -25768444.45 0.0089 0.0071

Neptune -75263-02-01 00:13 J -25768356.54 -25768356.49 -25768356.40 0.0089 0.0076

Mars -75263-04-29 22:47 J -25768268.61 -25768268.55 -25768268.49 0.1927 0.1626

Neptune -75263-04-30 01:54 J -25768268.47 -25768268.42 -25768268.36 0.0089 0.0080

Neptune -75263-07-27 03:06 J -25768180.40 -25768180.37 -25768180.33 0.0089 0.0085

Venus -75262-03-18 23:16 J -25767945.67 -25767945.53 -25767945.39 0.3591 0.0152

Jupiter -75261-12-21 22:32 J -25767301.67 -25767301.56 -25767301.45 0.0533 0.0255

Jupiter -75260-03-21 05:16 J -25767212.40 -25767212.28 -25767212.16 0.0532 0.0198

Saturn -75259-01-23 21:20 J -25766903.61 -25766903.61 -25766903.60 0.0273 0.0273

Saturn -75259-04-22 20:23 J -25766814.81 -25766814.65 -25766814.47 0.0274 0.0124

Saturn -75259-07-20 19:40 J -25766725.87 -25766725.68 -25766725.49 0.0275 0.0029

Saturn -75259-10-17 18:42 J -25766636.85 -25766636.72 -25766636.57 0.0276 0.0181

Venus -75257-10-02 00:42 J -25765921.57 -25765921.47 -25765921.36 0.3594 0.2206

Earth -75255-04-10 06:28 J -25765366.33 -25765366.23 -25765366.12 0.2733 0.0586

Moon -75255-04-10 07:11 J -25765366.30 -25765366.20 -25765366.09 0.2735 0.0739 *

Jupiter -75254-02-16 13:54 J -25765054.10 -25765053.92 -25765053.73 0.0494 0.0022

Uranus -75254-11-07 10:47 J -25764790.09 -25764790.05 -25764789.98 0.0142 0.0136

Uranus -75253-02-03 19:11 J -25764701.82 -25764701.70 -25764701.57 0.0142 0.0107

Uranus -75253-05-02 03:20 J -25764613.51 -25764613.36 -25764613.19 0.0142 0.0079

Uranus -75253-07-29 11:44 J -25764525.19 -25764525.01 -25764524.83 0.0142 0.0051

Uranus -75253-10-25 19:40 J -25764436.86 -25764436.68 -25764436.48 0.0142 0.0024

Uranus -75252-01-22 03:49 J -25764348.53 -25764348.34 -25764348.15 0.0142 0.0004

Uranus -75252-04-20 11:44 J -25764260.19 -25764260.01 -25764259.82 0.0141 0.0031

Uranus -75252-07-17 19:40 J -25764171.85 -25764171.68 -25764171.50 0.0141 0.0058

Mars -75252-08-25 22:47 J -25764132.63 -25764132.55 -25764132.47 0.1905 0.1302

Uranus -75252-10-14 03:20 J -25764083.50 -25764083.36 -25764083.19 0.0141 0.0086

Uranus -75251-01-10 11:30 J -25763995.13 -25763995.02 -25763994.90 0.0141 0.0111

Uranus -75251-04-08 18:56 J -25763906.73 -25763906.71 -25763906.66 0.0141 0.0138

Jupiter -75249-10-10 02:52 J -25762991.47 -25762991.38 -25762991.29 0.0532 0.0364

Jupiter -75248-01-07 09:20 J -25762902.23 -25762902.11 -25762901.98 0.0532 0.0087

Saturn -75246-06-04 12:28 J -25762024.04 -25762023.98 -25762023.92 0.0289 0.0254

Saturn -75246-08-31 23:44 J -25761935.62 -25761935.51 -25761935.39 0.0288 0.0137

Saturn -75246-11-28 11:16 J -25761847.16 -25761847.03 -25761846.90 0.0287 0.0021

Saturn -75245-02-24 22:47 J -25761758.67 -25761758.55 -25761758.43 0.0286 0.0095

Saturn -75245-05-23 10:04 J -25761670.16 -25761670.08 -25761669.99 0.0285 0.0210

Earth -75245-10-02 04:47 J -25761538.32 -25761538.30 -25761538.28 0.2604 0.2583

Mars -75243-03-19 13:11 J -25761005.05 -25761004.95 -25761004.84 0.1638 0.1240

Venus -75243-07-28 09:20 J -25760874.15 -25760874.11 -25760874.06 0.3796 0.3354

Jupiter -75243-12-05 10:32 J -25760744.24 -25760744.06 -25760743.88 0.0494 0.0122

Mars -75242-01-16 06:42 J -25760702.33 -25760702.22 -25760702.10 0.1913 0.0372

Jupiter -75242-03-05 19:25 J -25760653.78 -25760653.69 -25760653.59 0.0495 0.0424

Earth -75242-04-13 00:28 J -25760615.56 -25760615.48 -25760615.40 0.2735 0.1813

Moon -75242-04-13 00:56 J -25760615.53 -25760615.46 -25760615.38 0.2732 0.1838 *

Venus -75237-02-11 02:52 J -25758850.47 -25758850.38 -25758850.29 0.3793 0.2090

Jupiter -75237-07-29 06:56 J -25758681.26 -25758681.21 -25758681.15 0.0532 0.0474

Jupiter -75237-10-26 13:25 J -25758592.07 -25758591.94 -25758591.81 0.0532 0.0026

Jupiter -75236-01-23 20:08 J -25758502.73 -25758502.66 -25758502.58 0.0531 0.0427

Moon -75235-04-05 23:30 J -25758065.60 -25758065.52 -25758065.43 0.2738 0.1631

Earth -75235-04-05 23:44 J -25758065.60 -25758065.51 -25758065.43 0.2730 0.1601 *

Mars -75234-08-09 14:37 J -25757575.06 -25757574.89 -25757574.73 0.1632 0.0289

Mars -75233-06-07 14:52 J -25757271.99 -25757271.88 -25757271.77 0.1920 0.0559

Venus -75232-08-26 20:37 J -25756826.75 -25756826.64 -25756826.54 0.3790 0.0796

Moon -75232-10-05 10:47 J -25756787.21 -25756787.05 -25756786.89 0.2601 0.0356

Earth -75232-10-05 12:28 J -25756787.14 -25756786.98 -25756786.82 0.2603 0.0192 *

Jupiter -75231-09-23 07:54 J -25756434.32 -25756434.17 -25756434.01 0.0494 0.0257

Jupiter -75231-12-22 17:16 J -25756343.93 -25756343.78 -25756343.63 0.0495 0.0291

Saturn -75230-09-09 19:40 J -25756082.82 -25756082.68 -25756082.51 0.0274 0.0161

Saturn -75230-12-07 19:11 J -25755993.89 -25755993.70 -25755993.51 0.0275 0.0011

Saturn -75229-03-05 18:13 J -25755904.90 -25755904.74 -25755904.58 0.0276 0.0143

Venus -75226-03-12 14:23 J -25754803.01 -25754802.90 -25754802.80 0.3787 0.0555

Jupiter -75225-08-14 17:01 J -25754281.91 -25754281.79 -25754281.67 0.0532 0.0144

Jupiter -75225-11-11 23:44 J -25754192.61 -25754192.51 -25754192.41 0.0531 0.0309

Mars -75225-12-29 16:04 J -25754144.98 -25754144.83 -25754144.67 0.1627 0.0641

Mars -75224-10-28 22:47 J -25753841.62 -25753841.55 -25753841.48 0.1927 0.1522

Earth -75222-04-08 17:30 J -25753314.88 -25753314.77 -25753314.66 0.2732 0.0390

Moon -75222-04-08 17:59 J -25753314.86 -25753314.75 -25753314.65 0.2737 0.0326 *

Venus -75221-09-25 08:08 J -25752779.25 -25752779.16 -25752779.06 0.3784 0.1906

Jupiter -75219-07-12 05:30 J -25752124.38 -25752124.27 -25752124.16 0.0494 0.0390

Moon -75219-10-08 17:59 J -25752035.86 -25752035.75 -25752035.64 0.2603 0.1902

Earth -75219-10-08 19:54 J -25752035.76 -25752035.67 -25752035.58 0.2601 0.2156 *

Jupiter -75219-10-10 14:52 J -25752034.05 -25752033.88 -25752033.70 0.0494 0.0160

Saturn -75217-10-21 14:52 J -25751291.89 -25751291.88 -25751291.87 0.0289 0.0287

Saturn -75216-01-18 02:23 J -25751203.51 -25751203.40 -25751203.30 0.0288 0.0170

Saturn -75216-04-16 13:40 J -25751115.05 -25751114.93 -25751114.80 0.0287 0.0054

Saturn -75216-07-14 01:11 J -25751026.58 -25751026.45 -25751026.32 0.0286 0.0063

Saturn -75216-10-10 12:28 J -25750938.08 -25750937.98 -25750937.87 0.0285 0.0178

Venus -75215-04-11 02:23 J -25750755.45 -25750755.40 -25750755.35 0.3780 0.3291

Mars -75215-05-21 17:30 J -25750714.81 -25750714.77 -25750714.74 0.1621 0.1575

Jupiter -75213-06-02 21:06 J -25749971.73 -25749971.62 -25749971.51 0.0532 0.0256

Jupiter -75213-08-31 03:49 J -25749882.46 -25749882.34 -25749882.22 0.0532 0.0197

Mars -75212-02-23 22:47 J -25749705.63 -25749705.55 -25749705.47 0.1905 0.1407

Venus -75211-04-08 21:20 J -25749296.74 -25749296.61 -25749296.48 0.3588 0.1339

Earth -75209-04-10 11:16 J -25748564.13 -25748564.03 -25748563.92 0.2733 0.0840

Moon -75209-04-10 11:59 J -25748564.10 -25748564.00 -25748563.89 0.2736 0.0863 *

Uranus -75209-04-10 18:13 J -25748563.78 -25748563.74 -25748563.70 0.0136 0.0128

Uranus -75209-07-07 21:20 J -25748475.68 -25748475.61 -25748475.53 0.0136 0.0112

Uranus -75209-10-04 00:28 J -25748387.57 -25748387.48 -25748387.38 0.0136 0.0096

Uranus -75209-12-31 03:35 J -25748299.45 -25748299.35 -25748299.24 0.0137 0.0080

Uranus -75208-03-29 06:56 J -25748211.33 -25748211.21 -25748211.09 0.0137 0.0063

Uranus -75208-06-25 10:04 J -25748123.20 -25748123.08 -25748122.95 0.0137 0.0046

Uranus -75208-09-21 13:25 J -25748035.07 -25748034.94 -25748034.81 0.0137 0.0029

Uranus -75208-12-18 16:32 J -25747946.94 -25747946.81 -25747946.68 0.0137 0.0012

Uranus -75207-03-16 19:54 J -25747858.81 -25747858.67 -25747858.54 0.0137 0.0006

Uranus -75207-06-12 23:01 J -25747770.67 -25747770.54 -25747770.41 0.0137 0.0023

Jupiter -75207-07-29 12:13 J -25747724.18 -25747723.99 -25747723.81 0.0494 0.0022

Uranus -75207-09-09 02:23 J -25747682.53 -25747682.40 -25747682.27 0.0138 0.0040

Uranus -75207-12-06 05:30 J -25747594.39 -25747594.27 -25747594.14 0.0138 0.0058

Uranus -75206-03-04 08:52 J -25747506.24 -25747506.13 -25747506.01 0.0138 0.0075

Uranus -75206-05-31 11:59 J -25747418.09 -25747418.00 -25747417.89 0.0138 0.0093

Uranus -75206-08-27 15:35 J -25747329.93 -25747329.85 -25747329.77 0.0138 0.0110

Venus -75206-10-23 23:30 J -25747272.66 -25747272.52 -25747272.39 0.3591 0.0831

Uranus -75206-11-23 18:42 J -25747241.75 -25747241.72 -25747241.66 0.0138 0.0129

Mars -75204-09-17 13:54 J -25746578.00 -25746577.92 -25746577.83 0.1638 0.1377

Mars -75203-07-17 06:56 J -25746275.32 -25746275.21 -25746275.10 0.1912 0.0488

Moon -75202-04-04 10:18 J -25746014.11 -25746014.07 -25746014.04 0.2734 0.2583

Earth -75202-04-04 10:47 J -25746014.09 -25746014.05 -25746014.02 0.2729 0.2553 *

Jupiter -75201-03-22 01:25 J -25745661.53 -25745661.44 -25745661.35 0.0533 0.0365

Jupiter -75201-06-19 07:54 J -25745572.29 -25745572.17 -25745572.04 0.0532 0.0089

Saturn -75200-01-26 17:16 J -25745350.90 -25745350.78 -25745350.66 0.0273 0.0211

Saturn -75200-04-25 16:18 J -25745262.00 -25745261.82 -25745261.63 0.0274 0.0061

Venus -75200-05-09 00:56 J -25745248.54 -25745248.46 -25745248.38 0.3595 0.2888

Saturn -75200-07-23 15:20 J -25745173.03 -25745172.86 -25745172.67 0.0275 0.0092

Saturn -75200-10-20 14:37 J -25745083.98 -25745083.89 -25745083.80 0.0276 0.0244

Moon -75199-10-03 10:32 J -25744736.14 -25744736.06 -25744735.98 0.2599 0.2268

Earth -75199-10-03 11:30 J -25744736.11 -25744736.02 -25744735.92 0.2604 0.2105 *

Earth -75196-04-13 05:16 J -25743813.35 -25743813.28 -25743813.21 0.2735 0.2066

Moon -75196-04-13 05:44 J -25743813.32 -25743813.26 -25743813.19 0.2730 0.2193 *

Jupiter -75195-05-17 09:35 J -25743414.28 -25743414.10 -25743413.91 0.0494 0.0112

Jupiter -75195-08-15 18:28 J -25743323.81 -25743323.73 -25743323.64 0.0495 0.0432

Mars -75194-02-07 15:20 J -25743148.02 -25743147.86 -25743147.70 0.1632 0.0434

Mars -75194-12-07 14:37 J -25742845.00 -25742844.89 -25742844.77 0.1920 0.0471

Jupiter -75189-01-09 05:44 J -25741351.31 -25741351.26 -25741351.20 0.0532 0.0472

Moon -75189-04-06 04:18 J -25741263.41 -25741263.32 -25741263.22 0.2738 0.1371

Earth -75189-04-06 04:32 J -25741263.41 -25741263.31 -25741263.22 0.2731 0.1350 *

Jupiter -75189-04-07 12:13 J -25741262.11 -25741261.99 -25741261.86 0.0532 0.0025

Jupiter -75189-07-05 18:56 J -25741172.78 -25741172.71 -25741172.63 0.0531 0.0431

Neptune -75188-02-07 16:18 J -25740955.84 -25740955.82 -25740955.77 0.0089 0.0087

Neptune -75188-05-06 19:54 J -25740867.73 -25740867.67 -25740867.57 0.0089 0.0080

Neptune -75188-08-02 23:44 J -25740779.61 -25740779.51 -25740779.38 0.0089 0.0073

Neptune -75188-10-30 03:35 J -25740691.47 -25740691.35 -25740691.21 0.0089 0.0066

Neptune -75187-01-26 07:25 J -25740603.33 -25740603.19 -25740603.04 0.0089 0.0059

Neptune -75187-04-24 11:16 J -25740515.19 -25740515.03 -25740514.87 0.0089 0.0052

Saturn -75187-06-07 03:35 J -25740471.43 -25740471.35 -25740471.26 0.0289 0.0212

Neptune -75187-07-21 14:52 J -25740427.04 -25740426.88 -25740426.70 0.0089 0.0045

Saturn -75187-09-03 15:06 J -25740382.99 -25740382.87 -25740382.74 0.0288 0.0095

Neptune -75187-10-17 18:42 J -25740338.89 -25740338.72 -25740338.54 0.0089 0.0038

Saturn -75187-12-01 02:37 J -25740294.52 -25740294.39 -25740294.26 0.0287 0.0022

Neptune -75186-01-13 22:32 J -25740250.75 -25740250.56 -25740250.38 0.0089 0.0031

Saturn -75186-02-27 14:08 J -25740206.03 -25740205.91 -25740205.80 0.0286 0.0138

Venus -75186-03-04 07:25 J -25740201.26 -25740201.19 -25740201.13 0.3795 0.2945

Neptune -75186-04-12 01:54 J -25740162.59 -25740162.42 -25740162.22 0.0089 0.0025

Saturn -75186-05-27 01:25 J -25740117.50 -25740117.44 -25740117.38 0.0285 0.0252

Neptune -75186-07-09 05:44 J -25740074.44 -25740074.26 -25740074.06 0.0089 0.0018

Neptune -75186-10-05 09:35 J -25739986.29 -25739986.10 -25739985.90 0.0089 0.0010

Moon -75186-10-06 17:16 J -25739984.94 -25739984.78 -25739984.62 0.2602 0.0134

Earth -75186-10-06 19:11 J -25739984.86 -25739984.70 -25739984.54 0.2603 0.0275 *

Neptune -75185-01-01 13:25 J -25739898.14 -25739897.94 -25739897.74 0.0089 0.0003

Pluto -75185-03-12 03:35 J -25739827.36 -25739827.35 -25739827.31 0.0060 0.0059

Neptune -75185-03-29 17:01 J -25739809.98 -25739809.79 -25739809.59 0.0089 0.0004

Pluto -75185-06-08 04:47 J -25739739.36 -25739739.30 -25739739.20 0.0060 0.0054

Neptune -75185-06-25 20:52 J -25739721.83 -25739721.63 -25739721.44 0.0089 0.0011

Mars -75185-06-29 16:32 J -25739717.97 -25739717.81 -25739717.65 0.1626 0.0515

Pluto -75185-09-04 06:13 J -25739651.34 -25739651.24 -25739651.12 0.0060 0.0048

Neptune -75185-09-22 00:28 J -25739633.67 -25739633.48 -25739633.28 0.0089 0.0018

Pluto -75185-12-01 07:25 J -25739563.30 -25739563.19 -25739563.04 0.0060 0.0043

Neptune -75185-12-19 04:04 J -25739545.51 -25739545.33 -25739545.13 0.0089 0.0025

Pluto -75184-02-27 08:52 J -25739475.27 -25739475.13 -25739474.98 0.0060 0.0038

Neptune -75184-03-17 07:40 J -25739457.35 -25739457.18 -25739456.98 0.0089 0.0032

Mars -75184-04-28 22:47 J -25739414.63 -25739414.55 -25739414.47 0.1927 0.1411

Pluto -75184-05-26 10:04 J -25739387.23 -25739387.08 -25739386.91 0.0060 0.0032

Neptune -75184-06-13 11:16 J -25739369.19 -25739369.03 -25739368.84 0.0089 0.0039

Pluto -75184-08-22 11:30 J -25739299.18 -25739299.02 -25739298.85 0.0060 0.0027

Neptune -75184-09-09 15:20 J -25739281.03 -25739280.86 -25739280.69 0.0089 0.0045

Pluto -75184-11-18 12:42 J -25739211.14 -25739210.97 -25739210.78 0.0060 0.0021

Neptune -75184-12-06 18:56 J -25739192.86 -25739192.71 -25739192.55 0.0089 0.0052

Pluto -75183-02-14 14:08 J -25739123.09 -25739122.91 -25739122.72 0.0060 0.0015

Neptune -75183-03-04 22:32 J -25739104.70 -25739104.56 -25739104.41 0.0089 0.0059

Jupiter -75183-03-05 05:59 J -25739104.41 -25739104.25 -25739104.09 0.0494 0.0258 *

Pluto -75183-05-13 15:35 J -25739035.04 -25739034.85 -25739034.66 0.0060 0.0010

Neptune -75183-06-01 02:08 J -25739016.53 -25739016.41 -25739016.27 0.0089 0.0066

Jupiter -75183-06-03 15:20 J -25739014.01 -25739013.86 -25739013.71 0.0495 0.0290

Pluto -75183-08-09 16:47 J -25738946.98 -25738946.80 -25738946.61 0.0061 0.0005

Neptune -75183-08-28 05:44 J -25738928.36 -25738928.26 -25738928.14 0.0089 0.0073

Pluto -75183-11-05 18:13 J -25738858.93 -25738858.74 -25738858.55 0.0061 0.0002

Neptune -75183-11-24 09:20 J -25738840.18 -25738840.11 -25738840.01 0.0089 0.0080

Pluto -75182-02-01 19:25 J -25738770.87 -25738770.69 -25738770.50 0.0061 0.0007

Neptune -75182-02-20 13:25 J -25738751.98 -25738751.94 -25738751.90 0.0089 0.0086

Pluto -75182-04-30 20:52 J -25738682.81 -25738682.63 -25738682.44 0.0061 0.0013

Pluto -75182-07-27 22:04 J -25738594.75 -25738594.58 -25738594.39 0.0061 0.0019

Pluto -75182-10-23 23:16 J -25738506.69 -25738506.53 -25738506.34 0.0061 0.0025

Pluto -75181-01-20 00:56 J -25738418.62 -25738418.46 -25738418.29 0.0061 0.0030

Pluto -75181-04-17 02:08 J -25738330.55 -25738330.41 -25738330.25 0.0061 0.0036

Pluto -75181-07-14 03:20 J -25738242.48 -25738242.36 -25738242.21 0.0061 0.0042

Venus -75181-09-17 00:56 J -25738177.56 -25738177.46 -25738177.37 0.3792 0.1666

Pluto -75181-10-10 04:47 J -25738154.40 -25738154.30 -25738154.17 0.0061 0.0048

Pluto -75180-01-06 05:59 J -25738066.31 -25738066.25 -25738066.14 0.0061 0.0055

Pluto -75180-04-04 07:25 J -25737978.20 -25737978.19 -25737978.13 0.0061 0.0060

Jupiter -75177-01-25 16:18 J -25736951.94 -25736951.82 -25736951.70 0.0532 0.0135

Jupiter -75177-04-23 23:01 J -25736862.64 -25736862.54 -25736862.44 0.0531 0.0318

Earth -75176-04-08 22:18 J -25736512.68 -25736512.57 -25736512.46 0.2732 0.0138

Moon -75176-04-08 22:47 J -25736512.66 -25736512.55 -25736512.44 0.2737 0.0103 *

Mars -75176-11-19 18:13 J -25736287.82 -25736287.74 -25736287.67 0.1621 0.1441

Venus -75175-04-02 18:28 J -25736153.83 -25736153.73 -25736153.62 0.3789 0.0364

Mars -75173-08-24 23:01 J -25735278.61 -25735278.54 -25735278.48 0.1905 0.1528

Moon -75173-10-09 00:42 J -25735233.51 -25735233.47 -25735233.43 0.2603 0.2503

Jupiter -75172-12-22 03:20 J -25734794.47 -25734794.36 -25734794.25 0.0494 0.0393

Jupiter -75171-03-22 12:56 J -25734704.14 -25734703.96 -25734703.79 0.0495 0.0157

Saturn -75171-06-15 17:01 J -25734618.87 -25734618.79 -25734618.70 0.0273 0.0245

Saturn -75171-09-12 16:18 J -25734530.00 -25734529.82 -25734529.64 0.0274 0.0095

Saturn -75171-12-10 15:20 J -25734441.04 -25734440.86 -25734440.67 0.0275 0.0056

Saturn -75170-03-09 14:23 J -25734352.02 -25734351.90 -25734351.77 0.0276 0.0209

Venus -75170-10-17 12:28 J -25734130.09 -25734129.98 -25734129.88 0.3786 0.1005

Uranus -75170-11-27 18:28 J -25734088.80 -25734088.73 -25734088.64 0.0142 0.0129

Uranus -75169-02-24 02:37 J -25734000.52 -25734000.39 -25734000.24 0.0142 0.0101

Uranus -75169-05-22 11:01 J -25733912.20 -25733912.04 -25733911.87 0.0142 0.0072

Uranus -75169-08-18 18:56 J -25733823.88 -25733823.71 -25733823.52 0.0142 0.0045

Uranus -75169-11-15 03:20 J -25733735.55 -25733735.36 -25733735.17 0.0142 0.0017

Uranus -75168-02-11 11:16 J -25733647.22 -25733647.03 -25733646.83 0.0142 0.0011

Uranus -75168-05-10 19:25 J -25733558.88 -25733558.69 -25733558.51 0.0141 0.0038

Uranus -75168-08-07 03:20 J -25733470.53 -25733470.36 -25733470.19 0.0141 0.0065

Uranus -75168-11-03 11:01 J -25733382.18 -25733382.04 -25733381.89 0.0141 0.0091

Uranus -75167-01-30 18:42 J -25733293.81 -25733293.72 -25733293.60 0.0141 0.0118

Jupiter -75166-11-13 19:54 J -25732641.78 -25732641.67 -25732641.56 0.0532 0.0255

Jupiter -75165-02-11 02:23 J -25732552.52 -25732552.40 -25732552.28 0.0531 0.0198

Mars -75164-03-18 14:37 J -25732150.95 -25732150.89 -25732150.83 0.1638 0.1513

Venus -75164-05-02 06:28 J -25732106.32 -25732106.23 -25732106.15 0.3783 0.2375

Mars -75163-01-15 06:42 J -25731848.32 -25731848.22 -25731848.11 0.1912 0.0591

Earth -75163-04-11 16:04 J -25731761.92 -25731761.83 -25731761.73 0.2734 0.1089

Moon -75163-04-11 16:47 J -25731761.89 -25731761.80 -25731761.70 0.2735 0.1226 *

Venus -75160-04-29 19:11 J -25730647.78 -25730647.70 -25730647.61 0.3586 0.2852

Jupiter -75159-01-08 10:32 J -25730394.25 -25730394.06 -25730393.88 0.0494 0.0025

Venus -75159-11-16 00:28 J -25730082.48 -25730082.48 -25730082.48 0.3780 0.3779

Saturn -75158-10-25 06:28 J -25729739.30 -25729739.23 -25729739.16 0.0289 0.0242

Saturn -75157-01-21 17:59 J -25729650.87 -25729650.75 -25729650.64 0.0288 0.0125

Saturn -75157-04-19 05:16 J -25729562.41 -25729562.28 -25729562.15 0.0287 0.0011

Saturn -75157-07-16 16:47 J -25729473.92 -25729473.80 -25729473.68 0.0286 0.0108

Saturn -75157-10-13 04:04 J -25729385.41 -25729385.33 -25729385.25 0.0285 0.0222

Moon -75156-04-04 15:06 J -25729211.92 -25729211.87 -25729211.82 0.2735 0.2416

Earth -75156-04-04 15:35 J -25729211.91 -25729211.85 -25729211.80 0.2729 0.2306 *

Mars -75155-08-08 16:04 J -25728720.99 -25728720.83 -25728720.67 0.1632 0.0570

Venus -75155-11-13 21:49 J -25728623.73 -25728623.59 -25728623.45 0.3589 0.0616

Mars -75154-06-07 14:52 J -25728418.00 -25728417.88 -25728417.77 0.1920 0.0354

Jupiter -75154-09-01 23:59 J -25728331.59 -25728331.50 -25728331.41 0.0532 0.0368

Jupiter -75154-11-30 06:28 J -25728242.36 -25728242.23 -25728242.11 0.0532 0.0085

Moon -75153-10-03 17:01 J -25727933.91 -25727933.79 -25727933.66 0.2600 0.1658

Earth -75153-10-03 18:13 J -25727933.86 -25727933.74 -25727933.61 0.2604 0.1636 *

Earth -75150-04-14 10:04 J -25727011.13 -25727011.08 -25727011.02 0.2735 0.2319

Moon -75150-04-14 10:32 J -25727011.11 -25727011.06 -25727011.00 0.2729 0.2313 *

Venus -75149-05-29 23:30 J -25726599.64 -25726599.52 -25726599.39 0.3592 0.1527

Jupiter -75148-10-27 07:40 J -25726084.36 -25726084.18 -25726084.00 0.0494 0.0115

Jupiter -75147-01-25 16:18 J -25725993.90 -25725993.82 -25725993.72 0.0495 0.0430

Mars -75146-12-29 17:30 J -25725290.93 -25725290.77 -25725290.61 0.1627 0.0368

Mars -75145-10-27 22:47 J -25724987.63 -25724987.55 -25724987.47 0.1927 0.1304

Venus -75144-12-14 00:56 J -25724575.47 -25724575.46 -25724575.44 0.3596 0.3568

Moon -75143-04-07 09:20 J -25724461.21 -25724461.11 -25724461.01 0.2738 0.1078

Earth -75143-04-07 09:20 J -25724461.21 -25724461.11 -25724461.01 0.2731 0.1102 *

Jupiter -75142-06-21 04:04 J -25724021.38 -25724021.33 -25724021.27 0.0533 0.0477

Jupiter -75142-09-18 10:32 J -25723932.18 -25723932.06 -25723931.93 0.0532 0.0029

Jupiter -75142-12-16 17:16 J -25723842.85 -25723842.78 -25723842.70 0.0531 0.0429

Saturn -75141-01-30 14:23 J -25723798.06 -25723797.90 -25723797.73 0.0274 0.0140

Saturn -75141-04-28 13:25 J -25723709.13 -25723708.94 -25723708.75 0.0275 0.0013

Saturn -75141-07-26 12:28 J -25723620.13 -25723619.98 -25723619.82 0.0276 0.0163

Moon -75140-10-06 23:59 J -25723182.66 -25723182.50 -25723182.34 0.2602 0.0500

Earth -75140-10-07 01:54 J -25723182.58 -25723182.42 -25723182.27 0.2602 0.0741 *

Mars -75136-05-20 18:42 J -25721860.81 -25721860.72 -25721860.62 0.1621 0.1304

Jupiter -75136-08-15 04:47 J -25721774.46 -25721774.30 -25721774.14 0.0494 0.0251

Jupiter -75136-11-13 13:54 J -25721684.06 -25721683.92 -25721683.77 0.0494 0.0297

Venus -75135-03-25 11:44 J -25721552.01 -25721552.01 -25721552.00 0.3797 0.3785

Mars -75133-02-23 22:47 J -25720851.61 -25720851.55 -25720851.49 0.1905 0.1620

Earth -75130-04-10 03:06 J -25719710.48 -25719710.37 -25719710.26 0.2732 0.0115

Moon -75130-04-10 03:35 J -25719710.45 -25719710.35 -25719710.24 0.2737 0.0222 *

Jupiter -75130-07-07 14:52 J -25719622.00 -25719621.88 -25719621.75 0.0532 0.0137

Jupiter -75130-10-04 21:35 J -25719532.70 -25719532.60 -25719532.50 0.0531 0.0318

Venus -75130-10-09 05:16 J -25719528.36 -25719528.28 -25719528.20 0.3794 0.2518

Saturn -75128-03-13 08:08 J -25719007.19 -25719007.16 -25719007.14 0.0289 0.0283

Saturn -75128-06-09 19:40 J -25718918.79 -25718918.68 -25718918.58 0.0288 0.0165

Saturn -75128-09-06 06:56 J -25718830.33 -25718830.21 -25718830.08 0.0287 0.0048

Saturn -75128-12-03 18:28 J -25718741.86 -25718741.73 -25718741.60 0.0286 0.0069

Saturn -75127-03-02 05:44 J -25718653.35 -25718653.26 -25718653.16 0.0285 0.0184

Uranus -75125-05-01 01:40 J -25717862.47 -25717862.43 -25717862.37 0.0136 0.0124

Uranus -75125-07-28 04:47 J -25717774.37 -25717774.30 -25717774.21 0.0136 0.0107

Uranus -75125-10-24 08:08 J -25717686.26 -25717686.16 -25717686.06 0.0136 0.0090

Uranus -75124-01-20 11:16 J -25717598.14 -25717598.03 -25717597.92 0.0137 0.0074

Uranus -75124-04-18 14:23 J -25717510.01 -25717509.90 -25717509.77 0.0137 0.0057

Venus -75124-04-23 22:47 J -25717504.65 -25717504.55 -25717504.45 0.3792 0.1228

Jupiter -75124-06-03 00:56 J -25717464.57 -25717464.46 -25717464.35 0.0494 0.0399

Uranus -75124-07-15 17:30 J -25717421.89 -25717421.77 -25717421.64 0.0137 0.0041

Mars -75124-07-16 06:56 J -25717421.32 -25717421.21 -25717421.11 0.1913 0.0698

Jupiter -75124-09-01 10:32 J -25717374.24 -25717374.06 -25717373.89 0.0495 0.0152

Uranus -75124-10-11 20:52 J -25717333.76 -25717333.63 -25717333.50 0.0137 0.0024

Uranus -75123-01-08 00:13 J -25717245.63 -25717245.49 -25717245.36 0.0137 0.0007

Uranus -75123-04-06 03:20 J -25717157.49 -25717157.36 -25717157.23 0.0137 0.0011

Uranus -75123-07-03 06:42 J -25717069.35 -25717069.22 -25717069.09 0.0137 0.0028

Uranus -75123-09-29 09:49 J -25716981.21 -25716981.09 -25716980.96 0.0138 0.0046

Uranus -75123-12-26 13:11 J -25716893.07 -25716892.95 -25716892.83 0.0138 0.0063

Uranus -75122-03-24 16:18 J -25716804.92 -25716804.82 -25716804.70 0.0138 0.0081

Uranus -75122-06-20 19:54 J -25716716.76 -25716716.67 -25716716.58 0.0138 0.0098

Uranus -75122-09-16 23:01 J -25716628.60 -25716628.54 -25716628.46 0.0138 0.0116

Uranus -75122-12-14 02:23 J -25716540.42 -25716540.40 -25716540.36 0.0138 0.0134

Venus -75119-11-07 16:32 J -25715480.92 -25715480.81 -25715480.70 0.3789 0.0106

Jupiter -75118-04-25 18:56 J -25715311.82 -25715311.71 -25715311.59 0.0532 0.0248

Jupiter -75118-07-24 01:25 J -25715222.55 -25715222.44 -25715222.32 0.0531 0.0206

Earth -75117-04-11 21:06 J -25714959.72 -25714959.62 -25714959.53 0.2734 0.1341

Moon -75117-04-11 21:35 J -25714959.69 -25714959.60 -25714959.50 0.2732 0.1393 *

Mars -75115-02-06 16:32 J -25714293.96 -25714293.81 -25714293.66 0.1632 0.0703

Mars -75115-12-06 14:52 J -25713990.99 -25713990.88 -25713990.76 0.1920 0.0241

Venus -75113-05-23 10:32 J -25713457.16 -25713457.06 -25713456.96 0.3785 0.1466

Saturn -75112-06-18 14:23 J -25713066.04 -25713065.90 -25713065.75 0.0273 0.0173

Jupiter -75112-06-20 07:54 J -25713064.36 -25713064.17 -25713063.99 0.0495 0.0017

Saturn -75112-09-15 13:40 J -25712977.12 -25712976.93 -25712976.74 0.0274 0.0023

Saturn -75112-12-13 12:42 J -25712888.14 -25712887.97 -25712887.80 0.0275 0.0129

Moon -75110-04-05 19:54 J -25712409.74 -25712409.67 -25712409.60 0.2736 0.2053

Earth -75110-04-05 20:23 J -25712409.72 -25712409.65 -25712409.58 0.2730 0.2062 *

Venus -75108-12-07 04:32 J -25711433.38 -25711433.31 -25711433.24 0.3782 0.2846

Neptune -75107-05-22 01:54 J -25711267.43 -25711267.42 -25711267.39 0.0089 0.0088

Neptune -75107-08-18 03:20 J -25711179.40 -25711179.36 -25711179.31 0.0089 0.0083

Moon -75107-10-04 23:30 J -25711131.65 -25711131.52 -25711131.38 0.2601 0.1411

Earth -75107-10-05 00:56 J -25711131.60 -25711131.46 -25711131.31 0.2604 0.1164 *

Neptune -75107-11-14 04:18 J -25711091.36 -25711091.32 -25711091.24 0.0089 0.0079

Neptune -75106-02-10 05:44 J -25711003.32 -25711003.26 -25711003.18 0.0089 0.0074

Jupiter -75106-02-11 22:32 J -25711001.65 -25711001.56 -25711001.47 0.0532 0.0368

Neptune -75106-05-09 07:11 J -25710915.27 -25710915.20 -25710915.11 0.0089 0.0069

Jupiter -75106-05-12 05:01 J -25710912.42 -25710912.29 -25710912.17 0.0532 0.0083

Mars -75106-06-29 18:13 J -25710863.91 -25710863.74 -25710863.58 0.1627 0.0238

Neptune -75106-08-05 08:23 J -25710827.23 -25710827.15 -25710827.05 0.0089 0.0065

Neptune -75106-11-01 09:49 J -25710739.18 -25710739.09 -25710738.99 0.0089 0.0060

Neptune -75105-01-28 11:16 J -25710651.13 -25710651.03 -25710650.93 0.0089 0.0055

Neptune -75105-04-25 12:13 J -25710563.08 -25710562.99 -25710562.87 0.0089 0.0051

Mars -75105-04-27 22:47 J -25710560.64 -25710560.55 -25710560.46 0.1927 0.1205

Neptune -75105-07-22 13:40 J -25710475.04 -25710474.93 -25710474.81 0.0089 0.0046

Neptune -75105-10-18 15:06 J -25710386.98 -25710386.87 -25710386.75 0.0089 0.0041

Neptune -75104-01-14 16:18 J -25710298.93 -25710298.82 -25710298.69 0.0089 0.0037

Neptune -75104-04-12 17:44 J -25710210.88 -25710210.76 -25710210.64 0.0089 0.0032

Earth -75104-04-14 14:52 J -25710208.91 -25710208.88 -25710208.84 0.2735 0.2569

Moon -75104-04-14 15:20 J -25710208.87 -25710208.86 -25710208.84 0.2730 0.2686 *

Neptune -75104-07-09 18:56 J -25710122.83 -25710122.71 -25710122.58 0.0089 0.0027

Neptune -75104-10-05 20:08 J -25710034.78 -25710034.66 -25710034.53 0.0089 0.0023

Venus -75104-12-04 19:40 J -25709974.79 -25709974.68 -25709974.56 0.3586 0.2111

Neptune -75103-01-01 21:35 J -25709946.73 -25709946.60 -25709946.47 0.0089 0.0018

Neptune -75103-03-30 22:47 J -25709858.67 -25709858.55 -25709858.41 0.0089 0.0014

Neptune -75103-06-27 00:13 J -25709770.62 -25709770.49 -25709770.36 0.0089 0.0008

Neptune -75103-09-23 01:25 J -25709682.57 -25709682.44 -25709682.30 0.0089 0.0005

Neptune -75103-12-20 02:52 J -25709594.51 -25709594.38 -25709594.25 0.0089 0.0001

Neptune -75102-03-18 04:04 J -25709506.46 -25709506.33 -25709506.19 0.0089 0.0006

Neptune -75102-06-14 05:30 J -25709418.40 -25709418.27 -25709418.14 0.0089 0.0010

Neptune -75102-09-10 06:42 J -25709330.35 -25709330.22 -25709330.09 0.0089 0.0015

Neptune -75102-12-07 07:54 J -25709242.29 -25709242.17 -25709242.03 0.0089 0.0020

Neptune -75101-03-04 09:20 J -25709154.24 -25709154.11 -25709153.98 0.0089 0.0024

Neptune -75101-05-31 10:47 J -25709066.18 -25709066.05 -25709065.93 0.0089 0.0029

Neptune -75101-08-27 11:59 J -25708978.12 -25708978.00 -25708977.88 0.0089 0.0034

Neptune -75101-11-23 13:11 J -25708890.06 -25708889.95 -25708889.83 0.0089 0.0039

Neptune -75100-02-19 14:37 J -25708802.00 -25708801.89 -25708801.77 0.0089 0.0043

Jupiter -75100-04-08 05:30 J -25708754.45 -25708754.27 -25708754.09 0.0494 0.0118

Neptune -75100-05-18 15:49 J -25708713.95 -25708713.84 -25708713.72 0.0089 0.0048

Jupiter -75100-07-07 14:23 J -25708663.99 -25708663.90 -25708663.81 0.0495 0.0428

Neptune -75100-08-14 17:01 J -25708625.88 -25708625.79 -25708625.67 0.0089 0.0053

Neptune -75100-11-10 18:13 J -25708537.82 -25708537.74 -25708537.62 0.0089 0.0058

Neptune -75099-02-06 19:54 J -25708449.76 -25708449.67 -25708449.58 0.0089 0.0062

Neptune -75099-05-05 21:06 J -25708361.70 -25708361.62 -25708361.53 0.0089 0.0067

Neptune -75099-08-01 22:18 J -25708273.64 -25708273.57 -25708273.48 0.0089 0.0072

Saturn -75099-10-27 22:47 J -25708186.65 -25708186.55 -25708186.46 0.0289 0.0191

Neptune -75099-10-28 23:44 J -25708185.57 -25708185.51 -25708185.44 0.0089 0.0076

Saturn -75098-01-24 10:04 J -25708098.20 -25708098.08 -25708097.95 0.0288 0.0074

Neptune -75098-01-25 00:56 J -25708097.50 -25708097.46 -25708097.40 0.0089 0.0081

Saturn -75098-04-22 21:35 J -25708009.73 -25708009.60 -25708009.47 0.0287 0.0043

Neptune -75098-04-23 02:08 J -25708009.42 -25708009.41 -25708009.36 0.0089 0.0086

Venus -75098-06-20 22:04 J -25707950.72 -25707950.58 -25707950.44 0.3590 0.0108

Saturn -75098-07-20 08:52 J -25707921.23 -25707921.13 -25707921.02 0.0286 0.0159

Saturn -75098-10-16 20:23 J -25707832.68 -25707832.65 -25707832.61 0.0285 0.0272

Earth -75097-04-07 14:08 J -25707659.01 -25707658.91 -25707658.81 0.2731 0.0854

Moon -75097-04-07 14:23 J -25707659.00 -25707658.90 -25707658.80 0.2737 0.0873 *

Mars -75097-11-18 19:40 J -25707433.80 -25707433.68 -25707433.57 0.1621 0.1166

Jupiter -75095-12-01 02:23 J -25706691.45 -25706691.40 -25706691.35 0.0532 0.0482

Jupiter -75094-02-28 08:52 J -25706602.26 -25706602.13 -25706602.00 0.0532 0.0033

Jupiter -75094-05-28 15:35 J -25706512.93 -25706512.85 -25706512.77 0.0531 0.0422

Mars -75094-08-24 22:47 J -25706424.59 -25706424.55 -25706424.50 0.1905 0.1731

Moon -75094-10-08 06:42 J -25706380.37 -25706380.22 -25706380.07 0.2602 0.1088

Earth -75094-10-08 08:37 J -25706380.29 -25706380.14 -25706380.00 0.2602 0.1202 *

Venus -75092-01-03 23:44 J -25705926.62 -25705926.51 -25705926.40 0.3593 0.2215

Pluto -75091-01-09 05:16 J -25705556.31 -25705556.28 -25705556.25 0.0084 0.0082

Pluto -75091-04-07 06:28 J -25705468.29 -25705468.23 -25705468.14 0.0084 0.0071

Pluto -75091-07-04 07:54 J -25705380.25 -25705380.17 -25705380.06 0.0084 0.0059

Pluto -75091-09-30 09:35 J -25705292.21 -25705292.10 -25705291.99 0.0084 0.0047

Pluto -75091-12-27 11:01 J -25705204.16 -25705204.04 -25705203.92 0.0084 0.0036

Pluto -75090-03-25 12:28 J -25705116.11 -25705115.98 -25705115.85 0.0084 0.0025

Pluto -75090-06-21 13:40 J -25705028.06 -25705027.93 -25705027.79 0.0084 0.0014

Pluto -75090-09-17 15:06 J -25704940.00 -25704939.87 -25704939.73 0.0083 0.0003

Pluto -75090-12-14 16:32 J -25704851.95 -25704851.81 -25704851.68 0.0083 0.0008

Pluto -75089-03-11 17:44 J -25704763.89 -25704763.76 -25704763.62 0.0083 0.0019

Pluto -75089-06-07 19:11 J -25704675.83 -25704675.70 -25704675.57 0.0083 0.0029

Pluto -75089-09-03 20:23 J -25704587.76 -25704587.65 -25704587.53 0.0083 0.0040

Pluto -75089-11-30 21:49 J -25704499.70 -25704499.59 -25704499.48 0.0083 0.0050

Jupiter -75088-01-25 02:23 J -25704444.56 -25704444.40 -25704444.24 0.0494 0.0257

Pluto -75088-02-26 23:01 J -25704411.63 -25704411.54 -25704411.44 0.0083 0.0061

Jupiter -75088-04-25 11:30 J -25704354.16 -25704354.02 -25704353.87 0.0494 0.0291

Pluto -75088-05-26 00:28 J -25704323.55 -25704323.48 -25704323.41 0.0083 0.0071

Pluto -75088-08-22 01:25 J -25704235.45 -25704235.44 -25704235.41 0.0082 0.0081

Uranus -75086-12-18 03:06 J -25703387.47 -25703387.37 -25703387.26 0.0142 0.0119

Uranus -75085-03-15 11:16 J -25703299.17 -25703299.03 -25703298.88 0.0142 0.0091

Uranus -75085-06-11 19:40 J -25703210.85 -25703210.68 -25703210.51 0.0142 0.0062

Uranus -75085-09-08 03:35 J -25703122.53 -25703122.35 -25703122.16 0.0142 0.0035

Uranus -75085-12-05 11:44 J -25703034.20 -25703034.01 -25703033.81 0.0142 0.0008

Mars -75084-01-14 06:56 J -25702994.32 -25702994.21 -25702994.11 0.1912 0.0805

Uranus -75084-03-03 19:54 J -25702945.86 -25702945.67 -25702945.48 0.0142 0.0020

Earth -75084-04-10 07:54 J -25702908.28 -25702908.17 -25702908.06 0.2732 0.0367

Moon -75084-04-10 08:37 J -25702908.25 -25702908.14 -25702908.04 0.2737 0.0456 *

Uranus -75084-05-31 03:49 J -25702857.52 -25702857.34 -25702857.16 0.0141 0.0047

Uranus -75084-08-27 11:44 J -25702769.17 -25702769.01 -25702768.85 0.0141 0.0074

Uranus -75084-11-23 19:25 J -25702680.81 -25702680.69 -25702680.55 0.0141 0.0101

Uranus -75083-02-20 03:20 J -25702592.43 -25702592.36 -25702592.28 0.0141 0.0127

Saturn -75083-11-05 13:25 J -25702334.05 -25702333.94 -25702333.82 0.0273 0.0213

Jupiter -75083-12-17 12:56 J -25702292.08 -25702291.96 -25702291.84 0.0532 0.0144

Saturn -75082-02-02 12:42 J -25702245.16 -25702244.97 -25702244.79 0.0274 0.0063

Jupiter -75082-03-16 19:40 J -25702202.78 -25702202.68 -25702202.58 0.0532 0.0310

Saturn -75082-05-02 11:44 J -25702156.19 -25702156.01 -25702155.83 0.0275 0.0089

Saturn -75082-07-30 10:32 J -25702067.14 -25702067.06 -25702066.96 0.0276 0.0241

Venus -75079-10-30 09:49 J -25700879.14 -25700879.09 -25700879.05 0.3796 0.3367

Jupiter -75077-11-12 23:30 J -25700134.63 -25700134.52 -25700134.41 0.0494 0.0394

Jupiter -75076-02-11 08:52 J -25700044.30 -25700044.13 -25700043.95 0.0494 0.0155

Mars -75076-08-07 17:30 J -25699866.91 -25699866.77 -25699866.63 0.1633 0.0845

Mars -75075-06-06 14:52 J -25699564.00 -25699563.88 -25699563.77 0.1920 0.0155

Venus -75073-05-15 03:20 J -25698855.45 -25698855.36 -25698855.28 0.3794 0.2096

Earth -75071-04-13 01:54 J -25698157.51 -25698157.42 -25698157.34 0.2734 0.1590

Moon -75071-04-13 02:37 J -25698157.48 -25698157.39 -25698157.31 0.2731 0.1689 *

Jupiter -75071-10-05 17:16 J -25697981.89 -25697981.78 -25697981.66 0.0532 0.0253

Jupiter -75070-01-02 23:59 J -25697892.62 -25697892.50 -25697892.38 0.0532 0.0201

Saturn -75069-03-16 00:28 J -25697454.55 -25697454.48 -25697454.40 0.0289 0.0229

Saturn -75069-06-12 11:59 J -25697366.11 -25697366.00 -25697365.88 0.0288 0.0111

Saturn -75069-09-08 23:30 J -25697277.65 -25697277.52 -25697277.39 0.0287 0.0007

Saturn -75069-12-06 11:01 J -25697189.16 -25697189.04 -25697188.92 0.0286 0.0122

Saturn -75068-03-04 22:18 J -25697100.64 -25697100.57 -25697100.50 0.0285 0.0236

Venus -75068-11-28 20:52 J -25696831.73 -25696831.63 -25696831.52 0.3791 0.0781

Mars -75067-12-28 18:42 J -25696436.89 -25696436.72 -25696436.55 0.1627 0.0101

Mars -75066-10-27 22:47 J -25696133.64 -25696133.55 -25696133.45 0.1927 0.1091

Jupiter -75065-11-30 05:01 J -25695734.47 -25695734.29 -25695734.10 0.0494 0.0015

Moon -75064-04-06 00:56 J -25695607.54 -25695607.46 -25695607.39 0.2736 0.1919

Earth -75064-04-06 01:11 J -25695607.53 -25695607.45 -25695607.37 0.2730 0.1811 *

Venus -75062-06-14 14:37 J -25694808.00 -25694807.89 -25694807.78 0.3788 0.0556

Moon -75061-10-05 05:59 J -25694329.40 -25694329.25 -25694329.09 0.2601 0.0755

Earth -75061-10-05 07:40 J -25694329.33 -25694329.18 -25694329.02 0.2604 0.0697 *

Jupiter -75059-07-24 21:20 J -25693671.70 -25693671.61 -25693671.51 0.0532 0.0364

Jupiter -75059-10-22 03:49 J -25693582.46 -25693582.34 -25693582.21 0.0532 0.0089

Mars -75057-05-19 20:08 J -25693006.79 -25693006.66 -25693006.53 0.1622 0.1033

Venus -75057-12-28 08:37 J -25692784.24 -25692784.14 -25692784.05 0.3785 0.1929

Mars -75054-02-22 23:01 J -25691997.57 -25691997.54 -25691997.52 0.1905 0.1847

Saturn -75053-03-24 13:40 J -25691602.00 -25691601.93 -25691601.84 0.0273 0.0245

Saturn -75053-06-21 12:56 J -25691513.14 -25691512.96 -25691512.78 0.0274 0.0095

Jupiter -75053-09-18 02:23 J -25691424.58 -25691424.40 -25691424.22 0.0494 0.0129

Saturn -75053-09-18 11:59 J -25691424.18 -25691424.00 -25691423.81 0.0275 0.0056

Saturn -75053-12-16 11:01 J -25691335.16 -25691335.04 -25691334.91 0.0276 0.0208

Jupiter -75053-12-17 11:16 J -25691334.12 -25691334.03 -25691333.92 0.0495 0.0418

Earth -75051-04-08 18:56 J -25690856.82 -25690856.71 -25690856.61 0.2731 0.0607

Moon -75051-04-08 19:11 J -25690856.80 -25690856.70 -25690856.59 0.2738 0.0513 *

Venus -75051-07-14 02:37 J -25690760.44 -25690760.39 -25690760.34 0.3781 0.3327

Moon -75048-10-08 13:40 J -25689578.07 -25689577.93 -25689577.80 0.2603 0.1414

Earth -75048-10-08 15:20 J -25689577.99 -25689577.86 -25689577.74 0.2602 0.1670 *

Jupiter -75047-05-13 00:56 J -25689361.51 -25689361.46 -25689361.41 0.0532 0.0484

Venus -75047-07-11 20:08 J -25689301.79 -25689301.66 -25689301.53 0.3587 0.1372

Jupiter -75047-08-10 07:11 J -25689272.32 -25689272.20 -25689272.07 0.0532 0.0037

Jupiter -75047-11-07 13:54 J -25689182.99 -25689182.92 -25689182.84 0.0531 0.0418

Mars -75045-07-15 06:56 J -25688567.31 -25688567.21 -25688567.11 0.1912 0.0911

Venus -75041-01-25 22:18 J -25687277.71 -25687277.57 -25687277.43 0.3591 0.0816

Uranus -75041-02-23 06:28 J -25687249.25 -25687249.23 -25687249.20 0.0136 0.0133

Uranus -75041-05-21 09:35 J -25687161.16 -25687161.10 -25687161.03 0.0136 0.0117

Jupiter -75041-07-06 23:44 J -25687114.66 -25687114.51 -25687114.35 0.0494 0.0263

Uranus -75041-08-17 12:42 J -25687073.05 -25687072.97 -25687072.88 0.0136 0.0101

Jupiter -75041-10-05 09:06 J -25687024.27 -25687024.12 -25687023.97 0.0495 0.0285

Uranus -75041-11-13 15:49 J -25686984.94 -25686984.84 -25686984.73 0.0137 0.0084

Uranus -75040-02-09 18:56 J -25686896.81 -25686896.71 -25686896.59 0.0137 0.0068

Uranus -75040-05-08 22:18 J -25686808.69 -25686808.57 -25686808.44 0.0137 0.0051

Saturn -75040-08-03 04:04 J -25686722.39 -25686722.33 -25686722.27 0.0289 0.0252

Uranus -75040-08-05 01:25 J -25686720.56 -25686720.44 -25686720.31 0.0137 0.0034

Saturn -75040-10-30 15:35 J -25686633.97 -25686633.85 -25686633.74 0.0288 0.0134

Uranus -75040-11-01 04:47 J -25686632.43 -25686632.30 -25686632.17 0.0137 0.0017

Saturn -75039-01-27 02:52 J -25686545.51 -25686545.38 -25686545.25 0.0287 0.0020

Uranus -75039-01-28 07:54 J -25686544.30 -25686544.17 -25686544.03 0.0137 0.0004

Saturn -75039-04-25 14:23 J -25686457.02 -25686456.90 -25686456.78 0.0286 0.0099

Uranus -75039-04-26 11:16 J -25686456.16 -25686456.03 -25686455.90 0.0137 0.0017

Saturn -75039-07-23 01:54 J -25686368.51 -25686368.42 -25686368.34 0.0285 0.0214

Uranus -75039-07-23 14:37 J -25686368.02 -25686367.89 -25686367.76 0.0137 0.0035

Uranus -75039-10-19 17:44 J -25686279.88 -25686279.76 -25686279.63 0.0138 0.0052

Uranus -75038-01-15 21:06 J -25686191.73 -25686191.62 -25686191.50 0.0138 0.0070

Earth -75038-04-11 12:42 J -25686106.07 -25686105.97 -25686105.86 0.2733 0.0615

Moon -75038-04-11 13:25 J -25686106.05 -25686105.94 -25686105.84 0.2735 0.0663 *

Uranus -75038-04-14 00:28 J -25686103.58 -25686103.48 -25686103.38 0.0138 0.0087

Uranus -75038-07-11 03:35 J -25686015.43 -25686015.35 -25686015.26 0.0138 0.0106

Uranus -75038-10-07 06:56 J -25685927.26 -25685927.21 -25685927.14 0.0138 0.0123

Mars -75036-02-05 17:59 J -25685439.88 -25685439.75 -25685439.61 0.1633 0.0982

Venus -75036-08-10 23:59 J -25685253.58 -25685253.50 -25685253.42 0.3594 0.2902

Mars -75036-12-05 14:52 J -25685137.00 -25685136.88 -25685136.77 0.1920 0.0037

Jupiter -75035-05-29 11:01 J -25684962.16 -25684962.04 -25684961.92 0.0532 0.0152

Jupiter -75035-08-26 17:44 J -25684872.87 -25684872.76 -25684872.66 0.0531 0.0302

Jupiter -75029-04-24 20:37 J -25682804.74 -25682804.64 -25682804.53 0.0494 0.0403

Jupiter -75029-07-24 06:13 J -25682714.42 -25682714.24 -25682714.06 0.0494 0.0147

Mars -75027-06-28 19:25 J -25682009.86 -25682009.69 -25682009.52 0.1627 0.0040

Mars -75026-04-27 22:47 J -25681706.65 -25681706.55 -25681706.45 0.1927 0.0990

Earth -75025-04-13 06:42 J -25681355.30 -25681355.22 -25681355.14 0.2734 0.1841

Moon -75025-04-13 07:25 J -25681355.27 -25681355.19 -25681355.12 0.2731 0.1921 *

Neptune -75024-11-04 13:11 J -25680784.97 -25680784.95 -25680784.88 0.0089 0.0087

Saturn -75024-11-08 12:28 J -25680781.14 -25680780.98 -25680780.81 0.0274 0.0131

Neptune -75023-01-31 17:01 J -25680696.85 -25680696.79 -25680696.68 0.0089 0.0080

Saturn -75023-02-05 11:44 J -25680692.20 -25680692.01 -25680691.82 0.0275 0.0020

Jupiter -75023-03-17 15:06 J -25680651.98 -25680651.87 -25680651.76 0.0533 0.0264

Neptune -75023-04-29 20:52 J -25680608.72 -25680608.63 -25680608.50 0.0089 0.0073

Saturn -75023-05-05 10:47 J -25680603.20 -25680603.05 -25680602.90 0.0276 0.0172

Jupiter -75023-06-14 21:35 J -25680562.71 -25680562.60 -25680562.48 0.0532 0.0190

Neptune -75023-07-27 00:42 J -25680520.59 -25680520.47 -25680520.33 0.0089 0.0066

Neptune -75023-10-23 04:32 J -25680432.45 -25680432.31 -25680432.16 0.0089 0.0059

Neptune -75022-01-19 08:08 J -25680344.31 -25680344.16 -25680343.99 0.0089 0.0052

Neptune -75022-04-17 11:59 J -25680256.16 -25680256.00 -25680255.82 0.0089 0.0045

Venus -75022-06-06 07:40 J -25680206.24 -25680206.18 -25680206.11 0.3796 0.2946

Neptune -75022-07-14 15:49 J -25680168.01 -25680167.84 -25680167.66 0.0089 0.0038

Neptune -75022-10-10 19:40 J -25680079.87 -25680079.68 -25680079.50 0.0089 0.0031

Neptune -75021-01-06 23:16 J -25679991.72 -25679991.53 -25679991.34 0.0089 0.0024

Neptune -75021-04-04 03:06 J -25679903.56 -25679903.37 -25679903.18 0.0089 0.0017

Neptune -75021-07-01 06:42 J -25679815.41 -25679815.22 -25679815.02 0.0089 0.0010

Neptune -75021-09-27 10:32 J -25679727.26 -25679727.06 -25679726.86 0.0089 0.0003

Neptune -75021-12-24 14:08 J -25679639.10 -25679638.91 -25679638.71 0.0089 0.0004

Neptune -75020-03-22 17:59 J -25679550.95 -25679550.75 -25679550.56 0.0089 0.0011

Neptune -75020-06-18 21:35 J -25679462.79 -25679462.60 -25679462.40 0.0089 0.0018

Neptune -75020-09-15 01:11 J -25679374.63 -25679374.45 -25679374.25 0.0089 0.0025

Neptune -75020-12-12 04:47 J -25679286.47 -25679286.30 -25679286.10 0.0089 0.0032

Neptune -75019-03-10 08:37 J -25679198.31 -25679198.14 -25679197.96 0.0089 0.0039

Neptune -75019-06-06 12:13 J -25679110.15 -25679109.99 -25679109.81 0.0089 0.0046

Neptune -75019-09-02 15:49 J -25679021.98 -25679021.84 -25679021.67 0.0089 0.0053

Neptune -75019-11-29 19:25 J -25678933.82 -25678933.69 -25678933.53 0.0089 0.0060

Neptune -75018-02-25 23:30 J -25678845.65 -25678845.52 -25678845.39 0.0089 0.0066

Moon -75018-04-07 05:44 J -25678805.35 -25678805.26 -25678805.17 0.2736 0.1530

Earth -75018-04-07 05:59 J -25678805.34 -25678805.25 -25678805.16 0.2730 0.1561 *

Neptune -75018-05-25 03:06 J -25678757.48 -25678757.37 -25678757.26 0.0089 0.0073

Neptune -75018-08-21 06:28 J -25678669.30 -25678669.23 -25678669.13 0.0088 0.0080

Neptune -75018-11-17 10:04 J -25678581.10 -25678581.08 -25678581.02 0.0088 0.0087

Mars -75018-11-18 20:52 J -25678579.76 -25678579.63 -25678579.49 0.1621 0.0891

Jupiter -75017-05-12 03:20 J -25678404.55 -25678404.36 -25678404.17 0.0494 0.0009

Venus -75017-12-20 01:11 J -25678182.54 -25678182.45 -25678182.35 0.3793 0.1655

Moon -75015-10-06 12:56 J -25677527.12 -25677526.96 -25677526.80 0.2600 0.0495

Earth -75015-10-06 14:23 J -25677527.06 -25677526.90 -25677526.73 0.2604 0.0234 *

Jupiter -75011-01-03 19:40 J -25676341.77 -25676341.68 -25676341.59 0.0533 0.0372

Jupiter -75011-04-03 02:08 J -25676252.54 -25676252.41 -25676252.29 0.0532 0.0082

Venus -75011-07-05 18:56 J -25676158.82 -25676158.71 -25676158.60 0.3790 0.0339

Saturn -75011-12-21 06:13 J -25675990.25 -25675990.24 -25675990.22 0.0289 0.0286

Saturn -75010-03-19 17:44 J -25675901.86 -25675901.76 -25675901.65 0.0288 0.0168

Saturn -75010-06-16 05:16 J -25675813.41 -25675813.28 -25675813.15 0.0287 0.0051

Saturn -75010-09-12 16:47 J -25675724.93 -25675724.80 -25675724.68 0.0286 0.0066

Saturn -75010-12-10 04:04 J -25675636.43 -25675636.33 -25675636.23 0.0285 0.0180

Mars -75005-01-14 06:56 J -25674140.31 -25674140.21 -25674140.12 0.1912 0.1015

Venus -75005-01-19 12:42 J -25674135.08 -25674134.97 -25674134.87 0.3787 0.1017

Jupiter -75005-02-28 23:16 J -25674094.70 -25674094.53 -25674094.35 0.0494 0.0140

Earth -75005-04-08 23:44 J -25674054.62 -25674054.51 -25674054.40 0.2731 0.0352

Moon -75005-04-09 00:13 J -25674054.60 -25674054.49 -25674054.39 0.2738 0.0388 *

Jupiter -75005-05-29 08:23 J -25674004.25 -25674004.15 -25674004.04 0.0495 0.0407

Moon -75002-10-09 20:08 J -25672775.75 -25672775.66 -25672775.56 0.2604 0.2070

Earth -75002-10-09 21:49 J -25672775.68 -25672775.59 -25672775.49 0.2602 0.2126 *

Uranus -75002-10-11 03:49 J -25672774.39 -25672774.34 -25672774.27 0.0142 0.0135

Uranus -75001-01-07 11:59 J -25672686.11 -25672686.00 -25672685.86 0.0142 0.0107

Uranus -75001-04-04 20:08 J -25672597.81 -25672597.66 -25672597.49 0.0142 0.0080

Uranus -75001-07-02 04:32 J -25672509.48 -25672509.31 -25672509.13 0.0142 0.0051

Uranus -75001-09-28 12:42 J -25672421.16 -25672420.97 -25672420.78 0.0142 0.0023

Uranus -75001-12-25 20:52 J -25672332.82 -25672332.63 -25672332.44 0.0142 0.0004

75TH MILLENNIUM BCE

This is a list of transits of Mercury in the 75th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Uranus -75000-03-24 04:47 J -25672244.48 -25672244.30 -25672244.11 0.0142 0.0032

Uranus -75000-06-20 12:42 J -25672156.14 -25672155.97 -25672155.79 0.0141 0.0059

Venus -75000-08-04 06:42 J -25672111.30 -25672111.22 -25672111.14 0.3784 0.2402

Uranus -75000-09-16 20:37 J -25672067.79 -25672067.64 -25672067.49 0.0141 0.0085

Jupiter -75000-10-22 23:44 J -25672031.56 -25672031.51 -25672031.46 0.0532 0.0482

Uranus -75000-12-14 04:18 J -25671979.42 -25671979.32 -25671979.20 0.0141 0.0112

Jupiter -74999-01-20 05:59 J -25671942.37 -25671942.25 -25671942.12 0.0532 0.0035

Uranus -74999-03-12 12:13 J -25671891.02 -25671890.99 -25671890.95 0.0141 0.0138

Jupiter -74999-04-19 12:42 J -25671853.04 -25671852.97 -25671852.89 0.0531 0.0421

Mars -74997-08-06 18:42 J -25671012.84 -25671012.72 -25671012.60 0.1633 0.1110

Mars -74996-06-05 14:52 J -25670709.99 -25670709.88 -25670709.76 0.1919 0.0096

Venus -74996-08-01 17:59 J -25670652.83 -25670652.75 -25670652.67 0.3585 0.2913

Saturn -74994-03-28 12:42 J -25670049.12 -25670048.97 -25670048.81 0.0273 0.0164

Saturn -74994-06-25 11:59 J -25669960.19 -25669960.00 -25669959.81 0.0274 0.0013

Saturn -74994-09-22 11:01 J -25669871.20 -25669871.04 -25669870.87 0.0275 0.0139

Jupiter -74994-12-17 20:23 J -25669784.80 -25669784.65 -25669784.49 0.0494 0.0277

Jupiter -74993-03-17 05:44 J -25669694.41 -25669694.26 -25669694.10 0.0495 0.0273

Earth -74992-04-11 17:30 J -25669303.87 -25669303.77 -25669303.66 0.2733 0.0867

Moon -74992-04-11 18:13 J -25669303.84 -25669303.74 -25669303.64 0.2734 0.1001 *

Venus -74990-02-15 20:37 J -25668628.78 -25668628.64 -25668628.50 0.3588 0.0646

Jupiter -74988-11-08 09:20 J -25667632.23 -25667632.11 -25667631.99 0.0532 0.0156

Mars -74988-12-27 20:08 J -25667582.82 -25667582.66 -25667582.49 0.1627 0.0187

Jupiter -74987-02-05 16:04 J -25667542.94 -25667542.83 -25667542.73 0.0531 0.0297

Mars -74987-10-26 22:47 J -25667279.65 -25667279.55 -25667279.45 0.1927 0.0883

Moon -74985-04-04 16:18 J -25666753.85 -25666753.82 -25666753.78 0.2733 0.2557

Earth -74985-04-04 17:01 J -25666753.83 -25666753.79 -25666753.75 0.2728 0.2513 *

Venus -74985-08-31 22:32 J -25666604.69 -25666604.56 -25666604.44 0.3592 0.1514

Moon -74982-10-04 12:13 J -25665476.06 -25665475.99 -25665475.91 0.2600 0.2268

Earth -74982-10-04 13:25 J -25665476.03 -25665475.94 -25665475.85 0.2605 0.2145 *

Jupiter -74982-10-05 17:44 J -25665474.85 -25665474.76 -25665474.65 0.0494 0.0412

Jupiter -74981-01-04 03:35 J -25665384.53 -25665384.35 -25665384.17 0.0495 0.0140

Saturn -74981-08-05 21:20 J -25665169.70 -25665169.61 -25665169.51 0.0289 0.0190

Saturn -74981-11-02 08:52 J -25665081.25 -25665081.13 -25665081.00 0.0288 0.0073

Saturn -74980-01-29 20:23 J -25664992.78 -25664992.65 -25664992.52 0.0287 0.0044

Saturn -74980-04-28 07:40 J -25664904.28 -25664904.18 -25664904.07 0.0286 0.0160

Saturn -74980-07-25 18:56 J -25664815.74 -25664815.71 -25664815.67 0.0285 0.0274

Venus -74979-03-17 23:59 J -25664580.50 -25664580.50 -25664580.49 0.3595 0.3585

Earth -74979-04-14 11:30 J -25664553.09 -25664553.02 -25664552.95 0.2734 0.2089

Moon -74979-04-14 12:13 J -25664553.06 -25664552.99 -25664552.93 0.2731 0.2160 *

Mars -74978-05-19 21:35 J -25664152.75 -25664152.60 -25664152.45 0.1622 0.0757

Mars -74977-03-18 06:42 J -25663849.25 -25663849.22 -25663849.19 0.1933 0.1841

Jupiter -74976-08-27 13:11 J -25663322.06 -25663321.95 -25663321.84 0.0532 0.0273

Jupiter -74976-11-24 19:40 J -25663232.80 -25663232.68 -25663232.56 0.0532 0.0180

Moon -74972-04-07 10:47 J -25662003.14 -25662003.05 -25662002.96 0.2737 0.1365

Earth -74972-04-07 10:47 J -25662003.14 -25662003.05 -25662002.96 0.2730 0.1312 *

Venus -74971-06-27 12:13 J -25661556.99 -25661556.99 -25661556.98 0.3797 0.3788

Jupiter -74970-10-23 00:28 J -25661074.66 -25661074.48 -25661074.29 0.0494 0.0008

Moon -74969-10-06 19:40 J -25660724.85 -25660724.68 -25660724.52 0.2601 0.0178

Earth -74969-10-06 21:06 J -25660724.78 -25660724.62 -25660724.45 0.2603 0.0251 *

Mars -74966-07-15 06:56 J -25659713.30 -25659713.21 -25659713.12 0.1912 0.1126

Venus -74965-01-11 05:44 J -25659533.34 -25659533.26 -25659533.18 0.3795 0.2521

Saturn -74965-08-14 12:56 J -25659317.09 -25659316.96 -25659316.83 0.0273 0.0196

Saturn -74965-11-11 11:59 J -25659228.18 -25659228.00 -25659227.81 0.0274 0.0047

Saturn -74964-02-08 11:16 J -25659139.21 -25659139.03 -25659138.85 0.0275 0.0106

Saturn -74964-05-08 10:18 J -25659050.13 -25659050.07 -25659050.00 0.0276 0.0258

Jupiter -74964-06-15 17:01 J -25659011.87 -25659011.79 -25659011.70 0.0533 0.0387

Jupiter -74964-09-12 23:44 J -25658922.64 -25658922.51 -25658922.39 0.0532 0.0067

Jupiter -74964-12-11 06:28 J -25658833.25 -25658833.23 -25658833.21 0.0531 0.0521

Venus -74960-07-26 23:16 J -25657509.63 -25657509.53 -25657509.43 0.3792 0.1214

Earth -74959-04-10 04:32 J -25657252.42 -25657252.31 -25657252.20 0.2732 0.0107

Moon -74959-04-10 05:01 J -25657252.40 -25657252.29 -25657252.19 0.2737 0.0059 *

Jupiter -74958-08-10 21:35 J -25656764.78 -25656764.60 -25656764.42 0.0494 0.0140

Jupiter -74958-11-09 06:28 J -25656674.33 -25656674.23 -25656674.12 0.0495 0.0407

Mars -74957-02-05 19:25 J -25656585.79 -25656585.69 -25656585.58 0.1633 0.1256

Uranus -74957-03-14 13:54 J -25656547.95 -25656547.92 -25656547.87 0.0136 0.0129

Uranus -74957-06-10 17:01 J -25656459.85 -25656459.79 -25656459.71 0.0136 0.0112

Uranus -74957-09-06 20:23 J -25656371.74 -25656371.65 -25656371.56 0.0136 0.0095

Uranus -74957-12-03 23:30 J -25656283.62 -25656283.52 -25656283.41 0.0137 0.0079

Mars -74957-12-04 14:52 J -25656283.00 -25656282.88 -25656282.77 0.1920 0.0178

Uranus -74956-03-02 02:37 J -25656195.50 -25656195.39 -25656195.27 0.0137 0.0062

Uranus -74956-05-29 05:44 J -25656107.38 -25656107.26 -25656107.13 0.0137 0.0046

Uranus -74956-08-25 09:06 J -25656019.25 -25656019.12 -25656018.99 0.0137 0.0029

Moon -74956-10-10 03:06 J -25655973.44 -25655973.37 -25655973.30 0.2605 0.2322

Earth -74956-10-10 04:32 J -25655973.32 -25655973.31 -25655973.30 0.2602 0.2592 *

Uranus -74956-11-21 12:13 J -25655931.12 -25655930.99 -25655930.85 0.0137 0.0013

Uranus -74955-02-17 15:35 J -25655842.98 -25655842.85 -25655842.72 0.0137 0.0006

Uranus -74955-05-16 18:42 J -25655754.85 -25655754.72 -25655754.58 0.0137 0.0023

Uranus -74955-08-12 22:04 J -25655666.71 -25655666.58 -25655666.45 0.0137 0.0040

Uranus -74955-11-09 01:25 J -25655578.56 -25655578.44 -25655578.32 0.0138 0.0058

Uranus -74954-02-05 04:32 J -25655490.41 -25655490.31 -25655490.19 0.0138 0.0076

Venus -74954-02-09 16:47 J -25655485.90 -25655485.80 -25655485.69 0.3789 0.0167

Uranus -74954-05-04 07:54 J -25655402.26 -25655402.17 -25655402.07 0.0138 0.0093

Uranus -74954-07-31 11:16 J -25655314.10 -25655314.03 -25655313.95 0.0138 0.0111

Uranus -74954-10-27 14:23 J -25655225.93 -25655225.90 -25655225.84 0.0138 0.0130

Jupiter -74952-04-03 21:35 J -25654701.64 -25654701.60 -25654701.55 0.0533 0.0493

Jupiter -74952-07-02 04:04 J -25654612.46 -25654612.33 -25654612.21 0.0532 0.0043

Jupiter -74952-09-29 10:47 J -25654523.13 -25654523.05 -25654522.97 0.0531 0.0412

Saturn -74952-12-23 23:59 J -25654437.58 -25654437.50 -25654437.42 0.0289 0.0222

Saturn -74951-03-22 11:30 J -25654349.14 -25654349.02 -25654348.90 0.0288 0.0105

Saturn -74951-06-18 22:47 J -25654260.68 -25654260.55 -25654260.42 0.0287 0.0012

Saturn -74951-09-15 10:04 J -25654172.19 -25654172.08 -25654171.96 0.0286 0.0128

Saturn -74951-12-12 21:35 J -25654083.67 -25654083.60 -25654083.53 0.0285 0.0242

Venus -74949-08-25 10:47 J -25653462.15 -25653462.05 -25653461.95 0.3786 0.1481

Mars -74948-06-27 20:37 J -25653155.80 -25653155.64 -25653155.47 0.1627 0.0308

Mars -74947-04-26 22:47 J -25652852.65 -25652852.55 -25652852.44 0.1927 0.0772

Earth -74946-04-12 22:32 J -25652501.66 -25652501.56 -25652501.47 0.2733 0.1123

Moon -74946-04-12 23:16 J -25652501.63 -25652501.53 -25652501.44 0.2733 0.1150 *

Jupiter -74946-05-29 17:30 J -25652454.92 -25652454.77 -25652454.62 0.0494 0.0288

Jupiter -74946-08-28 02:52 J -25652364.54 -25652364.38 -25652364.22 0.0495 0.0261

Venus -74943-03-11 04:47 J -25651438.37 -25651438.30 -25651438.23 0.3783 0.2872

Neptune -74942-02-16 00:56 J -25651096.47 -25651096.46 -25651096.43 0.0089 0.0088

Neptune -74942-05-15 02:23 J -25651008.44 -25651008.40 -25651008.35 0.0089 0.0083

Neptune -74942-08-11 03:49 J -25650920.40 -25650920.34 -25650920.28 0.0089 0.0078

Neptune -74942-11-07 04:47 J -25650832.36 -25650832.30 -25650832.21 0.0089 0.0074

Neptune -74941-02-03 06:13 J -25650744.31 -25650744.24 -25650744.15 0.0089 0.0069

Neptune -74941-05-01 07:25 J -25650656.27 -25650656.19 -25650656.09 0.0089 0.0065

Neptune -74941-07-28 08:52 J -25650568.22 -25650568.13 -25650568.03 0.0089 0.0060

Neptune -74941-10-24 10:18 J -25650480.17 -25650480.07 -25650479.97 0.0089 0.0055

Neptune -74940-01-20 11:30 J -25650392.12 -25650392.02 -25650391.91 0.0089 0.0050

Neptune -74940-04-18 12:42 J -25650304.07 -25650303.97 -25650303.85 0.0089 0.0046

Jupiter -74940-04-20 08:08 J -25650302.28 -25650302.16 -25650302.04 0.0532 0.0155

Neptune -74940-07-15 14:08 J -25650216.02 -25650215.91 -25650215.79 0.0089 0.0041

Jupiter -74940-07-18 14:37 J -25650212.99 -25650212.89 -25650212.78 0.0531 0.0299

Neptune -74940-10-11 15:20 J -25650127.97 -25650127.86 -25650127.73 0.0089 0.0037

Neptune -74939-01-07 16:47 J -25650039.92 -25650039.80 -25650039.67 0.0089 0.0032

Venus -74939-03-08 18:28 J -25649979.84 -25649979.73 -25649979.62 0.3586 0.2161

Neptune -74939-04-05 18:13 J -25649951.87 -25649951.74 -25649951.62 0.0089 0.0027

Moon -74939-04-05 21:20 J -25649951.66 -25649951.61 -25649951.56 0.2733 0.2355 *

Earth -74939-04-05 21:49 J -25649951.65 -25649951.59 -25649951.53 0.2729 0.2268 *

Neptune -74939-07-02 19:25 J -25649863.82 -25649863.69 -25649863.56 0.0089 0.0022

Neptune -74939-09-28 20:37 J -25649775.76 -25649775.64 -25649775.50 0.0089 0.0018

Mars -74939-11-17 22:18 J -25649725.73 -25649725.57 -25649725.42 0.1622 0.0622

Neptune -74939-12-25 22:04 J -25649687.71 -25649687.58 -25649687.45 0.0089 0.0013

Neptune -74938-03-23 23:16 J -25649599.66 -25649599.53 -25649599.39 0.0089 0.0009

Neptune -74938-06-20 00:42 J -25649511.60 -25649511.47 -25649511.34 0.0089 0.0003

Neptune -74938-09-16 01:54 J -25649423.55 -25649423.42 -25649423.28 0.0089 0.0003

Mars -74938-09-17 06:42 J -25649422.27 -25649422.22 -25649422.17 0.1933 0.1733

Neptune -74938-12-13 03:20 J -25649335.49 -25649335.36 -25649335.23 0.0089 0.0006

Neptune -74937-03-10 04:32 J -25649247.44 -25649247.31 -25649247.18 0.0089 0.0011

Neptune -74937-06-06 05:44 J -25649159.38 -25649159.26 -25649159.12 0.0089 0.0016

Neptune -74937-09-02 07:11 J -25649071.33 -25649071.20 -25649071.07 0.0089 0.0020

Pluto -74937-09-30 10:04 J -25649043.11 -25649043.08 -25649043.00 0.0060 0.0057

Neptune -74937-11-29 08:23 J -25648983.27 -25648983.15 -25648983.02 0.0089 0.0025

Pluto -74937-12-27 11:59 J -25648955.09 -25648955.00 -25648954.91 0.0060 0.0051

Neptune -74936-02-25 09:35 J -25648895.21 -25648895.10 -25648894.97 0.0089 0.0030

Pluto -74936-03-25 12:56 J -25648867.06 -25648866.96 -25648866.83 0.0060 0.0046

Neptune -74936-05-24 11:01 J -25648807.16 -25648807.04 -25648806.91 0.0089 0.0034

Pluto -74936-06-21 14:37 J -25648779.03 -25648778.89 -25648778.76 0.0060 0.0041

Neptune -74936-08-20 12:28 J -25648719.10 -25648718.98 -25648718.86 0.0089 0.0039

Pluto -74936-09-17 15:35 J -25648690.99 -25648690.85 -25648690.69 0.0060 0.0035

Moon -74936-10-04 18:56 J -25648673.83 -25648673.71 -25648673.59 0.2600 0.1810

Earth -74936-10-04 20:08 J -25648673.78 -25648673.66 -25648673.53 0.2605 0.1677 *

Neptune -74936-11-16 13:40 J -25648631.04 -25648630.93 -25648630.81 0.0089 0.0044

Pluto -74936-12-14 17:01 J -25648602.95 -25648602.79 -25648602.62 0.0060 0.0030

Saturn -74935-01-01 12:42 J -25648585.07 -25648584.97 -25648584.87 0.0273 0.0232

Neptune -74935-02-12 14:52 J -25648542.98 -25648542.88 -25648542.76 0.0089 0.0049

Pluto -74935-03-12 18:13 J -25648514.90 -25648514.74 -25648514.56 0.0060 0.0024

Saturn -74935-03-31 11:59 J -25648496.18 -25648496.00 -25648495.82 0.0274 0.0081

Neptune -74935-05-11 16:18 J -25648454.92 -25648454.82 -25648454.71 0.0089 0.0053

Pluto -74935-06-08 19:40 J -25648426.86 -25648426.68 -25648426.50 0.0060 0.0019

Saturn -74935-06-28 11:01 J -25648407.22 -25648407.04 -25648406.85 0.0275 0.0071

Neptune -74935-08-07 17:30 J -25648366.86 -25648366.77 -25648366.66 0.0089 0.0058

Pluto -74935-09-04 20:52 J -25648338.81 -25648338.63 -25648338.44 0.0060 0.0013

Saturn -74935-09-25 10:04 J -25648318.18 -25648318.08 -25648317.96 0.0276 0.0223

Neptune -74935-11-03 18:42 J -25648278.80 -25648278.72 -25648278.61 0.0089 0.0063

Pluto -74935-12-01 22:18 J -25648250.75 -25648250.57 -25648250.38 0.0061 0.0008

Neptune -74934-01-30 20:23 J -25648190.74 -25648190.65 -25648190.57 0.0089 0.0067

Pluto -74934-02-27 23:44 J -25648162.70 -25648162.51 -25648162.32 0.0061 0.0002

Jupiter -74934-03-17 14:23 J -25648144.98 -25648144.90 -25648144.80 0.0494 0.0426

Neptune -74934-04-28 21:35 J -25648102.67 -25648102.60 -25648102.52 0.0089 0.0072

Pluto -74934-05-27 00:56 J -25648074.65 -25648074.46 -25648074.27 0.0061 0.0004

Jupiter -74934-06-16 00:13 J -25648054.67 -25648054.49 -25648054.31 0.0494 0.0126

Neptune -74934-07-25 22:47 J -25648014.61 -25648014.55 -25648014.48 0.0089 0.0077

Pluto -74934-08-23 02:08 J -25647986.59 -25647986.41 -25647986.22 0.0061 0.0010

Venus -74934-09-22 20:52 J -25647955.78 -25647955.63 -25647955.49 0.3589 0.0124

Neptune -74934-10-22 00:28 J -25647926.54 -25647926.48 -25647926.43 0.0089 0.0081

Pluto -74934-11-19 03:20 J -25647898.53 -25647898.36 -25647898.16 0.0061 0.0016

Neptune -74933-01-18 01:25 J -25647838.46 -25647838.44 -25647838.40 0.0089 0.0086

Pluto -74933-02-15 04:47 J -25647810.47 -25647810.30 -25647810.11 0.0061 0.0021

Earth -74933-04-14 16:18 J -25647750.87 -25647750.82 -25647750.77 0.2734 0.2341

Moon -74933-04-14 16:47 J -25647750.84 -25647750.80 -25647750.75 0.2730 0.2433 *

Pluto -74933-05-13 06:13 J -25647722.40 -25647722.24 -25647722.06 0.0061 0.0027

Pluto -74933-08-09 07:25 J -25647634.33 -25647634.19 -25647634.02 0.0061 0.0033

Pluto -74933-11-05 09:06 J -25647546.26 -25647546.12 -25647545.97 0.0061 0.0039

Pluto -74932-02-01 10:18 J -25647458.19 -25647458.07 -25647457.93 0.0061 0.0045

Pluto -74932-04-30 11:30 J -25647370.11 -25647370.02 -25647369.90 0.0061 0.0051

Pluto -74932-07-27 12:56 J -25647282.02 -25647281.96 -25647281.87 0.0061 0.0057

Mars -74929-04-08 23:44 J -25646295.55 -25646295.51 -25646295.46 0.1617 0.1545

Jupiter -74928-02-06 11:16 J -25645992.13 -25645992.03 -25645991.92 0.0532 0.0279

Venus -74928-04-07 22:32 J -25645931.66 -25645931.56 -25645931.45 0.3593 0.2220

Jupiter -74928-05-06 17:59 J -25645902.87 -25645902.75 -25645902.63 0.0531 0.0175

Mars -74926-01-13 06:56 J -25645286.30 -25645286.21 -25645286.12 0.1912 0.1228

Moon -74926-04-08 15:35 J -25645200.95 -25645200.85 -25645200.75 0.2738 0.1023

Earth -74926-04-08 15:35 J -25645200.95 -25645200.85 -25645200.75 0.2730 0.1066 *

Moon -74923-10-08 02:08 J -25643922.57 -25643922.41 -25643922.25 0.2603 0.0482

Earth -74923-10-08 03:49 J -25643922.49 -25643922.34 -25643922.18 0.2603 0.0704 *

Jupiter -74922-04-03 21:49 J -25643744.78 -25643744.59 -25643744.41 0.0494 0.0012

Saturn -74922-05-13 03:35 J -25643705.41 -25643705.35 -25643705.28 0.0289 0.0243

Saturn -74922-08-09 15:06 J -25643616.98 -25643616.87 -25643616.75 0.0288 0.0125

Saturn -74922-11-06 02:37 J -25643528.52 -25643528.39 -25643528.26 0.0287 0.0009

Saturn -74921-02-02 13:54 J -25643440.04 -25643439.92 -25643439.80 0.0286 0.0108

Saturn -74921-05-01 01:11 J -25643351.52 -25643351.45 -25643351.36 0.0285 0.0223

Mars -74918-08-06 20:08 J -25642158.75 -25642158.66 -25642158.58 0.1633 0.1390

Uranus -74918-10-31 12:56 J -25642073.04 -25642072.96 -25642072.86 0.0142 0.0124

Uranus -74917-01-27 21:06 J -25641984.75 -25641984.62 -25641984.46 0.0142 0.0096

Uranus -74917-04-25 05:30 J -25641896.43 -25641896.27 -25641896.10 0.0142 0.0067

Mars -74917-06-04 14:52 J -25641855.99 -25641855.88 -25641855.76 0.1919 0.0292

Uranus -74917-07-22 13:40 J -25641808.11 -25641807.93 -25641807.74 0.0142 0.0039

Uranus -74917-10-18 21:49 J -25641719.78 -25641719.59 -25641719.40 0.0142 0.0012

Jupiter -74917-11-25 15:06 J -25641681.95 -25641681.87 -25641681.78 0.0532 0.0394

Uranus -74916-01-15 05:59 J -25641631.44 -25641631.25 -25641631.06 0.0142 0.0016

Jupiter -74916-02-22 21:35 J -25641592.73 -25641592.60 -25641592.47 0.0532 0.0057

Uranus -74916-04-13 13:40 J -25641543.10 -25641542.93 -25641542.74 0.0142 0.0044

Jupiter -74916-05-23 04:18 J -25641503.35 -25641503.32 -25641503.28 0.0531 0.0512

Uranus -74916-07-10 21:35 J -25641454.75 -25641454.60 -25641454.42 0.0141 0.0071

Uranus -74916-10-07 05:30 J -25641366.40 -25641366.27 -25641366.12 0.0141 0.0097

Uranus -74915-01-03 13:25 J -25641278.02 -25641277.94 -25641277.84 0.0141 0.0123

Venus -74914-02-01 10:04 J -25640884.12 -25640884.08 -25640884.03 0.3797 0.3379

Earth -74913-04-10 09:20 J -25640450.22 -25640450.11 -25640450.00 0.2732 0.0159

Moon -74913-04-10 09:49 J -25640450.19 -25640450.09 -25640449.98 0.2736 0.0195 *

Jupiter -74910-01-20 18:42 J -25639434.90 -25639434.72 -25639434.54 0.0494 0.0148

Jupiter -74910-04-21 03:35 J -25639344.45 -25639344.35 -25639344.23 0.0495 0.0399

Venus -74909-08-17 03:35 J -25638860.44 -25638860.35 -25638860.26 0.3794 0.2088

Mars -74909-12-26 21:35 J -25638728.76 -25638728.60 -25638728.44 0.1627 0.0452

Mars -74908-10-25 22:47 J -25638425.66 -25638425.55 -25638425.44 0.1926 0.0669

Saturn -74906-05-21 12:56 J -25637853.00 -25637852.96 -25637852.90 0.0273 0.0263

Saturn -74906-08-18 12:13 J -25637764.16 -25637763.99 -25637763.81 0.0274 0.0113

Saturn -74906-11-15 11:30 J -25637675.21 -25637675.02 -25637674.83 0.0275 0.0039

Saturn -74905-02-12 10:32 J -25637586.19 -25637586.06 -25637585.92 0.0276 0.0191

Jupiter -74905-09-13 19:11 J -25637371.74 -25637371.70 -25637371.67 0.0533 0.0508

Jupiter -74905-12-12 01:40 J -25637282.56 -25637282.43 -25637282.31 0.0532 0.0061

Jupiter -74904-03-11 08:08 J -25637193.24 -25637193.16 -25637193.07 0.0531 0.0398

Venus -74903-03-02 21:06 J -25636836.72 -25636836.62 -25636836.51 0.3792 0.0782

Earth -74900-04-13 03:20 J -25635699.46 -25635699.36 -25635699.27 0.2733 0.1370

Moon -74900-04-13 04:04 J -25635699.42 -25635699.33 -25635699.24 0.2733 0.1526 *

Mars -74899-05-18 23:01 J -25635298.70 -25635298.54 -25635298.38 0.1622 0.0488

Jupiter -74899-11-08 15:35 J -25635125.00 -25635124.85 -25635124.70 0.0494 0.0288

Jupiter -74898-02-07 00:56 J -25635034.62 -25635034.46 -25635034.30 0.0494 0.0261

Mars -74898-03-18 06:42 J -25634995.28 -25634995.22 -25634995.17 0.1934 0.1639

Venus -74898-09-16 14:52 J -25634812.98 -25634812.88 -25634812.77 0.3789 0.0577

Moon -74893-04-06 02:08 J -25633149.47 -25633149.41 -25633149.34 0.2734 0.2079

Earth -74893-04-06 02:37 J -25633149.46 -25633149.39 -25633149.32 0.2729 0.2019 *

Saturn -74893-09-29 06:13 J -25632973.27 -25632973.24 -25632973.19 0.0289 0.0273

Jupiter -74893-09-30 05:59 J -25632972.37 -25632972.25 -25632972.13 0.0532 0.0167

Saturn -74893-12-26 17:44 J -25632884.86 -25632884.76 -25632884.65 0.0288 0.0155

Jupiter -74893-12-28 12:28 J -25632883.08 -25632882.98 -25632882.87 0.0532 0.0289

Saturn -74892-03-25 05:16 J -25632796.41 -25632796.28 -25632796.15 0.0287 0.0038

Venus -74892-04-01 08:52 J -25632789.23 -25632789.13 -25632789.04 0.3785 0.1948

Saturn -74892-06-21 16:32 J -25632707.93 -25632707.81 -25632707.68 0.0286 0.0078

Saturn -74892-09-18 04:04 J -25632619.43 -25632619.33 -25632619.24 0.0285 0.0192

Moon -74890-10-06 01:40 J -25631871.57 -25631871.43 -25631871.29 0.2600 0.1308

Earth -74890-10-06 02:52 J -25631871.52 -25631871.38 -25631871.23 0.2605 0.1210 *

Mars -74890-10-09 00:28 J -25631868.56 -25631868.48 -25631868.41 0.1617 0.1415

Earth -74887-04-15 21:06 J -25630948.65 -25630948.62 -25630948.59 0.2734 0.2596

Moon -74887-04-15 21:35 J -25630948.63 -25630948.60 -25630948.57 0.2729 0.2589 *

Mars -74887-07-14 06:56 J -25630859.29 -25630859.21 -25630859.13 0.1912 0.1340

Jupiter -74887-08-27 11:30 J -25630815.10 -25630815.02 -25630814.93 0.0494 0.0436

Venus -74887-10-16 02:52 J -25630765.43 -25630765.38 -25630765.33 0.3782 0.3354

Jupiter -74887-11-25 21:06 J -25630724.80 -25630724.62 -25630724.44 0.0494 0.0116

Venus -74883-10-13 18:56 J -25629306.84 -25629306.71 -25629306.58 0.3587 0.1425

Jupiter -74881-07-19 10:04 J -25628662.19 -25628662.08 -25628661.97 0.0532 0.0277

Jupiter -74881-10-16 16:32 J -25628572.93 -25628572.81 -25628572.69 0.0532 0.0176

Moon -74880-04-08 20:23 J -25628398.75 -25628398.65 -25628398.54 0.2738 0.0846

Earth -74880-04-08 20:23 J -25628398.75 -25628398.65 -25628398.55 0.2730 0.0818 *

Mars -74878-02-04 20:37 J -25627731.69 -25627731.64 -25627731.58 0.1633 0.1522

Mars -74878-12-04 14:52 J -25627428.99 -25627428.88 -25627428.76 0.1919 0.0406

Venus -74877-04-28 21:06 J -25627282.76 -25627282.62 -25627282.49 0.3590 0.0792

Moon -74877-10-08 08:52 J -25627120.28 -25627120.13 -25627119.98 0.2604 0.1011

Earth -74877-10-08 10:32 J -25627120.20 -25627120.06 -25627119.91 0.2603 0.1170 *

Saturn -74876-01-04 11:30 J -25627032.17 -25627032.02 -25627031.85 0.0274 0.0152

Saturn -74876-04-03 10:47 J -25626943.24 -25626943.05 -25626942.86 0.0275 0.0005

Saturn -74876-07-01 10:04 J -25626854.24 -25626854.08 -25626853.92 0.0275 0.0153

Jupiter -74875-09-13 18:28 J -25626414.92 -25626414.73 -25626414.54 0.0494 0.0021

Uranus -74873-04-03 21:35 J -25625846.65 -25625846.60 -25625846.54 0.0136 0.0123

Uranus -74873-07-01 00:42 J -25625758.54 -25625758.47 -25625758.38 0.0136 0.0107

Uranus -74873-09-27 03:49 J -25625670.43 -25625670.34 -25625670.24 0.0136 0.0090

Uranus -74873-12-24 07:11 J -25625582.31 -25625582.20 -25625582.09 0.0137 0.0074

Uranus -74872-03-22 10:18 J -25625494.19 -25625494.07 -25625493.95 0.0137 0.0057

Uranus -74872-06-18 13:25 J -25625406.06 -25625405.94 -25625405.81 0.0137 0.0040

Uranus -74872-09-14 16:32 J -25625317.93 -25625317.81 -25625317.67 0.0137 0.0024

Venus -74872-11-12 22:47 J -25625258.63 -25625258.55 -25625258.47 0.3593 0.2919

Uranus -74872-12-11 19:54 J -25625229.80 -25625229.67 -25625229.54 0.0137 0.0006

Uranus -74871-03-09 23:01 J -25625141.67 -25625141.54 -25625141.40 0.0137 0.0012

Uranus -74871-06-06 02:23 J -25625053.53 -25625053.40 -25625053.27 0.0137 0.0028

Uranus -74871-09-02 05:44 J -25624965.39 -25624965.26 -25624965.14 0.0137 0.0046

Uranus -74871-11-29 08:52 J -25624877.24 -25624877.13 -25624877.01 0.0138 0.0063

Uranus -74870-02-25 12:13 J -25624789.09 -25624788.99 -25624788.88 0.0138 0.0081

Uranus -74870-05-24 15:20 J -25624700.94 -25624700.86 -25624700.76 0.0138 0.0099

Uranus -74870-08-20 18:56 J -25624612.78 -25624612.71 -25624612.64 0.0138 0.0116

Uranus -74870-11-16 22:18 J -25624524.60 -25624524.57 -25624524.54 0.0138 0.0134

Jupiter -74869-05-07 13:25 J -25624352.02 -25624351.94 -25624351.86 0.0532 0.0400

Mars -74869-06-26 22:04 J -25624301.73 -25624301.58 -25624301.42 0.1627 0.0587

Jupiter -74869-08-04 19:54 J -25624262.80 -25624262.67 -25624262.54 0.0532 0.0051

Jupiter -74869-11-02 02:37 J -25624173.42 -25624173.39 -25624173.35 0.0531 0.0506

Mars -74868-04-25 22:47 J -25623998.66 -25623998.55 -25623998.44 0.1926 0.0568

Earth -74867-04-11 14:08 J -25623648.01 -25623647.91 -25623647.80 0.2732 0.0399

Moon -74867-04-11 14:52 J -25623647.99 -25623647.88 -25623647.78 0.2735 0.0520 *

Saturn -74863-05-15 21:20 J -25622152.71 -25622152.61 -25622152.50 0.0289 0.0177

Jupiter -74863-07-02 16:04 J -25622105.01 -25622104.83 -25622104.66 0.0494 0.0156

Saturn -74863-08-12 08:52 J -25622064.26 -25622064.13 -25622064.00 0.0288 0.0059

Jupiter -74863-10-01 01:11 J -25622014.56 -25622014.45 -25622014.34 0.0495 0.0392

Saturn -74863-11-08 20:23 J -25621975.78 -25621975.65 -25621975.53 0.0287 0.0057

Saturn -74862-02-05 07:40 J -25621887.28 -25621887.18 -25621887.08 0.0286 0.0172

Mars -74860-11-16 23:44 J -25620871.68 -25620871.51 -25620871.35 0.1622 0.0347

Neptune -74859-08-01 10:18 J -25620614.09 -25620614.07 -25620614.02 0.0089 0.0087

Mars -74859-09-16 06:42 J -25620568.29 -25620568.22 -25620568.15 0.1933 0.1521

Neptune -74859-10-28 14:08 J -25620525.98 -25620525.91 -25620525.82 0.0089 0.0080

Neptune -74858-01-24 17:44 J -25620437.86 -25620437.76 -25620437.63 0.0089 0.0073

Neptune -74858-04-22 21:35 J -25620349.72 -25620349.60 -25620349.46 0.0089 0.0066

Neptune -74858-07-20 01:25 J -25620261.58 -25620261.44 -25620261.29 0.0089 0.0059

Venus -74858-09-08 08:08 J -25620211.23 -25620211.16 -25620211.10 0.3796 0.2953

Neptune -74858-10-16 05:16 J -25620173.44 -25620173.28 -25620173.12 0.0089 0.0052

Neptune -74857-01-12 09:06 J -25620085.29 -25620085.12 -25620084.95 0.0089 0.0045

Jupiter -74857-02-24 17:16 J -25620041.81 -25620041.78 -25620041.75 0.0532 0.0515

Neptune -74857-04-09 12:42 J -25619997.15 -25619996.97 -25619996.79 0.0089 0.0038

Jupiter -74857-05-23 23:44 J -25619952.64 -25619952.51 -25619952.39 0.0532 0.0068

Neptune -74857-07-06 16:04 J -25619909.00 -25619908.83 -25619908.63 0.0089 0.0032

Jupiter -74857-08-21 06:13 J -25619863.32 -25619863.24 -25619863.15 0.0531 0.0389

Neptune -74857-10-02 19:54 J -25619820.85 -25619820.67 -25619820.47 0.0089 0.0025

Neptune -74857-12-29 23:44 J -25619732.70 -25619732.51 -25619732.31 0.0089 0.0017

Neptune -74856-03-28 03:35 J -25619644.55 -25619644.35 -25619644.15 0.0089 0.0010

Neptune -74856-06-24 07:11 J -25619556.39 -25619556.20 -25619556.00 0.0089 0.0004

Neptune -74856-09-20 11:01 J -25619468.24 -25619468.04 -25619467.84 0.0089 0.0004

Neptune -74856-12-17 14:37 J -25619380.08 -25619379.89 -25619379.69 0.0089 0.0011

Neptune -74855-03-15 18:13 J -25619291.92 -25619291.74 -25619291.54 0.0089 0.0018

Neptune -74855-06-11 21:49 J -25619203.77 -25619203.59 -25619203.39 0.0089 0.0025

Neptune -74855-09-08 01:40 J -25619115.61 -25619115.43 -25619115.24 0.0089 0.0031

Neptune -74855-12-05 05:16 J -25619027.45 -25619027.28 -25619027.09 0.0089 0.0038

Neptune -74854-03-03 08:52 J -25618939.28 -25618939.13 -25618938.95 0.0089 0.0045

Earth -74854-04-14 08:08 J -25618897.25 -25618897.16 -25618897.08 0.2733 0.1620

Moon -74854-04-14 08:52 J -25618897.22 -25618897.13 -25618897.05 0.2732 0.1642 *

Neptune -74854-05-30 12:56 J -25618851.12 -25618850.96 -25618850.80 0.0089 0.0052

Neptune -74854-08-26 16:32 J -25618762.95 -25618762.81 -25618762.66 0.0088 0.0059

Neptune -74854-11-22 19:54 J -25618674.79 -25618674.67 -25618674.53 0.0088 0.0066

Neptune -74853-02-18 23:30 J -25618586.61 -25618586.52 -25618586.39 0.0088 0.0073

Neptune -74853-05-17 03:06 J -25618498.43 -25618498.37 -25618498.27 0.0088 0.0080

Neptune -74853-08-13 06:42 J -25618410.24 -25618410.22 -25618410.16 0.0088 0.0087

Venus -74852-03-24 01:40 J -25618187.53 -25618187.43 -25618187.34 0.3794 0.1663

Jupiter -74851-04-20 12:56 J -25617795.11 -25617794.96 -25617794.81 0.0494 0.0295

Jupiter -74851-07-19 22:18 J -25617704.72 -25617704.57 -25617704.41 0.0494 0.0255

Mars -74850-04-09 01:11 J -25617441.55 -25617441.45 -25617441.35 0.1617 0.1272

Mars -74847-01-12 06:56 J -25616432.28 -25616432.21 -25616432.14 0.1912 0.1446

Moon -74847-04-07 07:11 J -25616347.28 -25616347.20 -25616347.12 0.2736 0.1780

Earth -74847-04-07 07:25 J -25616347.27 -25616347.19 -25616347.11 0.2729 0.1772 *

Saturn -74847-05-24 11:44 J -25616300.15 -25616300.01 -25616299.87 0.0274 0.0184

Saturn -74847-08-21 11:01 J -25616211.23 -25616211.04 -25616210.85 0.0274 0.0033

Venus -74847-10-07 19:11 J -25616163.81 -25616163.70 -25616163.59 0.3791 0.0330

Saturn -74847-11-18 10:04 J -25616122.25 -25616122.08 -25616121.90 0.0275 0.0120

Saturn -74846-02-15 09:06 J -25616033.14 -25616033.12 -25616033.08 0.0276 0.0273

Jupiter -74845-03-12 03:35 J -25615642.47 -25615642.35 -25615642.23 0.0532 0.0181

Jupiter -74845-06-09 10:04 J -25615553.18 -25615553.08 -25615552.97 0.0532 0.0274

Moon -74844-10-06 08:23 J -25615069.31 -25615069.15 -25615069.00 0.2601 0.0941

Earth -74844-10-06 09:49 J -25615069.25 -25615069.09 -25615068.94 0.2604 0.0739 *

Pluto -74843-07-30 13:25 J -25614771.99 -25614771.94 -25614771.87 0.0084 0.0075

Pluto -74843-10-26 15:06 J -25614683.96 -25614683.87 -25614683.78 0.0084 0.0064

Pluto -74842-01-22 16:32 J -25614595.92 -25614595.81 -25614595.70 0.0084 0.0052

Pluto -74842-04-20 17:44 J -25614507.87 -25614507.76 -25614507.63 0.0084 0.0041

Pluto -74842-07-17 19:11 J -25614419.82 -25614419.70 -25614419.57 0.0084 0.0030

Pluto -74842-10-13 20:37 J -25614331.77 -25614331.64 -25614331.50 0.0084 0.0019

Pluto -74841-01-09 22:04 J -25614243.71 -25614243.58 -25614243.44 0.0084 0.0008

Pluto -74841-04-06 23:30 J -25614155.66 -25614155.52 -25614155.38 0.0083 0.0003

Venus -74841-04-22 12:56 J -25614140.06 -25614139.96 -25614139.86 0.3788 0.1033

Pluto -74841-07-04 00:42 J -25614067.60 -25614067.47 -25614067.33 0.0083 0.0014

Pluto -74841-09-30 02:08 J -25613979.54 -25613979.41 -25613979.28 0.0083 0.0024

Pluto -74841-12-27 03:20 J -25613891.48 -25613891.36 -25613891.23 0.0083 0.0035

Pluto -74840-03-25 04:32 J -25613803.41 -25613803.31 -25613803.18 0.0083 0.0046

Pluto -74840-06-21 05:59 J -25613715.34 -25613715.25 -25613715.14 0.0083 0.0056

Pluto -74840-09-17 07:11 J -25613627.27 -25613627.20 -25613627.11 0.0083 0.0067

Pluto -74840-12-14 08:37 J -25613539.18 -25613539.14 -25613539.09 0.0082 0.0077

Jupiter -74839-02-06 09:49 J -25613485.17 -25613485.09 -25613485.00 0.0494 0.0435

Jupiter -74839-05-07 19:25 J -25613394.87 -25613394.69 -25613394.51 0.0494 0.0116

Mars -74838-06-04 14:52 J -25613001.99 -25613001.88 -25613001.77 0.1919 0.0495

Venus -74836-11-06 06:56 J -25612116.30 -25612116.21 -25612116.13 0.3784 0.2422

Earth -74834-04-10 01:11 J -25611596.55 -25611596.45 -25611596.34 0.2730 0.0567

Moon -74834-04-10 01:25 J -25611596.54 -25611596.44 -25611596.33 0.2737 0.0534 *

Uranus -74834-08-24 13:11 J -25611459.95 -25611459.95 -25611459.91 0.0143 0.0142

Saturn -74834-10-02 23:59 J -25611420.58 -25611420.50 -25611420.41 0.0288 0.0207

Uranus -74834-11-20 21:35 J -25611371.70 -25611371.60 -25611371.47 0.0142 0.0114

Jupiter -74834-12-30 07:54 J -25611332.27 -25611332.17 -25611332.06 0.0533 0.0289

Saturn -74834-12-30 11:30 J -25611332.14 -25611332.02 -25611331.89 0.0287 0.0090 *

Uranus -74833-02-17 06:13 J -25611283.40 -25611283.24 -25611283.09 0.0142 0.0085

Saturn -74833-03-27 23:01 J -25611243.67 -25611243.54 -25611243.41 0.0286 0.0027

Jupiter -74833-03-28 14:23 J -25611243.02 -25611242.90 -25611242.77 0.0532 0.0166

Uranus -74833-05-15 14:08 J -25611195.08 -25611194.91 -25611194.72 0.0142 0.0057

Saturn -74833-06-24 10:18 J -25611155.18 -25611155.07 -25611154.96 0.0285 0.0141

Uranus -74833-08-11 22:18 J -25611106.75 -25611106.57 -25611106.37 0.0142 0.0029

Saturn -74833-09-20 21:35 J -25611066.65 -25611066.60 -25611066.54 0.0284 0.0255

Uranus -74833-11-08 06:28 J -25611018.42 -25611018.23 -25611018.03 0.0142 0.0004

Uranus -74832-02-04 14:37 J -25610930.08 -25610929.89 -25610929.70 0.0142 0.0026

Uranus -74832-05-03 22:32 J -25610841.73 -25610841.56 -25610841.38 0.0142 0.0054

Uranus -74832-07-31 06:28 J -25610753.38 -25610753.23 -25610753.07 0.0141 0.0081

Uranus -74832-10-27 14:08 J -25610665.02 -25610664.91 -25610664.77 0.0141 0.0108

Venus -74832-11-03 16:47 J -25610657.88 -25610657.80 -25610657.73 0.3584 0.2968

Uranus -74831-01-23 21:49 J -25610576.63 -25610576.59 -25610576.51 0.0141 0.0134

Moon -74831-10-09 15:20 J -25610317.99 -25610317.86 -25610317.72 0.2604 0.1440

Earth -74831-10-09 17:16 J -25610317.91 -25610317.78 -25610317.66 0.2603 0.1627 *

Mars -74830-12-26 22:47 J -25609874.70 -25609874.55 -25609874.40 0.1627 0.0718

Mars -74829-10-24 22:47 J -25609571.66 -25609571.55 -25609571.43 0.1926 0.0454

Jupiter -74827-02-23 15:49 J -25609085.03 -25609084.84 -25609084.66 0.0494 0.0029

Venus -74826-05-20 19:11 J -25608633.84 -25608633.70 -25608633.56 0.3587 0.0686

Jupiter -74822-10-18 12:13 J -25607022.07 -25607021.99 -25607021.91 0.0533 0.0399

Jupiter -74821-01-15 18:42 J -25606932.85 -25606932.72 -25606932.60 0.0532 0.0055

Earth -74821-04-11 18:56 J -25606845.81 -25606845.71 -25606845.60 0.2732 0.0651

Moon -74821-04-11 19:40 J -25606845.78 -25606845.68 -25606845.57 0.2735 0.0692 *

Jupiter -74821-04-14 01:25 J -25606843.47 -25606843.44 -25606843.41 0.0531 0.0509

Venus -74821-12-03 21:20 J -25606609.74 -25606609.61 -25606609.48 0.3591 0.1514

Mars -74820-05-18 00:13 J -25606444.65 -25606444.49 -25606444.32 0.1622 0.0217

Mars -74819-03-17 06:42 J -25606141.30 -25606141.22 -25606141.14 0.1933 0.1418

Saturn -74818-10-11 10:18 J -25605568.17 -25605568.07 -25605567.96 0.0273 0.0227

Saturn -74817-01-08 09:35 J -25605479.28 -25605479.10 -25605478.91 0.0274 0.0076

Saturn -74817-04-06 08:52 J -25605390.31 -25605390.13 -25605389.95 0.0275 0.0076

Saturn -74817-07-04 08:08 J -25605301.27 -25605301.16 -25605301.06 0.0276 0.0229

Jupiter -74816-12-12 12:56 J -25604775.13 -25604774.96 -25604774.78 0.0494 0.0166

Jupiter -74815-03-12 22:04 J -25604684.69 -25604684.58 -25604684.46 0.0495 0.0383

Earth -74814-04-05 18:28 J -25604295.73 -25604295.73 -25604295.73 0.2727 0.2723

Mars -74811-10-08 01:54 J -25603014.54 -25603014.42 -25603014.30 0.1617 0.1136

Jupiter -74810-08-06 15:35 J -25602711.87 -25602711.85 -25602711.82 0.0532 0.0519

Jupiter -74810-11-03 22:04 J -25602622.71 -25602622.58 -25602622.46 0.0532 0.0072

Jupiter -74809-02-01 04:32 J -25602533.39 -25602533.31 -25602533.22 0.0531 0.0385

Earth -74808-04-14 12:56 J -25602095.04 -25602094.96 -25602094.88 0.2733 0.1865

Moon -74808-04-14 13:25 J -25602095.01 -25602094.94 -25602094.86 0.2730 0.1997 *

Mars -74808-07-13 06:56 J -25602005.27 -25602005.21 -25602005.14 0.1911 0.1551

Saturn -74804-02-19 03:20 J -25600688.43 -25600688.36 -25600688.28 0.0289 0.0231

Saturn -74804-05-18 14:52 J -25600599.99 -25600599.88 -25600599.76 0.0288 0.0113

Saturn -74804-08-15 02:23 J -25600511.53 -25600511.40 -25600511.27 0.0287 0.0004

Jupiter -74804-09-30 10:32 J -25600465.21 -25600465.06 -25600464.91 0.0494 0.0301

Saturn -74804-11-11 13:40 J -25600423.04 -25600422.93 -25600422.81 0.0286 0.0120

Jupiter -74804-12-29 19:54 J -25600374.82 -25600374.67 -25600374.51 0.0495 0.0251

Saturn -74803-02-08 01:11 J -25600334.52 -25600334.45 -25600334.38 0.0285 0.0234

Moon -74801-04-07 11:59 J -25599545.08 -25599545.00 -25599544.91 0.2736 0.1600

Earth -74801-04-07 12:13 J -25599545.08 -25599544.99 -25599544.90 0.2729 0.1526 *

Venus -74801-04-14 05:59 J -25599538.33 -25599538.25 -25599538.17 0.3796 0.2523

Mars -74799-12-03 14:52 J -25598574.99 -25598574.88 -25598574.77 0.1919 0.0609

Jupiter -74798-08-23 01:40 J -25598312.54 -25598312.43 -25598312.31 0.0532 0.0187

Moon -74798-10-07 14:52 J -25598267.05 -25598266.88 -25598266.72 0.2603 0.0347

Earth -74798-10-07 16:32 J -25598266.97 -25598266.81 -25598266.65 0.2604 0.0269 *

Jupiter -74798-11-20 08:23 J -25598223.26 -25598223.15 -25598223.04 0.0531 0.0268

Venus -74796-10-28 23:30 J -25597514.62 -25597514.52 -25597514.42 0.3793 0.1213

Jupiter -74792-07-19 07:40 J -25596155.27 -25596155.18 -25596155.10 0.0494 0.0439

Jupiter -74792-10-17 17:16 J -25596064.96 -25596064.78 -25596064.60 0.0494 0.0113

Venus -74790-05-14 17:16 J -25595490.89 -25595490.78 -25595490.67 0.3790 0.0155

Mars -74790-06-26 23:30 J -25595447.66 -25595447.52 -25595447.38 0.1628 0.0858

Uranus -74789-01-27 01:54 J -25595233.43 -25595233.42 -25595233.41 0.0136 0.0135

Uranus -74789-04-24 04:47 J -25595145.35 -25595145.30 -25595145.23 0.0136 0.0119

Mars -74789-04-24 22:47 J -25595144.66 -25595144.55 -25595144.44 0.1926 0.0352

Uranus -74789-07-21 07:54 J -25595057.25 -25595057.17 -25595057.08 0.0136 0.0103

Uranus -74789-10-17 11:01 J -25594969.13 -25594969.04 -25594968.93 0.0136 0.0087

Uranus -74788-01-13 14:23 J -25594881.01 -25594880.90 -25594880.79 0.0136 0.0070

Saturn -74788-02-27 10:32 J -25594836.12 -25594836.06 -25594836.01 0.0273 0.0259

Earth -74788-04-10 05:59 J -25594794.36 -25594794.25 -25594794.14 0.2731 0.0322

Moon -74788-04-10 06:28 J -25594794.34 -25594794.23 -25594794.13 0.2736 0.0263 *

Uranus -74788-04-11 17:30 J -25594792.89 -25594792.77 -25594792.65 0.0137 0.0053

Saturn -74788-05-27 09:35 J -25594747.27 -25594747.10 -25594746.92 0.0274 0.0109

Uranus -74788-07-08 20:37 J -25594704.76 -25594704.64 -25594704.51 0.0137 0.0036

Saturn -74788-08-24 08:52 J -25594658.32 -25594658.13 -25594657.94 0.0275 0.0043

Uranus -74788-10-04 23:59 J -25594616.63 -25594616.50 -25594616.37 0.0137 0.0019

Saturn -74788-11-21 07:54 J -25594569.30 -25594569.17 -25594569.03 0.0276 0.0195

Uranus -74787-01-01 03:06 J -25594528.50 -25594528.37 -25594528.24 0.0137 0.0003

Uranus -74787-03-30 06:28 J -25594440.37 -25594440.23 -25594440.10 0.0137 0.0015

Uranus -74787-06-26 09:35 J -25594352.23 -25594352.10 -25594351.97 0.0137 0.0032

Uranus -74787-09-22 12:56 J -25594264.09 -25594263.96 -25594263.84 0.0137 0.0050

Uranus -74787-12-19 16:04 J -25594175.94 -25594175.83 -25594175.71 0.0138 0.0067

Uranus -74786-03-17 19:25 J -25594087.79 -25594087.69 -25594087.58 0.0138 0.0085

Jupiter -74786-06-11 05:44 J -25594002.36 -25594002.26 -25594002.16 0.0533 0.0301

Uranus -74786-06-13 22:32 J -25593999.64 -25593999.56 -25593999.46 0.0138 0.0103

Jupiter -74786-09-08 12:13 J -25593913.11 -25593912.99 -25593912.87 0.0532 0.0152

Uranus -74786-09-10 02:08 J -25593911.47 -25593911.41 -25593911.34 0.0138 0.0120

Uranus -74786-12-07 05:30 J -25593823.27 -25593823.27 -25593823.27 0.0138 0.0138

Moon -74785-10-09 22:18 J -25593515.68 -25593515.57 -25593515.47 0.2604 0.1906

Earth -74785-10-09 23:59 J -25593515.59 -25593515.50 -25593515.41 0.2603 0.2096 *

Venus -74785-11-27 11:01 J -25593467.14 -25593467.04 -25593466.94 0.3787 0.1502

Mars -74781-11-16 00:56 J -25592017.62 -25592017.46 -25592017.29 0.1622 0.0080

Jupiter -74780-08-05 14:23 J -25591755.09 -25591754.90 -25591754.72 0.0494 0.0027

Mars -74780-09-15 06:42 J -25591714.30 -25591714.22 -25591714.14 0.1933 0.1315

Venus -74779-06-13 05:01 J -25591443.36 -25591443.29 -25591443.22 0.3784 0.2906

Neptune -74778-11-12 23:59 J -25590925.51 -25590925.50 -25590925.48 0.0089 0.0088

Neptune -74777-02-09 01:25 J -25590837.48 -25590837.44 -25590837.39 0.0089 0.0083

Neptune -74777-05-07 02:37 J -25590749.44 -25590749.39 -25590749.32 0.0089 0.0079

Neptune -74777-08-03 04:04 J -25590661.40 -25590661.33 -25590661.26 0.0089 0.0074

Neptune -74777-10-30 05:01 J -25590573.36 -25590573.29 -25590573.19 0.0089 0.0070

Neptune -74776-01-26 06:28 J -25590485.31 -25590485.23 -25590485.13 0.0089 0.0065

Neptune -74776-04-24 07:54 J -25590397.26 -25590397.17 -25590397.07 0.0089 0.0060

Neptune -74776-07-21 09:06 J -25590309.21 -25590309.12 -25590309.01 0.0089 0.0055

Neptune -74776-10-17 10:18 J -25590221.17 -25590221.07 -25590220.95 0.0089 0.0051

Neptune -74775-01-13 11:44 J -25590133.12 -25590133.01 -25590132.89 0.0089 0.0046

Neptune -74775-04-11 12:56 J -25590045.07 -25590044.96 -25590044.83 0.0089 0.0042

Earth -74775-04-12 23:44 J -25590043.61 -25590043.51 -25590043.40 0.2732 0.0901

Moon -74775-04-13 00:28 J -25590043.58 -25590043.48 -25590043.38 0.2735 0.1007 *

Venus -74775-06-10 17:16 J -25589984.89 -25589984.78 -25589984.67 0.3585 0.2204

Neptune -74775-07-08 14:23 J -25589957.02 -25589956.90 -25589956.78 0.0089 0.0037

Saturn -74775-07-09 05:59 J -25589956.30 -25589956.25 -25589956.19 0.0289 0.0262

Neptune -74775-10-04 15:49 J -25589868.96 -25589868.84 -25589868.72 0.0089 0.0032

Saturn -74775-10-05 17:30 J -25589867.88 -25589867.77 -25589867.66 0.0288 0.0144

Neptune -74775-12-31 17:01 J -25589780.91 -25589780.79 -25589780.66 0.0089 0.0027

Saturn -74774-01-02 05:01 J -25589779.42 -25589779.29 -25589779.16 0.0287 0.0029

Neptune -74774-03-29 18:13 J -25589692.86 -25589692.74 -25589692.61 0.0089 0.0023

Jupiter -74774-03-30 10:04 J -25589692.16 -25589692.08 -25589692.00 0.0533 0.0409

Saturn -74774-03-31 16:18 J -25589690.94 -25589690.82 -25589690.70 0.0286 0.0088

Neptune -74774-06-25 19:40 J -25589604.81 -25589604.68 -25589604.55 0.0089 0.0018

Jupiter -74774-06-27 16:32 J -25589602.94 -25589602.81 -25589602.68 0.0532 0.0044

Saturn -74774-06-28 03:35 J -25589602.44 -25589602.35 -25589602.26 0.0285 0.0202

Neptune -74774-09-21 20:52 J -25589516.75 -25589516.63 -25589516.49 0.0089 0.0014

Jupiter -74774-09-24 23:16 J -25589513.56 -25589513.53 -25589513.48 0.0531 0.0501

Neptune -74774-12-18 22:18 J -25589428.70 -25589428.57 -25589428.44 0.0089 0.0008

Neptune -74773-03-15 23:30 J -25589340.65 -25589340.52 -25589340.38 0.0089 0.0005

Neptune -74773-06-12 00:56 J -25589252.59 -25589252.46 -25589252.33 0.0089 0.0001

Neptune -74773-09-08 02:08 J -25589164.54 -25589164.41 -25589164.27 0.0089 0.0006

Neptune -74773-12-05 03:35 J -25589076.48 -25589076.35 -25589076.22 0.0089 0.0011

Neptune -74772-03-03 04:47 J -25588988.43 -25588988.30 -25588988.17 0.0089 0.0015

Neptune -74772-05-30 06:13 J -25588900.37 -25588900.24 -25588900.11 0.0089 0.0020

Neptune -74772-08-26 07:25 J -25588812.31 -25588812.19 -25588812.06 0.0089 0.0025

Neptune -74772-11-22 08:37 J -25588724.26 -25588724.14 -25588724.01 0.0089 0.0030

Neptune -74771-02-18 10:04 J -25588636.20 -25588636.08 -25588635.96 0.0089 0.0034

Mars -74771-04-08 02:23 J -25588587.53 -25588587.40 -25588587.27 0.1617 0.1010

Neptune -74771-05-17 11:16 J -25588548.14 -25588548.03 -25588547.90 0.0089 0.0039

Neptune -74771-08-13 12:42 J -25588460.08 -25588459.97 -25588459.85 0.0089 0.0044

Neptune -74771-11-09 13:54 J -25588372.02 -25588371.92 -25588371.80 0.0089 0.0049

Neptune -74770-02-05 15:20 J -25588283.96 -25588283.86 -25588283.75 0.0089 0.0053

Neptune -74770-05-04 16:32 J -25588195.90 -25588195.81 -25588195.70 0.0089 0.0058

Neptune -74770-07-31 17:44 J -25588107.84 -25588107.76 -25588107.66 0.0089 0.0063

Neptune -74770-10-27 19:25 J -25588019.78 -25588019.69 -25588019.61 0.0089 0.0067

Venus -74770-12-25 19:40 J -25587960.82 -25587960.68 -25587960.54 0.3588 0.0068

Neptune -74769-01-23 20:37 J -25587931.71 -25587931.64 -25587931.56 0.0089 0.0072

Neptune -74769-04-20 21:49 J -25587843.65 -25587843.59 -25587843.52 0.0089 0.0077

Neptune -74769-07-17 23:01 J -25587755.58 -25587755.54 -25587755.48 0.0089 0.0082

Neptune -74769-10-14 00:28 J -25587667.50 -25587667.48 -25587667.44 0.0089 0.0086

Mars -74768-01-11 06:56 J -25587578.27 -25587578.21 -25587578.15 0.1912 0.1659

Moon -74768-04-05 22:47 J -25587493.58 -25587493.55 -25587493.52 0.2732 0.2607

Earth -74768-04-05 23:16 J -25587493.57 -25587493.53 -25587493.49 0.2728 0.2475 *

Jupiter -74768-05-24 10:47 J -25587445.23 -25587445.05 -25587444.88 0.0494 0.0170

Jupiter -74768-08-22 19:54 J -25587354.79 -25587354.67 -25587354.55 0.0494 0.0378

Moon -74765-10-04 14:37 J -25586215.98 -25586215.89 -25586215.80 0.2600 0.2171

Earth -74765-10-04 15:35 J -25586215.94 -25586215.85 -25586215.77 0.2606 0.2186 *

Venus -74764-07-10 21:35 J -25585936.71 -25585936.60 -25585936.49 0.3592 0.2231

Jupiter -74762-01-16 14:23 J -25585381.92 -25585381.90 -25585381.87 0.0533 0.0517

Earth -74762-04-15 17:44 J -25585292.83 -25585292.76 -25585292.69 0.2733 0.2119

Moon -74762-04-15 18:13 J -25585292.80 -25585292.74 -25585292.67 0.2729 0.2145 *

Jupiter -74762-04-15 20:52 J -25585292.76 -25585292.63 -25585292.51 0.0532 0.0067 *

Jupiter -74762-07-14 03:35 J -25585203.44 -25585203.35 -25585203.27 0.0532 0.0390

Mars -74759-06-03 15:06 J -25584147.98 -25584147.87 -25584147.77 0.1919 0.0725

Saturn -74759-10-14 07:25 J -25584015.35 -25584015.19 -25584015.03 0.0274 0.0157

Saturn -74758-01-11 06:42 J -25583926.41 -25583926.22 -25583926.03 0.0274 0.0007

Saturn -74758-04-10 05:44 J -25583837.42 -25583837.26 -25583837.09 0.0275 0.0147

Jupiter -74756-03-12 07:54 J -25583135.31 -25583135.17 -25583135.02 0.0494 0.0306

Jupiter -74756-06-10 17:30 J -25583044.93 -25583044.77 -25583044.61 0.0494 0.0245

Moon -74755-04-08 16:47 J -25582742.89 -25582742.80 -25582742.70 0.2736 0.1260

Earth -74755-04-08 17:01 J -25582742.88 -25582742.79 -25582742.69 0.2729 0.1280 *

Moon -74752-10-07 21:20 J -25581464.77 -25581464.61 -25581464.44 0.2603 0.0091

Earth -74752-10-07 23:16 J -25581464.69 -25581464.53 -25581464.37 0.2604 0.0210 *

Mars -74751-12-26 00:13 J -25581020.62 -25581020.49 -25581020.36 0.1628 0.1000

Jupiter -74750-02-02 00:13 J -25580982.60 -25580982.49 -25580982.37 0.0532 0.0189

Jupiter -74750-05-02 06:56 J -25580893.32 -25580893.21 -25580893.10 0.0531 0.0266

Venus -74750-05-06 10:32 J -25580889.11 -25580889.06 -25580889.01 0.3798 0.3378

Uranus -74750-09-13 20:52 J -25580758.68 -25580758.63 -25580758.55 0.0143 0.0135

Mars -74750-10-24 22:47 J -25580717.66 -25580717.55 -25580717.43 0.1926 0.0244

Uranus -74750-12-11 05:30 J -25580670.40 -25580670.27 -25580670.14 0.0143 0.0106

Uranus -74749-03-08 13:40 J -25580582.09 -25580581.93 -25580581.76 0.0142 0.0078

Uranus -74749-06-04 21:49 J -25580493.76 -25580493.59 -25580493.40 0.0142 0.0050

Uranus -74749-09-01 06:13 J -25580405.43 -25580405.24 -25580405.05 0.0142 0.0022

Uranus -74749-11-28 14:08 J -25580317.10 -25580316.91 -25580316.71 0.0142 0.0007

Uranus -74748-02-24 22:18 J -25580228.75 -25580228.57 -25580228.38 0.0142 0.0034

Uranus -74748-05-24 06:13 J -25580140.41 -25580140.24 -25580140.06 0.0142 0.0061

Uranus -74748-08-20 14:08 J -25580052.05 -25580051.91 -25580051.75 0.0142 0.0088

Uranus -74748-11-16 21:49 J -25579963.68 -25579963.59 -25579963.46 0.0141 0.0116

Saturn -74745-02-22 20:23 J -25579135.75 -25579135.65 -25579135.54 0.0289 0.0173

Saturn -74745-05-21 07:54 J -25579047.30 -25579047.17 -25579047.04 0.0288 0.0055

Saturn -74745-08-17 19:25 J -25578958.82 -25578958.69 -25578958.57 0.0287 0.0062

Saturn -74745-11-14 06:42 J -25578870.32 -25578870.22 -25578870.12 0.0286 0.0177

Venus -74745-11-19 04:04 J -25578865.42 -25578865.33 -25578865.24 0.3795 0.2086

Jupiter -74745-12-29 05:16 J -25578825.35 -25578825.28 -25578825.19 0.0494 0.0443

Jupiter -74744-03-29 15:06 J -25578735.05 -25578734.87 -25578734.69 0.0495 0.0112

Earth -74742-04-11 10:47 J -25577992.16 -25577992.05 -25577991.94 0.2731 0.0089

Moon -74742-04-11 11:16 J -25577992.14 -25577992.03 -25577991.92 0.2736 0.0073 *

Mars -74741-05-17 01:40 J -25577590.60 -25577590.43 -25577590.26 0.1622 0.0059

Mars -74740-03-16 06:42 J -25577287.31 -25577287.22 -25577287.13 0.1933 0.1207

Venus -74739-06-04 21:35 J -25576841.71 -25576841.60 -25576841.50 0.3792 0.0765

Moon -74739-10-11 05:01 J -25576713.34 -25576713.29 -25576713.23 0.2605 0.2447

Earth -74739-10-11 06:42 J -25576713.25 -25576713.22 -25576713.19 0.2603 0.2558 *

Jupiter -74739-11-21 04:18 J -25576672.43 -25576672.32 -25576672.22 0.0532 0.0303

Jupiter -74738-02-18 10:47 J -25576583.18 -25576583.05 -25576582.93 0.0532 0.0151

Venus -74734-12-19 15:20 J -25574817.97 -25574817.86 -25574817.76 0.3789 0.0606

Jupiter -74732-01-15 12:28 J -25574425.17 -25574424.98 -25574424.79 0.0494 0.0026

Mars -74732-10-07 03:20 J -25574160.51 -25574160.36 -25574160.22 0.1617 0.0865

Saturn -74729-03-02 06:56 J -25573283.34 -25573283.21 -25573283.08 0.0273 0.0194

Earth -74729-04-13 04:32 J -25573241.40 -25573241.31 -25573241.21 0.2732 0.1147

Moon -74729-04-13 05:16 J -25573241.37 -25573241.28 -25573241.18 0.2733 0.1225 *

Saturn -74729-05-30 05:59 J -25573194.43 -25573194.25 -25573194.05 0.0274 0.0044

Mars -74729-07-12 06:56 J -25573151.25 -25573151.21 -25573151.17 0.1911 0.1769

Saturn -74729-08-27 05:16 J -25573105.45 -25573105.28 -25573105.10 0.0275 0.0109

Saturn -74729-11-24 04:18 J -25573016.37 -25573016.32 -25573016.26 0.0276 0.0262

Venus -74728-07-04 09:06 J -25572794.21 -25572794.12 -25572794.03 0.3786 0.1977

Jupiter -74727-09-09 08:08 J -25572362.24 -25572362.16 -25572362.08 0.0533 0.0418

Jupiter -74727-12-07 14:37 J -25572273.02 -25572272.89 -25572272.76 0.0532 0.0035

Jupiter -74726-03-06 21:20 J -25572183.66 -25572183.61 -25572183.56 0.0531 0.0491

Venus -74722-01-18 03:06 J -25570770.41 -25570770.37 -25570770.32 0.3783 0.3392

Moon -74722-04-07 03:35 J -25570691.41 -25570691.35 -25570691.29 0.2733 0.2230

Earth -74722-04-07 04:04 J -25570691.39 -25570691.33 -25570691.27 0.2728 0.2228 *

Jupiter -74721-11-03 09:35 J -25570115.28 -25570115.10 -25570114.92 0.0494 0.0164

Jupiter -74720-02-01 18:42 J -25570024.83 -25570024.72 -25570024.60 0.0495 0.0385

Mars -74720-12-02 14:52 J -25569720.98 -25569720.88 -25569720.78 0.1919 0.0817

Moon -74719-10-05 20:52 J -25569413.74 -25569413.63 -25569413.52 0.2602 0.1919

Earth -74719-10-05 22:18 J -25569413.70 -25569413.57 -25569413.45 0.2606 0.1719 *

Venus -74718-01-15 17:44 J -25569311.89 -25569311.76 -25569311.63 0.3586 0.1454

Earth -74716-04-15 22:32 J -25568490.61 -25568490.56 -25568490.51 0.2734 0.2368

Moon -74716-04-15 23:01 J -25568490.58 -25568490.54 -25568490.49 0.2729 0.2476 *

Saturn -74716-07-11 22:47 J -25568403.64 -25568403.55 -25568403.46 0.0289 0.0206

Saturn -74716-10-08 10:18 J -25568315.19 -25568315.07 -25568314.95 0.0288 0.0088

Saturn -74715-01-04 21:49 J -25568226.72 -25568226.59 -25568226.47 0.0287 0.0030

Saturn -74715-04-03 09:06 J -25568138.23 -25568138.12 -25568138.01 0.0285 0.0144

Jupiter -74715-06-28 12:28 J -25568051.99 -25568051.98 -25568051.96 0.0533 0.0525

Saturn -74715-06-30 20:23 J -25568049.70 -25568049.65 -25568049.59 0.0284 0.0258

Jupiter -74715-09-25 18:56 J -25567962.84 -25567962.71 -25567962.58 0.0532 0.0074

Jupiter -74715-12-24 01:40 J -25567873.52 -25567873.43 -25567873.34 0.0532 0.0382

Venus -74713-07-31 19:54 J -25567287.81 -25567287.67 -25567287.53 0.3589 0.0785

Mars -74711-06-26 00:42 J -25566593.59 -25566593.47 -25566593.35 0.1628 0.1122

Mars -74710-04-24 22:47 J -25566290.66 -25566290.55 -25566290.43 0.1926 0.0144

Earth -74709-04-08 21:49 J -25565940.69 -25565940.59 -25565940.49 0.2729 0.1031

Moon -74709-04-08 21:49 J -25565940.68 -25565940.59 -25565940.49 0.2736 0.1089 *

Jupiter -74709-08-22 06:13 J -25565805.39 -25565805.24 -25565805.10 0.0494 0.0306

Jupiter -74709-11-20 15:35 J -25565715.01 -25565714.85 -25565714.69 0.0494 0.0244

Venus -74707-02-14 21:49 J -25565263.67 -25565263.59 -25565263.51 0.3593 0.2939

Moon -74706-10-09 04:04 J -25564662.49 -25564662.33 -25564662.17 0.2602 0.0601

Earth -74706-10-09 05:59 J -25564662.41 -25564662.25 -25564662.09 0.2604 0.0672 *

Uranus -74705-02-16 09:20 J -25564532.14 -25564532.11 -25564532.06 0.0136 0.0130

Uranus -74705-05-14 12:28 J -25564444.04 -25564443.98 -25564443.90 0.0136 0.0113

Uranus -74705-08-10 15:35 J -25564355.93 -25564355.85 -25564355.75 0.0136 0.0097

Uranus -74705-11-06 18:56 J -25564267.82 -25564267.71 -25564267.60 0.0136 0.0080

Uranus -74704-02-02 22:04 J -25564179.70 -25564179.58 -25564179.46 0.0136 0.0064

Uranus -74704-05-02 01:11 J -25564091.57 -25564091.45 -25564091.32 0.0136 0.0047

Uranus -74704-07-29 04:18 J -25564003.44 -25564003.32 -25564003.19 0.0137 0.0031

Uranus -74704-10-25 07:40 J -25563915.31 -25563915.18 -25563915.05 0.0137 0.0013

Uranus -74703-01-21 10:47 J -25563827.18 -25563827.05 -25563826.91 0.0137 0.0005

Uranus -74703-04-19 14:08 J -25563739.04 -25563738.91 -25563738.78 0.0137 0.0021

Jupiter -74703-07-14 23:16 J -25563652.65 -25563652.53 -25563652.41 0.0533 0.0183

Uranus -74703-07-16 17:16 J -25563650.90 -25563650.78 -25563650.65 0.0137 0.0038

Jupiter -74703-10-12 05:59 J -25563563.36 -25563563.25 -25563563.14 0.0532 0.0273

Uranus -74703-10-12 20:37 J -25563562.76 -25563562.64 -25563562.52 0.0137 0.0056

Uranus -74702-01-08 23:44 J -25563474.62 -25563474.51 -25563474.39 0.0137 0.0073

Uranus -74702-04-07 03:06 J -25563386.47 -25563386.37 -25563386.27 0.0138 0.0091

Uranus -74702-07-04 06:13 J -25563298.31 -25563298.24 -25563298.15 0.0138 0.0109

Uranus -74702-09-30 09:49 J -25563210.14 -25563210.09 -25563210.04 0.0138 0.0126

Mars -74702-11-16 02:23 J -25563163.57 -25563163.40 -25563163.23 0.1622 0.0197

Mars -74701-09-14 06:42 J -25562860.31 -25562860.22 -25562860.13 0.1933 0.1099

Saturn -74700-07-20 03:49 J -25562551.41 -25562551.34 -25562551.25 0.0273 0.0246

Saturn -74700-10-17 03:06 J -25562462.55 -25562462.37 -25562462.19 0.0274 0.0096

Saturn -74699-01-14 02:23 J -25562373.59 -25562373.40 -25562373.21 0.0275 0.0056

Saturn -74699-04-13 01:25 J -25562284.56 -25562284.44 -25562284.31 0.0276 0.0209

Jupiter -74697-06-10 03:35 J -25561495.43 -25561495.35 -25561495.27 0.0494 0.0442

Jupiter -74697-09-08 13:11 J -25561405.13 -25561404.95 -25561404.77 0.0494 0.0111

Earth -74696-04-11 15:35 J -25561189.96 -25561189.85 -25561189.74 0.2731 0.0183

Moon -74696-04-11 16:04 J -25561189.93 -25561189.83 -25561189.72 0.2737 0.0289 *

Neptune -74694-04-28 07:25 J -25560443.22 -25560443.19 -25560443.16 0.0089 0.0087

Neptune -74694-07-25 10:32 J -25560355.12 -25560355.06 -25560354.95 0.0089 0.0081

Neptune -74694-10-21 14:23 J -25560266.99 -25560266.90 -25560266.77 0.0089 0.0074

Venus -74694-12-11 08:23 J -25560216.21 -25560216.15 -25560216.08 0.3797 0.2953

Neptune -74693-01-17 18:13 J -25560178.85 -25560178.74 -25560178.59 0.0089 0.0067

Neptune -74693-04-14 21:49 J -25560090.71 -25560090.59 -25560090.42 0.0089 0.0060

Neptune -74693-07-12 01:40 J -25560002.57 -25560002.43 -25560002.25 0.0089 0.0053

Neptune -74693-10-08 05:30 J -25559914.43 -25559914.27 -25559914.09 0.0089 0.0046

Neptune -74692-01-04 09:20 J -25559826.28 -25559826.11 -25559825.92 0.0089 0.0039

Neptune -74692-04-02 12:56 J -25559738.13 -25559737.96 -25559737.76 0.0089 0.0032

Mars -74692-04-07 03:49 J -25559733.49 -25559733.34 -25559733.19 0.1617 0.0730

Neptune -74692-06-29 16:47 J -25559649.98 -25559649.80 -25559649.60 0.0089 0.0025

Neptune -74692-09-25 20:37 J -25559561.83 -25559561.64 -25559561.44 0.0089 0.0018

Neptune -74692-12-23 00:28 J -25559473.68 -25559473.48 -25559473.29 0.0089 0.0011

Neptune -74691-03-21 04:04 J -25559385.52 -25559385.33 -25559385.13 0.0089 0.0004

Jupiter -74691-05-03 02:52 J -25559342.48 -25559342.38 -25559342.27 0.0532 0.0302

Neptune -74691-06-17 07:54 J -25559297.37 -25559297.17 -25559296.98 0.0089 0.0004

Jupiter -74691-07-31 09:20 J -25559253.23 -25559253.11 -25559252.99 0.0532 0.0151

Neptune -74691-09-13 11:30 J -25559209.22 -25559209.02 -25559208.82 0.0089 0.0010

Neptune -74691-12-10 15:06 J -25559121.06 -25559120.87 -25559120.67 0.0089 0.0017

Neptune -74690-03-08 18:42 J -25559032.90 -25559032.72 -25559032.52 0.0089 0.0024

Neptune -74690-06-04 22:18 J -25558944.74 -25558944.57 -25558944.37 0.0089 0.0032

Neptune -74690-09-01 01:54 J -25558856.58 -25558856.42 -25558856.23 0.0089 0.0039

Neptune -74690-11-28 05:59 J -25558768.42 -25558768.25 -25558768.08 0.0089 0.0045

Mars -74689-01-11 06:56 J -25558724.23 -25558724.21 -25558724.19 0.1911 0.1871

Neptune -74689-02-24 09:35 J -25558680.26 -25558680.10 -25558679.94 0.0088 0.0052

Neptune -74689-05-22 13:11 J -25558592.09 -25558591.95 -25558591.80 0.0088 0.0059

Neptune -74689-08-18 16:47 J -25558503.92 -25558503.80 -25558503.66 0.0088 0.0066

Neptune -74689-11-14 20:08 J -25558415.75 -25558415.66 -25558415.53 0.0088 0.0073

Neptune -74688-02-10 23:44 J -25558327.57 -25558327.51 -25558327.40 0.0088 0.0080

Pluto -74688-04-20 16:47 J -25558258.86 -25558258.80 -25558258.72 0.0060 0.0055

Neptune -74688-05-10 04:04 J -25558239.38 -25558239.33 -25558239.29 0.0088 0.0086

Venus -74688-06-26 01:54 J -25558192.51 -25558192.42 -25558192.32 0.3794 0.1646

Pluto -74688-07-17 17:44 J -25558170.84 -25558170.76 -25558170.64 0.0060 0.0050

Pluto -74688-10-13 18:56 J -25558082.81 -25558082.71 -25558082.56 0.0060 0.0045

Pluto -74687-01-09 20:37 J -25557994.77 -25557994.64 -25557994.49 0.0060 0.0039

Pluto -74687-04-07 21:35 J -25557906.73 -25557906.60 -25557906.42 0.0060 0.0034

Pluto -74687-07-04 23:01 J -25557818.69 -25557818.54 -25557818.36 0.0060 0.0029

Pluto -74687-10-01 00:42 J -25557730.64 -25557730.47 -25557730.30 0.0060 0.0023

Saturn -74687-11-29 01:25 J -25557671.51 -25557671.44 -25557671.37 0.0290 0.0238

Pluto -74687-12-28 01:40 J -25557642.60 -25557642.43 -25557642.24 0.0060 0.0018

Saturn -74686-02-25 12:56 J -25557583.08 -25557582.96 -25557582.84 0.0289 0.0119

Pluto -74686-03-26 03:20 J -25557554.55 -25557554.36 -25557554.18 0.0060 0.0012

Saturn -74686-05-25 00:13 J -25557494.62 -25557494.49 -25557494.36 0.0288 0.0010

Pluto -74686-06-22 04:32 J -25557466.49 -25557466.31 -25557466.12 0.0061 0.0006

Saturn -74686-08-21 11:44 J -25557406.13 -25557406.01 -25557405.89 0.0287 0.0114

Pluto -74686-09-18 05:59 J -25557378.44 -25557378.25 -25557378.06 0.0061 0.0001

Saturn -74686-11-17 23:01 J -25557317.61 -25557317.54 -25557317.46 0.0285 0.0229

Pluto -74686-12-15 07:11 J -25557290.38 -25557290.20 -25557290.01 0.0061 0.0005

Pluto -74685-03-12 08:37 J -25557202.33 -25557202.14 -25557201.96 0.0061 0.0011

Pluto -74685-06-08 09:49 J -25557114.27 -25557114.09 -25557113.90 0.0061 0.0017

Jupiter -74685-06-27 10:47 J -25557095.24 -25557095.05 -25557094.87 0.0494 0.0025

Pluto -74685-09-04 11:01 J -25557026.20 -25557026.04 -25557025.85 0.0061 0.0023

Pluto -74685-12-01 12:28 J -25556938.14 -25556937.98 -25556937.80 0.0061 0.0028

Pluto -74684-02-27 13:40 J -25556850.07 -25556849.93 -25556849.76 0.0061 0.0034

Pluto -74684-05-26 14:52 J -25556762.00 -25556761.88 -25556761.72 0.0061 0.0040

Pluto -74684-08-22 16:18 J -25556673.92 -25556673.82 -25556673.68 0.0061 0.0046

Pluto -74684-11-18 18:13 J -25556585.84 -25556585.74 -25556585.64 0.0061 0.0052

Pluto -74683-02-14 19:25 J -25556497.75 -25556497.69 -25556497.62 0.0061 0.0058

Earth -74683-04-14 09:35 J -25556439.20 -25556439.10 -25556439.01 0.2732 0.1397

Moon -74683-04-14 10:04 J -25556439.17 -25556439.08 -25556438.98 0.2731 0.1457 *

Venus -74682-01-09 19:25 J -25556168.79 -25556168.69 -25556168.58 0.3792 0.0350

Mars -74680-06-02 14:52 J -25555293.98 -25555293.88 -25555293.78 0.1919 0.0934

Jupiter -74679-02-19 06:56 J -25555032.29 -25555032.21 -25555032.13 0.0532 0.0415

Jupiter -74679-05-19 13:25 J -25554943.07 -25554942.94 -25554942.82 0.0532 0.0039

Jupiter -74679-08-16 19:54 J -25554853.71 -25554853.67 -25554853.62 0.0531 0.0492

Venus -74677-07-25 13:25 J -25554145.05 -25554144.94 -25554144.84 0.3788 0.1073

Moon -74676-04-07 08:23 J -25553889.21 -25553889.15 -25553889.08 0.2734 0.2102

Earth -74676-04-07 08:52 J -25553889.20 -25553889.13 -25553889.06 0.2728 0.1980 *

Jupiter -74673-04-15 08:08 J -25552785.34 -25552785.16 -25552784.99 0.0494 0.0161

Jupiter -74673-07-14 17:16 J -25552694.89 -25552694.78 -25552694.66 0.0495 0.0389

Moon -74673-10-06 03:20 J -25552611.50 -25552611.36 -25552611.22 0.2602 0.1336

Earth -74673-10-06 05:01 J -25552611.43 -25552611.29 -25552611.15 0.2605 0.1245 *

Mars -74672-12-25 01:40 J -25552166.54 -25552166.43 -25552166.33 0.1628 0.1270

Venus -74671-02-08 07:11 J -25552121.28 -25552121.20 -25552121.12 0.3785 0.2453

Mars -74671-10-23 22:47 J -25551863.66 -25551863.55 -25551863.43 0.1926 0.0033

Saturn -74670-03-06 02:08 J -25551730.57 -25551730.41 -25551730.24 0.0273 0.0135

Earth -74670-04-17 03:20 J -25551688.39 -25551688.36 -25551688.33 0.2734 0.2619

Moon -74670-04-17 03:49 J -25551688.36 -25551688.34 -25551688.31 0.2729 0.2658 *

Saturn -74670-06-03 01:25 J -25551641.63 -25551641.44 -25551641.25 0.0274 0.0017

Saturn -74670-08-31 00:28 J -25551552.62 -25551552.48 -25551552.33 0.0275 0.0169

Jupiter -74668-12-08 10:47 J -25550722.05 -25550722.05 -25550722.04 0.0532 0.0530

Venus -74667-02-05 15:20 J -25550662.93 -25550662.86 -25550662.78 0.3584 0.3018

Jupiter -74667-03-07 17:16 J -25550632.91 -25550632.78 -25550632.66 0.0532 0.0079

Jupiter -74667-06-04 23:59 J -25550543.59 -25550543.50 -25550543.41 0.0531 0.0377

Uranus -74666-10-04 04:18 J -25550057.39 -25550057.32 -25550057.22 0.0143 0.0128

Uranus -74666-12-31 12:42 J -25549969.09 -25549968.97 -25549968.82 0.0143 0.0100

Uranus -74665-03-28 21:20 J -25549880.78 -25549880.61 -25549880.44 0.0142 0.0071

Uranus -74665-06-25 05:30 J -25549792.45 -25549792.27 -25549792.09 0.0142 0.0043

Uranus -74665-09-21 13:40 J -25549704.12 -25549703.93 -25549703.74 0.0142 0.0015

Uranus -74665-12-18 21:49 J -25549615.78 -25549615.59 -25549615.40 0.0142 0.0013

Uranus -74664-03-17 05:44 J -25549527.44 -25549527.26 -25549527.07 0.0142 0.0041

Uranus -74664-06-13 13:54 J -25549439.09 -25549438.92 -25549438.75 0.0142 0.0068

Uranus -74664-09-09 21:35 J -25549350.73 -25549350.60 -25549350.45 0.0142 0.0096

Uranus -74664-12-07 05:30 J -25549262.35 -25549262.27 -25549262.16 0.0141 0.0123

Earth -74663-04-10 02:37 J -25549138.49 -25549138.39 -25549138.28 0.2729 0.0783

Moon -74663-04-10 02:52 J -25549138.48 -25549138.38 -25549138.28 0.2736 0.0701 *

Mars -74662-05-17 02:52 J -25548736.54 -25548736.38 -25548736.21 0.1622 0.0335

Venus -74662-08-22 17:59 J -25548638.89 -25548638.75 -25548638.61 0.3587 0.0714

Jupiter -74661-02-02 05:16 J -25548475.43 -25548475.28 -25548475.13 0.0494 0.0298

Mars -74661-03-15 06:42 J -25548433.32 -25548433.22 -25548433.12 0.1933 0.1000

Jupiter -74661-05-02 14:37 J -25548385.04 -25548384.89 -25548384.73 0.0494 0.0254

Moon -74660-10-09 11:01 J -25547860.20 -25547860.04 -25547859.89 0.2603 0.0858

Earth -74660-10-09 12:42 J -25547860.12 -25547859.97 -25547859.83 0.2604 0.1135 *

Saturn -74657-04-17 03:20 J -25546939.39 -25546939.36 -25546939.32 0.0289 0.0274

Saturn -74657-07-14 14:52 J -25546850.99 -25546850.88 -25546850.77 0.0288 0.0156

Saturn -74657-10-11 02:23 J -25546762.53 -25546762.40 -25546762.27 0.0287 0.0039

Saturn -74656-01-07 13:40 J -25546674.05 -25546673.93 -25546673.80 0.0286 0.0078

Venus -74656-03-07 20:08 J -25546614.78 -25546614.66 -25546614.53 0.3590 0.1516

Saturn -74656-04-06 01:11 J -25546585.55 -25546585.45 -25546585.36 0.0285 0.0193

Jupiter -74656-12-24 21:35 J -25546322.72 -25546322.60 -25546322.48 0.0533 0.0188

Jupiter -74655-03-24 04:04 J -25546233.43 -25546233.33 -25546233.21 0.0532 0.0269

Mars -74653-10-06 04:32 J -25545306.47 -25545306.31 -25545306.16 0.1617 0.0600

Earth -74650-04-12 20:23 J -25544387.75 -25544387.65 -25544387.54 0.2731 0.0436

Moon -74650-04-12 21:06 J -25544387.73 -25544387.62 -25544387.52 0.2736 0.0452 *

Jupiter -74650-11-21 02:08 J -25544165.50 -25544165.41 -25544165.33 0.0494 0.0439

Jupiter -74649-02-19 11:44 J -25544075.19 -25544075.01 -25544074.83 0.0494 0.0114

Jupiter -74644-10-13 02:08 J -25542012.52 -25542012.41 -25542012.31 0.0533 0.0296

Jupiter -74643-01-10 08:37 J -25541923.26 -25541923.14 -25541923.02 0.0532 0.0160

Mars -74643-02-26 05:59 J -25541876.30 -25541876.25 -25541876.19 0.1612 0.1516

Saturn -74641-07-22 22:18 J -25540998.70 -25540998.57 -25540998.43 0.0273 0.0192

Saturn -74641-10-19 21:35 J -25540909.79 -25540909.60 -25540909.41 0.0274 0.0042

Mars -74641-12-01 15:06 J -25540866.97 -25540866.87 -25540866.78 0.1918 0.1043

Saturn -74640-01-16 20:37 J -25540820.80 -25540820.64 -25540820.46 0.0275 0.0111

Saturn -74640-04-15 19:54 J -25540731.72 -25540731.67 -25540731.61 0.0276 0.0263

Jupiter -74638-12-08 09:20 J -25539765.30 -25539765.11 -25539764.93 0.0494 0.0020

Earth -74637-04-14 14:23 J -25539636.99 -25539636.90 -25539636.82 0.2733 0.1643

Moon -74637-04-14 15:06 J -25539636.95 -25539636.87 -25539636.79 0.2731 0.1771 *

Venus -74637-07-17 06:28 J -25539543.31 -25539543.23 -25539543.15 0.3796 0.2513

Mars -74632-06-25 02:08 J -25537739.49 -25537739.41 -25537739.33 0.1628 0.1404

Jupiter -74632-08-01 05:44 J -25537702.33 -25537702.26 -25537702.18 0.0532 0.0412

Jupiter -74632-10-29 12:13 J -25537613.12 -25537612.99 -25537612.86 0.0532 0.0040

Jupiter -74631-01-26 18:56 J -25537523.75 -25537523.71 -25537523.67 0.0531 0.0495

Venus -74631-01-30 23:59 J -25537519.61 -25537519.50 -25537519.40 0.3794 0.1209

Mars -74631-04-23 22:47 J -25537436.67 -25537436.55 -25537436.44 0.1926 0.0073

Moon -74630-04-08 13:25 J -25537087.02 -25537086.94 -25537086.86 0.2734 0.1741

Earth -74630-04-08 13:40 J -25537087.01 -25537086.93 -25537086.84 0.2728 0.1737 *

Saturn -74628-12-01 17:01 J -25536118.89 -25536118.79 -25536118.70 0.0289 0.0192

Saturn -74627-02-28 04:32 J -25536030.44 -25536030.31 -25536030.19 0.0288 0.0074

Saturn -74627-05-27 15:49 J -25535941.96 -25535941.84 -25535941.71 0.0287 0.0044

Saturn -74627-08-24 03:20 J -25535853.47 -25535853.36 -25535853.25 0.0286 0.0159

Moon -74627-10-07 10:04 J -25535809.23 -25535809.08 -25535808.93 0.2602 0.0980

Earth -74627-10-07 11:44 J -25535809.17 -25535809.01 -25535808.86 0.2605 0.0773 *

Saturn -74627-11-20 14:37 J -25535764.92 -25535764.89 -25535764.85 0.0285 0.0274

Venus -74626-08-16 17:30 J -25535495.88 -25535495.77 -25535495.66 0.3791 0.0165

Jupiter -74626-09-26 06:42 J -25535455.40 -25535455.22 -25535455.04 0.0494 0.0157

Jupiter -74626-12-25 16:04 J -25535364.94 -25535364.83 -25535364.72 0.0495 0.0394

Mars -74623-11-15 03:49 J -25534309.50 -25534309.34 -25534309.18 0.1623 0.0472

Mars -74622-09-14 06:42 J -25534006.32 -25534006.22 -25534006.12 0.1933 0.0884

Uranus -74621-03-07 17:16 J -25533830.83 -25533830.78 -25533830.72 0.0136 0.0123

Uranus -74621-06-03 20:37 J -25533742.72 -25533742.64 -25533742.56 0.0136 0.0106

Uranus -74621-08-30 23:30 J -25533654.61 -25533654.52 -25533654.41 0.0136 0.0090

Uranus -74621-11-27 02:52 J -25533566.49 -25533566.38 -25533566.27 0.0136 0.0073

Uranus -74620-02-23 05:44 J -25533478.37 -25533478.26 -25533478.13 0.0136 0.0058

Venus -74620-03-01 11:16 J -25533472.13 -25533472.03 -25533471.93 0.3788 0.1525

Jupiter -74620-05-20 10:04 J -25533392.10 -25533392.08 -25533392.06 0.0532 0.0523

Uranus -74620-05-22 09:06 J -25533390.24 -25533390.12 -25533389.99 0.0136 0.0040

Jupiter -74620-08-17 16:18 J -25533302.95 -25533302.82 -25533302.70 0.0532 0.0074

Uranus -74620-08-18 12:13 J -25533302.12 -25533301.99 -25533301.85 0.0137 0.0024

Uranus -74620-11-14 15:35 J -25533213.98 -25533213.85 -25533213.72 0.0137 0.0006

Jupiter -74620-11-14 22:47 J -25533213.63 -25533213.55 -25533213.46 0.0531 0.0381

Uranus -74619-02-10 18:42 J -25533125.85 -25533125.72 -25533125.58 0.0137 0.0011

Uranus -74619-05-09 22:04 J -25533037.71 -25533037.58 -25533037.45 0.0137 0.0028

Uranus -74619-08-06 01:11 J -25532949.57 -25532949.45 -25532949.32 0.0137 0.0045

Uranus -74619-11-02 04:32 J -25532861.43 -25532861.31 -25532861.19 0.0137 0.0063

Uranus -74618-01-29 07:40 J -25532773.28 -25532773.18 -25532773.07 0.0137 0.0080

Uranus -74618-04-27 11:01 J -25532685.13 -25532685.04 -25532684.94 0.0138 0.0098

Uranus -74618-07-24 14:08 J -25532596.97 -25532596.91 -25532596.83 0.0138 0.0116

Uranus -74618-10-20 17:44 J -25532508.79 -25532508.76 -25532508.73 0.0138 0.0133

Earth -74617-04-10 07:25 J -25532336.29 -25532336.19 -25532336.08 0.2730 0.0538

Moon -74617-04-10 07:40 J -25532336.28 -25532336.18 -25532336.07 0.2737 0.0571 *

Venus -74615-09-15 05:16 J -25531448.35 -25531448.28 -25531448.21 0.3785 0.2937

Jupiter -74614-07-15 04:04 J -25531145.48 -25531145.33 -25531145.18 0.0494 0.0293

Moon -74614-10-10 17:44 J -25531057.89 -25531057.76 -25531057.63 0.2605 0.1524

Earth -74614-10-10 19:25 J -25531057.82 -25531057.69 -25531057.56 0.2604 0.1601 *

Jupiter -74614-10-13 13:40 J -25531055.09 -25531054.93 -25531054.77 0.0495 0.0260

Mars -74613-04-06 05:16 J -25530879.44 -25530879.28 -25530879.12 0.1617 0.0459

Neptune -74613-08-08 22:47 J -25530754.55 -25530754.55 -25530754.53 0.0089 0.0089

Neptune -74613-11-05 00:13 J -25530666.52 -25530666.49 -25530666.44 0.0089 0.0084

Neptune -74612-02-01 01:40 J -25530578.49 -25530578.43 -25530578.37 0.0089 0.0079

Mars -74612-02-03 14:37 J -25530575.92 -25530575.89 -25530575.87 0.1939 0.1870

Neptune -74612-04-30 02:37 J -25530490.45 -25530490.39 -25530490.31 0.0089 0.0075

Neptune -74612-07-27 04:04 J -25530402.40 -25530402.33 -25530402.24 0.0089 0.0070

Neptune -74612-10-23 05:30 J -25530314.36 -25530314.27 -25530314.18 0.0089 0.0065

Saturn -74612-12-09 21:06 J -25530266.71 -25530266.62 -25530266.52 0.0272 0.0233

Neptune -74611-01-19 06:42 J -25530226.31 -25530226.22 -25530226.12 0.0089 0.0061

Saturn -74611-03-08 20:08 J -25530177.84 -25530177.66 -25530177.47 0.0273 0.0084

Neptune -74611-04-17 07:54 J -25530138.26 -25530138.17 -25530138.06 0.0089 0.0056

Saturn -74611-06-05 19:25 J -25530088.88 -25530088.69 -25530088.51 0.0274 0.0068

Neptune -74611-07-14 09:20 J -25530050.21 -25530050.11 -25530050.00 0.0089 0.0051

Saturn -74611-09-02 18:13 J -25529999.84 -25529999.74 -25529999.61 0.0275 0.0221

Venus -74611-09-12 15:49 J -25529989.95 -25529989.84 -25529989.73 0.3584 0.2266

Neptune -74611-10-10 10:32 J -25529962.17 -25529962.06 -25529961.94 0.0089 0.0047

Neptune -74610-01-06 11:59 J -25529874.11 -25529874.00 -25529873.88 0.0089 0.0042

Neptune -74610-04-04 13:11 J -25529786.06 -25529785.95 -25529785.83 0.0089 0.0037

Neptune -74610-07-01 14:23 J -25529698.01 -25529697.90 -25529697.77 0.0089 0.0033

Neptune -74610-09-27 15:49 J -25529609.96 -25529609.84 -25529609.71 0.0089 0.0028

Neptune -74610-12-24 17:16 J -25529521.91 -25529521.78 -25529521.66 0.0089 0.0023

Neptune -74609-03-21 18:28 J -25529433.86 -25529433.73 -25529433.60 0.0089 0.0018

Neptune -74609-06-17 19:40 J -25529345.80 -25529345.68 -25529345.54 0.0089 0.0014

Neptune -74609-09-13 21:06 J -25529257.75 -25529257.62 -25529257.49 0.0089 0.0009

Neptune -74609-12-10 22:18 J -25529169.70 -25529169.57 -25529169.43 0.0089 0.0005

Neptune -74608-03-08 23:44 J -25529081.64 -25529081.51 -25529081.38 0.0089 0.0001

Neptune -74608-06-05 00:56 J -25528993.59 -25528993.46 -25528993.32 0.0089 0.0006

Jupiter -74608-06-05 20:08 J -25528992.78 -25528992.66 -25528992.54 0.0532 0.0189

Neptune -74608-09-01 02:23 J -25528905.53 -25528905.40 -25528905.27 0.0089 0.0010

Jupiter -74608-09-03 02:37 J -25528903.50 -25528903.39 -25528903.28 0.0531 0.0267

Neptune -74608-11-28 03:35 J -25528817.48 -25528817.35 -25528817.22 0.0089 0.0015

Neptune -74607-02-24 04:47 J -25528729.42 -25528729.30 -25528729.16 0.0089 0.0020

Neptune -74607-05-23 06:13 J -25528641.36 -25528641.24 -25528641.11 0.0089 0.0024

Neptune -74607-08-19 07:40 J -25528553.31 -25528553.18 -25528553.06 0.0089 0.0029

Neptune -74607-11-15 08:52 J -25528465.25 -25528465.13 -25528465.00 0.0089 0.0034

Neptune -74606-02-11 10:04 J -25528377.19 -25528377.08 -25528376.95 0.0089 0.0039

Neptune -74606-05-10 11:30 J -25528289.13 -25528289.02 -25528288.90 0.0089 0.0043

Neptune -74606-08-06 12:42 J -25528201.07 -25528200.97 -25528200.85 0.0089 0.0048

Neptune -74606-11-02 13:54 J -25528113.01 -25528112.92 -25528112.80 0.0089 0.0053

Neptune -74605-01-29 15:20 J -25528024.95 -25528024.86 -25528024.75 0.0089 0.0058

Venus -74605-03-28 18:28 J -25527965.88 -25527965.73 -25527965.59 0.3588 0.0107

Neptune -74605-04-26 16:47 J -25527936.89 -25527936.80 -25527936.70 0.0089 0.0062

Neptune -74605-07-23 17:59 J -25527848.83 -25527848.75 -25527848.66 0.0089 0.0067

Neptune -74605-10-19 19:11 J -25527760.76 -25527760.70 -25527760.61 0.0089 0.0072

Neptune -74604-01-15 20:23 J -25527672.70 -25527672.65 -25527672.57 0.0089 0.0077

Earth -74604-04-13 01:11 J -25527585.55 -25527585.45 -25527585.34 0.2731 0.0684

Moon -74604-04-13 01:54 J -25527585.52 -25527585.42 -25527585.32 0.2734 0.0816 *

Neptune -74604-04-13 22:04 J -25527584.63 -25527584.58 -25527584.53 0.0089 0.0081

Neptune -74604-07-10 23:16 J -25527496.55 -25527496.53 -25527496.49 0.0089 0.0086

Mars -74604-08-27 06:42 J -25527449.31 -25527449.22 -25527449.14 0.1612 0.1385

Jupiter -74602-05-03 01:11 J -25526835.53 -25526835.45 -25526835.35 0.0494 0.0429

Jupiter -74602-08-01 11:01 J -25526745.22 -25526745.04 -25526744.86 0.0494 0.0125

Mars -74601-06-01 14:52 J -25526439.97 -25526439.88 -25526439.79 0.1919 0.1137

Venus -74600-10-12 20:23 J -25525941.76 -25525941.65 -25525941.54 0.3591 0.2225

Saturn -74598-04-20 18:42 J -25525386.79 -25525386.72 -25525386.64 0.0289 0.0231

Saturn -74598-07-18 06:13 J -25525298.35 -25525298.24 -25525298.12 0.0288 0.0113

Saturn -74598-10-14 17:44 J -25525209.89 -25525209.76 -25525209.63 0.0287 0.0008

Saturn -74597-01-11 05:16 J -25525121.40 -25525121.28 -25525121.16 0.0286 0.0122

Earth -74597-04-06 00:42 J -25525035.48 -25525035.47 -25525035.45 0.2727 0.2684

Saturn -74597-04-08 16:32 J -25525032.88 -25525032.81 -25525032.74 0.0285 0.0236

Jupiter -74596-03-25 00:28 J -25524682.58 -25524682.48 -25524682.37 0.0533 0.0298

Jupiter -74596-06-22 07:11 J -25524593.33 -25524593.20 -25524593.08 0.0532 0.0158

Pluto -74595-11-21 19:54 J -25524075.67 -25524075.67 -25524075.67 0.0084 0.0084

Pluto -74594-02-17 20:52 J -25523987.68 -25523987.63 -25523987.55 0.0084 0.0074

Pluto -74594-05-16 22:18 J -25523899.65 -25523899.57 -25523899.46 0.0084 0.0062

Pluto -74594-08-12 23:59 J -25523811.60 -25523811.50 -25523811.39 0.0084 0.0050

Pluto -74594-11-09 01:25 J -25523723.56 -25523723.44 -25523723.31 0.0084 0.0039

Pluto -74593-02-05 02:52 J -25523635.51 -25523635.38 -25523635.25 0.0084 0.0028

Pluto -74593-05-03 04:04 J -25523547.45 -25523547.33 -25523547.19 0.0084 0.0018

Pluto -74593-07-30 05:44 J -25523459.40 -25523459.26 -25523459.13 0.0083 0.0006

Pluto -74593-10-26 06:56 J -25523371.34 -25523371.21 -25523371.07 0.0083 0.0005

Mars -74593-12-24 02:52 J -25523312.44 -25523312.38 -25523312.33 0.1628 0.1536

Pluto -74592-01-22 08:23 J -25523283.28 -25523283.15 -25523283.01 0.0083 0.0015

Pluto -74592-04-20 09:35 J -25523195.22 -25523195.10 -25523194.96 0.0083 0.0026

Pluto -74592-07-17 10:47 J -25523107.16 -25523107.05 -25523106.92 0.0083 0.0037

Pluto -74592-10-13 12:13 J -25523019.09 -25523018.99 -25523018.87 0.0083 0.0047

Mars -74592-10-22 23:01 J -25523009.66 -25523009.54 -25523009.43 0.1926 0.0204

Pluto -74591-01-09 13:25 J -25522931.02 -25522930.94 -25522930.83 0.0083 0.0058

Pluto -74591-04-07 14:52 J -25522842.95 -25522842.88 -25522842.80 0.0083 0.0068

Earth -74591-04-15 19:11 J -25522834.78 -25522834.70 -25522834.62 0.2733 0.1898

Moon -74591-04-15 19:54 J -25522834.75 -25522834.67 -25522834.60 0.2731 0.1938 *

Pluto -74591-07-04 16:18 J -25522754.86 -25522754.82 -25522754.78 0.0082 0.0078

Jupiter -74590-05-20 08:08 J -25522435.35 -25522435.16 -25522434.97 0.0494 0.0014

Venus -74586-08-08 11:01 J -25520894.09 -25520894.04 -25520894.00 0.3798 0.3380

Jupiter -74584-01-11 05:01 J -25520372.37 -25520372.29 -25520372.21 0.0533 0.0404

Moon -74584-04-08 18:28 J -25520284.82 -25520284.73 -25520284.65 0.2735 0.1544

Earth -74584-04-08 18:28 J -25520284.82 -25520284.73 -25520284.64 0.2728 0.1490 *

Jupiter -74584-04-10 11:30 J -25520283.15 -25520283.02 -25520282.89 0.0532 0.0049

Jupiter -74584-07-08 18:13 J -25520193.77 -25520193.74 -25520193.70 0.0531 0.0506

Mars -74583-05-16 04:18 J -25519882.47 -25519882.32 -25519882.16 0.1623 0.0605

Mars -74582-03-15 06:42 J -25519579.32 -25519579.22 -25519579.12 0.1932 0.0783

Saturn -74582-07-26 16:04 J -25519445.99 -25519445.83 -25519445.67 0.0273 0.0143

Saturn -74582-10-23 15:06 J -25519357.06 -25519356.87 -25519356.68 0.0274 0.0009

Uranus -74582-10-24 12:42 J -25519356.07 -25519355.97 -25519355.86 0.0143 0.0119

Saturn -74581-01-20 14:08 J -25519268.06 -25519267.91 -25519267.75 0.0275 0.0159

Uranus -74581-01-20 20:52 J -25519267.77 -25519267.63 -25519267.47 0.0143 0.0091 *

Uranus -74581-04-18 05:01 J -25519179.45 -25519179.29 -25519179.10 0.0142 0.0063

Uranus -74581-07-15 13:25 J -25519091.12 -25519090.94 -25519090.75 0.0142 0.0034

Moon -74581-10-07 16:47 J -25519006.96 -25519006.80 -25519006.64 0.2602 0.0439

Earth -74581-10-07 18:28 J -25519006.89 -25519006.73 -25519006.57 0.2605 0.0309 *

Uranus -74581-10-11 21:49 J -25519002.79 -25519002.59 -25519002.40 0.0142 0.0006

Uranus -74580-01-08 05:44 J -25518914.44 -25518914.26 -25518914.06 0.0142 0.0022

Venus -74580-02-21 04:18 J -25518870.41 -25518870.32 -25518870.23 0.3796 0.2084

Uranus -74580-04-06 13:54 J -25518826.10 -25518825.92 -25518825.74 0.0142 0.0050

Uranus -74580-07-03 21:49 J -25518737.74 -25518737.59 -25518737.42 0.0142 0.0077

Uranus -74580-09-30 05:59 J -25518649.38 -25518649.25 -25518649.12 0.0142 0.0104

Uranus -74580-12-27 13:54 J -25518560.99 -25518560.92 -25518560.85 0.0141 0.0131

Jupiter -74578-03-08 05:44 J -25518125.44 -25518125.26 -25518125.08 0.0494 0.0147

Jupiter -74578-06-06 14:52 J -25518034.98 -25518034.88 -25518034.77 0.0495 0.0403

Venus -74575-09-06 21:49 J -25516846.69 -25516846.59 -25516846.48 0.3793 0.0754

Mars -74574-10-06 05:59 J -25516452.42 -25516452.25 -25516452.09 0.1617 0.0323

Mars -74573-08-04 14:37 J -25516148.94 -25516148.89 -25516148.84 0.1939 0.1754

Jupiter -74573-10-30 09:06 J -25516062.15 -25516062.12 -25516062.09 0.0532 0.0517

Jupiter -74572-01-27 15:20 J -25515972.99 -25515972.86 -25515972.73 0.0532 0.0068

Jupiter -74572-04-26 21:49 J -25515883.67 -25515883.59 -25515883.50 0.0531 0.0388

Earth -74571-04-11 12:13 J -25515534.09 -25515533.99 -25515533.88 0.2730 0.0298

Moon -74571-04-11 12:28 J -25515534.08 -25515533.98 -25515533.87 0.2737 0.0223 *

Venus -74569-03-22 15:35 J -25514822.96 -25514822.85 -25514822.75 0.3790 0.0614

Saturn -74569-09-06 20:23 J -25514654.69 -25514654.65 -25514654.61 0.0290 0.0272

Saturn -74569-12-04 07:54 J -25514566.28 -25514566.17 -25514566.06 0.0289 0.0153

Saturn -74568-03-02 19:25 J -25514477.82 -25514477.69 -25514477.56 0.0288 0.0035

Saturn -74568-05-30 06:56 J -25514389.34 -25514389.21 -25514389.09 0.0287 0.0083

Saturn -74568-08-26 18:13 J -25514300.83 -25514300.74 -25514300.64 0.0286 0.0199

Moon -74568-10-11 00:28 J -25514255.60 -25514255.48 -25514255.37 0.2606 0.1826

Earth -74568-10-11 02:08 J -25514255.51 -25514255.41 -25514255.32 0.2603 0.2065 *

Jupiter -74567-12-25 02:52 J -25513815.53 -25513815.38 -25513815.22 0.0494 0.0287

Jupiter -74566-03-25 12:28 J -25513725.13 -25513724.98 -25513724.82 0.0495 0.0268

Mars -74564-02-25 07:25 J -25513022.29 -25513022.19 -25513022.08 0.1612 0.1245

Venus -74564-10-06 09:20 J -25512799.20 -25512799.11 -25512799.02 0.3787 0.2000

Mars -74562-12-01 14:52 J -25512012.96 -25512012.88 -25512012.79 0.1918 0.1255

Jupiter -74561-11-15 19:25 J -25511662.81 -25511662.69 -25511662.57 0.0532 0.0180

Jupiter -74560-02-13 01:54 J -25511573.53 -25511573.42 -25511573.31 0.0531 0.0274

Earth -74558-04-14 06:13 J -25510783.35 -25510783.24 -25510783.14 0.2731 0.0932

Moon -74558-04-14 06:42 J -25510783.32 -25510783.22 -25510783.11 0.2733 0.0955 *

Venus -74558-04-22 03:20 J -25510775.40 -25510775.36 -25510775.32 0.3783 0.3423

Jupiter -74555-10-13 00:28 J -25509505.58 -25509505.48 -25509505.39 0.0494 0.0422

Jupiter -74554-01-11 10:04 J -25509415.25 -25509415.08 -25509414.90 0.0495 0.0134

Venus -74554-04-19 16:18 J -25509316.95 -25509316.82 -25509316.69 0.3585 0.1502

Saturn -74553-12-12 14:23 J -25508714.04 -25508713.90 -25508713.76 0.0272 0.0186

Saturn -74552-03-11 13:25 J -25508625.13 -25508624.94 -25508624.75 0.0273 0.0037

Mars -74552-04-22 22:47 J -25508582.66 -25508582.55 -25508582.44 0.1926 0.0287

Saturn -74552-06-08 12:28 J -25508536.15 -25508535.98 -25508535.80 0.0274 0.0115

Saturn -74552-09-05 11:30 J -25508447.06 -25508447.02 -25508446.97 0.0275 0.0266

Moon -74551-04-07 05:01 J -25508233.33 -25508233.29 -25508233.25 0.2730 0.2500

Earth -74551-04-07 05:30 J -25508233.31 -25508233.27 -25508233.22 0.2727 0.2437 *

Jupiter -74549-09-03 23:16 J -25507352.63 -25507352.53 -25507352.42 0.0532 0.0295

Venus -74549-11-02 18:42 J -25507292.86 -25507292.72 -25507292.58 0.3588 0.0779

Jupiter -74549-12-02 05:44 J -25507263.38 -25507263.26 -25507263.13 0.0532 0.0159

Moon -74548-10-05 16:18 J -25506955.88 -25506955.82 -25506955.77 0.2602 0.2429

Earth -74548-10-05 17:16 J -25506955.86 -25506955.78 -25506955.70 0.2607 0.2240 *

Earth -74545-04-15 23:59 J -25506032.57 -25506032.50 -25506032.43 0.2733 0.2145

Moon -74545-04-16 00:42 J -25506032.53 -25506032.47 -25506032.42 0.2730 0.2279 *

Mars -74544-11-14 05:01 J -25505455.44 -25505455.29 -25505455.14 0.1623 0.0740

Venus -74543-05-19 20:37 J -25505268.72 -25505268.64 -25505268.56 0.3592 0.2942

Mars -74543-09-13 06:42 J -25505152.33 -25505152.22 -25505152.11 0.1933 0.0676

Jupiter -74543-10-30 07:40 J -25505105.37 -25505105.18 -25505104.99 0.0494 0.0002

Saturn -74539-04-23 09:35 J -25503834.19 -25503834.10 -25503834.00 0.0289 0.0193

Saturn -74539-07-20 21:06 J -25503745.74 -25503745.62 -25503745.49 0.0288 0.0074

Saturn -74539-10-17 08:37 J -25503657.27 -25503657.14 -25503657.01 0.0287 0.0043

Saturn -74538-01-13 20:08 J -25503568.77 -25503568.66 -25503568.56 0.0286 0.0160

Moon -74538-04-09 23:16 J -25503482.62 -25503482.53 -25503482.44 0.2736 0.1253

Earth -74538-04-09 23:16 J -25503482.62 -25503482.53 -25503482.43 0.2728 0.1245 *

Saturn -74538-04-12 07:25 J -25503480.22 -25503480.19 -25503480.16 0.0285 0.0274

Uranus -74538-12-30 22:32 J -25503217.59 -25503217.56 -25503217.53 0.0136 0.0131

Uranus -74537-03-28 01:25 J -25503129.50 -25503129.44 -25503129.36 0.0136 0.0115

Jupiter -74537-06-23 03:49 J -25503042.42 -25503042.34 -25503042.26 0.0532 0.0403

Uranus -74537-06-24 04:32 J -25503041.39 -25503041.31 -25503041.21 0.0136 0.0099

Uranus -74537-09-20 07:40 J -25502953.27 -25502953.18 -25502953.07 0.0136 0.0083

Jupiter -74537-09-20 10:04 J -25502953.20 -25502953.08 -25502952.95 0.0532 0.0052 *

Uranus -74537-12-17 11:01 J -25502865.15 -25502865.04 -25502864.92 0.0136 0.0065

Jupiter -74537-12-18 16:47 J -25502863.83 -25502863.80 -25502863.76 0.0531 0.0507

Uranus -74536-03-15 14:08 J -25502777.03 -25502776.91 -25502776.78 0.0136 0.0049

Uranus -74536-06-11 17:16 J -25502688.90 -25502688.78 -25502688.65 0.0136 0.0032

Uranus -74536-09-07 20:37 J -25502600.77 -25502600.64 -25502600.51 0.0137 0.0015

Uranus -74536-12-04 23:44 J -25502512.64 -25502512.51 -25502512.38 0.0137 0.0002

Uranus -74535-03-03 02:52 J -25502424.51 -25502424.38 -25502424.24 0.0137 0.0020

Uranus -74535-05-30 06:13 J -25502336.37 -25502336.24 -25502336.11 0.0137 0.0036

Uranus -74535-08-26 09:35 J -25502248.22 -25502248.10 -25502247.98 0.0137 0.0054

Moon -74535-10-08 23:30 J -25502204.68 -25502204.52 -25502204.36 0.2603 0.0012

Earth -74535-10-09 01:11 J -25502204.61 -25502204.45 -25502204.29 0.2605 0.0161 *

Uranus -74535-11-22 12:42 J -25502160.08 -25502159.97 -25502159.85 0.0137 0.0071

Uranus -74534-02-18 16:04 J -25502071.93 -25502071.83 -25502071.73 0.0137 0.0089

Mars -74534-04-06 06:28 J -25502025.40 -25502025.23 -25502025.06 0.1618 0.0194

Uranus -74534-05-17 19:11 J -25501983.77 -25501983.70 -25501983.61 0.0138 0.0107

Uranus -74534-08-13 22:32 J -25501895.61 -25501895.56 -25501895.50 0.0138 0.0124

Mars -74533-02-03 14:37 J -25501721.95 -25501721.89 -25501721.83 0.1939 0.1643

Jupiter -74531-08-18 04:47 J -25500795.48 -25500795.30 -25500795.12 0.0494 0.0140

Jupiter -74531-11-16 14:08 J -25500705.02 -25500704.91 -25500704.81 0.0495 0.0410

Neptune -74529-01-23 03:49 J -25500272.35 -25500272.34 -25500272.32 0.0089 0.0088

Venus -74529-03-14 08:52 J -25500221.20 -25500221.13 -25500221.07 0.3797 0.2953

Neptune -74529-04-20 07:40 J -25500184.26 -25500184.18 -25500184.10 0.0089 0.0081

Neptune -74529-07-17 11:30 J -25500096.13 -25500096.02 -25500095.92 0.0089 0.0074

Neptune -74529-10-13 15:06 J -25500007.99 -25500007.87 -25500007.74 0.0089 0.0067

Neptune -74528-01-09 18:28 J -25499919.86 -25499919.73 -25499919.57 0.0089 0.0061

Neptune -74528-04-07 22:18 J -25499831.71 -25499831.57 -25499831.40 0.0089 0.0053

Neptune -74528-07-05 01:54 J -25499743.57 -25499743.42 -25499743.23 0.0089 0.0047

Neptune -74528-10-01 05:44 J -25499655.42 -25499655.26 -25499655.07 0.0089 0.0040

Neptune -74528-12-28 09:35 J -25499567.27 -25499567.10 -25499566.91 0.0089 0.0032

Neptune -74527-03-26 13:25 J -25499479.12 -25499478.94 -25499478.75 0.0089 0.0025

Neptune -74527-06-22 17:01 J -25499390.97 -25499390.79 -25499390.59 0.0088 0.0019

Neptune -74527-09-18 20:52 J -25499302.82 -25499302.63 -25499302.43 0.0088 0.0011

Neptune -74527-12-16 00:42 J -25499214.67 -25499214.47 -25499214.27 0.0088 0.0004

Neptune -74526-03-14 04:18 J -25499126.51 -25499126.32 -25499126.12 0.0088 0.0004

Neptune -74526-06-10 08:08 J -25499038.36 -25499038.16 -25499037.96 0.0088 0.0010

Neptune -74526-09-06 11:44 J -25498950.20 -25498950.01 -25498949.81 0.0088 0.0017

Neptune -74526-12-03 15:20 J -25498862.04 -25498861.86 -25498861.66 0.0088 0.0024

Neptune -74525-02-29 18:56 J -25498773.88 -25498773.71 -25498773.51 0.0088 0.0031

Jupiter -74525-04-11 08:08 J -25498732.19 -25498732.16 -25498732.12 0.0533 0.0510

Earth -74525-04-11 17:01 J -25498731.89 -25498731.79 -25498731.68 0.2730 0.0086

Moon -74525-04-11 17:30 J -25498731.88 -25498731.77 -25498731.66 0.2736 0.0045 *

Neptune -74525-05-27 22:47 J -25498685.72 -25498685.55 -25498685.37 0.0088 0.0038

Jupiter -74525-07-09 14:37 J -25498643.02 -25498642.89 -25498642.76 0.0532 0.0058

Neptune -74525-08-24 02:23 J -25498597.56 -25498597.40 -25498597.22 0.0088 0.0045

Mars -74525-08-26 08:08 J -25498595.28 -25498595.16 -25498595.04 0.1613 0.1107

Jupiter -74525-10-06 21:20 J -25498553.69 -25498553.61 -25498553.53 0.0531 0.0399

Neptune -74525-11-20 05:59 J -25498509.40 -25498509.25 -25498509.08 0.0088 0.0051

Neptune -74524-02-16 09:35 J -25498421.23 -25498421.10 -25498420.94 0.0088 0.0058

Neptune -74524-05-15 13:11 J -25498333.06 -25498332.95 -25498332.80 0.0088 0.0065

Neptune -74524-08-11 17:16 J -25498244.89 -25498244.78 -25498244.67 0.0088 0.0072

Venus -74524-09-28 02:23 J -25498197.50 -25498197.40 -25498197.31 0.3795 0.1648

Neptune -74524-11-07 20:37 J -25498156.71 -25498156.64 -25498156.54 0.0088 0.0079

Neptune -74523-02-04 00:13 J -25498068.52 -25498068.49 -25498068.43 0.0088 0.0086

Saturn -74523-05-01 09:49 J -25497982.16 -25497982.09 -25497982.01 0.0272 0.0248

Saturn -74523-07-29 08:52 J -25497893.31 -25497893.13 -25497892.95 0.0273 0.0099

Saturn -74523-10-26 07:54 J -25497804.35 -25497804.17 -25497803.98 0.0274 0.0051

Saturn -74522-01-23 06:56 J -25497715.33 -25497715.21 -25497715.08 0.0275 0.0203

Mars -74522-06-01 15:06 J -25497585.95 -25497585.87 -25497585.79 0.1918 0.1364

Moon -74522-10-12 06:56 J -25497453.26 -25497453.21 -25497453.15 0.2606 0.2414

Earth -74522-10-12 08:52 J -25497453.17 -25497453.13 -25497453.10 0.2603 0.2523 *

Jupiter -74519-06-06 02:23 J -25496485.55 -25496485.40 -25496485.24 0.0494 0.0273

Jupiter -74519-09-04 11:44 J -25496395.16 -25496395.01 -25496394.85 0.0495 0.0280

Venus -74518-04-13 19:54 J -25496173.78 -25496173.67 -25496173.56 0.3792 0.0303

Jupiter -74513-04-27 18:42 J -25494332.84 -25494332.72 -25494332.60 0.0532 0.0172

Jupiter -74513-07-26 01:11 J -25494243.56 -25494243.45 -25494243.34 0.0531 0.0282

Mars -74513-10-21 22:47 J -25494155.66 -25494155.55 -25494155.44 0.1926 0.0398

Venus -74513-10-27 13:40 J -25494150.04 -25494149.93 -25494149.83 0.3789 0.1089

Earth -74512-04-14 11:01 J -25493981.14 -25493981.04 -25493980.95 0.2731 0.1176

Moon -74512-04-14 11:44 J -25493981.11 -25493981.01 -25493980.92 0.2733 0.1330 *

Saturn -74510-09-10 11:01 J -25493102.12 -25493102.04 -25493101.97 0.0290 0.0237

Saturn -74510-12-07 22:32 J -25493013.68 -25493013.56 -25493013.44 0.0289 0.0117

Saturn -74509-03-05 10:04 J -25492925.21 -25492925.08 -25492924.95 0.0288 0.0005

Saturn -74509-06-01 21:20 J -25492836.72 -25492836.61 -25492836.49 0.0287 0.0119

Saturn -74509-08-29 08:52 J -25492748.20 -25492748.13 -25492748.05 0.0286 0.0234

Jupiter -74507-03-24 23:16 J -25492175.62 -25492175.53 -25492175.43 0.0494 0.0415

Venus -74507-05-13 07:25 J -25492126.27 -25492126.19 -25492126.11 0.3786 0.2488

Jupiter -74507-06-23 09:06 J -25492085.29 -25492085.12 -25492084.94 0.0495 0.0142

Moon -74505-04-07 09:49 J -25491431.14 -25491431.09 -25491431.03 0.2731 0.2295

Earth -74505-04-07 10:18 J -25491431.13 -25491431.07 -25491431.00 0.2727 0.2194 *

Mars -74504-05-15 05:44 J -25491028.40 -25491028.26 -25491028.12 0.1623 0.0876

Mars -74503-03-14 06:42 J -25490725.33 -25490725.22 -25490725.11 0.1932 0.0568

Venus -74503-05-10 13:54 J -25490667.99 -25490667.92 -25490667.85 0.3583 0.3089

Moon -74502-10-06 23:01 J -25490153.66 -25490153.54 -25490153.42 0.2601 0.1781

Earth -74502-10-07 00:13 J -25490153.61 -25490153.49 -25490153.37 0.2607 0.1760 *

Jupiter -74501-02-14 22:47 J -25490022.65 -25490022.55 -25490022.44 0.0532 0.0283

Jupiter -74501-05-14 05:16 J -25489933.40 -25489933.28 -25489933.16 0.0531 0.0170

Earth -74499-04-17 04:47 J -25489230.35 -25489230.30 -25489230.25 0.2733 0.2396

Moon -74499-04-17 05:16 J -25489230.33 -25489230.28 -25489230.23 0.2729 0.2398 *

Uranus -74498-08-17 13:11 J -25488742.99 -25488742.95 -25488742.87 0.0143 0.0136

Uranus -74498-11-13 21:49 J -25488654.71 -25488654.59 -25488654.45 0.0143 0.0107

Venus -74498-11-24 16:47 J -25488643.94 -25488643.80 -25488643.66 0.3586 0.0736

Uranus -74497-02-10 05:59 J -25488566.40 -25488566.25 -25488566.07 0.0143 0.0079

Uranus -74497-05-08 14:37 J -25488478.07 -25488477.89 -25488477.71 0.0142 0.0050

Uranus -74497-08-04 22:47 J -25488389.74 -25488389.55 -25488389.36 0.0142 0.0022

Uranus -74497-11-01 06:56 J -25488301.40 -25488301.21 -25488301.01 0.0142 0.0007

Uranus -74496-01-28 15:06 J -25488213.05 -25488212.87 -25488212.68 0.0142 0.0034

Uranus -74496-04-26 23:01 J -25488124.70 -25488124.54 -25488124.36 0.0142 0.0062

Uranus -74496-07-24 07:11 J -25488036.34 -25488036.20 -25488036.05 0.0142 0.0089

Uranus -74496-10-20 14:52 J -25487947.97 -25487947.88 -25487947.76 0.0141 0.0116

Jupiter -74495-04-11 06:42 J -25487775.40 -25487775.22 -25487775.03 0.0495 0.0015

Mars -74495-10-05 07:25 J -25487598.36 -25487598.19 -25487598.03 0.1618 0.0065

Mars -74494-08-04 14:37 J -25487294.96 -25487294.89 -25487294.83 0.1939 0.1548

Saturn -74494-12-16 07:11 J -25487161.36 -25487161.20 -25487161.04 0.0272 0.0143

Saturn -74493-03-14 06:13 J -25487072.43 -25487072.24 -25487072.05 0.0273 0.0007

Saturn -74493-06-11 05:16 J -25486983.43 -25486983.28 -25486983.12 0.0274 0.0158

Moon -74492-04-10 04:04 J -25486680.43 -25486680.33 -25486680.23 0.2736 0.0996

Earth -74492-04-10 04:04 J -25486680.43 -25486680.33 -25486680.23 0.2728 0.0999 *

Venus -74492-06-09 19:11 J -25486619.83 -25486619.70 -25486619.58 0.3589 0.1519

Jupiter -74490-12-04 02:52 J -25485712.47 -25485712.38 -25485712.30 0.0532 0.0398

Jupiter -74489-03-02 09:06 J -25485623.25 -25485623.12 -25485622.99 0.0532 0.0054

Jupiter -74489-05-30 15:49 J -25485533.87 -25485533.84 -25485533.81 0.0531 0.0510

Moon -74489-10-09 06:13 J -25485402.40 -25485402.24 -25485402.08 0.2605 0.0402

Earth -74489-10-09 07:54 J -25485402.33 -25485402.17 -25485402.01 0.2605 0.0628 *

Mars -74485-02-25 08:37 J -25484168.27 -25484168.14 -25484168.00 0.1612 0.0979

Jupiter -74483-01-28 04:18 J -25483465.50 -25483465.32 -25483465.14 0.0494 0.0127

Jupiter -74483-04-28 13:40 J -25483375.02 -25483374.93 -25483374.84 0.0495 0.0424

Mars -74483-11-30 14:52 J -25483158.95 -25483158.88 -25483158.81 0.1918 0.1459

Saturn -74480-01-27 12:28 J -25482370.01 -25482369.98 -25482369.94 0.0291 0.0278

Saturn -74480-04-25 23:59 J -25482281.60 -25482281.50 -25482281.39 0.0290 0.0158

Saturn -74480-07-23 11:30 J -25482193.14 -25482193.02 -25482192.89 0.0288 0.0041

Saturn -74480-10-19 23:01 J -25482104.66 -25482104.54 -25482104.41 0.0287 0.0079

Saturn -74479-01-16 10:32 J -25482016.15 -25482016.06 -25482015.96 0.0286 0.0194

Earth -74479-04-12 21:49 J -25481929.69 -25481929.59 -25481929.48 0.2730 0.0229

Moon -74479-04-12 22:32 J -25481929.67 -25481929.56 -25481929.46 0.2734 0.0309 *

Jupiter -74478-09-22 07:11 J -25481402.24 -25481402.20 -25481402.17 0.0532 0.0507

Jupiter -74478-12-20 13:25 J -25481313.07 -25481312.94 -25481312.81 0.0532 0.0056

Jupiter -74477-03-18 20:08 J -25481223.75 -25481223.66 -25481223.58 0.0531 0.0401

Mars -74473-04-21 22:47 J -25479728.66 -25479728.55 -25479728.44 0.1926 0.0514

Venus -74473-10-19 06:42 J -25479548.30 -25479548.22 -25479548.14 0.3797 0.2517

Jupiter -74472-11-16 01:25 J -25479155.59 -25479155.44 -25479155.28 0.0494 0.0265

Jupiter -74471-02-14 11:01 J -25479065.19 -25479065.04 -25479064.89 0.0495 0.0288

Venus -74467-05-05 00:13 J -25477524.59 -25477524.49 -25477524.39 0.3794 0.1189

Earth -74466-04-15 15:49 J -25477178.93 -25477178.84 -25477178.75 0.2732 0.1424

Moon -74466-04-15 16:32 J -25477178.90 -25477178.81 -25477178.72 0.2733 0.1458 *

Jupiter -74466-10-08 17:59 J -25477002.87 -25477002.75 -25477002.63 0.0532 0.0163

Jupiter -74465-01-06 00:28 J -25476913.59 -25476913.48 -25476913.37 0.0532 0.0293

Mars -74465-11-13 06:28 J -25476601.36 -25476601.23 -25476601.10 0.1623 0.1016

Saturn -74464-05-04 02:37 J -25476429.51 -25476429.39 -25476429.26 0.0272 0.0204

Saturn -74464-08-01 01:40 J -25476340.61 -25476340.43 -25476340.24 0.0273 0.0055

Mars -74464-09-12 06:42 J -25476298.33 -25476298.22 -25476298.11 0.1932 0.0461

Saturn -74464-10-29 00:42 J -25476251.65 -25476251.47 -25476251.29 0.0274 0.0095

Saturn -74463-01-25 23:44 J -25476162.59 -25476162.51 -25476162.43 0.0275 0.0246

Venus -74462-11-18 17:44 J -25475500.86 -25475500.76 -25475500.65 0.3791 0.0236

Jupiter -74460-09-03 23:01 J -25474845.65 -25474845.54 -25474845.43 0.0494 0.0399

Jupiter -74460-12-03 08:52 J -25474755.31 -25474755.13 -25474754.96 0.0495 0.0156

Moon -74459-04-08 14:52 J -25474628.96 -25474628.88 -25474628.81 0.2733 0.1947

Earth -74459-04-08 15:06 J -25474628.94 -25474628.87 -25474628.79 0.2727 0.1950 *

Venus -74456-06-03 11:30 J -25473477.11 -25473477.02 -25473476.92 0.3788 0.1560

Moon -74456-10-07 05:44 J -25473351.39 -25473351.26 -25473351.13 0.2602 0.1502

Earth -74456-10-07 06:56 J -25473351.35 -25473351.21 -25473351.07 0.2606 0.1283 *

Mars -74455-04-05 07:54 J -25473171.34 -25473171.17 -25473171.00 0.1618 0.0087

Mars -74454-02-02 14:37 J -25472867.97 -25472867.89 -25472867.82 0.1939 0.1436

Jupiter -74454-07-27 22:04 J -25472692.68 -25472692.58 -25472692.47 0.0532 0.0275

Jupiter -74454-10-25 04:32 J -25472603.43 -25472603.31 -25472603.19 0.0531 0.0179

Uranus -74453-01-20 06:28 J -25472516.27 -25472516.23 -25472516.17 0.0136 0.0124

Uranus -74453-04-17 09:49 J -25472428.17 -25472428.09 -25472428.01 0.0136 0.0107

Earth -74453-04-17 09:35 J -25472428.12 -25472428.10 -25472428.07 0.2733 0.2642 *

Uranus -74453-07-14 12:42 J -25472340.06 -25472339.97 -25472339.87 0.0136 0.0091

Uranus -74453-10-10 16:04 J -25472251.94 -25472251.83 -25472251.72 0.0136 0.0074

Uranus -74452-01-06 19:11 J -25472163.82 -25472163.70 -25472163.58 0.0136 0.0058

Uranus -74452-04-04 22:18 J -25472075.70 -25472075.57 -25472075.44 0.0136 0.0041

Uranus -74452-07-02 01:25 J -25471987.57 -25471987.44 -25471987.31 0.0137 0.0024

Uranus -74452-09-28 04:47 J -25471899.44 -25471899.30 -25471899.17 0.0137 0.0008

Uranus -74452-12-25 07:54 J -25471811.30 -25471811.17 -25471811.04 0.0137 0.0010

Uranus -74451-03-23 11:01 J -25471723.17 -25471723.04 -25471722.91 0.0137 0.0027

Uranus -74451-06-19 14:23 J -25471635.03 -25471634.90 -25471634.78 0.0137 0.0044

Saturn -74451-09-13 01:11 J -25471549.54 -25471549.45 -25471549.36 0.0290 0.0204

Uranus -74451-09-15 17:30 J -25471546.88 -25471546.77 -25471546.65 0.0137 0.0062

Saturn -74451-12-10 12:42 J -25471461.09 -25471460.97 -25471460.85 0.0289 0.0085

Uranus -74451-12-12 20:52 J -25471458.74 -25471458.63 -25471458.52 0.0137 0.0079

Venus -74451-12-18 05:30 J -25471453.33 -25471453.27 -25471453.20 0.3785 0.2977

Saturn -74450-03-09 00:13 J -25471372.62 -25471372.49 -25471372.36 0.0288 0.0034

Uranus -74450-03-10 23:59 J -25471370.58 -25471370.50 -25471370.40 0.0138 0.0097

Saturn -74450-06-05 11:44 J -25471284.12 -25471284.01 -25471283.90 0.0287 0.0151

Uranus -74450-06-07 03:20 J -25471282.43 -25471282.36 -25471282.28 0.0138 0.0114

Saturn -74450-09-01 23:01 J -25471195.58 -25471195.54 -25471195.49 0.0286 0.0268

Uranus -74450-09-03 06:42 J -25471194.25 -25471194.22 -25471194.18 0.0138 0.0132

Neptune -74448-08-01 22:47 J -25470495.57 -25470495.55 -25470495.50 0.0089 0.0085

Jupiter -74448-09-21 05:44 J -25470445.44 -25470445.26 -25470445.07 0.0495 0.0018

Neptune -74448-10-29 00:13 J -25470407.54 -25470407.49 -25470407.43 0.0089 0.0080

Neptune -74447-01-25 01:40 J -25470319.49 -25470319.43 -25470319.36 0.0089 0.0075

Neptune -74447-04-23 02:52 J -25470231.45 -25470231.38 -25470231.30 0.0089 0.0071

Neptune -74447-07-20 04:04 J -25470143.41 -25470143.33 -25470143.23 0.0089 0.0066

Neptune -74447-10-16 05:30 J -25470055.36 -25470055.27 -25470055.17 0.0089 0.0061

Venus -74447-12-15 14:37 J -25469995.00 -25469994.89 -25469994.78 0.3584 0.2304

Neptune -74446-01-12 06:42 J -25469967.31 -25469967.22 -25469967.11 0.0089 0.0057

Neptune -74446-04-10 08:08 J -25469879.26 -25469879.16 -25469879.05 0.0089 0.0052

Moon -74446-04-11 08:52 J -25469878.23 -25469878.13 -25469878.02 0.2736 0.0782

Earth -74446-04-11 08:52 J -25469878.23 -25469878.13 -25469878.02 0.2729 0.0755 *

Neptune -74446-07-07 09:35 J -25469791.21 -25469791.10 -25469790.99 0.0089 0.0047

Mars -74446-08-26 09:35 J -25469741.25 -25469741.10 -25469740.96 0.1613 0.0839

Neptune -74446-10-03 10:32 J -25469703.17 -25469703.06 -25469702.94 0.0089 0.0043

Neptune -74446-12-30 11:59 J -25469615.12 -25469615.00 -25469614.88 0.0089 0.0038

Neptune -74445-03-27 13:25 J -25469527.06 -25469526.94 -25469526.82 0.0089 0.0033

Neptune -74445-06-23 14:37 J -25469439.01 -25469438.89 -25469438.76 0.0089 0.0028

Neptune -74445-09-19 15:49 J -25469350.96 -25469350.84 -25469350.71 0.0089 0.0024

Neptune -74445-12-16 17:16 J -25469262.91 -25469262.78 -25469262.65 0.0089 0.0019

Neptune -74444-03-14 18:28 J -25469174.86 -25469174.73 -25469174.60 0.0089 0.0015

Neptune -74444-06-10 19:54 J -25469086.80 -25469086.67 -25469086.54 0.0089 0.0009

Neptune -74444-09-06 21:06 J -25468998.75 -25468998.62 -25468998.48 0.0089 0.0005

Neptune -74444-12-03 22:32 J -25468910.69 -25468910.56 -25468910.43 0.0089 0.0001

Neptune -74443-03-01 23:44 J -25468822.64 -25468822.51 -25468822.38 0.0089 0.0005

Neptune -74443-05-29 01:11 J -25468734.58 -25468734.45 -25468734.32 0.0089 0.0010

Mars -74443-05-31 14:52 J -25468731.94 -25468731.88 -25468731.81 0.1918 0.1576

Neptune -74443-08-25 02:23 J -25468646.53 -25468646.40 -25468646.27 0.0089 0.0014

Moon -74443-10-10 12:42 J -25468600.11 -25468599.97 -25468599.81 0.2605 0.0992

Earth -74443-10-10 14:37 J -25468600.03 -25468599.89 -25468599.74 0.2605 0.1101 *

Neptune -74443-11-21 03:49 J -25468558.47 -25468558.34 -25468558.21 0.0089 0.0019

Neptune -74442-02-17 05:01 J -25468470.42 -25468470.29 -25468470.16 0.0089 0.0024

Jupiter -74442-05-16 02:23 J -25468382.49 -25468382.40 -25468382.32 0.0532 0.0385

Neptune -74442-05-16 06:13 J -25468382.36 -25468382.24 -25468382.11 0.0089 0.0029 *

Neptune -74442-08-12 07:40 J -25468294.30 -25468294.18 -25468294.06 0.0089 0.0033

Jupiter -74442-08-13 08:37 J -25468293.27 -25468293.14 -25468293.01 0.0531 0.0067

Neptune -74442-11-08 08:52 J -25468206.24 -25468206.13 -25468206.00 0.0089 0.0038

Jupiter -74442-11-10 15:20 J -25468203.88 -25468203.86 -25468203.84 0.0530 0.0521

Neptune -74441-02-04 10:18 J -25468118.18 -25468118.07 -25468117.95 0.0089 0.0043

Neptune -74441-05-02 11:30 J -25468030.12 -25468030.02 -25468029.90 0.0089 0.0048

Venus -74441-06-30 17:16 J -25467970.92 -25467970.78 -25467970.64 0.3587 0.0041

Neptune -74441-07-29 12:56 J -25467942.06 -25467941.96 -25467941.85 0.0089 0.0052

Neptune -74441-10-25 14:08 J -25467854.00 -25467853.91 -25467853.80 0.0089 0.0057

Neptune -74440-01-21 15:20 J -25467765.94 -25467765.86 -25467765.75 0.0089 0.0062

Neptune -74440-04-19 16:47 J -25467677.88 -25467677.80 -25467677.71 0.0089 0.0067

Neptune -74440-07-16 18:13 J -25467589.81 -25467589.74 -25467589.66 0.0089 0.0071

Pluto -74440-08-12 22:18 J -25467562.60 -25467562.57 -25467562.52 0.0060 0.0058

Neptune -74440-10-12 19:25 J -25467501.75 -25467501.69 -25467501.62 0.0089 0.0076

Pluto -74440-11-08 23:16 J -25467474.59 -25467474.53 -25467474.42 0.0060 0.0053

Neptune -74439-01-08 20:37 J -25467413.68 -25467413.64 -25467413.57 0.0089 0.0081

Pluto -74439-02-05 00:28 J -25467386.57 -25467386.48 -25467386.34 0.0060 0.0048

Neptune -74439-04-06 21:49 J -25467325.60 -25467325.59 -25467325.54 0.0089 0.0086

Pluto -74439-05-04 01:54 J -25467298.54 -25467298.42 -25467298.27 0.0060 0.0043

Pluto -74439-07-31 03:06 J -25467210.50 -25467210.37 -25467210.20 0.0060 0.0037

Pluto -74439-10-27 04:32 J -25467122.46 -25467122.31 -25467122.14 0.0060 0.0032

Pluto -74438-01-23 05:44 J -25467034.41 -25467034.26 -25467034.07 0.0060 0.0026

Pluto -74438-04-21 07:11 J -25466946.37 -25466946.20 -25466946.01 0.0060 0.0021

Pluto -74438-07-18 08:23 J -25466858.32 -25466858.15 -25466857.95 0.0060 0.0016

Pluto -74438-10-14 09:49 J -25466770.27 -25466770.09 -25466769.89 0.0060 0.0010

Pluto -74437-01-10 11:30 J -25466682.21 -25466682.02 -25466681.84 0.0061 0.0004

Pluto -74437-04-07 12:42 J -25466594.16 -25466593.97 -25466593.78 0.0061 0.0002

Pluto -74437-07-04 13:54 J -25466506.10 -25466505.92 -25466505.73 0.0061 0.0008

Pluto -74437-09-30 15:20 J -25466418.04 -25466417.86 -25466417.67 0.0061 0.0013

Pluto -74437-12-27 16:32 J -25466329.98 -25466329.81 -25466329.62 0.0061 0.0019

Pluto -74436-03-25 17:44 J -25466241.92 -25466241.76 -25466241.57 0.0061 0.0025

Pluto -74436-06-21 18:56 J -25466153.85 -25466153.71 -25466153.53 0.0061 0.0031

Jupiter -74436-07-10 03:20 J -25466135.54 -25466135.36 -25466135.18 0.0495 0.0120

Pluto -74436-09-17 20:37 J -25466065.78 -25466065.64 -25466065.48 0.0061 0.0036

Jupiter -74436-10-08 12:42 J -25466045.05 -25466044.97 -25466044.88 0.0495 0.0433

Pluto -74436-12-14 21:49 J -25465977.71 -25465977.59 -25465977.44 0.0061 0.0042

Venus -74435-01-14 19:25 J -25465946.80 -25465946.69 -25465946.59 0.3590 0.2248

Pluto -74435-03-12 23:01 J -25465889.63 -25465889.54 -25465889.40 0.0061 0.0049

Pluto -74435-06-09 00:28 J -25465801.55 -25465801.48 -25465801.37 0.0061 0.0054

Pluto -74435-09-05 01:40 J -25465713.44 -25465713.43 -25465713.37 0.0061 0.0061

Saturn -74435-09-21 00:42 J -25465697.53 -25465697.47 -25465697.38 0.0271 0.0248

Saturn -74435-12-18 23:59 J -25465608.68 -25465608.50 -25465608.32 0.0272 0.0099

Saturn -74434-03-17 23:01 J -25465519.73 -25465519.54 -25465519.35 0.0273 0.0050

Saturn -74434-06-14 21:49 J -25465430.71 -25465430.59 -25465430.45 0.0274 0.0201

Mars -74434-10-21 22:47 J -25465301.66 -25465301.55 -25465301.44 0.1925 0.0610

Earth -74433-04-13 02:37 J -25465127.49 -25465127.39 -25465127.28 0.2730 0.0468

Moon -74433-04-13 03:20 J -25465127.47 -25465127.36 -25465127.26 0.2734 0.0535 *

Jupiter -74430-03-04 06:13 J -25464072.28 -25464072.24 -25464072.20 0.0532 0.0500

Jupiter -74430-06-01 12:28 J -25463983.11 -25463982.98 -25463982.85 0.0531 0.0050

Jupiter -74430-08-29 18:56 J -25463893.79 -25463893.71 -25463893.62 0.0531 0.0406

Mars -74425-05-14 06:56 J -25462174.32 -25462174.21 -25462174.09 0.1623 0.1148

Mars -74424-03-13 06:42 J -25461871.33 -25461871.22 -25461871.11 0.1933 0.0357

Jupiter -74424-04-28 00:56 J -25461825.62 -25461825.46 -25461825.30 0.0494 0.0254

Jupiter -74424-07-27 10:32 J -25461735.21 -25461735.06 -25461734.92 0.0495 0.0300

Venus -74422-11-10 11:16 J -25460899.07 -25460899.03 -25460898.98 0.3799 0.3385

Saturn -74421-01-31 02:52 J -25460817.45 -25460817.38 -25460817.31 0.0291 0.0244

Saturn -74421-04-28 14:23 J -25460729.01 -25460728.90 -25460728.78 0.0290 0.0125

Saturn -74421-07-26 01:54 J -25460640.55 -25460640.42 -25460640.29 0.0289 0.0010

Saturn -74421-10-22 13:25 J -25460552.06 -25460551.94 -25460551.82 0.0288 0.0112

Saturn -74420-01-19 00:56 J -25460463.54 -25460463.46 -25460463.38 0.0286 0.0228

Earth -74420-04-15 20:37 J -25460376.73 -25460376.64 -25460376.56 0.2732 0.1673

Moon -74420-04-15 21:20 J -25460376.69 -25460376.61 -25460376.53 0.2731 0.1794 *

Jupiter -74418-03-20 16:47 J -25459672.92 -25459672.80 -25459672.68 0.0532 0.0160

Jupiter -74418-06-17 23:16 J -25459583.64 -25459583.53 -25459583.42 0.0531 0.0295

Venus -74416-05-26 04:47 J -25458875.39 -25458875.30 -25458875.21 0.3796 0.2075

Mars -74416-10-04 08:37 J -25458744.31 -25458744.14 -25458743.98 0.1618 0.0220

Mars -74415-08-03 14:37 J -25458440.97 -25458440.89 -25458440.80 0.1939 0.1322

Uranus -74414-09-06 22:47 J -25458041.64 -25458041.55 -25458041.45 0.0143 0.0123

Uranus -74414-12-04 06:56 J -25457953.34 -25457953.21 -25457953.05 0.0143 0.0095

Uranus -74413-03-01 15:35 J -25457865.02 -25457864.85 -25457864.68 0.0143 0.0066

Moon -74413-04-08 19:40 J -25457826.76 -25457826.68 -25457826.60 0.2734 0.1810

Earth -74413-04-08 19:54 J -25457826.75 -25457826.67 -25457826.58 0.2727 0.1703 *

Uranus -74413-05-28 23:44 J -25457776.69 -25457776.51 -25457776.32 0.0142 0.0038

Uranus -74413-08-25 08:08 J -25457688.35 -25457688.16 -25457687.97 0.0142 0.0009

Uranus -74413-11-21 16:04 J -25457600.01 -25457599.83 -25457599.63 0.0142 0.0020

Jupiter -74412-02-13 22:04 J -25457515.69 -25457515.58 -25457515.47 0.0494 0.0392

Uranus -74412-02-18 00:13 J -25457511.67 -25457511.49 -25457511.30 0.0142 0.0047

Jupiter -74412-05-15 07:40 J -25457425.35 -25457425.18 -25457425.00 0.0495 0.0164

Uranus -74412-05-17 08:23 J -25457423.31 -25457423.15 -25457422.99 0.0142 0.0074

Uranus -74412-08-13 16:04 J -25457334.95 -25457334.83 -25457334.68 0.0142 0.0102

Uranus -74412-11-09 23:59 J -25457246.56 -25457246.50 -25457246.40 0.0141 0.0129

Venus -74411-12-09 22:18 J -25456851.68 -25456851.57 -25456851.47 0.3793 0.0736

Moon -74410-10-08 12:13 J -25456549.15 -25456548.99 -25456548.84 0.2603 0.0866

Earth -74410-10-08 13:40 J -25456549.08 -25456548.93 -25456548.77 0.2606 0.0817 *

Jupiter -74406-01-06 21:06 J -25455362.72 -25455362.62 -25455362.51 0.0532 0.0268

Mars -74406-02-24 10:04 J -25455314.23 -25455314.08 -25455313.92 0.1613 0.0703

Jupiter -74406-04-06 03:35 J -25455273.46 -25455273.35 -25455273.23 0.0532 0.0188

Saturn -74405-05-06 19:40 J -25454876.83 -25454876.68 -25454876.52 0.0272 0.0159

Venus -74405-06-24 15:49 J -25454827.94 -25454827.84 -25454827.73 0.3791 0.0643

Saturn -74405-08-03 18:42 J -25454787.91 -25454787.72 -25454787.53 0.0273 0.0011

Saturn -74405-10-31 17:44 J -25454698.92 -25454698.76 -25454698.60 0.0274 0.0140

Mars -74404-11-29 15:06 J -25454304.93 -25454304.87 -25454304.82 0.1918 0.1684

Jupiter -74400-03-03 05:30 J -25453115.46 -25453115.27 -25453115.09 0.0495 0.0030

Earth -74400-04-11 13:40 J -25453076.03 -25453075.93 -25453075.82 0.2729 0.0513

Moon -74400-04-11 13:54 J -25453076.02 -25453075.92 -25453075.81 0.2735 0.0441 *

Venus -74399-01-08 09:35 J -25452804.19 -25452804.10 -25452804.00 0.3788 0.2044

Moon -74397-10-10 19:40 J -25451797.82 -25451797.68 -25451797.54 0.2605 0.1299

Earth -74397-10-10 21:20 J -25451797.73 -25451797.61 -25451797.48 0.2604 0.1569 *

Jupiter -74395-10-26 01:40 J -25451052.52 -25451052.43 -25451052.35 0.0532 0.0377

Jupiter -74394-01-23 07:54 J -25450963.30 -25450963.17 -25450963.05 0.0531 0.0075

Mars -74394-04-21 22:47 J -25450874.66 -25450874.55 -25450874.44 0.1925 0.0717

Jupiter -74394-04-22 14:37 J -25450873.89 -25450873.89 -25450873.89 0.0530 0.0530

Venus -74394-07-25 03:35 J -25450780.39 -25450780.35 -25450780.31 0.3784 0.3471

Saturn -74392-09-15 15:20 J -25449996.96 -25449996.86 -25449996.75 0.0290 0.0172

Saturn -74392-12-13 03:06 J -25449908.50 -25449908.37 -25449908.25 0.0289 0.0052

Saturn -74391-03-11 14:37 J -25449820.02 -25449819.89 -25449819.77 0.0288 0.0067

Saturn -74391-06-08 02:08 J -25449731.51 -25449731.41 -25449731.31 0.0287 0.0185

Venus -74390-07-22 15:06 J -25449322.00 -25449321.87 -25449321.74 0.3585 0.1532

Jupiter -74389-12-20 02:08 J -25448805.59 -25448805.41 -25448805.23 0.0495 0.0114

Jupiter -74388-03-20 11:30 J -25448715.09 -25448715.02 -25448714.93 0.0496 0.0441

Earth -74387-04-14 07:40 J -25448325.29 -25448325.18 -25448325.08 0.2730 0.0711

Moon -74387-04-14 08:08 J -25448325.26 -25448325.16 -25448325.06 0.2735 0.0768 *

Mars -74386-11-13 07:40 J -25447747.28 -25447747.18 -25447747.08 0.1623 0.1288

Mars -74385-09-11 06:42 J -25447444.33 -25447444.22 -25447444.10 0.1932 0.0245

Venus -74384-02-04 17:30 J -25447297.90 -25447297.77 -25447297.63 0.3588 0.0780

Jupiter -74383-08-14 05:44 J -25446742.30 -25446742.26 -25446742.21 0.0531 0.0486

Jupiter -74383-11-11 11:59 J -25446653.12 -25446653.00 -25446652.87 0.0531 0.0038

Jupiter -74382-02-08 18:28 J -25446563.80 -25446563.73 -25446563.65 0.0530 0.0418

Earth -74380-04-07 07:11 J -25445775.23 -25445775.20 -25445775.18 0.2726 0.2642

Venus -74379-08-21 19:25 J -25445273.76 -25445273.69 -25445273.61 0.3591 0.2962

Jupiter -74377-10-07 23:44 J -25444495.67 -25444495.51 -25444495.35 0.0495 0.0249

Jupiter -74376-01-06 09:20 J -25444405.25 -25444405.11 -25444404.96 0.0495 0.0307

Mars -74376-04-04 09:20 J -25444317.28 -25444317.11 -25444316.95 0.1618 0.0358

Saturn -74376-09-23 18:28 J -25444144.86 -25444144.73 -25444144.60 0.0271 0.0200

Saturn -74376-12-21 17:16 J -25444055.96 -25444055.78 -25444055.59 0.0272 0.0052

Mars -74375-02-01 14:23 J -25444013.98 -25444013.90 -25444013.81 0.1939 0.1235

Saturn -74375-03-20 16:18 J -25443966.99 -25443966.82 -25443966.64 0.0273 0.0098

Saturn -74375-06-17 15:06 J -25443877.94 -25443877.87 -25443877.78 0.0274 0.0249

Earth -74374-04-17 01:25 J -25443574.52 -25443574.44 -25443574.37 0.2732 0.1920

Moon -74374-04-17 02:08 J -25443574.49 -25443574.41 -25443574.34 0.2729 0.1990 *

Jupiter -74371-08-30 15:49 J -25442342.96 -25442342.84 -25442342.72 0.0531 0.0154

Jupiter -74371-11-27 22:18 J -25442253.67 -25442253.57 -25442253.46 0.0531 0.0301

Uranus -74370-11-13 11:30 J -25441903.04 -25441903.02 -25441902.99 0.0136 0.0133

Uranus -74369-02-09 14:23 J -25441814.95 -25441814.90 -25441814.82 0.0136 0.0117

Uranus -74369-05-07 17:44 J -25441726.85 -25441726.76 -25441726.67 0.0136 0.0100

Uranus -74369-08-03 20:52 J -25441638.73 -25441638.63 -25441638.53 0.0136 0.0084

Uranus -74369-10-30 23:59 J -25441550.61 -25441550.50 -25441550.38 0.0136 0.0067

Uranus -74368-01-27 03:06 J -25441462.49 -25441462.37 -25441462.24 0.0136 0.0051

Uranus -74368-04-25 06:13 J -25441374.36 -25441374.24 -25441374.11 0.0136 0.0034

Uranus -74368-07-22 09:35 J -25441286.23 -25441286.10 -25441285.97 0.0137 0.0017

Uranus -74368-10-18 12:42 J -25441198.10 -25441197.97 -25441197.84 0.0137 0.0000

Uranus -74367-01-14 15:49 J -25441109.97 -25441109.84 -25441109.70 0.0137 0.0018

Moon -74367-04-10 00:28 J -25441024.57 -25441024.48 -25441024.39 0.2734 0.1434

Earth -74367-04-10 00:42 J -25441024.56 -25441024.47 -25441024.37 0.2727 0.1459 *

Uranus -74367-04-12 19:11 J -25441021.83 -25441021.70 -25441021.57 0.0137 0.0034

Uranus -74367-07-09 22:18 J -25440933.69 -25440933.57 -25440933.44 0.0137 0.0052

Mars -74367-08-25 10:47 J -25440887.21 -25440887.05 -25440886.90 0.1613 0.0572

Uranus -74367-10-06 01:25 J -25440845.55 -25440845.44 -25440845.32 0.0137 0.0069

Uranus -74366-01-02 04:47 J -25440757.40 -25440757.30 -25440757.19 0.0137 0.0087

Uranus -74366-03-31 08:08 J -25440669.24 -25440669.16 -25440669.07 0.0138 0.0104

Uranus -74366-06-27 11:16 J -25440581.08 -25440581.03 -25440580.96 0.0138 0.0122

Venus -74365-06-16 09:20 J -25440226.18 -25440226.11 -25440226.05 0.3798 0.2948

Jupiter -74365-07-26 21:06 J -25440185.73 -25440185.62 -25440185.50 0.0495 0.0383

Jupiter -74365-10-25 06:56 J -25440095.38 -25440095.21 -25440095.03 0.0495 0.0174

Neptune -74364-01-15 04:04 J -25440013.39 -25440013.33 -25440013.25 0.0089 0.0082

Neptune -74364-04-13 07:40 J -25439925.27 -25439925.18 -25439925.06 0.0089 0.0075

Mars -74364-05-30 14:52 J -25439877.92 -25439877.88 -25439877.84 0.1918 0.1783

Neptune -74364-07-10 11:30 J -25439837.13 -25439837.02 -25439836.88 0.0089 0.0068

Neptune -74364-10-06 15:20 J -25439748.99 -25439748.86 -25439748.71 0.0089 0.0061

Moon -74364-10-08 18:42 J -25439746.88 -25439746.72 -25439746.56 0.2604 0.0618

Earth -74364-10-08 20:23 J -25439746.81 -25439746.65 -25439746.49 0.2606 0.0348 *

Neptune -74363-01-02 18:56 J -25439660.85 -25439660.71 -25439660.54 0.0088 0.0054

Neptune -74363-03-31 22:47 J -25439572.71 -25439572.55 -25439572.37 0.0088 0.0047

Neptune -74363-06-28 02:37 J -25439484.56 -25439484.39 -25439484.21 0.0088 0.0040

Neptune -74363-09-24 06:28 J -25439396.41 -25439396.23 -25439396.05 0.0088 0.0033

Neptune -74363-12-21 10:04 J -25439308.26 -25439308.08 -25439307.88 0.0088 0.0026

Saturn -74362-02-02 17:16 J -25439264.87 -25439264.78 -25439264.69 0.0291 0.0210

Neptune -74362-03-19 13:54 J -25439220.11 -25439219.92 -25439219.73 0.0088 0.0019

Saturn -74362-05-02 04:47 J -25439176.42 -25439176.30 -25439176.17 0.0290 0.0091

Neptune -74362-06-15 17:44 J -25439131.96 -25439131.76 -25439131.57 0.0088 0.0012

Saturn -74362-07-29 16:32 J -25439087.94 -25439087.81 -25439087.68 0.0289 0.0030

Neptune -74362-09-11 21:20 J -25439043.80 -25439043.61 -25439043.41 0.0088 0.0005

Saturn -74362-10-26 03:49 J -25438999.45 -25438999.34 -25438999.22 0.0288 0.0147

Neptune -74362-12-09 01:11 J -25438955.65 -25438955.45 -25438955.26 0.0088 0.0003

Saturn -74361-01-22 15:20 J -25438910.91 -25438910.86 -25438910.81 0.0286 0.0263

Neptune -74361-03-06 04:47 J -25438867.49 -25438867.30 -25438867.10 0.0088 0.0009

Neptune -74361-06-02 08:23 J -25438779.34 -25438779.15 -25438778.95 0.0088 0.0016

Neptune -74361-08-29 11:59 J -25438691.18 -25438691.00 -25438690.80 0.0088 0.0024

Neptune -74361-11-25 15:35 J -25438603.02 -25438602.85 -25438602.65 0.0088 0.0031

Neptune -74360-02-21 19:11 J -25438514.86 -25438514.70 -25438514.50 0.0088 0.0038

Neptune -74360-05-20 22:47 J -25438426.70 -25438426.55 -25438426.36 0.0088 0.0045

Neptune -74360-08-17 02:52 J -25438338.54 -25438338.38 -25438338.22 0.0088 0.0051

Neptune -74360-11-13 06:28 J -25438250.37 -25438250.23 -25438250.07 0.0088 0.0058

Venus -74360-12-31 02:37 J -25438202.48 -25438202.39 -25438202.29 0.3796 0.1626

Neptune -74359-02-09 10:04 J -25438162.20 -25438162.08 -25438161.94 0.0088 0.0065

Neptune -74359-05-08 13:40 J -25438074.03 -25438073.93 -25438073.80 0.0088 0.0072

Jupiter -74359-06-18 20:08 J -25438032.77 -25438032.66 -25438032.55 0.0532 0.0265

Neptune -74359-08-04 17:16 J -25437985.85 -25437985.78 -25437985.68 0.0088 0.0079

Jupiter -74359-09-16 02:23 J -25437943.52 -25437943.40 -25437943.28 0.0531 0.0190

Neptune -74359-10-31 20:52 J -25437897.66 -25437897.63 -25437897.56 0.0088 0.0086

Mars -74357-01-15 12:28 J -25437457.04 -25437456.98 -25437456.92 0.1608 0.1485

Mars -74355-10-20 23:01 J -25436447.65 -25436447.54 -25436447.44 0.1925 0.0840

Earth -74354-04-12 18:28 J -25436273.83 -25436273.73 -25436273.62 0.2729 0.0280

Moon -74354-04-12 18:56 J -25436273.82 -25436273.71 -25436273.60 0.2735 0.0271 *

Venus -74354-07-16 20:08 J -25436178.76 -25436178.66 -25436178.55 0.3793 0.0295

Jupiter -74353-08-13 04:18 J -25435785.51 -25435785.32 -25435785.13 0.0495 0.0036

Moon -74351-10-12 02:23 J -25434995.50 -25434995.40 -25434995.29 0.2605 0.1951

Earth -74351-10-12 04:04 J -25434995.43 -25434995.33 -25434995.23 0.2604 0.2030 *

Venus -74348-01-29 13:54 J -25434155.02 -25434154.92 -25434154.82 0.3790 0.1106

Jupiter -74347-04-07 00:28 J -25433722.57 -25433722.48 -25433722.39 0.0532 0.0373

Jupiter -74347-07-05 06:56 J -25433633.34 -25433633.21 -25433633.09 0.0532 0.0082

Saturn -74346-02-10 14:52 J -25433412.94 -25433412.88 -25433412.82 0.0271 0.0255

Saturn -74346-05-10 13:40 J -25433324.10 -25433323.93 -25433323.75 0.0272 0.0108

Mars -74346-05-14 08:23 J -25433320.23 -25433320.15 -25433320.07 0.1623 0.1422

Pluto -74346-06-12 03:49 J -25433291.37 -25433291.34 -25433291.27 0.0084 0.0078

Saturn -74346-08-07 12:42 J -25433235.16 -25433234.97 -25433234.78 0.0273 0.0041

Pluto -74346-09-08 05:30 J -25433203.35 -25433203.27 -25433203.18 0.0084 0.0066

Saturn -74346-11-04 11:16 J -25433146.15 -25433146.03 -25433145.88 0.0274 0.0191

Pluto -74346-12-05 06:56 J -25433115.31 -25433115.21 -25433115.10 0.0084 0.0055

Pluto -74345-03-02 08:23 J -25433027.26 -25433027.15 -25433027.03 0.0084 0.0044

Mars -74345-03-12 06:42 J -25433017.34 -25433017.22 -25433017.11 0.1932 0.0146

Pluto -74345-05-29 09:49 J -25432939.21 -25432939.09 -25432938.96 0.0084 0.0033

Pluto -74345-08-25 11:16 J -25432851.16 -25432851.03 -25432850.90 0.0084 0.0022

Pluto -74345-11-21 12:28 J -25432763.11 -25432762.98 -25432762.84 0.0084 0.0012

Pluto -74344-02-17 13:54 J -25432675.05 -25432674.92 -25432674.78 0.0083 0.0003

Pluto -74344-05-16 15:20 J -25432586.99 -25432586.86 -25432586.72 0.0083 0.0011

Pluto -74344-08-12 16:47 J -25432498.93 -25432498.80 -25432498.67 0.0083 0.0021

Pluto -74344-11-08 17:59 J -25432410.87 -25432410.75 -25432410.62 0.0083 0.0032

Pluto -74343-02-04 19:25 J -25432322.81 -25432322.69 -25432322.57 0.0083 0.0042

Pluto -74343-05-03 20:37 J -25432234.74 -25432234.64 -25432234.53 0.0083 0.0053

Pluto -74343-07-30 22:04 J -25432146.67 -25432146.58 -25432146.49 0.0083 0.0063

Venus -74343-08-15 07:40 J -25432131.26 -25432131.18 -25432131.10 0.3787 0.2528

Pluto -74343-10-26 23:01 J -25432058.59 -25432058.54 -25432058.47 0.0082 0.0074

Earth -74341-04-14 12:28 J -25431523.08 -25431522.98 -25431522.88 0.2731 0.0957

Moon -74341-04-14 12:56 J -25431523.06 -25431522.96 -25431522.86 0.2734 0.1063 *

Jupiter -74341-06-01 01:54 J -25431475.61 -25431475.42 -25431475.24 0.0495 0.0100

Jupiter -74341-08-30 11:01 J -25431385.11 -25431385.04 -25431384.96 0.0495 0.0453

Venus -74339-08-12 12:42 J -25430673.04 -25430672.97 -25430672.91 0.3582 0.3143

Mars -74337-10-03 10:04 J -25429890.24 -25429890.08 -25429889.93 0.1618 0.0496

Mars -74336-08-02 14:37 J -25429586.98 -25429586.89 -25429586.80 0.1939 0.1114

Jupiter -74335-01-24 05:01 J -25429412.34 -25429412.29 -25429412.24 0.0532 0.0480

Jupiter -74335-04-23 11:16 J -25429323.16 -25429323.03 -25429322.91 0.0531 0.0032

Jupiter -74335-07-21 17:44 J -25429233.84 -25429233.76 -25429233.69 0.0530 0.0425

Moon -74334-04-08 11:16 J -25428973.07 -25428973.03 -25428972.98 0.2731 0.2437

Earth -74334-04-08 11:59 J -25428973.05 -25428973.00 -25428972.95 0.2726 0.2401 *

Venus -74333-02-26 15:35 J -25428648.99 -25428648.85 -25428648.71 0.3585 0.0764

Saturn -74333-06-21 18:13 J -25428532.79 -25428532.74 -25428532.68 0.0291 0.0257

Saturn -74333-09-18 05:59 J -25428444.36 -25428444.25 -25428444.14 0.0290 0.0136

Saturn -74333-12-15 17:30 J -25428355.90 -25428355.77 -25428355.64 0.0289 0.0017

Saturn -74332-03-14 05:01 J -25428267.41 -25428267.29 -25428267.17 0.0288 0.0103

Saturn -74332-06-10 16:32 J -25428178.89 -25428178.81 -25428178.72 0.0287 0.0220

Moon -74331-10-06 18:28 J -25427695.79 -25427695.73 -25427695.67 0.2602 0.2397

Earth -74331-10-06 19:25 J -25427695.77 -25427695.69 -25427695.62 0.2608 0.2277 *

Uranus -74330-07-01 00:13 J -25427428.53 -25427428.49 -25427428.44 0.0143 0.0138

Uranus -74330-09-27 08:23 J -25427340.26 -25427340.15 -25427340.02 0.0143 0.0110

Uranus -74330-12-24 16:47 J -25427251.95 -25427251.80 -25427251.63 0.0143 0.0081

Jupiter -74329-03-19 22:04 J -25427165.73 -25427165.58 -25427165.41 0.0495 0.0246

Uranus -74329-03-22 01:11 J -25427163.63 -25427163.45 -25427163.27 0.0142 0.0052

Jupiter -74329-06-18 07:54 J -25427075.31 -25427075.17 -25427075.02 0.0495 0.0311

Uranus -74329-06-18 09:20 J -25427075.29 -25427075.11 -25427074.91 0.0142 0.0025 *

Uranus -74329-09-14 17:44 J -25426986.95 -25426986.76 -25426986.57 0.0142 0.0004

Uranus -74329-12-12 01:40 J -25426898.61 -25426898.43 -25426898.23 0.0142 0.0033

Uranus -74328-03-10 09:49 J -25426810.26 -25426810.09 -25426809.91 0.0142 0.0060

Earth -74328-04-17 06:13 J -25426772.30 -25426772.24 -25426772.18 0.2732 0.2170

Moon -74328-04-17 06:56 J -25426772.27 -25426772.21 -25426772.15 0.2729 0.2243 *

Uranus -74328-06-06 17:59 J -25426721.90 -25426721.75 -25426721.60 0.0142 0.0087

Uranus -74328-09-03 01:54 J -25426633.53 -25426633.42 -25426633.30 0.0142 0.0114

Venus -74328-09-11 17:44 J -25426624.89 -25426624.76 -25426624.63 0.3589 0.1507

Uranus -74328-11-30 09:49 J -25426545.10 -25426545.09 -25426545.07 0.0141 0.0141

Mars -74327-02-23 11:30 J -25426460.18 -25426460.02 -25426459.86 0.1613 0.0430

Mars -74325-11-28 15:06 J -25425450.89 -25425450.87 -25425450.86 0.1918 0.1899

Jupiter -74323-02-09 15:20 J -25425012.98 -25425012.86 -25425012.74 0.0531 0.0141

Jupiter -74323-05-09 21:49 J -25424923.69 -25424923.59 -25424923.49 0.0530 0.0312

Moon -74321-04-10 05:30 J -25424222.37 -25424222.27 -25424222.18 0.2734 0.1293

Earth -74321-04-10 05:44 J -25424222.36 -25424222.26 -25424222.17 0.2728 0.1211 *

Mars -74318-07-16 12:56 J -25423030.05 -25423029.96 -25423029.87 0.1608 0.1352

Moon -74318-10-10 01:25 J -25422944.61 -25422944.44 -25422944.28 0.2604 0.0049

Earth -74318-10-10 03:06 J -25422944.53 -25422944.37 -25422944.20 0.2606 0.0134 *

Jupiter -74317-01-06 19:25 J -25422855.80 -25422855.69 -25422855.57 0.0495 0.0382

Jupiter -74317-04-06 05:30 J -25422765.44 -25422765.27 -25422765.10 0.0495 0.0177

Saturn -74317-09-26 12:42 J -25422592.13 -25422591.97 -25422591.81 0.0271 0.0147

Saturn -74317-12-24 11:44 J -25422503.20 -25422503.01 -25422502.82 0.0272 0.0004

Saturn -74316-03-23 10:32 J -25422414.22 -25422414.06 -25422413.90 0.0273 0.0150

Mars -74315-04-20 22:47 J -25422020.65 -25422020.55 -25422020.45 0.1925 0.0928

Jupiter -74312-11-28 19:11 J -25420702.81 -25420702.70 -25420702.59 0.0531 0.0260

Jupiter -74311-02-26 01:25 J -25420613.56 -25420613.44 -25420613.32 0.0531 0.0194

Venus -74308-01-21 07:11 J -25419553.28 -25419553.20 -25419553.12 0.3798 0.2510

Earth -74308-04-12 23:30 J -25419471.63 -25419471.52 -25419471.42 0.2729 0.0096

Moon -74308-04-12 23:44 J -25419471.62 -25419471.51 -25419471.40 0.2736 0.0118 *

Mars -74307-11-12 08:52 J -25418893.17 -25418893.13 -25418893.08 0.1623 0.1557

Mars -74306-09-11 06:42 J -25418590.33 -25418590.22 -25418590.10 0.1932 0.0033

Jupiter -74305-01-24 03:06 J -25418455.55 -25418455.37 -25418455.18 0.0495 0.0042

Moon -74305-10-12 09:20 J -25418193.20 -25418193.11 -25418193.03 0.2606 0.2231

Earth -74305-10-12 10:47 J -25418193.09 -25418193.05 -25418193.00 0.2604 0.2487 *

Saturn -74303-02-05 08:08 J -25417712.26 -25417712.16 -25417712.06 0.0291 0.0172

Saturn -74303-05-04 19:40 J -25417623.80 -25417623.68 -25417623.55 0.0290 0.0053

Saturn -74303-08-01 07:25 J -25417535.32 -25417535.19 -25417535.07 0.0289 0.0068

Venus -74303-08-07 00:42 J -25417529.57 -25417529.47 -25417529.37 0.3795 0.1176

Saturn -74303-10-28 18:42 J -25417446.81 -25417446.72 -25417446.62 0.0288 0.0185

Jupiter -74300-09-16 23:16 J -25416392.62 -25416392.53 -25416392.44 0.0532 0.0371

Jupiter -74300-12-15 05:30 J -25416303.39 -25416303.27 -25416303.14 0.0531 0.0082

Venus -74297-02-20 18:13 J -25415505.85 -25415505.74 -25415505.64 0.3792 0.0204

Mars -74297-04-03 10:32 J -25415463.21 -25415463.06 -25415462.91 0.1618 0.0625

Mars -74296-01-31 14:37 J -25415159.99 -25415159.89 -25415159.79 0.1938 0.1004

Earth -74295-04-15 17:16 J -25414720.88 -25414720.78 -25414720.69 0.2731 0.1205

Moon -74295-04-15 17:59 J -25414720.85 -25414720.75 -25414720.66 0.2732 0.1241 *

Jupiter -74294-11-12 00:13 J -25414145.67 -25414145.49 -25414145.30 0.0495 0.0097

Jupiter -74293-02-10 09:35 J -25414055.17 -25414055.10 -25414055.03 0.0495 0.0456

Venus -74292-09-05 11:59 J -25413482.10 -25413482.00 -25413481.90 0.3789 0.1588

Moon -74288-04-08 16:04 J -25412170.88 -25412170.83 -25412170.77 0.2731 0.2260

Earth -74288-04-08 16:47 J -25412170.87 -25412170.80 -25412170.74 0.2726 0.2154 *

Jupiter -74288-07-06 03:35 J -25412082.40 -25412082.35 -25412082.30 0.0532 0.0480

Mars -74288-08-24 12:13 J -25412033.15 -25412032.99 -25412032.82 0.1613 0.0293

Jupiter -74288-10-03 09:49 J -25411993.21 -25411993.09 -25411992.96 0.0532 0.0030

Jupiter -74288-12-31 16:32 J -25411903.89 -25411903.81 -25411903.74 0.0531 0.0428

Saturn -74287-02-13 10:04 J -25411860.21 -25411860.08 -25411859.95 0.0271 0.0197

Saturn -74287-05-13 08:52 J -25411771.32 -25411771.13 -25411770.94 0.0272 0.0050

Saturn -74287-08-10 07:40 J -25411682.35 -25411682.18 -25411682.00 0.0273 0.0100

Saturn -74287-11-07 06:28 J -25411593.30 -25411593.23 -25411593.14 0.0274 0.0249

Venus -74286-03-22 05:44 J -25411458.32 -25411458.26 -25411458.19 0.3786 0.3009

Uranus -74286-12-03 19:11 J -25411201.74 -25411201.70 -25411201.65 0.0136 0.0127

Uranus -74285-02-29 22:18 J -25411113.64 -25411113.57 -25411113.49 0.0136 0.0111

Uranus -74285-05-28 01:11 J -25411025.53 -25411025.45 -25411025.35 0.0136 0.0095

Uranus -74285-08-24 04:32 J -25410937.42 -25410937.31 -25410937.20 0.0136 0.0078

Moon -74285-10-07 00:42 J -25410893.57 -25410893.47 -25410893.36 0.2603 0.1942

Earth -74285-10-07 02:08 J -25410893.53 -25410893.41 -25410893.30 0.2607 0.1807 *

Uranus -74285-11-20 07:40 J -25410849.30 -25410849.18 -25410849.06 0.0136 0.0061

Uranus -74284-02-16 10:47 J -25410761.17 -25410761.05 -25410760.92 0.0136 0.0045

Uranus -74284-05-15 13:54 J -25410673.05 -25410672.92 -25410672.79 0.0136 0.0028

Uranus -74284-08-11 17:01 J -25410584.92 -25410584.79 -25410584.65 0.0137 0.0012

Uranus -74284-11-07 20:23 J -25410496.78 -25410496.65 -25410496.52 0.0137 0.0006

Uranus -74283-02-03 23:30 J -25410408.65 -25410408.52 -25410408.39 0.0137 0.0023

Neptune -74283-04-28 21:35 J -25410324.62 -25410324.60 -25410324.56 0.0089 0.0086

Uranus -74283-05-03 02:37 J -25410320.51 -25410320.39 -25410320.26 0.0137 0.0040

Neptune -74283-07-25 23:01 J -25410236.59 -25410236.54 -25410236.48 0.0089 0.0081

Uranus -74283-07-30 05:59 J -25410232.37 -25410232.25 -25410232.13 0.0137 0.0057

Neptune -74283-10-22 00:13 J -25410148.55 -25410148.49 -25410148.42 0.0089 0.0076

Uranus -74283-10-26 09:20 J -25410144.23 -25410144.11 -25410144.00 0.0137 0.0075

Neptune -74282-01-18 01:25 J -25410060.50 -25410060.44 -25410060.35 0.0089 0.0072

Uranus -74282-01-22 12:13 J -25410056.08 -25410055.99 -25410055.88 0.0137 0.0093

Venus -74282-03-19 13:11 J -25410000.06 -25409999.95 -25409999.84 0.3583 0.2353

Neptune -74282-04-16 02:52 J -25409972.46 -25409972.38 -25409972.29 0.0089 0.0067

Earth -74282-04-18 11:01 J -25409970.09 -25409970.04 -25409969.99 0.2732 0.2419

Moon -74282-04-18 11:44 J -25409970.05 -25409970.01 -25409969.97 0.2729 0.2511 *

Uranus -74282-04-20 15:49 J -25409967.92 -25409967.84 -25409967.76 0.0138 0.0110

Neptune -74282-07-13 04:18 J -25409884.41 -25409884.32 -25409884.23 0.0089 0.0062

Uranus -74282-07-17 18:56 J -25409879.75 -25409879.71 -25409879.65 0.0138 0.0128

Jupiter -74282-08-30 21:35 J -25409835.76 -25409835.60 -25409835.43 0.0494 0.0233

Neptune -74282-10-09 05:16 J -25409796.36 -25409796.28 -25409796.17 0.0089 0.0058

Jupiter -74282-11-29 07:11 J -25409745.34 -25409745.20 -25409745.06 0.0495 0.0322

Neptune -74281-01-05 06:42 J -25409708.32 -25409708.22 -25409708.11 0.0089 0.0053

Neptune -74281-04-02 08:08 J -25409620.27 -25409620.16 -25409620.05 0.0089 0.0048

Neptune -74281-06-29 09:20 J -25409532.22 -25409532.11 -25409531.99 0.0089 0.0043

Neptune -74281-09-25 10:32 J -25409444.17 -25409444.06 -25409443.93 0.0089 0.0039

Neptune -74281-12-22 11:59 J -25409356.12 -25409356.00 -25409355.87 0.0089 0.0034

Neptune -74280-03-20 13:25 J -25409268.07 -25409267.94 -25409267.82 0.0089 0.0029

Neptune -74280-06-16 14:37 J -25409180.01 -25409179.89 -25409179.76 0.0089 0.0025

Neptune -74280-09-12 16:04 J -25409091.96 -25409091.83 -25409091.70 0.0089 0.0020

Neptune -74280-12-09 17:16 J -25409003.91 -25409003.78 -25409003.65 0.0089 0.0015

Neptune -74279-03-07 18:28 J -25408915.86 -25408915.73 -25408915.59 0.0089 0.0011

Neptune -74279-06-03 19:54 J -25408827.80 -25408827.67 -25408827.54 0.0089 0.0006

Neptune -74279-08-30 21:06 J -25408739.75 -25408739.62 -25408739.48 0.0089 0.0003

Neptune -74279-11-26 22:32 J -25408651.69 -25408651.56 -25408651.43 0.0089 0.0004

Mars -74278-01-14 13:40 J -25408603.03 -25408602.93 -25408602.82 0.1608 0.1214

Neptune -74278-02-22 23:44 J -25408563.64 -25408563.51 -25408563.38 0.0089 0.0009

Neptune -74278-05-22 00:56 J -25408475.58 -25408475.46 -25408475.32 0.0089 0.0014

Neptune -74278-08-18 02:23 J -25408387.53 -25408387.40 -25408387.27 0.0089 0.0018

Neptune -74278-11-14 03:49 J -25408299.47 -25408299.34 -25408299.22 0.0089 0.0023

Neptune -74277-02-10 05:01 J -25408211.41 -25408211.29 -25408211.16 0.0089 0.0028

Neptune -74277-05-08 06:13 J -25408123.36 -25408123.24 -25408123.11 0.0089 0.0033

Neptune -74277-08-04 07:40 J -25408035.30 -25408035.18 -25408035.06 0.0089 0.0037

Venus -74277-10-02 15:49 J -25407975.98 -25407975.84 -25407975.70 0.3586 0.0055

Neptune -74277-10-31 08:52 J -25407947.24 -25407947.13 -25407947.01 0.0089 0.0042

Neptune -74276-01-27 10:04 J -25407859.18 -25407859.08 -25407858.96 0.0089 0.0047

Neptune -74276-04-25 11:30 J -25407771.12 -25407771.02 -25407770.91 0.0089 0.0052

Neptune -74276-07-22 12:56 J -25407683.06 -25407682.96 -25407682.86 0.0089 0.0056

Jupiter -74276-07-22 14:23 J -25407683.03 -25407682.90 -25407682.78 0.0531 0.0138 *

Neptune -74276-10-18 14:08 J -25407595.00 -25407594.91 -25407594.81 0.0089 0.0061

Jupiter -74276-10-19 20:37 J -25407593.74 -25407593.64 -25407593.53 0.0531 0.0318

Mars -74276-10-19 22:47 J -25407593.64 -25407593.55 -25407593.45 0.1925 0.1042 *

Neptune -74275-01-14 15:20 J -25407506.93 -25407506.86 -25407506.76 0.0089 0.0066

Moon -74275-04-11 10:18 J -25407420.17 -25407420.07 -25407419.96 0.2735 0.0931

Earth -74275-04-11 10:32 J -25407420.16 -25407420.06 -25407419.96 0.2728 0.0967 *

Neptune -74275-04-12 16:47 J -25407418.87 -25407418.80 -25407418.71 0.0089 0.0071

Neptune -74275-07-09 18:13 J -25407330.80 -25407330.74 -25407330.67 0.0089 0.0075

Neptune -74275-10-05 19:25 J -25407242.74 -25407242.69 -25407242.63 0.0089 0.0080

Neptune -74274-01-01 20:37 J -25407154.66 -25407154.64 -25407154.59 0.0089 0.0085

Saturn -74274-06-25 09:20 J -25406980.19 -25406980.11 -25406980.02 0.0291 0.0217

Saturn -74274-09-21 20:52 J -25406891.75 -25406891.63 -25406891.50 0.0290 0.0097

Saturn -74274-12-19 08:37 J -25406803.27 -25406803.14 -25406803.01 0.0289 0.0024

Saturn -74273-03-16 20:08 J -25406714.77 -25406714.66 -25406714.55 0.0288 0.0142

Saturn -74273-06-13 07:40 J -25406626.23 -25406626.18 -25406626.13 0.0287 0.0259

Moon -74272-10-10 08:08 J -25406142.32 -25406142.16 -25406141.99 0.2604 0.0341

Earth -74272-10-10 10:04 J -25406142.24 -25406142.08 -25406141.93 0.2606 0.0597 *

Venus -74271-04-18 17:59 J -25405951.85 -25405951.75 -25405951.64 0.3589 0.2250

Jupiter -74270-06-18 17:44 J -25405525.88 -25405525.76 -25405525.64 0.0495 0.0382

Jupiter -74270-09-17 03:35 J -25405435.52 -25405435.35 -25405435.17 0.0495 0.0178

Mars -74266-03-12 06:42 J -25404163.33 -25404163.22 -25404163.10 0.1932 0.0076

Jupiter -74264-05-10 18:28 J -25403372.84 -25403372.73 -25403372.62 0.0531 0.0248

Jupiter -74264-08-08 00:42 J -25403283.58 -25403283.47 -25403283.35 0.0531 0.0206

Earth -74262-04-14 04:18 J -25402669.43 -25402669.32 -25402669.22 0.2729 0.0256

Moon -74262-04-14 04:32 J -25402669.41 -25402669.31 -25402669.20 0.2735 0.0246 *

Saturn -74258-07-03 09:35 J -25401128.20 -25401128.10 -25401128.01 0.0271 0.0234

Jupiter -74258-07-06 01:11 J -25401125.64 -25401125.45 -25401125.27 0.0495 0.0041

Saturn -74258-09-30 08:08 J -25401039.33 -25401039.16 -25401038.97 0.0271 0.0088

Mars -74258-10-03 11:16 J -25401036.17 -25401036.03 -25401035.88 0.1618 0.0769

Saturn -74258-12-28 07:11 J -25400950.38 -25400950.20 -25400950.01 0.0272 0.0061

Venus -74257-02-12 11:44 J -25400904.06 -25400904.01 -25400903.96 0.3799 0.3382

Saturn -74257-03-26 05:59 J -25400861.36 -25400861.25 -25400861.12 0.0273 0.0211

Mars -74257-08-01 14:37 J -25400732.99 -25400732.89 -25400732.79 0.1939 0.0911

Jupiter -74252-02-26 22:04 J -25399062.67 -25399062.58 -25399062.49 0.0531 0.0367

Jupiter -74252-05-27 04:18 J -25398973.44 -25398973.32 -25398973.19 0.0531 0.0087

Venus -74252-08-28 05:01 J -25398880.38 -25398880.29 -25398880.20 0.3797 0.2065

Earth -74249-04-15 22:04 J -25397918.67 -25397918.58 -25397918.49 0.2731 0.1453

Moon -74249-04-15 22:47 J -25397918.64 -25397918.55 -25397918.47 0.2731 0.1605 *

Mars -74248-02-22 12:42 J -25397606.13 -25397605.97 -25397605.80 0.1613 0.0166

Mars -74248-12-22 22:32 J -25397302.59 -25397302.56 -25397302.54 0.1945 0.1885

Venus -74246-03-13 22:32 J -25396856.66 -25396856.56 -25396856.45 0.3794 0.0718

Jupiter -74246-04-23 22:32 J -25396815.74 -25396815.56 -25396815.37 0.0495 0.0095

Uranus -74246-07-21 08:23 J -25396727.23 -25396727.15 -25396727.07 0.0143 0.0129

Jupiter -74246-07-23 08:08 J -25396725.23 -25396725.16 -25396725.10 0.0496 0.0460

Uranus -74246-10-17 16:47 J -25396638.93 -25396638.80 -25396638.66 0.0143 0.0100

Uranus -74245-01-14 00:56 J -25396550.62 -25396550.46 -25396550.28 0.0143 0.0072

Uranus -74245-04-11 09:20 J -25396462.29 -25396462.11 -25396461.92 0.0143 0.0043

Uranus -74245-07-08 17:44 J -25396373.95 -25396373.76 -25396373.57 0.0142 0.0015

Uranus -74245-10-05 01:54 J -25396285.61 -25396285.42 -25396285.23 0.0142 0.0013

Saturn -74245-11-11 11:59 J -25396248.07 -25396248.00 -25396247.94 0.0292 0.0250

Uranus -74244-01-01 10:04 J -25396197.26 -25396197.08 -25396196.89 0.0142 0.0041

Saturn -74244-02-07 23:30 J -25396159.63 -25396159.52 -25396159.40 0.0291 0.0129

Uranus -74244-03-30 17:59 J -25396108.91 -25396108.75 -25396108.57 0.0142 0.0069

Saturn -74244-05-07 11:01 J -25396071.17 -25396071.04 -25396070.91 0.0290 0.0012

Uranus -74244-06-27 02:23 J -25396020.54 -25396020.40 -25396020.26 0.0142 0.0096

Saturn -74244-08-03 22:32 J -25395982.67 -25395982.56 -25395982.43 0.0289 0.0111

Uranus -74244-09-23 09:49 J -25395932.16 -25395932.09 -25395931.98 0.0142 0.0124

Saturn -74244-10-31 10:18 J -25395894.15 -25395894.07 -25395894.00 0.0288 0.0228

Moon -74242-04-09 20:52 J -25395368.70 -25395368.63 -25395368.55 0.2731 0.1965

Earth -74242-04-09 21:35 J -25395368.68 -25395368.60 -25395368.53 0.2726 0.1913 *

Venus -74241-09-26 16:04 J -25394832.93 -25394832.83 -25394832.72 0.3791 0.0676

Jupiter -74241-12-16 02:08 J -25394752.46 -25394752.41 -25394752.36 0.0532 0.0480

Jupiter -74240-03-15 08:23 J -25394663.28 -25394663.15 -25394663.02 0.0531 0.0030

Jupiter -74240-06-12 14:52 J -25394573.95 -25394573.88 -25394573.80 0.0531 0.0427

Mars -74239-07-15 14:23 J -25394176.02 -25394175.90 -25394175.78 0.1608 0.1081

Moon -74239-10-08 07:25 J -25394091.33 -25394091.19 -25394091.06 0.2603 0.1452

Earth -74239-10-08 08:52 J -25394091.27 -25394091.13 -25394090.99 0.2607 0.1338 *

Earth -74236-04-18 15:49 J -25393167.86 -25393167.84 -25393167.82 0.2732 0.2671

Moon -74236-04-18 16:32 J -25393167.82 -25393167.81 -25393167.80 0.2728 0.2707 *

Mars -74236-04-19 22:47 J -25393166.64 -25393166.55 -25393166.45 0.1925 0.1160

Venus -74235-04-12 10:04 J -25392809.17 -25392809.08 -25392808.99 0.3788 0.2073

Jupiter -74234-02-09 19:40 J -25392505.84 -25392505.68 -25392505.51 0.0495 0.0234

Jupiter -74234-05-11 05:16 J -25392415.42 -25392415.28 -25392415.14 0.0495 0.0322

Venus -74230-10-27 03:49 J -25390785.38 -25390785.34 -25390785.30 0.3785 0.3504

Earth -74229-04-11 15:20 J -25390617.97 -25390617.86 -25390617.76 0.2728 0.0721

Moon -74229-04-11 15:20 J -25390617.96 -25390617.86 -25390617.76 0.2735 0.0739 *

Jupiter -74228-01-01 12:42 J -25390353.09 -25390352.97 -25390352.85 0.0532 0.0140

Saturn -74228-02-16 06:28 J -25390307.40 -25390307.23 -25390307.06 0.0271 0.0132

Jupiter -74228-03-31 19:11 J -25390263.80 -25390263.70 -25390263.60 0.0531 0.0316

Saturn -74228-05-16 05:16 J -25390218.47 -25390218.28 -25390218.09 0.0272 0.0017

Saturn -74228-08-13 04:04 J -25390129.47 -25390129.33 -25390129.17 0.0273 0.0165

Mars -74227-09-10 06:42 J -25389736.33 -25389736.22 -25389736.10 0.1932 0.0183

Moon -74226-10-11 14:52 J -25389340.03 -25389339.88 -25389339.73 0.2605 0.0925

Earth -74226-10-11 16:32 J -25389339.96 -25389339.81 -25389339.66 0.2605 0.1053 *

Venus -74226-10-24 13:40 J -25389327.06 -25389326.93 -25389326.80 0.3584 0.1570

Jupiter -74223-11-28 16:47 J -25388195.92 -25388195.80 -25388195.67 0.0494 0.0372

Jupiter -74222-02-27 02:37 J -25388105.56 -25388105.39 -25388105.21 0.0495 0.0186

Venus -74220-05-09 16:18 J -25387302.96 -25387302.82 -25387302.68 0.3587 0.0759

Mars -74218-04-03 11:59 J -25386609.14 -25386609.00 -25386608.86 0.1618 0.0901

Mars -74217-01-31 14:37 J -25386306.00 -25386305.89 -25386305.79 0.1938 0.0796

Jupiter -74217-10-20 17:16 J -25386042.89 -25386042.78 -25386042.67 0.0531 0.0248

Jupiter -74216-01-17 23:30 J -25385953.64 -25385953.52 -25385953.40 0.0531 0.0206

Earth -74216-04-14 09:06 J -25385867.23 -25385867.12 -25385867.02 0.2729 0.0491

Moon -74216-04-14 09:35 J -25385867.21 -25385867.10 -25385867.00 0.2734 0.0609 *

Saturn -74215-06-28 00:56 J -25385427.56 -25385427.46 -25385427.35 0.0291 0.0171

Saturn -74215-09-24 12:42 J -25385339.10 -25385338.97 -25385338.84 0.0290 0.0050

Venus -74215-11-23 18:28 J -25385278.81 -25385278.73 -25385278.66 0.3590 0.2994

Saturn -74215-12-22 00:13 J -25385250.61 -25385250.49 -25385250.36 0.0289 0.0070

Saturn -74214-03-20 11:44 J -25385162.10 -25385162.01 -25385161.91 0.0288 0.0188

Jupiter -74211-12-15 23:01 J -25383795.73 -25383795.54 -25383795.36 0.0495 0.0039

Mars -74209-08-23 13:40 J -25383179.10 -25383178.93 -25383178.77 0.1613 0.0040

Mars -74208-06-22 22:18 J -25382875.61 -25382875.57 -25382875.52 0.1944 0.1783

Jupiter -74205-08-08 21:20 J -25381732.70 -25381732.61 -25381732.52 0.0531 0.0359

Jupiter -74205-11-06 03:35 J -25381643.47 -25381643.35 -25381643.22 0.0531 0.0093

Earth -74203-04-17 02:52 J -25381116.46 -25381116.38 -25381116.30 0.2731 0.1699

Moon -74203-04-17 03:35 J -25381116.43 -25381116.35 -25381116.27 0.2731 0.1722 *

Uranus -74202-12-24 02:37 J -25380500.44 -25380500.39 -25380500.33 0.0136 0.0122

Uranus -74201-03-21 05:44 J -25380412.34 -25380412.26 -25380412.17 0.0136 0.0106

Uranus -74201-06-17 08:52 J -25380324.22 -25380324.13 -25380324.03 0.0136 0.0089

Uranus -74201-09-13 11:59 J -25380236.11 -25380236.00 -25380235.88 0.0136 0.0073

Venus -74201-09-18 09:35 J -25380231.16 -25380231.10 -25380231.03 0.3799 0.2945

Uranus -74201-12-10 15:06 J -25380147.99 -25380147.87 -25380147.75 0.0136 0.0057

Uranus -74200-03-08 18:13 J -25380059.86 -25380059.74 -25380059.61 0.0136 0.0040

Uranus -74200-06-04 21:20 J -25379971.73 -25379971.61 -25379971.47 0.0136 0.0024

Uranus -74200-09-01 00:42 J -25379883.60 -25379883.47 -25379883.34 0.0136 0.0006

Neptune -74200-10-12 00:28 J -25379842.53 -25379842.48 -25379842.39 0.0088 0.0083

Uranus -74200-11-28 03:49 J -25379795.47 -25379795.34 -25379795.21 0.0137 0.0011

Neptune -74199-01-08 04:18 J -25379754.40 -25379754.32 -25379754.20 0.0088 0.0076

Mars -74199-01-13 15:06 J -25379749.00 -25379748.87 -25379748.73 0.1608 0.0941

Uranus -74199-02-24 06:56 J -25379707.34 -25379707.21 -25379707.08 0.0137 0.0028

Neptune -74199-04-06 08:08 J -25379666.27 -25379666.16 -25379666.02 0.0088 0.0068

Uranus -74199-05-23 10:18 J -25379619.20 -25379619.07 -25379618.95 0.0137 0.0045

Neptune -74199-07-03 11:44 J -25379578.13 -25379578.01 -25379577.85 0.0088 0.0062

Saturn -74199-07-06 06:13 J -25379575.38 -25379575.24 -25379575.08 0.0271 0.0166

Uranus -74199-08-19 13:25 J -25379531.06 -25379530.94 -25379530.82 0.0137 0.0062

Neptune -74199-09-29 15:35 J -25379489.99 -25379489.85 -25379489.68 0.0088 0.0055

Saturn -74199-10-03 05:16 J -25379486.47 -25379486.28 -25379486.09 0.0272 0.0019

Jupiter -74199-10-03 20:08 J -25379485.84 -25379485.66 -25379485.48 0.0495 0.0100

Uranus -74199-11-15 16:47 J -25379442.91 -25379442.80 -25379442.69 0.0137 0.0080

Neptune -74199-12-26 19:25 J -25379401.84 -25379401.69 -25379401.51 0.0088 0.0047

Saturn -74199-12-31 04:18 J -25379397.49 -25379397.32 -25379397.16 0.0273 0.0131

Jupiter -74198-01-02 05:44 J -25379395.33 -25379395.26 -25379395.19 0.0496 0.0455

Uranus -74198-02-11 19:54 J -25379354.76 -25379354.67 -25379354.57 0.0137 0.0097

Neptune -74198-03-24 23:01 J -25379313.70 -25379313.54 -25379313.34 0.0088 0.0041

Uranus -74198-05-10 23:16 J -25379266.60 -25379266.53 -25379266.46 0.0138 0.0115

Neptune -74198-06-21 02:52 J -25379225.55 -25379225.38 -25379225.18 0.0088 0.0034

Uranus -74198-08-07 02:23 J -25379178.42 -25379178.40 -25379178.36 0.0138 0.0133

Neptune -74198-09-17 06:42 J -25379137.40 -25379137.22 -25379137.02 0.0088 0.0026

Neptune -74198-12-14 10:32 J -25379049.25 -25379049.06 -25379048.86 0.0088 0.0019

Neptune -74197-03-11 14:23 J -25378961.09 -25378960.90 -25378960.70 0.0088 0.0012

Neptune -74197-06-07 17:59 J -25378872.94 -25378872.75 -25378872.55 0.0088 0.0006

Neptune -74197-09-03 21:49 J -25378784.78 -25378784.59 -25378784.39 0.0088 0.0002

Mars -74197-10-18 22:47 J -25378739.63 -25378739.55 -25378739.46 0.1925 0.1255

Neptune -74197-12-01 01:25 J -25378696.63 -25378696.44 -25378696.24 0.0088 0.0010

Neptune -74196-02-27 05:01 J -25378608.47 -25378608.29 -25378608.08 0.0088 0.0017

Moon -74196-04-10 01:54 J -25378566.50 -25378566.42 -25378566.34 0.2732 0.1713

Earth -74196-04-10 02:23 J -25378566.49 -25378566.40 -25378566.32 0.2726 0.1667 *

Neptune -74196-05-26 08:52 J -25378520.31 -25378520.13 -25378519.93 0.0088 0.0023

Neptune -74196-08-22 12:28 J -25378432.15 -25378431.98 -25378431.78 0.0088 0.0030

Neptune -74196-11-18 16:04 J -25378343.99 -25378343.83 -25378343.64 0.0088 0.0038

Neptune -74195-02-14 20:08 J -25378255.83 -25378255.66 -25378255.49 0.0088 0.0044

Venus -74195-04-04 03:06 J -25378207.47 -25378207.37 -25378207.28 0.3796 0.1624

Neptune -74195-05-13 23:44 J -25378167.67 -25378167.51 -25378167.35 0.0088 0.0051

Neptune -74195-08-10 03:20 J -25378079.50 -25378079.36 -25378079.20 0.0088 0.0058

Neptune -74195-11-06 06:56 J -25377991.33 -25377991.21 -25377991.07 0.0088 0.0065

Neptune -74194-02-02 10:32 J -25377903.16 -25377903.06 -25377902.93 0.0088 0.0072

Neptune -74194-05-01 14:08 J -25377814.98 -25377814.91 -25377814.80 0.0088 0.0079

Neptune -74194-07-28 17:44 J -25377726.79 -25377726.76 -25377726.69 0.0088 0.0086

Jupiter -74193-05-28 00:56 J -25377422.51 -25377422.46 -25377422.41 0.0531 0.0478

Jupiter -74193-08-25 07:11 J -25377333.33 -25377333.20 -25377333.07 0.0531 0.0029

Moon -74193-10-08 14:08 J -25377289.06 -25377288.91 -25377288.76 0.2603 0.1063

Earth -74193-10-08 15:35 J -25377289.00 -25377288.85 -25377288.70 0.2607 0.0868 *

Jupiter -74193-11-22 13:40 J -25377244.00 -25377243.93 -25377243.86 0.0530 0.0427

Pluto -74191-03-03 04:18 J -25376778.35 -25376778.32 -25376778.24 0.0060 0.0057

Pluto -74191-05-30 06:13 J -25376690.34 -25376690.24 -25376690.15 0.0060 0.0051

Pluto -74191-08-26 07:11 J -25376602.31 -25376602.20 -25376602.07 0.0060 0.0046

Pluto -74191-11-22 08:08 J -25376514.27 -25376514.16 -25376514.00 0.0060 0.0041

Pluto -74190-02-18 09:49 J -25376426.23 -25376426.09 -25376425.93 0.0060 0.0035

Pluto -74190-05-17 10:47 J -25376338.19 -25376338.05 -25376337.87 0.0060 0.0031

Pluto -74190-08-13 12:13 J -25376250.15 -25376249.99 -25376249.81 0.0060 0.0025

Venus -74190-10-18 20:37 J -25376183.75 -25376183.64 -25376183.54 0.3793 0.0300

Pluto -74190-11-09 13:25 J -25376162.10 -25376161.94 -25376161.75 0.0060 0.0020

Pluto -74189-02-05 14:52 J -25376074.05 -25376073.88 -25376073.69 0.0060 0.0014

Pluto -74189-05-03 16:18 J -25375986.00 -25375985.82 -25375985.63 0.0061 0.0008

Pluto -74189-07-30 17:44 J -25375897.95 -25375897.76 -25375897.57 0.0061 0.0002

Pluto -74189-10-26 18:56 J -25375809.89 -25375809.71 -25375809.52 0.0061 0.0004

Pluto -74188-01-22 20:23 J -25375721.84 -25375721.65 -25375721.46 0.0061 0.0009

Pluto -74188-04-20 21:35 J -25375633.78 -25375633.60 -25375633.41 0.0061 0.0015

Pluto -74188-07-17 22:47 J -25375545.71 -25375545.55 -25375545.36 0.0061 0.0021

Pluto -74188-10-14 00:13 J -25375457.65 -25375457.49 -25375457.31 0.0061 0.0026

Pluto -74187-01-10 01:25 J -25375369.58 -25375369.44 -25375369.26 0.0061 0.0032

Mars -74187-03-11 06:42 J -25375309.33 -25375309.22 -25375309.11 0.1932 0.0289

Pluto -74187-04-08 02:37 J -25375281.52 -25375281.39 -25375281.22 0.0061 0.0038

Pluto -74187-07-05 04:32 J -25375193.44 -25375193.31 -25375193.18 0.0061 0.0044

Jupiter -74187-07-22 17:30 J -25375175.93 -25375175.77 -25375175.60 0.0495 0.0236

Pluto -74187-10-01 05:44 J -25375105.36 -25375105.26 -25375105.14 0.0061 0.0049

Jupiter -74187-10-21 03:20 J -25375085.50 -25375085.36 -25375085.22 0.0495 0.0321

Pluto -74187-12-28 06:56 J -25375017.27 -25375017.21 -25375017.12 0.0061 0.0056

Pluto -74186-03-26 08:37 J -25374929.14 -25374929.14 -25374929.14 0.0061 0.0061

Saturn -74186-11-15 04:04 J -25374695.43 -25374695.33 -25374695.24 0.0291 0.0200

Saturn -74185-02-11 15:35 J -25374606.97 -25374606.85 -25374606.72 0.0290 0.0079

Saturn -74185-05-10 03:06 J -25374518.50 -25374518.37 -25374518.24 0.0289 0.0042

Saturn -74185-08-06 14:37 J -25374429.99 -25374429.89 -25374429.78 0.0288 0.0160

Saturn -74185-11-03 02:08 J -25374341.44 -25374341.41 -25374341.37 0.0287 0.0277

Venus -74184-05-03 14:08 J -25374160.01 -25374159.91 -25374159.81 0.3791 0.1138

Earth -74183-04-12 20:08 J -25373815.77 -25373815.66 -25373815.56 0.2728 0.0478

Moon -74183-04-12 20:08 J -25373815.76 -25373815.66 -25373815.55 0.2736 0.0434 *

Jupiter -74181-06-13 11:01 J -25373023.16 -25373023.04 -25373022.91 0.0531 0.0144

Jupiter -74181-09-10 17:30 J -25372933.87 -25372933.77 -25372933.67 0.0531 0.0312

Moon -74180-10-11 21:35 J -25372537.74 -25372537.60 -25372537.46 0.2607 0.1343

Earth -74180-10-11 23:16 J -25372537.66 -25372537.53 -25372537.39 0.2605 0.1521 *

Mars -74179-10-02 12:28 J -25372182.10 -25372181.98 -25372181.85 0.1618 0.1035

Venus -74179-11-17 07:54 J -25372136.24 -25372136.17 -25372136.09 0.3787 0.2562

Mars -74178-08-01 14:37 J -25371879.00 -25371878.89 -25371878.78 0.1938 0.0682

Jupiter -74175-05-10 14:37 J -25370866.01 -25370865.89 -25370865.77 0.0494 0.0376

Jupiter -74175-08-09 00:28 J -25370775.65 -25370775.48 -25370775.31 0.0495 0.0182

Venus -74175-11-14 11:16 J -25370678.09 -25370678.03 -25370677.96 0.3582 0.3187

Earth -74170-04-15 13:54 J -25369065.03 -25369064.92 -25369064.82 0.2730 0.0739

Moon -74170-04-15 14:23 J -25369065.00 -25369064.90 -25369064.79 0.2733 0.0774 *

Saturn -74170-11-23 05:30 J -25368843.39 -25368843.27 -25368843.14 0.0271 0.0205

Saturn -74169-02-20 04:18 J -25368754.50 -25368754.32 -25368754.13 0.0272 0.0058

Mars -74169-02-22 14:23 J -25368752.07 -25368751.90 -25368751.74 0.1613 0.0122

Jupiter -74169-04-01 15:20 J -25368712.97 -25368712.86 -25368712.75 0.0532 0.0255

Saturn -74169-05-19 03:06 J -25368665.55 -25368665.37 -25368665.19 0.0273 0.0091

Venus -74169-05-30 14:08 J -25368654.05 -25368653.91 -25368653.77 0.3585 0.0791

Jupiter -74169-06-29 21:35 J -25368623.71 -25368623.60 -25368623.48 0.0531 0.0200

Saturn -74169-08-16 01:54 J -25368576.50 -25368576.42 -25368576.32 0.0274 0.0240

Mars -74169-12-21 22:18 J -25368448.62 -25368448.57 -25368448.51 0.1945 0.1679

Venus -74164-12-14 16:32 J -25366629.93 -25366629.81 -25366629.68 0.3588 0.1522

Moon -74163-04-08 12:42 J -25366514.99 -25366514.97 -25366514.95 0.2727 0.2644

Earth -74163-04-08 13:25 J -25366514.97 -25366514.94 -25366514.91 0.2725 0.2608 *

Jupiter -74163-05-27 21:35 J -25366465.78 -25366465.60 -25366465.41 0.0495 0.0043

Uranus -74162-08-10 15:49 J -25366025.92 -25366025.84 -25366025.73 0.0143 0.0122

Uranus -74162-11-07 00:28 J -25365937.62 -25365937.48 -25365937.33 0.0143 0.0093

Uranus -74161-02-03 08:37 J -25365849.30 -25365849.14 -25365848.96 0.0143 0.0065

Uranus -74161-05-01 17:16 J -25365760.97 -25365760.78 -25365760.59 0.0143 0.0036

Uranus -74161-07-29 01:25 J -25365672.63 -25365672.44 -25365672.24 0.0142 0.0008

Uranus -74161-10-25 09:35 J -25365584.29 -25365584.10 -25365583.90 0.0142 0.0021

Uranus -74160-01-21 17:44 J -25365495.94 -25365495.76 -25365495.58 0.0142 0.0049

Uranus -74160-04-20 01:54 J -25365407.58 -25365407.42 -25365407.26 0.0142 0.0076

Mars -74160-07-14 15:49 J -25365321.98 -25365321.84 -25365321.69 0.1609 0.0807

Uranus -74160-07-17 09:49 J -25365319.21 -25365319.09 -25365318.95 0.0142 0.0104

Uranus -74160-10-13 17:44 J -25365230.82 -25365230.76 -25365230.68 0.0142 0.0131

Jupiter -74157-01-19 19:40 J -25364402.77 -25364402.68 -25364402.58 0.0532 0.0363

Earth -74157-04-17 07:40 J -25364314.25 -25364314.18 -25364314.11 0.2731 0.1946

Moon -74157-04-17 08:23 J -25364314.22 -25364314.15 -25364314.08 0.2731 0.2100 *

Jupiter -74157-04-18 02:08 J -25364313.54 -25364313.41 -25364313.29 0.0531 0.0092

Mars -74157-04-18 22:47 J -25364312.63 -25364312.55 -25364312.47 0.1925 0.1364

Saturn -74156-04-03 05:44 J -25363963.33 -25363963.26 -25363963.19 0.0291 0.0239

Saturn -74156-06-30 17:16 J -25363874.89 -25363874.78 -25363874.66 0.0291 0.0119

Saturn -74156-09-27 05:01 J -25363786.42 -25363786.29 -25363786.16 0.0290 0.0005

Saturn -74156-12-24 16:32 J -25363697.93 -25363697.81 -25363697.69 0.0289 0.0121

Saturn -74155-03-23 04:04 J -25363609.40 -25363609.33 -25363609.26 0.0288 0.0239

Jupiter -74151-03-15 17:30 J -25362155.95 -25362155.77 -25362155.59 0.0495 0.0107

Jupiter -74151-06-14 03:06 J -25362065.45 -25362065.37 -25362065.29 0.0496 0.0448

Moon -74150-04-11 06:56 J -25361764.30 -25361764.21 -25361764.12 0.2733 0.1485

Earth -74150-04-11 07:11 J -25361764.29 -25361764.20 -25361764.11 0.2727 0.1421 *

Mars -74148-09-09 06:42 J -25360882.33 -25360882.22 -25360882.11 0.1931 0.0401

Moon -74147-10-09 20:52 J -25360486.79 -25360486.63 -25360486.47 0.2603 0.0473

Earth -74147-10-09 22:18 J -25360486.73 -25360486.57 -25360486.40 0.2607 0.0397 *

Jupiter -74146-11-07 23:59 J -25360092.56 -25360092.50 -25360092.45 0.0531 0.0473

Jupiter -74145-02-05 06:13 J -25360003.37 -25360003.24 -25360003.12 0.0531 0.0024

Jupiter -74145-05-04 12:42 J -25359914.04 -25359913.97 -25359913.90 0.0530 0.0432

Venus -74144-04-25 07:40 J -25359558.26 -25359558.18 -25359558.11 0.3798 0.2505

Saturn -74140-04-11 05:44 J -25358111.35 -25358111.26 -25358111.17 0.0270 0.0237

Saturn -74140-07-09 04:32 J -25358022.49 -25358022.31 -25358022.13 0.0271 0.0090

Saturn -74140-10-06 03:35 J -25357933.54 -25357933.35 -25357933.17 0.0272 0.0059

Jupiter -74139-01-01 14:37 J -25357846.05 -25357845.89 -25357845.73 0.0495 0.0246

Saturn -74139-01-03 02:23 J -25357844.52 -25357844.40 -25357844.28 0.0273 0.0207

Jupiter -74139-04-02 00:28 J -25357755.62 -25357755.48 -25357755.34 0.0496 0.0312

Mars -74139-04-02 13:25 J -25357755.06 -25357754.94 -25357754.83 0.1618 0.1176

Venus -74139-11-09 00:56 J -25357534.56 -25357534.46 -25357534.36 0.3795 0.1159

Mars -74138-01-30 14:23 J -25357452.00 -25357451.90 -25357451.79 0.1938 0.0594

Earth -74137-04-13 00:56 J -25357013.57 -25357013.46 -25357013.36 0.2728 0.0230

Moon -74137-04-13 01:11 J -25357013.56 -25357013.45 -25357013.35 0.2735 0.0239 *

Moon -74134-10-13 04:18 J -25355735.44 -25355735.32 -25355735.20 0.2607 0.1784

Earth -74134-10-13 05:59 J -25355735.35 -25355735.25 -25355735.14 0.2605 0.1984 *

Jupiter -74134-11-24 09:35 J -25355693.22 -25355693.10 -25355692.98 0.0531 0.0145

Jupiter -74133-02-21 16:04 J -25355603.93 -25355603.83 -25355603.73 0.0530 0.0310

Venus -74133-05-24 18:28 J -25355510.84 -25355510.73 -25355510.62 0.3793 0.0223

Mars -74130-08-23 14:52 J -25354325.05 -25354324.88 -25354324.72 0.1613 0.0246

Mars -74129-06-21 22:32 J -25354021.63 -25354021.56 -25354021.50 0.1945 0.1558

Jupiter -74128-10-20 11:59 J -25353536.11 -25353536.00 -25353535.88 0.0495 0.0383

Venus -74128-12-08 12:13 J -25353487.09 -25353486.99 -25353486.89 0.3790 0.1620

Jupiter -74127-01-18 22:04 J -25353445.76 -25353445.58 -25353445.41 0.0495 0.0177

Saturn -74127-08-21 08:52 J -25353231.17 -25353231.13 -25353231.07 0.0292 0.0265

Saturn -74127-11-17 20:37 J -25353142.75 -25353142.64 -25353142.52 0.0291 0.0143

Saturn -74126-02-14 08:23 J -25353054.28 -25353054.15 -25353054.02 0.0290 0.0024

Saturn -74126-05-13 19:54 J -25352965.79 -25352965.67 -25352965.55 0.0289 0.0097

Saturn -74126-08-10 07:25 J -25352877.28 -25352877.19 -25352877.11 0.0288 0.0215

Earth -74124-04-15 18:42 J -25352262.82 -25352262.72 -25352262.62 0.2730 0.0983

Moon -74124-04-15 19:25 J -25352262.79 -25352262.69 -25352262.60 0.2732 0.1103 *

Venus -74122-06-24 05:59 J -25351463.31 -25351463.25 -25351463.18 0.3787 0.3055

Jupiter -74122-09-12 13:25 J -25351383.05 -25351382.94 -25351382.83 0.0531 0.0261

Jupiter -74122-12-10 19:54 J -25351293.79 -25351293.67 -25351293.55 0.0531 0.0194

Mars -74120-01-12 16:32 J -25350894.96 -25350894.81 -25350894.66 0.1609 0.0670

Neptune -74118-01-23 20:37 J -25350153.67 -25350153.64 -25350153.61 0.0089 0.0086

Neptune -74118-04-21 21:35 J -25350065.63 -25350065.60 -25350065.53 0.0089 0.0082

Venus -74118-06-21 11:59 J -25350005.11 -25350005.00 -25350004.90 0.3582 0.2388

Neptune -74118-07-18 23:01 J -25349977.59 -25349977.54 -25349977.47 0.0089 0.0077

Neptune -74118-10-15 00:28 J -25349889.55 -25349889.48 -25349889.40 0.0089 0.0072

Uranus -74118-10-17 07:25 J -25349887.21 -25349887.19 -25349887.16 0.0135 0.0132

Mars -74118-10-18 23:01 J -25349885.61 -25349885.54 -25349885.47 0.1925 0.1485

Neptune -74117-01-11 01:54 J -25349801.51 -25349801.42 -25349801.34 0.0089 0.0067

Uranus -74117-01-13 10:32 J -25349799.13 -25349799.06 -25349798.99 0.0135 0.0116

Neptune -74117-04-08 02:52 J -25349713.46 -25349713.38 -25349713.28 0.0089 0.0063

Moon -74117-04-08 17:30 J -25349712.81 -25349712.77 -25349712.73 0.2728 0.2499

Earth -74117-04-08 18:13 J -25349712.79 -25349712.74 -25349712.69 0.2725 0.2360 *

Uranus -74117-04-10 13:25 J -25349711.02 -25349710.94 -25349710.84 0.0136 0.0100

Neptune -74117-07-05 04:18 J -25349625.41 -25349625.32 -25349625.22 0.0089 0.0058

Uranus -74117-07-07 16:47 J -25349622.91 -25349622.80 -25349622.70 0.0136 0.0083

Neptune -74117-10-01 05:44 J -25349537.36 -25349537.26 -25349537.16 0.0089 0.0053

Uranus -74117-10-03 19:40 J -25349534.79 -25349534.68 -25349534.56 0.0136 0.0067

Neptune -74117-12-28 06:56 J -25349449.32 -25349449.21 -25349449.10 0.0089 0.0049

Uranus -74117-12-30 23:01 J -25349446.67 -25349446.54 -25349446.42 0.0136 0.0050

Neptune -74116-03-26 08:08 J -25349361.27 -25349361.16 -25349361.04 0.0089 0.0044

Uranus -74116-03-29 01:54 J -25349358.54 -25349358.42 -25349358.28 0.0136 0.0034

Neptune -74116-06-22 09:35 J -25349273.22 -25349273.10 -25349272.98 0.0089 0.0039

Uranus -74116-06-25 05:16 J -25349270.41 -25349270.28 -25349270.15 0.0136 0.0017

Neptune -74116-09-18 10:47 J -25349185.17 -25349185.05 -25349184.92 0.0089 0.0035

Uranus -74116-09-21 08:23 J -25349182.28 -25349182.15 -25349182.02 0.0136 0.0000

Jupiter -74116-11-06 18:56 J -25349135.89 -25349135.71 -25349135.52 0.0495 0.0036

Neptune -74116-12-15 12:13 J -25349097.11 -25349096.99 -25349096.87 0.0089 0.0030

Uranus -74116-12-18 11:30 J -25349094.15 -25349094.02 -25349093.89 0.0137 0.0017

Neptune -74115-03-13 13:25 J -25349009.06 -25349008.94 -25349008.81 0.0089 0.0025

Uranus -74115-03-16 14:37 J -25349006.01 -25349005.89 -25349005.76 0.0137 0.0035

Neptune -74115-06-09 14:52 J -25348921.01 -25348920.88 -25348920.75 0.0089 0.0020

Uranus -74115-06-12 17:59 J -25348917.87 -25348917.75 -25348917.63 0.0137 0.0051

Neptune -74115-09-05 16:04 J -25348832.96 -25348832.83 -25348832.70 0.0089 0.0016

Uranus -74115-09-08 21:06 J -25348829.73 -25348829.62 -25348829.50 0.0137 0.0069

Neptune -74115-12-02 17:30 J -25348744.90 -25348744.77 -25348744.64 0.0089 0.0011

Uranus -74115-12-06 00:13 J -25348741.58 -25348741.49 -25348741.38 0.0137 0.0086

Neptune -74114-02-28 18:42 J -25348656.85 -25348656.72 -25348656.59 0.0089 0.0006

Uranus -74114-03-04 03:35 J -25348653.43 -25348653.35 -25348653.26 0.0137 0.0103

Neptune -74114-05-27 19:54 J -25348568.80 -25348568.67 -25348568.53 0.0089 0.0003

Uranus -74114-05-31 06:56 J -25348565.27 -25348565.21 -25348565.15 0.0137 0.0121

Neptune -74114-08-23 21:20 J -25348480.74 -25348480.61 -25348480.48 0.0089 0.0004

Moon -74114-10-07 20:08 J -25348435.73 -25348435.66 -25348435.59 0.2603 0.2316

Earth -74114-10-07 21:20 J -25348435.68 -25348435.61 -25348435.54 0.2608 0.2329 *

Neptune -74114-11-19 22:32 J -25348392.69 -25348392.56 -25348392.43 0.0089 0.0008

Neptune -74113-02-15 23:59 J -25348304.63 -25348304.50 -25348304.37 0.0089 0.0013

Neptune -74113-05-14 01:11 J -25348216.58 -25348216.45 -25348216.32 0.0089 0.0018

Neptune -74113-08-10 02:23 J -25348128.52 -25348128.40 -25348128.27 0.0089 0.0023

Neptune -74113-11-06 03:49 J -25348040.47 -25348040.34 -25348040.21 0.0089 0.0027

Venus -74112-01-04 14:37 J -25347981.03 -25347980.89 -25347980.75 0.3585 0.0058

Neptune -74112-02-02 05:01 J -25347952.41 -25347952.29 -25347952.16 0.0089 0.0032

Neptune -74112-05-01 06:13 J -25347864.35 -25347864.24 -25347864.11 0.0089 0.0037

Neptune -74112-07-28 07:40 J -25347776.29 -25347776.18 -25347776.06 0.0089 0.0042

Neptune -74112-10-24 09:06 J -25347688.23 -25347688.12 -25347688.01 0.0089 0.0046

Neptune -74111-01-20 10:18 J -25347600.17 -25347600.07 -25347599.96 0.0089 0.0051

Neptune -74111-04-18 11:30 J -25347512.11 -25347512.02 -25347511.91 0.0089 0.0056

Earth -74111-04-18 12:28 J -25347512.04 -25347511.98 -25347511.92 0.2731 0.2194 *

Moon -74111-04-18 13:11 J -25347512.01 -25347511.95 -25347511.89 0.2729 0.2216 *

Mars -74111-06-04 17:59 J -25347464.77 -25347464.75 -25347464.72 0.1604 0.1584

Neptune -74111-07-15 12:42 J -25347424.05 -25347423.97 -25347423.86 0.0089 0.0061

Neptune -74111-10-11 14:23 J -25347335.99 -25347335.90 -25347335.81 0.0089 0.0065

Saturn -74111-11-26 04:18 J -25347290.49 -25347290.32 -25347290.15 0.0271 0.0125

Neptune -74110-01-07 15:35 J -25347247.92 -25347247.85 -25347247.77 0.0089 0.0070

Saturn -74110-02-23 03:06 J -25347201.56 -25347201.37 -25347201.17 0.0272 0.0024

Neptune -74110-04-05 16:47 J -25347159.86 -25347159.80 -25347159.72 0.0089 0.0075

Saturn -74110-05-23 02:08 J -25347112.56 -25347112.41 -25347112.26 0.0273 0.0172

Jupiter -74110-07-01 17:30 J -25347072.85 -25347072.77 -25347072.68 0.0532 0.0374

Neptune -74110-07-02 17:59 J -25347071.79 -25347071.75 -25347071.68 0.0089 0.0080

Neptune -74110-09-28 19:40 J -25346983.72 -25346983.68 -25346983.64 0.0089 0.0084

Jupiter -74110-09-28 23:59 J -25346983.63 -25346983.50 -25346983.38 0.0531 0.0080

Mars -74108-03-10 06:42 J -25346455.33 -25346455.22 -25346455.11 0.1931 0.0501

Venus -74107-07-21 17:01 J -25345956.90 -25345956.79 -25345956.68 0.3589 0.2271

Moon -74104-04-11 11:44 J -25344962.11 -25344962.01 -25344961.91 0.2734 0.1154

Earth -74104-04-11 11:59 J -25344962.10 -25344962.00 -25344961.90 0.2727 0.1174 *

Jupiter -74104-08-25 16:04 J -25344826.02 -25344825.83 -25344825.65 0.0495 0.0105

Jupiter -74104-11-24 01:11 J -25344735.51 -25344735.45 -25344735.37 0.0495 0.0451

Moon -74101-10-10 03:35 J -25343684.51 -25343684.35 -25343684.19 0.2605 0.0179

Earth -74101-10-10 05:16 J -25343684.45 -25343684.28 -25343684.12 0.2607 0.0093 *

Mars -74100-10-01 13:54 J -25343328.01 -25343327.92 -25343327.82 0.1619 0.1314

Mars -74099-07-31 14:37 J -25343025.00 -25343024.89 -25343024.78 0.1938 0.0468

Jupiter -74098-04-19 22:04 J -25342762.63 -25342762.58 -25342762.53 0.0532 0.0480

Jupiter -74098-07-18 04:18 J -25342673.45 -25342673.32 -25342673.19 0.0531 0.0029

Jupiter -74098-10-15 10:47 J -25342584.12 -25342584.05 -25342583.97 0.0530 0.0427

Pluto -74098-12-31 11:30 J -25342507.06 -25342507.02 -25342506.94 0.0084 0.0076

Pluto -74097-03-28 12:56 J -25342419.03 -25342418.96 -25342418.86 0.0084 0.0064

Saturn -74097-04-05 22:47 J -25342410.65 -25342410.55 -25342410.44 0.0291 0.0179

Pluto -74097-06-24 14:52 J -25342330.99 -25342330.88 -25342330.78 0.0084 0.0052

Saturn -74097-07-03 10:32 J -25342322.19 -25342322.06 -25342321.94 0.0290 0.0058

Pluto -74097-09-20 15:49 J -25342242.94 -25342242.84 -25342242.71 0.0084 0.0042

Saturn -74097-09-29 22:04 J -25342233.71 -25342233.58 -25342233.45 0.0289 0.0062

Pluto -74097-12-17 17:30 J -25342154.89 -25342154.77 -25342154.64 0.0084 0.0030

Saturn -74097-12-27 09:35 J -25342145.20 -25342145.10 -25342145.00 0.0288 0.0180

Pluto -74096-03-15 18:56 J -25342066.84 -25342066.71 -25342066.57 0.0084 0.0019

Pluto -74096-06-11 20:23 J -25341978.79 -25341978.65 -25341978.51 0.0083 0.0008

Pluto -74096-09-07 21:49 J -25341890.73 -25341890.59 -25341890.46 0.0083 0.0003

Pluto -74096-12-04 23:01 J -25341802.67 -25341802.54 -25341802.40 0.0083 0.0013

Pluto -74095-03-03 00:13 J -25341714.61 -25341714.49 -25341714.35 0.0083 0.0024

Pluto -74095-05-30 01:40 J -25341626.55 -25341626.43 -25341626.30 0.0083 0.0034

Pluto -74095-08-26 02:52 J -25341538.48 -25341538.38 -25341538.26 0.0083 0.0045

Pluto -74095-11-22 04:18 J -25341450.41 -25341450.32 -25341450.21 0.0083 0.0055

Pluto -74094-02-18 05:30 J -25341362.34 -25341362.27 -25341362.18 0.0083 0.0066

Pluto -74094-05-17 06:42 J -25341274.26 -25341274.22 -25341274.15 0.0082 0.0076

Venus -74093-05-16 12:13 J -25340909.04 -25340908.99 -25340908.95 0.3800 0.3378

Jupiter -74092-06-13 11:44 J -25340516.17 -25340516.01 -25340515.85 0.0495 0.0256

Jupiter -74092-09-11 21:20 J -25340425.75 -25340425.61 -25340425.46 0.0495 0.0303

Earth -74091-04-14 05:44 J -25340211.37 -25340211.26 -25340211.15 0.2729 0.0055

Moon -74091-04-14 05:59 J -25340211.36 -25340211.25 -25340211.14 0.2734 0.0068 *

Mars -74090-02-21 15:35 J -25339898.01 -25339897.85 -25339897.69 0.1614 0.0389

Mars -74090-12-21 22:18 J -25339594.64 -25339594.57 -25339594.49 0.1944 0.1464

Moon -74088-10-13 11:01 J -25338933.11 -25338933.04 -25338932.96 0.2607 0.2315

Earth -74088-10-13 12:56 J -25338933.01 -25338932.96 -25338932.91 0.2605 0.2455 *

Venus -74088-11-30 05:30 J -25338885.36 -25338885.27 -25338885.18 0.3797 0.2052

Jupiter -74086-05-06 08:23 J -25338363.27 -25338363.15 -25338363.02 0.0531 0.0142

Jupiter -74086-08-03 14:52 J -25338273.98 -25338273.88 -25338273.78 0.0530 0.0313

Venus -74082-06-15 23:01 J -25336861.65 -25336861.54 -25336861.44 0.3795 0.0711

Saturn -74081-04-14 04:32 J -25336558.46 -25336558.31 -25336558.15 0.0271 0.0157

Saturn -74081-07-12 03:35 J -25336469.54 -25336469.35 -25336469.16 0.0272 0.0009

Mars -74081-07-13 17:01 J -25336467.94 -25336467.79 -25336467.63 0.1609 0.0539

Saturn -74081-10-09 02:23 J -25336380.56 -25336380.40 -25336380.23 0.0273 0.0141

Jupiter -74080-04-01 08:37 J -25336206.25 -25336206.14 -25336206.02 0.0495 0.0396

Jupiter -74080-06-30 18:42 J -25336115.89 -25336115.72 -25336115.54 0.0495 0.0164

Earth -74078-04-16 23:30 J -25335460.62 -25335460.52 -25335460.43 0.2730 0.1231

Moon -74078-04-17 00:13 J -25335460.59 -25335460.49 -25335460.40 0.2733 0.1296 *

Mars -74078-04-18 22:47 J -25335458.61 -25335458.55 -25335458.49 0.1925 0.1575

Uranus -74078-08-30 22:47 J -25335324.65 -25335324.55 -25335324.43 0.0143 0.0117

Uranus -74078-11-27 07:11 J -25335236.34 -25335236.20 -25335236.04 0.0143 0.0088

Uranus -74077-02-23 15:35 J -25335148.02 -25335147.85 -25335147.67 0.0143 0.0060

Uranus -74077-05-21 23:59 J -25335059.69 -25335059.50 -25335059.31 0.0143 0.0031

Uranus -74077-08-18 08:23 J -25334971.35 -25334971.15 -25334970.96 0.0143 0.0004

Uranus -74077-11-14 16:32 J -25334883.00 -25334882.81 -25334882.62 0.0142 0.0026

Venus -74077-12-29 16:32 J -25334837.92 -25334837.81 -25334837.71 0.3792 0.0691

Uranus -74076-02-11 00:42 J -25334794.65 -25334794.47 -25334794.29 0.0142 0.0054

Uranus -74076-05-10 08:37 J -25334706.29 -25334706.14 -25334705.98 0.0142 0.0081

Uranus -74076-08-06 16:32 J -25334617.92 -25334617.81 -25334617.68 0.0142 0.0109

Uranus -74076-11-03 00:42 J -25334529.52 -25334529.47 -25334529.41 0.0142 0.0136

Jupiter -74074-02-22 11:44 J -25334053.11 -25334053.01 -25334052.89 0.0531 0.0265

Jupiter -74074-05-22 18:13 J -25333963.86 -25333963.74 -25333963.62 0.0531 0.0189

Mars -74072-12-03 18:42 J -25333037.79 -25333037.72 -25333037.65 0.1604 0.1451

Moon -74071-04-09 22:32 J -25332910.63 -25332910.56 -25332910.50 0.2730 0.2128

Earth -74071-04-09 23:01 J -25332910.61 -25332910.54 -25332910.47 0.2725 0.2119 *

Venus -74071-07-15 10:18 J -25332814.16 -25332814.07 -25332813.98 0.3789 0.2107

Mars -74069-09-08 06:42 J -25332028.33 -25332028.22 -25332028.11 0.1932 0.0620

Jupiter -74068-04-18 16:18 J -25331806.01 -25331805.82 -25331805.64 0.0495 0.0029

Saturn -74068-08-24 02:23 J -25331678.49 -25331678.40 -25331678.31 0.0292 0.0203

Moon -74068-10-08 02:52 J -25331633.48 -25331633.38 -25331633.28 0.2603 0.2057

Earth -74068-10-08 04:04 J -25331633.44 -25331633.33 -25331633.22 0.2608 0.1855 *

Saturn -74068-11-20 13:54 J -25331590.04 -25331589.92 -25331589.79 0.0291 0.0082

Saturn -74067-02-17 01:25 J -25331501.56 -25331501.44 -25331501.31 0.0290 0.0040

Saturn -74067-05-16 12:56 J -25331413.06 -25331412.96 -25331412.85 0.0289 0.0158

Saturn -74067-08-13 00:28 J -25331324.51 -25331324.48 -25331324.44 0.0287 0.0275

Venus -74065-01-29 04:04 J -25330790.36 -25330790.33 -25330790.29 0.3786 0.3552

Earth -74065-04-18 17:16 J -25330709.82 -25330709.78 -25330709.73 0.2731 0.2442

Moon -74065-04-18 17:44 J -25330709.79 -25330709.76 -25330709.72 0.2727 0.2553 *

Jupiter -74063-12-11 15:49 J -25329742.93 -25329742.84 -25329742.76 0.0531 0.0381

Jupiter -74062-03-10 22:04 J -25329653.71 -25329653.58 -25329653.46 0.0531 0.0073

Jupiter -74062-06-08 04:32 J -25329564.32 -25329564.31 -25329564.30 0.0530 0.0527

Venus -74061-01-26 12:28 J -25329332.11 -25329331.98 -25329331.85 0.3583 0.1592

Mars -74060-04-01 14:37 J -25328900.96 -25328900.89 -25328900.82 0.1619 0.1445

Mars -74059-01-29 14:37 J -25328598.00 -25328597.89 -25328597.78 0.1938 0.0360

Moon -74058-04-12 16:32 J -25328159.91 -25328159.81 -25328159.71 0.2734 0.1002

Earth -74058-04-12 16:47 J -25328159.90 -25328159.80 -25328159.70 0.2727 0.0926 *

Jupiter -74056-02-04 13:11 J -25327496.13 -25327495.95 -25327495.77 0.0495 0.0114

Jupiter -74056-05-05 22:32 J -25327405.64 -25327405.56 -25327405.48 0.0495 0.0441

Venus -74056-08-11 15:06 J -25327308.01 -25327307.87 -25327307.73 0.3586 0.0759

Moon -74055-10-11 10:04 J -25326882.24 -25326882.08 -25326881.92 0.2606 0.0470

Earth -74055-10-11 11:59 J -25326882.16 -25326882.00 -25326881.85 0.2606 0.0547 *

Saturn -74052-09-01 05:01 J -25325826.43 -25325826.29 -25325826.15 0.0271 0.0188

Saturn -74052-11-29 03:49 J -25325737.53 -25325737.34 -25325737.15 0.0272 0.0041

Saturn -74051-02-26 02:37 J -25325648.56 -25325648.39 -25325648.21 0.0273 0.0109

Saturn -74051-05-26 01:40 J -25325559.49 -25325559.43 -25325559.37 0.0274 0.0258

Mars -74051-08-22 16:18 J -25325470.98 -25325470.82 -25325470.66 0.1614 0.0525

Jupiter -74051-09-29 19:40 J -25325432.72 -25325432.68 -25325432.63 0.0532 0.0495

Jupiter -74051-12-28 01:54 J -25325343.54 -25325343.42 -25325343.29 0.0531 0.0045

Venus -74050-02-25 17:16 J -25325283.85 -25325283.78 -25325283.71 0.3590 0.3021

Jupiter -74050-03-27 08:23 J -25325254.22 -25325254.15 -25325254.07 0.0531 0.0414

Mars -74050-06-21 22:18 J -25325167.65 -25325167.57 -25325167.49 0.1944 0.1356

Earth -74045-04-14 10:32 J -25323409.17 -25323409.06 -25323408.95 0.2729 0.0274

Moon -74045-04-14 11:01 J -25323409.15 -25323409.04 -25323408.94 0.2734 0.0374 *

Jupiter -74045-11-23 09:49 J -25323186.24 -25323186.09 -25323185.93 0.0495 0.0256

Jupiter -74044-02-21 19:40 J -25323095.83 -25323095.68 -25323095.53 0.0495 0.0302

Mars -74041-01-12 17:59 J -25322040.91 -25322040.75 -25322040.59 0.1609 0.0396

Jupiter -74039-10-16 06:28 J -25321033.35 -25321033.23 -25321033.11 0.0532 0.0152

Mars -74039-10-17 22:47 J -25321031.60 -25321031.55 -25321031.49 0.1924 0.1694

Saturn -74038-01-11 04:47 J -25320946.37 -25320946.30 -25320946.22 0.0291 0.0235

Jupiter -74038-01-13 12:42 J -25320944.07 -25320943.97 -25320943.86 0.0531 0.0305

Saturn -74038-04-09 16:18 J -25320857.93 -25320857.82 -25320857.70 0.0290 0.0115

Saturn -74038-07-07 04:04 J -25320769.46 -25320769.33 -25320769.20 0.0289 0.0007

Saturn -74038-10-03 15:35 J -25320680.97 -25320680.85 -25320680.73 0.0288 0.0125

Saturn -74038-12-31 03:06 J -25320592.44 -25320592.37 -25320592.30 0.0287 0.0242

Venus -74037-12-21 10:04 J -25320236.15 -25320236.08 -25320236.01 0.3799 0.2932

Neptune -74035-07-08 21:20 J -25319671.66 -25319671.61 -25319671.52 0.0089 0.0083

Neptune -74035-10-05 01:11 J -25319583.53 -25319583.45 -25319583.33 0.0088 0.0076

Neptune -74034-01-01 05:01 J -25319495.40 -25319495.29 -25319495.15 0.0088 0.0069

Neptune -74034-03-30 08:52 J -25319407.26 -25319407.13 -25319406.98 0.0088 0.0062

Neptune -74034-06-26 12:28 J -25319319.12 -25319318.98 -25319318.81 0.0088 0.0055

Neptune -74034-09-22 16:18 J -25319230.97 -25319230.82 -25319230.64 0.0088 0.0048

Uranus -74034-11-06 15:06 J -25319185.90 -25319185.87 -25319185.81 0.0135 0.0126

Neptune -74034-12-19 20:08 J -25319142.83 -25319142.66 -25319142.48 0.0088 0.0040

Uranus -74033-02-02 18:28 J -25319097.80 -25319097.73 -25319097.65 0.0135 0.0109

Neptune -74033-03-16 23:44 J -25319054.68 -25319054.51 -25319054.31 0.0088 0.0034

Uranus -74033-04-30 21:20 J -25319009.70 -25319009.61 -25319009.50 0.0136 0.0093

Neptune -74033-06-13 03:35 J -25318966.53 -25318966.35 -25318966.15 0.0088 0.0027

Uranus -74033-07-28 00:42 J -25318921.58 -25318921.47 -25318921.36 0.0136 0.0076

Neptune -74033-09-09 07:25 J -25318878.38 -25318878.19 -25318877.99 0.0088 0.0019

Jupiter -74033-09-11 05:44 J -25318876.37 -25318876.26 -25318876.16 0.0494 0.0407

Uranus -74033-10-24 03:35 J -25318833.46 -25318833.35 -25318833.22 0.0136 0.0060

Neptune -74033-12-06 11:16 J -25318790.22 -25318790.03 -25318789.83 0.0088 0.0012

Jupiter -74033-12-10 15:35 J -25318786.02 -25318785.85 -25318785.67 0.0495 0.0153

Uranus -74032-01-20 06:56 J -25318745.34 -25318745.21 -25318745.09 0.0136 0.0043

Neptune -74032-03-04 14:52 J -25318702.07 -25318701.88 -25318701.68 0.0088 0.0006

Earth -74032-04-17 04:18 J -25318658.41 -25318658.32 -25318658.23 0.2730 0.1476

Moon -74032-04-17 05:01 J -25318658.38 -25318658.29 -25318658.21 0.2732 0.1568 *

Uranus -74032-04-18 10:04 J -25318657.21 -25318657.08 -25318656.95 0.0136 0.0027

Neptune -74032-05-31 18:42 J -25318613.92 -25318613.72 -25318613.52 0.0088 0.0002

Mars -74032-06-03 19:25 J -25318610.78 -25318610.69 -25318610.59 0.1604 0.1310

Uranus -74032-07-15 13:11 J -25318569.08 -25318568.95 -25318568.82 0.0136 0.0010

Neptune -74032-08-27 22:18 J -25318525.76 -25318525.57 -25318525.37 0.0088 0.0009

Uranus -74032-10-11 16:18 J -25318480.95 -25318480.82 -25318480.69 0.0136 0.0007

Neptune -74032-11-24 02:08 J -25318437.60 -25318437.41 -25318437.21 0.0088 0.0016

Uranus -74031-01-07 19:25 J -25318392.82 -25318392.69 -25318392.56 0.0137 0.0025

Neptune -74031-02-20 05:59 J -25318349.44 -25318349.25 -25318349.06 0.0088 0.0023

Uranus -74031-04-05 22:32 J -25318304.68 -25318304.56 -25318304.43 0.0137 0.0042

Neptune -74031-05-19 09:35 J -25318261.28 -25318261.10 -25318260.91 0.0088 0.0030

Uranus -74031-07-03 01:54 J -25318216.54 -25318216.42 -25318216.30 0.0137 0.0059

Venus -74031-07-07 03:20 J -25318212.45 -25318212.36 -25318212.26 0.3797 0.1600

Neptune -74031-08-15 13:11 J -25318173.12 -25318172.95 -25318172.77 0.0088 0.0037

Uranus -74031-09-29 05:01 J -25318128.39 -25318128.29 -25318128.17 0.0137 0.0076

Neptune -74031-11-11 17:01 J -25318084.96 -25318084.79 -25318084.62 0.0088 0.0044

Uranus -74031-12-26 08:23 J -25318040.24 -25318040.15 -25318040.05 0.0137 0.0093

Neptune -74030-02-07 20:37 J -25317996.80 -25317996.64 -25317996.48 0.0088 0.0051

Uranus -74030-03-24 11:44 J -25317952.09 -25317952.01 -25317951.93 0.0137 0.0111

Neptune -74030-05-07 00:13 J -25317908.63 -25317908.49 -25317908.33 0.0088 0.0058

Uranus -74030-06-20 14:52 J -25317863.92 -25317863.88 -25317863.83 0.0137 0.0128

Neptune -74030-08-03 03:49 J -25317820.46 -25317820.34 -25317820.19 0.0088 0.0065

Neptune -74030-10-30 07:25 J -25317732.29 -25317732.19 -25317732.06 0.0088 0.0072

Neptune -74029-01-26 11:01 J -25317644.11 -25317644.04 -25317643.93 0.0088 0.0079

Mars -74029-03-09 06:42 J -25317601.33 -25317601.22 -25317601.11 0.1931 0.0723

Neptune -74029-04-23 14:37 J -25317555.92 -25317555.89 -25317555.82 0.0088 0.0086

Jupiter -74027-08-04 10:32 J -25316723.17 -25316723.06 -25316722.95 0.0531 0.0263

Jupiter -74027-11-01 16:47 J -25316633.91 -25316633.80 -25316633.68 0.0531 0.0192

Venus -74025-01-20 20:52 J -25316188.74 -25316188.63 -25316188.52 0.3794 0.0234

Moon -74025-04-10 03:20 J -25316108.43 -25316108.36 -25316108.29 0.2731 0.1994

Earth -74025-04-10 03:49 J -25316108.42 -25316108.34 -25316108.26 0.2725 0.1872 *

Saturn -74022-01-19 05:01 J -25315094.40 -25315094.29 -25315094.18 0.0271 0.0222

Saturn -74022-04-18 03:49 J -25315005.52 -25315005.34 -25315005.15 0.0272 0.0075

Saturn -74022-07-16 02:52 J -25314916.56 -25314916.38 -25314916.20 0.0272 0.0074

Moon -74022-10-09 09:20 J -25314831.24 -25314831.11 -25314830.97 0.2604 0.1439

Earth -74022-10-09 10:47 J -25314831.19 -25314831.05 -25314830.92 0.2608 0.1391 *

Saturn -74022-10-13 01:40 J -25314827.53 -25314827.43 -25314827.32 0.0273 0.0224

Jupiter -74021-09-28 12:42 J -25314476.15 -25314475.97 -25314475.78 0.0495 0.0016

Mars -74021-09-30 15:20 J -25314473.89 -25314473.86 -25314473.83 0.1619 0.1586

Mars -74020-07-30 14:37 J -25314171.01 -25314170.89 -25314170.78 0.1938 0.0269

Venus -74020-08-05 14:37 J -25314165.00 -25314164.89 -25314164.79 0.3791 0.1178

Earth -74019-04-19 22:04 J -25313907.59 -25313907.58 -25313907.56 0.2732 0.2690

Moon -74019-04-19 22:47 J -25313907.56 -25313907.55 -25313907.55 0.2727 0.2724 *

Jupiter -74015-05-23 13:54 J -25312413.00 -25312412.92 -25312412.83 0.0531 0.0386

Jupiter -74015-08-20 20:08 J -25312323.78 -25312323.66 -25312323.53 0.0531 0.0067

Jupiter -74015-11-18 02:37 J -25312234.40 -25312234.39 -25312234.36 0.0530 0.0522

Venus -74014-02-19 08:23 J -25312141.23 -25312141.15 -25312141.08 0.3788 0.2598

Moon -74012-04-12 21:35 J -25311357.71 -25311357.60 -25311357.50 0.2734 0.0637

Earth -74012-04-12 21:35 J -25311357.71 -25311357.60 -25311357.50 0.2727 0.0683 *

Mars -74011-02-20 16:47 J -25311043.95 -25311043.80 -25311043.64 0.1614 0.0655

Mars -74011-12-20 22:32 J -25310740.65 -25310740.56 -25310740.48 0.1944 0.1241

Venus -74010-02-16 09:49 J -25310683.14 -25310683.09 -25310683.03 0.3581 0.3239

Saturn -74009-05-30 08:23 J -25310214.20 -25310214.15 -25310214.09 0.0292 0.0257

Jupiter -74009-07-17 10:04 J -25310166.25 -25310166.08 -25310165.89 0.0495 0.0124

Saturn -74009-08-26 20:08 J -25310125.77 -25310125.66 -25310125.55 0.0291 0.0136

Moon -74009-10-11 16:47 J -25310079.96 -25310079.80 -25310079.64 0.2606 0.0711

Earth -74009-10-11 18:42 J -25310079.87 -25310079.72 -25310079.57 0.2606 0.1014 *

Jupiter -74009-10-15 19:40 J -25310075.76 -25310075.68 -25310075.59 0.0496 0.0434

Saturn -74009-11-23 07:40 J -25310037.31 -25310037.18 -25310037.05 0.0290 0.0016

Saturn -74008-02-19 19:11 J -25309948.82 -25309948.70 -25309948.58 0.0289 0.0104

Saturn -74008-05-19 06:42 J -25309860.30 -25309860.22 -25309860.14 0.0288 0.0222

Venus -74005-09-01 12:56 J -25308659.10 -25308658.96 -25308658.82 0.3584 0.0814

Jupiter -74003-03-11 17:44 J -25308102.79 -25308102.76 -25308102.72 0.0531 0.0502

Jupiter -74003-06-08 23:59 J -25308013.63 -25308013.50 -25308013.37 0.0531 0.0051

Jupiter -74003-09-06 06:28 J -25307924.31 -25307924.23 -25307924.15 0.0530 0.0404

Mars -74002-07-13 18:28 J -25307613.89 -25307613.73 -25307613.56 0.1609 0.0266

74TH MILLENNIUM BCE

This is a list of transits of Mercury in the 74th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Venus -73999-03-18 15:20 J -25306634.98 -25306634.86 -25306634.73 0.3587 0.1525

Earth -73999-04-15 15:20 J -25306606.97 -25306606.86 -25306606.76 0.2729 0.0521

Moon -73999-04-15 15:49 J -25306606.94 -25306606.84 -25306606.73 0.2734 0.0534 *

Mars -73999-04-17 23:01 J -25306604.58 -25306604.54 -25306604.51 0.1924 0.1809

Jupiter -73997-05-05 06:56 J -25305856.36 -25305856.21 -25305856.05 0.0495 0.0265

Jupiter -73997-08-03 16:47 J -25305765.95 -25305765.80 -25305765.65 0.0495 0.0293

Uranus -73994-06-23 22:32 J -25304711.60 -25304711.56 -25304711.50 0.0143 0.0137

Uranus -73994-09-20 06:56 J -25304623.33 -25304623.21 -25304623.07 0.0143 0.0108

Uranus -73994-12-17 15:35 J -25304535.01 -25304534.85 -25304534.69 0.0143 0.0079

Uranus -73993-03-14 23:44 J -25304446.68 -25304446.51 -25304446.32 0.0143 0.0051

Saturn -73993-06-07 05:30 J -25304362.33 -25304362.27 -25304362.19 0.0271 0.0252

Uranus -73993-06-11 08:08 J -25304358.35 -25304358.16 -25304357.97 0.0143 0.0022

Saturn -73993-09-04 04:32 J -25304273.49 -25304273.31 -25304273.13 0.0272 0.0104

Uranus -73993-09-07 16:32 J -25304270.01 -25304269.81 -25304269.62 0.0143 0.0007

Saturn -73993-12-02 03:20 J -25304184.55 -25304184.36 -25304184.17 0.0272 0.0045

Mars -73993-12-02 20:08 J -25304183.77 -25304183.66 -25304183.54 0.1604 0.1173

Uranus -73993-12-05 00:42 J -25304181.66 -25304181.47 -25304181.29 0.0142 0.0035

Saturn -73992-03-01 02:08 J -25304095.53 -25304095.41 -25304095.27 0.0273 0.0194

Uranus -73992-03-03 08:37 J -25304093.30 -25304093.14 -25304092.96 0.0142 0.0063

Uranus -73992-05-30 16:47 J -25304004.94 -25304004.80 -25304004.65 0.0142 0.0090

Uranus -73992-08-27 00:56 J -25303916.57 -25303916.46 -25303916.35 0.0142 0.0117

Jupiter -73991-03-28 04:04 J -25303703.45 -25303703.33 -25303703.21 0.0532 0.0168

Jupiter -73991-06-25 10:18 J -25303614.17 -25303614.07 -25303613.96 0.0531 0.0289

Mars -73990-09-08 06:42 J -25303174.32 -25303174.22 -25303174.11 0.1931 0.0830

Earth -73986-04-18 09:06 J -25301856.20 -25301856.12 -25301856.04 0.2730 0.1725

Moon -73986-04-18 09:49 J -25301856.17 -25301856.09 -25301856.01 0.2730 0.1832 *

Jupiter -73985-02-22 03:35 J -25301546.44 -25301546.35 -25301546.24 0.0494 0.0408

Jupiter -73985-05-22 13:40 J -25301456.10 -25301455.93 -25301455.75 0.0495 0.0153

Mars -73980-01-28 14:37 J -25299744.01 -25299743.89 -25299743.78 0.1938 0.0150

Venus -73980-07-28 07:54 J -25299563.25 -25299563.17 -25299563.09 0.3799 0.2486

Saturn -73980-10-17 11:01 J -25299482.05 -25299482.04 -25299482.02 0.0291 0.0288

Saturn -73979-01-13 22:47 J -25299393.66 -25299393.55 -25299393.45 0.0291 0.0167

Jupiter -73979-01-14 08:23 J -25299393.26 -25299393.15 -25299393.04 0.0532 0.0275

Moon -73979-04-11 08:08 J -25299306.24 -25299306.16 -25299306.07 0.2732 0.1634

Earth -73979-04-11 08:37 J -25299306.22 -25299306.14 -25299306.05 0.2726 0.1630 *

Saturn -73979-04-12 10:18 J -25299305.20 -25299305.07 -25299304.94 0.0290 0.0047

Jupiter -73979-04-13 14:37 J -25299304.01 -25299303.89 -25299303.77 0.0531 0.0181

Saturn -73979-07-09 21:49 J -25299216.71 -25299216.59 -25299216.46 0.0289 0.0073

Saturn -73979-10-06 09:20 J -25299128.20 -25299128.11 -25299128.01 0.0288 0.0191

Moon -73976-10-09 16:04 J -25298028.98 -25298028.83 -25298028.69 0.2605 0.1114

Earth -73976-10-09 17:30 J -25298028.92 -25298028.77 -25298028.62 0.2608 0.0913 *

Venus -73974-02-11 01:25 J -25297539.55 -25297539.44 -25297539.34 0.3796 0.1150

Jupiter -73973-03-10 09:49 J -25297146.28 -25297146.09 -25297145.91 0.0495 0.0006

Mars -73972-08-21 17:44 J -25296616.91 -25296616.76 -25296616.62 0.1614 0.0799

Mars -73971-06-20 22:18 J -25296313.66 -25296313.57 -25296313.47 0.1944 0.1140

Venus -73969-08-26 18:56 J -25295515.82 -25295515.71 -25295515.61 0.3793 0.0269

Jupiter -73968-11-02 12:28 J -25295083.06 -25295082.98 -25295082.89 0.0532 0.0387

Jupiter -73967-01-30 18:56 J -25294993.84 -25294993.71 -25294993.59 0.0531 0.0068

Jupiter -73967-04-30 01:25 J -25294904.46 -25294904.44 -25294904.42 0.0530 0.0523

Earth -73966-04-14 02:23 J -25294555.51 -25294555.40 -25294555.29 0.2727 0.0435

Moon -73966-04-14 02:37 J -25294555.50 -25294555.39 -25294555.29 0.2734 0.0487 *

Saturn -73963-01-22 04:04 J -25293541.49 -25293541.33 -25293541.16 0.0271 0.0141

Venus -73963-03-12 12:28 J -25293492.08 -25293491.98 -25293491.88 0.3790 0.1651

Saturn -73963-04-21 03:06 J -25293452.56 -25293452.37 -25293452.18 0.0272 0.0008

Saturn -73963-07-19 01:54 J -25293363.57 -25293363.42 -25293363.26 0.0273 0.0157

Moon -73963-10-12 23:30 J -25293277.66 -25293277.52 -25293277.38 0.2606 0.1398

Earth -73963-10-13 01:25 J -25293277.58 -25293277.44 -25293277.31 0.2606 0.1473 *

Mars -73962-01-11 19:11 J -25293186.86 -25293186.70 -25293186.53 0.1609 0.0129

Jupiter -73962-12-28 06:42 J -25292836.39 -25292836.22 -25292836.04 0.0495 0.0137

Jupiter -73961-03-27 16:32 J -25292745.91 -25292745.81 -25292745.72 0.0495 0.0420

Mars -73960-10-16 22:47 J -25292177.56 -25292177.55 -25292177.54 0.1924 0.1905

Venus -73958-09-26 06:13 J -25291468.30 -25291468.24 -25291468.17 0.3788 0.3096

Jupiter -73956-08-21 16:04 J -25290772.86 -25290772.83 -25290772.80 0.0531 0.0508

Jupiter -73956-11-18 22:18 J -25290683.70 -25290683.57 -25290683.45 0.0531 0.0059

Jupiter -73955-02-16 04:32 J -25290594.39 -25290594.31 -25290594.22 0.0530 0.0399

Venus -73954-09-23 10:32 J -25290010.17 -25290010.06 -25290009.96 0.3582 0.2445

Neptune -73954-10-20 19:11 J -25289982.71 -25289982.70 -25289982.66 0.0089 0.0087

Neptune -73953-01-16 20:37 J -25289894.68 -25289894.64 -25289894.58 0.0089 0.0082

Neptune -73953-04-13 22:04 J -25289806.64 -25289806.58 -25289806.51 0.0089 0.0077

Earth -73953-04-15 20:08 J -25289804.76 -25289804.66 -25289804.56 0.2729 0.0764

Moon -73953-04-15 20:37 J -25289804.74 -25289804.64 -25289804.54 0.2734 0.0889 *

Mars -73953-06-02 20:52 J -25289756.76 -25289756.63 -25289756.51 0.1604 0.1046

Neptune -73953-07-10 23:01 J -25289718.60 -25289718.54 -25289718.45 0.0089 0.0073

Neptune -73953-10-07 00:28 J -25289630.55 -25289630.48 -25289630.39 0.0089 0.0068

Neptune -73952-01-03 01:54 J -25289542.51 -25289542.42 -25289542.32 0.0089 0.0063

Neptune -73952-04-01 03:06 J -25289454.46 -25289454.37 -25289454.26 0.0089 0.0059

Neptune -73952-06-28 04:32 J -25289366.41 -25289366.31 -25289366.20 0.0089 0.0054

Neptune -73952-09-24 05:44 J -25289278.36 -25289278.26 -25289278.14 0.0089 0.0049

Neptune -73952-12-21 07:11 J -25289190.31 -25289190.20 -25289190.09 0.0089 0.0044

Neptune -73951-03-19 08:23 J -25289102.26 -25289102.15 -25289102.03 0.0089 0.0040

Neptune -73951-06-15 09:35 J -25289014.21 -25289014.10 -25289013.97 0.0089 0.0035

Neptune -73951-09-11 11:01 J -25288926.16 -25288926.04 -25288925.91 0.0089 0.0030

Neptune -73951-12-08 12:13 J -25288838.11 -25288837.99 -25288837.86 0.0089 0.0026

Neptune -73950-03-06 13:40 J -25288750.06 -25288749.93 -25288749.80 0.0089 0.0021

Mars -73950-03-09 06:42 J -25288747.32 -25288747.22 -25288747.12 0.1931 0.0941

Neptune -73950-06-02 14:52 J -25288662.00 -25288661.88 -25288661.74 0.0089 0.0016

Saturn -73950-06-03 02:23 J -25288661.50 -25288661.40 -25288661.30 0.0291 0.0189

Neptune -73950-08-29 16:18 J -25288573.95 -25288573.82 -25288573.69 0.0089 0.0011

Saturn -73950-08-30 13:54 J -25288573.04 -25288572.92 -25288572.79 0.0290 0.0068

Uranus -73950-08-30 20:08 J -25288572.66 -25288572.66 -25288572.63 0.0135 0.0134

Jupiter -73950-10-16 04:04 J -25288526.48 -25288526.33 -25288526.17 0.0495 0.0275

Neptune -73950-11-25 17:30 J -25288485.90 -25288485.77 -25288485.64 0.0089 0.0007

Uranus -73950-11-26 23:30 J -25288484.58 -25288484.52 -25288484.46 0.0135 0.0118

Saturn -73950-11-27 01:25 J -25288484.56 -25288484.44 -25288484.31 0.0289 0.0052 *

Jupiter -73949-01-14 13:54 J -25288436.07 -25288435.92 -25288435.76 0.0495 0.0285

Neptune -73949-02-21 18:56 J -25288397.84 -25288397.71 -25288397.58 0.0089 0.0002

Uranus -73949-02-23 02:23 J -25288396.48 -25288396.40 -25288396.31 0.0136 0.0102

Saturn -73949-02-23 12:56 J -25288396.06 -25288395.96 -25288395.85 0.0288 0.0170

Neptune -73949-05-19 20:08 J -25288309.79 -25288309.66 -25288309.53 0.0089 0.0003

Uranus -73949-05-21 05:30 J -25288308.37 -25288308.27 -25288308.16 0.0136 0.0085

Saturn -73949-05-22 00:28 J -25288307.48 -25288307.48 -25288307.47 0.0287 0.0287

Neptune -73949-08-15 21:35 J -25288221.74 -25288221.60 -25288221.47 0.0089 0.0008

Uranus -73949-08-17 08:37 J -25288220.25 -25288220.14 -25288220.02 0.0136 0.0069

Neptune -73949-11-11 22:47 J -25288133.68 -25288133.55 -25288133.42 0.0089 0.0013

Uranus -73949-11-13 11:44 J -25288132.13 -25288132.01 -25288131.89 0.0136 0.0052

Neptune -73948-02-07 23:59 J -25288045.62 -25288045.50 -25288045.37 0.0089 0.0018

Uranus -73948-02-09 14:52 J -25288044.00 -25288043.88 -25288043.75 0.0136 0.0036

Venus -73948-04-08 13:25 J -25287986.09 -25287985.94 -25287985.80 0.3585 0.0078

Neptune -73948-05-07 01:25 J -25287957.57 -25287957.44 -25287957.31 0.0089 0.0022

Uranus -73948-05-08 17:59 J -25287955.88 -25287955.75 -25287955.61 0.0136 0.0019

Neptune -73948-08-03 02:37 J -25287869.51 -25287869.39 -25287869.26 0.0089 0.0027

Uranus -73948-08-04 21:20 J -25287867.75 -25287867.61 -25287867.48 0.0136 0.0004

Neptune -73948-10-30 03:49 J -25287781.45 -25287781.34 -25287781.21 0.0089 0.0032

Uranus -73948-11-01 00:28 J -25287779.61 -25287779.48 -25287779.35 0.0136 0.0015

Neptune -73947-01-26 05:01 J -25287693.40 -25287693.29 -25287693.16 0.0089 0.0037

Uranus -73947-01-28 03:35 J -25287691.48 -25287691.35 -25287691.22 0.0137 0.0032

Neptune -73947-04-24 06:42 J -25287605.34 -25287605.22 -25287605.11 0.0089 0.0041

Uranus -73947-04-26 06:42 J -25287603.34 -25287603.22 -25287603.09 0.0137 0.0049

Neptune -73947-07-21 07:54 J -25287517.28 -25287517.17 -25287517.06 0.0089 0.0046

Uranus -73947-07-23 10:04 J -25287515.20 -25287515.08 -25287514.97 0.0137 0.0066

Neptune -73947-10-17 09:06 J -25287429.22 -25287429.12 -25287429.01 0.0089 0.0051

Uranus -73947-10-19 13:11 J -25287427.05 -25287426.95 -25287426.84 0.0137 0.0084

Neptune -73946-01-13 10:18 J -25287341.16 -25287341.07 -25287340.96 0.0089 0.0056

Uranus -73946-01-15 16:18 J -25287338.90 -25287338.82 -25287338.72 0.0137 0.0102

Moon -73946-04-09 19:11 J -25287254.73 -25287254.70 -25287254.68 0.2727 0.2648

Earth -73946-04-09 19:40 J -25287254.71 -25287254.68 -25287254.65 0.2724 0.2571 *

Neptune -73946-04-11 11:59 J -25287253.10 -25287253.00 -25287252.91 0.0089 0.0060

Uranus -73946-04-13 19:40 J -25287250.74 -25287250.68 -25287250.61 0.0137 0.0119

Neptune -73946-07-08 13:11 J -25287165.04 -25287164.95 -25287164.86 0.0089 0.0065

Uranus -73946-07-10 22:47 J -25287162.55 -25287162.55 -25287162.52 0.0137 0.0137

Neptune -73946-10-04 14:23 J -25287076.97 -25287076.90 -25287076.81 0.0089 0.0070

Neptune -73946-12-31 15:35 J -25286988.91 -25286988.85 -25286988.77 0.0089 0.0075

Neptune -73945-03-28 17:16 J -25286900.84 -25286900.78 -25286900.73 0.0089 0.0079

Neptune -73945-06-24 18:28 J -25286812.77 -25286812.73 -25286812.69 0.0089 0.0084

Jupiter -73944-09-07 02:08 J -25286373.53 -25286373.41 -25286373.29 0.0531 0.0175

Jupiter -73944-12-05 08:23 J -25286284.26 -25286284.15 -25286284.04 0.0531 0.0280

Pluto -73943-06-25 10:18 J -25286082.08 -25286082.07 -25286082.03 0.0060 0.0059

Pluto -73943-09-21 11:16 J -25285994.09 -25285994.03 -25285993.93 0.0060 0.0054

Venus -73943-10-23 15:49 J -25285961.95 -25285961.84 -25285961.74 0.3588 0.2284

Pluto -73943-12-18 12:28 J -25285906.06 -25285905.98 -25285905.85 0.0060 0.0049

Pluto -73942-03-16 14:08 J -25285818.03 -25285817.91 -25285817.77 0.0060 0.0043

Pluto -73942-06-12 15:06 J -25285729.99 -25285729.87 -25285729.71 0.0060 0.0038

Pluto -73942-09-08 16:47 J -25285641.95 -25285641.80 -25285641.64 0.0060 0.0033

Pluto -73942-12-05 17:44 J -25285553.91 -25285553.76 -25285553.58 0.0060 0.0028

Pluto -73941-03-02 19:11 J -25285465.86 -25285465.70 -25285465.52 0.0060 0.0022

Pluto -73941-05-29 20:23 J -25285377.82 -25285377.65 -25285377.46 0.0060 0.0017

Mars -73941-07-29 14:37 J -25285317.00 -25285316.89 -25285316.77 0.1938 0.0051

Pluto -73941-08-25 21:49 J -25285289.77 -25285289.59 -25285289.40 0.0061 0.0011

Pluto -73941-11-21 23:16 J -25285201.71 -25285201.53 -25285201.34 0.0061 0.0005

Pluto -73940-02-18 00:42 J -25285113.66 -25285113.47 -25285113.28 0.0061 0.0001

Earth -73940-04-18 13:54 J -25285053.99 -25285053.92 -25285053.85 0.2730 0.1972

Moon -73940-04-18 14:37 J -25285053.96 -25285053.89 -25285053.82 0.2728 0.2011 *

Pluto -73940-05-17 01:54 J -25285025.60 -25285025.42 -25285025.23 0.0061 0.0006

Pluto -73940-08-13 03:06 J -25284937.54 -25284937.37 -25284937.18 0.0061 0.0012

Pluto -73940-11-09 04:18 J -25284849.48 -25284849.32 -25284849.12 0.0061 0.0018

Pluto -73939-02-05 05:59 J -25284761.42 -25284761.25 -25284761.07 0.0061 0.0023

Pluto -73939-05-04 07:11 J -25284673.36 -25284673.20 -25284673.03 0.0061 0.0029

Pluto -73939-07-31 08:23 J -25284585.29 -25284585.15 -25284584.98 0.0061 0.0035

Pluto -73939-10-27 09:35 J -25284497.22 -25284497.10 -25284496.94 0.0061 0.0041

Pluto -73938-01-23 11:16 J -25284409.14 -25284409.03 -25284408.90 0.0061 0.0047

Pluto -73938-04-21 12:28 J -25284321.06 -25284320.98 -25284320.87 0.0061 0.0053

Pluto -73938-07-18 13:54 J -25284232.96 -25284232.92 -25284232.85 0.0061 0.0059

Jupiter -73938-08-04 00:56 J -25284216.55 -25284216.46 -25284216.36 0.0494 0.0416

Jupiter -73938-11-02 11:01 J -25284126.22 -25284126.04 -25284125.86 0.0495 0.0144

Saturn -73934-06-11 04:32 J -25282809.46 -25282809.31 -25282809.16 0.0271 0.0172

Saturn -73934-09-08 03:20 J -25282720.55 -25282720.36 -25282720.16 0.0272 0.0024

Saturn -73934-12-06 02:23 J -25282631.57 -25282631.40 -25282631.23 0.0273 0.0126

Moon -73933-04-11 13:11 J -25282504.04 -25282503.95 -25282503.87 0.2732 0.1484

Earth -73933-04-11 13:25 J -25282504.03 -25282503.94 -25282503.85 0.2726 0.1383 *

Mars -73932-02-19 18:28 J -25282189.87 -25282189.73 -25282189.60 0.1614 0.0938

Jupiter -73932-06-26 05:59 J -25282063.36 -25282063.25 -25282063.15 0.0532 0.0291

Jupiter -73932-09-23 12:13 J -25281974.11 -25281973.99 -25281973.87 0.0531 0.0165

Mars -73932-12-19 22:18 J -25281886.66 -25281886.57 -25281886.47 0.1944 0.1033

Moon -73930-10-10 22:32 J -25281226.72 -25281226.56 -25281226.40 0.2605 0.0591

Earth -73930-10-11 00:13 J -25281226.65 -25281226.49 -25281226.33 0.2608 0.0446 *

Venus -73929-08-18 12:28 J -25280914.02 -25280913.98 -25280913.93 0.3801 0.3372

Jupiter -73926-08-21 07:54 J -25279816.36 -25279816.17 -25279815.98 0.0495 0.0003

Venus -73923-03-04 05:44 J -25278890.35 -25278890.26 -25278890.17 0.3798 0.2044

Mars -73923-07-12 19:54 J -25278759.84 -25278759.67 -25278759.50 0.1609 0.0020

Saturn -73921-10-20 05:01 J -25277929.37 -25277929.29 -25277929.20 0.0291 0.0219

Saturn -73920-01-16 16:32 J -25277840.93 -25277840.81 -25277840.68 0.0290 0.0099

Earth -73920-04-14 07:11 J -25277753.31 -25277753.20 -25277753.09 0.2728 0.0192

Moon -73920-04-14 07:25 J -25277753.30 -25277753.19 -25277753.08 0.2734 0.0103 *

Jupiter -73920-04-14 10:18 J -25277753.15 -25277753.07 -25277752.98 0.0532 0.0399 *

Saturn -73920-04-15 04:18 J -25277752.45 -25277752.32 -25277752.19 0.0289 0.0022

Saturn -73920-07-12 15:49 J -25277663.96 -25277663.84 -25277663.73 0.0288 0.0140

Jupiter -73920-07-12 16:32 J -25277663.93 -25277663.81 -25277663.68 0.0531 0.0058 *

Saturn -73920-10-09 03:06 J -25277575.42 -25277575.37 -25277575.31 0.0287 0.0257

Jupiter -73920-10-09 23:16 J -25277574.56 -25277574.53 -25277574.50 0.0531 0.0512

Venus -73918-09-17 23:16 J -25276866.63 -25276866.53 -25276866.42 0.3796 0.0676

Moon -73917-10-13 06:28 J -25276475.35 -25276475.23 -25276475.11 0.2607 0.1688

Earth -73917-10-13 08:08 J -25276475.27 -25276475.16 -25276475.05 0.2606 0.1944 *

Jupiter -73914-06-09 04:04 J -25275506.51 -25275506.33 -25275506.15 0.0495 0.0146

Jupiter -73914-09-07 13:25 J -25275416.03 -25275415.94 -25275415.83 0.0495 0.0411

Mars -73914-12-02 21:35 J -25275329.73 -25275329.60 -25275329.46 0.1604 0.0900

Venus -73912-04-02 16:47 J -25274842.90 -25274842.80 -25274842.69 0.3793 0.0719

Mars -73911-09-07 06:42 J -25274320.31 -25274320.22 -25274320.12 0.1931 0.1052

Uranus -73910-07-14 06:42 J -25274010.29 -25274010.22 -25274010.12 0.0143 0.0128

Uranus -73910-10-10 15:06 J -25273922.00 -25273921.87 -25273921.72 0.0143 0.0099

Uranus -73909-01-06 23:44 J -25273833.68 -25273833.51 -25273833.34 0.0143 0.0070

Uranus -73909-04-04 07:54 J -25273745.35 -25273745.17 -25273744.98 0.0143 0.0042

Uranus -73909-07-01 16:18 J -25273657.01 -25273656.82 -25273656.62 0.0143 0.0013

Uranus -73909-09-28 00:28 J -25273568.67 -25273568.48 -25273568.28 0.0142 0.0016

Uranus -73909-12-25 08:37 J -25273480.32 -25273480.14 -25273479.95 0.0142 0.0044

Jupiter -73908-01-31 14:37 J -25273442.92 -25273442.89 -25273442.86 0.0532 0.0509

Uranus -73908-03-23 16:47 J -25273391.96 -25273391.80 -25273391.63 0.0142 0.0071

Jupiter -73908-04-30 20:52 J -25273353.76 -25273353.63 -25273353.50 0.0531 0.0057

Uranus -73908-06-20 00:42 J -25273303.59 -25273303.47 -25273303.32 0.0142 0.0099

Jupiter -73908-07-29 03:20 J -25273264.44 -25273264.36 -25273264.28 0.0531 0.0400

Uranus -73908-09-16 08:52 J -25273215.21 -25273215.13 -25273215.04 0.0142 0.0126

Earth -73907-04-17 00:56 J -25273002.56 -25273002.46 -25273002.36 0.2729 0.1011

Moon -73907-04-17 01:25 J -25273002.54 -25273002.44 -25273002.34 0.2733 0.1028 *

Venus -73907-10-17 10:32 J -25272819.15 -25272819.06 -25272818.97 0.3790 0.2140

Saturn -73905-10-28 03:20 J -25272077.47 -25272077.36 -25272077.24 0.0271 0.0212

Saturn -73904-01-25 02:23 J -25271988.59 -25271988.40 -25271988.21 0.0272 0.0064

Saturn -73904-04-24 01:11 J -25271899.62 -25271899.45 -25271899.26 0.0273 0.0086

Saturn -73904-07-22 00:13 J -25271810.58 -25271810.49 -25271810.39 0.0274 0.0235

Jupiter -73902-03-28 00:56 J -25271196.61 -25271196.46 -25271196.30 0.0495 0.0286

Jupiter -73902-06-26 10:47 J -25271106.20 -25271106.05 -25271105.89 0.0495 0.0274

Mars -73901-01-28 14:37 J -25270890.01 -25270889.89 -25270889.78 0.1938 0.0083

Venus -73901-05-02 04:32 J -25270795.35 -25270795.31 -25270795.28 0.3787 0.3598

Moon -73900-04-09 23:59 J -25270452.55 -25270452.50 -25270452.46 0.2728 0.2400

Earth -73900-04-10 00:28 J -25270452.53 -25270452.48 -25270452.42 0.2724 0.2330 *

Venus -73897-04-29 11:01 J -25269337.17 -25269337.04 -25269336.91 0.3582 0.1633

Moon -73897-10-07 22:04 J -25269175.61 -25269175.58 -25269175.54 0.2604 0.2538

Earth -73897-10-07 23:01 J -25269175.60 -25269175.54 -25269175.47 0.2609 0.2382 *

Jupiter -73896-02-17 00:13 J -25269043.61 -25269043.49 -25269043.37 0.0531 0.0180

Jupiter -73896-05-17 06:42 J -25268954.33 -25268954.22 -25268954.11 0.0531 0.0275

Earth -73894-04-19 18:42 J -25268251.78 -25268251.72 -25268251.66 0.2730 0.2220

Moon -73894-04-19 19:25 J -25268251.74 -25268251.69 -25268251.64 0.2728 0.2358 *

Mars -73893-08-20 18:56 J -25267762.84 -25267762.71 -25267762.59 0.1614 0.1065

Mars -73892-06-19 22:32 J -25267459.66 -25267459.56 -25267459.46 0.1944 0.0911

Venus -73892-11-13 13:54 J -25267313.06 -25267312.92 -25267312.78 0.3586 0.0765

Saturn -73891-03-09 08:23 J -25267197.22 -25267197.15 -25267197.08 0.0292 0.0244

Saturn -73891-06-05 19:54 J -25267108.78 -25267108.67 -25267108.55 0.0291 0.0123

Saturn -73891-09-02 07:40 J -25267020.31 -25267020.18 -25267020.05 0.0290 0.0003

Saturn -73891-11-29 19:11 J -25266931.82 -25266931.70 -25266931.58 0.0289 0.0117

Jupiter -73890-01-13 22:18 J -25266886.66 -25266886.57 -25266886.48 0.0495 0.0424

Saturn -73890-02-26 06:42 J -25266843.29 -25266843.22 -25266843.15 0.0288 0.0235

Jupiter -73890-04-14 08:23 J -25266796.33 -25266796.15 -25266795.97 0.0495 0.0138

Moon -73887-04-12 17:59 J -25265701.85 -25265701.75 -25265701.65 0.2732 0.1150

Earth -73887-04-12 18:13 J -25265701.84 -25265701.74 -25265701.64 0.2726 0.1141 *

Venus -73886-05-30 16:04 J -25265288.90 -25265288.83 -25265288.76 0.3589 0.3038

Jupiter -73885-12-06 04:18 J -25264733.43 -25264733.32 -25264733.22 0.0531 0.0297

Jupiter -73884-03-05 10:32 J -25264644.18 -25264644.06 -25264643.94 0.0531 0.0158

Moon -73884-10-11 05:16 J -25264424.44 -25264424.28 -25264424.11 0.2605 0.0161

Earth -73884-10-11 06:56 J -25264424.37 -25264424.21 -25264424.04 0.2607 0.0055 *

Mars -73883-01-10 20:37 J -25264332.80 -25264332.64 -25264332.47 0.1609 0.0154

Mars -73883-11-10 06:13 J -25264029.26 -25264029.24 -25264029.22 0.1950 0.1918

Jupiter -73878-01-31 05:30 J -25262486.46 -25262486.27 -25262486.09 0.0495 0.0006

Saturn -73875-03-17 03:35 J -25261345.43 -25261345.35 -25261345.26 0.0271 0.0243

Saturn -73875-06-14 02:37 J -25261256.57 -25261256.39 -25261256.21 0.0272 0.0096

Saturn -73875-09-11 01:25 J -25261167.62 -25261167.44 -25261167.25 0.0273 0.0053

Saturn -73875-12-09 00:28 J -25261078.60 -25261078.48 -25261078.35 0.0273 0.0203

Earth -73874-04-15 11:59 J -25260951.11 -25260951.00 -25260950.89 0.2728 0.0058

Moon -73874-04-15 12:13 J -25260951.10 -25260950.99 -25260950.88 0.2735 0.0054 *

Mars -73874-06-02 22:18 J -25260902.72 -25260902.57 -25260902.42 0.1604 0.0765

Jupiter -73873-09-24 08:08 J -25260423.24 -25260423.16 -25260423.08 0.0532 0.0412

Jupiter -73873-12-22 14:23 J -25260334.03 -25260333.90 -25260333.77 0.0531 0.0041

Jupiter -73872-03-21 20:52 J -25260244.67 -25260244.63 -25260244.59 0.0530 0.0499

Venus -73872-03-25 10:18 J -25260241.13 -25260241.07 -25260241.00 0.3800 0.2933

Mars -73871-03-08 06:42 J -25259893.31 -25259893.22 -25259893.13 0.1931 0.1154

Moon -73871-10-14 13:11 J -25259673.02 -25259672.95 -25259672.88 0.2608 0.2305

Earth -73871-10-14 14:52 J -25259672.94 -25259672.88 -25259672.82 0.2606 0.2403 *

Neptune -73870-04-04 19:11 J -25259500.77 -25259500.70 -25259500.63 0.0089 0.0082

Neptune -73870-07-01 22:18 J -25259412.65 -25259412.57 -25259412.44 0.0089 0.0076

Neptune -73870-09-28 02:37 J -25259324.52 -25259324.39 -25259324.27 0.0089 0.0068

Neptune -73870-12-25 06:13 J -25259236.38 -25259236.24 -25259236.09 0.0089 0.0061

Neptune -73869-03-22 10:04 J -25259148.23 -25259148.08 -25259147.92 0.0088 0.0054

Neptune -73869-06-18 13:54 J -25259060.09 -25259059.92 -25259059.76 0.0088 0.0047

Neptune -73869-09-14 17:30 J -25258971.94 -25258971.77 -25258971.59 0.0088 0.0040

Neptune -73869-12-11 21:20 J -25258883.79 -25258883.61 -25258883.43 0.0088 0.0033

Neptune -73868-03-10 00:56 J -25258795.64 -25258795.46 -25258795.27 0.0088 0.0026

Neptune -73868-06-06 04:47 J -25258707.49 -25258707.30 -25258707.11 0.0088 0.0019

Neptune -73868-09-02 08:23 J -25258619.34 -25258619.15 -25258618.95 0.0088 0.0012

Neptune -73868-11-29 12:13 J -25258531.19 -25258530.99 -25258530.79 0.0088 0.0005

Neptune -73867-02-25 16:04 J -25258443.03 -25258442.83 -25258442.64 0.0088 0.0003

Neptune -73867-05-24 19:40 J -25258354.87 -25258354.68 -25258354.48 0.0088 0.0009

Neptune -73867-08-20 23:16 J -25258266.72 -25258266.53 -25258266.33 0.0088 0.0017

Venus -73867-10-09 03:49 J -25258217.44 -25258217.34 -25258217.25 0.3797 0.1588

Neptune -73867-11-17 03:06 J -25258178.56 -25258178.37 -25258178.18 0.0088 0.0023

Jupiter -73867-11-19 02:23 J -25258176.58 -25258176.40 -25258176.22 0.0495 0.0144

Neptune -73866-02-13 06:42 J -25258090.40 -25258090.22 -25258090.03 0.0088 0.0031

Jupiter -73866-02-17 11:59 J -25258086.10 -25258086.00 -25258085.90 0.0495 0.0413

Neptune -73866-05-12 10:18 J -25258002.24 -25258002.07 -25258001.88 0.0088 0.0038

Neptune -73866-08-08 14:08 J -25257914.07 -25257913.91 -25257913.73 0.0088 0.0044

Uranus -73866-09-20 04:04 J -25257871.36 -25257871.33 -25257871.28 0.0135 0.0128

Neptune -73866-11-04 17:44 J -25257825.91 -25257825.76 -25257825.59 0.0088 0.0052

Uranus -73866-12-17 07:11 J -25257783.27 -25257783.20 -25257783.12 0.0135 0.0112

Neptune -73865-01-31 21:20 J -25257737.74 -25257737.61 -25257737.45 0.0088 0.0059

Uranus -73865-03-14 10:18 J -25257695.16 -25257695.07 -25257694.97 0.0136 0.0095

Neptune -73865-04-29 00:56 J -25257649.57 -25257649.46 -25257649.31 0.0088 0.0066

Uranus -73865-06-10 13:25 J -25257607.04 -25257606.94 -25257606.83 0.0136 0.0079

Neptune -73865-07-26 04:32 J -25257561.40 -25257561.31 -25257561.18 0.0088 0.0073

Uranus -73865-09-06 16:32 J -25257518.92 -25257518.81 -25257518.69 0.0136 0.0062

Neptune -73865-10-22 08:23 J -25257473.22 -25257473.15 -25257473.05 0.0088 0.0079

Uranus -73865-12-03 19:40 J -25257430.80 -25257430.68 -25257430.55 0.0136 0.0046

Neptune -73864-01-18 11:59 J -25257385.02 -25257385.00 -25257384.94 0.0088 0.0086

Uranus -73864-03-01 22:47 J -25257342.68 -25257342.55 -25257342.42 0.0136 0.0029

Uranus -73864-05-29 01:54 J -25257254.55 -25257254.42 -25257254.28 0.0136 0.0013

Uranus -73864-08-25 05:16 J -25257166.42 -25257166.28 -25257166.15 0.0136 0.0006

Uranus -73864-11-21 08:23 J -25257078.28 -25257078.15 -25257078.02 0.0137 0.0022

Uranus -73863-02-17 11:30 J -25256990.14 -25256990.02 -25256989.89 0.0137 0.0039

Uranus -73863-05-16 14:37 J -25256902.01 -25256901.89 -25256901.76 0.0137 0.0056

Uranus -73863-08-12 17:44 J -25256813.86 -25256813.76 -25256813.64 0.0137 0.0074

Uranus -73863-11-08 21:06 J -25256725.71 -25256725.62 -25256725.52 0.0137 0.0091

Uranus -73862-02-05 00:28 J -25256637.56 -25256637.48 -25256637.40 0.0137 0.0108

Uranus -73862-05-04 03:35 J -25256549.39 -25256549.35 -25256549.29 0.0137 0.0126

Saturn -73862-07-27 11:01 J -25256465.08 -25256465.04 -25256465.00 0.0291 0.0275

Mars -73862-07-29 14:37 J -25256463.00 -25256462.89 -25256462.77 0.1938 0.0184

Saturn -73862-10-23 22:47 J -25256376.66 -25256376.55 -25256376.44 0.0290 0.0154

Saturn -73861-01-20 10:18 J -25256288.20 -25256288.07 -25256287.94 0.0289 0.0034

Earth -73861-04-17 05:44 J -25256200.36 -25256200.26 -25256200.16 0.2729 0.1256

Moon -73861-04-17 06:28 J -25256200.32 -25256200.23 -25256200.14 0.2731 0.1401 *

Saturn -73861-04-17 21:49 J -25256199.71 -25256199.59 -25256199.47 0.0288 0.0085

Venus -73861-04-23 21:06 J -25256193.72 -25256193.62 -25256193.51 0.3795 0.0261

Jupiter -73861-07-13 12:28 J -25256113.00 -25256112.98 -25256112.96 0.0532 0.0521

Saturn -73861-07-15 09:20 J -25256111.20 -25256111.11 -25256111.02 0.0287 0.0203

Jupiter -73861-10-10 18:42 J -25256023.85 -25256023.72 -25256023.59 0.0532 0.0068

Jupiter -73860-01-08 01:11 J -25255934.53 -25255934.45 -25255934.36 0.0531 0.0389

Venus -73856-11-07 14:52 J -25254169.98 -25254169.88 -25254169.78 0.3792 0.1202

Jupiter -73855-09-06 22:32 J -25253866.71 -25253866.56 -25253866.41 0.0494 0.0292

Jupiter -73855-12-06 08:23 J -25253776.30 -25253776.15 -25253775.99 0.0495 0.0267

Moon -73854-04-11 04:47 J -25253650.36 -25253650.30 -25253650.24 0.2728 0.2185

Earth -73854-04-11 05:16 J -25253650.34 -25253650.28 -25253650.21 0.2725 0.2083 *

Mars -73853-02-19 19:40 J -25253335.79 -25253335.68 -25253335.57 0.1614 0.1210

Mars -73853-12-18 22:18 J -25253032.67 -25253032.57 -25253032.46 0.1944 0.0819

Moon -73851-10-09 04:32 J -25252373.42 -25252373.31 -25252373.20 0.2605 0.1946

Earth -73851-10-09 05:44 J -25252373.36 -25252373.26 -25252373.15 0.2609 0.1913 *

Venus -73850-05-24 08:37 J -25252146.22 -25252146.14 -25252146.07 0.3789 0.2638

Pluto -73849-04-23 18:56 J -25251810.75 -25251810.71 -25251810.66 0.0084 0.0079

Pluto -73849-07-20 20:23 J -25251722.73 -25251722.65 -25251722.57 0.0084 0.0067

Jupiter -73849-07-29 23:01 J -25251713.66 -25251713.54 -25251713.42 0.0532 0.0179

Pluto -73849-10-16 21:49 J -25251634.69 -25251634.59 -25251634.48 0.0084 0.0056

Jupiter -73849-10-27 05:30 J -25251624.38 -25251624.27 -25251624.16 0.0531 0.0278

Pluto -73848-01-12 23:16 J -25251546.64 -25251546.53 -25251546.41 0.0084 0.0045

Pluto -73848-04-11 00:42 J -25251458.59 -25251458.47 -25251458.34 0.0084 0.0034

Earth -73848-04-19 23:30 J -25251449.56 -25251449.52 -25251449.47 0.2731 0.2468

Moon -73848-04-20 00:13 J -25251449.53 -25251449.49 -25251449.45 0.2729 0.2490 *

Pluto -73848-07-08 02:08 J -25251370.54 -25251370.41 -25251370.28 0.0084 0.0023

Pluto -73848-10-04 03:35 J -25251282.49 -25251282.35 -25251282.22 0.0084 0.0012

Pluto -73848-12-31 05:01 J -25251194.43 -25251194.29 -25251194.16 0.0083 0.0003

Pluto -73847-03-29 06:13 J -25251106.37 -25251106.24 -25251106.10 0.0083 0.0010

Pluto -73847-06-25 07:40 J -25251018.31 -25251018.18 -25251018.05 0.0083 0.0020

Pluto -73847-09-21 08:52 J -25250930.25 -25250930.13 -25250930.00 0.0083 0.0031

Pluto -73847-12-18 10:18 J -25250842.19 -25250842.07 -25250841.95 0.0083 0.0041

Pluto -73846-03-16 11:30 J -25250754.12 -25250754.02 -25250753.91 0.0083 0.0052

Venus -73846-05-21 08:23 J -25250688.20 -25250688.15 -25250688.09 0.3580 0.3299

Pluto -73846-06-12 12:42 J -25250666.05 -25250665.97 -25250665.87 0.0083 0.0062

Pluto -73846-09-08 14:08 J -25250577.97 -25250577.91 -25250577.84 0.0082 0.0072

Saturn -73846-11-01 00:28 J -25250524.63 -25250524.48 -25250524.31 0.0271 0.0142

Pluto -73846-12-05 15:20 J -25250489.86 -25250489.86 -25250489.84 0.0082 0.0082

Saturn -73845-01-28 23:30 J -25250435.71 -25250435.52 -25250435.32 0.0272 0.0009

Saturn -73845-04-26 22:32 J -25250346.71 -25250346.56 -25250346.40 0.0273 0.0156

Mars -73844-07-11 21:20 J -25249905.78 -25249905.61 -25249905.45 0.1609 0.0284

Mars -73843-05-11 06:13 J -25249602.28 -25249602.24 -25249602.20 0.1950 0.1812

Jupiter -73843-06-25 19:40 J -25249556.77 -25249556.68 -25249556.59 0.0494 0.0431

Jupiter -73843-09-24 05:44 J -25249466.44 -25249466.26 -25249466.08 0.0495 0.0130

Moon -73841-04-12 23:01 J -25248899.64 -25248899.54 -25248899.44 0.2733 0.0912

Earth -73841-04-12 23:01 J -25248899.64 -25248899.54 -25248899.44 0.2726 0.0897 *

Venus -73841-12-04 11:30 J -25248664.16 -25248664.02 -25248663.88 0.3583 0.0830

Moon -73838-10-12 12:13 J -25247622.16 -25247621.99 -25247621.83 0.2605 0.0315

Earth -73838-10-12 13:54 J -25247622.08 -25247621.92 -25247621.76 0.2607 0.0499 *

Jupiter -73837-05-18 02:37 J -25247403.49 -25247403.39 -25247403.29 0.0531 0.0300

Jupiter -73837-08-15 08:52 J -25247314.25 -25247314.13 -25247314.01 0.0531 0.0154

Venus -73835-06-20 14:08 J -25246640.03 -25246639.91 -25246639.78 0.3586 0.1540

Mars -73835-12-01 23:01 J -25246475.70 -25246475.54 -25246475.39 0.1605 0.0630

Saturn -73832-03-12 01:40 J -25245644.53 -25245644.43 -25245644.33 0.0291 0.0181

Saturn -73832-06-08 13:25 J -25245556.07 -25245555.94 -25245555.82 0.0290 0.0060

Saturn -73832-09-05 00:56 J -25245467.59 -25245467.46 -25245467.33 0.0289 0.0060

Mars -73832-09-06 06:56 J -25245466.30 -25245466.21 -25245466.13 0.1931 0.1275

Saturn -73832-12-02 12:28 J -25245379.08 -25245378.98 -25245378.88 0.0288 0.0178

Jupiter -73831-07-13 03:06 J -25245156.56 -25245156.37 -25245156.18 0.0495 0.0008

Earth -73828-04-15 16:47 J -25244148.91 -25244148.80 -25244148.69 0.2728 0.0298

Moon -73828-04-15 17:01 J -25244148.89 -25244148.79 -25244148.68 0.2734 0.0382 *

Uranus -73826-08-03 15:49 J -25243308.94 -25243308.84 -25243308.72 0.0143 0.0117

Uranus -73826-10-31 00:28 J -25243220.63 -25243220.48 -25243220.33 0.0143 0.0087

Uranus -73825-01-27 08:37 J -25243132.31 -25243132.14 -25243131.96 0.0143 0.0059

Jupiter -73825-03-06 06:28 J -25243093.30 -25243093.23 -25243093.15 0.0531 0.0415

Mars -73825-04-23 00:42 J -25243045.51 -25243045.47 -25243045.42 0.1600 0.1536

Uranus -73825-04-24 17:01 J -25243043.98 -25243043.79 -25243043.60 0.0143 0.0030

Jupiter -73825-06-03 12:42 J -25243004.09 -25243003.97 -25243003.84 0.0531 0.0040

Uranus -73825-07-22 01:25 J -25242955.64 -25242955.44 -25242955.25 0.0143 0.0002

Jupiter -73825-08-31 19:11 J -25242914.74 -25242914.70 -25242914.65 0.0530 0.0495

Uranus -73825-10-18 09:35 J -25242867.29 -25242867.10 -25242866.91 0.0142 0.0027

Uranus -73824-01-14 17:44 J -25242778.94 -25242778.76 -25242778.58 0.0142 0.0055

Uranus -73824-04-13 01:54 J -25242690.58 -25242690.42 -25242690.27 0.0142 0.0082

Uranus -73824-07-10 09:35 J -25242602.21 -25242602.10 -25242601.97 0.0142 0.0110

Uranus -73824-10-06 17:44 J -25242513.80 -25242513.76 -25242513.71 0.0142 0.0137

Mars -73822-01-27 14:37 J -25242036.00 -25242035.89 -25242035.77 0.1937 0.0291

Jupiter -73819-05-01 00:13 J -25240846.67 -25240846.49 -25240846.31 0.0495 0.0147

Jupiter -73819-07-30 09:49 J -25240756.19 -25240756.09 -25240755.98 0.0495 0.0411

Saturn -73816-03-20 00:28 J -25239792.63 -25239792.48 -25239792.34 0.0271 0.0176

Saturn -73816-06-16 23:16 J -25239703.72 -25239703.53 -25239703.34 0.0272 0.0029

Saturn -73816-09-13 22:18 J -25239614.74 -25239614.57 -25239614.40 0.0273 0.0121

Venus -73816-10-30 08:23 J -25239568.23 -25239568.15 -25239568.07 0.3799 0.2481

Saturn -73816-12-11 21:06 J -25239525.63 -25239525.62 -25239525.59 0.0274 0.0272

Earth -73815-04-18 10:32 J -25239398.15 -25239398.06 -25239397.97 0.2729 0.1503

Moon -73815-04-18 11:16 J -25239398.12 -25239398.03 -25239397.94 0.2730 0.1536 *

Mars -73814-08-20 20:23 J -25238908.74 -25238908.65 -25238908.56 0.1614 0.1347

Jupiter -73814-12-24 10:32 J -25238783.07 -25238783.06 -25238783.06 0.0532 0.0530

Jupiter -73813-03-22 16:47 J -25238693.93 -25238693.80 -25238693.68 0.0531 0.0081

Mars -73813-06-18 22:18 J -25238605.67 -25238605.57 -25238605.46 0.1944 0.0709

Jupiter -73813-06-19 23:01 J -25238604.62 -25238604.54 -25238604.45 0.0531 0.0379

Venus -73810-05-16 01:40 J -25237544.53 -25237544.43 -25237544.33 0.3797 0.1119

Moon -73808-04-11 09:35 J -25236848.18 -25236848.10 -25236848.02 0.2729 0.1875

Earth -73808-04-11 10:04 J -25236848.15 -25236848.08 -25236848.00 0.2725 0.1840 *

Jupiter -73807-02-16 21:06 J -25236536.77 -25236536.62 -25236536.47 0.0495 0.0288

Jupiter -73807-05-18 06:56 J -25236446.36 -25236446.21 -25236446.05 0.0495 0.0272

Moon -73805-10-09 11:16 J -25235571.15 -25235571.03 -25235570.90 0.2604 0.1670

Earth -73805-10-09 12:42 J -25235571.11 -25235570.97 -25235570.83 0.2609 0.1431 *

Venus -73805-11-28 19:11 J -25235520.81 -25235520.70 -25235520.59 0.3794 0.0271

Mars -73804-01-09 22:04 J -25235478.74 -25235478.58 -25235478.42 0.1609 0.0427

Mars -73804-11-09 06:13 J -25235175.29 -25235175.24 -25235175.18 0.1950 0.1698

Saturn -73803-07-30 04:04 J -25234912.41 -25234912.33 -25234912.24 0.0291 0.0214

Saturn -73803-10-26 15:49 J -25234823.96 -25234823.84 -25234823.72 0.0290 0.0093

Saturn -73802-01-23 03:20 J -25234735.49 -25234735.36 -25234735.23 0.0289 0.0028

Earth -73802-04-21 04:18 J -25234647.32 -25234647.32 -25234647.31 0.2731 0.2714

Saturn -73802-04-21 14:52 J -25234646.99 -25234646.88 -25234646.77 0.0288 0.0146

Saturn -73802-07-19 02:23 J -25234558.45 -25234558.40 -25234558.35 0.0287 0.0262

Jupiter -73801-01-09 21:06 J -25234383.74 -25234383.62 -25234383.50 0.0532 0.0188

Jupiter -73801-04-08 03:20 J -25234294.46 -25234294.36 -25234294.25 0.0531 0.0270

Venus -73799-06-14 12:56 J -25233497.06 -25233496.96 -25233496.87 0.3791 0.1695

Jupiter -73796-12-05 17:30 J -25232226.85 -25232226.77 -25232226.68 0.0494 0.0433

Jupiter -73795-03-06 03:35 J -25232136.53 -25232136.35 -25232136.17 0.0495 0.0128

Moon -73795-04-14 03:49 J -25232097.44 -25232097.34 -25232097.24 0.2734 0.0670

Earth -73795-04-14 03:49 J -25232097.44 -25232097.34 -25232097.23 0.2726 0.0650 *

Mars -73795-06-01 23:44 J -25232048.67 -25232048.51 -25232048.35 0.1605 0.0491

Venus -73794-12-29 06:42 J -25231473.28 -25231473.22 -25231473.16 0.3788 0.3143

Mars -73792-03-07 06:42 J -25231039.30 -25231039.22 -25231039.14 0.1931 0.1376

Moon -73792-10-12 18:56 J -25230819.87 -25230819.71 -25230819.56 0.2607 0.0852

Earth -73792-10-12 20:37 J -25230819.79 -25230819.64 -25230819.49 0.2607 0.0965 *

Jupiter -73790-10-29 01:25 J -25230073.54 -25230073.44 -25230073.34 0.0532 0.0297

Venus -73790-12-26 09:06 J -25230015.22 -25230015.12 -25230015.02 0.3581 0.2470

Jupiter -73789-01-26 07:40 J -25229984.30 -25229984.18 -25229984.05 0.0531 0.0160

Neptune -73789-07-16 18:13 J -25229811.75 -25229811.74 -25229811.70 0.0089 0.0087

Neptune -73789-10-12 19:40 J -25229723.72 -25229723.68 -25229723.63 0.0089 0.0082

Neptune -73788-01-08 20:52 J -25229635.68 -25229635.63 -25229635.56 0.0089 0.0078

Neptune -73788-04-06 22:18 J -25229547.64 -25229547.57 -25229547.49 0.0089 0.0073

Neptune -73788-07-03 23:30 J -25229459.59 -25229459.52 -25229459.43 0.0089 0.0068

Neptune -73788-09-30 00:56 J -25229371.55 -25229371.46 -25229371.36 0.0089 0.0063

Neptune -73788-12-27 02:08 J -25229283.50 -25229283.41 -25229283.30 0.0089 0.0059

Neptune -73787-03-25 03:35 J -25229195.45 -25229195.35 -25229195.24 0.0089 0.0054

Neptune -73787-06-21 04:47 J -25229107.40 -25229107.30 -25229107.18 0.0089 0.0049

Saturn -73787-08-06 21:35 J -25229060.69 -25229060.60 -25229060.48 0.0271 0.0226

Neptune -73787-09-17 06:13 J -25229019.35 -25229019.24 -25229019.13 0.0089 0.0044

Saturn -73787-11-03 20:37 J -25228971.82 -25228971.64 -25228971.45 0.0272 0.0079

Neptune -73787-12-14 07:25 J -25228931.30 -25228931.19 -25228931.07 0.0089 0.0040

Saturn -73786-01-31 19:40 J -25228882.86 -25228882.68 -25228882.49 0.0273 0.0071

Neptune -73786-03-12 08:37 J -25228843.25 -25228843.14 -25228843.01 0.0089 0.0035

Saturn -73786-04-30 18:42 J -25228793.83 -25228793.72 -25228793.61 0.0273 0.0221

Neptune -73786-06-08 10:04 J -25228755.20 -25228755.08 -25228754.95 0.0089 0.0030

Neptune -73786-09-04 11:16 J -25228667.15 -25228667.03 -25228666.90 0.0089 0.0026

Mars -73786-10-23 01:25 J -25228618.52 -25228618.44 -25228618.36 0.1600 0.1404

Neptune -73786-12-01 12:42 J -25228579.10 -25228578.97 -25228578.84 0.0089 0.0021

Neptune -73785-02-27 13:54 J -25228491.05 -25228490.92 -25228490.79 0.0089 0.0016

Neptune -73785-05-25 15:20 J -25228402.99 -25228402.86 -25228402.73 0.0089 0.0011

Neptune -73785-08-21 16:32 J -25228314.94 -25228314.81 -25228314.68 0.0089 0.0007

Neptune -73785-11-17 17:59 J -25228226.89 -25228226.75 -25228226.62 0.0089 0.0003

Neptune -73784-02-13 19:11 J -25228138.83 -25228138.70 -25228138.57 0.0089 0.0003

Neptune -73784-05-12 20:23 J -25228050.78 -25228050.65 -25228050.51 0.0089 0.0008

Venus -73784-07-11 12:13 J -25227991.14 -25227990.99 -25227990.85 0.3584 0.0085

Neptune -73784-08-08 21:49 J -25227962.72 -25227962.59 -25227962.46 0.0089 0.0013

Neptune -73784-11-04 23:01 J -25227874.67 -25227874.54 -25227874.41 0.0089 0.0018

Jupiter -73784-12-23 00:56 J -25227826.65 -25227826.46 -25227826.27 0.0495 0.0010

Neptune -73783-02-01 00:28 J -25227786.61 -25227786.48 -25227786.35 0.0089 0.0022

Neptune -73783-04-30 01:40 J -25227698.55 -25227698.43 -25227698.30 0.0089 0.0027

Neptune -73783-07-27 02:52 J -25227610.50 -25227610.38 -25227610.25 0.0089 0.0032

Mars -73783-07-28 14:37 J -25227609.00 -25227608.89 -25227608.78 0.1938 0.0393

Neptune -73783-10-23 04:04 J -25227522.44 -25227522.33 -25227522.20 0.0089 0.0037

Neptune -73782-01-19 05:30 J -25227434.38 -25227434.27 -25227434.15 0.0089 0.0041

Earth -73782-04-16 21:35 J -25227346.71 -25227346.60 -25227346.49 0.2728 0.0545

Moon -73782-04-16 22:04 J -25227346.69 -25227346.58 -25227346.48 0.2733 0.0591 *

Neptune -73782-04-17 06:56 J -25227346.32 -25227346.21 -25227346.10 0.0089 0.0046

Neptune -73782-07-14 08:08 J -25227258.26 -25227258.16 -25227258.05 0.0089 0.0051

Neptune -73782-10-10 09:20 J -25227170.20 -25227170.11 -25227170.00 0.0089 0.0056

Uranus -73782-10-10 11:59 J -25227170.05 -25227170.00 -25227169.94 0.0135 0.0122 *

Neptune -73781-01-06 10:47 J -25227082.14 -25227082.05 -25227081.95 0.0089 0.0060

Uranus -73781-01-06 14:52 J -25227081.95 -25227081.88 -25227081.79 0.0136 0.0106 *

Neptune -73781-04-03 11:59 J -25226994.08 -25226994.00 -25226993.90 0.0089 0.0065

Uranus -73781-04-03 17:59 J -25226993.84 -25226993.75 -25226993.64 0.0136 0.0089

Neptune -73781-06-30 13:11 J -25226906.02 -25226905.95 -25226905.86 0.0089 0.0070

Uranus -73781-06-30 21:06 J -25226905.72 -25226905.62 -25226905.50 0.0136 0.0073

Neptune -73781-09-26 14:37 J -25226817.95 -25226817.89 -25226817.81 0.0089 0.0075

Uranus -73781-09-27 00:13 J -25226817.60 -25226817.49 -25226817.37 0.0136 0.0056

Neptune -73781-12-23 16:04 J -25226729.88 -25226729.83 -25226729.77 0.0089 0.0079

Uranus -73781-12-24 03:20 J -25226729.48 -25226729.36 -25226729.23 0.0136 0.0040

Neptune -73780-03-21 17:16 J -25226641.81 -25226641.78 -25226641.73 0.0089 0.0084

Uranus -73780-03-22 06:28 J -25226641.35 -25226641.23 -25226641.09 0.0136 0.0024

Uranus -73780-06-18 09:49 J -25226553.22 -25226553.09 -25226552.96 0.0136 0.0006

Uranus -73780-09-14 12:56 J -25226465.09 -25226464.96 -25226464.83 0.0136 0.0011

Uranus -73780-12-11 16:04 J -25226376.96 -25226376.83 -25226376.70 0.0137 0.0028

Uranus -73779-03-09 19:11 J -25226288.82 -25226288.70 -25226288.57 0.0137 0.0046

Uranus -73779-06-05 22:18 J -25226200.68 -25226200.57 -25226200.44 0.0137 0.0063

Uranus -73779-09-02 01:40 J -25226112.53 -25226112.43 -25226112.32 0.0137 0.0080

Uranus -73779-11-29 05:01 J -25226024.38 -25226024.29 -25226024.20 0.0137 0.0097

Venus -73778-01-25 14:37 J -25225967.00 -25225966.89 -25225966.78 0.3587 0.2311

Uranus -73778-02-25 08:08 J -25225936.22 -25225936.16 -25225936.08 0.0137 0.0115

Uranus -73778-05-24 11:30 J -25225848.05 -25225848.02 -25225847.98 0.0137 0.0132

Jupiter -73778-08-17 05:01 J -25225763.36 -25225763.29 -25225763.21 0.0531 0.0416

Jupiter -73778-11-14 11:16 J -25225674.15 -25225674.03 -25225673.90 0.0531 0.0040

Jupiter -73777-02-11 17:44 J -25225584.80 -25225584.76 -25225584.71 0.0530 0.0494

Mars -73774-02-18 21:06 J -25224481.69 -25224481.62 -25224481.56 0.1614 0.1478

Saturn -73774-12-17 06:42 J -25224180.28 -25224180.22 -25224180.15 0.0292 0.0246

Mars -73774-12-18 22:32 J -25224178.67 -25224178.56 -25224178.45 0.1944 0.0586

Saturn -73773-03-14 18:28 J -25224091.85 -25224091.73 -25224091.61 0.0291 0.0124

Saturn -73773-06-11 05:59 J -25224003.38 -25224003.25 -25224003.12 0.0290 0.0005

Saturn -73773-09-07 17:30 J -25223914.89 -25223914.77 -25223914.65 0.0289 0.0116

Saturn -73773-12-05 05:01 J -25223826.36 -25223826.29 -25223826.21 0.0288 0.0234

Jupiter -73772-10-10 22:18 J -25223516.75 -25223516.57 -25223516.39 0.0495 0.0148

Jupiter -73771-01-09 07:54 J -25223426.27 -25223426.17 -25223426.06 0.0496 0.0411

Earth -73769-04-18 15:20 J -25222595.94 -25222595.86 -25222595.78 0.2729 0.1746

Moon -73769-04-18 16:04 J -25222595.91 -25222595.83 -25222595.75 0.2731 0.1889 *

Jupiter -73766-06-05 09:20 J -25221453.12 -25221453.11 -25221453.11 0.0531 0.0529

Jupiter -73766-09-02 15:20 J -25221363.98 -25221363.86 -25221363.73 0.0531 0.0078

Jupiter -73766-11-30 21:49 J -25221274.68 -25221274.59 -25221274.50 0.0530 0.0379

Mars -73765-07-10 22:47 J -25221051.71 -25221051.55 -25221051.39 0.1609 0.0560

Venus -73765-11-20 12:56 J -25220919.01 -25220918.96 -25220918.91 0.3801 0.3361

Mars -73764-05-10 06:13 J -25220748.30 -25220748.24 -25220748.18 0.1949 0.1594

Moon -73762-04-12 14:37 J -25220045.98 -25220045.89 -25220045.81 0.2730 0.1701

Earth -73762-04-12 14:52 J -25220045.96 -25220045.88 -25220045.79 0.2725 0.1595 *

Jupiter -73760-07-29 19:25 J -25219206.84 -25219206.69 -25219206.54 0.0495 0.0287

Jupiter -73760-10-28 05:16 J -25219116.43 -25219116.28 -25219116.12 0.0495 0.0274

Venus -73759-06-06 06:13 J -25218895.33 -25218895.24 -25218895.15 0.3799 0.2019

Moon -73759-10-10 17:59 J -25218768.90 -25218768.75 -25218768.60 0.2604 0.0996

Earth -73759-10-10 19:25 J -25218768.84 -25218768.69 -25218768.54 0.2609 0.0966 *

Saturn -73758-12-24 21:06 J -25218328.66 -25218328.62 -25218328.58 0.0270 0.0263

Saturn -73757-03-22 19:54 J -25218239.84 -25218239.67 -25218239.50 0.0271 0.0116

Saturn -73757-06-19 18:42 J -25218150.90 -25218150.72 -25218150.52 0.0272 0.0033

Saturn -73757-09-16 17:30 J -25218061.90 -25218061.77 -25218061.62 0.0273 0.0183

Mars -73756-12-01 00:28 J -25217621.64 -25217621.48 -25217621.32 0.1605 0.0353

Jupiter -73754-06-21 19:11 J -25217053.81 -25217053.70 -25217053.58 0.0531 0.0194

Jupiter -73754-09-19 01:40 J -25216964.54 -25216964.43 -25216964.32 0.0531 0.0262

Venus -73754-12-20 23:44 J -25216871.62 -25216871.51 -25216871.41 0.3796 0.0655

Mars -73753-09-05 06:42 J -25216612.29 -25216612.22 -25216612.14 0.1931 0.1484

Earth -73749-04-14 08:37 J -25215295.25 -25215295.14 -25215295.03 0.2727 0.0406

Moon -73749-04-14 08:37 J -25215295.24 -25215295.14 -25215295.03 0.2734 0.0380 *

Jupiter -73748-05-17 16:32 J -25214896.90 -25214896.81 -25214896.72 0.0495 0.0427

Venus -73748-07-05 17:16 J -25214847.89 -25214847.78 -25214847.68 0.3793 0.0759

Jupiter -73748-08-16 02:37 J -25214806.57 -25214806.39 -25214806.21 0.0495 0.0135

Mars -73746-04-23 02:08 J -25214191.51 -25214191.41 -25214191.31 0.1600 0.1262

Moon -73746-10-14 01:40 J -25214017.58 -25214017.43 -25214017.29 0.2608 0.1168

Earth -73746-10-14 03:20 J -25214017.49 -25214017.36 -25214017.22 0.2607 0.1435 *

Saturn -73744-05-05 08:52 J -25213448.16 -25213448.13 -25213448.09 0.0292 0.0281

Saturn -73744-08-01 20:37 J -25213359.75 -25213359.64 -25213359.53 0.0291 0.0160

Saturn -73744-10-29 08:23 J -25213271.28 -25213271.15 -25213271.03 0.0290 0.0040

Saturn -73743-01-25 19:54 J -25213182.80 -25213182.67 -25213182.55 0.0289 0.0081

Mars -73743-01-26 14:37 J -25213182.00 -25213181.89 -25213181.78 0.1937 0.0509

Saturn -73743-04-24 07:25 J -25213094.29 -25213094.19 -25213094.10 0.0288 0.0199

Venus -73742-01-19 10:47 J -25212824.13 -25212824.05 -25212823.96 0.3790 0.2189

Jupiter -73742-04-09 23:30 J -25212743.62 -25212743.52 -25212743.41 0.0532 0.0304

Uranus -73742-05-27 15:20 J -25212695.90 -25212695.86 -25212695.79 0.0143 0.0137

Jupiter -73742-07-08 05:59 J -25212654.37 -25212654.25 -25212654.13 0.0531 0.0153

Uranus -73742-08-23 23:44 J -25212607.62 -25212607.51 -25212607.37 0.0143 0.0108

Uranus -73742-11-20 08:23 J -25212519.30 -25212519.15 -25212518.98 0.0143 0.0079

Uranus -73741-02-16 16:47 J -25212430.98 -25212430.80 -25212430.62 0.0143 0.0050

Uranus -73741-05-15 01:11 J -25212342.64 -25212342.45 -25212342.26 0.0143 0.0021

Uranus -73741-08-11 09:20 J -25212254.30 -25212254.11 -25212253.91 0.0143 0.0007

Uranus -73741-11-07 17:30 J -25212165.95 -25212165.77 -25212165.58 0.0142 0.0035

Uranus -73740-02-04 01:40 J -25212077.60 -25212077.43 -25212077.25 0.0142 0.0063

Uranus -73740-05-03 09:35 J -25211989.23 -25211989.10 -25211988.94 0.0142 0.0091

Uranus -73740-07-30 17:59 J -25211900.85 -25211900.75 -25211900.65 0.0142 0.0118

Venus -73737-08-04 04:47 J -25210800.33 -25210800.30 -25210800.28 0.3787 0.3650

Earth -73736-04-17 02:23 J -25210544.50 -25210544.40 -25210544.30 0.2728 0.0792

Moon -73736-04-17 02:52 J -25210544.48 -25210544.38 -25210544.27 0.2732 0.0865 *

Jupiter -73736-06-03 23:16 J -25210496.71 -25210496.53 -25210496.34 0.0495 0.0010

Mars -73734-06-18 22:32 J -25209751.68 -25209751.56 -25209751.45 0.1944 0.0493

Venus -73733-08-01 09:49 J -25209342.22 -25209342.09 -25209341.97 0.3582 0.1658

Jupiter -73730-01-27 04:04 J -25208433.41 -25208433.33 -25208433.25 0.0532 0.0411

Jupiter -73730-04-26 10:18 J -25208344.19 -25208344.07 -25208343.94 0.0531 0.0046

Jupiter -73730-07-24 17:01 J -25208254.83 -25208254.79 -25208254.75 0.0531 0.0502

Moon -73729-04-10 01:25 J -25207994.46 -25207994.44 -25207994.43 0.2724 0.2687

Earth -73729-04-10 02:08 J -25207994.45 -25207994.41 -25207994.38 0.2723 0.2536 *

Saturn -73728-08-09 16:32 J -25207507.95 -25207507.81 -25207507.65 0.0271 0.0170

Saturn -73728-11-06 15:35 J -25207419.04 -25207418.85 -25207418.66 0.0272 0.0022

Saturn -73727-02-03 14:23 J -25207330.06 -25207329.90 -25207329.73 0.0273 0.0127

Venus -73727-02-15 12:28 J -25207318.11 -25207317.98 -25207317.84 0.3585 0.0775

Mars -73725-01-09 23:30 J -25206624.67 -25206624.52 -25206624.37 0.1609 0.0698

Mars -73725-11-08 06:13 J -25206321.31 -25206321.24 -25206321.17 0.1950 0.1486

Jupiter -73724-03-22 20:37 J -25206186.82 -25206186.64 -25206186.46 0.0495 0.0145

Jupiter -73724-06-21 06:13 J -25206096.33 -25206096.24 -25206096.13 0.0495 0.0414

Earth -73723-04-19 20:08 J -25205793.73 -25205793.66 -25205793.59 0.2730 0.1997

Moon -73723-04-19 20:52 J -25205793.70 -25205793.63 -25205793.56 0.2730 0.2044 *

Venus -73722-09-01 14:52 J -25205293.95 -25205293.88 -25205293.81 0.3588 0.3068

Jupiter -73719-11-15 07:54 J -25204123.18 -25204123.17 -25204123.15 0.0531 0.0527

Jupiter -73718-02-12 14:08 J -25204034.03 -25204033.91 -25204033.78 0.0531 0.0076

Jupiter -73718-05-12 20:37 J -25203944.73 -25203944.64 -25203944.55 0.0530 0.0381

Moon -73716-04-12 19:25 J -25203243.78 -25203243.69 -25203243.60 0.2732 0.1334

Earth -73716-04-12 19:40 J -25203243.77 -25203243.68 -25203243.58 0.2725 0.1355 *

Mars -73716-06-01 00:56 J -25203194.62 -25203194.46 -25203194.29 0.1605 0.0226

Saturn -73715-12-19 22:47 J -25202627.64 -25202627.55 -25202627.45 0.0292 0.0195

Saturn -73714-03-18 10:32 J -25202539.19 -25202539.06 -25202538.94 0.0291 0.0074

Saturn -73714-06-14 22:04 J -25202450.71 -25202450.58 -25202450.45 0.0290 0.0047

Saturn -73714-09-11 09:35 J -25202362.20 -25202362.10 -25202361.99 0.0289 0.0166

Saturn -73714-12-08 21:06 J -25202273.64 -25202273.62 -25202273.60 0.0288 0.0284

Mars -73713-03-06 06:56 J -25202185.28 -25202185.21 -25202185.15 0.1931 0.1600

Moon -73713-10-11 00:42 J -25201966.63 -25201966.47 -25201966.31 0.2605 0.0749

Earth -73713-10-11 02:08 J -25201966.57 -25201966.41 -25201966.25 0.2608 0.0497 *

Jupiter -73712-01-08 17:44 J -25201876.91 -25201876.76 -25201876.60 0.0495 0.0286

Jupiter -73712-04-09 03:49 J -25201786.49 -25201786.34 -25201786.19 0.0496 0.0277

Venus -73708-06-27 10:47 J -25200246.11 -25200246.05 -25200245.98 0.3800 0.2914

Mars -73707-10-22 02:52 J -25199764.50 -25199764.38 -25199764.26 0.1601 0.1123

Jupiter -73707-12-01 18:13 J -25199723.86 -25199723.74 -25199723.62 0.0531 0.0189

Jupiter -73706-03-01 00:28 J -25199634.59 -25199634.48 -25199634.37 0.0530 0.0267

Neptune -73706-10-03 12:42 J -25199417.97 -25199417.97 -25199417.96 0.0089 0.0088

Neptune -73706-12-30 16:04 J -25199329.89 -25199329.83 -25199329.74 0.0089 0.0082

Neptune -73705-03-27 19:54 J -25199241.76 -25199241.67 -25199241.55 0.0089 0.0075

Neptune -73705-06-23 23:30 J -25199153.63 -25199153.52 -25199153.37 0.0089 0.0068

Neptune -73705-09-20 03:20 J -25199065.49 -25199065.36 -25199065.20 0.0089 0.0061

Neptune -73705-12-17 07:11 J -25198977.35 -25198977.20 -25198977.03 0.0089 0.0054

Neptune -73704-03-15 10:47 J -25198889.20 -25198889.05 -25198888.87 0.0089 0.0047

Neptune -73704-06-11 14:37 J -25198801.05 -25198800.89 -25198800.70 0.0089 0.0040

Mars -73704-07-27 14:37 J -25198754.99 -25198754.89 -25198754.78 0.1937 0.0626

Neptune -73704-09-07 18:28 J -25198712.91 -25198712.73 -25198712.54 0.0088 0.0032

Neptune -73704-12-04 22:04 J -25198624.76 -25198624.58 -25198624.38 0.0088 0.0026

Neptune -73703-03-03 01:54 J -25198536.60 -25198536.42 -25198536.22 0.0088 0.0019

Earth -73703-04-15 13:25 J -25198493.05 -25198492.94 -25198492.83 0.2727 0.0162

Moon -73703-04-15 13:40 J -25198493.04 -25198492.93 -25198492.83 0.2733 0.0203 *

Neptune -73703-05-30 05:44 J -25198448.45 -25198448.26 -25198448.06 0.0088 0.0011

Neptune -73703-08-26 09:35 J -25198360.30 -25198360.10 -25198359.90 0.0088 0.0004

Neptune -73703-11-22 13:25 J -25198272.14 -25198271.94 -25198271.75 0.0088 0.0003

Venus -73702-01-11 04:04 J -25198222.42 -25198222.33 -25198222.23 0.3798 0.1564

Neptune -73702-02-18 17:01 J -25198183.98 -25198183.79 -25198183.59 0.0088 0.0010

Neptune -73702-05-17 20:37 J -25198095.83 -25198095.64 -25198095.44 0.0088 0.0017

Neptune -73702-08-14 00:13 J -25198007.67 -25198007.49 -25198007.29 0.0088 0.0025

Neptune -73702-11-10 04:04 J -25197919.51 -25197919.33 -25197919.14 0.0088 0.0031

Neptune -73701-02-06 07:40 J -25197831.34 -25197831.18 -25197830.99 0.0088 0.0039

Neptune -73701-05-04 11:16 J -25197743.18 -25197743.03 -25197742.84 0.0088 0.0046

Neptune -73701-07-31 15:06 J -25197655.02 -25197654.87 -25197654.70 0.0088 0.0052

Jupiter -73701-10-27 15:06 J -25197566.96 -25197566.87 -25197566.78 0.0495 0.0423

Neptune -73701-10-27 18:42 J -25197566.85 -25197566.72 -25197566.56 0.0088 0.0060 *

Neptune -73700-01-23 22:18 J -25197478.68 -25197478.57 -25197478.42 0.0088 0.0067

Jupiter -73700-01-26 01:11 J -25197476.62 -25197476.45 -25197476.27 0.0495 0.0141

Neptune -73700-04-22 01:54 J -25197390.50 -25197390.42 -25197390.29 0.0088 0.0074

Neptune -73700-07-19 05:44 J -25197302.32 -25197302.26 -25197302.16 0.0088 0.0080

Moon -73700-10-14 08:08 J -25197215.27 -25197215.16 -25197215.04 0.2608 0.1809

Earth -73700-10-14 10:04 J -25197215.19 -25197215.08 -25197214.97 0.2607 0.1893 *

Neptune -73700-10-15 09:20 J -25197214.12 -25197214.11 -25197214.06 0.0088 0.0087

Saturn -73699-12-27 15:20 J -25196775.97 -25196775.86 -25196775.73 0.0270 0.0209

Saturn -73698-03-26 14:23 J -25196687.08 -25196686.90 -25196686.71 0.0271 0.0062

Saturn -73698-06-23 13:25 J -25196598.12 -25196597.94 -25196597.76 0.0272 0.0087

Uranus -73698-08-03 16:18 J -25196556.84 -25196556.82 -25196556.80 0.0135 0.0134

Saturn -73698-09-20 11:59 J -25196509.08 -25196509.00 -25196508.89 0.0273 0.0237

Uranus -73698-10-30 19:11 J -25196468.76 -25196468.70 -25196468.63 0.0135 0.0118

Uranus -73697-01-26 22:18 J -25196380.65 -25196380.57 -25196380.48 0.0135 0.0101

Uranus -73697-04-24 01:25 J -25196292.54 -25196292.44 -25196292.34 0.0136 0.0085

Uranus -73697-07-21 04:32 J -25196204.42 -25196204.31 -25196204.20 0.0136 0.0068

Venus -73697-07-26 21:35 J -25196198.71 -25196198.60 -25196198.49 0.3795 0.0177

Uranus -73697-10-17 07:40 J -25196116.30 -25196116.18 -25196116.06 0.0136 0.0052

Uranus -73696-01-13 10:47 J -25196028.18 -25196028.05 -25196027.92 0.0136 0.0035

Uranus -73696-04-11 13:54 J -25195940.05 -25195939.92 -25195939.79 0.0136 0.0019

Uranus -73696-07-08 17:01 J -25195851.92 -25195851.79 -25195851.65 0.0136 0.0004

Uranus -73696-10-04 20:08 J -25195763.79 -25195763.66 -25195763.52 0.0136 0.0016

Uranus -73696-12-31 23:30 J -25195675.65 -25195675.52 -25195675.39 0.0137 0.0032

Uranus -73695-03-30 02:37 J -25195587.51 -25195587.39 -25195587.27 0.0137 0.0050

Uranus -73695-06-26 05:44 J -25195499.37 -25195499.26 -25195499.14 0.0137 0.0067

Jupiter -73695-09-19 22:04 J -25195413.68 -25195413.58 -25195413.47 0.0531 0.0306

Uranus -73695-09-22 09:06 J -25195411.22 -25195411.12 -25195411.02 0.0137 0.0084

Mars -73695-12-17 22:32 J -25195324.68 -25195324.56 -25195324.45 0.1944 0.0386

Jupiter -73695-12-18 04:32 J -25195324.44 -25195324.31 -25195324.19 0.0531 0.0151

Uranus -73695-12-19 12:13 J -25195323.07 -25195322.99 -25195322.90 0.0137 0.0102

Pluto -73694-01-13 17:01 J -25195297.83 -25195297.79 -25195297.74 0.0060 0.0057

Uranus -73694-03-17 15:35 J -25195234.91 -25195234.85 -25195234.78 0.0137 0.0119

Pluto -73694-04-11 17:59 J -25195209.82 -25195209.75 -25195209.64 0.0060 0.0052

Uranus -73694-06-13 18:56 J -25195146.72 -25195146.71 -25195146.70 0.0137 0.0137

Pluto -73694-07-08 19:11 J -25195121.80 -25195121.70 -25195121.57 0.0060 0.0047

Pluto -73694-10-04 20:52 J -25195033.76 -25195033.63 -25195033.50 0.0060 0.0042

Pluto -73694-12-31 21:49 J -25194945.72 -25194945.59 -25194945.43 0.0060 0.0036

Pluto -73693-03-28 23:01 J -25194857.68 -25194857.54 -25194857.36 0.0060 0.0031

Pluto -73693-06-25 00:28 J -25194769.64 -25194769.48 -25194769.30 0.0060 0.0025

Pluto -73693-09-21 01:54 J -25194681.59 -25194681.42 -25194681.24 0.0060 0.0020

Pluto -73693-12-18 03:06 J -25194593.54 -25194593.37 -25194593.18 0.0060 0.0015

Pluto -73692-03-16 04:32 J -25194505.49 -25194505.31 -25194505.12 0.0061 0.0009

Pluto -73692-06-12 05:44 J -25194417.44 -25194417.26 -25194417.07 0.0061 0.0004

Pluto -73692-09-08 07:11 J -25194329.39 -25194329.20 -25194329.01 0.0061 0.0002

Pluto -73692-12-05 08:23 J -25194241.33 -25194241.15 -25194240.96 0.0061 0.0008

Venus -73691-02-09 15:06 J -25194174.97 -25194174.87 -25194174.77 0.3793 0.1238

Pluto -73691-03-03 09:35 J -25194153.27 -25194153.10 -25194152.91 0.0061 0.0014

Pluto -73691-05-30 11:16 J -25194065.21 -25194065.03 -25194064.85 0.0061 0.0019

Pluto -73691-08-26 12:13 J -25193977.15 -25193976.99 -25193976.81 0.0061 0.0025

Pluto -73691-11-22 13:25 J -25193889.08 -25193888.94 -25193888.76 0.0061 0.0031

Pluto -73690-02-18 15:06 J -25193801.01 -25193800.87 -25193800.71 0.0061 0.0037

Earth -73690-04-18 07:11 J -25193742.30 -25193742.20 -25193742.10 0.2728 0.1039

Moon -73690-04-18 07:54 J -25193742.27 -25193742.17 -25193742.07 0.2732 0.1142 *

Pluto -73690-05-17 16:18 J -25193712.94 -25193712.82 -25193712.67 0.0061 0.0043

Pluto -73690-08-13 17:30 J -25193624.86 -25193624.77 -25193624.64 0.0061 0.0049

Pluto -73690-11-09 18:56 J -25193536.78 -25193536.71 -25193536.61 0.0061 0.0054

Pluto -73689-02-05 20:08 J -25193448.67 -25193448.66 -25193448.60 0.0061 0.0061

Jupiter -73689-11-13 22:32 J -25193166.75 -25193166.56 -25193166.37 0.0495 0.0003

Mars -73686-07-11 00:13 J -25192197.64 -25192197.49 -25192197.35 0.1610 0.0834

Venus -73686-08-26 08:52 J -25192151.20 -25192151.13 -25192151.05 0.3790 0.2685

Saturn -73685-05-08 00:42 J -25191895.54 -25191895.47 -25191895.39 0.0292 0.0234

Mars -73685-05-09 06:13 J -25191894.32 -25191894.24 -25191894.16 0.1949 0.1376

Saturn -73685-08-04 12:28 J -25191807.10 -25191806.98 -25191806.86 0.0291 0.0112

Saturn -73685-10-31 23:59 J -25191718.63 -25191718.50 -25191718.37 0.0290 0.0010

Saturn -73684-01-28 11:30 J -25191630.13 -25191630.02 -25191629.90 0.0289 0.0128

Saturn -73684-04-26 23:01 J -25191541.60 -25191541.54 -25191541.47 0.0288 0.0246

Moon -73683-04-11 06:13 J -25191192.29 -25191192.24 -25191192.19 0.2726 0.2315

Earth -73683-04-11 06:56 J -25191192.27 -25191192.21 -25191192.16 0.2724 0.2291 *

Jupiter -73683-07-09 02:37 J -25191103.47 -25191103.39 -25191103.31 0.0532 0.0414

Jupiter -73683-10-06 08:52 J -25191014.26 -25191014.13 -25191014.00 0.0531 0.0041

Jupiter -73682-01-03 15:20 J -25190924.90 -25190924.86 -25190924.82 0.0531 0.0499

Venus -73682-08-23 06:56 J -25190693.26 -25190693.21 -25190693.16 0.3580 0.3346

Moon -73680-10-08 23:59 J -25189915.52 -25189915.50 -25189915.48 0.2604 0.2578

Earth -73680-10-09 00:56 J -25189915.52 -25189915.46 -25189915.41 0.2610 0.2445 *

Earth -73677-04-20 00:56 J -25188991.52 -25188991.46 -25188991.40 0.2730 0.2244

Moon -73677-04-20 01:40 J -25188991.48 -25188991.43 -25188991.38 0.2728 0.2333 *

Jupiter -73677-09-01 19:25 J -25188856.87 -25188856.69 -25188856.51 0.0495 0.0140

Mars -73677-11-30 01:54 J -25188767.59 -25188767.42 -25188767.25 0.1605 0.0077

Jupiter -73677-12-01 05:01 J -25188766.38 -25188766.29 -25188766.19 0.0495 0.0419

Venus -73676-03-08 10:18 J -25188669.21 -25188669.07 -25188668.93 0.3583 0.0844

Mars -73674-09-05 06:56 J -25187758.26 -25187758.21 -25187758.16 0.1930 0.1708

Jupiter -73671-04-27 07:11 J -25186793.22 -25186793.20 -25186793.18 0.0532 0.0521

Jupiter -73671-07-25 13:11 J -25186704.07 -25186703.95 -25186703.82 0.0532 0.0070

Venus -73671-09-22 12:56 J -25186645.09 -25186644.96 -25186644.83 0.3586 0.1540

Jupiter -73671-10-22 19:40 J -25186614.76 -25186614.68 -25186614.59 0.0531 0.0390

Moon -73670-04-14 00:13 J -25186441.58 -25186441.49 -25186441.39 0.2732 0.1213

Earth -73670-04-14 00:28 J -25186441.57 -25186441.48 -25186441.38 0.2725 0.1110 *

Saturn -73669-05-15 11:44 J -25186044.04 -25186044.01 -25186043.97 0.0270 0.0265

Saturn -73669-08-12 10:32 J -25185955.23 -25185955.06 -25185954.88 0.0271 0.0119

Saturn -73669-11-09 09:20 J -25185866.30 -25185866.11 -25185865.91 0.0272 0.0029

Saturn -73668-02-06 08:08 J -25185777.30 -25185777.16 -25185777.01 0.0273 0.0178

Mars -73667-04-22 03:20 J -25185337.49 -25185337.36 -25185337.22 0.1601 0.0995

Moon -73667-10-12 07:11 J -25185164.36 -25185164.20 -25185164.04 0.2607 0.0114

Earth -73667-10-12 08:52 J -25185164.29 -25185164.13 -25185163.96 0.2608 0.0055 *

Jupiter -73665-06-20 16:47 J -25184546.95 -25184546.80 -25184546.64 0.0495 0.0276

Jupiter -73665-09-19 02:37 J -25184456.54 -25184456.39 -25184456.23 0.0495 0.0285

Mars -73664-01-25 14:37 J -25184328.00 -25184327.89 -25184327.78 0.1937 0.0719

Jupiter -73659-05-13 17:16 J -25182393.90 -25182393.78 -25182393.66 0.0531 0.0184

Jupiter -73659-08-10 23:30 J -25182304.63 -25182304.52 -25182304.41 0.0530 0.0272

Uranus -73658-06-16 23:16 J -25181994.61 -25181994.53 -25181994.44 0.0143 0.0130

Uranus -73658-09-13 07:40 J -25181906.31 -25181906.18 -25181906.04 0.0143 0.0100

Uranus -73658-12-10 16:04 J -25181817.99 -25181817.83 -25181817.66 0.0143 0.0072

Uranus -73657-03-08 00:28 J -25181729.66 -25181729.48 -25181729.29 0.0143 0.0043

Earth -73657-04-15 18:13 J -25181690.85 -25181690.74 -25181690.63 0.2727 0.0090

Moon -73657-04-15 18:28 J -25181690.83 -25181690.73 -25181690.62 0.2733 0.0195 *

Uranus -73657-06-04 08:52 J -25181641.32 -25181641.13 -25181640.94 0.0143 0.0014

Venus -73657-07-18 15:35 J -25181596.85 -25181596.85 -25181596.85 0.3802 0.3793

Uranus -73657-08-31 17:01 J -25181552.98 -25181552.79 -25181552.59 0.0143 0.0015

Uranus -73657-11-28 01:25 J -25181464.63 -25181464.44 -25181464.26 0.0142 0.0043

Uranus -73656-02-24 09:35 J -25181376.27 -25181376.10 -25181375.94 0.0142 0.0071

Uranus -73656-05-23 17:30 J -25181287.90 -25181287.77 -25181287.63 0.0142 0.0099

Uranus -73656-08-20 01:25 J -25181199.51 -25181199.44 -25181199.34 0.0142 0.0126

Saturn -73656-09-25 02:23 J -25181163.44 -25181163.40 -25181163.36 0.0293 0.0275

Saturn -73656-12-22 13:54 J -25181075.02 -25181074.92 -25181074.80 0.0292 0.0153

Saturn -73655-03-21 01:40 J -25180986.56 -25180986.43 -25180986.30 0.0291 0.0031

Saturn -73655-06-17 13:25 J -25180898.07 -25180897.94 -25180897.82 0.0290 0.0090

Mars -73655-06-17 22:32 J -25180897.67 -25180897.56 -25180897.45 0.1944 0.0258

Saturn -73655-09-14 00:56 J -25180809.55 -25180809.46 -25180809.37 0.0289 0.0209

Moon -73654-10-15 15:06 J -25180412.97 -25180412.87 -25180412.78 0.2608 0.2084

Earth -73654-10-15 16:47 J -25180412.86 -25180412.80 -25180412.73 0.2606 0.2362 *

Jupiter -73653-04-08 13:40 J -25180237.02 -25180236.93 -25180236.83 0.0495 0.0419

Jupiter -73653-07-07 23:59 J -25180146.68 -25180146.50 -25180146.32 0.0496 0.0146

Venus -73651-02-01 08:37 J -25179573.22 -25179573.14 -25179573.06 0.3800 0.2467

Jupiter -73647-03-01 21:20 J -25178083.71 -25178083.61 -25178083.50 0.0531 0.0297

Jupiter -73647-05-30 03:35 J -25177994.47 -25177994.35 -25177994.23 0.0530 0.0159

Mars -73646-01-09 00:56 J -25177770.59 -25177770.46 -25177770.33 0.1610 0.0976

Venus -73646-08-18 02:08 J -25177549.51 -25177549.41 -25177549.31 0.3797 0.1095

Mars -73646-11-08 06:13 J -25177467.32 -25177467.24 -25177467.15 0.1949 0.1268

Earth -73644-04-18 11:59 J -25176940.09 -25176940.00 -25176939.90 0.2729 0.1285

Moon -73644-04-18 12:42 J -25176940.07 -25176939.97 -25176939.88 0.2732 0.1333 *

Jupiter -73641-04-25 21:35 J -25175836.79 -25175836.60 -25175836.42 0.0495 0.0015

Venus -73640-03-02 19:25 J -25175525.79 -25175525.69 -25175525.58 0.3795 0.0328

Saturn -73640-12-30 09:06 J -25175223.27 -25175223.12 -25175222.96 0.0270 0.0161

Saturn -73639-03-29 07:54 J -25175134.36 -25175134.17 -25175133.97 0.0271 0.0015

Saturn -73639-06-26 06:42 J -25175045.38 -25175045.22 -25175045.05 0.0272 0.0135

Moon -73637-04-11 11:01 J -25174390.10 -25174390.04 -25174389.97 0.2728 0.2159

Earth -73637-04-11 11:44 J -25174390.08 -25174390.01 -25174389.94 0.2724 0.2050 *

Mars -73637-05-31 02:37 J -25174340.56 -25174340.39 -25174340.22 0.1605 0.0062

Jupiter -73636-12-19 01:25 J -25173773.52 -25173773.44 -25173773.36 0.0531 0.0411

Jupiter -73635-03-18 07:40 J -25173684.31 -25173684.18 -25173684.06 0.0531 0.0045

Jupiter -73635-06-15 14:08 J -25173594.95 -25173594.91 -25173594.87 0.0530 0.0499

Venus -73635-09-16 13:11 J -25173502.05 -25173501.95 -25173501.86 0.3792 0.1728

Mars -73634-03-06 06:42 J -25173331.25 -25173331.22 -25173331.18 0.1930 0.1812

Moon -73634-10-10 06:42 J -25173113.32 -25173113.22 -25173113.12 0.2605 0.2037

Earth -73634-10-10 07:40 J -25173113.28 -25173113.18 -25173113.07 0.2610 0.1968 *

Earth -73631-04-21 05:44 J -25172189.30 -25172189.26 -25172189.22 0.2730 0.2492

Moon -73631-04-21 06:28 J -25172189.26 -25172189.23 -25172189.20 0.2726 0.2575 *

Jupiter -73629-02-12 18:42 J -25171526.90 -25171526.72 -25171526.54 0.0495 0.0129

Venus -73629-04-01 06:56 J -25171478.27 -25171478.21 -25171478.15 0.3789 0.3183

Jupiter -73629-05-13 04:32 J -25171436.40 -25171436.31 -25171436.22 0.0496 0.0431

Mars -73628-10-21 04:18 J -25170910.46 -25170910.32 -25170910.18 0.1601 0.0850

Saturn -73626-05-11 15:49 J -25170342.93 -25170342.84 -25170342.74 0.0292 0.0192

Saturn -73626-08-08 03:35 J -25170254.48 -25170254.35 -25170254.23 0.0291 0.0071

Saturn -73626-11-04 15:06 J -25170166.00 -25170165.87 -25170165.74 0.0290 0.0051

Saturn -73625-02-01 02:37 J -25170077.49 -25170077.39 -25170077.28 0.0289 0.0170

Venus -73625-03-29 07:40 J -25170020.28 -25170020.18 -25170020.08 0.3580 0.2513

Saturn -73625-04-29 14:08 J -25169988.91 -25169988.91 -25169988.90 0.0288 0.0288

Mars -73625-07-26 14:37 J -25169900.99 -25169900.89 -25169900.78 0.1937 0.0842

Neptune -73624-04-12 17:30 J -25169640.79 -25169640.77 -25169640.74 0.0089 0.0087

Moon -73624-04-14 05:01 J -25169639.39 -25169639.29 -25169639.19 0.2732 0.0839

Earth -73624-04-14 05:16 J -25169639.38 -25169639.28 -25169639.17 0.2725 0.0867 *

Neptune -73624-07-09 18:42 J -25169552.76 -25169552.72 -25169552.66 0.0089 0.0082

Neptune -73624-10-05 20:08 J -25169464.72 -25169464.66 -25169464.59 0.0089 0.0077

Jupiter -73624-10-07 05:44 J -25169463.28 -25169463.26 -25169463.24 0.0532 0.0520

Neptune -73623-01-01 21:20 J -25169376.67 -25169376.61 -25169376.52 0.0089 0.0073

Jupiter -73623-01-04 11:59 J -25169374.13 -25169374.00 -25169373.88 0.0531 0.0068

Neptune -73623-03-30 22:47 J -25169288.63 -25169288.55 -25169288.46 0.0089 0.0068

Jupiter -73623-04-03 18:13 J -25169284.82 -25169284.74 -25169284.65 0.0531 0.0391

Neptune -73623-06-26 23:59 J -25169200.58 -25169200.50 -25169200.40 0.0089 0.0063

Neptune -73623-09-23 01:25 J -25169112.53 -25169112.44 -25169112.34 0.0089 0.0058

Neptune -73623-12-20 02:37 J -25169024.49 -25169024.39 -25169024.28 0.0089 0.0054

Neptune -73622-03-18 04:04 J -25168936.44 -25168936.33 -25168936.22 0.0089 0.0049

Neptune -73622-06-14 05:16 J -25168848.39 -25168848.28 -25168848.16 0.0089 0.0044

Neptune -73622-09-10 06:42 J -25168760.34 -25168760.22 -25168760.10 0.0089 0.0039

Neptune -73622-12-07 07:54 J -25168672.29 -25168672.17 -25168672.04 0.0089 0.0035

Neptune -73621-03-04 09:20 J -25168584.23 -25168584.11 -25168583.99 0.0089 0.0030

Neptune -73621-05-31 10:32 J -25168496.18 -25168496.06 -25168495.93 0.0089 0.0025

Neptune -73621-08-27 11:59 J -25168408.13 -25168408.00 -25168407.87 0.0089 0.0020

Moon -73621-10-12 13:54 J -25168362.08 -25168361.92 -25168361.76 0.2607 0.0181

Earth -73621-10-12 15:49 J -25168362.01 -25168361.84 -25168361.68 0.2608 0.0449 *

Neptune -73621-11-23 13:11 J -25168320.08 -25168319.95 -25168319.82 0.0089 0.0015

Neptune -73620-02-19 14:23 J -25168232.03 -25168231.90 -25168231.76 0.0089 0.0011

Neptune -73620-05-18 15:49 J -25168143.97 -25168143.84 -25168143.71 0.0089 0.0006

Neptune -73620-08-14 17:01 J -25168055.92 -25168055.79 -25168055.65 0.0089 0.0002

Venus -73620-10-13 10:47 J -25167996.20 -25167996.05 -25167995.91 0.3583 0.0092

Neptune -73620-11-10 18:28 J -25167967.86 -25167967.73 -25167967.60 0.0089 0.0004

Neptune -73619-02-06 19:40 J -25167879.81 -25167879.68 -25167879.55 0.0089 0.0009

Neptune -73619-05-05 20:52 J -25167791.75 -25167791.63 -25167791.49 0.0089 0.0014

Neptune -73619-08-01 22:18 J -25167703.70 -25167703.57 -25167703.44 0.0089 0.0018

Neptune -73619-10-28 23:30 J -25167615.64 -25167615.52 -25167615.39 0.0089 0.0023

Neptune -73618-01-25 00:42 J -25167527.59 -25167527.47 -25167527.34 0.0089 0.0028

Neptune -73618-04-23 02:08 J -25167439.53 -25167439.41 -25167439.28 0.0089 0.0032

Neptune -73618-07-20 03:35 J -25167351.47 -25167351.35 -25167351.23 0.0089 0.0037

Neptune -73618-10-16 04:47 J -25167263.41 -25167263.30 -25167263.18 0.0089 0.0042

Jupiter -73618-12-01 15:49 J -25167217.00 -25167216.84 -25167216.68 0.0495 0.0269

Neptune -73617-01-12 05:59 J -25167175.35 -25167175.25 -25167175.13 0.0089 0.0047

Jupiter -73617-03-01 01:40 J -25167126.58 -25167126.43 -25167126.28 0.0495 0.0292

Neptune -73617-04-09 07:11 J -25167087.29 -25167087.20 -25167087.08 0.0089 0.0052

Neptune -73617-07-06 08:37 J -25166999.23 -25166999.14 -25166999.03 0.0089 0.0056

Neptune -73617-10-02 09:49 J -25166911.17 -25166911.09 -25166910.98 0.0089 0.0061

Neptune -73617-12-29 11:16 J -25166823.11 -25166823.03 -25166822.94 0.0089 0.0066

Neptune -73616-03-27 12:28 J -25166735.05 -25166734.98 -25166734.89 0.0089 0.0071

Neptune -73616-06-23 13:54 J -25166646.98 -25166646.92 -25166646.85 0.0089 0.0075

Neptune -73616-09-19 15:06 J -25166558.91 -25166558.87 -25166558.80 0.0089 0.0080

Neptune -73616-12-16 16:18 J -25166470.84 -25166470.82 -25166470.77 0.0089 0.0085

Mars -73616-12-16 22:18 J -25166470.68 -25166470.57 -25166470.45 0.1943 0.0181

Venus -73614-04-29 13:11 J -25165972.05 -25165971.95 -25165971.84 0.3587 0.2322

Uranus -73614-08-23 23:30 J -25165855.55 -25165855.52 -25165855.48 0.0135 0.0129

Uranus -73614-11-20 02:23 J -25165767.46 -25165767.40 -25165767.32 0.0135 0.0114

Uranus -73613-02-16 05:30 J -25165679.35 -25165679.27 -25165679.17 0.0135 0.0097

Uranus -73613-05-14 08:37 J -25165591.24 -25165591.14 -25165591.03 0.0135 0.0081

Uranus -73613-08-10 11:44 J -25165503.12 -25165503.01 -25165502.89 0.0136 0.0064

Uranus -73613-11-06 14:52 J -25165415.00 -25165414.88 -25165414.75 0.0136 0.0048

Uranus -73612-02-02 18:13 J -25165326.87 -25165326.74 -25165326.62 0.0136 0.0031

Uranus -73612-05-01 21:06 J -25165238.75 -25165238.62 -25165238.48 0.0136 0.0015

Uranus -73612-07-29 00:28 J -25165150.62 -25165150.48 -25165150.35 0.0136 0.0004

Jupiter -73612-10-23 16:32 J -25165063.93 -25165063.81 -25165063.69 0.0532 0.0176

Uranus -73612-10-25 03:35 J -25165062.48 -25165062.35 -25165062.22 0.0136 0.0020

Jupiter -73611-01-20 22:47 J -25164974.66 -25164974.55 -25164974.44 0.0531 0.0282

Uranus -73611-01-21 06:42 J -25164974.34 -25164974.22 -25164974.09 0.0136 0.0037

Earth -73611-04-16 23:01 J -25164888.64 -25164888.54 -25164888.43 0.2727 0.0336

Moon -73611-04-16 23:30 J -25164888.63 -25164888.52 -25164888.41 0.2733 0.0318 *

Uranus -73611-04-19 10:04 J -25164886.21 -25164886.08 -25164885.96 0.0137 0.0054

Uranus -73611-07-16 13:11 J -25164798.06 -25164797.95 -25164797.84 0.0137 0.0071

Uranus -73611-10-12 16:18 J -25164709.92 -25164709.82 -25164709.72 0.0137 0.0088

Uranus -73610-01-08 19:25 J -25164621.76 -25164621.69 -25164621.60 0.0137 0.0106

Uranus -73610-04-06 22:47 J -25164533.60 -25164533.55 -25164533.49 0.0137 0.0123

Saturn -73610-05-19 05:01 J -25164491.39 -25164491.29 -25164491.17 0.0270 0.0219

Saturn -73610-08-16 03:49 J -25164402.52 -25164402.34 -25164402.15 0.0271 0.0073

Saturn -73610-11-13 02:37 J -25164313.57 -25164313.39 -25164313.20 0.0272 0.0076

Saturn -73609-02-10 01:40 J -25164224.54 -25164224.43 -25164224.33 0.0273 0.0224

Mars -73607-07-10 01:25 J -25163343.56 -25163343.44 -25163343.32 0.1610 0.1106

Mars -73606-05-09 06:13 J -25163040.33 -25163040.24 -25163040.15 0.1950 0.1158

Jupiter -73606-09-19 13:11 J -25162907.05 -25162906.95 -25162906.84 0.0495 0.0406

Jupiter -73606-12-18 23:16 J -25162816.70 -25162816.53 -25162816.35 0.0495 0.0158

Pluto -73601-11-12 02:52 J -25161026.44 -25161026.38 -25161026.31 0.0084 0.0074

Pluto -73600-02-08 04:18 J -25160938.41 -25160938.32 -25160938.23 0.0084 0.0063

Venus -73600-02-22 13:25 J -25160923.99 -25160923.94 -25160923.90 0.3802 0.3357

Pluto -73600-05-07 05:44 J -25160850.36 -25160850.26 -25160850.15 0.0084 0.0052

Pluto -73600-08-03 07:11 J -25160762.32 -25160762.20 -25160762.08 0.0084 0.0041

Jupiter -73600-08-11 20:37 J -25160753.75 -25160753.64 -25160753.53 0.0531 0.0289

Pluto -73600-10-30 08:37 J -25160674.27 -25160674.14 -25160674.01 0.0084 0.0030

Jupiter -73600-11-09 02:52 J -25160664.50 -25160664.38 -25160664.26 0.0530 0.0166

Pluto -73599-01-26 10:04 J -25160586.21 -25160586.08 -25160585.95 0.0084 0.0019

Pluto -73599-04-24 11:30 J -25160498.16 -25160498.02 -25160497.88 0.0083 0.0008

Pluto -73599-07-21 12:56 J -25160410.10 -25160409.96 -25160409.83 0.0083 0.0003

Pluto -73599-10-17 14:08 J -25160322.04 -25160321.91 -25160321.77 0.0083 0.0013

Pluto -73598-01-13 15:20 J -25160233.98 -25160233.86 -25160233.72 0.0083 0.0024

Pluto -73598-04-11 17:01 J -25160145.92 -25160145.79 -25160145.67 0.0083 0.0034

Earth -73598-04-19 16:47 J -25160137.89 -25160137.80 -25160137.71 0.2729 0.1528

Moon -73598-04-19 17:30 J -25160137.86 -25160137.77 -25160137.69 0.2731 0.1656 *

Pluto -73598-07-08 17:59 J -25160057.85 -25160057.75 -25160057.62 0.0083 0.0045

Pluto -73598-10-04 19:25 J -25159969.78 -25159969.69 -25159969.58 0.0083 0.0055

Mars -73598-11-30 03:06 J -25159913.53 -25159913.37 -25159913.20 0.1605 0.0197

Pluto -73598-12-31 20:37 J -25159881.71 -25159881.64 -25159881.55 0.0083 0.0065

Pluto -73597-03-28 21:49 J -25159793.63 -25159793.59 -25159793.52 0.0082 0.0076

Saturn -73597-09-27 17:01 J -25159610.86 -25159610.79 -25159610.71 0.0293 0.0237

Saturn -73597-12-25 04:47 J -25159522.42 -25159522.30 -25159522.18 0.0292 0.0114

Saturn -73596-03-23 16:32 J -25159433.94 -25159433.81 -25159433.68 0.0291 0.0008

Saturn -73596-06-20 04:04 J -25159345.44 -25159345.33 -25159345.21 0.0290 0.0129

Saturn -73596-09-16 15:49 J -25159256.91 -25159256.84 -25159256.78 0.0289 0.0247

Venus -73595-09-08 06:42 J -25158900.31 -25158900.22 -25158900.13 0.3799 0.2007

Jupiter -73594-10-06 20:23 J -25158506.84 -25158506.65 -25158506.46 0.0496 0.0016

Moon -73591-04-12 15:49 J -25157587.91 -25157587.84 -25157587.76 0.2729 0.1856

Earth -73591-04-12 16:32 J -25157587.89 -25157587.81 -25157587.74 0.2724 0.1811 *

Venus -73589-03-23 23:59 J -25156876.61 -25156876.50 -25156876.40 0.3797 0.0627

Mars -73588-04-21 05:01 J -25156483.44 -25156483.29 -25156483.14 0.1601 0.0715

Jupiter -73588-05-31 00:56 J -25156443.54 -25156443.46 -25156443.38 0.0531 0.0399

Jupiter -73588-08-28 06:56 J -25156354.33 -25156354.21 -25156354.08 0.0530 0.0054

Moon -73588-10-10 13:11 J -25156311.08 -25156310.95 -25156310.82 0.2606 0.1606

Earth -73588-10-10 14:23 J -25156311.03 -25156310.90 -25156310.76 0.2610 0.1497 *

Jupiter -73588-11-25 13:25 J -25156264.97 -25156264.94 -25156264.91 0.0530 0.0509

Mars -73585-01-25 14:37 J -25155473.99 -25155473.89 -25155473.79 0.1937 0.0947

Venus -73584-10-07 17:30 J -25154852.88 -25154852.77 -25154852.67 0.3794 0.0784

Jupiter -73582-07-25 17:44 J -25154196.94 -25154196.76 -25154196.57 0.0495 0.0121

Jupiter -73582-10-24 03:35 J -25154106.43 -25154106.35 -25154106.26 0.0496 0.0441

Saturn -73581-10-05 03:20 J -25153759.39 -25153759.36 -25153759.30 0.0269 0.0261

Saturn -73580-01-02 02:23 J -25153670.57 -25153670.40 -25153670.23 0.0270 0.0115

Saturn -73580-04-01 01:11 J -25153581.64 -25153581.45 -25153581.26 0.0271 0.0032

Saturn -73580-06-28 23:44 J -25153492.65 -25153492.51 -25153492.36 0.0272 0.0180

Moon -73578-04-15 10:04 J -25152837.18 -25152837.08 -25152836.98 0.2732 0.0678

Earth -73578-04-15 10:04 J -25152837.18 -25152837.08 -25152836.97 0.2726 0.0625 *

Venus -73578-04-23 11:16 J -25152829.12 -25152829.03 -25152828.95 0.3791 0.2227

Jupiter -73576-03-19 04:47 J -25152133.33 -25152133.30 -25152133.27 0.0531 0.0515

Jupiter -73576-06-16 11:01 J -25152044.17 -25152044.04 -25152043.92 0.0531 0.0064

Mars -73576-06-16 22:32 J -25152043.68 -25152043.56 -25152043.45 0.1943 0.0050

Jupiter -73576-09-13 17:16 J -25151954.86 -25151954.78 -25151954.69 0.0530 0.0394

Moon -73575-10-13 20:37 J -25151559.80 -25151559.64 -25151559.48 0.2607 0.0792

Earth -73575-10-13 22:32 J -25151559.71 -25151559.56 -25151559.41 0.2608 0.0911 *

Uranus -73574-07-07 05:01 J -25151293.36 -25151293.29 -25151293.19 0.0143 0.0128

Uranus -73574-10-03 13:40 J -25151205.06 -25151204.93 -25151204.78 0.0143 0.0098

Uranus -73574-12-30 22:04 J -25151116.74 -25151116.58 -25151116.40 0.0143 0.0069

Uranus -73573-03-28 06:42 J -25151028.41 -25151028.22 -25151028.04 0.0143 0.0040

Uranus -73573-06-24 14:52 J -25150940.07 -25150939.88 -25150939.68 0.0143 0.0012

Uranus -73573-09-20 23:16 J -25150851.72 -25150851.53 -25150851.34 0.0143 0.0017

Venus -73573-11-06 05:01 J -25150805.31 -25150805.29 -25150805.27 0.3788 0.3692

Uranus -73573-12-18 07:25 J -25150763.37 -25150763.19 -25150763.01 0.0142 0.0045

Uranus -73572-03-16 15:35 J -25150675.01 -25150674.85 -25150674.68 0.0142 0.0073

Uranus -73572-06-12 23:30 J -25150586.64 -25150586.52 -25150586.37 0.0142 0.0101

Uranus -73572-09-09 07:25 J -25150498.25 -25150498.19 -25150498.09 0.0142 0.0129

Jupiter -73570-05-13 15:20 J -25149887.02 -25149886.86 -25149886.70 0.0495 0.0257

Jupiter -73570-08-12 01:11 J -25149796.59 -25149796.45 -25149796.30 0.0496 0.0306

Venus -73569-11-03 08:23 J -25149347.28 -25149347.15 -25149347.02 0.3581 0.1682

Mars -73567-01-08 02:23 J -25148916.51 -25148916.40 -25148916.30 0.1610 0.1251

Saturn -73567-02-14 18:28 J -25148878.76 -25148878.73 -25148878.69 0.0293 0.0280

Saturn -73567-05-14 06:13 J -25148790.34 -25148790.24 -25148790.12 0.0292 0.0158

Saturn -73567-08-10 17:59 J -25148701.87 -25148701.75 -25148701.62 0.0291 0.0036

Saturn -73567-11-07 05:44 J -25148613.38 -25148613.26 -25148613.14 0.0290 0.0086

Mars -73567-11-07 06:13 J -25148613.33 -25148613.24 -25148613.14 0.1949 0.1048 *

Saturn -73566-02-03 17:16 J -25148524.87 -25148524.78 -25148524.69 0.0289 0.0206

Earth -73565-04-17 03:49 J -25148086.44 -25148086.34 -25148086.23 0.2727 0.0576

Moon -73565-04-17 04:18 J -25148086.42 -25148086.32 -25148086.22 0.2733 0.0694 *

Jupiter -73564-04-04 15:20 J -25147733.98 -25147733.86 -25147733.74 0.0531 0.0173

Jupiter -73564-07-02 21:35 J -25147644.71 -25147644.60 -25147644.49 0.0531 0.0284

Venus -73563-05-20 11:16 J -25147323.17 -25147323.03 -25147322.89 0.3584 0.0760

Jupiter -73558-03-01 12:13 J -25145577.09 -25145576.99 -25145576.87 0.0495 0.0397

Jupiter -73558-05-30 22:18 J -25145486.74 -25145486.57 -25145486.39 0.0495 0.0167

Mars -73558-05-31 03:49 J -25145486.50 -25145486.34 -25145486.17 0.1605 0.0334 *

Venus -73558-12-04 13:40 J -25145299.00 -25145298.93 -25145298.86 0.3587 0.3105

Jupiter -73552-01-21 19:40 J -25143423.78 -25143423.68 -25143423.57 0.0531 0.0282

Earth -73552-04-19 21:35 J -25143335.68 -25143335.60 -25143335.52 0.2729 0.1777

Moon -73552-04-19 22:18 J -25143335.65 -25143335.57 -25143335.49 0.2729 0.1799 *

Jupiter -73552-04-21 02:08 J -25143334.53 -25143334.41 -25143334.29 0.0531 0.0176

Saturn -73551-05-21 22:04 J -25142938.72 -25142938.58 -25142938.42 0.0270 0.0174

Saturn -73551-08-18 20:52 J -25142849.82 -25142849.63 -25142849.43 0.0271 0.0028

Saturn -73551-11-15 19:40 J -25142760.85 -25142760.68 -25142760.51 0.0272 0.0120

Saturn -73550-02-12 18:13 J -25142671.76 -25142671.74 -25142671.70 0.0273 0.0269

Mars -73549-10-20 05:30 J -25142056.42 -25142056.27 -25142056.11 0.1601 0.0584

Jupiter -73546-03-18 20:08 J -25141176.85 -25141176.66 -25141176.48 0.0495 0.0033

Mars -73546-07-26 14:37 J -25141046.98 -25141046.89 -25141046.79 0.1937 0.1053

Moon -73545-04-12 20:37 J -25140785.72 -25140785.64 -25140785.55 0.2729 0.1648

Earth -73545-04-12 21:06 J -25140785.70 -25140785.62 -25140785.53 0.2724 0.1571 *

Venus -73544-09-29 11:16 J -25140251.10 -25140251.03 -25140250.97 0.3801 0.2905

Moon -73542-10-11 19:40 J -25139508.82 -25139508.68 -25139508.53 0.2606 0.1230

Earth -73542-10-11 21:20 J -25139508.76 -25139508.61 -25139508.46 0.2609 0.1020 *

Neptune -73541-06-29 10:04 J -25139247.09 -25139247.08 -25139247.03 0.0089 0.0088

Neptune -73541-09-25 13:40 J -25139158.98 -25139158.93 -25139158.82 0.0089 0.0081

Jupiter -73541-11-09 23:59 J -25139113.58 -25139113.50 -25139113.41 0.0531 0.0392

Neptune -73541-12-22 17:30 J -25139070.86 -25139070.77 -25139070.64 0.0089 0.0074

Jupiter -73540-02-07 06:13 J -25139024.36 -25139024.24 -25139024.11 0.0530 0.0062

Neptune -73540-03-20 21:49 J -25138982.72 -25138982.59 -25138982.46 0.0089 0.0066

Jupiter -73540-05-07 12:42 J -25138934.99 -25138934.97 -25138934.95 0.0530 0.0518

Neptune -73540-06-17 01:25 J -25138894.58 -25138894.44 -25138894.29 0.0089 0.0059

Neptune -73540-09-13 05:16 J -25138806.44 -25138806.28 -25138806.12 0.0089 0.0052

Neptune -73540-12-10 08:52 J -25138718.29 -25138718.13 -25138717.95 0.0089 0.0045

Neptune -73539-03-08 12:42 J -25138630.15 -25138629.97 -25138629.79 0.0089 0.0038

Mars -73539-03-12 07:25 J -25138626.25 -25138626.19 -25138626.13 0.1597 0.1483

Neptune -73539-06-04 16:18 J -25138542.00 -25138541.82 -25138541.63 0.0089 0.0031

Neptune -73539-08-31 20:08 J -25138453.85 -25138453.66 -25138453.47 0.0089 0.0024

Neptune -73539-11-27 23:44 J -25138365.70 -25138365.51 -25138365.31 0.0089 0.0017

Neptune -73538-02-24 03:35 J -25138277.54 -25138277.35 -25138277.15 0.0089 0.0010

Venus -73538-04-15 04:32 J -25138227.41 -25138227.31 -25138227.21 0.3799 0.1542

Neptune -73538-05-23 07:25 J -25138189.39 -25138189.19 -25138188.99 0.0089 0.0003

Neptune -73538-08-19 11:01 J -25138101.23 -25138101.04 -25138100.84 0.0089 0.0005

Saturn -73538-10-01 07:25 J -25138058.28 -25138058.19 -25138058.10 0.0293 0.0204

Neptune -73538-11-15 14:52 J -25138013.08 -25138012.88 -25138012.69 0.0089 0.0012

Saturn -73538-12-28 19:11 J -25137969.83 -25137969.70 -25137969.58 0.0292 0.0081

Neptune -73537-02-11 18:28 J -25137924.92 -25137924.73 -25137924.53 0.0088 0.0019

Saturn -73537-03-26 06:56 J -25137881.34 -25137881.21 -25137881.08 0.0291 0.0042

Neptune -73537-05-09 22:04 J -25137836.76 -25137836.58 -25137836.38 0.0088 0.0026

Saturn -73537-06-22 18:28 J -25137792.83 -25137792.73 -25137792.62 0.0290 0.0162

Neptune -73537-08-06 01:54 J -25137748.60 -25137748.42 -25137748.23 0.0088 0.0033

Saturn -73537-09-19 05:59 J -25137704.27 -25137704.25 -25137704.22 0.0289 0.0281

Neptune -73537-11-02 05:30 J -25137660.44 -25137660.27 -25137660.09 0.0088 0.0040

Mars -73537-12-15 22:32 J -25137616.67 -25137616.56 -25137616.44 0.1943 0.0078

Neptune -73536-01-29 09:20 J -25137572.27 -25137572.11 -25137571.94 0.0088 0.0047

Neptune -73536-04-27 12:56 J -25137484.11 -25137483.96 -25137483.80 0.0088 0.0054

Neptune -73536-07-24 16:32 J -25137395.94 -25137395.81 -25137395.66 0.0088 0.0061

Neptune -73536-10-20 20:23 J -25137307.77 -25137307.65 -25137307.52 0.0088 0.0068

Neptune -73535-01-16 23:59 J -25137219.59 -25137219.50 -25137219.39 0.0088 0.0075

Neptune -73535-04-15 03:35 J -25137131.41 -25137131.35 -25137131.26 0.0088 0.0082

Neptune -73535-07-12 07:40 J -25137043.18 -25137043.18 -25137043.18 0.0088 0.0088

Jupiter -73534-01-04 16:47 J -25136866.98 -25136866.80 -25136866.62 0.0496 0.0113

Jupiter -73534-04-05 02:37 J -25136776.46 -25136776.39 -25136776.31 0.0496 0.0449

Venus -73533-10-28 21:49 J -25136203.69 -25136203.59 -25136203.48 0.3796 0.0204

Moon -73532-04-15 15:06 J -25136034.98 -25136034.87 -25136034.77 0.2733 0.0350

Earth -73532-04-15 14:52 J -25136034.98 -25136034.88 -25136034.77 0.2726 0.0385 *

Uranus -73530-09-13 06:56 J -25135154.25 -25135154.21 -25135154.16 0.0135 0.0125

Uranus -73530-12-10 10:04 J -25135066.15 -25135066.08 -25135066.00 0.0135 0.0108

Uranus -73529-03-07 12:56 J -25134978.05 -25134977.96 -25134977.86 0.0135 0.0093

Uranus -73529-06-03 16:18 J -25134889.93 -25134889.82 -25134889.71 0.0135 0.0076

Jupiter -73529-08-29 04:18 J -25134803.35 -25134803.32 -25134803.28 0.0531 0.0501

Uranus -73529-08-30 19:11 J -25134801.81 -25134801.70 -25134801.58 0.0136 0.0060

Moon -73529-10-14 03:20 J -25134757.50 -25134757.36 -25134757.21 0.2607 0.1160

Earth -73529-10-14 05:16 J -25134757.42 -25134757.28 -25134757.14 0.2608 0.1376 *

Jupiter -73529-11-26 10:32 J -25134714.19 -25134714.06 -25134713.94 0.0530 0.0050

Uranus -73529-11-26 22:32 J -25134713.69 -25134713.56 -25134713.44 0.0136 0.0043

Uranus -73528-02-23 01:40 J -25134625.56 -25134625.43 -25134625.30 0.0136 0.0026

Jupiter -73528-02-23 16:47 J -25134624.88 -25134624.80 -25134624.72 0.0530 0.0406

Uranus -73528-05-22 04:47 J -25134537.43 -25134537.30 -25134537.17 0.0136 0.0010

Mars -73528-07-09 02:52 J -25134489.46 -25134489.38 -25134489.29 0.1610 0.1384

Uranus -73528-08-18 07:54 J -25134449.30 -25134449.17 -25134449.04 0.0136 0.0008

Uranus -73528-11-14 11:01 J -25134361.17 -25134361.04 -25134360.91 0.0136 0.0025

Uranus -73527-02-10 14:08 J -25134273.03 -25134272.91 -25134272.78 0.0136 0.0042

Mars -73527-05-08 06:13 J -25134186.34 -25134186.24 -25134186.14 0.1949 0.0944

Uranus -73527-05-09 17:30 J -25134184.89 -25134184.77 -25134184.65 0.0137 0.0059

Venus -73527-05-14 15:35 J -25134179.95 -25134179.85 -25134179.75 0.3793 0.1282

Uranus -73527-08-05 20:37 J -25134096.75 -25134096.64 -25134096.53 0.0137 0.0076

Uranus -73527-11-01 23:44 J -25134008.60 -25134008.51 -25134008.41 0.0137 0.0093

Uranus -73526-01-29 02:52 J -25133920.45 -25133920.38 -25133920.29 0.0137 0.0111

Uranus -73526-04-27 06:13 J -25133832.28 -25133832.24 -25133832.19 0.0137 0.0128

Jupiter -73523-10-23 14:08 J -25132557.07 -25132556.91 -25132556.74 0.0495 0.0250

Jupiter -73522-01-22 00:13 J -25132466.63 -25132466.49 -25132466.34 0.0496 0.0315

Saturn -73522-10-08 20:23 J -25132206.75 -25132206.65 -25132206.53 0.0269 0.0216

Venus -73522-11-28 09:06 J -25132156.19 -25132156.12 -25132156.04 0.3790 0.2733

Saturn -73521-01-05 19:11 J -25132117.88 -25132117.70 -25132117.51 0.0270 0.0071

Saturn -73521-04-03 17:59 J -25132028.93 -25132028.75 -25132028.56 0.0271 0.0076

Saturn -73521-07-01 16:32 J -25131939.90 -25131939.81 -25131939.69 0.0272 0.0224

Earth -73519-04-18 08:37 J -25131284.24 -25131284.14 -25131284.03 0.2727 0.0821

Moon -73519-04-18 09:06 J -25131284.22 -25131284.12 -25131284.02 0.2733 0.0821 *

Mars -73519-11-29 04:47 J -25131059.46 -25131059.30 -25131059.14 0.1605 0.0472

Mars -73518-09-28 13:54 J -25130755.92 -25130755.92 -25130755.91 0.1955 0.1947

Venus -73518-11-25 05:44 J -25130698.31 -25130698.26 -25130698.22 0.3579 0.3380

Jupiter -73517-09-14 14:23 J -25130404.02 -25130403.90 -25130403.78 0.0531 0.0166

Jupiter -73517-12-12 20:37 J -25130314.74 -25130314.64 -25130314.53 0.0530 0.0290

Moon -73512-04-11 07:40 J -25128734.22 -25128734.18 -25128734.14 0.2725 0.2536

Earth -73512-04-11 08:23 J -25128734.19 -25128734.15 -25128734.11 0.2723 0.2498 *

Venus -73512-06-10 08:52 J -25128674.27 -25128674.13 -25128673.99 0.3582 0.0862

Jupiter -73511-08-11 11:44 J -25128247.13 -25128247.01 -25128246.90 0.0495 0.0386

Jupiter -73511-11-09 21:49 J -25128156.76 -25128156.59 -25128156.41 0.0496 0.0180

Mars -73509-04-20 06:28 J -25127629.39 -25127629.23 -25127629.07 0.1601 0.0439

Saturn -73508-02-17 08:52 J -25127326.19 -25127326.13 -25127326.05 0.0293 0.0246

Saturn -73508-05-16 20:52 J -25127237.75 -25127237.63 -25127237.52 0.0292 0.0123

Saturn -73508-08-13 08:23 J -25127149.28 -25127149.15 -25127149.02 0.0291 0.0009

Saturn -73508-11-09 20:08 J -25127060.78 -25127060.66 -25127060.54 0.0290 0.0121

Saturn -73507-02-06 07:40 J -25126972.25 -25126972.18 -25126972.11 0.0289 0.0241

Venus -73507-12-25 11:44 J -25126650.14 -25126650.01 -25126649.88 0.3585 0.1561

Mars -73506-01-24 14:52 J -25126619.98 -25126619.88 -25126619.79 0.1937 0.1170

Earth -73506-04-21 02:23 J -25126533.47 -25126533.40 -25126533.33 0.2729 0.2019

Moon -73506-04-21 03:06 J -25126533.43 -25126533.37 -25126533.30 0.2728 0.2175 *

Jupiter -73505-07-03 18:42 J -25126093.83 -25126093.72 -25126093.61 0.0531 0.0277

Jupiter -73505-10-01 00:56 J -25126004.58 -25126004.46 -25126004.34 0.0531 0.0179

Mars -73500-09-10 08:08 J -25124199.25 -25124199.16 -25124199.07 0.1597 0.1347

Moon -73499-04-14 01:40 J -25123983.52 -25123983.43 -25123983.34 0.2730 0.1381

Earth -73499-04-14 02:08 J -25123983.51 -25123983.41 -25123983.32 0.2724 0.1323 *

Jupiter -73499-08-28 19:11 J -25123846.89 -25123846.70 -25123846.52 0.0495 0.0040

Mars -73497-06-15 22:32 J -25123189.68 -25123189.56 -25123189.45 0.1943 0.0173

Moon -73496-10-12 02:23 J -25122706.56 -25122706.40 -25122706.24 0.2606 0.0647

Earth -73496-10-12 04:04 J -25122706.49 -25122706.33 -25122706.17 0.2609 0.0551 *

Jupiter -73493-04-21 23:16 J -25121783.62 -25121783.53 -25121783.45 0.0531 0.0384

Jupiter -73493-07-20 05:30 J -25121694.40 -25121694.27 -25121694.15 0.0531 0.0072

Jupiter -73493-10-17 11:59 J -25121605.01 -25121605.00 -25121605.00 0.0530 0.0528

Venus -73493-10-20 15:49 J -25121601.84 -25121601.84 -25121601.83 0.3803 0.3790

Saturn -73492-05-24 15:20 J -25121386.02 -25121385.86 -25121385.68 0.0270 0.0128

Saturn -73492-08-21 14:08 J -25121297.10 -25121296.91 -25121296.72 0.0271 0.0019

Saturn -73492-11-18 12:42 J -25121208.11 -25121207.97 -25121207.81 0.0272 0.0166

Uranus -73490-07-27 11:44 J -25120592.10 -25120592.01 -25120591.91 0.0143 0.0124

Uranus -73490-10-23 20:08 J -25120503.80 -25120503.66 -25120503.51 0.0143 0.0094

Uranus -73489-01-20 04:47 J -25120415.47 -25120415.30 -25120415.13 0.0143 0.0065

Uranus -73489-04-17 13:11 J -25120327.14 -25120326.95 -25120326.76 0.0143 0.0036

Uranus -73489-07-14 21:35 J -25120238.80 -25120238.60 -25120238.41 0.0143 0.0008

Uranus -73489-10-11 05:44 J -25120150.45 -25120150.26 -25120150.07 0.0143 0.0021

Mars -73488-01-07 03:35 J -25120062.40 -25120062.35 -25120062.30 0.1610 0.1520

Uranus -73488-01-07 13:54 J -25120062.09 -25120061.92 -25120061.73 0.0142 0.0050

Uranus -73488-04-05 22:04 J -25119973.73 -25119973.58 -25119973.41 0.0142 0.0078

Uranus -73488-07-03 06:13 J -25119885.36 -25119885.24 -25119885.10 0.0142 0.0105

Uranus -73488-09-29 14:08 J -25119796.96 -25119796.91 -25119796.83 0.0142 0.0133

Mars -73488-11-06 06:13 J -25119759.34 -25119759.24 -25119759.13 0.1949 0.0831

Venus -73487-05-06 09:06 J -25119578.20 -25119578.12 -25119578.04 0.3800 0.2442

Jupiter -73487-06-16 16:32 J -25119536.99 -25119536.81 -25119536.62 0.0495 0.0097

Jupiter -73487-09-15 02:23 J -25119446.46 -25119446.40 -25119446.34 0.0496 0.0465

Moon -73486-04-16 19:54 J -25119232.78 -25119232.67 -25119232.56 0.2733 0.0133

Earth -73486-04-16 19:40 J -25119232.78 -25119232.68 -25119232.57 0.2726 0.0163 *

Moon -73483-10-15 10:18 J -25117955.19 -25117955.07 -25117954.95 0.2609 0.1674

Earth -73483-10-15 11:59 J -25117955.11 -25117955.00 -25117954.88 0.2607 0.1847 *

Venus -73482-11-20 02:23 J -25117554.50 -25117554.40 -25117554.30 0.3798 0.1072

Jupiter -73481-02-09 03:35 J -25117473.39 -25117473.35 -25117473.30 0.0531 0.0493

Jupiter -73481-05-08 09:49 J -25117384.22 -25117384.09 -25117383.97 0.0530 0.0043

Jupiter -73481-08-05 16:04 J -25117294.91 -25117294.83 -25117294.75 0.0530 0.0415

Mars -73479-05-30 05:16 J -25116632.43 -25116632.28 -25116632.12 0.1605 0.0604

Saturn -73479-10-03 21:35 J -25116505.71 -25116505.60 -25116505.50 0.0293 0.0172

Saturn -73479-12-31 09:20 J -25116417.24 -25116417.11 -25116416.98 0.0292 0.0049

Mars -73478-03-29 14:08 J -25116328.95 -25116328.91 -25116328.88 0.1954 0.1836

Saturn -73478-03-29 21:06 J -25116328.75 -25116328.62 -25116328.50 0.0291 0.0074

Saturn -73478-06-26 08:37 J -25116240.23 -25116240.14 -25116240.04 0.0290 0.0194

Venus -73476-06-04 19:54 J -25115530.78 -25115530.67 -25115530.56 0.3795 0.0338

Jupiter -73475-04-04 13:11 J -25115227.11 -25115226.95 -25115226.79 0.0496 0.0243

Jupiter -73475-07-03 23:16 J -25115136.67 -25115136.53 -25115136.39 0.0496 0.0322

Earth -73473-04-18 13:25 J -25114482.04 -25114481.94 -25114481.84 0.2728 0.1061

Moon -73473-04-18 14:08 J -25114482.01 -25114481.91 -25114481.82 0.2731 0.1179 *

Venus -73471-12-19 13:25 J -25113507.03 -25113506.94 -25113506.84 0.3792 0.1775

Mars -73470-10-20 07:11 J -25113202.37 -25113202.20 -25113202.04 0.1601 0.0301

Jupiter -73469-02-25 14:08 J -25113074.04 -25113073.91 -25113073.79 0.0530 0.0153

Jupiter -73469-05-24 20:08 J -25112984.76 -25112984.66 -25112984.55 0.0530 0.0304

Mars -73467-07-25 14:52 J -25112192.97 -25112192.88 -25112192.80 0.1936 0.1279

Moon -73466-04-12 12:28 J -25111932.03 -25111931.98 -25111931.93 0.2725 0.2401

Earth -73466-04-12 13:11 J -25111932.01 -25111931.95 -25111931.89 0.2723 0.2256 *

Venus -73465-07-04 07:11 J -25111483.25 -25111483.20 -25111483.14 0.3789 0.3238

Jupiter -73463-01-21 10:32 J -25110917.18 -25110917.06 -25110916.94 0.0495 0.0380

Jupiter -73463-04-21 20:52 J -25110826.80 -25110826.63 -25110826.46 0.0496 0.0187

Moon -73463-10-10 01:40 J -25110655.47 -25110655.43 -25110655.38 0.2606 0.2494

Earth -73463-10-10 02:52 J -25110655.43 -25110655.38 -25110655.34 0.2611 0.2498 *

Saturn -73463-10-11 13:54 J -25110654.06 -25110653.92 -25110653.77 0.0269 0.0170

Saturn -73462-01-08 12:42 J -25110565.16 -25110564.97 -25110564.78 0.0270 0.0025

Saturn -73462-04-07 11:16 J -25110476.20 -25110476.03 -25110475.86 0.0271 0.0122

Saturn -73462-07-05 09:49 J -25110387.10 -25110387.09 -25110387.06 0.0272 0.0270

Venus -73461-07-01 06:28 J -25110025.33 -25110025.23 -25110025.13 0.3580 0.2535

Mars -73460-03-11 08:52 J -25109772.24 -25109772.13 -25109772.02 0.1597 0.1210

Earth -73460-04-21 07:11 J -25109731.25 -25109731.20 -25109731.14 0.2729 0.2266

Moon -73460-04-21 07:54 J -25109731.22 -25109731.17 -25109731.11 0.2728 0.2287 *

Neptune -73459-01-07 16:47 J -25109469.82 -25109469.80 -25109469.76 0.0089 0.0086

Neptune -73459-04-05 18:13 J -25109381.79 -25109381.74 -25109381.69 0.0089 0.0081

Neptune -73459-07-02 19:25 J -25109293.75 -25109293.69 -25109293.62 0.0089 0.0077

Neptune -73459-09-28 20:37 J -25109205.70 -25109205.64 -25109205.55 0.0089 0.0072

Neptune -73459-12-25 22:04 J -25109117.66 -25109117.58 -25109117.49 0.0089 0.0067

Neptune -73458-03-23 23:16 J -25109029.61 -25109029.53 -25109029.43 0.0089 0.0063

Neptune -73458-06-20 00:42 J -25108941.56 -25108941.47 -25108941.37 0.0089 0.0058

Neptune -73458-09-16 01:54 J -25108853.52 -25108853.42 -25108853.31 0.0089 0.0053

Neptune -73458-12-13 03:20 J -25108765.47 -25108765.36 -25108765.25 0.0089 0.0048

Jupiter -73458-12-14 17:59 J -25108763.86 -25108763.75 -25108763.64 0.0531 0.0269

Mars -73458-12-15 22:32 J -25108762.68 -25108762.56 -25108762.45 0.1943 0.0281

Neptune -73457-03-10 04:32 J -25108677.42 -25108677.31 -25108677.19 0.0089 0.0044

Jupiter -73457-03-12 23:59 J -25108674.61 -25108674.50 -25108674.38 0.0530 0.0187

Neptune -73457-06-06 05:59 J -25108589.37 -25108589.25 -25108589.13 0.0089 0.0039

Neptune -73457-09-02 07:11 J -25108501.32 -25108501.20 -25108501.07 0.0089 0.0034

Neptune -73457-11-29 08:37 J -25108413.26 -25108413.14 -25108413.02 0.0089 0.0029

Neptune -73456-02-25 09:49 J -25108325.21 -25108325.09 -25108324.96 0.0089 0.0024

Neptune -73456-05-24 11:16 J -25108237.16 -25108237.03 -25108236.90 0.0089 0.0019

Neptune -73456-08-20 12:28 J -25108149.11 -25108148.98 -25108148.85 0.0089 0.0015

Neptune -73456-11-16 13:54 J -25108061.05 -25108060.92 -25108060.79 0.0089 0.0010

Venus -73455-01-15 09:35 J -25108001.25 -25108001.10 -25108000.96 0.3583 0.0121

Neptune -73455-02-12 15:06 J -25107973.00 -25107972.87 -25107972.74 0.0089 0.0005

Neptune -73455-05-11 16:32 J -25107884.95 -25107884.81 -25107884.68 0.0089 0.0003

Neptune -73455-08-07 17:44 J -25107796.89 -25107796.76 -25107796.63 0.0089 0.0004

Neptune -73455-11-03 18:56 J -25107708.84 -25107708.71 -25107708.58 0.0089 0.0010

Neptune -73454-01-30 20:23 J -25107620.78 -25107620.65 -25107620.52 0.0089 0.0014

Neptune -73454-04-28 21:35 J -25107532.73 -25107532.60 -25107532.47 0.0089 0.0019

Neptune -73454-07-25 22:47 J -25107444.67 -25107444.55 -25107444.42 0.0089 0.0024

Neptune -73454-10-22 00:13 J -25107356.61 -25107356.49 -25107356.36 0.0089 0.0028

Neptune -73453-01-18 01:25 J -25107268.56 -25107268.44 -25107268.31 0.0089 0.0033

Moon -73453-04-14 06:28 J -25107181.32 -25107181.23 -25107181.13 0.2731 0.1090

Earth -73453-04-14 06:56 J -25107181.31 -25107181.21 -25107181.12 0.2725 0.1079 *

Neptune -73453-04-15 02:52 J -25107180.50 -25107180.38 -25107180.26 0.0089 0.0038

Neptune -73453-07-12 04:04 J -25107092.44 -25107092.33 -25107092.21 0.0089 0.0043

Neptune -73453-10-08 05:16 J -25107004.38 -25107004.28 -25107004.16 0.0089 0.0048

Neptune -73452-01-04 06:42 J -25106916.32 -25106916.22 -25106916.11 0.0089 0.0052

Neptune -73452-04-02 07:54 J -25106828.26 -25106828.17 -25106828.06 0.0089 0.0057

Neptune -73452-06-29 09:20 J -25106740.20 -25106740.11 -25106740.01 0.0089 0.0062

Neptune -73452-09-25 10:32 J -25106652.14 -25106652.06 -25106651.97 0.0089 0.0067

Neptune -73452-12-22 11:44 J -25106564.07 -25106564.01 -25106563.92 0.0089 0.0072

Jupiter -73451-02-07 18:28 J -25106516.92 -25106516.73 -25106516.55 0.0496 0.0051

Neptune -73451-03-20 13:11 J -25106476.01 -25106475.95 -25106475.88 0.0089 0.0076

Neptune -73451-06-16 14:23 J -25106387.94 -25106387.90 -25106387.84 0.0089 0.0081

Neptune -73451-09-12 15:49 J -25106299.86 -25106299.84 -25106299.80 0.0089 0.0086

Venus -73450-08-01 11:59 J -25105977.10 -25105977.00 -25105976.89 0.3586 0.2356

Moon -73450-10-13 09:20 J -25105904.28 -25105904.11 -25105903.95 0.2606 0.0327

Earth -73450-10-13 10:47 J -25105904.21 -25105904.05 -25105903.88 0.2609 0.0092 *

Saturn -73449-02-20 23:16 J -25105773.62 -25105773.53 -25105773.44 0.0293 0.0213

Saturn -73449-05-19 11:01 J -25105685.16 -25105685.04 -25105684.92 0.0292 0.0090

Saturn -73449-08-15 22:47 J -25105596.68 -25105596.55 -25105596.42 0.0291 0.0033

Saturn -73449-11-12 10:18 J -25105508.18 -25105508.07 -25105507.96 0.0290 0.0154

Saturn -73448-02-08 22:04 J -25105419.62 -25105419.58 -25105419.54 0.0289 0.0273

Mars -73448-05-07 06:13 J -25105332.34 -25105332.24 -25105332.13 0.1949 0.0723

Pluto -73446-05-07 22:32 J -25104601.56 -25104601.56 -25104601.53 0.0060 0.0060

Uranus -73446-07-07 11:44 J -25104541.01 -25104541.01 -25104541.01 0.0135 0.0135

Pluto -73446-08-03 23:59 J -25104513.57 -25104513.50 -25104513.42 0.0060 0.0054

Jupiter -73446-10-02 22:04 J -25104453.66 -25104453.58 -25104453.49 0.0531 0.0380

Uranus -73446-10-03 14:37 J -25104452.95 -25104452.89 -25104452.83 0.0135 0.0119

Pluto -73446-10-31 00:56 J -25104425.55 -25104425.46 -25104425.34 0.0060 0.0049

Uranus -73446-12-30 17:44 J -25104364.84 -25104364.76 -25104364.67 0.0135 0.0103

Jupiter -73446-12-31 04:18 J -25104364.45 -25104364.32 -25104364.19 0.0531 0.0074

Pluto -73445-01-27 02:08 J -25104337.52 -25104337.41 -25104337.26 0.0060 0.0044

Uranus -73445-03-27 20:52 J -25104276.73 -25104276.63 -25104276.53 0.0135 0.0086

Pluto -73445-04-24 03:35 J -25104249.48 -25104249.35 -25104249.19 0.0060 0.0039

Uranus -73445-06-23 23:59 J -25104188.61 -25104188.50 -25104188.39 0.0136 0.0070

Pluto -73445-07-21 04:47 J -25104161.44 -25104161.30 -25104161.13 0.0060 0.0033

Uranus -73445-09-20 02:52 J -25104100.49 -25104100.38 -25104100.25 0.0136 0.0054

Pluto -73445-10-17 06:13 J -25104073.40 -25104073.24 -25104073.07 0.0060 0.0028

Uranus -73445-12-17 06:13 J -25104012.37 -25104012.24 -25104012.12 0.0136 0.0037

Pluto -73444-01-13 07:25 J -25103985.35 -25103985.19 -25103985.01 0.0060 0.0022

Uranus -73444-03-15 09:20 J -25103924.24 -25103924.11 -25103923.98 0.0136 0.0020

Pluto -73444-04-11 08:52 J -25103897.30 -25103897.13 -25103896.95 0.0060 0.0017

Uranus -73444-06-11 12:28 J -25103836.11 -25103835.98 -25103835.85 0.0136 0.0003

Pluto -73444-07-08 10:04 J -25103809.25 -25103809.08 -25103808.89 0.0061 0.0012

Uranus -73444-09-07 15:35 J -25103747.98 -25103747.85 -25103747.72 0.0136 0.0014

Pluto -73444-10-04 11:30 J -25103721.20 -25103721.02 -25103720.83 0.0061 0.0006

Uranus -73444-12-04 18:42 J -25103659.85 -25103659.72 -25103659.59 0.0136 0.0031

Pluto -73444-12-31 12:56 J -25103633.15 -25103632.96 -25103632.78 0.0061 0.0001

Uranus -73443-03-02 21:49 J -25103571.71 -25103571.59 -25103571.46 0.0136 0.0048

Pluto -73443-03-29 14:08 J -25103545.09 -25103544.91 -25103544.72 0.0061 0.0006

Uranus -73443-05-30 01:11 J -25103483.57 -25103483.45 -25103483.34 0.0137 0.0065

Pluto -73443-06-25 15:35 J -25103457.04 -25103456.85 -25103456.67 0.0061 0.0011

Uranus -73443-08-26 04:04 J -25103395.42 -25103395.33 -25103395.21 0.0137 0.0083

Pluto -73443-09-21 16:32 J -25103368.98 -25103368.81 -25103368.62 0.0061 0.0017

Uranus -73443-11-22 07:25 J -25103307.27 -25103307.19 -25103307.09 0.0137 0.0100

Pluto -73443-12-18 17:44 J -25103280.91 -25103280.76 -25103280.57 0.0061 0.0023

Uranus -73442-02-18 10:47 J -25103219.11 -25103219.05 -25103218.98 0.0137 0.0117

Pluto -73442-03-16 19:25 J -25103192.85 -25103192.69 -25103192.52 0.0061 0.0028

Uranus -73442-05-17 14:08 J -25103130.93 -25103130.91 -25103130.89 0.0137 0.0135

Pluto -73442-06-12 20:37 J -25103104.78 -25103104.64 -25103104.47 0.0061 0.0034

Pluto -73442-09-08 21:49 J -25103016.71 -25103016.59 -25103016.43 0.0061 0.0040

Pluto -73442-12-05 23:30 J -25102928.64 -25102928.52 -25102928.39 0.0061 0.0046

Pluto -73441-03-03 00:42 J -25102840.56 -25102840.47 -25102840.36 0.0061 0.0052

Pluto -73441-05-30 01:54 J -25102752.46 -25102752.42 -25102752.33 0.0061 0.0058

Earth -73440-04-17 00:28 J -25102430.58 -25102430.48 -25102430.37 0.2726 0.0161

Moon -73440-04-17 00:42 J -25102430.57 -25102430.47 -25102430.36 0.2733 0.0152 *

Jupiter -73440-11-26 15:35 J -25102207.03 -25102206.85 -25102206.67 0.0495 0.0089

Mars -73440-11-28 06:13 J -25102205.39 -25102205.24 -25102205.10 0.1605 0.0748

Jupiter -73439-02-25 01:25 J -25102116.50 -25102116.44 -25102116.39 0.0496 0.0472

Mars -73439-09-27 13:54 J -25101901.97 -25101901.92 -25101901.87 0.1955 0.1736

Moon -73437-10-15 17:01 J -25101152.88 -25101152.79 -25101152.70 0.2610 0.2183

Earth -73437-10-15 18:42 J -25101152.79 -25101152.72 -25101152.64 0.2607 0.2307 *

Venus -73436-05-27 13:40 J -25100928.97 -25100928.93 -25100928.88 0.3802 0.3343

Jupiter -73434-07-22 02:37 J -25100143.44 -25100143.39 -25100143.34 0.0531 0.0488

Jupiter -73434-10-19 08:52 J -25100054.26 -25100054.13 -25100054.01 0.0531 0.0039

Jupiter -73433-01-16 15:06 J -25099964.94 -25099964.87 -25099964.79 0.0530 0.0423

Saturn -73433-02-28 10:18 J -25099922.16 -25099922.07 -25099921.96 0.0269 0.0224

Saturn -73433-05-27 09:06 J -25099833.30 -25099833.12 -25099832.94 0.0270 0.0079

Saturn -73433-08-24 07:40 J -25099744.36 -25099744.18 -25099743.99 0.0271 0.0067

Saturn -73433-11-21 06:13 J -25099655.35 -25099655.24 -25099655.12 0.0272 0.0214

Venus -73431-12-11 06:56 J -25098905.30 -25098905.21 -25098905.12 0.3800 0.1983

Mars -73430-04-20 07:40 J -25098775.35 -25098775.18 -25098775.01 0.1601 0.0173

Jupiter -73428-09-14 12:56 J -25097897.12 -25097896.96 -25097896.79 0.0495 0.0226

Jupiter -73428-12-13 22:47 J -25097806.68 -25097806.55 -25097806.41 0.0496 0.0338

Mars -73427-01-23 14:37 J -25097765.97 -25097765.89 -25097765.81 0.1937 0.1380

Earth -73427-04-19 18:13 J -25097679.83 -25097679.74 -25097679.64 0.2728 0.1310

Moon -73427-04-19 18:56 J -25097679.80 -25097679.71 -25097679.62 0.2730 0.1366 *

Venus -73425-06-26 00:28 J -25096881.59 -25096881.48 -25096881.38 0.3797 0.0609

Jupiter -73422-08-07 13:11 J -25095744.07 -25095743.95 -25095743.83 0.0531 0.0144

Jupiter -73422-11-04 19:25 J -25095654.79 -25095654.69 -25095654.59 0.0530 0.0311

Mars -73421-09-09 09:35 J -25095345.22 -25095345.10 -25095344.98 0.1597 0.1073

Moon -73420-04-12 17:16 J -25095129.85 -25095129.78 -25095129.71 0.2725 0.2039

Earth -73420-04-12 17:59 J -25095129.82 -25095129.75 -25095129.68 0.2723 0.2016 *

Saturn -73420-07-09 23:59 J -25095041.55 -25095041.50 -25095041.44 0.0294 0.0263

Saturn -73420-10-06 11:44 J -25094953.12 -25094953.01 -25094952.89 0.0293 0.0139

Saturn -73419-01-02 23:44 J -25094864.64 -25094864.51 -25094864.38 0.0292 0.0016

Venus -73419-01-09 17:59 J -25094857.86 -25094857.75 -25094857.65 0.3795 0.0841

Saturn -73419-04-01 11:16 J -25094776.15 -25094776.03 -25094775.91 0.0291 0.0108

Saturn -73419-06-28 23:01 J -25094687.62 -25094687.54 -25094687.46 0.0290 0.0228

Mars -73418-06-15 22:32 J -25094335.67 -25094335.56 -25094335.44 0.1943 0.0406

Moon -73417-10-10 08:23 J -25093853.23 -25093853.15 -25093853.07 0.2606 0.2244

Earth -73417-10-10 09:35 J -25093853.20 -25093853.10 -25093853.00 0.2611 0.2024 *

Jupiter -73416-07-03 09:06 J -25093587.24 -25093587.12 -25093587.00 0.0496 0.0376

Jupiter -73416-10-01 19:25 J -25093496.86 -25093496.69 -25093496.51 0.0496 0.0192

Earth -73414-04-22 11:59 J -25092929.04 -25092929.00 -25092928.96 0.2729 0.2508

Moon -73414-04-22 12:42 J -25092928.99 -25092928.97 -25092928.95 0.2728 0.2647 *

Venus -73414-07-26 11:30 J -25092834.10 -25092834.02 -25092833.93 0.3792 0.2274

Jupiter -73410-05-26 17:30 J -25091433.88 -25091433.77 -25091433.66 0.0530 0.0255

Jupiter -73410-08-23 23:44 J -25091344.63 -25091344.51 -25091344.40 0.0530 0.0200

Mars -73409-11-05 06:13 J -25090905.35 -25090905.24 -25090905.13 0.1949 0.0615

Venus -73408-02-08 05:16 J -25090810.29 -25090810.28 -25090810.27 0.3789 0.3746

Moon -73407-04-15 11:30 J -25090379.12 -25090379.02 -25090378.92 0.2732 0.0902

Earth -73407-04-15 11:44 J -25090379.12 -25090379.01 -25090378.91 0.2725 0.0835 *

Uranus -73406-08-16 18:42 J -25089890.82 -25089890.72 -25089890.60 0.0143 0.0118

Uranus -73406-11-13 03:06 J -25089802.51 -25089802.37 -25089802.21 0.0143 0.0089

Uranus -73405-02-09 11:44 J -25089714.18 -25089714.01 -25089713.83 0.0143 0.0060

Uranus -73405-05-07 20:08 J -25089625.85 -25089625.66 -25089625.47 0.0143 0.0031

Uranus -73405-08-04 04:32 J -25089537.50 -25089537.31 -25089537.12 0.0143 0.0002

Uranus -73405-10-31 12:42 J -25089449.15 -25089448.97 -25089448.78 0.0142 0.0027

Uranus -73404-01-27 21:06 J -25089360.80 -25089360.62 -25089360.44 0.0142 0.0055

Venus -73404-02-05 06:56 J -25089352.33 -25089352.21 -25089352.08 0.3580 0.1701

Uranus -73404-04-26 05:16 J -25089272.44 -25089272.28 -25089272.12 0.0142 0.0083

Saturn -73404-07-17 09:20 J -25089190.14 -25089190.11 -25089190.07 0.0268 0.0263

Jupiter -73404-07-20 17:01 J -25089186.98 -25089186.79 -25089186.61 0.0496 0.0055

Uranus -73404-07-23 13:25 J -25089184.06 -25089183.94 -25089183.82 0.0142 0.0110

Moon -73404-10-13 15:49 J -25089102.00 -25089101.84 -25089101.67 0.2607 0.0326

Earth -73404-10-13 17:44 J -25089101.93 -25089101.76 -25089101.60 0.2609 0.0395 *

Saturn -73404-10-14 07:54 J -25089101.34 -25089101.17 -25089101.00 0.0269 0.0120

Uranus -73404-10-19 21:20 J -25089095.64 -25089095.61 -25089095.56 0.0142 0.0138

Saturn -73403-01-11 06:28 J -25089012.42 -25089012.23 -25089012.04 0.0270 0.0026

Saturn -73403-04-10 05:16 J -25088923.43 -25088923.28 -25088923.14 0.0271 0.0172

Mars -73400-05-29 06:42 J -25087778.36 -25087778.22 -25087778.08 0.1606 0.0881

Mars -73399-03-28 13:54 J -25087474.98 -25087474.92 -25087474.85 0.1954 0.1624

Venus -73399-08-22 09:49 J -25087328.23 -25087328.09 -25087327.95 0.3584 0.0772

Jupiter -73398-03-14 21:20 J -25087123.70 -25087123.61 -25087123.52 0.0531 0.0372

Jupiter -73398-06-12 03:20 J -25087034.48 -25087034.36 -25087034.23 0.0530 0.0082

Earth -73394-04-18 05:16 J -25085628.38 -25085628.28 -25085628.17 0.2726 0.0376

Moon -73394-04-18 05:44 J -25085628.37 -25085628.26 -25085628.16 0.2733 0.0420 *

Venus -73393-03-07 12:28 J -25085304.05 -25085303.98 -25085303.91 0.3587 0.3137

Jupiter -73392-05-08 14:23 J -25084877.08 -25084876.90 -25084876.71 0.0496 0.0082

Jupiter -73392-08-07 00:13 J -25084786.53 -25084786.49 -25084786.44 0.0496 0.0481

Moon -73391-10-16 23:44 J -25084350.54 -25084350.51 -25084350.48 0.2610 0.2550

Mars -73391-10-19 08:37 J -25084348.31 -25084348.14 -25084347.97 0.1601 0.0033

Saturn -73390-02-23 13:40 J -25084221.03 -25084220.93 -25084220.82 0.0293 0.0178

Saturn -73390-05-23 01:25 J -25084132.56 -25084132.44 -25084132.31 0.0292 0.0055

Saturn -73390-08-19 13:11 J -25084044.07 -25084043.95 -25084043.82 0.0291 0.0069

Saturn -73390-11-16 00:56 J -25083955.56 -25083955.46 -25083955.36 0.0290 0.0189

Mars -73388-07-24 14:52 J -25083338.95 -25083338.88 -25083338.81 0.1936 0.1499

Jupiter -73386-01-01 01:25 J -25082813.49 -25082813.44 -25082813.39 0.0531 0.0484

Jupiter -73386-03-31 07:40 J -25082724.31 -25082724.18 -25082724.06 0.0531 0.0035

Jupiter -73386-06-28 13:54 J -25082634.99 -25082634.92 -25082634.84 0.0530 0.0425

Mars -73381-03-10 10:18 J -25080918.21 -25080918.07 -25080917.94 0.1597 0.0938

Earth -73381-04-19 23:01 J -25080877.62 -25080877.54 -25080877.45 0.2728 0.1558

Moon -73381-04-19 23:44 J -25080877.59 -25080877.51 -25080877.42 0.2730 0.1659 *

Jupiter -73380-02-24 11:30 J -25080567.18 -25080567.02 -25080566.85 0.0495 0.0222

Jupiter -73380-05-25 21:35 J -25080476.73 -25080476.60 -25080476.46 0.0496 0.0342

Venus -73379-01-01 11:44 J -25080256.08 -25080256.01 -25080255.95 0.3802 0.2883

Mars -73379-12-14 22:32 J -25079908.67 -25079908.56 -25079908.45 0.1943 0.0497

Neptune -73376-03-26 08:08 J -25079076.19 -25079076.16 -25079076.09 0.0089 0.0086

Neptune -73376-06-22 11:59 J -25078988.07 -25078988.00 -25078987.89 0.0089 0.0079

Neptune -73376-09-18 15:49 J -25078899.94 -25078899.84 -25078899.71 0.0089 0.0072

Neptune -73376-12-15 19:25 J -25078811.81 -25078811.69 -25078811.54 0.0089 0.0065

Neptune -73375-03-13 23:16 J -25078723.66 -25078723.53 -25078723.37 0.0089 0.0058

Neptune -73375-06-10 02:52 J -25078635.52 -25078635.38 -25078635.20 0.0089 0.0051

Neptune -73375-09-06 06:42 J -25078547.38 -25078547.22 -25078547.03 0.0089 0.0044

Neptune -73375-12-03 10:32 J -25078459.23 -25078459.06 -25078458.87 0.0089 0.0036

Jupiter -73374-01-17 11:59 J -25078414.12 -25078414.00 -25078413.88 0.0531 0.0142

Neptune -73374-03-01 14:37 J -25078371.08 -25078370.89 -25078370.71 0.0089 0.0029

Saturn -73374-03-03 05:01 J -25078369.43 -25078369.29 -25078369.14 0.0269 0.0170

Moon -73374-04-13 22:18 J -25078327.65 -25078327.57 -25078327.50 0.2727 0.1910

Earth -73374-04-13 22:47 J -25078327.63 -25078327.55 -25078327.47 0.2723 0.1774 *

Jupiter -73374-04-16 18:13 J -25078324.84 -25078324.74 -25078324.64 0.0530 0.0315

Neptune -73374-05-28 18:13 J -25078282.93 -25078282.74 -25078282.55 0.0089 0.0022

Saturn -73374-05-31 03:49 J -25078280.54 -25078280.34 -25078280.15 0.0270 0.0026

Venus -73374-07-18 05:01 J -25078232.39 -25078232.29 -25078232.20 0.3799 0.1517

Neptune -73374-08-24 22:04 J -25078194.78 -25078194.58 -25078194.39 0.0089 0.0015

Saturn -73374-08-28 02:08 J -25078191.57 -25078191.41 -25078191.23 0.0271 0.0121

Neptune -73374-11-21 01:40 J -25078106.62 -25078106.43 -25078106.23 0.0089 0.0008

Saturn -73374-11-25 00:42 J -25078102.49 -25078102.47 -25078102.43 0.0272 0.0268

Neptune -73373-02-17 05:30 J -25078018.47 -25078018.27 -25078018.07 0.0089 0.0001

Neptune -73373-05-15 09:06 J -25077930.31 -25077930.12 -25077929.92 0.0089 0.0007

Neptune -73373-08-11 12:56 J -25077842.16 -25077841.96 -25077841.77 0.0089 0.0013

Neptune -73373-11-07 16:32 J -25077754.00 -25077753.81 -25077753.61 0.0089 0.0021

Neptune -73372-02-03 20:08 J -25077665.84 -25077665.66 -25077665.46 0.0089 0.0028

Neptune -73372-05-02 23:59 J -25077577.68 -25077577.50 -25077577.31 0.0089 0.0035

Neptune -73372-07-30 03:35 J -25077489.51 -25077489.35 -25077489.17 0.0088 0.0042

Neptune -73372-10-26 07:25 J -25077401.35 -25077401.19 -25077401.02 0.0088 0.0049

Neptune -73371-01-22 11:01 J -25077313.18 -25077313.04 -25077312.88 0.0088 0.0056

Neptune -73371-04-20 14:37 J -25077225.01 -25077224.89 -25077224.74 0.0088 0.0063

Neptune -73371-07-17 18:28 J -25077136.84 -25077136.73 -25077136.60 0.0088 0.0070

Moon -73371-10-11 15:06 J -25077051.00 -25077050.87 -25077050.74 0.2605 0.1579

Earth -73371-10-11 16:18 J -25077050.95 -25077050.82 -25077050.69 0.2610 0.1554 *

Neptune -73371-10-13 22:04 J -25077048.66 -25077048.58 -25077048.47 0.0088 0.0077

Neptune -73370-01-10 01:40 J -25076960.47 -25076960.43 -25076960.35 0.0088 0.0084

Mars -73369-05-06 06:13 J -25076478.35 -25076478.24 -25076478.13 0.1949 0.0503

Jupiter -73369-12-13 08:52 J -25076257.26 -25076257.13 -25076257.00 0.0495 0.0361

Venus -73368-01-30 22:18 J -25076208.68 -25076208.57 -25076208.46 0.3797 0.0115

Jupiter -73368-03-13 18:56 J -25076166.87 -25076166.71 -25076166.54 0.0496 0.0206

Venus -73363-08-16 15:49 J -25074184.94 -25074184.84 -25074184.74 0.3794 0.1320

Jupiter -73363-11-05 16:32 J -25074103.92 -25074103.81 -25074103.70 0.0531 0.0250

Jupiter -73362-02-02 22:32 J -25074014.67 -25074014.56 -25074014.44 0.0530 0.0206

Uranus -73362-07-27 18:56 J -25073839.73 -25073839.71 -25073839.66 0.0135 0.0131

Uranus -73362-10-23 22:18 J -25073751.64 -25073751.57 -25073751.50 0.0135 0.0114

Uranus -73361-01-20 01:11 J -25073663.53 -25073663.45 -25073663.35 0.0135 0.0098

Moon -73361-04-15 16:18 J -25073576.92 -25073576.82 -25073576.71 0.2732 0.0552

Earth -73361-04-15 16:32 J -25073576.92 -25073576.81 -25073576.71 0.2725 0.0597 *

Uranus -73361-04-17 04:32 J -25073575.42 -25073575.31 -25073575.21 0.0135 0.0081

Saturn -73361-07-12 14:37 J -25073488.97 -25073488.89 -25073488.81 0.0294 0.0226

Uranus -73361-07-14 07:25 J -25073487.30 -25073487.19 -25073487.07 0.0136 0.0065

Saturn -73361-10-09 02:37 J -25073400.51 -25073400.39 -25073400.27 0.0293 0.0102

Uranus -73361-10-10 10:47 J -25073399.18 -25073399.05 -25073398.93 0.0136 0.0048

Mars -73361-11-27 07:25 J -25073351.32 -25073351.19 -25073351.06 0.1606 0.1017

Saturn -73360-01-05 14:23 J -25073312.03 -25073311.90 -25073311.77 0.0292 0.0023

Uranus -73360-01-06 13:54 J -25073311.05 -25073310.92 -25073310.79 0.0136 0.0031

Saturn -73360-04-04 01:54 J -25073223.53 -25073223.42 -25073223.30 0.0291 0.0144

Uranus -73360-04-04 17:01 J -25073222.92 -25073222.79 -25073222.66 0.0136 0.0015

Saturn -73360-07-01 13:40 J -25073134.98 -25073134.93 -25073134.88 0.0290 0.0264

Uranus -73360-07-01 20:08 J -25073134.79 -25073134.66 -25073134.53 0.0136 0.0003

Mars -73360-09-26 14:08 J -25073047.98 -25073047.91 -25073047.84 0.1954 0.1508

Uranus -73360-09-27 23:16 J -25073046.66 -25073046.53 -25073046.40 0.0136 0.0019

Uranus -73360-12-25 02:23 J -25072958.53 -25072958.40 -25072958.27 0.0136 0.0037

Uranus -73359-03-23 05:30 J -25072870.39 -25072870.27 -25072870.14 0.0137 0.0054

Uranus -73359-06-19 08:52 J -25072782.25 -25072782.13 -25072782.02 0.0137 0.0071

Uranus -73359-09-15 11:59 J -25072694.10 -25072694.00 -25072693.90 0.0137 0.0088

Uranus -73359-12-12 15:06 J -25072605.95 -25072605.87 -25072605.78 0.0137 0.0106

Uranus -73358-03-10 18:28 J -25072517.78 -25072517.73 -25072517.67 0.0137 0.0123

Moon -73358-10-14 22:32 J -25072299.72 -25072299.56 -25072299.40 0.2609 0.0571

Earth -73358-10-15 00:28 J -25072299.64 -25072299.48 -25072299.33 0.2608 0.0858 *

Venus -73357-03-01 09:35 J -25072161.18 -25072161.10 -25072161.03 0.3791 0.2778

Jupiter -73357-12-30 15:20 J -25071857.05 -25071856.86 -25071856.68 0.0496 0.0057

Venus -73353-02-27 04:18 J -25070703.36 -25070703.32 -25070703.29 0.3578 0.3427

Pluto -73352-03-06 10:04 J -25070330.13 -25070330.08 -25070330.02 0.0084 0.0077

Pluto -73352-06-02 11:30 J -25070242.10 -25070242.02 -25070241.93 0.0084 0.0066

Pluto -73352-08-29 12:56 J -25070154.06 -25070153.96 -25070153.85 0.0084 0.0055

Pluto -73352-11-25 14:23 J -25070066.01 -25070065.90 -25070065.78 0.0084 0.0044

Pluto -73351-02-21 15:49 J -25069977.96 -25069977.84 -25069977.71 0.0084 0.0033

Mars -73351-04-19 09:20 J -25069921.28 -25069921.11 -25069920.95 0.1601 0.0115

Pluto -73351-05-20 17:16 J -25069889.91 -25069889.78 -25069889.64 0.0084 0.0022

Pluto -73351-08-16 18:42 J -25069801.85 -25069801.72 -25069801.58 0.0083 0.0011

Jupiter -73351-08-24 20:52 J -25069793.72 -25069793.63 -25069793.54 0.0530 0.0360

Pluto -73351-11-12 20:08 J -25069713.80 -25069713.66 -25069713.52 0.0083 0.0001

Jupiter -73351-11-22 02:52 J -25069704.50 -25069704.38 -25069704.25 0.0530 0.0093

Pluto -73350-02-08 21:35 J -25069625.74 -25069625.60 -25069625.47 0.0083 0.0010

Pluto -73350-05-07 22:47 J -25069537.68 -25069537.55 -25069537.41 0.0083 0.0021

Pluto -73350-08-04 00:13 J -25069449.61 -25069449.49 -25069449.36 0.0083 0.0031

Pluto -73350-10-31 01:25 J -25069361.55 -25069361.44 -25069361.31 0.0083 0.0042

Pluto -73349-01-27 02:52 J -25069273.48 -25069273.38 -25069273.27 0.0083 0.0052

Pluto -73349-04-24 03:49 J -25069185.41 -25069185.34 -25069185.23 0.0083 0.0063

Pluto -73349-07-21 05:16 J -25069097.33 -25069097.28 -25069097.20 0.0082 0.0073

Pluto -73349-10-17 06:56 J -25069009.21 -25069009.21 -25069009.21 0.0082 0.0082

Mars -73348-01-22 14:52 J -25068911.95 -25068911.88 -25068911.82 0.1936 0.1606

Earth -73348-04-18 10:04 J -25068826.18 -25068826.08 -25068825.97 0.2726 0.0614

Moon -73348-04-18 10:32 J -25068826.16 -25068826.06 -25068825.95 0.2732 0.0623 *

Venus -73348-09-12 07:25 J -25068679.33 -25068679.19 -25068679.05 0.3581 0.0885

Saturn -73345-07-20 04:04 J -25067637.44 -25067637.33 -25067637.20 0.0268 0.0209

Saturn -73345-10-17 02:52 J -25067548.57 -25067548.38 -25067548.20 0.0269 0.0064

Jupiter -73345-10-18 12:42 J -25067547.16 -25067546.97 -25067546.79 0.0496 0.0082

Saturn -73344-01-14 01:25 J -25067459.62 -25067459.44 -25067459.26 0.0270 0.0081

Jupiter -73344-01-16 22:32 J -25067456.60 -25067456.56 -25067456.52 0.0496 0.0482

Saturn -73344-04-12 23:44 J -25067370.60 -25067370.51 -25067370.39 0.0271 0.0228

Venus -73342-03-29 10:18 J -25066655.19 -25066655.07 -25066654.94 0.3584 0.1575

Mars -73342-09-09 11:01 J -25066491.18 -25066491.04 -25066490.89 0.1597 0.0796

Earth -73341-04-11 09:49 J -25066276.10 -25066276.09 -25066276.08 0.2722 0.2707

Jupiter -73339-06-13 00:28 J -25065483.53 -25065483.48 -25065483.42 0.0531 0.0478

Mars -73339-06-14 22:32 J -25065481.67 -25065481.56 -25065481.45 0.1943 0.0614

Jupiter -73339-09-10 06:42 J -25065394.35 -25065394.22 -25065394.10 0.0530 0.0033

Jupiter -73339-12-08 12:56 J -25065305.03 -25065304.96 -25065304.89 0.0530 0.0430

Earth -73335-04-21 03:49 J -25064075.42 -25064075.34 -25064075.26 0.2728 0.1802

Moon -73335-04-21 04:32 J -25064075.38 -25064075.31 -25064075.23 0.2730 0.1885 *

Jupiter -73333-08-06 10:04 J -25063237.25 -25063237.08 -25063236.91 0.0496 0.0219

Jupiter -73333-11-04 20:08 J -25063146.79 -25063146.66 -25063146.53 0.0496 0.0347

Saturn -73332-11-29 16:47 J -25062756.85 -25062756.80 -25062756.74 0.0294 0.0263

Saturn -73331-02-26 04:47 J -25062668.41 -25062668.30 -25062668.19 0.0293 0.0137

Saturn -73331-05-25 16:32 J -25062579.94 -25062579.81 -25062579.68 0.0292 0.0014

Saturn -73331-08-22 04:18 J -25062491.44 -25062491.32 -25062491.20 0.0291 0.0109

Saturn -73331-11-18 16:04 J -25062402.91 -25062402.83 -25062402.76 0.0290 0.0230

Mars -73330-11-05 06:13 J -25062051.35 -25062051.24 -25062051.12 0.1949 0.0397

Venus -73328-01-22 16:18 J -25061606.83 -25061606.82 -25061606.81 0.3803 0.3778

Moon -73328-04-14 03:06 J -25061525.46 -25061525.37 -25061525.28 0.2728 0.1532

Earth -73328-04-14 03:35 J -25061525.44 -25061525.35 -25061525.26 0.2723 0.1530 *

Jupiter -73327-06-29 10:47 J -25061084.18 -25061084.05 -25061083.93 0.0531 0.0141

Jupiter -73327-09-26 17:01 J -25060994.90 -25060994.79 -25060994.69 0.0530 0.0316

Moon -73325-10-11 21:49 J -25060248.74 -25060248.59 -25060248.45 0.2606 0.1292

Earth -73325-10-11 23:01 J -25060248.69 -25060248.54 -25060248.39 0.2610 0.1087 *

Venus -73323-08-08 09:35 J -25059583.18 -25059583.10 -25059583.02 0.3801 0.2420

Uranus -73322-06-09 18:28 J -25059277.77 -25059277.73 -25059277.68 0.0143 0.0139

Uranus -73322-09-06 02:52 J -25059189.50 -25059189.38 -25059189.25 0.0143 0.0109

Uranus -73322-12-03 11:30 J -25059101.18 -25059101.02 -25059100.86 0.0143 0.0080

Uranus -73321-02-29 19:54 J -25059012.85 -25059012.67 -25059012.49 0.0143 0.0051

Jupiter -73321-05-25 06:57 J -25058927.33 -25058927.21 -25058927.08 0.0495 0.0360

Uranus -73321-05-28 04:18 J -25058924.51 -25058924.32 -25058924.13 0.0143 0.0022

Mars -73321-05-28 08:09 J -25058924.28 -25058924.16 -25058924.04 0.1606 0.1155 *

Jupiter -73321-08-23 17:16 J -25058836.94 -25058836.78 -25058836.61 0.0496 0.0207

Uranus -73321-08-24 12:42 J -25058836.17 -25058835.97 -25058835.78 0.0143 0.0007

Uranus -73321-11-20 20:52 J -25058747.82 -25058747.63 -25058747.44 0.0142 0.0035

Uranus -73320-02-17 05:01 J -25058659.46 -25058659.29 -25058659.11 0.0142 0.0063

Mars -73320-03-27 13:54 J -25058621.00 -25058620.92 -25058620.84 0.1955 0.1413

Uranus -73320-05-16 13:11 J -25058571.09 -25058570.95 -25058570.80 0.0142 0.0091

Uranus -73320-08-12 21:06 J -25058482.71 -25058482.62 -25058482.50 0.0142 0.0119

Venus -73317-02-22 02:52 J -25057559.49 -25057559.38 -25057559.28 0.3799 0.1050

Saturn -73316-12-07 02:09 J -25056905.46 -25056905.41 -25056905.34 0.0268 0.0254

Saturn -73315-03-06 00:42 J -25056816.64 -25056816.47 -25056816.29 0.0269 0.0110

Moon -73315-04-16 21:06 J -25056774.72 -25056774.62 -25056774.51 0.2732 0.0426

Earth -73315-04-16 21:21 J -25056774.72 -25056774.61 -25056774.51 0.2725 0.0356 *

Jupiter -73315-04-17 15:06 J -25056773.98 -25056773.87 -25056773.76 0.0531 0.0252

Saturn -73315-06-02 23:16 J -25056727.72 -25056727.53 -25056727.34 0.0270 0.0036

Jupiter -73315-07-15 21:06 J -25056684.73 -25056684.62 -25056684.50 0.0530 0.0205

Saturn -73315-08-30 22:04 J -25056638.72 -25056638.58 -25056638.44 0.0271 0.0181

Venus -73312-09-06 20:09 J -25055535.76 -25055535.66 -25055535.55 0.3796 0.0398

Moon -73312-10-15 05:16 J -25055497.42 -25055497.28 -25055497.14 0.2609 0.1243

Earth -73312-10-15 07:11 J -25055497.34 -25055497.20 -25055497.06 0.2608 0.1321 *

Mars -73312-10-18 09:49 J -25055494.25 -25055494.09 -25055493.92 0.1601 0.0242

Jupiter -73309-06-11 14:37 J -25054527.08 -25054526.89 -25054526.71 0.0496 0.0068

Mars -73309-07-23 14:52 J -25054484.93 -25054484.88 -25054484.83 0.1937 0.1716

Venus -73306-03-23 13:40 J -25053512.02 -25053511.93 -25053511.83 0.3793 0.1817

Jupiter -73303-02-03 19:25 J -25052463.78 -25052463.69 -25052463.59 0.0531 0.0359

Jupiter -73303-05-04 01:40 J -25052374.55 -25052374.43 -25052374.30 0.0530 0.0096

Mars -73302-03-10 11:45 J -25052064.16 -25052064.01 -25052063.86 0.1597 0.0662

Earth -73302-04-19 14:52 J -25052023.98 -25052023.88 -25052023.77 0.2727 0.0849

Moon -73302-04-19 15:35 J -25052023.95 -25052023.85 -25052023.75 0.2732 0.0969 *

Saturn -73302-07-16 05:59 J -25051936.35 -25051936.25 -25051936.15 0.0293 0.0183

Saturn -73302-10-12 17:45 J -25051847.88 -25051847.76 -25051847.63 0.0292 0.0059

Saturn -73301-01-09 05:30 J -25051759.39 -25051759.27 -25051759.14 0.0291 0.0065

Saturn -73301-04-06 17:16 J -25051670.88 -25051670.78 -25051670.68 0.0290 0.0186

Venus -73301-10-06 07:25 J -25051488.24 -25051488.19 -25051488.13 0.3790 0.3286

Mars -73300-12-13 22:33 J -25051054.66 -25051054.56 -25051054.45 0.1943 0.0732

Jupiter -73297-03-30 10:33 J -25050217.24 -25050217.06 -25050216.87 0.0496 0.0084

Jupiter -73297-06-28 20:37 J -25050126.69 -25050126.64 -25050126.60 0.0496 0.0481

Venus -73297-10-03 04:47 J -25050030.40 -25050030.30 -25050030.20 0.3579 0.2585

Moon -73295-04-12 13:54 J -25049473.95 -25049473.92 -25049473.88 0.2722 0.2520

Earth -73295-04-12 14:37 J -25049473.93 -25049473.89 -25049473.85 0.2722 0.2469 *

Neptune -73295-10-04 16:18 J -25049298.84 -25049298.82 -25049298.77 0.0089 0.0085

Neptune -73295-12-31 17:45 J -25049210.81 -25049210.76 -25049210.70 0.0089 0.0080

Neptune -73294-03-29 18:57 J -25049122.77 -25049122.71 -25049122.63 0.0089 0.0076

Neptune -73294-06-25 20:09 J -25049034.72 -25049034.66 -25049034.57 0.0089 0.0071

Neptune -73294-09-21 21:35 J -25048946.68 -25048946.60 -25048946.50 0.0089 0.0066

Neptune -73294-12-18 23:01 J -25048858.63 -25048858.54 -25048858.44 0.0089 0.0061

Neptune -73293-03-16 00:13 J -25048770.58 -25048770.49 -25048770.38 0.0089 0.0056

Neptune -73293-06-12 01:25 J -25048682.54 -25048682.44 -25048682.32 0.0089 0.0052

Mars -73293-07-30 13:25 J -25048633.97 -25048633.94 -25048633.91 0.1593 0.1564

Neptune -73293-09-08 02:52 J -25048594.49 -25048594.38 -25048594.26 0.0089 0.0047

Neptune -73293-12-05 04:18 J -25048506.44 -25048506.32 -25048506.21 0.0089 0.0042

Neptune -73292-03-03 05:30 J -25048418.39 -25048418.27 -25048418.15 0.0089 0.0037

Neptune -73292-05-30 06:42 J -25048330.33 -25048330.22 -25048330.09 0.0089 0.0033

Neptune -73292-08-26 08:09 J -25048242.28 -25048242.16 -25048242.03 0.0089 0.0028

Neptune -73292-11-22 09:35 J -25048154.23 -25048154.10 -25048153.98 0.0089 0.0023

Jupiter -73292-11-22 23:45 J -25048153.56 -25048153.51 -25048153.45 0.0531 0.0469

Neptune -73291-02-18 10:47 J -25048066.18 -25048066.05 -25048065.92 0.0089 0.0018

Jupiter -73291-02-20 05:59 J -25048064.38 -25048064.25 -25048064.13 0.0530 0.0024

Venus   -73291-04-19 08:09 J -25048006.31 -25048006.16 -25048006.02 0.3582 0.0087

Neptune -73291-05-17 11:59 J -25047978.13 -25047978.00 -25047977.87 0.0089 0.0014

Jupiter -73291-05-20 12:13 J -25047975.06 -25047974.99 -25047974.92 0.0529 0.0439

Neptune -73291-08-13 13:25 J -25047890.07 -25047889.94 -25047889.81 0.0089 0.0009

Neptune -73291-11-09 14:37 J -25047802.02 -25047801.89 -25047801.76 0.0089 0.0004

Neptune -73290-02-05 16:04 J -25047713.96 -25047713.83 -25047713.70 0.0089 0.0002

Neptune -73290-05-04 17:16 J -25047625.91 -25047625.78 -25047625.65 0.0089 0.0006

Mars   -73290-05-06 06:13 J -25047624.35 -25047624.24 -25047624.13 0.1949 0.0289

Neptune -73290-07-31 18:42 J -25047537.85 -25047537.72 -25047537.59 0.0089 0.0011

Neptune -73290-10-27 19:54 J -25047449.80 -25047449.67 -25047449.54 0.0089 0.0015

Neptune -73289-01-23 21:06 J -25047361.74 -25047361.62 -25047361.49 0.0089 0.0020

Neptune -73289-04-20 22:33 J -25047273.69 -25047273.56 -25047273.43 0.0089 0.0025

Earth   -73289-04-21 08:37 J -25047273.21 -25047273.14 -25047273.07 0.2728 0.2046

Moon   -73289-04-21 09:21 J -25047273.17 -25047273.11 -25047273.04 0.2729 0.2109 *

Neptune -73289-07-17 23:45 J -25047185.63 -25047185.51 -25047185.38 0.0089 0.0030

Neptune -73289-10-14 00:57 J -25047097.57 -25047097.46 -25047097.33 0.0089 0.0035

Neptune -73288-01-10 02:09 J -25047009.51 -25047009.41 -25047009.28 0.0089 0.0040

Neptune -73288-04-08 03:35 J -25046921.46 -25046921.35 -25046921.23 0.0089 0.0044

Neptune -73288-07-05 05:01 J -25046833.40 -25046833.29 -25046833.18 0.0089 0.0049

Neptune -73288-10-01 06:13 J -25046745.34 -25046745.24 -25046745.13 0.0089 0.0054

Neptune -73288-12-28 07:25 J -25046657.28 -25046657.19 -25046657.08 0.0089 0.0059

Neptune -73287-03-26 08:52 J -25046569.22 -25046569.13 -25046569.03 0.0089 0.0063

Neptune -73287-06-22 10:04 J -25046481.15 -25046481.08 -25046480.99 0.0089 0.0068

Neptune -73287-09-18 11:30 J -25046393.09 -25046393.02 -25046392.94 0.0089 0.0073

Neptune -73287-12-15 12:42 J -25046305.02 -25046304.97 -25046304.90 0.0089 0.0078

Neptune -73286-03-13 13:54 J -25046216.95 -25046216.92 -25046216.86 0.0089 0.0083

Neptune -73286-06-09 15:21 J -25046128.87 -25046128.86 -25046128.83 0.0089 0.0087

Saturn -73286-07-24 00:28 J -25046084.64 -25046084.48 -25046084.32 0.0269 0.0146

Saturn -73286-10-20 23:01 J -25045995.73 -25045995.54 -25045995.35 0.0269 0.0004

Venus -73286-11-03 10:47 J -25045982.15 -25045982.05 -25045981.94 0.3585 0.2375

Jupiter -73285-01-17 07:40 J -25045907.34 -25045907.18 -25045907.01 0.0496 0.0223

Saturn -73285-01-17 21:35 J -25045906.76 -25045906.60 -25045906.44 0.0270 0.0145

Jupiter -73285-04-16 17:45 J -25045816.88 -25045816.76 -25045816.62 0.0496 0.0344

Moon -73282-04-15 07:54 J -25044723.26 -25044723.17 -25044723.08 0.2730 0.1393

Earth -73282-04-15 08:23 J -25044723.25 -25044723.15 -25044723.06 0.2724 0.1288 *

Mars -73282-11-27 08:52 J -25044497.23 -25044497.13 -25044497.03 0.1606 0.1296

Mars -73281-09-25 14:09 J -25044194.00 -25044193.91 -25044193.83 0.1954 0.1290

Jupiter -73280-12-09 09:35 J -25043754.22 -25043754.10 -25043753.98 0.0530 0.0137

Jupiter -73279-03-08 15:49 J -25043664.95 -25043664.84 -25043664.74 0.0530 0.0319

Moon -73279-10-13 04:18 J -25043446.48 -25043446.32 -25043446.16 0.2607 0.0731

Earth -73279-10-13 05:59 J -25043446.41 -25043446.25 -25043446.09 0.2610 0.0614 *

Uranus -73278-08-17 02:52 J -25043138.43 -25043138.38 -25043138.33 0.0135 0.0125

Uranus -73278-11-13 05:45 J -25043050.33 -25043050.26 -25043050.18 0.0135 0.0109

Uranus -73277-02-09 08:52 J -25042962.22 -25042962.13 -25042962.03 0.0135 0.0092

Uranus -73277-05-07 11:59 J -25042874.10 -25042874.00 -25042873.89 0.0136 0.0076

Uranus -73277-08-03 15:06 J -25042785.99 -25042785.87 -25042785.75 0.0136 0.0059

Uranus -73277-10-30 18:13 J -25042697.86 -25042697.74 -25042697.61 0.0136 0.0043

Uranus -73276-01-26 21:21 J -25042609.74 -25042609.61 -25042609.48 0.0136 0.0026

Uranus -73276-04-25 00:28 J -25042521.61 -25042521.48 -25042521.35 0.0136 0.0009

Uranus -73276-07-22 03:35 J -25042433.48 -25042433.35 -25042433.21 0.0136 0.0008

Uranus -73276-10-18 06:42 J -25042345.35 -25042345.22 -25042345.09 0.0136 0.0025

Uranus -73275-01-14 10:04 J -25042257.21 -25042257.08 -25042256.96 0.0137 0.0042

Uranus -73275-04-12 13:11 J -25042169.07 -25042168.95 -25042168.83 0.0137 0.0059

Uranus -73275-07-09 16:18 J -25042080.93 -25042080.82 -25042080.71 0.0137 0.0076

Uranus -73275-10-05 19:25 J -25041992.78 -25041992.69 -25041992.59 0.0137 0.0094

Uranus -73274-01-01 22:47 J -25041904.62 -25041904.55 -25041904.47 0.0137 0.0111

Uranus -73274-03-31 01:54 J -25041816.45 -25041816.42 -25041816.37 0.0137 0.0129

Jupiter -73274-11-05 05:01 J -25041597.41 -25041597.29 -25041597.16 0.0496 0.0361

Jupiter -73273-02-03 15:21 J -25041507.02 -25041506.86 -25041506.69 0.0496 0.0208

Saturn -73273-12-02 08:37 J -25041204.23 -25041204.14 -25041204.05 0.0294 0.0215

Saturn -73272-02-28 20:23 J -25041115.77 -25041115.65 -25041115.52 0.0293 0.0091

Mars -73272-04-18 10:47 J -25041067.22 -25041067.05 -25041066.89 0.1601 0.0386

Saturn -73272-05-28 08:09 J -25041027.29 -25041027.16 -25041027.03 0.0292 0.0033

Saturn -73272-08-24 19:54 J -25040938.78 -25040938.67 -25040938.56 0.0291 0.0155

Venus -73272-08-29 14:09 J -25040933.96 -25040933.91 -25040933.86 0.3803 0.3324

Saturn -73272-11-21 07:25 J -25040850.22 -25040850.19 -25040850.14 0.0290 0.0275

Mars -73269-01-22 14:52 J -25040057.92 -25040057.88 -25040057.85 0.1936 0.1827

Moon -73269-04-17 02:09 J -25039972.52 -25039972.41 -25039972.30 0.2732 0.0041

Earth -73269-04-17 02:09 J -25039972.52 -25039972.41 -25039972.31 0.2725 0.0135 *

Jupiter -73268-09-27 13:25 J -25039444.05 -25039443.94 -25039443.82 0.0531 0.0253

Jupiter -73268-12-25 19:40 J -25039354.80 -25039354.68 -25039354.56 0.0530 0.0203

Venus -73266-03-15 07:25 J -25038910.28 -25038910.19 -25038910.10 0.3800 0.1961

Moon -73266-10-16 11:59 J -25038695.13 -25038695.00 -25038694.87 0.2609 0.1494

Earth -73266-10-16 13:54 J -25038695.04 -25038694.92 -25038694.80 0.2608 0.1784 *

Mars -73263-09-08 12:28 J -25037637.14 -25037636.98 -25037636.83 0.1597 0.0529

Jupiter -73262-11-22 12:28 J -25037197.16 -25037196.98 -25037196.79 0.0496 0.0066

Venus -73261-09-28 00:42 J -25036886.57 -25036886.47 -25036886.36 0.3798 0.0565

Mars -73260-06-13 22:33 J -25036627.66 -25036627.56 -25036627.46 0.1943 0.0826

Saturn -73257-12-09 23:01 J -25035352.67 -25035352.54 -25035352.40 0.0269 0.0187

Saturn -73256-03-08 21:35 J -25035263.79 -25035263.60 -25035263.41 0.0270 0.0043

Earth -73256-04-19 19:40 J -25035221.77 -25035221.68 -25035221.58 0.2727 0.1097

Moon -73256-04-19 20:23 J -25035221.75 -25035221.65 -25035221.55 0.2732 0.1101 *

Saturn -73256-06-05 20:09 J -25035174.83 -25035174.66 -25035174.48 0.0270 0.0103

Jupiter -73256-07-16 17:45 J -25035133.85 -25035133.76 -25035133.67 0.0531 0.0364

Saturn -73256-09-02 18:57 J -25035085.79 -25035085.71 -25035085.64 0.0271 0.0250

Jupiter -73256-10-13 23:59 J -25035044.63 -25035044.50 -25035044.38 0.0530 0.0092

Venus -73255-04-13 18:13 J -25034862.85 -25034862.74 -25034862.64 0.3795 0.0862

Mars -73253-01-29 14:09 J -25034206.98 -25034206.91 -25034206.84 0.1594 0.1430

Mars -73251-11-04 06:28 J -25033197.35 -25033197.23 -25033197.12 0.1949 0.0185

Jupiter -73250-09-10 09:35 J -25032887.29 -25032887.10 -25032886.92 0.0495 0.0076

Venus -73250-10-28 11:45 J -25032839.09 -25032839.01 -25032838.92 0.3792 0.2317

Jupiter -73250-12-09 19:11 J -25032796.72 -25032796.70 -25032796.66 0.0496 0.0488

Moon -73249-04-12 18:57 J -25032671.77 -25032671.71 -25032671.66 0.2724 0.2317

Earth -73249-04-12 19:25 J -25032671.75 -25032671.69 -25032671.63 0.2722 0.2226 *

Earth -73246-10-11 04:33 J -25031395.34 -25031395.31 -25031395.28 0.2612 0.2558

Jupiter -73244-05-04 22:18 J -25030823.62 -25030823.57 -25030823.51 0.0531 0.0471

Jupiter -73244-08-02 04:18 J -25030734.44 -25030734.32 -25030734.19 0.0530 0.0024

Jupiter -73244-10-30 10:47 J -25030645.12 -25030645.05 -25030644.98 0.0530 0.0439

Saturn -73243-04-21 10:18 J -25030472.13 -25030472.07 -25030472.01 0.0294 0.0256

Earth -73243-04-22 13:40 J -25030470.99 -25030470.93 -25030470.88 0.2728 0.2286

Moon -73243-04-22 14:09 J -25030470.95 -25030470.91 -25030470.86 0.2727 0.2409 *

Saturn -73243-07-18 22:04 J -25030383.69 -25030383.58 -25030383.46 0.0293 0.0132

Saturn -73243-10-15 09:49 J -25030295.22 -25030295.09 -25030294.96 0.0292 0.0012

Saturn -73242-01-11 21:35 J -25030206.72 -25030206.60 -25030206.48 0.0291 0.0114

Saturn -73242-04-10 09:21 J -25030118.18 -25030118.11 -25030118.04 0.0290 0.0235

Mars -73242-05-28 09:35 J -25030070.18 -25030070.10 -25030070.03 0.1606 0.1429

Mars -73241-03-26 14:09 J -25029767.00 -25029766.91 -25029766.82 0.1954 0.1184

Venus -73240-05-10 05:30 J -25029357.40 -25029357.27 -25029357.14 0.3580 0.1737

Jupiter -73238-06-29 05:16 J -25028577.45 -25028577.28 -25028577.11 0.0496 0.0229

Uranus -73238-06-30 02:23 J -25028576.47 -25028576.40 -25028576.32 0.0143 0.0130

Uranus -73238-09-26 10:47 J -25028488.18 -25028488.05 -25028487.90 0.0143 0.0101

Jupiter -73238-09-27 15:21 J -25028486.99 -25028486.86 -25028486.72 0.0496 0.0338

Uranus -73238-12-23 19:25 J -25028399.86 -25028399.69 -25028399.52 0.0143 0.0072

Uranus -73237-03-21 03:49 J -25028311.52 -25028311.34 -25028311.15 0.0143 0.0043

Uranus -73237-06-17 12:13 J -25028223.18 -25028222.99 -25028222.80 0.0143 0.0014

Uranus -73237-09-13 20:23 J -25028134.84 -25028134.65 -25028134.45 0.0142 0.0015

Uranus -73237-12-11 04:47 J -25028046.48 -25028046.30 -25028046.12 0.0142 0.0043

Uranus -73236-03-09 12:42 J -25027958.12 -25027957.97 -25027957.79 0.0142 0.0071

Moon -73236-04-15 12:42 J -25027921.07 -25027920.97 -25027920.87 0.2730 0.1058

Earth -73236-04-15 13:11 J -25027921.05 -25027920.95 -25027920.85 0.2724 0.1047 *

Uranus -73236-06-05 20:52 J -25027869.76 -25027869.63 -25027869.48 0.0142 0.0099

Uranus -73236-09-02 05:16 J -25027781.36 -25027781.28 -25027781.20 0.0142 0.0126

Venus -73235-11-24 08:37 J -25027333.28 -25027333.14 -25027333.00 0.3583 0.0782

Moon -73233-10-13 11:01 J -25026644.21 -25026644.04 -25026643.88 0.2608 0.0322

Earth -73233-10-13 12:42 J -25026644.13 -25026643.97 -25026643.81 0.2610 0.0138 *

Mars -73233-10-17 11:16 J -25026640.18 -25026640.03 -25026639.87 0.1602 0.0523

Jupiter -73232-05-21 08:37 J -25026424.26 -25026424.14 -25026424.02 0.0530 0.0130

Jupiter -73232-08-18 14:52 J -25026334.98 -25026334.88 -25026334.78 0.0530 0.0326

Venus -73229-06-09 11:16 J -25025309.10 -25025309.03 -25025308.97 0.3586 0.3171

Saturn -73227-04-28 23:01 J -25024620.64 -25024620.54 -25024620.43 0.0268 0.0220

Saturn -73227-07-26 21:35 J -25024531.78 -25024531.60 -25024531.41 0.0269 0.0077

Saturn -73227-10-23 20:09 J -25024442.84 -25024442.66 -25024442.47 0.0270 0.0069

Saturn -73226-01-20 18:42 J -25024353.83 -25024353.72 -25024353.60 0.0271 0.0216

Jupiter -73226-04-17 02:09 J -25024267.53 -25024267.41 -25024267.28 0.0496 0.0370

Jupiter -73226-07-16 12:42 J -25024177.14 -25024176.97 -25024176.80 0.0496 0.0199

Mars -73223-03-09 13:11 J -25023210.12 -25023209.95 -25023209.79 0.1597 0.0388

Earth -73223-04-18 06:57 J -25023170.32 -25023170.21 -25023170.11 0.2725 0.0169

Moon -73223-04-18 07:11 J -25023170.31 -25023170.20 -25023170.10 0.2732 0.0148 *

Mars -73221-12-12 22:33 J -25022200.66 -25022200.56 -25022200.46 0.1943 0.0942

Jupiter -73220-03-09 12:13 J -25022114.10 -25022113.99 -25022113.88 0.0530 0.0252

Jupiter -73220-06-06 18:13 J -25022024.85 -25022024.74 -25022024.62 0.0530 0.0204

Moon -73220-10-16 18:57 J -25021892.80 -25021892.71 -25021892.62 0.2609 0.2166

Earth -73220-10-16 20:37 J -25021892.72 -25021892.64 -25021892.56 0.2608 0.2253 *

Venus -73215-04-05 11:59 J -25020261.07 -25020261.00 -25020260.93 0.3802 0.2869

Jupiter -73214-05-04 10:04 J -25019867.26 -25019867.08 -25019866.89 0.0496 0.0062

Mars -73214-07-30 14:52 J -25019779.97 -25019779.88 -25019779.78 0.1593 0.1289

Saturn -73214-09-08 13:11 J -25019739.97 -25019739.95 -25019739.92 0.0295 0.0285

Saturn -73214-12-06 01:11 J -25019651.56 -25019651.45 -25019651.34 0.0294 0.0160

Saturn -73213-03-03 12:57 J -25019563.09 -25019562.96 -25019562.83 0.0293 0.0036

Saturn -73213-05-31 00:42 J -25019474.59 -25019474.47 -25019474.35 0.0292 0.0087

Saturn -73213-08-27 12:13 J -25019386.07 -25019385.99 -25019385.89 0.0291 0.0209

Neptune -73212-12-21 06:28 J -25018905.27 -25018905.23 -25018905.14 0.0089 0.0084

Neptune -73211-03-19 10:18 J -25018817.15 -25018817.07 -25018816.95 0.0089 0.0077

Mars -73211-05-05 06:13 J -25018770.35 -25018770.24 -25018770.12 0.1948 0.0082

Neptune -73211-06-15 13:54 J -25018729.02 -25018728.92 -25018728.77 0.0089 0.0070

Neptune -73211-09-11 17:45 J -25018640.88 -25018640.76 -25018640.60 0.0089 0.0063

Neptune -73211-12-08 21:35 J -25018552.74 -25018552.60 -25018552.43 0.0089 0.0056

Neptune -73210-03-07 01:40 J -25018464.59 -25018464.43 -25018464.26 0.0089 0.0048

Earth -73210-04-21 00:28 J -25018419.57 -25018419.48 -25018419.38 0.2727 0.1338

Moon -73210-04-21 01:11 J -25018419.54 -25018419.45 -25018419.36 0.2731 0.1469 *

Neptune -73210-06-03 05:16 J -25018376.45 -25018376.28 -25018376.10 0.0089 0.0041

Neptune -73210-08-30 09:06 J -25018288.30 -25018288.12 -25018287.93 0.0089 0.0034

Venus -73210-10-20 05:16 J -25018237.38 -25018237.28 -25018237.18 0.3800 0.1491

Neptune -73210-11-26 12:42 J -25018200.15 -25018199.97 -25018199.77 0.0089 0.0027

Neptune -73209-02-22 16:33 J -25018112.00 -25018111.81 -25018111.61 0.0089 0.0020

Neptune -73209-05-20 20:23 J -25018023.85 -25018023.65 -25018023.45 0.0089 0.0013

Neptune -73209-08-16 23:59 J -25017935.69 -25017935.50 -25017935.30 0.0089 0.0006

Neptune -73209-11-13 03:49 J -25017847.54 -25017847.34 -25017847.14 0.0089 0.0002

Jupiter -73209-12-26 16:04 J -25017803.92 -25017803.83 -25017803.74 0.0531 0.0368

Neptune -73208-02-09 07:25 J -25017759.38 -25017759.19 -25017758.99 0.0089 0.0009

Jupiter -73208-03-25 22:18 J -25017714.70 -25017714.57 -25017714.45 0.0530 0.0088

Neptune -73208-05-08 11:16 J -25017671.22 -25017671.03 -25017670.84 0.0089 0.0016

Neptune -73208-08-04 14:52 J -25017583.06 -25017582.88 -25017582.68 0.0089 0.0023

Neptune -73208-10-31 18:42 J -25017494.90 -25017494.72 -25017494.53 0.0089 0.0030

Neptune -73207-01-27 22:18 J -25017406.74 -25017406.57 -25017406.39 0.0089 0.0037

Neptune -73207-04-26 02:09 J -25017318.58 -25017318.41 -25017318.24 0.0089 0.0044

Neptune -73207-07-23 05:45 J -25017230.42 -25017230.26 -25017230.10 0.0089 0.0051

Neptune -73207-10-19 09:35 J -25017142.25 -25017142.10 -25017141.95 0.0089 0.0058

Neptune -73206-01-15 13:11 J -25017054.08 -25017053.95 -25017053.81 0.0089 0.0065

Neptune -73206-04-13 17:01 J -25016965.90 -25016965.79 -25016965.68 0.0089 0.0072

Neptune -73206-07-10 20:37 J -25016877.72 -25016877.64 -25016877.55 0.0089 0.0079

Neptune -73206-10-07 00:13 J -25016789.53 -25016789.49 -25016789.44 0.0088 0.0086

Venus -73204-05-04 22:33 J -25016213.66 -25016213.56 -25016213.45 0.3797 0.0175

Moon -73203-04-13 23:45 J -25015869.58 -25015869.51 -25015869.44 0.2726 0.2079

Earth -73203-04-14 00:13 J -25015869.56 -25015869.49 -25015869.42 0.2722 0.1984 *

Mars -73203-11-26 10:18 J -25015643.10 -25015643.07 -25015643.04 0.1606 0.1569

Jupiter -73202-02-20 06:57 J -25015557.39 -25015557.21 -25015557.02 0.0495 0.0082

Jupiter -73202-05-21 16:47 J -25015466.83 -25015466.80 -25015466.75 0.0496 0.0483

Mars -73202-09-25 13:54 J -25015340.01 -25015339.92 -25015339.82 0.1954 0.1083

Moon -73200-10-11 10:18 J -25014593.16 -25014593.07 -25014592.97 0.2607 0.2109

Earth -73200-10-11 11:30 J -25014593.12 -25014593.02 -25014592.93 0.2612 0.2084 *

Venus -73199-11-18 16:04 J -25014189.93 -25014189.83 -25014189.73 0.3794 0.1362

Saturn -73198-09-15 22:47 J -25013888.60 -25013888.55 -25013888.49 0.0268 0.0256

Pluto -73198-11-26 05:01 J -25013817.32 -25013817.29 -25013817.23 0.0060 0.0058

Saturn -73198-12-13 21:06 J -25013799.79 -25013799.62 -25013799.44 0.0269 0.0112

Pluto -73197-02-22 05:59 J -25013729.31 -25013729.25 -25013729.13 0.0060 0.0053

Saturn -73197-03-11 19:54 J -25013710.86 -25013710.67 -25013710.48 0.0270 0.0033

Earth -73197-04-22 18:28 J -25013668.77 -25013668.73 -25013668.70 0.2728 0.2534

Moon -73197-04-22 18:57 J -25013668.74 -25013668.71 -25013668.67 0.2726 0.2558 *

Pluto -73197-05-20 07:40 J -25013641.28 -25013641.18 -25013641.06 0.0060 0.0048

Saturn -73197-06-08 18:13 J -25013621.87 -25013621.74 -25013621.59 0.0271 0.0180

Pluto -73197-08-16 08:52 J -25013553.25 -25013553.13 -25013552.99 0.0060 0.0042

Jupiter -73197-10-14 20:23 J -25013493.70 -25013493.65 -25013493.60 0.0531 0.0481

Pluto -73197-11-12 09:49 J -25013465.21 -25013465.09 -25013464.92 0.0060 0.0038

Jupiter -73196-01-12 02:23 J -25013404.53 -25013404.40 -25013404.27 0.0531 0.0028

Pluto -73196-02-08 11:30 J -25013377.17 -25013377.02 -25013376.85 0.0060 0.0031

Jupiter -73196-04-11 08:37 J -25013315.21 -25013315.14 -25013315.07 0.0530 0.0430

Pluto -73196-05-07 12:28 J -25013289.13 -25013288.98 -25013288.79 0.0060 0.0027

Pluto -73196-08-03 14:09 J -25013201.08 -25013200.91 -25013200.73 0.0060 0.0021

Pluto -73196-10-30 15:06 J -25013113.03 -25013112.87 -25013112.67 0.0060 0.0016

Pluto -73195-01-26 16:47 J -25013024.98 -25013024.80 -25013024.62 0.0061 0.0010

Pluto -73195-04-24 17:59 J -25012936.93 -25012936.75 -25012936.56 0.0061 0.0004

Pluto -73195-07-21 19:25 J -25012848.88 -25012848.69 -25012848.50 0.0061 0.0002

Pluto -73195-10-17 20:37 J -25012760.82 -25012760.64 -25012760.45 0.0061 0.0007

Pluto -73194-01-13 21:49 J -25012672.76 -25012672.59 -25012672.40 0.0061 0.0013

Pluto -73194-04-11 23:16 J -25012584.70 -25012584.53 -25012584.35 0.0061 0.0018

Pluto -73194-07-09 00:28 J -25012496.64 -25012496.48 -25012496.30 0.0061 0.0024

Uranus -73194-09-06 09:49 J -25012437.14 -25012437.09 -25012437.02 0.0135 0.0121

Pluto -73194-10-05 01:40 J -25012408.58 -25012408.43 -25012408.25 0.0061 0.0030

Uranus -73194-12-03 13:11 J -25012349.03 -25012348.95 -25012348.87 0.0135 0.0105

Pluto -73193-01-01 03:21 J -25012320.51 -25012320.36 -25012320.21 0.0061 0.0035

Uranus -73193-02-29 16:04 J -25012260.92 -25012260.83 -25012260.73 0.0136 0.0089

Pluto -73193-03-29 04:33 J -25012232.44 -25012232.31 -25012232.16 0.0061 0.0041

Mars -73193-04-17 11:59 J -25012213.16 -25012213.00 -25012212.85 0.1602 0.0651

Uranus -73193-05-27 19:11 J -25012172.81 -25012172.70 -25012172.58 0.0136 0.0072

Venus -73193-06-03 09:49 J -25012166.16 -25012166.09 -25012166.02 0.3792 0.2827

Pluto -73193-06-25 05:45 J -25012144.36 -25012144.26 -25012144.13 0.0061 0.0047

Uranus -73193-08-23 22:18 J -25012084.69 -25012084.57 -25012084.45 0.0136 0.0056

Pluto -73193-09-21 06:57 J -25012056.28 -25012056.21 -25012056.09 0.0061 0.0053

Uranus -73193-11-20 01:25 J -25011996.56 -25011996.44 -25011996.31 0.0136 0.0039

Pluto -73193-12-18 08:52 J -25011968.18 -25011968.13 -25011968.08 0.0061 0.0059

Uranus -73192-02-16 04:33 J -25011908.44 -25011908.31 -25011908.18 0.0136 0.0022

Uranus -73192-05-15 07:40 J -25011820.31 -25011820.18 -25011820.05 0.0136 0.0006

Uranus -73192-08-11 10:47 J -25011732.18 -25011732.05 -25011731.91 0.0136 0.0012

Uranus -73192-11-07 13:54 J -25011644.04 -25011643.92 -25011643.79 0.0136 0.0029

Uranus -73191-02-03 17:16 J -25011555.91 -25011555.78 -25011555.66 0.0137 0.0046

Uranus -73191-05-02 20:23 J -25011467.77 -25011467.65 -25011467.53 0.0137 0.0063

Uranus -73191-07-29 23:30 J -25011379.62 -25011379.52 -25011379.41 0.0137 0.0080

Uranus -73191-10-26 02:37 J -25011291.47 -25011291.39 -25011291.29 0.0137 0.0098

Jupiter -73191-12-09 03:49 J -25011247.50 -25011247.34 -25011247.17 0.0495 0.0224

Uranus -73190-01-22 05:59 J -25011203.32 -25011203.25 -25011203.18 0.0137 0.0115

Jupiter -73190-03-09 13:54 J -25011157.05 -25011156.92 -25011156.78 0.0496 0.0342

Moon -73190-04-16 17:45 J -25011118.86 -25011118.76 -25011118.66 0.2730 0.0873

Earth -73190-04-16 17:59 J -25011118.85 -25011118.75 -25011118.65 0.2724 0.0803 *

Uranus -73190-04-20 09:21 J -25011115.14 -25011115.11 -25011115.08 0.0137 0.0133

Venus -73189-05-31 02:37 J -25010708.42 -25010708.39 -25010708.36 0.3578 0.3473

Moon -73187-10-14 17:45 J -25009841.93 -25009841.76 -25009841.60 0.2608 0.0143

Earth -73187-10-14 19:25 J -25009841.85 -25009841.69 -25009841.52 0.2610 0.0336 *

Jupiter -73185-10-31 06:57 J -25009094.34 -25009094.21 -25009094.09 0.0531 0.0137

Jupiter -73184-01-28 13:11 J -25009005.05 -25009004.95 -25009004.85 0.0530 0.0321

Saturn -73184-04-24 03:06 J -25008919.46 -25008919.37 -25008919.27 0.0293 0.0198

Saturn -73184-07-21 14:52 J -25008831.00 -25008830.88 -25008830.75 0.0292 0.0074

Mars -73184-09-07 13:54 J -25008783.09 -25008782.92 -25008782.75 0.1598 0.0250

Saturn -73184-10-18 02:37 J -25008742.51 -25008742.39 -25008742.26 0.0292 0.0050

Venus -73184-12-15 06:13 J -25008684.38 -25008684.24 -25008684.10 0.3581 0.0887

Saturn -73183-01-14 14:23 J -25008654.00 -25008653.90 -25008653.79 0.0291 0.0171

Mars -73181-06-12 22:47 J -25007773.65 -25007773.55 -25007773.46 0.1942 0.1063

Jupiter -73179-09-26 23:30 J -25006937.64 -25006937.52 -25006937.40 0.0495 0.0378

Jupiter -73179-12-26 09:49 J -25006847.26 -25006847.09 -25006846.92 0.0496 0.0190

Venus -73178-07-01 09:06 J -25006660.25 -25006660.12 -25006659.99 0.3583 0.1601

Earth -73177-04-18 11:45 J -25006368.12 -25006368.01 -25006367.91 0.2726 0.0391

Moon -73177-04-18 11:59 J -25006368.11 -25006368.00 -25006367.90 0.2732 0.0470 *

Mars -73174-01-28 15:35 J -25005352.96 -25005352.85 -25005352.73 0.1594 0.1153

Moon -73174-10-18 01:54 J -25005090.46 -25005090.42 -25005090.38 0.2610 0.2515

Jupiter -73173-08-19 11:01 J -25004784.15 -25004784.04 -25004783.93 0.0531 0.0248

Jupiter -73173-11-16 17:16 J -25004694.90 -25004694.78 -25004694.67 0.0530 0.0208

Mars -73172-11-03 06:13 J -25004343.35 -25004343.24 -25004343.12 0.1948 0.0066

Saturn -73168-05-01 21:06 J -25003067.77 -25003067.62 -25003067.45 0.0269 0.0146

Saturn -73168-07-29 19:54 J -25002978.86 -25002978.67 -25002978.48 0.0270 0.0002

Saturn -73168-10-26 18:28 J -25002889.89 -25002889.73 -25002889.57 0.0270 0.0146

Jupiter -73167-10-14 06:57 J -25002537.40 -25002537.21 -25002537.03 0.0496 0.0050

Earth -73164-04-21 05:30 J -25001617.36 -25001617.27 -25001617.19 0.2727 0.1579

Moon -73164-04-21 05:59 J -25001617.33 -25001617.25 -25001617.16 0.2729 0.1596 *

Venus -73164-04-26 16:47 J -25001611.81 -25001611.80 -25001611.79 0.3804 0.3765

Mars -73162-03-26 14:09 J -25000913.01 -25000912.91 -25000912.82 0.1954 0.0969

Jupiter -73161-06-07 14:37 J -25000473.98 -25000473.89 -25000473.80 0.0530 0.0370

Jupiter -73161-09-04 20:37 J -25000384.76 -25000384.64 -25000384.51 0.0530 0.0084

Venus -73159-11-10 09:49 J -24999588.17 -24999588.09 -24999588.01 0.3801 0.2408

Moon -73157-04-14 04:33 J -24999067.39 -24999067.31 -24999067.23 0.2726 0.1786

Earth -73157-04-14 05:01 J -24999067.37 -24999067.29 -24999067.21 0.2722 0.1739 *

Jupiter -73155-08-02 04:18 J -24998227.51 -24998227.32 -24998227.14 0.0496 0.0089

Saturn -73155-09-11 06:28 J -24998187.31 -24998187.23 -24998187.15 0.0294 0.0223

Jupiter -73155-10-31 14:09 J -24998136.95 -24998136.91 -24998136.86 0.0496 0.0477

Saturn -73155-12-08 18:13 J -24998098.86 -24998098.74 -24998098.61 0.0293 0.0099

Saturn -73154-03-07 05:59 J -24998010.37 -24998010.25 -24998010.12 0.0292 0.0027

Saturn -73154-06-03 17:45 J -24997921.87 -24997921.76 -24997921.65 0.0291 0.0147

Uranus -73154-07-20 10:18 J -24997875.17 -24997875.07 -24997874.97 0.0143 0.0123

Saturn -73154-08-31 05:16 J -24997833.32 -24997833.28 -24997833.22 0.0290 0.0268

Moon -73154-10-12 16:47 J -24997790.91 -24997790.80 -24997790.68 0.2607 0.1843

Earth -73154-10-12 18:13 J -24997790.87 -24997790.74 -24997790.62 0.2611 0.1617 *

Uranus -73154-10-16 18:42 J -24997786.86 -24997786.72 -24997786.57 0.0143 0.0093

Mars -73154-10-17 12:42 J -24997786.11 -24997785.97 -24997785.82 0.1602 0.0798

Uranus -73153-01-13 03:21 J -24997698.54 -24997698.36 -24997698.19 0.0143 0.0064

Uranus -73153-04-10 11:30 J -24997610.20 -24997610.02 -24997609.83 0.0143 0.0036

Venus -73153-05-26 03:06 J -24997564.47 -24997564.37 -24997564.26 0.3799 0.1019

Uranus -73153-07-07 19:54 J -24997521.86 -24997521.67 -24997521.47 0.0143 0.0007

Uranus -73153-10-04 04:18 J -24997433.51 -24997433.32 -24997433.13 0.0142 0.0022

Uranus -73153-12-31 12:28 J -24997345.16 -24997344.98 -24997344.80 0.0142 0.0050

Uranus -73152-03-29 20:37 J -24997256.80 -24997256.64 -24997256.48 0.0142 0.0078

Uranus -73152-06-26 04:47 J -24997168.42 -24997168.30 -24997168.17 0.0142 0.0106

Uranus -73152-09-22 12:42 J -24997080.02 -24997079.97 -24997079.90 0.0142 0.0134

Jupiter -73149-03-26 18:28 J -24996163.78 -24996163.73 -24996163.68 0.0531 0.0486

Jupiter -73149-06-24 00:28 J -24996074.60 -24996074.48 -24996074.35 0.0530 0.0035

Jupiter -73149-09-21 06:42 J -24995985.29 -24995985.22 -24995985.14 0.0530 0.0423

Venus -73148-12-09 20:37 J -24995540.75 -24995540.64 -24995540.53 0.3797 0.0410

Mars -73144-03-08 14:23 J -24994356.06 -24994355.90 -24994355.73 0.1597 0.0122

Moon -73144-04-16 22:33 J -24994316.66 -24994316.56 -24994316.45 0.2731 0.0583

Earth -73144-04-16 22:47 J -24994316.66 -24994316.55 -24994316.45 0.2724 0.0559 *

Jupiter -73143-05-21 00:57 J -24993917.62 -24993917.46 -24993917.29 0.0495 0.0233

Jupiter -73143-08-19 11:16 J -24993827.17 -24993827.03 -24993826.90 0.0496 0.0334

Venus -73142-06-25 14:09 J -24993517.00 -24993516.91 -24993516.82 0.3794 0.1860

Mars -73142-12-12 22:33 J -24993346.65 -24993346.56 -24993346.47 0.1942 0.1155

Moon -73141-10-15 00:28 J -24993039.64 -24993039.48 -24993039.32 0.2608 0.0652

Earth -73141-10-15 02:23 J -24993039.56 -24993039.40 -24993039.25 0.2609 0.0803 *

Saturn -73139-09-18 21:35 J -24992335.74 -24992335.60 -24992335.45 0.0269 0.0177

Saturn -73139-12-16 20:09 J -24992246.85 -24992246.66 -24992246.47 0.0270 0.0032

Saturn -73138-03-15 18:42 J -24992157.89 -24992157.72 -24992157.54 0.0270 0.0114

Saturn -73138-06-12 17:16 J -24992068.82 -24992068.78 -24992068.72 0.0271 0.0261

Jupiter -73137-04-12 04:33 J -24991764.43 -24991764.31 -24991764.19 0.0531 0.0149

Jupiter -73137-07-10 10:47 J -24991675.15 -24991675.05 -24991674.95 0.0530 0.0308

Venus -73136-01-08 07:54 J -24991493.22 -24991493.17 -24991493.12 0.3791 0.3345

Mars -73135-07-29 16:18 J -24990925.95 -24990925.82 -24990925.69 0.1594 0.1023

Venus -73132-01-05 03:21 J -24990035.45 -24990035.36 -24990035.26 0.3578 0.2611

Mars -73132-05-04 06:13 J -24989916.35 -24989916.24 -24989916.12 0.1949 0.0177

Jupiter -73131-03-08 21:49 J -24989607.71 -24989607.59 -24989607.47 0.0495 0.0376

Earth -73131-04-19 16:33 J -24989565.92 -24989565.81 -24989565.71 0.2726 0.0631

Moon -73131-04-19 16:47 J -24989565.90 -24989565.80 -24989565.70 0.2732 0.0633 *

Jupiter -73131-06-07 08:09 J -24989517.33 -24989517.16 -24989516.99 0.0496 0.0192

Neptune -73130-04-04 14:52 J -24989215.89 -24989215.88 -24989215.86 0.0089 0.0088

Neptune -73130-07-01 16:04 J -24989127.86 -24989127.83 -24989127.78 0.0089 0.0084

Neptune -73130-09-27 17:16 J -24989039.82 -24989039.78 -24989039.71 0.0089 0.0079

Neptune -73130-12-24 18:42 J -24988951.78 -24988951.72 -24988951.64 0.0089 0.0074

Neptune -73129-03-21 20:09 J -24988863.74 -24988863.66 -24988863.58 0.0089 0.0069

Neptune -73129-06-17 21:06 J -24988775.69 -24988775.62 -24988775.52 0.0089 0.0065

Neptune -73129-09-13 22:33 J -24988687.65 -24988687.56 -24988687.45 0.0089 0.0060

Neptune -73129-12-10 23:59 J -24988599.60 -24988599.50 -24988599.39 0.0089 0.0055

Neptune -73128-03-09 01:25 J -24988511.55 -24988511.44 -24988511.34 0.0089 0.0050

Neptune -73128-06-05 02:23 J -24988423.50 -24988423.40 -24988423.28 0.0089 0.0046

Neptune -73128-09-01 03:49 J -24988335.45 -24988335.34 -24988335.22 0.0089 0.0041

Neptune -73128-11-28 05:16 J -24988247.40 -24988247.28 -24988247.16 0.0089 0.0036

Neptune -73127-02-24 06:28 J -24988159.35 -24988159.23 -24988159.10 0.0089 0.0031

Neptune -73127-05-23 07:40 J -24988071.30 -24988071.18 -24988071.05 0.0089 0.0027

Venus -73127-07-22 06:42 J -24988011.36 -24988011.22 -24988011.07 0.3581 0.0100

Neptune -73127-08-19 09:06 J -24987983.25 -24987983.12 -24987982.99 0.0089 0.0022

Neptune -73127-11-15 10:18 J -24987895.19 -24987895.07 -24987894.93 0.0089 0.0017

Neptune -73126-02-11 11:45 J -24987807.14 -24987807.01 -24987806.88 0.0089 0.0012

Neptune -73126-05-10 12:57 J -24987719.09 -24987718.96 -24987718.82 0.0089 0.0008

Neptune -73126-08-06 14:23 J -24987631.03 -24987630.90 -24987630.77 0.0089 0.0003

Neptune -73126-11-02 15:35 J -24987542.98 -24987542.85 -24987542.71 0.0089 0.0003

Saturn -73125-01-29 08:52 J -24987455.18 -24987455.13 -24987455.06 0.0294 0.0256

Neptune -73125-01-29 17:01 J -24987454.92 -24987454.79 -24987454.66 0.0089 0.0007

Jupiter -73125-01-30 09:06 J -24987454.23 -24987454.12 -24987454.01 0.0531 0.0258

Neptune -73125-04-26 18:13 J -24987366.87 -24987366.74 -24987366.61 0.0089 0.0012

Saturn -73125-04-26 20:52 J -24987366.75 -24987366.63 -24987366.52 0.0293 0.0132 *

Jupiter -73125-04-28 15:06 J -24987364.98 -24987364.87 -24987364.75 0.0530 0.0200

Neptune -73125-07-23 19:40 J -24987278.81 -24987278.68 -24987278.55 0.0089 0.0017

Saturn -73125-07-24 08:37 J -24987278.27 -24987278.14 -24987278.01 0.0292 0.0010

Neptune -73125-10-19 20:52 J -24987190.76 -24987190.63 -24987190.50 0.0089 0.0022

Saturn -73125-10-20 20:09 J -24987189.77 -24987189.66 -24987189.54 0.0291 0.0114

Neptune -73124-01-15 22:04 J -24987102.70 -24987102.58 -24987102.45 0.0089 0.0027

Saturn -73124-01-17 07:54 J -24987101.24 -24987101.17 -24987101.09 0.0290 0.0235

Moon -73124-04-12 15:35 J -24987015.86 -24987015.85 -24987015.84 0.2721 0.2695

Earth -73124-04-12 16:18 J -24987015.84 -24987015.82 -24987015.81 0.2721 0.2675 *

Neptune -73124-04-13 23:16 J -24987014.64 -24987014.53 -24987014.40 0.0089 0.0032

Neptune -73124-07-11 00:42 J -24986926.58 -24986926.47 -24986926.34 0.0089 0.0036

Neptune -73124-10-07 02:09 J -24986838.53 -24986838.41 -24986838.29 0.0089 0.0041

Neptune -73123-01-03 03:21 J -24986750.47 -24986750.36 -24986750.24 0.0089 0.0046

Neptune -73123-04-01 04:33 J -24986662.41 -24986662.31 -24986662.19 0.0089 0.0051

Neptune -73123-06-28 05:45 J -24986574.35 -24986574.26 -24986574.14 0.0089 0.0056

Neptune -73123-09-24 07:25 J -24986486.29 -24986486.19 -24986486.10 0.0089 0.0060

Mars -73123-09-24 14:09 J -24986486.01 -24986485.91 -24986485.81 0.1954 0.0854

Neptune -73123-12-21 08:37 J -24986398.23 -24986398.14 -24986398.05 0.0089 0.0065

Neptune -73122-03-19 09:49 J -24986310.16 -24986310.09 -24986310.00 0.0089 0.0070

Neptune -73122-06-15 11:01 J -24986222.10 -24986222.04 -24986221.96 0.0089 0.0075

Neptune -73122-09-11 12:13 J -24986134.03 -24986133.99 -24986133.92 0.0089 0.0080

Neptune -73122-12-08 13:54 J -24986045.96 -24986045.92 -24986045.88 0.0089 0.0084

Venus -73121-02-05 09:35 J -24985987.20 -24985987.10 -24985987.00 0.3584 0.2408

Jupiter -73119-03-26 03:49 J -24985207.52 -24985207.34 -24985207.15 0.0496 0.0039

Earth -73118-04-22 10:18 J -24984815.15 -24984815.07 -24984814.99 0.2727 0.1821

Moon -73118-04-22 10:47 J -24984815.12 -24984815.05 -24984814.97 0.2728 0.1960 *

Mars -73114-04-17 13:25 J -24983359.07 -24983358.94 -24983358.80 0.1602 0.0932

Jupiter -73114-11-18 13:11 J -24983144.04 -24983143.95 -24983143.86 0.0531 0.0370

Mars -73113-02-14 21:49 J -24983055.62 -24983055.59 -24983055.56 0.1959 0.1879

Jupiter -73113-02-15 19:25 J -24983054.82 -24983054.69 -24983054.57 0.0530 0.0086

Moon -73111-04-15 09:21 J -24982265.20 -24982265.11 -24982265.03 0.2727 0.1610

Earth -73111-04-15 09:49 J -24982265.18 -24982265.09 -24982265.00 0.2723 0.1498 *

Uranus -73110-06-30 13:54 J -24981823.92 -24981823.92 -24981823.91 0.0135 0.0135

Uranus -73110-09-26 17:01 J -24981735.85 -24981735.79 -24981735.73 0.0135 0.0119

Uranus -73110-12-23 19:54 J -24981647.75 -24981647.67 -24981647.58 0.0135 0.0103

Saturn -73109-02-05 21:35 J -24981603.71 -24981603.60 -24981603.47 0.0269 0.0210

Uranus -73109-03-20 23:01 J -24981559.64 -24981559.54 -24981559.44 0.0136 0.0086

Saturn -73109-05-04 20:23 J -24981514.84 -24981514.65 -24981514.46 0.0269 0.0065

Uranus -73109-06-17 02:09 J -24981471.52 -24981471.41 -24981471.29 0.0136 0.0070

Saturn -73109-08-01 18:57 J -24981425.89 -24981425.71 -24981425.52 0.0270 0.0081

Uranus -73109-09-13 05:16 J -24981383.40 -24981383.28 -24981383.16 0.0136 0.0053

Saturn -73109-10-29 17:30 J -24981336.86 -24981336.77 -24981336.66 0.0271 0.0228

Uranus -73109-12-10 08:23 J -24981295.28 -24981295.15 -24981295.02 0.0136 0.0036

Uranus -73108-03-08 11:30 J -24981207.15 -24981207.02 -24981206.89 0.0136 0.0020

Uranus -73108-06-04 14:37 J -24981119.02 -24981118.89 -24981118.76 0.0136 0.0003

Uranus -73108-08-31 17:45 J -24981030.89 -24981030.76 -24981030.63 0.0136 0.0014

Moon -73108-10-12 23:30 J -24980988.67 -24980988.52 -24980988.38 0.2607 0.1186

Earth -73108-10-13 00:57 J -24980988.60 -24980988.46 -24980988.31 0.2611 0.1142 *

Uranus -73108-11-27 20:52 J -24980942.76 -24980942.63 -24980942.50 0.0136 0.0031

Venus -73108-12-01 14:37 J -24980938.94 -24980938.89 -24980938.84 0.3803 0.3305

Jupiter -73107-01-12 00:42 J -24980897.65 -24980897.47 -24980897.28 0.0496 0.0104

Uranus -73107-02-23 23:59 J -24980854.62 -24980854.50 -24980854.37 0.0137 0.0048

Jupiter -73107-04-12 10:47 J -24980807.11 -24980807.05 -24980806.98 0.0496 0.0462

Uranus -73107-05-23 03:06 J -24980766.48 -24980766.37 -24980766.25 0.0137 0.0066

Uranus -73107-08-19 06:28 J -24980678.33 -24980678.23 -24980678.12 0.0137 0.0083

Uranus -73107-11-15 09:35 J -24980590.18 -24980590.10 -24980590.01 0.0137 0.0100

Uranus -73106-02-11 12:57 J -24980502.03 -24980501.96 -24980501.89 0.0137 0.0117

Uranus -73106-05-10 16:04 J -24980413.84 -24980413.83 -24980413.80 0.0137 0.0135

Mars -73105-09-06 15:21 J -24979929.03 -24979928.86 -24979928.69 0.1598 0.0040

Pluto -73104-09-24 17:45 J -24979545.81 -24979545.76 -24979545.68 0.0084 0.0074

Pluto -73104-12-21 19:11 J -24979457.78 -24979457.70 -24979457.59 0.0084 0.0063

Pluto -73103-03-19 20:52 J -24979369.73 -24979369.63 -24979369.52 0.0084 0.0051

Pluto -73103-06-15 22:18 J -24979281.69 -24979281.57 -24979281.44 0.0084 0.0040

Pluto -73103-09-11 23:45 J -24979193.64 -24979193.51 -24979193.38 0.0084 0.0029

Pluto -73103-12-09 01:11 J -24979105.58 -24979105.45 -24979105.31 0.0084 0.0018

Pluto -73102-03-07 02:37 J -24979017.53 -24979017.39 -24979017.25 0.0083 0.0007

Pluto -73102-06-03 04:04 J -24978929.47 -24978929.33 -24978929.19 0.0083 0.0003

Mars -73102-06-12 22:33 J -24978919.64 -24978919.56 -24978919.47 0.1942 0.1275

Venus -73102-06-17 07:54 J -24978915.27 -24978915.17 -24978915.08 0.3801 0.1939

Pluto -73102-08-30 05:16 J -24978841.41 -24978841.28 -24978841.14 0.0083 0.0015

Jupiter -73102-09-06 16:47 J -24978833.84 -24978833.80 -24978833.75 0.0531 0.0492

Pluto -73102-11-26 06:42 J -24978753.35 -24978753.22 -24978753.09 0.0083 0.0025

Jupiter -73102-12-04 22:47 J -24978744.68 -24978744.55 -24978744.42 0.0530 0.0039

Pluto -73101-02-22 08:09 J -24978665.28 -24978665.16 -24978665.04 0.0083 0.0035

Jupiter -73101-03-03 05:01 J -24978655.36 -24978655.29 -24978655.21 0.0529 0.0418

Pluto -73101-05-20 09:21 J -24978577.22 -24978577.11 -24978576.99 0.0083 0.0046

Pluto -73101-08-16 10:33 J -24978489.15 -24978489.06 -24978488.95 0.0083 0.0056

Pluto -73101-11-12 11:59 J -24978401.07 -24978401.00 -24978400.91 0.0083 0.0066

Pluto -73100-02-08 13:25 J -24978312.99 -24978312.94 -24978312.89 0.0082 0.0076

Moon -73098-04-18 03:35 J -24977514.46 -24977514.35 -24977514.24 0.2731 0.0295

Earth -73098-04-18 03:35 J -24977514.46 -24977514.35 -24977514.24 0.2724 0.0315 *

Venus -73097-12-31 01:11 J -24976891.56 -24976891.45 -24976891.35 0.3799 0.0532

Saturn -73096-06-17 12:28 J -24976723.01 -24976722.98 -24976722.94 0.0294 0.0280

Saturn -73096-09-14 00:13 J -24976634.59 -24976634.49 -24976634.38 0.0294 0.0155

Jupiter -73096-10-30 22:04 J -24976587.74 -24976587.58 -24976587.42 0.0496 0.0243

Saturn -73096-12-11 12:13 J -24976546.12 -24976545.99 -24976545.87 0.0293 0.0032

Mars -73095-01-27 17:01 J -24976498.93 -24976498.79 -24976498.65 0.1594 0.0880

Jupiter -73095-01-29 08:23 J -24976497.29 -24976497.15 -24976497.01 0.0496 0.0326

Saturn -73095-03-09 23:45 J -24976457.63 -24976457.51 -24976457.38 0.0292 0.0092

Saturn -73095-06-06 11:30 J -24976369.11 -24976369.02 -24976368.93 0.0291 0.0213

Moon -73095-10-16 07:11 J -24976237.35 -24976237.20 -24976237.05 0.2609 0.1031

Earth -73095-10-16 09:06 J -24976237.27 -24976237.12 -24976236.98 0.2609 0.1266 *

Mars -73093-11-02 06:13 J -24975489.35 -24975489.24 -24975489.12 0.1948 0.0269

Venus -73091-07-16 18:28 J -24974867.83 -24974867.73 -24974867.62 0.3796 0.0917

Jupiter -73090-09-23 02:37 J -24974434.51 -24974434.39 -24974434.27 0.0530 0.0157

Jupiter -73090-12-21 08:52 J -24974345.23 -24974345.13 -24974345.03 0.0530 0.0300

Venus -73085-01-30 12:13 J -24972844.08 -24972843.99 -24972843.91 0.3793 0.2371

Earth -73085-04-19 21:21 J -24972763.71 -24972763.61 -24972763.51 0.2726 0.0875

Moon -73085-04-19 21:35 J -24972763.70 -24972763.60 -24972763.50 0.2731 0.0949 *

Jupiter -73084-08-18 18:57 J -24972277.83 -24972277.71 -24972277.60 0.0495 0.0387

Jupiter -73084-11-17 05:16 J -24972187.45 -24972187.28 -24972187.11 0.0496 0.0182

Mars -73083-03-25 13:54 J -24972059.02 -24972058.92 -24972058.81 0.1954 0.0757

Saturn -73080-06-24 22:18 J -24970871.65 -24970871.57 -24970871.48 0.0268 0.0238

Saturn -73080-09-21 20:52 J -24970782.81 -24970782.63 -24970782.45 0.0269 0.0094

Saturn -73080-12-19 19:40 J -24970693.87 -24970693.68 -24970693.50 0.0270 0.0052

Saturn -73079-03-18 18:13 J -24970604.87 -24970604.74 -24970604.61 0.0271 0.0198

Moon -73078-04-13 20:23 J -24970213.68 -24970213.65 -24970213.62 0.2722 0.2585

Earth -73078-04-13 21:06 J -24970213.67 -24970213.62 -24970213.58 0.2721 0.2432 *

Jupiter -73078-07-12 06:42 J -24970124.33 -24970124.22 -24970124.11 0.0531 0.0273

Jupiter -73078-10-09 12:42 J -24970035.08 -24970034.97 -24970034.85 0.0530 0.0184

Venus -73076-08-12 04:04 J -24969362.45 -24969362.33 -24969362.20 0.3579 0.1753

Mars -73075-10-16 14:09 J -24968932.04 -24968931.91 -24968931.79 0.1602 0.1064

Mars -73074-08-15 21:49 J -24968628.64 -24968628.59 -24968628.54 0.1959 0.1757

Earth -73072-04-22 15:06 J -24968012.94 -24968012.87 -24968012.80 0.2728 0.2064

Moon -73072-04-22 15:49 J -24968012.91 -24968012.84 -24968012.78 0.2728 0.2108 *

Jupiter -73072-09-05 01:54 J -24967877.60 -24967877.42 -24967877.23 0.0495 0.0040

Venus -73070-02-26 07:25 J -24967338.33 -24967338.19 -24967338.05 0.3582 0.0798

Uranus -73070-08-09 16:33 J -24967173.90 -24967173.81 -24967173.69 0.0143 0.0119

Uranus -73070-11-06 00:57 J -24967085.60 -24967085.46 -24967085.29 0.0143 0.0090

Uranus -73069-02-02 09:35 J -24966997.27 -24966997.10 -24966996.92 0.0143 0.0061

Uranus -73069-04-30 17:59 J -24966908.93 -24966908.75 -24966908.56 0.0143 0.0032

Uranus -73069-07-28 02:23 J -24966820.59 -24966820.40 -24966820.20 0.0143 0.0004

Uranus -73069-10-24 10:47 J -24966732.24 -24966732.05 -24966731.86 0.0142 0.0025

Uranus -73068-01-20 18:57 J -24966643.89 -24966643.71 -24966643.53 0.0142 0.0054

Uranus -73068-04-19 02:52 J -24966555.52 -24966555.38 -24966555.21 0.0142 0.0083

Uranus -73068-07-16 11:01 J -24966467.15 -24966467.04 -24966466.91 0.0142 0.0110

Uranus -73068-10-12 19:25 J -24966378.73 -24966378.69 -24966378.64 0.0142 0.0137

Saturn -73066-02-01 03:06 J -24965902.47 -24965902.37 -24965902.27 0.0293 0.0186

Jupiter -73066-04-30 11:01 J -24965814.12 -24965814.04 -24965813.95 0.0531 0.0382

Saturn -73066-04-30 14:52 J -24965814.01 -24965813.88 -24965813.76 0.0292 0.0063 *

Saturn -73066-07-28 02:23 J -24965725.52 -24965725.40 -24965725.27 0.0291 0.0061

Jupiter -73066-07-28 17:16 J -24965724.91 -24965724.78 -24965724.66 0.0530 0.0075

Saturn -73066-10-24 14:09 J -24965637.01 -24965636.91 -24965636.81 0.0290 0.0182

Mars -73065-03-07 15:49 J -24965502.00 -24965501.84 -24965501.67 0.1598 0.0167

Moon -73065-04-15 14:09 J -24965463.00 -24965462.91 -24965462.81 0.2727 0.1271

Earth -73065-04-15 14:37 J -24965462.98 -24965462.89 -24965462.79 0.2723 0.1258 *

Venus -73065-09-11 09:49 J -24965314.15 -24965314.09 -24965314.03 0.3585 0.3207

Mars -73063-12-11 22:33 J -24964492.63 -24964492.56 -24964492.48 0.1942 0.1390

Moon -73062-10-14 06:13 J -24964186.39 -24964186.24 -24964186.09 0.2607 0.0935

Earth -73062-10-14 07:40 J -24964186.33 -24964186.18 -24964186.02 0.2611 0.0672 *

Jupiter -73060-06-23 21:49 J -24963567.77 -24963567.59 -24963567.41 0.0495 0.0115

Jupiter -73060-09-22 07:40 J -24963477.25 -24963477.18 -24963477.10 0.0496 0.0451

Mars -73056-07-28 17:45 J -24962071.91 -24962071.76 -24962071.61 0.1594 0.0745

Jupiter -73054-02-16 15:21 J -24961503.90 -24961503.86 -24961503.81 0.0531 0.0493

Jupiter -73054-05-16 21:21 J -24961414.73 -24961414.61 -24961414.48 0.0531 0.0040

Jupiter -73054-08-14 03:35 J -24961325.42 -24961325.35 -24961325.27 0.0530 0.0419

Mars -73053-05-03 06:13 J -24961062.35 -24961062.24 -24961062.13 0.1948 0.0373

Moon -73052-04-18 08:23 J -24960712.26 -24960712.15 -24960712.04 0.2732 0.0108

Earth -73052-04-18 08:23 J -24960712.26 -24960712.15 -24960712.04 0.2724 0.0075 *

Venus -73051-07-08 12:28 J -24960266.05 -24960265.98 -24960265.91 0.3803 0.2843

Saturn -73050-02-08 20:37 J -24960050.80 -24960050.64 -24960050.46 0.0269 0.0129

Saturn -73050-05-08 19:25 J -24959961.88 -24959961.69 -24959961.50 0.0270 0.0017

Saturn -73050-08-05 17:59 J -24959872.89 -24959872.75 -24959872.59 0.0271 0.0164

Moon -73049-10-16 14:09 J -24959435.04 -24959434.91 -24959434.79 0.2610 0.1655

Earth -73049-10-16 15:49 J -24959434.96 -24959434.84 -24959434.72 0.2609 0.1732 *

Jupiter -73048-04-11 18:42 J -24959257.88 -24959257.72 -24959257.56 0.0495 0.0257

Jupiter -73048-07-11 04:47 J -24959167.44 -24959167.30 -24959167.15 0.0496 0.0311

Neptune -73047-06-21 01:40 J -24958822.44 -24958822.43 -24958822.40 0.0089 0.0088

Neptune -73047-09-17 05:30 J -24958734.34 -24958734.27 -24958734.19 0.0089 0.0081

Neptune -73047-12-14 09:06 J -24958646.22 -24958646.12 -24958646.00 0.0089 0.0074

Neptune -73046-03-12 12:57 J -24958558.08 -24958557.96 -24958557.82 0.0089 0.0067

Neptune -73046-06-08 16:33 J -24958469.94 -24958469.81 -24958469.65 0.0089 0.0060

Neptune -73046-09-04 20:23 J -24958381.80 -24958381.65 -24958381.48 0.0089 0.0053

Neptune -73046-12-01 23:59 J -24958293.65 -24958293.50 -24958293.31 0.0089 0.0046

Venus -73045-01-22 05:45 J -24958242.36 -24958242.26 -24958242.16 0.3801 0.1461

Neptune -73045-02-28 03:49 J -24958205.50 -24958205.34 -24958205.15 0.0089 0.0039

Neptune -73045-05-26 07:54 J -24958117.36 -24958117.17 -24958116.99 0.0089 0.0031

Neptune -73045-08-22 11:30 J -24958029.20 -24958029.02 -24958028.82 0.0089 0.0024

Neptune -73045-11-18 15:21 J -24957941.05 -24957940.86 -24957940.66 0.0089 0.0017

Neptune -73044-02-14 19:11 J -24957852.90 -24957852.70 -24957852.51 0.0089 0.0010

Neptune -73044-05-13 22:47 J -24957764.74 -24957764.55 -24957764.35 0.0089 0.0003

Neptune -73044-08-10 02:37 J -24957676.59 -24957676.39 -24957676.19 0.0089 0.0005

Mars -73044-09-23 14:09 J -24957632.02 -24957631.91 -24957631.80 0.1954 0.0634

Neptune -73044-11-06 06:13 J -24957588.43 -24957588.24 -24957588.04 0.0089 0.0012

Neptune -73043-02-02 10:04 J -24957500.27 -24957500.08 -24957499.89 0.0089 0.0019

Neptune -73043-05-01 13:40 J -24957412.11 -24957411.93 -24957411.74 0.0089 0.0026

Neptune -73043-07-28 17:30 J -24957323.95 -24957323.77 -24957323.59 0.0089 0.0033

Neptune -73043-10-24 21:06 J -24957235.79 -24957235.62 -24957235.44 0.0089 0.0040

Neptune -73042-01-21 00:57 J -24957147.63 -24957147.46 -24957147.30 0.0089 0.0047

Jupiter -73042-03-05 00:57 J -24957104.58 -24957104.46 -24957104.34 0.0530 0.0163

Neptune -73042-04-19 04:04 J -24957059.46 -24957059.33 -24957059.15 0.0089 0.0055

Jupiter -73042-06-02 06:57 J -24957015.31 -24957015.21 -24957015.10 0.0530 0.0294

Neptune -73042-07-16 07:54 J -24956971.29 -24956971.17 -24956971.01 0.0089 0.0062

Neptune -73042-10-12 11:30 J -24956883.12 -24956883.02 -24956882.87 0.0089 0.0069

Neptune -73041-01-08 15:06 J -24956794.95 -24956794.87 -24956794.74 0.0089 0.0076

Neptune -73041-04-05 18:57 J -24956706.76 -24956706.71 -24956706.62 0.0089 0.0083

Venus -73040-08-06 23:01 J -24956218.65 -24956218.54 -24956218.43 0.3798 0.0063

Earth -73039-04-21 02:09 J -24955961.51 -24955961.41 -24955961.31 0.2726 0.1116

Moon -73039-04-21 02:37 J -24955961.49 -24955961.39 -24955961.29 0.2730 0.1194 *

Saturn -73037-06-20 06:28 J -24955170.31 -24955170.23 -24955170.13 0.0294 0.0209

Saturn -73037-09-16 18:28 J -24955081.86 -24955081.73 -24955081.61 0.0293 0.0084

Saturn -73037-12-14 06:13 J -24954993.37 -24954993.24 -24954993.12 0.0292 0.0040

Jupiter -73036-01-28 15:49 J -24954947.95 -24954947.84 -24954947.73 0.0495 0.0398

Saturn -73036-03-12 17:45 J -24954904.86 -24954904.76 -24954904.65 0.0291 0.0161

Jupiter -73036-04-29 02:23 J -24954857.58 -24954857.40 -24954857.23 0.0496 0.0173

Saturn -73036-06-09 05:30 J -24954816.30 -24954816.27 -24954816.24 0.0290 0.0281

Mars -73035-04-16 14:52 J -24954504.99 -24954504.88 -24954504.77 0.1602 0.1205

Mars -73034-02-13 21:35 J -24954201.65 -24954201.60 -24954201.54 0.1959 0.1668

Venus -73034-02-20 16:33 J -24954194.91 -24954194.81 -24954194.71 0.3795 0.1404

Moon -73032-04-14 01:11 J -24953411.51 -24953411.45 -24953411.39 0.2722 0.2218

Earth -73032-04-14 01:54 J -24953411.49 -24953411.42 -24953411.36 0.2721 0.2194 *

Jupiter -73031-12-22 04:47 J -24952794.41 -24952794.30 -24952794.20 0.0530 0.0280

Jupiter -73030-03-21 10:47 J -24952705.17 -24952705.05 -24952704.93 0.0530 0.0176

Venus -73029-09-05 10:04 J -24952171.14 -24952171.08 -24952171.01 0.3793 0.2884

Earth -73026-04-23 19:54 J -24951210.73 -24951210.67 -24951210.62 0.2728 0.2310

Moon -73026-04-23 20:37 J -24951210.69 -24951210.64 -24951210.60 0.2728 0.2436 *

Uranus -73026-07-20 20:52 J -24951122.65 -24951122.63 -24951122.61 0.0135 0.0132

Mars -73026-09-06 16:33 J -24951074.97 -24951074.81 -24951074.64 0.1598 0.0294

Uranus -73026-10-16 23:45 J -24951034.57 -24951034.51 -24951034.44 0.0135 0.0116

Uranus -73025-01-13 02:52 J -24950946.46 -24950946.38 -24950946.29 0.0135 0.0100

Uranus -73025-04-10 05:59 J -24950858.35 -24950858.25 -24950858.15 0.0135 0.0084

Uranus -73025-07-07 08:52 J -24950770.24 -24950770.13 -24950770.01 0.0136 0.0068

Venus -73025-09-02 01:11 J -24950713.47 -24950713.45 -24950713.43 0.3577 0.3517

Uranus -73025-10-03 12:13 J -24950682.12 -24950681.99 -24950681.87 0.0136 0.0051

Uranus -73025-12-30 15:06 J -24950593.99 -24950593.87 -24950593.74 0.0136 0.0035

Jupiter -73024-02-14 23:16 J -24950547.72 -24950547.53 -24950547.35 0.0496 0.0031

Uranus -73024-03-28 18:13 J -24950505.87 -24950505.74 -24950505.60 0.0136 0.0018

Uranus -73024-06-24 21:21 J -24950417.74 -24950417.61 -24950417.47 0.0136 0.0004

Uranus -73024-09-21 00:28 J -24950329.61 -24950329.48 -24950329.34 0.0136 0.0017

Uranus -73024-12-18 03:49 J -24950241.47 -24950241.34 -24950241.21 0.0136 0.0033

Uranus -73023-03-16 06:57 J -24950153.33 -24950153.21 -24950153.09 0.0136 0.0050

Mars -73023-06-11 22:33 J -24950065.63 -24950065.56 -24950065.49 0.1942 0.1486

Uranus -73023-06-12 10:04 J -24950065.19 -24950065.08 -24950064.96 0.0137 0.0067

Uranus -73023-09-08 13:11 J -24949977.05 -24949976.95 -24949976.84 0.0137 0.0085

Uranus -73023-12-05 16:33 J -24949888.90 -24949888.81 -24949888.73 0.0137 0.0102

Uranus -73022-03-03 19:25 J -24949800.74 -24949800.69 -24949800.61 0.0137 0.0120

Uranus -73022-05-30 23:01 J -24949712.54 -24949712.54 -24949712.54 0.0137 0.0137

Saturn -73021-06-27 21:35 J -24949318.75 -24949318.60 -24949318.44 0.0269 0.0157

Saturn -73021-09-24 20:09 J -24949229.85 -24949229.66 -24949229.46 0.0270 0.0013

Saturn -73021-12-22 18:57 J -24949140.88 -24949140.71 -24949140.55 0.0271 0.0135

Venus -73019-03-19 04:47 J -24948689.44 -24948689.30 -24948689.16 0.3580 0.0894

Moon -73019-04-16 19:11 J -24948660.80 -24948660.70 -24948660.60 0.2729 0.1118

Earth -73019-04-16 19:25 J -24948660.79 -24948660.69 -24948660.59 0.2723 0.1015 *

Jupiter -73019-10-10 08:37 J -24948484.22 -24948484.14 -24948484.06 0.0531 0.0397

Jupiter -73018-01-07 14:52 J -24948395.01 -24948394.88 -24948394.76 0.0530 0.0061

Jupiter -73018-04-06 21:06 J -24948305.64 -24948305.62 -24948305.59 0.0530 0.0516

Mars -73016-01-26 18:28 J -24947644.89 -24947644.73 -24947644.58 0.1594 0.0610

Moon -73016-10-14 12:57 J -24947384.12 -24947383.96 -24947383.80 0.2607 0.0258

Earth -73016-10-14 14:37 J -24947384.06 -24947383.89 -24947383.73 0.2611 0.0215 *

Venus -73014-10-03 07:40 J -24946665.30 -24946665.18 -24946665.05 0.3583 0.1605

Mars -73014-11-02 06:28 J -24946635.34 -24946635.23 -24946635.12 0.1948 0.0495

Jupiter -73013-12-03 19:54 J -24946237.85 -24946237.67 -24946237.49 0.0495 0.0115

Jupiter -73012-03-04 05:45 J -24946147.33 -24946147.26 -24946147.18 0.0496 0.0451

Saturn -73008-11-07 09:21 J -24944438.18 -24944438.11 -24944438.03 0.0294 0.0238

Saturn -73007-02-03 21:06 J -24944349.73 -24944349.62 -24944349.50 0.0293 0.0115

Saturn -73007-05-03 08:52 J -24944261.25 -24944261.13 -24944261.00 0.0292 0.0014

Mars -73007-06-18 20:09 J -24944214.71 -24944214.66 -24944214.61 0.1590 0.1507

Jupiter -73007-07-29 13:11 J -24944173.99 -24944173.95 -24944173.92 0.0531 0.0506

Saturn -73007-07-30 20:37 J -24944172.75 -24944172.64 -24944172.52 0.0291 0.0131

Jupiter -73007-10-26 19:11 J -24944084.83 -24944084.70 -24944084.57 0.0531 0.0052

Saturn -73007-10-27 08:09 J -24944084.21 -24944084.16 -24944084.09 0.0290 0.0252

Jupiter -73006-01-24 01:25 J -24943995.52 -24943995.44 -24943995.36 0.0530 0.0407

Earth -73006-04-19 13:11 J -24943910.06 -24943909.95 -24943909.84 0.2725 0.0168

Moon -73006-04-19 13:11 J -24943910.05 -24943909.95 -24943909.84 0.2732 0.0231 *

Mars -73004-03-24 14:09 J -24943205.02 -24943204.91 -24943204.80 0.1954 0.0533

Moon -73003-10-17 20:52 J -24942632.74 -24942632.63 -24942632.53 0.2611 0.1913

Earth -73003-10-17 22:33 J -24942632.65 -24942632.56 -24942632.47 0.2609 0.2196 *

Jupiter -73001-09-21 15:49 J -24941928.00 -24941927.84 -24941927.69 0.0495 0.0267

Jupiter -73001-12-21 01:54 J -24941837.57 -24941837.42 -24941837.27 0.0496 0.0301

73RD MILLENNIUM BCE

This is a list of transits of Mercury in the 73rd millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Venus -73000-07-29 17:16 J -24941616.80 -24941616.78 -24941616.77 0.3804 0.3741

Mars -72996-10-15 15:35 J -24940077.94 -24940077.85 -24940077.76 0.1602 0.1343

Mars -72995-08-14 21:49 J -24939774.66 -24939774.59 -24939774.53 0.1959 0.1550

Jupiter -72995-08-14 23:30 J -24939774.64 -24939774.52 -24939774.40 0.0531 0.0164 *

Jupiter -72995-11-12 05:30 J -24939685.37 -24939685.27 -24939685.16 0.0530 0.0295

Venus -72994-02-12 10:18 J -24939593.15 -24939593.07 -24939592.99 0.3802 0.2380

Earth -72993-04-21 06:57 J -24939159.30 -24939159.21 -24939159.12 0.2726 0.1357

Moon -72993-04-21 07:25 J -24939159.28 -24939159.19 -24939159.09 0.2730 0.1411 *

Saturn -72992-11-14 21:06 J -24938586.75 -24938586.62 -24938586.49 0.0269 0.0194

Saturn -72991-02-11 19:40 J -24938497.87 -24938497.68 -24938497.49 0.0270 0.0049

Saturn -72991-05-11 18:13 J -24938408.91 -24938408.74 -24938408.56 0.0270 0.0097

Saturn -72991-08-08 16:47 J -24938319.87 -24938319.80 -24938319.71 0.0271 0.0245

Jupiter -72989-07-10 12:28 J -24937618.08 -24937617.98 -24937617.87 0.0495 0.0410

Venus -72989-08-28 03:35 J -24937569.45 -24937569.35 -24937569.25 0.3800 0.0976

Jupiter -72989-10-08 23:01 J -24937527.72 -24937527.54 -24937527.37 0.0496 0.0160

Mars -72986-03-07 17:16 J -24936647.94 -24936647.78 -24936647.61 0.1598 0.0437

Moon -72986-04-15 05:59 J -24936609.32 -24936609.25 -24936609.18 0.2723 0.2089

Earth -72986-04-15 06:42 J -24936609.30 -24936609.22 -24936609.15 0.2721 0.1951 *

Uranus -72986-08-29 22:18 J -24936472.67 -24936472.57 -24936472.45 0.0143 0.0118

Uranus -72986-11-26 06:42 J -24936384.36 -24936384.22 -24936384.06 0.0143 0.0089

Uranus -72985-02-22 15:06 J -24936296.03 -24936295.87 -24936295.68 0.0143 0.0060

Uranus -72985-05-20 23:45 J -24936207.70 -24936207.51 -24936207.32 0.0143 0.0031

Uranus -72985-08-17 08:09 J -24936119.35 -24936119.16 -24936118.97 0.0143 0.0002

Uranus -72985-11-13 16:18 J -24936031.00 -24936030.82 -24936030.62 0.0143 0.0027

Uranus -72984-02-10 00:28 J -24935942.65 -24935942.48 -24935942.29 0.0142 0.0055

Uranus -72984-05-09 08:37 J -24935854.28 -24935854.14 -24935853.97 0.0142 0.0084

Uranus -72984-08-05 16:47 J -24935765.91 -24935765.80 -24935765.67 0.0142 0.0111

Uranus -72984-11-02 00:42 J -24935677.49 -24935677.47 -24935677.41 0.0142 0.0139

Mars -72984-12-10 22:33 J -24935638.62 -24935638.56 -24935638.49 0.1942 0.1605

Venus -72983-03-13 20:52 J -24935545.73 -24935545.63 -24935545.52 0.3797 0.0455

Jupiter -72983-06-03 02:52 J -24935464.48 -24935464.38 -24935464.27 0.0530 0.0287

Jupiter -72983-08-31 09:06 J -24935375.24 -24935375.12 -24935375.00 0.0530 0.0170

Moon -72983-10-12 11:59 J -24935333.08 -24935333.00 -24935332.92 0.2607 0.2228

Earth -72983-10-12 13:11 J -24935333.04 -24935332.95 -24935332.86 0.2612 0.2156 *

Earth -72980-04-24 00:42 J -24934408.51 -24934408.47 -24934408.44 0.2728 0.2552

Moon -72980-04-24 01:25 J -24934408.47 -24934408.44 -24934408.42 0.2727 0.2619 *

Saturn -72978-03-27 12:42 J -24933706.02 -24933705.97 -24933705.91 0.0294 0.0264

Saturn -72978-06-24 00:28 J -24933617.59 -24933617.48 -24933617.36 0.0293 0.0139

Saturn -72978-09-20 12:13 J -24933529.11 -24933528.99 -24933528.86 0.0292 0.0019

Venus -72978-09-27 14:23 J -24933521.99 -24933521.90 -24933521.80 0.3795 0.1910

Saturn -72978-12-17 23:59 J -24933440.62 -24933440.50 -24933440.38 0.0291 0.0108

Saturn -72977-03-15 11:45 J -24933352.09 -24933352.01 -24933351.93 0.0290 0.0229

Mars -72977-07-27 19:11 J -24933217.86 -24933217.70 -24933217.54 0.1594 0.0471

Jupiter -72977-07-27 20:23 J -24933217.84 -24933217.65 -24933217.47 0.0496 0.0022 *

Mars -72974-05-03 06:13 J -24932208.35 -24932208.24 -24932208.13 0.1948 0.0592

Moon -72973-04-16 23:59 J -24931858.60 -24931858.50 -24931858.40 0.2730 0.0744

Earth -72973-04-17 00:13 J -24931858.59 -24931858.49 -24931858.39 0.2723 0.0774 *

Venus -72972-04-12 08:09 J -24931498.21 -24931498.16 -24931498.12 0.3792 0.3393

Jupiter -72971-03-22 06:57 J -24931154.29 -24931154.21 -24931154.13 0.0530 0.0403

Jupiter -72971-06-19 12:57 J -24931065.09 -24931064.96 -24931064.83 0.0530 0.0052

Jupiter -72971-09-16 19:11 J -24930975.73 -24930975.70 -24930975.67 0.0529 0.0509

Moon -72970-10-15 19:40 J -24930581.85 -24930581.68 -24930581.52 0.2609 0.0054

Earth -72970-10-15 21:21 J -24930581.78 -24930581.61 -24930581.45 0.2610 0.0268 *

Venus -72968-04-09 01:54 J -24930040.52 -24930040.42 -24930040.32 0.3578 0.2644

Mars -72968-12-17 20:52 J -24929787.71 -24929787.63 -24929787.55 0.1590 0.1375

Neptune -72966-12-30 14:52 J -24929044.91 -24929044.88 -24929044.85 0.0089 0.0086

Neptune -72965-03-27 15:49 J -24928956.87 -24928956.84 -24928956.78 0.0089 0.0082

Jupiter -72965-05-15 17:16 J -24928907.96 -24928907.78 -24928907.60 0.0495 0.0123

Neptune -72965-06-23 17:16 J -24928868.83 -24928868.78 -24928868.71 0.0089 0.0077

Jupiter -72965-08-14 03:21 J -24928817.44 -24928817.36 -24928817.28 0.0496 0.0444

Neptune -72965-09-19 18:42 J -24928780.79 -24928780.72 -24928780.64 0.0089 0.0072

Mars -72965-09-22 13:54 J -24928778.03 -24928777.92 -24928777.80 0.1954 0.0430

Neptune -72965-12-16 20:09 J -24928692.75 -24928692.66 -24928692.58 0.0089 0.0067

Neptune -72964-03-14 21:06 J -24928604.70 -24928604.62 -24928604.52 0.0089 0.0063

Neptune -72964-06-10 22:33 J -24928516.65 -24928516.56 -24928516.46 0.0089 0.0058

Neptune -72964-09-06 23:45 J -24928428.61 -24928428.51 -24928428.40 0.0089 0.0053

Neptune -72964-12-04 01:11 J -24928340.56 -24928340.45 -24928340.34 0.0089 0.0048

Neptune -72963-03-02 02:23 J -24928252.51 -24928252.40 -24928252.28 0.0089 0.0044

Neptune -72963-05-29 03:35 J -24928164.46 -24928164.35 -24928164.22 0.0089 0.0039

Neptune -72963-08-25 05:01 J -24928076.41 -24928076.29 -24928076.17 0.0089 0.0034

Venus -72963-10-24 05:16 J -24928016.42 -24928016.28 -24928016.13 0.3581 0.0093

Neptune -72963-11-21 06:28 J -24927988.36 -24927988.23 -24927988.11 0.0089 0.0029

Neptune -72962-02-17 07:40 J -24927900.30 -24927900.18 -24927900.05 0.0089 0.0024

Saturn -72962-04-03 21:21 J -24927854.70 -24927854.61 -24927854.50 0.0269 0.0224

Neptune -72962-05-16 08:52 J -24927812.25 -24927812.13 -24927812.00 0.0089 0.0020

Saturn -72962-07-01 20:09 J -24927765.84 -24927765.66 -24927765.48 0.0269 0.0079

Neptune -72962-08-12 10:18 J -24927724.20 -24927724.07 -24927723.94 0.0089 0.0015

Saturn -72962-09-28 18:42 J -24927676.90 -24927676.72 -24927676.53 0.0270 0.0067

Neptune -72962-11-08 11:30 J -24927636.15 -24927636.02 -24927635.89 0.0089 0.0010

Saturn -72962-12-26 17:16 J -24927587.89 -24927587.78 -24927587.65 0.0271 0.0214

Neptune -72961-02-04 12:57 J -24927548.09 -24927547.96 -24927547.83 0.0089 0.0005

Neptune -72961-05-02 14:09 J -24927460.04 -24927459.91 -24927459.78 0.0089 0.0001

Neptune -72961-07-29 15:35 J -24927371.99 -24927371.85 -24927371.72 0.0089 0.0005

Neptune -72961-10-25 16:47 J -24927283.93 -24927283.80 -24927283.67 0.0089 0.0009

Neptune -72960-01-21 17:59 J -24927195.88 -24927195.75 -24927195.62 0.0089 0.0014

Earth -72960-04-19 17:59 J -24927107.86 -24927107.75 -24927107.64 0.2725 0.0410

Moon -72960-04-19 18:13 J -24927107.85 -24927107.74 -24927107.64 0.2731 0.0387 *

Neptune -72960-04-19 19:25 J -24927107.82 -24927107.69 -24927107.56 0.0089 0.0019 *

Neptune -72960-07-16 20:37 J -24927019.76 -24927019.64 -24927019.51 0.0089 0.0024

Neptune -72960-10-12 21:49 J -24926931.71 -24926931.59 -24926931.46 0.0089 0.0029

Jupiter -72959-01-08 10:47 J -24926844.07 -24926844.05 -24926844.03 0.0531 0.0520

Neptune -72959-01-08 23:01 J -24926843.65 -24926843.54 -24926843.41 0.0089 0.0034

Neptune -72959-04-07 00:42 J -24926755.59 -24926755.47 -24926755.35 0.0089 0.0038

Jupiter -72959-04-07 16:47 J -24926754.92 -24926754.80 -24926754.67 0.0531 0.0066

Neptune -72959-07-04 01:54 J -24926667.53 -24926667.42 -24926667.30 0.0089 0.0043

Jupiter -72959-07-05 23:01 J -24926665.62 -24926665.54 -24926665.45 0.0530 0.0393

Neptune -72959-09-30 03:06 J -24926579.47 -24926579.37 -24926579.25 0.0089 0.0048

Neptune -72959-12-27 04:18 J -24926491.41 -24926491.32 -24926491.20 0.0089 0.0053

Neptune -72958-03-25 05:30 J -24926403.35 -24926403.27 -24926403.15 0.0089 0.0058

Neptune -72958-06-21 07:11 J -24926315.29 -24926315.20 -24926315.11 0.0089 0.0062

Neptune -72958-09-17 08:23 J -24926227.23 -24926227.15 -24926227.06 0.0089 0.0067

Neptune -72958-12-14 09:35 J -24926139.17 -24926139.10 -24926139.01 0.0089 0.0072

Neptune -72957-03-11 10:47 J -24926051.10 -24926051.05 -24926050.97 0.0089 0.0077

Venus -72957-05-09 08:09 J -24925992.26 -24925992.16 -24925992.05 0.3584 0.2429

Neptune -72957-06-07 12:13 J -24925963.03 -24925962.99 -24925962.93 0.0089 0.0082

Neptune -72957-09-03 13:40 J -24925874.95 -24925874.93 -24925874.90 0.0089 0.0086

Moon -72957-10-18 03:35 J -24925830.37 -24925830.35 -24925830.34 0.2611 0.2597

Mars -72956-04-15 16:04 J -24925650.89 -24925650.83 -24925650.77 0.1602 0.1473

Mars -72955-02-12 21:49 J -24925347.67 -24925347.59 -24925347.51 0.1959 0.1433

Jupiter -72953-03-03 13:54 J -24924598.08 -24924597.92 -24924597.76 0.0495 0.0267

Jupiter -72953-06-02 00:13 J -24924507.64 -24924507.49 -24924507.35 0.0496 0.0302

Pluto -72949-06-15 11:59 J -24923033.06 -24923033.00 -24923032.92 0.0060 0.0056

Saturn -72949-08-13 15:35 J -24922973.85 -24922973.85 -24922973.85 0.0294 0.0293

Pluto -72949-09-11 13:11 J -24922945.04 -24922944.95 -24922944.84 0.0060 0.0050

Saturn -72949-11-10 03:21 J -24922885.46 -24922885.36 -24922885.25 0.0293 0.0169

Pluto -72949-12-08 14:09 J -24922857.01 -24922856.91 -24922856.76 0.0060 0.0045

Saturn -72948-02-06 15:06 J -24922797.00 -24922796.87 -24922796.74 0.0292 0.0045

Pluto -72948-03-06 15:49 J -24922768.97 -24922768.84 -24922768.70 0.0060 0.0040

Saturn -72948-05-06 02:52 J -24922708.50 -24922708.38 -24922708.26 0.0291 0.0077

Pluto -72948-06-02 16:47 J -24922680.93 -24922680.80 -24922680.63 0.0060 0.0035

Saturn -72948-08-02 14:37 J -24922619.99 -24922619.89 -24922619.80 0.0290 0.0199

Pluto -72948-08-29 17:59 J -24922592.89 -24922592.75 -24922592.57 0.0060 0.0030

Pluto -72948-11-25 19:25 J -24922504.85 -24922504.69 -24922504.51 0.0060 0.0024

Jupiter -72947-01-24 21:06 J -24922444.73 -24922444.62 -24922444.50 0.0531 0.0177

Pluto -72947-02-21 20:37 J -24922416.80 -24922416.64 -24922416.45 0.0060 0.0019

Earth -72947-04-22 11:45 J -24922357.10 -24922357.01 -24922356.93 0.2726 0.1599

Moon -72947-04-22 12:13 J -24922357.07 -24922356.99 -24922356.90 0.2730 0.1724 *

Jupiter -72947-04-24 03:21 J -24922355.46 -24922355.36 -24922355.25 0.0530 0.0283

Pluto -72947-05-20 22:04 J -24922328.75 -24922328.58 -24922328.39 0.0061 0.0013

Pluto -72947-08-16 23:30 J -24922240.70 -24922240.52 -24922240.33 0.0061 0.0007

Mars -72947-09-05 17:59 J -24922220.90 -24922220.75 -24922220.59 0.1598 0.0574

Pluto -72947-11-13 00:57 J -24922152.65 -24922152.46 -24922152.28 0.0061 0.0002

Pluto -72946-02-09 02:09 J -24922064.60 -24922064.41 -24922064.22 0.0061 0.0004

Pluto -72946-05-08 03:21 J -24921976.54 -24921976.36 -24921976.17 0.0061 0.0010

Pluto -72946-08-04 04:47 J -24921888.48 -24921888.30 -24921888.12 0.0061 0.0015

Pluto -72946-10-31 05:59 J -24921800.42 -24921800.25 -24921800.07 0.0061 0.0021

Pluto -72945-01-27 07:11 J -24921712.36 -24921712.20 -24921712.02 0.0061 0.0027

Pluto -72945-04-24 08:37 J -24921624.29 -24921624.14 -24921623.97 0.0061 0.0032

Pluto -72945-07-21 09:49 J -24921536.22 -24921536.09 -24921535.93 0.0061 0.0038

Pluto -72945-10-17 11:01 J -24921448.15 -24921448.04 -24921447.89 0.0061 0.0044

Pluto -72944-01-13 12:57 J -24921360.07 -24921359.96 -24921359.85 0.0061 0.0050

Pluto -72944-04-11 13:54 J -24921271.98 -24921271.92 -24921271.83 0.0061 0.0056

Mars -72944-06-10 22:47 J -24921211.60 -24921211.55 -24921211.50 0.1942 0.1721

Venus -72943-03-05 15:06 J -24920943.92 -24920943.87 -24920943.82 0.3804 0.3293

Uranus -72942-08-10 03:49 J -24920421.37 -24920421.34 -24920421.30 0.0135 0.0129

Uranus -72942-11-06 06:42 J -24920333.28 -24920333.22 -24920333.14 0.0135 0.0114

Jupiter -72942-12-21 10:04 J -24920288.18 -24920288.08 -24920287.98 0.0495 0.0417

Uranus -72941-02-02 09:49 J -24920245.17 -24920245.09 -24920244.99 0.0135 0.0097

Jupiter -72941-03-20 20:23 J -24920197.83 -24920197.65 -24920197.47 0.0495 0.0152

Uranus -72941-04-30 12:57 J -24920157.06 -24920156.96 -24920156.85 0.0135 0.0081

Uranus -72941-07-27 16:04 J -24920068.94 -24920068.83 -24920068.71 0.0136 0.0064

Uranus -72941-10-23 19:11 J -24919980.82 -24919980.70 -24919980.58 0.0136 0.0048

Uranus -72940-01-19 22:18 J -24919892.70 -24919892.57 -24919892.44 0.0136 0.0031

Moon -72940-04-15 10:47 J -24919807.13 -24919807.05 -24919806.97 0.2725 0.1745

Earth -72940-04-15 11:30 J -24919807.11 -24919807.02 -24919806.94 0.2722 0.1712 *

Uranus -72940-04-18 01:25 J -24919804.57 -24919804.44 -24919804.31 0.0136 0.0014

Uranus -72940-07-15 04:33 J -24919716.44 -24919716.31 -24919716.18 0.0136 0.0003

Uranus -72940-10-11 07:40 J -24919628.31 -24919628.18 -24919628.05 0.0136 0.0020

Uranus -72939-01-07 10:47 J -24919540.18 -24919540.05 -24919539.92 0.0136 0.0037

Uranus -72939-04-05 13:54 J -24919452.04 -24919451.92 -24919451.79 0.0136 0.0054

Uranus -72939-07-02 17:16 J -24919363.90 -24919363.78 -24919363.67 0.0137 0.0071

Uranus -72939-09-28 20:09 J -24919275.75 -24919275.66 -24919275.55 0.0137 0.0089

Uranus -72939-12-25 23:30 J -24919187.60 -24919187.52 -24919187.43 0.0137 0.0106

Uranus -72938-03-24 02:37 J -24919099.44 -24919099.39 -24919099.33 0.0137 0.0123

Venus -72938-09-19 08:09 J -24918920.25 -24918920.16 -24918920.07 0.3802 0.1910

Mars -72937-01-26 19:54 J -24918790.84 -24918790.67 -24918790.51 0.1594 0.0336

Moon -72937-10-12 18:57 J -24918530.83 -24918530.71 -24918530.59 0.2607 0.1794

Earth -72937-10-12 19:54 J -24918530.79 -24918530.67 -24918530.54 0.2612 0.1676 *

Jupiter -72936-11-13 01:25 J -24918134.54 -24918134.44 -24918134.33 0.0531 0.0288

Jupiter -72935-02-10 07:40 J -24918045.30 -24918045.18 -24918045.06 0.0530 0.0171

Mars -72935-11-01 06:13 J -24917781.34 -24917781.24 -24917781.13 0.1948 0.0704

Saturn -72933-08-20 20:09 J -24917122.68 -24917122.66 -24917122.63 0.0268 0.0265

Saturn -72933-11-17 18:42 J -24917033.89 -24917033.72 -24917033.54 0.0269 0.0121

Saturn -72932-02-14 17:30 J -24916944.96 -24916944.77 -24916944.58 0.0270 0.0025

Venus -72932-04-04 01:25 J -24916896.54 -24916896.44 -24916896.33 0.3799 0.0500

Saturn -72932-05-14 16:04 J -24916855.97 -24916855.83 -24916855.68 0.0271 0.0172

Jupiter -72929-01-07 17:30 J -24915887.96 -24915887.77 -24915887.59 0.0495 0.0014

Mars -72928-06-17 21:35 J -24915360.70 -24915360.60 -24915360.49 0.1590 0.1235

Moon -72927-04-18 04:47 J -24915056.40 -24915056.30 -24915056.19 0.2730 0.0625

Earth -72927-04-18 05:01 J -24915056.39 -24915056.29 -24915056.18 0.2723 0.0532 *

Venus -72927-10-18 18:57 J -24914872.82 -24914872.71 -24914872.61 0.3797 0.0950

Mars -72925-03-23 14:09 J -24914351.03 -24914350.91 -24914350.80 0.1954 0.0316

Jupiter -72924-09-01 05:16 J -24913824.36 -24913824.28 -24913824.20 0.0531 0.0408

Moon -72924-10-16 02:09 J -24913779.56 -24913779.41 -24913779.25 0.2610 0.0617

Earth -72924-10-16 04:04 J -24913779.48 -24913779.33 -24913779.17 0.2610 0.0738 *

Jupiter -72924-11-29 11:16 J -24913735.16 -24913735.03 -24913734.90 0.0530 0.0047

Jupiter -72923-02-26 17:30 J -24913645.80 -24913645.77 -24913645.73 0.0529 0.0505

Venus -72921-05-03 12:28 J -24912849.06 -24912848.98 -24912848.90 0.3794 0.2416

Saturn -72919-03-30 06:28 J -24912153.32 -24912153.23 -24912153.13 0.0294 0.0196

Saturn -72919-06-26 18:13 J -24912064.86 -24912064.74 -24912064.61 0.0293 0.0072

Saturn -72919-09-23 05:59 J -24911976.38 -24911976.25 -24911976.12 0.0292 0.0052

Saturn -72919-12-20 17:45 J -24911887.86 -24911887.76 -24911887.66 0.0291 0.0174

Jupiter -72918-10-26 14:37 J -24911578.07 -24911577.89 -24911577.71 0.0496 0.0129

Jupiter -72917-01-25 00:42 J -24911487.55 -24911487.47 -24911487.38 0.0496 0.0439

Mars -72916-08-13 21:49 J -24910920.68 -24910920.59 -24910920.51 0.1959 0.1337

Earth -72914-04-20 22:47 J -24910305.65 -24910305.55 -24910305.45 0.2725 0.0653

Moon -72914-04-20 23:16 J -24910305.64 -24910305.53 -24910305.43 0.2731 0.0772 *

Jupiter -72912-06-20 09:21 J -24909514.13 -24909514.11 -24909514.10 0.0530 0.0523

Jupiter -72912-09-17 15:06 J -24909424.99 -24909424.87 -24909424.74 0.0530 0.0071

Venus -72912-11-14 02:37 J -24909367.51 -24909367.39 -24909367.26 0.3578 0.1766

Jupiter -72912-12-15 21:21 J -24909335.69 -24909335.61 -24909335.52 0.0530 0.0388

Mars -72907-03-06 18:42 J -24907793.87 -24907793.72 -24907793.57 0.1598 0.0703

Earth -72907-04-13 22:33 J -24907755.58 -24907755.56 -24907755.54 0.2720 0.2637

Venus -72906-05-31 05:59 J -24907343.39 -24907343.25 -24907343.11 0.3581 0.0796

Jupiter -72906-08-14 11:30 J -24907268.17 -24907268.02 -24907267.86 0.0495 0.0272

Jupiter -72906-11-12 21:49 J -24907177.73 -24907177.59 -24907177.44 0.0496 0.0298

Mars -72905-12-09 22:33 J -24906784.60 -24906784.56 -24906784.52 0.1942 0.1814

Saturn -72903-04-06 18:42 J -24906301.87 -24906301.72 -24906301.55 0.0269 0.0153

Saturn -72903-07-04 17:30 J -24906212.96 -24906212.77 -24906212.57 0.0270 0.0009

Saturn -72903-10-01 16:04 J -24906123.99 -24906123.83 -24906123.66 0.0271 0.0140

Uranus -72902-09-19 04:18 J -24905771.43 -24905771.32 -24905771.21 0.0143 0.0117

Uranus -72902-12-16 12:42 J -24905683.12 -24905682.97 -24905682.82 0.0143 0.0087

Uranus -72901-03-13 21:06 J -24905594.80 -24905594.62 -24905594.44 0.0143 0.0058

Earth -72901-04-22 16:33 J -24905554.89 -24905554.81 -24905554.73 0.2727 0.1844

Moon -72901-04-22 17:01 J -24905554.86 -24905554.79 -24905554.71 0.2729 0.1881 *

Uranus -72901-06-10 05:30 J -24905506.46 -24905506.27 -24905506.08 0.0143 0.0029

Uranus -72901-09-06 13:54 J -24905418.12 -24905417.92 -24905417.73 0.0143 0.0002

Uranus -72901-12-03 22:04 J -24905329.77 -24905329.58 -24905329.39 0.0142 0.0028

Venus -72901-12-14 08:37 J -24905319.19 -24905319.14 -24905319.08 0.3584 0.3255

Uranus -72900-03-02 06:13 J -24905241.41 -24905241.24 -24905241.06 0.0142 0.0057

Uranus -72900-05-29 14:37 J -24905153.05 -24905152.89 -24905152.74 0.0142 0.0085

Jupiter -72900-07-06 19:11 J -24905114.82 -24905114.70 -24905114.58 0.0531 0.0187

Uranus -72900-08-25 22:47 J -24905064.67 -24905064.55 -24905064.44 0.0142 0.0112

Jupiter -72900-10-04 01:11 J -24905025.55 -24905025.45 -24905025.34 0.0530 0.0271

Uranus -72900-11-22 06:42 J -24904976.24 -24904976.22 -24904976.19 0.0142 0.0140

Mars -72898-07-27 20:23 J -24904363.81 -24904363.65 -24904363.48 0.1594 0.0205

Mars -72895-05-02 06:28 J -24903354.34 -24903354.23 -24903354.13 0.1948 0.0822

Moon -72894-04-16 15:35 J -24903004.93 -24903004.85 -24903004.76 0.2727 0.1554

Earth -72894-04-16 16:18 J -24903004.91 -24903004.82 -24903004.73 0.2722 0.1469 *

Jupiter -72894-06-02 08:23 J -24902958.25 -24902958.15 -24902958.05 0.0495 0.0415

Jupiter -72894-08-31 18:42 J -24902867.89 -24902867.72 -24902867.54 0.0496 0.0156

Moon -72891-10-14 01:25 J -24901728.58 -24901728.44 -24901728.30 0.2608 0.1354

Earth -72891-10-14 02:52 J -24901728.53 -24901728.38 -24901728.24 0.2612 0.1201 *

Saturn -72890-08-17 08:52 J -24901421.20 -24901421.13 -24901421.05 0.0294 0.0229

Saturn -72890-11-13 20:52 J -24901332.75 -24901332.63 -24901332.51 0.0293 0.0105

Saturn -72889-02-10 08:37 J -24901244.27 -24901244.14 -24901244.01 0.0292 0.0020

Saturn -72889-05-08 20:09 J -24901155.77 -24901155.66 -24901155.54 0.0291 0.0141

Saturn -72889-08-05 07:54 J -24901067.22 -24901067.17 -24901067.12 0.0290 0.0261

Mars -72889-12-16 22:18 J -24900933.69 -24900933.57 -24900933.44 0.1590 0.1096

Jupiter -72888-04-24 23:30 J -24900804.62 -24900804.52 -24900804.42 0.0531 0.0297

Jupiter -72888-07-23 05:45 J -24900715.38 -24900715.26 -24900715.14 0.0531 0.0161

Venus -72887-10-10 12:57 J -24900271.03 -24900270.96 -24900270.89 0.3803 0.2829

Mars -72886-09-22 14:09 J -24899924.03 -24899923.91 -24899923.80 0.1953 0.0199

Neptune -72882-03-17 23:59 J -24898651.52 -24898651.50 -24898651.42 0.0089 0.0086

Neptune -72882-06-14 03:49 J -24898563.41 -24898563.34 -24898563.23 0.0089 0.0079

Jupiter -72882-06-19 15:06 J -24898558.05 -24898557.87 -24898557.68 0.0495 0.0014

Neptune -72882-09-10 08:09 J -24898475.28 -24898475.16 -24898475.05 0.0089 0.0071

Neptune -72882-12-07 11:45 J -24898387.14 -24898387.01 -24898386.87 0.0089 0.0064

Neptune -72881-03-04 15:21 J -24898299.00 -24898298.86 -24898298.70 0.0089 0.0057

Moon -72881-04-18 09:49 J -24898254.20 -24898254.09 -24898253.99 0.2730 0.0277

Earth -72881-04-18 09:49 J -24898254.19 -24898254.09 -24898253.98 0.2723 0.0297 *

Venus -72881-04-25 05:59 J -24898247.34 -24898247.25 -24898247.15 0.3801 0.1435

Neptune -72881-05-31 19:11 J -24898210.85 -24898210.70 -24898210.53 0.0089 0.0050

Neptune -72881-08-27 22:47 J -24898122.71 -24898122.55 -24898122.36 0.0089 0.0043

Neptune -72881-11-24 02:37 J -24898034.56 -24898034.39 -24898034.20 0.0089 0.0036

Neptune -72880-02-20 06:28 J -24897946.41 -24897946.23 -24897946.04 0.0089 0.0028

Neptune -72880-05-19 10:04 J -24897858.26 -24897858.08 -24897857.87 0.0089 0.0022

Neptune -72880-08-15 14:09 J -24897770.10 -24897769.91 -24897769.71 0.0089 0.0014

Neptune -72880-11-11 17:59 J -24897681.95 -24897681.75 -24897681.56 0.0089 0.0007

Neptune -72879-02-07 21:35 J -24897593.79 -24897593.60 -24897593.40 0.0089 0.0001

Neptune -72879-05-07 01:25 J -24897505.64 -24897505.44 -24897505.24 0.0089 0.0008

Neptune -72879-08-03 05:01 J -24897417.48 -24897417.29 -24897417.09 0.0089 0.0015

Neptune -72879-10-30 08:52 J -24897329.32 -24897329.13 -24897328.94 0.0089 0.0022

Neptune -72878-01-26 12:28 J -24897241.16 -24897240.98 -24897240.79 0.0089 0.0029

Neptune -72878-04-24 16:18 J -24897153.00 -24897152.82 -24897152.64 0.0089 0.0036

Neptune -72878-07-21 19:40 J -24897064.84 -24897064.68 -24897064.49 0.0089 0.0044

Moon -72878-10-17 09:06 J -24896977.27 -24896977.12 -24896976.97 0.2610 0.0977

Earth -72878-10-17 11:01 J -24896977.19 -24896977.04 -24896976.90 0.2610 0.1213 *

Neptune -72878-10-17 23:16 J -24896976.67 -24896976.53 -24896976.35 0.0089 0.0051

Neptune -72877-01-14 03:06 J -24896888.50 -24896888.37 -24896888.20 0.0089 0.0058

Neptune -72877-04-11 06:42 J -24896800.33 -24896800.22 -24896800.07 0.0089 0.0065

Neptune -72877-07-08 10:33 J -24896712.16 -24896712.06 -24896711.93 0.0089 0.0072

Neptune -72877-10-04 14:09 J -24896623.98 -24896623.91 -24896623.80 0.0089 0.0079

Neptune -72877-12-31 17:45 J -24896535.78 -24896535.76 -24896535.69 0.0089 0.0086

Jupiter -72876-02-11 03:49 J -24896494.42 -24896494.34 -24896494.26 0.0531 0.0408

Mars -72876-02-11 21:49 J -24896493.68 -24896493.59 -24896493.51 0.1959 0.1226

Jupiter -72876-05-11 10:04 J -24896405.21 -24896405.08 -24896404.96 0.0531 0.0051

Jupiter -72876-08-08 16:18 J -24896315.85 -24896315.82 -24896315.79 0.0530 0.0509

Venus -72876-11-08 23:16 J -24896223.63 -24896223.53 -24896223.42 0.3798 0.0160

Saturn -72874-08-24 16:47 J -24895569.92 -24895569.80 -24895569.67 0.0269 0.0198

Saturn -72874-11-21 15:21 J -24895481.04 -24895480.86 -24895480.67 0.0269 0.0055

Saturn -72873-02-18 14:09 J -24895392.09 -24895391.91 -24895391.73 0.0270 0.0092

Saturn -72873-05-17 12:42 J -24895303.05 -24895302.97 -24895302.88 0.0271 0.0239

Jupiter -72870-04-07 12:13 J -24894248.17 -24894247.99 -24894247.81 0.0495 0.0133

Venus -72870-05-25 16:47 J -24894199.90 -24894199.80 -24894199.70 0.3796 0.1455

Jupiter -72870-07-06 22:18 J -24894157.65 -24894157.57 -24894157.48 0.0496 0.0435

Earth -72868-04-21 03:35 J -24893503.45 -24893503.35 -24893503.25 0.2725 0.0895

Moon -72868-04-21 04:04 J -24893503.43 -24893503.33 -24893503.23 0.2731 0.0891 *

Mars -72868-09-04 19:25 J -24893366.83 -24893366.69 -24893366.55 0.1598 0.0844

Mars -72865-06-09 22:33 J -24892357.56 -24892357.56 -24892357.55 0.1942 0.1935

Jupiter -72865-11-30 07:40 J -24892184.19 -24892184.18 -24892184.16 0.0531 0.0526

Venus -72865-12-08 10:33 J -24892176.13 -24892176.06 -24892176.00 0.3793 0.2938

Jupiter -72864-02-27 13:40 J -24892095.05 -24892094.93 -24892094.80 0.0530 0.0072

Jupiter -72864-05-27 19:54 J -24892005.76 -24892005.67 -24892005.58 0.0530 0.0386

Moon -72861-04-14 02:37 J -24890953.43 -24890953.39 -24890953.34 0.2719 0.2457

Earth -72861-04-14 03:21 J -24890953.41 -24890953.36 -24890953.31 0.2720 0.2397 *

Venus -72861-12-04 23:45 J -24890718.53 -24890718.51 -24890718.50 0.3577 0.3551

Saturn -72860-01-03 11:30 J -24890689.07 -24890689.02 -24890688.96 0.0295 0.0261

Saturn -72860-04-01 23:30 J -24890600.64 -24890600.52 -24890600.41 0.0294 0.0136

Saturn -72860-06-29 11:16 J -24890512.16 -24890512.03 -24890511.90 0.0293 0.0013

Saturn -72860-09-25 22:47 J -24890423.66 -24890423.55 -24890423.42 0.0292 0.0112

Saturn -72860-12-23 10:33 J -24890335.13 -24890335.06 -24890334.98 0.0291 0.0232

Jupiter -72858-01-24 09:21 J -24889938.26 -24889938.11 -24889937.95 0.0496 0.0276

Mars -72858-01-25 21:21 J -24889936.78 -24889936.61 -24889936.45 0.1594 0.0073

Jupiter -72858-04-24 19:40 J -24889847.82 -24889847.68 -24889847.53 0.0496 0.0296

Uranus -72858-08-30 10:47 J -24889720.08 -24889720.05 -24889719.99 0.0135 0.0126

Uranus -72858-11-26 14:09 J -24889631.99 -24889631.91 -24889631.84 0.0135 0.0110

Uranus -72857-02-22 17:01 J -24889543.88 -24889543.79 -24889543.69 0.0135 0.0094

Uranus -72857-05-20 20:09 J -24889455.76 -24889455.66 -24889455.55 0.0136 0.0077

Uranus -72857-08-16 23:16 J -24889367.64 -24889367.53 -24889367.41 0.0136 0.0060

Uranus -72857-11-13 02:23 J -24889279.52 -24889279.40 -24889279.27 0.0136 0.0044

Uranus -72856-02-09 05:30 J -24889191.40 -24889191.27 -24889191.14 0.0136 0.0027

Uranus -72856-05-08 08:37 J -24889103.27 -24889103.14 -24889103.01 0.0136 0.0010

Uranus -72856-08-04 11:45 J -24889015.14 -24889015.01 -24889014.88 0.0136 0.0007

Mars -72856-10-31 06:13 J -24888927.34 -24888927.24 -24888927.14 0.1948 0.0925

Uranus -72856-10-31 14:52 J -24888927.01 -24888926.88 -24888926.75 0.0136 0.0024

Pluto -72855-01-17 00:42 J -24888849.51 -24888849.47 -24888849.40 0.0084 0.0078

Uranus -72855-01-27 17:59 J -24888838.87 -24888838.75 -24888838.62 0.0136 0.0041

Pluto -72855-04-15 02:23 J -24888761.48 -24888761.40 -24888761.31 0.0084 0.0067

Earth -72855-04-23 21:21 J -24888752.68 -24888752.61 -24888752.54 0.2727 0.2086

Moon -72855-04-23 22:04 J -24888752.64 -24888752.58 -24888752.52 0.2728 0.2230 *

Uranus -72855-04-25 21:06 J -24888750.73 -24888750.62 -24888750.50 0.0136 0.0058

Venus -72855-06-21 03:21 J -24888694.50 -24888694.36 -24888694.22 0.3579 0.0898

Pluto -72855-07-12 03:49 J -24888673.44 -24888673.34 -24888673.23 0.0084 0.0055

Uranus -72855-07-23 00:28 J -24888662.59 -24888662.48 -24888662.37 0.0137 0.0075

Pluto -72855-10-08 05:30 J -24888585.39 -24888585.27 -24888585.16 0.0084 0.0044

Uranus -72855-10-19 03:21 J -24888574.44 -24888574.36 -24888574.25 0.0137 0.0093

Pluto -72854-01-04 06:42 J -24888497.34 -24888497.22 -24888497.09 0.0084 0.0034

Uranus -72854-01-15 06:42 J -24888486.29 -24888486.22 -24888486.14 0.0137 0.0110

Pluto -72854-04-02 08:09 J -24888409.29 -24888409.16 -24888409.02 0.0084 0.0023

Uranus -72854-04-13 10:04 J -24888398.13 -24888398.08 -24888398.03 0.0137 0.0127

Pluto -72854-06-29 09:35 J -24888321.23 -24888321.10 -24888320.96 0.0083 0.0012

Pluto -72854-09-25 11:01 J -24888233.18 -24888233.04 -24888232.90 0.0083 0.0002

Pluto -72854-12-22 12:28 J -24888145.12 -24888144.98 -24888144.84 0.0083 0.0010

Pluto -72853-03-19 13:54 J -24888057.06 -24888056.92 -24888056.79 0.0083 0.0020

Pluto -72853-06-15 15:06 J -24887968.99 -24887968.87 -24887968.74 0.0083 0.0031

Pluto -72853-09-11 16:33 J -24887880.93 -24887880.81 -24887880.69 0.0083 0.0041

Pluto -72853-12-08 17:30 J -24887792.86 -24887792.77 -24887792.65 0.0083 0.0052

Jupiter -72853-12-16 17:45 J -24887784.88 -24887784.76 -24887784.64 0.0530 0.0187

Pluto -72852-03-06 18:57 J -24887704.79 -24887704.71 -24887704.61 0.0083 0.0062

Jupiter -72852-03-15 23:45 J -24887695.61 -24887695.51 -24887695.39 0.0530 0.0271

Pluto -72852-06-02 20:23 J -24887616.71 -24887616.65 -24887616.58 0.0082 0.0072

Pluto -72852-08-29 21:35 J -24887528.60 -24887528.60 -24887528.57 0.0082 0.0082

Venus -72849-01-05 06:28 J -24886670.36 -24886670.23 -24886670.10 0.3582 0.1633

Mars -72849-06-16 23:01 J -24886506.68 -24886506.54 -24886506.41 0.1590 0.0970

Moon -72848-04-16 20:23 J -24886202.74 -24886202.65 -24886202.55 0.2727 0.1291

Earth -72848-04-16 21:06 J -24886202.72 -24886202.62 -24886202.53 0.2722 0.1230 *

Jupiter -72847-11-12 06:28 J -24885628.33 -24885628.23 -24885628.13 0.0495 0.0417

Jupiter -72846-02-10 17:01 J -24885537.97 -24885537.79 -24885537.62 0.0496 0.0155

Mars -72846-03-23 13:54 J -24885497.03 -24885496.92 -24885496.80 0.1954 0.0108

Moon -72845-10-14 07:54 J -24884926.32 -24884926.17 -24884926.01 0.2609 0.0829

Earth -72845-10-14 09:35 J -24884926.25 -24884926.10 -24884925.94 0.2612 0.0733 *

Saturn -72844-01-10 16:18 J -24884837.91 -24884837.82 -24884837.72 0.0268 0.0233

Saturn -72844-04-09 14:52 J -24884749.06 -24884748.88 -24884748.69 0.0269 0.0090

Saturn -72844-07-07 13:40 J -24884660.12 -24884659.93 -24884659.74 0.0270 0.0056

Saturn -72844-10-04 11:59 J -24884571.11 -24884571.00 -24884570.86 0.0271 0.0203

Jupiter -72841-10-04 21:35 J -24883474.70 -24883474.60 -24883474.49 0.0531 0.0305

Jupiter -72840-01-02 03:49 J -24883385.46 -24883385.34 -24883385.22 0.0530 0.0153

Mars -72837-08-12 21:49 J -24882066.68 -24882066.59 -24882066.50 0.1959 0.1103

Venus -72836-10-31 17:30 J -24881621.78 -24881621.77 -24881621.75 0.3805 0.3734

Earth -72835-04-19 14:37 J -24881452.00 -24881451.89 -24881451.78 0.2724 0.0072

Moon -72835-04-19 14:37 J -24881451.99 -24881451.89 -24881451.78 0.2730 0.0113 *

Jupiter -72835-11-29 13:54 J -24881228.10 -24881227.92 -24881227.73 0.0496 0.0016

Moon -72832-10-17 15:49 J -24880174.97 -24880174.84 -24880174.71 0.2610 0.1518

Earth -72832-10-17 17:45 J -24880174.89 -24880174.76 -24880174.64 0.2610 0.1675 *

Saturn -72831-08-20 01:40 J -24879868.53 -24879868.43 -24879868.32 0.0293 0.0171

Saturn -72831-11-16 13:25 J -24879780.06 -24879779.94 -24879779.81 0.0292 0.0048

Saturn -72830-02-13 01:11 J -24879691.57 -24879691.45 -24879691.32 0.0291 0.0077

Saturn -72830-05-12 12:57 J -24879603.05 -24879602.96 -24879602.86 0.0290 0.0198

Venus -72830-05-17 10:47 J -24879598.13 -24879598.05 -24879597.97 0.3803 0.2353

Jupiter -72829-07-24 02:09 J -24879164.49 -24879164.41 -24879164.33 0.0531 0.0414

Jupiter -72829-10-21 08:09 J -24879075.29 -24879075.16 -24879075.03 0.0531 0.0042

Jupiter -72828-01-18 14:23 J -24878985.93 -24878985.90 -24878985.86 0.0530 0.0502

Mars -72828-03-05 20:09 J -24878939.79 -24878939.66 -24878939.53 0.1598 0.0981

Venus -72825-11-30 04:04 J -24877574.44 -24877574.33 -24877574.23 0.3800 0.0953

Jupiter -72823-09-17 10:33 J -24876918.24 -24876918.06 -24876917.88 0.0495 0.0133

Jupiter -72823-12-16 20:37 J -24876827.73 -24876827.64 -24876827.55 0.0496 0.0435

Earth -72822-04-22 08:23 J -24876701.25 -24876701.15 -24876701.05 0.2725 0.1137

Moon -72822-04-22 08:52 J -24876701.23 -24876701.13 -24876701.04 0.2731 0.1258 *

Venus -72819-06-15 21:21 J -24875550.72 -24875550.61 -24875550.51 0.3798 0.0495

Mars -72819-07-26 21:49 J -24875509.75 -24875509.59 -24875509.42 0.1594 0.0082

Uranus -72818-07-13 02:23 J -24875158.42 -24875158.40 -24875158.37 0.0143 0.0142

Uranus -72818-10-09 10:47 J -24875070.16 -24875070.05 -24875069.92 0.0143 0.0112

Uranus -72817-01-05 19:11 J -24874981.85 -24874981.70 -24874981.53 0.0143 0.0083

Uranus -72817-04-03 03:49 J -24874893.52 -24874893.34 -24874893.16 0.0143 0.0054

Jupiter -72817-05-12 06:28 J -24874854.24 -24874854.23 -24874854.21 0.0531 0.0524

Uranus -72817-06-30 12:13 J -24874805.18 -24874804.99 -24874804.80 0.0143 0.0025

Jupiter -72817-08-09 12:28 J -24874765.10 -24874764.98 -24874764.85 0.0531 0.0071

Uranus -72817-09-26 20:37 J -24874716.84 -24874716.64 -24874716.45 0.0143 0.0005

Jupiter -72817-11-06 18:42 J -24874675.80 -24874675.72 -24874675.63 0.0530 0.0392

Uranus -72817-12-24 04:47 J -24874628.49 -24874628.30 -24874628.11 0.0142 0.0032

Uranus -72816-03-22 12:57 J -24874540.13 -24874539.96 -24874539.78 0.0142 0.0061

Mars -72816-05-01 06:13 J -24874500.33 -24874500.24 -24874500.14 0.1948 0.1031

Uranus -72816-06-18 20:52 J -24874451.76 -24874451.63 -24874451.46 0.0142 0.0090

Uranus -72816-09-15 05:01 J -24874363.38 -24874363.29 -24874363.17 0.0142 0.0117

Moon -72815-04-15 07:25 J -24874151.24 -24874151.19 -24874151.13 0.2722 0.2285

Earth -72815-04-15 08:09 J -24874151.22 -24874151.16 -24874151.10 0.2720 0.2156 *

Saturn -72815-08-27 12:13 J -24874017.15 -24874016.99 -24874016.83 0.0269 0.0140

Saturn -72815-11-24 10:47 J -24873928.24 -24873928.05 -24873927.86 0.0270 0.0005

Saturn -72814-02-21 09:21 J -24873839.26 -24873839.11 -24873838.95 0.0270 0.0151

Venus -72814-12-30 14:52 J -24873526.97 -24873526.88 -24873526.79 0.3795 0.1963

Jupiter -72811-07-06 07:40 J -24872608.33 -24872608.18 -24872608.02 0.0495 0.0273

Jupiter -72811-10-04 17:59 J -24872517.90 -24872517.75 -24872517.60 0.0496 0.0297

Mars -72810-12-16 23:45 J -24872079.65 -24872079.51 -24872079.36 0.1590 0.0823

Earth -72809-04-24 02:09 J -24871950.47 -24871950.41 -24871950.36 0.2727 0.2328

Moon -72809-04-24 02:52 J -24871950.43 -24871950.38 -24871950.33 0.2726 0.2347 *

Venus -72808-07-15 08:23 J -24871503.19 -24871503.15 -24871503.11 0.3792 0.3458

Mars -72807-09-21 14:09 J -24871070.03 -24871069.91 -24871069.80 0.1953 0.0050

Jupiter -72805-05-28 16:33 J -24870454.93 -24870454.81 -24870454.69 0.0530 0.0187

Jupiter -72805-08-25 22:33 J -24870365.67 -24870365.56 -24870365.45 0.0530 0.0271

Venus -72804-07-12 00:28 J -24870045.57 -24870045.48 -24870045.38 0.3577 0.2657

Moon -72802-04-18 01:25 J -24869400.54 -24869400.44 -24869400.34 0.2727 0.1040

Earth -72802-04-18 01:54 J -24869400.52 -24869400.42 -24869400.32 0.2722 0.0988 *

Saturn -72801-01-07 03:49 J -24869136.43 -24869136.34 -24869136.25 0.0294 0.0208

Saturn -72801-04-04 15:35 J -24869047.97 -24869047.85 -24869047.72 0.0293 0.0083

Neptune -72801-06-29 13:40 J -24868961.93 -24868961.93 -24868961.93 0.0089 0.0089

Saturn -72801-07-02 03:21 J -24868959.48 -24868959.36 -24868959.23 0.0292 0.0042

Neptune -72801-09-25 14:52 J -24868873.92 -24868873.88 -24868873.84 0.0089 0.0084

Saturn -72801-09-28 15:06 J -24868870.97 -24868870.87 -24868870.76 0.0291 0.0164

Neptune -72801-12-22 15:49 J -24868785.88 -24868785.84 -24868785.77 0.0089 0.0080

Saturn -72801-12-26 02:52 J -24868782.40 -24868782.38 -24868782.36 0.0290 0.0284

Neptune -72800-03-20 17:16 J -24868697.84 -24868697.78 -24868697.70 0.0089 0.0075

Neptune -72800-06-16 18:42 J -24868609.80 -24868609.72 -24868609.64 0.0089 0.0070

Neptune -72800-09-12 19:54 J -24868521.75 -24868521.67 -24868521.58 0.0089 0.0065

Neptune -72800-12-09 21:21 J -24868433.70 -24868433.61 -24868433.51 0.0089 0.0060

Neptune -72799-03-07 22:33 J -24868345.66 -24868345.56 -24868345.45 0.0089 0.0056

Jupiter -72799-04-24 04:33 J -24868298.41 -24868298.31 -24868298.21 0.0496 0.0417

Neptune -72799-06-03 23:45 J -24868257.61 -24868257.51 -24868257.39 0.0089 0.0051

Jupiter -72799-07-23 15:06 J -24868208.04 -24868207.87 -24868207.69 0.0496 0.0157

Neptune -72799-08-31 01:11 J -24868169.56 -24868169.45 -24868169.34 0.0089 0.0046

Moon -72799-10-15 14:37 J -24868124.05 -24868123.89 -24868123.73 0.2609 0.0530

Earth -72799-10-15 16:18 J -24868123.98 -24868123.82 -24868123.66 0.2611 0.0268 *

Neptune -72799-11-27 02:37 J -24868081.51 -24868081.39 -24868081.28 0.0089 0.0041

Venus -72798-01-26 04:04 J -24868021.48 -24868021.33 -24868021.19 0.3580 0.0049

Neptune -72798-02-23 03:35 J -24867993.46 -24867993.35 -24867993.22 0.0089 0.0037

Neptune -72798-05-22 05:01 J -24867905.41 -24867905.29 -24867905.16 0.0089 0.0032

Neptune -72798-08-18 06:28 J -24867817.36 -24867817.23 -24867817.11 0.0089 0.0027

Neptune -72798-11-14 07:40 J -24867729.31 -24867729.18 -24867729.05 0.0089 0.0022

Neptune -72797-02-10 08:52 J -24867641.25 -24867641.13 -24867641.00 0.0089 0.0018

Mars -72797-02-11 21:35 J -24867639.70 -24867639.60 -24867639.50 0.1959 0.1014

Neptune -72797-05-08 10:18 J -24867553.20 -24867553.07 -24867552.94 0.0089 0.0012

Neptune -72797-08-04 11:30 J -24867465.15 -24867465.02 -24867464.88 0.0089 0.0008

Neptune -72797-10-31 12:57 J -24867377.09 -24867376.96 -24867376.83 0.0089 0.0003

Neptune -72796-01-27 14:09 J -24867289.04 -24867288.91 -24867288.78 0.0089 0.0002

Neptune -72796-04-25 15:21 J -24867200.99 -24867200.86 -24867200.72 0.0089 0.0008

Neptune -72796-07-22 16:47 J -24867112.93 -24867112.80 -24867112.67 0.0089 0.0012

Neptune -72796-10-18 17:59 J -24867024.87 -24867024.75 -24867024.62 0.0089 0.0017

Neptune -72795-01-14 19:25 J -24866936.82 -24866936.69 -24866936.56 0.0089 0.0021

Neptune -72795-04-12 20:37 J -24866848.76 -24866848.64 -24866848.51 0.0089 0.0026

Neptune -72795-07-09 21:49 J -24866760.71 -24866760.59 -24866760.46 0.0089 0.0031

Neptune -72795-10-05 23:16 J -24866672.65 -24866672.53 -24866672.41 0.0089 0.0036

Neptune -72794-01-02 00:28 J -24866584.59 -24866584.48 -24866584.36 0.0089 0.0041

Neptune -72794-03-31 01:54 J -24866496.53 -24866496.42 -24866496.31 0.0089 0.0045

Neptune -72794-06-27 03:06 J -24866408.47 -24866408.37 -24866408.26 0.0089 0.0050

Neptune -72794-09-23 04:33 J -24866320.41 -24866320.31 -24866320.21 0.0089 0.0055

Neptune -72794-12-20 05:45 J -24866232.35 -24866232.26 -24866232.16 0.0089 0.0060

Jupiter -72793-03-16 20:37 J -24866144.74 -24866144.64 -24866144.54 0.0530 0.0300

Neptune -72793-03-17 06:57 J -24866144.29 -24866144.21 -24866144.11 0.0089 0.0065

Neptune -72793-06-13 08:09 J -24866056.23 -24866056.16 -24866056.07 0.0089 0.0070

Jupiter -72793-06-14 02:37 J -24866055.51 -24866055.39 -24866055.27 0.0530 0.0156

Venus -72793-08-11 06:57 J -24865997.31 -24865997.21 -24865997.11 0.3583 0.2470

Neptune -72793-09-09 09:49 J -24865968.16 -24865968.09 -24865968.02 0.0089 0.0074

Neptune -72793-12-06 11:01 J -24865880.09 -24865880.04 -24865879.98 0.0089 0.0079

Neptune -72792-03-04 12:13 J -24865792.02 -24865791.99 -24865791.94 0.0089 0.0084

Neptune -72792-05-31 13:40 J -24865703.93 -24865703.93 -24865703.92 0.0089 0.0089

Moon -72789-04-19 19:40 J -24864649.79 -24864649.68 -24864649.57 0.2731 0.0228

Earth -72789-04-19 19:25 J -24864649.79 -24864649.69 -24864649.58 0.2724 0.0205 *

Mars -72789-09-03 20:37 J -24864512.76 -24864512.64 -24864512.52 0.1598 0.1114

Jupiter -72787-05-11 12:28 J -24863898.17 -24863897.98 -24863897.79 0.0496 0.0016

Moon -72786-10-18 22:47 J -24863372.66 -24863372.55 -24863372.45 0.2611 0.1978

Earth -72786-10-19 00:28 J -24863372.57 -24863372.48 -24863372.39 0.2610 0.2140 *

Saturn -72785-01-14 11:01 J -24863285.17 -24863285.04 -24863284.89 0.0268 0.0179

Saturn -72785-04-12 09:49 J -24863196.28 -24863196.09 -24863195.90 0.0269 0.0034

Saturn -72785-07-10 08:23 J -24863107.32 -24863107.15 -24863106.97 0.0270 0.0112

Saturn -72785-10-07 06:57 J -24863018.26 -24863018.21 -24863018.15 0.0271 0.0258

Jupiter -72781-01-04 00:28 J -24861834.55 -24861834.48 -24861834.40 0.0531 0.0417

Jupiter -72781-04-02 06:42 J -24861745.35 -24861745.22 -24861745.10 0.0530 0.0043

Jupiter -72781-06-30 12:57 J -24861656.00 -24861655.96 -24861655.92 0.0530 0.0498

Mars -72779-01-24 22:33 J -24861082.73 -24861082.56 -24861082.39 0.1594 0.0210

Venus -72779-06-07 15:21 J -24860948.91 -24860948.86 -24860948.80 0.3804 0.3271

Mars -72777-10-30 06:28 J -24860073.32 -24860073.23 -24860073.14 0.1948 0.1153

Earth -72776-04-22 13:11 J -24859899.04 -24859898.95 -24859898.86 0.2726 0.1381

Moon -72776-04-22 13:40 J -24859899.02 -24859898.93 -24859898.84 0.2730 0.1404 *

Jupiter -72775-02-27 09:35 J -24859588.28 -24859588.10 -24859587.92 0.0496 0.0124

Jupiter -72775-05-28 19:40 J -24859497.76 -24859497.68 -24859497.60 0.0496 0.0444

Uranus -72774-09-19 18:13 J -24859018.79 -24859018.74 -24859018.68 0.0135 0.0122

Uranus -72774-12-16 21:06 J -24858930.69 -24858930.62 -24858930.53 0.0135 0.0106

Venus -72774-12-22 08:37 J -24858925.23 -24858925.14 -24858925.05 0.3802 0.1872

Uranus -72773-03-14 00:13 J -24858842.58 -24858842.49 -24858842.39 0.0135 0.0090

Uranus -72773-06-10 03:21 J -24858754.47 -24858754.36 -24858754.25 0.0136 0.0073

Uranus -72773-09-06 06:28 J -24858666.35 -24858666.23 -24858666.11 0.0136 0.0057

Uranus -72773-12-03 09:35 J -24858578.22 -24858578.10 -24858577.97 0.0136 0.0040

Uranus -72772-03-01 12:42 J -24858490.10 -24858489.97 -24858489.84 0.0136 0.0023

Saturn -72772-05-26 05:45 J -24858404.33 -24858404.26 -24858404.19 0.0294 0.0246

Uranus -72772-05-28 15:49 J -24858401.97 -24858401.84 -24858401.71 0.0136 0.0007

Saturn -72772-08-22 17:30 J -24858315.88 -24858315.77 -24858315.65 0.0293 0.0122

Uranus -72772-08-24 18:57 J -24858313.84 -24858313.71 -24858313.58 0.0136 0.0011

Saturn -72772-11-19 05:30 J -24858227.40 -24858227.27 -24858227.14 0.0292 0.0006

Uranus -72772-11-20 22:04 J -24858225.71 -24858225.58 -24858225.45 0.0136 0.0028

Saturn -72771-02-15 17:16 J -24858138.90 -24858138.78 -24858138.67 0.0291 0.0126

Uranus -72771-02-17 01:11 J -24858137.57 -24858137.45 -24858137.32 0.0136 0.0045

Saturn -72771-05-15 04:47 J -24858050.36 -24858050.30 -24858050.23 0.0290 0.0247

Uranus -72771-05-16 04:18 J -24858049.43 -24858049.32 -24858049.19 0.0137 0.0063

Uranus -72771-08-12 07:25 J -24857961.29 -24857961.19 -24857961.07 0.0137 0.0080

Uranus -72771-11-08 10:47 J -24857873.14 -24857873.05 -24857872.95 0.0137 0.0097

Uranus -72770-02-04 14:09 J -24857784.98 -24857784.91 -24857784.84 0.0137 0.0114

Uranus -72770-05-03 17:16 J -24857696.81 -24857696.78 -24857696.74 0.0137 0.0132

Mars -72770-06-17 00:28 J -24857652.63 -24857652.48 -24857652.33 0.1591 0.0692

Jupiter -72770-10-23 04:47 J -24857524.30 -24857524.30 -24857524.28 0.0531 0.0527

Jupiter -72769-01-20 11:01 J -24857435.17 -24857435.04 -24857434.92 0.0531 0.0072

Moon -72769-04-15 12:13 J -24857349.06 -24857348.99 -24857348.91 0.2723 0.1942

Earth -72769-04-15 12:57 J -24857349.04 -24857348.96 -24857348.89 0.2721 0.1918 *

Jupiter -72769-04-18 17:16 J -24857345.87 -24857345.78 -24857345.70 0.0530 0.0388

Venus -72768-07-07 01:54 J -24856901.53 -24856901.42 -24856901.32 0.3800 0.0454

Mars -72767-03-22 13:54 J -24856643.03 -24856642.92 -24856642.80 0.1953 0.0144

Moon -72766-10-13 13:54 J -24856072.98 -24856072.92 -24856072.86 0.2608 0.2407

Earth -72766-10-13 15:06 J -24856072.96 -24856072.87 -24856072.79 0.2613 0.2214 *

Jupiter -72764-12-16 06:13 J -24855278.39 -24855278.24 -24855278.08 0.0495 0.0269

Jupiter -72763-03-16 16:33 J -24855187.95 -24855187.81 -24855187.66 0.0496 0.0301

Earth -72763-04-25 06:57 J -24855148.24 -24855148.21 -24855148.18 0.2727 0.2570

Moon -72763-04-25 07:40 J -24855148.18 -24855148.18 -24855148.18 0.2726 0.2723 *

Venus -72762-01-20 19:11 J -24854877.80 -24854877.70 -24854877.59 0.3797 0.1004

Mars -72761-11-06 02:23 J -24854222.41 -24854222.40 -24854222.39 0.1587 0.1582

Mars -72758-08-12 21:49 J -24853212.69 -24853212.59 -24853212.49 0.1959 0.0894

Jupiter -72758-11-08 15:21 J -24853124.97 -24853124.86 -24853124.74 0.0531 0.0182

Jupiter -72757-02-05 21:35 J -24853035.70 -24853035.60 -24853035.49 0.0530 0.0279

Venus -72757-08-05 12:42 J -24852854.05 -24852853.97 -24852853.89 0.3794 0.2482

Moon -72756-04-18 06:13 J -24852598.34 -24852598.24 -24852598.14 0.2728 0.0814

Earth -72756-04-18 06:42 J -24852598.33 -24852598.22 -24852598.12 0.2722 0.0750 *

Saturn -72756-06-02 07:40 J -24852553.27 -24852553.18 -24852553.08 0.0268 0.0232

Saturn -72756-08-30 06:13 J -24852464.42 -24852464.24 -24852464.05 0.0269 0.0089

Saturn -72756-11-27 04:47 J -24852375.48 -24852375.30 -24852375.11 0.0270 0.0057

Saturn -72755-02-24 03:21 J -24852286.48 -24852286.36 -24852286.23 0.0271 0.0203

Moon -72753-10-15 21:21 J -24851321.77 -24851321.61 -24851321.44 0.2609 0.0130

Earth -72753-10-15 23:16 J -24851321.70 -24851321.53 -24851321.37 0.2611 0.0213 *

Jupiter -72752-10-04 03:35 J -24850968.46 -24850968.35 -24850968.25 0.0495 0.0409

Jupiter -72751-01-02 13:54 J -24850878.09 -24850877.92 -24850877.74 0.0496 0.0164

Mars -72749-03-04 21:35 J -24850085.71 -24850085.60 -24850085.50 0.1598 0.1255

Mars -72748-01-02 05:30 J -24849782.29 -24849782.27 -24849782.26 0.1963 0.1924

Venus -72747-02-16 01:11 J -24849372.57 -24849372.45 -24849372.32 0.3578 0.1778

Jupiter -72746-08-27 19:40 J -24848814.79 -24848814.68 -24848814.58 0.0530 0.0297

Jupiter -72746-11-25 01:40 J -24848725.55 -24848725.43 -24848725.31 0.0530 0.0161

Earth -72743-04-21 00:13 J -24847847.59 -24847847.49 -24847847.38 0.2724 0.0445

Moon -72743-04-21 00:28 J -24847847.58 -24847847.48 -24847847.37 0.2731 0.0468 *

Saturn -72743-10-13 07:25 J -24847672.21 -24847672.19 -24847672.16 0.0295 0.0288

Saturn -72742-01-09 19:11 J -24847583.80 -24847583.70 -24847583.59 0.0294 0.0163

Saturn -72742-04-08 07:11 J -24847495.33 -24847495.20 -24847495.07 0.0293 0.0037

Saturn -72742-07-05 18:57 J -24847406.83 -24847406.71 -24847406.59 0.0292 0.0087

Venus -72742-09-02 04:33 J -24847348.45 -24847348.31 -24847348.17 0.3581 0.0806

Saturn -72742-10-02 06:42 J -24847318.31 -24847318.22 -24847318.13 0.0291 0.0209

Mars -72740-07-25 23:16 J -24846655.69 -24846655.53 -24846655.37 0.1594 0.0346

Moon -72740-10-19 05:30 J -24846570.33 -24846570.27 -24846570.20 0.2612 0.2394

Earth -72740-10-19 07:11 J -24846570.21 -24846570.20 -24846570.19 0.2609 0.2600 *

Jupiter -72740-10-21 11:01 J -24846568.23 -24846568.04 -24846567.85 0.0496 0.0020

Mars -72737-04-30 06:13 J -24845646.33 -24845646.24 -24845646.15 0.1948 0.1248

Venus -72736-03-18 07:25 J -24845324.24 -24845324.19 -24845324.14 0.3584 0.3297

Jupiter -72734-06-15 23:45 J -24844504.59 -24844504.51 -24844504.43 0.0530 0.0408

Uranus -72734-08-02 09:35 J -24844457.15 -24844457.10 -24844457.03 0.0143 0.0135

Jupiter -72734-09-13 05:45 J -24844415.38 -24844415.26 -24844415.13 0.0530 0.0048

Uranus -72734-10-29 17:59 J -24844368.87 -24844368.75 -24844368.61 0.0143 0.0106

Jupiter -72734-12-11 11:59 J -24844326.03 -24844326.00 -24844325.96 0.0529 0.0505

Uranus -72733-01-26 02:23 J -24844280.55 -24844280.40 -24844280.22 0.0143 0.0077

Uranus -72733-04-23 11:01 J -24844192.22 -24844192.04 -24844191.85 0.0143 0.0048

Uranus -72733-07-20 19:25 J -24844103.88 -24844103.69 -24844103.50 0.0143 0.0019

Uranus -72733-10-17 03:49 J -24844015.54 -24844015.34 -24844015.15 0.0143 0.0010

Uranus -72732-01-13 11:59 J -24843927.18 -24843927.00 -24843926.81 0.0142 0.0038

Uranus -72732-04-11 20:09 J -24843838.82 -24843838.66 -24843838.48 0.0142 0.0067

Uranus -72732-07-09 04:04 J -24843750.46 -24843750.33 -24843750.17 0.0142 0.0095

Uranus -72732-10-05 12:13 J -24843662.07 -24843661.99 -24843661.88 0.0142 0.0123

Mars -72731-12-16 00:57 J -24843225.61 -24843225.46 -24843225.30 0.1591 0.0560

Earth -72730-04-23 17:59 J -24843096.83 -24843096.75 -24843096.66 0.2726 0.1624

Moon -72730-04-23 18:42 J -24843096.81 -24843096.72 -24843096.64 0.2728 0.1728 *

Jupiter -72728-08-09 08:23 J -24842258.33 -24842258.15 -24842257.97 0.0496 0.0119

Mars -72728-09-20 13:54 J -24842216.03 -24842215.92 -24842215.80 0.1954 0.0247

Jupiter -72728-11-07 18:28 J -24842167.80 -24842167.73 -24842167.65 0.0496 0.0452

Saturn -72726-01-17 04:47 J -24841732.46 -24841732.30 -24841732.13 0.0268 0.0130

Saturn -72726-04-16 03:21 J -24841643.55 -24841643.36 -24841643.16 0.0269 0.0016

Saturn -72726-07-14 01:54 J -24841554.57 -24841554.42 -24841554.26 0.0270 0.0160

Moon -72723-04-16 17:01 J -24840546.87 -24840546.79 -24840546.71 0.2724 0.1824

Earth -72723-04-16 17:45 J -24840546.84 -24840546.76 -24840546.68 0.2721 0.1675 *

Venus -72722-01-12 13:25 J -24840276.01 -24840275.94 -24840275.87 0.3804 0.2800

Jupiter -72722-04-04 03:49 J -24840194.36 -24840194.34 -24840194.33 0.0530 0.0524

Jupiter -72722-07-02 09:49 J -24840105.22 -24840105.09 -24840104.97 0.0530 0.0072

Jupiter -72722-09-29 15:49 J -24840015.92 -24840015.84 -24840015.75 0.0530 0.0389

Mars -72721-05-07 03:06 J -24839795.44 -24839795.37 -24839795.31 0.1587 0.1448

Moon -72720-10-13 20:23 J -24839270.77 -24839270.65 -24839270.53 0.2609 0.1788

Earth -72720-10-13 21:49 J -24839270.71 -24839270.59 -24839270.47 0.2613 0.1746 *

Mars -72718-02-10 21:49 J -24838785.70 -24838785.59 -24838785.49 0.1958 0.0777

Neptune -72718-12-12 23:30 J -24838480.58 -24838480.52 -24838480.44 0.0089 0.0082

Neptune -72717-03-10 03:06 J -24838392.46 -24838392.37 -24838392.25 0.0089 0.0075

Neptune -72717-06-06 06:57 J -24838304.33 -24838304.21 -24838304.07 0.0089 0.0068

Venus -72717-07-28 06:28 J -24838252.33 -24838252.23 -24838252.13 0.3802 0.1391

Neptune -72717-09-02 10:33 J -24838216.19 -24838216.06 -24838215.90 0.0089 0.0061

Neptune -72717-11-29 14:23 J -24838128.04 -24838127.90 -24838127.73 0.0089 0.0054

Neptune -72716-02-25 17:59 J -24838039.90 -24838039.75 -24838039.56 0.0089 0.0047

Neptune -72716-05-24 21:49 J -24837951.75 -24837951.59 -24837951.40 0.0089 0.0040

Jupiter -72716-05-28 05:30 J -24837948.43 -24837948.27 -24837948.11 0.0496 0.0259

Neptune -72716-08-21 01:54 J -24837863.60 -24837863.42 -24837863.23 0.0089 0.0032

Jupiter -72716-08-26 15:49 J -24837857.98 -24837857.84 -24837857.69 0.0496 0.0313

Neptune -72716-11-17 05:45 J -24837775.45 -24837775.26 -24837775.07 0.0089 0.0025

Neptune -72715-02-13 09:21 J -24837687.30 -24837687.11 -24837686.91 0.0089 0.0018

Neptune -72715-05-12 13:11 J -24837599.14 -24837598.95 -24837598.75 0.0089 0.0011

Neptune -72715-08-08 17:01 J -24837510.99 -24837510.79 -24837510.59 0.0089 0.0003

Neptune -72715-11-04 20:37 J -24837422.83 -24837422.64 -24837422.44 0.0089 0.0004

Neptune -72714-02-01 00:28 J -24837334.68 -24837334.48 -24837334.28 0.0089 0.0011

Neptune -72714-04-30 04:04 J -24837246.52 -24837246.33 -24837246.13 0.0089 0.0018

Neptune -72714-07-27 07:40 J -24837158.36 -24837158.18 -24837157.98 0.0089 0.0026

Neptune -72714-10-23 11:30 J -24837070.19 -24837070.02 -24837069.83 0.0089 0.0033

Neptune -72713-01-19 15:06 J -24836982.03 -24836981.87 -24836981.68 0.0089 0.0040

Neptune -72713-04-16 18:57 J -24836893.87 -24836893.71 -24836893.53 0.0089 0.0047

Saturn -72713-05-28 20:52 J -24836851.72 -24836851.63 -24836851.53 0.0294 0.0204

Neptune -72713-07-13 22:47 J -24836805.70 -24836805.55 -24836805.39 0.0089 0.0054

Saturn -72713-08-25 08:52 J -24836763.25 -24836763.13 -24836763.00 0.0293 0.0078

Neptune -72713-10-10 02:23 J -24836717.53 -24836717.40 -24836717.25 0.0089 0.0061

Saturn -72713-11-21 20:37 J -24836674.77 -24836674.64 -24836674.51 0.0292 0.0046

Neptune -72712-01-06 06:13 J -24836629.36 -24836629.24 -24836629.11 0.0089 0.0068

Saturn -72712-02-18 08:23 J -24836586.25 -24836586.15 -24836586.04 0.0291 0.0169

Neptune -72712-04-04 10:04 J -24836541.18 -24836541.08 -24836540.98 0.0089 0.0075

Saturn -72712-05-17 20:09 J -24836497.67 -24836497.66 -24836497.66 0.0290 0.0289

Neptune -72712-07-01 13:40 J -24836453.00 -24836452.93 -24836452.85 0.0089 0.0082

Venus -72711-02-10 23:45 J -24836228.62 -24836228.51 -24836228.40 0.3799 0.0037

Moon -72710-04-19 11:16 J -24835796.14 -24835796.03 -24835795.93 0.2729 0.0484

Earth -72710-04-19 11:30 J -24835796.13 -24835796.02 -24835795.92 0.2722 0.0511 *

Jupiter -72710-04-20 14:09 J -24835795.03 -24835794.91 -24835794.79 0.0531 0.0181

Jupiter -72710-07-18 20:09 J -24835705.76 -24835705.66 -24835705.55 0.0530 0.0279

Mars -72710-09-03 22:04 J -24835658.66 -24835658.58 -24835658.49 0.1598 0.1391

Mars -72709-07-03 05:30 J -24835355.31 -24835355.27 -24835355.23 0.1963 0.1817

Moon -72707-10-17 04:18 J -24834519.48 -24834519.32 -24834519.16 0.2609 0.0403

Earth -72707-10-17 05:59 J -24834519.41 -24834519.25 -24834519.09 0.2611 0.0677 *

Venus -72706-08-27 17:16 J -24834204.88 -24834204.78 -24834204.68 0.3797 0.1505

Jupiter -72704-03-16 02:23 J -24833638.50 -24833638.40 -24833638.29 0.0495 0.0402

Jupiter -72704-06-14 12:57 J -24833548.13 -24833547.96 -24833547.79 0.0496 0.0170

Pluto -72701-10-07 16:47 J -24832336.80 -24832336.80 -24832336.77 0.0060 0.0060

Pluto -72700-01-03 17:45 J -24832248.81 -24832248.76 -24832248.66 0.0060 0.0055

Mars -72700-01-23 23:59 J -24832228.66 -24832228.50 -24832228.34 0.1594 0.0484

Venus -72700-03-12 10:47 J -24832181.12 -24832181.05 -24832180.99 0.3794 0.2988

Pluto -72700-04-01 19:25 J -24832160.79 -24832160.69 -24832160.58 0.0060 0.0049

Pluto -72700-06-28 20:23 J -24832072.75 -24832072.65 -24832072.51 0.0060 0.0045

Pluto -72700-09-24 21:35 J -24831984.72 -24831984.60 -24831984.44 0.0060 0.0039

Pluto -72700-12-21 23:01 J -24831896.68 -24831896.54 -24831896.37 0.0060 0.0034

Pluto -72699-03-20 00:13 J -24831808.64 -24831808.49 -24831808.31 0.0060 0.0029

Pluto -72699-06-16 01:40 J -24831720.59 -24831720.43 -24831720.25 0.0060 0.0023

Pluto -72699-09-12 02:52 J -24831632.55 -24831632.38 -24831632.19 0.0060 0.0018

Pluto -72699-12-09 04:18 J -24831544.50 -24831544.32 -24831544.13 0.0061 0.0012

Jupiter -72698-02-06 18:42 J -24831484.83 -24831484.72 -24831484.62 0.0531 0.0290

Pluto -72698-03-07 05:30 J -24831456.45 -24831456.27 -24831456.08 0.0061 0.0007

Jupiter -72698-05-07 00:42 J -24831395.59 -24831395.47 -24831395.35 0.0530 0.0169

Pluto -72698-06-03 06:57 J -24831368.39 -24831368.21 -24831368.02 0.0061 0.0001

Pluto -72698-08-30 08:09 J -24831280.34 -24831280.16 -24831279.97 0.0061 0.0005

Mars -72698-10-30 06:13 J -24831219.32 -24831219.24 -24831219.16 0.1948 0.1362

Pluto -72698-11-26 09:35 J -24831192.28 -24831192.10 -24831191.92 0.0061 0.0010

Pluto -72697-02-22 10:47 J -24831104.23 -24831104.05 -24831103.86 0.0061 0.0016

Earth -72697-04-21 05:01 J -24831045.39 -24831045.29 -24831045.18 0.2724 0.0683

Moon -72697-04-21 05:16 J -24831045.38 -24831045.28 -24831045.17 0.2731 0.0700 *

Pluto -72697-05-20 11:59 J -24831016.16 -24831016.00 -24831015.81 0.0061 0.0022

Saturn -72697-06-05 01:11 J -24831000.59 -24831000.45 -24831000.31 0.0268 0.0185

Pluto -72697-08-16 13:25 J -24830928.10 -24830927.94 -24830927.77 0.0061 0.0027

Saturn -72697-09-01 23:45 J -24830911.70 -24830911.51 -24830911.32 0.0269 0.0042

Pluto -72697-11-12 14:37 J -24830840.04 -24830839.89 -24830839.72 0.0061 0.0033

Saturn -72697-11-29 22:04 J -24830822.75 -24830822.58 -24830822.40 0.0270 0.0103

Pluto -72696-02-08 16:18 J -24830751.97 -24830751.82 -24830751.68 0.0061 0.0039

Saturn -72696-02-26 20:37 J -24830733.71 -24830733.64 -24830733.56 0.0270 0.0249

Pluto -72696-05-07 17:16 J -24830663.89 -24830663.78 -24830663.64 0.0061 0.0045

Pluto -72696-08-03 18:28 J -24830575.81 -24830575.73 -24830575.60 0.0061 0.0051

Pluto -72696-10-30 19:40 J -24830487.72 -24830487.68 -24830487.58 0.0061 0.0057

Jupiter -72692-04-02 10:18 J -24829238.25 -24829238.07 -24829237.88 0.0496 0.0033

Mars -72691-06-16 01:54 J -24828798.59 -24828798.42 -24828798.26 0.1591 0.0418

Venus -72691-09-23 01:54 J -24828699.56 -24828699.42 -24828699.28 0.3579 0.0918

Earth -72690-04-15 04:47 J -24828495.32 -24828495.30 -24828495.27 0.2719 0.2607

Uranus -72690-10-10 01:11 J -24828317.50 -24828317.45 -24828317.38 0.0135 0.0119

Uranus -72689-01-06 04:04 J -24828229.40 -24828229.33 -24828229.23 0.0135 0.0104

Uranus -72689-04-03 07:25 J -24828141.29 -24828141.19 -24828141.09 0.0136 0.0087

Uranus -72689-06-30 10:33 J -24828053.17 -24828053.06 -24828052.95 0.0136 0.0070

Uranus -72689-09-26 13:25 J -24827965.05 -24827964.94 -24827964.81 0.0136 0.0054

Uranus -72689-12-23 16:33 J -24827876.93 -24827876.81 -24827876.68 0.0136 0.0037

Mars -72688-03-21 14:09 J -24827789.03 -24827788.91 -24827788.80 0.1953 0.0357

Uranus -72688-03-21 19:54 J -24827788.80 -24827788.67 -24827788.54 0.0136 0.0020 *

Uranus -72688-06-17 23:01 J -24827700.67 -24827700.54 -24827700.41 0.0136 0.0004

Uranus -72688-09-14 02:09 J -24827612.54 -24827612.41 -24827612.28 0.0136 0.0014

Uranus -72688-12-11 05:16 J -24827524.41 -24827524.28 -24827524.15 0.0136 0.0031

Uranus -72687-03-09 08:23 J -24827436.27 -24827436.15 -24827436.02 0.0137 0.0048

Uranus -72687-06-05 11:30 J -24827348.13 -24827348.02 -24827347.90 0.0137 0.0066

Uranus -72687-09-01 14:52 J -24827259.99 -24827259.88 -24827259.78 0.0137 0.0083

Jupiter -72687-11-25 22:47 J -24827174.63 -24827174.55 -24827174.46 0.0530 0.0402

Uranus -72687-11-28 17:45 J -24827171.84 -24827171.76 -24827171.66 0.0137 0.0101

Jupiter -72686-02-23 04:47 J -24827085.42 -24827085.30 -24827085.17 0.0530 0.0056

Uranus -72686-02-24 21:06 J -24827083.68 -24827083.62 -24827083.55 0.0137 0.0118

Jupiter -72686-05-23 11:01 J -24826996.06 -24826996.04 -24826996.01 0.0529 0.0512

Uranus -72686-05-24 00:28 J -24826995.49 -24826995.48 -24826995.46 0.0137 0.0136

Venus -72685-04-08 05:01 J -24826675.41 -24826675.29 -24826675.16 0.3582 0.1657

Earth -72684-04-23 22:47 J -24826294.63 -24826294.55 -24826294.47 0.2726 0.1867

Moon -72684-04-23 23:30 J -24826294.59 -24826294.52 -24826294.45 0.2728 0.1948 *

Saturn -72684-10-15 22:04 J -24826119.64 -24826119.58 -24826119.51 0.0295 0.0250

Saturn -72683-01-12 10:04 J -24826031.19 -24826031.08 -24826030.96 0.0294 0.0123

Saturn -72683-04-10 22:04 J -24825942.71 -24825942.58 -24825942.46 0.0293 0.0011

Saturn -72683-07-08 09:49 J -24825854.21 -24825854.09 -24825853.98 0.0292 0.0126

Saturn -72683-10-04 21:35 J -24825765.67 -24825765.60 -24825765.54 0.0291 0.0248

Mars -72682-11-06 03:35 J -24825368.44 -24825368.35 -24825368.25 0.1587 0.1313

Jupiter -72680-01-19 07:11 J -24824928.38 -24824928.20 -24824928.02 0.0496 0.0113

Jupiter -72680-04-19 17:16 J -24824837.84 -24824837.78 -24824837.70 0.0497 0.0459

Mars -72679-08-11 21:35 J -24824358.70 -24824358.60 -24824358.49 0.1958 0.0683

Moon -72677-04-16 21:49 J -24823744.68 -24823744.59 -24823744.50 0.2724 0.1455

Earth -72677-04-16 22:33 J -24823744.65 -24823744.56 -24823744.47 0.2721 0.1439 *

Jupiter -72675-09-14 03:21 J -24822864.39 -24822864.36 -24822864.33 0.0530 0.0512

Jupiter -72675-12-12 09:06 J -24822775.24 -24822775.12 -24822774.99 0.0530 0.0059

Jupiter -72674-03-11 15:21 J -24822685.94 -24822685.86 -24822685.78 0.0529 0.0399

Moon -72674-10-15 03:06 J -24822468.50 -24822468.37 -24822468.23 0.2608 0.1496

Earth -72674-10-15 04:33 J -24822468.45 -24822468.31 -24822468.17 0.2613 0.1272 *

Venus -72671-02-02 17:59 J -24821626.77 -24821626.75 -24821626.73 0.3805 0.3713

Mars -72670-03-04 22:47 J -24821231.60 -24821231.55 -24821231.50 0.1598 0.1520

Mars -72669-01-02 05:30 J -24820928.33 -24820928.27 -24820928.22 0.1963 0.1704

Jupiter -72669-11-07 04:33 J -24820618.47 -24820618.31 -24820618.15 0.0496 0.0252

Jupiter -72668-02-05 14:52 J -24820528.02 -24820527.88 -24820527.74 0.0496 0.0322

Saturn -72668-10-22 23:16 J -24820268.62 -24820268.53 -24820268.42 0.0267 0.0228

Saturn -72667-01-19 21:49 J -24820179.77 -24820179.59 -24820179.41 0.0268 0.0086

Saturn -72667-04-18 20:23 J -24820090.84 -24820090.65 -24820090.46 0.0269 0.0058

Saturn -72667-07-16 18:42 J -24820001.84 -24820001.72 -24820001.59 0.0270 0.0204

Venus -72666-08-19 11:16 J -24819603.12 -24819603.03 -24819602.95 0.3803 0.2325

Moon -72664-04-19 16:04 J -24818993.93 -24818993.83 -24818993.72 0.2730 0.0334

Earth -72664-04-19 16:18 J -24818993.93 -24818993.82 -24818993.72 0.2723 0.0282 *

Jupiter -72663-09-30 13:11 J -24818465.07 -24818464.95 -24818464.83 0.0530 0.0176

Jupiter -72663-12-28 19:11 J -24818375.81 -24818375.70 -24818375.59 0.0530 0.0282

Mars -72661-07-25 00:42 J -24817801.63 -24817801.47 -24817801.32 0.1595 0.0618

Moon -72661-10-17 11:01 J -24817717.19 -24817717.04 -24817716.89 0.2611 0.1070

Earth -72661-10-17 12:42 J -24817717.12 -24817716.97 -24817716.82 0.2611 0.1139 *

Venus -72660-03-04 04:18 J -24817579.42 -24817579.32 -24817579.22 0.3801 0.0913

Mars -72658-04-30 06:28 J -24816792.31 -24816792.23 -24816792.16 0.1948 0.1482

Jupiter -72657-08-26 01:40 J -24816308.54 -24816308.43 -24816308.31 0.0496 0.0391

Jupiter -72657-11-24 12:13 J -24816218.16 -24816217.99 -24816217.81 0.0496 0.0184

Venus -72655-09-17 21:35 J -24815555.70 -24815555.60 -24815555.49 0.3799 0.0550

Saturn -72654-03-04 23:45 J -24815387.52 -24815387.51 -24815387.50 0.0296 0.0293

Saturn -72654-06-01 11:30 J -24815299.12 -24815299.02 -24815298.91 0.0295 0.0167

Saturn -72654-08-28 23:30 J -24815210.65 -24815210.52 -24815210.39 0.0294 0.0041

Saturn -72654-11-25 11:16 J -24815122.15 -24815122.03 -24815121.90 0.0293 0.0084

Saturn -72653-02-21 23:01 J -24815033.63 -24815033.54 -24815033.45 0.0291 0.0206

Mars -72652-12-15 02:37 J -24814371.56 -24814371.39 -24814371.22 0.1591 0.0278

Earth -72651-04-22 09:49 J -24814243.19 -24814243.09 -24814242.99 0.2724 0.0924

Moon -72651-04-22 10:18 J -24814243.17 -24814243.07 -24814242.97 0.2730 0.1006 *

Jupiter -72651-07-19 17:30 J -24814154.88 -24814154.77 -24814154.67 0.0530 0.0286

Jupiter -72651-10-16 23:30 J -24814065.64 -24814065.52 -24814065.40 0.0530 0.0172

Uranus -72650-08-22 17:16 J -24813755.86 -24813755.78 -24813755.70 0.0143 0.0129

Uranus -72650-11-19 01:40 J -24813667.57 -24813667.43 -24813667.29 0.0143 0.0099

Uranus -72649-02-15 10:04 J -24813579.25 -24813579.08 -24813578.91 0.0143 0.0070

Venus -72649-04-02 15:06 J -24813531.96 -24813531.87 -24813531.78 0.3796 0.2007

Uranus -72649-05-13 18:28 J -24813490.91 -24813490.73 -24813490.54 0.0143 0.0041

Uranus -72649-08-10 02:52 J -24813402.57 -24813402.38 -24813402.19 0.0143 0.0012

Mars -72649-09-19 14:09 J -24813362.03 -24813361.91 -24813361.80 0.1953 0.0465

Uranus -72649-11-06 11:16 J -24813314.22 -24813314.03 -24813313.84 0.0142 0.0017

Uranus -72648-02-02 19:11 J -24813225.87 -24813225.70 -24813225.50 0.0142 0.0046

Uranus -72648-05-02 03:35 J -24813137.51 -24813137.35 -24813137.18 0.0142 0.0073

Uranus -72648-07-29 11:45 J -24813049.14 -24813049.01 -24813048.87 0.0142 0.0101

Uranus -72648-10-25 19:54 J -24812960.74 -24812960.67 -24812960.59 0.0142 0.0129

Jupiter -72645-09-12 09:35 J -24811908.29 -24811908.10 -24811907.92 0.0496 0.0043

Moon -72644-04-15 08:52 J -24811693.17 -24811693.13 -24811693.08 0.2719 0.2416

Earth -72644-04-15 09:35 J -24811693.15 -24811693.10 -24811693.05 0.2719 0.2368 *

Venus -72644-10-17 08:37 J -24811508.17 -24811508.14 -24811508.10 0.3793 0.3516

Mars -72642-05-07 04:18 J -24810941.43 -24810941.32 -24810941.20 0.1587 0.1178

Venus -72640-10-13 23:01 J -24810050.64 -24810050.54 -24810050.45 0.3577 0.2700

Mars -72639-02-09 21:35 J -24809931.70 -24809931.60 -24809931.49 0.1958 0.0572

Jupiter -72639-05-07 22:04 J -24809844.66 -24809844.58 -24809844.50 0.0531 0.0395

Jupiter -72639-08-05 04:04 J -24809755.46 -24809755.33 -24809755.20 0.0530 0.0063

Jupiter -72639-11-02 10:18 J -24809666.08 -24809666.07 -24809666.05 0.0530 0.0522

Earth -72638-04-25 03:35 J -24809492.41 -24809492.35 -24809492.28 0.2726 0.2107

Moon -72638-04-25 04:18 J -24809492.38 -24809492.32 -24809492.26 0.2728 0.2192 *

Saturn -72638-06-08 17:59 J -24809447.91 -24809447.75 -24809447.59 0.0268 0.0142

Saturn -72638-09-05 16:33 J -24809359.01 -24809358.81 -24809358.62 0.0269 0.0006

Saturn -72638-12-03 14:52 J -24809270.04 -24809269.88 -24809269.72 0.0270 0.0146

Neptune -72636-03-26 13:25 J -24808790.96 -24808790.94 -24808790.90 0.0089 0.0087

Neptune -72636-06-22 14:52 J -24808702.92 -24808702.88 -24808702.83 0.0089 0.0082

Neptune -72636-09-18 16:04 J -24808614.89 -24808614.83 -24808614.76 0.0089 0.0077

Neptune -72636-12-15 17:30 J -24808526.84 -24808526.77 -24808526.69 0.0089 0.0072

Neptune -72635-03-13 18:28 J -24808438.80 -24808438.73 -24808438.63 0.0089 0.0068

Neptune -72635-06-09 19:54 J -24808350.75 -24808350.67 -24808350.57 0.0089 0.0063

Neptune -72635-09-05 21:21 J -24808262.71 -24808262.61 -24808262.51 0.0089 0.0058

Neptune -72635-12-02 22:47 J -24808174.66 -24808174.55 -24808174.45 0.0089 0.0053

Neptune -72634-02-28 23:45 J -24808086.61 -24808086.51 -24808086.39 0.0089 0.0049

Venus -72634-04-30 02:37 J -24808026.54 -24808026.39 -24808026.25 0.3579 0.0120

Neptune -72634-05-28 01:11 J -24807998.56 -24807998.45 -24807998.33 0.0089 0.0044

Neptune -72634-08-24 02:23 J -24807910.51 -24807910.40 -24807910.27 0.0089 0.0039

Neptune -72634-11-20 03:49 J -24807822.46 -24807822.34 -24807822.22 0.0089 0.0034

Neptune -72633-02-16 05:01 J -24807734.41 -24807734.29 -24807734.16 0.0089 0.0029

Neptune -72633-05-14 06:13 J -24807646.36 -24807646.24 -24807646.10 0.0089 0.0025

Jupiter -72633-07-01 06:57 J -24807598.40 -24807598.21 -24807598.03 0.0496 0.0097

Neptune -72633-08-10 07:40 J -24807558.30 -24807558.18 -24807558.05 0.0089 0.0020

Jupiter -72633-09-29 17:01 J -24807507.84 -24807507.79 -24807507.74 0.0496 0.0473

Neptune -72633-11-06 09:06 J -24807470.25 -24807470.12 -24807469.99 0.0089 0.0015

Neptune -72632-02-02 10:18 J -24807382.20 -24807382.07 -24807381.94 0.0089 0.0010

Neptune -72632-05-01 11:45 J -24807294.15 -24807294.01 -24807293.88 0.0089 0.0006

Neptune -72632-07-28 12:57 J -24807206.09 -24807205.96 -24807205.83 0.0089 0.0001

Neptune -72632-10-24 14:09 J -24807118.04 -24807117.91 -24807117.77 0.0089 0.0005

Neptune -72631-01-20 15:35 J -24807029.98 -24807029.85 -24807029.72 0.0089 0.0009

Moon -72631-04-18 02:52 J -24806942.47 -24806942.38 -24806942.29 0.2725 0.1316

Earth -72631-04-18 03:21 J -24806942.46 -24806942.36 -24806942.26 0.2721 0.1195 *

Neptune -72631-04-18 16:47 J -24806941.93 -24806941.80 -24806941.67 0.0089 0.0014

Neptune -72631-07-15 17:59 J -24806853.87 -24806853.75 -24806853.62 0.0089 0.0019

Neptune -72631-10-11 19:25 J -24806765.82 -24806765.69 -24806765.56 0.0089 0.0024

Neptune -72630-01-07 20:37 J -24806677.76 -24806677.64 -24806677.51 0.0089 0.0029

Neptune -72630-04-05 22:04 J -24806589.70 -24806589.58 -24806589.46 0.0089 0.0033

Neptune -72630-07-02 23:16 J -24806501.65 -24806501.53 -24806501.41 0.0089 0.0038

Mars -72630-07-03 05:30 J -24806501.34 -24806501.27 -24806501.21 0.1963 0.1596

Neptune -72630-09-29 00:28 J -24806413.59 -24806413.48 -24806413.36 0.0089 0.0043

Neptune -72630-12-26 01:40 J -24806325.53 -24806325.43 -24806325.31 0.0089 0.0048

Neptune -72629-03-23 03:06 J -24806237.47 -24806237.37 -24806237.26 0.0089 0.0053

Neptune -72629-06-19 04:18 J -24806149.41 -24806149.32 -24806149.21 0.0089 0.0058

Neptune -72629-09-15 05:45 J -24806061.35 -24806061.26 -24806061.16 0.0089 0.0062

Venus -72629-11-13 05:45 J -24806002.36 -24806002.26 -24806002.16 0.3582 0.2506

Neptune -72629-12-12 06:57 J -24805973.29 -24805973.21 -24805973.12 0.0089 0.0067

Neptune -72628-03-10 08:23 J -24805885.22 -24805885.15 -24805885.07 0.0089 0.0072

Neptune -72628-06-06 09:35 J -24805797.16 -24805797.10 -24805797.03 0.0089 0.0077

Neptune -72628-09-02 10:47 J -24805709.09 -24805709.05 -24805708.99 0.0089 0.0082

Moon -72628-10-15 09:49 J -24805666.24 -24805666.09 -24805665.93 0.2608 0.0881

Earth -72628-10-15 11:16 J -24805666.18 -24805666.03 -24805665.87 0.2613 0.0807 *

Neptune -72628-11-29 12:28 J -24805621.01 -24805620.98 -24805620.95 0.0089 0.0086

Jupiter -72627-02-24 02:23 J -24805534.43 -24805534.40 -24805534.36 0.0530 0.0505

Jupiter -72627-05-24 08:23 J -24805445.28 -24805445.15 -24805445.02 0.0530 0.0050

Jupiter -72627-08-21 14:23 J -24805355.97 -24805355.90 -24805355.81 0.0529 0.0408

Saturn -72625-10-18 12:28 J -24804567.06 -24804566.98 -24804566.89 0.0295 0.0215

Saturn -72624-01-15 00:28 J -24804478.60 -24804478.48 -24804478.36 0.0294 0.0089

Saturn -72624-04-13 12:28 J -24804390.11 -24804389.98 -24804389.86 0.0293 0.0038

Saturn -72624-07-11 00:13 J -24804301.60 -24804301.49 -24804301.38 0.0292 0.0160

Saturn -72624-10-07 11:59 J -24804213.03 -24804213.00 -24804212.97 0.0291 0.0282

Mars -72621-01-24 01:25 J -24803374.59 -24803374.44 -24803374.29 0.1594 0.0758

Jupiter -72621-04-19 03:21 J -24803288.52 -24803288.36 -24803288.19 0.0496 0.0245

Jupiter -72621-07-18 13:54 J -24803198.06 -24803197.92 -24803197.78 0.0497 0.0330

Mars -72619-10-29 06:13 J -24802365.30 -24802365.24 -24802365.17 0.1947 0.1581

Moon -72618-04-20 20:52 J -24802191.73 -24802191.63 -24802191.52 0.2730 0.0057

Earth -72618-04-20 21:06 J -24802191.73 -24802191.62 -24802191.52 0.2723 0.0111 *

Jupiter -72615-03-12 12:42 J -24801135.09 -24801134.97 -24801134.85 0.0530 0.0161

Jupiter -72615-06-09 18:42 J -24801045.82 -24801045.72 -24801045.61 0.0529 0.0296

Venus -72615-09-09 15:49 J -24800953.89 -24800953.84 -24800953.78 0.3805 0.3245

Moon -72615-10-18 17:45 J -24800914.90 -24800914.76 -24800914.62 0.2612 0.1332

Earth -72615-10-18 19:25 J -24800914.81 -24800914.69 -24800914.56 0.2611 0.1611 *

Mars -72612-06-15 03:06 J -24799944.54 -24799944.37 -24799944.20 0.1591 0.0154

Jupiter -72609-02-06 00:42 J -24798978.58 -24798978.47 -24798978.35 0.0496 0.0384

Mars -72609-03-20 13:54 J -24798935.03 -24798934.92 -24798934.81 0.1953 0.0564

Venus -72609-03-25 09:06 J -24798930.22 -24798930.12 -24798930.03 0.3803 0.1853

Jupiter -72609-05-06 11:30 J -24798888.19 -24798888.02 -24798887.85 0.0496 0.0192

Saturn -72609-10-25 16:18 J -24798715.96 -24798715.82 -24798715.68 0.0267 0.0185

Saturn -72608-01-22 14:37 J -24798627.08 -24798626.89 -24798626.70 0.0268 0.0043

Saturn -72608-04-21 13:11 J -24798538.13 -24798537.95 -24798537.77 0.0269 0.0101

Saturn -72608-07-19 11:16 J -24798449.09 -24798449.03 -24798448.94 0.0270 0.0247

Pluto -72607-08-07 08:09 J -24798065.20 -24798065.16 -24798065.09 0.0084 0.0076

Pluto -72607-11-03 09:49 J -24797977.17 -24797977.09 -24797977.00 0.0084 0.0065

Pluto -72606-01-30 11:01 J -24797889.13 -24797889.04 -24797888.92 0.0084 0.0054

Pluto -72606-04-28 12:28 J -24797801.08 -24797800.98 -24797800.85 0.0084 0.0043

Pluto -72606-07-25 14:09 J -24797713.03 -24797712.91 -24797712.78 0.0084 0.0032

Uranus -72606-08-03 05:01 J -24797704.30 -24797704.29 -24797704.27 0.0135 0.0134

Pluto -72606-10-21 15:35 J -24797624.98 -24797624.85 -24797624.71 0.0084 0.0021

Uranus -72606-10-30 07:54 J -24797616.22 -24797616.17 -24797616.10 0.0135 0.0118

Pluto -72605-01-17 17:01 J -24797536.92 -24797536.79 -24797536.65 0.0083 0.0010

Uranus -72605-01-26 11:16 J -24797528.12 -24797528.03 -24797527.95 0.0135 0.0101

Pluto -72605-04-14 18:28 J -24797448.87 -24797448.73 -24797448.59 0.0083 0.0001

Earth -72605-04-22 14:37 J -24797440.98 -24797440.89 -24797440.79 0.2725 0.1163

Moon -72605-04-22 15:06 J -24797440.96 -24797440.87 -24797440.77 0.2729 0.1176 *

Uranus -72605-04-23 14:09 J -24797440.01 -24797439.91 -24797439.80 0.0136 0.0085

Pluto -72605-07-11 19:54 J -24797360.81 -24797360.67 -24797360.53 0.0083 0.0012

Uranus -72605-07-20 17:16 J -24797351.89 -24797351.78 -24797351.66 0.0136 0.0068

Pluto -72605-10-07 21:06 J -24797272.75 -24797272.62 -24797272.48 0.0083 0.0022

Uranus -72605-10-16 20:23 J -24797263.77 -24797263.65 -24797263.52 0.0136 0.0051

Pluto -72604-01-03 22:18 J -24797184.68 -24797184.57 -24797184.43 0.0083 0.0033

Uranus -72604-01-12 23:30 J -24797175.64 -24797175.52 -24797175.39 0.0136 0.0035

Pluto -72604-04-01 23:45 J -24797096.62 -24797096.51 -24797096.38 0.0083 0.0043

Uranus -72604-04-11 02:37 J -24797087.52 -24797087.39 -24797087.26 0.0136 0.0018

Pluto -72604-06-29 01:11 J -24797008.55 -24797008.45 -24797008.34 0.0083 0.0053

Uranus -72604-07-08 05:45 J -24796999.39 -24796999.26 -24796999.12 0.0136 0.0004

Pluto -72604-09-25 02:23 J -24796920.47 -24796920.40 -24796920.30 0.0083 0.0064

Uranus -72604-10-04 08:52 J -24796911.26 -24796911.13 -24796910.99 0.0136 0.0017

Venus -72604-10-09 02:09 J -24796906.51 -24796906.41 -24796906.30 0.3800 0.0433

Pluto -72604-12-22 03:35 J -24796832.39 -24796832.35 -24796832.27 0.0082 0.0074

Jupiter -72604-12-29 16:33 J -24796824.91 -24796824.81 -24796824.70 0.0530 0.0279

Uranus -72604-12-31 12:13 J -24796823.12 -24796822.99 -24796822.87 0.0136 0.0034

Jupiter -72603-03-28 22:33 J -24796735.67 -24796735.56 -24796735.43 0.0530 0.0180

Uranus -72603-03-29 15:21 J -24796734.98 -24796734.86 -24796734.74 0.0137 0.0051

Uranus -72603-06-25 18:28 J -24796646.84 -24796646.73 -24796646.61 0.0137 0.0068

Uranus -72603-09-21 21:35 J -24796558.70 -24796558.60 -24796558.49 0.0137 0.0085

Mars -72603-11-05 05:01 J -24796514.41 -24796514.29 -24796514.16 0.1587 0.1041

Uranus -72603-12-19 00:42 J -24796470.55 -24796470.47 -24796470.37 0.0137 0.0103

Uranus -72602-03-17 04:04 J -24796382.39 -24796382.33 -24796382.26 0.0137 0.0120

Mars -72600-08-10 21:49 J -24795504.70 -24795504.59 -24795504.48 0.1958 0.0448

Moon -72598-04-16 13:40 J -24794890.98 -24794890.93 -24794890.87 0.2720 0.2245

Earth -72598-04-16 14:23 J -24794890.96 -24794890.90 -24794890.83 0.2720 0.2127 *

Venus -72598-04-24 19:40 J -24794882.79 -24794882.68 -24794882.58 0.3798 0.1044

Jupiter -72597-02-23 08:52 J -24794578.31 -24794578.13 -24794577.94 0.0496 0.0054

Saturn -72595-03-07 13:54 J -24793834.97 -24793834.92 -24793834.86 0.0296 0.0260

Saturn -72595-06-04 01:54 J -24793746.53 -24793746.42 -24793746.30 0.0295 0.0133

Saturn -72595-08-31 13:54 J -24793658.05 -24793657.92 -24793657.79 0.0294 0.0009

Saturn -72595-11-28 01:40 J -24793569.55 -24793569.43 -24793569.31 0.0293 0.0117

Saturn -72594-02-24 13:25 J -24793481.01 -24793480.94 -24793480.87 0.0292 0.0240

Venus -72593-11-07 13:11 J -24792859.03 -24792858.95 -24792858.88 0.3795 0.2529

Earth -72592-04-25 08:23 J -24792690.20 -24792690.15 -24792690.10 0.2726 0.2350

Moon -72592-04-25 09:06 J -24792690.16 -24792690.12 -24792690.08 0.2728 0.2454 *

Jupiter -72592-10-17 21:06 J -24792514.71 -24792514.62 -24792514.54 0.0530 0.0390

Jupiter -72591-01-15 03:06 J -24792425.50 -24792425.37 -24792425.25 0.0530 0.0069

Jupiter -72591-04-14 09:06 J -24792336.12 -24792336.12 -24792336.10 0.0529 0.0526

Mars -72590-01-01 05:16 J -24792074.35 -24792074.28 -24792074.20 0.1963 0.1492

Jupiter -72586-12-12 05:59 J -24790268.43 -24790268.25 -24790268.06 0.0496 0.0088

Jupiter -72585-03-11 16:04 J -24790177.86 -24790177.83 -24790177.78 0.0496 0.0483

Moon -72585-04-18 07:40 J -24790140.28 -24790140.18 -24790140.08 0.2727 0.0963

Earth -72585-04-18 08:09 J -24790140.26 -24790140.16 -24790140.06 0.2721 0.0956 *

Venus -72583-05-20 23:45 J -24789377.64 -24789377.51 -24789377.39 0.3577 0.1804

Mars -72582-07-25 02:09 J -24788947.55 -24788947.41 -24788947.28 0.1595 0.0893

Moon -72582-10-16 16:47 J -24788863.96 -24788863.80 -24788863.64 0.2609 0.0510

Earth -72582-10-16 18:13 J -24788863.90 -24788863.74 -24788863.58 0.2612 0.0323 *

Jupiter -72580-08-06 01:40 J -24788204.48 -24788204.43 -24788204.39 0.0531 0.0498

Jupiter -72580-11-03 07:25 J -24788115.31 -24788115.19 -24788115.06 0.0530 0.0046

Jupiter -72579-01-31 13:40 J -24788026.00 -24788025.93 -24788025.85 0.0530 0.0418

Saturn -72579-03-14 12:28 J -24787984.06 -24787983.98 -24787983.89 0.0267 0.0241

Mars -72579-04-29 06:13 J -24787938.29 -24787938.24 -24787938.18 0.1947 0.1689

Saturn -72579-06-11 10:47 J -24787895.23 -24787895.05 -24787894.87 0.0268 0.0099

Saturn -72579-09-08 09:06 J -24787806.30 -24787806.12 -24787805.93 0.0269 0.0045

Saturn -72579-12-06 07:25 J -24787717.32 -24787717.19 -24787717.04 0.0269 0.0189

Venus -72578-12-05 03:06 J -24787353.51 -24787353.37 -24787353.23 0.3580 0.0836

Jupiter -72574-09-30 03:21 J -24785958.52 -24785958.36 -24785958.19 0.0496 0.0226

Jupiter -72574-12-29 13:40 J -24785868.06 -24785867.93 -24785867.79 0.0496 0.0347

Mars -72573-12-14 04:04 J -24785517.50 -24785517.33 -24785517.16 0.1591 0.0035

Moon -72572-04-21 01:54 J -24785389.53 -24785389.42 -24785389.32 0.2730 0.0189

Earth -72572-04-21 01:54 J -24785389.53 -24785389.42 -24785389.32 0.2723 0.0247 *

Venus -72572-06-20 06:13 J -24785329.29 -24785329.24 -24785329.19 0.3583 0.3345

Mars -72570-09-19 13:54 J -24784508.02 -24784507.92 -24784507.81 0.1953 0.0686

Moon -72569-10-19 00:28 J -24784112.58 -24784112.48 -24784112.38 0.2612 0.1985

Earth -72569-10-19 02:23 J -24784112.50 -24784112.40 -24784112.30 0.2610 0.2075 *

Jupiter -72568-08-22 11:59 J -24783805.12 -24783805.00 -24783804.88 0.0530 0.0153

Jupiter -72568-11-19 17:59 J -24783715.85 -24783715.75 -24783715.64 0.0529 0.0305

Uranus -72566-09-11 23:59 J -24783054.59 -24783054.50 -24783054.39 0.0143 0.0123

Saturn -72566-10-22 02:37 J -24783014.49 -24783014.39 -24783014.29 0.0295 0.0183

Uranus -72566-12-09 08:23 J -24782966.28 -24782966.15 -24782965.99 0.0143 0.0094

Saturn -72565-01-18 14:37 J -24782926.02 -24782925.89 -24782925.76 0.0294 0.0057

Uranus -72565-03-06 17:01 J -24782877.96 -24782877.79 -24782877.61 0.0143 0.0065

Saturn -72565-04-16 02:23 J -24782837.52 -24782837.40 -24782837.27 0.0293 0.0070

Uranus -72565-06-03 01:25 J -24782789.62 -24782789.44 -24782789.25 0.0143 0.0036

Saturn -72565-07-13 14:23 J -24782749.00 -24782748.90 -24782748.81 0.0292 0.0193

Uranus -72565-08-30 09:49 J -24782701.28 -24782701.09 -24782700.89 0.0143 0.0007

Uranus -72565-11-26 18:13 J -24782612.93 -24782612.74 -24782612.55 0.0142 0.0022

Uranus -72564-02-23 02:23 J -24782524.58 -24782524.40 -24782524.21 0.0142 0.0050

Uranus -72564-05-22 10:47 J -24782436.21 -24782436.05 -24782435.89 0.0142 0.0079

Uranus -72564-08-18 18:28 J -24782347.84 -24782347.73 -24782347.58 0.0142 0.0107

Uranus -72564-11-15 03:06 J -24782259.43 -24782259.37 -24782259.31 0.0142 0.0134

Mars -72563-05-06 05:45 J -24782087.40 -24782087.26 -24782087.12 0.1587 0.0908

Jupiter -72562-07-18 23:45 J -24781648.63 -24781648.51 -24781648.39 0.0496 0.0377

Jupiter -72562-10-17 10:18 J -24781558.24 -24781558.07 -24781557.90 0.0497 0.0200

Mars -72560-02-08 21:35 J -24781077.71 -24781077.60 -24781077.49 0.1958 0.0356

Earth -72559-04-23 19:25 J -24780638.78 -24780638.69 -24780638.60 0.2725 0.1404

Moon -72559-04-23 20:09 J -24780638.75 -24780638.66 -24780638.58 0.2729 0.1542 *

Venus -72558-04-16 13:40 J -24780281.00 -24780280.93 -24780280.86 0.3804 0.2775

Jupiter -72556-06-10 16:18 J -24779494.93 -24779494.82 -24779494.71 0.0530 0.0263

Jupiter -72556-09-07 22:18 J -24779405.69 -24779405.57 -24779405.45 0.0529 0.0193

Neptune -72553-06-11 18:42 J -24778397.75 -24778397.72 -24778397.66 0.0089 0.0086

Neptune -72553-09-07 22:33 J -24778309.64 -24778309.56 -24778309.46 0.0089 0.0079

Venus -72553-10-30 06:57 J -24778257.31 -24778257.21 -24778257.12 0.3802 0.1369

Neptune -72553-12-05 02:09 J -24778221.51 -24778221.41 -24778221.28 0.0089 0.0072

Neptune -72552-03-03 05:59 J -24778133.37 -24778133.25 -24778133.10 0.0089 0.0065

Moon -72552-04-16 18:42 J -24778088.80 -24778088.72 -24778088.65 0.2721 0.1957

Earth -72552-04-16 19:11 J -24778088.77 -24778088.70 -24778088.62 0.2720 0.1886 *

Neptune -72552-05-30 09:35 J -24778045.23 -24778045.10 -24778044.93 0.0089 0.0058

Neptune -72552-08-26 13:54 J -24777957.09 -24777956.92 -24777956.76 0.0089 0.0050

Neptune -72552-11-22 17:30 J -24777868.94 -24777868.77 -24777868.59 0.0089 0.0043

Neptune -72551-02-18 21:06 J -24777780.79 -24777780.62 -24777780.43 0.0089 0.0036

Neptune -72551-05-18 00:57 J -24777692.64 -24777692.46 -24777692.27 0.0089 0.0029

Mars -72551-07-02 05:30 J -24777647.35 -24777647.27 -24777647.19 0.1963 0.1371

Neptune -72551-08-14 04:47 J -24777604.49 -24777604.30 -24777604.11 0.0089 0.0021

Neptune -72551-11-10 08:23 J -24777516.33 -24777516.15 -24777515.94 0.0089 0.0015

Neptune -72550-02-06 12:13 J -24777428.18 -24777427.99 -24777427.79 0.0089 0.0008

Neptune -72550-05-05 16:04 J -24777340.02 -24777339.83 -24777339.63 0.0089 0.0001

Neptune -72550-08-01 19:54 J -24777251.87 -24777251.67 -24777251.47 0.0089 0.0007

Jupiter -72550-08-05 07:54 J -24777248.36 -24777248.17 -24777247.99 0.0496 0.0062

Neptune -72550-10-28 23:30 J -24777163.71 -24777163.52 -24777163.32 0.0089 0.0015

Saturn -72550-10-29 09:06 J -24777163.27 -24777163.12 -24777162.95 0.0267 0.0142

Neptune -72549-01-25 03:21 J -24777075.55 -24777075.36 -24777075.17 0.0089 0.0022

Saturn -72549-01-26 07:40 J -24777074.37 -24777074.18 -24777073.99 0.0268 0.0002

Neptune -72549-04-22 07:11 J -24776987.39 -24776987.20 -24776987.02 0.0089 0.0029

Saturn -72549-04-24 05:59 J -24776985.41 -24776985.25 -24776985.09 0.0269 0.0144

Neptune -72549-07-19 10:33 J -24776899.23 -24776899.06 -24776898.87 0.0089 0.0037

Moon -72549-10-13 15:49 J -24776812.92 -24776812.84 -24776812.77 0.2608 0.2308

Earth -72549-10-13 16:47 J -24776812.88 -24776812.80 -24776812.72 0.2614 0.2283 *

Neptune -72549-10-15 14:23 J -24776811.06 -24776810.90 -24776810.72 0.0089 0.0043

Neptune -72548-01-11 17:59 J -24776722.90 -24776722.75 -24776722.57 0.0089 0.0051

Neptune -72548-04-09 21:49 J -24776634.73 -24776634.59 -24776634.43 0.0089 0.0058

Neptune -72548-07-07 01:25 J -24776546.56 -24776546.44 -24776546.29 0.0089 0.0065

Neptune -72548-10-03 05:16 J -24776458.38 -24776458.28 -24776458.15 0.0089 0.0072

Neptune -72548-12-30 09:06 J -24776370.20 -24776370.12 -24776370.02 0.0089 0.0079

Neptune -72547-03-28 12:57 J -24776282.00 -24776281.96 -24776281.91 0.0089 0.0086

Venus -72547-05-16 00:13 J -24776233.60 -24776233.49 -24776233.39 0.3800 0.0143

Earth -72546-04-26 13:11 J -24775887.98 -24775887.95 -24775887.92 0.2726 0.2590

Moon -72546-04-26 13:54 J -24775887.94 -24775887.92 -24775887.90 0.2726 0.2631 *

Jupiter -72544-03-29 20:23 J -24775184.74 -24775184.65 -24775184.57 0.0530 0.0380

Jupiter -72544-06-27 02:09 J -24775095.53 -24775095.41 -24775095.28 0.0530 0.0077

Mars -72542-01-23 02:37 J -24774520.51 -24774520.39 -24774520.26 0.1595 0.1028

Venus -72542-11-29 17:30 J -24774209.86 -24774209.77 -24774209.67 0.3797 0.1553

Mars -72540-10-28 06:28 J -24773511.27 -24773511.23 -24773511.19 0.1947 0.1813

Moon -72539-04-19 12:28 J -24773338.08 -24773337.98 -24773337.87 0.2728 0.0805

Earth -72539-04-19 12:57 J -24773338.06 -24773337.96 -24773337.86 0.2722 0.0712 *

Jupiter -72538-05-24 05:16 J -24772938.46 -24772938.28 -24772938.09 0.0496 0.0076

Jupiter -72538-08-22 15:35 J -24772847.86 -24772847.85 -24772847.84 0.0497 0.0496

Saturn -72536-03-10 04:04 J -24772282.40 -24772282.33 -24772282.24 0.0296 0.0227

Saturn -72536-06-06 16:18 J -24772193.95 -24772193.82 -24772193.70 0.0295 0.0100

Venus -72536-06-14 11:01 J -24772186.10 -24772186.04 -24772185.98 0.3794 0.3052

Saturn -72536-09-03 04:04 J -24772105.46 -24772105.33 -24772105.20 0.0294 0.0026

Moon -72536-10-16 23:16 J -24772061.69 -24772061.53 -24772061.36 0.2611 0.0049

Earth -72536-10-17 00:57 J -24772061.62 -24772061.46 -24772061.29 0.2612 0.0162 *

Saturn -72536-11-30 15:49 J -24772016.95 -24772016.84 -24772016.73 0.0293 0.0151

Saturn -72535-02-27 03:35 J -24771928.39 -24771928.35 -24771928.30 0.0292 0.0273

Mars -72533-06-14 04:33 J -24771090.48 -24771090.31 -24771090.14 0.1591 0.0128

Jupiter -72532-01-16 00:28 J -24770874.52 -24770874.48 -24770874.43 0.0530 0.0492

Jupiter -72532-04-15 06:28 J -24770785.36 -24770785.23 -24770785.10 0.0530 0.0037

Jupiter -72532-07-13 12:42 J -24770696.05 -24770695.97 -24770695.90 0.0529 0.0422

Mars -72530-03-20 13:54 J -24770081.02 -24770080.92 -24770080.81 0.1953 0.0785

Venus -72527-12-26 00:28 J -24768704.62 -24768704.48 -24768704.34 0.3578 0.0911

Jupiter -72526-03-12 02:23 J -24768628.57 -24768628.40 -24768628.23 0.0496 0.0218

Earth -72526-04-22 06:42 J -24768587.33 -24768587.22 -24768587.12 0.2723 0.0473

Moon -72526-04-22 06:42 J -24768587.32 -24768587.22 -24768587.11 0.2730 0.0541 *

Jupiter -72526-06-10 12:57 J -24768538.09 -24768537.96 -24768537.84 0.0496 0.0356

Mars -72524-11-04 06:28 J -24767660.37 -24767660.23 -24767660.08 0.1587 0.0767

Moon -72523-10-20 07:25 J -24767310.27 -24767310.19 -24767310.12 0.2612 0.2293

Earth -72523-10-20 09:06 J -24767310.15 -24767310.12 -24767310.09 0.2610 0.2549 *

Uranus -72522-08-23 11:45 J -24767003.03 -24767003.01 -24767002.99 0.0135 0.0133

Uranus -72522-11-19 14:37 J -24766914.95 -24766914.89 -24766914.82 0.0135 0.0116

Uranus -72521-02-15 17:30 J -24766826.85 -24766826.77 -24766826.67 0.0135 0.0101

Uranus -72521-05-13 20:37 J -24766738.73 -24766738.64 -24766738.53 0.0135 0.0084

Venus -72521-07-11 03:49 J -24766680.47 -24766680.34 -24766680.21 0.3581 0.1698

Mars -72521-08-09 21:49 J -24766650.71 -24766650.59 -24766650.48 0.1958 0.0245

Uranus -72521-08-09 23:59 J -24766650.62 -24766650.50 -24766650.39 0.0136 0.0067 *

Uranus -72521-11-06 02:52 J -24766562.50 -24766562.38 -24766562.25 0.0136 0.0051

Jupiter -72520-02-01 11:01 J -24766475.16 -24766475.04 -24766474.92 0.0530 0.0146

Uranus -72520-02-02 05:59 J -24766474.37 -24766474.25 -24766474.12 0.0136 0.0034

Saturn -72520-03-17 05:59 J -24766431.38 -24766431.25 -24766431.12 0.0267 0.0194

Uranus -72520-05-01 09:21 J -24766386.25 -24766386.11 -24766385.98 0.0136 0.0017

Jupiter -72520-05-01 17:01 J -24766385.89 -24766385.79 -24766385.68 0.0530 0.0313

Saturn -72520-06-14 04:18 J -24766342.51 -24766342.32 -24766342.13 0.0268 0.0053

Uranus -72520-07-28 12:28 J -24766298.12 -24766297.98 -24766297.85 0.0136 0.0004

Saturn -72520-09-11 02:37 J -24766253.57 -24766253.39 -24766253.21 0.0268 0.0090

Uranus -72520-10-24 15:35 J -24766209.98 -24766209.85 -24766209.72 0.0136 0.0017

Saturn -72520-12-09 00:57 J -24766164.55 -24766164.46 -24766164.36 0.0269 0.0235

Uranus -72519-01-20 18:42 J -24766121.85 -24766121.72 -24766121.59 0.0136 0.0034

Uranus -72519-04-18 21:49 J -24766033.71 -24766033.59 -24766033.47 0.0136 0.0051

Uranus -72519-07-16 00:57 J -24765945.57 -24765945.46 -24765945.34 0.0137 0.0069

Uranus -72519-10-12 04:18 J -24765857.43 -24765857.32 -24765857.22 0.0137 0.0086

Uranus -72518-01-08 07:11 J -24765769.27 -24765769.20 -24765769.10 0.0137 0.0104

Uranus -72518-04-06 10:33 J -24765681.11 -24765681.06 -24765680.99 0.0137 0.0121

Jupiter -72515-12-28 23:30 J -24764318.64 -24764318.52 -24764318.38 0.0496 0.0358

Jupiter -72514-03-29 10:18 J -24764228.24 -24764228.07 -24764227.90 0.0496 0.0218

Earth -72513-04-24 00:13 J -24763836.57 -24763836.49 -24763836.40 0.2725 0.1648

Moon -72513-04-24 00:57 J -24763836.55 -24763836.46 -24763836.38 0.2730 0.1656 *

Mars -72512-12-31 05:16 J -24763220.36 -24763220.28 -24763220.19 0.1963 0.1272

Jupiter -72509-11-20 15:35 J -24762164.96 -24762164.85 -24762164.74 0.0530 0.0255

Jupiter -72508-02-17 21:35 J -24762075.72 -24762075.60 -24762075.48 0.0529 0.0202

Venus -72507-05-07 18:28 J -24761631.75 -24761631.73 -24761631.71 0.3806 0.3687

Saturn -72507-07-28 04:47 J -24761550.34 -24761550.30 -24761550.25 0.0296 0.0278

Saturn -72507-10-24 17:01 J -24761461.90 -24761461.79 -24761461.68 0.0295 0.0151

Saturn -72506-01-21 04:47 J -24761373.43 -24761373.30 -24761373.17 0.0294 0.0025

Moon -72506-04-17 23:30 J -24761286.60 -24761286.52 -24761286.44 0.2723 0.1709

Earth -72506-04-17 23:59 J -24761286.58 -24761286.50 -24761286.41 0.2720 0.1649 *

Saturn -72506-04-19 16:47 J -24761284.92 -24761284.80 -24761284.68 0.0293 0.0102

Saturn -72506-07-17 04:33 J -24761196.39 -24761196.31 -24761196.23 0.0292 0.0225

Mars -72503-07-24 03:21 J -24760093.47 -24760093.36 -24760093.24 0.1595 0.1164

Moon -72503-10-14 22:33 J -24760010.66 -24760010.56 -24760010.45 0.2609 0.1986

Earth -72503-10-14 23:30 J -24760010.63 -24760010.52 -24760010.40 0.2614 0.1810 *

Jupiter -72502-01-15 06:42 J -24759918.41 -24759918.22 -24759918.04 0.0497 0.0069

Venus -72502-11-21 11:30 J -24759608.10 -24759608.02 -24759607.93 0.3804 0.2295

Mars -72500-04-28 06:13 J -24759084.26 -24759084.24 -24759084.22 0.1947 0.1906

Jupiter -72497-09-08 19:54 J -24757854.76 -24757854.67 -24757854.58 0.0530 0.0365

Jupiter -72497-12-07 01:54 J -24757765.55 -24757765.42 -24757765.30 0.0529 0.0091

Venus -72496-06-06 04:47 J -24757584.40 -24757584.30 -24757584.20 0.3802 0.0872

Mars -72494-12-14 05:16 J -24756663.45 -24756663.28 -24756663.11 0.1591 0.0260

Moon -72493-04-19 17:30 J -24756535.88 -24756535.77 -24756535.67 0.2728 0.0503

Earth -72493-04-19 17:45 J -24756535.87 -24756535.76 -24756535.65 0.2722 0.0473 *

Saturn -72491-08-04 04:33 J -24755699.39 -24755699.31 -24755699.21 0.0266 0.0235

Mars -72491-09-18 13:54 J -24755654.02 -24755653.92 -24755653.81 0.1953 0.0901

Saturn -72491-11-01 02:52 J -24755610.56 -24755610.38 -24755610.20 0.0267 0.0094

Jupiter -72491-11-03 03:49 J -24755608.52 -24755608.34 -24755608.15 0.0496 0.0073

Venus -72491-12-20 22:04 J -24755560.68 -24755560.58 -24755560.47 0.3799 0.0587

Saturn -72490-01-29 01:11 J -24755521.64 -24755521.45 -24755521.26 0.0268 0.0049

Saturn -72490-04-27 23:30 J -24755432.65 -24755432.52 -24755432.38 0.0269 0.0192

Moon -72490-10-18 05:59 J -24755259.41 -24755259.25 -24755259.09 0.2611 0.0463

Earth -72490-10-18 07:54 J -24755259.33 -24755259.17 -24755259.01 0.2612 0.0612 *

Jupiter -72485-06-27 23:45 J -24753544.55 -24753544.51 -24753544.46 0.0530 0.0482

Venus -72485-07-05 15:35 J -24753536.94 -24753536.85 -24753536.76 0.3796 0.2071

Jupiter -72485-09-25 05:45 J -24753455.39 -24753455.26 -24753455.13 0.0529 0.0028

Jupiter -72485-12-23 11:45 J -24753366.08 -24753366.01 -24753365.93 0.0529 0.0430

Mars -72484-05-05 07:11 J -24753233.35 -24753233.20 -24753233.04 0.1588 0.0633

Uranus -72482-10-02 05:59 J -24752353.35 -24752353.25 -24752353.14 0.0143 0.0122

Uranus -72482-12-29 14:23 J -24752265.04 -24752264.90 -24752264.74 0.0143 0.0092

Mars -72481-02-08 21:49 J -24752223.71 -24752223.59 -24752223.48 0.1958 0.0137

Uranus -72481-03-26 23:01 J -24752176.71 -24752176.54 -24752176.37 0.0143 0.0063

Uranus -72481-06-23 07:25 J -24752088.38 -24752088.19 -24752088.00 0.0143 0.0034

Uranus -72481-09-19 15:49 J -24752000.03 -24751999.84 -24751999.65 0.0143 0.0005

Uranus -72481-12-17 00:13 J -24751911.68 -24751911.49 -24751911.30 0.0142 0.0024

Uranus -72480-03-15 08:23 J -24751823.33 -24751823.15 -24751822.97 0.0142 0.0052

Earth -72480-04-22 11:30 J -24751785.13 -24751785.02 -24751784.92 0.2723 0.0713

Moon -72480-04-22 11:45 J -24751785.11 -24751785.01 -24751784.91 0.2730 0.0708 *

Uranus -72480-06-11 16:18 J -24751734.96 -24751734.82 -24751734.64 0.0142 0.0082

Uranus -72480-09-08 00:42 J -24751646.58 -24751646.47 -24751646.34 0.0142 0.0109

Uranus -72480-12-05 08:37 J -24751558.17 -24751558.14 -24751558.07 0.0142 0.0137

Venus -72479-01-19 09:06 J -24751513.15 -24751513.12 -24751513.09 0.3794 0.3582

Jupiter -72479-08-22 01:25 J -24751298.61 -24751298.44 -24751298.27 0.0496 0.0210

Jupiter -72479-11-20 11:45 J -24751208.13 -24751208.01 -24751207.88 0.0497 0.0366

Saturn -72477-03-12 18:28 J -24750729.82 -24750729.73 -24750729.63 0.0296 0.0193

Saturn -72477-06-09 06:28 J -24750641.35 -24750641.23 -24750641.10 0.0295 0.0066

Saturn -72477-09-05 18:28 J -24750552.86 -24750552.73 -24750552.60 0.0294 0.0060

Saturn -72477-12-03 06:13 J -24750464.34 -24750464.24 -24750464.14 0.0293 0.0185

Venus -72475-01-15 21:35 J -24750055.70 -24750055.60 -24750055.51 0.3576 0.2711

Mars -72475-09-25 09:06 J -24749803.16 -24749803.12 -24749803.08 0.1584 0.1523

Moon -72473-04-15 10:33 J -24749235.09 -24749235.06 -24749235.03 0.2716 0.2596

Earth -72473-04-15 11:16 J -24749235.06 -24749235.03 -24749235.00 0.2718 0.2573 *

Jupiter -72473-07-14 09:49 J -24749145.21 -24749145.09 -24749144.96 0.0530 0.0143

Jupiter -72473-10-11 16:04 J -24749055.93 -24749055.83 -24749055.73 0.0529 0.0317

Mars -72472-07-01 05:16 J -24748793.37 -24748793.28 -24748793.19 0.1963 0.1163

Neptune -72472-12-21 13:40 J -24748619.96 -24748619.93 -24748619.88 0.0089 0.0084

Neptune -72471-03-19 15:06 J -24748531.93 -24748531.87 -24748531.81 0.0089 0.0079

Neptune -72471-06-15 16:04 J -24748443.88 -24748443.83 -24748443.75 0.0089 0.0075

Neptune -72471-09-11 17:30 J -24748355.84 -24748355.77 -24748355.68 0.0089 0.0070

Neptune -72471-12-08 18:57 J -24748267.80 -24748267.71 -24748267.62 0.0089 0.0065

Neptune -72470-03-06 20:09 J -24748179.75 -24748179.66 -24748179.56 0.0089 0.0060

Neptune -72470-06-02 21:21 J -24748091.70 -24748091.61 -24748091.50 0.0089 0.0056

Venus -72470-08-02 01:11 J -24748031.60 -24748031.45 -24748031.31 0.3579 0.0039

Neptune -72470-08-29 22:47 J -24748003.65 -24748003.55 -24748003.44 0.0089 0.0051

Neptune -72470-11-25 23:59 J -24747915.60 -24747915.50 -24747915.38 0.0089 0.0046

Neptune -72469-02-22 01:25 J -24747827.55 -24747827.44 -24747827.32 0.0089 0.0041

Neptune -72469-05-20 02:52 J -24747739.50 -24747739.38 -24747739.26 0.0089 0.0036

Neptune -72469-08-16 03:49 J -24747651.45 -24747651.34 -24747651.21 0.0089 0.0032

Neptune -72469-11-12 05:16 J -24747563.40 -24747563.28 -24747563.15 0.0089 0.0027

Neptune -72468-02-08 06:28 J -24747475.35 -24747475.23 -24747475.09 0.0089 0.0022

Neptune -72468-05-07 07:54 J -24747387.30 -24747387.17 -24747387.04 0.0089 0.0017

Neptune -72468-08-03 09:06 J -24747299.25 -24747299.12 -24747298.98 0.0089 0.0012

Neptune -72468-10-30 10:33 J -24747211.19 -24747211.06 -24747210.93 0.0089 0.0007

Neptune -72467-01-26 11:45 J -24747123.14 -24747123.01 -24747122.87 0.0089 0.0003

Neptune -72467-04-24 13:11 J -24747035.08 -24747034.95 -24747034.82 0.0089 0.0003

Earth -72467-04-25 05:01 J -24747034.36 -24747034.29 -24747034.21 0.2725 0.1890

Moon -72467-04-25 05:45 J -24747034.33 -24747034.26 -24747034.19 0.2728 0.2026 *

Jupiter -72467-06-09 22:18 J -24746988.69 -24746988.57 -24746988.43 0.0496 0.0352

Neptune -72467-07-21 14:23 J -24746947.03 -24746946.90 -24746946.77 0.0089 0.0007

Jupiter -72467-09-08 09:06 J -24746898.29 -24746898.12 -24746897.95 0.0496 0.0224

Neptune -72467-10-17 15:35 J -24746858.98 -24746858.85 -24746858.71 0.0089 0.0012

Neptune -72466-01-13 17:01 J -24746770.92 -24746770.79 -24746770.66 0.0089 0.0017

Neptune -72466-04-11 18:13 J -24746682.86 -24746682.74 -24746682.61 0.0089 0.0022

Neptune -72466-07-08 19:25 J -24746594.81 -24746594.69 -24746594.56 0.0089 0.0027

Neptune -72466-10-04 20:52 J -24746506.75 -24746506.63 -24746506.51 0.0089 0.0031

Neptune -72466-12-31 22:04 J -24746418.70 -24746418.58 -24746418.46 0.0089 0.0036

Neptune -72465-03-28 23:30 J -24746330.64 -24746330.52 -24746330.40 0.0089 0.0041

Neptune -72465-06-25 00:42 J -24746242.58 -24746242.47 -24746242.35 0.0089 0.0046

Neptune -72465-09-21 01:54 J -24746154.52 -24746154.42 -24746154.31 0.0089 0.0051

Neptune -72465-12-18 03:06 J -24746066.46 -24746066.37 -24746066.26 0.0089 0.0056

Venus -72464-02-15 04:18 J -24746007.42 -24746007.32 -24746007.22 0.3582 0.2549

Neptune -72464-03-16 04:33 J -24745978.40 -24745978.31 -24745978.21 0.0089 0.0060

Neptune -72464-06-12 05:59 J -24745890.34 -24745890.25 -24745890.16 0.0089 0.0065

Neptune -72464-09-08 07:11 J -24745802.28 -24745802.20 -24745802.12 0.0089 0.0070

Neptune -72464-12-05 08:23 J -24745714.21 -24745714.15 -24745714.07 0.0089 0.0075

Mars -72463-01-22 04:04 J -24745666.42 -24745666.33 -24745666.23 0.1595 0.1304

Neptune -72463-03-03 09:35 J -24745626.14 -24745626.10 -24745626.03 0.0089 0.0080

Neptune -72463-05-30 11:16 J -24745538.07 -24745538.03 -24745537.99 0.0089 0.0084

Saturn -72461-03-19 23:59 J -24744878.65 -24744878.50 -24744878.33 0.0267 0.0144

Jupiter -72461-05-02 14:23 J -24744835.01 -24744834.90 -24744834.79 0.0530 0.0252

Saturn -72461-06-16 22:33 J -24744789.75 -24744789.56 -24744789.37 0.0268 0.0003

Jupiter -72461-07-30 20:23 J -24744745.76 -24744745.65 -24744745.53 0.0530 0.0207

Saturn -72461-09-13 20:37 J -24744700.79 -24744700.64 -24744700.47 0.0269 0.0142

Moon -72460-04-18 04:18 J -24744484.41 -24744484.32 -24744484.23 0.2724 0.1514

Earth -72460-04-18 04:47 J -24744484.39 -24744484.30 -24744484.20 0.2720 0.1407 *

Moon -72457-10-15 05:01 J -24743208.43 -24743208.29 -24743208.15 0.2610 0.1376

Earth -72457-10-15 06:28 J -24743208.37 -24743208.23 -24743208.09 0.2614 0.1343 *

Jupiter -72455-03-28 19:40 J -24742678.70 -24742678.68 -24742678.66 0.0496 0.0492

Jupiter -72455-06-27 06:28 J -24742588.42 -24742588.23 -24742588.05 0.0496 0.0085

Mars -72454-06-14 05:59 J -24742236.41 -24742236.25 -24742236.08 0.1591 0.0401

Pluto -72452-04-27 23:16 J -24741552.56 -24741552.53 -24741552.47 0.0060 0.0058

Pluto -72452-07-25 00:28 J -24741464.55 -24741464.48 -24741464.38 0.0060 0.0053

Pluto -72452-10-21 01:25 J -24741376.52 -24741376.44 -24741376.30 0.0060 0.0049

Pluto -72451-01-17 03:06 J -24741288.49 -24741288.37 -24741288.23 0.0060 0.0043

Mars -72451-03-19 13:54 J -24741227.01 -24741226.92 -24741226.82 0.1953 0.1009

Pluto -72451-04-15 04:18 J -24741200.45 -24741200.32 -24741200.16 0.0060 0.0037

Pluto -72451-07-12 05:16 J -24741112.41 -24741112.28 -24741112.10 0.0060 0.0033

Pluto -72451-10-08 06:57 J -24741024.37 -24741024.21 -24741024.04 0.0060 0.0027

Venus -72451-12-12 16:18 J -24740958.87 -24740958.82 -24740958.77 0.3805 0.3216

Pluto -72450-01-04 07:54 J -24740936.33 -24740936.17 -24740935.98 0.0060 0.0022

Pluto -72450-04-02 09:35 J -24740848.28 -24740848.10 -24740847.92 0.0060 0.0016

Pluto -72450-06-29 10:33 J -24740760.23 -24740760.06 -24740759.86 0.0061 0.0011

Pluto -72450-09-25 12:13 J -24740672.18 -24740671.99 -24740671.81 0.0061 0.0005

Pluto -72450-12-22 13:25 J -24740584.13 -24740583.94 -24740583.75 0.0061 0.0001

Jupiter -72449-02-19 18:57 J -24740524.80 -24740524.71 -24740524.62 0.0530 0.0359

Pluto -72449-03-19 14:37 J -24740496.07 -24740495.89 -24740495.70 0.0061 0.0006

Jupiter -72449-05-19 00:57 J -24740435.58 -24740435.46 -24740435.34 0.0529 0.0097

Pluto -72449-06-15 15:49 J -24740408.02 -24740407.84 -24740407.65 0.0061 0.0012

Pluto -72449-09-11 17:01 J -24740319.96 -24740319.79 -24740319.60 0.0061 0.0018

Pluto -72449-12-08 18:28 J -24740231.90 -24740231.73 -24740231.55 0.0061 0.0023

Pluto -72448-03-06 19:40 J -24740143.83 -24740143.68 -24740143.50 0.0061 0.0029

Pluto -72448-06-02 21:06 J -24740055.77 -24740055.62 -24740055.46 0.0061 0.0035

Saturn -72448-07-30 19:25 J -24739997.76 -24739997.69 -24739997.62 0.0296 0.0243

Pluto -72448-08-29 22:18 J -24739967.70 -24739967.57 -24739967.42 0.0061 0.0040

Saturn -72448-10-27 07:25 J -24739909.31 -24739909.19 -24739909.07 0.0295 0.0115

Pluto -72448-11-25 23:30 J -24739879.62 -24739879.52 -24739879.38 0.0061 0.0046

Saturn -72447-01-23 19:25 J -24739820.82 -24739820.69 -24739820.56 0.0294 0.0012

Pluto -72447-02-22 01:11 J -24739791.54 -24739791.45 -24739791.34 0.0061 0.0052

Moon -72447-04-20 22:18 J -24739733.68 -24739733.57 -24739733.46 0.2728 0.0264

Earth -72447-04-20 22:33 J -24739733.67 -24739733.56 -24739733.45 0.2722 0.0232 *

Saturn -72447-04-22 07:11 J -24739732.31 -24739732.20 -24739732.08 0.0293 0.0137

Pluto -72447-05-21 02:23 J -24739703.45 -24739703.40 -24739703.32 0.0061 0.0058

Saturn -72447-07-19 19:11 J -24739643.76 -24739643.70 -24739643.65 0.0292 0.0261

Venus -72445-06-27 09:21 J -24738935.20 -24738935.11 -24738935.01 0.3803 0.1813

Mars -72445-11-03 07:54 J -24738806.33 -24738806.17 -24738806.01 0.1587 0.0500

Moon -72444-10-18 12:42 J -24738457.12 -24738456.97 -24738456.81 0.2611 0.0836

Earth -72444-10-18 14:37 J -24738457.04 -24738456.89 -24738456.74 0.2612 0.1078 *

Jupiter -72443-04-15 02:23 J -24738278.58 -24738278.40 -24738278.21 0.0496 0.0068

Mars -72442-08-09 21:35 J -24737796.71 -24737796.60 -24737796.48 0.1958 0.0029

Venus -72439-01-11 02:37 J -24736911.49 -24736911.39 -24736911.28 0.3801 0.0373

Uranus -72438-09-12 18:13 J -24736301.76 -24736301.74 -24736301.71 0.0135 0.0131

Jupiter -72438-12-08 23:16 J -24736214.58 -24736214.53 -24736214.47 0.0530 0.0469

Uranus -72438-12-09 21:06 J -24736213.67 -24736213.62 -24736213.54 0.0135 0.0115

Uranus -72437-03-07 00:28 J -24736125.57 -24736125.48 -24736125.39 0.0135 0.0099

Jupiter -72437-03-07 05:16 J -24736125.41 -24736125.28 -24736125.15 0.0529 0.0015 *

Uranus -72437-06-03 03:21 J -24736037.46 -24736037.36 -24736037.25 0.0135 0.0082

Jupiter -72437-06-04 11:16 J -24736036.09 -24736036.03 -24736035.96 0.0529 0.0443

Uranus -72437-08-30 06:28 J -24735949.34 -24735949.23 -24735949.11 0.0136 0.0066

Uranus -72437-11-26 09:35 J -24735861.22 -24735861.10 -24735860.97 0.0136 0.0049

Uranus -72436-02-22 12:42 J -24735773.10 -24735772.97 -24735772.84 0.0136 0.0032

Uranus -72436-05-21 15:49 J -24735684.97 -24735684.84 -24735684.71 0.0136 0.0016

Uranus -72436-08-17 18:57 J -24735596.84 -24735596.71 -24735596.58 0.0136 0.0002

Uranus -72436-11-13 22:04 J -24735508.71 -24735508.58 -24735508.45 0.0136 0.0019

Uranus -72435-02-10 01:11 J -24735420.57 -24735420.45 -24735420.32 0.0136 0.0036

Mars -72435-03-26 09:49 J -24735376.17 -24735376.09 -24735376.01 0.1584 0.1392

Uranus -72435-05-09 04:33 J -24735332.44 -24735332.31 -24735332.19 0.0136 0.0053

Uranus -72435-08-05 07:40 J -24735244.30 -24735244.18 -24735244.07 0.0137 0.0070

Uranus -72435-11-01 10:33 J -24735156.15 -24735156.06 -24735155.95 0.0137 0.0088

Uranus -72434-01-28 13:54 J -24735068.00 -24735067.92 -24735067.83 0.0137 0.0105

Earth -72434-04-23 16:18 J -24734982.92 -24734982.82 -24734982.72 0.2724 0.0950

Moon -72434-04-23 16:33 J -24734982.91 -24734982.81 -24734982.71 0.2730 0.1025 *

Uranus -72434-04-26 17:16 J -24734979.84 -24734979.78 -24734979.72 0.0137 0.0122

Venus -72434-07-27 19:54 J -24734887.77 -24734887.67 -24734887.56 0.3798 0.1103

Mars -72433-12-30 05:16 J -24734366.37 -24734366.28 -24734366.18 0.1963 0.1048

Saturn -72432-08-06 23:16 J -24734146.67 -24734146.53 -24734146.39 0.0266 0.0182

Saturn -72432-11-03 21:35 J -24734057.79 -24734057.60 -24734057.41 0.0267 0.0041

Saturn -72431-01-31 19:54 J -24733968.85 -24733968.67 -24733968.49 0.0268 0.0102

Jupiter -72431-01-31 23:45 J -24733968.68 -24733968.51 -24733968.35 0.0496 0.0209 *

Saturn -72431-04-30 17:59 J -24733879.81 -24733879.75 -24733879.66 0.0269 0.0246

Jupiter -72431-05-02 10:04 J -24733878.20 -24733878.08 -24733877.95 0.0497 0.0368

Venus -72428-02-09 13:25 J -24732864.02 -24732863.94 -24732863.86 0.3796 0.2584

Moon -72427-04-16 15:21 J -24732432.90 -24732432.86 -24732432.82 0.2718 0.2471

Earth -72427-04-16 16:04 J -24732432.88 -24732432.83 -24732432.78 0.2718 0.2333 *

Jupiter -72426-12-25 09:06 J -24731815.24 -24731815.12 -24731815.00 0.0529 0.0134

Jupiter -72425-03-23 15:06 J -24731725.97 -24731725.87 -24731725.77 0.0529 0.0324

Mars -72424-07-23 04:47 J -24731239.37 -24731239.30 -24731239.23 0.1595 0.1437

Earth -72421-04-25 09:49 J -24730232.15 -24730232.09 -24730232.02 0.2725 0.2134

Moon -72421-04-25 10:33 J -24730232.12 -24730232.06 -24730231.99 0.2727 0.2164 *

Jupiter -72420-11-19 20:52 J -24729658.76 -24729658.63 -24729658.49 0.0496 0.0348

Jupiter -72419-02-18 07:40 J -24729568.34 -24729568.18 -24729568.01 0.0497 0.0230

Venus -72419-08-22 22:18 J -24729382.70 -24729382.57 -24729382.45 0.3577 0.1818

Saturn -72419-12-17 21:21 J -24729265.64 -24729265.61 -24729265.57 0.0297 0.0282

Saturn -72418-03-16 09:21 J -24729177.21 -24729177.11 -24729176.99 0.0296 0.0154

Saturn -72418-06-12 21:21 J -24729088.74 -24729088.61 -24729088.48 0.0295 0.0027

Saturn -72418-09-09 09:21 J -24729000.23 -24729000.11 -24728999.99 0.0294 0.0100

Saturn -72418-12-06 21:06 J -24728911.70 -24728911.62 -24728911.53 0.0293 0.0224

Mars -72415-12-13 06:42 J -24727809.38 -24727809.22 -24727809.06 0.1591 0.0538

Moon -72414-04-19 09:06 J -24727682.22 -24727682.12 -24727682.02 0.2725 0.1194

Earth -72414-04-19 09:35 J -24727682.19 -24727682.10 -24727682.00 0.2720 0.1168 *

Jupiter -72414-10-13 13:11 J -24727505.06 -24727504.95 -24727504.84 0.0530 0.0248

Jupiter -72413-01-10 19:11 J -24727415.82 -24727415.70 -24727415.58 0.0529 0.0209

Venus -72413-03-08 01:54 J -24727358.56 -24727358.42 -24727358.28 0.3580 0.0854

Mars -72412-09-17 13:54 J -24726800.01 -24726799.92 -24726799.82 0.1952 0.1118

Moon -72411-10-16 11:45 J -24726406.16 -24726406.01 -24726405.87 0.2610 0.1133

Earth -72411-10-16 13:11 J -24726406.10 -24726405.95 -24726405.79 0.2613 0.0865 *

Jupiter -72408-09-07 17:59 J -24725348.77 -24725348.75 -24725348.72 0.0496 0.0489

Venus -72408-09-22 04:47 J -24725334.35 -24725334.30 -24725334.26 0.3582 0.3380

Jupiter -72408-12-07 04:47 J -24725258.48 -24725258.30 -24725258.11 0.0496 0.0088

Mars -72405-05-04 08:37 J -24724379.31 -24724379.14 -24724378.98 0.1588 0.0360

Saturn -72403-12-24 21:21 J -24723414.70 -24723414.61 -24723414.51 0.0266 0.0226

Mars -72402-02-07 21:35 J -24723369.71 -24723369.60 -24723369.48 0.1958 0.0102

Saturn -72402-03-23 19:25 J -24723325.86 -24723325.69 -24723325.50 0.0267 0.0086

Saturn -72402-06-20 17:45 J -24723236.94 -24723236.76 -24723236.57 0.0268 0.0057

Jupiter -72402-08-01 17:30 J -24723194.86 -24723194.77 -24723194.67 0.0530 0.0360

Saturn -72402-09-17 16:04 J -24723147.95 -24723147.83 -24723147.70 0.0269 0.0200

Jupiter -72402-10-29 23:30 J -24723105.64 -24723105.52 -24723105.39 0.0530 0.0098

Moon -72401-04-21 03:21 J -24722931.47 -24722931.36 -24722931.26 0.2729 0.0050

Earth -72401-04-21 03:21 J -24722931.47 -24722931.36 -24722931.25 0.2722 0.0016 *

Moon -72398-10-19 19:40 J -24721654.82 -24721654.68 -24721654.55 0.2611 0.1437

Earth -72398-10-19 21:21 J -24721654.74 -24721654.61 -24721654.48 0.2611 0.1545 *

Uranus -72398-10-22 11:01 J -24721652.13 -24721652.04 -24721651.93 0.0143 0.0122

Uranus -72397-01-18 19:25 J -24721563.82 -24721563.69 -24721563.53 0.0143 0.0093

Uranus -72397-04-16 04:04 J -24721475.50 -24721475.33 -24721475.15 0.0143 0.0063

Uranus -72397-07-13 12:42 J -24721387.16 -24721386.97 -24721386.78 0.0143 0.0034

Uranus -72397-10-09 21:06 J -24721298.82 -24721298.62 -24721298.43 0.0143 0.0005

Uranus -72396-01-06 05:16 J -24721210.47 -24721210.28 -24721210.08 0.0142 0.0024

Uranus -72396-04-04 13:40 J -24721122.11 -24721121.93 -24721121.75 0.0142 0.0052

Uranus -72396-07-01 21:35 J -24721033.74 -24721033.60 -24721033.43 0.0142 0.0081

Mars -72396-09-24 10:33 J -24720949.16 -24720949.06 -24720948.96 0.1584 0.1250

Jupiter -72396-09-25 01:54 J -24720948.60 -24720948.42 -24720948.23 0.0496 0.0054

Uranus -72396-09-28 05:59 J -24720945.36 -24720945.25 -24720945.12 0.0142 0.0109

Uranus -72396-12-25 13:54 J -24720856.95 -24720856.92 -24720856.85 0.0142 0.0137

Venus -72394-07-19 14:09 J -24720285.98 -24720285.91 -24720285.84 0.3805 0.2740

Mars -72393-06-30 05:16 J -24719939.38 -24719939.28 -24719939.18 0.1963 0.0941

Jupiter -72390-05-20 22:18 J -24718884.63 -24718884.57 -24718884.52 0.0530 0.0466

Jupiter -72390-08-18 04:04 J -24718795.45 -24718795.33 -24718795.20 0.0530 0.0016

Jupiter -72390-11-15 10:18 J -24718706.14 -24718706.07 -24718706.01 0.0529 0.0447

Saturn -72389-08-02 10:18 J -24718445.16 -24718445.07 -24718444.97 0.0296 0.0202

Saturn -72389-10-29 22:33 J -24718356.69 -24718356.56 -24718356.44 0.0295 0.0074

Saturn -72388-01-26 10:18 J -24718268.19 -24718268.07 -24718267.94 0.0294 0.0053

Venus -72388-02-01 07:11 J -24718262.29 -24718262.20 -24718262.10 0.3803 0.1330

Neptune -72388-03-08 17:45 J -24718226.81 -24718226.76 -24718226.66 0.0089 0.0083

Earth -72388-04-23 21:06 J -24718180.72 -24718180.62 -24718180.53 0.2724 0.1190

Moon -72388-04-23 21:21 J -24718180.70 -24718180.61 -24718180.51 0.2730 0.1223 *

Saturn -72388-04-24 22:18 J -24718179.67 -24718179.57 -24718179.47 0.0293 0.0177

Neptune -72388-06-04 22:04 J -24718138.68 -24718138.58 -24718138.48 0.0089 0.0075

Neptune -72388-09-01 01:40 J -24718050.55 -24718050.43 -24718050.30 0.0089 0.0068

Neptune -72388-11-28 05:16 J -24717962.41 -24717962.28 -24717962.12 0.0089 0.0061

Neptune -72387-02-24 09:06 J -24717874.27 -24717874.12 -24717873.95 0.0089 0.0054

Neptune -72387-05-23 12:42 J -24717786.12 -24717785.97 -24717785.79 0.0089 0.0047

Neptune -72387-08-19 16:33 J -24717697.97 -24717697.81 -24717697.62 0.0089 0.0040

Neptune -72387-11-15 20:37 J -24717609.83 -24717609.64 -24717609.46 0.0089 0.0032

Neptune -72386-02-12 00:13 J -24717521.67 -24717521.49 -24717521.30 0.0089 0.0025

Neptune -72386-05-11 04:04 J -24717433.52 -24717433.33 -24717433.14 0.0089 0.0018

Neptune -72386-08-07 07:40 J -24717345.37 -24717345.18 -24717344.98 0.0089 0.0011

Neptune -72386-11-03 11:30 J -24717257.21 -24717257.02 -24717256.82 0.0089 0.0004

Neptune -72385-01-30 15:21 J -24717169.06 -24717168.86 -24717168.66 0.0089 0.0004

Neptune -72385-04-27 18:57 J -24717080.90 -24717080.71 -24717080.51 0.0089 0.0012

Neptune -72385-07-24 22:47 J -24716992.74 -24716992.55 -24716992.35 0.0089 0.0018

Neptune -72385-10-21 02:23 J -24716904.58 -24716904.40 -24716904.20 0.0089 0.0026

Neptune -72384-01-17 06:13 J -24716816.42 -24716816.24 -24716816.05 0.0089 0.0033

Mars -72384-01-21 05:30 J -24716812.29 -24716812.27 -24716812.25 0.1595 0.1575

Neptune -72384-04-15 10:04 J -24716728.25 -24716728.08 -24716727.90 0.0089 0.0040

Neptune -72384-07-12 13:40 J -24716640.09 -24716639.93 -24716639.76 0.0089 0.0047

Jupiter -72384-07-13 21:49 J -24716638.76 -24716638.59 -24716638.42 0.0496 0.0209

Neptune -72384-10-08 17:01 J -24716551.92 -24716551.79 -24716551.61 0.0089 0.0055

Jupiter -72384-10-12 08:23 J -24716548.28 -24716548.15 -24716548.03 0.0497 0.0368

Neptune -72383-01-04 20:52 J -24716463.75 -24716463.63 -24716463.47 0.0089 0.0062

Neptune -72383-04-03 00:42 J -24716375.58 -24716375.47 -24716375.33 0.0089 0.0069

Neptune -72383-06-30 04:18 J -24716287.40 -24716287.32 -24716287.20 0.0089 0.0076

Venus -72383-08-18 00:28 J -24716238.58 -24716238.48 -24716238.37 0.3800 0.0181

Neptune -72383-09-26 08:09 J -24716199.21 -24716199.16 -24716199.08 0.0089 0.0083

Moon -72381-04-16 20:09 J -24715630.73 -24715630.66 -24715630.60 0.2720 0.2116

Earth -72381-04-16 20:52 J -24715630.70 -24715630.63 -24715630.57 0.2719 0.2096 *

Jupiter -72378-06-06 08:23 J -24714485.27 -24714485.15 -24714485.02 0.0529 0.0123

Jupiter -72378-09-03 14:23 J -24714395.99 -24714395.90 -24714395.80 0.0529 0.0335

Venus -72377-03-02 17:59 J -24714214.85 -24714214.75 -24714214.66 0.3798 0.1609

Earth -72375-04-26 14:37 J -24713429.94 -24713429.89 -24713429.83 0.2725 0.2371

Moon -72375-04-26 15:21 J -24713429.90 -24713429.86 -24713429.82 0.2725 0.2497 *

Mars -72375-06-13 07:11 J -24713382.35 -24713382.20 -24713382.04 0.1591 0.0666

Saturn -72373-05-12 20:52 J -24712682.65 -24712682.63 -24712682.60 0.0266 0.0262

Saturn -72373-08-09 18:57 J -24712593.87 -24712593.71 -24712593.53 0.0266 0.0123

Saturn -72373-11-06 17:16 J -24712504.97 -24712504.78 -24712504.58 0.0267 0.0020

Saturn -72372-02-03 15:35 J -24712416.00 -24712415.85 -24712415.69 0.0268 0.0163

Mars -72372-03-18 13:54 J -24712373.01 -24712372.92 -24712372.83 0.1953 0.1226

Jupiter -72372-05-01 18:42 J -24712328.85 -24712328.72 -24712328.58 0.0496 0.0351

Jupiter -72372-07-31 05:30 J -24712238.43 -24712238.27 -24712238.10 0.0497 0.0228

Venus -72372-09-16 11:30 J -24712191.08 -24712191.02 -24712190.96 0.3795 0.3116

Moon -72368-04-19 13:54 J -24710880.02 -24710879.92 -24710879.82 0.2725 0.1042

Earth -72368-04-19 14:23 J -24710880.00 -24710879.90 -24710879.80 0.2720 0.0927 *

Jupiter -72366-03-25 12:13 J -24710175.10 -24710174.99 -24710174.88 0.0530 0.0243

Jupiter -72366-06-22 18:13 J -24710085.86 -24710085.74 -24710085.63 0.0529 0.0214

Mars -72366-11-03 09:21 J -24709952.28 -24709952.11 -24709951.94 0.1588 0.0222

Moon -72365-10-16 18:13 J -24709603.90 -24709603.74 -24709603.58 0.2610 0.0458

Earth -72365-10-16 19:54 J -24709603.83 -24709603.67 -24709603.50 0.2613 0.0405 *

Mars -72363-08-08 21:49 J -24708942.71 -24708942.59 -24708942.48 0.1958 0.0216

Venus -72362-03-29 23:01 J -24708709.68 -24708709.54 -24708709.40 0.3577 0.0919

Jupiter -72360-02-17 16:04 J -24708018.85 -24708018.83 -24708018.80 0.0496 0.0490

Jupiter -72360-05-19 03:06 J -24707928.56 -24707928.37 -24707928.19 0.0497 0.0090

Saturn -72360-12-20 12:57 J -24707713.04 -24707712.96 -24707712.89 0.0297 0.0237

Saturn -72359-03-19 00:57 J -24707624.58 -24707624.46 -24707624.34 0.0296 0.0109

Saturn -72359-06-15 12:42 J -24707536.09 -24707535.97 -24707535.84 0.0295 0.0021

Saturn -72359-09-12 00:42 J -24707447.58 -24707447.47 -24707447.36 0.0294 0.0143

Pluto -72359-11-29 14:37 J -24707368.90 -24707368.89 -24707368.87 0.0084 0.0084

Saturn -72359-12-09 12:28 J -24707359.03 -24707358.98 -24707358.93 0.0293 0.0267

Pluto -72358-02-25 16:04 J -24707280.89 -24707280.83 -24707280.75 0.0084 0.0072

Pluto -72358-05-24 17:30 J -24707192.85 -24707192.77 -24707192.67 0.0084 0.0061

Pluto -72358-08-20 18:57 J -24707104.81 -24707104.71 -24707104.59 0.0084 0.0050

Pluto -72358-11-16 20:37 J -24707016.76 -24707016.64 -24707016.52 0.0084 0.0039

Pluto -72357-02-12 22:04 J -24706928.71 -24706928.58 -24706928.45 0.0084 0.0028

Pluto -72357-05-10 23:16 J -24706840.66 -24706840.53 -24706840.39 0.0084 0.0018

Pluto -72357-08-07 00:57 J -24706752.60 -24706752.46 -24706752.33 0.0083 0.0007

Venus -72357-10-13 02:23 J -24706685.53 -24706685.40 -24706685.28 0.3580 0.1707

Pluto -72357-11-03 02:09 J -24706664.54 -24706664.41 -24706664.27 0.0083 0.0005

Pluto -72356-01-30 03:35 J -24706576.48 -24706576.35 -24706576.21 0.0083 0.0015

Mars -72356-03-25 11:16 J -24706522.15 -24706522.03 -24706521.91 0.1585 0.1115

Pluto -72356-04-28 05:01 J -24706488.42 -24706488.29 -24706488.16 0.0083 0.0025

Pluto -72356-07-25 06:13 J -24706400.36 -24706400.24 -24706400.11 0.0083 0.0036

Pluto -72356-10-21 07:40 J -24706312.29 -24706312.18 -24706312.06 0.0083 0.0046

Pluto -72355-01-17 09:06 J -24706224.22 -24706224.12 -24706224.02 0.0083 0.0056

Pluto -72355-04-15 10:33 J -24706136.14 -24706136.06 -24706135.98 0.0082 0.0066

Earth -72355-04-22 08:09 J -24706129.27 -24706129.16 -24706129.05 0.2722 0.0249

Moon -72355-04-22 08:09 J -24706129.26 -24706129.16 -24706129.05 0.2730 0.0298 *

Pluto -72355-07-12 11:30 J -24706048.06 -24706048.02 -24706047.96 0.0082 0.0076

Jupiter -72354-01-11 16:18 J -24705864.91 -24705864.82 -24705864.73 0.0530 0.0358

Jupiter -72354-04-10 22:18 J -24705775.70 -24705775.57 -24705775.45 0.0529 0.0100

Uranus -72354-10-03 00:57 J -24705600.49 -24705600.46 -24705600.41 0.0135 0.0129

Uranus -72354-12-30 04:18 J -24705512.39 -24705512.32 -24705512.25 0.0135 0.0113

Mars -72354-12-30 05:16 J -24705512.38 -24705512.28 -24705512.18 0.1963 0.0835 *

Uranus -72353-03-27 07:11 J -24705424.29 -24705424.20 -24705424.10 0.0135 0.0096

Uranus -72353-06-23 10:18 J -24705336.17 -24705336.07 -24705335.96 0.0135 0.0080

Uranus -72353-09-19 13:25 J -24705248.06 -24705247.94 -24705247.82 0.0136 0.0063

Uranus -72353-12-16 16:33 J -24705159.93 -24705159.81 -24705159.69 0.0136 0.0047

Uranus -72352-03-14 19:40 J -24705071.81 -24705071.68 -24705071.55 0.0136 0.0030

Uranus -72352-06-10 22:47 J -24704983.68 -24704983.55 -24704983.42 0.0136 0.0013

Uranus -72352-09-07 01:54 J -24704895.55 -24704895.42 -24704895.29 0.0136 0.0004

Moon -72352-10-20 02:23 J -24704852.52 -24704852.40 -24704852.28 0.2612 0.1750

Earth -72352-10-20 04:04 J -24704852.43 -24704852.33 -24704852.22 0.2611 0.2013 *

Uranus -72352-12-04 05:01 J -24704807.42 -24704807.29 -24704807.16 0.0136 0.0021

Uranus -72351-03-02 08:09 J -24704719.29 -24704719.16 -24704719.03 0.0136 0.0038

Uranus -72351-05-29 11:16 J -24704631.15 -24704631.03 -24704630.91 0.0136 0.0055

Uranus -72351-08-25 14:23 J -24704543.01 -24704542.90 -24704542.79 0.0137 0.0072

Uranus -72351-11-21 17:30 J -24704454.86 -24704454.77 -24704454.67 0.0137 0.0090

Uranus -72350-02-17 20:52 J -24704366.71 -24704366.63 -24704366.55 0.0137 0.0107

Uranus -72350-05-16 23:45 J -24704278.55 -24704278.51 -24704278.44 0.0137 0.0125

Jupiter -72348-03-06 23:59 J -24703618.68 -24703618.50 -24703618.31 0.0496 0.0054

Mars -72344-05-21 12:57 J -24702081.99 -24702081.96 -24702081.93 0.1967 0.1866

Saturn -72344-12-27 17:45 J -24701861.90 -24701861.76 -24701861.60 0.0267 0.0163

Saturn -72343-03-26 16:04 J -24701773.02 -24701772.83 -24701772.64 0.0267 0.0021

Saturn -72343-06-23 14:09 J -24701684.07 -24701683.91 -24701683.73 0.0268 0.0123

Venus -72343-08-09 18:57 J -24701636.73 -24701636.71 -24701636.68 0.3806 0.3658

Saturn -72343-09-20 12:42 J -24701595.00 -24701594.97 -24701594.94 0.0269 0.0265

Jupiter -72343-10-30 20:23 J -24701554.70 -24701554.65 -24701554.59 0.0530 0.0471

Jupiter -72342-01-28 02:23 J -24701465.52 -24701465.40 -24701465.27 0.0530 0.0020

Earth -72342-04-25 01:54 J -24701378.51 -24701378.42 -24701378.33 0.2724 0.1430

Moon -72342-04-25 02:23 J -24701378.49 -24701378.40 -24701378.31 0.2729 0.1486 *

Jupiter -72342-04-27 08:37 J -24701376.21 -24701376.14 -24701376.07 0.0529 0.0444

Venus -72337-02-23 11:59 J -24699613.08 -24699613.00 -24699612.92 0.3804 0.2262

Jupiter -72337-12-23 20:52 J -24699308.80 -24699308.63 -24699308.46 0.0496 0.0198

Jupiter -72336-03-24 07:25 J -24699218.31 -24699218.19 -24699218.07 0.0497 0.0378

Mars -72336-12-12 08:09 J -24698955.30 -24698955.16 -24698955.02 0.1591 0.0813

Moon -72335-04-18 00:57 J -24698828.53 -24698828.46 -24698828.39 0.2721 0.2006

Earth -72335-04-18 01:40 J -24698828.51 -24698828.43 -24698828.36 0.2719 0.1857 *

Mars -72333-09-16 13:54 J -24697946.00 -24697945.92 -24697945.83 0.1952 0.1344

Venus -72332-09-08 05:01 J -24697589.39 -24697589.29 -24697589.18 0.3802 0.0845

Moon -72332-10-14 17:30 J -24697552.83 -24697552.77 -24697552.71 0.2610 0.2416

Earth -72332-10-14 18:42 J -24697552.79 -24697552.72 -24697552.66 0.2615 0.2350 *

Jupiter -72331-11-16 06:57 J -24697155.33 -24697155.21 -24697155.08 0.0530 0.0124

Jupiter -72330-02-13 12:57 J -24697066.05 -24697065.96 -24697065.86 0.0529 0.0336

Saturn -72330-05-09 14:23 J -24696980.94 -24696980.90 -24696980.86 0.0296 0.0280

Saturn -72330-08-06 02:23 J -24696892.51 -24696892.40 -24696892.29 0.0296 0.0152

Saturn -72330-11-02 14:23 J -24696804.03 -24696803.90 -24696803.77 0.0295 0.0025

Saturn -72329-01-30 02:09 J -24696715.53 -24696715.41 -24696715.28 0.0294 0.0101

Earth -72329-04-26 19:25 J -24696627.71 -24696627.69 -24696627.66 0.2726 0.2612

Moon -72329-04-26 20:23 J -24696627.67 -24696627.65 -24696627.64 0.2726 0.2671 *

Saturn -72329-04-27 14:09 J -24696626.99 -24696626.91 -24696626.83 0.0293 0.0225

Venus -72326-03-24 22:18 J -24695565.67 -24695565.57 -24695565.46 0.3800 0.0643

Mars -72326-05-04 09:49 J -24695525.25 -24695525.09 -24695524.92 0.1588 0.0100

Jupiter -72325-10-11 16:33 J -24694998.94 -24694998.81 -24694998.68 0.0496 0.0354

Jupiter -72324-01-10 03:21 J -24694908.53 -24694908.36 -24694908.20 0.0497 0.0224

Mars -72323-02-06 21:35 J -24694515.71 -24694515.60 -24694515.49 0.1958 0.0305

Moon -72322-04-20 18:57 J -24694077.82 -24694077.71 -24694077.61 0.2726 0.0689

Earth -72322-04-20 19:11 J -24694077.80 -24694077.70 -24694077.59 0.2721 0.0691 *

Venus -72321-10-07 15:49 J -24693541.93 -24693541.84 -24693541.75 0.3797 0.2120

Jupiter -72319-09-04 11:16 J -24692845.14 -24692845.03 -24692844.91 0.0530 0.0235

Moon -72319-10-18 01:11 J -24692801.62 -24692801.45 -24692801.29 0.2610 0.0200

Earth -72319-10-18 02:52 J -24692801.55 -24692801.38 -24692801.22 0.2613 0.0077 *

Jupiter -72319-12-02 17:16 J -24692755.89 -24692755.78 -24692755.66 0.0529 0.0223

Mars -72317-09-23 11:59 J -24692095.14 -24692095.00 -24692094.87 0.1585 0.0983

Venus -72315-04-23 09:21 J -24691518.14 -24691518.11 -24691518.08 0.3794 0.3640

Saturn -72314-05-16 17:45 J -24691129.88 -24691129.76 -24691129.63 0.0266 0.0196

Mars -72314-06-30 05:30 J -24691085.38 -24691085.27 -24691085.17 0.1963 0.0716

Saturn -72314-08-13 16:04 J -24691041.02 -24691040.83 -24691040.64 0.0267 0.0055

Saturn -72314-11-10 14:09 J -24690952.08 -24690951.91 -24690951.72 0.0268 0.0088

Uranus -72314-11-11 16:33 J -24690950.90 -24690950.81 -24690950.69 0.0143 0.0121

Saturn -72313-02-07 12:28 J -24690863.07 -24690862.98 -24690862.87 0.0268 0.0231

Uranus -72313-02-08 01:25 J -24690862.59 -24690862.44 -24690862.29 0.0143 0.0091

Uranus -72313-05-06 09:49 J -24690774.26 -24690774.09 -24690773.91 0.0143 0.0062

Uranus -72313-08-02 18:13 J -24690685.92 -24690685.74 -24690685.54 0.0143 0.0033

Jupiter -72313-10-29 00:13 J -24690598.67 -24690598.49 -24690598.30 0.0497 0.0083

Uranus -72313-10-30 02:52 J -24690597.58 -24690597.38 -24690597.19 0.0143 0.0005

Uranus -72312-01-26 11:01 J -24690509.23 -24690509.04 -24690508.85 0.0142 0.0025

Uranus -72312-04-24 19:25 J -24690420.87 -24690420.69 -24690420.51 0.0142 0.0054

Uranus -72312-07-22 03:35 J -24690332.50 -24690332.35 -24690332.19 0.0142 0.0082

Uranus -72312-10-18 11:45 J -24690244.12 -24690244.01 -24690243.88 0.0142 0.0110

Uranus -72311-01-14 19:54 J -24690155.70 -24690155.67 -24690155.62 0.0142 0.0138

Venus -72311-04-19 19:54 J -24690060.76 -24690060.67 -24690060.58 0.3575 0.2739

Earth -72309-04-22 12:57 J -24689327.07 -24689326.96 -24689326.86 0.2722 0.0490

Moon -72309-04-22 12:57 J -24689327.06 -24689326.96 -24689326.85 0.2730 0.0458 *

Neptune -72307-06-21 12:13 J -24688537.00 -24688536.99 -24688536.95 0.0089 0.0087

Jupiter -72307-06-23 15:06 J -24688534.96 -24688534.87 -24688534.78 0.0530 0.0356

Neptune -72307-09-17 13:40 J -24688448.97 -24688448.93 -24688448.87 0.0089 0.0082

Jupiter -72307-09-20 20:52 J -24688445.75 -24688445.63 -24688445.50 0.0529 0.0102

Neptune -72307-12-14 15:06 J -24688360.93 -24688360.87 -24688360.80 0.0089 0.0077

Neptune -72306-03-12 16:33 J -24688272.89 -24688272.81 -24688272.74 0.0089 0.0072

Neptune -72306-06-08 17:30 J -24688184.84 -24688184.77 -24688184.67 0.0089 0.0068

Neptune -72306-09-04 18:57 J -24688096.80 -24688096.71 -24688096.61 0.0089 0.0063

Moon -72306-10-21 09:06 J -24688050.17 -24688050.12 -24688050.06 0.2614 0.2419

Earth -72306-10-21 10:47 J -24688050.09 -24688050.05 -24688049.99 0.2611 0.2471 *

Venus -72306-11-03 23:45 J -24688036.66 -24688036.51 -24688036.37 0.3578 0.0050

Neptune -72306-12-01 20:09 J -24688008.75 -24688008.66 -24688008.55 0.0089 0.0058

Neptune -72305-02-27 21:35 J -24687920.70 -24687920.60 -24687920.49 0.0089 0.0053

Neptune -72305-05-25 23:01 J -24687832.65 -24687832.54 -24687832.43 0.0089 0.0048

Neptune -72305-08-21 23:59 J -24687744.60 -24687744.50 -24687744.37 0.0089 0.0044

Neptune -72305-11-18 01:25 J -24687656.55 -24687656.44 -24687656.31 0.0089 0.0039

Mars -72305-11-19 12:57 J -24687655.01 -24687654.96 -24687654.91 0.1967 0.1759

Neptune -72304-02-14 02:52 J -24687568.50 -24687568.38 -24687568.26 0.0089 0.0034

Neptune -72304-05-13 04:04 J -24687480.45 -24687480.33 -24687480.20 0.0089 0.0029

Neptune -72304-08-09 05:30 J -24687392.40 -24687392.27 -24687392.14 0.0089 0.0024

Neptune -72304-11-05 06:42 J -24687304.35 -24687304.22 -24687304.09 0.0089 0.0019

Neptune -72303-02-01 07:54 J -24687216.29 -24687216.17 -24687216.03 0.0089 0.0015

Neptune -72303-04-30 09:21 J -24687128.24 -24687128.11 -24687127.98 0.0089 0.0009

Neptune -72303-07-27 10:33 J -24687040.19 -24687040.06 -24687039.92 0.0089 0.0006

Neptune -72303-10-23 11:59 J -24686952.13 -24686952.00 -24686951.87 0.0089 0.0001

Neptune -72302-01-19 13:11 J -24686864.08 -24686863.95 -24686863.82 0.0089 0.0005

Neptune -72302-04-17 14:37 J -24686776.02 -24686775.89 -24686775.76 0.0089 0.0010

Neptune -72302-07-14 15:49 J -24686687.97 -24686687.84 -24686687.71 0.0089 0.0015

Neptune -72302-10-10 17:01 J -24686599.91 -24686599.79 -24686599.66 0.0089 0.0020

Neptune -72301-01-06 18:13 J -24686511.86 -24686511.74 -24686511.61 0.0089 0.0025

Neptune -72301-04-03 19:40 J -24686423.80 -24686423.68 -24686423.55 0.0089 0.0029

Neptune -72301-06-30 20:52 J -24686335.74 -24686335.63 -24686335.50 0.0089 0.0034

Jupiter -72301-08-16 21:35 J -24686288.78 -24686288.60 -24686288.41 0.0496 0.0059

Neptune -72301-09-26 22:18 J -24686247.69 -24686247.57 -24686247.45 0.0089 0.0039

Saturn -72301-12-23 05:01 J -24686160.39 -24686160.29 -24686160.19 0.0296 0.0184

Neptune -72301-12-23 23:30 J -24686159.63 -24686159.52 -24686159.40 0.0089 0.0044

Saturn -72300-03-21 17:01 J -24686071.92 -24686071.79 -24686071.66 0.0295 0.0057

Neptune -72300-03-22 00:42 J -24686071.57 -24686071.47 -24686071.35 0.0089 0.0049

Venus -72300-05-20 02:52 J -24686012.48 -24686012.38 -24686012.28 0.3581 0.2576

Neptune -72300-06-18 01:54 J -24685983.51 -24685983.42 -24685983.30 0.0089 0.0054

Saturn -72300-06-18 05:01 J -24685983.42 -24685983.29 -24685983.17 0.0294 0.0070 *

Neptune -72300-09-14 03:21 J -24685895.45 -24685895.36 -24685895.25 0.0089 0.0058

Saturn -72300-09-14 16:47 J -24685894.89 -24685894.80 -24685894.70 0.0293 0.0194

Neptune -72300-12-11 04:47 J -24685807.39 -24685807.30 -24685807.21 0.0089 0.0063

Neptune -72299-03-09 05:59 J -24685719.33 -24685719.25 -24685719.16 0.0089 0.0068

Neptune -72299-06-05 07:11 J -24685631.26 -24685631.20 -24685631.12 0.0089 0.0073

Neptune -72299-09-01 08:23 J -24685543.20 -24685543.15 -24685543.07 0.0089 0.0078

Neptune -72299-11-28 10:04 J -24685455.13 -24685455.08 -24685455.03 0.0089 0.0082

Neptune -72298-02-24 11:16 J -24685367.05 -24685367.03 -24685367.00 0.0089 0.0087

Earth -72296-04-25 06:42 J -24684576.31 -24684576.22 -24684576.14 0.2724 0.1669

Moon -72296-04-25 07:11 J -24684576.28 -24684576.20 -24684576.12 0.2727 0.1775 *

Mars -72296-06-12 08:52 J -24684528.27 -24684528.13 -24684528.00 0.1591 0.0947

Jupiter -72295-04-11 18:57 J -24684224.76 -24684224.71 -24684224.65 0.0530 0.0472

Jupiter -72295-07-10 00:57 J -24684135.59 -24684135.46 -24684135.33 0.0529 0.0017

Jupiter -72295-10-07 06:57 J -24684046.28 -24684046.21 -24684046.14 0.0529 0.0442

Mars -72293-03-17 13:54 J -24683518.99 -24683518.92 -24683518.84 0.1952 0.1446

Moon -72289-04-18 05:45 J -24682026.35 -24682026.26 -24682026.18 0.2721 0.1644

Earth -72289-04-18 06:28 J -24682026.32 -24682026.23 -24682026.15 0.2719 0.1615 *

Jupiter -72289-06-04 18:28 J -24681978.90 -24681978.73 -24681978.56 0.0496 0.0203

Jupiter -72289-09-03 05:01 J -24681888.41 -24681888.29 -24681888.17 0.0497 0.0374

Mars -72287-11-02 10:47 J -24681098.22 -24681098.05 -24681097.88 0.1588 0.0052

Venus -72286-03-16 16:47 J -24680963.86 -24680963.80 -24680963.75 0.3806 0.3194

Moon -72286-10-15 23:59 J -24680750.60 -24680750.50 -24680750.39 0.2610 0.2010

Earth -72286-10-16 01:25 J -24680750.55 -24680750.44 -24680750.33 0.2615 0.1877 *

Saturn -72285-10-02 17:16 J -24680397.87 -24680397.78 -24680397.68 0.0266 0.0232

Saturn -72285-12-30 15:35 J -24680309.03 -24680308.85 -24680308.67 0.0267 0.0091

Saturn -72284-03-29 13:54 J -24680220.11 -24680219.92 -24680219.73 0.0268 0.0051

Saturn -72284-06-26 11:59 J -24680131.12 -24680131.00 -24680130.86 0.0269 0.0195

Mars -72284-08-07 21:35 J -24680088.71 -24680088.60 -24680088.48 0.1958 0.0432

Jupiter -72283-04-28 05:01 J -24679825.41 -24679825.29 -24679825.16 0.0530 0.0132

Jupiter -72283-07-26 11:01 J -24679736.13 -24679736.04 -24679735.94 0.0529 0.0328

Venus -72281-09-29 09:49 J -24678940.18 -24678940.09 -24678940.00 0.3804 0.1776

Jupiter -72277-03-23 15:21 J -24677668.99 -24677668.86 -24677668.73 0.0496 0.0347

Mars -72277-03-24 12:42 J -24677668.12 -24677667.97 -24677667.83 0.1585 0.0845

Jupiter -72277-06-22 01:54 J -24677578.58 -24677578.42 -24677578.25 0.0496 0.0231

Moon -72276-04-20 23:45 J -24677275.61 -24677275.51 -24677275.40 0.2728 0.0543

Earth -72276-04-20 23:59 J -24677275.60 -24677275.50 -24677275.39 0.2721 0.0451 *

Venus -72275-04-15 03:06 J -24676916.48 -24676916.37 -24676916.27 0.3801 0.0358

Mars -72275-12-29 05:16 J -24676658.39 -24676658.28 -24676658.17 0.1962 0.0615

Moon -72273-10-18 07:54 J -24675999.33 -24675999.17 -24675999.01 0.2611 0.0450

Earth -72273-10-18 09:35 J -24675999.26 -24675999.10 -24675998.94 0.2613 0.0540 *

Jupiter -72271-02-14 09:35 J -24675515.21 -24675515.10 -24675514.98 0.0530 0.0240

Saturn -72271-05-12 06:57 J -24675428.29 -24675428.21 -24675428.13 0.0296 0.0224

Jupiter -72271-05-14 15:35 J -24675425.96 -24675425.85 -24675425.73 0.0529 0.0219

Saturn -72271-08-08 18:57 J -24675339.83 -24675339.71 -24675339.59 0.0295 0.0096

Saturn -72271-11-05 06:57 J -24675251.34 -24675251.21 -24675251.08 0.0294 0.0031

Saturn -72270-02-01 18:42 J -24675162.83 -24675162.72 -24675162.61 0.0293 0.0156

Saturn -72270-05-01 06:28 J -24675074.26 -24675074.23 -24675074.19 0.0292 0.0279

Uranus -72270-10-23 08:09 J -24674899.20 -24674899.16 -24674899.11 0.0135 0.0126

Venus -72270-10-29 20:23 J -24674892.75 -24674892.65 -24674892.55 0.3799 0.1146

Uranus -72269-01-19 11:01 J -24674811.10 -24674811.04 -24674810.95 0.0135 0.0110

Uranus -72269-04-16 14:09 J -24674723.00 -24674722.91 -24674722.81 0.0135 0.0094

Uranus -72269-07-13 17:16 J -24674634.88 -24674634.78 -24674634.67 0.0135 0.0077

Uranus -72269-10-09 20:23 J -24674546.76 -24674546.65 -24674546.53 0.0136 0.0060

Uranus -72268-01-05 23:30 J -24674458.64 -24674458.52 -24674458.39 0.0136 0.0044

Uranus -72268-04-04 02:37 J -24674370.52 -24674370.39 -24674370.26 0.0136 0.0027

Uranus -72268-07-01 05:45 J -24674282.39 -24674282.26 -24674282.13 0.0136 0.0010

Uranus -72268-09-27 08:52 J -24674194.26 -24674194.13 -24674194.00 0.0136 0.0007

Uranus -72268-12-24 11:59 J -24674106.13 -24674106.00 -24674105.87 0.0136 0.0024

Uranus -72267-03-22 15:06 J -24674017.99 -24674017.87 -24674017.74 0.0136 0.0041

Uranus -72267-06-18 18:13 J -24673929.86 -24673929.74 -24673929.62 0.0137 0.0058

Uranus -72267-09-14 21:21 J -24673841.71 -24673841.61 -24673841.49 0.0137 0.0076

Uranus -72267-12-12 00:42 J -24673753.57 -24673753.47 -24673753.37 0.0137 0.0093

Uranus -72266-03-10 03:35 J -24673665.41 -24673665.35 -24673665.26 0.0137 0.0111

Uranus -72266-06-06 06:57 J -24673577.25 -24673577.21 -24673577.16 0.0137 0.0128

Jupiter -72265-04-09 21:35 J -24673268.78 -24673268.60 -24673268.41 0.0496 0.0075

Mars -72265-05-20 12:57 J -24673228.02 -24673227.96 -24673227.90 0.1967 0.1654

Venus -72264-05-14 13:54 J -24672869.00 -24672868.92 -24672868.85 0.3796 0.2652

Moon -72263-04-23 17:59 J -24672524.86 -24672524.75 -24672524.65 0.2729 0.0809

Earth -72263-04-23 17:45 J -24672524.86 -24672524.76 -24672524.66 0.2723 0.0726 *

Jupiter -72260-12-03 13:54 J -24671205.01 -24671204.92 -24671204.82 0.0530 0.0351

Jupiter -72259-03-02 19:54 J -24671115.80 -24671115.67 -24671115.55 0.0529 0.0106

Mars -72257-12-11 09:21 J -24670101.23 -24670101.11 -24670100.98 0.1591 0.1081

Moon -72256-04-16 16:47 J -24669974.82 -24669974.80 -24669974.77 0.2716 0.2624

Earth -72256-04-16 17:30 J -24669974.80 -24669974.77 -24669974.73 0.2717 0.2540 *

Saturn -72255-02-19 17:16 J -24669665.79 -24669665.78 -24669665.76 0.0266 0.0265

Saturn -72255-05-19 15:35 J -24669577.02 -24669576.85 -24669576.68 0.0267 0.0124

Saturn -72255-08-16 13:54 J -24669488.11 -24669487.92 -24669487.73 0.0267 0.0018

Saturn -72255-11-13 11:59 J -24669399.14 -24669399.00 -24669398.84 0.0268 0.0161

Venus -72255-11-24 20:52 J -24669387.76 -24669387.63 -24669387.51 0.3576 0.1821

Mars -72254-09-16 13:54 J -24669091.98 -24669091.92 -24669091.85 0.1953 0.1563

Jupiter -72253-01-27 18:28 J -24668958.91 -24668958.73 -24668958.54 0.0496 0.0070

Earth -72250-04-26 11:30 J -24667774.10 -24667774.02 -24667773.95 0.2724 0.1909

Moon -72250-04-26 11:59 J -24667774.07 -24667774.00 -24667773.92 0.2727 0.1946 *

Venus -72249-06-10 00:28 J -24667363.62 -24667363.48 -24667363.34 0.3579 0.0870

Jupiter -72248-09-21 17:30 J -24666894.82 -24666894.77 -24666894.71 0.0530 0.0473

Jupiter -72248-12-19 23:30 J -24666805.65 -24666805.52 -24666805.39 0.0529 0.0018

Jupiter -72247-03-19 05:30 J -24666716.34 -24666716.27 -24666716.20 0.0529 0.0440

Mars -72247-05-03 11:30 J -24666671.19 -24666671.02 -24666670.86 0.1588 0.0189

Mars -72244-02-05 21:35 J -24665661.70 -24665661.60 -24665661.49 0.1958 0.0544

Venus -72244-12-25 03:35 J -24665339.39 -24665339.35 -24665339.32 0.3582 0.3439

Moon -72243-04-19 10:33 J -24665224.15 -24665224.06 -24665223.97 0.2722 0.1495

Earth -72243-04-19 11:16 J -24665224.12 -24665224.03 -24665223.94 0.2719 0.1375 *

Saturn -72242-09-29 10:04 J -24664696.14 -24664696.08 -24664696.01 0.0297 0.0251

Jupiter -72242-11-15 15:49 J -24664649.01 -24664648.84 -24664648.67 0.0496 0.0210

Saturn -72242-12-26 22:04 J -24664607.70 -24664607.58 -24664607.46 0.0296 0.0123

Jupiter -72241-02-14 02:23 J -24664558.52 -24664558.40 -24664558.27 0.0497 0.0368

Saturn -72241-03-24 10:04 J -24664519.21 -24664519.08 -24664518.95 0.0295 0.0004

Saturn -72241-06-20 21:49 J -24664430.70 -24664430.59 -24664430.47 0.0294 0.0130

Saturn -72241-09-17 09:49 J -24664342.15 -24664342.09 -24664342.03 0.0293 0.0253

Moon -72240-10-16 06:57 J -24663948.34 -24663948.21 -24663948.08 0.2610 0.1540

Earth -72240-10-16 08:09 J -24663948.29 -24663948.16 -24663948.02 0.2614 0.1405 *

Mars -72238-09-23 13:25 J -24663241.09 -24663240.94 -24663240.79 0.1585 0.0707

Jupiter -72236-10-08 03:21 J -24662495.48 -24662495.36 -24662495.24 0.0529 0.0136

Jupiter -72235-01-05 09:21 J -24662406.21 -24662406.11 -24662406.01 0.0529 0.0323

Mars -72235-06-29 05:16 J -24662231.39 -24662231.28 -24662231.17 0.1963 0.0502

Moon -72230-04-22 04:33 J -24660473.41 -24660473.31 -24660473.20 0.2728 0.0200

Earth -72230-04-22 04:47 J -24660473.40 -24660473.30 -24660473.19 0.2721 0.0220 *

Jupiter -72230-09-03 12:42 J -24660339.10 -24660338.97 -24660338.84 0.0496 0.0355

Venus -72230-10-21 14:37 J -24660290.97 -24660290.89 -24660290.82 0.3805 0.2715

Uranus -72230-12-01 23:30 J -24660249.62 -24660249.52 -24660249.40 0.0143 0.0116

Jupiter -72230-12-02 23:16 J -24660248.69 -24660248.53 -24660248.36 0.0496 0.0223

Uranus -72229-02-28 07:54 J -24660161.31 -24660161.17 -24660161.00 0.0143 0.0087

Uranus -72229-05-26 16:33 J -24660072.98 -24660072.81 -24660072.63 0.0143 0.0057

Uranus -72229-08-23 00:57 J -24659984.64 -24659984.46 -24659984.26 0.0143 0.0029

Uranus -72229-11-19 09:35 J -24659896.30 -24659896.10 -24659895.91 0.0142 0.0002

Uranus -72228-02-15 17:59 J -24659807.94 -24659807.75 -24659807.57 0.0142 0.0030

Uranus -72228-05-15 02:09 J -24659719.59 -24659719.41 -24659719.23 0.0142 0.0058

Uranus -72228-08-11 10:04 J -24659631.22 -24659631.08 -24659630.91 0.0142 0.0087

Uranus -72228-11-07 18:13 J -24659542.83 -24659542.74 -24659542.61 0.0142 0.0115

Moon -72227-10-19 14:37 J -24659197.04 -24659196.89 -24659196.73 0.2613 0.0793

Earth -72227-10-19 16:33 J -24659196.96 -24659196.81 -24659196.66 0.2612 0.1016 *

Saturn -72226-10-06 15:49 J -24658844.99 -24658844.84 -24658844.68 0.0267 0.0156

Mars -72226-11-19 12:57 J -24658801.03 -24658800.96 -24658800.89 0.1967 0.1537

Saturn -72225-01-03 14:09 J -24658756.10 -24658755.91 -24658755.72 0.0267 0.0014

Saturn -72225-04-01 12:13 J -24658667.15 -24658666.99 -24658666.81 0.0268 0.0130

Venus -72224-05-06 07:40 J -24658267.28 -24658267.18 -24658267.08 0.3803 0.1284

Jupiter -72224-07-27 07:25 J -24658185.30 -24658185.19 -24658185.08 0.0530 0.0252

Neptune -72224-09-06 13:25 J -24658143.96 -24658143.94 -24658143.87 0.0089 0.0086

Jupiter -72224-10-24 13:25 J -24658096.06 -24658095.94 -24658095.82 0.0529 0.0207

Neptune -72224-12-03 17:16 J -24658055.85 -24658055.78 -24658055.67 0.0089 0.0079

Neptune -72223-03-01 20:52 J -24657967.72 -24657967.63 -24657967.49 0.0089 0.0072

Neptune -72223-05-29 01:11 J -24657879.58 -24657879.45 -24657879.31 0.0089 0.0064

Neptune -72223-08-25 04:47 J -24657791.44 -24657791.30 -24657791.14 0.0089 0.0057

Neptune -72223-11-21 08:23 J -24657703.30 -24657703.15 -24657702.97 0.0089 0.0050

Neptune -72222-02-17 12:13 J -24657615.15 -24657614.99 -24657614.81 0.0089 0.0043

Neptune -72222-05-16 15:49 J -24657527.00 -24657526.84 -24657526.64 0.0089 0.0036

Neptune -72222-08-12 19:40 J -24657438.85 -24657438.68 -24657438.48 0.0089 0.0029

Neptune -72222-11-08 23:45 J -24657350.70 -24657350.51 -24657350.32 0.0089 0.0021

Neptune -72221-02-05 03:21 J -24657262.55 -24657262.36 -24657262.16 0.0089 0.0014

Neptune -72221-05-03 07:11 J -24657174.40 -24657174.20 -24657174.00 0.0089 0.0007

Neptune -72221-07-30 11:01 J -24657086.24 -24657086.04 -24657085.84 0.0089 0.0001

Neptune -72221-10-26 14:37 J -24656998.08 -24656997.89 -24656997.69 0.0089 0.0008

Neptune -72220-01-22 18:28 J -24656909.92 -24656909.73 -24656909.54 0.0089 0.0015

Neptune -72220-04-20 22:04 J -24656821.76 -24656821.58 -24656821.38 0.0089 0.0022

Neptune -72220-07-18 01:40 J -24656733.60 -24656733.43 -24656733.23 0.0089 0.0030

Neptune -72220-10-14 05:30 J -24656645.44 -24656645.27 -24656645.08 0.0089 0.0037

Neptune -72219-01-10 09:21 J -24656557.28 -24656557.11 -24656556.93 0.0089 0.0044

Neptune -72219-04-08 13:11 J -24656469.11 -24656468.95 -24656468.79 0.0089 0.0051

Neptune -72219-07-05 16:33 J -24656380.94 -24656380.81 -24656380.65 0.0089 0.0059

Neptune -72219-10-01 20:09 J -24656292.77 -24656292.66 -24656292.51 0.0089 0.0066

Venus -72219-11-20 00:57 J -24656243.57 -24656243.46 -24656243.36 0.3801 0.0188

Neptune -72219-12-28 23:59 J -24656204.59 -24656204.50 -24656204.37 0.0089 0.0073

Neptune -72218-03-27 03:49 J -24656116.41 -24656116.34 -24656116.24 0.0089 0.0080

Neptune -72218-06-23 07:40 J -24656028.21 -24656028.18 -24656028.13 0.0089 0.0087

Jupiter -72218-09-20 20:09 J -24655938.85 -24655938.66 -24655938.48 0.0496 0.0078

Earth -72217-04-23 22:33 J -24655722.66 -24655722.56 -24655722.46 0.2723 0.0970

Moon -72217-04-23 22:47 J -24655722.65 -24655722.55 -24655722.45 0.2729 0.0958 *

Mars -72217-06-11 10:04 J -24655674.18 -24655674.08 -24655673.97 0.1591 0.1220

Mars -72214-03-17 13:54 J -24654664.98 -24654664.92 -24654664.86 0.1952 0.1669

Venus -72213-06-04 18:13 J -24654219.83 -24654219.74 -24654219.64 0.3798 0.1660

Saturn -72212-02-15 12:28 J -24653964.01 -24653963.98 -24653963.95 0.0296 0.0287

Saturn -72212-05-15 00:28 J -24653875.59 -24653875.48 -24653875.37 0.0295 0.0159

Jupiter -72212-05-15 11:59 J -24653875.09 -24653875.00 -24653874.91 0.0530 0.0360

Saturn -72212-08-11 12:28 J -24653787.11 -24653786.98 -24653786.86 0.0294 0.0033

Jupiter -72212-08-12 17:59 J -24653785.88 -24653785.75 -24653785.63 0.0530 0.0098

Saturn -72212-11-08 00:13 J -24653698.61 -24653698.49 -24653698.37 0.0293 0.0094

Saturn -72211-02-04 11:59 J -24653610.08 -24653610.00 -24653609.91 0.0293 0.0218

Moon -72210-04-17 21:35 J -24653172.65 -24653172.60 -24653172.55 0.2716 0.2375

Earth -72210-04-17 22:18 J -24653172.62 -24653172.57 -24653172.51 0.2718 0.2302 *

Mars -72208-11-01 11:59 J -24652244.16 -24652244.00 -24652243.83 0.1588 0.0320

Venus -72208-12-19 11:45 J -24652196.07 -24652196.01 -24652195.95 0.3796 0.3177

Jupiter -72206-07-09 15:35 J -24651629.03 -24651628.85 -24651628.66 0.0496 0.0079

Jupiter -72206-10-08 01:54 J -24651538.42 -24651538.42 -24651538.41 0.0497 0.0496

Mars -72205-08-06 21:35 J -24651234.71 -24651234.60 -24651234.49 0.1958 0.0639

Earth -72204-04-26 16:18 J -24650971.89 -24650971.82 -24650971.76 0.2724 0.2147

Moon -72204-04-26 16:47 J -24650971.85 -24650971.80 -24650971.74 0.2728 0.2283 *

Pluto -72204-11-16 05:30 J -24650768.31 -24650768.27 -24650768.21 0.0060 0.0057

Pluto -72203-02-12 06:28 J -24650680.30 -24650680.23 -24650680.12 0.0060 0.0052

Pluto -72203-05-11 07:40 J -24650592.28 -24650592.18 -24650592.05 0.0060 0.0047

Pluto -72203-08-07 08:52 J -24650504.24 -24650504.13 -24650503.98 0.0060 0.0042

Pluto -72203-11-03 10:18 J -24650416.21 -24650416.07 -24650415.91 0.0060 0.0037

Pluto -72202-01-30 11:30 J -24650328.17 -24650328.02 -24650327.85 0.0060 0.0031

Pluto -72202-04-28 12:42 J -24650240.12 -24650239.97 -24650239.79 0.0060 0.0026

Pluto -72202-07-25 14:09 J -24650152.08 -24650151.91 -24650151.73 0.0060 0.0021

Pluto -72202-10-21 15:21 J -24650064.03 -24650063.86 -24650063.67 0.0060 0.0015

Pluto -72201-01-17 16:47 J -24649975.98 -24649975.80 -24649975.61 0.0061 0.0010

Pluto -72201-04-14 17:59 J -24649887.93 -24649887.75 -24649887.56 0.0061 0.0005

Pluto -72201-07-11 19:25 J -24649799.88 -24649799.69 -24649799.50 0.0061 0.0001

Pluto -72201-10-07 20:37 J -24649711.82 -24649711.64 -24649711.45 0.0061 0.0007

Pluto -72200-01-03 22:04 J -24649623.77 -24649623.58 -24649623.40 0.0061 0.0012

Jupiter -72200-03-03 16:18 J -24649564.87 -24649564.82 -24649564.77 0.0530 0.0472

Pluto -72200-04-01 23:01 J -24649535.71 -24649535.54 -24649535.35 0.0061 0.0018

Jupiter -72200-05-31 22:18 J -24649475.70 -24649475.57 -24649475.45 0.0530 0.0025

Pluto -72200-06-29 00:42 J -24649447.65 -24649447.47 -24649447.30 0.0061 0.0023

Jupiter -72200-08-29 04:18 J -24649386.39 -24649386.32 -24649386.25 0.0529 0.0443

Pluto -72200-09-25 01:40 J -24649359.58 -24649359.43 -24649359.25 0.0061 0.0029

Pluto -72200-12-22 02:52 J -24649271.52 -24649271.38 -24649271.21 0.0061 0.0035

Pluto -72199-03-20 04:18 J -24649183.45 -24649183.32 -24649183.17 0.0061 0.0041

Pluto -72199-06-16 05:30 J -24649095.37 -24649095.27 -24649095.13 0.0061 0.0047

Pluto -72199-09-12 06:42 J -24649007.29 -24649007.22 -24649007.10 0.0061 0.0053

Pluto -72199-12-09 08:37 J -24648919.20 -24648919.14 -24648919.08 0.0061 0.0058

Mars -72198-03-24 13:54 J -24648814.07 -24648813.92 -24648813.76 0.1585 0.0575

Venus -72198-07-01 21:35 J -24648714.74 -24648714.60 -24648714.46 0.3577 0.0908

Moon -72197-04-19 15:35 J -24648421.95 -24648421.85 -24648421.76 0.2724 0.1189

Earth -72197-04-19 16:04 J -24648421.93 -24648421.83 -24648421.74 0.2720 0.1136 *

Saturn -72196-02-22 15:49 J -24648112.97 -24648112.84 -24648112.70 0.0266 0.0189

Saturn -72196-05-22 14:09 J -24648024.10 -24648023.91 -24648023.72 0.0267 0.0047

Saturn -72196-08-19 12:28 J -24647935.15 -24647934.98 -24647934.80 0.0268 0.0096

Saturn -72196-11-16 10:47 J -24647846.13 -24647846.05 -24647845.96 0.0269 0.0240

Mars -72196-12-28 05:16 J -24647804.39 -24647804.28 -24647804.16 0.1963 0.0390

Jupiter -72194-04-27 12:28 J -24647319.15 -24647318.98 -24647318.82 0.0496 0.0224

Jupiter -72194-07-26 23:01 J -24647228.67 -24647228.54 -24647228.41 0.0497 0.0354

Moon -72194-10-17 13:40 J -24647146.08 -24647145.93 -24647145.78 0.2610 0.1038

Earth -72194-10-17 15:06 J -24647146.03 -24647145.87 -24647145.72 0.2614 0.0939 *

Venus -72192-01-15 00:57 J -24646690.58 -24646690.46 -24646690.33 0.3579 0.1749

Mars -72189-08-13 16:04 J -24645383.89 -24645383.83 -24645383.77 0.1582 0.1458

Jupiter -72188-03-20 01:40 J -24645165.55 -24645165.43 -24645165.31 0.0529 0.0140

Jupiter -72188-06-17 07:40 J -24645076.28 -24645076.18 -24645076.08 0.0529 0.0319

Mars -72186-05-20 12:57 J -24644374.04 -24644373.96 -24644373.88 0.1967 0.1430

Uranus -72186-11-12 15:06 J -24644197.92 -24644197.87 -24644197.81 0.0135 0.0123

Uranus -72185-02-08 17:59 J -24644109.82 -24644109.75 -24644109.66 0.0135 0.0108

Uranus -72185-05-06 21:21 J -24644021.71 -24644021.61 -24644021.51 0.0135 0.0091

Uranus -72185-08-03 00:13 J -24643933.59 -24643933.49 -24643933.37 0.0136 0.0074

Uranus -72185-10-30 03:21 J -24643845.47 -24643845.36 -24643845.24 0.0136 0.0058

Uranus -72184-01-26 06:28 J -24643757.35 -24643757.23 -24643757.10 0.0136 0.0041

Moon -72184-04-22 09:35 J -24643671.21 -24643671.10 -24643671.00 0.2728 0.0094

Earth -72184-04-22 09:35 J -24643671.20 -24643671.10 -24643670.99 0.2721 0.0096 *

Uranus -72184-04-24 09:35 J -24643669.23 -24643669.10 -24643668.97 0.0136 0.0024

Uranus -72184-07-21 12:42 J -24643581.10 -24643580.97 -24643580.84 0.0136 0.0007

Uranus -72184-10-17 15:49 J -24643492.97 -24643492.84 -24643492.71 0.0136 0.0010

Uranus -72183-01-13 18:57 J -24643404.84 -24643404.71 -24643404.58 0.0136 0.0027

Uranus -72183-04-11 22:04 J -24643316.70 -24643316.58 -24643316.45 0.0137 0.0045

Uranus -72183-07-09 01:11 J -24643228.56 -24643228.45 -24643228.33 0.0137 0.0062

Saturn -72183-10-02 03:49 J -24643143.44 -24643143.34 -24643143.24 0.0296 0.0184

Uranus -72183-10-05 04:33 J -24643140.42 -24643140.31 -24643140.20 0.0137 0.0079

Saturn -72183-12-29 15:35 J -24643054.97 -24643054.85 -24643054.72 0.0295 0.0058

Uranus -72182-01-01 07:40 J -24643052.27 -24643052.18 -24643052.08 0.0137 0.0096

Jupiter -72182-02-13 09:35 J -24643009.23 -24643009.10 -24643008.98 0.0496 0.0366

Saturn -72182-03-28 03:35 J -24642966.47 -24642966.35 -24642966.22 0.0294 0.0069

Uranus -72182-03-30 10:47 J -24642964.12 -24642964.05 -24642963.97 0.0137 0.0114

Jupiter -72182-05-14 20:23 J -24642918.82 -24642918.65 -24642918.48 0.0497 0.0214

Saturn -72182-06-24 15:21 J -24642877.95 -24642877.86 -24642877.76 0.0293 0.0194

Uranus -72182-06-26 14:09 J -24642875.94 -24642875.91 -24642875.87 0.0137 0.0131

Moon -72181-10-19 21:21 J -24642394.75 -24642394.61 -24642394.47 0.2613 0.1315

Earth -72181-10-19 23:16 J -24642394.66 -24642394.53 -24642394.40 0.2612 0.1480 *

Venus -72179-11-11 19:25 J -24641641.72 -24641641.69 -24641641.67 0.3807 0.3640

Mars -72178-12-11 10:47 J -24641247.13 -24641247.05 -24641246.96 0.1592 0.1359

Jupiter -72176-01-06 05:30 J -24640855.37 -24640855.27 -24640855.15 0.0530 0.0259

Jupiter -72176-04-05 11:30 J -24640766.13 -24640766.02 -24640765.90 0.0529 0.0200

Mars -72175-09-15 13:54 J -24640237.96 -24640237.92 -24640237.87 0.1952 0.1779

Venus -72173-05-27 12:28 J -24639618.07 -24639617.98 -24639617.90 0.3805 0.2228

Earth -72171-04-25 03:21 J -24638920.46 -24638920.36 -24638920.26 0.2723 0.1209

Moon -72171-04-25 03:49 J -24638920.43 -24638920.34 -24638920.25 0.2729 0.1328 *

Jupiter -72170-03-02 17:01 J -24638608.97 -24638608.79 -24638608.60 0.0496 0.0069

Mars -72168-05-02 12:57 J -24637817.13 -24637816.96 -24637816.80 0.1588 0.0462

Venus -72168-12-11 05:30 J -24637594.37 -24637594.27 -24637594.17 0.3803 0.0788

Saturn -72167-07-12 16:33 J -24637380.92 -24637380.81 -24637380.70 0.0266 0.0217

Saturn -72167-10-09 14:52 J -24637292.07 -24637291.88 -24637291.70 0.0267 0.0076

Saturn -72166-01-06 13:11 J -24637203.14 -24637202.95 -24637202.77 0.0268 0.0066

Saturn -72166-04-05 11:30 J -24637114.14 -24637114.02 -24637113.90 0.0269 0.0210

Mars -72165-02-05 21:35 J -24636807.70 -24636807.60 -24636807.49 0.1958 0.0759

Jupiter -72165-10-25 09:35 J -24636545.19 -24636545.10 -24636545.01 0.0530 0.0375

Jupiter -72164-01-22 15:35 J -24636455.98 -24636455.85 -24636455.73 0.0530 0.0083

Moon -72164-04-18 02:23 J -24636370.46 -24636370.40 -24636370.33 0.2717 0.2171

Earth -72164-04-18 03:06 J -24636370.44 -24636370.37 -24636370.30 0.2718 0.2064 *

Venus -72162-06-26 22:47 J -24635570.65 -24635570.55 -24635570.45 0.3800 0.0682

Mars -72159-09-22 14:52 J -24634387.05 -24634386.88 -24634386.72 0.1585 0.0434

Jupiter -72159-12-19 13:40 J -24634299.11 -24634298.93 -24634298.74 0.0496 0.0080

Jupiter -72158-03-20 00:13 J -24634208.49 -24634208.49 -24634208.49 0.0497 0.0496

Earth -72158-04-27 21:06 J -24634169.67 -24634169.62 -24634169.57 0.2725 0.2390

Moon -72158-04-27 21:35 J -24634169.64 -24634169.60 -24634169.55 0.2727 0.2415 *

Venus -72156-01-09 16:18 J -24633546.91 -24633546.82 -24633546.74 0.3798 0.2189

Mars -72156-06-28 05:16 J -24633377.39 -24633377.28 -24633377.17 0.1962 0.0281

Saturn -72153-02-19 06:28 J -24632411.32 -24632411.23 -24632411.14 0.0296 0.0215

Saturn -72153-05-17 18:28 J -24632322.85 -24632322.73 -24632322.61 0.0295 0.0088

Jupiter -72153-08-13 14:09 J -24632234.96 -24632234.91 -24632234.86 0.0530 0.0484

Saturn -72153-08-14 06:13 J -24632234.36 -24632234.24 -24632234.11 0.0294 0.0039

Saturn -72153-11-10 17:59 J -24632145.85 -24632145.75 -24632145.64 0.0293 0.0163

Jupiter -72153-11-10 19:54 J -24632145.79 -24632145.67 -24632145.54 0.0530 0.0032 *

Saturn -72152-02-07 05:45 J -24632057.27 -24632057.26 -24632057.23 0.0292 0.0286

Jupiter -72152-02-08 02:09 J -24632056.48 -24632056.41 -24632056.34 0.0529 0.0432

Moon -72151-04-20 20:23 J -24631619.75 -24631619.65 -24631619.55 0.2725 0.0958

Earth -72151-04-20 20:52 J -24631619.73 -24631619.63 -24631619.53 0.2720 0.0900 *

Venus -72151-07-26 09:49 J -24631523.11 -24631523.09 -24631523.07 0.3795 0.3713

Mars -72149-02-12 16:33 J -24630956.90 -24630956.81 -24630956.72 0.1582 0.1329

Moon -72148-10-17 20:23 J -24630343.81 -24630343.65 -24630343.50 0.2611 0.0694

Earth -72148-10-17 21:49 J -24630343.75 -24630343.59 -24630343.43 0.2614 0.0467 *

Venus -72147-07-22 18:28 J -24630065.82 -24630065.73 -24630065.64 0.3575 0.2751

Jupiter -72147-10-07 09:21 J -24629989.27 -24629989.11 -24629988.95 0.0496 0.0235

Mars -72147-11-18 12:57 J -24629947.05 -24629946.96 -24629946.88 0.1967 0.1326

Jupiter -72146-01-05 19:54 J -24629898.80 -24629898.67 -24629898.53 0.0496 0.0342

Uranus -72146-09-24 22:18 J -24629636.60 -24629636.57 -24629636.51 0.0143 0.0139

Uranus -72146-12-22 07:11 J -24629548.32 -24629548.20 -24629548.08 0.0143 0.0109

Uranus -72145-03-19 15:35 J -24629460.01 -24629459.85 -24629459.69 0.0143 0.0080

Uranus -72145-06-15 23:59 J -24629371.68 -24629371.50 -24629371.31 0.0143 0.0051

Uranus -72145-09-12 08:37 J -24629283.34 -24629283.14 -24629282.95 0.0143 0.0022

Uranus -72145-12-09 16:47 J -24629194.99 -24629194.80 -24629194.60 0.0142 0.0008

Uranus -72144-03-08 01:11 J -24629106.64 -24629106.45 -24629106.26 0.0142 0.0036

Uranus -72144-06-04 09:21 J -24629018.27 -24629018.11 -24629017.93 0.0142 0.0065

Uranus -72144-08-31 17:30 J -24628929.90 -24628929.77 -24628929.61 0.0142 0.0093

Uranus -72144-11-28 01:40 J -24628841.52 -24628841.43 -24628841.32 0.0142 0.0121

Neptune -72143-12-20 11:30 J -24628454.02 -24628454.02 -24628454.02 0.0089 0.0089

Neptune -72142-03-18 12:42 J -24628366.01 -24628365.97 -24628365.93 0.0089 0.0084

Neptune -72142-06-14 13:54 J -24628277.97 -24628277.92 -24628277.86 0.0089 0.0079

Neptune -72142-09-10 15:06 J -24628189.93 -24628189.87 -24628189.79 0.0089 0.0075

Neptune -72142-12-07 16:18 J -24628101.89 -24628101.82 -24628101.73 0.0089 0.0070

Venus -72141-02-05 22:18 J -24628041.72 -24628041.57 -24628041.42 0.3577 0.0011

Neptune -72141-03-04 17:45 J -24628013.84 -24628013.76 -24628013.66 0.0089 0.0065

Neptune -72141-05-31 19:11 J -24627925.79 -24627925.70 -24627925.60 0.0089 0.0060

Neptune -72141-08-27 20:37 J -24627837.75 -24627837.64 -24627837.54 0.0089 0.0055

Jupiter -72141-08-30 00:13 J -24627835.61 -24627835.49 -24627835.37 0.0530 0.0141

Neptune -72141-11-23 21:35 J -24627749.70 -24627749.60 -24627749.48 0.0089 0.0051

Jupiter -72141-11-27 06:13 J -24627746.34 -24627746.24 -24627746.14 0.0529 0.0319

Neptune -72140-02-19 23:01 J -24627661.65 -24627661.54 -24627661.42 0.0089 0.0046

Neptune -72140-05-19 00:13 J -24627573.60 -24627573.49 -24627573.36 0.0089 0.0041

Neptune -72140-08-15 01:40 J -24627485.55 -24627485.43 -24627485.31 0.0089 0.0036

Neptune -72140-11-11 03:06 J -24627397.50 -24627397.37 -24627397.25 0.0089 0.0031

Neptune -72139-02-07 04:18 J -24627309.44 -24627309.32 -24627309.19 0.0089 0.0026

Neptune -72139-05-06 05:30 J -24627221.39 -24627221.27 -24627221.14 0.0089 0.0022

Neptune -72139-08-02 06:57 J -24627133.34 -24627133.21 -24627133.08 0.0089 0.0016

Neptune -72139-10-29 08:09 J -24627045.29 -24627045.16 -24627045.03 0.0089 0.0012

Neptune -72138-01-25 09:35 J -24626957.23 -24626957.10 -24626956.97 0.0089 0.0007

Neptune -72138-04-23 10:47 J -24626869.18 -24626869.05 -24626868.92 0.0089 0.0002

Moon -72138-04-23 14:23 J -24626869.01 -24626868.90 -24626868.79 0.2728 0.0301 *

Earth -72138-04-23 14:23 J -24626869.00 -24626868.90 -24626868.79 0.2722 0.0285 *

Mars -72138-06-11 11:30 J -24626820.08 -24626820.02 -24626819.96 0.1592 0.1488

Neptune -72138-07-20 12:13 J -24626781.13 -24626780.99 -24626780.86 0.0089 0.0004

Neptune -72138-10-16 13:25 J -24626693.07 -24626692.94 -24626692.81 0.0089 0.0008

Saturn -72138-11-29 16:18 J -24626648.87 -24626648.82 -24626648.75 0.0266 0.0251

Neptune -72137-01-12 14:37 J -24626605.02 -24626604.89 -24626604.76 0.0089 0.0013

Saturn -72137-02-26 14:37 J -24626560.06 -24626559.89 -24626559.71 0.0267 0.0110

Neptune -72137-04-09 15:49 J -24626516.96 -24626516.84 -24626516.70 0.0089 0.0018

Saturn -72137-05-25 13:11 J -24626471.14 -24626470.95 -24626470.76 0.0268 0.0033

Neptune -72137-07-06 17:16 J -24626428.91 -24626428.78 -24626428.65 0.0089 0.0022

Saturn -72137-08-22 11:16 J -24626382.16 -24626382.03 -24626381.88 0.0269 0.0177

Neptune -72137-10-02 18:42 J -24626340.85 -24626340.72 -24626340.60 0.0089 0.0027

Neptune -72137-12-29 19:54 J -24626252.79 -24626252.67 -24626252.55 0.0089 0.0032

Neptune -72136-03-27 21:06 J -24626164.74 -24626164.62 -24626164.50 0.0089 0.0037

Neptune -72136-06-23 22:18 J -24626076.68 -24626076.57 -24626076.45 0.0089 0.0042

Venus -72136-08-22 01:40 J -24626017.53 -24626017.43 -24626017.34 0.3580 0.2620

Neptune -72136-09-19 23:30 J -24625988.62 -24625988.52 -24625988.40 0.0089 0.0047

Neptune -72136-12-17 00:42 J -24625900.56 -24625900.47 -24625900.35 0.0089 0.0052

Neptune -72135-03-15 02:23 J -24625812.50 -24625812.40 -24625812.30 0.0089 0.0056

Mars -72135-03-16 13:54 J -24625810.94 -24625810.92 -24625810.89 0.1953 0.1893

Neptune -72135-06-11 03:35 J -24625724.44 -24625724.35 -24625724.25 0.0089 0.0061

Jupiter -72135-07-26 05:59 J -24625679.37 -24625679.25 -24625679.13 0.0496 0.0381

Neptune -72135-09-07 04:47 J -24625636.38 -24625636.30 -24625636.21 0.0089 0.0066

Moon -72135-10-21 04:04 J -24625592.45 -24625592.33 -24625592.21 0.2613 0.1749

Earth -72135-10-21 05:59 J -24625592.36 -24625592.25 -24625592.14 0.2612 0.1941 *

Jupiter -72135-10-24 16:47 J -24625588.97 -24625588.80 -24625588.63 0.0496 0.0198

Neptune -72135-12-04 05:59 J -24625548.32 -24625548.25 -24625548.16 0.0089 0.0071

Neptune -72134-03-02 07:11 J -24625460.25 -24625460.20 -24625460.12 0.0089 0.0076

Neptune -72134-05-29 08:52 J -24625372.18 -24625372.13 -24625372.07 0.0089 0.0080

Neptune -72134-08-25 10:04 J -24625284.11 -24625284.08 -24625284.04 0.0089 0.0085

Jupiter -72129-06-18 03:49 J -24623525.45 -24623525.34 -24623525.23 0.0530 0.0264

Jupiter -72129-09-15 09:49 J -24623436.21 -24623436.09 -24623435.97 0.0529 0.0194

Mars -72129-10-31 13:40 J -24623390.09 -24623389.93 -24623389.78 0.1588 0.0600

Mars -72126-08-06 21:49 J -24622380.70 -24622380.59 -24622380.49 0.1957 0.0877

Earth -72125-04-25 08:09 J -24622118.25 -24622118.16 -24622118.07 0.2723 0.1451

Moon -72125-04-25 08:37 J -24622118.23 -24622118.14 -24622118.05 0.2729 0.1458 *

Saturn -72124-07-08 09:49 J -24621679.16 -24621679.09 -24621679.01 0.0296 0.0240

Saturn -72124-10-04 21:49 J -24621590.71 -24621590.59 -24621590.47 0.0296 0.0112

Saturn -72123-01-01 09:49 J -24621502.22 -24621502.09 -24621501.96 0.0295 0.0015

Saturn -72123-03-30 21:35 J -24621413.71 -24621413.60 -24621413.48 0.0294 0.0140

Saturn -72123-06-27 09:21 J -24621325.16 -24621325.11 -24621325.05 0.0293 0.0264

Jupiter -72123-08-12 14:09 J -24621279.10 -24621278.91 -24621278.73 0.0496 0.0057

Venus -72122-06-18 17:16 J -24620968.84 -24620968.78 -24620968.73 0.3806 0.3160

Mars -72119-03-23 15:21 J -24619960.02 -24619959.86 -24619959.69 0.1585 0.0302

Moon -72118-04-19 07:11 J -24619568.27 -24619568.20 -24619568.12 0.2719 0.1864

Earth -72118-04-19 07:54 J -24619568.25 -24619568.17 -24619568.09 0.2718 0.1823 *

Jupiter -72117-04-06 07:40 J -24619215.26 -24619215.18 -24619215.09 0.0530 0.0382

Jupiter -72117-07-04 13:40 J -24619126.06 -24619125.93 -24619125.81 0.0529 0.0075

Mars -72117-12-27 05:16 J -24618950.39 -24618950.28 -24618950.17 0.1962 0.0173

Venus -72116-01-01 10:18 J -24618945.16 -24618945.07 -24618944.98 0.3804 0.1732

Earth -72115-10-15 20:23 J -24618292.71 -24618292.65 -24618292.59 0.2616 0.2424

Moon -72115-10-15 19:25 J -24618292.69 -24618292.69 -24618292.68 0.2610 0.2605 *

Earth -72112-04-28 01:54 J -24617367.45 -24617367.42 -24617367.40 0.2725 0.2629

Jupiter -72111-05-31 10:47 J -24616969.23 -24616969.05 -24616968.86 0.0496 0.0089

Venus -72111-07-18 03:21 J -24616921.46 -24616921.36 -24616921.25 0.3802 0.0313

Jupiter -72111-08-29 21:21 J -24616878.65 -24616878.61 -24616878.58 0.0497 0.0487

Pluto -72110-06-19 21:35 J -24616584.60 -24616584.60 -24616584.56 0.0084 0.0084

Mars -72110-08-13 17:30 J -24616529.88 -24616529.77 -24616529.66 0.1582 0.1186

Pluto -72110-09-15 23:01 J -24616496.59 -24616496.54 -24616496.45 0.0084 0.0072

Pluto -72110-12-13 00:28 J -24616408.56 -24616408.48 -24616408.37 0.0084 0.0061

Pluto -72109-03-10 02:09 J -24616320.51 -24616320.41 -24616320.29 0.0084 0.0050

Pluto -72109-06-06 03:35 J -24616232.46 -24616232.35 -24616232.22 0.0084 0.0039

Pluto -72109-09-02 05:01 J -24616144.41 -24616144.29 -24616144.15 0.0084 0.0028

Pluto -72109-11-29 06:42 J -24616056.36 -24616056.22 -24616056.09 0.0084 0.0017

Pluto -72108-02-25 07:54 J -24615968.30 -24615968.17 -24615968.03 0.0083 0.0007

Pluto -72108-05-24 09:21 J -24615880.24 -24615880.11 -24615879.97 0.0083 0.0005

Saturn -72108-07-15 15:35 J -24615828.01 -24615827.85 -24615827.69 0.0267 0.0138

Pluto -72108-08-20 10:47 J -24615792.18 -24615792.05 -24615791.91 0.0083 0.0015

Saturn -72108-10-12 13:54 J -24615739.11 -24615738.92 -24615738.73 0.0268 0.0005

Pluto -72108-11-16 12:13 J -24615704.12 -24615703.99 -24615703.86 0.0083 0.0026

Saturn -72107-01-09 11:59 J -24615650.15 -24615650.00 -24615649.83 0.0268 0.0149

Pluto -72107-02-12 13:25 J -24615616.06 -24615615.94 -24615615.81 0.0083 0.0036

Pluto -72107-05-11 14:52 J -24615527.99 -24615527.88 -24615527.76 0.0083 0.0046

Mars -72107-05-19 12:57 J -24615520.05 -24615519.96 -24615519.87 0.1967 0.1208

Pluto -72107-08-07 16:04 J -24615439.92 -24615439.83 -24615439.72 0.0083 0.0057

Pluto -72107-11-03 17:30 J -24615351.84 -24615351.77 -24615351.69 0.0083 0.0067

Pluto -72106-01-30 18:42 J -24615263.76 -24615263.72 -24615263.66 0.0082 0.0077

Jupiter -72105-01-24 11:45 J -24614905.05 -24614905.01 -24614904.97 0.0530 0.0500

Venus -72105-01-31 20:37 J -24614897.74 -24614897.64 -24614897.54 0.3800 0.1206

Moon -72105-04-21 01:11 J -24614817.55 -24614817.45 -24614817.35 0.2726 0.0731

Earth -72105-04-21 01:40 J -24614817.54 -24614817.43 -24614817.33 0.2720 0.0659 *

Jupiter -72105-04-22 17:30 J -24614815.89 -24614815.77 -24614815.64 0.0530 0.0045

Jupiter -72105-07-20 23:30 J -24614726.59 -24614726.52 -24614726.44 0.0529 0.0417

Moon -72102-10-19 02:52 J -24613541.55 -24613541.38 -24613541.22 0.2612 0.0103

Earth -72102-10-19 04:33 J -24613541.47 -24613541.31 -24613541.15 0.2614 0.0019 *

Uranus -72102-12-02 21:49 J -24613496.63 -24613496.59 -24613496.52 0.0135 0.0122

Uranus -72101-02-29 01:11 J -24613408.53 -24613408.45 -24613408.37 0.0135 0.0105

Uranus -72101-05-27 04:04 J -24613320.42 -24613320.33 -24613320.22 0.0136 0.0089

Uranus -72101-08-23 07:11 J -24613232.30 -24613232.20 -24613232.08 0.0136 0.0072

Uranus -72101-11-19 10:18 J -24613144.19 -24613144.07 -24613143.95 0.0136 0.0055

Uranus -72100-02-15 13:25 J -24613056.06 -24613055.94 -24613055.81 0.0136 0.0038

Uranus -72100-05-14 16:33 J -24612967.94 -24612967.81 -24612967.68 0.0136 0.0022

Uranus -72100-08-10 19:40 J -24612879.81 -24612879.68 -24612879.55 0.0136 0.0005

Venus -72100-08-16 14:09 J -24612873.98 -24612873.91 -24612873.84 0.3797 0.2715

Uranus -72100-11-06 22:47 J -24612791.68 -24612791.55 -24612791.42 0.0136 0.0013

Uranus -72099-02-03 01:54 J -24612703.55 -24612703.42 -24612703.29 0.0136 0.0030

Jupiter -72099-03-19 07:25 J -24612659.36 -24612659.19 -24612659.03 0.0496 0.0236

Uranus -72099-05-02 05:01 J -24612615.41 -24612615.29 -24612615.16 0.0137 0.0047

Jupiter -72099-06-17 17:59 J -24612568.88 -24612568.75 -24612568.62 0.0496 0.0342

Uranus -72099-07-29 08:09 J -24612527.27 -24612527.16 -24612527.04 0.0137 0.0065

Uranus -72099-10-25 11:16 J -24612439.13 -24612439.03 -24612438.92 0.0137 0.0082

Uranus -72098-01-21 14:37 J -24612350.98 -24612350.89 -24612350.80 0.0137 0.0099

Uranus -72098-04-19 17:45 J -24612262.82 -24612262.76 -24612262.69 0.0137 0.0117

Uranus -72098-07-16 20:52 J -24612174.64 -24612174.63 -24612174.60 0.0137 0.0135

Saturn -72095-11-25 12:42 J -24610947.02 -24610946.97 -24610946.92 0.0296 0.0270

Saturn -72094-02-22 00:42 J -24610858.58 -24610858.47 -24610858.36 0.0295 0.0142

Saturn -72094-05-21 12:42 J -24610770.10 -24610769.97 -24610769.84 0.0294 0.0016

Saturn -72094-08-18 00:28 J -24610681.60 -24610681.48 -24610681.36 0.0293 0.0110

Saturn -72094-11-14 12:13 J -24610593.06 -24610592.99 -24610592.91 0.0292 0.0234

Jupiter -72093-02-09 22:04 J -24610505.70 -24610505.58 -24610505.46 0.0530 0.0154

Jupiter -72093-05-09 04:04 J -24610416.43 -24610416.33 -24610416.23 0.0529 0.0306

Moon -72092-04-23 19:25 J -24610066.80 -24610066.69 -24610066.59 0.2728 0.0521

Earth -72092-04-23 19:11 J -24610066.80 -24610066.70 -24610066.59 0.2722 0.0516 *

Venus -72090-02-26 19:11 J -24609392.82 -24609392.70 -24609392.57 0.3576 0.1827

Mars -72089-05-01 14:09 J -24608963.06 -24608962.91 -24608962.76 0.1588 0.0728

Moon -72089-10-21 11:01 J -24608790.12 -24608790.04 -24608789.96 0.2613 0.2216

Earth -72089-10-21 12:42 J -24608790.03 -24608789.97 -24608789.91 0.2612 0.2409 *

Jupiter -72087-01-05 03:06 J -24608349.48 -24608349.37 -24608349.26 0.0496 0.0392

Jupiter -72087-04-05 13:54 J -24608259.10 -24608258.92 -24608258.75 0.0496 0.0187

Mars -72086-02-04 21:35 J -24607953.70 -24607953.60 -24607953.50 0.1958 0.0970

Venus -72085-09-11 23:01 J -24607368.69 -24607368.54 -24607368.40 0.3578 0.0893

Jupiter -72082-11-29 02:23 J -24606195.51 -24606195.40 -24606195.29 0.0530 0.0267

Jupiter -72081-02-26 08:23 J -24606106.27 -24606106.15 -24606106.04 0.0530 0.0193

Mars -72080-09-21 16:04 J -24605532.99 -24605532.83 -24605532.66 0.1585 0.0167

Venus -72079-03-29 02:09 J -24605344.44 -24605344.41 -24605344.38 0.3581 0.3490

Earth -72079-04-26 12:57 J -24605316.04 -24605315.96 -24605315.88 0.2723 0.1687

Moon -72079-04-26 13:25 J -24605316.02 -24605315.94 -24605315.86 0.2729 0.1800 *

Saturn -72079-12-02 15:06 J -24605096.02 -24605095.87 -24605095.73 0.0267 0.0174

Saturn -72078-03-01 13:25 J -24605007.13 -24605006.94 -24605006.75 0.0267 0.0032

Saturn -72078-05-29 11:45 J -24604918.18 -24604918.01 -24604917.83 0.0268 0.0111

Saturn -72078-08-26 10:18 J -24604829.13 -24604829.07 -24604829.02 0.0269 0.0256

Mars -72077-06-27 05:16 J -24604523.39 -24604523.28 -24604523.16 0.1962 0.0091

Jupiter -72075-01-22 10:47 J -24603949.24 -24603949.05 -24603948.87 0.0496 0.0044

Moon -72072-04-19 11:59 J -24602766.08 -24602766.00 -24602765.91 0.2721 0.1729

Earth -72072-04-19 12:42 J -24602766.06 -24602765.97 -24602765.88 0.2718 0.1586 *

Mars -72070-02-11 18:13 J -24602102.87 -24602102.74 -24602102.62 0.1582 0.1050

Jupiter -72070-09-17 05:59 J -24601885.33 -24601885.25 -24601885.17 0.0530 0.0389

Jupiter -72070-12-15 11:45 J -24601796.13 -24601796.01 -24601795.88 0.0529 0.0070

Jupiter -72069-03-13 17:59 J -24601706.76 -24601706.75 -24601706.75 0.0529 0.0527

Moon -72069-10-16 02:09 J -24601490.52 -24601490.41 -24601490.30 0.2611 0.1954

Earth -72069-10-16 03:06 J -24601490.47 -24601490.37 -24601490.26 0.2616 0.1955 *

Mars -72068-11-17 12:57 J -24601093.05 -24601092.96 -24601092.87 0.1966 0.1099

Venus -72065-01-23 15:06 J -24600295.95 -24600295.87 -24600295.80 0.3806 0.2679

Saturn -72065-04-13 16:04 J -24600214.84 -24600214.83 -24600214.82 0.0297 0.0294

Saturn -72065-07-11 04:04 J -24600126.43 -24600126.33 -24600126.22 0.0296 0.0166

Saturn -72065-10-07 16:04 J -24600037.96 -24600037.83 -24600037.70 0.0295 0.0039

Saturn -72064-01-04 04:04 J -24599949.46 -24599949.33 -24599949.21 0.0294 0.0087

Saturn -72064-04-02 15:49 J -24599860.93 -24599860.84 -24599860.75 0.0293 0.0211

Jupiter -72064-11-10 07:40 J -24599639.36 -24599639.18 -24599638.99 0.0496 0.0101

Jupiter -72063-02-08 18:13 J -24599548.78 -24599548.74 -24599548.69 0.0497 0.0477

Uranus -72062-10-15 05:45 J -24598935.31 -24598935.26 -24598935.16 0.0143 0.0133

Uranus -72061-01-11 14:37 J -24598847.02 -24598846.89 -24598846.75 0.0143 0.0102

Uranus -72061-04-08 23:01 J -24598758.70 -24598758.54 -24598758.36 0.0143 0.0073

Uranus -72061-07-06 07:40 J -24598670.36 -24598670.18 -24598669.99 0.0143 0.0044

Uranus -72061-10-02 16:04 J -24598582.02 -24598581.83 -24598581.63 0.0143 0.0015

Uranus -72061-12-30 00:28 J -24598493.67 -24598493.48 -24598493.29 0.0142 0.0014

Uranus -72060-03-28 08:37 J -24598405.32 -24598405.14 -24598404.95 0.0142 0.0043

Uranus -72060-06-24 17:01 J -24598316.96 -24598316.79 -24598316.62 0.0142 0.0071

Venus -72060-08-08 08:09 J -24598272.26 -24598272.16 -24598272.06 0.3804 0.1238

Uranus -72060-09-21 00:57 J -24598228.58 -24598228.46 -24598228.31 0.0142 0.0100

Uranus -72060-12-18 09:06 J -24598140.19 -24598140.12 -24598140.02 0.0142 0.0128

Moon -72059-04-22 05:59 J -24598015.36 -24598015.25 -24598015.14 0.2726 0.0444

Earth -72059-04-22 06:28 J -24598015.34 -24598015.23 -24598015.13 0.2720 0.0425 *

Neptune -72059-06-03 12:57 J -24597973.02 -24597972.96 -24597972.87 0.0089 0.0082

Neptune -72059-08-30 16:47 J -24597884.89 -24597884.80 -24597884.69 0.0089 0.0075

Neptune -72059-11-26 20:23 J -24597796.76 -24597796.65 -24597796.51 0.0089 0.0068

Neptune -72058-02-22 23:59 J -24597708.62 -24597708.50 -24597708.34 0.0089 0.0061

Neptune -72058-05-22 03:49 J -24597620.48 -24597620.34 -24597620.17 0.0089 0.0054

Jupiter -72058-07-06 09:49 J -24597575.12 -24597575.09 -24597575.05 0.0530 0.0506

Neptune -72058-08-18 07:54 J -24597532.33 -24597532.17 -24597532.00 0.0089 0.0046

Jupiter -72058-10-03 15:49 J -24597485.97 -24597485.84 -24597485.72 0.0529 0.0051

Neptune -72058-11-14 11:30 J -24597444.19 -24597444.02 -24597443.83 0.0089 0.0039

Jupiter -72058-12-31 21:49 J -24597396.67 -24597396.59 -24597396.51 0.0529 0.0409

Neptune -72057-02-10 15:21 J -24597356.04 -24597355.86 -24597355.67 0.0089 0.0032

Neptune -72057-05-08 18:57 J -24597267.89 -24597267.71 -24597267.51 0.0089 0.0025

Neptune -72057-08-04 22:47 J -24597179.74 -24597179.55 -24597179.35 0.0089 0.0018

Neptune -72057-11-01 02:37 J -24597091.58 -24597091.39 -24597091.19 0.0089 0.0010

Neptune -72056-01-28 06:28 J -24597003.43 -24597003.23 -24597003.03 0.0089 0.0003

Neptune -72056-04-26 10:04 J -24596915.27 -24596915.08 -24596914.88 0.0089 0.0005

Neptune -72056-07-23 13:54 J -24596827.11 -24596826.92 -24596826.72 0.0089 0.0012

Moon -72056-10-19 09:35 J -24596739.26 -24596739.10 -24596738.94 0.2612 0.0176

Earth -72056-10-19 11:30 J -24596739.18 -24596739.02 -24596738.86 0.2613 0.0474 *

Neptune -72056-10-19 17:30 J -24596738.96 -24596738.77 -24596738.57 0.0089 0.0019 *

Neptune -72055-01-15 21:21 J -24596650.80 -24596650.61 -24596650.42 0.0089 0.0026

Neptune -72055-04-14 00:57 J -24596562.63 -24596562.46 -24596562.27 0.0089 0.0033

Neptune -72055-07-11 04:33 J -24596474.47 -24596474.31 -24596474.12 0.0089 0.0041

Neptune -72055-10-07 08:23 J -24596386.30 -24596386.15 -24596385.97 0.0089 0.0048

Neptune -72054-01-03 12:13 J -24596298.14 -24596297.99 -24596297.83 0.0089 0.0055

Venus -72054-02-22 01:11 J -24596248.55 -24596248.45 -24596248.34 0.3802 0.0262

Neptune -72054-04-01 16:04 J -24596209.97 -24596209.83 -24596209.69 0.0089 0.0062

Neptune -72054-06-28 19:54 J -24596121.79 -24596121.67 -24596121.55 0.0089 0.0069

Neptune -72054-09-24 23:01 J -24596033.61 -24596033.54 -24596033.42 0.0089 0.0077

Neptune -72054-12-22 02:52 J -24595945.42 -24595945.38 -24595945.30 0.0089 0.0084

Jupiter -72052-08-29 04:33 J -24595329.47 -24595329.31 -24595329.15 0.0496 0.0246

Jupiter -72052-11-27 15:06 J -24595239.00 -24595238.87 -24595238.73 0.0497 0.0333

Mars -72050-10-31 14:52 J -24594536.02 -24594535.88 -24594535.74 0.1588 0.0873

Saturn -72049-04-20 15:49 J -24594363.96 -24594363.84 -24594363.72 0.0267 0.0202

Saturn -72049-07-18 14:09 J -24594275.10 -24594274.91 -24594274.73 0.0267 0.0061

Venus -72049-09-06 18:42 J -24594224.82 -24594224.72 -24594224.63 0.3799 0.1723

Saturn -72049-10-15 12:28 J -24594186.16 -24594185.98 -24594185.80 0.0268 0.0083

Saturn -72048-01-12 10:33 J -24594097.15 -24594097.06 -24594096.95 0.0269 0.0227

Mars -72047-08-05 21:35 J -24593526.69 -24593526.60 -24593526.50 0.1957 0.1095

Earth -72046-04-24 23:59 J -24593264.60 -24593264.50 -24593264.39 0.2722 0.0756

Moon -72046-04-25 00:13 J -24593264.59 -24593264.49 -24593264.39 0.2729 0.0776 *

Jupiter -72046-07-22 19:40 J -24593175.80 -24593175.68 -24593175.56 0.0530 0.0169

Jupiter -72046-10-20 01:40 J -24593086.54 -24593086.43 -24593086.32 0.0529 0.0291

Venus -72043-03-23 11:59 J -24592201.05 -24592201.00 -24592200.94 0.3796 0.3240

Mars -72040-03-22 16:47 J -24591105.97 -24591105.80 -24591105.63 0.1585 0.0043

Jupiter -72040-06-17 00:57 J -24591019.56 -24591019.46 -24591019.34 0.0496 0.0393

Jupiter -72040-09-15 11:59 J -24590929.17 -24590929.00 -24590928.83 0.0496 0.0187

Moon -72039-04-17 23:16 J -24590714.55 -24590714.53 -24590714.51 0.2713 0.2640

Earth -72039-04-17 23:59 J -24590714.54 -24590714.50 -24590714.47 0.2717 0.2512 *

Mars -72038-12-27 05:16 J -24590096.40 -24590096.28 -24590096.17 0.1962 0.0052

Saturn -72036-11-28 06:57 J -24589394.30 -24589394.21 -24589394.11 0.0296 0.0196

Saturn -72035-02-24 18:57 J -24589305.83 -24589305.71 -24589305.58 0.0295 0.0069

Saturn -72035-05-24 06:57 J -24589217.34 -24589217.21 -24589217.09 0.0294 0.0058

Saturn -72035-08-20 18:42 J -24589128.82 -24589128.72 -24589128.62 0.0293 0.0181

Jupiter -72034-05-10 23:59 J -24588865.60 -24588865.50 -24588865.39 0.0530 0.0280

Jupiter -72034-08-08 05:59 J -24588776.37 -24588776.25 -24588776.13 0.0530 0.0180

Venus -72034-10-03 19:54 J -24588719.81 -24588719.67 -24588719.53 0.3576 0.0920

Earth -72033-04-26 17:45 J -24588513.84 -24588513.76 -24588513.69 0.2724 0.1927

Moon -72033-04-26 18:13 J -24588513.81 -24588513.74 -24588513.66 0.2727 0.1976 *

Mars -72031-08-12 18:42 J -24587675.85 -24587675.72 -24587675.58 0.1582 0.0919

Venus -72028-04-18 23:30 J -24586695.64 -24586695.52 -24586695.39 0.3579 0.1778

Mars -72028-05-18 12:57 J -24586666.06 -24586665.96 -24586665.86 0.1967 0.0991

Jupiter -72028-07-04 07:54 J -24586619.36 -24586619.17 -24586618.98 0.0496 0.0034

Moon -72026-04-20 16:47 J -24585963.89 -24585963.80 -24585963.70 0.2722 0.1367

Earth -72026-04-20 17:30 J -24585963.86 -24585963.77 -24585963.68 0.2719 0.1349 *

Moon -72023-10-17 08:37 J -24584688.27 -24584688.14 -24584688.02 0.2612 0.1692

Earth -72023-10-17 10:04 J -24584688.22 -24584688.08 -24584687.95 0.2615 0.1484 *

Jupiter -72022-02-27 04:18 J -24584555.40 -24584555.32 -24584555.23 0.0530 0.0392

Jupiter -72022-05-27 10:18 J -24584466.19 -24584466.07 -24584465.94 0.0530 0.0067

Jupiter -72022-08-24 16:33 J -24584376.82 -24584376.81 -24584376.81 0.0529 0.0528

Saturn -72020-09-07 14:37 J -24583631.96 -24583631.89 -24583631.80 0.0266 0.0241

Saturn -72020-12-05 13:11 J -24583543.13 -24583542.95 -24583542.77 0.0267 0.0099

Saturn -72019-03-04 11:30 J -24583454.21 -24583454.02 -24583453.83 0.0268 0.0043

Saturn -72019-06-01 09:49 J -24583365.22 -24583365.09 -24583364.95 0.0269 0.0187

Uranus -72018-12-23 04:47 J -24582795.36 -24582795.30 -24582795.24 0.0135 0.0120

Uranus -72017-03-20 07:40 J -24582707.26 -24582707.18 -24582707.09 0.0135 0.0104

Uranus -72017-06-16 10:47 J -24582619.14 -24582619.05 -24582618.94 0.0136 0.0087

Uranus -72017-09-12 13:54 J -24582531.03 -24582530.92 -24582530.80 0.0136 0.0070

Uranus -72017-12-09 17:01 J -24582442.91 -24582442.79 -24582442.67 0.0136 0.0054

Uranus -72016-03-07 20:09 J -24582354.79 -24582354.66 -24582354.53 0.0136 0.0037

Jupiter -72016-04-22 04:47 J -24582309.48 -24582309.30 -24582309.12 0.0496 0.0111

Uranus -72016-06-03 23:16 J -24582266.66 -24582266.53 -24582266.40 0.0136 0.0020

Jupiter -72016-07-21 15:06 J -24582218.93 -24582218.87 -24582218.80 0.0497 0.0466

Uranus -72016-08-31 02:23 J -24582178.53 -24582178.40 -24582178.27 0.0136 0.0003

Uranus -72016-11-27 05:30 J -24582090.40 -24582090.27 -24582090.14 0.0136 0.0014

Uranus -72015-02-23 08:37 J -24582002.27 -24582002.14 -24582002.01 0.0136 0.0031

Uranus -72015-05-22 11:45 J -24581914.13 -24581914.01 -24581913.89 0.0137 0.0048

Uranus -72015-08-18 14:52 J -24581825.99 -24581825.88 -24581825.76 0.0137 0.0066

Uranus -72015-11-14 17:59 J -24581737.85 -24581737.75 -24581737.64 0.0137 0.0083

Uranus -72014-02-10 21:21 J -24581649.70 -24581649.61 -24581649.52 0.0137 0.0100

Venus -72014-02-13 19:54 J -24581646.70 -24581646.67 -24581646.64 0.3807 0.3611

Uranus -72014-05-10 00:13 J -24581561.54 -24581561.49 -24581561.41 0.0137 0.0119

Uranus -72014-08-06 03:35 J -24581473.36 -24581473.35 -24581473.33 0.0137 0.0136

Moon -72013-04-22 11:01 J -24581213.15 -24581213.04 -24581212.94 0.2726 0.0275

Earth -72013-04-22 11:16 J -24581213.14 -24581213.03 -24581212.93 0.2720 0.0200 *

Jupiter -72011-12-16 08:09 J -24580245.19 -24580245.16 -24580245.13 0.0530 0.0512

Jupiter -72010-03-15 13:54 J -24580156.04 -24580155.92 -24580155.79 0.0529 0.0058

Mars -72010-05-01 15:35 J -24580108.98 -24580108.85 -24580108.72 0.1588 0.1008

Jupiter -72010-06-12 19:54 J -24580066.75 -24580066.67 -24580066.58 0.0529 0.0404

Moon -72010-10-20 16:18 J -24579936.97 -24579936.82 -24579936.66 0.2612 0.0867

Earth -72010-10-20 18:13 J -24579936.89 -24579936.74 -24579936.59 0.2613 0.0937 *

Venus -72009-08-29 12:57 J -24579623.05 -24579622.96 -24579622.88 0.3805 0.2190

Mars -72007-02-03 21:35 J -24579099.68 -24579099.60 -24579099.51 0.1957 0.1206

Saturn -72006-04-17 10:04 J -24578662.16 -24578662.08 -24578661.99 0.0296 0.0223

Saturn -72006-07-14 22:04 J -24578573.70 -24578573.58 -24578573.46 0.0295 0.0095

Saturn -72006-10-11 10:04 J -24578485.21 -24578485.08 -24578484.95 0.0295 0.0031

Saturn -72005-01-07 21:49 J -24578396.70 -24578396.59 -24578396.48 0.0294 0.0157

Saturn -72005-04-05 09:35 J -24578308.13 -24578308.10 -24578308.06 0.0293 0.0280

Jupiter -72004-02-08 01:40 J -24577999.59 -24577999.43 -24577999.27 0.0496 0.0255

Jupiter -72004-05-09 12:28 J -24577909.12 -24577908.98 -24577908.84 0.0497 0.0325

Venus -72003-03-15 05:59 J -24577599.36 -24577599.25 -24577599.15 0.3803 0.0749

Mars -72001-09-20 17:45 J -24576678.93 -24576678.76 -24576678.60 0.1585 0.0121

72ND MILLENNIUM BCE

This is a list of transits of Mercury in the 72nd millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Earth	**-72000-04-25 04:47 J**		**-24576462.40**	**-24576462.30**	**-24576462.20**	**0.2722**	**0.0992**	
Moon	**-72000-04-25 05:01 J**		**-24576462.39**	**-24576462.29**	**-24576462.19**	**0.2729**	**0.1046**	*
Jupiter	**-71998-01-01 17:59 J**		**-24575845.87**	**-24575845.75**	**-24575845.63**	**0.0529**	**0.0173**	
Jupiter	**-71998-03-31 23:59 J**		**-24575756.61**	**-24575756.50**	**-24575756.40**	**0.0529**	**0.0286**	
Mars	**-71998-06-27 05:16 J**		**-24575669.39**	**-24575669.28**	**-24575669.16**	**0.1962**	**0.0168**	
Venus	**-71998-09-28 23:16 J**		**-24575575.64**	**-24575575.53**	**-24575575.43**	**0.3801**	**0.0749**	
Moon	**-71993-04-18 04:04 J**		**-24573912.39**	**-24573912.33**	**-24573912.28**	**0.2716**	**0.2301**	
Earth	**-71993-04-18 04:47 J**		**-24573912.36**	**-24573912.30**	**-24573912.25**	**0.2717**	**0.2272**	*
Jupiter	**-71993-11-26 22:33 J**		**-24573689.67**	**-24573689.56**	**-24573689.45**	**0.0496**	**0.0400**	
Jupiter	**-71992-02-25 09:21 J**		**-24573599.28**	**-24573599.11**	**-24573598.93**	**0.0496**	**0.0181**	
Venus	**-71992-04-13 16:33 J**		**-24573551.90**	**-24573551.81**	**-24573551.73**	**0.3798**	**0.2241**	
Mars	**-71991-02-10 19:40 J**		**-24573248.83**	**-24573248.68**	**-24573248.53**	**0.1582**	**0.0776**	
Saturn	**-71990-04-24 13:25 J**		**-24572811.11**	**-24572810.94**	**-24572810.77**	**0.0267**	**0.0130**	
Saturn	**-71990-07-22 11:45 J**		**-24572722.20**	**-24572722.01**	**-24572721.82**	**0.0268**	**0.0012**	
Saturn	**-71990-10-19 10:04 J**		**-24572633.23**	**-24572633.08**	**-24572632.92**	**0.0268**	**0.0156**	
Mars	**-71989-11-16 12:57 J**		**-24572239.06**	**-24572238.96**	**-24572238.86**	**0.1966**	**0.0876**	
Earth	**-71987-04-27 22:33 J**		**-24571711.62**	**-24571711.56**	**-24571711.50**	**0.2724**	**0.2168**	
Moon	**-71987-04-27 23:16 J**		**-24571711.59**	**-24571711.53**	**-24571711.47**	**0.2726**	**0.2253**	*
Jupiter	**-71987-10-20 21:49 J**		**-24571535.69**	**-24571535.59**	**-24571535.48**	**0.0530**	**0.0292**	
Venus	**-71987-10-28 10:04 J**		**-24571528.09**	**-24571528.08**	**-24571528.08**	**0.3796**	**0.3776**	

Jupiter -71986-01-18 03:49 J -24571446.46 -24571446.34 -24571446.22 0.0529 0.0167

Venus -71983-10-24 16:47 J -24570070.89 -24570070.80 -24570070.71 0.3574 0.2783

Jupiter -71981-12-14 06:13 J -24569289.43 -24569289.24 -24569289.06 0.0496 0.0036

Moon -71980-04-20 21:49 J -24569161.69 -24569161.59 -24569161.50 0.2722 0.1260

Earth -71980-04-20 22:18 J -24569161.67 -24569161.57 -24569161.47 0.2719 0.1110 *

Mars -71979-04-08 20:23 J -24568808.67 -24568808.65 -24568808.63 0.1970 0.1938

Neptune -71978-09-16 11:16 J -24568283.05 -24568283.03 -24568282.99 0.0089 0.0087

Uranus -71978-11-04 13:11 J -24568234.03 -24568233.95 -24568233.85 0.0143 0.0126

Neptune -71978-12-13 12:28 J -24568195.01 -24568194.98 -24568194.92 0.0089 0.0082

Uranus -71977-01-31 21:35 J -24568145.73 -24568145.60 -24568145.44 0.0143 0.0097

Neptune -71977-03-10 13:54 J -24568106.97 -24568106.92 -24568106.85 0.0089 0.0077

Uranus -71977-04-29 05:59 J -24568057.41 -24568057.25 -24568057.06 0.0143 0.0068

Venus -71977-05-09 20:37 J -24568046.78 -24568046.64 -24568046.49 0.3577 0.0105

Neptune -71977-06-06 15:21 J -24568018.93 -24568018.86 -24568018.78 0.0089 0.0072

Uranus -71977-07-26 14:52 J -24567969.07 -24567968.88 -24567968.70 0.0143 0.0038

Neptune -71977-09-02 16:47 J -24567930.89 -24567930.80 -24567930.72 0.0089 0.0067

Saturn -71977-09-03 12:42 J -24567930.03 -24567929.97 -24567929.90 0.0296 0.0255

Moon -71977-10-17 15:06 J -24567886.01 -24567885.87 -24567885.72 0.2612 0.1104

Earth -71977-10-17 16:47 J -24567885.95 -24567885.80 -24567885.65 0.2615 0.1008 *

Uranus -71977-10-22 23:16 J -24567880.73 -24567880.53 -24567880.34 0.0143 0.0009

Neptune -71977-11-29 17:45 J -24567842.84 -24567842.76 -24567842.66 0.0089 0.0063

Saturn -71977-12-01 00:42 J -24567841.58 -24567841.47 -24567841.35 0.0295 0.0127

Uranus -71976-01-19 07:25 J -24567792.38 -24567792.19 -24567791.99 0.0142 0.0020

Neptune -71976-02-25 19:11 J -24567754.79 -24567754.70 -24567754.59 0.0089 0.0058

Saturn -71976-02-27 12:42 J -24567753.10 -24567752.97 -24567752.84 0.0294 0.0005

Uranus -71976-04-17 15:49 J -24567704.02 -24567703.84 -24567703.66 0.0142 0.0048

Neptune -71976-05-24 20:23 J -24567666.75 -24567666.65 -24567666.53 0.0089 0.0053

Saturn -71976-05-27 00:42 J -24567664.59 -24567664.47 -24567664.36 0.0293 0.0125

Uranus -71976-07-14 23:45 J -24567615.66 -24567615.51 -24567615.33 0.0142 0.0078

Neptune -71976-08-20 21:49 J -24567578.70 -24567578.59 -24567578.48 0.0089 0.0048

Saturn -71976-08-23 12:28 J -24567576.05 -24567575.98 -24567575.91 0.0292 0.0249

Uranus -71976-10-11 08:09 J -24567527.28 -24567527.16 -24567527.02 0.0142 0.0105

Neptune -71976-11-16 23:16 J -24567490.65 -24567490.53 -24567490.42 0.0089 0.0043

Uranus -71975-01-07 16:18 J -24567438.88 -24567438.82 -24567438.75 0.0142 0.0133

Neptune -71975-02-13 00:28 J -24567402.60 -24567402.48 -24567402.36 0.0089 0.0038

Neptune -71975-05-12 01:40 J -24567314.54 -24567314.43 -24567314.30 0.0089 0.0034

Neptune -71975-08-08 03:06 J -24567226.49 -24567226.37 -24567226.24 0.0089 0.0028

Jupiter -71975-08-09 02:09 J -24567225.48 -24567225.41 -24567225.32 0.0530 0.0404

Neptune -71975-11-04 04:18 J -24567138.44 -24567138.32 -24567138.19 0.0089 0.0024

Jupiter -71975-11-06 08:09 J -24567136.28 -24567136.16 -24567136.03 0.0530 0.0057

Neptune -71974-01-31 05:45 J -24567050.39 -24567050.26 -24567050.13 0.0089 0.0019

Jupiter -71974-02-03 14:23 J -24567046.92 -24567046.90 -24567046.88 0.0529 0.0517

Neptune -71974-04-29 06:57 J -24566962.34 -24566962.21 -24566962.08 0.0089 0.0014

Neptune -71974-07-26 08:23 J -24566874.28 -24566874.15 -24566874.02 0.0089 0.0009

Neptune -71974-10-22 09:35 J -24566786.23 -24566786.10 -24566785.97 0.0089 0.0004

Neptune -71973-01-18 11:01 J -24566698.17 -24566698.04 -24566697.91 0.0089 0.0002

Neptune -71973-04-15 12:13 J -24566610.12 -24566609.99 -24566609.86 0.0089 0.0006

Neptune -71973-07-12 13:25 J -24566522.07 -24566521.94 -24566521.80 0.0089 0.0011

Neptune -71973-10-08 14:52 J -24566434.01 -24566433.88 -24566433.75 0.0089 0.0015

Neptune -71972-01-04 16:04 J -24566345.96 -24566345.83 -24566345.70 0.0089 0.0020

Neptune -71972-04-02 17:30 J -24566257.90 -24566257.77 -24566257.65 0.0089 0.0025

Neptune -71972-06-29 18:42 J -24566169.84 -24566169.72 -24566169.60 0.0089 0.0030

Neptune -71972-09-25 19:54 J -24566081.79 -24566081.67 -24566081.54 0.0089 0.0035

Venus -71972-11-24 00:13 J -24566022.59 -24566022.49 -24566022.40 0.3580 0.2666

Neptune -71972-12-22 21:06 J -24565993.73 -24565993.62 -24565993.49 0.0089 0.0040

Neptune -71971-03-20 22:18 J -24565905.67 -24565905.57 -24565905.44 0.0089 0.0045

Neptune -71971-06-16 23:59 J -24565817.61 -24565817.50 -24565817.39 0.0089 0.0049

Neptune -71971-09-13 01:11 J -24565729.55 -24565729.45 -24565729.35 0.0089 0.0054

Mars -71971-10-30 16:18 J -24565681.94 -24565681.82 -24565681.71 0.1588 0.1141

Neptune -71971-12-10 02:23 J -24565641.49 -24565641.40 -24565641.30 0.0089 0.0059

Neptune -71970-03-08 03:35 J -24565553.43 -24565553.35 -24565553.25 0.0089 0.0064

Neptune -71970-06-04 04:47 J -24565465.37 -24565465.30 -24565465.20 0.0089 0.0069

Neptune -71970-08-31 06:13 J -24565377.30 -24565377.24 -24565377.16 0.0089 0.0074

Neptune -71970-11-27 07:40 J -24565289.24 -24565289.18 -24565289.12 0.0089 0.0078

Neptune -71969-02-23 08:52 J -24565201.17 -24565201.13 -24565201.08 0.0089 0.0083

Neptune -71969-05-21 10:04 J -24565113.08 -24565113.08 -24565113.05 0.0089 0.0088

Jupiter -71969-10-02 02:23 J -24564979.58 -24564979.40 -24564979.22 0.0496 0.0116

Jupiter -71969-12-31 12:42 J -24564889.03 -24564888.97 -24564888.90 0.0496 0.0461

Mars -71968-08-04 21:35 J -24564672.68 -24564672.60 -24564672.51 0.1957 0.1309

Moon -71967-04-23 15:49 J -24564410.95 -24564410.84 -24564410.73 0.2728 0.0104

Earth -71967-04-23 16:04 J -24564410.94 -24564410.83 -24564410.73 0.2721 0.0109 *

Moon -71964-10-20 23:16 J -24563134.68 -24563134.53 -24563134.38 0.2613 0.1127

Earth -71964-10-21 00:57 J -24563134.59 -24563134.46 -24563134.32 0.2613 0.1408 *

Jupiter -71963-05-28 06:42 J -24562915.25 -24562915.22 -24562915.19 0.0530 0.0514

Jupiter -71963-08-25 12:28 J -24562826.10 -24562825.98 -24562825.85 0.0530 0.0059

Jupiter -71963-11-22 18:42 J -24562736.80 -24562736.72 -24562736.64 0.0529 0.0405

Mars -71961-03-21 18:13 J -24562251.90 -24562251.74 -24562251.57 0.1585 0.0250

Saturn -71961-09-10 11:59 J -24562079.15 -24562079.00 -24562078.86 0.0267 0.0172

Saturn -71961-12-08 10:04 J -24561990.27 -24561990.08 -24561989.88 0.0267 0.0031

Saturn -71960-03-07 08:23 J -24561901.32 -24561901.15 -24561900.97 0.0268 0.0113

Saturn -71960-06-04 06:42 J -24561812.26 -24561812.22 -24561812.15 0.0269 0.0257

Mars -71959-12-26 05:16 J -24561242.39 -24561242.28 -24561242.16 0.1962 0.0291

Venus -71958-09-20 17:30 J -24560973.82 -24560973.77 -24560973.71 0.3807 0.3133

Jupiter -71957-07-20 23:16 J -24560669.69 -24560669.53 -24560669.37 0.0496 0.0260

Jupiter -71957-10-19 09:49 J -24560579.23 -24560579.09 -24560578.94 0.0496 0.0319

Pluto -71955-03-10 11:16 J -24560072.03 -24560072.03 -24560072.02 0.0060 0.0060

Pluto -71955-06-06 11:59 J -24559984.05 -24559984.00 -24559983.90 0.0060 0.0055

Pluto -71955-09-02 13:40 J -24559896.03 -24559895.93 -24559895.82 0.0060 0.0050

Pluto -71955-11-29 14:52 J -24559808.00 -24559807.88 -24559807.75 0.0060 0.0044

Pluto -71954-02-25 15:49 J -24559719.96 -24559719.84 -24559719.68 0.0060 0.0040

Earth -71954-04-26 09:35 J -24559660.19 -24559660.10 -24559660.00 0.2722 0.1231

Moon -71954-04-26 09:49 J -24559660.18 -24559660.09 -24559659.99 0.2729 0.1243 *

Pluto -71954-05-24 17:01 J -24559631.92 -24559631.79 -24559631.62 0.0060 0.0034

Pluto -71954-08-20 18:28 J -24559543.88 -24559543.73 -24559543.56 0.0060 0.0029

Pluto -71954-11-16 19:40 J -24559455.84 -24559455.68 -24559455.50 0.0060 0.0024

Pluto -71953-02-12 20:52 J -24559367.79 -24559367.63 -24559367.44 0.0060 0.0019

Pluto -71953-05-10 22:18 J -24559279.74 -24559279.57 -24559279.38 0.0061 0.0013

Pluto -71953-08-06 23:30 J -24559191.69 -24559191.52 -24559191.32 0.0061 0.0008

Pluto -71953-11-03 00:57 J -24559103.64 -24559103.46 -24559103.27 0.0061 0.0002

Pluto -71952-01-30 02:23 J -24559015.59 -24559015.40 -24559015.22 0.0061 0.0004

Venus -71952-04-05 10:33 J -24558950.15 -24558950.06 -24558949.96 0.3805 0.1704

Pluto -71952-04-28 03:21 J -24558927.53 -24558927.36 -24558927.16 0.0061 0.0010

Pluto -71952-07-25 04:47 J -24558839.48 -24558839.30 -24558839.11 0.0061 0.0015

Mars -71952-08-11 20:23 J -24558821.81 -24558821.65 -24558821.50 0.1582 0.0642

Pluto -71952-10-21 05:45 J -24558751.42 -24558751.26 -24558751.07 0.0061 0.0021

Pluto -71951-01-17 07:25 J -24558663.35 -24558663.19 -24558663.02 0.0061 0.0026

Pluto -71951-04-15 08:23 J -24558575.29 -24558575.15 -24558574.97 0.0061 0.0032

Jupiter -71951-06-13 16:18 J -24558515.94 -24558515.82 -24558515.70 0.0530 0.0178

Pluto -71951-07-12 10:04 J -24558487.22 -24558487.08 -24558486.93 0.0061 0.0037

Jupiter -71951-09-10 22:18 J -24558426.68 -24558426.57 -24558426.46 0.0529 0.0282

Pluto -71951-10-08 11:01 J -24558399.15 -24558399.04 -24558398.89 0.0061 0.0044

Pluto -71950-01-04 12:13 J -24558311.07 -24558310.99 -24558310.85 0.0061 0.0050

Pluto -71950-04-02 14:09 J -24558222.99 -24558222.91 -24558222.83 0.0061 0.0055

Pluto -71950-06-29 15:06 J -24558134.88 -24558134.87 -24558134.82 0.0061 0.0061

Mars -71949-05-17 12:57 J -24557812.07 -24557811.96 -24557811.86 0.1966 0.0770

Saturn -71947-01-21 15:35 J -24557197.88 -24557197.85 -24557197.82 0.0297 0.0285

Moon -71947-04-19 08:52 J -24557110.20 -24557110.13 -24557110.07 0.2717 0.2148

Earth -71947-04-19 09:35 J -24557110.17 -24557110.10 -24557110.03 0.2717 0.2031 *

Saturn -71947-04-20 03:35 J -24557109.46 -24557109.35 -24557109.24 0.0296 0.0157

Saturn -71947-07-17 15:35 J -24557020.98 -24557020.85 -24557020.72 0.0295 0.0029

Saturn -71947-10-14 03:35 J -24556932.48 -24556932.35 -24556932.23 0.0294 0.0097

Venus -71947-10-20 03:49 J -24556926.45 -24556926.34 -24556926.24 0.3803 0.0248

Saturn -71946-01-10 15:21 J -24556843.94 -24556843.86 -24556843.78 0.0293 0.0221

Jupiter -71945-05-08 20:09 J -24556359.77 -24556359.66 -24556359.56 0.0496 0.0406

Jupiter -71945-08-07 06:57 J -24556269.38 -24556269.21 -24556269.03 0.0497 0.0176

Mars -71942-01-01 22:18 J -24555391.61 -24555391.57 -24555391.53 0.1579 0.1525

Earth -71941-04-28 03:21 J -24554909.41 -24554909.36 -24554909.31 0.2724 0.2405

Moon -71941-04-28 04:04 J -24554909.37 -24554909.33 -24554909.29 0.2725 0.2508 *

Venus -71941-05-04 21:06 J -24554902.72 -24554902.62 -24554902.52 0.3800 0.1254

Mars -71940-10-07 20:37 J -24554381.69 -24554381.64 -24554381.60 0.1970 0.1815

Jupiter -71939-04-01 20:23 J -24554205.75 -24554205.65 -24554205.54 0.0529 0.0293

Jupiter -71939-06-30 02:23 J -24554116.52 -24554116.40 -24554116.28 0.0529 0.0166

Venus -71936-11-18 14:23 J -24552878.97 -24552878.90 -24552878.83 0.3798 0.2771

Moon -71934-04-22 02:37 J -24552359.49 -24552359.39 -24552359.29 0.2723 0.0880

Earth -71934-04-22 03:06 J -24552359.47 -24552359.37 -24552359.27 0.2719 0.0869 *

Uranus -71934-10-16 08:23 J -24552182.15 -24552182.15 -24552182.15 0.0135 0.0135

Uranus -71933-01-12 11:01 J -24552094.09 -24552094.04 -24552093.96 0.0135 0.0120

Uranus -71933-04-09 14:23 J -24552005.98 -24552005.90 -24552005.81 0.0135 0.0102

Jupiter -71933-05-26 04:04 J -24551959.52 -24551959.33 -24551959.14 0.0496 0.0033

Uranus -71933-07-06 17:30 J -24551917.87 -24551917.77 -24551917.67 0.0136 0.0086

Uranus -71933-10-02 20:23 J -24551829.76 -24551829.65 -24551829.53 0.0136 0.0070

Uranus -71933-12-29 23:30 J -24551741.64 -24551741.52 -24551741.40 0.0136 0.0053

Uranus -71932-03-28 02:37 J -24551653.51 -24551653.39 -24551653.26 0.0136 0.0036

Uranus -71932-06-24 05:45 J -24551565.39 -24551565.26 -24551565.13 0.0136 0.0019

Uranus -71932-09-20 08:52 J -24551477.26 -24551477.13 -24551477.00 0.0136 0.0002

Uranus -71932-12-17 11:59 J -24551389.13 -24551389.00 -24551388.87 0.0136 0.0015

Saturn -71931-01-28 11:45 J -24551347.13 -24551347.01 -24551346.88 0.0266 0.0205

Uranus -71931-03-15 15:06 J -24551301.00 -24551300.87 -24551300.74 0.0136 0.0032

Saturn -71931-04-27 10:04 J -24551258.27 -24551258.08 -24551257.89 0.0267 0.0064

Mars -71931-04-30 17:01 J -24551254.88 -24551254.79 -24551254.69 0.1588 0.1284

Uranus -71931-06-11 18:13 J -24551212.86 -24551212.74 -24551212.62 0.0137 0.0049

Saturn -71931-07-25 08:23 J -24551169.33 -24551169.15 -24551168.96 0.0268 0.0079

Uranus -71931-09-07 21:21 J -24551124.72 -24551124.61 -24551124.49 0.0137 0.0066

Moon -71931-10-18 22:04 J -24551083.74 -24551083.58 -24551083.43 0.2611 0.0751

Earth -71931-10-18 23:30 J -24551083.68 -24551083.52 -24551083.36 0.2615 0.0544 *

Saturn -71931-10-22 06:42 J -24551080.32 -24551080.22 -24551080.11 0.0269 0.0223

Uranus -71931-12-05 00:28 J -24551036.58 -24551036.48 -24551036.37 0.0137 0.0084

Uranus -71930-03-03 03:49 J -24550948.43 -24550948.34 -24550948.25 0.0137 0.0101

Uranus -71930-05-30 06:42 J -24550860.27 -24550860.22 -24550860.14 0.0137 0.0119

Uranus -71930-08-26 10:04 J -24550772.08 -24550772.08 -24550772.06 0.0137 0.0136

Mars -71928-02-02 21:35 J -24550245.67 -24550245.60 -24550245.52 0.1957 0.1427

Jupiter -71927-01-19 00:28 J -24549895.56 -24549895.48 -24549895.40 0.0530 0.0411

Jupiter -71927-04-18 06:13 J -24549806.36 -24549806.24 -24549806.11 0.0529 0.0048

Jupiter -71927-07-16 12:28 J -24549717.02 -24549716.98 -24549716.95 0.0529 0.0508

Venus -71926-05-31 17:45 J -24549397.89 -24549397.76 -24549397.64 0.3575 0.1845

Mars -71922-09-20 18:57 J -24547824.87 -24547824.71 -24547824.54 0.1585 0.0387

Jupiter -71921-03-14 00:57 J -24547649.64 -24547649.46 -24547649.28 0.0496 0.0112

Moon -71921-04-23 20:37 J -24547608.74 -24547608.64 -24547608.53 0.2728 0.0252

Earth -71921-04-23 20:52 J -24547608.74 -24547608.63 -24547608.53 0.2721 0.0310 *

Jupiter -71921-06-12 11:30 J -24547559.08 -24547559.02 -24547558.96 0.0497 0.0466

Venus -71921-12-14 21:35 J -24547373.74 -24547373.60 -24547373.46 0.3577 0.0920

Mars -71919-06-26 05:16 J -24546815.39 -24546815.28 -24546815.17 0.1962 0.0384

Saturn -71918-09-07 05:59 J -24546377.34 -24546377.25 -24546377.15 0.0296 0.0191

Moon -71918-10-22 06:13 J -24546332.36 -24546332.24 -24546332.13 0.2614 0.1795

Earth -71918-10-22 07:54 J -24546332.28 -24546332.17 -24546332.06 0.2613 0.1875 *

Saturn -71918-12-04 17:59 J -24546288.87 -24546288.75 -24546288.62 0.0295 0.0064

Saturn -71917-03-02 05:59 J -24546200.38 -24546200.25 -24546200.12 0.0294 0.0063

Saturn -71917-05-29 17:45 J -24546111.85 -24546111.76 -24546111.66 0.0293 0.0188

Jupiter -71916-11-07 04:47 J -24545585.32 -24545585.30 -24545585.28 0.0530 0.0522

Jupiter -71915-02-04 10:33 J -24545496.18 -24545496.06 -24545495.93 0.0530 0.0067

Jupiter -71915-05-04 16:33 J -24545406.89 -24545406.81 -24545406.72 0.0529 0.0398

Venus -71915-07-01 00:57 J -24545349.48 -24545349.46 -24545349.45 0.3580 0.3554

Mars -71912-02-09 20:52 J -24544394.79 -24544394.63 -24544394.47 0.1582 0.0510

Mars -71910-11-16 12:57 J -24543385.07 -24543384.96 -24543384.86 0.1967 0.0658

Jupiter -71910-12-31 21:21 J -24543339.77 -24543339.61 -24543339.45 0.0496 0.0262

Jupiter -71909-03-31 07:54 J -24543249.31 -24543249.17 -24543249.03 0.0496 0.0318

Earth -71908-04-26 14:23 J -24542857.99 -24542857.90 -24542857.81 0.2723 0.1467

Moon -71908-04-26 14:52 J -24542857.97 -24542857.88 -24542857.79 0.2727 0.1575 *

Jupiter -71904-11-23 15:06 J -24541185.99 -24541185.87 -24541185.75 0.0530 0.0176

Jupiter -71903-02-20 21:06 J -24541096.73 -24541096.62 -24541096.51 0.0530 0.0286

Mars -71903-07-02 23:01 J -24540964.62 -24540964.54 -24540964.46 0.1579 0.1391

Saturn -71902-06-17 09:35 J -24540615.16 -24540615.10 -24540615.03 0.0266 0.0250

Saturn -71902-09-14 07:54 J -24540526.35 -24540526.17 -24540525.99 0.0267 0.0110

Saturn -71902-12-12 06:13 J -24540437.43 -24540437.24 -24540437.05 0.0268 0.0032

Saturn -71901-03-10 04:18 J -24540348.45 -24540348.32 -24540348.17 0.0268 0.0176

Moon -71901-04-19 13:40 J -24540308.01 -24540307.93 -24540307.86 0.2718 0.1862

Earth -71901-04-19 14:23 J -24540307.98 -24540307.90 -24540307.82 0.2717 0.1797 *

Venus -71901-04-26 15:21 J -24540300.93 -24540300.86 -24540300.78 0.3806 0.2647

Mars -71900-04-07 20:37 J -24539954.70 -24539954.64 -24539954.59 0.1970 0.1700

Moon -71898-10-16 21:06 J -24539032.66 -24539032.62 -24539032.58 0.2612 0.2530

Earth -71898-10-16 22:04 J -24539032.62 -24539032.58 -24539032.53 0.2617 0.2496 *

Jupiter -71898-10-19 18:13 J -24539029.84 -24539029.74 -24539029.63 0.0496 0.0405

Jupiter -71897-01-18 05:01 J -24538939.46 -24538939.29 -24538939.11 0.0496 0.0176

Venus -71896-11-10 08:23 J -24538277.25 -24538277.15 -24538277.05 0.3804 0.1208

Earth -71895-04-29 08:09 J -24538107.18 -24538107.16 -24538107.14 0.2724 0.2644

Moon -71895-04-29 08:52 J -24538107.14 -24538107.13 -24538107.12 0.2726 0.2709 *

Neptune -71895-12-02 08:23 J -24537890.18 -24537890.15 -24537890.08 0.0089 0.0086

Neptune -71894-02-28 11:59 J -24537802.07 -24537802.00 -24537801.88 0.0089 0.0079

Neptune -71894-05-27 16:04 J -24537713.94 -24537713.83 -24537713.70 0.0089 0.0071

Neptune -71894-08-23 19:54 J -24537625.80 -24537625.67 -24537625.53 0.0089 0.0064

Neptune -71894-11-19 23:30 J -24537537.66 -24537537.52 -24537537.36 0.0089 0.0057

Uranus -71894-11-24 18:57 J -24537532.79 -24537532.71 -24537532.60 0.0143 0.0125

Neptune -71893-02-16 03:06 J -24537449.51 -24537449.37 -24537449.19 0.0089 0.0050

Uranus -71893-02-21 03:49 J -24537444.48 -24537444.34 -24537444.19 0.0143 0.0095

Neptune -71893-05-14 06:57 J -24537361.37 -24537361.21 -24537361.02 0.0089 0.0043

Uranus -71893-05-19 12:13 J -24537356.16 -24537355.99 -24537355.81 0.0143 0.0065

Neptune -71893-08-10 11:01 J -24537273.22 -24537273.04 -24537272.86 0.0089 0.0035

Uranus -71893-08-15 20:37 J -24537267.82 -24537267.64 -24537267.45 0.0143 0.0036

Neptune -71893-11-06 14:37 J -24537185.07 -24537184.89 -24537184.70 0.0089 0.0028

Uranus -71893-11-12 05:01 J -24537179.48 -24537179.29 -24537179.09 0.0143 0.0008

Neptune -71892-02-02 18:28 J -24537096.92 -24537096.73 -24537096.54 0.0089 0.0021

Uranus -71892-02-08 13:25 J -24537091.13 -24537090.94 -24537090.74 0.0143 0.0022

Neptune -71892-05-01 22:04 J -24537008.77 -24537008.58 -24537008.38 0.0089 0.0014

Uranus -71892-05-07 21:49 J -24537002.77 -24537002.59 -24537002.41 0.0142 0.0051

Neptune -71892-07-29 01:54 J -24536920.61 -24536920.42 -24536920.22 0.0089 0.0006

Uranus -71892-08-04 05:59 J -24536914.41 -24536914.25 -24536914.09 0.0142 0.0079

Jupiter -71892-09-11 18:57 J -24536875.81 -24536875.71 -24536875.60 0.0530 0.0295

Neptune -71892-10-25 05:45 J -24536832.46 -24536832.26 -24536832.06 0.0089 0.0001

Mars -71892-10-29 17:45 J -24536827.83 -24536827.76 -24536827.69 0.1588 0.1421

Uranus -71892-10-31 14:23 J -24536826.03 -24536825.90 -24536825.78 0.0142 0.0108

Jupiter -71892-12-10 00:57 J -24536786.58 -24536786.46 -24536786.34 0.0529 0.0165

Neptune -71891-01-21 09:21 J -24536744.30 -24536744.11 -24536743.91 0.0089 0.0009

Uranus -71891-01-27 22:04 J -24536737.62 -24536737.58 -24536737.51 0.0142 0.0136

Neptune -71891-04-19 13:11 J -24536656.14 -24536655.95 -24536655.75 0.0089 0.0015

Neptune -71891-07-16 16:47 J -24536567.98 -24536567.80 -24536567.60 0.0089 0.0023

Neptune -71891-10-12 20:37 J -24536479.82 -24536479.64 -24536479.45 0.0089 0.0030

Neptune -71890-01-09 00:28 J -24536391.66 -24536391.48 -24536391.30 0.0089 0.0037

Neptune -71890-04-07 03:49 J -24536303.50 -24536303.34 -24536303.16 0.0089 0.0045

Venus -71890-05-27 01:40 J -24536253.54 -24536253.43 -24536253.32 0.3802 0.0277

Neptune -71890-07-04 07:25 J -24536215.33 -24536215.19 -24536215.01 0.0089 0.0052

Neptune -71890-09-30 11:16 J -24536127.16 -24536127.03 -24536126.87 0.0089 0.0059

Neptune -71890-12-27 15:06 J -24536038.99 -24536038.87 -24536038.73 0.0089 0.0066

Neptune -71889-03-24 18:57 J -24535950.81 -24535950.71 -24535950.59 0.0089 0.0073

Neptune -71889-06-20 22:47 J -24535862.63 -24535862.55 -24535862.47 0.0089 0.0080

Mars -71889-08-03 21:49 J -24535818.66 -24535818.59 -24535818.53 0.1957 0.1541

Neptune -71889-09-17 01:54 J -24535774.42 -24535774.42 -24535774.36 0.0089 0.0088

Saturn -71888-01-24 08:09 J -24535645.24 -24535645.16 -24535645.08 0.0297 0.0228

Moon -71888-04-22 07:25 J -24535557.29 -24535557.19 -24535557.08 0.2724 0.0734

Earth -71888-04-22 07:54 J -24535557.27 -24535557.17 -24535557.06 0.2719 0.0630 *

Saturn -71888-04-22 20:09 J -24535556.78 -24535556.66 -24535556.53 0.0296 0.0100

Saturn -71888-07-20 08:09 J -24535468.29 -24535468.16 -24535468.03 0.0295 0.0029

Saturn -71888-10-16 20:09 J -24535379.77 -24535379.66 -24535379.55 0.0294 0.0154

Saturn -71887-01-13 07:54 J -24535291.21 -24535291.17 -24535291.13 0.0293 0.0278

Jupiter -71886-11-06 02:09 J -24534629.60 -24534629.41 -24534629.23 0.0497 0.0033

Moon -71885-10-19 04:47 J -24534281.46 -24534281.30 -24534281.13 0.2611 0.0206

Earth -71885-10-19 06:28 J -24534281.39 -24534281.23 -24534281.07 0.2615 0.0072 *

Venus -71885-12-09 18:57 J -24534229.80 -24534229.71 -24534229.61 0.3800 0.1781

Mars -71882-03-21 19:40 J -24533397.84 -24533397.68 -24533397.52 0.1585 0.0524

Jupiter -71880-06-30 23:16 J -24532565.61 -24532565.53 -24532565.45 0.0529 0.0408

Jupiter -71880-09-28 05:01 J -24532476.41 -24532476.29 -24532476.16 0.0529 0.0051

Mars -71880-12-25 05:16 J -24532388.39 -24532388.28 -24532388.17 0.1962 0.0496

Jupiter -71880-12-26 11:01 J -24532387.06 -24532387.04 -24532387.00 0.0528 0.0510

Venus -71879-06-25 12:28 J -24532206.03 -24532205.98 -24532205.93 0.3797 0.3309

Moon -71875-04-25 01:25 J -24530806.54 -24530806.44 -24530806.33 0.2728 0.0612

Earth -71875-04-25 01:40 J -24530806.54 -24530806.43 -24530806.33 0.2721 0.0545 *

Jupiter -71874-08-24 23:01 J -24530319.72 -24530319.54 -24530319.35 0.0496 0.0112

Jupiter -71874-11-23 09:35 J -24530229.15 -24530229.10 -24530229.03 0.0497 0.0468

Mars -71873-08-10 21:49 J -24529967.76 -24529967.59 -24529967.43 0.1582 0.0366

Saturn -71872-01-31 07:11 J -24529794.36 -24529794.20 -24529794.04 0.0266 0.0146

Saturn -71872-04-30 05:30 J -24529705.46 -24529705.27 -24529705.08 0.0267 0.0005

Saturn -71872-07-28 03:49 J -24529616.50 -24529616.34 -24529616.18 0.0268 0.0138

Moon -71872-10-22 12:57 J -24529530.06 -24529529.96 -24529529.87 0.2615 0.2092

Earth -71872-10-22 14:37 J -24529529.96 -24529529.89 -24529529.82 0.2612 0.2339 *

Mars -71870-05-17 12:57 J -24528958.07 -24528957.96 -24528957.85 0.1966 0.0543

Venus -71869-01-05 18:28 J -24528724.87 -24528724.73 -24528724.59 0.3575 0.0907

Jupiter -71868-04-19 03:06 J -24528255.38 -24528255.37 -24528255.35 0.0530 0.0525

Jupiter -71868-07-17 09:06 J -24528166.25 -24528166.12 -24528166.00 0.0529 0.0069

Jupiter -71868-10-14 15:06 J -24528076.96 -24528076.87 -24528076.79 0.0529 0.0392

Venus -71864-07-21 22:18 J -24526700.70 -24526700.57 -24526700.45 0.3578 0.1824

Mars -71864-12-31 23:45 J -24526537.61 -24526537.51 -24526537.41 0.1579 0.1256

Earth -71862-04-27 19:11 J -24526055.78 -24526055.70 -24526055.61 0.2723 0.1711

Moon -71862-04-27 19:54 J -24526055.76 -24526055.67 -24526055.59 0.2727 0.1722 *

Jupiter -71862-06-12 20:09 J -24526009.82 -24526009.66 -24526009.50 0.0496 0.0255

Jupiter -71862-09-11 06:57 J -24525919.35 -24525919.21 -24525919.07 0.0497 0.0326

Pluto -71861-01-08 05:45 J -24525800.30 -24525800.26 -24525800.20 0.0084 0.0078

Pluto -71861-04-05 07:11 J -24525712.27 -24525712.20 -24525712.10 0.0084 0.0067

Pluto -71861-07-02 08:37 J -24525624.23 -24525624.14 -24525624.02 0.0084 0.0056

Pluto -71861-09-28 10:18 J -24525536.18 -24525536.07 -24525535.95 0.0084 0.0045

Mars -71861-10-06 20:23 J -24525527.71 -24525527.65 -24525527.58 0.1970 0.1602

Pluto -71861-12-25 11:45 J -24525448.13 -24525448.01 -24525447.88 0.0084 0.0034

Pluto -71860-03-23 13:11 J -24525360.08 -24525359.95 -24525359.81 0.0084 0.0023

Pluto -71860-06-19 14:37 J -24525272.02 -24525271.89 -24525271.75 0.0083 0.0012

Pluto -71860-09-15 16:04 J -24525183.97 -24525183.83 -24525183.69 0.0083 0.0002

Pluto -71860-12-12 17:30 J -24525095.91 -24525095.77 -24525095.63 0.0083 0.0009

Pluto -71859-03-10 18:57 J -24525007.85 -24525007.71 -24525007.58 0.0083 0.0019

Pluto -71859-06-06 20:09 J -24524919.78 -24524919.66 -24524919.53 0.0083 0.0030

Saturn -71859-06-13 10:18 J -24524913.12 -24524913.07 -24524913.01 0.0297 0.0265

Pluto -71859-09-02 21:35 J -24524831.72 -24524831.60 -24524831.48 0.0083 0.0040

Saturn -71859-09-09 22:18 J -24524824.68 -24524824.57 -24524824.45 0.0296 0.0137

Pluto -71859-11-29 22:47 J -24524743.65 -24524743.55 -24524743.43 0.0083 0.0051

Saturn -71859-12-07 10:18 J -24524736.20 -24524736.07 -24524735.94 0.0295 0.0010

Pluto -71858-02-26 00:13 J -24524655.58 -24524655.49 -24524655.39 0.0083 0.0061

Saturn -71858-03-05 22:18 J -24524647.69 -24524647.57 -24524647.45 0.0294 0.0117

Pluto -71858-05-25 01:25 J -24524567.50 -24524567.44 -24524567.36 0.0082 0.0071

Saturn -71858-06-02 10:04 J -24524559.15 -24524559.08 -24524559.01 0.0293 0.0241

Pluto -71858-08-21 02:52 J -24524479.40 -24524479.38 -24524479.35 0.0082 0.0081

Jupiter -71856-05-05 13:25 J -24523856.06 -24523855.94 -24523855.82 0.0530 0.0180

Jupiter -71856-08-02 19:25 J -24523766.80 -24523766.69 -24523766.58 0.0529 0.0281

Moon -71855-04-20 18:28 J -24523505.82 -24523505.73 -24523505.65 0.2718 0.1656

Earth -71855-04-20 19:11 J -24523505.79 -24523505.70 -24523505.62 0.2718 0.1561 *

Mars -71852-04-29 18:13 J -24522400.77 -24522400.74 -24522400.70 0.1588 0.1550

Moon -71852-10-17 03:35 J -24522230.43 -24522230.35 -24522230.26 0.2611 0.2223

Earth -71852-10-17 04:47 J -24522230.40 -24522230.30 -24522230.19 0.2616 0.2029 *

Jupiter -71850-03-31 16:33 J -24521699.91 -24521699.81 -24521699.69 0.0496 0.0403

Venus -71850-05-18 20:23 J -24521651.69 -24521651.65 -24521651.62 0.3808 0.3578

Jupiter -71850-06-30 03:35 J -24521609.53 -24521609.35 -24521609.18 0.0496 0.0179

Uranus -71850-11-05 14:37 J -24521480.89 -24521480.89 -24521480.86 0.0135 0.0134

Uranus -71849-02-01 17:59 J -24521392.81 -24521392.75 -24521392.69 0.0135 0.0118

Mars -71849-02-02 21:35 J -24521391.66 -24521391.60 -24521391.54 0.1957 0.1640

Uranus -71849-04-29 20:52 J -24521304.71 -24521304.63 -24521304.54 0.0135 0.0101

Uranus -71849-07-26 23:59 J -24521216.60 -24521216.50 -24521216.40 0.0135 0.0085

Uranus -71849-10-23 02:52 J -24521128.48 -24521128.38 -24521128.26 0.0136 0.0069

Uranus -71848-01-19 06:13 J -24521040.36 -24521040.24 -24521040.12 0.0136 0.0052

Uranus -71848-04-17 09:21 J -24520952.24 -24520952.11 -24520951.99 0.0136 0.0035

Uranus -71848-07-14 12:13 J -24520864.12 -24520863.99 -24520863.85 0.0136 0.0019

Uranus -71848-10-10 15:21 J -24520775.99 -24520775.86 -24520775.72 0.0136 0.0004

Uranus -71847-01-06 18:28 J -24520687.86 -24520687.73 -24520687.60 0.0136 0.0016

Uranus -71847-04-04 21:35 J -24520599.72 -24520599.60 -24520599.47 0.0136 0.0033

Uranus -71847-07-02 00:42 J -24520511.59 -24520511.47 -24520511.34 0.0136 0.0050

Uranus -71847-09-28 03:49 J -24520423.45 -24520423.34 -24520423.22 0.0137 0.0068

Uranus -71847-12-25 07:11 J -24520335.30 -24520335.20 -24520335.10 0.0137 0.0085

Uranus -71846-03-23 10:18 J -24520247.15 -24520247.07 -24520246.98 0.0137 0.0102

Uranus -71846-06-19 13:25 J -24520159.00 -24520158.94 -24520158.87 0.0137 0.0120

Venus -71845-12-01 13:11 J -24519628.03 -24519627.95 -24519627.86 0.3806 0.2152

Jupiter -71844-02-21 17:59 J -24519545.86 -24519545.75 -24519545.65 0.0530 0.0291

Jupiter -71844-05-21 23:59 J -24519456.62 -24519456.50 -24519456.38 0.0530 0.0171

Saturn -71843-06-20 04:33 J -24519062.44 -24519062.31 -24519062.18 0.0266 0.0195

Saturn -71843-09-17 02:37 J -24518973.57 -24518973.39 -24518973.20 0.0267 0.0055

Mars -71843-09-19 20:23 J -24518970.80 -24518970.65 -24518970.49 0.1585 0.0661

Saturn -71843-12-15 00:57 J -24518884.64 -24518884.46 -24518884.28 0.0268 0.0088

Saturn -71842-03-13 23:16 J -24518795.62 -24518795.53 -24518795.43 0.0268 0.0231

Moon -71842-04-23 12:28 J -24518755.09 -24518754.98 -24518754.88 0.2726 0.0417

Earth -71842-04-23 12:42 J -24518755.08 -24518754.97 -24518754.86 0.2719 0.0394 *

Mars -71840-06-25 05:30 J -24517961.38 -24517961.27 -24517961.17 0.1962 0.0626

Venus -71839-06-17 06:13 J -24517604.34 -24517604.24 -24517604.13 0.3804 0.0712

Moon -71839-10-20 11:30 J -24517479.18 -24517479.02 -24517478.86 0.2613 0.0247

Earth -71839-10-20 13:11 J -24517479.11 -24517478.95 -24517478.79 0.2614 0.0400 *

Jupiter -71838-04-18 00:42 J -24517299.65 -24517299.47 -24517299.28 0.0496 0.0038

Venus -71834-12-31 23:30 J -24515580.62 -24515580.52 -24515580.41 0.3801 0.0801

Mars -71833-02-09 22:33 J -24515540.73 -24515540.56 -24515540.40 0.1582 0.0231

Jupiter -71833-12-10 22:04 J -24515235.66 -24515235.58 -24515235.50 0.0530 0.0406

Jupiter -71832-03-10 03:49 J -24515146.46 -24515146.34 -24515146.21 0.0529 0.0057

Jupiter -71832-06-07 10:04 J -24515057.11 -24515057.08 -24515057.06 0.0529 0.0513

Mars -71831-11-15 12:57 J -24514531.07 -24514530.96 -24514530.85 0.1966 0.0435

Saturn -71829-01-27 23:59 J -24514092.60 -24514092.50 -24514092.39 0.0297 0.0178

Earth -71829-04-25 06:28 J -24514004.34 -24514004.23 -24514004.13 0.2721 0.0782

Moon -71829-04-25 06:28 J -24514004.33 -24514004.23 -24514004.13 0.2728 0.0739 *

Saturn -71829-04-25 12:13 J -24514004.12 -24514003.99 -24514003.86 0.0296 0.0049

Saturn -71829-07-22 23:59 J -24513915.62 -24513915.50 -24513915.37 0.0295 0.0079

Saturn -71829-10-19 11:59 J -24513827.09 -24513827.00 -24513826.91 0.0294 0.0204

Venus -71828-07-16 17:01 J -24513556.88 -24513556.79 -24513556.71 0.3799 0.2314

Jupiter -71826-02-03 21:35 J -24512989.79 -24512989.60 -24512989.42 0.0497 0.0110

Jupiter -71826-05-05 08:09 J -24512899.21 -24512899.16 -24512899.10 0.0497 0.0471

Mars -71824-07-02 00:28 J -24512110.60 -24512110.48 -24512110.36 0.1579 0.1118

Moon -71822-04-19 05:30 J -24511454.31 -24511454.27 -24511454.23 0.2713 0.2506

Earth -71822-04-19 06:13 J -24511454.28 -24511454.24 -24511454.20 0.2716 0.2478 *

Mars -71821-04-06 20:23 J -24511100.72 -24511100.65 -24511100.57 0.1970 0.1487

Jupiter -71821-09-29 02:23 J -24510925.42 -24510925.40 -24510925.38 0.0529 0.0517

Jupiter -71821-12-27 08:09 J -24510836.28 -24510836.16 -24510836.03 0.0529 0.0062

Jupiter -71820-03-26 14:09 J -24510746.99 -24510746.91 -24510746.83 0.0529 0.0399

Venus -71818-01-26 15:21 J -24510075.95 -24510075.86 -24510075.77 0.3574 0.2786

Earth -71816-04-27 23:59 J -24509253.57 -24509253.50 -24509253.42 0.2723 0.1949

Moon -71816-04-28 00:42 J -24509253.54 -24509253.47 -24509253.41 0.2727 0.2093 *

Jupiter -71815-11-22 18:42 J -24508679.88 -24508679.72 -24508679.56 0.0497 0.0252

Jupiter -71814-02-21 05:30 J -24508589.41 -24508589.27 -24508589.13 0.0497 0.0331

Saturn -71814-11-07 03:21 J -24508330.44 -24508330.36 -24508330.26 0.0265 0.0233

Saturn -71813-02-04 01:25 J -24508241.61 -24508241.44 -24508241.25 0.0266 0.0095

Saturn -71813-05-02 23:45 J -24508152.69 -24508152.51 -24508152.32 0.0267 0.0048

Neptune -71813-06-12 11:30 J -24508112.06 -24508112.02 -24508111.98 0.0089 0.0084

Saturn -71813-07-30 22:04 J -24508063.71 -24508063.58 -24508063.44 0.0268 0.0190

Venus -71813-08-11 19:25 J -24508051.84 -24508051.69 -24508051.55 0.3576 0.0112

Neptune -71813-09-08 12:28 J -24508024.02 -24508023.98 -24508023.91 0.0089 0.0080

Neptune -71813-12-05 13:54 J -24507935.98 -24507935.92 -24507935.84 0.0089 0.0075

Neptune -71812-03-03 15:21 J -24507847.93 -24507847.86 -24507847.77 0.0089 0.0070

Neptune -71812-05-30 16:33 J -24507759.89 -24507759.81 -24507759.71 0.0089 0.0065

Neptune -71812-08-26 17:59 J -24507671.84 -24507671.75 -24507671.65 0.0089 0.0060

Neptune -71812-11-22 19:25 J -24507583.79 -24507583.69 -24507583.59 0.0089 0.0055

Neptune -71811-02-18 20:23 J -24507495.75 -24507495.65 -24507495.53 0.0089 0.0051

Neptune -71811-05-17 21:49 J -24507407.70 -24507407.59 -24507407.47 0.0089 0.0046

Neptune -71811-08-13 23:01 J -24507319.65 -24507319.54 -24507319.41 0.0089 0.0041

Neptune -71811-11-10 00:28 J -24507231.60 -24507231.48 -24507231.36 0.0089 0.0036

Neptune -71810-02-06 01:54 J -24507143.55 -24507143.42 -24507143.30 0.0089 0.0031

Neptune -71810-05-05 03:06 J -24507055.49 -24507055.37 -24507055.24 0.0089 0.0026

Neptune -71810-08-01 04:18 J -24506967.44 -24506967.32 -24506967.19 0.0089 0.0022

Mars -71810-08-03 21:49 J -24506964.64 -24506964.59 -24506964.55 0.1957 0.1765

Neptune -71810-10-28 05:45 J -24506879.39 -24506879.26 -24506879.13 0.0089 0.0016

Uranus -71810-12-15 00:42 J -24506831.56 -24506831.47 -24506831.37 0.0143 0.0124

Neptune -71809-01-24 06:57 J -24506791.34 -24506791.21 -24506791.08 0.0089 0.0012

Uranus -71809-03-12 09:06 J -24506743.26 -24506743.12 -24506742.96 0.0143 0.0094

Moon -71809-04-20 23:16 J -24506703.62 -24506703.53 -24506703.44 0.2720 0.1411

Earth -71809-04-20 23:59 J -24506703.60 -24506703.50 -24506703.41 0.2718 0.1326 *

Neptune -71809-04-21 08:23 J -24506703.28 -24506703.15 -24506703.02 0.0089 0.0007

Uranus -71809-06-08 17:30 J -24506654.93 -24506654.77 -24506654.58 0.0143 0.0065

Neptune -71809-07-18 09:35 J -24506615.23 -24506615.10 -24506614.97 0.0089 0.0002

Uranus -71809-09-05 02:09 J -24506566.59 -24506566.41 -24506566.22 0.0143 0.0035

Neptune -71809-10-14 11:01 J -24506527.18 -24506527.04 -24506526.91 0.0089 0.0004

Jupiter -71809-10-15 12:13 J -24506526.11 -24506525.99 -24506525.87 0.0529 0.0179

Uranus -71809-12-02 10:33 J -24506478.25 -24506478.06 -24506477.86 0.0143 0.0007

Neptune -71808-01-10 12:13 J -24506439.12 -24506438.99 -24506438.86 0.0089 0.0008

Jupiter -71808-01-12 17:59 J -24506436.85 -24506436.75 -24506436.64 0.0529 0.0282

Uranus -71808-02-28 18:57 J -24506389.90 -24506389.71 -24506389.52 0.0143 0.0023

Neptune -71808-04-08 13:25 J -24506351.07 -24506350.94 -24506350.80 0.0089 0.0013

Uranus -71808-05-28 03:21 J -24506301.54 -24506301.36 -24506301.18 0.0142 0.0052

Neptune -71808-07-05 14:52 J -24506263.01 -24506262.88 -24506262.75 0.0089 0.0018

Uranus -71808-08-24 11:30 J -24506213.17 -24506213.02 -24506212.86 0.0142 0.0080

Neptune -71808-10-01 16:04 J -24506174.95 -24506174.83 -24506174.70 0.0089 0.0023

Uranus -71808-11-20 19:40 J -24506124.80 -24506124.68 -24506124.55 0.0142 0.0109

Neptune -71808-12-28 17:16 J -24506086.90 -24506086.78 -24506086.65 0.0089 0.0028

Uranus -71807-02-17 04:04 J -24506036.38 -24506036.33 -24506036.28 0.0142 0.0136

Venus -71807-02-25 22:47 J -24506027.64 -24506027.55 -24506027.45 0.3579 0.2722

Neptune -71807-03-26 18:42 J -24505998.84 -24505998.72 -24505998.60 0.0089 0.0032

Neptune -71807-06-22 19:54 J -24505910.78 -24505910.67 -24505910.55 0.0089 0.0037

Neptune -71807-09-18 21:21 J -24505822.73 -24505822.61 -24505822.49 0.0089 0.0042

Neptune -71807-12-15 22:33 J -24505734.67 -24505734.56 -24505734.45 0.0089 0.0047

Neptune -71806-03-13 23:45 J -24505646.61 -24505646.51 -24505646.40 0.0089 0.0052

Neptune -71806-06-10 00:57 J -24505558.55 -24505558.46 -24505558.35 0.0089 0.0057

Neptune -71806-09-06 02:09 J -24505470.49 -24505470.41 -24505470.30 0.0089 0.0062

Moon -71806-10-18 10:33 J -24505428.19 -24505428.06 -24505427.93 0.2611 0.1580

Earth -71806-10-18 11:45 J -24505428.14 -24505428.01 -24505427.88 0.2616 0.1559 *

Neptune -71806-12-03 03:49 J -24505382.43 -24505382.34 -24505382.25 0.0089 0.0066

Neptune -71805-02-29 05:01 J -24505294.36 -24505294.29 -24505294.21 0.0089 0.0071

Neptune -71805-05-27 06:13 J -24505206.30 -24505206.24 -24505206.16 0.0089 0.0076

Neptune -71805-08-23 07:25 J -24505118.23 -24505118.19 -24505118.12 0.0089 0.0081

Neptune -71805-11-19 08:52 J -24505030.15 -24505030.13 -24505030.09 0.0089 0.0086

Mars -71803-03-20 21:06 J -24504543.76 -24504543.62 -24504543.47 0.1585 0.0798

Jupiter -71803-09-10 15:35 J -24504369.95 -24504369.85 -24504369.73 0.0496 0.0395

Jupiter -71803-12-10 02:37 J -24504279.56 -24504279.39 -24504279.21 0.0497 0.0190

Mars -71801-12-24 05:16 J -24503534.39 -24503534.28 -24503534.17 0.1962 0.0717

Saturn -71800-06-16 01:40 J -24503360.51 -24503360.43 -24503360.34 0.0297 0.0220

Saturn -71800-09-12 13:54 J -24503272.05 -24503271.92 -24503271.80 0.0296 0.0091

Saturn -71800-12-10 01:54 J -24503183.55 -24503183.42 -24503183.30 0.0295 0.0037

Saturn -71799-03-08 13:40 J -24503095.03 -24503094.93 -24503094.82 0.0294 0.0162

Saturn -71799-06-05 01:40 J -24503006.46 -24503006.43 -24503006.41 0.0293 0.0286

Jupiter -71797-08-03 16:33 J -24502215.91 -24502215.81 -24502215.70 0.0530 0.0291

Jupiter -71797-10-31 22:33 J -24502126.68 -24502126.56 -24502126.44 0.0529 0.0170

Moon -71796-04-23 17:16 J -24501952.89 -24501952.78 -24501952.68 0.2726 0.0233

Earth -71796-04-23 17:30 J -24501952.88 -24501952.77 -24501952.66 0.2720 0.0156 *

Mars -71794-08-10 23:01 J -24501113.71 -24501113.54 -24501113.37 0.1582 0.0099

Venus -71794-12-23 17:59 J -24500978.80 -24500978.75 -24500978.69 0.3807 0.3094

Moon -71793-10-20 18:13 J -24500676.90 -24500676.74 -24500676.58 0.2614 0.0623

Earth -71793-10-20 20:09 J -24500676.82 -24500676.66 -24500676.51 0.2614 0.0866 *

Mars -71791-05-16 12:57 J -24500104.07 -24500103.96 -24500103.85 0.1967 0.0324

Jupiter -71791-09-27 23:30 J -24499969.70 -24499969.52 -24499969.33 0.0496 0.0044

Venus -71788-07-08 11:01 J -24498955.13 -24498955.04 -24498954.94 0.3805 0.1655

Jupiter -71785-05-22 21:06 J -24497905.70 -24497905.62 -24497905.54 0.0530 0.0400

Jupiter -71785-08-20 02:52 J -24497816.50 -24497816.38 -24497816.25 0.0530 0.0063

Jupiter -71785-11-17 09:06 J -24497727.14 -24497727.12 -24497727.10 0.0529 0.0521

Mars -71785-12-31 01:11 J -24497683.58 -24497683.45 -24497683.32 0.1580 0.0980

Saturn -71784-06-22 22:18 J -24497509.72 -24497509.57 -24497509.40 0.0266 0.0146

Saturn -71784-09-19 20:37 J -24497420.83 -24497420.64 -24497420.45 0.0267 0.0006

Saturn -71784-12-17 18:42 J -24497331.88 -24497331.72 -24497331.55 0.0267 0.0137

Earth -71783-04-26 11:16 J -24497202.13 -24497202.03 -24497201.93 0.2721 0.1017

Moon -71783-04-26 11:30 J -24497202.12 -24497202.02 -24497201.93 0.2728 0.1088 *

Venus -71782-01-22 04:18 J -24496931.43 -24496931.32 -24496931.22 0.3803 0.0216

Mars -71782-10-06 20:37 J -24496673.72 -24496673.64 -24496673.56 0.1970 0.1366

Jupiter -71779-07-16 20:52 J -24495659.82 -24495659.63 -24495659.45 0.0496 0.0098

Jupiter -71779-10-15 07:11 J -24495569.23 -24495569.20 -24495569.15 0.0497 0.0482

Venus -71777-08-06 21:35 J -24494907.70 -24494907.60 -24494907.51 0.3801 0.1326

Moon -71776-04-19 10:18 J -24494652.12 -24494652.07 -24494652.02 0.2713 0.2377

Earth -71776-04-19 11:01 J -24494652.10 -24494652.04 -24494651.98 0.2716 0.2242 *

Jupiter -71773-03-11 01:25 J -24493595.47 -24493595.44 -24493595.41 0.0529 0.0512

Jupiter -71773-06-08 07:11 J -24493506.32 -24493506.20 -24493506.07 0.0529 0.0056

Jupiter -71773-09-05 13:11 J -24493417.03 -24493416.95 -24493416.87 0.0529 0.0404

Venus -71771-02-20 14:52 J -24492883.95 -24492883.88 -24492883.81 0.3799 0.2839

Saturn -71771-11-03 02:52 J -24492628.43 -24492628.38 -24492628.32 0.0298 0.0266

Saturn -71770-01-30 15:06 J -24492539.98 -24492539.87 -24492539.75 0.0297 0.0136

Mars -71770-02-01 21:49 J -24492537.62 -24492537.59 -24492537.56 0.1957 0.1874

Saturn -71770-04-29 03:06 J -24492451.50 -24492451.37 -24492451.24 0.0296 0.0010

Earth -71770-04-29 04:47 J -24492451.36 -24492451.30 -24492451.23 0.2723 0.2188 *

Moon -71770-04-29 05:30 J -24492451.33 -24492451.27 -24492451.21 0.2727 0.2200 *

Saturn -71770-07-26 15:06 J -24492362.99 -24492362.87 -24492362.75 0.0295 0.0119

Saturn -71770-10-23 02:52 J -24492274.44 -24492274.38 -24492274.30 0.0294 0.0245

Jupiter -71767-05-04 17:16 J -24491349.94 -24491349.78 -24491349.61 0.0497 0.0247

Jupiter -71767-08-03 04:04 J -24491259.46 -24491259.33 -24491259.19 0.0497 0.0337

Uranus -71766-11-25 21:49 J -24490779.61 -24490779.59 -24490779.56 0.0135 0.0131

Uranus -71765-02-22 00:42 J -24490691.53 -24490691.47 -24490691.39 0.0135 0.0115

Uranus -71765-05-20 03:49 J -24490603.42 -24490603.34 -24490603.24 0.0135 0.0099

Uranus -71765-08-16 06:57 J -24490515.31 -24490515.21 -24490515.10 0.0135 0.0082

Uranus -71765-11-12 10:04 J -24490427.19 -24490427.08 -24490426.96 0.0136 0.0065

Uranus -71764-02-08 13:11 J -24490339.07 -24490338.95 -24490338.83 0.0136 0.0049

Uranus -71764-05-07 16:18 J -24490250.95 -24490250.82 -24490250.69 0.0136 0.0032

Uranus -71764-08-03 19:25 J -24490162.82 -24490162.69 -24490162.56 0.0136 0.0015

Mars -71764-09-18 21:49 J -24490116.72 -24490116.59 -24490116.45 0.1585 0.0938

Uranus -71764-10-30 22:33 J -24490074.69 -24490074.56 -24490074.43 0.0136 0.0004

Uranus -71763-01-27 01:40 J -24489986.56 -24489986.43 -24489986.30 0.0136 0.0019

Moon -71763-04-22 04:04 J -24489901.43 -24489901.33 -24489901.23 0.2722 0.1117

Earth -71763-04-22 04:33 J -24489901.40 -24489901.31 -24489901.21 0.2718 0.1088 *

Uranus -71763-04-25 04:33 J -24489898.43 -24489898.31 -24489898.18 0.0136 0.0037

Uranus -71763-07-22 07:54 J -24489810.29 -24489810.17 -24489810.05 0.0136 0.0053

Uranus -71763-10-18 11:01 J -24489722.15 -24489722.04 -24489721.93 0.0137 0.0071

Uranus -71762-01-14 14:09 J -24489634.01 -24489633.91 -24489633.81 0.0137 0.0088

Uranus -71762-04-12 17:16 J -24489545.86 -24489545.78 -24489545.69 0.0137 0.0106

Uranus -71762-07-09 20:23 J -24489457.70 -24489457.65 -24489457.59 0.0137 0.0123

Venus -71762-09-02 16:04 J -24489402.95 -24489402.83 -24489402.70 0.3574 0.1847

Jupiter -71761-03-27 11:30 J -24489196.14 -24489196.02 -24489195.90 0.0529 0.0168

Mars -71761-06-24 05:16 J -24489107.38 -24489107.28 -24489107.18 0.1962 0.0836

Jupiter -71761-06-24 17:30 J -24489106.88 -24489106.77 -24489106.67 0.0529 0.0292

Moon -71760-10-18 17:16 J -24488625.92 -24488625.78 -24488625.64 0.2612 0.1321

Earth -71760-10-18 18:28 J -24488625.88 -24488625.73 -24488625.58 0.2616 0.1092 *

Venus -71756-03-18 20:09 J -24487378.80 -24487378.66 -24487378.52 0.3577 0.0946

Jupiter -71755-02-20 14:37 J -24487040.01 -24487039.89 -24487039.78 0.0497 0.0388

Jupiter -71755-05-22 01:40 J -24486949.60 -24486949.43 -24486949.26 0.0497 0.0197

Saturn -71755-11-09 20:52 J -24486777.76 -24486777.63 -24486777.49 0.0265 0.0187

Saturn -71754-02-06 18:57 J -24486688.90 -24486688.71 -24486688.52 0.0266 0.0048

Mars -71754-02-08 23:59 J -24486686.67 -24486686.50 -24486686.33 0.1582 0.0055

Saturn -71754-05-06 17:01 J -24486599.96 -24486599.79 -24486599.60 0.0267 0.0094

Saturn -71754-08-03 15:21 J -24486510.94 -24486510.86 -24486510.77 0.0268 0.0236

Mars -71752-11-14 12:57 J -24485677.07 -24485676.96 -24485676.85 0.1966 0.0210

Moon -71750-04-24 22:04 J -24485150.69 -24485150.58 -24485150.47 0.2726 0.0063

Earth -71750-04-24 22:18 J -24485150.68 -24485150.57 -24485150.46 0.2720 0.0083 *

Jupiter -71749-01-14 15:35 J -24484885.96 -24484885.85 -24484885.74 0.0529 0.0285

Jupiter -71749-04-12 21:21 J -24484796.73 -24484796.61 -24484796.49 0.0529 0.0175

Moon -71747-10-22 00:57 J -24483874.61 -24483874.46 -24483874.32 0.2614 0.1213

Earth -71747-10-22 02:52 J -24483874.52 -24483874.38 -24483874.24 0.2614 0.1326 *

Mars -71745-07-01 01:40 J -24483256.57 -24483256.43 -24483256.28 0.1579 0.0850

Jupiter -71743-03-09 22:47 J -24482639.73 -24482639.55 -24482639.36 0.0497 0.0057

Mars -71742-04-06 20:23 J -24482246.73 -24482246.65 -24482246.56 0.1970 0.1272

Saturn -71741-06-18 16:33 J -24481807.91 -24481807.81 -24481807.70 0.0297 0.0181

Saturn -71741-09-15 04:47 J -24481719.43 -24481719.30 -24481719.18 0.0296 0.0052

Saturn -71741-12-12 16:47 J -24481630.93 -24481630.80 -24481630.68 0.0295 0.0077

Saturn -71740-03-11 04:33 J -24481542.40 -24481542.31 -24481542.21 0.0294 0.0202

Jupiter -71738-11-02 19:54 J -24480575.75 -24480575.67 -24480575.59 0.0530 0.0397

Jupiter -71737-01-31 01:40 J -24480486.55 -24480486.43 -24480486.30 0.0529 0.0066

Earth -71737-04-26 16:04 J -24480399.93 -24480399.83 -24480399.74 0.2722 0.1253

Moon -71737-04-26 16:18 J -24480399.91 -24480399.82 -24480399.72 0.2728 0.1276 *

Jupiter -71737-04-29 07:54 J -24480397.18 -24480397.17 -24480397.16 0.0529 0.0523

Venus -71737-07-29 15:49 J -24480305.91 -24480305.84 -24480305.76 0.3807 0.2602

Jupiter -71732-12-26 19:54 J -24478329.85 -24478329.67 -24478329.49 0.0496 0.0089

Venus -71731-02-12 08:52 J -24478282.23 -24478282.13 -24478282.03 0.3805 0.1154

Jupiter -71731-03-27 06:28 J -24478239.25 -24478239.23 -24478239.21 0.0497 0.0491

Moon -71730-04-20 15:06 J -24477849.94 -24477849.87 -24477849.80 0.2714 0.2025

Earth -71730-04-20 15:49 J -24477849.91 -24477849.84 -24477849.77 0.2716 0.2007 *

Neptune -71730-08-29 07:11 J -24477719.25 -24477719.20 -24477719.11 0.0089 0.0083

Neptune -71730-11-25 11:30 J -24477631.12 -24477631.02 -24477630.92 0.0089 0.0075

Neptune -71729-02-21 15:06 J -24477542.99 -24477542.87 -24477542.74 0.0089 0.0068

Neptune -71729-05-19 18:42 J -24477454.85 -24477454.72 -24477454.56 0.0089 0.0061

Neptune -71729-08-15 22:18 J -24477366.71 -24477366.57 -24477366.39 0.0089 0.0054

Neptune -71729-11-12 02:09 J -24477278.56 -24477278.41 -24477278.23 0.0089 0.0047

Neptune -71728-02-08 06:13 J -24477190.41 -24477190.24 -24477190.06 0.0089 0.0039

Neptune -71728-05-07 09:49 J -24477102.27 -24477102.09 -24477101.90 0.0089 0.0032

Neptune -71728-08-03 13:40 J -24477014.12 -24477013.93 -24477013.74 0.0089 0.0025

Neptune -71728-10-30 17:16 J -24476925.96 -24476925.78 -24476925.58 0.0089 0.0018

Neptune -71727-01-26 21:06 J -24476837.81 -24476837.62 -24476837.42 0.0089 0.0010

Neptune -71727-04-25 00:57 J -24476749.65 -24476749.46 -24476749.26 0.0089 0.0003

Neptune -71727-07-22 04:47 J -24476661.50 -24476661.30 -24476661.10 0.0089 0.0004

Neptune -71727-10-18 08:23 J -24476573.34 -24476573.15 -24476572.95 0.0089 0.0012

Neptune -71726-01-14 12:13 J -24476485.18 -24476484.99 -24476484.80 0.0089 0.0019

Neptune -71726-04-12 15:35 J -24476397.02 -24476396.85 -24476396.65 0.0089 0.0027

Neptune -71726-07-09 19:25 J -24476308.86 -24476308.69 -24476308.50 0.0089 0.0034

Jupiter -71726-08-22 00:28 J -24476265.51 -24476265.48 -24476265.44 0.0530 0.0506

Venus -71726-08-29 02:09 J -24476258.52 -24476258.41 -24476258.31 0.3803 0.0345

Neptune -71726-10-05 23:16 J -24476220.70 -24476220.53 -24476220.35 0.0089 0.0041

Jupiter -71726-11-19 06:13 J -24476176.36 -24476176.24 -24476176.11 0.0530 0.0052

Neptune -71725-01-02 02:52 J -24476132.53 -24476132.38 -24476132.20 0.0089 0.0048

Uranus -71725-01-04 06:57 J -24476130.31 -24476130.21 -24476130.10 0.0143 0.0121

Jupiter -71725-02-16 12:28 J -24476087.06 -24476086.98 -24476086.91 0.0529 0.0414

Saturn -71725-03-28 17:30 J -24476045.85 -24476045.77 -24476045.69 0.0265 0.0240

Neptune -71725-03-30 06:42 J -24476044.37 -24476044.22 -24476044.06 0.0089 0.0055

Uranus -71725-04-01 15:21 J -24476042.00 -24476041.86 -24476041.70 0.0143 0.0091

Saturn -71725-06-25 15:35 J -24475957.03 -24475956.85 -24475956.67 0.0266 0.0101

Neptune -71725-06-26 10:04 J -24475956.19 -24475956.08 -24475955.92 0.0089 0.0063

Uranus -71725-06-28 23:45 J -24475953.67 -24475953.51 -24475953.32 0.0143 0.0062

Saturn -71725-09-22 13:40 J -24475868.12 -24475867.93 -24475867.74 0.0267 0.0039

Neptune -71725-09-22 13:54 J -24475868.02 -24475867.92 -24475867.78 0.0089 0.0070 *

Uranus -71725-09-25 08:23 J -24475865.34 -24475865.15 -24475864.96 0.0143 0.0032

Neptune -71725-12-19 17:45 J -24475779.84 -24475779.76 -24475779.65 0.0089 0.0077

Saturn -71725-12-20 11:45 J -24475779.14 -24475779.01 -24475778.86 0.0267 0.0181

Uranus -71725-12-22 16:47 J -24475776.99 -24475776.80 -24475776.60 0.0143 0.0004

Neptune -71724-03-17 21:21 J -24475691.65 -24475691.61 -24475691.53 0.0089 0.0084

Mars -71724-03-19 22:33 J -24475689.68 -24475689.56 -24475689.44 0.1585 0.1072

Uranus -71724-03-21 01:11 J -24475688.64 -24475688.45 -24475688.26 0.0143 0.0026

Earth -71724-04-29 09:35 J -24475649.14 -24475649.10 -24475649.05 0.2723 0.2424

Moon -71724-04-29 10:18 J -24475649.11 -24475649.07 -24475649.04 0.2726 0.2555 *

Uranus -71724-06-17 09:35 J -24475600.28 -24475600.10 -24475599.92 0.0142 0.0055

Uranus -71724-09-13 17:45 J -24475511.91 -24475511.76 -24475511.60 0.0142 0.0083

Uranus -71724-12-11 02:09 J -24475423.53 -24475423.41 -24475423.29 0.0142 0.0111

Uranus -71723-03-09 09:49 J -24475335.10 -24475335.09 -24475335.04 0.0142 0.0140

Mars -71722-12-24 05:16 J -24474680.37 -24474680.28 -24474680.18 0.1962 0.0957

Venus -71720-03-13 19:25 J -24474234.79 -24474234.69 -24474234.60 0.3800 0.1844

Jupiter -71720-10-14 17:01 J -24474019.95 -24474019.79 -24474019.62 0.0496 0.0230

Jupiter -71719-01-13 03:49 J -24473929.47 -24473929.34 -24473929.21 0.0497 0.0352

Moon -71717-04-22 08:52 J -24473099.23 -24473099.13 -24473099.03 0.2723 0.0967

Earth -71717-04-22 09:21 J -24473099.21 -24473099.11 -24473099.00 0.2718 0.0852 *

Mars -71715-08-10 00:42 J -24472259.64 -24472259.47 -24472259.31 0.1582 0.0186

Venus -71715-09-27 12:42 J -24472211.01 -24472210.97 -24472210.92 0.3798 0.3377

Jupiter -71714-09-07 10:47 J -24471866.17 -24471866.05 -24471865.93 0.0529 0.0160

Moon -71714-10-19 23:45 J -24471823.67 -24471823.51 -24471823.35 0.2613 0.0672

Earth -71714-10-20 01:25 J -24471823.60 -24471823.44 -24471823.28 0.2616 0.0619 *

Jupiter -71714-12-05 16:33 J -24471776.91 -24471776.81 -24471776.70 0.0529 0.0300

Mars -71712-05-15 12:57 J -24471250.08 -24471249.96 -24471249.85 0.1966 0.0110

Saturn -71712-11-05 17:16 J -24471075.85 -24471075.78 -24471075.70 0.0298 0.0232

Saturn -71711-02-02 05:30 J -24470987.39 -24470987.27 -24470987.15 0.0297 0.0102

Saturn -71711-05-01 17:30 J -24470898.90 -24470898.77 -24470898.64 0.0296 0.0027

Saturn -71711-07-29 05:30 J -24470810.38 -24470810.27 -24470810.16 0.0295 0.0154

Saturn -71711-10-25 17:30 J -24470721.81 -24470721.77 -24470721.73 0.0294 0.0279

Jupiter -71708-08-02 13:25 J -24469710.06 -24469709.94 -24469709.82 0.0497 0.0381

Jupiter -71708-11-01 00:28 J -24469619.65 -24469619.48 -24469619.31 0.0497 0.0204

Pluto -71707-09-28 18:13 J -24469287.79 -24469287.74 -24469287.66 0.0060 0.0056

Pluto -71707-12-25 19:25 J -24469199.77 -24469199.69 -24469199.58 0.0060 0.0051

Pluto -71706-03-23 20:23 J -24469111.74 -24469111.65 -24469111.51 0.0060 0.0047

Pluto -71706-06-19 22:18 J -24469023.71 -24469023.57 -24469023.44 0.0060 0.0041

Pluto -71706-09-15 23:16 J -24468935.67 -24468935.53 -24468935.37 0.0060 0.0036

Pluto -71706-12-13 00:13 J -24468847.63 -24468847.49 -24468847.31 0.0060 0.0031

Mars -71706-12-31 02:37 J -24468829.54 -24468829.39 -24468829.24 0.1580 0.0704

Pluto -71705-03-10 01:25 J -24468759.59 -24468759.44 -24468759.25 0.0060 0.0026

Venus -71705-04-08 17:01 J -24468729.93 -24468729.79 -24468729.65 0.3575 0.0907

Pluto -71705-06-06 03:06 J -24468671.54 -24468671.37 -24468671.19 0.0060 0.0020

Pluto -71705-09-02 04:18 J -24468583.49 -24468583.32 -24468583.13 0.0061 0.0014

Pluto -71705-11-29 05:45 J -24468495.45 -24468495.26 -24468495.08 0.0061 0.0009

Pluto -71704-02-25 06:57 J -24468407.39 -24468407.21 -24468407.02 0.0061 0.0003

Moon -71704-04-25 02:52 J -24468348.48 -24468348.38 -24468348.27 0.2726 0.0345

Earth -71704-04-25 03:06 J -24468348.48 -24468348.37 -24468348.26 0.2720 0.0322 *

Pluto -71704-05-24 08:09 J -24468319.34 -24468319.16 -24468318.97 0.0061 0.0003

Pluto -71704-08-20 09:21 J -24468231.29 -24468231.11 -24468230.92 0.0061 0.0008

Pluto -71704-11-16 10:47 J -24468143.23 -24468143.05 -24468142.87 0.0061 0.0013

Pluto -71703-02-12 11:45 J -24468055.17 -24468055.01 -24468054.82 0.0061 0.0019

Pluto -71703-05-11 13:11 J -24467967.11 -24467966.95 -24467966.77 0.0061 0.0024

Pluto -71703-08-07 14:23 J -24467879.05 -24467878.90 -24467878.72 0.0061 0.0030

Mars -71703-10-05 20:37 J -24467819.73 -24467819.64 -24467819.55 0.1970 0.1146

Pluto -71703-11-03 16:04 J -24467790.98 -24467790.83 -24467790.68 0.0061 0.0036

Pluto -71702-01-30 17:01 J -24467702.91 -24467702.79 -24467702.64 0.0061 0.0042

Pluto -71702-04-28 18:13 J -24467614.84 -24467614.74 -24467614.60 0.0061 0.0047

Jupiter -71702-06-26 15:06 J -24467555.98 -24467555.87 -24467555.76 0.0529 0.0271

Pluto -71702-07-25 19:54 J -24467526.75 -24467526.67 -24467526.57 0.0061 0.0053

Jupiter -71702-09-23 20:52 J -24467466.74 -24467466.63 -24467466.51 0.0529 0.0189

Pluto -71702-10-21 21:06 J -24467438.66 -24467438.62 -24467438.55 0.0061 0.0059

Moon -71701-10-22 07:40 J -24467072.31 -24467072.18 -24467072.04 0.2614 0.1524

Earth -71701-10-22 09:35 J -24467072.22 -24467072.10 -24467071.98 0.2614 0.1794 *

Venus -71700-10-23 20:37 J -24466705.76 -24466705.64 -24466705.51 0.3577 0.1842

Jupiter -71696-08-19 21:49 J -24465309.77 -24465309.59 -24465309.40 0.0497 0.0065

Saturn -71696-11-12 13:54 J -24465225.08 -24465224.92 -24465224.76 0.0265 0.0144

Saturn -71695-02-09 11:59 J -24465136.20 -24465136.00 -24465135.81 0.0266 0.0007

Saturn -71695-05-09 09:49 J -24465047.25 -24465047.09 -24465046.92 0.0267 0.0137

Earth -71691-04-27 20:52 J -24463597.72 -24463597.63 -24463597.54 0.2722 0.1494

Moon -71691-04-27 21:06 J -24463597.70 -24463597.62 -24463597.53 0.2728 0.1559 *

Jupiter -71690-04-14 19:11 J -24463245.78 -24463245.70 -24463245.62 0.0529 0.0388

Jupiter -71690-07-13 00:57 J -24463156.58 -24463156.46 -24463156.33 0.0529 0.0070

Venus -71686-08-20 20:52 J -24461656.67 -24461656.63 -24461656.60 0.3808 0.3545

Mars -71685-09-17 23:16 J -24461262.64 -24461262.53 -24461262.42 0.1585 0.1209

Moon -71684-04-20 19:54 J -24461047.74 -24461047.67 -24461047.59 0.2717 0.1910

Earth -71684-04-20 20:37 J -24461047.72 -24461047.64 -24461047.56 0.2717 0.1767 *

Jupiter -71684-06-07 19:11 J -24460999.88 -24460999.70 -24460999.51 0.0497 0.0077

Saturn -71682-03-25 18:42 J -24460343.76 -24460343.72 -24460343.68 0.0298 0.0278

Saturn -71682-06-22 06:42 J -24460255.33 -24460255.22 -24460255.10 0.0297 0.0148

Mars -71682-06-24 05:16 J -24460253.38 -24460253.28 -24460253.19 0.1962 0.1053

Saturn -71682-09-18 18:57 J -24460166.84 -24460166.71 -24460166.58 0.0296 0.0019

Uranus -71682-12-16 04:47 J -24460078.33 -24460078.30 -24460078.25 0.0135 0.0128

Saturn -71682-12-16 06:57 J -24460078.33 -24460078.21 -24460078.09 0.0295 0.0109 *

Uranus -71681-03-13 07:40 J -24459990.24 -24459990.18 -24459990.09 0.0135 0.0113

Saturn -71681-03-13 18:42 J -24459989.79 -24459989.72 -24459989.64 0.0294 0.0235

Uranus -71681-06-09 10:47 J -24459902.13 -24459902.05 -24459901.95 0.0135 0.0096

Uranus -71681-09-05 14:09 J -24459814.02 -24459813.91 -24459813.81 0.0135 0.0079

Moon -71681-10-16 23:01 J -24459772.56 -24459772.54 -24459772.51 0.2612 0.2570

Earth -71681-10-16 23:59 J -24459772.53 -24459772.50 -24459772.48 0.2618 0.2571 *

Uranus -71681-12-02 17:01 J -24459725.90 -24459725.79 -24459725.67 0.0136 0.0062

Uranus -71680-02-28 20:09 J -24459637.78 -24459637.66 -24459637.53 0.0136 0.0046

Venus -71680-03-05 13:40 J -24459633.02 -24459632.93 -24459632.84 0.3806 0.2113

Uranus -71680-05-27 23:16 J -24459549.66 -24459549.53 -24459549.40 0.0136 0.0029

Uranus -71680-08-24 02:23 J -24459461.53 -24459461.40 -24459461.27 0.0136 0.0012

Uranus -71680-11-20 05:30 J -24459373.40 -24459373.27 -24459373.14 0.0136 0.0006

Uranus -71679-02-16 08:37 J -24459285.27 -24459285.14 -24459285.01 0.0136 0.0023

Uranus -71679-05-15 11:45 J -24459197.13 -24459197.01 -24459196.88 0.0136 0.0040

Uranus -71679-08-11 14:52 J -24459108.99 -24459108.88 -24459108.76 0.0136 0.0057

Uranus -71679-11-07 17:59 J -24459020.85 -24459020.75 -24459020.63 0.0137 0.0075

Jupiter -71678-01-31 23:30 J -24458935.56 -24458935.52 -24458935.48 0.0529 0.0500

Uranus -71678-02-03 21:21 J -24458932.71 -24458932.61 -24458932.51 0.0137 0.0092

Earth -71678-04-30 14:23 J -24458846.92 -24458846.90 -24458846.88 0.2723 0.2662

Moon -71678-04-30 15:06 J -24458846.87 -24458846.87 -24458846.86 0.2724 0.2711

Jupiter -71678-05-01 05:16 J -24458846.40 -24458846.28 -24458846.15 0.0529 0.0043

Uranus -71678-05-03 00:28 J -24458844.55 -24458844.48 -24458844.40 0.0137 0.0109

Jupiter -71678-07-29 11:16 J -24458757.10 -24458757.03 -24458756.95 0.0529 0.0419

Uranus -71678-07-30 03:35 J -24458756.39 -24458756.35 -24458756.30 0.0137 0.0127

Mars -71675-02-08 01:11 J -24457832.61 -24457832.45 -24457832.28 0.1582 0.0315

Venus -71675-09-19 06:42 J -24457609.32 -24457609.22 -24457609.11 0.3804 0.0648

Mars -71673-11-13 12:57 J -24456823.07 -24456822.96 -24456822.85 0.1966 0.0017

Jupiter -71672-03-26 16:18 J -24456689.99 -24456689.82 -24456689.65 0.0496 0.0220

Jupiter -71672-06-25 03:06 J -24456599.50 -24456599.37 -24456599.24 0.0497 0.0363

Moon -71671-04-23 13:40 J -24456297.03 -24456296.93 -24456296.82 0.2723 0.0621

Earth -71671-04-23 14:09 J -24456297.01 -24456296.91 -24456296.80 0.2718 0.0617 *

Venus -71669-04-03 23:59 J -24455585.61 -24455585.50 -24455585.40 0.3802 0.0852

Moon -71668-10-20 06:28 J -24455021.39 -24455021.23 -24455021.07 0.2614 0.0422

Earth -71668-10-20 08:09 J -24455021.32 -24455021.16 -24455020.99 0.2616 0.0151 *

Jupiter -71666-02-17 09:49 J -24454536.21 -24454536.09 -24454535.97 0.0530 0.0152

Saturn -71666-04-01 10:18 J -24454493.20 -24454493.07 -24454492.94 0.0265 0.0198

Jupiter -71666-05-17 15:49 J -24454446.94 -24454446.84 -24454446.74 0.0529 0.0309

Saturn -71666-06-29 08:09 J -24454404.34 -24454404.16 -24454403.97 0.0266 0.0060

Mars -71666-07-01 03:21 J -24454402.52 -24454402.36 -24454402.20 0.1580 0.0570

Saturn -71666-09-26 06:13 J -24454315.42 -24454315.24 -24454315.05 0.0266 0.0081

Saturn -71666-12-24 04:18 J -24454226.42 -24454226.32 -24454226.21 0.0267 0.0223

Venus -71664-10-18 17:16 J -24453561.86 -24453561.78 -24453561.70 0.3800 0.2369

Mars -71663-04-05 20:37 J -24453392.74 -24453392.64 -24453392.55 0.1970 0.1037

Jupiter -71660-01-12 13:25 J -24452380.06 -24452379.94 -24452379.81 0.0496 0.0362

Jupiter -71660-04-13 00:28 J -24452289.65 -24452289.48 -24452289.31 0.0497 0.0223

Earth -71658-04-26 07:54 J -24451546.28 -24451546.17 -24451546.07 0.2720 0.0557

Moon -71658-04-26 07:54 J -24451546.27 -24451546.17 -24451546.06 0.2727 0.0526 *

Mars -71657-11-20 05:16 J -24450972.34 -24450972.28 -24450972.21 0.1577 0.1453

Moon -71655-10-23 14:37 J -24450269.97 -24450269.89 -24450269.80 0.2614 0.2186

Earth -71655-10-23 16:33 J -24450269.89 -24450269.81 -24450269.73 0.2613 0.2261 *

Jupiter -71655-12-06 14:23 J -24450226.01 -24450225.90 -24450225.79 0.0529 0.0262

Jupiter -71654-03-05 20:09 J -24450136.77 -24450136.66 -24450136.54 0.0529 0.0198

Venus -71654-04-30 13:40 J -24450081.02 -24450080.93 -24450080.84 0.3573 0.2810

Saturn -71653-11-08 07:25 J -24449523.28 -24449523.19 -24449523.09 0.0298 0.0200

Saturn -71652-02-04 19:40 J -24449434.81 -24449434.68 -24449434.56 0.0297 0.0071

Saturn -71652-05-04 07:40 J -24449346.31 -24449346.18 -24449346.06 0.0296 0.0059

Saturn -71652-07-31 19:25 J -24449257.78 -24449257.69 -24449257.58 0.0295 0.0186

Earth -71651-04-19 07:54 J -24448996.19 -24448996.17 -24448996.16 0.2715 0.2686

Venus -71649-11-13 17:45 J -24448056.90 -24448056.76 -24448056.61 0.3575 0.0055

Neptune -71649-12-11 10:04 J -24448029.09 -24448029.08 -24448029.04 0.0089 0.0087

Jupiter -71648-01-29 20:52 J -24447979.82 -24447979.63 -24447979.45 0.0497 0.0072

Neptune -71648-03-09 11:30 J -24447941.06 -24447941.02 -24447940.97 0.0089 0.0082

Neptune -71648-06-05 12:42 J -24447853.02 -24447852.97 -24447852.90 0.0089 0.0077

Neptune -71648-09-01 14:09 J -24447764.98 -24447764.91 -24447764.83 0.0089 0.0072

Neptune -71648-11-28 15:06 J -24447676.94 -24447676.87 -24447676.77 0.0089 0.0068

Neptune -71647-02-24 16:33 J -24447588.89 -24447588.81 -24447588.71 0.0089 0.0063

Neptune -71647-05-23 17:59 J -24447500.84 -24447500.75 -24447500.65 0.0089 0.0058

Neptune -71647-08-19 19:11 J -24447412.80 -24447412.70 -24447412.59 0.0089 0.0053

Neptune -71647-11-15 20:37 J -24447324.75 -24447324.64 -24447324.53 0.0089 0.0048

Neptune -71646-02-11 21:49 J -24447236.70 -24447236.59 -24447236.47 0.0089 0.0043

Neptune -71646-05-10 23:01 J -24447148.65 -24447148.54 -24447148.41 0.0089 0.0039

Neptune -71646-08-07 00:28 J -24447060.60 -24447060.48 -24447060.35 0.0089 0.0034

Neptune -71646-11-03 01:40 J -24446972.55 -24446972.43 -24446972.30 0.0089 0.0029

Neptune -71645-01-30 03:06 J -24446884.50 -24446884.37 -24446884.24 0.0089 0.0024

Mars -71645-03-18 23:59 J -24446835.58 -24446835.50 -24446835.41 0.1586 0.1348

Neptune -71645-04-27 04:33 J -24446796.44 -24446796.31 -24446796.19 0.0089 0.0019

Earth -71645-04-28 01:40 J -24446795.52 -24446795.43 -24446795.35 0.2722 0.1730

Moon -71645-04-28 01:54 J -24446795.50 -24446795.42 -24446795.34 0.2727 0.1791 *

Neptune -71645-07-24 05:45 J -24446708.39 -24446708.26 -24446708.13 0.0089 0.0014

Neptune -71645-10-20 06:57 J -24446620.34 -24446620.21 -24446620.08 0.0089 0.0009

Neptune -71644-01-16 08:23 J -24446532.28 -24446532.15 -24446532.02 0.0089 0.0005

Neptune -71644-04-14 09:35 J -24446444.23 -24446444.10 -24446443.97 0.0089 0.0001

Neptune -71644-07-11 11:01 J -24446356.18 -24446356.04 -24446355.91 0.0089 0.0006

Neptune -71644-10-07 12:13 J -24446268.12 -24446267.99 -24446267.86 0.0089 0.0010

Neptune -71643-01-03 13:25 J -24446180.07 -24446179.94 -24446179.81 0.0089 0.0015

Neptune -71643-04-01 14:52 J -24446092.01 -24446091.88 -24446091.75 0.0089 0.0020

Venus -71643-05-30 21:21 J -24446032.70 -24446032.61 -24446032.52 0.3578 0.2756

Neptune -71643-06-28 16:04 J -24446003.95 -24446003.83 -24446003.70 0.0089 0.0025

Neptune -71643-09-24 17:16 J -24445915.90 -24445915.78 -24445915.65 0.0089 0.0030

Jupiter -71643-09-24 18:57 J -24445915.80 -24445915.71 -24445915.62 0.0529 0.0372 *

Neptune -71643-12-21 18:42 J -24445827.84 -24445827.72 -24445827.60 0.0089 0.0035

Jupiter -71643-12-23 00:42 J -24445826.60 -24445826.47 -24445826.35 0.0529 0.0086

Mars -71643-12-23 05:16 J -24445826.37 -24445826.28 -24445826.19 0.1962 0.1170 *

Neptune -71642-03-19 19:54 J -24445739.78 -24445739.67 -24445739.55 0.0089 0.0040

Neptune -71642-06-15 21:06 J -24445651.72 -24445651.62 -24445651.50 0.0089 0.0045

Neptune -71642-09-11 22:18 J -24445563.67 -24445563.57 -24445563.45 0.0089 0.0050

Neptune -71642-12-08 23:59 J -24445475.61 -24445475.50 -24445475.40 0.0089 0.0054

Uranus -71641-01-24 14:09 J -24445429.02 -24445428.91 -24445428.78 0.0143 0.0114

Neptune -71641-03-06 01:11 J -24445387.55 -24445387.45 -24445387.35 0.0089 0.0059

Uranus -71641-04-21 22:47 J -24445340.70 -24445340.55 -24445340.39 0.0143 0.0084

Neptune -71641-06-02 02:23 J -24445299.48 -24445299.40 -24445299.30 0.0089 0.0064

Uranus -71641-07-19 07:11 J -24445252.37 -24445252.20 -24445252.01 0.0143 0.0055

Neptune -71641-08-29 03:35 J -24445211.42 -24445211.35 -24445211.26 0.0089 0.0069

Uranus -71641-10-15 15:49 J -24445164.03 -24445163.84 -24445163.65 0.0143 0.0026

Neptune -71641-11-25 04:47 J -24445123.36 -24445123.30 -24445123.21 0.0089 0.0074

Uranus -71640-01-12 00:13 J -24445075.68 -24445075.49 -24445075.29 0.0143 0.0003

Neptune -71640-02-21 06:13 J -24445035.29 -24445035.24 -24445035.17 0.0089 0.0079

Uranus -71640-04-10 08:37 J -24444987.33 -24444987.14 -24444986.95 0.0142 0.0032

Neptune -71640-05-20 07:40 J -24444947.22 -24444947.18 -24444947.13 0.0089 0.0083

Uranus -71640-07-07 16:47 J -24444898.97 -24444898.80 -24444898.62 0.0142 0.0061

Neptune -71640-08-16 08:52 J -24444859.13 -24444859.13 -24444859.11 0.0089 0.0088

Uranus -71640-10-04 00:57 J -24444810.60 -24444810.46 -24444810.30 0.0142 0.0090

Uranus -71640-12-31 09:06 J -24444722.21 -24444722.12 -24444722.00 0.0142 0.0119

Moon -71638-04-22 00:42 J -24444245.56 -24444245.47 -24444245.38 0.2719 0.1557

Earth -71638-04-22 01:25 J -24444245.53 -24444245.44 -24444245.35 0.2717 0.1530 *

Saturn -71637-08-18 08:37 J -24443761.22 -24443761.14 -24443761.06 0.0264 0.0241

Saturn -71637-11-15 06:28 J -24443672.40 -24443672.23 -24443672.05 0.0265 0.0103

Jupiter -71637-11-17 18:13 J -24443669.93 -24443669.74 -24443669.56 0.0497 0.0069

Saturn -71636-02-12 04:33 J -24443583.50 -24443583.31 -24443583.12 0.0266 0.0037

Saturn -71636-05-12 02:37 J -24443494.53 -24443494.39 -24443494.24 0.0267 0.0177

Mars -71636-08-09 02:09 J -24443405.58 -24443405.41 -24443405.25 0.1582 0.0458

Moon -71635-10-18 05:45 J -24442970.35 -24442970.26 -24442970.18 0.2613 0.2224

Earth -71635-10-18 06:42 J -24442970.32 -24442970.22 -24442970.12 0.2617 0.2101 *

Mars -71633-05-14 12:57 J -24442396.07 -24442395.96 -24442395.85 0.1966 0.0126

Jupiter -71631-07-13 22:47 J -24441605.59 -24441605.55 -24441605.50 0.0529 0.0489

Jupiter -71631-10-11 04:33 J -24441516.43 -24441516.31 -24441516.18 0.0529 0.0035

Jupiter -71630-01-08 10:33 J -24441427.13 -24441427.06 -24441426.99 0.0528 0.0428

Venus -71629-03-26 18:28 J -24440983.79 -24440983.73 -24440983.67 0.3808 0.3060

Mars -71627-12-30 04:04 J -24439975.50 -24439975.33 -24439975.17 0.1580 0.0438

Moon -71625-04-23 18:42 J -24439494.83 -24439494.72 -24439494.62 0.2724 0.0498

Earth -71625-04-23 18:57 J -24439494.81 -24439494.71 -24439494.60 0.2719 0.0382 *

Jupiter -71625-09-05 15:35 J -24439360.02 -24439359.85 -24439359.68 0.0497 0.0209

Jupiter -71625-12-05 02:23 J -24439269.52 -24439269.40 -24439269.28 0.0497 0.0376

Mars -71624-10-04 20:23 J -24438965.75 -24438965.65 -24438965.55 0.1970 0.0936

Venus -71624-10-10 11:30 J -24438960.12 -24438960.02 -24438959.93 0.3806 0.1610

Saturn -71623-03-28 08:37 J -24438791.21 -24438791.14 -24438791.07 0.0298 0.0247

Saturn -71623-06-24 20:52 J -24438702.75 -24438702.63 -24438702.51 0.0297 0.0116

Saturn -71623-09-21 08:52 J -24438614.26 -24438614.13 -24438614.00 0.0296 0.0015

Saturn -71623-12-18 20:52 J -24438525.74 -24438525.63 -24438525.51 0.0295 0.0141

Saturn -71622-03-17 08:52 J -24438437.18 -24438437.13 -24438437.08 0.0294 0.0266

Moon -71622-10-21 13:11 J -24438219.11 -24438218.95 -24438218.79 0.2613 0.0235

Earth -71622-10-21 15:06 J -24438219.04 -24438218.87 -24438218.71 0.2615 0.0323 *

Jupiter -71619-07-30 08:52 J -24437206.25 -24437206.13 -24437206.01 0.0529 0.0145

Jupiter -71619-10-27 14:52 J -24437116.98 -24437116.88 -24437116.78 0.0529 0.0315

Venus -71618-04-26 04:33 J -24436936.41 -24436936.31 -24436936.20 0.3804 0.0156

Mars -71617-05-21 05:59 J -24436545.34 -24436545.25 -24436545.16 0.1577 0.1320

Pluto -71613-05-01 12:57 J -24435103.98 -24435103.96 -24435103.91 0.0084 0.0082

Jupiter -71613-06-24 12:42 J -24435050.10 -24435049.97 -24435049.84 0.0496 0.0352

Pluto -71613-07-28 14:37 J -24435015.96 -24435015.89 -24435015.81 0.0084 0.0070

Jupiter -71613-09-22 23:30 J -24434959.68 -24434959.52 -24434959.35 0.0497 0.0234

Pluto -71613-10-24 16:04 J -24434927.92 -24434927.83 -24434927.73 0.0084 0.0059

Venus -71613-11-08 21:49 J -24434912.69 -24434912.59 -24434912.49 0.3801 0.1373

Pluto -71612-01-20 17:30 J -24434839.88 -24434839.77 -24434839.65 0.0084 0.0048

Pluto -71612-04-18 18:57 J -24434751.83 -24434751.71 -24434751.58 0.0084 0.0037

Moon -71612-04-26 12:42 J -24434744.07 -24434743.97 -24434743.86 0.2728 0.0869

Earth -71612-04-26 12:42 J -24434744.07 -24434743.97 -24434743.87 0.2720 0.0795 *

Pluto -71612-07-15 20:23 J -24434663.77 -24434663.65 -24434663.51 0.0084 0.0026

Pluto -71612-10-11 21:49 J -24434575.72 -24434575.59 -24434575.45 0.0084 0.0016

Pluto -71611-01-07 23:16 J -24434487.66 -24434487.53 -24434487.39 0.0083 0.0006

Pluto -71611-04-06 00:42 J -24434399.60 -24434399.47 -24434399.33 0.0083 0.0006

Pluto -71611-07-03 02:09 J -24434311.54 -24434311.41 -24434311.27 0.0083 0.0016

Pluto -71611-09-29 03:21 J -24434223.48 -24434223.36 -24434223.22 0.0083 0.0027

Pluto -71611-12-26 04:47 J -24434135.42 -24434135.30 -24434135.17 0.0083 0.0037

Pluto -71610-03-24 05:59 J -24434047.35 -24434047.25 -24434047.12 0.0083 0.0048

Pluto -71610-06-20 07:25 J -24433959.28 -24433959.19 -24433959.08 0.0083 0.0058

Pluto -71610-09-16 08:52 J -24433871.20 -24433871.13 -24433871.05 0.0083 0.0068

Pluto -71610-12-13 10:04 J -24433783.11 -24433783.08 -24433783.03 0.0082 0.0078

Moon -71609-10-23 21:35 J -24433467.65 -24433467.60 -24433467.55 0.2616 0.2465

Saturn -71607-04-04 03:06 J -24432940.52 -24432940.37 -24432940.21 0.0265 0.0156

Jupiter -71607-05-18 13:25 J -24432896.05 -24432895.94 -24432895.83 0.0529 0.0255

Venus -71607-05-25 15:06 J -24432888.93 -24432888.87 -24432888.80 0.3799 0.2911

Saturn -71607-07-02 01:11 J -24432851.64 -24432851.45 -24432851.26 0.0266 0.0017

Jupiter -71607-08-15 19:25 J -24432806.81 -24432806.69 -24432806.58 0.0529 0.0206

Saturn -71607-09-28 23:16 J -24432762.70 -24432762.53 -24432762.36 0.0266 0.0124

Saturn -71607-12-26 21:06 J -24432673.63 -24432673.62 -24432673.59 0.0267 0.0265

Mars -71606-09-18 00:42 J -24432408.52 -24432408.47 -24432408.41 0.1586 0.1486

Moon -71605-04-19 11:59 J -24432194.04 -24432194.00 -24432193.96 0.2711 0.2491

Earth -71605-04-19 12:28 J -24432194.02 -24432193.98 -24432193.93 0.2715 0.2453 *

Mars -71603-06-23 05:30 J -24431399.36 -24431399.27 -24431399.19 0.1962 0.1295

Jupiter -71601-04-12 09:49 J -24430740.10 -24430740.09 -24430740.07 0.0496 0.0493

Jupiter -71601-07-11 20:52 J -24430649.81 -24430649.63 -24430649.44 0.0497 0.0093

Earth -71599-04-29 06:28 J -24429993.31 -24429993.23 -24429993.16 0.2722 0.1966

Moon -71599-04-29 06:57 J -24429993.28 -24429993.21 -24429993.14 0.2726 0.2005 *

Venus -71598-12-05 14:37 J -24429408.02 -24429407.89 -24429407.76 0.3574 0.1840

Uranus -71597-01-05 11:59 J -24429377.04 -24429377.00 -24429376.94 0.0135 0.0125

Uranus -71597-04-02 15:06 J -24429288.94 -24429288.87 -24429288.79 0.0135 0.0108

Uranus -71597-06-29 18:13 J -24429200.83 -24429200.74 -24429200.64 0.0135 0.0091

Uranus -71597-09-25 21:21 J -24429112.72 -24429112.61 -24429112.50 0.0136 0.0075

Uranus -71597-12-23 00:28 J -24429024.60 -24429024.48 -24429024.36 0.0136 0.0058

Mars -71596-02-07 02:37 J -24428978.54 -24428978.39 -24428978.23 0.1583 0.0595

Uranus -71596-03-21 03:35 J -24428936.48 -24428936.35 -24428936.23 0.0136 0.0041

Uranus -71596-06-17 06:42 J -24428848.35 -24428848.22 -24428848.09 0.0136 0.0024

Uranus -71596-09-13 09:49 J -24428760.22 -24428760.09 -24428759.96 0.0136 0.0008

Uranus -71596-12-10 12:57 J -24428672.09 -24428671.96 -24428671.83 0.0136 0.0010

Jupiter -71595-03-06 17:59 J -24428585.84 -24428585.75 -24428585.65 0.0529 0.0364

Uranus -71595-03-08 16:04 J -24428583.96 -24428583.83 -24428583.70 0.0136 0.0027

Jupiter -71595-06-03 23:59 J -24428496.63 -24428496.50 -24428496.38 0.0529 0.0096

Uranus -71595-06-04 19:11 J -24428495.83 -24428495.70 -24428495.58 0.0136 0.0044

Uranus -71595-08-31 22:18 J -24428407.69 -24428407.57 -24428407.45 0.0137 0.0061

Uranus -71595-11-28 01:25 J -24428319.54 -24428319.44 -24428319.33 0.0137 0.0079

Uranus -71594-02-24 04:33 J -24428231.40 -24428231.31 -24428231.21 0.0137 0.0096

Uranus -71594-05-23 07:40 J -24428143.24 -24428143.18 -24428143.10 0.0137 0.0114

Uranus -71594-08-19 11:01 J -24428055.07 -24428055.04 -24428055.00 0.0137 0.0132

Saturn -71594-11-11 21:21 J -24427970.71 -24427970.61 -24427970.50 0.0298 0.0170

Mars -71594-11-13 12:57 J -24427969.07 -24427968.96 -24427968.85 0.1966 0.0235

Saturn -71593-02-08 09:21 J -24427882.23 -24427882.11 -24427881.98 0.0297 0.0042

Saturn -71593-05-06 21:35 J -24427793.72 -24427793.60 -24427793.48 0.0296 0.0088

Saturn -71593-08-03 09:35 J -24427705.19 -24427705.10 -24427705.01 0.0295 0.0215

Moon -71592-04-22 05:30 J -24427443.36 -24427443.27 -24427443.18 0.2719 0.1428

Earth -71592-04-22 06:13 J -24427443.33 -24427443.24 -24427443.15 0.2717 0.1290 *

Venus -71592-06-20 18:28 J -24427383.87 -24427383.73 -24427383.58 0.3576 0.0977

Jupiter -71589-04-29 17:01 J -24426339.97 -24426339.79 -24426339.60 0.0497 0.0061

Moon -71589-10-18 11:59 J -24426168.12 -24426168.00 -24426167.88 0.2613 0.1783

Earth -71589-10-18 13:25 J -24426168.06 -24426167.94 -24426167.81 0.2617 0.1637 *

Mars -71587-06-30 04:47 J -24425548.47 -24425548.30 -24425548.13 0.1580 0.0297

Mars -71584-04-04 20:23 J -24424538.75 -24424538.65 -24424538.54 0.1970 0.0820

Jupiter -71584-12-23 22:33 J -24424275.61 -24424275.56 -24424275.50 0.0529 0.0473

Jupiter -71583-03-23 04:18 J -24424186.45 -24424186.32 -24424186.19 0.0529 0.0017

Jupiter -71583-06-20 10:18 J -24424097.14 -24424097.07 -24424097.01 0.0528 0.0444

Moon -71579-04-24 23:30 J -24422692.63 -24422692.52 -24422692.41 0.2725 0.0114

Earth -71579-04-24 23:45 J -24422692.61 -24422692.51 -24422692.40 0.2719 0.0167 *

Saturn -71578-08-22 01:25 J -24422208.56 -24422208.44 -24422208.31 0.0264 0.0198

Saturn -71578-11-18 23:30 J -24422119.71 -24422119.52 -24422119.33 0.0265 0.0060

Mars -71578-11-20 06:57 J -24422118.33 -24422118.21 -24422118.10 0.1577 0.1179

Saturn -71577-02-15 21:35 J -24422030.79 -24422030.60 -24422030.42 0.0266 0.0080

Jupiter -71577-02-16 14:23 J -24422030.07 -24422029.90 -24422029.73 0.0497 0.0203

Saturn -71577-05-14 19:25 J -24421941.79 -24421941.69 -24421941.57 0.0267 0.0221

Jupiter -71577-05-17 01:11 J -24421939.56 -24421939.45 -24421939.33 0.0498 0.0384

Moon -71576-10-21 19:54 J -24421416.83 -24421416.67 -24421416.50 0.2613 0.0536

Earth -71576-10-21 21:49 J -24421416.75 -24421416.59 -24421416.44 0.2615 0.0784 *

Mars -71575-08-26 04:04 J -24421108.36 -24421108.33 -24421108.30 0.1973 0.1874

Venus -71573-10-31 16:18 J -24420310.90 -24420310.82 -24420310.75 0.3807 0.2567

Jupiter -71571-01-09 08:23 J -24419876.28 -24419876.15 -24419876.03 0.0529 0.0135

Jupiter -71571-04-08 14:09 J -24419787.01 -24419786.91 -24419786.81 0.0528 0.0325

Venus -71567-05-17 09:21 J -24418287.21 -24418287.11 -24418287.01 0.3805 0.1103

Earth -71566-04-27 17:30 J -24417941.87 -24417941.77 -24417941.67 0.2721 0.1034

Moon -71566-04-27 17:45 J -24417941.86 -24417941.76 -24417941.67 0.2728 0.1002 *

Jupiter -71566-12-05 11:45 J -24417720.14 -24417720.01 -24417719.88 0.0497 0.0343

Neptune -71565-02-27 02:23 J -24417636.42 -24417636.40 -24417636.35 0.0089 0.0087

Jupiter -71565-03-04 22:47 J -24417629.71 -24417629.55 -24417629.39 0.0497 0.0244

Neptune -71565-05-25 05:59 J -24417548.31 -24417548.25 -24417548.14 0.0089 0.0080

Neptune -71565-08-21 09:49 J -24417460.18 -24417460.09 -24417459.96 0.0089 0.0073

Neptune -71565-11-17 13:54 J -24417372.05 -24417371.92 -24417371.78 0.0089 0.0065

Neptune -71564-02-13 17:30 J -24417283.91 -24417283.77 -24417283.61 0.0089 0.0058

Saturn -71564-03-30 22:47 J -24417238.64 -24417238.55 -24417238.46 0.0298 0.0215

Neptune -71564-05-12 21:06 J -24417195.76 -24417195.62 -24417195.44 0.0089 0.0051

Saturn -71564-06-27 11:01 J -24417150.17 -24417150.04 -24417149.92 0.0297 0.0085

Neptune -71564-08-09 00:57 J -24417107.62 -24417107.46 -24417107.27 0.0089 0.0044

Saturn -71564-09-23 23:01 J -24417061.67 -24417061.54 -24417061.41 0.0296 0.0045

Neptune -71564-11-05 05:01 J -24417019.47 -24417019.29 -24417019.11 0.0089 0.0036

Saturn -71564-12-21 11:01 J -24416973.14 -24416973.04 -24416972.94 0.0295 0.0172

Mars -71564-12-22 05:16 J -24416972.36 -24416972.28 -24416972.20 0.1961 0.1387

Neptune -71563-02-01 08:37 J -24416931.32 -24416931.14 -24416930.95 0.0089 0.0029

Neptune -71563-04-30 12:28 J -24416843.17 -24416842.98 -24416842.79 0.0089 0.0022

Neptune -71563-07-27 16:04 J -24416755.02 -24416754.83 -24416754.63 0.0089 0.0015

Neptune -71563-10-23 19:54 J -24416666.86 -24416666.67 -24416666.47 0.0089 0.0007

Neptune -71562-01-19 23:45 J -24416578.71 -24416578.51 -24416578.31 0.0089 0.0001

Neptune -71562-04-18 03:35 J -24416490.55 -24416490.35 -24416490.16 0.0089 0.0008

Neptune -71562-07-15 07:11 J -24416402.39 -24416402.20 -24416402.00 0.0089 0.0015

Neptune -71562-10-11 11:01 J -24416314.23 -24416314.04 -24416313.85 0.0089 0.0022

Venus -71562-12-01 02:23 J -24416263.50 -24416263.40 -24416263.29 0.3803 0.0400

Neptune -71561-01-07 14:23 J -24416226.07 -24416225.90 -24416225.70 0.0089 0.0030

Neptune -71561-04-04 18:13 J -24416137.91 -24416137.74 -24416137.55 0.0089 0.0037

Neptune -71561-07-01 22:04 J -24416049.74 -24416049.58 -24416049.40 0.0089 0.0044

Neptune -71561-09-28 01:54 J -24415961.58 -24415961.42 -24415961.26 0.0089 0.0051

Neptune -71561-12-25 05:45 J -24415873.41 -24415873.26 -24415873.11 0.0089 0.0058

Neptune -71560-03-23 08:52 J -24415785.24 -24415785.13 -24415784.97 0.0089 0.0066

Neptune -71560-06-19 12:42 J -24415697.06 -24415696.97 -24415696.84 0.0089 0.0073

Neptune -71560-09-15 16:33 J -24415608.88 -24415608.81 -24415608.71 0.0089 0.0080

Jupiter -71560-10-28 12:28 J -24415566.09 -24415565.98 -24415565.86 0.0529 0.0248

Neptune -71560-12-12 20:23 J -24415520.68 -24415520.65 -24415520.60 0.0089 0.0087

Jupiter -71559-01-25 18:28 J -24415476.85 -24415476.73 -24415476.62 0.0529 0.0212

Moon -71559-04-20 16:47 J -24415391.86 -24415391.80 -24415391.75 0.2713 0.2287

Earth -71559-04-20 17:16 J -24415391.84 -24415391.78 -24415391.72 0.2715 0.2217 *

Uranus -71558-11-17 13:25 J -24414815.98 -24414815.94 -24414815.86 0.0143 0.0136

Uranus -71557-02-13 22:18 J -24414727.69 -24414727.57 -24414727.43 0.0143 0.0105

Uranus -71557-05-12 06:42 J -24414639.37 -24414639.22 -24414639.04 0.0143 0.0076

Mars -71557-08-08 03:21 J -24414551.51 -24414551.36 -24414551.21 0.1583 0.0725

Uranus -71557-08-08 15:21 J -24414551.04 -24414550.86 -24414550.67 0.0143 0.0046

Uranus -71557-11-04 23:45 J -24414462.70 -24414462.51 -24414462.31 0.0143 0.0017

Uranus -71556-02-01 08:09 J -24414374.35 -24414374.16 -24414373.96 0.0143 0.0013

Uranus -71556-04-30 16:33 J -24414285.99 -24414285.81 -24414285.62 0.0142 0.0041

Venus -71556-06-15 19:40 J -24414239.77 -24414239.68 -24414239.59 0.3801 0.1906

Uranus -71556-07-28 00:57 J -24414197.63 -24414197.46 -24414197.29 0.0142 0.0070

Uranus -71556-10-24 09:06 J -24414109.25 -24414109.12 -24414108.98 0.0142 0.0098

Uranus -71555-01-20 17:30 J -24414020.86 -24414020.77 -24414020.69 0.0142 0.0126

Mars -71554-05-14 12:57 J -24413542.07 -24413541.96 -24413541.85 0.1966 0.0349

Jupiter -71554-09-23 08:52 J -24413410.17 -24413410.13 -24413410.09 0.0497 0.0485

Jupiter -71554-12-22 19:54 J -24413319.85 -24413319.67 -24413319.49 0.0497 0.0101

Earth -71553-04-29 11:16 J -24413191.10 -24413191.03 -24413190.97 0.2722 0.2203

Moon -71553-04-29 11:45 J -24413191.06 -24413191.01 -24413190.95 0.2725 0.2331 *

Venus -71551-12-30 13:11 J -24412215.99 -24412215.95 -24412215.91 0.3798 0.3454

Saturn -71548-01-07 22:47 J -24411476.61 -24411476.55 -24411476.48 0.0264 0.0247

Saturn -71548-04-06 20:37 J -24411387.81 -24411387.64 -24411387.46 0.0265 0.0110

Saturn -71548-07-04 18:42 J -24411298.91 -24411298.72 -24411298.53 0.0266 0.0029

Jupiter -71548-08-16 17:01 J -24411255.88 -24411255.79 -24411255.70 0.0529 0.0359

Saturn -71548-10-01 16:33 J -24411209.95 -24411209.81 -24411209.66 0.0266 0.0169

Jupiter -71548-11-13 22:47 J -24411166.67 -24411166.55 -24411166.42 0.0529 0.0101

Mars -71548-12-29 05:30 J -24411121.44 -24411121.27 -24411121.10 0.1580 0.0157

Moon -71546-04-23 10:18 J -24410641.17 -24410641.07 -24410640.97 0.2719 0.1096

Earth -71546-04-23 11:01 J -24410641.14 -24410641.04 -24410640.94 0.2717 0.1057 *

Mars -71545-10-03 20:37 J -24410111.75 -24410111.64 -24410111.54 0.1970 0.0698

Moon -71543-10-19 18:42 J -24409365.86 -24409365.72 -24409365.57 0.2613 0.1278

Earth -71543-10-19 20:23 J -24409365.80 -24409365.65 -24409365.51 0.2617 0.1165 *

Jupiter -71542-10-10 17:01 J -24409009.97 -24409009.79 -24409009.60 0.0497 0.0043

Venus -71541-07-11 15:35 J -24408735.00 -24408734.85 -24408734.71 0.3574 0.0884

Mars -71538-05-21 07:25 J -24407691.31 -24407691.19 -24407691.06 0.1577 0.1044

Jupiter -71536-06-04 21:35 J -24406945.65 -24406945.60 -24406945.54 0.0529 0.0466

Jupiter -71536-09-02 03:21 J -24406856.48 -24406856.36 -24406856.23 0.0529 0.0022

Jupiter -71536-11-30 09:21 J -24406767.17 -24406767.11 -24406767.04 0.0528 0.0452

Venus -71535-01-25 19:25 J -24406710.82 -24406710.69 -24406710.57 0.3577 0.1901

Mars -71535-02-24 04:04 J -24406681.38 -24406681.33 -24406681.28 0.1973 0.1766

Saturn -71535-08-17 23:16 J -24406506.58 -24406506.53 -24406506.47 0.0298 0.0268

Saturn -71535-11-14 11:30 J -24406418.13 -24406418.02 -24406417.90 0.0298 0.0137

Saturn -71534-02-10 23:45 J -24406329.64 -24406329.51 -24406329.38 0.0297 0.0009

Saturn -71534-05-10 11:45 J -24406241.13 -24406241.01 -24406240.89 0.0296 0.0121

Saturn -71534-08-06 23:45 J -24406152.58 -24406152.51 -24406152.44 0.0295 0.0248

Moon -71533-04-25 04:33 J -24405890.42 -24405890.31 -24405890.21 0.2726 0.0095

Earth -71533-04-25 04:33 J -24405890.41 -24405890.31 -24405890.20 0.2719 0.0152 *

Jupiter -71530-07-29 12:57 J -24404700.13 -24404699.96 -24404699.79 0.0497 0.0197

Moon -71530-10-23 02:52 J -24404614.53 -24404614.38 -24404614.23 0.2614 0.1117

Earth -71530-10-23 04:33 J -24404614.45 -24404614.31 -24404614.16 0.2615 0.1252 *

Jupiter -71530-10-27 23:59 J -24404609.62 -24404609.50 -24404609.39 0.0498 0.0389

Jupiter -71524-06-21 07:54 J -24402546.29 -24402546.17 -24402546.05 0.0529 0.0119

Mars -71524-06-22 05:16 J -24402545.35 -24402545.28 -24402545.21 0.1962 0.1508

Jupiter -71524-09-18 13:40 J -24402457.02 -24402456.93 -24402456.83 0.0528 0.0341

Venus -71522-11-22 21:06 J -24401661.65 -24401661.62 -24401661.58 0.3808 0.3512

Earth -71520-04-27 22:18 J -24401139.66 -24401139.57 -24401139.48 0.2721 0.1274

Moon -71520-04-27 22:33 J -24401139.65 -24401139.56 -24401139.47 0.2727 0.1366 *

Saturn -71519-08-24 19:25 J -24400655.85 -24400655.69 -24400655.53 0.0264 0.0151

Saturn -71519-11-21 17:16 J -24400566.97 -24400566.78 -24400566.58 0.0265 0.0013

Saturn -71518-02-18 15:06 J -24400478.03 -24400477.87 -24400477.69 0.0266 0.0128

Jupiter -71518-05-17 10:04 J -24400390.21 -24400390.08 -24400389.94 0.0497 0.0340

Jupiter -71518-08-15 21:06 J -24400299.77 -24400299.62 -24400299.45 0.0497 0.0249

Mars -71517-02-07 04:18 J -24400124.47 -24400124.32 -24400124.18 0.1583 0.0870

Venus -71516-06-07 14:09 J -24399638.00 -24399637.91 -24399637.82 0.3807 0.2066

Mars -71515-11-12 12:57 J -24399115.07 -24399114.96 -24399114.85 0.1966 0.0461

Uranus -71513-01-25 19:11 J -24398675.75 -24398675.70 -24398675.64 0.0135 0.0121

Moon -71513-04-20 21:21 J -24398589.67 -24398589.61 -24398589.54 0.2715 0.2085

Earth -71513-04-20 22:04 J -24398589.65 -24398589.58 -24398589.50 0.2716 0.1979 *

Uranus -71513-04-22 22:18 J -24398587.65 -24398587.57 -24398587.49 0.0135 0.0105

Uranus -71513-07-20 01:11 J -24398499.54 -24398499.45 -24398499.34 0.0135 0.0089

Uranus -71513-10-16 04:18 J -24398411.42 -24398411.32 -24398411.20 0.0136 0.0072

Uranus -71512-01-12 07:25 J -24398323.31 -24398323.19 -24398323.07 0.0136 0.0055

Jupiter -71512-04-09 11:45 J -24398236.12 -24398236.01 -24398235.89 0.0529 0.0238

Uranus -71512-04-10 10:33 J -24398235.18 -24398235.06 -24398234.93 0.0136 0.0038

Uranus -71512-07-07 13:40 J -24398147.06 -24398146.93 -24398146.80 0.0136 0.0021

Jupiter -71512-07-07 17:30 J -24398146.88 -24398146.77 -24398146.65 0.0528 0.0222 *

Uranus -71512-10-03 16:47 J -24398058.93 -24398058.80 -24398058.67 0.0136 0.0005

Uranus -71512-12-30 19:54 J -24397970.80 -24397970.67 -24397970.54 0.0136 0.0013

Uranus -71511-03-28 23:01 J -24397882.67 -24397882.54 -24397882.41 0.0136 0.0030

Uranus -71511-06-25 02:09 J -24397794.53 -24397794.41 -24397794.28 0.0136 0.0048

Uranus -71511-09-21 05:16 J -24397706.39 -24397706.28 -24397706.16 0.0137 0.0065

Uranus -71511-12-18 08:37 J -24397618.25 -24397618.14 -24397618.04 0.0137 0.0082

Venus -71511-12-22 07:11 J -24397614.30 -24397614.20 -24397614.10 0.3805 0.0590

Uranus -71510-03-16 11:30 J -24397530.10 -24397530.02 -24397529.92 0.0137 0.0100

Uranus -71510-06-12 14:52 J -24397441.94 -24397441.88 -24397441.81 0.0137 0.0117

Uranus -71510-09-08 17:59 J -24397353.76 -24397353.75 -24397353.72 0.0137 0.0135

Mars -71508-06-29 05:59 J -24396694.41 -24396694.25 -24396694.08 0.1580 0.0050

Earth -71507-04-30 16:04 J -24396388.88 -24396388.83 -24396388.79 0.2722 0.2443

Moon -71507-04-30 16:33 J -24396388.85 -24396388.81 -24396388.76 0.2725 0.2471 *

Jupiter -71506-03-05 07:25 J -24396080.23 -24396080.19 -24396080.14 0.0497 0.0480

Jupiter -71506-06-03 18:42 J -24395989.90 -24395989.72 -24395989.54 0.0497 0.0108

Saturn -71505-04-02 13:11 J -24395686.05 -24395685.95 -24395685.85 0.0298 0.0180

Mars -71505-04-03 20:23 J -24395684.76 -24395684.65 -24395684.54 0.1970 0.0602

Saturn -71505-06-30 01:25 J -24395597.57 -24395597.44 -24395597.31 0.0297 0.0050

Venus -71505-07-07 00:13 J -24395590.59 -24395590.49 -24395590.38 0.3803 0.0924

Saturn -71505-09-26 13:25 J -24395509.06 -24395508.94 -24395508.81 0.0296 0.0079

Saturn -71505-12-24 01:25 J -24395420.53 -24395420.44 -24395420.35 0.0295 0.0207

Jupiter -71500-01-26 16:04 J -24393925.92 -24393925.83 -24393925.74 0.0529 0.0352

Moon -71500-04-23 15:06 J -24393838.97 -24393838.87 -24393838.76 0.2721 0.0920

Earth -71500-04-23 15:49 J -24393838.94 -24393838.84 -24393838.74 0.2717 0.0818 *

Jupiter -71500-04-25 21:49 J -24393836.72 -24393836.59 -24393836.47 0.0529 0.0106

Venus -71499-01-20 17:45 J -24393566.84 -24393566.76 -24393566.68 0.3800 0.2447

Mars -71499-11-19 08:09 J -24393264.29 -24393264.16 -24393264.02 0.1577 0.0908

Moon -71497-10-20 01:40 J -24392563.59 -24392563.43 -24392563.28 0.2612 0.0896

Earth -71497-10-20 03:06 J -24392563.53 -24392563.37 -24392563.21 0.2617 0.0698 *

Mars -71496-08-25 04:04 J -24392254.39 -24392254.33 -24392254.26 0.1973 0.1642

Jupiter -71494-03-22 15:49 J -24391680.03 -24391679.84 -24391679.65 0.0497 0.0036

Venus -71490-08-02 11:59 J -24390086.08 -24390086.00 -24390085.91 0.3573 0.2816

Saturn -71489-01-11 17:01 J -24389923.91 -24389923.79 -24389923.66 0.0264 0.0197

Saturn -71489-04-09 15:06 J -24389835.06 -24389834.87 -24389834.69 0.0265 0.0059

Saturn -71489-07-07 12:57 J -24389746.14 -24389745.96 -24389745.78 0.0266 0.0080

Saturn -71489-10-04 10:47 J -24389657.15 -24389657.05 -24389656.93 0.0267 0.0221

Jupiter -71489-11-14 20:23 J -24389615.71 -24389615.65 -24389615.59 0.0529 0.0465

Jupiter -71488-02-12 02:09 J -24389526.53 -24389526.41 -24389526.28 0.0529 0.0012

Jupiter -71488-05-12 08:09 J -24389437.22 -24389437.16 -24389437.10 0.0528 0.0455

Moon -71487-04-26 09:21 J -24389088.22 -24389088.11 -24389088.01 0.2726 0.0377

Earth -71487-04-26 09:21 J -24389088.21 -24389088.11 -24389088.00 0.2719 0.0360 *

Mars -71485-12-21 05:30 J -24388118.34 -24388118.27 -24388118.21 0.1961 0.1628

Venus -71484-02-15 16:18 J -24388061.97 -24388061.82 -24388061.67 0.3575 0.0063

Neptune -71484-09-07 10:04 J -24387858.11 -24387858.08 -24387858.04 0.0089 0.0085

Moon -71484-10-23 09:35 J -24387812.23 -24387812.10 -24387811.97 0.2616 0.1542

Earth -71484-10-23 11:30 J -24387812.15 -24387812.02 -24387811.90 0.2614 0.1719 *

Neptune -71484-12-04 11:16 J -24387770.08 -24387770.03 -24387769.97 0.0089 0.0080

Neptune -71483-03-02 12:42 J -24387682.04 -24387681.97 -24387681.90 0.0089 0.0075

Neptune -71483-05-29 13:40 J -24387593.99 -24387593.93 -24387593.83 0.0089 0.0071

Neptune -71483-08-25 15:06 J -24387505.95 -24387505.87 -24387505.77 0.0089 0.0066

Neptune -71483-11-21 16:33 J -24387417.90 -24387417.81 -24387417.71 0.0089 0.0061

Jupiter -71482-01-08 12:42 J -24387370.14 -24387369.97 -24387369.79 0.0497 0.0180

Neptune -71482-02-17 17:45 J -24387329.85 -24387329.76 -24387329.65 0.0089 0.0056

Jupiter -71482-04-08 23:30 J -24387279.62 -24387279.52 -24387279.41 0.0497 0.0406

Neptune -71482-05-16 19:11 J -24387241.81 -24387241.70 -24387241.59 0.0089 0.0051

Neptune -71482-08-12 20:37 J -24387153.76 -24387153.64 -24387153.53 0.0089 0.0046

Neptune -71482-11-08 21:35 J -24387065.71 -24387065.60 -24387065.47 0.0089 0.0042

Neptune -71481-02-04 23:01 J -24386977.66 -24386977.54 -24386977.42 0.0089 0.0036

Neptune -71481-05-03 00:13 J -24386889.61 -24386889.49 -24386889.36 0.0089 0.0032

Neptune -71481-07-30 01:40 J -24386801.55 -24386801.43 -24386801.30 0.0089 0.0027

Neptune -71481-10-26 02:52 J -24386713.50 -24386713.38 -24386713.25 0.0089 0.0022

Neptune -71480-01-22 04:18 J -24386625.45 -24386625.32 -24386625.19 0.0089 0.0017

Neptune -71480-04-20 05:30 J -24386537.40 -24386537.27 -24386537.14 0.0089 0.0012

Neptune -71480-07-17 06:57 J -24386449.34 -24386449.21 -24386449.08 0.0089 0.0008

Neptune -71480-10-13 08:09 J -24386361.29 -24386361.16 -24386361.03 0.0089 0.0002

Neptune -71479-01-09 09:21 J -24386273.24 -24386273.11 -24386272.97 0.0089 0.0004

Neptune -71479-04-07 10:47 J -24386185.18 -24386185.05 -24386184.92 0.0089 0.0007

Neptune -71479-07-04 11:59 J -24386097.13 -24386097.00 -24386096.87 0.0089 0.0012

Venus -71479-09-01 19:54 J -24386037.76 -24386037.67 -24386037.58 0.3578 0.2808

Neptune -71479-09-30 13:11 J -24386009.07 -24386008.95 -24386008.82 0.0089 0.0017

Neptune -71479-12-27 14:37 J -24385921.02 -24385920.89 -24385920.76 0.0089 0.0022

Neptune -71478-03-25 15:49 J -24385832.96 -24385832.84 -24385832.71 0.0089 0.0027

Neptune -71478-06-21 17:01 J -24385744.90 -24385744.79 -24385744.66 0.0089 0.0032

Mars -71478-08-08 04:47 J -24385697.43 -24385697.30 -24385697.17 0.1583 0.1006

Neptune -71478-09-17 18:28 J -24385656.85 -24385656.73 -24385656.61 0.0089 0.0037

Neptune -71478-12-14 19:40 J -24385568.79 -24385568.68 -24385568.56 0.0089 0.0042

Neptune -71477-03-11 20:52 J -24385480.73 -24385480.63 -24385480.51 0.0089 0.0047

Neptune -71477-06-07 22:04 J -24385392.67 -24385392.58 -24385392.46 0.0089 0.0052

Neptune -71477-09-03 23:45 J -24385304.61 -24385304.51 -24385304.41 0.0089 0.0056

Neptune -71477-12-01 00:57 J -24385216.55 -24385216.46 -24385216.36 0.0089 0.0061

Jupiter -71477-12-01 06:57 J -24385216.34 -24385216.21 -24385216.09 0.0529 0.0115

Neptune -71476-02-27 02:09 J -24385128.49 -24385128.41 -24385128.31 0.0089 0.0066

Jupiter -71476-02-28 12:42 J -24385127.06 -24385126.97 -24385126.87 0.0528 0.0346

Neptune -71476-05-26 03:21 J -24385040.42 -24385040.36 -24385040.27 0.0089 0.0071

Saturn -71476-08-20 14:09 J -24384953.99 -24384953.91 -24384953.83 0.0298 0.0230

Neptune -71476-08-22 04:47 J -24384952.36 -24384952.30 -24384952.23 0.0089 0.0076

Saturn -71476-11-17 02:09 J -24384865.53 -24384865.41 -24384865.28 0.0297 0.0100

Neptune -71476-11-18 05:59 J -24384864.29 -24384864.25 -24384864.18 0.0089 0.0081

Saturn -71475-02-13 14:23 J -24384777.03 -24384776.90 -24384776.77 0.0296 0.0030

Neptune -71475-02-14 07:11 J -24384776.22 -24384776.20 -24384776.15 0.0089 0.0086

Saturn -71475-05-13 02:23 J -24384688.50 -24384688.40 -24384688.29 0.0296 0.0158

Mars -71475-05-13 12:57 J -24384688.07 -24384687.96 -24384687.85 0.1966 0.0569

Saturn -71475-08-09 14:23 J -24384599.93 -24384599.90 -24384599.87 0.0295 0.0285

Earth -71474-04-29 03:06 J -24384337.46 -24384337.37 -24384337.28 0.2721 0.1510

Moon -71474-04-29 03:35 J -24384337.44 -24384337.35 -24384337.26 0.2726 0.1510 *

Uranus -71474-12-07 22:04 J -24384114.66 -24384114.58 -24384114.48 0.0143 0.0125

Uranus -71473-03-05 06:28 J -24384026.36 -24384026.23 -24384026.07 0.0143 0.0096

Uranus -71473-06-01 15:21 J -24383938.03 -24383937.86 -24383937.69 0.0143 0.0066

Uranus -71473-08-28 23:45 J -24383849.70 -24383849.51 -24383849.32 0.0143 0.0037

Uranus -71473-11-25 08:09 J -24383761.35 -24383761.16 -24383760.96 0.0143 0.0008

Uranus -71472-02-21 16:33 J -24383673.00 -24383672.81 -24383672.61 0.0142 0.0022

Uranus -71472-05-21 00:57 J -24383584.64 -24383584.46 -24383584.28 0.0142 0.0050

Uranus -71472-08-17 09:06 J -24383496.27 -24383496.12 -24383495.95 0.0142 0.0079

Uranus -71472-11-13 17:16 J -24383407.89 -24383407.78 -24383407.64 0.0142 0.0108

Uranus -71471-02-10 01:25 J -24383319.48 -24383319.44 -24383319.37 0.0142 0.0136

Jupiter -71471-10-27 08:23 J -24383060.28 -24383060.15 -24383060.01 0.0497 0.0338

Jupiter -71470-01-25 19:25 J -24382969.85 -24382969.69 -24382969.52 0.0497 0.0251

Mars -71469-12-28 06:57 J -24382267.38 -24382267.21 -24382267.04 0.1580 0.0120

Moon -71467-04-22 02:09 J -24381787.49 -24381787.41 -24381787.33 0.2715 0.1798

Earth -71467-04-22 02:52 J -24381787.46 -24381787.38 -24381787.29 0.2716 0.1743 *

Mars -71466-10-03 20:37 J -24381257.75 -24381257.64 -24381257.53 0.1970 0.0479

Venus -71465-06-28 18:57 J -24380988.77 -24380988.71 -24380988.65 0.3808 0.3018

Jupiter -71465-09-19 11:16 J -24380906.14 -24380906.03 -24380905.91 0.0529 0.0225

Jupiter -71465-12-17 17:01 J -24380816.90 -24380816.79 -24380816.67 0.0528 0.0235

Earth -71461-04-30 20:52 J -24379586.65 -24379586.63 -24379586.62 0.2723 0.2680

Saturn -71460-05-30 16:04 J -24379191.90 -24379191.83 -24379191.73 0.0264 0.0235

Saturn -71460-08-27 14:09 J -24379103.09 -24379102.91 -24379102.73 0.0265 0.0098

Saturn -71460-11-24 12:13 J -24379014.18 -24379013.99 -24379013.80 0.0265 0.0042

Venus -71459-01-12 11:59 J -24378965.10 -24378965.00 -24378964.91 0.3806 0.1559

Saturn -71459-02-21 10:04 J -24378925.22 -24378925.08 -24378924.94 0.0266 0.0181

Mars -71459-05-20 08:52 J -24378837.27 -24378837.13 -24378836.98 0.1577 0.0772

Jupiter -71459-08-15 05:30 J -24378750.31 -24378750.27 -24378750.23 0.0497 0.0481

Pluto -71459-10-25 00:42 J -24378679.49 -24378679.47 -24378679.45 0.0060 0.0059

Jupiter -71459-11-13 16:47 J -24378659.99 -24378659.80 -24378659.62 0.0497 0.0108

Pluto -71458-01-21 01:40 J -24378591.49 -24378591.43 -24378591.34 0.0060 0.0055

Pluto -71458-04-19 02:52 J -24378503.47 -24378503.38 -24378503.26 0.0060 0.0049

Pluto -71458-07-16 04:04 J -24378415.44 -24378415.33 -24378415.19 0.0060 0.0044

Pluto -71458-10-12 05:16 J -24378327.40 -24378327.28 -24378327.12 0.0060 0.0039

Pluto -71457-01-08 06:42 J -24378239.36 -24378239.22 -24378239.06 0.0060 0.0034

Pluto -71457-04-05 07:54 J -24378151.32 -24378151.17 -24378151.00 0.0060 0.0029

Pluto -71457-07-02 09:06 J -24378063.28 -24378063.12 -24378062.94 0.0060 0.0023

Pluto -71457-09-28 10:33 J -24377975.23 -24377975.06 -24377974.88 0.0060 0.0018

Pluto -71457-12-25 11:45 J -24377887.19 -24377887.01 -24377886.82 0.0061 0.0013

Mars -71456-02-23 04:04 J -24377827.40 -24377827.33 -24377827.26 0.1973 0.1547

Pluto -71456-03-23 13:11 J -24377799.14 -24377798.95 -24377798.77 0.0061 0.0007

Pluto -71456-06-19 14:23 J -24377711.08 -24377710.90 -24377710.71 0.0061 0.0002

Pluto -71456-09-15 15:35 J -24377623.03 -24377622.85 -24377622.66 0.0061 0.0004

Pluto -71456-12-12 17:01 J -24377534.98 -24377534.79 -24377534.61 0.0061 0.0009

Pluto -71455-03-10 18:13 J -24377446.92 -24377446.74 -24377446.56 0.0061 0.0015

Pluto -71455-06-06 19:40 J -24377358.86 -24377358.68 -24377358.51 0.0061 0.0020

Pluto -71455-09-02 20:37 J -24377270.80 -24377270.64 -24377270.46 0.0061 0.0026

Pluto -71455-11-29 21:49 J -24377182.73 -24377182.59 -24377182.41 0.0061 0.0032

Pluto -71454-02-25 23:16 J -24377094.67 -24377094.53 -24377094.37 0.0061 0.0037

Moon -71454-04-24 20:09 J -24377036.77 -24377036.66 -24377036.56 0.2722 0.0648

Earth -71454-04-24 20:37 J -24377036.75 -24377036.64 -24377036.54 0.2718 0.0584 *

Pluto -71454-05-25 00:28 J -24377006.59 -24377006.48 -24377006.33 0.0061 0.0043

Venus -71454-07-29 05:01 J -24376941.40 -24376941.29 -24376941.18 0.3804 0.0074

Pluto -71454-08-21 02:09 J -24376918.52 -24376918.41 -24376918.30 0.0061 0.0049

Pluto -71454-11-17 03:06 J -24376830.43 -24376830.37 -24376830.27 0.0061 0.0055

Pluto -71453-02-13 04:18 J -24376742.33 -24376742.32 -24376742.26 0.0061 0.0061

Jupiter -71453-07-08 15:06 J -24376595.96 -24376595.87 -24376595.77 0.0529 0.0345

Jupiter -71453-10-05 20:52 J -24376506.75 -24376506.63 -24376506.50 0.0528 0.0114

Moon -71451-10-21 08:23 J -24375761.32 -24375761.15 -24375760.99 0.2613 0.0314

Earth -71451-10-21 09:49 J -24375761.25 -24375761.09 -24375760.92 0.2616 0.0241 *

Venus -71448-02-10 22:18 J -24374917.67 -24374917.57 -24374917.48 0.3802 0.1444

Jupiter -71447-09-01 14:09 J -24374350.10 -24374349.91 -24374349.73 0.0497 0.0033

Saturn -71446-01-07 16:04 J -24374221.88 -24374221.83 -24374221.77 0.0299 0.0269

Saturn -71446-04-06 04:18 J -24374133.43 -24374133.32 -24374133.20 0.0298 0.0138

Saturn -71446-07-03 16:33 J -24374044.94 -24374044.81 -24374044.68 0.0297 0.0008

Saturn -71446-09-30 04:33 J -24373956.43 -24373956.31 -24373956.19 0.0296 0.0121

Saturn -71446-12-27 16:33 J -24373867.88 -24373867.81 -24373867.74 0.0295 0.0248

Mars -71445-06-21 05:16 J -24373691.33 -24373691.28 -24373691.23 0.1961 0.1725

Venus -71443-08-27 15:35 J -24372893.92 -24372893.85 -24372893.79 0.3800 0.2982

Moon -71441-04-26 14:09 J -24372286.02 -24372285.91 -24372285.81 0.2726 0.0535

Earth -71441-04-26 14:09 J -24372286.01 -24372285.91 -24372285.80 0.2719 0.0590 *

Jupiter -71441-04-26 19:11 J -24372285.76 -24372285.70 -24372285.64 0.0529 0.0460

Jupiter -71441-07-25 00:57 J -24372196.58 -24372196.46 -24372196.33 0.0529 0.0015

Jupiter -71441-10-22 06:57 J -24372107.27 -24372107.21 -24372107.15 0.0528 0.0458

Mars -71438-02-06 05:30 J -24371270.38 -24371270.27 -24371270.15 0.1583 0.1139

Moon -71438-10-24 16:18 J -24371009.92 -24371009.82 -24371009.71 0.2616 0.1974

Earth -71438-10-24 18:13 J -24371009.83 -24371009.74 -24371009.65 0.2614 0.2178 *

Mars -71436-11-11 12:57 J -24370261.07 -24370260.96 -24370260.85 0.1966 0.0690

Jupiter -71435-06-20 11:01 J -24370040.21 -24370040.04 -24370039.86 0.0497 0.0178

Jupiter -71435-09-18 21:49 J -24369949.69 -24369949.59 -24369949.48 0.0497 0.0408

Moon -71434-04-20 13:40 J -24369735.95 -24369735.93 -24369735.92 0.2710 0.2662

Earth -71434-04-20 14:09 J -24369735.93 -24369735.91 -24369735.89 0.2714 0.2659 *

Venus -71433-03-08 12:57 J -24369413.08 -24369412.96 -24369412.83 0.3573 0.1843

Saturn -71430-01-14 12:42 J -24368371.13 -24368370.97 -24368370.80 0.0265 0.0139

Saturn -71430-04-13 10:47 J -24368282.25 -24368282.05 -24368281.86 0.0265 0.0005

Saturn -71430-07-11 08:37 J -24368193.30 -24368193.14 -24368192.97 0.0266 0.0140

Uranus -71430-11-18 23:16 J -24368062.53 -24368062.53 -24368062.52 0.0135 0.0135

Uranus -71429-02-15 02:09 J -24367974.46 -24367974.41 -24367974.34 0.0135 0.0119

Jupiter -71429-05-13 05:16 J -24367886.40 -24367886.28 -24367886.15 0.0529 0.0117

Uranus -71429-05-13 05:16 J -24367886.36 -24367886.28 -24367886.19 0.0135 0.0102 *

Mars -71429-06-28 07:40 J -24367840.35 -24367840.18 -24367840.01 0.1580 0.0252

Uranus -71429-08-09 08:23 J -24367798.25 -24367798.15 -24367798.05 0.0135 0.0085

Jupiter -71429-08-10 11:16 J -24367797.13 -24367797.03 -24367796.94 0.0529 0.0345

Uranus -71429-11-05 11:30 J -24367710.13 -24367710.02 -24367709.91 0.0136 0.0069

Uranus -71428-02-01 14:37 J -24367622.01 -24367621.89 -24367621.77 0.0136 0.0052

Earth -71428-04-29 07:54 J -24367535.25 -24367535.17 -24367535.09 0.2721 0.1745

Moon -71428-04-29 08:23 J -24367535.23 -24367535.15 -24367535.07 0.2726 0.1861 *

Uranus -71428-04-30 17:30 J -24367533.89 -24367533.77 -24367533.64 0.0136 0.0036

Uranus -71428-07-27 20:37 J -24367445.77 -24367445.64 -24367445.51 0.0136 0.0019

Venus -71428-09-22 17:01 J -24367388.93 -24367388.79 -24367388.65 0.3576 0.0993

Uranus -71428-10-23 23:45 J -24367357.64 -24367357.51 -24367357.37 0.0136 0.0004

Uranus -71427-01-20 02:52 J -24367269.51 -24367269.38 -24367269.25 0.0136 0.0016

Uranus -71427-04-18 05:59 J -24367181.37 -24367181.25 -24367181.12 0.0136 0.0033

Uranus -71427-07-15 09:06 J -24367093.24 -24367093.12 -24367092.99 0.0136 0.0050

Uranus -71427-10-11 12:13 J -24367005.10 -24367004.99 -24367004.87 0.0137 0.0068

Uranus -71426-01-07 15:35 J -24366916.95 -24366916.85 -24366916.75 0.0137 0.0085

Mars -71426-04-03 20:37 J -24366830.76 -24366830.64 -24366830.53 0.1970 0.0373

Uranus -71426-04-05 18:28 J -24366828.80 -24366828.73 -24366828.63 0.0137 0.0103

Uranus -71426-07-02 21:49 J -24366740.65 -24366740.59 -24366740.52 0.0137 0.0120

Jupiter -71423-04-08 07:54 J -24365730.31 -24365730.17 -24365730.03 0.0497 0.0324

Jupiter -71423-07-07 18:57 J -24365639.87 -24365639.71 -24365639.55 0.0497 0.0264

Moon -71421-04-22 06:57 J -24364985.29 -24364985.21 -24364985.12 0.2715 0.1631

Earth -71421-04-22 07:40 J -24364985.27 -24364985.18 -24364985.09 0.2716 0.1505 *

Mars -71420-11-18 09:49 J -24364410.25 -24364410.09 -24364409.94 0.1577 0.0632

Moon -71418-10-19 07:25 J -24363710.28 -24363710.19 -24363710.10 0.2613 0.2171

Earth -71418-10-19 08:23 J -24363710.24 -24363710.15 -24363710.06 0.2618 0.2186 *

Jupiter -71417-03-01 10:04 J -24363576.20 -24363576.08 -24363575.97 0.0529 0.0224

Jupiter -71417-05-29 15:49 J -24363486.95 -24363486.84 -24363486.73 0.0528 0.0236

Saturn -71417-08-23 05:30 J -24363401.37 -24363401.27 -24363401.16 0.0298 0.0185

Mars -71417-08-24 04:04 J -24363400.41 -24363400.33 -24363400.25 0.1973 0.1429

Saturn -71417-11-19 17:45 J -24363312.89 -24363312.76 -24363312.63 0.0297 0.0054

Saturn -71416-02-16 05:45 J -24363224.38 -24363224.26 -24363224.13 0.0296 0.0076

Saturn -71416-05-15 17:45 J -24363135.85 -24363135.76 -24363135.66 0.0295 0.0203

Jupiter -71411-01-25 03:21 J -24361420.40 -24361420.36 -24361420.32 0.0497 0.0483

Jupiter -71411-04-25 14:37 J -24361330.07 -24361329.89 -24361329.71 0.0497 0.0106

Mars -71410-04-10 11:45 J -24360980.05 -24360980.01 -24360979.96 0.1575 0.1512

Venus -71408-02-02 16:47 J -24360315.88 -24360315.80 -24360315.72 0.3808 0.2525

Moon -71408-04-25 00:57 J -24360234.57 -24360234.46 -24360234.35 0.2724 0.0377

Earth -71408-04-25 01:25 J -24360234.55 -24360234.44 -24360234.33 0.2718 0.0346 *

Jupiter -71406-12-19 14:23 J -24359266.00 -24359265.90 -24359265.80 0.0529 0.0335

Mars -71406-12-21 05:16 J -24359264.31 -24359264.28 -24359264.24 0.1961 0.1844

Jupiter -71405-03-17 20:09 J -24359176.78 -24359176.66 -24359176.54 0.0528 0.0124

Moon -71405-10-21 14:52 J -24358959.04 -24358958.88 -24358958.71 0.2615 0.0076

Earth -71405-10-21 16:47 J -24358958.97 -24358958.80 -24358958.64 0.2616 0.0242 *

Venus -71403-08-19 09:49 J -24358292.19 -24358292.09 -24358291.99 0.3806 0.1051

Saturn -71401-06-02 12:13 J -24357639.13 -24357638.99 -24357638.84 0.0264 0.0175

Saturn -71401-08-30 10:18 J -24357550.26 -24357550.07 -24357549.88 0.0265 0.0037

Neptune -71401-11-23 00:42 J -24357465.51 -24357465.47 -24357465.39 0.0089 0.0085

Saturn -71401-11-27 08:09 J -24357461.33 -24357461.16 -24357460.98 0.0266 0.0103

Neptune -71400-02-19 04:18 J -24357377.39 -24357377.32 -24357377.20 0.0089 0.0078

Saturn -71400-02-24 06:13 J -24357372.31 -24357372.24 -24357372.16 0.0266 0.0243

Neptune -71400-05-18 08:23 J -24357289.26 -24357289.15 -24357289.02 0.0089 0.0070

Neptune -71400-08-14 12:13 J -24357201.12 -24357200.99 -24357200.84 0.0089 0.0063

Neptune -71400-11-10 15:49 J -24357112.98 -24357112.84 -24357112.67 0.0089 0.0056

Neptune -71399-02-06 19:25 J -24357024.83 -24357024.69 -24357024.50 0.0089 0.0049

Jupiter -71399-02-11 11:30 J -24357020.20 -24357020.02 -24357019.83 0.0497 0.0040

Neptune -71399-05-05 23:30 J -24356936.69 -24356936.52 -24356936.34 0.0089 0.0041

Neptune -71399-08-02 03:21 J -24356848.54 -24356848.36 -24356848.17 0.0089 0.0034

Mars -71399-08-07 06:13 J -24356843.33 -24356843.24 -24356843.14 0.1583 0.1280

Neptune -71399-10-29 06:57 J -24356760.39 -24356760.21 -24356760.01 0.0089 0.0027

Neptune -71398-01-25 11:01 J -24356672.23 -24356672.04 -24356671.85 0.0089 0.0019

Neptune -71398-04-23 14:37 J -24356584.08 -24356583.89 -24356583.69 0.0089 0.0012

Neptune -71398-07-20 18:28 J -24356495.93 -24356495.73 -24356495.53 0.0089 0.0005

Neptune -71398-10-16 22:18 J -24356407.77 -24356407.57 -24356407.37 0.0089 0.0003

Neptune -71397-01-13 01:54 J -24356319.61 -24356319.42 -24356319.22 0.0089 0.0010

Venus -71397-03-04 02:52 J -24356268.49 -24356268.38 -24356268.28 0.3804 0.0443

Neptune -71397-04-10 05:30 J -24356231.45 -24356231.27 -24356231.07 0.0089 0.0018

Neptune -71397-07-07 09:21 J -24356143.29 -24356143.11 -24356142.91 0.0089 0.0025

Neptune -71397-10-03 13:11 J -24356055.13 -24356054.95 -24356054.76 0.0089 0.0032

Neptune -71397-12-30 16:47 J -24355966.97 -24355966.80 -24355966.61 0.0089 0.0039

Neptune -71396-03-28 20:23 J -24355878.80 -24355878.65 -24355878.47 0.0089 0.0047

Mars -71396-05-12 12:57 J -24355834.07 -24355833.96 -24355833.86 0.1966 0.0794

Neptune -71396-06-25 00:13 J -24355790.63 -24355790.49 -24355790.32 0.0089 0.0054

Neptune -71396-09-21 04:04 J -24355702.46 -24355702.33 -24355702.18 0.0089 0.0061

Neptune -71396-12-18 07:54 J -24355614.29 -24355614.17 -24355614.04 0.0089 0.0068

Neptune -71395-03-16 11:16 J -24355526.11 -24355526.03 -24355525.91 0.0089 0.0076

Moon -71395-04-27 18:57 J -24355483.81 -24355483.71 -24355483.60 0.2726 0.0843

Earth -71395-04-27 18:57 J -24355483.81 -24355483.71 -24355483.60 0.2719 0.0821 *

Neptune -71395-06-12 15:06 J -24355437.92 -24355437.87 -24355437.79 0.0089 0.0083

Jupiter -71394-10-07 18:13 J -24354955.80 -24354955.74 -24354955.68 0.0529 0.0456

Jupiter -71393-01-04 23:59 J -24354866.63 -24354866.50 -24354866.38 0.0528 0.0014

Jupiter -71393-04-03 05:45 J -24354777.32 -24354777.26 -24354777.20 0.0528 0.0462

Venus -71392-09-17 20:09 J -24354244.75 -24354244.66 -24354244.57 0.3802 0.1973

Moon -71392-10-24 23:01 J -24354207.58 -24354207.54 -24354207.49 0.2616 0.2501

Uranus -71390-12-28 05:30 J -24353413.36 -24353413.27 -24353413.15 0.0143 0.0119

Mars -71390-12-28 08:23 J -24353413.32 -24353413.15 -24353412.99 0.1580 0.0388 *

Uranus -71389-03-25 14:23 J -24353325.05 -24353324.90 -24353324.75 0.0143 0.0088

Uranus -71389-06-21 22:47 J -24353236.72 -24353236.55 -24353236.37 0.0143 0.0059

Uranus -71389-09-18 07:11 J -24353148.38 -24353148.20 -24353148.00 0.0143 0.0030

Uranus -71389-12-15 15:49 J -24353060.03 -24353059.84 -24353059.64 0.0143 0.0002

Uranus -71388-03-14 00:13 J -24352971.68 -24352971.49 -24352971.30 0.0142 0.0029

Moon -71388-04-20 18:13 J -24352933.77 -24352933.74 -24352933.70 0.2710 0.2556

Earth -71388-04-20 18:57 J -24352933.76 -24352933.71 -24352933.67 0.2714 0.2420 *

Uranus -71388-06-10 08:23 J -24352883.32 -24352883.15 -24352882.96 0.0142 0.0058

Uranus -71388-09-06 17:01 J -24352794.95 -24352794.79 -24352794.64 0.0142 0.0087

Jupiter -71388-11-30 08:52 J -24352710.30 -24352710.13 -24352709.95 0.0497 0.0180

Uranus -71388-12-04 00:57 J -24352706.56 -24352706.46 -24352706.34 0.0142 0.0115

Saturn -71387-01-10 07:54 J -24352669.25 -24352669.17 -24352669.08 0.0299 0.0220

Jupiter -71387-02-28 19:54 J -24352619.78 -24352619.67 -24352619.57 0.0498 0.0407

Saturn -71387-04-08 20:09 J -24352580.78 -24352580.66 -24352580.53 0.0298 0.0089

Saturn -71387-07-06 08:23 J -24352492.28 -24352492.15 -24352492.02 0.0297 0.0042

Saturn -71387-10-02 20:23 J -24352403.76 -24352403.65 -24352403.55 0.0296 0.0169

Mars -71387-10-02 20:23 J -24352403.76 -24352403.65 -24352403.53 0.1970 0.0266 *

Venus -71386-04-03 13:25 J -24352220.98 -24352220.94 -24352220.90 0.3799 0.3522

Earth -71382-04-30 12:42 J -24350733.04 -24350732.97 -24350732.90 0.2721 0.1981

Moon -71382-04-30 13:11 J -24350733.02 -24350732.95 -24350732.88 0.2727 0.2004 *

Jupiter -71382-10-24 04:04 J -24350556.46 -24350556.33 -24350556.21 0.0529 0.0117

Jupiter -71381-01-21 09:49 J -24350467.19 -24350467.09 -24350467.00 0.0528 0.0345

Mars -71380-05-19 10:18 J -24349983.23 -24349983.07 -24349982.91 0.1577 0.0499

Mars -71377-02-23 04:04 J -24348973.41 -24348973.33 -24348973.24 0.1973 0.1309

Venus -71377-10-13 13:54 J -24348740.07 -24348739.92 -24348739.78 0.3574 0.0897

Jupiter -71376-09-18 05:45 J -24348400.40 -24348400.26 -24348400.12 0.0497 0.0326

Jupiter -71376-12-17 16:47 J -24348309.96 -24348309.80 -24348309.64 0.0497 0.0261

Moon -71375-04-23 11:59 J -24348183.10 -24348183.00 -24348182.91 0.2718 0.1295

Earth -71375-04-23 12:28 J -24348183.07 -24348182.98 -24348182.88 0.2716 0.1271 *

Moon -71372-10-19 14:09 J -24346908.02 -24346907.91 -24346907.80 0.2613 0.1910

Earth -71372-10-19 15:21 J -24346907.99 -24346907.86 -24346907.74 0.2618 0.1710 *

Saturn -71372-10-20 11:45 J -24346907.12 -24346907.01 -24346906.89 0.0264 0.0210

Saturn -71371-01-17 09:35 J -24346818.28 -24346818.10 -24346817.91 0.0265 0.0073

Saturn -71371-04-16 07:40 J -24346729.37 -24346729.18 -24346729.00 0.0266 0.0067

Venus -71371-04-29 17:45 J -24346715.88 -24346715.76 -24346715.64 0.3576 0.1933

Saturn -71371-07-14 05:30 J -24346640.38 -24346640.27 -24346640.14 0.0266 0.0207

Mars -71371-10-09 12:28 J -24346553.06 -24346552.98 -24346552.90 0.1575 0.1375

Jupiter -71370-08-12 08:09 J -24346246.27 -24346246.16 -24346246.05 0.0529 0.0231

Jupiter -71370-11-09 13:54 J -24346157.03 -24346156.92 -24346156.80 0.0529 0.0231

Pluto -71365-08-23 21:35 J -24344407.64 -24344407.60 -24344407.53 0.0084 0.0078

Pluto -71365-11-19 23:16 J -24344319.61 -24344319.53 -24344319.44 0.0084 0.0066

Pluto -71364-02-16 00:42 J -24344231.57 -24344231.47 -24344231.36 0.0084 0.0055

Pluto -71364-05-15 02:09 J -24344143.52 -24344143.41 -24344143.28 0.0084 0.0044

Jupiter -71364-07-07 02:23 J -24344090.45 -24344090.40 -24344090.34 0.0497 0.0473

Pluto -71364-08-11 03:49 J -24344055.47 -24344055.34 -24344055.21 0.0084 0.0033

Jupiter -71364-10-05 13:40 J -24344000.11 -24343999.93 -24343999.75 0.0497 0.0115

Pluto -71364-11-07 05:01 J -24343967.41 -24343967.29 -24343967.15 0.0084 0.0023

Pluto -71363-02-03 06:42 J -24343879.36 -24343879.22 -24343879.08 0.0083 0.0011

Pluto -71363-05-02 08:09 J -24343791.30 -24343791.16 -24343791.02 0.0083 0.0001

Pluto -71363-07-29 09:21 J -24343703.24 -24343703.11 -24343702.97 0.0083 0.0011

Pluto -71363-10-25 10:47 J -24343615.18 -24343615.05 -24343614.91 0.0083 0.0020

Pluto -71362-01-21 11:59 J -24343527.12 -24343527.00 -24343526.86 0.0083 0.0031

Pluto -71362-04-19 13:25 J -24343439.05 -24343438.94 -24343438.81 0.0083 0.0041

Moon -71362-04-26 05:45 J -24343432.37 -24343432.26 -24343432.15 0.2724 0.0194

Earth -71362-04-26 06:13 J -24343432.35 -24343432.24 -24343432.13 0.2718 0.0114 *

Pluto -71362-07-16 14:52 J -24343350.98 -24343350.88 -24343350.77 0.0083 0.0051

Pluto -71362-10-12 16:04 J -24343262.91 -24343262.83 -24343262.73 0.0083 0.0062

Pluto -71361-01-08 17:16 J -24343174.83 -24343174.78 -24343174.70 0.0082 0.0072

Pluto -71361-04-05 18:42 J -24343086.73 -24343086.72 -24343086.69 0.0082 0.0081

Mars -71359-02-05 06:57 J -24342416.28 -24342416.21 -24342416.13 0.1583 0.1417

Moon -71359-10-22 21:35 J -24342156.76 -24342156.60 -24342156.44 0.2615 0.0634

Earth -71359-10-22 23:30 J -24342156.67 -24342156.52 -24342156.36 0.2616 0.0706 *

Saturn -71358-05-30 09:49 J -24341937.15 -24341937.09 -24341937.03 0.0298 0.0260

Jupiter -71358-05-31 12:42 J -24341936.06 -24341935.97 -24341935.87 0.0529 0.0339

Saturn -71358-08-26 22:04 J -24341848.70 -24341848.58 -24341848.47 0.0297 0.0129

Jupiter -71358-08-28 18:28 J -24341846.85 -24341846.73 -24341846.60 0.0529 0.0123

Saturn -71358-11-23 10:04 J -24341760.20 -24341760.08 -24341759.95 0.0297 0.0009

Saturn -71357-02-19 22:18 J -24341671.69 -24341671.57 -24341671.46 0.0296 0.0129

Venus -71357-02-24 21:35 J -24341666.64 -24341666.60 -24341666.56 0.3809 0.3475

Saturn -71357-05-18 10:04 J -24341583.14 -24341583.08 -24341583.01 0.0295 0.0256

Mars -71357-11-10 12:57 J -24341407.06 -24341406.96 -24341406.86 0.1966 0.0905

Jupiter -71352-07-24 09:06 J -24339690.31 -24339690.12 -24339689.93 0.0497 0.0044

Venus -71352-09-09 14:37 J -24339642.98 -24339642.89 -24339642.80 0.3808 0.2019

Mars -71350-06-28 09:06 J -24338986.28 -24338986.12 -24338985.96 0.1580 0.0527

Earth -71349-04-27 23:45 J -24338681.61 -24338681.51 -24338681.41 0.2720 0.1056

Moon -71349-04-27 23:59 J -24338681.60 -24338681.50 -24338681.40 0.2726 0.1094 *

Mars -71347-04-02 20:37 J -24337976.76 -24337976.64 -24337976.53 0.1970 0.0164

Jupiter -71346-03-19 17:16 J -24337625.85 -24337625.78 -24337625.72 0.0529 0.0450

Venus -71346-03-26 07:40 J -24337619.29 -24337619.18 -24337619.08 0.3805 0.0567

Jupiter -71346-06-16 23:01 J -24337536.67 -24337536.54 -24337536.42 0.0529 0.0017

Jupiter -71346-09-14 04:47 J -24337447.35 -24337447.30 -24337447.24 0.0528 0.0469

Uranus -71346-12-09 05:59 J -24337361.27 -24337361.25 -24337361.23 0.0135 0.0133

Uranus -71345-03-06 08:52 J -24337273.19 -24337273.13 -24337273.06 0.0135 0.0117

Uranus -71345-06-02 11:59 J -24337185.08 -24337185.00 -24337184.91 0.0135 0.0100

Uranus -71345-08-29 15:06 J -24337096.97 -24337096.87 -24337096.77 0.0135 0.0084

Uranus -71345-11-25 17:59 J -24337008.86 -24337008.75 -24337008.63 0.0135 0.0068

Uranus -71344-02-21 21:06 J -24336920.74 -24336920.62 -24336920.49 0.0136 0.0051

Uranus -71344-05-21 00:13 J -24336832.61 -24336832.49 -24336832.36 0.0136 0.0034

Uranus -71344-08-17 03:21 J -24336744.49 -24336744.36 -24336744.23 0.0136 0.0017

Uranus -71344-11-13 06:28 J -24336656.36 -24336656.23 -24336656.10 0.0136 0.0001

Uranus -71343-02-09 09:35 J -24336568.23 -24336568.10 -24336567.97 0.0136 0.0017

Uranus -71343-05-08 12:42 J -24336480.10 -24336479.97 -24336479.84 0.0136 0.0034

Uranus -71343-08-04 15:49 J -24336391.96 -24336391.84 -24336391.72 0.0136 0.0052

Uranus -71343-10-31 18:57 J -24336303.82 -24336303.71 -24336303.59 0.0137 0.0069

Uranus -71342-01-27 22:04 J -24336215.68 -24336215.58 -24336215.47 0.0137 0.0086

Saturn -71342-03-09 11:45 J -24336175.08 -24336175.01 -24336174.94 0.0264 0.0243

Moon -71342-04-21 23:01 J -24336131.60 -24336131.54 -24336131.48 0.2711 0.2194

Earth -71342-04-21 23:45 J -24336131.57 -24336131.51 -24336131.45 0.2715 0.2186 *

Uranus -71342-04-26 01:11 J -24336127.53 -24336127.45 -24336127.36 0.0137 0.0104

Saturn -71342-06-06 09:35 J -24336086.27 -24336086.10 -24336085.92 0.0265 0.0106

Uranus -71342-07-23 04:33 J -24336039.37 -24336039.31 -24336039.25 0.0137 0.0121

Saturn -71342-09-03 07:40 J -24335997.37 -24335997.18 -24335996.99 0.0265 0.0033

Saturn -71342-12-01 05:30 J -24335908.41 -24335908.27 -24335908.12 0.0266 0.0173

Venus -71341-10-09 00:42 J -24335595.57 -24335595.47 -24335595.37 0.3803 0.0970

Mars -71341-11-17 11:16 J -24335556.20 -24335556.03 -24335555.87 0.1577 0.0360

Jupiter -71340-05-12 05:59 J -24335380.43 -24335380.25 -24335380.08 0.0497 0.0190

Jupiter -71340-08-10 16:47 J -24335289.90 -24335289.80 -24335289.68 0.0498 0.0398

Mars -71338-08-24 04:04 J -24334546.42 -24334546.33 -24334546.24 0.1973 0.1208

Earth -71336-04-30 17:30 J -24333930.83 -24333930.77 -24333930.71 0.2721 0.2218

Moon -71336-04-30 17:59 J -24333930.80 -24333930.75 -24333930.70 0.2726 0.2318 *

Venus -71335-04-24 17:59 J -24333571.83 -24333571.75 -24333571.67 0.3801 0.2506

Jupiter -71334-04-05 02:37 J -24333226.51 -24333226.39 -24333226.27 0.0529 0.0115

Jupiter -71334-07-03 08:23 J -24333137.24 -24333137.15 -24333137.05 0.0528 0.0346

Mars -71331-04-09 13:11 J -24332126.05 -24332125.95 -24332125.85 0.1575 0.1246

Moon -71329-04-23 16:47 J -24331380.90 -24331380.80 -24331380.71 0.2720 0.1172

Earth -71329-04-23 17:16 J -24331380.88 -24331380.78 -24331380.68 0.2716 0.1031 *

Saturn -71329-10-16 12:42 J -24331205.00 -24331204.97 -24331204.94 0.0299 0.0291

Saturn -71328-01-13 00:57 J -24331116.57 -24331116.46 -24331116.35 0.0298 0.0160

Jupiter -71328-02-28 03:06 J -24331070.51 -24331070.37 -24331070.23 0.0497 0.0333

Saturn -71328-04-11 12:57 J -24331028.08 -24331027.96 -24331027.83 0.0297 0.0031

Jupiter -71328-05-29 14:09 J -24330980.07 -24330979.91 -24330979.75 0.0497 0.0256

Saturn -71328-07-09 01:11 J -24330939.57 -24330939.45 -24330939.33 0.0296 0.0100

Saturn -71328-10-05 12:57 J -24330851.03 -24330850.96 -24330850.87 0.0296 0.0228

Moon -71326-10-20 20:37 J -24330105.78 -24330105.64 -24330105.49 0.2614 0.1304

Earth -71326-10-20 22:04 J -24330105.72 -24330105.58 -24330105.44 0.2618 0.1247 *

Venus -71326-11-04 10:18 J -24330091.15 -24330091.07 -24330090.98 0.3572 0.2832

Jupiter -71322-01-22 06:42 J -24328916.34 -24328916.22 -24328916.11 0.0529 0.0233

Jupiter -71322-04-21 12:28 J -24328827.10 -24328826.98 -24328826.87 0.0528 0.0228

Venus -71320-05-20 14:37 J -24328067.04 -24328066.89 -24328066.74 0.3574 0.0082

Mars -71320-08-06 07:40 J -24327989.21 -24327989.18 -24327989.15 0.1583 0.1549

Neptune -71319-03-08 08:23 J -24327775.15 -24327775.15 -24327775.12 0.0089 0.0088

Neptune -71319-06-04 09:49 J -24327687.13 -24327687.09 -24327687.04 0.0089 0.0083

Neptune -71319-08-31 11:16 J -24327599.09 -24327599.03 -24327598.97 0.0089 0.0078

Neptune -71319-11-27 12:13 J -24327511.05 -24327510.99 -24327510.90 0.0089 0.0074

Neptune -71318-02-23 13:40 J -24327423.00 -24327422.93 -24327422.84 0.0089 0.0069

Neptune -71318-05-22 14:52 J -24327334.96 -24327334.88 -24327334.78 0.0089 0.0064

Neptune -71318-08-18 16:18 J -24327246.91 -24327246.82 -24327246.72 0.0089 0.0059

Neptune -71318-11-14 17:45 J -24327158.86 -24327158.76 -24327158.66 0.0089 0.0054

Neptune -71317-02-10 18:57 J -24327070.81 -24327070.71 -24327070.60 0.0089 0.0049

Neptune -71317-05-08 20:09 J -24326982.77 -24326982.66 -24326982.54 0.0089 0.0044

Mars -71317-05-11 12:57 J -24326980.06 -24326979.96 -24326979.86 0.1966 0.1024

Neptune -71317-08-04 21:21 J -24326894.72 -24326894.61 -24326894.48 0.0089 0.0040

Neptune -71317-10-31 22:47 J -24326806.67 -24326806.55 -24326806.42 0.0089 0.0035

Jupiter -71317-12-16 23:45 J -24326760.55 -24326760.51 -24326760.46 0.0497 0.0480

Neptune -71316-01-28 00:13 J -24326718.61 -24326718.49 -24326718.37 0.0089 0.0030

Jupiter -71316-03-17 11:01 J -24326670.22 -24326670.04 -24326669.86 0.0497 0.0109

Neptune -71316-04-26 01:25 J -24326630.56 -24326630.44 -24326630.31 0.0089 0.0025

Moon -71316-04-26 10:33 J -24326630.16 -24326630.06 -24326629.95 0.2724 0.0163

Earth -71316-04-26 11:01 J -24326630.15 -24326630.04 -24326629.93 0.2718 0.0134 *

Neptune -71316-07-23 02:52 J -24326542.51 -24326542.38 -24326542.26 0.0089 0.0020

Neptune -71316-10-19 04:04 J -24326454.46 -24326454.33 -24326454.20 0.0089 0.0015

Neptune -71315-01-15 05:16 J -24326366.41 -24326366.28 -24326366.15 0.0089 0.0011

Neptune -71315-04-13 06:42 J -24326278.35 -24326278.22 -24326278.09 0.0089 0.0006

Neptune -71315-07-10 07:54 J -24326190.30 -24326190.17 -24326190.04 0.0089 0.0001

Neptune -71315-10-06 09:06 J -24326102.25 -24326102.12 -24326101.98 0.0089 0.0005

Venus -71315-12-04 18:28 J -24326042.81 -24326042.73 -24326042.64 0.3577 0.2871

Neptune -71314-01-02 10:33 J -24326014.19 -24326014.06 -24326013.93 0.0089 0.0009

Neptune -71314-03-31 11:45 J -24325926.14 -24325926.01 -24325925.88 0.0089 0.0014

Neptune -71314-06-27 13:11 J -24325838.08 -24325837.95 -24325837.83 0.0089 0.0019

Neptune -71314-09-23 14:23 J -24325750.03 -24325749.90 -24325749.77 0.0089 0.0024

Neptune -71314-12-20 15:35 J -24325661.97 -24325661.85 -24325661.72 0.0089 0.0029

Neptune -71313-03-17 16:47 J -24325573.91 -24325573.80 -24325573.67 0.0089 0.0034

Neptune -71313-06-13 18:13 J -24325485.86 -24325485.74 -24325485.62 0.0089 0.0038

Neptune -71313-09-09 19:25 J -24325397.80 -24325397.69 -24325397.57 0.0089 0.0043

Moon -71313-10-23 04:33 J -24325354.46 -24325354.31 -24325354.16 0.2615 0.0873

Earth -71313-10-23 06:28 J -24325354.38 -24325354.23 -24325354.09 0.2616 0.1177 *

Saturn -71313-10-23 09:49 J -24325354.25 -24325354.09 -24325353.92 0.0265 0.0137 *

Neptune -71313-12-06 20:52 J -24325309.74 -24325309.63 -24325309.52 0.0089 0.0048

Saturn -71312-01-20 07:54 J -24325265.37 -24325265.17 -24325264.98 0.0265 0.0007

Neptune -71312-03-04 22:04 J -24325221.68 -24325221.58 -24325221.47 0.0089 0.0053

Saturn -71312-04-19 05:45 J -24325176.42 -24325176.26 -24325176.10 0.0266 0.0141

Neptune -71312-05-31 23:16 J -24325133.62 -24325133.53 -24325133.42 0.0089 0.0058

Neptune -71312-08-28 00:42 J -24325045.56 -24325045.47 -24325045.38 0.0089 0.0063

Neptune -71312-11-24 01:54 J -24324957.50 -24324957.42 -24324957.33 0.0089 0.0068

Neptune -71311-02-20 03:06 J -24324869.43 -24324869.37 -24324869.28 0.0089 0.0073

Neptune -71311-05-19 04:18 J -24324781.37 -24324781.32 -24324781.24 0.0089 0.0078

Neptune -71311-08-15 05:45 J -24324693.30 -24324693.26 -24324693.20 0.0089 0.0083

Jupiter -71311-11-10 10:47 J -24324606.15 -24324606.05 -24324605.96 0.0529 0.0350

Neptune -71311-11-11 07:11 J -24324605.22 -24324605.20 -24324605.17 0.0089 0.0087

Mars -71311-12-27 09:49 J -24324559.24 -24324559.09 -24324558.94 0.1580 0.0667

Jupiter -71310-02-07 16:33 J -24324516.94 -24324516.81 -24324516.69 0.0529 0.0111

Mars -71308-10-01 20:37 J -24323549.76 -24323549.64 -24323549.53 0.1969 0.0046

Uranus -71305-01-17 12:13 J -24322712.09 -24322711.99 -24322711.86 0.0143 0.0114

Uranus -71305-04-14 20:52 J -24322623.78 -24322623.63 -24322623.46 0.0143 0.0084

Uranus -71305-07-12 05:30 J -24322535.44 -24322535.27 -24322535.08 0.0143 0.0054

Uranus -71305-10-08 14:09 J -24322447.10 -24322446.91 -24322446.72 0.0143 0.0025

Jupiter -71304-01-03 07:40 J -24322360.36 -24322360.18 -24322359.99 0.0497 0.0039

Uranus -71304-01-04 22:33 J -24322358.75 -24322358.56 -24322358.36 0.0143 0.0005

Uranus -71304-04-03 06:57 J -24322270.40 -24322270.21 -24322270.02 0.0143 0.0034

Uranus -71304-06-30 15:21 J -24322182.03 -24322181.86 -24322181.68 0.0142 0.0063

Uranus -71304-09-26 23:30 J -24322093.66 -24322093.52 -24322093.36 0.0142 0.0092

Uranus -71304-12-24 07:40 J -24322005.27 -24322005.18 -24322005.06 0.0142 0.0120

Earth -71303-04-29 04:33 J -24321879.40 -24321879.31 -24321879.21 0.2720 0.1290

Moon -71303-04-29 04:47 J -24321879.39 -24321879.30 -24321879.20 0.2727 0.1301 *

Mars -71301-05-18 11:45 J -24321129.17 -24321129.01 -24321128.84 0.1577 0.0226

Venus -71301-09-30 19:25 J -24320993.75 -24320993.69 -24320993.63 0.3809 0.2982

Saturn -71299-06-02 03:06 J -24320384.47 -24320384.37 -24320384.28 0.0298 0.0197

Saturn -71299-08-29 15:06 J -24320295.99 -24320295.87 -24320295.74 0.0297 0.0068

Jupiter -71299-08-29 15:21 J -24320295.92 -24320295.86 -24320295.80 0.0529 0.0459 *

Saturn -71299-11-26 03:21 J -24320207.49 -24320207.36 -24320207.24 0.0296 0.0062

Jupiter -71299-11-26 21:06 J -24320206.75 -24320206.62 -24320206.50 0.0529 0.0008

Mars -71298-02-22 04:04 J -24320119.43 -24320119.33 -24320119.24 0.1973 0.1098

Saturn -71298-02-22 15:06 J -24320118.96 -24320118.87 -24320118.76 0.0295 0.0191

Jupiter -71298-02-24 02:52 J -24320117.43 -24320117.38 -24320117.32 0.0528 0.0463

Moon -71296-04-22 03:49 J -24319329.41 -24319329.34 -24319329.27 0.2712 0.2072

Earth -71296-04-22 04:33 J -24319329.38 -24319329.31 -24319329.24 0.2715 0.1948 *

Venus -71295-04-16 12:13 J -24318970.08 -24318969.99 -24318969.89 0.3807 0.1525

Jupiter -71293-10-22 03:06 J -24318050.54 -24318050.37 -24318050.20 0.0497 0.0199

Jupiter -71292-01-20 13:54 J -24317960.03 -24317959.92 -24317959.80 0.0497 0.0389

Mars -71292-10-08 13:54 J -24317699.04 -24317698.92 -24317698.80 0.1575 0.1103

Earth -71290-05-01 22:18 J -24317128.62 -24317128.57 -24317128.53 0.2722 0.2454

Moon -71290-05-01 22:47 J -24317128.58 -24317128.55 -24317128.51 0.2724 0.2530 *

Venus -71290-10-31 05:30 J -24316946.38 -24316946.27 -24316946.17 0.3805 0.0173

Jupiter -71287-09-15 01:25 J -24315896.57 -24315896.44 -24315896.32 0.0529 0.0112

Jupiter -71287-12-13 07:11 J -24315807.29 -24315807.20 -24315807.10 0.0528 0.0349

Venus -71284-05-15 22:33 J -24314922.65 -24314922.56 -24314922.46 0.3803 0.1503

Saturn -71283-03-12 10:04 J -24314622.23 -24314622.08 -24314621.93 0.0264 0.0170

Moon -71283-04-24 21:35 J -24314578.71 -24314578.60 -24314578.50 0.2720 0.0809

Earth -71283-04-24 22:04 J -24314578.68 -24314578.58 -24314578.47 0.2717 0.0799 *

Saturn -71283-06-09 07:54 J -24314533.36 -24314533.17 -24314532.98 0.0265 0.0031

Saturn -71283-09-06 05:59 J -24314444.43 -24314444.25 -24314444.07 0.0266 0.0109

Saturn -71283-12-04 03:49 J -24314355.39 -24314355.34 -24314355.26 0.0267 0.0250

Jupiter -71281-08-09 23:45 J -24313740.64 -24313740.51 -24313740.37 0.0497 0.0346

Jupiter -71281-11-08 10:47 J -24313650.21 -24313650.05 -24313649.88 0.0497 0.0243

Moon -71280-10-21 03:21 J -24313303.52 -24313303.36 -24313303.21 0.2615 0.0980

Earth -71280-10-21 04:47 J -24313303.45 -24313303.30 -24313303.14 0.2617 0.0780 *

Venus -71279-11-29 15:49 J -24312898.90 -24312898.84 -24312898.78 0.3800 0.3050

Mars -71278-11-10 12:57 J -24312553.05 -24312552.96 -24312552.87 0.1965 0.1133

Jupiter -71275-07-04 05:01 J -24311586.40 -24311586.29 -24311586.18 0.0529 0.0236

Jupiter -71275-10-01 10:47 J -24311497.16 -24311497.05 -24311496.93 0.0528 0.0225

Mars -71271-06-27 10:18 J -24310132.21 -24310132.07 -24310131.92 0.1580 0.0796

Moon -71270-04-27 15:35 J -24309827.96 -24309827.85 -24309827.74 0.2725 0.0293

Earth -71270-04-27 15:49 J -24309827.95 -24309827.84 -24309827.74 0.2718 0.0371 *

Saturn -71270-10-20 06:13 J -24309652.32 -24309652.24 -24309652.15 0.0299 0.0224

Saturn -71269-01-16 18:28 J -24309563.85 -24309563.73 -24309563.61 0.0298 0.0093

Saturn -71269-04-14 06:28 J -24309475.36 -24309475.23 -24309475.10 0.0297 0.0037

Jupiter -71269-05-28 20:52 J -24309430.66 -24309430.63 -24309430.60 0.0497 0.0490

Venus -71269-06-10 11:16 J -24309418.15 -24309418.03 -24309417.90 0.3572 0.1850

Saturn -71269-07-11 18:28 J -24309386.83 -24309386.73 -24309386.62 0.0296 0.0165

Jupiter -71269-08-27 08:09 J -24309340.34 -24309340.16 -24309339.98 0.0497 0.0100

Saturn -71269-10-08 06:28 J -24309298.24 -24309298.23 -24309298.21 0.0295 0.0291

Mars -71268-04-01 20:23 J -24309122.76 -24309122.65 -24309122.54 0.1970 0.0069

Moon -71267-10-24 11:16 J -24308552.16 -24308552.03 -24308551.90 0.2615 0.1562

Earth -71267-10-24 13:11 J -24308552.08 -24308551.95 -24308551.82 0.2615 0.1635 *

Venus -71264-12-25 15:35 J -24307393.99 -24307393.85 -24307393.71 0.3575 0.1036

Jupiter -71263-04-22 08:52 J -24307276.22 -24307276.13 -24307276.03 0.0529 0.0355

Jupiter -71263-07-20 14:37 J -24307187.01 -24307186.89 -24307186.76 0.0528 0.0107

Mars -71262-11-17 12:28 J -24306702.15 -24306701.98 -24306701.81 0.1578 0.0093

Uranus -71262-12-29 12:57 J -24306659.99 -24306659.96 -24306659.92 0.0135 0.0130

Uranus -71261-03-26 16:04 J -24306571.90 -24306571.83 -24306571.76 0.0135 0.0113

Uranus -71261-06-22 18:57 J -24306483.79 -24306483.71 -24306483.61 0.0135 0.0097

Uranus -71261-09-18 22:04 J -24306395.68 -24306395.58 -24306395.47 0.0135 0.0081

Uranus -71261-12-16 01:11 J -24306307.56 -24306307.45 -24306307.33 0.0135 0.0064

Uranus -71260-03-14 04:18 J -24306219.44 -24306219.32 -24306219.20 0.0136 0.0047

Uranus -71260-06-10 07:25 J -24306131.32 -24306131.19 -24306131.06 0.0136 0.0030

Uranus -71260-09-06 10:33 J -24306043.19 -24306043.06 -24306042.93 0.0136 0.0014

Uranus -71260-12-03 13:40 J -24305955.07 -24305954.93 -24305954.80 0.0136 0.0005

Uranus -71259-03-01 16:33 J -24305866.93 -24305866.81 -24305866.67 0.0136 0.0021

Uranus -71259-05-28 19:40 J -24305778.80 -24305778.68 -24305778.55 0.0136 0.0038

Mars -71259-08-23 04:04 J -24305692.42 -24305692.33 -24305692.23 0.1973 0.0974

Uranus -71259-08-24 22:47 J -24305690.66 -24305690.55 -24305690.42 0.0136 0.0055

Uranus -71259-11-21 01:54 J -24305602.52 -24305602.42 -24305602.30 0.0137 0.0072

Uranus -71258-02-17 05:01 J -24305514.38 -24305514.29 -24305514.18 0.0137 0.0090

Uranus -71258-05-16 08:23 J -24305426.23 -24305426.15 -24305426.07 0.0137 0.0107

Uranus -71258-08-12 11:16 J -24305338.07 -24305338.03 -24305337.96 0.0137 0.0125

Earth -71257-04-29 09:21 J -24305077.20 -24305077.11 -24305077.02 0.2720 0.1528

Moon -71257-04-29 09:35 J -24305077.18 -24305077.10 -24305077.01 0.2727 0.1608 *

Jupiter -71257-06-15 04:47 J -24305030.48 -24305030.30 -24305030.11 0.0497 0.0049

Saturn -71254-07-30 10:47 J -24303890.18 -24303890.05 -24303889.92 0.0264 0.0198

Saturn -71254-10-27 08:37 J -24303801.33 -24303801.14 -24303800.95 0.0265 0.0060

Saturn -71253-01-24 06:42 J -24303712.40 -24303712.22 -24303712.04 0.0266 0.0080

Saturn -71253-04-22 04:47 J -24303623.41 -24303623.30 -24303623.20 0.0267 0.0221

Mars -71252-04-08 14:37 J -24303272.02 -24303271.89 -24303271.76 0.1575 0.0967

Jupiter -71251-02-08 12:57 J -24302966.01 -24302965.96 -24302965.90 0.0529 0.0472

Jupiter -71251-05-08 18:42 J -24302876.84 -24302876.72 -24302876.59 0.0529 0.0015

Jupiter -71251-08-06 00:42 J -24302787.54 -24302787.47 -24302787.41 0.0528 0.0449

Moon -71250-04-23 08:37 J -24302527.22 -24302527.14 -24302527.06 0.2715 0.1763

Earth -71250-04-23 09:21 J -24302527.19 -24302527.11 -24302527.03 0.2715 0.1713 *

Jupiter -71245-04-03 01:25 J -24300720.61 -24300720.44 -24300720.27 0.0497 0.0197

Jupiter -71245-07-02 12:13 J -24300630.10 -24300629.99 -24300629.87 0.0497 0.0390

Earth -71244-05-02 03:06 J -24300326.38 -24300326.37 -24300326.36 0.2722 0.2690

Venus -71244-05-07 17:16 J -24300320.86 -24300320.78 -24300320.71 0.3808 0.2482

Saturn -71240-03-08 08:52 J -24298920.19 -24298920.13 -24298920.06 0.0298 0.0256

Saturn -71240-06-04 21:06 J -24298831.74 -24298831.62 -24298831.50 0.0297 0.0125

Saturn -71240-09-01 09:06 J -24298743.24 -24298743.12 -24298742.99 0.0296 0.0011

Saturn -71240-11-28 21:06 J -24298654.73 -24298654.62 -24298654.50 0.0296 0.0133

Jupiter -71239-02-24 23:16 J -24298566.65 -24298566.53 -24298566.41 0.0529 0.0123

Saturn -71239-02-25 09:06 J -24298566.17 -24298566.12 -24298566.06 0.0295 0.0259

Jupiter -71239-05-25 05:01 J -24298477.38 -24298477.29 -24298477.19 0.0529 0.0339

Venus -71239-11-21 10:04 J -24298297.18 -24298297.08 -24298296.98 0.3806 0.1012

Mars -71238-05-11 12:57 J -24298126.05 -24298125.96 -24298125.88 0.1966 0.1240

Moon -71237-04-25 02:23 J -24297776.50 -24297776.40 -24297776.30 0.2720 0.0690

Earth -71237-04-25 02:52 J -24297776.48 -24297776.38 -24297776.27 0.2717 0.0561 *

Neptune -71236-08-19 22:47 J -24297294.60 -24297294.55 -24297294.47 0.0089 0.0083

Neptune -71236-11-16 02:37 J -24297206.48 -24297206.39 -24297206.28 0.0089 0.0076

Neptune -71235-02-12 06:13 J -24297118.34 -24297118.24 -24297118.10 0.0089 0.0069

Neptune -71235-05-11 10:18 J -24297030.21 -24297030.07 -24297029.92 0.0089 0.0061

Neptune -71235-08-07 13:54 J -24296942.06 -24296941.92 -24296941.75 0.0089 0.0054

Neptune -71235-11-03 17:45 J -24296853.92 -24296853.76 -24296853.58 0.0089 0.0047

Neptune -71234-01-30 21:21 J -24296765.77 -24296765.61 -24296765.42 0.0089 0.0040

Neptune -71234-04-29 01:25 J -24296677.62 -24296677.44 -24296677.25 0.0089 0.0032

Neptune -71234-07-26 05:01 J -24296589.47 -24296589.29 -24296589.09 0.0089 0.0025

Neptune -71234-10-22 08:52 J -24296501.32 -24296501.13 -24296500.93 0.0089 0.0017

Moon -71234-10-22 09:49 J -24296501.25 -24296501.09 -24296500.93 0.2614 0.0467 *

Earth -71234-10-22 11:45 J -24296501.18 -24296501.01 -24296500.85 0.2617 0.0323 *

Neptune -71233-01-18 12:42 J -24296413.16 -24296412.97 -24296412.77 0.0089 0.0010

Jupiter -71233-01-20 20:52 J -24296410.76 -24296410.63 -24296410.50 0.0497 0.0357

Neptune -71233-04-15 16:33 J -24296325.01 -24296324.81 -24296324.61 0.0089 0.0003

Jupiter -71233-04-20 07:54 J -24296320.34 -24296320.17 -24296320.01 0.0497 0.0232

Venus -71233-06-06 03:21 J -24296273.47 -24296273.36 -24296273.26 0.3804 0.0523

Neptune -71233-07-12 20:09 J -24296236.85 -24296236.66 -24296236.46 0.0089 0.0005

Neptune -71233-10-08 23:59 J -24296148.69 -24296148.50 -24296148.30 0.0089 0.0012

Neptune -71232-01-05 03:35 J -24296060.54 -24296060.35 -24296060.15 0.0089 0.0019

Neptune -71232-04-03 07:25 J -24295972.37 -24295972.19 -24295972.00 0.0089 0.0026

Neptune -71232-06-30 11:01 J -24295884.21 -24295884.04 -24295883.85 0.0089 0.0034

Neptune -71232-09-26 15:06 J -24295796.05 -24295795.87 -24295795.70 0.0089 0.0041

Neptune -71232-12-23 18:28 J -24295707.88 -24295707.73 -24295707.55 0.0089 0.0049

Mars -71232-12-26 11:16 J -24295705.17 -24295705.03 -24295704.90 0.1580 0.0940

Neptune -71231-03-21 22:18 J -24295619.71 -24295619.57 -24295619.41 0.0089 0.0056

Neptune -71231-06-18 02:09 J -24295531.54 -24295531.41 -24295531.27 0.0089 0.0063

Neptune -71231-09-14 05:59 J -24295443.37 -24295443.25 -24295443.13 0.0089 0.0070

Neptune -71231-12-11 09:21 J -24295355.19 -24295355.11 -24295355.00 0.0089 0.0078

Neptune -71230-03-09 12:57 J -24295266.99 -24295266.96 -24295266.88 0.0089 0.0085

Mars -71229-09-30 20:37 J -24294695.76 -24294695.64 -24294695.53 0.1970 0.0203

Jupiter -71228-12-14 03:35 J -24294256.46 -24294256.35 -24294256.24 0.0529 0.0237

Venus -71228-12-20 20:23 J -24294249.73 -24294249.65 -24294249.56 0.3802 0.2046

Jupiter -71227-03-13 09:21 J -24294167.22 -24294167.11 -24294166.99 0.0529 0.0225

Saturn -71225-12-16 10:47 J -24293158.14 -24293158.05 -24293157.95 0.0264 0.0229

Saturn -71224-03-15 08:52 J -24293069.31 -24293069.13 -24293068.95 0.0265 0.0091

Moon -71224-04-27 20:37 J -24293025.75 -24293025.64 -24293025.54 0.2726 0.0670

Earth -71224-04-27 20:37 J -24293025.75 -24293025.64 -24293025.54 0.2719 0.0604 *

Saturn -71224-06-12 06:57 J -24292980.40 -24292980.21 -24292980.02 0.0266 0.0048

Saturn -71224-09-09 05:01 J -24292891.43 -24292891.29 -24292891.16 0.0266 0.0189

Mars -71222-05-18 13:11 J -24292275.12 -24292274.95 -24292274.78 0.1577 0.0056

Venus -71222-07-06 13:54 J -24292225.95 -24292225.92 -24292225.89 0.3800 0.3604

Uranus -71222-11-10 10:04 J -24292099.11 -24292099.08 -24292099.04 0.0143 0.0141

Uranus -71221-02-06 18:42 J -24292010.84 -24292010.72 -24292010.59 0.0143 0.0111

Jupiter -71221-02-07 04:33 J -24292010.49 -24292010.31 -24292010.12 0.0497 0.0085

Uranus -71221-05-05 03:06 J -24291922.52 -24291922.37 -24291922.20 0.0143 0.0081

Uranus -71221-08-01 11:45 J -24291834.18 -24291834.01 -24291833.82 0.0143 0.0051

Moon -71221-10-24 18:13 J -24291749.85 -24291749.74 -24291749.62 0.2616 0.1845

Earth -71221-10-24 19:54 J -24291749.76 -24291749.67 -24291749.57 0.2615 0.2101 *

Uranus -71221-10-28 20:23 J -24291745.84 -24291745.65 -24291745.46 0.0143 0.0022

Uranus -71220-01-25 04:47 J -24291657.49 -24291657.30 -24291657.10 0.0143 0.0009

Uranus -71220-04-23 13:11 J -24291569.13 -24291568.95 -24291568.76 0.0143 0.0037

Uranus -71220-07-20 21:35 J -24291480.77 -24291480.60 -24291480.42 0.0142 0.0066

Uranus -71220-10-17 05:45 J -24291392.39 -24291392.26 -24291392.10 0.0142 0.0095

Uranus -71219-01-13 14:09 J -24291303.99 -24291303.91 -24291303.81 0.0142 0.0124

Mars -71219-02-21 04:04 J -24291265.43 -24291265.33 -24291265.23 0.1973 0.0880

Moon -71217-04-20 19:54 J -24290475.68 -24290475.67 -24290475.65 0.2708 0.2684

Earth -71217-04-20 20:23 J -24290475.67 -24290475.65 -24290475.62 0.2713 0.2629 *

Jupiter -71216-10-02 07:11 J -24289946.29 -24289946.20 -24289946.11 0.0529 0.0360

Jupiter -71216-12-30 12:57 J -24289857.08 -24289856.96 -24289856.83 0.0528 0.0100

Mars -71213-10-07 15:21 J -24288845.00 -24288844.86 -24288844.72 0.1575 0.0834

Venus -71212-01-15 12:13 J -24288745.13 -24288744.99 -24288744.84 0.3573 0.0873

Earth -71211-04-30 14:09 J -24288274.99 -24288274.91 -24288274.83 0.2720 0.1764

Moon -71211-04-30 14:37 J -24288274.97 -24288274.89 -24288274.81 0.2726 0.1765 *

Saturn -71211-07-26 11:59 J -24288188.03 -24288188.00 -24288187.95 0.0299 0.0283

Saturn -71211-10-23 00:13 J -24288099.60 -24288099.49 -24288099.37 0.0298 0.0152

Saturn -71210-01-19 12:28 J -24288011.11 -24288010.98 -24288010.85 0.0297 0.0021

Pluto -71210-02-16 08:09 J -24287983.20 -24287983.16 -24287983.07 0.0060 0.0056

Saturn -71210-04-18 00:28 J -24287922.60 -24287922.48 -24287922.36 0.0296 0.0107

Pluto -71210-05-15 09:21 J -24287895.18 -24287895.11 -24287894.99 0.0060 0.0051

Mars -71210-07-14 11:45 J -24287835.03 -24287835.01 -24287834.99 0.1976 0.1931

Saturn -71210-07-15 12:28 J -24287834.05 -24287833.98 -24287833.90 0.0295 0.0234

Pluto -71210-08-11 11:01 J -24287807.15 -24287807.04 -24287806.91 0.0060 0.0046

Pluto -71210-11-07 12:13 J -24287719.12 -24287718.99 -24287718.85 0.0060 0.0040

Jupiter -71210-11-26 01:40 J -24287700.61 -24287700.43 -24287700.24 0.0497 0.0060

Pluto -71209-02-03 13:11 J -24287631.08 -24287630.95 -24287630.78 0.0060 0.0036

Pluto -71209-05-01 14:23 J -24287543.04 -24287542.90 -24287542.72 0.0060 0.0031

Pluto -71209-07-28 16:04 J -24287455.00 -24287454.83 -24287454.66 0.0060 0.0025

Pluto -71209-10-24 17:01 J -24287366.95 -24287366.79 -24287366.60 0.0061 0.0020

Pluto -71208-01-20 18:42 J -24287278.90 -24287278.72 -24287278.54 0.0061 0.0014

Pluto -71208-04-18 19:54 J -24287190.85 -24287190.67 -24287190.49 0.0061 0.0009

Pluto -71208-07-15 21:06 J -24287102.80 -24287102.62 -24287102.43 0.0061 0.0003

Pluto -71208-10-11 22:18 J -24287014.75 -24287014.57 -24287014.38 0.0061 0.0003

Pluto -71207-01-07 23:30 J -24286926.69 -24286926.52 -24286926.33 0.0061 0.0008

Pluto -71207-04-06 00:57 J -24286838.64 -24286838.46 -24286838.27 0.0061 0.0013

Pluto -71207-07-03 02:09 J -24286750.58 -24286750.41 -24286750.23 0.0061 0.0019

Venus -71207-08-01 16:18 J -24286720.94 -24286720.82 -24286720.70 0.3576 0.1986

Pluto -71207-09-29 03:35 J -24286662.52 -24286662.35 -24286662.18 0.0061 0.0024

Pluto -71207-12-26 04:33 J -24286574.45 -24286574.31 -24286574.13 0.0061 0.0030

Pluto -71206-03-24 05:59 J -24286486.39 -24286486.25 -24286486.09 0.0061 0.0036

Pluto -71206-06-20 07:11 J -24286398.32 -24286398.20 -24286398.05 0.0061 0.0042

Pluto -71206-09-16 08:23 J -24286310.25 -24286310.15 -24286310.01 0.0061 0.0047

Pluto -71206-12-13 10:04 J -24286222.16 -24286222.08 -24286221.98 0.0061 0.0053

Pluto -71205-03-10 11:01 J -24286134.07 -24286134.04 -24286133.96 0.0061 0.0059

Moon -71204-04-23 13:25 J -24285725.03 -24285724.94 -24285724.85 0.2716 0.1576

Earth -71204-04-23 14:09 J -24285725.00 -24285724.91 -24285724.82 0.2715 0.1476 *

Jupiter -71204-07-21 11:16 J -24285636.08 -24285636.03 -24285635.98 0.0529 0.0478

Jupiter -71204-10-18 17:01 J -24285546.92 -24285546.79 -24285546.67 0.0529 0.0027

Jupiter -71203-01-15 22:47 J -24285457.62 -24285457.55 -24285457.48 0.0528 0.0442

Moon -71201-10-19 09:06 J -24284450.18 -24284450.12 -24284450.06 0.2614 0.2429

Earth -71201-10-19 10:04 J -24284450.16 -24284450.08 -24284450.00 0.2619 0.2265 *

Mars -71199-11-09 12:57 J -24283699.04 -24283698.96 -24283698.88 0.1966 0.1363

Jupiter -71198-09-13 22:18 J -24283390.74 -24283390.57 -24283390.40 0.0497 0.0208

Jupiter -71198-12-13 09:21 J -24283300.23 -24283300.11 -24283299.99 0.0497 0.0380

Saturn -71195-05-05 11:59 J -24282426.05 -24282426.00 -24282425.95 0.0264 0.0255

Saturn -71195-08-02 09:49 J -24282337.26 -24282337.09 -24282336.92 0.0265 0.0118

Saturn -71195-10-30 07:54 J -24282248.37 -24282248.17 -24282247.98 0.0266 0.0022

Saturn -71194-01-27 05:45 J -24282159.41 -24282159.26 -24282159.10 0.0266 0.0162

Venus -71193-05-28 22:04 J -24281671.62 -24281671.58 -24281671.54 0.3810 0.3434

Mars -71192-06-26 11:59 J -24281278.13 -24281278.00 -24281277.88 0.1580 0.1074

Jupiter -71192-08-06 20:52 J -24281236.75 -24281236.63 -24281236.51 0.0529 0.0139

Jupiter -71192-11-04 02:37 J -24281147.49 -24281147.39 -24281147.29 0.0528 0.0323

Moon -71191-04-26 07:11 J -24280974.30 -24280974.20 -24280974.09 0.2721 0.0339

Earth -71191-04-26 07:40 J -24280974.28 -24280974.18 -24280974.07 0.2717 0.0330 *

Mars -71189-03-31 20:23 J -24280268.76 -24280268.65 -24280268.53 0.1969 0.0309

Moon -71188-10-22 16:47 J -24279698.96 -24279698.80 -24279698.63 0.2614 0.0023

Earth -71188-10-22 18:28 J -24279698.89 -24279698.73 -24279698.56 0.2617 0.0162 *

Venus -71188-12-12 15:06 J -24279647.96 -24279647.87 -24279647.79 0.3808 0.1977

Jupiter -71186-07-02 18:42 J -24279080.84 -24279080.72 -24279080.59 0.0497 0.0358

Jupiter -71186-10-01 05:59 J -24278990.42 -24278990.25 -24278990.09 0.0497 0.0231

Mars -71183-11-16 14:09 J -24277848.08 -24277847.91 -24277847.75 0.1578 0.0195

Venus -71182-06-28 07:54 J -24277624.27 -24277624.17 -24277624.06 0.3806 0.0496

Saturn -71181-03-11 03:06 J -24277367.46 -24277367.37 -24277367.26 0.0298 0.0182

Saturn -71181-06-07 15:21 J -24277278.98 -24277278.86 -24277278.73 0.0297 0.0052

Saturn -71181-09-04 03:21 J -24277190.48 -24277190.36 -24277190.23 0.0296 0.0078

Saturn -71181-12-01 15:21 J -24277101.95 -24277101.86 -24277101.76 0.0295 0.0205

Jupiter -71180-05-26 01:11 J -24276926.56 -24276926.45 -24276926.33 0.0529 0.0251

Mars -71180-08-22 04:04 J -24276838.43 -24276838.33 -24276838.22 0.1973 0.0757

Jupiter -71180-08-23 07:11 J -24276837.32 -24276837.20 -24276837.09 0.0529 0.0212

Moon -71178-04-29 01:25 J -24276223.55 -24276223.44 -24276223.34 0.2726 0.0781

Earth -71178-04-29 01:25 J -24276223.55 -24276223.44 -24276223.34 0.2719 0.0841 *

Uranus -71177-01-18 20:09 J -24275958.70 -24275958.66 -24275958.61 0.0135 0.0126

Uranus -71177-04-15 23:01 J -24275870.60 -24275870.54 -24275870.45 0.0135 0.0110

Uranus -71177-07-13 02:09 J -24275782.49 -24275782.41 -24275782.31 0.0135 0.0094

Uranus -71177-10-09 05:30 J -24275694.38 -24275694.27 -24275694.17 0.0135 0.0077

Uranus -71176-01-05 08:23 J -24275606.26 -24275606.15 -24275606.03 0.0135 0.0060

Venus -71176-01-11 01:11 J -24275600.55 -24275600.45 -24275600.35 0.3804 0.1041

Uranus -71176-04-03 11:30 J -24275518.14 -24275518.02 -24275517.90 0.0136 0.0043

Uranus -71176-06-30 14:37 J -24275430.02 -24275429.89 -24275429.76 0.0136 0.0027

Uranus -71176-09-26 17:45 J -24275341.89 -24275341.76 -24275341.63 0.0136 0.0010

Uranus -71176-12-23 20:52 J -24275253.77 -24275253.63 -24275253.50 0.0136 0.0008

Uranus -71175-03-21 23:45 J -24275165.63 -24275165.51 -24275165.38 0.0136 0.0025

Uranus -71175-06-18 02:52 J -24275077.50 -24275077.38 -24275077.25 0.0136 0.0042

Uranus -71175-09-14 05:59 J -24274989.36 -24274989.25 -24274989.13 0.0136 0.0059

Moon -71175-10-26 01:11 J -24274947.50 -24274947.45 -24274947.40 0.2618 0.2460

Earth -71175-10-26 02:52 J -24274947.41 -24274947.38 -24274947.35 0.2615 0.2562 *

Uranus -71175-12-11 09:06 J -24274901.22 -24274901.12 -24274901.01 0.0137 0.0076

Uranus -71174-03-09 12:13 J -24274813.08 -24274812.99 -24274812.89 0.0137 0.0094

Uranus -71174-06-05 15:21 J -24274724.93 -24274724.86 -24274724.78 0.0137 0.0111

Jupiter -71174-07-20 01:40 J -24274680.62 -24274680.43 -24274680.25 0.0497 0.0074

Uranus -71174-09-01 18:42 J -24274636.76 -24274636.72 -24274636.68 0.0137 0.0128

Mars -71173-04-07 16:04 J -24274417.98 -24274417.83 -24274417.67 0.1575 0.0693

Moon -71171-04-22 00:42 J -24273673.52 -24273673.47 -24273673.42 0.2709 0.2424

Earth -71171-04-22 01:11 J -24273673.50 -24273673.45 -24273673.40 0.2713 0.2397 *

Venus -71171-07-27 18:28 J -24273576.81 -24273576.73 -24273576.66 0.3801 0.2585

Mars -71170-01-12 11:30 J -24273408.06 -24273408.02 -24273407.97 0.1976 0.1821

Jupiter -71168-03-14 05:30 J -24272616.35 -24272616.27 -24272616.17 0.0529 0.0364

Jupiter -71168-06-11 11:30 J -24272527.15 -24272527.02 -24272526.90 0.0529 0.0099

Saturn -71166-12-20 09:35 J -24271605.25 -24271605.10 -24271604.94 0.0265 0.0152

Saturn -71165-03-18 07:40 J -24271516.37 -24271516.18 -24271515.99 0.0265 0.0013

Earth -71165-04-30 18:57 J -24271472.78 -24271472.71 -24271472.64 0.2720 0.2001

Moon -71165-04-30 19:25 J -24271472.75 -24271472.69 -24271472.62 0.2725 0.2127 *

Saturn -71165-06-15 05:45 J -24271427.43 -24271427.26 -24271427.09 0.0266 0.0128

Jupiter -71162-05-07 22:18 J -24270370.76 -24270370.57 -24270370.39 0.0497 0.0075

Venus -71161-02-06 08:52 J -24270096.22 -24270096.13 -24270096.04 0.3571 0.2828

Mars -71159-05-10 12:57 J -24269272.04 -24269271.96 -24269271.89 0.1965 0.1464

Moon -71158-04-24 18:13 J -24268922.84 -24268922.74 -24268922.65 0.2716 0.1324

Earth -71158-04-24 18:57 J -24268922.81 -24268922.71 -24268922.62 0.2715 0.1241 *

Jupiter -71157-12-31 09:21 J -24268306.16 -24268306.11 -24268306.06 0.0529 0.0486

Jupiter -71156-03-30 15:06 J -24268217.00 -24268216.87 -24268216.74 0.0529 0.0027

Jupiter -71156-06-27 20:52 J -24268127.70 -24268127.63 -24268127.56 0.0528 0.0435

Venus -71156-08-22 13:11 J -24268072.10 -24268071.95 -24268071.80 0.3574 0.0103

Moon -71155-10-20 15:35 J -24267647.97 -24267647.85 -24267647.73 0.2614 0.1835

Earth -71155-10-20 17:01 J -24267647.91 -24267647.79 -24267647.68 0.2619 0.1805 *

Neptune -71155-12-03 07:54 J -24267604.18 -24267604.17 -24267604.13 0.0089 0.0087

Neptune -71154-03-01 09:21 J -24267516.15 -24267516.11 -24267516.05 0.0089 0.0082

Neptune -71154-05-28 10:47 J -24267428.11 -24267428.05 -24267427.98 0.0089 0.0077

Neptune -71154-08-24 12:13 J -24267340.07 -24267339.99 -24267339.92 0.0089 0.0072

Neptune -71154-11-20 13:11 J -24267252.02 -24267251.95 -24267251.85 0.0089 0.0068

Neptune -71153-02-16 14:37 J -24267163.98 -24267163.89 -24267163.79 0.0089 0.0062

Neptune -71153-05-14 15:49 J -24267075.93 -24267075.84 -24267075.73 0.0089 0.0058

Neptune -71153-08-10 17:16 J -24266987.88 -24266987.78 -24266987.67 0.0089 0.0053

Neptune -71153-11-06 18:28 J -24266899.83 -24266899.73 -24266899.61 0.0089 0.0048

Mars -71153-12-25 12:28 J -24266851.08 -24266850.98 -24266850.87 0.1580 0.1209

Neptune -71152-02-02 19:54 J -24266811.78 -24266811.67 -24266811.55 0.0089 0.0043

Neptune -71152-05-01 21:06 J -24266723.73 -24266723.62 -24266723.50 0.0089 0.0038

Neptune -71152-07-28 22:33 J -24266635.68 -24266635.56 -24266635.44 0.0089 0.0033

Saturn -71152-07-29 06:28 J -24266635.31 -24266635.23 -24266635.13 0.0298 0.0207

Neptune -71152-10-24 23:45 J -24266547.63 -24266547.51 -24266547.38 0.0089 0.0028

Saturn -71152-10-25 18:42 J -24266546.84 -24266546.72 -24266546.59 0.0297 0.0076

Neptune -71151-01-21 00:57 J -24266459.58 -24266459.46 -24266459.33 0.0089 0.0024

Saturn -71151-01-22 06:57 J -24266458.34 -24266458.21 -24266458.09 0.0297 0.0054

Neptune -71151-04-19 02:23 J -24266371.53 -24266371.40 -24266371.27 0.0089 0.0018

Saturn -71151-04-20 18:42 J -24266369.81 -24266369.72 -24266369.61 0.0296 0.0182

Neptune -71151-07-16 03:35 J -24266283.48 -24266283.35 -24266283.22 0.0089 0.0014

Neptune -71151-10-12 05:01 J -24266195.42 -24266195.29 -24266195.16 0.0089 0.0009

Neptune -71150-01-08 06:13 J -24266107.37 -24266107.24 -24266107.11 0.0089 0.0004

Jupiter -71150-02-23 19:11 J -24266060.87 -24266060.70 -24266060.53 0.0497 0.0221

Venus -71150-03-08 17:01 J -24266047.87 -24266047.79 -24266047.71 0.3576 0.2928

Neptune -71150-04-06 07:40 J -24266019.32 -24266019.18 -24266019.05 0.0089 0.0003

Jupiter -71150-05-25 06:13 J -24265970.36 -24265970.24 -24265970.12 0.0497 0.0369

Neptune -71150-07-03 08:52 J -24265931.26 -24265931.13 -24265931.00 0.0089 0.0006

Neptune -71150-09-29 10:04 J -24265843.21 -24265843.08 -24265842.95 0.0089 0.0011

Mars -71150-09-30 20:23 J -24265841.76 -24265841.65 -24265841.54 0.1970 0.0413

Neptune -71150-12-26 11:30 J -24265755.15 -24265755.02 -24265754.89 0.0089 0.0016

Neptune -71149-03-23 12:42 J -24265667.10 -24265666.97 -24265666.84 0.0089 0.0021

Neptune -71149-06-19 13:54 J -24265579.04 -24265578.92 -24265578.79 0.0089 0.0026

Neptune -71149-09-15 15:06 J -24265490.98 -24265490.87 -24265490.74 0.0089 0.0031

Neptune -71149-12-12 16:33 J -24265402.93 -24265402.81 -24265402.69 0.0089 0.0035

Neptune -71148-03-10 17:45 J -24265314.87 -24265314.76 -24265314.64 0.0089 0.0040

Neptune -71148-06-06 19:11 J -24265226.81 -24265226.70 -24265226.59 0.0089 0.0045

Neptune -71148-09-02 20:23 J -24265138.75 -24265138.65 -24265138.54 0.0089 0.0050

Neptune -71148-11-29 21:35 J -24265050.69 -24265050.60 -24265050.49 0.0089 0.0055

Neptune -71147-02-25 22:47 J -24264962.63 -24264962.55 -24264962.44 0.0089 0.0060

Neptune -71147-05-25 00:13 J -24264874.57 -24264874.49 -24264874.39 0.0089 0.0065

Neptune -71147-08-21 01:25 J -24264786.51 -24264786.44 -24264786.35 0.0089 0.0070

Neptune -71147-11-17 02:52 J -24264698.44 -24264698.38 -24264698.30 0.0089 0.0074

Neptune -71146-02-13 04:04 J -24264610.38 -24264610.33 -24264610.26 0.0089 0.0079

Neptune -71146-05-12 05:30 J -24264522.31 -24264522.27 -24264522.23 0.0089 0.0084

Neptune -71146-08-08 06:57 J -24264434.21 -24264434.21 -24264434.21 0.0089 0.0089

Moon -71145-04-26 12:13 J -24264172.10 -24264171.99 -24264171.89 0.2723 0.0175

Earth -71145-04-26 12:28 J -24264172.09 -24264171.98 -24264171.87 0.2717 0.0099 *

Jupiter -71144-01-16 18:57 J -24263906.83 -24263906.71 -24263906.58 0.0529 0.0146

Jupiter -71144-04-16 00:57 J -24263817.57 -24263817.46 -24263817.36 0.0528 0.0316

Mars -71143-05-17 14:37 J -24263421.05 -24263420.89 -24263420.72 0.1578 0.0326

Moon -71142-10-23 23:30 J -24262896.68 -24262896.52 -24262896.35 0.2615 0.0431

Earth -71142-10-24 01:11 J -24262896.60 -24262896.45 -24262896.29 0.2617 0.0626 *

Mars -71140-02-20 04:04 J -24262411.43 -24262411.33 -24262411.22 0.1973 0.0640

Jupiter -71139-12-12 15:49 J -24261750.96 -24261750.84 -24261750.71 0.0497 0.0369

Jupiter -71138-03-13 02:52 J -24261660.54 -24261660.38 -24261660.21 0.0497 0.0222

Uranus -71138-11-30 17:16 J -24261397.83 -24261397.78 -24261397.70 0.0143 0.0134

Uranus -71137-02-27 01:54 J -24261309.54 -24261309.42 -24261309.27 0.0143 0.0104

Uranus -71137-05-25 10:33 J -24261221.22 -24261221.06 -24261220.88 0.0143 0.0075

Uranus -71137-08-21 19:25 J -24261132.88 -24261132.69 -24261132.51 0.0143 0.0044

Uranus -71137-11-18 03:49 J -24261044.53 -24261044.34 -24261044.15 0.0143 0.0015

Venus -71136-01-02 19:54 J -24260998.74 -24260998.67 -24260998.61 0.3809 0.2932

Uranus -71136-02-14 12:13 J -24260956.18 -24260955.99 -24260955.79 0.0143 0.0015

Saturn -71136-05-08 10:33 J -24260873.20 -24260873.06 -24260872.91 0.0265 0.0178

Uranus -71136-05-13 20:37 J -24260867.82 -24260867.64 -24260867.45 0.0143 0.0044

Saturn -71136-08-05 08:37 J -24260784.33 -24260784.14 -24260783.95 0.0265 0.0040

Uranus -71136-08-10 05:01 J -24260779.45 -24260779.29 -24260779.12 0.0142 0.0073

Saturn -71136-11-02 06:42 J -24260695.40 -24260695.22 -24260695.04 0.0266 0.0100

Uranus -71136-11-06 13:11 J -24260691.07 -24260690.95 -24260690.80 0.0142 0.0102

Saturn -71135-01-30 04:33 J -24260606.38 -24260606.31 -24260606.22 0.0267 0.0242

Uranus -71135-02-02 21:21 J -24260602.67 -24260602.61 -24260602.52 0.0142 0.0131

Mars -71134-10-07 16:47 J -24259990.96 -24259990.80 -24259990.64 0.1575 0.0557

Jupiter -71133-11-04 22:47 J -24259596.65 -24259596.55 -24259596.44 0.0529 0.0267

Jupiter -71132-02-02 04:47 J -24259507.42 -24259507.30 -24259507.18 0.0529 0.0197

Moon -71132-04-29 06:13 J -24259421.34 -24259421.24 -24259421.15 0.2726 0.1136

Earth -71132-04-29 06:13 J -24259421.34 -24259421.24 -24259421.14 0.2719 0.1074 *

Mars -71131-07-13 11:30 J -24258981.07 -24258981.02 -24258980.96 0.1976 0.1713

Venus -71131-07-19 12:42 J -24258975.06 -24258974.97 -24258974.87 0.3807 0.1468

Jupiter -71127-12-29 23:30 J -24257350.70 -24257350.52 -24257350.33 0.0497 0.0072

Venus -71125-02-02 05:45 J -24256951.36 -24256951.26 -24256951.15 0.3806 0.0146

Moon -71125-04-22 05:30 J -24256871.33 -24256871.27 -24256871.22 0.2711 0.2283

Earth -71125-04-22 05:59 J -24256871.31 -24256871.25 -24256871.18 0.2714 0.2159 *

Mars -71124-02-26 18:57 J -24256560.78 -24256560.71 -24256560.64 0.1573 0.1436

Saturn -71123-12-16 09:35 J -24255903.18 -24255903.10 -24255903.03 0.0298 0.0236

Saturn -71122-03-14 21:35 J -24255814.72 -24255814.60 -24255814.48 0.0297 0.0106

Saturn -71122-06-11 09:49 J -24255726.22 -24255726.09 -24255725.96 0.0296 0.0024

Saturn -71122-09-07 21:49 J -24255637.70 -24255637.59 -24255637.48 0.0295 0.0151

Saturn -71122-12-05 09:35 J -24255549.13 -24255549.10 -24255549.05 0.0294 0.0278

Jupiter -71121-08-24 03:21 J -24255286.45 -24255286.36 -24255286.27 0.0529 0.0378

Jupiter -71121-11-21 09:06 J -24255197.24 -24255197.12 -24255196.99 0.0529 0.0084

Venus -71120-08-17 23:01 J -24254927.64 -24254927.54 -24254927.44 0.3803 0.1575

Mars -71120-11-08 12:57 J -24254845.03 -24254844.96 -24254844.90 0.1965 0.1577

Earth -71119-05-01 23:45 J -24254670.57 -24254670.51 -24254670.45 0.2721 0.2236

Moon -71119-05-02 00:28 J -24254670.54 -24254670.48 -24254670.42 0.2725 0.2248 *

Pluto -71117-09-19 06:13 J -24253799.28 -24253799.24 -24253799.18 0.0084 0.0078

Pluto -71117-12-16 07:40 J -24253711.25 -24253711.18 -24253711.09 0.0084 0.0067

Pluto -71116-03-14 09:06 J -24253623.21 -24253623.12 -24253623.01 0.0084 0.0056

Pluto -71116-06-10 10:47 J -24253535.16 -24253535.05 -24253534.93 0.0084 0.0045

Pluto -71116-09-06 12:13 J -24253447.11 -24253446.99 -24253446.86 0.0084 0.0034

Pluto -71116-12-03 13:40 J -24253359.06 -24253358.93 -24253358.79 0.0084 0.0023

Pluto -71115-03-01 15:06 J -24253271.00 -24253270.87 -24253270.73 0.0084 0.0013

Pluto -71115-05-28 16:33 J -24253182.95 -24253182.81 -24253182.67 0.0083 0.0002

Pluto -71115-08-24 17:59 J -24253094.89 -24253094.75 -24253094.61 0.0083 0.0009

Jupiter -71115-10-17 19:25 J -24253040.88 -24253040.69 -24253040.51 0.0497 0.0085

Pluto -71115-11-20 19:25 J -24253006.83 -24253006.69 -24253006.56 0.0083 0.0019

Pluto -71114-02-16 20:37 J -24252918.76 -24252918.64 -24252918.51 0.0083 0.0030

Venus -71114-03-03 16:18 J -24252903.88 -24252903.82 -24252903.76 0.3801 0.3127

Pluto -71114-05-15 22:04 J -24252830.70 -24252830.58 -24252830.46 0.0083 0.0040

Pluto -71114-08-11 23:30 J -24252742.63 -24252742.52 -24252742.41 0.0083 0.0050

Pluto -71114-11-08 00:57 J -24252654.56 -24252654.46 -24252654.37 0.0083 0.0060

Pluto -71113-02-04 01:54 J -24252566.48 -24252566.42 -24252566.34 0.0082 0.0070

Pluto -71113-05-02 03:06 J -24252478.38 -24252478.37 -24252478.32 0.0082 0.0081

Mars -71113-06-25 13:25 J -24252424.03 -24252423.94 -24252423.86 0.1580 0.1349

Moon -71112-04-24 23:01 J -24252120.64 -24252120.54 -24252120.44 0.2717 0.1081

Earth -71112-04-24 23:45 J -24252120.61 -24252120.51 -24252120.41 0.2716 0.1009 *

Mars -71110-03-31 20:23 J -24251414.75 -24251414.65 -24251414.54 0.1969 0.0534

Jupiter -71109-06-12 07:40 J -24250976.22 -24250976.18 -24250976.13 0.0530 0.0491

Jupiter -71109-09-09 13:25 J -24250887.06 -24250886.94 -24250886.81 0.0529 0.0031

Moon -71109-10-20 22:18 J -24250845.70 -24250845.57 -24250845.43 0.2614 0.1571

Earth -71109-10-20 23:45 J -24250845.65 -24250845.51 -24250845.37 0.2619 0.1332 *

Jupiter -71109-12-07 19:25 J -24250797.76 -24250797.69 -24250797.62 0.0529 0.0434

Saturn -71107-09-25 10:04 J -24250141.19 -24250141.08 -24250140.96 0.0265 0.0214

Saturn -71107-12-23 08:09 J -24250052.35 -24250052.16 -24250051.98 0.0265 0.0076

Saturn -71106-03-22 06:13 J -24249963.43 -24249963.24 -24249963.06 0.0266 0.0064

Saturn -71106-06-19 04:18 J -24249874.44 -24249874.32 -24249874.20 0.0267 0.0205

Venus -71105-09-12 09:49 J -24249423.22 -24249423.09 -24249422.97 0.3572 0.1852

Mars -71104-11-15 15:21 J -24248994.02 -24248993.86 -24248993.70 0.1578 0.0462

Jupiter -71103-08-05 16:04 J -24248731.00 -24248730.83 -24248730.67 0.0497 0.0233

Jupiter -71103-11-04 02:52 J -24248640.50 -24248640.38 -24248640.25 0.0497 0.0356

Mars -71101-08-21 04:04 J -24247984.44 -24247984.33 -24247984.22 0.1973 0.0542

Venus -71099-03-29 14:09 J -24247399.05 -24247398.91 -24247398.77 0.3575 0.1075

Moon -71099-04-27 17:01 J -24247369.90 -24247369.79 -24247369.69 0.2724 0.0132

Earth -71099-04-27 17:16 J -24247369.89 -24247369.78 -24247369.67 0.2717 0.0150 *

Jupiter -71097-06-28 17:16 J -24246576.90 -24246576.78 -24246576.66 0.0529 0.0153

Jupiter -71097-09-25 23:01 J -24246487.64 -24246487.54 -24246487.44 0.0528 0.0309

Moon -71096-10-24 06:13 J -24246094.39 -24246094.24 -24246094.08 0.2616 0.0973

Earth -71096-10-24 08:09 J -24246094.31 -24246094.16 -24246094.01 0.2616 0.1082 *

Mars -71094-04-07 17:30 J -24245563.94 -24245563.77 -24245563.61 0.1575 0.0427

Uranus -71093-02-08 03:35 J -24245257.39 -24245257.35 -24245257.28 0.0135 0.0121

Saturn -71093-05-04 12:28 J -24245171.03 -24245170.98 -24245170.91 0.0299 0.0264

Uranus -71093-05-06 06:57 J -24245169.29 -24245169.21 -24245169.13 0.0135 0.0104

Saturn -71093-08-01 00:42 J -24245082.58 -24245082.47 -24245082.35 0.0298 0.0133

Uranus -71093-08-02 09:49 J -24245081.19 -24245081.09 -24245080.99 0.0135 0.0088

Saturn -71093-10-28 12:57 J -24244994.09 -24244993.96 -24244993.83 0.0297 0.0003

Uranus -71093-10-29 12:57 J -24244993.07 -24244992.96 -24244992.85 0.0135 0.0071

Saturn -71092-01-25 00:57 J -24244905.57 -24244905.46 -24244905.34 0.0296 0.0126

Uranus -71092-01-25 16:04 J -24244904.95 -24244904.83 -24244904.71 0.0136 0.0055

Saturn -71092-04-23 12:57 J -24244817.02 -24244816.96 -24244816.89 0.0295 0.0253

Uranus -71092-04-23 18:57 J -24244816.83 -24244816.71 -24244816.58 0.0136 0.0038

Uranus -71092-07-20 22:04 J -24244728.71 -24244728.58 -24244728.45 0.0136 0.0021

Uranus -71092-10-17 01:11 J -24244640.58 -24244640.45 -24244640.32 0.0136 0.0004

Mars -71091-01-11 11:30 J -24244554.08 -24244554.02 -24244553.95 0.1976 0.1601

Uranus -71091-01-13 04:18 J -24244552.45 -24244552.32 -24244552.19 0.0136 0.0013

Uranus -71091-04-11 07:25 J -24244464.32 -24244464.19 -24244464.06 0.0136 0.0030

Jupiter -71091-05-24 12:42 J -24244421.08 -24244420.97 -24244420.85 0.0497 0.0381

Uranus -71091-07-08 10:33 J -24244376.18 -24244376.06 -24244375.94 0.0136 0.0047

Jupiter -71091-08-22 23:59 J -24244330.67 -24244330.50 -24244330.33 0.0497 0.0211

Uranus -71091-10-04 13:40 J -24244288.05 -24244287.93 -24244287.81 0.0136 0.0064

Uranus -71091-12-31 16:47 J -24244199.90 -24244199.80 -24244199.69 0.0137 0.0082

Uranus -71090-03-29 19:54 J -24244111.76 -24244111.67 -24244111.58 0.0137 0.0099

Uranus -71090-06-25 23:01 J -24244023.60 -24244023.54 -24244023.47 0.0137 0.0117

Uranus -71090-09-22 02:09 J -24243935.42 -24243935.41 -24243935.38 0.0137 0.0134

Earth -71086-04-30 11:01 J -24242619.14 -24242619.04 -24242618.95 0.2719 0.1312

Moon -71086-04-30 11:01 J -24242619.13 -24242619.04 -24242618.94 0.2726 0.1303 *

Jupiter -71085-04-16 21:21 J -24242266.72 -24242266.61 -24242266.51 0.0529 0.0271

Jupiter -71085-07-15 03:06 J -24242177.49 -24242177.37 -24242177.26 0.0528 0.0192

Mars -71085-08-27 19:40 J -24242133.77 -24242133.68 -24242133.59 0.1573 0.1300

Mars -71080-05-09 12:57 J -24240418.01 -24240417.96 -24240417.90 0.1966 0.1698

Venus -71080-08-09 17:45 J -24240325.84 -24240325.76 -24240325.68 0.3809 0.2428

Moon -71079-04-23 10:04 J -24240069.15 -24240069.08 -24240069.00 0.2712 0.1945

Earth -71079-04-23 10:47 J -24240069.12 -24240069.05 -24240068.97 0.2714 0.1924 *

Jupiter -71079-06-10 20:52 J -24240020.82 -24240020.63 -24240020.44 0.0497 0.0064

Saturn -71077-02-12 10:33 J -24239409.13 -24239409.06 -24239408.98 0.0264 0.0242

Saturn -71077-05-11 08:37 J -24239320.32 -24239320.14 -24239319.96 0.0265 0.0105

Saturn -71077-08-08 06:42 J -24239231.41 -24239231.22 -24239231.03 0.0266 0.0035

Saturn -71077-11-05 04:33 J -24239142.45 -24239142.31 -24239142.16 0.0266 0.0175

Venus -71074-02-23 10:33 J -24238302.16 -24238302.06 -24238301.96 0.3807 0.0950

Mars -71074-12-25 14:09 J -24237996.97 -24237996.91 -24237996.86 0.1580 0.1488

Jupiter -71073-02-04 01:11 J -24237956.53 -24237956.45 -24237956.37 0.0529 0.0390

Earth -71073-05-02 04:33 J -24237868.35 -24237868.31 -24237868.26 0.2721 0.2470

Moon -71073-05-02 05:16 J -24237868.31 -24237868.28 -24237868.25 0.2725 0.2613 *

Jupiter -71073-05-03 06:57 J -24237867.34 -24237867.21 -24237867.09 0.0529 0.0071

Neptune -71071-02-17 17:01 J -24237211.79 -24237211.79 -24237211.77 0.0089 0.0089

Neptune -71071-05-16 20:23 J -24237123.70 -24237123.65 -24237123.55 0.0089 0.0082

Neptune -71071-08-13 00:42 J -24237035.57 -24237035.47 -24237035.36 0.0089 0.0074

Mars -71071-09-29 20:37 J -24236987.75 -24236987.64 -24236987.54 0.1969 0.0645

Neptune -71071-11-09 04:18 J -24236947.44 -24236947.32 -24236947.18 0.0089 0.0067

Neptune -71070-02-05 07:54 J -24236859.30 -24236859.17 -24236859.01 0.0089 0.0060

Neptune -71070-05-04 11:30 J -24236771.16 -24236771.02 -24236770.84 0.0089 0.0053

Neptune -71070-07-31 15:35 J -24236683.01 -24236682.85 -24236682.67 0.0089 0.0045

Neptune -71070-10-27 19:25 J -24236594.86 -24236594.69 -24236594.51 0.0089 0.0038

Neptune -71069-01-23 23:01 J -24236506.72 -24236506.54 -24236506.35 0.0089 0.0031

Neptune -71069-04-21 02:52 J -24236418.56 -24236418.38 -24236418.18 0.0089 0.0023

Neptune -71069-07-18 06:42 J -24236330.41 -24236330.22 -24236330.02 0.0089 0.0016

Venus -71069-09-08 03:35 J -24236278.45 -24236278.35 -24236278.24 0.3805 0.0587

Neptune -71069-10-14 10:33 J -24236242.26 -24236242.06 -24236241.86 0.0089 0.0009

Neptune -71068-01-10 14:09 J -24236154.10 -24236153.91 -24236153.71 0.0089 0.0003

Neptune -71068-04-08 17:59 J -24236065.94 -24236065.75 -24236065.55 0.0089 0.0006

Neptune -71068-07-05 21:35 J -24235977.79 -24235977.60 -24235977.40 0.0089 0.0014

Neptune -71068-10-02 01:25 J -24235889.63 -24235889.44 -24235889.24 0.0089 0.0021

Neptune -71068-12-29 05:16 J -24235801.47 -24235801.28 -24235801.09 0.0089 0.0028

Neptune -71067-03-27 08:52 J -24235713.30 -24235713.13 -24235712.94 0.0089 0.0035

Jupiter -71067-03-29 17:30 J -24235710.96 -24235710.77 -24235710.59 0.0497 0.0085

Neptune -71067-06-23 12:28 J -24235625.14 -24235624.98 -24235624.79 0.0089 0.0043

Neptune -71067-09-19 16:18 J -24235536.97 -24235536.82 -24235536.65 0.0089 0.0050

Neptune -71067-12-16 19:54 J -24235448.80 -24235448.67 -24235448.50 0.0089 0.0058

Neptune -71066-03-14 23:45 J -24235360.63 -24235360.51 -24235360.36 0.0089 0.0065

Moon -71066-04-26 03:49 J -24235318.44 -24235318.34 -24235318.24 0.2719 0.0878

Earth -71066-04-26 04:33 J -24235318.42 -24235318.31 -24235318.21 0.2716 0.0772 *

Neptune -71066-06-11 03:35 J -24235272.45 -24235272.35 -24235272.23 0.0089 0.0072

Neptune -71066-09-07 07:25 J -24235184.27 -24235184.19 -24235184.10 0.0089 0.0079

Neptune -71066-12-04 11:16 J -24235096.07 -24235096.03 -24235095.99 0.0089 0.0086

Mars -71064-05-16 16:04 J -24234566.98 -24234566.83 -24234566.67 0.1578 0.0600

Saturn -71064-09-21 15:21 J -24234438.87 -24234438.86 -24234438.84 0.0298 0.0294

Saturn -71064-12-19 03:35 J -24234350.45 -24234350.35 -24234350.24 0.0298 0.0163

Saturn -71063-03-17 15:49 J -24234261.97 -24234261.84 -24234261.71 0.0297 0.0033

Venus -71063-03-24 20:52 J -24234254.72 -24234254.63 -24234254.54 0.3803 0.2107

Saturn -71063-06-14 03:49 J -24234173.46 -24234173.34 -24234173.22 0.0296 0.0096

Saturn -71063-09-10 15:49 J -24234084.92 -24234084.84 -24234084.76 0.0295 0.0222

Moon -71063-10-22 05:16 J -24234043.44 -24234043.28 -24234043.13 0.2614 0.0894

Earth -71063-10-22 06:42 J -24234043.38 -24234043.22 -24234043.07 0.2618 0.0868 *

Jupiter -71062-11-23 05:30 J -24233646.31 -24233646.27 -24233646.23 0.0529 0.0503

Mars -71061-02-20 04:04 J -24233557.44 -24233557.33 -24233557.22 0.1973 0.0428

Jupiter -71061-02-20 11:16 J -24233557.16 -24233557.03 -24233556.90 0.0529 0.0042

Jupiter -71061-05-19 17:16 J -24233467.86 -24233467.78 -24233467.71 0.0529 0.0422

Venus -71058-10-08 14:09 J -24232230.93 -24232230.91 -24232230.89 0.3800 0.3677

Jupiter -71055-01-15 13:25 J -24231401.10 -24231400.94 -24231400.77 0.0496 0.0240

Jupiter -71055-04-16 00:28 J -24231310.61 -24231310.48 -24231310.35 0.0497 0.0349

Mars -71055-10-06 18:13 J -24231136.90 -24231136.74 -24231136.57 0.1575 0.0284

Uranus -71054-12-21 01:40 J -24230696.51 -24230696.43 -24230696.32 0.0143 0.0125

Uranus -71053-03-18 10:18 J -24230608.21 -24230608.07 -24230607.91 0.0143 0.0095

Moon -71053-04-27 21:49 J -24230567.70 -24230567.59 -24230567.48 0.2724 0.0352

Earth -71053-04-27 22:04 J -24230567.69 -24230567.58 -24230567.47 0.2718 0.0386 *

Uranus -71053-06-14 18:57 J -24230519.88 -24230519.71 -24230519.53 0.0143 0.0065

Uranus -71053-09-11 03:35 J -24230431.54 -24230431.35 -24230431.16 0.0143 0.0035

Uranus -71053-12-08 11:59 J -24230343.19 -24230343.00 -24230342.80 0.0143 0.0007

Uranus -71052-03-06 20:37 J -24230254.83 -24230254.64 -24230254.45 0.0143 0.0024

Uranus -71052-06-03 05:01 J -24230166.47 -24230166.29 -24230166.11 0.0143 0.0053

Mars -71052-07-12 11:45 J -24230127.09 -24230127.01 -24230126.94 0.1976 0.1485

Uranus -71052-08-30 12:57 J -24230078.10 -24230077.96 -24230077.79 0.0142 0.0083

Uranus -71052-11-26 21:35 J -24229989.72 -24229989.60 -24229989.48 0.0142 0.0111

Uranus -71051-02-23 05:45 J -24229901.29 -24229901.26 -24229901.22 0.0142 0.0139

Moon -71050-10-25 12:57 J -24229292.10 -24229291.96 -24229291.81 0.2617 0.1277

Earth -71050-10-25 14:52 J -24229292.01 -24229291.88 -24229291.75 0.2616 0.1549 *

Jupiter -71050-12-09 15:35 J -24229246.97 -24229246.85 -24229246.73 0.0529 0.0156

Jupiter -71049-03-07 21:35 J -24229157.71 -24229157.60 -24229157.50 0.0529 0.0309

Venus -71048-04-19 10:33 J -24228750.20 -24228750.06 -24228749.91 0.3573 0.0866

Saturn -71048-09-28 07:25 J -24228588.35 -24228588.19 -24228588.02 0.0265 0.0144

Saturn -71048-12-26 05:30 J -24228499.46 -24228499.27 -24228499.08 0.0265 0.0005

Saturn -71047-03-25 03:35 J -24228410.52 -24228410.35 -24228410.18 0.0266 0.0135

Mars -71045-02-26 20:23 J -24227706.77 -24227706.65 -24227706.54 0.1573 0.1168

Jupiter -71044-11-03 10:04 J -24227091.19 -24227091.08 -24227090.96 0.0496 0.0387

Jupiter -71043-02-01 21:21 J -24227000.78 -24227000.61 -24227000.44 0.0497 0.0203

Venus -71043-11-03 14:52 J -24226726.00 -24226725.88 -24226725.76 0.3575 0.2023

Mars -71041-11-07 12:57 J -24225991.01 -24225990.96 -24225990.92 0.1965 0.1802

Earth -71040-04-30 15:49 J -24225816.93 -24225816.84 -24225816.76 0.2719 0.1545

Moon -71040-04-30 16:04 J -24225816.92 -24225816.83 -24225816.74 0.2725 0.1607 *

Jupiter -71038-09-27 19:25 J -24224936.79 -24224936.69 -24224936.58 0.0529 0.0277

Jupiter -71038-12-26 01:11 J -24224847.56 -24224847.45 -24224847.33 0.0528 0.0186

Saturn -71034-05-08 06:28 J -24223618.33 -24223618.23 -24223618.13 0.0298 0.0193

Saturn -71034-08-04 18:42 J -24223529.85 -24223529.72 -24223529.60 0.0297 0.0063

Saturn -71034-11-01 06:42 J -24223441.35 -24223441.22 -24223441.09 0.0297 0.0067

Saturn -71033-01-28 18:42 J -24223352.82 -24223352.72 -24223352.62 0.0296 0.0194

Moon -71033-04-23 15:06 J -24223266.95 -24223266.87 -24223266.80 0.2712 0.1831

Earth -71033-04-23 15:35 J -24223266.93 -24223266.85 -24223266.76 0.2714 0.1686 *

Jupiter -71032-11-20 18:13 J -24222690.93 -24222690.74 -24222690.56 0.0497 0.0056

Mars -71031-03-30 20:23 J -24222560.75 -24222560.65 -24222560.54 0.1970 0.0741

Venus -71029-08-30 22:33 J -24221676.60 -24221676.56 -24221676.51 0.3810 0.3391

Earth -71027-05-03 09:21 J -24221066.11 -24221066.11 -24221066.10 0.2721 0.2707

Jupiter -71026-07-16 23:30 J -24220626.60 -24220626.52 -24220626.43 0.0529 0.0393

Jupiter -71026-10-14 05:16 J -24220537.40 -24220537.28 -24220537.15 0.0528 0.0070

Mars -71025-11-14 16:47 J -24220139.95 -24220139.80 -24220139.65 0.1578 0.0736

Venus -71023-03-16 15:21 J -24219652.95 -24219652.86 -24219652.77 0.3808 0.1928

Mars -71022-08-21 04:04 J -24219130.44 -24219130.33 -24219130.21 0.1973 0.0307

Moon -71020-04-26 08:37 J -24218516.24 -24218516.14 -24218516.03 0.2721 0.0558

Earth -71020-04-26 09:21 J -24218516.22 -24218516.11 -24218516.01 0.2716 0.0540 *

Jupiter -71020-09-08 15:06 J -24218381.06 -24218380.87 -24218380.69 0.0497 0.0091

Saturn -71018-02-15 07:25 J -24217856.32 -24217856.19 -24217856.04 0.0264 0.0176

Saturn -71018-05-15 05:30 J -24217767.46 -24217767.27 -24217767.08 0.0265 0.0037

Saturn -71018-08-12 03:35 J -24217678.53 -24217678.35 -24217678.17 0.0266 0.0103

Venus -71018-09-30 08:23 J -24217629.25 -24217629.15 -24217629.05 0.3807 0.0429

Saturn -71018-11-09 01:40 J -24217589.50 -24217589.43 -24217589.35 0.0267 0.0243

Moon -71017-10-22 11:59 J -24217241.16 -24217241.00 -24217240.84 0.2615 0.0641

Earth -71017-10-22 13:25 J -24217241.10 -24217240.94 -24217240.77 0.2618 0.0391 *

Mars -71015-04-06 18:57 J -24216709.88 -24216709.71 -24216709.54 0.1575 0.0147

Jupiter -71014-05-05 03:35 J -24216316.38 -24216316.35 -24216316.32 0.0529 0.0512

Jupiter -71014-08-02 09:21 J -24216227.24 -24216227.11 -24216226.99 0.0529 0.0053

Jupiter -71014-10-30 15:06 J -24216137.95 -24216137.87 -24216137.79 0.0528 0.0411

Mars -71012-01-10 11:30 J -24215700.10 -24215700.02 -24215699.94 0.1976 0.1380

Venus -71012-04-15 01:25 J -24215605.54 -24215605.44 -24215605.34 0.3804 0.1100

Uranus -71010-12-02 07:54 J -24214644.18 -24214644.17 -24214644.13 0.0135 0.0133

Uranus -71009-02-28 11:16 J -24214556.09 -24214556.03 -24214555.97 0.0135 0.0116

Uranus -71009-05-26 14:09 J -24214467.99 -24214467.91 -24214467.82 0.0135 0.0100

Uranus -71009-08-22 17:16 J -24214379.88 -24214379.78 -24214379.68 0.0135 0.0083

Uranus -71009-11-18 20:23 J -24214291.76 -24214291.65 -24214291.54 0.0135 0.0067

Uranus -71008-02-14 23:16 J -24214203.65 -24214203.53 -24214203.40 0.0136 0.0050

Uranus -71008-05-14 02:23 J -24214115.52 -24214115.40 -24214115.27 0.0136 0.0034

Jupiter -71008-06-27 11:45 J -24214071.17 -24214071.01 -24214070.85 0.0497 0.0238

Uranus -71008-08-10 05:30 J -24214027.40 -24214027.27 -24214027.14 0.0136 0.0017

Jupiter -71008-09-25 22:47 J -24213980.68 -24213980.55 -24213980.42 0.0497 0.0352

Uranus -71008-11-06 08:37 J -24213939.27 -24213939.14 -24213939.01 0.0136 0.0001

Uranus -71007-02-02 11:45 J -24213851.14 -24213851.01 -24213850.88 0.0136 0.0018

Moon -71007-04-29 02:37 J -24213765.49 -24213765.39 -24213765.28 0.2724 0.0589

Earth -71007-04-29 02:52 J -24213765.48 -24213765.38 -24213765.27 0.2718 0.0623 *

Uranus -71007-05-01 14:52 J -24213763.01 -24213762.88 -24213762.75 0.0136 0.0035

Uranus -71007-07-28 17:45 J -24213674.87 -24213674.76 -24213674.63 0.0136 0.0053

Uranus -71007-10-24 20:52 J -24213586.73 -24213586.63 -24213586.51 0.0136 0.0070

Venus -71007-10-29 18:42 J -24213581.79 -24213581.72 -24213581.65 0.3802 0.2651

Uranus -71006-01-21 00:13 J -24213498.59 -24213498.49 -24213498.39 0.0137 0.0087

Uranus -71006-04-19 03:21 J -24213410.44 -24213410.36 -24213410.27 0.0137 0.0104

Uranus -71006-07-16 06:28 J -24213322.28 -24213322.23 -24213322.17 0.0137 0.0122

Mars -71006-08-27 21:06 J -24213279.75 -24213279.62 -24213279.49 0.1573 0.1027

Saturn -71005-09-24 08:52 J -24212886.21 -24212886.13 -24212886.04 0.0298 0.0227

Saturn -71005-12-21 21:06 J -24212797.74 -24212797.62 -24212797.50 0.0297 0.0097

Saturn -71004-03-20 09:06 J -24212709.24 -24212709.12 -24212708.99 0.0297 0.0035

Saturn -71004-06-16 21:21 J -24212620.72 -24212620.61 -24212620.51 0.0296 0.0161

Saturn -71004-09-13 09:21 J -24212532.14 -24212532.11 -24212532.09 0.0295 0.0287

Moon -71004-10-25 19:54 J -24212489.78 -24212489.67 -24212489.56 0.2617 0.1935

Earth -71004-10-25 21:49 J -24212489.69 -24212489.59 -24212489.49 0.2616 0.2019 *

Jupiter -71002-05-21 13:40 J -24211917.05 -24211916.93 -24211916.81 0.0529 0.0165

Jupiter -71002-08-18 19:25 J -24211827.79 -24211827.69 -24211827.58 0.0529 0.0299

Mars -71001-05-08 12:57 J -24211563.99 -24211563.96 -24211563.94 0.1965 0.1910

71ST MILLENNIUM BCE

This is a list of transits of Mercury in the 71st millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Moon	**-71000-04-22 02:23**	**J**	**-24211215.41**	**-24211215.40**	**-24211215.40**	**0.2707**	**0.2700**	
Earth	**-71000-04-22 02:52**	**J**	**-24211215.41**	**-24211215.38**	**-24211215.35**	**0.2712**	**0.2601**	*
Venus	**-70997-05-10 06:57**	**J**	**-24210101.29**	**-24210101.21**	**-24210101.12**	**0.3571**	**0.2855**	
Jupiter	**-70996-04-15 07:54**	**J**	**-24209761.28**	**-24209761.17**	**-24209761.05**	**0.0496**	**0.0391**	
Jupiter	**-70996-07-14 19:11**	**J**	**-24209670.87**	**-24209670.70**	**-24209670.53**	**0.0497**	**0.0200**	
Earth	**-70994-05-01 20:37**	**J**	**-24209014.72**	**-24209014.64**	**-24209014.56**	**0.2720**	**0.1782**	
Moon	**-70994-05-01 20:52**	**J**	**-24209014.70**	**-24209014.63**	**-24209014.55**	**0.2726**	**0.1833**	*
Mars	**-70992-09-28 20:23**	**J**	**-24208133.75**	**-24208133.65**	**-24208133.54**	**0.1969**	**0.0870**	
Venus	**-70992-11-24 11:30**	**J**	**-24208077.16**	**-24208077.02**	**-24208076.87**	**0.3573**	**0.0174**	
Jupiter	**-70990-03-09 17:59**	**J**	**-24207606.85**	**-24207606.75**	**-24207606.64**	**0.0529**	**0.0278**	
Jupiter	**-70990-06-06 23:59**	**J**	**-24207517.62**	**-24207517.50**	**-24207517.39**	**0.0529**	**0.0187**	
Neptune	**-70990-08-30 07:25**	**J**	**-24207433.21**	**-24207433.19**	**-24207433.15**	**0.0089**	**0.0086**	
Neptune	**-70990-11-26 08:52**	**J**	**-24207345.18**	**-24207345.13**	**-24207345.07**	**0.0089**	**0.0081**	
Neptune	**-70989-02-22 10:18**	**J**	**-24207257.14**	**-24207257.07**	**-24207257.00**	**0.0089**	**0.0076**	
Neptune	**-70989-05-20 11:16**	**J**	**-24207169.09**	**-24207169.03**	**-24207168.94**	**0.0089**	**0.0072**	
Saturn	**-70989-07-04 05:45**	**J**	**-24207124.36**	**-24207124.26**	**-24207124.15**	**0.0264**	**0.0218**	
Neptune	**-70989-08-16 12:42**	**J**	**-24207081.05**	**-24207080.97**	**-24207080.87**	**0.0089**	**0.0066**	
Saturn	**-70989-10-01 03:49**	**J**	**-24207035.52**	**-24207035.34**	**-24207035.16**	**0.0265**	**0.0080**	
Neptune	**-70989-11-12 13:54**	**J**	**-24206993.00**	**-24206992.92**	**-24206992.81**	**0.0089**	**0.0062**	
Saturn	**-70989-12-29 01:40**	**J**	**-24206946.61**	**-24206946.43**	**-24206946.24**	**0.0266**	**0.0059**	
Neptune	**-70988-02-08 15:21**	**J**	**-24206904.95**	**-24206904.86**	**-24206904.75**	**0.0089**	**0.0057**	
Saturn	**-70988-03-27 23:45**	**J**	**-24206857.63**	**-24206857.51**	**-24206857.38**	**0.0266**	**0.0199**	

Neptune -70988-05-07 16:33 J -24206816.91 -24206816.81 -24206816.69 0.0089 0.0052

Neptune -70988-08-03 17:59 J -24206728.86 -24206728.75 -24206728.63 0.0089 0.0047

Neptune -70988-10-30 19:25 J -24206640.81 -24206640.69 -24206640.58 0.0089 0.0042

Neptune -70987-01-26 20:37 J -24206552.76 -24206552.64 -24206552.52 0.0089 0.0037

Moon -70987-04-24 19:40 J -24206464.77 -24206464.68 -24206464.59 0.2713 0.1472

Earth -70987-04-24 20:23 J -24206464.74 -24206464.65 -24206464.56 0.2714 0.1452 *

Neptune -70987-04-24 22:04 J -24206464.71 -24206464.58 -24206464.46 0.0089 0.0032 *

Neptune -70987-07-21 23:01 J -24206376.65 -24206376.54 -24206376.40 0.0089 0.0028

Neptune -70987-10-18 00:28 J -24206288.60 -24206288.48 -24206288.35 0.0089 0.0023

Neptune -70986-01-14 01:40 J -24206200.55 -24206200.43 -24206200.29 0.0089 0.0018

Neptune -70986-04-12 03:06 J -24206112.50 -24206112.37 -24206112.24 0.0089 0.0013

Venus -70986-06-10 15:35 J -24206052.93 -24206052.85 -24206052.77 0.3576 0.2970

Neptune -70986-07-09 04:18 J -24206024.45 -24206024.32 -24206024.18 0.0089 0.0008

Neptune -70986-10-05 05:45 J -24205936.39 -24205936.26 -24205936.13 0.0089 0.0003

Neptune -70985-01-01 06:57 J -24205848.34 -24205848.21 -24205848.08 0.0089 0.0003

Neptune -70985-03-29 08:09 J -24205760.29 -24205760.16 -24205760.02 0.0089 0.0008

Mars -70985-05-15 17:30 J -24205712.91 -24205712.77 -24205712.63 0.1578 0.0871

Neptune -70985-06-25 09:35 J -24205672.23 -24205672.10 -24205671.97 0.0089 0.0012

Neptune -70985-09-21 10:47 J -24205584.18 -24205584.05 -24205583.92 0.0089 0.0017

Neptune -70985-12-18 12:13 J -24205496.12 -24205495.99 -24205495.86 0.0089 0.0022

Neptune -70984-03-16 13:25 J -24205408.06 -24205407.94 -24205407.81 0.0089 0.0027

Jupiter -70984-05-02 16:04 J -24205361.02 -24205360.83 -24205360.65 0.0497 0.0054

Neptune -70984-06-12 14:37 J -24205320.01 -24205319.89 -24205319.76 0.0089 0.0032

Neptune -70984-09-08 15:49 J -24205231.95 -24205231.84 -24205231.71 0.0089 0.0037

Moon -70984-10-20 11:01 J -24205190.09 -24205190.04 -24205189.99 0.2614 0.2477

Earth -70984-10-20 11:59 J -24205190.07 -24205190.00 -24205189.93 0.2620 0.2349 *

Neptune -70984-12-05 17:16 J -24205143.89 -24205143.78 -24205143.66 0.0089 0.0041

Neptune -70983-03-03 18:42 J -24205055.83 -24205055.72 -24205055.61 0.0089 0.0046

Neptune -70983-05-30 19:54 J -24204967.78 -24204967.67 -24204967.56 0.0089 0.0051

Neptune -70983-08-26 21:06 J -24204879.72 -24204879.62 -24204879.51 0.0089 0.0056

Neptune -70983-11-22 22:18 J -24204791.66 -24204791.57 -24204791.47 0.0089 0.0061

Neptune -70982-02-18 23:30 J -24204703.59 -24204703.52 -24204703.42 0.0089 0.0066

Mars -70982-02-19 04:04 J -24204703.45 -24204703.33 -24204703.22 0.1973 0.0219 *

Neptune -70982-05-18 00:42 J -24204615.53 -24204615.47 -24204615.37 0.0089 0.0071

Neptune -70982-08-14 02:23 J -24204527.47 -24204527.40 -24204527.33 0.0089 0.0075

Neptune -70982-11-10 03:35 J -24204439.40 -24204439.35 -24204439.29 0.0089 0.0080

Neptune -70981-02-06 04:47 J -24204351.33 -24204351.30 -24204351.26 0.0089 0.0085

Jupiter -70979-12-26 22:04 J -24203296.66 -24203296.58 -24203296.50 0.0529 0.0395

Jupiter -70978-03-26 03:49 J -24203207.46 -24203207.34 -24203207.21 0.0529 0.0066

Mars -70976-10-05 19:40 J -24202282.85 -24202282.68 -24202282.51 0.1575 0.0027

Saturn -70975-02-11 11:16 J -24202154.09 -24202154.03 -24202153.97 0.0299 0.0262

Saturn -70975-05-10 23:30 J -24202065.64 -24202065.52 -24202065.40 0.0298 0.0131

Saturn -70975-08-07 11:45 J -24201977.14 -24201977.01 -24201976.89 0.0297 0.0009

Saturn -70975-11-03 23:45 J -24201888.63 -24201888.51 -24201888.39 0.0296 0.0128

Saturn -70974-01-31 11:45 J -24201800.07 -24201800.01 -24201799.95 0.0295 0.0255

Moon -70974-04-27 13:25 J -24201714.04 -24201713.94 -24201713.83 0.2721 0.0439

Earth -70974-04-27 14:09 J -24201714.02 -24201713.91 -24201713.81 0.2716 0.0306 *

Mars -70973-07-11 11:30 J -24201273.10 -24201273.02 -24201272.93 0.1976 0.1264

Jupiter -70972-02-18 12:42 J -24201051.15 -24201050.97 -24201050.78 0.0497 0.0095

Venus -70972-04-06 20:23 J -24201003.72 -24201003.65 -24201003.59 0.3810 0.2897

Jupiter -70972-05-19 23:30 J -24200960.52 -24200960.52 -24200960.50 0.0498 0.0496

Moon -70971-10-23 18:28 J -24200438.89 -24200438.73 -24200438.56 0.2616 0.0021

Earth -70971-10-23 20:23 J -24200438.82 -24200438.65 -24200438.49 0.2618 0.0101 *

Uranus -70970-10-14 02:09 J -24200083.42 -24200083.41 -24200083.38 0.0144 0.0143

Uranus -70969-01-10 10:47 J -24199995.16 -24199995.05 -24199994.92 0.0143 0.0113

Uranus -70969-04-07 19:25 J -24199906.84 -24199906.69 -24199906.52 0.0143 0.0083

Uranus -70969-07-05 04:04 J -24199818.51 -24199818.33 -24199818.15 0.0143 0.0053

Uranus -70969-10-01 12:42 J -24199730.16 -24199729.97 -24199729.78 0.0143 0.0023

Uranus -70969-12-28 21:06 J -24199641.81 -24199641.62 -24199641.42 0.0143 0.0006

Uranus -70968-03-27 05:30 J -24199553.46 -24199553.27 -24199553.08 0.0143 0.0036

Uranus -70968-06-23 13:54 J -24199465.09 -24199464.92 -24199464.75 0.0143 0.0065

Uranus -70968-09-19 22:04 J -24199376.72 -24199376.58 -24199376.42 0.0142 0.0094

Uranus -70968-12-17 06:13 J -24199288.32 -24199288.24 -24199288.13 0.0142 0.0123

Jupiter -70967-10-15 02:23 J -24198986.43 -24198986.40 -24198986.37 0.0529 0.0509

Venus -70967-10-21 13:11 J -24198980.05 -24198979.95 -24198979.85 0.3808 0.1412

Jupiter -70966-01-12 08:09 J -24198897.29 -24198897.16 -24198897.04 0.0528 0.0053

Mars -70966-02-25 21:49 J -24198852.73 -24198852.59 -24198852.45 0.1573 0.0894

Jupiter -70966-04-11 13:54 J -24198808.00 -24198807.92 -24198807.85 0.0528 0.0412

Pluto -70963-12-16 15:21 J -24197462.87 -24197462.86 -24197462.82 0.0060 0.0059

Pluto -70962-03-14 16:33 J -24197374.87 -24197374.81 -24197374.72 0.0060 0.0054

Pluto -70962-06-10 17:30 J -24197286.85 -24197286.77 -24197286.64 0.0060 0.0050

Pluto -70962-09-06 18:42 J -24197198.82 -24197198.72 -24197198.57 0.0060 0.0045

Pluto -70962-12-03 20:23 J -24197110.78 -24197110.65 -24197110.50 0.0060 0.0039

Pluto -70961-02-29 21:35 J -24197022.74 -24197022.60 -24197022.44 0.0060 0.0034

Moon -70961-04-29 07:40 J -24196963.28 -24196963.18 -24196963.08 0.2725 0.0893

Earth -70961-04-29 07:40 J -24196963.28 -24196963.18 -24196963.08 0.2718 0.0858 *

Venus -70961-05-06 06:13 J -24196956.34 -24196956.24 -24196956.13 0.3806 0.0101

Pluto -70961-05-27 22:47 J -24196934.70 -24196934.55 -24196934.38 0.0060 0.0028

Pluto -70961-08-24 00:13 J -24196846.66 -24196846.49 -24196846.32 0.0060 0.0023

Pluto -70961-11-20 01:25 J -24196758.61 -24196758.44 -24196758.26 0.0061 0.0018

Jupiter -70961-12-07 09:49 J -24196741.26 -24196741.09 -24196740.93 0.0497 0.0241

Pluto -70960-02-16 02:37 J -24196670.56 -24196670.39 -24196670.20 0.0061 0.0013

Jupiter -70960-03-07 20:52 J -24196650.76 -24196650.63 -24196650.50 0.0497 0.0352

Pluto -70960-05-15 04:04 J -24196582.51 -24196582.33 -24196582.14 0.0061 0.0007

Pluto -70960-08-11 05:16 J -24196494.46 -24196494.28 -24196494.09 0.0061 0.0002

Pluto -70960-11-07 06:42 J -24196406.41 -24196406.22 -24196406.04 0.0061 0.0004

Saturn -70960-11-21 05:30 J -24196392.32 -24196392.27 -24196392.22 0.0264 0.0252

Pluto -70959-02-03 07:40 J -24196318.35 -24196318.18 -24196317.98 0.0061 0.0010

Saturn -70959-02-18 03:21 J -24196303.53 -24196303.36 -24196303.19 0.0264 0.0115

Pluto -70959-05-02 09:06 J -24196230.29 -24196230.12 -24196229.93 0.0061 0.0015

Saturn -70959-05-18 01:11 J -24196214.64 -24196214.45 -24196214.25 0.0265 0.0024

Pluto -70959-07-29 10:33 J -24196142.23 -24196142.06 -24196141.88 0.0061 0.0020

Saturn -70959-08-14 23:16 J -24196125.68 -24196125.53 -24196125.38 0.0266 0.0163

Pluto -70959-10-25 11:30 J -24196054.17 -24196054.02 -24196053.84 0.0061 0.0026

Pluto -70958-01-21 13:11 J -24195966.11 -24195965.95 -24195965.79 0.0061 0.0032

Pluto -70958-04-19 14:09 J -24195878.04 -24195877.91 -24195877.75 0.0061 0.0038

Pluto -70958-07-16 15:21 J -24195789.97 -24195789.86 -24195789.71 0.0061 0.0043

Pluto -70958-10-12 16:47 J -24195701.90 -24195701.80 -24195701.67 0.0061 0.0049

Moon -70958-10-27 02:52 J -24195687.47 -24195687.38 -24195687.29 0.2617 0.2205

Earth -70958-10-27 04:33 J -24195687.35 -24195687.31 -24195687.26 0.2616 0.2488 *

Pluto -70957-01-08 17:59 J -24195613.81 -24195613.75 -24195613.64 0.0061 0.0055

Pluto -70957-04-05 19:11 J -24195525.71 -24195525.70 -24195525.63 0.0062 0.0061

Venus -70956-11-19 23:16 J -24194932.62 -24194932.53 -24194932.43 0.3804 0.1638

Jupiter -70955-10-31 11:59 J -24194587.12 -24194587.00 -24194586.88 0.0529 0.0169

Jupiter -70954-01-28 17:45 J -24194497.86 -24194497.76 -24194497.65 0.0528 0.0293

Moon -70954-04-23 07:11 J -24194413.25 -24194413.20 -24194413.16 0.2708 0.2387

Earth -70954-04-23 07:40 J -24194413.23 -24194413.18 -24194413.13 0.2713 0.2365 *

Mars -70952-03-29 20:23 J -24193706.75 -24193706.65 -24193706.55 0.1969 0.0973

Venus -70950-06-05 16:33 J -24192908.86 -24192908.81 -24192908.75 0.3801 0.3205

Jupiter -70949-09-25 06:28 J -24192431.34 -24192431.23 -24192431.11 0.0497 0.0387

Jupiter -70949-12-24 17:45 J -24192340.93 -24192340.76 -24192340.59 0.0497 0.0206

Earth -70948-05-02 01:25 J -24192212.51 -24192212.44 -24192212.37 0.2720 0.2017

Moon -70948-05-02 01:40 J -24192212.49 -24192212.43 -24192212.36 0.2726 0.2070 *

Saturn -70946-09-28 01:40 J -24191333.53 -24191333.43 -24191333.32 0.0298 0.0168

Mars -70946-11-14 18:13 J -24191285.87 -24191285.74 -24191285.61 0.1578 0.1012

Saturn -70946-12-25 13:54 J -24191245.05 -24191244.92 -24191244.79 0.0297 0.0038

Saturn -70945-03-23 01:54 J -24191156.54 -24191156.42 -24191156.30 0.0296 0.0092

Saturn -70945-06-19 13:54 J -24191068.00 -24191067.92 -24191067.83 0.0295 0.0219

Jupiter -70943-08-19 16:18 J -24190276.92 -24190276.82 -24190276.71 0.0529 0.0283

Mars -70943-08-20 04:04 J -24190276.44 -24190276.33 -24190276.22 0.1973 0.0088

Jupiter -70943-11-16 22:04 J -24190187.70 -24190187.58 -24190187.46 0.0529 0.0181

Moon -70941-04-25 00:28 J -24189662.57 -24189662.48 -24189662.38 0.2716 0.1357

Earth -70941-04-25 01:11 J -24189662.54 -24189662.45 -24189662.35 0.2714 0.1218 *

Venus -70941-12-15 08:09 J -24189428.29 -24189428.16 -24189428.03 0.3572 0.1838

Moon -70938-10-21 17:45 J -24188387.87 -24188387.76 -24188387.65 0.2615 0.1957

Earth -70938-10-21 18:42 J -24188387.83 -24188387.72 -24188387.61 0.2620 0.1882 *

Jupiter -70937-10-12 14:23 J -24188031.09 -24188030.90 -24188030.72 0.0497 0.0056

Mars -70936-04-05 20:23 J -24187855.82 -24187855.65 -24187855.48 0.1575 0.0125

Venus -70935-07-01 12:28 J -24187404.12 -24187403.98 -24187403.84 0.3574 0.1112

Mars -70933-01-10 11:30 J -24186846.11 -24186846.02 -24186845.93 0.1976 0.1155

Jupiter -70931-06-07 20:52 J -24185966.71 -24185966.63 -24185966.55 0.0529 0.0394

Jupiter -70931-09-05 02:37 J -24185877.52 -24185877.39 -24185877.27 0.0529 0.0069

Saturn -70930-07-08 00:57 J -24185571.61 -24185571.46 -24185571.30 0.0264 0.0161

Saturn -70930-10-04 23:01 J -24185482.73 -24185482.54 -24185482.35 0.0265 0.0024

Saturn -70929-01-01 20:52 J -24185393.80 -24185393.63 -24185393.45 0.0266 0.0116

Saturn -70929-03-30 18:42 J -24185304.76 -24185304.72 -24185304.66 0.0266 0.0257

Moon -70928-04-27 18:28 J -24184911.84 -24184911.73 -24184911.63 0.2721 0.0136

Earth -70928-04-27 18:57 J -24184911.82 -24184911.71 -24184911.61 0.2716 0.0108 *

Mars -70927-08-26 22:18 J -24184425.71 -24184425.57 -24184425.42 0.1573 0.0761

Uranus -70926-12-22 15:35 J -24183942.88 -24183942.85 -24183942.80 0.0135 0.0128

Uranus -70925-03-19 18:42 J -24183854.79 -24183854.72 -24183854.64 0.0135 0.0111

Uranus -70925-06-15 21:35 J -24183766.68 -24183766.60 -24183766.50 0.0135 0.0095

Jupiter -70925-07-31 11:16 J -24183721.21 -24183721.03 -24183720.84 0.0497 0.0090

Uranus -70925-09-12 00:42 J -24183678.57 -24183678.47 -24183678.36 0.0135 0.0079

Moon -70925-10-24 01:11 J -24183636.61 -24183636.45 -24183636.28 0.2616 0.0276

Earth -70925-10-24 03:06 J -24183636.53 -24183636.37 -24183636.21 0.2618 0.0538 *

Uranus -70925-12-09 03:49 J -24183590.45 -24183590.34 -24183590.22 0.0136 0.0062

Uranus -70924-03-07 06:57 J -24183502.33 -24183502.21 -24183502.09 0.0136 0.0045

Uranus -70924-06-03 10:04 J -24183414.21 -24183414.08 -24183413.95 0.0136 0.0028

Uranus -70924-08-30 13:11 J -24183326.09 -24183325.95 -24183325.82 0.0136 0.0012

Uranus -70924-11-26 16:04 J -24183237.96 -24183237.83 -24183237.69 0.0136 0.0007

Uranus -70923-02-22 19:11 J -24183149.83 -24183149.70 -24183149.57 0.0136 0.0023

Uranus -70923-05-21 22:18 J -24183061.69 -24183061.57 -24183061.44 0.0136 0.0040

Uranus -70923-08-18 01:25 J -24182973.56 -24182973.44 -24182973.32 0.0136 0.0057

Uranus -70923-11-14 04:33 J -24182885.42 -24182885.31 -24182885.20 0.0137 0.0075

Uranus -70922-02-10 07:40 J -24182797.27 -24182797.18 -24182797.08 0.0137 0.0092

Uranus -70922-05-09 10:47 J -24182709.12 -24182709.05 -24182708.97 0.0137 0.0110

Uranus -70922-08-05 13:54 J -24182620.96 -24182620.92 -24182620.86 0.0137 0.0127

Jupiter -70919-03-27 00:57 J -24181656.49 -24181656.46 -24181656.43 0.0529 0.0510

Jupiter -70919-06-24 06:42 J -24181567.34 -24181567.22 -24181567.09 0.0529 0.0050

Jupiter -70919-09-21 12:28 J -24181478.05 -24181477.98 -24181477.90 0.0528 0.0413

Saturn -70916-02-14 03:21 J -24180601.45 -24180601.36 -24180601.26 0.0299 0.0209

Saturn -70916-05-13 15:35 J -24180512.97 -24180512.85 -24180512.72 0.0298 0.0078

Saturn -70916-08-10 03:49 J -24180424.47 -24180424.34 -24180424.21 0.0297 0.0053

Saturn -70916-11-06 15:49 J -24180335.94 -24180335.84 -24180335.74 0.0296 0.0181

Venus -70916-11-11 17:59 J -24180330.83 -24180330.75 -24180330.67 0.3809 0.2390

Earth -70915-04-30 12:28 J -24180161.08 -24180160.98 -24180160.88 0.2718 0.1096

Moon -70915-04-30 12:42 J -24180161.07 -24180160.97 -24180160.88 0.2725 0.1062 *

Jupiter -70913-05-19 07:40 J -24179411.34 -24179411.18 -24179411.01 0.0497 0.0242

Jupiter -70913-08-17 18:57 J -24179320.84 -24179320.71 -24179320.58 0.0498 0.0352

Mars -70913-09-27 20:23 J -24179279.74 -24179279.65 -24179279.55 0.1969 0.1083

Venus -70910-05-28 11:01 J -24178307.14 -24178307.04 -24178306.94 0.3807 0.0891

Moon -70908-04-23 11:45 J -24177611.06 -24177611.01 -24177610.94 0.2708 0.2220

Earth -70908-04-23 12:28 J -24177611.05 -24177610.98 -24177610.92 0.2713 0.2130 *

Jupiter -70907-04-12 11:01 J -24177257.16 -24177257.04 -24177256.92 0.0528 0.0163

Jupiter -70907-07-10 16:47 J -24177167.90 -24177167.80 -24177167.70 0.0528 0.0299

Neptune -70907-11-14 14:23 J -24177040.91 -24177040.90 -24177040.87 0.0089 0.0088

Neptune -70906-02-10 17:59 J -24176952.81 -24176952.75 -24176952.65 0.0089 0.0081

Neptune -70906-05-09 21:35 J -24176864.69 -24176864.60 -24176864.47 0.0089 0.0074

Mars -70906-05-15 18:57 J -24176858.83 -24176858.71 -24176858.60 0.1578 0.1144

Neptune -70906-08-06 01:25 J -24176776.55 -24176776.44 -24176776.29 0.0089 0.0067

Neptune -70906-11-02 05:30 J -24176688.41 -24176688.27 -24176688.12 0.0089 0.0059

Neptune -70905-01-29 09:06 J -24176600.27 -24176600.12 -24176599.95 0.0089 0.0052

Neptune -70905-04-26 12:42 J -24176512.12 -24176511.97 -24176511.78 0.0089 0.0045

Neptune -70905-07-23 16:47 J -24176423.98 -24176423.80 -24176423.62 0.0089 0.0037

Neptune -70905-10-19 20:23 J -24176335.83 -24176335.65 -24176335.46 0.0089 0.0030

Venus -70905-12-11 04:04 J -24176283.43 -24176283.33 -24176283.23 0.3805 0.0633

Neptune -70904-01-16 00:13 J -24176247.68 -24176247.49 -24176247.29 0.0089 0.0023

Neptune -70904-04-14 03:49 J -24176159.52 -24176159.34 -24176159.13 0.0089 0.0016

Neptune -70904-07-11 07:54 J -24176071.37 -24176071.17 -24176070.98 0.0089 0.0008

Neptune -70904-10-07 11:30 J -24175983.21 -24175983.02 -24175982.82 0.0089 0.0002

Neptune -70903-01-03 15:21 J -24175895.06 -24175894.86 -24175894.66 0.0089 0.0007

Mars -70903-02-18 04:04 J -24175849.44 -24175849.33 -24175849.21 0.1973 0.0038

Neptune -70903-04-01 18:57 J -24175806.90 -24175806.71 -24175806.51 0.0089 0.0014

Neptune -70903-06-28 22:47 J -24175718.74 -24175718.55 -24175718.36 0.0089 0.0021

Neptune -70903-09-25 02:23 J -24175630.58 -24175630.40 -24175630.20 0.0089 0.0029

Neptune -70903-12-22 06:13 J -24175542.41 -24175542.24 -24175542.05 0.0089 0.0036

Neptune -70902-03-20 09:49 J -24175454.25 -24175454.09 -24175453.91 0.0089 0.0044

Earth -70902-05-03 06:13 J -24175410.30 -24175410.24 -24175410.18 0.2720 0.2253

Moon -70902-05-03 06:42 J -24175410.28 -24175410.22 -24175410.17 0.2725 0.2342 *

Neptune -70902-06-16 13:40 J -24175366.08 -24175365.93 -24175365.76 0.0089 0.0051

Neptune -70902-09-12 17:30 J -24175277.91 -24175277.77 -24175277.62 0.0089 0.0058

Neptune -70902-12-09 20:52 J -24175189.74 -24175189.63 -24175189.48 0.0089 0.0066

Neptune -70901-03-07 00:42 J -24175101.56 -24175101.47 -24175101.34 0.0089 0.0073

Jupiter -70901-03-07 04:47 J -24175101.41 -24175101.30 -24175101.18 0.0497 0.0385 *

Neptune -70901-06-03 04:33 J -24175013.38 -24175013.31 -24175013.21 0.0089 0.0080

Jupiter -70901-06-05 16:18 J -24175010.99 -24175010.82 -24175010.66 0.0497 0.0209

Neptune -70901-08-30 08:23 J -24174925.17 -24174925.15 -24174925.11 0.0089 0.0087

Saturn -70901-11-23 23:59 J -24174839.62 -24174839.50 -24174839.37 0.0264 0.0199

Saturn -70900-02-20 21:49 J -24174750.77 -24174750.59 -24174750.40 0.0264 0.0063

Saturn -70900-05-20 19:54 J -24174661.86 -24174661.67 -24174661.49 0.0265 0.0076

Saturn -70900-08-17 17:45 J -24174572.87 -24174572.76 -24174572.65 0.0266 0.0216

Venus -70899-06-26 21:21 J -24174259.70 -24174259.61 -24174259.53 0.3803 0.2187

Mars -70897-10-04 21:06 J -24173428.79 -24173428.62 -24173428.45 0.1576 0.0262

Jupiter -70895-01-29 14:52 J -24172946.98 -24172946.88 -24172946.77 0.0529 0.0283

Moon -70895-04-26 05:16 J -24172860.38 -24172860.28 -24172860.18 0.2717 0.1022

Earth -70895-04-26 05:59 J -24172860.35 -24172860.25 -24172860.15 0.2715 0.0982 *

Jupiter -70895-04-28 20:37 J -24172857.75 -24172857.64 -24172857.52 0.0528 0.0181

Mars -70894-07-11 11:30 J -24172419.11 -24172419.02 -24172418.92 0.1976 0.1045

Venus -70893-01-10 14:37 J -24172235.90 -24172235.89 -24172235.88 0.3801 0.3764

Moon -70892-10-22 00:13 J -24171585.63 -24171585.49 -24171585.36 0.2616 0.1523

Earth -70892-10-22 01:25 J -24171585.57 -24171585.44 -24171585.30 0.2619 0.1418 *

Jupiter -70889-03-24 13:11 J -24170701.13 -24170700.95 -24170700.76 0.0497 0.0064

Mars -70887-02-24 23:16 J -24169998.69 -24169998.53 -24169998.38 0.1573 0.0618

Saturn -70887-07-04 05:16 J -24169869.35 -24169869.28 -24169869.21 0.0299 0.0250

Saturn -70887-09-30 17:30 J -24169780.89 -24169780.77 -24169780.65 0.0298 0.0118

Saturn -70887-12-28 05:45 J -24169692.39 -24169692.26 -24169692.13 0.0297 0.0013

Saturn -70886-03-26 17:45 J -24169603.87 -24169603.76 -24169603.64 0.0296 0.0141

Saturn -70886-06-23 05:45 J -24169515.31 -24169515.26 -24169515.20 0.0295 0.0268

Uranus -70886-11-03 11:16 J -24169382.10 -24169382.03 -24169381.95 0.0144 0.0131

Uranus -70885-01-30 19:40 J -24169293.80 -24169293.68 -24169293.53 0.0143 0.0101

Uranus -70885-04-28 04:18 J -24169205.48 -24169205.32 -24169205.14 0.0143 0.0071

Uranus -70885-07-25 12:57 J -24169117.14 -24169116.96 -24169116.77 0.0143 0.0041

Uranus -70885-10-21 21:35 J -24169028.79 -24169028.60 -24169028.41 0.0143 0.0012

Uranus -70884-01-18 05:59 J -24168940.44 -24168940.25 -24168940.05 0.0143 0.0018

Uranus -70884-04-16 14:23 J -24168852.08 -24168851.90 -24168851.71 0.0143 0.0047

Uranus -70884-07-13 22:47 J -24168763.71 -24168763.55 -24168763.38 0.0143 0.0076

Venus -70884-07-22 09:06 J -24168755.26 -24168755.12 -24168754.97 0.3572 0.0829

Uranus -70884-10-10 07:11 J -24168675.33 -24168675.20 -24168675.07 0.0142 0.0105

Jupiter -70884-11-17 19:25 J -24168636.77 -24168636.69 -24168636.61 0.0529 0.0395

Uranus -70883-01-06 15:21 J -24168586.92 -24168586.86 -24168586.79 0.0142 0.0133

Jupiter -70883-02-15 01:11 J -24168547.58 -24168547.45 -24168547.33 0.0529 0.0068

Moon -70882-04-28 23:16 J -24168109.64 -24168109.53 -24168109.42 0.2722 0.0069

Earth -70882-04-28 23:45 J -24168109.62 -24168109.51 -24168109.41 0.2717 0.0191 *

Moon -70879-10-25 07:54 J -24166834.32 -24166834.17 -24166834.01 0.2616 0.0877

Earth -70879-10-25 09:49 J -24166834.24 -24166834.09 -24166833.94 0.2617 0.0997 *

Venus -70878-02-05 13:25 J -24166731.06 -24166730.94 -24166730.83 0.3574 0.2082

Mars -70878-07-18 01:11 J -24166568.49 -24166568.45 -24166568.40 0.1571 0.1500

Jupiter -70877-01-11 10:04 J -24166391.27 -24166391.08 -24166390.90 0.0497 0.0085

Mars -70873-03-28 20:23 J -24164852.74 -24164852.65 -24164852.56 0.1969 0.1198

Jupiter -70872-09-05 23:45 J -24164326.54 -24164326.51 -24164326.47 0.0529 0.0507

Jupiter -70872-12-04 05:45 J -24164237.39 -24164237.26 -24164237.14 0.0529 0.0048

Jupiter -70871-03-03 11:30 J -24164148.09 -24164148.02 -24164147.94 0.0529 0.0420

Saturn -70871-04-12 21:21 J -24164107.67 -24164107.61 -24164107.54 0.0264 0.0247

Saturn -70871-07-10 19:11 J -24164018.87 -24164018.70 -24164018.53 0.0264 0.0111

Saturn -70871-10-07 17:01 J -24163929.98 -24163929.79 -24163929.60 0.0265 0.0027

Saturn -70870-01-04 14:52 J -24163841.02 -24163840.88 -24163840.73 0.0266 0.0166

Earth -70869-04-30 17:16 J -24163358.87 -24163358.78 -24163358.69 0.2718 0.1326

Moon -70869-04-30 17:30 J -24163358.86 -24163358.77 -24163358.68 0.2726 0.1412 *

Pluto -70869-07-19 14:23 J -24163278.90 -24163278.90 -24163278.89 0.0084 0.0084

Pluto -70869-10-15 15:49 J -24163190.90 -24163190.84 -24163190.76 0.0084 0.0073

Pluto -70868-01-11 17:16 J -24163102.86 -24163102.78 -24163102.68 0.0084 0.0062

Pluto -70868-04-09 18:42 J -24163014.82 -24163014.72 -24163014.60 0.0084 0.0051

Pluto -70868-07-06 20:23 J -24162926.77 -24162926.65 -24162926.53 0.0084 0.0040

Pluto -70868-10-02 21:35 J -24162838.72 -24162838.60 -24162838.46 0.0084 0.0030

Pluto -70868-12-29 23:16 J -24162750.66 -24162750.53 -24162750.39 0.0084 0.0019

Pluto -70867-03-28 00:42 J -24162662.61 -24162662.47 -24162662.33 0.0083 0.0008

Pluto -70867-06-24 02:09 J -24162574.55 -24162574.41 -24162574.27 0.0083 0.0003

Pluto -70867-09-20 03:35 J -24162486.49 -24162486.35 -24162486.22 0.0083 0.0013

Mars -70867-11-13 19:40 J -24162431.78 -24162431.68 -24162431.59 0.1578 0.1280

Pluto -70867-12-17 04:47 J -24162398.43 -24162398.30 -24162398.16 0.0083 0.0024

Pluto -70866-03-15 06:13 J -24162310.36 -24162310.24 -24162310.11 0.0083 0.0034

Pluto -70866-06-11 07:40 J -24162222.29 -24162222.18 -24162222.06 0.0083 0.0044

Pluto -70866-09-07 08:52 J -24162134.22 -24162134.13 -24162134.02 0.0083 0.0054

Jupiter -70866-10-30 06:57 J -24162081.37 -24162081.21 -24162081.04 0.0497 0.0230

Pluto -70866-12-04 10:04 J -24162046.15 -24162046.08 -24162045.98 0.0083 0.0065

Jupiter -70865-01-28 17:59 J -24161990.87 -24161990.75 -24161990.62 0.0497 0.0362

Pluto -70865-03-01 11:30 J -24161958.07 -24161958.02 -24161957.95 0.0082 0.0074

Venus -70865-12-02 23:01 J -24161681.59 -24161681.54 -24161681.49 0.3810 0.3348

Mars -70864-08-19 04:04 J -24161422.45 -24161422.33 -24161422.22 0.1973 0.0151

Moon -70862-04-24 16:33 J -24160808.88 -24160808.81 -24160808.74 0.2710 0.1966

Earth -70862-04-24 17:16 J -24160808.86 -24160808.78 -24160808.71 0.2713 0.1898 *

Jupiter -70860-09-22 09:49 J -24159927.21 -24159927.09 -24159926.96 0.0529 0.0160

Jupiter -70860-12-20 15:35 J -24159837.95 -24159837.85 -24159837.74 0.0528 0.0304

Venus -70859-06-18 15:49 J -24159657.93 -24159657.84 -24159657.75 0.3809 0.1872

Saturn -70858-11-21 06:28 J -24159137.24 -24159137.23 -24159137.21 0.0300 0.0296

Saturn -70857-02-17 18:57 J -24159048.82 -24159048.71 -24159048.60 0.0299 0.0163

Mars -70857-04-04 21:35 J -24159001.76 -24159001.60 -24159001.43 0.1576 0.0397

Saturn -70857-05-16 07:11 J -24158960.33 -24158960.20 -24158960.07 0.0298 0.0033

Saturn -70857-08-12 19:11 J -24158871.82 -24158871.70 -24158871.57 0.0297 0.0098

Saturn -70857-11-09 07:25 J -24158783.27 -24158783.19 -24158783.11 0.0296 0.0227

Earth -70856-05-03 11:01 J -24158608.08 -24158608.04 -24158608.00 0.2720 0.2488

Moon -70856-05-03 11:30 J -24158608.06 -24158608.02 -24158607.98 0.2723 0.2515 *

Mars -70854-01-09 11:30 J -24157992.12 -24157992.02 -24157991.92 0.1976 0.0930

Jupiter -70854-08-18 03:21 J -24157771.48 -24157771.36 -24157771.24 0.0497 0.0382

Jupiter -70854-11-16 14:37 J -24157681.06 -24157680.89 -24157680.72 0.0498 0.0213

Venus -70853-01-02 08:52 J -24157634.23 -24157634.13 -24157634.03 0.3807 0.0361

Moon -70849-04-26 10:04 J -24156058.18 -24156058.08 -24156057.98 0.2717 0.0870

Earth -70849-04-26 10:47 J -24156058.15 -24156058.05 -24156057.95 0.2715 0.0746 *

Jupiter -70848-07-11 14:23 J -24155617.01 -24155616.90 -24155616.79 0.0528 0.0272

Venus -70848-07-18 01:54 J -24155610.52 -24155610.42 -24155610.32 0.3805 0.1170

Mars -70848-08-25 23:59 J -24155571.66 -24155571.50 -24155571.34 0.1573 0.0484

Jupiter -70848-10-08 19:54 J -24155527.78 -24155527.67 -24155527.55 0.0528 0.0191

Moon -70846-10-23 06:42 J -24154783.36 -24154783.22 -24154783.07 0.2616 0.1161

Earth -70846-10-23 08:23 J -24154783.30 -24154783.15 -24154783.00 0.2619 0.0948 *

Venus -70842-01-31 19:11 J -24153586.77 -24153586.70 -24153586.63 0.3803 0.2735

Jupiter -70842-09-04 11:59 J -24153371.19 -24153371.00 -24153370.82 0.0498 0.0070

Saturn -70842-11-27 17:45 J -24153286.91 -24153286.76 -24153286.60 0.0263 0.0152

Uranus -70841-01-11 22:47 J -24153241.59 -24153241.55 -24153241.50 0.0135 0.0124

Saturn -70841-02-24 15:35 J -24153198.04 -24153197.85 -24153197.65 0.0264 0.0016

Uranus -70841-04-09 01:40 J -24153153.50 -24153153.43 -24153153.34 0.0135 0.0108

Saturn -70841-05-23 13:25 J -24153109.10 -24153108.94 -24153108.76 0.0265 0.0124

Uranus -70841-07-06 04:47 J -24153065.39 -24153065.30 -24153065.20 0.0135 0.0092

Saturn -70841-08-20 11:16 J -24153020.04 -24153020.03 -24153020.00 0.0266 0.0264

Uranus -70841-10-02 07:54 J -24152977.28 -24152977.17 -24152977.06 0.0135 0.0075

Uranus -70841-12-29 11:01 J -24152889.16 -24152889.04 -24152888.92 0.0135 0.0058

Uranus -70840-03-27 13:54 J -24152801.04 -24152800.92 -24152800.79 0.0136 0.0042

Uranus -70840-06-23 17:01 J -24152712.92 -24152712.79 -24152712.66 0.0136 0.0025

Uranus -70840-09-19 20:09 J -24152624.79 -24152624.66 -24152624.53 0.0136 0.0008

Uranus -70840-12-16 23:16 J -24152536.66 -24152536.53 -24152536.40 0.0136 0.0009

Uranus -70839-03-15 02:23 J -24152448.53 -24152448.40 -24152448.27 0.0136 0.0026

Uranus -70839-06-11 05:30 J -24152360.40 -24152360.27 -24152360.15 0.0136 0.0043

Uranus -70839-09-07 08:37 J -24152272.26 -24152272.14 -24152272.02 0.0136 0.0061

Uranus -70839-12-04 11:45 J -24152184.12 -24152184.01 -24152183.90 0.0136 0.0078

Mars -70838-01-16 01:54 J -24152141.50 -24152141.42 -24152141.33 0.1572 0.1363

Uranus -70838-03-02 14:37 J -24152095.97 -24152095.89 -24152095.79 0.0137 0.0096

Uranus -70838-05-29 17:59 J -24152007.82 -24152007.75 -24152007.68 0.0137 0.0113

Uranus -70838-08-25 20:52 J -24151919.65 -24151919.63 -24151919.58 0.0137 0.0131

Moon -70836-04-29 04:18 J -24151307.43 -24151307.32 -24151307.22 0.2723 0.0440

Earth -70836-04-29 04:33 J -24151307.42 -24151307.31 -24151307.21 0.2717 0.0416 *

Jupiter -70836-04-29 18:13 J -24151306.82 -24151306.74 -24151306.65 0.0529 0.0391

Jupiter -70836-07-27 23:59 J -24151217.62 -24151217.50 -24151217.37 0.0528 0.0073

Mars -70834-09-27 20:23 J -24150425.73 -24150425.65 -24150425.56 0.1969 0.1309

Venus -70833-08-12 05:30 J -24150106.36 -24150106.27 -24150106.18 0.3571 0.2851

Moon -70833-10-25 14:52 J -24150032.02 -24150031.88 -24150031.73 0.2616 0.1254

Earth -70833-10-25 16:47 J -24150031.94 -24150031.80 -24150031.67 0.2617 0.1468 *

Jupiter -70830-06-23 09:06 J -24149061.31 -24149061.12 -24149060.93 0.0497 0.0074

Saturn -70828-07-06 20:23 J -24148316.74 -24148316.65 -24148316.56 0.0299 0.0208

Saturn -70828-10-03 08:37 J -24148228.26 -24148228.14 -24148228.01 0.0298 0.0076

Saturn -70828-12-30 20:52 J -24148139.76 -24148139.63 -24148139.51 0.0297 0.0055

Venus -70827-02-26 10:04 J -24148082.23 -24148082.08 -24148081.93 0.3573 0.0167

Saturn -70827-03-29 08:52 J -24148051.23 -24148051.13 -24148051.03 0.0296 0.0183

Mars -70827-05-14 20:23 J -24148004.72 -24148004.65 -24148004.58 0.1578 0.1419

Neptune -70825-05-26 06:42 J -24147262.24 -24147262.22 -24147262.18 0.0089 0.0086

Neptune -70825-08-22 07:54 J -24147174.21 -24147174.17 -24147174.10 0.0089 0.0081

Neptune -70825-11-18 09:21 J -24147086.17 -24147086.11 -24147086.03 0.0089 0.0076

Neptune -70824-02-14 10:47 J -24146998.12 -24146998.05 -24146997.97 0.0089 0.0071

Jupiter -70824-02-15 22:47 J -24146996.59 -24146996.55 -24146996.52 0.0529 0.0503

Mars -70824-02-17 04:04 J -24146995.45 -24146995.33 -24146995.22 0.1973 0.0252

Neptune -70824-05-13 11:59 J -24146910.08 -24146910.00 -24146909.90 0.0089 0.0066

Jupiter -70824-05-16 04:18 J -24146907.44 -24146907.32 -24146907.19 0.0529 0.0046

Neptune -70824-08-09 13:25 J -24146822.03 -24146821.94 -24146821.84 0.0089 0.0061

Jupiter -70824-08-13 10:18 J -24146818.15 -24146818.07 -24146818.00 0.0528 0.0422

Neptune -70824-11-05 14:52 J -24146733.98 -24146733.88 -24146733.78 0.0089 0.0056

Neptune -70823-02-01 16:04 J -24146645.93 -24146645.83 -24146645.72 0.0089 0.0051

Neptune -70823-04-30 17:16 J -24146557.89 -24146557.78 -24146557.66 0.0089 0.0046

Earth -70823-05-01 22:04 J -24146556.67 -24146556.58 -24146556.49 0.2719 0.1564

Moon -70823-05-01 22:18 J -24146556.66 -24146556.57 -24146556.48 0.2726 0.1531 *

Neptune -70823-07-27 18:28 J -24146469.84 -24146469.73 -24146469.60 0.0089 0.0042

Neptune -70823-10-23 19:54 J -24146381.79 -24146381.67 -24146381.55 0.0089 0.0036

Neptune -70822-01-19 21:06 J -24146293.73 -24146293.62 -24146293.49 0.0089 0.0032

Neptune -70822-04-17 22:33 J -24146205.68 -24146205.56 -24146205.43 0.0089 0.0027

Neptune -70822-07-14 23:45 J -24146117.63 -24146117.51 -24146117.38 0.0089 0.0022

Venus -70822-09-12 13:54 J -24146057.99 -24146057.92 -24146057.84 0.3575 0.3034

Neptune -70822-10-11 01:11 J -24146029.58 -24146029.45 -24146029.32 0.0089 0.0017

Neptune -70821-01-07 02:23 J -24145941.53 -24145941.40 -24145941.27 0.0089 0.0012

Neptune -70821-04-04 03:49 J -24145853.47 -24145853.34 -24145853.21 0.0089 0.0007

Neptune -70821-07-01 05:01 J -24145765.42 -24145765.29 -24145765.16 0.0089 0.0002

Neptune -70821-09-27 06:13 J -24145677.37 -24145677.24 -24145677.10 0.0089 0.0004

Neptune -70821-12-24 07:40 J -24145589.31 -24145589.18 -24145589.05 0.0089 0.0008

Neptune -70820-03-22 08:52 J -24145501.26 -24145501.13 -24145501.00 0.0089 0.0013

Neptune -70820-06-18 10:04 J -24145413.20 -24145413.08 -24145412.94 0.0089 0.0018

Neptune -70820-09-14 11:30 J -24145325.15 -24145325.02 -24145324.89 0.0089 0.0022

Neptune -70820-12-11 12:42 J -24145237.09 -24145236.97 -24145236.84 0.0089 0.0028

Neptune -70819-03-09 13:54 J -24145149.03 -24145148.92 -24145148.79 0.0089 0.0033

Neptune -70819-06-05 15:21 J -24145060.98 -24145060.86 -24145060.74 0.0089 0.0037

Neptune -70819-09-01 16:33 J -24144972.92 -24144972.81 -24144972.69 0.0089 0.0042

Neptune -70819-11-28 17:59 J -24144884.86 -24144884.75 -24144884.64 0.0089 0.0047

Neptune -70818-02-24 19:11 J -24144796.80 -24144796.70 -24144796.59 0.0089 0.0052

Jupiter -70818-04-11 05:59 J -24144751.42 -24144751.25 -24144751.08 0.0497 0.0221

Neptune -70818-05-23 20:23 J -24144708.74 -24144708.65 -24144708.54 0.0089 0.0057

Jupiter -70818-07-10 17:01 J -24144660.91 -24144660.79 -24144660.66 0.0497 0.0371

Neptune -70818-08-19 21:35 J -24144620.68 -24144620.60 -24144620.49 0.0089 0.0062

Mars -70818-10-04 22:33 J -24144574.72 -24144574.56 -24144574.40 0.1576 0.0536

Neptune -70818-11-15 22:47 J -24144532.62 -24144532.55 -24144532.45 0.0089 0.0067

Neptune -70817-02-12 00:13 J -24144444.56 -24144444.49 -24144444.40 0.0089 0.0072

Neptune -70817-05-10 01:40 J -24144356.49 -24144356.43 -24144356.36 0.0089 0.0076

Neptune -70817-08-06 02:52 J -24144268.42 -24144268.38 -24144268.32 0.0089 0.0081

Neptune -70817-11-02 04:04 J -24144180.35 -24144180.33 -24144180.29 0.0089 0.0086

Moon -70816-04-24 21:21 J -24144006.69 -24144006.61 -24144006.53 0.2712 0.1720

Earth -70816-04-24 22:04 J -24144006.67 -24144006.58 -24144006.50 0.2713 0.1666 *

Mars -70815-07-10 11:30 J -24143565.12 -24143565.02 -24143564.91 0.1975 0.0818

Jupiter -70812-03-04 08:52 J -24142597.25 -24142597.13 -24142597.00 0.0529 0.0154

Saturn -70812-04-15 14:52 J -24142555.00 -24142554.88 -24142554.76 0.0263 0.0202

Jupiter -70812-06-01 14:37 J -24142507.99 -24142507.89 -24142507.78 0.0529 0.0312

Saturn -70812-07-13 12:28 J -24142466.16 -24142465.98 -24142465.79 0.0264 0.0066

Saturn -70812-10-10 10:18 J -24142377.25 -24142377.07 -24142376.88 0.0265 0.0072

Saturn -70811-01-07 08:09 J -24142288.27 -24142288.16 -24142288.04 0.0265 0.0211

Earth -70810-05-04 15:49 J -24141805.84 -24141805.84 -24141805.84 0.2720 0.2720

Mars -70808-02-24 00:28 J -24141144.64 -24141144.48 -24141144.31 0.1573 0.0352

Venus -70808-07-09 20:52 J -24141008.70 -24141008.63 -24141008.57 0.3810 0.2845

Jupiter -70806-01-28 02:52 J -24140441.50 -24140441.38 -24140441.24 0.0497 0.0366

Jupiter -70806-04-28 14:09 J -24140351.07 -24140350.91 -24140350.74 0.0497 0.0229

Mars -70806-11-30 18:57 J -24140134.74 -24140134.71 -24140134.68 0.1978 0.1899

Moon -70803-04-27 14:52 J -24139255.98 -24139255.88 -24139255.77 0.2718 0.0575

Earth -70803-04-27 15:35 J -24139255.95 -24139255.85 -24139255.74 0.2715 0.0512 *

Venus -70802-01-23 13:40 J -24138985.03 -24138984.93 -24138984.83 0.3808 0.1353

Uranus -70802-11-23 19:25 J -24138680.79 -24138680.69 -24138680.58 0.0144 0.0122

Uranus -70801-02-20 04:04 J -24138592.47 -24138592.33 -24138592.18 0.0144 0.0092

Uranus -70801-05-18 12:42 J -24138504.14 -24138503.97 -24138503.79 0.0143 0.0062

Uranus -70801-08-14 21:06 J -24138415.80 -24138415.62 -24138415.42 0.0143 0.0032

Uranus -70801-11-11 05:45 J -24138327.45 -24138327.26 -24138327.06 0.0143 0.0002

Jupiter -70801-12-21 13:25 J -24138287.05 -24138286.94 -24138286.83 0.0529 0.0265

Uranus -70800-02-07 14:09 J -24138239.10 -24138238.91 -24138238.71 0.0143 0.0027

Jupiter -70800-03-20 19:11 J -24138197.82 -24138197.70 -24138197.58 0.0528 0.0197

Uranus -70800-05-06 22:33 J -24138150.73 -24138150.56 -24138150.38 0.0143 0.0057

Uranus -70800-08-03 06:42 J -24138062.36 -24138062.22 -24138062.05 0.0143 0.0086

Moon -70800-10-23 13:25 J -24137981.10 -24137980.94 -24137980.78 0.2616 0.0576

Earth -70800-10-23 15:06 J -24137981.03 -24137980.87 -24137980.71 0.2619 0.0486 *

Uranus -70800-10-30 15:06 J -24137973.97 -24137973.87 -24137973.74 0.0143 0.0115

Mars -70799-07-17 02:37 J -24137714.49 -24137714.39 -24137714.28 0.1572 0.1230

Saturn -70799-11-23 21:06 J -24137584.68 -24137584.62 -24137584.55 0.0300 0.0259

Saturn -70798-02-20 09:35 J -24137496.22 -24137496.10 -24137495.99 0.0299 0.0126

Saturn -70798-05-19 21:49 J -24137407.72 -24137407.59 -24137407.46 0.0298 0.0008

Saturn -70798-08-16 09:49 J -24137319.20 -24137319.09 -24137318.97 0.0297 0.0136

Saturn -70798-11-12 21:49 J -24137230.64 -24137230.59 -24137230.53 0.0296 0.0264

Venus -70797-08-08 06:42 J -24136961.33 -24136961.22 -24136961.12 0.3806 0.0171

Jupiter -70794-02-14 10:47 J -24136041.24 -24136041.05 -24136040.87 0.0498 0.0076

Mars -70794-03-28 20:23 J -24135998.73 -24135998.65 -24135998.57 0.1969 0.1414

Venus -70791-02-21 23:45 J -24134937.60 -24134937.51 -24134937.42 0.3804 0.1707

Moon -70790-04-30 09:06 J -24134505.22 -24134505.12 -24134505.02 0.2724 0.0585

Earth -70790-04-30 09:21 J -24134505.22 -24134505.11 -24134505.01 0.2717 0.0649 *

Jupiter -70789-10-09 17:59 J -24133976.84 -24133976.75 -24133976.67 0.0528 0.0376

Jupiter -70788-01-06 23:30 J -24133887.64 -24133887.52 -24133887.39 0.0528 0.0085

Mars -70788-11-12 21:06 J -24133577.65 -24133577.62 -24133577.60 0.1578 0.1556

Moon -70787-10-26 21:49 J -24133229.71 -24133229.59 -24133229.47 0.2618 0.1750

Earth -70787-10-26 23:30 J -24133229.63 -24133229.52 -24133229.41 0.2617 0.1929 *

Venus -70786-09-07 17:01 J -24132913.84 -24132913.79 -24132913.74 0.3802 0.3285

Mars -70785-08-18 04:04 J -24132568.44 -24132568.33 -24132568.22 0.1973 0.0372

Moon -70783-04-23 08:52 J -24131955.16 -24131955.13 -24131955.10 0.2706 0.2558

Earth -70783-04-23 09:06 J -24131955.15 -24131955.12 -24131955.09 0.2712 0.2574 *

Saturn -70783-09-02 13:11 J -24131823.01 -24131822.95 -24131822.87 0.0263 0.0243

Saturn -70783-11-30 11:01 J -24131734.21 -24131734.04 -24131733.86 0.0263 0.0107

Jupiter -70783-12-03 07:54 J -24131731.35 -24131731.17 -24131730.98 0.0498 0.0068

Saturn -70782-02-27 08:52 J -24131645.32 -24131645.13 -24131644.94 0.0264 0.0030

Saturn -70782-05-27 06:28 J -24131556.37 -24131556.23 -24131556.07 0.0265 0.0168

Mars -70778-04-04 23:16 J -24130147.69 -24130147.53 -24130147.38 0.1576 0.0672

Earth -70777-05-02 02:52 J -24129754.46 -24129754.38 -24129754.30 0.2719 0.1797

Moon -70777-05-02 03:06 J -24129754.44 -24129754.37 -24129754.29 0.2725 0.1898 *

Jupiter -70777-07-28 22:04 J -24129666.63 -24129666.58 -24129666.54 0.0528 0.0494

Jupiter -70777-10-26 03:35 J -24129577.48 -24129577.35 -24129577.22 0.0528 0.0033

Jupiter -70776-01-23 09:21 J -24129488.18 -24129488.11 -24129488.04 0.0528 0.0429

Venus -70776-03-19 06:28 J -24129433.36 -24129433.23 -24129433.10 0.3571 0.1829

Mars -70775-01-08 11:30 J -24129138.13 -24129138.02 -24129137.92 0.1976 0.0713

Jupiter -70771-09-21 05:16 J -24127421.45 -24127421.28 -24127421.11 0.0497 0.0210

Venus -70771-10-03 10:47 J -24127409.19 -24127409.05 -24127408.91 0.3573 0.1136

Jupiter -70771-12-20 16:33 J -24127330.93 -24127330.81 -24127330.70 0.0498 0.0384

Moon -70770-04-26 02:09 J -24127204.50 -24127204.41 -24127204.33 0.2713 0.1554

Earth -70770-04-26 02:52 J -24127204.47 -24127204.38 -24127204.29 0.2714 0.1429 *

Saturn -70769-07-09 10:47 J -24126764.15 -24126764.05 -24126763.94 0.0299 0.0172

Mars -70769-08-25 01:25 J -24126717.61 -24126717.44 -24126717.28 0.1573 0.0213

Saturn -70769-10-05 23:01 J -24126675.66 -24126675.54 -24126675.41 0.0299 0.0041

Saturn -70768-01-02 11:16 J -24126587.15 -24126587.03 -24126586.90 0.0298 0.0091

Saturn -70768-03-31 23:30 J -24126498.61 -24126498.52 -24126498.44 0.0297 0.0220

Moon -70767-10-21 12:28 J -24125930.03 -24125929.98 -24125929.92 0.2616 0.2426

Earth -70767-10-21 13:40 J -24125929.99 -24125929.93 -24125929.87 0.2621 0.2432 *

Mars -70766-05-31 19:11 J -24125707.75 -24125707.70 -24125707.66 0.1978 0.1777

Jupiter -70765-08-14 07:54 J -24125267.29 -24125267.17 -24125267.05 0.0529 0.0147

Jupiter -70765-11-11 13:40 J -24125178.03 -24125177.93 -24125177.83 0.0528 0.0316

Mars -70759-01-15 03:21 J -24123287.48 -24123287.36 -24123287.24 0.1572 0.1092

Jupiter -70759-07-10 02:09 J -24123111.53 -24123111.41 -24123111.28 0.0497 0.0356

Jupiter -70759-10-08 13:25 J -24123021.10 -24123020.94 -24123020.77 0.0497 0.0238

Uranus -70757-02-01 05:59 J -24122540.30 -24122540.25 -24122540.19 0.0135 0.0120

Moon -70757-04-27 19:54 J -24122453.78 -24122453.67 -24122453.56 0.2719 0.0345

Earth -70757-04-27 20:23 J -24122453.76 -24122453.65 -24122453.54 0.2715 0.0280 *

Uranus -70757-04-29 09:06 J -24122452.20 -24122452.12 -24122452.03 0.0135 0.0104

Uranus -70757-07-26 12:13 J -24122364.09 -24122363.99 -24122363.89 0.0135 0.0087

Venus -70757-07-31 01:40 J -24122359.43 -24122359.43 -24122359.43 0.3811 0.3807

Uranus -70757-10-22 15:06 J -24122275.98 -24122275.87 -24122275.75 0.0135 0.0071

Uranus -70756-01-18 18:13 J -24122187.86 -24122187.74 -24122187.62 0.0135 0.0054

Uranus -70756-04-16 21:21 J -24122099.74 -24122099.61 -24122099.49 0.0135 0.0038

Uranus -70756-07-14 00:13 J -24122011.61 -24122011.49 -24122011.35 0.0136 0.0021

Uranus -70756-10-10 03:21 J -24121923.49 -24121923.36 -24121923.23 0.0136 0.0005

Uranus -70755-01-06 06:28 J -24121835.36 -24121835.23 -24121835.10 0.0136 0.0013

Uranus -70755-04-04 09:35 J -24121747.23 -24121747.10 -24121746.97 0.0136 0.0030

Uranus -70755-07-01 12:42 J -24121659.09 -24121658.97 -24121658.85 0.0136 0.0047

Mars -70755-09-26 20:23 J -24121571.72 -24121571.65 -24121571.58 0.1969 0.1538

Uranus -70755-09-27 15:49 J -24121570.96 -24121570.84 -24121570.73 0.0136 0.0065

Uranus -70755-12-24 18:42 J -24121482.81 -24121482.72 -24121482.61 0.0136 0.0082

Uranus -70754-03-22 21:49 J -24121394.67 -24121394.59 -24121394.49 0.0136 0.0100

Uranus -70754-06-19 01:11 J -24121306.51 -24121306.45 -24121306.38 0.0137 0.0117

Uranus -70754-09-15 04:04 J -24121218.34 -24121218.33 -24121218.29 0.0137 0.0135

Moon -70754-10-24 20:23 J -24121178.81 -24121178.65 -24121178.48 0.2616 0.0260

Earth -70754-10-24 22:04 J -24121178.75 -24121178.58 -24121178.42 0.2619 0.0028 *

Saturn -70753-04-18 07:54 J -24121002.32 -24121002.17 -24121002.01 0.0263 0.0158

Jupiter -70753-06-02 12:28 J -24120957.09 -24120956.98 -24120956.87 0.0529 0.0258

Saturn -70753-07-16 05:45 J -24120913.46 -24120913.26 -24120913.07 0.0264 0.0022

Jupiter -70753-08-30 18:13 J -24120867.85 -24120867.74 -24120867.62 0.0529 0.0206

Saturn -70753-10-13 03:21 J -24120824.53 -24120824.36 -24120824.18 0.0265 0.0116

Saturn -70752-01-10 01:11 J -24120735.49 -24120735.45 -24120735.39 0.0265 0.0255

Venus -70751-02-13 18:28 J -24120335.81 -24120335.73 -24120335.65 0.3810 0.2338

Jupiter -70747-07-27 10:47 J -24118711.24 -24118711.05 -24118710.87 0.0497 0.0096

Venus -70746-08-30 11:30 J -24118312.12 -24118312.02 -24118311.92 0.3808 0.0829

Mars -70745-02-17 03:49 J -24118141.45 -24118141.34 -24118141.23 0.1973 0.0462

Moon -70744-04-30 13:54 J -24117703.02 -24117702.92 -24117702.82 0.2725 0.0895

Earth -70744-04-30 14:09 J -24117703.02 -24117702.91 -24117702.81 0.2717 0.0883 *

Neptune -70742-08-11 11:30 J -24116870.03 -24116870.02 -24116869.97 0.0089 0.0088

Neptune -70742-11-07 15:06 J -24116781.93 -24116781.87 -24116781.77 0.0089 0.0081

Neptune -70741-02-03 19:11 J -24116693.80 -24116693.70 -24116693.58 0.0089 0.0073

Jupiter -70741-03-21 17:01 J -24116646.88 -24116646.79 -24116646.70 0.0528 0.0368

Neptune -70741-05-01 22:47 J -24116605.67 -24116605.55 -24116605.41 0.0089 0.0066

Jupiter -70741-06-18 22:47 J -24116557.67 -24116557.55 -24116557.43 0.0528 0.0094

Neptune -70741-07-29 02:23 J -24116517.53 -24116517.40 -24116517.23 0.0089 0.0059

Neptune -70741-10-25 06:13 J -24116429.39 -24116429.24 -24116429.07 0.0089 0.0052

Moon -70741-10-27 04:33 J -24116427.39 -24116427.31 -24116427.23 0.2619 0.2264

Earth -70741-10-27 06:13 J -24116427.30 -24116427.24 -24116427.17 0.2616 0.2389 *

Neptune -70740-01-21 10:18 J -24116341.24 -24116341.07 -24116340.90 0.0089 0.0044

Venus -70740-03-15 04:33 J -24116288.42 -24116288.31 -24116288.21 0.3806 0.0708

Neptune -70740-04-19 13:54 J -24116253.09 -24116252.92 -24116252.74 0.0089 0.0037

Neptune -70740-07-16 17:30 J -24116164.95 -24116164.77 -24116164.57 0.0089 0.0030

Neptune -70740-10-12 21:21 J -24116076.79 -24116076.61 -24116076.41 0.0089 0.0022

Saturn -70740-11-26 11:16 J -24116032.10 -24116032.03 -24116031.94 0.0300 0.0226

Neptune -70739-01-09 01:11 J -24115988.64 -24115988.45 -24115988.25 0.0089 0.0015

Saturn -70739-02-22 23:45 J -24115943.63 -24115943.51 -24115943.38 0.0299 0.0093

Neptune -70739-04-07 05:01 J -24115900.49 -24115900.29 -24115900.10 0.0089 0.0008

Saturn -70739-05-22 11:59 J -24115855.13 -24115855.00 -24115854.87 0.0298 0.0040

Neptune -70739-07-04 08:37 J -24115812.33 -24115812.14 -24115811.94 0.0089 0.0002

Saturn -70739-08-19 00:13 J -24115766.60 -24115766.49 -24115766.39 0.0297 0.0169

Neptune -70739-09-30 12:28 J -24115724.18 -24115723.98 -24115723.78 0.0089 0.0007

Mars -70739-10-03 23:45 J -24115720.65 -24115720.51 -24115720.36 0.1576 0.0804

Neptune -70739-12-27 16:04 J -24115636.02 -24115635.83 -24115635.63 0.0089 0.0015

Neptune -70738-03-25 19:54 J -24115547.86 -24115547.67 -24115547.48 0.0089 0.0022

Neptune -70738-06-21 23:45 J -24115459.70 -24115459.51 -24115459.33 0.0089 0.0029

Neptune -70738-09-18 03:06 J -24115371.54 -24115371.37 -24115371.18 0.0089 0.0037

Neptune -70738-12-15 06:57 J -24115283.37 -24115283.21 -24115283.03 0.0089 0.0044

Neptune -70737-03-12 10:47 J -24115195.20 -24115195.05 -24115194.88 0.0089 0.0051

Moon -70737-04-23 13:25 J -24115152.98 -24115152.94 -24115152.89 0.2708 0.2450

Earth -70737-04-23 13:54 J -24115152.97 -24115152.92 -24115152.87 0.2712 0.2338 *

Neptune -70737-06-08 14:09 J -24115107.04 -24115106.91 -24115106.74 0.0089 0.0059

Neptune -70737-09-04 17:59 J -24115018.86 -24115018.75 -24115018.60 0.0089 0.0066

Neptune -70737-12-01 21:49 J -24114930.69 -24114930.59 -24114930.47 0.0089 0.0073

Neptune -70736-02-28 01:54 J -24114842.50 -24114842.42 -24114842.34 0.0089 0.0080

Neptune -70736-05-27 05:01 J -24114754.29 -24114754.29 -24114754.23 0.0089 0.0088

Mars -70736-07-09 11:30 J -24114711.13 -24114711.02 -24114710.91 0.1976 0.0594

Jupiter -70735-05-15 06:57 J -24114401.40 -24114401.21 -24114401.03 0.0498 0.0060

Venus -70735-09-28 21:35 J -24114264.68 -24114264.60 -24114264.51 0.3804 0.2257

Earth -70731-05-03 07:40 J -24112952.25 -24112952.18 -24112952.11 0.2719 0.2032

Moon -70731-05-03 08:09 J -24112952.23 -24112952.16 -24112952.09 0.2724 0.2048 *

Jupiter -70729-01-08 21:35 J -24112336.65 -24112336.60 -24112336.55 0.0528 0.0478

Mars -70729-02-24 01:54 J -24112290.59 -24112290.42 -24112290.25 0.1574 0.0085

Jupiter -70729-04-07 03:21 J -24112247.49 -24112247.36 -24112247.24 0.0528 0.0020

Jupiter -70729-07-05 09:06 J -24112158.19 -24112158.12 -24112158.06 0.0527 0.0444

Mars -70727-11-29 19:11 J -24111280.76 -24111280.70 -24111280.65 0.1978 0.1666

Moon -70724-04-26 06:57 J -24110402.31 -24110402.21 -24110402.12 0.2713 0.1231

Earth -70724-04-26 07:40 J -24110402.28 -24110402.18 -24110402.09 0.2714 0.1192 *

Saturn -70724-09-05 06:28 J -24110270.35 -24110270.23 -24110270.11 0.0263 0.0200

Saturn -70724-12-03 04:04 J -24110181.52 -24110181.33 -24110181.14 0.0263 0.0065

Saturn -70723-03-02 01:54 J -24110092.61 -24110092.42 -24110092.24 0.0264 0.0072

Jupiter -70723-03-03 04:04 J -24110091.50 -24110091.33 -24110091.16 0.0498 0.0203

Saturn -70723-05-29 23:16 J -24110003.63 -24110003.53 -24110003.40 0.0265 0.0211

Jupiter -70723-06-01 15:21 J -24110000.97 -24110000.86 -24110000.74 0.0498 0.0393

Moon -70721-10-21 19:11 J -24109127.79 -24109127.70 -24109127.61 0.2616 0.2177

Earth -70721-10-21 20:23 J -24109127.75 -24109127.65 -24109127.54 0.2621 0.1961 *

Mars -70720-07-16 04:04 J -24108860.46 -24108860.33 -24108860.19 0.1572 0.0955

Venus -70720-10-24 07:25 J -24108760.34 -24108760.19 -24108760.05 0.3571 0.0830

Uranus -70718-12-14 02:09 J -24107979.51 -24107979.41 -24107979.28 0.0144 0.0117

Jupiter -70717-01-25 07:11 J -24107937.32 -24107937.20 -24107937.07 0.0528 0.0137

Uranus -70717-03-11 10:47 J -24107891.19 -24107891.05 -24107890.88 0.0144 0.0087

Jupiter -70717-04-23 12:57 J -24107848.06 -24107847.96 -24107847.86 0.0528 0.0327

Uranus -70717-06-07 19:25 J -24107802.86 -24107802.69 -24107802.50 0.0143 0.0057

Uranus -70717-09-04 04:18 J -24107714.51 -24107714.32 -24107714.13 0.0143 0.0026

Uranus -70717-12-01 12:42 J -24107626.16 -24107625.97 -24107625.77 0.0143 0.0004

Uranus -70716-02-27 21:06 J -24107537.80 -24107537.62 -24107537.42 0.0143 0.0033

Uranus -70716-05-27 05:45 J -24107449.44 -24107449.26 -24107449.09 0.0143 0.0062

Uranus -70716-08-23 13:54 J -24107361.06 -24107360.92 -24107360.76 0.0143 0.0092

Uranus -70716-11-19 22:04 J -24107272.67 -24107272.58 -24107272.46 0.0143 0.0121

Mars -70715-03-27 20:23 J -24107144.71 -24107144.65 -24107144.59 0.1969 0.1640

Pluto -70714-01-11 23:45 J -24106854.55 -24106854.51 -24106854.41 0.0060 0.0056

Pluto -70714-04-10 01:25 J -24106766.53 -24106766.44 -24106766.33 0.0060 0.0051

Venus -70714-05-10 11:45 J -24106736.13 -24106736.01 -24106735.90 0.3574 0.2117

Pluto -70714-07-07 02:37 J -24106678.50 -24106678.39 -24106678.26 0.0060 0.0046

Pluto -70714-10-03 03:49 J -24106590.46 -24106590.34 -24106590.19 0.0060 0.0040

Pluto -70714-12-30 04:47 J -24106502.43 -24106502.30 -24106502.13 0.0060 0.0036

Pluto -70713-03-27 06:28 J -24106414.39 -24106414.23 -24106414.07 0.0060 0.0030

Pluto -70713-06-23 07:40 J -24106326.34 -24106326.18 -24106326.01 0.0061 0.0025

Pluto -70713-09-19 08:52 J -24106238.30 -24106238.13 -24106237.95 0.0061 0.0019

Pluto -70713-12-16 10:18 J -24106150.25 -24106150.07 -24106149.89 0.0061 0.0014

Pluto -70712-03-14 11:30 J -24106062.20 -24106062.02 -24106061.83 0.0061 0.0009

Pluto -70712-06-10 12:42 J -24105974.15 -24105973.97 -24105973.78 0.0061 0.0004

Pluto -70712-09-06 14:09 J -24105886.10 -24105885.91 -24105885.72 0.0061 0.0002

Pluto -70712-12-03 15:21 J -24105798.04 -24105797.86 -24105797.67 0.0061 0.0008

Jupiter -70712-12-20 01:25 J -24105781.57 -24105781.44 -24105781.30 0.0497 0.0345

Pluto -70711-03-01 16:33 J -24105709.98 -24105709.81 -24105709.62 0.0061 0.0013

Jupiter -70711-03-20 12:42 J -24105691.13 -24105690.97 -24105690.80 0.0498 0.0252

Moon -70711-04-29 00:42 J -24105651.57 -24105651.47 -24105651.36 0.2721 0.0146

Earth -70711-04-29 01:11 J -24105651.56 -24105651.45 -24105651.34 0.2716 0.0057 *

Pluto -70711-05-28 17:45 J -24105621.93 -24105621.76 -24105621.57 0.0061 0.0019

Pluto -70711-08-24 19:11 J -24105533.86 -24105533.70 -24105533.52 0.0061 0.0024

Pluto -70711-11-20 20:09 J -24105445.80 -24105445.66 -24105445.48 0.0061 0.0031

Pluto -70710-02-16 21:35 J -24105357.73 -24105357.60 -24105357.43 0.0061 0.0036

Saturn -70710-04-15 12:28 J -24105300.02 -24105299.98 -24105299.92 0.0300 0.0274

Pluto -70710-05-15 22:47 J -24105269.67 -24105269.55 -24105269.39 0.0061 0.0042

Saturn -70710-07-13 00:57 J -24105211.57 -24105211.46 -24105211.35 0.0300 0.0141

Pluto -70710-08-12 00:28 J -24105181.59 -24105181.48 -24105181.35 0.0061 0.0047

Saturn -70710-10-09 13:11 J -24105123.08 -24105122.95 -24105122.82 0.0299 0.0008

Pluto -70710-11-08 01:25 J -24105093.51 -24105093.44 -24105093.32 0.0061 0.0053

Saturn -70709-01-06 01:25 J -24105034.56 -24105034.44 -24105034.32 0.0298 0.0122

Pluto -70709-02-04 02:37 J -24105005.42 -24105005.39 -24105005.30 0.0062 0.0059

Saturn -70709-04-03 13:25 J -24104946.00 -24104945.94 -24104945.87 0.0297 0.0251

Moon -70708-10-25 03:06 J -24104376.53 -24104376.37 -24104376.21 0.2617 0.0380

Earth -70708-10-25 04:47 J -24104376.46 -24104376.30 -24104376.14 0.2618 0.0449 *

Mars -70706-08-18 04:04 J -24103714.44 -24103714.33 -24103714.22 0.1973 0.0585

Jupiter -70706-11-13 11:30 J -24103627.12 -24103627.02 -24103626.90 0.0528 0.0251

Jupiter -70705-02-10 17:16 J -24103537.89 -24103537.78 -24103537.66 0.0528 0.0213

Venus -70700-03-06 23:30 J -24101686.57 -24101686.52 -24101686.47 0.3811 0.3307

Jupiter -70700-10-07 22:33 J -24101471.59 -24101471.56 -24101471.53 0.0497 0.0489

Jupiter -70699-01-06 09:49 J -24101381.27 -24101381.09 -24101380.90 0.0497 0.0107

Mars -70699-04-04 00:28 J -24101293.61 -24101293.48 -24101293.34 0.1576 0.0944

Moon -70698-05-01 18:42 J -24100900.81 -24100900.72 -24100900.62 0.2724 0.1096

Earth -70698-05-01 18:57 J -24100900.81 -24100900.71 -24100900.62 0.2717 0.1115 *

Mars -70696-01-07 11:30 J -24100284.13 -24100284.02 -24100283.91 0.1975 0.0488

Venus -70695-09-20 16:18 J -24099662.91 -24099662.82 -24099662.73 0.3809 0.1819

Saturn -70694-01-23 03:21 J -24099538.41 -24099538.36 -24099538.29 0.0263 0.0250

Saturn -70694-04-22 00:57 J -24099449.63 -24099449.46 -24099449.28 0.0263 0.0115

Saturn -70694-07-19 22:47 J -24099360.74 -24099360.55 -24099360.36 0.0264 0.0021

Jupiter -70694-09-01 16:04 J -24099316.92 -24099316.83 -24099316.73 0.0529 0.0362

Saturn -70694-10-16 20:23 J -24099271.80 -24099271.65 -24099271.49 0.0265 0.0159

Jupiter -70694-11-29 21:49 J -24099227.71 -24099227.59 -24099227.46 0.0528 0.0102

Moon -70691-04-24 18:13 J -24098350.81 -24098350.74 -24098350.68 0.2708 0.2112

Earth -70691-04-24 18:42 J -24098350.78 -24098350.72 -24098350.65 0.2712 0.2105 *

Mars -70690-08-25 02:37 J -24097863.56 -24097863.39 -24097863.22 0.1573 0.0058

Venus -70689-04-05 09:06 J -24097639.22 -24097639.12 -24097639.01 0.3807 0.0353

Jupiter -70688-10-25 07:11 J -24097071.39 -24097071.20 -24097071.02 0.0497 0.0040

Mars -70687-05-30 18:57 J -24096853.78 -24096853.71 -24096853.64 0.1978 0.1563

Earth -70685-05-03 12:28 J -24096150.04 -24096149.98 -24096149.92 0.2719 0.2262

Moon -70685-05-03 12:57 J -24096150.01 -24096149.96 -24096149.91 0.2724 0.2370 *

Venus -70684-10-20 02:23 J -24095615.50 -24095615.40 -24095615.31 0.3805 0.1243

Jupiter -70682-06-20 20:52 J -24095006.69 -24095006.63 -24095006.57 0.0528 0.0469

Jupiter -70682-09-18 02:37 J -24094917.52 -24094917.39 -24094917.27 0.0528 0.0021

Jupiter -70682-12-16 08:09 J -24094828.22 -24094828.16 -24094828.09 0.0527 0.0455

Saturn -70681-11-29 01:25 J -24094479.54 -24094479.44 -24094479.34 0.0300 0.0195

Mars -70680-01-14 04:47 J -24094433.44 -24094433.30 -24094433.15 0.1572 0.0820

Saturn -70680-02-25 13:40 J -24094391.05 -24094390.93 -24094390.80 0.0299 0.0063

Saturn -70680-05-25 01:54 J -24094302.54 -24094302.42 -24094302.29 0.0298 0.0070

Saturn -70680-08-21 14:09 J -24094214.00 -24094213.91 -24094213.82 0.0297 0.0199

Moon -70678-04-27 11:45 J -24093600.11 -24093600.01 -24093599.91 0.2714 0.1091

Earth -70678-04-27 12:28 J -24093600.08 -24093599.98 -24093599.88 0.2714 0.0958 *

Venus -70678-05-05 19:25 J -24093591.76 -24093591.69 -24093591.62 0.3803 0.2806

Jupiter -70676-08-13 03:06 J -24092761.55 -24092761.37 -24092761.20 0.0498 0.0195

Mars -70676-09-25 20:23 J -24092717.70 -24092717.65 -24092717.60 0.1969 0.1754

Jupiter -70676-11-11 14:09 J -24092671.01 -24092670.91 -24092670.79 0.0498 0.0402

Moon -70675-10-23 02:09 J -24092325.55 -24092325.41 -24092325.28 0.2615 0.1523

Earth -70675-10-23 03:21 J -24092325.49 -24092325.36 -24092325.23 0.2620 0.1499 *

Uranus -70674-11-25 10:18 J -24091927.08 -24091927.07 -24091927.04 0.0135 0.0132

Uranus -70673-02-21 13:11 J -24091839.00 -24091838.95 -24091838.87 0.0135 0.0116

Uranus -70673-05-19 16:33 J -24091750.90 -24091750.81 -24091750.72 0.0135 0.0099

Uranus -70673-08-15 19:25 J -24091662.79 -24091662.69 -24091662.58 0.0135 0.0083

Uranus -70673-11-11 22:33 J -24091574.67 -24091574.56 -24091574.45 0.0135 0.0066

Uranus -70672-02-08 01:40 J -24091486.55 -24091486.43 -24091486.31 0.0135 0.0050

Uranus -70672-05-07 04:33 J -24091398.43 -24091398.31 -24091398.18 0.0135 0.0033

Uranus -70672-08-03 07:40 J -24091310.31 -24091310.18 -24091310.05 0.0135 0.0016

Uranus -70672-10-30 10:47 J -24091222.18 -24091222.05 -24091221.92 0.0136 0.0001

Uranus -70671-01-26 13:54 J -24091134.05 -24091133.92 -24091133.79 0.0136 0.0018

Uranus -70671-04-24 17:01 J -24091045.92 -24091045.79 -24091045.67 0.0136 0.0035

Uranus -70671-07-21 19:54 J -24090957.79 -24090957.67 -24090957.54 0.0136 0.0052

Uranus -70671-10-17 23:01 J -24090869.65 -24090869.54 -24090869.42 0.0136 0.0069

Uranus -70670-01-14 02:23 J -24090781.50 -24090781.40 -24090781.30 0.0136 0.0087

Uranus -70670-04-12 05:16 J -24090693.36 -24090693.28 -24090693.19 0.0136 0.0104

Jupiter -70670-07-07 06:57 J -24090607.33 -24090607.21 -24090607.08 0.0528 0.0120

Uranus -70670-07-09 08:23 J -24090605.20 -24090605.15 -24090605.08 0.0137 0.0122

Jupiter -70670-10-04 12:42 J -24090518.06 -24090517.97 -24090517.87 0.0527 0.0343

Venus -70669-11-14 03:49 J -24090111.43 -24090111.34 -24090111.26 0.3570 0.2855

Mars -70666-02-16 04:04 J -24089287.44 -24089287.33 -24089287.23 0.1972 0.0700

Moon -70665-04-29 05:30 J -24088849.37 -24088849.27 -24088849.16 0.2722 0.0210

Earth -70665-04-29 05:59 J -24088849.36 -24088849.25 -24088849.14 0.2716 0.0198 *

Saturn -70665-09-07 23:30 J -24088717.67 -24088717.52 -24088717.36 0.0263 0.0157

Saturn -70665-12-05 21:06 J -24088628.81 -24088628.62 -24088628.42 0.0263 0.0022

Saturn -70664-03-04 18:42 J -24088539.88 -24088539.72 -24088539.54 0.0264 0.0116

Jupiter -70664-05-31 23:59 J -24088451.63 -24088451.50 -24088451.36 0.0498 0.0339

Saturn -70664-06-01 16:33 J -24088450.86 -24088450.81 -24088450.75 0.0265 0.0253

Jupiter -70664-08-30 11:30 J -24088361.17 -24088361.02 -24088360.86 0.0498 0.0259

Venus -70663-05-31 08:23 J -24088087.30 -24088087.15 -24088087.00 0.3572 0.0181

Moon -70662-10-26 09:49 J -24087574.25 -24087574.09 -24087573.93 0.2618 0.0635

Earth -70662-10-26 11:45 J -24087574.16 -24087574.01 -24087573.86 0.2618 0.0921 *

Neptune -70660-02-20 05:45 J -24087091.28 -24087091.26 -24087091.22 0.0089 0.0086

Neptune -70660-05-19 06:57 J -24087003.25 -24087003.21 -24087003.14 0.0089 0.0081

Neptune -70660-08-15 08:23 J -24086915.21 -24086915.15 -24086915.07 0.0089 0.0076

Mars -70660-10-03 01:11 J -24086866.57 -24086866.45 -24086866.32 0.1576 0.1082

Neptune -70660-11-11 09:49 J -24086827.16 -24086827.09 -24086827.01 0.0089 0.0071

Neptune -70659-02-07 11:01 J -24086739.12 -24086739.04 -24086738.94 0.0089 0.0066

Neptune -70659-05-06 12:28 J -24086651.07 -24086650.98 -24086650.88 0.0089 0.0061

Neptune -70659-08-02 13:54 J -24086563.02 -24086562.92 -24086562.82 0.0089 0.0056

Neptune -70659-10-29 15:06 J -24086474.97 -24086474.87 -24086474.76 0.0089 0.0051

Neptune -70658-01-25 16:18 J -24086386.93 -24086386.82 -24086386.70 0.0089 0.0046

Neptune -70658-04-23 17:30 J -24086298.88 -24086298.77 -24086298.64 0.0089 0.0042

Jupiter -70658-04-25 11:01 J -24086297.15 -24086297.04 -24086296.93 0.0528 0.0238

Neptune -70658-07-20 18:57 J -24086210.83 -24086210.71 -24086210.59 0.0089 0.0036

Jupiter -70658-07-23 16:47 J -24086207.92 -24086207.80 -24086207.69 0.0528 0.0225

Neptune -70658-10-16 20:09 J -24086122.77 -24086122.66 -24086122.53 0.0089 0.0032

Venus -70658-12-15 12:28 J -24086063.05 -24086062.98 -24086062.91 0.3575 0.3106

Neptune -70657-01-12 21:35 J -24086034.72 -24086034.60 -24086034.47 0.0089 0.0027

Neptune -70657-04-09 22:47 J -24085946.67 -24085946.55 -24085946.41 0.0089 0.0022

Neptune -70657-07-07 00:13 J -24085858.62 -24085858.49 -24085858.36 0.0089 0.0017

Mars -70657-07-08 11:30 J -24085857.13 -24085857.02 -24085856.91 0.1975 0.0376

Neptune -70657-10-03 01:40 J -24085770.57 -24085770.43 -24085770.30 0.0089 0.0012

Neptune -70657-12-30 02:52 J -24085682.51 -24085682.38 -24085682.25 0.0089 0.0007

Neptune -70656-03-28 04:04 J -24085594.46 -24085594.33 -24085594.19 0.0089 0.0003

Neptune -70656-06-24 05:30 J -24085506.40 -24085506.27 -24085506.14 0.0089 0.0003

Neptune -70656-09-20 06:42 J -24085418.35 -24085418.22 -24085418.09 0.0089 0.0008

Neptune -70656-12-17 08:09 J -24085330.29 -24085330.16 -24085330.03 0.0089 0.0013

Neptune -70655-03-15 09:21 J -24085242.24 -24085242.11 -24085241.98 0.0089 0.0018

Neptune -70655-06-11 10:33 J -24085154.18 -24085154.06 -24085153.93 0.0089 0.0023

Neptune -70655-09-07 11:45 J -24085066.13 -24085066.01 -24085065.88 0.0089 0.0028

Neptune -70655-12-04 13:11 J -24084978.07 -24084977.95 -24084977.83 0.0089 0.0033

Neptune -70654-03-02 14:23 J -24084890.01 -24084889.90 -24084889.78 0.0089 0.0038

Neptune -70654-05-29 15:35 J -24084801.96 -24084801.85 -24084801.73 0.0089 0.0043

Neptune -70654-08-25 16:47 J -24084713.90 -24084713.80 -24084713.68 0.0089 0.0048

Neptune -70654-11-21 18:28 J -24084625.84 -24084625.73 -24084625.63 0.0089 0.0052

Neptune -70653-02-17 19:40 J -24084537.78 -24084537.68 -24084537.58 0.0089 0.0057

Neptune -70653-05-15 20:52 J -24084449.72 -24084449.63 -24084449.53 0.0089 0.0062

Neptune -70653-08-11 22:04 J -24084361.66 -24084361.58 -24084361.49 0.0089 0.0067

Neptune -70653-11-07 23:16 J -24084273.59 -24084273.53 -24084273.44 0.0089 0.0072

Neptune -70652-02-04 00:42 J -24084185.53 -24084185.47 -24084185.40 0.0089 0.0077

Jupiter -70652-03-19 21:35 J -24084141.65 -24084141.60 -24084141.55 0.0498 0.0480

Earth -70652-05-01 23:45 J -24084098.61 -24084098.51 -24084098.42 0.2718 0.1351

Moon -70652-05-01 23:45 J -24084098.60 -24084098.51 -24084098.42 0.2724 0.1355 *

Neptune -70652-05-03 01:54 J -24084097.46 -24084097.42 -24084097.36 0.0089 0.0082

Jupiter -70652-06-18 09:06 J -24084051.30 -24084051.12 -24084050.94 0.0498 0.0118

Neptune -70652-07-30 03:06 J -24084009.38 -24084009.37 -24084009.33 0.0089 0.0087

Saturn -70651-04-18 02:37 J -24083747.46 -24083747.39 -24083747.31 0.0300 0.0242

Saturn -70651-07-15 15:06 J -24083658.99 -24083658.87 -24083658.75 0.0300 0.0109

Saturn -70651-10-12 03:21 J -24083570.49 -24083570.36 -24083570.23 0.0299 0.0024

Saturn -70650-01-08 15:21 J -24083481.96 -24083481.86 -24083481.74 0.0298 0.0155

Mars -70650-02-23 03:35 J -24083436.52 -24083436.35 -24083436.19 0.1574 0.0204

Saturn -70650-04-07 03:35 J -24083393.38 -24083393.35 -24083393.31 0.0297 0.0283

Mars -70648-11-28 18:57 J -24082426.78 -24082426.71 -24082426.63 0.1978 0.1445

Jupiter -70646-02-11 15:21 J -24081986.95 -24081986.86 -24081986.77 0.0528 0.0352

Jupiter -70646-05-11 21:06 J -24081897.75 -24081897.62 -24081897.50 0.0528 0.0111

Moon -70645-04-24 23:01 J -24081548.62 -24081548.54 -24081548.47 0.2709 0.2007

Earth -70645-04-24 23:30 J -24081548.59 -24081548.52 -24081548.44 0.2712 0.1872 *

Venus -70644-10-11 21:06 J -24081013.68 -24081013.62 -24081013.55 0.3811 0.2803

Mars -70641-07-15 05:30 J -24080006.42 -24080006.27 -24080006.12 0.1572 0.0687

Jupiter -70640-04-06 06:13 J -24079741.43 -24079741.24 -24079741.06 0.0497 0.0029

Earth -70639-05-04 17:16 J -24079347.82 -24079347.78 -24079347.74 0.2719 0.2498

Moon -70639-05-04 17:45 J -24079347.79 -24079347.76 -24079347.72 0.2724 0.2543 *

Venus -70638-04-27 14:09 J -24078990.01 -24078989.91 -24078989.81 0.3809 0.1301

Mars -70636-03-26 20:23 J -24078290.68 -24078290.65 -24078290.62 0.1969 0.1866

Saturn -70635-01-25 20:52 J -24077985.74 -24077985.63 -24077985.50 0.0263 0.0205

Saturn -70635-04-24 18:28 J -24077896.91 -24077896.73 -24077896.54 0.0263 0.0070

Saturn -70635-07-22 16:04 J -24077808.01 -24077807.83 -24077807.64 0.0264 0.0067

Saturn -70635-10-19 13:54 J -24077719.04 -24077718.92 -24077718.80 0.0265 0.0204

Jupiter -70635-11-30 19:40 J -24077676.73 -24077676.68 -24077676.62 0.0529 0.0465

Jupiter -70634-02-28 01:25 J -24077587.56 -24077587.44 -24077587.31 0.0528 0.0009

Jupiter -70634-05-28 07:11 J -24077498.25 -24077498.20 -24077498.14 0.0528 0.0462

Uranus -70634-10-07 00:42 J -24077366.50 -24077366.47 -24077366.43 0.0144 0.0141

Uranus -70633-01-03 09:21 J -24077278.23 -24077278.11 -24077277.98 0.0144 0.0111

Uranus -70633-03-31 17:59 J -24077189.91 -24077189.75 -24077189.59 0.0144 0.0081

Uranus -70633-06-28 02:37 J -24077101.57 -24077101.39 -24077101.21 0.0144 0.0051

Uranus -70633-09-24 11:01 J -24077013.23 -24077013.04 -24077012.84 0.0143 0.0021

Venus -70633-11-10 06:57 J -24076966.31 -24076966.21 -24076966.10 0.3807 0.0275

Uranus -70633-12-21 19:40 J -24076924.87 -24076924.68 -24076924.48 0.0143 0.0009

Uranus -70632-03-20 04:04 J -24076836.51 -24076836.33 -24076836.14 0.0143 0.0039

Moon -70632-04-27 16:33 J -24076797.91 -24076797.81 -24076797.71 0.2717 0.0737

Earth -70632-04-27 17:16 J -24076797.89 -24076797.78 -24076797.68 0.2714 0.0727 *

Uranus -70632-06-16 12:28 J -24076748.14 -24076747.98 -24076747.80 0.0143 0.0068

Uranus -70632-09-12 21:06 J -24076659.76 -24076659.62 -24076659.48 0.0143 0.0097

Mars -70632-12-05 07:40 J -24076576.19 -24076576.18 -24076576.17 0.1570 0.1563

Uranus -70632-12-10 05:01 J -24076571.36 -24076571.29 -24076571.18 0.0143 0.0127

Moon -70629-10-23 08:52 J -24075523.28 -24075523.13 -24075522.99 0.2616 0.1236

Earth -70629-10-23 10:04 J -24075523.23 -24075523.08 -24075522.93 0.2620 0.1036 *

Jupiter -70628-01-23 03:06 J -24075431.54 -24075431.37 -24075431.19 0.0497 0.0174

Jupiter -70628-04-23 14:23 J -24075341.00 -24075340.90 -24075340.80 0.0498 0.0422

Venus -70627-05-27 00:13 J -24074942.59 -24074942.49 -24074942.40 0.3805 0.1786

Mars -70627-08-17 03:49 J -24074860.44 -24074860.34 -24074860.23 0.1972 0.0800

Jupiter -70623-12-17 06:13 J -24073277.36 -24073277.24 -24073277.12 0.0528 0.0111

Jupiter -70622-03-16 11:59 J -24073188.10 -24073188.00 -24073187.91 0.0528 0.0352

Saturn -70622-09-05 03:06 J -24073015.38 -24073015.37 -24073015.36 0.0300 0.0298

Saturn -70622-12-02 15:21 J -24072926.96 -24072926.86 -24072926.75 0.0300 0.0164

Venus -70622-12-10 17:16 J -24072918.82 -24072918.78 -24072918.73 0.3802 0.3366

Saturn -70621-02-29 03:49 J -24072838.47 -24072838.34 -24072838.21 0.0299 0.0032

Saturn -70621-05-27 16:04 J -24072749.95 -24072749.83 -24072749.71 0.0298 0.0100

Pluto -70621-08-15 01:11 J -24072670.51 -24072670.45 -24072670.38 0.0084 0.0074

Saturn -70621-08-24 04:04 J -24072661.40 -24072661.33 -24072661.24 0.0297 0.0230

Pluto -70621-11-11 02:52 J -24072582.47 -24072582.38 -24072582.29 0.0084 0.0062

Pluto -70620-02-07 04:18 J -24072494.43 -24072494.32 -24072494.21 0.0084 0.0051

Mars -70620-04-03 01:54 J -24072439.52 -24072439.42 -24072439.31 0.1576 0.1214

Pluto -70620-05-06 05:30 J -24072406.38 -24072406.27 -24072406.14 0.0084 0.0041

Pluto -70620-08-02 07:11 J -24072318.33 -24072318.20 -24072318.07 0.0084 0.0030

Pluto -70620-10-29 08:37 J -24072230.27 -24072230.14 -24072230.00 0.0084 0.0019

Pluto -70619-01-25 10:04 J -24072142.22 -24072142.08 -24072141.94 0.0083 0.0008

Pluto -70619-04-23 11:30 J -24072054.16 -24072054.02 -24072053.88 0.0083 0.0002

Moon -70619-04-30 10:33 J -24072047.17 -24072047.06 -24072046.96 0.2722 0.0356

Earth -70619-04-30 10:47 J -24072047.16 -24072047.05 -24072046.94 0.2716 0.0430 *

Pluto -70619-07-20 12:57 J -24071966.10 -24071965.96 -24071965.82 0.0083 0.0013

Pluto -70619-10-16 14:09 J -24071878.04 -24071877.91 -24071877.77 0.0083 0.0023

Pluto -70618-01-12 15:35 J -24071789.97 -24071789.85 -24071789.72 0.0083 0.0033

Pluto -70618-04-10 16:47 J -24071701.90 -24071701.80 -24071701.67 0.0083 0.0044

Pluto -70618-07-07 18:13 J -24071613.84 -24071613.74 -24071613.63 0.0083 0.0054

Pluto -70618-10-03 19:40 J -24071525.76 -24071525.68 -24071525.59 0.0083 0.0064

Pluto -70618-12-30 20:52 J -24071437.68 -24071437.63 -24071437.56 0.0082 0.0074

Mars -70617-01-07 11:30 J -24071430.13 -24071430.02 -24071429.91 0.1976 0.0258

Jupiter -70617-11-10 23:01 J -24071121.68 -24071121.54 -24071121.41 0.0498 0.0332

Jupiter -70616-02-09 10:18 J -24071031.23 -24071031.07 -24071030.91 0.0498 0.0266

Moon -70616-10-26 16:33 J -24070771.95 -24070771.81 -24070771.67 0.2618 0.1300

Earth -70616-10-26 18:28 J -24070771.87 -24070771.73 -24070771.59 0.2618 0.1378 *

Venus -70612-06-21 04:47 J -24069438.42 -24069438.30 -24069438.17 0.3570 0.1819

Mars -70611-08-24 04:04 J -24069009.49 -24069009.33 -24069009.16 0.1574 0.0334

Jupiter -70611-10-05 10:47 J -24068967.17 -24068967.05 -24068966.94 0.0528 0.0221

Jupiter -70610-01-02 16:18 J -24068877.93 -24068877.82 -24068877.70 0.0528 0.0241

Mars -70608-05-29 18:57 J -24067999.79 -24067999.71 -24067999.62 0.1978 0.1334

Venus -70606-01-05 09:21 J -24067414.25 -24067414.11 -24067413.97 0.3573 0.1186

Earth -70606-05-03 04:33 J -24067296.40 -24067296.31 -24067296.23 0.2718 0.1584

Moon -70606-05-03 04:47 J -24067296.39 -24067296.30 -24067296.22 0.2725 0.1652 *

Saturn -70606-06-14 19:40 J -24067253.74 -24067253.68 -24067253.61 0.0262 0.0245

Saturn -70606-09-11 17:01 J -24067164.96 -24067164.79 -24067164.61 0.0263 0.0111

Saturn -70606-12-09 14:52 J -24067076.07 -24067075.88 -24067075.69 0.0263 0.0025

Saturn -70605-03-07 12:28 J -24066987.13 -24066986.98 -24066986.83 0.0264 0.0162

Jupiter -70605-08-29 19:54 J -24066811.72 -24066811.67 -24066811.61 0.0498 0.0476

Jupiter -70605-11-28 07:25 J -24066721.37 -24066721.19 -24066721.00 0.0498 0.0123

Mars -70601-01-14 06:13 J -24065579.40 -24065579.24 -24065579.08 0.1572 0.0547

Moon -70599-04-26 03:49 J -24064746.43 -24064746.34 -24064746.26 0.2709 0.1659

Earth -70599-04-26 04:18 J -24064746.40 -24064746.32 -24064746.23 0.2712 0.1637 *

Jupiter -70599-07-24 14:37 J -24064656.98 -24064656.89 -24064656.79 0.0528 0.0341

Jupiter -70599-10-21 20:23 J -24064567.78 -24064567.65 -24064567.53 0.0528 0.0121

Jupiter -70593-09-16 05:01 J -24062411.48 -24062411.29 -24062411.10 0.0498 0.0021

Venus -70593-11-02 02:09 J -24062364.42 -24062364.41 -24062364.40 0.3812 0.3766

Saturn -70592-04-20 16:47 J -24062194.89 -24062194.80 -24062194.70 0.0300 0.0210

Mars -70592-06-05 08:23 J -24062149.22 -24062149.15 -24062149.08 0.1570 0.1424

Saturn -70592-07-18 05:16 J -24062106.41 -24062106.28 -24062106.16 0.0300 0.0076

Saturn -70592-10-14 17:30 J -24062017.90 -24062017.77 -24062017.64 0.0299 0.0056

Saturn -70591-01-11 05:45 J -24061929.36 -24061929.26 -24061929.16 0.0298 0.0187

Uranus -70590-12-15 17:59 J -24061225.78 -24061225.75 -24061225.69 0.0135 0.0126

Uranus -70589-03-12 21:21 J -24061137.69 -24061137.61 -24061137.53 0.0135 0.0109

Uranus -70589-06-09 00:13 J -24061049.58 -24061049.49 -24061049.39 0.0135 0.0093

Uranus -70589-09-05 03:21 J -24060961.47 -24060961.36 -24060961.25 0.0135 0.0076

Uranus -70589-12-02 06:28 J -24060873.35 -24060873.23 -24060873.12 0.0135 0.0059

Uranus -70588-02-28 09:21 J -24060785.23 -24060785.11 -24060784.98 0.0135 0.0043

Uranus -70588-05-27 12:28 J -24060697.11 -24060696.98 -24060696.85 0.0135 0.0026

Uranus -70588-08-23 15:35 J -24060608.98 -24060608.85 -24060608.72 0.0135 0.0009

Uranus -70588-11-19 18:42 J -24060520.85 -24060520.72 -24060520.59 0.0136 0.0008

Mars -70587-02-15 03:49 J -24060433.44 -24060433.34 -24060433.23 0.1973 0.0921

Uranus -70587-02-15 21:49 J -24060432.72 -24060432.59 -24060432.46 0.0136 0.0025

Jupiter -70587-05-12 18:57 J -24060346.77 -24060346.71 -24060346.65 0.0528 0.0455

Uranus -70587-05-15 00:42 J -24060344.59 -24060344.47 -24060344.34 0.0136 0.0042

Venus -70587-05-18 18:57 J -24060340.79 -24060340.71 -24060340.63 0.3810 0.2282

Jupiter -70587-08-10 00:28 J -24060257.60 -24060257.48 -24060257.35 0.0528 0.0021

Uranus -70587-08-11 03:49 J -24060256.45 -24060256.34 -24060256.22 0.0136 0.0059

Uranus -70587-11-07 06:57 J -24060168.31 -24060168.21 -24060168.10 0.0136 0.0076

Jupiter -70587-11-07 06:13 J -24060168.29 -24060168.24 -24060168.18 0.0527 0.0468 *

Uranus -70586-02-03 10:04 J -24060080.17 -24060080.08 -24060079.98 0.0136 0.0094

Moon -70586-04-28 21:21 J -24059995.71 -24059995.61 -24059995.50 0.2718 0.0628

Earth -70586-04-28 22:04 J -24059995.69 -24059995.58 -24059995.48 0.2714 0.0496 *

Uranus -70586-05-02 13:11 J -24059992.02 -24059991.95 -24059991.87 0.0136 0.0111

Uranus -70586-07-29 16:18 J -24059903.85 -24059903.82 -24059903.77 0.0137 0.0129

Moon -70583-10-24 15:21 J -24058721.02 -24058720.86 -24058720.70 0.2617 0.0692

Earth -70583-10-24 17:01 J -24058720.95 -24058720.79 -24058720.63 0.2620 0.0575 *

Venus -70582-12-02 11:59 J -24058317.11 -24058317.00 -24058316.90 0.3808 0.0785

Jupiter -70581-07-05 01:54 J -24058101.59 -24058101.42 -24058101.24 0.0497 0.0167

Mars -70581-10-02 02:37 J -24058012.47 -24058012.39 -24058012.30 0.1576 0.1354

Jupiter -70581-10-03 13:11 J -24058011.04 -24058010.95 -24058010.85 0.0498 0.0430

Mars -70578-07-08 11:30 J -24057003.14 -24057003.02 -24057002.91 0.1975 0.0153

Neptune -70577-05-07 08:23 J -24056699.15 -24056699.15 -24056699.10 0.0089 0.0088

Neptune -70577-08-03 12:13 J -24056611.05 -24056610.99 -24056610.89 0.0089 0.0081

Neptune -70577-10-30 16:18 J -24056522.93 -24056522.82 -24056522.71 0.0089 0.0073

Neptune -70576-01-26 19:54 J -24056434.79 -24056434.67 -24056434.53 0.0089 0.0066

Saturn -70576-01-28 14:52 J -24056433.03 -24056432.88 -24056432.72 0.0263 0.0157

Neptune -70576-04-24 23:30 J -24056346.66 -24056346.52 -24056346.36 0.0089 0.0059

Saturn -70576-04-27 12:28 J -24056344.17 -24056343.98 -24056343.78 0.0263 0.0023

Venus -70576-06-17 04:47 J -24056293.40 -24056293.30 -24056293.19 0.3806 0.0778

Neptune -70576-07-22 03:06 J -24056258.51 -24056258.37 -24056258.19 0.0089 0.0052

Saturn -70576-07-25 10:18 J -24056255.24 -24056255.07 -24056254.90 0.0264 0.0115

Neptune -70576-10-18 07:11 J -24056170.37 -24056170.20 -24056170.03 0.0089 0.0044

Saturn -70576-10-22 07:54 J -24056166.22 -24056166.17 -24056166.11 0.0265 0.0253

Neptune -70575-01-14 10:47 J -24056082.22 -24056082.05 -24056081.86 0.0089 0.0037

Neptune -70575-04-12 14:23 J -24055994.07 -24055993.90 -24055993.70 0.0089 0.0030

Jupiter -70575-05-29 05:01 J -24055947.41 -24055947.29 -24055947.17 0.0528 0.0108

Neptune -70575-07-09 18:13 J -24055905.92 -24055905.74 -24055905.54 0.0089 0.0022

Jupiter -70575-08-26 10:47 J -24055858.14 -24055858.05 -24055857.96 0.0528 0.0356

Neptune -70575-10-05 22:04 J -24055817.77 -24055817.58 -24055817.38 0.0089 0.0015

Neptune -70574-01-02 01:54 J -24055729.62 -24055729.42 -24055729.22 0.0089 0.0008

Neptune -70574-03-31 05:30 J -24055641.46 -24055641.27 -24055641.07 0.0089 0.0002

Neptune -70574-06-27 09:21 J -24055553.31 -24055553.11 -24055552.91 0.0089 0.0007

Neptune -70574-09-23 12:57 J -24055465.15 -24055464.96 -24055464.76 0.0089 0.0015

Neptune -70574-12-20 16:47 J -24055376.99 -24055376.80 -24055376.61 0.0089 0.0022

Neptune -70573-03-17 20:37 J -24055288.83 -24055288.64 -24055288.46 0.0089 0.0029

Moon -70573-04-30 15:21 J -24055244.96 -24055244.86 -24055244.76 0.2722 0.0684

Earth -70573-04-30 15:35 J -24055244.95 -24055244.85 -24055244.75 0.2716 0.0661 *

Neptune -70573-06-13 23:59 J -24055200.67 -24055200.50 -24055200.31 0.0089 0.0037

Neptune -70573-09-10 03:49 J -24055112.50 -24055112.34 -24055112.16 0.0089 0.0044

Neptune -70573-12-07 07:40 J -24055024.34 -24055024.18 -24055024.01 0.0089 0.0051

Neptune -70572-03-05 11:01 J -24054936.17 -24054936.04 -24054935.87 0.0089 0.0059

Neptune -70572-06-01 14:52 J -24054847.99 -24054847.88 -24054847.73 0.0089 0.0066

Neptune -70572-08-28 18:42 J -24054759.82 -24054759.72 -24054759.60 0.0089 0.0073

Neptune -70572-11-24 22:18 J -24054671.63 -24054671.57 -24054671.47 0.0089 0.0080

Neptune -70571-02-21 01:54 J -24054583.42 -24054583.42 -24054583.37 0.0088 0.0088

Mars -70571-02-22 04:47 J -24054582.46 -24054582.30 -24054582.14 0.1574 0.0466

Venus -70571-12-31 22:04 J -24054269.66 -24054269.58 -24054269.50 0.3804 0.2337

Moon -70570-10-27 23:30 J -24053969.65 -24053969.52 -24053969.39 0.2618 0.1550

Earth -70570-10-28 01:11 J -24053969.56 -24053969.45 -24053969.33 0.2618 0.1842 *

Jupiter -70569-04-22 23:01 J -24053791.69 -24053791.54 -24053791.40 0.0497 0.0312

Jupiter -70569-07-22 10:18 J -24053701.22 -24053701.07 -24053700.92 0.0498 0.0285

Mars -70569-11-27 18:57 J -24053572.80 -24053572.71 -24053572.62 0.1978 0.1232

Moon -70566-04-24 15:06 J -24052694.90 -24052694.87 -24052694.84 0.2705 0.2594

Earth -70566-04-24 15:35 J -24052694.89 -24052694.85 -24052694.82 0.2711 0.2549 *

Jupiter -70563-03-17 09:49 J -24051637.21 -24051637.09 -24051636.98 0.0528 0.0216

Jupiter -70563-06-14 15:21 J -24051547.97 -24051547.86 -24051547.75 0.0528 0.0247

Saturn -70563-09-07 17:30 J -24051462.83 -24051462.77 -24051462.70 0.0300 0.0262

Saturn -70563-12-05 05:59 J -24051374.37 -24051374.25 -24051374.13 0.0300 0.0128

Saturn -70562-03-03 18:13 J -24051285.87 -24051285.74 -24051285.61 0.0299 0.0007

Saturn -70562-05-31 06:28 J -24051197.34 -24051197.23 -24051197.11 0.0298 0.0136

Mars -70562-07-15 06:57 J -24051152.37 -24051152.21 -24051152.05 0.1572 0.0413

Saturn -70562-08-27 18:42 J -24051108.78 -24051108.72 -24051108.67 0.0297 0.0265

Earth -70560-05-03 09:06 J -24050494.19 -24050494.12 -24050494.04 0.2718 0.1818

Moon -70560-05-03 09:35 J -24050494.18 -24050494.10 -24050494.02 0.2725 0.1815 *

Jupiter -70557-02-09 18:28 J -24049481.78 -24049481.73 -24049481.67 0.0498 0.0472

Jupiter -70557-05-10 05:59 J -24049391.43 -24049391.25 -24049391.07 0.0498 0.0126

Venus -70555-01-26 05:45 J -24048765.40 -24048765.26 -24048765.11 0.3571 0.0802

Moon -70553-04-26 08:23 J -24047944.23 -24047944.15 -24047944.06 0.2711 0.1516

Earth -70553-04-26 09:06 J -24047944.21 -24047944.12 -24047944.03 0.2713 0.1401 *

Mars -70553-12-04 09:06 J -24047722.21 -24047722.12 -24047722.02 0.1570 0.1287

Jupiter -70551-01-03 14:09 J -24047327.00 -24047326.91 -24047326.81 0.0528 0.0327

Jupiter -70551-04-02 19:54 J -24047237.79 -24047237.67 -24047237.55 0.0528 0.0136

Venus -70550-08-12 10:18 J -24046741.19 -24046741.07 -24046740.96 0.3573 0.2182

Earth -70550-10-22 15:21 J -24046669.90 -24046669.86 -24046669.82 0.2622 0.2518

Uranus -70550-10-27 08:37 J -24046665.20 -24046665.14 -24046665.05 0.0144 0.0132

Uranus -70549-01-23 17:16 J -24046576.90 -24046576.78 -24046576.63 0.0144 0.0102

Uranus -70549-04-21 02:09 J -24046488.58 -24046488.41 -24046488.24 0.0144 0.0072

Uranus -70549-07-18 10:47 J -24046400.23 -24046400.05 -24046399.86 0.0143 0.0041

Uranus -70549-10-14 19:25 J -24046311.89 -24046311.69 -24046311.50 0.0143 0.0011

Uranus -70548-01-11 03:49 J -24046223.53 -24046223.34 -24046223.14 0.0143 0.0019

Uranus -70548-04-09 12:13 J -24046135.16 -24046134.99 -24046134.80 0.0143 0.0048

Uranus -70548-07-06 20:52 J -24046046.79 -24046046.63 -24046046.47 0.0143 0.0077

Mars -70548-08-16 04:04 J -24046006.43 -24046006.33 -24046006.24 0.1972 0.1039

Uranus -70548-10-03 05:01 J -24045958.41 -24045958.29 -24045958.15 0.0143 0.0107

Uranus -70548-12-30 13:25 J -24045869.99 -24045869.94 -24045869.87 0.0143 0.0136

Saturn -70547-06-17 13:54 J -24045701.04 -24045700.92 -24045700.79 0.0262 0.0195

Saturn -70547-09-14 11:30 J -24045612.20 -24045612.02 -24045611.83 0.0263 0.0061

Saturn -70547-12-12 09:21 J -24045523.30 -24045523.11 -24045522.93 0.0263 0.0076

Saturn -70546-03-11 06:42 J -24045434.32 -24045434.22 -24045434.09 0.0264 0.0213

Jupiter -70545-02-27 03:06 J -24045081.56 -24045081.37 -24045081.18 0.0498 0.0019

Mars -70541-04-02 03:21 J -24043585.41 -24043585.36 -24043585.31 0.1576 0.1489

Moon -70540-04-29 02:09 J -24043193.52 -24043193.41 -24043193.30 0.2719 0.0268

Earth -70540-04-29 02:52 J -24043193.49 -24043193.38 -24043193.28 0.2715 0.0266 *

Jupiter -70540-10-22 18:13 J -24043016.81 -24043016.74 -24043016.68 0.0528 0.0446

Jupiter -70539-01-19 23:45 J -24042927.63 -24042927.51 -24042927.38 0.0528 0.0017

Jupiter -70539-04-19 05:30 J -24042838.32 -24042838.27 -24042838.22 0.0527 0.0477

Mars -70538-01-06 11:30 J -24042576.14 -24042576.02 -24042575.91 0.1975 0.0075

Moon -70537-10-24 21:49 J -24041918.75 -24041918.59 -24041918.42 0.2618 0.0290

Earth -70537-10-24 23:45 J -24041918.67 -24041918.51 -24041918.35 0.2620 0.0112 *

Venus -70536-06-08 23:59 J -24041691.55 -24041691.50 -24041691.45 0.3811 0.3258

Jupiter -70534-12-16 00:28 J -24040771.66 -24040771.48 -24040771.30 0.0498 0.0162

Jupiter -70533-03-15 11:45 J -24040681.10 -24040681.01 -24040680.92 0.0498 0.0435

Saturn -70533-04-23 07:40 J -24040642.28 -24040642.18 -24040642.07 0.0300 0.0170

Saturn -70533-07-20 19:54 J -24040553.79 -24040553.67 -24040553.54 0.0299 0.0039

Saturn -70533-10-17 08:09 J -24040465.28 -24040465.16 -24040465.03 0.0299 0.0095

Saturn -70532-01-13 20:23 J -24040376.73 -24040376.65 -24040376.57 0.0298 0.0225

Mars -70532-08-23 05:30 J -24040155.42 -24040155.27 -24040155.11 0.1574 0.0609

Venus -70531-12-23 16:47 J -24039667.89 -24039667.80 -24039667.71 0.3810 0.1761

Mars -70529-05-28 18:57 J -24039145.80 -24039145.71 -24039145.61 0.1978 0.1110

Jupiter -70528-11-08 04:04 J -24038617.46 -24038617.33 -24038617.21 0.0528 0.0103

Jupiter -70527-02-05 09:35 J -24038528.19 -24038528.10 -24038528.01 0.0527 0.0361

Moon -70527-05-01 20:23 J -24038442.76 -24038442.65 -24038442.55 0.2723 0.0833

Earth -70527-05-01 20:23 J -24038442.75 -24038442.65 -24038442.55 0.2716 0.0896 *

Venus -70525-07-08 09:35 J -24037644.20 -24037644.10 -24037643.99 0.3808 0.0279

Moon -70524-10-28 06:13 J -24037167.32 -24037167.24 -24037167.15 0.2618 0.2211

Earth -70524-10-28 08:09 J -24037167.24 -24037167.16 -24037167.09 0.2617 0.2300 *

Mars -70522-01-13 07:40 J -24036725.35 -24036725.18 -24036725.01 0.1572 0.0275

Jupiter -70522-10-03 21:21 J -24036461.75 -24036461.61 -24036461.46 0.0497 0.0309

Jupiter -70521-01-02 08:52 J -24036371.28 -24036371.13 -24036370.98 0.0498 0.0289

Moon -70520-04-24 19:54 J -24035892.72 -24035892.67 -24035892.62 0.2705 0.2347

Earth -70520-04-24 20:23 J -24035892.71 -24035892.65 -24035892.60 0.2711 0.2315 *

Venus -70519-01-22 02:37 J -24035620.48 -24035620.39 -24035620.29 0.3806 0.1320

Saturn -70518-11-04 12:28 J -24034969.06 -24034968.98 -24034968.89 0.0262 0.0236

Saturn -70517-02-01 10:04 J -24034880.26 -24034880.08 -24034879.90 0.0263 0.0102

Saturn -70517-04-30 07:40 J -24034791.37 -24034791.18 -24034790.99 0.0263 0.0033

Saturn -70517-07-28 05:16 J -24034702.42 -24034702.28 -24034702.13 0.0264 0.0170

Jupiter -70516-08-27 08:09 J -24034307.27 -24034307.16 -24034307.04 0.0528 0.0218

Jupiter -70516-11-24 13:54 J -24034218.03 -24034217.92 -24034217.81 0.0528 0.0247

Earth -70514-05-04 13:54 J -24033691.98 -24033691.92 -24033691.85 0.2718 0.2046

Moon -70514-05-04 14:23 J -24033691.97 -24033691.90 -24033691.84 0.2725 0.2142 *

Venus -70514-08-07 19:54 J -24033596.74 -24033596.67 -24033596.60 0.3804 0.2890

Mars -70513-06-04 09:49 J -24033295.21 -24033295.09 -24033294.98 0.1570 0.1158

Jupiter -70510-07-22 18:13 J -24032151.81 -24032151.74 -24032151.67 0.0497 0.0455

Jupiter -70510-10-21 05:45 J -24032061.44 -24032061.26 -24032061.08 0.0498 0.0142

Mars -70508-02-14 03:49 J -24031579.43 -24031579.34 -24031579.25 0.1972 0.1130

Moon -70507-04-27 13:11 J -24031142.04 -24031141.95 -24031141.85 0.2713 0.1244

Earth -70507-04-27 13:54 J -24031142.02 -24031141.92 -24031141.82 0.2713 0.1169 *

Uranus -70505-01-05 01:54 J -24030524.47 -24030524.42 -24030524.35 0.0135 0.0119

Uranus -70505-04-02 05:01 J -24030436.37 -24030436.29 -24030436.20 0.0135 0.0102

Uranus -70505-06-29 08:09 J -24030348.26 -24030348.16 -24030348.06 0.0135 0.0086

Uranus -70505-09-25 11:16 J -24030260.14 -24030260.03 -24030259.92 0.0135 0.0069

Uranus -70505-12-22 14:09 J -24030172.03 -24030171.91 -24030171.79 0.0135 0.0053

Venus -70504-02-16 02:09 J -24030116.50 -24030116.41 -24030116.32 0.3569 0.2845

Uranus -70504-03-20 17:16 J -24030083.90 -24030083.78 -24030083.65 0.0135 0.0036

Jupiter -70504-06-15 12:57 J -24029997.06 -24029996.96 -24029996.86 0.0528 0.0325

Uranus -70504-06-16 20:23 J -24029995.78 -24029995.65 -24029995.52 0.0135 0.0019

Saturn -70504-09-10 08:37 J -24029910.22 -24029910.14 -24029910.05 0.0300 0.0220

Jupiter -70504-09-12 18:42 J -24029907.84 -24029907.72 -24029907.60 0.0528 0.0139

Uranus -70504-09-12 23:30 J -24029907.65 -24029907.52 -24029907.39 0.0135 0.0004 *

Moon -70504-10-22 21:06 J -24029867.72 -24029867.62 -24029867.52 0.2617 0.2073

Earth -70504-10-22 22:04 J -24029867.67 -24029867.58 -24029867.48 0.2622 0.2056 *

Saturn -70504-12-07 21:06 J -24029821.74 -24029821.62 -24029821.50 0.0299 0.0086

Uranus -70504-12-10 02:23 J -24029819.53 -24029819.40 -24029819.26 0.0136 0.0015

Saturn -70503-03-06 09:21 J -24029733.24 -24029733.11 -24029732.98 0.0298 0.0046

Uranus -70503-03-08 05:30 J -24029731.39 -24029731.27 -24029731.14 0.0136 0.0032

Saturn -70503-06-02 21:35 J -24029644.70 -24029644.60 -24029644.50 0.0298 0.0177

Uranus -70503-06-04 08:37 J -24029643.26 -24029643.14 -24029643.01 0.0136 0.0049

Uranus -70503-08-31 11:45 J -24029555.12 -24029555.01 -24029554.89 0.0136 0.0066

Uranus -70503-11-27 14:52 J -24029466.98 -24029466.88 -24029466.77 0.0136 0.0083

Uranus -70502-02-23 17:59 J -24029378.83 -24029378.75 -24029378.66 0.0136 0.0101

Uranus -70502-05-22 21:06 J -24029290.68 -24029290.62 -24029290.55 0.0136 0.0118

Uranus -70502-08-19 00:13 J -24029202.49 -24029202.49 -24029202.47 0.0137 0.0136

Mars -70499-07-07 11:30 J -24028149.13 -24028149.02 -24028148.91 0.1976 0.0081

Venus -70499-09-02 06:42 J -24028092.37 -24028092.22 -24028092.07 0.3572 0.0219

Jupiter -70498-08-09 01:11 J -24027751.64 -24027751.45 -24027751.26 0.0498 0.0019

Neptune -70496-11-17 04:47 J -24026920.32 -24026920.30 -24026920.26 0.0089 0.0086

Neptune -70495-02-13 06:13 J -24026832.29 -24026832.24 -24026832.18 0.0089 0.0081

Neptune -70495-05-12 07:25 J -24026744.25 -24026744.19 -24026744.12 0.0089 0.0076

Neptune -70495-08-08 08:52 J -24026656.21 -24026656.13 -24026656.05 0.0089 0.0071

Neptune -70495-11-04 10:04 J -24026568.16 -24026568.08 -24026567.99 0.0089 0.0066

Neptune -70494-01-31 11:30 J -24026480.11 -24026480.02 -24026479.93 0.0089 0.0061

Neptune -70494-04-29 12:28 J -24026392.07 -24026391.98 -24026391.86 0.0089 0.0057

Moon -70494-04-30 06:57 J -24026391.31 -24026391.21 -24026391.10 0.2719 0.0151

Earth -70494-04-30 07:40 J -24026391.29 -24026391.18 -24026391.08 0.2715 0.0104 *

Neptune -70494-07-26 13:54 J -24026304.02 -24026303.92 -24026303.80 0.0089 0.0052

Neptune -70494-10-22 15:06 J -24026215.97 -24026215.87 -24026215.75 0.0089 0.0047

Neptune -70493-01-18 16:33 J -24026127.92 -24026127.81 -24026127.69 0.0089 0.0042

Venus -70493-03-18 11:01 J -24026068.10 -24026068.04 -24026067.97 0.3574 0.3167

Neptune -70493-04-15 17:59 J -24026039.87 -24026039.75 -24026039.63 0.0089 0.0037

Neptune -70493-07-12 19:11 J -24025951.82 -24025951.70 -24025951.57 0.0089 0.0032

Neptune -70493-10-08 20:37 J -24025863.77 -24025863.64 -24025863.51 0.0089 0.0027

Neptune -70492-01-04 21:49 J -24025775.71 -24025775.59 -24025775.46 0.0089 0.0022

Mars -70492-02-21 06:13 J -24025728.39 -24025728.24 -24025728.09 0.1574 0.0744

Neptune -70492-04-02 23:16 J -24025687.66 -24025687.53 -24025687.40 0.0089 0.0017

Jupiter -70492-04-03 17:30 J -24025686.84 -24025686.77 -24025686.70 0.0528 0.0435

Neptune -70492-06-30 00:28 J -24025599.61 -24025599.48 -24025599.35 0.0089 0.0012

Jupiter -70492-07-01 23:01 J -24025597.66 -24025597.54 -24025597.41 0.0528 0.0033

Neptune -70492-09-26 01:54 J -24025511.55 -24025511.42 -24025511.29 0.0089 0.0007

Jupiter -70492-09-29 04:47 J -24025508.34 -24025508.30 -24025508.25 0.0527 0.0489

Neptune -70492-12-23 03:06 J -24025423.50 -24025423.37 -24025423.24 0.0089 0.0002

Neptune -70491-03-21 04:18 J -24025335.45 -24025335.32 -24025335.18 0.0089 0.0004

Neptune -70491-06-17 05:45 J -24025247.39 -24025247.26 -24025247.13 0.0089 0.0008

Neptune -70491-09-13 06:57 J -24025159.34 -24025159.21 -24025159.08 0.0089 0.0013

Moon -70491-10-26 04:47 J -24025116.47 -24025116.30 -24025116.14 0.2617 0.0163

Earth -70491-10-26 06:28 J -24025116.39 -24025116.23 -24025116.06 0.2619 0.0366 *

Neptune -70491-12-10 08:23 J -24025071.28 -24025071.15 -24025071.02 0.0089 0.0018

Neptune -70490-03-08 09:35 J -24024983.23 -24024983.10 -24024982.97 0.0089 0.0023

Neptune -70490-06-04 10:47 J -24024895.17 -24024895.05 -24024894.92 0.0089 0.0028

Neptune -70490-08-31 11:59 J -24024807.11 -24024807.00 -24024806.87 0.0089 0.0033

Neptune -70490-11-27 13:25 J -24024719.05 -24024718.94 -24024718.82 0.0089 0.0038

Mars -70490-11-27 18:57 J -24024718.80 -24024718.71 -24024718.61 0.1978 0.0999

Neptune -70489-02-23 14:37 J -24024631.00 -24024630.89 -24024630.77 0.0089 0.0043

Neptune -70489-05-21 15:49 J -24024542.94 -24024542.84 -24024542.72 0.0089 0.0048

Neptune -70489-08-17 17:01 J -24024454.88 -24024454.79 -24024454.67 0.0089 0.0053

Neptune -70489-11-13 18:42 J -24024366.82 -24024366.72 -24024366.62 0.0089 0.0057

Neptune -70488-02-09 19:54 J -24024278.76 -24024278.67 -24024278.57 0.0089 0.0062

Neptune -70488-05-08 21:06 J -24024190.70 -24024190.62 -24024190.53 0.0089 0.0067

Saturn -70488-06-20 09:21 J -24024148.27 -24024148.11 -24024147.95 0.0262 0.0140

Neptune -70488-08-04 22:18 J -24024102.63 -24024102.57 -24024102.48 0.0089 0.0072

Saturn -70488-09-17 06:57 J -24024059.40 -24024059.21 -24024059.02 0.0263 0.0004

Neptune -70488-10-31 23:45 J -24024014.57 -24024014.51 -24024014.44 0.0089 0.0077

Saturn -70488-12-15 04:33 J -24023970.47 -24023970.31 -24023970.14 0.0264 0.0132

Neptune -70487-01-28 00:57 J -24023926.50 -24023926.46 -24023926.40 0.0089 0.0082

Neptune -70487-04-26 02:09 J -24023838.42 -24023838.41 -24023838.37 0.0089 0.0087

Jupiter -70486-05-27 22:04 J -24023441.76 -24023441.58 -24023441.40 0.0498 0.0166

Jupiter -70486-08-26 09:21 J -24023351.20 -24023351.11 -24023351.02 0.0498 0.0432

Mars -70483-07-14 08:23 J -24022298.32 -24022298.15 -24022297.98 0.1572 0.0138

Moon -70481-05-02 01:11 J -24021640.55 -24021640.45 -24021640.35 0.2724 0.1193

Earth -70481-05-02 01:11 J -24021640.55 -24021640.45 -24021640.35 0.2717 0.1129 *

Jupiter -70480-04-20 02:52 J -24021287.50 -24021287.38 -24021287.25 0.0528 0.0097

Jupiter -70480-07-18 08:37 J -24021198.23 -24021198.14 -24021198.05 0.0527 0.0367

Venus -70479-01-13 21:35 J -24021018.67 -24021018.60 -24021018.52 0.3811 0.2747

Moon -70478-10-29 13:25 J -24020364.98 -24020364.94 -24020364.91 0.2620 0.2560

Saturn -70474-01-28 10:47 J -24019178.11 -24019178.05 -24019177.98 0.0301 0.0258

Jupiter -70474-03-15 19:11 J -24019131.84 -24019131.70 -24019131.55 0.0498 0.0310

Moon -70474-04-26 00:42 J -24019090.54 -24019090.47 -24019090.41 0.2706 0.2162

Earth -70474-04-26 01:11 J -24019090.52 -24019090.45 -24019090.39 0.2711 0.2082 *

Saturn -70474-04-26 23:16 J -24019089.65 -24019089.53 -24019089.41 0.0300 0.0124

Jupiter -70474-06-14 06:42 J -24019041.37 -24019041.22 -24019041.06 0.0498 0.0290

Saturn -70474-07-24 11:30 J -24019001.15 -24019001.02 -24019000.89 0.0299 0.0010

Venus -70474-07-30 14:37 J -24018994.99 -24018994.89 -24018994.79 0.3809 0.1236

Saturn -70474-10-20 23:45 J -24018912.62 -24018912.51 -24018912.40 0.0298 0.0140

Mars -70474-12-04 10:33 J -24018868.19 -24018868.06 -24018867.93 0.1570 0.1015

Saturn -70473-01-17 11:59 J -24018824.05 -24018824.00 -24018823.95 0.0297 0.0270

Mars -70469-08-15 03:49 J -24017152.42 -24017152.34 -24017152.25 0.1972 0.1257

Jupiter -70468-02-06 07:11 J -24016977.32 -24016977.20 -24016977.09 0.0528 0.0213

Venus -70468-02-12 07:25 J -24016971.29 -24016971.19 -24016971.08 0.3808 0.0310

Earth -70468-05-04 18:42 J -24016889.77 -24016889.72 -24016889.66 0.2718 0.2283

Moon -70468-05-04 19:11 J -24016889.75 -24016889.70 -24016889.64 0.2724 0.2281 *

Jupiter -70468-05-06 12:42 J -24016888.08 -24016887.97 -24016887.86 0.0528 0.0250

Pluto -70467-08-15 07:40 J -24016422.19 -24016422.18 -24016422.14 0.0060 0.0059

Pluto -70467-11-11 08:52 J -24016334.19 -24016334.13 -24016334.04 0.0060 0.0054

Pluto -70466-02-07 09:49 J -24016246.17 -24016246.09 -24016245.96 0.0060 0.0050

Pluto -70466-05-06 11:01 J -24016158.14 -24016158.04 -24016157.89 0.0060 0.0045

Pluto -70466-08-02 12:13 J -24016070.11 -24016069.99 -24016069.83 0.0060 0.0040

Pluto -70466-10-29 13:54 J -24015982.07 -24015981.92 -24015981.76 0.0060 0.0034

Uranus -70466-11-16 17:45 J -24015963.86 -24015963.76 -24015963.65 0.0144 0.0120

Pluto -70465-01-25 14:52 J -24015894.03 -24015893.88 -24015893.70 0.0060 0.0029

Uranus -70465-02-13 02:23 J -24015875.54 -24015875.40 -24015875.24 0.0144 0.0090

Pluto -70465-04-22 16:04 J -24015805.98 -24015805.83 -24015805.64 0.0061 0.0024

Uranus -70465-05-11 11:01 J -24015787.21 -24015787.04 -24015786.85 0.0144 0.0060

Pluto -70465-07-19 17:45 J -24015717.94 -24015717.76 -24015717.58 0.0061 0.0018

Uranus -70465-08-07 19:40 J -24015698.86 -24015698.68 -24015698.48 0.0143 0.0030

Pluto -70465-10-15 18:57 J -24015629.89 -24015629.71 -24015629.53 0.0061 0.0013

Uranus -70465-11-04 04:18 J -24015610.51 -24015610.32 -24015610.12 0.0143 0.0004

Pluto -70464-01-11 20:09 J -24015541.84 -24015541.66 -24015541.47 0.0061 0.0008

Uranus -70464-01-31 12:57 J -24015522.15 -24015521.96 -24015521.77 0.0143 0.0030

Pluto -70464-04-09 21:35 J -24015453.79 -24015453.60 -24015453.42 0.0061 0.0002

Uranus -70464-04-29 21:21 J -24015433.78 -24015433.61 -24015433.43 0.0143 0.0060

Pluto -70464-07-06 22:47 J -24015365.73 -24015365.55 -24015365.36 0.0061 0.0004

Uranus -70464-07-27 05:30 J -24015345.40 -24015345.27 -24015345.10 0.0143 0.0090

Pluto -70464-10-02 23:59 J -24015277.68 -24015277.50 -24015277.31 0.0061 0.0009

Uranus -70464-10-23 14:09 J -24015257.01 -24015256.91 -24015256.80 0.0143 0.0119

Pluto -70464-12-30 01:25 J -24015189.62 -24015189.44 -24015189.26 0.0061 0.0014

Pluto -70463-03-28 02:23 J -24015101.56 -24015101.40 -24015101.21 0.0061 0.0021

Pluto -70463-06-24 04:04 J -24015013.50 -24015013.33 -24015013.16 0.0061 0.0026

Venus -70463-08-29 00:28 J -24014947.57 -24014947.48 -24014947.38 0.3805 0.1871

Pluto -70463-09-20 05:01 J -24014925.43 -24014925.29 -24014925.12 0.0061 0.0031

Pluto -70463-12-17 06:42 J -24014837.37 -24014837.22 -24014837.07 0.0061 0.0037

Jupiter -70462-01-01 16:04 J -24014821.89 -24014821.83 -24014821.75 0.0497 0.0457

Pluto -70462-03-15 07:40 J -24014749.30 -24014749.18 -24014749.03 0.0061 0.0043

Jupiter -70462-04-02 03:35 J -24014731.52 -24014731.35 -24014731.17 0.0498 0.0143

Pluto -70462-06-11 08:52 J -24014661.22 -24014661.13 -24014660.99 0.0061 0.0049

Pluto -70462-09-07 10:33 J -24014573.14 -24014573.06 -24014572.96 0.0062 0.0054

Pluto -70462-12-04 11:30 J -24014485.04 -24014485.02 -24014484.95 0.0062 0.0060

Moon -70461-04-27 17:59 J -24014339.85 -24014339.75 -24014339.65 0.2714 0.1016

Earth -70461-04-27 18:42 J -24014339.82 -24014339.72 -24014339.62 0.2713 0.0935 *

Mars -70459-01-05 11:30 J -24013722.14 -24013722.02 -24013721.91 0.1975 0.0193

Saturn -70459-11-07 08:37 J -24013416.28 -24013416.14 -24013416.00 0.0262 0.0177

Saturn -70458-02-04 06:13 J -24013327.43 -24013327.24 -24013327.05 0.0263 0.0042

Saturn -70458-05-04 03:49 J -24013238.52 -24013238.34 -24013238.16 0.0264 0.0095

Saturn -70458-08-01 01:25 J -24013149.52 -24013149.44 -24013149.35 0.0264 0.0232

Moon -70458-10-24 03:35 J -24013065.46 -24013065.35 -24013065.23 0.2617 0.1814

Earth -70458-10-24 05:01 J -24013065.42 -24013065.29 -24013065.16 0.2621 0.1587 *

Venus -70457-03-13 17:45 J -24012923.80 -24012923.76 -24012923.72 0.3803 0.3443

Jupiter -70457-11-25 11:16 J -24012667.13 -24012667.03 -24012666.93 0.0528 0.0329

Jupiter -70456-02-22 17:01 J -24012577.91 -24012577.79 -24012577.67 0.0528 0.0134

Mars -70453-08-22 06:57 J -24011301.35 -24011301.21 -24011301.07 0.1574 0.0876

Jupiter -70450-01-19 00:28 J -24010421.67 -24010421.48 -24010421.29 0.0498 0.0007

Mars -70450-05-28 18:57 J -24010291.81 -24010291.71 -24010291.61 0.1978 0.0894

Moon -70448-04-30 11:59 J -24009589.11 -24009589.00 -24009588.90 0.2720 0.0207

Earth -70448-04-30 12:28 J -24009589.09 -24009588.98 -24009588.88 0.2715 0.0243 *

Venus -70448-09-23 03:06 J -24009443.50 -24009443.37 -24009443.24 0.3570 0.1820

Saturn -70445-09-13 00:42 J -24008357.57 -24008357.47 -24008357.36 0.0300 0.0168

Jupiter -70445-09-13 16:04 J -24008356.90 -24008356.83 -24008356.76 0.0528 0.0438

Moon -70445-10-26 11:30 J -24008314.18 -24008314.02 -24008313.86 0.2617 0.0683

Earth -70445-10-26 13:25 J -24008314.10 -24008313.94 -24008313.79 0.2619 0.0823 *

Saturn -70445-12-10 13:11 J -24008269.08 -24008268.95 -24008268.82 0.0299 0.0035

Jupiter -70445-12-11 21:35 J -24008267.72 -24008267.60 -24008267.47 0.0528 0.0026

Saturn -70444-03-09 01:25 J -24008180.56 -24008180.44 -24008180.32 0.0298 0.0097

Jupiter -70444-03-11 03:21 J -24008178.40 -24008178.36 -24008178.31 0.0527 0.0488

Saturn -70444-06-05 13:25 J -24008092.02 -24008091.94 -24008091.85 0.0297 0.0227

Mars -70443-01-12 09:06 J -24007871.29 -24007871.12 -24007870.95 0.1572 0.0009

Venus -70442-04-09 07:40 J -24007419.32 -24007419.18 -24007419.04 0.3572 0.1225

Mars -70441-10-18 02:37 J -24006861.41 -24006861.39 -24006861.38 0.1980 0.1961

Jupiter -70439-11-06 19:40 J -24006111.85 -24006111.68 -24006111.50 0.0498 0.0170

Jupiter -70438-02-05 06:57 J -24006021.30 -24006021.21 -24006021.11 0.0498 0.0429

Moon -70435-05-03 05:59 J -24004838.34 -24004838.25 -24004838.16 0.2724 0.1315

Earth -70435-05-03 05:59 J -24004838.34 -24004838.25 -24004838.16 0.2717 0.1361 *

Mars -70434-06-04 11:16 J -24004441.17 -24004441.03 -24004440.89 0.1570 0.0883

Jupiter -70433-09-30 02:09 J -24003957.54 -24003957.41 -24003957.29 0.0528 0.0089

Jupiter -70433-12-28 07:40 J -24003868.26 -24003868.18 -24003868.09 0.0527 0.0376

Mars -70429-02-14 04:04 J -24002725.42 -24002725.33 -24002725.25 0.1972 0.1372

Saturn -70429-03-26 08:09 J -24002684.27 -24002684.16 -24002684.04 0.0262 0.0211

Saturn -70429-06-23 05:45 J -24002595.44 -24002595.26 -24002595.07 0.0263 0.0077

Saturn -70429-09-20 03:35 J -24002506.54 -24002506.35 -24002506.17 0.0263 0.0060

Saturn -70429-12-18 00:57 J -24002417.57 -24002417.46 -24002417.32 0.0264 0.0198

Venus -70428-02-04 02:37 J -24002369.41 -24002369.39 -24002369.37 0.3812 0.3719

Moon -70428-04-26 05:16 J -24002288.35 -24002288.28 -24002288.20 0.2708 0.1863

Earth -70428-04-26 05:59 J -24002288.33 -24002288.25 -24002288.17 0.2711 0.1844 *

Jupiter -70427-08-25 16:33 J -24001801.95 -24001801.81 -24001801.67 0.0498 0.0318

Jupiter -70427-11-24 03:49 J -24001711.49 -24001711.34 -24001711.18 0.0498 0.0282

Venus -70423-08-20 19:25 J -24000345.77 -24000345.69 -24000345.61 0.3811 0.2225

Earth -70422-05-05 23:30 J -24000087.55 -24000087.52 -24000087.48 0.2719 0.2514

Moon -70422-05-06 00:13 J -24000087.51 -24000087.49 -24000087.47 0.2723 0.2645 *

Uranus -70422-10-29 07:11 J -23999911.24 -23999911.20 -23999911.16 0.0135 0.0128

Uranus -70421-01-25 10:04 J -23999823.14 -23999823.08 -23999823.00 0.0135 0.0112

Uranus -70421-04-22 13:11 J -23999735.04 -23999734.95 -23999734.86 0.0135 0.0095

Jupiter -70421-07-19 05:59 J -23999647.37 -23999647.25 -23999647.14 0.0528 0.0211

Uranus -70421-07-19 16:18 J -23999646.93 -23999646.82 -23999646.72 0.0135 0.0078

Uranus -70421-10-15 19:11 J -23999558.81 -23999558.70 -23999558.58 0.0135 0.0062

Jupiter -70421-10-16 11:30 J -23999558.13 -23999558.02 -23999557.91 0.0527 0.0252

Uranus -70420-01-11 22:18 J -23999470.69 -23999470.57 -23999470.45 0.0135 0.0045

Uranus -70420-04-10 01:25 J -23999382.57 -23999382.44 -23999382.31 0.0135 0.0028

Mars -70420-07-06 11:30 J -23999295.14 -23999295.02 -23999294.91 0.1975 0.0300

Uranus -70420-07-07 04:18 J -23999294.45 -23999294.32 -23999294.18 0.0135 0.0013

Uranus -70420-10-03 07:25 J -23999206.32 -23999206.19 -23999206.05 0.0136 0.0007

Uranus -70420-12-30 10:33 J -23999118.19 -23999118.06 -23999117.93 0.0136 0.0022

Uranus -70419-03-28 13:40 J -23999030.06 -23999029.93 -23999029.80 0.0136 0.0039

Uranus -70419-06-24 16:33 J -23998941.92 -23998941.81 -23998941.68 0.0136 0.0057

Uranus -70419-09-20 19:40 J -23998853.78 -23998853.68 -23998853.56 0.0136 0.0075

Uranus -70419-12-17 23:01 J -23998765.64 -23998765.54 -23998765.44 0.0136 0.0091

Uranus -70418-03-16 02:09 J -23998677.49 -23998677.41 -23998677.33 0.0136 0.0109

Uranus -70418-06-12 05:01 J -23998589.33 -23998589.29 -23998589.23 0.0137 0.0127

Venus -70417-03-05 12:13 J -23998322.09 -23998321.99 -23998321.88 0.3809 0.0720

Saturn -70415-01-31 03:06 J -23997625.46 -23997625.37 -23997625.27 0.0300 0.0203

Moon -70415-04-28 22:47 J -23997537.65 -23997537.55 -23997537.45 0.2714 0.0803

Earth -70415-04-28 23:30 J -23997537.62 -23997537.52 -23997537.41 0.2713 0.0702 *

Saturn -70415-04-29 15:35 J -23997536.97 -23997536.85 -23997536.72 0.0300 0.0069

Jupiter -70415-06-13 13:40 J -23997491.99 -23997491.93 -23997491.86 0.0498 0.0462

Saturn -70415-07-27 03:49 J -23997448.46 -23997448.34 -23997448.21 0.0299 0.0064

Jupiter -70415-09-12 01:11 J -23997401.63 -23997401.45 -23997401.27 0.0498 0.0137

Saturn -70415-10-23 16:04 J -23997359.93 -23997359.83 -23997359.73 0.0298 0.0194

Mars -70413-02-21 07:40 J -23996874.31 -23996874.18 -23996874.05 0.1574 0.1017

Neptune -70412-02-01 05:16 J -23996528.28 -23996528.28 -23996528.25 0.0089 0.0088

Neptune -70412-04-30 09:06 J -23996440.19 -23996440.12 -23996440.03 0.0089 0.0081

Neptune -70412-07-27 12:42 J -23996352.06 -23996351.97 -23996351.85 0.0089 0.0074

Venus -70412-09-19 05:16 J -23996298.38 -23996298.28 -23996298.18 0.3807 0.0841

Neptune -70412-10-23 16:18 J -23996263.93 -23996263.82 -23996263.67 0.0089 0.0067

Moon -70412-10-24 10:18 J -23996263.22 -23996263.07 -23996262.92 0.2617 0.1159

Earth -70412-10-24 11:59 J -23996263.15 -23996263.00 -23996262.86 0.2621 0.1124 *

Neptune -70411-01-19 20:23 J -23996175.79 -23996175.65 -23996175.50 0.0089 0.0059

Neptune -70411-04-17 23:59 J -23996087.65 -23996087.50 -23996087.33 0.0089 0.0052

Neptune -70411-07-15 03:35 J -23995999.50 -23995999.35 -23995999.16 0.0089 0.0045

Neptune -70411-10-11 07:25 J -23995911.36 -23995911.19 -23995911.00 0.0089 0.0037

Mars -70411-11-26 18:57 J -23995864.81 -23995864.71 -23995864.60 0.1978 0.0776

Neptune -70410-01-07 11:16 J -23995823.21 -23995823.03 -23995822.84 0.0089 0.0030

Neptune -70410-04-05 14:52 J -23995735.06 -23995734.88 -23995734.68 0.0089 0.0023

Neptune -70410-07-02 18:42 J -23995646.91 -23995646.72 -23995646.52 0.0089 0.0015

Neptune -70410-09-28 22:33 J -23995558.75 -23995558.56 -23995558.36 0.0089 0.0008

Neptune -70410-12-26 02:23 J -23995470.60 -23995470.40 -23995470.21 0.0089 0.0001

Neptune -70409-03-23 05:59 J -23995382.44 -23995382.25 -23995382.05 0.0089 0.0007

Jupiter -70409-05-07 09:49 J -23995337.18 -23995337.09 -23995336.99 0.0528 0.0329

Neptune -70409-06-19 09:35 J -23995294.29 -23995294.10 -23995293.90 0.0089 0.0014

Jupiter -70409-08-04 15:35 J -23995247.97 -23995247.85 -23995247.73 0.0528 0.0134

Neptune -70409-09-15 13:25 J -23995206.13 -23995205.94 -23995205.75 0.0089 0.0021

Neptune -70409-12-12 17:01 J -23995117.97 -23995117.79 -23995117.59 0.0089 0.0029

Neptune -70408-03-10 20:52 J -23995029.81 -23995029.63 -23995029.45 0.0089 0.0036

Neptune -70408-06-07 00:28 J -23994941.64 -23994941.48 -23994941.30 0.0089 0.0043

Neptune -70408-09-03 04:04 J -23994853.48 -23994853.33 -23994853.15 0.0089 0.0051

Neptune -70408-11-30 07:54 J -23994765.31 -23994765.17 -23994765.01 0.0089 0.0058

Neptune -70407-02-26 11:30 J -23994677.14 -23994677.02 -23994676.87 0.0089 0.0065

Neptune -70407-05-25 15:06 J -23994588.96 -23994588.87 -23994588.74 0.0089 0.0073

Neptune -70407-08-21 18:57 J -23994500.78 -23994500.71 -23994500.61 0.0088 0.0080

Neptune -70407-11-17 23:01 J -23994412.57 -23994412.54 -23994412.50 0.0088 0.0087

Venus -70406-04-04 22:18 J -23994274.65 -23994274.57 -23994274.49 0.3805 0.2410

Mars -70404-07-13 09:49 J -23993444.26 -23993444.09 -23993443.92 0.1572 0.0135

Jupiter -70403-06-30 22:04 J -23993091.77 -23993091.58 -23993091.39 0.0498 0.0012

Moon -70402-05-01 16:47 J -23992786.90 -23992786.80 -23992786.69 0.2722 0.0401

Earth -70402-05-01 17:01 J -23992786.89 -23992786.79 -23992786.68 0.2715 0.0457 *

Mars -70401-04-18 02:23 J -23992434.44 -23992434.40 -23992434.37 0.1980 0.1868

Saturn -70400-08-13 07:54 J -23991952.22 -23991952.17 -23991952.09 0.0262 0.0245

Saturn -70400-11-10 05:45 J -23991863.44 -23991863.26 -23991863.09 0.0263 0.0110

Saturn -70399-02-07 03:21 J -23991774.55 -23991774.36 -23991774.17 0.0263 0.0026

Saturn -70399-05-07 00:57 J -23991685.61 -23991685.46 -23991685.30 0.0264 0.0163

Moon -70399-10-27 18:28 J -23991511.88 -23991511.73 -23991511.58 0.2618 0.1050

Earth -70399-10-27 20:09 J -23991511.80 -23991511.66 -23991511.51 0.2619 0.1292 *

Jupiter -70397-02-24 13:54 J -23991026.98 -23991026.92 -23991026.85 0.0528 0.0447

Jupiter -70397-05-23 19:40 J -23990937.81 -23990937.68 -23990937.55 0.0528 0.0016

Jupiter -70397-08-21 01:25 J -23990848.49 -23990848.44 -23990848.39 0.0527 0.0480

Mars -70395-12-03 11:59 J -23990014.15 -23990014.00 -23990013.85 0.1570 0.0747

Jupiter -70391-04-18 18:28 J -23988781.90 -23988781.73 -23988781.55 0.0497 0.0163

Venus -70391-04-30 04:04 J -23988770.47 -23988770.33 -23988770.18 0.3570 0.0783

Jupiter -70391-07-18 05:45 J -23988691.34 -23988691.26 -23988691.17 0.0498 0.0436

Mars -70390-08-15 03:49 J -23988298.41 -23988298.34 -23988298.27 0.1972 0.1471

Earth -70389-05-03 10:47 J -23988036.14 -23988036.05 -23988035.96 0.2717 0.1593

Moon -70389-05-03 10:47 J -23988036.13 -23988036.05 -23988035.96 0.2724 0.1654 *

Saturn -70386-06-20 05:16 J -23986893.35 -23986893.28 -23986893.20 0.0300 0.0240

Saturn -70386-09-16 17:45 J -23986804.88 -23986804.76 -23986804.64 0.0299 0.0107

Venus -70386-11-14 08:37 J -23986746.25 -23986746.14 -23986746.03 0.3573 0.2232

Saturn -70386-12-14 05:59 J -23986716.38 -23986716.25 -23986716.12 0.0298 0.0025

Saturn -70385-03-11 18:13 J -23986627.85 -23986627.74 -23986627.63 0.0298 0.0156

Jupiter -70385-03-12 00:13 J -23986627.61 -23986627.49 -23986627.36 0.0528 0.0094

Saturn -70385-06-08 06:13 J -23986539.27 -23986539.24 -23986539.20 0.0297 0.0285

Jupiter -70385-06-09 05:59 J -23986538.34 -23986538.25 -23986538.16 0.0528 0.0370

Moon -70382-04-27 10:04 J -23985486.16 -23985486.08 -23985486.00 0.2710 0.1748

Earth -70382-04-27 10:47 J -23985486.14 -23985486.05 -23985485.97 0.2712 0.1610 *

Uranus -70382-09-09 18:57 J -23985350.76 -23985350.71 -23985350.64 0.0144 0.0136

Uranus -70382-12-07 03:49 J -23985262.47 -23985262.34 -23985262.21 0.0144 0.0105

Uranus -70381-03-04 12:28 J -23985174.14 -23985173.98 -23985173.81 0.0144 0.0075

Uranus -70381-05-31 21:06 J -23985085.80 -23985085.62 -23985085.43 0.0144 0.0045

Uranus -70381-08-28 05:45 J -23984997.45 -23984997.26 -23984997.07 0.0143 0.0015

Uranus -70381-11-24 14:09 J -23984909.10 -23984908.91 -23984908.71 0.0143 0.0016

Mars -70380-01-04 11:30 J -23984868.13 -23984868.02 -23984867.91 0.1976 0.0415

Uranus -70380-02-20 22:33 J -23984820.73 -23984820.56 -23984820.36 0.0143 0.0046

Uranus -70380-05-20 06:57 J -23984732.36 -23984732.21 -23984732.03 0.0143 0.0075

Uranus -70380-08-16 15:35 J -23984643.98 -23984643.85 -23984643.71 0.0143 0.0104

Uranus -70380-11-12 23:59 J -23984555.56 -23984555.50 -23984555.43 0.0143 0.0133

Jupiter -70379-02-04 13:54 J -23984472.06 -23984471.92 -23984471.78 0.0497 0.0325

Jupiter -70379-05-06 01:11 J -23984381.60 -23984381.45 -23984381.29 0.0498 0.0274

Mars -70374-08-22 08:23 J -23982447.27 -23982447.15 -23982447.04 0.1574 0.1152

Jupiter -70374-12-30 04:33 J -23982317.42 -23982317.31 -23982317.19 0.0528 0.0208

Pluto -70373-03-18 09:49 J -23982238.12 -23982238.09 -23982238.05 0.0084 0.0081

Jupiter -70373-03-28 10:18 J -23982228.18 -23982228.07 -23982227.96 0.0528 0.0256

Pluto -70373-06-14 11:30 J -23982150.10 -23982150.02 -23982149.95 0.0084 0.0070

Pluto -70373-09-10 12:42 J -23982062.06 -23982061.97 -23982061.86 0.0084 0.0059

Pluto -70373-12-07 14:09 J -23981974.01 -23981973.91 -23981973.78 0.0084 0.0048

Pluto -70372-03-05 15:49 J -23981885.96 -23981885.84 -23981885.71 0.0084 0.0037

Pluto -70372-06-01 17:16 J -23981797.91 -23981797.78 -23981797.64 0.0084 0.0026

Pluto -70372-08-28 18:42 J -23981709.85 -23981709.72 -23981709.58 0.0084 0.0016

Venus -70372-09-11 00:28 J -23981696.54 -23981696.48 -23981696.43 0.3812 0.3206

Pluto -70372-11-24 20:09 J -23981621.80 -23981621.66 -23981621.52 0.0083 0.0005

Pluto -70371-02-20 21:35 J -23981533.74 -23981533.60 -23981533.46 0.0083 0.0006

Pluto -70371-05-19 23:01 J -23981445.68 -23981445.54 -23981445.40 0.0083 0.0016

Mars -70371-05-27 18:57 J -23981437.82 -23981437.71 -23981437.60 0.1978 0.0665

Pluto -70371-08-16 00:28 J -23981357.61 -23981357.48 -23981357.35 0.0083 0.0026

Pluto -70371-11-12 01:40 J -23981269.55 -23981269.43 -23981269.30 0.0083 0.0037

Pluto -70370-02-08 03:06 J -23981181.48 -23981181.37 -23981181.25 0.0083 0.0047

Saturn -70370-03-30 05:30 J -23981131.42 -23981131.27 -23981131.10 0.0263 0.0143

Pluto -70370-05-07 04:18 J -23981093.41 -23981093.32 -23981093.21 0.0083 0.0057

Saturn -70370-06-27 03:21 J -23981042.55 -23981042.36 -23981042.17 0.0263 0.0007

Pluto -70370-08-03 05:45 J -23981005.33 -23981005.26 -23981005.18 0.0082 0.0067

Saturn -70370-09-24 00:57 J -23980953.62 -23980953.46 -23980953.29 0.0264 0.0130

Pluto -70370-10-30 07:11 J -23980917.25 -23980917.20 -23980917.15 0.0082 0.0077

Moon -70369-04-29 03:35 J -23980735.45 -23980735.35 -23980735.24 0.2715 0.0522

Earth -70369-04-29 04:18 J -23980735.42 -23980735.32 -23980735.21 0.2714 0.0465 *

Jupiter -70368-11-23 10:18 J -23980162.11 -23980162.07 -23980162.01 0.0497 0.0475

Jupiter -70367-02-21 22:04 J -23980071.76 -23980071.58 -23980071.40 0.0498 0.0125

Venus -70366-03-27 17:16 J -23979672.88 -23979672.78 -23979672.69 0.3810 0.1711

Moon -70366-10-25 17:01 J -23979460.94 -23979460.79 -23979460.63 0.2617 0.0925

Earth -70366-10-25 18:42 J -23979460.88 -23979460.72 -23979460.56 0.2621 0.0659 *

Mars -70364-01-11 10:33 J -23979017.23 -23979017.06 -23979016.89 0.1572 0.0273

Mars -70362-10-18 02:23 J -23978007.45 -23978007.40 -23978007.35 0.1980 0.1745

Jupiter -70362-10-18 08:23 J -23978007.25 -23978007.15 -23978007.05 0.0528 0.0331

Jupiter -70361-01-15 13:54 J -23977918.04 -23977917.92 -23977917.79 0.0528 0.0134

Venus -70361-10-10 10:04 J -23977649.18 -23977649.08 -23977648.97 0.3809 0.0183

Saturn -70357-11-06 08:09 J -23976161.21 -23976161.16 -23976161.10 0.0301 0.0271

Saturn -70356-02-02 20:37 J -23976072.75 -23976072.64 -23976072.52 0.0300 0.0137

Moon -70356-05-01 21:35 J -23975984.70 -23975984.60 -23975984.49 0.2722 0.0647

Earth -70356-05-01 21:49 J -23975984.69 -23975984.59 -23975984.48 0.2715 0.0689 *

Saturn -70356-05-02 08:52 J -23975984.26 -23975984.13 -23975984.00 0.0299 0.0008

Saturn -70356-07-29 21:06 J -23975895.73 -23975895.62 -23975895.50 0.0298 0.0127

Saturn -70356-10-26 09:21 J -23975807.17 -23975807.11 -23975807.05 0.0297 0.0257

Jupiter -70356-12-10 19:11 J -23975761.89 -23975761.70 -23975761.51 0.0498 0.0021

Venus -70355-04-26 03:06 J -23975625.47 -23975625.37 -23975625.27 0.3806 0.1382

Mars -70355-06-03 12:42 J -23975587.13 -23975586.97 -23975586.81 0.1570 0.0608

Moon -70353-10-28 01:11 J -23974709.57 -23974709.45 -23974709.32 0.2620 0.1673

Earth -70353-10-28 03:06 J -23974709.49 -23974709.37 -23974709.25 0.2618 0.1749 *

Mars -70350-02-13 03:49 J -23973871.40 -23973871.34 -23973871.27 0.1972 0.1589

Jupiter -70350-08-06 12:28 J -23973697.04 -23973696.98 -23973696.92 0.0528 0.0449

Jupiter -70350-11-03 17:59 J -23973607.87 -23973607.75 -23973607.62 0.0528 0.0015

Venus -70350-11-09 20:09 J -23973601.72 -23973601.66 -23973601.59 0.3804 0.2968

Jupiter -70349-01-31 23:45 J -23973518.56 -23973518.51 -23973518.46 0.0527 0.0476

Moon -70349-04-24 21:35 J -23973434.63 -23973434.60 -23973434.57 0.2704 0.2602

Earth -70349-04-24 21:49 J -23973434.62 -23973434.59 -23973434.55 0.2710 0.2520 *

Mars -70346-10-24 14:52 J -23972156.93 -23972156.88 -23972156.83 0.1569 0.1487

Jupiter -70344-09-28 15:49 J -23971452.02 -23971451.84 -23971451.66 0.0498 0.0170

Jupiter -70344-12-28 03:06 J -23971361.46 -23971361.37 -23971361.27 0.0498 0.0428

Earth -70343-05-04 15:35 J -23971233.93 -23971233.85 -23971233.77 0.2717 0.1825

Moon -70343-05-04 15:49 J -23971233.92 -23971233.84 -23971233.76 0.2723 0.1843 *

Mars -70341-07-05 11:30 J -23970441.13 -23970441.02 -23970440.92 0.1975 0.0524

Saturn -70341-08-16 06:13 J -23970399.38 -23970399.24 -23970399.09 0.0263 0.0172

Saturn -70341-11-13 03:49 J -23970310.53 -23970310.34 -23970310.15 0.0263 0.0036

Saturn -70340-02-10 01:25 J -23970221.61 -23970221.44 -23970221.26 0.0264 0.0101

Saturn -70340-05-09 23:01 J -23970132.61 -23970132.54 -23970132.44 0.0265 0.0239

Venus -70340-05-21 00:13 J -23970121.58 -23970121.49 -23970121.40 0.3569 0.2860

Jupiter -70338-08-22 22:04 J -23969297.70 -23969297.58 -23969297.46 0.0528 0.0107

Uranus -70338-11-18 15:06 J -23969209.93 -23969209.87 -23969209.82 0.0135 0.0121

Jupiter -70338-11-20 03:49 J -23969208.43 -23969208.34 -23969208.25 0.0528 0.0358

Uranus -70337-02-14 17:59 J -23969121.83 -23969121.75 -23969121.67 0.0135 0.0105

Uranus -70337-05-12 20:52 J -23969033.72 -23969033.63 -23969033.52 0.0135 0.0089

Uranus -70337-08-08 23:59 J -23968945.61 -23968945.50 -23968945.38 0.0135 0.0072

Uranus -70337-11-05 03:06 J -23968857.49 -23968857.37 -23968857.25 0.0135 0.0055

Uranus -70336-02-01 06:13 J -23968769.37 -23968769.24 -23968769.12 0.0135 0.0039

Moon -70336-04-27 14:52 J -23968683.97 -23968683.88 -23968683.79 0.2710 0.1395

Earth -70336-04-27 15:35 J -23968683.95 -23968683.85 -23968683.76 0.2712 0.1380 *

Uranus -70336-04-30 09:06 J -23968681.25 -23968681.12 -23968680.99 0.0135 0.0022

Uranus -70336-07-27 12:13 J -23968593.12 -23968592.99 -23968592.86 0.0135 0.0005

Uranus -70336-10-23 15:21 J -23968504.99 -23968504.86 -23968504.73 0.0136 0.0012

Uranus -70335-01-19 18:28 J -23968416.86 -23968416.73 -23968416.60 0.0136 0.0029

Uranus -70335-04-17 21:35 J -23968328.73 -23968328.60 -23968328.48 0.0136 0.0046

Uranus -70335-07-15 00:28 J -23968240.59 -23968240.48 -23968240.36 0.0136 0.0063

Uranus -70335-10-11 03:35 J -23968152.45 -23968152.35 -23968152.24 0.0136 0.0081

Venus -70335-12-05 05:16 J -23968097.43 -23968097.28 -23968097.14 0.3571 0.0274

Uranus -70334-01-07 06:42 J -23968064.31 -23968064.22 -23968064.13 0.0136 0.0098

Mars -70334-02-20 08:52 J -23968020.22 -23968020.13 -23968020.03 0.1574 0.1285

Uranus -70334-04-05 09:49 J -23967976.15 -23967976.09 -23967976.02 0.0136 0.0115

Uranus -70334-07-02 12:57 J -23967887.98 -23967887.96 -23967887.93 0.0137 0.0133

Earth -70333-10-22 17:01 J -23967409.80 -23967409.79 -23967409.77 0.2623 0.2604

Jupiter -70332-07-17 12:13 J -23967142.13 -23967141.99 -23967141.84 0.0497 0.0322

Jupiter -70332-10-15 23:30 J -23967051.67 -23967051.52 -23967051.36 0.0498 0.0278

Mars -70332-11-25 18:57 J -23967010.82 -23967010.71 -23967010.60 0.1978 0.0560

Neptune -70331-08-14 03:35 J -23966749.37 -23966749.35 -23966749.31 0.0089 0.0087

Neptune -70331-11-10 04:47 J -23966661.34 -23966661.30 -23966661.24 0.0089 0.0082

Neptune -70330-02-06 06:13 J -23966573.30 -23966573.24 -23966573.17 0.0089 0.0077

Neptune -70330-05-05 07:25 J -23966485.25 -23966485.19 -23966485.10 0.0089 0.0072

Neptune -70330-08-01 08:52 J -23966397.21 -23966397.13 -23966397.04 0.0089 0.0067

Neptune -70330-10-28 10:04 J -23966309.16 -23966309.08 -23966308.98 0.0089 0.0062

Neptune -70329-01-24 11:30 J -23966221.12 -23966221.02 -23966220.92 0.0089 0.0057

Neptune -70329-04-21 12:57 J -23966133.07 -23966132.96 -23966132.86 0.0089 0.0052

Venus -70329-06-20 09:35 J -23966073.16 -23966073.10 -23966073.04 0.3573 0.3230

Neptune -70329-07-18 14:09 J -23966045.02 -23966044.91 -23966044.80 0.0089 0.0047

Neptune -70329-10-14 15:35 J -23965956.97 -23965956.85 -23965956.74 0.0089 0.0042

Neptune -70328-01-10 16:47 J -23965868.92 -23965868.80 -23965868.68 0.0089 0.0037

Neptune -70328-04-08 17:59 J -23965780.87 -23965780.75 -23965780.62 0.0089 0.0032

Neptune -70328-07-05 19:11 J -23965692.82 -23965692.70 -23965692.57 0.0089 0.0028

Neptune -70328-10-01 20:37 J -23965604.76 -23965604.64 -23965604.51 0.0089 0.0022

Neptune -70328-12-28 22:04 J -23965516.71 -23965516.58 -23965516.45 0.0089 0.0017

Neptune -70327-03-26 23:16 J -23965428.66 -23965428.53 -23965428.40 0.0089 0.0013

Saturn -70327-06-22 23:16 J -23965340.64 -23965340.53 -23965340.43 0.0299 0.0171

Neptune -70327-06-23 00:42 J -23965340.60 -23965340.47 -23965340.34 0.0089 0.0008 *

Neptune -70327-09-19 01:54 J -23965252.55 -23965252.42 -23965252.29 0.0089 0.0003

Saturn -70327-09-19 11:30 J -23965252.15 -23965252.02 -23965251.89 0.0299 0.0038

Neptune -70327-12-16 03:21 J -23965164.50 -23965164.36 -23965164.23 0.0089 0.0003

Saturn -70327-12-16 23:45 J -23965163.63 -23965163.51 -23965163.39 0.0298 0.0093

Neptune -70326-03-14 04:33 J -23965076.44 -23965076.31 -23965076.18 0.0089 0.0007

Saturn -70326-03-15 11:45 J -23965075.09 -23965075.01 -23965074.92 0.0297 0.0223

Neptune -70326-06-10 05:45 J -23964988.39 -23964988.26 -23964988.13 0.0089 0.0013

Jupiter -70326-06-11 02:37 J -23964987.51 -23964987.39 -23964987.28 0.0528 0.0218

Neptune -70326-09-06 06:57 J -23964900.33 -23964900.21 -23964900.07 0.0089 0.0018

Jupiter -70326-09-08 08:23 J -23964898.27 -23964898.15 -23964898.04 0.0528 0.0247

Neptune -70326-12-03 08:23 J -23964812.27 -23964812.15 -23964812.02 0.0089 0.0022

Neptune -70325-02-29 09:49 J -23964724.22 -23964724.09 -23964723.97 0.0089 0.0027

Neptune -70325-05-27 11:01 J -23964636.16 -23964636.04 -23964635.92 0.0089 0.0032

Mars -70325-07-12 11:16 J -23964590.20 -23964590.03 -23964589.87 0.1572 0.0407

Neptune -70325-08-23 12:13 J -23964548.10 -23964547.99 -23964547.87 0.0089 0.0037

Neptune -70325-11-19 13:40 J -23964460.05 -23964459.93 -23964459.81 0.0089 0.0042

Neptune -70324-02-15 14:52 J -23964371.99 -23964371.88 -23964371.76 0.0089 0.0047

Neptune -70324-05-14 16:04 J -23964283.93 -23964283.83 -23964283.72 0.0089 0.0052

Neptune -70324-08-10 17:30 J -23964195.87 -23964195.77 -23964195.67 0.0089 0.0057

Neptune -70324-11-06 18:42 J -23964107.81 -23964107.72 -23964107.62 0.0089 0.0062

Neptune -70323-02-02 19:54 J -23964019.75 -23964019.67 -23964019.57 0.0089 0.0067

Moon -70323-04-30 08:37 J -23963933.25 -23963933.14 -23963933.04 0.2717 0.0356

Earth -70323-04-30 09:06 J -23963933.23 -23963933.12 -23963933.01 0.2714 0.0233 *

Neptune -70323-05-01 21:06 J -23963931.68 -23963931.62 -23963931.53 0.0089 0.0072

Neptune -70323-07-28 22:33 J -23963843.62 -23963843.56 -23963843.49 0.0089 0.0077

Neptune -70323-10-24 23:45 J -23963755.55 -23963755.51 -23963755.45 0.0089 0.0082

Neptune -70322-01-21 00:57 J -23963667.47 -23963667.46 -23963667.42 0.0089 0.0087

Mars -70322-04-18 02:23 J -23963580.46 -23963580.40 -23963580.33 0.1980 0.1628

Jupiter -70320-05-05 07:25 J -23962832.22 -23962832.19 -23962832.14 0.0497 0.0484

Jupiter -70320-08-03 18:57 J -23962741.89 -23962741.71 -23962741.52 0.0498 0.0116

Moon -70320-10-25 23:59 J -23962658.67 -23962658.50 -23962658.34 0.2617 0.0247

Earth -70320-10-26 01:25 J -23962658.60 -23962658.44 -23962658.27 0.2620 0.0204 *

Mars -70316-12-02 13:25 J -23961160.10 -23961159.94 -23961159.78 0.1570 0.0471

Venus -70315-04-17 22:04 J -23961023.65 -23961023.58 -23961023.51 0.3811 0.2697

Jupiter -70314-03-30 06:57 J -23960677.31 -23960677.21 -23960677.11 0.0529 0.0332

Jupiter -70314-06-27 12:42 J -23960588.10 -23960587.97 -23960587.85 0.0528 0.0133

Saturn -70311-01-03 06:13 J -23959667.36 -23959667.24 -23959667.12 0.0263 0.0204

Saturn -70311-04-02 03:49 J -23959578.52 -23959578.34 -23959578.15 0.0263 0.0069

Saturn -70311-06-30 01:40 J -23959489.62 -23959489.43 -23959489.25 0.0264 0.0068

Mars -70311-08-14 04:04 J -23959444.39 -23959444.33 -23959444.28 0.1972 0.1709

Saturn -70311-09-26 23:16 J -23959400.64 -23959400.53 -23959400.40 0.0264 0.0206

Moon -70310-05-03 02:23 J -23959182.50 -23959182.40 -23959182.29 0.2723 0.0915

Earth -70310-05-03 02:37 J -23959182.49 -23959182.39 -23959182.28 0.2716 0.0922 *

Venus -70310-11-01 14:52 J -23958999.98 -23958999.88 -23958999.78 0.3810 0.1186

Jupiter -70308-05-22 15:35 J -23958432.03 -23958431.85 -23958431.66 0.0498 0.0037

Moon -70307-10-29 08:09 J -23957907.27 -23957907.16 -23957907.05 0.2620 0.1927

Earth -70307-10-29 09:49 J -23957907.17 -23957907.09 -23957907.00 0.2618 0.2216 *

Mars -70306-04-24 15:35 J -23957729.93 -23957729.85 -23957729.76 0.1569 0.1345

Venus -70304-05-17 07:54 J -23956976.27 -23956976.17 -23956976.07 0.3808 0.0364

Moon -70303-04-26 02:09 J -23956632.46 -23956632.41 -23956632.35 0.2705 0.2297

Earth -70303-04-26 02:37 J -23956632.44 -23956632.39 -23956632.33 0.2710 0.2289 *

Jupiter -70302-01-16 10:47 J -23956367.11 -23956367.05 -23956366.99 0.0528 0.0455

Jupiter -70302-04-15 16:18 J -23956277.95 -23956277.82 -23956277.69 0.0528 0.0009

Jupiter -70302-07-13 22:04 J -23956188.63 -23956188.58 -23956188.53 0.0527 0.0471

Mars -70301-01-04 11:16 J -23956014.13 -23956014.03 -23956013.92 0.1975 0.0631

Venus -70299-12-01 00:57 J -23954952.55 -23954952.46 -23954952.37 0.3806 0.1932

Uranus -70298-09-30 04:04 J -23954649.41 -23954649.33 -23954649.21 0.0144 0.0123

Saturn -70298-11-10 02:23 J -23954608.50 -23954608.40 -23954608.30 0.0300 0.0198

Uranus -70298-12-27 13:11 J -23954561.10 -23954560.95 -23954560.80 0.0144 0.0092

Saturn -70297-02-06 14:37 J -23954520.01 -23954519.89 -23954519.76 0.0299 0.0065

Uranus -70297-03-24 21:49 J -23954472.77 -23954472.59 -23954472.41 0.0144 0.0062

Earth -70297-05-04 20:23 J -23954431.72 -23954431.65 -23954431.58 0.2718 0.2062

Moon -70297-05-04 20:52 J -23954431.70 -23954431.63 -23954431.57 0.2723 0.2117 *

Saturn -70297-05-05 02:52 J -23954431.50 -23954431.38 -23954431.25 0.0299 0.0068

Uranus -70297-06-21 06:28 J -23954384.42 -23954384.23 -23954384.04 0.0144 0.0032

Saturn -70297-08-01 15:06 J -23954342.97 -23954342.87 -23954342.78 0.0298 0.0198

Uranus -70297-09-17 15:06 J -23954296.07 -23954295.87 -23954295.68 0.0143 0.0003

Uranus -70297-12-14 23:30 J -23954207.71 -23954207.52 -23954207.32 0.0143 0.0028

Jupiter -70296-03-10 12:42 J -23954122.15 -23954121.97 -23954121.80 0.0498 0.0183

Uranus -70296-03-13 07:54 J -23954119.34 -23954119.17 -23954118.98 0.0143 0.0058

Jupiter -70296-06-08 23:59 J -23954031.60 -23954031.50 -23954031.40 0.0498 0.0417

Uranus -70296-06-09 16:18 J -23954030.96 -23954030.82 -23954030.65 0.0143 0.0088

Uranus -70296-09-06 00:42 J -23953942.57 -23953942.47 -23953942.35 0.0143 0.0117

Mars -70295-08-21 09:49 J -23953593.16 -23953593.09 -23953593.02 0.1574 0.1428

Venus -70293-06-15 17:59 J -23952928.78 -23952928.75 -23952928.71 0.3804 0.3532

Mars -70292-05-26 18:57 J -23952583.82 -23952583.71 -23952583.60 0.1978 0.0438

Jupiter -70290-02-01 20:23 J -23951967.78 -23951967.65 -23951967.53 0.0528 0.0113

Moon -70290-04-28 19:40 J -23951881.78 -23951881.68 -23951881.59 0.2710 0.1290

Earth -70290-04-28 20:23 J -23951881.75 -23951881.65 -23951881.56 0.2712 0.1147 *

Jupiter -70290-05-02 01:54 J -23951878.51 -23951878.42 -23951878.32 0.0527 0.0352

Moon -70287-10-23 22:47 J -23950607.63 -23950607.55 -23950607.46 0.2617 0.2215

Earth -70287-10-23 23:59 J -23950607.59 -23950607.50 -23950607.41 0.2622 0.2145 *

Mars -70285-01-11 11:59 J -23950163.16 -23950163.00 -23950162.84 0.1572 0.0543

Jupiter -70285-12-27 09:21 J -23949812.25 -23949812.11 -23949811.97 0.0497 0.0333

Jupiter -70284-03-27 20:37 J -23949721.79 -23949721.64 -23949721.48 0.0498 0.0267

Venus -70284-12-26 01:25 J -23949448.57 -23949448.44 -23949448.31 0.3569 0.1799

Mars -70283-10-17 02:23 J -23949153.47 -23949153.40 -23949153.33 0.1980 0.1530

Saturn -70282-05-23 07:11 J -23948935.29 -23948935.20 -23948935.11 0.0263 0.0230

Saturn -70282-08-20 04:47 J -23948846.48 -23948846.30 -23948846.12 0.0263 0.0096

Saturn -70282-11-17 02:37 J -23948757.59 -23948757.39 -23948757.20 0.0264 0.0041

Saturn -70281-02-14 00:13 J -23948668.63 -23948668.49 -23948668.35 0.0264 0.0178

Jupiter -70279-11-21 00:13 J -23947657.60 -23947657.49 -23947657.38 0.0528 0.0233

Jupiter -70278-02-18 05:59 J -23947568.37 -23947568.25 -23947568.14 0.0528 0.0232

Venus -70278-07-12 06:13 J -23947424.38 -23947424.24 -23947424.10 0.3572 0.1285

Moon -70277-04-30 13:25 J -23947131.05 -23947130.94 -23947130.83 0.2719 0.0037

Earth -70277-04-30 13:54 J -23947131.03 -23947130.92 -23947130.81 0.2714 0.0006 *

Mars -70276-06-02 13:54 J -23946733.08 -23946732.92 -23946732.75 0.1570 0.0343

Moon -70274-10-27 06:42 J -23945856.39 -23945856.22 -23945856.06 0.2619 0.0053

Earth -70274-10-27 08:23 J -23945856.32 -23945856.15 -23945855.99 0.2620 0.0273 *

Jupiter -70273-10-15 05:30 J -23945502.30 -23945502.27 -23945502.22 0.0497 0.0485

Jupiter -70272-01-13 17:16 J -23945411.97 -23945411.78 -23945411.60 0.0498 0.0116

Mars -70271-02-12 03:49 J -23945017.39 -23945017.34 -23945017.30 0.1972 0.1804

Saturn -70268-03-29 05:16 J -23943876.36 -23943876.28 -23943876.20 0.0300 0.0227

Saturn -70268-06-25 17:30 J -23943787.89 -23943787.77 -23943787.64 0.0299 0.0095

Saturn -70268-09-22 05:45 J -23943699.38 -23943699.26 -23943699.13 0.0298 0.0039

Saturn -70268-12-19 17:59 J -23943610.85 -23943610.75 -23943610.64 0.0297 0.0168

Saturn -70267-03-18 06:13 J -23943522.25 -23943522.24 -23943522.24 0.0297 0.0296

Jupiter -70267-09-09 04:47 J -23943347.40 -23943347.30 -23943347.21 0.0529 0.0345

Mars -70267-10-23 16:18 J -23943302.93 -23943302.82 -23943302.71 0.1569 0.1210

Jupiter -70267-12-07 10:18 J -23943258.19 -23943258.07 -23943257.94 0.0528 0.0120

Moon -70264-05-03 07:25 J -23942380.29 -23942380.19 -23942380.09 0.2722 0.1101

Earth -70264-05-03 07:25 J -23942380.28 -23942380.19 -23942380.09 0.2716 0.1151 *

Venus -70264-05-09 03:06 J -23942374.39 -23942374.37 -23942374.34 0.3812 0.3672

Mars -70262-07-05 11:30 J -23941587.12 -23941587.02 -23941586.92 0.1975 0.0756

Moon -70261-10-29 14:52 J -23941104.89 -23941104.88 -23941104.87 0.2620 0.2610

Jupiter -70261-11-01 12:42 J -23941102.16 -23941101.97 -23941101.79 0.0497 0.0047

Venus -70259-11-22 19:54 J -23940350.76 -23940350.67 -23940350.59 0.3811 0.2175

Moon -70257-04-26 06:57 J -23939830.27 -23939830.21 -23939830.15 0.2706 0.2142

Earth -70257-04-26 07:25 J -23939830.26 -23939830.19 -23939830.12 0.2710 0.2052 *

Mars -70255-02-19 10:33 J -23939166.08 -23939166.06 -23939166.05 0.1574 0.1563

Jupiter -70255-06-28 09:06 J -23939037.18 -23939037.12 -23939037.06 0.0529 0.0459

Jupiter -70255-09-25 14:37 J -23938948.01 -23938947.89 -23938947.76 0.0528 0.0016

Jupiter -70255-12-23 20:23 J -23938858.70 -23938858.65 -23938858.59 0.0528 0.0470

Uranus -70254-09-11 19:40 J -23938596.70 -23938596.68 -23938596.65 0.0134 0.0131

Uranus -70254-12-08 22:33 J -23938508.62 -23938508.56 -23938508.49 0.0135 0.0116

Uranus -70253-03-06 01:40 J -23938420.51 -23938420.43 -23938420.34 0.0135 0.0099

Uranus -70253-06-02 04:33 J -23938332.40 -23938332.31 -23938332.20 0.0135 0.0083

Venus -70253-06-07 12:42 J -23938327.07 -23938326.97 -23938326.87 0.3809 0.0648

Uranus -70253-08-29 07:40 J -23938244.29 -23938244.18 -23938244.06 0.0135 0.0066

Saturn -70253-10-09 07:25 J -23938203.20 -23938203.19 -23938203.18 0.0263 0.0262

Mars -70253-11-24 18:57 J -23938156.82 -23938156.71 -23938156.60 0.1978 0.0330

Uranus -70253-11-25 10:47 J -23938156.17 -23938156.05 -23938155.93 0.0135 0.0049

Saturn -70252-01-06 05:01 J -23938114.46 -23938114.29 -23938114.12 0.0263 0.0127

Uranus -70252-02-21 13:40 J -23938068.05 -23938067.93 -23938067.80 0.0135 0.0033

Saturn -70252-04-05 02:37 J -23938025.58 -23938025.39 -23938025.20 0.0264 0.0009

Uranus -70252-05-20 16:47 J -23937979.93 -23937979.80 -23937979.67 0.0135 0.0016

Saturn -70252-07-03 00:13 J -23937936.64 -23937936.49 -23937936.32 0.0264 0.0147

Uranus -70252-08-16 19:54 J -23937891.80 -23937891.67 -23937891.54 0.0135 0.0001

Uranus -70252-11-12 23:01 J -23937803.67 -23937803.54 -23937803.41 0.0136 0.0018

Uranus -70251-02-09 02:09 J -23937715.54 -23937715.41 -23937715.29 0.0136 0.0035

Earth -70251-05-06 01:11 J -23937629.51 -23937629.45 -23937629.40 0.2718 0.2294

Moon -70251-05-06 01:40 J -23937629.48 -23937629.43 -23937629.38 0.2724 0.2370 *

Uranus -70251-05-08 05:01 J -23937627.41 -23937627.29 -23937627.16 0.0136 0.0052

Uranus -70251-08-04 08:09 J -23937539.27 -23937539.16 -23937539.04 0.0136 0.0069

Uranus -70251-10-31 11:16 J -23937451.13 -23937451.03 -23937450.93 0.0136 0.0086

Uranus -70250-01-27 14:23 J -23937362.98 -23937362.90 -23937362.81 0.0136 0.0104

Uranus -70250-04-25 17:16 J -23937274.83 -23937274.78 -23937274.71 0.0136 0.0122

Jupiter -70249-08-20 09:06 J -23936792.29 -23936792.12 -23936791.94 0.0497 0.0198

Jupiter -70249-11-18 20:23 J -23936701.75 -23936701.65 -23936701.54 0.0498 0.0401

Venus -70248-12-22 05:45 J -23936303.36 -23936303.26 -23936303.16 0.3807 0.0912

Neptune -70247-01-25 05:30 J -23936269.32 -23936269.27 -23936269.17 0.0089 0.0082

Neptune -70247-04-23 09:49 J -23936181.20 -23936181.09 -23936180.99 0.0089 0.0074

Neptune -70247-07-20 13:11 J -23936093.06 -23936092.95 -23936092.81 0.0089 0.0067

Neptune -70247-10-16 16:47 J -23936004.93 -23936004.80 -23936004.64 0.0089 0.0060

Neptune -70246-01-12 20:37 J -23935916.78 -23935916.64 -23935916.47 0.0089 0.0053

Neptune -70246-04-11 00:28 J -23935828.64 -23935828.48 -23935828.30 0.0089 0.0045

Neptune -70246-07-08 04:18 J -23935740.49 -23935740.32 -23935740.14 0.0089 0.0038

Mars -70246-07-12 12:42 J -23935736.12 -23935735.97 -23935735.82 0.1572 0.0681

Neptune -70246-10-04 07:54 J -23935652.34 -23935652.17 -23935651.97 0.0089 0.0031

Neptune -70246-12-31 11:45 J -23935564.19 -23935564.01 -23935563.81 0.0089 0.0023

Neptune -70245-03-28 15:35 J -23935476.04 -23935475.85 -23935475.65 0.0089 0.0016

Neptune -70245-06-24 19:11 J -23935387.89 -23935387.70 -23935387.50 0.0089 0.0009

Neptune -70245-09-20 23:01 J -23935299.74 -23935299.54 -23935299.34 0.0089 0.0001

Neptune -70245-12-18 02:52 J -23935211.58 -23935211.38 -23935211.19 0.0089 0.0007

Neptune -70244-03-16 06:28 J -23935123.42 -23935123.23 -23935123.03 0.0089 0.0014

Moon -70244-04-29 00:28 J -23935079.58 -23935079.48 -23935079.38 0.2712 0.0937

Earth -70244-04-29 01:11 J -23935079.56 -23935079.45 -23935079.35 0.2712 0.0918 *

Neptune -70244-06-12 10:04 J -23935035.26 -23935035.08 -23935034.88 0.0089 0.0021

Neptune -70244-09-08 13:54 J -23934947.10 -23934946.92 -23934946.73 0.0089 0.0028

Neptune -70244-12-05 17:30 J -23934858.94 -23934858.77 -23934858.58 0.0089 0.0036

Neptune -70243-03-03 21:06 J -23934770.78 -23934770.62 -23934770.43 0.0089 0.0043

Mars -70243-04-17 02:23 J -23934726.48 -23934726.40 -23934726.32 0.1980 0.1413

Neptune -70243-05-31 00:57 J -23934682.61 -23934682.46 -23934682.29 0.0089 0.0051

Jupiter -70243-07-14 18:28 J -23934637.85 -23934637.73 -23934637.61 0.0528 0.0119

Neptune -70243-08-27 04:33 J -23934594.44 -23934594.31 -23934594.15 0.0088 0.0058

Jupiter -70243-10-11 23:59 J -23934548.59 -23934548.50 -23934548.40 0.0527 0.0346

Neptune -70243-11-23 08:37 J -23934506.27 -23934506.14 -23934506.01 0.0088 0.0065

Neptune -70242-02-19 11:59 J -23934418.10 -23934418.00 -23934417.87 0.0088 0.0072

Neptune -70242-05-18 15:35 J -23934329.91 -23934329.85 -23934329.75 0.0088 0.0080

Venus -70242-07-07 22:47 J -23934279.63 -23934279.55 -23934279.47 0.3805 0.2491

Neptune -70242-08-14 19:25 J -23934241.71 -23934241.69 -23934241.64 0.0088 0.0087

Moon -70241-10-24 05:30 J -23933805.39 -23933805.27 -23933805.15 0.2617 0.1794

Earth -70241-10-24 06:42 J -23933805.34 -23933805.22 -23933805.10 0.2622 0.1682 *

Saturn -70239-08-16 08:23 J -23933144.21 -23933144.15 -23933144.08 0.0300 0.0254

Saturn -70239-11-12 20:52 J -23933055.75 -23933055.63 -23933055.51 0.0300 0.0120

Saturn -70238-02-09 09:06 J -23932967.25 -23932967.12 -23932966.99 0.0299 0.0013

Saturn -70238-05-08 21:21 J -23932878.72 -23932878.61 -23932878.50 0.0298 0.0143

Saturn -70238-08-05 09:21 J -23932790.15 -23932790.11 -23932790.05 0.0297 0.0272

Jupiter -70237-06-08 05:59 J -23932482.38 -23932482.25 -23932482.12 0.0498 0.0347

Jupiter -70237-09-06 17:30 J -23932391.93 -23932391.77 -23932391.61 0.0498 0.0254

Mars -70237-12-01 14:52 J -23932306.05 -23932305.88 -23932305.71 0.1570 0.0197

Mars -70232-08-13 03:49 J -23930590.36 -23930590.34 -23930590.32 0.1972 0.1931

Moon -70231-05-01 18:13 J -23930328.85 -23930328.74 -23930328.63 0.2720 0.0109

Earth -70231-05-01 18:42 J -23930328.83 -23930328.72 -23930328.61 0.2714 0.0232 *

Jupiter -70231-05-02 22:33 J -23930327.67 -23930327.56 -23930327.45 0.0528 0.0239

Jupiter -70231-07-31 04:04 J -23930238.44 -23930238.33 -23930238.21 0.0528 0.0225

Moon -70228-10-27 13:11 J -23929054.11 -23929053.95 -23929053.79 0.2620 0.0606

Earth -70228-10-27 15:06 J -23929054.03 -23929053.87 -23929053.71 0.2620 0.0730 *

Mars -70227-04-23 17:01 J -23928875.92 -23928875.79 -23928875.67 0.1569 0.1078

Venus -70227-08-02 02:37 J -23928775.54 -23928775.39 -23928775.25 0.3570 0.0758

Jupiter -70225-03-27 02:37 J -23928172.40 -23928172.39 -23928172.38 0.0497 0.0496

Jupiter -70225-06-25 14:09 J -23928082.09 -23928081.91 -23928081.73 0.0498 0.0104

Saturn -70223-05-26 05:45 J -23927382.41 -23927382.26 -23927382.10 0.0263 0.0154

Saturn -70223-08-23 03:35 J -23927293.54 -23927293.35 -23927293.16 0.0263 0.0018

Saturn -70223-11-20 01:11 J -23927204.61 -23927204.45 -23927204.27 0.0264 0.0120

Mars -70222-01-03 11:16 J -23927160.13 -23927160.03 -23927159.92 0.1975 0.0854

Saturn -70222-02-16 23:16 J -23927115.57 -23927115.53 -23927115.49 0.0265 0.0257

Venus -70221-02-16 07:11 J -23926751.32 -23926751.20 -23926751.09 0.3572 0.2299

Jupiter -70219-02-19 02:23 J -23926017.49 -23926017.40 -23926017.31 0.0528 0.0360

Jupiter -70219-05-19 07:54 J -23925928.29 -23925928.17 -23925928.04 0.0528 0.0106

Pluto -70219-06-14 17:01 J -23925901.84 -23925901.79 -23925901.72 0.0060 0.0057

Pluto -70219-09-10 18:13 J -23925813.82 -23925813.74 -23925813.63 0.0060 0.0051

Pluto -70219-12-07 19:11 J -23925725.79 -23925725.70 -23925725.56 0.0060 0.0047

Pluto -70218-03-05 20:23 J -23925637.76 -23925637.65 -23925637.49 0.0060 0.0042

Earth -70218-05-04 12:13 J -23925578.08 -23925577.99 -23925577.89 0.2716 0.1381

Moon -70218-05-04 12:28 J -23925578.07 -23925577.98 -23925577.89 0.2723 0.1441 *

Pluto -70218-06-01 22:04 J -23925549.72 -23925549.58 -23925549.43 0.0060 0.0036

Pluto -70218-08-28 23:16 J -23925461.68 -23925461.53 -23925461.37 0.0061 0.0031

Pluto -70218-11-25 00:13 J -23925373.64 -23925373.49 -23925373.31 0.0061 0.0026

Pluto -70217-02-21 01:25 J -23925285.59 -23925285.44 -23925285.25 0.0061 0.0021

Pluto -70217-05-19 03:06 J -23925197.55 -23925197.37 -23925197.19 0.0061 0.0015

Pluto -70217-08-15 04:18 J -23925109.50 -23925109.32 -23925109.13 0.0061 0.0010

Pluto -70217-11-11 05:45 J -23925021.45 -23925021.26 -23925021.08 0.0061 0.0004

Pluto -70216-02-07 06:57 J -23924933.39 -23924933.21 -23924933.02 0.0061 0.0001

Pluto -70216-05-06 08:09 J -23924845.34 -23924845.16 -23924844.97 0.0061 0.0007

Pluto -70216-08-02 09:21 J -23924757.28 -23924757.11 -23924756.92 0.0061 0.0012

Pluto -70216-10-29 10:33 J -23924669.22 -23924669.06 -23924668.87 0.0061 0.0018

Pluto -70215-01-25 11:59 J -23924581.16 -23924581.00 -23924580.82 0.0061 0.0023

Pluto -70215-04-23 13:25 J -23924493.10 -23924492.94 -23924492.78 0.0061 0.0029

Pluto -70215-07-20 14:23 J -23924405.04 -23924404.90 -23924404.73 0.0061 0.0035

Pluto -70215-10-16 15:35 J -23924316.97 -23924316.85 -23924316.69 0.0061 0.0041

Pluto -70214-01-12 17:01 J -23924228.90 -23924228.79 -23924228.65 0.0061 0.0046

Pluto -70214-04-10 18:13 J -23924140.82 -23924140.74 -23924140.62 0.0062 0.0052

Pluto -70214-07-07 19:54 J -23924052.73 -23924052.67 -23924052.59 0.0062 0.0057

Uranus -70214-07-24 04:18 J -23924036.34 -23924036.32 -23924036.29 0.0144 0.0143

Uranus -70214-10-20 12:57 J -23923948.07 -23923947.96 -23923947.83 0.0144 0.0112

Uranus -70213-01-16 21:49 J -23923859.75 -23923859.59 -23923859.43 0.0144 0.0081

Jupiter -70213-04-13 10:33 J -23923772.24 -23923772.06 -23923771.87 0.0497 0.0048

Uranus -70213-04-14 06:28 J -23923771.41 -23923771.23 -23923771.05 0.0144 0.0051

Mars -70213-05-25 18:57 J -23923729.83 -23923729.71 -23923729.60 0.1978 0.0225

Uranus -70213-07-11 15:06 J -23923683.06 -23923682.87 -23923682.68 0.0144 0.0021

Uranus -70213-10-07 23:45 J -23923594.71 -23923594.51 -23923594.32 0.0143 0.0009

Uranus -70212-01-04 08:09 J -23923506.34 -23923506.16 -23923505.97 0.0143 0.0040

Uranus -70212-04-02 16:33 J -23923417.97 -23923417.81 -23923417.63 0.0143 0.0070

Uranus -70212-06-30 00:57 J -23923329.58 -23923329.46 -23923329.31 0.0143 0.0099

Uranus -70212-09-26 09:35 J -23923241.18 -23923241.10 -23923241.01 0.0143 0.0128

Moon -70211-04-27 11:45 J -23923028.09 -23923028.01 -23923027.93 0.2706 0.1864

Earth -70211-04-27 12:13 J -23923028.07 -23923027.99 -23923027.91 0.2711 0.1822 *

Saturn -70209-01-03 11:30 J -23922412.06 -23922412.02 -23922411.98 0.0300 0.0283

Saturn -70209-03-31 23:45 J -23922323.62 -23922323.51 -23922323.39 0.0299 0.0150

Saturn -70209-06-28 12:13 J -23922235.12 -23922234.99 -23922234.86 0.0299 0.0019

Saturn -70209-09-25 00:13 J -23922146.60 -23922146.49 -23922146.37 0.0298 0.0114

Saturn -70209-12-22 12:28 J -23922058.05 -23922057.98 -23922057.91 0.0297 0.0243

Jupiter -70208-12-08 06:42 J -23921707.27 -23921707.22 -23921707.16 0.0529 0.0474

Venus -70208-12-14 00:57 J -23921701.52 -23921701.46 -23921701.41 0.3812 0.3155

Jupiter -70207-03-07 12:28 J -23921618.11 -23921617.98 -23921617.86 0.0528 0.0013

Jupiter -70207-06-04 18:13 J -23921528.80 -23921528.74 -23921528.68 0.0528 0.0457

Mars -70206-01-10 13:25 J -23921309.09 -23921308.94 -23921308.80 0.1572 0.0818

Earth -70205-05-06 05:59 J -23920827.29 -23920827.25 -23920827.21 0.2718 0.2525

Moon -70205-05-06 06:28 J -23920827.27 -23920827.23 -23920827.20 0.2724 0.2561 *

Mars -70204-10-16 02:23 J -23920299.48 -23920299.40 -23920299.31 0.1980 0.1290

Venus -70202-06-29 17:45 J -23919677.86 -23919677.76 -23919677.67 0.3810 0.1650

Jupiter -70201-01-31 06:13 J -23919462.41 -23919462.24 -23919462.07 0.0497 0.0208

Jupiter -70201-04-30 17:30 J -23919371.88 -23919371.77 -23919371.66 0.0498 0.0390

Moon -70198-04-30 05:16 J -23918277.38 -23918277.28 -23918277.18 0.2714 0.0801

Earth -70198-04-30 05:59 J -23918277.36 -23918277.25 -23918277.15 0.2713 0.0689 *

Mars -70197-06-01 15:35 J -23917879.02 -23917878.85 -23917878.68 0.1570 0.0068

Venus -70196-01-12 10:33 J -23917654.16 -23917654.06 -23917653.96 0.3809 0.0104

Jupiter -70196-12-24 16:47 J -23917307.92 -23917307.80 -23917307.68 0.0529 0.0124

Jupiter -70195-03-23 22:33 J -23917218.66 -23917218.56 -23917218.47 0.0528 0.0342

Moon -70195-10-25 12:13 J -23917003.13 -23917002.99 -23917002.85 0.2618 0.1370

Earth -70195-10-25 13:25 J -23917003.08 -23917002.94 -23917002.79 0.2622 0.1221 *

Saturn -70194-10-13 05:59 J -23916650.39 -23916650.25 -23916650.12 0.0263 0.0186

Saturn -70193-01-10 03:21 J -23916561.54 -23916561.36 -23916561.16 0.0263 0.0052

Saturn -70193-04-08 01:11 J -23916472.63 -23916472.45 -23916472.27 0.0264 0.0086

Saturn -70193-07-05 23:01 J -23916383.64 -23916383.54 -23916383.44 0.0265 0.0224

Venus -70191-07-29 03:35 J -23915630.45 -23915630.35 -23915630.25 0.3807 0.1463

Jupiter -70190-11-19 02:37 J -23915152.51 -23915152.39 -23915152.25 0.0497 0.0359

Jupiter -70189-02-17 14:09 J -23915062.07 -23915061.91 -23915061.75 0.0498 0.0241

Mars -70188-10-22 17:45 J -23914448.89 -23914448.76 -23914448.62 0.1569 0.0935

Venus -70185-02-11 20:37 J -23913606.70 -23913606.64 -23913606.58 0.3805 0.3052

Moon -70185-05-01 23:01 J -23913526.65 -23913526.54 -23913526.43 0.2720 0.0472

Earth -70185-05-01 23:30 J -23913526.63 -23913526.52 -23913526.41 0.2714 0.0465 *

Jupiter -70184-10-12 20:37 J -23912997.75 -23912997.64 -23912997.53 0.0528 0.0247

Jupiter -70183-01-10 02:09 J -23912908.52 -23912908.41 -23912908.29 0.0528 0.0218

Mars -70183-07-04 11:16 J -23912733.12 -23912733.03 -23912732.93 0.1975 0.0972

Moon -70182-10-28 19:54 J -23912251.82 -23912251.67 -23912251.51 0.2619 0.0958

Earth -70182-10-28 21:49 J -23912251.73 -23912251.59 -23912251.44 0.2620 0.1190 *

Saturn -70180-08-19 03:06 J -23911591.47 -23911591.37 -23911591.27 0.0300 0.0176

Saturn -70180-11-15 15:21 J -23911502.99 -23911502.86 -23911502.73 0.0299 0.0043

Saturn -70179-02-12 03:35 J -23911414.47 -23911414.35 -23911414.23 0.0298 0.0089

Saturn -70179-05-11 15:49 J -23911325.93 -23911325.84 -23911325.75 0.0298 0.0219

Jupiter -70178-12-06 11:01 J -23910752.22 -23910752.04 -23910751.86 0.0498 0.0092

Venus -70176-08-22 22:33 J -23910126.65 -23910126.56 -23910126.47 0.3569 0.2853

Mars -70174-11-24 18:57 J -23909302.82 -23909302.71 -23909302.60 0.1978 0.0105

Moon -70172-05-04 17:16 J -23908775.87 -23908775.78 -23908775.69 0.2723 0.1573

Earth -70172-05-04 17:01 J -23908775.87 -23908775.79 -23908775.70 0.2716 0.1612 *

Jupiter -70172-08-01 00:42 J -23908687.56 -23908687.47 -23908687.38 0.0528 0.0365

Jupiter -70172-10-29 06:13 J -23908598.36 -23908598.24 -23908598.11 0.0528 0.0099

Venus -70170-03-09 03:35 J -23908102.50 -23908102.35 -23908102.20 0.3571 0.0298

Uranus -70170-10-02 03:21 J -23907895.40 -23907895.36 -23907895.32 0.0134 0.0126

Uranus -70170-12-29 06:13 J -23907807.31 -23907807.24 -23907807.16 0.0134 0.0110

Uranus -70169-03-26 09:06 J -23907719.20 -23907719.12 -23907719.02 0.0135 0.0094

Uranus -70169-06-22 12:13 J -23907631.09 -23907630.99 -23907630.88 0.0135 0.0077

Uranus -70169-09-18 15:06 J -23907542.98 -23907542.87 -23907542.74 0.0135 0.0061

Uranus -70169-12-15 18:13 J -23907454.86 -23907454.74 -23907454.61 0.0135 0.0044

Uranus -70168-03-13 21:21 J -23907366.74 -23907366.61 -23907366.48 0.0135 0.0027

Uranus -70168-06-10 00:28 J -23907278.61 -23907278.48 -23907278.35 0.0135 0.0011

Uranus -70168-09-06 03:21 J -23907190.49 -23907190.36 -23907190.22 0.0135 0.0007

Uranus -70168-12-03 06:28 J -23907102.36 -23907102.23 -23907102.10 0.0135 0.0023

Uranus -70167-03-01 09:21 J -23907014.23 -23907014.11 -23907013.98 0.0136 0.0041

Uranus -70167-05-28 12:28 J -23906926.09 -23906925.98 -23906925.86 0.0136 0.0058

Mars -70167-07-11 13:54 J -23906882.05 -23906881.92 -23906881.78 0.1572 0.0952

Uranus -70167-08-24 15:35 J -23906837.95 -23906837.85 -23906837.74 0.0136 0.0075

Uranus -70167-11-20 18:42 J -23906749.81 -23906749.72 -23906749.62 0.0136 0.0092

Uranus -70166-02-16 21:49 J -23906661.66 -23906661.59 -23906661.51 0.0136 0.0109

Neptune -70166-05-11 02:37 J -23906578.41 -23906578.39 -23906578.37 0.0089 0.0087

Uranus -70166-05-16 00:57 J -23906573.50 -23906573.46 -23906573.41 0.0136 0.0126

Neptune -70166-08-07 03:49 J -23906490.38 -23906490.34 -23906490.29 0.0089 0.0082

Jupiter -70166-09-24 07:40 J -23906442.36 -23906442.18 -23906441.99 0.0498 0.0058

Neptune -70166-11-03 04:47 J -23906402.35 -23906402.30 -23906402.22 0.0089 0.0078

Neptune -70165-01-30 06:13 J -23906314.30 -23906314.24 -23906314.15 0.0089 0.0073

Neptune -70165-04-27 07:25 J -23906226.26 -23906226.19 -23906226.09 0.0089 0.0068

Moon -70165-04-27 16:33 J -23906225.90 -23906225.81 -23906225.73 0.2707 0.1661

Earth -70165-04-27 17:01 J -23906225.88 -23906225.79 -23906225.70 0.2711 0.1590 *

Neptune -70165-07-24 08:52 J -23906138.21 -23906138.13 -23906138.03 0.0089 0.0063

Venus -70165-09-22 07:54 J -23906078.23 -23906078.17 -23906078.12 0.3573 0.3293

Neptune -70165-10-20 10:18 J -23906050.17 -23906050.07 -23906049.97 0.0089 0.0058

Neptune -70164-01-16 11:30 J -23905962.12 -23905962.02 -23905961.91 0.0089 0.0053

Saturn -70164-03-01 06:42 J -23905918.33 -23905918.22 -23905918.11 0.0263 0.0213

Neptune -70164-04-14 12:57 J -23905874.07 -23905873.96 -23905873.85 0.0089 0.0048

Mars -70164-04-16 02:09 J -23905872.49 -23905872.41 -23905872.32 0.1980 0.1199

Saturn -70164-05-29 04:18 J -23905829.50 -23905829.32 -23905829.13 0.0263 0.0078

Neptune -70164-07-11 14:09 J -23905786.02 -23905785.91 -23905785.79 0.0089 0.0043

Saturn -70164-08-26 01:54 J -23905740.60 -23905740.42 -23905740.23 0.0264 0.0059

Neptune -70164-10-07 15:35 J -23905697.97 -23905697.85 -23905697.73 0.0089 0.0038

Saturn -70164-11-22 23:45 J -23905651.63 -23905651.51 -23905651.38 0.0264 0.0196

Neptune -70163-01-03 16:47 J -23905609.92 -23905609.80 -23905609.67 0.0089 0.0033

Neptune -70163-04-01 18:13 J -23905521.87 -23905521.74 -23905521.62 0.0089 0.0028

Neptune -70163-06-28 19:25 J -23905433.82 -23905433.69 -23905433.56 0.0089 0.0023

Neptune -70163-09-24 20:37 J -23905345.76 -23905345.64 -23905345.51 0.0089 0.0018

Neptune -70163-12-21 22:04 J -23905257.71 -23905257.58 -23905257.45 0.0089 0.0013

Neptune -70162-03-19 23:16 J -23905169.66 -23905169.53 -23905169.39 0.0089 0.0009

Neptune -70162-06-16 00:42 J -23905081.60 -23905081.47 -23905081.34 0.0089 0.0003

Neptune -70162-09-12 01:54 J -23904993.55 -23904993.42 -23904993.29 0.0089 0.0002

Neptune -70162-12-09 03:21 J -23904905.49 -23904905.36 -23904905.23 0.0089 0.0007

Neptune -70161-03-06 04:33 J -23904817.44 -23904817.31 -23904817.18 0.0089 0.0012

Neptune -70161-06-02 05:45 J -23904729.38 -23904729.26 -23904729.13 0.0089 0.0017

Neptune -70161-08-29 07:11 J -23904641.33 -23904641.20 -23904641.07 0.0089 0.0021

Neptune -70161-11-25 08:23 J -23904553.27 -23904553.15 -23904553.02 0.0089 0.0027

Neptune -70160-02-21 09:35 J -23904465.22 -23904465.10 -23904464.97 0.0089 0.0032

Jupiter -70160-05-20 04:33 J -23904377.36 -23904377.31 -23904377.26 0.0528 0.0486

Neptune -70160-05-20 10:47 J -23904377.16 -23904377.05 -23904376.92 0.0089 0.0037

Neptune -70160-08-16 12:13 J -23904289.10 -23904288.99 -23904288.87 0.0089 0.0041

Jupiter -70160-08-17 10:04 J -23904288.20 -23904288.08 -23904287.95 0.0528 0.0027

Neptune -70160-11-12 13:40 J -23904201.04 -23904200.93 -23904200.82 0.0089 0.0046

Jupiter -70160-11-14 15:49 J -23904198.91 -23904198.84 -23904198.77 0.0528 0.0442

Neptune -70159-02-08 14:52 J -23904112.98 -23904112.88 -23904112.77 0.0089 0.0051

Neptune -70159-05-07 16:18 J -23904024.92 -23904024.82 -23904024.72 0.0089 0.0056

Neptune -70159-08-03 17:30 J -23903936.86 -23903936.77 -23903936.67 0.0089 0.0061

Neptune -70159-10-30 18:42 J -23903848.80 -23903848.72 -23903848.63 0.0089 0.0066

Neptune -70158-01-26 20:09 J -23903760.74 -23903760.66 -23903760.58 0.0089 0.0071

Neptune -70158-04-24 21:21 J -23903672.67 -23903672.61 -23903672.54 0.0089 0.0076

Neptune -70158-07-21 22:33 J -23903584.60 -23903584.56 -23903584.50 0.0089 0.0081

Neptune -70158-10-17 23:45 J -23903496.53 -23903496.51 -23903496.46 0.0089 0.0086

Mars -70158-12-01 16:18 J -23903451.99 -23903451.82 -23903451.65 0.1570 0.0079

Jupiter -70154-07-13 04:04 J -23902132.49 -23902132.33 -23902132.16 0.0497 0.0210

Jupiter -70154-10-11 15:35 J -23902041.97 -23902041.85 -23902041.74 0.0498 0.0390

Moon -70152-04-30 10:04 J -23901475.19 -23901475.08 -23901474.98 0.2716 0.0507

Earth -70152-04-30 10:33 J -23901475.16 -23901475.06 -23901474.95 0.2713 0.0464 *

Venus -70151-07-20 22:33 J -23901028.63 -23901028.56 -23901028.48 0.3812 0.2638

Saturn -70150-01-06 05:59 J -23900859.34 -23900859.25 -23900859.15 0.0300 0.0205

Saturn -70150-04-04 18:28 J -23900770.86 -23900770.73 -23900770.61 0.0299 0.0073

Saturn -70150-07-02 06:42 J -23900682.35 -23900682.22 -23900682.10 0.0298 0.0060

Saturn -70150-09-28 18:42 J -23900593.81 -23900593.72 -23900593.62 0.0297 0.0190

Moon -70149-10-25 18:42 J -23900200.87 -23900200.72 -23900200.56 0.2619 0.0841

Earth -70149-10-25 20:23 J -23900200.80 -23900200.65 -23900200.49 0.2622 0.0752 *

Mars -70148-04-22 18:28 J -23900021.88 -23900021.73 -23900021.59 0.1569 0.0803

Jupiter -70148-06-05 14:23 J -23899978.02 -23899977.90 -23899977.77 0.0528 0.0139

Jupiter -70148-09-02 20:09 J -23899888.75 -23899888.66 -23899888.56 0.0528 0.0329

Venus -70145-02-03 15:21 J -23899004.96 -23899004.86 -23899004.76 0.3810 0.1121

Mars -70143-01-02 11:30 J -23898306.12 -23898306.02 -23898305.93 0.1975 0.1090

Jupiter -70142-04-30 23:59 J -23897822.62 -23897822.50 -23897822.37 0.0497 0.0367

Jupiter -70142-07-30 11:30 J -23897732.19 -23897732.02 -23897731.86 0.0497 0.0232

Venus -70140-08-19 08:23 J -23896981.25 -23896981.15 -23896981.05 0.3808 0.0442

Moon -70139-05-03 04:04 J -23896724.44 -23896724.33 -23896724.23 0.2720 0.0617

Earth -70139-05-03 04:18 J -23896724.42 -23896724.32 -23896724.22 0.2715 0.0698 *

Jupiter -70136-03-24 18:57 J -23895667.82 -23895667.71 -23895667.60 0.0529 0.0252

Jupiter -70136-06-22 00:28 J -23895578.59 -23895578.48 -23895578.36 0.0528 0.0216

Moon -70136-10-29 02:52 J -23895449.51 -23895449.38 -23895449.25 0.2619 0.1494

Earth -70136-10-29 04:47 J -23895449.43 -23895449.30 -23895449.17 0.2619 0.1654 *

Saturn -70135-07-19 06:13 J -23895186.30 -23895186.24 -23895186.18 0.0263 0.0248

Saturn -70135-10-16 03:49 J -23895097.51 -23895097.34 -23895097.17 0.0263 0.0113

Saturn -70134-01-13 01:25 J -23895008.63 -23895008.44 -23895008.24 0.0264 0.0023

Venus -70134-03-05 01:25 J -23894957.53 -23894957.44 -23894957.35 0.3807 0.2015

Saturn -70134-04-11 23:01 J -23894919.68 -23894919.54 -23894919.38 0.0264 0.0161

Mars -70134-05-25 18:57 J -23894875.83 -23894875.71 -23894875.60 0.1978 0.0036

Moon -70132-04-26 03:49 J -23894174.38 -23894174.34 -23894174.30 0.2703 0.2479

Earth -70132-04-26 04:18 J -23894174.36 -23894174.32 -23894174.28 0.2709 0.2497 *

Jupiter -70130-05-18 08:09 J -23893422.35 -23893422.16 -23893421.98 0.0497 0.0083

Uranus -70130-08-13 11:01 J -23893335.09 -23893335.04 -23893334.97 0.0144 0.0137

Uranus -70130-11-09 19:54 J -23893246.79 -23893246.67 -23893246.53 0.0144 0.0106

Uranus -70129-02-06 04:33 J -23893158.47 -23893158.31 -23893158.13 0.0144 0.0076

Uranus -70129-05-04 13:25 J -23893070.12 -23893069.94 -23893069.75 0.0144 0.0045

Uranus -70129-07-31 22:04 J -23892981.77 -23892981.58 -23892981.38 0.0144 0.0015

Venus -70129-09-17 18:28 J -23892933.76 -23892933.73 -23892933.70 0.3804 0.3622

Uranus -70129-10-28 06:42 J -23892893.41 -23892893.22 -23892893.03 0.0144 0.0015

Uranus -70128-01-24 15:06 J -23892805.05 -23892804.87 -23892804.68 0.0143 0.0046

Uranus -70128-04-22 23:45 J -23892716.67 -23892716.51 -23892716.34 0.0143 0.0075

Uranus -70128-07-20 08:09 J -23892628.28 -23892628.16 -23892628.02 0.0143 0.0105

Uranus -70128-10-16 16:33 J -23892539.86 -23892539.81 -23892539.73 0.0143 0.0134

Mars -70127-01-09 14:52 J -23892455.00 -23892454.88 -23892454.76 0.1572 0.1095

Earth -70126-05-05 21:49 J -23891973.66 -23891973.59 -23891973.51 0.2716 0.1844

Moon -70126-05-05 22:04 J -23891973.65 -23891973.58 -23891973.51 0.2724 0.1936 *

Pluto -70126-10-20 19:25 J -23891805.71 -23891805.69 -23891805.65 0.0084 0.0082

Pluto -70125-01-16 20:52 J -23891717.69 -23891717.63 -23891717.54 0.0084 0.0071

Pluto -70125-04-13 22:33 J -23891629.65 -23891629.56 -23891629.46 0.0084 0.0060

Pluto -70125-07-10 23:59 J -23891541.60 -23891541.50 -23891541.38 0.0084 0.0049

Pluto -70125-10-07 01:40 J -23891453.55 -23891453.43 -23891453.31 0.0084 0.0038

Mars -70125-10-15 02:23 J -23891445.49 -23891445.40 -23891445.30 0.1980 0.1071

Pluto -70124-01-03 03:06 J -23891365.50 -23891365.37 -23891365.24 0.0084 0.0027

Jupiter -70124-01-10 22:47 J -23891357.64 -23891357.55 -23891357.46 0.0528 0.0373

Pluto -70124-04-01 04:33 J -23891277.44 -23891277.31 -23891277.17 0.0084 0.0017

Jupiter -70124-04-10 04:33 J -23891268.44 -23891268.31 -23891268.19 0.0528 0.0093

Pluto -70124-06-28 05:59 J -23891189.39 -23891189.25 -23891189.11 0.0083 0.0006

Pluto -70124-09-24 07:25 J -23891101.33 -23891101.19 -23891101.05 0.0083 0.0004

Pluto -70124-12-21 08:52 J -23891013.26 -23891013.13 -23891012.99 0.0083 0.0015

Pluto -70123-03-19 10:18 J -23890925.20 -23890925.07 -23890924.94 0.0083 0.0025

Pluto -70123-06-15 11:45 J -23890837.14 -23890837.01 -23890836.89 0.0083 0.0035

Pluto -70123-09-11 12:42 J -23890749.07 -23890748.97 -23890748.84 0.0083 0.0046

Pluto -70123-12-08 14:09 J -23890661.00 -23890660.91 -23890660.80 0.0083 0.0056

Pluto -70122-03-06 15:35 J -23890572.92 -23890572.85 -23890572.76 0.0083 0.0066

Pluto -70122-06-02 16:47 J -23890484.84 -23890484.80 -23890484.73 0.0082 0.0076

Saturn -70121-05-25 08:52 J -23890127.21 -23890127.13 -23890127.05 0.0300 0.0236

Saturn -70121-08-21 21:06 J -23890038.74 -23890038.62 -23890038.49 0.0300 0.0103

Saturn -70121-11-18 09:35 J -23889950.23 -23889950.10 -23889949.98 0.0299 0.0032

Saturn -70120-02-14 21:35 J -23889861.70 -23889861.60 -23889861.49 0.0298 0.0161

Saturn -70120-05-14 09:49 J -23889773.11 -23889773.09 -23889773.06 0.0297 0.0290

Venus -70119-03-29 23:45 J -23889453.64 -23889453.51 -23889453.38 0.3569 0.1787

Moon -70119-04-28 21:06 J -23889423.71 -23889423.62 -23889423.53 0.2709 0.1456

Earth -70119-04-28 21:49 J -23889423.68 -23889423.59 -23889423.50 0.2711 0.1357 *

Jupiter -70118-03-06 04:47 J -23889112.49 -23889112.30 -23889112.11 0.0498 0.0068

Mars -70118-06-01 17:01 J -23889024.96 -23889024.79 -23889024.62 0.1570 0.0213

Venus -70114-10-14 04:33 J -23887429.45 -23887429.31 -23887429.18 0.3571 0.1318

Jupiter -70113-10-30 02:52 J -23887047.42 -23887047.38 -23887047.33 0.0528 0.0490

Jupiter -70112-01-27 08:37 J -23886958.27 -23886958.14 -23886958.02 0.0528 0.0027

Jupiter -70112-04-26 14:09 J -23886868.97 -23886868.91 -23886868.84 0.0527 0.0439

Mars -70109-10-21 19:11 J -23885594.86 -23885594.70 -23885594.55 0.1569 0.0670

Jupiter -70107-12-23 01:25 J -23884802.60 -23884802.44 -23884802.27 0.0498 0.0218

Jupiter -70106-03-23 12:57 J -23884712.08 -23884711.96 -23884711.84 0.0498 0.0384

Moon -70106-05-01 14:52 J -23884672.99 -23884672.88 -23884672.78 0.2716 0.0320

Earth -70106-05-01 15:21 J -23884672.96 -23884672.86 -23884672.75 0.2713 0.0246 *

Saturn -70105-03-04 04:18 J -23884365.48 -23884365.32 -23884365.16 0.0263 0.0143

Saturn -70105-06-01 01:54 J -23884276.61 -23884276.42 -23884276.23 0.0263 0.0007

Saturn -70105-08-28 23:30 J -23884187.68 -23884187.52 -23884187.35 0.0264 0.0130

Mars -70104-07-03 11:16 J -23883879.12 -23883879.03 -23883878.94 0.1975 0.1192

Moon -70103-10-27 01:25 J -23883398.60 -23883398.44 -23883398.28 0.2619 0.0550

Earth -70103-10-27 03:21 J -23883398.53 -23883398.36 -23883398.20 0.2621 0.0290 *

Jupiter -70101-11-15 12:28 J -23882648.10 -23882647.98 -23882647.86 0.0528 0.0147

Jupiter -70100-02-12 18:13 J -23882558.84 -23882558.74 -23882558.64 0.0528 0.0318

Venus -70100-08-11 03:35 J -23882379.38 -23882379.35 -23882379.32 0.3813 0.3616

Mars -70099-03-13 21:21 J -23882164.64 -23882164.61 -23882164.58 0.1568 0.1540

Jupiter -70095-10-10 22:04 J -23880492.70 -23880492.58 -23880492.45 0.0497 0.0368

Mars -70095-11-23 18:57 J -23880448.83 -23880448.71 -23880448.60 0.1978 0.0125

Jupiter -70094-01-09 09:35 J -23880402.26 -23880402.10 -23880401.93 0.0498 0.0234

Venus -70094-02-24 20:23 J -23880355.74 -23880355.65 -23880355.57 0.3812 0.2115

Moon -70093-05-03 08:52 J -23879922.23 -23879922.13 -23879922.03 0.2722 0.0947

Earth -70093-05-03 09:06 J -23879922.22 -23879922.12 -23879922.02 0.2715 0.0927 *

Saturn -70092-10-12 11:30 J -23879395.07 -23879395.02 -23879394.96 0.0300 0.0268

Saturn -70091-01-08 23:59 J -23879306.62 -23879306.50 -23879306.39 0.0300 0.0135

Saturn -70091-04-07 12:13 J -23879218.12 -23879217.99 -23879217.86 0.0299 0.0002

Saturn -70091-07-05 00:28 J -23879129.60 -23879129.48 -23879129.37 0.0298 0.0129

Saturn -70091-10-01 12:28 J -23879041.04 -23879040.98 -23879040.91 0.0297 0.0259

Moon -70090-10-30 09:49 J -23878647.19 -23878647.09 -23878646.98 0.2620 0.1959

Earth -70090-10-30 11:45 J -23878647.11 -23878647.01 -23878646.92 0.2619 0.2120 *

Jupiter -70089-09-03 16:47 J -23878337.91 -23878337.80 -23878337.69 0.0528 0.0262

Venus -70089-09-09 13:11 J -23878332.05 -23878331.95 -23878331.85 0.3810 0.0576

Jupiter -70089-12-01 22:33 J -23878248.68 -23878248.56 -23878248.45 0.0528 0.0204

Mars -70088-07-10 15:35 J -23878027.96 -23878027.85 -23878027.75 0.1572 0.1228

Moon -70086-04-27 08:37 J -23877372.19 -23877372.14 -23877372.09 0.2703 0.2349

Earth -70086-04-27 09:06 J -23877372.18 -23877372.12 -23877372.07 0.2709 0.2261 *

Uranus -70086-10-22 11:01 J -23877194.09 -23877194.04 -23877193.97 0.0134 0.0119

Uranus -70085-01-18 14:09 J -23877105.99 -23877105.91 -23877105.82 0.0134 0.0103

Mars -70085-04-15 02:23 J -23877018.50 -23877018.40 -23877018.30 0.1980 0.0956

Uranus -70085-04-15 17:01 J -23877017.88 -23877017.79 -23877017.68 0.0135 0.0087

Uranus -70085-07-12 20:09 J -23876929.77 -23876929.66 -23876929.55 0.0135 0.0070

Uranus -70085-10-08 23:01 J -23876841.65 -23876841.54 -23876841.41 0.0135 0.0054

Uranus -70084-01-05 02:09 J -23876753.53 -23876753.41 -23876753.28 0.0135 0.0037

Uranus -70084-04-03 05:16 J -23876665.41 -23876665.28 -23876665.15 0.0135 0.0021

Uranus -70084-06-30 08:09 J -23876577.29 -23876577.16 -23876577.03 0.0135 0.0005

Uranus -70084-09-26 11:16 J -23876489.16 -23876489.03 -23876488.90 0.0135 0.0013

Uranus -70084-12-23 14:23 J -23876401.03 -23876400.90 -23876400.77 0.0135 0.0030

Uranus -70083-03-21 17:16 J -23876312.90 -23876312.78 -23876312.65 0.0136 0.0047

Venus -70083-03-26 06:13 J -23876308.35 -23876308.24 -23876308.14 0.3808 0.0995

Uranus -70083-06-17 20:23 J -23876224.76 -23876224.65 -23876224.53 0.0136 0.0064

Uranus -70083-09-13 23:30 J -23876136.62 -23876136.52 -23876136.41 0.0136 0.0081

Neptune -70083-10-22 02:09 J -23876098.46 -23876098.41 -23876098.32 0.0089 0.0083

Jupiter -70083-10-28 05:45 J -23876092.44 -23876092.26 -23876092.07 0.0497 0.0078

Uranus -70083-12-11 02:37 J -23876048.48 -23876048.39 -23876048.30 0.0136 0.0098

Neptune -70082-01-18 06:13 J -23876010.34 -23876010.24 -23876010.13 0.0089 0.0075

Uranus -70082-03-09 05:30 J -23875960.33 -23875960.27 -23875960.19 0.0136 0.0116

Neptune -70082-04-16 09:49 J -23875922.20 -23875922.09 -23875921.95 0.0089 0.0068

Uranus -70082-06-05 08:37 J -23875872.15 -23875872.14 -23875872.11 0.0136 0.0133

Neptune -70082-07-13 13:25 J -23875834.07 -23875833.94 -23875833.78 0.0089 0.0061

Neptune -70082-10-09 17:30 J -23875745.93 -23875745.77 -23875745.61 0.0089 0.0053

Neptune -70081-01-05 21:06 J -23875657.78 -23875657.62 -23875657.44 0.0089 0.0046

Neptune -70081-04-03 00:42 J -23875569.63 -23875569.47 -23875569.28 0.0089 0.0039

Neptune -70081-06-30 04:47 J -23875481.49 -23875481.30 -23875481.12 0.0088 0.0031

Neptune -70081-09-26 08:23 J -23875393.34 -23875393.15 -23875392.96 0.0088 0.0024

Neptune -70081-12-23 11:59 J -23875305.18 -23875305.00 -23875304.80 0.0088 0.0017

Neptune -70080-03-21 15:49 J -23875217.03 -23875216.84 -23875216.64 0.0088 0.0009

Earth -70080-05-06 02:37 J -23875171.46 -23875171.39 -23875171.32 0.2717 0.2074

Moon -70080-05-06 02:52 J -23875171.45 -23875171.38 -23875171.31 0.2723 0.2052 *

Neptune -70080-06-17 19:40 J -23875128.88 -23875128.68 -23875128.48 0.0088 0.0001

Neptune -70080-09-13 23:16 J -23875040.72 -23875040.53 -23875040.33 0.0088 0.0006

Neptune -70080-12-11 03:06 J -23874952.56 -23874952.37 -23874952.17 0.0088 0.0013

Neptune -70079-03-09 06:42 J -23874864.40 -23874864.22 -23874864.02 0.0088 0.0021

Neptune -70079-06-05 10:33 J -23874776.24 -23874776.06 -23874775.87 0.0088 0.0028

Neptune -70079-09-01 14:09 J -23874688.08 -23874687.91 -23874687.72 0.0088 0.0035

Neptune -70079-11-28 17:59 J -23874599.92 -23874599.75 -23874599.57 0.0088 0.0043

Mars -70079-11-30 17:45 J -23874597.93 -23874597.76 -23874597.60 0.1570 0.0350

Neptune -70078-02-24 21:49 J -23874511.75 -23874511.59 -23874511.43 0.0088 0.0050

Neptune -70078-05-24 01:11 J -23874423.58 -23874423.45 -23874423.29 0.0088 0.0058

Neptune -70078-08-20 05:01 J -23874335.41 -23874335.29 -23874335.15 0.0088 0.0065

Venus -70078-10-09 23:16 J -23874284.61 -23874284.53 -23874284.46 0.3806 0.2575

Neptune -70078-11-16 08:52 J -23874247.24 -23874247.13 -23874247.01 0.0088 0.0072

Neptune -70077-02-12 12:13 J -23874159.05 -23874158.99 -23874158.88 0.0088 0.0080

Neptune -70077-05-10 16:04 J -23874070.85 -23874070.83 -23874070.78 0.0088 0.0087

Jupiter -70077-06-22 21:06 J -23874027.70 -23874027.62 -23874027.53 0.0529 0.0377

Jupiter -70077-09-20 02:52 J -23873938.50 -23873938.38 -23873938.25 0.0528 0.0091

Saturn -70076-07-22 03:21 J -23873633.50 -23873633.36 -23873633.23 0.0263 0.0181

Saturn -70076-10-19 00:42 J -23873544.66 -23873544.47 -23873544.28 0.0263 0.0047

Saturn -70075-01-15 22:33 J -23873455.74 -23873455.56 -23873455.38 0.0264 0.0090

Saturn -70075-04-14 20:09 J -23873366.75 -23873366.66 -23873366.56 0.0265 0.0228

Moon -70073-04-29 01:54 J -23872621.52 -23872621.42 -23872621.32 0.2711 0.1163

Earth -70073-04-29 02:37 J -23872621.49 -23872621.39 -23872621.29 0.2711 0.1123 *

Jupiter -70071-08-16 02:37 J -23871782.58 -23871782.39 -23871782.21 0.0497 0.0072

Moon -70070-10-25 00:42 J -23871347.53 -23871347.47 -23871347.41 0.2618 0.2419

Earth -70070-10-25 01:40 J -23871347.51 -23871347.43 -23871347.35 0.2623 0.2233 *

Mars -70069-04-21 19:54 J -23871167.83 -23871167.67 -23871167.51 0.1569 0.0527

Jupiter -70065-04-11 01:25 J -23869717.48 -23869717.44 -23869717.40 0.0528 0.0494

Jupiter -70065-07-09 06:57 J -23869628.34 -23869628.21 -23869628.08 0.0528 0.0030

Jupiter -70065-10-06 12:28 J -23869539.04 -23869538.98 -23869538.90 0.0527 0.0436

Mars -70064-01-01 11:16 J -23869452.11 -23869452.03 -23869451.94 0.1975 0.1307

Venus -70063-11-04 00:42 J -23868780.62 -23868780.47 -23868780.32 0.3569 0.0739

Saturn -70062-05-29 02:23 J -23868574.51 -23868574.40 -23868574.29 0.0300 0.0168

Saturn -70062-08-25 14:37 J -23868486.01 -23868485.89 -23868485.76 0.0299 0.0036

Saturn -70062-11-22 02:52 J -23868397.50 -23868397.38 -23868397.25 0.0299 0.0098

Saturn -70061-02-18 15:06 J -23868308.95 -23868308.87 -23868308.78 0.0298 0.0227

Moon -70060-05-01 19:40 J -23867870.79 -23867870.68 -23867870.57 0.2716 0.0051

Earth -70060-05-01 20:23 J -23867870.76 -23867870.65 -23867870.55 0.2713 0.0121 *

Mars -70060-09-11 22:04 J -23867737.65 -23867737.58 -23867737.50 0.1568 0.1403

Jupiter -70059-06-03 23:01 J -23867472.71 -23867472.54 -23867472.37 0.0498 0.0224

Jupiter -70059-09-02 10:18 J -23867382.18 -23867382.07 -23867381.94 0.0498 0.0379

Venus -70057-05-20 05:16 J -23866756.39 -23866756.28 -23866756.17 0.3572 0.2343

Moon -70057-10-27 08:23 J -23866596.32 -23866596.15 -23866595.99 0.2618 0.0118

Earth -70057-10-27 10:04 J -23866596.24 -23866596.08 -23866595.92 0.2621 0.0177 *

Mars -70055-05-24 18:57 J -23866021.83 -23866021.71 -23866021.60 0.1978 0.0238

Jupiter -70053-04-27 11:16 J -23865318.15 -23865318.03 -23865317.91 0.0528 0.0147

Jupiter -70053-07-25 16:47 J -23865228.90 -23865228.80 -23865228.70 0.0527 0.0318

Mars -70048-01-08 16:04 J -23863600.91 -23863600.83 -23863600.74 0.1572 0.1362

Jupiter -70047-03-22 19:40 J -23863162.79 -23863162.68 -23863162.55 0.0498 0.0373

Moon -70047-05-04 13:40 J -23863120.02 -23863119.93 -23863119.83 0.2723 0.1132

Earth -70047-05-04 13:54 J -23863120.02 -23863119.92 -23863119.82 0.2715 0.1162 *

Jupiter -70047-06-21 07:25 J -23863072.35 -23863072.19 -23863072.02 0.0498 0.0231

Saturn -70047-12-09 03:06 J -23862901.48 -23862901.37 -23862901.26 0.0262 0.0213

Saturn -70046-03-08 00:42 J -23862812.65 -23862812.47 -23862812.29 0.0263 0.0079

Saturn -70046-06-04 22:18 J -23862723.76 -23862723.57 -23862723.38 0.0263 0.0057

Saturn -70046-09-01 19:54 J -23862634.79 -23862634.67 -23862634.53 0.0264 0.0194

Uranus -70046-09-02 18:42 J -23862633.79 -23862633.72 -23862633.62 0.0144 0.0130

Mars -70046-10-15 02:23 J -23862591.51 -23862591.40 -23862591.30 0.1980 0.0860

Uranus -70046-11-30 03:35 J -23862545.48 -23862545.35 -23862545.20 0.0144 0.0099

Uranus -70045-02-26 12:13 J -23862457.15 -23862456.99 -23862456.81 0.0144 0.0068

Uranus -70045-05-24 21:06 J -23862368.80 -23862368.62 -23862368.43 0.0144 0.0037

Uranus -70045-08-21 05:45 J -23862280.45 -23862280.26 -23862280.06 0.0144 0.0008

Uranus -70045-11-17 14:23 J -23862192.09 -23862191.90 -23862191.70 0.0144 0.0023

Uranus -70044-02-13 22:47 J -23862103.72 -23862103.55 -23862103.36 0.0143 0.0054

Uranus -70044-05-13 07:25 J -23862015.34 -23862015.19 -23862015.03 0.0143 0.0083

Uranus -70044-08-09 15:35 J -23861926.95 -23861926.85 -23861926.71 0.0143 0.0114

Moon -70044-10-30 16:47 J -23861844.87 -23861844.80 -23861844.73 0.2621 0.2365

Earth -70044-10-30 18:28 J -23861844.75 -23861844.73 -23861844.71 0.2619 0.2580 *

Uranus -70044-11-06 00:13 J -23861838.50 -23861838.49 -23861838.46 0.0143 0.0142

Venus -70043-03-18 01:25 J -23861706.50 -23861706.44 -23861706.39 0.3812 0.3112

Jupiter -70041-02-14 15:06 J -23861007.98 -23861007.87 -23861007.76 0.0528 0.0267

Jupiter -70041-05-13 20:37 J -23860918.75 -23860918.64 -23860918.52 0.0528 0.0199

Moon -70040-04-27 13:25 J -23860570.01 -23860569.94 -23860569.87 0.2704 0.2018

Earth -70040-04-27 13:54 J -23860569.99 -23860569.92 -23860569.85 0.2710 0.2034 *

Mars -70039-05-31 18:13 J -23860170.90 -23860170.74 -23860170.57 0.1570 0.0484

Venus -70038-10-01 17:59 J -23859682.84 -23859682.75 -23859682.65 0.3811 0.1594

Mars -70036-03-06 09:49 J -23859161.11 -23859161.09 -23859161.07 0.1981 0.1928

Jupiter -70035-04-09 04:18 J -23858762.51 -23858762.32 -23858762.14 0.0498 0.0082

Earth -70034-05-07 07:25 J -23858369.24 -23858369.19 -23858369.13 0.2717 0.2305

Moon -70034-05-07 07:54 J -23858369.22 -23858369.17 -23858369.12 0.2722 0.2401 *

Saturn -70033-10-15 04:33 J -23857842.40 -23857842.31 -23857842.21 0.0300 0.0206

Saturn -70032-01-11 17:01 J -23857753.92 -23857753.79 -23857753.67 0.0300 0.0072

Saturn -70032-04-10 05:16 J -23857665.41 -23857665.28 -23857665.15 0.0299 0.0060

Venus -70032-04-16 11:01 J -23857659.15 -23857659.04 -23857658.94 0.3809 0.0127

Saturn -70032-07-07 17:30 J -23857576.87 -23857576.77 -23857576.67 0.0298 0.0191

Mars -70030-10-21 20:37 J -23856740.80 -23856740.64 -23856740.47 0.1569 0.0391

Jupiter -70030-12-03 19:25 J -23856697.77 -23856697.69 -23856697.60 0.0528 0.0382

Jupiter -70029-03-02 01:11 J -23856608.58 -23856608.45 -23856608.33 0.0528 0.0085

Moon -70027-04-30 06:42 J -23855819.32 -23855819.22 -23855819.12 0.2711 0.1029

Earth -70027-04-30 07:25 J -23855819.29 -23855819.19 -23855819.09 0.2712 0.0889 *

Venus -70027-10-31 03:49 J -23855635.43 -23855635.34 -23855635.24 0.3808 0.1538

Mars -70025-07-02 11:30 J -23855025.10 -23855025.02 -23855024.94 0.1975 0.1432

Moon -70024-10-25 07:11 J -23854545.32 -23854545.20 -23854545.08 0.2619 0.1808

Earth -70024-10-25 08:23 J -23854545.26 -23854545.15 -23854545.03 0.2623 0.1772 *

Jupiter -70023-01-26 00:42 J -23854452.66 -23854452.47 -23854452.29 0.0497 0.0072

Venus -70021-05-15 21:06 J -23853611.68 -23853611.62 -23853611.57 0.3805 0.3137

Mars -70020-03-12 22:47 J -23853310.65 -23853310.55 -23853310.45 0.1568 0.1266

Jupiter -70018-09-21 23:59 J -23852387.54 -23852387.50 -23852387.46 0.0529 0.0496

Jupiter -70018-12-20 05:30 J -23852298.39 -23852298.27 -23852298.14 0.0528 0.0031

Jupiter -70017-03-18 11:16 J -23852209.10 -23852209.03 -23852208.96 0.0528 0.0437

Saturn -70017-04-27 01:25 J -23852169.47 -23852169.44 -23852169.39 0.0262 0.0255

Saturn -70017-07-24 23:01 J -23852080.71 -23852080.54 -23852080.37 0.0263 0.0121

Saturn -70017-10-21 20:37 J -23851991.83 -23851991.64 -23851991.45 0.0263 0.0014

Saturn -70016-01-18 18:13 J -23851902.89 -23851902.74 -23851902.58 0.0264 0.0151

Mars -70016-11-22 18:57 J -23851594.83 -23851594.71 -23851594.60 0.1977 0.0347

Moon -70014-05-03 00:28 J -23851068.58 -23851068.48 -23851068.37 0.2718 0.0247

Earth -70014-05-03 01:11 J -23851068.56 -23851068.45 -23851068.35 0.2713 0.0278 *

Jupiter -70012-11-13 21:21 J -23850142.77 -23850142.61 -23850142.44 0.0497 0.0221

Venus -70012-11-24 20:52 J -23850131.72 -23850131.63 -23850131.54 0.3568 0.2847

Jupiter -70011-02-12 08:37 J -23850052.25 -23850052.14 -23850052.01 0.0498 0.0381

Moon -70011-10-28 15:06 J -23849794.03 -23849793.87 -23849793.71 0.2619 0.0359

Earth -70011-10-28 16:47 J -23849793.96 -23849793.80 -23849793.64 0.2621 0.0635 *

Mars -70009-07-09 17:01 J -23849173.84 -23849173.79 -23849173.75 0.1572 0.1503

Mars -70006-04-15 02:23 J -23848164.51 -23848164.40 -23848164.30 0.1980 0.0738

Venus -70006-06-11 01:54 J -23848107.57 -23848107.42 -23848107.28 0.3570 0.0334

Jupiter -70006-10-08 09:49 J -23847988.21 -23847988.09 -23847987.97 0.0528 0.0148

Jupiter -70005-01-05 15:21 J -23847898.96 -23847898.86 -23847898.76 0.0527 0.0318

Saturn -70003-03-04 06:28 J -23847110.30 -23847110.23 -23847110.16 0.0301 0.0245

Saturn -70003-05-31 18:57 J -23847021.83 -23847021.71 -23847021.59 0.0300 0.0111

Saturn -70003-08-28 07:11 J -23846933.33 -23846933.20 -23846933.07 0.0299 0.0022

Saturn -70003-11-24 19:25 J -23846844.80 -23846844.69 -23846844.58 0.0299 0.0154

Saturn -70002-02-21 07:40 J -23846756.22 -23846756.18 -23846756.14 0.0298 0.0283

Uranus -70002-08-15 16:04 J -23846580.86 -23846580.83 -23846580.79 0.0134 0.0128

Uranus -70002-11-11 19:11 J -23846492.77 -23846492.70 -23846492.63 0.0134 0.0112

Neptune -70001-02-05 01:11 J -23846407.46 -23846407.45 -23846407.43 0.0089 0.0088

Uranus -70001-02-07 22:04 J -23846404.67 -23846404.58 -23846404.48 0.0134 0.0096

Neptune -70001-05-03 02:37 J -23846319.43 -23846319.39 -23846319.35 0.0089 0.0083

Moon -70001-05-04 18:28 J -23846317.82 -23846317.73 -23846317.63 0.2723 0.1406

Earth -70001-05-04 18:42 J -23846317.81 -23846317.72 -23846317.63 0.2715 0.1394 *

Uranus -70001-05-06 01:11 J -23846316.56 -23846316.45 -23846316.34 0.0135 0.0079

Neptune -70001-07-30 03:49 J -23846231.40 -23846231.34 -23846231.28 0.0089 0.0078

Uranus -70001-08-02 04:04 J -23846228.44 -23846228.33 -23846228.21 0.0135 0.0063

Neptune -70001-10-26 05:16 J -23846143.35 -23846143.28 -23846143.21 0.0089 0.0073

Uranus -70001-10-29 07:11 J -23846140.32 -23846140.20 -23846140.08 0.0135 0.0046

Venus -70001-12-25 06:13 J -23846083.28 -23846083.24 -23846083.19 0.3572 0.3370

70TH MILLENNIUM BCE

This is a list of transits of Mercury in the 70th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Neptune	**-70000-01-22 06:28 J**		**-23846055.31**	**-23846055.23**	**-23846055.14**	**0.0089**	**0.0068**	
Uranus	**-70000-01-25 10:04 J**		**-23846052.20**	**-23846052.08**	**-23846051.95**	**0.0135**	**0.0030**	
Neptune	**-70000-04-20 07:40 J**		**-23845967.26**	**-23845967.18**	**-23845967.08**	**0.0089**	**0.0063**	
Uranus	**-70000-04-23 13:11 J**		**-23845964.08**	**-23845963.95**	**-23845963.82**	**0.0135**	**0.0013**	
Neptune	**-70000-07-17 08:52 J**		**-23845879.22**	**-23845879.13**	**-23845879.02**	**0.0089**	**0.0059**	
Uranus	**-70000-07-20 16:18 J**		**-23845875.95**	**-23845875.82**	**-23845875.69**	**0.0135**	**0.0005**	
Jupiter	**-70000-09-01 17:45 J**		**-23845832.88**	**-23845832.76**	**-23845832.64**	**0.0498**	**0.0375**	
Neptune	**-70000-10-13 10:18 J**		**-23845791.17**	**-23845791.07**	**-23845790.96**	**0.0089**	**0.0053**	
Uranus	**-70000-10-16 19:11 J**		**-23845787.83**	**-23845787.70**	**-23845787.57**	**0.0135**	**0.0021**	
Mars	**-70000-11-29 19:11 J**		**-23845743.86**	**-23845743.70**	**-23845743.55**	**0.1570**	**0.0624**	
Jupiter	**-70000-12-01 05:16 J**		**-23845742.44**	**-23845742.28**	**-23845742.11**	**0.0498**	**0.0229**	
Neptune	**-69999-01-09 11:30 J**		**-23845703.12**	**-23845703.02**	**-23845702.90**	**0.0089**	**0.0049**	
Uranus	**-69999-01-12 22:18 J**		**-23845699.70**	**-23845699.57**	**-23845699.44**	**0.0135**	**0.0038**	
Neptune	**-69999-04-07 12:57 J**		**-23845615.07**	**-23845614.96**	**-23845614.84**	**0.0089**	**0.0044**	
Uranus	**-69999-04-11 01:25 J**		**-23845611.56**	**-23845611.44**	**-23845611.32**	**0.0136**	**0.0055**	
Neptune	**-69999-07-04 14:09 J**		**-23845527.02**	**-23845526.91**	**-23845526.78**	**0.0089**	**0.0039**	
Uranus	**-69999-07-08 04:18 J**		**-23845523.42**	**-23845523.32**	**-23845523.20**	**0.0136**	**0.0072**	
Neptune	**-69999-09-30 15:35 J**		**-23845438.97**	**-23845438.85**	**-23845438.73**	**0.0089**	**0.0034**	
Uranus	**-69999-10-04 07:25 J**		**-23845435.28**	**-23845435.19**	**-23845435.09**	**0.0136**	**0.0089**	
Neptune	**-69999-12-27 16:47 J**		**-23845350.92**	**-23845350.80**	**-23845350.67**	**0.0089**	**0.0029**	

Uranus -69999-12-31 10:33 J -23845347.14 -23845347.06 -23845346.98 0.0136 0.0106

Neptune -69998-03-25 18:13 J -23845262.87 -23845262.74 -23845262.61 0.0089 0.0024

Uranus -69998-03-29 13:40 J -23845258.98 -23845258.93 -23845258.87 0.0136 0.0124

Neptune -69998-06-21 19:25 J -23845174.81 -23845174.69 -23845174.56 0.0089 0.0019

Neptune -69998-09-17 20:52 J -23845086.76 -23845086.63 -23845086.50 0.0089 0.0014

Neptune -69998-12-14 22:04 J -23844998.71 -23844998.58 -23844998.45 0.0089 0.0009

Neptune -69997-03-11 23:30 J -23844910.65 -23844910.52 -23844910.39 0.0089 0.0004

Neptune -69997-06-08 00:42 J -23844822.60 -23844822.47 -23844822.34 0.0089 0.0001

Neptune -69997-09-04 01:54 J -23844734.55 -23844734.42 -23844734.28 0.0089 0.0007

Mars -69997-09-04 09:49 J -23844734.13 -23844734.09 -23844734.05 0.1981 0.1818

Neptune -69997-12-01 03:21 J -23844646.49 -23844646.36 -23844646.23 0.0089 0.0011

Neptune -69996-02-27 04:33 J -23844558.44 -23844558.31 -23844558.18 0.0089 0.0016

Neptune -69996-05-26 05:59 J -23844470.38 -23844470.25 -23844470.13 0.0089 0.0021

Neptune -69996-08-22 07:11 J -23844382.32 -23844382.20 -23844382.07 0.0089 0.0026

Neptune -69996-11-18 08:23 J -23844294.27 -23844294.15 -23844294.02 0.0089 0.0031

Neptune -69995-02-14 09:35 J -23844206.21 -23844206.10 -23844205.97 0.0089 0.0036

Neptune -69995-05-13 11:01 J -23844118.15 -23844118.04 -23844117.92 0.0089 0.0041

Neptune -69995-08-09 12:13 J -23844030.09 -23844029.99 -23844029.87 0.0089 0.0046

Neptune -69995-11-05 13:25 J -23843942.04 -23843941.94 -23843941.82 0.0089 0.0051

Neptune -69994-02-01 14:52 J -23843853.98 -23843853.88 -23843853.77 0.0089 0.0056

Moon -69994-04-28 17:59 J -23843767.82 -23843767.75 -23843767.67 0.2706 0.1919

Earth -69994-04-28 18:42 J -23843767.80 -23843767.72 -23843767.64 0.2710 0.1800 *

Neptune -69994-04-30 16:04 J -23843765.91 -23843765.83 -23843765.72 0.0089 0.0061

Jupiter -69994-07-27 14:09 J -23843678.02 -23843677.91 -23843677.80 0.0528 0.0262

Neptune -69994-07-27 17:16 J -23843677.85 -23843677.78 -23843677.68 0.0089 0.0066 *

Neptune -69994-10-23 18:42 J -23843589.79 -23843589.72 -23843589.63 0.0089 0.0071

Jupiter -69994-10-24 19:40 J -23843588.80 -23843588.68 -23843588.56 0.0527 0.0203

Neptune -69993-01-19 19:54 J -23843501.72 -23843501.67 -23843501.59 0.0089 0.0076

Neptune -69993-04-16 21:06 J -23843413.66 -23843413.62 -23843413.55 0.0089 0.0081

Neptune -69993-07-13 22:47 J -23843325.58 -23843325.55 -23843325.51 0.0089 0.0085

Mars -69990-04-21 21:21 J -23842313.78 -23842313.61 -23842313.45 0.1569 0.0262

Earth -69988-05-07 12:13 J -23841567.02 -23841566.99 -23841566.95 0.2717 0.2536

Moon -69988-05-07 12:42 J -23841567.00 -23841566.97 -23841566.93 0.2722 0.2575 *

Jupiter -69988-09-19 02:23 J -23841432.58 -23841432.40 -23841432.21 0.0498 0.0082

Saturn -69988-12-11 22:04 J -23841348.72 -23841348.58 -23841348.42 0.0262 0.0158

Saturn -69987-03-10 19:54 J -23841259.87 -23841259.67 -23841259.48 0.0263 0.0024

Saturn -69987-06-07 17:30 J -23841170.95 -23841170.77 -23841170.60 0.0263 0.0113

Saturn -69987-09-04 14:52 J -23841081.93 -23841081.88 -23841081.81 0.0264 0.0250

Venus -69987-10-22 23:01 J -23841033.61 -23841033.54 -23841033.46 0.3812 0.2584

Mars -69985-01-01 11:16 J -23840598.10 -23840598.03 -23840597.96 0.1975 0.1526

Jupiter -69982-05-15 17:59 J -23839367.83 -23839367.75 -23839367.66 0.0528 0.0383

Jupiter -69982-08-12 23:45 J -23839278.64 -23839278.51 -23839278.39 0.0528 0.0084

Moon -69981-04-30 11:30 J -23839017.12 -23839017.02 -23839016.91 0.2712 0.0687

Earth -69981-04-30 12:13 J -23839017.09 -23839016.99 -23839016.88 0.2712 0.0661 *

Venus -69981-05-07 15:49 J -23839009.94 -23839009.84 -23839009.74 0.3811 0.1052

Mars -69981-09-10 23:30 J -23838883.63 -23838883.52 -23838883.40 0.1568 0.1131

Moon -69978-10-26 13:54 J -23837743.05 -23837742.92 -23837742.79 0.2618 0.1521

Earth -69978-10-26 15:21 J -23837743.00 -23837742.86 -23837742.72 0.2623 0.1306 *

Mars -69976-05-23 18:57 J -23837167.82 -23837167.71 -23837167.60 0.1978 0.0462

Jupiter -69976-07-07 23:16 J -23837122.71 -23837122.53 -23837122.34 0.0498 0.0066

Venus -69976-11-21 08:52 J -23836986.24 -23836986.13 -23836986.03 0.3809 0.0535

Saturn -69974-07-22 08:23 J -23836378.19 -23836378.15 -23836378.11 0.0301 0.0286

Saturn -69974-10-18 20:52 J -23836289.74 -23836289.63 -23836289.52 0.0300 0.0152

Saturn -69973-01-15 09:06 J -23836201.25 -23836201.12 -23836200.99 0.0300 0.0020

Saturn -69973-04-12 21:21 J -23836112.72 -23836112.61 -23836112.49 0.0299 0.0114

Saturn -69973-07-10 09:35 J -23836024.17 -23836024.10 -23836024.03 0.0298 0.0244

Pluto -69971-01-16 02:23 J -23835469.46 -23835469.40 -23835469.32 0.0060 0.0056

Pluto -69971-04-14 03:35 J -23835381.44 -23835381.35 -23835381.24 0.0060 0.0051

Pluto -69971-07-11 04:33 J -23835293.41 -23835293.31 -23835293.17 0.0060 0.0046

Pluto -69971-10-07 05:45 J -23835205.37 -23835205.26 -23835205.10 0.0060 0.0041

Pluto -69970-01-03 07:25 J -23835117.34 -23835117.19 -23835117.04 0.0060 0.0035

Jupiter -69970-03-03 22:18 J -23835057.60 -23835057.57 -23835057.52 0.0528 0.0497

Pluto -69970-04-01 08:37 J -23835029.30 -23835029.14 -23835028.98 0.0061 0.0030

Jupiter -69970-06-01 04:04 J -23834968.46 -23834968.33 -23834968.20 0.0528 0.0032

Venus -69970-06-07 01:40 J -23834962.51 -23834962.43 -23834962.34 0.3807 0.2100

Pluto -69970-06-28 09:35 J -23834941.25 -23834941.10 -23834940.92 0.0061 0.0025

Jupiter -69970-08-29 09:35 J -23834879.16 -23834879.10 -23834879.02 0.0528 0.0435

Pluto -69970-09-24 10:47 J -23834853.21 -23834853.05 -23834852.86 0.0061 0.0020

Pluto -69970-12-21 12:28 J -23834765.16 -23834764.98 -23834764.80 0.0061 0.0014

Pluto -69969-03-18 13:40 J -23834677.11 -23834676.93 -23834676.75 0.0061 0.0009

Pluto -69969-06-14 14:52 J -23834589.06 -23834588.88 -23834588.69 0.0061 0.0004

Pluto -69969-09-10 16:18 J -23834501.01 -23834500.82 -23834500.64 0.0061 0.0002

Pluto -69969-12-07 17:16 J -23834412.95 -23834412.78 -23834412.59 0.0061 0.0008

Pluto -69968-03-05 18:42 J -23834324.90 -23834324.72 -23834324.54 0.0061 0.0013

Moon -69968-05-03 05:30 J -23834266.38 -23834266.27 -23834266.17 0.2720 0.0396

Earth -69968-05-03 05:45 J -23834266.36 -23834266.26 -23834266.15 0.2714 0.0497 *

Pluto -69968-06-01 20:09 J -23834236.84 -23834236.66 -23834236.49 0.0061 0.0019

Pluto -69968-08-28 21:06 J -23834148.78 -23834148.62 -23834148.44 0.0061 0.0024

Pluto -69968-11-24 22:33 J -23834060.71 -23834060.56 -23834060.39 0.0061 0.0030

Pluto -69967-02-20 23:45 J -23833972.65 -23833972.51 -23833972.35 0.0061 0.0035

Pluto -69967-05-20 01:11 J -23833884.58 -23833884.45 -23833884.30 0.0061 0.0041

Pluto -69967-08-16 02:23 J -23833796.51 -23833796.40 -23833796.27 0.0061 0.0047

Mars -69967-10-14 02:23 J -23833737.51 -23833737.40 -23833737.29 0.1980 0.0615

Pluto -69967-11-12 03:21 J -23833708.43 -23833708.36 -23833708.23 0.0062 0.0053

Pluto -69966-02-08 05:01 J -23833620.34 -23833620.29 -23833620.21 0.0062 0.0058

Moon -69965-10-28 21:49 J -23832991.74 -23832991.59 -23832991.44 0.2620 0.1031

Earth -69965-10-28 23:45 J -23832991.66 -23832991.51 -23832991.36 0.2620 0.1097 *

Venus -69965-12-20 18:57 J -23832938.73 -23832938.71 -23832938.69 0.3805 0.3708

Jupiter -69964-04-25 19:54 J -23832812.84 -23832812.67 -23832812.50 0.0497 0.0217

Jupiter -69964-07-25 07:11 J -23832722.31 -23832722.20 -23832722.08 0.0498 0.0385

Uranus -69962-09-23 02:52 J -23831932.47 -23831932.38 -23831932.26 0.0144 0.0120

Uranus -69962-12-20 11:45 J -23831844.16 -23831844.01 -23831843.85 0.0144 0.0089

Uranus -69961-03-17 20:37 J -23831755.82 -23831755.64 -23831755.46 0.0144 0.0058

Earth -69961-04-26 05:45 J -23831716.26 -23831716.26 -23831716.26 0.2708 0.2705

Uranus -69961-06-14 05:16 J -23831667.47 -23831667.28 -23831667.09 0.0144 0.0028

Uranus -69961-09-10 13:54 J -23831579.11 -23831578.92 -23831578.72 0.0144 0.0003

Uranus -69961-12-07 22:33 J -23831490.75 -23831490.56 -23831490.37 0.0144 0.0033

Uranus -69960-03-06 06:57 J -23831402.38 -23831402.21 -23831402.03 0.0143 0.0063

Mars -69960-05-30 19:54 J -23831316.82 -23831316.67 -23831316.52 0.1570 0.0760

Uranus -69960-06-02 15:21 J -23831314.00 -23831313.86 -23831313.70 0.0143 0.0093

Uranus -69960-08-29 23:45 J -23831225.59 -23831225.51 -23831225.39 0.0143 0.0122

Jupiter -69958-03-20 08:37 J -23830658.27 -23830658.14 -23830658.02 0.0528 0.0146

Saturn -69958-04-30 19:54 J -23830616.78 -23830616.67 -23830616.54 0.0262 0.0203

Jupiter -69958-06-17 14:09 J -23830569.01 -23830568.91 -23830568.81 0.0528 0.0322

Saturn -69958-07-28 17:30 J -23830527.95 -23830527.77 -23830527.58 0.0263 0.0069

Saturn -69958-10-25 15:06 J -23830439.05 -23830438.87 -23830438.68 0.0263 0.0067

Saturn -69957-01-22 12:42 J -23830350.09 -23830349.97 -23830349.84 0.0264 0.0203

Mars -69957-03-05 09:49 J -23830307.15 -23830307.09 -23830307.04 0.1981 0.1712

Moon -69955-05-05 23:30 J -23829515.61 -23829515.52 -23829515.44 0.2722 0.1641

Earth -69955-05-05 23:30 J -23829515.61 -23829515.52 -23829515.44 0.2716 0.1627 *

Venus -69955-07-01 22:04 J -23829458.71 -23829458.58 -23829458.45 0.3568 0.1768

Jupiter -69952-02-11 16:47 J -23828502.92 -23828502.80 -23828502.67 0.0497 0.0364

Jupiter -69952-05-13 04:18 J -23828412.48 -23828412.32 -23828412.15 0.0498 0.0238

Mars -69951-10-20 22:04 J -23827886.75 -23827886.58 -23827886.41 0.1569 0.0117

Venus -69949-01-16 02:52 J -23827434.52 -23827434.38 -23827434.24 0.3570 0.1372

Moon -69948-04-28 22:47 J -23826965.64 -23826965.55 -23826965.46 0.2707 0.1587

Earth -69948-04-28 23:16 J -23826965.61 -23826965.53 -23826965.44 0.2710 0.1574 *

Jupiter -69946-01-06 12:57 J -23826348.07 -23826347.96 -23826347.85 0.0528 0.0260

Jupiter -69946-04-05 18:28 J -23826258.84 -23826258.73 -23826258.61 0.0528 0.0206

Mars -69946-07-02 11:16 J -23826171.09 -23826171.03 -23826170.97 0.1975 0.1647

Saturn -69944-03-06 22:04 J -23825557.67 -23825557.58 -23825557.48 0.0301 0.0198

Saturn -69944-06-03 10:33 J -23825469.19 -23825469.06 -23825468.93 0.0300 0.0063

Saturn -69944-08-30 22:47 J -23825380.67 -23825380.55 -23825380.42 0.0299 0.0070

Saturn -69944-11-27 11:01 J -23825292.13 -23825292.04 -23825291.94 0.0298 0.0201

Mars -69941-03-12 00:13 J -23824456.62 -23824456.49 -23824456.36 0.1568 0.0995

Jupiter -69940-03-01 00:42 J -23824102.65 -23824102.47 -23824102.28 0.0498 0.0084

Mars -69937-11-21 18:57 J -23822740.82 -23822740.71 -23822740.60 0.1977 0.0575

Venus -69936-11-13 04:04 J -23822384.36 -23822384.33 -23822384.30 0.3813 0.3572

Moon -69935-05-01 16:18 J -23822214.92 -23822214.82 -23822214.71 0.2713 0.0570

Earth -69935-05-01 17:01 J -23822214.90 -23822214.79 -23822214.68 0.2712 0.0426 *

Jupiter -69935-10-25 17:16 J -23822037.86 -23822037.78 -23822037.69 0.0528 0.0373

Jupiter -69934-01-22 23:01 J -23821948.67 -23821948.54 -23821948.42 0.0527 0.0094

Moon -69932-10-26 20:37 J -23820940.79 -23820940.64 -23820940.48 0.2618 0.0925

Earth -69932-10-26 22:04 J -23820940.73 -23820940.58 -23820940.42 0.2622 0.0851 *

Venus -69930-05-29 20:52 J -23820360.72 -23820360.63 -23820360.55 0.3812 0.2053

Saturn -69929-09-16 18:57 J -23819884.78 -23819884.71 -23819884.64 0.0261 0.0241

Saturn -69929-12-14 16:18 J -23819795.99 -23819795.82 -23819795.64 0.0262 0.0109

Jupiter -69929-12-17 21:49 J -23819792.78 -23819792.59 -23819792.40 0.0498 0.0062

Saturn -69928-03-13 13:54 J -23819707.11 -23819706.92 -23819706.73 0.0262 0.0026

Saturn -69928-06-10 11:30 J -23819618.17 -23819618.02 -23819617.87 0.0263 0.0162

Mars -69927-04-14 02:09 J -23819310.52 -23819310.41 -23819310.30 0.1980 0.0525

Venus -69925-12-12 13:40 J -23818337.03 -23818336.93 -23818336.83 0.3810 0.0511

Jupiter -69923-08-13 21:21 J -23817727.65 -23817727.61 -23817727.57 0.0528 0.0492

Jupiter -69923-11-11 02:52 J -23817638.50 -23817638.38 -23817638.25 0.0528 0.0030

Jupiter -69922-02-08 08:37 J -23817549.21 -23817549.14 -23817549.07 0.0527 0.0438

Moon -69922-05-04 10:18 J -23817464.18 -23817464.07 -23817463.97 0.2720 0.0724

Earth -69922-05-04 10:33 J -23817464.16 -23817464.06 -23817463.95 0.2714 0.0719 *

Mars -69921-11-28 20:37 J -23816889.78 -23816889.64 -23816889.51 0.1571 0.0896

Venus -69919-06-28 06:28 J -23816313.33 -23816313.23 -23816313.13 0.3808 0.1069

Moon -69919-10-30 04:47 J -23816189.44 -23816189.30 -23816189.16 0.2621 0.1283

Earth -69919-10-30 06:28 J -23816189.36 -23816189.23 -23816189.10 0.2620 0.1560 *

Neptune -69918-07-18 23:01 J -23815927.59 -23815927.54 -23815927.45 0.0089 0.0083

Mars -69918-09-04 09:49 J -23815880.15 -23815880.09 -23815880.02 0.1981 0.1587

Uranus -69918-09-05 00:13 J -23815879.54 -23815879.49 -23815879.43 0.0134 0.0120

Neptune -69918-10-15 02:37 J -23815839.47 -23815839.39 -23815839.27 0.0089 0.0076

Uranus -69918-12-02 03:06 J -23815791.44 -23815791.37 -23815791.28 0.0134 0.0104

Neptune -69917-01-11 06:42 J -23815751.34 -23815751.22 -23815751.09 0.0089 0.0068

Uranus -69917-02-28 06:13 J -23815703.34 -23815703.24 -23815703.14 0.0135 0.0088

Neptune -69917-04-08 10:18 J -23815663.20 -23815663.07 -23815662.92 0.0089 0.0061

Uranus -69917-05-26 09:06 J -23815615.22 -23815615.12 -23815615.00 0.0135 0.0072

Neptune -69917-07-05 13:54 J -23815575.06 -23815574.92 -23815574.75 0.0089 0.0054

Uranus -69917-08-22 12:13 J -23815527.11 -23815526.99 -23815526.87 0.0135 0.0055

Neptune -69917-10-01 17:59 J -23815486.92 -23815486.75 -23815486.58 0.0089 0.0046

Jupiter -69917-10-05 18:57 J -23815482.88 -23815482.71 -23815482.54 0.0498 0.0208

Uranus -69917-11-18 15:21 J -23815438.99 -23815438.86 -23815438.74 0.0135 0.0038

Neptune -69917-12-28 21:35 J -23815398.77 -23815398.60 -23815398.42 0.0089 0.0039

Jupiter -69916-01-04 06:13 J -23815392.34 -23815392.24 -23815392.12 0.0498 0.0396

Uranus -69916-02-14 18:13 J -23815350.87 -23815350.74 -23815350.61 0.0135 0.0022

Neptune -69916-03-27 01:11 J -23815310.62 -23815310.45 -23815310.25 0.0088 0.0032

Uranus -69916-05-13 21:21 J -23815262.74 -23815262.61 -23815262.48 0.0135 0.0005

Neptune -69916-06-23 05:16 J -23815222.47 -23815222.28 -23815222.09 0.0088 0.0024

Uranus -69916-08-10 00:28 J -23815174.62 -23815174.48 -23815174.35 0.0135 0.0013

Neptune -69916-09-19 08:52 J -23815134.32 -23815134.13 -23815133.93 0.0088 0.0017

Uranus -69916-11-06 03:21 J -23815086.49 -23815086.36 -23815086.23 0.0135 0.0029

Neptune -69916-12-16 12:42 J -23815046.17 -23815045.97 -23815045.77 0.0088 0.0009

Uranus -69915-02-02 06:28 J -23814998.35 -23814998.23 -23814998.11 0.0136 0.0046

Neptune -69915-03-14 16:33 J -23814958.01 -23814957.81 -23814957.62 0.0088 0.0003

Moon -69915-04-27 10:18 J -23814914.11 -23814914.07 -23814914.03 0.2702 0.2477

Earth -69915-04-27 10:33 J -23814914.10 -23814914.06 -23814914.02 0.2708 0.2473 *

Uranus -69915-05-01 09:35 J -23814910.22 -23814910.10 -23814909.99 0.0136 0.0063

Neptune -69915-06-10 20:09 J -23814869.86 -23814869.66 -23814869.46 0.0088 0.0006

Saturn -69915-07-24 23:30 J -23814825.59 -23814825.52 -23814825.44 0.0301 0.0243

Uranus -69915-07-28 12:28 J -23814822.08 -23814821.98 -23814821.87 0.0136 0.0080

Neptune -69915-09-06 23:45 J -23814781.70 -23814781.51 -23814781.31 0.0088 0.0013

Saturn -69915-10-21 11:59 J -23814737.12 -23814737.00 -23814736.88 0.0300 0.0108

Uranus -69915-10-24 15:35 J -23814733.94 -23814733.85 -23814733.75 0.0136 0.0097

Neptune -69915-12-04 03:35 J -23814693.54 -23814693.35 -23814693.16 0.0088 0.0020

Saturn -69914-01-18 00:28 J -23814648.61 -23814648.48 -23814648.35 0.0300 0.0026

Uranus -69914-01-20 18:42 J -23814645.79 -23814645.72 -23814645.65 0.0136 0.0115

Neptune -69914-03-02 07:11 J -23814605.38 -23814605.20 -23814605.00 0.0088 0.0028

Saturn -69914-04-16 12:42 J -23814560.08 -23814559.97 -23814559.86 0.0299 0.0157

Uranus -69914-04-18 21:35 J -23814557.62 -23814557.60 -23814557.56 0.0136 0.0132

Neptune -69914-05-29 10:47 J -23814517.22 -23814517.05 -23814516.86 0.0088 0.0036

Saturn -69914-07-14 00:57 J -23814471.49 -23814471.46 -23814471.43 0.0298 0.0287

Neptune -69914-08-25 14:37 J -23814429.05 -23814428.89 -23814428.71 0.0088 0.0043

Neptune -69914-11-21 18:28 J -23814340.89 -23814340.73 -23814340.56 0.0088 0.0050

Venus -69913-01-11 23:30 J -23814289.59 -23814289.52 -23814289.44 0.3806 0.2666

Neptune -69913-02-17 21:49 J -23814252.72 -23814252.59 -23814252.42 0.0088 0.0058

Neptune -69913-05-16 01:40 J -23814164.55 -23814164.43 -23814164.28 0.0088 0.0065

Neptune -69913-08-12 05:30 J -23814076.37 -23814076.27 -23814076.14 0.0088 0.0072

Neptune -69913-11-08 08:52 J -23813988.19 -23813988.13 -23813988.02 0.0088 0.0080

Neptune -69912-02-04 12:42 J -23813899.99 -23813899.97 -23813899.91 0.0088 0.0087

Mars -69911-04-20 22:47 J -23813459.72 -23813459.55 -23813459.38 0.1569 0.0019

Jupiter -69911-08-30 07:11 J -23813328.32 -23813328.20 -23813328.07 0.0528 0.0143

Jupiter -69911-11-27 12:57 J -23813239.06 -23813238.96 -23813238.86 0.0528 0.0324

Earth -69909-05-06 04:18 J -23812713.40 -23812713.32 -23812713.24 0.2716 0.1856

Moon -69909-05-06 04:33 J -23812713.39 -23812713.31 -23812713.24 0.2722 0.1856 *

Mars -69907-12-31 11:30 J -23811744.07 -23811744.02 -23811743.97 0.1975 0.1768

Jupiter -69905-07-24 15:49 J -23811172.97 -23811172.84 -23811172.71 0.0497 0.0357

Jupiter -69905-10-23 03:06 J -23811082.53 -23811082.37 -23811082.20 0.0498 0.0247

Moon -69902-04-30 03:35 J -23810163.44 -23810163.35 -23810163.26 0.2707 0.1461

Earth -69902-04-30 04:18 J -23810163.42 -23810163.32 -23810163.23 0.2710 0.1339 *

Mars -69902-09-11 00:57 J -23810029.60 -23810029.46 -23810029.31 0.1568 0.0855

Saturn -69899-05-03 13:40 J -23809064.08 -23809063.93 -23809063.78 0.0262 0.0157

Jupiter -69899-06-18 11:45 J -23809018.12 -23809018.01 -23809017.90 0.0528 0.0255

Saturn -69899-07-31 11:01 J -23808975.23 -23808975.04 -23808974.84 0.0262 0.0023

Jupiter -69899-09-15 17:30 J -23808928.89 -23808928.77 -23808928.66 0.0528 0.0212

Saturn -69899-10-28 08:37 J -23808886.31 -23808886.14 -23808885.97 0.0263 0.0112

Saturn -69898-01-25 05:59 J -23808797.30 -23808797.25 -23808797.18 0.0264 0.0249

Venus -69898-02-05 23:01 J -23808785.68 -23808785.54 -23808785.39 0.3569 0.0699

Mars -69897-05-22 18:57 J -23808313.82 -23808313.71 -23808313.61 0.1977 0.0685

Jupiter -69893-08-11 00:13 J -23806772.67 -23806772.49 -23806772.30 0.0498 0.0100

Venus -69893-08-22 03:49 J -23806761.45 -23806761.34 -23806761.23 0.3571 0.2411

Moon -69889-05-01 21:06 J -23805412.72 -23805412.62 -23805412.51 0.2715 0.0231

Earth -69889-05-01 21:49 J -23805412.70 -23805412.59 -23805412.48 0.2712 0.0198 *

Mars -69888-10-13 02:23 J -23804883.51 -23804883.40 -23804883.29 0.1980 0.0394

Jupiter -69887-04-06 16:18 J -23804707.91 -23804707.82 -23804707.73 0.0528 0.0367

Jupiter -69887-07-04 21:49 J -23804618.71 -23804618.59 -23804618.46 0.0528 0.0100

Moon -69886-10-28 03:21 J -23804138.52 -23804138.36 -23804138.20 0.2619 0.0567

Earth -69886-10-28 05:01 J -23804138.46 -23804138.29 -23804138.13 0.2622 0.0395 *

Saturn -69886-12-12 00:28 J -23804093.51 -23804093.48 -23804093.45 0.0301 0.0293

Saturn -69885-03-09 12:57 J -23804005.07 -23804004.96 -23804004.85 0.0301 0.0158

Saturn -69885-06-06 01:25 J -23803916.57 -23803916.44 -23803916.31 0.0300 0.0024

Saturn -69885-09-02 13:40 J -23803828.05 -23803827.93 -23803827.81 0.0299 0.0109

Saturn -69885-11-30 01:54 J -23803739.49 -23803739.42 -23803739.34 0.0298 0.0240

Jupiter -69881-05-29 20:23 J -23802462.83 -23802462.65 -23802462.46 0.0498 0.0057

Mars -69881-05-29 21:21 J -23802462.74 -23802462.61 -23802462.49 0.1570 0.1033 *

Venus -69879-06-20 01:54 J -23801711.48 -23801711.42 -23801711.36 0.3813 0.3051

Mars -69878-03-05 09:49 J -23801453.17 -23801453.09 -23801453.02 0.1981 0.1487

Pluto -69878-05-24 06:13 J -23801373.28 -23801373.24 -23801373.19 0.0084 0.0079

Uranus -69878-07-17 04:04 J -23801319.39 -23801319.33 -23801319.27 0.0144 0.0137

Pluto -69878-08-20 07:40 J -23801285.25 -23801285.18 -23801285.09 0.0084 0.0068

Uranus -69878-10-13 12:28 J -23801231.10 -23801230.98 -23801230.83 0.0144 0.0106

Pluto -69878-11-16 09:21 J -23801197.21 -23801197.11 -23801197.01 0.0084 0.0057

Uranus -69877-01-09 21:21 J -23801142.77 -23801142.61 -23801142.44 0.0144 0.0075

Pluto -69877-02-12 10:33 J -23801109.16 -23801109.06 -23801108.93 0.0084 0.0047

Uranus -69877-04-07 05:59 J -23801054.43 -23801054.25 -23801054.05 0.0144 0.0045

Pluto -69877-05-10 12:13 J -23801021.11 -23801020.99 -23801020.86 0.0084 0.0036

Uranus -69877-07-04 14:52 J -23800966.07 -23800965.88 -23800965.69 0.0144 0.0014

Pluto -69877-08-06 13:40 J -23800933.06 -23800932.93 -23800932.79 0.0084 0.0025

Uranus -69877-09-30 23:30 J -23800877.72 -23800877.52 -23800877.33 0.0144 0.0016

Pluto -69877-11-02 15:06 J -23800845.00 -23800844.87 -23800844.73 0.0084 0.0015

Uranus -69877-12-28 07:54 J -23800789.35 -23800789.17 -23800788.98 0.0144 0.0046

Pluto -69876-01-29 16:33 J -23800756.94 -23800756.81 -23800756.67 0.0083 0.0004

Uranus -69876-03-26 16:18 J -23800700.97 -23800700.82 -23800700.64 0.0143 0.0076

Pluto -69876-04-27 17:59 J -23800668.88 -23800668.75 -23800668.61 0.0083 0.0007

Moon -69876-05-04 15:06 J -23800661.97 -23800661.87 -23800661.77 0.2720 0.0852

Earth -69876-05-04 15:21 J -23800661.96 -23800661.86 -23800661.76 0.2714 0.0948 *

Uranus -69876-06-23 00:57 J -23800612.58 -23800612.46 -23800612.32 0.0143 0.0106

Pluto -69876-07-24 19:25 J -23800580.82 -23800580.69 -23800580.55 0.0083 0.0017

Uranus -69876-09-19 09:21 J -23800524.16 -23800524.11 -23800524.04 0.0143 0.0135

Pluto -69876-10-20 20:52 J -23800492.76 -23800492.63 -23800492.50 0.0083 0.0027

Pluto -69875-01-16 22:18 J -23800404.69 -23800404.57 -23800404.45 0.0083 0.0037

Jupiter -69875-01-23 20:52 J -23800397.68 -23800397.63 -23800397.58 0.0528 0.0478

Pluto -69875-04-14 23:30 J -23800316.63 -23800316.52 -23800316.40 0.0083 0.0048

Jupiter -69875-04-23 02:23 J -23800308.53 -23800308.40 -23800308.27 0.0527 0.0015

Pluto -69875-07-12 00:42 J -23800228.55 -23800228.47 -23800228.36 0.0083 0.0058

Jupiter -69875-07-21 07:54 J -23800219.23 -23800219.17 -23800219.10 0.0527 0.0451

Pluto -69875-10-08 02:09 J -23800140.48 -23800140.41 -23800140.32 0.0082 0.0068

Pluto -69874-01-04 03:21 J -23800052.39 -23800052.36 -23800052.30 0.0082 0.0078

Venus -69873-01-03 18:42 J -23799687.82 -23799687.72 -23799687.63 0.3811 0.1524

Moon -69873-10-30 11:30 J -23799387.13 -23799387.02 -23799386.91 0.2621 0.1920

Earth -69873-10-30 13:25 J -23799387.05 -23799386.94 -23799386.84 0.2620 0.2014 *

Mars -69872-10-19 23:30 J -23799032.69 -23799032.52 -23799032.35 0.1569 0.0155

Saturn -69870-09-20 11:59 J -23798332.12 -23798332.00 -23798331.87 0.0261 0.0198

Saturn -69870-12-18 09:21 J -23798243.29 -23798243.11 -23798242.92 0.0262 0.0066

Saturn -69869-03-16 06:57 J -23798154.39 -23798154.21 -23798154.02 0.0262 0.0069

Jupiter -69869-03-17 17:30 J -23798152.94 -23798152.77 -23798152.59 0.0498 0.0202

Moon -69869-04-27 14:52 J -23798111.93 -23798111.88 -23798111.82 0.2703 0.2277

Earth -69869-04-27 15:21 J -23798111.92 -23798111.86 -23798111.80 0.2709 0.2242 *

Saturn -69869-06-13 04:18 J -23798065.43 -23798065.32 -23798065.19 0.0263 0.0205

Jupiter -69869-06-16 05:01 J -23798062.39 -23798062.29 -23798062.17 0.0499 0.0404

Venus -69868-07-19 11:30 J -23797664.13 -23797664.02 -23797663.92 0.3810 0.0113

Mars -69867-07-01 11:16 J -23797317.06 -23797317.03 -23797316.99 0.1975 0.1868

Jupiter -69863-02-09 06:28 J -23795998.35 -23795998.23 -23795998.11 0.0528 0.0134

Earth -69863-05-07 09:06 J -23795911.19 -23795911.12 -23795911.06 0.2716 0.2086

Moon -69863-05-07 09:21 J -23795911.17 -23795911.11 -23795911.05 0.2723 0.2177 *

Jupiter -69863-05-09 11:59 J -23795909.09 -23795909.00 -23795908.90 0.0527 0.0332

Venus -69862-02-02 04:18 J -23795640.41 -23795640.32 -23795640.22 0.3808 0.1623

Mars -69862-03-12 01:40 J -23795602.58 -23795602.43 -23795602.28 0.1568 0.0720

Mars -69858-11-21 18:57 J -23793886.82 -23793886.71 -23793886.61 0.1978 0.0801

Jupiter -69857-01-04 14:52 J -23793843.01 -23793842.88 -23793842.75 0.0498 0.0347

Jupiter -69857-04-04 02:23 J -23793752.56 -23793752.40 -23793752.24 0.0498 0.0259

Venus -69857-08-17 21:21 J -23793616.66 -23793616.61 -23793616.55 0.3806 0.3236

Moon -69856-04-30 08:23 J -23793361.25 -23793361.15 -23793361.05 0.2708 0.1142

Earth -69856-04-30 09:06 J -23793361.22 -23793361.12 -23793361.03 0.2711 0.1109 *

Saturn -69856-07-27 14:09 J -23793273.00 -23793272.91 -23793272.81 0.0301 0.0206

Saturn -69856-10-24 02:37 J -23793184.52 -23793184.39 -23793184.26 0.0301 0.0071

Saturn -69855-01-20 14:52 J -23793096.00 -23793095.88 -23793095.75 0.0300 0.0063

Saturn -69855-04-19 03:21 J -23793007.46 -23793007.36 -23793007.27 0.0299 0.0194

Moon -69853-10-25 02:23 J -23792087.47 -23792087.40 -23792087.32 0.2618 0.2338

Earth -69853-10-25 03:21 J -23792087.43 -23792087.36 -23792087.28 0.2624 0.2325 *

Jupiter -69852-11-28 10:47 J -23791688.16 -23791688.05 -23791687.94 0.0528 0.0249

Jupiter -69851-02-25 16:18 J -23791598.93 -23791598.82 -23791598.70 0.0528 0.0219

Mars -69848-04-13 02:23 J -23790456.51 -23790456.40 -23790456.29 0.1980 0.0280

Venus -69847-02-26 19:11 J -23790136.79 -23790136.70 -23790136.61 0.3568 0.2837

Jupiter -69846-10-23 11:45 J -23789533.02 -23789533.01 -23789532.99 0.0498 0.0494

Jupiter -69845-01-21 23:30 J -23789442.71 -23789442.52 -23789442.34 0.0498 0.0111

Moon -69843-05-03 01:54 J -23788610.52 -23788610.42 -23788610.31 0.2717 0.0149

Earth -69843-05-03 02:37 J -23788610.50 -23788610.39 -23788610.28 0.2712 0.0041 *

Venus -69842-09-13 00:13 J -23788112.64 -23788112.49 -23788112.35 0.3570 0.0374

Mars -69842-11-28 22:04 J -23788035.69 -23788035.58 -23788035.47 0.1571 0.1173

Saturn -69840-02-06 09:06 J -23787600.17 -23787600.12 -23787600.05 0.0261 0.0247

Saturn -69840-05-06 06:28 J -23787511.40 -23787511.23 -23787511.05 0.0262 0.0115

Saturn -69840-08-03 04:04 J -23787422.52 -23787422.33 -23787422.14 0.0262 0.0019

Jupiter -69840-09-16 15:21 J -23787377.95 -23787377.86 -23787377.77 0.0528 0.0361

Moon -69840-10-28 10:04 J -23787336.25 -23787336.08 -23787335.92 0.2620 0.0119

Earth -69840-10-28 11:45 J -23787336.17 -23787336.01 -23787335.85 0.2622 0.0072 *

Saturn -69840-10-31 01:25 J -23787333.59 -23787333.44 -23787333.28 0.0263 0.0154

Jupiter -69840-12-14 20:52 J -23787288.75 -23787288.63 -23787288.50 0.0528 0.0107

Mars -69839-09-03 09:49 J -23787026.17 -23787026.09 -23787026.01 0.1981 0.1370

Neptune -69836-01-28 01:11 J -23786148.48 -23786148.45 -23786148.40 0.0089 0.0084

Venus -69836-03-29 04:47 J -23786088.34 -23786088.30 -23786088.27 0.3572 0.3439

Neptune -69836-04-26 02:23 J -23786060.45 -23786060.40 -23786060.33 0.0089 0.0079

Neptune -69836-07-23 03:49 J -23785972.40 -23785972.34 -23785972.26 0.0089 0.0074

Neptune -69836-10-19 05:16 J -23785884.36 -23785884.28 -23785884.20 0.0089 0.0069

Neptune -69835-01-15 06:28 J -23785796.32 -23785796.23 -23785796.14 0.0089 0.0064

Neptune -69835-04-13 07:54 J -23785708.27 -23785708.17 -23785708.07 0.0089 0.0059

Neptune -69835-07-10 09:06 J -23785620.22 -23785620.12 -23785620.01 0.0089 0.0054

Neptune -69835-10-06 10:33 J -23785532.17 -23785532.06 -23785531.95 0.0089 0.0049

Neptune -69834-01-02 11:45 J -23785444.12 -23785444.01 -23785443.89 0.0089 0.0044

Neptune -69834-03-31 12:57 J -23785356.07 -23785355.96 -23785355.84 0.0089 0.0039

Neptune -69834-06-27 14:09 J -23785268.02 -23785267.91 -23785267.78 0.0089 0.0035

Uranus -69834-06-29 05:16 J -23785266.31 -23785266.28 -23785266.24 0.0134 0.0129

Neptune -69834-09-23 15:35 J -23785179.97 -23785179.85 -23785179.72 0.0089 0.0030

Uranus -69834-09-25 08:09 J -23785178.22 -23785178.16 -23785178.08 0.0134 0.0113

Jupiter -69834-11-09 20:37 J -23785132.83 -23785132.64 -23785132.46 0.0498 0.0037

Neptune -69834-12-20 16:47 J -23785091.92 -23785091.80 -23785091.66 0.0089 0.0025

Uranus -69834-12-22 11:16 J -23785090.11 -23785090.03 -23785089.94 0.0135 0.0097

Neptune -69833-03-17 18:13 J -23785003.87 -23785003.74 -23785003.61 0.0089 0.0020

Uranus -69833-03-19 14:09 J -23785002.01 -23785001.91 -23785001.80 0.0135 0.0081

Neptune -69833-06-13 19:25 J -23784915.81 -23784915.69 -23784915.55 0.0089 0.0015

Uranus -69833-06-15 17:16 J -23784913.89 -23784913.78 -23784913.66 0.0135 0.0064

Neptune -69833-09-09 20:52 J -23784827.76 -23784827.63 -23784827.50 0.0089 0.0010

Uranus -69833-09-11 20:23 J -23784825.77 -23784825.65 -23784825.53 0.0135 0.0047

Neptune -69833-12-06 22:04 J -23784739.71 -23784739.58 -23784739.44 0.0089 0.0006

Uranus -69833-12-08 23:16 J -23784737.65 -23784737.53 -23784737.40 0.0135 0.0031

Neptune -69832-03-04 23:30 J -23784651.65 -23784651.52 -23784651.39 0.0089 0.0001

Uranus -69832-03-07 02:23 J -23784649.53 -23784649.40 -23784649.27 0.0135 0.0014

Mars -69832-04-20 00:13 J -23784605.65 -23784605.49 -23784605.32 0.1569 0.0297

Neptune -69832-06-01 00:42 J -23784563.60 -23784563.47 -23784563.34 0.0089 0.0006

Uranus -69832-06-03 05:30 J -23784561.41 -23784561.27 -23784561.14 0.0135 0.0006

Neptune -69832-08-28 01:54 J -23784475.54 -23784475.42 -23784475.28 0.0089 0.0011

Uranus -69832-08-30 08:23 J -23784473.28 -23784473.15 -23784473.02 0.0135 0.0020

Neptune -69832-11-24 03:21 J -23784387.49 -23784387.36 -23784387.23 0.0089 0.0015

Uranus -69832-11-26 11:30 J -23784385.15 -23784385.02 -23784384.89 0.0135 0.0037

Neptune -69831-02-20 04:33 J -23784299.43 -23784299.31 -23784299.18 0.0089 0.0020

Uranus -69831-02-22 14:37 J -23784297.01 -23784296.89 -23784296.77 0.0136 0.0054

Neptune -69831-05-19 05:59 J -23784211.38 -23784211.25 -23784211.13 0.0089 0.0025

Uranus -69831-05-21 17:30 J -23784208.88 -23784208.77 -23784208.65 0.0136 0.0071

Neptune -69831-08-15 07:11 J -23784123.32 -23784123.20 -23784123.07 0.0089 0.0030

Uranus -69831-08-17 20:37 J -23784120.74 -23784120.64 -23784120.54 0.0136 0.0088

Neptune -69831-11-11 08:37 J -23784035.26 -23784035.14 -23784035.02 0.0089 0.0035

Uranus -69831-11-13 23:45 J -23784032.59 -23784032.51 -23784032.43 0.0136 0.0105

Neptune -69830-02-07 09:49 J -23783947.21 -23783947.09 -23783946.97 0.0089 0.0040

Uranus -69830-02-10 02:52 J -23783944.43 -23783944.38 -23783944.32 0.0136 0.0123

Moon -69830-05-05 19:54 J -23783859.76 -23783859.67 -23783859.57 0.2721 0.1217

Earth -69830-05-05 20:09 J -23783859.75 -23783859.66 -23783859.56 0.2714 0.1177 *

Neptune -69830-05-06 11:01 J -23783859.15 -23783859.04 -23783858.92 0.0089 0.0045

Neptune -69830-08-02 12:13 J -23783771.09 -23783770.99 -23783770.87 0.0089 0.0050

Neptune -69830-10-29 13:40 J -23783683.03 -23783682.93 -23783682.83 0.0089 0.0055

Neptune -69829-01-25 14:52 J -23783594.97 -23783594.88 -23783594.78 0.0089 0.0060

Neptune -69829-04-22 16:04 J -23783506.91 -23783506.83 -23783506.73 0.0089 0.0065

Neptune -69829-07-19 17:30 J -23783418.84 -23783418.77 -23783418.69 0.0089 0.0070

Neptune -69829-10-15 18:42 J -23783330.78 -23783330.72 -23783330.64 0.0089 0.0075

Neptune -69828-01-11 19:54 J -23783242.71 -23783242.67 -23783242.60 0.0089 0.0080

Neptune -69828-04-09 21:21 J -23783154.64 -23783154.61 -23783154.56 0.0089 0.0085

Jupiter -69828-07-05 19:54 J -23783067.72 -23783067.67 -23783067.61 0.0528 0.0471

Jupiter -69828-10-03 01:40 J -23782978.56 -23782978.43 -23782978.31 0.0528 0.0015

Jupiter -69828-12-31 07:11 J -23782889.26 -23782889.20 -23782889.14 0.0527 0.0459

Moon -69827-10-31 18:13 J -23782584.82 -23782584.74 -23782584.65 0.2621 0.2216

Earth -69827-10-31 20:09 J -23782584.71 -23782584.66 -23782584.61 0.2620 0.2473 *

Saturn -69827-12-14 14:37 J -23782540.95 -23782540.89 -23782540.83 0.0301 0.0261

Saturn -69826-03-13 03:06 J -23782452.49 -23782452.37 -23782452.25 0.0301 0.0125

Saturn -69826-06-09 15:35 J -23782363.98 -23782363.85 -23782363.72 0.0300 0.0009

Saturn -69826-09-06 03:49 J -23782275.45 -23782275.34 -23782275.22 0.0299 0.0142

Saturn -69826-12-03 16:04 J -23782186.88 -23782186.83 -23782186.78 0.0298 0.0273

Moon -69823-04-28 19:40 J -23781309.75 -23781309.68 -23781309.61 0.2703 0.2078

Earth -69823-04-28 20:09 J -23781309.73 -23781309.66 -23781309.59 0.2709 0.2007 *

Mars -69823-09-10 02:23 J -23781175.56 -23781175.40 -23781175.24 0.1568 0.0585

Venus -69822-01-24 23:30 J -23781038.59 -23781038.52 -23781038.44 0.3813 0.2519

Jupiter -69822-08-28 16:33 J -23780822.98 -23780822.81 -23780822.64 0.0498 0.0194

Jupiter -69822-11-27 04:04 J -23780732.43 -23780732.33 -23780732.23 0.0499 0.0412

Mars -69818-05-22 18:57 J -23779459.81 -23779459.71 -23779459.61 0.1977 0.0912

Earth -69817-05-07 13:54 J -23779108.98 -23779108.92 -23779108.87 0.2716 0.2316

Moon -69817-05-07 14:09 J -23779108.96 -23779108.91 -23779108.85 0.2723 0.2307 *

Venus -69817-08-09 16:18 J -23779014.92 -23779014.82 -23779014.72 0.3811 0.0979

Jupiter -69816-07-22 06:13 J -23778668.37 -23778668.24 -23778668.12 0.0527 0.0118

Jupiter -69816-10-19 11:45 J -23778579.11 -23778579.01 -23778578.92 0.0527 0.0347

Mars -69813-01-31 04:33 J -23777745.37 -23777745.31 -23777745.25 0.1567 0.1460

Venus -69811-02-23 09:06 J -23776991.22 -23776991.12 -23776991.01 0.3810 0.0597

Saturn -69811-09-23 04:47 J -23776779.45 -23776779.30 -23776779.14 0.0261 0.0158

Saturn -69811-12-21 02:09 J -23776690.60 -23776690.41 -23776690.22 0.0262 0.0025

Saturn -69810-03-19 23:30 J -23776601.69 -23776601.52 -23776601.34 0.0262 0.0109

Moon -69810-05-01 13:11 J -23776559.05 -23776558.95 -23776558.85 0.2710 0.0964

Earth -69810-05-01 13:54 J -23776559.03 -23776558.92 -23776558.82 0.2711 0.0878 *

Jupiter -69810-06-16 13:40 J -23776513.07 -23776512.93 -23776512.79 0.0498 0.0339

Saturn -69810-06-16 20:52 J -23776512.68 -23776512.63 -23776512.55 0.0263 0.0245

Jupiter -69810-09-15 01:11 J -23776422.60 -23776422.45 -23776422.29 0.0499 0.0268

Mars -69809-10-12 02:09 J -23776029.52 -23776029.41 -23776029.29 0.1980 0.0196

Moon -69807-10-26 09:21 J -23775285.21 -23775285.11 -23775285.01 0.2619 0.2030

Earth -69807-10-26 10:18 J -23775285.19 -23775285.07 -23775284.96 0.2624 0.1858 *

Venus -69806-09-09 02:09 J -23774967.49 -23774967.41 -23774967.32 0.3808 0.2181

Jupiter -69804-05-10 10:18 J -23774358.19 -23774358.07 -23774357.96 0.0528 0.0237

Jupiter -69804-08-07 15:49 J -23774268.96 -23774268.84 -23774268.73 0.0527 0.0229

Mars -69802-05-29 22:33 J -23773608.65 -23773608.56 -23773608.46 0.1571 0.1308

Venus -69800-03-24 19:11 J -23772943.70 -23772943.70 -23772943.69 0.3805 0.3794

Mars -69799-03-04 09:49 J -23772599.17 -23772599.09 -23772599.00 0.1981 0.1250

Jupiter -69798-04-04 11:01 J -23772203.08 -23772203.04 -23772203.00 0.0498 0.0483

Jupiter -69798-07-03 22:47 J -23772112.74 -23772112.55 -23772112.37 0.0498 0.0124

Moon -69797-05-03 06:42 J -23771808.32 -23771808.22 -23771808.11 0.2717 0.0268

Earth -69797-05-03 07:25 J -23771808.30 -23771808.19 -23771808.08 0.2713 0.0267 *

Saturn -69797-07-30 04:18 J -23771720.43 -23771720.32 -23771720.22 0.0301 0.0174

Saturn -69797-10-26 16:33 J -23771631.93 -23771631.81 -23771631.68 0.0301 0.0041

Saturn -69796-01-23 05:01 J -23771543.41 -23771543.29 -23771543.17 0.0300 0.0094

Saturn -69796-04-21 17:16 J -23771454.86 -23771454.78 -23771454.69 0.0299 0.0226

Uranus -69794-08-06 12:57 J -23770618.05 -23770617.96 -23770617.85 0.0144 0.0125

Moon -69794-10-29 16:47 J -23770533.96 -23770533.80 -23770533.64 0.2621 0.0402

Earth -69794-10-29 18:42 J -23770533.88 -23770533.72 -23770533.56 0.2622 0.0542 *

Uranus -69794-11-02 21:49 J -23770529.73 -23770529.59 -23770529.44 0.0144 0.0094

Uranus -69793-01-30 06:28 J -23770441.40 -23770441.23 -23770441.05 0.0144 0.0063

Uranus -69793-04-27 15:21 J -23770353.05 -23770352.86 -23770352.67 0.0144 0.0032

Uranus -69793-07-24 23:59 J -23770264.70 -23770264.50 -23770264.31 0.0144 0.0002

Mars -69793-10-19 00:57 J -23770178.62 -23770178.46 -23770178.30 0.1569 0.0431

Uranus -69793-10-21 08:23 J -23770176.33 -23770176.15 -23770175.95 0.0144 0.0029

Uranus -69792-01-17 17:01 J -23770087.96 -23770087.79 -23770087.61 0.0144 0.0058

Jupiter -69792-02-26 14:37 J -23770047.98 -23770047.89 -23770047.80 0.0528 0.0351

Uranus -69792-04-16 01:25 J -23769999.58 -23769999.44 -23769999.28 0.0143 0.0088

Jupiter -69792-05-26 20:09 J -23769958.78 -23769958.66 -23769958.54 0.0527 0.0114

Uranus -69792-07-13 09:49 J -23769911.19 -23769911.09 -23769910.97 0.0143 0.0118

Venus -69791-10-03 20:09 J -23769463.79 -23769463.66 -23769463.53 0.3568 0.1765

Jupiter -69786-04-21 19:40 J -23767802.86 -23767802.68 -23767802.49 0.0498 0.0026

Venus -69785-04-19 01:11 J -23767439.59 -23767439.45 -23767439.32 0.3570 0.1418

Moon -69784-05-06 00:57 J -23767057.55 -23767057.46 -23767057.37 0.2721 0.1354

Earth -69784-05-06 00:57 J -23767057.55 -23767057.46 -23767057.37 0.2715 0.1409 *

Mars -69783-03-11 03:06 J -23766748.53 -23766748.37 -23766748.20 0.1568 0.0446

Saturn -69781-02-10 01:54 J -23766047.53 -23766047.42 -23766047.30 0.0261 0.0207

Saturn -69781-05-08 23:16 J -23765958.71 -23765958.53 -23765958.35 0.0262 0.0075

Saturn -69781-08-05 20:37 J -23765869.83 -23765869.64 -23765869.45 0.0262 0.0059

Saturn -69781-11-02 17:59 J -23765780.87 -23765780.75 -23765780.61 0.0263 0.0194

Jupiter -69781-12-15 19:11 J -23765737.76 -23765737.70 -23765737.65 0.0528 0.0464

Jupiter -69780-03-15 00:42 J -23765648.60 -23765648.47 -23765648.35 0.0528 0.0007

Jupiter -69780-06-12 06:13 J -23765559.29 -23765559.24 -23765559.18 0.0527 0.0468

Mars -69779-11-20 18:42 J -23765032.81 -23765032.72 -23765032.62 0.1977 0.1023

Moon -69777-04-29 00:28 J -23764507.56 -23764507.48 -23764507.40 0.2704 0.1797

Earth -69777-04-29 00:57 J -23764507.54 -23764507.46 -23764507.38 0.2709 0.1778 *

Jupiter -69774-02-07 16:47 J -23763492.97 -23763492.80 -23763492.62 0.0498 0.0171

Jupiter -69774-05-09 04:18 J -23763402.41 -23763402.32 -23763402.23 0.0498 0.0433

Mars -69774-08-01 05:30 J -23763318.36 -23763318.27 -23763318.18 0.1567 0.1319

Venus -69771-02-15 04:33 J -23762389.35 -23762389.31 -23762389.27 0.3814 0.3519

Earth -69771-05-08 18:42 J -23762306.76 -23762306.72 -23762306.69 0.2716 0.2546

Moon -69771-05-08 18:57 J -23762306.73 -23762306.71 -23762306.69 0.2722 0.2657 *

Mars -69769-04-12 02:23 J -23761602.52 -23761602.40 -23761602.29 0.1980 0.0063

Jupiter -69768-01-01 05:16 J -23761338.40 -23761338.28 -23761338.15 0.0528 0.0109

Jupiter -69768-03-31 10:47 J -23761249.13 -23761249.05 -23761248.95 0.0527 0.0358

Saturn -69768-12-17 04:33 J -23760988.39 -23760988.31 -23760988.23 0.0301 0.0231

Saturn -69767-03-15 17:01 J -23760899.91 -23760899.79 -23760899.66 0.0301 0.0095

Saturn -69767-06-12 05:30 J -23760811.40 -23760811.27 -23760811.14 0.0300 0.0039

Saturn -69767-09-08 17:45 J -23760722.86 -23760722.76 -23760722.65 0.0299 0.0172

Venus -69766-08-31 21:21 J -23760365.70 -23760365.61 -23760365.52 0.3812 0.1989

Moon -69764-05-01 17:59 J -23759756.86 -23759756.75 -23759756.65 0.2712 0.0737

Earth -69764-05-01 18:28 J -23759756.83 -23759756.73 -23759756.62 0.2711 0.0650 *

Jupiter -69763-11-26 12:28 J -23759183.11 -23759182.98 -23759182.83 0.0498 0.0331

Mars -69763-11-27 23:30 J -23759181.58 -23759181.52 -23759181.46 0.1571 0.1447

Jupiter -69762-02-25 00:13 J -23759092.64 -23759092.49 -23759092.33 0.0499 0.0276

Moon -69761-10-26 15:49 J -23758482.98 -23758482.84 -23758482.71 0.2619 0.1429

Earth -69761-10-26 17:01 J -23758482.93 -23758482.79 -23758482.65 0.2624 0.1405 *

Venus -69760-03-16 14:09 J -23758342.02 -23758341.91 -23758341.81 0.3811 0.0460

Mars -69760-09-02 09:49 J -23758172.18 -23758172.09 -23758172.00 0.1981 0.1144

Jupiter -69757-10-20 10:04 J -23757028.20 -23757028.08 -23757027.97 0.0527 0.0220

Jupiter -69756-01-17 15:21 J -23756938.97 -23756938.86 -23756938.74 0.0527 0.0247

Venus -69755-09-30 06:57 J -23756318.31 -23756318.21 -23756318.11 0.3809 0.1141

Neptune -69753-04-13 19:54 J -23755756.72 -23755756.67 -23755756.59 0.0089 0.0083

Mars -69753-04-19 01:40 J -23755751.59 -23755751.43 -23755751.28 0.1569 0.0564

Neptune -69753-07-10 23:30 J -23755668.60 -23755668.52 -23755668.40 0.0089 0.0076

Neptune -69753-10-07 03:49 J -23755580.47 -23755580.34 -23755580.22 0.0089 0.0068

Neptune -69752-01-03 07:11 J -23755492.33 -23755492.20 -23755492.05 0.0089 0.0061

Neptune -69752-04-01 10:47 J -23755404.19 -23755404.05 -23755403.88 0.0088 0.0054

Neptune -69752-06-28 14:52 J -23755316.05 -23755315.88 -23755315.71 0.0088 0.0046

Saturn -69752-06-29 00:13 J -23755315.54 -23755315.49 -23755315.43 0.0261 0.0249

Neptune -69752-09-24 18:28 J -23755227.90 -23755227.73 -23755227.55 0.0088 0.0039

Saturn -69752-09-25 21:21 J -23755226.77 -23755226.61 -23755226.43 0.0261 0.0119

Neptune -69752-12-21 22:04 J -23755139.75 -23755139.58 -23755139.38 0.0088 0.0032

Saturn -69752-12-23 18:57 J -23755137.90 -23755137.71 -23755137.52 0.0262 0.0015

Neptune -69751-03-20 02:09 J -23755051.60 -23755051.41 -23755051.22 0.0088 0.0024

Saturn -69751-03-22 16:18 J -23755048.97 -23755048.82 -23755048.66 0.0262 0.0150

Moon -69751-05-04 11:45 J -23755006.12 -23755006.01 -23755005.91 0.2717 0.0409

Earth -69751-05-04 12:13 J -23755006.10 -23755005.99 -23755005.89 0.2713 0.0501 *

Neptune -69751-06-16 05:45 J -23754963.45 -23754963.26 -23754963.06 0.0088 0.0017

Neptune -69751-09-12 09:35 J -23754875.30 -23754875.10 -23754874.90 0.0088 0.0009

Jupiter -69751-09-14 09:35 J -23754873.14 -23754873.10 -23754873.04 0.0498 0.0477

Neptune -69751-12-09 13:25 J -23754787.14 -23754786.94 -23754786.75 0.0088 0.0003

Jupiter -69751-12-13 21:35 J -23754782.78 -23754782.60 -23754782.42 0.0499 0.0131

Neptune -69750-03-07 17:01 J -23754698.99 -23754698.79 -23754698.59 0.0088 0.0006

Neptune -69750-06-03 20:37 J -23754610.83 -23754610.64 -23754610.44 0.0088 0.0013

Uranus -69750-07-19 12:57 J -23754565.00 -23754564.96 -23754564.90 0.0134 0.0123

Neptune -69750-08-31 00:28 J -23754522.67 -23754522.48 -23754522.28 0.0088 0.0020

Uranus -69750-10-15 16:04 J -23754476.90 -23754476.83 -23754476.75 0.0134 0.0107

Neptune -69750-11-27 04:18 J -23754434.51 -23754434.32 -23754434.13 0.0088 0.0028

Uranus -69749-01-11 18:57 J -23754388.80 -23754388.71 -23754388.60 0.0135 0.0091

Neptune -69749-02-23 07:40 J -23754346.35 -23754346.18 -23754345.98 0.0088 0.0036

Uranus -69749-04-08 22:04 J -23754300.68 -23754300.58 -23754300.47 0.0135 0.0074

Venus -69749-04-14 23:59 J -23754294.57 -23754294.50 -23754294.43 0.3807 0.2740

Neptune -69749-05-21 11:30 J -23754258.18 -23754258.02 -23754257.84 0.0088 0.0043

Uranus -69749-07-06 00:57 J -23754212.57 -23754212.46 -23754212.33 0.0135 0.0058

Neptune -69749-08-17 15:21 J -23754170.02 -23754169.86 -23754169.69 0.0088 0.0050

Uranus -69749-10-02 04:04 J -23754124.45 -23754124.33 -23754124.20 0.0135 0.0041

Neptune -69749-11-13 18:57 J -23754081.85 -23754081.71 -23754081.55 0.0088 0.0057

Uranus -69749-12-29 07:11 J -23754036.33 -23754036.20 -23754036.07 0.0135 0.0024

Neptune -69748-02-09 22:47 J -23753993.67 -23753993.55 -23753993.41 0.0088 0.0065

Uranus -69748-03-27 10:04 J -23753948.21 -23753948.08 -23753947.94 0.0135 0.0009

Neptune -69748-05-09 02:37 J -23753905.50 -23753905.39 -23753905.27 0.0088 0.0072

Uranus -69748-06-23 13:11 J -23753860.08 -23753859.95 -23753859.82 0.0135 0.0010

Neptune -69748-08-05 05:59 J -23753817.31 -23753817.25 -23753817.14 0.0088 0.0080

Uranus -69748-09-19 16:18 J -23753771.95 -23753771.82 -23753771.69 0.0135 0.0026

Moon -69748-10-29 23:30 J -23753731.67 -23753731.52 -23753731.36 0.2620 0.0759

Earth -69748-10-30 01:25 J -23753731.59 -23753731.44 -23753731.29 0.2621 0.1004 *

Neptune -69748-11-01 09:49 J -23753729.11 -23753729.09 -23753729.04 0.0088 0.0087

Uranus -69748-12-16 19:11 J -23753683.82 -23753683.70 -23753683.57 0.0135 0.0044

Uranus -69747-03-14 22:18 J -23753595.68 -23753595.57 -23753595.45 0.0136 0.0060

Uranus -69747-06-11 01:25 J -23753507.55 -23753507.44 -23753507.33 0.0136 0.0078

Uranus -69747-09-07 04:18 J -23753419.40 -23753419.32 -23753419.22 0.0136 0.0095

Uranus -69747-12-04 07:25 J -23753331.25 -23753331.19 -23753331.11 0.0136 0.0112

Uranus -69746-03-02 10:33 J -23753243.09 -23753243.06 -23753243.01 0.0136 0.0130

Jupiter -69745-08-08 13:54 J -23752718.01 -23752717.92 -23752717.82 0.0527 0.0339

Jupiter -69745-11-05 19:40 J -23752628.81 -23752628.68 -23752628.56 0.0527 0.0128

Moon -69744-04-27 11:59 J -23752456.02 -23752456.00 -23752455.98 0.2700 0.2631

Earth -69744-04-27 12:13 J -23752456.00 -23752455.99 -23752455.98 0.2707 0.2682 *

Mars -69744-09-09 03:49 J -23752321.50 -23752321.34 -23752321.17 0.1568 0.0311

Mars -69739-05-21 18:57 J -23750605.81 -23750605.71 -23750605.62 0.1978 0.1139

Jupiter -69739-10-01 18:57 J -23750472.90 -23750472.71 -23750472.52 0.0498 0.0014

Saturn -69738-05-06 05:30 J -23750256.31 -23750256.27 -23750256.22 0.0302 0.0281

Moon -69738-05-07 05:45 J -23750255.34 -23750255.26 -23750255.17 0.2722 0.1701

Earth -69738-05-07 05:45 J -23750255.34 -23750255.26 -23750255.17 0.2715 0.1636 *

Saturn -69738-08-02 17:59 J -23750167.86 -23750167.75 -23750167.63 0.0301 0.0145

Saturn -69738-10-30 06:28 J -23750079.36 -23750079.23 -23750079.10 0.0301 0.0013

Saturn -69737-01-26 18:57 J -23749990.83 -23749990.71 -23749990.59 0.0300 0.0124

Saturn -69737-04-24 07:11 J -23749902.26 -23749902.20 -23749902.13 0.0299 0.0255

Mars -69734-01-30 06:13 J -23748891.35 -23748891.24 -23748891.13 0.1567 0.1182

Venus -69734-05-10 21:21 J -23748790.76 -23748790.61 -23748790.46 0.3569 0.0678

Jupiter -69733-05-27 18:13 J -23748407.80 -23748407.74 -23748407.67 0.0528 0.0454

Jupiter -69733-08-24 23:59 J -23748318.63 -23748318.50 -23748318.38 0.0527 0.0018

Jupiter -69733-11-22 05:30 J -23748229.32 -23748229.27 -23748229.22 0.0527 0.0477

Moon -69731-04-30 05:16 J -23747705.37 -23747705.28 -23747705.20 0.2705 0.1646

Earth -69731-04-30 05:45 J -23747705.35 -23747705.26 -23747705.17 0.2709 0.1544 *

Mars -69730-10-12 02:23 J -23747175.51 -23747175.40 -23747175.28 0.1979 0.0067

Venus -69729-11-24 02:09 J -23746766.52 -23746766.41 -23746766.30 0.3571 0.2469

Jupiter -69727-07-20 16:04 J -23746163.01 -23746162.83 -23746162.66 0.0498 0.0160

Jupiter -69727-10-19 03:21 J -23746072.43 -23746072.36 -23746072.27 0.0498 0.0445

Pluto -69724-05-23 11:30 J -23745125.06 -23745125.02 -23745124.96 0.0060 0.0058

Pluto -69724-08-19 12:28 J -23745037.05 -23745036.98 -23745036.88 0.0060 0.0053

Pluto -69724-11-15 13:40 J -23744949.03 -23744948.93 -23744948.80 0.0060 0.0048

Pluto -69723-02-11 14:52 J -23744860.99 -23744860.88 -23744860.74 0.0060 0.0043

Pluto -69723-05-10 16:04 J -23744772.96 -23744772.83 -23744772.67 0.0060 0.0038

Pluto -69723-08-06 17:16 J -23744684.92 -23744684.78 -23744684.61 0.0061 0.0032

Pluto -69723-11-02 18:42 J -23744596.88 -23744596.72 -23744596.55 0.0061 0.0027

Pluto -69722-01-29 19:54 J -23744508.83 -23744508.67 -23744508.49 0.0061 0.0022

Saturn -69722-02-12 18:42 J -23744494.86 -23744494.72 -23744494.57 0.0261 0.0166

Pluto -69722-04-27 21:06 J -23744420.79 -23744420.62 -23744420.43 0.0061 0.0017

Saturn -69722-05-12 16:04 J -23744406.02 -23744405.83 -23744405.64 0.0262 0.0034

Pluto -69722-07-24 22:33 J -23744332.74 -23744332.56 -23744332.38 0.0061 0.0011

Saturn -69722-08-09 13:25 J -23744317.11 -23744316.94 -23744316.76 0.0262 0.0100

Pluto -69722-10-20 23:45 J -23744244.69 -23744244.51 -23744244.32 0.0061 0.0006

Saturn -69722-11-06 10:47 J -23744228.12 -23744228.05 -23744227.96 0.0263 0.0235

Pluto -69721-01-17 01:11 J -23744156.64 -23744156.45 -23744156.27 0.0061 0.0001

Pluto -69721-04-14 02:23 J -23744068.58 -23744068.40 -23744068.22 0.0061 0.0005

Jupiter -69721-06-13 04:18 J -23744008.44 -23744008.32 -23744008.19 0.0528 0.0102

Pluto -69721-07-11 03:35 J -23743980.53 -23743980.35 -23743980.17 0.0061 0.0011

Jupiter -69721-09-10 10:04 J -23743919.17 -23743919.08 -23743918.99 0.0527 0.0365

Pluto -69721-10-07 04:47 J -23743892.47 -23743892.30 -23743892.11 0.0061 0.0016

Pluto -69720-01-03 06:13 J -23743804.41 -23743804.24 -23743804.07 0.0061 0.0021

Mars -69720-03-03 09:49 J -23743745.19 -23743745.09 -23743745.00 0.1981 0.1037

Pluto -69720-04-01 07:11 J -23743716.35 -23743716.20 -23743716.02 0.0061 0.0027

Pluto -69720-06-28 08:37 J -23743628.29 -23743628.14 -23743627.97 0.0061 0.0033

Pluto -69720-09-24 09:49 J -23743540.22 -23743540.09 -23743539.93 0.0061 0.0038

Pluto -69720-12-21 11:16 J -23743452.15 -23743452.03 -23743451.89 0.0062 0.0044

Pluto -69719-03-19 12:28 J -23743364.07 -23743363.98 -23743363.86 0.0062 0.0050

Pluto -69719-06-15 13:25 J -23743275.99 -23743275.94 -23743275.83 0.0062 0.0056

Pluto -69719-09-11 15:06 J -23743187.88 -23743187.87 -23743187.83 0.0062 0.0061

Moon -69718-05-02 22:47 J -23742954.66 -23742954.55 -23742954.45 0.2713 0.0483

Earth -69718-05-02 23:16 J -23742954.63 -23742954.53 -23742954.42 0.2711 0.0425 *

Jupiter -69715-05-08 12:57 J -23741853.10 -23741852.96 -23741852.81 0.0498 0.0307

Jupiter -69715-08-07 00:28 J -23741762.62 -23741762.48 -23741762.33 0.0498 0.0300

Venus -69715-09-22 02:23 J -23741716.47 -23741716.40 -23741716.34 0.3813 0.2991

Moon -69715-10-27 22:18 J -23741680.72 -23741680.57 -23741680.42 0.2620 0.1202

Earth -69715-10-27 23:45 J -23741680.66 -23741680.51 -23741680.35 0.2623 0.0946 *

Mars -69714-10-19 02:23 J -23741324.55 -23741324.40 -23741324.25 0.1569 0.0708

Uranus -69710-05-30 13:25 J -23740004.96 -23740004.94 -23740004.89 0.0144 0.0143

Uranus -69710-08-26 22:18 J -23739916.68 -23739916.57 -23739916.44 0.0144 0.0111

Uranus -69710-11-23 07:11 J -23739828.36 -23739828.20 -23739828.04 0.0144 0.0081

Uranus -69709-02-19 15:49 J -23739740.02 -23739739.84 -23739739.65 0.0144 0.0050

Jupiter -69709-04-01 09:06 J -23739698.23 -23739698.12 -23739698.00 0.0528 0.0210

Venus -69709-04-06 18:57 J -23739692.80 -23739692.71 -23739692.61 0.3812 0.1459

Uranus -69709-05-18 00:28 J -23739651.67 -23739651.48 -23739651.28 0.0144 0.0020

Jupiter -69709-06-29 14:37 J -23739609.00 -23739608.89 -23739608.78 0.0527 0.0256

Uranus -69709-08-14 09:06 J -23739563.31 -23739563.12 -23739562.92 0.0144 0.0011

Uranus -69709-11-10 17:30 J -23739474.95 -23739474.77 -23739474.57 0.0144 0.0042

Saturn -69709-12-19 18:28 J -23739435.82 -23739435.73 -23739435.63 0.0301 0.0201

Uranus -69708-02-07 02:09 J -23739386.57 -23739386.41 -23739386.23 0.0144 0.0071

Saturn -69708-03-18 06:57 J -23739347.33 -23739347.21 -23739347.08 0.0301 0.0066

Uranus -69708-05-06 10:33 J -23739298.18 -23739298.06 -23739297.91 0.0143 0.0101

Saturn -69708-06-14 19:25 J -23739258.82 -23739258.69 -23739258.57 0.0300 0.0069

Uranus -69708-08-02 19:11 J -23739209.77 -23739209.70 -23739209.62 0.0143 0.0131

Saturn -69708-09-11 07:40 J -23739170.27 -23739170.18 -23739170.08 0.0299 0.0201

Moon -69705-05-04 16:33 J -23738203.91 -23738203.81 -23738203.70 0.2719 0.0699

Earth -69705-05-04 17:01 J -23738203.90 -23738203.79 -23738203.69 0.2713 0.0731 *

Mars -69704-03-10 04:33 J -23737894.48 -23737894.31 -23737894.14 0.1568 0.0174

Venus -69704-10-21 11:45 J -23737669.11 -23737669.01 -23737668.90 0.3810 0.0165

Jupiter -69703-02-24 08:37 J -23737543.20 -23737543.14 -23737543.08 0.0498 0.0468

Jupiter -69703-05-25 20:23 J -23737452.83 -23737452.65 -23737452.47 0.0499 0.0139

Moon -69702-10-31 06:28 J -23736929.37 -23736929.23 -23736929.09 0.2620 0.1352

Earth -69702-10-31 08:09 J -23736929.29 -23736929.16 -23736929.02 0.2621 0.1458 *

Mars -69700-11-19 18:57 J -23736178.80 -23736178.71 -23736178.63 0.1977 0.1253

Moon -69698-04-28 16:47 J -23735653.84 -23735653.80 -23735653.77 0.2700 0.2529

Earth -69698-04-28 17:01 J -23735653.84 -23735653.79 -23735653.75 0.2708 0.2451 *

Venus -69698-05-07 04:47 J -23735645.39 -23735645.30 -23735645.21 0.3808 0.1696

Jupiter -69697-01-19 13:40 J -23735388.02 -23735387.93 -23735387.83 0.0527 0.0321

Jupiter -69697-04-17 19:11 J -23735298.82 -23735298.70 -23735298.57 0.0527 0.0146

Mars -69695-07-31 06:42 J -23734464.34 -23734464.22 -23734464.09 0.1567 0.1050

Saturn -69693-07-01 17:16 J -23733762.89 -23733762.78 -23733762.66 0.0261 0.0208

Saturn -69693-09-28 14:37 J -23733674.07 -23733673.89 -23733673.70 0.0261 0.0076

Venus -69693-11-19 21:49 J -23733621.64 -23733621.59 -23733621.54 0.3806 0.3312

Saturn -69693-12-26 11:59 J -23733585.19 -23733585.00 -23733584.81 0.0262 0.0057

Saturn -69692-03-25 09:21 J -23733496.24 -23733496.11 -23733495.98 0.0262 0.0192

Moon -69692-05-07 10:47 J -23733453.13 -23733453.05 -23733452.98 0.2722 0.1845

Earth -69692-05-07 10:33 J -23733453.13 -23733453.06 -23733452.98 0.2715 0.1869 *

Jupiter -69691-03-13 17:30 J -23733142.96 -23733142.77 -23733142.58 0.0499 0.0007

Mars -69690-04-12 02:09 J -23732748.52 -23732748.41 -23732748.29 0.1980 0.0165

Jupiter -69686-11-07 17:45 J -23731077.82 -23731077.76 -23731077.69 0.0527 0.0440

Jupiter -69685-02-04 23:16 J -23730988.65 -23730988.53 -23730988.40 0.0527 0.0027

Moon -69685-04-30 09:49 J -23730903.18 -23730903.09 -23730902.99 0.2707 0.1333

Earth -69685-04-30 10:33 J -23730903.15 -23730903.06 -23730902.97 0.2710 0.1315 *

Jupiter -69685-05-04 04:47 J -23730899.34 -23730899.30 -23730899.25 0.0527 0.0490

Venus -69683-05-31 17:16 J -23730141.87 -23730141.78 -23730141.69 0.3567 0.2845

Mars -69681-09-01 09:49 J -23729318.19 -23729318.09 -23729317.99 0.1981 0.0909

Jupiter -69680-12-30 14:52 J -23728833.06 -23728832.88 -23728832.70 0.0498 0.0151

Jupiter -69679-03-31 02:23 J -23728742.47 -23728742.40 -23728742.32 0.0499 0.0456

Saturn -69679-05-08 19:40 J -23728703.75 -23728703.68 -23728703.61 0.0302 0.0249

Saturn -69679-08-05 08:09 J -23728615.28 -23728615.16 -23728615.04 0.0302 0.0113

Saturn -69679-11-01 20:37 J -23728526.77 -23728526.64 -23728526.51 0.0301 0.0022

Saturn -69678-01-29 08:52 J -23728438.23 -23728438.13 -23728438.01 0.0300 0.0156

Saturn -69678-04-27 21:06 J -23728349.64 -23728349.62 -23728349.58 0.0299 0.0288

Venus -69678-12-15 22:33 J -23728117.71 -23728117.56 -23728117.41 0.3569 0.0420

Mars -69674-04-19 03:06 J -23726897.51 -23726897.37 -23726897.23 0.1569 0.0843

Jupiter -69674-11-24 03:35 J -23726678.47 -23726678.35 -23726678.22 0.0527 0.0092

Jupiter -69673-02-21 09:06 J -23726589.20 -23726589.12 -23726589.03 0.0527 0.0374

Moon -69672-05-03 03:35 J -23726152.46 -23726152.35 -23726152.25 0.2713 0.0309

Earth -69672-05-03 04:04 J -23726152.43 -23726152.33 -23726152.22 0.2711 0.0207 *

Venus -69672-07-01 03:06 J -23726093.39 -23726093.37 -23726093.35 0.3571 0.3517

Neptune -69672-10-24 23:59 J -23725977.53 -23725977.50 -23725977.45 0.0089 0.0084

Neptune -69671-01-21 01:11 J -23725889.49 -23725889.45 -23725889.38 0.0089 0.0080

Neptune -69671-04-19 02:37 J -23725801.45 -23725801.39 -23725801.31 0.0089 0.0075

Neptune -69671-07-16 03:49 J -23725713.41 -23725713.34 -23725713.25 0.0089 0.0070

Neptune -69671-10-12 05:16 J -23725625.36 -23725625.28 -23725625.18 0.0089 0.0065

Neptune -69670-01-08 06:28 J -23725537.31 -23725537.23 -23725537.12 0.0089 0.0060

Neptune -69670-04-06 07:54 J -23725449.27 -23725449.17 -23725449.06 0.0089 0.0055

Neptune -69670-07-03 09:06 J -23725361.22 -23725361.12 -23725361.00 0.0089 0.0050

Neptune -69670-09-29 10:33 J -23725273.17 -23725273.06 -23725272.94 0.0089 0.0045

Neptune -69670-12-26 11:45 J -23725185.12 -23725185.01 -23725184.88 0.0089 0.0040

Neptune -69669-03-23 13:11 J -23725097.07 -23725096.95 -23725096.82 0.0089 0.0035

Neptune -69669-06-19 14:23 J -23725009.02 -23725008.90 -23725008.77 0.0089 0.0030

Neptune -69669-09-15 15:49 J -23724920.96 -23724920.84 -23724920.71 0.0089 0.0025

Moon -69669-10-28 05:01 J -23724878.45 -23724878.29 -23724878.13 0.2620 0.0546

Earth -69669-10-28 06:42 J -23724878.38 -23724878.22 -23724878.06 0.2623 0.0490 *

Neptune -69669-12-12 17:01 J -23724832.91 -23724832.79 -23724832.65 0.0089 0.0020

Neptune -69668-03-10 18:28 J -23724744.86 -23724744.73 -23724744.60 0.0089 0.0015

Neptune -69668-06-06 19:40 J -23724656.81 -23724656.68 -23724656.54 0.0089 0.0010

Neptune -69668-09-02 21:06 J -23724568.75 -23724568.62 -23724568.49 0.0089 0.0005

Jupiter -69668-10-18 11:59 J -23724523.15 -23724523.00 -23724522.85 0.0498 0.0298

Neptune -69668-11-29 22:18 J -23724480.70 -23724480.57 -23724480.44 0.0089 0.0002

Jupiter -69667-01-16 23:30 J -23724432.66 -23724432.52 -23724432.37 0.0498 0.0309

Neptune -69667-02-25 23:45 J -23724392.64 -23724392.51 -23724392.38 0.0089 0.0006

Neptune -69667-05-25 00:57 J -23724304.59 -23724304.46 -23724304.33 0.0089 0.0010

Neptune -69667-08-21 02:09 J -23724216.54 -23724216.41 -23724216.28 0.0089 0.0015

Neptune -69667-11-17 03:35 J -23724128.48 -23724128.35 -23724128.22 0.0089 0.0020

Neptune -69666-02-13 04:47 J -23724040.42 -23724040.30 -23724040.17 0.0089 0.0025

Neptune -69666-05-12 05:59 J -23723952.37 -23723952.25 -23723952.12 0.0089 0.0030

Uranus -69666-05-12 17:45 J -23723951.76 -23723951.76 -23723951.75 0.0134 0.0134

Neptune -69666-08-08 07:25 J -23723864.31 -23723864.19 -23723864.07 0.0089 0.0035

Uranus -69666-08-08 20:37 J -23723863.69 -23723863.64 -23723863.57 0.0134 0.0118

Neptune -69666-11-04 08:37 J -23723776.25 -23723776.14 -23723776.02 0.0089 0.0040

Uranus -69666-11-04 23:30 J -23723775.59 -23723775.52 -23723775.42 0.0134 0.0102

Neptune -69665-01-31 09:49 J -23723688.20 -23723688.09 -23723687.97 0.0089 0.0045

Uranus -69665-02-01 02:37 J -23723687.49 -23723687.39 -23723687.29 0.0134 0.0085

Neptune -69665-04-28 11:16 J -23723600.14 -23723600.03 -23723599.92 0.0089 0.0050

Uranus -69665-04-29 05:30 J -23723599.37 -23723599.27 -23723599.15 0.0135 0.0069

Neptune -69665-07-25 12:28 J -23723512.08 -23723511.98 -23723511.87 0.0089 0.0055

Uranus -69665-07-26 08:37 J -23723511.26 -23723511.14 -23723511.02 0.0135 0.0052

Mars -69665-09-08 05:30 J -23723467.44 -23723467.27 -23723467.10 0.1568 0.0051

Neptune -69665-10-21 13:40 J -23723424.02 -23723423.93 -23723423.82 0.0089 0.0060

Uranus -69665-10-22 11:30 J -23723423.14 -23723423.02 -23723422.89 0.0135 0.0036

Neptune -69664-01-17 14:52 J -23723335.95 -23723335.88 -23723335.78 0.0089 0.0065

Uranus -69664-01-18 14:37 J -23723335.02 -23723334.89 -23723334.76 0.0135 0.0019

Neptune -69664-04-15 16:18 J -23723247.89 -23723247.82 -23723247.73 0.0089 0.0070

Uranus -69664-04-16 17:45 J -23723246.89 -23723246.76 -23723246.63 0.0135 0.0002

Neptune -69664-07-12 17:30 J -23723159.83 -23723159.77 -23723159.69 0.0089 0.0075

Uranus -69664-07-13 20:52 J -23723158.76 -23723158.63 -23723158.50 0.0135 0.0016

Neptune -69664-10-08 18:42 J -23723071.76 -23723071.72 -23723071.65 0.0089 0.0080

Uranus -69664-10-09 23:45 J -23723070.64 -23723070.51 -23723070.38 0.0135 0.0032

Saturn -69664-11-18 15:06 J -23723030.91 -23723030.87 -23723030.82 0.0261 0.0252

Neptune -69663-01-04 20:09 J -23722983.69 -23722983.66 -23722983.61 0.0089 0.0085

Uranus -69663-01-06 02:52 J -23722982.50 -23722982.38 -23722982.26 0.0135 0.0049

Saturn -69663-02-15 12:28 J -23722942.15 -23722941.98 -23722941.81 0.0261 0.0121

Uranus -69663-04-04 05:59 J -23722894.37 -23722894.25 -23722894.14 0.0135 0.0066

Saturn -69663-05-15 09:49 J -23722853.29 -23722853.09 -23722852.90 0.0262 0.0012

Uranus -69663-07-01 08:52 J -23722806.23 -23722806.13 -23722806.02 0.0136 0.0083

Saturn -69663-08-12 06:57 J -23722764.36 -23722764.21 -23722764.04 0.0262 0.0146

Uranus -69663-09-27 11:45 J -23722718.08 -23722718.01 -23722717.91 0.0136 0.0101

Uranus -69663-12-24 14:52 J -23722629.93 -23722629.88 -23722629.80 0.0136 0.0118

Uranus -69662-03-22 17:59 J -23722541.75 -23722541.75 -23722541.72 0.0136 0.0135

Jupiter -69662-09-12 07:54 J -23722368.28 -23722368.17 -23722368.05 0.0528 0.0207

Jupiter -69662-12-10 13:40 J -23722279.04 -23722278.93 -23722278.82 0.0527 0.0261

Mars -69660-05-20 18:42 J -23721751.80 -23721751.72 -23721751.63 0.1977 0.1359

Moon -69659-05-05 21:35 J -23721401.70 -23721401.60 -23721401.50 0.2720 0.0947

Earth -69659-05-05 21:49 J -23721401.69 -23721401.59 -23721401.49 0.2713 0.0961 *

Venus -69658-04-28 23:59 J -23721043.58 -23721043.50 -23721043.42 0.3813 0.2462

Jupiter -69656-08-06 08:52 J -23720213.21 -23720213.13 -23720213.05 0.0498 0.0446

Moon -69656-10-31 13:11 J -23720127.07 -23720126.95 -23720126.82 0.2622 0.1648

Earth -69656-10-31 15:06 J -23720126.98 -23720126.87 -23720126.76 0.2621 0.1914 *

Jupiter -69656-11-04 20:37 J -23720122.82 -23720122.64 -23720122.46 0.0498 0.0161

Mars -69655-01-29 07:40 J -23720037.32 -23720037.18 -23720037.05 0.1567 0.0910

Venus -69653-11-11 16:47 J -23719019.90 -23719019.80 -23719019.70 0.3811 0.0918

Moon -69652-04-28 21:21 J -23718851.67 -23718851.61 -23718851.54 0.2701 0.2185

Earth -69652-04-28 21:35 J -23718851.65 -23718851.60 -23718851.53 0.2708 0.2222 *

Mars -69651-10-11 02:23 J -23718321.51 -23718321.40 -23718321.29 0.1980 0.0285

Jupiter -69650-07-01 12:42 J -23718058.07 -23718057.97 -23718057.86 0.0528 0.0315

Jupiter -69650-09-28 18:28 J -23717968.86 -23717968.73 -23717968.61 0.0527 0.0153

Saturn -69650-12-23 08:52 J -23717883.24 -23717883.13 -23717883.03 0.0301 0.0167

Saturn -69649-03-20 21:21 J -23717794.74 -23717794.61 -23717794.49 0.0301 0.0033

Saturn -69649-06-17 09:35 J -23717706.22 -23717706.10 -23717705.98 0.0300 0.0102

Saturn -69649-09-13 21:49 J -23717617.66 -23717617.59 -23717617.50 0.0299 0.0235

Venus -69647-05-28 09:35 J -23716996.20 -23716996.10 -23716996.00 0.3810 0.0667

Moon -69646-05-08 15:35 J -23716650.92 -23716650.85 -23716650.79 0.2722 0.2146

Earth -69646-05-08 15:21 J -23716650.92 -23716650.86 -23716650.79 0.2715 0.2096 *

Jupiter -69644-08-23 16:04 J -23715813.01 -23715812.83 -23715812.64 0.0498 0.0007

Venus -69642-12-12 02:37 J -23714972.47 -23714972.39 -23714972.31 0.3808 0.2262

Mars -69641-03-02 09:49 J -23714891.20 -23714891.09 -23714890.99 0.1981 0.0811

Moon -69639-05-01 14:37 J -23714100.98 -23714100.89 -23714100.79 0.2708 0.1228

Earth -69639-05-01 15:21 J -23714100.96 -23714100.86 -23714100.76 0.2710 0.1082 *

Jupiter -69638-04-19 17:30 J -23713747.85 -23713747.77 -23713747.70 0.0528 0.0424

Jupiter -69638-07-17 23:01 J -23713658.67 -23713658.54 -23713658.42 0.0527 0.0043

Jupiter -69638-10-15 04:33 J -23713569.34 -23713569.31 -23713569.28 0.0526 0.0505

Moon -69636-10-26 04:04 J -23712827.38 -23712827.33 -23712827.28 0.2620 0.2480

Earth -69636-10-26 05:01 J -23712827.35 -23712827.29 -23712827.23 0.2625 0.2423 *

Mars -69635-10-18 03:49 J -23712470.47 -23712470.34 -23712470.21 0.1569 0.0977

Saturn -69634-07-05 11:16 J -23712210.18 -23712210.03 -23712209.88 0.0261 0.0161

Saturn -69634-10-02 08:37 J -23712121.33 -23712121.14 -23712120.95 0.0261 0.0029

Saturn -69634-12-30 05:45 J -23712032.43 -23712032.26 -23712032.08 0.0262 0.0105

Saturn -69633-03-28 03:06 J -23711943.43 -23711943.37 -23711943.28 0.0262 0.0240

Jupiter -69632-06-11 13:11 J -23711503.13 -23711502.95 -23711502.77 0.0498 0.0148

Mars -69632-07-23 17:16 J -23711460.81 -23711460.78 -23711460.75 0.1982 0.1890

Jupiter -69632-09-10 00:42 J -23711412.54 -23711412.47 -23711412.40 0.0499 0.0460

Pluto -69631-09-28 16:33 J -23711028.84 -23711028.81 -23711028.77 0.0084 0.0081

Pluto -69631-12-25 17:59 J -23710940.81 -23710940.75 -23710940.66 0.0084 0.0070

Pluto -69630-03-23 19:40 J -23710852.77 -23710852.68 -23710852.58 0.0084 0.0059

Pluto -69630-06-19 21:06 J -23710764.73 -23710764.62 -23710764.50 0.0084 0.0048

Pluto -69630-09-15 22:33 J -23710676.68 -23710676.56 -23710676.43 0.0084 0.0038

Pluto -69630-12-12 23:59 J -23710588.62 -23710588.50 -23710588.36 0.0084 0.0027

Pluto -69629-03-10 01:25 J -23710500.57 -23710500.44 -23710500.29 0.0084 0.0017

Pluto -69629-06-06 03:06 J -23710412.51 -23710412.37 -23710412.23 0.0083 0.0006

Pluto -69629-09-02 04:33 J -23710324.45 -23710324.31 -23710324.17 0.0083 0.0005

Pluto -69629-11-29 05:59 J -23710236.39 -23710236.25 -23710236.12 0.0083 0.0015

Pluto -69628-02-25 07:11 J -23710148.32 -23710148.20 -23710148.06 0.0083 0.0026

Pluto -69628-05-24 08:37 J -23710060.26 -23710060.14 -23710060.01 0.0083 0.0036

Pluto -69628-08-20 10:04 J -23709972.19 -23709972.08 -23709971.96 0.0083 0.0046

Pluto -69628-11-16 11:16 J -23709884.12 -23709884.03 -23709883.92 0.0083 0.0056

Pluto -69627-02-12 12:42 J -23709796.04 -23709795.97 -23709795.88 0.0083 0.0066

Pluto -69627-05-11 14:09 J -23709707.96 -23709707.91 -23709707.85 0.0082 0.0076

Venus -69626-01-05 18:28 J -23709468.86 -23709468.73 -23709468.60 0.3568 0.1730

Moon -69626-05-04 08:23 J -23709350.26 -23709350.15 -23709350.04 0.2714 0.0056

Earth -69626-05-04 08:52 J -23709350.23 -23709350.13 -23709350.02 0.2712 0.0110 *

Jupiter -69626-05-06 02:52 J -23709348.50 -23709348.38 -23709348.25 0.0527 0.0082

Uranus -69626-06-19 20:23 J -23709303.69 -23709303.65 -23709303.57 0.0145 0.0137

Jupiter -69626-08-03 08:23 J -23709259.23 -23709259.15 -23709259.06 0.0527 0.0386

Uranus -69626-09-16 05:16 J -23709215.40 -23709215.28 -23709215.13 0.0144 0.0106

Uranus -69626-12-13 14:09 J -23709127.07 -23709126.91 -23709126.74 0.0144 0.0075

Mars -69625-03-09 05:59 J -23709040.42 -23709040.25 -23709040.08 0.1568 0.0104

Uranus -69625-03-10 22:47 J -23709038.73 -23709038.55 -23709038.36 0.0144 0.0044

Uranus -69625-06-07 07:40 J -23708950.37 -23708950.18 -23708949.99 0.0144 0.0013

Uranus -69625-09-03 16:18 J -23708862.01 -23708861.82 -23708861.63 0.0144 0.0017

Uranus -69625-12-01 00:42 J -23708773.65 -23708773.47 -23708773.28 0.0144 0.0048

Uranus -69624-02-27 09:21 J -23708685.27 -23708685.11 -23708684.94 0.0144 0.0078

Uranus -69624-05-26 17:45 J -23708596.88 -23708596.76 -23708596.62 0.0143 0.0108

Uranus -69624-08-23 02:09 J -23708508.45 -23708508.41 -23708508.34 0.0143 0.0137

Moon -69623-10-29 11:45 J -23708076.17 -23708076.01 -23708075.84 0.2620 0.0297

Earth -69623-10-29 13:25 J -23708076.10 -23708075.94 -23708075.77 0.2623 0.0053 *

Venus -69621-07-21 23:30 J -23707444.65 -23707444.52 -23707444.38 0.3570 0.1486

Mars -69621-11-18 18:57 J -23707324.79 -23707324.71 -23707324.64 0.1978 0.1479

Jupiter -69620-03-30 10:18 J -23707193.21 -23707193.07 -23707192.91 0.0498 0.0294

Saturn -69620-05-11 10:04 J -23707151.17 -23707151.08 -23707150.99 0.0302 0.0213

Jupiter -69620-06-28 22:04 J -23707102.72 -23707102.58 -23707102.43 0.0499 0.0316

Saturn -69620-08-07 22:33 J -23707062.68 -23707062.56 -23707062.43 0.0301 0.0078

Saturn -69620-11-04 11:01 J -23706974.16 -23706974.04 -23706973.91 0.0301 0.0058

Saturn -69619-01-31 23:30 J -23706885.62 -23706885.52 -23706885.42 0.0300 0.0191

Mars -69616-07-30 08:23 J -23705610.30 -23705610.15 -23705610.01 0.1567 0.0774

Jupiter -69614-02-22 07:11 J -23705038.32 -23705038.20 -23705038.08 0.0527 0.0197

Jupiter -69614-05-22 12:42 J -23704949.08 -23704948.97 -23704948.86 0.0527 0.0269

Moon -69613-05-06 02:23 J -23704599.50 -23704599.40 -23704599.31 0.2721 0.1140

Earth -69613-05-06 02:37 J -23704599.49 -23704599.39 -23704599.30 0.2714 0.1191 *

Mars -69611-04-11 02:23 J -23703894.51 -23703894.40 -23703894.29 0.1979 0.0398

Moon -69610-11-01 20:09 J -23703324.73 -23703324.66 -23703324.59 0.2623 0.2319

Earth -69610-11-01 21:49 J -23703324.65 -23703324.59 -23703324.52 0.2620 0.2374 *

Jupiter -69608-01-16 07:25 J -23702883.27 -23702883.19 -23702883.10 0.0498 0.0440

Jupiter -69608-04-16 19:11 J -23702792.87 -23702792.70 -23702792.52 0.0498 0.0168

Venus -69607-05-20 05:01 J -23702394.33 -23702394.29 -23702394.25 0.3814 0.3459

Moon -69606-04-30 02:09 J -23702049.48 -23702049.41 -23702049.34 0.2702 0.2069

Earth -69606-04-30 02:23 J -23702049.47 -23702049.40 -23702049.32 0.2708 0.1993 *

Saturn -69605-11-21 09:49 J -23701478.21 -23701478.09 -23701477.97 0.0261 0.0202

Saturn -69604-02-18 06:57 J -23701389.39 -23701389.21 -23701389.02 0.0261 0.0070

Saturn -69604-05-18 04:18 J -23701300.51 -23701300.32 -23701300.13 0.0262 0.0063

Saturn -69604-08-15 01:25 J -23701211.55 -23701211.44 -23701211.30 0.0262 0.0198

Jupiter -69603-12-11 11:30 J -23700728.12 -23700728.02 -23700727.92 0.0528 0.0313

Jupiter -69602-03-10 17:01 J -23700638.91 -23700638.79 -23700638.67 0.0527 0.0154

Mars -69602-09-01 09:49 J -23700464.20 -23700464.09 -23700463.98 0.1981 0.0691

Venus -69602-12-03 21:49 J -23700370.68 -23700370.59 -23700370.50 0.3812 0.1931

Earth -69600-05-08 20:09 J -23699848.71 -23699848.66 -23699848.61 0.2715 0.2327

Moon -69600-05-08 20:37 J -23699848.69 -23699848.64 -23699848.59 0.2721 0.2377 *

Jupiter -69596-02-02 16:04 J -23698483.02 -23698482.83 -23698482.64 0.0498 0.0019

Venus -69596-06-18 14:37 J -23698347.00 -23698346.89 -23698346.79 0.3811 0.0394

Mars -69595-04-18 04:33 J -23698043.43 -23698043.31 -23698043.19 0.1569 0.1119

Moon -69593-05-01 19:25 J -23697298.79 -23697298.69 -23697298.59 0.2708 0.0871

Earth -69593-05-01 20:09 J -23697298.76 -23697298.66 -23697298.56 0.2710 0.0854 *

Mars -69592-01-21 17:16 J -23697033.83 -23697033.78 -23697033.73 0.1982 0.1774

Saturn -69591-09-28 11:01 J -23696419.10 -23696419.04 -23696418.97 0.0302 0.0263

Jupiter -69591-09-29 16:18 J -23696417.89 -23696417.82 -23696417.75 0.0528 0.0421

Saturn -69591-12-25 23:45 J -23696330.63 -23696330.51 -23696330.40 0.0301 0.0128

Jupiter -69591-12-27 21:49 J -23696328.72 -23696328.59 -23696328.46 0.0527 0.0045

Venus -69590-01-02 07:25 J -23696323.29 -23696323.19 -23696323.09 0.3809 0.1224

Saturn -69590-03-24 12:13 J -23696242.12 -23696241.99 -23696241.86 0.0301 0.0012

Jupiter -69590-03-27 03:21 J -23696239.38 -23696239.36 -23696239.33 0.0527 0.0511

Saturn -69590-06-21 00:28 J -23696153.59 -23696153.48 -23696153.36 0.0300 0.0141

Saturn -69590-09-17 12:42 J -23696065.01 -23696064.97 -23696064.91 0.0299 0.0273

Moon -69590-10-27 10:33 J -23696025.15 -23696025.06 -23696024.96 0.2620 0.2085

Earth -69590-10-27 11:59 J -23696025.11 -23696025.00 -23696024.90 0.2625 0.1967 *

Neptune -69588-01-08 17:01 J -23695585.84 -23695585.79 -23695585.70 0.0089 0.0083

Neptune -69588-04-06 20:37 J -23695497.72 -23695497.64 -23695497.52 0.0089 0.0076

Neptune -69588-07-04 00:42 J -23695409.59 -23695409.47 -23695409.34 0.0089 0.0068

Neptune -69588-09-30 04:18 J -23695321.45 -23695321.32 -23695321.17 0.0089 0.0061

Neptune -69588-12-27 07:54 J -23695233.31 -23695233.17 -23695233.00 0.0089 0.0054

Neptune -69587-03-25 11:45 J -23695145.17 -23695145.01 -23695144.83 0.0089 0.0046

Neptune -69587-06-21 15:21 J -23695057.02 -23695056.86 -23695056.67 0.0089 0.0039

Neptune -69587-09-17 19:11 J -23694968.87 -23694968.70 -23694968.50 0.0089 0.0031

Neptune -69587-12-14 23:01 J -23694880.72 -23694880.54 -23694880.34 0.0089 0.0024

Neptune -69586-03-13 02:52 J -23694792.57 -23694792.38 -23694792.18 0.0089 0.0016

Neptune -69586-06-09 06:42 J -23694704.42 -23694704.22 -23694704.03 0.0088 0.0009

Neptune -69586-09-05 10:18 J -23694616.26 -23694616.07 -23694615.87 0.0088 0.0002

Mars -69586-09-08 06:42 J -23694613.39 -23694613.22 -23694613.05 0.1568 0.0237

Neptune -69586-12-02 14:09 J -23694528.11 -23694527.91 -23694527.71 0.0088 0.0006

Neptune -69585-02-28 17:45 J -23694439.95 -23694439.76 -23694439.56 0.0088 0.0013

Neptune -69585-05-26 21:35 J -23694351.79 -23694351.60 -23694351.41 0.0088 0.0021

Venus -69585-07-18 00:28 J -23694299.55 -23694299.48 -23694299.41 0.3807 0.2834

Neptune -69585-08-23 00:57 J -23694263.63 -23694263.46 -23694263.26 0.0088 0.0029

Neptune -69585-11-19 04:47 J -23694175.47 -23694175.30 -23694175.11 0.0088 0.0036

Jupiter -69585-11-21 11:30 J -23694173.20 -23694173.02 -23694172.84 0.0498 0.0146

Neptune -69584-02-15 08:37 J -23694087.30 -23694087.14 -23694086.96 0.0088 0.0043

Jupiter -69584-02-19 23:01 J -23694082.61 -23694082.54 -23694082.47 0.0499 0.0462

Neptune -69584-05-14 12:13 J -23693999.14 -23693998.99 -23693998.81 0.0088 0.0051

Neptune -69584-08-10 16:04 J -23693910.97 -23693910.83 -23693910.67 0.0088 0.0058

Neptune -69584-11-06 20:09 J -23693822.80 -23693822.66 -23693822.53 0.0088 0.0065

Neptune -69583-02-02 23:16 J -23693734.62 -23693734.53 -23693734.40 0.0088 0.0073

Neptune -69583-05-02 03:21 J -23693646.44 -23693646.36 -23693646.27 0.0088 0.0080

Neptune -69583-07-29 06:42 J -23693558.23 -23693558.22 -23693558.16 0.0088 0.0088

Uranus -69582-06-02 01:11 J -23693250.48 -23693250.45 -23693250.41 0.0134 0.0128

Uranus -69582-08-29 04:04 J -23693162.39 -23693162.33 -23693162.25 0.0134 0.0112

Uranus -69582-11-25 06:57 J -23693074.29 -23693074.21 -23693074.11 0.0134 0.0097

Uranus -69581-02-21 10:04 J -23692986.18 -23692986.08 -23692985.97 0.0134 0.0080

Uranus -69581-05-19 12:57 J -23692898.07 -23692897.96 -23692897.84 0.0134 0.0064

Mars -69581-05-19 18:42 J -23692897.78 -23692897.72 -23692897.65 0.1977 0.1589

Uranus -69581-08-15 16:04 J -23692809.95 -23692809.83 -23692809.70 0.0135 0.0047

Uranus -69581-11-11 19:11 J -23692721.83 -23692721.70 -23692721.57 0.0135 0.0030

Uranus -69580-02-07 22:04 J -23692633.71 -23692633.58 -23692633.44 0.0135 0.0014

Moon -69580-05-04 13:11 J -23692548.06 -23692547.95 -23692547.84 0.2716 0.0168

Earth -69580-05-04 13:40 J -23692548.03 -23692547.93 -23692547.82 0.2712 0.0297 *

Uranus -69580-05-07 01:11 J -23692545.58 -23692545.45 -23692545.32 0.0135 0.0003

Uranus -69580-08-03 04:18 J -23692457.45 -23692457.32 -23692457.19 0.0135 0.0020

Uranus -69580-10-30 07:11 J -23692369.32 -23692369.20 -23692369.07 0.0135 0.0037

Uranus -69579-01-26 10:18 J -23692281.19 -23692281.07 -23692280.95 0.0135 0.0054

Uranus -69579-04-24 13:11 J -23692193.05 -23692192.95 -23692192.83 0.0135 0.0072

Uranus -69579-07-21 16:18 J -23692104.91 -23692104.82 -23692104.71 0.0136 0.0088

Jupiter -69579-10-16 02:23 J -23692018.53 -23692018.40 -23692018.27 0.0527 0.0067

Uranus -69579-10-17 19:25 J -23692016.77 -23692016.69 -23692016.60 0.0136 0.0105

Jupiter -69578-01-13 07:54 J -23691929.25 -23691929.17 -23691929.09 0.0527 0.0399

Uranus -69578-01-13 22:33 J -23691928.61 -23691928.56 -23691928.50 0.0136 0.0123

Moon -69577-10-29 18:28 J -23691273.89 -23691273.73 -23691273.56 0.2620 0.0352

Earth -69577-10-29 20:23 J -23691273.82 -23691273.65 -23691273.49 0.2623 0.0438 *

Mars -69576-01-28 08:52 J -23691183.28 -23691183.13 -23691182.97 0.1567 0.0640

Saturn -69575-04-10 08:52 J -23690746.20 -23690746.13 -23690746.05 0.0260 0.0239

Saturn -69575-07-08 06:13 J -23690657.41 -23690657.24 -23690657.06 0.0261 0.0108

Saturn -69575-10-05 03:35 J -23690568.54 -23690568.35 -23690568.16 0.0261 0.0025

Saturn -69574-01-02 00:57 J -23690479.61 -23690479.46 -23690479.31 0.0262 0.0159

Jupiter -69573-09-09 08:23 J -23689863.30 -23689863.15 -23689863.00 0.0498 0.0295

Jupiter -69573-12-08 19:54 J -23689772.81 -23689772.67 -23689772.52 0.0499 0.0315

Mars -69572-10-10 02:23 J -23689467.51 -23689467.40 -23689467.29 0.1980 0.0507

Venus -69570-08-12 19:40 J -23688795.83 -23688795.68 -23688795.53 0.3568 0.0636

Moon -69567-05-07 07:11 J -23687797.29 -23687797.20 -23687797.11 0.2721 0.1436

Earth -69567-05-07 07:25 J -23687797.28 -23687797.19 -23687797.10 0.2714 0.1419 *

Mars -69567-06-20 11:16 J -23687753.07 -23687753.03 -23687752.99 0.1566 0.1509

Jupiter -69567-08-04 06:13 J -23687708.35 -23687708.24 -23687708.12 0.0527 0.0190

Jupiter -69567-11-01 11:45 J -23687619.11 -23687619.01 -23687618.90 0.0527 0.0277

Venus -69564-02-26 00:28 J -23686771.58 -23686771.48 -23686771.37 0.3570 0.2544

Moon -69564-11-02 02:52 J -23686522.41 -23686522.38 -23686522.34 0.2623 0.2555

Mars -69562-03-02 09:49 J -23686037.20 -23686037.09 -23686036.98 0.1981 0.0571

Saturn -69561-05-14 01:25 J -23685598.54 -23685598.44 -23685598.33 0.0302 0.0169

Jupiter -69561-06-28 05:30 J -23685553.35 -23685553.27 -23685553.18 0.0498 0.0440

Saturn -69561-08-10 13:54 J -23685510.04 -23685509.92 -23685509.79 0.0301 0.0034

Jupiter -69561-09-26 17:16 J -23685462.95 -23685462.78 -23685462.60 0.0499 0.0170

Saturn -69561-11-07 02:23 J -23685421.52 -23685421.40 -23685421.28 0.0301 0.0101

Saturn -69560-02-03 14:37 J -23685332.96 -23685332.89 -23685332.81 0.0300 0.0234

Moon -69560-04-30 06:42 J -23685247.30 -23685247.22 -23685247.14 0.2704 0.1790

Earth -69560-04-30 07:25 J -23685247.28 -23685247.19 -23685247.11 0.2708 0.1759 *

Mars -69556-10-17 05:16 J -23683616.38 -23683616.28 -23683616.18 0.1569 0.1254

Jupiter -69555-05-23 10:33 J -23683398.16 -23683398.06 -23683397.96 0.0527 0.0307

Jupiter -69555-08-20 16:04 J -23683308.95 -23683308.83 -23683308.71 0.0527 0.0159

Earth -69554-05-10 00:57 J -23683046.49 -23683046.46 -23683046.43 0.2716 0.2555

Moon -69554-05-10 01:25 J -23683046.47 -23683046.44 -23683046.41 0.2721 0.2594 *

Mars -69553-07-22 17:16 J -23682606.84 -23682606.78 -23682606.72 0.1982 0.1662

Venus -69551-12-25 02:52 J -23681721.45 -23681721.38 -23681721.32 0.3813 0.2930

Jupiter -69549-07-15 14:23 J -23681153.09 -23681152.90 -23681152.72 0.0498 0.0022

Moon -69547-05-03 00:13 J -23680496.59 -23680496.49 -23680496.39 0.2709 0.0763

Earth -69547-05-03 00:57 J -23680496.57 -23680496.46 -23680496.36 0.2710 0.0622 *

Mars -69546-03-09 07:25 J -23680186.35 -23680186.19 -23680186.02 0.1568 0.0381

Saturn -69546-11-25 05:16 J -23679925.43 -23679925.28 -23679925.11 0.0261 0.0145

Saturn -69545-02-22 02:37 J -23679836.58 -23679836.39 -23679836.19 0.0261 0.0014

Saturn -69545-05-20 23:59 J -23679747.67 -23679747.50 -23679747.33 0.0262 0.0121

Venus -69545-07-09 19:25 J -23679697.78 -23679697.69 -23679697.59 0.3812 0.1390

Saturn -69545-08-17 21:21 J -23679658.64 -23679658.61 -23679658.56 0.0263 0.0256

Moon -69544-10-27 17:30 J -23679222.90 -23679222.77 -23679222.64 0.2620 0.1640

Earth -69544-10-27 18:42 J -23679222.85 -23679222.72 -23679222.59 0.2625 0.1505 *

Jupiter -69543-03-11 14:37 J -23679087.96 -23679087.89 -23679087.81 0.0528 0.0424

Jupiter -69543-06-08 20:09 J -23678998.78 -23678998.66 -23678998.53 0.0527 0.0046

Jupiter -69543-09-06 01:54 J -23678909.45 -23678909.42 -23678909.39 0.0527 0.0509

Uranus -69542-07-10 03:21 J -23678602.43 -23678602.36 -23678602.28 0.0145 0.0132

Uranus -69542-10-06 11:59 J -23678514.13 -23678514.00 -23678513.85 0.0144 0.0101

Mars -69542-11-18 18:42 J -23678470.77 -23678470.72 -23678470.66 0.1977 0.1700

Uranus -69541-01-02 20:37 J -23678425.80 -23678425.64 -23678425.45 0.0144 0.0071

Uranus -69541-03-31 05:30 J -23678337.45 -23678337.27 -23678337.07 0.0144 0.0039

Uranus -69541-06-27 14:23 J -23678249.10 -23678248.90 -23678248.71 0.0144 0.0008

Uranus -69541-09-23 23:01 J -23678160.73 -23678160.54 -23678160.35 0.0144 0.0022

Uranus -69541-12-21 07:25 J -23678072.36 -23678072.19 -23678072.00 0.0144 0.0053

Uranus -69540-03-19 16:04 J -23677983.98 -23677983.83 -23677983.66 0.0144 0.0083

Uranus -69540-06-16 00:28 J -23677895.59 -23677895.48 -23677895.35 0.0143 0.0113

Uranus -69540-09-12 08:52 J -23677807.13 -23677807.13 -23677807.09 0.0143 0.0143

Venus -69539-01-23 12:13 J -23677674.09 -23677673.99 -23677673.88 0.3811 0.0220

Jupiter -69537-05-03 11:01 J -23676843.22 -23676843.04 -23676842.86 0.0498 0.0131

Mars -69537-07-29 09:49 J -23676756.25 -23676756.09 -23676755.93 0.1567 0.0499

Jupiter -69537-08-01 22:33 J -23676752.61 -23676752.56 -23676752.51 0.0499 0.0477

Moon -69534-05-05 17:59 J -23675745.85 -23675745.75 -23675745.64 0.2718 0.0521

Earth -69534-05-05 18:28 J -23675745.83 -23675745.73 -23675745.62 0.2712 0.0515 *

Venus -69534-08-09 05:16 J -23675650.37 -23675650.28 -23675650.19 0.3809 0.1785

Mars -69532-04-10 02:23 J -23675040.51 -23675040.40 -23675040.29 0.1980 0.0623

Saturn -69532-10-01 02:37 J -23674866.47 -23674866.39 -23674866.29 0.0301 0.0216

Saturn -69532-12-28 15:21 J -23674777.98 -23674777.86 -23674777.74 0.0301 0.0080

Saturn -69531-03-27 03:49 J -23674689.47 -23674689.34 -23674689.22 0.0300 0.0055

Jupiter -69531-03-28 00:57 J -23674688.59 -23674688.46 -23674688.33 0.0527 0.0067

Saturn -69531-06-23 16:04 J -23674600.93 -23674600.83 -23674600.73 0.0299 0.0187

Jupiter -69531-06-25 06:28 J -23674599.31 -23674599.23 -23674599.15 0.0527 0.0400

Moon -69531-10-31 01:25 J -23674471.60 -23674471.44 -23674471.29 0.2622 0.0677

Earth -69531-10-31 03:06 J -23674471.52 -23674471.37 -23674471.22 0.2622 0.0893 *

Venus -69528-02-21 22:18 J -23673626.62 -23673626.57 -23673626.53 0.3807 0.3406

Mars -69528-12-19 11:59 J -23673326.08 -23673326.00 -23673325.92 0.1566 0.1375

Earth -69527-04-28 18:28 J -23673195.75 -23673195.73 -23673195.71 0.2706 0.2657

Moon -69527-04-28 18:28 J -23673195.74 -23673195.73 -23673195.71 0.2700 0.2657 *

Jupiter -69525-02-20 06:13 J -23672533.39 -23672533.24 -23672533.09 0.0498 0.0296

Jupiter -69525-05-20 17:59 J -23672442.90 -23672442.75 -23672442.61 0.0499 0.0313

Mars -69523-08-31 09:49 J -23671610.20 -23671610.09 -23671609.98 0.1981 0.0470

Moon -69521-05-07 11:59 J -23670995.08 -23670995.00 -23670994.91 0.2721 0.1604

Earth -69521-05-07 12:13 J -23670995.08 -23670994.99 -23670994.91 0.2714 0.1651 *

Jupiter -69519-01-14 05:30 J -23670378.39 -23670378.27 -23670378.15 0.0527 0.0180

Jupiter -69519-04-13 11:01 J -23670289.15 -23670289.04 -23670288.94 0.0527 0.0287

Venus -69519-09-02 15:21 J -23670146.95 -23670146.86 -23670146.77 0.3567 0.2831

Saturn -69516-04-13 05:01 J -23669193.43 -23669193.29 -23669193.15 0.0261 0.0180

Mars -69516-04-17 05:59 J -23669189.33 -23669189.25 -23669189.18 0.1569 0.1387

Saturn -69516-07-11 02:23 J -23669104.59 -23669104.40 -23669104.21 0.0261 0.0048

Saturn -69516-10-07 23:45 J -23669015.69 -23669015.51 -23669015.33 0.0262 0.0086

Saturn -69515-01-04 21:06 J -23668926.72 -23668926.62 -23668926.51 0.0262 0.0220

Moon -69514-05-01 11:30 J -23668445.11 -23668445.02 -23668444.93 0.2704 0.1601

Earth -69514-05-01 12:13 J -23668445.08 -23668444.99 -23668444.91 0.2709 0.1528 *

Jupiter -69514-12-09 02:52 J -23668223.46 -23668223.38 -23668223.29 0.0498 0.0446

Mars -69513-01-21 17:16 J -23668179.85 -23668179.78 -23668179.71 0.1982 0.1555

Jupiter -69513-03-08 14:37 J -23668133.06 -23668132.89 -23668132.71 0.0499 0.0164

Venus -69513-03-18 20:52 J -23668122.78 -23668122.63 -23668122.49 0.3569 0.0467

Jupiter -69508-11-02 09:21 J -23666068.21 -23666068.11 -23666068.01 0.0527 0.0302

Jupiter -69507-01-30 14:52 J -23665979.00 -23665978.88 -23665978.76 0.0527 0.0164

Neptune -69507-07-21 22:47 J -23665806.57 -23665806.55 -23665806.50 0.0089 0.0085

Mars -69507-09-07 08:09 J -23665759.32 -23665759.16 -23665759.00 0.1568 0.0516

Neptune -69507-10-18 00:13 J -23665718.53 -23665718.49 -23665718.42 0.0089 0.0080

Neptune -69506-01-14 01:40 J -23665630.49 -23665630.43 -23665630.35 0.0089 0.0075

Neptune -69506-04-12 02:52 J -23665542.45 -23665542.38 -23665542.29 0.0089 0.0070

Neptune -69506-07-09 04:18 J -23665454.40 -23665454.32 -23665454.23 0.0089 0.0065

Neptune -69506-10-05 05:30 J -23665366.36 -23665366.27 -23665366.16 0.0089 0.0060

Neptune -69505-01-01 06:57 J -23665278.31 -23665278.21 -23665278.10 0.0089 0.0055

Neptune -69505-03-29 08:09 J -23665190.26 -23665190.16 -23665190.04 0.0089 0.0050

Neptune -69505-06-25 09:35 J -23665102.21 -23665102.10 -23665101.98 0.0089 0.0045

Neptune -69505-09-21 10:47 J -23665014.16 -23665014.05 -23665013.92 0.0089 0.0040

Neptune -69505-12-18 12:13 J -23664926.11 -23664925.99 -23664925.87 0.0089 0.0035

Neptune -69504-03-16 13:25 J -23664838.06 -23664837.94 -23664837.81 0.0089 0.0030

Neptune -69504-06-12 14:52 J -23664750.01 -23664749.88 -23664749.75 0.0089 0.0025

Neptune -69504-09-08 16:04 J -23664661.95 -23664661.83 -23664661.70 0.0089 0.0020

Neptune -69504-12-05 17:30 J -23664573.90 -23664573.77 -23664573.64 0.0089 0.0015

Neptune -69503-03-03 18:42 J -23664485.85 -23664485.72 -23664485.59 0.0089 0.0010

Neptune -69503-05-30 20:09 J -23664397.79 -23664397.66 -23664397.53 0.0089 0.0005

Neptune -69503-08-26 21:21 J -23664309.74 -23664309.61 -23664309.48 0.0089 0.0001

Neptune -69503-11-22 22:33 J -23664221.69 -23664221.56 -23664221.42 0.0089 0.0006

Saturn -69502-02-18 05:01 J -23664134.36 -23664134.29 -23664134.22 0.0302 0.0252

Neptune -69502-02-18 23:59 J -23664133.63 -23664133.50 -23664133.37 0.0089 0.0010

Saturn -69502-05-17 17:30 J -23664045.89 -23664045.77 -23664045.65 0.0302 0.0116

Neptune -69502-05-18 01:11 J -23664045.58 -23664045.45 -23664045.32 0.0089 0.0015

Mars -69502-05-19 18:57 J -23664043.76 -23664043.71 -23664043.67 0.1978 0.1819

Neptune -69502-08-14 02:37 J -23663957.52 -23663957.39 -23663957.27 0.0089 0.0020

Saturn -69502-08-14 05:59 J -23663957.38 -23663957.25 -23663957.12 0.0301 0.0019 *

Neptune -69502-11-10 03:49 J -23663869.47 -23663869.34 -23663869.21 0.0089 0.0025

Saturn -69502-11-10 18:28 J -23663868.84 -23663868.73 -23663868.62 0.0300 0.0152

Jupiter -69502-12-26 11:59 J -23663823.19 -23663823.00 -23663822.81 0.0498 0.0017

Neptune -69501-02-06 05:01 J -23663781.41 -23663781.29 -23663781.16 0.0089 0.0030

Saturn -69501-02-07 06:42 J -23663780.26 -23663780.22 -23663780.18 0.0299 0.0284

Moon -69501-05-03 05:01 J -23663694.39 -23663694.29 -23663694.18 0.2711 0.0427

Earth -69501-05-03 05:45 J -23663694.37 -23663694.26 -23663694.15 0.2711 0.0391 *

Neptune -69501-05-04 06:28 J -23663693.35 -23663693.23 -23663693.11 0.0089 0.0035

Neptune -69501-07-31 07:40 J -23663605.29 -23663605.18 -23663605.06 0.0089 0.0040

Neptune -69501-10-27 08:52 J -23663517.24 -23663517.13 -23663517.01 0.0089 0.0045

Neptune -69500-01-23 10:18 J -23663429.18 -23663429.07 -23663428.96 0.0089 0.0050

Neptune -69500-04-21 11:30 J -23663341.12 -23663341.02 -23663340.91 0.0089 0.0055

Neptune -69500-07-18 12:42 J -23663253.06 -23663252.97 -23663252.87 0.0089 0.0060

Neptune -69500-10-14 14:09 J -23663165.00 -23663164.91 -23663164.82 0.0089 0.0065

Neptune -69499-01-10 15:21 J -23663076.93 -23663076.86 -23663076.77 0.0089 0.0070

Neptune -69499-04-08 16:33 J -23662988.87 -23662988.81 -23662988.73 0.0089 0.0075

Neptune -69499-07-05 17:45 J -23662900.80 -23662900.76 -23662900.69 0.0089 0.0080

Neptune -69499-10-01 19:11 J -23662812.73 -23662812.70 -23662812.65 0.0089 0.0085

Uranus -69498-06-22 08:52 J -23662549.17 -23662549.13 -23662549.07 0.0134 0.0122

Uranus -69498-09-18 11:45 J -23662461.08 -23662461.01 -23662460.92 0.0134 0.0106

Moon -69498-10-29 00:13 J -23662420.64 -23662420.49 -23662420.34 0.2620 0.1130

Earth -69498-10-29 01:40 J -23662420.58 -23662420.43 -23662420.28 0.2624 0.1042 *

Uranus -69498-12-15 14:52 J -23662372.97 -23662372.88 -23662372.78 0.0134 0.0090

Mars -69497-01-28 10:33 J -23662329.23 -23662329.06 -23662328.90 0.1567 0.0362

Uranus -69497-03-12 17:45 J -23662284.86 -23662284.76 -23662284.64 0.0134 0.0074

Uranus -69497-06-08 20:52 J -23662196.75 -23662196.63 -23662196.51 0.0134 0.0057

Uranus -69497-09-04 23:45 J -23662108.63 -23662108.51 -23662108.38 0.0135 0.0041

Uranus -69497-12-02 02:52 J -23662020.51 -23662020.38 -23662020.25 0.0135 0.0024

Uranus -69496-02-28 05:59 J -23661932.38 -23661932.25 -23661932.12 0.0135 0.0007

Uranus -69496-05-27 08:52 J -23661844.26 -23661844.13 -23661844.00 0.0135 0.0010

Jupiter -69496-08-21 13:25 J -23661758.01 -23661757.94 -23661757.86 0.0527 0.0421

Uranus -69496-08-23 11:59 J -23661756.13 -23661756.00 -23661755.87 0.0135 0.0027

Jupiter -69496-11-18 18:57 J -23661668.84 -23661668.71 -23661668.58 0.0527 0.0045

Uranus -69496-11-19 14:52 J -23661668.00 -23661667.88 -23661667.75 0.0135 0.0044

Uranus -69495-02-15 17:59 J -23661579.86 -23661579.75 -23661579.63 0.0135 0.0061

Jupiter -69495-02-16 00:28 J -23661579.50 -23661579.48 -23661579.45 0.0526 0.0510

Uranus -69495-05-14 21:06 J -23661491.73 -23661491.62 -23661491.51 0.0135 0.0078

Uranus -69495-08-11 00:13 J -23661403.58 -23661403.49 -23661403.40 0.0135 0.0095

Uranus -69495-11-07 03:21 J -23661315.43 -23661315.36 -23661315.29 0.0136 0.0112

Uranus -69494-02-03 06:28 J -23661227.27 -23661227.23 -23661227.20 0.0136 0.0129

Venus -69494-08-01 00:28 J -23661048.56 -23661048.48 -23661048.40 0.3813 0.2396

Mars -69493-10-09 02:23 J -23660613.51 -23660613.40 -23660613.29 0.1979 0.0739

Jupiter -69490-10-14 08:37 J -23659513.32 -23659513.14 -23659512.95 0.0498 0.0134

Jupiter -69489-01-12 20:09 J -23659422.71 -23659422.66 -23659422.60 0.0499 0.0475

Venus -69488-02-13 17:16 J -23659024.88 -23659024.78 -23659024.68 0.3812 0.0842

Moon -69488-05-05 22:47 J -23658943.65 -23658943.55 -23658943.44 0.2718 0.0631

Earth -69488-05-05 23:16 J -23658943.63 -23658943.53 -23658943.42 0.2712 0.0747 *

Mars -69488-06-19 12:42 J -23658899.07 -23658898.97 -23658898.86 0.1566 0.1235

Saturn -69487-08-31 04:47 J -23658461.40 -23658461.30 -23658461.18 0.0261 0.0213

Saturn -69487-11-28 02:09 J -23658372.59 -23658372.41 -23658372.23 0.0261 0.0081

Saturn -69486-02-24 23:30 J -23658283.71 -23658283.52 -23658283.33 0.0262 0.0052

Saturn -69486-05-24 20:52 J -23658194.76 -23658194.63 -23658194.49 0.0262 0.0186

Moon -69485-10-31 07:54 J -23657669.31 -23657669.17 -23657669.02 0.2623 0.1184

Earth -69485-10-31 09:49 J -23657669.22 -23657669.09 -23657668.95 0.2622 0.1353 *

Jupiter -69484-09-06 23:01 J -23657358.66 -23657358.54 -23657358.41 0.0527 0.0076

Jupiter -69484-12-05 04:47 J -23657269.39 -23657269.30 -23657269.22 0.0527 0.0393

Mars -69483-03-01 09:49 J -23657183.21 -23657183.09 -23657182.98 0.1981 0.0361

Venus -69483-08-30 10:04 J -23657001.18 -23657001.08 -23657000.98 0.3810 0.0748

Moon -69481-04-28 23:01 J -23656393.58 -23656393.54 -23656393.49 0.2700 0.2408

Earth -69481-04-28 23:16 J -23656393.57 -23656393.53 -23656393.48 0.2707 0.2426 *

Jupiter -69478-08-02 05:16 J -23655203.43 -23655203.28 -23655203.12 0.0498 0.0286

Jupiter -69478-10-31 16:47 J -23655112.93 -23655112.80 -23655112.65 0.0498 0.0324

Venus -69477-03-15 03:06 J -23654977.46 -23654977.37 -23654977.29 0.3809 0.2354

Pluto -69477-09-27 21:35 J -23654780.65 -23654780.60 -23654780.53 0.0060 0.0057

Mars -69477-10-16 06:42 J -23654762.25 -23654762.22 -23654762.18 0.1569 0.1531

Pluto -69477-12-24 22:47 J -23654692.63 -23654692.55 -23654692.45 0.0060 0.0052

Pluto -69476-03-22 23:45 J -23654604.61 -23654604.51 -23654604.38 0.0060 0.0047

Pluto -69476-06-19 00:57 J -23654516.57 -23654516.46 -23654516.31 0.0060 0.0042

Pluto -69476-09-15 02:09 J -23654428.54 -23654428.41 -23654428.25 0.0061 0.0037

Pluto -69476-12-12 03:21 J -23654340.50 -23654340.36 -23654340.18 0.0061 0.0032

Pluto -69475-03-10 05:01 J -23654252.45 -23654252.29 -23654252.12 0.0061 0.0026

Earth -69475-05-08 17:01 J -23654192.87 -23654192.79 -23654192.72 0.2714 0.1877

Moon -69475-05-08 17:01 J -23654192.86 -23654192.79 -23654192.72 0.2721 0.1953 *

Pluto -69475-06-06 05:59 J -23654164.41 -23654164.25 -23654164.07 0.0061 0.0021

Pluto -69475-09-02 07:11 J -23654076.36 -23654076.20 -23654076.01 0.0061 0.0016

Pluto -69475-11-29 08:37 J -23653988.32 -23653988.14 -23653987.95 0.0061 0.0010

Pluto -69474-02-25 10:04 J -23653900.27 -23653900.08 -23653899.90 0.0061 0.0005

Pluto -69474-05-24 11:16 J -23653812.21 -23653812.03 -23653811.85 0.0061 0.0001

Mars -69474-07-22 17:16 J -23653752.85 -23653752.78 -23653752.70 0.1982 0.1432

Pluto -69474-08-20 12:28 J -23653724.16 -23653723.98 -23653723.79 0.0061 0.0006

Pluto -69474-11-16 13:40 J -23653636.11 -23653635.93 -23653635.74 0.0061 0.0012

Pluto -69473-02-12 14:52 J -23653548.05 -23653547.88 -23653547.69 0.0061 0.0017

Pluto -69473-05-10 16:04 J -23653459.99 -23653459.83 -23653459.65 0.0061 0.0023

Saturn -69473-07-07 06:57 J -23653402.24 -23653402.21 -23653402.18 0.0302 0.0292

Pluto -69473-08-06 17:16 J -23653371.93 -23653371.78 -23653371.60 0.0061 0.0028

Saturn -69473-10-03 19:40 J -23653313.79 -23653313.68 -23653313.57 0.0301 0.0156

Pluto -69473-11-02 18:42 J -23653283.86 -23653283.72 -23653283.55 0.0061 0.0034

Saturn -69473-12-31 08:09 J -23653225.29 -23653225.16 -23653225.04 0.0301 0.0024

Pluto -69472-01-29 19:40 J -23653195.80 -23653195.68 -23653195.51 0.0061 0.0040

Saturn -69472-03-29 20:23 J -23653136.77 -23653136.65 -23653136.53 0.0300 0.0112

Pluto -69472-04-27 21:21 J -23653107.72 -23653107.61 -23653107.47 0.0062 0.0045

Jupiter -69472-06-26 03:49 J -23653048.46 -23653048.34 -23653048.22 0.0528 0.0185

Saturn -69472-06-26 08:37 J -23653048.21 -23653048.14 -23653048.06 0.0299 0.0244

Pluto -69472-07-24 22:18 J -23653019.65 -23653019.57 -23653019.44 0.0062 0.0051

Jupiter -69472-09-23 09:21 J -23652959.22 -23652959.11 -23652959.00 0.0527 0.0283

Pluto -69472-10-20 23:59 J -23652931.56 -23652931.50 -23652931.41 0.0062 0.0056

Moon -69468-05-01 16:18 J -23651642.91 -23651642.82 -23651642.73 0.2704 0.1357

Earth -69468-05-01 16:47 J -23651642.89 -23651642.80 -23651642.70 0.2709 0.1298 *

Mars -69467-03-08 08:52 J -23651332.28 -23651332.13 -23651331.97 0.1568 0.0648

Jupiter -69466-05-21 00:28 J -23650893.55 -23650893.48 -23650893.40 0.0498 0.0451

Jupiter -69466-08-19 12:13 J -23650803.17 -23650802.99 -23650802.81 0.0498 0.0158

Mars -69463-11-17 18:42 J -23649616.74 -23649616.72 -23649616.69 0.1977 0.1929

Venus -69462-04-09 16:47 J -23649473.94 -23649473.80 -23649473.67 0.3567 0.1718

Jupiter -69460-04-14 08:09 J -23648738.26 -23648738.16 -23648738.05 0.0528 0.0299

Jupiter -69460-07-12 13:40 J -23648649.04 -23648648.93 -23648648.81 0.0527 0.0170

Mars -69458-07-29 11:01 J -23647902.20 -23647902.04 -23647901.87 0.1567 0.0232

Uranus -69458-07-30 09:49 J -23647901.17 -23647901.09 -23647901.00 0.0144 0.0128

Uranus -69458-10-26 18:42 J -23647812.86 -23647812.72 -23647812.58 0.0144 0.0097

Saturn -69457-01-18 04:47 J -23647729.36 -23647729.30 -23647729.23 0.0261 0.0245

Uranus -69457-01-23 03:06 J -23647724.53 -23647724.37 -23647724.18 0.0144 0.0067

Saturn -69457-04-16 02:09 J -23647640.58 -23647640.41 -23647640.24 0.0261 0.0114

Uranus -69457-04-20 11:59 J -23647636.18 -23647636.00 -23647635.80 0.0144 0.0035

Saturn -69457-07-13 23:30 J -23647551.71 -23647551.52 -23647551.33 0.0262 0.0019

Uranus -69457-07-17 20:52 J -23647547.83 -23647547.63 -23647547.44 0.0144 0.0005

Saturn -69457-10-10 20:52 J -23647462.78 -23647462.63 -23647462.47 0.0262 0.0154

Uranus -69457-10-14 05:30 J -23647459.46 -23647459.27 -23647459.08 0.0144 0.0026

Venus -69457-10-23 21:49 J -23647449.73 -23647449.59 -23647449.46 0.3569 0.1520

Uranus -69456-01-10 13:54 J -23647371.09 -23647370.92 -23647370.73 0.0144 0.0057

Uranus -69456-04-08 22:33 J -23647282.71 -23647282.56 -23647282.40 0.0144 0.0087

Uranus -69456-07-06 06:57 J -23647194.31 -23647194.21 -23647194.09 0.0143 0.0117

Moon -69455-05-04 09:49 J -23646892.19 -23646892.09 -23646891.98 0.2713 0.0266

Earth -69455-05-04 10:33 J -23646892.17 -23646892.06 -23646891.95 0.2711 0.0162 *

Jupiter -69454-06-07 08:52 J -23646493.32 -23646493.13 -23646492.94 0.0498 0.0008

Mars -69453-04-09 02:09 J -23646186.51 -23646186.41 -23646186.30 0.1980 0.0838

Moon -69452-10-29 06:57 J -23645618.37 -23645618.21 -23645618.05 0.2621 0.0795

Earth -69452-10-29 08:23 J -23645618.31 -23645618.15 -23645617.99 0.2624 0.0580 *

Mars -69449-12-18 13:25 J -23644472.06 -23644471.94 -23644471.82 0.1566 0.1099

Jupiter -69448-01-31 11:59 J -23644428.07 -23644428.00 -23644427.92 0.0527 0.0422

Jupiter -69448-04-30 17:30 J -23644338.89 -23644338.77 -23644338.64 0.0527 0.0047

Jupiter -69448-07-28 23:16 J -23644249.56 -23644249.53 -23644249.51 0.0526 0.0511

Mars -69444-08-30 09:49 J -23642756.20 -23642756.09 -23642755.97 0.1981 0.0234

Saturn -69443-02-20 22:04 J -23642581.68 -23642581.58 -23642581.48 0.0302 0.0190

Saturn -69443-05-20 10:33 J -23642493.18 -23642493.06 -23642492.93 0.0301 0.0055

Saturn -69443-08-16 23:01 J -23642404.66 -23642404.54 -23642404.42 0.0301 0.0080

Venus -69443-08-22 05:30 J -23642399.31 -23642399.27 -23642399.22 0.3814 0.3396

Saturn -69443-11-13 11:16 J -23642316.12 -23642316.03 -23642315.94 0.0300 0.0213

Jupiter -69442-03-26 05:59 J -23642183.43 -23642183.25 -23642183.07 0.0498 0.0142

Moon -69442-05-07 03:49 J -23642141.44 -23642141.34 -23642141.25 0.2718 0.0987

Earth -69442-05-07 04:04 J -23642141.43 -23642141.33 -23642141.23 0.2713 0.0974 *

Jupiter -69442-06-24 17:30 J -23642092.83 -23642092.77 -23642092.70 0.0499 0.0467

Moon -69439-11-01 14:52 J -23640867.00 -23640866.88 -23640866.75 0.2622 0.1631

Earth -69439-11-01 16:47 J -23640866.91 -23640866.80 -23640866.68 0.2622 0.1819 *

Venus -69437-03-06 22:18 J -23640375.66 -23640375.57 -23640375.49 0.3813 0.1870

Jupiter -69436-02-16 21:35 J -23640028.72 -23640028.60 -23640028.47 0.0527 0.0076

Jupiter -69436-05-17 03:06 J -23639939.45 -23639939.37 -23639939.28 0.0527 0.0391

Moon -69435-04-30 03:49 J -23639591.40 -23639591.34 -23639591.29 0.2701 0.2277

Earth -69435-04-30 04:04 J -23639591.39 -23639591.33 -23639591.27 0.2707 0.2197 *

Mars -69434-01-20 17:16 J -23639325.86 -23639325.78 -23639325.70 0.1982 0.1326

Venus -69432-09-20 15:06 J -23638351.98 -23638351.87 -23638351.77 0.3812 0.0334

Jupiter -69430-01-12 02:37 J -23637873.54 -23637873.39 -23637873.24 0.0498 0.0293

Jupiter -69430-04-12 14:23 J -23637783.05 -23637782.90 -23637782.76 0.0498 0.0316

Earth -69429-05-08 21:49 J -23637390.66 -23637390.59 -23637390.53 0.2714 0.2109

Moon -69429-05-08 21:49 J -23637390.65 -23637390.59 -23637390.52 0.2722 0.2079 *

Saturn -69428-09-03 02:37 J -23636908.55 -23636908.39 -23636908.23 0.0261 0.0143

Mars -69428-09-06 09:35 J -23636905.24 -23636905.10 -23636904.95 0.1568 0.0791

Saturn -69428-11-30 23:59 J -23636819.70 -23636819.50 -23636819.31 0.0262 0.0012

Saturn -69427-02-27 21:21 J -23636730.78 -23636730.61 -23636730.44 0.0262 0.0123

Saturn -69427-05-27 18:28 J -23636641.75 -23636641.73 -23636641.68 0.0263 0.0259

Venus -69426-04-06 07:54 J -23636328.27 -23636328.17 -23636328.08 0.3810 0.1305

Jupiter -69425-12-06 01:40 J -23635718.55 -23635718.43 -23635718.31 0.0528 0.0196

Jupiter -69424-03-05 07:11 J -23635629.31 -23635629.20 -23635629.09 0.0527 0.0272

Neptune -69424-10-05 14:37 J -23635414.95 -23635414.89 -23635414.80 0.0089 0.0082

Neptune -69423-01-01 18:13 J -23635326.83 -23635326.74 -23635326.62 0.0089 0.0075

Neptune -69423-03-30 22:04 J -23635238.70 -23635238.58 -23635238.44 0.0089 0.0067

Neptune -69423-06-27 01:40 J -23635150.56 -23635150.43 -23635150.27 0.0089 0.0060

Neptune -69423-09-23 05:16 J -23635062.42 -23635062.28 -23635062.10 0.0089 0.0053

Neptune -69423-12-20 09:21 J -23634974.27 -23634974.11 -23634973.94 0.0089 0.0045

Neptune -69422-03-18 12:57 J -23634886.13 -23634885.96 -23634885.77 0.0089 0.0038

Moon -69422-05-02 21:06 J -23634840.72 -23634840.62 -23634840.52 0.2706 0.1118

Earth -69422-05-02 21:35 J -23634840.69 -23634840.60 -23634840.50 0.2709 0.1070 *

Neptune -69422-06-14 16:33 J -23634797.98 -23634797.81 -23634797.61 0.0089 0.0031

Neptune -69422-09-10 20:37 J -23634709.83 -23634709.64 -23634709.45 0.0089 0.0023

Neptune -69422-12-08 00:13 J -23634621.68 -23634621.49 -23634621.29 0.0089 0.0016

Neptune -69421-03-05 04:04 J -23634533.53 -23634533.33 -23634533.13 0.0089 0.0008

Neptune -69421-06-01 07:54 J -23634445.37 -23634445.17 -23634444.98 0.0089 0.0001

Neptune -69421-08-28 11:30 J -23634357.21 -23634357.02 -23634356.82 0.0089 0.0007

Venus -69421-10-20 00:42 J -23634304.53 -23634304.47 -23634304.40 0.3808 0.2924

Neptune -69421-11-24 15:06 J -23634269.06 -23634268.87 -23634268.67 0.0089 0.0015

Neptune -69420-02-20 18:57 J -23634180.90 -23634180.71 -23634180.51 0.0088 0.0022

Neptune -69420-05-19 22:33 J -23634092.74 -23634092.56 -23634092.36 0.0088 0.0029

Neptune -69420-08-16 02:23 J -23634004.57 -23634004.40 -23634004.21 0.0088 0.0037

Neptune -69420-11-12 06:13 J -23633916.41 -23633916.24 -23633916.07 0.0088 0.0044

Neptune -69419-02-08 09:35 J -23633828.24 -23633828.10 -23633827.92 0.0088 0.0052

Neptune -69419-05-07 13:25 J -23633740.07 -23633739.94 -23633739.78 0.0088 0.0059

Neptune -69419-08-03 17:01 J -23633651.90 -23633651.79 -23633651.64 0.0088 0.0067

Earth -69419-10-27 06:57 J -23633567.26 -23633567.21 -23633567.17 0.2626 0.2519

Neptune -69419-10-30 20:52 J -23633563.72 -23633563.63 -23633563.51 0.0088 0.0074

Jupiter -69419-10-30 23:01 J -23633563.62 -23633563.54 -23633563.45 0.0498 0.0446 *

Neptune -69418-01-27 00:42 J -23633475.54 -23633475.47 -23633475.38 0.0088 0.0081

Mars -69418-01-27 11:59 J -23633475.17 -23633475.00 -23633474.83 0.1567 0.0091

Jupiter -69418-01-29 10:47 J -23633473.23 -23633473.05 -23633472.87 0.0498 0.0163

Neptune -69418-04-25 04:33 J -23633387.31 -23633387.31 -23633387.29 0.0088 0.0088

Uranus -69414-04-15 13:25 J -23631935.94 -23631935.94 -23631935.91 0.0134 0.0133

Saturn -69414-07-11 00:28 J -23631849.56 -23631849.48 -23631849.39 0.0301 0.0225

Uranus -69414-07-12 16:47 J -23631847.86 -23631847.80 -23631847.74 0.0134 0.0116

Saturn -69414-10-07 12:57 J -23631761.08 -23631760.96 -23631760.83 0.0301 0.0090

Uranus -69414-10-08 19:40 J -23631759.76 -23631759.68 -23631759.59 0.0134 0.0100

Mars -69414-10-09 02:23 J -23631759.50 -23631759.40 -23631759.30 0.1979 0.0965

Saturn -69413-01-04 01:25 J -23631672.57 -23631672.44 -23631672.31 0.0300 0.0045

Uranus -69413-01-04 22:47 J -23631671.65 -23631671.55 -23631671.45 0.0134 0.0084

Saturn -69413-04-01 13:40 J -23631584.03 -23631583.93 -23631583.82 0.0299 0.0178

Uranus -69413-04-02 01:40 J -23631583.54 -23631583.43 -23631583.32 0.0134 0.0067

Uranus -69413-06-29 04:33 J -23631495.43 -23631495.31 -23631495.18 0.0134 0.0051

Jupiter -69413-09-24 06:13 J -23631408.34 -23631408.24 -23631408.14 0.0528 0.0308

Uranus -69413-09-25 07:40 J -23631407.31 -23631407.18 -23631407.05 0.0135 0.0034

Uranus -69413-12-22 10:47 J -23631319.18 -23631319.05 -23631318.92 0.0135 0.0018

Jupiter -69413-12-22 11:45 J -23631319.13 -23631319.01 -23631318.89 0.0527 0.0160 *

Uranus -69412-03-20 13:40 J -23631231.06 -23631230.93 -23631230.80 0.0135 0.0002

Uranus -69412-06-16 16:47 J -23631142.93 -23631142.80 -23631142.67 0.0135 0.0016

Uranus -69412-09-12 19:40 J -23631054.80 -23631054.68 -23631054.55 0.0135 0.0033

Uranus -69412-12-09 22:47 J -23630966.67 -23630966.55 -23630966.43 0.0135 0.0050

Uranus -69411-03-08 01:40 J -23630878.54 -23630878.43 -23630878.31 0.0135 0.0068

Uranus -69411-06-04 04:47 J -23630790.40 -23630790.30 -23630790.19 0.0135 0.0084

Uranus -69411-08-31 07:54 J -23630702.25 -23630702.17 -23630702.08 0.0136 0.0101

Uranus -69411-11-27 11:01 J -23630614.10 -23630614.04 -23630613.97 0.0136 0.0119

Moon -69409-05-04 14:37 J -23630090.00 -23630089.89 -23630089.78 0.2714 0.0029

Earth -69409-05-04 15:21 J -23630089.97 -23630089.86 -23630089.75 0.2711 0.0077 *

Mars -69409-06-18 14:09 J -23630045.05 -23630044.91 -23630044.78 0.1566 0.0967

Jupiter -69407-11-17 05:59 J -23629163.43 -23629163.25 -23629163.06 0.0498 0.0012

Moon -69406-10-30 13:25 J -23628816.10 -23628815.94 -23628815.78 0.2622 0.0199

Earth -69406-10-30 15:06 J -23628816.03 -23628815.87 -23628815.70 0.2624 0.0140 *

Venus -69406-11-14 17:45 J -23628800.91 -23628800.76 -23628800.61 0.3568 0.0613

Mars -69404-02-28 09:49 J -23628329.21 -23628329.09 -23628328.98 0.1981 0.0147

Jupiter -69401-07-13 10:33 J -23627098.13 -23627098.06 -23627097.98 0.0528 0.0423

Jupiter -69401-10-10 16:18 J -23627008.95 -23627008.82 -23627008.70 0.0528 0.0048

Jupiter -69400-01-07 21:49 J -23626919.62 -23626919.59 -23626919.57 0.0527 0.0513

Venus -69400-05-30 22:47 J -23626776.65 -23626776.55 -23626776.45 0.3570 0.2597

Saturn -69398-01-21 02:37 J -23626176.53 -23626176.39 -23626176.24 0.0261 0.0175

Saturn -69398-04-19 23:59 J -23626087.69 -23626087.50 -23626087.31 0.0262 0.0042

Saturn -69398-07-17 21:21 J -23625998.79 -23625998.61 -23625998.43 0.0262 0.0092

Saturn -69398-10-14 18:42 J -23625909.80 -23625909.72 -23625909.61 0.0263 0.0227

Moon -69396-05-07 08:37 J -23625339.23 -23625339.14 -23625339.04 0.2719 0.1139

Earth -69396-05-07 08:52 J -23625339.22 -23625339.13 -23625339.03 0.2713 0.1205 *

Mars -69395-07-21 17:16 J -23624898.87 -23624898.78 -23624898.69 0.1982 0.1212

Jupiter -69395-09-05 02:37 J -23624853.57 -23624853.39 -23624853.21 0.0498 0.0155

Jupiter -69395-12-04 14:09 J -23624762.98 -23624762.91 -23624762.83 0.0499 0.0453

Moon -69393-11-01 21:49 J -23624064.69 -23624064.59 -23624064.49 0.2622 0.2076

Earth -69393-11-01 23:45 J -23624064.59 -23624064.51 -23624064.44 0.2621 0.2276 *

Moon -69389-04-30 08:23 J -23622789.22 -23622789.15 -23622789.07 0.2701 0.1946

Earth -69389-04-30 08:52 J -23622789.20 -23622789.13 -23622789.06 0.2707 0.1965 *

Jupiter -69389-07-29 19:54 J -23622698.79 -23622698.67 -23622698.54 0.0527 0.0081

Jupiter -69389-10-27 01:25 J -23622609.52 -23622609.44 -23622609.35 0.0527 0.0389

Mars -69388-03-07 10:18 J -23622478.20 -23622478.07 -23622477.93 0.1568 0.0925

Venus -69386-03-29 03:06 J -23621726.43 -23621726.37 -23621726.30 0.3814 0.2878

Saturn -69385-11-27 03:21 J -23621117.42 -23621117.36 -23621117.29 0.0302 0.0254

Saturn -69384-02-23 16:04 J -23621028.95 -23621028.83 -23621028.71 0.0301 0.0118

Saturn -69384-05-23 04:33 J -23620940.44 -23620940.31 -23620940.18 0.0301 0.0018

Saturn -69384-08-19 16:47 J -23620851.91 -23620851.80 -23620851.69 0.0300 0.0150

Saturn -69384-11-16 05:01 J -23620763.33 -23620763.29 -23620763.25 0.0299 0.0281

Pluto -69383-02-03 04:04 J -23620684.37 -23620684.33 -23620684.28 0.0084 0.0079

Pluto -69383-05-02 05:16 J -23620596.34 -23620596.28 -23620596.18 0.0084 0.0068

Earth -69383-05-10 02:37 J -23620588.45 -23620588.39 -23620588.34 0.2715 0.2337

Moon -69383-05-10 02:37 J -23620588.43 -23620588.39 -23620588.34 0.2722 0.2433 *

Jupiter -69383-06-23 23:30 J -23620543.67 -23620543.52 -23620543.37 0.0498 0.0305

Pluto -69383-07-29 06:57 J -23620508.30 -23620508.21 -23620508.10 0.0084 0.0057

Jupiter -69383-09-22 11:16 J -23620453.18 -23620453.03 -23620452.88 0.0499 0.0305

Pluto -69383-10-25 08:23 J -23620420.26 -23620420.15 -23620420.02 0.0084 0.0046

Pluto -69382-01-21 10:04 J -23620332.20 -23620332.08 -23620331.95 0.0084 0.0035

Pluto -69382-04-19 11:30 J -23620244.15 -23620244.02 -23620243.88 0.0084 0.0024

Pluto -69382-07-16 12:57 J -23620156.09 -23620155.96 -23620155.82 0.0084 0.0014

Pluto -69382-10-12 14:23 J -23620068.03 -23620067.90 -23620067.76 0.0083 0.0004

Pluto -69381-01-08 15:49 J -23619979.97 -23619979.84 -23619979.70 0.0083 0.0007

Pluto -69381-04-05 17:16 J -23619891.91 -23619891.78 -23619891.64 0.0083 0.0017

Pluto -69381-07-02 18:42 J -23619803.85 -23619803.72 -23619803.59 0.0083 0.0028

Pluto -69381-09-28 19:54 J -23619715.78 -23619715.67 -23619715.54 0.0083 0.0038

Venus -69381-10-11 19:54 J -23619702.77 -23619702.67 -23619702.57 0.3813 0.1320

Pluto -69381-12-25 21:21 J -23619627.71 -23619627.61 -23619627.49 0.0083 0.0048

Pluto -69380-03-23 22:47 J -23619539.64 -23619539.55 -23619539.45 0.0083 0.0058

Pluto -69380-06-20 00:13 J -23619451.56 -23619451.49 -23619451.41 0.0082 0.0068

Pluto -69380-09-16 01:25 J -23619363.47 -23619363.44 -23619363.39 0.0082 0.0078

Mars -69379-07-28 12:42 J -23619048.14 -23619047.97 -23619047.80 0.1567 0.0053

Jupiter -69377-05-17 23:59 J -23618388.61 -23618388.50 -23618388.38 0.0527 0.0200

Jupiter -69377-08-15 05:30 J -23618299.38 -23618299.27 -23618299.16 0.0527 0.0267

Moon -69376-05-03 01:54 J -23618038.52 -23618038.42 -23618038.32 0.2708 0.0953

Earth -69376-05-03 02:23 J -23618038.50 -23618038.40 -23618038.29 0.2709 0.0840 *

Venus -69375-04-27 12:42 J -23617679.07 -23617678.97 -23617678.87 0.3811 0.0260

Mars -69374-04-09 02:23 J -23617332.50 -23617332.40 -23617332.31 0.1979 0.1076

Uranus -69374-08-19 17:59 J -23617199.86 -23617199.75 -23617199.64 0.0144 0.0119

Uranus -69374-11-16 02:52 J -23617111.54 -23617111.38 -23617111.23 0.0144 0.0088

Uranus -69373-02-12 11:16 J -23617023.20 -23617023.03 -23617022.84 0.0144 0.0057

Uranus -69373-05-10 20:09 J -23616934.85 -23616934.66 -23616934.47 0.0144 0.0026

Uranus -69373-08-07 04:47 J -23616846.49 -23616846.30 -23616846.10 0.0144 0.0005

Moon -69373-10-27 12:42 J -23616765.07 -23616764.97 -23616764.87 0.2620 0.2052

Earth -69373-10-27 13:40 J -23616765.03 -23616764.93 -23616764.83 0.2626 0.2066 *

Uranus -69373-11-03 13:25 J -23616758.12 -23616757.94 -23616757.75 0.0144 0.0035

Uranus -69372-01-30 21:49 J -23616669.75 -23616669.59 -23616669.40 0.0144 0.0066

Uranus -69372-04-29 06:28 J -23616581.36 -23616581.23 -23616581.07 0.0143 0.0096

Uranus -69372-07-26 15:06 J -23616492.95 -23616492.87 -23616492.77 0.0143 0.0125

Jupiter -69371-04-11 20:09 J -23616233.73 -23616233.66 -23616233.59 0.0498 0.0457

Jupiter -69371-07-11 07:54 J -23616143.35 -23616143.17 -23616142.99 0.0498 0.0153

Venus -69370-11-11 05:30 J -23615655.36 -23615655.27 -23615655.18 0.3809 0.1870

Mars -69370-12-18 14:52 J -23615618.02 -23615617.88 -23615617.73 0.1566 0.0823

Saturn -69369-06-09 03:21 J -23615444.47 -23615444.36 -23615444.23 0.0261 0.0202

Saturn -69369-09-06 00:57 J -23615355.65 -23615355.46 -23615355.28 0.0262 0.0070

Saturn -69369-12-03 22:18 J -23615266.76 -23615266.57 -23615266.38 0.0262 0.0064

Saturn -69368-03-02 19:40 J -23615177.80 -23615177.68 -23615177.55 0.0263 0.0199

Jupiter -69365-03-06 04:04 J -23614078.43 -23614078.33 -23614078.23 0.0528 0.0322

Jupiter -69365-06-03 09:35 J -23613989.22 -23613989.10 -23613988.98 0.0527 0.0147

Mars -69365-08-29 09:49 J -23613902.21 -23613902.09 -23613901.98 0.1981 0.0036

Venus -69364-05-26 22:33 J -23613631.59 -23613631.56 -23613631.52 0.3807 0.3502

Moon -69363-05-05 19:25 J -23613287.80 -23613287.69 -23613287.58 0.2714 0.0224

Earth -69363-05-05 20:09 J -23613287.77 -23613287.66 -23613287.55 0.2711 0.0300 *

Moon -69360-10-30 20:09 J -23612013.82 -23612013.66 -23612013.49 0.2622 0.0060

Earth -69360-10-30 22:04 J -23612013.74 -23612013.58 -23612013.42 0.2623 0.0335 *

Jupiter -69359-04-29 04:18 J -23611833.51 -23611833.32 -23611833.13 0.0498 0.0004

Mars -69355-01-19 17:16 J -23610471.87 -23610471.78 -23610471.69 0.1982 0.1098

Saturn -69355-04-16 06:13 J -23610385.28 -23610385.24 -23610385.20 0.0301 0.0285

Saturn -69355-07-13 18:42 J -23610296.83 -23610296.72 -23610296.60 0.0301 0.0150

Saturn -69355-10-10 07:11 J -23610208.33 -23610208.20 -23610208.07 0.0300 0.0017

Venus -69355-12-05 13:40 J -23610152.02 -23610151.93 -23610151.84 0.3566 0.2809

Saturn -69354-01-06 19:40 J -23610119.80 -23610119.68 -23610119.56 0.0300 0.0118

Saturn -69354-04-05 07:54 J -23610031.24 -23610031.17 -23610031.10 0.0299 0.0249

Jupiter -69354-12-24 08:23 J -23609768.22 -23609768.15 -23609768.08 0.0528 0.0435

Jupiter -69353-03-22 13:54 J -23609679.04 -23609678.92 -23609678.79 0.0528 0.0037

Jupiter -69353-06-19 19:40 J -23609589.72 -23609589.68 -23609589.65 0.0527 0.0501

Moon -69350-05-08 13:40 J -23608537.02 -23608536.93 -23608536.84 0.2720 0.1445

Earth -69350-05-08 13:40 J -23608537.02 -23608536.93 -23608536.84 0.2713 0.1432 *

Venus -69349-06-20 18:57 J -23608127.86 -23608127.71 -23608127.56 0.3568 0.0491

Mars -69349-09-05 11:01 J -23608051.16 -23608051.04 -23608050.91 0.1568 0.1059

Jupiter -69347-02-14 23:30 J -23607523.69 -23607523.52 -23607523.34 0.0498 0.0167

Jupiter -69347-05-16 11:01 J -23607433.12 -23607433.04 -23607432.95 0.0498 0.0442

Moon -69347-11-03 04:47 J -23607262.30 -23607262.30 -23607262.30 0.2623 0.2623

Moon -69343-05-01 13:11 J -23605987.02 -23605986.95 -23605986.87 0.2701 0.1838

Earth -69343-05-01 13:40 J -23605987.01 -23605986.93 -23605986.85 0.2707 0.1734 *

Neptune -69342-04-17 22:04 J -23605635.61 -23605635.58 -23605635.53 0.0089 0.0085

Neptune -69342-07-14 23:16 J -23605547.57 -23605547.53 -23605547.46 0.0089 0.0080

Neptune -69342-10-11 00:42 J -23605459.53 -23605459.47 -23605459.39 0.0089 0.0075

Neptune -69341-01-07 01:54 J -23605371.49 -23605371.42 -23605371.32 0.0089 0.0070

Jupiter -69341-01-09 18:28 J -23605368.86 -23605368.73 -23605368.61 0.0528 0.0084

Neptune -69341-04-04 03:21 J -23605283.44 -23605283.36 -23605283.26 0.0089 0.0065

Jupiter -69341-04-07 23:59 J -23605279.59 -23605279.50 -23605279.42 0.0527 0.0386

Neptune -69341-07-01 04:33 J -23605195.39 -23605195.31 -23605195.20 0.0089 0.0060

Neptune -69341-09-27 05:59 J -23605107.34 -23605107.25 -23605107.14 0.0089 0.0055

Neptune -69341-12-24 07:11 J -23605019.29 -23605019.20 -23605019.08 0.0089 0.0050

Neptune -69340-03-22 08:37 J -23604931.25 -23604931.14 -23604931.02 0.0089 0.0045

Neptune -69340-06-18 10:04 J -23604843.19 -23604843.08 -23604842.96 0.0089 0.0039

Neptune -69340-09-14 11:16 J -23604755.14 -23604755.03 -23604754.90 0.0089 0.0035

Saturn -69340-10-27 03:49 J -23604712.43 -23604712.34 -23604712.26 0.0261 0.0232

Neptune -69340-12-11 12:42 J -23604667.09 -23604666.97 -23604666.84 0.0089 0.0029

Saturn -69339-01-24 00:57 J -23604623.63 -23604623.46 -23604623.28 0.0262 0.0101

Mars -69339-01-26 13:25 J -23604621.11 -23604620.94 -23604620.77 0.1567 0.0187

Neptune -69339-03-09 13:54 J -23604579.04 -23604578.92 -23604578.79 0.0089 0.0025

Saturn -69339-04-22 22:33 J -23604534.76 -23604534.56 -23604534.37 0.0262 0.0034

Neptune -69339-06-05 15:21 J -23604490.99 -23604490.86 -23604490.73 0.0089 0.0019

Saturn -69339-07-20 19:54 J -23604445.82 -23604445.67 -23604445.52 0.0263 0.0168

Neptune -69339-09-01 16:33 J -23604402.94 -23604402.81 -23604402.68 0.0089 0.0015

Neptune -69339-11-28 17:59 J -23604314.88 -23604314.75 -23604314.62 0.0089 0.0009

Neptune -69338-02-24 19:11 J -23604226.83 -23604226.70 -23604226.57 0.0089 0.0005

Neptune -69338-05-23 20:37 J -23604138.78 -23604138.64 -23604138.51 0.0089 0.0003

Neptune -69338-08-19 21:49 J -23604050.72 -23604050.59 -23604050.46 0.0089 0.0006

Neptune -69338-11-15 23:01 J -23603962.67 -23603962.54 -23603962.40 0.0089 0.0011

Neptune -69337-02-12 00:28 J -23603874.61 -23603874.48 -23603874.35 0.0089 0.0016

Neptune -69337-05-10 01:40 J -23603786.56 -23603786.43 -23603786.30 0.0089 0.0021

Earth -69337-05-10 07:25 J -23603786.23 -23603786.19 -23603786.16 0.2715 0.2568

Moon -69337-05-10 07:40 J -23603786.21 -23603786.18 -23603786.15 0.2721 0.2561 *

Neptune -69337-08-06 02:52 J -23603698.50 -23603698.38 -23603698.25 0.0089 0.0026

Neptune -69337-11-02 04:04 J -23603610.44 -23603610.33 -23603610.20 0.0089 0.0031

Neptune -69336-01-29 05:30 J -23603522.39 -23603522.27 -23603522.15 0.0089 0.0036

Neptune -69336-04-27 06:42 J -23603434.33 -23603434.22 -23603434.10 0.0089 0.0041

Neptune -69336-07-24 07:54 J -23603346.27 -23603346.17 -23603346.05 0.0089 0.0046

Neptune -69336-10-20 09:21 J -23603258.21 -23603258.11 -23603258.00 0.0089 0.0051

Jupiter -69336-12-03 20:09 J -23603213.80 -23603213.66 -23603213.52 0.0498 0.0320

Neptune -69335-01-16 10:33 J -23603170.15 -23603170.06 -23603169.95 0.0089 0.0056

Jupiter -69335-03-04 07:40 J -23603123.33 -23603123.18 -23603123.03 0.0498 0.0290

Neptune -69335-04-14 11:45 J -23603082.09 -23603082.01 -23603081.90 0.0089 0.0061

Neptune -69335-07-11 13:25 J -23602994.03 -23602993.94 -23602993.85 0.0089 0.0065

Neptune -69335-10-07 14:37 J -23602905.97 -23602905.89 -23602905.81 0.0089 0.0070

Mars -69335-10-08 02:09 J -23602905.50 -23602905.41 -23602905.32 0.1980 0.1184

Neptune -69334-01-03 15:49 J -23602817.90 -23602817.84 -23602817.77 0.0089 0.0075

Neptune -69334-04-01 17:16 J -23602729.83 -23602729.78 -23602729.73 0.0089 0.0080

Neptune -69334-06-28 18:28 J -23602641.76 -23602641.73 -23602641.69 0.0089 0.0085

Moon -69330-05-04 06:28 J -23601236.33 -23601236.23 -23601236.12 0.2709 0.0640

Earth -69330-05-04 07:11 J -23601236.30 -23601236.20 -23601236.09 0.2709 0.0612 *

Uranus -69330-05-05 21:35 J -23601234.64 -23601234.60 -23601234.56 0.0134 0.0126

Mars -69330-06-18 15:35 J -23601191.00 -23601190.85 -23601190.70 0.1566 0.0691

Uranus -69330-08-02 00:28 J -23601146.55 -23601146.48 -23601146.40 0.0134 0.0110

Jupiter -69330-10-28 22:18 J -23601058.69 -23601058.57 -23601058.46 0.0527 0.0207

Uranus -69330-10-29 03:35 J -23601058.44 -23601058.35 -23601058.26 0.0134 0.0094

Venus -69330-11-03 00:57 J -23601053.54 -23601053.46 -23601053.38 0.3814 0.2336

Uranus -69329-01-25 06:28 J -23600970.33 -23600970.23 -23600970.12 0.0134 0.0077

Jupiter -69329-01-26 03:35 J -23600969.45 -23600969.35 -23600969.23 0.0527 0.0262

Uranus -69329-04-22 09:35 J -23600882.22 -23600882.10 -23600881.99 0.0134 0.0061

Uranus -69329-07-19 12:28 J -23600794.10 -23600793.98 -23600793.85 0.0135 0.0044

Uranus -69329-10-15 15:35 J -23600705.98 -23600705.85 -23600705.72 0.0135 0.0027

Uranus -69328-01-11 18:28 J -23600617.86 -23600617.73 -23600617.60 0.0135 0.0011

Uranus -69328-04-09 21:35 J -23600529.73 -23600529.60 -23600529.47 0.0135 0.0006

Uranus -69328-07-07 00:42 J -23600441.60 -23600441.47 -23600441.35 0.0135 0.0023

Uranus -69328-10-03 03:35 J -23600353.47 -23600353.35 -23600353.22 0.0135 0.0040

Uranus -69328-12-30 06:28 J -23600265.34 -23600265.23 -23600265.10 0.0135 0.0058

Uranus -69327-03-28 09:35 J -23600177.20 -23600177.10 -23600176.98 0.0135 0.0074

Uranus -69327-06-24 12:42 J -23600089.06 -23600088.97 -23600088.87 0.0136 0.0091

Uranus -69327-09-20 15:35 J -23600000.91 -23600000.85 -23600000.76 0.0136 0.0109

Moon -69327-10-28 19:11 J -23599962.82 -23599962.70 -23599962.58 0.2621 0.1798

Earth -69327-10-28 20:23 J -23599962.77 -23599962.65 -23599962.52 0.2625 0.1602 *

Uranus -69327-12-17 18:42 J -23599912.75 -23599912.72 -23599912.66 0.0136 0.0126

Saturn -69326-11-30 21:49 J -23599564.69 -23599564.59 -23599564.48 0.0301 0.0177

Saturn -69325-02-27 10:18 J -23599476.19 -23599476.07 -23599475.94 0.0301 0.0043

Mars -69325-02-28 09:49 J -23599475.20 -23599475.09 -23599474.98 0.1981 0.0110

Saturn -69325-05-25 22:47 J -23599387.67 -23599387.55 -23599387.43 0.0300 0.0092

Saturn -69325-08-22 11:01 J -23599299.12 -23599299.04 -23599298.95 0.0300 0.0224

Venus -69324-05-18 17:45 J -23599029.86 -23599029.76 -23599029.66 0.3812 0.0772

Jupiter -69324-09-21 16:47 J -23598903.86 -23598903.80 -23598903.74 0.0498 0.0471

Jupiter -69324-12-21 04:33 J -23598813.49 -23598813.31 -23598813.13 0.0498 0.0139

Mars -69321-11-07 17:59 J -23597760.76 -23597760.75 -23597760.74 0.1566 0.1559

Venus -69319-12-02 10:33 J -23597006.16 -23597006.06 -23597005.96 0.3811 0.0824

Jupiter -69318-08-17 02:09 J -23596748.50 -23596748.41 -23596748.31 0.0527 0.0327

Jupiter -69318-11-14 07:40 J -23596659.30 -23596659.18 -23596659.05 0.0527 0.0141

Moon -69317-05-06 00:28 J -23596485.59 -23596485.48 -23596485.38 0.2715 0.0462

Earth -69317-05-06 00:57 J -23596485.57 -23596485.46 -23596485.36 0.2711 0.0531 *

Mars -69316-07-20 17:16 J -23596044.88 -23596044.78 -23596044.68 0.1982 0.0986

Moon -69314-11-01 02:52 J -23595211.53 -23595211.38 -23595211.22 0.2621 0.0723

Earth -69314-11-01 04:47 J -23595211.45 -23595211.30 -23595211.14 0.2623 0.0786 *

Venus -69313-06-17 03:21 J -23594982.44 -23594982.36 -23594982.28 0.3809 0.2440

Jupiter -69312-10-09 01:11 J -23594503.64 -23594503.45 -23594503.26 0.0498 0.0013

Saturn -69310-03-16 04:33 J -23593980.32 -23593980.31 -23593980.28 0.0261 0.0259

Earth -69310-04-30 00:42 J -23593935.49 -23593935.47 -23593935.44 0.2706 0.2638

Moon -69310-04-30 00:42 J -23593935.48 -23593935.47 -23593935.46 0.2699 0.2679 *

Saturn -69310-06-13 01:54 J -23593891.58 -23593891.42 -23593891.25 0.0261 0.0127

Saturn -69310-09-09 23:16 J -23593802.72 -23593802.53 -23593802.33 0.0262 0.0007

Saturn -69310-12-07 20:37 J -23593713.79 -23593713.64 -23593713.47 0.0262 0.0141

Mars -69309-03-06 11:59 J -23593624.11 -23593624.00 -23593623.90 0.1568 0.1203

Jupiter -69306-06-05 05:59 J -23592438.31 -23592438.25 -23592438.18 0.0528 0.0450

Jupiter -69306-09-02 11:45 J -23592349.14 -23592349.01 -23592348.89 0.0527 0.0023

Jupiter -69306-11-30 17:16 J -23592259.83 -23592259.78 -23592259.73 0.0527 0.0486

Moon -69304-05-08 18:28 J -23591734.82 -23591734.73 -23591734.65 0.2721 0.1652

Earth -69304-05-08 18:28 J -23591734.81 -23591734.73 -23591734.64 0.2713 0.1660 *

Mars -69300-07-27 14:09 J -23590194.08 -23590193.91 -23590193.75 0.1567 0.0323

Jupiter -69300-07-27 21:35 J -23590193.78 -23590193.60 -23590193.42 0.0498 0.0168 *

Jupiter -69300-10-26 09:06 J -23590103.20 -23590103.12 -23590103.03 0.0498 0.0441

Venus -69298-07-12 14:52 J -23589479.01 -23589478.88 -23589478.75 0.3567 0.1681

Moon -69297-05-01 17:59 J -23589184.84 -23589184.75 -23589184.66 0.2703 0.1500

Earth -69297-05-01 18:28 J -23589184.82 -23589184.73 -23589184.64 0.2708 0.1507 *

Saturn -69296-04-19 00:57 J -23588832.55 -23588832.46 -23588832.37 0.0301 0.0206

Saturn -69296-07-16 13:25 J -23588744.06 -23588743.94 -23588743.81 0.0301 0.0071

Saturn -69296-10-13 01:54 J -23588655.55 -23588655.42 -23588655.30 0.0300 0.0063

Saturn -69295-01-09 14:09 J -23588567.00 -23588566.91 -23588566.81 0.0299 0.0195

Mars -69295-04-08 02:23 J -23588478.49 -23588478.40 -23588478.32 0.1979 0.1301

Jupiter -69294-06-21 16:04 J -23588038.95 -23588038.83 -23588038.71 0.0528 0.0097

Jupiter -69294-09-18 21:35 J -23587949.69 -23587949.60 -23587949.51 0.0527 0.0373

Venus -69292-01-25 20:09 J -23587454.80 -23587454.66 -23587454.53 0.3569 0.1588

Mars -69291-12-17 16:18 J -23586763.98 -23586763.82 -23586763.66 0.1566 0.0557

Uranus -69290-06-12 17:01 J -23586586.82 -23586586.79 -23586586.73 0.0144 0.0141

Uranus -69290-09-09 01:54 J -23586498.53 -23586498.42 -23586498.28 0.0144 0.0110

Uranus -69290-12-06 10:47 J -23586410.21 -23586410.05 -23586409.88 0.0144 0.0078

Uranus -69289-03-03 19:40 J -23586321.86 -23586321.68 -23586321.49 0.0144 0.0047

Uranus -69289-05-31 04:18 J -23586233.51 -23586233.32 -23586233.12 0.0144 0.0017

Uranus -69289-08-27 12:57 J -23586145.15 -23586144.96 -23586144.76 0.0144 0.0014

Uranus -69289-11-23 21:35 J -23586056.78 -23586056.60 -23586056.41 0.0144 0.0044

Uranus -69288-02-20 06:13 J -23585968.40 -23585968.24 -23585968.07 0.0144 0.0075

Jupiter -69288-05-15 17:01 J -23585883.93 -23585883.79 -23585883.65 0.0498 0.0331

Uranus -69288-05-19 14:37 J -23585880.01 -23585879.89 -23585879.75 0.0143 0.0105

Jupiter -69288-08-14 04:33 J -23585793.46 -23585793.31 -23585793.15 0.0498 0.0279

Uranus -69288-08-15 23:16 J -23585791.59 -23585791.53 -23585791.46 0.0143 0.0134

Mars -69286-08-29 09:49 J -23585048.21 -23585048.09 -23585047.98 0.1981 0.0222

Moon -69284-05-04 11:16 J -23584434.13 -23584434.03 -23584433.92 0.2710 0.0531

Earth -69284-05-04 11:59 J -23584434.10 -23584434.00 -23584433.89 0.2710 0.0384 *

Jupiter -69282-04-09 20:23 J -23583728.76 -23583728.65 -23583728.53 0.0528 0.0213

Jupiter -69282-07-08 01:54 J -23583639.53 -23583639.42 -23583639.31 0.0528 0.0258

Mars -69281-05-08 18:42 J -23583333.79 -23583333.72 -23583333.66 0.1566 0.1426

Moon -69281-10-29 01:40 J -23583160.57 -23583160.43 -23583160.28 0.2622 0.1237

Earth -69281-10-29 03:21 J -23583160.51 -23583160.36 -23583160.22 0.2625 0.1146 *

Saturn -69281-10-30 01:54 J -23583159.56 -23583159.42 -23583159.26 0.0262 0.0159

Saturn -69280-01-26 23:30 J -23583070.72 -23583070.52 -23583070.33 0.0262 0.0026

Saturn -69280-04-25 20:52 J -23582981.80 -23582981.63 -23582981.45 0.0263 0.0109

Saturn -69280-07-23 18:13 J -23582892.80 -23582892.74 -23582892.66 0.0263 0.0244

Venus -69279-11-24 05:59 J -23582404.30 -23582404.25 -23582404.20 0.3814 0.3344

Mars -69276-01-18 17:16 J -23581617.88 -23581617.78 -23581617.68 0.1982 0.0873

Jupiter -69276-03-03 13:40 J -23581573.97 -23581573.93 -23581573.89 0.0498 0.0484

Jupiter -69276-06-02 01:11 J -23581483.63 -23581483.45 -23581483.27 0.0498 0.0125

Venus -69273-06-08 22:47 J -23580380.65 -23580380.55 -23580380.46 0.3813 0.1801

Moon -69271-05-07 05:16 J -23579683.38 -23579683.28 -23579683.18 0.2717 0.0748

Earth -69271-05-07 05:45 J -23579683.37 -23579683.26 -23579683.16 0.2712 0.0760 *

Jupiter -69270-01-27 00:13 J -23579418.58 -23579418.49 -23579418.39 0.0528 0.0336

Jupiter -69270-04-26 05:45 J -23579329.38 -23579329.26 -23579329.13 0.0527 0.0133

Mars -69270-09-05 12:28 J -23579197.06 -23579196.98 -23579196.89 0.1568 0.1337

Moon -69268-11-01 09:49 J -23578409.24 -23578409.09 -23578408.93 0.2622 0.0974

Earth -69268-11-01 11:45 J -23578409.16 -23578409.01 -23578408.87 0.2623 0.1252 *

Venus -69268-12-23 15:21 J -23578356.96 -23578356.86 -23578356.75 0.3812 0.0260

Mars -69267-06-11 00:42 J -23578187.48 -23578187.47 -23578187.45 0.1982 0.1955

Saturn -69267-09-06 04:04 J -23578100.41 -23578100.33 -23578100.25 0.0302 0.0233

Saturn -69267-12-03 16:33 J -23578011.93 -23578011.81 -23578011.68 0.0301 0.0098

Saturn -69266-03-02 05:01 J -23577923.42 -23577923.29 -23577923.16 0.0300 0.0037

Saturn -69266-05-29 17:16 J -23577834.88 -23577834.78 -23577834.67 0.0300 0.0170

Jupiter -69264-03-20 21:49 J -23577173.77 -23577173.59 -23577173.40 0.0498 0.0028

Moon -69264-04-30 05:30 J -23577133.32 -23577133.27 -23577133.22 0.2699 0.2372

Earth -69264-04-30 05:30 J -23577133.31 -23577133.27 -23577133.22 0.2706 0.2410 *

Venus -69262-07-09 08:23 J -23576333.25 -23576333.15 -23576333.06 0.3810 0.1395

Mars -69260-01-25 14:52 J -23575767.05 -23575766.88 -23575766.72 0.1567 0.0460

Neptune -69259-04-05 08:37 J -23575332.15 -23575332.14 -23575332.10 0.0089 0.0088

Neptune -69259-07-02 12:13 J -23575244.05 -23575243.99 -23575243.89 0.0089 0.0081

Neptune -69259-09-28 16:18 J -23575155.93 -23575155.82 -23575155.71 0.0089 0.0073

Jupiter -69259-11-15 04:18 J -23575108.38 -23575108.32 -23575108.25 0.0527 0.0455

Neptune -69259-12-25 19:40 J -23575067.80 -23575067.68 -23575067.54 0.0089 0.0066

Jupiter -69258-02-12 09:49 J -23575019.21 -23575019.09 -23575018.96 0.0527 0.0017

Neptune -69258-03-23 23:16 J -23574979.66 -23574979.53 -23574979.37 0.0089 0.0059

Moon -69258-05-09 23:16 J -23574932.61 -23574932.53 -23574932.45 0.2721 0.1885

Earth -69258-05-09 23:16 J -23574932.60 -23574932.53 -23574932.45 0.2713 0.1890 *

Jupiter -69258-05-12 15:21 J -23574929.91 -23574929.86 -23574929.81 0.0527 0.0480

Neptune -69258-06-20 03:21 J -23574891.52 -23574891.36 -23574891.20 0.0089 0.0051

Neptune -69258-09-16 06:57 J -23574803.37 -23574803.21 -23574803.03 0.0089 0.0044

Neptune -69258-12-13 10:33 J -23574715.23 -23574715.06 -23574714.87 0.0089 0.0037

Neptune -69257-03-10 14:23 J -23574627.08 -23574626.90 -23574626.71 0.0089 0.0029

Neptune -69257-06-06 18:13 J -23574538.93 -23574538.74 -23574538.55 0.0089 0.0022

Neptune -69257-09-02 21:49 J -23574450.78 -23574450.59 -23574450.39 0.0089 0.0014

Neptune -69257-11-30 01:40 J -23574362.62 -23574362.43 -23574362.23 0.0089 0.0007

Venus -69256-01-22 01:11 J -23574309.51 -23574309.45 -23574309.39 0.3808 0.3019

Neptune -69256-02-26 05:30 J -23574274.47 -23574274.27 -23574274.08 0.0089 0.0001

Neptune -69256-05-25 09:06 J -23574186.31 -23574186.12 -23574185.92 0.0089 0.0008

Neptune -69256-08-21 12:42 J -23574098.16 -23574097.97 -23574097.77 0.0089 0.0016

Mars -69256-10-07 02:23 J -23574051.48 -23574051.40 -23574051.32 0.1979 0.1416

Neptune -69256-11-17 16:33 J -23574010.00 -23574009.81 -23574009.62 0.0089 0.0023

Neptune -69255-02-13 20:09 J -23573921.84 -23573921.66 -23573921.47 0.0089 0.0031

Neptune -69255-05-12 23:59 J -23573833.67 -23573833.50 -23573833.32 0.0089 0.0038

Neptune -69255-08-09 03:35 J -23573745.51 -23573745.35 -23573745.17 0.0089 0.0045

Neptune -69255-11-05 07:25 J -23573657.34 -23573657.19 -23573657.02 0.0088 0.0053

Neptune -69254-02-01 11:16 J -23573569.17 -23573569.03 -23573568.88 0.0088 0.0060

Neptune -69254-04-30 14:37 J -23573481.00 -23573480.89 -23573480.74 0.0088 0.0068

Neptune -69254-07-27 18:42 J -23573392.82 -23573392.72 -23573392.61 0.0088 0.0075

Neptune -69254-10-23 22:04 J -23573304.63 -23573304.58 -23573304.49 0.0088 0.0083

Jupiter -69252-01-06 18:28 J -23572863.90 -23572863.73 -23572863.55 0.0498 0.0180

Jupiter -69252-04-07 06:13 J -23572773.33 -23572773.24 -23572773.15 0.0499 0.0431

Saturn -69251-03-19 02:52 J -23572427.51 -23572427.38 -23572427.24 0.0261 0.0185

Moon -69251-05-02 22:33 J -23572382.65 -23572382.56 -23572382.46 0.2705 0.1400

Earth -69251-05-02 23:16 J -23572382.63 -23572382.53 -23572382.44 0.2708 0.1278 *

Saturn -69251-06-16 00:13 J -23572338.68 -23572338.49 -23572338.30 0.0262 0.0053

Mars -69251-06-17 17:01 J -23572336.95 -23572336.79 -23572336.62 0.1566 0.0416

Saturn -69251-09-12 21:35 J -23572249.78 -23572249.60 -23572249.41 0.0262 0.0082

Saturn -69251-12-10 19:11 J -23572160.80 -23572160.70 -23572160.59 0.0263 0.0216

Jupiter -69247-12-01 13:40 J -23570709.05 -23570708.93 -23570708.80 0.0527 0.0113

Mars -69246-02-27 09:49 J -23570621.21 -23570621.09 -23570620.98 0.1981 0.0330

Jupiter -69246-02-28 19:25 J -23570619.79 -23570619.69 -23570619.60 0.0527 0.0358

Uranus -69246-05-26 05:16 J -23570533.33 -23570533.28 -23570533.23 0.0134 0.0121

Uranus -69246-08-22 08:09 J -23570445.24 -23570445.16 -23570445.08 0.0134 0.0104

Uranus -69246-11-18 11:01 J -23570357.13 -23570357.04 -23570356.93 0.0134 0.0088

Uranus -69245-02-14 14:09 J -23570269.02 -23570268.91 -23570268.80 0.0134 0.0071

Uranus -69245-05-12 17:16 J -23570180.90 -23570180.78 -23570180.66 0.0135 0.0055

Uranus -69245-08-08 20:09 J -23570092.78 -23570092.66 -23570092.53 0.0135 0.0038

Uranus -69245-11-04 23:16 J -23570004.66 -23570004.53 -23570004.40 0.0135 0.0022

Uranus -69244-02-01 02:09 J -23569916.54 -23569916.41 -23569916.28 0.0135 0.0006

Uranus -69244-04-30 05:16 J -23569828.41 -23569828.28 -23569828.15 0.0135 0.0012

Uranus -69244-07-27 08:09 J -23569740.28 -23569740.16 -23569740.03 0.0135 0.0029

Uranus -69244-10-23 11:16 J -23569652.15 -23569652.03 -23569651.91 0.0135 0.0046

Uranus -69243-01-19 14:09 J -23569564.02 -23569563.91 -23569563.79 0.0135 0.0064

Uranus -69243-04-17 17:16 J -23569475.88 -23569475.78 -23569475.67 0.0136 0.0080

Uranus -69243-07-14 20:23 J -23569387.74 -23569387.65 -23569387.56 0.0136 0.0097

Uranus -69243-10-10 23:16 J -23569299.59 -23569299.53 -23569299.45 0.0136 0.0115

Uranus -69242-01-07 02:23 J -23569211.42 -23569211.40 -23569211.36 0.0136 0.0132

Mars -69242-11-07 19:11 J -23568906.79 -23568906.70 -23568906.60 0.1566 0.1290

Venus -69241-02-16 16:04 J -23568805.98 -23568805.83 -23568805.68 0.3567 0.0565

Jupiter -69241-10-25 14:52 J -23568554.02 -23568553.88 -23568553.74 0.0498 0.0334

Jupiter -69240-01-24 02:23 J -23568463.55 -23568463.40 -23568463.24 0.0498 0.0278

Moon -69238-05-05 16:04 J -23567631.93 -23567631.83 -23567631.72 0.2710 0.0192

Earth -69238-05-05 16:47 J -23567631.90 -23567631.80 -23567631.69 0.2710 0.0166 *

Saturn -69237-01-24 07:11 J -23567368.26 -23567368.20 -23567368.14 0.0302 0.0263

Saturn -69237-04-21 19:25 J -23567279.80 -23567279.69 -23567279.57 0.0301 0.0128

Saturn -69237-07-19 08:09 J -23567191.29 -23567191.16 -23567191.04 0.0300 0.0013

Mars -69237-07-19 17:16 J -23567190.88 -23567190.78 -23567190.67 0.1982 0.0756

Saturn -69237-10-15 20:23 J -23567102.76 -23567102.65 -23567102.54 0.0300 0.0140

Saturn -69236-01-12 08:37 J -23567014.19 -23567014.14 -23567014.09 0.0299 0.0271

Venus -69236-09-01 21:06 J -23566781.71 -23566781.62 -23566781.52 0.3569 0.2673

Jupiter -69235-09-19 18:13 J -23566398.86 -23566398.74 -23566398.63 0.0528 0.0227

Moon -69235-10-30 08:23 J -23566358.30 -23566358.15 -23566357.99 0.2621 0.0889

Earth -69235-10-30 10:04 J -23566358.24 -23566358.08 -23566357.92 0.2625 0.0690 *

Jupiter -69235-12-17 23:45 J -23566309.62 -23566309.51 -23566309.40 0.0527 0.0243

Mars -69230-03-06 13:11 J -23564770.01 -23564769.95 -23564769.89 0.1568 0.1468

Pluto -69230-11-07 06:57 J -23564524.23 -23564524.21 -23564524.14 0.0060 0.0059

Pluto -69229-02-03 08:09 J -23564436.22 -23564436.16 -23564436.05 0.0060 0.0054

Pluto -69229-05-01 09:21 J -23564348.19 -23564348.11 -23564347.98 0.0060 0.0049

Pluto -69229-07-28 10:33 J -23564260.16 -23564260.06 -23564259.91 0.0060 0.0044

Jupiter -69229-08-13 10:47 J -23564244.07 -23564244.05 -23564244.03 0.0497 0.0494

Pluto -69229-10-24 12:13 J -23564172.13 -23564171.99 -23564171.84 0.0061 0.0038

Jupiter -69229-11-11 22:18 J -23564153.75 -23564153.57 -23564153.39 0.0498 0.0116

Pluto -69228-01-20 13:25 J -23564084.09 -23564083.94 -23564083.78 0.0061 0.0033

Pluto -69228-04-18 14:37 J -23563996.05 -23563995.89 -23563995.72 0.0061 0.0028

Pluto -69228-07-15 15:49 J -23563908.00 -23563907.84 -23563907.66 0.0061 0.0023

Pluto -69228-10-11 17:16 J -23563819.95 -23563819.78 -23563819.60 0.0061 0.0017

Mars -69228-12-10 00:42 J -23563760.51 -23563760.47 -23563760.44 0.1983 0.1860

Pluto -69227-01-07 18:28 J -23563731.91 -23563731.73 -23563731.55 0.0061 0.0012

Pluto -69227-04-05 19:40 J -23563643.86 -23563643.68 -23563643.49 0.0061 0.0007

Pluto -69227-07-02 21:06 J -23563555.81 -23563555.62 -23563555.44 0.0061 0.0001

Pluto -69227-09-28 22:18 J -23563467.75 -23563467.57 -23563467.39 0.0061 0.0004

Pluto -69227-12-25 23:30 J -23563379.70 -23563379.52 -23563379.33 0.0061 0.0010

Pluto -69226-03-24 00:42 J -23563291.64 -23563291.47 -23563291.28 0.0061 0.0015

Pluto -69226-06-20 01:54 J -23563203.58 -23563203.42 -23563203.24 0.0061 0.0021

Pluto -69226-09-16 03:06 J -23563115.52 -23563115.37 -23563115.19 0.0061 0.0026

Pluto -69226-12-13 04:33 J -23563027.46 -23563027.31 -23563027.14 0.0061 0.0032

Pluto -69225-03-10 05:59 J -23562939.39 -23562939.25 -23562939.10 0.0061 0.0037

Moon -69225-05-07 10:04 J -23562881.18 -23562881.08 -23562880.98 0.2718 0.0891

Earth -69225-05-07 10:33 J -23562881.16 -23562881.06 -23562880.96 0.2712 0.0990 *

Pluto -69225-06-06 06:57 J -23562851.32 -23562851.21 -23562851.06 0.0062 0.0043

Pluto -69225-09-02 08:09 J -23562763.25 -23562763.16 -23562763.02 0.0062 0.0049

Pluto -69225-11-29 09:49 J -23562675.17 -23562675.09 -23562674.99 0.0062 0.0054

Pluto -69224-02-25 10:47 J -23562587.07 -23562587.05 -23562586.98 0.0062 0.0060

Jupiter -69223-07-08 22:33 J -23562088.66 -23562088.56 -23562088.47 0.0528 0.0343

Jupiter -69223-10-06 04:04 J -23561999.45 -23561999.33 -23561999.21 0.0528 0.0127

Venus -69222-07-01 03:49 J -23561731.41 -23561731.34 -23561731.28 0.3814 0.2809

Saturn -69222-08-06 02:37 J -23561695.49 -23561695.39 -23561695.28 0.0261 0.0218

Moon -69222-11-02 16:47 J -23561606.93 -23561606.80 -23561606.68 0.2624 0.1623

Earth -69222-11-02 18:28 J -23561606.85 -23561606.73 -23561606.61 0.2623 0.1705 *

Saturn -69222-11-02 23:59 J -23561606.68 -23561606.50 -23561606.32 0.0262 0.0086 *

Saturn -69221-01-30 21:21 J -23561517.80 -23561517.61 -23561517.42 0.0262 0.0048

Saturn -69221-04-28 18:42 J -23561428.85 -23561428.72 -23561428.57 0.0263 0.0183

Mars -69221-07-26 15:21 J -23561340.01 -23561339.86 -23561339.70 0.1567 0.0595

Moon -69218-05-01 10:18 J -23560331.13 -23560331.07 -23560331.01 0.2699 0.2205

Earth -69218-05-01 10:18 J -23560331.13 -23560331.07 -23560331.00 0.2706 0.2176 *

Jupiter -69217-08-30 18:57 J -23559843.90 -23559843.71 -23559843.53 0.0498 0.0039

Venus -69216-01-13 20:23 J -23559707.75 -23559707.65 -23559707.55 0.3813 0.1242

Mars -69216-04-07 02:09 J -23559624.48 -23559624.41 -23559624.34 0.1980 0.1517

Earth -69212-05-10 04:04 J -23558130.40 -23558130.33 -23558130.26 0.2714 0.2116

Moon -69212-05-10 04:04 J -23558130.39 -23558130.33 -23558130.26 0.2720 0.2161 *

Mars -69212-12-16 17:45 J -23557909.93 -23557909.76 -23557909.59 0.1566 0.0279

Jupiter -69211-04-27 02:37 J -23557778.45 -23557778.39 -23557778.34 0.0528 0.0464

Jupiter -69211-07-25 08:09 J -23557689.29 -23557689.16 -23557689.04 0.0527 0.0019

Venus -69211-07-30 13:11 J -23557684.05 -23557683.95 -23557683.85 0.3811 0.0346

Jupiter -69211-10-22 13:25 J -23557599.99 -23557599.94 -23557599.88 0.0527 0.0473

Saturn -69208-06-12 09:49 J -23556636.11 -23556636.09 -23556636.05 0.0302 0.0292

Saturn -69208-09-08 22:33 J -23556547.67 -23556547.56 -23556547.45 0.0301 0.0156

Saturn -69208-12-06 11:01 J -23556459.17 -23556459.04 -23556458.91 0.0301 0.0021

Saturn -69207-03-04 23:30 J -23556370.64 -23556370.52 -23556370.40 0.0300 0.0113

Saturn -69207-06-01 11:45 J -23556282.08 -23556282.01 -23556281.94 0.0299 0.0244

Mars -69207-08-28 09:49 J -23556194.20 -23556194.09 -23556193.98 0.1981 0.0454

Uranus -69206-07-03 02:09 J -23555885.49 -23555885.41 -23555885.32 0.0144 0.0129

Uranus -69206-09-29 11:01 J -23555797.18 -23555797.04 -23555796.89 0.0144 0.0098

Uranus -69206-12-26 19:40 J -23555708.85 -23555708.68 -23555708.50 0.0144 0.0067

Venus -69205-02-13 05:59 J -23555660.34 -23555660.25 -23555660.16 0.3810 0.1961

Uranus -69205-03-24 04:33 J -23555620.50 -23555620.31 -23555620.12 0.0144 0.0036

Moon -69205-05-03 03:21 J -23555580.46 -23555580.36 -23555580.26 0.2705 0.1081

Earth -69205-05-03 04:04 J -23555580.43 -23555580.33 -23555580.23 0.2708 0.1047 *

Jupiter -69205-06-18 15:21 J -23555534.03 -23555533.86 -23555533.69 0.0498 0.0192

Uranus -69205-06-20 13:11 J -23555532.14 -23555531.95 -23555531.75 0.0144 0.0006

Uranus -69205-09-16 21:49 J -23555443.78 -23555443.59 -23555443.39 0.0144 0.0025

Jupiter -69205-09-17 02:52 J -23555443.47 -23555443.38 -23555443.27 0.0499 0.0420 *

Uranus -69205-12-14 06:28 J -23555355.41 -23555355.23 -23555355.05 0.0144 0.0056

Uranus -69204-03-12 15:06 J -23555267.02 -23555266.87 -23555266.71 0.0143 0.0086

Uranus -69204-06-08 23:16 J -23555178.62 -23555178.53 -23555178.40 0.0143 0.0117

Mars -69202-05-08 20:09 J -23554479.78 -23554479.66 -23554479.55 0.1566 0.1151

Earth -69202-10-28 08:37 J -23554307.15 -23554307.14 -23554307.13 0.2627 0.2616

Venus -69200-08-28 23:01 J -23553636.57 -23553636.54 -23553636.51 0.3808 0.3600

Jupiter -69199-05-13 12:13 J -23553379.12 -23553378.99 -23553378.87 0.0527 0.0115

Jupiter -69199-08-10 17:45 J -23553289.85 -23553289.76 -23553289.67 0.0527 0.0353

Mars -69197-01-18 17:16 J -23552763.89 -23552763.78 -23552763.68 0.1982 0.0652

Jupiter -69193-04-06 11:59 J -23551224.13 -23551224.00 -23551223.86 0.0498 0.0344

Jupiter -69193-07-05 23:45 J -23551133.67 -23551133.51 -23551133.35 0.0498 0.0268

Saturn -69193-12-23 03:21 J -23550963.42 -23550963.36 -23550963.30 0.0261 0.0246

Saturn -69192-03-22 00:28 J -23550874.65 -23550874.48 -23550874.30 0.0261 0.0115

Moon -69192-05-05 21:06 J -23550829.73 -23550829.62 -23550829.52 0.2712 0.0091

Earth -69192-05-05 21:35 J -23550829.70 -23550829.60 -23550829.49 0.2710 0.0111 *

Saturn -69192-06-18 21:49 J -23550785.78 -23550785.59 -23550785.39 0.0262 0.0019

Saturn -69192-09-15 19:25 J -23550696.85 -23550696.69 -23550696.53 0.0262 0.0152

Venus -69190-03-09 11:45 J -23550157.10 -23550157.01 -23550156.91 0.3566 0.2794

Moon -69189-10-30 15:21 J -23549556.02 -23549555.86 -23549555.70 0.2621 0.0359

Earth -69189-10-30 17:01 J -23549555.96 -23549555.79 -23549555.63 0.2625 0.0230 *

Mars -69188-06-10 00:42 J -23549333.52 -23549333.47 -23549333.42 0.1983 0.1735

Jupiter -69187-03-01 16:04 J -23549068.94 -23549068.83 -23549068.72 0.0528 0.0238

Jupiter -69187-05-29 21:35 J -23548979.71 -23548979.60 -23548979.49 0.0527 0.0231

Venus -69185-09-22 17:16 J -23548132.93 -23548132.78 -23548132.63 0.3568 0.0541

Jupiter -69181-01-24 08:37 J -23546914.15 -23546914.14 -23546914.13 0.0498 0.0496

Mars -69181-01-25 16:18 J -23546912.97 -23546912.82 -23546912.67 0.1567 0.0733

Jupiter -69181-04-23 20:23 J -23546823.84 -23546823.65 -23546823.47 0.0498 0.0115

Moon -69179-05-08 14:52 J -23546078.97 -23546078.88 -23546078.78 0.2719 0.1236

Earth -69179-05-08 15:21 J -23546078.96 -23546078.86 -23546078.77 0.2712 0.1215 *

Saturn -69178-01-27 01:25 J -23545815.54 -23545815.44 -23545815.34 0.0301 0.0187

Saturn -69178-04-25 13:54 J -23545727.05 -23545726.92 -23545726.79 0.0301 0.0052

Saturn -69178-07-23 02:23 J -23545638.53 -23545638.40 -23545638.28 0.0300 0.0082

Neptune -69178-10-16 20:23 J -23545552.65 -23545552.65 -23545552.65 0.0089 0.0089

Saturn -69178-10-19 14:37 J -23545549.98 -23545549.89 -23545549.80 0.0299 0.0214

Neptune -69177-01-12 21:21 J -23545464.64 -23545464.61 -23545464.56 0.0089 0.0084

Neptune -69177-04-09 22:47 J -23545376.60 -23545376.55 -23545376.48 0.0089 0.0079

Neptune -69177-07-06 23:59 J -23545288.56 -23545288.50 -23545288.42 0.0089 0.0074

Neptune -69177-10-03 01:25 J -23545200.51 -23545200.44 -23545200.35 0.0089 0.0069

Mars -69177-10-06 02:23 J -23545197.46 -23545197.40 -23545197.34 0.1979 0.1644

Neptune -69177-12-30 02:37 J -23545112.47 -23545112.39 -23545112.29 0.0089 0.0064

Neptune -69176-03-28 04:04 J -23545024.42 -23545024.33 -23545024.23 0.0089 0.0059

Neptune -69176-06-24 05:16 J -23544936.37 -23544936.28 -23544936.16 0.0089 0.0054

Neptune -69176-09-20 06:42 J -23544848.32 -23544848.22 -23544848.10 0.0089 0.0049

Moon -69176-11-02 23:30 J -23544804.63 -23544804.52 -23544804.41 0.2624 0.1920

Earth -69176-11-03 01:25 J -23544804.53 -23544804.44 -23544804.35 0.2622 0.2163 *

Neptune -69176-12-17 07:54 J -23544760.27 -23544760.17 -23544760.04 0.0089 0.0044

Jupiter -69176-12-18 20:23 J -23544758.74 -23544758.65 -23544758.56 0.0528 0.0354

Neptune -69175-03-15 09:21 J -23544672.22 -23544672.11 -23544671.99 0.0089 0.0039

Jupiter -69175-03-18 01:54 J -23544669.54 -23544669.42 -23544669.30 0.0528 0.0116

Neptune -69175-06-11 10:33 J -23544584.17 -23544584.06 -23544583.93 0.0089 0.0034

Neptune -69175-09-07 11:59 J -23544496.12 -23544496.00 -23544495.87 0.0089 0.0029

Neptune -69175-12-04 13:25 J -23544408.07 -23544407.94 -23544407.81 0.0089 0.0024

Neptune -69174-03-02 14:37 J -23544320.02 -23544319.89 -23544319.76 0.0089 0.0019

Neptune -69174-05-29 16:04 J -23544231.96 -23544231.83 -23544231.70 0.0089 0.0014

Neptune -69174-08-25 17:16 J -23544143.91 -23544143.78 -23544143.65 0.0089 0.0009

Neptune -69174-11-21 18:42 J -23544055.86 -23544055.72 -23544055.59 0.0089 0.0004

Neptune -69173-02-17 19:54 J -23543967.80 -23543967.67 -23543967.54 0.0089 0.0002

Neptune -69173-05-15 21:06 J -23543879.75 -23543879.62 -23543879.48 0.0089 0.0007

Neptune -69173-08-11 22:33 J -23543791.69 -23543791.56 -23543791.43 0.0089 0.0012

Neptune -69173-11-07 23:45 J -23543703.64 -23543703.51 -23543703.38 0.0089 0.0017

Neptune -69172-02-04 00:57 J -23543615.58 -23543615.46 -23543615.33 0.0089 0.0022

Moon -69172-05-01 14:52 J -23543528.95 -23543528.88 -23543528.81 0.2701 0.1980

Earth -69172-05-01 15:06 J -23543528.94 -23543528.87 -23543528.79 0.2706 0.1948 *

Neptune -69172-05-03 02:23 J -23543527.52 -23543527.40 -23543527.27 0.0089 0.0027

Mars -69172-06-16 18:28 J -23543482.90 -23543482.73 -23543482.56 0.1566 0.0152

Neptune -69172-07-30 03:35 J -23543439.47 -23543439.35 -23543439.22 0.0089 0.0032

Neptune -69172-10-26 04:47 J -23543351.41 -23543351.30 -23543351.17 0.0089 0.0037

Neptune -69171-01-22 06:13 J -23543263.35 -23543263.24 -23543263.12 0.0089 0.0042

Neptune -69171-04-20 07:25 J -23543175.29 -23543175.19 -23543175.07 0.0089 0.0047

Neptune -69171-07-17 08:37 J -23543087.24 -23543087.14 -23543087.02 0.0089 0.0052

Venus -69171-07-22 08:52 J -23543082.13 -23543082.13 -23543082.13 0.3815 0.3810

Neptune -69171-10-13 09:49 J -23542999.18 -23542999.09 -23542998.98 0.0089 0.0057

Neptune -69170-01-09 11:16 J -23542911.12 -23542911.03 -23542910.93 0.0089 0.0062

Neptune -69170-04-07 12:28 J -23542823.05 -23542822.98 -23542822.88 0.0089 0.0067

Neptune -69170-07-04 13:40 J -23542734.99 -23542734.93 -23542734.84 0.0089 0.0072

Neptune -69170-09-30 15:06 J -23542646.92 -23542646.87 -23542646.79 0.0089 0.0077

Neptune -69170-12-27 16:18 J -23542558.86 -23542558.82 -23542558.76 0.0089 0.0082

Jupiter -69169-02-10 16:18 J -23542514.01 -23542513.82 -23542513.63 0.0498 0.0045

Neptune -69169-03-24 17:59 J -23542470.78 -23542470.75 -23542470.72 0.0089 0.0086

Mars -69167-02-26 09:35 J -23541767.21 -23541767.10 -23541766.99 0.1981 0.0546

Earth -69166-05-11 08:52 J -23541328.18 -23541328.13 -23541328.08 0.2714 0.2345

Moon -69166-05-11 09:06 J -23541328.17 -23541328.12 -23541328.07 0.2720 0.2336 *

Venus -69165-02-05 01:25 J -23541058.52 -23541058.44 -23541058.36 0.3814 0.2265

Jupiter -69164-10-07 00:42 J -23540448.52 -23540448.47 -23540448.41 0.0528 0.0470

Jupiter -69163-01-04 06:13 J -23540359.36 -23540359.24 -23540359.11 0.0528 0.0018

Jupiter -69163-04-03 11:59 J -23540270.06 -23540270.00 -23540269.95 0.0527 0.0470

Saturn -69163-08-08 23:45 J -23540142.66 -23540142.51 -23540142.34 0.0261 0.0151

Saturn -69163-11-05 21:21 J -23540053.80 -23540053.61 -23540053.42 0.0262 0.0018

Mars -69163-11-06 20:52 J -23540052.76 -23540052.63 -23540052.51 0.1566 0.1018

Saturn -69162-02-02 18:42 J -23539964.89 -23539964.72 -23539964.55 0.0262 0.0117

Uranus -69162-03-19 09:35 J -23539920.11 -23539920.10 -23539920.07 0.0134 0.0132

Saturn -69162-05-02 16:04 J -23539875.87 -23539875.83 -23539875.77 0.0263 0.0252

Uranus -69162-06-15 12:28 J -23539832.03 -23539831.98 -23539831.91 0.0134 0.0116

Uranus -69162-09-11 15:35 J -23539743.93 -23539743.85 -23539743.76 0.0134 0.0100

Uranus -69162-12-08 18:28 J -23539655.82 -23539655.73 -23539655.62 0.0134 0.0083

Uranus -69161-03-05 21:35 J -23539567.71 -23539567.60 -23539567.48 0.0134 0.0067

Uranus -69161-06-02 00:28 J -23539479.59 -23539479.48 -23539479.35 0.0135 0.0051

Uranus -69161-08-29 03:35 J -23539391.48 -23539391.35 -23539391.22 0.0135 0.0033

Uranus -69161-11-25 06:42 J -23539303.35 -23539303.22 -23539303.09 0.0135 0.0017

Uranus -69160-02-21 09:35 J -23539215.23 -23539215.10 -23539214.97 0.0135 0.0002

Uranus -69160-05-20 12:42 J -23539127.10 -23539126.97 -23539126.84 0.0135 0.0017

Uranus -69160-08-16 15:35 J -23539038.97 -23539038.85 -23539038.72 0.0135 0.0034

Venus -69160-08-20 18:13 J -23539034.84 -23539034.74 -23539034.64 0.3813 0.0690

Uranus -69160-11-12 18:42 J -23538950.84 -23538950.72 -23538950.60 0.0135 0.0051

Uranus -69159-02-08 21:49 J -23538862.71 -23538862.59 -23538862.48 0.0135 0.0068

Moon -69159-05-04 08:09 J -23538778.26 -23538778.16 -23538778.06 0.2706 0.0928

Earth -69159-05-04 08:52 J -23538778.23 -23538778.13 -23538778.03 0.2709 0.0814 *

Uranus -69159-05-08 00:57 J -23538774.57 -23538774.46 -23538774.36 0.0136 0.0085

Uranus -69159-08-04 03:49 J -23538686.42 -23538686.34 -23538686.25 0.0136 0.0102

Uranus -69159-10-31 06:57 J -23538598.27 -23538598.21 -23538598.15 0.0136 0.0119

Mars -69158-07-19 17:16 J -23538336.89 -23538336.78 -23538336.67 0.1982 0.0532

Jupiter -69158-11-29 12:57 J -23538204.13 -23538203.96 -23538203.79 0.0498 0.0197

Jupiter -69157-02-28 00:28 J -23538113.58 -23538113.48 -23538113.38 0.0498 0.0413

Moon -69156-10-28 14:23 J -23537504.97 -23537504.90 -23537504.83 0.2621 0.2341

Earth -69156-10-28 15:21 J -23537504.95 -23537504.86 -23537504.76 0.2627 0.2155 *

Venus -69154-03-06 11:01 J -23537011.14 -23537011.04 -23537010.94 0.3811 0.0912

Jupiter -69152-10-23 10:18 J -23536049.19 -23536049.07 -23536048.94 0.0527 0.0122

Jupiter -69151-01-20 15:49 J -23535959.93 -23535959.84 -23535959.74 0.0527 0.0348

Saturn -69149-06-15 03:49 J -23535083.42 -23535083.34 -23535083.25 0.0302 0.0221

Saturn -69149-09-11 16:33 J -23534994.94 -23534994.81 -23534994.69 0.0301 0.0085

Venus -69149-09-19 03:49 J -23534987.42 -23534987.34 -23534987.26 0.3809 0.2532

Mars -69149-12-09 00:42 J -23534906.53 -23534906.47 -23534906.40 0.1982 0.1619

Saturn -69149-12-09 05:01 J -23534906.42 -23534906.29 -23534906.17 0.0301 0.0051 *

Saturn -69148-03-07 17:16 J -23534817.88 -23534817.78 -23534817.68 0.0300 0.0183

Moon -69146-05-07 01:54 J -23534027.53 -23534027.42 -23534027.31 0.2714 0.0298

Earth -69146-05-07 02:23 J -23534027.50 -23534027.40 -23534027.29 0.2710 0.0323 *

Jupiter -69146-09-17 09:06 J -23533894.24 -23533894.12 -23533893.98 0.0498 0.0354

Jupiter -69146-12-16 21:06 J -23533803.78 -23533803.62 -23533803.46 0.0499 0.0260

Moon -69143-10-31 22:04 J -23532753.74 -23532753.58 -23532753.41 0.2622 0.0090

Earth -69143-10-31 23:45 J -23532753.67 -23532753.51 -23532753.35 0.2624 0.0232 *

Mars -69142-07-26 17:01 J -23532485.93 -23532485.79 -23532485.65 0.1567 0.0871

Jupiter -69140-08-11 14:37 J -23531739.00 -23531738.89 -23531738.78 0.0527 0.0238

Jupiter -69140-11-08 20:09 J -23531649.77 -23531649.66 -23531649.55 0.0527 0.0230

Mars -69137-04-06 02:09 J -23530770.46 -23530770.41 -23530770.35 0.1979 0.1751

Pluto -69136-03-14 15:21 J -23530427.89 -23530427.86 -23530427.81 0.0084 0.0080

Pluto -69136-06-10 17:01 J -23530339.87 -23530339.79 -23530339.71 0.0084 0.0069

Pluto -69136-09-06 18:13 J -23530251.83 -23530251.74 -23530251.63 0.0084 0.0058

Pluto -69136-12-03 19:54 J -23530163.78 -23530163.67 -23530163.55 0.0084 0.0047

Pluto -69135-03-01 21:35 J -23530075.73 -23530075.60 -23530075.48 0.0084 0.0036

Pluto -69135-05-28 22:47 J -23529987.67 -23529987.55 -23529987.41 0.0084 0.0026

Pluto -69135-08-25 00:28 J -23529899.62 -23529899.48 -23529899.34 0.0084 0.0015

Pluto -69135-11-21 01:54 J -23529811.56 -23529811.42 -23529811.28 0.0083 0.0004

Pluto -69134-02-17 03:21 J -23529723.50 -23529723.36 -23529723.22 0.0083 0.0006

Pluto -69134-05-16 04:47 J -23529635.44 -23529635.30 -23529635.17 0.0083 0.0017

Pluto -69134-08-12 05:59 J -23529547.37 -23529547.25 -23529547.11 0.0083 0.0027

Jupiter -69134-10-04 17:45 J -23529493.94 -23529493.76 -23529493.57 0.0498 0.0109

Venus -69134-10-14 12:57 J -23529484.09 -23529483.96 -23529483.83 0.3566 0.1675

Pluto -69134-11-08 07:25 J -23529459.31 -23529459.19 -23529459.06 0.0083 0.0037

Saturn -69134-12-26 23:59 J -23529410.63 -23529410.50 -23529410.36 0.0261 0.0182

Pluto -69133-02-04 08:52 J -23529371.24 -23529371.13 -23529371.01 0.0083 0.0047

Saturn -69133-03-24 21:21 J -23529321.80 -23529321.61 -23529321.42 0.0261 0.0050

Pluto -69133-05-02 10:18 J -23529283.17 -23529283.07 -23529282.97 0.0083 0.0057

Moon -69133-05-08 19:40 J -23529276.77 -23529276.68 -23529276.58 0.2719 0.1360

Earth -69133-05-08 20:09 J -23529276.75 -23529276.66 -23529276.57 0.2712 0.1446 *

Saturn -69133-06-21 18:42 J -23529232.90 -23529232.72 -23529232.54 0.0262 0.0084

Pluto -69133-07-29 11:30 J -23529195.09 -23529195.02 -23529194.93 0.0083 0.0067

Saturn -69133-09-18 16:04 J -23529143.93 -23529143.83 -23529143.72 0.0262 0.0218

Pluto -69133-10-25 12:57 J -23529107.00 -23529106.96 -23529106.91 0.0082 0.0077

Mars -69133-12-15 19:11 J -23529055.87 -23529055.70 -23529055.53 0.1566 0.0021

Moon -69130-11-04 06:13 J -23528002.28 -23528002.24 -23528002.19 0.2624 0.2502

Earth -69130-11-04 08:09 J -23528002.16 -23528002.16 -23528002.16 0.2622 0.2620

Venus -69128-04-29 18:13 J -23527459.87 -23527459.74 -23527459.60 0.3568 0.1647

Jupiter -69128-05-30 18:28 J -23527428.82 -23527428.73 -23527428.63 0.0527 0.0361

Mars -69128-08-27 09:49 J -23527340.20 -23527340.09 -23527339.99 0.1981 0.0668

Jupiter -69128-08-27 23:59 J -23527339.62 -23527339.50 -23527339.37 0.0527 0.0110

Moon -69126-05-02 19:40 J -23526726.77 -23526726.68 -23526726.60 0.2701 0.1740

Earth -69126-05-02 19:54 J -23526726.75 -23526726.67 -23526726.58 0.2707 0.1720 *

Mars -69123-05-07 21:21 J -23525625.75 -23525625.61 -23525625.47 0.1566 0.0883

Uranus -69122-07-23 10:04 J -23525184.19 -23525184.08 -23525183.98 0.0144 0.0121

Jupiter -69122-07-23 14:23 J -23525184.08 -23525183.90 -23525183.71 0.0498 0.0045 *

Uranus -69122-10-19 18:42 J -23525095.87 -23525095.72 -23525095.56 0.0144 0.0090

Uranus -69121-01-16 03:21 J -23525007.53 -23525007.36 -23525007.17 0.0144 0.0059

Uranus -69121-04-13 12:13 J -23524919.18 -23524918.99 -23524918.80 0.0144 0.0028

Uranus -69121-07-10 20:52 J -23524830.82 -23524830.63 -23524830.43 0.0144 0.0004

Uranus -69121-10-07 05:30 J -23524742.46 -23524742.27 -23524742.08 0.0144 0.0033

Uranus -69120-01-03 14:09 J -23524654.08 -23524653.91 -23524653.73 0.0144 0.0064

Uranus -69120-04-01 22:47 J -23524565.69 -23524565.55 -23524565.40 0.0143 0.0094

Earth -69120-05-11 13:40 J -23524525.96 -23524525.93 -23524525.90 0.2714 0.2568

Moon -69120-05-11 13:54 J -23524525.93 -23524525.92 -23524525.90 0.2721 0.2679 *

Uranus -69120-06-29 07:11 J -23524477.29 -23524477.20 -23524477.10 0.0143 0.0124

Saturn -69120-11-02 06:13 J -23524351.30 -23524351.24 -23524351.17 0.0302 0.0256

Saturn -69119-01-29 18:57 J -23524262.83 -23524262.71 -23524262.59 0.0301 0.0120

Saturn -69119-04-28 07:25 J -23524174.32 -23524174.19 -23524174.06 0.0301 0.0015

Saturn -69119-07-25 19:40 J -23524085.79 -23524085.68 -23524085.56 0.0300 0.0149

Saturn -69119-10-22 07:54 J -23523997.20 -23523997.17 -23523997.12 0.0299 0.0280

Mars -69118-01-17 17:16 J -23523909.89 -23523909.78 -23523909.67 0.1982 0.0424

Jupiter -69116-03-18 22:47 J -23523118.60 -23523118.55 -23523118.50 0.0528 0.0477

Jupiter -69116-06-16 04:18 J -23523029.44 -23523029.32 -23523029.19 0.0528 0.0019

Jupiter -69116-09-13 09:49 J -23522940.14 -23522940.09 -23522940.02 0.0527 0.0462

Venus -69114-02-26 06:28 J -23522409.28 -23522409.23 -23522409.18 0.3815 0.3282

Moon -69113-05-04 12:57 J -23521976.06 -23521975.96 -23521975.85 0.2707 0.0647

Earth -69113-05-04 13:40 J -23521976.04 -23521975.93 -23521975.83 0.2709 0.0587 *

Jupiter -69110-05-11 10:47 J -23520874.22 -23520874.05 -23520873.88 0.0498 0.0199

Jupiter -69110-08-09 22:18 J -23520783.67 -23520783.57 -23520783.46 0.0498 0.0411

Moon -69110-10-29 21:06 J -23520702.74 -23520702.62 -23520702.50 0.2621 0.1709

Earth -69110-10-29 22:18 J -23520702.70 -23520702.57 -23520702.45 0.2626 0.1702 *

Mars -69109-06-09 00:42 J -23520479.54 -23520479.47 -23520479.40 0.1983 0.1519

Venus -69109-09-10 23:16 J -23520385.63 -23520385.53 -23520385.44 0.3814 0.1724

Jupiter -69104-04-04 08:52 J -23518719.25 -23518719.13 -23518719.01 0.0528 0.0123

Saturn -69104-05-14 23:01 J -23518678.64 -23518678.54 -23518678.43 0.0261 0.0219

Jupiter -69104-07-02 14:23 J -23518629.99 -23518629.90 -23518629.80 0.0527 0.0347

Saturn -69104-08-11 20:09 J -23518589.84 -23518589.66 -23518589.47 0.0261 0.0088

Saturn -69104-11-08 17:30 J -23518500.96 -23518500.77 -23518500.58 0.0262 0.0045

Saturn -69103-02-05 14:52 J -23518412.01 -23518411.88 -23518411.73 0.0262 0.0179

Venus -69103-03-27 15:49 J -23518361.94 -23518361.84 -23518361.73 0.3812 0.0150

Mars -69102-01-24 17:45 J -23518058.89 -23518058.76 -23518058.64 0.1567 0.1006

Moon -69100-05-07 06:42 J -23517225.33 -23517225.22 -23517225.11 0.2715 0.0436

Earth -69100-05-07 07:11 J -23517225.30 -23517225.20 -23517225.09 0.2711 0.0549 *

Jupiter -69098-02-27 07:25 J -23516564.32 -23516564.19 -23516564.06 0.0498 0.0351

Jupiter -69098-05-28 19:11 J -23516473.86 -23516473.70 -23516473.54 0.0498 0.0260

Mars -69098-10-06 02:09 J -23516343.44 -23516343.41 -23516343.37 0.1979 0.1860

Venus -69098-10-11 08:37 J -23516338.23 -23516338.14 -23516338.04 0.3811 0.1478

Moon -69097-11-01 04:47 J -23515951.46 -23515951.30 -23515951.14 0.2624 0.0455

Earth -69097-11-01 06:42 J -23515951.38 -23515951.22 -23515951.07 0.2624 0.0693 *

Neptune -69095-12-31 06:42 J -23515161.25 -23515161.22 -23515161.16 0.0089 0.0086

Neptune -69094-03-29 10:18 J -23515073.14 -23515073.07 -23515072.96 0.0089 0.0079

Neptune -69094-06-25 13:54 J -23514985.01 -23514984.92 -23514984.78 0.0089 0.0072

Neptune -69094-09-21 17:59 J -23514896.88 -23514896.75 -23514896.61 0.0089 0.0064

Neptune -69094-12-18 21:21 J -23514808.74 -23514808.61 -23514808.44 0.0089 0.0057

Neptune -69093-03-16 01:25 J -23514720.60 -23514720.44 -23514720.27 0.0089 0.0049

Moon -69093-04-30 07:11 J -23514675.23 -23514675.20 -23514675.17 0.2698 0.2548

Earth -69093-04-30 07:11 J -23514675.22 -23514675.20 -23514675.18 0.2705 0.2615 *

Neptune -69093-06-12 05:01 J -23514632.45 -23514632.29 -23514632.11 0.0089 0.0042

Mars -69093-06-15 19:54 J -23514628.84 -23514628.67 -23514628.50 0.1566 0.0129

Neptune -69093-09-08 08:37 J -23514544.31 -23514544.14 -23514543.95 0.0089 0.0035

Neptune -69093-12-05 12:28 J -23514456.16 -23514455.98 -23514455.79 0.0089 0.0027

Jupiter -69092-01-21 13:11 J -23514409.07 -23514408.95 -23514408.84 0.0527 0.0242

Neptune -69092-03-03 16:18 J -23514368.01 -23514367.82 -23514367.63 0.0089 0.0020

Jupiter -69092-04-20 18:42 J -23514319.84 -23514319.72 -23514319.61 0.0527 0.0228

Venus -69092-04-26 01:40 J -23514314.49 -23514314.43 -23514314.37 0.3809 0.3105

Neptune -69092-05-30 19:54 J -23514279.86 -23514279.67 -23514279.47 0.0089 0.0012

Neptune -69092-08-26 23:45 J -23514191.71 -23514191.51 -23514191.31 0.0089 0.0005

Neptune -69092-11-23 03:35 J -23514103.55 -23514103.35 -23514103.16 0.0089 0.0003

Neptune -69091-02-19 07:11 J -23514015.39 -23514015.20 -23514015.00 0.0089 0.0010

Neptune -69091-05-18 10:47 J -23513927.24 -23513927.05 -23513926.85 0.0089 0.0018

Neptune -69091-08-14 14:37 J -23513839.08 -23513838.89 -23513838.70 0.0089 0.0025

Neptune -69091-11-10 18:13 J -23513750.92 -23513750.74 -23513750.55 0.0089 0.0033

Neptune -69090-02-06 22:04 J -23513662.75 -23513662.58 -23513662.40 0.0089 0.0040

Saturn -69090-03-22 08:23 J -23513619.17 -23513619.15 -23513619.12 0.0302 0.0294

Neptune -69090-05-06 01:25 J -23513574.59 -23513574.44 -23513574.25 0.0089 0.0048

Saturn -69090-06-18 21:06 J -23513530.73 -23513530.62 -23513530.51 0.0302 0.0157

Neptune -69090-08-02 05:16 J -23513486.42 -23513486.28 -23513486.11 0.0089 0.0055

Saturn -69090-09-15 09:35 J -23513442.23 -23513442.10 -23513441.97 0.0301 0.0022

Neptune -69090-10-29 09:21 J -23513398.25 -23513398.11 -23513397.97 0.0089 0.0062

Saturn -69090-12-12 22:04 J -23513353.70 -23513353.58 -23513353.46 0.0300 0.0113

Neptune -69089-01-25 12:42 J -23513310.08 -23513309.97 -23513309.83 0.0089 0.0070

Saturn -69089-03-10 10:18 J -23513265.14 -23513265.07 -23513264.99 0.0300 0.0245

Neptune -69089-04-22 16:33 J -23513221.89 -23513221.81 -23513221.70 0.0089 0.0077

Neptune -69089-07-19 20:09 J -23513133.70 -23513133.66 -23513133.58 0.0089 0.0085

Mars -69088-02-25 09:49 J -23512913.20 -23512913.09 -23512912.99 0.1981 0.0786

Moon -69087-05-10 00:42 J -23512474.55 -23512474.47 -23512474.39 0.2719 0.1717

Earth -69087-05-10 00:57 J -23512474.55 -23512474.46 -23512474.38 0.2713 0.1674 *

Jupiter -69086-03-16 15:35 J -23512164.04 -23512163.85 -23512163.67 0.0499 0.0105

Mars -69084-11-05 22:18 J -23511198.72 -23511198.57 -23511198.42 0.1566 0.0741

Jupiter -69081-11-09 17:30 J -23510098.86 -23510098.77 -23510098.68 0.0527 0.0357

Jupiter -69080-02-06 23:01 J -23510009.67 -23510009.54 -23510009.42 0.0527 0.0113

Moon -69080-05-03 00:13 J -23509924.57 -23509924.49 -23509924.40 0.2702 0.1584

Earth -69080-05-03 00:42 J -23509924.55 -23509924.47 -23509924.38 0.2707 0.1492 *

Mars -69079-07-18 17:16 J -23509482.89 -23509482.78 -23509482.67 0.1982 0.0309

Uranus -69078-04-08 16:33 J -23509218.83 -23509218.81 -23509218.76 0.0134 0.0129

Uranus -69078-07-05 19:54 J -23509130.74 -23509130.67 -23509130.60 0.0134 0.0112

Uranus -69078-10-01 22:33 J -23509042.64 -23509042.56 -23509042.46 0.0134 0.0097

Uranus -69078-12-29 01:40 J -23508954.53 -23508954.43 -23508954.32 0.0134 0.0080

Uranus -69077-03-26 04:33 J -23508866.42 -23508866.31 -23508866.19 0.0134 0.0064

Venus -69077-05-20 14:09 J -23508811.06 -23508810.91 -23508810.76 0.3567 0.0547

Uranus -69077-06-22 07:40 J -23508778.30 -23508778.18 -23508778.06 0.0135 0.0047

Uranus -69077-09-18 10:33 J -23508690.18 -23508690.06 -23508689.93 0.0135 0.0031

Uranus -69077-12-15 13:40 J -23508602.06 -23508601.93 -23508601.80 0.0135 0.0013

Uranus -69076-03-13 16:47 J -23508513.94 -23508513.80 -23508513.67 0.0135 0.0005

Uranus -69076-06-09 19:40 J -23508425.81 -23508425.68 -23508425.55 0.0135 0.0020

Uranus -69076-09-05 22:47 J -23508337.68 -23508337.55 -23508337.43 0.0135 0.0037

Uranus -69076-12-03 01:40 J -23508249.55 -23508249.43 -23508249.31 0.0135 0.0054

Uranus -69075-03-01 04:33 J -23508161.41 -23508161.31 -23508161.19 0.0135 0.0072

Uranus -69075-05-28 07:40 J -23508073.27 -23508073.18 -23508073.07 0.0135 0.0088

Uranus -69075-08-24 10:47 J -23507985.13 -23507985.05 -23507984.96 0.0136 0.0105

Saturn -69075-10-01 22:47 J -23507946.59 -23507946.55 -23507946.51 0.0260 0.0253

Uranus -69075-11-20 13:54 J -23507896.97 -23507896.92 -23507896.86 0.0136 0.0123

Saturn -69075-12-29 19:40 J -23507857.84 -23507857.68 -23507857.50 0.0261 0.0123

Jupiter -69074-01-02 12:28 J -23507854.17 -23507853.98 -23507853.80 0.0498 0.0046

Saturn -69074-03-28 17:16 J -23507768.98 -23507768.78 -23507768.59 0.0261 0.0011

Saturn -69074-06-25 14:37 J -23507680.05 -23507679.89 -23507679.73 0.0262 0.0143

Venus -69072-12-04 19:25 J -23506786.78 -23506786.69 -23506786.59 0.3569 0.2746

Mars -69070-12-09 00:42 J -23506052.55 -23506052.47 -23506052.39 0.1982 0.1398

Jupiter -69069-08-28 21:21 J -23505788.66 -23505788.61 -23505788.56 0.0527 0.0478

Jupiter -69069-11-26 02:52 J -23505699.50 -23505699.38 -23505699.25 0.0527 0.0013

Jupiter -69068-02-23 08:23 J -23505610.21 -23505610.15 -23505610.09 0.0527 0.0459

Moon -69067-05-05 17:45 J -23505173.87 -23505173.76 -23505173.65 0.2709 0.0429

Earth -69067-05-05 18:28 J -23505173.84 -23505173.73 -23505173.62 0.2709 0.0359 *

Moon -69064-10-30 03:49 J -23503900.48 -23503900.34 -23503900.20 0.2621 0.1463

Earth -69064-10-30 05:01 J -23503900.43 -23503900.29 -23503900.15 0.2626 0.1245 *

Mars -69063-07-25 18:13 J -23503631.85 -23503631.74 -23503631.62 0.1567 0.1141

Jupiter -69063-10-21 09:06 J -23503544.29 -23503544.12 -23503543.94 0.0498 0.0196

Jupiter -69062-01-19 20:52 J -23503453.73 -23503453.63 -23503453.53 0.0499 0.0417

Saturn -69061-11-04 23:01 J -23502798.63 -23502798.54 -23502798.44 0.0302 0.0197

Saturn -69060-02-01 11:45 J -23502710.14 -23502710.01 -23502709.89 0.0301 0.0061

Saturn -69060-04-30 23:59 J -23502621.62 -23502621.50 -23502621.37 0.0301 0.0075

Saturn -69060-07-28 12:28 J -23502533.07 -23502532.98 -23502532.89 0.0300 0.0207

Mars -69058-04-06 02:09 J -23501916.41 -23501916.41 -23501916.40 0.1979 0.1976

Venus -69058-10-03 04:18 J -23501736.39 -23501736.32 -23501736.25 0.3815 0.2746

Jupiter -69057-09-14 07:11 J -23501389.32 -23501389.20 -23501389.07 0.0528 0.0127

Jupiter -69057-12-12 12:42 J -23501300.06 -23501299.97 -23501299.87 0.0527 0.0344

Moon -69054-05-08 11:30 J -23500423.12 -23500423.02 -23500422.92 0.2715 0.0740

Earth -69054-05-08 11:59 J -23500423.10 -23500423.00 -23500422.89 0.2711 0.0774 *

Mars -69054-12-15 20:37 J -23500201.81 -23500201.64 -23500201.48 0.1566 0.0265

Venus -69052-04-17 20:52 J -23499712.73 -23499712.63 -23499712.53 0.3813 0.1175

Jupiter -69051-08-09 05:45 J -23499234.39 -23499234.26 -23499234.12 0.0498 0.0349

Moon -69051-11-02 11:30 J -23499149.17 -23499149.02 -23499148.87 0.2624 0.1038

Earth -69051-11-02 13:25 J -23499149.09 -23499148.94 -23499148.79 0.2624 0.1143 *

Jupiter -69051-11-07 17:30 J -23499143.93 -23499143.77 -23499143.61 0.0498 0.0263

Mars -69049-08-26 09:35 J -23498486.20 -23498486.10 -23498485.99 0.1981 0.0889

Moon -69047-05-01 11:45 J -23497873.05 -23497873.01 -23497872.96 0.2699 0.2447

Earth -69047-05-01 11:59 J -23497873.05 -23497873.00 -23497872.95 0.2705 0.2384 *

Venus -69047-11-01 13:40 J -23497689.04 -23497688.93 -23497688.83 0.3812 0.0432

Saturn -69045-05-17 18:13 J -23497125.88 -23497125.74 -23497125.58 0.0261 0.0164

Jupiter -69045-07-03 11:45 J -23497079.12 -23497079.01 -23497078.90 0.0528 0.0241

Saturn -69045-08-14 15:35 J -23497037.04 -23497036.85 -23497036.66 0.0261 0.0032

Jupiter -69045-09-30 17:16 J -23496989.89 -23496989.78 -23496989.67 0.0527 0.0230

Saturn -69045-11-11 12:57 J -23496948.14 -23496947.96 -23496947.79 0.0262 0.0101

Saturn -69044-02-08 10:04 J -23496859.16 -23496859.08 -23496858.99 0.0262 0.0235

Mars -69044-05-06 22:47 J -23496771.70 -23496771.55 -23496771.39 0.1566 0.0609

Moon -69041-05-10 05:45 J -23495672.34 -23495672.26 -23495672.19 0.2720 0.1866

Earth -69041-05-10 05:45 J -23495672.34 -23495672.26 -23495672.19 0.2713 0.1902 *

Venus -69041-05-17 06:28 J -23495665.32 -23495665.23 -23495665.14 0.3810 0.2043

Mars -69039-01-16 17:16 J -23495055.89 -23495055.78 -23495055.67 0.1982 0.0197

Jupiter -69039-08-26 14:23 J -23494834.09 -23494833.90 -23494833.72 0.0498 0.0113

Uranus -69038-08-12 16:18 J -23494482.92 -23494482.82 -23494482.69 0.0144 0.0117

Uranus -69038-11-09 01:11 J -23494394.60 -23494394.45 -23494394.28 0.0144 0.0085

Uranus -69037-02-05 10:04 J -23494306.26 -23494306.08 -23494305.89 0.0144 0.0054

Uranus -69037-05-03 18:57 J -23494217.91 -23494217.71 -23494217.52 0.0144 0.0023

Uranus -69037-07-31 03:35 J -23494129.55 -23494129.35 -23494129.15 0.0144 0.0007

Uranus -69037-10-27 12:13 J -23494041.18 -23494040.99 -23494040.80 0.0144 0.0038

Uranus -69036-01-23 20:37 J -23493952.80 -23493952.64 -23493952.46 0.0144 0.0069

Uranus -69036-04-22 05:16 J -23493864.41 -23493864.28 -23493864.13 0.0143 0.0099

Uranus -69036-07-19 13:54 J -23493776.00 -23493775.92 -23493775.83 0.0143 0.0128

Venus -69036-11-30 23:30 J -23493641.55 -23493641.52 -23493641.50 0.3808 0.3687

Mars -69035-09-27 01:11 J -23493341.50 -23493341.45 -23493341.40 0.1566 0.1480

Moon -69034-05-04 05:01 J -23493122.38 -23493122.29 -23493122.19 0.2702 0.1267

Earth -69034-05-04 05:30 J -23493122.36 -23493122.27 -23493122.17 0.2707 0.1261 *

Jupiter -69033-04-21 16:04 J -23492768.92 -23492768.83 -23492768.74 0.0527 0.0356

Jupiter -69033-07-19 21:35 J -23492679.72 -23492679.60 -23492679.48 0.0527 0.0113

Saturn -69031-03-25 00:28 J -23492066.55 -23492066.48 -23492066.40 0.0302 0.0242

Saturn -69031-06-21 13:11 J -23491978.07 -23491977.95 -23491977.83 0.0302 0.0105

Saturn -69031-09-18 01:40 J -23491889.56 -23491889.43 -23491889.30 0.0301 0.0031

Saturn -69031-12-15 14:09 J -23491801.02 -23491800.91 -23491800.81 0.0300 0.0165

Saturn -69030-03-14 02:23 J -23491712.41 -23491712.40 -23491712.38 0.0300 0.0297

Mars -69030-06-09 00:42 J -23491625.55 -23491625.47 -23491625.38 0.1982 0.1282

Jupiter -69027-06-14 10:33 J -23490524.25 -23490524.06 -23490523.88 0.0499 0.0046

Venus -69026-06-11 09:49 J -23490162.18 -23490162.09 -23490162.00 0.3565 0.2794

Mars -69023-01-23 19:11 J -23489204.80 -23489204.70 -23489204.61 0.1567 0.1281

Jupiter -69021-02-08 20:37 J -23488458.70 -23488458.64 -23488458.59 0.0527 0.0470

Moon -69021-05-05 22:33 J -23488371.67 -23488371.56 -23488371.45 0.2711 0.0243

Earth -69021-05-05 23:16 J -23488371.64 -23488371.53 -23488371.42 0.2709 0.0136 *

Jupiter -69021-05-08 02:09 J -23488369.54 -23488369.41 -23488369.29 0.0527 0.0016

Jupiter -69021-08-05 07:25 J -23488280.24 -23488280.19 -23488280.13 0.0526 0.0467

Venus -69021-12-25 15:21 J -23488138.00 -23488137.86 -23488137.71 0.3567 0.0604

Moon -69018-10-31 10:18 J -23487098.23 -23487098.07 -23487097.91 0.2623 0.0835

Earth -69018-10-31 11:45 J -23487098.16 -23487098.01 -23487097.85 0.2626 0.0794 *

Saturn -69016-10-04 17:30 J -23486393.89 -23486393.77 -23486393.64 0.0260 0.0200

Saturn -69015-01-01 14:37 J -23486305.07 -23486304.89 -23486304.70 0.0261 0.0070

Saturn -69015-03-31 11:45 J -23486216.19 -23486216.01 -23486215.81 0.0261 0.0063

Jupiter -69015-04-02 07:25 J -23486214.36 -23486214.19 -23486214.02 0.0499 0.0194

Saturn -69015-06-28 09:06 J -23486127.24 -23486127.12 -23486126.99 0.0262 0.0196

Jupiter -69015-07-01 19:11 J -23486123.80 -23486123.70 -23486123.60 0.0499 0.0420

Mars -69014-06-15 21:21 J -23485774.77 -23485774.61 -23485774.45 0.1566 0.0404

Neptune -69013-07-12 19:25 J -23485381.69 -23485381.69 -23485381.66 0.0089 0.0088

Neptune -69013-10-08 20:52 J -23485293.66 -23485293.63 -23485293.57 0.0089 0.0083

Neptune -69012-01-04 22:18 J -23485205.63 -23485205.57 -23485205.50 0.0089 0.0078

Neptune -69012-04-02 23:30 J -23485117.58 -23485117.52 -23485117.43 0.0089 0.0073

Neptune -69012-06-30 00:57 J -23485029.54 -23485029.46 -23485029.37 0.0089 0.0068

Neptune -69012-09-26 02:09 J -23484941.49 -23484941.41 -23484941.31 0.0089 0.0063

Neptune -69012-12-23 03:35 J -23484853.44 -23484853.35 -23484853.25 0.0089 0.0058

Neptune -69011-03-21 04:47 J -23484765.40 -23484765.30 -23484765.18 0.0089 0.0053

Neptune -69011-06-17 06:13 J -23484677.35 -23484677.24 -23484677.13 0.0089 0.0048

Neptune -69011-09-13 07:25 J -23484589.30 -23484589.19 -23484589.07 0.0089 0.0043

Neptune -69011-12-10 08:52 J -23484501.25 -23484501.13 -23484501.01 0.0089 0.0037

Neptune -69010-03-08 10:04 J -23484413.19 -23484413.08 -23484412.95 0.0089 0.0033

Neptune -69010-06-04 11:30 J -23484325.14 -23484325.02 -23484324.89 0.0089 0.0027

Neptune -69010-08-31 12:42 J -23484237.09 -23484236.97 -23484236.84 0.0089 0.0023

Neptune -69010-11-27 14:09 J -23484149.04 -23484148.91 -23484148.78 0.0089 0.0017

Neptune -69009-02-23 15:21 J -23484060.99 -23484060.86 -23484060.72 0.0089 0.0013

Jupiter -69009-02-25 05:59 J -23484059.37 -23484059.25 -23484059.12 0.0527 0.0124

Mars -69009-02-25 09:35 J -23484059.19 -23484059.10 -23484059.00 0.1981 0.1006 *

Neptune -69009-05-21 16:47 J -23483972.93 -23483972.80 -23483972.67 0.0089 0.0007

Jupiter -69009-05-24 11:30 J -23483970.11 -23483970.02 -23483969.92 0.0527 0.0346

Neptune -69009-08-17 17:59 J -23483884.88 -23483884.75 -23483884.61 0.0089 0.0003

Neptune -69009-11-13 19:25 J -23483796.82 -23483796.69 -23483796.56 0.0089 0.0003

Neptune -69008-02-09 20:37 J -23483708.77 -23483708.64 -23483708.51 0.0089 0.0008

Moon -69008-05-08 16:18 J -23483620.92 -23483620.82 -23483620.72 0.2716 0.0931

Earth -69008-05-08 16:47 J -23483620.90 -23483620.80 -23483620.70 0.2711 0.0999 *

Neptune -69008-05-08 22:04 J -23483620.71 -23483620.58 -23483620.45 0.0089 0.0013 *

Neptune -69008-08-04 23:16 J -23483532.66 -23483532.53 -23483532.40 0.0089 0.0018

Neptune -69008-11-01 00:28 J -23483444.60 -23483444.48 -23483444.35 0.0089 0.0023

Neptune -69007-01-28 01:54 J -23483356.55 -23483356.42 -23483356.30 0.0089 0.0028

Neptune -69007-04-26 03:06 J -23483268.49 -23483268.37 -23483268.24 0.0089 0.0033

Neptune -69007-07-23 04:18 J -23483180.43 -23483180.32 -23483180.19 0.0089 0.0038

Neptune -69007-10-19 05:45 J -23483092.37 -23483092.26 -23483092.14 0.0089 0.0043

Venus -69007-10-24 09:21 J -23483087.13 -23483087.11 -23483087.10 0.3815 0.3756

Neptune -69006-01-15 06:57 J -23483004.31 -23483004.21 -23483004.09 0.0089 0.0048

Neptune -69006-04-13 08:09 J -23482916.26 -23482916.16 -23482916.05 0.0089 0.0053

Neptune -69006-07-10 09:35 J -23482828.19 -23482828.10 -23482828.00 0.0089 0.0058

Neptune -69006-10-06 10:47 J -23482740.13 -23482740.05 -23482739.95 0.0089 0.0063

Neptune -69005-01-02 11:59 J -23482652.07 -23482652.00 -23482651.90 0.0089 0.0068

Neptune -69005-03-30 13:25 J -23482564.01 -23482563.94 -23482563.86 0.0089 0.0073

Neptune -69005-06-26 14:37 J -23482475.94 -23482475.89 -23482475.82 0.0089 0.0078

Neptune -69005-09-22 15:49 J -23482387.87 -23482387.84 -23482387.78 0.0089 0.0083

Moon -69005-11-02 18:28 J -23482346.87 -23482346.73 -23482346.59 0.2623 0.1324

Earth -69005-11-02 20:09 J -23482346.78 -23482346.66 -23482346.53 0.2623 0.1601 *

Mars -69005-11-04 23:30 J -23482344.68 -23482344.52 -23482344.36 0.1566 0.0474

Neptune -69005-12-19 17:16 J -23482299.79 -23482299.78 -23482299.76 0.0089 0.0088

Jupiter -69003-01-19 04:18 J -23481904.45 -23481904.32 -23481904.18 0.0498 0.0343

Jupiter -69003-04-19 16:18 J -23481813.98 -23481813.82 -23481813.66 0.0499 0.0271

Saturn -69002-08-12 02:09 J -23481334.45 -23481334.41 -23481334.37 0.0303 0.0285

Saturn -69002-11-08 14:52 J -23481245.99 -23481245.88 -23481245.77 0.0302 0.0148

Saturn -69001-02-05 03:21 J -23481157.49 -23481157.36 -23481157.23 0.0302 0.0012

Moon -69001-05-01 16:33 J -23481070.88 -23481070.81 -23481070.74 0.2699 0.2117

Earth -69001-05-01 16:47 J -23481070.86 -23481070.80 -23481070.74 0.2705 0.2159 *

Saturn -69001-05-03 15:49 J -23481068.96 -23481068.84 -23481068.72 0.0301 0.0122

Venus -69001-05-09 01:54 J -23481063.50 -23481063.42 -23481063.34 0.3814 0.2199

Saturn -69001-07-31 04:04 J -23480980.39 -23480980.33 -23480980.26 0.0300 0.0255

69TH MILLENNIUM BCE

This is a list of transits of Mercury in the 69th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Mars	**-69000-07-17 17:16**	**J**	**-23480628.90**	**-23480628.78**	**-23480628.67**	**0.1982**	**0.0090**	
Jupiter	**-68998-12-14 10:18**	**J**	**-23479749.18**	**-23479749.07**	**-23479748.95**	**0.0527**	**0.0240**	
Jupiter	**-68997-03-12 15:49**	**J**	**-23479659.95**	**-23479659.84**	**-23479659.72**	**0.0527**	**0.0232**	
Venus	**-68996-11-22 18:42**	**J**	**-23479039.83**	**-23479039.72**	**-23479039.62**	**0.3813**	**0.0641**	
Mars	**-68995-03-28 01:54**	**J**	**-23478914.51**	**-23478914.42**	**-23478914.34**	**0.1566**	**0.1348**	
Earth	**-68995-05-11 10:33**	**J**	**-23478870.13**	**-23478870.06**	**-23478870.00**	**0.2713**	**0.2129**	
Moon	**-68995-05-11 10:33**	**J**	**-23478870.12**	**-23478870.06**	**-23478870.00**	**0.2720**	**0.2182**	*****
Uranus	**-68994-04-28 23:59**	**J**	**-23478517.54**	**-23478517.50**	**-23478517.45**	**0.0134**	**0.0125**	
Uranus	**-68994-07-26 02:52**	**J**	**-23478429.45**	**-23478429.38**	**-23478429.30**	**0.0134**	**0.0109**	
Uranus	**-68994-10-22 05:59**	**J**	**-23478341.35**	**-23478341.25**	**-23478341.16**	**0.0134**	**0.0092**	
Uranus	**-68993-01-18 08:52**	**J**	**-23478253.24**	**-23478253.13**	**-23478253.02**	**0.0134**	**0.0076**	
Uranus	**-68993-04-15 11:45**	**J**	**-23478165.12**	**-23478165.01**	**-23478164.89**	**0.0134**	**0.0060**	
Uranus	**-68993-07-12 14:37**	**J**	**-23478077.01**	**-23478076.89**	**-23478076.76**	**0.0134**	**0.0044**	
Uranus	**-68993-10-08 17:45**	**J**	**-23477988.89**	**-23477988.76**	**-23477988.63**	**0.0135**	**0.0027**	
Uranus	**-68992-01-04 20:52**	**J**	**-23477900.76**	**-23477900.63**	**-23477900.50**	**0.0135**	**0.0010**	
Uranus	**-68992-04-02 23:45**	**J**	**-23477812.64**	**-23477812.51**	**-23477812.38**	**0.0135**	**0.0007**	
Uranus	**-68992-06-30 02:52**	**J**	**-23477724.51**	**-23477724.38**	**-23477724.25**	**0.0135**	**0.0024**	
Uranus	**-68992-09-26 05:45**	**J**	**-23477636.38**	**-23477636.26**	**-23477636.13**	**0.0135**	**0.0041**	

Jupiter -68992-11-07 01:25 J -23477594.47 -23477594.44 -23477594.42 0.0498 0.0493

Uranus -68992-12-23 08:52 J -23477548.25 -23477548.13 -23477548.01 0.0135 0.0058

Jupiter -68991-02-05 12:57 J -23477504.14 -23477503.96 -23477503.77 0.0498 0.0120

Uranus -68991-03-21 11:59 J -23477460.11 -23477460.00 -23477459.89 0.0135 0.0075

Uranus -68991-06-17 14:52 J -23477371.97 -23477371.88 -23477371.78 0.0135 0.0092

Uranus -68991-09-13 17:59 J -23477283.83 -23477283.75 -23477283.67 0.0136 0.0109

Mars -68991-12-08 00:28 J -23477198.57 -23477198.48 -23477198.39 0.1983 0.1186

Uranus -68991-12-10 21:06 J -23477195.67 -23477195.62 -23477195.57 0.0136 0.0126

Venus -68990-06-08 11:30 J -23477016.12 -23477016.02 -23477015.92 0.3812 0.1005

Moon -68988-05-04 09:49 J -23476320.19 -23476320.09 -23476319.99 0.2704 0.1147

Earth -68988-05-04 10:18 J -23476320.17 -23476320.07 -23476319.97 0.2707 0.1032 *

Saturn -68986-02-21 15:21 J -23475661.91 -23475661.86 -23475661.78 0.0260 0.0244

Saturn -68986-05-21 12:42 J -23475573.15 -23475572.97 -23475572.80 0.0261 0.0114

Saturn -68986-08-18 09:49 J -23475484.28 -23475484.09 -23475483.90 0.0261 0.0018

Jupiter -68986-10-02 14:52 J -23475438.97 -23475438.88 -23475438.79 0.0528 0.0354

Saturn -68986-11-15 06:57 J -23475395.36 -23475395.21 -23475395.05 0.0262 0.0151

Jupiter -68986-12-30 20:23 J -23475349.77 -23475349.65 -23475349.52 0.0527 0.0117

Venus -68985-12-22 04:18 J -23474992.40 -23474992.32 -23474992.25 0.3810 0.2623

Mars -68984-07-24 19:40 J -23474777.75 -23474777.68 -23474777.61 0.1567 0.1415

Pluto -68983-12-16 18:28 J -23474267.78 -23474267.73 -23474267.66 0.0060 0.0057

Pluto -68982-03-14 19:40 J -23474179.76 -23474179.68 -23474179.58 0.0060 0.0052

Pluto -68982-06-10 20:52 J -23474091.74 -23474091.63 -23474091.51 0.0060 0.0047

Pluto -68982-09-06 21:49 J -23474003.70 -23474003.59 -23474003.44 0.0061 0.0042

Pluto -68982-12-03 23:01 J -23473915.67 -23473915.54 -23473915.38 0.0061 0.0037

Pluto -68981-03-01 00:13 J -23473827.63 -23473827.49 -23473827.31 0.0061 0.0032

Pluto -68981-05-28 01:54 J -23473739.58 -23473739.42 -23473739.25 0.0061 0.0026

Pluto -68981-08-24 03:06 J -23473651.54 -23473651.37 -23473651.20 0.0061 0.0021

Pluto -68981-11-20 04:18 J -23473563.49 -23473563.32 -23473563.14 0.0061 0.0016

Pluto -68980-02-16 05:30 J -23473475.44 -23473475.27 -23473475.08 0.0061 0.0011

Pluto -68980-05-15 06:57 J -23473387.39 -23473387.21 -23473387.03 0.0061 0.0005

Pluto -68980-08-11 08:09 J -23473299.34 -23473299.16 -23473298.97 0.0061 0.0001

Pluto -68980-11-07 09:21 J -23473211.29 -23473211.11 -23473210.92 0.0061 0.0006

Jupiter -68980-11-24 09:49 J -23473194.27 -23473194.09 -23473193.90 0.0498 0.0033

Pluto -68979-02-03 10:33 J -23473123.23 -23473123.06 -23473122.87 0.0061 0.0011

Pluto -68979-05-02 11:59 J -23473035.18 -23473035.00 -23473034.82 0.0061 0.0016

Pluto -68979-07-29 12:57 J -23472947.12 -23472946.96 -23472946.77 0.0061 0.0022

Pluto -68979-10-25 14:23 J -23472859.06 -23472858.90 -23472858.73 0.0061 0.0027

Pluto -68978-01-21 15:49 J -23472770.99 -23472770.84 -23472770.68 0.0061 0.0033

Pluto -68978-04-19 16:47 J -23472682.92 -23472682.80 -23472682.64 0.0062 0.0039

Pluto -68978-07-16 18:28 J -23472594.85 -23472594.73 -23472594.60 0.0062 0.0044

Pluto -68978-10-12 19:25 J -23472506.78 -23472506.69 -23472506.56 0.0062 0.0050

Pluto -68977-01-08 20:37 J -23472418.69 -23472418.64 -23472418.54 0.0062 0.0056

Pluto -68977-04-05 22:18 J -23472330.58 -23472330.57 -23472330.53 0.0062 0.0061

Moon -68975-05-07 03:21 J -23471569.47 -23471569.36 -23471569.25 0.2711 0.0072

Earth -68975-05-07 04:04 J -23471569.44 -23471569.33 -23471569.22 0.2709 0.0113 *

Mars -68975-12-14 22:04 J -23471347.74 -23471347.58 -23471347.42 0.1566 0.0540

Jupiter -68974-07-21 19:25 J -23471128.74 -23471128.69 -23471128.63 0.0527 0.0466

Jupiter -68974-10-19 00:57 J -23471039.59 -23471039.46 -23471039.33 0.0527 0.0005

Jupiter -68973-01-16 06:28 J -23470950.28 -23470950.23 -23470950.18 0.0526 0.0471

Saturn -68972-03-27 15:49 J -23470513.93 -23470513.84 -23470513.74 0.0302 0.0197

Saturn -68972-06-24 04:33 J -23470425.44 -23470425.31 -23470425.19 0.0302 0.0061

Saturn -68972-09-20 17:01 J -23470336.92 -23470336.79 -23470336.67 0.0301 0.0075

Moon -68972-10-31 17:01 J -23470295.95 -23470295.79 -23470295.63 0.2623 0.0603

Earth -68972-10-31 18:42 J -23470295.88 -23470295.72 -23470295.56 0.2625 0.0338 *

Saturn -68972-12-18 05:16 J -23470248.37 -23470248.28 -23470248.18 0.0300 0.0209

Mars -68970-08-26 09:49 J -23469632.18 -23469632.09 -23469632.00 0.1981 0.1127

Venus -68969-01-16 11:16 J -23469489.17 -23469489.03 -23469488.90 0.3566 0.1639

Jupiter -68968-09-12 05:59 J -23468884.43 -23468884.25 -23468884.08 0.0499 0.0191

Jupiter -68968-12-11 17:45 J -23468793.86 -23468793.76 -23468793.66 0.0499 0.0425

Mars -68965-05-06 00:28 J -23467917.65 -23467917.48 -23467917.32 0.1566 0.0336

Venus -68964-08-01 16:47 J -23467464.94 -23467464.80 -23467464.67 0.3568 0.1721

Moon -68962-05-09 21:21 J -23466818.71 -23466818.61 -23466818.52 0.2717 0.1183

Earth -68962-05-09 21:35 J -23466818.69 -23466818.60 -23466818.50 0.2711 0.1229 *

Jupiter -68962-08-07 05:30 J -23466729.39 -23466729.27 -23466729.15 0.0527 0.0110

Jupiter -68962-11-04 11:01 J -23466640.13 -23466640.04 -23466639.95 0.0526 0.0358

Mars -68960-01-15 17:16 J -23466201.90 -23466201.78 -23466201.67 0.1982 0.0084

Moon -68959-11-04 01:11 J -23465544.56 -23465544.45 -23465544.34 0.2624 0.1974

Earth -68959-11-04 03:06 J -23465544.47 -23465544.37 -23465544.27 0.2623 0.2049 *

Saturn -68957-10-07 11:30 J -23464841.18 -23464841.02 -23464840.87 0.0260 0.0153

Saturn -68956-01-04 08:37 J -23464752.33 -23464752.14 -23464751.95 0.0260 0.0023

Saturn -68956-04-03 05:45 J -23464663.43 -23464663.26 -23464663.08 0.0261 0.0110

Jupiter -68956-07-01 02:52 J -23464574.51 -23464574.38 -23464574.24 0.0499 0.0339

Saturn -68956-07-01 03:06 J -23464574.44 -23464574.37 -23464574.30 0.0261 0.0243 *

Mars -68956-09-26 02:37 J -23464487.50 -23464487.39 -23464487.28 0.1565 0.1208

Jupiter -68956-09-29 14:52 J -23464484.03 -23464483.88 -23464483.72 0.0499 0.0277

Moon -68955-05-02 21:21 J -23464268.68 -23464268.61 -23464268.54 0.2699 0.2007

Earth -68955-05-02 21:35 J -23464268.68 -23464268.60 -23464268.53 0.2706 0.1927 *

Uranus -68954-09-01 21:49 J -23463781.69 -23463781.59 -23463781.46 0.0144 0.0116

Uranus -68954-11-29 06:42 J -23463693.37 -23463693.22 -23463693.05 0.0144 0.0085

Uranus -68953-02-25 15:35 J -23463605.03 -23463604.85 -23463604.67 0.0144 0.0054

Uranus -68953-05-24 00:13 J -23463516.68 -23463516.49 -23463516.29 0.0144 0.0023

Uranus -68953-08-20 09:06 J -23463428.32 -23463428.12 -23463427.93 0.0144 0.0008

Uranus -68953-11-16 17:30 J -23463339.95 -23463339.77 -23463339.57 0.0144 0.0039

Uranus -68952-02-13 02:23 J -23463251.57 -23463251.40 -23463251.23 0.0144 0.0069

Uranus -68952-05-12 10:33 J -23463163.18 -23463163.06 -23463162.90 0.0143 0.0100

Uranus -68952-08-08 19:11 J -23463074.77 -23463074.70 -23463074.61 0.0143 0.0129

Mars -68951-06-08 00:42 J -23462771.57 -23462771.47 -23462771.38 0.1983 0.1058

Jupiter -68950-05-26 09:35 J -23462419.21 -23462419.10 -23462418.99 0.0527 0.0231

Venus -68950-05-31 06:57 J -23462414.26 -23462414.21 -23462414.15 0.3815 0.3215

Jupiter -68950-08-23 15:06 J -23462329.99 -23462329.87 -23462329.76 0.0527 0.0239

Earth -68949-05-11 15:21 J -23462067.92 -23462067.86 -23462067.81 0.2713 0.2354

Moon -68949-05-11 15:21 J -23462067.91 -23462067.86 -23462067.81 0.2720 0.2349 *

Venus -68945-12-13 23:45 J -23460390.61 -23460390.51 -23460390.42 0.3814 0.1655

Mars -68944-01-22 20:23 J -23460350.67 -23460350.65 -23460350.63 0.1567 0.1552

Jupiter -68944-04-18 23:59 J -23460264.53 -23460264.50 -23460264.45 0.0498 0.0486

Jupiter -68944-07-18 11:59 J -23460174.18 -23460174.00 -23460173.82 0.0499 0.0130

Saturn -68943-08-14 17:01 J -23459781.86 -23459781.79 -23459781.72 0.0303 0.0246

Saturn -68943-11-11 05:30 J -23459693.39 -23459693.27 -23459693.14 0.0302 0.0109

Saturn -68942-02-07 18:13 J -23459604.87 -23459604.74 -23459604.61 0.0302 0.0028

Moon -68942-05-05 14:37 J -23459518.00 -23459517.89 -23459517.79 0.2706 0.0820

Earth -68942-05-05 15:06 J -23459517.97 -23459517.87 -23459517.76 0.2708 0.0806 *

Saturn -68942-05-07 06:28 J -23459516.33 -23459516.23 -23459516.12 0.0301 0.0162

Saturn -68942-08-03 18:57 J -23459427.73 -23459427.71 -23459427.69 0.0300 0.0294

Venus -68939-06-29 16:18 J -23458366.92 -23458366.82 -23458366.72 0.3813 0.0067

Moon -68939-10-29 16:18 J -23458244.89 -23458244.82 -23458244.75 0.2622 0.2363

Earth -68939-10-29 17:16 J -23458244.86 -23458244.78 -23458244.70 0.2628 0.2259 *

Jupiter -68938-03-14 13:54 J -23458109.01 -23458108.92 -23458108.82 0.0527 0.0347

Jupiter -68938-06-11 19:25 J -23458019.81 -23458019.69 -23458019.57 0.0527 0.0123

Mars -68935-06-14 22:33 J -23456920.71 -23456920.56 -23456920.40 0.1566 0.0670

Venus -68933-01-13 09:06 J -23456343.21 -23456343.12 -23456343.02 0.3811 0.1570

Jupiter -68932-05-06 08:52 J -23455864.31 -23455864.13 -23455863.94 0.0498 0.0024

Mars -68930-02-24 09:35 J -23455205.19 -23455205.10 -23455205.01 0.1981 0.1219

Neptune -68930-09-27 05:01 J -23454990.34 -23454990.29 -23454990.22 0.0089 0.0084

Neptune -68930-12-24 08:23 J -23454902.22 -23454902.15 -23454902.03 0.0089 0.0077

Neptune -68929-03-21 12:42 J -23454814.09 -23454813.97 -23454813.85 0.0089 0.0069

Moon -68929-05-07 08:09 J -23454767.27 -23454767.16 -23454767.05 0.2711 0.0200

Earth -68929-05-07 08:52 J -23454767.24 -23454767.13 -23454767.03 0.2710 0.0333 *

Neptune -68929-06-17 16:04 J -23454725.96 -23454725.83 -23454725.68 0.0089 0.0062

Neptune -68929-09-13 19:40 J -23454637.82 -23454637.68 -23454637.51 0.0089 0.0055

Neptune -68929-12-10 23:45 J -23454549.67 -23454549.51 -23454549.34 0.0089 0.0047

Neptune -68928-03-09 03:21 J -23454461.53 -23454461.36 -23454461.18 0.0089 0.0040

Neptune -68928-06-05 07:11 J -23454373.38 -23454373.20 -23454373.01 0.0089 0.0032

Venus -68928-07-29 02:09 J -23454319.47 -23454319.41 -23454319.36 0.3809 0.3206

Neptune -68928-09-01 10:47 J -23454285.23 -23454285.05 -23454284.85 0.0089 0.0025

Neptune -68928-11-28 14:23 J -23454197.08 -23454196.90 -23454196.70 0.0089 0.0018

Saturn -68927-02-24 09:06 J -23454109.24 -23454109.12 -23454109.00 0.0260 0.0199

Neptune -68927-02-24 18:28 J -23454108.93 -23454108.73 -23454108.54 0.0089 0.0010

Neptune -68927-05-23 22:04 J -23454020.78 -23454020.58 -23454020.38 0.0089 0.0002

Saturn -68927-05-24 06:13 J -23454020.43 -23454020.24 -23454020.06 0.0260 0.0069 *

Neptune -68927-08-20 01:40 J -23453932.62 -23453932.43 -23453932.23 0.0089 0.0006

Saturn -68927-08-21 03:21 J -23453931.55 -23453931.36 -23453931.17 0.0261 0.0063

Neptune -68927-11-16 05:30 J -23453844.46 -23453844.27 -23453844.07 0.0089 0.0013

Saturn -68927-11-18 00:28 J -23453842.60 -23453842.48 -23453842.35 0.0261 0.0195

Jupiter -68927-12-31 18:28 J -23453798.79 -23453798.73 -23453798.67 0.0528 0.0461

Neptune -68926-02-12 09:21 J -23453756.31 -23453756.11 -23453755.92 0.0089 0.0020

Jupiter -68926-03-30 23:59 J -23453709.63 -23453709.50 -23453709.38 0.0527 0.0013

Neptune -68926-05-11 12:42 J -23453668.14 -23453667.97 -23453667.77 0.0089 0.0028

Jupiter -68926-06-28 05:30 J -23453620.32 -23453620.27 -23453620.22 0.0527 0.0479

Neptune -68926-08-07 16:33 J -23453579.98 -23453579.81 -23453579.62 0.0089 0.0035

Moon -68926-11-01 23:45 J -23453493.68 -23453493.51 -23453493.35 0.2623 0.0061

Earth -68926-11-02 01:25 J -23453493.60 -23453493.44 -23453493.27 0.2625 0.0128 *

Neptune -68926-11-03 20:09 J -23453491.82 -23453491.66 -23453491.47 0.0089 0.0043

Mars -68926-11-05 00:57 J -23453490.62 -23453490.46 -23453490.29 0.1566 0.0202

Neptune -68925-01-30 23:59 J -23453403.65 -23453403.50 -23453403.33 0.0089 0.0050

Neptune -68925-04-28 03:35 J -23453315.49 -23453315.35 -23453315.19 0.0089 0.0057

Neptune -68925-07-25 07:25 J -23453227.31 -23453227.19 -23453227.05 0.0089 0.0065

Neptune -68925-10-21 11:16 J -23453139.14 -23453139.03 -23453138.91 0.0089 0.0072

Neptune -68924-01-17 14:37 J -23453050.95 -23453050.89 -23453050.78 0.0089 0.0080

Neptune -68924-04-15 18:42 J -23452962.75 -23452962.72 -23452962.68 0.0089 0.0087

Mars -68921-07-16 17:16 J -23451774.89 -23451774.78 -23451774.67 0.1982 0.0149

Jupiter -68920-02-22 05:59 J -23451554.43 -23451554.25 -23451554.07 0.0498 0.0170

Jupiter -68920-05-23 17:30 J -23451463.85 -23451463.77 -23451463.68 0.0499 0.0444

Mars -68916-03-27 03:21 J -23450060.48 -23450060.36 -23450060.24 0.1566 0.1071

Moon -68916-05-10 02:09 J -23450016.50 -23450016.41 -23450016.32 0.2718 0.1467

Earth -68916-05-10 02:23 J -23450016.49 -23450016.40 -23450016.31 0.2712 0.1455 *

Jupiter -68914-01-17 04:33 J -23449399.43 -23449399.31 -23449399.18 0.0527 0.0103

Jupiter -68914-04-16 10:04 J -23449310.17 -23449310.08 -23449309.99 0.0527 0.0366

Saturn -68913-01-01 17:30 J -23449049.78 -23449049.77 -23449049.75 0.0303 0.0300

Saturn -68913-03-30 06:13 J -23448961.35 -23448961.24 -23448961.13 0.0302 0.0162

Saturn -68913-06-26 18:57 J -23448872.84 -23448872.71 -23448872.59 0.0302 0.0028

Venus -68913-08-22 12:28 J -23448816.13 -23448815.98 -23448815.83 0.3566 0.0494

Saturn -68913-09-23 07:25 J -23448784.31 -23448784.19 -23448784.07 0.0301 0.0110

Moon -68913-11-04 08:09 J -23448742.24 -23448742.16 -23448742.08 0.2625 0.2244

Earth -68913-11-04 09:49 J -23448742.13 -23448742.09 -23448742.04 0.2623 0.2510 *

Saturn -68913-12-20 19:40 J -23448695.75 -23448695.68 -23448695.60 0.0301 0.0244

Mars -68912-12-07 00:42 J -23448344.57 -23448344.47 -23448344.37 0.1982 0.0946

Uranus -68910-05-19 07:11 J -23447816.25 -23447816.20 -23447816.14 0.0134 0.0121

Uranus -68910-08-15 10:04 J -23447728.15 -23447728.08 -23447727.99 0.0134 0.0105

Uranus -68910-11-11 13:11 J -23447640.05 -23447639.95 -23447639.85 0.0134 0.0089

Uranus -68909-02-07 16:04 J -23447551.94 -23447551.83 -23447551.72 0.0134 0.0072

Moon -68909-05-03 02:09 J -23447466.50 -23447466.41 -23447466.33 0.2700 0.1683

Earth -68909-05-03 02:23 J -23447466.48 -23447466.40 -23447466.32 0.2706 0.1699 *

Uranus -68909-05-05 19:11 J -23447463.82 -23447463.70 -23447463.58 0.0134 0.0056

Uranus -68909-08-01 22:04 J -23447375.71 -23447375.58 -23447375.45 0.0135 0.0039

Uranus -68909-10-29 00:57 J -23447287.59 -23447287.46 -23447287.33 0.0135 0.0023

Jupiter -68909-12-11 01:40 J -23447244.56 -23447244.43 -23447244.29 0.0499 0.0332

Uranus -68908-01-25 04:04 J -23447199.46 -23447199.33 -23447199.20 0.0135 0.0006

Jupiter -68908-03-11 13:40 J -23447154.08 -23447153.93 -23447153.78 0.0499 0.0285

Uranus -68908-04-23 06:57 J -23447111.34 -23447111.21 -23447111.08 0.0135 0.0012

Uranus -68908-07-20 10:04 J -23447023.21 -23447023.08 -23447022.95 0.0135 0.0028

Uranus -68908-10-16 12:57 J -23446935.08 -23446934.96 -23446934.83 0.0135 0.0045

Uranus -68907-01-12 16:04 J -23446846.95 -23446846.83 -23446846.71 0.0135 0.0062

Venus -68907-03-08 17:45 J -23446791.85 -23446791.76 -23446791.67 0.3568 0.2826

Uranus -68907-04-10 19:11 J -23446758.81 -23446758.70 -23446758.60 0.0135 0.0079

Uranus -68907-07-07 22:04 J -23446670.67 -23446670.58 -23446670.48 0.0135 0.0096

Uranus -68907-10-04 01:11 J -23446582.52 -23446582.45 -23446582.38 0.0136 0.0113

Uranus -68907-12-31 04:04 J -23446494.35 -23446494.33 -23446494.29 0.0136 0.0131

Earth -68903-05-12 20:09 J -23445265.69 -23445265.66 -23445265.63 0.2713 0.2583

Moon -68903-05-12 20:09 J -23445265.68 -23445265.66 -23445265.63 0.2720 0.2620 *

Jupiter -68903-11-05 09:06 J -23445089.23 -23445089.12 -23445089.00 0.0527 0.0215

Jupiter -68902-02-02 14:37 J -23445000.00 -23444999.89 -23444999.78 0.0526 0.0254

Saturn -68898-07-14 07:25 J -23443377.25 -23443377.19 -23443377.11 0.0259 0.0240

Saturn -68898-10-11 04:33 J -23443288.48 -23443288.31 -23443288.13 0.0260 0.0111

Saturn -68897-01-08 01:40 J -23443199.62 -23443199.43 -23443199.24 0.0260 0.0020

Saturn -68897-04-05 22:47 J -23443110.70 -23443110.55 -23443110.39 0.0261 0.0152

Jupiter -68897-09-28 22:47 J -23442934.59 -23442934.55 -23442934.50 0.0499 0.0479

Jupiter -68897-12-28 10:47 J -23442844.23 -23442844.05 -23442843.87 0.0499 0.0137

Moon -68896-05-05 19:11 J -23442715.80 -23442715.70 -23442715.59 0.2707 0.0724

Earth -68896-05-05 19:54 J -23442715.77 -23442715.67 -23442715.56 0.2708 0.0577 *

Mars -68896-12-13 23:30 J -23442493.66 -23442493.52 -23442493.38 0.1566 0.0814

Venus -68893-01-05 04:47 J -23441741.37 -23441741.30 -23441741.23 0.3815 0.2672

Moon -68893-10-29 22:47 J -23441442.66 -23441442.55 -23441442.44 0.2623 0.1933

Earth -68893-10-29 23:59 J -23441442.62 -23441442.50 -23441442.38 0.2627 0.1800 *

Jupiter -68891-08-24 13:11 J -23440779.04 -23440778.95 -23440778.85 0.0527 0.0335

Mars -68891-08-25 09:35 J -23440778.18 -23440778.10 -23440778.01 0.1981 0.1345

Jupiter -68891-11-21 18:42 J -23440689.84 -23440689.72 -23440689.60 0.0527 0.0134

Pluto -68889-04-23 03:49 J -23440171.39 -23440171.34 -23440171.27 0.0084 0.0076

Pluto -68889-07-20 05:30 J -23440083.36 -23440083.27 -23440083.18 0.0084 0.0065

Pluto -68889-10-16 06:42 J -23439995.31 -23439995.22 -23439995.10 0.0084 0.0054

Pluto -68888-01-12 08:23 J -23439907.27 -23439907.15 -23439907.03 0.0084 0.0043

Pluto -68888-04-10 09:49 J -23439819.21 -23439819.09 -23439818.96 0.0084 0.0032

Pluto -68888-07-07 11:16 J -23439731.16 -23439731.03 -23439730.89 0.0084 0.0022

Venus -68888-07-20 21:21 J -23439717.71 -23439717.61 -23439717.51 0.3814 0.1096

Pluto -68888-10-03 12:42 J -23439643.10 -23439642.97 -23439642.82 0.0083 0.0012

Pluto -68888-12-30 14:23 J -23439555.04 -23439554.90 -23439554.76 0.0083 0.0002

Pluto -68887-03-28 15:35 J -23439466.98 -23439466.85 -23439466.70 0.0083 0.0011

Pluto -68887-06-24 17:01 J -23439378.92 -23439378.79 -23439378.65 0.0083 0.0020

Pluto -68887-09-20 18:28 J -23439290.85 -23439290.73 -23439290.60 0.0083 0.0030

Pluto -68887-12-17 19:54 J -23439202.79 -23439202.67 -23439202.55 0.0083 0.0040

Pluto -68886-03-15 21:06 J -23439114.72 -23439114.62 -23439114.50 0.0083 0.0051

Mars -68886-05-06 01:40 J -23439063.60 -23439063.43 -23439063.26 0.1566 0.0066

Pluto -68886-06-11 22:18 J -23439026.64 -23439026.57 -23439026.46 0.0083 0.0061

Pluto -68886-09-07 23:45 J -23438938.57 -23438938.51 -23438938.42 0.0082 0.0071

Pluto -68886-12-05 01:25 J -23438850.47 -23438850.44 -23438850.41 0.0082 0.0080

Jupiter -68885-10-16 08:09 J -23438534.35 -23438534.16 -23438533.97 0.0499 0.0011

Saturn -68884-08-17 07:11 J -23438229.29 -23438229.20 -23438229.11 0.0303 0.0212

Saturn -68884-11-13 19:54 J -23438140.79 -23438140.67 -23438140.54 0.0302 0.0075

Saturn -68883-02-10 08:23 J -23438052.27 -23438052.15 -23438052.02 0.0302 0.0061

Moon -68883-05-08 12:57 J -23437965.06 -23437964.96 -23437964.85 0.2713 0.0546

Earth -68883-05-08 13:40 J -23437965.04 -23437964.93 -23437964.83 0.2710 0.0558 *

Saturn -68883-05-09 20:52 J -23437963.73 -23437963.63 -23437963.53 0.0301 0.0195

Venus -68882-02-03 14:09 J -23437694.01 -23437693.91 -23437693.81 0.3812 0.0514

Mars -68881-01-15 17:16 J -23437347.90 -23437347.78 -23437347.67 0.1982 0.0265

Moon -68880-11-02 06:28 J -23436691.39 -23436691.23 -23436691.06 0.2623 0.0339

Earth -68880-11-02 08:23 J -23436691.31 -23436691.15 -23436690.99 0.2625 0.0582 *

Jupiter -68879-06-12 17:30 J -23436468.83 -23436468.77 -23436468.70 0.0527 0.0451

Jupiter -68879-09-09 23:01 J -23436379.66 -23436379.54 -23436379.41 0.0527 0.0022

Jupiter -68879-12-08 04:33 J -23436290.35 -23436290.31 -23436290.26 0.0526 0.0487

Venus -68877-08-19 06:57 J -23435670.30 -23435670.21 -23435670.12 0.3811 0.2140

Mars -68877-09-25 04:04 J -23435633.47 -23435633.33 -23435633.20 0.1566 0.0938

Moon -68876-05-01 13:40 J -23435414.96 -23435414.93 -23435414.90 0.2697 0.2578

Earth -68876-05-01 13:25 J -23435414.96 -23435414.94 -23435414.91 0.2704 0.2594 *

Jupiter -68873-08-04 05:01 J -23434224.46 -23434224.29 -23434224.11 0.0498 0.0159

Jupiter -68873-11-02 16:47 J -23434133.87 -23434133.80 -23434133.72 0.0499 0.0456

Mars -68872-06-07 00:28 J -23433917.58 -23433917.48 -23433917.37 0.1983 0.0846

Venus -68871-03-04 23:45 J -23433646.51 -23433646.51 -23433646.50 0.3809 0.3792

Moon -68870-05-11 06:57 J -23433214.29 -23433214.21 -23433214.12 0.2719 0.1622

Earth -68870-05-11 07:11 J -23433214.28 -23433214.20 -23433214.12 0.2712 0.1681 *

Uranus -68870-06-25 19:25 J -23433168.70 -23433168.69 -23433168.66 0.0144 0.0143

Uranus -68870-09-22 04:04 J -23433080.44 -23433080.33 -23433080.19 0.0144 0.0113

Uranus -68870-12-19 12:57 J -23432992.11 -23432991.96 -23432991.79 0.0144 0.0081

Uranus -68869-03-16 21:49 J -23432903.77 -23432903.59 -23432903.40 0.0144 0.0050

Uranus -68869-06-13 06:42 J -23432815.42 -23432815.22 -23432815.03 0.0144 0.0019

Uranus -68869-09-09 15:21 J -23432727.06 -23432726.86 -23432726.67 0.0144 0.0011

Uranus -68869-12-06 23:59 J -23432638.69 -23432638.50 -23432638.31 0.0144 0.0042

Saturn -68868-02-27 01:54 J -23432556.56 -23432556.42 -23432556.26 0.0260 0.0158

Uranus -68868-03-05 08:23 J -23432550.31 -23432550.15 -23432549.97 0.0144 0.0072

Saturn -68868-05-26 23:01 J -23432467.73 -23432467.54 -23432467.34 0.0260 0.0028

Uranus -68868-06-01 17:01 J -23432461.92 -23432461.79 -23432461.65 0.0143 0.0102

Saturn -68868-08-23 20:09 J -23432378.83 -23432378.66 -23432378.48 0.0261 0.0104

Uranus -68868-08-29 01:25 J -23432373.50 -23432373.44 -23432373.36 0.0143 0.0133

Saturn -68868-11-20 17:16 J -23432289.85 -23432289.78 -23432289.69 0.0261 0.0237

Jupiter -68867-06-29 03:35 J -23432069.47 -23432069.35 -23432069.22 0.0527 0.0096

Jupiter -68867-09-26 09:06 J -23431980.21 -23431980.12 -23431980.03 0.0527 0.0374

Moon -68863-05-04 06:42 J -23430664.31 -23430664.22 -23430664.13 0.2701 0.1538

Earth -68863-05-04 07:11 J -23430664.29 -23430664.20 -23430664.11 0.2706 0.1465 *

Mars -68863-10-28 08:09 J -23430487.18 -23430487.16 -23430487.14 0.1982 0.1924

Venus -68862-09-13 07:54 J -23430167.26 -23430167.17 -23430167.07 0.3565 0.2780

Jupiter -68861-05-23 02:09 J -23429914.56 -23429914.41 -23429914.26 0.0498 0.0307

Jupiter -68861-08-21 13:54 J -23429824.07 -23429823.92 -23429823.77 0.0499 0.0308

Venus -68856-03-29 13:40 J -23428143.08 -23428142.93 -23428142.78 0.3567 0.0646

Mars -68856-06-14 00:13 J -23428066.63 -23428066.49 -23428066.36 0.1566 0.0948

Jupiter -68855-04-17 08:23 J -23427759.27 -23427759.15 -23427759.04 0.0527 0.0206

Jupiter -68855-07-15 13:54 J -23427670.03 -23427669.92 -23427669.81 0.0527 0.0264

Saturn -68854-01-04 07:25 J -23427497.24 -23427497.19 -23427497.13 0.0303 0.0270

Saturn -68854-04-02 20:09 J -23427408.77 -23427408.66 -23427408.54 0.0302 0.0132

Saturn -68854-06-30 08:52 J -23427320.26 -23427320.13 -23427320.00 0.0302 0.0007

Saturn -68854-09-26 21:21 J -23427231.72 -23427231.61 -23427231.50 0.0301 0.0140

Saturn -68854-12-24 09:35 J -23427143.14 -23427143.10 -23427143.04 0.0301 0.0274

Mars -68851-02-23 09:49 J -23426351.17 -23426351.09 -23426351.02 0.1981 0.1462

Moon -68850-05-06 23:59 J -23425913.60 -23425913.50 -23425913.39 0.2707 0.0377

Earth -68850-05-07 00:42 J -23425913.57 -23425913.47 -23425913.36 0.2708 0.0353 *

Jupiter -68849-03-10 21:49 J -23425604.65 -23425604.59 -23425604.53 0.0499 0.0470

Jupiter -68849-06-09 09:35 J -23425514.27 -23425514.10 -23425513.91 0.0499 0.0147

Neptune -68848-04-08 19:25 J -23425210.71 -23425210.69 -23425210.65 0.0089 0.0086

Neptune -68848-07-05 20:37 J -23425122.68 -23425122.64 -23425122.58 0.0089 0.0081

Neptune -68848-10-01 22:04 J -23425034.64 -23425034.58 -23425034.51 0.0089 0.0076

Neptune -68848-12-28 23:16 J -23424946.60 -23424946.53 -23424946.44 0.0089 0.0071

Neptune -68847-03-27 00:42 J -23424858.55 -23424858.47 -23424858.38 0.0089 0.0066

Neptune -68847-06-23 01:54 J -23424770.51 -23424770.42 -23424770.32 0.0089 0.0061

Neptune -68847-09-19 03:21 J -23424682.46 -23424682.36 -23424682.25 0.0089 0.0056

Moon -68847-10-31 05:16 J -23424640.41 -23424640.28 -23424640.14 0.2623 0.1444

Earth -68847-10-31 06:42 J -23424640.36 -23424640.22 -23424640.08 0.2627 0.1349 *

Mars -68847-11-04 02:37 J -23424636.56 -23424636.39 -23424636.22 0.1566 0.0087

Neptune -68847-12-16 04:33 J -23424594.41 -23424594.31 -23424594.19 0.0089 0.0051

Neptune -68846-03-14 05:59 J -23424506.36 -23424506.25 -23424506.14 0.0089 0.0046

Neptune -68846-06-10 07:11 J -23424418.31 -23424418.20 -23424418.08 0.0089 0.0041

Neptune -68846-09-06 08:37 J -23424330.26 -23424330.14 -23424330.02 0.0089 0.0036

Neptune -68846-12-03 09:49 J -23424242.21 -23424242.09 -23424241.96 0.0089 0.0031

Neptune -68845-02-29 11:16 J -23424154.16 -23424154.03 -23424153.90 0.0089 0.0026

Neptune -68845-05-27 12:28 J -23424066.10 -23424065.98 -23424065.85 0.0089 0.0021

Neptune -68845-08-23 13:54 J -23423978.05 -23423977.92 -23423977.79 0.0089 0.0016

Neptune -68845-11-19 15:06 J -23423890.00 -23423889.87 -23423889.74 0.0089 0.0011

Neptune -68844-02-15 16:33 J -23423801.94 -23423801.81 -23423801.68 0.0089 0.0006

Neptune -68844-05-14 17:45 J -23423713.89 -23423713.76 -23423713.63 0.0089 0.0001

Neptune -68844-08-10 19:11 J -23423625.84 -23423625.70 -23423625.57 0.0089 0.0005

Neptune -68844-11-06 20:23 J -23423537.78 -23423537.65 -23423537.52 0.0089 0.0010

Neptune -68843-02-02 21:35 J -23423449.73 -23423449.60 -23423449.47 0.0089 0.0015

Jupiter -68843-02-03 12:57 J -23423449.06 -23423448.96 -23423448.86 0.0527 0.0317

Neptune -68843-05-01 23:01 J -23423361.67 -23423361.54 -23423361.41 0.0089 0.0020

Jupiter -68843-05-03 18:28 J -23423359.85 -23423359.73 -23423359.61 0.0526 0.0152

Neptune -68843-07-29 00:13 J -23423273.61 -23423273.49 -23423273.36 0.0089 0.0025

Neptune -68843-10-25 01:25 J -23423185.56 -23423185.44 -23423185.31 0.0089 0.0030

Neptune -68842-01-21 02:52 J -23423097.50 -23423097.38 -23423097.26 0.0089 0.0035

Venus -68842-01-26 09:49 J -23423092.11 -23423092.09 -23423092.07 0.3816 0.3687

Neptune -68842-04-19 04:04 J -23423009.44 -23423009.33 -23423009.21 0.0089 0.0040

Neptune -68842-07-16 05:16 J -23422921.38 -23422921.28 -23422921.16 0.0089 0.0045

Mars -68842-07-16 17:01 J -23422920.90 -23422920.79 -23422920.67 0.1982 0.0374

Neptune -68842-10-12 06:42 J -23422833.32 -23422833.22 -23422833.11 0.0089 0.0050

Neptune -68841-01-08 07:54 J -23422745.26 -23422745.17 -23422745.06 0.0089 0.0055

Neptune -68841-04-05 09:06 J -23422657.20 -23422657.12 -23422657.01 0.0089 0.0060

Neptune -68841-07-02 10:33 J -23422569.14 -23422569.06 -23422568.96 0.0089 0.0065

Neptune -68841-09-28 11:45 J -23422481.08 -23422481.01 -23422480.92 0.0089 0.0070

Neptune -68841-12-25 13:11 J -23422393.01 -23422392.95 -23422392.88 0.0089 0.0075

Neptune -68840-03-23 14:23 J -23422304.95 -23422304.90 -23422304.84 0.0089 0.0080

Neptune -68840-06-19 15:35 J -23422216.87 -23422216.85 -23422216.80 0.0089 0.0085

Saturn -68839-07-17 00:13 J -23421824.60 -23421824.49 -23421824.36 0.0259 0.0200

Saturn -68839-10-13 21:21 J -23421735.79 -23421735.61 -23421735.42 0.0260 0.0071

Saturn -68838-01-10 18:28 J -23421646.92 -23421646.73 -23421646.54 0.0260 0.0060

Saturn -68838-04-09 15:35 J -23421557.97 -23421557.85 -23421557.72 0.0261 0.0192

Mars -68837-03-26 04:47 J -23421206.45 -23421206.30 -23421206.16 0.1565 0.0801

Jupiter -68837-03-28 06:57 J -23421204.40 -23421204.21 -23421204.02 0.0499 0.0007

Moon -68837-05-08 17:59 J -23421162.86 -23421162.75 -23421162.65 0.2715 0.0668

Earth -68837-05-08 18:28 J -23421162.84 -23421162.73 -23421162.63 0.2710 0.0785 *

Venus -68837-08-11 02:23 J -23421068.48 -23421068.40 -23421068.31 0.3815 0.2122

Moon -68834-11-03 13:25 J -23419889.09 -23419888.94 -23419888.79 0.2624 0.0907

Earth -68834-11-03 15:06 J -23419889.02 -23419888.87 -23419888.72 0.2625 0.1040 *

Mars -68833-12-06 00:42 J -23419490.58 -23419490.47 -23419490.37 0.1982 0.0726

Jupiter -68832-11-22 17:01 J -23419138.85 -23419138.79 -23419138.72 0.0527 0.0437

Jupiter -68831-02-19 22:33 J -23419049.68 -23419049.56 -23419049.43 0.0527 0.0033

Venus -68831-02-24 18:57 J -23419044.81 -23419044.71 -23419044.60 0.3814 0.0567

Jupiter -68831-05-20 04:04 J -23418960.37 -23418960.33 -23418960.29 0.0526 0.0500

Moon -68830-05-02 18:28 J -23418612.79 -23418612.73 -23418612.68 0.2697 0.2342

Earth -68830-05-02 18:13 J -23418612.79 -23418612.74 -23418612.69 0.2704 0.2368 *

Uranus -68826-03-12 11:30 J -23417203.03 -23417203.02 -23417203.01 0.0134 0.0133

Uranus -68826-06-08 14:23 J -23417114.95 -23417114.90 -23417114.83 0.0134 0.0117

Uranus -68826-09-04 17:30 J -23417026.85 -23417026.77 -23417026.68 0.0134 0.0101

Venus -68826-09-10 11:45 J -23417021.10 -23417021.01 -23417020.91 0.3812 0.1093

Uranus -68826-12-01 20:23 J -23416938.75 -23416938.65 -23416938.54 0.0134 0.0084

Jupiter -68825-01-15 04:18 J -23416894.50 -23416894.32 -23416894.14 0.0499 0.0148

Uranus -68825-02-27 23:30 J -23416850.63 -23416850.52 -23416850.41 0.0134 0.0068

Jupiter -68825-04-14 16:04 J -23416803.89 -23416803.83 -23416803.77 0.0499 0.0469

Uranus -68825-05-26 02:23 J -23416762.52 -23416762.40 -23416762.28 0.0134 0.0051

Saturn -68825-08-19 21:06 J -23416676.72 -23416676.62 -23416676.52 0.0303 0.0183

Uranus -68825-08-22 05:30 J -23416674.40 -23416674.27 -23416674.15 0.0135 0.0035

Saturn -68825-11-16 09:35 J -23416588.22 -23416588.10 -23416587.97 0.0303 0.0048

Uranus -68825-11-18 08:23 J -23416586.28 -23416586.15 -23416586.02 0.0135 0.0018

Saturn -68824-02-12 22:18 J -23416499.70 -23416499.57 -23416499.45 0.0302 0.0090

Uranus -68824-02-14 11:30 J -23416498.16 -23416498.02 -23416497.89 0.0135 0.0005

Moon -68824-05-11 11:45 J -23416412.08 -23416412.01 -23416411.93 0.2719 0.1949

Earth -68824-05-11 11:59 J -23416412.07 -23416412.00 -23416411.92 0.2712 0.1907 *

Saturn -68824-05-12 10:33 J -23416411.14 -23416411.06 -23416410.97 0.0301 0.0225

Uranus -68824-05-13 14:23 J -23416410.03 -23416409.90 -23416409.77 0.0135 0.0016

Uranus -68824-08-09 17:16 J -23416321.90 -23416321.78 -23416321.65 0.0135 0.0033

Uranus -68824-11-05 20:23 J -23416233.77 -23416233.65 -23416233.53 0.0135 0.0050

Uranus -68823-02-01 23:30 J -23416145.63 -23416145.52 -23416145.41 0.0135 0.0067

Mars -68823-04-28 07:54 J -23416060.21 -23416060.17 -23416060.13 0.1982 0.1829

Uranus -68823-05-01 02:23 J -23416057.50 -23416057.40 -23416057.29 0.0135 0.0084

Uranus -68823-07-28 05:30 J -23415969.35 -23415969.27 -23415969.18 0.0136 0.0101

Uranus -68823-10-24 08:37 J -23415881.20 -23415881.14 -23415881.08 0.0136 0.0118

Uranus -68822-01-20 11:45 J -23415793.02 -23415793.01 -23415793.00 0.0136 0.0135

Venus -68820-03-26 04:33 J -23414997.38 -23414997.31 -23414997.23 0.3810 0.2717

Jupiter -68820-12-09 02:52 J -23414739.50 -23414739.38 -23414739.25 0.0527 0.0085

Jupiter -68819-03-08 08:23 J -23414650.23 -23414650.15 -23414650.06 0.0526 0.0385

Moon -68817-05-04 11:30 J -23413862.12 -23413862.02 -23413861.93 0.2702 0.1298

Earth -68817-05-04 11:59 J -23413862.10 -23413862.00 -23413861.90 0.2706 0.1238 *

Mars -68817-12-13 00:42 J -23413639.59 -23413639.47 -23413639.34 0.1566 0.1084

Jupiter -68814-11-03 01:11 J -23412584.59 -23412584.45 -23412584.29 0.0498 0.0296

Jupiter -68813-02-01 13:11 J -23412494.09 -23412493.95 -23412493.81 0.0499 0.0320

Mars -68812-08-24 09:35 J -23411924.17 -23411924.10 -23411924.03 0.1981 0.1561

Saturn -68810-12-03 22:04 J -23411092.64 -23411092.58 -23411092.53 0.0259 0.0247

Saturn -68809-03-01 18:42 J -23411003.89 -23411003.72 -23411003.54 0.0260 0.0118

Saturn -68809-05-29 15:49 J -23410915.03 -23410914.84 -23410914.65 0.0260 0.0012

Saturn -68809-08-26 12:57 J -23410826.12 -23410825.96 -23410825.80 0.0261 0.0144

Jupiter -68808-09-27 07:25 J -23410429.31 -23410429.19 -23410429.07 0.0527 0.0199

Jupiter -68808-12-25 12:57 J -23410340.07 -23410339.96 -23410339.85 0.0527 0.0271

Mars -68807-05-05 03:06 J -23410209.54 -23410209.37 -23410209.20 0.1566 0.0211

Venus -68805-04-19 09:21 J -23409494.25 -23409494.11 -23409493.98 0.3566 0.1618

Moon -68804-05-07 05:01 J -23409111.40 -23409111.29 -23409111.19 0.2708 0.0261

Earth -68804-05-07 05:30 J -23409111.37 -23409111.27 -23409111.16 0.2708 0.0143 *

Mars -68802-01-14 17:16 J -23408493.89 -23408493.78 -23408493.67 0.1982 0.0487

Jupiter -68802-08-21 22:18 J -23408274.65 -23408274.57 -23408274.49 0.0498 0.0445

Jupiter -68802-11-20 10:04 J -23408184.25 -23408184.08 -23408183.90 0.0499 0.0172

Moon -68801-10-31 12:13 J -23407838.14 -23407837.99 -23407837.84 0.2622 0.1087

Earth -68801-10-31 13:40 J -23407838.09 -23407837.93 -23407837.78 0.2627 0.0892 *

Venus -68800-11-03 14:52 J -23407470.01 -23407469.88 -23407469.75 0.3567 0.1760

Mars -68798-09-25 05:30 J -23406779.43 -23406779.27 -23406779.12 0.1566 0.0664

Jupiter -68796-07-16 12:13 J -23406119.09 -23406118.99 -23406118.89 0.0527 0.0308

Jupiter -68796-10-13 17:45 J -23406029.88 -23406029.76 -23406029.64 0.0527 0.0162

Saturn -68795-01-06 21:21 J -23405944.68 -23405944.61 -23405944.53 0.0303 0.0240

Saturn -68795-04-05 10:04 J -23405856.20 -23405856.08 -23405855.96 0.0302 0.0103

Saturn -68795-07-02 22:33 J -23405767.68 -23405767.56 -23405767.43 0.0302 0.0035

Saturn -68795-09-29 11:01 J -23405679.14 -23405679.04 -23405678.93 0.0301 0.0169

Mars -68793-06-06 00:42 J -23405063.58 -23405063.47 -23405063.37 0.1982 0.0613

Moon -68791-05-09 22:47 J -23404360.65 -23404360.55 -23404360.45 0.2716 0.1023

Earth -68791-05-09 23:16 J -23404360.63 -23404360.53 -23404360.43 0.2710 0.1014 *

Jupiter -68790-09-08 05:45 J -23403874.45 -23403874.26 -23403874.07 0.0499 0.0009

Mars -68788-02-14 07:40 J -23403349.20 -23403349.18 -23403349.15 0.1565 0.1535

Moon -68788-11-03 20:09 J -23403086.80 -23403086.66 -23403086.52 0.2625 0.1317

Earth -68788-11-03 22:04 J -23403086.72 -23403086.58 -23403086.45 0.2624 0.1491 *

Uranus -68786-07-16 02:23 J -23402467.44 -23402467.40 -23402467.33 0.0144 0.0138

Venus -68786-09-02 07:25 J -23402419.24 -23402419.19 -23402419.13 0.3815 0.3149

Uranus -68786-10-12 11:16 J -23402379.15 -23402379.03 -23402378.89 0.0144 0.0107

Uranus -68785-01-08 20:09 J -23402290.82 -23402290.66 -23402290.49 0.0144 0.0075

Uranus -68785-04-06 05:01 J -23402202.48 -23402202.29 -23402202.11 0.0144 0.0045

Uranus -68785-07-03 13:40 J -23402114.13 -23402113.93 -23402113.74 0.0144 0.0014

Uranus -68785-09-29 22:18 J -23402025.76 -23402025.57 -23402025.38 0.0144 0.0017

Uranus -68785-12-27 06:42 J -23401937.39 -23401937.22 -23401937.03 0.0144 0.0048

Uranus -68784-03-25 15:21 J -23401849.02 -23401848.86 -23401848.69 0.0144 0.0078

Moon -68784-05-02 23:01 J -23401810.60 -23401810.54 -23401810.48 0.2698 0.2164

Earth -68784-05-02 23:01 J -23401810.60 -23401810.54 -23401810.47 0.2705 0.2138 *

Jupiter -68784-05-04 16:47 J -23401808.87 -23401808.80 -23401808.72 0.0527 0.0419

Uranus -68784-06-21 23:59 J -23401760.62 -23401760.50 -23401760.37 0.0143 0.0108

Jupiter -68784-08-01 22:18 J -23401719.69 -23401719.57 -23401719.44 0.0527 0.0050

Uranus -68784-09-18 08:37 J -23401672.19 -23401672.14 -23401672.09 0.0143 0.0138

Mars -68784-10-27 07:54 J -23401633.22 -23401633.17 -23401633.11 0.1982 0.1710

Jupiter -68784-10-30 03:49 J -23401630.36 -23401630.34 -23401630.32 0.0526 0.0518

Venus -68780-03-17 23:59 J -23400395.59 -23400395.50 -23400395.40 0.3814 0.1585

Saturn -68780-07-19 17:01 J -23400271.93 -23400271.79 -23400271.63 0.0259 0.0161

Saturn -68780-10-16 14:09 J -23400183.10 -23400182.91 -23400182.72 0.0260 0.0031

Saturn -68779-01-13 11:16 J -23400094.21 -23400094.03 -23400093.85 0.0260 0.0100

Saturn -68779-04-12 08:23 J -23400005.23 -23400005.15 -23400005.06 0.0261 0.0232

Moon -68778-05-12 16:47 J -23399609.87 -23399609.80 -23399609.73 0.2719 0.2087

Earth -68778-05-12 16:47 J -23399609.86 -23399609.80 -23399609.74 0.2712 0.2133 *

Jupiter -68778-06-27 02:52 J -23399564.56 -23399564.38 -23399564.20 0.0499 0.0141

Jupiter -68778-09-25 14:37 J -23399473.94 -23399473.89 -23399473.83 0.0499 0.0477

Mars -68777-06-13 01:40 J -23399212.54 -23399212.43 -23399212.33 0.1566 0.1222

Venus -68775-10-01 16:47 J -23398371.90 -23398371.80 -23398371.70 0.3813 0.0030

Mars -68772-02-22 09:35 J -23397497.16 -23397497.10 -23397497.04 0.1981 0.1678

Jupiter -68772-05-21 02:23 J -23397409.52 -23397409.40 -23397409.27 0.0527 0.0070

Jupiter -68772-08-18 07:54 J -23397320.25 -23397320.17 -23397320.09 0.0526 0.0399

Moon -68771-05-05 16:04 J -23397059.93 -23397059.83 -23397059.73 0.2702 0.1076

Earth -68771-05-05 16:47 J -23397059.90 -23397059.80 -23397059.70 0.2707 0.1011 *

Venus -68769-04-16 09:35 J -23396348.19 -23396348.10 -23396348.01 0.3812 0.1647

Mars -68768-11-03 03:49 J -23395782.51 -23395782.34 -23395782.18 0.1566 0.0343

Jupiter -68766-04-15 00:13 J -23395254.64 -23395254.49 -23395254.34 0.0499 0.0287

Saturn -68766-05-26 22:18 J -23395212.60 -23395212.57 -23395212.54 0.0304 0.0292

Jupiter -68766-07-14 12:13 J -23395164.13 -23395163.99 -23395163.85 0.0499 0.0332

Saturn -68766-08-23 11:01 J -23395124.15 -23395124.04 -23395123.93 0.0303 0.0154

Saturn -68766-11-19 23:30 J -23395035.65 -23395035.52 -23395035.39 0.0303 0.0018

Saturn -68765-02-16 11:59 J -23394947.11 -23394947.00 -23394946.88 0.0302 0.0120

Neptune -68765-03-26 23:59 J -23394907.50 -23394907.50 -23394907.49 0.0089 0.0089

Saturn -68765-05-15 00:28 J -23394858.54 -23394858.48 -23394858.41 0.0301 0.0253

Neptune -68765-06-23 03:21 J -23394819.42 -23394819.36 -23394819.27 0.0089 0.0082

Neptune -68765-09-19 07:11 J -23394731.29 -23394731.20 -23394731.08 0.0089 0.0074

Neptune -68765-12-16 10:47 J -23394643.16 -23394643.05 -23394642.90 0.0089 0.0067

Neptune -68764-03-14 14:52 J -23394555.02 -23394554.88 -23394554.73 0.0089 0.0059

Neptune -68764-06-10 18:28 J -23394466.88 -23394466.73 -23394466.56 0.0089 0.0052

Neptune -68764-09-06 22:04 J -23394378.74 -23394378.58 -23394378.40 0.0089 0.0045

Venus -68764-10-31 02:23 J -23394324.45 -23394324.40 -23394324.35 0.3810 0.3299

Neptune -68764-12-04 01:54 J -23394290.59 -23394290.42 -23394290.23 0.0089 0.0037

Neptune -68763-03-02 05:30 J -23394202.44 -23394202.27 -23394202.07 0.0089 0.0030

Neptune -68763-05-29 09:21 J -23394114.29 -23394114.11 -23394113.91 0.0089 0.0022

Mars -68763-07-15 17:01 J -23394066.89 -23394066.79 -23394066.68 0.1982 0.0594

Neptune -68763-08-25 13:11 J -23394026.14 -23394025.95 -23394025.75 0.0089 0.0014

Neptune -68763-11-21 17:01 J -23393937.99 -23393937.79 -23393937.60 0.0089 0.0007

Neptune -68762-02-17 20:37 J -23393849.84 -23393849.64 -23393849.44 0.0089 0.0001

Neptune -68762-05-17 00:28 J -23393761.68 -23393761.48 -23393761.29 0.0089 0.0008

Neptune -68762-08-13 04:04 J -23393673.52 -23393673.33 -23393673.13 0.0089 0.0015

Neptune -68762-11-09 07:54 J -23393585.36 -23393585.17 -23393584.98 0.0089 0.0023

Neptune -68761-02-05 11:16 J -23393497.20 -23393497.03 -23393496.83 0.0089 0.0031

Neptune -68761-05-03 15:06 J -23393409.04 -23393408.87 -23393408.68 0.0089 0.0038

Neptune -68761-07-30 18:42 J -23393320.88 -23393320.72 -23393320.54 0.0089 0.0046

Neptune -68761-10-26 22:33 J -23393232.71 -23393232.56 -23393232.39 0.0089 0.0053

Neptune -68760-01-23 01:54 J -23393144.54 -23393144.42 -23393144.25 0.0089 0.0061

Jupiter -68760-03-09 06:42 J -23393099.34 -23393099.22 -23393099.10 0.0527 0.0187

Neptune -68760-04-21 05:45 J -23393056.37 -23393056.26 -23393056.11 0.0089 0.0068

Jupiter -68760-06-06 12:13 J -23393010.10 -23393009.99 -23393009.89 0.0526 0.0283

Neptune -68760-07-18 09:49 J -23392968.19 -23392968.09 -23392967.98 0.0089 0.0075

Neptune -68760-10-14 13:11 J -23392880.00 -23392879.95 -23392879.86 0.0089 0.0083

Mars -68758-03-26 06:13 J -23392352.40 -23392352.24 -23392352.08 0.1566 0.0532

Moon -68758-05-08 09:49 J -23392309.20 -23392309.09 -23392308.99 0.2710 0.0108

Earth -68758-05-08 10:18 J -23392309.17 -23392309.07 -23392308.96 0.2709 0.0143 *

Moon -68755-11-01 18:57 J -23391035.87 -23391035.71 -23391035.55 0.2623 0.0507

Earth -68755-11-01 20:23 J -23391035.81 -23391035.65 -23391035.49 0.2626 0.0440 *

Jupiter -68754-01-31 21:21 J -23390944.70 -23390944.61 -23390944.52 0.0498 0.0434

Jupiter -68754-05-02 09:06 J -23390854.29 -23390854.12 -23390853.94 0.0499 0.0183

Mars -68754-12-06 00:28 J -23390636.59 -23390636.48 -23390636.37 0.1983 0.0508

Saturn -68751-12-06 14:52 J -23389539.99 -23389539.88 -23389539.76 0.0259 0.0206

Saturn -68750-03-05 11:45 J -23389451.19 -23389451.01 -23389450.82 0.0260 0.0077

Saturn -68750-06-02 08:52 J -23389362.32 -23389362.13 -23389361.94 0.0260 0.0054

Saturn -68750-08-30 05:59 J -23389273.38 -23389273.25 -23389273.11 0.0261 0.0186

Mars -68749-08-15 08:23 J -23388922.22 -23388922.15 -23388922.07 0.1566 0.1401

Venus -68749-11-24 10:33 J -23388821.21 -23388821.06 -23388820.91 0.3566 0.0461

Jupiter -68749-12-26 11:01 J -23388789.14 -23388789.04 -23388788.93 0.0527 0.0304

Jupiter -68748-03-25 16:33 J -23388699.93 -23388699.81 -23388699.69 0.0527 0.0168

Moon -68745-05-10 03:35 J -23387558.45 -23387558.35 -23387558.25 0.2716 0.1136

Earth -68745-05-10 04:04 J -23387558.43 -23387558.33 -23387558.24 0.2711 0.1242 *

Mars -68744-04-27 08:09 J -23387206.23 -23387206.16 -23387206.10 0.1983 0.1590

Venus -68743-06-10 15:49 J -23386796.92 -23386796.84 -23386796.75 0.3568 0.2886

Jupiter -68742-02-18 06:13 J -23386544.43 -23386544.24 -23386544.05 0.0499 0.0032

Uranus -68742-04-01 18:42 J -23386501.74 -23386501.72 -23386501.68 0.0134 0.0129

Uranus -68742-06-28 21:35 J -23386413.66 -23386413.60 -23386413.52 0.0134 0.0113

Uranus -68742-09-25 00:42 J -23386325.56 -23386325.47 -23386325.38 0.0134 0.0097

Moon -68742-11-05 02:52 J -23386284.50 -23386284.38 -23386284.26 0.2625 0.1737

Earth -68742-11-05 04:47 J -23386284.41 -23386284.30 -23386284.19 0.2624 0.1948 *

Uranus -68742-12-22 03:35 J -23386237.45 -23386237.35 -23386237.24 0.0134 0.0081

Uranus -68741-03-19 06:42 J -23386149.33 -23386149.22 -23386149.10 0.0135 0.0064

Uranus -68741-06-15 09:35 J -23386061.22 -23386061.10 -23386060.97 0.0135 0.0047

Uranus -68741-09-11 12:42 J -23385973.10 -23385972.97 -23385972.84 0.0135 0.0030

Uranus -68741-12-08 15:49 J -23385884.97 -23385884.84 -23385884.71 0.0135 0.0014

Uranus -68740-03-06 18:42 J -23385796.85 -23385796.72 -23385796.59 0.0135 0.0003

Uranus -68740-06-02 21:49 J -23385708.72 -23385708.59 -23385708.46 0.0135 0.0020

Uranus -68740-08-30 00:42 J -23385620.59 -23385620.47 -23385620.34 0.0135 0.0037

Uranus -68740-11-26 03:35 J -23385532.46 -23385532.35 -23385532.22 0.0135 0.0055

Uranus -68739-02-22 06:42 J -23385444.33 -23385444.22 -23385444.10 0.0135 0.0071

Uranus -68739-05-21 09:49 J -23385356.19 -23385356.09 -23385355.99 0.0135 0.0088

Uranus -68739-08-17 12:42 J -23385268.04 -23385267.97 -23385267.88 0.0136 0.0106

Uranus -68739-11-13 15:49 J -23385179.88 -23385179.84 -23385179.78 0.0136 0.0123

Moon -68738-05-04 03:35 J -23385008.42 -23385008.35 -23385008.27 0.2699 0.1886

Earth -68738-05-04 03:49 J -23385008.41 -23385008.34 -23385008.26 0.2705 0.1911 *

Mars -68738-12-13 02:09 J -23384785.49 -23384785.41 -23384785.32 0.1567 0.1359

Jupiter -68737-10-14 16:04 J -23384478.91 -23384478.83 -23384478.76 0.0527 0.0411

Saturn -68736-01-09 11:16 J -23384392.12 -23384392.03 -23384391.94 0.0303 0.0210

Jupiter -68736-01-11 21:21 J -23384389.73 -23384389.61 -23384389.48 0.0527 0.0060

Saturn -68736-04-07 23:59 J -23384303.62 -23384303.50 -23384303.37 0.0302 0.0073

Saturn -68736-07-05 12:28 J -23384215.10 -23384214.98 -23384214.85 0.0302 0.0064

Saturn -68736-10-02 00:57 J -23384126.55 -23384126.46 -23384126.36 0.0301 0.0198

Pluto -68736-10-29 04:47 J -23384099.33 -23384099.30 -23384099.23 0.0060 0.0058

Pluto -68735-01-25 05:59 J -23384011.31 -23384011.25 -23384011.14 0.0060 0.0053

Pluto -68735-04-23 07:11 J -23383923.29 -23383923.20 -23383923.07 0.0060 0.0048

Pluto -68735-07-20 08:52 J -23383835.26 -23383835.13 -23383835.00 0.0061 0.0043

Pluto -68735-10-16 09:49 J -23383747.22 -23383747.09 -23383746.94 0.0061 0.0038

Pluto -68734-01-12 11:01 J -23383659.18 -23383659.04 -23383658.88 0.0061 0.0033

Pluto -68734-04-10 12:13 J -23383571.14 -23383570.99 -23383570.81 0.0061 0.0028

Pluto -68734-07-07 13:25 J -23383483.10 -23383482.94 -23383482.76 0.0061 0.0023

Pluto -68734-10-03 14:52 J -23383395.05 -23383394.88 -23383394.70 0.0061 0.0017

Pluto -68734-12-30 16:04 J -23383307.00 -23383306.83 -23383306.64 0.0061 0.0012

Pluto -68733-03-27 17:16 J -23383218.95 -23383218.78 -23383218.59 0.0061 0.0007

Pluto -68733-06-23 18:42 J -23383130.90 -23383130.72 -23383130.53 0.0061 0.0001

Mars -68733-08-23 09:35 J -23383070.14 -23383070.10 -23383070.05 0.1981 0.1802

Pluto -68733-09-19 19:54 J -23383042.85 -23383042.67 -23383042.48 0.0061 0.0004

Pluto -68733-12-16 21:21 J -23382954.79 -23382954.61 -23382954.43 0.0061 0.0010

Pluto -68732-03-14 22:18 J -23382866.74 -23382866.57 -23382866.38 0.0061 0.0015

Earth -68732-05-12 21:35 J -23382807.65 -23382807.60 -23382807.55 0.2712 0.2361

Moon -68732-05-12 21:49 J -23382807.64 -23382807.59 -23382807.55 0.2719 0.2449 *

Pluto -68732-06-10 23:45 J -23382778.68 -23382778.51 -23382778.33 0.0061 0.0020

Pluto -68732-09-07 01:11 J -23382690.62 -23382690.45 -23382690.28 0.0061 0.0026

Pluto -68732-12-04 02:09 J -23382602.55 -23382602.41 -23382602.24 0.0061 0.0032

Pluto -68731-03-02 03:35 J -23382514.49 -23382514.35 -23382514.19 0.0062 0.0037

Pluto -68731-05-29 04:47 J -23382426.42 -23382426.30 -23382426.15 0.0062 0.0043

Pluto -68731-08-25 06:13 J -23382338.34 -23382338.24 -23382338.12 0.0062 0.0048

Pluto -68731-11-21 07:25 J -23382250.26 -23382250.19 -23382250.09 0.0062 0.0054

Jupiter -68731-12-07 01:40 J -23382234.61 -23382234.43 -23382234.25 0.0499 0.0133

Pluto -68730-02-17 08:23 J -23382162.17 -23382162.15 -23382162.07 0.0062 0.0060

Jupiter -68730-03-07 13:25 J -23382143.98 -23382143.94 -23382143.89 0.0499 0.0485

Venus -68729-04-08 05:16 J -23381746.36 -23381746.28 -23381746.21 0.3815 0.2611

Mars -68728-05-04 04:33 J -23381355.47 -23381355.31 -23381355.14 0.1566 0.0486

Moon -68725-05-05 20:52 J -23380257.73 -23380257.63 -23380257.52 0.2703 0.0876

Earth -68725-05-05 21:35 J -23380257.70 -23380257.60 -23380257.50 0.2707 0.0784 *

Jupiter -68725-08-02 20:37 J -23380168.65 -23380168.64 -23380168.62 0.0527 0.0522

Jupiter -68725-10-31 02:09 J -23380079.54 -23380079.41 -23380079.29 0.0527 0.0053

Jupiter -68724-01-28 07:25 J -23379990.26 -23379990.19 -23379990.11 0.0526 0.0416

Venus -68724-10-22 21:49 J -23379722.69 -23379722.59 -23379722.49 0.3814 0.1021

Mars -68723-01-13 17:01 J -23379639.89 -23379639.79 -23379639.68 0.1982 0.0700

Moon -68722-10-30 17:59 J -23378984.82 -23378984.75 -23378984.68 0.2623 0.2340

Earth -68722-10-30 18:57 J -23378984.78 -23378984.71 -23378984.64 0.2628 0.2363 *

Saturn -68721-04-24 13:11 J -23378807.99 -23378807.95 -23378807.88 0.0259 0.0247

Saturn -68721-07-22 10:18 J -23378719.24 -23378719.07 -23378718.90 0.0260 0.0118

Saturn -68721-10-19 07:25 J -23378630.38 -23378630.19 -23378630.00 0.0260 0.0012

Saturn -68720-01-16 04:18 J -23378541.47 -23378541.32 -23378541.15 0.0260 0.0144

Mars -68719-09-24 06:57 J -23377925.38 -23377925.21 -23377925.05 0.1565 0.0392

Jupiter -68719-09-24 22:33 J -23377924.71 -23377924.56 -23377924.40 0.0499 0.0283

Jupiter -68719-12-24 10:33 J -23377834.19 -23377834.06 -23377833.92 0.0499 0.0337

Venus -68718-05-08 14:37 J -23377699.00 -23377698.89 -23377698.79 0.3813 0.0608

Mars -68714-06-06 00:42 J -23376209.59 -23376209.47 -23376209.36 0.1982 0.0390

Jupiter -68713-08-19 06:13 J -23375769.36 -23375769.24 -23375769.12 0.0527 0.0174

Jupiter -68713-11-16 11:30 J -23375680.12 -23375680.02 -23375679.91 0.0526 0.0296

Venus -68713-11-21 07:25 J -23375675.28 -23375675.19 -23375675.11 0.3811 0.2231

Moon -68712-05-08 14:37 J -23375507.00 -23375506.89 -23375506.79 0.2712 0.0275

Earth -68712-05-08 15:06 J -23375506.97 -23375506.87 -23375506.76 0.2709 0.0351 *

Mars -68709-02-14 09:06 J -23374495.22 -23374495.12 -23374495.02 0.1565 0.1269

Moon -68709-11-02 01:40 J -23374233.60 -23374233.43 -23374233.27 0.2624 0.0253

Earth -68709-11-02 03:06 J -23374233.53 -23374233.37 -23374233.20 0.2626 0.0066 *

Saturn -68707-05-29 12:28 J -23373660.04 -23373659.98 -23373659.91 0.0304 0.0259

Jupiter -68707-07-13 19:54 J -23373614.76 -23373614.67 -23373614.57 0.0499 0.0429

Saturn -68707-08-26 01:11 J -23373571.57 -23373571.45 -23373571.33 0.0303 0.0121

Jupiter -68707-10-12 07:54 J -23373524.34 -23373524.17 -23373523.99 0.0499 0.0190

Saturn -68707-11-22 13:40 J -23373483.05 -23373482.93 -23373482.80 0.0303 0.0018

Saturn -68706-02-19 02:09 J -23373394.51 -23373394.41 -23373394.29 0.0302 0.0152

Saturn -68706-05-18 14:37 J -23373305.92 -23373305.89 -23373305.85 0.0301 0.0285

Mars -68705-10-26 07:54 J -23372779.24 -23372779.17 -23372779.10 0.1982 0.1491

Uranus -68702-08-05 10:18 J -23371766.14 -23371766.07 -23371765.97 0.0144 0.0129

Uranus -68702-11-01 19:11 J -23371677.83 -23371677.70 -23371677.55 0.0144 0.0098

Uranus -68701-01-29 03:49 J -23371589.50 -23371589.34 -23371589.15 0.0144 0.0068

Uranus -68701-04-26 12:42 J -23371501.15 -23371500.97 -23371500.78 0.0144 0.0036

Jupiter -68701-06-07 10:33 J -23371459.17 -23371459.06 -23371458.96 0.0527 0.0292

Uranus -68701-07-23 21:35 J -23371412.80 -23371412.60 -23371412.41 0.0144 0.0006

Jupiter -68701-09-04 15:49 J -23371369.96 -23371369.84 -23371369.72 0.0526 0.0178

Uranus -68701-10-20 05:59 J -23371324.44 -23371324.25 -23371324.05 0.0144 0.0026

Uranus -68700-01-16 14:37 J -23371236.06 -23371235.89 -23371235.70 0.0144 0.0056

Uranus -68700-04-14 23:16 J -23371147.68 -23371147.53 -23371147.37 0.0143 0.0086

Uranus -68700-07-12 07:25 J -23371059.28 -23371059.19 -23371059.06 0.0143 0.0117

Moon -68699-05-11 08:23 J -23370756.24 -23370756.15 -23370756.06 0.2716 0.1467

Earth -68699-05-11 08:52 J -23370756.22 -23370756.13 -23370756.04 0.2711 0.1465 *

Mars -68698-06-13 02:52 J -23370358.43 -23370358.38 -23370358.33 0.1566 0.1489

Venus -68698-12-16 06:13 J -23370172.34 -23370172.24 -23370172.15 0.3565 0.2752

Moon -68696-11-05 09:49 J -23369482.17 -23369482.09 -23369482.01 0.2625 0.2264

Earth -68696-11-05 11:30 J -23369482.08 -23369482.02 -23369481.95 0.2624 0.2401 *

Jupiter -68695-07-31 05:01 J -23369214.48 -23369214.29 -23369214.10 0.0499 0.0041

Mars -68693-02-22 09:35 J -23368643.13 -23368643.10 -23368643.07 0.1981 0.1894

Moon -68692-05-04 08:23 J -23368206.23 -23368206.15 -23368206.07 0.2699 0.1774

Earth -68692-05-04 08:37 J -23368206.22 -23368206.14 -23368206.05 0.2705 0.1680 *

Venus -68692-07-01 11:59 J -23368148.15 -23368148.00 -23368147.86 0.3566 0.0702

Saturn -68692-12-09 08:37 J -23367987.29 -23367987.14 -23367986.99 0.0260 0.0161

Saturn -68691-03-08 05:30 J -23367898.46 -23367898.27 -23367898.08 0.0260 0.0032

Saturn -68691-06-05 02:37 J -23367809.57 -23367809.39 -23367809.21 0.0260 0.0100

Saturn -68691-09-01 23:30 J -23367720.59 -23367720.52 -23367720.42 0.0261 0.0232

Jupiter -68689-03-26 14:52 J -23367148.96 -23367148.88 -23367148.80 0.0527 0.0409

Jupiter -68689-06-23 20:09 J -23367059.78 -23367059.66 -23367059.53 0.0527 0.0064

Mars -68689-11-02 05:16 J -23366928.43 -23366928.28 -23366928.12 0.1566 0.0620

Earth -68686-05-14 02:23 J -23366005.43 -23366005.40 -23366005.37 0.2713 0.2586

Moon -68686-05-14 02:37 J -23366005.42 -23366005.39 -23366005.36 0.2720 0.2566 *

Mars -68684-07-14 17:16 J -23365212.89 -23365212.78 -23365212.68 0.1982 0.0827

Neptune -68683-01-03 19:11 J -23365039.73 -23365039.70 -23365039.65 0.0089 0.0084

Neptune -68683-04-01 20:37 J -23364951.69 -23364951.64 -23364951.58 0.0089 0.0079

Jupiter -68683-05-19 01:54 J -23364904.60 -23364904.42 -23364904.24 0.0499 0.0111

Neptune -68683-06-28 21:49 J -23364863.65 -23364863.59 -23364863.51 0.0089 0.0074

Neptune -68683-09-24 23:16 J -23364775.61 -23364775.53 -23364775.45 0.0089 0.0069

Neptune -68683-12-22 00:28 J -23364687.56 -23364687.48 -23364687.38 0.0089 0.0064

Neptune -68682-03-20 01:54 J -23364599.52 -23364599.42 -23364599.32 0.0089 0.0059

Neptune -68682-06-16 03:06 J -23364511.47 -23364511.37 -23364511.26 0.0089 0.0054

Neptune -68682-09-12 04:33 J -23364423.42 -23364423.31 -23364423.20 0.0089 0.0049

Neptune -68682-12-09 05:45 J -23364335.37 -23364335.26 -23364335.14 0.0089 0.0044

Neptune -68681-03-06 07:11 J -23364247.32 -23364247.20 -23364247.08 0.0089 0.0039

Neptune -68681-06-02 08:23 J -23364159.27 -23364159.15 -23364159.02 0.0089 0.0034

Neptune -68681-08-29 09:35 J -23364071.22 -23364071.10 -23364070.97 0.0089 0.0029

Neptune -68681-11-25 11:01 J -23363983.16 -23363983.04 -23363982.91 0.0089 0.0024

Neptune -68680-02-21 12:13 J -23363895.11 -23363894.99 -23363894.85 0.0089 0.0019

Neptune -68680-05-20 13:40 J -23363807.06 -23363806.93 -23363806.80 0.0089 0.0014

Neptune -68680-08-16 14:52 J -23363719.01 -23363718.88 -23363718.74 0.0089 0.0009

Neptune -68680-11-12 16:18 J -23363630.95 -23363630.82 -23363630.69 0.0089 0.0004

Neptune -68679-02-08 17:30 J -23363542.90 -23363542.77 -23363542.63 0.0089 0.0003

Mars -68679-03-25 07:40 J -23363498.35 -23363498.18 -23363498.02 0.1566 0.0256

Moon -68679-05-07 01:40 J -23363455.53 -23363455.43 -23363455.32 0.2704 0.0594

Earth -68679-05-07 02:23 J -23363455.51 -23363455.40 -23363455.30 0.2707 0.0556 *

Neptune -68679-05-07 18:57 J -23363454.84 -23363454.71 -23363454.58 0.0089 0.0007

Neptune -68679-08-03 20:09 J -23363366.79 -23363366.66 -23363366.53 0.0089 0.0012

Neptune -68679-10-30 21:21 J -23363278.73 -23363278.61 -23363278.47 0.0089 0.0017

Neptune -68678-01-26 22:47 J -23363190.68 -23363190.55 -23363190.42 0.0089 0.0022

Neptune -68678-04-24 23:59 J -23363102.62 -23363102.50 -23363102.37 0.0089 0.0027

Venus -68678-04-30 10:18 J -23363097.10 -23363097.07 -23363097.04 0.3816 0.3627

Neptune -68678-07-22 01:25 J -23363014.56 -23363014.44 -23363014.32 0.0089 0.0032

Neptune -68678-10-18 02:37 J -23362926.51 -23362926.39 -23362926.27 0.0089 0.0037

Saturn -68677-01-13 01:54 J -23362839.52 -23362839.42 -23362839.31 0.0303 0.0174

Jupiter -68677-01-13 19:40 J -23362838.70 -23362838.68 -23362838.66 0.0527 0.0517

Neptune -68677-01-14 03:49 J -23362838.45 -23362838.34 -23362838.22 0.0089 0.0042

Saturn -68677-04-10 14:37 J -23362751.02 -23362750.89 -23362750.77 0.0302 0.0037

Neptune -68677-04-11 05:16 J -23362750.39 -23362750.28 -23362750.17 0.0089 0.0047

Jupiter -68677-04-12 00:57 J -23362749.58 -23362749.46 -23362749.33 0.0527 0.0051

Saturn -68677-07-08 03:06 J -23362662.49 -23362662.37 -23362662.25 0.0302 0.0099

Neptune -68677-07-08 06:28 J -23362662.33 -23362662.23 -23362662.12 0.0089 0.0052 *

Jupiter -68677-07-10 06:28 J -23362660.30 -23362660.23 -23362660.15 0.0526 0.0422

Neptune -68677-10-04 07:40 J -23362574.27 -23362574.18 -23362574.07 0.0089 0.0057

Saturn -68677-10-04 15:35 J -23362573.93 -23362573.85 -23362573.77 0.0301 0.0233

Neptune -68677-12-31 09:06 J -23362486.21 -23362486.12 -23362486.02 0.0089 0.0062

Neptune -68676-03-29 10:18 J -23362398.15 -23362398.07 -23362397.98 0.0089 0.0067

Neptune -68676-06-25 11:45 J -23362310.08 -23362310.01 -23362309.93 0.0089 0.0072

Neptune -68676-09-21 12:57 J -23362222.02 -23362221.96 -23362221.89 0.0089 0.0077

Moon -68676-10-31 00:42 J -23362182.57 -23362182.47 -23362182.37 0.2623 0.2100

Earth -68676-10-31 01:40 J -23362182.54 -23362182.43 -23362182.32 0.2628 0.1912 *

Neptune -68676-12-18 14:09 J -23362133.95 -23362133.91 -23362133.85 0.0089 0.0082

Neptune -68675-03-16 15:35 J -23362045.87 -23362045.85 -23362045.82 0.0089 0.0087

Mars -68675-12-05 00:28 J -23361782.59 -23361782.48 -23361782.36 0.1982 0.0281

Venus -68673-11-13 02:52 J -23361073.47 -23361073.38 -23361073.29 0.3815 0.2056

Jupiter -68671-03-06 21:06 J -23360594.77 -23360594.62 -23360594.46 0.0499 0.0278

Jupiter -68671-06-05 09:06 J -23360504.26 -23360504.12 -23360503.99 0.0499 0.0341

Mars -68670-08-15 09:49 J -23360068.20 -23360068.09 -23360067.97 0.1565 0.1129

Venus -68667-05-29 19:25 J -23359049.79 -23359049.69 -23359049.58 0.3814 0.0483

Moon -68666-05-09 19:25 J -23358704.80 -23358704.69 -23358704.59 0.2712 0.0492

Earth -68666-05-09 19:54 J -23358704.77 -23358704.67 -23358704.56 0.2709 0.0571 *

Jupiter -68665-01-30 05:45 J -23358439.38 -23358439.26 -23358439.14 0.0527 0.0160

Mars -68665-04-26 07:54 J -23358352.25 -23358352.17 -23358352.09 0.1983 0.1376

Jupiter -68665-04-28 11:01 J -23358350.14 -23358350.04 -23358349.93 0.0526 0.0311

Moon -68663-11-03 08:09 J -23357431.32 -23357431.16 -23357431.00 0.2625 0.0401

Earth -68663-11-03 10:04 J -23357431.24 -23357431.08 -23357430.92 0.2626 0.0468 *

Saturn -68662-04-28 07:11 J -23357255.31 -23357255.20 -23357255.07 0.0259 0.0201

Saturn -68662-07-26 04:18 J -23357166.50 -23357166.32 -23357166.13 0.0260 0.0071

Saturn -68662-10-23 01:25 J -23357077.62 -23357077.44 -23357077.25 0.0260 0.0060

Venus -68662-12-13 12:13 J -23357026.09 -23357025.99 -23357025.89 0.3812 0.1167

Saturn -68661-01-19 22:33 J -23356988.68 -23356988.56 -23356988.43 0.0261 0.0191

Jupiter -68660-12-23 17:59 J -23356284.84 -23356284.75 -23356284.65 0.0499 0.0428

Jupiter -68659-03-24 05:59 J -23356194.42 -23356194.25 -23356194.07 0.0499 0.0191

Earth -68659-05-02 19:54 J -23356154.70 -23356154.67 -23356154.64 0.2703 0.2575

Moon -68659-05-02 19:54 J -23356154.69 -23356154.67 -23356154.64 0.2697 0.2603 *

Uranus -68658-04-22 02:09 J -23355800.45 -23355800.41 -23355800.37 0.0134 0.0126

Uranus -68658-07-19 05:01 J -23355712.36 -23355712.29 -23355712.21 0.0134 0.0109

Uranus -68658-10-15 07:54 J -23355624.26 -23355624.17 -23355624.07 0.0134 0.0093

Uranus -68657-01-11 10:47 J -23355536.15 -23355536.05 -23355535.93 0.0134 0.0077

Uranus -68657-04-08 13:54 J -23355448.03 -23355447.92 -23355447.80 0.0135 0.0060

Uranus -68657-07-05 17:01 J -23355359.92 -23355359.79 -23355359.67 0.0135 0.0043

Uranus -68657-10-01 19:54 J -23355271.80 -23355271.67 -23355271.54 0.0135 0.0026

Uranus -68657-12-28 23:01 J -23355183.67 -23355183.54 -23355183.41 0.0135 0.0010

Uranus -68656-03-27 01:54 J -23355095.55 -23355095.42 -23355095.29 0.0135 0.0008

Uranus -68656-06-23 05:01 J -23355007.42 -23355007.29 -23355007.16 0.0135 0.0024

Venus -68656-06-28 05:01 J -23355002.36 -23355002.29 -23355002.22 0.3811 0.2812

Uranus -68656-09-19 07:54 J -23354919.29 -23354919.17 -23354919.04 0.0135 0.0041

Uranus -68656-12-16 11:01 J -23354831.16 -23354831.04 -23354830.92 0.0135 0.0058

Uranus -68655-03-14 13:54 J -23354743.02 -23354742.92 -23354742.80 0.0135 0.0076

Uranus -68655-06-10 17:01 J -23354654.88 -23354654.79 -23354654.69 0.0136 0.0093

Uranus -68655-09-06 20:09 J -23354566.73 -23354566.66 -23354566.58 0.0136 0.0110

Uranus -68655-12-03 23:16 J -23354478.57 -23354478.53 -23354478.48 0.0136 0.0127

Jupiter -68654-11-18 09:35 J -23354129.20 -23354129.10 -23354128.99 0.0527 0.0282

Jupiter -68653-02-15 15:06 J -23354039.99 -23354039.87 -23354039.75 0.0526 0.0189

Moon -68653-05-11 13:25 J -23353954.03 -23353953.94 -23353953.86 0.2717 0.1653

Earth -68653-05-11 13:40 J -23353954.02 -23353953.93 -23353953.85 0.2711 0.1693 *

Moon -68650-11-06 16:47 J -23352679.80 -23352679.80 -23352679.80 0.2625 0.2623

Mars -68649-05-03 05:59 J -23352501.40 -23352501.25 -23352501.10 0.1566 0.0753

Saturn -68648-06-01 03:21 J -23352107.45 -23352107.36 -23352107.27 0.0303 0.0219

Saturn -68648-08-28 16:04 J -23352018.96 -23352018.83 -23352018.71 0.0303 0.0082

Saturn -68648-11-25 04:33 J -23351930.44 -23351930.31 -23351930.18 0.0302 0.0055

Jupiter -68647-01-10 03:21 J -23351884.55 -23351884.36 -23351884.17 0.0499 0.0044

Saturn -68647-02-21 17:01 J -23351841.89 -23351841.79 -23351841.69 0.0302 0.0190

Moon -68646-05-05 13:11 J -23351404.04 -23351403.95 -23351403.86 0.2699 0.1432

Earth -68646-05-05 13:25 J -23351404.03 -23351403.94 -23351403.85 0.2705 0.1456 *

Mars -68644-01-12 17:01 J -23350785.89 -23350785.79 -23350785.69 0.1982 0.0925

Pluto -68642-03-06 16:04 J -23350002.88 -23350002.83 -23350002.76 0.0084 0.0075

Pluto -68642-06-02 17:45 J -23349914.84 -23349914.76 -23349914.67 0.0084 0.0064

Pluto -68642-08-29 19:25 J -23349826.80 -23349826.69 -23349826.58 0.0084 0.0053

Jupiter -68642-09-06 13:54 J -23349819.00 -23349818.92 -23349818.84 0.0527 0.0400

Pluto -68642-11-25 20:37 J -23349738.75 -23349738.64 -23349738.51 0.0084 0.0043

Jupiter -68642-12-04 19:25 J -23349729.82 -23349729.69 -23349729.57 0.0526 0.0072

Pluto -68641-02-21 22:18 J -23349650.70 -23349650.57 -23349650.44 0.0084 0.0032

Pluto -68641-05-19 23:45 J -23349562.64 -23349562.51 -23349562.37 0.0084 0.0022

Venus -68641-07-22 07:40 J -23349499.32 -23349499.18 -23349499.05 0.3565 0.1573

Pluto -68641-08-16 01:11 J -23349474.58 -23349474.45 -23349474.31 0.0083 0.0011

Pluto -68641-11-12 02:52 J -23349386.52 -23349386.38 -23349386.24 0.0083 0.0002

Pluto -68640-02-08 04:04 J -23349298.46 -23349298.33 -23349298.19 0.0083 0.0010

Pluto -68640-05-07 05:30 J -23349210.40 -23349210.27 -23349210.13 0.0083 0.0020

Pluto -68640-08-03 06:57 J -23349122.34 -23349122.21 -23349122.08 0.0083 0.0030

Mars -68640-09-23 08:09 J -23349071.33 -23349071.16 -23349070.99 0.1566 0.0127

Pluto -68640-10-30 08:23 J -23349034.27 -23349034.15 -23349034.03 0.0083 0.0040

Pluto -68639-01-26 09:35 J -23348946.20 -23348946.10 -23348945.98 0.0083 0.0051

Pluto -68639-04-24 10:47 J -23348858.13 -23348858.05 -23348857.94 0.0083 0.0061

Pluto -68639-07-21 12:13 J -23348770.05 -23348769.99 -23348769.91 0.0082 0.0070

Pluto -68639-10-17 13:54 J -23348681.95 -23348681.92 -23348681.89 0.0082 0.0080

Jupiter -68636-10-29 00:13 J -23347574.67 -23347574.49 -23347574.30 0.0499 0.0107

Venus -68635-02-05 13:11 J -23347475.08 -23347474.95 -23347474.82 0.3567 0.1840

Mars -68635-06-05 00:28 J -23347355.59 -23347355.48 -23347355.37 0.1983 0.0170

Moon -68633-05-07 06:28 J -23346653.34 -23346653.23 -23346653.12 0.2707 0.0460

Earth -68633-05-07 07:11 J -23346653.31 -23346653.20 -23346653.09 0.2707 0.0328 *

Saturn -68633-09-14 05:59 J -23346523.31 -23346523.25 -23346523.16 0.0259 0.0240

Saturn -68633-12-12 03:06 J -23346434.54 -23346434.37 -23346434.19 0.0260 0.0110

Saturn -68632-03-11 00:13 J -23346345.68 -23346345.49 -23346345.30 0.0260 0.0020

Saturn -68632-06-07 21:06 J -23346256.77 -23346256.62 -23346256.45 0.0261 0.0152

Mars -68630-02-13 10:33 J -23345641.19 -23345641.06 -23345640.93 0.1566 0.0995

Jupiter -68630-06-25 17:59 J -23345508.76 -23345508.75 -23345508.72 0.0527 0.0518

Jupiter -68630-09-22 23:30 J -23345419.64 -23345419.52 -23345419.39 0.0527 0.0051

Moon -68630-11-01 07:11 J -23345380.33 -23345380.20 -23345380.06 0.2623 0.1496

Earth -68630-11-01 08:37 J -23345380.28 -23345380.14 -23345380.01 0.2628 0.1456 *

Jupiter -68630-12-21 05:01 J -23345330.36 -23345330.29 -23345330.21 0.0526 0.0422

Mars -68626-10-26 08:09 J -23343925.25 -23343925.16 -23343925.08 0.1982 0.1251

Jupiter -68624-08-16 20:52 J -23343264.78 -23343264.63 -23343264.46 0.0499 0.0260

Jupiter -68624-11-15 08:52 J -23343174.26 -23343174.13 -23343174.00 0.0499 0.0359

Venus -68622-12-05 07:54 J -23342424.23 -23342424.17 -23342424.11 0.3815 0.3087

Moon -68620-05-10 00:13 J -23341902.60 -23341902.49 -23341902.39 0.2713 0.0749

Earth -68620-05-10 00:42 J -23341902.57 -23341902.47 -23341902.36 0.2709 0.0797 *

Saturn -68619-10-19 04:33 J -23341375.37 -23341375.31 -23341375.25 0.0303 0.0267

Saturn -68618-01-15 17:16 J -23341286.90 -23341286.78 -23341286.67 0.0302 0.0130

Saturn -68618-04-14 05:45 J -23341198.39 -23341198.26 -23341198.13 0.0302 0.0008

Saturn -68618-07-11 18:13 J -23341109.85 -23341109.74 -23341109.62 0.0301 0.0142

Jupiter -68618-07-12 04:18 J -23341109.44 -23341109.32 -23341109.20 0.0527 0.0158

Uranus -68618-08-25 18:13 J -23341064.83 -23341064.74 -23341064.62 0.0144 0.0121

Saturn -68618-10-08 06:42 J -23341021.27 -23341021.22 -23341021.17 0.0301 0.0276

Jupiter -68618-10-09 09:49 J -23341020.19 -23341020.09 -23341019.99 0.0526 0.0313

Uranus -68618-11-22 03:06 J -23340976.52 -23340976.37 -23340976.21 0.0144 0.0090

Uranus -68617-02-18 11:45 J -23340888.18 -23340888.01 -23340887.82 0.0144 0.0059

Uranus -68617-05-16 20:37 J -23340799.83 -23340799.64 -23340799.45 0.0144 0.0028

Uranus -68617-08-13 05:16 J -23340711.47 -23340711.28 -23340711.08 0.0144 0.0003

Moon -68617-11-03 14:52 J -23340629.04 -23340628.88 -23340628.72 0.2625 0.0622

Earth -68617-11-03 16:47 J -23340628.95 -23340628.80 -23340628.65 0.2625 0.0921 *

Uranus -68617-11-09 13:54 J -23340623.11 -23340622.92 -23340622.73 0.0144 0.0033

Uranus -68616-02-05 22:33 J -23340534.73 -23340534.56 -23340534.39 0.0144 0.0064

Uranus -68616-05-05 06:42 J -23340446.35 -23340446.22 -23340446.06 0.0143 0.0095

Venus -68616-06-20 00:28 J -23340400.57 -23340400.48 -23340400.38 0.3815 0.1509

Uranus -68616-08-01 15:21 J -23340357.94 -23340357.86 -23340357.75 0.0143 0.0124

Moon -68613-05-03 00:42 J -23339352.53 -23339352.47 -23339352.42 0.2697 0.2300

Earth -68613-05-03 00:42 J -23339352.52 -23339352.47 -23339352.42 0.2704 0.2346 *

Jupiter -68612-06-04 16:04 J -23338954.92 -23338954.83 -23338954.73 0.0498 0.0427

Jupiter -68612-09-03 04:04 J -23338864.50 -23338864.33 -23338864.15 0.0499 0.0192

Venus -68610-01-03 17:16 J -23338376.88 -23338376.78 -23338376.68 0.3813 0.0115

Mars -68610-11-02 06:42 J -23338074.36 -23338074.22 -23338074.08 0.1566 0.0895

Moon -68607-05-12 18:13 J -23337151.81 -23337151.74 -23337151.66 0.2718 0.1914

Earth -68607-05-12 18:28 J -23337151.81 -23337151.73 -23337151.66 0.2711 0.1919 *

Jupiter -68606-04-30 08:52 J -23336799.23 -23336799.13 -23336799.02 0.0527 0.0271

Jupiter -68606-07-28 14:23 J -23336710.02 -23336709.90 -23336709.78 0.0527 0.0200

Mars -68605-07-13 17:01 J -23336358.88 -23336358.79 -23336358.69 0.1982 0.1039

Venus -68605-07-19 10:04 J -23336353.17 -23336353.08 -23336352.99 0.3812 0.1743

Saturn -68603-05-01 02:23 J -23335702.55 -23335702.40 -23335702.24 0.0260 0.0147

Saturn -68603-07-28 23:30 J -23335613.71 -23335613.52 -23335613.33 0.0260 0.0017

Saturn -68603-10-25 20:37 J -23335524.81 -23335524.64 -23335524.47 0.0260 0.0114

Saturn -68602-01-22 17:45 J -23335435.82 -23335435.76 -23335435.69 0.0261 0.0246

Neptune -68601-12-21 22:33 J -23334736.59 -23334736.56 -23334736.50 0.0089 0.0086

Neptune -68600-03-20 02:09 J -23334648.48 -23334648.41 -23334648.30 0.0089 0.0079

Mars -68600-03-24 08:52 J -23334644.30 -23334644.13 -23334643.96 0.1565 0.0042

Moon -68600-05-05 17:59 J -23334601.85 -23334601.75 -23334601.66 0.2700 0.1330

Earth -68600-05-05 18:13 J -23334601.83 -23334601.74 -23334601.64 0.2706 0.1225 *

Neptune -68600-06-16 05:59 J -23334560.35 -23334560.25 -23334560.12 0.0089 0.0071

Jupiter -68600-06-22 00:57 J -23334554.65 -23334554.46 -23334554.27 0.0499 0.0040

Neptune -68600-09-12 09:35 J -23334472.22 -23334472.10 -23334471.95 0.0089 0.0064

Neptune -68600-12-09 13:40 J -23334384.08 -23334383.93 -23334383.78 0.0089 0.0056

Venus -68599-02-02 02:52 J -23334329.42 -23334329.38 -23334329.33 0.3810 0.3405

Neptune -68599-03-07 17:16 J -23334295.94 -23334295.78 -23334295.61 0.0089 0.0049

Neptune -68599-06-03 21:06 J -23334207.79 -23334207.62 -23334207.44 0.0089 0.0041

Neptune -68599-08-31 00:42 J -23334119.64 -23334119.47 -23334119.28 0.0089 0.0034

Neptune -68599-11-27 04:18 J -23334031.49 -23334031.32 -23334031.12 0.0089 0.0027

Neptune -68598-02-23 08:09 J -23333943.34 -23333943.16 -23333942.96 0.0089 0.0019

Neptune -68598-05-22 11:59 J -23333855.19 -23333855.00 -23333854.80 0.0089 0.0011

Neptune -68598-08-18 15:49 J -23333767.04 -23333766.84 -23333766.64 0.0089 0.0004

Neptune -68598-11-14 19:25 J -23333678.88 -23333678.69 -23333678.49 0.0089 0.0005

Neptune -68597-02-10 23:16 J -23333590.72 -23333590.53 -23333590.33 0.0089 0.0011

Neptune -68597-05-09 02:52 J -23333502.57 -23333502.38 -23333502.18 0.0089 0.0019

Neptune -68597-08-05 06:28 J -23333414.41 -23333414.23 -23333414.03 0.0089 0.0027

Neptune -68597-11-01 10:18 J -23333326.24 -23333326.07 -23333325.88 0.0089 0.0034

Neptune -68596-01-28 13:54 J -23333238.08 -23333237.92 -23333237.73 0.0089 0.0042

Neptune -68596-04-26 17:45 J -23333149.91 -23333149.76 -23333149.59 0.0089 0.0049

Neptune -68596-07-23 21:21 J -23333061.75 -23333061.61 -23333061.44 0.0089 0.0057

Neptune -68596-10-20 01:11 J -23332973.58 -23332973.45 -23332973.30 0.0089 0.0064

Mars -68596-12-04 00:28 J -23332928.59 -23332928.48 -23332928.36 0.1982 0.0064

Neptune -68595-01-16 04:33 J -23332885.40 -23332885.31 -23332885.17 0.0089 0.0072

Neptune -68595-04-14 08:37 J -23332797.22 -23332797.14 -23332797.04 0.0089 0.0079

Neptune -68595-07-11 12:28 J -23332709.02 -23332708.98 -23332708.93 0.0089 0.0086

Jupiter -68594-02-16 12:57 J -23332489.04 -23332488.96 -23332488.88 0.0527 0.0393

Jupiter -68594-05-16 18:28 J -23332399.86 -23332399.73 -23332399.61 0.0526 0.0078

Mars -68591-08-14 11:16 J -23331214.17 -23331214.03 -23331213.89 0.1565 0.0861

Saturn -68589-06-03 18:57 J -23330554.81 -23330554.71 -23330554.60 0.0303 0.0170

Saturn -68589-08-31 07:40 J -23330466.31 -23330466.18 -23330466.05 0.0303 0.0033

Saturn -68589-11-27 20:09 J -23330377.78 -23330377.66 -23330377.53 0.0302 0.0103

Saturn -68588-02-24 08:37 J -23330289.21 -23330289.14 -23330289.06 0.0301 0.0237

Jupiter -68588-04-09 22:04 J -23330244.76 -23330244.58 -23330244.39 0.0499 0.0109

Moon -68587-05-08 11:16 J -23329851.14 -23329851.03 -23329850.92 0.2708 0.0125

Earth -68587-05-08 11:59 J -23329851.11 -23329851.00 -23329850.89 0.2708 0.0108 *

Mars -68586-04-26 07:54 J -23329498.26 -23329498.17 -23329498.08 0.1982 0.1157

Venus -68584-02-26 08:52 J -23328826.28 -23328826.13 -23328825.98 0.3566 0.0404

Moon -68584-11-01 13:54 J -23328578.07 -23328577.92 -23328577.77 0.2624 0.1178

Earth -68584-11-01 15:21 J -23328578.01 -23328577.86 -23328577.71 0.2628 0.0996 *

Jupiter -68583-12-05 17:01 J -23328178.81 -23328178.79 -23328178.76 0.0527 0.0513

Jupiter -68582-03-04 22:33 J -23328089.69 -23328089.56 -23328089.44 0.0527 0.0043

Jupiter -68582-06-02 03:49 J -23328000.41 -23328000.34 -23328000.26 0.0526 0.0427

Venus -68579-09-12 14:09 J -23326801.99 -23326801.91 -23326801.83 0.3567 0.2960

Jupiter -68576-01-26 18:57 J -23325934.87 -23325934.71 -23325934.55 0.0499 0.0260

Jupiter -68576-04-27 06:57 J -23325844.34 -23325844.21 -23325844.08 0.0499 0.0359

Moon -68574-05-11 05:01 J -23325100.39 -23325100.29 -23325100.19 0.2714 0.0926

Earth -68574-05-11 05:30 J -23325100.37 -23325100.27 -23325100.17 0.2710 0.1022 *

Uranus -68574-05-12 08:52 J -23325099.17 -23325099.13 -23325099.07 0.0134 0.0123

Uranus -68574-08-08 11:59 J -23325011.08 -23325011.00 -23325010.92 0.0134 0.0107

Saturn -68574-09-18 01:54 J -23324970.55 -23324970.42 -23324970.28 0.0260 0.0182

Uranus -68574-11-04 14:52 J -23324922.97 -23324922.88 -23324922.78 0.0134 0.0090

Saturn -68574-12-15 23:01 J -23324881.73 -23324881.54 -23324881.35 0.0260 0.0052

Uranus -68573-01-31 17:59 J -23324834.86 -23324834.75 -23324834.64 0.0134 0.0074

Saturn -68573-03-13 20:09 J -23324792.84 -23324792.66 -23324792.48 0.0260 0.0079

Uranus -68573-04-28 20:52 J -23324746.75 -23324746.63 -23324746.51 0.0135 0.0057

Saturn -68573-06-10 17:01 J -23324703.89 -23324703.79 -23324703.67 0.0261 0.0211

Uranus -68573-07-25 23:45 J -23324658.63 -23324658.51 -23324658.38 0.0135 0.0041

Uranus -68573-10-22 02:52 J -23324570.51 -23324570.38 -23324570.25 0.0135 0.0024

Uranus -68572-01-18 05:59 J -23324482.39 -23324482.25 -23324482.12 0.0135 0.0008

Uranus -68572-04-16 08:52 J -23324394.26 -23324394.13 -23324394.00 0.0135 0.0010

Uranus -68572-07-13 11:59 J -23324306.13 -23324306.00 -23324305.87 0.0135 0.0027

Uranus -68572-10-09 14:52 J -23324218.00 -23324217.88 -23324217.75 0.0135 0.0044

Uranus -68571-01-05 17:59 J -23324129.87 -23324129.75 -23324129.63 0.0135 0.0061

Uranus -68571-04-03 20:52 J -23324041.73 -23324041.63 -23324041.52 0.0135 0.0079

Uranus -68571-06-30 23:59 J -23323953.59 -23323953.50 -23323953.40 0.0136 0.0096

Uranus -68571-09-27 03:06 J -23323865.44 -23323865.37 -23323865.29 0.0136 0.0113

Moon -68571-11-04 21:49 J -23323826.73 -23323826.59 -23323826.45 0.2624 0.1306

Earth -68571-11-04 23:45 J -23323826.65 -23323826.51 -23323826.37 0.2625 0.1379 *

Jupiter -68571-12-22 02:37 J -23323779.51 -23323779.39 -23323779.27 0.0527 0.0163

Uranus -68571-12-24 06:13 J -23323777.27 -23323777.24 -23323777.20 0.0136 0.0130

Jupiter -68570-03-21 08:09 J -23323690.26 -23323690.16 -23323690.06 0.0526 0.0308

Mars -68570-05-03 07:25 J -23323647.32 -23323647.19 -23323647.06 0.1566 0.1028

Moon -68567-05-04 05:16 J -23322550.34 -23322550.28 -23322550.21 0.2697 0.2152

Earth -68567-05-04 05:30 J -23322550.34 -23322550.27 -23322550.21 0.2704 0.2116 *

Mars -68565-01-12 17:01 J -23321931.88 -23321931.79 -23321931.70 0.1982 0.1159

Venus -68565-07-11 05:45 J -23321751.34 -23321751.26 -23321751.19 0.3815 0.2534

Jupiter -68565-11-14 15:35 J -23321624.95 -23321624.85 -23321624.75 0.0498 0.0413

Jupiter -68564-02-13 03:21 J -23321534.53 -23321534.36 -23321534.18 0.0499 0.0206

Moon -68561-05-12 23:01 J -23320349.60 -23320349.54 -23320349.47 0.2719 0.2161

Earth -68561-05-12 23:01 J -23320349.60 -23320349.54 -23320349.47 0.2711 0.2145 *

Mars -68561-09-22 09:49 J -23320217.26 -23320217.09 -23320216.93 0.1566 0.0160

Saturn -68560-10-21 20:52 J -23319822.72 -23319822.63 -23319822.54 0.0303 0.0212

Saturn -68559-01-18 09:21 J -23319734.23 -23319734.11 -23319733.98 0.0302 0.0076

Venus -68559-01-24 22:18 J -23319727.67 -23319727.57 -23319727.47 0.3814 0.0936

Saturn -68559-04-16 22:04 J -23319645.71 -23319645.58 -23319645.46 0.0302 0.0061

Saturn -68559-07-14 10:18 J -23319557.16 -23319557.07 -23319556.96 0.0301 0.0195

Jupiter -68559-10-10 07:25 J -23319469.30 -23319469.19 -23319469.09 0.0527 0.0274

Jupiter -68558-01-07 12:42 J -23319380.08 -23319379.97 -23319379.85 0.0527 0.0198

Mars -68556-06-04 00:28 J -23318501.59 -23318501.48 -23318501.36 0.1982 0.0079

Moon -68554-05-06 22:33 J -23317799.66 -23317799.56 -23317799.46 0.2702 0.1005

Earth -68554-05-06 23:01 J -23317799.64 -23317799.54 -23317799.44 0.2706 0.1000 *

Venus -68554-08-10 15:06 J -23317703.98 -23317703.87 -23317703.77 0.3813 0.0697

Jupiter -68553-12-01 22:33 J -23317224.74 -23317224.56 -23317224.37 0.0499 0.0039

Mars -68551-02-12 11:59 J -23316787.15 -23316787.00 -23316786.85 0.1565 0.0720

Venus -68548-02-23 07:40 J -23315680.26 -23315680.18 -23315680.09 0.3812 0.2328

Jupiter -68547-07-29 11:59 J -23315159.09 -23315159.00 -23315158.92 0.0527 0.0388

Mars -68547-10-25 07:54 J -23315071.27 -23315071.17 -23315071.07 0.1983 0.1034

Jupiter -68547-10-26 17:16 J -23315069.90 -23315069.78 -23315069.65 0.0527 0.0084

Saturn -68544-02-04 01:40 J -23314238.53 -23314238.43 -23314238.32 0.0260 0.0215

Saturn -68544-05-03 22:47 J -23314149.73 -23314149.55 -23314149.37 0.0260 0.0086

Saturn -68544-07-31 19:54 J -23314060.86 -23314060.67 -23314060.48 0.0260 0.0045

Saturn -68544-10-28 17:01 J -23313971.93 -23313971.79 -23313971.65 0.0261 0.0176

Moon -68541-05-08 16:04 J -23313048.94 -23313048.83 -23313048.72 0.2708 0.0043

Earth -68541-05-08 16:47 J -23313048.91 -23313048.80 -23313048.69 0.2708 0.0136 *

Jupiter -68541-09-19 19:25 J -23312914.88 -23312914.69 -23312914.51 0.0499 0.0117

Moon -68538-11-02 20:23 J -23311775.80 -23311775.65 -23311775.49 0.2624 0.0695

Earth -68538-11-02 22:18 J -23311775.73 -23311775.57 -23311775.42 0.2627 0.0547 *

Jupiter -68535-05-17 15:49 J -23310848.87 -23310848.84 -23310848.81 0.0527 0.0511

Jupiter -68535-08-14 21:21 J -23310759.74 -23310759.61 -23310759.49 0.0527 0.0042

Jupiter -68535-11-12 02:37 J -23310670.46 -23310670.39 -23310670.32 0.0526 0.0429

Uranus -68534-09-15 01:25 J -23310363.55 -23310363.44 -23310363.32 0.0144 0.0115

Uranus -68534-12-12 10:18 J -23310275.23 -23310275.07 -23310274.91 0.0144 0.0084

Uranus -68533-03-09 18:42 J -23310186.89 -23310186.72 -23310186.53 0.0144 0.0053

Venus -68533-03-19 04:18 J -23310177.42 -23310177.32 -23310177.23 0.3565 0.2731

Uranus -68533-06-06 03:35 J -23310098.54 -23310098.35 -23310098.15 0.0144 0.0022

Uranus -68533-09-02 12:13 J -23310010.18 -23310009.99 -23310009.79 0.0144 0.0010

Uranus -68533-11-29 20:52 J -23309921.81 -23309921.63 -23309921.44 0.0144 0.0040

Uranus -68532-02-26 05:30 J -23309833.44 -23309833.27 -23309833.10 0.0144 0.0070

Uranus -68532-05-25 13:54 J -23309745.05 -23309744.92 -23309744.77 0.0143 0.0100

Uranus -68532-08-21 22:18 J -23309656.63 -23309656.57 -23309656.47 0.0143 0.0131

Mars -68531-11-01 08:09 J -23309220.28 -23309220.16 -23309220.05 0.1566 0.1162

Saturn -68530-03-10 23:01 J -23309090.61 -23309090.54 -23309090.47 0.0303 0.0249

Saturn -68530-06-07 11:45 J -23309002.13 -23309002.01 -23309001.89 0.0303 0.0112

Saturn -68530-09-04 00:13 J -23308913.61 -23308913.49 -23308913.36 0.0302 0.0027

Saturn -68530-12-01 12:42 J -23308825.07 -23308824.97 -23308824.86 0.0302 0.0161

Saturn -68529-02-28 01:11 J -23308736.47 -23308736.45 -23308736.42 0.0301 0.0294

Jupiter -68529-07-08 16:18 J -23308604.98 -23308604.82 -23308604.66 0.0499 0.0267

Jupiter -68529-10-07 04:18 J -23308514.45 -23308514.32 -23308514.19 0.0499 0.0353

Moon -68528-05-11 09:49 J -23308298.18 -23308298.09 -23308297.99 0.2715 0.1262

Earth -68528-05-11 10:18 J -23308298.16 -23308298.07 -23308297.97 0.2710 0.1246 *

Venus -68528-10-03 10:04 J -23308153.23 -23308153.08 -23308152.94 0.3566 0.0744

Mars -68526-07-13 17:01 J -23307504.88 -23307504.79 -23307504.70 0.1982 0.1265

Moon -68525-11-05 04:47 J -23307024.43 -23307024.30 -23307024.17 0.2625 0.1580

Earth -68525-11-05 06:28 J -23307024.34 -23307024.23 -23307024.11 0.2625 0.1840 *

Jupiter -68523-06-03 01:25 J -23306449.56 -23306449.44 -23306449.32 0.0527 0.0162

Jupiter -68523-08-31 06:42 J -23306360.32 -23306360.22 -23306360.12 0.0526 0.0309

Mars -68521-03-23 10:18 J -23305790.23 -23305790.07 -23305789.90 0.1566 0.0290

Moon -68521-05-04 10:04 J -23305748.15 -23305748.08 -23305748.00 0.2697 0.1879

Earth -68521-05-04 10:18 J -23305748.15 -23305748.07 -23305747.99 0.2704 0.1888 *

Neptune -68519-07-04 17:45 J -23304956.77 -23304956.76 -23304956.72 0.0089 0.0087

Neptune -68519-09-30 19:11 J -23304868.74 -23304868.70 -23304868.64 0.0089 0.0082

Neptune -68519-12-27 20:23 J -23304780.70 -23304780.65 -23304780.57 0.0089 0.0077

Neptune -68518-03-25 21:49 J -23304692.66 -23304692.59 -23304692.51 0.0089 0.0072

Neptune -68518-06-21 23:01 J -23304604.61 -23304604.54 -23304604.44 0.0089 0.0067

Neptune -68518-09-18 00:28 J -23304516.57 -23304516.48 -23304516.38 0.0089 0.0062

Neptune -68518-12-15 01:40 J -23304428.52 -23304428.43 -23304428.32 0.0089 0.0057

Neptune -68517-03-12 03:06 J -23304340.47 -23304340.37 -23304340.26 0.0089 0.0052

Jupiter -68517-04-26 13:11 J -23304295.05 -23304294.95 -23304294.85 0.0499 0.0419

Neptune -68517-06-08 04:18 J -23304252.42 -23304252.32 -23304252.20 0.0089 0.0047

Jupiter -68517-07-26 00:57 J -23304204.63 -23304204.46 -23304204.29 0.0499 0.0201

Neptune -68517-09-04 05:45 J -23304164.37 -23304164.26 -23304164.14 0.0089 0.0041

Neptune -68517-12-01 06:57 J -23304076.32 -23304076.21 -23304076.08 0.0089 0.0037

Mars -68517-12-03 00:28 J -23304074.59 -23304074.48 -23304074.37 0.1983 0.0170

Neptune -68516-02-27 08:23 J -23303988.27 -23303988.15 -23303988.02 0.0089 0.0031

Neptune -68516-05-26 09:35 J -23303900.22 -23303900.10 -23303899.97 0.0089 0.0027

Neptune -68516-08-22 11:01 J -23303812.17 -23303812.04 -23303811.91 0.0089 0.0021

Neptune -68516-11-18 12:13 J -23303724.11 -23303723.99 -23303723.85 0.0089 0.0017

Neptune -68515-02-14 13:40 J -23303636.06 -23303635.93 -23303635.80 0.0089 0.0011

Neptune -68515-05-13 14:52 J -23303548.01 -23303547.88 -23303547.74 0.0089 0.0007

Moon -68515-05-14 04:04 J -23303547.39 -23303547.33 -23303547.28 0.2719 0.2351

Earth -68515-05-14 03:49 J -23303547.39 -23303547.34 -23303547.29 0.2712 0.2368 *

Saturn -68515-06-24 01:54 J -23303506.47 -23303506.42 -23303506.35 0.0260 0.0246

Neptune -68515-08-09 16:18 J -23303459.95 -23303459.82 -23303459.69 0.0089 0.0001

Saturn -68515-09-20 23:01 J -23303417.71 -23303417.54 -23303417.37 0.0260 0.0117

Neptune -68515-11-05 17:30 J -23303371.90 -23303371.77 -23303371.64 0.0089 0.0004

Saturn -68515-12-18 20:09 J -23303328.86 -23303328.66 -23303328.47 0.0260 0.0015

Neptune -68514-02-01 18:57 J -23303283.84 -23303283.71 -23303283.58 0.0089 0.0009

Saturn -68514-03-17 17:16 J -23303239.94 -23303239.78 -23303239.62 0.0261 0.0145

Neptune -68514-04-30 20:09 J -23303195.79 -23303195.66 -23303195.53 0.0089 0.0014

Neptune -68514-07-27 21:21 J -23303107.73 -23303107.61 -23303107.48 0.0089 0.0019

Venus -68514-08-02 10:47 J -23303102.08 -23303102.05 -23303102.01 0.3816 0.3558

Neptune -68514-10-23 22:47 J -23303019.68 -23303019.55 -23303019.42 0.0089 0.0024

Neptune -68513-01-19 23:59 J -23302931.62 -23302931.50 -23302931.37 0.0089 0.0029

Neptune -68513-04-17 01:25 J -23302843.56 -23302843.44 -23302843.32 0.0089 0.0034

Neptune -68513-07-14 02:37 J -23302755.51 -23302755.39 -23302755.27 0.0089 0.0039

Neptune -68513-10-10 03:35 J -23302667.45 -23302667.35 -23302667.22 0.0089 0.0045

Neptune -68512-01-06 05:16 J -23302579.39 -23302579.28 -23302579.17 0.0089 0.0049

Neptune -68512-04-04 06:28 J -23302491.33 -23302491.23 -23302491.12 0.0089 0.0054

Neptune -68512-07-01 07:54 J -23302403.27 -23302403.17 -23302403.08 0.0089 0.0059

Mars -68512-08-13 12:42 J -23302360.13 -23302359.97 -23302359.81 0.1566 0.0586

Neptune -68512-09-27 09:06 J -23302315.21 -23302315.12 -23302315.03 0.0089 0.0064

Neptune -68512-12-24 10:04 J -23302227.14 -23302227.08 -23302226.98 0.0089 0.0070

Jupiter -68511-03-22 05:30 J -23302139.38 -23302139.27 -23302139.17 0.0527 0.0283

Neptune -68511-03-22 11:45 J -23302139.08 -23302139.01 -23302138.94 0.0089 0.0074

Neptune -68511-06-18 12:42 J -23302051.01 -23302050.97 -23302050.90 0.0089 0.0080

Jupiter -68511-06-19 10:47 J -23302050.16 -23302050.05 -23302049.93 0.0527 0.0189

Neptune -68511-09-14 14:23 J -23301962.94 -23301962.90 -23301962.86 0.0089 0.0084

Venus -68508-02-15 03:21 J -23301078.45 -23301078.36 -23301078.27 0.3815 0.1980

Moon -68508-05-07 03:21 J -23300997.46 -23300997.36 -23300997.26 0.2703 0.0873

Earth -68508-05-07 03:49 J -23300997.44 -23300997.34 -23300997.23 0.2706 0.0772 *

Mars -68507-04-25 07:54 J -23300644.27 -23300644.17 -23300644.07 0.1982 0.0917

Jupiter -68505-05-13 21:21 J -23299894.79 -23299894.61 -23299894.42 0.0499 0.0047

Moon -68505-10-30 19:54 J -23299724.69 -23299724.67 -23299724.66 0.2624 0.2607

Earth -68505-10-30 20:37 J -23299724.69 -23299724.64 -23299724.59 0.2629 0.2464 *

Venus -68503-08-31 20:09 J -23299054.77 -23299054.66 -23299054.56 0.3814 0.0403

Mars -68502-01-03 15:06 J -23298929.93 -23298929.87 -23298929.81 0.1566 0.1457

Saturn -68501-07-28 01:25 J -23298358.48 -23298358.44 -23298358.40 0.0303 0.0285

Saturn -68501-10-24 13:54 J -23298270.02 -23298269.92 -23298269.80 0.0302 0.0149

Saturn -68500-01-21 02:37 J -23298181.52 -23298181.39 -23298181.26 0.0302 0.0012

Saturn -68500-04-19 15:06 J -23298092.98 -23298092.87 -23298092.75 0.0301 0.0124

Saturn -68500-07-17 03:35 J -23298004.41 -23298004.35 -23298004.28 0.0301 0.0257

Jupiter -68499-01-08 09:49 J -23297829.17 -23297829.09 -23297829.00 0.0527 0.0397

Jupiter -68499-04-07 15:21 J -23297739.98 -23297739.86 -23297739.73 0.0527 0.0078

Venus -68497-03-16 12:42 J -23297031.07 -23297030.97 -23297030.87 0.3813 0.1254

Moon -68495-05-09 20:52 J -23296246.74 -23296246.63 -23296246.52 0.2709 0.0336

Earth -68495-05-09 21:35 J -23296246.71 -23296246.60 -23296246.50 0.2708 0.0357 *

Jupiter -68493-03-01 16:33 J -23295584.99 -23295584.81 -23295584.62 0.0498 0.0124

Jupiter -68493-05-31 04:18 J -23295494.33 -23295494.32 -23295494.29 0.0499 0.0495

Venus -68492-09-30 05:30 J -23295007.33 -23295007.27 -23295007.20 0.3811 0.2913

Moon -68492-11-03 03:21 J -23294973.53 -23294973.36 -23294973.20 0.2624 0.0260

Earth -68492-11-03 05:01 J -23294973.45 -23294973.29 -23294973.13 0.2627 0.0095 *

Mars -68491-05-02 08:52 J -23294793.22 -23294793.13 -23294793.04 0.1566 0.1304

Uranus -68490-06-01 15:35 J -23294397.90 -23294397.85 -23294397.79 0.0134 0.0121

Uranus -68490-08-28 18:42 J -23294309.80 -23294309.72 -23294309.64 0.0134 0.0105

Uranus -68490-11-24 21:35 J -23294221.69 -23294221.60 -23294221.50 0.0134 0.0088

Uranus -68489-02-21 00:42 J -23294133.58 -23294133.47 -23294133.36 0.0134 0.0072

Uranus -68489-05-19 03:35 J -23294045.47 -23294045.35 -23294045.23 0.0134 0.0055

Uranus -68489-08-15 06:42 J -23293957.35 -23293957.22 -23293957.10 0.0135 0.0038

Pluto -68489-09-10 17:01 J -23293930.84 -23293930.79 -23293930.72 0.0060 0.0057

Uranus -68489-11-11 09:35 J -23293869.23 -23293869.10 -23293868.97 0.0135 0.0022

Pluto -68489-12-07 17:59 J -23293842.83 -23293842.75 -23293842.64 0.0060 0.0052

Uranus -68488-02-07 12:42 J -23293781.10 -23293780.97 -23293780.84 0.0135 0.0005

Pluto -68488-03-05 19:11 J -23293754.80 -23293754.70 -23293754.57 0.0061 0.0047

Uranus -68488-05-06 15:35 J -23293692.98 -23293692.85 -23293692.72 0.0135 0.0012

Pluto -68488-06-01 20:23 J -23293666.77 -23293666.65 -23293666.50 0.0061 0.0042

Uranus -68488-08-02 18:42 J -23293604.85 -23293604.72 -23293604.59 0.0135 0.0029

Pluto -68488-08-28 21:35 J -23293578.73 -23293578.60 -23293578.44 0.0061 0.0037

Jupiter -68488-10-27 14:23 J -23293518.93 -23293518.90 -23293518.87 0.0527 0.0511

Uranus -68488-10-29 21:35 J -23293516.72 -23293516.60 -23293516.47 0.0135 0.0046

Pluto -68488-11-24 22:47 J -23293490.69 -23293490.55 -23293490.38 0.0061 0.0032

Jupiter -68487-01-24 19:54 J -23293429.79 -23293429.67 -23293429.54 0.0527 0.0039

Uranus -68487-01-26 00:42 J -23293428.58 -23293428.47 -23293428.35 0.0135 0.0063

Pluto -68487-02-21 00:13 J -23293402.65 -23293402.49 -23293402.32 0.0061 0.0026

Jupiter -68487-04-24 01:25 J -23293340.51 -23293340.44 -23293340.37 0.0526 0.0432

Uranus -68487-04-24 03:35 J -23293340.45 -23293340.35 -23293340.24 0.0135 0.0081 *

Pluto -68487-05-20 01:25 J -23293314.60 -23293314.44 -23293314.26 0.0061 0.0021

Uranus -68487-07-21 06:42 J -23293252.30 -23293252.22 -23293252.12 0.0135 0.0098

Pluto -68487-08-16 02:37 J -23293226.56 -23293226.39 -23293226.20 0.0061 0.0016

Uranus -68487-10-17 09:49 J -23293164.15 -23293164.09 -23293164.02 0.0136 0.0115

Pluto -68487-11-12 04:04 J -23293138.51 -23293138.33 -23293138.15 0.0061 0.0010

Mars -68486-01-11 17:01 J -23293077.87 -23293077.79 -23293077.71 0.1982 0.1375

Uranus -68486-01-13 12:57 J -23293075.98 -23293075.96 -23293075.93 0.0136 0.0132

Pluto -68486-02-08 05:16 J -23293050.46 -23293050.28 -23293050.09 0.0061 0.0005

Pluto -68486-05-07 06:42 J -23292962.41 -23292962.22 -23292962.04 0.0061 0.0001

Pluto -68486-08-03 07:54 J -23292874.35 -23292874.17 -23292873.99 0.0061 0.0006

Pluto -68486-10-30 08:52 J -23292786.30 -23292786.13 -23292785.94 0.0061 0.0012

Pluto -68485-01-26 10:18 J -23292698.24 -23292698.07 -23292697.89 0.0061 0.0016

Saturn -68485-02-07 23:01 J -23292685.69 -23292685.54 -23292685.38 0.0260 0.0148

Pluto -68485-04-23 11:45 J -23292610.18 -23292610.01 -23292609.84 0.0061 0.0022

Saturn -68485-05-06 20:09 J -23292596.85 -23292596.66 -23292596.47 0.0260 0.0018

Pluto -68485-07-20 12:42 J -23292522.12 -23292521.97 -23292521.79 0.0061 0.0028

Saturn -68485-08-03 17:16 J -23292507.95 -23292507.78 -23292507.60 0.0261 0.0114

Pluto -68485-10-16 14:09 J -23292434.06 -23292433.91 -23292433.75 0.0062 0.0033

Saturn -68485-10-31 14:23 J -23292418.95 -23292418.90 -23292418.83 0.0261 0.0246

Pluto -68484-01-12 15:06 J -23292345.99 -23292345.87 -23292345.70 0.0062 0.0039

Pluto -68484-04-10 16:47 J -23292257.92 -23292257.80 -23292257.66 0.0062 0.0044

Pluto -68484-07-07 17:45 J -23292169.84 -23292169.76 -23292169.63 0.0062 0.0050

Pluto -68484-10-03 19:25 J -23292081.76 -23292081.69 -23292081.60 0.0062 0.0055

Pluto -68484-12-30 20:23 J -23291993.65 -23291993.65 -23291993.59 0.0062 0.0061

Moon -68482-05-12 14:52 J -23291495.97 -23291495.88 -23291495.79 0.2717 0.1378

Earth -68482-05-12 15:06 J -23291495.96 -23291495.87 -23291495.78 0.2710 0.1473 *

Mars -68482-09-22 11:01 J -23291363.20 -23291363.04 -23291362.87 0.1565 0.0427

Jupiter -68482-12-19 13:11 J -23291275.10 -23291274.95 -23291274.79 0.0498 0.0278

Jupiter -68481-03-19 00:57 J -23291184.59 -23291184.46 -23291184.32 0.0499 0.0341

Moon -68479-11-06 11:45 J -23290222.10 -23290222.01 -23290221.92 0.2627 0.2181

Earth -68479-11-06 13:25 J -23290222.02 -23290221.94 -23290221.86 0.2625 0.2288 *

Mars -68477-06-03 00:28 J -23289647.59 -23289647.48 -23289647.37 0.1982 0.0291

Venus -68477-10-24 05:30 J -23289504.40 -23289504.27 -23289504.13 0.3565 0.1558

Jupiter -68476-11-12 23:45 J -23289119.63 -23289119.51 -23289119.39 0.0527 0.0164

Jupiter -68475-02-10 05:16 J -23289030.38 -23289030.28 -23289030.18 0.0526 0.0308

Moon -68475-05-05 14:52 J -23288945.96 -23288945.88 -23288945.80 0.2698 0.1681

Earth -68475-05-05 15:06 J -23288945.96 -23288945.87 -23288945.79 0.2704 0.1662 *

Mars -68472-02-11 13:11 J -23287933.11 -23287932.95 -23287932.78 0.1565 0.0456

Saturn -68471-03-13 16:47 J -23287537.90 -23287537.80 -23287537.70 0.0303 0.0179

Venus -68471-05-10 11:16 J -23287480.16 -23287480.03 -23287479.90 0.3566 0.1895

Saturn -68471-06-10 05:30 J -23287449.40 -23287449.27 -23287449.15 0.0302 0.0043

Saturn -68471-09-06 17:59 J -23287360.87 -23287360.75 -23287360.63 0.0302 0.0093

Saturn -68471-12-04 06:28 J -23287272.31 -23287272.23 -23287272.15 0.0301 0.0227

Jupiter -68470-10-07 09:49 J -23286965.17 -23286965.09 -23286964.99 0.0499 0.0431

Jupiter -68469-01-05 22:04 J -23286874.76 -23286874.58 -23286874.41 0.0499 0.0190

Earth -68469-05-14 08:37 J -23286745.16 -23286745.14 -23286745.11 0.2712 0.2593

Moon -68469-05-14 08:52 J -23286745.15 -23286745.13 -23286745.11 0.2718 0.2659 *

Mars -68468-10-24 07:54 J -23286217.28 -23286217.17 -23286217.07 0.1982 0.0819

Jupiter -68464-09-01 03:49 J -23284809.44 -23284809.34 -23284809.23 0.0527 0.0285

Jupiter -68464-11-29 09:21 J -23284720.23 -23284720.11 -23284719.99 0.0526 0.0187

Mars -68463-07-04 15:35 J -23284502.93 -23284502.85 -23284502.76 0.1566 0.1326

Moon -68462-05-08 08:09 J -23284195.27 -23284195.16 -23284195.06 0.2704 0.0602

Earth -68462-05-08 08:37 J -23284195.24 -23284195.14 -23284195.03 0.2706 0.0549 *

Moon -68459-11-01 02:23 J -23282922.51 -23282922.40 -23282922.30 0.2624 0.2026

Earth -68459-11-01 03:35 J -23282922.46 -23282922.35 -23282922.25 0.2629 0.2010 *

Mars -68458-03-16 15:21 J -23282786.89 -23282786.86 -23282786.83 0.1982 0.1902

Jupiter -68458-10-24 18:42 J -23282564.91 -23282564.72 -23282564.54 0.0499 0.0037

Venus -68457-03-08 08:23 J -23282429.21 -23282429.15 -23282429.09 0.3816 0.3016

Saturn -68456-06-26 23:45 J -23281953.64 -23281953.51 -23281953.36 0.0260 0.0176

Saturn -68456-09-23 20:52 J -23281864.82 -23281864.63 -23281864.44 0.0260 0.0046

Saturn -68456-12-21 17:59 J -23281775.93 -23281775.75 -23281775.57 0.0261 0.0085

Saturn -68455-03-20 15:21 J -23281686.97 -23281686.86 -23281686.76 0.0261 0.0217

Jupiter -68452-06-20 07:54 J -23280499.25 -23280499.17 -23280499.09 0.0527 0.0408

Jupiter -68452-09-17 13:25 J -23280410.07 -23280409.94 -23280409.82 0.0527 0.0067

Venus -68452-09-22 01:11 J -23280405.55 -23280405.45 -23280405.36 0.3815 0.1427

Mars -68452-10-31 09:35 J -23280366.17 -23280366.10 -23280366.04 0.1566 0.1439

Uranus -68450-07-08 22:18 J -23279750.57 -23279750.57 -23279750.56 0.0144 0.0144

Uranus -68450-10-05 06:57 J -23279662.32 -23279662.21 -23279662.08 0.0144 0.0113

Uranus -68449-01-01 15:49 J -23279574.00 -23279573.84 -23279573.68 0.0144 0.0082

Uranus -68449-03-30 00:28 J -23279485.66 -23279485.48 -23279485.29 0.0144 0.0051

Moon -68449-05-10 01:40 J -23279444.53 -23279444.43 -23279444.32 0.2711 0.0462

Earth -68449-05-10 02:23 J -23279444.51 -23279444.40 -23279444.30 0.2708 0.0585 *

Uranus -68449-06-26 09:21 J -23279397.30 -23279397.11 -23279396.92 0.0144 0.0020

Uranus -68449-09-22 17:59 J -23279308.94 -23279308.75 -23279308.55 0.0144 0.0011

Uranus -68449-12-20 02:37 J -23279220.57 -23279220.39 -23279220.20 0.0144 0.0041

Uranus -68448-03-18 11:16 J -23279132.20 -23279132.03 -23279131.86 0.0144 0.0072

Uranus -68448-06-14 19:54 J -23279043.81 -23279043.67 -23279043.53 0.0143 0.0102

Uranus -68448-09-11 04:04 J -23278955.39 -23278955.33 -23278955.24 0.0143 0.0133

Mars -68447-07-12 17:01 J -23278650.86 -23278650.79 -23278650.71 0.1982 0.1502

Venus -68446-04-07 17:45 J -23278381.87 -23278381.76 -23278381.66 0.3814 0.0205

Jupiter -68446-08-12 15:06 J -23278255.06 -23278254.87 -23278254.69 0.0499 0.0121

Moon -68446-11-04 10:04 J -23278171.24 -23278171.08 -23278170.91 0.2624 0.0173

Earth -68446-11-04 11:45 J -23278171.17 -23278171.01 -23278170.85 0.2627 0.0360 *

Jupiter -68446-11-11 02:52 J -23278164.39 -23278164.38 -23278164.38 0.0499 0.0498

Mars -68442-03-23 11:45 J -23276936.17 -23276936.01 -23276935.85 0.1566 0.0564

Earth -68442-05-04 02:09 J -23276894.44 -23276894.41 -23276894.38 0.2702 0.2557

Moon -68442-05-04 02:23 J -23276894.44 -23276894.40 -23276894.36 0.2695 0.2478 *

Saturn -68442-07-31 19:25 J -23276805.78 -23276805.69 -23276805.60 0.0303 0.0213

Saturn -68442-10-28 08:09 J -23276717.29 -23276717.16 -23276717.04 0.0302 0.0076

Saturn -68441-01-24 20:37 J -23276628.77 -23276628.64 -23276628.51 0.0302 0.0060

Saturn -68441-04-22 09:06 J -23276540.22 -23276540.12 -23276540.02 0.0301 0.0194

Venus -68441-10-21 10:33 J -23276358.15 -23276358.06 -23276357.97 0.3812 0.1839

Jupiter -68440-04-08 12:13 J -23276189.00 -23276188.99 -23276188.97 0.0527 0.0523

Jupiter -68440-07-06 17:45 J -23276099.88 -23276099.76 -23276099.63 0.0527 0.0051

Jupiter -68440-10-03 23:16 J -23276010.60 -23276010.53 -23276010.46 0.0527 0.0422

Mars -68438-12-03 00:28 J -23275220.59 -23275220.48 -23275220.37 0.1982 0.0399

Moon -68436-05-12 19:40 J -23274693.76 -23274693.68 -23274693.60 0.2717 0.1733

Earth -68436-05-12 19:54 J -23274693.75 -23274693.67 -23274693.59 0.2710 0.1700 *

Neptune -68436-09-17 21:21 J -23274565.66 -23274565.61 -23274565.52 0.0089 0.0083

Neptune -68436-12-15 01:25 J -23274477.54 -23274477.44 -23274477.33 0.0089 0.0075

Neptune -68435-03-13 04:47 J -23274389.41 -23274389.30 -23274389.16 0.0089 0.0068

Venus -68435-05-07 03:21 J -23274334.40 -23274334.36 -23274334.32 0.3811 0.3500

Neptune -68435-06-09 08:23 J -23274301.27 -23274301.15 -23274300.98 0.0089 0.0061

Neptune -68435-09-05 12:28 J -23274213.13 -23274212.98 -23274212.82 0.0089 0.0053

Neptune -68435-12-02 16:04 J -23274124.99 -23274124.83 -23274124.65 0.0089 0.0046

Neptune -68434-02-28 19:54 J -23274036.84 -23274036.67 -23274036.49 0.0089 0.0038

Neptune -68434-05-27 23:30 J -23273948.69 -23273948.52 -23273948.32 0.0089 0.0031

Jupiter -68434-05-31 10:18 J -23273945.22 -23273945.07 -23273944.92 0.0498 0.0288

Neptune -68434-08-24 03:21 J -23273860.54 -23273860.36 -23273860.16 0.0089 0.0023

Jupiter -68434-08-29 22:04 J -23273854.72 -23273854.58 -23273854.44 0.0499 0.0331

Neptune -68434-11-20 07:11 J -23273772.39 -23273772.20 -23273772.00 0.0089 0.0015

Neptune -68433-02-16 11:01 J -23273684.24 -23273684.04 -23273683.85 0.0089 0.0008

Neptune -68433-05-14 14:37 J -23273596.08 -23273595.89 -23273595.69 0.0089 0.0002

Neptune -68433-08-10 18:28 J -23273507.93 -23273507.73 -23273507.53 0.0089 0.0007

Mars -68433-08-12 14:09 J -23273506.08 -23273505.91 -23273505.74 0.1565 0.0312

Moon -68433-11-06 18:28 J -23273419.77 -23273419.73 -23273419.69 0.2627 0.2543

Neptune -68433-11-06 22:04 J -23273419.77 -23273419.58 -23273419.38 0.0089 0.0015 *

Neptune -68432-02-03 01:40 J -23273331.61 -23273331.43 -23273331.23 0.0089 0.0023

Neptune -68432-05-02 05:30 J -23273243.45 -23273243.27 -23273243.08 0.0089 0.0030

Neptune -68432-07-29 09:06 J -23273155.29 -23273155.12 -23273154.93 0.0089 0.0038

Neptune -68432-10-25 12:57 J -23273067.12 -23273066.96 -23273066.78 0.0089 0.0045

Neptune -68431-01-21 16:33 J -23272978.95 -23272978.81 -23272978.64 0.0089 0.0053

Neptune -68431-04-19 20:23 J -23272890.78 -23272890.65 -23272890.49 0.0089 0.0060

Neptune -68431-07-16 23:59 J -23272802.61 -23272802.50 -23272802.36 0.0089 0.0068

Neptune -68431-10-13 03:49 J -23272714.43 -23272714.34 -23272714.22 0.0089 0.0075

Neptune -68430-01-09 07:25 J -23272626.24 -23272626.19 -23272626.10 0.0089 0.0083

Moon -68429-05-05 19:25 J -23272143.78 -23272143.69 -23272143.60 0.2699 0.1499

Earth -68429-05-05 19:54 J -23272143.76 -23272143.67 -23272143.58 0.2705 0.1433 *

Mars -68428-04-24 07:54 J -23271790.28 -23271790.17 -23271790.07 0.1983 0.0699

Jupiter -68428-04-24 22:18 J -23271789.69 -23271789.57 -23271789.45 0.0527 0.0167

Jupiter -68428-07-23 03:35 J -23271700.45 -23271700.35 -23271700.24 0.0527 0.0307

Saturn -68427-11-14 00:13 J -23271221.60 -23271221.49 -23271221.37 0.0260 0.0205

Saturn -68426-02-10 21:21 J -23271132.80 -23271132.61 -23271132.43 0.0260 0.0075

Saturn -68426-05-10 18:28 J -23271043.92 -23271043.73 -23271043.54 0.0261 0.0056

Saturn -68426-08-07 15:21 J -23270954.98 -23270954.86 -23270954.72 0.0261 0.0189

Mars -68423-01-02 16:18 J -23270075.93 -23270075.82 -23270075.71 0.1566 0.1189

Jupiter -68422-03-19 06:42 J -23269635.30 -23269635.22 -23269635.13 0.0498 0.0443

Jupiter -68422-06-17 18:42 J -23269544.90 -23269544.72 -23269544.55 0.0499 0.0176

Venus -68420-05-31 06:57 J -23268831.36 -23268831.21 -23268831.06 0.3565 0.0380

Mars -68419-09-14 15:21 J -23268359.91 -23268359.86 -23268359.81 0.1982 0.1788

Jupiter -68416-02-11 02:09 J -23267479.51 -23267479.41 -23267479.31 0.0527 0.0291

Moon -68416-05-08 12:57 J -23267393.07 -23267392.96 -23267392.86 0.2704 0.0423

Earth -68416-05-08 13:25 J -23267393.04 -23267392.94 -23267392.83 0.2707 0.0324 *

Jupiter -68416-05-11 07:40 J -23267390.30 -23267390.18 -23267390.07 0.0527 0.0182

Venus -68415-12-15 12:28 J -23266807.06 -23266806.98 -23266806.90 0.3567 0.3049

Moon -68413-11-01 09:06 J -23266120.24 -23266120.12 -23266120.00 0.2624 0.1788

Earth -68413-11-01 10:18 J -23266120.20 -23266120.07 -23266119.94 0.2629 0.1557 *

Saturn -68413-12-17 22:18 J -23266073.64 -23266073.57 -23266073.49 0.0303 0.0241

Saturn -68412-03-16 11:01 J -23265985.16 -23265985.04 -23265984.91 0.0303 0.0104

Saturn -68412-06-12 23:45 J -23265896.64 -23265896.51 -23265896.38 0.0302 0.0033

Saturn -68412-09-09 12:13 J -23265808.10 -23265807.99 -23265807.88 0.0302 0.0167

Saturn -68412-12-07 00:28 J -23265719.48 -23265719.48 -23265719.47 0.0301 0.0301

Jupiter -68410-04-05 15:21 J -23265235.05 -23265234.86 -23265234.67 0.0499 0.0022

Mars -68407-01-10 17:01 J -23264223.86 -23264223.79 -23264223.73 0.1982 0.1599

Uranus -68406-06-21 22:18 J -23263696.62 -23263696.57 -23263696.50 0.0134 0.0119

Uranus -68406-09-18 01:25 J -23263608.52 -23263608.44 -23263608.35 0.0134 0.0103

Uranus -68406-12-15 04:18 J -23263520.41 -23263520.32 -23263520.21 0.0134 0.0086

Uranus -68405-03-12 07:25 J -23263432.30 -23263432.19 -23263432.08 0.0134 0.0069

Uranus -68405-06-08 10:18 J -23263344.18 -23263344.07 -23263343.94 0.0134 0.0053

Uranus -68405-09-04 13:25 J -23263256.07 -23263255.94 -23263255.81 0.0134 0.0036

Jupiter -68405-11-30 06:13 J -23263169.32 -23263169.24 -23263169.16 0.0527 0.0412

Uranus -68405-12-01 16:33 J -23263167.94 -23263167.81 -23263167.68 0.0135 0.0020

Jupiter -68404-02-27 11:30 J -23263080.14 -23263080.02 -23263079.89 0.0527 0.0062

Uranus -68404-02-27 19:25 J -23263079.82 -23263079.69 -23263079.56 0.0135 0.0003

Uranus -68404-05-26 22:33 J -23262991.69 -23262991.56 -23262991.43 0.0135 0.0015

Uranus -68404-08-23 01:25 J -23262903.57 -23262903.44 -23262903.31 0.0135 0.0031

Uranus -68404-11-19 04:33 J -23262815.43 -23262815.31 -23262815.19 0.0135 0.0048

Uranus -68403-02-15 07:25 J -23262727.30 -23262727.19 -23262727.07 0.0135 0.0065

Moon -68403-05-11 06:28 J -23262642.33 -23262642.23 -23262642.12 0.2713 0.0782

Earth -68403-05-11 07:11 J -23262642.31 -23262642.20 -23262642.10 0.2709 0.0808 *

Uranus -68403-05-14 10:33 J -23262639.16 -23262639.06 -23262638.95 0.0135 0.0082

Uranus -68403-08-10 13:40 J -23262551.02 -23262550.93 -23262550.84 0.0135 0.0100

Mars -68403-09-21 12:28 J -23262509.13 -23262508.98 -23262508.83 0.1566 0.0698

Uranus -68403-11-06 16:33 J -23262462.87 -23262462.81 -23262462.74 0.0136 0.0117

Uranus -68402-02-02 19:40 J -23262374.69 -23262374.68 -23262374.66 0.0136 0.0134

Venus -68401-10-13 06:13 J -23261756.32 -23261756.24 -23261756.17 0.3816 0.2463

Moon -68400-11-04 16:47 J -23261368.95 -23261368.80 -23261368.64 0.2626 0.0710

Earth -68400-11-04 18:42 J -23261368.88 -23261368.72 -23261368.57 0.2626 0.0815 *

Jupiter -68398-01-22 11:59 J -23260925.18 -23260925.00 -23260924.82 0.0499 0.0132

Jupiter -68398-04-22 23:45 J -23260834.54 -23260834.51 -23260834.47 0.0499 0.0488

Mars -68398-06-03 00:28 J -23260793.59 -23260793.48 -23260793.37 0.1983 0.0510

Saturn -68397-04-02 01:11 J -23260489.53 -23260489.45 -23260489.36 0.0260 0.0231

Saturn -68397-06-29 22:04 J -23260400.75 -23260400.58 -23260400.39 0.0260 0.0102

Saturn -68397-09-26 19:25 J -23260311.88 -23260311.69 -23260311.50 0.0261 0.0029

Saturn -68397-12-24 16:33 J -23260222.96 -23260222.81 -23260222.66 0.0261 0.0161

Earth -68396-05-04 06:57 J -23260092.26 -23260092.21 -23260092.15 0.2703 0.2328

Moon -68396-05-04 07:11 J -23260092.25 -23260092.20 -23260092.15 0.2696 0.2355 *

Pluto -68396-10-21 03:49 J -23259922.37 -23259922.34 -23259922.30 0.0084 0.0082

Pluto -68395-01-17 05:01 J -23259834.34 -23259834.29 -23259834.20 0.0084 0.0072

Pluto -68395-04-15 06:42 J -23259746.30 -23259746.22 -23259746.11 0.0084 0.0060

Venus -68395-04-28 22:47 J -23259732.65 -23259732.55 -23259732.45 0.3815 0.0865

Pluto -68395-07-12 08:23 J -23259658.26 -23259658.15 -23259658.03 0.0084 0.0049

Pluto -68395-10-08 09:49 J -23259570.21 -23259570.09 -23259569.96 0.0084 0.0039

Pluto -68394-01-04 11:30 J -23259482.15 -23259482.02 -23259481.89 0.0084 0.0028

Pluto -68394-04-02 12:57 J -23259394.10 -23259393.96 -23259393.82 0.0084 0.0017

Pluto -68394-06-29 14:23 J -23259306.04 -23259305.90 -23259305.76 0.0083 0.0007

Pluto -68394-09-25 15:49 J -23259217.98 -23259217.84 -23259217.70 0.0083 0.0004

Pluto -68394-12-22 17:16 J -23259129.92 -23259129.78 -23259129.64 0.0083 0.0014

Mars -68393-02-11 14:52 J -23259079.05 -23259078.88 -23259078.71 0.1566 0.0177

Pluto -68393-03-19 18:42 J -23259041.85 -23259041.72 -23259041.59 0.0083 0.0024

Pluto -68393-06-15 20:09 J -23258953.79 -23258953.66 -23258953.53 0.0083 0.0034

Pluto -68393-09-11 21:35 J -23258865.72 -23258865.60 -23258865.48 0.0083 0.0044

Pluto -68393-12-08 22:47 J -23258777.65 -23258777.55 -23258777.44 0.0083 0.0054

Jupiter -68393-12-16 15:35 J -23258769.98 -23258769.85 -23258769.73 0.0527 0.0065

Pluto -68392-03-07 00:13 J -23258689.57 -23258689.49 -23258689.40 0.0082 0.0064

Jupiter -68392-03-15 20:52 J -23258680.70 -23258680.63 -23258680.55 0.0526 0.0408

Pluto -68392-06-03 01:25 J -23258601.49 -23258601.44 -23258601.37 0.0082 0.0074

Moon -68390-05-14 00:28 J -23257891.56 -23257891.48 -23257891.40 0.2717 0.1850

Earth -68390-05-14 00:42 J -23257891.54 -23257891.47 -23257891.39 0.2710 0.1926 *

Venus -68390-11-12 15:21 J -23257708.96 -23257708.86 -23257708.76 0.3813 0.0772

Mars -68389-10-23 07:54 J -23257363.27 -23257363.17 -23257363.06 0.1982 0.0577

Jupiter -68387-11-10 08:09 J -23256615.31 -23256615.16 -23256615.00 0.0498 0.0289

Jupiter -68386-02-08 20:09 J -23256524.80 -23256524.66 -23256524.52 0.0499 0.0331

Venus -68384-05-28 08:09 J -23255685.24 -23255685.16 -23255685.08 0.3812 0.2422

Mars -68384-07-03 17:16 J -23255648.91 -23255648.78 -23255648.66 0.1566 0.1050

Moon -68383-05-07 00:13 J -23255341.59 -23255341.49 -23255341.40 0.2700 0.1220

Earth -68383-05-07 00:42 J -23255341.57 -23255341.47 -23255341.38 0.2705 0.1210 *

Saturn -68383-05-07 01:25 J -23255341.49 -23255341.44 -23255341.38 0.0303 0.0270 *

Saturn -68383-08-03 14:09 J -23255253.02 -23255252.91 -23255252.79 0.0302 0.0133

Saturn -68383-10-31 02:52 J -23255164.51 -23255164.38 -23255164.25 0.0302 0.0009

Saturn -68382-01-27 15:21 J -23255075.98 -23255075.86 -23255075.75 0.0301 0.0138

Saturn -68382-04-26 03:35 J -23254987.40 -23254987.35 -23254987.29 0.0301 0.0272

Jupiter -68381-10-04 19:54 J -23254459.79 -23254459.67 -23254459.55 0.0527 0.0180

Jupiter -68380-01-02 01:25 J -23254370.55 -23254370.44 -23254370.34 0.0527 0.0293

Mars -68379-03-15 15:21 J -23253932.92 -23253932.86 -23253932.81 0.1982 0.1686

Jupiter -68375-08-29 03:49 J -23252305.41 -23252305.34 -23252305.27 0.0498 0.0454

Jupiter -68375-11-27 15:35 J -23252215.03 -23252214.85 -23252214.67 0.0498 0.0165

Moon -68370-05-09 17:45 J -23250590.87 -23250590.76 -23250590.66 0.2705 0.0205

Earth -68370-05-09 18:13 J -23250590.85 -23250590.74 -23250590.63 0.2707 0.0108 *

Venus -68369-06-21 02:23 J -23250182.50 -23250182.40 -23250182.31 0.3564 0.2715

Jupiter -68369-07-24 00:13 J -23250149.59 -23250149.49 -23250149.38 0.0528 0.0298

Jupiter -68369-10-21 05:45 J -23250060.38 -23250060.26 -23250060.14 0.0527 0.0176

Mars -68368-07-11 17:01 J -23249796.85 -23249796.79 -23249796.74 0.1982 0.1715

Saturn -68368-08-20 01:40 J -23249757.43 -23249757.43 -23249757.42 0.0260 0.0260

Saturn -68368-11-16 22:47 J -23249668.72 -23249668.55 -23249668.38 0.0260 0.0130

Saturn -68367-02-13 19:54 J -23249579.87 -23249579.67 -23249579.48 0.0261 0.0004

Saturn -68367-05-13 16:47 J -23249490.96 -23249490.80 -23249490.62 0.0261 0.0133

Moon -68367-11-02 15:49 J -23249317.99 -23249317.84 -23249317.69 0.2624 0.1125

Earth -68367-11-02 17:01 J -23249317.93 -23249317.79 -23249317.64 0.2628 0.1111 *

Uranus -68366-10-25 12:13 J -23248961.10 -23248960.99 -23248960.87 0.0144 0.0113

Uranus -68365-01-21 20:52 J -23248872.78 -23248872.63 -23248872.46 0.0144 0.0083

Uranus -68365-04-19 05:45 J -23248784.44 -23248784.26 -23248784.07 0.0144 0.0051

Uranus -68365-07-16 14:23 J -23248696.09 -23248695.90 -23248695.70 0.0144 0.0021

Uranus -68365-10-12 23:16 J -23248607.73 -23248607.53 -23248607.34 0.0144 0.0010

Uranus -68364-01-09 07:54 J -23248519.36 -23248519.17 -23248518.98 0.0144 0.0041

Uranus -68364-04-07 16:18 J -23248430.98 -23248430.82 -23248430.64 0.0143 0.0072

Uranus -68364-07-05 00:42 J -23248342.59 -23248342.47 -23248342.32 0.0143 0.0103

Uranus -68364-10-01 09:21 J -23248254.17 -23248254.11 -23248254.02 0.0143 0.0132

Venus -68363-01-05 08:09 J -23248158.30 -23248158.16 -23248158.01 0.3565 0.0808

Mars -68363-03-22 13:11 J -23248082.09 -23248081.95 -23248081.80 0.1566 0.0835

Jupiter -68363-09-15 11:59 J -23247905.19 -23247905.00 -23247904.81 0.0498 0.0008

Mars -68359-12-02 00:28 J -23246366.59 -23246366.48 -23246366.37 0.1982 0.0629

Moon -68357-05-11 11:16 J -23245840.13 -23245840.03 -23245839.93 0.2714 0.0950

Earth -68357-05-11 11:59 J -23245840.10 -23245840.00 -23245839.90 0.2709 0.1035 *

Jupiter -68357-05-12 04:18 J -23245839.40 -23245839.32 -23245839.25 0.0527 0.0421

Jupiter -68357-08-09 09:35 J -23245750.22 -23245750.10 -23245749.97 0.0527 0.0055

Jupiter -68357-11-06 15:06 J -23245660.88 -23245660.87 -23245660.86 0.0526 0.0522

Neptune -68354-03-31 18:13 J -23244785.78 -23244785.74 -23244785.70 0.0089 0.0084

Neptune -68354-06-27 19:25 J -23244697.75 -23244697.69 -23244697.63 0.0089 0.0079

Mars -68354-08-12 15:35 J -23244652.02 -23244651.85 -23244651.68 0.1565 0.0057

Neptune -68354-09-23 20:37 J -23244609.70 -23244609.64 -23244609.56 0.0089 0.0074

Saturn -68354-09-24 04:18 J -23244609.33 -23244609.32 -23244609.29 0.0303 0.0299

Moon -68354-11-05 23:30 J -23244566.67 -23244566.52 -23244566.37 0.2627 0.0995

Earth -68354-11-06 01:25 J -23244566.58 -23244566.44 -23244566.30 0.2626 0.1266 *

Neptune -68354-12-20 22:04 J -23244521.66 -23244521.58 -23244521.50 0.0089 0.0069

Saturn -68354-12-21 17:16 J -23244520.89 -23244520.78 -23244520.67 0.0303 0.0161

Neptune -68353-03-17 23:16 J -23244433.61 -23244433.53 -23244433.43 0.0089 0.0064

Saturn -68353-03-19 05:45 J -23244432.39 -23244432.26 -23244432.13 0.0302 0.0025

Neptune -68353-06-14 00:42 J -23244345.57 -23244345.47 -23244345.37 0.0089 0.0059

Saturn -68353-06-15 18:13 J -23244343.85 -23244343.74 -23244343.62 0.0302 0.0112

Neptune -68353-09-10 01:54 J -23244257.52 -23244257.42 -23244257.31 0.0089 0.0054

Saturn -68353-09-12 06:42 J -23244255.29 -23244255.22 -23244255.14 0.0301 0.0245

Neptune -68353-12-07 03:06 J -23244169.47 -23244169.37 -23244169.25 0.0089 0.0049

Neptune -68352-03-05 04:33 J -23244081.42 -23244081.31 -23244081.19 0.0089 0.0044

Neptune -68352-06-01 05:45 J -23243993.37 -23243993.26 -23243993.13 0.0089 0.0039

Neptune -68352-08-28 07:11 J -23243905.32 -23243905.20 -23243905.08 0.0089 0.0034

Neptune -68352-11-24 08:23 J -23243817.27 -23243817.15 -23243817.02 0.0089 0.0029

Neptune -68351-02-20 09:49 J -23243729.22 -23243729.09 -23243728.96 0.0089 0.0024

Neptune -68351-05-19 11:01 J -23243641.16 -23243641.04 -23243640.91 0.0089 0.0019

Jupiter -68351-07-04 08:37 J -23243595.32 -23243595.14 -23243594.96 0.0499 0.0147

Neptune -68351-08-15 12:28 J -23243553.11 -23243552.98 -23243552.85 0.0089 0.0014

Jupiter -68351-10-02 20:23 J -23243504.70 -23243504.65 -23243504.59 0.0499 0.0474

Neptune -68351-11-11 13:40 J -23243465.06 -23243464.93 -23243464.79 0.0089 0.0009

Neptune -68350-02-07 15:06 J -23243377.00 -23243376.87 -23243376.74 0.0089 0.0004

Moon -68350-05-05 11:45 J -23243290.08 -23243290.01 -23243289.94 0.2696 0.2038

Earth -68350-05-05 11:45 J -23243290.07 -23243290.01 -23243289.94 0.2703 0.2102 *

Neptune -68350-05-06 16:18 J -23243288.95 -23243288.82 -23243288.69 0.0089 0.0002

Neptune -68350-08-02 17:45 J -23243200.89 -23243200.76 -23243200.63 0.0089 0.0007

Neptune -68350-10-29 18:57 J -23243112.84 -23243112.71 -23243112.58 0.0089 0.0012

Venus -68350-11-04 11:16 J -23243107.07 -23243107.03 -23243106.99 0.3816 0.3495

Neptune -68349-01-25 20:09 J -23243024.79 -23243024.66 -23243024.53 0.0089 0.0017

Neptune -68349-04-22 21:35 J -23242936.73 -23242936.60 -23242936.47 0.0089 0.0022

Mars -68349-04-23 07:40 J -23242936.29 -23242936.18 -23242936.07 0.1982 0.0487

Neptune -68349-07-19 22:47 J -23242848.67 -23242848.55 -23242848.42 0.0089 0.0027

Neptune -68349-10-15 23:59 J -23242760.62 -23242760.50 -23242760.37 0.0089 0.0032

Neptune -68348-01-12 01:25 J -23242672.56 -23242672.44 -23242672.32 0.0089 0.0037

Neptune -68348-04-10 02:37 J -23242584.50 -23242584.39 -23242584.27 0.0089 0.0042

Neptune -68348-07-07 03:49 J -23242496.44 -23242496.34 -23242496.22 0.0089 0.0047

Neptune -68348-10-03 05:16 J -23242408.38 -23242408.28 -23242408.17 0.0089 0.0052

Neptune -68348-12-30 06:28 J -23242320.32 -23242320.23 -23242320.12 0.0089 0.0057

Neptune -68347-03-28 07:54 J -23242232.26 -23242232.17 -23242232.08 0.0089 0.0062

Neptune -68347-06-24 09:06 J -23242144.20 -23242144.12 -23242144.03 0.0089 0.0067

Neptune -68347-09-20 10:18 J -23242056.14 -23242056.07 -23242055.99 0.0089 0.0072

Neptune -68347-12-17 11:45 J -23241968.07 -23241968.01 -23241967.94 0.0089 0.0077

Neptune -68346-03-15 12:57 J -23241880.00 -23241879.96 -23241879.91 0.0089 0.0082

Neptune -68346-06-11 14:23 J -23241791.92 -23241791.90 -23241791.88 0.0089 0.0087

Jupiter -68345-05-28 13:54 J -23241440.05 -23241439.92 -23241439.80 0.0527 0.0072

Jupiter -68345-08-25 19:11 J -23241350.78 -23241350.70 -23241350.62 0.0526 0.0402

Mars -68344-01-01 17:45 J -23241221.89 -23241221.76 -23241221.62 0.1566 0.0917

Moon -68344-05-14 05:30 J -23241089.33 -23241089.27 -23241089.21 0.2717 0.2192

Earth -68344-05-14 05:30 J -23241089.33 -23241089.27 -23241089.21 0.2711 0.2147 *

Venus -68344-05-20 03:49 J -23241083.43 -23241083.34 -23241083.25 0.3815 0.1903

Mars -68340-09-13 15:21 J -23239505.93 -23239505.86 -23239505.79 0.1982 0.1561

Jupiter -68339-04-22 05:01 J -23239285.43 -23239285.29 -23239285.14 0.0499 0.0302

Jupiter -68339-07-21 17:01 J -23239194.93 -23239194.79 -23239194.65 0.0499 0.0320

Venus -68339-12-03 20:23 J -23239059.75 -23239059.65 -23239059.54 0.3814 0.0312

Saturn -68338-04-05 23:30 J -23238936.66 -23238936.52 -23238936.36 0.0260 0.0157

Saturn -68338-07-03 20:52 J -23238847.82 -23238847.63 -23238847.44 0.0260 0.0027

Saturn -68338-09-30 17:59 J -23238758.93 -23238758.75 -23238758.57 0.0261 0.0105

Saturn -68338-12-28 15:06 J -23238669.94 -23238669.87 -23238669.79 0.0261 0.0237

Moon -68337-05-07 05:01 J -23238539.39 -23238539.29 -23238539.19 0.2700 0.1093

Earth -68337-05-07 05:30 J -23238539.37 -23238539.27 -23238539.17 0.2705 0.0980 *

Jupiter -68333-03-16 17:45 J -23237129.88 -23237129.76 -23237129.65 0.0527 0.0194

Jupiter -68333-06-13 23:01 J -23237040.64 -23237040.54 -23237040.43 0.0527 0.0279

Venus -68333-06-18 13:11 J -23237036.05 -23237035.95 -23237035.85 0.3813 0.1349

Mars -68328-01-09 17:01 J -23235369.83 -23235369.79 -23235369.75 0.1982 0.1837

Venus -68327-01-02 05:59 J -23235012.31 -23235012.25 -23235012.19 0.3812 0.3012

Jupiter -68327-02-08 01:25 J -23234975.51 -23234975.44 -23234975.36 0.0498 0.0458

Jupiter -68327-05-09 13:25 J -23234885.12 -23234884.94 -23234884.76 0.0499 0.0163

Saturn -68324-05-09 20:09 J -23233788.75 -23233788.66 -23233788.55 0.0303 0.0190

Moon -68324-05-09 22:18 J -23233788.67 -23233788.57 -23233788.46 0.2708 0.0138 *

Earth -68324-05-09 23:01 J -23233788.65 -23233788.54 -23233788.43 0.2707 0.0148 *

Saturn -68324-08-06 08:52 J -23233700.26 -23233700.13 -23233700.00 0.0302 0.0053

Mars -68324-09-20 13:54 J -23233655.05 -23233654.92 -23233654.78 0.1566 0.0976

Saturn -68324-11-02 21:21 J -23233611.73 -23233611.61 -23233611.48 0.0301 0.0083

Saturn -68323-01-30 09:49 J -23233523.17 -23233523.09 -23233523.00 0.0301 0.0216

Uranus -68322-04-15 02:37 J -23233083.41 -23233083.39 -23233083.38 0.0134 0.0132

Uranus -68322-07-12 05:30 J -23232995.33 -23232995.27 -23232995.20 0.0134 0.0116

Uranus -68322-10-08 08:23 J -23232907.23 -23232907.15 -23232907.06 0.0134 0.0100

Jupiter -68321-01-03 22:04 J -23232819.68 -23232819.58 -23232819.48 0.0527 0.0312

Uranus -68321-01-04 11:16 J -23232819.12 -23232819.03 -23232818.92 0.0134 0.0084

Uranus -68321-04-01 14:23 J -23232731.01 -23232730.90 -23232730.78 0.0134 0.0067

Jupiter -68321-04-02 03:35 J -23232730.47 -23232730.35 -23232730.23 0.0527 0.0163

Uranus -68321-06-28 17:30 J -23232642.89 -23232642.77 -23232642.65 0.0134 0.0050

Uranus -68321-09-24 20:23 J -23232554.77 -23232554.65 -23232554.52 0.0135 0.0033

Moon -68321-11-02 22:33 J -23232515.72 -23232515.56 -23232515.41 0.2625 0.0899

Earth -68321-11-02 23:59 J -23232515.66 -23232515.50 -23232515.35 0.2628 0.0662 *

Uranus -68321-12-21 23:30 J -23232466.65 -23232466.52 -23232466.39 0.0135 0.0017

Uranus -68320-03-20 02:23 J -23232378.53 -23232378.40 -23232378.27 0.0135 0.0003

Uranus -68320-06-16 05:30 J -23232290.40 -23232290.27 -23232290.14 0.0135 0.0017

Uranus -68320-09-12 08:23 J -23232202.27 -23232202.15 -23232202.02 0.0135 0.0035

Uranus -68320-12-09 11:30 J -23232114.14 -23232114.02 -23232113.90 0.0135 0.0051

Uranus -68319-03-07 14:37 J -23232026.01 -23232025.89 -23232025.78 0.0135 0.0068

Mars -68319-06-02 00:28 J -23231939.59 -23231939.48 -23231939.38 0.1982 0.0738

Uranus -68319-06-03 17:30 J -23231937.87 -23231937.77 -23231937.66 0.0135 0.0086

Uranus -68319-08-30 20:37 J -23231849.72 -23231849.64 -23231849.55 0.0135 0.0103

Uranus -68319-11-26 23:45 J -23231761.57 -23231761.51 -23231761.45 0.0136 0.0120

Jupiter -68315-02-25 09:06 J -23230575.31 -23230575.12 -23230574.93 0.0498 0.0002

Mars -68314-02-10 16:18 J -23230224.99 -23230224.82 -23230224.65 0.1565 0.0098

Venus -68312-01-26 03:49 J -23229509.48 -23229509.34 -23229509.21 0.3564 0.1515

Moon -68311-05-12 16:04 J -23229037.92 -23229037.83 -23229037.73 0.2714 0.1214

Earth -68311-05-12 16:47 J -23229037.90 -23229037.80 -23229037.71 0.2709 0.1259 *

Jupiter -68310-10-23 02:23 J -23228509.47 -23228509.40 -23228509.33 0.0528 0.0430

Mars -68310-10-23 07:54 J -23228509.28 -23228509.17 -23228509.06 0.1983 0.0357

Jupiter -68309-01-20 07:54 J -23228420.30 -23228420.17 -23228420.05 0.0527 0.0045

Jupiter -68309-04-18 13:25 J -23228330.96 -23228330.94 -23228330.92 0.0527 0.0518

Saturn -68309-08-22 23:59 J -23228204.63 -23228204.50 -23228204.37 0.0260 0.0187

Saturn -68309-11-19 21:06 J -23228115.81 -23228115.62 -23228115.44 0.0261 0.0057

Saturn -68308-02-16 17:59 J -23228026.93 -23228026.75 -23228026.56 0.0261 0.0075

Saturn -68308-05-16 15:21 J -23227937.98 -23227937.86 -23227937.74 0.0261 0.0207

Moon -68308-11-06 06:13 J -23227764.36 -23227764.24 -23227764.11 0.2627 0.1638

Earth -68308-11-06 08:09 J -23227764.28 -23227764.16 -23227764.03 0.2626 0.1716 *

Venus -68307-08-12 09:35 J -23227485.23 -23227485.10 -23227484.98 0.3566 0.1976

Mars -68305-07-02 18:28 J -23226794.88 -23226794.73 -23226794.58 0.1566 0.0783

Moon -68304-05-05 16:33 J -23226487.89 -23226487.81 -23226487.74 0.2697 0.1941

Earth -68304-05-05 16:33 J -23226487.88 -23226487.81 -23226487.73 0.2703 0.1874 *

Jupiter -68304-12-14 05:30 J -23226265.45 -23226265.27 -23226265.09 0.0498 0.0158

Jupiter -68303-03-14 17:01 J -23226174.85 -23226174.79 -23226174.71 0.0499 0.0462

Mars -68300-03-14 15:21 J -23225078.94 -23225078.86 -23225078.79 0.1982 0.1457

Moon -68298-05-15 10:18 J -23224287.12 -23224287.07 -23224287.02 0.2718 0.2364

Earth -68298-05-15 10:18 J -23224287.12 -23224287.07 -23224287.02 0.2711 0.2374 *

Jupiter -68298-11-08 11:59 J -23224110.13 -23224110.00 -23224109.88 0.0527 0.0081

Jupiter -68297-02-05 17:16 J -23224020.86 -23224020.78 -23224020.70 0.0526 0.0394

Saturn -68295-09-26 23:16 J -23223056.62 -23223056.53 -23223056.44 0.0303 0.0217

Saturn -68295-12-24 11:59 J -23222968.12 -23222968.00 -23222967.88 0.0302 0.0080

Saturn -68294-03-23 00:28 J -23222879.60 -23222879.48 -23222879.35 0.0302 0.0056

Saturn -68294-06-19 12:57 J -23222791.06 -23222790.96 -23222790.86 0.0301 0.0190

Venus -68293-06-10 08:52 J -23222434.19 -23222434.13 -23222434.06 0.3816 0.2944

Jupiter -68292-10-02 01:54 J -23221955.56 -23221955.42 -23221955.28 0.0499 0.0316

Jupiter -68292-12-31 13:40 J -23221865.07 -23221864.93 -23221864.78 0.0499 0.0306

Moon -68291-05-08 09:49 J -23221737.20 -23221737.09 -23221736.99 0.2701 0.0761

Earth -68291-05-08 10:18 J -23221737.18 -23221737.07 -23221736.97 0.2705 0.0756 *

Mars -68289-07-10 17:01 J -23220942.81 -23220942.79 -23220942.77 0.1982 0.1940

Earth -68288-10-31 22:33 J -23220464.59 -23220464.56 -23220464.53 0.2630 0.2558

Venus -68288-12-25 01:40 J -23220410.53 -23220410.43 -23220410.34 0.3815 0.1352

Jupiter -68286-08-27 16:04 J -23219799.95 -23219799.83 -23219799.72 0.0527 0.0199

Jupiter -68286-11-24 21:21 J -23219710.71 -23219710.61 -23219710.50 0.0526 0.0274

Mars -68284-03-21 14:37 J -23219228.01 -23219227.89 -23219227.77 0.1566 0.1108

Venus -68282-07-10 18:13 J -23218386.84 -23218386.74 -23218386.64 0.3814 0.0290

Uranus -68282-08-18 09:06 J -23218348.13 -23218348.12 -23218348.07 0.0144 0.0143

Uranus -68282-11-14 17:59 J -23218259.86 -23218259.75 -23218259.61 0.0144 0.0111

Uranus -68281-02-11 02:52 J -23218171.53 -23218171.38 -23218171.21 0.0144 0.0080

Uranus -68281-05-09 11:45 J -23218083.19 -23218083.01 -23218082.82 0.0144 0.0049

Uranus -68281-08-05 20:37 J -23217994.84 -23217994.64 -23217994.45 0.0144 0.0018

Uranus -68281-11-02 05:16 J -23217906.48 -23217906.28 -23217906.09 0.0144 0.0013

Uranus -68280-01-29 13:40 J -23217818.11 -23217817.93 -23217817.74 0.0144 0.0044

Uranus -68280-04-27 22:18 J -23217729.73 -23217729.57 -23217729.39 0.0143 0.0074

Jupiter -68280-07-20 22:18 J -23217645.62 -23217645.57 -23217645.50 0.0499 0.0470

Uranus -68280-07-25 06:57 J -23217641.33 -23217641.21 -23217641.07 0.0143 0.0104

Jupiter -68280-10-19 10:33 J -23217555.24 -23217555.06 -23217554.89 0.0499 0.0152

Uranus -68280-10-21 15:35 J -23217552.91 -23217552.85 -23217552.78 0.0143 0.0134

Mars -68280-12-01 00:28 J -23217512.59 -23217512.48 -23217512.38 0.1983 0.0850

Saturn -68279-01-10 00:42 J -23217472.57 -23217472.47 -23217472.36 0.0260 0.0214

Saturn -68279-04-08 21:49 J -23217383.77 -23217383.59 -23217383.41 0.0260 0.0085

Saturn -68279-07-06 18:57 J -23217294.90 -23217294.71 -23217294.52 0.0261 0.0046

Saturn -68279-10-03 16:04 J -23217205.97 -23217205.83 -23217205.69 0.0261 0.0178

Moon -68278-05-11 03:06 J -23216986.47 -23216986.37 -23216986.26 0.2709 0.0257

Earth -68278-05-11 03:49 J -23216986.44 -23216986.34 -23216986.23 0.2707 0.0370 *

Venus -68276-01-23 11:01 J -23216363.13 -23216363.04 -23216362.95 0.3813 0.1939

Mars -68275-08-11 17:01 J -23215797.96 -23215797.79 -23215797.62 0.1566 0.0234

Moon -68275-11-04 05:01 J -23215713.45 -23215713.29 -23215713.13 0.2626 0.0282

Earth -68275-11-04 06:42 J -23215713.38 -23215713.22 -23215713.06 0.2628 0.0205 *

Jupiter -68274-06-15 19:54 J -23215489.77 -23215489.67 -23215489.57 0.0527 0.0323

Jupiter -68274-09-13 01:25 J -23215400.57 -23215400.44 -23215400.32 0.0527 0.0151

Neptune -68271-03-18 17:16 J -23214482.82 -23214482.78 -23214482.73 0.0089 0.0086

Neptune -68271-06-14 20:37 J -23214394.71 -23214394.64 -23214394.53 0.0089 0.0079

Venus -68271-08-09 03:49 J -23214339.37 -23214339.34 -23214339.31 0.3811 0.3607

Neptune -68271-09-11 00:13 J -23214306.58 -23214306.49 -23214306.35 0.0089 0.0072

Neptune -68271-12-08 04:18 J -23214218.45 -23214218.32 -23214218.18 0.0089 0.0064

Neptune -68270-03-06 07:40 J -23214130.31 -23214130.18 -23214130.01 0.0089 0.0057

Mars -68270-04-23 07:54 J -23214082.28 -23214082.17 -23214082.06 0.1982 0.0240

Neptune -68270-06-02 11:45 J -23214042.17 -23214042.01 -23214041.84 0.0089 0.0049

Neptune -68270-08-29 15:21 J -23213954.02 -23213953.86 -23213953.68 0.0089 0.0042

Neptune -68270-11-25 19:11 J -23213865.88 -23213865.70 -23213865.51 0.0089 0.0034

Neptune -68269-02-21 22:47 J -23213777.73 -23213777.55 -23213777.35 0.0089 0.0027

Neptune -68269-05-20 02:37 J -23213689.58 -23213689.39 -23213689.19 0.0089 0.0019

Neptune -68269-08-16 06:28 J -23213601.43 -23213601.23 -23213601.03 0.0089 0.0011

Neptune -68269-11-12 10:04 J -23213513.27 -23213513.08 -23213512.88 0.0089 0.0005

Neptune -68268-02-08 13:54 J -23213425.12 -23213424.92 -23213424.72 0.0089 0.0004

Neptune -68268-05-07 17:30 J -23213336.96 -23213336.77 -23213336.57 0.0089 0.0011

Neptune -68268-08-03 21:21 J -23213248.80 -23213248.61 -23213248.42 0.0089 0.0019

Jupiter -68268-08-07 06:57 J -23213245.40 -23213245.21 -23213245.02 0.0499 0.0008

Neptune -68268-10-31 01:11 J -23213160.64 -23213160.45 -23213160.26 0.0089 0.0026

Neptune -68267-01-27 04:47 J -23213072.48 -23213072.30 -23213072.11 0.0089 0.0034

Neptune -68267-04-25 08:09 J -23212984.31 -23212984.16 -23212983.97 0.0089 0.0042

Neptune -68267-07-22 12:13 J -23212896.15 -23212895.99 -23212895.82 0.0089 0.0049

Neptune -68267-10-18 15:35 J -23212807.98 -23212807.85 -23212807.68 0.0089 0.0057

Neptune -68266-01-14 19:40 J -23212719.81 -23212719.68 -23212719.54 0.0089 0.0064

Neptune -68266-04-12 23:01 J -23212631.63 -23212631.54 -23212631.40 0.0089 0.0072

Neptune -68266-07-10 03:06 J -23212543.45 -23212543.37 -23212543.27 0.0089 0.0079

Neptune -68266-10-06 06:28 J -23212455.25 -23212455.23 -23212455.16 0.0089 0.0087

Mars -68265-01-01 19:25 J -23212367.85 -23212367.69 -23212367.54 0.1566 0.0640

Saturn -68265-02-14 02:09 J -23212324.48 -23212324.41 -23212324.34 0.0303 0.0249

Saturn -68265-05-12 14:52 J -23212236.00 -23212235.88 -23212235.76 0.0302 0.0112

Moon -68265-05-12 21:06 J -23212235.71 -23212235.62 -23212235.53 0.2714 0.1442

Earth -68265-05-12 21:35 J -23212235.69 -23212235.60 -23212235.51 0.2709 0.1484 *

Saturn -68265-08-09 03:21 J -23212147.49 -23212147.36 -23212147.23 0.0302 0.0025

Saturn -68265-11-05 15:49 J -23212058.95 -23212058.84 -23212058.73 0.0301 0.0159

Saturn -68264-02-02 04:18 J -23211970.35 -23211970.32 -23211970.29 0.0301 0.0292

Jupiter -68262-04-04 00:13 J -23211179.56 -23211179.49 -23211179.42 0.0527 0.0441

Jupiter -68262-07-02 05:45 J -23211090.39 -23211090.26 -23211090.14 0.0527 0.0035

Jupiter -68262-09-29 11:01 J -23211001.07 -23211001.04 -23211001.00 0.0526 0.0505

Moon -68262-11-07 13:11 J -23210962.06 -23210961.95 -23210961.84 0.2626 0.1874

Earth -68262-11-07 15:06 J -23210961.96 -23210961.87 -23210961.78 0.2625 0.2165 *

Mars -68261-09-12 15:21 J -23210651.94 -23210651.86 -23210651.78 0.1982 0.1342

Moon -68258-05-06 21:06 J -23209685.70 -23209685.62 -23209685.53 0.2697 0.1618

Earth -68258-05-06 21:21 J -23209685.69 -23209685.61 -23209685.52 0.2704 0.1647 *

Mars -68256-05-23 21:35 J -23208937.64 -23208937.60 -23208937.56 0.1566 0.1517

Jupiter -68256-05-26 02:52 J -23208935.56 -23208935.38 -23208935.20 0.0498 0.0166

Jupiter -68256-08-24 14:23 J -23208844.97 -23208844.90 -23208844.82 0.0499 0.0454

Venus -68256-09-02 05:01 J -23208836.44 -23208836.29 -23208836.14 0.3565 0.0325

Earth -68252-05-15 15:06 J -23207484.90 -23207484.87 -23207484.84 0.2711 0.2595

Moon -68252-05-15 15:06 J -23207484.89 -23207484.87 -23207484.84 0.2718 0.2640 *

Venus -68250-03-19 10:47 J -23206812.12 -23206812.05 -23206811.98 0.3566 0.3136

Jupiter -68250-04-20 10:04 J -23206780.21 -23206780.08 -23206779.96 0.0527 0.0085

Saturn -68250-05-30 00:28 J -23206740.53 -23206740.48 -23206740.41 0.0260 0.0246

Jupiter -68250-07-18 15:35 J -23206690.94 -23206690.85 -23206690.77 0.0527 0.0389

Saturn -68250-08-26 21:35 J -23206651.77 -23206651.60 -23206651.43 0.0260 0.0117

Saturn -68250-11-23 18:42 J -23206562.91 -23206562.72 -23206562.53 0.0261 0.0014

Saturn -68249-02-20 15:49 J -23206474.00 -23206473.84 -23206473.68 0.0261 0.0145

Moon -68245-05-08 14:23 J -23204935.00 -23204934.90 -23204934.79 0.2702 0.0661

Earth -68245-05-08 15:06 J -23204934.98 -23204934.87 -23204934.77 0.2706 0.0528 *

Mars -68245-09-19 15:21 J -23204800.96 -23204800.86 -23204800.76 0.1566 0.1244

Jupiter -68244-03-13 23:16 J -23204625.67 -23204625.53 -23204625.39 0.0498 0.0322

Jupiter -68244-06-12 11:01 J -23204535.19 -23204535.04 -23204534.89 0.0499 0.0299

Pluto -68242-04-28 03:49 J -23203850.35 -23203850.34 -23203850.28 0.0060 0.0059

Pluto -68242-07-25 05:01 J -23203762.35 -23203762.29 -23203762.19 0.0060 0.0054

Pluto -68242-10-21 05:59 J -23203674.32 -23203674.25 -23203674.12 0.0061 0.0050

Moon -68242-11-02 04:33 J -23203662.41 -23203662.31 -23203662.22 0.2624 0.2168

Earth -68242-11-02 05:16 J -23203662.37 -23203662.28 -23203662.18 0.2630 0.2111 *

Pluto -68241-01-17 07:54 J -23203586.29 -23203586.17 -23203586.05 0.0061 0.0044

Pluto -68241-04-14 08:52 J -23203498.26 -23203498.13 -23203497.98 0.0061 0.0039

Pluto -68241-07-11 10:04 J -23203410.22 -23203410.08 -23203409.92 0.0061 0.0034

Pluto -68241-10-07 11:16 J -23203322.18 -23203322.03 -23203321.86 0.0061 0.0029

Pluto -68240-01-03 12:28 J -23203234.14 -23203233.98 -23203233.80 0.0061 0.0024

Pluto -68240-04-01 13:54 J -23203146.09 -23203145.92 -23203145.74 0.0061 0.0018

Mars -68240-06-01 00:28 J -23203085.58 -23203085.48 -23203085.38 0.1982 0.0966

Pluto -68240-06-28 15:06 J -23203058.05 -23203057.87 -23203057.69 0.0061 0.0013

Pluto -68240-09-24 16:18 J -23202970.00 -23202969.82 -23202969.63 0.0061 0.0008

Pluto -68240-12-21 17:30 J -23202881.95 -23202881.77 -23202881.58 0.0061 0.0003

Pluto -68239-03-19 18:57 J -23202793.89 -23202793.71 -23202793.53 0.0061 0.0003

Pluto -68239-06-15 20:09 J -23202705.84 -23202705.66 -23202705.48 0.0061 0.0008

Pluto -68239-09-11 21:21 J -23202617.78 -23202617.61 -23202617.43 0.0061 0.0014

Pluto -68239-12-08 22:18 J -23202529.73 -23202529.57 -23202529.38 0.0061 0.0020

Jupiter -68238-02-06 14:09 J -23202470.03 -23202469.91 -23202469.79 0.0527 0.0207

Pluto -68238-03-06 23:45 J -23202441.67 -23202441.51 -23202441.33 0.0061 0.0025

Uranus -68238-05-05 09:21 J -23202382.13 -23202382.11 -23202382.07 0.0134 0.0130

Jupiter -68238-05-06 19:25 J -23202380.79 -23202380.69 -23202380.58 0.0527 0.0268

Pluto -68238-06-03 01:11 J -23202353.61 -23202353.45 -23202353.29 0.0062 0.0030

Uranus -68238-08-01 12:28 J -23202294.04 -23202293.98 -23202293.91 0.0134 0.0113

Pluto -68238-08-30 02:09 J -23202265.54 -23202265.41 -23202265.24 0.0062 0.0036

Uranus -68238-10-28 15:21 J -23202205.94 -23202205.86 -23202205.76 0.0134 0.0097

Pluto -68238-11-26 03:49 J -23202177.47 -23202177.34 -23202177.20 0.0062 0.0041

Uranus -68237-01-24 18:28 J -23202117.83 -23202117.73 -23202117.62 0.0134 0.0080

Pluto -68237-02-22 04:47 J -23202089.40 -23202089.30 -23202089.16 0.0062 0.0047

Uranus -68237-04-21 21:21 J -23202029.72 -23202029.61 -23202029.49 0.0134 0.0064

Pluto -68237-05-20 06:28 J -23202001.32 -23202001.23 -23202001.13 0.0062 0.0052

Uranus -68237-07-19 00:28 J -23201941.60 -23201941.48 -23201941.36 0.0135 0.0047

Pluto -68237-08-16 07:25 J -23201913.23 -23201913.19 -23201913.11 0.0062 0.0058

Uranus -68237-10-15 03:21 J -23201853.48 -23201853.36 -23201853.23 0.0135 0.0031

Uranus -68236-01-11 06:28 J -23201765.36 -23201765.23 -23201765.10 0.0135 0.0013

Venus -68236-01-15 06:42 J -23201761.30 -23201761.22 -23201761.14 0.3816 0.2379

Uranus -68236-04-09 09:35 J -23201677.23 -23201677.10 -23201676.97 0.0135 0.0005

Saturn -68236-07-03 04:47 J -23201592.34 -23201592.30 -23201592.25 0.0303 0.0281

Uranus -68236-07-06 12:28 J -23201589.11 -23201588.98 -23201588.85 0.0135 0.0021

Saturn -68236-09-29 17:30 J -23201503.88 -23201503.77 -23201503.66 0.0303 0.0143

Uranus -68236-10-02 15:35 J -23201500.98 -23201500.85 -23201500.73 0.0135 0.0038

Saturn -68236-12-27 06:13 J -23201415.37 -23201415.24 -23201415.11 0.0302 0.0010

Uranus -68236-12-29 18:28 J -23201412.85 -23201412.73 -23201412.61 0.0135 0.0055

Mars -68235-02-09 17:30 J -23201370.93 -23201370.77 -23201370.60 0.1565 0.0369

Saturn -68235-03-25 18:42 J -23201326.84 -23201326.72 -23201326.61 0.0302 0.0128

Uranus -68235-03-27 21:35 J -23201324.71 -23201324.60 -23201324.49 0.0135 0.0072

Saturn -68235-06-22 07:11 J -23201238.26 -23201238.20 -23201238.14 0.0301 0.0262

Uranus -68235-06-24 00:42 J -23201236.57 -23201236.47 -23201236.37 0.0135 0.0089

Uranus -68235-09-20 03:35 J -23201148.42 -23201148.35 -23201148.26 0.0136 0.0106

Uranus -68235-12-17 06:28 J -23201060.27 -23201060.23 -23201060.16 0.0136 0.0124

Jupiter -68233-12-30 19:25 J -23200315.73 -23200315.69 -23200315.64 0.0499 0.0481

Jupiter -68232-03-31 07:25 J -23200225.37 -23200225.19 -23200225.01 0.0499 0.0141

Moon -68232-05-11 07:54 J -23200184.27 -23200184.17 -23200184.06 0.2710 0.0570

Earth -68232-05-11 08:37 J -23200184.24 -23200184.14 -23200184.03 0.2708 0.0592 *

Venus -68231-07-31 23:16 J -23199737.63 -23199737.53 -23199737.43 0.3815 0.0772

Mars -68231-10-22 07:40 J -23199655.29 -23199655.18 -23199655.06 0.1982 0.0160

Moon -68229-11-04 11:45 J -23198911.17 -23198911.01 -23198910.84 0.2626 0.0023

Earth -68229-11-04 13:40 J -23198911.09 -23198910.93 -23198910.77 0.2628 0.0258 *

Jupiter -68227-11-25 18:28 J -23198159.83 -23198159.73 -23198159.63 0.0527 0.0325

Jupiter -68226-02-22 23:45 J -23198070.63 -23198070.51 -23198070.39 0.0526 0.0148

Mars -68226-07-02 19:54 J -23197940.83 -23197940.67 -23197940.51 0.1566 0.0507

Venus -68225-02-14 15:49 J -23197713.94 -23197713.84 -23197713.74 0.3814 0.0873

Earth -68225-05-04 08:37 J -23197634.18 -23197634.14 -23197634.11 0.2702 0.2537

Moon -68225-05-04 08:52 J -23197634.17 -23197634.13 -23197634.09 0.2695 0.2485 *

Mars -68221-03-13 15:21 J -23196224.95 -23196224.86 -23196224.77 0.1982 0.1224

Saturn -68220-01-12 21:49 J -23195919.74 -23195919.59 -23195919.43 0.0260 0.0147

Jupiter -68220-01-17 04:04 J -23195915.51 -23195915.33 -23195915.14 0.0499 0.0016

Saturn -68220-04-11 18:57 J -23195830.90 -23195830.71 -23195830.52 0.0260 0.0017

Saturn -68220-07-09 16:04 J -23195742.00 -23195741.83 -23195741.66 0.0261 0.0114

Venus -68220-08-30 08:37 J -23195690.21 -23195690.14 -23195690.06 0.3812 0.2529

Saturn -68220-10-06 12:57 J -23195653.01 -23195652.96 -23195652.88 0.0261 0.0246

Moon -68219-05-14 01:54 J -23195433.50 -23195433.42 -23195433.33 0.2716 0.1654

Earth -68219-05-14 02:23 J -23195433.49 -23195433.40 -23195433.32 0.2710 0.1709 *

Mars -68217-11-21 22:18 J -23194510.65 -23194510.57 -23194510.49 0.1566 0.1378

Moon -68216-11-07 20:09 J -23194159.69 -23194159.66 -23194159.63 0.2627 0.2565

Earth -68216-11-07 21:49 J -23194159.59 -23194159.59 -23194159.58 0.2625 0.2623

Jupiter -68215-09-13 22:18 J -23193849.63 -23193849.57 -23193849.51 0.0527 0.0449

Jupiter -68215-12-12 03:49 J -23193760.47 -23193760.34 -23193760.22 0.0527 0.0026

Jupiter -68214-03-11 09:06 J -23193671.15 -23193671.12 -23193671.08 0.0526 0.0496

Moon -68212-05-07 01:54 J -23192883.51 -23192883.42 -23192883.33 0.2697 0.1494

Earth -68212-05-07 02:09 J -23192883.50 -23192883.41 -23192883.32 0.2704 0.1421 *

Jupiter -68209-11-05 00:42 J -23191605.64 -23191605.47 -23191605.29 0.0499 0.0167

Jupiter -68208-02-03 12:42 J -23191515.05 -23191514.97 -23191514.90 0.0499 0.0454

Saturn -68206-02-16 20:09 J -23190771.76 -23190771.66 -23190771.56 0.0303 0.0177

Saturn -68206-05-16 08:52 J -23190683.26 -23190683.13 -23190683.01 0.0302 0.0041

Saturn -68206-08-12 21:21 J -23190594.73 -23190594.61 -23190594.49 0.0302 0.0095

Saturn -68206-11-09 09:49 J -23190506.17 -23190506.09 -23190506.01 0.0301 0.0229

Mars -68205-03-20 16:04 J -23190373.90 -23190373.83 -23190373.75 0.1566 0.1384

Venus -68205-09-23 00:28 J -23190187.58 -23190187.48 -23190187.39 0.3564 0.2696

Jupiter -68203-09-30 08:09 J -23189450.29 -23189450.16 -23189450.04 0.0527 0.0095

Jupiter -68203-12-28 13:25 J -23189361.02 -23189360.94 -23189360.85 0.0527 0.0380

Mars -68201-11-30 00:28 J -23188658.58 -23188658.48 -23188658.39 0.1982 0.1076

Venus -68199-04-09 06:28 J -23188163.38 -23188163.23 -23188163.09 0.3565 0.0865

Moon -68199-05-09 19:11 J -23188132.81 -23188132.70 -23188132.59 0.2705 0.0322

Earth -68199-05-09 19:54 J -23188132.78 -23188132.67 -23188132.56 0.2706 0.0306 *

Uranus -68198-09-07 16:04 J -23187646.87 -23187646.83 -23187646.75 0.0144 0.0137

Uranus -68198-12-05 00:57 J -23187558.58 -23187558.46 -23187558.32 0.0144 0.0106

Uranus -68197-03-02 09:49 J -23187470.25 -23187470.09 -23187469.92 0.0144 0.0075

Uranus -68197-05-29 18:28 J -23187381.91 -23187381.73 -23187381.53 0.0144 0.0044

Jupiter -68197-08-23 20:52 J -23187295.76 -23187295.63 -23187295.48 0.0498 0.0326

Uranus -68197-08-26 03:21 J -23187293.55 -23187293.36 -23187293.16 0.0144 0.0013

Jupiter -68197-11-22 08:52 J -23187205.28 -23187205.13 -23187204.98 0.0499 0.0295

Uranus -68197-11-22 11:59 J -23187205.19 -23187205.00 -23187204.80 0.0144 0.0019 *

Uranus -68196-02-18 20:37 J -23187116.82 -23187116.64 -23187116.45 0.0144 0.0049

Uranus -68196-05-18 05:16 J -23187028.44 -23187028.28 -23187028.11 0.0143 0.0079

Mars -68196-08-10 18:28 J -23186943.89 -23186943.73 -23186943.57 0.1565 0.0508

Uranus -68196-08-14 13:54 J -23186940.04 -23186939.92 -23186939.79 0.0143 0.0110

Moon -68196-11-02 10:47 J -23186860.17 -23186860.05 -23186859.92 0.2625 0.1753

Earth -68196-11-02 11:59 J -23186860.12 -23186860.00 -23186859.87 0.2630 0.1667 *

Uranus -68196-11-10 22:33 J -23186851.60 -23186851.56 -23186851.52 0.0143 0.0140

Mars -68191-04-22 07:54 J -23185228.29 -23185228.17 -23185228.06 0.1983 0.0045

Saturn -68191-06-01 21:21 J -23185187.74 -23185187.61 -23185187.47 0.0260 0.0182

Jupiter -68191-07-19 12:28 J -23185140.10 -23185139.98 -23185139.87 0.0528 0.0212

Saturn -68191-08-29 18:13 J -23185098.93 -23185098.74 -23185098.55 0.0260 0.0053

Jupiter -68191-10-16 17:59 J -23185050.86 -23185050.75 -23185050.64 0.0527 0.0264

Saturn -68191-11-26 15:21 J -23185010.04 -23185009.86 -23185009.68 0.0261 0.0078

Saturn -68190-02-23 12:13 J -23184921.09 -23184920.99 -23184920.86 0.0261 0.0210

Neptune -68190-09-29 16:47 J -23184702.82 -23184702.80 -23184702.77 0.0089 0.0087

Neptune -68190-12-26 17:59 J -23184614.79 -23184614.75 -23184614.69 0.0089 0.0082

Neptune -68189-03-23 19:11 J -23184526.75 -23184526.70 -23184526.62 0.0089 0.0077

Neptune -68189-06-19 20:37 J -23184438.71 -23184438.64 -23184438.55 0.0089 0.0072

Neptune -68189-09-15 21:49 J -23184350.66 -23184350.59 -23184350.49 0.0089 0.0067

Neptune -68189-12-12 23:16 J -23184262.61 -23184262.53 -23184262.43 0.0089 0.0062

Neptune -68188-03-11 00:28 J -23184174.57 -23184174.48 -23184174.36 0.0089 0.0057

Neptune -68188-06-07 01:54 J -23184086.52 -23184086.42 -23184086.30 0.0089 0.0052

Neptune -68188-09-03 03:06 J -23183998.47 -23183998.37 -23183998.24 0.0089 0.0047

Neptune -68188-11-30 04:47 J -23183910.42 -23183910.30 -23183910.18 0.0089 0.0041

Neptune -68187-02-26 05:59 J -23183822.37 -23183822.25 -23183822.13 0.0089 0.0036

Neptune -68187-05-25 07:25 J -23183734.32 -23183734.19 -23183734.07 0.0089 0.0031

Neptune -68187-08-21 08:37 J -23183646.26 -23183646.14 -23183646.01 0.0089 0.0026

Neptune -68187-11-17 10:04 J -23183558.21 -23183558.08 -23183557.96 0.0089 0.0021

Mars -68187-12-31 20:37 J -23183513.80 -23183513.64 -23183513.47 0.1566 0.0371

Neptune -68186-02-13 11:16 J -23183470.16 -23183470.03 -23183469.90 0.0089 0.0016

Neptune -68186-05-12 12:28 J -23183382.11 -23183381.98 -23183381.85 0.0089 0.0011

Moon -68186-05-12 12:57 J -23183382.07 -23183381.96 -23183381.86 0.2710 0.0692 *

Earth -68186-05-12 13:25 J -23183382.04 -23183381.94 -23183381.83 0.2708 0.0820 *

Neptune -68186-08-08 13:54 J -23183294.05 -23183293.92 -23183293.79 0.0089 0.0006

Neptune -68186-11-04 15:06 J -23183206.00 -23183205.87 -23183205.74 0.0089 0.0002

Neptune -68185-01-31 16:33 J -23183117.95 -23183117.81 -23183117.68 0.0089 0.0005

Venus -68185-02-06 11:45 J -23183112.05 -23183112.01 -23183111.96 0.3817 0.3420

Neptune -68185-04-28 17:45 J -23183029.89 -23183029.76 -23183029.63 0.0089 0.0009

Jupiter -68185-06-11 17:30 J -23182985.81 -23182985.77 -23182985.72 0.0498 0.0480

Neptune -68185-07-25 18:57 J -23182941.84 -23182941.71 -23182941.58 0.0089 0.0015

Jupiter -68185-09-10 05:16 J -23182895.45 -23182895.28 -23182895.09 0.0498 0.0141

Neptune -68185-10-21 20:09 J -23182853.78 -23182853.66 -23182853.52 0.0089 0.0020

Neptune -68184-01-17 21:35 J -23182765.72 -23182765.60 -23182765.47 0.0089 0.0025

Neptune -68184-04-15 22:47 J -23182677.67 -23182677.55 -23182677.42 0.0089 0.0030

Neptune -68184-07-12 23:59 J -23182589.61 -23182589.50 -23182589.37 0.0089 0.0035

Neptune -68184-10-09 01:25 J -23182501.55 -23182501.44 -23182501.32 0.0089 0.0040

Neptune -68183-01-05 02:37 J -23182413.50 -23182413.39 -23182413.27 0.0089 0.0045

Neptune -68183-04-03 04:04 J -23182325.44 -23182325.33 -23182325.22 0.0089 0.0050

Neptune -68183-06-30 05:16 J -23182237.38 -23182237.28 -23182237.17 0.0089 0.0055

Neptune -68183-09-26 06:28 J -23182149.32 -23182149.23 -23182149.12 0.0089 0.0060

Moon -68183-11-05 18:28 J -23182108.89 -23182108.73 -23182108.57 0.2626 0.0577

Earth -68183-11-05 20:23 J -23182108.81 -23182108.65 -23182108.49 0.2627 0.0701 *

Neptune -68183-12-23 07:54 J -23182061.25 -23182061.17 -23182061.08 0.0089 0.0065

Neptune -68182-03-21 09:06 J -23181973.19 -23181973.12 -23181973.03 0.0089 0.0070

Neptune -68182-06-17 10:18 J -23181885.13 -23181885.07 -23181884.99 0.0089 0.0075

Mars -68182-09-12 15:21 J -23181797.96 -23181797.86 -23181797.77 0.1982 0.1115

Neptune -68182-09-13 11:45 J -23181797.06 -23181797.01 -23181796.95 0.0089 0.0080

Neptune -68182-12-10 12:57 J -23181708.99 -23181708.96 -23181708.92 0.0089 0.0085

Venus -68180-08-22 04:18 J -23181088.41 -23181088.32 -23181088.23 0.3816 0.1821

Earth -68179-05-05 13:25 J -23180832.00 -23180831.94 -23180831.89 0.2702 0.2310

Moon -68179-05-05 13:25 J -23180831.99 -23180831.94 -23180831.88 0.2695 0.2287 *

Jupiter -68179-05-07 16:47 J -23180829.90 -23180829.80 -23180829.71 0.0527 0.0330

Jupiter -68179-08-04 22:04 J -23180740.70 -23180740.58 -23180740.45 0.0527 0.0144

Mars -68177-05-22 22:47 J -23180083.64 -23180083.55 -23180083.44 0.1566 0.1248

Saturn -68177-07-05 22:18 J -23180039.66 -23180039.57 -23180039.48 0.0303 0.0214

Saturn -68177-10-02 11:01 J -23179951.17 -23179951.04 -23179950.92 0.0303 0.0077

Saturn -68177-12-29 23:30 J -23179862.64 -23179862.52 -23179862.39 0.0302 0.0060

Saturn -68176-03-28 11:59 J -23179774.09 -23179774.00 -23179773.90 0.0301 0.0195

Venus -68174-03-07 20:52 J -23179064.73 -23179064.63 -23179064.52 0.3815 0.0231

Moon -68173-05-14 06:57 J -23178631.28 -23178631.21 -23178631.14 0.2717 0.1964

Earth -68173-05-14 07:11 J -23178631.28 -23178631.20 -23178631.13 0.2710 0.1932 *

Jupiter -68173-06-29 01:40 J -23178585.62 -23178585.43 -23178585.25 0.0499 0.0022

Venus -68169-09-20 13:40 J -23177041.03 -23177040.93 -23177040.84 0.3814 0.1445

Jupiter -68167-02-23 21:06 J -23176519.69 -23176519.62 -23176519.56 0.0527 0.0447

Jupiter -68167-05-24 02:23 J -23176430.52 -23176430.40 -23176430.27 0.0527 0.0032

Jupiter -68167-08-21 07:54 J -23176341.21 -23176341.17 -23176341.13 0.0526 0.0498

Moon -68166-05-08 06:42 J -23176081.32 -23176081.22 -23176081.12 0.2698 0.1197

Earth -68166-05-08 06:57 J -23176081.30 -23176081.21 -23176081.11 0.2704 0.1195 *

Mars -68166-09-19 16:47 J -23175946.84 -23175946.80 -23175946.76 0.1566 0.1519

Venus -68163-04-06 06:28 J -23175017.29 -23175017.23 -23175017.18 0.3812 0.3110

Saturn -68162-10-19 21:06 J -23174455.72 -23174455.62 -23174455.51 0.0259 0.0215

Saturn -68161-01-16 17:59 J -23174366.93 -23174366.75 -23174366.56 0.0260 0.0087

Saturn -68161-04-14 15:06 J -23174278.06 -23174277.87 -23174277.68 0.0260 0.0043

Jupiter -68161-04-16 22:18 J -23174275.74 -23174275.57 -23174275.39 0.0499 0.0172

Mars -68161-05-31 00:28 J -23174231.57 -23174231.48 -23174231.39 0.1983 0.1191

Saturn -68161-07-12 12:13 J -23174189.13 -23174188.99 -23174188.85 0.0261 0.0175

Jupiter -68161-07-16 10:18 J -23174185.15 -23174185.07 -23174184.99 0.0499 0.0451

Mars -68156-02-08 19:11 J -23172516.86 -23172516.70 -23172516.55 0.1566 0.0645

Jupiter -68155-03-12 06:28 J -23172120.35 -23172120.23 -23172120.11 0.0527 0.0097

Jupiter -68155-06-09 11:45 J -23172031.09 -23172031.01 -23172030.92 0.0526 0.0376

Uranus -68154-05-25 16:18 J -23171680.84 -23171680.82 -23171680.76 0.0134 0.0127

Uranus -68154-08-21 19:25 J -23171592.75 -23171592.69 -23171592.61 0.0134 0.0110

Uranus -68154-11-17 22:33 J -23171504.65 -23171504.56 -23171504.46 0.0134 0.0094

Uranus -68153-02-14 01:25 J -23171416.54 -23171416.44 -23171416.33 0.0134 0.0077

Moon -68153-05-09 23:59 J -23171330.61 -23171330.50 -23171330.39 0.2705 0.0213

Earth -68153-05-10 00:42 J -23171330.58 -23171330.47 -23171330.36 0.2706 0.0086 *

Uranus -68153-05-12 04:33 J -23171328.43 -23171328.31 -23171328.19 0.0135 0.0060

Uranus -68153-08-08 07:25 J -23171240.31 -23171240.19 -23171240.06 0.0135 0.0044

Uranus -68153-11-04 10:33 J -23171152.19 -23171152.06 -23171151.93 0.0135 0.0027

Uranus -68152-01-31 13:40 J -23171064.06 -23171063.93 -23171063.80 0.0135 0.0011

Uranus -68152-04-29 16:33 J -23170975.94 -23170975.81 -23170975.68 0.0135 0.0007

Uranus -68152-07-26 19:40 J -23170887.81 -23170887.68 -23170887.55 0.0135 0.0024

Mars -68152-10-21 07:54 J -23170801.28 -23170801.17 -23170801.06 0.1982 0.0104

Uranus -68152-10-22 22:33 J -23170799.68 -23170799.56 -23170799.43 0.0135 0.0041

Uranus -68151-01-19 01:25 J -23170711.55 -23170711.44 -23170711.31 0.0135 0.0059

Uranus -68151-04-17 04:33 J -23170623.41 -23170623.31 -23170623.20 0.0135 0.0075

Uranus -68151-07-14 07:40 J -23170535.27 -23170535.18 -23170535.08 0.0136 0.0092

Uranus -68151-10-10 10:33 J -23170447.12 -23170447.06 -23170446.97 0.0136 0.0110

Uranus -68150-01-06 13:40 J -23170358.96 -23170358.93 -23170358.88 0.0136 0.0127

Moon -68150-11-03 17:16 J -23170057.91 -23170057.78 -23170057.64 0.2626 0.1420

Earth -68150-11-03 18:57 J -23170057.86 -23170057.71 -23170057.57 0.2629 0.1220 *

Jupiter -68149-02-03 19:11 J -23169965.84 -23169965.70 -23169965.56 0.0499 0.0325

Jupiter -68149-05-04 06:57 J -23169875.35 -23169875.21 -23169875.06 0.0499 0.0298

Pluto -68149-06-06 16:18 J -23169841.82 -23169841.82 -23169841.79 0.0084 0.0084

Pluto -68149-09-02 17:59 J -23169753.81 -23169753.75 -23169753.67 0.0084 0.0073

Pluto -68149-11-29 19:25 J -23169665.77 -23169665.69 -23169665.59 0.0084 0.0062

Pluto -68148-02-25 20:52 J -23169577.73 -23169577.63 -23169577.51 0.0084 0.0051

Venus -68148-04-30 01:40 J -23169514.56 -23169514.43 -23169514.29 0.3564 0.1487

Pluto -68148-05-24 22:33 J -23169489.68 -23169489.56 -23169489.43 0.0084 0.0040

Pluto -68148-08-20 23:59 J -23169401.62 -23169401.50 -23169401.36 0.0084 0.0030

Pluto -68148-11-17 01:40 J -23169313.57 -23169313.43 -23169313.30 0.0084 0.0019

Saturn -68148-11-23 00:28 J -23169307.55 -23169307.48 -23169307.41 0.0303 0.0253

Pluto -68147-02-13 03:06 J -23169225.51 -23169225.37 -23169225.23 0.0083 0.0009

Saturn -68147-02-19 13:11 J -23169219.07 -23169218.95 -23169218.83 0.0303 0.0115

Pluto -68147-05-12 04:33 J -23169137.45 -23169137.31 -23169137.17 0.0083 0.0002

Saturn -68147-05-19 01:40 J -23169130.56 -23169130.43 -23169130.30 0.0302 0.0022

Mars -68147-07-01 21:21 J -23169086.77 -23169086.61 -23169086.44 0.1566 0.0234

Pluto -68147-08-08 05:59 J -23169049.39 -23169049.25 -23169049.11 0.0083 0.0012

Saturn -68147-08-15 14:09 J -23169042.01 -23169041.91 -23169041.79 0.0302 0.0157

Pluto -68147-11-04 07:25 J -23168961.32 -23168961.19 -23168961.06 0.0083 0.0022

Saturn -68147-11-12 02:37 J -23168953.42 -23168953.39 -23168953.35 0.0301 0.0290

Pluto -68146-01-31 08:52 J -23168873.26 -23168873.13 -23168873.00 0.0083 0.0032

Pluto -68146-04-29 10:04 J -23168785.19 -23168785.08 -23168784.95 0.0083 0.0043

Pluto -68146-07-26 11:16 J -23168697.12 -23168697.03 -23168696.91 0.0083 0.0053

Pluto -68146-10-22 12:42 J -23168609.04 -23168608.97 -23168608.87 0.0083 0.0063

Pluto -68145-01-18 14:23 J -23168520.96 -23168520.90 -23168520.83 0.0082 0.0072

Pluto -68145-04-15 15:35 J -23168432.86 -23168432.85 -23168432.83 0.0082 0.0082

Jupiter -68144-12-29 10:47 J -23167810.16 -23167810.05 -23167809.94 0.0527 0.0215

Jupiter -68143-03-28 16:04 J -23167720.93 -23167720.83 -23167720.71 0.0527 0.0260

Venus -68143-11-14 07:40 J -23167490.31 -23167490.18 -23167490.06 0.3565 0.2032

Mars -68142-03-13 15:06 J -23167370.96 -23167370.87 -23167370.77 0.1982 0.1011

Moon -68140-05-12 17:45 J -23166579.86 -23166579.76 -23166579.66 0.2712 0.1037

Earth -68140-05-12 18:13 J -23166579.84 -23166579.74 -23166579.64 0.2708 0.1042 *

Mars -68138-11-21 23:45 J -23165656.63 -23165656.51 -23165656.39 0.1566 0.1108

Jupiter -68138-11-22 15:35 J -23165655.89 -23165655.85 -23165655.80 0.0498 0.0480

Jupiter -68137-02-21 03:21 J -23165565.53 -23165565.36 -23165565.17 0.0498 0.0142

Moon -68137-11-06 01:25 J -23165306.59 -23165306.44 -23165306.29 0.2626 0.0940

Earth -68137-11-06 03:06 J -23165306.51 -23165306.37 -23165306.22 0.2627 0.1152 *

Moon -68133-05-05 18:13 J -23164029.81 -23164029.74 -23164029.67 0.2695 0.2095

Earth -68133-05-05 18:13 J -23164029.81 -23164029.74 -23164029.68 0.2702 0.2084 *

Saturn -68132-03-07 19:54 J -23163723.70 -23163723.67 -23163723.63 0.0259 0.0254

Saturn -68132-06-04 16:47 J -23163634.96 -23163634.80 -23163634.63 0.0260 0.0126

Saturn -68132-09-01 13:54 J -23163546.12 -23163545.92 -23163545.73 0.0260 0.0007

Jupiter -68132-10-17 15:06 J -23163499.96 -23163499.87 -23163499.77 0.0527 0.0333

Saturn -68132-11-29 10:47 J -23163457.21 -23163457.05 -23163456.88 0.0261 0.0135

Jupiter -68131-01-14 20:37 J -23163410.76 -23163410.64 -23163410.52 0.0527 0.0143

Venus -68129-09-12 09:35 J -23162439.17 -23162439.10 -23162439.04 0.3816 0.2866

Moon -68127-05-15 11:45 J -23161829.08 -23161829.01 -23161828.94 0.2717 0.2090

Earth -68127-05-15 11:59 J -23161829.07 -23161829.00 -23161828.94 0.2710 0.2159 *

Jupiter -68126-12-10 00:13 J -23161255.68 -23161255.49 -23161255.30 0.0498 0.0013

Venus -68123-03-29 01:54 J -23160415.51 -23160415.42 -23160415.32 0.3816 0.1272

Mars -68122-11-30 00:28 J -23159804.57 -23159804.48 -23159804.40 0.1982 0.1307

Moon -68120-05-08 11:16 J -23159279.13 -23159279.03 -23159278.93 0.2700 0.1028

Earth -68120-05-08 11:45 J -23159279.11 -23159279.01 -23159278.91 0.2704 0.0969 *

Jupiter -68120-08-05 19:40 J -23159189.75 -23159189.68 -23159189.62 0.0527 0.0448

Jupiter -68120-11-03 00:57 J -23159100.58 -23159100.46 -23159100.33 0.0527 0.0029

Jupiter -68119-01-31 06:28 J -23159011.27 -23159011.23 -23159011.19 0.0526 0.0497

Saturn -68118-04-12 01:54 J -23158575.44 -23158575.42 -23158575.39 0.0303 0.0296

Saturn -68118-07-09 14:52 J -23158486.99 -23158486.88 -23158486.77 0.0303 0.0157

Saturn -68118-10-06 03:35 J -23158398.48 -23158398.35 -23158398.22 0.0303 0.0021

Venus -68118-10-12 18:42 J -23158391.82 -23158391.72 -23158391.62 0.3815 0.0379

Saturn -68117-01-02 16:04 J -23158309.95 -23158309.83 -23158309.71 0.0302 0.0116

Saturn -68117-03-31 04:33 J -23158221.38 -23158221.31 -23158221.24 0.0301 0.0250

Mars -68117-08-09 19:40 J -23158089.82 -23158089.68 -23158089.53 0.1565 0.0779

Jupiter -68114-09-27 20:09 J -23156945.83 -23156945.66 -23156945.48 0.0499 0.0175

Uranus -68114-09-27 23:45 J -23156945.58 -23156945.51 -23156945.40 0.0144 0.0130 *

Uranus -68114-12-25 08:37 J -23156857.27 -23156857.14 -23156856.98 0.0144 0.0098

Jupiter -68114-12-27 08:09 J -23156855.24 -23156855.16 -23156855.08 0.0499 0.0449

Uranus -68113-03-22 17:30 J -23156768.93 -23156768.77 -23156768.59 0.0144 0.0067

Uranus -68113-06-19 02:23 J -23156680.59 -23156680.40 -23156680.21 0.0144 0.0036

Uranus -68113-09-15 11:01 J -23156592.23 -23156592.04 -23156591.84 0.0144 0.0006

Uranus -68113-12-12 19:40 J -23156503.87 -23156503.68 -23156503.48 0.0144 0.0026

Uranus -68112-03-11 04:18 J -23156415.49 -23156415.32 -23156415.14 0.0143 0.0057

Mars -68112-04-21 07:40 J -23156374.29 -23156374.18 -23156374.06 0.1983 0.0199

Venus -68112-04-27 11:16 J -23156368.11 -23156368.03 -23156367.94 0.3813 0.2029

Uranus -68112-06-07 12:42 J -23156327.11 -23156326.97 -23156326.80 0.0143 0.0087

Uranus -68112-09-03 21:21 J -23156238.71 -23156238.61 -23156238.49 0.0143 0.0117

Jupiter -68108-08-22 05:30 J -23154790.39 -23154790.27 -23154790.15 0.0527 0.0090

Jupiter -68108-11-19 10:47 J -23154701.13 -23154701.05 -23154700.96 0.0526 0.0382

Mars -68108-12-30 22:04 J -23154659.75 -23154659.58 -23154659.41 0.1566 0.0098

Moon -68107-05-11 04:47 J -23154528.41 -23154528.30 -23154528.19 0.2705 0.0121

Earth -68107-05-11 05:30 J -23154528.38 -23154528.27 -23154528.16 0.2706 0.0157 *

Venus -68107-11-11 04:04 J -23154344.35 -23154344.33 -23154344.31 0.3812 0.3707

Neptune -68107-12-13 16:04 J -23154311.88 -23154311.83 -23154311.74 0.0089 0.0083

Neptune -68106-03-11 20:09 J -23154223.76 -23154223.66 -23154223.55 0.0089 0.0075

Neptune -68106-06-07 23:30 J -23154135.63 -23154135.52 -23154135.38 0.0089 0.0068

Neptune -68106-09-04 03:35 J -23154047.49 -23154047.35 -23154047.20 0.0089 0.0060

Neptune -68106-12-01 06:57 J -23153959.35 -23153959.21 -23153959.04 0.0089 0.0053

Neptune -68105-02-27 10:33 J -23153871.21 -23153871.06 -23153870.87 0.0089 0.0046

Neptune -68105-05-25 14:37 J -23153783.06 -23153782.89 -23153782.71 0.0089 0.0038

Neptune -68105-08-21 18:13 J -23153694.91 -23153694.74 -23153694.54 0.0089 0.0031

Neptune -68105-11-17 22:04 J -23153606.76 -23153606.58 -23153606.38 0.0089 0.0023

Neptune -68104-02-14 01:40 J -23153518.61 -23153518.43 -23153518.23 0.0089 0.0016

Neptune -68104-05-13 05:30 J -23153430.46 -23153430.27 -23153430.07 0.0089 0.0008

Neptune -68104-08-09 09:21 J -23153342.31 -23153342.11 -23153341.91 0.0089 0.0001

Moon -68104-11-03 23:59 J -23153255.65 -23153255.50 -23153255.34 0.2625 0.0841

Earth -68104-11-04 01:40 J -23153255.58 -23153255.43 -23153255.27 0.2629 0.0767 *

Neptune -68104-11-05 12:57 J -23153254.15 -23153253.96 -23153253.76 0.0089 0.0008

Neptune -68103-02-01 16:47 J -23153165.99 -23153165.80 -23153165.60 0.0089 0.0015

Neptune -68103-04-30 20:23 J -23153077.83 -23153077.65 -23153077.45 0.0089 0.0023

Neptune -68103-07-28 00:13 J -23152989.67 -23152989.49 -23152989.30 0.0089 0.0030

Mars -68103-09-11 15:21 J -23152943.96 -23152943.86 -23152943.76 0.1982 0.0880

Saturn -68103-10-22 16:04 J -23152902.97 -23152902.83 -23152902.67 0.0259 0.0162

Neptune -68103-10-24 03:49 J -23152901.51 -23152901.34 -23152901.15 0.0089 0.0038

Saturn -68102-01-19 13:11 J -23152814.14 -23152813.95 -23152813.76 0.0260 0.0033

Neptune -68102-01-20 07:25 J -23152813.34 -23152813.19 -23152813.00 0.0089 0.0046

Saturn -68102-04-18 10:04 J -23152725.26 -23152725.08 -23152724.90 0.0260 0.0097

Neptune -68102-04-18 11:16 J -23152725.17 -23152725.03 -23152724.86 0.0089 0.0053 *

Neptune -68102-07-15 14:52 J -23152637.00 -23152636.88 -23152636.72 0.0089 0.0061

Saturn -68102-07-16 06:57 J -23152636.29 -23152636.21 -23152636.11 0.0260 0.0229

Jupiter -68102-07-16 17:01 J -23152635.93 -23152635.79 -23152635.65 0.0499 0.0326

Neptune -68102-10-11 18:42 J -23152548.83 -23152548.72 -23152548.58 0.0089 0.0068

Jupiter -68102-10-15 05:01 J -23152545.44 -23152545.29 -23152545.14 0.0499 0.0299

Neptune -68101-01-07 22:18 J -23152460.65 -23152460.57 -23152460.45 0.0089 0.0076

Neptune -68101-04-05 02:23 J -23152372.46 -23152372.40 -23152372.32 0.0089 0.0083

Mars -68098-05-23 00:28 J -23151229.61 -23151229.48 -23151229.35 0.1566 0.0970

Jupiter -68096-06-10 09:35 J -23150480.22 -23150480.10 -23150479.99 0.0527 0.0213

Jupiter -68096-09-07 14:52 J -23150390.99 -23150390.88 -23150390.77 0.0526 0.0261

Moon -68094-05-13 22:33 J -23149777.65 -23149777.56 -23149777.46 0.2713 0.1163

Earth -68094-05-13 23:01 J -23149777.63 -23149777.54 -23149777.44 0.2708 0.1269 *

Mars -68093-02-01 22:47 J -23149513.55 -23149513.55 -23149513.55 0.1981 0.1978

Venus -68092-12-05 03:06 J -23148841.52 -23148841.37 -23148841.22 0.3564 0.0279

Moon -68091-11-07 08:09 J -23148504.29 -23148504.16 -23148504.02 0.2627 0.1418

Earth -68091-11-07 10:04 J -23148504.21 -23148504.08 -23148503.96 0.2627 0.1598 *

Jupiter -68090-05-04 13:54 J -23148325.96 -23148325.92 -23148325.86 0.0499 0.0477

Jupiter -68090-08-03 02:09 J -23148235.59 -23148235.41 -23148235.23 0.0499 0.0147

Saturn -68089-11-25 16:33 J -23147754.91 -23147754.81 -23147754.71 0.0303 0.0200

Saturn -68088-02-22 05:16 J -23147666.41 -23147666.28 -23147666.16 0.0303 0.0063

Saturn -68088-05-21 17:45 J -23147577.88 -23147577.76 -23147577.63 0.0302 0.0075

Saturn -68088-08-18 06:28 J -23147489.33 -23147489.23 -23147489.14 0.0302 0.0209

Moon -68087-05-06 23:01 J -23147227.62 -23147227.54 -23147227.46 0.2695 0.1822

Earth -68087-05-06 23:01 J -23147227.62 -23147227.54 -23147227.47 0.2702 0.1859 *

Venus -68086-06-21 08:52 J -23146817.19 -23146817.13 -23146817.07 0.3566 0.3203

Jupiter -68084-03-29 13:54 J -23146170.02 -23146169.92 -23146169.82 0.0527 0.0331

Jupiter -68084-06-26 19:11 J -23146080.82 -23146080.70 -23146080.58 0.0527 0.0144

Mars -68082-05-31 00:28 J -23145377.56 -23145377.48 -23145377.41 0.1982 0.1415

Moon -68081-05-15 16:33 J -23145026.85 -23145026.81 -23145026.76 0.2717 0.2433

Earth -68081-05-15 16:33 J -23145026.85 -23145026.81 -23145026.76 0.2710 0.2380 *

Jupiter -68078-05-21 22:47 J -23143925.74 -23143925.55 -23143925.36 0.0499 0.0009

Mars -68077-02-08 20:37 J -23143662.78 -23143662.64 -23143662.51 0.1565 0.0918

Moon -68074-05-09 16:04 J -23142476.93 -23142476.83 -23142476.73 0.2701 0.0823

Earth -68074-05-09 16:33 J -23142476.91 -23142476.81 -23142476.70 0.2704 0.0742 *

Saturn -68073-03-10 14:23 J -23142171.01 -23142170.90 -23142170.77 0.0259 0.0203

Saturn -68073-06-07 11:30 J -23142082.21 -23142082.02 -23142081.84 0.0260 0.0075

Saturn -68073-09-04 08:23 J -23141993.34 -23141993.15 -23141992.96 0.0260 0.0055

Mars -68073-10-20 07:54 J -23141947.28 -23141947.17 -23141947.06 0.1983 0.0327

Saturn -68073-12-02 05:16 J -23141904.41 -23141904.28 -23141904.14 0.0260 0.0186

Jupiter -68072-01-15 18:13 J -23141859.80 -23141859.74 -23141859.67 0.0527 0.0448

Jupiter -68072-04-14 23:45 J -23141770.64 -23141770.51 -23141770.38 0.0527 0.0027

Venus -68072-04-19 07:11 J -23141766.28 -23141766.20 -23141766.12 0.3816 0.2312

Jupiter -68072-07-13 05:16 J -23141681.32 -23141681.28 -23141681.25 0.0526 0.0501

Uranus -68070-06-14 23:30 J -23140979.56 -23140979.52 -23140979.47 0.0134 0.0124

Uranus -68070-09-11 02:37 J -23140891.47 -23140891.39 -23140891.32 0.0134 0.0108

Uranus -68070-12-08 05:16 J -23140803.36 -23140803.28 -23140803.17 0.0134 0.0092

Uranus -68069-03-05 08:23 J -23140715.25 -23140715.15 -23140715.04 0.0135 0.0075

Uranus -68069-06-01 11:30 J -23140627.14 -23140627.02 -23140626.90 0.0135 0.0058

Uranus -68069-08-28 14:23 J -23140539.02 -23140538.90 -23140538.77 0.0135 0.0041

Uranus -68069-11-24 17:30 J -23140450.90 -23140450.77 -23140450.64 0.0135 0.0024

Uranus -68068-02-20 20:23 J -23140362.78 -23140362.65 -23140362.52 0.0135 0.0008

Uranus -68068-05-19 23:30 J -23140274.65 -23140274.52 -23140274.39 0.0135 0.0010

Mars -68068-06-30 22:47 J -23140232.72 -23140232.55 -23140232.38 0.1565 0.0038

Uranus -68068-08-16 02:23 J -23140186.52 -23140186.40 -23140186.27 0.0135 0.0027

Uranus -68068-11-12 05:30 J -23140098.39 -23140098.27 -23140098.15 0.0135 0.0044

Uranus -68067-02-08 08:37 J -23140010.26 -23140010.14 -23140010.03 0.0135 0.0061

Uranus -68067-05-07 11:30 J -23139922.12 -23139922.02 -23139921.91 0.0136 0.0078

Uranus -68067-08-03 14:37 J -23139833.98 -23139833.89 -23139833.80 0.0136 0.0095

Uranus -68067-10-30 17:30 J -23139745.83 -23139745.77 -23139745.69 0.0136 0.0113

Venus -68067-11-02 23:45 J -23139742.61 -23139742.51 -23139742.41 0.3815 0.0696

Uranus -68066-01-26 20:37 J -23139657.67 -23139657.64 -23139657.60 0.0136 0.0130

Jupiter -68066-03-09 19:25 J -23139615.86 -23139615.69 -23139615.51 0.0498 0.0161

Jupiter -68066-06-08 07:11 J -23139525.26 -23139525.20 -23139525.12 0.0499 0.0462

Mars -68063-03-12 15:06 J -23138516.97 -23138516.87 -23138516.76 0.1982 0.0782

Moon -68061-05-11 09:35 J -23137726.21 -23137726.10 -23137725.99 0.2706 0.0266

Earth -68061-05-11 10:18 J -23137726.18 -23137726.07 -23137725.97 0.2707 0.0379 *

Venus -68061-05-18 16:18 J -23137718.92 -23137718.82 -23137718.72 0.3814 0.0954

Jupiter -68060-02-01 04:18 J -23137460.45 -23137460.32 -23137460.20 0.0527 0.0088

Jupiter -68060-05-01 09:35 J -23137371.18 -23137371.10 -23137371.01 0.0526 0.0386

Saturn -68059-04-14 17:45 J -23137022.84 -23137022.76 -23137022.69 0.0303 0.0249

Saturn -68059-07-12 06:28 J -23136934.35 -23136934.23 -23136934.11 0.0303 0.0111

Saturn -68059-10-08 18:57 J -23136845.83 -23136845.71 -23136845.58 0.0303 0.0028

Mars -68059-11-21 01:11 J -23136802.59 -23136802.45 -23136802.31 0.1566 0.0835

Saturn -68058-01-05 07:40 J -23136757.29 -23136757.18 -23136757.07 0.0302 0.0162

Saturn -68058-04-03 20:09 J -23136668.68 -23136668.66 -23136668.64 0.0301 0.0296

Moon -68058-11-05 06:57 J -23136453.37 -23136453.21 -23136453.05 0.2625 0.0559

Earth -68058-11-05 08:23 J -23136453.31 -23136453.15 -23136452.98 0.2629 0.0321 *

Venus -68056-12-02 09:06 J -23135695.19 -23135695.12 -23135695.05 0.3813 0.2617

Jupiter -68055-12-26 15:21 J -23135306.00 -23135305.86 -23135305.72 0.0499 0.0324

Jupiter -68054-03-27 03:21 J -23135215.51 -23135215.36 -23135215.21 0.0499 0.0301

Moon -68054-05-05 10:18 J -23135176.08 -23135176.07 -23135176.05 0.2694 0.2641

Mars -68054-08-02 22:47 J -23135086.59 -23135086.55 -23135086.52 0.1981 0.1873

Jupiter -68049-11-20 08:52 J -23133150.25 -23133150.13 -23133150.01 0.0527 0.0202

Jupiter -68048-02-17 14:09 J -23133061.01 -23133060.91 -23133060.80 0.0526 0.0272

Moon -68048-05-14 03:21 J -23132975.45 -23132975.36 -23132975.27 0.2714 0.1497

Earth -68048-05-14 03:49 J -23132975.43 -23132975.34 -23132975.25 0.2709 0.1490 *

Moon -68045-11-07 15:06 J -23131701.98 -23131701.87 -23131701.76 0.2628 0.1932

Earth -68045-11-07 16:47 J -23131701.90 -23131701.80 -23131701.70 0.2626 0.2050 *

Saturn -68044-07-28 13:25 J -23131439.00 -23131438.94 -23131438.87 0.0259 0.0242

Saturn -68044-10-25 10:18 J -23131350.24 -23131350.07 -23131349.90 0.0259 0.0114

Saturn -68043-01-22 07:11 J -23131261.39 -23131261.20 -23131261.01 0.0259 0.0015

Saturn -68043-04-21 04:04 J -23131172.49 -23131172.33 -23131172.17 0.0260 0.0145

Jupiter -68043-10-14 12:28 J -23130996.04 -23130995.98 -23130995.93 0.0499 0.0474

Mars -68043-11-29 00:28 J -23130950.55 -23130950.48 -23130950.41 0.1983 0.1530

Jupiter -68042-01-13 00:28 J -23130905.66 -23130905.48 -23130905.30 0.0499 0.0151

Moon -68041-05-07 03:35 J -23130425.43 -23130425.35 -23130425.26 0.2696 0.1686

Earth -68041-05-07 03:49 J -23130425.43 -23130425.34 -23130425.26 0.2703 0.1634 *

Venus -68041-12-25 22:33 J -23130192.66 -23130192.56 -23130192.46 0.3563 0.2663

Mars -68038-08-09 21:21 J -23129235.74 -23129235.61 -23129235.49 0.1566 0.1055

Jupiter -68037-09-08 12:57 J -23128840.06 -23128839.96 -23128839.86 0.0527 0.0323

Jupiter -68037-12-06 18:13 J -23128750.86 -23128750.74 -23128750.62 0.0526 0.0151

Moon -68035-05-16 21:35 J -23128224.63 -23128224.60 -23128224.57 0.2717 0.2564

Earth -68035-05-16 21:21 J -23128224.63 -23128224.61 -23128224.58 0.2710 0.2603 *

Venus -68035-07-12 04:33 J -23128168.46 -23128168.31 -23128168.16 0.3565 0.0927

Mars -68033-04-20 07:54 J -23127520.28 -23127520.17 -23127520.06 0.1982 0.0441

Jupiter -68031-10-31 21:35 J -23126595.79 -23126595.60 -23126595.42 0.0499 0.0009

Saturn -68030-09-01 18:42 J -23126290.74 -23126290.72 -23126290.69 0.0304 0.0296

Uranus -68030-10-18 07:40 J -23126244.28 -23126244.18 -23126244.07 0.0144 0.0121

Saturn -68030-11-29 07:40 J -23126202.29 -23126202.18 -23126202.07 0.0304 0.0157

Uranus -68029-01-14 16:18 J -23126155.96 -23126155.82 -23126155.66 0.0144 0.0090

Saturn -68029-02-25 20:23 J -23126113.78 -23126113.65 -23126113.52 0.0303 0.0020

Uranus -68029-04-12 01:11 J -23126067.62 -23126067.45 -23126067.26 0.0144 0.0059

Saturn -68029-05-24 08:52 J -23126025.24 -23126025.13 -23126025.01 0.0303 0.0117

Uranus -68029-07-09 10:04 J -23125979.27 -23125979.08 -23125978.89 0.0144 0.0028

Saturn -68029-08-20 21:21 J -23125936.67 -23125936.61 -23125936.53 0.0302 0.0252

Uranus -68029-10-05 18:42 J -23125890.91 -23125890.72 -23125890.52 0.0144 0.0003

Mars -68029-12-29 23:45 J -23125805.68 -23125805.51 -23125805.35 0.1566 0.0186

Uranus -68028-01-02 03:21 J -23125802.55 -23125802.36 -23125802.17 0.0144 0.0033

Uranus -68028-03-31 11:45 J -23125714.17 -23125714.01 -23125713.82 0.0143 0.0064

Moon -68028-05-09 20:52 J -23125674.74 -23125674.63 -23125674.53 0.2701 0.0567

Earth -68028-05-09 21:21 J -23125674.71 -23125674.61 -23125674.50 0.2705 0.0520 *

Uranus -68028-06-27 20:23 J -23125625.79 -23125625.65 -23125625.49 0.0143 0.0095

Uranus -68028-09-24 05:01 J -23125537.38 -23125537.29 -23125537.19 0.0143 0.0125

Neptune -68025-06-25 17:01 J -23124531.83 -23124531.79 -23124531.75 0.0089 0.0084

Jupiter -68025-06-27 17:16 J -23124529.85 -23124529.78 -23124529.71 0.0527 0.0441

Neptune -68025-09-21 18:13 J -23124443.79 -23124443.74 -23124443.68 0.0089 0.0079

Jupiter -68025-09-24 22:33 J -23124440.68 -23124440.56 -23124440.43 0.0527 0.0039

Moon -68025-11-02 05:59 J -23124402.31 -23124402.25 -23124402.19 0.2626 0.2419

Earth -68025-11-02 06:57 J -23124402.29 -23124402.21 -23124402.12 0.2631 0.2225 *

Neptune -68025-12-18 19:40 J -23124355.75 -23124355.68 -23124355.61 0.0089 0.0074

Jupiter -68025-12-23 04:04 J -23124351.36 -23124351.33 -23124351.30 0.0526 0.0505

Neptune -68024-03-16 20:52 J -23124267.71 -23124267.63 -23124267.54 0.0089 0.0069

Neptune -68024-06-12 22:04 J -23124179.66 -23124179.58 -23124179.48 0.0089 0.0064

Neptune -68024-09-08 23:30 J -23124091.61 -23124091.52 -23124091.41 0.0089 0.0059

Mars -68024-09-10 15:21 J -23124089.97 -23124089.86 -23124089.76 0.1982 0.0666

Neptune -68024-12-06 00:42 J -23124003.56 -23124003.47 -23124003.35 0.0089 0.0054

Neptune -68023-03-04 02:09 J -23123915.51 -23123915.41 -23123915.29 0.0089 0.0049

Neptune -68023-05-31 03:21 J -23123827.46 -23123827.36 -23123827.23 0.0089 0.0044

Neptune -68023-08-27 04:47 J -23123739.41 -23123739.30 -23123739.18 0.0089 0.0038

Neptune -68023-11-23 06:13 J -23123651.36 -23123651.24 -23123651.12 0.0089 0.0033

Neptune -68022-02-19 07:25 J -23123563.31 -23123563.19 -23123563.06 0.0089 0.0028

Neptune -68022-05-18 08:52 J -23123475.26 -23123475.13 -23123475.00 0.0089 0.0023

Neptune -68022-08-14 10:04 J -23123387.21 -23123387.08 -23123386.95 0.0089 0.0018

Neptune -68022-11-10 11:30 J -23123299.15 -23123299.02 -23123298.89 0.0089 0.0013

Neptune -68021-02-06 12:42 J -23123211.10 -23123210.97 -23123210.84 0.0089 0.0008

Neptune -68021-05-04 14:09 J -23123123.05 -23123122.91 -23123122.78 0.0089 0.0003

Venus -68021-05-10 12:13 J -23123117.03 -23123116.99 -23123116.94 0.3817 0.3352

Neptune -68021-07-31 15:21 J -23123034.99 -23123034.86 -23123034.73 0.0089 0.0002

Neptune -68021-10-27 16:33 J -23122946.94 -23122946.81 -23122946.67 0.0089 0.0008

Neptune -68020-01-23 17:59 J -23122858.88 -23122858.75 -23122858.62 0.0089 0.0012

Neptune -68020-04-21 19:11 J -23122770.83 -23122770.70 -23122770.57 0.0089 0.0018

Neptune -68020-07-18 20:23 J -23122682.77 -23122682.65 -23122682.52 0.0089 0.0023

Neptune -68020-10-14 21:49 J -23122594.71 -23122594.59 -23122594.46 0.0089 0.0028

Neptune -68019-01-10 23:01 J -23122506.66 -23122506.54 -23122506.41 0.0089 0.0033

Neptune -68019-04-09 00:13 J -23122418.60 -23122418.49 -23122418.36 0.0089 0.0038

Mars -68019-05-22 01:54 J -23122375.57 -23122375.42 -23122375.27 0.1566 0.0700

Neptune -68019-07-06 01:40 J -23122330.54 -23122330.43 -23122330.31 0.0089 0.0043

Jupiter -68019-08-19 18:28 J -23122285.91 -23122285.73 -23122285.55 0.0499 0.0152

Neptune -68019-10-02 02:52 J -23122242.48 -23122242.38 -23122242.26 0.0089 0.0048

Jupiter -68019-11-18 06:13 J -23122195.30 -23122195.24 -23122195.18 0.0499 0.0471

Neptune -68019-12-29 04:04 J -23122154.43 -23122154.33 -23122154.22 0.0089 0.0053

Neptune -68018-03-27 05:30 J -23122066.37 -23122066.27 -23122066.17 0.0089 0.0058

Neptune -68018-06-23 06:42 J -23121978.30 -23121978.22 -23121978.12 0.0089 0.0063

Neptune -68018-09-19 07:54 J -23121890.24 -23121890.17 -23121890.08 0.0089 0.0068

Neptune -68018-12-16 09:21 J -23121802.18 -23121802.11 -23121802.03 0.0089 0.0073

Neptune -68017-03-13 10:33 J -23121714.11 -23121714.06 -23121713.99 0.0089 0.0078

Neptune -68017-06-09 11:45 J -23121626.04 -23121626.01 -23121625.95 0.0089 0.0083

Neptune -68017-09-05 13:11 J -23121537.96 -23121537.95 -23121537.93 0.0089 0.0088

Venus -68016-11-24 04:47 J -23121093.39 -23121093.30 -23121093.21 0.3816 0.1748

Moon -68015-05-12 14:23 J -23120924.00 -23120923.90 -23120923.79 0.2709 0.0531

Earth -68015-05-12 15:06 J -23120923.98 -23120923.87 -23120923.77 0.2707 0.0604 *

Mars -68014-01-31 22:47 J -23120659.60 -23120659.55 -23120659.50 0.1981 0.1752

Saturn -68014-03-14 08:09 J -23120618.31 -23120618.16 -23120618.00 0.0259 0.0158

Saturn -68014-06-11 05:01 J -23120529.48 -23120529.29 -23120529.10 0.0259 0.0030

Saturn -68014-09-08 01:54 J -23120440.59 -23120440.42 -23120440.24 0.0260 0.0100

Saturn -68014-12-05 23:01 J -23120351.63 -23120351.54 -23120351.45 0.0260 0.0230

Jupiter -68013-07-14 03:06 J -23120130.49 -23120130.37 -23120130.24 0.0527 0.0083

Jupiter -68013-10-11 08:37 J -23120041.23 -23120041.14 -23120041.06 0.0527 0.0391

Moon -68012-11-05 13:40 J -23119651.10 -23119650.93 -23119650.77 0.2626 0.0086

Earth -68012-11-05 15:21 J -23119651.03 -23119650.86 -23119650.70 0.2628 0.0147 *

Venus -68010-06-09 21:21 J -23119069.71 -23119069.61 -23119069.50 0.3815 0.0164

Earth -68008-05-05 14:52 J -23118373.91 -23118373.88 -23118373.84 0.2701 0.2519

Moon -68008-05-05 15:06 J -23118373.90 -23118373.87 -23118373.83 0.2694 0.2541 *

Jupiter -68007-06-07 15:06 J -23117976.01 -23117975.87 -23117975.71 0.0499 0.0305

Jupiter -68007-09-06 03:06 J -23117885.51 -23117885.37 -23117885.22 0.0499 0.0320

Venus -68005-12-23 14:09 J -23117046.01 -23117045.91 -23117045.82 0.3814 0.1539

Mars -68003-05-30 00:28 J -23116523.55 -23116523.48 -23116523.42 0.1982 0.1645

Moon -68002-05-15 08:09 J -23116173.24 -23116173.16 -23116173.07 0.2714 0.1631

Earth -68002-05-15 08:37 J -23116173.22 -23116173.14 -23116173.06 0.2709 0.1713 *

Jupiter -68001-05-02 07:54 J -23115820.29 -23115820.17 -23115820.06 0.0527 0.0196

Jupiter -68001-07-30 13:11 J -23115731.06 -23115730.95 -23115730.84 0.0526 0.0278

68TH MILLENNIUM BCE

This is a list of transits of Mercury in the 68th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Saturn	**-68000-04-17 08:23**	**J**	**-23115470.24**	**-23115470.15**	**-23115470.06**	**0.0304**	**0.0210**	
Saturn	**-68000-07-14 21:06**	**J**	**-23115381.74**	**-23115381.62**	**-23115381.49**	**0.0303**	**0.0072**	
Saturn	**-68000-10-11 09:49**	**J**	**-23115293.22**	**-23115293.09**	**-23115292.96**	**0.0303**	**0.0065**	
Saturn	**-67999-01-07 22:18**	**J**	**-23115204.66**	**-23115204.57**	**-23115204.47**	**0.0302**	**0.0201**	
Venus	**-67999-07-09 06:57**	**J**	**-23115022.27**	**-23115022.21**	**-23115022.16**	**0.3812**	**0.3217**	
Moon	**-67999-11-08 21:49**	**J**	**-23114899.67**	**-23114899.59**	**-23114899.51**	**0.2628**	**0.2256**	
Earth	**-67999-11-08 23:30**	**J**	**-23114899.56**	**-23114899.52**	**-23114899.47**	**0.2626**	**0.2500**	*****
Mars	**-67998-02-07 21:49**	**J**	**-23114808.69**	**-23114808.59**	**-23114808.48**	**0.1566**	**0.1191**	
Pluto	**-67996-12-12 15:35**	**J**	**-23113769.86**	**-23113769.85**	**-23113769.79**	**0.0060**	**0.0060**	
Pluto	**-67995-03-10 16:47**	**J**	**-23113681.85**	**-23113681.80**	**-23113681.70**	**0.0060**	**0.0055**	
Jupiter	**-67995-03-26 11:01**	**J**	**-23113666.10**	**-23113666.04**	**-23113665.98**	**0.0499**	**0.0468**	
Moon	**-67995-05-08 08:23**	**J**	**-23113623.25**	**-23113623.15**	**-23113623.06**	**0.2697**	**0.1384**	
Earth	**-67995-05-08 08:37**	**J**	**-23113623.23**	**-23113623.14**	**-23113623.05**	**0.2703**	**0.1406**	*****
Pluto	**-67995-06-06 17:59**	**J**	**-23113593.83**	**-23113593.75**	**-23113593.62**	**0.0061**	**0.0050**	
Jupiter	**-67995-06-24 23:01**	**J**	**-23113575.72**	**-23113575.54**	**-23113575.36**	**0.0499**	**0.0157**	
Pluto	**-67995-09-02 19:11**	**J**	**-23113505.80**	**-23113505.70**	**-23113505.56**	**0.0061**	**0.0045**	
Pluto	**-67995-11-29 20:23**	**J**	**-23113417.77**	**-23113417.65**	**-23113417.49**	**0.0061**	**0.0040**	
Pluto	**-67994-02-25 22:04**	**J**	**-23113329.73**	**-23113329.58**	**-23113329.43**	**0.0061**	**0.0034**	
Pluto	**-67994-05-24 23:16**	**J**	**-23113241.69**	**-23113241.53**	**-23113241.37**	**0.0061**	**0.0029**	

Pluto -67994-08-21 00:13 J -23113153.64 -23113153.49 -23113153.31 0.0061 0.0024

Mars -67994-10-20 07:40 J -23113093.29 -23113093.18 -23113093.07 0.1983 0.0545

Pluto -67994-11-17 01:25 J -23113065.60 -23113065.44 -23113065.25 0.0061 0.0019

Pluto -67993-02-13 02:52 J -23112977.55 -23112977.38 -23112977.20 0.0061 0.0014

Pluto -67993-05-11 04:18 J -23112889.50 -23112889.32 -23112889.14 0.0061 0.0008

Pluto -67993-08-07 05:30 J -23112801.45 -23112801.27 -23112801.09 0.0061 0.0003

Pluto -67993-11-03 06:42 J -23112713.40 -23112713.22 -23112713.03 0.0061 0.0002

Pluto -67992-01-30 08:09 J -23112625.35 -23112625.16 -23112624.98 0.0061 0.0008

Pluto -67992-04-28 09:06 J -23112537.29 -23112537.12 -23112536.93 0.0061 0.0013

Pluto -67992-07-25 10:18 J -23112449.23 -23112449.07 -23112448.88 0.0061 0.0019

Pluto -67992-10-21 11:45 J -23112361.17 -23112361.01 -23112360.84 0.0061 0.0024

Pluto -67991-01-17 12:42 J -23112273.11 -23112272.97 -23112272.79 0.0062 0.0030

Pluto -67991-04-15 14:09 J -23112185.05 -23112184.91 -23112184.75 0.0062 0.0035

Pluto -67991-07-12 15:21 J -23112096.98 -23112096.86 -23112096.71 0.0062 0.0041

Pluto -67991-10-08 16:47 J -23112008.91 -23112008.80 -23112008.67 0.0062 0.0046

Pluto -67990-01-04 17:45 J -23111920.83 -23111920.76 -23111920.63 0.0062 0.0052

Pluto -67990-04-02 19:25 J -23111832.75 -23111832.69 -23111832.61 0.0062 0.0057

Jupiter -67989-02-19 12:28 J -23111510.08 -23111509.98 -23111509.88 0.0527 0.0308

Jupiter -67989-05-18 17:45 J -23111420.88 -23111420.76 -23111420.64 0.0526 0.0166

Mars -67989-06-30 00:13 J -23111378.66 -23111378.49 -23111378.32 0.1566 0.0314

Uranus -67986-07-05 06:13 J -23110278.29 -23110278.24 -23110278.19 0.0134 0.0123

Uranus -67986-10-01 09:06 J -23110190.19 -23110190.12 -23110190.03 0.0134 0.0106

Uranus -67986-12-28 12:13 J -23110102.09 -23110101.99 -23110101.89 0.0134 0.0090

Uranus -67985-03-25 15:06 J -23110013.98 -23110013.87 -23110013.76 0.0134 0.0073

Uranus -67985-06-21 17:59 J -23109925.86 -23109925.75 -23109925.62 0.0135 0.0057

Saturn -67985-07-31 06:42 J -23109886.33 -23109886.22 -23109886.09 0.0259 0.0199

Uranus -67985-09-17 21:06 J -23109837.74 -23109837.62 -23109837.49 0.0135 0.0040

Saturn -67985-10-28 03:35 J -23109797.53 -23109797.35 -23109797.16 0.0259 0.0071

Uranus -67985-12-15 00:13 J -23109749.62 -23109749.49 -23109749.36 0.0135 0.0023

Saturn -67984-01-25 00:28 J -23109708.67 -23109708.48 -23109708.29 0.0259 0.0058

Mars -67984-03-11 15:21 J -23109662.97 -23109662.86 -23109662.75 0.1982 0.0545

Uranus -67984-03-13 03:06 J -23109661.50 -23109661.37 -23109661.24 0.0135 0.0006

Saturn -67984-04-23 21:21 J -23109619.74 -23109619.61 -23109619.47 0.0260 0.0188

Uranus -67984-06-09 06:13 J -23109573.37 -23109573.24 -23109573.11 0.0135 0.0012

Venus -67984-08-01 23:59 J -23109519.64 -23109519.50 -23109519.36 0.3564 0.1433

Uranus -67984-09-05 09:06 J -23109485.25 -23109485.12 -23109484.99 0.0135 0.0028

Uranus -67984-12-02 12:13 J -23109397.11 -23109396.99 -23109396.87 0.0135 0.0045

Uranus -67983-02-28 15:06 J -23109308.98 -23109308.87 -23109308.75 0.0135 0.0062

Jupiter -67983-04-12 20:09 J -23109265.85 -23109265.66 -23109265.47 0.0499 0.0008

Uranus -67983-05-27 18:13 J -23109220.84 -23109220.74 -23109220.63 0.0136 0.0079

Uranus -67983-08-23 21:06 J -23109132.70 -23109132.62 -23109132.52 0.0136 0.0097

Uranus -67983-11-20 00:13 J -23109044.55 -23109044.49 -23109044.41 0.0136 0.0114

Uranus -67982-02-16 03:21 J -23108956.39 -23108956.36 -23108956.33 0.0136 0.0131

Moon -67982-05-11 01:40 J -23108872.54 -23108872.43 -23108872.33 0.2701 0.0402

Earth -67982-05-11 02:09 J -23108872.51 -23108872.41 -23108872.30 0.2705 0.0298 *

Mars -67980-11-20 02:37 J -23107948.55 -23107948.39 -23107948.23 0.1566 0.0559

Moon -67979-11-03 12:42 J -23107600.09 -23107599.97 -23107599.85 0.2625 0.1795

Earth -67979-11-03 13:54 J -23107600.04 -23107599.92 -23107599.81 0.2631 0.1779 *

Venus -67978-02-16 05:45 J -23107495.38 -23107495.26 -23107495.13 0.3565 0.2123

Jupiter -67978-12-08 16:33 J -23107199.88 -23107199.81 -23107199.74 0.0527 0.0429

Jupiter -67977-03-06 22:04 J -23107110.71 -23107110.58 -23107110.46 0.0526 0.0048

Jupiter -67977-06-04 03:21 J -23107021.38 -23107021.36 -23107021.34 0.0526 0.0515

Mars -67975-08-01 22:47 J -23106232.61 -23106232.55 -23106232.49 0.1981 0.1638

Jupiter -67971-01-29 17:16 J -23104955.96 -23104955.78 -23104955.60 0.0499 0.0143

Jupiter -67971-04-30 05:16 J -23104865.32 -23104865.28 -23104865.23 0.0500 0.0483

Saturn -67971-09-04 09:21 J -23104738.17 -23104738.11 -23104738.04 0.0304 0.0260

Saturn -67971-12-01 22:04 J -23104649.69 -23104649.58 -23104649.46 0.0304 0.0122

Saturn -67970-02-28 10:47 J -23104561.18 -23104561.05 -23104560.92 0.0303 0.0018

Mars -67970-04-12 05:01 J -23104518.36 -23104518.29 -23104518.23 0.1566 0.1433

Saturn -67970-05-27 23:30 J -23104472.63 -23104472.52 -23104472.41 0.0303 0.0152

Saturn -67970-08-24 11:59 J -23104384.04 -23104384.00 -23104383.96 0.0302 0.0287

Moon -67969-05-12 19:11 J -23104121.80 -23104121.70 -23104121.60 0.2710 0.0769

Earth -67969-05-12 19:54 J -23104121.78 -23104121.67 -23104121.57 0.2707 0.0825 *

Moon -67966-11-06 20:23 J -23102848.81 -23102848.65 -23102848.49 0.2627 0.0306

Earth -67966-11-06 22:04 J -23102848.74 -23102848.58 -23102848.42 0.2628 0.0581 *

Jupiter -67966-12-25 02:23 J -23102800.53 -23102800.40 -23102800.28 0.0527 0.0074

Jupiter -67965-03-23 07:40 J -23102711.26 -23102711.18 -23102711.10 0.0526 0.0400

Venus -67965-12-15 10:04 J -23102444.15 -23102444.08 -23102444.01 0.3816 0.2792

Mars -67964-11-28 00:28 J -23102096.53 -23102096.48 -23102096.43 0.1982 0.1755

Moon -67962-05-06 19:54 J -23101571.73 -23101571.67 -23101571.61 0.2695 0.2202

Earth -67962-05-06 19:40 J -23101571.73 -23101571.68 -23101571.62 0.2701 0.2294 *

Jupiter -67960-11-17 14:23 J -23100646.05 -23100645.90 -23100645.75 0.0499 0.0293

Jupiter -67959-02-16 02:23 J -23100555.54 -23100555.40 -23100555.26 0.0499 0.0331

Venus -67959-07-01 02:37 J -23100420.49 -23100420.39 -23100420.30 0.3816 0.1188

Mars -67959-08-08 22:47 J -23100381.64 -23100381.55 -23100381.46 0.1565 0.1330

Moon -67956-05-15 13:11 J -23099371.03 -23099370.95 -23099370.88 0.2715 0.1930

Earth -67956-05-15 13:25 J -23099371.01 -23099370.94 -23099370.87 0.2709 0.1934 *

Saturn -67956-12-18 04:33 J -23099154.36 -23099154.31 -23099154.24 0.0259 0.0243

Saturn -67955-03-17 01:25 J -23099065.61 -23099065.44 -23099065.27 0.0259 0.0116

Saturn -67955-06-13 22:04 J -23098976.77 -23098976.58 -23098976.38 0.0259 0.0013

Saturn -67955-09-10 18:57 J -23098887.87 -23098887.71 -23098887.54 0.0260 0.0142

Mars -67954-04-20 07:54 J -23098666.28 -23098666.17 -23098666.07 0.1983 0.0666

Jupiter -67954-10-13 06:42 J -23098490.33 -23098490.22 -23098490.10 0.0527 0.0190

Jupiter -67953-01-10 12:13 J -23098401.10 -23098400.99 -23098400.88 0.0526 0.0285

Venus -67953-01-14 19:11 J -23098396.80 -23098396.70 -23098396.60 0.3815 0.0473

Mars -67950-12-30 00:57 J -23096951.62 -23096951.46 -23096951.30 0.1565 0.0450

Moon -67949-05-08 12:57 J -23096821.05 -23096820.96 -23096820.86 0.2697 0.1283

Earth -67949-05-08 13:25 J -23096821.04 -23096820.94 -23096820.85 0.2703 0.1178 *

Venus -67948-07-30 11:45 J -23096373.09 -23096373.01 -23096372.92 0.3813 0.2135

Jupiter -67948-09-05 11:16 J -23096336.11 -23096336.03 -23096335.94 0.0499 0.0444

Jupiter -67948-12-04 23:16 J -23096245.70 -23096245.53 -23096245.35 0.0499 0.0180

Uranus -67946-11-07 14:23 J -23095543.00 -23095542.90 -23095542.78 0.0144 0.0116

Uranus -67945-02-03 23:16 J -23095454.68 -23095454.53 -23095454.37 0.0144 0.0085

Uranus -67945-05-02 07:54 J -23095366.34 -23095366.17 -23095365.98 0.0144 0.0054

Uranus -67945-07-29 16:47 J -23095277.99 -23095277.80 -23095277.61 0.0144 0.0023

Mars -67945-09-09 15:21 J -23095235.98 -23095235.86 -23095235.75 0.1982 0.0443

Uranus -67945-10-26 01:25 J -23095189.63 -23095189.44 -23095189.24 0.0144 0.0008

Uranus -67944-01-22 10:04 J -23095101.27 -23095101.08 -23095100.89 0.0144 0.0039

Uranus -67944-04-20 18:28 J -23095012.89 -23095012.73 -23095012.55 0.0143 0.0070

Uranus -67944-07-18 03:06 J -23094924.50 -23094924.37 -23094924.22 0.0143 0.0100

Uranus -67944-10-14 11:59 J -23094836.08 -23094836.00 -23094835.92 0.0143 0.0130

Neptune -67942-06-13 11:59 J -23094229.03 -23094229.00 -23094228.94 0.0089 0.0086

Jupiter -67942-08-01 11:30 J -23094180.12 -23094180.02 -23094179.92 0.0527 0.0301

Neptune -67942-09-09 15:35 J -23094140.92 -23094140.85 -23094140.74 0.0089 0.0079

Jupiter -67942-10-29 17:01 J -23094090.91 -23094090.79 -23094090.67 0.0526 0.0174

Neptune -67942-12-06 19:25 J -23094052.80 -23094052.69 -23094052.56 0.0089 0.0071

Neptune -67941-03-03 23:01 J -23093964.66 -23093964.54 -23093964.39 0.0089 0.0064

Saturn -67941-04-19 22:33 J -23093917.66 -23093917.56 -23093917.45 0.0304 0.0178

Neptune -67941-05-31 02:52 J -23093876.52 -23093876.38 -23093876.22 0.0089 0.0056

Saturn -67941-07-17 11:16 J -23093829.16 -23093829.03 -23093828.90 0.0303 0.0040

Neptune -67941-08-27 06:28 J -23093788.38 -23093788.23 -23093788.06 0.0089 0.0049

Saturn -67941-10-13 23:59 J -23093740.62 -23093740.50 -23093740.38 0.0303 0.0097

Neptune -67941-11-23 10:18 J -23093700.24 -23093700.07 -23093699.89 0.0089 0.0041

Saturn -67940-01-10 12:28 J -23093652.06 -23093651.98 -23093651.89 0.0302 0.0233

Neptune -67940-02-19 13:54 J -23093612.09 -23093611.92 -23093611.73 0.0089 0.0034

Neptune -67940-05-18 17:45 J -23093523.95 -23093523.76 -23093523.57 0.0089 0.0026

Mars -67940-05-21 03:21 J -23093521.53 -23093521.36 -23093521.20 0.1566 0.0427

Neptune -67940-08-14 21:21 J -23093435.80 -23093435.61 -23093435.41 0.0089 0.0019

Neptune -67940-11-11 01:11 J -23093347.64 -23093347.45 -23093347.25 0.0089 0.0011

Neptune -67939-02-07 05:01 J -23093259.49 -23093259.29 -23093259.10 0.0089 0.0004

Neptune -67939-05-06 08:37 J -23093171.34 -23093171.14 -23093170.94 0.0089 0.0004

Neptune -67939-08-02 12:13 J -23093083.18 -23093082.99 -23093082.79 0.0089 0.0012

Neptune -67939-10-29 16:04 J -23092995.02 -23092994.83 -23092994.64 0.0089 0.0019

Neptune -67938-01-25 19:40 J -23092906.86 -23092906.68 -23092906.48 0.0089 0.0027

Neptune -67938-04-23 23:30 J -23092818.70 -23092818.52 -23092818.34 0.0089 0.0034

Neptune -67938-07-21 03:06 J -23092730.53 -23092730.37 -23092730.19 0.0089 0.0042

Neptune -67938-10-17 06:42 J -23092642.37 -23092642.22 -23092642.04 0.0089 0.0050

Neptune -67937-01-13 10:33 J -23092554.20 -23092554.06 -23092553.90 0.0089 0.0057

Neptune -67937-04-10 14:09 J -23092466.03 -23092465.91 -23092465.76 0.0089 0.0065

Neptune -67937-07-07 17:59 J -23092377.85 -23092377.75 -23092377.62 0.0089 0.0072

Neptune -67937-10-03 21:35 J -23092289.67 -23092289.60 -23092289.50 0.0089 0.0080

Neptune -67937-12-31 01:25 J -23092201.46 -23092201.44 -23092201.39 0.0089 0.0087

Moon -67936-05-11 06:28 J -23092070.34 -23092070.23 -23092070.13 0.2703 0.0118

Earth -67936-05-11 06:57 J -23092070.31 -23092070.21 -23092070.10 0.2705 0.0104 *

Jupiter -67936-09-22 18:57 J -23091935.90 -23091935.71 -23091935.52 0.0499 0.0015

Mars -67935-01-30 22:33 J -23091805.63 -23091805.56 -23091805.49 0.1981 0.1536

Moon -67933-11-03 19:25 J -23090797.82 -23090797.69 -23090797.55 0.2625 0.1503

Earth -67933-11-03 20:37 J -23090797.78 -23090797.64 -23090797.50 0.2630 0.1321 *

Mars -67931-10-11 05:30 J -23090091.36 -23090091.27 -23090091.17 0.1567 0.1300

Jupiter -67930-05-20 16:18 J -23089869.90 -23089869.82 -23089869.74 0.0527 0.0412

Jupiter -67930-08-17 21:35 J -23089780.72 -23089780.60 -23089780.47 0.0526 0.0062

Venus -67927-03-09 01:11 J -23088846.60 -23088846.45 -23088846.29 0.3564 0.0240

Saturn -67926-08-03 23:45 J -23088333.66 -23088333.51 -23088333.35 0.0258 0.0158

Saturn -67926-10-31 20:37 J -23088244.83 -23088244.64 -23088244.45 0.0259 0.0030

Saturn -67925-01-28 17:30 J -23088155.95 -23088155.77 -23088155.59 0.0259 0.0099

Saturn -67925-04-26 14:09 J -23088066.99 -23088066.91 -23088066.81 0.0260 0.0229

Mars -67924-05-29 00:28 J -23087669.52 -23087669.48 -23087669.45 0.1983 0.1871

Jupiter -67924-07-11 16:04 J -23087626.01 -23087625.83 -23087625.65 0.0499 0.0135

Jupiter -67924-10-10 04:04 J -23087535.36 -23087535.33 -23087535.30 0.0500 0.0492

Moon -67923-05-13 23:59 J -23087319.60 -23087319.50 -23087319.40 0.2711 0.0948

Earth -67923-05-14 00:42 J -23087319.57 -23087319.47 -23087319.37 0.2707 0.1052 *

Venus -67922-09-23 06:57 J -23086822.26 -23086822.21 -23086822.15 0.3566 0.3289

Moon -67920-11-07 03:06 J -23086046.53 -23086046.37 -23086046.22 0.2628 0.0956

Earth -67920-11-07 04:47 J -23086046.44 -23086046.30 -23086046.15 0.2628 0.1033 *

Mars -67919-02-06 23:30 J -23085954.58 -23085954.52 -23085954.47 0.1566 0.1466

Jupiter -67918-06-06 01:54 J -23085470.55 -23085470.42 -23085470.30 0.0526 0.0062

Jupiter -67918-09-03 07:11 J -23085381.28 -23085381.20 -23085381.13 0.0526 0.0413

Earth -67916-05-07 00:28 J -23084769.55 -23084769.48 -23084769.41 0.2701 0.2068

Moon -67916-05-07 00:42 J -23084769.54 -23084769.47 -23084769.41 0.2695 0.2094 *

Mars -67915-10-19 07:54 J -23084239.28 -23084239.17 -23084239.07 0.1982 0.0782

Jupiter -67912-04-29 13:25 J -23083316.10 -23083315.94 -23083315.79 0.0499 0.0283

Jupiter -67912-07-29 01:25 J -23083225.58 -23083225.44 -23083225.31 0.0500 0.0344

Saturn -67912-09-06 23:16 J -23083185.61 -23083185.53 -23083185.44 0.0304 0.0230

Saturn -67912-12-04 12:13 J -23083097.11 -23083096.99 -23083096.87 0.0304 0.0091

Saturn -67911-03-03 00:57 J -23083008.59 -23083008.46 -23083008.33 0.0303 0.0047

Saturn -67911-05-30 13:25 J -23082920.04 -23082919.94 -23082919.84 0.0303 0.0183

Moon -67910-05-16 17:59 J -23082568.81 -23082568.75 -23082568.68 0.2716 0.2150

Earth -67910-05-16 18:13 J -23082568.80 -23082568.74 -23082568.68 0.2709 0.2156 *

Mars -67910-06-30 01:40 J -23082524.58 -23082524.43 -23082524.27 0.1565 0.0593

Venus -67908-07-22 07:40 J -23081771.26 -23081771.18 -23081771.10 0.3816 0.2229

Jupiter -67906-03-25 06:13 J -23081160.36 -23081160.24 -23081160.12 0.0526 0.0178

Jupiter -67906-06-22 11:30 J -23081071.12 -23081071.02 -23081070.92 0.0526 0.0296

Mars -67905-03-10 15:06 J -23080808.98 -23080808.87 -23080808.75 0.1982 0.0332

Moon -67903-05-09 17:45 J -23080018.86 -23080018.76 -23080018.66 0.2698 0.0935

Earth -67903-05-09 18:13 J -23080018.84 -23080018.74 -23080018.64 0.2704 0.0953 *

Pluto -67902-01-22 05:30 J -23079761.27 -23079761.27 -23079761.26 0.0084 0.0084

Venus -67902-02-05 00:13 J -23079747.59 -23079747.49 -23079747.39 0.3816 0.0600

Pluto -67902-04-20 06:42 J -23079673.27 -23079673.22 -23079673.14 0.0084 0.0074

Pluto -67902-07-17 08:23 J -23079585.23 -23079585.15 -23079585.05 0.0084 0.0062

Uranus -67902-07-25 12:28 J -23079577.02 -23079576.98 -23079576.91 0.0134 0.0122

Pluto -67902-10-13 10:04 J -23079497.19 -23079497.08 -23079496.97 0.0084 0.0051

Uranus -67902-10-21 15:35 J -23079488.92 -23079488.85 -23079488.76 0.0134 0.0105

Pluto -67901-01-09 11:30 J -23079409.14 -23079409.02 -23079408.89 0.0084 0.0041

Uranus -67901-01-17 18:42 J -23079400.82 -23079400.72 -23079400.62 0.0134 0.0089

Pluto -67901-04-06 13:11 J -23079321.08 -23079320.95 -23079320.82 0.0084 0.0030

Uranus -67901-04-14 21:35 J -23079312.71 -23079312.60 -23079312.49 0.0134 0.0072

Pluto -67901-07-03 14:37 J -23079233.03 -23079232.89 -23079232.75 0.0084 0.0020

Uranus -67901-07-12 00:28 J -23079224.59 -23079224.48 -23079224.35 0.0135 0.0056

Pluto -67901-09-29 16:04 J -23079144.97 -23079144.83 -23079144.69 0.0083 0.0009

Uranus -67901-10-08 03:35 J -23079136.47 -23079136.35 -23079136.22 0.0135 0.0039

Mars -67901-11-19 04:04 J -23079094.50 -23079094.33 -23079094.16 0.1566 0.0287

Pluto -67901-12-26 17:30 J -23079056.91 -23079056.77 -23079056.63 0.0083 0.0001

Uranus -67900-01-04 06:42 J -23079048.35 -23079048.22 -23079048.09 0.0135 0.0022

Jupiter -67900-02-15 10:33 J -23079006.15 -23079006.06 -23079005.97 0.0499 0.0433

Pluto -67900-03-24 18:57 J -23078968.85 -23078968.71 -23078968.57 0.0083 0.0012

Uranus -67900-04-02 09:35 J -23078960.23 -23078960.10 -23078959.97 0.0135 0.0005

Jupiter -67900-05-16 22:33 J -23078915.73 -23078915.56 -23078915.39 0.0499 0.0193

Pluto -67900-06-20 20:23 J -23078880.78 -23078880.65 -23078880.51 0.0083 0.0022

Uranus -67900-06-29 12:42 J -23078872.10 -23078871.97 -23078871.84 0.0135 0.0012

Pluto -67900-09-16 21:35 J -23078792.72 -23078792.60 -23078792.46 0.0083 0.0032

Uranus -67900-09-25 15:35 J -23078783.98 -23078783.85 -23078783.72 0.0135 0.0029

Pluto -67900-12-13 23:01 J -23078704.65 -23078704.54 -23078704.41 0.0083 0.0042

Uranus -67900-12-22 18:28 J -23078695.85 -23078695.73 -23078695.60 0.0135 0.0046

Pluto -67899-03-12 00:28 J -23078616.58 -23078616.48 -23078616.37 0.0083 0.0052

Uranus -67899-03-20 21:35 J -23078607.71 -23078607.60 -23078607.48 0.0135 0.0063

Pluto -67899-06-08 01:54 J -23078528.51 -23078528.42 -23078528.32 0.0083 0.0062

Uranus -67899-06-17 00:28 J -23078519.58 -23078519.48 -23078519.37 0.0135 0.0081

Pluto -67899-09-04 03:06 J -23078440.43 -23078440.37 -23078440.29 0.0082 0.0072

Uranus -67899-09-13 03:35 J -23078431.43 -23078431.35 -23078431.25 0.0136 0.0097

Pluto -67899-12-01 04:18 J -23078352.32 -23078352.32 -23078352.28 0.0082 0.0082

Uranus -67899-12-10 06:42 J -23078343.28 -23078343.22 -23078343.15 0.0136 0.0114

Uranus -67898-03-08 09:35 J -23078255.12 -23078255.10 -23078255.06 0.0136 0.0132

Venus -67897-08-20 16:47 J -23077723.90 -23077723.80 -23077723.70 0.3814 0.1056

Saturn -67897-12-20 21:35 J -23077601.71 -23077601.60 -23077601.48 0.0259 0.0203

Saturn -67896-03-19 18:13 J -23077512.92 -23077512.74 -23077512.55 0.0259 0.0076

Saturn -67896-06-16 15:06 J -23077424.06 -23077423.87 -23077423.68 0.0259 0.0053

Mars -67896-07-31 22:47 J -23077378.63 -23077378.55 -23077378.47 0.1981 0.1408

Saturn -67896-09-13 11:45 J -23077335.13 -23077335.01 -23077334.86 0.0260 0.0183

Jupiter -67894-01-11 10:33 J -23076850.16 -23076850.06 -23076849.95 0.0527 0.0294

Jupiter -67894-04-10 16:04 J -23076760.95 -23076760.83 -23076760.72 0.0526 0.0182

Venus -67891-03-06 09:35 J -23075700.17 -23075700.10 -23075700.03 0.3813 0.2721

Mars -67891-04-11 06:13 J -23075664.35 -23075664.24 -23075664.12 0.1566 0.1165

Moon -67890-05-12 11:16 J -23075268.14 -23075268.03 -23075267.93 0.2706 0.0114

Earth -67890-05-12 11:45 J -23075268.11 -23075268.01 -23075267.90 0.2706 0.0181 *

Jupiter -67888-03-04 19:25 J -23074605.88 -23074605.69 -23074605.50 0.0499 0.0041

Moon -67887-11-05 02:09 J -23073995.57 -23073995.41 -23073995.26 0.2626 0.0979

Earth -67887-11-05 03:21 J -23073995.51 -23073995.36 -23073995.20 0.2630 0.0880 *

Jupiter -67883-10-30 15:21 J -23072539.94 -23072539.86 -23072539.78 0.0527 0.0404

Saturn -67882-01-24 23:30 J -23072453.55 -23072453.52 -23072453.47 0.0304 0.0287

Jupiter -67882-01-27 20:52 J -23072450.76 -23072450.63 -23072450.51 0.0526 0.0072

Saturn -67882-04-23 12:28 J -23072365.09 -23072364.98 -23072364.86 0.0304 0.0148

Saturn -67882-07-21 01:11 J -23072276.57 -23072276.45 -23072276.32 0.0303 0.0013

Saturn -67882-10-17 13:54 J -23072188.03 -23072187.92 -23072187.80 0.0303 0.0127

Saturn -67881-01-14 02:23 J -23072099.45 -23072099.40 -23072099.33 0.0302 0.0263

Moon -67877-05-14 04:47 J -23070517.39 -23070517.30 -23070517.20 0.2711 0.1245

Earth -67877-05-14 05:30 J -23070517.37 -23070517.27 -23070517.18 0.2708 0.1275 *

Jupiter -67877-12-21 14:52 J -23070296.06 -23070295.88 -23070295.70 0.0499 0.0126

Venus -67876-03-29 20:23 J -23070197.75 -23070197.65 -23070197.54 0.3563 0.2639

Mars -67875-04-19 07:40 J -23069812.28 -23069812.18 -23069812.08 0.1983 0.0877

Moon -67874-11-08 09:49 J -23069244.23 -23069244.09 -23069243.94 0.2627 0.1202

Earth -67874-11-08 11:45 J -23069244.14 -23069244.01 -23069243.88 0.2627 0.1487 *

Jupiter -67871-08-18 20:09 J -23068229.68 -23068229.66 -23068229.64 0.0527 0.0515

Venus -67871-10-14 02:37 J -23068173.54 -23068173.39 -23068173.25 0.3564 0.0977

Jupiter -67871-11-16 01:25 J -23068140.56 -23068140.44 -23068140.31 0.0526 0.0045

Mars -67871-12-29 02:23 J -23068097.55 -23068097.40 -23068097.25 0.1566 0.0727

Jupiter -67870-02-13 06:57 J -23068051.28 -23068051.21 -23068051.14 0.0526 0.0432

Moon -67870-05-08 05:16 J -23067967.36 -23067967.28 -23067967.20 0.2695 0.1821

Earth -67870-05-08 05:16 J -23067967.36 -23067967.28 -23067967.20 0.2702 0.1843 *

Saturn -67867-05-09 20:09 J -23066869.72 -23066869.66 -23066869.60 0.0258 0.0244

Saturn -67867-08-06 16:47 J -23066780.97 -23066780.80 -23066780.63 0.0258 0.0117

Saturn -67867-11-03 13:40 J -23066692.13 -23066691.93 -23066691.74 0.0259 0.0011

Saturn -67866-01-31 10:18 J -23066603.23 -23066603.07 -23066602.90 0.0259 0.0140

Mars -67866-09-09 15:21 J -23066381.97 -23066381.86 -23066381.75 0.1982 0.0197

Jupiter -67865-10-09 11:59 J -23065986.15 -23065986.00 -23065985.84 0.0499 0.0276

Jupiter -67864-01-07 23:59 J -23065895.63 -23065895.50 -23065895.36 0.0500 0.0352

Moon -67864-05-16 23:01 J -23065766.59 -23065766.54 -23065766.49 0.2717 0.2365

Earth -67864-05-16 23:01 J -23065766.59 -23065766.54 -23065766.49 0.2709 0.2381 *

Uranus -67862-11-27 19:54 J -23064841.78 -23064841.67 -23064841.55 0.0144 0.0116

Uranus -67861-02-24 04:47 J -23064753.46 -23064753.30 -23064753.14 0.0144 0.0085

Mars -67861-05-20 04:47 J -23064667.47 -23064667.30 -23064667.13 0.1566 0.0148

Uranus -67861-05-22 13:25 J -23064665.12 -23064664.94 -23064664.76 0.0144 0.0053

Uranus -67861-08-18 22:04 J -23064576.77 -23064576.58 -23064576.38 0.0144 0.0023

Uranus -67861-11-15 06:57 J -23064488.41 -23064488.21 -23064488.02 0.0144 0.0009

Neptune -67861-12-24 15:35 J -23064448.87 -23064448.85 -23064448.82 0.0089 0.0087

Uranus -67860-02-11 15:21 J -23064400.04 -23064399.86 -23064399.66 0.0144 0.0039

Neptune -67860-03-22 16:47 J -23064360.84 -23064360.80 -23064360.74 0.0089 0.0082

Uranus -67860-05-10 23:59 J -23064311.66 -23064311.50 -23064311.32 0.0144 0.0070

Neptune -67860-06-18 18:13 J -23064272.80 -23064272.74 -23064272.67 0.0089 0.0077

Uranus -67860-08-07 08:23 J -23064223.27 -23064223.15 -23064223.00 0.0143 0.0101

Neptune -67860-09-14 19:25 J -23064184.75 -23064184.69 -23064184.60 0.0089 0.0072

Uranus -67860-11-03 17:01 J -23064134.86 -23064134.79 -23064134.70 0.0143 0.0131

Neptune -67860-12-11 21:06 J -23064096.71 -23064096.62 -23064096.53 0.0089 0.0066

Neptune -67859-03-09 22:18 J -23064008.66 -23064008.57 -23064008.47 0.0089 0.0061

Neptune -67859-06-05 23:45 J -23063920.61 -23063920.51 -23063920.41 0.0089 0.0056

Neptune -67859-09-02 00:57 J -23063832.56 -23063832.46 -23063832.35 0.0089 0.0051

Jupiter -67859-09-04 05:45 J -23063830.38 -23063830.26 -23063830.14 0.0526 0.0163

Neptune -67859-11-29 02:23 J -23063744.51 -23063744.40 -23063744.29 0.0089 0.0046

Jupiter -67859-12-02 11:01 J -23063741.14 -23063741.04 -23063740.94 0.0526 0.0311

Neptune -67858-02-25 03:35 J -23063656.46 -23063656.35 -23063656.23 0.0089 0.0041

Neptune -67858-05-24 04:47 J -23063568.41 -23063568.30 -23063568.17 0.0089 0.0036

Neptune -67858-08-20 06:13 J -23063480.36 -23063480.24 -23063480.11 0.0089 0.0031

Neptune -67858-11-16 07:25 J -23063392.31 -23063392.19 -23063392.05 0.0089 0.0026

Neptune -67857-02-12 08:52 J -23063304.26 -23063304.13 -23063304.00 0.0089 0.0020

Moon -67857-05-09 22:33 J -23063216.66 -23063216.56 -23063216.46 0.2698 0.0833

Earth -67857-05-09 23:01 J -23063216.65 -23063216.54 -23063216.44 0.2704 0.0729 *

Neptune -67857-05-10 10:04 J -23063216.20 -23063216.08 -23063215.94 0.0089 0.0016

Neptune -67857-08-06 11:30 J -23063128.15 -23063128.02 -23063127.89 0.0089 0.0010

Venus -67857-08-12 12:57 J -23063122.01 -23063121.96 -23063121.91 0.3817 0.3273

Neptune -67857-11-02 12:57 J -23063040.10 -23063039.96 -23063039.83 0.0089 0.0006

Neptune -67856-01-29 14:09 J -23062952.04 -23062951.91 -23062951.78 0.0089 0.0001

Mars -67856-01-29 22:47 J -23062951.64 -23062951.55 -23062951.47 0.1981 0.1302

Neptune -67856-04-27 15:21 J -23062863.99 -23062863.86 -23062863.72 0.0089 0.0006

Neptune -67856-07-24 16:47 J -23062775.93 -23062775.80 -23062775.67 0.0089 0.0010

Neptune -67856-10-20 17:59 J -23062687.88 -23062687.75 -23062687.62 0.0089 0.0015

Neptune -67855-01-16 19:11 J -23062599.82 -23062599.70 -23062599.56 0.0089 0.0021

Neptune -67855-04-14 20:37 J -23062511.76 -23062511.64 -23062511.51 0.0089 0.0025

Neptune -67855-07-11 21:49 J -23062423.71 -23062423.59 -23062423.46 0.0089 0.0031

Neptune -67855-10-07 23:01 J -23062335.65 -23062335.54 -23062335.41 0.0089 0.0036

Neptune -67854-01-04 00:28 J -23062247.59 -23062247.48 -23062247.36 0.0089 0.0041

Neptune -67854-04-02 01:40 J -23062159.54 -23062159.43 -23062159.31 0.0089 0.0046

Neptune -67854-06-29 02:52 J -23062071.48 -23062071.38 -23062071.26 0.0089 0.0051

Neptune -67854-09-25 04:18 J -23061983.42 -23061983.32 -23061983.21 0.0089 0.0056

Neptune -67854-12-22 05:30 J -23061895.36 -23061895.27 -23061895.17 0.0089 0.0061

Neptune -67853-03-19 06:42 J -23061807.29 -23061807.22 -23061807.12 0.0089 0.0066

Neptune -67853-06-15 08:09 J -23061719.23 -23061719.16 -23061719.08 0.0089 0.0071

Jupiter -67853-07-28 09:21 J -23061676.20 -23061676.11 -23061676.01 0.0499 0.0424

Saturn -67853-09-09 13:11 J -23061633.04 -23061632.95 -23061632.85 0.0304 0.0201

Neptune -67853-09-11 09:21 J -23061631.17 -23061631.11 -23061631.03 0.0089 0.0076

Jupiter -67853-10-26 21:21 J -23061585.78 -23061585.61 -23061585.43 0.0500 0.0204

Saturn -67853-12-07 01:54 J -23061544.54 -23061544.42 -23061544.29 0.0304 0.0063

Neptune -67853-12-08 10:47 J -23061543.10 -23061543.05 -23061542.99 0.0089 0.0081

Saturn -67852-03-05 14:37 J -23061456.01 -23061455.89 -23061455.76 0.0303 0.0076

Neptune -67852-03-06 11:59 J -23061455.02 -23061455.00 -23061454.96 0.0089 0.0086

Saturn -67852-06-02 03:21 J -23061367.45 -23061367.36 -23061367.27 0.0303 0.0212

Mars -67852-10-10 07:11 J -23061237.33 -23061237.20 -23061237.08 0.1566 0.1024

Venus -67851-02-26 05:16 J -23061098.37 -23061098.28 -23061098.19 0.3816 0.1665

Jupiter -67847-06-23 10:04 J -23059520.19 -23059520.08 -23059519.98 0.0526 0.0280

Jupiter -67847-09-20 15:21 J -23059430.98 -23059430.86 -23059430.74 0.0526 0.0194

Venus -67846-09-11 21:49 J -23059074.69 -23059074.59 -23059074.48 0.3815 0.0145

Moon -67844-05-12 15:49 J -23058465.94 -23058465.84 -23058465.73 0.2707 0.0375

Earth -67844-05-12 16:33 J -23058465.91 -23058465.81 -23058465.70 0.2706 0.0392 *

Jupiter -67841-08-14 18:28 J -23057275.91 -23057275.73 -23057275.54 0.0499 0.0054

Moon -67841-11-05 08:37 J -23057193.30 -23057193.14 -23057192.98 0.2627 0.0588

Earth -67841-11-05 10:18 J -23057193.23 -23057193.07 -23057192.91 0.2630 0.0436 *

Venus -67840-03-27 14:37 J -23057050.99 -23057050.89 -23057050.80 0.3814 0.1640

Saturn -67838-12-24 14:37 J -23056049.03 -23056048.89 -23056048.73 0.0258 0.0162

Saturn -67837-03-22 11:30 J -23055960.21 -23055960.02 -23055959.83 0.0259 0.0034

Moon -67837-05-05 16:47 J -23055915.80 -23055915.80 -23055915.79 0.2695 0.2681

Saturn -67837-06-19 08:23 J -23055871.33 -23055871.15 -23055870.97 0.0259 0.0095

Saturn -67837-09-16 05:16 J -23055782.38 -23055782.28 -23055782.19 0.0260 0.0224

Mars -67836-10-18 07:54 J -23055385.27 -23055385.17 -23055385.08 0.1983 0.1007

Jupiter -67835-04-11 14:23 J -23055209.98 -23055209.90 -23055209.82 0.0527 0.0398

Jupiter -67835-07-09 19:54 J -23055120.80 -23055120.67 -23055120.55 0.0526 0.0079

Venus -67835-10-11 07:11 J -23055027.24 -23055027.20 -23055027.15 0.3813 0.3324

Moon -67831-05-15 09:49 J -23053715.18 -23053715.09 -23053715.00 0.2712 0.1398

Earth -67831-05-15 10:18 J -23053715.16 -23053715.07 -23053714.98 0.2708 0.1500 *

Mars -67831-06-29 03:06 J -23053670.51 -23053670.37 -23053670.23 0.1565 0.0861

Jupiter -67829-06-02 15:35 J -23052966.04 -23052965.85 -23052965.67 0.0499 0.0100

Moon -67828-11-08 16:47 J -23052441.92 -23052441.80 -23052441.69 0.2627 0.1838

Earth -67828-11-08 18:28 J -23052441.84 -23052441.73 -23052441.62 0.2627 0.1931 *

Mars -67826-03-10 15:06 J -23051954.98 -23051954.87 -23051954.75 0.1982 0.0113

Moon -67824-05-08 10:04 J -23051165.17 -23051165.08 -23051165.00 0.2695 0.1638

Earth -67824-05-08 10:04 J -23051165.16 -23051165.08 -23051164.99 0.2702 0.1616 *

Saturn -67823-01-27 13:40 J -23050901.00 -23050900.93 -23050900.86 0.0304 0.0257

Jupiter -67823-01-28 19:11 J -23050899.73 -23050899.70 -23050899.67 0.0527 0.0507

Saturn -67823-04-26 02:23 J -23050812.51 -23050812.40 -23050812.28 0.0304 0.0118

Jupiter -67823-04-28 00:42 J -23050810.60 -23050810.47 -23050810.35 0.0526 0.0034

Saturn -67823-07-23 15:06 J -23050723.99 -23050723.87 -23050723.74 0.0303 0.0023

Jupiter -67823-07-26 05:59 J -23050721.32 -23050721.25 -23050721.18 0.0526 0.0441

Saturn -67823-10-20 03:49 J -23050635.45 -23050635.34 -23050635.23 0.0303 0.0157

Saturn -67822-01-16 16:18 J -23050546.84 -23050546.82 -23050546.78 0.0302 0.0292

Mars -67822-11-19 05:30 J -23050240.44 -23050240.27 -23050240.10 0.1566 0.0020

Venus -67820-11-03 21:49 J -23049524.73 -23049524.59 -23049524.45 0.3563 0.1420

Earth -67818-05-18 03:49 J -23048964.37 -23048964.34 -23048964.31 0.2710 0.2602

Moon -67818-05-18 03:49 J -23048964.36 -23048964.34 -23048964.32 0.2717 0.2645 *

Uranus -67818-08-14 19:25 J -23048875.74 -23048875.69 -23048875.63 0.0134 0.0120

Uranus -67818-11-10 22:18 J -23048787.65 -23048787.57 -23048787.48 0.0134 0.0104

Uranus -67817-02-07 01:11 J -23048699.54 -23048699.45 -23048699.34 0.0134 0.0087

Jupiter -67817-03-21 10:47 J -23048656.20 -23048656.05 -23048655.89 0.0499 0.0268

Uranus -67817-05-05 04:18 J -23048611.43 -23048611.32 -23048611.21 0.0134 0.0070

Jupiter -67817-06-19 22:47 J -23048565.67 -23048565.55 -23048565.42 0.0500 0.0361

Mars -67817-07-30 22:47 J -23048524.64 -23048524.55 -23048524.46 0.1981 0.1192

Uranus -67817-08-01 07:25 J -23048523.31 -23048523.19 -23048523.07 0.0134 0.0054

Uranus -67817-10-28 10:18 J -23048435.20 -23048435.07 -23048434.94 0.0135 0.0037

Uranus -67816-01-24 13:11 J -23048347.07 -23048346.95 -23048346.82 0.0135 0.0021

Uranus -67816-04-22 16:18 J -23048258.95 -23048258.82 -23048258.69 0.0135 0.0003

Uranus -67816-07-19 19:11 J -23048170.83 -23048170.70 -23048170.56 0.0135 0.0014

Uranus -67816-10-15 22:18 J -23048082.70 -23048082.57 -23048082.44 0.0135 0.0030

Uranus -67815-01-12 01:11 J -23047994.57 -23047994.45 -23047994.32 0.0135 0.0048

Uranus -67815-04-10 04:18 J -23047906.43 -23047906.32 -23047906.20 0.0135 0.0064

Uranus -67815-07-07 07:25 J -23047818.30 -23047818.19 -23047818.09 0.0135 0.0082

Uranus -67815-10-03 10:18 J -23047730.15 -23047730.07 -23047729.98 0.0135 0.0099

Uranus -67815-12-30 13:11 J -23047642.00 -23047641.95 -23047641.87 0.0136 0.0117

Uranus -67814-03-28 16:18 J -23047553.83 -23047553.82 -23047553.79 0.0136 0.0134

Venus -67814-05-21 03:49 J -23047500.46 -23047500.34 -23047500.22 0.3565 0.2178

Mars -67812-04-10 07:40 J -23046810.31 -23046810.18 -23046810.04 0.1566 0.0891

Jupiter -67811-02-14 05:16 J -23046500.40 -23046500.28 -23046500.15 0.0526 0.0146

Moon -67811-05-11 03:21 J -23046414.47 -23046414.36 -23046414.26 0.2700 0.0541

Earth -67811-05-11 03:49 J -23046414.45 -23046414.34 -23046414.24 0.2704 0.0503 *

Jupiter -67811-05-14 10:47 J -23046411.15 -23046411.05 -23046410.96 0.0526 0.0329

Saturn -67808-05-12 13:11 J -23045317.06 -23045316.95 -23045316.82 0.0258 0.0202

Saturn -67808-08-09 10:04 J -23045228.26 -23045228.08 -23045227.90 0.0259 0.0075

Moon -67808-11-03 07:54 J -23045142.24 -23045142.17 -23045142.09 0.2626 0.2330

Earth -67808-11-03 08:52 J -23045142.21 -23045142.13 -23045142.06 0.2632 0.2337 *

Saturn -67808-11-06 06:57 J -23045139.40 -23045139.21 -23045139.03 0.0259 0.0053

Saturn -67807-02-03 03:35 J -23045050.48 -23045050.35 -23045050.21 0.0259 0.0182

Jupiter -67805-01-08 07:54 J -23044346.27 -23044346.17 -23044346.07 0.0499 0.0418

Jupiter -67805-04-07 19:54 J -23044255.84 -23044255.67 -23044255.50 0.0500 0.0209

Venus -67800-03-19 10:33 J -23042449.13 -23042449.06 -23042448.99 0.3817 0.2719

Jupiter -67800-12-03 09:35 J -23042190.21 -23042190.10 -23042189.99 0.0526 0.0266

Jupiter -67799-03-02 14:52 J -23042101.00 -23042100.88 -23042100.76 0.0526 0.0208

Moon -67798-05-13 20:37 J -23041663.74 -23041663.64 -23041663.53 0.2707 0.0466

Earth -67798-05-13 21:21 J -23041663.71 -23041663.61 -23041663.50 0.2706 0.0611 *

Mars -67796-04-18 07:54 J -23040958.27 -23040958.17 -23040958.08 0.1982 0.1121

Venus -67795-10-03 03:06 J -23040425.47 -23040425.37 -23040425.28 0.3816 0.1099

Moon -67795-11-06 15:06 J -23040391.03 -23040390.87 -23040390.70 0.2627 0.0205

Earth -67795-11-06 17:01 J -23040390.95 -23040390.79 -23040390.63 0.2629 0.0016 *

Saturn -67794-09-13 03:21 J -23040080.46 -23040080.36 -23040080.25 0.0304 0.0168

Saturn -67794-12-10 16:04 J -23039991.95 -23039991.83 -23039991.70 0.0304 0.0032

Jupiter -67793-01-25 17:16 J -23039945.96 -23039945.78 -23039945.59 0.0499 0.0061

Saturn -67793-03-08 04:47 J -23039903.42 -23039903.30 -23039903.18 0.0303 0.0108

Saturn -67793-06-04 17:30 J -23039814.85 -23039814.77 -23039814.70 0.0303 0.0244

Mars -67792-12-28 04:04 J -23039243.46 -23039243.33 -23039243.20 0.1565 0.1006

Earth -67791-05-06 21:06 J -23039113.65 -23039113.62 -23039113.58 0.2700 0.2509

Moon -67791-05-06 21:35 J -23039113.65 -23039113.60 -23039113.56 0.2694 0.2433 *

Venus -67789-04-17 19:40 J -23038401.79 -23038401.68 -23038401.58 0.3815 0.0574

Jupiter -67788-09-21 13:40 J -23037880.01 -23037879.93 -23037879.84 0.0526 0.0385

Jupiter -67788-12-19 19:11 J -23037790.83 -23037790.70 -23037790.58 0.0526 0.0090

Mars -67787-09-08 15:21 J -23037527.98 -23037527.86 -23037527.75 0.1982 0.0085

Moon -67785-05-15 14:37 J -23036912.97 -23036912.89 -23036912.81 0.2714 0.1741

Earth -67785-05-15 15:06 J -23036912.96 -23036912.87 -23036912.79 0.2708 0.1719 *

Venus -67784-11-01 12:13 J -23036378.07 -23036377.99 -23036377.91 0.3814 0.2228

Mars -67782-05-20 06:13 J -23035813.41 -23035813.24 -23035813.07 0.1566 0.0126

Moon -67782-11-09 23:45 J -23035639.60 -23035639.51 -23035639.42 0.2628 0.2163

Earth -67782-11-10 01:25 J -23035639.51 -23035639.44 -23035639.38 0.2627 0.2377 *

Jupiter -67782-11-13 14:23 J -23035636.08 -23035635.90 -23035635.71 0.0499 0.0090

Saturn -67779-09-29 11:45 J -23034585.07 -23034585.01 -23034584.95 0.0258 0.0243

Saturn -67779-12-27 08:09 J -23034496.32 -23034496.16 -23034495.98 0.0259 0.0118

Saturn -67778-03-26 05:01 J -23034407.48 -23034407.29 -23034407.09 0.0259 0.0012

Moon -67778-05-09 14:52 J -23034362.98 -23034362.88 -23034362.79 0.2695 0.1412

Earth -67778-05-09 14:52 J -23034362.97 -23034362.88 -23034362.79 0.2702 0.1393 *

Saturn -67778-06-23 01:54 J -23034318.58 -23034318.42 -23034318.26 0.0259 0.0139

Uranus -67778-12-18 00:42 J -23034140.57 -23034140.47 -23034140.34 0.0144 0.0117

Mars -67777-01-29 22:47 J -23034097.65 -23034097.55 -23034097.46 0.1981 0.1073

Neptune -67777-03-09 11:16 J -23034058.09 -23034058.03 -23034057.94 0.0089 0.0082

Uranus -67777-03-15 09:35 J -23034052.25 -23034052.10 -23034051.93 0.0144 0.0085

Neptune -67777-06-05 14:52 J -23033969.96 -23033969.88 -23033969.75 0.0089 0.0075

Uranus -67777-06-11 18:28 J -23033963.91 -23033963.73 -23033963.54 0.0144 0.0054

Neptune -67777-09-01 18:42 J -23033881.83 -23033881.72 -23033881.58 0.0089 0.0067

Uranus -67777-09-08 03:06 J -23033875.56 -23033875.37 -23033875.17 0.0144 0.0023

Neptune -67777-11-28 22:18 J -23033793.70 -23033793.57 -23033793.41 0.0089 0.0060

Uranus -67777-12-05 11:59 J -23033787.20 -23033787.00 -23033786.81 0.0144 0.0008

Neptune -67776-02-25 02:09 J -23033705.56 -23033705.41 -23033705.24 0.0089 0.0052

Uranus -67776-03-03 20:37 J -23033698.83 -23033698.64 -23033698.45 0.0144 0.0039

Neptune -67776-05-24 05:45 J -23033617.42 -23033617.26 -23033617.08 0.0089 0.0045

Uranus -67776-05-31 05:01 J -23033610.45 -23033610.29 -23033610.11 0.0144 0.0070

Jupiter -67776-07-10 17:59 J -23033569.78 -23033569.75 -23033569.71 0.0527 0.0503

Neptune -67776-08-20 09:35 J -23033529.27 -23033529.10 -23033528.91 0.0089 0.0037

Uranus -67776-08-27 13:25 J -23033522.06 -23033521.94 -23033521.78 0.0143 0.0101

Jupiter -67776-10-07 23:30 J -23033480.65 -23033480.52 -23033480.39 0.0526 0.0028

Neptune -67776-11-16 13:11 J -23033441.12 -23033440.95 -23033440.75 0.0089 0.0030

Uranus -67776-11-23 22:04 J -23033433.64 -23033433.58 -23033433.49 0.0143 0.0131

Jupiter -67775-01-05 04:47 J -23033391.36 -23033391.30 -23033391.23 0.0526 0.0446

Neptune -67775-02-12 17:01 J -23033352.97 -23033352.79 -23033352.59 0.0089 0.0022

Neptune -67775-05-11 20:37 J -23033264.82 -23033264.64 -23033264.44 0.0089 0.0015

Neptune -67775-08-08 00:28 J -23033176.67 -23033176.48 -23033176.28 0.0089 0.0007

Neptune -67775-11-04 04:18 J -23033088.52 -23033088.32 -23033088.12 0.0089 0.0001

Neptune -67774-01-31 07:54 J -23033000.36 -23033000.17 -23032999.97 0.0089 0.0008

Neptune -67774-04-29 11:30 J -23032912.21 -23032912.02 -23032911.82 0.0089 0.0016

Neptune -67774-07-26 15:06 J -23032824.05 -23032823.87 -23032823.67 0.0089 0.0024

Neptune -67774-10-22 18:57 J -23032735.89 -23032735.71 -23032735.52 0.0089 0.0031

Neptune -67773-01-18 22:33 J -23032647.72 -23032647.56 -23032647.37 0.0089 0.0039

Neptune -67773-04-16 02:23 J -23032559.56 -23032559.40 -23032559.22 0.0089 0.0046

Neptune -67773-07-13 05:59 J -23032471.39 -23032471.25 -23032471.08 0.0089 0.0054

Mars -67773-10-09 08:23 J -23032383.29 -23032383.15 -23032383.00 0.1566 0.0754

Neptune -67773-10-09 10:04 J -23032383.22 -23032383.08 -23032382.94 0.0089 0.0061 *

Neptune -67772-01-05 13:25 J -23032295.05 -23032294.94 -23032294.80 0.0089 0.0069

Neptune -67772-04-03 17:30 J -23032206.87 -23032206.77 -23032206.67 0.0089 0.0076

Neptune -67772-06-30 20:52 J -23032118.67 -23032118.63 -23032118.55 0.0089 0.0084

Jupiter -67770-09-01 11:16 J -23031326.19 -23031326.03 -23031325.87 0.0499 0.0243

Jupiter -67770-11-30 23:16 J -23031235.65 -23031235.53 -23031235.41 0.0499 0.0384

Moon -67765-05-11 07:54 J -23029612.28 -23029612.17 -23029612.06 0.2702 0.0370

Earth -67765-05-11 08:37 J -23029612.25 -23029612.14 -23029612.03 0.2704 0.0281 *

Saturn -67764-01-30 03:49 J -23029348.42 -23029348.34 -23029348.25 0.0304 0.0223

Saturn -67764-04-28 16:47 J -23029259.92 -23029259.80 -23029259.68 0.0303 0.0084

Saturn -67764-07-26 05:30 J -23029171.40 -23029171.27 -23029171.14 0.0303 0.0053

Jupiter -67764-07-27 04:18 J -23029170.44 -23029170.32 -23029170.20 0.0527 0.0138

Saturn -67764-10-22 17:59 J -23029082.84 -23029082.75 -23029082.65 0.0303 0.0190

Jupiter -67764-10-24 09:35 J -23029081.19 -23029081.10 -23029081.00 0.0526 0.0337

Venus -67763-06-10 23:16 J -23028851.68 -23028851.53 -23028851.38 0.3564 0.0183

Moon -67762-11-04 14:23 J -23028339.99 -23028339.90 -23028339.80 0.2627 0.2084

Earth -67762-11-04 15:35 J -23028339.96 -23028339.85 -23028339.74 0.2631 0.1885 *

Jupiter -67758-06-20 06:28 J -23027016.33 -23027016.23 -23027016.12 0.0499 0.0412

Jupiter -67758-09-18 18:28 J -23026925.89 -23026925.73 -23026925.56 0.0499 0.0216

Venus -67758-12-26 05:16 J -23026827.33 -23026827.28 -23026827.24 0.3565 0.3383

Mars -67757-10-17 07:40 J -23026531.27 -23026531.18 -23026531.09 0.1983 0.1222

Moon -67752-05-14 01:25 J -23024861.54 -23024861.44 -23024861.33 0.2707 0.0815

Earth -67752-05-14 02:09 J -23024861.51 -23024861.41 -23024861.31 0.2706 0.0833 *

Jupiter -67752-05-15 09:06 J -23024860.23 -23024860.12 -23024860.01 0.0527 0.0251

Mars -67752-06-28 04:33 J -23024816.42 -23024816.31 -23024816.19 0.1566 0.1137

Jupiter -67752-08-12 14:23 J -23024771.01 -23024770.90 -23024770.79 0.0526 0.0224

Venus -67749-04-09 15:35 J -23023799.86 -23023799.85 -23023799.83 0.3817 0.3762

Saturn -67749-05-15 07:11 J -23023764.35 -23023764.20 -23023764.04 0.0258 0.0156

Pluto -67749-07-29 03:35 J -23023689.36 -23023689.35 -23023689.29 0.0060 0.0059

Saturn -67749-08-12 03:49 J -23023675.53 -23023675.34 -23023675.14 0.0259 0.0030

Pluto -67749-10-25 04:47 J -23023601.36 -23023601.30 -23023601.20 0.0060 0.0055

Moon -67749-11-06 22:04 J -23023588.74 -23023588.58 -23023588.42 0.2627 0.0334

Earth -67749-11-06 23:45 J -23023588.67 -23023588.51 -23023588.35 0.2629 0.0462 *

Saturn -67749-11-09 00:42 J -23023586.64 -23023586.47 -23023586.29 0.0259 0.0100

Pluto -67748-01-21 05:59 J -23023513.33 -23023513.25 -23023513.13 0.0061 0.0050

Saturn -67748-02-05 21:35 J -23023497.68 -23023497.60 -23023497.51 0.0259 0.0229

Pluto -67748-04-19 07:11 J -23023425.30 -23023425.20 -23023425.06 0.0061 0.0045

Pluto -67748-07-16 08:52 J -23023337.27 -23023337.13 -23023336.99 0.0061 0.0039

Pluto -67748-10-12 10:04 J -23023249.23 -23023249.08 -23023248.93 0.0061 0.0034

Pluto -67747-01-08 11:01 J -23023161.19 -23023161.04 -23023160.87 0.0061 0.0029

Mars -67747-03-09 15:21 J -23023100.98 -23023100.86 -23023100.75 0.1982 0.0144

Pluto -67747-04-06 12:13 J -23023073.15 -23023072.99 -23023072.81 0.0061 0.0024

Pluto -67747-07-03 13:25 J -23022985.10 -23022984.94 -23022984.75 0.0061 0.0019

Pluto -67747-09-29 14:37 J -23022897.05 -23022896.89 -23022896.70 0.0061 0.0014

Pluto -67747-12-26 16:04 J -23022809.01 -23022808.83 -23022808.64 0.0061 0.0009

Pluto -67746-03-24 17:30 J -23022720.95 -23022720.77 -23022720.59 0.0061 0.0003

Pluto -67746-06-20 18:42 J -23022632.90 -23022632.72 -23022632.54 0.0061 0.0002

Jupiter -67746-07-07 15:35 J -23022616.04 -23022615.85 -23022615.67 0.0499 0.0064

Pluto -67746-09-16 19:54 J -23022544.85 -23022544.67 -23022544.49 0.0061 0.0008

Pluto -67746-12-13 20:52 J -23022456.79 -23022456.63 -23022456.44 0.0061 0.0014

Pluto -67745-03-10 22:18 J -23022368.74 -23022368.57 -23022368.39 0.0061 0.0018

Earth -67745-05-07 02:09 J -23022311.47 -23022311.41 -23022311.36 0.2700 0.2283

Moon -67745-05-07 02:09 J -23022311.46 -23022311.41 -23022311.35 0.2694 0.2303 *

Pluto -67745-06-06 23:45 J -23022280.68 -23022280.51 -23022280.34 0.0062 0.0024

Pluto -67745-09-03 00:42 J -23022192.61 -23022192.47 -23022192.29 0.0062 0.0030

Pluto -67745-11-30 02:09 J -23022104.55 -23022104.41 -23022104.25 0.0062 0.0035

Pluto -67744-02-26 03:35 J -23022016.48 -23022016.35 -23022016.21 0.0062 0.0040

Pluto -67744-05-25 04:33 J -23021928.41 -23021928.31 -23021928.17 0.0062 0.0046

Pluto -67744-08-21 06:13 J -23021840.34 -23021840.24 -23021840.13 0.0062 0.0051

Venus -67744-10-24 08:09 J -23021776.24 -23021776.16 -23021776.08 0.3817 0.2150

Pluto -67744-11-17 07:11 J -23021752.25 -23021752.20 -23021752.11 0.0062 0.0057

Mars -67743-11-18 06:57 J -23021386.38 -23021386.21 -23021386.04 0.1566 0.0265

Jupiter -67740-03-03 13:11 J -23020550.04 -23020549.95 -23020549.86 0.0526 0.0372

Jupiter -67740-05-31 18:28 J -23020460.85 -23020460.73 -23020460.60 0.0526 0.0102

Moon -67739-05-16 19:25 J -23020110.76 -23020110.69 -23020110.61 0.2715 0.1851

Earth -67739-05-16 19:54 J -23020110.75 -23020110.67 -23020110.60 0.2708 0.1943 *

Venus -67738-05-10 00:42 J -23019752.57 -23019752.47 -23019752.37 0.3816 0.0518

Mars -67738-07-30 22:47 J -23019670.65 -23019670.55 -23019670.45 0.1981 0.0958

Saturn -67735-06-19 05:01 J -23018616.34 -23018616.29 -23018616.23 0.0304 0.0271

Saturn -67735-09-15 17:59 J -23018527.87 -23018527.75 -23018527.64 0.0304 0.0132

Saturn -67735-12-13 06:42 J -23018439.35 -23018439.22 -23018439.09 0.0304 0.0007

Saturn -67734-03-11 19:25 J -23018350.81 -23018350.69 -23018350.58 0.0303 0.0144

Jupiter -67734-04-25 12:42 J -23018306.15 -23018305.97 -23018305.78 0.0499 0.0087

Saturn -67734-06-08 07:54 J -23018262.21 -23018262.17 -23018262.12 0.0303 0.0279

Uranus -67734-09-04 02:09 J -23018174.46 -23018174.41 -23018174.35 0.0134 0.0118

Uranus -67734-12-01 05:16 J -23018086.37 -23018086.28 -23018086.20 0.0134 0.0102

Uranus -67733-02-27 07:54 J -23017998.26 -23017998.17 -23017998.06 0.0134 0.0086

Mars -67733-04-09 09:21 J -23017956.27 -23017956.11 -23017955.96 0.1566 0.0613

Uranus -67733-05-25 11:01 J -23017910.15 -23017910.04 -23017909.92 0.0134 0.0069

Uranus -67733-08-21 14:09 J -23017822.03 -23017821.91 -23017821.79 0.0134 0.0052

Uranus -67733-11-17 17:01 J -23017733.91 -23017733.79 -23017733.66 0.0135 0.0035

Venus -67733-11-22 17:16 J -23017728.88 -23017728.78 -23017728.68 0.3815 0.1141

Uranus -67732-02-13 20:09 J -23017645.79 -23017645.66 -23017645.53 0.0135 0.0018

Moon -67732-05-09 19:25 J -23017560.79 -23017560.69 -23017560.59 0.2696 0.1173

Earth -67732-05-09 19:40 J -23017560.77 -23017560.68 -23017560.58 0.2703 0.1168 *

Uranus -67732-05-12 23:01 J -23017557.67 -23017557.54 -23017557.41 0.0135 0.0003

Uranus -67732-08-09 02:09 J -23017469.54 -23017469.41 -23017469.28 0.0135 0.0016

Uranus -67732-11-05 05:01 J -23017381.41 -23017381.29 -23017381.16 0.0135 0.0033

Uranus -67731-02-01 07:54 J -23017293.28 -23017293.17 -23017293.04 0.0135 0.0051

Uranus -67731-04-30 11:01 J -23017205.15 -23017205.04 -23017204.92 0.0135 0.0067

Uranus -67731-07-27 13:54 J -23017117.01 -23017116.92 -23017116.81 0.0135 0.0085

Uranus -67731-10-23 17:01 J -23017028.87 -23017028.79 -23017028.70 0.0135 0.0102

Uranus -67730-01-19 20:09 J -23016940.71 -23016940.66 -23016940.59 0.0136 0.0119

Jupiter -67729-12-20 17:16 J -23016239.82 -23016239.78 -23016239.73 0.0526 0.0492

Jupiter -67728-03-19 22:47 J -23016150.68 -23016150.55 -23016150.42 0.0526 0.0018

Jupiter -67728-06-17 04:04 J -23016061.39 -23016061.33 -23016061.27 0.0526 0.0455

Venus -67727-06-08 10:04 J -23015705.15 -23015705.08 -23015705.01 0.3814 0.2828

Mars -67724-08-30 11:30 J -23014526.07 -23014526.02 -23014525.97 0.1567 0.1493

Jupiter -67722-02-11 09:49 J -23013996.25 -23013996.09 -23013995.93 0.0499 0.0237

Jupiter -67722-05-12 21:49 J -23013905.70 -23013905.59 -23013905.47 0.0500 0.0391

Saturn -67720-10-02 05:59 J -23013032.37 -23013032.25 -23013032.12 0.0258 0.0196

Saturn -67720-12-30 02:37 J -23012943.57 -23012943.39 -23012943.20 0.0259 0.0069

Saturn -67719-03-28 23:30 J -23012854.71 -23012854.52 -23012854.33 0.0259 0.0059

Moon -67719-05-12 12:42 J -23012810.08 -23012809.97 -23012809.86 0.2702 0.0137

Earth -67719-05-12 13:25 J -23012810.05 -23012809.94 -23012809.83 0.2704 0.0090 *

Saturn -67719-06-25 20:09 J -23012765.78 -23012765.66 -23012765.52 0.0259 0.0189

Mars -67717-04-17 07:40 J -23012104.26 -23012104.18 -23012104.09 0.1983 0.1343

Jupiter -67716-01-06 03:06 J -23011840.50 -23011840.37 -23011840.25 0.0527 0.0138

Jupiter -67716-04-05 08:23 J -23011751.25 -23011751.15 -23011751.05 0.0526 0.0338

Moon -67716-11-04 20:52 J -23011537.76 -23011537.63 -23011537.49 0.2627 0.1467

Earth -67716-11-04 22:18 J -23011537.70 -23011537.57 -23011537.43 0.2631 0.1444 *

Mars -67713-12-27 05:16 J -23010389.38 -23010389.28 -23010389.18 0.1565 0.1273

Venus -67712-07-01 18:28 J -23010202.83 -23010202.73 -23010202.63 0.3563 0.2611

Jupiter -67711-11-30 06:28 J -23009686.34 -23009686.23 -23009686.11 0.0499 0.0391

Jupiter -67710-02-28 18:28 J -23009595.89 -23009595.73 -23009595.56 0.0499 0.0237

Mars -67708-09-07 15:06 J -23008673.98 -23008673.87 -23008673.75 0.1982 0.0253

Venus -67706-01-16 00:42 J -23008178.61 -23008178.47 -23008178.32 0.3564 0.1050

Moon -67706-05-15 06:28 J -23008059.33 -23008059.23 -23008059.13 0.2710 0.0955

Earth -67706-05-15 06:57 J -23008059.31 -23008059.21 -23008059.11 0.2706 0.1055 *

Saturn -67705-02-02 18:57 J -23007795.81 -23007795.71 -23007795.60 0.0304 0.0181

Saturn -67705-05-01 07:54 J -23007707.30 -23007707.17 -23007707.04 0.0303 0.0043

Saturn -67705-07-28 20:37 J -23007618.77 -23007618.64 -23007618.52 0.0303 0.0095

Jupiter -67705-10-25 07:40 J -23007530.29 -23007530.18 -23007530.06 0.0527 0.0249

Saturn -67705-10-25 09:06 J -23007530.20 -23007530.12 -23007530.04 0.0302 0.0230 *

Jupiter -67704-01-22 13:11 J -23007441.06 -23007440.95 -23007440.84 0.0526 0.0228

Mars -67703-05-19 07:40 J -23006959.35 -23006959.18 -23006959.02 0.1566 0.0399

Moon -67703-11-08 04:47 J -23006786.45 -23006786.30 -23006786.14 0.2627 0.0679

Earth -67703-11-08 06:42 J -23006786.38 -23006786.22 -23006786.07 0.2629 0.0912 *

Moon -67699-05-08 06:57 J -23005509.28 -23005509.21 -23005509.13 0.2693 0.1971

Earth -67699-05-08 06:57 J -23005509.28 -23005509.21 -23005509.14 0.2701 0.2056 *

Jupiter -67699-12-17 13:54 J -23005286.11 -23005285.92 -23005285.74 0.0499 0.0067

Mars -67698-01-28 22:47 J -23005243.66 -23005243.55 -23005243.45 0.1981 0.0853

Neptune -67696-09-20 15:49 J -23004277.88 -23004277.84 -23004277.80 0.0089 0.0084

Neptune -67696-12-17 17:01 J -23004189.84 -23004189.79 -23004189.72 0.0089 0.0079

Neptune -67695-03-15 18:28 J -23004101.80 -23004101.73 -23004101.65 0.0089 0.0074

Neptune -67695-06-11 19:40 J -23004013.75 -23004013.68 -23004013.59 0.0089 0.0069

Neptune -67695-09-07 20:52 J -23003925.71 -23003925.63 -23003925.52 0.0089 0.0064

Neptune -67695-12-04 22:18 J -23003837.66 -23003837.57 -23003837.46 0.0089 0.0059

Neptune -67694-03-02 23:30 J -23003749.61 -23003749.52 -23003749.40 0.0089 0.0054

Neptune -67694-05-30 01:11 J -23003661.56 -23003661.45 -23003661.34 0.0089 0.0048

Neptune -67694-08-26 02:23 J -23003573.51 -23003573.40 -23003573.28 0.0089 0.0043

Mars -67694-10-09 09:49 J -23003529.25 -23003529.09 -23003528.92 0.1566 0.0480

Neptune -67694-11-22 03:49 J -23003485.46 -23003485.34 -23003485.22 0.0089 0.0038

Uranus -67693-01-07 06:57 J -23003439.32 -23003439.21 -23003439.08 0.0144 0.0114

Neptune -67693-02-18 05:01 J -23003397.41 -23003397.29 -23003397.16 0.0089 0.0033

Uranus -67693-04-04 15:49 J -23003351.00 -23003350.84 -23003350.68 0.0144 0.0082

Neptune -67693-05-16 06:28 J -23003309.36 -23003309.23 -23003309.11 0.0089 0.0028

Moon -67693-05-17 00:13 J -23003308.55 -23003308.49 -23003308.43 0.2715 0.2199

Earth -67693-05-17 00:42 J -23003308.54 -23003308.47 -23003308.41 0.2708 0.2165 *

Uranus -67693-07-02 00:28 J -23003262.66 -23003262.48 -23003262.29 0.0144 0.0051

Neptune -67693-08-12 07:40 J -23003221.30 -23003221.18 -23003221.05 0.0089 0.0023

Jupiter -67693-08-13 12:28 J -23003220.07 -23003219.98 -23003219.89 0.0527 0.0361

Uranus -67693-09-28 09:21 J -23003174.30 -23003174.11 -23003173.92 0.0144 0.0020

Neptune -67693-11-08 09:06 J -23003133.25 -23003133.12 -23003132.99 0.0089 0.0018

Jupiter -67693-11-10 17:45 J -23003130.88 -23003130.76 -23003130.63 0.0526 0.0115

Venus -67693-11-14 13:25 J -23003127.00 -23003126.94 -23003126.89 0.3817 0.3205

Uranus -67693-12-25 17:59 J -23003085.94 -23003085.75 -23003085.55 0.0144 0.0011

Neptune -67692-02-04 10:18 J -23003045.20 -23003045.07 -23003044.94 0.0089 0.0013

Uranus -67692-03-24 02:37 J -23002997.58 -23002997.39 -23002997.20 0.0144 0.0041

Neptune -67692-05-03 11:45 J -23002957.14 -23002957.01 -23002956.88 0.0089 0.0008

Uranus -67692-06-20 11:01 J -23002909.20 -23002909.04 -23002908.86 0.0144 0.0072

Neptune -67692-07-30 12:57 J -23002869.09 -23002868.96 -23002868.83 0.0089 0.0003

Uranus -67692-09-16 19:40 J -23002820.81 -23002820.68 -23002820.53 0.0143 0.0103

Neptune -67692-10-26 14:23 J -23002781.04 -23002780.90 -23002780.77 0.0089 0.0004

Uranus -67692-12-14 04:33 J -23002732.38 -23002732.31 -23002732.24 0.0143 0.0133

Neptune -67691-01-22 15:35 J -23002692.98 -23002692.85 -23002692.72 0.0089 0.0008

Neptune -67691-04-20 16:47 J -23002604.93 -23002604.80 -23002604.67 0.0089 0.0013

Neptune -67691-07-17 18:13 J -23002516.87 -23002516.74 -23002516.61 0.0089 0.0018

Neptune -67691-10-13 19:25 J -23002428.81 -23002428.69 -23002428.56 0.0089 0.0023

Neptune -67690-01-09 20:37 J -23002340.76 -23002340.64 -23002340.51 0.0089 0.0029

Saturn -67690-02-19 05:01 J -23002300.36 -23002300.29 -23002300.20 0.0259 0.0233

Neptune -67690-04-07 21:49 J -23002252.70 -23002252.59 -23002252.46 0.0089 0.0034

Saturn -67690-05-19 01:54 J -23002211.60 -23002211.42 -23002211.25 0.0259 0.0106

Neptune -67690-07-04 23:16 J -23002164.64 -23002164.53 -23002164.41 0.0089 0.0039

Saturn -67690-08-15 22:33 J -23002122.75 -23002122.56 -23002122.36 0.0259 0.0023

Neptune -67690-10-01 00:28 J -23002076.59 -23002076.48 -23002076.36 0.0089 0.0044

Saturn -67690-11-12 19:25 J -23002033.84 -23002033.69 -23002033.53 0.0259 0.0151

Neptune -67690-12-28 01:40 J -23001988.53 -23001988.43 -23001988.31 0.0089 0.0049

Neptune -67689-03-25 03:06 J -23001900.47 -23001900.37 -23001900.26 0.0089 0.0054

Mars -67689-06-20 06:13 J -23001813.26 -23001813.24 -23001813.22 0.1979 0.1930

Neptune -67689-06-21 04:18 J -23001812.41 -23001812.32 -23001812.21 0.0089 0.0059

Neptune -67689-09-17 05:45 J -23001724.35 -23001724.26 -23001724.17 0.0089 0.0064

Neptune -67689-12-14 06:57 J -23001636.28 -23001636.21 -23001636.12 0.0089 0.0069

Neptune -67688-03-12 08:09 J -23001548.22 -23001548.16 -23001548.08 0.0089 0.0074

Neptune -67688-06-08 09:35 J -23001460.15 -23001460.10 -23001460.04 0.0089 0.0079

Neptune -67688-09-04 10:47 J -23001372.08 -23001372.05 -23001372.00 0.0089 0.0084

Neptune -67688-12-01 12:13 J -23001283.99 -23001283.99 -23001283.99 0.0089 0.0089

Venus -67687-05-31 05:45 J -23001103.35 -23001103.26 -23001103.16 0.3817 0.1579

Jupiter -67687-10-05 10:33 J -23000976.24 -23000976.06 -23000975.87 0.0499 0.0088

Moon -67686-05-11 00:13 J -23000758.59 -23000758.49 -23000758.39 0.2698 0.1035

Earth -67686-05-11 00:28 J -23000758.58 -23000758.48 -23000758.38 0.2703 0.0945 *

Mars -67684-02-28 12:13 J -23000099.07 -23000098.99 -23000098.90 0.1567 0.1352

Venus -67682-12-14 22:18 J -22999079.67 -22999079.57 -22999079.46 0.3815 0.0109

Jupiter -67681-06-01 16:33 J -22998909.86 -22998909.81 -22998909.76 0.0527 0.0484

Jupiter -67681-08-29 21:49 J -22998820.71 -22998820.59 -22998820.46 0.0526 0.0015

Jupiter -67681-11-27 03:06 J -22998731.42 -22998731.37 -22998731.31 0.0525 0.0465

Mars -67678-10-17 07:54 J -22997677.25 -22997677.17 -22997677.10 0.1982 0.1462

Saturn -67676-06-21 20:23 J -22997063.73 -22997063.65 -22997063.56 0.0304 0.0226

Venus -67676-06-29 15:06 J -22997055.97 -22997055.87 -22997055.78 0.3815 0.1743

Saturn -67676-09-18 09:21 J -22996975.23 -22996975.11 -22996974.99 0.0304 0.0086

Saturn -67676-12-15 22:04 J -22996886.71 -22996886.58 -22996886.45 0.0304 0.0051

Saturn -67675-03-14 10:33 J -22996798.15 -22996798.06 -22996797.95 0.0303 0.0188

Jupiter -67675-07-24 07:40 J -22996666.34 -22996666.18 -22996666.01 0.0499 0.0238

Jupiter -67675-10-22 19:54 J -22996575.79 -22996575.67 -22996575.56 0.0500 0.0392

Moon -67673-05-12 17:30 J -22996007.88 -22996007.77 -22996007.66 0.2703 0.0102

Earth -67673-05-12 18:13 J -22996007.85 -22996007.74 -22996007.64 0.2705 0.0186 *

Mars -67673-06-27 06:13 J -22995962.31 -22995962.24 -22995962.17 0.1565 0.1416

Venus -67670-01-13 07:40 J -22995032.22 -22995032.18 -22995032.13 0.3813 0.3431

Moon -67670-11-06 03:49 J -22994735.49 -22994735.34 -22994735.20 0.2627 0.1247

Earth -67670-11-06 05:16 J -22994735.43 -22994735.28 -22994735.13 0.2631 0.0995 *

Jupiter -67669-06-18 02:09 J -22994510.53 -22994510.41 -22994510.29 0.0526 0.0130

Jupiter -67669-09-15 07:25 J -22994421.28 -22994421.19 -22994421.10 0.0526 0.0345

Mars -67668-03-08 15:06 J -22994246.98 -22994246.87 -22994246.75 0.1982 0.0363

Mars -67664-11-17 08:23 J -22992532.31 -22992532.15 -22992531.99 0.1566 0.0536

Jupiter -67663-05-12 04:47 J -22992356.42 -22992356.30 -22992356.19 0.0499 0.0390

Jupiter -67663-08-10 16:47 J -22992265.96 -22992265.80 -22992265.64 0.0499 0.0239

Saturn -67661-10-05 01:11 J -22991479.61 -22991479.45 -22991479.29 0.0259 0.0142

Saturn -67660-01-01 21:49 J -22991390.78 -22991390.59 -22991390.39 0.0259 0.0015

Saturn -67660-03-31 18:42 J -22991301.89 -22991301.72 -22991301.54 0.0259 0.0115

Moon -67660-05-15 11:16 J -22991257.13 -22991257.03 -22991256.94 0.2711 0.1235

Earth -67660-05-15 11:45 J -22991257.10 -22991257.01 -22991256.91 0.2707 0.1277 *

Saturn -67660-06-28 15:35 J -22991212.91 -22991212.85 -22991212.78 0.0260 0.0244

Mars -67659-07-29 22:47 J -22990816.66 -22990816.55 -22990816.45 0.1981 0.0729

Jupiter -67657-04-06 06:13 J -22990200.35 -22990200.24 -22990200.13 0.0527 0.0251

Jupiter -67657-07-04 11:30 J -22990111.13 -22990111.02 -22990110.90 0.0526 0.0226

Moon -67657-11-08 11:45 J -22989984.16 -22989984.01 -22989983.87 0.2629 0.1282

Earth -67657-11-08 13:25 J -22989984.08 -22989983.94 -22989983.80 0.2628 0.1355 *

Pluto -67656-09-07 18:42 J -22989680.74 -22989680.72 -22989680.68 0.0084 0.0082

Pluto -67656-12-04 20:09 J -22989592.72 -22989592.66 -22989592.57 0.0084 0.0072

Venus -67655-02-05 19:54 J -22989529.81 -22989529.67 -22989529.53 0.3563 0.1363

Pluto -67655-03-02 21:49 J -22989504.68 -22989504.59 -22989504.49 0.0084 0.0061

Pluto -67655-05-29 23:16 J -22989416.63 -22989416.53 -22989416.41 0.0084 0.0050

Pluto -67655-08-26 00:57 J -22989328.58 -22989328.46 -22989328.33 0.0084 0.0039

Pluto -67655-11-22 02:23 J -22989240.53 -22989240.40 -22989240.26 0.0084 0.0029

Pluto -67654-02-18 04:04 J -22989152.47 -22989152.33 -22989152.20 0.0084 0.0018

Mars -67654-04-09 10:33 J -22989102.22 -22989102.06 -22989101.89 0.1566 0.0344

Pluto -67654-05-17 05:30 J -22989064.41 -22989064.27 -22989064.13 0.0083 0.0008

Pluto -67654-08-13 06:57 J -22988976.35 -22988976.21 -22988976.07 0.0083 0.0003

Pluto -67654-11-09 08:23 J -22988888.29 -22988888.15 -22988888.01 0.0083 0.0013

Pluto -67653-02-05 09:49 J -22988800.23 -22988800.09 -22988799.96 0.0083 0.0023

Pluto -67653-05-03 11:16 J -22988712.16 -22988712.03 -22988711.91 0.0083 0.0033

Moon -67653-05-08 11:45 J -22988707.09 -22988707.01 -22988706.93 0.2694 0.1866

Earth -67653-05-08 11:45 J -22988707.09 -22988707.01 -22988706.93 0.2701 0.1826 *

Pluto -67653-07-30 12:28 J -22988624.09 -22988623.98 -22988623.86 0.0083 0.0043

Pluto -67653-10-26 13:40 J -22988536.02 -22988535.93 -22988535.81 0.0083 0.0054

Pluto -67652-01-22 15:21 J -22988447.95 -22988447.86 -22988447.77 0.0083 0.0063

Pluto -67652-04-20 16:47 J -22988359.86 -22988359.80 -22988359.74 0.0082 0.0073

Jupiter -67651-05-29 13:25 J -22987956.13 -22987955.94 -22987955.76 0.0499 0.0083

Uranus -67650-06-28 05:59 J -22987561.26 -22987561.25 -22987561.22 0.0134 0.0132

Venus -67650-08-23 02:09 J -22987505.53 -22987505.41 -22987505.30 0.3565 0.2266

Uranus -67650-09-24 09:06 J -22987473.18 -22987473.12 -22987473.05 0.0134 0.0115

Mars -67650-12-20 05:59 J -22987386.29 -22987386.25 -22987386.21 0.1979 0.1837

Uranus -67650-12-21 11:59 J -22987385.08 -22987385.00 -22987384.90 0.0134 0.0099

Uranus -67649-03-18 15:06 J -22987296.97 -22987296.87 -22987296.76 0.0134 0.0082

Uranus -67649-06-14 17:59 J -22987208.86 -22987208.75 -22987208.63 0.0134 0.0066

Uranus -67649-09-10 21:06 J -22987120.74 -22987120.62 -22987120.50 0.0135 0.0049

Uranus -67649-12-07 23:59 J -22987032.62 -22987032.50 -22987032.37 0.0135 0.0033

Uranus -67648-03-06 03:06 J -22986944.50 -22986944.37 -22986944.24 0.0135 0.0015

Uranus -67648-06-02 05:59 J -22986856.38 -22986856.25 -22986856.11 0.0135 0.0005

Uranus -67648-08-29 09:06 J -22986768.25 -22986768.12 -22986767.99 0.0135 0.0019

Uranus -67648-11-25 11:59 J -22986680.12 -22986680.00 -22986679.87 0.0135 0.0036

Uranus -67647-02-21 15:06 J -22986591.99 -22986591.87 -22986591.75 0.0135 0.0053

Moon -67647-05-18 05:16 J -22986506.34 -22986506.28 -22986506.23 0.2715 0.2324

Earth -67647-05-18 05:16 J -22986506.32 -22986506.28 -22986506.23 0.2709 0.2386 *

Uranus -67647-05-20 17:59 J -22986503.85 -22986503.75 -22986503.63 0.0135 0.0071

Uranus -67647-08-16 21:06 J -22986415.71 -22986415.62 -22986415.52 0.0135 0.0088

Saturn -67647-11-08 22:04 J -22986331.64 -22986331.58 -22986331.52 0.0304 0.0269

Uranus -67647-11-13 00:13 J -22986327.57 -22986327.49 -22986327.41 0.0136 0.0105

Saturn -67646-02-05 10:47 J -22986243.16 -22986243.05 -22986242.93 0.0303 0.0131

Uranus -67646-02-09 03:21 J -22986239.41 -22986239.36 -22986239.30 0.0136 0.0122

Saturn -67646-05-04 23:45 J -22986154.64 -22986154.51 -22986154.38 0.0303 0.0011

Saturn -67646-08-01 12:13 J -22986066.10 -22986065.99 -22986065.87 0.0303 0.0143

Saturn -67646-10-29 00:42 J -22985977.51 -22985977.47 -22985977.42 0.0302 0.0278

Jupiter -67645-01-24 10:47 J -22985890.13 -22985890.05 -22985889.95 0.0527 0.0364

Jupiter -67645-04-22 16:18 J -22985800.94 -22985800.82 -22985800.70 0.0526 0.0113

Mars -67645-08-29 12:57 J -22985672.06 -22985671.96 -22985671.85 0.1567 0.1218

Moon -67640-05-11 04:47 J -22983956.40 -22983956.30 -22983956.19 0.2698 0.0718

Earth -67640-05-11 05:16 J -22983956.38 -22983956.28 -22983956.17 0.2703 0.0718 *

Jupiter -67639-03-17 08:37 J -22983646.33 -22983646.14 -22983645.96 0.0499 0.0089

Mars -67638-04-17 07:40 J -22983250.25 -22983250.18 -22983250.11 0.1983 0.1559

Venus -67636-06-21 11:01 J -22982454.11 -22982454.04 -22982453.97 0.3817 0.2637

Jupiter -67634-11-12 15:21 J -22981579.90 -22981579.86 -22981579.80 0.0527 0.0478

Mars -67634-12-27 06:42 J -22981535.24 -22981535.22 -22981535.20 0.1566 0.1551

Jupiter -67633-02-09 20:52 J -22981490.75 -22981490.63 -22981490.50 0.0526 0.0009

Jupiter -67633-05-09 02:09 J -22981401.46 -22981401.41 -22981401.35 0.0526 0.0474

Saturn -67631-02-22 00:28 J -22980747.61 -22980747.48 -22980747.33 0.0259 0.0177

Saturn -67631-05-21 21:21 J -22980658.79 -22980658.61 -22980658.42 0.0259 0.0049

Saturn -67631-08-18 18:13 J -22980569.92 -22980569.74 -22980569.55 0.0259 0.0080

Saturn -67631-11-15 15:21 J -22980480.98 -22980480.86 -22980480.75 0.0260 0.0209

Venus -67630-01-05 03:35 J -22980430.45 -22980430.35 -22980430.25 0.3816 0.1007

Mars -67629-09-06 15:21 J -22979819.97 -22979819.86 -22979819.75 0.1982 0.0485

Jupiter -67627-01-03 05:01 J -22979336.45 -22979336.29 -22979336.12 0.0499 0.0244

Jupiter -67627-04-03 17:16 J -22979245.90 -22979245.78 -22979245.66 0.0500 0.0385

Moon -67627-05-13 22:18 J -22979205.68 -22979205.57 -22979205.46 0.2704 0.0290

Earth -67627-05-13 23:01 J -22979205.65 -22979205.54 -22979205.44 0.2705 0.0400 *

Venus -67625-07-20 20:09 J -22978406.76 -22978406.66 -22978406.56 0.3815 0.0662

Mars -67624-05-18 09:06 J -22978105.27 -22978105.12 -22978104.97 0.1566 0.0676

Moon -67624-11-06 10:33 J -22977933.22 -22977933.06 -22977932.90 0.2627 0.0582

Earth -67624-11-06 11:59 J -22977933.16 -22977933.00 -22977932.84 0.2631 0.0547 *

Jupiter -67622-11-29 00:57 J -22977180.58 -22977180.46 -22977180.34 0.0526 0.0125

Jupiter -67621-02-26 06:13 J -22977091.33 -22977091.24 -22977091.14 0.0526 0.0350

Mars -67619-01-27 22:47 J -22976389.66 -22976389.55 -22976389.45 0.1981 0.0626

Venus -67619-02-03 12:42 J -22976383.05 -22976382.97 -22976382.89 0.3814 0.2336

Saturn -67617-06-24 12:57 J -22975511.07 -22975510.96 -22975510.85 0.0304 0.0170

Saturn -67617-09-21 01:40 J -22975422.56 -22975422.43 -22975422.30 0.0304 0.0031

Saturn -67617-12-18 14:23 J -22975334.02 -22975333.90 -22975333.78 0.0303 0.0106

Saturn -67616-03-17 02:52 J -22975245.45 -22975245.38 -22975245.30 0.0303 0.0241

Jupiter -67616-10-22 02:09 J -22975026.52 -22975026.41 -22975026.29 0.0499 0.0396

Jupiter -67615-01-20 14:23 J -22974936.07 -22974935.90 -22974935.74 0.0500 0.0234

Mars -67615-10-08 11:30 J -22974675.19 -22974675.02 -22974674.85 0.1566 0.0205

Moon -67614-05-16 16:04 J -22974454.92 -22974454.83 -22974454.74 0.2712 0.1436

Earth -67614-05-16 16:33 J -22974454.90 -22974454.81 -22974454.72 0.2707 0.1498 *

Neptune -67613-09-07 06:42 J -22973975.25 -22973975.22 -22973975.15 0.0089 0.0086

Neptune -67613-12-04 10:47 J -22973887.14 -22973887.05 -22973886.96 0.0089 0.0078

Neptune -67612-03-02 14:09 J -22973799.01 -22973798.91 -22973798.78 0.0089 0.0071

Neptune -67612-05-29 18:13 J -22973710.88 -22973710.74 -22973710.60 0.0089 0.0063

Neptune -67612-08-25 21:35 J -22973622.74 -22973622.60 -22973622.44 0.0089 0.0056

Neptune -67612-11-22 01:11 J -22973534.60 -22973534.45 -22973534.27 0.0089 0.0049

Neptune -67611-02-18 05:01 J -22973446.45 -22973446.29 -22973446.11 0.0089 0.0041

Neptune -67611-05-17 08:37 J -22973358.31 -22973358.14 -22973357.95 0.0089 0.0034

Neptune -67611-08-13 12:28 J -22973270.16 -22973269.98 -22973269.78 0.0089 0.0026

Neptune -67611-11-09 16:04 J -22973182.01 -22973181.83 -22973181.63 0.0089 0.0019

Moon -67611-11-09 18:28 J -22973181.86 -22973181.73 -22973181.60 0.2630 0.1522 *

Earth -67611-11-09 20:23 J -22973181.77 -22973181.65 -22973181.54 0.2628 0.1809 *

Neptune -67610-02-05 19:54 J -22973093.86 -22973093.67 -22973093.47 0.0089 0.0011

Neptune -67610-05-04 23:45 J -22973005.71 -22973005.51 -22973005.31 0.0089 0.0003

Mars -67610-06-20 06:13 J -22972959.30 -22972959.24 -22972959.19 0.1980 0.1712

Neptune -67610-08-01 03:21 J -22972917.55 -22972917.36 -22972917.16 0.0089 0.0005

Jupiter -67610-09-17 05:01 J -22972870.40 -22972870.29 -22972870.18 0.0526 0.0247

Neptune -67610-10-28 07:11 J -22972829.40 -22972829.20 -22972829.01 0.0089 0.0012

Uranus -67610-10-31 05:16 J -22972826.32 -22972826.28 -22972826.21 0.0144 0.0139

Jupiter -67610-12-15 10:18 J -22972781.18 -22972781.07 -22972780.95 0.0526 0.0229

Neptune -67609-01-24 10:47 J -22972741.24 -22972741.05 -22972740.85 0.0089 0.0020

Uranus -67609-01-27 14:09 J -22972738.03 -22972737.91 -22972737.77 0.0144 0.0107

Neptune -67609-04-21 14:37 J -22972653.08 -22972652.89 -22972652.70 0.0089 0.0027

Uranus -67609-04-24 22:47 J -22972649.70 -22972649.55 -22972649.37 0.0144 0.0077

Neptune -67609-07-18 17:59 J -22972564.92 -22972564.75 -22972564.56 0.0089 0.0035

Uranus -67609-07-22 07:40 J -22972561.36 -22972561.18 -22972560.99 0.0144 0.0045

Neptune -67609-10-14 21:35 J -22972476.75 -22972476.60 -22972476.41 0.0089 0.0043

Uranus -67609-10-18 16:33 J -22972473.01 -22972472.81 -22972472.62 0.0144 0.0014

Neptune -67608-01-11 01:25 J -22972388.59 -22972388.44 -22972388.26 0.0089 0.0050

Uranus -67608-01-15 01:11 J -22972384.65 -22972384.45 -22972384.26 0.0144 0.0017

Neptune -67608-04-09 05:01 J -22972300.42 -22972300.29 -22972300.12 0.0089 0.0058

Uranus -67608-04-13 09:35 J -22972296.28 -22972296.10 -22972295.91 0.0144 0.0048

Neptune -67608-07-06 08:52 J -22972212.25 -22972212.13 -22972211.98 0.0089 0.0065

Uranus -67608-07-10 18:13 J -22972207.90 -22972207.74 -22972207.57 0.0143 0.0078

Neptune -67608-10-02 12:28 J -22972124.07 -22972123.98 -22972123.85 0.0089 0.0073

Uranus -67608-10-07 02:52 J -22972119.50 -22972119.38 -22972119.25 0.0143 0.0109

Neptune -67608-12-29 16:33 J -22972035.89 -22972035.81 -22972035.72 0.0089 0.0080

Uranus -67607-01-03 11:01 J -22972031.06 -22972031.04 -22972030.97 0.0143 0.0140

Neptune -67607-03-27 19:54 J -22971947.68 -22971947.67 -22971947.62 0.0089 0.0088

Moon -67607-05-09 16:18 J -22971904.90 -22971904.82 -22971904.73 0.2695 0.1553

Earth -67607-05-09 16:33 J -22971904.90 -22971904.81 -22971904.73 0.2701 0.1604 *

Mars -67605-02-28 13:40 J -22971245.05 -22971244.93 -22971244.81 0.1567 0.1083

Jupiter -67604-11-08 11:01 J -22970626.22 -22970626.04 -22970625.85 0.0499 0.0080

Saturn -67602-07-12 00:42 J -22970015.58 -22970015.47 -22970015.36 0.0259 0.0209

Saturn -67602-10-08 21:21 J -22969926.79 -22969926.61 -22969926.43 0.0259 0.0082

Saturn -67601-01-05 18:13 J -22969837.93 -22969837.74 -22969837.55 0.0259 0.0047

Saturn -67601-04-03 15:06 J -22969749.01 -22969748.87 -22969748.73 0.0260 0.0176

Moon -67601-05-18 10:04 J -22969704.10 -22969704.08 -22969704.05 0.2716 0.2641

Earth -67601-05-18 10:04 J -22969704.10 -22969704.08 -22969704.05 0.2709 0.2605 *

Venus -67599-09-12 21:21 J -22968856.76 -22968856.61 -22968856.46 0.3564 0.0129

Mars -67599-10-16 07:54 J -22968823.23 -22968823.17 -22968823.12 0.1983 0.1688

Jupiter -67598-07-06 09:06 J -22968560.21 -22968560.12 -22968560.03 0.0527 0.0370

Jupiter -67598-10-03 14:23 J -22968471.02 -22968470.90 -22968470.77 0.0526 0.0109

Moon -67594-05-12 09:35 J -22967154.21 -22967154.10 -22967153.99 0.2698 0.0614

Earth -67594-05-12 10:04 J -22967154.18 -22967154.08 -22967153.97 0.2703 0.0494 *

Venus -67593-03-29 03:21 J -22966832.39 -22966832.36 -22966832.33 0.3565 0.3469

Jupiter -67592-08-27 07:25 J -22966316.37 -22966316.19 -22966316.00 0.0499 0.0079

Moon -67591-11-04 09:35 J -22965882.14 -22965882.10 -22965882.05 0.2627 0.2504

Earth -67591-11-04 10:33 J -22965882.11 -22965882.06 -22965882.00 0.2633 0.2438 *

Mars -67589-03-07 15:06 J -22965392.98 -22965392.87 -22965392.76 0.1982 0.0580

Saturn -67588-11-11 14:52 J -22964778.97 -22964778.88 -22964778.78 0.0303 0.0209

Saturn -67587-02-08 03:49 J -22964690.47 -22964690.34 -22964690.22 0.0303 0.0071

Saturn -67587-05-07 16:33 J -22964601.94 -22964601.81 -22964601.69 0.0303 0.0067

Saturn -67587-08-04 05:01 J -22964513.38 -22964513.29 -22964513.19 0.0302 0.0202

Jupiter -67586-04-24 13:40 J -22964249.98 -22964249.93 -22964249.88 0.0527 0.0484

Jupiter -67586-07-22 19:11 J -22964160.83 -22964160.70 -22964160.58 0.0527 0.0010

Jupiter -67586-10-20 00:28 J -22964071.53 -22964071.48 -22964071.42 0.0526 0.0468

Venus -67585-07-12 16:18 J -22963804.85 -22963804.82 -22963804.80 0.3817 0.3685

Mars -67585-11-16 09:49 J -22963678.24 -22963678.09 -22963677.95 0.1566 0.0810

Moon -67581-05-14 03:06 J -22962403.48 -22962403.37 -22962403.27 0.2707 0.0588

Earth -67581-05-14 03:49 J -22962403.45 -22962403.34 -22962403.24 0.2705 0.0622 *

Jupiter -67580-06-15 02:37 J -22962006.55 -22962006.39 -22962006.22 0.0499 0.0249

Mars -67580-07-28 22:47 J -22961962.66 -22961962.55 -22961962.44 0.1981 0.0511

Jupiter -67580-09-13 14:37 J -22961916.00 -22961915.89 -22961915.76 0.0499 0.0380

Venus -67579-01-26 08:37 J -22961781.22 -22961781.14 -22961781.05 0.3817 0.2061

Moon -67578-11-07 17:16 J -22961130.94 -22961130.78 -22961130.62 0.2628 0.0332

Earth -67578-11-07 18:42 J -22961130.88 -22961130.72 -22961130.55 0.2630 0.0120 *

Mars -67575-04-08 11:59 J -22960248.17 -22960248.00 -22960247.83 0.1566 0.0079

Earth -67574-05-08 03:35 J -22959853.39 -22959853.35 -22959853.31 0.2699 0.2491

Moon -67574-05-08 04:04 J -22959853.38 -22959853.33 -22959853.29 0.2693 0.2400 *

Jupiter -67574-05-10 23:45 J -22959850.64 -22959850.51 -22959850.39 0.0527 0.0124

Jupiter -67574-08-08 05:01 J -22959761.38 -22959761.29 -22959761.20 0.0526 0.0353

Venus -67574-08-12 01:11 J -22959757.55 -22959757.45 -22959757.35 0.3816 0.0419

Saturn -67573-11-28 00:28 J -22959283.54 -22959283.48 -22959283.40 0.0259 0.0241

Saturn -67572-02-24 21:06 J -22959194.78 -22959194.62 -22959194.44 0.0259 0.0114

Saturn -67572-05-24 18:13 J -22959105.94 -22959105.74 -22959105.55 0.0259 0.0016

Saturn -67572-08-21 14:52 J -22959017.03 -22959016.88 -22959016.71 0.0260 0.0144

Mars -67571-12-19 06:13 J -22958532.31 -22958532.24 -22958532.17 0.1979 0.1592

Venus -67568-02-24 17:45 J -22957733.86 -22957733.76 -22957733.66 0.3815 0.1244

Jupiter -67568-04-02 23:16 J -22957696.63 -22957696.53 -22957696.42 0.0499 0.0405

Moon -67568-05-16 20:52 J -22957652.71 -22957652.63 -22957652.55 0.2712 0.1662

Earth -67568-05-16 21:21 J -22957652.69 -22957652.61 -22957652.53 0.2707 0.1723 *

Jupiter -67568-07-02 11:16 J -22957606.20 -22957606.03 -22957605.86 0.0499 0.0224

Uranus -67566-07-18 13:11 J -22956859.98 -22956859.95 -22956859.92 0.0134 0.0129

Mars -67566-08-29 14:23 J -22956818.03 -22956817.90 -22956817.76 0.1567 0.0941

Uranus -67566-10-14 15:49 J -22956771.89 -22956771.84 -22956771.76 0.0134 0.0114

Uranus -67565-01-10 18:57 J -22956683.79 -22956683.71 -22956683.61 0.0134 0.0097

Uranus -67565-04-07 22:04 J -22956595.68 -22956595.58 -22956595.47 0.0134 0.0080

Uranus -67565-07-05 01:11 J -22956507.57 -22956507.45 -22956507.34 0.0135 0.0063

Uranus -67565-10-01 04:04 J -22956419.45 -22956419.33 -22956419.21 0.0135 0.0046

Moon -67565-11-10 01:11 J -22956379.54 -22956379.45 -22956379.36 0.2629 0.2189

Earth -67565-11-10 03:06 J -22956379.45 -22956379.37 -22956379.29 0.2628 0.2252 *

Uranus -67565-12-28 06:57 J -22956331.33 -22956331.21 -22956331.08 0.0135 0.0030

Uranus -67564-03-26 10:04 J -22956243.21 -22956243.08 -22956242.95 0.0135 0.0012

Uranus -67564-06-22 13:11 J -22956155.08 -22956154.95 -22956154.82 0.0135 0.0006

Uranus -67564-09-18 16:04 J -22956066.96 -22956066.83 -22956066.70 0.0135 0.0022

Uranus -67564-12-15 18:57 J -22955978.83 -22955978.71 -22955978.58 0.0135 0.0040

Uranus -67563-03-13 22:04 J -22955890.69 -22955890.58 -22955890.46 0.0135 0.0056

Uranus -67563-06-10 01:11 J -22955802.56 -22955802.45 -22955802.34 0.0135 0.0073

Uranus -67563-09-06 04:04 J -22955714.42 -22955714.33 -22955714.22 0.0136 0.0091

Venus -67563-09-10 10:33 J -22955710.13 -22955710.06 -22955710.00 0.3814 0.2939

Uranus -67563-12-03 07:11 J -22955626.27 -22955626.20 -22955626.12 0.0136 0.0108

Jupiter -67562-02-27 03:35 J -22955540.46 -22955540.35 -22955540.24 0.0527 0.0248

Uranus -67562-03-01 10:04 J -22955538.11 -22955538.08 -22955538.02 0.0136 0.0126

Jupiter -67562-05-27 09:06 J -22955451.24 -22955451.12 -22955451.01 0.0526 0.0229

Moon -67561-05-09 21:06 J -22955102.71 -22955102.62 -22955102.53 0.2695 0.1445

Earth -67561-05-09 21:21 J -22955102.71 -22955102.61 -22955102.52 0.2701 0.1379 *

Mars -67559-04-16 07:40 J -22954396.22 -22954396.18 -22954396.13 0.1982 0.1797

Saturn -67558-03-31 17:16 J -22954046.85 -22954046.78 -22954046.70 0.0304 0.0243

Saturn -67558-06-28 06:13 J -22953958.36 -22953958.24 -22953958.12 0.0304 0.0105

Saturn -67558-09-24 18:57 J -22953869.84 -22953869.71 -22953869.58 0.0303 0.0033

Saturn -67558-12-22 07:25 J -22953781.29 -22953781.19 -22953781.08 0.0303 0.0169

Jupiter -67556-04-20 08:09 J -22953296.34 -22953296.16 -22953295.97 0.0499 0.0070

Jupiter -67551-12-16 07:40 J -22951230.26 -22951230.18 -22951230.09 0.0526 0.0370

Jupiter -67550-03-15 13:11 J -22951141.08 -22951140.95 -22951140.83 0.0526 0.0107

Mars -67550-09-06 15:06 J -22950965.97 -22950965.87 -22950965.76 0.1982 0.0704

Moon -67548-05-12 14:23 J -22950352.01 -22950351.90 -22950351.79 0.2699 0.0272

Earth -67548-05-12 14:52 J -22950351.99 -22950351.88 -22950351.77 0.2703 0.0274 *

Venus -67548-10-03 16:18 J -22950207.92 -22950207.82 -22950207.71 0.3563 0.2595

Mars -67545-05-17 10:33 J -22949251.20 -22949251.06 -22949250.93 0.1566 0.0946

Moon -67545-11-04 16:18 J -22949079.91 -22949079.82 -22949079.72 0.2627 0.2086

Earth -67545-11-04 17:30 J -22949079.88 -22949079.77 -22949079.67 0.2632 0.1997 *

Jupiter -67544-02-06 04:47 J -22948986.48 -22948986.30 -22948986.11 0.0499 0.0086

Saturn -67543-07-14 21:35 J -22948462.76 -22948462.60 -22948462.44 0.0259 0.0144

Saturn -67543-10-11 18:28 J -22948373.92 -22948373.73 -22948373.54 0.0259 0.0016

Saturn -67542-01-08 15:06 J -22948285.03 -22948284.87 -22948284.69 0.0260 0.0114

Saturn -67542-04-07 12:13 J -22948196.05 -22948195.99 -22948195.92 0.0260 0.0243

Venus -67542-04-19 22:47 J -22948183.69 -22948183.55 -22948183.40 0.3564 0.1110

Mars -67540-01-26 22:47 J -22947535.67 -22947535.55 -22947535.44 0.1981 0.0396

Jupiter -67539-10-04 11:45 J -22946920.05 -22946920.01 -22946919.97 0.0527 0.0494

Jupiter -67538-01-01 17:01 J -22946830.91 -22946830.79 -22946830.66 0.0526 0.0023

Jupiter -67538-03-31 22:33 J -22946741.62 -22946741.56 -22946741.50 0.0526 0.0458

Mars -67536-10-07 12:42 J -22945821.14 -22945820.97 -22945820.80 0.1566 0.0077

Moon -67535-05-15 07:54 J -22945601.28 -22945601.17 -22945601.07 0.2708 0.0702

Earth -67535-05-15 08:37 J -22945601.25 -22945601.14 -22945601.04 0.2706 0.0843 *

Jupiter -67533-11-25 01:11 J -22944676.61 -22944676.45 -22944676.28 0.0499 0.0244

Jupiter -67532-02-23 13:11 J -22944586.06 -22944585.95 -22944585.83 0.0499 0.0386

Moon -67532-11-07 23:45 J -22944328.67 -22944328.51 -22944328.34 0.2629 0.0232

Earth -67532-11-08 01:40 J -22944328.59 -22944328.43 -22944328.27 0.2630 0.0347 *

Neptune -67531-03-21 14:23 J -22944194.92 -22944194.90 -22944194.86 0.0089 0.0087

Neptune -67531-06-17 15:35 J -22944106.88 -22944106.85 -22944106.78 0.0089 0.0082

Mars -67531-06-19 05:59 J -22944105.32 -22944105.25 -22944105.17 0.1980 0.1495

Neptune -67531-09-13 17:01 J -22944018.84 -22944018.79 -22944018.71 0.0089 0.0077

Neptune -67531-12-10 18:13 J -22943930.80 -22943930.74 -22943930.65 0.0089 0.0072

Neptune -67530-03-08 19:54 J -22943842.76 -22943842.67 -22943842.58 0.0089 0.0066

Neptune -67530-06-04 21:06 J -22943754.71 -22943754.62 -22943754.52 0.0089 0.0061

Neptune -67530-08-31 22:33 J -22943666.66 -22943666.56 -22943666.46 0.0089 0.0056

Neptune -67530-11-27 23:45 J -22943578.61 -22943578.51 -22943578.40 0.0089 0.0051

Neptune -67529-02-24 00:57 J -22943490.56 -22943490.46 -22943490.34 0.0089 0.0046

Neptune -67529-05-22 02:23 J -22943402.51 -22943402.40 -22943402.28 0.0089 0.0041

Saturn -67529-08-17 19:54 J -22943314.72 -22943314.67 -22943314.62 0.0304 0.0277

Neptune -67529-08-18 03:35 J -22943314.46 -22943314.35 -22943314.22 0.0089 0.0036

Neptune -67529-11-14 05:01 J -22943226.41 -22943226.29 -22943226.16 0.0089 0.0030

Saturn -67529-11-14 08:52 J -22943226.25 -22943226.13 -22943226.02 0.0303 0.0138 *

Neptune -67528-02-10 06:13 J -22943138.36 -22943138.24 -22943138.10 0.0089 0.0026

Saturn -67528-02-10 21:35 J -22943137.73 -22943137.60 -22943137.47 0.0303 0.0006

Venus -67528-02-16 13:54 J -22943131.98 -22943131.92 -22943131.87 0.3818 0.3121

Earth -67528-05-08 08:23 J -22943051.21 -22943051.15 -22943051.09 0.2699 0.2263

Moon -67528-05-08 08:37 J -22943051.19 -22943051.14 -22943051.08 0.2694 0.2242 *

Neptune -67528-05-09 07:40 J -22943050.30 -22943050.18 -22943050.05 0.0089 0.0020

Saturn -67528-05-10 10:04 J -22943049.19 -22943049.08 -22943048.96 0.0302 0.0135

Neptune -67528-08-05 09:06 J -22942962.25 -22942962.12 -22942961.99 0.0089 0.0015

Saturn -67528-08-06 22:33 J -22942960.61 -22942960.56 -22942960.50 0.0302 0.0270

Neptune -67528-11-01 10:18 J -22942874.20 -22942874.07 -22942873.94 0.0089 0.0010

Neptune -67527-01-28 11:45 J -22942786.14 -22942786.01 -22942785.88 0.0089 0.0005

Neptune -67527-04-26 12:57 J -22942698.09 -22942697.96 -22942697.83 0.0089 0.0002

Neptune -67527-07-23 14:23 J -22942610.03 -22942609.90 -22942609.77 0.0089 0.0006

Neptune -67527-10-19 15:35 J -22942521.98 -22942521.85 -22942521.72 0.0089 0.0011

Jupiter -67527-10-20 21:35 J -22942520.72 -22942520.60 -22942520.48 0.0527 0.0133

Neptune -67526-01-15 16:47 J -22942433.92 -22942433.80 -22942433.66 0.0089 0.0016

Jupiter -67526-01-18 02:52 J -22942431.47 -22942431.38 -22942431.28 0.0526 0.0344

Mars -67526-02-27 15:06 J -22942391.01 -22942390.87 -22942390.72 0.1567 0.0809

Neptune -67526-04-13 18:13 J -22942345.87 -22942345.74 -22942345.61 0.0089 0.0021

Neptune -67526-07-10 19:25 J -22942257.81 -22942257.69 -22942257.56 0.0089 0.0026

Neptune -67526-10-06 20:52 J -22942169.75 -22942169.63 -22942169.51 0.0089 0.0031

Uranus -67526-11-20 13:11 J -22942125.02 -22942124.95 -22942124.85 0.0144 0.0130

Neptune -67525-01-02 22:04 J -22942081.70 -22942081.58 -22942081.46 0.0089 0.0036

Uranus -67525-02-16 21:49 J -22942036.71 -22942036.59 -22942036.43 0.0144 0.0099

Neptune -67525-03-30 23:30 J -22941993.64 -22941993.52 -22941993.41 0.0089 0.0041

Uranus -67525-05-15 06:42 J -22941948.38 -22941948.22 -22941948.04 0.0144 0.0068

Neptune -67525-06-27 00:42 J -22941905.58 -22941905.47 -22941905.36 0.0089 0.0046

Uranus -67525-08-11 15:35 J -22941860.04 -22941859.85 -22941859.66 0.0144 0.0037

Neptune -67525-09-23 01:54 J -22941817.52 -22941817.42 -22941817.31 0.0089 0.0051

Uranus -67525-11-08 00:13 J -22941771.68 -22941771.49 -22941771.29 0.0144 0.0007

Neptune -67525-12-20 03:06 J -22941729.46 -22941729.37 -22941729.26 0.0089 0.0057

Uranus -67524-02-04 08:52 J -22941683.32 -22941683.13 -22941682.93 0.0144 0.0026

Neptune -67524-03-18 04:18 J -22941641.40 -22941641.32 -22941641.21 0.0089 0.0062

Uranus -67524-05-03 17:30 J -22941594.94 -22941594.77 -22941594.58 0.0144 0.0056

Neptune -67524-06-14 05:45 J -22941553.34 -22941553.26 -22941553.17 0.0089 0.0067

Uranus -67524-07-31 02:09 J -22941506.56 -22941506.41 -22941506.25 0.0143 0.0087

Neptune -67524-09-10 06:57 J -22941465.27 -22941465.21 -22941465.12 0.0089 0.0072

Uranus -67524-10-27 10:33 J -22941418.16 -22941418.06 -22941417.94 0.0143 0.0117

Neptune -67524-12-07 08:09 J -22941377.21 -22941377.16 -22941377.08 0.0089 0.0077

Neptune -67523-03-05 09:35 J -22941289.14 -22941289.10 -22941289.04 0.0089 0.0082

Neptune -67523-06-01 10:47 J -22941201.06 -22941201.05 -22941201.01 0.0089 0.0087

Venus -67523-09-02 06:28 J -22941108.33 -22941108.23 -22941108.14 0.3817 0.1495

Moon -67522-05-18 01:54 J -22940850.50 -22940850.42 -22940850.35 0.2713 0.1936

Earth -67522-05-18 02:09 J -22940850.48 -22940850.41 -22940850.34 0.2708 0.1945 *

Jupiter -67521-09-12 20:37 J -22940366.74 -22940366.64 -22940366.54 0.0498 0.0413

Jupiter -67521-12-12 08:23 J -22940276.31 -22940276.15 -22940275.98 0.0499 0.0215

Mars -67520-10-15 07:40 J -22939969.21 -22939969.18 -22939969.15 0.1983 0.1902

Moon -67519-11-11 08:09 J -22939577.22 -22939577.16 -22939577.10 0.2629 0.2424

Venus -67517-03-17 22:47 J -22939084.65 -22939084.55 -22939084.45 0.3816 0.0177

Moon -67515-05-11 01:40 J -22938300.52 -22938300.43 -22938300.33 0.2695 0.1151

Earth -67515-05-11 02:09 J -22938300.51 -22938300.41 -22938300.32 0.2702 0.1160 *

Jupiter -67515-08-09 02:09 J -22938210.52 -22938210.41 -22938210.30 0.0527 0.0251

Jupiter -67515-11-06 07:25 J -22938121.30 -22938121.19 -22938121.08 0.0526 0.0227

Saturn -67514-12-01 21:49 J -22937730.72 -22937730.59 -22937730.44 0.0259 0.0174

Saturn -67513-02-28 18:42 J -22937641.91 -22937641.72 -22937641.53 0.0260 0.0046

Saturn -67513-05-27 15:35 J -22937553.03 -22937552.85 -22937552.67 0.0260 0.0083

Saturn -67513-08-24 12:28 J -22937464.08 -22937463.98 -22937463.86 0.0260 0.0213

Venus -67512-10-01 15:35 J -22937060.94 -22937060.85 -22937060.76 0.3815 0.1845

Mars -67510-03-07 15:21 J -22936538.97 -22936538.86 -22936538.76 0.1982 0.0823

Jupiter -67509-09-30 05:01 J -22935966.48 -22935966.29 -22935966.11 0.0499 0.0058

Venus -67506-04-17 08:09 J -22935037.20 -22935037.16 -22935037.12 0.3814 0.3531

Mars -67506-11-16 11:16 J -22934824.15 -22934824.03 -22934823.91 0.1566 0.1089

Jupiter -67503-05-28 05:59 J -22933900.34 -22933900.25 -22933900.16 0.0527 0.0375

Jupiter -67503-08-25 11:30 J -22933811.15 -22933811.02 -22933810.90 0.0526 0.0103

Pluto -67502-03-15 16:47 J -22933608.85 -22933608.80 -22933608.73 0.0060 0.0057

Moon -67502-05-13 19:11 J -22933549.81 -22933549.70 -22933549.60 0.2701 0.0194

Earth -67502-05-13 19:40 J -22933549.79 -22933549.68 -22933549.57 0.2704 0.0061 *

Pluto -67502-06-11 17:45 J -22933520.83 -22933520.76 -22933520.65 0.0061 0.0052

Pluto -67502-09-07 18:57 J -22933432.80 -22933432.71 -22933432.58 0.0061 0.0047

Pluto -67502-12-04 20:09 J -22933344.77 -22933344.66 -22933344.51 0.0061 0.0042

Pluto -67501-03-01 21:21 J -22933256.74 -22933256.61 -22933256.45 0.0061 0.0037

Pluto -67501-05-28 22:33 J -22933168.70 -22933168.56 -22933168.39 0.0061 0.0032

Mars -67501-07-27 22:47 J -22933108.67 -22933108.55 -22933108.44 0.1981 0.0282

Pluto -67501-08-24 23:45 J -22933080.65 -22933080.51 -22933080.33 0.0061 0.0027

Pluto -67501-11-21 01:25 J -22932992.61 -22932992.44 -22932992.27 0.0061 0.0021

Pluto -67500-02-17 02:23 J -22932904.56 -22932904.40 -22932904.21 0.0061 0.0016

Pluto -67500-05-16 03:49 J -22932816.52 -22932816.34 -22932816.16 0.0061 0.0011

Pluto -67500-08-12 05:01 J -22932728.47 -22932728.29 -22932728.10 0.0061 0.0006

Pluto -67500-11-08 06:28 J -22932640.42 -22932640.23 -22932640.05 0.0061 0.0001

Pluto -67499-02-04 07:25 J -22932552.36 -22932552.19 -22932552.00 0.0061 0.0006

Saturn -67499-04-03 11:30 J -22932494.12 -22932494.02 -22932493.91 0.0304 0.0169

Pluto -67499-05-03 08:37 J -22932464.31 -22932464.14 -22932463.95 0.0061 0.0011

Saturn -67499-07-01 00:28 J -22932405.61 -22932405.48 -22932405.36 0.0303 0.0033

Pluto -67499-07-30 10:04 J -22932376.25 -22932376.08 -22932375.90 0.0061 0.0016

Saturn -67499-09-27 12:57 J -22932317.08 -22932316.96 -22932316.84 0.0303 0.0106

Pluto -67499-10-26 11:30 J -22932288.19 -22932288.02 -22932287.85 0.0061 0.0021

Moon -67499-11-05 23:01 J -22932277.66 -22932277.54 -22932277.41 0.2627 0.1683

Earth -67499-11-06 00:13 J -22932277.62 -22932277.49 -22932277.36 0.2632 0.1555 *

Saturn -67499-12-25 01:40 J -22932228.51 -22932228.43 -22932228.36 0.0302 0.0241

Pluto -67498-01-22 12:28 J -22932200.13 -22932199.98 -22932199.80 0.0062 0.0027

Pluto -67498-04-20 13:54 J -22932112.07 -22932111.92 -22932111.76 0.0062 0.0032

Pluto -67498-07-17 14:52 J -22932024.01 -22932023.88 -22932023.72 0.0062 0.0038

Pluto -67498-10-13 16:18 J -22931935.94 -22931935.82 -22931935.67 0.0062 0.0043

Pluto -67497-01-09 17:16 J -22931847.86 -22931847.78 -22931847.64 0.0062 0.0049

Pluto -67497-04-06 18:57 J -22931759.78 -22931759.71 -22931759.61 0.0062 0.0054

Pluto -67497-07-03 19:54 J -22931671.69 -22931671.67 -22931671.59 0.0062 0.0060

Jupiter -67497-07-19 01:40 J -22931656.61 -22931656.43 -22931656.25 0.0499 0.0099

Mars -67496-04-07 13:40 J -22931394.10 -22931393.93 -22931393.77 0.1566 0.0211

Mars -67492-12-18 06:13 J -22929678.32 -22929678.24 -22929678.16 0.1980 0.1375

Jupiter -67491-03-16 10:04 J -22929590.12 -22929590.08 -22929590.04 0.0527 0.0497

Venus -67491-05-10 17:59 J -22929534.89 -22929534.75 -22929534.61 0.3563 0.1327

Jupiter -67491-06-13 15:35 J -22929500.98 -22929500.85 -22929500.73 0.0526 0.0025

Jupiter -67491-09-10 20:52 J -22929411.69 -22929411.63 -22929411.57 0.0526 0.0454

Moon -67489-05-15 12:42 J -22928799.07 -22928798.97 -22928798.87 0.2708 0.1048

Earth -67489-05-15 13:25 J -22928799.04 -22928798.94 -22928798.84 0.2706 0.1064 *

Mars -67487-08-28 15:49 J -22927963.99 -22927963.84 -22927963.69 0.1567 0.0674

Moon -67486-11-09 06:28 J -22927526.39 -22927526.23 -22927526.07 0.2629 0.0577

Earth -67486-11-09 08:23 J -22927526.31 -22927526.15 -22927526.00 0.2629 0.0788 *

Venus -67486-11-25 00:13 J -22927510.61 -22927510.49 -22927510.38 0.3564 0.2335

Jupiter -67485-05-06 22:18 J -22927346.73 -22927346.57 -22927346.41 0.0499 0.0255

Jupiter -67485-08-05 10:04 J -22927256.19 -22927256.08 -22927255.95 0.0499 0.0376

Saturn -67484-04-19 22:33 J -22926998.67 -22926998.56 -22926998.43 0.0259 0.0202

Saturn -67484-07-17 19:25 J -22926909.87 -22926909.69 -22926909.50 0.0259 0.0074

Saturn -67484-10-14 16:18 J -22926821.01 -22926820.82 -22926820.63 0.0260 0.0055

Saturn -67483-01-11 13:11 J -22926732.08 -22926731.95 -22926731.81 0.0260 0.0185

Earth -67482-05-09 13:11 J -22926249.02 -22926248.95 -22926248.88 0.2700 0.2040

Moon -67482-05-09 13:25 J -22926249.01 -22926248.94 -22926248.87 0.2694 0.2016 *

Uranus -67482-08-07 20:09 J -22926158.70 -22926158.66 -22926158.62 0.0134 0.0126

Uranus -67482-11-03 23:01 J -22926070.61 -22926070.54 -22926070.46 0.0134 0.0110

Uranus -67481-01-31 01:54 J -22925982.50 -22925982.42 -22925982.32 0.0134 0.0094

Uranus -67481-04-28 05:01 J -22925894.39 -22925894.29 -22925894.18 0.0134 0.0077

Uranus -67481-07-25 08:09 J -22925806.28 -22925806.16 -22925806.04 0.0135 0.0060

Uranus -67481-10-21 11:01 J -22925718.16 -22925718.04 -22925717.91 0.0135 0.0043

Uranus -67480-01-17 14:09 J -22925630.04 -22925629.91 -22925629.78 0.0135 0.0026

Uranus -67480-04-15 17:01 J -22925541.92 -22925541.79 -22925541.66 0.0135 0.0010

Uranus -67480-07-12 20:09 J -22925453.79 -22925453.66 -22925453.53 0.0135 0.0008

Uranus -67480-10-08 23:01 J -22925365.66 -22925365.54 -22925365.41 0.0135 0.0025

Uranus -67479-01-05 02:09 J -22925277.53 -22925277.41 -22925277.28 0.0135 0.0042

Jupiter -67479-04-01 19:25 J -22925190.81 -22925190.69 -22925190.57 0.0527 0.0146

Uranus -67479-04-03 05:01 J -22925189.40 -22925189.29 -22925189.17 0.0135 0.0060

Jupiter -67479-06-30 00:42 J -22925101.56 -22925101.47 -22925101.37 0.0526 0.0331

Uranus -67479-06-30 08:09 J -22925101.26 -22925101.16 -22925101.05 0.0135 0.0077

Uranus -67479-09-26 11:16 J -22925013.12 -22925013.03 -22925012.93 0.0136 0.0094

Uranus -67479-12-23 14:23 J -22924924.97 -22924924.90 -22924924.83 0.0136 0.0111

Uranus -67478-03-21 17:16 J -22924836.81 -22924836.78 -22924836.73 0.0136 0.0129

Mars -67477-01-18 18:13 J -22924533.76 -22924533.74 -22924533.72 0.1568 0.1548

Moon -67476-05-18 06:42 J -22924048.28 -22924048.22 -22924048.15 0.2714 0.2100

Earth -67476-05-18 06:57 J -22924048.27 -22924048.21 -22924048.15 0.2708 0.2165 *

Jupiter -67473-02-23 18:28 J -22923036.83 -22923036.73 -22923036.62 0.0499 0.0414

Jupiter -67473-05-24 06:28 J -22922946.39 -22922946.23 -22922946.06 0.0499 0.0216

Venus -67472-09-23 11:30 J -22922459.09 -22922459.02 -22922458.94 0.3817 0.2550

Mars -67471-09-05 15:06 J -22922111.97 -22922111.87 -22922111.77 0.1982 0.0926

Saturn -67470-08-21 14:23 J -22921761.99 -22921761.90 -22921761.80 0.0303 0.0199

Saturn -67470-11-18 03:21 J -22921673.49 -22921673.36 -22921673.24 0.0303 0.0062

Saturn -67469-02-14 15:49 J -22921584.96 -22921584.84 -22921584.71 0.0303 0.0076

Moon -67469-05-11 06:28 J -22921498.33 -22921498.23 -22921498.13 0.2695 0.0996

Earth -67469-05-11 06:57 J -22921498.32 -22921498.21 -22921498.11 0.2702 0.0934 *

Saturn -67469-05-13 04:33 J -22921496.40 -22921496.31 -22921496.22 0.0302 0.0210

Jupiter -67467-01-18 23:45 J -22920880.62 -22920880.51 -22920880.40 0.0527 0.0264

Jupiter -67467-04-18 05:16 J -22920791.40 -22920791.28 -22920791.17 0.0526 0.0215

Venus -67466-04-09 04:04 J -22920435.43 -22920435.33 -22920435.24 0.3817 0.0930

Mars -67466-05-17 11:59 J -22920397.11 -22920397.00 -22920396.90 0.1566 0.1222

Mars -67461-01-26 22:33 J -22918681.67 -22918681.56 -22918681.44 0.1981 0.0185

Jupiter -67461-03-12 01:54 J -22918636.60 -22918636.42 -22918636.23 0.0499 0.0047

Venus -67461-10-22 20:37 J -22918411.74 -22918411.64 -22918411.54 0.3816 0.0761

Mars -67457-10-06 14:09 J -22916967.07 -22916966.91 -22916966.74 0.1566 0.0346

Moon -67456-05-13 23:45 J -22916747.62 -22916747.51 -22916747.40 0.2703 0.0163

Earth -67456-05-14 00:28 J -22916747.59 -22916747.48 -22916747.37 0.2704 0.0182 *

Jupiter -67456-11-07 04:04 J -22916570.41 -22916570.33 -22916570.24 0.0527 0.0383

Jupiter -67455-02-04 09:35 J -22916481.22 -22916481.10 -22916480.97 0.0527 0.0097

Venus -67455-05-08 13:11 J -22916388.03 -22916387.95 -22916387.87 0.3814 0.2434

Saturn -67455-09-06 23:16 J -22916266.62 -22916266.53 -22916266.45 0.0259 0.0230

Saturn -67455-12-04 19:54 J -22916177.85 -22916177.67 -22916177.49 0.0260 0.0102

Saturn -67454-03-03 16:47 J -22916088.99 -22916088.80 -22916088.61 0.0260 0.0026

Saturn -67454-05-31 13:40 J -22916000.08 -22915999.93 -22915999.77 0.0260 0.0156

Moon -67453-11-06 05:30 J -22915475.42 -22915475.27 -22915475.12 0.2628 0.1179

Earth -67453-11-06 06:57 J -22915475.36 -22915475.21 -22915475.06 0.2632 0.1114 *

Mars -67452-06-18 06:13 J -22915251.33 -22915251.24 -22915251.15 0.1980 0.1253

Jupiter -67450-12-29 22:18 J -22914326.75 -22914326.57 -22914326.38 0.0499 0.0112

Neptune -67448-06-04 05:59 J -22913804.31 -22913804.25 -22913804.17 0.0089 0.0082

Neptune -67448-08-31 09:35 J -22913716.19 -22913716.10 -22913715.98 0.0089 0.0075

Neptune -67448-11-27 13:25 J -22913628.06 -22913627.94 -22913627.80 0.0089 0.0067

Neptune -67447-02-23 17:01 J -22913539.92 -22913539.79 -22913539.63 0.0089 0.0060

Mars -67447-02-26 16:33 J -22913536.97 -22913536.81 -22913536.65 0.1567 0.0532

Neptune -67447-05-22 20:52 J -22913451.78 -22913451.63 -22913451.47 0.0089 0.0052

Neptune -67447-08-19 00:28 J -22913363.64 -22913363.48 -22913363.30 0.0089 0.0045

Neptune -67447-11-15 04:18 J -22913275.49 -22913275.32 -22913275.14 0.0089 0.0037

Neptune -67446-02-11 07:54 J -22913187.35 -22913187.17 -22913186.98 0.0089 0.0030

Neptune -67446-05-10 11:45 J -22913099.20 -22913099.01 -22913098.82 0.0089 0.0022

Neptune -67446-08-06 15:21 J -22913011.05 -22913010.86 -22913010.66 0.0089 0.0015

Neptune -67446-11-02 19:11 J -22912922.90 -22912922.70 -22912922.50 0.0089 0.0007

Neptune -67445-01-29 22:47 J -22912834.74 -22912834.55 -22912834.35 0.0089 0.0002

Neptune -67445-04-27 02:23 J -22912746.59 -22912746.40 -22912746.20 0.0089 0.0009

Neptune -67445-07-24 06:13 J -22912658.43 -22912658.24 -22912658.04 0.0089 0.0016

Neptune -67445-10-20 09:49 J -22912570.27 -22912570.09 -22912569.89 0.0089 0.0024

Neptune -67444-01-16 13:40 J -22912482.11 -22912481.93 -22912481.74 0.0089 0.0031

Neptune -67444-04-14 17:16 J -22912393.95 -22912393.78 -22912393.60 0.0089 0.0039

Neptune -67444-07-11 21:06 J -22912305.79 -22912305.62 -22912305.45 0.0089 0.0046

Jupiter -67444-08-26 08:09 J -22912260.19 -22912260.16 -22912260.13 0.0527 0.0506

Neptune -67444-10-08 00:42 J -22912217.62 -22912217.47 -22912217.31 0.0089 0.0054

Jupiter -67444-11-23 13:40 J -22912171.06 -22912170.93 -22912170.81 0.0526 0.0030

Neptune -67443-01-04 04:04 J -22912129.45 -22912129.33 -22912129.17 0.0089 0.0062

Jupiter -67443-02-20 18:57 J -22912081.77 -22912081.71 -22912081.64 0.0526 0.0447

Neptune -67443-04-02 08:09 J -22912041.28 -22912041.16 -22912041.03 0.0089 0.0069

Moon -67443-05-16 17:30 J -22911996.87 -22911996.77 -22911996.67 0.2709 0.1149

Earth -67443-05-16 18:13 J -22911996.84 -22911996.74 -22911996.65 0.2706 0.1285 *

Neptune -67443-06-29 11:30 J -22911953.10 -22911953.02 -22911952.90 0.0089 0.0077

Neptune -67443-09-25 15:35 J -22911864.90 -22911864.85 -22911864.78 0.0089 0.0084

Uranus -67442-12-10 21:06 J -22911423.71 -22911423.62 -22911423.51 0.0144 0.0122

Uranus -67441-03-08 05:59 J -22911335.40 -22911335.25 -22911335.09 0.0144 0.0090

Uranus -67441-06-04 14:37 J -22911247.06 -22911246.89 -22911246.70 0.0144 0.0059

Uranus -67441-08-31 23:30 J -22911158.71 -22911158.52 -22911158.33 0.0144 0.0028

Uranus -67441-11-28 08:09 J -22911070.35 -22911070.16 -22911069.96 0.0144 0.0004

Saturn -67440-01-07 17:30 J -22911029.85 -22911029.77 -22911029.68 0.0304 0.0227

Uranus -67440-02-24 16:47 J -22910981.99 -22910981.80 -22910981.61 0.0144 0.0034

Saturn -67440-04-06 06:13 J -22910941.36 -22910941.24 -22910941.11 0.0303 0.0090

Uranus -67440-05-24 01:25 J -22910893.61 -22910893.44 -22910893.26 0.0143 0.0065

Saturn -67440-07-03 18:57 J -22910852.84 -22910852.71 -22910852.58 0.0303 0.0048

Uranus -67440-08-20 09:49 J -22910805.22 -22910805.09 -22910804.93 0.0143 0.0096

Saturn -67440-09-30 07:25 J -22910764.28 -22910764.19 -22910764.08 0.0303 0.0184

Moon -67440-11-09 13:11 J -22910724.09 -22910723.95 -22910723.80 0.2628 0.1068

Earth -67440-11-09 15:06 J -22910724.01 -22910723.87 -22910723.72 0.2629 0.1236 *

Uranus -67440-11-16 18:42 J -22910716.81 -22910716.72 -22910716.63 0.0143 0.0125

Mars -67438-07-19 18:57 J -22910106.78 -22910106.71 -22910106.64 0.1568 0.1412

Jupiter -67438-10-17 18:57 J -22910016.87 -22910016.71 -22910016.56 0.0499 0.0270

Jupiter -67437-01-16 06:57 J -22909926.34 -22909926.21 -22909926.08 0.0499 0.0361

Moon -67436-05-09 17:59 J -22909446.83 -22909446.75 -22909446.67 0.2693 0.1783

Earth -67436-05-09 17:59 J -22909446.83 -22909446.75 -22909446.67 0.2700 0.1818 *

Venus -67435-12-15 19:25 J -22908861.84 -22908861.69 -22908861.54 0.3563 0.0066

Jupiter -67432-09-11 17:45 J -22907860.88 -22907860.76 -22907860.64 0.0526 0.0151

Jupiter -67432-12-09 23:01 J -22907771.64 -22907771.54 -22907771.44 0.0526 0.0326

Mars -67431-03-06 15:06 J -22907684.96 -22907684.87 -22907684.77 0.1982 0.1039

Moon -67430-05-19 11:30 J -22907246.06 -22907246.02 -22907245.97 0.2715 0.2437

Earth -67430-05-19 11:45 J -22907246.06 -22907246.01 -22907245.96 0.2708 0.2384 *

Venus -67429-07-01 01:25 J -22906837.45 -22906837.44 -22906837.43 0.3564 0.3550

Mars -67427-11-15 12:42 J -22905970.05 -22905969.97 -22905969.89 0.1566 0.1357

Jupiter -67426-08-05 15:21 J -22905706.95 -22905706.86 -22905706.76 0.0499 0.0427

Jupiter -67426-11-04 03:21 J -22905616.53 -22905616.36 -22905616.18 0.0499 0.0204

Saturn -67425-01-24 23:59 J -22905534.52 -22905534.50 -22905534.47 0.0259 0.0256

Saturn -67425-04-22 20:52 J -22905445.80 -22905445.63 -22905445.46 0.0259 0.0129

Saturn -67425-07-20 17:45 J -22905356.96 -22905356.76 -22905356.57 0.0259 0.0005

Saturn -67425-10-17 14:23 J -22905268.06 -22905267.90 -22905267.72 0.0260 0.0129

Saturn -67424-01-14 11:45 J -22905179.03 -22905179.01 -22905179.00 0.0260 0.0259

Moon -67423-05-12 11:16 J -22904696.13 -22904696.03 -22904695.92 0.2697 0.0739

Earth -67423-05-12 11:45 J -22904696.12 -22904696.01 -22904695.91 0.2702 0.0713 *

Mars -67422-07-27 22:47 J -22904254.67 -22904254.55 -22904254.44 0.1981 0.0074

Venus -67421-10-14 16:47 J -22903809.83 -22903809.80 -22903809.77 0.3818 0.3609

Jupiter -67420-06-30 21:35 J -22903550.71 -22903550.60 -22903550.49 0.0527 0.0277

Jupiter -67420-09-28 02:52 J -22903461.49 -22903461.38 -22903461.26 0.0526 0.0202

Mars -67417-04-06 14:52 J -22902540.04 -22902539.88 -22902539.72 0.1566 0.0480

Venus -67415-04-30 09:06 J -22901786.21 -22901786.12 -22901786.03 0.3817 0.1983

Jupiter -67414-08-22 23:45 J -22901306.70 -22901306.51 -22901306.32 0.0499 0.0044

Mars -67413-12-17 05:59 J -22900824.34 -22900824.25 -22900824.16 0.1980 0.1157

Saturn -67411-05-27 20:37 J -22900297.71 -22900297.64 -22900297.57 0.0303 0.0256

Saturn -67411-08-24 09:21 J -22900209.23 -22900209.11 -22900208.99 0.0303 0.0118

Saturn -67411-11-20 22:04 J -22900120.71 -22900120.58 -22900120.45 0.0303 0.0020

Saturn -67410-02-17 10:47 J -22900032.16 -22900032.05 -22900031.94 0.0302 0.0155

Moon -67410-05-15 04:33 J -22899945.42 -22899945.31 -22899945.20 0.2704 0.0284

Earth -67410-05-15 05:16 J -22899945.38 -22899945.28 -22899945.17 0.2704 0.0405 *

Saturn -67410-05-16 23:16 J -22899943.56 -22899943.53 -22899943.50 0.0302 0.0289

Venus -67410-11-14 01:40 J -22899762.53 -22899762.43 -22899762.33 0.3816 0.0343

Pluto -67409-04-24 08:52 J -22899600.18 -22899600.13 -22899600.08 0.0084 0.0078

Pluto -67409-07-21 10:04 J -22899512.15 -22899512.08 -22899511.98 0.0084 0.0067

Pluto -67409-10-17 11:45 J -22899424.10 -22899424.01 -22899423.89 0.0084 0.0056

Pluto -67408-01-13 13:25 J -22899336.05 -22899335.94 -22899335.82 0.0084 0.0045

Pluto -67408-04-11 14:52 J -22899248.00 -22899247.88 -22899247.75 0.0084 0.0035

Jupiter -67408-04-19 01:54 J -22899240.50 -22899240.42 -22899240.34 0.0527 0.0396

Pluto -67408-07-08 16:18 J -22899159.94 -22899159.82 -22899159.68 0.0084 0.0025

Jupiter -67408-07-17 07:25 J -22899151.32 -22899151.19 -22899151.07 0.0527 0.0084

Mars -67408-08-27 17:16 J -22899109.94 -22899109.78 -22899109.61 0.1567 0.0397

Pluto -67408-10-04 17:59 J -22899071.89 -22899071.75 -22899071.61 0.0083 0.0014

Pluto -67408-12-31 19:25 J -22898983.83 -22898983.69 -22898983.55 0.0083 0.0004

Pluto -67407-03-29 20:52 J -22898895.77 -22898895.63 -22898895.49 0.0083 0.0007

Pluto -67407-06-25 22:18 J -22898807.70 -22898807.57 -22898807.43 0.0083 0.0017

Pluto -67407-09-21 23:45 J -22898719.64 -22898719.51 -22898719.38 0.0083 0.0027

Moon -67407-11-07 12:13 J -22898673.15 -22898672.99 -22898672.84 0.2628 0.0917

Earth -67407-11-07 13:40 J -22898673.08 -22898672.93 -22898672.77 0.2631 0.0667 *

Pluto -67407-12-19 01:11 J -22898631.57 -22898631.45 -22898631.32 0.0083 0.0037

Pluto -67406-03-17 02:37 J -22898543.50 -22898543.39 -22898543.27 0.0083 0.0047

Pluto -67406-06-13 04:04 J -22898455.43 -22898455.33 -22898455.23 0.0083 0.0057

Pluto -67406-09-09 05:16 J -22898367.35 -22898367.28 -22898367.19 0.0082 0.0067

Pluto -67406-12-06 06:28 J -22898279.26 -22898279.23 -22898279.17 0.0082 0.0077

Venus -67404-05-29 18:13 J -22897738.84 -22897738.74 -22897738.64 0.3815 0.1342

Moon -67403-05-08 05:30 J -22897395.29 -22897395.27 -22897395.24 0.2694 0.2588

Jupiter -67402-06-10 19:25 J -22896996.87 -22896996.69 -22896996.51 0.0498 0.0123

Venus -67399-12-13 10:47 J -22895715.11 -22895715.05 -22895714.99 0.3814 0.3037

Mars -67398-01-17 19:40 J -22895679.78 -22895679.68 -22895679.58 0.1568 0.1274

Uranus -67398-08-28 02:37 J -22895457.42 -22895457.39 -22895457.33 0.0134 0.0125

Uranus -67398-11-24 05:45 J -22895369.33 -22895369.26 -22895369.18 0.0134 0.0108

Uranus -67397-02-20 08:52 J -22895281.22 -22895281.13 -22895281.03 0.0134 0.0092

Moon -67397-05-16 22:18 J -22895194.65 -22895194.57 -22895194.48 0.2710 0.1508

Earth -67397-05-16 23:01 J -22895194.63 -22895194.54 -22895194.45 0.2706 0.1508 *

Uranus -67397-05-18 11:45 J -22895193.11 -22895193.01 -22895192.90 0.0134 0.0075

Uranus -67397-08-14 14:37 J -22895105.00 -22895104.89 -22895104.76 0.0134 0.0059

Uranus -67397-11-10 17:45 J -22895016.88 -22895016.76 -22895016.63 0.0135 0.0041

Jupiter -67396-02-05 06:13 J -22894930.26 -22894930.24 -22894930.22 0.0527 0.0516

Uranus -67396-02-06 20:52 J -22894928.76 -22894928.63 -22894928.50 0.0135 0.0024

Jupiter -67396-05-05 11:45 J -22894841.14 -22894841.01 -22894840.89 0.0527 0.0037

Uranus -67396-05-05 23:45 J -22894840.64 -22894840.51 -22894840.38 0.0135 0.0008

Uranus -67396-08-02 02:52 J -22894752.51 -22894752.38 -22894752.25 0.0135 0.0010

Jupiter -67396-08-02 17:01 J -22894751.85 -22894751.79 -22894751.72 0.0526 0.0441

Saturn -67396-09-09 21:21 J -22894713.76 -22894713.61 -22894713.46 0.0259 0.0157

Uranus -67396-10-29 05:45 J -22894664.38 -22894664.26 -22894664.13 0.0135 0.0027

Saturn -67396-12-07 18:13 J -22894624.93 -22894624.74 -22894624.55 0.0260 0.0030

Uranus -67395-01-25 08:52 J -22894576.25 -22894576.13 -22894576.01 0.0135 0.0044

Saturn -67395-03-06 15:06 J -22894536.05 -22894535.87 -22894535.69 0.0260 0.0100

Uranus -67395-04-23 11:45 J -22894488.12 -22894488.01 -22894487.89 0.0135 0.0061

Saturn -67395-06-03 11:45 J -22894447.08 -22894447.01 -22894446.91 0.0260 0.0231

Uranus -67395-07-20 14:52 J -22894399.98 -22894399.88 -22894399.77 0.0135 0.0078

Uranus -67395-10-16 17:45 J -22894311.84 -22894311.76 -22894311.66 0.0136 0.0096

Uranus -67394-01-12 20:52 J -22894223.69 -22894223.63 -22894223.55 0.0136 0.0113

Uranus -67394-04-11 00:13 J -22894135.53 -22894135.49 -22894135.46 0.0136 0.0130

Moon -67394-11-10 20:09 J -22893921.79 -22893921.66 -22893921.53 0.2629 0.1514

Earth -67394-11-10 22:04 J -22893921.71 -22893921.58 -22893921.46 0.2629 0.1677 *

Mars -67392-09-04 15:21 J -22893257.95 -22893257.86 -22893257.77 0.1982 0.1164

Jupiter -67390-03-29 15:49 J -22892687.00 -22892686.84 -22892686.69 0.0498 0.0281

Moon -67390-05-10 22:47 J -22892644.64 -22892644.55 -22892644.46 0.2693 0.1627

Earth -67390-05-10 22:47 J -22892644.64 -22892644.55 -22892644.46 0.2701 0.1592 *

Jupiter -67390-06-28 03:35 J -22892596.48 -22892596.35 -22892596.21 0.0499 0.0348

Mars -67387-05-16 13:25 J -22891542.98 -22891542.94 -22891542.89 0.1566 0.1499

Jupiter -67384-02-21 15:49 J -22890530.96 -22890530.84 -22890530.72 0.0527 0.0161

Moon -67384-05-19 16:18 J -22890443.85 -22890443.82 -22890443.78 0.2715 0.2541

Earth -67384-05-19 16:33 J -22890443.84 -22890443.81 -22890443.78 0.2708 0.2606 *

Jupiter -67384-05-21 21:06 J -22890441.72 -22890441.62 -22890441.52 0.0526 0.0317

Venus -67383-01-05 14:23 J -22890213.00 -22890212.90 -22890212.79 0.3562 0.2550

Mars -67382-01-25 22:33 J -22889827.67 -22889827.56 -22889827.44 0.1981 0.0081

Saturn -67382-10-14 23:30 J -22889565.56 -22889565.52 -22889565.47 0.0304 0.0284

Saturn -67381-01-11 12:28 J -22889477.09 -22889476.98 -22889476.87 0.0303 0.0146

Saturn -67381-04-09 01:11 J -22889388.58 -22889388.45 -22889388.32 0.0303 0.0008

Saturn -67381-07-06 13:54 J -22889300.04 -22889299.92 -22889299.81 0.0303 0.0128

Saturn -67381-10-03 02:23 J -22889211.46 -22889211.40 -22889211.34 0.0302 0.0263

Jupiter -67378-01-15 11:59 J -22888377.08 -22888377.00 -22888376.91 0.0499 0.0441

Jupiter -67378-04-15 23:59 J -22888286.67 -22888286.50 -22888286.32 0.0499 0.0189

Venus -67378-07-22 20:52 J -22888188.77 -22888188.63 -22888188.48 0.3563 0.1187

Mars -67378-10-06 15:49 J -22888113.00 -22888112.84 -22888112.69 0.1566 0.0621

Moon -67377-05-12 16:04 J -22887893.94 -22887893.83 -22887893.73 0.2698 0.0539

Earth -67377-05-12 16:33 J -22887893.92 -22887893.81 -22887893.71 0.2703 0.0491 *

Earth -67374-11-05 12:28 J -22886622.02 -22886621.98 -22886621.94 0.2634 0.2547

Mars -67373-06-17 06:13 J -22886397.34 -22886397.24 -22886397.15 0.1980 0.1030

Jupiter -67373-12-10 19:54 J -22886220.78 -22886220.67 -22886220.56 0.0527 0.0282

Jupiter -67372-03-10 01:11 J -22886131.56 -22886131.45 -22886131.33 0.0526 0.0196

Mars -67368-02-25 17:59 J -22884682.92 -22884682.75 -22884682.58 0.1567 0.0264

Neptune -67367-12-16 14:37 J -22884023.93 -22884023.89 -22884023.85 0.0089 0.0084

Saturn -67366-01-27 22:04 J -22883981.71 -22883981.58 -22883981.44 0.0259 0.0185

Jupiter -67366-02-01 20:37 J -22883976.83 -22883976.64 -22883976.45 0.0499 0.0032

Neptune -67366-03-14 15:49 J -22883935.89 -22883935.84 -22883935.78 0.0089 0.0079

Saturn -67366-04-26 18:57 J -22883892.90 -22883892.71 -22883892.52 0.0259 0.0057

Neptune -67366-06-10 17:01 J -22883847.85 -22883847.79 -22883847.71 0.0089 0.0074

Saturn -67366-07-24 15:49 J -22883804.02 -22883803.84 -22883803.65 0.0260 0.0072

Neptune -67366-09-06 18:28 J -22883759.81 -22883759.73 -22883759.64 0.0089 0.0069

Saturn -67366-10-21 12:42 J -22883715.08 -22883714.97 -22883714.84 0.0260 0.0202

Neptune -67366-12-03 19:40 J -22883671.76 -22883671.68 -22883671.58 0.0089 0.0064

Neptune -67365-02-29 21:06 J -22883583.71 -22883583.62 -22883583.52 0.0089 0.0059

Neptune -67365-05-27 22:18 J -22883495.66 -22883495.57 -22883495.46 0.0089 0.0054

Neptune -67365-08-23 23:45 J -22883407.62 -22883407.51 -22883407.40 0.0089 0.0048

Neptune -67365-11-20 00:57 J -22883319.57 -22883319.46 -22883319.34 0.0089 0.0044

Neptune -67364-02-16 02:23 J -22883231.51 -22883231.40 -22883231.28 0.0089 0.0038

Neptune -67364-05-15 03:49 J -22883143.46 -22883143.34 -22883143.22 0.0089 0.0033

Moon -67364-05-15 09:21 J -22883143.21 -22883143.11 -22883143.00 0.2704 0.0569

Earth -67364-05-15 10:04 J -22883143.18 -22883143.08 -22883142.97 0.2704 0.0622 *

Venus -67364-05-21 14:23 J -22883136.96 -22883136.90 -22883136.84 0.3818 0.3042

Neptune -67364-08-11 05:01 J -22883055.41 -22883055.29 -22883055.16 0.0089 0.0028

Neptune -67364-11-07 06:28 J -22882967.36 -22882967.23 -22882967.10 0.0089 0.0023

Neptune -67363-02-03 07:40 J -22882879.31 -22882879.18 -22882879.05 0.0089 0.0018

Neptune -67363-05-02 09:06 J -22882791.25 -22882791.12 -22882790.99 0.0089 0.0013

Neptune -67363-07-29 10:18 J -22882703.20 -22882703.07 -22882702.94 0.0089 0.0007

Neptune -67363-10-25 11:30 J -22882615.15 -22882615.02 -22882614.88 0.0089 0.0004

Neptune -67362-01-21 12:57 J -22882527.09 -22882526.96 -22882526.83 0.0089 0.0003

Neptune -67362-04-19 14:09 J -22882439.04 -22882438.91 -22882438.77 0.0089 0.0008

Neptune -67362-07-16 15:35 J -22882350.98 -22882350.85 -22882350.72 0.0089 0.0013

Neptune -67362-10-12 16:47 J -22882262.93 -22882262.80 -22882262.67 0.0089 0.0018

Neptune -67361-01-08 17:59 J -22882174.87 -22882174.75 -22882174.62 0.0089 0.0024

Neptune -67361-04-05 19:11 J -22882086.81 -22882086.70 -22882086.56 0.0089 0.0029

Neptune -67361-07-02 20:37 J -22881998.76 -22881998.64 -22881998.51 0.0089 0.0034

Neptune -67361-09-28 21:49 J -22881910.70 -22881910.59 -22881910.46 0.0089 0.0039

Jupiter -67361-09-28 23:45 J -22881910.59 -22881910.51 -22881910.43 0.0527 0.0408 *

Moon -67361-11-07 18:42 J -22881870.88 -22881870.72 -22881870.55 0.2628 0.0291

Earth -67361-11-07 20:37 J -22881870.80 -22881870.64 -22881870.48 0.2631 0.0226 *

Neptune -67361-12-25 23:16 J -22881822.64 -22881822.53 -22881822.41 0.0089 0.0044

Jupiter -67361-12-27 05:16 J -22881821.41 -22881821.28 -22881821.16 0.0526 0.0072

Neptune -67360-03-24 00:28 J -22881734.58 -22881734.48 -22881734.36 0.0089 0.0049

Neptune -67360-06-20 01:54 J -22881646.52 -22881646.42 -22881646.31 0.0089 0.0054

Neptune -67360-09-16 03:06 J -22881558.46 -22881558.37 -22881558.27 0.0089 0.0059

Neptune -67360-12-13 04:18 J -22881470.40 -22881470.32 -22881470.22 0.0089 0.0064

Neptune -67359-03-11 05:45 J -22881382.34 -22881382.26 -22881382.17 0.0089 0.0069

Neptune -67359-06-07 06:57 J -22881294.27 -22881294.21 -22881294.13 0.0089 0.0074

Mars -67359-07-18 20:23 J -22881252.77 -22881252.65 -22881252.54 0.1568 0.1141

Neptune -67359-09-03 08:23 J -22881206.20 -22881206.15 -22881206.09 0.0089 0.0079

Neptune -67359-11-30 09:35 J -22881118.13 -22881118.10 -22881118.05 0.0089 0.0084

Venus -67359-12-05 06:42 J -22881113.31 -22881113.22 -22881113.12 0.3817 0.1413

Uranus -67358-12-31 04:18 J -22880722.43 -22880722.32 -22880722.20 0.0144 0.0116

Uranus -67357-03-28 12:57 J -22880634.11 -22880633.96 -22880633.80 0.0144 0.0084

Earth -67357-05-08 09:49 J -22880593.13 -22880593.09 -22880593.04 0.2698 0.2475

Moon -67357-05-08 10:18 J -22880593.11 -22880593.07 -22880593.03 0.2693 0.2481 *

Uranus -67357-06-24 21:49 J -22880545.77 -22880545.59 -22880545.41 0.0144 0.0053

Uranus -67357-09-21 06:28 J -22880457.42 -22880457.23 -22880457.03 0.0144 0.0022

Uranus -67357-12-18 15:06 J -22880369.06 -22880368.87 -22880368.67 0.0144 0.0010

Uranus -67356-03-16 23:59 J -22880280.69 -22880280.50 -22880280.31 0.0144 0.0040

Uranus -67356-06-13 08:37 J -22880192.31 -22880192.14 -22880191.97 0.0144 0.0071

Uranus -67356-09-09 17:01 J -22880103.92 -22880103.79 -22880103.64 0.0143 0.0102

Uranus -67356-12-07 01:54 J -22880015.50 -22880015.42 -22880015.35 0.0143 0.0132

Jupiter -67355-11-20 17:01 J -22879666.97 -22879666.79 -22879666.61 0.0499 0.0127

Venus -67353-06-19 23:16 J -22879089.63 -22879089.53 -22879089.42 0.3816 0.0277

Mars -67352-03-05 15:06 J -22878830.96 -22878830.87 -22878830.78 0.1982 0.1257

Saturn -67352-05-30 15:21 J -22878744.96 -22878744.86 -22878744.75 0.0303 0.0176

Saturn -67352-08-27 04:04 J -22878656.46 -22878656.33 -22878656.20 0.0303 0.0039

Saturn -67352-11-23 16:47 J -22878567.92 -22878567.80 -22878567.68 0.0303 0.0098

Saturn -67351-02-20 05:16 J -22878479.36 -22878479.28 -22878479.19 0.0302 0.0233

Moon -67351-05-18 03:21 J -22878392.45 -22878392.36 -22878392.28 0.2712 0.1637

Earth -67351-05-18 03:49 J -22878392.43 -22878392.34 -22878392.26 0.2706 0.1730 *

Jupiter -67349-10-15 09:35 J -22877511.23 -22877511.10 -22877510.98 0.0527 0.0052

Jupiter -67348-01-12 14:52 J -22877421.95 -22877421.88 -22877421.81 0.0526 0.0428

Moon -67348-11-11 03:06 J -22877119.48 -22877119.37 -22877119.26 0.2630 0.1908

Earth -67348-11-11 04:47 J -22877119.39 -22877119.30 -22877119.21 0.2629 0.2125 *

Venus -67347-01-03 16:04 J -22877065.92 -22877065.83 -22877065.75 0.3815 0.1949

Moon -67344-05-11 03:35 J -22875842.45 -22875842.35 -22875842.26 0.2694 0.1323

Earth -67344-05-11 03:35 J -22875842.44 -22875842.35 -22875842.26 0.2701 0.1368 *

Mars -67343-07-26 22:47 J -22875400.67 -22875400.55 -22875400.44 0.1982 0.0187

Jupiter -67343-09-08 12:57 J -22875357.11 -22875356.96 -22875356.81 0.0498 0.0290

Jupiter -67343-12-08 00:57 J -22875266.60 -22875266.46 -22875266.33 0.0499 0.0339

Venus -67342-07-20 08:37 J -22875042.17 -22875042.14 -22875042.11 0.3814 0.3645

Mars -67338-04-06 16:18 J -22873685.96 -22873685.82 -22873685.67 0.1566 0.0757

Saturn -67337-06-15 22:33 J -22873249.66 -22873249.56 -22873249.45 0.0259 0.0214

Jupiter -67337-08-03 13:40 J -22873201.04 -22873200.93 -22873200.80 0.0527 0.0170

Saturn -67337-09-12 19:11 J -22873160.87 -22873160.70 -22873160.51 0.0260 0.0087

Jupiter -67337-10-31 19:11 J -22873111.80 -22873111.70 -22873111.60 0.0527 0.0310

Saturn -67337-12-10 16:04 J -22873072.02 -22873071.83 -22873071.64 0.0260 0.0043

Saturn -67336-03-09 12:57 J -22872983.10 -22872982.96 -22872982.81 0.0260 0.0172

Mars -67334-12-17 06:13 J -22871970.34 -22871970.24 -22871970.14 0.1980 0.0916

Moon -67331-05-13 20:37 J -22871091.75 -22871091.64 -22871091.53 0.2699 0.0368

Earth -67331-05-13 21:21 J -22871091.72 -22871091.61 -22871091.51 0.2703 0.0272 *

Jupiter -67331-06-27 09:21 J -22871047.19 -22871047.11 -22871047.03 0.0498 0.0448

Jupiter -67331-09-25 21:21 J -22870956.79 -22870956.61 -22870956.44 0.0499 0.0181

Mars -67329-08-26 18:42 J -22870255.89 -22870255.72 -22870255.55 0.1567 0.0124

Moon -67328-11-05 18:13 J -22869819.84 -22869819.74 -22869819.65 0.2628 0.2123

Earth -67328-11-05 19:11 J -22869819.79 -22869819.70 -22869819.60 0.2633 0.2106 *

Venus -67327-08-12 16:04 J -22869539.97 -22869539.83 -22869539.69 0.3563 0.1269

Jupiter -67325-05-22 17:59 J -22868890.86 -22868890.75 -22868890.65 0.0527 0.0291

Jupiter -67325-08-19 23:16 J -22868801.64 -22868801.53 -22868801.41 0.0526 0.0188

Saturn -67323-10-17 18:13 J -22868012.83 -22868012.74 -22868012.64 0.0304 0.0206

Saturn -67322-01-14 06:57 J -22867924.33 -22867924.21 -22867924.08 0.0303 0.0069

Saturn -67322-04-12 19:40 J -22867835.80 -22867835.68 -22867835.55 0.0303 0.0070

Saturn -67322-07-10 08:23 J -22867747.24 -22867747.15 -22867747.06 0.0303 0.0205

Venus -67321-02-26 22:18 J -22867515.68 -22867515.57 -22867515.46 0.3564 0.2422

Mars -67319-01-16 20:52 J -22866825.75 -22866825.63 -22866825.50 0.1568 0.1005

Jupiter -67319-07-14 17:30 J -22866646.96 -22866646.77 -22866646.58 0.0499 0.0019

Moon -67318-05-16 14:09 J -22866341.01 -22866340.91 -22866340.80 0.2705 0.0762

Earth -67318-05-16 14:52 J -22866340.98 -22866340.88 -22866340.78 0.2705 0.0846 *

Moon -67315-11-09 01:40 J -22865068.59 -22865068.43 -22865068.26 0.2628 0.0054

Earth -67315-11-09 03:21 J -22865068.52 -22865068.36 -22865068.20 0.2631 0.0226 *

Uranus -67314-09-17 09:49 J -22864756.14 -22864756.09 -22864756.04 0.0134 0.0122

Uranus -67314-12-14 12:28 J -22864668.05 -22864667.98 -22864667.89 0.0134 0.0106

Jupiter -67313-03-10 22:18 J -22864580.65 -22864580.57 -22864580.50 0.0527 0.0411

Uranus -67313-03-11 15:35 J -22864579.94 -22864579.85 -22864579.75 0.0134 0.0089

Uranus -67313-06-07 18:42 J -22864491.83 -22864491.72 -22864491.61 0.0134 0.0073

Jupiter -67313-06-08 03:35 J -22864491.47 -22864491.35 -22864491.22 0.0526 0.0067

Mars -67313-09-03 15:06 J -22864403.95 -22864403.87 -22864403.79 0.1982 0.1383

Uranus -67313-09-03 21:35 J -22864403.72 -22864403.60 -22864403.48 0.0134 0.0056

Uranus -67313-12-01 00:28 J -22864315.60 -22864315.48 -22864315.35 0.0134 0.0040

Uranus -67312-02-27 03:35 J -22864227.48 -22864227.35 -22864227.22 0.0135 0.0022

Uranus -67312-05-26 06:42 J -22864139.35 -22864139.22 -22864139.09 0.0135 0.0006

Uranus -67312-08-22 09:35 J -22864051.23 -22864051.10 -22864050.97 0.0135 0.0012

Uranus -67312-11-18 12:42 J -22863963.10 -22863962.97 -22863962.85 0.0135 0.0029

Uranus -67311-02-14 15:35 J -22863874.97 -22863874.85 -22863874.72 0.0135 0.0046

Earth -67311-05-09 14:37 J -22863790.94 -22863790.89 -22863790.83 0.2699 0.2254

Moon -67311-05-09 15:06 J -22863790.94 -22863790.87 -22863790.81 0.2692 0.2152 *

Uranus -67311-05-13 18:28 J -22863786.84 -22863786.73 -22863786.61 0.0135 0.0064

Uranus -67311-08-09 21:35 J -22863698.70 -22863698.60 -22863698.49 0.0135 0.0080

Uranus -67311-11-06 00:42 J -22863610.56 -22863610.47 -22863610.38 0.0135 0.0097

Uranus -67310-02-02 03:35 J -22863522.41 -22863522.35 -22863522.27 0.0136 0.0115

Uranus -67310-05-01 06:57 J -22863434.24 -22863434.21 -22863434.19 0.0136 0.0132

Saturn -67308-11-02 23:01 J -22862517.59 -22862517.54 -22862517.46 0.0259 0.0242

Venus -67308-12-26 11:59 J -22862464.08 -22862464.00 -22862463.92 0.3817 0.2467

Saturn -67307-01-30 19:54 J -22862428.84 -22862428.67 -22862428.50 0.0259 0.0115

Saturn -67307-04-29 16:33 J -22862340.00 -22862339.81 -22862339.61 0.0259 0.0015

Jupiter -67307-05-02 14:09 J -22862337.09 -22862336.91 -22862336.73 0.0499 0.0137

Saturn -67307-07-27 13:25 J -22862251.09 -22862250.94 -22862250.77 0.0260 0.0142

Jupiter -67307-08-01 02:09 J -22862246.43 -22862246.41 -22862246.39 0.0500 0.0495

Moon -67305-05-18 08:09 J -22861590.24 -22861590.16 -22861590.09 0.2713 0.1940

Earth -67305-05-18 08:23 J -22861590.22 -22861590.15 -22861590.07 0.2707 0.1949 *

Mars -67303-01-24 22:33 J -22860973.67 -22860973.56 -22860973.44 0.1981 0.0297

Venus -67302-07-12 04:33 J -22860440.41 -22860440.31 -22860440.21 0.3817 0.0833

Moon -67302-11-12 09:49 J -22860317.13 -22860317.09 -22860317.04 0.2631 0.2500

Earth -67302-11-12 11:30 J -22860317.05 -22860317.02 -22860316.98 0.2628 0.2571 *

Jupiter -67301-03-27 07:25 J -22860181.31 -22860181.19 -22860181.06 0.0526 0.0060

Jupiter -67301-06-24 12:57 J -22860092.04 -22860091.96 -22860091.89 0.0526 0.0419

Mars -67299-10-05 17:01 J -22859258.93 -22859258.79 -22859258.65 0.1566 0.0891

Moon -67298-05-12 08:09 J -22859040.25 -22859040.16 -22859040.06 0.2695 0.1215

Earth -67298-05-12 08:23 J -22859040.25 -22859040.15 -22859040.05 0.2701 0.1141 *

Venus -67296-01-24 21:06 J -22858416.72 -22858416.62 -22858416.52 0.3816 0.0860

Jupiter -67295-02-18 10:33 J -22858027.20 -22858027.06 -22858026.90 0.0499 0.0294

Jupiter -67295-05-19 22:33 J -22857936.69 -22857936.56 -22857936.42 0.0499 0.0338

Mars -67294-06-17 05:59 J -22857543.35 -22857543.25 -22857543.14 0.1980 0.0816

Saturn -67293-03-05 20:52 J -22857280.70 -22857280.63 -22857280.55 0.0304 0.0238

Saturn -67293-06-02 09:49 J -22857192.21 -22857192.09 -22857191.97 0.0303 0.0100

Saturn -67293-08-29 22:33 J -22857103.69 -22857103.56 -22857103.43 0.0303 0.0038

Saturn -67293-11-26 11:01 J -22857015.14 -22857015.04 -22857014.93 0.0303 0.0174

Venus -67291-08-10 13:40 J -22856393.01 -22856392.93 -22856392.85 0.3815 0.2545

Jupiter -67289-01-14 11:45 J -22855871.13 -22855871.01 -22855870.89 0.0527 0.0178

Mars -67289-02-25 19:25 J -22855828.86 -22855828.69 -22855828.52 0.1567 0.0018

Jupiter -67289-04-12 17:16 J -22855781.89 -22855781.78 -22855781.68 0.0526 0.0301

Moon -67285-05-14 01:25 J -22854289.55 -22854289.44 -22854289.33 0.2699 0.0065

Earth -67285-05-14 02:09 J -22854289.52 -22854289.41 -22854289.30 0.2703 0.0075 *

Mars -67285-11-06 13:40 J -22854112.96 -22854112.93 -22854112.90 0.1978 0.1894

Neptune -67284-12-03 00:42 J -22853721.48 -22853721.47 -22853721.41 0.0089 0.0087

Jupiter -67284-12-07 06:57 J -22853717.28 -22853717.21 -22853717.13 0.0498 0.0454

Neptune -67283-03-01 04:47 J -22853633.38 -22853633.30 -22853633.21 0.0089 0.0079

Jupiter -67283-03-07 18:42 J -22853626.89 -22853626.72 -22853626.54 0.0499 0.0176

Neptune -67283-05-28 08:09 J -22853545.25 -22853545.16 -22853545.03 0.0089 0.0072

Neptune -67283-08-24 12:13 J -22853457.12 -22853456.99 -22853456.85 0.0089 0.0064

Neptune -67283-11-20 15:35 J -22853368.98 -22853368.85 -22853368.68 0.0089 0.0057

Neptune -67282-02-16 19:40 J -22853280.84 -22853280.68 -22853280.52 0.0089 0.0049

Neptune -67282-05-15 23:01 J -22853192.70 -22853192.54 -22853192.35 0.0089 0.0042

Neptune -67282-08-12 03:06 J -22853104.55 -22853104.37 -22853104.19 0.0089 0.0034

Moon -67282-11-07 00:42 J -22853017.59 -22853017.47 -22853017.36 0.2628 0.1857

Earth -67282-11-07 01:54 J -22853017.54 -22853017.42 -22853017.29 0.2633 0.1668 *

Neptune -67282-11-08 06:28 J -22853016.40 -22853016.23 -22853016.03 0.0089 0.0027

Neptune -67281-02-04 10:18 J -22852928.25 -22852928.07 -22852927.87 0.0089 0.0019

Neptune -67281-05-02 14:09 J -22852840.10 -22852839.91 -22852839.71 0.0089 0.0011

Neptune -67281-07-29 17:59 J -22852751.95 -22852751.75 -22852751.56 0.0089 0.0004

Neptune -67281-10-25 21:35 J -22852663.80 -22852663.60 -22852663.40 0.0089 0.0004

Neptune -67280-01-22 01:11 J -22852575.64 -22852575.45 -22852575.25 0.0089 0.0012

Neptune -67280-04-20 05:01 J -22852487.48 -22852487.29 -22852487.10 0.0089 0.0019

Neptune -67280-07-17 08:37 J -22852399.32 -22852399.14 -22852398.95 0.0089 0.0027

Mars -67280-07-17 21:49 J -22852398.73 -22852398.59 -22852398.45 0.1568 0.0864

Neptune -67280-10-13 12:13 J -22852311.16 -22852310.99 -22852310.80 0.0089 0.0035

Neptune -67279-01-09 16:04 J -22852223.00 -22852222.83 -22852222.65 0.0089 0.0042

Neptune -67279-04-07 19:40 J -22852134.83 -22852134.68 -22852134.51 0.0089 0.0050

Neptune -67279-07-04 23:30 J -22852046.66 -22852046.52 -22852046.36 0.0089 0.0057

Neptune -67279-10-01 03:06 J -22851958.49 -22851958.37 -22851958.23 0.0089 0.0065

Neptune -67279-12-28 07:11 J -22851870.32 -22851870.20 -22851870.09 0.0089 0.0072

Neptune -67278-03-26 10:33 J -22851782.13 -22851782.06 -22851781.96 0.0089 0.0080

Saturn -67278-06-19 19:54 J -22851696.83 -22851696.67 -22851696.51 0.0259 0.0147

Neptune -67278-06-22 13:54 J -22851693.92 -22851693.92 -22851693.86 0.0089 0.0088

Saturn -67278-09-16 16:33 J -22851608.00 -22851607.81 -22851607.61 0.0259 0.0020

Jupiter -67278-11-02 16:04 J -22851560.93 -22851560.83 -22851560.72 0.0527 0.0298

Saturn -67278-12-14 13:25 J -22851519.11 -22851518.94 -22851518.76 0.0260 0.0110

Jupiter -67277-01-30 21:35 J -22851471.72 -22851471.60 -22851471.48 0.0527 0.0182

Saturn -67277-03-12 10:33 J -22851430.14 -22851430.06 -22851429.99 0.0260 0.0240

Uranus -67273-01-20 10:04 J -22850021.20 -22850021.08 -22850020.96 0.0144 0.0114

Mars -67273-03-04 15:21 J -22849976.94 -22849976.86 -22849976.79 0.1982 0.1502

Uranus -67273-04-17 18:42 J -22849932.87 -22849932.72 -22849932.55 0.0144 0.0083

Uranus -67273-07-15 03:35 J -22849844.53 -22849844.35 -22849844.16 0.0144 0.0051

Uranus -67273-10-11 12:13 J -22849756.18 -22849755.99 -22849755.79 0.0144 0.0020

Uranus -67272-01-07 21:06 J -22849667.81 -22849667.62 -22849667.42 0.0144 0.0011

Uranus -67272-04-06 05:45 J -22849579.44 -22849579.26 -22849579.07 0.0144 0.0042

Moon -67272-05-16 19:11 J -22849538.80 -22849538.70 -22849538.60 0.2708 0.0983

Earth -67272-05-16 19:40 J -22849538.78 -22849538.68 -22849538.58 0.2705 0.1066 *

Uranus -67272-07-03 14:09 J -22849491.06 -22849490.91 -22849490.73 0.0144 0.0074

Uranus -67272-09-29 23:01 J -22849402.67 -22849402.54 -22849402.40 0.0143 0.0104

Jupiter -67272-12-24 15:21 J -22849317.05 -22849316.86 -22849316.67 0.0499 0.0018

Uranus -67272-12-27 07:25 J -22849314.24 -22849314.19 -22849314.11 0.0143 0.0135

Venus -67270-03-19 17:30 J -22848866.92 -22848866.77 -22848866.62 0.3563 0.0003

Moon -67269-11-09 08:23 J -22848266.31 -22848266.15 -22848265.99 0.2629 0.0612

Earth -67269-11-09 10:04 J -22848266.23 -22848266.08 -22848265.92 0.2630 0.0673 *

Jupiter -67266-08-21 20:23 J -22847250.72 -22847250.65 -22847250.57 0.0527 0.0418

Jupiter -67266-11-19 01:54 J -22847161.55 -22847161.42 -22847161.30 0.0526 0.0063

Earth -67265-05-09 19:25 J -22846988.76 -22846988.69 -22846988.62 0.2699 0.2030

Moon -67265-05-09 19:54 J -22846988.74 -22846988.67 -22846988.61 0.2692 0.2050 *

Saturn -67264-07-23 23:16 J -22846548.58 -22846548.53 -22846548.48 0.0304 0.0274

Mars -67264-07-25 22:33 J -22846546.67 -22846546.56 -22846546.45 0.1981 0.0403

Saturn -67264-10-20 12:13 J -22846460.11 -22846459.99 -22846459.88 0.0304 0.0136

Saturn -67263-01-17 00:57 J -22846371.59 -22846371.46 -22846371.33 0.0303 0.0006

Saturn -67263-04-15 13:25 J -22846283.05 -22846282.94 -22846282.82 0.0303 0.0139

Saturn -67263-07-13 02:09 J -22846194.46 -22846194.41 -22846194.36 0.0302 0.0274

Jupiter -67260-10-12 11:16 J -22845007.21 -22845007.03 -22845006.85 0.0499 0.0146

Jupiter -67259-01-10 23:16 J -22844916.56 -22844916.53 -22844916.49 0.0500 0.0487

Mars -67259-04-05 17:45 J -22844831.88 -22844831.76 -22844831.63 0.1566 0.1029

Moon -67259-05-19 12:57 J -22844788.03 -22844787.96 -22844787.89 0.2713 0.2105

Earth -67259-05-19 13:11 J -22844788.01 -22844787.95 -22844787.88 0.2707 0.2169 *

Venus -67256-01-16 17:16 J -22843814.82 -22843814.78 -22843814.74 0.3818 0.3523

Pluto -67256-08-03 05:01 J -22843616.32 -22843616.29 -22843616.22 0.0060 0.0058

Pluto -67256-10-30 06:13 J -22843528.31 -22843528.24 -22843528.13 0.0061 0.0053

Pluto -67255-01-26 07:25 J -22843440.28 -22843440.19 -22843440.06 0.0061 0.0048

Pluto -67255-04-24 08:37 J -22843352.25 -22843352.14 -22843352.00 0.0061 0.0043

Pluto -67255-07-21 09:49 J -22843264.22 -22843264.09 -22843263.93 0.0061 0.0038

Pluto -67255-10-17 11:01 J -22843176.18 -22843176.04 -22843175.87 0.0061 0.0033

Mars -67255-12-16 06:13 J -22843116.35 -22843116.24 -22843116.14 0.1980 0.0697

Pluto -67254-01-13 12:13 J -22843088.14 -22843087.99 -22843087.81 0.0061 0.0028

Pluto -67254-04-11 13:40 J -22843000.09 -22842999.93 -22842999.75 0.0061 0.0022

Pluto -67254-07-08 14:52 J -22842912.05 -22842911.88 -22842911.70 0.0061 0.0017

Jupiter -67254-09-07 06:13 J -22842851.37 -22842851.24 -22842851.12 0.0526 0.0059

Pluto -67254-10-04 16:04 J -22842824.00 -22842823.83 -22842823.64 0.0061 0.0012

Jupiter -67254-12-05 11:30 J -22842762.10 -22842762.02 -22842761.95 0.0526 0.0419

Pluto -67254-12-31 17:16 J -22842735.95 -22842735.78 -22842735.59 0.0061 0.0007

Pluto -67253-03-28 18:42 J -22842647.90 -22842647.72 -22842647.54 0.0061 0.0001

Pluto -67253-06-24 19:54 J -22842559.85 -22842559.67 -22842559.48 0.0061 0.0004

Pluto -67253-09-20 21:06 J -22842471.80 -22842471.62 -22842471.43 0.0061 0.0009

Pluto -67253-12-17 22:18 J -22842383.74 -22842383.57 -22842383.38 0.0061 0.0015

Pluto -67252-03-15 23:45 J -22842295.68 -22842295.51 -22842295.34 0.0061 0.0020

Moon -67252-05-12 12:57 J -22842238.07 -22842237.96 -22842237.86 0.2695 0.0903

Earth -67252-05-12 13:11 J -22842238.05 -22842237.95 -22842237.85 0.2701 0.0922 *

Pluto -67252-06-12 00:42 J -22842207.62 -22842207.47 -22842207.29 0.0062 0.0026

Pluto -67252-09-08 02:09 J -22842119.56 -22842119.41 -22842119.24 0.0062 0.0031

Pluto -67252-12-05 03:06 J -22842031.49 -22842031.37 -22842031.20 0.0062 0.0037

Pluto -67251-03-03 04:33 J -22841943.43 -22841943.31 -22841943.16 0.0062 0.0042

Pluto -67251-05-30 06:13 J -22841855.35 -22841855.24 -22841855.12 0.0062 0.0047

Venus -67251-08-02 09:35 J -22841791.18 -22841791.10 -22841791.01 0.3817 0.1896

Pluto -67251-08-26 07:11 J -22841767.28 -22841767.20 -22841767.09 0.0062 0.0053

Pluto -67251-11-22 08:52 J -22841679.19 -22841679.13 -22841679.07 0.0062 0.0058

Mars -67250-08-26 20:09 J -22841401.83 -22841401.66 -22841401.49 0.1567 0.0149

Saturn -67249-11-05 20:09 J -22840964.80 -22840964.66 -22840964.52 0.0259 0.0178

Saturn -67248-02-02 16:47 J -22840875.99 -22840875.80 -22840875.61 0.0259 0.0051

Saturn -67248-05-02 13:40 J -22840787.12 -22840786.93 -22840786.75 0.0259 0.0077

Saturn -67248-07-30 10:18 J -22840698.18 -22840698.07 -22840697.95 0.0259 0.0207

Jupiter -67248-07-31 07:54 J -22840697.31 -22840697.17 -22840697.01 0.0499 0.0301

Jupiter -67248-10-29 20:09 J -22840606.80 -22840606.66 -22840606.52 0.0500 0.0332

Venus -67245-02-16 02:09 J -22839767.51 -22839767.41 -22839767.31 0.3817 0.0235

Mars -67245-05-07 13:25 J -22839685.98 -22839685.94 -22839685.89 0.1977 0.1794

Jupiter -67242-06-26 10:04 J -22838541.20 -22838541.08 -22838540.96 0.0526 0.0183

Jupiter -67242-09-23 15:21 J -22838451.96 -22838451.86 -22838451.75 0.0526 0.0296

Mars -67240-01-15 22:33 J -22837971.71 -22837971.56 -22837971.41 0.1568 0.0731

Venus -67240-08-31 18:42 J -22837743.81 -22837743.72 -22837743.62 0.3816 0.1451

Moon -67239-05-15 06:13 J -22837487.35 -22837487.24 -22837487.13 0.2700 0.0073

Earth -67239-05-15 06:57 J -22837487.32 -22837487.21 -22837487.10 0.2703 0.0197 *

Jupiter -67236-05-19 04:47 J -22836387.37 -22836387.30 -22836387.22 0.0499 0.0456

Jupiter -67236-08-17 16:47 J -22836296.97 -22836296.80 -22836296.62 0.0499 0.0176

Moon -67236-11-07 07:25 J -22836215.33 -22836215.19 -22836215.05 0.2628 0.1293

Earth -67236-11-07 08:52 J -22836215.28 -22836215.13 -22836214.99 0.2633 0.1226 *

Saturn -67234-03-09 14:23 J -22835728.00 -22835727.90 -22835727.79 0.0304 0.0172

Venus -67234-03-17 11:16 J -22835720.08 -22835720.03 -22835719.97 0.3815 0.3150

Saturn -67234-06-06 03:21 J -22835639.49 -22835639.36 -22835639.24 0.0304 0.0035

Saturn -67234-09-02 15:49 J -22835550.96 -22835550.84 -22835550.71 0.0303 0.0104

Mars -67234-09-03 15:06 J -22835549.94 -22835549.87 -22835549.80 0.1982 0.1599

Saturn -67234-11-30 04:33 J -22835462.39 -22835462.31 -22835462.23 0.0303 0.0239

Jupiter -67230-04-14 14:23 J -22834231.00 -22834230.90 -22834230.80 0.0527 0.0303

Jupiter -67230-07-12 19:40 J -22834141.79 -22834141.68 -22834141.56 0.0526 0.0177

Uranus -67230-10-07 16:33 J -22834054.86 -22834054.81 -22834054.75 0.0134 0.0120

Uranus -67229-01-03 19:40 J -22833966.77 -22833966.68 -22833966.60 0.0134 0.0103

Uranus -67229-03-31 22:18 J -22833878.66 -22833878.57 -22833878.46 0.0134 0.0087

Uranus -67229-06-28 01:25 J -22833790.55 -22833790.44 -22833790.32 0.0134 0.0070

Uranus -67229-09-24 04:33 J -22833702.43 -22833702.31 -22833702.19 0.0134 0.0053

Uranus -67229-12-21 07:25 J -22833614.31 -22833614.19 -22833614.06 0.0134 0.0037

Uranus -67228-03-19 10:33 J -22833526.19 -22833526.06 -22833525.93 0.0135 0.0020

Uranus -67228-06-15 13:25 J -22833438.07 -22833437.94 -22833437.81 0.0135 0.0003

Uranus -67228-09-11 16:33 J -22833349.94 -22833349.81 -22833349.68 0.0135 0.0014

Uranus -67228-12-08 19:25 J -22833261.82 -22833261.69 -22833261.56 0.0135 0.0031

Uranus -67227-03-06 22:33 J -22833173.68 -22833173.56 -22833173.44 0.0135 0.0048

Uranus -67227-06-03 01:25 J -22833085.55 -22833085.44 -22833085.32 0.0135 0.0065

Uranus -67227-08-30 04:33 J -22832997.41 -22832997.31 -22832997.21 0.0135 0.0083

Uranus -67227-11-26 07:40 J -22832909.27 -22832909.18 -22832909.10 0.0135 0.0100

Uranus -67226-02-22 10:18 J -22832821.12 -22832821.07 -22832820.99 0.0136 0.0118

Moon -67226-05-17 23:59 J -22832736.60 -22832736.50 -22832736.41 0.2709 0.1263

Earth -67226-05-18 00:28 J -22832736.57 -22832736.48 -22832736.38 0.2705 0.1290 *

Uranus -67226-05-21 13:25 J -22832732.94 -22832732.94 -22832732.92 0.0136 0.0135

Mars -67224-01-23 22:33 J -22832119.67 -22832119.56 -22832119.45 0.1982 0.0519

Jupiter -67224-06-05 13:11 J -22831987.14 -22831986.95 -22831986.76 0.0499 0.0016

Moon -67223-11-10 15:06 J -22831464.02 -22831463.87 -22831463.71 0.2630 0.0847

Earth -67223-11-10 17:01 J -22831463.94 -22831463.79 -22831463.65 0.2630 0.1112 *

Mars -67220-10-04 18:28 J -22830404.84 -22830404.73 -22830404.61 0.1566 0.1167

Saturn -67219-03-25 19:25 J -22830232.79 -22830232.69 -22830232.57 0.0259 0.0213

Venus -67219-04-09 12:28 J -22830218.09 -22830217.98 -22830217.87 0.3562 0.2516

Earth -67219-05-11 00:13 J -22830186.57 -22830186.49 -22830186.41 0.2699 0.1808

Moon -67219-05-11 00:28 J -22830186.56 -22830186.48 -22830186.39 0.2693 0.1731 *

Saturn -67219-06-22 16:04 J -22830144.00 -22830143.83 -22830143.64 0.0259 0.0086

Saturn -67219-09-19 12:57 J -22830055.15 -22830054.96 -22830054.77 0.0259 0.0042

Saturn -67219-12-17 09:49 J -22829966.23 -22829966.09 -22829965.95 0.0260 0.0171

Jupiter -67218-01-31 18:42 J -22829920.79 -22829920.72 -22829920.65 0.0527 0.0422

Jupiter -67218-05-01 00:13 J -22829831.62 -22829831.49 -22829831.37 0.0527 0.0059

Mars -67215-06-16 06:13 J -22828689.35 -22828689.24 -22828689.13 0.1980 0.0578

Venus -67214-10-24 18:42 J -22828193.86 -22828193.72 -22828193.57 0.3563 0.1238

Moon -67213-05-19 17:45 J -22827985.81 -22827985.76 -22827985.71 0.2713 0.2371

Earth -67213-05-19 17:59 J -22827985.79 -22827985.75 -22827985.70 0.2707 0.2390 *

Jupiter -67212-03-24 09:49 J -22827677.27 -22827677.09 -22827676.91 0.0499 0.0141

Jupiter -67212-06-22 21:35 J -22827586.62 -22827586.60 -22827586.56 0.0499 0.0491

Mars -67210-02-24 20:52 J -22826974.79 -22826974.63 -22826974.46 0.1567 0.0291

Jupiter -67206-02-17 04:33 J -22825521.43 -22825521.31 -22825521.18 0.0526 0.0061

Moon -67206-05-13 17:30 J -22825435.87 -22825435.77 -22825435.66 0.2696 0.0808

Earth -67206-05-13 17:59 J -22825435.85 -22825435.75 -22825435.64 0.2701 0.0697 *

Jupiter -67206-05-17 09:49 J -22825432.16 -22825432.09 -22825432.01 0.0526 0.0417

Mars -67206-11-06 13:25 J -22825258.99 -22825258.94 -22825258.88 0.1978 0.1678

Saturn -67205-07-26 16:18 J -22824995.91 -22824995.82 -22824995.73 0.0304 0.0212

Saturn -67205-10-23 05:16 J -22824907.41 -22824907.28 -22824907.16 0.0304 0.0074

Saturn -67204-01-19 17:59 J -22824818.88 -22824818.75 -22824818.62 0.0303 0.0064

Saturn -67204-04-18 06:28 J -22824730.32 -22824730.23 -22824730.13 0.0303 0.0201

Neptune -67202-06-16 13:11 J -22823940.97 -22823940.95 -22823940.93 0.0089 0.0087

Neptune -67202-09-12 14:23 J -22823852.94 -22823852.90 -22823852.85 0.0089 0.0082

Neptune -67202-12-09 15:35 J -22823764.90 -22823764.85 -22823764.78 0.0089 0.0077

Neptune -67201-03-06 17:01 J -22823676.86 -22823676.79 -22823676.71 0.0089 0.0072

Neptune -67201-06-02 18:13 J -22823588.81 -22823588.74 -22823588.64 0.0089 0.0067

Mars -67201-07-16 23:01 J -22823544.69 -22823544.54 -22823544.38 0.1568 0.0596

Neptune -67201-08-29 19:40 J -22823500.77 -22823500.68 -22823500.58 0.0089 0.0061

Neptune -67201-11-25 20:52 J -22823412.72 -22823412.63 -22823412.52 0.0089 0.0057

Jupiter -67200-01-10 05:45 J -22823367.41 -22823367.26 -22823367.11 0.0499 0.0305

Neptune -67200-02-21 22:04 J -22823324.67 -22823324.58 -22823324.46 0.0089 0.0052

Jupiter -67200-04-10 17:45 J -22823276.90 -22823276.76 -22823276.62 0.0500 0.0328

Neptune -67200-05-20 23:45 J -22823236.62 -22823236.51 -22823236.40 0.0089 0.0046

Neptune -67200-08-17 00:57 J -22823148.57 -22823148.46 -22823148.34 0.0089 0.0041

Venus -67200-08-23 14:52 J -22823141.94 -22823141.88 -22823141.82 0.3818 0.2952

Neptune -67200-11-13 02:23 J -22823060.52 -22823060.40 -22823060.28 0.0089 0.0036

Neptune -67199-02-09 03:35 J -22822972.47 -22822972.35 -22822972.22 0.0089 0.0031

Neptune -67199-05-08 05:01 J -22822884.42 -22822884.29 -22822884.16 0.0089 0.0026

Neptune -67199-08-04 06:13 J -22822796.36 -22822796.24 -22822796.11 0.0089 0.0021

Neptune -67199-10-31 07:40 J -22822708.31 -22822708.18 -22822708.05 0.0089 0.0015

Neptune -67198-01-27 08:52 J -22822620.26 -22822620.13 -22822620.00 0.0089 0.0010

Neptune -67198-04-25 10:18 J -22822532.21 -22822532.07 -22822531.94 0.0089 0.0006

Neptune -67198-07-22 11:30 J -22822444.15 -22822444.02 -22822443.89 0.0089 0.0001

Neptune -67198-10-18 12:57 J -22822356.10 -22822355.96 -22822355.83 0.0089 0.0006

Neptune -67197-01-14 14:09 J -22822268.04 -22822267.91 -22822267.78 0.0089 0.0010

Neptune -67197-04-11 15:21 J -22822179.99 -22822179.86 -22822179.73 0.0089 0.0015

Neptune -67197-07-08 16:33 J -22822091.93 -22822091.81 -22822091.67 0.0089 0.0021

Neptune -67197-10-04 17:59 J -22822003.87 -22822003.75 -22822003.62 0.0089 0.0026

Neptune -67197-12-31 19:11 J -22821915.82 -22821915.70 -22821915.57 0.0089 0.0031

Neptune -67196-03-29 20:37 J -22821827.76 -22821827.64 -22821827.52 0.0089 0.0036

Neptune -67196-06-25 21:49 J -22821739.70 -22821739.59 -22821739.47 0.0089 0.0041

Neptune -67196-09-21 23:16 J -22821651.64 -22821651.53 -22821651.42 0.0089 0.0046

Neptune -67196-12-19 00:28 J -22821563.58 -22821563.48 -22821563.37 0.0089 0.0051

Neptune -67195-03-17 01:54 J -22821475.52 -22821475.42 -22821475.32 0.0089 0.0056

Neptune -67195-06-13 03:06 J -22821387.46 -22821387.37 -22821387.27 0.0089 0.0061

Neptune -67195-09-09 04:04 J -22821299.40 -22821299.33 -22821299.23 0.0089 0.0067

Neptune -67195-12-06 05:30 J -22821211.34 -22821211.27 -22821211.18 0.0089 0.0072

Jupiter -67195-12-06 09:06 J -22821211.24 -22821211.12 -22821211.00 0.0526 0.0177 *

Neptune -67194-03-04 06:42 J -22821123.27 -22821123.22 -22821123.14 0.0089 0.0077

Mars -67194-03-04 15:06 J -22821122.92 -22821122.87 -22821122.81 0.1982 0.1716

Jupiter -67194-03-05 14:23 J -22821122.00 -22821121.90 -22821121.80 0.0526 0.0300

Venus -67194-03-09 07:11 J -22821118.29 -22821118.20 -22821118.10 0.3817 0.1326

Neptune -67194-05-31 08:09 J -22821035.20 -22821035.16 -22821035.10 0.0089 0.0082

Neptune -67194-08-27 09:21 J -22820947.12 -22820947.11 -22820947.07 0.0089 0.0087

Moon -67193-05-15 11:01 J -22820685.15 -22820685.04 -22820684.93 0.2702 0.0390

Earth -67193-05-15 11:45 J -22820685.12 -22820685.01 -22820684.91 0.2703 0.0412 *

Mars -67192-12-07 01:25 J -22820114.50 -22820114.44 -22820114.39 0.1569 0.1475

Saturn -67190-08-12 19:11 J -22819500.75 -22819500.70 -22819500.64 0.0258 0.0246

Moon -67190-11-08 14:09 J -22819413.06 -22819412.91 -22819412.76 0.2628 0.0942

Earth -67190-11-08 15:35 J -22819413.01 -22819412.85 -22819412.70 0.2632 0.0783 *

Saturn -67190-11-09 15:49 J -22819412.01 -22819411.84 -22819411.67 0.0258 0.0120

Uranus -67190-11-13 07:11 J -22819408.22 -22819408.20 -22819408.16 0.0144 0.0143

Saturn -67189-02-06 12:28 J -22819323.17 -22819322.98 -22819322.78 0.0259 0.0010

Uranus -67189-02-09 15:49 J -22819319.95 -22819319.84 -22819319.70 0.0144 0.0112

Saturn -67189-05-05 09:21 J -22819234.27 -22819234.11 -22819233.94 0.0259 0.0135

Uranus -67189-05-08 00:57 J -22819231.62 -22819231.46 -22819231.30 0.0144 0.0080

Uranus -67189-08-04 09:35 J -22819143.28 -22819143.10 -22819142.91 0.0144 0.0048

Venus -67189-09-21 23:45 J -22819094.61 -22819094.51 -22819094.40 0.3817 0.0387

Jupiter -67189-10-29 02:23 J -22819057.46 -22819057.40 -22819057.32 0.0499 0.0459

Uranus -67189-10-31 18:28 J -22819054.92 -22819054.73 -22819054.53 0.0144 0.0017

Jupiter -67188-01-27 14:37 J -22818967.07 -22818966.89 -22818966.72 0.0500 0.0174

Uranus -67188-01-28 03:06 J -22818966.56 -22818966.37 -22818966.17 0.0144 0.0014

Uranus -67188-04-26 11:59 J -22818878.19 -22818878.00 -22818877.82 0.0144 0.0045

Uranus -67188-07-23 20:37 J -22818789.81 -22818789.64 -22818789.48 0.0144 0.0076

Uranus -67188-10-20 05:01 J -22818701.41 -22818701.29 -22818701.15 0.0143 0.0107

Uranus -67187-01-16 13:40 J -22818612.97 -22818612.93 -22818612.87 0.0143 0.0137

Earth -67186-05-09 11:30 J -22818135.03 -22818135.02 -22818135.02 0.2697 0.2688

Moon -67186-05-09 11:59 J -22818135.02 -22818135.00 -22818134.98 0.2692 0.2623 *

Mars -67185-07-24 22:33 J -22817692.66 -22817692.56 -22817692.45 0.1981 0.0630

Venus -67183-04-07 16:18 J -22817070.90 -22817070.82 -22817070.73 0.3816 0.2045

Jupiter -67183-09-24 12:57 J -22816901.06 -22816900.96 -22816900.85 0.0526 0.0302

Jupiter -67183-12-22 18:28 J -22816811.85 -22816811.73 -22816811.61 0.0526 0.0177

Mars -67180-04-04 19:11 J -22815977.79 -22815977.70 -22815977.61 0.1566 0.1301

Moon -67180-05-18 04:47 J -22815934.40 -22815934.30 -22815934.21 0.2709 0.1399

Earth -67180-05-18 05:16 J -22815934.37 -22815934.28 -22815934.19 0.2705 0.1511 *

Venus -67178-10-22 09:06 J -22815047.13 -22815047.12 -22815047.11 0.3814 0.3759

Moon -67177-11-10 21:49 J -22814661.72 -22814661.59 -22814661.45 0.2631 0.1456

Earth -67177-11-10 23:45 J -22814661.64 -22814661.51 -22814661.38 0.2630 0.1555 *

Jupiter -67177-11-15 11:30 J -22814657.21 -22814657.02 -22814656.83 0.0499 0.0019

Saturn -67176-12-13 17:59 J -22814263.81 -22814263.75 -22814263.68 0.0304 0.0255

Mars -67176-12-15 05:59 J -22814262.36 -22814262.25 -22814262.14 0.1980 0.0477

Saturn -67175-03-12 06:57 J -22814175.33 -22814175.21 -22814175.09 0.0304 0.0116

Saturn -67175-06-08 19:40 J -22814086.81 -22814086.68 -22814086.55 0.0304 0.0023

Saturn -67175-09-05 08:23 J -22813998.26 -22813998.15 -22813998.04 0.0303 0.0159

Saturn -67175-12-02 20:52 J -22813909.65 -22813909.63 -22813909.60 0.0303 0.0294

Moon -67173-05-11 05:16 J -22813384.37 -22813384.28 -22813384.20 0.2693 0.1598

Earth -67173-05-11 05:01 J -22813384.37 -22813384.29 -22813384.20 0.2700 0.1584 *

Jupiter -67171-07-13 17:16 J -22812590.85 -22812590.78 -22812590.70 0.0527 0.0421

Mars -67171-08-25 21:35 J -22812547.77 -22812547.60 -22812547.44 0.1567 0.0423

Jupiter -67171-10-10 22:47 J -22812501.68 -22812501.55 -22812501.43 0.0526 0.0059

Moon -67167-05-20 22:47 J -22811183.57 -22811183.55 -22811183.53 0.2714 0.2627

Earth -67167-05-20 22:47 J -22811183.57 -22811183.55 -22811183.52 0.2707 0.2610 *

Mars -67166-05-07 13:40 J -22810832.00 -22810831.93 -22810831.87 0.1978 0.1558

Jupiter -67165-09-03 08:09 J -22810347.34 -22810347.16 -22810346.98 0.0499 0.0138

Jupiter -67165-12-02 20:09 J -22810256.68 -22810256.66 -22810256.64 0.0499 0.0494

Pluto -67163-09-12 22:18 J -22809607.61 -22809607.57 -22809607.51 0.0084 0.0078

Venus -67163-11-14 13:54 J -22809545.06 -22809544.92 -22809544.78 0.3562 0.1243

Pluto -67163-12-09 23:59 J -22809519.58 -22809519.50 -22809519.41 0.0084 0.0067

Pluto -67162-03-08 01:40 J -22809431.53 -22809431.43 -22809431.33 0.0084 0.0056

Pluto -67162-06-04 02:52 J -22809343.48 -22809343.38 -22809343.25 0.0084 0.0046

Pluto -67162-08-31 04:33 J -22809255.43 -22809255.31 -22809255.18 0.0084 0.0035

Pluto -67162-11-27 05:59 J -22809167.38 -22809167.25 -22809167.11 0.0084 0.0025

Mars -67161-01-15 23:45 J -22809117.67 -22809117.51 -22809117.34 0.1568 0.0457

Pluto -67161-02-23 07:40 J -22809079.32 -22809079.18 -22809079.04 0.0084 0.0014

Pluto -67161-05-21 09:06 J -22808991.26 -22808991.12 -22808990.98 0.0083 0.0004

Pluto -67161-08-17 10:33 J -22808903.20 -22808903.06 -22808902.92 0.0083 0.0007

Pluto -67161-11-13 11:59 J -22808815.13 -22808815.00 -22808814.86 0.0083 0.0017

Pluto -67160-02-09 13:25 J -22808727.07 -22808726.94 -22808726.80 0.0083 0.0027

Saturn -67160-03-28 14:37 J -22808680.03 -22808679.89 -22808679.73 0.0259 0.0159

Pluto -67160-05-08 14:52 J -22808639.00 -22808638.88 -22808638.75 0.0083 0.0037

Moon -67160-05-13 22:18 J -22808633.67 -22808633.57 -22808633.46 0.2696 0.0476

Earth -67160-05-13 22:47 J -22808633.65 -22808633.55 -22808633.44 0.2702 0.0477 *

Saturn -67160-06-25 11:30 J -22808591.21 -22808591.02 -22808590.83 0.0259 0.0032

Pluto -67160-08-04 16:18 J -22808550.93 -22808550.82 -22808550.70 0.0083 0.0047

Saturn -67160-09-22 08:09 J -22808502.34 -22808502.16 -22808501.98 0.0259 0.0096

Pluto -67160-10-31 17:30 J -22808462.86 -22808462.77 -22808462.66 0.0083 0.0057

Saturn -67160-12-20 05:01 J -22808413.38 -22808413.29 -22808413.20 0.0260 0.0225

Pluto -67159-01-27 18:57 J -22808374.78 -22808374.71 -22808374.62 0.0082 0.0066

Pluto -67159-04-25 20:37 J -22808286.69 -22808286.64 -22808286.59 0.0082 0.0076

Jupiter -67159-07-30 03:06 J -22808191.49 -22808191.37 -22808191.24 0.0527 0.0061

Jupiter -67159-10-27 08:23 J -22808102.22 -22808102.15 -22808102.07 0.0526 0.0419

Venus -67157-05-30 20:09 J -22807520.76 -22807520.66 -22807520.55 0.3563 0.2488

Mars -67155-09-02 15:06 J -22806695.90 -22806695.87 -22806695.83 0.1982 0.1843

Jupiter -67153-06-22 04:47 J -22806037.45 -22806037.30 -22806037.14 0.0499 0.0293

Jupiter -67153-09-20 16:47 J -22805946.93 -22805946.80 -22805946.66 0.0499 0.0339

Mars -67152-06-07 02:09 J -22805687.49 -22805687.41 -22805687.32 0.1569 0.1335

Moon -67147-05-16 15:49 J -22803882.95 -22803882.84 -22803882.73 0.2704 0.0490

Earth -67147-05-16 16:33 J -22803882.92 -22803882.81 -22803882.71 0.2704 0.0635 *

Jupiter -67147-05-18 07:40 J -22803881.30 -22803881.18 -22803881.06 0.0526 0.0176

Jupiter -67147-08-15 12:57 J -22803792.06 -22803791.96 -22803791.85 0.0526 0.0302

Saturn -67146-05-02 19:11 J -22803531.71 -22803531.70 -22803531.68 0.0304 0.0301

Saturn -67146-07-30 08:23 J -22803443.26 -22803443.15 -22803443.04 0.0304 0.0162

Uranus -67146-07-31 20:37 J -22803441.64 -22803441.64 -22803441.62 0.0134 0.0133

Saturn -67146-10-26 21:06 J -22803354.75 -22803354.62 -22803354.49 0.0304 0.0023

Uranus -67146-10-27 23:45 J -22803353.57 -22803353.51 -22803353.44 0.0134 0.0116

Saturn -67145-01-23 09:49 J -22803266.21 -22803266.09 -22803265.97 0.0303 0.0114

Mars -67145-01-23 22:33 J -22803265.66 -22803265.56 -22803265.45 0.1981 0.0735

Uranus -67145-01-24 02:37 J -22803265.47 -22803265.39 -22803265.30 0.0134 0.0100 *

Saturn -67145-04-20 22:33 J -22803177.63 -22803177.56 -22803177.49 0.0303 0.0250

Uranus -67145-04-21 05:30 J -22803177.36 -22803177.27 -22803177.16 0.0134 0.0084

Uranus -67145-07-18 08:37 J -22803089.25 -22803089.14 -22803089.02 0.0134 0.0066

Uranus -67145-10-14 11:45 J -22803001.13 -22803001.01 -22803000.89 0.0134 0.0050

Uranus -67144-01-10 14:37 J -22802913.01 -22802912.89 -22802912.76 0.0135 0.0033

Uranus -67144-04-08 17:45 J -22802824.89 -22802824.76 -22802824.63 0.0135 0.0016

Uranus -67144-07-05 20:37 J -22802736.77 -22802736.64 -22802736.51 0.0135 0.0002

Uranus -67144-10-01 23:30 J -22802648.64 -22802648.52 -22802648.38 0.0135 0.0019

Moon -67144-11-08 20:52 J -22802610.79 -22802610.63 -22802610.47 0.2629 0.0511

Earth -67144-11-08 22:18 J -22802610.73 -22802610.57 -22802610.41 0.2632 0.0344 *

Uranus -67144-12-29 02:37 J -22802560.51 -22802560.39 -22802560.26 0.0135 0.0035

Uranus -67143-03-27 05:45 J -22802472.38 -22802472.26 -22802472.14 0.0135 0.0052

Venus -67143-03-30 12:28 J -22802469.06 -22802468.98 -22802468.90 0.3818 0.2388

Uranus -67143-06-23 08:37 J -22802384.25 -22802384.14 -22802384.02 0.0135 0.0069

Uranus -67143-09-19 11:45 J -22802296.11 -22802296.01 -22802295.91 0.0135 0.0087

Uranus -67143-12-16 14:52 J -22802207.97 -22802207.88 -22802207.80 0.0135 0.0104

Uranus -67142-03-14 17:30 J -22802119.81 -22802119.77 -22802119.70 0.0136 0.0122

Jupiter -67141-04-10 00:42 J -22801727.54 -22801727.47 -22801727.40 0.0499 0.0459

Jupiter -67141-07-09 12:42 J -22801637.15 -22801636.97 -22801636.80 0.0500 0.0174

Mars -67141-10-03 19:54 J -22801550.73 -22801550.67 -22801550.60 0.1566 0.1441

Earth -67140-05-09 16:18 J -22801332.86 -22801332.82 -22801332.78 0.2698 0.2465

Moon -67140-05-09 16:47 J -22801332.85 -22801332.80 -22801332.75 0.2693 0.2385 *

Venus -67138-10-14 05:01 J -22800445.39 -22800445.29 -22800445.19 0.3817 0.0738

Mars -67136-06-15 06:13 J -22799835.36 -22799835.24 -22799835.13 0.1980 0.0360

Jupiter -67135-03-06 12:13 J -22799571.09 -22799570.99 -22799570.88 0.0526 0.0291

Jupiter -67135-06-03 17:30 J -22799481.88 -22799481.77 -22799481.65 0.0526 0.0187

Moon -67134-05-19 09:35 J -22799132.18 -22799132.10 -22799132.02 0.2710 0.1720

Earth -67134-05-19 10:04 J -22799132.16 -22799132.08 -22799132.00 0.2706 0.1729 *

Venus -67132-04-28 21:35 J -22798421.70 -22798421.60 -22798421.51 0.3816 0.0960

Mars -67131-02-23 22:04 J -22798120.73 -22798120.58 -22798120.42 0.1567 0.0558

Saturn -67131-08-15 13:40 J -22797948.04 -22797947.93 -22797947.79 0.0258 0.0196

Moon -67131-11-12 04:47 J -22797859.42 -22797859.30 -22797859.18 0.2630 0.1749

Earth -67131-11-12 06:28 J -22797859.33 -22797859.23 -22797859.12 0.2629 0.2000 *

Saturn -67131-11-12 10:33 J -22797859.25 -22797859.06 -22797858.88 0.0258 0.0070 *

Saturn -67130-02-09 07:11 J -22797770.39 -22797770.20 -22797770.01 0.0259 0.0057

Saturn -67130-05-09 03:49 J -22797681.46 -22797681.34 -22797681.20 0.0259 0.0186

Jupiter -67129-04-27 09:35 J -22797327.29 -22797327.10 -22797326.91 0.0500 0.0021

Moon -67127-05-12 09:49 J -22796582.18 -22796582.09 -22796582.00 0.2693 0.1361

Earth -67127-05-12 10:04 J -22796582.18 -22796582.08 -22796581.99 0.2700 0.1360 *

Mars -67127-11-05 13:25 J -22796405.01 -22796404.94 -22796404.86 0.1978 0.1456

Venus -67127-11-12 14:09 J -22796397.99 -22796397.91 -22796397.84 0.3815 0.2648

Jupiter -67124-12-23 16:18 J -22795260.89 -22795260.82 -22795260.74 0.0526 0.0415

Jupiter -67123-03-22 21:35 J -22795171.72 -22795171.60 -22795171.47 0.0526 0.0067

Mars -67122-07-17 00:28 J -22794690.64 -22794690.48 -22794690.31 0.1568 0.0323

Neptune -67119-08-29 23:30 J -22793550.57 -22793550.52 -22793550.45 0.0089 0.0084

Neptune -67119-11-26 03:06 J -22793462.45 -22793462.37 -22793462.26 0.0089 0.0077

Neptune -67118-02-22 06:57 J -22793374.32 -22793374.21 -22793374.08 0.0089 0.0069

Neptune -67118-05-21 10:18 J -22793286.19 -22793286.07 -22793285.91 0.0089 0.0062

Neptune -67118-08-17 14:23 J -22793198.05 -22793197.90 -22793197.74 0.0089 0.0054

Neptune -67118-11-13 17:45 J -22793109.91 -22793109.76 -22793109.58 0.0089 0.0047

Neptune -67117-02-09 21:49 J -22793021.76 -22793021.59 -22793021.41 0.0089 0.0039

Jupiter -67117-02-14 06:42 J -22793017.40 -22793017.22 -22793017.04 0.0499 0.0132

Neptune -67117-05-08 01:11 J -22792933.62 -22792933.45 -22792933.25 0.0089 0.0032

Neptune -67117-08-04 05:01 J -22792845.47 -22792845.29 -22792845.09 0.0089 0.0024

Neptune -67117-10-31 08:52 J -22792757.32 -22792757.13 -22792756.93 0.0089 0.0016

Saturn -67117-12-16 09:35 J -22792711.19 -22792711.10 -22792711.00 0.0304 0.0208

Neptune -67116-01-27 12:42 J -22792669.17 -22792668.97 -22792668.78 0.0089 0.0009

Saturn -67116-03-14 22:33 J -22792622.69 -22792622.56 -22792622.44 0.0304 0.0069

Neptune -67116-04-25 16:18 J -22792581.01 -22792580.82 -22792580.62 0.0089 0.0001

Saturn -67116-06-11 11:16 J -22792534.16 -22792534.03 -22792533.90 0.0304 0.0069

Neptune -67116-07-22 20:09 J -22792492.86 -22792492.66 -22792492.47 0.0089 0.0007

Saturn -67116-09-07 23:59 J -22792445.59 -22792445.50 -22792445.41 0.0303 0.0205

Neptune -67116-10-18 23:30 J -22792404.70 -22792404.52 -22792404.31 0.0089 0.0015

Neptune -67115-01-15 03:21 J -22792316.54 -22792316.36 -22792316.16 0.0089 0.0022

Mars -67115-03-03 15:06 J -22792268.89 -22792268.87 -22792268.85 0.1982 0.1933

Neptune -67115-04-13 06:57 J -22792228.38 -22792228.21 -22792228.01 0.0089 0.0030

Neptune -67115-07-10 10:47 J -22792140.22 -22792140.05 -22792139.86 0.0089 0.0037

Neptune -67115-10-06 14:23 J -22792052.06 -22792051.90 -22792051.72 0.0089 0.0045

Neptune -67114-01-02 17:59 J -22791963.89 -22791963.75 -22791963.57 0.0089 0.0053

Neptune -67114-03-31 21:49 J -22791875.72 -22791875.59 -22791875.43 0.0089 0.0060

Moon -67114-05-15 03:06 J -22791831.48 -22791831.37 -22791831.26 0.2697 0.0349

Earth -67114-05-15 03:35 J -22791831.46 -22791831.35 -22791831.24 0.2702 0.0254 *

Neptune -67114-06-28 01:25 J -22791787.55 -22791787.44 -22791787.30 0.0089 0.0068

Neptune -67114-09-24 05:30 J -22791699.37 -22791699.27 -22791699.16 0.0089 0.0075

Neptune -67114-12-21 08:52 J -22791611.18 -22791611.13 -22791611.04 0.0089 0.0083

Mars -67113-12-06 02:52 J -22791260.49 -22791260.38 -22791260.27 0.1569 0.1200

Jupiter -67111-01-09 02:09 J -22790861.54 -22790861.41 -22790861.29 0.0526 0.0058

Jupiter -67111-04-08 07:25 J -22790772.27 -22790772.19 -22790772.12 0.0526 0.0422

Moon -67111-11-06 20:09 J -22790559.73 -22790559.66 -22790559.59 0.2628 0.2384

Earth -67111-11-06 20:52 J -22790559.71 -22790559.63 -22790559.54 0.2634 0.2228 *

Venus -67106-06-21 15:21 J -22788872.01 -22788871.86 -22788871.70 0.3562 0.0085

Mars -67106-07-24 22:33 J -22788838.66 -22788838.56 -22788838.45 0.1982 0.0862

Jupiter -67106-12-03 03:35 J -22788707.50 -22788707.35 -22788707.20 0.0499 0.0286

Uranus -67106-12-03 14:23 J -22788706.96 -22788706.90 -22788706.84 0.0144 0.0137

Uranus -67105-02-29 23:01 J -22788618.66 -22788618.54 -22788618.40 0.0144 0.0105

Jupiter -67105-03-02 15:35 J -22788616.98 -22788616.85 -22788616.72 0.0499 0.0347

Uranus -67105-05-28 07:40 J -22788530.33 -22788530.18 -22788530.00 0.0144 0.0075

Uranus -67105-08-24 16:47 J -22788441.99 -22788441.80 -22788441.61 0.0144 0.0043

Uranus -67105-11-21 01:25 J -22788353.63 -22788353.44 -22788353.24 0.0144 0.0012

Uranus -67104-02-17 10:18 J -22788265.27 -22788265.07 -22788264.88 0.0144 0.0020

Uranus -67104-05-16 18:57 J -22788176.89 -22788176.71 -22788176.53 0.0144 0.0051

Uranus -67104-08-13 03:35 J -22788088.51 -22788088.35 -22788088.19 0.0144 0.0082

Uranus -67104-11-09 11:59 J -22788000.11 -22788000.00 -22787999.87 0.0143 0.0113

Uranus -67103-02-05 20:37 J -22787911.64 -22787911.64 -22787911.62 0.0143 0.0143

Saturn -67101-01-02 12:13 J -22787216.05 -22787215.99 -22787215.91 0.0258 0.0237

Saturn -67101-03-31 08:52 J -22787127.30 -22787127.13 -22787126.95 0.0258 0.0111

Moon -67101-05-16 20:37 J -22787080.75 -22787080.64 -22787080.54 0.2705 0.0833

Earth -67101-05-16 21:21 J -22787080.72 -22787080.61 -22787080.51 0.2704 0.0854 *

Saturn -67101-06-28 05:30 J -22787038.46 -22787038.27 -22787038.08 0.0259 0.0016

Saturn -67101-09-25 02:09 J -22786949.56 -22786949.41 -22786949.25 0.0259 0.0144

Jupiter -67100-10-28 06:28 J -22786551.35 -22786551.23 -22786551.11 0.0527 0.0174

Jupiter -67099-01-25 11:45 J -22786462.11 -22786462.01 -22786461.91 0.0526 0.0306

Moon -67098-11-10 03:21 J -22785808.52 -22785808.36 -22785808.20 0.2630 0.0030

Earth -67098-11-10 05:01 J -22785808.45 -22785808.29 -22785808.13 0.2632 0.0107 *

Mars -67097-12-14 05:59 J -22785408.36 -22785408.25 -22785408.13 0.1980 0.0253

Earth -67094-05-10 21:06 J -22784530.68 -22784530.62 -22784530.56 0.2698 0.2239

Moon -67094-05-10 21:35 J -22784530.66 -22784530.60 -22784530.54 0.2693 0.2215 *

Jupiter -67094-09-21 00:13 J -22784397.57 -22784397.49 -22784397.39 0.0499 0.0440

Jupiter -67094-12-20 12:28 J -22784307.16 -22784306.98 -22784306.81 0.0499 0.0193

Venus -67092-04-20 17:45 J -22783819.80 -22783819.76 -22783819.72 0.3818 0.3451

Mars -67092-08-24 23:01 J -22783693.69 -22783693.54 -22783693.39 0.1567 0.0699

Moon -67088-05-19 14:23 J -22782329.97 -22782329.90 -22782329.82 0.2711 0.1846

Earth -67088-05-19 14:52 J -22782329.95 -22782329.88 -22782329.81 0.2706 0.1948 *

Jupiter -67088-08-16 11:01 J -22782241.14 -22782241.04 -22782240.93 0.0527 0.0288

Jupiter -67088-11-13 16:33 J -22782151.93 -22782151.81 -22782151.70 0.0526 0.0192

Saturn -67087-05-05 10:18 J -22781979.13 -22781979.07 -22781979.00 0.0304 0.0260

Mars -67087-05-06 13:25 J -22781978.02 -22781977.94 -22781977.86 0.1978 0.1343

Saturn -67087-08-01 23:16 J -22781890.64 -22781890.53 -22781890.41 0.0304 0.0121

Saturn -67087-10-29 12:13 J -22781802.12 -22781801.99 -22781801.86 0.0304 0.0018

Venus -67087-11-04 10:04 J -22781796.17 -22781796.08 -22781795.99 0.3818 0.1811

Saturn -67086-01-26 00:57 J -22781713.57 -22781713.46 -22781713.35 0.0303 0.0155

Saturn -67086-04-24 13:25 J -22781624.97 -22781624.94 -22781624.90 0.0303 0.0290

Moon -67085-11-12 11:30 J -22781057.09 -22781057.02 -22781056.94 0.2630 0.2316

Earth -67085-11-12 13:25 J -22781057.00 -22781056.94 -22781056.88 0.2629 0.2439 *

Mars -67082-01-15 01:11 J -22780263.62 -22780263.45 -22780263.28 0.1568 0.0186

Jupiter -67082-10-08 08:09 J -22779997.35 -22779997.16 -22779996.98 0.0500 0.0027

Moon -67081-05-12 14:37 J -22779779.99 -22779779.89 -22779779.79 0.2693 0.1142

Earth -67081-05-12 14:52 J -22779779.98 -22779779.88 -22779779.79 0.2700 0.1139 *

Venus -67081-05-20 02:37 J -22779772.49 -22779772.39 -22779772.29 0.3817 0.0140

Jupiter -67076-06-04 15:49 J -22777930.92 -22777930.84 -22777930.76 0.0526 0.0401

Jupiter -67076-09-01 21:06 J -22777841.74 -22777841.62 -22777841.49 0.0526 0.0078

Venus -67076-12-03 19:11 J -22777748.79 -22777748.70 -22777748.61 0.3816 0.1545

Mars -67073-06-06 03:35 J -22776833.48 -22776833.35 -22776833.23 0.1569 0.1067

Saturn -67072-08-18 07:40 J -22776395.34 -22776395.18 -22776395.03 0.0258 0.0151

Saturn -67072-11-15 04:04 J -22776306.52 -22776306.33 -22776306.13 0.0258 0.0026

Saturn -67071-02-12 00:42 J -22776217.64 -22776217.47 -22776217.29 0.0258 0.0102

Saturn -67071-05-11 21:35 J -22776128.68 -22776128.60 -22776128.51 0.0259 0.0230

Venus -67070-06-19 11:45 J -22775725.06 -22775725.01 -22775724.96 0.3815 0.3264

Jupiter -67070-07-27 05:01 J -22775687.47 -22775687.29 -22775687.11 0.0500 0.0127

Moon -67068-05-15 07:54 J -22775029.28 -22775029.17 -22775029.06 0.2699 0.0099

Earth -67068-05-15 08:23 J -22775029.26 -22775029.15 -22775029.04 0.2702 0.0056 *

Mars -67066-01-22 22:33 J -22774411.66 -22774411.56 -22774411.46 0.1981 0.0961

Moon -67065-11-07 02:52 J -22773757.50 -22773757.38 -22773757.26 0.2629 0.1778

Earth -67065-11-07 03:49 J -22773757.46 -22773757.34 -22773757.22 0.2634 0.1782 *

Jupiter -67064-03-23 19:54 J -22773620.68 -22773620.67 -22773620.66 0.0526 0.0523

Jupiter -67064-06-21 01:11 J -22773531.57 -22773531.45 -22773531.32 0.0526 0.0048

Jupiter -67064-09-18 06:28 J -22773442.29 -22773442.23 -22773442.16 0.0525 0.0433

Uranus -67062-08-21 03:49 J -22772740.36 -22772740.34 -22772740.30 0.0134 0.0129

Uranus -67062-11-17 06:42 J -22772652.28 -22772652.22 -22772652.14 0.0134 0.0113

Uranus -67061-02-13 09:49 J -22772564.17 -22772564.09 -22772563.99 0.0134 0.0096

Uranus -67061-05-11 12:57 J -22772476.07 -22772475.96 -22772475.86 0.0134 0.0079

Uranus -67061-08-07 15:49 J -22772387.95 -22772387.84 -22772387.72 0.0134 0.0063

Uranus -67061-11-03 18:57 J -22772299.84 -22772299.71 -22772299.59 0.0134 0.0046

Uranus -67060-01-30 21:49 J -22772211.72 -22772211.59 -22772211.46 0.0135 0.0029

Uranus -67060-04-29 00:57 J -22772123.59 -22772123.46 -22772123.33 0.0135 0.0013

Uranus -67060-07-26 03:49 J -22772035.47 -22772035.34 -22772035.21 0.0135 0.0005

Uranus -67060-10-22 06:57 J -22771947.34 -22771947.21 -22771947.09 0.0135 0.0022

Uranus -67059-01-18 09:49 J -22771859.21 -22771859.09 -22771858.96 0.0135 0.0039

Uranus -67059-04-16 12:42 J -22771771.08 -22771770.97 -22771770.84 0.0135 0.0057

Uranus -67059-07-13 15:49 J -22771682.95 -22771682.84 -22771682.73 0.0135 0.0073

Uranus -67059-10-09 18:57 J -22771594.81 -22771594.71 -22771594.61 0.0135 0.0091

Uranus -67058-01-05 21:49 J -22771506.66 -22771506.59 -22771506.51 0.0136 0.0108

Uranus -67058-04-04 00:42 J -22771418.50 -22771418.47 -22771418.41 0.0136 0.0126

Jupiter -67058-05-15 02:09 J -22771377.56 -22771377.41 -22771377.25 0.0499 0.0279

Jupiter -67058-08-13 14:23 J -22771287.03 -22771286.90 -22771286.77 0.0500 0.0358

Saturn -67058-12-20 00:13 J -22771158.59 -22771158.49 -22771158.38 0.0305 0.0171

Saturn -67057-03-17 13:11 J -22771070.08 -22771069.95 -22771069.82 0.0304 0.0033

Saturn -67057-06-14 01:54 J -22770981.54 -22770981.42 -22770981.30 0.0304 0.0106

Mars -67057-06-14 05:59 J -22770981.36 -22770981.25 -22770981.14 0.1980 0.0138 *

Saturn -67057-09-10 14:37 J -22770892.97 -22770892.89 -22770892.82 0.0303 0.0242

Moon -67055-05-18 01:25 J -22770278.54 -22770278.44 -22770278.34 0.2705 0.0939

Earth -67055-05-18 02:09 J -22770278.51 -22770278.41 -22770278.31 0.2704 0.1076 *

Venus -67055-07-12 10:18 J -22770223.18 -22770223.07 -22770222.96 0.3562 0.2478

Mars -67052-02-22 23:45 J -22769266.66 -22769266.51 -22769266.37 0.1567 0.0833

Jupiter -67052-04-09 05:45 J -22769221.38 -22769221.26 -22769221.14 0.0526 0.0165

Jupiter -67052-07-07 11:01 J -22769132.14 -22769132.04 -22769131.94 0.0526 0.0315

Moon -67052-11-10 10:04 J -22769006.24 -22769006.08 -22769005.92 0.2630 0.0289

Earth -67052-11-10 11:59 J -22769006.16 -22769006.00 -22769005.85 0.2631 0.0543 *

Venus -67049-01-26 17:01 J -22768198.94 -22768198.79 -22768198.65 0.3563 0.1317

Moon -67048-05-11 02:09 J -22767728.49 -22767728.41 -22767728.34 0.2692 0.1934

Earth -67048-05-11 01:54 J -22767728.49 -22767728.42 -22767728.35 0.2698 0.2016 *

Mars -67048-11-04 13:40 J -22767551.02 -22767550.93 -22767550.84 0.1978 0.1217

Jupiter -67046-03-02 23:16 J -22767067.62 -22767067.53 -22767067.43 0.0499 0.0430

Jupiter -67046-06-01 11:30 J -22766977.19 -22766977.02 -22766976.85 0.0499 0.0204

Mars -67043-07-16 01:54 J -22765836.59 -22765836.42 -22765836.25 0.1568 0.0060

Saturn -67042-01-05 05:30 J -22765663.39 -22765663.27 -22765663.14 0.0258 0.0195

Saturn -67042-04-04 02:09 J -22765574.59 -22765574.41 -22765574.23 0.0258 0.0069

Moon -67042-05-20 19:25 J -22765527.75 -22765527.69 -22765527.63 0.2712 0.2199

Earth -67042-05-20 19:40 J -22765527.74 -22765527.68 -22765527.62 0.2706 0.2167 *

Saturn -67042-07-01 22:47 J -22765485.74 -22765485.55 -22765485.36 0.0259 0.0058

Saturn -67042-09-28 19:25 J -22765396.82 -22765396.69 -22765396.55 0.0259 0.0185

Jupiter -67040-01-26 10:04 J -22764911.19 -22764911.08 -22764910.97 0.0527 0.0282

Jupiter -67040-04-25 15:21 J -22764821.97 -22764821.86 -22764821.74 0.0526 0.0198

Neptune -67037-03-12 12:28 J -22763769.99 -22763769.98 -22763769.93 0.0089 0.0086

Neptune -67037-06-08 14:09 J -22763681.96 -22763681.91 -22763681.85 0.0089 0.0080

Neptune -67037-09-04 15:35 J -22763593.92 -22763593.85 -22763593.78 0.0089 0.0075

Neptune -67037-12-01 16:47 J -22763505.88 -22763505.80 -22763505.72 0.0089 0.0070

Neptune -67036-02-27 17:59 J -22763417.83 -22763417.75 -22763417.65 0.0089 0.0065

Neptune -67036-05-26 19:25 J -22763329.78 -22763329.69 -22763329.59 0.0089 0.0060

Neptune -67036-08-22 20:37 J -22763241.73 -22763241.64 -22763241.53 0.0089 0.0055

Neptune -67036-11-18 22:04 J -22763153.68 -22763153.58 -22763153.47 0.0089 0.0049

Venus -67036-11-25 15:21 J -22763146.92 -22763146.86 -22763146.79 0.3818 0.2877

Neptune -67035-02-14 23:16 J -22763065.63 -22763065.53 -22763065.41 0.0089 0.0045

Moon -67035-05-13 19:25 J -22762977.79 -22762977.69 -22762977.59 0.2694 0.0952

Earth -67035-05-13 19:40 J -22762977.79 -22762977.68 -22762977.58 0.2701 0.0913 *

Neptune -67035-05-14 00:42 J -22762977.58 -22762977.47 -22762977.35 0.0089 0.0039 *

Neptune -67035-08-10 02:09 J -22762889.53 -22762889.41 -22762889.29 0.0089 0.0034

Neptune -67035-11-06 03:21 J -22762801.48 -22762801.36 -22762801.23 0.0089 0.0029

Neptune -67034-02-02 04:47 J -22762713.43 -22762713.30 -22762713.17 0.0089 0.0024

Jupiter -67034-03-20 08:23 J -22762667.34 -22762667.15 -22762666.97 0.0499 0.0050

Neptune -67034-05-01 05:59 J -22762625.38 -22762625.25 -22762625.12 0.0089 0.0019

Neptune -67034-07-28 07:11 J -22762537.32 -22762537.20 -22762537.06 0.0089 0.0014

Neptune -67034-10-24 08:37 J -22762449.27 -22762449.14 -22762449.01 0.0089 0.0008

Mars -67034-12-06 04:18 J -22762406.46 -22762406.32 -22762406.18 0.1569 0.0926

Neptune -67033-01-20 09:49 J -22762361.22 -22762361.09 -22762360.95 0.0089 0.0005

Neptune -67033-04-17 11:16 J -22762273.16 -22762273.03 -22762272.90 0.0089 0.0002

Neptune -67033-07-14 12:28 J -22762185.11 -22762184.98 -22762184.84 0.0089 0.0007

Neptune -67033-10-10 13:54 J -22762097.05 -22762096.92 -22762096.79 0.0089 0.0012

Neptune -67032-01-06 15:06 J -22762009.00 -22762008.87 -22762008.74 0.0089 0.0017

Neptune -67032-04-04 16:18 J -22761920.94 -22761920.82 -22761920.69 0.0089 0.0023

Neptune -67032-07-01 17:45 J -22761832.88 -22761832.76 -22761832.63 0.0089 0.0027

Neptune -67032-09-27 18:57 J -22761744.83 -22761744.71 -22761744.58 0.0089 0.0033

Neptune -67032-12-24 20:09 J -22761656.77 -22761656.66 -22761656.53 0.0089 0.0038

Neptune -67031-03-22 21:35 J -22761568.71 -22761568.60 -22761568.48 0.0089 0.0043

Neptune -67031-06-18 22:47 J -22761480.65 -22761480.55 -22761480.43 0.0089 0.0048

Neptune -67031-09-15 00:13 J -22761392.59 -22761392.49 -22761392.38 0.0089 0.0053

Neptune -67031-12-12 01:25 J -22761304.53 -22761304.44 -22761304.34 0.0089 0.0058

Neptune -67030-03-10 02:52 J -22761216.47 -22761216.38 -22761216.29 0.0089 0.0063

Neptune -67030-06-06 04:04 J -22761128.41 -22761128.33 -22761128.24 0.0089 0.0068

Venus -67030-06-11 07:54 J -22761123.27 -22761123.17 -22761123.08 0.3817 0.1229

Neptune -67030-09-02 05:30 J -22761040.34 -22761040.27 -22761040.20 0.0089 0.0073

Neptune -67030-11-29 06:28 J -22760952.28 -22760952.23 -22760952.16 0.0089 0.0079

Neptune -67029-02-25 07:40 J -22760864.21 -22760864.18 -22760864.12 0.0089 0.0084

Neptune -67029-05-23 09:06 J -22760776.12 -22760776.12 -22760776.10 0.0089 0.0089

Jupiter -67029-11-14 14:52 J -22760600.97 -22760600.88 -22760600.80 0.0527 0.0394

Jupiter -67028-02-11 20:09 J -22760511.78 -22760511.66 -22760511.53 0.0526 0.0086

Saturn -67028-05-08 00:42 J -22760426.55 -22760426.47 -22760426.38 0.0304 0.0226

Saturn -67028-08-04 13:40 J -22760338.05 -22760337.93 -22760337.81 0.0304 0.0087

Saturn -67028-11-01 02:23 J -22760249.52 -22760249.40 -22760249.27 0.0304 0.0052

Saturn -67027-01-28 15:06 J -22760160.97 -22760160.87 -22760160.77 0.0303 0.0189

Mars -67027-07-23 22:33 J -22759984.65 -22759984.56 -22759984.46 0.1981 0.1073

Venus -67025-12-25 00:13 J -22759099.59 -22759099.49 -22759099.38 0.3817 0.0473

Jupiter -67022-01-06 03:49 J -22758357.52 -22758357.34 -22758357.16 0.0499 0.0119

Moon -67022-05-16 12:28 J -22758227.08 -22758226.98 -22758226.87 0.2701 0.0147

Earth -67022-05-16 13:11 J -22758227.06 -22758226.95 -22758226.84 0.2703 0.0196 *

Uranus -67022-12-23 22:47 J -22758005.64 -22758005.55 -22758005.46 0.0144 0.0127

Uranus -67021-03-21 07:25 J -22757917.33 -22757917.19 -22757917.04 0.0144 0.0095

Uranus -67021-06-17 16:04 J -22757828.99 -22757828.83 -22757828.64 0.0144 0.0064

Uranus -67021-09-14 00:57 J -22757740.65 -22757740.46 -22757740.26 0.0144 0.0033

Uranus -67021-12-11 09:49 J -22757652.29 -22757652.09 -22757651.90 0.0144 0.0002

Uranus -67020-03-09 18:28 J -22757563.92 -22757563.73 -22757563.54 0.0144 0.0030

Uranus -67020-06-06 03:06 J -22757475.54 -22757475.37 -22757475.19 0.0144 0.0061

Uranus -67020-09-02 11:45 J -22757387.15 -22757387.01 -22757386.85 0.0144 0.0092

Uranus -67020-11-29 20:09 J -22757298.75 -22757298.66 -22757298.54 0.0143 0.0123

Venus -67019-07-10 16:47 J -22757075.88 -22757075.80 -22757075.71 0.3816 0.2153

Moon -67019-11-08 09:21 J -22756955.24 -22756955.11 -22756954.98 0.2630 0.1565

Earth -67019-11-08 10:33 J -22756955.20 -22756955.06 -22756954.92 0.2634 0.1338 *

Mars -67018-12-14 05:59 J -22756554.36 -22756554.25 -22756554.13 0.1980 0.0057

Jupiter -67017-09-02 19:25 J -22756290.72 -22756290.69 -22756290.65 0.0526 0.0507

Jupiter -67017-12-01 00:57 J -22756201.59 -22756201.46 -22756201.34 0.0526 0.0028

Jupiter -67016-02-28 06:13 J -22756112.30 -22756112.24 -22756112.18 0.0525 0.0449

Saturn -67013-05-24 04:04 J -22754931.40 -22754931.33 -22754931.25 0.0258 0.0236

Saturn -67013-08-21 00:28 J -22754842.65 -22754842.48 -22754842.30 0.0258 0.0111

Mars -67013-08-24 00:13 J -22754839.62 -22754839.49 -22754839.35 0.1567 0.0968

Saturn -67013-11-17 21:06 J -22754753.81 -22754753.62 -22754753.43 0.0258 0.0015

Saturn -67012-02-14 17:45 J -22754664.92 -22754664.76 -22754664.60 0.0258 0.0142

Jupiter -67011-10-25 00:57 J -22754047.62 -22754047.46 -22754047.30 0.0499 0.0271

Jupiter -67010-01-23 12:57 J -22753957.08 -22753956.96 -22753956.83 0.0500 0.0366

Pluto -67010-09-25 17:45 J -22753711.76 -22753711.76 -22753711.72 0.0060 0.0060

Pluto -67010-12-22 18:42 J -22753623.76 -22753623.72 -22753623.62 0.0061 0.0056

Pluto -67009-03-19 19:54 J -22753535.74 -22753535.67 -22753535.54 0.0061 0.0051

Moon -67009-05-18 06:13 J -22753476.34 -22753476.24 -22753476.15 0.2706 0.1257

Earth -67009-05-18 06:57 J -22753476.31 -22753476.21 -22753476.12 0.2705 0.1293 *

Pluto -67009-06-15 21:06 J -22753447.71 -22753447.62 -22753447.47 0.0061 0.0046

Pluto -67009-09-11 22:18 J -22753359.68 -22753359.57 -22753359.41 0.0061 0.0041

Pluto -67009-12-08 23:59 J -22753271.64 -22753271.50 -22753271.35 0.0061 0.0035

Pluto -67008-03-07 01:11 J -22753183.60 -22753183.45 -22753183.29 0.0061 0.0030

Mars -67008-05-05 13:25 J -22753124.03 -22753123.94 -22753123.85 0.1978 0.1121

Pluto -67008-06-03 02:23 J -22753095.56 -22753095.40 -22753095.23 0.0061 0.0025

Pluto -67008-08-30 03:35 J -22753007.52 -22753007.35 -22753007.17 0.0061 0.0020

Pluto -67008-11-26 04:47 J -22752919.47 -22752919.30 -22752919.12 0.0061 0.0015

Pluto -67007-02-22 06:13 J -22752831.42 -22752831.24 -22752831.06 0.0061 0.0010

Pluto -67007-05-21 07:25 J -22752743.37 -22752743.19 -22752743.01 0.0061 0.0004

Pluto -67007-08-17 08:37 J -22752655.32 -22752655.14 -22752654.96 0.0061 0.0001

Pluto -67007-11-13 09:49 J -22752567.27 -22752567.09 -22752566.91 0.0061 0.0006

Pluto -67006-02-09 11:01 J -22752479.21 -22752479.04 -22752478.86 0.0061 0.0012

Pluto -67006-05-08 12:28 J -22752391.16 -22752390.98 -22752390.81 0.0062 0.0017

Pluto -67006-08-04 13:25 J -22752303.10 -22752302.94 -22752302.76 0.0062 0.0022

Pluto -67006-10-31 14:37 J -22752215.04 -22752214.89 -22752214.71 0.0062 0.0028

Moon -67006-11-11 17:01 J -22752203.95 -22752203.79 -22752203.64 0.2630 0.0895

Earth -67006-11-11 18:42 J -22752203.87 -22752203.72 -22752203.57 0.2631 0.0987 *

Pluto -67005-01-27 16:04 J -22752126.98 -22752126.83 -22752126.67 0.0062 0.0033

Pluto -67005-04-24 17:01 J -22752038.91 -22752038.79 -22752038.63 0.0062 0.0039

Pluto -67005-07-21 18:42 J -22751950.84 -22751950.72 -22751950.59 0.0062 0.0044

Jupiter -67005-09-19 05:01 J -22751891.41 -22751891.29 -22751891.17 0.0526 0.0150

Pluto -67005-10-17 19:40 J -22751862.77 -22751862.68 -22751862.55 0.0062 0.0050

Jupiter -67005-12-17 10:18 J -22751802.16 -22751802.07 -22751801.97 0.0525 0.0329

Pluto -67004-01-13 21:06 J -22751774.69 -22751774.62 -22751774.53 0.0062 0.0055

Pluto -67004-04-11 22:18 J -22751686.58 -22751686.57 -22751686.52 0.0062 0.0061

Mars -67003-01-14 02:37 J -22751409.56 -22751409.39 -22751409.22 0.1568 0.0089

Earth -67002-05-12 06:42 J -22750926.30 -22750926.22 -22750926.14 0.2699 0.1790

Moon -67002-05-12 06:57 J -22750926.29 -22750926.21 -22750926.14 0.2692 0.1829 *

67TH MILLENNIUM BCE

This is a list of transits of Mercury in the 67th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Jupiter	-66999-08-12 22:18	J	-22749737.67	-22749737.57	-22749737.47	0.0499	0.0421	
Saturn	-66999-09-25 01:25	J	-22749694.49	-22749694.44	-22749694.39	0.0305	0.0279	
Jupiter	-66999-11-11 10:18	J	-22749647.24	-22749647.07	-22749646.90	0.0500	0.0215	
Saturn	-66999-12-22 14:23	J	-22749606.02	-22749605.90	-22749605.79	0.0305	0.0140	
Venus	-66998-02-16 11:59	J	-22749550.15	-22749550.00	-22749549.85	0.3562	0.1178	
Saturn	-66998-03-21 03:06	J	-22749517.50	-22749517.37	-22749517.24	0.0304	0.0008	
Saturn	-66998-06-17 15:49	J	-22749428.95	-22749428.84	-22749428.72	0.0304	0.0137	
Saturn	-66998-09-14 04:33	J	-22749340.36	-22749340.31	-22749340.25	0.0304	0.0273	
Moon	-66996-05-21 00:13	J	-22748725.54	-22748725.49	-22748725.44	0.2713	0.2308	
Earth	-66996-05-21 00:28	J	-22748725.53	-22748725.48	-22748725.43	0.2706	0.2387	*
Mars	-66994-06-06 05:01	J	-22747979.44	-22747979.29	-22747979.15	0.1569	0.0795	
Jupiter	-66993-07-08 09:21	J	-22747581.21	-22747581.11	-22747581.00	0.0526	0.0269	
Venus	-66993-09-01 18:28	J	-22747525.84	-22747525.73	-22747525.63	0.3563	0.2584	
Jupiter	-66993-10-05 14:37	J	-22747492.00	-22747491.89	-22747491.77	0.0526	0.0211	
Moon	-66989-05-13 23:59	J	-22746175.60	-22746175.50	-22746175.39	0.2695	0.0688	
Earth	-66989-05-14 00:28	J	-22746175.59	-22746175.48	-22746175.38	0.2701	0.0693	*
Mars	-66987-01-21 22:33	J	-22745557.65	-22745557.56	-22745557.47	0.1982	0.1192	
Jupiter	-66987-08-30 07:25	J	-22745337.37	-22745337.19	-22745337.00	0.0499	0.0062	
Saturn	-66983-01-07 22:18	J	-22744110.72	-22744110.57	-22744110.41	0.0258	0.0156	
Saturn	-66983-04-06 18:57	J	-22744021.90	-22744021.71	-22744021.52	0.0258	0.0030	
Saturn	-66983-07-04 15:21	J	-22743933.03	-22743932.86	-22743932.68	0.0258	0.0097	
Saturn	-66983-10-01 12:13	J	-22743844.08	-22743843.99	-22743843.90	0.0259	0.0224	

Jupiter -66981-04-26 13:40 J -22743271.01 -22743270.93 -22743270.84 0.0527 0.0388

Jupiter -66981-07-24 19:11 J -22743181.82 -22743181.70 -22743181.58 0.0526 0.0093

Venus -66979-07-02 12:57 J -22742474.04 -22742473.96 -22742473.88 0.3818 0.2300

Mars -66978-06-14 05:59 J -22742127.36 -22742127.25 -22742127.13 0.1980 0.0124

Uranus -66978-09-10 11:30 J -22742039.07 -22742039.02 -22742038.98 0.0134 0.0124

Uranus -66978-12-07 14:09 J -22741950.97 -22741950.91 -22741950.82 0.0134 0.0108

Uranus -66977-03-04 17:16 J -22741862.87 -22741862.78 -22741862.68 0.0134 0.0091

Uranus -66977-05-31 20:23 J -22741774.76 -22741774.65 -22741774.54 0.0134 0.0075

Uranus -66977-08-27 23:16 J -22741686.64 -22741686.53 -22741686.41 0.0134 0.0058

Uranus -66977-11-24 02:09 J -22741598.53 -22741598.41 -22741598.28 0.0135 0.0042

Uranus -66976-02-20 05:16 J -22741510.41 -22741510.28 -22741510.15 0.0135 0.0024

Moon -66976-05-16 17:16 J -22741424.89 -22741424.78 -22741424.67 0.2701 0.0323

Earth -66976-05-16 17:59 J -22741424.86 -22741424.75 -22741424.64 0.2703 0.0416 *

Uranus -66976-05-19 08:09 J -22741422.29 -22741422.16 -22741422.02 0.0135 0.0009

Uranus -66976-08-15 11:16 J -22741334.16 -22741334.03 -22741333.90 0.0135 0.0010

Uranus -66976-11-11 14:09 J -22741246.03 -22741245.91 -22741245.78 0.0135 0.0027

Uranus -66975-02-07 17:16 J -22741157.90 -22741157.78 -22741157.66 0.0135 0.0044

Uranus -66975-05-06 20:09 J -22741069.77 -22741069.66 -22741069.54 0.0135 0.0061

Jupiter -66975-06-18 04:18 J -22741027.50 -22741027.32 -22741027.13 0.0499 0.0093

Uranus -66975-08-02 23:16 J -22740981.63 -22740981.53 -22740981.42 0.0135 0.0078

Uranus -66975-10-30 02:09 J -22740893.49 -22740893.41 -22740893.31 0.0136 0.0096

Uranus -66974-01-26 05:16 J -22740805.34 -22740805.28 -22740805.20 0.0136 0.0113

Uranus -66974-04-24 08:09 J -22740717.18 -22740717.16 -22740717.11 0.0136 0.0131

Venus -66973-01-16 05:30 J -22740450.37 -22740450.27 -22740450.17 0.3817 0.0630

Mars -66973-02-23 01:11 J -22740412.57 -22740412.45 -22740412.33 0.1567 0.1109

Moon -66973-11-08 15:49 J -22740152.99 -22740152.84 -22740152.69 0.2630 0.0947

Earth -66973-11-08 17:30 J -22740152.93 -22740152.77 -22740152.62 0.2633 0.0903 *

Jupiter -66969-02-13 18:42 J -22738960.76 -22738960.72 -22738960.69 0.0527 0.0499

Earth -66969-05-09 17:45 J -22738874.77 -22738874.76 -22738874.75 0.2697 0.2674

Moon -66969-05-09 18:28 J -22738874.75 -22738874.73 -22738874.72 0.2693 0.2662 *

Saturn -66969-05-10 14:37 J -22738873.99 -22738873.89 -22738873.79 0.0304 0.0197

Jupiter -66969-05-12 23:59 J -22738871.62 -22738871.50 -22738871.37 0.0526 0.0021

Saturn -66969-08-07 03:35 J -22738785.48 -22738785.35 -22738785.23 0.0304 0.0058

Jupiter -66969-08-10 05:16 J -22738782.34 -22738782.28 -22738782.22 0.0525 0.0459

Mars -66969-11-03 13:25 J -22738697.04 -22738696.94 -22738696.84 0.1978 0.1003

Saturn -66969-11-03 16:18 J -22738696.94 -22738696.82 -22738696.69 0.0304 0.0080 *

Saturn -66968-01-31 05:01 J -22738608.38 -22738608.29 -22738608.20 0.0303 0.0217

Venus -66968-07-31 22:04 J -22738426.68 -22738426.58 -22738426.48 0.3816 0.1059

Mars -66964-07-15 03:21 J -22736982.53 -22736982.36 -22736982.19 0.1568 0.0223

Jupiter -66963-04-05 23:45 J -22736717.66 -22736717.51 -22736717.35 0.0499 0.0262

Moon -66963-05-19 11:01 J -22736674.13 -22736674.04 -22736673.95 0.2708 0.1433

Earth -66963-05-19 11:45 J -22736674.10 -22736674.01 -22736673.93 0.2705 0.1514 *

Jupiter -66963-07-05 11:59 J -22736627.12 -22736627.00 -22736626.88 0.0500 0.0375

Venus -66962-02-14 14:37 J -22736402.96 -22736402.89 -22736402.82 0.3816 0.2765

Moon -66960-11-11 23:45 J -22735401.65 -22735401.51 -22735401.36 0.2630 0.1166

Earth -66960-11-12 01:25 J -22735401.57 -22735401.44 -22735401.30 0.2631 0.1433 *

Jupiter -66957-03-01 04:47 J -22734561.42 -22734561.30 -22734561.18 0.0526 0.0131

Jupiter -66957-05-29 10:04 J -22734472.17 -22734472.08 -22734471.98 0.0525 0.0347

Moon -66956-05-12 11:30 J -22734124.11 -22734124.02 -22734123.92 0.2692 0.1491

Earth -66956-05-12 11:30 J -22734124.11 -22734124.02 -22734123.93 0.2699 0.1568 *

Mars -66955-12-05 05:45 J -22733552.42 -22733552.26 -22733552.11 0.1569 0.0659

Neptune -66954-05-26 21:35 J -22733379.66 -22733379.60 -22733379.51 0.0089 0.0082

Saturn -66954-05-27 20:37 J -22733378.76 -22733378.64 -22733378.52 0.0258 0.0198

Neptune -66954-08-23 01:11 J -22733291.54 -22733291.45 -22733291.33 0.0089 0.0075

Saturn -66954-08-24 17:01 J -22733289.97 -22733289.79 -22733289.60 0.0258 0.0073

Neptune -66954-11-19 05:01 J -22733203.41 -22733203.29 -22733203.15 0.0089 0.0067

Saturn -66954-11-21 13:40 J -22733201.12 -22733200.93 -22733200.74 0.0258 0.0053

Neptune -66953-02-15 08:37 J -22733115.27 -22733115.14 -22733114.98 0.0089 0.0060

Saturn -66953-02-18 10:18 J -22733112.20 -22733112.07 -22733111.93 0.0258 0.0180

Neptune -66953-05-13 12:28 J -22733027.13 -22733026.98 -22733026.82 0.0089 0.0052

Neptune -66953-08-09 16:04 J -22732938.99 -22732938.83 -22732938.65 0.0089 0.0045

Neptune -66953-11-05 19:54 J -22732850.84 -22732850.67 -22732850.49 0.0089 0.0037

Neptune -66952-02-01 23:30 J -22732762.70 -22732762.52 -22732762.33 0.0089 0.0029

Neptune -66952-05-01 03:21 J -22732674.55 -22732674.36 -22732674.17 0.0089 0.0022

Neptune -66952-07-28 06:57 J -22732586.40 -22732586.21 -22732586.01 0.0089 0.0014

Neptune -66952-10-24 10:47 J -22732498.25 -22732498.05 -22732497.85 0.0089 0.0006

Neptune -66951-01-20 14:23 J -22732410.09 -22732409.90 -22732409.70 0.0089 0.0002

Jupiter -66951-01-22 20:52 J -22732407.73 -22732407.63 -22732407.52 0.0499 0.0413

Neptune -66951-04-18 18:13 J -22732321.94 -22732321.74 -22732321.54 0.0089 0.0009

Jupiter -66951-04-23 09:06 J -22732317.29 -22732317.12 -22732316.95 0.0500 0.0223

Neptune -66951-07-15 21:49 J -22732233.78 -22732233.59 -22732233.39 0.0089 0.0016

Neptune -66951-10-12 01:40 J -22732145.62 -22732145.43 -22732145.24 0.0089 0.0024

Neptune -66950-01-08 05:16 J -22732057.46 -22732057.28 -22732057.09 0.0089 0.0032

Neptune -66950-04-06 08:52 J -22731969.30 -22731969.13 -22731968.94 0.0089 0.0039

Moon -66950-05-22 05:01 J -22731923.31 -22731923.29 -22731923.27 0.2713 0.2633

Earth -66950-05-22 05:16 J -22731923.31 -22731923.28 -22731923.25 0.2707 0.2602 *

Neptune -66950-07-03 12:42 J -22731881.13 -22731880.97 -22731880.80 0.0089 0.0047

Neptune -66950-09-29 16:18 J -22731792.96 -22731792.82 -22731792.66 0.0089 0.0055

Neptune -66950-12-26 19:54 J -22731704.79 -22731704.67 -22731704.51 0.0089 0.0063

Neptune -66949-03-23 23:45 J -22731616.62 -22731616.51 -22731616.38 0.0089 0.0070

Neptune -66949-06-20 03:21 J -22731528.44 -22731528.36 -22731528.25 0.0089 0.0078

Neptune -66949-09-16 07:25 J -22731440.24 -22731440.19 -22731440.13 0.0089 0.0085

Mars -66948-07-22 22:33 J -22731130.64 -22731130.56 -22731130.48 0.1981 0.1302

Jupiter -66946-12-19 09:06 J -22730251.23 -22730251.12 -22730251.01 0.0526 0.0253

Jupiter -66945-03-17 14:23 J -22730162.02 -22730161.90 -22730161.79 0.0526 0.0226

Mars -66945-04-26 07:54 J -22730122.20 -22730122.17 -22730122.13 0.1571 0.1536

Moon -66943-05-15 04:47 J -22729373.41 -22729373.30 -22729373.20 0.2696 0.0569

Earth -66943-05-15 05:16 J -22729373.39 -22729373.28 -22729373.18 0.2701 0.0469 *

Venus -66942-09-23 13:25 J -22728877.09 -22728876.94 -22728876.79 0.3562 0.0097

Saturn -66940-09-27 15:06 J -22728141.94 -22728141.87 -22728141.80 0.0305 0.0251

Saturn -66940-12-25 04:04 J -22728053.45 -22728053.33 -22728053.21 0.0305 0.0112

Jupiter -66939-02-09 06:28 J -22728007.42 -22728007.23 -22728007.05 0.0500 0.0073

Saturn -66939-03-23 17:01 J -22727964.92 -22727964.79 -22727964.66 0.0304 0.0028

Saturn -66939-06-20 05:45 J -22727876.37 -22727876.26 -22727876.15 0.0304 0.0165

Saturn -66939-09-16 18:28 J -22727787.75 -22727787.73 -22727787.72 0.0304 0.0301

Mars -66939-12-13 05:59 J -22727700.37 -22727700.25 -22727700.14 0.1980 0.0202

Uranus -66937-01-13 07:25 J -22727304.30 -22727304.19 -22727304.07 0.0144 0.0115

Uranus -66937-04-10 16:18 J -22727215.97 -22727215.82 -22727215.66 0.0144 0.0084

Uranus -66937-07-08 01:11 J -22727127.63 -22727127.45 -22727127.27 0.0144 0.0052

Uranus -66937-10-04 09:49 J -22727039.28 -22727039.09 -22727038.89 0.0144 0.0021

Uranus -66937-12-31 18:28 J -22726950.92 -22726950.73 -22726950.53 0.0144 0.0011

Uranus -66936-03-30 03:21 J -22726862.55 -22726862.36 -22726862.17 0.0144 0.0041

Uranus -66936-06-26 11:59 J -22726774.17 -22726774.00 -22726773.83 0.0144 0.0072

Uranus -66936-09-22 20:37 J -22726685.77 -22726685.64 -22726685.50 0.0144 0.0103

Uranus -66936-12-20 05:01 J -22726597.35 -22726597.29 -22726597.21 0.0143 0.0134

Mars -66934-08-24 01:40 J -22725985.53 -22725985.43 -22725985.32 0.1567 0.1242

Jupiter -66934-10-07 13:25 J -22725941.03 -22725940.94 -22725940.86 0.0526 0.0373

Jupiter -66933-01-04 18:42 J -22725851.85 -22725851.72 -22725851.60 0.0526 0.0107

Moon -66930-05-17 22:04 J -22724622.68 -22724622.58 -22724622.47 0.2701 0.0586

Earth -66930-05-17 22:47 J -22724622.65 -22724622.55 -22724622.44 0.2703 0.0636 *

Mars -66929-05-04 13:25 J -22724270.04 -22724269.94 -22724269.83 0.1978 0.0884

Venus -66928-07-23 18:13 J -22723824.78 -22723824.74 -22723824.69 0.3818 0.3364

Jupiter -66928-11-28 03:35 J -22723697.53 -22723697.35 -22723697.16 0.0499 0.0079

Moon -66927-11-09 22:33 J -22723350.72 -22723350.56 -22723350.40 0.2629 0.0713

Earth -66927-11-10 00:13 J -22723350.65 -22723350.49 -22723350.33 0.2633 0.0467 *

Saturn -66925-10-13 18:28 J -22722646.78 -22722646.73 -22722646.66 0.0258 0.0242

Saturn -66924-01-10 14:52 J -22722558.04 -22722557.88 -22722557.70 0.0258 0.0118

Mars -66924-01-13 04:04 J -22722555.49 -22722555.33 -22722555.16 0.1568 0.0365

Saturn -66924-04-09 11:30 J -22722469.21 -22722469.02 -22722468.83 0.0258 0.0008

Saturn -66924-07-07 08:09 J -22722380.32 -22722380.16 -22722380.00 0.0258 0.0135

Earth -66923-05-10 22:33 J -22722072.60 -22722072.56 -22722072.52 0.2697 0.2450

Moon -66923-05-10 23:01 J -22722072.59 -22722072.54 -22722072.49 0.2692 0.2351 *

Venus -66922-02-06 10:47 J -22721801.15 -22721801.05 -22721800.96 0.3818 0.1719

Jupiter -66922-07-26 17:45 J -22721630.81 -22721630.76 -22721630.72 0.0527 0.0492

Jupiter -66922-10-23 23:01 J -22721541.66 -22721541.54 -22721541.41 0.0526 0.0014

Jupiter -66921-01-21 04:18 J -22721452.37 -22721452.32 -22721452.26 0.0526 0.0467

Moon -66917-05-19 15:49 J -22719871.92 -22719871.84 -22719871.75 0.2710 0.1674

Earth -66917-05-19 16:33 J -22719871.90 -22719871.81 -22719871.73 0.2705 0.1733 *

Venus -66917-08-22 03:06 J -22719777.47 -22719777.37 -22719777.27 0.3817 0.0073

Pluto -66917-11-04 11:59 J -22719703.02 -22719703.00 -22719702.97 0.0084 0.0083

Pluto -66916-01-31 13:25 J -22719615.00 -22719614.94 -22719614.85 0.0084 0.0072

Pluto -66916-04-29 15:06 J -22719526.96 -22719526.87 -22719526.77 0.0084 0.0061

Pluto -66916-07-26 16:47 J -22719438.91 -22719438.80 -22719438.69 0.0084 0.0050

Jupiter -66916-09-16 00:28 J -22719387.64 -22719387.48 -22719387.31 0.0499 0.0234

Pluto -66916-10-22 18:13 J -22719350.86 -22719350.74 -22719350.61 0.0084 0.0040

Jupiter -66916-12-15 12:28 J -22719297.08 -22719296.98 -22719296.86 0.0500 0.0403

Pluto -66915-01-18 19:54 J -22719262.80 -22719262.67 -22719262.54 0.0084 0.0029

Pluto -66915-04-16 21:21 J -22719174.75 -22719174.61 -22719174.47 0.0084 0.0019

Mars -66915-06-05 06:28 J -22719125.39 -22719125.23 -22719125.07 0.1569 0.0519

Pluto -66915-07-13 22:47 J -22719086.69 -22719086.55 -22719086.41 0.0083 0.0008

Pluto -66915-10-10 00:13 J -22718998.63 -22718998.49 -22718998.35 0.0083 0.0002

Pluto -66914-01-06 01:40 J -22718910.57 -22718910.43 -22718910.29 0.0083 0.0012

Pluto -66914-04-04 03:06 J -22718822.50 -22718822.37 -22718822.23 0.0083 0.0022

Pluto -66914-07-01 04:18 J -22718734.44 -22718734.32 -22718734.18 0.0083 0.0033

Pluto -66914-09-27 05:45 J -22718646.37 -22718646.26 -22718646.13 0.0083 0.0043

Moon -66914-11-13 06:28 J -22718599.34 -22718599.23 -22718599.11 0.2632 0.1815

Earth -66914-11-13 08:23 J -22718599.26 -22718599.15 -22718599.04 0.2630 0.1870 *

Pluto -66914-12-24 07:25 J -22718558.30 -22718558.19 -22718558.08 0.0083 0.0052

Pluto -66913-03-21 08:52 J -22718470.22 -22718470.13 -22718470.04 0.0083 0.0062

Pluto -66913-06-17 10:04 J -22718382.14 -22718382.08 -22718382.01 0.0082 0.0072

Pluto -66913-09-13 11:16 J -22718294.03 -22718294.03 -22718294.00 0.0082 0.0081

Venus -66911-03-07 19:40 J -22717753.77 -22717753.68 -22717753.59 0.3816 0.1652

Earth -66910-05-13 16:18 J -22717321.91 -22717321.82 -22717321.73 0.2699 0.1346

Moon -66910-05-13 16:18 J -22717321.91 -22717321.82 -22717321.72 0.2692 0.1395 *

Saturn -66910-05-14 04:33 J -22717321.42 -22717321.31 -22717321.20 0.0304 0.0168

Saturn -66910-08-10 17:16 J -22717232.90 -22717232.78 -22717232.65 0.0304 0.0031

Jupiter -66910-08-12 03:49 J -22717231.46 -22717231.34 -22717231.21 0.0526 0.0123

Saturn -66910-11-07 06:13 J -22717144.36 -22717144.24 -22717144.12 0.0304 0.0109

Jupiter -66910-11-09 09:06 J -22717142.21 -22717142.12 -22717142.02 0.0526 0.0357

Saturn -66909-02-03 18:42 J -22717055.79 -22717055.72 -22717055.64 0.0303 0.0245

Mars -66908-01-20 22:33 J -22716703.64 -22716703.56 -22716703.48 0.1981 0.1409

Venus -66906-09-21 12:13 J -22715730.03 -22715729.99 -22715729.94 0.3815 0.3378

Mars -66906-10-26 08:37 J -22715695.21 -22715695.14 -22715695.07 0.1571 0.1402

Jupiter -66904-07-04 19:54 J -22715077.78 -22715077.67 -22715077.56 0.0499 0.0403

Jupiter -66904-10-03 07:54 J -22714987.33 -22714987.17 -22714987.00 0.0500 0.0233

Mars -66899-06-13 05:59 J -22713273.36 -22713273.25 -22713273.14 0.1980 0.0325

Jupiter -66898-05-31 08:37 J -22712921.25 -22712921.14 -22712921.02 0.0526 0.0235

Jupiter -66898-08-28 13:54 J -22712832.03 -22712831.92 -22712831.80 0.0526 0.0245

Moon -66897-05-15 09:21 J -22712571.21 -22712571.11 -22712571.00 0.2697 0.0259

Earth -66897-05-15 10:04 J -22712571.19 -22712571.08 -22712570.98 0.2701 0.0255 *

Saturn -66895-05-30 13:11 J -22711826.09 -22711825.95 -22711825.79 0.0258 0.0160

Saturn -66895-08-27 09:49 J -22711737.28 -22711737.09 -22711736.90 0.0258 0.0034

Saturn -66895-11-24 06:28 J -22711648.41 -22711648.23 -22711648.05 0.0258 0.0092

Saturn -66894-02-21 03:06 J -22711559.47 -22711559.37 -22711559.27 0.0258 0.0219

Mars -66894-02-22 02:23 J -22711558.48 -22711558.40 -22711558.32 0.1567 0.1375

Uranus -66894-09-30 18:28 J -22711337.78 -22711337.73 -22711337.67 0.0134 0.0121

Moon -66894-11-07 21:49 J -22711299.65 -22711299.59 -22711299.53 0.2630 0.2418

Earth -66894-11-07 22:47 J -22711299.62 -22711299.55 -22711299.47 0.2635 0.2334 *

Uranus -66894-12-27 21:35 J -22711249.68 -22711249.60 -22711249.52 0.0134 0.0104

Uranus -66893-03-25 00:28 J -22711161.57 -22711161.48 -22711161.38 0.0134 0.0088

Uranus -66893-06-21 03:21 J -22711073.46 -22711073.36 -22711073.24 0.0134 0.0071

Uranus -66893-09-17 06:28 J -22710985.35 -22710985.23 -22710985.11 0.0134 0.0054

Uranus -66893-12-14 09:21 J -22710897.23 -22710897.11 -22710896.98 0.0135 0.0038

Uranus -66892-03-12 12:28 J -22710809.11 -22710808.98 -22710808.85 0.0135 0.0021

Uranus -66892-06-08 15:21 J -22710720.99 -22710720.86 -22710720.73 0.0135 0.0005

Jupiter -66892-07-22 05:01 J -22710677.48 -22710677.29 -22710677.10 0.0500 0.0080

Uranus -66892-09-04 18:28 J -22710632.86 -22710632.73 -22710632.60 0.0135 0.0014

Uranus -66892-12-01 21:21 J -22710544.73 -22710544.61 -22710544.48 0.0135 0.0031

Uranus -66891-02-28 00:28 J -22710456.60 -22710456.48 -22710456.36 0.0135 0.0048

Uranus -66891-05-27 03:21 J -22710368.47 -22710368.36 -22710368.24 0.0135 0.0065

Uranus -66891-08-23 06:13 J -22710280.33 -22710280.24 -22710280.13 0.0135 0.0083

Venus -66891-10-14 08:09 J -22710228.27 -22710228.16 -22710228.05 0.3562 0.2460

Uranus -66891-11-19 09:21 J -22710192.19 -22710192.11 -22710192.02 0.0136 0.0099

Uranus -66890-02-15 12:28 J -22710104.04 -22710103.98 -22710103.91 0.0136 0.0117

Uranus -66890-05-14 15:35 J -22710015.87 -22710015.85 -22710015.83 0.0136 0.0134

Mars -66890-11-03 13:25 J -22709843.05 -22709842.94 -22709842.84 0.1978 0.0784

Jupiter -66886-03-19 12:57 J -22708611.05 -22708610.96 -22708610.87 0.0526 0.0357

Jupiter -66886-06-16 18:13 J -22708521.86 -22708521.74 -22708521.62 0.0526 0.0123

Venus -66885-04-29 14:52 J -22708204.02 -22708203.88 -22708203.74 0.3563 0.1383

Mars -66885-07-14 04:47 J -22708128.46 -22708128.30 -22708128.14 0.1568 0.0497

Moon -66884-05-18 02:52 J -22707820.48 -22707820.38 -22707820.27 0.2703 0.0744

Earth -66884-05-18 03:35 J -22707820.45 -22707820.35 -22707820.25 0.2703 0.0858 *

Saturn -66881-09-30 05:01 J -22706589.38 -22706589.29 -22706589.20 0.0305 0.0222

Moon -66881-11-10 05:16 J -22706548.44 -22706548.28 -22706548.11 0.2629 0.0100

Earth -66881-11-10 06:57 J -22706548.37 -22706548.21 -22706548.05 0.2632 0.0026 *

Saturn -66881-12-27 17:59 J -22706500.87 -22706500.75 -22706500.63 0.0305 0.0082

Mars -66880-03-25 20:52 J -22706412.66 -22706412.63 -22706412.60 0.1976 0.1869

Saturn -66880-03-26 06:42 J -22706412.34 -22706412.22 -22706412.09 0.0304 0.0057

Jupiter -66880-05-10 02:23 J -22706367.59 -22706367.40 -22706367.21 0.0500 0.0071

Saturn -66880-06-22 19:25 J -22706323.78 -22706323.69 -22706323.59 0.0304 0.0194

Earth -66877-05-11 03:21 J -22705270.42 -22705270.36 -22705270.30 0.2697 0.2229

Moon -66877-05-11 03:49 J -22705270.40 -22705270.34 -22705270.28 0.2691 0.2205 *

Mars -66876-12-04 06:57 J -22704698.37 -22704698.21 -22704698.04 0.1569 0.0386

Jupiter -66874-01-05 17:16 J -22704300.83 -22704300.78 -22704300.73 0.0526 0.0477

Jupiter -66874-04-04 22:33 J -22704211.69 -22704211.56 -22704211.43 0.0526 0.0004

Jupiter -66874-07-03 03:49 J -22704122.39 -22704122.34 -22704122.29 0.0525 0.0480

Neptune -66873-12-07 12:28 J -22703599.02 -22703598.98 -22703598.93 0.0089 0.0084

Neptune -66872-03-05 13:40 J -22703510.98 -22703510.93 -22703510.86 0.0089 0.0079

Neptune -66872-06-01 14:52 J -22703422.94 -22703422.88 -22703422.79 0.0089 0.0074

Neptune -66872-08-28 16:18 J -22703334.89 -22703334.82 -22703334.73 0.0089 0.0069

Neptune -66872-11-24 17:59 J -22703246.85 -22703246.75 -22703246.66 0.0089 0.0063

Neptune -66871-02-20 19:11 J -22703158.80 -22703158.70 -22703158.60 0.0089 0.0058

Venus -66871-02-27 15:49 J -22703151.90 -22703151.84 -22703151.77 0.3818 0.2793

Neptune -66871-05-19 20:23 J -22703070.75 -22703070.65 -22703070.54 0.0089 0.0053

Moon -66871-05-20 20:37 J -22703069.71 -22703069.64 -22703069.56 0.2710 0.1919

Earth -66871-05-20 21:21 J -22703069.69 -22703069.61 -22703069.54 0.2705 0.1953 *

Neptune -66871-08-15 21:35 J -22702982.70 -22702982.60 -22702982.48 0.0089 0.0048

Neptune -66871-11-11 23:01 J -22702894.65 -22702894.54 -22702894.42 0.0089 0.0043

Neptune -66870-02-08 00:13 J -22702806.60 -22702806.49 -22702806.36 0.0089 0.0038

Neptune -66870-05-07 01:40 J -22702718.55 -22702718.43 -22702718.30 0.0089 0.0032

Neptune -66870-08-03 03:06 J -22702630.50 -22702630.37 -22702630.25 0.0089 0.0027

Neptune -66870-10-30 04:18 J -22702542.44 -22702542.32 -22702542.19 0.0089 0.0022

Neptune -66869-01-26 05:45 J -22702454.39 -22702454.26 -22702454.13 0.0089 0.0017

Neptune -66869-04-23 06:57 J -22702366.34 -22702366.21 -22702366.08 0.0089 0.0012

Neptune -66869-07-20 08:23 J -22702278.29 -22702278.15 -22702278.02 0.0089 0.0007

Mars -66869-07-21 22:33 J -22702276.63 -22702276.56 -22702276.49 0.1982 0.1533

Neptune -66869-10-16 09:35 J -22702190.23 -22702190.10 -22702189.97 0.0089 0.0002

Neptune -66868-01-12 10:47 J -22702102.18 -22702102.05 -22702101.91 0.0089 0.0005

Jupiter -66868-02-25 23:30 J -22702057.68 -22702057.52 -22702057.35 0.0499 0.0223

Neptune -66868-04-10 12:13 J -22702014.12 -22702013.99 -22702013.86 0.0089 0.0009

Jupiter -66868-05-27 11:30 J -22701967.11 -22701967.02 -22701966.91 0.0500 0.0415

Neptune -66868-07-07 13:25 J -22701926.07 -22701925.94 -22701925.81 0.0089 0.0014

Neptune -66868-10-03 14:52 J -22701838.01 -22701837.88 -22701837.75 0.0089 0.0019

Moon -66868-11-13 13:25 J -22701797.04 -22701796.94 -22701796.84 0.2633 0.2033

Earth -66868-11-13 15:06 J -22701796.95 -22701796.87 -22701796.79 0.2630 0.2308 *

Neptune -66868-12-30 16:04 J -22701749.95 -22701749.83 -22701749.70 0.0089 0.0024

Neptune -66867-03-28 17:16 J -22701661.90 -22701661.78 -22701661.65 0.0089 0.0029

Neptune -66867-06-24 18:28 J -22701573.84 -22701573.73 -22701573.60 0.0089 0.0035

Neptune -66867-09-20 19:54 J -22701485.78 -22701485.67 -22701485.55 0.0089 0.0039

Neptune -66867-12-17 21:06 J -22701397.73 -22701397.62 -22701397.50 0.0089 0.0045

Neptune -66866-03-15 22:18 J -22701309.67 -22701309.57 -22701309.45 0.0089 0.0050

Mars -66866-04-26 09:35 J -22701268.20 -22701268.10 -22701268.01 0.1571 0.1261

Neptune -66866-06-11 23:45 J -22701221.61 -22701221.51 -22701221.40 0.0089 0.0055

Neptune -66866-09-08 00:57 J -22701133.55 -22701133.46 -22701133.35 0.0089 0.0060

Venus -66866-09-13 08:23 J -22701128.25 -22701128.15 -22701128.05 0.3818 0.1126

Saturn -66866-10-17 11:16 J -22701094.14 -22701094.03 -22701093.90 0.0258 0.0203

Neptune -66866-12-05 02:23 J -22701045.48 -22701045.40 -22701045.31 0.0089 0.0065

Saturn -66865-01-14 07:54 J -22701005.35 -22701005.17 -22701004.99 0.0258 0.0078

Neptune -66865-03-02 03:35 J -22700957.42 -22700957.35 -22700957.26 0.0089 0.0070

Saturn -66865-04-12 04:33 J -22700916.50 -22700916.31 -22700916.13 0.0258 0.0048

Neptune -66865-05-29 05:01 J -22700869.36 -22700869.29 -22700869.22 0.0089 0.0075

Saturn -66865-07-10 00:57 J -22700827.59 -22700827.46 -22700827.31 0.0258 0.0175

Neptune -66865-08-25 06:13 J -22700781.29 -22700781.24 -22700781.18 0.0089 0.0080

Neptune -66865-11-21 07:40 J -22700693.21 -22700693.18 -22700693.15 0.0089 0.0085

Moon -66864-05-13 21:06 J -22700519.72 -22700519.62 -22700519.52 0.2693 0.1089

Earth -66864-05-13 21:06 J -22700519.72 -22700519.62 -22700519.52 0.2699 0.1123 *

Jupiter -66862-01-22 02:52 J -22699901.50 -22699901.38 -22699901.26 0.0526 0.0116

Jupiter -66862-04-21 08:09 J -22699812.25 -22699812.16 -22699812.07 0.0526 0.0363

Venus -66860-03-29 00:42 J -22699104.57 -22699104.47 -22699104.37 0.3817 0.0563

Mars -66860-12-12 05:59 J -22698846.36 -22698846.25 -22698846.14 0.1980 0.0433

Jupiter -66857-12-14 20:23 J -22697747.77 -22697747.65 -22697747.52 0.0499 0.0377

Jupiter -66856-03-15 08:23 J -22697657.30 -22697657.15 -22697656.98 0.0500 0.0260

Mars -66855-08-23 03:21 J -22697131.40 -22697131.36 -22697131.32 0.1567 0.1518

Venus -66855-10-12 17:16 J -22697080.86 -22697080.78 -22697080.69 0.3816 0.2265

Uranus -66854-11-06 07:40 J -22696691.25 -22696691.18 -22696691.11 0.0145 0.0135

Uranus -66853-02-02 16:18 J -22696602.95 -22696602.82 -22696602.68 0.0144 0.0104

Uranus -66853-05-01 00:57 J -22696514.62 -22696514.46 -22696514.28 0.0144 0.0072

Uranus -66853-07-28 09:49 J -22696426.27 -22696426.09 -22696425.90 0.0144 0.0041

Uranus -66853-10-24 18:42 J -22696337.92 -22696337.72 -22696337.53 0.0144 0.0009

Uranus -66852-01-21 03:21 J -22696249.55 -22696249.36 -22696249.16 0.0144 0.0022

Uranus -66852-04-19 11:59 J -22696161.18 -22696161.00 -22696160.81 0.0144 0.0053

Uranus -66852-07-16 20:37 J -22696072.79 -22696072.64 -22696072.48 0.0144 0.0084

Uranus -66852-10-13 05:01 J -22695984.39 -22695984.29 -22695984.16 0.0144 0.0115

Saturn -66851-02-17 05:30 J -22695857.32 -22695857.27 -22695857.21 0.0304 0.0277

Moon -66851-05-16 14:09 J -22695769.02 -22695768.91 -22695768.80 0.2697 0.0168

Earth -66851-05-16 14:52 J -22695768.99 -22695768.88 -22695768.78 0.2701 0.0093 *

Saturn -66851-05-16 18:28 J -22695768.84 -22695768.73 -22695768.61 0.0304 0.0137 *

Saturn -66851-08-13 07:25 J -22695680.32 -22695680.19 -22695680.06 0.0304 0.0004

Saturn -66851-11-09 20:09 J -22695591.77 -22695591.66 -22695591.54 0.0304 0.0139

Jupiter -66851-11-10 07:40 J -22695591.29 -22695591.18 -22695591.06 0.0526 0.0228

Saturn -66850-02-06 08:52 J -22695503.18 -22695503.13 -22695503.08 0.0303 0.0275

Jupiter -66850-02-07 12:57 J -22695502.07 -22695501.96 -22695501.84 0.0526 0.0253

Mars -66850-05-04 13:25 J -22695416.05 -22695415.94 -22695415.83 0.1978 0.0668

Moon -66848-11-08 04:33 J -22694497.42 -22694497.31 -22694497.21 0.2629 0.2031

Earth -66848-11-08 05:30 J -22694497.38 -22694497.27 -22694497.15 0.2635 0.1899 *

Mars -66845-01-13 05:30 J -22693701.43 -22693701.27 -22693701.12 0.1568 0.0634

Jupiter -66844-01-01 03:49 J -22693347.53 -22693347.34 -22693347.16 0.0500 0.0088

Mars -66841-09-23 20:52 J -22691985.68 -22691985.63 -22691985.58 0.1975 0.1750

Jupiter -66839-08-29 12:28 J -22691281.08 -22691280.98 -22691280.88 0.0526 0.0341

Jupiter -66839-11-26 17:45 J -22691191.88 -22691191.76 -22691191.64 0.0526 0.0140

Moon -66838-05-19 07:40 J -22691018.28 -22691018.18 -22691018.08 0.2705 0.1061

Earth -66838-05-19 08:23 J -22691018.25 -22691018.15 -22691018.05 0.2703 0.1073 *

Saturn -66836-03-05 10:18 J -22690362.14 -22690362.07 -22690362.01 0.0258 0.0242

Saturn -66836-06-02 06:28 J -22690273.39 -22690273.23 -22690273.05 0.0258 0.0118

Mars -66836-06-04 07:40 J -22690271.35 -22690271.18 -22690271.01 0.1569 0.0251

Saturn -66836-08-30 03:06 J -22690184.56 -22690184.37 -22690184.18 0.0258 0.0008

Saturn -66836-11-26 23:45 J -22690095.67 -22690095.51 -22690095.35 0.0258 0.0134

Moon -66835-11-11 11:59 J -22689746.16 -22689746.00 -22689745.84 0.2631 0.0217

Earth -66835-11-11 13:40 J -22689746.09 -22689745.93 -22689745.77 0.2632 0.0421 *

Venus -66834-05-21 09:49 J -22689555.24 -22689555.09 -22689554.94 0.3562 0.1147

Jupiter -66833-10-20 00:42 J -22689037.65 -22689037.47 -22689037.28 0.0500 0.0066

Earth -66831-05-12 08:09 J -22688468.23 -22688468.16 -22688468.09 0.2697 0.2006

Moon -66831-05-12 08:37 J -22688468.22 -22688468.14 -22688468.07 0.2691 0.1937 *

Mars -66829-01-20 22:33 J -22687849.63 -22687849.56 -22687849.50 0.1981 0.1634

Venus -66829-12-04 16:18 J -22687530.92 -22687530.82 -22687530.72 0.3563 0.2665

Jupiter -66827-06-17 16:33 J -22686970.86 -22686970.81 -22686970.75 0.0526 0.0463

Jupiter -66827-09-14 22:04 J -22686881.71 -22686881.58 -22686881.46 0.0526 0.0020

Mars -66827-10-25 10:04 J -22686841.20 -22686841.08 -22686840.96 0.1571 0.1130

Jupiter -66827-12-13 03:06 J -22686792.40 -22686792.37 -22686792.32 0.0525 0.0495

Moon -66825-05-21 01:40 J -22686267.50 -22686267.43 -22686267.37 0.2711 0.2096

Earth -66825-05-21 02:09 J -22686267.48 -22686267.41 -22686267.35 0.2705 0.2171 *

Saturn -66822-10-03 19:25 J -22685036.79 -22685036.69 -22685036.59 0.0305 0.0188

Saturn -66822-12-31 08:23 J -22684948.28 -22684948.15 -22684948.02 0.0305 0.0049

Saturn -66821-03-28 21:06 J -22684859.74 -22684859.62 -22684859.50 0.0304 0.0090

Saturn -66821-06-25 09:49 J -22684771.17 -22684771.09 -22684771.00 0.0304 0.0227

Jupiter -66821-08-07 22:04 J -22684727.75 -22684727.58 -22684727.41 0.0500 0.0217

Jupiter -66821-11-06 10:04 J -22684637.17 -22684637.08 -22684636.97 0.0500 0.0422

Mars -66820-06-12 05:59 J -22684419.36 -22684419.25 -22684419.14 0.1980 0.0540

Moon -66818-05-15 01:40 J -22683717.53 -22683717.43 -22683717.33 0.2693 0.0963

Earth -66818-05-15 01:54 J -22683717.52 -22683717.42 -22683717.32 0.2700 0.0903 *

Jupiter -66815-07-04 02:23 J -22682571.53 -22682571.40 -22682571.28 0.0526 0.0104

Jupiter -66815-10-01 07:40 J -22682482.27 -22682482.18 -22682482.10 0.0525 0.0376

Venus -66815-10-04 13:25 J -22682479.02 -22682478.94 -22682478.85 0.3818 0.2214

Mars -66811-11-02 13:25 J -22680989.05 -22680988.94 -22680988.83 0.1978 0.0544

Uranus -66810-07-24 22:47 J -22680724.55 -22680724.55 -22680724.54 0.0134 0.0133

Uranus -66810-10-21 01:40 J -22680636.49 -22680636.43 -22680636.36 0.0134 0.0117

Uranus -66809-01-17 04:47 J -22680548.39 -22680548.30 -22680548.22 0.0134 0.0100

Uranus -66809-04-14 07:25 J -22680460.28 -22680460.19 -22680460.08 0.0134 0.0085

Venus -66809-04-19 05:59 J -22680455.35 -22680455.25 -22680455.15 0.3818 0.0545

Jupiter -66809-05-26 19:11 J -22680417.82 -22680417.70 -22680417.57 0.0499 0.0369

Uranus -66809-07-11 10:33 J -22680372.17 -22680372.06 -22680371.94 0.0134 0.0067

Jupiter -66809-08-25 07:11 J -22680327.35 -22680327.20 -22680327.04 0.0500 0.0269

Uranus -66809-10-07 13:40 J -22680284.05 -22680283.93 -22680283.81 0.0134 0.0050

Uranus -66808-01-03 16:33 J -22680195.93 -22680195.81 -22680195.68 0.0135 0.0034

Uranus -66808-04-01 19:40 J -22680107.81 -22680107.68 -22680107.55 0.0135 0.0017

Uranus -66808-06-28 22:33 J -22680019.69 -22680019.56 -22680019.43 0.0135 0.0001

Uranus -66808-09-25 01:25 J -22679931.56 -22679931.44 -22679931.30 0.0135 0.0018

Uranus -66808-12-22 04:33 J -22679843.44 -22679843.31 -22679843.18 0.0135 0.0034

Uranus -66807-03-20 07:25 J -22679755.31 -22679755.19 -22679755.06 0.0135 0.0052

Uranus -66807-06-16 10:33 J -22679667.17 -22679667.06 -22679666.95 0.0135 0.0068

Uranus -66807-09-12 13:40 J -22679579.03 -22679578.93 -22679578.83 0.0135 0.0086

Saturn -66807-10-20 05:01 J -22679541.44 -22679541.29 -22679541.14 0.0258 0.0159

Uranus -66807-12-09 16:18 J -22679490.89 -22679490.82 -22679490.72 0.0135 0.0104

Saturn -66806-01-17 01:25 J -22679452.62 -22679452.44 -22679452.24 0.0258 0.0034

Uranus -66806-03-07 19:25 J -22679402.74 -22679402.69 -22679402.62 0.0136 0.0121

Saturn -66806-04-15 22:04 J -22679363.75 -22679363.58 -22679363.40 0.0258 0.0093

Saturn -66806-07-13 18:42 J -22679274.81 -22679274.72 -22679274.61 0.0259 0.0221

Mars -66806-07-14 06:13 J -22679274.39 -22679274.24 -22679274.09 0.1568 0.0774

Moon -66805-05-16 18:57 J -22678966.82 -22678966.71 -22678966.60 0.2698 0.0193

Earth -66805-05-16 19:40 J -22678966.79 -22678966.68 -22678966.58 0.2702 0.0221 *

Venus -66804-11-02 22:33 J -22678431.66 -22678431.56 -22678431.47 0.3817 0.1165

Jupiter -66803-04-22 06:28 J -22678261.34 -22678261.23 -22678261.11 0.0526 0.0224

Jupiter -66803-07-20 11:45 J -22678172.11 -22678172.01 -22678171.90 0.0526 0.0257

Moon -66802-11-09 11:16 J -22677695.17 -22677695.03 -22677694.90 0.2629 0.1527

Earth -66802-11-09 12:28 J -22677695.12 -22677694.98 -22677694.85 0.2634 0.1464 *

Mars -66801-03-24 20:52 J -22677558.69 -22677558.63 -22677558.57 0.1975 0.1648

Venus -66798-05-19 15:06 J -22676407.94 -22676407.87 -22676407.81 0.3816 0.2873

Jupiter -66797-06-13 04:04 J -22676017.51 -22676017.33 -22676017.15 0.0500 0.0112

Mars -66797-12-03 08:23 J -22675844.31 -22675844.15 -22675843.98 0.1569 0.0117

Saturn -66792-02-19 20:23 J -22674304.73 -22674304.65 -22674304.57 0.0304 0.0238

Saturn -66792-05-19 09:21 J -22674216.24 -22674216.11 -22674215.99 0.0304 0.0099

Moon -66792-05-19 12:28 J -22674216.07 -22674215.98 -22674215.88 0.2706 0.1158 *

Earth -66792-05-19 13:11 J -22674216.04 -22674215.95 -22674215.85 0.2704 0.1296 *

Saturn -66792-08-15 22:04 J -22674127.71 -22674127.58 -22674127.45 0.0304 0.0039

Saturn -66792-11-12 10:47 J -22674039.15 -22674039.05 -22674038.94 0.0304 0.0176

Jupiter -66791-02-08 11:16 J -22673951.12 -22673951.03 -22673950.93 0.0526 0.0336

Jupiter -66791-05-08 16:47 J -22673861.93 -22673861.80 -22673861.68 0.0526 0.0146

Mars -66790-07-21 22:33 J -22673422.61 -22673422.56 -22673422.51 0.1981 0.1747

Neptune -66790-11-24 15:49 J -22673296.85 -22673296.84 -22673296.81 0.0089 0.0088

Neptune -66789-02-20 19:11 J -22673208.75 -22673208.70 -22673208.60 0.0089 0.0081

Neptune -66789-05-18 23:16 J -22673120.63 -22673120.53 -22673120.42 0.0089 0.0073

Neptune -66789-08-15 02:37 J -22673032.50 -22673032.39 -22673032.24 0.0089 0.0066

Neptune -66789-11-11 06:42 J -22672944.37 -22672944.22 -22672944.07 0.0089 0.0058

Moon -66789-11-11 18:42 J -22672943.88 -22672943.72 -22672943.57 0.2632 0.0687

Earth -66789-11-11 20:23 J -22672943.80 -22672943.65 -22672943.49 0.2632 0.0858 *

Neptune -66788-02-07 10:04 J -22672856.23 -22672856.08 -22672855.91 0.0089 0.0051

Neptune -66788-05-06 13:54 J -22672768.08 -22672767.92 -22672767.74 0.0089 0.0043

Neptune -66788-08-02 17:30 J -22672679.94 -22672679.77 -22672679.58 0.0089 0.0036

Neptune -66788-10-29 21:21 J -22672591.79 -22672591.61 -22672591.42 0.0089 0.0028

Neptune -66787-01-26 00:57 J -22672503.64 -22672503.46 -22672503.26 0.0089 0.0020

Neptune -66787-04-24 04:47 J -22672415.49 -22672415.30 -22672415.10 0.0089 0.0013

Mars -66787-04-25 10:47 J -22672414.18 -22672414.05 -22672413.92 0.1571 0.0994

Neptune -66787-07-21 08:23 J -22672327.34 -22672327.15 -22672326.95 0.0089 0.0006

Neptune -66787-10-17 12:13 J -22672239.19 -22672238.99 -22672238.79 0.0089 0.0003

Neptune -66786-01-13 15:49 J -22672151.03 -22672150.84 -22672150.64 0.0089 0.0010

Neptune -66786-04-11 19:40 J -22672062.87 -22672062.68 -22672062.49 0.0089 0.0018

Neptune -66786-07-08 23:16 J -22671974.71 -22671974.53 -22671974.34 0.0089 0.0025

Neptune -66786-10-05 03:06 J -22671886.55 -22671886.37 -22671886.19 0.0089 0.0033

Neptune -66785-01-01 06:42 J -22671798.39 -22671798.22 -22671798.04 0.0089 0.0041

Neptune -66785-03-29 10:04 J -22671710.23 -22671710.08 -22671709.90 0.0089 0.0049

Jupiter -66785-03-31 23:16 J -22671707.71 -22671707.53 -22671707.34 0.0499 0.0061

Earth -66785-05-12 12:57 J -22671666.04 -22671665.96 -22671665.88 0.2698 0.1783

Moon -66785-05-12 13:25 J -22671666.03 -22671665.94 -22671665.86 0.2692 0.1746 *

Neptune -66785-06-25 14:09 J -22671622.06 -22671621.91 -22671621.75 0.0089 0.0056

Neptune -66785-09-21 17:45 J -22671533.89 -22671533.76 -22671533.61 0.0089 0.0064

Neptune -66785-12-18 21:06 J -22671445.71 -22671445.62 -22671445.48 0.0089 0.0072

Neptune -66784-03-17 01:11 J -22671357.53 -22671357.45 -22671357.35 0.0089 0.0079

Neptune -66784-06-13 04:47 J -22671269.32 -22671269.30 -22671269.24 0.0089 0.0087

Mars -66781-12-11 05:59 J -22669992.36 -22669992.25 -22669992.14 0.1980 0.0660

Jupiter -66780-11-27 16:04 J -22669640.90 -22669640.83 -22669640.77 0.0527 0.0451

Jupiter -66779-02-24 21:21 J -22669551.73 -22669551.61 -22669551.48 0.0526 0.0033

Moon -66779-05-22 06:28 J -22669465.28 -22669465.23 -22669465.18 0.2711 0.2396

Earth -66779-05-22 06:42 J -22669465.26 -22669465.22 -22669465.17 0.2706 0.2388 *

Jupiter -66779-05-25 02:37 J -22669462.41 -22669462.39 -22669462.36 0.0525 0.0509

Venus -66778-12-26 11:30 J -22668882.18 -22668882.02 -22668881.87 0.3562 0.0180

Saturn -66777-03-08 04:04 J -22668809.45 -22668809.33 -22668809.20 0.0258 0.0196

Saturn -66777-06-05 00:28 J -22668720.66 -22668720.48 -22668720.29 0.0258 0.0072

Saturn -66777-09-01 21:06 J -22668631.80 -22668631.62 -22668631.43 0.0258 0.0055

Saturn -66777-11-29 17:45 J -22668542.89 -22668542.76 -22668542.62 0.0258 0.0182

Jupiter -66773-01-18 20:09 J -22667397.83 -22667397.66 -22667397.49 0.0499 0.0216

Jupiter -66773-04-18 08:09 J -22667307.25 -22667307.16 -22667307.06 0.0500 0.0423

Moon -66772-05-15 06:28 J -22666915.34 -22666915.23 -22666915.13 0.2693 0.0699

Earth -66772-05-15 06:42 J -22666915.32 -22666915.22 -22666915.11 0.2700 0.0680 *

Mars -66771-05-03 13:11 J -22666562.06 -22666561.95 -22666561.84 0.1978 0.0454

Uranus -66770-11-26 14:52 J -22665989.96 -22665989.88 -22665989.78 0.0145 0.0128

Uranus -66769-02-22 23:30 J -22665901.65 -22665901.52 -22665901.36 0.0145 0.0097

Uranus -66769-05-21 08:37 J -22665813.31 -22665813.14 -22665812.96 0.0144 0.0065

Uranus -66769-08-17 17:16 J -22665724.97 -22665724.78 -22665724.58 0.0144 0.0033

Uranus -66769-11-14 02:09 J -22665636.61 -22665636.41 -22665636.21 0.0144 0.0002

Uranus -66768-02-10 10:47 J -22665548.24 -22665548.05 -22665547.86 0.0144 0.0030

Uranus -66768-05-09 19:25 J -22665459.86 -22665459.69 -22665459.51 0.0144 0.0061

Uranus -66768-08-06 03:49 J -22665371.47 -22665371.34 -22665371.17 0.0144 0.0092

Uranus -66768-11-02 12:28 J -22665283.06 -22665282.98 -22665282.86 0.0144 0.0123

Jupiter -66768-12-14 01:25 J -22665241.56 -22665241.44 -22665241.31 0.0526 0.0094

Jupiter -66767-03-13 06:42 J -22665152.30 -22665152.22 -22665152.13 0.0525 0.0387

Mars -66766-01-12 06:57 J -22664847.35 -22664847.21 -22664847.08 0.1568 0.0907

Venus -66764-10-25 18:42 J -22663829.77 -22663829.72 -22663829.67 0.3818 0.3284

Pluto -66763-02-13 07:54 J -22663719.21 -22663719.17 -22663719.09 0.0061 0.0057

Pluto -66763-05-12 09:06 J -22663631.20 -22663631.12 -22663631.01 0.0061 0.0052

Saturn -66763-07-09 21:21 J -22663572.65 -22663572.61 -22663572.56 0.0305 0.0286

Pluto -66763-08-08 10:18 J -22663543.17 -22663543.07 -22663542.94 0.0061 0.0047

Saturn -66763-10-06 10:18 J -22663484.18 -22663484.07 -22663483.95 0.0305 0.0147

Pluto -66763-11-04 11:30 J -22663455.14 -22663455.02 -22663454.88 0.0061 0.0042

Saturn -66762-01-02 23:16 J -22663395.66 -22663395.53 -22663395.40 0.0305 0.0008

Pluto -66762-01-31 12:42 J -22663367.10 -22663366.97 -22663366.81 0.0061 0.0037

Saturn -66762-04-01 11:59 J -22663307.11 -22663307.00 -22663306.88 0.0304 0.0130

Pluto -66762-04-29 13:54 J -22663279.06 -22663278.92 -22663278.75 0.0061 0.0032

Saturn -66762-06-29 00:42 J -22663218.53 -22663218.47 -22663218.41 0.0304 0.0266

Pluto -66762-07-26 15:06 J -22663191.02 -22663190.87 -22663190.69 0.0061 0.0027

Mars -66762-09-23 20:52 J -22663131.70 -22663131.63 -22663131.56 0.1976 0.1528

Pluto -66762-10-22 16:33 J -22663102.97 -22663102.81 -22663102.64 0.0061 0.0022

Jupiter -66762-11-06 17:16 J -22663087.90 -22663087.78 -22663087.65 0.0499 0.0368

Pluto -66761-01-18 17:45 J -22663014.93 -22663014.76 -22663014.58 0.0061 0.0016

Jupiter -66761-02-05 05:30 J -22662997.43 -22662997.27 -22662997.11 0.0500 0.0271

Pluto -66761-04-15 18:57 J -22662926.88 -22662926.71 -22662926.53 0.0061 0.0011

Pluto -66761-07-12 20:09 J -22662838.83 -22662838.66 -22662838.47 0.0061 0.0006

Pluto -66761-10-08 21:35 J -22662750.78 -22662750.60 -22662750.42 0.0061 0.0001

Pluto -66760-01-04 22:47 J -22662662.73 -22662662.55 -22662662.37 0.0061 0.0005

Pluto -66760-04-02 23:59 J -22662574.68 -22662574.50 -22662574.32 0.0061 0.0010

Pluto -66760-06-30 01:11 J -22662486.62 -22662486.45 -22662486.27 0.0062 0.0015

Pluto -66760-09-26 02:23 J -22662398.56 -22662398.40 -22662398.22 0.0062 0.0021

Pluto -66760-12-23 03:49 J -22662310.50 -22662310.34 -22662310.17 0.0062 0.0026

Pluto -66759-03-21 04:47 J -22662222.44 -22662222.30 -22662222.13 0.0062 0.0032

Moon -66759-05-17 23:45 J -22662164.62 -22662164.51 -22662164.40 0.2700 0.0299

Earth -66759-05-18 00:28 J -22662164.59 -22662164.48 -22662164.38 0.2702 0.0428 *

Pluto -66759-06-17 06:13 J -22662134.38 -22662134.24 -22662134.08 0.0062 0.0037

Pluto -66759-09-13 07:40 J -22662046.31 -22662046.18 -22662046.04 0.0062 0.0042

Pluto -66759-12-10 08:37 J -22661958.24 -22661958.14 -22661958.01 0.0062 0.0048

Pluto -66758-03-08 10:18 J -22661870.16 -22661870.07 -22661869.97 0.0062 0.0053

Venus -66758-05-11 11:16 J -22661806.13 -22661806.03 -22661805.94 0.3818 0.1633

Pluto -66758-06-04 11:16 J -22661782.06 -22661782.03 -22661781.96 0.0062 0.0059

Mars -66757-06-03 09:06 J -22661417.29 -22661417.12 -22661416.95 0.1569 0.0030

Jupiter -66756-10-02 05:45 J -22660931.37 -22660931.26 -22660931.14 0.0526 0.0214

Moon -66756-11-09 17:45 J -22660892.90 -22660892.76 -22660892.61 0.2630 0.1218

Earth -66756-11-09 19:11 J -22660892.85 -22660892.70 -22660892.55 0.2634 0.1028 *

Jupiter -66756-12-30 11:01 J -22660842.15 -22660842.04 -22660841.93 0.0525 0.0266

Venus -66753-11-24 03:35 J -22659782.45 -22659782.35 -22659782.25 0.3817 0.0055

Earth -66752-05-11 00:13 J -22659614.51 -22659614.49 -22659614.48 0.2696 0.2661

Moon -66752-05-11 00:42 J -22659614.50 -22659614.47 -22659614.43 0.2692 0.2532 *

Mars -66750-01-19 22:33 J -22658995.60 -22658995.56 -22658995.53 0.1982 0.1867

Jupiter -66750-11-24 02:23 J -22658687.58 -22658687.40 -22658687.21 0.0500 0.0117

Saturn -66748-07-26 03:21 J -22658077.44 -22658077.36 -22658077.28 0.0258 0.0233

Saturn -66748-10-22 23:45 J -22657988.68 -22657988.51 -22657988.34 0.0258 0.0108

Mars -66748-10-24 11:30 J -22657987.16 -22657987.02 -22657986.88 0.1571 0.0852

Saturn -66747-01-19 20:09 J -22657899.85 -22657899.66 -22657899.46 0.0258 0.0019

Saturn -66747-04-18 16:47 J -22657810.95 -22657810.80 -22657810.64 0.0258 0.0144

Venus -66747-06-09 20:09 J -22657758.75 -22657758.66 -22657758.57 0.3817 0.1762

Moon -66746-05-20 17:16 J -22657413.87 -22657413.78 -22657413.69 0.2707 0.1504

Earth -66746-05-20 17:59 J -22657413.84 -22657413.75 -22657413.66 0.2704 0.1511 *

Jupiter -66744-07-21 09:49 J -22656621.18 -22656621.09 -22656620.99 0.0526 0.0337

Jupiter -66744-10-18 15:21 J -22656531.98 -22656531.86 -22656531.74 0.0526 0.0146

Moon -66743-11-13 01:25 J -22656141.59 -22656141.44 -22656141.30 0.2632 0.1131

Earth -66743-11-13 03:21 J -22656141.50 -22656141.36 -22656141.22 0.2632 0.1297 *

Venus -66742-12-24 12:42 J -22655735.01 -22655734.97 -22655734.93 0.3815 0.3485

Mars -66741-06-11 05:59 J -22655565.36 -22655565.25 -22655565.15 0.1980 0.0770

Moon -66739-05-13 17:59 J -22654863.84 -22654863.75 -22654863.66 0.2692 0.1561

Earth -66739-05-13 17:45 J -22654863.84 -22654863.76 -22654863.67 0.2698 0.1561 *

Jupiter -66738-09-11 23:01 J -22654377.72 -22654377.54 -22654377.35 0.0499 0.0042

Saturn -66733-02-23 11:45 J -22652752.11 -22652752.01 -22652751.91 0.0304 0.0192

Saturn -66733-05-22 00:42 J -22652663.60 -22652663.47 -22652663.34 0.0304 0.0053

Moon -66733-05-22 11:30 J -22652663.06 -22652663.02 -22652662.99 0.2713 0.2537

Earth -66733-05-22 11:30 J -22652663.04 -22652663.02 -22652662.99 0.2706 0.2606 *

Saturn -66733-08-18 13:25 J -22652575.06 -22652574.94 -22652574.81 0.0304 0.0085

Saturn -66733-11-15 02:09 J -22652486.49 -22652486.41 -22652486.32 0.0303 0.0221

Jupiter -66732-05-09 14:37 J -22652310.95 -22652310.89 -22652310.83 0.0527 0.0450

Jupiter -66732-08-06 19:54 J -22652221.79 -22652221.67 -22652221.54 0.0526 0.0036

Mars -66732-11-01 13:25 J -22652135.05 -22652134.94 -22652134.83 0.1978 0.0331

Jupiter -66732-11-04 01:25 J -22652132.47 -22652132.44 -22652132.42 0.0525 0.0511

Mars -66727-07-13 07:25 J -22650420.31 -22650420.19 -22650420.06 0.1568 0.1042

Venus -66726-01-16 06:13 J -22650233.35 -22650233.24 -22650233.13 0.3562 0.2409

Moon -66726-05-16 11:16 J -22650113.14 -22650113.03 -22650112.93 0.2694 0.0515

Earth -66726-05-16 11:30 J -22650113.13 -22650113.02 -22650112.91 0.2700 0.0459 *

Jupiter -66726-06-30 18:13 J -22650067.90 -22650067.74 -22650067.57 0.0499 0.0214

Uranus -66726-08-14 05:45 J -22650023.28 -22650023.26 -22650023.23 0.0134 0.0130

Jupiter -66726-09-29 06:28 J -22649977.33 -22649977.23 -22649977.14 0.0500 0.0424

Uranus -66726-11-10 08:37 J -22649935.20 -22649935.14 -22649935.07 0.0134 0.0114

Uranus -66725-02-06 11:45 J -22649847.10 -22649847.01 -22649846.92 0.0134 0.0097

Uranus -66725-05-04 14:37 J -22649758.99 -22649758.89 -22649758.78 0.0134 0.0081

Uranus -66725-07-31 17:30 J -22649670.88 -22649670.77 -22649670.65 0.0134 0.0064

Uranus -66725-10-27 20:37 J -22649582.76 -22649582.64 -22649582.52 0.0134 0.0047

Uranus -66724-01-23 23:30 J -22649494.64 -22649494.52 -22649494.39 0.0134 0.0031

Uranus -66724-04-22 02:37 J -22649406.52 -22649406.39 -22649406.26 0.0134 0.0014

Uranus -66724-07-19 05:30 J -22649318.40 -22649318.27 -22649318.14 0.0135 0.0004

Uranus -66724-10-15 08:23 J -22649230.27 -22649230.15 -22649230.02 0.0135 0.0021

Uranus -66723-01-11 11:30 J -22649142.15 -22649142.02 -22649141.89 0.0135 0.0037

Uranus -66723-04-09 14:23 J -22649054.01 -22649053.90 -22649053.78 0.0135 0.0054

Uranus -66723-07-06 17:30 J -22648965.88 -22648965.77 -22648965.66 0.0135 0.0071

Uranus -66723-10-02 20:37 J -22648877.74 -22648877.64 -22648877.55 0.0135 0.0089

Uranus -66723-12-29 23:16 J -22648789.60 -22648789.53 -22648789.44 0.0135 0.0106

Mars -66722-03-24 20:52 J -22648704.71 -22648704.63 -22648704.55 0.1975 0.1418

Uranus -66722-03-28 02:23 J -22648701.44 -22648701.40 -22648701.34 0.0135 0.0123

Venus -66721-08-01 12:57 J -22648209.10 -22648208.96 -22648208.82 0.3562 0.1475

Jupiter -66720-05-26 00:42 J -22647911.60 -22647911.47 -22647911.35 0.0526 0.0084

Jupiter -66720-08-23 05:59 J -22647822.33 -22647822.25 -22647822.17 0.0526 0.0397

Saturn -66718-03-11 23:01 J -22647256.69 -22647256.54 -22647256.37 0.0258 0.0144

Saturn -66718-06-08 19:40 J -22647167.87 -22647167.68 -22647167.48 0.0258 0.0018

Saturn -66718-09-05 16:18 J -22647078.99 -22647078.82 -22647078.64 0.0259 0.0109

Mars -66718-12-03 09:49 J -22646990.26 -22646990.09 -22646989.92 0.1569 0.0162

Saturn -66718-12-03 12:57 J -22646990.03 -22646989.96 -22646989.88 0.0259 0.0237 *

Jupiter -66714-04-18 15:06 J -22645758.00 -22645757.87 -22645757.75 0.0499 0.0370

Jupiter -66714-07-18 03:06 J -22645667.53 -22645667.37 -22645667.21 0.0500 0.0267

Moon -66713-05-18 04:33 J -22645362.42 -22645362.31 -22645362.21 0.2702 0.0590

Earth -66713-05-18 05:16 J -22645362.39 -22645362.28 -22645362.18 0.2702 0.0643 *

Mars -66711-07-20 22:33 J -22644568.57 -22644568.56 -22644568.56 0.1981 0.1972

Moon -66710-11-11 00:28 J -22644090.64 -22644090.48 -22644090.32 0.2631 0.0632

Earth -66710-11-11 01:54 J -22644090.57 -22644090.42 -22644090.26 0.2634 0.0584 *

Jupiter -66708-03-14 04:47 J -22643601.42 -22643601.30 -22643601.19 0.0526 0.0207

Mars -66708-04-24 12:13 J -22643560.14 -22643559.99 -22643559.84 0.1571 0.0721

Neptune -66708-06-07 10:33 J -22643516.07 -22643516.06 -22643516.05 0.0089 0.0088

Jupiter -66708-06-11 10:04 J -22643512.19 -22643512.08 -22643511.97 0.0526 0.0273

Neptune -66708-09-03 11:45 J -22643428.05 -22643428.01 -22643427.96 0.0089 0.0083

Neptune -66708-11-30 13:11 J -22643340.01 -22643339.95 -22643339.88 0.0089 0.0078

Neptune -66707-02-26 14:23 J -22643251.96 -22643251.90 -22643251.81 0.0089 0.0073

Neptune -66707-05-25 15:35 J -22643163.92 -22643163.85 -22643163.75 0.0089 0.0068

Venus -66707-06-01 16:18 J -22643156.89 -22643156.82 -22643156.74 0.3818 0.2706

Neptune -66707-08-21 17:16 J -22643075.87 -22643075.78 -22643075.69 0.0089 0.0062

Neptune -66707-11-17 18:28 J -22642987.82 -22642987.73 -22642987.62 0.0089 0.0057

Neptune -66706-02-13 19:54 J -22642899.78 -22642899.67 -22642899.56 0.0089 0.0052

Earth -66706-05-12 05:01 J -22642812.34 -22642812.29 -22642812.25 0.2696 0.2439

Moon -66706-05-12 05:30 J -22642812.31 -22642812.27 -22642812.22 0.2692 0.2422 *

Neptune -66706-05-12 21:06 J -22642811.73 -22642811.62 -22642811.50 0.0089 0.0047

Neptune -66706-08-08 22:33 J -22642723.67 -22642723.56 -22642723.44 0.0089 0.0041

Neptune -66706-11-04 23:45 J -22642635.62 -22642635.51 -22642635.38 0.0089 0.0037

Neptune -66705-02-01 00:57 J -22642547.57 -22642547.46 -22642547.32 0.0089 0.0032

Neptune -66705-04-29 02:37 J -22642459.52 -22642459.39 -22642459.27 0.0089 0.0026

Neptune -66705-07-26 03:49 J -22642371.47 -22642371.34 -22642371.21 0.0089 0.0021

Neptune -66705-10-22 05:01 J -22642283.42 -22642283.29 -22642283.15 0.0089 0.0016

Neptune -66704-01-18 06:28 J -22642195.36 -22642195.23 -22642195.10 0.0089 0.0011

Neptune -66704-04-16 07:40 J -22642107.31 -22642107.18 -22642107.04 0.0089 0.0006

Saturn -66704-07-12 13:25 J -22642020.02 -22642019.94 -22642019.85 0.0305 0.0234

Neptune -66704-07-13 09:06 J -22642019.25 -22642019.12 -22642018.99 0.0089 0.0001

Saturn -66704-10-09 02:23 J -22641931.52 -22641931.40 -22641931.28 0.0304 0.0095

Neptune -66704-10-09 10:18 J -22641931.20 -22641931.07 -22641930.93 0.0089 0.0005

Neptune -66703-01-05 11:45 J -22641843.14 -22641843.01 -22641842.88 0.0089 0.0010

Saturn -66703-01-05 15:21 J -22641842.99 -22641842.86 -22641842.74 0.0304 0.0044 *

Neptune -66703-04-03 12:57 J -22641755.09 -22641754.96 -22641754.83 0.0089 0.0015

Saturn -66703-04-04 03:49 J -22641754.44 -22641754.34 -22641754.23 0.0304 0.0181

Neptune -66703-06-30 14:09 J -22641667.03 -22641666.91 -22641666.78 0.0089 0.0021

Neptune -66703-09-26 15:35 J -22641578.98 -22641578.85 -22641578.72 0.0089 0.0025

Neptune -66703-12-23 16:47 J -22641490.92 -22641490.80 -22641490.67 0.0089 0.0031

Neptune -66702-03-21 17:59 J -22641402.86 -22641402.75 -22641402.62 0.0089 0.0036

Jupiter -66702-05-06 00:13 J -22641357.67 -22641357.49 -22641357.31 0.0500 0.0113

Neptune -66702-06-17 19:25 J -22641314.80 -22641314.69 -22641314.57 0.0089 0.0041

Neptune -66702-09-13 20:37 J -22641226.74 -22641226.64 -22641226.52 0.0089 0.0046

Neptune -66702-12-10 22:04 J -22641138.69 -22641138.58 -22641138.47 0.0089 0.0051

Mars -66702-12-11 05:45 J -22641138.36 -22641138.26 -22641138.15 0.1980 0.0878

Venus -66702-12-16 08:52 J -22641133.23 -22641133.13 -22641133.03 0.3818 0.1036

Neptune -66701-03-07 23:16 J -22641050.63 -22641050.53 -22641050.42 0.0089 0.0056

Neptune -66701-06-04 00:42 J -22640962.57 -22640962.47 -22640962.38 0.0089 0.0061

Neptune -66701-08-31 01:54 J -22640874.50 -22640874.42 -22640874.33 0.0089 0.0066

Neptune -66701-11-27 02:52 J -22640786.44 -22640786.38 -22640786.29 0.0089 0.0072

Neptune -66700-02-23 04:18 J -22640698.37 -22640698.32 -22640698.24 0.0089 0.0077

Moon -66700-05-20 22:18 J -22640611.66 -22640611.57 -22640611.49 0.2707 0.1609

Earth -66700-05-20 22:47 J -22640611.63 -22640611.55 -22640611.47 0.2704 0.1733 *

Neptune -66700-05-22 05:30 J -22640610.31 -22640610.27 -22640610.21 0.0089 0.0082

Neptune -66700-08-18 06:57 J -22640522.23 -22640522.21 -22640522.18 0.0089 0.0087

Moon -66697-11-13 08:09 J -22639339.29 -22639339.16 -22639339.03 0.2631 0.1523

Earth -66697-11-13 10:04 J -22639339.20 -22639339.08 -22639338.96 0.2631 0.1735 *

Jupiter -66697-12-31 08:52 J -22639291.23 -22639291.13 -22639291.03 0.0526 0.0330

Jupiter -66696-03-30 14:09 J -22639202.03 -22639201.91 -22639201.78 0.0526 0.0152

Venus -66696-07-01 01:11 J -22639109.55 -22639109.45 -22639109.35 0.3817 0.0671

Moon -66693-05-13 22:33 J -22638061.65 -22638061.56 -22638061.46 0.2691 0.1292

Earth -66693-05-13 22:33 J -22638061.65 -22638061.56 -22638061.46 0.2698 0.1340 *

Mars -66692-05-02 13:25 J -22637708.05 -22637707.94 -22637707.83 0.1978 0.0208

Venus -66690-01-14 17:45 J -22637085.84 -22637085.76 -22637085.68 0.3816 0.2380

Jupiter -66690-02-21 21:06 J -22637047.81 -22637047.62 -22637047.44 0.0499 0.0043

Saturn -66689-07-28 22:47 J -22636524.68 -22636524.55 -22636524.41 0.0258 0.0177

Saturn -66689-10-25 19:25 J -22636435.88 -22636435.69 -22636435.50 0.0258 0.0052

Saturn -66688-01-22 16:04 J -22636347.01 -22636346.83 -22636346.65 0.0258 0.0075

Saturn -66688-04-21 12:28 J -22636258.09 -22636257.98 -22636257.85 0.0259 0.0203

Mars -66687-01-11 08:23 J -22635993.26 -22635993.15 -22635993.04 0.1568 0.1185

Uranus -66686-12-16 21:21 J -22635288.70 -22635288.61 -22635288.50 0.0145 0.0124

Uranus -66685-03-14 06:13 J -22635200.38 -22635200.24 -22635200.08 0.0145 0.0092

Uranus -66685-06-10 14:52 J -22635112.05 -22635111.88 -22635111.69 0.0144 0.0061

Uranus -66685-09-06 23:59 J -22635023.70 -22635023.50 -22635023.31 0.0144 0.0029

Jupiter -66685-10-19 12:57 J -22634981.02 -22634980.96 -22634980.90 0.0526 0.0454

Uranus -66685-12-04 08:37 J -22634935.33 -22634935.14 -22634934.94 0.0144 0.0003

Jupiter -66684-01-16 18:28 J -22634891.86 -22634891.73 -22634891.61 0.0526 0.0034

Uranus -66684-03-02 17:16 J -22634846.97 -22634846.78 -22634846.58 0.0144 0.0034

Jupiter -66684-04-15 23:30 J -22634802.54 -22634802.52 -22634802.48 0.0525 0.0507

Uranus -66684-05-30 01:54 J -22634758.59 -22634758.42 -22634758.24 0.0144 0.0065

Uranus -66684-08-26 10:47 J -22634670.19 -22634670.05 -22634669.91 0.0144 0.0096

Uranus -66684-11-22 19:25 J -22634581.78 -22634581.69 -22634581.60 0.0144 0.0127

Mars -66683-09-22 20:52 J -22634277.72 -22634277.63 -22634277.55 0.1975 0.1306

Moon -66680-05-16 15:49 J -22633310.94 -22633310.84 -22633310.73 0.2695 0.0306

Earth -66680-05-16 16:18 J -22633310.93 -22633310.82 -22633310.71 0.2701 0.0237 *

Jupiter -66679-12-10 17:30 J -22632737.94 -22632737.77 -22632737.59 0.0499 0.0201

Jupiter -66678-03-11 05:45 J -22632647.35 -22632647.26 -22632647.17 0.0500 0.0438

Mars -66678-06-03 10:33 J -22632563.23 -22632563.06 -22632562.89 0.1569 0.0299

Moon -66677-11-07 23:59 J -22632039.56 -22632039.50 -22632039.43 0.2630 0.2402

Earth -66677-11-08 00:42 J -22632039.52 -22632039.47 -22632039.41 0.2636 0.2446 *

Saturn -66675-11-29 15:21 J -22631287.91 -22631287.86 -22631287.81 0.0304 0.0275

Saturn -66674-02-26 04:18 J -22631199.44 -22631199.32 -22631199.21 0.0304 0.0136

Saturn -66674-05-25 17:01 J -22631110.91 -22631110.79 -22631110.66 0.0304 0.0010

Saturn -66674-08-22 05:45 J -22631022.37 -22631022.26 -22631022.14 0.0304 0.0140

Saturn -66674-11-18 18:28 J -22630933.78 -22630933.73 -22630933.67 0.0303 0.0275

Jupiter -66673-11-04 23:01 J -22630581.67 -22630581.54 -22630581.42 0.0526 0.0087

Jupiter -66672-02-02 04:18 J -22630492.40 -22630492.32 -22630492.24 0.0526 0.0393

Pluto -66671-12-28 02:23 J -22629798.40 -22629798.40 -22629798.36 0.0084 0.0084

Pluto -66670-03-26 04:04 J -22629710.39 -22629710.33 -22629710.25 0.0084 0.0072

Pluto -66670-06-22 05:45 J -22629622.35 -22629622.26 -22629622.16 0.0084 0.0062

Venus -66670-08-23 07:54 J -22629560.32 -22629560.17 -22629560.03 0.3562 0.1088

Pluto -66670-09-18 07:11 J -22629534.30 -22629534.20 -22629534.08 0.0084 0.0051

Pluto -66670-12-15 08:52 J -22629446.25 -22629446.13 -22629446.01 0.0084 0.0040

Pluto -66669-03-12 10:18 J -22629358.20 -22629358.07 -22629357.93 0.0084 0.0030

Pluto -66669-06-08 11:45 J -22629270.14 -22629270.01 -22629269.87 0.0084 0.0020

Pluto -66669-09-04 13:11 J -22629182.08 -22629181.95 -22629181.80 0.0083 0.0010

Mars -66669-10-23 12:42 J -22629133.12 -22629132.97 -22629132.81 0.1571 0.0589

Pluto -66669-12-01 14:52 J -22629094.02 -22629093.88 -22629093.74 0.0083 0.0001

Pluto -66668-02-27 16:18 J -22629005.96 -22629005.82 -22629005.68 0.0083 0.0012

Pluto -66668-05-26 17:30 J -22628917.89 -22628917.77 -22628917.63 0.0083 0.0022

Pluto -66668-08-22 18:57 J -22628829.83 -22628829.71 -22628829.57 0.0083 0.0032

Pluto -66668-11-18 20:23 J -22628741.76 -22628741.65 -22628741.52 0.0083 0.0042

Pluto -66667-02-14 21:49 J -22628653.69 -22628653.59 -22628653.47 0.0083 0.0052

Pluto -66667-05-13 23:01 J -22628565.62 -22628565.54 -22628565.43 0.0083 0.0062

Moon -66667-05-19 09:21 J -22628560.22 -22628560.11 -22628560.01 0.2702 0.0760

Earth -66667-05-19 10:04 J -22628560.19 -22628560.08 -22628559.98 0.2703 0.0862 *

Pluto -66667-08-10 00:42 J -22628477.53 -22628477.47 -22628477.40 0.0082 0.0071

Jupiter -66667-09-28 12:42 J -22628428.08 -22628427.97 -22628427.84 0.0499 0.0373

Pluto -66667-11-06 01:54 J -22628389.43 -22628389.42 -22628389.38 0.0082 0.0081

Jupiter -66667-12-28 00:57 J -22628337.62 -22628337.46 -22628337.30 0.0499 0.0264

Venus -66664-03-08 14:23 J -22627535.99 -22627535.90 -22627535.80 0.3563 0.2759

Moon -66664-11-11 07:11 J -22627288.37 -22627288.20 -22627288.04 0.2631 0.0421

Earth -66664-11-11 08:52 J -22627288.29 -22627288.13 -22627287.97 0.2633 0.0145 *

Mars -66662-06-11 05:59 J -22626711.35 -22626711.25 -22626711.15 0.1980 0.0997

Jupiter -66661-08-24 03:35 J -22626271.47 -22626271.35 -22626271.24 0.0527 0.0204

Jupiter -66661-11-21 08:52 J -22626182.24 -22626182.13 -22626182.02 0.0526 0.0278

Earth -66660-05-12 09:49 J -22626010.15 -22626010.09 -22626010.03 0.2696 0.2215

Moon -66660-05-12 10:18 J -22626010.14 -22626010.07 -22626010.01 0.2692 0.2099 *

Saturn -66660-12-15 22:47 J -22625792.65 -22625792.55 -22625792.43 0.0258 0.0209

Saturn -66659-03-14 19:11 J -22625703.87 -22625703.70 -22625703.51 0.0259 0.0084

Mars -66659-03-15 15:06 J -22625702.93 -22625702.87 -22625702.81 0.1572 0.1469

Saturn -66659-06-11 15:49 J -22625615.02 -22625614.84 -22625614.64 0.0259 0.0044

Saturn -66659-09-08 12:28 J -22625526.11 -22625525.98 -22625525.83 0.0259 0.0171

Venus -66656-06-22 21:35 J -22624507.61 -22624507.60 -22624507.58 0.3818 0.3776

Jupiter -66655-10-15 21:21 J -22624027.79 -22624027.61 -22624027.42 0.0499 0.0106

Moon -66654-05-22 03:06 J -22623809.44 -22623809.37 -22623809.30 0.2709 0.1943

Earth -66654-05-22 03:35 J -22623809.42 -22623809.35 -22623809.28 0.2705 0.1950 *

Mars -66653-10-31 13:11 J -22623281.06 -22623280.95 -22623280.83 0.1978 0.0127

Moon -66651-11-14 15:06 J -22622536.96 -22622536.87 -22622536.77 0.2632 0.2074

Earth -66651-11-14 17:01 J -22622536.88 -22622536.79 -22622536.70 0.2631 0.2184 *

Venus -66650-01-06 14:09 J -22622484.00 -22622483.91 -22622483.83 0.3818 0.2119

Jupiter -66649-06-12 07:40 J -22621961.28 -22621961.18 -22621961.08 0.0526 0.0329

Jupiter -66649-09-09 12:57 J -22621872.08 -22621871.96 -22621871.84 0.0526 0.0153

Mars -66648-07-12 08:52 J -22621566.21 -22621566.13 -22621566.03 0.1568 0.1317

Moon -66647-05-15 03:21 J -22621259.46 -22621259.36 -22621259.26 0.2691 0.1171

Earth -66647-05-15 03:21 J -22621259.45 -22621259.36 -22621259.26 0.2699 0.1120 *

Saturn -66645-07-15 06:28 J -22620467.34 -22620467.23 -22620467.12 0.0304 0.0173

Venus -66645-07-22 06:28 J -22620460.33 -22620460.23 -22620460.13 0.3818 0.0440

Saturn -66645-10-11 19:25 J -22620378.82 -22620378.69 -22620378.57 0.0304 0.0035

Saturn -66644-01-08 08:09 J -22620290.28 -22620290.16 -22620290.04 0.0304 0.0103

Saturn -66644-04-06 20:37 J -22620201.71 -22620201.64 -22620201.55 0.0304 0.0240

Mars -66643-03-23 20:52 J -22619850.72 -22619850.63 -22619850.54 0.1976 0.1195

Jupiter -66643-08-03 18:13 J -22619717.92 -22619717.74 -22619717.55 0.0499 0.0052

Uranus -66642-09-03 12:57 J -22619321.99 -22619321.96 -22619321.90 0.0134 0.0126

Uranus -66642-11-30 16:04 J -22619233.90 -22619233.83 -22619233.75 0.0134 0.0109

Uranus -66641-02-26 19:11 J -22619145.80 -22619145.70 -22619145.61 0.0134 0.0092

Uranus -66641-05-24 21:49 J -22619057.69 -22619057.59 -22619057.47 0.0134 0.0076

Uranus -66641-08-21 00:57 J -22618969.57 -22618969.46 -22618969.34 0.0134 0.0059

Uranus -66641-11-17 04:04 J -22618881.46 -22618881.33 -22618881.21 0.0134 0.0042

Uranus -66640-02-13 06:57 J -22618793.34 -22618793.21 -22618793.08 0.0134 0.0026

Uranus -66640-05-12 09:49 J -22618705.22 -22618705.09 -22618704.95 0.0134 0.0010

Uranus -66640-08-08 12:57 J -22618617.09 -22618616.96 -22618616.83 0.0135 0.0008

Uranus -66640-11-04 15:49 J -22618528.96 -22618528.84 -22618528.71 0.0135 0.0026

Uranus -66639-01-31 18:57 J -22618440.84 -22618440.71 -22618440.59 0.0135 0.0042

Venus -66639-02-04 23:01 J -22618436.64 -22618436.54 -22618436.45 0.3817 0.1269

Uranus -66639-04-29 21:49 J -22618352.70 -22618352.59 -22618352.47 0.0135 0.0059

Uranus -66639-07-27 00:57 J -22618264.57 -22618264.46 -22618264.35 0.0135 0.0076

Uranus -66639-10-23 03:49 J -22618176.43 -22618176.34 -22618176.24 0.0135 0.0094

Mars -66639-12-02 11:16 J -22618136.19 -22618136.03 -22618135.87 0.1569 0.0435

Uranus -66638-01-19 06:42 J -22618088.28 -22618088.22 -22618088.14 0.0135 0.0111

Uranus -66638-04-17 09:49 J -22618000.12 -22618000.09 -22618000.04 0.0135 0.0128

Jupiter -66637-03-31 11:45 J -22617651.07 -22617651.01 -22617650.95 0.0526 0.0452

Jupiter -66637-06-28 17:01 J -22617561.91 -22617561.79 -22617561.66 0.0526 0.0032

Jupiter -66637-09-25 22:18 J -22617472.60 -22617472.57 -22617472.54 0.0525 0.0509

Moon -66634-05-17 20:37 J -22616508.75 -22616508.64 -22616508.53 0.2697 0.0057

Earth -66634-05-17 21:06 J -22616508.73 -22616508.62 -22616508.51 0.2701 0.0038 *

Venus -66634-08-21 15:35 J -22616412.91 -22616412.85 -22616412.79 0.3816 0.2990

Jupiter -66631-05-22 15:06 J -22615408.04 -22615407.87 -22615407.70 0.0499 0.0207

Jupiter -66631-08-21 03:06 J -22615317.46 -22615317.37 -22615317.27 0.0500 0.0433

Moon -66631-11-09 06:28 J -22615237.32 -22615237.23 -22615237.14 0.2631 0.2174

Earth -66631-11-09 07:25 J -22615237.29 -22615237.19 -22615237.08 0.2636 0.2012 *

Saturn -66630-05-04 23:01 J -22615060.60 -22615060.54 -22615060.47 0.0258 0.0240

Saturn -66630-08-01 19:25 J -22614971.86 -22614971.69 -22614971.51 0.0258 0.0115

Saturn -66630-10-29 16:04 J -22614883.02 -22614882.83 -22614882.63 0.0259 0.0012

Saturn -66629-01-26 12:42 J -22614794.13 -22614793.97 -22614793.80 0.0259 0.0139

Mars -66629-04-23 13:40 J -22614706.09 -22614705.93 -22614705.77 0.1570 0.0444

Jupiter -66625-04-16 21:06 J -22613251.74 -22613251.62 -22613251.50 0.0526 0.0095

Jupiter -66625-07-15 02:23 J -22613162.48 -22613162.40 -22613162.32 0.0526 0.0386

Neptune -66625-08-20 13:25 J -22613125.96 -22613125.94 -22613125.89 0.0089 0.0087

Neptune -66625-11-16 16:47 J -22613037.86 -22613037.80 -22613037.69 0.0089 0.0080

Neptune -66624-02-12 20:52 J -22612949.73 -22612949.63 -22612949.51 0.0089 0.0072

Neptune -66624-05-12 00:13 J -22612861.60 -22612861.49 -22612861.34 0.0089 0.0065

Neptune -66624-08-08 04:04 J -22612773.47 -22612773.33 -22612773.17 0.0089 0.0057

Neptune -66624-11-04 07:40 J -22612685.33 -22612685.18 -22612685.00 0.0089 0.0050

Neptune -66623-01-31 11:30 J -22612597.19 -22612597.02 -22612596.84 0.0089 0.0042

Neptune -66623-04-29 15:06 J -22612509.04 -22612508.87 -22612508.68 0.0089 0.0034

Neptune -66623-07-26 18:57 J -22612420.89 -22612420.71 -22612420.52 0.0089 0.0027

Neptune -66623-10-22 22:33 J -22612332.75 -22612332.56 -22612332.36 0.0089 0.0019

Mars -66623-12-10 05:59 J -22612284.35 -22612284.25 -22612284.16 0.1980 0.1106

Neptune -66622-01-19 02:23 J -22612244.60 -22612244.40 -22612244.21 0.0089 0.0011

Neptune -66622-04-17 05:59 J -22612156.44 -22612156.25 -22612156.05 0.0089 0.0004

Neptune -66622-07-14 09:49 J -22612068.29 -22612068.09 -22612067.90 0.0089 0.0004

Neptune -66622-10-10 13:25 J -22611980.13 -22611979.94 -22611979.74 0.0089 0.0011

Neptune -66621-01-06 17:16 J -22611891.98 -22611891.78 -22611891.59 0.0089 0.0019

Neptune -66621-04-03 20:37 J -22611803.82 -22611803.64 -22611803.44 0.0089 0.0027

Moon -66621-05-19 14:09 J -22611758.01 -22611757.91 -22611757.81 0.2703 0.1009

Earth -66621-05-19 14:52 J -22611757.98 -22611757.88 -22611757.78 0.2703 0.1082 *

Neptune -66621-07-01 00:13 J -22611715.66 -22611715.49 -22611715.29 0.0089 0.0035

Neptune -66621-09-27 04:18 J -22611627.49 -22611627.32 -22611627.15 0.0089 0.0042

Neptune -66621-12-24 07:40 J -22611539.33 -22611539.18 -22611539.00 0.0089 0.0050

Neptune -66620-03-22 11:16 J -22611451.16 -22611451.03 -22611450.86 0.0089 0.0058

Neptune -66620-06-18 15:21 J -22611362.99 -22611362.86 -22611362.72 0.0089 0.0065

Mars -66620-09-13 15:49 J -22611275.93 -22611275.84 -22611275.75 0.1572 0.1332

Neptune -66620-09-14 18:42 J -22611274.81 -22611274.72 -22611274.59 0.0089 0.0073

Neptune -66620-12-11 23:01 J -22611186.63 -22611186.54 -22611186.46 0.0089 0.0080

Neptune -66619-03-10 02:23 J -22611098.41 -22611098.40 -22611098.36 0.0089 0.0088

Jupiter -66619-03-10 11:30 J -22611098.14 -22611098.02 -22611097.89 0.0499 0.0365

Jupiter -66619-06-08 23:30 J -22611007.67 -22611007.52 -22611007.36 0.0500 0.0273

Moon -66618-11-12 13:40 J -22610486.09 -22610485.93 -22610485.77 0.2631 0.0238

Earth -66618-11-12 15:35 J -22610486.01 -22610485.85 -22610485.69 0.2633 0.0294 *

Saturn -66616-12-02 08:52 J -22609735.22 -22609735.13 -22609735.03 0.0304 0.0208

Saturn -66615-02-28 21:49 J -22609646.72 -22609646.59 -22609646.46 0.0304 0.0069

Saturn -66615-05-28 10:33 J -22609558.18 -22609558.06 -22609557.93 0.0304 0.0068

Saturn -66615-08-24 23:16 J -22609469.62 -22609469.53 -22609469.43 0.0303 0.0204

Earth -66614-05-13 14:37 J -22609207.96 -22609207.89 -22609207.82 0.2697 0.1993

Moon -66614-05-13 14:52 J -22609207.95 -22609207.88 -22609207.81 0.2691 0.2005 *

Jupiter -66613-02-04 01:40 J -22608941.55 -22608941.43 -22608941.32 0.0527 0.0213

Venus -66613-03-29 09:21 J -22608887.26 -22608887.11 -22608886.95 0.3562 0.0251

Mars -66613-05-01 13:25 J -22608854.06 -22608853.94 -22608853.83 0.1978 0.0082

Jupiter -66613-05-03 06:57 J -22608852.32 -22608852.21 -22608852.10 0.0526 0.0270

Mars -66608-01-10 09:35 J -22607139.16 -22607139.10 -22607139.04 0.1568 0.1451

Moon -66608-05-22 07:54 J -22607007.23 -22607007.17 -22607007.10 0.2711 0.2103

Earth -66608-05-22 08:23 J -22607007.21 -22607007.15 -22607007.09 0.2705 0.2169 *

Jupiter -66607-03-27 18:57 J -22606697.90 -22606697.71 -22606697.53 0.0499 0.0100

Moon -66605-11-14 22:04 J -22605734.64 -22605734.58 -22605734.51 0.2633 0.2384

Earth -66605-11-14 23:45 J -22605734.52 -22605734.51 -22605734.50 0.2631 0.2623 *

Mars -66604-09-21 20:52 J -22605423.73 -22605423.63 -22605423.54 0.1975 0.1079

Jupiter -66602-11-23 05:59 J -22604631.34 -22604631.25 -22604631.15 0.0527 0.0331

Uranus -66601-01-06 04:04 J -22604587.43 -22604587.33 -22604587.21 0.0145 0.0119

Jupiter -66601-02-20 11:30 J -22604542.14 -22604542.02 -22604541.90 0.0526 0.0153

Uranus -66601-04-03 12:57 J -22604499.11 -22604498.96 -22604498.79 0.0145 0.0087

Moon -66601-05-15 08:09 J -22604457.26 -22604457.16 -22604457.06 0.2692 0.0845

Earth -66601-05-15 08:09 J -22604457.26 -22604457.16 -22604457.05 0.2699 0.0902 *

Uranus -66601-06-30 21:49 J -22604410.77 -22604410.59 -22604410.40 0.0145 0.0055

Uranus -66601-09-27 06:42 J -22604322.41 -22604322.22 -22604322.03 0.0144 0.0024

Saturn -66601-12-18 19:54 J -22604239.83 -22604239.67 -22604239.51 0.0259 0.0144

Uranus -66601-12-24 15:21 J -22604234.05 -22604233.86 -22604233.66 0.0144 0.0009

Saturn -66600-03-17 16:33 J -22604151.00 -22604150.81 -22604150.62 0.0259 0.0017

Uranus -66600-03-23 00:13 J -22604145.68 -22604145.49 -22604145.30 0.0144 0.0039

Saturn -66600-06-14 13:11 J -22604062.12 -22604061.95 -22604061.78 0.0259 0.0110

Uranus -66600-06-19 08:52 J -22604057.30 -22604057.13 -22604056.96 0.0144 0.0070

Saturn -66600-09-11 10:04 J -22603973.16 -22603973.08 -22603973.01 0.0259 0.0238

Uranus -66600-09-15 17:16 J -22603968.90 -22603968.78 -22603968.63 0.0144 0.0102

Uranus -66600-12-13 01:54 J -22603880.48 -22603880.42 -22603880.33 0.0144 0.0133

Venus -66599-01-27 19:25 J -22603834.75 -22603834.69 -22603834.64 0.3818 0.3191

Mars -66599-06-02 11:59 J -22603709.16 -22603709.00 -22603708.84 0.1569 0.0569

Jupiter -66595-01-13 15:21 J -22602388.05 -22602387.86 -22602387.68 0.0499 0.0061

Venus -66594-08-13 11:45 J -22601811.10 -22601811.01 -22601810.92 0.3818 0.1526

Jupiter -66590-09-11 10:04 J -22600321.14 -22600321.08 -22600321.02 0.0527 0.0456

Mars -66590-10-23 14:23 J -22600279.07 -22600278.90 -22600278.74 0.1571 0.0315

Jupiter -66590-12-09 15:35 J -22600231.98 -22600231.85 -22600231.73 0.0526 0.0030

Jupiter -66589-03-07 20:52 J -22600142.66 -22600142.63 -22600142.60 0.0525 0.0506

Venus -66588-02-26 04:04 J -22599787.43 -22599787.33 -22599787.23 0.3818 0.0179

Moon -66588-05-18 01:25 J -22599706.55 -22599706.44 -22599706.34 0.2698 0.0130

Earth -66588-05-18 01:54 J -22599706.53 -22599706.42 -22599706.31 0.2701 0.0209 *

Saturn -66586-04-21 11:30 J -22599003.10 -22599003.02 -22599002.94 0.0304 0.0241

Saturn -66586-07-19 00:13 J -22598914.61 -22598914.49 -22598914.36 0.0304 0.0103

Saturn -66586-10-15 13:11 J -22598826.08 -22598825.95 -22598825.82 0.0304 0.0036

Saturn -66585-01-12 01:54 J -22598737.53 -22598737.42 -22598737.32 0.0304 0.0172

Moon -66585-11-09 12:57 J -22598435.09 -22598434.96 -22598434.84 0.2631 0.1656

Earth -66585-11-09 14:09 J -22598435.03 -22598434.91 -22598434.78 0.2635 0.1583 *

Jupiter -66584-11-01 11:59 J -22598078.17 -22598078.00 -22598077.83 0.0499 0.0218

Jupiter -66583-01-30 23:59 J -22597987.59 -22597987.50 -22597987.40 0.0500 0.0422

Mars -66583-06-10 05:45 J -22597857.34 -22597857.26 -22597857.17 0.1980 0.1216

Venus -66583-09-11 20:37 J -22597763.73 -22597763.64 -22597763.55 0.3817 0.1878

Mars -66580-03-14 16:33 J -22596848.92 -22596848.81 -22596848.70 0.1572 0.1193

Jupiter -66578-09-27 19:40 J -22595921.81 -22595921.68 -22595921.56 0.0526 0.0097

Jupiter -66578-12-26 00:57 J -22595832.55 -22595832.46 -22595832.38 0.0525 0.0384

Venus -66577-03-27 13:11 J -22595739.98 -22595739.95 -22595739.92 0.3816 0.3601

Moon -66575-05-20 18:57 J -22594955.81 -22594955.71 -22594955.62 0.2704 0.1232

Earth -66575-05-20 19:40 J -22594955.78 -22594955.68 -22594955.59 0.2703 0.1299 *

Mars -66574-10-31 13:25 J -22594427.05 -22594426.94 -22594426.83 0.1978 0.0133

Jupiter -66572-08-20 08:37 J -22593768.26 -22593768.14 -22593768.02 0.0499 0.0376

Moon -66572-11-12 20:37 J -22593683.80 -22593683.64 -22593683.48 0.2631 0.0455

Earth -66572-11-12 22:18 J -22593683.73 -22593683.57 -22593683.41 0.2633 0.0731 *

Jupiter -66572-11-18 20:37 J -22593677.79 -22593677.64 -22593677.48 0.0500 0.0264

Saturn -66571-05-07 20:23 J -22593507.79 -22593507.65 -22593507.50 0.0258 0.0173

Saturn -66571-08-04 17:01 J -22593418.98 -22593418.79 -22593418.60 0.0259 0.0047

Saturn -66571-11-01 13:40 J -22593330.11 -22593329.93 -22593329.74 0.0259 0.0081

Saturn -66570-01-29 10:18 J -22593241.17 -22593241.07 -22593240.95 0.0259 0.0208

Moon -66568-05-13 19:40 J -22592405.77 -22592405.68 -22592405.60 0.2690 0.1687

Earth -66568-05-13 19:25 J -22592405.77 -22592405.69 -22592405.61 0.2697 0.1774 *

Jupiter -66566-07-16 23:30 J -22591611.63 -22591611.52 -22591611.40 0.0526 0.0223

Jupiter -66566-10-14 04:47 J -22591522.41 -22591522.30 -22591522.19 0.0526 0.0259

Mars -66564-03-22 20:37 J -22590996.73 -22590996.64 -22590996.54 0.1975 0.0978

Venus -66562-04-20 04:04 J -22590238.44 -22590238.33 -22590238.21 0.3562 0.2377

Moon -66562-05-23 12:42 J -22590205.02 -22590204.97 -22590204.92 0.2711 0.2368

Earth -66562-05-23 13:11 J -22590205.00 -22590204.95 -22590204.90 0.2705 0.2385 *

Jupiter -66560-09-06 17:01 J -22589367.97 -22589367.79 -22589367.60 0.0499 0.0102

Mars -66560-12-01 12:42 J -22589282.12 -22589281.97 -22589281.82 0.1569 0.0709

Uranus -66558-09-23 20:23 J -22588620.69 -22588620.65 -22588620.58 0.0134 0.0121

Uranus -66558-12-20 23:30 J -22588532.60 -22588532.52 -22588532.43 0.0134 0.0104

Uranus -66557-03-18 02:23 J -22588444.49 -22588444.40 -22588444.29 0.0134 0.0088

Uranus -66557-06-14 05:16 J -22588356.38 -22588356.28 -22588356.16 0.0134 0.0071

Saturn -66557-09-07 14:09 J -22588270.96 -22588270.91 -22588270.85 0.0304 0.0272

Uranus -66557-09-10 08:23 J -22588268.27 -22588268.15 -22588268.03 0.0134 0.0054

Venus -66557-11-03 10:47 J -22588214.19 -22588214.05 -22588213.91 0.3562 0.1526

Saturn -66557-12-05 03:06 J -22588182.48 -22588182.37 -22588182.25 0.0304 0.0134

Uranus -66557-12-07 11:30 J -22588180.15 -22588180.02 -22588179.90 0.0134 0.0037

Saturn -66556-03-03 16:04 J -22588093.96 -22588093.83 -22588093.70 0.0304 0.0009

Uranus -66556-03-05 14:23 J -22588092.03 -22588091.90 -22588091.77 0.0134 0.0021

Saturn -66556-05-31 04:33 J -22588005.42 -22588005.31 -22588005.19 0.0303 0.0142

Uranus -66556-06-01 17:16 J -22588003.91 -22588003.78 -22588003.64 0.0134 0.0006

Saturn -66556-08-27 17:16 J -22587916.83 -22587916.78 -22587916.72 0.0303 0.0276

Uranus -66556-08-28 20:23 J -22587915.78 -22587915.65 -22587915.52 0.0135 0.0013

Uranus -66556-11-24 23:16 J -22587827.65 -22587827.53 -22587827.40 0.0135 0.0030

Uranus -66555-02-21 02:09 J -22587739.52 -22587739.41 -22587739.28 0.0135 0.0048

Moon -66555-05-16 12:57 J -22587655.07 -22587654.96 -22587654.86 0.2693 0.0760

Earth -66555-05-16 12:57 J -22587655.06 -22587654.96 -22587654.85 0.2699 0.0683 *

Uranus -66555-05-20 05:16 J -22587651.39 -22587651.28 -22587651.16 0.0135 0.0065

Uranus -66555-08-16 08:09 J -22587563.25 -22587563.16 -22587563.05 0.0135 0.0082

Uranus -66555-11-12 11:16 J -22587475.11 -22587475.03 -22587474.94 0.0135 0.0099

Uranus -66554-02-08 14:23 J -22587386.96 -22587386.90 -22587386.83 0.0135 0.0116

Jupiter -66554-05-05 03:49 J -22587301.43 -22587301.34 -22587301.24 0.0527 0.0343

Uranus -66554-05-07 17:16 J -22587298.79 -22587298.78 -22587298.75 0.0135 0.0134

Jupiter -66554-08-02 09:21 J -22587212.23 -22587212.11 -22587211.99 0.0526 0.0141

Mars -66550-04-23 14:52 J -22585852.05 -22585851.88 -22585851.71 0.1570 0.0179

Jupiter -66548-06-25 12:28 J -22585058.16 -22585057.98 -22585057.79 0.0499 0.0070

Mars -66544-12-09 05:59 J -22583430.34 -22583430.25 -22583430.17 0.1980 0.1334

Neptune -66543-03-04 09:35 J -22583345.11 -22583345.10 -22583345.07 0.0089 0.0088

Neptune -66543-05-31 10:47 J -22583257.08 -22583257.05 -22583256.99 0.0089 0.0083

Neptune -66543-08-27 12:28 J -22583169.04 -22583168.98 -22583168.91 0.0089 0.0077

Venus -66543-09-03 17:01 J -22583161.87 -22583161.79 -22583161.72 0.3818 0.2606

Neptune -66543-11-23 13:40 J -22583081.00 -22583080.93 -22583080.85 0.0089 0.0072

Neptune -66542-02-19 15:06 J -22582992.95 -22582992.87 -22582992.78 0.0089 0.0067

Jupiter -66542-02-21 08:09 J -22582991.21 -22582991.16 -22582991.10 0.0527 0.0464

Neptune -66542-05-18 16:18 J -22582904.90 -22582904.82 -22582904.72 0.0089 0.0062

Moon -66542-05-19 05:59 J -22582904.35 -22582904.25 -22582904.14 0.2698 0.0419

Earth -66542-05-19 06:42 J -22582904.33 -22582904.22 -22582904.11 0.2701 0.0425 *

Jupiter -66542-05-21 13:40 J -22582902.05 -22582901.93 -22582901.80 0.0527 0.0024

Neptune -66542-08-14 17:45 J -22582816.86 -22582816.76 -22582816.65 0.0089 0.0056

Jupiter -66542-08-18 18:57 J -22582812.74 -22582812.71 -22582812.67 0.0526 0.0503

Saturn -66542-09-24 21:06 J -22582775.74 -22582775.62 -22582775.50 0.0259 0.0200

Neptune -66542-11-10 18:57 J -22582728.81 -22582728.71 -22582728.59 0.0089 0.0052

Saturn -66542-12-22 17:30 J -22582686.95 -22582686.77 -22582686.58 0.0259 0.0075

Neptune -66541-02-06 20:23 J -22582640.76 -22582640.65 -22582640.53 0.0089 0.0046

Saturn -66541-03-20 14:09 J -22582598.09 -22582597.91 -22582597.72 0.0259 0.0053

Neptune -66541-05-04 21:49 J -22582552.71 -22582552.59 -22582552.47 0.0089 0.0041

Saturn -66541-06-17 10:47 J -22582509.18 -22582509.05 -22582508.90 0.0259 0.0181

Neptune -66541-07-31 23:01 J -22582464.65 -22582464.54 -22582464.41 0.0089 0.0036

Mars -66541-09-12 17:16 J -22582421.90 -22582421.78 -22582421.66 0.1572 0.1061

Neptune -66541-10-28 00:28 J -22582376.60 -22582376.48 -22582376.35 0.0089 0.0030

Neptune -66540-01-24 01:40 J -22582288.55 -22582288.43 -22582288.30 0.0089 0.0026

Neptune -66540-04-22 03:06 J -22582200.50 -22582200.37 -22582200.24 0.0089 0.0020

Neptune -66540-07-19 04:18 J -22582112.44 -22582112.32 -22582112.18 0.0089 0.0015

Neptune -66540-10-15 05:45 J -22582024.39 -22582024.26 -22582024.13 0.0089 0.0010

Neptune -66539-01-11 06:57 J -22581936.34 -22581936.21 -22581936.07 0.0089 0.0006

Neptune -66539-04-09 08:23 J -22581848.28 -22581848.15 -22581848.02 0.0089 0.0001

Neptune -66539-07-06 09:35 J -22581760.23 -22581760.10 -22581759.96 0.0089 0.0006

Neptune -66539-10-02 11:01 J -22581672.17 -22581672.04 -22581671.91 0.0089 0.0011

Moon -66539-11-10 19:40 J -22581632.83 -22581632.68 -22581632.54 0.2631 0.1308

Earth -66539-11-10 21:06 J -22581632.77 -22581632.62 -22581632.48 0.2635 0.1141 *

Neptune -66539-12-29 12:13 J -22581584.12 -22581583.99 -22581583.86 0.0089 0.0016

Neptune -66538-03-27 13:40 J -22581496.06 -22581495.93 -22581495.81 0.0089 0.0021

Neptune -66538-06-23 14:37 J -22581408.01 -22581407.89 -22581407.75 0.0089 0.0027

Neptune -66538-09-19 16:04 J -22581319.95 -22581319.83 -22581319.70 0.0089 0.0032

Neptune -66538-12-16 17:16 J -22581231.89 -22581231.78 -22581231.65 0.0089 0.0037

Neptune -66537-03-13 18:42 J -22581143.83 -22581143.72 -22581143.60 0.0089 0.0042

Venus -66537-03-19 09:21 J -22581138.21 -22581138.11 -22581138.01 0.3818 0.0937

Neptune -66537-06-09 19:54 J -22581055.77 -22581055.67 -22581055.55 0.0089 0.0047

Neptune -66537-09-05 21:21 J -22580967.71 -22580967.61 -22580967.50 0.0089 0.0052

Neptune -66537-12-02 22:33 J -22580879.65 -22580879.56 -22580879.45 0.0089 0.0057

Neptune -66536-02-28 23:59 J -22580791.59 -22580791.50 -22580791.41 0.0089 0.0062

Jupiter -66536-04-13 08:52 J -22580748.30 -22580748.13 -22580747.96 0.0499 0.0230

Neptune -66536-05-28 01:11 J -22580703.53 -22580703.45 -22580703.36 0.0089 0.0067

Jupiter -66536-07-12 20:37 J -22580657.74 -22580657.64 -22580657.52 0.0499 0.0409

Neptune -66536-08-24 02:37 J -22580615.47 -22580615.39 -22580615.32 0.0089 0.0072

Neptune -66536-11-20 03:49 J -22580527.40 -22580527.34 -22580527.28 0.0089 0.0077

Neptune -66535-02-16 04:47 J -22580439.33 -22580439.30 -22580439.24 0.0089 0.0083

Earth -66535-05-12 06:28 J -22580354.25 -22580354.23 -22580354.22 0.2695 0.2652

Moon -66535-05-12 06:57 J -22580354.24 -22580354.21 -22580354.18 0.2692 0.2565 *

Neptune -66535-05-15 05:59 J -22580351.25 -22580351.25 -22580351.21 0.0089 0.0088

Mars -66534-05-01 13:11 J -22580000.06 -22579999.95 -22579999.84 0.1978 0.0223

Venus -66532-10-03 01:40 J -22579114.53 -22579114.43 -22579114.33 0.3817 0.0784

Jupiter -66530-03-09 17:45 J -22578591.88 -22578591.76 -22578591.64 0.0526 0.0104

Jupiter -66530-06-06 23:01 J -22578502.62 -22578502.54 -22578502.45 0.0526 0.0378

Moon -66529-05-20 23:45 J -22578153.60 -22578153.51 -22578153.42 0.2706 0.1411

Earth -66529-05-21 00:28 J -22578153.57 -22578153.48 -22578153.39 0.2703 0.1518 *

Saturn -66527-01-25 17:01 J -22577538.80 -22577538.79 -22577538.77 0.0304 0.0301

Saturn -66527-04-24 05:59 J -22577450.35 -22577450.25 -22577450.14 0.0304 0.0163

Saturn -66527-07-21 18:57 J -22577361.84 -22577361.71 -22577361.58 0.0304 0.0024

Saturn -66527-10-18 07:40 J -22577273.30 -22577273.18 -22577273.06 0.0304 0.0113

Saturn -66526-01-14 20:23 J -22577184.72 -22577184.65 -22577184.58 0.0303 0.0248

Venus -66526-04-18 18:13 J -22577090.82 -22577090.74 -22577090.66 0.3817 0.2481

Moon -66526-11-14 03:21 J -22576881.51 -22576881.36 -22576881.21 0.2632 0.1088

Earth -66526-11-14 05:01 J -22576881.43 -22576881.29 -22576881.14 0.2632 0.1166 *

Mars -66525-09-20 20:52 J -22576569.73 -22576569.63 -22576569.53 0.1976 0.0852

Jupiter -66524-01-30 05:16 J -22576438.39 -22576438.28 -22576438.16 0.0499 0.0390

Jupiter -66524-04-30 17:16 J -22576347.94 -22576347.78 -22576347.61 0.0500 0.0249

Earth -66522-05-15 00:13 J -22575603.58 -22575603.49 -22575603.40 0.2697 0.1553

Moon -66522-05-15 00:28 J -22575603.57 -22575603.48 -22575603.39 0.2690 0.1566 *

Mars -66520-06-01 13:25 J -22574855.08 -22574854.94 -22574854.80 0.1569 0.0845

Jupiter -66519-12-26 21:49 J -22574281.70 -22574281.59 -22574281.47 0.0526 0.0228

Jupiter -66518-03-26 03:06 J -22574192.48 -22574192.37 -22574192.26 0.0526 0.0255

Uranus -66518-10-30 03:21 J -22573974.39 -22573974.36 -22573974.32 0.0145 0.0141

Pluto -66517-01-09 20:52 J -22573902.63 -22573902.63 -22573902.60 0.0061 0.0060

Uranus -66517-01-26 11:59 J -22573886.11 -22573886.00 -22573885.86 0.0145 0.0110

Pluto -66517-04-06 21:49 J -22573814.64 -22573814.59 -22573814.50 0.0061 0.0056

Uranus -66517-04-23 20:52 J -22573797.79 -22573797.63 -22573797.46 0.0145 0.0078

Pluto -66517-07-03 23:01 J -22573726.62 -22573726.54 -22573726.42 0.0061 0.0051

Uranus -66517-07-21 05:45 J -22573709.44 -22573709.26 -22573709.07 0.0145 0.0046

Pluto -66517-09-30 00:13 J -22573638.59 -22573638.49 -22573638.35 0.0061 0.0046

Uranus -66517-10-17 14:37 J -22573621.08 -22573620.89 -22573620.69 0.0144 0.0015

Pluto -66517-12-27 01:25 J -22573550.55 -22573550.44 -22573550.29 0.0061 0.0041

Uranus -66516-01-13 23:16 J -22573532.72 -22573532.53 -22573532.33 0.0144 0.0017

Pluto -66516-03-25 02:37 J -22573462.52 -22573462.39 -22573462.22 0.0061 0.0036

Uranus -66516-04-12 08:09 J -22573444.34 -22573444.16 -22573443.98 0.0144 0.0048

Moon -66516-05-23 17:45 J -22573402.79 -22573402.76 -22573402.73 0.2711 0.2570

Earth -66516-05-23 17:59 J -22573402.78 -22573402.75 -22573402.72 0.2705 0.2603 *

Pluto -66516-06-21 03:49 J -22573374.48 -22573374.34 -22573374.16 0.0061 0.0031

Uranus -66516-07-09 16:33 J -22573355.96 -22573355.81 -22573355.63 0.0144 0.0080

Pluto -66516-09-17 05:30 J -22573286.43 -22573286.27 -22573286.11 0.0061 0.0025

Uranus -66516-10-06 01:11 J -22573267.56 -22573267.45 -22573267.31 0.0144 0.0111

Pluto -66516-12-14 06:28 J -22573198.39 -22573198.23 -22573198.05 0.0061 0.0021

Uranus -66515-01-02 09:49 J -22573179.10 -22573179.09 -22573179.04 0.0144 0.0142

Mars -66515-02-11 04:18 J -22573139.34 -22573139.32 -22573139.30 0.1972 0.1936

Pluto -66515-03-12 07:40 J -22573110.34 -22573110.18 -22573109.99 0.0061 0.0016

Pluto -66515-06-08 09:06 J -22573022.30 -22573022.12 -22573021.94 0.0061 0.0010

Pluto -66515-09-04 10:18 J -22572934.25 -22572934.07 -22572933.88 0.0061 0.0005

Pluto -66515-12-01 11:45 J -22572846.20 -22572846.01 -22572845.83 0.0061 0.0001

Pluto -66514-02-27 12:57 J -22572758.14 -22572757.96 -22572757.78 0.0061 0.0006

Pluto -66514-05-26 14:09 J -22572670.09 -22572669.91 -22572669.73 0.0061 0.0011

Pluto -66514-08-22 15:06 J -22572582.03 -22572581.87 -22572581.68 0.0062 0.0017

Pluto -66514-11-18 16:33 J -22572493.97 -22572493.81 -22572493.63 0.0062 0.0022

Pluto -66513-02-14 17:59 J -22572405.91 -22572405.75 -22572405.59 0.0062 0.0027

Pluto -66513-05-12 18:57 J -22572317.85 -22572317.71 -22572317.54 0.0062 0.0033

Pluto -66513-08-08 20:23 J -22572229.78 -22572229.65 -22572229.50 0.0062 0.0038

Pluto -66513-11-04 21:49 J -22572141.72 -22572141.59 -22572141.46 0.0062 0.0043

Pluto -66512-01-31 22:47 J -22572053.64 -22572053.55 -22572053.42 0.0062 0.0049

Saturn -66512-02-10 21:49 J -22572043.67 -22572043.59 -22572043.50 0.0259 0.0228

Jupiter -66512-02-16 13:54 J -22572038.10 -22572037.92 -22572037.73 0.0499 0.0090

Pluto -66512-04-30 00:28 J -22571965.56 -22571965.48 -22571965.39 0.0062 0.0054

Saturn -66512-05-10 18:13 J -22571954.91 -22571954.74 -22571954.56 0.0259 0.0103

Pluto -66512-07-27 01:25 J -22571877.46 -22571877.44 -22571877.38 0.0062 0.0060

Saturn -66512-08-07 15:06 J -22571866.06 -22571865.87 -22571865.68 0.0259 0.0025

Saturn -66512-11-04 11:45 J -22571777.16 -22571777.01 -22571776.85 0.0259 0.0152

Mars -66511-10-22 15:49 J -22571425.01 -22571424.84 -22571424.67 0.1570 0.0045

Moon -66509-05-16 17:30 J -22570852.88 -22570852.77 -22570852.66 0.2694 0.0443

Earth -66509-05-16 17:59 J -22570852.86 -22570852.75 -22570852.65 0.2699 0.0466 *

Jupiter -66507-10-15 01:40 J -22569971.52 -22569971.43 -22569971.33 0.0526 0.0355

Jupiter -66506-01-12 07:11 J -22569882.33 -22569882.20 -22569882.08 0.0526 0.0129

Venus -66506-11-25 05:45 J -22569565.41 -22569565.26 -22569565.11 0.3561 0.1043

Mars -66504-06-09 05:45 J -22569003.33 -22569003.26 -22569003.18 0.1980 0.1442

Mars -66501-03-13 17:59 J -22567994.89 -22567994.75 -22567994.62 0.1572 0.0926

Jupiter -66501-12-05 10:18 J -22567728.26 -22567728.07 -22567727.88 0.0499 0.0072

Venus -66500-06-10 12:28 J -22567541.07 -22567540.98 -22567540.89 0.3562 0.2829

Saturn -66498-09-11 09:06 J -22566718.22 -22566718.12 -22566718.02 0.0304 0.0192

Saturn -66498-12-08 21:49 J -22566629.71 -22566629.59 -22566629.46 0.0304 0.0055

Saturn -66497-03-06 10:47 J -22566541.18 -22566541.05 -22566540.93 0.0303 0.0083

Saturn -66497-06-02 23:16 J -22566452.61 -22566452.53 -22566452.44 0.0303 0.0219

Moon -66496-05-19 10:47 J -22566102.15 -22566102.05 -22566101.94 0.2699 0.0519

Earth -66496-05-19 11:30 J -22566102.12 -22566102.02 -22566101.91 0.2701 0.0643 *

Jupiter -66495-08-03 05:59 J -22565661.30 -22565661.25 -22565661.20 0.0527 0.0476

Mars -66495-10-30 13:11 J -22565573.06 -22565572.95 -22565572.83 0.1978 0.0356

Jupiter -66495-10-31 11:30 J -22565572.15 -22565572.02 -22565571.90 0.0526 0.0012

Jupiter -66494-01-28 16:47 J -22565482.84 -22565482.80 -22565482.76 0.0526 0.0490

Moon -66493-11-11 02:23 J -22564830.56 -22564830.40 -22564830.25 0.2630 0.0835

Earth -66493-11-11 03:49 J -22564830.50 -22564830.34 -22564830.19 0.2635 0.0708 *

Venus -66492-09-24 22:18 J -22564512.60 -22564512.57 -22564512.55 0.3819 0.3686

Earth -66489-05-12 11:16 J -22563552.07 -22563552.03 -22563551.99 0.2695 0.2427

Moon -66489-05-12 11:45 J -22563552.06 -22563552.01 -22563551.96 0.2691 0.2353 *

Jupiter -66489-09-23 05:59 J -22563418.41 -22563418.25 -22563418.09 0.0499 0.0240

Jupiter -66489-12-22 17:45 J -22563327.87 -22563327.76 -22563327.64 0.0499 0.0398

Venus -66486-04-10 14:37 J -22562488.98 -22562488.89 -22562488.81 0.3818 0.2034

Mars -66485-03-21 20:52 J -22562142.74 -22562142.63 -22562142.53 0.1975 0.0748

Moon -66483-05-22 04:33 J -22561351.39 -22561351.31 -22561351.23 0.2708 0.1721

Earth -66483-05-22 05:16 J -22561351.37 -22561351.28 -22561351.20 0.2704 0.1734 *

Saturn -66483-06-30 22:18 J -22561311.59 -22561311.57 -22561311.52 0.0259 0.0255

Jupiter -66483-08-19 15:49 J -22561261.96 -22561261.84 -22561261.72 0.0527 0.0113

Saturn -66483-09-27 19:11 J -22561222.87 -22561222.70 -22561222.54 0.0259 0.0129

Jupiter -66483-11-16 21:06 J -22561172.71 -22561172.62 -22561172.53 0.0526 0.0371

Saturn -66483-12-25 15:35 J -22561134.04 -22561133.85 -22561133.65 0.0259 0.0006

Saturn -66482-03-24 12:28 J -22561045.15 -22561044.98 -22561044.82 0.0259 0.0125

Saturn -66482-06-21 09:06 J -22560956.15 -22560956.12 -22560956.08 0.0260 0.0253

Venus -66481-10-24 06:57 J -22560465.31 -22560465.21 -22560465.11 0.3818 0.0340

Mars -66481-11-30 14:09 J -22560428.04 -22560427.91 -22560427.78 0.1569 0.0981

Moon -66480-11-14 10:04 J -22560079.21 -22560079.08 -22560078.94 0.2633 0.1379

Earth -66480-11-14 11:59 J -22560079.13 -22560079.00 -22560078.88 0.2632 0.1609 *

Jupiter -66477-07-12 02:23 J -22559108.51 -22559108.40 -22559108.29 0.0499 0.0401

Jupiter -66477-10-10 14:09 J -22559018.07 -22559017.91 -22559017.74 0.0499 0.0236

Earth -66476-05-15 05:01 J -22558801.39 -22558801.29 -22558801.20 0.2698 0.1331

Moon -66476-05-15 05:01 J -22558801.38 -22558801.29 -22558801.19 0.2691 0.1283 *

Mars -66476-08-12 04:04 J -22558712.36 -22558712.33 -22558712.29 0.1973 0.1837

Venus -66475-05-09 23:30 J -22558441.62 -22558441.52 -22558441.43 0.3817 0.1373

Uranus -66474-07-18 01:25 J -22558007.46 -22558007.44 -22558007.42 0.0134 0.0131

Uranus -66474-10-14 04:04 J -22557919.38 -22557919.33 -22557919.25 0.0134 0.0115

Uranus -66473-01-10 07:11 J -22557831.28 -22557831.20 -22557831.11 0.0134 0.0098

Uranus -66473-04-07 10:18 J -22557743.17 -22557743.07 -22557742.97 0.0134 0.0081

Uranus -66473-07-04 13:11 J -22557655.06 -22557654.95 -22557654.83 0.0134 0.0065

Uranus -66473-09-30 16:04 J -22557566.95 -22557566.83 -22557566.70 0.0134 0.0048

Uranus -66473-12-27 19:11 J -22557478.83 -22557478.70 -22557478.57 0.0134 0.0031

Uranus -66472-03-25 22:04 J -22557390.71 -22557390.58 -22557390.45 0.0134 0.0015

Uranus -66472-06-22 01:11 J -22557302.58 -22557302.45 -22557302.32 0.0135 0.0003

Uranus -66472-09-18 04:04 J -22557214.46 -22557214.33 -22557214.20 0.0135 0.0020

Uranus -66472-12-15 07:11 J -22557126.33 -22557126.20 -22557126.08 0.0135 0.0037

Uranus -66471-03-13 10:04 J -22557038.20 -22557038.08 -22557037.96 0.0135 0.0054

Mars -66471-04-22 16:18 J -22556997.99 -22556997.82 -22556997.65 0.1570 0.0098

Jupiter -66471-06-07 19:54 J -22556951.78 -22556951.67 -22556951.56 0.0527 0.0237

Uranus -66471-06-09 13:11 J -22556950.06 -22556949.95 -22556949.84 0.0135 0.0071

Jupiter -66471-09-05 01:11 J -22556862.56 -22556862.45 -22556862.34 0.0526 0.0246

Uranus -66471-09-05 16:18 J -22556861.92 -22556861.82 -22556861.73 0.0135 0.0089

Uranus -66471-12-02 18:57 J -22556773.78 -22556773.71 -22556773.62 0.0135 0.0106

Uranus -66470-02-28 22:04 J -22556685.62 -22556685.58 -22556685.52 0.0135 0.0123

Venus -66470-11-23 16:04 J -22556417.89 -22556417.83 -22556417.78 0.3816 0.3101

Saturn -66468-01-28 11:59 J -22555986.08 -22555986.00 -22555985.91 0.0304 0.0220

Saturn -66468-04-27 00:57 J -22555897.58 -22555897.46 -22555897.34 0.0304 0.0082

Saturn -66468-07-24 13:40 J -22555809.05 -22555808.93 -22555808.80 0.0304 0.0056

Saturn -66468-10-21 02:23 J -22555720.50 -22555720.40 -22555720.30 0.0303 0.0192

Jupiter -66465-07-29 10:33 J -22554708.25 -22554708.06 -22554707.87 0.0499 0.0075

Mars -66465-12-08 05:45 J -22554576.33 -22554576.26 -22554576.19 0.1980 0.1549

Moon -66463-05-17 22:18 J -22554050.68 -22554050.57 -22554050.47 0.2694 0.0345

Earth -66463-05-17 22:47 J -22554050.66 -22554050.55 -22554050.45 0.2700 0.0256 *

Mars -66462-09-12 18:42 J -22553567.87 -22553567.72 -22553567.57 0.1572 0.0784

Neptune -66460-05-17 10:33 J -22552955.08 -22552955.06 -22552955.00 0.0089 0.0087

Neptune -66460-08-13 14:23 J -22552866.97 -22552866.90 -22552866.80 0.0089 0.0079

Earth -66460-11-09 02:37 J -22552779.42 -22552779.39 -22552779.36 0.2637 0.2561

Neptune -66460-11-09 17:45 J -22552778.85 -22552778.76 -22552778.62 0.0089 0.0072

Neptune -66459-02-05 21:49 J -22552690.72 -22552690.59 -22552690.45 0.0089 0.0064

Jupiter -66459-03-26 23:59 J -22552641.59 -22552641.50 -22552641.41 0.0526 0.0360

Neptune -66459-05-05 01:11 J -22552602.58 -22552602.45 -22552602.28 0.0089 0.0057

Jupiter -66459-06-24 05:30 J -22552552.40 -22552552.27 -22552552.15 0.0526 0.0124

Neptune -66459-08-01 05:01 J -22552514.44 -22552514.29 -22552514.12 0.0089 0.0049

Neptune -66459-10-28 08:37 J -22552426.30 -22552426.14 -22552425.96 0.0089 0.0042

Neptune -66458-01-24 12:28 J -22552338.16 -22552337.98 -22552337.80 0.0089 0.0034

Neptune -66458-04-22 15:49 J -22552250.01 -22552249.84 -22552249.64 0.0089 0.0027

Neptune -66458-07-19 19:40 J -22552161.86 -22552161.68 -22552161.48 0.0089 0.0019

Neptune -66458-10-15 23:30 J -22552073.71 -22552073.52 -22552073.32 0.0089 0.0011

Neptune -66457-01-12 03:06 J -22551985.56 -22551985.37 -22551985.17 0.0089 0.0004

Neptune -66457-04-09 06:57 J -22551897.41 -22551897.21 -22551897.02 0.0089 0.0004

Neptune -66457-07-06 10:33 J -22551809.25 -22551809.06 -22551808.86 0.0089 0.0012

Neptune -66457-10-02 14:09 J -22551721.10 -22551720.91 -22551720.71 0.0089 0.0020

Neptune -66457-12-29 17:59 J -22551632.94 -22551632.75 -22551632.56 0.0089 0.0027

Neptune -66456-03-27 21:35 J -22551544.78 -22551544.60 -22551544.42 0.0089 0.0035

Neptune -66456-06-24 00:57 J -22551456.61 -22551456.46 -22551456.27 0.0089 0.0043

Neptune -66456-09-20 05:01 J -22551368.45 -22551368.29 -22551368.13 0.0089 0.0050

Neptune -66456-12-17 08:37 J -22551280.28 -22551280.14 -22551279.98 0.0089 0.0058

Neptune -66455-03-15 11:59 J -22551192.11 -22551192.00 -22551191.85 0.0089 0.0066

Mars -66455-04-30 13:25 J -22551146.05 -22551145.94 -22551145.83 0.1978 0.0469

Neptune -66455-06-11 16:04 J -22551103.93 -22551103.83 -22551103.71 0.0089 0.0073

Neptune -66455-09-07 19:40 J -22551015.75 -22551015.68 -22551015.59 0.0089 0.0081

Neptune -66455-12-04 23:16 J -22550927.53 -22550927.53 -22550927.50 0.0089 0.0088

Saturn -66453-02-14 19:40 J -22550490.82 -22550490.68 -22550490.52 0.0259 0.0158

Saturn -66453-05-13 16:18 J -22550402.01 -22550401.82 -22550401.63 0.0259 0.0032

Jupiter -66453-05-17 07:11 J -22550398.39 -22550398.20 -22550398.02 0.0499 0.0085

Saturn -66453-08-10 12:57 J -22550313.13 -22550312.96 -22550312.78 0.0259 0.0096

Saturn -66453-11-07 09:35 J -22550224.18 -22550224.10 -22550223.99 0.0259 0.0224

Moon -66450-05-20 15:35 J -22549299.95 -22549299.85 -22549299.74 0.2701 0.0849

Earth -66450-05-20 16:18 J -22549299.92 -22549299.82 -22549299.72 0.2702 0.0860 *

Venus -66449-07-01 07:25 J -22548892.35 -22548892.19 -22548892.04 0.3562 0.0298

Jupiter -66447-01-13 03:49 J -22548331.38 -22548331.34 -22548331.29 0.0527 0.0488

Jupiter -66447-04-12 09:21 J -22548242.24 -22548242.11 -22548241.99 0.0526 0.0007

Jupiter -66447-07-10 14:37 J -22548152.94 -22548152.89 -22548152.84 0.0525 0.0477

Moon -66447-11-12 09:06 J -22548028.28 -22548028.12 -22548027.96 0.2631 0.0403

Earth -66447-11-12 10:33 J -22548028.22 -22548028.06 -22548027.90 0.2634 0.0273 *

Mars -66446-09-20 20:52 J -22547715.74 -22547715.63 -22547715.53 0.1976 0.0638

Earth -66443-05-13 16:04 J -22546749.89 -22546749.83 -22546749.77 0.2696 0.2204

Moon -66443-05-13 16:33 J -22546749.87 -22546749.81 -22546749.75 0.2690 0.2166 *

Jupiter -66441-03-05 03:35 J -22546088.52 -22546088.35 -22546088.19 0.0499 0.0245

Mars -66441-05-31 14:52 J -22546001.00 -22546000.88 -22546000.77 0.1569 0.1117

Jupiter -66441-06-03 15:35 J -22545997.96 -22545997.85 -22545997.74 0.0500 0.0395

Saturn -66439-06-17 15:06 J -22545253.94 -22545253.87 -22545253.80 0.0304 0.0249

Saturn -66439-09-14 04:04 J -22545165.45 -22545165.33 -22545165.21 0.0304 0.0111

Saturn -66439-12-11 16:47 J -22545076.93 -22545076.80 -22545076.67 0.0304 0.0027

Saturn -66438-03-10 05:30 J -22544988.38 -22544988.27 -22544988.16 0.0303 0.0163

Saturn -66438-06-06 17:59 J -22544899.76 -22544899.75 -22544899.72 0.0303 0.0298

Moon -66437-05-22 09:21 J -22544549.19 -22544549.11 -22544549.03 0.2708 0.1829

Earth -66437-05-22 10:04 J -22544549.16 -22544549.08 -22544549.01 0.2704 0.1954 *

Mars -66436-02-10 04:18 J -22544285.38 -22544285.32 -22544285.27 0.1973 0.1716

Jupiter -66435-01-29 13:40 J -22543932.06 -22543931.93 -22543931.81 0.0527 0.0126

Jupiter -66435-04-28 18:57 J -22543842.80 -22543842.71 -22543842.62 0.0526 0.0358

Venus -66435-05-01 19:54 J -22543839.73 -22543839.67 -22543839.62 0.3818 0.3112

Moon -66434-11-15 16:47 J -22543276.91 -22543276.80 -22543276.69 0.2634 0.1910

Earth -66434-11-15 18:42 J -22543276.82 -22543276.72 -22543276.62 0.2632 0.2041 *

Uranus -66434-11-19 12:13 J -22543273.06 -22543272.99 -22543272.89 0.0145 0.0129

Uranus -66433-02-15 21:21 J -22543184.75 -22543184.61 -22543184.47 0.0145 0.0097

Uranus -66433-05-14 05:59 J -22543096.42 -22543096.25 -22543096.07 0.0145 0.0066

Uranus -66433-08-10 14:52 J -22543008.07 -22543007.88 -22543007.69 0.0144 0.0034

Uranus -66433-11-06 23:45 J -22542919.71 -22542919.51 -22542919.32 0.0144 0.0003

Uranus -66432-02-03 08:23 J -22542831.34 -22542831.15 -22542830.96 0.0144 0.0029

Uranus -66432-05-02 17:01 J -22542742.96 -22542742.79 -22542742.61 0.0144 0.0061

Uranus -66432-07-30 01:40 J -22542654.57 -22542654.43 -22542654.27 0.0144 0.0092

Mars -66432-10-21 17:01 J -22542570.96 -22542570.79 -22542570.62 0.1570 0.0231

Uranus -66432-10-26 10:18 J -22542566.16 -22542566.07 -22542565.96 0.0144 0.0123

Moon -66430-05-16 09:49 J -22541999.19 -22541999.09 -22541998.99 0.2692 0.1110

Earth -66430-05-16 09:49 J -22541999.19 -22541999.09 -22541998.99 0.2698 0.1106 *

Venus -66430-11-15 12:13 J -22541816.09 -22541815.99 -22541815.90 0.3818 0.1438

Jupiter -66430-12-22 23:30 J -22541778.62 -22541778.52 -22541778.42 0.0498 0.0410

Jupiter -66429-03-22 11:16 J -22541688.19 -22541688.03 -22541687.86 0.0499 0.0227

Mars -66425-06-08 05:45 J -22540149.31 -22540149.26 -22540149.20 0.1980 0.1671

Pluto -66424-02-18 17:45 J -22539893.79 -22539893.76 -22539893.69 0.0084 0.0079

Pluto -66424-05-17 19:25 J -22539805.76 -22539805.69 -22539805.60 0.0084 0.0068

Venus -66424-05-31 04:33 J -22539792.41 -22539792.31 -22539792.21 0.3818 0.0275

Saturn -66424-07-03 20:23 J -22539758.78 -22539758.65 -22539758.51 0.0259 0.0185

Pluto -66424-08-13 21:06 J -22539717.71 -22539717.62 -22539717.51 0.0084 0.0057

Saturn -66424-09-30 17:01 J -22539669.98 -22539669.79 -22539669.61 0.0259 0.0059

Pluto -66424-11-09 22:33 J -22539629.67 -22539629.56 -22539629.43 0.0084 0.0047

Jupiter -66424-11-17 17:45 J -22539621.87 -22539621.76 -22539621.64 0.0527 0.0248

Saturn -66424-12-28 13:40 J -22539581.12 -22539580.93 -22539580.75 0.0259 0.0068

Pluto -66423-02-06 00:13 J -22539541.61 -22539541.49 -22539541.36 0.0084 0.0036

Jupiter -66423-02-14 23:16 J -22539532.64 -22539532.53 -22539532.42 0.0526 0.0238

Saturn -66423-03-27 10:18 J -22539492.19 -22539492.07 -22539491.94 0.0259 0.0196

Pluto -66423-05-05 01:40 J -22539453.56 -22539453.43 -22539453.29 0.0084 0.0026

Pluto -66423-08-01 03:21 J -22539365.50 -22539365.36 -22539365.22 0.0083 0.0015

Pluto -66423-10-28 04:47 J -22539277.44 -22539277.30 -22539277.16 0.0083 0.0005

Pluto -66422-01-24 06:13 J -22539189.38 -22539189.24 -22539189.10 0.0083 0.0005

Mars -66422-03-13 19:25 J -22539140.85 -22539140.69 -22539140.54 0.1572 0.0652

Pluto -66422-04-22 07:40 J -22539101.31 -22539101.18 -22539101.04 0.0083 0.0015

Pluto -66422-07-19 09:06 J -22539013.25 -22539013.12 -22539012.98 0.0083 0.0025

Pluto -66422-10-15 10:33 J -22538925.18 -22538925.06 -22538924.93 0.0083 0.0035

Pluto -66421-01-11 11:59 J -22538837.11 -22538837.00 -22538836.88 0.0083 0.0045

Pluto -66421-04-08 13:25 J -22538749.04 -22538748.94 -22538748.84 0.0083 0.0055

Pluto -66421-07-05 14:37 J -22538660.97 -22538660.89 -22538660.80 0.0082 0.0065

Pluto -66421-10-01 15:49 J -22538572.88 -22538572.84 -22538572.76 0.0082 0.0075

Venus -66419-12-14 21:06 J -22537768.71 -22537768.62 -22537768.53 0.3817 0.1979

Jupiter -66417-01-09 07:40 J -22537378.37 -22537378.18 -22537377.99 0.0499 0.0065

Moon -66417-05-18 03:06 J -22537248.48 -22537248.37 -22537248.26 0.2694 0.0093

Earth -66417-05-18 03:35 J -22537248.46 -22537248.35 -22537248.25 0.2700 0.0091 *

Mars -66416-10-29 13:11 J -22536719.06 -22536718.95 -22536718.84 0.1978 0.0565

Moon -66414-11-10 08:23 J -22535977.25 -22535977.15 -22535977.06 0.2631 0.2114

Earth -66414-11-10 09:21 J -22535977.20 -22535977.11 -22535977.02 0.2637 0.2129 *

Venus -66413-06-29 13:40 J -22535744.95 -22535744.93 -22535744.91 0.3816 0.3720

Mars -66413-08-02 21:35 J -22535710.63 -22535710.60 -22535710.57 0.1574 0.1538

Jupiter -66412-09-05 22:04 J -22535311.67 -22535311.58 -22535311.49 0.0527 0.0370

Jupiter -66412-12-04 03:21 J -22535222.48 -22535222.36 -22535222.23 0.0526 0.0115

Saturn -66410-11-04 17:59 J -22534521.80 -22534521.75 -22534521.70 0.0304 0.0279

Saturn -66409-02-01 06:57 J -22534433.33 -22534433.21 -22534433.10 0.0304 0.0140

Saturn -66409-04-29 19:40 J -22534344.81 -22534344.68 -22534344.55 0.0304 0.0006

Saturn -66409-07-27 08:23 J -22534256.26 -22534256.15 -22534256.03 0.0303 0.0134

Saturn -66409-10-23 21:06 J -22534167.67 -22534167.62 -22534167.56 0.0303 0.0269

Mars -66406-03-21 20:52 J -22533288.74 -22533288.63 -22533288.52 0.1976 0.0521

Jupiter -66406-10-28 03:49 J -22533068.52 -22533068.34 -22533068.16 0.0499 0.0099

Moon -66404-05-20 20:23 J -22532497.75 -22532497.65 -22532497.55 0.2703 0.0948

Earth -66404-05-20 21:06 J -22532497.72 -22532497.62 -22532497.52 0.2702 0.1079 *

Mars -66402-11-30 15:35 J -22531573.95 -22531573.85 -22531573.75 0.1569 0.1255

Moon -66401-11-12 15:35 J -22531226.01 -22531225.85 -22531225.68 0.2632 0.0080

Earth -66401-11-12 17:16 J -22531225.94 -22531225.78 -22531225.62 0.2634 0.0171 *

Jupiter -66400-06-25 02:09 J -22531001.45 -22531001.41 -22531001.36 0.0526 0.0492

Jupiter -66400-09-22 07:40 J -22530912.31 -22530912.18 -22530912.05 0.0526 0.0009

Jupiter -66400-12-20 12:57 J -22530823.01 -22530822.96 -22530822.91 0.0525 0.0473

Venus -66398-07-23 02:09 J -22530243.53 -22530243.41 -22530243.30 0.3561 0.2328

Earth -66397-05-13 20:52 J -22529947.70 -22529947.63 -22529947.56 0.2696 0.1984

Moon -66397-05-13 21:21 J -22529947.69 -22529947.61 -22529947.53 0.2691 0.1890 *

Mars -66397-08-11 04:18 J -22529858.39 -22529858.32 -22529858.26 0.1972 0.1598

Saturn -66395-11-20 20:52 J -22529026.73 -22529026.63 -22529026.52 0.0258 0.0214

Saturn -66394-02-17 17:30 J -22528937.95 -22528937.77 -22528937.59 0.0259 0.0088

Saturn -66394-05-17 14:09 J -22528849.10 -22528848.91 -22528848.72 0.0259 0.0038

Saturn -66394-08-14 10:47 J -22528760.19 -22528760.05 -22528759.90 0.0259 0.0166

Jupiter -66394-08-16 00:28 J -22528758.64 -22528758.48 -22528758.32 0.0499 0.0257

Jupiter -66394-11-14 12:28 J -22528668.10 -22528667.98 -22528667.86 0.0500 0.0384

Venus -66392-02-05 08:52 J -22528219.26 -22528219.13 -22528218.99 0.3562 0.1614

Mars -66392-04-21 17:59 J -22528143.92 -22528143.75 -22528143.59 0.1570 0.0377

Moon -66391-05-23 14:09 J -22527746.97 -22527746.91 -22527746.84 0.2708 0.2170

Earth -66391-05-23 14:52 J -22527746.95 -22527746.88 -22527746.82 0.2704 0.2167 *

Uranus -66390-08-07 09:06 J -22527306.16 -22527306.12 -22527306.07 0.0134 0.0125

Uranus -66390-11-03 11:45 J -22527218.07 -22527218.01 -22527217.92 0.0134 0.0109

Uranus -66389-01-30 14:52 J -22527129.97 -22527129.88 -22527129.78 0.0134 0.0092

Uranus -66389-04-27 17:59 J -22527041.86 -22527041.75 -22527041.64 0.0134 0.0075

Uranus -66389-07-24 20:52 J -22526953.74 -22526953.63 -22526953.51 0.0134 0.0058

Uranus -66389-10-20 23:59 J -22526865.63 -22526865.50 -22526865.38 0.0134 0.0042

Uranus -66388-01-17 02:52 J -22526777.51 -22526777.38 -22526777.25 0.0134 0.0025

Uranus -66388-04-15 05:45 J -22526689.39 -22526689.26 -22526689.12 0.0134 0.0009

Jupiter -66388-07-11 11:30 J -22526602.14 -22526602.02 -22526601.90 0.0526 0.0135

Uranus -66388-07-12 08:52 J -22526601.26 -22526601.13 -22526601.00 0.0135 0.0009

Uranus -66388-10-08 11:45 J -22526513.13 -22526513.01 -22526512.88 0.0135 0.0026

Jupiter -66388-10-08 16:47 J -22526512.89 -22526512.80 -22526512.70 0.0526 0.0348 *

Moon -66388-11-15 23:45 J -22526474.59 -22526474.51 -22526474.44 0.2633 0.2280

Earth -66388-11-16 01:25 J -22526474.49 -22526474.44 -22526474.39 0.2631 0.2480 *

Uranus -66387-01-04 14:52 J -22526425.00 -22526424.88 -22526424.76 0.0135 0.0043

Uranus -66387-04-02 17:45 J -22526336.87 -22526336.76 -22526336.64 0.0135 0.0060

Uranus -66387-06-29 20:37 J -22526248.74 -22526248.64 -22526248.52 0.0135 0.0078

Uranus -66387-09-25 23:45 J -22526160.60 -22526160.51 -22526160.41 0.0135 0.0095

Uranus -66387-12-23 02:37 J -22526072.45 -22526072.39 -22526072.31 0.0135 0.0113

Uranus -66386-03-21 05:45 J -22525984.29 -22525984.26 -22525984.22 0.0135 0.0130

Mars -66386-12-08 05:45 J -22525722.30 -22525722.26 -22525722.21 0.1980 0.1778

Moon -66384-05-16 14:23 J -22525197.00 -22525196.90 -22525196.79 0.2691 0.0920

Earth -66384-05-16 14:37 J -22525196.99 -22525196.89 -22525196.79 0.2698 0.0886 *

Mars -66383-09-11 19:54 J -22524713.82 -22524713.67 -22524713.50 0.1572 0.0518

Jupiter -66382-06-03 20:52 J -22524448.73 -22524448.63 -22524448.52 0.0499 0.0416

Jupiter -66382-09-02 08:52 J -22524358.29 -22524358.13 -22524357.96 0.0499 0.0224

Saturn -66380-06-20 09:35 J -22523701.20 -22523701.10 -22523700.99 0.0304 0.0172

Saturn -66380-09-16 22:33 J -22523612.69 -22523612.56 -22523612.43 0.0304 0.0034

Saturn -66380-12-14 11:16 J -22523524.15 -22523524.03 -22523523.91 0.0304 0.0103

Saturn -66379-03-12 23:59 J -22523435.58 -22523435.50 -22523435.42 0.0303 0.0239

Neptune -66379-11-29 08:37 J -22523174.15 -22523174.14 -22523174.11 0.0089 0.0088

Venus -66379-12-06 17:30 J -22523166.85 -22523166.77 -22523166.70 0.3818 0.2527

Neptune -66378-02-25 09:49 J -22523086.12 -22523086.09 -22523086.02 0.0089 0.0083

Neptune -66378-05-24 11:30 J -22522998.08 -22522998.02 -22522997.95 0.0089 0.0077

Neptune -66378-08-20 12:42 J -22522910.04 -22522909.97 -22522909.88 0.0089 0.0072

Neptune -66378-11-16 14:09 J -22522821.99 -22522821.91 -22522821.82 0.0089 0.0067

Neptune -66377-02-12 15:21 J -22522733.94 -22522733.86 -22522733.75 0.0089 0.0062

Neptune -66377-05-10 16:47 J -22522645.90 -22522645.80 -22522645.69 0.0089 0.0056

Neptune -66377-08-06 18:13 J -22522557.85 -22522557.74 -22522557.63 0.0089 0.0051

Neptune -66377-11-02 19:25 J -22522469.80 -22522469.69 -22522469.57 0.0089 0.0046

Neptune -66376-01-29 20:52 J -22522381.74 -22522381.63 -22522381.51 0.0089 0.0041

Neptune -66376-04-27 22:04 J -22522293.69 -22522293.58 -22522293.45 0.0089 0.0036

Mars -66376-04-29 13:11 J -22522292.05 -22522291.95 -22522291.84 0.1978 0.0683

Jupiter -66376-04-29 15:49 J -22522291.95 -22522291.84 -22522291.73 0.0527 0.0257 *

Neptune -66376-07-24 23:30 J -22522205.64 -22522205.52 -22522205.39 0.0089 0.0030

Jupiter -66376-07-27 21:06 J -22522202.73 -22522202.62 -22522202.50 0.0526 0.0227

Neptune -66376-10-21 00:57 J -22522117.59 -22522117.46 -22522117.33 0.0089 0.0025

Neptune -66375-01-17 02:09 J -22522029.53 -22522029.41 -22522029.28 0.0089 0.0020

Neptune -66375-04-15 03:35 J -22521941.48 -22521941.35 -22521941.22 0.0089 0.0015

Neptune -66375-07-12 04:47 J -22521853.43 -22521853.30 -22521853.16 0.0089 0.0010

Neptune -66375-10-08 06:13 J -22521765.37 -22521765.24 -22521765.11 0.0089 0.0004

Neptune -66374-01-04 07:25 J -22521677.32 -22521677.19 -22521677.05 0.0089 0.0003

Neptune -66374-04-02 08:52 J -22521589.26 -22521589.13 -22521589.00 0.0089 0.0006

Neptune -66374-06-29 10:04 J -22521501.21 -22521501.08 -22521500.95 0.0089 0.0011

Neptune -66374-09-25 11:16 J -22521413.15 -22521413.03 -22521412.89 0.0089 0.0017

Neptune -66374-12-22 12:42 J -22521325.10 -22521324.97 -22521324.84 0.0089 0.0022

Mars -66373-02-01 22:18 J -22521283.64 -22521283.57 -22521283.50 0.1574 0.1403

Neptune -66373-03-19 13:54 J -22521237.04 -22521236.92 -22521236.79 0.0089 0.0027

Neptune -66373-06-15 15:21 J -22521148.98 -22521148.86 -22521148.74 0.0089 0.0032

Venus -66373-06-21 09:49 J -22521143.19 -22521143.09 -22521142.99 0.3818 0.0835

Neptune -66373-09-11 16:33 J -22521060.92 -22521060.81 -22521060.69 0.0089 0.0037

Neptune -66373-12-08 17:59 J -22520972.87 -22520972.75 -22520972.64 0.0089 0.0042

Neptune -66372-03-06 18:57 J -22520884.81 -22520884.71 -22520884.59 0.0089 0.0048

Neptune -66372-06-02 20:23 J -22520796.75 -22520796.65 -22520796.54 0.0089 0.0053

Neptune -66372-08-29 21:35 J -22520708.69 -22520708.60 -22520708.49 0.0089 0.0058

Neptune -66372-11-25 23:01 J -22520620.63 -22520620.54 -22520620.44 0.0089 0.0063

Neptune -66371-02-22 00:13 J -22520532.56 -22520532.49 -22520532.40 0.0089 0.0068

Moon -66371-05-19 07:54 J -22520446.28 -22520446.17 -22520446.07 0.2696 0.0171

Earth -66371-05-19 08:23 J -22520446.26 -22520446.15 -22520446.05 0.2700 0.0226 *

Neptune -66371-05-21 01:40 J -22520444.50 -22520444.43 -22520444.35 0.0089 0.0073

Neptune -66371-08-17 02:52 J -22520356.43 -22520356.38 -22520356.31 0.0089 0.0078

Neptune -66371-11-13 04:18 J -22520268.36 -22520268.32 -22520268.28 0.0089 0.0083

Neptune -66370-02-09 05:30 J -22520180.28 -22520180.27 -22520180.25 0.0089 0.0088

Jupiter -66370-06-21 05:01 J -22520048.48 -22520048.29 -22520048.10 0.0499 0.0058

Moon -66368-11-10 15:06 J -22519174.98 -22519174.87 -22519174.75 0.2631 0.1886

Earth -66368-11-10 16:04 J -22519174.95 -22519174.83 -22519174.70 0.2636 0.1691 *

Venus -66367-01-05 02:23 J -22519119.50 -22519119.40 -22519119.31 0.3817 0.0886

Mars -66367-09-19 20:52 J -22518861.75 -22518861.63 -22518861.52 0.1975 0.0413

Saturn -66365-04-08 21:21 J -22518294.67 -22518294.61 -22518294.55 0.0259 0.0243

Saturn -66365-07-06 17:45 J -22518205.93 -22518205.76 -22518205.59 0.0259 0.0118

Saturn -66365-10-03 14:23 J -22518117.09 -22518116.90 -22518116.71 0.0259 0.0008

Saturn -66365-12-31 11:01 J -22518028.20 -22518028.04 -22518027.88 0.0259 0.0135

Jupiter -66364-02-15 19:54 J -22517981.75 -22517981.67 -22517981.58 0.0527 0.0380

Jupiter -66364-05-16 01:25 J -22517892.56 -22517892.44 -22517892.31 0.0527 0.0107

Mars -66362-05-31 16:04 J -22517146.90 -22517146.83 -22517146.75 0.1569 0.1390

Venus -66362-07-21 18:42 J -22517095.79 -22517095.72 -22517095.64 0.3817 0.2597

Jupiter -66358-04-09 01:25 J -22515738.62 -22515738.44 -22515738.26 0.0499 0.0102

Moon -66358-05-22 01:11 J -22515695.54 -22515695.45 -22515695.35 0.2704 0.1267

Earth -66358-05-22 01:54 J -22515695.51 -22515695.42 -22515695.32 0.2702 0.1299 *

Mars -66357-02-10 04:04 J -22515431.40 -22515431.33 -22515431.25 0.1973 0.1501

Moon -66355-11-13 22:18 J -22514423.73 -22514423.57 -22514423.41 0.2633 0.0518

Earth -66355-11-14 00:13 J -22514423.65 -22514423.49 -22514423.34 0.2634 0.0606 *

Mars -66353-10-20 18:28 J -22513716.89 -22513716.73 -22513716.57 0.1570 0.0507

Jupiter -66353-12-05 00:13 J -22513671.52 -22513671.49 -22513671.45 0.0527 0.0501

Jupiter -66352-03-04 05:45 J -22513582.39 -22513582.26 -22513582.13 0.0526 0.0016

Jupiter -66352-06-01 11:01 J -22513493.09 -22513493.04 -22513492.98 0.0526 0.0466

Earth -66351-05-15 01:40 J -22513145.51 -22513145.43 -22513145.35 0.2696 0.1764

Moon -66351-05-15 02:09 J -22513145.49 -22513145.41 -22513145.33 0.2691 0.1761 *

Saturn -66351-11-07 12:13 J -22512969.08 -22512968.99 -22512968.89 0.0304 0.0205

Saturn -66350-02-04 01:11 J -22512880.58 -22512880.45 -22512880.32 0.0304 0.0067

Saturn -66350-05-03 13:54 J -22512792.04 -22512791.92 -22512791.79 0.0304 0.0071

Saturn -66350-07-31 02:37 J -22512703.48 -22512703.39 -22512703.29 0.0303 0.0207

Uranus -66350-12-09 21:49 J -22512571.70 -22512571.59 -22512571.46 0.0145 0.0115

Uranus -66349-03-07 06:42 J -22512483.37 -22512483.22 -22512483.06 0.0145 0.0083

Uranus -66349-06-03 15:21 J -22512395.03 -22512394.86 -22512394.66 0.0145 0.0052

Uranus -66349-08-31 00:28 J -22512306.68 -22512306.48 -22512306.29 0.0144 0.0019

Uranus -66349-11-27 09:06 J -22512218.31 -22512218.12 -22512217.92 0.0144 0.0013

Uranus -66348-02-23 17:59 J -22512129.94 -22512129.75 -22512129.56 0.0144 0.0044

Uranus -66348-05-23 02:23 J -22512041.55 -22512041.40 -22512041.22 0.0144 0.0076

Uranus -66348-08-19 11:16 J -22511953.15 -22511953.03 -22511952.89 0.0144 0.0106

Uranus -66348-11-15 19:54 J -22511864.72 -22511864.67 -22511864.61 0.0144 0.0137

Jupiter -66346-01-25 21:21 J -22511428.76 -22511428.61 -22511428.45 0.0499 0.0268

Jupiter -66346-04-26 09:21 J -22511338.23 -22511338.11 -22511337.98 0.0500 0.0374

Mars -66346-06-08 05:45 J -22511295.29 -22511295.26 -22511295.23 0.1980 0.1887

Moon -66345-05-23 19:11 J -22510944.76 -22510944.70 -22510944.65 0.2709 0.2286

Earth -66345-05-23 19:40 J -22510944.73 -22510944.68 -22510944.64 0.2704 0.2385 *

Mars -66343-03-12 20:52 J -22510286.80 -22510286.63 -22510286.47 0.1572 0.0375

Venus -66341-02-27 03:49 J -22509570.49 -22509570.34 -22509570.19 0.3561 0.0977

Jupiter -66341-12-21 10:04 J -22509272.20 -22509272.08 -22509271.96 0.0526 0.0136

Jupiter -66340-03-20 15:21 J -22509182.95 -22509182.86 -22509182.76 0.0526 0.0347

Moon -66338-05-17 19:11 J -22508394.80 -22508394.70 -22508394.59 0.2691 0.0658

Earth -66338-05-17 19:25 J -22508394.79 -22508394.69 -22508394.58 0.2698 0.0666 *

Mars -66337-10-28 13:25 J -22507865.05 -22507864.94 -22507864.84 0.1978 0.0808

Venus -66336-09-12 10:18 J -22507546.15 -22507546.07 -22507545.98 0.3562 0.2925

Saturn -66336-11-23 17:59 J -22507473.90 -22507473.75 -22507473.59 0.0258 0.0149

Saturn -66335-02-20 14:37 J -22507385.08 -22507384.89 -22507384.70 0.0258 0.0023

Saturn -66335-05-20 11:01 J -22507296.21 -22507296.04 -22507295.86 0.0259 0.0104

Saturn -66335-08-17 07:54 J -22507207.25 -22507207.17 -22507207.08 0.0259 0.0231

Jupiter -66335-11-13 17:59 J -22507118.84 -22507118.75 -22507118.65 0.0499 0.0425

Jupiter -66334-02-12 05:59 J -22507028.41 -22507028.25 -22507028.08 0.0500 0.0216

Mars -66334-08-02 23:01 J -22506856.64 -22506856.54 -22506856.44 0.1574 0.1264

Jupiter -66329-10-09 14:09 J -22504962.02 -22504961.91 -22504961.81 0.0526 0.0263

Jupiter -66328-01-06 19:25 J -22504872.81 -22504872.69 -22504872.58 0.0526 0.0221

Venus -66328-12-27 22:47 J -22504517.58 -22504517.55 -22504517.52 0.3818 0.3600

Mars -66327-03-20 20:37 J -22504434.75 -22504434.64 -22504434.52 0.1976 0.0302

Moon -66325-05-19 12:28 J -22503644.09 -22503643.98 -22503643.87 0.2698 0.0355

Earth -66325-05-19 13:11 J -22503644.06 -22503643.95 -22503643.85 0.2700 0.0437 *

Mars -66323-11-29 17:01 J -22502719.83 -22502719.79 -22502719.76 0.1569 0.1529

Jupiter -66323-12-01 02:37 J -22502718.57 -22502718.39 -22502718.20 0.0499 0.0058

Venus -66322-07-13 15:06 J -22502493.96 -22502493.87 -22502493.78 0.3818 0.1930

Moon -66322-11-11 21:35 J -22502372.74 -22502372.60 -22502372.46 0.2631 0.1275

Earth -66322-11-11 22:47 J -22502372.69 -22502372.55 -22502372.40 0.2636 0.1265 *

Saturn -66321-03-26 14:37 J -22502236.96 -22502236.89 -22502236.81 0.0304 0.0240

Saturn -66321-06-23 03:35 J -22502148.47 -22502148.35 -22502148.23 0.0304 0.0101

Saturn -66321-09-19 16:33 J -22502059.94 -22502059.81 -22502059.68 0.0304 0.0037

Saturn -66321-12-17 05:16 J -22501971.39 -22501971.28 -22501971.18 0.0304 0.0173

Earth -66318-05-13 12:42 J -22501093.99 -22501093.97 -22501093.95 0.2694 0.2639

Moon -66318-05-13 13:25 J -22501093.96 -22501093.94 -22501093.92 0.2691 0.2623 *

Mars -66318-08-11 04:18 J -22501004.40 -22501004.32 -22501004.24 0.1973 0.1373

Jupiter -66317-07-28 18:13 J -22500651.82 -22500651.74 -22500651.65 0.0527 0.0385

Jupiter -66317-10-25 23:45 J -22500562.64 -22500562.51 -22500562.39 0.0526 0.0101

Venus -66316-01-26 07:25 J -22500470.29 -22500470.19 -22500470.09 0.3818 0.0249

Mars -66313-04-20 19:11 J -22499289.86 -22499289.70 -22499289.55 0.1570 0.0642

Moon -66312-05-22 05:59 J -22498893.34 -22498893.25 -22498893.16 0.2704 0.1398

Earth -66312-05-22 06:42 J -22498893.31 -22498893.22 -22498893.13 0.2703 0.1517 *

Venus -66311-08-11 23:59 J -22498446.60 -22498446.50 -22498446.41 0.3817 0.1486

Jupiter -66311-09-18 23:16 J -22498408.72 -22498408.53 -22498408.35 0.0499 0.0106

Moon -66309-11-14 05:01 J -22497621.44 -22497621.29 -22497621.13 0.2633 0.0760

Earth -66309-11-14 06:57 J -22497621.36 -22497621.21 -22497621.06 0.2633 0.1042 *

Saturn -66306-04-12 17:59 J -22496741.88 -22496741.75 -22496741.61 0.0259 0.0181

Saturn -66306-07-10 14:23 J -22496653.08 -22496652.90 -22496652.71 0.0259 0.0056

Uranus -66306-08-27 16:47 J -22496604.85 -22496604.80 -22496604.74 0.0134 0.0119

Saturn -66306-10-07 11:01 J -22496564.22 -22496564.04 -22496563.86 0.0259 0.0071

Uranus -66306-11-23 19:40 J -22496516.76 -22496516.68 -22496516.59 0.0134 0.0102

Saturn -66305-01-04 07:40 J -22496475.30 -22496475.18 -22496475.06 0.0259 0.0198

Uranus -66305-02-19 22:33 J -22496428.65 -22496428.56 -22496428.45 0.0134 0.0086

Venus -66305-02-25 16:33 J -22496422.87 -22496422.81 -22496422.76 0.3817 0.3222

Earth -66305-05-15 06:28 J -22496343.32 -22496343.23 -22496343.14 0.2697 0.1543

Moon -66305-05-15 06:42 J -22496343.31 -22496343.22 -22496343.13 0.2690 0.1458 *

Jupiter -66305-05-16 22:33 J -22496341.59 -22496341.56 -22496341.53 0.0527 0.0508

Uranus -66305-05-18 01:40 J -22496340.54 -22496340.43 -22496340.32 0.0134 0.0069

Jupiter -66305-08-14 04:04 J -22496252.46 -22496252.33 -22496252.21 0.0527 0.0028

Uranus -66305-08-14 04:33 J -22496252.42 -22496252.31 -22496252.18 0.0134 0.0052 *

Uranus -66305-11-10 07:40 J -22496164.31 -22496164.18 -22496164.05 0.0134 0.0035

Jupiter -66305-11-11 09:21 J -22496163.17 -22496163.11 -22496163.05 0.0526 0.0462

Uranus -66304-02-06 10:33 J -22496076.19 -22496076.06 -22496075.93 0.0134 0.0019

Uranus -66304-05-05 13:40 J -22495988.06 -22495987.93 -22495987.80 0.0134 0.0002

Uranus -66304-08-01 16:33 J -22495899.94 -22495899.81 -22495899.68 0.0135 0.0016

Mars -66304-09-10 21:21 J -22495859.77 -22495859.61 -22495859.44 0.1572 0.0246

Uranus -66304-10-28 19:40 J -22495811.81 -22495811.68 -22495811.56 0.0135 0.0033

Uranus -66303-01-24 22:33 J -22495723.68 -22495723.56 -22495723.44 0.0135 0.0050

Uranus -66303-04-23 01:25 J -22495635.55 -22495635.44 -22495635.32 0.0135 0.0067

Uranus -66303-07-20 04:33 J -22495547.41 -22495547.31 -22495547.21 0.0135 0.0084

Uranus -66303-10-16 07:25 J -22495459.27 -22495459.19 -22495459.10 0.0135 0.0101

Uranus -66302-01-12 10:33 J -22495371.12 -22495371.06 -22495371.00 0.0135 0.0118

Moon -66299-05-24 23:59 J -22494142.52 -22494142.50 -22494142.47 0.2711 0.2629

Earth -66299-05-25 00:28 J -22494142.51 -22494142.48 -22494142.46 0.2705 0.2600 *

Jupiter -66299-07-07 19:40 J -22494098.84 -22494098.68 -22494098.52 0.0499 0.0265

Jupiter -66299-10-06 07:25 J -22494008.30 -22494008.19 -22494008.06 0.0499 0.0376

Mars -66297-04-28 13:11 J -22493438.05 -22493437.95 -22493437.85 0.1978 0.0899

Neptune -66295-02-11 08:09 J -22492784.20 -22492784.16 -22492784.11 0.0089 0.0086

Neptune -66295-05-10 11:30 J -22492696.09 -22492696.02 -22492695.92 0.0089 0.0079

Neptune -66295-08-06 15:21 J -22492607.97 -22492607.86 -22492607.74 0.0089 0.0071

Neptune -66295-11-02 18:42 J -22492519.84 -22492519.72 -22492519.57 0.0089 0.0064

Neptune -66294-01-29 22:47 J -22492431.70 -22492431.55 -22492431.40 0.0089 0.0056

Mars -66294-01-31 23:45 J -22492429.63 -22492429.51 -22492429.39 0.1574 0.1128

Neptune -66294-04-28 02:09 J -22492343.56 -22492343.41 -22492343.24 0.0089 0.0049

Neptune -66294-07-25 05:59 J -22492255.42 -22492255.25 -22492255.08 0.0089 0.0041

Neptune -66294-10-21 09:21 J -22492167.28 -22492167.11 -22492166.92 0.0089 0.0034

Neptune -66293-01-17 13:11 J -22492079.13 -22492078.95 -22492078.76 0.0089 0.0026

Neptune -66293-04-14 16:47 J -22491990.98 -22491990.80 -22491990.60 0.0089 0.0019

Jupiter -66293-06-02 08:23 J -22491942.27 -22491942.15 -22491942.03 0.0526 0.0141

Neptune -66293-07-11 20:37 J -22491902.84 -22491902.64 -22491902.45 0.0089 0.0011

Jupiter -66293-08-30 13:40 J -22491853.02 -22491852.93 -22491852.83 0.0526 0.0342

Neptune -66293-10-08 00:13 J -22491814.68 -22491814.49 -22491814.29 0.0089 0.0003

Neptune -66292-01-04 03:49 J -22491726.53 -22491726.34 -22491726.14 0.0089 0.0005

Neptune -66292-04-02 07:40 J -22491638.38 -22491638.18 -22491637.99 0.0089 0.0012

Moon -66292-05-17 23:59 J -22491592.61 -22491592.50 -22491592.39 0.2692 0.0513

Earth -66292-05-18 00:13 J -22491592.60 -22491592.49 -22491592.38 0.2699 0.0448 *

Neptune -66292-06-29 11:16 J -22491550.22 -22491550.03 -22491549.84 0.0089 0.0020

Saturn -66292-08-13 16:47 J -22491504.85 -22491504.80 -22491504.75 0.0304 0.0278

Neptune -66292-09-25 14:37 J -22491462.06 -22491461.89 -22491461.69 0.0089 0.0028

Saturn -66292-11-10 05:45 J -22491416.38 -22491416.26 -22491416.15 0.0304 0.0139

Neptune -66292-12-22 18:28 J -22491373.90 -22491373.73 -22491373.54 0.0089 0.0035

Saturn -66291-02-06 18:42 J -22491327.85 -22491327.72 -22491327.59 0.0304 0.0009

Neptune -66291-03-20 22:04 J -22491285.74 -22491285.58 -22491285.40 0.0089 0.0043

Saturn -66291-05-06 07:25 J -22491239.31 -22491239.19 -22491239.08 0.0304 0.0136

Neptune -66291-06-17 01:40 J -22491197.57 -22491197.43 -22491197.25 0.0089 0.0051

Saturn -66291-08-02 20:09 J -22491150.72 -22491150.66 -22491150.61 0.0303 0.0272

Neptune -66291-09-13 05:30 J -22491109.41 -22491109.27 -22491109.11 0.0089 0.0058

Neptune -66291-12-10 09:06 J -22491021.24 -22491021.12 -22491020.97 0.0089 0.0066

Neptune -66290-03-08 13:11 J -22490933.06 -22490932.95 -22490932.84 0.0089 0.0073

Neptune -66290-06-04 16:33 J -22490844.87 -22490844.81 -22490844.72 0.0089 0.0081

Neptune -66290-08-31 20:23 J -22490756.65 -22490756.65 -22490756.63 0.0089 0.0088

Mars -66288-09-18 20:52 J -22490007.75 -22490007.63 -22490007.52 0.1976 0.0175

Jupiter -66287-04-25 15:21 J -22489788.95 -22489788.86 -22489788.76 0.0499 0.0432

Jupiter -66287-07-25 03:35 J -22489698.52 -22489698.35 -22489698.18 0.0500 0.0209

Venus -66285-10-03 05:16 J -22488897.44 -22488897.28 -22488897.13 0.3562 0.0352

Jupiter -66281-03-21 12:42 J -22487632.07 -22487631.97 -22487631.85 0.0526 0.0260

Jupiter -66281-06-18 18:13 J -22487542.86 -22487542.74 -22487542.63 0.0526 0.0224

Moon -66279-05-20 17:16 J -22486841.89 -22486841.78 -22486841.68 0.2699 0.0593

Earth -66279-05-20 17:59 J -22486841.86 -22486841.75 -22486841.65 0.2701 0.0651 *

Mars -66278-02-09 04:18 J -22486577.41 -22486577.32 -22486577.24 0.1973 0.1265

Saturn -66277-08-29 17:45 J -22486009.86 -22486009.76 -22486009.65 0.0258 0.0214

Saturn -66277-11-26 14:09 J -22485921.08 -22485920.91 -22485920.72 0.0258 0.0090

Saturn -66276-02-23 10:47 J -22485832.24 -22485832.05 -22485831.86 0.0258 0.0036

Saturn -66276-05-23 07:25 J -22485743.34 -22485743.19 -22485743.04 0.0258 0.0163

Moon -66276-11-12 04:04 J -22485570.48 -22485570.33 -22485570.18 0.2632 0.1063

Earth -66276-11-12 05:45 J -22485570.42 -22485570.26 -22485570.11 0.2635 0.0833 *

Jupiter -66275-05-13 00:13 J -22485388.68 -22485388.49 -22485388.30 0.0500 0.0051

Mars -66274-10-20 19:54 J -22484862.81 -22484862.67 -22484862.52 0.1570 0.0785

Earth -66272-05-13 17:30 J -22484291.81 -22484291.77 -22484291.72 0.2695 0.2421

Moon -66272-05-13 18:13 J -22484291.80 -22484291.74 -22484291.68 0.2692 0.2284 *

Pluto -66271-03-03 11:30 J -22483998.06 -22483998.02 -22483997.99 0.0061 0.0059

Pluto -66271-05-30 11:59 J -22483910.05 -22483910.00 -22483909.90 0.0061 0.0055

Venus -66271-08-03 20:23 J -22483844.71 -22483844.65 -22483844.59 0.3818 0.3015

Pluto -66271-08-26 13:11 J -22483822.03 -22483821.95 -22483821.82 0.0061 0.0050

Pluto -66271-11-22 14:23 J -22483734.00 -22483733.90 -22483733.76 0.0061 0.0045

Pluto -66270-02-18 16:04 J -22483645.97 -22483645.83 -22483645.69 0.0061 0.0039

Pluto -66270-05-17 17:16 J -22483557.93 -22483557.78 -22483557.63 0.0061 0.0034

Pluto -66270-08-13 18:13 J -22483469.89 -22483469.74 -22483469.57 0.0061 0.0029

Pluto -66270-11-09 19:25 J -22483381.85 -22483381.69 -22483381.51 0.0061 0.0024

Jupiter -66269-01-08 16:47 J -22483321.88 -22483321.80 -22483321.71 0.0526 0.0385

Pluto -66269-02-05 20:37 J -22483293.80 -22483293.64 -22483293.46 0.0061 0.0019

Jupiter -66269-04-06 22:04 J -22483232.70 -22483232.58 -22483232.45 0.0526 0.0100

Pluto -66269-05-03 21:49 J -22483205.76 -22483205.59 -22483205.40 0.0061 0.0014

Pluto -66269-07-30 23:01 J -22483117.71 -22483117.54 -22483117.35 0.0061 0.0010

Pluto -66269-10-27 00:28 J -22483029.66 -22483029.48 -22483029.30 0.0061 0.0004

Pluto -66268-01-23 01:40 J -22482941.61 -22482941.43 -22482941.24 0.0061 0.0002

Pluto -66268-04-21 02:52 J -22482853.56 -22482853.38 -22482853.19 0.0061 0.0007

Pluto -66268-07-18 04:04 J -22482765.50 -22482765.33 -22482765.14 0.0062 0.0012

Pluto -66268-10-14 05:16 J -22482677.44 -22482677.28 -22482677.09 0.0062 0.0018

Pluto -66267-01-10 06:42 J -22482589.39 -22482589.22 -22482589.05 0.0062 0.0023

Pluto -66267-04-08 07:40 J -22482501.32 -22482501.18 -22482501.00 0.0062 0.0029

Pluto -66267-07-05 09:06 J -22482413.26 -22482413.12 -22482412.96 0.0062 0.0034

Pluto -66267-10-01 10:33 J -22482325.20 -22482325.06 -22482324.91 0.0062 0.0039

Pluto -66267-12-28 11:30 J -22482237.13 -22482237.02 -22482236.88 0.0062 0.0045

Pluto -66266-03-26 12:57 J -22482149.05 -22482148.96 -22482148.84 0.0062 0.0050

Moon -66266-05-23 10:47 J -22482091.13 -22482091.05 -22482090.96 0.2705 0.1690

Earth -66266-05-23 11:30 J -22482091.10 -22482091.02 -22482090.94 0.2703 0.1734 *

Pluto -66266-06-22 13:54 J -22482060.97 -22482060.92 -22482060.81 0.0062 0.0057

Pluto -66266-09-18 15:35 J -22481972.86 -22481972.85 -22481972.81 0.0062 0.0062

Uranus -66266-10-02 22:18 J -22481958.64 -22481958.57 -22481958.49 0.0145 0.0133

Uranus -66266-12-30 06:57 J -22481870.33 -22481870.21 -22481870.06 0.0145 0.0102

Venus -66265-02-17 12:42 J -22481821.06 -22481820.97 -22481820.87 0.3818 0.1332

Uranus -66265-03-27 15:49 J -22481782.00 -22481781.84 -22481781.66 0.0145 0.0070

Uranus -66265-06-24 00:57 J -22481693.65 -22481693.46 -22481693.27 0.0145 0.0038

Uranus -66265-09-20 09:49 J -22481605.29 -22481605.09 -22481604.90 0.0144 0.0007

Uranus -66265-12-17 18:28 J -22481516.92 -22481516.73 -22481516.54 0.0144 0.0026

Mars -66264-03-11 22:04 J -22481432.75 -22481432.58 -22481432.41 0.1572 0.0110

Uranus -66264-03-16 03:06 J -22481428.54 -22481428.37 -22481428.18 0.0144 0.0057

Uranus -66264-06-12 11:45 J -22481340.15 -22481340.01 -22481339.84 0.0144 0.0089

Uranus -66264-09-08 20:23 J -22481251.74 -22481251.65 -22481251.53 0.0144 0.0120

Jupiter -66263-02-28 21:06 J -22481078.80 -22481078.62 -22481078.44 0.0499 0.0106

Moon -66263-11-15 11:45 J -22480819.14 -22480819.01 -22480818.87 0.2632 0.1401

Earth -66263-11-15 13:40 J -22480819.06 -22480818.93 -22480818.80 0.2633 0.1470 *

Saturn -66262-03-30 07:40 J -22480684.28 -22480684.18 -22480684.08 0.0305 0.0179

Saturn -66262-06-26 20:37 J -22480595.77 -22480595.64 -22480595.51 0.0304 0.0041

Saturn -66262-09-23 09:21 J -22480507.23 -22480507.11 -22480506.99 0.0304 0.0097

Saturn -66262-12-20 22:04 J -22480418.66 -22480418.58 -22480418.50 0.0304 0.0233

Venus -66260-09-02 05:01 J -22479797.39 -22479797.29 -22479797.18 0.3818 0.0405

Moon -66259-05-16 11:30 J -22479541.12 -22479541.02 -22479540.93 0.2690 0.1366

Earth -66259-05-16 11:16 J -22479541.12 -22479541.03 -22479540.93 0.2697 0.1322 *

Jupiter -66258-10-27 20:52 J -22479011.65 -22479011.63 -22479011.59 0.0527 0.0508

Mars -66258-10-28 13:11 J -22479011.04 -22479010.95 -22479010.85 0.1978 0.1027

Jupiter -66257-01-25 02:23 J -22478922.52 -22478922.40 -22478922.27 0.0526 0.0024

Jupiter -66257-04-23 07:40 J -22478833.24 -22478833.18 -22478833.12 0.0526 0.0460

Mars -66255-08-02 00:28 J -22478002.61 -22478002.48 -22478002.35 0.1574 0.0993

Venus -66254-03-18 21:35 J -22477773.69 -22477773.60 -22477773.52 0.3817 0.2092

Jupiter -66252-12-17 17:45 J -22476768.92 -22476768.76 -22476768.60 0.0499 0.0264

Jupiter -66251-03-18 05:45 J -22476678.38 -22476678.26 -22476678.14 0.0499 0.0377

Mars -66248-03-19 20:37 J -22475580.75 -22475580.64 -22475580.52 0.1976 0.0080

Saturn -66247-01-16 17:16 J -22475277.82 -22475277.78 -22475277.73 0.0258 0.0249

Saturn -66247-04-15 13:40 J -22475189.09 -22475188.93 -22475188.76 0.0258 0.0125

Saturn -66247-07-13 10:04 J -22475100.27 -22475100.08 -22475099.88 0.0258 0.0006

Saturn -66247-10-10 06:42 J -22475011.38 -22475011.22 -22475011.05 0.0259 0.0127

Saturn -66246-01-07 03:06 J -22474922.39 -22474922.37 -22474922.32 0.0259 0.0255

Moon -66246-05-19 04:47 J -22474790.41 -22474790.30 -22474790.20 0.2693 0.0235

Earth -66246-05-19 05:01 J -22474790.40 -22474790.29 -22474790.18 0.2699 0.0227 *

Jupiter -66246-11-13 06:42 J -22474612.34 -22474612.22 -22474612.10 0.0527 0.0144

Jupiter -66245-02-10 11:59 J -22474523.09 -22474523.00 -22474522.90 0.0526 0.0341

Jupiter -66240-10-05 14:23 J -22472458.99 -22472458.90 -22472458.80 0.0499 0.0421

Jupiter -66239-01-04 02:23 J -22472368.57 -22472368.40 -22472368.23 0.0499 0.0218

Mars -66239-08-10 04:04 J -22472150.42 -22472150.33 -22472150.23 0.1973 0.1161

Mars -66234-04-20 20:37 J -22470435.78 -22470435.64 -22470435.50 0.1570 0.0918

Jupiter -66234-09-01 11:16 J -22470302.14 -22470302.03 -22470301.92 0.0526 0.0261

Venus -66234-10-24 23:45 J -22470248.63 -22470248.51 -22470248.39 0.3561 0.2301

Jupiter -66234-11-29 16:33 J -22470212.92 -22470212.81 -22470212.69 0.0526 0.0224

Moon -66233-05-20 22:04 J -22470039.69 -22470039.58 -22470039.48 0.2699 0.0750

Earth -66233-05-20 22:47 J -22470039.66 -22470039.55 -22470039.45 0.2701 0.0867 *

Saturn -66233-08-16 09:21 J -22469952.20 -22469952.11 -22469952.02 0.0304 0.0222

Saturn -66233-11-12 22:18 J -22469863.70 -22469863.57 -22469863.45 0.0304 0.0084

Saturn -66232-02-09 11:01 J -22469775.16 -22469775.04 -22469774.91 0.0304 0.0056

Saturn -66232-05-08 23:59 J -22469686.60 -22469686.50 -22469686.40 0.0304 0.0192

Moon -66230-11-13 10:33 J -22468768.22 -22468768.06 -22468767.90 0.2632 0.0488

Earth -66230-11-13 12:28 J -22468768.14 -22468767.98 -22468767.82 0.2635 0.0407 *

Venus -66228-05-10 06:42 J -22468224.35 -22468224.22 -22468224.08 0.3562 0.1685

Jupiter -66228-10-22 22:04 J -22468058.77 -22468058.58 -22468058.39 0.0500 0.0050

Earth -66226-05-14 22:18 J -22467489.63 -22467489.57 -22467489.50 0.2695 0.2199

Moon -66226-05-14 23:01 J -22467489.61 -22467489.54 -22467489.48 0.2691 0.2178 *

Mars -66225-09-09 23:01 J -22467005.71 -22467005.54 -22467005.37 0.1572 0.0043

Jupiter -66222-06-20 15:49 J -22465991.92 -22465991.84 -22465991.75 0.0526 0.0378

Uranus -66222-06-20 21:21 J -22465991.64 -22465991.61 -22465991.58 0.0133 0.0130

Uranus -66222-09-16 23:59 J -22465903.55 -22465903.50 -22465903.42 0.0134 0.0114

Jupiter -66222-09-17 21:06 J -22465902.74 -22465902.62 -22465902.49 0.0526 0.0109

Uranus -66222-12-14 03:06 J -22465815.45 -22465815.37 -22465815.27 0.0134 0.0097

Uranus -66221-03-11 06:13 J -22465727.34 -22465727.24 -22465727.14 0.0134 0.0080

Uranus -66221-06-07 09:06 J -22465639.23 -22465639.12 -22465639.00 0.0134 0.0064

Uranus -66221-09-03 11:59 J -22465551.12 -22465551.00 -22465550.87 0.0134 0.0047

Uranus -66221-11-30 15:06 J -22465463.00 -22465462.87 -22465462.74 0.0134 0.0030

Uranus -66220-02-26 17:59 J -22465374.88 -22465374.75 -22465374.62 0.0134 0.0014

Moon -66220-05-23 15:49 J -22465288.92 -22465288.84 -22465288.77 0.2707 0.1892

Earth -66220-05-23 16:18 J -22465288.89 -22465288.82 -22465288.74 0.2703 0.1947 *

Uranus -66220-05-25 21:06 J -22465286.75 -22465286.62 -22465286.49 0.0134 0.0005

Uranus -66220-08-21 23:59 J -22465198.63 -22465198.50 -22465198.37 0.0134 0.0021

Uranus -66220-11-18 02:52 J -22465110.50 -22465110.38 -22465110.25 0.0135 0.0038

Uranus -66219-02-14 05:59 J -22465022.37 -22465022.25 -22465022.13 0.0135 0.0055

Uranus -66219-05-13 08:52 J -22464934.24 -22464934.13 -22464934.02 0.0135 0.0072

Uranus -66219-08-09 11:45 J -22464846.10 -22464846.01 -22464845.90 0.0135 0.0089

Uranus -66219-11-05 14:52 J -22464757.96 -22464757.88 -22464757.80 0.0135 0.0106

Uranus -66218-02-01 17:45 J -22464669.80 -22464669.76 -22464669.70 0.0135 0.0124

Mars -66218-04-28 13:11 J -22464584.04 -22464583.95 -22464583.85 0.1978 0.1143

Saturn -66218-09-02 13:11 J -22464457.10 -22464456.95 -22464456.80 0.0258 0.0160

Saturn -66218-11-30 09:35 J -22464368.29 -22464368.10 -22464367.91 0.0258 0.0035

Saturn -66217-02-27 05:59 J -22464279.42 -22464279.25 -22464279.07 0.0258 0.0090

Saturn -66217-05-26 02:52 J -22464190.49 -22464190.38 -22464190.28 0.0258 0.0217

Moon -66217-11-15 18:42 J -22464016.84 -22464016.72 -22464016.59 0.2633 0.1637

Earth -66217-11-15 20:23 J -22464016.76 -22464016.65 -22464016.54 0.2633 0.1909 *

Jupiter -66216-08-10 18:57 J -22463748.89 -22463748.71 -22463748.53 0.0500 0.0107

Mars -66215-01-31 01:11 J -22463575.59 -22463575.45 -22463575.31 0.1574 0.0854

Venus -66214-03-10 17:59 J -22463171.83 -22463171.75 -22463171.67 0.3819 0.2429

Neptune -66214-08-26 07:40 J -22463003.19 -22463003.18 -22463003.16 0.0089 0.0088

Neptune -66214-11-22 08:52 J -22462915.16 -22462915.13 -22462915.07 0.0089 0.0083

Neptune -66213-02-18 10:18 J -22462827.12 -22462827.07 -22462827.00 0.0089 0.0077

Neptune -66213-05-16 11:45 J -22462739.08 -22462739.01 -22462738.93 0.0089 0.0072

Earth -66213-05-16 16:04 J -22462738.93 -22462738.83 -22462738.73 0.2697 0.1105 *

Moon -66213-05-16 16:18 J -22462738.92 -22462738.82 -22462738.72 0.2690 0.1033 *

Neptune -66213-08-12 12:57 J -22462651.04 -22462650.96 -22462650.87 0.0089 0.0067

Neptune -66213-11-08 14:23 J -22462562.99 -22462562.90 -22462562.80 0.0089 0.0062

Neptune -66212-02-04 15:35 J -22462474.94 -22462474.85 -22462474.74 0.0089 0.0057

Neptune -66212-05-03 17:01 J -22462386.89 -22462386.79 -22462386.68 0.0089 0.0051

Neptune -66212-07-30 18:28 J -22462298.84 -22462298.73 -22462298.62 0.0089 0.0046

Neptune -66212-10-26 19:40 J -22462210.79 -22462210.68 -22462210.56 0.0089 0.0041

Neptune -66211-01-22 21:06 J -22462122.74 -22462122.62 -22462122.50 0.0089 0.0036

Neptune -66211-04-20 22:18 J -22462034.69 -22462034.57 -22462034.44 0.0089 0.0031

Neptune -66211-07-17 23:45 J -22461946.63 -22461946.51 -22461946.38 0.0089 0.0025

Neptune -66211-10-14 00:57 J -22461858.58 -22461858.46 -22461858.32 0.0089 0.0021

Neptune -66210-01-10 02:23 J -22461770.53 -22461770.40 -22461770.27 0.0089 0.0015

Neptune -66210-04-08 03:49 J -22461682.47 -22461682.34 -22461682.21 0.0089 0.0010

Jupiter -66210-04-08 19:54 J -22461681.70 -22461681.67 -22461681.64 0.0526 0.0502

Neptune -66210-07-05 05:01 J -22461594.42 -22461594.29 -22461594.15 0.0089 0.0005

Jupiter -66210-07-07 01:25 J -22461592.57 -22461592.44 -22461592.32 0.0526 0.0025

Neptune -66210-10-01 06:28 J -22461506.36 -22461506.23 -22461506.10 0.0089 0.0002

Jupiter -66210-10-04 06:28 J -22461503.28 -22461503.23 -22461503.17 0.0525 0.0464

Neptune -66210-12-28 07:40 J -22461418.31 -22461418.18 -22461418.05 0.0089 0.0006

Neptune -66209-03-25 09:06 J -22461330.25 -22461330.12 -22461329.99 0.0089 0.0011

Neptune -66209-06-21 10:18 J -22461242.20 -22461242.07 -22461241.94 0.0089 0.0016

Neptune -66209-09-17 11:30 J -22461154.14 -22461154.02 -22461153.88 0.0089 0.0022

Mars -66209-09-17 20:37 J -22461153.75 -22461153.64 -22461153.52 0.1976 0.0075

Venus -66209-09-23 10:18 J -22461148.17 -22461148.07 -22461147.97 0.3818 0.0736

Neptune -66209-12-14 12:57 J -22461066.08 -22461065.96 -22461065.83 0.0089 0.0027

Neptune -66208-03-12 14:09 J -22460978.03 -22460977.91 -22460977.78 0.0089 0.0032

Neptune -66208-06-08 15:35 J -22460889.97 -22460889.85 -22460889.73 0.0089 0.0037

Neptune -66208-09-04 16:47 J -22460801.91 -22460801.80 -22460801.68 0.0089 0.0042

Neptune -66208-12-01 18:13 J -22460713.85 -22460713.74 -22460713.63 0.0089 0.0047

Neptune -66207-02-27 19:11 J -22460625.79 -22460625.70 -22460625.58 0.0089 0.0053

Neptune -66207-05-26 20:37 J -22460537.73 -22460537.64 -22460537.53 0.0089 0.0058

Neptune -66207-08-22 21:49 J -22460449.67 -22460449.59 -22460449.49 0.0089 0.0063

Neptune -66207-11-18 23:16 J -22460361.61 -22460361.53 -22460361.44 0.0089 0.0068

Neptune -66206-02-15 00:28 J -22460273.54 -22460273.48 -22460273.40 0.0089 0.0073

Neptune -66206-05-14 01:54 J -22460185.48 -22460185.42 -22460185.36 0.0089 0.0078

Neptune -66206-08-10 03:06 J -22460097.41 -22460097.37 -22460097.32 0.0089 0.0083

Neptune -66206-11-06 04:33 J -22460009.32 -22460009.31 -22460009.30 0.0089 0.0088

Jupiter -66204-05-29 16:04 J -22459438.99 -22459438.83 -22459438.67 0.0499 0.0262

Jupiter -66204-08-28 04:04 J -22459348.45 -22459348.33 -22459348.21 0.0500 0.0382

Saturn -66203-01-03 10:47 J -22459220.11 -22459220.05 -22459219.99 0.0305 0.0267

Saturn -66203-04-01 23:45 J -22459131.63 -22459131.51 -22459131.39 0.0305 0.0128

Venus -66203-04-09 02:37 J -22459124.48 -22459124.39 -22459124.29 0.3818 0.0989

Saturn -66203-06-29 12:42 J -22459043.10 -22459042.97 -22459042.84 0.0305 0.0012

Saturn -66203-09-26 01:25 J -22458954.55 -22458954.44 -22458954.33 0.0304 0.0148

Saturn -66203-12-23 14:09 J -22458865.95 -22458865.91 -22458865.86 0.0304 0.0284

Moon -66200-05-19 09:21 J -22457988.22 -22457988.11 -22457988.00 0.2695 0.0122

Earth -66200-05-19 09:49 J -22457988.20 -22457988.09 -22457987.98 0.2699 0.0012 *

Mars -66199-02-08 04:18 J -22457723.42 -22457723.32 -22457723.23 0.1973 0.1040

Jupiter -66198-04-25 05:30 J -22457282.39 -22457282.27 -22457282.14 0.0526 0.0140

Jupiter -66198-07-23 10:47 J -22457193.14 -22457193.05 -22457192.95 0.0526 0.0345

Venus -66198-10-23 19:11 J -22457100.77 -22457100.70 -22457100.63 0.3817 0.2713

Moon -66197-11-10 10:18 J -22456717.14 -22456717.07 -22456717.00 0.2632 0.2336

Earth -66197-11-10 11:16 J -22456717.11 -22456717.03 -22456716.95 0.2637 0.2247 *

Mars -66195-10-19 21:21 J -22456008.74 -22456008.61 -22456008.49 0.1570 0.1054

Jupiter -66192-03-17 12:42 J -22455129.06 -22455128.97 -22455128.86 0.0499 0.0417

Jupiter -66192-06-16 00:42 J -22455038.63 -22455038.47 -22455038.30 0.0499 0.0225

Saturn -66188-01-19 11:59 J -22453725.11 -22453725.00 -22453724.87 0.0258 0.0198

Saturn -66188-04-18 08:23 J -22453636.33 -22453636.15 -22453635.96 0.0258 0.0074

Saturn -66188-07-16 04:47 J -22453547.48 -22453547.30 -22453547.11 0.0258 0.0052

Saturn -66188-10-13 01:11 J -22453458.57 -22453458.45 -22453458.30 0.0258 0.0179

Moon -66187-05-22 02:52 J -22453237.48 -22453237.38 -22453237.28 0.2700 0.1047

Earth -66187-05-22 03:35 J -22453237.45 -22453237.35 -22453237.25 0.2701 0.1084 *

Jupiter -66186-02-11 09:49 J -22452972.19 -22452972.09 -22452971.98 0.0527 0.0261

Jupiter -66186-05-11 15:21 J -22452882.98 -22452882.86 -22452882.75 0.0526 0.0225

Mars -66185-03-10 23:30 J -22452578.69 -22452578.52 -22452578.35 0.1572 0.0172

Moon -66184-11-13 17:30 J -22451965.93 -22451965.77 -22451965.61 0.2632 0.0195

Earth -66184-11-13 19:11 J -22451965.86 -22451965.70 -22451965.54 0.2635 0.0044 *

Uranus -66182-10-23 05:45 J -22451257.34 -22451257.26 -22451257.15 0.0145 0.0125

Uranus -66181-01-19 14:37 J -22451169.03 -22451168.89 -22451168.73 0.0145 0.0093

Uranus -66181-04-16 23:45 J -22451080.68 -22451080.51 -22451080.33 0.0145 0.0061

Uranus -66181-07-14 08:37 J -22450992.33 -22450992.14 -22450991.95 0.0145 0.0029

Uranus -66181-10-10 17:30 J -22450903.97 -22450903.77 -22450903.58 0.0145 0.0003

Uranus -66180-01-07 02:09 J -22450815.59 -22450815.41 -22450815.21 0.0144 0.0035

Jupiter -66180-04-03 21:35 J -22450728.79 -22450728.60 -22450728.41 0.0499 0.0066

Uranus -66180-04-05 10:47 J -22450727.21 -22450727.05 -22450726.86 0.0144 0.0067

Earth -66180-05-15 03:21 J -22450687.44 -22450687.36 -22450687.29 0.2695 0.1982

Moon -66180-05-15 03:35 J -22450687.42 -22450687.35 -22450687.27 0.2690 0.1902 *

Uranus -66180-07-02 19:25 J -22450638.82 -22450638.69 -22450638.53 0.0144 0.0098

Uranus -66180-09-29 04:18 J -22450550.39 -22450550.32 -22450550.22 0.0144 0.0129

Mars -66179-10-27 13:11 J -22450157.04 -22450156.95 -22450156.86 0.1978 0.1239

Pluto -66178-04-13 09:49 J -22449989.16 -22449989.09 -22449989.03 0.0084 0.0074

Pluto -66178-07-10 11:01 J -22449901.12 -22449901.04 -22449900.93 0.0084 0.0063

Pluto -66178-10-06 12:42 J -22449813.07 -22449812.97 -22449812.85 0.0084 0.0052

Pluto -66177-01-02 14:09 J -22449725.02 -22449724.91 -22449724.78 0.0084 0.0042

Pluto -66177-03-30 15:49 J -22449636.97 -22449636.84 -22449636.71 0.0084 0.0031

Venus -66177-05-31 01:25 J -22449575.59 -22449575.44 -22449575.29 0.3561 0.0940

Pluto -66177-06-26 17:30 J -22449548.91 -22449548.77 -22449548.64 0.0084 0.0021

Pluto -66177-09-22 18:57 J -22449460.85 -22449460.71 -22449460.57 0.0083 0.0010

Pluto -66177-12-19 20:23 J -22449372.79 -22449372.65 -22449372.51 0.0083 0.0001

Pluto -66176-03-17 21:49 J -22449284.73 -22449284.59 -22449284.45 0.0083 0.0010

Pluto -66176-06-13 23:16 J -22449196.66 -22449196.53 -22449196.39 0.0083 0.0020

Mars -66176-08-01 01:54 J -22449148.57 -22449148.42 -22449148.27 0.1574 0.0719

Pluto -66176-09-10 00:42 J -22449108.60 -22449108.47 -22449108.34 0.0083 0.0030

Pluto -66176-12-07 02:09 J -22449020.53 -22449020.41 -22449020.28 0.0083 0.0040

Pluto -66175-03-05 03:35 J -22448932.46 -22448932.35 -22448932.24 0.0083 0.0050

Pluto -66175-06-01 04:47 J -22448844.38 -22448844.30 -22448844.19 0.0083 0.0060

Pluto -66175-08-28 06:28 J -22448756.30 -22448756.23 -22448756.15 0.0082 0.0069

Pluto -66175-11-24 07:40 J -22448668.21 -22448668.18 -22448668.13 0.0082 0.0079

Jupiter -66175-11-30 14:37 J -22448661.98 -22448661.89 -22448661.80 0.0526 0.0376

Jupiter -66174-02-27 19:54 J -22448572.79 -22448572.67 -22448572.54 0.0526 0.0110

Moon -66174-05-24 20:37 J -22448486.71 -22448486.64 -22448486.57 0.2708 0.2088

Earth -66174-05-24 21:06 J -22448486.68 -22448486.62 -22448486.56 0.2703 0.2165 *

Saturn -66174-08-20 00:42 J -22448399.57 -22448399.47 -22448399.36 0.0304 0.0178

Saturn -66174-11-16 13:40 J -22448311.05 -22448310.93 -22448310.80 0.0304 0.0039

Saturn -66173-02-13 02:37 J -22448222.51 -22448222.39 -22448222.27 0.0304 0.0100

Saturn -66173-05-11 15:21 J -22448133.94 -22448133.86 -22448133.78 0.0304 0.0236

Venus -66172-12-15 08:23 J -22447551.23 -22447551.15 -22447551.07 0.3562 0.3011

Moon -66171-11-17 01:25 J -22447214.51 -22447214.44 -22447214.36 0.2635 0.2283

Earth -66171-11-17 03:06 J -22447214.44 -22447214.37 -22447214.29 0.2632 0.2339 *

Mars -66169-03-18 20:52 J -22446726.75 -22446726.63 -22446726.52 0.1976 0.0180

Jupiter -66168-01-20 17:16 J -22446418.97 -22446418.78 -22446418.60 0.0500 0.0104

Moon -66167-05-17 20:52 J -22445936.73 -22445936.63 -22445936.52 0.2691 0.0934

Earth -66167-05-17 20:52 J -22445936.73 -22445936.63 -22445936.52 0.2698 0.0885 *

Venus -66163-03-31 23:16 J -22444522.57 -22444522.53 -22444522.49 0.3819 0.3517

Jupiter -66163-09-18 19:11 J -22444351.74 -22444351.70 -22444351.66 0.0526 0.0491

Jupiter -66163-12-17 00:42 J -22444262.60 -22444262.47 -22444262.35 0.0526 0.0013

Jupiter -66162-03-16 05:45 J -22444173.30 -22444173.26 -22444173.20 0.0525 0.0476

Mars -66160-08-09 04:18 J -22443296.42 -22443296.32 -22443296.22 0.1973 0.0923

Saturn -66159-06-08 11:01 J -22442993.10 -22442993.04 -22442992.95 0.0258 0.0236

Saturn -66159-09-05 07:25 J -22442904.35 -22442904.19 -22442904.01 0.0258 0.0112

Saturn -66159-12-03 04:04 J -22442815.52 -22442815.33 -22442815.14 0.0258 0.0014

Saturn -66158-03-02 00:13 J -22442726.64 -22442726.49 -22442726.32 0.0258 0.0139

Venus -66158-10-15 15:35 J -22442498.94 -22442498.85 -22442498.76 0.3819 0.1833

Jupiter -66157-11-08 14:09 J -22442109.07 -22442108.91 -22442108.75 0.0500 0.0259

Jupiter -66156-02-07 02:23 J -22442018.52 -22442018.40 -22442018.28 0.0500 0.0386

Mars -66155-04-19 22:04 J -22441581.69 -22441581.58 -22441581.47 0.1570 0.1196

Moon -66154-05-20 14:09 J -22441186.02 -22441185.91 -22441185.80 0.2695 0.0224

Earth -66154-05-20 14:37 J -22441186.00 -22441185.89 -22441185.78 0.2699 0.0210 *

Venus -66152-04-30 07:54 J -22440475.27 -22440475.17 -22440475.07 0.3818 0.0143

Jupiter -66151-10-05 04:47 J -22439952.42 -22439952.30 -22439952.18 0.0526 0.0130

Moon -66151-11-11 16:47 J -22439914.91 -22439914.80 -22439914.69 0.2632 0.1880

Earth -66151-11-11 17:59 J -22439914.87 -22439914.75 -22439914.64 0.2637 0.1818 *

Jupiter -66150-01-02 10:04 J -22439863.17 -22439863.08 -22439862.99 0.0525 0.0353

Venus -66147-11-14 00:28 J -22438451.58 -22438451.48 -22438451.39 0.3818 0.1593

Mars -66146-09-10 00:13 J -22438151.65 -22438151.49 -22438151.32 0.1572 0.0304

Jupiter -66145-08-27 11:16 J -22437799.13 -22437799.03 -22437798.92 0.0499 0.0412

Jupiter -66145-11-25 23:16 J -22437708.69 -22437708.53 -22437708.36 0.0500 0.0232

Saturn -66144-01-06 01:54 J -22437667.51 -22437667.42 -22437667.34 0.0305 0.0226

Saturn -66144-04-04 14:52 J -22437579.01 -22437578.88 -22437578.76 0.0305 0.0087

Saturn -66144-07-02 03:49 J -22437490.47 -22437490.34 -22437490.22 0.0305 0.0053

Saturn -66144-09-28 16:33 J -22437401.91 -22437401.81 -22437401.71 0.0304 0.0190

Moon -66141-05-22 07:40 J -22436435.28 -22436435.18 -22436435.08 0.2702 0.1166

Earth -66141-05-22 08:23 J -22436435.25 -22436435.15 -22436435.06 0.2701 0.1300 *

Venus -66141-05-29 17:01 J -22436427.84 -22436427.79 -22436427.75 0.3817 0.3337

Mars -66139-04-27 13:11 J -22435730.03 -22435729.95 -22435729.87 0.1978 0.1358

Jupiter -66139-07-24 09:06 J -22435642.23 -22435642.12 -22435642.01 0.0526 0.0251

Jupiter -66139-10-21 14:23 J -22435553.01 -22435552.90 -22435552.79 0.0526 0.0233

Uranus -66138-07-11 05:01 J -22435290.34 -22435290.29 -22435290.24 0.0133 0.0124

Uranus -66138-10-07 07:40 J -22435202.24 -22435202.18 -22435202.09 0.0133 0.0108

Moon -66138-11-15 00:13 J -22435163.65 -22435163.49 -22435163.33 0.2632 0.0350

Earth -66138-11-15 01:54 J -22435163.58 -22435163.42 -22435163.26 0.2635 0.0468 *

Uranus -66137-01-03 10:47 J -22435114.14 -22435114.05 -22435113.95 0.0134 0.0091

Uranus -66137-03-31 13:40 J -22435026.03 -22435025.93 -22435025.81 0.0134 0.0074

Uranus -66137-06-27 16:47 J -22434937.92 -22434937.80 -22434937.68 0.0134 0.0058

Uranus -66137-09-23 19:40 J -22434849.80 -22434849.68 -22434849.55 0.0134 0.0041

Uranus -66137-12-20 22:47 J -22434761.68 -22434761.55 -22434761.43 0.0134 0.0024

Mars -66136-01-30 02:37 J -22434721.55 -22434721.39 -22434721.24 0.1574 0.0585

Uranus -66136-03-19 01:40 J -22434673.56 -22434673.43 -22434673.30 0.0134 0.0007

Uranus -66136-06-15 04:33 J -22434585.44 -22434585.31 -22434585.18 0.0134 0.0010

Uranus -66136-09-11 07:40 J -22434497.31 -22434497.18 -22434497.06 0.0134 0.0027

Uranus -66136-12-08 10:33 J -22434409.18 -22434409.06 -22434408.94 0.0134 0.0043

Uranus -66135-03-06 13:25 J -22434321.05 -22434320.94 -22434320.82 0.0135 0.0061

Uranus -66135-06-02 16:18 J -22434232.92 -22434232.82 -22434232.71 0.0135 0.0078

Uranus -66135-08-29 19:25 J -22434144.78 -22434144.69 -22434144.59 0.0135 0.0095

Uranus -66135-11-25 22:18 J -22434056.63 -22434056.57 -22434056.49 0.0135 0.0112

Uranus -66134-02-22 01:25 J -22433968.47 -22433968.44 -22433968.40 0.0135 0.0129

Earth -66134-05-16 08:09 J -22433885.25 -22433885.16 -22433885.08 0.2696 0.1756

Moon -66134-05-16 08:23 J -22433885.23 -22433885.15 -22433885.07 0.2689 0.1714 *

Jupiter -66133-09-13 20:23 J -22433398.83 -22433398.65 -22433398.46 0.0499 0.0076

Neptune -66131-11-08 04:33 J -22432613.33 -22432613.31 -22432613.25 0.0089 0.0087

Neptune -66130-02-04 08:23 J -22432525.22 -22432525.15 -22432525.05 0.0089 0.0079

Neptune -66130-05-03 11:59 J -22432437.10 -22432437.00 -22432436.87 0.0089 0.0072

Neptune -66130-07-30 15:49 J -22432348.97 -22432348.84 -22432348.70 0.0089 0.0064

Mars -66130-09-17 20:37 J -22432299.75 -22432299.64 -22432299.52 0.1976 0.0276

Neptune -66130-10-26 19:11 J -22432260.83 -22432260.70 -22432260.53 0.0089 0.0057

Neptune -66129-01-22 23:01 J -22432172.69 -22432172.54 -22432172.37 0.0089 0.0049

Saturn -66129-01-23 06:13 J -22432172.40 -22432172.24 -22432172.09 0.0258 0.0152 *

Neptune -66129-04-20 02:37 J -22432084.55 -22432084.39 -22432084.21 0.0089 0.0041

Saturn -66129-04-21 02:23 J -22432083.59 -22432083.40 -22432083.21 0.0258 0.0028

Neptune -66129-07-17 06:28 J -22431996.41 -22431996.23 -22431996.05 0.0089 0.0034

Saturn -66129-07-18 22:47 J -22431994.72 -22431994.55 -22431994.37 0.0258 0.0098

Neptune -66129-10-13 09:49 J -22431908.26 -22431908.09 -22431907.89 0.0089 0.0027

Saturn -66129-10-15 19:25 J -22431905.78 -22431905.69 -22431905.59 0.0258 0.0223

Neptune -66128-01-09 13:40 J -22431820.11 -22431819.93 -22431819.73 0.0089 0.0019

Neptune -66128-04-07 17:30 J -22431731.96 -22431731.77 -22431731.58 0.0089 0.0011

Moon -66128-05-25 01:25 J -22431684.49 -22431684.44 -22431684.39 0.2709 0.2367

Earth -66128-05-25 01:54 J -22431684.47 -22431684.42 -22431684.37 0.2704 0.2379 *

Neptune -66128-07-04 21:06 J -22431643.81 -22431643.62 -22431643.42 0.0089 0.0003

Neptune -66128-10-01 00:42 J -22431555.66 -22431555.47 -22431555.27 0.0089 0.0005

Neptune -66128-12-28 04:33 J -22431467.51 -22431467.31 -22431467.12 0.0089 0.0012

Neptune -66127-03-26 08:09 J -22431379.35 -22431379.16 -22431378.97 0.0089 0.0020

Jupiter -66127-05-12 13:25 J -22431332.03 -22431331.94 -22431331.85 0.0527 0.0372

Mars -66127-06-22 04:47 J -22431291.36 -22431291.30 -22431291.24 0.1576 0.1471

Neptune -66127-06-22 11:30 J -22431291.19 -22431291.02 -22431290.82 0.0089 0.0028

Jupiter -66127-08-09 18:42 J -22431242.84 -22431242.72 -22431242.59 0.0526 0.0115

Neptune -66127-09-18 15:21 J -22431203.03 -22431202.86 -22431202.67 0.0089 0.0035

Neptune -66127-12-15 18:57 J -22431114.87 -22431114.71 -22431114.53 0.0089 0.0043

Neptune -66126-03-13 22:33 J -22431026.71 -22431026.56 -22431026.38 0.0089 0.0050

Neptune -66126-06-10 02:23 J -22430938.54 -22430938.40 -22430938.24 0.0089 0.0058

Neptune -66126-09-06 05:59 J -22430850.37 -22430850.25 -22430850.11 0.0089 0.0066

Neptune -66126-12-03 10:04 J -22430762.19 -22430762.08 -22430761.97 0.0089 0.0073

Neptune -66125-02-29 13:25 J -22430674.01 -22430673.94 -22430673.85 0.0089 0.0081

Neptune -66125-05-27 17:01 J -22430585.79 -22430585.79 -22430585.76 0.0089 0.0089

Moon -66125-11-17 08:23 J -22430412.19 -22430412.15 -22430412.11 0.2635 0.2536

Moon -66121-05-18 01:40 J -22429134.54 -22429134.43 -22429134.33 0.2691 0.0645

Earth -66121-05-18 01:40 J -22429134.53 -22429134.43 -22429134.32 0.2698 0.0669 *

Jupiter -66121-07-02 17:16 J -22429088.96 -22429088.78 -22429088.59 0.0499 0.0081

Venus -66120-01-05 03:06 J -22428902.52 -22428902.37 -22428902.21 0.3561 0.0435

Mars -66120-02-07 04:04 J -22428869.43 -22428869.33 -22428869.22 0.1973 0.0823

Mars -66116-10-18 22:47 J -22427154.64 -22427154.55 -22427154.46 0.1570 0.1329

Jupiter -66115-02-28 17:59 J -22427021.79 -22427021.75 -22427021.70 0.0526 0.0486

Saturn -66115-05-26 02:23 J -22426935.44 -22426935.40 -22426935.34 0.0305 0.0279

Jupiter -66115-05-28 23:30 J -22426932.65 -22426932.52 -22426932.39 0.0526 0.0004

Saturn -66115-08-22 15:35 J -22426846.96 -22426846.85 -22426846.73 0.0305 0.0139

Jupiter -66115-08-26 04:47 J -22426843.35 -22426843.30 -22426843.25 0.0525 0.0483

Saturn -66115-11-19 04:33 J -22426758.44 -22426758.31 -22426758.18 0.0304 0.0002

Saturn -66114-02-15 17:16 J -22426669.89 -22426669.78 -22426669.66 0.0304 0.0138

Saturn -66114-05-15 06:13 J -22426581.29 -22426581.24 -22426581.19 0.0304 0.0274

Mars -66111-06-30 11:45 J -22425439.04 -22425439.01 -22425438.98 0.1969 0.1886

Jupiter -66109-04-20 12:42 J -22424779.13 -22424778.97 -22424778.81 0.0500 0.0252

Jupiter -66109-07-20 00:57 J -22424688.58 -22424688.46 -22424688.35 0.0500 0.0392

Moon -66108-05-20 18:57 J -22424383.82 -22424383.71 -22424383.60 0.2695 0.0308

Earth -66108-05-20 19:25 J -22424383.80 -22424383.69 -22424383.58 0.2700 0.0427 *

Venus -66107-11-05 20:52 J -22423849.69 -22423849.63 -22423849.57 0.3819 0.2928

Mars -66106-03-11 00:57 J -22423724.62 -22423724.46 -22423724.29 0.1572 0.0449

Moon -66105-11-11 23:30 J -22423112.65 -22423112.52 -22423112.39 0.2632 0.1575

Earth -66105-11-12 00:42 J -22423112.60 -22423112.47 -22423112.33 0.2637 0.1385 *

Jupiter -66103-03-17 04:18 J -22422622.44 -22422622.32 -22422622.20 0.0526 0.0114

Jupiter -66103-06-14 09:35 J -22422533.19 -22422533.10 -22422533.01 0.0525 0.0369

Earth -66101-05-13 19:11 J -22421833.72 -22421833.70 -22421833.68 0.2694 0.2632

Moon -66101-05-13 19:40 J -22421833.71 -22421833.68 -22421833.64 0.2691 0.2520 *

Venus -66101-05-21 13:11 J -22421826.04 -22421825.95 -22421825.85 0.3818 0.1237

Saturn -66100-06-11 04:47 J -22421440.42 -22421440.30 -22421440.17 0.0257 0.0192

Saturn -66100-09-08 01:11 J -22421351.63 -22421351.45 -22421351.26 0.0258 0.0068

Mars -66100-10-26 13:11 J -22421303.02 -22421302.95 -22421302.87 0.1978 0.1482

Saturn -66100-12-05 21:35 J -22421262.79 -22421262.60 -22421262.41 0.0258 0.0057

Saturn -66099-03-04 17:59 J -22421173.88 -22421173.75 -22421173.61 0.0258 0.0183

Uranus -66098-11-12 13:11 J -22420556.06 -22420555.95 -22420555.84 0.0145 0.0118

Jupiter -66097-02-07 09:49 J -22420469.20 -22420469.09 -22420468.98 0.0500 0.0406

Uranus -66097-02-08 22:04 J -22420467.73 -22420467.58 -22420467.42 0.0145 0.0086

Uranus -66097-05-07 06:57 J -22420379.39 -22420379.21 -22420379.03 0.0145 0.0054

Jupiter -66097-05-07 21:49 J -22420378.75 -22420378.59 -22420378.42 0.0500 0.0238

Mars -66097-07-31 03:21 J -22420294.52 -22420294.36 -22420294.20 0.1574 0.0444

Uranus -66097-08-03 15:49 J -22420291.03 -22420290.84 -22420290.65 0.0145 0.0022

Uranus -66097-10-31 00:42 J -22420202.67 -22420202.47 -22420202.28 0.0145 0.0010

Uranus -66096-01-27 09:21 J -22420114.29 -22420114.11 -22420113.92 0.0144 0.0041

Uranus -66096-04-25 17:59 J -22420025.91 -22420025.75 -22420025.57 0.0144 0.0073

Uranus -66096-07-23 02:52 J -22419937.51 -22419937.38 -22419937.24 0.0144 0.0104

Uranus -66096-10-19 11:16 J -22419849.07 -22419849.03 -22419848.95 0.0144 0.0136

Venus -66096-12-05 05:30 J -22419802.37 -22419802.27 -22419802.17 0.3818 0.0487

Moon -66095-05-23 12:28 J -22419633.07 -22419632.98 -22419632.89 0.2704 0.1504

Earth -66095-05-23 13:11 J -22419633.04 -22419632.95 -22419632.86 0.2702 0.1515 *

Moon -66092-11-15 06:57 J -22418361.36 -22418361.21 -22418361.05 0.2634 0.0737

Earth -66092-11-15 08:37 J -22418361.29 -22418361.14 -22418360.99 0.2634 0.0902 *

Jupiter -66091-01-03 08:23 J -22418312.26 -22418312.15 -22418312.03 0.0526 0.0238

Jupiter -66091-04-02 13:40 J -22418223.04 -22418222.93 -22418222.81 0.0525 0.0247

Mars -66090-03-18 20:37 J -22417872.75 -22417872.64 -22417872.53 0.1976 0.0381

Venus -66090-06-20 22:04 J -22417778.66 -22417778.58 -22417778.50 0.3817 0.2210

Earth -66088-05-16 12:57 J -22417083.05 -22417082.96 -22417082.87 0.2696 0.1535

Moon -66088-05-16 13:11 J -22417083.04 -22417082.95 -22417082.86 0.2690 0.1491 *

Mars -66088-12-21 05:30 J -22416864.36 -22416864.27 -22416864.18 0.1576 0.1336

Saturn -66085-01-09 16:04 J -22416114.92 -22416114.83 -22416114.72 0.0305 0.0193

Jupiter -66085-02-24 19:11 J -22416068.88 -22416068.70 -22416068.51 0.0500 0.0085

Saturn -66085-04-07 05:16 J -22416026.41 -22416026.28 -22416026.16 0.0305 0.0054

Saturn -66085-07-04 17:59 J -22415937.87 -22415937.75 -22415937.62 0.0305 0.0086

Saturn -66085-10-01 06:57 J -22415849.30 -22415849.21 -22415849.13 0.0305 0.0223

Moon -66082-05-26 06:13 J -22414882.28 -22414882.24 -22414882.20 0.2709 0.2507

Earth -66082-05-26 06:42 J -22414882.25 -22414882.22 -22414882.19 0.2704 0.2593 *

Mars -66081-08-08 04:18 J -22414442.43 -22414442.32 -22414442.22 0.1973 0.0698

Jupiter -66080-10-22 12:42 J -22414002.06 -22414001.97 -22414001.88 0.0526 0.0359

Jupiter -66079-01-19 18:13 J -22413912.87 -22413912.74 -22413912.62 0.0526 0.0128

Mars -66076-04-18 23:30 J -22412727.58 -22412727.52 -22412727.47 0.1570 0.1464

Moon -66075-05-19 06:13 J -22412332.35 -22412332.24 -22412332.13 0.2692 0.0489

Earth -66075-05-19 06:28 J -22412332.33 -22412332.23 -22412332.12 0.2698 0.0453 *

Jupiter -66074-12-13 16:18 J -22411759.00 -22411758.82 -22411758.63 0.0499 0.0070

Mars -66072-12-29 11:30 J -22411012.06 -22411012.02 -22411011.97 0.1969 0.1793

Saturn -66071-10-29 03:06 J -22410708.44 -22410708.37 -22410708.29 0.0258 0.0234

Saturn -66070-01-25 23:16 J -22410619.69 -22410619.53 -22410619.35 0.0258 0.0111

Saturn -66070-04-24 19:40 J -22410530.87 -22410530.68 -22410530.48 0.0258 0.0016

Saturn -66070-07-22 16:18 J -22410441.98 -22410441.82 -22410441.66 0.0258 0.0139

Venus -66069-01-26 21:49 J -22410253.71 -22410253.59 -22410253.47 0.3561 0.2241

Jupiter -66068-08-10 17:01 J -22409691.84 -22409691.79 -22409691.74 0.0527 0.0480

Jupiter -66068-11-07 22:33 J -22409602.69 -22409602.56 -22409602.44 0.0526 0.0009

Jupiter -66067-02-05 03:49 J -22409513.38 -22409513.34 -22409513.30 0.0525 0.0490

Mars -66067-09-09 01:40 J -22409297.58 -22409297.43 -22409297.27 0.1572 0.0581

Venus -66064-08-12 04:47 J -22408229.43 -22408229.30 -22408229.16 0.3561 0.1778

Moon -66062-05-21 23:45 J -22407581.62 -22407581.51 -22407581.41 0.2696 0.0635

Earth -66062-05-22 00:13 J -22407581.59 -22407581.49 -22407581.38 0.2700 0.0646 *

Jupiter -66062-10-01 13:11 J -22407449.11 -22407448.95 -22407448.78 0.0499 0.0226

Jupiter -66062-12-31 01:11 J -22407358.54 -22407358.45 -22407358.34 0.0500 0.0419

Mars -66060-04-26 13:11 J -22406876.02 -22406875.95 -22406875.89 0.1978 0.1576

Moon -66059-11-13 06:13 J -22406310.39 -22406310.24 -22406310.09 0.2632 0.0999

Earth -66059-11-13 07:25 J -22406310.34 -22406310.19 -22406310.04 0.2636 0.0957 *

Mars -66057-01-30 04:04 J -22405867.50 -22405867.33 -22405867.17 0.1574 0.0308

Saturn -66056-05-28 16:33 J -22405382.88 -22405382.81 -22405382.73 0.0305 0.0248

Saturn -66056-08-25 05:45 J -22405294.38 -22405294.26 -22405294.14 0.0305 0.0108

Jupiter -66056-08-27 03:21 J -22405292.48 -22405292.36 -22405292.24 0.0526 0.0106

Saturn -66056-11-21 18:42 J -22405205.85 -22405205.72 -22405205.59 0.0304 0.0031

Jupiter -66056-11-24 08:37 J -22405203.23 -22405203.14 -22405203.05 0.0525 0.0378

Saturn -66055-02-18 07:25 J -22405117.29 -22405117.19 -22405117.08 0.0304 0.0169

Earth -66055-05-14 23:59 J -22405031.55 -22405031.50 -22405031.46 0.2694 0.2409

Moon -66055-05-15 00:28 J -22405031.52 -22405031.48 -22405031.43 0.2690 0.2392 *

Uranus -66054-07-31 12:28 J -22404589.03 -22404588.98 -22404588.91 0.0133 0.0118

Uranus -66054-10-27 15:35 J -22404500.93 -22404500.85 -22404500.76 0.0133 0.0101

Uranus -66053-01-23 18:28 J -22404412.82 -22404412.73 -22404412.62 0.0134 0.0084

Uranus -66053-04-20 21:35 J -22404324.71 -22404324.60 -22404324.49 0.0134 0.0068

Uranus -66053-07-18 00:28 J -22404236.60 -22404236.48 -22404236.36 0.0134 0.0051

Uranus -66053-10-14 03:21 J -22404148.48 -22404148.36 -22404148.23 0.0134 0.0035

Uranus -66052-01-10 06:28 J -22404060.36 -22404060.23 -22404060.10 0.0134 0.0018

Uranus -66052-04-08 09:21 J -22403972.24 -22403972.11 -22403971.98 0.0134 0.0001

Uranus -66052-07-05 12:13 J -22403884.12 -22403883.99 -22403883.86 0.0134 0.0016

Uranus -66052-10-01 15:06 J -22403795.99 -22403795.87 -22403795.74 0.0134 0.0033

Uranus -66052-12-28 18:13 J -22403707.86 -22403707.74 -22403707.62 0.0134 0.0050

Uranus -66051-03-26 21:06 J -22403619.73 -22403619.62 -22403619.50 0.0135 0.0067

Uranus -66051-06-23 00:13 J -22403531.59 -22403531.49 -22403531.39 0.0135 0.0084

Mars -66051-09-16 20:52 J -22403445.74 -22403445.63 -22403445.52 0.1976 0.0508

Uranus -66051-09-19 03:06 J -22403443.45 -22403443.37 -22403443.28 0.0135 0.0101

Uranus -66051-12-16 05:59 J -22403355.30 -22403355.25 -22403355.18 0.0135 0.0118

Venus -66050-06-12 18:28 J -22403176.81 -22403176.73 -22403176.65 0.3819 0.2330

Jupiter -66050-07-20 08:37 J -22403139.25 -22403139.14 -22403139.02 0.0499 0.0397

Jupiter -66050-10-18 20:37 J -22403048.80 -22403048.64 -22403048.47 0.0500 0.0247

Neptune -66049-05-22 06:28 J -22402832.23 -22402832.23 -22402832.21 0.0089 0.0088

Moon -66049-05-23 17:16 J -22402830.87 -22402830.78 -22402830.69 0.2705 0.1591

Earth -66049-05-23 17:59 J -22402830.84 -22402830.75 -22402830.67 0.2702 0.1730 *

Neptune -66049-08-18 07:54 J -22402744.21 -22402744.17 -22402744.12 0.0089 0.0083

Neptune -66049-11-14 09:06 J -22402656.17 -22402656.12 -22402656.05 0.0089 0.0078

Neptune -66048-02-10 10:33 J -22402568.13 -22402568.06 -22402567.98 0.0089 0.0073

Neptune -66048-05-09 11:45 J -22402480.08 -22402480.01 -22402479.91 0.0089 0.0068

Mars -66048-06-21 06:13 J -22402437.35 -22402437.24 -22402437.13 0.1576 0.1194

Neptune -66048-08-05 12:57 J -22402392.04 -22402391.96 -22402391.85 0.0089 0.0063

Neptune -66048-11-01 14:37 J -22402303.99 -22402303.89 -22402303.79 0.0089 0.0057

Neptune -66047-01-28 15:49 J -22402215.94 -22402215.84 -22402215.73 0.0089 0.0052

Neptune -66047-04-26 17:16 J -22402127.89 -22402127.78 -22402127.66 0.0089 0.0047

Neptune -66047-07-23 18:28 J -22402039.84 -22402039.73 -22402039.60 0.0089 0.0042

Neptune -66047-10-19 19:54 J -22401951.79 -22401951.67 -22401951.55 0.0089 0.0036

Neptune -66046-01-15 21:21 J -22401863.74 -22401863.61 -22401863.49 0.0089 0.0031

Neptune -66046-04-13 22:33 J -22401775.68 -22401775.56 -22401775.43 0.0089 0.0026

Neptune -66046-07-10 23:59 J -22401687.63 -22401687.50 -22401687.37 0.0089 0.0020

Neptune -66046-10-07 01:11 J -22401599.58 -22401599.45 -22401599.32 0.0089 0.0016

Moon -66046-11-16 13:40 J -22401559.07 -22401558.93 -22401558.78 0.2635 0.1127

Earth -66046-11-16 15:35 J -22401558.99 -22401558.85 -22401558.71 0.2634 0.1341 *

Neptune -66045-01-03 02:37 J -22401511.52 -22401511.39 -22401511.26 0.0089 0.0010

Neptune -66045-03-31 03:49 J -22401423.47 -22401423.34 -22401423.20 0.0089 0.0006

Neptune -66045-06-27 05:16 J -22401335.41 -22401335.28 -22401335.15 0.0089 0.0001

Neptune -66045-09-23 06:28 J -22401247.36 -22401247.23 -22401247.09 0.0089 0.0006

Neptune -66045-12-20 07:54 J -22401159.30 -22401159.17 -22401159.04 0.0089 0.0011

Venus -66045-12-26 10:47 J -22401153.15 -22401153.05 -22401152.95 0.3818 0.0639

Neptune -66044-03-18 09:06 J -22401071.25 -22401071.12 -22401070.99 0.0089 0.0016

Neptune -66044-06-14 10:33 J -22400983.19 -22400983.06 -22400982.93 0.0089 0.0021

Jupiter -66044-06-15 08:09 J -22400982.28 -22400982.16 -22400982.05 0.0526 0.0220

Neptune -66044-09-10 11:45 J -22400895.13 -22400895.01 -22400894.88 0.0089 0.0026

Jupiter -66044-09-12 13:25 J -22400893.05 -22400892.94 -22400892.83 0.0525 0.0265

Neptune -66044-12-07 12:57 J -22400807.07 -22400806.96 -22400806.83 0.0089 0.0032

Neptune -66043-03-05 14:23 J -22400719.02 -22400718.90 -22400718.78 0.0089 0.0037

Neptune -66043-06-01 15:35 J -22400630.96 -22400630.85 -22400630.73 0.0089 0.0042

Neptune -66043-08-28 17:01 J -22400542.90 -22400542.79 -22400542.68 0.0089 0.0047

Neptune -66043-11-24 18:28 J -22400454.84 -22400454.73 -22400454.63 0.0089 0.0052

Neptune -66042-02-20 19:25 J -22400366.78 -22400366.69 -22400366.58 0.0089 0.0058

Earth -66042-05-17 17:45 J -22400280.86 -22400280.76 -22400280.67 0.2696 0.1317

Moon -66042-05-17 17:59 J -22400280.85 -22400280.75 -22400280.66 0.2690 0.1265 *

Neptune -66042-05-19 20:37 J -22400278.72 -22400278.64 -22400278.53 0.0089 0.0063

Neptune -66042-08-15 22:04 J -22400190.66 -22400190.58 -22400190.49 0.0089 0.0068

Neptune -66042-11-11 23:16 J -22400102.59 -22400102.53 -22400102.44 0.0089 0.0073

Mars -66041-02-07 04:18 J -22400015.43 -22400015.32 -22400015.22 0.1973 0.0593

Neptune -66041-02-08 00:42 J -22400014.52 -22400014.47 -22400014.40 0.0089 0.0078

Neptune -66041-05-06 01:54 J -22399926.45 -22399926.42 -22399926.36 0.0089 0.0083

Saturn -66041-06-13 21:49 J -22399887.74 -22399887.59 -22399887.43 0.0257 0.0151

Neptune -66041-08-02 03:21 J -22399838.37 -22399838.36 -22399838.34 0.0089 0.0088

Saturn -66041-09-10 18:13 J -22399798.93 -22399798.74 -22399798.55 0.0258 0.0028

Saturn -66041-12-08 14:37 J -22399710.06 -22399709.89 -22399709.71 0.0258 0.0097

Saturn -66040-03-07 11:01 J -22399621.13 -22399621.04 -22399620.94 0.0258 0.0223

Venus -66039-07-12 03:21 J -22399129.46 -22399129.36 -22399129.27 0.3818 0.1100

Jupiter -66038-08-06 17:45 J -22398738.94 -22398738.76 -22398738.57 0.0500 0.0092

Venus -66033-01-25 19:40 J -22397105.74 -22397105.68 -22397105.61 0.3817 0.2836

Jupiter -66032-04-03 12:13 J -22396672.08 -22396671.99 -22396671.89 0.0526 0.0343

Mars -66032-06-29 11:45 J -22396585.07 -22396585.01 -22396584.95 0.1970 0.1669

Jupiter -66032-07-01 17:45 J -22396582.89 -22396582.76 -22396582.64 0.0525 0.0143

Moon -66029-05-19 11:01 J -22395530.15 -22395530.04 -22395529.93 0.2692 0.0261

Earth -66029-05-19 11:16 J -22395530.13 -22395530.03 -22395529.92 0.2698 0.0252 *

Mars -66027-03-10 02:23 J -22394870.55 -22394870.40 -22394870.25 0.1572 0.0717

Saturn -66027-10-15 17:01 J -22394650.80 -22394650.79 -22394650.77 0.0305 0.0302

Saturn -66026-01-12 06:13 J -22394562.35 -22394562.24 -22394562.13 0.0305 0.0162

Saturn -66026-04-10 19:11 J -22394473.83 -22394473.70 -22394473.57 0.0305 0.0022

Jupiter -66026-05-25 15:06 J -22394429.05 -22394428.87 -22394428.68 0.0500 0.0061

Saturn -66026-07-08 08:09 J -22394385.28 -22394385.16 -22394385.04 0.0305 0.0116

Saturn -66026-10-04 20:52 J -22394296.70 -22394296.63 -22394296.56 0.0305 0.0253

Pluto -66025-01-28 00:57 J -22394181.46 -22394181.46 -22394181.42 0.0061 0.0060

Pluto -66025-04-25 01:54 J -22394093.47 -22394093.42 -22394093.32 0.0061 0.0056

Pluto -66025-07-22 03:06 J -22394005.44 -22394005.37 -22394005.25 0.0061 0.0051

Pluto -66025-10-18 04:18 J -22393917.41 -22393917.32 -22393917.18 0.0061 0.0046

Pluto -66024-01-14 05:30 J -22393829.38 -22393829.27 -22393829.11 0.0061 0.0041

Pluto -66024-04-12 06:42 J -22393741.34 -22393741.22 -22393741.05 0.0061 0.0036

Pluto -66024-07-09 07:54 J -22393653.30 -22393653.17 -22393652.99 0.0061 0.0031

Pluto -66024-10-05 09:35 J -22393565.26 -22393565.10 -22393564.93 0.0061 0.0026

Pluto -66023-01-01 10:47 J -22393477.22 -22393477.05 -22393476.88 0.0061 0.0020

Pluto -66023-03-30 11:59 J -22393389.17 -22393389.00 -22393388.82 0.0061 0.0015

Pluto -66023-06-26 13:11 J -22393301.13 -22393300.95 -22393300.77 0.0061 0.0010

Pluto -66023-09-22 14:23 J -22393213.08 -22393212.90 -22393212.72 0.0061 0.0005

Pluto -66023-12-19 15:35 J -22393125.03 -22393124.85 -22393124.66 0.0061 0.0002

Pluto -66022-03-17 16:47 J -22393036.97 -22393036.80 -22393036.61 0.0061 0.0006

Pluto -66022-06-13 18:13 J -22392948.92 -22392948.74 -22392948.56 0.0062 0.0011

Pluto -66022-09-09 19:25 J -22392860.86 -22392860.69 -22392860.51 0.0062 0.0016

Pluto -66022-12-06 20:23 J -22392772.81 -22392772.65 -22392772.47 0.0062 0.0022

Pluto -66021-03-03 21:49 J -22392684.75 -22392684.59 -22392684.42 0.0062 0.0027

Pluto -66021-05-30 23:01 J -22392596.69 -22392596.54 -22392596.38 0.0062 0.0032

Pluto -66021-08-26 23:59 J -22392508.62 -22392508.50 -22392508.33 0.0062 0.0038

Mars -66021-10-25 13:11 J -22392449.00 -22392448.95 -22392448.89 0.1978 0.1702

Pluto -66021-11-23 01:25 J -22392420.55 -22392420.44 -22392420.29 0.0062 0.0043

Jupiter -66020-01-20 16:33 J -22392361.86 -22392361.81 -22392361.75 0.0526 0.0464

Pluto -66020-02-19 02:37 J -22392332.48 -22392332.39 -22392332.26 0.0062 0.0049

Jupiter -66020-04-19 22:04 J -22392272.71 -22392272.58 -22392272.46 0.0526 0.0024

Pluto -66020-05-18 04:04 J -22392244.40 -22392244.33 -22392244.23 0.0062 0.0054

Jupiter -66020-07-18 03:06 J -22392183.40 -22392183.37 -22392183.33 0.0525 0.0504

Pluto -66020-08-14 05:01 J -22392156.31 -22392156.29 -22392156.21 0.0062 0.0061

Mars -66018-07-31 04:33 J -22391440.47 -22391440.31 -22391440.14 0.1574 0.0177

Moon -66016-05-22 04:18 J -22390779.42 -22390779.32 -22390779.21 0.2699 0.0769

Earth -66016-05-22 05:01 J -22390779.39 -22390779.29 -22390779.19 0.2700 0.0866 *

Jupiter -66014-03-13 12:28 J -22390119.15 -22390118.98 -22390118.81 0.0499 0.0213

Jupiter -66014-06-12 00:28 J -22390028.57 -22390028.48 -22390028.39 0.0500 0.0432

Uranus -66014-09-05 11:16 J -22389943.04 -22389943.03 -22389942.99 0.0145 0.0144

Uranus -66014-12-02 20:09 J -22389854.77 -22389854.66 -22389854.52 0.0145 0.0112

Uranus -66013-02-29 05:01 J -22389766.44 -22389766.29 -22389766.11 0.0145 0.0080

Uranus -66013-05-27 14:09 J -22389678.09 -22389677.91 -22389677.72 0.0145 0.0047

Uranus -66013-08-23 23:01 J -22389589.73 -22389589.54 -22389589.34 0.0145 0.0015

Venus -66013-09-01 23:30 J -22389580.67 -22389580.52 -22389580.37 0.3561 0.0871

Moon -66013-11-13 12:57 J -22389508.12 -22389507.96 -22389507.81 0.2632 0.0752

Earth -66013-11-13 14:09 J -22389508.06 -22389507.91 -22389507.75 0.2636 0.0526 *

Uranus -66013-11-20 07:54 J -22389501.36 -22389501.17 -22389500.97 0.0145 0.0017

Uranus -66012-02-16 16:33 J -22389412.99 -22389412.81 -22389412.62 0.0145 0.0049

Uranus -66012-05-16 01:11 J -22389324.60 -22389324.45 -22389324.27 0.0144 0.0081

Uranus -66012-08-12 10:18 J -22389236.19 -22389236.07 -22389235.95 0.0144 0.0112

Saturn -66012-10-31 19:54 J -22389155.78 -22389155.67 -22389155.54 0.0257 0.0195

Uranus -66012-11-08 18:42 J -22389147.73 -22389147.72 -22389147.68 0.0144 0.0143

Saturn -66011-01-28 16:18 J -22389067.00 -22389066.82 -22389066.63 0.0258 0.0071

Mars -66011-03-17 20:37 J -22389018.75 -22389018.64 -22389018.53 0.1976 0.0603

Saturn -66011-04-27 12:42 J -22388978.16 -22388977.97 -22388977.78 0.0258 0.0054

Saturn -66011-07-25 09:06 J -22388889.25 -22388889.12 -22388888.98 0.0258 0.0179

Earth -66009-05-15 04:47 J -22388229.36 -22388229.30 -22388229.24 0.2694 0.2192

Moon -66009-05-15 05:16 J -22388229.35 -22388229.28 -22388229.21 0.2690 0.2057 *

Mars -66009-12-20 06:57 J -22388010.33 -22388010.21 -22388010.09 0.1576 0.1062

Jupiter -66008-02-06 02:23 J -22387962.53 -22387962.40 -22387962.28 0.0526 0.0099

Jupiter -66008-05-06 07:40 J -22387873.26 -22387873.18 -22387873.10 0.0526 0.0385

Venus -66007-03-19 06:28 J -22387556.30 -22387556.23 -22387556.16 0.3562 0.3116

Moon -66003-05-24 22:04 J -22386028.66 -22386028.58 -22386028.51 0.2705 0.1936

Earth -66003-05-24 22:47 J -22386028.63 -22386028.55 -22386028.48 0.2702 0.1948 *

Jupiter -66003-12-30 09:21 J -22385809.23 -22385809.11 -22385808.98 0.0499 0.0369

Jupiter -66002-03-30 21:21 J -22385718.76 -22385718.61 -22385718.45 0.0500 0.0275

Mars -66002-08-08 04:04 J -22385588.44 -22385588.33 -22385588.22 0.1973 0.0484

66TH MILLENNIUM BCE

This is a list of transits of Mercury in the 66th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Moon -66000-11-16 20:23 J -22384756.77 -22384756.65 -22384756.53 0.2634 0.1654

Earth -66000-11-16 22:18 J -22384756.69 -22384756.57 -22384756.45 0.2633 0.1771 *

Venus -65999-07-03 23:45 J -22384527.55 -22384527.51 -22384527.47 0.3819 0.3426

Saturn -65997-05-31 06:42 J -22383830.31 -22383830.22 -22383830.13 0.0305 0.0218

Saturn -65997-08-27 19:40 J -22383741.81 -22383741.68 -22383741.56 0.0305 0.0079

Saturn -65997-11-24 08:23 J -22383653.27 -22383653.15 -22383653.02 0.0304 0.0061

Jupiter -65997-11-25 07:11 J -22383652.32 -22383652.20 -22383652.08 0.0526 0.0211

Saturn -65996-02-20 21:21 J -22383564.71 -22383564.61 -22383564.51 0.0304 0.0197

Jupiter -65996-02-22 12:28 J -22383563.09 -22383562.98 -22383562.87 0.0526 0.0274

Moon -65996-05-17 22:33 J -22383478.66 -22383478.56 -22383478.46 0.2690 0.1121

Earth -65996-05-17 22:33 J -22383478.66 -22383478.56 -22383478.46 0.2696 0.1097 *

Venus -65993-01-17 16:04 J -22382503.92 -22382503.83 -22382503.74 0.3819 0.1735

Mars -65993-12-28 11:45 J -22382158.08 -22382158.01 -22382157.94 0.1969 0.1549

Jupiter -65990-01-16 16:47 J -22381408.99 -22381408.80 -22381408.62 0.0500 0.0102

Venus -65988-08-02 08:23 J -22380480.25 -22380480.15 -22380480.04 0.3818 0.0141

Mars -65988-09-08 03:06 J -22380443.51 -22380443.37 -22380443.22 0.1572 0.0861

Jupiter -65985-09-13 11:59 J -22379342.10 -22379342.00 -22379341.90 0.0526 0.0325

Jupiter -65985-12-11 17:16 J -22379252.90 -22379252.78 -22379252.66 0.0526 0.0161

Moon -65983-05-20 15:49 J -22378727.95 -22378727.84 -22378727.73 0.2692 0.0037

Earth -65983-05-20 16:18 J -22378727.93 -22378727.82 -22378727.72 0.2699 0.0115 *

Venus -65982-02-16 00:57 J -22378456.55 -22378456.46 -22378456.37 0.3818 0.1708

Saturn -65982-03-20 18:42 J -22378423.80 -22378423.72 -22378423.65 0.0257 0.0235

Saturn -65982-06-17 14:52 J -22378335.05 -22378334.88 -22378334.71 0.0257 0.0112

Saturn -65982-09-14 11:01 J -22378246.23 -22378246.04 -22378245.84 0.0258 0.0014

Saturn -65982-12-12 07:40 J -22378157.35 -22378157.18 -22378157.02 0.0258 0.0137

Mars -65981-04-25 13:11 J -22378021.99 -22378021.95 -22378021.91 0.1978 0.1814

Moon -65980-11-11 12:13 J -22377457.03 -22377456.99 -22377456.94 0.2632 0.2528

Earth -65980-11-11 13:11 J -22377457.02 -22377456.95 -22377456.88 0.2638 0.2365 *

Jupiter -65979-11-04 13:40 J -22377099.11 -22377098.93 -22377098.74 0.0500 0.0054

Mars -65978-01-29 05:30 J -22377013.44 -22377013.27 -22377013.10 0.1574 0.0051

Venus -65977-08-31 17:30 J -22376432.81 -22376432.77 -22376432.73 0.3817 0.3462

Jupiter -65973-07-02 16:04 J -22375031.89 -22375031.83 -22375031.76 0.0526 0.0448

Jupiter -65973-09-29 21:35 J -22374942.73 -22374942.60 -22374942.47 0.0526 0.0038

Jupiter -65973-12-28 02:52 J -22374853.40 -22374853.38 -22374853.37 0.0525 0.0520

Mars -65972-09-15 20:37 J -22374591.74 -22374591.64 -22374591.53 0.1976 0.0722

Moon -65970-05-23 09:06 J -22373977.22 -22373977.12 -22373977.02 0.2700 0.1011

Earth -65970-05-23 09:49 J -22373977.19 -22373977.09 -22373976.99 0.2700 0.1080 *

Uranus -65970-05-24 17:45 J -22373975.80 -22373975.76 -22373975.72 0.0133 0.0127

Uranus -65970-08-20 20:23 J -22373887.71 -22373887.65 -22373887.57 0.0133 0.0111

Uranus -65970-11-16 23:30 J -22373799.61 -22373799.52 -22373799.42 0.0134 0.0094

Uranus -65969-02-13 02:23 J -22373711.50 -22373711.40 -22373711.29 0.0134 0.0077

Uranus -65969-05-11 05:16 J -22373623.39 -22373623.28 -22373623.15 0.0134 0.0061

Mars -65969-06-20 07:40 J -22373583.32 -22373583.18 -22373583.05 0.1576 0.0926

Uranus -65969-08-07 08:23 J -22373535.27 -22373535.15 -22373535.03 0.0134 0.0044

Uranus -65969-11-03 11:16 J -22373447.15 -22373447.03 -22373446.90 0.0134 0.0027

Uranus -65968-01-30 14:23 J -22373359.03 -22373358.90 -22373358.77 0.0134 0.0011

Uranus -65968-04-28 17:16 J -22373270.91 -22373270.78 -22373270.65 0.0134 0.0006

Uranus -65968-07-25 20:09 J -22373182.79 -22373182.66 -22373182.53 0.0134 0.0023

Saturn -65968-10-18 06:57 J -22373098.26 -22373098.21 -22373098.15 0.0305 0.0273

Uranus -65968-10-21 23:01 J -22373094.66 -22373094.54 -22373094.41 0.0134 0.0041

Saturn -65967-01-14 19:54 J -22373009.78 -22373009.67 -22373009.55 0.0305 0.0134

Uranus -65967-01-18 02:09 J -22373006.53 -22373006.41 -22373006.29 0.0135 0.0057

Saturn -65967-04-13 08:52 J -22372921.25 -22372921.13 -22372921.00 0.0305 0.0012

Uranus -65967-04-16 05:01 J -22372918.39 -22372918.29 -22372918.18 0.0135 0.0074

Saturn -65967-07-10 21:49 J -22372832.70 -22372832.59 -22372832.48 0.0305 0.0144

Uranus -65967-07-13 07:54 J -22372830.26 -22372830.17 -22372830.07 0.0135 0.0092

Jupiter -65967-08-23 11:16 J -22372789.20 -22372789.03 -22372788.86 0.0500 0.0205

Saturn -65967-10-07 10:33 J -22372744.10 -22372744.06 -22372744.01 0.0305 0.0281

Uranus -65967-10-09 10:47 J -22372742.11 -22372742.05 -22372741.96 0.0135 0.0109

Moon -65967-11-14 19:25 J -22372705.86 -22372705.69 -22372705.53 0.2634 0.0152

Earth -65967-11-14 21:06 J -22372705.78 -22372705.62 -22372705.46 0.2636 0.0111 *

Jupiter -65967-11-21 23:16 J -22372698.61 -22372698.53 -22372698.44 0.0500 0.0442

Uranus -65966-01-05 13:54 J -22372653.96 -22372653.92 -22372653.87 0.0135 0.0126

Neptune -65966-08-05 01:40 J -22372442.46 -22372442.43 -22372442.38 0.0089 0.0087

Neptune -65966-11-01 05:01 J -22372354.35 -22372354.29 -22372354.19 0.0089 0.0080

Neptune -65965-01-28 08:52 J -22372266.23 -22372266.13 -22372266.01 0.0089 0.0072

Neptune -65965-04-25 12:13 J -22372178.10 -22372177.99 -22372177.84 0.0089 0.0065

Neptune -65965-07-22 16:04 J -22372089.97 -22372089.83 -22372089.67 0.0089 0.0057

Neptune -65965-10-18 19:40 J -22372001.83 -22372001.68 -22372001.50 0.0089 0.0050

Neptune -65964-01-14 23:30 J -22371913.69 -22371913.52 -22371913.34 0.0089 0.0042

Neptune -65964-04-13 03:21 J -22371825.54 -22371825.36 -22371825.18 0.0089 0.0034

Neptune -65964-07-10 06:42 J -22371737.40 -22371737.22 -22371737.02 0.0089 0.0027

Neptune -65964-10-06 10:33 J -22371649.25 -22371649.06 -22371648.87 0.0089 0.0019

Neptune -65963-01-02 14:09 J -22371561.10 -22371560.91 -22371560.71 0.0089 0.0011

Neptune -65963-03-31 17:59 J -22371472.95 -22371472.75 -22371472.56 0.0089 0.0004

Earth -65963-05-16 09:35 J -22371427.17 -22371427.10 -22371427.03 0.2694 0.1967

Moon -65963-05-16 10:04 J -22371427.15 -22371427.08 -22371427.00 0.2690 0.1962 *

Neptune -65963-06-27 21:35 J -22371384.80 -22371384.60 -22371384.41 0.0089 0.0004

Neptune -65963-09-24 01:11 J -22371296.64 -22371296.45 -22371296.25 0.0089 0.0012

Neptune -65963-12-21 04:47 J -22371208.49 -22371208.30 -22371208.10 0.0089 0.0019

Mars -65962-02-06 04:18 J -22371161.44 -22371161.32 -22371161.21 0.1973 0.0364

Neptune -65962-03-19 08:37 J -22371120.33 -22371120.14 -22371119.96 0.0089 0.0027

Neptune -65962-06-15 11:59 J -22371032.17 -22371032.00 -22371031.81 0.0089 0.0035

Neptune -65962-09-11 15:35 J -22370944.01 -22370943.85 -22370943.66 0.0089 0.0043

Neptune -65962-12-08 19:25 J -22370855.84 -22370855.69 -22370855.52 0.0089 0.0050

Neptune -65961-03-05 23:01 J -22370767.68 -22370767.54 -22370767.38 0.0089 0.0058

Neptune -65961-06-02 02:23 J -22370679.51 -22370679.40 -22370679.24 0.0089 0.0066

Jupiter -65961-07-19 01:54 J -22370632.54 -22370632.42 -22370632.30 0.0526 0.0083

Neptune -65961-08-29 06:28 J -22370591.33 -22370591.23 -22370591.11 0.0089 0.0073

Jupiter -65961-10-16 07:11 J -22370543.28 -22370543.20 -22370543.12 0.0525 0.0400

Neptune -65961-11-25 09:49 J -22370503.15 -22370503.09 -22370502.99 0.0089 0.0081

Neptune -65960-02-21 13:54 J -22370414.93 -22370414.92 -22370414.90 0.0089 0.0088

Moon -65957-05-25 02:52 J -22369226.45 -22369226.38 -22369226.31 0.2706 0.2050

Earth -65957-05-25 03:35 J -22369226.42 -22369226.35 -22369226.29 0.2703 0.2164 *

Venus -65956-04-09 01:11 J -22368907.61 -22368907.45 -22368907.30 0.3561 0.0498

Jupiter -65955-06-11 08:23 J -22368479.28 -22368479.15 -22368479.02 0.0499 0.0357

Jupiter -65955-09-09 20:23 J -22368388.80 -22368388.65 -22368388.49 0.0500 0.0288

Moon -65954-11-18 03:21 J -22367954.47 -22367954.36 -22367954.26 0.2634 0.1962

Earth -65954-11-18 05:01 J -22367954.37 -22367954.29 -22367954.20 0.2633 0.2209 *

Mars -65953-06-28 11:45 J -22367731.09 -22367731.01 -22367730.94 0.1969 0.1453

Saturn -65953-11-03 12:42 J -22367603.11 -22367602.97 -22367602.81 0.0257 0.0156

Saturn -65952-01-31 09:06 J -22367514.31 -22367514.12 -22367513.93 0.0258 0.0032

Saturn -65952-04-30 05:30 J -22367425.45 -22367425.27 -22367425.09 0.0258 0.0093

Saturn -65952-07-28 01:54 J -22367336.51 -22367336.42 -22367336.31 0.0258 0.0219

Moon -65950-05-19 03:21 J -22366676.47 -22366676.36 -22366676.26 0.2690 0.0830

Earth -65950-05-19 03:21 J -22366676.47 -22366676.36 -22366676.26 0.2697 0.0879 *

Jupiter -65949-05-07 06:13 J -22366322.36 -22366322.24 -22366322.12 0.0526 0.0204

Jupiter -65949-08-04 11:30 J -22366233.13 -22366233.02 -22366232.91 0.0526 0.0281

Mars -65948-03-09 03:49 J -22366016.47 -22366016.34 -22366016.21 0.1572 0.0992

Jupiter -65943-06-28 17:16 J -22364078.96 -22364078.78 -22364078.59 0.0500 0.0131

Venus -65942-02-07 21:21 J -22363854.67 -22363854.61 -22363854.54 0.3819 0.2830

Mars -65942-10-25 13:11 J -22363594.98 -22363594.95 -22363594.93 0.1979 0.1915

Mars -65939-07-30 06:13 J -22362586.41 -22362586.24 -22362586.08 0.1574 0.0113

Saturn -65938-06-03 20:37 J -22362277.74 -22362277.64 -22362277.54 0.0305 0.0187

Saturn -65938-08-31 09:35 J -22362189.23 -22362189.10 -22362188.97 0.0304 0.0049

Saturn -65938-11-27 22:33 J -22362100.69 -22362100.56 -22362100.44 0.0304 0.0090

Jupiter -65937-02-24 11:01 J -22362012.14 -22362012.04 -22362011.94 0.0526 0.0317

Saturn -65937-02-24 11:16 J -22362012.11 -22362012.03 -22362011.94 0.0304 0.0226 *

Moon -65937-05-20 20:37 J -22361925.75 -22361925.64 -22361925.53 0.2694 0.0150

Earth -65937-05-20 21:06 J -22361925.73 -22361925.62 -22361925.52 0.2699 0.0240 *

Jupiter -65937-05-23 16:18 J -22361922.94 -22361922.82 -22361922.70 0.0526 0.0170

Venus -65937-08-23 13:40 J -22361831.02 -22361830.93 -22361830.83 0.3819 0.1137

Moon -65934-11-12 18:57 J -22360654.82 -22360654.71 -22360654.60 0.2632 0.1938

Earth -65934-11-12 19:54 J -22360654.78 -22360654.67 -22360654.56 0.2638 0.1940 *

Pluto -65932-03-09 00:42 J -22360172.52 -22360172.47 -22360172.40 0.0084 0.0075

Mars -65932-03-16 20:52 J -22360164.74 -22360164.63 -22360164.53 0.1976 0.0845

Pluto -65932-06-05 02:23 J -22360084.49 -22360084.40 -22360084.31 0.0084 0.0064

Pluto -65932-09-01 03:49 J -22359996.44 -22359996.34 -22359996.23 0.0084 0.0054

Pluto -65932-11-28 05:30 J -22359908.39 -22359908.27 -22359908.15 0.0084 0.0043

Pluto -65931-02-24 06:57 J -22359820.33 -22359820.21 -22359820.08 0.0084 0.0033

Venus -65931-03-09 06:13 J -22359807.35 -22359807.24 -22359807.14 0.3818 0.0611

Jupiter -65931-04-16 12:42 J -22359769.16 -22359768.97 -22359768.79 0.0500 0.0044

Pluto -65931-05-23 08:23 J -22359732.28 -22359732.15 -22359732.01 0.0084 0.0023

Pluto -65931-08-19 10:04 J -22359644.22 -22359644.08 -22359643.94 0.0083 0.0012

Pluto -65931-11-15 11:30 J -22359556.16 -22359556.02 -22359555.88 0.0083 0.0002

Pluto -65930-02-11 12:57 J -22359468.10 -22359467.96 -22359467.82 0.0083 0.0009

Pluto -65930-05-10 14:23 J -22359380.03 -22359379.90 -22359379.76 0.0083 0.0019

Pluto -65930-08-06 15:49 J -22359291.97 -22359291.84 -22359291.71 0.0083 0.0029

Uranus -65930-09-25 20:37 J -22359241.72 -22359241.64 -22359241.56 0.0145 0.0132

Pluto -65930-11-02 17:01 J -22359203.90 -22359203.79 -22359203.65 0.0083 0.0039

Mars -65930-12-20 08:23 J -22359156.29 -22359156.15 -22359156.00 0.1576 0.0782

Uranus -65930-12-23 05:30 J -22359153.41 -22359153.27 -22359153.13 0.0145 0.0100

Pluto -65929-01-29 18:42 J -22359115.83 -22359115.72 -22359115.60 0.0083 0.0048

Uranus -65929-03-20 14:23 J -22359065.08 -22359064.90 -22359064.73 0.0145 0.0067

Pluto -65929-04-26 20:09 J -22359027.76 -22359027.66 -22359027.56 0.0083 0.0058

Uranus -65929-06-16 23:01 J -22358976.72 -22358976.54 -22358976.34 0.0145 0.0036

Pluto -65929-07-23 21:21 J -22358939.68 -22358939.61 -22358939.52 0.0082 0.0068

Uranus -65929-09-13 07:54 J -22358888.36 -22358888.17 -22358887.97 0.0145 0.0004

Pluto -65929-10-19 22:33 J -22358851.59 -22358851.56 -22358851.50 0.0082 0.0078

Uranus -65929-12-10 16:47 J -22358799.99 -22358799.80 -22358799.61 0.0145 0.0029

Uranus -65928-03-09 01:25 J -22358711.61 -22358711.44 -22358711.25 0.0145 0.0061

Uranus -65928-06-05 10:04 J -22358623.22 -22358623.08 -22358622.92 0.0144 0.0092

Uranus -65928-09-01 18:57 J -22358534.80 -22358534.71 -22358534.60 0.0144 0.0124

Venus -65926-09-22 22:33 J -22357783.64 -22357783.56 -22357783.48 0.3818 0.2329

Jupiter -65926-12-13 15:49 J -22357701.91 -22357701.84 -22357701.77 0.0526 0.0431

Jupiter -65925-03-11 21:06 J -22357612.74 -22357612.62 -22357612.49 0.0526 0.0057

Moon -65924-05-23 13:54 J -22357175.02 -22357174.92 -22357174.82 0.2701 0.1216

Earth -65924-05-23 14:37 J -22357174.98 -22357174.89 -22357174.79 0.2701 0.1297 *

Saturn -65923-03-23 11:16 J -22356871.14 -22356871.03 -22356870.90 0.0258 0.0196

Saturn -65923-06-20 07:40 J -22356782.36 -22356782.18 -22356781.99 0.0258 0.0072

Mars -65923-08-07 04:18 J -22356734.44 -22356734.32 -22356734.21 0.1973 0.0252

Saturn -65923-09-17 04:04 J -22356693.52 -22356693.33 -22356693.14 0.0258 0.0053

Saturn -65923-12-15 00:28 J -22356604.61 -22356604.48 -22356604.34 0.0258 0.0178

Moon -65921-11-15 01:54 J -22355903.58 -22355903.42 -22355903.25 0.2634 0.0076

Earth -65921-11-15 03:49 J -22355903.50 -22355903.34 -22355903.18 0.2635 0.0341 *

Jupiter -65919-02-02 09:35 J -22355459.27 -22355459.10 -22355458.93 0.0500 0.0199

Jupiter -65919-05-03 21:49 J -22355368.67 -22355368.59 -22355368.51 0.0500 0.0448

Earth -65917-05-16 14:23 J -22354624.98 -22354624.90 -22354624.82 0.2695 0.1750

Moon -65917-05-16 14:52 J -22354624.97 -22354624.88 -22354624.80 0.2690 0.1637 *

Mars -65914-12-28 11:45 J -22353304.09 -22353304.01 -22353303.93 0.1970 0.1333

Jupiter -65914-12-30 01:25 J -22353302.56 -22353302.44 -22353302.31 0.0526 0.0068

Jupiter -65913-03-28 06:42 J -22353213.30 -22353213.22 -22353213.15 0.0525 0.0416

Moon -65911-05-26 07:54 J -22352424.22 -22352424.17 -22352424.12 0.2707 0.2359

Earth -65911-05-26 08:23 J -22352424.20 -22352424.15 -22352424.11 0.2703 0.2377 *

Mars -65909-09-07 04:33 J -22351589.43 -22351589.31 -22351589.19 0.1572 0.1127

Saturn -65909-10-20 21:06 J -22351545.70 -22351545.62 -22351545.54 0.0305 0.0241

Saturn -65908-01-17 10:04 J -22351457.20 -22351457.08 -22351456.95 0.0305 0.0102

Saturn -65908-04-15 23:01 J -22351368.67 -22351368.54 -22351368.41 0.0305 0.0038

Saturn -65908-07-13 11:59 J -22351280.11 -22351280.00 -22351279.90 0.0305 0.0175

Moon -65908-11-18 10:04 J -22351152.11 -22351152.08 -22351152.04 0.2635 0.2567

Jupiter -65908-11-21 06:57 J -22351149.34 -22351149.21 -22351149.07 0.0500 0.0351

Jupiter -65907-02-19 19:11 J -22351058.85 -22351058.70 -22351058.55 0.0500 0.0295

Venus -65905-04-29 19:25 J -22350258.81 -22350258.69 -22350258.56 0.3561 0.2209

Moon -65904-05-19 07:54 J -22349874.27 -22349874.17 -22349874.06 0.2690 0.0734

Earth -65904-05-19 08:09 J -22349874.27 -22349874.16 -22349874.06 0.2697 0.0658 *

Jupiter -65902-10-18 05:45 J -22348992.38 -22348992.26 -22348992.14 0.0526 0.0189

Jupiter -65901-01-15 11:01 J -22348903.15 -22348903.04 -22348902.94 0.0525 0.0295

Venus -65900-11-14 02:37 J -22348234.52 -22348234.39 -22348234.26 0.3561 0.1833

Mars -65899-01-28 06:42 J -22348159.38 -22348159.22 -22348159.05 0.1574 0.0244

Jupiter -65896-12-08 16:18 J -22346749.00 -22346748.82 -22346748.64 0.0500 0.0141

Saturn -65894-08-10 09:35 J -22346139.16 -22346139.10 -22346139.02 0.0258 0.0238

Saturn -65894-11-07 05:59 J -22346050.42 -22346050.25 -22346050.08 0.0258 0.0114

Saturn -65893-02-04 02:23 J -22345961.59 -22345961.40 -22345961.21 0.0258 0.0010

Saturn -65893-05-02 22:47 J -22345872.71 -22345872.55 -22345872.39 0.0258 0.0135

Mars -65893-09-14 20:37 J -22345737.74 -22345737.64 -22345737.54 0.1976 0.0947

Moon -65891-05-22 01:11 J -22345123.56 -22345123.45 -22345123.34 0.2695 0.0415

Earth -65891-05-22 01:54 J -22345123.53 -22345123.42 -22345123.32 0.2699 0.0444 *

Mars -65890-06-20 09:06 J -22344729.28 -22344729.12 -22344728.97 0.1576 0.0651

Jupiter -65890-08-06 09:49 J -22344682.19 -22344682.09 -22344681.98 0.0526 0.0313

Jupiter -65890-11-03 15:21 J -22344592.98 -22344592.86 -22344592.74 0.0526 0.0175

Moon -65888-11-13 01:25 J -22343852.57 -22343852.44 -22343852.32 0.2633 0.1660

Earth -65888-11-13 02:37 J -22343852.52 -22343852.39 -22343852.26 0.2638 0.1514 *

Uranus -65886-06-14 01:40 J -22343274.48 -22343274.43 -22343274.37 0.0133 0.0119

Uranus -65886-09-10 04:33 J -22343186.39 -22343186.31 -22343186.22 0.0134 0.0103

Venus -65886-09-14 18:57 J -22343181.79 -22343181.71 -22343181.62 0.3819 0.2236

Uranus -65886-12-07 07:25 J -22343098.28 -22343098.19 -22343098.08 0.0134 0.0087

Uranus -65885-03-04 10:33 J -22343010.17 -22343010.06 -22343009.95 0.0134 0.0070

Uranus -65885-05-31 13:25 J -22342922.06 -22342921.94 -22342921.82 0.0134 0.0053

Uranus -65885-08-27 16:18 J -22342833.94 -22342833.82 -22342833.69 0.0134 0.0037

Uranus -65885-11-23 19:25 J -22342745.82 -22342745.69 -22342745.56 0.0134 0.0020

Uranus -65884-02-19 22:18 J -22342657.70 -22342657.57 -22342657.44 0.0134 0.0003

Earth -65884-05-15 01:25 J -22342573.46 -22342573.44 -22342573.42 0.2693 0.2622

Moon -65884-05-15 02:09 J -22342573.45 -22342573.41 -22342573.37 0.2691 0.2504 *

Neptune -65884-05-15 06:28 J -22342573.26 -22342573.23 -22342573.18 0.0089 0.0084

Uranus -65884-05-19 01:11 J -22342569.58 -22342569.45 -22342569.32 0.0134 0.0014

Neptune -65884-08-11 07:40 J -22342485.22 -22342485.18 -22342485.11 0.0089 0.0079

Uranus -65884-08-15 04:04 J -22342481.45 -22342481.33 -22342481.20 0.0134 0.0032

Jupiter -65884-09-26 13:11 J -22342439.14 -22342438.95 -22342438.77 0.0500 0.0020

Neptune -65884-11-07 09:06 J -22342397.18 -22342397.12 -22342397.04 0.0089 0.0074

Uranus -65884-11-11 07:11 J -22342393.32 -22342393.20 -22342393.08 0.0134 0.0048

Neptune -65883-02-03 10:18 J -22342309.14 -22342309.07 -22342308.97 0.0089 0.0069

Mars -65883-02-05 04:04 J -22342307.44 -22342307.33 -22342307.21 0.1973 0.0151

Uranus -65883-02-07 10:04 J -22342305.19 -22342305.08 -22342304.96 0.0135 0.0065

Neptune -65883-05-02 11:59 J -22342221.09 -22342221.00 -22342220.91 0.0089 0.0063

Uranus -65883-05-06 13:11 J -22342217.06 -22342216.95 -22342216.85 0.0135 0.0082

Neptune -65883-07-29 13:11 J -22342133.04 -22342132.95 -22342132.84 0.0089 0.0058

Uranus -65883-08-02 16:04 J -22342128.91 -22342128.83 -22342128.74 0.0135 0.0099

Neptune -65883-10-25 14:23 J -22342044.99 -22342044.90 -22342044.78 0.0089 0.0053

Uranus -65883-10-29 19:11 J -22342040.77 -22342040.70 -22342040.64 0.0135 0.0116

Neptune -65882-01-21 15:49 J -22341956.94 -22341956.84 -22341956.72 0.0089 0.0048

Uranus -65882-01-25 22:04 J -22341952.59 -22341952.58 -22341952.56 0.0135 0.0133

Neptune -65882-04-19 17:16 J -22341868.89 -22341868.78 -22341868.66 0.0089 0.0042

Neptune -65882-07-16 18:42 J -22341780.84 -22341780.72 -22341780.60 0.0089 0.0037

Neptune -65882-10-12 19:54 J -22341692.79 -22341692.67 -22341692.54 0.0089 0.0032

Neptune -65881-01-08 21:21 J -22341604.74 -22341604.61 -22341604.48 0.0089 0.0026

Neptune -65881-04-05 22:33 J -22341516.68 -22341516.56 -22341516.43 0.0089 0.0021

Neptune -65881-07-02 23:59 J -22341428.63 -22341428.50 -22341428.37 0.0089 0.0016

Neptune -65881-09-29 01:11 J -22341340.58 -22341340.45 -22341340.31 0.0089 0.0011

Mars -65881-11-09 11:16 J -22341299.06 -22341299.03 -22341298.99 0.1578 0.1537

Neptune -65881-12-26 02:37 J -22341252.52 -22341252.39 -22341252.26 0.0089 0.0006

Neptune -65880-03-24 04:04 J -22341164.47 -22341164.33 -22341164.20 0.0089 0.0003

Venus -65880-03-30 11:16 J -22341158.13 -22341158.03 -22341157.93 0.3819 0.0542

Neptune -65880-06-20 05:16 J -22341076.41 -22341076.28 -22341076.15 0.0089 0.0005

Neptune -65880-09-16 06:28 J -22340988.36 -22340988.23 -22340988.09 0.0089 0.0010

Neptune -65880-12-13 07:54 J -22340900.30 -22340900.17 -22340900.04 0.0089 0.0015

Saturn -65879-03-09 21:49 J -22340813.62 -22340813.59 -22340813.55 0.0304 0.0293

Neptune -65879-03-11 09:06 J -22340812.24 -22340812.12 -22340811.99 0.0089 0.0021

Saturn -65879-06-06 11:01 J -22340725.15 -22340725.04 -22340724.93 0.0304 0.0154

Neptune -65879-06-07 10:33 J -22340724.19 -22340724.06 -22340723.93 0.0089 0.0026

Saturn -65879-09-02 23:59 J -22340636.63 -22340636.50 -22340636.37 0.0304 0.0017

Neptune -65879-09-03 11:45 J -22340636.13 -22340636.01 -22340635.88 0.0089 0.0031

Saturn -65879-11-30 12:42 J -22340548.08 -22340547.97 -22340547.85 0.0304 0.0123

Neptune -65879-11-30 13:11 J -22340548.07 -22340547.95 -22340547.83 0.0089 0.0036 *

Neptune -65878-02-26 14:09 J -22340460.01 -22340459.91 -22340459.78 0.0089 0.0042

Saturn -65878-02-27 01:40 J -22340459.50 -22340459.43 -22340459.37 0.0304 0.0259

Moon -65878-05-24 18:42 J -22340372.81 -22340372.72 -22340372.63 0.2701 0.1418

Earth -65878-05-24 19:25 J -22340372.78 -22340372.69 -22340372.60 0.2701 0.1510 *

Jupiter -65878-05-25 14:37 J -22340371.96 -22340371.89 -22340371.81 0.0526 0.0426

Neptune -65878-05-25 15:35 J -22340371.95 -22340371.85 -22340371.73 0.0089 0.0047 *

Neptune -65878-08-21 16:47 J -22340283.89 -22340283.80 -22340283.68 0.0089 0.0052

Jupiter -65878-08-22 20:09 J -22340282.79 -22340282.66 -22340282.54 0.0526 0.0062

Neptune -65878-11-17 18:13 J -22340195.83 -22340195.74 -22340195.63 0.0089 0.0057

Neptune -65877-02-13 19:40 J -22340107.77 -22340107.68 -22340107.58 0.0089 0.0062

Neptune -65877-05-11 20:52 J -22340019.71 -22340019.63 -22340019.54 0.0089 0.0067

Neptune -65877-08-07 22:18 J -22339931.64 -22339931.57 -22339931.49 0.0089 0.0072

Neptune -65877-11-03 23:16 J -22339843.58 -22339843.53 -22339843.45 0.0089 0.0078

Neptune -65876-01-31 00:42 J -22339755.51 -22339755.47 -22339755.41 0.0089 0.0083

Neptune -65876-04-29 01:54 J -22339667.42 -22339667.42 -22339667.39 0.0089 0.0088

Venus -65875-10-14 03:49 J -22339134.44 -22339134.34 -22339134.25 0.3818 0.1205

Moon -65875-11-16 08:37 J -22339101.30 -22339101.14 -22339100.98 0.2634 0.0696

Earth -65875-11-16 10:33 J -22339101.22 -22339101.06 -22339100.91 0.2635 0.0767 *

Mars -65874-06-28 11:45 J -22338877.10 -22338877.01 -22338876.92 0.1970 0.1210

Jupiter -65872-07-15 08:23 J -22338129.32 -22338129.15 -22338128.98 0.0499 0.0191

Jupiter -65872-10-13 20:23 J -22338038.72 -22338038.65 -22338038.57 0.0500 0.0455

Earth -65871-05-17 19:11 J -22337822.79 -22337822.70 -22337822.61 0.2695 0.1530

Moon -65871-05-17 19:25 J -22337822.78 -22337822.69 -22337822.60 0.2689 0.1540 *

Mars -65869-03-08 05:16 J -22337162.37 -22337162.28 -22337162.18 0.1572 0.1272

Venus -65869-04-28 20:09 J -22337110.72 -22337110.66 -22337110.60 0.3818 0.2943

Jupiter -65866-06-11 00:57 J -22335972.59 -22335972.46 -22335972.34 0.0526 0.0055

Jupiter -65866-09-08 06:13 J -22335883.31 -22335883.24 -22335883.17 0.0525 0.0432

Moon -65865-05-26 12:42 J -22335622.00 -22335621.97 -22335621.94 0.2709 0.2543

Earth -65865-05-26 13:11 J -22335621.98 -22335621.95 -22335621.93 0.2703 0.2589 *

Saturn -65864-03-26 04:47 J -22335318.45 -22335318.30 -22335318.14 0.0258 0.0153

Saturn -65864-06-23 01:11 J -22335229.64 -22335229.45 -22335229.26 0.0258 0.0029

Saturn -65864-09-19 21:35 J -22335140.78 -22335140.60 -22335140.42 0.0258 0.0096

Saturn -65864-12-17 17:59 J -22335051.84 -22335051.75 -22335051.65 0.0258 0.0221

Jupiter -65860-05-03 05:16 J -22333819.41 -22333819.28 -22333819.15 0.0499 0.0348

Mars -65860-07-29 07:40 J -22333732.35 -22333732.18 -22333732.02 0.1573 0.0382

Jupiter -65860-08-01 17:16 J -22333728.93 -22333728.78 -22333728.63 0.0500 0.0298

Moon -65858-05-20 12:42 J -22333072.08 -22333071.97 -22333071.86 0.2690 0.0400

Earth -65858-05-20 12:57 J -22333072.07 -22333071.96 -22333071.85 0.2697 0.0445 *

Jupiter -65854-03-30 05:01 J -22331662.41 -22331662.29 -22331662.17 0.0526 0.0177

Jupiter -65854-06-27 10:18 J -22331573.17 -22331573.07 -22331572.97 0.0525 0.0308

Mars -65853-03-15 20:37 J -22331310.74 -22331310.64 -22331310.54 0.1976 0.1056

Mars -65851-12-19 09:49 J -22330302.25 -22330302.09 -22330301.93 0.1576 0.0516

Saturn -65850-10-24 11:45 J -22329993.10 -22329993.01 -22329992.91 0.0305 0.0203

Saturn -65849-01-21 00:42 J -22329904.59 -22329904.47 -22329904.34 0.0305 0.0065

Saturn -65849-04-18 13:40 J -22329816.05 -22329815.93 -22329815.80 0.0305 0.0075

Saturn -65849-07-16 02:23 J -22329727.49 -22329727.40 -22329727.30 0.0305 0.0212

Venus -65849-12-04 21:21 J -22329585.76 -22329585.61 -22329585.46 0.3561 0.0821

Jupiter -65848-05-20 14:37 J -22329419.07 -22329418.89 -22329418.71 0.0500 0.0144

Uranus -65846-10-16 05:30 J -22328540.37 -22328540.27 -22328540.14 0.0145 0.0119

Uranus -65845-01-12 14:23 J -22328452.04 -22328451.90 -22328451.73 0.0145 0.0087

Uranus -65845-04-09 23:30 J -22328363.70 -22328363.52 -22328363.34 0.0145 0.0054

Moon -65845-05-22 05:59 J -22328321.36 -22328321.25 -22328321.14 0.2696 0.0512

Earth -65845-05-22 06:42 J -22328321.33 -22328321.22 -22328321.12 0.2699 0.0656 *

Uranus -65845-07-07 08:23 J -22328275.34 -22328275.15 -22328274.96 0.0145 0.0022

Uranus -65845-10-03 17:16 J -22328186.98 -22328186.78 -22328186.59 0.0145 0.0010

Uranus -65845-12-31 01:54 J -22328098.60 -22328098.42 -22328098.23 0.0145 0.0042

Uranus -65844-03-29 10:47 J -22328010.22 -22328010.05 -22328009.88 0.0145 0.0074

Uranus -65844-06-25 19:11 J -22327921.82 -22327921.70 -22327921.55 0.0144 0.0106

Mars -65844-08-06 04:18 J -22327880.44 -22327880.32 -22327880.21 0.1973 0.0052

Uranus -65844-09-22 04:18 J -22327833.38 -22327833.32 -22327833.26 0.0144 0.0137

Venus -65843-06-21 04:18 J -22327561.39 -22327561.32 -22327561.26 0.3561 0.3193

Jupiter -65842-01-16 09:21 J -22327352.22 -22327352.11 -22327352.01 0.0526 0.0300

Jupiter -65842-04-15 14:37 J -22327263.01 -22327262.89 -22327262.77 0.0525 0.0187

Moon -65842-11-14 07:54 J -22327050.31 -22327050.17 -22327050.03 0.2634 0.1214

Earth -65842-11-14 09:21 J -22327050.26 -22327050.11 -22327049.96 0.2637 0.1083 *

Mars -65841-05-10 11:59 J -22326872.07 -22326872.00 -22326871.92 0.1578 0.1405

Earth -65838-05-16 06:13 J -22325771.29 -22325771.24 -22325771.19 0.2693 0.2402

Moon -65838-05-16 06:57 J -22325771.26 -22325771.21 -22325771.16 0.2691 0.2345 *

Jupiter -65836-03-08 11:45 J -22325109.20 -22325109.01 -22325108.83 0.0500 0.0017

Saturn -65835-08-13 03:21 J -22324586.47 -22324586.36 -22324586.22 0.0258 0.0193

Venus -65835-10-06 00:28 J -22324532.53 -22324532.48 -22324532.44 0.3819 0.3332

Saturn -65835-11-09 23:45 J -22324497.69 -22324497.51 -22324497.32 0.0258 0.0069

Mars -65835-12-27 11:30 J -22324450.11 -22324450.02 -22324449.92 0.1970 0.1117

Saturn -65834-02-06 20:09 J -22324408.84 -22324408.66 -22324408.47 0.0258 0.0056

Saturn -65834-05-06 16:33 J -22324319.94 -22324319.81 -22324319.67 0.0258 0.0181

Moon -65832-05-24 23:30 J -22323570.60 -22323570.52 -22323570.43 0.2702 0.1686

Earth -65832-05-25 00:13 J -22323570.57 -22323570.49 -22323570.41 0.2701 0.1727 *

Jupiter -65831-11-04 13:25 J -22323042.01 -22323041.94 -22323041.87 0.0526 0.0424

Jupiter -65830-02-01 18:42 J -22322952.84 -22322952.72 -22322952.59 0.0526 0.0067

Mars -65830-09-07 05:59 J -22322735.32 -22322735.25 -22322735.17 0.1572 0.1405

Venus -65829-04-20 16:33 J -22322508.90 -22322508.81 -22322508.72 0.3819 0.1643

Moon -65829-11-16 15:35 J -22322299.00 -22322298.85 -22322298.70 0.2633 0.0939

Earth -65829-11-16 17:16 J -22322298.92 -22322298.78 -22322298.64 0.2635 0.1198 *

Earth -65825-05-17 23:59 J -22321020.59 -22321020.50 -22321020.41 0.2695 0.1312

Moon -65825-05-18 00:13 J -22321020.59 -22321020.49 -22321020.39 0.2689 0.1243 *

Jupiter -65825-12-25 08:23 J -22320799.33 -22320799.15 -22320798.97 0.0499 0.0170

Jupiter -65824-03-25 20:23 J -22320708.70 -22320708.65 -22320708.59 0.0500 0.0478

Venus -65824-11-04 08:52 J -22320485.23 -22320485.13 -22320485.02 0.3819 0.0176

Mars -65820-01-27 08:09 J -22319305.32 -22319305.16 -22319305.00 0.1574 0.0519

Saturn -65820-03-12 12:57 J -22319261.03 -22319260.96 -22319260.88 0.0304 0.0250

Saturn -65820-06-09 02:09 J -22319172.53 -22319172.41 -22319172.29 0.0304 0.0111

Saturn -65820-09-05 15:06 J -22319084.00 -22319083.87 -22319083.75 0.0304 0.0029

Saturn -65820-12-03 03:49 J -22318995.45 -22318995.34 -22318995.23 0.0304 0.0164

Saturn -65819-03-01 16:33 J -22318906.82 -22318906.81 -22318906.79 0.0304 0.0300

Jupiter -65819-11-20 23:30 J -22318642.64 -22318642.52 -22318642.39 0.0526 0.0051

Jupiter -65818-02-18 04:47 J -22318553.37 -22318553.30 -22318553.23 0.0525 0.0434

Venus -65818-05-21 01:25 J -22318461.53 -22318461.44 -22318461.35 0.3818 0.1819

Mars -65814-09-14 20:52 J -22316883.72 -22316883.63 -22316883.54 0.1976 0.1184

Jupiter -65813-10-13 03:35 J -22316489.48 -22316489.35 -22316489.21 0.0499 0.0344

Venus -65813-12-03 17:45 J -22316437.79 -22316437.76 -22316437.72 0.3817 0.3578

Jupiter -65812-01-11 15:35 J -22316398.99 -22316398.85 -22316398.70 0.0500 0.0302

Moon -65812-05-20 17:30 J -22316269.88 -22316269.77 -22316269.66 0.2692 0.0306

Earth -65812-05-20 17:45 J -22316269.87 -22316269.76 -22316269.65 0.2698 0.0224 *

Mars -65811-06-19 10:33 J -22315875.22 -22315875.06 -22315874.90 0.1576 0.0372

Jupiter -65807-09-09 04:18 J -22314332.44 -22314332.32 -22314332.20 0.0526 0.0168

Jupiter -65807-12-07 09:35 J -22314243.20 -22314243.10 -22314243.00 0.0526 0.0319

Saturn -65806-12-31 02:52 J -22313854.47 -22313854.38 -22313854.29 0.0258 0.0228

Saturn -65805-03-28 23:01 J -22313765.71 -22313765.54 -22313765.36 0.0258 0.0105

Saturn -65805-06-25 19:25 J -22313676.88 -22313676.69 -22313676.50 0.0258 0.0020

Saturn -65805-09-22 15:49 J -22313587.99 -22313587.84 -22313587.68 0.0258 0.0145

Mars -65804-02-04 04:04 J -22313453.44 -22313453.33 -22313453.21 0.1973 0.0116

Uranus -65802-04-07 06:42 J -22312661.25 -22312661.22 -22312661.18 0.0133 0.0128

Uranus -65802-07-04 09:35 J -22312573.16 -22312573.10 -22312573.02 0.0133 0.0112

Uranus -65802-09-30 12:28 J -22312485.06 -22312484.98 -22312484.88 0.0134 0.0096

Mars -65802-11-09 12:42 J -22312445.07 -22312444.97 -22312444.87 0.1578 0.1267

Uranus -65802-12-27 15:35 J -22312396.95 -22312396.85 -22312396.74 0.0134 0.0079

Uranus -65801-03-24 18:28 J -22312308.84 -22312308.73 -22312308.61 0.0134 0.0062

Neptune -65801-04-30 22:47 J -22312271.59 -22312271.55 -22312271.52 0.0089 0.0087

Uranus -65801-06-20 21:21 J -22312220.73 -22312220.61 -22312220.48 0.0134 0.0046

Neptune -65801-07-28 01:54 J -22312183.49 -22312183.42 -22312183.32 0.0089 0.0080

Uranus -65801-09-17 00:28 J -22312132.61 -22312132.48 -22312132.35 0.0134 0.0029

Neptune -65801-10-24 05:59 J -22312095.36 -22312095.25 -22312095.14 0.0089 0.0072

Jupiter -65801-10-30 12:28 J -22312089.16 -22312088.98 -22312088.80 0.0500 0.0144

Uranus -65801-12-14 03:21 J -22312044.49 -22312044.36 -22312044.23 0.0134 0.0012

Neptune -65800-01-20 09:06 J -22312007.23 -22312007.12 -22312006.97 0.0089 0.0065

Uranus -65800-03-12 06:28 J -22311956.37 -22311956.23 -22311956.10 0.0134 0.0007

Neptune -65800-04-18 13:11 J -22311919.10 -22311918.95 -22311918.80 0.0089 0.0057

Uranus -65800-06-08 09:21 J -22311868.24 -22311868.11 -22311867.98 0.0134 0.0022

Neptune -65800-07-15 16:33 J -22311830.96 -22311830.81 -22311830.64 0.0089 0.0050

Uranus -65800-09-04 12:13 J -22311780.11 -22311779.99 -22311779.86 0.0134 0.0039

Neptune -65800-10-11 20:23 J -22311742.82 -22311742.65 -22311742.48 0.0089 0.0042

Uranus -65800-12-01 15:21 J -22311691.98 -22311691.86 -22311691.75 0.0135 0.0056

Neptune -65799-01-07 23:45 J -22311654.67 -22311654.51 -22311654.32 0.0089 0.0035

Uranus -65799-02-27 18:13 J -22311603.85 -22311603.74 -22311603.63 0.0135 0.0073

Neptune -65799-04-06 03:35 J -22311566.53 -22311566.35 -22311566.16 0.0089 0.0027

Moon -65799-05-23 10:47 J -22311519.16 -22311519.05 -22311518.95 0.2696 0.0851

Earth -65799-05-23 11:16 J -22311519.13 -22311519.03 -22311518.92 0.2700 0.0868 *

Uranus -65799-05-26 21:06 J -22311515.71 -22311515.62 -22311515.52 0.0135 0.0090

Neptune -65799-07-03 07:25 J -22311478.38 -22311478.19 -22311478.00 0.0089 0.0019

Uranus -65799-08-22 23:59 J -22311427.57 -22311427.50 -22311427.41 0.0135 0.0107

Neptune -65799-09-29 11:01 J -22311390.23 -22311390.04 -22311389.85 0.0089 0.0011

Uranus -65799-11-19 03:06 J -22311339.42 -22311339.37 -22311339.32 0.0135 0.0124

Neptune -65799-12-26 14:37 J -22311302.08 -22311301.89 -22311301.69 0.0089 0.0004

Neptune -65798-03-24 18:13 J -22311213.93 -22311213.74 -22311213.54 0.0089 0.0005

Neptune -65798-06-20 22:04 J -22311125.78 -22311125.58 -22311125.39 0.0089 0.0012

Neptune -65798-09-17 01:25 J -22311037.62 -22311037.44 -22311037.24 0.0089 0.0020

Neptune -65798-12-14 05:16 J -22310949.46 -22310949.28 -22310949.09 0.0089 0.0027

Venus -65798-12-26 15:35 J -22310936.85 -22310936.85 -22310936.84 0.3561 0.3552

Neptune -65797-03-11 08:52 J -22310861.30 -22310861.13 -22310860.94 0.0089 0.0035

Neptune -65797-06-07 12:28 J -22310773.14 -22310772.98 -22310772.80 0.0089 0.0042

Neptune -65797-09-03 16:18 J -22310684.98 -22310684.82 -22310684.65 0.0089 0.0050

Neptune -65797-11-30 19:40 J -22310596.81 -22310596.68 -22310596.51 0.0089 0.0058

Neptune -65796-02-26 23:16 J -22310508.64 -22310508.53 -22310508.38 0.0088 0.0066

Neptune -65796-05-26 03:21 J -22310420.46 -22310420.36 -22310420.24 0.0088 0.0073

Neptune -65796-08-22 06:42 J -22310332.28 -22310332.22 -22310332.12 0.0088 0.0081

Moon -65796-11-14 14:37 J -22310248.05 -22310247.89 -22310247.74 0.2633 0.0787

Earth -65796-11-14 16:04 J -22310247.98 -22310247.83 -22310247.67 0.2637 0.0653 *

Neptune -65796-11-18 10:47 J -22310244.06 -22310244.05 -22310244.03 0.0088 0.0088

Mars -65795-06-27 11:45 J -22310023.11 -22310023.01 -22310022.91 0.1970 0.0990

Jupiter -65795-06-28 08:23 J -22310022.25 -22310022.15 -22310022.04 0.0526 0.0291

Jupiter -65795-09-25 13:40 J -22309933.04 -22309932.93 -22309932.81 0.0525 0.0196

Earth -65792-05-16 11:01 J -22308969.10 -22308969.04 -22308968.98 0.2693 0.2180

Moon -65792-05-16 11:45 J -22308969.08 -22308969.01 -22308968.95 0.2690 0.2115 *

Venus -65792-07-11 23:01 J -22308912.70 -22308912.54 -22308912.39 0.3561 0.0563

Saturn -65791-07-30 14:09 J -22308528.93 -22308528.91 -22308528.87 0.0305 0.0296

Saturn -65791-10-27 03:21 J -22308440.47 -22308440.36 -22308440.25 0.0305 0.0157

Saturn -65790-01-23 16:18 J -22308351.95 -22308351.82 -22308351.69 0.0305 0.0018

Mars -65790-03-08 06:42 J -22308308.25 -22308308.22 -22308308.19 0.1572 0.1539

Saturn -65790-04-22 05:16 J -22308263.40 -22308263.28 -22308263.17 0.0305 0.0120

Saturn -65790-07-19 17:59 J -22308174.82 -22308174.75 -22308174.68 0.0304 0.0256

Jupiter -65789-08-18 09:35 J -22307779.29 -22307779.10 -22307778.91 0.0500 0.0013

Moon -65786-05-26 04:33 J -22306768.39 -22306768.31 -22306768.24 0.2705 0.1827

Earth -65786-05-26 05:01 J -22306768.36 -22306768.29 -22306768.22 0.2702 0.1940 *

Jupiter -65783-04-16 12:28 J -22305712.05 -22305711.98 -22305711.90 0.0526 0.0415

Jupiter -65783-07-14 17:59 J -22305622.88 -22305622.75 -22305622.63 0.0526 0.0073

Moon -65783-11-17 22:18 J -22305496.70 -22305496.57 -22305496.44 0.2635 0.1523

Earth -65783-11-17 23:59 J -22305496.62 -22305496.50 -22305496.37 0.2634 0.1630 *

Mars -65781-07-28 08:52 J -22304878.28 -22304878.13 -22304877.97 0.1574 0.0652

Pluto -65779-03-21 15:49 J -22304276.88 -22304276.84 -22304276.75 0.0061 0.0057

Earth -65779-05-19 04:47 J -22304218.40 -22304218.30 -22304218.20 0.2696 0.1091

Moon -65779-05-19 05:01 J -22304218.39 -22304218.29 -22304218.19 0.2689 0.1091 *

Pluto -65779-06-17 17:01 J -22304188.86 -22304188.79 -22304188.68 0.0061 0.0052

Pluto -65779-09-13 18:13 J -22304100.83 -22304100.74 -22304100.61 0.0061 0.0047

Pluto -65779-12-10 19:25 J -22304012.80 -22304012.69 -22304012.54 0.0061 0.0042

Pluto -65778-03-08 20:52 J -22303924.76 -22303924.63 -22303924.48 0.0061 0.0037

Venus -65778-05-12 21:49 J -22303859.65 -22303859.59 -22303859.52 0.3819 0.2742

Pluto -65778-06-04 22:04 J -22303836.72 -22303836.58 -22303836.42 0.0061 0.0032

Pluto -65778-08-31 23:16 J -22303748.68 -22303748.53 -22303748.36 0.0061 0.0027

Pluto -65778-11-28 00:28 J -22303660.64 -22303660.48 -22303660.30 0.0061 0.0022

Pluto -65777-02-24 01:40 J -22303572.59 -22303572.43 -22303572.25 0.0061 0.0017

Pluto -65777-05-22 03:06 J -22303484.55 -22303484.37 -22303484.19 0.0061 0.0012

Jupiter -65777-06-06 06:28 J -22303469.40 -22303469.23 -22303469.05 0.0500 0.0168

Pluto -65777-08-18 04:18 J -22303396.50 -22303396.32 -22303396.14 0.0061 0.0007

Jupiter -65777-09-04 18:28 J -22303378.77 -22303378.73 -22303378.67 0.0500 0.0480

Pluto -65777-11-14 05:30 J -22303308.45 -22303308.27 -22303308.09 0.0061 0.0002

Pluto -65776-02-10 06:42 J -22303220.40 -22303220.22 -22303220.03 0.0061 0.0004

Pluto -65776-05-09 07:54 J -22303132.34 -22303132.17 -22303131.98 0.0062 0.0009

Pluto -65776-08-05 09:06 J -22303044.29 -22303044.12 -22303043.93 0.0062 0.0015

Saturn -65776-08-15 22:18 J -22303033.73 -22303033.57 -22303033.41 0.0258 0.0142

Pluto -65776-11-01 10:18 J -22302956.23 -22302956.07 -22302955.89 0.0062 0.0020

Saturn -65776-11-12 18:28 J -22302944.92 -22302944.73 -22302944.53 0.0258 0.0019

Pluto -65775-01-28 11:45 J -22302868.17 -22302868.01 -22302867.84 0.0062 0.0025

Saturn -65775-02-09 15:06 J -22302856.05 -22302855.87 -22302855.70 0.0258 0.0107

Pluto -65775-04-26 12:42 J -22302780.11 -22302779.97 -22302779.79 0.0062 0.0031

Saturn -65775-05-09 11:30 J -22302767.10 -22302767.02 -22302766.93 0.0258 0.0233

Pluto -65775-07-23 14:09 J -22302692.05 -22302691.91 -22302691.75 0.0062 0.0036

Pluto -65775-10-19 15:35 J -22302603.98 -22302603.85 -22302603.71 0.0062 0.0041

Pluto -65774-01-15 16:33 J -22302515.91 -22302515.81 -22302515.67 0.0062 0.0047

Mars -65774-03-15 20:37 J -22302456.73 -22302456.64 -22302456.56 0.1976 0.1279

Pluto -65774-04-13 17:59 J -22302427.83 -22302427.75 -22302427.64 0.0062 0.0052

Pluto -65774-07-10 18:57 J -22302339.74 -22302339.71 -22302339.62 0.0062 0.0059

Venus -65773-11-25 14:09 J -22301836.00 -22301835.91 -22301835.81 0.3819 0.1040

Mars -65772-12-18 11:16 J -22301448.20 -22301448.03 -22301447.87 0.1576 0.0240

Jupiter -65771-05-02 22:04 J -22301312.71 -22301312.58 -22301312.45 0.0526 0.0052

Jupiter -65771-07-31 03:21 J -22301223.43 -22301223.36 -22301223.29 0.0525 0.0433

Venus -65767-06-11 06:42 J -22299812.32 -22299812.22 -22299812.12 0.3818 0.0711

Moon -65766-05-21 22:04 J -22299467.69 -22299467.58 -22299467.47 0.2692 0.0043

Earth -65766-05-21 22:33 J -22299467.67 -22299467.56 -22299467.45 0.2698 0.0023 *

Jupiter -65765-03-25 03:06 J -22299159.51 -22299159.37 -22299159.23 0.0499 0.0327

Jupiter -65765-06-23 15:06 J -22299069.01 -22299068.87 -22299068.72 0.0500 0.0319

Mars -65765-08-05 04:18 J -22299026.44 -22299026.32 -22299026.21 0.1974 0.0214

Moon -65763-11-12 14:23 J -22298196.96 -22298196.90 -22298196.85 0.2634 0.2462

Earth -65763-11-12 15:06 J -22298196.92 -22298196.87 -22298196.82 0.2639 0.2482 *

Mars -65762-05-10 13:25 J -22298018.05 -22298017.94 -22298017.82 0.1578 0.1126

Uranus -65762-08-09 06:42 J -22297927.27 -22297927.22 -22297927.13 0.0145 0.0135

Uranus -65762-11-05 15:35 J -22297838.97 -22297838.85 -22297838.69 0.0145 0.0103

Venus -65762-12-25 23:01 J -22297788.62 -22297788.54 -22297788.46 0.3818 0.2438

Uranus -65761-02-02 00:42 J -22297750.63 -22297750.47 -22297750.29 0.0145 0.0070

Saturn -65761-03-15 05:01 J -22297708.38 -22297708.29 -22297708.19 0.0304 0.0199

Uranus -65761-04-30 09:35 J -22297662.28 -22297662.10 -22297661.91 0.0145 0.0038

Saturn -65761-06-11 17:59 J -22297619.87 -22297619.75 -22297619.62 0.0304 0.0061

Uranus -65761-07-27 18:28 J -22297573.92 -22297573.73 -22297573.53 0.0145 0.0006

Saturn -65761-09-08 06:57 J -22297531.33 -22297531.21 -22297531.08 0.0304 0.0077

Uranus -65761-10-24 03:06 J -22297485.55 -22297485.37 -22297485.17 0.0145 0.0027

Saturn -65761-12-05 19:40 J -22297442.77 -22297442.68 -22297442.59 0.0304 0.0214

Uranus -65760-01-20 11:59 J -22297397.17 -22297397.00 -22297396.82 0.0145 0.0058

Uranus -65760-04-18 20:52 J -22297308.78 -22297308.63 -22297308.48 0.0144 0.0090

Uranus -65760-07-16 05:16 J -22297220.37 -22297220.28 -22297220.16 0.0144 0.0122

Jupiter -65759-02-19 02:37 J -22297002.51 -22297002.39 -22297002.27 0.0526 0.0169

Jupiter -65759-05-19 07:54 J -22296913.27 -22296913.17 -22296913.07 0.0526 0.0319

Mars -65756-12-26 11:45 J -22295596.11 -22295596.01 -22295595.91 0.1970 0.0873

Jupiter -65753-04-11 10:18 J -22294759.24 -22294759.07 -22294758.89 0.0499 0.0144

Moon -65753-05-23 15:35 J -22294716.95 -22294716.85 -22294716.75 0.2697 0.0940

Earth -65753-05-23 16:18 J -22294716.92 -22294716.82 -22294716.73 0.2700 0.1084 *

Moon -65750-11-15 21:21 J -22293445.77 -22293445.61 -22293445.45 0.2633 0.0402

Earth -65750-11-15 22:47 J -22293445.71 -22293445.55 -22293445.38 0.2637 0.0234 *

Jupiter -65748-12-08 07:11 J -22292692.30 -22292692.20 -22292692.09 0.0527 0.0287

Jupiter -65747-03-07 12:42 J -22292603.09 -22292602.97 -22292602.86 0.0526 0.0202

Saturn -65746-01-02 21:49 J -22292301.72 -22292301.59 -22292301.44 0.0258 0.0175

Saturn -65746-04-01 18:13 J -22292212.92 -22292212.74 -22292212.55 0.0258 0.0051

Earth -65746-05-17 15:49 J -22292166.91 -22292166.84 -22292166.76 0.2694 0.1964

Moon -65746-05-17 16:18 J -22292166.89 -22292166.82 -22292166.74 0.2689 0.1874 *

Mars -65746-05-18 19:11 J -22292165.70 -22292165.70 -22292165.70 0.1966 0.1961

Saturn -65746-06-29 14:37 J -22292124.07 -22292123.89 -22292123.70 0.0258 0.0075

Saturn -65746-09-26 11:01 J -22292035.15 -22292035.04 -22292034.91 0.0258 0.0201

Mars -65741-01-27 09:35 J -22290451.24 -22290451.10 -22290450.95 0.1573 0.0792

Jupiter -65741-01-29 06:57 J -22290449.39 -22290449.21 -22290449.02 0.0499 0.0021

Venus -65741-08-01 17:30 J -22290263.90 -22290263.77 -22290263.65 0.3561 0.2143

Moon -65740-05-26 09:21 J -22289966.18 -22289966.11 -22289966.05 0.2706 0.2158

Earth -65740-05-26 09:49 J -22289966.15 -22289966.09 -22289966.03 0.2702 0.2154 *

Moon -65737-11-18 05:01 J -22288694.40 -22288694.29 -22288694.17 0.2636 0.1884

Earth -65737-11-18 06:57 J -22288694.31 -22288694.21 -22288694.12 0.2634 0.2065 *

Jupiter -65736-09-26 11:16 J -22288382.10 -22288382.03 -22288381.95 0.0526 0.0412

Jupiter -65736-12-24 16:47 J -22288292.93 -22288292.80 -22288292.68 0.0526 0.0077

Venus -65735-02-16 00:42 J -22288239.60 -22288239.47 -22288239.34 0.3561 0.1937

Mars -65735-09-13 20:37 J -22288029.72 -22288029.64 -22288029.56 0.1976 0.1399

Moon -65733-05-19 09:49 J -22287416.20 -22287416.09 -22287415.99 0.2689 0.0845

Earth -65733-05-19 09:35 J -22287416.20 -22287416.10 -22287415.99 0.2696 0.0874 *

Mars -65732-06-18 11:59 J -22287021.17 -22287021.00 -22287020.84 0.1576 0.0111

Saturn -65732-08-02 06:57 J -22286976.29 -22286976.21 -22286976.13 0.0304 0.0238

Saturn -65732-10-29 19:54 J -22286887.79 -22286887.67 -22286887.55 0.0304 0.0100

Saturn -65731-01-26 08:52 J -22286799.26 -22286799.13 -22286799.00 0.0304 0.0038

Saturn -65731-04-24 21:35 J -22286710.70 -22286710.60 -22286710.49 0.0304 0.0175

Jupiter -65730-11-17 04:04 J -22286139.51 -22286139.33 -22286139.16 0.0500 0.0174

Jupiter -65729-02-15 16:04 J -22286048.88 -22286048.83 -22286048.77 0.0500 0.0475

Mars -65725-02-04 04:18 J -22284599.44 -22284599.32 -22284599.21 0.1973 0.0325

Jupiter -65724-10-12 20:52 J -22283982.75 -22283982.63 -22283982.50 0.0526 0.0049

Jupiter -65723-01-10 02:09 J -22283893.48 -22283893.41 -22283893.34 0.0525 0.0437

Mars -65723-11-08 14:09 J -22283591.04 -22283590.91 -22283590.78 0.1578 0.0994

Venus -65722-12-17 19:40 J -22283186.77 -22283186.68 -22283186.60 0.3819 0.2146

Moon -65720-05-22 02:52 J -22282665.49 -22282665.38 -22282665.27 0.2693 0.0127

Earth -65720-05-22 03:21 J -22282665.47 -22282665.36 -22282665.25 0.2698 0.0215 *

Neptune -65719-02-09 05:01 J -22282402.31 -22282402.29 -22282402.24 0.0089 0.0085

Neptune -65719-05-08 06:28 J -22282314.28 -22282314.23 -22282314.16 0.0089 0.0080

Neptune -65719-08-04 07:54 J -22282226.23 -22282226.17 -22282226.09 0.0089 0.0074

Neptune -65719-10-31 09:21 J -22282138.19 -22282138.11 -22282138.03 0.0089 0.0069

Neptune -65718-01-27 10:33 J -22282050.14 -22282050.06 -22282049.96 0.0089 0.0064

Neptune -65718-04-25 11:45 J -22281962.10 -22281962.01 -22281961.90 0.0089 0.0059

Uranus -65718-04-27 14:23 J -22281959.94 -22281959.90 -22281959.83 0.0133 0.0122

Neptune -65718-07-22 13:25 J -22281874.05 -22281873.94 -22281873.84 0.0089 0.0053

Uranus -65718-07-24 17:30 J -22281871.84 -22281871.77 -22281871.69 0.0133 0.0105

Jupiter -65718-09-05 00:42 J -22281829.60 -22281829.47 -22281829.32 0.0499 0.0332

Neptune -65718-10-18 14:37 J -22281786.00 -22281785.89 -22281785.77 0.0089 0.0048

Uranus -65718-10-20 20:23 J -22281783.74 -22281783.65 -22281783.55 0.0134 0.0088

Jupiter -65718-12-04 12:57 J -22281739.11 -22281738.96 -22281738.82 0.0500 0.0316

Neptune -65717-01-14 16:04 J -22281697.95 -22281697.83 -22281697.71 0.0089 0.0043

Uranus -65717-01-16 23:30 J -22281695.63 -22281695.52 -22281695.41 0.0134 0.0072

Neptune -65717-04-11 17:16 J -22281609.89 -22281609.78 -22281609.65 0.0089 0.0038

Uranus -65717-04-14 02:23 J -22281607.52 -22281607.40 -22281607.28 0.0134 0.0055

Saturn -65717-05-21 21:49 J -22281569.70 -22281569.59 -22281569.48 0.0258 0.0209

Neptune -65717-07-08 18:28 J -22281521.84 -22281521.73 -22281521.60 0.0089 0.0033

Uranus -65717-07-11 05:16 J -22281519.40 -22281519.28 -22281519.15 0.0134 0.0038

Saturn -65717-08-18 17:59 J -22281480.93 -22281480.75 -22281480.57 0.0258 0.0085

Neptune -65717-10-04 20:09 J -22281433.79 -22281433.66 -22281433.54 0.0089 0.0027

Uranus -65717-10-07 08:09 J -22281431.28 -22281431.16 -22281431.02 0.0134 0.0022

Moon -65717-11-12 20:37 J -22281394.72 -22281394.64 -22281394.56 0.2633 0.2260

Earth -65717-11-12 21:49 J -22281394.69 -22281394.59 -22281394.49 0.2639 0.2059 *

Saturn -65717-11-15 14:23 J -22281392.09 -22281391.90 -22281391.71 0.0258 0.0040

Neptune -65717-12-31 21:21 J -22281345.74 -22281345.61 -22281345.48 0.0089 0.0022

Uranus -65716-01-03 11:16 J -22281343.16 -22281343.03 -22281342.90 0.0134 0.0005

Saturn -65716-02-12 11:01 J -22281303.19 -22281303.04 -22281302.89 0.0258 0.0166

Neptune -65716-03-29 22:47 J -22281257.68 -22281257.55 -22281257.42 0.0089 0.0017

Uranus -65716-04-01 14:09 J -22281255.04 -22281254.91 -22281254.78 0.0134 0.0012

Neptune -65716-06-25 23:59 J -22281169.63 -22281169.50 -22281169.37 0.0089 0.0012

Mars -65716-06-26 11:45 J -22281169.12 -22281169.01 -22281168.91 0.1970 0.0778

Uranus -65716-06-28 17:01 J -22281166.91 -22281166.79 -22281166.66 0.0134 0.0029

Venus -65716-07-02 11:59 J -22281163.11 -22281163.00 -22281162.90 0.3819 0.0455

Neptune -65716-09-22 01:25 J -22281081.58 -22281081.44 -22281081.31 0.0089 0.0007

Uranus -65716-09-24 19:54 J -22281078.78 -22281078.67 -22281078.54 0.0134 0.0047

Neptune -65716-12-19 02:37 J -22280993.52 -22280993.39 -22280993.26 0.0089 0.0001

Uranus -65716-12-21 23:01 J -22280990.65 -22280990.54 -22280990.42 0.0134 0.0063

Neptune -65715-03-17 04:04 J -22280905.47 -22280905.33 -22280905.20 0.0089 0.0005

Uranus -65715-03-20 01:54 J -22280902.52 -22280902.42 -22280902.31 0.0135 0.0080

Neptune -65715-06-13 05:16 J -22280817.41 -22280817.28 -22280817.15 0.0089 0.0009

Uranus -65715-06-16 05:01 J -22280814.38 -22280814.29 -22280814.20 0.0135 0.0097

Neptune -65715-09-09 06:28 J -22280729.35 -22280729.23 -22280729.09 0.0089 0.0015

Uranus -65715-09-12 07:54 J -22280726.23 -22280726.17 -22280726.10 0.0135 0.0114

Neptune -65715-12-06 07:54 J -22280641.30 -22280641.17 -22280641.04 0.0089 0.0020

Uranus -65715-12-09 11:01 J -22280638.07 -22280638.04 -22280638.01 0.0135 0.0131

Neptune -65714-03-04 09:06 J -22280553.24 -22280553.12 -22280552.99 0.0089 0.0025

Neptune -65714-05-31 10:33 J -22280465.18 -22280465.06 -22280464.94 0.0089 0.0030

Neptune -65714-08-27 11:45 J -22280377.13 -22280377.01 -22280376.88 0.0089 0.0035

Neptune -65714-11-23 12:57 J -22280289.07 -22280288.96 -22280288.83 0.0089 0.0041

Neptune -65713-02-19 14:23 J -22280201.01 -22280200.90 -22280200.78 0.0089 0.0046

Neptune -65713-05-17 15:35 J -22280112.95 -22280112.85 -22280112.73 0.0089 0.0051

Neptune -65713-08-13 17:01 J -22280024.89 -22280024.79 -22280024.69 0.0089 0.0056

Neptune -65713-11-09 18:28 J -22279936.83 -22279936.73 -22279936.64 0.0089 0.0061

Neptune -65712-02-05 19:25 J -22279848.76 -22279848.69 -22279848.59 0.0089 0.0067

Neptune -65712-05-04 20:37 J -22279760.70 -22279760.64 -22279760.55 0.0089 0.0072

Neptune -65712-07-31 22:04 J -22279672.63 -22279672.58 -22279672.51 0.0089 0.0077

Jupiter -65712-08-01 00:57 J -22279672.58 -22279672.46 -22279672.34 0.0526 0.0174 *

Neptune -65712-10-27 23:30 J -22279584.56 -22279584.52 -22279584.47 0.0089 0.0082

Jupiter -65712-10-29 06:13 J -22279583.34 -22279583.24 -22279583.14 0.0526 0.0313

Neptune -65711-01-24 00:42 J -22279496.48 -22279496.47 -22279496.44 0.0089 0.0087

Venus -65710-01-16 04:18 J -22279139.42 -22279139.32 -22279139.23 0.3818 0.1318

Moon -65707-05-24 20:23 J -22277914.75 -22277914.65 -22277914.56 0.2699 0.1274

Earth -65707-05-24 21:06 J -22277914.72 -22277914.62 -22277914.53 0.2700 0.1298 *

Mars -65707-11-16 19:11 J -22277738.73 -22277738.70 -22277738.66 0.1966 0.1839

Jupiter -65706-06-23 21:21 J -22277519.63 -22277519.61 -22277519.57 0.0499 0.0491

Jupiter -65706-09-22 09:21 J -22277429.29 -22277429.11 -22277428.93 0.0500 0.0154

Venus -65705-07-31 20:37 J -22277115.70 -22277115.64 -22277115.58 0.3818 0.3070

Moon -65704-11-16 04:04 J -22276643.49 -22276643.33 -22276643.17 0.2634 0.0119

Earth -65704-11-16 05:30 J -22276643.43 -22276643.27 -22276643.10 0.2636 0.0217 *

Saturn -65703-12-20 09:06 J -22276244.17 -22276244.12 -22276244.07 0.0304 0.0276

Saturn -65702-03-18 22:04 J -22276155.69 -22276155.58 -22276155.46 0.0304 0.0137

Saturn -65702-06-15 11:01 J -22276067.17 -22276067.04 -22276066.91 0.0304 0.0004

Mars -65702-07-28 10:18 J -22276024.20 -22276024.07 -22276023.93 0.1574 0.0932

Saturn -65702-09-11 23:59 J -22275978.62 -22275978.50 -22275978.39 0.0304 0.0138

Saturn -65702-12-09 12:28 J -22275890.02 -22275889.98 -22275889.92 0.0304 0.0274

Earth -65700-05-17 20:37 J -22275364.72 -22275364.64 -22275364.56 0.2694 0.1745

Moon -65700-05-17 21:06 J -22275364.70 -22275364.62 -22275364.53 0.2688 0.1728 *

Jupiter -65700-05-20 05:30 J -22275362.38 -22275362.27 -22275362.17 0.0527 0.0293

Jupiter -65700-08-17 10:47 J -22275273.17 -22275273.05 -22275272.93 0.0526 0.0196

Mars -65695-03-14 20:37 J -22273602.71 -22273602.64 -22273602.56 0.1976 0.1521

Moon -65694-05-27 14:09 J -22273163.97 -22273163.91 -22273163.85 0.2706 0.2245

Earth -65694-05-27 14:37 J -22273163.94 -22273163.89 -22273163.84 0.2702 0.2369 *

Jupiter -65694-07-11 04:47 J -22273119.49 -22273119.30 -22273119.12 0.0499 0.0022

Mars -65693-12-17 12:42 J -22272594.14 -22272593.97 -22272593.80 0.1575 0.0041

Moon -65691-11-19 11:59 J -22271892.08 -22271892.00 -22271891.93 0.2636 0.2330

Earth -65691-11-19 13:40 J -22271891.98 -22271891.93 -22271891.88 0.2634 0.2497 *

Jupiter -65688-03-08 09:49 J -22271052.16 -22271052.09 -22271052.01 0.0527 0.0414

Jupiter -65688-06-05 15:21 J -22270962.99 -22270962.86 -22270962.74 0.0526 0.0077

Saturn -65688-10-08 21:49 J -22270837.65 -22270837.59 -22270837.51 0.0259 0.0239

Saturn -65687-01-05 18:13 J -22270748.91 -22270748.74 -22270748.57 0.0259 0.0115

Saturn -65687-04-04 14:37 J -22270660.08 -22270659.89 -22270659.70 0.0259 0.0010

Moon -65687-05-20 14:23 J -22270614.01 -22270613.90 -22270613.79 0.2690 0.0647

Earth -65687-05-20 14:23 J -22270614.00 -22270613.90 -22270613.79 0.2696 0.0659 *

Saturn -65687-07-02 11:01 J -22270571.20 -22270571.04 -22270570.87 0.0259 0.0136

Pluto -65686-02-02 15:49 J -22270355.89 -22270355.84 -22270355.78 0.0084 0.0077

Pluto -65686-05-01 17:16 J -22270267.86 -22270267.78 -22270267.68 0.0084 0.0066

Pluto -65686-07-28 18:57 J -22270179.81 -22270179.71 -22270179.60 0.0084 0.0055

Mars -65686-08-05 04:18 J -22270172.44 -22270172.32 -22270172.21 0.1973 0.0435

Pluto -65686-10-24 20:23 J -22270091.76 -22270091.65 -22270091.52 0.0084 0.0045

Pluto -65685-01-20 22:04 J -22270003.71 -22270003.58 -22270003.45 0.0084 0.0034

Pluto -65685-04-17 23:30 J -22269915.65 -22269915.52 -22269915.38 0.0084 0.0024

Pluto -65685-07-15 01:11 J -22269827.59 -22269827.45 -22269827.31 0.0083 0.0014

Pluto -65685-10-11 02:37 J -22269739.53 -22269739.39 -22269739.25 0.0083 0.0003

Pluto -65684-01-07 04:04 J -22269651.47 -22269651.33 -22269651.19 0.0083 0.0007

Venus -65684-03-08 19:11 J -22269590.85 -22269590.70 -22269590.55 0.3561 0.0750

Pluto -65684-04-05 05:30 J -22269563.41 -22269563.27 -22269563.13 0.0083 0.0017

Pluto -65684-07-02 06:57 J -22269475.34 -22269475.21 -22269475.08 0.0083 0.0027

Pluto -65684-09-28 08:23 J -22269387.27 -22269387.15 -22269387.02 0.0083 0.0037

Pluto -65684-12-25 09:35 J -22269299.20 -22269299.10 -22269298.97 0.0083 0.0047

Pluto -65683-03-23 11:01 J -22269211.13 -22269211.04 -22269210.93 0.0083 0.0057

Mars -65683-05-09 14:52 J -22269164.02 -22269163.88 -22269163.74 0.1578 0.0858

Pluto -65683-06-19 12:42 J -22269123.05 -22269122.97 -22269122.89 0.0082 0.0066

Pluto -65683-09-15 13:54 J -22269034.97 -22269034.92 -22269034.86 0.0082 0.0075

Jupiter -65682-04-29 01:11 J -22268809.62 -22268809.45 -22268809.27 0.0499 0.0182

Jupiter -65682-07-28 13:11 J -22268719.01 -22268718.95 -22268718.88 0.0500 0.0465

Venus -65679-09-23 02:09 J -22267566.46 -22267566.41 -22267566.35 0.3561 0.3292

Uranus -65678-08-29 15:35 J -22267225.95 -22267225.85 -22267225.74 0.0145 0.0123

Uranus -65678-11-26 00:28 J -22267137.63 -22267137.48 -22267137.32 0.0145 0.0090

Uranus -65677-02-22 09:21 J -22267049.28 -22267049.11 -22267048.93 0.0145 0.0058

Uranus -65677-05-20 18:13 J -22266960.93 -22266960.74 -22266960.54 0.0145 0.0026

Uranus -65677-08-17 03:06 J -22266872.57 -22266872.37 -22266872.17 0.0145 0.0006

Uranus -65677-11-13 11:59 J -22266784.19 -22266784.00 -22266783.81 0.0145 0.0038

Mars -65677-12-25 11:45 J -22266742.12 -22266742.01 -22266741.90 0.1970 0.0654

Uranus -65676-02-09 20:37 J -22266695.81 -22266695.64 -22266695.46 0.0145 0.0070

Jupiter -65676-03-24 19:25 J -22266652.81 -22266652.69 -22266652.56 0.0526 0.0049

Uranus -65676-05-09 05:16 J -22266607.41 -22266607.28 -22266607.13 0.0145 0.0102

Jupiter -65676-06-22 00:42 J -22266563.54 -22266563.47 -22266563.40 0.0525 0.0437

Uranus -65676-08-05 13:54 J -22266518.98 -22266518.92 -22266518.83 0.0144 0.0133

Moon -65674-05-23 07:40 J -22265863.29 -22265863.18 -22265863.07 0.2693 0.0397

Earth -65674-05-23 08:09 J -22265863.27 -22265863.16 -22265863.05 0.2698 0.0430 *

Saturn -65673-08-05 00:28 J -22265423.59 -22265423.48 -22265423.37 0.0304 0.0172

Saturn -65673-11-01 13:25 J -22265335.07 -22265334.94 -22265334.81 0.0304 0.0034

Saturn -65672-01-29 02:09 J -22265246.53 -22265246.41 -22265246.28 0.0304 0.0104

Saturn -65672-04-27 15:06 J -22265157.95 -22265157.87 -22265157.80 0.0304 0.0239

Moon -65671-11-14 03:21 J -22264592.49 -22264592.36 -22264592.23 0.2633 0.1625

Earth -65671-11-14 04:33 J -22264592.43 -22264592.31 -22264592.19 0.2638 0.1633 *

Venus -65670-01-08 00:57 J -22264537.51 -22264537.46 -22264537.41 0.3819 0.3232

Jupiter -65670-02-14 21:49 J -22264499.72 -22264499.59 -22264499.45 0.0499 0.0342

Jupiter -65670-05-16 10:04 J -22264409.23 -22264409.08 -22264408.93 0.0500 0.0306

Earth -65667-05-16 07:40 J -22263313.20 -22263313.18 -22263313.16 0.2692 0.2616

Moon -65667-05-16 08:23 J -22263313.17 -22263313.15 -22263313.13 0.2690 0.2601 *

Mars -65667-05-17 19:11 J -22263311.75 -22263311.70 -22263311.65 0.1966 0.1733

Venus -65665-07-23 17:16 J -22262513.88 -22262513.78 -22262513.69 0.3819 0.1544

Jupiter -65664-01-10 23:30 J -22262342.64 -22262342.52 -22262342.40 0.0526 0.0174

Jupiter -65664-04-10 04:47 J -22262253.40 -22262253.30 -22262253.20 0.0525 0.0314

Mars -65662-01-26 11:01 J -22261597.16 -22261597.04 -22261596.91 0.1573 0.1065

Moon -65661-05-25 01:11 J -22261112.54 -22261112.45 -22261112.36 0.2701 0.1394

Earth -65661-05-25 01:54 J -22261112.51 -22261112.42 -22261112.33 0.2700 0.1514 *

Venus -65659-02-06 09:35 J -22260490.20 -22260490.10 -22260490.00 0.3819 0.0228

Jupiter -65659-12-03 18:42 J -22260189.72 -22260189.72 -22260189.71 0.0499 0.0499

Jupiter -65658-03-04 06:42 J -22260099.40 -22260099.22 -22260099.04 0.0500 0.0147

Saturn -65658-05-25 18:28 J -22260016.88 -22260016.73 -22260016.57 0.0258 0.0146

Saturn -65658-08-22 14:52 J -22259928.07 -22259927.88 -22259927.69 0.0258 0.0021

Moon -65658-11-17 10:47 J -22259841.21 -22259841.05 -22259840.89 0.2635 0.0389

Earth -65658-11-17 12:28 J -22259841.14 -22259840.98 -22259840.83 0.2636 0.0638 *

Saturn -65658-11-19 11:16 J -22259839.20 -22259839.03 -22259838.85 0.0258 0.0105

Saturn -65657-02-16 07:54 J -22259750.25 -22259750.17 -22259750.08 0.0258 0.0231

Mars -65656-09-12 20:37 J -22259175.70 -22259175.64 -22259175.58 0.1976 0.1619

Earth -65654-05-19 01:25 J -22258562.53 -22258562.44 -22258562.35 0.2694 0.1530

Moon -65654-05-19 01:54 J -22258562.51 -22258562.42 -22258562.33 0.2689 0.1423 *

Venus -65654-08-23 01:54 J -22258466.51 -22258466.42 -22258466.33 0.3818 0.1939

Mars -65653-06-17 13:11 J -22258167.11 -22258166.95 -22258166.78 0.1576 0.0179

Jupiter -65653-10-30 03:35 J -22258032.46 -22258032.35 -22258032.25 0.0526 0.0302

Jupiter -65652-01-27 08:52 J -22257943.25 -22257943.13 -22257943.01 0.0526 0.0187

Venus -65648-03-07 18:28 J -22256442.76 -22256442.73 -22256442.71 0.3818 0.3705

Moon -65648-05-27 18:57 J -22256361.74 -22256361.71 -22256361.68 0.2707 0.2593

Earth -65648-05-27 19:25 J -22256361.72 -22256361.69 -22256361.66 0.2702 0.2584 *

Jupiter -65647-12-21 03:06 J -22255789.56 -22255789.37 -22255789.18 0.0499 0.0016

Mars -65646-02-03 04:04 J -22255745.43 -22255745.33 -22255745.22 0.1974 0.0544

Mars -65644-11-07 15:35 J -22254737.00 -22254736.85 -22254736.70 0.1578 0.0715

Saturn -65644-12-23 03:06 J -22254691.46 -22254691.37 -22254691.27 0.0304 0.0204

Saturn -65643-03-21 16:04 J -22254602.95 -22254602.83 -22254602.70 0.0304 0.0066

Saturn -65643-06-18 05:01 J -22254514.42 -22254514.29 -22254514.16 0.0304 0.0071

Saturn -65643-09-14 17:45 J -22254425.85 -22254425.76 -22254425.66 0.0304 0.0207

Moon -65641-05-20 19:11 J -22253811.81 -22253811.70 -22253811.60 0.2690 0.0504

Earth -65641-05-20 19:11 J -22253811.80 -22253811.70 -22253811.59 0.2697 0.0441 *

Jupiter -65641-08-18 07:54 J -22253722.25 -22253722.17 -22253722.10 0.0527 0.0423

Jupiter -65641-11-15 13:11 J -22253633.07 -22253632.95 -22253632.82 0.0526 0.0070

Mars -65637-06-25 11:45 J -22252315.12 -22252315.01 -22252314.90 0.1970 0.0533

Neptune -65636-01-25 18:57 J -22252100.71 -22252100.71 -22252100.66 0.0089 0.0088

Neptune -65636-04-23 23:01 J -22252012.62 -22252012.54 -22252012.46 0.0089 0.0080

Neptune -65636-07-21 02:23 J -22251924.50 -22251924.40 -22251924.28 0.0089 0.0073

Neptune -65636-10-17 06:13 J -22251836.37 -22251836.24 -22251836.11 0.0089 0.0065

Neptune -65635-01-13 09:35 J -22251748.23 -22251748.10 -22251747.94 0.0089 0.0058

Neptune -65635-04-11 13:25 J -22251660.09 -22251659.94 -22251659.77 0.0089 0.0050

Neptune -65635-07-08 16:47 J -22251571.95 -22251571.80 -22251571.61 0.0089 0.0043

Neptune -65635-10-04 20:37 J -22251483.81 -22251483.64 -22251483.45 0.0089 0.0035

Jupiter -65635-10-08 22:33 J -22251479.73 -22251479.56 -22251479.38 0.0499 0.0189

Neptune -65634-01-01 00:28 J -22251395.67 -22251395.48 -22251395.29 0.0089 0.0027

Jupiter -65634-01-07 10:33 J -22251389.13 -22251389.06 -22251388.99 0.0499 0.0458

Uranus -65634-02-18 19:25 J -22251346.71 -22251346.69 -22251346.67 0.0133 0.0131

Neptune -65634-03-30 04:04 J -22251307.52 -22251307.33 -22251307.14 0.0089 0.0019

Uranus -65634-05-17 22:04 J -22251258.63 -22251258.58 -22251258.50 0.0133 0.0116

Neptune -65634-06-26 07:40 J -22251219.37 -22251219.18 -22251218.98 0.0089 0.0012

Uranus -65634-08-14 01:11 J -22251170.53 -22251170.45 -22251170.36 0.0133 0.0099

Neptune -65634-09-22 11:30 J -22251131.22 -22251131.02 -22251130.83 0.0089 0.0004

Uranus -65634-11-10 04:04 J -22251082.43 -22251082.33 -22251082.22 0.0133 0.0082

Neptune -65634-12-19 15:06 J -22251043.07 -22251042.87 -22251042.67 0.0089 0.0004

Uranus -65633-02-06 06:57 J -22250994.32 -22250994.21 -22250994.09 0.0134 0.0066

Neptune -65633-03-16 18:42 J -22250954.91 -22250954.72 -22250954.52 0.0088 0.0011

Venus -65633-03-29 13:25 J -22250941.96 -22250941.94 -22250941.92 0.3561 0.3514

Uranus -65633-05-04 10:04 J -22250906.20 -22250906.08 -22250905.96 0.0134 0.0049

Neptune -65633-06-12 22:33 J -22250866.76 -22250866.56 -22250866.37 0.0088 0.0019

Uranus -65633-07-31 12:57 J -22250818.08 -22250817.96 -22250817.83 0.0134 0.0032

Neptune -65633-09-09 01:54 J -22250778.60 -22250778.42 -22250778.22 0.0088 0.0027

Uranus -65633-10-27 15:49 J -22250729.97 -22250729.84 -22250729.70 0.0134 0.0016

Neptune -65633-12-06 05:30 J -22250690.44 -22250690.27 -22250690.08 0.0088 0.0035

Uranus -65632-01-23 18:57 J -22250641.84 -22250641.71 -22250641.58 0.0134 0.0003

Neptune -65632-03-04 09:21 J -22250602.28 -22250602.11 -22250601.93 0.0088 0.0042

Uranus -65632-04-21 21:49 J -22250553.72 -22250553.59 -22250553.46 0.0134 0.0018

Neptune -65632-05-31 12:57 J -22250514.11 -22250513.96 -22250513.79 0.0088 0.0050

Uranus -65632-07-19 00:42 J -22250465.59 -22250465.47 -22250465.34 0.0134 0.0035

Neptune -65632-08-27 16:33 J -22250425.95 -22250425.81 -22250425.65 0.0088 0.0057

Uranus -65632-10-15 03:35 J -22250377.46 -22250377.35 -22250377.22 0.0134 0.0052

Neptune -65632-11-23 20:23 J -22250337.78 -22250337.65 -22250337.51 0.0088 0.0065

Uranus -65631-01-11 06:28 J -22250289.33 -22250289.23 -22250289.11 0.0134 0.0070

Neptune -65631-02-19 23:59 J -22250249.60 -22250249.50 -22250249.38 0.0088 0.0073

Uranus -65631-04-09 09:35 J -22250201.20 -22250201.10 -22250201.00 0.0134 0.0086

Neptune -65631-05-19 03:21 J -22250161.42 -22250161.36 -22250161.25 0.0088 0.0081

Uranus -65631-07-06 12:42 J -22250113.05 -22250112.97 -22250112.89 0.0135 0.0103

Neptune -65631-08-15 07:25 J -22250073.20 -22250073.19 -22250073.16 0.0088 0.0088

Uranus -65631-10-02 15:35 J -22250024.90 -22250024.85 -22250024.79 0.0135 0.0120

Jupiter -65629-09-03 17:45 J -22249322.89 -22249322.76 -22249322.64 0.0527 0.0055

Saturn -65629-10-11 19:11 J -22249284.84 -22249284.70 -22249284.56 0.0259 0.0173

Jupiter -65629-12-01 23:01 J -22249233.61 -22249233.54 -22249233.47 0.0526 0.0434

Saturn -65628-01-08 15:35 J -22249196.04 -22249195.85 -22249195.66 0.0259 0.0048

Saturn -65628-04-07 11:59 J -22249107.18 -22249107.00 -22249106.82 0.0259 0.0077

Moon -65628-05-23 12:28 J -22249061.09 -22249060.98 -22249060.88 0.2694 0.0582

Earth -65628-05-23 12:57 J -22249061.07 -22249060.96 -22249060.85 0.2699 0.0645 *

Saturn -65628-07-05 08:37 J -22249018.26 -22249018.14 -22249018.02 0.0259 0.0203

Venus -65628-10-13 20:52 J -22248917.79 -22248917.63 -22248917.48 0.3561 0.0629

Mars -65628-11-15 19:11 J -22248884.76 -22248884.70 -22248884.64 0.1966 0.1621

Moon -65625-11-14 10:04 J -22247790.22 -22247790.08 -22247789.94 0.2633 0.1419

Earth -65625-11-14 11:16 J -22247790.17 -22247790.03 -22247789.89 0.2638 0.1206 *

Mars -65623-07-27 11:45 J -22247170.11 -22247170.01 -22247169.90 0.1573 0.1202

Jupiter -65623-07-27 18:57 J -22247169.84 -22247169.71 -22247169.57 0.0499 0.0351

Jupiter -65623-10-26 06:57 J -22247079.36 -22247079.21 -22247079.06 0.0499 0.0295

Earth -65621-05-16 12:28 J -22246511.02 -22246510.98 -22246510.93 0.2692 0.2399

Moon -65621-05-16 13:11 J -22246511.01 -22246510.95 -22246510.89 0.2689 0.2257 *

Jupiter -65617-06-22 21:49 J -22245012.71 -22245012.59 -22245012.47 0.0526 0.0180

Jupiter -65617-09-20 03:06 J -22244923.47 -22244923.37 -22244923.27 0.0526 0.0308

Mars -65616-03-13 20:37 J -22244748.69 -22244748.64 -22244748.59 0.1976 0.1732

Moon -65615-05-26 05:59 J -22244310.34 -22244310.25 -22244310.17 0.2702 0.1678

Earth -65615-05-26 06:42 J -22244310.31 -22244310.22 -22244310.14 0.2701 0.1724 *

Saturn -65614-05-12 05:59 J -22243959.33 -22243959.25 -22243959.17 0.0304 0.0234

Saturn -65614-08-08 18:57 J -22243870.83 -22243870.71 -22243870.59 0.0304 0.0096

Venus -65614-08-14 22:33 J -22243864.63 -22243864.56 -22243864.49 0.3819 0.2635

Saturn -65614-11-05 07:54 J -22243782.30 -22243782.17 -22243782.05 0.0304 0.0042

Mars -65614-12-17 13:54 J -22243740.08 -22243739.92 -22243739.75 0.1575 0.0311

Saturn -65613-02-01 20:37 J -22243693.75 -22243693.64 -22243693.54 0.0304 0.0177

Moon -65612-11-17 17:16 J -22243038.93 -22243038.78 -22243038.63 0.2636 0.0997

Earth -65612-11-17 19:11 J -22243038.85 -22243038.70 -22243038.56 0.2636 0.1062 *

Jupiter -65611-08-14 03:21 J -22242769.54 -22242769.36 -22242769.17 0.0500 0.0134

Venus -65608-02-27 14:52 J -22241840.98 -22241840.88 -22241840.79 0.3819 0.0934

Earth -65608-05-19 06:13 J -22241760.33 -22241760.24 -22241760.14 0.2695 0.1310

Moon -65608-05-19 06:42 J -22241760.32 -22241760.22 -22241760.13 0.2689 0.1317 *

Mars -65607-08-04 04:18 J -22241318.43 -22241318.32 -22241318.22 0.1973 0.0661

Jupiter -65605-04-11 01:54 J -22240702.52 -22240702.42 -22240702.32 0.0526 0.0305

Jupiter -65605-07-09 07:11 J -22240613.31 -22240613.20 -22240613.08 0.0526 0.0185

Mars -65604-05-08 16:18 J -22240309.98 -22240309.82 -22240309.66 0.1578 0.0582

Venus -65603-09-13 07:11 J -22239817.30 -22239817.20 -22239817.10 0.3819 0.0815

Saturn -65599-02-28 19:40 J -22238552.79 -22238552.68 -22238552.56 0.0258 0.0202

Saturn -65599-05-28 16:04 J -22238464.01 -22238463.83 -22238463.64 0.0258 0.0077

Jupiter -65599-06-01 23:59 J -22238459.68 -22238459.50 -22238459.31 0.0499 0.0028

Saturn -65599-08-25 12:28 J -22238375.16 -22238374.98 -22238374.79 0.0258 0.0049

Saturn -65599-11-22 09:06 J -22238286.26 -22238286.12 -22238285.98 0.0259 0.0174

Mars -65598-12-25 11:45 J -22237888.13 -22237888.01 -22237887.90 0.1970 0.0444

Venus -65597-03-28 23:30 J -22237793.59 -22237793.52 -22237793.44 0.3818 0.2560

Moon -65595-05-21 23:45 J -22237009.62 -22237009.51 -22237009.40 0.2690 0.0211

Earth -65595-05-21 23:59 J -22237009.61 -22237009.50 -22237009.39 0.2697 0.0230 *

Mars -65595-09-28 18:28 J -22236879.79 -22236879.73 -22236879.67 0.1581 0.1476

Uranus -65594-09-18 23:30 J -22236524.64 -22236524.52 -22236524.40 0.0145 0.0114

Uranus -65594-12-16 08:23 J -22236436.31 -22236436.15 -22236435.99 0.0145 0.0081

Jupiter -65593-01-29 05:45 J -22236392.33 -22236392.26 -22236392.19 0.0526 0.0434

Uranus -65593-03-13 17:16 J -22236347.96 -22236347.78 -22236347.60 0.0145 0.0049

Jupiter -65593-04-27 11:16 J -22236303.16 -22236303.03 -22236302.91 0.0526 0.0057

Uranus -65593-06-10 02:09 J -22236259.61 -22236259.41 -22236259.22 0.0145 0.0017

Uranus -65593-09-06 11:01 J -22236171.24 -22236171.04 -22236170.85 0.0145 0.0015

Uranus -65593-12-03 19:40 J -22236082.86 -22236082.68 -22236082.49 0.0145 0.0047

Uranus -65592-03-02 04:33 J -22235994.47 -22235994.31 -22235994.15 0.0145 0.0079

Uranus -65592-05-29 13:11 J -22235906.07 -22235905.95 -22235905.82 0.0145 0.0111

Uranus -65592-08-25 21:49 J -22235817.61 -22235817.59 -22235817.55 0.0144 0.0143

Mars -65588-05-16 19:11 J -22234457.77 -22234457.70 -22234457.63 0.1966 0.1502

Jupiter -65587-03-20 20:23 J -22234149.82 -22234149.65 -22234149.47 0.0499 0.0190

Jupiter -65587-06-19 08:23 J -22234059.22 -22234059.15 -22234059.07 0.0500 0.0459

Saturn -65585-09-28 08:52 J -22233227.19 -22233227.13 -22233227.07 0.0304 0.0265

Saturn -65585-12-25 21:49 J -22233138.71 -22233138.59 -22233138.47 0.0304 0.0127

Saturn -65584-03-24 10:47 J -22233050.18 -22233050.05 -22233049.92 0.0304 0.0014

Saturn -65584-06-20 23:30 J -22232961.63 -22232961.52 -22232961.41 0.0304 0.0147

Saturn -65584-09-17 12:13 J -22232873.03 -22232872.99 -22232872.94 0.0304 0.0282

Mars -65583-01-25 12:28 J -22232743.06 -22232742.98 -22232742.89 0.1573 0.1342

Moon -65582-05-24 17:01 J -22232258.89 -22232258.79 -22232258.68 0.2696 0.0772

Earth -65582-05-24 17:45 J -22232258.86 -22232258.76 -22232258.66 0.2699 0.0860 *

Jupiter -65581-02-14 15:35 J -22231992.98 -22231992.85 -22231992.73 0.0526 0.0067

Jupiter -65581-05-13 20:52 J -22231903.70 -22231903.63 -22231903.56 0.0526 0.0422

Moon -65579-11-15 16:33 J -22230987.96 -22230987.81 -22230987.65 0.2634 0.0827

Earth -65579-11-15 17:59 J -22230987.90 -22230987.75 -22230987.60 0.2638 0.0785 *

Mars -65577-09-11 20:37 J -22230321.67 -22230321.64 -22230321.60 0.1976 0.1860

Venus -65577-11-03 15:06 J -22230268.99 -22230268.87 -22230268.74 0.3561 0.2121

Jupiter -65575-01-06 16:18 J -22229839.95 -22229839.82 -22229839.69 0.0499 0.0360

Jupiter -65575-04-07 04:04 J -22229749.48 -22229749.33 -22229749.18 0.0499 0.0285

Earth -65575-05-17 17:16 J -22229708.84 -22229708.78 -22229708.71 0.2693 0.2181

Moon -65575-05-17 17:59 J -22229708.81 -22229708.75 -22229708.68 0.2690 0.2159 *

Mars -65574-06-17 14:52 J -22229313.04 -22229312.88 -22229312.72 0.1575 0.0452

Venus -65571-05-20 22:33 J -22228244.69 -22228244.56 -22228244.44 0.3561 0.2011

Saturn -65570-07-18 20:37 J -22227820.72 -22227820.64 -22227820.54 0.0259 0.0227

Saturn -65570-10-15 17:01 J -22227731.96 -22227731.79 -22227731.61 0.0259 0.0103

Jupiter -65570-12-03 19:54 J -22227682.79 -22227682.67 -22227682.55 0.0527 0.0189

Saturn -65569-01-12 13:25 J -22227643.13 -22227642.94 -22227642.75 0.0259 0.0023

Jupiter -65569-03-02 01:11 J -22227593.55 -22227593.45 -22227593.35 0.0526 0.0301

Saturn -65569-04-10 10:04 J -22227554.24 -22227554.08 -22227553.92 0.0259 0.0148

Moon -65569-05-26 10:47 J -22227508.13 -22227508.05 -22227507.97 0.2702 0.1840

Earth -65569-05-26 11:30 J -22227508.10 -22227508.02 -22227507.95 0.2701 0.1940 *

Mars -65567-02-02 04:04 J -22226891.43 -22226891.33 -22226891.22 0.1973 0.0768

Moon -65566-11-18 23:59 J -22226236.64 -22226236.50 -22226236.36 0.2635 0.1196

Earth -65566-11-19 01:54 J -22226236.55 -22226236.42 -22226236.29 0.2635 0.1491 *

Mars -65565-11-06 17:01 J -22225882.96 -22225882.79 -22225882.63 0.1578 0.0446

Jupiter -65563-01-24 00:28 J -22225439.67 -22225439.48 -22225439.30 0.0499 0.0122

Venus -65563-09-05 03:49 J -22225215.36 -22225215.34 -22225215.32 0.3819 0.3731

Moon -65562-05-20 11:16 J -22224958.13 -22224958.03 -22224957.93 0.2689 0.1009

Earth -65562-05-20 11:16 J -22224958.13 -22224958.03 -22224957.94 0.2695 0.1096 *

Mars -65558-06-25 11:45 J -22223461.12 -22223461.01 -22223460.90 0.1970 0.0313

Jupiter -65558-09-21 23:59 J -22223372.60 -22223372.50 -22223372.40 0.0527 0.0314

Jupiter -65558-12-20 05:16 J -22223283.39 -22223283.28 -22223283.16 0.0526 0.0176

Venus -65557-03-20 20:09 J -22223191.75 -22223191.66 -22223191.58 0.3819 0.2040

Saturn -65555-02-15 11:45 J -22222495.04 -22222495.01 -22222494.98 0.0304 0.0293

Mars -65555-03-29 19:11 J -22222452.79 -22222452.70 -22222452.61 0.1580 0.1340

Saturn -65555-05-15 00:42 J -22222406.58 -22222406.47 -22222406.35 0.0304 0.0155

Saturn -65555-08-11 13:40 J -22222318.06 -22222317.93 -22222317.80 0.0304 0.0018

Neptune -65555-11-06 03:49 J -22222231.36 -22222231.34 -22222231.30 0.0089 0.0086

Saturn -65555-11-08 02:37 J -22222229.51 -22222229.39 -22222229.27 0.0304 0.0120

Neptune -65554-02-02 05:16 J -22222143.33 -22222143.28 -22222143.22 0.0089 0.0080

Saturn -65554-02-04 15:06 J -22222140.93 -22222140.87 -22222140.79 0.0304 0.0256

Neptune -65554-05-01 06:42 J -22222055.29 -22222055.22 -22222055.15 0.0089 0.0075

Neptune -65554-07-28 07:54 J -22221967.24 -22221967.17 -22221967.08 0.0089 0.0070

Neptune -65554-10-24 09:06 J -22221879.19 -22221879.12 -22221879.01 0.0089 0.0065

Neptune -65553-01-20 10:47 J -22221791.15 -22221791.05 -22221790.95 0.0089 0.0059

Neptune -65553-04-17 11:59 J -22221703.10 -22221703.00 -22221702.89 0.0089 0.0054

Neptune -65553-07-14 13:25 J -22221615.05 -22221614.94 -22221614.83 0.0089 0.0049

Neptune -65553-10-10 14:37 J -22221527.00 -22221526.89 -22221526.77 0.0089 0.0044

Neptune -65552-01-06 16:04 J -22221438.95 -22221438.83 -22221438.71 0.0089 0.0038

Neptune -65552-04-04 17:30 J -22221350.89 -22221350.77 -22221350.65 0.0089 0.0033

Neptune -65552-07-01 18:42 J -22221262.84 -22221262.72 -22221262.59 0.0089 0.0028

Neptune -65552-09-27 20:09 J -22221174.79 -22221174.66 -22221174.53 0.0089 0.0022

Venus -65552-10-04 12:28 J -22221168.08 -22221167.98 -22221167.88 0.3819 0.0320

Jupiter -65552-11-11 20:37 J -22221129.82 -22221129.64 -22221129.45 0.0499 0.0043

Neptune -65552-12-24 21:21 J -22221086.73 -22221086.61 -22221086.47 0.0089 0.0017

Neptune -65551-03-22 22:47 J -22220998.68 -22220998.55 -22220998.42 0.0089 0.0012

Neptune -65551-06-18 23:59 J -22220910.63 -22220910.50 -22220910.36 0.0089 0.0008

Neptune -65551-09-15 01:25 J -22220822.57 -22220822.44 -22220822.31 0.0089 0.0002

Neptune -65551-12-12 02:37 J -22220734.52 -22220734.39 -22220734.25 0.0089 0.0005

Neptune -65550-03-10 04:04 J -22220646.46 -22220646.33 -22220646.20 0.0089 0.0009

Uranus -65550-03-11 02:52 J -22220645.41 -22220645.38 -22220645.32 0.0133 0.0125

Neptune -65550-06-06 05:16 J -22220558.41 -22220558.28 -22220558.14 0.0089 0.0014

Uranus -65550-06-07 05:59 J -22220557.32 -22220557.25 -22220557.17 0.0133 0.0108

Neptune -65550-09-02 06:42 J -22220470.35 -22220470.22 -22220470.09 0.0089 0.0019

Uranus -65550-09-03 08:52 J -22220469.22 -22220469.13 -22220469.03 0.0133 0.0092

Neptune -65550-11-29 07:54 J -22220382.29 -22220382.17 -22220382.04 0.0089 0.0025

Uranus -65550-11-30 11:59 J -22220381.11 -22220381.00 -22220380.89 0.0133 0.0075

Neptune -65549-02-25 09:21 J -22220294.24 -22220294.11 -22220293.99 0.0089 0.0030

Uranus -65549-02-26 14:52 J -22220293.00 -22220292.88 -22220292.76 0.0133 0.0059

Moon -65549-05-22 04:33 J -22220207.42 -22220207.31 -22220207.20 0.2690 0.0103

Earth -65549-05-22 04:47 J -22220207.41 -22220207.30 -22220207.19 0.2697 0.0067 *

Neptune -65549-05-23 10:33 J -22220206.18 -22220206.06 -22220205.94 0.0089 0.0035

Uranus -65549-05-24 17:45 J -22220204.88 -22220204.76 -22220204.63 0.0134 0.0042

Neptune -65549-08-19 11:59 J -22220118.12 -22220118.00 -22220117.88 0.0089 0.0040

Uranus -65549-08-20 20:37 J -22220116.76 -22220116.64 -22220116.51 0.0134 0.0026

Mars -65549-11-14 19:11 J -22220030.78 -22220030.70 -22220030.62 0.1966 0.1396

Neptune -65549-11-15 12:57 J -22220030.06 -22220029.96 -22220029.83 0.0089 0.0046

Uranus -65549-11-16 23:45 J -22220028.64 -22220028.51 -22220028.38 0.0134 0.0009

Neptune -65548-02-11 14:23 J -22219942.00 -22219941.90 -22219941.79 0.0089 0.0051

Uranus -65548-02-13 02:37 J -22219940.52 -22219940.39 -22219940.26 0.0134 0.0008

Neptune -65548-05-10 15:35 J -22219853.94 -22219853.85 -22219853.74 0.0089 0.0056

Uranus -65548-05-12 05:30 J -22219852.40 -22219852.27 -22219852.14 0.0134 0.0025

Neptune -65548-08-06 17:01 J -22219765.88 -22219765.79 -22219765.69 0.0089 0.0061

Uranus -65548-08-08 08:23 J -22219764.27 -22219764.15 -22219764.02 0.0134 0.0042

Neptune -65548-11-02 18:28 J -22219677.82 -22219677.73 -22219677.64 0.0089 0.0066

Uranus -65548-11-04 11:30 J -22219676.14 -22219676.02 -22219675.90 0.0134 0.0059

Neptune -65547-01-29 19:40 J -22219589.75 -22219589.68 -22219589.60 0.0089 0.0071

Uranus -65547-01-31 14:23 J -22219588.01 -22219587.90 -22219587.79 0.0134 0.0076

Neptune -65547-04-27 20:52 J -22219501.69 -22219501.63 -22219501.56 0.0089 0.0077

Uranus -65547-04-29 17:16 J -22219499.87 -22219499.78 -22219499.68 0.0134 0.0093

Neptune -65547-07-24 22:04 J -22219413.62 -22219413.58 -22219413.52 0.0089 0.0082

Uranus -65547-07-26 20:23 J -22219411.72 -22219411.65 -22219411.58 0.0134 0.0110

Neptune -65547-10-20 23:30 J -22219325.54 -22219325.52 -22219325.49 0.0089 0.0087

Uranus -65547-10-22 23:16 J -22219323.57 -22219323.53 -22219323.48 0.0135 0.0127

Venus -65546-04-20 04:47 J -22219144.40 -22219144.30 -22219144.21 0.3818 0.1429

Jupiter -65546-07-11 04:04 J -22219062.40 -22219062.33 -22219062.26 0.0526 0.0438

Jupiter -65546-10-08 09:35 J -22218973.23 -22218973.10 -22218972.98 0.0526 0.0052

Earth -65546-11-13 17:01 J -22218936.81 -22218936.79 -22218936.77 0.2640 0.2607

Mars -65544-07-26 13:11 J -22218316.00 -22218315.95 -22218315.89 0.1573 0.1476

Venus -65541-11-02 21:06 J -22217120.67 -22217120.62 -22217120.56 0.3818 0.3193

Saturn -65541-12-04 21:21 J -22217088.63 -22217088.61 -22217088.57 0.0258 0.0255

Saturn -65540-03-03 17:45 J -22216999.92 -22216999.76 -22216999.59 0.0258 0.0131

Saturn -65540-05-31 14:23 J -22216911.10 -22216910.90 -22216910.71 0.0258 0.0009

Saturn -65540-08-28 10:47 J -22216822.22 -22216822.05 -22216821.88 0.0259 0.0120

Jupiter -65540-08-30 17:16 J -22216819.95 -22216819.78 -22216819.61 0.0499 0.0203

Saturn -65540-11-25 07:25 J -22216733.25 -22216733.19 -22216733.13 0.0259 0.0246

Jupiter -65540-11-29 05:16 J -22216729.36 -22216729.28 -22216729.19 0.0500 0.0446

Mars -65537-03-12 20:37 J -22215894.66 -22215894.64 -22215894.63 0.1976 0.1952

Moon -65536-05-24 21:49 J -22215456.69 -22215456.59 -22215456.49 0.2698 0.1039

Earth -65536-05-24 22:33 J -22215456.66 -22215456.56 -22215456.46 0.2699 0.1075 *

Mars -65535-12-16 15:21 J -22214886.01 -22214885.86 -22214885.70 0.1575 0.0588

Jupiter -65534-07-27 13:25 J -22214663.07 -22214662.94 -22214662.82 0.0526 0.0078

Jupiter -65534-10-24 18:42 J -22214573.80 -22214573.72 -22214573.64 0.0525 0.0410

Pluto -65534-11-19 05:59 J -22214548.25 -22214548.25 -22214548.24 0.0061 0.0061

Pluto -65533-02-15 06:42 J -22214460.27 -22214460.22 -22214460.13 0.0061 0.0056

Pluto -65533-05-13 07:54 J -22214372.25 -22214372.17 -22214372.05 0.0061 0.0051

Pluto -65533-08-09 09:06 J -22214284.22 -22214284.12 -22214283.99 0.0061 0.0046

Pluto -65533-11-05 10:18 J -22214196.19 -22214196.07 -22214195.92 0.0061 0.0041

Moon -65533-11-15 23:01 J -22214185.70 -22214185.54 -22214185.38 0.2635 0.0572

Earth -65533-11-16 00:42 J -22214185.63 -22214185.47 -22214185.31 0.2637 0.0362 *

Pluto -65532-02-01 11:30 J -22214108.15 -22214108.02 -22214107.86 0.0061 0.0036

Pluto -65532-04-30 12:42 J -22214020.11 -22214019.97 -22214019.80 0.0061 0.0031

Pluto -65532-07-27 13:54 J -22213932.07 -22213931.92 -22213931.74 0.0061 0.0026

Pluto -65532-10-23 15:06 J -22213844.02 -22213843.87 -22213843.68 0.0061 0.0022

Pluto -65531-01-19 16:18 J -22213755.98 -22213755.82 -22213755.63 0.0061 0.0017

Pluto -65531-04-17 17:59 J -22213667.93 -22213667.75 -22213667.57 0.0061 0.0011

Pluto -65531-07-14 19:11 J -22213579.88 -22213579.70 -22213579.52 0.0061 0.0006

Pluto -65531-10-10 20:23 J -22213491.83 -22213491.65 -22213491.47 0.0061 0.0000

Pluto -65530-01-06 21:35 J -22213403.78 -22213403.60 -22213403.42 0.0062 0.0005

Pluto -65530-04-04 22:33 J -22213315.73 -22213315.56 -22213315.37 0.0062 0.0011

Pluto -65530-07-01 23:59 J -22213227.67 -22213227.50 -22213227.32 0.0062 0.0016

Pluto -65530-09-28 01:11 J -22213139.61 -22213139.45 -22213139.27 0.0062 0.0021

Pluto -65530-12-25 02:37 J -22213051.55 -22213051.39 -22213051.22 0.0062 0.0026

Pluto -65529-03-22 03:35 J -22212963.49 -22212963.35 -22212963.18 0.0062 0.0032

Earth -65529-05-17 22:18 J -22212906.65 -22212906.57 -22212906.50 0.2693 0.1961

Moon -65529-05-17 22:47 J -22212906.63 -22212906.55 -22212906.47 0.2690 0.1835 *

Pluto -65529-06-18 04:47 J -22212875.43 -22212875.30 -22212875.13 0.0062 0.0037

Pluto -65529-09-14 06:13 J -22212787.36 -22212787.24 -22212787.09 0.0062 0.0043

Pluto -65529-12-11 07:25 J -22212699.29 -22212699.19 -22212699.06 0.0062 0.0048

Pluto -65528-03-09 08:52 J -22212611.21 -22212611.13 -22212611.03 0.0062 0.0053

Pluto -65528-06-05 09:49 J -22212523.12 -22212523.09 -22212523.01 0.0062 0.0059

Jupiter -65528-06-18 13:40 J -22212510.05 -22212509.93 -22212509.80 0.0499 0.0365

Mars -65528-08-03 04:18 J -22212464.43 -22212464.32 -22212464.22 0.1974 0.0884

Jupiter -65528-09-17 01:40 J -22212419.58 -22212419.43 -22212419.27 0.0500 0.0283

Saturn -65526-10-02 03:49 J -22211674.44 -22211674.34 -22211674.24 0.0304 0.0183

Saturn -65526-12-29 16:47 J -22211585.93 -22211585.80 -22211585.67 0.0304 0.0046

Saturn -65525-03-27 05:45 J -22211497.39 -22211497.26 -22211497.14 0.0304 0.0092

Mars -65525-05-07 17:45 J -22211455.93 -22211455.76 -22211455.59 0.1578 0.0303

Saturn -65525-06-23 18:28 J -22211408.81 -22211408.73 -22211408.65 0.0304 0.0227

Moon -65523-05-27 15:35 J -22210705.92 -22210705.85 -22210705.78 0.2703 0.2084

Earth -65523-05-27 16:18 J -22210705.89 -22210705.82 -22210705.76 0.2701 0.2151 *

Jupiter -65522-05-15 17:45 J -22210352.88 -22210352.76 -22210352.65 0.0527 0.0202

Jupiter -65522-08-12 23:01 J -22210263.65 -22210263.54 -22210263.44 0.0526 0.0288

Venus -65520-06-10 16:47 J -22209595.95 -22209595.80 -22209595.64 0.3561 0.0717

Moon -65520-11-19 06:42 J -22209434.33 -22209434.22 -22209434.10 0.2635 0.1856

Earth -65520-11-19 08:37 J -22209434.25 -22209434.14 -22209434.03 0.2635 0.1916 *

Mars -65519-12-24 11:45 J -22209034.12 -22209034.01 -22209033.90 0.1970 0.0198

Earth -65516-05-20 16:04 J -22208155.94 -22208155.83 -22208155.73 0.2695 0.0879

Moon -65516-05-20 16:04 J -22208155.93 -22208155.83 -22208155.73 0.2688 0.0917 *

Jupiter -65516-07-05 21:35 J -22208109.79 -22208109.60 -22208109.42 0.0499 0.0113

Mars -65516-09-27 19:54 J -22208025.78 -22208025.67 -22208025.56 0.1580 0.1203

Venus -65515-12-26 00:13 J -22207571.54 -22207571.49 -22207571.45 0.3561 0.3393

Saturn -65511-07-21 18:42 J -22206267.86 -22206267.72 -22206267.56 0.0259 0.0157

Saturn -65511-10-18 15:06 J -22206179.06 -22206178.87 -22206178.68 0.0259 0.0032

Saturn -65510-01-15 11:30 J -22206090.19 -22206090.02 -22206089.83 0.0259 0.0094

Jupiter -65510-03-03 21:49 J -22206042.69 -22206042.59 -22206042.49 0.0527 0.0326

Saturn -65510-04-14 08:09 J -22206001.25 -22206001.16 -22206001.05 0.0259 0.0220

Jupiter -65510-06-01 03:21 J -22205953.48 -22205953.36 -22205953.24 0.0526 0.0166

Uranus -65510-07-12 20:37 J -22205911.66 -22205911.64 -22205911.59 0.0146 0.0143

Uranus -65510-10-09 05:45 J -22205823.38 -22205823.26 -22205823.13 0.0145 0.0110

Uranus -65509-01-05 14:37 J -22205735.05 -22205734.89 -22205734.72 0.0145 0.0078

Uranus -65509-04-02 23:30 J -22205646.70 -22205646.52 -22205646.33 0.0145 0.0045

Mars -65509-05-15 19:11 J -22205603.79 -22205603.70 -22205603.62 0.1966 0.1285

Uranus -65509-06-30 08:23 J -22205558.34 -22205558.15 -22205557.95 0.0145 0.0013

Uranus -65509-09-26 17:16 J -22205469.97 -22205469.78 -22205469.58 0.0145 0.0019

Uranus -65509-12-24 02:09 J -22205381.59 -22205381.41 -22205381.23 0.0145 0.0051

Uranus -65508-03-22 11:01 J -22205293.20 -22205293.04 -22205292.88 0.0145 0.0083

Uranus -65508-06-18 19:40 J -22205204.79 -22205204.68 -22205204.56 0.0145 0.0115

Venus -65506-04-12 01:25 J -22204542.50 -22204542.44 -22204542.39 0.3819 0.3144

Jupiter -65504-04-23 17:45 J -22203799.94 -22203799.76 -22203799.57 0.0499 0.0052

Moon -65503-05-23 09:21 J -22203405.22 -22203405.11 -22203405.00 0.2692 0.0231

Earth -65503-05-23 09:35 J -22203405.20 -22203405.10 -22203404.99 0.2697 0.0226 *

Venus -65501-10-25 17:45 J -22202518.86 -22202518.76 -22202518.67 0.3819 0.1437

Moon -65500-11-13 23:01 J -22202134.63 -22202134.54 -22202134.46 0.2634 0.2225

Earth -65500-11-13 23:45 J -22202134.60 -22202134.51 -22202134.42 0.2640 0.2178 *

Jupiter -65499-12-21 01:54 J -22201732.48 -22201732.42 -22201732.35 0.0527 0.0450

Jupiter -65498-03-20 07:25 J -22201643.31 -22201643.19 -22201643.06 0.0526 0.0043

Saturn -65496-02-18 06:42 J -22200942.31 -22200942.22 -22200942.13 0.0304 0.0213

Saturn -65496-05-17 19:40 J -22200853.80 -22200853.68 -22200853.55 0.0304 0.0075

Saturn -65496-08-14 08:37 J -22200765.27 -22200765.14 -22200765.01 0.0304 0.0062

Saturn -65496-11-10 21:21 J -22200676.70 -22200676.61 -22200676.51 0.0304 0.0198

Venus -65495-05-11 10:04 J -22200495.19 -22200495.08 -22200494.98 0.3819 0.0324

Mars -65495-06-16 16:04 J -22200458.98 -22200458.83 -22200458.68 0.1575 0.0721

Jupiter -65492-02-09 13:54 J -22199490.09 -22199489.92 -22199489.75 0.0499 0.0217

Jupiter -65492-05-11 01:54 J -22199399.51 -22199399.42 -22199399.32 0.0500 0.0432

Moon -65490-05-26 02:37 J -22198654.49 -22198654.39 -22198654.29 0.2698 0.1159

Earth -65490-05-26 03:21 J -22198654.45 -22198654.36 -22198654.26 0.2699 0.1292 *

Venus -65490-11-25 02:23 J -22198471.49 -22198471.40 -22198471.32 0.3818 0.2049

Mars -65488-02-01 04:04 J -22198037.42 -22198037.33 -22198037.23 0.1973 0.0994

Moon -65487-11-17 05:45 J -22197383.42 -22197383.26 -22197383.10 0.2635 0.0070

Earth -65487-11-17 07:25 J -22197383.35 -22197383.19 -22197383.03 0.2637 0.0072 *

Jupiter -65486-01-06 11:45 J -22197333.13 -22197333.01 -22197332.88 0.0526 0.0081

Jupiter -65486-04-05 17:01 J -22197243.87 -22197243.79 -22197243.71 0.0525 0.0406

Mars -65486-11-06 18:28 J -22197028.90 -22197028.73 -22197028.57 0.1578 0.0177

Earth -65483-05-19 03:06 J -22196104.46 -22196104.37 -22196104.29 0.2693 0.1742

Moon -65483-05-19 03:35 J -22196104.44 -22196104.35 -22196104.27 0.2689 0.1708 *

Saturn -65482-12-08 19:25 J -22195535.81 -22195535.69 -22195535.55 0.0258 0.0185

Saturn -65481-03-06 15:49 J -22195447.02 -22195446.84 -22195446.65 0.0258 0.0060

Saturn -65481-06-03 12:13 J -22195358.17 -22195357.99 -22195357.80 0.0258 0.0065

Saturn -65481-08-31 08:52 J -22195269.25 -22195269.13 -22195269.00 0.0259 0.0191

Jupiter -65481-11-28 10:33 J -22195180.18 -22195180.06 -22195179.94 0.0499 0.0377

Jupiter -65480-02-26 22:33 J -22195089.72 -22195089.56 -22195089.40 0.0500 0.0271

Mars -65479-06-24 11:30 J -22194607.13 -22194607.02 -22194606.90 0.1970 0.0124

Moon -65477-05-27 20:23 J -22193903.70 -22193903.65 -22193903.59 0.2705 0.2332

Earth -65477-05-27 21:06 J -22193903.67 -22193903.62 -22193903.57 0.2701 0.2365 *

Mars -65476-03-28 20:37 J -22193598.76 -22193598.64 -22193598.52 0.1580 0.1065

Jupiter -65475-10-25 15:35 J -22193022.97 -22193022.85 -22193022.73 0.0526 0.0211

Jupiter -65474-01-22 20:52 J -22192933.73 -22192933.63 -22192933.52 0.0526 0.0278

Moon -65474-11-20 13:40 J -22192632.02 -22192631.93 -22192631.83 0.2636 0.2088

Earth -65474-11-20 15:21 J -22192631.93 -22192631.86 -22192631.79 0.2635 0.2344 *

Neptune -65472-10-22 16:04 J -22191929.84 -22191929.83 -22191929.78 0.0089 0.0088

Neptune -65471-01-18 19:54 J -22191841.74 -22191841.67 -22191841.58 0.0089 0.0080

Neptune -65471-04-16 23:16 J -22191753.62 -22191753.53 -22191753.40 0.0089 0.0073

Neptune -65471-07-14 03:06 J -22191665.49 -22191665.37 -22191665.23 0.0089 0.0065

Neptune -65471-10-10 06:28 J -22191577.36 -22191577.23 -22191577.06 0.0089 0.0058

Neptune -65470-01-06 10:18 J -22191489.22 -22191489.07 -22191488.90 0.0089 0.0050

Neptune -65470-04-04 13:54 J -22191401.08 -22191400.92 -22191400.74 0.0089 0.0042

Moon -65470-05-21 20:52 J -22191353.74 -22191353.63 -22191353.53 0.2688 0.0594

Earth -65470-05-21 20:52 J -22191353.74 -22191353.63 -22191353.53 0.2696 0.0661 *

Neptune -65470-07-01 17:30 J -22191312.93 -22191312.77 -22191312.58 0.0089 0.0035

Neptune -65470-09-27 21:21 J -22191224.79 -22191224.61 -22191224.42 0.0089 0.0027

Mars -65470-11-14 19:11 J -22191176.79 -22191176.70 -22191176.60 0.1966 0.1162

Neptune -65470-12-25 00:57 J -22191136.64 -22191136.46 -22191136.26 0.0089 0.0019

Neptune -65469-03-22 04:47 J -22191048.49 -22191048.30 -22191048.11 0.0089 0.0012

Neptune -65469-06-18 08:23 J -22190960.34 -22190960.15 -22190959.95 0.0089 0.0004

Venus -65469-07-01 11:16 J -22190947.06 -22190947.03 -22190947.01 0.3560 0.3489

Neptune -65469-09-14 11:59 J -22190872.19 -22190872.00 -22190871.80 0.0089 0.0004

Neptune -65469-12-11 15:35 J -22190784.04 -22190783.85 -22190783.65 0.0089 0.0012

Jupiter -65469-12-15 18:57 J -22190779.89 -22190779.71 -22190779.53 0.0499 0.0108

Neptune -65468-03-09 19:11 J -22190695.88 -22190695.70 -22190695.50 0.0089 0.0020

Neptune -65468-06-05 23:01 J -22190607.72 -22190607.54 -22190607.35 0.0089 0.0027

Neptune -65468-09-02 02:37 J -22190519.56 -22190519.39 -22190519.20 0.0088 0.0035

Neptune -65468-11-29 05:59 J -22190431.40 -22190431.25 -22190431.06 0.0088 0.0043

Neptune -65467-02-25 10:04 J -22190343.24 -22190343.08 -22190342.92 0.0088 0.0050

Neptune -65467-05-24 13:25 J -22190255.07 -22190254.94 -22190254.78 0.0088 0.0058

Saturn -65467-07-08 09:35 J -22190210.17 -22190210.10 -22190210.02 0.0304 0.0243

Neptune -65467-08-20 17:01 J -22190166.90 -22190166.79 -22190166.64 0.0088 0.0066

Saturn -65467-10-04 22:33 J -22190121.68 -22190121.56 -22190121.43 0.0304 0.0105

Neptune -65467-11-16 21:06 J -22190078.72 -22190078.62 -22190078.51 0.0088 0.0073

Saturn -65466-01-01 11:30 J -22190033.15 -22190033.02 -22190032.89 0.0304 0.0033

Neptune -65466-02-13 00:28 J -22189990.54 -22189990.48 -22189990.38 0.0088 0.0081

Saturn -65466-03-31 00:28 J -22189944.59 -22189944.48 -22189944.38 0.0304 0.0169

Uranus -65466-03-31 10:47 J -22189944.10 -22189944.05 -22189943.98 0.0133 0.0118

Neptune -65466-05-12 04:18 J -22189902.32 -22189902.32 -22189902.30 0.0088 0.0088

Uranus -65466-06-27 13:40 J -22189856.00 -22189855.93 -22189855.84 0.0133 0.0102

Uranus -65466-09-23 16:47 J -22189767.90 -22189767.80 -22189767.70 0.0133 0.0085

Uranus -65466-12-20 19:40 J -22189679.79 -22189679.68 -22189679.56 0.0133 0.0069

Uranus -65465-03-17 22:33 J -22189591.67 -22189591.56 -22189591.43 0.0133 0.0052

Uranus -65465-06-14 01:40 J -22189503.56 -22189503.43 -22189503.31 0.0134 0.0035

Uranus -65465-09-10 04:33 J -22189415.44 -22189415.31 -22189415.18 0.0134 0.0019

Uranus -65465-12-07 07:25 J -22189327.32 -22189327.19 -22189327.06 0.0134 0.0003

Uranus -65464-03-05 10:18 J -22189239.19 -22189239.07 -22189238.93 0.0134 0.0016

Uranus -65464-06-01 13:25 J -22189151.07 -22189150.94 -22189150.81 0.0134 0.0032

Uranus -65464-08-28 16:18 J -22189062.94 -22189062.82 -22189062.70 0.0134 0.0049

Uranus -65464-11-24 19:11 J -22188974.81 -22188974.70 -22188974.58 0.0134 0.0066

Venus -65463-01-15 18:42 J -22188922.87 -22188922.72 -22188922.57 0.3561 0.0709

Uranus -65463-02-20 22:18 J -22188886.67 -22188886.57 -22188886.47 0.0134 0.0083

Uranus -65463-05-20 01:11 J -22188798.53 -22188798.45 -22188798.36 0.0134 0.0100

Jupiter -65463-08-13 19:40 J -22188712.77 -22188712.68 -22188712.58 0.0527 0.0336

Uranus -65463-08-16 04:04 J -22188710.39 -22188710.33 -22188710.26 0.0134 0.0117

Jupiter -65463-11-11 01:11 J -22188623.57 -22188623.45 -22188623.33 0.0526 0.0155

Uranus -65463-11-12 07:11 J -22188622.21 -22188622.20 -22188622.19 0.0135 0.0134

Moon -65457-05-23 13:54 J -22186603.03 -22186602.92 -22186602.81 0.2693 0.0323

Earth -65457-05-23 14:23 J -22186603.00 -22186602.90 -22186602.79 0.2698 0.0440 *

Jupiter -65457-10-03 15:06 J -22186470.06 -22186469.87 -22186469.68 0.0499 0.0059

Mars -65456-12-15 17:01 J -22186031.94 -22186031.79 -22186031.65 0.1575 0.0864

Moon -65454-11-15 05:30 J -22185332.38 -22185332.27 -22185332.16 0.2635 0.1902

Earth -65454-11-15 06:28 J -22185332.35 -22185332.23 -22185332.11 0.2639 0.1753 *

Saturn -65452-04-26 20:09 J -22184803.76 -22184803.66 -22184803.54 0.0259 0.0212

Saturn -65452-07-24 16:33 J -22184714.99 -22184714.81 -22184714.63 0.0259 0.0088

Saturn -65452-10-21 12:57 J -22184626.15 -22184625.96 -22184625.77 0.0259 0.0038

Saturn -65451-01-18 09:35 J -22184537.25 -22184537.10 -22184536.95 0.0259 0.0163

Jupiter -65451-06-01 23:59 J -22184402.56 -22184402.50 -22184402.44 0.0527 0.0461

Jupiter -65451-08-30 05:30 J -22184313.40 -22184313.27 -22184313.15 0.0527 0.0033

Jupiter -65451-11-27 10:47 J -22184224.06 -22184224.05 -22184224.03 0.0526 0.0520

Earth -65450-05-17 14:09 J -22184052.94 -22184052.91 -22184052.89 0.2691 0.2610

Moon -65450-05-17 14:52 J -22184052.92 -22184052.88 -22184052.85 0.2691 0.2507 *

Venus -65450-11-16 23:01 J -22183869.62 -22183869.54 -22183869.47 0.3819 0.2542

Mars -65449-08-02 04:04 J -22183610.42 -22183610.33 -22183610.23 0.1973 0.1104

Mars -65446-05-07 18:57 J -22182601.87 -22182601.71 -22182601.54 0.1578 0.0053

Jupiter -65445-07-22 11:30 J -22182160.19 -22182160.02 -22182159.85 0.0499 0.0222

Jupiter -65445-10-20 23:30 J -22182069.62 -22182069.52 -22182069.43 0.0499 0.0426

Moon -65444-05-26 07:25 J -22181852.28 -22181852.19 -22181852.10 0.2698 0.1481

Earth -65444-05-26 08:09 J -22181852.25 -22181852.16 -22181852.07 0.2700 0.1503 *

Venus -65444-06-01 15:21 J -22181845.96 -22181845.86 -22181845.76 0.3819 0.0821

Pluto -65441-10-02 06:13 J -22180627.25 -22180627.24 -22180627.21 0.0084 0.0083

Moon -65441-11-17 12:28 J -22180581.14 -22180580.98 -22180580.82 0.2635 0.0308

Earth -65441-11-17 14:09 J -22180581.06 -22180580.91 -22180580.75 0.2637 0.0507 *

Pluto -65441-12-29 07:54 J -22180539.23 -22180539.17 -22180539.09 0.0084 0.0073

Pluto -65440-03-27 09:21 J -22180451.19 -22180451.11 -22180451.00 0.0084 0.0062

Pluto -65440-06-23 11:16 J -22180363.14 -22180363.03 -22180362.92 0.0084 0.0051

Pluto -65440-09-19 12:42 J -22180275.09 -22180274.97 -22180274.84 0.0084 0.0041

Pluto -65440-12-16 14:09 J -22180187.03 -22180186.91 -22180186.77 0.0084 0.0031

Mars -65440-12-23 11:45 J -22180180.13 -22180180.01 -22180179.90 0.1970 0.0032

Pluto -65439-03-14 15:35 J -22180098.98 -22180098.85 -22180098.70 0.0083 0.0021

Pluto -65439-06-10 17:16 J -22180010.92 -22180010.78 -22180010.64 0.0083 0.0010

Jupiter -65439-06-18 09:49 J -22180003.22 -22180003.09 -22180002.97 0.0526 0.0092

Pluto -65439-09-06 18:42 J -22179922.86 -22179922.72 -22179922.57 0.0083 0.0003

Jupiter -65439-09-15 15:06 J -22179913.95 -22179913.87 -22179913.79 0.0526 0.0397

Pluto -65439-12-03 20:23 J -22179834.79 -22179834.65 -22179834.51 0.0083 0.0011

Venus -65439-12-16 07:40 J -22179822.28 -22179822.18 -22179822.08 0.3819 0.0924

Pluto -65438-03-01 21:49 J -22179746.73 -22179746.59 -22179746.46 0.0083 0.0020

Pluto -65438-05-28 23:16 J -22179658.66 -22179658.53 -22179658.40 0.0083 0.0030

Pluto -65438-08-25 00:42 J -22179570.59 -22179570.47 -22179570.35 0.0083 0.0040

Pluto -65438-11-21 01:54 J -22179482.52 -22179482.42 -22179482.30 0.0083 0.0050

Saturn -65438-11-25 12:28 J -22179478.04 -22179477.98 -22179477.93 0.0304 0.0274

Pluto -65437-02-17 03:21 J -22179394.45 -22179394.36 -22179394.26 0.0082 0.0059

Saturn -65437-02-22 01:25 J -22179389.56 -22179389.44 -22179389.32 0.0304 0.0136

Pluto -65437-05-15 04:33 J -22179306.37 -22179306.31 -22179306.22 0.0082 0.0069

Earth -65437-05-19 07:54 J -22179302.26 -22179302.17 -22179302.08 0.2694 0.1521

Moon -65437-05-19 08:09 J -22179302.25 -22179302.16 -22179302.06 0.2688 0.1469 *

Saturn -65437-05-20 14:23 J -22179301.03 -22179300.90 -22179300.77 0.0304 0.0003

Pluto -65437-08-11 05:59 J -22179218.28 -22179218.25 -22179218.20 0.0082 0.0079

Saturn -65437-08-17 03:06 J -22179212.48 -22179212.37 -22179212.25 0.0304 0.0139

Mars -65437-09-26 21:21 J -22179171.75 -22179171.61 -22179171.48 0.1580 0.0930

Saturn -65437-11-13 16:04 J -22179123.89 -22179123.83 -22179123.78 0.0304 0.0274

Jupiter -65433-05-10 07:25 J -22177850.30 -22177850.19 -22177850.07 0.0499 0.0390

Venus -65433-06-30 23:59 J -22177798.57 -22177798.50 -22177798.43 0.3818 0.2685

Jupiter -65433-08-08 19:11 J -22177759.85 -22177759.70 -22177759.53 0.0500 0.0259

Moon -65431-05-29 01:25 J -22177101.48 -22177101.44 -22177101.40 0.2707 0.2487

Earth -65431-05-29 01:54 J -22177101.45 -22177101.42 -22177101.39 0.2702 0.2576 *

Mars -65430-05-15 19:11 J -22176749.80 -22176749.70 -22176749.61 0.1966 0.1061

Jupiter -65427-04-06 14:09 J -22175693.03 -22175692.91 -22175692.80 0.0526 0.0213

Jupiter -65427-07-04 19:25 J -22175603.80 -22175603.69 -22175603.58 0.0526 0.0276

Uranus -65426-08-02 04:47 J -22175210.38 -22175210.30 -22175210.23 0.0146 0.0134

Uranus -65426-10-29 13:25 J -22175122.07 -22175121.94 -22175121.79 0.0145 0.0102

Uranus -65425-01-25 22:18 J -22175033.73 -22175033.57 -22175033.39 0.0145 0.0069

Uranus -65425-04-23 07:11 J -22174945.38 -22174945.20 -22174945.00 0.0145 0.0037

Uranus -65425-07-20 16:18 J -22174857.02 -22174856.82 -22174856.63 0.0145 0.0006

Uranus -65425-10-17 00:57 J -22174768.65 -22174768.46 -22174768.26 0.0145 0.0028

Uranus -65424-01-13 09:49 J -22174680.27 -22174680.09 -22174679.91 0.0145 0.0060

Uranus -65424-04-11 18:28 J -22174591.87 -22174591.73 -22174591.57 0.0145 0.0092

Moon -65424-05-22 01:40 J -22174551.54 -22174551.43 -22174551.33 0.2689 0.0482

Earth -65424-05-22 01:40 J -22174551.54 -22174551.43 -22174551.33 0.2696 0.0444 *

Uranus -65424-07-09 03:06 J -22174503.45 -22174503.37 -22174503.25 0.0145 0.0124

Saturn -65423-09-13 20:52 J -22174071.69 -22174071.63 -22174071.56 0.0258 0.0241

Saturn -65423-12-11 17:01 J -22173982.96 -22173982.79 -22173982.62 0.0258 0.0118

Saturn -65422-03-10 13:25 J -22173894.13 -22173893.94 -22173893.75 0.0258 0.0008

Saturn -65422-06-07 09:49 J -22173805.25 -22173805.09 -22173804.92 0.0258 0.0133

Saturn -65422-09-04 06:28 J -22173716.23 -22173716.23 -22173716.22 0.0258 0.0258

Jupiter -65421-05-27 16:04 J -22173450.02 -22173449.83 -22173449.65 0.0500 0.0098

Mars -65416-06-15 17:30 J -22171604.90 -22171604.77 -22171604.64 0.1575 0.0996

Jupiter -65415-01-23 17:59 J -22171382.85 -22171382.75 -22171382.66 0.0526 0.0342

Jupiter -65415-04-22 23:16 J -22171293.65 -22171293.53 -22171293.41 0.0526 0.0149

Venus -65412-02-05 12:57 J -22170274.08 -22170273.96 -22170273.83 0.3561 0.2058

Moon -65411-05-24 18:42 J -22169800.83 -22169800.72 -22169800.61 0.2694 0.0632

Earth -65411-05-24 19:11 J -22169800.80 -22169800.70 -22169800.59 0.2698 0.0652 *

Mars -65409-02-01 04:04 J -22169183.41 -22169183.33 -22169183.24 0.1974 0.1220

Jupiter -65409-03-15 12:42 J -22169140.16 -22169139.97 -22169139.79 0.0499 0.0064

Saturn -65408-07-11 03:49 J -22168657.44 -22168657.34 -22168657.23 0.0304 0.0170

Saturn -65408-10-07 16:47 J -22168568.92 -22168568.80 -22168568.67 0.0304 0.0033

Moon -65408-11-15 11:45 J -22168530.15 -22168530.01 -22168529.87 0.2635 0.1376

Earth -65408-11-15 13:11 J -22168530.09 -22168529.95 -22168529.81 0.2639 0.1334 *

Saturn -65407-01-04 05:45 J -22168480.38 -22168480.26 -22168480.14 0.0304 0.0105

Saturn -65407-04-02 18:28 J -22168391.80 -22168391.73 -22168391.65 0.0304 0.0241

Venus -65407-08-22 20:23 J -22168249.77 -22168249.65 -22168249.52 0.3561 0.2110

Mars -65407-11-05 19:54 J -22168174.84 -22168174.67 -22168174.50 0.1578 0.0109

Earth -65404-05-17 18:57 J -22167250.76 -22167250.71 -22167250.67 0.2692 0.2392

Moon -65404-05-17 19:40 J -22167250.74 -22167250.68 -22167250.63 0.2691 0.2347 *

Jupiter -65404-11-11 22:04 J -22167072.63 -22167072.58 -22167072.52 0.0527 0.0467

Jupiter -65403-02-09 03:35 J -22166983.48 -22166983.35 -22166983.22 0.0526 0.0025

Jupiter -65403-05-09 08:52 J -22166894.16 -22166894.13 -22166894.11 0.0525 0.0512

Mars -65400-06-23 11:45 J -22165753.12 -22165753.01 -22165752.90 0.1970 0.0143

Venus -65399-12-08 04:18 J -22165220.34 -22165220.32 -22165220.29 0.3819 0.3646

Moon -65398-05-27 12:13 J -22165050.07 -22165049.99 -22165049.90 0.2700 0.1587

Earth -65398-05-27 12:57 J -22165050.04 -22165049.96 -22165049.88 0.2700 0.1720 *

Jupiter -65397-01-02 09:06 J -22164830.29 -22164830.12 -22164829.96 0.0499 0.0227

Mars -65397-03-27 22:04 J -22164744.73 -22164744.58 -22164744.44 0.1580 0.0793

Jupiter -65397-04-01 20:52 J -22164739.72 -22164739.63 -22164739.53 0.0499 0.0422

Moon -65395-11-18 19:11 J -22163778.85 -22163778.70 -22163778.54 0.2635 0.0763

Earth -65395-11-18 21:06 J -22163778.78 -22163778.62 -22163778.47 0.2636 0.0929 *

Saturn -65393-04-29 17:16 J -22163250.93 -22163250.78 -22163250.62 0.0259 0.0147

Venus -65393-06-22 20:37 J -22163196.73 -22163196.64 -22163196.55 0.3819 0.1932

Saturn -65393-07-27 13:40 J -22163162.12 -22163161.93 -22163161.74 0.0259 0.0023

Saturn -65393-10-24 10:04 J -22163073.25 -22163073.08 -22163072.90 0.0259 0.0102

Saturn -65392-01-21 06:42 J -22162984.31 -22162984.22 -22162984.13 0.0259 0.0228

Jupiter -65392-11-28 07:54 J -22162673.30 -22162673.17 -22162673.05 0.0527 0.0101

Jupiter -65391-02-25 13:11 J -22162584.03 -22162583.95 -22162583.87 0.0526 0.0391

Earth -65391-05-20 12:42 J -22162500.07 -22162499.97 -22162499.88 0.2694 0.1304

Moon -65391-05-20 12:57 J -22162500.05 -22162499.96 -22162499.86 0.2688 0.1249 *

Mars -65391-11-13 19:11 J -22162322.80 -22162322.70 -22162322.60 0.1966 0.0947

Neptune -65390-08-03 02:37 J -22162060.41 -22162060.39 -22162060.35 0.0089 0.0086

Neptune -65390-10-30 04:04 J -22161972.38 -22161972.33 -22161972.27 0.0089 0.0081

Neptune -65389-01-26 05:16 J -22161884.33 -22161884.28 -22161884.20 0.0089 0.0076

Neptune -65389-04-23 06:57 J -22161796.29 -22161796.21 -22161796.13 0.0089 0.0070

Neptune -65389-07-20 08:09 J -22161708.24 -22161708.16 -22161708.06 0.0089 0.0065

Neptune -65389-10-16 09:21 J -22161620.20 -22161620.11 -22161620.00 0.0089 0.0060

Neptune -65388-01-12 10:47 J -22161532.15 -22161532.05 -22161531.94 0.0089 0.0054

Neptune -65388-04-10 12:13 J -22161444.10 -22161443.99 -22161443.88 0.0089 0.0049

Neptune -65388-07-07 13:25 J -22161356.05 -22161355.94 -22161355.82 0.0089 0.0044

Neptune -65388-10-03 14:52 J -22161267.99 -22161267.88 -22161267.76 0.0089 0.0039

Neptune -65388-12-30 16:18 J -22161179.94 -22161179.82 -22161179.70 0.0089 0.0033

Venus -65387-01-06 12:57 J -22161173.06 -22161172.96 -22161172.86 0.3819 0.0205

Neptune -65387-03-28 17:30 J -22161091.89 -22161091.77 -22161091.64 0.0089 0.0028

Neptune -65387-06-24 18:57 J -22161003.84 -22161003.71 -22161003.58 0.0089 0.0023

Neptune -65387-09-20 20:09 J -22160915.78 -22160915.66 -22160915.52 0.0089 0.0018

Neptune -65387-12-17 21:35 J -22160827.73 -22160827.60 -22160827.47 0.0089 0.0012

Neptune -65386-03-15 22:47 J -22160739.68 -22160739.55 -22160739.41 0.0089 0.0008

Neptune -65386-06-12 00:13 J -22160651.62 -22160651.49 -22160651.36 0.0089 0.0002

Neptune -65386-09-08 01:25 J -22160563.57 -22160563.44 -22160563.30 0.0089 0.0005

Jupiter -65386-10-21 05:30 J -22160520.38 -22160520.27 -22160520.15 0.0499 0.0388

Neptune -65386-12-05 02:52 J -22160475.51 -22160475.38 -22160475.25 0.0089 0.0009

Jupiter -65385-01-19 17:16 J -22160429.94 -22160429.78 -22160429.62 0.0499 0.0259

Neptune -65385-03-02 04:18 J -22160387.46 -22160387.32 -22160387.19 0.0089 0.0014

Neptune -65385-05-29 05:30 J -22160299.40 -22160299.27 -22160299.14 0.0089 0.0019

Neptune -65385-08-25 06:42 J -22160211.34 -22160211.22 -22160211.09 0.0089 0.0024

Neptune -65385-11-21 07:54 J -22160123.29 -22160123.17 -22160123.04 0.0089 0.0030

Neptune -65384-02-17 09:21 J -22160035.23 -22160035.11 -22160034.98 0.0089 0.0035

Neptune -65384-05-16 10:33 J -22159947.17 -22159947.06 -22159946.93 0.0089 0.0040

Neptune -65384-08-12 11:59 J -22159859.11 -22159859.00 -22159858.88 0.0089 0.0045

Neptune -65384-11-08 13:25 J -22159771.05 -22159770.94 -22159770.83 0.0089 0.0050

Neptune -65383-02-04 14:23 J -22159682.99 -22159682.90 -22159682.79 0.0089 0.0056

Neptune -65383-05-03 15:49 J -22159594.93 -22159594.84 -22159594.74 0.0089 0.0061

Neptune -65383-07-30 17:01 J -22159506.87 -22159506.79 -22159506.69 0.0089 0.0066

Neptune -65383-10-26 18:28 J -22159418.80 -22159418.73 -22159418.65 0.0089 0.0071

Uranus -65382-01-22 15:49 J -22159330.87 -22159330.84 -22159330.80 0.0133 0.0128

Neptune -65382-01-22 19:54 J -22159330.74 -22159330.67 -22159330.61 0.0089 0.0076

Uranus -65382-04-20 18:42 J -22159242.78 -22159242.72 -22159242.64 0.0133 0.0111

Neptune -65382-04-20 21:06 J -22159242.67 -22159242.62 -22159242.57 0.0089 0.0081 *

Uranus -65382-07-17 21:49 J -22159154.68 -22159154.59 -22159154.50 0.0133 0.0095

Neptune -65382-07-17 22:04 J -22159154.59 -22159154.58 -22159154.53 0.0089 0.0087 *

Venus -65382-07-23 05:16 J -22159149.37 -22159149.28 -22159149.19 0.3818 0.1545

Uranus -65382-10-14 00:42 J -22159066.57 -22159066.47 -22159066.36 0.0133 0.0078

Uranus -65381-01-10 03:35 J -22158978.46 -22158978.35 -22158978.23 0.0133 0.0062

Uranus -65381-04-07 06:42 J -22158890.35 -22158890.22 -22158890.10 0.0134 0.0045

Uranus -65381-07-04 09:35 J -22158802.23 -22158802.10 -22158801.97 0.0134 0.0028

Uranus -65381-09-30 12:28 J -22158714.11 -22158713.98 -22158713.85 0.0134 0.0011

Uranus -65381-12-27 15:21 J -22158625.99 -22158625.86 -22158625.73 0.0134 0.0007

Uranus -65380-03-25 18:13 J -22158537.86 -22158537.74 -22158537.60 0.0134 0.0023

Uranus -65380-06-21 21:21 J -22158449.73 -22158449.61 -22158449.48 0.0134 0.0039

Jupiter -65380-09-16 12:13 J -22158363.11 -22158362.99 -22158362.88 0.0526 0.0220

Uranus -65380-09-18 00:13 J -22158361.60 -22158361.49 -22158361.37 0.0134 0.0056

Jupiter -65380-12-14 17:30 J -22158273.88 -22158273.77 -22158273.66 0.0526 0.0270

Uranus -65380-12-15 03:06 J -22158273.47 -22158273.37 -22158273.25 0.0134 0.0074

Uranus -65379-03-13 06:13 J -22158185.33 -22158185.24 -22158185.14 0.0134 0.0090

Uranus -65379-06-09 09:06 J -22158097.19 -22158097.12 -22158097.04 0.0134 0.0107

Uranus -65379-09-05 11:59 J -22158009.04 -22158009.00 -22158008.94 0.0135 0.0125

Saturn -65379-11-28 06:13 J -22157925.33 -22157925.24 -22157925.14 0.0304 0.0206

Saturn -65378-02-24 19:11 J -22157836.82 -22157836.70 -22157836.57 0.0304 0.0068

Moon -65378-05-23 06:13 J -22157749.35 -22157749.24 -22157749.13 0.2690 0.0220

Earth -65378-05-23 06:28 J -22157749.34 -22157749.23 -22157749.12 0.2696 0.0228 *

Saturn -65378-05-24 08:09 J -22157748.29 -22157748.16 -22157748.03 0.0304 0.0070

Saturn -65378-08-20 20:52 J -22157659.72 -22157659.63 -22157659.53 0.0304 0.0206

Mars -65377-12-14 18:13 J -22157177.85 -22157177.74 -22157177.62 0.1575 0.1134

Venus -65376-02-04 21:35 J -22157125.64 -22157125.60 -22157125.55 0.3818 0.3324

Jupiter -65374-11-07 13:11 J -22156120.14 -22156119.95 -22156119.77 0.0500 0.0089

Mars -65370-08-02 04:18 J -22154756.41 -22154756.32 -22154756.24 0.1973 0.1333

Jupiter -65368-07-05 16:33 J -22154052.90 -22154052.81 -22154052.71 0.0526 0.0341

Jupiter -65368-10-02 22:04 J -22153963.70 -22153963.58 -22153963.46 0.0526 0.0150

Mars -65367-05-06 20:23 J -22153747.81 -22153747.65 -22153747.48 0.1578 0.0243

Moon -65365-05-24 23:30 J -22152998.62 -22152998.52 -22152998.41 0.2694 0.0741

Earth -65365-05-25 00:13 J -22152998.60 -22152998.49 -22152998.39 0.2698 0.0868 *

Saturn -65364-09-16 17:30 J -22152518.91 -22152518.77 -22152518.64 0.0258 0.0179

Saturn -65364-12-14 13:40 J -22152430.11 -22152429.93 -22152429.74 0.0258 0.0056

Saturn -65363-03-13 10:04 J -22152341.26 -22152341.08 -22152340.89 0.0258 0.0069

Saturn -65363-06-10 06:28 J -22152252.35 -22152252.23 -22152252.10 0.0258 0.0194

Jupiter -65362-08-26 09:49 J -22151810.27 -22151810.09 -22151809.90 0.0500 0.0071

Moon -65362-11-16 18:28 J -22151727.88 -22151727.73 -22151727.59 0.2634 0.1147

Earth -65362-11-16 19:54 J -22151727.82 -22151727.67 -22151727.52 0.2639 0.0916 *

Mars -65361-12-22 11:30 J -22151326.13 -22151326.02 -22151325.90 0.1970 0.0243

Earth -65358-05-18 23:45 J -22150448.57 -22150448.51 -22150448.45 0.2692 0.2173

Moon -65358-05-19 00:13 J -22150448.56 -22150448.49 -22150448.42 0.2689 0.2050 *

Mars -65358-09-26 22:47 J -22150317.71 -22150317.55 -22150317.40 0.1580 0.0656

Jupiter -65356-04-23 20:37 J -22149742.70 -22149742.64 -22149742.59 0.0526 0.0468

Jupiter -65356-07-22 01:54 J -22149653.54 -22149653.42 -22149653.29 0.0526 0.0028

Venus -65356-09-12 14:52 J -22149601.04 -22149600.88 -22149600.73 0.3561 0.0635

Jupiter -65356-10-19 07:11 J -22149564.22 -22149564.20 -22149564.17 0.0525 0.0509

Moon -65352-05-27 17:01 J -22148247.86 -22148247.79 -22148247.71 0.2702 0.1922

Earth -65352-05-27 17:45 J -22148247.83 -22148247.76 -22148247.68 0.2700 0.1930 *

Mars -65351-05-14 19:11 J -22147895.80 -22147895.70 -22147895.59 0.1966 0.0827

Venus -65350-03-29 22:04 J -22147576.60 -22147576.58 -22147576.55 0.3561 0.3497

Jupiter -65350-06-14 06:42 J -22147500.39 -22147500.22 -22147500.05 0.0499 0.0230

Jupiter -65350-09-12 18:42 J -22147409.82 -22147409.72 -22147409.62 0.0500 0.0421

Saturn -65349-04-16 08:23 J -22147193.23 -22147193.15 -22147193.08 0.0304 0.0243

Saturn -65349-07-13 21:21 J -22147104.73 -22147104.61 -22147104.49 0.0304 0.0105

Saturn -65349-10-10 10:18 J -22147016.20 -22147016.07 -22147015.94 0.0304 0.0033

Moon -65349-11-19 01:54 J -22146976.56 -22146976.42 -22146976.27 0.2636 0.1231

Earth -65349-11-19 03:49 J -22146976.48 -22146976.34 -22146976.21 0.2636 0.1351 *

Saturn -65348-01-06 23:01 J -22146927.64 -22146927.54 -22146927.43 0.0304 0.0170

Mars -65348-02-16 00:57 J -22146887.49 -22146887.46 -22146887.43 0.1583 0.1551

Earth -65345-05-20 17:30 J -22145697.87 -22145697.77 -22145697.67 0.2694 0.1088

Moon -65345-05-20 17:45 J -22145697.86 -22145697.76 -22145697.66 0.2688 0.1069 *

Jupiter -65344-05-10 06:13 J -22145343.36 -22145343.24 -22145343.12 0.0526 0.0101

Jupiter -65344-08-07 11:30 J -22145254.10 -22145254.02 -22145253.94 0.0526 0.0388

Venus -65342-07-15 01:54 J -22144547.48 -22144547.42 -22144547.36 0.3819 0.3044

Uranus -65342-08-22 12:42 J -22144509.07 -22144508.97 -22144508.87 0.0145 0.0125

Mars -65342-10-05 02:37 J -22144465.41 -22144465.39 -22144465.36 0.1962 0.1902

Uranus -65342-11-18 21:21 J -22144420.75 -22144420.61 -22144420.45 0.0145 0.0093

Uranus -65341-02-15 06:13 J -22144332.41 -22144332.24 -22144332.05 0.0145 0.0060

Uranus -65341-05-13 15:21 J -22144244.05 -22144243.86 -22144243.67 0.0145 0.0028

Uranus -65341-08-10 00:13 J -22144155.69 -22144155.49 -22144155.29 0.0145 0.0005

Uranus -65341-11-06 08:52 J -22144067.31 -22144067.13 -22144066.93 0.0145 0.0037

Uranus -65340-02-02 17:45 J -22143978.93 -22143978.76 -22143978.58 0.0145 0.0069

Uranus -65340-05-02 02:37 J -22143890.53 -22143890.39 -22143890.25 0.0145 0.0101

Uranus -65340-07-29 11:16 J -22143802.09 -22143802.03 -22143801.94 0.0144 0.0133

Jupiter -65338-04-02 03:21 J -22143190.47 -22143190.36 -22143190.24 0.0499 0.0389

Jupiter -65338-07-01 15:21 J -22143100.02 -22143099.86 -22143099.70 0.0499 0.0259

Mars -65337-06-14 18:57 J -22142750.80 -22142750.71 -22142750.61 0.1575 0.1274

Venus -65336-01-27 18:13 J -22142523.83 -22142523.74 -22142523.64 0.3819 0.1319

Saturn -65334-02-03 17:01 J -22141786.88 -22141786.79 -22141786.67 0.0258 0.0213

Saturn -65334-05-03 13:25 J -22141698.11 -22141697.94 -22141697.76 0.0258 0.0089

Saturn -65334-07-31 09:49 J -22141609.28 -22141609.09 -22141608.90 0.0258 0.0036

Saturn -65334-10-28 06:13 J -22141520.39 -22141520.24 -22141520.09 0.0258 0.0161

Jupiter -65332-02-26 10:33 J -22141033.18 -22141033.06 -22141032.95 0.0527 0.0226

Moon -65332-05-23 10:47 J -22140947.15 -22140947.05 -22140946.94 0.2690 0.0115

Earth -65332-05-23 11:16 J -22140947.14 -22140947.03 -22140946.92 0.2696 0.0052 *

Jupiter -65332-05-26 15:49 J -22140943.95 -22140943.84 -22140943.73 0.0526 0.0266

Venus -65331-08-13 10:33 J -22140500.16 -22140500.06 -22140499.96 0.3819 0.0418

Mars -65330-01-31 04:04 J -22140329.40 -22140329.33 -22140329.25 0.1973 0.1435

Mars -65328-11-04 21:06 J -22139320.78 -22139320.62 -22139320.45 0.1578 0.0376

Jupiter -65326-04-19 11:45 J -22138790.19 -22138790.01 -22138789.82 0.0499 0.0097

Venus -65325-02-27 02:52 J -22138476.46 -22138476.38 -22138476.30 0.3819 0.2178

Mars -65321-06-22 11:45 J -22136899.12 -22136899.01 -22136898.90 0.1970 0.0363

Jupiter -65321-12-15 14:52 J -22136722.97 -22136722.88 -22136722.78 0.0527 0.0345

Jupiter -65320-03-14 20:23 J -22136633.77 -22136633.65 -22136633.53 0.0526 0.0147

Saturn -65320-09-03 10:04 J -22136461.12 -22136461.08 -22136461.03 0.0304 0.0285

Saturn -65320-11-30 23:16 J -22136372.65 -22136372.53 -22136372.42 0.0304 0.0146

Saturn -65319-02-27 12:13 J -22136284.12 -22136283.99 -22136283.86 0.0304 0.0010

Moon -65319-05-26 04:18 J -22136196.42 -22136196.32 -22136196.22 0.2695 0.1041

Earth -65319-05-26 05:01 J -22136196.39 -22136196.29 -22136196.19 0.2698 0.1078 *

Saturn -65319-05-27 00:57 J -22136195.57 -22136195.46 -22136195.34 0.0304 0.0129

Saturn -65319-08-23 13:54 J -22136106.98 -22136106.92 -22136106.86 0.0304 0.0265

Mars -65318-03-27 23:16 J -22135890.69 -22135890.53 -22135890.37 0.1580 0.0522

Moon -65316-11-17 01:11 J -22134925.61 -22134925.45 -22134925.29 0.2634 0.0519

Earth -65316-11-17 02:37 J -22134925.55 -22134925.39 -22134925.23 0.2638 0.0489 *

Jupiter -65314-02-05 07:25 J -22134480.37 -22134480.19 -22134480.00 0.0500 0.0075

Earth -65312-05-19 04:33 J -22133646.39 -22133646.31 -22133646.24 0.2692 0.1956

Moon -65312-05-19 05:01 J -22133646.36 -22133646.29 -22133646.21 0.2688 0.1950 *

Mars -65312-11-12 19:11 J -22133468.81 -22133468.70 -22133468.60 0.1966 0.0725

Mars -65309-08-17 01:40 J -22132460.51 -22132460.43 -22132460.36 0.1583 0.1420

Jupiter -65309-10-03 19:25 J -22132412.74 -22132412.69 -22132412.63 0.0526 0.0463

Jupiter -65308-01-01 00:57 J -22132323.59 -22132323.46 -22132323.33 0.0526 0.0029

Jupiter -65308-03-31 06:13 J -22132234.26 -22132234.24 -22132234.22 0.0525 0.0515

Neptune -65307-07-19 13:40 J -22131758.96 -22131758.93 -22131758.89 0.0089 0.0087

Neptune -65307-10-15 16:47 J -22131670.86 -22131670.80 -22131670.69 0.0089 0.0080

Neptune -65306-01-11 20:52 J -22131582.74 -22131582.63 -22131582.52 0.0089 0.0072

Neptune -65306-04-10 00:13 J -22131494.61 -22131494.49 -22131494.35 0.0089 0.0065

Moon -65306-05-28 21:49 J -22131445.66 -22131445.59 -22131445.52 0.2703 0.2021

Earth -65306-05-28 22:33 J -22131445.62 -22131445.56 -22131445.50 0.2700 0.2145 *

Neptune -65306-07-07 04:04 J -22131406.48 -22131406.33 -22131406.18 0.0089 0.0057

Neptune -65306-10-03 07:25 J -22131318.34 -22131318.19 -22131318.02 0.0089 0.0050

Neptune -65306-12-30 11:16 J -22131230.20 -22131230.03 -22131229.86 0.0089 0.0042

Neptune -65305-03-27 14:37 J -22131142.06 -22131141.89 -22131141.70 0.0089 0.0035

Saturn -65305-06-22 17:01 J -22131054.84 -22131054.79 -22131054.74 0.0258 0.0246

Neptune -65305-06-23 18:28 J -22131053.91 -22131053.73 -22131053.54 0.0089 0.0027

Saturn -65305-09-19 12:57 J -22130966.12 -22130965.96 -22130965.79 0.0258 0.0124

Neptune -65305-09-19 22:18 J -22130965.76 -22130965.57 -22130965.38 0.0089 0.0019

Venus -65305-10-03 08:52 J -22130952.16 -22130952.13 -22130952.09 0.3561 0.3455

Neptune -65305-12-17 01:40 J -22130877.61 -22130877.43 -22130877.23 0.0089 0.0012

Saturn -65305-12-17 09:21 J -22130877.30 -22130877.11 -22130876.92 0.0258 0.0002 *

Neptune -65304-03-15 05:30 J -22130789.46 -22130789.27 -22130789.07 0.0089 0.0004

Saturn -65304-03-16 05:30 J -22130788.43 -22130788.27 -22130788.09 0.0258 0.0125

Neptune -65304-06-11 09:06 J -22130701.31 -22130701.12 -22130700.92 0.0089 0.0004

Saturn -65304-06-13 02:09 J -22130699.45 -22130699.41 -22130699.36 0.0258 0.0250

Neptune -65304-09-07 12:57 J -22130613.16 -22130612.96 -22130612.77 0.0089 0.0012

Neptune -65304-12-04 16:18 J -22130525.00 -22130524.82 -22130524.62 0.0089 0.0020

Neptune -65303-03-02 19:54 J -22130436.84 -22130436.67 -22130436.47 0.0088 0.0028

Neptune -65303-05-29 23:45 J -22130348.68 -22130348.51 -22130348.32 0.0088 0.0035

Neptune -65303-08-26 03:21 J -22130260.52 -22130260.36 -22130260.18 0.0088 0.0043

Moon -65303-11-20 08:37 J -22130174.27 -22130174.14 -22130174.01 0.2637 0.1530

Earth -65303-11-20 10:33 J -22130174.18 -22130174.06 -22130173.95 0.2636 0.1776 *

Neptune -65303-11-22 06:57 J -22130172.36 -22130172.21 -22130172.04 0.0088 0.0051

Jupiter -65303-11-24 04:18 J -22130170.48 -22130170.32 -22130170.15 0.0500 0.0233

Neptune -65302-02-18 10:33 J -22130084.19 -22130084.06 -22130083.90 0.0088 0.0058

Jupiter -65302-02-22 16:18 J -22130079.92 -22130079.82 -22130079.71 0.0500 0.0419

Mars -65302-04-05 02:37 J -22130038.43 -22130038.39 -22130038.34 0.1962 0.1797

Neptune -65302-05-17 14:23 J -22129996.02 -22129995.90 -22129995.76 0.0088 0.0066

Neptune -65302-08-13 17:59 J -22129907.84 -22129907.75 -22129907.63 0.0088 0.0074

Neptune -65302-11-09 21:35 J -22129819.66 -22129819.60 -22129819.51 0.0088 0.0081

Venus -65299-04-19 16:33 J -22128927.96 -22128927.81 -22128927.66 0.3561 0.0782

Moon -65299-05-21 22:33 J -22128895.67 -22128895.56 -22128895.46 0.2688 0.0807

Earth -65299-05-21 22:18 J -22128895.67 -22128895.57 -22128895.47 0.2694 0.0871 *

Uranus -65298-02-11 23:30 J -22128629.56 -22128629.52 -22128629.45 0.0133 0.0122

Uranus -65298-05-11 02:37 J -22128541.46 -22128541.39 -22128541.30 0.0133 0.0104

Uranus -65298-08-07 05:45 J -22128453.36 -22128453.26 -22128453.16 0.0133 0.0088

Uranus -65298-11-03 08:37 J -22128365.25 -22128365.14 -22128365.03 0.0133 0.0071

Mars -65298-12-14 19:40 J -22128323.75 -22128323.68 -22128323.61 0.1575 0.1408

Uranus -65297-01-30 11:30 J -22128277.13 -22128277.02 -22128276.90 0.0134 0.0055

Uranus -65297-04-27 14:37 J -22128189.02 -22128188.89 -22128188.77 0.0134 0.0038

Uranus -65297-07-24 17:30 J -22128100.90 -22128100.77 -22128100.64 0.0134 0.0021

Jupiter -65297-10-20 05:01 J -22128013.41 -22128013.29 -22128013.17 0.0526 0.0098

Uranus -65297-10-20 20:23 J -22128012.78 -22128012.65 -22128012.52 0.0134 0.0005

Uranus -65296-01-16 23:16 J -22127924.65 -22127924.53 -22127924.39 0.0134 0.0014

Jupiter -65296-01-17 10:18 J -22127924.15 -22127924.07 -22127923.99 0.0525 0.0390

Uranus -65296-04-15 02:23 J -22127836.53 -22127836.40 -22127836.27 0.0134 0.0030

Uranus -65296-07-12 05:16 J -22127748.40 -22127748.28 -22127748.16 0.0134 0.0047

Uranus -65296-10-08 08:09 J -22127660.27 -22127660.16 -22127660.04 0.0134 0.0064

Uranus -65295-01-04 11:16 J -22127572.13 -22127572.03 -22127571.93 0.0134 0.0081

Uranus -65295-04-02 14:09 J -22127483.99 -22127483.91 -22127483.82 0.0134 0.0098

Uranus -65295-06-29 17:16 J -22127395.85 -22127395.78 -22127395.72 0.0135 0.0115

Uranus -65295-09-25 20:09 J -22127307.68 -22127307.66 -22127307.64 0.0135 0.0132

Mars -65291-08-01 04:18 J -22125902.39 -22125902.32 -22125902.26 0.1974 0.1557

Jupiter -65291-09-12 01:25 J -22125860.56 -22125860.44 -22125860.33 0.0499 0.0389

Jupiter -65291-12-11 13:11 J -22125770.10 -22125769.95 -22125769.78 0.0500 0.0261

Saturn -65290-04-20 00:42 J -22125640.57 -22125640.47 -22125640.37 0.0305 0.0190

Saturn -65290-07-17 13:40 J -22125552.06 -22125551.93 -22125551.80 0.0305 0.0052

Saturn -65290-10-14 02:37 J -22125463.51 -22125463.39 -22125463.27 0.0305 0.0086

Saturn -65289-01-10 15:21 J -22125374.94 -22125374.86 -22125374.77 0.0304 0.0223

Mars -65288-05-05 22:04 J -22124893.74 -22124893.58 -22124893.42 0.1577 0.0520

Pluto -65288-10-14 20:23 J -22124731.66 -22124731.65 -22124731.61 0.0061 0.0060

Pluto -65287-01-10 21:49 J -22124643.66 -22124643.59 -22124643.51 0.0061 0.0055

Pluto -65287-04-08 23:01 J -22124555.64 -22124555.54 -22124555.44 0.0061 0.0050

Pluto -65287-07-06 00:13 J -22124467.61 -22124467.49 -22124467.37 0.0061 0.0045

Pluto -65287-10-02 01:25 J -22124379.57 -22124379.44 -22124379.31 0.0061 0.0040

Pluto -65287-12-29 02:37 J -22124291.54 -22124291.39 -22124291.25 0.0061 0.0035

Pluto -65286-03-27 03:35 J -22124203.50 -22124203.35 -22124203.19 0.0061 0.0031

Moon -65286-05-24 15:35 J -22124144.96 -22124144.85 -22124144.74 0.2690 0.0165

Earth -65286-05-24 16:04 J -22124144.94 -22124144.83 -22124144.72 0.2697 0.0217 *

Pluto -65286-06-23 04:47 J -22124115.46 -22124115.30 -22124115.13 0.0061 0.0026

Pluto -65286-09-19 05:59 J -22124027.41 -22124027.25 -22124027.07 0.0061 0.0020

Pluto -65286-12-16 07:11 J -22123939.37 -22123939.20 -22123939.02 0.0061 0.0015

Venus -65285-02-18 23:30 J -22123874.59 -22123874.52 -22123874.44 0.3819 0.2436

Pluto -65285-03-13 08:23 J -22123851.32 -22123851.15 -22123850.96 0.0061 0.0010

Pluto -65285-06-09 09:35 J -22123763.27 -22123763.10 -22123762.91 0.0061 0.0006

Jupiter -65285-08-08 09:06 J -22123703.23 -22123703.12 -22123703.00 0.0526 0.0222

Pluto -65285-09-05 11:01 J -22123675.22 -22123675.04 -22123674.86 0.0061 0.0000

Jupiter -65285-11-05 14:37 J -22123614.00 -22123613.89 -22123613.78 0.0526 0.0269

Pluto -65285-12-02 12:13 J -22123587.17 -22123586.99 -22123586.81 0.0062 0.0005

Pluto -65284-02-28 13:25 J -22123499.12 -22123498.94 -22123498.76 0.0062 0.0011

Pluto -65284-05-27 14:37 J -22123411.06 -22123410.89 -22123410.71 0.0062 0.0016

Pluto -65284-08-23 15:35 J -22123323.00 -22123322.85 -22123322.66 0.0062 0.0022

Pluto -65284-11-19 17:01 J -22123234.94 -22123234.79 -22123234.62 0.0062 0.0027

Pluto -65283-02-15 18:13 J -22123146.88 -22123146.74 -22123146.57 0.0062 0.0032

Pluto -65283-05-14 19:40 J -22123058.82 -22123058.68 -22123058.53 0.0062 0.0037

Pluto -65283-08-10 20:37 J -22122970.75 -22122970.64 -22122970.49 0.0062 0.0043

Pluto -65283-11-06 22:04 J -22122882.68 -22122882.58 -22122882.45 0.0062 0.0049

Moon -65283-11-15 00:42 J -22122874.55 -22122874.47 -22122874.40 0.2635 0.2308

Earth -65283-11-15 01:40 J -22122874.51 -22122874.43 -22122874.36 0.2640 0.2306 *

Pluto -65282-02-02 23:01 J -22122794.60 -22122794.54 -22122794.42 0.0062 0.0055

Pluto -65282-05-02 00:42 J -22122706.51 -22122706.47 -22122706.40 0.0062 0.0060

Mars -65282-12-22 11:45 J -22122472.12 -22122472.01 -22122471.90 0.1970 0.0476

Venus -65280-09-03 15:49 J -22121850.94 -22121850.84 -22121850.74 0.3819 0.0703

Mars -65279-09-25 23:59 J -22121463.66 -22121463.50 -22121463.33 0.1580 0.0385

Jupiter -65279-09-29 10:04 J -22121460.26 -22121460.08 -22121459.89 0.0499 0.0101

Saturn -65275-02-06 12:13 J -22120234.13 -22120233.99 -22120233.84 0.0258 0.0160

Saturn -65275-05-06 08:37 J -22120145.33 -22120145.14 -22120144.95 0.0258 0.0037

Saturn -65275-08-03 04:47 J -22120056.47 -22120056.30 -22120056.12 0.0258 0.0088

Saturn -65275-10-31 01:25 J -22119967.55 -22119967.44 -22119967.34 0.0258 0.0213

Venus -65274-03-20 08:09 J -22119827.26 -22119827.16 -22119827.06 0.3819 0.1037

Moon -65273-05-26 09:06 J -22119394.22 -22119394.12 -22119394.03 0.2697 0.1200

Earth -65273-05-26 09:49 J -22119394.19 -22119394.09 -22119394.00 0.2699 0.1291 *

Jupiter -65273-05-27 13:25 J -22119393.03 -22119392.94 -22119392.84 0.0527 0.0346

Jupiter -65273-08-24 18:57 J -22119303.83 -22119303.71 -22119303.59 0.0526 0.0147

Mars -65272-05-13 19:11 J -22119041.81 -22119041.70 -22119041.59 0.1966 0.0612

Moon -65270-11-18 07:54 J -22118123.33 -22118123.17 -22118123.01 0.2635 0.0312

Earth -65270-11-18 09:21 J -22118123.27 -22118123.11 -22118122.95 0.2638 0.0063 *

Mars -65269-02-16 02:09 J -22118033.50 -22118033.41 -22118033.31 0.1583 0.1284

Venus -65269-10-03 00:28 J -22117803.54 -22117803.48 -22117803.41 0.3818 0.2812

Jupiter -65267-07-18 06:57 J -22117150.40 -22117150.21 -22117150.03 0.0499 0.0060

Earth -65266-05-20 09:21 J -22116844.19 -22116844.11 -22116844.03 0.2693 0.1737

Moon -65266-05-20 09:49 J -22116844.17 -22116844.09 -22116844.00 0.2688 0.1604 *

Mars -65263-10-04 02:37 J -22115611.44 -22115611.39 -22115611.33 0.1962 0.1676

Jupiter -65261-03-15 17:59 J -22115082.81 -22115082.75 -22115082.69 0.0527 0.0463

Jupiter -65261-06-12 23:30 J -22114993.65 -22114993.52 -22114993.39 0.0526 0.0030

Saturn -65261-09-06 01:54 J -22114908.49 -22114908.42 -22114908.33 0.0304 0.0236

Jupiter -65261-09-10 04:47 J -22114904.32 -22114904.30 -22114904.28 0.0525 0.0517

Saturn -65261-12-03 15:06 J -22114819.99 -22114819.87 -22114819.75 0.0304 0.0097

Saturn -65260-03-02 04:04 J -22114731.46 -22114731.33 -22114731.20 0.0304 0.0041

Moon -65260-05-29 02:37 J -22114643.44 -22114643.39 -22114643.33 0.2704 0.2337

Earth -65260-05-29 03:21 J -22114643.41 -22114643.36 -22114643.31 0.2701 0.2354 *

Saturn -65260-05-29 16:47 J -22114642.90 -22114642.80 -22114642.69 0.0304 0.0178

Mars -65258-06-14 20:23 J -22113896.68 -22113896.65 -22113896.62 0.1575 0.1542

Uranus -65258-06-15 13:11 J -22113895.97 -22113895.95 -22113895.91 0.0146 0.0143

Uranus -65258-09-11 22:04 J -22113807.70 -22113807.58 -22113807.45 0.0145 0.0111

Uranus -65258-12-09 06:57 J -22113719.37 -22113719.21 -22113719.04 0.0145 0.0078

Uranus -65257-03-06 15:49 J -22113631.02 -22113630.84 -22113630.65 0.0145 0.0046

Uranus -65257-06-03 00:42 J -22113542.66 -22113542.47 -22113542.27 0.0145 0.0014

Uranus -65257-08-30 09:35 J -22113454.29 -22113454.10 -22113453.90 0.0145 0.0019

Moon -65257-11-20 15:21 J -22113371.95 -22113371.86 -22113371.76 0.2637 0.2126

Earth -65257-11-20 17:16 J -22113371.87 -22113371.78 -22113371.69 0.2635 0.2203 *

Uranus -65257-11-26 18:28 J -22113365.91 -22113365.73 -22113365.54 0.0145 0.0051

Uranus -65256-02-23 03:21 J -22113277.52 -22113277.36 -22113277.20 0.0145 0.0083

Uranus -65256-05-22 11:59 J -22113189.11 -22113189.00 -22113188.88 0.0145 0.0115

Jupiter -65255-05-06 02:23 J -22112840.56 -22112840.40 -22112840.23 0.0499 0.0232

Jupiter -65255-08-04 14:23 J -22112750.00 -22112749.90 -22112749.80 0.0500 0.0420

Earth -65253-05-22 03:06 J -22112093.48 -22112093.37 -22112093.26 0.2695 0.0653

Moon -65253-05-22 03:06 J -22112093.47 -22112093.37 -22112093.26 0.2688 0.0696 *

Mars -65251-01-30 04:04 J -22111475.39 -22111475.33 -22111475.27 0.1973 0.1661

Jupiter -65249-04-01 04:04 J -22110683.45 -22110683.33 -22110683.20 0.0526 0.0089

Jupiter -65249-06-29 09:21 J -22110594.18 -22110594.11 -22110594.03 0.0525 0.0402

Mars -65249-11-03 22:33 J -22110466.71 -22110466.56 -22110466.41 0.1578 0.0650

Venus -65248-05-10 10:47 J -22110279.18 -22110279.05 -22110278.92 0.3561 0.2015

Saturn -65246-06-26 11:30 J -22109502.14 -22109502.02 -22109501.90 0.0258 0.0197

Saturn -65246-09-23 07:40 J -22109413.36 -22109413.18 -22109413.00 0.0258 0.0075

Saturn -65246-12-21 03:49 J -22109324.52 -22109324.34 -22109324.15 0.0258 0.0050

Saturn -65245-03-19 00:13 J -22109235.62 -22109235.49 -22109235.34 0.0258 0.0174

Jupiter -65243-02-21 23:16 J -22108530.64 -22108530.53 -22108530.41 0.0499 0.0389

Jupiter -65243-05-23 11:16 J -22108440.19 -22108440.03 -22108439.87 0.0500 0.0262

Venus -65243-11-24 18:13 J -22108254.86 -22108254.74 -22108254.62 0.3561 0.2176

Mars -65242-06-22 11:30 J -22108045.13 -22108045.02 -22108044.91 0.1971 0.0579

Moon -65240-05-24 20:23 J -22107342.76 -22107342.65 -22107342.54 0.2691 0.0413

Earth -65240-05-24 20:52 J -22107342.74 -22107342.63 -22107342.52 0.2697 0.0426 *

Mars -65239-03-27 00:42 J -22107036.63 -22107036.47 -22107036.30 0.1580 0.0247

Jupiter -65237-01-19 08:23 J -22106373.27 -22106373.15 -22106373.04 0.0526 0.0213

Jupiter -65237-04-17 13:40 J -22106284.04 -22106283.93 -22106283.83 0.0525 0.0277

Moon -65237-11-15 07:25 J -22106072.29 -22106072.19 -22106072.09 0.2634 0.2034

Earth -65237-11-15 08:23 J -22106072.26 -22106072.15 -22106072.04 0.2640 0.1884 *

Venus -65234-03-12 05:01 J -22105225.33 -22105225.29 -22105225.26 0.3819 0.3552

Earth -65233-05-17 20:23 J -22104792.68 -22104792.65 -22104792.63 0.2691 0.2605

Moon -65233-05-17 21:06 J -22104792.66 -22104792.62 -22104792.58 0.2690 0.2488 *

Mars -65233-11-11 19:11 J -22104614.81 -22104614.70 -22104614.59 0.1967 0.0489

Saturn -65231-01-24 03:06 J -22104176.41 -22104176.37 -22104176.33 0.0305 0.0284

Jupiter -65231-03-11 08:23 J -22104130.33 -22104130.15 -22104129.96 0.0500 0.0106

Saturn -65231-04-22 16:04 J -22104087.94 -22104087.83 -22104087.71 0.0305 0.0145

Saturn -65231-07-20 05:16 J -22103999.41 -22103999.28 -22103999.15 0.0305 0.0010

Saturn -65231-10-16 17:59 J -22103910.86 -22103910.75 -22103910.63 0.0305 0.0131

Saturn -65230-01-13 06:57 J -22103822.27 -22103822.21 -22103822.15 0.0305 0.0267

Mars -65230-08-17 03:06 J -22103606.49 -22103606.37 -22103606.26 0.1583 0.1142

Venus -65229-09-24 21:06 J -22103201.71 -22103201.62 -22103201.53 0.3819 0.1828

Moon -65227-05-27 13:54 J -22102592.02 -22102591.92 -22102591.83 0.2699 0.1414

Earth -65227-05-27 14:23 J -22102591.98 -22102591.90 -22102591.81 0.2699 0.1504 *

Jupiter -65226-11-07 12:28 J -22102063.07 -22102062.98 -22102062.88 0.0526 0.0337

Jupiter -65225-02-04 17:59 J -22101973.87 -22101973.75 -22101973.63 0.0526 0.0155

Neptune -65225-04-29 01:40 J -22101889.45 -22101889.43 -22101889.39 0.0089 0.0086

Neptune -65225-07-26 02:52 J -22101801.42 -22101801.38 -22101801.31 0.0089 0.0081

Neptune -65225-10-22 04:18 J -22101713.38 -22101713.32 -22101713.24 0.0089 0.0076

Neptune -65224-01-18 05:59 J -22101625.33 -22101625.25 -22101625.17 0.0089 0.0070

Neptune -65224-04-16 07:11 J -22101537.29 -22101537.20 -22101537.11 0.0089 0.0065

Neptune -65224-07-13 08:23 J -22101449.24 -22101449.15 -22101449.04 0.0089 0.0060

Neptune -65224-10-09 09:35 J -22101361.19 -22101361.10 -22101360.98 0.0089 0.0055

Moon -65224-11-18 14:23 J -22101321.06 -22101320.90 -22101320.74 0.2636 0.0293

Earth -65224-11-18 16:04 J -22101320.99 -22101320.83 -22101320.67 0.2638 0.0356 *

Neptune -65223-01-05 11:16 J -22101273.14 -22101273.03 -22101272.92 0.0089 0.0049

Neptune -65223-04-03 12:28 J -22101185.09 -22101184.98 -22101184.86 0.0089 0.0044

Mars -65223-04-04 02:37 J -22101184.45 -22101184.39 -22101184.32 0.1962 0.1571

Venus -65223-04-10 13:25 J -22101178.04 -22101177.94 -22101177.84 0.3819 0.0103

Neptune -65223-06-30 13:54 J -22101097.04 -22101096.92 -22101096.80 0.0089 0.0038

Neptune -65223-09-26 15:21 J -22101008.98 -22101008.86 -22101008.74 0.0089 0.0033

Neptune -65223-12-23 16:33 J -22100920.93 -22100920.81 -22100920.68 0.0089 0.0028

Neptune -65222-03-21 17:59 J -22100832.88 -22100832.75 -22100832.62 0.0089 0.0023

Neptune -65222-06-17 19:11 J -22100744.83 -22100744.70 -22100744.56 0.0089 0.0018

Neptune -65222-09-13 20:37 J -22100656.77 -22100656.64 -22100656.51 0.0089 0.0012

Neptune -65222-12-10 21:49 J -22100568.72 -22100568.59 -22100568.45 0.0089 0.0008

Neptune -65221-03-07 23:16 J -22100480.66 -22100480.53 -22100480.40 0.0089 0.0002

Neptune -65221-06-04 00:28 J -22100392.61 -22100392.48 -22100392.34 0.0089 0.0005

Neptune -65221-08-31 01:54 J -22100304.55 -22100304.42 -22100304.29 0.0089 0.0009

Neptune -65221-11-27 03:06 J -22100216.50 -22100216.37 -22100216.24 0.0089 0.0014

Neptune -65220-02-23 04:18 J -22100128.44 -22100128.32 -22100128.18 0.0089 0.0020

Earth -65220-05-20 14:09 J -22100042.00 -22100041.91 -22100041.82 0.2693 0.1517

Moon -65220-05-20 14:37 J -22100041.98 -22100041.89 -22100041.80 0.2689 0.1517 *

Neptune -65220-05-22 05:45 J -22100040.38 -22100040.26 -22100040.13 0.0089 0.0025

Neptune -65220-08-18 06:57 J -22099952.33 -22099952.21 -22099952.08 0.0089 0.0030

Neptune -65220-11-14 08:23 J -22099864.27 -22099864.15 -22099864.03 0.0089 0.0035

Jupiter -65220-12-28 05:30 J -22099820.46 -22099820.27 -22099820.08 0.0499 0.0052

Neptune -65219-02-10 09:49 J -22099776.21 -22099776.09 -22099775.98 0.0089 0.0040

Neptune -65219-05-09 10:47 J -22099688.15 -22099688.05 -22099687.92 0.0089 0.0046

Neptune -65219-08-05 12:13 J -22099600.09 -22099599.99 -22099599.88 0.0089 0.0051

Neptune -65219-11-01 13:25 J -22099512.03 -22099511.94 -22099511.83 0.0089 0.0056

Neptune -65218-01-28 14:52 J -22099423.97 -22099423.88 -22099423.78 0.0089 0.0061

Neptune -65218-04-26 16:18 J -22099335.91 -22099335.82 -22099335.73 0.0089 0.0066

Neptune -65218-07-23 17:30 J -22099247.84 -22099247.77 -22099247.69 0.0089 0.0071

Neptune -65218-10-19 18:42 J -22099159.78 -22099159.72 -22099159.65 0.0089 0.0077

Venus -65218-10-25 05:45 J -22099154.35 -22099154.26 -22099154.17 0.3819 0.1665

Neptune -65217-01-15 19:54 J -22099071.71 -22099071.67 -22099071.61 0.0089 0.0082

Neptune -65217-04-12 21:21 J -22098983.63 -22098983.61 -22098983.58 0.0089 0.0087

Saturn -65217-11-12 10:18 J -22098770.14 -22098770.07 -22098769.99 0.0258 0.0236

Saturn -65216-02-09 06:28 J -22098681.40 -22098681.23 -22098681.06 0.0258 0.0114

Saturn -65216-05-09 02:37 J -22098592.58 -22098592.39 -22098592.20 0.0258 0.0010

Saturn -65216-08-05 22:47 J -22098503.70 -22098503.55 -22098503.38 0.0258 0.0134

Uranus -65215-12-06 04:47 J -22098016.32 -22098016.30 -22098016.27 0.0133 0.0130

Uranus -65214-03-04 07:25 J -22097928.24 -22097928.19 -22097928.11 0.0133 0.0115

Moon -65214-05-30 07:40 J -22097841.22 -22097841.18 -22097841.14 0.2704 0.2473

Earth -65214-05-30 08:09 J -22097841.19 -22097841.16 -22097841.13 0.2701 0.2567 *

Uranus -65214-05-31 10:33 J -22097840.14 -22097840.06 -22097839.96 0.0133 0.0097

Jupiter -65214-08-26 16:47 J -22097752.86 -22097752.80 -22097752.74 0.0527 0.0461

Uranus -65214-08-27 13:40 J -22097752.03 -22097751.93 -22097751.83 0.0133 0.0081

Uranus -65214-11-23 16:33 J -22097663.92 -22097663.81 -22097663.69 0.0133 0.0064

Jupiter -65214-11-23 22:18 J -22097663.70 -22097663.57 -22097663.45 0.0526 0.0034 *

Uranus -65213-02-19 19:25 J -22097575.81 -22097575.69 -22097575.56 0.0134 0.0047

Jupiter -65213-02-21 03:35 J -22097574.36 -22097574.35 -22097574.34 0.0525 0.0521

Uranus -65213-05-17 22:18 J -22097487.69 -22097487.57 -22097487.44 0.0134 0.0031

Uranus -65213-08-14 01:25 J -22097399.57 -22097399.44 -22097399.31 0.0134 0.0014

Uranus -65213-11-10 04:18 J -22097311.45 -22097311.32 -22097311.19 0.0134 0.0004

Uranus -65212-02-06 07:25 J -22097223.32 -22097223.19 -22097223.06 0.0134 0.0020

Uranus -65212-05-05 10:18 J -22097135.20 -22097135.07 -22097134.95 0.0134 0.0037

Venus -65212-05-09 22:04 J -22097130.62 -22097130.58 -22097130.54 0.3818 0.3437

Mars -65212-07-31 04:04 J -22097048.38 -22097048.33 -22097048.28 0.1974 0.1772

Uranus -65212-08-01 13:11 J -22097047.07 -22097046.95 -22097046.83 0.0134 0.0054

Uranus -65212-10-28 16:04 J -22096958.93 -22096958.83 -22096958.71 0.0134 0.0071

Uranus -65211-01-24 18:57 J -22096870.80 -22096870.71 -22096870.60 0.0134 0.0089

Uranus -65211-04-22 21:49 J -22096782.66 -22096782.59 -22096782.50 0.0135 0.0106

Uranus -65211-07-20 00:57 J -22096694.50 -22096694.46 -22096694.40 0.0135 0.0122

Moon -65211-11-21 22:18 J -22096569.64 -22096569.57 -22096569.50 0.2637 0.2365

Earth -65211-11-21 23:59 J -22096569.50 -22096569.50 -22096569.49 0.2635 0.2631 *

Mars -65209-05-04 23:16 J -22096039.68 -22096039.53 -22096039.38 0.1577 0.0787

Jupiter -65208-10-16 02:23 J -22095510.57 -22095510.40 -22095510.23 0.0499 0.0211

Jupiter -65207-01-14 14:09 J -22095419.99 -22095419.91 -22095419.82 0.0500 0.0441

Moon -65207-05-23 07:54 J -22095291.28 -22095291.17 -22095291.06 0.2688 0.0384

Earth -65207-05-23 07:54 J -22095291.28 -22095291.17 -22095291.06 0.2695 0.0437 *

Mars -65203-12-21 11:45 J -22093618.12 -22093618.01 -22093617.91 0.1970 0.0699

Saturn -65202-09-09 17:01 J -22093355.89 -22093355.79 -22093355.69 0.0304 0.0196

Jupiter -65202-09-12 02:52 J -22093353.50 -22093353.38 -22093353.25 0.0526 0.0085

Saturn -65202-12-07 05:59 J -22093267.37 -22093267.25 -22093267.12 0.0304 0.0058

Jupiter -65202-12-10 08:09 J -22093264.23 -22093264.16 -22093264.08 0.0525 0.0407

Saturn -65201-03-04 18:57 J -22093178.83 -22093178.71 -22093178.58 0.0304 0.0081

Saturn -65201-06-01 07:54 J -22093090.26 -22093090.17 -22093090.08 0.0304 0.0217

Mars -65200-09-25 01:25 J -22092609.61 -22092609.44 -22092609.27 0.1580 0.0111

Jupiter -65196-08-03 21:49 J -22091200.71 -22091200.59 -22091200.47 0.0499 0.0383

Jupiter -65196-11-02 09:35 J -22091110.25 -22091110.10 -22091109.93 0.0500 0.0268

Pluto -65195-08-28 22:18 J -22090810.60 -22090810.57 -22090810.52 0.0084 0.0081

Pluto -65195-11-24 23:45 J -22090722.57 -22090722.51 -22090722.42 0.0084 0.0070

Pluto -65194-02-21 01:25 J -22090634.53 -22090634.44 -22090634.33 0.0084 0.0059

Pluto -65194-05-20 02:52 J -22090546.48 -22090546.38 -22090546.25 0.0084 0.0049

Moon -65194-05-26 01:11 J -22090540.56 -22090540.45 -22090540.34 0.2692 0.0544

Earth -65194-05-26 01:40 J -22090540.54 -22090540.43 -22090540.33 0.2697 0.0642 *

Pluto -65194-08-16 04:47 J -22090458.43 -22090458.30 -22090458.18 0.0084 0.0038

Pluto -65194-11-12 06:13 J -22090370.37 -22090370.24 -22090370.11 0.0084 0.0028

Pluto -65193-02-08 07:40 J -22090282.32 -22090282.18 -22090282.04 0.0083 0.0018

Pluto -65193-05-06 09:06 J -22090194.26 -22090194.12 -22090193.97 0.0083 0.0008

Mars -65193-05-12 19:11 J -22090187.82 -22090187.70 -22090187.59 0.1966 0.0399

Pluto -65193-08-02 10:47 J -22090106.19 -22090106.05 -22090105.91 0.0083 0.0003

Pluto -65193-10-29 12:13 J -22090018.13 -22090017.99 -22090017.85 0.0083 0.0013

Pluto -65192-01-25 13:25 J -22089930.07 -22089929.94 -22089929.80 0.0083 0.0023

Pluto -65192-04-23 14:52 J -22089842.00 -22089841.88 -22089841.74 0.0083 0.0033

Pluto -65192-07-20 16:18 J -22089753.93 -22089753.82 -22089753.69 0.0083 0.0043

Pluto -65192-10-16 17:45 J -22089665.86 -22089665.76 -22089665.64 0.0083 0.0052

Venus -65192-12-15 12:42 J -22089606.13 -22089605.97 -22089605.82 0.3560 0.0580

Pluto -65191-01-12 19:11 J -22089577.78 -22089577.70 -22089577.60 0.0082 0.0062

Pluto -65191-04-10 20:37 J -22089489.70 -22089489.64 -22089489.56 0.0082 0.0071

Pluto -65191-07-07 22:04 J -22089401.60 -22089401.58 -22089401.55 0.0082 0.0081

Moon -65191-11-16 13:54 J -22089270.05 -22089269.92 -22089269.78 0.2635 0.1520

Earth -65191-11-16 15:06 J -22089270.00 -22089269.87 -22089269.74 0.2640 0.1467 *

Mars -65190-02-15 03:35 J -22089179.48 -22089179.35 -22089179.22 0.1583 0.1012

Jupiter -65190-07-01 07:40 J -22089043.29 -22089043.18 -22089043.06 0.0526 0.0199

Jupiter -65190-09-28 12:57 J -22088954.06 -22088953.96 -22088953.85 0.0525 0.0292

Earth -65187-05-19 01:11 J -22087990.50 -22087990.45 -22087990.40 0.2691 0.2384

Moon -65187-05-19 01:54 J -22087990.47 -22087990.42 -22087990.37 0.2689 0.2327 *

Saturn -65187-06-29 05:01 J -22087949.43 -22087949.29 -22087949.13 0.0258 0.0154

Saturn -65187-09-26 01:25 J -22087860.63 -22087860.44 -22087860.25 0.0258 0.0031

Saturn -65187-12-23 21:35 J -22087771.77 -22087771.60 -22087771.42 0.0258 0.0093

Saturn -65186-03-22 17:59 J -22087682.85 -22087682.75 -22087682.64 0.0258 0.0217

Jupiter -65184-08-21 06:42 J -22086800.40 -22086800.22 -22086800.03 0.0500 0.0110

Mars -65184-10-03 02:37 J -22086757.46 -22086757.39 -22086757.31 0.1962 0.1457

Moon -65181-05-27 18:28 J -22085789.81 -22085789.73 -22085789.64 0.2699 0.1655

Earth -65181-05-27 19:11 J -22085789.78 -22085789.70 -22085789.61 0.2699 0.1714 *

Jupiter -65178-04-19 11:59 J -22084733.10 -22084733.00 -22084732.90 0.0526 0.0324

Jupiter -65178-07-17 17:16 J -22084643.90 -22084643.78 -22084643.66 0.0525 0.0167

Venus -65178-10-17 02:23 J -22084552.46 -22084552.40 -22084552.33 0.3819 0.2948

Moon -65178-11-19 20:52 J -22084518.78 -22084518.63 -22084518.47 0.2637 0.0525

Earth -65178-11-19 22:47 J -22084518.70 -22084518.55 -22084518.40 0.2637 0.0782 *

Earth -65174-05-21 18:57 J -22083239.80 -22083239.71 -22083239.61 0.2693 0.1301

Moon -65174-05-21 19:25 J -22083239.79 -22083239.69 -22083239.59 0.2688 0.1197 *

Uranus -65174-07-05 22:04 J -22083194.66 -22083194.58 -22083194.49 0.0145 0.0131

Uranus -65174-10-02 06:57 J -22083106.35 -22083106.21 -22083106.06 0.0145 0.0098

Uranus -65174-12-29 15:49 J -22083018.01 -22083017.84 -22083017.66 0.0145 0.0066

Uranus -65173-03-27 00:42 J -22082929.66 -22082929.47 -22082929.27 0.0145 0.0034

Uranus -65173-06-23 09:35 J -22082841.29 -22082841.10 -22082840.90 0.0145 0.0003

Uranus -65173-09-19 18:28 J -22082752.92 -22082752.73 -22082752.54 0.0145 0.0031

Uranus -65173-12-17 03:21 J -22082664.53 -22082664.36 -22082664.18 0.0145 0.0063

Saturn -65172-01-26 17:45 J -22082623.84 -22082623.76 -22082623.69 0.0305 0.0248

Mars -65172-01-29 04:04 J -22082621.36 -22082621.33 -22082621.30 0.1974 0.1890

Uranus -65172-03-15 12:13 J -22082576.14 -22082575.99 -22082575.84 0.0145 0.0095

Saturn -65172-04-25 06:42 J -22082535.34 -22082535.22 -22082535.10 0.0305 0.0109

Venus -65172-05-01 18:42 J -22082528.82 -22082528.72 -22082528.62 0.3819 0.1220

Jupiter -65172-06-09 04:04 J -22082490.52 -22082490.33 -22082490.14 0.0500 0.0045

Uranus -65172-06-11 20:52 J -22082487.72 -22082487.63 -22082487.53 0.0144 0.0127

Saturn -65172-07-22 19:40 J -22082446.80 -22082446.68 -22082446.55 0.0305 0.0031

Saturn -65172-10-19 08:37 J -22082358.24 -22082358.14 -22082358.03 0.0305 0.0167

Saturn -65171-01-15 21:35 J -22082269.61 -22082269.60 -22082269.59 0.0305 0.0303

Mars -65170-11-03 23:59 J -22081612.63 -22081612.50 -22081612.36 0.1577 0.0931

Venus -65167-11-15 11:01 J -22080505.14 -22080505.04 -22080504.94 0.3819 0.0529

Jupiter -65166-02-05 16:04 J -22080422.89 -22080422.83 -22080422.76 0.0526 0.0447

Jupiter -65166-05-05 21:35 J -22080333.73 -22080333.60 -22080333.47 0.0526 0.0045

Mars -65163-06-21 11:45 J -22079191.12 -22079191.01 -22079190.91 0.1970 0.0812

Moon -65161-05-23 12:42 J -22078489.08 -22078488.97 -22078488.86 0.2688 0.0297

Earth -65161-05-23 12:42 J -22078489.08 -22078488.97 -22078488.86 0.2695 0.0223 *

Venus -65161-05-31 03:21 J -22078481.44 -22078481.36 -22078481.28 0.3819 0.2297

Mars -65160-03-26 02:09 J -22078182.58 -22078182.41 -22078182.24 0.1580 0.0027

Jupiter -65160-03-28 01:11 J -22078180.62 -22078180.45 -22078180.27 0.0499 0.0200

Jupiter -65160-06-26 13:11 J -22078090.02 -22078089.95 -22078089.87 0.0500 0.0453

Saturn -65158-11-16 03:35 J -22077217.47 -22077217.35 -22077217.22 0.0258 0.0195

Saturn -65157-02-12 23:45 J -22077128.69 -22077128.51 -22077128.32 0.0258 0.0072

Saturn -65157-05-11 19:54 J -22077039.85 -22077039.67 -22077039.48 0.0258 0.0052

Saturn -65157-08-08 16:18 J -22076950.96 -22076950.82 -22076950.68 0.0258 0.0175

Jupiter -65154-02-22 01:54 J -22076023.55 -22076023.42 -22076023.30 0.0526 0.0078

Jupiter -65154-05-22 07:11 J -22075934.28 -22075934.20 -22075934.12 0.0526 0.0412

Mars -65154-11-11 19:11 J -22075760.82 -22075760.70 -22075760.59 0.1967 0.0278

Mars -65151-08-16 04:18 J -22074752.46 -22074752.32 -22074752.18 0.1583 0.0875

Jupiter -65148-01-13 22:18 J -22073870.70 -22073870.57 -22073870.44 0.0499 0.0357

Jupiter -65148-04-14 10:04 J -22073780.23 -22073780.08 -22073779.93 0.0500 0.0293

Moon -65148-05-26 05:45 J -22073738.36 -22073738.26 -22073738.15 0.2694 0.0854

Earth -65148-05-26 06:28 J -22073738.33 -22073738.23 -22073738.13 0.2698 0.0854 *

Moon -65145-11-16 20:37 J -22072467.79 -22072467.64 -22072467.50 0.2636 0.1155

Earth -65145-11-16 21:49 J -22072467.74 -22072467.59 -22072467.44 0.2639 0.1036 *

Mars -65144-04-03 02:37 J -22072330.47 -22072330.39 -22072330.31 0.1962 0.1343

Saturn -65143-06-15 18:28 J -22071891.75 -22071891.73 -22071891.72 0.0304 0.0301

Saturn -65143-09-12 07:25 J -22071803.30 -22071803.19 -22071803.08 0.0304 0.0162

Saturn -65143-12-09 20:23 J -22071714.77 -22071714.65 -22071714.52 0.0304 0.0026

Jupiter -65143-12-11 06:42 J -22071713.34 -22071713.22 -22071713.10 0.0526 0.0192

Saturn -65142-03-08 09:21 J -22071626.23 -22071626.11 -22071625.99 0.0304 0.0114

Jupiter -65142-03-10 11:59 J -22071624.10 -22071624.00 -22071623.90 0.0526 0.0299

Neptune -65142-04-15 11:16 J -22071588.07 -22071588.03 -22071587.99 0.0089 0.0086

Saturn -65142-06-04 22:18 J -22071537.64 -22071537.57 -22071537.50 0.0304 0.0250

Neptune -65142-07-12 14:23 J -22071499.97 -22071499.90 -22071499.80 0.0089 0.0079

Neptune -65142-10-08 18:13 J -22071411.85 -22071411.74 -22071411.62 0.0089 0.0071

Neptune -65141-01-04 21:35 J -22071323.72 -22071323.60 -22071323.45 0.0089 0.0064

Neptune -65141-04-02 01:25 J -22071235.58 -22071235.44 -22071235.29 0.0089 0.0056

Earth -65141-05-19 05:59 J -22071188.31 -22071188.25 -22071188.19 0.2691 0.2169

Moon -65141-05-19 06:42 J -22071188.29 -22071188.22 -22071188.15 0.2689 0.2072 *

Neptune -65141-06-29 04:47 J -22071147.45 -22071147.30 -22071147.12 0.0089 0.0049

Neptune -65141-09-25 08:37 J -22071059.31 -22071059.14 -22071058.96 0.0089 0.0041

Neptune -65141-12-22 11:59 J -22070971.16 -22070971.00 -22070970.80 0.0089 0.0034

Venus -65140-01-05 06:42 J -22070957.26 -22070957.22 -22070957.18 0.3561 0.3404

Neptune -65140-03-20 15:49 J -22070883.02 -22070882.84 -22070882.65 0.0089 0.0026

Neptune -65140-06-16 19:40 J -22070794.87 -22070794.68 -22070794.49 0.0089 0.0018

Neptune -65140-09-12 23:16 J -22070706.72 -22070706.53 -22070706.34 0.0089 0.0010

Neptune -65140-12-10 02:52 J -22070618.57 -22070618.38 -22070618.18 0.0089 0.0003

Neptune -65139-03-08 06:28 J -22070530.42 -22070530.23 -22070530.03 0.0089 0.0005

Neptune -65139-06-04 10:04 J -22070442.27 -22070442.08 -22070441.88 0.0089 0.0013

Neptune -65139-08-31 13:40 J -22070354.11 -22070353.93 -22070353.73 0.0089 0.0021

Neptune -65139-11-27 17:30 J -22070265.95 -22070265.77 -22070265.58 0.0089 0.0028

Neptune -65138-02-23 21:06 J -22070177.80 -22070177.62 -22070177.44 0.0089 0.0036

Neptune -65138-05-23 00:42 J -22070089.63 -22070089.47 -22070089.29 0.0089 0.0044

Neptune -65138-08-19 04:04 J -22070001.47 -22070001.33 -22070001.15 0.0089 0.0052

Neptune -65138-11-15 08:09 J -22069913.30 -22069913.16 -22069913.01 0.0089 0.0059

Neptune -65137-02-11 11:30 J -22069825.13 -22069825.02 -22069824.87 0.0089 0.0067

Neptune -65137-05-09 15:06 J -22069736.95 -22069736.87 -22069736.74 0.0089 0.0075

Neptune -65137-08-05 18:42 J -22069648.77 -22069648.72 -22069648.62 0.0088 0.0083

Jupiter -65136-01-31 05:30 J -22069470.45 -22069470.27 -22069470.09 0.0500 0.0119

Moon -65135-05-28 23:30 J -22068987.60 -22068987.52 -22068987.45 0.2700 0.1816

Earth -65135-05-29 00:13 J -22068987.57 -22068987.49 -22068987.42 0.2699 0.1928 *

Venus -65135-07-22 14:23 J -22068933.05 -22068932.90 -22068932.75 0.3560 0.0862

Moon -65132-11-20 03:49 J -22067716.49 -22067716.34 -22067716.20 0.2636 0.1112

Earth -65132-11-20 05:30 J -22067716.41 -22067716.27 -22067716.12 0.2637 0.1209 *

Jupiter -65131-09-29 11:30 J -22067403.12 -22067403.02 -22067402.92 0.0526 0.0307

Uranus -65131-12-26 12:28 J -22067315.02 -22067314.98 -22067314.94 0.0133 0.0124

Jupiter -65131-12-27 16:47 J -22067313.92 -22067313.80 -22067313.68 0.0526 0.0184

Uranus -65130-03-24 15:06 J -22067226.93 -22067226.87 -22067226.78 0.0133 0.0109

Mars -65130-05-05 00:42 J -22067185.60 -22067185.47 -22067185.35 0.1577 0.1061

Uranus -65130-06-20 18:13 J -22067138.83 -22067138.74 -22067138.64 0.0133 0.0091

Uranus -65130-09-16 21:06 J -22067050.72 -22067050.62 -22067050.51 0.0133 0.0075

Uranus -65130-12-13 23:59 J -22066962.61 -22066962.50 -22066962.37 0.0133 0.0059

Uranus -65129-03-11 03:06 J -22066874.49 -22066874.37 -22066874.24 0.0134 0.0041

Uranus -65129-06-07 05:59 J -22066786.38 -22066786.25 -22066786.12 0.0134 0.0025

Uranus -65129-09-03 09:06 J -22066698.26 -22066698.12 -22066697.99 0.0134 0.0009

Uranus -65129-11-30 11:59 J -22066610.13 -22066610.00 -22066609.87 0.0134 0.0009

Uranus -65128-02-26 14:52 J -22066522.01 -22066521.88 -22066521.75 0.0134 0.0026

Saturn -65128-04-04 02:09 J -22066485.48 -22066485.41 -22066485.32 0.0258 0.0235

Earth -65128-05-21 23:45 J -22066437.61 -22066437.51 -22066437.41 0.2693 0.1086

Moon -65128-05-21 23:59 J -22066437.60 -22066437.50 -22066437.40 0.2687 0.1089 *

Uranus -65128-05-25 17:45 J -22066433.88 -22066433.76 -22066433.63 0.0134 0.0043

Saturn -65128-07-01 22:18 J -22066396.74 -22066396.57 -22066396.39 0.0258 0.0113

Uranus -65128-08-21 20:37 J -22066345.75 -22066345.64 -22066345.52 0.0134 0.0060

Saturn -65128-09-28 18:28 J -22066307.92 -22066307.73 -22066307.53 0.0257 0.0012

Uranus -65128-11-17 23:45 J -22066257.62 -22066257.51 -22066257.40 0.0134 0.0077

Saturn -65128-12-26 14:37 J -22066219.04 -22066218.89 -22066218.72 0.0257 0.0135

Uranus -65127-02-14 02:37 J -22066169.48 -22066169.39 -22066169.29 0.0134 0.0094

Uranus -65127-05-13 05:45 J -22066081.33 -22066081.26 -22066081.19 0.0135 0.0111

Uranus -65127-08-09 08:37 J -22065993.17 -22065993.14 -22065993.10 0.0135 0.0128

Jupiter -65125-11-19 02:37 J -22065160.58 -22065160.39 -22065160.21 0.0500 0.0038

Mars -65124-12-20 11:30 J -22064764.12 -22064764.02 -22064763.92 0.1971 0.0908

Venus -65121-05-22 23:59 J -22063879.58 -22063879.50 -22063879.42 0.3819 0.2341

Mars -65121-09-24 02:52 J -22063755.55 -22063755.38 -22063755.21 0.1580 0.0166

Jupiter -65119-07-18 15:35 J -22063092.92 -22063092.85 -22063092.78 0.0526 0.0432

Jupiter -65119-10-15 21:06 J -22063003.75 -22063003.62 -22063003.50 0.0526 0.0061

Venus -65116-12-06 16:18 J -22061855.92 -22061855.82 -22061855.72 0.3819 0.0603

Moon -65115-05-24 17:30 J -22061686.88 -22061686.77 -22061686.66 0.2689 0.0103

Earth -65115-05-24 17:30 J -22061686.88 -22061686.77 -22061686.66 0.2696 0.0051 *

Mars -65114-05-12 19:11 J -22061333.81 -22061333.70 -22061333.59 0.1967 0.0154

Saturn -65113-01-30 07:40 J -22061071.26 -22061071.18 -22061071.08 0.0305 0.0217

Saturn -65113-04-27 20:52 J -22060982.75 -22060982.63 -22060982.50 0.0305 0.0078

Saturn -65113-07-25 09:49 J -22060894.22 -22060894.09 -22060893.96 0.0305 0.0061

Jupiter -65113-09-06 23:59 J -22060850.67 -22060850.50 -22060850.33 0.0500 0.0192

Saturn -65113-10-21 22:47 J -22060805.65 -22060805.55 -22060805.45 0.0305 0.0198

Jupiter -65113-12-06 11:59 J -22060760.06 -22060760.00 -22060759.93 0.0500 0.0462

Mars -65111-02-14 05:01 J -22060325.44 -22060325.29 -22060325.14 0.1583 0.0734

Venus -65110-06-22 08:37 J -22059832.24 -22059832.14 -22059832.04 0.3819 0.1156

Jupiter -65107-08-04 01:25 J -22058693.57 -22058693.44 -22058693.32 0.0526 0.0062

Jupiter -65107-11-01 06:42 J -22058604.29 -22058604.22 -22058604.15 0.0525 0.0427

Mars -65105-10-02 02:37 J -22057903.47 -22057903.39 -22057903.30 0.1962 0.1232

Venus -65104-01-05 00:57 J -22057808.52 -22057808.46 -22057808.39 0.3818 0.2931

Moon -65102-05-27 10:33 J -22056936.16 -22056936.06 -22056935.96 0.2695 0.0930

Earth -65102-05-27 11:16 J -22056936.13 -22056936.03 -22056935.93 0.2698 0.1069 *

Jupiter -65101-06-25 21:21 J -22056540.75 -22056540.61 -22056540.48 0.0499 0.0345

Jupiter -65101-09-24 09:06 J -22056450.26 -22056450.12 -22056449.97 0.0500 0.0307

Moon -65099-11-18 03:06 J -22055665.53 -22055665.37 -22055665.22 0.2636 0.0804

Earth -65099-11-18 04:33 J -22055665.47 -22055665.31 -22055665.15 0.2639 0.0616 *

Saturn -65099-11-18 20:23 J -22055664.79 -22055664.65 -22055664.49 0.0258 0.0156

Saturn -65098-02-15 16:47 J -22055575.99 -22055575.80 -22055575.61 0.0257 0.0033

Saturn -65098-05-15 12:57 J -22055487.14 -22055486.96 -22055486.78 0.0258 0.0091

Saturn -65098-08-12 09:06 J -22055398.21 -22055398.12 -22055398.01 0.0258 0.0215

Earth -65095-05-20 10:47 J -22054386.12 -22054386.05 -22054385.97 0.2691 0.1950

Moon -65095-05-20 11:30 J -22054386.10 -22054386.02 -22054385.94 0.2690 0.1873 *

Jupiter -65095-05-23 05:45 J -22054383.38 -22054383.26 -22054383.14 0.0526 0.0185

Jupiter -65095-08-20 11:01 J -22054294.14 -22054294.04 -22054293.94 0.0526 0.0306

Mars -65091-11-03 01:25 J -22052758.55 -22052758.44 -22052758.34 0.1577 0.1196

Uranus -65090-07-26 06:13 J -22052493.33 -22052493.24 -22052493.12 0.0145 0.0120

Uranus -65090-10-22 15:21 J -22052405.01 -22052404.86 -22052404.70 0.0145 0.0088

Uranus -65089-01-19 00:13 J -22052316.67 -22052316.49 -22052316.30 0.0145 0.0055

Uranus -65089-04-16 09:06 J -22052228.31 -22052228.12 -22052227.92 0.0145 0.0023

Moon -65089-05-29 04:18 J -22052185.39 -22052185.32 -22052185.26 0.2701 0.2110

Earth -65089-05-29 05:01 J -22052185.36 -22052185.29 -22052185.23 0.2700 0.2137 *

Jupiter -65089-07-13 06:13 J -22052140.42 -22052140.24 -22052140.06 0.0500 0.0148

Uranus -65089-07-13 17:59 J -22052139.94 -22052139.75 -22052139.55 0.0145 0.0010

Uranus -65089-10-10 02:52 J -22052051.56 -22052051.38 -22052051.19 0.0145 0.0042

Uranus -65088-01-06 11:45 J -22051963.18 -22051963.01 -22051962.84 0.0145 0.0074

Uranus -65088-04-04 20:37 J -22051874.77 -22051874.64 -22051874.51 0.0145 0.0106

Uranus -65088-07-02 05:16 J -22051786.33 -22051786.28 -22051786.22 0.0144 0.0138

Moon -65086-11-21 10:33 J -22050914.19 -22050914.06 -22050913.92 0.2636 0.1415

Earth -65086-11-21 12:28 J -22050914.11 -22050913.98 -22050913.86 0.2637 0.1640 *

Saturn -65084-06-18 08:09 J -22050339.21 -22050339.16 -22050339.10 0.0304 0.0272

Mars -65084-06-20 11:45 J -22050337.11 -22050337.01 -22050336.92 0.1971 0.1035

Venus -65084-08-12 08:37 J -22050284.27 -22050284.14 -22050284.01 0.3561 0.1939

Saturn -65084-09-14 21:21 J -22050250.72 -22050250.61 -22050250.49 0.0305 0.0133

Saturn -65084-12-12 10:18 J -22050162.20 -22050162.07 -22050161.94 0.0305 0.0012

Saturn -65083-03-10 23:16 J -22050073.64 -22050073.53 -22050073.41 0.0305 0.0143

Jupiter -65083-03-11 10:33 J -22050073.17 -22050073.06 -22050072.96 0.0526 0.0300

Saturn -65083-06-07 11:59 J -22049985.04 -22049985.00 -22049984.94 0.0304 0.0280

Jupiter -65083-06-08 15:49 J -22049983.96 -22049983.84 -22049983.72 0.0526 0.0193

Earth -65082-05-23 04:33 J -22049635.41 -22049635.31 -22049635.20 0.2694 0.0872

Moon -65082-05-23 04:47 J -22049635.40 -22049635.30 -22049635.19 0.2687 0.0822 *

Mars -65081-03-25 03:35 J -22049328.52 -22049328.35 -22049328.19 0.1580 0.0301

Venus -65078-02-26 16:04 J -22048259.95 -22048259.83 -22048259.71 0.3561 0.2282

Jupiter -65077-05-01 01:25 J -22047830.62 -22047830.44 -22047830.25 0.0500 0.0029

Mars -65075-11-10 19:11 J -22046906.82 -22046906.70 -22046906.59 0.1966 0.0088

Mars -65072-08-15 05:45 J -22045898.42 -22045898.26 -22045898.11 0.1583 0.0602

Jupiter -65072-12-28 15:21 J -22045762.94 -22045762.86 -22045762.79 0.0526 0.0415

Jupiter -65071-03-27 20:37 J -22045673.76 -22045673.64 -22045673.51 0.0526 0.0080

Venus -65070-06-14 05:30 J -22045230.31 -22045230.27 -22045230.23 0.3819 0.3445

Saturn -65069-04-06 19:11 J -22044932.82 -22044932.70 -22044932.57 0.0258 0.0195

Moon -65069-05-24 22:04 J -22044884.69 -22044884.58 -22044884.47 0.2690 0.0135

Earth -65069-05-24 22:18 J -22044884.68 -22044884.57 -22044884.46 0.2696 0.0216 *

Saturn -65069-07-04 15:06 J -22044844.04 -22044843.87 -22044843.68 0.0258 0.0074

Saturn -65069-10-01 11:30 J -22044755.21 -22044755.02 -22044754.83 0.0257 0.0050

Saturn -65069-12-29 07:40 J -22044666.31 -22044666.18 -22044666.03 0.0257 0.0174

Moon -65066-11-16 03:06 J -22043614.41 -22043614.37 -22043614.34 0.2635 0.2561

Earth -65066-11-16 03:35 J -22043614.41 -22043614.35 -22043614.29 0.2641 0.2424 *

Jupiter -65065-02-17 22:33 J -22043520.73 -22043520.56 -22043520.39 0.0500 0.0184

Mars -65065-04-02 02:37 J -22043476.48 -22043476.39 -22043476.30 0.1962 0.1125

Jupiter -65065-05-18 10:33 J -22043430.11 -22043430.06 -22043429.99 0.0500 0.0470

Venus -65065-12-27 21:35 J -22043206.69 -22043206.60 -22043206.51 0.3819 0.1728

Mars -65062-01-05 07:54 J -22042468.22 -22042468.17 -22042468.11 0.1586 0.1498

Moon -65062-05-18 22:33 J -22042334.56 -22042334.56 -22042334.56 0.2691 0.2682

Neptune -65060-01-24 00:42 J -22041718.49 -22041718.47 -22041718.43 0.0089 0.0086

Neptune -65060-04-22 01:54 J -22041630.46 -22041630.42 -22041630.35 0.0089 0.0081

Neptune -65060-07-19 03:35 J -22041542.42 -22041542.35 -22041542.28 0.0089 0.0075

Neptune -65060-10-15 04:47 J -22041454.37 -22041454.30 -22041454.21 0.0089 0.0070

Neptune -65059-01-11 05:59 J -22041366.33 -22041366.25 -22041366.15 0.0089 0.0065

Jupiter -65059-01-14 00:57 J -22041363.58 -22041363.46 -22041363.33 0.0526 0.0045

Neptune -65059-04-09 07:25 J -22041278.28 -22041278.19 -22041278.08 0.0089 0.0060

Jupiter -65059-04-13 06:13 J -22041274.31 -22041274.24 -22041274.17 0.0525 0.0443

Neptune -65059-07-06 08:52 J -22041190.23 -22041190.13 -22041190.02 0.0089 0.0054

Venus -65059-07-13 13:54 J -22041183.02 -22041182.92 -22041182.82 0.3819 0.0048

Neptune -65059-10-02 10:18 J -22041102.18 -22041102.07 -22041101.96 0.0089 0.0049

Neptune -65059-12-29 11:30 J -22041014.13 -22041014.02 -22041013.90 0.0089 0.0044

Neptune -65058-03-27 12:57 J -22040926.07 -22040925.96 -22040925.83 0.0089 0.0038

Neptune -65058-06-23 14:23 J -22040838.02 -22040837.90 -22040837.78 0.0089 0.0033

Neptune -65058-09-19 15:35 J -22040749.97 -22040749.85 -22040749.72 0.0089 0.0028

Neptune -65058-12-16 17:01 J -22040661.92 -22040661.79 -22040661.66 0.0089 0.0022

Neptune -65057-03-13 18:28 J -22040573.86 -22040573.73 -22040573.60 0.0089 0.0017

Neptune -65057-06-09 19:40 J -22040485.81 -22040485.68 -22040485.55 0.0089 0.0012

Neptune -65057-09-05 21:06 J -22040397.75 -22040397.62 -22040397.49 0.0089 0.0007

Neptune -65057-12-02 22:18 J -22040309.70 -22040309.57 -22040309.43 0.0089 0.0002

Neptune -65056-02-28 23:45 J -22040221.64 -22040221.51 -22040221.38 0.0089 0.0004

Moon -65056-05-27 15:21 J -22040133.95 -22040133.86 -22040133.76 0.2695 0.1270

Earth -65056-05-27 16:04 J -22040133.93 -22040133.83 -22040133.74 0.2698 0.1281 *

Neptune -65056-05-28 00:57 J -22040133.59 -22040133.46 -22040133.32 0.0089 0.0010

Neptune -65056-08-24 02:23 J -22040045.53 -22040045.40 -22040045.27 0.0089 0.0015

Neptune -65056-11-20 03:35 J -22039957.48 -22039957.35 -22039957.22 0.0089 0.0020

Neptune -65055-02-16 05:01 J -22039869.42 -22039869.29 -22039869.17 0.0089 0.0025

Neptune -65055-05-15 06:13 J -22039781.36 -22039781.24 -22039781.11 0.0089 0.0030

Neptune -65055-08-11 07:25 J -22039693.30 -22039693.19 -22039693.06 0.0089 0.0036

Neptune -65055-11-07 08:52 J -22039605.24 -22039605.13 -22039605.01 0.0089 0.0041

Saturn -65054-02-01 21:35 J -22039518.70 -22039518.60 -22039518.49 0.0305 0.0188

Neptune -65054-02-03 10:04 J -22039517.19 -22039517.08 -22039516.96 0.0089 0.0046

Saturn -65054-05-01 10:47 J -22039430.18 -22039430.05 -22039429.92 0.0305 0.0049

Neptune -65054-05-02 11:30 J -22039429.13 -22039429.02 -22039428.91 0.0089 0.0051

Saturn -65054-07-28 23:45 J -22039341.63 -22039341.51 -22039341.39 0.0305 0.0089

Neptune -65054-07-29 12:28 J -22039341.07 -22039340.98 -22039340.86 0.0089 0.0057

Saturn -65054-10-25 12:42 J -22039253.06 -22039252.97 -22039252.89 0.0305 0.0226

Neptune -65054-10-25 13:54 J -22039253.00 -22039252.92 -22039252.82 0.0089 0.0062 *

Jupiter -65054-12-06 19:54 J -22039210.80 -22039210.67 -22039210.53 0.0500 0.0338

Neptune -65053-01-21 15:21 J -22039164.94 -22039164.86 -22039164.77 0.0089 0.0067

Venus -65053-01-27 06:13 J -22039159.33 -22039159.24 -22039159.15 0.3819 0.1795

Jupiter -65053-03-06 07:54 J -22039120.31 -22039120.17 -22039120.02 0.0500 0.0316

Neptune -65053-04-18 16:33 J -22039076.88 -22039076.81 -22039076.73 0.0089 0.0072

Neptune -65053-07-15 17:59 J -22038988.81 -22038988.75 -22038988.68 0.0089 0.0077

Neptune -65053-10-11 19:25 J -22038900.74 -22038900.69 -22038900.65 0.0089 0.0082

Moon -65053-11-18 09:35 J -22038863.26 -22038863.10 -22038862.94 0.2636 0.0297

Earth -65053-11-18 11:16 J -22038863.19 -22038863.03 -22038862.87 0.2639 0.0199 *

Neptune -65052-01-07 20:23 J -22038812.66 -22038812.65 -22038812.62 0.0089 0.0088

Mars -65051-05-04 02:09 J -22038331.50 -22038331.41 -22038331.32 0.1577 0.1340

Earth -65049-05-20 15:35 J -22037583.93 -22037583.85 -22037583.76 0.2692 0.1734

Moon -65049-05-20 16:18 J -22037583.91 -22037583.82 -22037583.74 0.2688 0.1689 *

Venus -65048-08-11 22:33 J -22037135.59 -22037135.56 -22037135.52 0.3818 0.3572

Jupiter -65048-11-02 05:16 J -22037053.40 -22037053.28 -22037053.16 0.0526 0.0168

Jupiter -65047-01-30 10:33 J -22036964.16 -22036964.06 -22036963.96 0.0525 0.0322

Uranus -65046-01-15 19:54 J -22036613.73 -22036613.67 -22036613.61 0.0133 0.0119

Uranus -65046-04-13 22:33 J -22036525.63 -22036525.56 -22036525.47 0.0133 0.0103

Uranus -65046-07-11 01:40 J -22036437.52 -22036437.43 -22036437.33 0.0133 0.0086

Uranus -65046-10-07 04:47 J -22036349.42 -22036349.30 -22036349.19 0.0133 0.0070

Uranus -65045-01-03 07:25 J -22036261.30 -22036261.19 -22036261.06 0.0133 0.0053

Uranus -65045-03-31 10:33 J -22036173.19 -22036173.06 -22036172.93 0.0133 0.0036

Uranus -65045-06-27 13:25 J -22036085.07 -22036084.94 -22036084.81 0.0134 0.0020

Uranus -65045-09-23 16:18 J -22035996.95 -22035996.82 -22035996.68 0.0134 0.0005

Mars -65045-12-19 11:45 J -22035910.11 -22035910.01 -22035909.92 0.1970 0.1146

Uranus -65045-12-20 19:25 J -22035908.82 -22035908.69 -22035908.56 0.0134 0.0014

Uranus -65044-03-18 22:18 J -22035820.70 -22035820.57 -22035820.44 0.0134 0.0031

Uranus -65044-06-15 01:11 J -22035732.57 -22035732.45 -22035732.33 0.0134 0.0048

Uranus -65044-09-11 04:04 J -22035644.44 -22035644.33 -22035644.21 0.0134 0.0065

Uranus -65044-12-08 07:11 J -22035556.30 -22035556.20 -22035556.10 0.0134 0.0082

Uranus -65043-03-06 10:04 J -22035468.17 -22035468.08 -22035467.99 0.0134 0.0099

Moon -65043-05-30 09:06 J -22035383.18 -22035383.12 -22035383.06 0.2703 0.2228

Earth -65043-05-30 09:49 J -22035383.15 -22035383.09 -22035383.04 0.2700 0.2352 *

Uranus -65043-06-02 12:57 J -22035380.02 -22035379.96 -22035379.89 0.0134 0.0116

Uranus -65043-08-29 16:04 J -22035291.85 -22035291.83 -22035291.81 0.0135 0.0133

Pluto -65042-09-10 11:45 J -22034915.04 -22034915.01 -22034914.93 0.0061 0.0058

Mars -65042-09-24 04:18 J -22034901.48 -22034901.32 -22034901.16 0.1580 0.0437

Jupiter -65042-09-24 17:16 J -22034900.80 -22034900.78 -22034900.74 0.0499 0.0490

Pluto -65042-12-07 12:57 J -22034827.03 -22034826.96 -22034826.85 0.0061 0.0053

Jupiter -65042-12-24 05:16 J -22034810.46 -22034810.28 -22034810.10 0.0500 0.0160

Pluto -65041-03-04 14:09 J -22034739.00 -22034738.91 -22034738.78 0.0061 0.0048

Pluto -65041-05-31 15:21 J -22034650.97 -22034650.86 -22034650.72 0.0061 0.0043

Pluto -65041-08-27 16:33 J -22034562.93 -22034562.81 -22034562.65 0.0061 0.0038

Pluto -65041-11-23 17:45 J -22034474.90 -22034474.76 -22034474.59 0.0061 0.0033

Pluto -65040-02-19 18:57 J -22034386.85 -22034386.71 -22034386.54 0.0061 0.0028

Pluto -65040-05-18 20:09 J -22034298.81 -22034298.66 -22034298.48 0.0061 0.0024

Pluto -65040-08-14 21:21 J -22034210.77 -22034210.61 -22034210.42 0.0061 0.0019

Saturn -65040-08-24 17:16 J -22034200.84 -22034200.78 -22034200.70 0.0258 0.0238

Pluto -65040-11-10 22:33 J -22034122.72 -22034122.56 -22034122.37 0.0061 0.0014

Saturn -65040-11-21 13:25 J -22034112.11 -22034111.94 -22034111.77 0.0258 0.0116

Moon -65040-11-21 17:30 J -22034111.88 -22034111.77 -22034111.67 0.2637 0.1918 *

Earth -65040-11-21 19:11 J -22034111.80 -22034111.70 -22034111.60 0.2636 0.2060 *

Pluto -65039-02-07 00:13 J -22034034.67 -22034034.49 -22034034.31 0.0061 0.0008

Saturn -65039-02-18 09:35 J -22034023.29 -22034023.10 -22034022.91 0.0257 0.0007

Pluto -65039-05-06 01:25 J -22033946.62 -22033946.44 -22033946.26 0.0062 0.0003

Saturn -65039-05-18 05:45 J -22033934.42 -22033934.26 -22033934.09 0.0257 0.0130

Pluto -65039-08-02 02:37 J -22033858.57 -22033858.39 -22033858.21 0.0062 0.0003

Saturn -65039-08-15 01:54 J -22033845.43 -22033845.42 -22033845.38 0.0258 0.0255

Pluto -65039-10-29 03:49 J -22033770.52 -22033770.34 -22033770.16 0.0062 0.0008

Pluto -65038-01-25 05:01 J -22033682.47 -22033682.29 -22033682.11 0.0062 0.0013

Pluto -65038-04-23 05:59 J -22033594.41 -22033594.25 -22033594.06 0.0062 0.0019

Pluto -65038-07-20 07:11 J -22033506.35 -22033506.20 -22033506.02 0.0062 0.0024

Pluto -65038-10-16 08:37 J -22033418.29 -22033418.14 -22033417.97 0.0062 0.0029

Pluto -65037-01-12 10:04 J -22033330.23 -22033330.08 -22033329.93 0.0062 0.0034

Pluto -65037-04-09 11:01 J -22033242.16 -22033242.04 -22033241.89 0.0062 0.0040

Pluto -65037-07-06 12:28 J -22033154.09 -22033153.98 -22033153.85 0.0062 0.0045

Pluto -65037-10-02 13:54 J -22033066.02 -22033065.92 -22033065.81 0.0062 0.0051

Pluto -65037-12-29 14:52 J -22032977.94 -22032977.88 -22032977.79 0.0062 0.0057

Pluto -65036-03-27 16:33 J -22032889.83 -22032889.81 -22032889.79 0.0062 0.0062

Earth -65036-05-23 09:21 J -22032833.21 -22032833.11 -22032833.00 0.2694 0.0660

Moon -65036-05-23 09:35 J -22032833.20 -22032833.10 -22032832.99 0.2687 0.0639 *

Jupiter -65036-08-21 09:35 J -22032743.21 -22032743.10 -22032743.00 0.0526 0.0292

Jupiter -65036-11-18 14:52 J -22032653.99 -22032653.88 -22032653.76 0.0526 0.0201

Mars -65035-05-11 19:11 J -22032479.82 -22032479.70 -22032479.59 0.1967 0.0096

Mars -65032-02-13 06:28 J -22031471.40 -22031471.23 -22031471.07 0.1583 0.0468

Jupiter -65030-10-12 02:09 J -22030500.60 -22030500.41 -22030500.22 0.0500 0.0002

Venus -65027-03-19 10:33 J -22029611.22 -22029611.06 -22029610.91 0.3560 0.0504

Mars -65026-10-02 02:37 J -22029049.48 -22029049.39 -22029049.29 0.1962 0.1007

Saturn -65025-06-20 22:18 J -22028786.65 -22028786.57 -22028786.49 0.0304 0.0241

Saturn -65025-09-17 11:30 J -22028698.14 -22028698.02 -22028697.90 0.0304 0.0102

Saturn -65025-12-15 00:28 J -22028609.61 -22028609.48 -22028609.35 0.0305 0.0036

Saturn -65024-03-13 13:11 J -22028521.05 -22028520.95 -22028520.84 0.0304 0.0174

Jupiter -65024-06-09 14:23 J -22028432.98 -22028432.90 -22028432.82 0.0526 0.0407

Jupiter -65024-09-06 19:40 J -22028343.80 -22028343.68 -22028343.55 0.0526 0.0088

Moon -65023-05-26 02:37 J -22028082.49 -22028082.39 -22028082.28 0.2691 0.0415

Earth -65023-05-26 03:06 J -22028082.47 -22028082.37 -22028082.26 0.2696 0.0429 *

Mars -65023-07-06 08:37 J -22028041.23 -22028041.14 -22028041.06 0.1586 0.1368

Moon -65020-11-16 09:21 J -22026812.22 -22026812.11 -22026812.01 0.2636 0.1999

Earth -65020-11-16 10:18 J -22026812.17 -22026812.07 -22026811.97 0.2641 0.2011 *

Jupiter -65018-07-30 21:21 J -22026190.78 -22026190.61 -22026190.43 0.0499 0.0175

Jupiter -65018-10-29 09:35 J -22026100.15 -22026100.10 -22026100.05 0.0500 0.0480

Earth -65016-05-19 02:37 J -22025532.41 -22025532.39 -22025532.36 0.2690 0.2600

Moon -65016-05-19 03:21 J -22025532.39 -22025532.36 -22025532.33 0.2691 0.2582 *

Venus -65013-01-19 03:06 J -22024557.44 -22024557.37 -22024557.31 0.3819 0.2838

Jupiter -65012-03-28 18:57 J -22024122.72 -22024122.71 -22024122.69 0.0527 0.0523

Jupiter -65012-06-26 00:28 J -22024033.60 -22024033.48 -22024033.35 0.0526 0.0033

Jupiter -65012-09-23 05:45 J -22023944.31 -22023944.26 -22023944.20 0.0525 0.0462

Mars -65012-11-02 02:37 J -22023904.44 -22023904.39 -22023904.33 0.1577 0.1472

Saturn -65010-04-10 11:59 J -22023380.14 -22023380.00 -22023379.84 0.0258 0.0156

Moon -65010-05-28 20:09 J -22023331.75 -22023331.66 -22023331.56 0.2696 0.1362

Earth -65010-05-28 20:52 J -22023331.72 -22023331.63 -22023331.54 0.2698 0.1495 *

Saturn -65010-07-08 08:09 J -22023291.34 -22023291.16 -22023290.97 0.0258 0.0034

Saturn -65010-10-05 04:18 J -22023202.49 -22023202.32 -22023202.13 0.0258 0.0091

Saturn -65009-01-02 00:42 J -22023113.57 -22023113.47 -22023113.36 0.0258 0.0214

Venus -65008-08-03 19:11 J -22022533.79 -22022533.70 -22022533.60 0.3819 0.1113

Moon -65007-11-19 16:18 J -22022060.98 -22022060.82 -22022060.66 0.2635 0.0019

Earth -65007-11-19 17:59 J -22022060.91 -22022060.75 -22022060.59 0.2638 0.0222 *

Jupiter -65006-05-18 18:28 J -22021880.86 -22021880.73 -22021880.59 0.0499 0.0331

Uranus -65006-08-15 12:42 J -22021792.08 -22021791.97 -22021791.85 0.0145 0.0116

Jupiter -65006-08-17 06:28 J -22021790.37 -22021790.23 -22021790.08 0.0500 0.0323

Uranus -65006-11-11 21:21 J -22021703.75 -22021703.61 -22021703.43 0.0145 0.0085

Uranus -65005-02-08 06:28 J -22021615.41 -22021615.23 -22021615.04 0.0145 0.0052

Uranus -65005-05-06 15:21 J -22021527.05 -22021526.86 -22021526.66 0.0145 0.0019

Mars -65005-06-19 11:30 J -22021483.11 -22021483.02 -22021482.93 0.1971 0.1245

Uranus -65005-08-03 00:13 J -22021438.68 -22021438.49 -22021438.29 0.0145 0.0014

Uranus -65005-10-30 09:06 J -22021350.30 -22021350.12 -22021349.93 0.0145 0.0046

Uranus -65004-01-26 17:59 J -22021261.91 -22021261.75 -22021261.58 0.0145 0.0078

Uranus -65004-04-25 02:37 J -22021173.51 -22021173.39 -22021173.25 0.0145 0.0110

Uranus -65004-07-22 11:30 J -22021085.05 -22021085.02 -22021084.98 0.0144 0.0142

Earth -65003-05-21 20:23 J -22020781.74 -22020781.65 -22020781.56 0.2692 0.1519

Moon -65003-05-21 20:52 J -22020781.72 -22020781.63 -22020781.53 0.2687 0.1416 *

Venus -65002-02-17 11:30 J -22020510.12 -22020510.02 -22020509.92 0.3819 0.0653

Mars -65002-03-25 05:01 J -22020474.45 -22020474.29 -22020474.14 0.1580 0.0577

65TH MILLENNIUM BCE

This is a list of transits of Mercury in the 65th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Jupiter -65000-04-14 04:47 J -22019723.42 -22019723.30 -22019723.18 0.0526 0.0152

Jupiter -65000-07-12 10:04 J -22019634.17 -22019634.08 -22019633.98 0.0525 0.0339

Moon -64997-05-30 13:54 J -22018580.95 -22018580.92 -22018580.89 0.2705 0.2565

Earth -64997-05-30 14:37 J -22018580.93 -22018580.89 -22018580.86 0.2700 0.2558 *

Venus -64997-09-02 03:49 J -22018486.41 -22018486.34 -22018486.26 0.3819 0.2427

Saturn -64996-11-07 22:33 J -22018054.58 -22018054.56 -22018054.53 0.0305 0.0296

Mars -64996-11-09 19:11 J -22018052.81 -22018052.70 -22018052.59 0.1967 0.0182

Saturn -64995-02-04 11:45 J -22017966.12 -22017966.01 -22017965.90 0.0305 0.0158

Saturn -64995-05-04 00:42 J -22017877.60 -22017877.47 -22017877.34 0.0305 0.0020

Saturn -64995-07-31 13:40 J -22017789.05 -22017788.93 -22017788.81 0.0305 0.0119

Saturn -64995-10-28 02:37 J -22017700.46 -22017700.39 -22017700.32 0.0305 0.0255

Jupiter -64994-03-06 15:49 J -22017570.87 -22017570.84 -22017570.79 0.0500 0.0484

Jupiter -64994-06-05 03:49 J -22017480.51 -22017480.34 -22017480.16 0.0500 0.0168

Moon -64994-11-23 00:13 J -22017309.56 -22017309.49 -22017309.42 0.2639 0.2357

Earth -64994-11-23 01:54 J -22017309.47 -22017309.42 -22017309.37 0.2636 0.2482 *

Mars -64993-08-14 07:11 J -22017044.37 -22017044.20 -22017044.04 0.1583 0.0325

Moon -64990-05-24 14:23 J -22016031.01 -22016030.90 -22016030.79 0.2688 0.0434

Earth -64990-05-24 14:09 J -22016031.01 -22016030.91 -22016030.80 0.2694 0.0449 *

Jupiter -64988-01-31 09:06 J -22015413.23 -22015413.12 -22015413.01 0.0526 0.0275

Jupiter -64988-04-30 14:23 J -22015324.01 -22015323.90 -22015323.78 0.0525 0.0217

Mars -64986-04-02 02:37 J -22014622.49 -22014622.39 -22014622.29 0.1962 0.0902

Mars -64983-01-04 09:06 J -22013614.22 -22013614.12 -22013614.01 0.1586 0.1233

Jupiter -64982-03-24 01:11 J -22013170.64 -22013170.45 -22013170.26 0.0500 0.0014

Saturn -64981-08-27 10:18 J -22012648.18 -22012648.07 -22012647.94 0.0258 0.0198

Saturn -64981-11-24 06:28 J -22012559.41 -22012559.23 -22012559.04 0.0258 0.0076

Saturn -64980-02-21 02:52 J -22012470.57 -22012470.38 -22012470.20 0.0258 0.0048

Saturn -64980-05-20 23:01 J -22012381.68 -22012381.54 -22012381.39 0.0258 0.0171

Neptune -64977-01-10 08:37 J -22011417.18 -22011417.14 -22011417.07 0.0089 0.0085

Neptune -64977-04-07 11:59 J -22011329.07 -22011329.00 -22011328.88 0.0089 0.0078

Moon -64977-05-26 07:25 J -22011280.29 -22011280.19 -22011280.08 0.2691 0.0569

Earth -64977-05-26 07:54 J -22011280.27 -22011280.17 -22011280.06 0.2696 0.0642 *

Neptune -64977-07-04 15:49 J -22011240.94 -22011240.84 -22011240.71 0.0089 0.0070

Neptune -64977-09-30 19:40 J -22011152.81 -22011152.68 -22011152.54 0.0089 0.0062

Jupiter -64977-11-19 13:11 J -22011103.03 -22011102.95 -22011102.87 0.0526 0.0400

Neptune -64977-12-27 23:01 J -22011064.68 -22011064.54 -22011064.38 0.0089 0.0055

Jupiter -64976-02-16 18:42 J -22011013.84 -22011013.72 -22011013.60 0.0526 0.0094

Neptune -64976-03-26 02:52 J -22010976.54 -22010976.38 -22010976.21 0.0089 0.0047

Venus -64976-04-09 04:33 J -22010962.36 -22010962.31 -22010962.26 0.3561 0.3360

Neptune -64976-06-22 06:13 J -22010888.40 -22010888.24 -22010888.05 0.0089 0.0040

Neptune -64976-09-18 10:04 J -22010800.26 -22010800.08 -22010799.90 0.0089 0.0032

Neptune -64976-12-15 13:25 J -22010712.11 -22010711.94 -22010711.74 0.0089 0.0025

Neptune -64975-03-13 17:16 J -22010623.97 -22010623.78 -22010623.58 0.0089 0.0017

Neptune -64975-06-09 21:06 J -22010535.82 -22010535.62 -22010535.43 0.0089 0.0009

Neptune -64975-09-06 00:42 J -22010447.67 -22010447.47 -22010447.28 0.0089 0.0002

Neptune -64975-12-03 04:18 J -22010359.52 -22010359.32 -22010359.13 0.0089 0.0007

Neptune -64974-03-01 07:40 J -22010271.36 -22010271.18 -22010270.98 0.0089 0.0015

Neptune -64974-05-28 11:30 J -22010183.21 -22010183.02 -22010182.83 0.0089 0.0022

Neptune -64974-08-24 15:06 J -22010095.05 -22010094.87 -22010094.68 0.0089 0.0030

Moon -64974-11-17 15:49 J -22010009.96 -22010009.84 -22010009.72 0.2636 0.1801

Earth -64974-11-17 17:01 J -22010009.91 -22010009.79 -22010009.66 0.2641 0.1586 *

Neptune -64974-11-20 18:42 J -22010006.89 -22010006.72 -22010006.53 0.0089 0.0038

Neptune -64973-02-16 22:18 J -22009918.73 -22009918.57 -22009918.39 0.0089 0.0045

Neptune -64973-05-15 02:09 J -22009830.56 -22009830.41 -22009830.25 0.0089 0.0053

Neptune -64973-08-11 05:45 J -22009742.39 -22009742.26 -22009742.11 0.0089 0.0061

Neptune -64973-11-07 09:06 J -22009654.22 -22009654.12 -22009653.97 0.0089 0.0069

Neptune -64972-02-03 13:11 J -22009566.04 -22009565.95 -22009565.85 0.0089 0.0076

Neptune -64972-05-02 16:47 J -22009477.85 -22009477.80 -22009477.73 0.0089 0.0084

Venus -64971-10-24 11:59 J -22008938.15 -22008938.00 -22008937.84 0.3560 0.0925

Jupiter -64970-01-09 22:04 J -22008860.76 -22008860.58 -22008860.40 0.0500 0.0146

Earth -64970-05-20 07:25 J -22008730.24 -22008730.19 -22008730.14 0.2690 0.2384

Moon -64970-05-20 08:09 J -22008730.22 -22008730.16 -22008730.10 0.2690 0.2244 *

Saturn -64966-06-24 12:28 J -22007234.07 -22007233.98 -22007233.88 0.0304 0.0209

Saturn -64966-09-21 01:40 J -22007145.56 -22007145.43 -22007145.31 0.0304 0.0070

Saturn -64966-12-18 14:37 J -22007057.02 -22007056.89 -22007056.76 0.0305 0.0068

Mars -64966-12-19 11:30 J -22007056.10 -22007056.02 -22007055.94 0.1971 0.1365

Saturn -64965-03-16 03:21 J -22006968.45 -22006968.36 -22006968.26 0.0304 0.0205

Jupiter -64965-09-07 17:59 J -22006792.77 -22006792.75 -22006792.73 0.0527 0.0516

Jupiter -64965-12-05 23:30 J -22006703.65 -22006703.52 -22006703.39 0.0526 0.0021

Jupiter -64964-03-05 04:47 J -22006614.35 -22006614.30 -22006614.25 0.0525 0.0469

Moon -64964-05-29 00:57 J -22006529.54 -22006529.46 -22006529.37 0.2698 0.1676

Earth -64964-05-29 01:40 J -22006529.51 -22006529.43 -22006529.35 0.2698 0.1706 *

Mars -64963-09-23 05:30 J -22006047.42 -22006047.27 -22006047.12 0.1580 0.0710

Uranus -64963-11-09 00:13 J -22006000.50 -22006000.49 -22006000.46 0.0133 0.0131

Uranus -64962-02-05 03:21 J -22005912.43 -22005912.36 -22005912.30 0.0133 0.0114

Uranus -64962-05-04 05:59 J -22005824.33 -22005824.25 -22005824.15 0.0133 0.0098

Uranus -64962-07-31 09:06 J -22005736.22 -22005736.12 -22005736.02 0.0133 0.0081

Uranus -64962-10-27 11:59 J -22005648.11 -22005648.00 -22005647.88 0.0133 0.0065

Uranus -64961-01-23 14:52 J -22005560.00 -22005559.88 -22005559.75 0.0133 0.0048

Uranus -64961-04-20 17:59 J -22005471.88 -22005471.75 -22005471.63 0.0133 0.0032

Uranus -64961-07-17 20:52 J -22005383.76 -22005383.63 -22005383.50 0.0134 0.0015

Uranus -64961-10-13 23:45 J -22005295.64 -22005295.51 -22005295.38 0.0134 0.0002

Moon -64961-11-19 23:01 J -22005258.70 -22005258.54 -22005258.38 0.2636 0.0578

Earth -64961-11-20 00:42 J -22005258.62 -22005258.47 -22005258.31 0.2638 0.0645 *

Uranus -64960-01-10 02:37 J -22005207.52 -22005207.39 -22005207.26 0.0134 0.0019

Uranus -64960-04-08 05:30 J -22005119.39 -22005119.27 -22005119.14 0.0134 0.0036

Uranus -64960-07-05 08:23 J -22005031.26 -22005031.15 -22005031.02 0.0134 0.0053

Uranus -64960-10-01 11:30 J -22004943.13 -22004943.02 -22004942.91 0.0134 0.0069

Uranus -64960-12-28 14:23 J -22004855.00 -22004854.90 -22004854.80 0.0134 0.0086

Uranus -64959-03-26 17:16 J -22004766.86 -22004766.78 -22004766.69 0.0134 0.0104

Uranus -64959-06-22 20:09 J -22004678.71 -22004678.66 -22004678.59 0.0134 0.0121

Jupiter -64959-10-28 17:30 J -22004550.91 -22004550.77 -22004550.63 0.0499 0.0321

Jupiter -64958-01-27 05:16 J -22004460.42 -22004460.28 -22004460.14 0.0500 0.0332

Earth -64957-05-22 01:11 J -22003979.54 -22003979.45 -22003979.35 0.2692 0.1307

Moon -64957-05-22 01:40 J -22003979.52 -22003979.43 -22003979.33 0.2687 0.1306 *

Venus -64957-08-25 00:42 J -22003884.55 -22003884.47 -22003884.39 0.3819 0.2227

Mars -64956-05-10 18:57 J -22003625.82 -22003625.71 -22003625.59 0.1967 0.0277

Mars -64953-02-13 07:40 J -22002617.34 -22002617.18 -22002617.01 0.1583 0.0195

Jupiter -64953-09-24 04:18 J -22002393.44 -22002393.32 -22002393.20 0.0526 0.0137

Jupiter -64953-12-22 09:35 J -22002304.19 -22002304.10 -22002304.01 0.0525 0.0355

Saturn -64951-01-14 09:21 J -22001916.18 -22001916.11 -22001916.03 0.0258 0.0235

Venus -64951-03-10 16:47 J -22001860.90 -22001860.80 -22001860.70 0.3819 0.0500

Saturn -64951-04-13 05:30 J -22001827.44 -22001827.27 -22001827.10 0.0258 0.0113

Moon -64951-05-31 18:42 J -22001778.73 -22001778.72 -22001778.70 0.2705 0.2650

Saturn -64951-07-11 01:40 J -22001738.62 -22001738.43 -22001738.24 0.0258 0.0010

Saturn -64951-10-07 21:49 J -22001649.75 -22001649.59 -22001649.42 0.0258 0.0133

Saturn -64950-01-04 18:13 J -22001560.74 -22001560.74 -22001560.73 0.0258 0.0257

Pluto -64949-04-27 13:54 J -22001081.93 -22001081.92 -22001081.91 0.0084 0.0084

Pluto -64949-07-24 15:06 J -22000993.92 -22000993.87 -22000993.79 0.0084 0.0073

Pluto -64949-10-20 16:47 J -22000905.88 -22000905.80 -22000905.70 0.0084 0.0062

Pluto -64948-01-16 18:28 J -22000817.84 -22000817.73 -22000817.61 0.0084 0.0052

Pluto -64948-04-14 20:09 J -22000729.78 -22000729.66 -22000729.54 0.0084 0.0041

Pluto -64948-07-11 21:35 J -22000641.73 -22000641.60 -22000641.47 0.0084 0.0031

Pluto -64948-10-07 23:01 J -22000553.67 -22000553.54 -22000553.40 0.0083 0.0021

Pluto -64947-01-04 00:42 J -22000465.61 -22000465.47 -22000465.33 0.0083 0.0010

Pluto -64947-04-02 02:09 J -22000377.55 -22000377.41 -22000377.27 0.0083 0.0000

Pluto -64947-06-29 03:35 J -22000289.49 -22000289.35 -22000289.21 0.0083 0.0010

Jupiter -64947-08-16 14:23 J -22000240.95 -22000240.90 -22000240.85 0.0499 0.0478

Pluto -64947-09-25 05:01 J -22000201.42 -22000201.29 -22000201.15 0.0083 0.0020

Mars -64947-10-01 02:37 J -22000195.49 -22000195.39 -22000195.28 0.1963 0.0786

Jupiter -64947-11-15 02:09 J -22000150.58 -22000150.41 -22000150.23 0.0500 0.0173

Pluto -64947-12-22 06:28 J -22000113.36 -22000113.23 -22000113.10 0.0083 0.0030

Pluto -64946-03-20 07:40 J -22000025.29 -22000025.18 -22000025.04 0.0083 0.0040

Pluto -64946-06-16 09:06 J -21999937.22 -21999937.12 -21999936.99 0.0083 0.0050

Pluto -64946-09-12 10:47 J -21999849.14 -21999849.05 -21999848.95 0.0082 0.0059

Venus -64946-09-24 09:06 J -21999837.21 -21999837.12 -21999837.02 0.3819 0.1286

Pluto -64946-12-09 11:59 J -21999761.06 -21999761.00 -21999760.91 0.0082 0.0068

Pluto -64945-03-06 13:40 J -21999672.97 -21999672.93 -21999672.89 0.0082 0.0078

Moon -64944-05-24 18:57 J -21999228.82 -21999228.71 -21999228.60 0.2688 0.0204

Earth -64944-05-24 18:57 J -21999228.81 -21999228.71 -21999228.60 0.2695 0.0250 *

Mars -64944-07-05 10:04 J -21999187.20 -21999187.08 -21999186.96 0.1586 0.1088

Jupiter -64941-07-13 08:37 J -21998083.25 -21998083.14 -21998083.03 0.0526 0.0262

Jupiter -64941-10-10 13:54 J -21997994.03 -21997993.92 -21997993.81 0.0525 0.0231

Venus -64940-04-09 01:25 J -21997813.50 -21997813.44 -21997813.38 0.3819 0.3054

Mars -64937-02-21 10:18 J -21996765.11 -21996765.07 -21996765.04 0.1957 0.1846

Saturn -64937-11-10 13:11 J -21996502.01 -21996501.95 -21996501.88 0.0305 0.0260

Saturn -64936-02-07 02:09 J -21996413.52 -21996413.41 -21996413.28 0.0305 0.0122

Saturn -64936-05-06 15:21 J -21996324.99 -21996324.86 -21996324.73 0.0305 0.0017

Saturn -64936-08-03 04:18 J -21996236.43 -21996236.32 -21996236.21 0.0305 0.0154

Saturn -64936-10-30 17:01 J -21996147.82 -21996147.79 -21996147.75 0.0305 0.0290

Jupiter -64935-09-02 23:30 J -21995840.71 -21995840.52 -21995840.33 0.0500 0.0019

Moon -64931-05-27 12:13 J -21994478.09 -21994477.99 -21994477.88 0.2691 0.0795

Earth -64931-05-27 12:42 J -21994478.07 -21994477.97 -21994477.86 0.2697 0.0854 *

Jupiter -64929-05-01 12:42 J -21993773.05 -21993772.97 -21993772.88 0.0526 0.0386

Jupiter -64929-07-29 18:13 J -21993683.87 -21993683.74 -21993683.62 0.0525 0.0108

Moon -64928-11-17 22:18 J -21993207.71 -21993207.57 -21993207.42 0.2635 0.1192

Earth -64928-11-17 23:45 J -21993207.65 -21993207.51 -21993207.37 0.2640 0.1174 *

Mars -64926-06-19 11:30 J -21992629.09 -21992629.02 -21992628.94 0.1970 0.1475

Earth -64924-05-20 12:13 J -21991928.05 -21991927.99 -21991927.92 0.2691 0.2164

Moon -64924-05-20 12:57 J -21991928.02 -21991927.96 -21991927.89 0.2689 0.2145 *

Mars -64923-03-24 06:13 J -21991620.38 -21991620.24 -21991620.10 0.1580 0.0845

Jupiter -64923-06-21 20:37 J -21991530.81 -21991530.64 -21991530.45 0.0500 0.0139

Uranus -64922-06-08 10:04 J -21991179.08 -21991179.08 -21991179.07 0.0146 0.0145

Saturn -64922-08-31 04:04 J -21991095.48 -21991095.33 -21991095.18 0.0258 0.0154

Uranus -64922-09-04 19:11 J -21991090.82 -21991090.70 -21991090.58 0.0145 0.0113

Saturn -64922-11-28 00:13 J -21991006.68 -21991006.49 -21991006.30 0.0258 0.0031

Uranus -64922-12-02 03:49 J -21991002.49 -21991002.34 -21991002.17 0.0145 0.0081

Saturn -64921-02-24 20:23 J -21990917.82 -21990917.65 -21990917.47 0.0258 0.0093

Uranus -64921-02-28 12:42 J -21990914.15 -21990913.97 -21990913.78 0.0145 0.0048

Saturn -64921-05-23 16:33 J -21990828.90 -21990828.81 -21990828.69 0.0258 0.0217

Uranus -64921-05-26 21:35 J -21990825.79 -21990825.60 -21990825.40 0.0145 0.0016

Uranus -64921-08-23 06:28 J -21990737.42 -21990737.23 -21990737.03 0.0145 0.0017

Uranus -64921-11-19 15:21 J -21990649.04 -21990648.86 -21990648.67 0.0145 0.0049

Uranus -64920-02-15 23:59 J -21990560.65 -21990560.50 -21990560.33 0.0145 0.0082

Uranus -64920-05-15 08:52 J -21990472.24 -21990472.13 -21990472.00 0.0145 0.0113

Venus -64920-11-14 06:13 J -21990289.37 -21990289.24 -21990289.11 0.3560 0.1912

Moon -64918-05-30 05:45 J -21989727.34 -21989727.26 -21989727.18 0.2700 0.1819

Earth -64918-05-30 06:28 J -21989727.30 -21989727.23 -21989727.15 0.2699 0.1917 *

Jupiter -64917-02-18 16:47 J -21989462.82 -21989462.80 -21989462.77 0.0526 0.0512

Jupiter -64917-05-17 22:18 J -21989373.69 -21989373.57 -21989373.44 0.0526 0.0020

Jupiter -64917-08-15 03:35 J -21989284.40 -21989284.35 -21989284.30 0.0525 0.0473

Mars -64917-11-08 19:11 J -21989198.82 -21989198.70 -21989198.59 0.1967 0.0402

Moon -64915-11-21 05:45 J -21988456.41 -21988456.26 -21988456.11 0.2638 0.0801

Earth -64915-11-21 07:25 J -21988456.33 -21988456.19 -21988456.04 0.2638 0.1070 *

Venus -64914-05-31 13:54 J -21988265.04 -21988264.92 -21988264.81 0.3561 0.2353

Mars -64914-08-14 08:23 J -21988190.32 -21988190.15 -21988189.98 0.1583 0.0059

Jupiter -64911-04-09 17:30 J -21987220.91 -21987220.77 -21987220.62 0.0499 0.0298

Earth -64911-05-23 06:13 J -21987177.34 -21987177.24 -21987177.14 0.2693 0.1089

Moon -64911-05-23 06:28 J -21987177.33 -21987177.23 -21987177.12 0.2687 0.0978 *

Jupiter -64911-07-09 05:30 J -21987130.40 -21987130.27 -21987130.14 0.0500 0.0357

Mars -64907-04-01 02:37 J -21985768.50 -21985768.39 -21985768.28 0.1962 0.0676

Saturn -64907-06-27 03:21 J -21985681.47 -21985681.36 -21985681.25 0.0304 0.0170

Saturn -64907-09-23 16:18 J -21985592.94 -21985592.82 -21985592.69 0.0304 0.0034

Saturn -64907-12-21 05:16 J -21985504.40 -21985504.28 -21985504.15 0.0304 0.0106

Saturn -64906-03-19 18:13 J -21985415.82 -21985415.74 -21985415.66 0.0304 0.0242

Venus -64906-09-16 05:59 J -21985235.29 -21985235.25 -21985235.20 0.3819 0.3341

Jupiter -64905-03-06 03:06 J -21985063.49 -21985063.37 -21985063.25 0.0526 0.0133

Jupiter -64905-06-03 08:23 J -21984974.24 -21984974.15 -21984974.06 0.0525 0.0359

Mars -64904-01-03 10:33 J -21984760.19 -21984760.06 -21984759.92 0.1586 0.0959

Venus -64900-03-31 22:18 J -21983211.67 -21983211.57 -21983211.48 0.3819 0.1625

Jupiter -64899-01-26 12:57 J -21982911.01 -21982910.96 -21982910.90 0.0499 0.0472

Jupiter -64899-04-27 00:42 J -21982820.64 -21982820.47 -21982820.29 0.0500 0.0179

Moon -64898-05-25 23:45 J -21982426.62 -21982426.51 -21982426.40 0.2688 0.0110

Earth -64898-05-25 23:59 J -21982426.61 -21982426.50 -21982426.40 0.2695 0.0112 *

Mars -64898-08-22 10:04 J -21982338.13 -21982338.08 -21982338.03 0.1957 0.1747

Neptune -64896-10-20 23:59 J -21981547.53 -21981547.50 -21981547.46 0.0089 0.0085

Neptune -64895-01-17 01:11 J -21981459.49 -21981459.45 -21981459.38 0.0089 0.0080

Neptune -64895-04-15 02:37 J -21981371.45 -21981371.39 -21981371.31 0.0089 0.0075

Neptune -64895-07-12 04:18 J -21981283.40 -21981283.32 -21981283.24 0.0089 0.0069

Neptune -64895-10-08 05:30 J -21981195.36 -21981195.27 -21981195.17 0.0089 0.0064

Venus -64895-10-15 14:23 J -21981188.00 -21981187.90 -21981187.80 0.3819 0.0179

Neptune -64894-01-04 06:42 J -21981107.31 -21981107.22 -21981107.11 0.0089 0.0059

Neptune -64894-04-02 08:23 J -21981019.26 -21981019.15 -21981019.05 0.0089 0.0053

Neptune -64894-06-29 09:35 J -21980931.21 -21980931.10 -21980930.98 0.0089 0.0048

Neptune -64894-09-25 10:47 J -21980843.16 -21980843.05 -21980842.92 0.0089 0.0043

Neptune -64894-12-22 12:13 J -21980755.10 -21980754.99 -21980754.86 0.0089 0.0037

Jupiter -64894-12-24 07:40 J -21980753.29 -21980753.18 -21980753.07 0.0527 0.0251

Neptune -64893-03-19 13:40 J -21980667.05 -21980666.93 -21980666.80 0.0089 0.0032

Jupiter -64893-03-22 13:11 J -21980664.06 -21980663.95 -21980663.84 0.0526 0.0243

Neptune -64893-06-15 14:52 J -21980579.00 -21980578.88 -21980578.75 0.0089 0.0027

Neptune -64893-09-11 16:18 J -21980490.95 -21980490.82 -21980490.69 0.0089 0.0021

Neptune -64893-12-08 17:45 J -21980402.89 -21980402.76 -21980402.63 0.0089 0.0016

Saturn -64892-01-17 03:21 J -21980363.49 -21980363.36 -21980363.23 0.0258 0.0189

Neptune -64892-03-06 18:57 J -21980314.84 -21980314.71 -21980314.57 0.0089 0.0011

Saturn -64892-04-15 23:30 J -21980274.71 -21980274.52 -21980274.34 0.0258 0.0067

Neptune -64892-06-02 20:23 J -21980226.78 -21980226.65 -21980226.52 0.0089 0.0005

Saturn -64892-07-13 19:40 J -21980185.86 -21980185.68 -21980185.49 0.0258 0.0057

Neptune -64892-08-29 21:49 J -21980138.73 -21980138.59 -21980138.46 0.0089 0.0003

Saturn -64892-10-10 16:04 J -21980096.97 -21980096.83 -21980096.69 0.0258 0.0180

Neptune -64892-11-25 23:01 J -21980050.67 -21980050.54 -21980050.41 0.0089 0.0005

Neptune -64891-02-22 00:13 J -21979962.62 -21979962.49 -21979962.35 0.0089 0.0011

Neptune -64891-05-21 01:40 J -21979874.56 -21979874.43 -21979874.30 0.0089 0.0016

Neptune -64891-08-17 02:52 J -21979786.50 -21979786.38 -21979786.25 0.0089 0.0021

Neptune -64891-11-13 04:18 J -21979698.45 -21979698.32 -21979698.19 0.0089 0.0026

Neptune -64890-02-09 05:30 J -21979610.39 -21979610.27 -21979610.14 0.0089 0.0032

Neptune -64890-05-08 06:42 J -21979522.33 -21979522.22 -21979522.09 0.0089 0.0037

Neptune -64890-08-04 08:09 J -21979434.27 -21979434.16 -21979434.04 0.0089 0.0042

Neptune -64890-10-31 09:35 J -21979346.21 -21979346.10 -21979345.99 0.0089 0.0047

Neptune -64889-01-27 10:33 J -21979258.15 -21979258.06 -21979257.94 0.0089 0.0053

Neptune -64889-04-24 11:59 J -21979170.09 -21979170.00 -21979169.89 0.0089 0.0058

Venus -64889-04-30 06:42 J -21979164.31 -21979164.22 -21979164.13 0.3819 0.1905

Neptune -64889-07-21 13:11 J -21979082.03 -21979081.95 -21979081.85 0.0089 0.0063

Neptune -64889-10-17 14:37 J -21978993.97 -21978993.89 -21978993.80 0.0089 0.0068

Neptune -64888-01-13 16:04 J -21978905.90 -21978905.83 -21978905.76 0.0089 0.0073

Neptune -64888-04-11 17:16 J -21978817.83 -21978817.78 -21978817.71 0.0089 0.0078

Neptune -64888-07-08 18:42 J -21978729.76 -21978729.72 -21978729.68 0.0089 0.0083

Neptune -64888-10-04 19:54 J -21978641.67 -21978641.67 -21978641.66 0.0089 0.0088

Jupiter -64887-02-12 21:35 J -21978510.78 -21978510.60 -21978510.41 0.0500 0.0020

Mars -64887-12-18 11:30 J -21978202.09 -21978202.02 -21978201.96 0.1971 0.1576

Moon -64885-05-27 17:01 J -21977675.89 -21977675.79 -21977675.69 0.2693 0.1015

Earth -64885-05-27 17:30 J -21977675.87 -21977675.77 -21977675.67 0.2697 0.1065 *

Mars -64884-09-22 06:57 J -21977193.34 -21977193.21 -21977193.07 0.1580 0.0988

Venus -64884-11-13 23:01 J -21977140.56 -21977140.54 -21977140.51 0.3819 0.3696

Jupiter -64882-10-12 11:59 J -21976443.09 -21976443.00 -21976442.91 0.0526 0.0376

Moon -64882-11-19 05:16 J -21976405.43 -21976405.28 -21976405.13 0.2636 0.0962

Earth -64882-11-19 06:28 J -21976405.38 -21976405.23 -21976405.08 0.2640 0.0752 *

Jupiter -64881-01-09 17:30 J -21976353.90 -21976353.77 -21976353.65 0.0526 0.0120

Uranus -64879-11-29 07:40 J -21975299.21 -21975299.18 -21975299.14 0.0133 0.0126

Uranus -64878-02-25 10:47 J -21975211.12 -21975211.05 -21975210.98 0.0133 0.0109

Earth -64878-05-21 17:16 J -21975125.86 -21975125.78 -21975125.71 0.2691 0.1950

Moon -64878-05-21 17:45 J -21975125.84 -21975125.76 -21975125.68 0.2688 0.1821 *

Uranus -64878-05-24 13:25 J -21975123.02 -21975122.94 -21975122.84 0.0133 0.0093

Uranus -64878-08-20 16:33 J -21975034.92 -21975034.81 -21975034.70 0.0133 0.0076

Saturn -64878-11-14 04:18 J -21974949.40 -21974949.32 -21974949.22 0.0304 0.0217

Uranus -64878-11-16 19:25 J -21974946.80 -21974946.69 -21974946.57 0.0133 0.0060

Saturn -64877-02-10 17:30 J -21974860.90 -21974860.77 -21974860.64 0.0305 0.0079

Uranus -64877-02-12 22:18 J -21974858.69 -21974858.57 -21974858.44 0.0133 0.0043

Saturn -64877-05-09 06:28 J -21974772.36 -21974772.23 -21974772.10 0.0305 0.0059

Mars -64877-05-09 19:11 J -21974771.81 -21974771.70 -21974771.59 0.1967 0.0514

Uranus -64877-05-11 01:25 J -21974770.57 -21974770.44 -21974770.32 0.0134 0.0027

Saturn -64877-08-05 19:11 J -21974683.79 -21974683.70 -21974683.59 0.0305 0.0196

Uranus -64877-08-07 04:18 J -21974682.45 -21974682.32 -21974682.19 0.0134 0.0010

Uranus -64877-11-03 07:11 J -21974594.33 -21974594.20 -21974594.07 0.0134 0.0007

Uranus -64876-01-30 10:04 J -21974506.21 -21974506.08 -21974505.95 0.0134 0.0024

Uranus -64876-04-28 12:57 J -21974418.08 -21974417.96 -21974417.83 0.0134 0.0041

Uranus -64876-07-25 15:49 J -21974329.95 -21974329.84 -21974329.71 0.0134 0.0058

Uranus -64876-10-21 18:42 J -21974241.82 -21974241.72 -21974241.60 0.0134 0.0075

Jupiter -64876-12-01 18:42 J -21974200.89 -21974200.72 -21974200.53 0.0500 0.0138

Uranus -64875-01-17 21:35 J -21974153.68 -21974153.60 -21974153.49 0.0134 0.0093

Uranus -64875-04-16 00:57 J -21974065.54 -21974065.46 -21974065.39 0.0134 0.0109

Uranus -64875-07-13 03:49 J -21973977.38 -21973977.34 -21973977.30 0.0134 0.0126

Mars -64874-02-12 09:06 J -21973763.28 -21973763.12 -21973762.95 0.1582 0.0091

Moon -64872-05-30 10:33 J -21972925.13 -21972925.06 -21972924.99 0.2701 0.2063

Earth -64872-05-30 11:16 J -21972925.09 -21972925.03 -21972924.96 0.2699 0.2129 *

Jupiter -64870-07-31 16:04 J -21972132.86 -21972132.83 -21972132.79 0.0526 0.0500

Jupiter -64870-10-28 21:35 J -21972043.72 -21972043.60 -21972043.47 0.0526 0.0009

Jupiter -64869-01-26 02:52 J -21971954.43 -21971954.38 -21971954.33 0.0525 0.0484

Moon -64869-11-21 12:13 J -21971654.12 -21971653.99 -21971653.85 0.2638 0.1427

Earth -64869-11-21 14:09 J -21971654.04 -21971653.91 -21971653.78 0.2637 0.1484 *

Mars -64868-09-30 02:37 J -21971341.50 -21971341.39 -21971341.28 0.1962 0.0565

Earth -64865-05-23 11:01 J -21970375.15 -21970375.04 -21970374.94 0.2693 0.0869

Moon -64865-05-23 11:16 J -21970375.13 -21970375.03 -21970374.93 0.2687 0.0885 *

Mars -64865-07-04 11:16 J -21970333.17 -21970333.03 -21970332.89 0.1586 0.0825

Jupiter -64864-09-19 15:49 J -21969890.99 -21969890.84 -21969890.68 0.0499 0.0294

Jupiter -64864-12-19 03:49 J -21969800.47 -21969800.34 -21969800.21 0.0500 0.0361

Saturn -64863-06-06 02:09 J -21969631.49 -21969631.41 -21969631.32 0.0258 0.0228

Venus -64863-06-21 08:09 J -21969616.32 -21969616.16 -21969616.01 0.3560 0.0449

Saturn -64863-09-02 22:18 J -21969542.74 -21969542.57 -21969542.39 0.0258 0.0106

Saturn -64863-11-30 18:42 J -21969453.91 -21969453.72 -21969453.53 0.0258 0.0018

Saturn -64862-02-27 14:52 J -21969365.04 -21969364.88 -21969364.72 0.0258 0.0142

Mars -64858-02-20 10:04 J -21967911.14 -21967911.08 -21967911.01 0.1958 0.1630

Jupiter -64858-08-17 01:40 J -21967733.55 -21967733.43 -21967733.31 0.0526 0.0132

Jupiter -64858-11-14 06:57 J -21967644.30 -21967644.21 -21967644.12 0.0525 0.0360

Moon -64852-05-26 04:33 J -21965624.42 -21965624.31 -21965624.21 0.2688 0.0260

Earth -64852-05-26 04:47 J -21965624.41 -21965624.30 -21965624.20 0.2695 0.0225 *

Jupiter -64852-07-08 12:42 J -21965581.04 -21965580.97 -21965580.89 0.0499 0.0453

Jupiter -64852-10-07 00:28 J -21965490.65 -21965490.48 -21965490.30 0.0500 0.0199

Venus -64849-04-22 03:35 J -21964562.42 -21964562.35 -21964562.28 0.3819 0.2743

Moon -64849-11-16 04:47 J -21964354.32 -21964354.30 -21964354.27 0.2636 0.2591

Earth -64849-11-16 05:45 J -21964354.30 -21964354.26 -21964354.22 0.2642 0.2542 *

Saturn -64848-04-02 05:59 J -21964217.31 -21964217.25 -21964217.18 0.0304 0.0260

Saturn -64848-06-29 19:11 J -21964128.82 -21964128.70 -21964128.58 0.0304 0.0122

Saturn -64848-09-26 08:09 J -21964040.29 -21964040.16 -21964040.03 0.0304 0.0016

Saturn -64848-12-23 21:06 J -21963951.73 -21963951.62 -21963951.51 0.0304 0.0153

Saturn -64847-03-22 09:49 J -21963863.13 -21963863.09 -21963863.05 0.0304 0.0288

Mars -64847-06-18 11:30 J -21963775.07 -21963775.02 -21963774.96 0.1971 0.1699

Jupiter -64846-06-05 06:13 J -21963423.35 -21963423.24 -21963423.13 0.0526 0.0251

Jupiter -64846-09-02 11:45 J -21963334.12 -21963334.01 -21963333.90 0.0526 0.0244

Mars -64844-03-23 07:40 J -21962766.30 -21962766.18 -21962766.06 0.1580 0.1120

Venus -64844-11-05 19:40 J -21962538.77 -21962538.68 -21962538.58 0.3819 0.1013

Jupiter -64840-07-25 19:54 J -21961180.86 -21961180.67 -21961180.48 0.0499 0.0022

Moon -64839-05-28 21:49 J -21960873.69 -21960873.59 -21960873.49 0.2695 0.1164

Earth -64839-05-28 22:18 J -21960873.66 -21960873.57 -21960873.47 0.2697 0.1280 *

Venus -64838-05-22 11:59 J -21960515.10 -21960515.00 -21960514.90 0.3819 0.0768

Uranus -64838-06-28 16:18 J -21960477.84 -21960477.82 -21960477.76 0.0145 0.0142

Uranus -64838-09-25 01:25 J -21960389.56 -21960389.44 -21960389.30 0.0145 0.0109

Mars -64838-11-08 18:57 J -21960344.82 -21960344.71 -21960344.60 0.1967 0.0611

Uranus -64838-12-22 10:18 J -21960301.23 -21960301.07 -21960300.90 0.0145 0.0076

Uranus -64837-03-19 19:11 J -21960212.88 -21960212.70 -21960212.51 0.0145 0.0044

Uranus -64837-06-16 04:04 J -21960124.52 -21960124.33 -21960124.13 0.0145 0.0012

Uranus -64837-09-12 12:57 J -21960036.15 -21960035.96 -21960035.76 0.0145 0.0021

Uranus -64837-12-09 21:49 J -21959947.77 -21959947.59 -21959947.40 0.0145 0.0053

Uranus -64836-03-08 06:28 J -21959859.38 -21959859.23 -21959859.06 0.0145 0.0086

Uranus -64836-06-04 15:06 J -21959770.96 -21959770.87 -21959770.74 0.0145 0.0118

Moon -64836-11-19 11:45 J -21959603.17 -21959603.01 -21959602.85 0.2637 0.0421

Earth -64836-11-19 13:11 J -21959603.11 -21959602.95 -21959602.79 0.2640 0.0334 *

Mars -64835-08-13 09:49 J -21959336.26 -21959336.09 -21959335.92 0.1583 0.0217

Jupiter -64834-03-24 10:47 J -21959113.14 -21959113.05 -21959112.96 0.0527 0.0371

Jupiter -64834-06-21 16:18 J -21959023.94 -21959023.82 -21959023.70 0.0526 0.0126

Saturn -64833-01-20 22:04 J -21958810.74 -21958810.58 -21958810.42 0.0258 0.0139

Saturn -64833-04-18 18:13 J -21958721.93 -21958721.74 -21958721.55 0.0258 0.0016

Saturn -64833-07-16 14:37 J -21958633.06 -21958632.89 -21958632.72 0.0258 0.0108

Saturn -64833-10-13 10:47 J -21958544.12 -21958544.05 -21958543.96 0.0258 0.0233

Venus -64833-12-05 04:18 J -21958491.39 -21958491.32 -21958491.24 0.3819 0.2542

Earth -64832-05-21 22:04 J -21958323.67 -21958323.58 -21958323.50 0.2691 0.1731

Moon -64832-05-21 22:33 J -21958323.64 -21958323.56 -21958323.47 0.2688 0.1701 *

Mars -64828-03-31 02:37 J -21956914.50 -21956914.39 -21956914.28 0.1963 0.0456

Jupiter -64828-05-13 16:33 J -21956870.99 -21956870.81 -21956870.63 0.0499 0.0140

Moon -64826-05-31 15:21 J -21956122.91 -21956122.86 -21956122.80 0.2701 0.2262

Earth -64826-05-31 16:04 J -21956122.88 -21956122.83 -21956122.78 0.2699 0.2336 *

Mars -64825-01-03 11:59 J -21955906.15 -21955906.00 -21955905.84 0.1586 0.0682

Moon -64823-11-22 19:11 J -21954851.83 -21954851.70 -21954851.58 0.2638 0.1629

Earth -64823-11-22 20:52 J -21954851.74 -21954851.63 -21954851.52 0.2637 0.1913 *

Jupiter -64822-01-10 15:06 J -21954802.91 -21954802.87 -21954802.83 0.0527 0.0496

Jupiter -64822-04-09 20:37 J -21954713.77 -21954713.64 -21954713.52 0.0526 0.0013

Jupiter -64822-07-08 01:40 J -21954624.47 -21954624.43 -21954624.38 0.0525 0.0491

Earth -64819-05-24 15:49 J -21953572.95 -21953572.84 -21953572.74 0.2693 0.0656

Moon -64819-05-24 15:49 J -21953572.94 -21953572.84 -21953572.73 0.2687 0.0587 *

Saturn -64819-08-20 07:25 J -21953485.20 -21953485.19 -21953485.17 0.0304 0.0302

Mars -64819-08-21 10:18 J -21953484.14 -21953484.07 -21953484.00 0.1957 0.1510

Saturn -64819-11-16 20:37 J -21953396.75 -21953396.64 -21953396.53 0.0304 0.0164

Saturn -64818-02-13 09:35 J -21953308.23 -21953308.10 -21953307.97 0.0304 0.0027

Saturn -64818-05-12 22:33 J -21953219.68 -21953219.56 -21953219.44 0.0304 0.0110

Saturn -64818-08-09 11:16 J -21953131.10 -21953131.03 -21953130.95 0.0304 0.0246

Jupiter -64816-03-01 13:40 J -21952561.08 -21952560.93 -21952560.78 0.0499 0.0298

Jupiter -64816-05-31 01:40 J -21952470.56 -21952470.43 -21952470.30 0.0500 0.0357

Neptune -64813-10-06 06:42 J -21951246.27 -21951246.22 -21951246.14 0.0089 0.0083

Neptune -64812-01-02 10:04 J -21951158.16 -21951158.08 -21951157.96 0.0089 0.0076

Neptune -64812-03-31 13:54 J -21951070.03 -21951069.92 -21951069.79 0.0089 0.0068

Neptune -64812-06-27 17:16 J -21950981.90 -21950981.78 -21950981.62 0.0089 0.0061

Venus -64812-07-12 02:09 J -21950967.46 -21950967.41 -21950967.35 0.3560 0.3317

Neptune -64812-09-23 21:06 J -21950893.77 -21950893.62 -21950893.46 0.0089 0.0053

Neptune -64812-12-21 00:57 J -21950805.63 -21950805.46 -21950805.30 0.0089 0.0045

Neptune -64811-03-19 04:18 J -21950717.49 -21950717.32 -21950717.14 0.0089 0.0038

Neptune -64811-06-15 07:54 J -21950629.34 -21950629.17 -21950628.98 0.0089 0.0030

Neptune -64811-09-11 11:30 J -21950541.20 -21950541.02 -21950540.82 0.0089 0.0023

Neptune -64811-12-08 15:21 J -21950453.05 -21950452.86 -21950452.67 0.0089 0.0015

Jupiter -64810-01-27 00:42 J -21950403.59 -21950403.47 -21950403.34 0.0526 0.0125

Neptune -64810-03-06 18:57 J -21950364.90 -21950364.71 -21950364.52 0.0089 0.0007

Jupiter -64810-04-26 05:59 J -21950314.34 -21950314.25 -21950314.16 0.0525 0.0367

Neptune -64810-06-02 22:33 J -21950276.75 -21950276.56 -21950276.36 0.0089 0.0001

Neptune -64810-08-30 02:09 J -21950188.60 -21950188.41 -21950188.21 0.0089 0.0009

Neptune -64810-11-26 05:45 J -21950100.45 -21950100.26 -21950100.06 0.0089 0.0016

Neptune -64809-02-22 09:21 J -21950012.29 -21950012.11 -21950011.92 0.0089 0.0024

Neptune -64809-05-20 12:57 J -21949924.13 -21949923.96 -21949923.77 0.0089 0.0032

Neptune -64809-08-16 16:33 J -21949835.97 -21949835.81 -21949835.62 0.0089 0.0040

Neptune -64809-11-12 20:23 J -21949747.81 -21949747.65 -21949747.48 0.0089 0.0047

Neptune -64808-02-08 23:59 J -21949659.65 -21949659.50 -21949659.34 0.0089 0.0055

Neptune -64808-05-08 03:21 J -21949571.48 -21949571.36 -21949571.20 0.0089 0.0063

Neptune -64808-08-04 06:57 J -21949483.30 -21949483.21 -21949483.07 0.0089 0.0071

Neptune -64808-10-31 11:01 J -21949395.12 -21949395.04 -21949394.94 0.0089 0.0078

Mars -64808-12-17 11:30 J -21949348.06 -21949348.02 -21949347.98 0.1970 0.1805

Neptune -64807-01-27 14:37 J -21949306.93 -21949306.89 -21949306.83 0.0089 0.0086

Venus -64806-01-26 10:04 J -21948943.23 -21948943.08 -21948942.93 0.3560 0.1015

Moon -64806-05-27 09:21 J -21948822.22 -21948822.11 -21948822.01 0.2689 0.0345

Earth -64806-05-27 09:35 J -21948822.21 -21948822.10 -21948822.00 0.2696 0.0428 *

Mars -64805-09-21 08:23 J -21948339.25 -21948339.15 -21948339.05 0.1580 0.1255

Jupiter -64805-12-18 10:33 J -21948251.13 -21948251.06 -21948250.98 0.0499 0.0455

Jupiter -64804-03-18 22:33 J -21948160.74 -21948160.56 -21948160.39 0.0500 0.0198

Saturn -64804-06-08 21:21 J -21948078.74 -21948078.61 -21948078.47 0.0258 0.0175

Saturn -64804-09-05 17:30 J -21947989.95 -21947989.77 -21947989.58 0.0258 0.0052

Saturn -64804-12-03 13:54 J -21947901.10 -21947900.92 -21947900.73 0.0258 0.0072

Saturn -64803-03-02 10:18 J -21947812.19 -21947812.07 -21947811.94 0.0258 0.0196

Moon -64803-11-17 11:30 J -21947552.10 -21947552.02 -21947551.93 0.2636 0.2222

Earth -64803-11-17 12:28 J -21947552.08 -21947551.98 -21947551.89 0.2642 0.2126 *

Earth -64799-05-20 08:52 J -21946272.15 -21946272.13 -21946272.10 0.2689 0.2598

Moon -64799-05-20 09:35 J -21946272.13 -21946272.10 -21946272.06 0.2689 0.2504 *

Jupiter -64799-11-15 04:47 J -21946093.41 -21946093.30 -21946093.19 0.0526 0.0254

Jupiter -64798-02-12 10:04 J -21946004.19 -21946004.08 -21946003.97 0.0526 0.0241

Mars -64798-05-09 18:57 J -21945917.81 -21945917.71 -21945917.60 0.1967 0.0725

Pluto -64796-08-06 03:06 J -21945098.43 -21945098.37 -21945098.30 0.0061 0.0056

Pluto -64796-11-02 03:35 J -21945010.41 -21945010.35 -21945010.23 0.0061 0.0052

Pluto -64795-01-29 05:01 J -21944922.39 -21944922.29 -21944922.16 0.0061 0.0047

Mars -64795-02-11 10:33 J -21944909.23 -21944909.06 -21944908.90 0.1582 0.0354

Pluto -64795-04-27 06:13 J -21944834.35 -21944834.24 -21944834.09 0.0061 0.0042

Pluto -64795-07-24 07:25 J -21944746.32 -21944746.19 -21944746.03 0.0061 0.0037

Pluto -64795-10-20 08:37 J -21944658.28 -21944658.14 -21944657.97 0.0061 0.0032

Uranus -64795-12-19 15:06 J -21944597.92 -21944597.87 -21944597.82 0.0133 0.0121

Pluto -64794-01-16 09:49 J -21944570.24 -21944570.09 -21944569.91 0.0061 0.0027

Uranus -64794-03-17 17:59 J -21944509.82 -21944509.75 -21944509.67 0.0133 0.0105

Pluto -64794-04-14 11:01 J -21944482.19 -21944482.04 -21944481.86 0.0061 0.0022

Uranus -64794-06-13 20:52 J -21944421.72 -21944421.63 -21944421.53 0.0133 0.0089

Pluto -64794-07-11 12:42 J -21944394.15 -21944393.97 -21944393.80 0.0061 0.0017

Uranus -64794-09-09 23:59 J -21944333.61 -21944333.50 -21944333.39 0.0133 0.0072

Pluto -64794-10-07 13:40 J -21944306.10 -21944305.93 -21944305.75 0.0061 0.0012

Uranus -64794-12-07 02:52 J -21944245.50 -21944245.38 -21944245.26 0.0133 0.0055

Pluto -64793-01-03 14:52 J -21944218.05 -21944217.88 -21944217.69 0.0061 0.0007

Uranus -64793-03-04 05:45 J -21944157.38 -21944157.26 -21944157.13 0.0134 0.0038

Pluto -64793-03-31 16:18 J -21944130.00 -21944129.82 -21944129.64 0.0062 0.0002

Moon -64793-05-29 02:37 J -21944071.48 -21944071.39 -21944071.30 0.2696 0.1470

Earth -64793-05-29 03:21 J -21944071.45 -21944071.36 -21944071.27 0.2698 0.1493 *

Uranus -64793-05-31 08:37 J -21944069.26 -21944069.14 -21944069.01 0.0134 0.0022

Pluto -64793-06-27 17:30 J -21944041.95 -21944041.77 -21944041.59 0.0062 0.0004

Uranus -64793-08-27 11:45 J -21943981.14 -21943981.01 -21943980.88 0.0134 0.0005

Pluto -64793-09-23 18:42 J -21943953.90 -21943953.72 -21943953.54 0.0062 0.0009

Uranus -64793-11-23 14:37 J -21943893.02 -21943892.89 -21943892.76 0.0134 0.0012

Venus -64793-11-27 01:11 J -21943889.54 -21943889.45 -21943889.37 0.3819 0.2127

Pluto -64793-12-20 19:54 J -21943865.84 -21943865.67 -21943865.49 0.0062 0.0014

Jupiter -64792-01-04 18:57 J -21943850.89 -21943850.71 -21943850.52 0.0500 0.0036

Uranus -64792-02-19 17:30 J -21943804.90 -21943804.77 -21943804.64 0.0134 0.0029

Pluto -64792-03-18 20:52 J -21943777.79 -21943777.63 -21943777.44 0.0062 0.0020

Uranus -64792-05-18 20:23 J -21943716.77 -21943716.65 -21943716.52 0.0134 0.0046

Pluto -64792-06-14 22:18 J -21943689.73 -21943689.57 -21943689.40 0.0062 0.0025

Uranus -64792-08-14 23:16 J -21943628.64 -21943628.53 -21943628.41 0.0134 0.0063

Pluto -64792-09-10 23:30 J -21943601.67 -21943601.52 -21943601.35 0.0062 0.0030

Uranus -64792-11-11 02:09 J -21943540.50 -21943540.41 -21943540.29 0.0134 0.0081

Pluto -64792-12-08 00:57 J -21943513.60 -21943513.46 -21943513.31 0.0062 0.0035

Uranus -64791-02-07 05:16 J -21943452.37 -21943452.28 -21943452.19 0.0134 0.0097

Pluto -64791-03-06 01:54 J -21943425.54 -21943425.42 -21943425.27 0.0062 0.0041

Uranus -64791-05-06 08:09 J -21943364.22 -21943364.16 -21943364.09 0.0134 0.0114

Pluto -64791-06-02 03:21 J -21943337.47 -21943337.36 -21943337.23 0.0062 0.0046

Uranus -64791-08-02 11:16 J -21943276.05 -21943276.03 -21943276.00 0.0135 0.0131

Pluto -64791-08-29 04:18 J -21943249.39 -21943249.32 -21943249.19 0.0062 0.0053

Pluto -64791-11-25 05:45 J -21943161.31 -21943161.26 -21943161.17 0.0062 0.0058

Moon -64790-11-20 18:13 J -21942800.90 -21942800.74 -21942800.58 0.2638 0.0091

Earth -64790-11-20 19:54 J -21942800.83 -21942800.67 -21942800.51 0.2639 0.0102 *

Saturn -64789-04-04 22:33 J -21942664.65 -21942664.56 -21942664.46 0.0304 0.0203

Saturn -64789-07-02 11:45 J -21942576.14 -21942576.01 -21942575.89 0.0304 0.0066

Saturn -64789-09-29 00:42 J -21942487.60 -21942487.47 -21942487.35 0.0304 0.0072

Mars -64789-09-29 02:37 J -21942487.50 -21942487.39 -21942487.28 0.1962 0.0340 *

Saturn -64789-12-26 13:25 J -21942399.03 -21942398.94 -21942398.84 0.0304 0.0207

Venus -64787-06-12 17:16 J -21941865.88 -21941865.78 -21941865.67 0.3819 0.0409

Jupiter -64787-09-03 09:06 J -21941783.20 -21941783.12 -21941783.03 0.0527 0.0375

Jupiter -64787-12-01 14:37 J -21941694.01 -21941693.89 -21941693.77 0.0526 0.0122

Earth -64786-05-23 02:52 J -21941521.47 -21941521.38 -21941521.29 0.2691 0.1519

Moon -64786-05-23 03:21 J -21941521.45 -21941521.36 -21941521.26 0.2688 0.1415 *

Mars -64786-07-04 12:42 J -21941479.13 -21941478.97 -21941478.81 0.1586 0.0551

Venus -64782-12-27 09:35 J -21939842.19 -21939842.10 -21939842.00 0.3819 0.1398

Jupiter -64781-10-23 14:23 J -21939541.07 -21939540.90 -21939540.72 0.0499 0.0141

Moon -64780-05-31 20:23 J -21939320.70 -21939320.65 -21939320.61 0.2702 0.2469

Earth -64780-05-31 20:52 J -21939320.66 -21939320.63 -21939320.60 0.2699 0.2549 *

Mars -64779-02-19 10:04 J -21939057.16 -21939057.08 -21939057.00 0.1958 0.1415

Moon -64777-11-23 01:54 J -21938049.50 -21938049.42 -21938049.34 0.2638 0.2264

Earth -64777-11-23 03:49 J -21938049.42 -21938049.34 -21938049.27 0.2637 0.2333 *

Mars -64777-11-23 14:52 J -21938048.95 -21938048.88 -21938048.82 0.1589 0.1454

Venus -64776-07-12 01:54 J -21937818.47 -21937818.42 -21937818.36 0.3819 0.3185

Jupiter -64775-06-22 13:40 J -21937472.97 -21937472.93 -21937472.89 0.0527 0.0497

Jupiter -64775-09-19 19:11 J -21937383.83 -21937383.70 -21937383.57 0.0526 0.0001

Saturn -64775-10-26 21:35 J -21937346.71 -21937346.60 -21937346.49 0.0259 0.0205

Jupiter -64775-12-18 00:28 J -21937294.52 -21937294.48 -21937294.44 0.0526 0.0493

Saturn -64774-01-23 17:30 J -21937257.94 -21937257.77 -21937257.58 0.0259 0.0083

Saturn -64774-04-22 13:54 J -21937169.10 -21937168.92 -21937168.73 0.0259 0.0042

Saturn -64774-07-20 10:04 J -21937080.21 -21937080.08 -21937079.92 0.0259 0.0167

Moon -64773-05-24 20:37 J -21936770.75 -21936770.64 -21936770.53 0.2686 0.0476

Earth -64773-05-24 20:37 J -21936770.75 -21936770.64 -21936770.53 0.2694 0.0439 *

Jupiter -64769-08-11 11:01 J -21935231.18 -21935231.04 -21935230.89 0.0499 0.0303

Jupiter -64769-11-09 22:47 J -21935140.68 -21935140.55 -21935140.41 0.0500 0.0351

Mars -64768-06-17 11:30 J -21934921.05 -21934921.02 -21934921.00 0.1971 0.1910

Mars -64765-03-22 09:06 J -21933912.20 -21933912.12 -21933912.04 0.1580 0.1396

Jupiter -64763-07-08 23:16 J -21933073.65 -21933073.53 -21933073.40 0.0526 0.0126

Jupiter -64763-10-06 04:33 J -21932984.39 -21932984.31 -21932984.22 0.0525 0.0369

Moon -64760-05-27 13:54 J -21932020.02 -21932019.92 -21932019.81 0.2690 0.0647

Earth -64760-05-27 14:23 J -21932020.01 -21932019.90 -21932019.80 0.2696 0.0636 *

Saturn -64760-08-23 00:42 J -21931932.55 -21931932.47 -21931932.39 0.0304 0.0239

Saturn -64760-11-19 13:54 J -21931844.05 -21931843.92 -21931843.80 0.0304 0.0102

Saturn -64759-02-16 02:52 J -21931755.51 -21931755.38 -21931755.25 0.0304 0.0036

Saturn -64759-05-15 15:35 J -21931666.95 -21931666.85 -21931666.74 0.0304 0.0171

Mars -64759-11-07 19:11 J -21931490.81 -21931490.70 -21931490.60 0.1967 0.0849

Jupiter -64757-05-30 07:54 J -21930921.23 -21930921.17 -21930921.10 0.0499 0.0463

Jupiter -64757-08-28 19:40 J -21930830.85 -21930830.68 -21930830.50 0.0500 0.0190

Moon -64757-11-17 17:59 J -21930749.87 -21930749.75 -21930749.62 0.2636 0.1743

Earth -64757-11-17 18:57 J -21930749.83 -21930749.71 -21930749.59 0.2642 0.1717 *

Mars -64756-08-12 11:16 J -21930482.19 -21930482.03 -21930481.87 0.1582 0.0493

Venus -64755-02-16 04:04 J -21930294.46 -21930294.33 -21930294.19 0.3560 0.1839

Uranus -64754-07-19 00:28 J -21929776.55 -21929776.48 -21929776.40 0.0145 0.0133

Uranus -64754-10-15 09:06 J -21929688.24 -21929688.12 -21929687.96 0.0145 0.0101

Uranus -64753-01-11 17:59 J -21929599.91 -21929599.75 -21929599.56 0.0145 0.0068

Uranus -64753-04-09 03:06 J -21929511.56 -21929511.37 -21929511.18 0.0145 0.0035

Earth -64753-05-20 13:54 J -21929469.97 -21929469.92 -21929469.88 0.2689 0.2379

Moon -64753-05-20 14:37 J -21929469.95 -21929469.89 -21929469.84 0.2689 0.2327 *

Uranus -64753-07-06 11:59 J -21929423.19 -21929423.00 -21929422.80 0.0145 0.0003

Uranus -64753-10-02 20:52 J -21929334.82 -21929334.63 -21929334.44 0.0145 0.0029

Uranus -64753-12-30 05:30 J -21929246.44 -21929246.27 -21929246.09 0.0145 0.0062

Uranus -64752-03-28 14:09 J -21929158.05 -21929157.91 -21929157.75 0.0145 0.0094

Uranus -64752-06-24 23:01 J -21929069.63 -21929069.54 -21929069.44 0.0145 0.0126

Jupiter -64751-04-27 03:35 J -21928763.46 -21928763.35 -21928763.24 0.0526 0.0251

Jupiter -64751-07-25 08:52 J -21928674.24 -21928674.13 -21928674.02 0.0526 0.0243

Venus -64750-09-02 11:45 J -21928270.12 -21928270.01 -21928269.90 0.3561 0.2460

Mars -64749-03-30 02:37 J -21928060.51 -21928060.39 -21928060.28 0.1962 0.0242

Moon -64747-05-30 07:25 J -21927269.28 -21927269.19 -21927269.11 0.2696 0.1560

Earth -64747-05-30 08:09 J -21927269.25 -21927269.16 -21927269.08 0.2698 0.1704 *

Mars -64746-01-02 13:25 J -21927052.11 -21927051.94 -21927051.78 0.1585 0.0417

Saturn -64745-03-14 21:06 J -21926614.68 -21926614.62 -21926614.53 0.0259 0.0239

Saturn -64745-06-11 17:30 J -21926525.94 -21926525.77 -21926525.60 0.0258 0.0116

Jupiter -64745-06-16 16:33 J -21926521.00 -21926520.81 -21926520.63 0.0500 0.0030

Saturn -64745-09-08 13:54 J -21926437.11 -21926436.92 -21926436.73 0.0258 0.0009

Saturn -64745-12-06 10:04 J -21926348.24 -21926348.08 -21926347.91 0.0258 0.0133

Saturn -64744-03-05 06:28 J -21926259.23 -21926259.23 -21926259.20 0.0258 0.0257

Moon -64744-11-21 00:57 J -21925998.62 -21925998.46 -21925998.30 0.2638 0.0336

Earth -64744-11-21 02:37 J -21925998.54 -21925998.39 -21925998.23 0.2639 0.0510 *

Venus -64742-12-19 06:28 J -21925240.28 -21925240.23 -21925240.18 0.3818 0.3250

Earth -64740-05-23 07:40 J -21924719.28 -21924719.18 -21924719.09 0.2692 0.1299

Moon -64740-05-23 08:09 J -21924719.26 -21924719.16 -21924719.06 0.2687 0.1250 *

Mars -64740-08-20 10:18 J -21924630.16 -21924630.07 -21924629.99 0.1958 0.1293

Jupiter -64739-02-13 07:25 J -21924453.28 -21924453.19 -21924453.11 0.0526 0.0381

Jupiter -64739-05-13 12:42 J -21924364.09 -21924363.97 -21924363.84 0.0526 0.0116

Mars -64737-05-24 15:21 J -21923621.94 -21923621.86 -21923621.76 0.1589 0.1321

Venus -64736-07-03 22:47 J -21923216.64 -21923216.55 -21923216.46 0.3819 0.1506

Jupiter -64733-04-04 12:57 J -21922211.14 -21922210.96 -21922210.78 0.0499 0.0135

Neptune -64731-07-17 23:30 J -21921376.55 -21921376.52 -21921376.47 0.0089 0.0084

Neptune -64731-10-14 00:42 J -21921288.52 -21921288.47 -21921288.40 0.0089 0.0079

Moon -64731-11-24 08:52 J -21921247.16 -21921247.13 -21921247.09 0.2639 0.2545

Neptune -64730-01-10 02:23 J -21921200.47 -21921200.40 -21921200.33 0.0089 0.0073

Saturn -64730-01-10 03:06 J -21921200.42 -21921200.37 -21921200.31 0.0304 0.0274 *

Venus -64730-01-17 15:06 J -21921192.98 -21921192.87 -21921192.77 0.3819 0.0304

Neptune -64730-04-08 03:35 J -21921112.43 -21921112.35 -21921112.26 0.0089 0.0068

Saturn -64730-04-08 16:18 J -21921111.94 -21921111.82 -21921111.70 0.0304 0.0136

Neptune -64730-07-05 04:47 J -21921024.38 -21921024.30 -21921024.19 0.0089 0.0063

Saturn -64730-07-06 05:16 J -21921023.41 -21921023.28 -21921023.15 0.0304 0.0003

Neptune -64730-10-01 06:28 J -21920936.33 -21920936.23 -21920936.13 0.0089 0.0057

Saturn -64730-10-02 18:13 J -21920934.86 -21920934.74 -21920934.63 0.0304 0.0137

Neptune -64730-12-28 07:40 J -21920848.28 -21920848.18 -21920848.07 0.0089 0.0052

Saturn -64730-12-30 06:57 J -21920846.26 -21920846.21 -21920846.15 0.0304 0.0272

Neptune -64729-03-25 08:52 J -21920760.23 -21920760.13 -21920760.00 0.0089 0.0047

Neptune -64729-06-21 10:33 J -21920672.18 -21920672.06 -21920671.94 0.0089 0.0041

Neptune -64729-09-17 11:45 J -21920584.13 -21920584.01 -21920583.88 0.0089 0.0036

Neptune -64729-12-14 12:57 J -21920496.07 -21920495.96 -21920495.83 0.0089 0.0031

Neptune -64728-03-12 14:23 J -21920408.02 -21920407.90 -21920407.77 0.0089 0.0025

Neptune -64728-06-08 15:49 J -21920319.97 -21920319.84 -21920319.71 0.0089 0.0020

Neptune -64728-09-04 17:16 J -21920231.91 -21920231.78 -21920231.65 0.0089 0.0015

Neptune -64728-12-01 18:28 J -21920143.86 -21920143.73 -21920143.59 0.0089 0.0010

Jupiter -64728-12-02 11:45 J -21920143.05 -21920143.01 -21920142.98 0.0527 0.0504

Neptune -64727-02-27 19:54 J -21920055.80 -21920055.67 -21920055.54 0.0089 0.0004

Jupiter -64727-03-01 17:16 J -21920053.91 -21920053.78 -21920053.65 0.0526 0.0007

Moon -64727-05-26 01:25 J -21919968.55 -21919968.44 -21919968.33 0.2687 0.0184

Earth -64727-05-26 01:25 J -21919968.55 -21919968.44 -21919968.33 0.2694 0.0227 *

Neptune -64727-05-26 21:06 J -21919967.75 -21919967.62 -21919967.48 0.0089 0.0003

Jupiter -64727-05-29 22:33 J -21919964.60 -21919964.56 -21919964.51 0.0526 0.0486

Neptune -64727-08-22 22:33 J -21919879.69 -21919879.56 -21919879.43 0.0089 0.0007

Neptune -64727-11-18 23:45 J -21919791.64 -21919791.51 -21919791.37 0.0089 0.0012

Neptune -64726-02-15 01:11 J -21919703.58 -21919703.45 -21919703.32 0.0089 0.0017

Neptune -64726-05-14 02:23 J -21919615.52 -21919615.40 -21919615.27 0.0089 0.0023

Neptune -64726-08-10 03:49 J -21919527.46 -21919527.34 -21919527.21 0.0089 0.0028

Mars -64726-09-21 09:49 J -21919485.13 -21919485.09 -21919485.05 0.1580 0.1529

Neptune -64726-11-06 05:01 J -21919439.41 -21919439.29 -21919439.16 0.0089 0.0033

Neptune -64725-02-02 06:28 J -21919351.35 -21919351.23 -21919351.11 0.0089 0.0038

Neptune -64725-04-30 07:40 J -21919263.29 -21919263.18 -21919263.06 0.0089 0.0044

Neptune -64725-07-27 08:52 J -21919175.23 -21919175.13 -21919175.01 0.0089 0.0049

Venus -64725-08-02 07:11 J -21919169.28 -21919169.20 -21919169.11 0.3819 0.2034

Neptune -64725-10-23 10:18 J -21919087.17 -21919087.07 -21919086.96 0.0089 0.0054

Neptune -64724-01-19 11:45 J -21918999.11 -21918999.01 -21918998.91 0.0089 0.0059

Neptune -64724-04-17 12:42 J -21918911.05 -21918910.97 -21918910.87 0.0089 0.0065

Neptune -64724-07-14 14:09 J -21918822.98 -21918822.91 -21918822.82 0.0089 0.0070

Neptune -64724-10-10 15:21 J -21918734.92 -21918734.86 -21918734.78 0.0089 0.0075

Neptune -64723-01-06 16:47 J -21918646.85 -21918646.80 -21918646.74 0.0089 0.0080

Neptune -64723-04-04 18:13 J -21918558.77 -21918558.74 -21918558.70 0.0089 0.0085

Jupiter -64721-01-22 08:37 J -21917901.28 -21917901.14 -21917900.99 0.0499 0.0308

Jupiter -64721-04-21 20:23 J -21917810.78 -21917810.65 -21917810.51 0.0499 0.0345

Mars -64719-05-08 18:57 J -21917063.81 -21917063.71 -21917063.61 0.1967 0.0941

Mars -64716-02-10 11:45 J -21916055.16 -21916055.01 -21916054.85 0.1582 0.0629

Saturn -64716-10-29 17:59 J -21915793.90 -21915793.75 -21915793.59 0.0259 0.0144

Jupiter -64716-12-18 21:35 J -21915743.72 -21915743.60 -21915743.48 0.0527 0.0130

Saturn -64715-01-26 14:23 J -21915705.09 -21915704.90 -21915704.71 0.0259 0.0021

Jupiter -64715-03-18 03:06 J -21915654.46 -21915654.37 -21915654.28 0.0526 0.0366

Saturn -64715-04-25 10:33 J -21915616.23 -21915616.06 -21915615.88 0.0259 0.0104

Saturn -64715-07-23 07:11 J -21915527.29 -21915527.20 -21915527.11 0.0259 0.0229

Moon -64714-05-28 18:42 J -21915217.83 -21915217.72 -21915217.62 0.2692 0.0740

Earth -64714-05-28 19:11 J -21915217.80 -21915217.70 -21915217.60 0.2696 0.0846 *

Uranus -64711-10-12 19:40 J -21913984.68 -21913984.68 -21913984.68 0.0133 0.0133

Moon -64711-11-19 00:28 J -21913947.61 -21913947.48 -21913947.34 0.2637 0.1497

Earth -64711-11-19 01:40 J -21913947.56 -21913947.43 -21913947.29 0.2641 0.1300 *

Uranus -64710-01-08 22:33 J -21913896.62 -21913896.56 -21913896.49 0.0133 0.0117

Uranus -64710-04-07 01:25 J -21913808.52 -21913808.44 -21913808.35 0.0133 0.0100

Uranus -64710-07-04 04:18 J -21913720.41 -21913720.32 -21913720.21 0.0133 0.0084

Mars -64710-09-29 02:37 J -21913633.50 -21913633.39 -21913633.28 0.1963 0.0116

Uranus -64710-09-30 07:25 J -21913632.30 -21913632.19 -21913632.08 0.0133 0.0067

Jupiter -64710-11-10 05:16 J -21913591.34 -21913591.28 -21913591.22 0.0499 0.0470

Uranus -64710-12-27 10:18 J -21913544.19 -21913544.07 -21913543.95 0.0134 0.0050

Jupiter -64709-02-08 16:47 J -21913500.97 -21913500.80 -21913500.62 0.0499 0.0181

Uranus -64709-03-24 13:11 J -21913456.07 -21913455.95 -21913455.82 0.0134 0.0033

Uranus -64709-06-20 16:18 J -21913367.95 -21913367.82 -21913367.69 0.0134 0.0017

Uranus -64709-09-16 19:11 J -21913279.83 -21913279.70 -21913279.57 0.0134 0.0002

Uranus -64709-12-13 22:04 J -21913191.71 -21913191.58 -21913191.45 0.0134 0.0017

Uranus -64708-03-12 00:57 J -21913103.58 -21913103.46 -21913103.33 0.0134 0.0034

Uranus -64708-06-08 03:49 J -21913015.45 -21913015.34 -21913015.21 0.0134 0.0052

Uranus -64708-09-04 06:57 J -21912927.32 -21912927.21 -21912927.10 0.0134 0.0068

Uranus -64708-12-01 09:49 J -21912839.19 -21912839.09 -21912838.99 0.0134 0.0085

Uranus -64707-02-27 12:42 J -21912751.05 -21912750.97 -21912750.88 0.0134 0.0103

Earth -64707-05-21 18:42 J -21912667.79 -21912667.72 -21912667.66 0.2690 0.2166

Moon -64707-05-21 19:25 J -21912667.76 -21912667.69 -21912667.62 0.2689 0.2044 *

Uranus -64707-05-26 15:35 J -21912662.90 -21912662.85 -21912662.78 0.0135 0.0120

Mars -64707-07-03 14:09 J -21912625.08 -21912624.91 -21912624.74 0.1585 0.0272

Jupiter -64704-10-07 01:40 J -21911433.54 -21911433.43 -21911433.31 0.0527 0.0257

Jupiter -64703-01-04 07:11 J -21911344.31 -21911344.20 -21911344.09 0.0526 0.0240

Pluto -64703-03-24 05:59 J -21911265.29 -21911265.25 -21911265.20 0.0084 0.0079

Pluto -64703-06-20 07:25 J -21911177.26 -21911177.19 -21911177.10 0.0084 0.0069

Pluto -64703-09-16 09:06 J -21911089.21 -21911089.12 -21911089.01 0.0084 0.0058

Pluto -64703-12-13 10:47 J -21911001.16 -21911001.05 -21911000.93 0.0084 0.0048

Pluto -64702-03-11 12:13 J -21910913.11 -21910912.99 -21910912.86 0.0084 0.0038

Pluto -64702-06-07 13:54 J -21910825.05 -21910824.92 -21910824.78 0.0084 0.0027

Pluto -64702-09-03 15:21 J -21910736.99 -21910736.86 -21910736.72 0.0083 0.0017

Pluto -64702-11-30 17:01 J -21910648.93 -21910648.79 -21910648.65 0.0083 0.0007

Pluto -64701-02-26 18:28 J -21910560.87 -21910560.73 -21910560.59 0.0083 0.0003

Pluto -64701-05-24 19:54 J -21910472.81 -21910472.67 -21910472.53 0.0083 0.0013

Moon -64701-05-30 12:13 J -21910467.07 -21910466.99 -21910466.92 0.2697 0.1898

Earth -64701-05-30 12:57 J -21910467.04 -21910466.96 -21910466.89 0.2698 0.1913 *

Pluto -64701-08-20 21:21 J -21910384.74 -21910384.61 -21910384.47 0.0083 0.0023

Saturn -64701-08-25 18:42 J -21910379.82 -21910379.72 -21910379.61 0.0304 0.0169

Pluto -64701-11-16 22:47 J -21910296.68 -21910296.55 -21910296.42 0.0083 0.0033

Saturn -64701-11-22 07:54 J -21910291.30 -21910291.17 -21910291.04 0.0304 0.0032

Pluto -64700-02-13 00:13 J -21910208.61 -21910208.49 -21910208.37 0.0083 0.0043

Mars -64700-02-18 10:04 J -21910203.17 -21910203.08 -21910202.99 0.1958 0.1182

Saturn -64700-02-18 20:37 J -21910202.76 -21910202.64 -21910202.51 0.0304 0.0105

Pluto -64700-05-12 01:25 J -21910120.54 -21910120.44 -21910120.32 0.0082 0.0053

Saturn -64700-05-18 09:35 J -21910114.18 -21910114.10 -21910114.02 0.0304 0.0240

Pluto -64700-08-08 03:06 J -21910032.46 -21910032.37 -21910032.28 0.0082 0.0062

Pluto -64700-11-04 04:18 J -21909944.38 -21909944.32 -21909944.24 0.0082 0.0071

Pluto -64699-01-31 05:30 J -21909856.28 -21909856.27 -21909856.23 0.0082 0.0081

Venus -64699-09-23 05:59 J -21909621.41 -21909621.25 -21909621.10 0.3561 0.0388

Moon -64698-11-22 07:40 J -21909196.34 -21909196.18 -21909196.03 0.2637 0.0776

Earth -64698-11-22 09:21 J -21909196.26 -21909196.11 -21909195.96 0.2639 0.0924 *

Mars -64698-11-23 16:04 J -21909194.94 -21909194.83 -21909194.71 0.1589 0.1185

Jupiter -64698-11-27 13:25 J -21909191.13 -21909190.94 -21909190.75 0.0499 0.0017

Earth -64694-05-24 12:28 J -21907917.08 -21907916.98 -21907916.88 0.2692 0.1084

Moon -64694-05-24 12:42 J -21907917.07 -21907916.97 -21907916.86 0.2686 0.1061 *

Jupiter -64692-07-26 05:59 J -21907123.34 -21907123.25 -21907123.17 0.0526 0.0382

Jupiter -64692-10-23 11:16 J -21907034.15 -21907034.03 -21907033.90 0.0526 0.0116

Saturn -64686-03-18 18:13 J -21905061.87 -21905061.74 -21905061.60 0.0259 0.0175

Saturn -64686-06-15 14:37 J -21904973.08 -21904972.89 -21904972.71 0.0259 0.0052

Saturn -64686-09-12 10:47 J -21904884.23 -21904884.05 -21904883.86 0.0258 0.0073

Jupiter -64686-09-15 10:04 J -21904881.26 -21904881.08 -21904880.90 0.0499 0.0144

Saturn -64686-12-10 07:11 J -21904795.32 -21904795.20 -21904795.07 0.0258 0.0197

Venus -64685-07-25 04:04 J -21904567.40 -21904567.33 -21904567.26 0.3819 0.2633

Moon -64681-05-26 06:13 J -21903166.35 -21903166.24 -21903166.13 0.2687 0.0052

Earth -64681-05-26 06:13 J -21903166.35 -21903166.24 -21903166.13 0.2694 0.0009 *

Jupiter -64680-05-14 09:35 J -21902813.12 -21902813.10 -21902813.07 0.0527 0.0514

Jupiter -64680-08-11 15:21 J -21902723.99 -21902723.86 -21902723.74 0.0526 0.0022

Mars -64680-11-06 18:57 J -21902636.80 -21902636.71 -21902636.61 0.1967 0.1063

Jupiter -64680-11-08 20:23 J -21902634.69 -21902634.65 -21902634.59 0.0525 0.0477

Venus -64679-02-07 20:23 J -21902543.75 -21902543.65 -21902543.55 0.3819 0.0880

Mars -64677-08-11 12:28 J -21901628.12 -21901627.98 -21901627.83 0.1582 0.0764

Jupiter -64674-07-04 06:42 J -21900571.37 -21900571.22 -21900571.07 0.0499 0.0307

Venus -64674-08-24 12:42 J -21900520.07 -21900519.97 -21900519.88 0.3819 0.0904

Jupiter -64674-10-02 18:28 J -21900480.86 -21900480.73 -21900480.59 0.0500 0.0347

Saturn -64671-01-12 21:35 J -21899647.69 -21899647.60 -21899647.50 0.0304 0.0199

Saturn -64671-04-11 10:33 J -21899559.18 -21899559.06 -21899558.93 0.0304 0.0063

Saturn -64671-07-08 23:30 J -21899470.64 -21899470.52 -21899470.39 0.0304 0.0075

Saturn -64671-10-05 12:28 J -21899382.07 -21899381.98 -21899381.89 0.0304 0.0210

Mars -64670-03-30 02:37 J -21899206.51 -21899206.39 -21899206.28 0.1962 0.0076

Uranus -64670-08-08 08:37 J -21899075.23 -21899075.14 -21899075.03 0.0145 0.0123

Uranus -64670-11-04 17:30 J -21898986.92 -21898986.77 -21898986.61 0.0145 0.0090

Uranus -64669-02-01 02:23 J -21898898.58 -21898898.40 -21898898.22 0.0145 0.0058

Uranus -64669-04-29 11:16 J -21898810.22 -21898810.03 -21898809.84 0.0145 0.0026

Uranus -64669-07-26 20:09 J -21898721.86 -21898721.66 -21898721.47 0.0145 0.0007

Uranus -64669-10-23 04:47 J -21898633.48 -21898633.30 -21898633.11 0.0145 0.0039

Uranus -64668-01-19 13:40 J -21898545.10 -21898544.93 -21898544.76 0.0145 0.0071

Venus -64668-03-09 04:47 J -21898496.37 -21898496.30 -21898496.22 0.3819 0.2677

Uranus -64668-04-17 22:18 J -21898456.70 -21898456.57 -21898456.43 0.0145 0.0103

Moon -64668-05-28 23:16 J -21898415.63 -21898415.53 -21898415.43 0.2692 0.1036

Earth -64668-05-28 23:59 J -21898415.60 -21898415.50 -21898415.40 0.2696 0.1059 *

Jupiter -64668-05-30 19:25 J -21898413.81 -21898413.69 -21898413.56 0.0527 0.0141

Uranus -64668-07-15 06:57 J -21898368.27 -21898368.21 -21898368.13 0.0144 0.0135

Jupiter -64668-08-28 00:57 J -21898324.55 -21898324.46 -21898324.37 0.0526 0.0355

Mars -64667-01-01 14:37 J -21898198.06 -21898197.89 -21898197.72 0.1585 0.0144

Moon -64665-11-19 06:57 J -21897145.36 -21897145.21 -21897145.06 0.2637 0.0923

Earth -64665-11-19 08:23 J -21897145.30 -21897145.15 -21897145.00 0.2641 0.0889 *

Jupiter -64662-04-22 02:23 J -21896261.44 -21896261.40 -21896261.34 0.0498 0.0478

Jupiter -64662-07-21 14:09 J -21896171.09 -21896170.91 -21896170.74 0.0499 0.0173

Earth -64661-05-21 23:30 J -21895865.60 -21895865.52 -21895865.45 0.2690 0.1947

Moon -64661-05-22 00:13 J -21895865.57 -21895865.49 -21895865.42 0.2689 0.1919 *

Mars -64661-08-19 10:04 J -21895776.17 -21895776.08 -21895775.98 0.1958 0.1079

Mars -64658-05-24 16:47 J -21894767.92 -21894767.80 -21894767.67 0.1589 0.1047

Saturn -64657-08-04 19:11 J -21894329.82 -21894329.70 -21894329.58 0.0259 0.0201

Saturn -64657-11-01 15:21 J -21894241.04 -21894240.86 -21894240.68 0.0259 0.0078

Saturn -64656-01-29 11:45 J -21894152.20 -21894152.01 -21894151.83 0.0259 0.0046

Jupiter -64656-03-18 23:45 J -21894103.62 -21894103.51 -21894103.40 0.0527 0.0265

Saturn -64656-04-28 08:09 J -21894063.30 -21894063.16 -21894063.02 0.0259 0.0171

Jupiter -64656-06-16 05:16 J -21894014.39 -21894014.28 -21894014.17 0.0526 0.0232

Moon -64655-05-31 17:01 J -21893664.86 -21893664.79 -21893664.72 0.2699 0.1987

Earth -64655-05-31 17:45 J -21893664.83 -21893664.76 -21893664.70 0.2698 0.2122 *

Moon -64652-11-22 14:23 J -21892394.05 -21892393.90 -21892393.76 0.2638 0.1134

Earth -64652-11-22 16:04 J -21892393.97 -21892393.83 -21892393.69 0.2638 0.1344 *

Jupiter -64650-05-09 10:33 J -21891861.25 -21891861.06 -21891860.87 0.0499 0.0010

Neptune -64648-04-06 01:40 J -21891163.44 -21891163.43 -21891163.41 0.0089 0.0088

Earth -64648-05-24 17:16 J -21891114.88 -21891114.78 -21891114.68 0.2692 0.0871

Moon -64648-05-24 17:30 J -21891114.87 -21891114.77 -21891114.66 0.2686 0.0803 *

Neptune -64648-07-03 05:01 J -21891075.35 -21891075.29 -21891075.20 0.0089 0.0081

Neptune -64648-09-29 08:52 J -21890987.23 -21890987.13 -21890987.02 0.0089 0.0073

Venus -64648-10-13 23:45 J -21890972.56 -21890972.51 -21890972.45 0.3561 0.3285

Neptune -64648-12-26 11:59 J -21890899.11 -21890899.00 -21890898.85 0.0089 0.0066

Neptune -64647-03-24 15:49 J -21890810.97 -21890810.84 -21890810.68 0.0089 0.0058

Neptune -64647-06-20 19:11 J -21890722.84 -21890722.70 -21890722.52 0.0089 0.0051

Neptune -64647-09-16 23:01 J -21890634.70 -21890634.54 -21890634.36 0.0089 0.0043

Neptune -64647-12-14 02:52 J -21890546.56 -21890546.38 -21890546.20 0.0089 0.0035

Neptune -64646-03-12 06:13 J -21890458.41 -21890458.24 -21890458.04 0.0089 0.0028

Neptune -64646-06-08 10:04 J -21890370.27 -21890370.08 -21890369.89 0.0089 0.0020

Neptune -64646-09-04 13:40 J -21890282.12 -21890281.93 -21890281.73 0.0089 0.0012

Neptune -64646-12-01 17:16 J -21890193.97 -21890193.78 -21890193.58 0.0089 0.0005

Neptune -64645-02-27 20:52 J -21890105.82 -21890105.63 -21890105.43 0.0089 0.0004

Neptune -64645-05-26 00:28 J -21890017.67 -21890017.48 -21890017.28 0.0089 0.0011

Neptune -64645-08-22 04:04 J -21889929.51 -21889929.33 -21889929.13 0.0089 0.0019

Neptune -64645-11-18 07:40 J -21889841.36 -21889841.18 -21889840.99 0.0089 0.0027

Jupiter -64644-01-05 03:49 J -21889793.42 -21889793.34 -21889793.25 0.0527 0.0392

Neptune -64644-02-14 11:16 J -21889753.20 -21889753.03 -21889752.84 0.0089 0.0035

Jupiter -64644-04-04 09:21 J -21889704.23 -21889704.11 -21889703.98 0.0526 0.0108

Neptune -64644-05-13 15:06 J -21889665.04 -21889664.87 -21889664.70 0.0089 0.0042

Neptune -64644-08-09 18:42 J -21889576.88 -21889576.72 -21889576.55 0.0089 0.0050

Neptune -64644-11-05 22:04 J -21889488.71 -21889488.58 -21889488.41 0.0089 0.0058

Neptune -64643-02-02 01:40 J -21889400.54 -21889400.43 -21889400.28 0.0089 0.0066

Neptune -64643-05-01 05:45 J -21889312.37 -21889312.26 -21889312.15 0.0089 0.0073

Neptune -64643-07-28 09:06 J -21889224.18 -21889224.12 -21889224.03 0.0089 0.0081

Neptune -64643-10-24 12:57 J -21889135.96 -21889135.96 -21889135.94 0.0089 0.0088

Venus -64642-04-30 07:40 J -21888948.33 -21888948.18 -21888948.03 0.3561 0.1086

Saturn -64642-06-02 00:28 J -21888915.56 -21888915.48 -21888915.39 0.0303 0.0228

Saturn -64642-08-29 13:40 J -21888827.06 -21888826.93 -21888826.81 0.0304 0.0091

Saturn -64642-11-26 02:37 J -21888738.52 -21888738.39 -21888738.27 0.0304 0.0047

Saturn -64641-02-22 15:21 J -21888649.96 -21888649.86 -21888649.76 0.0304 0.0181

Mars -64640-05-07 18:57 J -21888209.80 -21888209.71 -21888209.62 0.1967 0.1179

Jupiter -64638-02-25 06:57 J -21887551.39 -21887551.21 -21887551.04 0.0499 0.0159

Jupiter -64638-05-26 18:42 J -21887460.73 -21887460.72 -21887460.71 0.0500 0.0499

Mars -64637-02-10 13:11 J -21887201.08 -21887200.95 -21887200.81 0.1582 0.0903

Moon -64635-05-27 10:47 J -21886364.16 -21886364.05 -21886363.94 0.2688 0.0184

Earth -64635-05-27 11:01 J -21886364.15 -21886364.04 -21886363.93 0.2694 0.0203 *

Venus -64634-08-16 09:35 J -21885918.12 -21885918.10 -21885918.09 0.3818 0.3750

Jupiter -64633-10-24 08:09 J -21885483.18 -21885483.16 -21885483.14 0.0527 0.0517

Jupiter -64632-01-21 13:40 J -21885394.06 -21885393.93 -21885393.80 0.0526 0.0020

Jupiter -64632-04-20 18:57 J -21885304.76 -21885304.71 -21885304.66 0.0525 0.0473

Moon -64632-11-17 07:11 J -21885094.21 -21885094.20 -21885094.19 0.2637 0.2625

Mars -64631-09-28 02:37 J -21884779.51 -21884779.39 -21884779.28 0.1963 0.0114

Venus -64628-03-01 01:40 J -21883894.51 -21883894.43 -21883894.34 0.3819 0.2013

Mars -64628-07-02 15:21 J -21883771.03 -21883770.86 -21883770.69 0.1585 0.0008

Saturn -64628-12-22 19:25 J -21883597.76 -21883597.69 -21883597.59 0.0259 0.0231

Saturn -64627-03-21 15:49 J -21883509.01 -21883508.84 -21883508.67 0.0259 0.0108

Saturn -64627-06-18 12:13 J -21883420.18 -21883419.99 -21883419.80 0.0259 0.0017

Saturn -64627-09-15 08:37 J -21883331.30 -21883331.14 -21883330.98 0.0259 0.0141

Uranus -64627-11-02 02:37 J -21883283.40 -21883283.39 -21883283.35 0.0133 0.0130

Jupiter -64627-12-14 03:21 J -21883241.50 -21883241.36 -21883241.21 0.0499 0.0320

Uranus -64626-01-29 05:45 J -21883195.32 -21883195.26 -21883195.18 0.0133 0.0112

Jupiter -64626-03-14 15:21 J -21883151.00 -21883150.86 -21883150.72 0.0500 0.0335

Uranus -64626-04-27 08:52 J -21883107.22 -21883107.13 -21883107.04 0.0133 0.0096

Uranus -64626-07-24 11:30 J -21883019.11 -21883019.02 -21883018.90 0.0133 0.0080

Uranus -64626-10-20 14:37 J -21882931.00 -21882930.89 -21882930.77 0.0134 0.0062

Uranus -64625-01-16 17:30 J -21882842.89 -21882842.77 -21882842.64 0.0134 0.0046

Uranus -64625-04-13 20:37 J -21882754.77 -21882754.64 -21882754.51 0.0134 0.0029

Uranus -64625-07-10 23:30 J -21882666.65 -21882666.52 -21882666.39 0.0134 0.0012

Uranus -64625-10-07 02:23 J -21882578.53 -21882578.40 -21882578.27 0.0134 0.0005

Uranus -64624-01-03 05:16 J -21882490.40 -21882490.28 -21882490.15 0.0134 0.0022

Uranus -64624-04-01 08:09 J -21882402.28 -21882402.16 -21882402.03 0.0134 0.0040

Uranus -64624-06-28 11:16 J -21882314.15 -21882314.03 -21882313.91 0.0134 0.0056

Uranus -64624-09-24 14:09 J -21882226.02 -21882225.91 -21882225.80 0.0134 0.0073

Uranus -64624-12-21 17:01 J -21882137.88 -21882137.79 -21882137.69 0.0134 0.0090

Uranus -64623-03-19 20:09 J -21882049.74 -21882049.66 -21882049.58 0.0134 0.0107

Uranus -64623-06-15 22:47 J -21881961.58 -21881961.55 -21881961.49 0.0135 0.0125

Venus -64623-09-14 17:59 J -21881870.85 -21881870.75 -21881870.65 0.3819 0.0264

Moon -64622-05-30 04:04 J -21881613.42 -21881613.33 -21881613.23 0.2692 0.1171

Earth -64622-05-30 04:47 J -21881613.40 -21881613.30 -21881613.21 0.2697 0.1272 *

Mars -64621-02-18 10:04 J -21881349.18 -21881349.08 -21881348.98 0.1958 0.0961

Jupiter -64621-11-09 17:30 J -21881083.89 -21881083.77 -21881083.65 0.0526 0.0151

Jupiter -64620-02-06 22:47 J -21880994.64 -21880994.55 -21880994.45 0.0526 0.0344

Moon -64619-11-20 13:40 J -21880343.09 -21880342.93 -21880342.78 0.2637 0.0724

Earth -64619-11-20 15:06 J -21880343.03 -21880342.87 -21880342.71 0.2640 0.0467 *

Mars -64619-11-22 17:30 J -21880340.90 -21880340.77 -21880340.63 0.1589 0.0910

Venus -64617-03-30 10:04 J -21879847.17 -21879847.08 -21879846.98 0.3819 0.1524

Earth -64615-05-23 04:18 J -21879063.40 -21879063.32 -21879063.24 0.2690 0.1733

Moon -64615-05-23 04:47 J -21879063.38 -21879063.30 -21879063.21 0.2688 0.1606 *

Jupiter -64615-10-01 23:59 J -21878931.54 -21878931.50 -21878931.45 0.0499 0.0482

Jupiter -64615-12-31 11:45 J -21878841.19 -21878841.01 -21878840.83 0.0499 0.0170

Saturn -64613-10-19 03:21 J -21878183.42 -21878183.36 -21878183.29 0.0304 0.0258

Saturn -64612-01-15 16:33 J -21878094.93 -21878094.81 -21878094.69 0.0304 0.0120

Saturn -64612-04-14 05:30 J -21878006.40 -21878006.27 -21878006.14 0.0304 0.0017

Saturn -64612-07-11 18:13 J -21877917.84 -21877917.74 -21877917.62 0.0304 0.0153

Saturn -64612-10-08 07:11 J -21877829.24 -21877829.20 -21877829.16 0.0304 0.0287

Venus -64612-10-14 02:37 J -21877823.44 -21877823.39 -21877823.35 0.3819 0.3318

Moon -64609-05-31 21:49 J -21876862.64 -21876862.59 -21876862.54 0.2701 0.2313

Earth -64609-05-31 22:33 J -21876862.62 -21876862.56 -21876862.51 0.2698 0.2331 *

Jupiter -64609-08-28 21:35 J -21876773.70 -21876773.60 -21876773.49 0.0527 0.0277

Jupiter -64609-11-26 03:06 J -21876684.48 -21876684.37 -21876684.26 0.0526 0.0220

Moon -64606-11-23 21:06 J -21875591.74 -21875591.62 -21875591.50 0.2639 0.1682

Earth -64606-11-23 22:47 J -21875591.67 -21875591.55 -21875591.43 0.2638 0.1760 *

Jupiter -64603-10-19 07:40 J -21874531.37 -21874531.18 -21874530.99 0.0499 0.0003

Earth -64602-05-25 22:04 J -21874312.68 -21874312.58 -21874312.47 0.2693 0.0656

Moon -64602-05-25 22:18 J -21874312.67 -21874312.57 -21874312.46 0.2686 0.0666 *

Mars -64601-11-05 18:57 J -21873782.80 -21873782.71 -21873782.63 0.1967 0.1275

Saturn -64598-05-11 20:37 J -21872865.66 -21872865.64 -21872865.61 0.0259 0.0256

Saturn -64598-08-08 16:47 J -21872776.96 -21872776.80 -21872776.63 0.0259 0.0133

Mars -64598-08-11 13:54 J -21872774.05 -21872773.92 -21872773.79 0.1582 0.1036

Saturn -64598-11-05 13:11 J -21872688.14 -21872687.95 -21872687.76 0.0259 0.0010

Saturn -64597-02-02 09:21 J -21872599.27 -21872599.11 -21872598.93 0.0259 0.0115

Saturn -64597-05-01 05:59 J -21872510.32 -21872510.25 -21872510.18 0.0259 0.0240

Jupiter -64597-06-17 01:40 J -21872463.50 -21872463.43 -21872463.35 0.0527 0.0404

Jupiter -64597-09-14 07:25 J -21872374.32 -21872374.19 -21872374.07 0.0527 0.0097

Mars -64591-03-29 02:37 J -21870352.51 -21870352.39 -21870352.28 0.1963 0.0222

Venus -64591-05-21 01:40 J -21870299.56 -21870299.43 -21870299.29 0.3561 0.1797

Jupiter -64591-08-07 04:04 J -21870221.51 -21870221.33 -21870221.16 0.0499 0.0167

Jupiter -64591-11-05 15:35 J -21870130.88 -21870130.85 -21870130.80 0.0499 0.0489

Moon -64589-05-27 15:35 J -21869561.96 -21869561.85 -21869561.74 0.2689 0.0407

Earth -64589-05-27 15:49 J -21869561.95 -21869561.84 -21869561.73 0.2695 0.0417 *

Mars -64589-12-31 16:18 J -21869343.99 -21869343.82 -21869343.66 0.1585 0.0145

Uranus -64586-06-01 07:54 J -21868462.17 -21868462.17 -21868462.15 0.0145 0.0145

Uranus -64586-08-28 16:47 J -21868373.91 -21868373.80 -21868373.67 0.0145 0.0113

Moon -64586-11-18 13:25 J -21868292.00 -21868291.94 -21868291.87 0.2637 0.2390

Earth -64586-11-18 14:23 J -21868291.98 -21868291.90 -21868291.82 0.2643 0.2254 *

Uranus -64586-11-25 01:40 J -21868285.59 -21868285.43 -21868285.26 0.0145 0.0080

Venus -64586-12-05 09:35 J -21868275.21 -21868275.10 -21868275.00 0.3560 0.2544

Uranus -64585-02-21 10:33 J -21868197.24 -21868197.06 -21868196.87 0.0145 0.0048

Uranus -64585-05-19 19:25 J -21868108.88 -21868108.69 -21868108.50 0.0145 0.0016

Jupiter -64585-07-03 11:30 J -21868064.14 -21868064.02 -21868063.89 0.0526 0.0031

Uranus -64585-08-16 04:04 J -21868020.52 -21868020.33 -21868020.13 0.0145 0.0017

Jupiter -64585-09-30 16:47 J -21867974.85 -21867974.80 -21867974.74 0.0526 0.0464

Uranus -64585-11-12 12:57 J -21867932.14 -21867931.96 -21867931.77 0.0145 0.0049

Uranus -64584-02-08 21:35 J -21867843.75 -21867843.60 -21867843.43 0.0145 0.0081

Uranus -64584-05-08 06:28 J -21867755.35 -21867755.23 -21867755.10 0.0145 0.0113

Uranus -64584-08-04 15:21 J -21867666.86 -21867666.86 -21867666.86 0.0144 0.0144

Saturn -64583-03-08 06:28 J -21867451.27 -21867451.23 -21867451.19 0.0303 0.0286

Saturn -64583-06-04 19:40 J -21867362.80 -21867362.68 -21867362.57 0.0304 0.0149

Saturn -64583-09-01 08:37 J -21867274.27 -21867274.14 -21867274.01 0.0304 0.0015

Saturn -64583-11-28 21:21 J -21867185.73 -21867185.61 -21867185.49 0.0304 0.0124

Saturn -64582-02-25 10:18 J -21867097.14 -21867097.07 -21867097.01 0.0304 0.0259

Earth -64582-05-21 15:21 J -21867011.89 -21867011.86 -21867011.84 0.2688 0.2593

Moon -64582-05-21 16:04 J -21867011.88 -21867011.83 -21867011.79 0.2691 0.2461 *

Mars -64582-08-19 10:18 J -21866922.18 -21866922.07 -21866921.97 0.1958 0.0846

Mars -64579-05-23 18:13 J -21865913.89 -21865913.74 -21865913.59 0.1588 0.0775

Jupiter -64579-05-26 00:13 J -21865911.63 -21865911.49 -21865911.35 0.0499 0.0334

Jupiter -64579-08-24 11:59 J -21865821.14 -21865821.00 -21865820.86 0.0500 0.0321

Venus -64577-03-22 07:11 J -21865245.26 -21865245.20 -21865245.15 0.3819 0.3146

Moon -64576-05-30 08:52 J -21864811.22 -21864811.13 -21864811.03 0.2694 0.1428

Earth -64576-05-30 09:35 J -21864811.19 -21864811.10 -21864811.01 0.2697 0.1479 *

Jupiter -64573-04-21 15:49 J -21863753.96 -21863753.84 -21863753.72 0.0526 0.0155

Jupiter -64573-07-19 21:06 J -21863664.71 -21863664.62 -21863664.52 0.0526 0.0340

Moon -64573-11-20 20:23 J -21863540.82 -21863540.65 -21863540.49 0.2637 0.0116

Earth -64573-11-20 21:49 J -21863540.75 -21863540.59 -21863540.43 0.2640 0.0057 *

Mars -64572-01-08 17:45 J -21863491.78 -21863491.76 -21863491.74 0.1953 0.1909

Venus -64572-10-05 23:16 J -21863221.62 -21863221.53 -21863221.43 0.3819 0.1390

Earth -64569-05-23 09:06 J -21862261.21 -21862261.12 -21862261.03 0.2691 0.1512

Moon -64569-05-23 09:35 J -21862261.19 -21862261.10 -21862261.01 0.2686 0.1513 *

Saturn -64569-12-25 17:30 J -21862044.91 -21862044.77 -21862044.62 0.0259 0.0162

Saturn -64568-03-24 13:40 J -21861956.11 -21861955.93 -21861955.74 0.0259 0.0039

Saturn -64568-06-21 10:04 J -21861867.26 -21861867.08 -21861866.90 0.0259 0.0086

Saturn -64568-09-18 06:28 J -21861778.33 -21861778.23 -21861778.12 0.0259 0.0210

Jupiter -64567-03-13 20:52 J -21861601.65 -21861601.63 -21861601.61 0.0499 0.0495

Jupiter -64567-06-12 08:23 J -21861511.32 -21861511.15 -21861510.97 0.0500 0.0158

Neptune -64566-01-15 22:04 J -21861293.60 -21861293.58 -21861293.56 0.0089 0.0087

Neptune -64566-04-13 23:16 J -21861205.58 -21861205.53 -21861205.48 0.0089 0.0082

Venus -64566-04-21 15:35 J -21861197.96 -21861197.85 -21861197.75 0.3819 0.0402

Neptune -64566-07-11 00:28 J -21861117.54 -21861117.48 -21861117.41 0.0089 0.0077

Neptune -64566-10-07 01:40 J -21861029.49 -21861029.43 -21861029.34 0.0089 0.0072

Neptune -64565-01-03 03:21 J -21860941.45 -21860941.36 -21860941.27 0.0089 0.0066

Neptune -64565-03-31 04:33 J -21860853.40 -21860853.31 -21860853.20 0.0089 0.0061

Neptune -64565-06-27 05:45 J -21860765.35 -21860765.26 -21860765.14 0.0089 0.0056

Neptune -64565-09-23 07:25 J -21860677.30 -21860677.19 -21860677.08 0.0089 0.0050

Neptune -64565-12-20 08:37 J -21860589.25 -21860589.14 -21860589.02 0.0089 0.0045

Neptune -64564-03-18 10:04 J -21860501.20 -21860501.08 -21860500.96 0.0089 0.0039

Neptune -64564-06-14 11:30 J -21860413.14 -21860413.02 -21860412.90 0.0089 0.0034

Neptune -64564-09-10 12:42 J -21860325.09 -21860324.97 -21860324.84 0.0089 0.0029

Neptune -64564-12-07 14:09 J -21860237.04 -21860236.91 -21860236.78 0.0089 0.0023

Neptune -64563-03-05 15:21 J -21860148.98 -21860148.86 -21860148.72 0.0089 0.0019

Neptune -64563-06-01 16:47 J -21860060.93 -21860060.80 -21860060.67 0.0089 0.0013

Moon -64563-06-02 02:37 J -21860060.44 -21860060.39 -21860060.35 0.2702 0.2430

Earth -64563-06-02 03:21 J -21860060.40 -21860060.36 -21860060.33 0.2699 0.2540 *

Neptune -64563-08-28 18:13 J -21859972.88 -21859972.74 -21859972.61 0.0089 0.0008

Neptune -64563-11-24 19:25 J -21859884.82 -21859884.69 -21859884.55 0.0089 0.0003

Neptune -64562-02-20 20:52 J -21859796.77 -21859796.63 -21859796.50 0.0089 0.0003

Neptune -64562-05-19 22:04 J -21859708.71 -21859708.58 -21859708.44 0.0089 0.0009

Neptune -64562-08-15 23:30 J -21859620.65 -21859620.52 -21859620.39 0.0089 0.0014

Neptune -64562-11-12 00:42 J -21859532.60 -21859532.47 -21859532.34 0.0089 0.0019

Neptune -64561-02-08 02:09 J -21859444.54 -21859444.41 -21859444.28 0.0089 0.0024

Jupiter -64561-02-08 19:40 J -21859443.79 -21859443.68 -21859443.58 0.0526 0.0286

Neptune -64561-05-06 03:21 J -21859356.48 -21859356.36 -21859356.23 0.0089 0.0030

Mars -64561-05-06 18:57 J -21859355.79 -21859355.71 -21859355.63 0.1967 0.1390

Jupiter -64561-05-08 00:57 J -21859354.57 -21859354.46 -21859354.34 0.0526 0.0211

Neptune -64561-08-02 04:47 J -21859268.42 -21859268.30 -21859268.18 0.0089 0.0035

Neptune -64561-10-29 05:59 J -21859180.36 -21859180.25 -21859180.13 0.0089 0.0040

Venus -64561-11-04 07:40 J -21859174.26 -21859174.18 -21859174.09 0.3819 0.2164

Neptune -64560-01-25 07:25 J -21859092.30 -21859092.19 -21859092.08 0.0089 0.0045

Neptune -64560-04-23 08:37 J -21859004.24 -21859004.14 -21859004.03 0.0089 0.0050

Neptune -64560-07-20 09:49 J -21858916.18 -21858916.09 -21858915.98 0.0089 0.0056

Neptune -64560-10-16 11:16 J -21858828.12 -21858828.03 -21858827.93 0.0089 0.0061

Moon -64560-11-24 03:49 J -21858789.44 -21858789.34 -21858789.23 0.2640 0.1922

Earth -64560-11-24 05:30 J -21858789.35 -21858789.27 -21858789.18 0.2638 0.2185 *

Neptune -64559-01-12 12:42 J -21858740.06 -21858739.97 -21858739.88 0.0089 0.0066

Neptune -64559-04-10 13:40 J -21858651.99 -21858651.93 -21858651.84 0.0089 0.0072

Neptune -64559-07-07 15:06 J -21858563.93 -21858563.87 -21858563.80 0.0089 0.0077

Neptune -64559-10-03 16:18 J -21858475.86 -21858475.82 -21858475.76 0.0089 0.0082

Neptune -64559-12-30 17:45 J -21858387.78 -21858387.76 -21858387.73 0.0089 0.0087

Mars -64558-02-09 14:37 J -21858347.00 -21858346.89 -21858346.78 0.1582 0.1173

Earth -64556-05-26 02:52 J -21857510.49 -21857510.38 -21857510.27 0.2693 0.0444

Moon -64556-05-26 03:06 J -21857510.48 -21857510.37 -21857510.26 0.2687 0.0369 *

Jupiter -64555-03-31 05:01 J -21857201.48 -21857201.29 -21857201.10 0.0499 0.0007

Saturn -64554-10-22 22:33 J -21856630.67 -21856630.56 -21856630.46 0.0304 0.0178

Saturn -64553-01-19 11:30 J -21856542.15 -21856542.02 -21856541.89 0.0304 0.0041

Saturn -64553-04-17 00:28 J -21856453.61 -21856453.48 -21856453.36 0.0304 0.0096

Saturn -64553-07-14 13:11 J -21856365.03 -21856364.95 -21856364.86 0.0304 0.0231

Mars -64552-09-27 02:37 J -21855925.51 -21855925.39 -21855925.28 0.1963 0.0331

Pluto -64550-04-05 16:33 J -21855369.82 -21855369.81 -21855369.75 0.0061 0.0060

Pluto -64550-07-02 17:45 J -21855281.81 -21855281.76 -21855281.66 0.0061 0.0055

Pluto -64550-09-28 18:57 J -21855193.79 -21855193.71 -21855193.59 0.0061 0.0050

Jupiter -64550-11-27 23:45 J -21855133.59 -21855133.51 -21855133.43 0.0527 0.0413

Pluto -64550-12-25 20:09 J -21855105.76 -21855105.66 -21855105.52 0.0061 0.0045

Jupiter -64549-02-25 05:16 J -21855044.41 -21855044.28 -21855044.16 0.0526 0.0085

Pluto -64549-03-22 21:21 J -21855017.73 -21855017.61 -21855017.46 0.0061 0.0040

Pluto -64549-06-18 22:33 J -21854929.69 -21854929.56 -21854929.40 0.0061 0.0035

Mars -64549-07-01 16:47 J -21854916.97 -21854916.80 -21854916.63 0.1585 0.0269

Pluto -64549-09-14 23:45 J -21854841.65 -21854841.51 -21854841.34 0.0061 0.0030

Pluto -64549-12-12 00:57 J -21854753.61 -21854753.46 -21854753.28 0.0061 0.0025

Pluto -64548-03-10 02:09 J -21854665.57 -21854665.41 -21854665.23 0.0061 0.0020

Pluto -64548-06-06 03:21 J -21854577.52 -21854577.36 -21854577.17 0.0061 0.0016

Pluto -64548-09-02 04:33 J -21854489.47 -21854489.31 -21854489.12 0.0061 0.0011

Pluto -64548-11-29 06:13 J -21854401.42 -21854401.24 -21854401.06 0.0062 0.0005

Pluto -64547-02-25 07:11 J -21854313.37 -21854313.20 -21854313.01 0.0062 0.0002

Pluto -64547-05-24 08:23 J -21854225.32 -21854225.15 -21854224.96 0.0062 0.0006

Pluto -64547-08-20 09:35 J -21854137.27 -21854137.10 -21854136.91 0.0062 0.0011

Pluto -64547-11-16 11:01 J -21854049.21 -21854049.04 -21854048.86 0.0062 0.0016

Pluto -64546-02-12 12:13 J -21853961.16 -21853960.99 -21853960.82 0.0062 0.0021

Pluto -64546-05-11 13:11 J -21853873.10 -21853872.95 -21853872.77 0.0062 0.0027

Pluto -64546-08-07 14:37 J -21853785.03 -21853784.89 -21853784.73 0.0062 0.0032

Pluto -64546-11-03 16:04 J -21853696.97 -21853696.83 -21853696.68 0.0062 0.0037

Pluto -64545-01-30 17:01 J -21853608.90 -21853608.79 -21853608.64 0.0062 0.0043

Pluto -64545-04-27 18:13 J -21853520.83 -21853520.74 -21853520.60 0.0062 0.0049

Pluto -64545-07-24 19:54 J -21853432.75 -21853432.67 -21853432.57 0.0062 0.0054

Pluto -64545-10-20 20:52 J -21853344.66 -21853344.63 -21853344.55 0.0062 0.0060

Jupiter -64543-01-17 01:11 J -21852891.62 -21852891.45 -21852891.27 0.0499 0.0175

Jupiter -64543-04-17 12:57 J -21852801.00 -21852800.96 -21852800.91 0.0499 0.0480

Moon -64543-05-28 20:23 J -21852759.76 -21852759.65 -21852759.55 0.2689 0.0552

Earth -64543-05-28 20:37 J -21852759.74 -21852759.64 -21852759.53 0.2695 0.0630 *

Uranus -64543-11-22 10:04 J -21852582.12 -21852582.08 -21852582.04 0.0133 0.0125

Mars -64542-02-17 10:04 J -21852495.19 -21852495.08 -21852494.98 0.1958 0.0747

Uranus -64542-02-18 12:57 J -21852494.03 -21852493.96 -21852493.88 0.0133 0.0109

Uranus -64542-05-17 15:49 J -21852405.93 -21852405.84 -21852405.74 0.0133 0.0092

Uranus -64542-08-13 18:42 J -21852317.82 -21852317.72 -21852317.61 0.0133 0.0076

Uranus -64542-11-09 21:49 J -21852229.71 -21852229.59 -21852229.47 0.0133 0.0059

Uranus -64541-02-06 00:42 J -21852141.59 -21852141.47 -21852141.35 0.0134 0.0042

Uranus -64541-05-04 03:35 J -21852053.48 -21852053.35 -21852053.22 0.0134 0.0025

Uranus -64541-07-31 06:28 J -21851965.36 -21851965.23 -21851965.09 0.0134 0.0010

Uranus -64541-10-27 09:35 J -21851877.23 -21851877.10 -21851876.97 0.0134 0.0009

Uranus -64540-01-23 12:28 J -21851789.11 -21851788.98 -21851788.85 0.0134 0.0025

Uranus -64540-04-21 15:21 J -21851700.98 -21851700.86 -21851700.73 0.0134 0.0043

Uranus -64540-07-18 18:28 J -21851612.85 -21851612.73 -21851612.62 0.0134 0.0060

Uranus -64540-10-14 21:21 J -21851524.72 -21851524.61 -21851524.50 0.0134 0.0076

Moon -64540-11-18 19:54 J -21851489.78 -21851489.67 -21851489.56 0.2637 0.1898

Earth -64540-11-18 21:06 J -21851489.73 -21851489.62 -21851489.51 0.2642 0.1839 *

Mars -64540-11-21 18:57 J -21851486.86 -21851486.71 -21851486.56 0.1589 0.0636

Uranus -64539-01-11 00:13 J -21851436.58 -21851436.49 -21851436.39 0.0134 0.0094

Uranus -64539-04-09 03:06 J -21851348.44 -21851348.37 -21851348.29 0.0134 0.0111

Saturn -64539-05-14 18:28 J -21851312.86 -21851312.73 -21851312.60 0.0259 0.0188

Uranus -64539-07-06 06:13 J -21851260.28 -21851260.24 -21851260.20 0.0135 0.0128

Saturn -64539-08-11 14:37 J -21851224.07 -21851223.89 -21851223.70 0.0259 0.0065

Saturn -64539-11-08 11:01 J -21851135.23 -21851135.04 -21851134.86 0.0259 0.0060

Saturn -64538-02-05 07:11 J -21851046.32 -21851046.20 -21851046.06 0.0259 0.0185

Jupiter -64538-12-14 09:21 J -21850734.23 -21850734.11 -21850733.98 0.0527 0.0044

Jupiter -64537-03-12 14:52 J -21850644.94 -21850644.88 -21850644.82 0.0526 0.0454

Earth -64536-05-21 20:09 J -21850209.71 -21850209.66 -21850209.61 0.2689 0.2377

Moon -64536-05-21 20:52 J -21850209.68 -21850209.63 -21850209.58 0.2690 0.2347 *

Venus -64535-12-26 03:35 J -21849626.50 -21849626.35 -21849626.19 0.3560 0.0310

Mars -64533-07-09 17:45 J -21849064.80 -21849064.76 -21849064.71 0.1953 0.1786

Jupiter -64532-11-04 21:35 J -21848581.73 -21848581.60 -21848581.46 0.0499 0.0339

Jupiter -64531-02-03 09:21 J -21848491.26 -21848491.11 -21848490.97 0.0499 0.0314

Mars -64530-04-13 21:06 J -21848056.66 -21848056.62 -21848056.58 0.1592 0.1542

Moon -64530-05-31 13:40 J -21848009.01 -21848008.93 -21848008.84 0.2696 0.1626

Earth -64530-05-31 14:23 J -21848008.98 -21848008.90 -21848008.82 0.2697 0.1690 *

Moon -64527-11-22 03:06 J -21846738.53 -21846738.37 -21846738.21 0.2638 0.0135

Earth -64527-11-22 04:33 J -21846738.47 -21846738.31 -21846738.15 0.2640 0.0369 *

Jupiter -64526-10-02 13:40 J -21846424.05 -21846423.93 -21846423.81 0.0527 0.0166

Jupiter -64526-12-30 18:57 J -21846334.80 -21846334.71 -21846334.61 0.0526 0.0331

Saturn -64524-03-11 01:25 J -21845898.54 -21845898.44 -21845898.35 0.0303 0.0208

Saturn -64524-06-07 14:23 J -21845810.03 -21845809.90 -21845809.77 0.0304 0.0071

Saturn -64524-09-04 03:21 J -21845721.49 -21845721.36 -21845721.23 0.0304 0.0066

Saturn -64524-12-01 16:04 J -21845632.92 -21845632.83 -21845632.73 0.0304 0.0202

Earth -64523-05-24 13:54 J -21845459.01 -21845458.92 -21845458.82 0.2691 0.1300

Moon -64523-05-24 14:37 J -21845458.99 -21845458.89 -21845458.80 0.2686 0.1177 *

Mars -64522-11-05 18:57 J -21844928.78 -21844928.71 -21844928.63 0.1967 0.1514

Venus -64521-10-27 04:33 J -21844572.38 -21844572.31 -21844572.23 0.3819 0.2530

Jupiter -64520-11-22 05:16 J -21844181.46 -21844181.28 -21844181.10 0.0499 0.0144

Mars -64519-08-10 15:21 J -21843919.95 -21843919.86 -21843919.77 0.1582 0.1313

Venus -64515-05-12 20:52 J -21842548.73 -21842548.63 -21842548.53 0.3819 0.0776

Jupiter -64514-07-21 17:59 J -21842113.85 -21842113.75 -21842113.64 0.0526 0.0289

Jupiter -64514-10-18 23:30 J -21842024.64 -21842024.52 -21842024.41 0.0526 0.0208

Moon -64514-11-25 10:33 J -21841987.10 -21841987.06 -21841987.02 0.2640 0.2551

Earth -64514-11-25 12:13 J -21841987.01 -21841986.99 -21841986.96 0.2637 0.2600

Mars -64512-03-28 02:23 J -21841498.51 -21841498.40 -21841498.28 0.1963 0.0436

Moon -64510-05-27 07:54 J -21840708.28 -21840708.17 -21840708.07 0.2687 0.0299

Earth -64510-05-27 07:40 J -21840708.28 -21840708.18 -21840708.07 0.2693 0.0242 *

Saturn -64510-10-01 18:57 J -21840580.80 -21840580.71 -21840580.60 0.0259 0.0217

Venus -64510-11-26 12:57 J -21840525.05 -21840524.96 -21840524.86 0.3819 0.1019

Saturn -64510-12-29 15:06 J -21840492.04 -21840491.87 -21840491.69 0.0259 0.0095

Mars -64510-12-31 17:30 J -21840489.94 -21840489.77 -21840489.61 0.1585 0.0406

Saturn -64509-03-27 11:30 J -21840403.21 -21840403.02 -21840402.83 0.0258 0.0029

Saturn -64509-06-24 07:54 J -21840314.32 -21840314.17 -21840314.02 0.0258 0.0154

Jupiter -64508-09-10 01:54 J -21839871.61 -21839871.42 -21839871.24 0.0499 0.0020

Venus -64504-06-11 05:30 J -21838501.34 -21838501.27 -21838501.21 0.3819 0.2804

Mars -64503-08-18 10:04 J -21838068.18 -21838068.08 -21838067.97 0.1958 0.0626

Jupiter -64502-05-09 21:49 J -21837803.66 -21837803.59 -21837803.51 0.0526 0.0420

Uranus -64502-06-21 14:37 J -21837760.93 -21837760.89 -21837760.82 0.0145 0.0140

Jupiter -64502-08-07 03:21 J -21837714.49 -21837714.36 -21837714.24 0.0526 0.0077

Uranus -64502-09-17 23:30 J -21837672.64 -21837672.52 -21837672.38 0.0145 0.0107

Uranus -64502-12-15 08:37 J -21837584.31 -21837584.14 -21837583.97 0.0145 0.0075

Uranus -64501-03-12 17:16 J -21837495.96 -21837495.78 -21837495.59 0.0145 0.0042

Uranus -64501-06-09 02:09 J -21837407.60 -21837407.41 -21837407.21 0.0145 0.0010

Uranus -64501-09-05 11:01 J -21837319.23 -21837319.04 -21837318.85 0.0145 0.0022

Uranus -64501-12-02 19:40 J -21837230.85 -21837230.68 -21837230.49 0.0145 0.0055

Uranus -64500-03-01 04:33 J -21837142.46 -21837142.31 -21837142.15 0.0145 0.0087

Mars -64500-05-22 19:40 J -21837059.84 -21837059.68 -21837059.52 0.1588 0.0504

Uranus -64500-05-28 13:11 J -21837054.05 -21837053.95 -21837053.83 0.0144 0.0119

Moon -64497-05-29 01:11 J -21835957.56 -21835957.45 -21835957.35 0.2689 0.0847

Earth -64497-05-29 01:25 J -21835957.54 -21835957.44 -21835957.33 0.2695 0.0845 *

Jupiter -64496-06-28 22:33 J -21835561.74 -21835561.56 -21835561.39 0.0499 0.0182

Jupiter -64496-09-27 10:18 J -21835471.12 -21835471.07 -21835471.01 0.0500 0.0476

Saturn -64495-07-29 03:49 J -21835166.41 -21835166.34 -21835166.26 0.0304 0.0240

Saturn -64495-10-25 17:01 J -21835077.91 -21835077.79 -21835077.67 0.0304 0.0103

Saturn -64494-01-22 05:59 J -21834989.38 -21834989.25 -21834989.12 0.0304 0.0034

Saturn -64494-04-20 18:42 J -21834900.82 -21834900.72 -21834900.61 0.0304 0.0171

Moon -64494-11-20 02:37 J -21834687.52 -21834687.39 -21834687.26 0.2637 0.1554

Earth -64494-11-20 03:49 J -21834687.48 -21834687.34 -21834687.21 0.2642 0.1430 *

Mars -64493-01-08 17:30 J -21834637.82 -21834637.77 -21834637.71 0.1953 0.1692

Mars -64491-10-12 21:35 J -21833629.67 -21833629.60 -21833629.52 0.1592 0.1413

Earth -64490-05-23 00:57 J -21833407.52 -21833407.46 -21833407.40 0.2689 0.2161

Moon -64490-05-23 01:40 J -21833407.50 -21833407.43 -21833407.36 0.2688 0.2064 *

Jupiter -64490-05-26 07:25 J -21833404.31 -21833404.19 -21833404.06 0.0526 0.0050

Jupiter -64490-08-23 12:42 J -21833315.03 -21833314.97 -21833314.90 0.0526 0.0446

Jupiter -64484-04-16 18:57 J -21831251.84 -21831251.71 -21831251.57 0.0499 0.0346

Moon -64484-05-31 18:28 J -21831206.81 -21831206.73 -21831206.65 0.2698 0.1790

Earth -64484-05-31 19:11 J -21831206.78 -21831206.70 -21831206.62 0.2697 0.1900 *

Jupiter -64484-07-16 06:42 J -21831161.37 -21831161.22 -21831161.07 0.0499 0.0308

Neptune -64484-12-31 23:45 J -21830992.54 -21830992.51 -21830992.44 0.0089 0.0086

Venus -64483-01-15 21:35 J -21830977.66 -21830977.60 -21830977.54 0.3561 0.3227

Neptune -64483-03-30 03:35 J -21830904.43 -21830904.35 -21830904.25 0.0089 0.0078

Neptune -64483-06-26 06:57 J -21830816.31 -21830816.21 -21830816.08 0.0089 0.0071

Neptune -64483-09-22 10:47 J -21830728.18 -21830728.05 -21830727.91 0.0089 0.0063

Neptune -64483-12-19 14:37 J -21830640.04 -21830639.89 -21830639.74 0.0089 0.0055

Neptune -64482-03-17 17:59 J -21830551.90 -21830551.75 -21830551.58 0.0089 0.0048

Mars -64482-05-06 18:57 J -21830501.78 -21830501.71 -21830501.65 0.1967 0.1606

Neptune -64482-06-13 21:35 J -21830463.76 -21830463.60 -21830463.42 0.0089 0.0040

Neptune -64482-09-10 01:11 J -21830375.62 -21830375.45 -21830375.26 0.0089 0.0032

Neptune -64482-12-07 04:47 J -21830287.48 -21830287.30 -21830287.10 0.0089 0.0025

Neptune -64481-03-04 08:37 J -21830199.33 -21830199.14 -21830198.95 0.0089 0.0017

Neptune -64481-05-31 12:13 J -21830111.18 -21830110.99 -21830110.80 0.0089 0.0009

Neptune -64481-08-27 15:49 J -21830023.03 -21830022.84 -21830022.64 0.0089 0.0002

Moon -64481-11-22 09:35 J -21829936.26 -21829936.10 -21829935.95 0.2639 0.0689

Earth -64481-11-22 11:16 J -21829936.18 -21829936.03 -21829935.87 0.2639 0.0784 *

Neptune -64481-11-23 19:25 J -21829934.88 -21829934.69 -21829934.49 0.0089 0.0006

Saturn -64480-02-17 19:40 J -21829848.73 -21829848.68 -21829848.61 0.0259 0.0244

Neptune -64480-02-19 23:01 J -21829846.73 -21829846.54 -21829846.34 0.0089 0.0014

Saturn -64480-05-17 16:04 J -21829760.00 -21829759.83 -21829759.66 0.0259 0.0121

Neptune -64480-05-19 02:37 J -21829758.57 -21829758.39 -21829758.19 0.0089 0.0022

Saturn -64480-08-14 12:13 J -21829671.18 -21829670.99 -21829670.80 0.0259 0.0003

Neptune -64480-08-15 06:13 J -21829670.42 -21829670.24 -21829670.05 0.0089 0.0030

Saturn -64480-11-11 08:23 J -21829582.31 -21829582.15 -21829581.98 0.0259 0.0127

Neptune -64480-11-11 09:49 J -21829582.26 -21829582.09 -21829581.90 0.0089 0.0038 *

Neptune -64479-02-07 13:40 J -21829494.10 -21829493.93 -21829493.76 0.0089 0.0045

Saturn -64479-02-08 05:01 J -21829493.33 -21829493.29 -21829493.25 0.0259 0.0251

Mars -64479-02-08 16:04 J -21829492.90 -21829492.83 -21829492.77 0.1582 0.1448

Neptune -64479-05-06 17:16 J -21829405.93 -21829405.78 -21829405.62 0.0089 0.0053

Neptune -64479-08-02 20:37 J -21829317.76 -21829317.64 -21829317.48 0.0089 0.0061

Neptune -64479-10-30 00:13 J -21829229.59 -21829229.49 -21829229.35 0.0089 0.0069

Neptune -64478-01-26 04:18 J -21829141.41 -21829141.32 -21829141.22 0.0089 0.0076

Jupiter -64478-03-14 11:30 J -21829094.13 -21829094.02 -21829093.90 0.0527 0.0177

Neptune -64478-04-24 07:40 J -21829053.22 -21829053.18 -21829053.10 0.0089 0.0084

Jupiter -64478-06-11 17:01 J -21829004.89 -21829004.79 -21829004.69 0.0526 0.0321

Venus -64478-08-02 05:30 J -21828953.42 -21828953.27 -21828953.12 0.3560 0.1181

Earth -64477-05-24 18:42 J -21828656.82 -21828656.72 -21828656.62 0.2691 0.1086

Moon -64477-05-24 19:11 J -21828656.80 -21828656.70 -21828656.59 0.2687 0.1085 *

Mars -64473-09-26 02:37 J -21827071.50 -21827071.39 -21827071.28 0.1963 0.0554

Jupiter -64472-05-04 03:06 J -21826851.55 -21826851.37 -21826851.19 0.0499 0.0143

Mars -64470-07-01 18:13 J -21826062.90 -21826062.74 -21826062.58 0.1585 0.0548

Venus -64470-11-18 10:04 J -21825923.11 -21825923.08 -21825923.05 0.3818 0.3654

Jupiter -64467-12-31 16:04 J -21824783.94 -21824783.83 -21824783.73 0.0527 0.0299

Jupiter -64466-03-30 21:21 J -21824694.72 -21824694.61 -21824694.49 0.0526 0.0200

Saturn -64466-12-16 06:28 J -21824434.28 -21824434.23 -21824434.17 0.0303 0.0273

Saturn -64465-03-13 19:40 J -21824345.80 -21824345.68 -21824345.56 0.0304 0.0136

Saturn -64465-06-10 08:37 J -21824257.27 -21824257.14 -21824257.01 0.0304 0.0002

Saturn -64465-09-06 21:35 J -21824168.72 -21824168.60 -21824168.49 0.0304 0.0137

Saturn -64465-12-04 10:18 J -21824080.12 -21824080.07 -21824080.01 0.0304 0.0273

Moon -64464-05-27 12:28 J -21823906.09 -21823905.98 -21823905.87 0.2686 0.0035

Earth -64464-05-27 12:28 J -21823906.08 -21823905.98 -21823905.87 0.2693 0.0110 *

Venus -64464-06-03 02:09 J -21823899.49 -21823899.41 -21823899.32 0.3819 0.1909

Mars -64463-02-16 10:04 J -21823641.19 -21823641.08 -21823640.97 0.1958 0.0516

Mars -64461-11-20 20:09 J -21822632.82 -21822632.66 -21822632.49 0.1588 0.0368

Jupiter -64460-02-19 22:47 J -21822541.73 -21822541.55 -21822541.36 0.0499 0.0030

Uranus -64459-12-12 17:01 J -21821880.84 -21821880.79 -21821880.74 0.0133 0.0122

Venus -64459-12-17 18:28 J -21821875.83 -21821875.73 -21821875.63 0.3819 0.0160

Uranus -64458-03-10 19:40 J -21821792.75 -21821792.68 -21821792.59 0.0133 0.0106

Uranus -64458-06-06 22:47 J -21821704.64 -21821704.55 -21821704.45 0.0133 0.0089

Uranus -64458-09-03 01:40 J -21821616.54 -21821616.43 -21821616.32 0.0133 0.0073

Pluto -64458-11-21 20:52 J -21821536.63 -21821536.63 -21821536.61 0.0084 0.0084

Uranus -64458-11-30 04:33 J -21821528.42 -21821528.31 -21821528.18 0.0133 0.0056

Pluto -64457-02-17 22:33 J -21821448.62 -21821448.56 -21821448.48 0.0084 0.0073

Uranus -64457-02-26 07:25 J -21821440.31 -21821440.19 -21821440.06 0.0133 0.0040

Pluto -64457-05-15 23:59 J -21821360.58 -21821360.50 -21821360.39 0.0084 0.0063

Uranus -64457-05-24 10:33 J -21821352.19 -21821352.06 -21821351.93 0.0134 0.0022

Pluto -64457-08-12 01:54 J -21821272.53 -21821272.42 -21821272.31 0.0084 0.0052

Uranus -64457-08-20 13:25 J -21821264.07 -21821263.94 -21821263.81 0.0134 0.0006

Pluto -64457-11-08 03:21 J -21821184.48 -21821184.36 -21821184.23 0.0084 0.0042

Uranus -64457-11-16 16:18 J -21821175.95 -21821175.82 -21821175.68 0.0134 0.0013

Pluto -64456-02-04 04:47 J -21821096.42 -21821096.30 -21821096.16 0.0084 0.0032

Uranus -64456-02-12 19:25 J -21821087.82 -21821087.69 -21821087.56 0.0134 0.0028

Pluto -64456-05-03 06:28 J -21821008.37 -21821008.23 -21821008.09 0.0083 0.0021

Uranus -64456-05-11 22:18 J -21820999.69 -21820999.57 -21820999.45 0.0134 0.0045

Pluto -64456-07-30 07:54 J -21820920.31 -21820920.17 -21820920.03 0.0083 0.0011

Uranus -64456-08-08 01:11 J -21820911.56 -21820911.45 -21820911.33 0.0134 0.0062

Pluto -64456-10-26 09:35 J -21820832.24 -21820832.10 -21820831.96 0.0083 0.0002

Uranus -64456-11-04 04:18 J -21820823.43 -21820823.32 -21820823.22 0.0134 0.0079

Pluto -64455-01-22 11:01 J -21820744.18 -21820744.04 -21820743.90 0.0083 0.0009

Uranus -64455-01-31 07:11 J -21820735.29 -21820735.20 -21820735.11 0.0134 0.0096

Pluto -64455-04-20 12:28 J -21820656.12 -21820655.98 -21820655.84 0.0083 0.0019

Uranus -64455-04-29 10:04 J -21820647.14 -21820647.08 -21820647.01 0.0134 0.0114

Pluto -64455-07-17 13:54 J -21820568.05 -21820567.92 -21820567.79 0.0083 0.0029

Uranus -64455-07-26 12:57 J -21820558.98 -21820558.96 -21820558.92 0.0134 0.0131

Pluto -64455-10-13 15:06 J -21820479.98 -21820479.87 -21820479.73 0.0083 0.0039

Jupiter -64455-10-19 20:23 J -21820473.72 -21820473.65 -21820473.58 0.0527 0.0420

Pluto -64454-01-09 16:47 J -21820391.91 -21820391.80 -21820391.68 0.0083 0.0048

Jupiter -64454-01-17 01:54 J -21820384.54 -21820384.42 -21820384.29 0.0526 0.0078

Pluto -64454-04-07 18:13 J -21820303.84 -21820303.74 -21820303.64 0.0082 0.0057

Pluto -64454-07-04 19:25 J -21820215.76 -21820215.69 -21820215.60 0.0082 0.0067

Mars -64454-07-09 17:45 J -21820210.83 -21820210.76 -21820210.69 0.1953 0.1571

Pluto -64454-09-30 20:52 J -21820127.67 -21820127.63 -21820127.57 0.0082 0.0076

Venus -64453-07-02 10:47 J -21819852.15 -21819852.05 -21819851.96 0.3819 0.1650

Mars -64451-04-12 22:18 J -21819202.66 -21819202.57 -21819202.47 0.1592 0.1275

Moon -64451-05-30 05:45 J -21819155.36 -21819155.26 -21819155.15 0.2691 0.0947

Earth -64451-05-30 06:13 J -21819155.34 -21819155.24 -21819155.14 0.2696 0.1058 *

Saturn -64451-10-04 16:18 J -21819027.97 -21819027.82 -21819027.66 0.0258 0.0152

Saturn -64450-01-01 12:28 J -21818939.17 -21818938.98 -21818938.79 0.0258 0.0029

Saturn -64450-03-31 08:52 J -21818850.31 -21818850.13 -21818849.95 0.0258 0.0095

Saturn -64450-06-28 05:01 J -21818761.38 -21818761.29 -21818761.18 0.0258 0.0219

Jupiter -64449-12-08 19:40 J -21818231.86 -21818231.68 -21818231.51 0.0499 0.0191

Jupiter -64448-03-09 07:25 J -21818141.25 -21818141.19 -21818141.12 0.0500 0.0467

Moon -64448-11-20 09:21 J -21817885.26 -21817885.11 -21817884.97 0.2637 0.1129

Earth -64448-11-20 10:33 J -21817885.21 -21817885.06 -21817884.92 0.2642 0.1015 *

Venus -64447-01-16 03:06 J -21817828.41 -21817828.37 -21817828.33 0.3819 0.3448

Earth -64444-05-23 05:45 J -21816605.33 -21816605.26 -21816605.19 0.2689 0.1946

Moon -64444-05-23 06:28 J -21816605.31 -21816605.23 -21816605.15 0.2687 0.1868 *

Mars -64443-11-04 18:57 J -21816074.76 -21816074.71 -21816074.66 0.1967 0.1727

Jupiter -64443-11-05 05:45 J -21816074.38 -21816074.26 -21816074.13 0.0526 0.0055

Jupiter -64442-02-02 11:01 J -21815985.10 -21815985.04 -21815984.97 0.0525 0.0442

Moon -64438-06-01 23:16 J -21814404.60 -21814404.53 -21814404.46 0.2698 0.2074

Earth -64438-06-01 23:59 J -21814404.57 -21814404.50 -21814404.43 0.2698 0.2111 *

Jupiter -64437-09-26 16:33 J -21813921.94 -21813921.81 -21813921.68 0.0499 0.0351

Jupiter -64437-12-26 04:18 J -21813831.47 -21813831.32 -21813831.17 0.0500 0.0305

Saturn -64436-07-31 21:49 J -21813613.69 -21813613.59 -21813613.48 0.0304 0.0171

Saturn -64436-10-28 11:01 J -21813525.17 -21813525.04 -21813524.91 0.0304 0.0035

Saturn -64435-01-24 23:45 J -21813436.63 -21813436.51 -21813436.38 0.0304 0.0104

Saturn -64435-04-23 12:42 J -21813348.05 -21813347.97 -21813347.89 0.0304 0.0238

Moon -64435-11-23 16:18 J -21813133.97 -21813133.82 -21813133.68 0.2639 0.0980

Earth -64435-11-23 17:59 J -21813133.89 -21813133.75 -21813133.61 0.2639 0.1202 *

Mars -64433-03-27 02:23 J -21812644.50 -21812644.40 -21812644.29 0.1963 0.0655

Earth -64431-05-25 23:30 J -21811854.62 -21811854.52 -21811854.41 0.2692 0.0878

Moon -64431-05-25 23:59 J -21811854.60 -21811854.50 -21811854.39 0.2686 0.0788 *

Jupiter -64431-08-24 10:04 J -21811764.20 -21811764.08 -21811763.96 0.0526 0.0179

Jupiter -64431-11-21 15:21 J -21811674.96 -21811674.86 -21811674.76 0.0526 0.0318

Mars -64431-12-30 18:42 J -21811635.87 -21811635.72 -21811635.56 0.1585 0.0680

Venus -64427-08-22 23:30 J -21810304.66 -21810304.52 -21810304.38 0.3561 0.1723

Jupiter -64425-10-14 00:42 J -21809521.64 -21809521.47 -21809521.29 0.0499 0.0141

Mars -64424-08-17 10:04 J -21809214.19 -21809214.08 -21809213.97 0.1958 0.0408

Saturn -64421-02-21 16:47 J -21808295.93 -21808295.80 -21808295.67 0.0259 0.0182

Venus -64421-03-08 07:25 J -21808280.30 -21808280.19 -21808280.09 0.3560 0.2652

Saturn -64421-05-20 12:42 J -21808207.15 -21808206.97 -21808206.78 0.0259 0.0060

Mars -64421-05-21 21:06 J -21808205.79 -21808205.62 -21808205.46 0.1588 0.0228

Saturn -64421-08-17 09:06 J -21808118.30 -21808118.12 -21808117.94 0.0258 0.0064

Saturn -64421-11-14 05:30 J -21808029.40 -21808029.27 -21808029.14 0.0258 0.0189

Jupiter -64419-06-12 14:09 J -21807454.01 -21807453.91 -21807453.81 0.0527 0.0306

Jupiter -64419-09-09 19:40 J -21807364.80 -21807364.68 -21807364.56 0.0526 0.0193

Moon -64418-05-28 17:16 J -21807103.89 -21807103.78 -21807103.67 0.2687 0.0128

Earth -64418-05-28 17:30 J -21807103.88 -21807103.77 -21807103.67 0.2694 0.0229 *

Uranus -64418-07-11 20:37 J -21807059.70 -21807059.64 -21807059.58 0.0145 0.0138

Uranus -64418-10-08 05:16 J -21806971.41 -21806971.28 -21806971.14 0.0145 0.0106

Uranus -64417-01-04 13:54 J -21806883.08 -21806882.92 -21806882.74 0.0145 0.0074

Uranus -64417-04-01 22:47 J -21806794.73 -21806794.55 -21806794.35 0.0145 0.0041

Uranus -64417-06-29 07:54 J -21806706.37 -21806706.17 -21806705.98 0.0145 0.0008

Uranus -64417-09-25 16:47 J -21806618.00 -21806617.80 -21806617.61 0.0145 0.0024

Uranus -64417-12-23 01:11 J -21806529.62 -21806529.45 -21806529.26 0.0145 0.0057

Uranus -64416-03-21 10:04 J -21806441.22 -21806441.08 -21806440.92 0.0145 0.0089

Uranus -64416-06-17 18:42 J -21806352.81 -21806352.72 -21806352.60 0.0144 0.0121

Mars -64414-01-07 17:45 J -21805783.83 -21805783.76 -21805783.68 0.1953 0.1453

Venus -64413-06-24 07:40 J -21805250.24 -21805250.18 -21805250.12 0.3818 0.3032

Jupiter -64413-08-01 21:21 J -21805211.80 -21805211.61 -21805211.42 0.0499 0.0023

Mars -64412-10-11 23:01 J -21804775.65 -21804775.54 -21804775.42 0.1592 0.1136

Venus -64407-01-07 23:45 J -21803226.60 -21803226.51 -21803226.41 0.3819 0.1282

Jupiter -64407-03-31 18:28 J -21803143.80 -21803143.73 -21803143.65 0.0527 0.0427

Jupiter -64407-06-28 23:59 J -21803054.62 -21803054.50 -21803054.37 0.0526 0.0075

Saturn -64407-12-18 23:45 J -21802881.59 -21802881.51 -21802881.41 0.0304 0.0211

Saturn -64406-03-17 12:57 J -21802793.08 -21802792.96 -21802792.83 0.0304 0.0073

Saturn -64406-06-14 01:54 J -21802704.54 -21802704.42 -21802704.29 0.0304 0.0064

Saturn -64406-09-10 14:52 J -21802615.98 -21802615.88 -21802615.78 0.0304 0.0200

Moon -64405-05-30 10:33 J -21802353.16 -21802353.06 -21802352.97 0.2693 0.1254

Earth -64405-05-30 11:01 J -21802353.13 -21802353.04 -21802352.94 0.2696 0.1264 *

Mars -64403-05-05 18:57 J -21801647.75 -21801647.71 -21801647.67 0.1967 0.1840

Venus -64402-07-24 16:04 J -21801202.93 -21801202.83 -21801202.73 0.3819 0.0499

Neptune -64402-10-12 21:35 J -21801122.63 -21801122.60 -21801122.55 0.0089 0.0085

Moon -64402-11-21 15:35 J -21801083.00 -21801082.85 -21801082.69 0.2638 0.0695

Earth -64402-11-21 17:01 J -21801082.94 -21801082.79 -21801082.63 0.2641 0.0609 *

Neptune -64401-01-08 23:01 J -21801034.59 -21801034.54 -21801034.48 0.0089 0.0080

Neptune -64401-04-06 00:13 J -21800946.55 -21800946.49 -21800946.40 0.0089 0.0075

Jupiter -64401-05-20 17:01 J -21800901.96 -21800901.79 -21800901.62 0.0499 0.0197

Neptune -64401-07-03 01:54 J -21800858.50 -21800858.42 -21800858.34 0.0089 0.0069

Jupiter -64401-08-19 04:47 J -21800811.36 -21800811.30 -21800811.23 0.0500 0.0462

Neptune -64401-09-29 03:06 J -21800770.45 -21800770.37 -21800770.27 0.0089 0.0064

Neptune -64401-12-26 04:18 J -21800682.41 -21800682.32 -21800682.21 0.0089 0.0059

Neptune -64400-03-24 05:59 J -21800594.36 -21800594.25 -21800594.14 0.0089 0.0053

Neptune -64400-06-20 07:11 J -21800506.31 -21800506.20 -21800506.08 0.0089 0.0048

Neptune -64400-09-16 08:23 J -21800418.26 -21800418.15 -21800418.02 0.0089 0.0043

Neptune -64400-12-13 10:04 J -21800330.20 -21800330.08 -21800329.96 0.0089 0.0037

Neptune -64399-03-11 11:16 J -21800242.15 -21800242.03 -21800241.90 0.0089 0.0032

Neptune -64399-06-07 12:28 J -21800154.10 -21800153.98 -21800153.84 0.0089 0.0027

Neptune -64399-09-03 13:54 J -21800066.04 -21800065.92 -21800065.79 0.0089 0.0021

Neptune -64399-11-30 15:21 J -21799977.99 -21799977.86 -21799977.73 0.0089 0.0016

Neptune -64398-02-26 16:33 J -21799889.94 -21799889.81 -21799889.67 0.0089 0.0011

Earth -64398-05-24 10:33 J -21799803.14 -21799803.06 -21799802.97 0.2690 0.1730

Moon -64398-05-24 11:16 J -21799803.11 -21799803.03 -21799802.94 0.2688 0.1658 *

Neptune -64398-05-25 17:59 J -21799801.88 -21799801.75 -21799801.62 0.0089 0.0005

Neptune -64398-08-21 19:25 J -21799713.83 -21799713.69 -21799713.56 0.0089 0.0002

Neptune -64398-11-17 20:37 J -21799625.77 -21799625.64 -21799625.51 0.0089 0.0006

Neptune -64397-02-13 22:04 J -21799537.71 -21799537.58 -21799537.45 0.0089 0.0011

Neptune -64397-05-11 23:16 J -21799449.66 -21799449.53 -21799449.40 0.0089 0.0016

Neptune -64397-08-08 00:28 J -21799361.60 -21799361.48 -21799361.34 0.0089 0.0022

Neptune -64397-11-04 01:54 J -21799273.54 -21799273.42 -21799273.29 0.0089 0.0027

Neptune -64396-01-31 03:21 J -21799185.49 -21799185.36 -21799185.24 0.0089 0.0032

Venus -64396-02-06 08:23 J -21799179.23 -21799179.15 -21799179.07 0.3819 0.2292

Neptune -64396-04-29 04:33 J -21799097.43 -21799097.31 -21799097.19 0.0089 0.0037

Neptune -64396-07-26 05:45 J -21799009.37 -21799009.26 -21799009.14 0.0089 0.0043

Neptune -64396-10-22 07:11 J -21798921.31 -21798921.20 -21798921.09 0.0089 0.0048

Neptune -64395-01-18 08:23 J -21798833.25 -21798833.15 -21798833.04 0.0089 0.0053

Neptune -64395-04-16 09:49 J -21798745.19 -21798745.09 -21798744.99 0.0089 0.0058

Jupiter -64395-04-17 04:33 J -21798744.43 -21798744.31 -21798744.18 0.0526 0.0051

Neptune -64395-07-13 11:01 J -21798657.12 -21798657.04 -21798656.94 0.0089 0.0063

Jupiter -64395-07-15 09:49 J -21798655.15 -21798655.09 -21798655.02 0.0525 0.0447

Neptune -64395-10-09 12:13 J -21798569.06 -21798568.99 -21798568.90 0.0089 0.0069

Neptune -64394-01-05 13:40 J -21798480.99 -21798480.93 -21798480.85 0.0089 0.0074

Neptune -64394-04-03 15:06 J -21798392.93 -21798392.87 -21798392.81 0.0089 0.0079

Neptune -64394-06-30 16:18 J -21798304.85 -21798304.82 -21798304.78 0.0089 0.0084

Mars -64394-09-26 02:23 J -21798217.50 -21798217.40 -21798217.29 0.1963 0.0771

Moon -64392-06-02 04:04 J -21797602.39 -21797602.33 -21797602.27 0.2698 0.2193

Earth -64392-06-02 04:47 J -21797602.35 -21797602.30 -21797602.25 0.2698 0.2319 *

Saturn -64392-07-10 16:33 J -21797563.90 -21797563.81 -21797563.69 0.0258 0.0214

Saturn -64392-10-07 12:42 J -21797475.14 -21797474.97 -21797474.79 0.0258 0.0092

Saturn -64391-01-04 09:06 J -21797386.31 -21797386.12 -21797385.93 0.0258 0.0031

Saturn -64391-04-03 05:01 J -21797297.43 -21797297.29 -21797297.12 0.0258 0.0155

Mars -64391-06-30 19:25 J -21797208.83 -21797208.69 -21797208.54 0.1585 0.0816

Jupiter -64389-03-08 13:40 J -21796592.05 -21796591.93 -21796591.79 0.0499 0.0358

Jupiter -64389-06-07 01:40 J -21796501.58 -21796501.43 -21796501.28 0.0500 0.0300

Moon -64389-11-23 23:01 J -21796331.68 -21796331.54 -21796331.41 0.2639 0.1481

Earth -64389-11-24 00:42 J -21796331.59 -21796331.47 -21796331.34 0.2639 0.1618 *

Earth -64385-05-26 04:33 J -21795052.42 -21795052.31 -21795052.21 0.2692 0.0666

Moon -64385-05-26 04:47 J -21795052.41 -21795052.30 -21795052.20 0.2685 0.0651 *

Mars -64384-02-15 10:04 J -21794787.19 -21794787.08 -21794786.96 0.1958 0.0295

Jupiter -64383-02-03 08:37 J -21794434.26 -21794434.14 -21794434.02 0.0526 0.0177

Jupiter -64383-05-03 13:54 J -21794345.01 -21794344.92 -21794344.82 0.0525 0.0320

Mars -64382-11-20 21:35 J -21793778.77 -21793778.60 -21793778.43 0.1588 0.0094

Jupiter -64377-03-25 22:33 J -21792191.74 -21792191.56 -21792191.38 0.0500 0.0140

Saturn -64377-05-07 01:40 J -21792149.50 -21792149.43 -21792149.36 0.0304 0.0251

Saturn -64377-08-03 14:52 J -21792061.00 -21792060.88 -21792060.76 0.0304 0.0114

Saturn -64377-10-31 03:49 J -21791972.47 -21791972.34 -21791972.21 0.0305 0.0024

Saturn -64376-01-27 16:47 J -21791883.91 -21791883.80 -21791883.69 0.0305 0.0161

Saturn -64376-04-26 05:30 J -21791795.29 -21791795.27 -21791795.24 0.0305 0.0296

Mars -64375-07-08 17:45 J -21791356.85 -21791356.76 -21791356.68 0.1953 0.1356

Uranus -64374-01-01 23:59 J -21791179.56 -21791179.50 -21791179.44 0.0133 0.0119

Uranus -64374-03-31 02:37 J -21791091.46 -21791091.39 -21791091.30 0.0133 0.0103

Uranus -64374-06-27 05:45 J -21791003.36 -21791003.26 -21791003.16 0.0133 0.0086

Uranus -64374-09-23 08:37 J -21790915.25 -21790915.14 -21790915.02 0.0133 0.0070

Uranus -64374-12-20 11:45 J -21790827.13 -21790827.01 -21790826.89 0.0133 0.0053

Uranus -64373-03-17 14:37 J -21790739.02 -21790738.89 -21790738.76 0.0133 0.0036

Uranus -64373-06-13 17:30 J -21790650.90 -21790650.77 -21790650.64 0.0134 0.0019

Uranus -64373-09-09 20:23 J -21790562.78 -21790562.65 -21790562.51 0.0134 0.0006

Uranus -64373-12-06 23:30 J -21790474.65 -21790474.52 -21790474.39 0.0134 0.0015

Uranus -64372-03-05 02:23 J -21790386.53 -21790386.40 -21790386.27 0.0134 0.0032

Mars -64372-04-11 23:45 J -21790348.64 -21790348.51 -21790348.38 0.1592 0.1003

Moon -64372-05-28 22:04 J -21790301.69 -21790301.58 -21790301.47 0.2687 0.0439

Earth -64372-05-28 22:18 J -21790301.68 -21790301.57 -21790301.47 0.2694 0.0424 *

Uranus -64372-06-01 05:16 J -21790298.40 -21790298.28 -21790298.15 0.0134 0.0049

Uranus -64372-08-28 08:09 J -21790210.27 -21790210.16 -21790210.04 0.0134 0.0066

Jupiter -64372-11-22 12:42 J -21790124.07 -21790123.97 -21790123.86 0.0526 0.0304

Uranus -64372-11-24 11:01 J -21790122.13 -21790122.04 -21790121.93 0.0134 0.0083

Jupiter -64371-02-19 18:13 J -21790034.86 -21790034.74 -21790034.62 0.0526 0.0195

Uranus -64371-02-20 14:09 J -21790033.99 -21790033.91 -21790033.82 0.0134 0.0100

Uranus -64371-05-19 17:01 J -21789945.84 -21789945.79 -21789945.72 0.0134 0.0117

Uranus -64371-08-15 20:09 J -21789857.66 -21789857.66 -21789857.65 0.0134 0.0134

Venus -64370-03-30 01:25 J -21789631.60 -21789631.44 -21789631.28 0.3561 0.0226

Moon -64369-11-18 15:49 J -21789031.92 -21789031.84 -21789031.77 0.2637 0.2330

Earth -64369-11-18 16:18 J -21789031.88 -21789031.82 -21789031.75 0.2644 0.2382 *

Jupiter -64365-01-12 19:25 J -21787881.88 -21787881.69 -21787881.50 0.0499 0.0022

Earth -64365-05-21 21:35 J -21787751.63 -21787751.60 -21787751.58 0.2688 0.2593

Moon -64365-05-21 22:18 J -21787751.60 -21787751.57 -21787751.54 0.2689 0.2576 *

Mars -64364-11-03 18:57 J -21787220.73 -21787220.71 -21787220.70 0.1967 0.1940

Saturn -64363-11-27 16:33 J -21786831.86 -21786831.81 -21786831.75 0.0258 0.0247

Saturn -64362-02-24 12:28 J -21786743.14 -21786742.98 -21786742.81 0.0258 0.0126

Saturn -64362-05-24 08:52 J -21786654.32 -21786654.13 -21786653.94 0.0258 0.0006

Saturn -64362-08-21 04:47 J -21786565.46 -21786565.30 -21786565.12 0.0258 0.0121

Saturn -64362-11-18 01:11 J -21786476.50 -21786476.45 -21786476.38 0.0258 0.0245

Jupiter -64360-09-10 16:47 J -21785813.87 -21785813.80 -21785813.72 0.0527 0.0431

Jupiter -64360-12-08 22:33 J -21785724.69 -21785724.56 -21785724.44 0.0526 0.0071

Moon -64359-05-31 15:21 J -21785550.96 -21785550.86 -21785550.77 0.2694 0.1338

Earth -64359-05-31 15:49 J -21785550.93 -21785550.84 -21785550.75 0.2696 0.1474 *

Venus -64356-01-29 05:16 J -21784577.36 -21784577.28 -21784577.20 0.3819 0.2410

Moon -64356-11-21 22:18 J -21784280.73 -21784280.57 -21784280.42 0.2639 0.0430

Earth -64356-11-21 23:45 J -21784280.67 -21784280.51 -21784280.35 0.2641 0.0201 *

Mars -64354-03-27 02:37 J -21783790.50 -21783790.39 -21783790.29 0.1963 0.0886

Jupiter -64354-10-31 16:04 J -21783572.00 -21783571.83 -21783571.65 0.0499 0.0184

Jupiter -64353-01-30 03:49 J -21783481.39 -21783481.34 -21783481.28 0.0500 0.0474

Earth -64352-05-24 15:21 J -21783000.95 -21783000.86 -21783000.77 0.2690 0.1520

Moon -64352-05-24 16:04 J -21783000.92 -21783000.83 -21783000.74 0.2688 0.1422 *

Mars -64352-12-29 20:23 J -21782781.79 -21782781.65 -21782781.52 0.1585 0.0960

Venus -64351-08-14 21:21 J -21782553.71 -21782553.61 -21782553.51 0.3819 0.0656

Saturn -64348-09-24 03:21 J -21781417.39 -21781417.36 -21781417.33 0.0304 0.0293

Jupiter -64348-09-27 03:06 J -21781414.50 -21781414.37 -21781414.25 0.0526 0.0050

Saturn -64348-12-21 16:33 J -21781328.92 -21781328.81 -21781328.70 0.0304 0.0156

Jupiter -64348-12-25 08:23 J -21781325.21 -21781325.15 -21781325.08 0.0525 0.0445

Saturn -64347-03-20 05:30 J -21781240.40 -21781240.27 -21781240.14 0.0304 0.0018

Saturn -64347-06-16 18:28 J -21781151.85 -21781151.73 -21781151.61 0.0304 0.0118

Saturn -64347-09-13 07:25 J -21781063.26 -21781063.19 -21781063.12 0.0304 0.0254

Moon -64346-06-03 08:52 J -21780800.16 -21780800.13 -21780800.09 0.2700 0.2517

Earth -64346-06-03 09:35 J -21780800.13 -21780800.10 -21780800.06 0.2698 0.2526 *

Venus -64345-02-28 13:40 J -21780530.03 -21780529.93 -21780529.83 0.3819 0.1134

Mars -64345-08-16 10:04 J -21780360.19 -21780360.08 -21780359.96 0.1958 0.0186

Moon -64343-11-25 05:45 J -21779529.37 -21779529.26 -21779529.15 0.2639 0.1855

Earth -64343-11-25 07:25 J -21779529.29 -21779529.19 -21779529.09 0.2638 0.2031 *

Mars -64342-05-21 22:18 J -21779351.74 -21779351.57 -21779351.40 0.1588 0.0044

Jupiter -64342-08-19 11:30 J -21779262.14 -21779262.02 -21779261.88 0.0499 0.0359

Jupiter -64342-11-17 23:30 J -21779171.67 -21779171.52 -21779171.37 0.0500 0.0299

Venus -64340-09-13 05:59 J -21778506.32 -21778506.25 -21778506.19 0.3819 0.2936

Earth -64339-05-27 09:21 J -21778250.22 -21778250.11 -21778250.01 0.2692 0.0451

Moon -64339-05-27 09:21 J -21778250.21 -21778250.11 -21778250.00 0.2685 0.0432 *

Jupiter -64336-07-16 07:40 J -21777104.30 -21777104.18 -21777104.06 0.0526 0.0168

Jupiter -64336-10-13 12:57 J -21777015.05 -21777014.96 -21777014.86 0.0525 0.0329

Mars -64335-01-06 17:45 J -21776929.85 -21776929.76 -21776929.67 0.1953 0.1240

Uranus -64334-08-01 01:40 J -21776358.48 -21776358.43 -21776358.36 0.0145 0.0137

Uranus -64334-10-28 10:33 J -21776270.18 -21776270.06 -21776269.92 0.0145 0.0105

Uranus -64333-01-24 19:25 J -21776181.85 -21776181.69 -21776181.51 0.0145 0.0073

Uranus -64333-04-22 04:18 J -21776093.50 -21776093.32 -21776093.13 0.0145 0.0040

Saturn -64333-07-13 12:13 J -21776011.14 -21776010.99 -21776010.84 0.0258 0.0160

Uranus -64333-07-19 13:11 J -21776005.14 -21776004.95 -21776004.75 0.0145 0.0008

Saturn -64333-10-10 08:09 J -21775922.34 -21775922.16 -21775921.97 0.0258 0.0039

Mars -64333-10-11 00:28 J -21775921.62 -21775921.48 -21775921.34 0.1592 0.0867

Uranus -64333-10-15 22:04 J -21775916.77 -21775916.58 -21775916.39 0.0145 0.0025

Saturn -64332-01-07 04:18 J -21775833.49 -21775833.32 -21775833.13 0.0258 0.0085

Uranus -64332-01-12 06:57 J -21775828.39 -21775828.21 -21775828.03 0.0145 0.0057

Saturn -64332-04-06 00:42 J -21775744.58 -21775744.47 -21775744.36 0.0258 0.0208

Uranus -64332-04-10 15:21 J -21775740.00 -21775739.86 -21775739.69 0.0145 0.0090

Uranus -64332-07-08 00:13 J -21775651.58 -21775651.49 -21775651.37 0.0144 0.0121

Jupiter -64330-09-05 20:23 J -21774861.83 -21774861.65 -21774861.47 0.0500 0.0139

Moon -64326-05-30 02:37 J -21773499.49 -21773499.39 -21773499.28 0.2688 0.0562

Earth -64326-05-30 03:06 J -21773499.48 -21773499.37 -21773499.27 0.2694 0.0632 *

Jupiter -64324-05-04 11:45 J -21772794.11 -21772794.01 -21772793.90 0.0526 0.0296

Jupiter -64324-08-01 17:16 J -21772704.90 -21772704.78 -21772704.67 0.0526 0.0202

Moon -64323-11-19 22:18 J -21772229.67 -21772229.57 -21772229.48 0.2638 0.2143

Earth -64323-11-19 23:01 J -21772229.64 -21772229.54 -21772229.43 0.2643 0.1973 *

Venus -64319-04-19 19:11 J -21770982.76 -21770982.70 -21770982.63 0.3561 0.3184

Earth -64319-05-23 02:23 J -21770949.45 -21770949.40 -21770949.35 0.2688 0.2377

Moon -64319-05-23 03:06 J -21770949.43 -21770949.37 -21770949.31 0.2689 0.2231 *

Neptune -64319-09-27 22:33 J -21770821.61 -21770821.56 -21770821.47 0.0089 0.0083

Neptune -64319-12-25 02:23 J -21770733.49 -21770733.40 -21770733.29 0.0089 0.0075

Neptune -64318-03-23 05:45 J -21770645.37 -21770645.26 -21770645.12 0.0089 0.0068

Saturn -64318-05-10 17:30 J -21770596.86 -21770596.77 -21770596.67 0.0304 0.0203

Neptune -64318-06-19 09:21 J -21770557.23 -21770557.11 -21770556.95 0.0089 0.0060

Jupiter -64318-06-24 17:30 J -21770551.96 -21770551.77 -21770551.58 0.0500 0.0020

Saturn -64318-08-07 06:42 J -21770508.35 -21770508.22 -21770508.09 0.0305 0.0065

Neptune -64318-09-15 13:11 J -21770469.10 -21770468.95 -21770468.79 0.0089 0.0052

Saturn -64318-11-03 19:40 J -21770419.81 -21770419.68 -21770419.55 0.0305 0.0072

Neptune -64318-12-12 16:33 J -21770380.96 -21770380.81 -21770380.63 0.0089 0.0045

Saturn -64317-01-31 08:23 J -21770331.24 -21770331.15 -21770331.05 0.0305 0.0209

Neptune -64317-03-09 20:23 J -21770292.82 -21770292.65 -21770292.47 0.0089 0.0037

Neptune -64317-06-05 23:59 J -21770204.68 -21770204.50 -21770204.31 0.0089 0.0029

Neptune -64317-09-02 03:35 J -21770116.53 -21770116.35 -21770116.15 0.0089 0.0022

Neptune -64317-11-29 07:11 J -21770028.38 -21770028.20 -21770028.00 0.0089 0.0014

Neptune -64316-02-25 11:01 J -21769940.23 -21769940.04 -21769939.85 0.0089 0.0006

Neptune -64316-05-24 14:37 J -21769852.08 -21769851.89 -21769851.69 0.0089 0.0002

Neptune -64316-08-20 18:13 J -21769763.93 -21769763.74 -21769763.54 0.0089 0.0010

Neptune -64316-11-16 21:49 J -21769675.78 -21769675.59 -21769675.40 0.0089 0.0017

Neptune -64315-02-13 01:11 J -21769587.62 -21769587.45 -21769587.25 0.0089 0.0026

Neptune -64315-05-12 05:01 J -21769499.46 -21769499.29 -21769499.10 0.0089 0.0033

Neptune -64315-08-08 08:37 J -21769411.30 -21769411.14 -21769410.96 0.0089 0.0041

Mars -64315-09-25 02:23 J -21769363.49 -21769363.40 -21769363.30 0.1963 0.0992

Neptune -64315-11-04 12:13 J -21769323.14 -21769322.99 -21769322.82 0.0089 0.0049

Neptune -64314-01-31 15:49 J -21769234.98 -21769234.84 -21769234.68 0.0089 0.0057

Neptune -64314-04-29 19:40 J -21769146.81 -21769146.68 -21769146.54 0.0089 0.0064

Neptune -64314-07-26 23:16 J -21769058.63 -21769058.53 -21769058.41 0.0089 0.0072

Neptune -64314-10-23 02:52 J -21768970.45 -21768970.38 -21768970.28 0.0089 0.0080

Venus -64314-11-04 03:06 J -21768958.51 -21768958.37 -21768958.22 0.3560 0.1245

Neptune -64313-01-19 06:13 J -21768882.24 -21768882.24 -21768882.18 0.0089 0.0088

Moon -64313-05-31 19:54 J -21768748.75 -21768748.67 -21768748.58 0.2694 0.1665

Earth -64313-05-31 20:37 J -21768748.72 -21768748.64 -21768748.55 0.2696 0.1683 *

Jupiter -64312-02-20 15:49 J -21768483.91 -21768483.84 -21768483.76 0.0526 0.0423

Jupiter -64312-05-20 21:35 J -21768394.73 -21768394.60 -21768394.48 0.0526 0.0079

Mars -64312-06-29 20:52 J -21768354.75 -21768354.63 -21768354.51 0.1585 0.1090

Moon -64310-11-23 04:47 J -21767478.46 -21767478.30 -21767478.14 0.2638 0.0156

Earth -64310-11-23 06:28 J -21767478.39 -21767478.23 -21767478.07 0.2641 0.0219 *

Jupiter -64306-04-12 14:37 J -21766242.07 -21766241.89 -21766241.72 0.0499 0.0178

Earth -64306-05-25 20:23 J -21766198.75 -21766198.65 -21766198.56 0.2690 0.1305

Moon -64306-05-25 20:52 J -21766198.73 -21766198.63 -21766198.54 0.2687 0.1278 *

Jupiter -64306-07-12 02:23 J -21766151.44 -21766151.40 -21766151.35 0.0500 0.0481

Mars -64305-02-15 10:04 J -21765933.20 -21765933.08 -21765932.97 0.1959 0.0078

Venus -64305-02-20 10:33 J -21765928.09 -21765928.06 -21765928.02 0.3818 0.3544

Pluto -64304-03-01 06:57 J -21765553.22 -21765553.21 -21765553.15 0.0061 0.0060

Pluto -64304-05-28 08:09 J -21765465.21 -21765465.16 -21765465.06 0.0061 0.0055

Pluto -64304-08-24 09:35 J -21765377.19 -21765377.10 -21765376.99 0.0061 0.0050

Pluto -64304-11-20 10:47 J -21765289.16 -21765289.05 -21765288.92 0.0061 0.0045

Saturn -64304-11-30 11:30 J -21765279.14 -21765279.02 -21765278.90 0.0258 0.0197

Pluto -64303-02-16 11:59 J -21765201.12 -21765201.00 -21765200.86 0.0061 0.0040

Saturn -64303-02-27 07:25 J -21765190.37 -21765190.19 -21765190.01 0.0258 0.0075

Pluto -64303-05-15 13:11 J -21765113.09 -21765112.95 -21765112.80 0.0061 0.0035

Saturn -64303-05-27 03:35 J -21765101.54 -21765101.35 -21765101.16 0.0258 0.0048

Pluto -64303-08-11 14:23 J -21765025.05 -21765024.90 -21765024.74 0.0061 0.0030

Saturn -64303-08-23 23:45 J -21765012.65 -21765012.51 -21765012.36 0.0258 0.0171

Pluto -64303-11-07 15:35 J -21764937.01 -21764936.85 -21764936.68 0.0061 0.0025

Mars -64303-11-19 23:01 J -21764924.71 -21764924.54 -21764924.37 0.1588 0.0187

Pluto -64302-02-03 16:47 J -21764848.96 -21764848.80 -21764848.63 0.0061 0.0020

Pluto -64302-05-02 17:59 J -21764760.92 -21764760.75 -21764760.57 0.0061 0.0015

Pluto -64302-07-29 19:11 J -21764672.87 -21764672.70 -21764672.52 0.0061 0.0010

Pluto -64302-10-25 20:23 J -21764584.82 -21764584.65 -21764584.47 0.0061 0.0005

Pluto -64301-01-21 21:35 J -21764496.78 -21764496.60 -21764496.41 0.0062 0.0002

Pluto -64301-04-18 22:47 J -21764408.72 -21764408.55 -21764408.36 0.0062 0.0005

Pluto -64301-07-15 23:59 J -21764320.67 -21764320.50 -21764320.31 0.0062 0.0011

Pluto -64301-10-12 01:11 J -21764232.62 -21764232.45 -21764232.27 0.0062 0.0016

Pluto -64300-01-08 02:23 J -21764144.56 -21764144.40 -21764144.22 0.0062 0.0021

Jupiter -64300-03-09 01:40 J -21764084.55 -21764084.43 -21764084.30 0.0526 0.0049

Pluto -64300-04-06 03:35 J -21764056.50 -21764056.35 -21764056.17 0.0062 0.0026

Moon -64300-06-03 13:54 J -21763997.95 -21763997.92 -21763997.90 0.2702 0.2613

Jupiter -64300-06-06 06:57 J -21763995.27 -21763995.21 -21763995.14 0.0526 0.0447

Pluto -64300-07-03 05:01 J -21763968.44 -21763968.29 -21763968.13 0.0062 0.0031

Venus -64300-09-05 02:52 J -21763904.47 -21763904.38 -21763904.29 0.3819 0.1788

Pluto -64300-09-29 05:59 J -21763880.38 -21763880.25 -21763880.09 0.0062 0.0037

Pluto -64300-12-26 07:25 J -21763792.31 -21763792.19 -21763792.05 0.0062 0.0042

Pluto -64299-03-24 08:52 J -21763704.24 -21763704.13 -21763704.01 0.0062 0.0048

Pluto -64299-06-20 09:49 J -21763616.16 -21763616.09 -21763615.98 0.0062 0.0053

Pluto -64299-09-16 11:16 J -21763528.08 -21763528.03 -21763527.96 0.0062 0.0059

Moon -64297-11-25 12:42 J -21762727.05 -21762726.97 -21762726.89 0.2640 0.2271

Earth -64297-11-25 14:09 J -21762726.96 -21762726.91 -21762726.85 0.2638 0.2450 *

Mars -64296-07-07 17:45 J -21762502.85 -21762502.76 -21762502.66 0.1953 0.1117

Jupiter -64294-01-29 11:30 J -21761932.16 -21761932.02 -21761931.88 0.0499 0.0338

Venus -64294-03-21 18:57 J -21761880.81 -21761880.71 -21761880.61 0.3819 0.0030

Jupiter -64294-04-29 23:01 J -21761841.68 -21761841.54 -21761841.39 0.0500 0.0319

Mars -64293-04-11 01:11 J -21761494.60 -21761494.45 -21761494.30 0.1591 0.0724

Moon -64293-05-27 14:09 J -21761448.02 -21761447.91 -21761447.80 0.2685 0.0213

Earth -64293-05-27 14:09 J -21761448.02 -21761447.91 -21761447.80 0.2692 0.0247 *

Uranus -64291-10-26 04:04 J -21760566.33 -21760566.33 -21760566.33 0.0133 0.0133

Uranus -64290-01-22 06:57 J -21760478.27 -21760478.21 -21760478.15 0.0133 0.0116

Uranus -64290-04-20 09:35 J -21760390.17 -21760390.10 -21760390.00 0.0133 0.0100

Uranus -64290-07-17 12:42 J -21760302.07 -21760301.97 -21760301.86 0.0133 0.0083

Uranus -64290-10-13 15:35 J -21760213.96 -21760213.85 -21760213.73 0.0133 0.0067

Uranus -64289-01-09 18:42 J -21760125.84 -21760125.72 -21760125.60 0.0133 0.0049

Uranus -64289-04-06 21:35 J -21760037.72 -21760037.60 -21760037.47 0.0134 0.0033

Uranus -64289-07-04 00:28 J -21759949.60 -21759949.48 -21759949.34 0.0134 0.0017

Saturn -64289-09-26 18:42 J -21759864.79 -21759864.72 -21759864.65 0.0304 0.0250

Uranus -64289-09-30 03:35 J -21759861.48 -21759861.35 -21759861.22 0.0134 0.0002

Venus -64289-10-04 11:16 J -21759857.12 -21759857.03 -21759856.94 0.3819 0.1775

Saturn -64289-12-24 07:54 J -21759776.29 -21759776.17 -21759776.05 0.0304 0.0112

Jupiter -64289-12-26 06:28 J -21759774.35 -21759774.23 -21759774.11 0.0526 0.0167

Uranus -64289-12-27 06:28 J -21759773.36 -21759773.23 -21759773.10 0.0134 0.0018

Saturn -64288-03-22 20:52 J -21759687.76 -21759687.63 -21759687.50 0.0304 0.0025

Uranus -64288-03-25 09:21 J -21759685.23 -21759685.11 -21759684.98 0.0134 0.0035

Jupiter -64288-03-25 11:45 J -21759685.11 -21759685.01 -21759684.91 0.0526 0.0331 *

Saturn -64288-06-19 09:49 J -21759599.20 -21759599.09 -21759598.98 0.0304 0.0161

Uranus -64288-06-21 12:28 J -21759597.10 -21759596.98 -21759596.86 0.0134 0.0052

Saturn -64288-09-15 22:33 J -21759510.58 -21759510.56 -21759510.53 0.0304 0.0297

Uranus -64288-09-17 15:21 J -21759508.97 -21759508.86 -21759508.75 0.0134 0.0069

Uranus -64288-12-14 18:13 J -21759420.83 -21759420.74 -21759420.64 0.0134 0.0086

Uranus -64287-03-12 21:06 J -21759332.69 -21759332.62 -21759332.53 0.0134 0.0104

Uranus -64287-06-09 00:13 J -21759244.54 -21759244.49 -21759244.43 0.0134 0.0120

Venus -64283-04-20 03:35 J -21757833.39 -21757833.35 -21757833.32 0.3819 0.3577

Jupiter -64282-02-15 18:42 J -21757531.90 -21757531.72 -21757531.54 0.0500 0.0143

Moon -64280-05-30 07:25 J -21756697.30 -21756697.19 -21756697.09 0.2690 0.0787

Earth -64280-05-30 07:54 J -21756697.28 -21756697.17 -21756697.07 0.2695 0.0837 *

Jupiter -64277-10-14 11:01 J -21755464.14 -21755464.04 -21755463.93 0.0526 0.0284

Moon -64277-11-20 04:33 J -21755427.44 -21755427.31 -21755427.18 0.2639 0.1577

Earth -64277-11-20 05:45 J -21755427.39 -21755427.26 -21755427.13 0.2643 0.1562 *

Jupiter -64276-01-11 16:33 J -21755374.93 -21755374.81 -21755374.70 0.0526 0.0215

Mars -64275-03-26 02:23 J -21754936.49 -21754936.40 -21754936.30 0.1963 0.1097

Saturn -64274-04-19 10:18 J -21754547.13 -21754547.07 -21754546.98 0.0258 0.0234

Saturn -64274-07-17 06:28 J -21754458.40 -21754458.23 -21754458.06 0.0258 0.0113

Saturn -64274-10-14 02:37 J -21754369.58 -21754369.39 -21754369.20 0.0258 0.0010

Saturn -64273-01-10 22:47 J -21754280.71 -21754280.55 -21754280.38 0.0258 0.0132

Saturn -64273-04-08 18:57 J -21754191.72 -21754191.71 -21754191.68 0.0258 0.0256

Earth -64273-05-23 07:11 J -21754147.26 -21754147.20 -21754147.13 0.2688 0.2160

Moon -64273-05-23 07:54 J -21754147.23 -21754147.17 -21754147.10 0.2689 0.2147 *

Mars -64273-12-28 21:35 J -21753927.71 -21753927.60 -21753927.50 0.1585 0.1227

Jupiter -64271-12-04 15:35 J -21753222.04 -21753221.85 -21753221.66 0.0500 0.0017

Moon -64267-06-02 00:57 J -21751946.54 -21751946.46 -21751946.38 0.2695 0.1770

Earth -64267-06-02 01:25 J -21751946.51 -21751946.44 -21751946.36 0.2697 0.1895 *

Mars -64266-08-16 10:04 J -21751506.19 -21751506.08 -21751505.96 0.1958 0.0074

Jupiter -64265-08-02 15:21 J -21751153.94 -21751153.86 -21751153.79 0.0526 0.0411

Jupiter -64265-10-30 20:37 J -21751064.76 -21751064.64 -21751064.51 0.0526 0.0090

Moon -64264-11-23 11:30 J -21750676.18 -21750676.02 -21750675.86 0.2638 0.0375

Earth -64264-11-23 13:11 J -21750676.10 -21750675.95 -21750675.79 0.2640 0.0638 *

Mars -64263-05-20 23:45 J -21750497.68 -21750497.51 -21750497.35 0.1588 0.0320

Venus -64263-11-24 21:06 J -21750309.76 -21750309.62 -21750309.48 0.3561 0.1686

Earth -64260-05-26 01:11 J -21749396.55 -21749396.45 -21749396.35 0.2691 0.1091

Moon -64260-05-26 01:40 J -21749396.54 -21749396.43 -21749396.33 0.2685 0.0983 *

Saturn -64259-02-13 19:25 J -21749132.71 -21749132.69 -21749132.67 0.0304 0.0301

Saturn -64259-05-13 08:37 J -21749044.25 -21749044.14 -21749044.03 0.0305 0.0163

Saturn -64259-08-09 21:35 J -21748955.73 -21748955.60 -21748955.47 0.0305 0.0027

Jupiter -64259-09-22 12:57 J -21748912.14 -21748911.96 -21748911.79 0.0500 0.0174

Saturn -64259-11-06 10:33 J -21748867.18 -21748867.06 -21748866.93 0.0305 0.0112

Jupiter -64259-12-22 00:42 J -21748821.50 -21748821.47 -21748821.42 0.0500 0.0488

Saturn -64258-02-02 23:30 J -21748778.59 -21748778.52 -21748778.44 0.0305 0.0248

Venus -64257-06-10 05:01 J -21748285.39 -21748285.29 -21748285.19 0.3560 0.2725

Mars -64256-01-05 17:30 J -21748075.86 -21748075.77 -21748075.67 0.1953 0.1025

Mars -64254-10-11 01:54 J -21747067.58 -21747067.42 -21747067.27 0.1592 0.0593

Jupiter -64253-08-19 00:57 J -21746754.58 -21746754.46 -21746754.33 0.0526 0.0036

Jupiter -64253-11-16 06:13 J -21746665.30 -21746665.24 -21746665.18 0.0525 0.0458

Uranus -64250-08-21 07:54 J -21745657.23 -21745657.17 -21745657.08 0.0145 0.0134

Uranus -64250-11-17 17:01 J -21745568.93 -21745568.79 -21745568.65 0.0145 0.0101

Uranus -64249-02-14 01:40 J -21745480.59 -21745480.43 -21745480.25 0.0145 0.0069

Uranus -64249-05-12 10:33 J -21745392.24 -21745392.06 -21745391.86 0.0145 0.0037

Uranus -64249-08-08 19:25 J -21745303.88 -21745303.69 -21745303.49 0.0145 0.0005

Venus -64249-09-26 08:09 J -21745255.22 -21745255.16 -21745255.09 0.3818 0.2923

Uranus -64249-11-05 04:18 J -21745215.51 -21745215.32 -21745215.13 0.0145 0.0028

Uranus -64248-02-01 12:57 J -21745127.13 -21745126.96 -21745126.77 0.0145 0.0061

Uranus -64248-04-30 21:49 J -21745038.73 -21745038.59 -21745038.43 0.0145 0.0093

Uranus -64248-07-28 06:28 J -21744950.31 -21744950.23 -21744950.12 0.0144 0.0125

Moon -64247-05-28 18:57 J -21744645.82 -21744645.71 -21744645.60 0.2686 0.0039

Earth -64247-05-28 18:57 J -21744645.82 -21744645.71 -21744645.60 0.2693 0.0065 *

Jupiter -64247-07-11 10:18 J -21744602.21 -21744602.07 -21744601.93 0.0499 0.0329

Jupiter -64247-10-09 22:04 J -21744511.72 -21744511.58 -21744511.44 0.0500 0.0329

Saturn -64245-12-03 05:16 J -21743726.43 -21743726.28 -21743726.13 0.0258 0.0152

Saturn -64244-03-02 01:11 J -21743637.63 -21743637.45 -21743637.26 0.0258 0.0031

Mars -64244-03-02 04:04 J -21743637.38 -21743637.33 -21743637.28 0.1595 0.1500 *

Saturn -64244-05-29 21:21 J -21743548.78 -21743548.61 -21743548.43 0.0258 0.0092

Saturn -64244-08-26 17:45 J -21743459.86 -21743459.76 -21743459.66 0.0258 0.0215

Venus -64243-04-12 00:13 J -21743231.58 -21743231.49 -21743231.39 0.3819 0.1177

Jupiter -64241-06-07 05:16 J -21742444.40 -21742444.28 -21742444.16 0.0526 0.0162

Jupiter -64241-09-04 10:33 J -21742355.15 -21742355.06 -21742354.96 0.0526 0.0336

Venus -64238-10-26 16:33 J -21741207.91 -21741207.81 -21741207.71 0.3819 0.0616

Neptune -64237-04-11 20:09 J -21741039.66 -21741039.66 -21741039.64 0.0089 0.0088

Neptune -64237-07-08 21:35 J -21740951.64 -21740951.60 -21740951.55 0.0089 0.0083

Neptune -64237-10-04 23:01 J -21740863.60 -21740863.54 -21740863.47 0.0089 0.0077

Neptune -64236-01-01 00:13 J -21740775.56 -21740775.49 -21740775.40 0.0089 0.0072

Neptune -64236-03-30 01:40 J -21740687.51 -21740687.43 -21740687.34 0.0089 0.0067

Neptune -64236-06-26 03:06 J -21740599.46 -21740599.37 -21740599.27 0.0089 0.0061

Neptune -64236-09-22 04:18 J -21740511.41 -21740511.32 -21740511.21 0.0089 0.0056

Mars -64236-09-24 02:37 J -21740509.48 -21740509.39 -21740509.30 0.1963 0.1222

Neptune -64236-12-19 05:45 J -21740423.36 -21740423.26 -21740423.14 0.0089 0.0051

Neptune -64235-03-17 07:11 J -21740335.31 -21740335.20 -21740335.08 0.0089 0.0045

Jupiter -64235-04-29 07:11 J -21740292.23 -21740292.20 -21740292.16 0.0499 0.0487

Neptune -64235-06-13 08:23 J -21740247.26 -21740247.15 -21740247.02 0.0089 0.0040

Jupiter -64235-07-28 18:42 J -21740201.89 -21740201.72 -21740201.54 0.0500 0.0168

Neptune -64235-09-09 09:49 J -21740159.21 -21740159.09 -21740158.96 0.0089 0.0035

Neptune -64235-12-06 11:01 J -21740071.16 -21740071.04 -21740070.90 0.0089 0.0030

Neptune -64234-03-04 12:28 J -21739983.10 -21739982.98 -21739982.85 0.0089 0.0024

Moon -64234-05-31 11:59 J -21739895.10 -21739895.00 -21739894.89 0.2690 0.0996

Earth -64234-05-31 12:42 J -21739895.07 -21739894.97 -21739894.87 0.2695 0.1045 *

Neptune -64234-05-31 13:54 J -21739895.05 -21739894.92 -21739894.79 0.0089 0.0019 *

Neptune -64234-08-27 15:06 J -21739807.00 -21739806.87 -21739806.73 0.0089 0.0014

Neptune -64234-11-23 16:33 J -21739718.94 -21739718.81 -21739718.67 0.0089 0.0008

Neptune -64233-02-19 17:59 J -21739630.88 -21739630.75 -21739630.62 0.0089 0.0003

Neptune -64233-05-17 19:11 J -21739542.83 -21739542.70 -21739542.56 0.0089 0.0003

Mars -64233-06-28 22:18 J -21739500.65 -21739500.57 -21739500.48 0.1585 0.1371

Neptune -64233-08-13 20:37 J -21739454.77 -21739454.64 -21739454.51 0.0089 0.0008

Neptune -64233-11-09 21:49 J -21739366.72 -21739366.59 -21739366.46 0.0089 0.0013

Neptune -64232-02-05 23:16 J -21739278.66 -21739278.53 -21739278.40 0.0089 0.0018

Neptune -64232-05-05 00:28 J -21739190.60 -21739190.48 -21739190.35 0.0089 0.0024

Venus -64232-05-11 08:52 J -21739184.21 -21739184.13 -21739184.06 0.3819 0.2411

Neptune -64232-08-01 01:54 J -21739102.55 -21739102.42 -21739102.30 0.0089 0.0029

Neptune -64232-10-28 03:06 J -21739014.49 -21739014.37 -21739014.24 0.0089 0.0034

Neptune -64231-01-24 04:18 J -21738926.43 -21738926.32 -21738926.19 0.0089 0.0040

Neptune -64231-04-22 05:45 J -21738838.37 -21738838.26 -21738838.14 0.0089 0.0045

Neptune -64231-07-19 07:11 J -21738750.31 -21738750.20 -21738750.09 0.0089 0.0050

Neptune -64231-10-15 08:09 J -21738662.25 -21738662.16 -21738662.04 0.0089 0.0056

Moon -64231-11-21 11:01 J -21738625.18 -21738625.04 -21738624.90 0.2638 0.1358

Earth -64231-11-21 12:28 J -21738625.12 -21738624.98 -21738624.84 0.2643 0.1146 *

Neptune -64230-01-11 09:35 J -21738574.19 -21738574.10 -21738574.00 0.0089 0.0061

Neptune -64230-04-09 11:01 J -21738486.12 -21738486.04 -21738485.95 0.0089 0.0066

Neptune -64230-07-06 12:28 J -21738398.06 -21738397.98 -21738397.90 0.0089 0.0071

Saturn -64230-09-30 09:21 J -21738312.20 -21738312.11 -21738312.02 0.0304 0.0214

Neptune -64230-10-02 13:25 J -21738309.99 -21738309.94 -21738309.86 0.0089 0.0077

Saturn -64230-12-27 22:33 J -21738223.69 -21738223.56 -21738223.44 0.0304 0.0076

Neptune -64230-12-29 14:52 J -21738221.92 -21738221.88 -21738221.82 0.0089 0.0082

Saturn -64229-03-25 11:30 J -21738135.15 -21738135.02 -21738134.89 0.0304 0.0061

Jupiter -64229-03-26 09:49 J -21738134.19 -21738134.09 -21738133.98 0.0526 0.0279

Neptune -64229-03-26 16:04 J -21738133.84 -21738133.83 -21738133.79 0.0089 0.0087

Saturn -64229-06-22 00:28 J -21738046.58 -21738046.48 -21738046.38 0.0304 0.0197

Jupiter -64229-06-23 15:21 J -21738044.97 -21738044.86 -21738044.74 0.0526 0.0220

Earth -64227-05-24 11:59 J -21737345.07 -21737345.00 -21737344.92 0.2689 0.1948

Moon -64227-05-24 12:42 J -21737345.05 -21737344.97 -21737344.89 0.2688 0.1809 *

Mars -64226-02-14 10:04 J -21737079.19 -21737079.08 -21737078.96 0.1958 0.0157

Mars -64224-11-19 00:28 J -21736070.64 -21736070.48 -21736070.32 0.1588 0.0458

Jupiter -64223-05-16 14:09 J -21735892.09 -21735891.91 -21735891.72 0.0500 0.0014

Moon -64221-06-02 05:45 J -21735144.33 -21735144.26 -21735144.19 0.2697 0.2049

Earth -64221-06-02 06:13 J -21735144.30 -21735144.24 -21735144.17 0.2697 0.2099 *

Moon -64218-11-24 18:13 J -21733873.89 -21733873.74 -21733873.59 0.2639 0.0997

Earth -64218-11-24 19:54 J -21733873.81 -21733873.67 -21733873.52 0.2640 0.1052 *

Jupiter -64217-01-13 14:37 J -21733823.97 -21733823.89 -21733823.81 0.0526 0.0395

Jupiter -64217-04-11 20:09 J -21733734.78 -21733734.66 -21733734.54 0.0526 0.0104

Mars -64217-07-06 17:45 J -21733648.86 -21733648.76 -21733648.66 0.1953 0.0901

Saturn -64215-04-22 04:04 J -21732994.45 -21732994.33 -21732994.20 0.0258 0.0191

Saturn -64215-07-19 23:59 J -21732905.68 -21732905.50 -21732905.32 0.0258 0.0070

Saturn -64215-10-16 20:09 J -21732816.85 -21732816.66 -21732816.47 0.0258 0.0052

Saturn -64214-01-13 16:18 J -21732727.96 -21732727.82 -21732727.68 0.0258 0.0175

Mars -64214-04-11 02:37 J -21732640.56 -21732640.39 -21732640.23 0.1591 0.0456

Earth -64214-05-27 05:59 J -21732594.36 -21732594.25 -21732594.15 0.2691 0.0872

Moon -64214-05-27 06:28 J -21732594.34 -21732594.23 -21732594.13 0.2685 0.0887 *

Pluto -64211-01-13 13:40 J -21731631.99 -21731631.93 -21731631.86 0.0084 0.0074

Jupiter -64211-03-04 11:16 J -21731582.20 -21731582.03 -21731581.85 0.0500 0.0168

Pluto -64211-04-11 15:06 J -21731543.95 -21731543.87 -21731543.77 0.0084 0.0064

Jupiter -64211-06-02 23:16 J -21731491.55 -21731491.53 -21731491.50 0.0500 0.0493

Pluto -64211-07-08 16:47 J -21731455.90 -21731455.80 -21731455.68 0.0084 0.0053

Pluto -64211-10-04 18:13 J -21731367.85 -21731367.74 -21731367.61 0.0084 0.0043

Pluto -64211-12-31 19:54 J -21731279.80 -21731279.67 -21731279.53 0.0084 0.0033

Pluto -64210-03-29 21:21 J -21731191.74 -21731191.61 -21731191.46 0.0083 0.0023

Pluto -64210-06-25 23:01 J -21731103.68 -21731103.54 -21731103.40 0.0083 0.0012

Pluto -64210-09-22 00:28 J -21731015.62 -21731015.48 -21731015.33 0.0083 0.0003

Pluto -64210-12-19 02:09 J -21730927.55 -21730927.41 -21730927.27 0.0083 0.0008

Pluto -64209-03-16 03:35 J -21730839.49 -21730839.35 -21730839.21 0.0083 0.0018

Pluto -64209-06-12 05:01 J -21730751.42 -21730751.29 -21730751.16 0.0083 0.0028

Pluto -64209-09-08 06:13 J -21730663.35 -21730663.24 -21730663.10 0.0083 0.0038

Pluto -64209-12-05 07:40 J -21730575.28 -21730575.18 -21730575.05 0.0083 0.0047

Pluto -64208-03-03 09:06 J -21730487.21 -21730487.12 -21730487.01 0.0082 0.0057

Pluto -64208-05-30 10:33 J -21730399.13 -21730399.06 -21730398.97 0.0082 0.0066

Pluto -64208-08-26 11:59 J -21730311.04 -21730311.00 -21730310.94 0.0082 0.0076

Uranus -64207-11-15 10:47 J -21729865.06 -21729865.05 -21729865.01 0.0133 0.0130

Uranus -64206-02-11 13:54 J -21729776.98 -21729776.92 -21729776.85 0.0133 0.0113

Uranus -64206-05-10 16:47 J -21729688.88 -21729688.80 -21729688.70 0.0133 0.0097

Venus -64206-07-01 23:01 J -21729636.70 -21729636.54 -21729636.38 0.3560 0.0176

Uranus -64206-08-06 19:54 J -21729600.77 -21729600.67 -21729600.56 0.0133 0.0080

Jupiter -64206-11-01 18:57 J -21729513.73 -21729513.71 -21729513.70 0.0526 0.0521

Uranus -64206-11-02 22:47 J -21729512.66 -21729512.55 -21729512.43 0.0133 0.0063

Jupiter -64205-01-30 00:28 J -21729424.61 -21729424.48 -21729424.35 0.0526 0.0021

Uranus -64205-01-30 01:54 J -21729424.55 -21729424.42 -21729424.30 0.0134 0.0046 *

Uranus -64205-04-27 04:47 J -21729336.43 -21729336.30 -21729336.17 0.0134 0.0029

Jupiter -64205-04-28 05:45 J -21729335.31 -21729335.26 -21729335.21 0.0525 0.0473

Uranus -64205-07-24 07:40 J -21729248.31 -21729248.18 -21729248.05 0.0134 0.0013

Mars -64205-08-31 04:33 J -21729210.39 -21729210.31 -21729210.22 0.1595 0.1371

Uranus -64205-10-20 10:47 J -21729160.18 -21729160.05 -21729159.92 0.0134 0.0006

Uranus -64204-01-16 13:40 J -21729072.06 -21729071.93 -21729071.80 0.0134 0.0022

Uranus -64204-04-14 16:33 J -21728983.93 -21728983.81 -21728983.68 0.0134 0.0039

Uranus -64204-07-11 19:25 J -21728895.80 -21728895.69 -21728895.56 0.0134 0.0056

Uranus -64204-10-07 22:33 J -21728807.67 -21728807.56 -21728807.45 0.0134 0.0073

Uranus -64203-01-04 01:25 J -21728719.53 -21728719.44 -21728719.34 0.0134 0.0090

Uranus -64203-04-02 04:18 J -21728631.39 -21728631.32 -21728631.23 0.0134 0.0108

Uranus -64203-06-29 07:25 J -21728543.23 -21728543.19 -21728543.14 0.0135 0.0124

Moon -64201-05-28 23:30 J -21727843.63 -21727843.52 -21727843.41 0.2687 0.0236

Earth -64201-05-28 23:45 J -21727843.62 -21727843.51 -21727843.40 0.2693 0.0198 *

Saturn -64200-02-16 09:35 J -21727580.15 -21727580.10 -21727580.04 0.0304 0.0269

Saturn -64200-05-15 22:47 J -21727491.66 -21727491.55 -21727491.43 0.0305 0.0131

Saturn -64200-08-12 11:59 J -21727403.13 -21727403.00 -21727402.87 0.0305 0.0010

Saturn -64200-11-09 00:57 J -21727314.58 -21727314.46 -21727314.35 0.0305 0.0144

Jupiter -64200-12-21 08:52 J -21727272.27 -21727272.13 -21727271.99 0.0499 0.0323

Saturn -64199-02-05 13:40 J -21727225.97 -21727225.93 -21727225.88 0.0305 0.0280

Jupiter -64199-03-21 20:37 J -21727181.78 -21727181.64 -21727181.50 0.0500 0.0337

Mars -64196-03-25 02:23 J -21726082.48 -21726082.40 -21726082.32 0.1963 0.1319

Jupiter -64194-11-18 04:47 J -21725114.42 -21725114.30 -21725114.18 0.0526 0.0146

Mars -64194-12-28 23:01 J -21725073.59 -21725073.54 -21725073.49 0.1585 0.1503

Jupiter -64193-02-15 10:04 J -21725025.17 -21725025.08 -21725024.99 0.0525 0.0351

Venus -64192-05-03 05:45 J -21724582.34 -21724582.26 -21724582.18 0.3818 0.2309

Moon -64188-05-31 17:01 J -21723092.89 -21723092.79 -21723092.70 0.2690 0.1176

Earth -64188-05-31 17:30 J -21723092.87 -21723092.77 -21723092.68 0.2695 0.1254 *

Jupiter -64188-10-09 06:13 J -21722962.29 -21722962.24 -21722962.19 0.0499 0.0476

Jupiter -64187-01-07 17:45 J -21722871.93 -21722871.76 -21722871.58 0.0500 0.0180

Mars -64187-08-15 10:04 J -21722652.19 -21722652.08 -21722651.96 0.1959 0.0264

Venus -64187-11-16 21:49 J -21722558.69 -21722558.59 -21722558.49 0.3819 0.0547

Saturn -64186-09-09 02:09 J -21722262.48 -21722262.41 -21722262.32 0.0258 0.0234

Saturn -64186-12-06 22:04 J -21722173.74 -21722173.58 -21722173.40 0.0258 0.0113

Saturn -64185-03-04 18:13 J -21722084.93 -21722084.74 -21722084.55 0.0258 0.0010

Saturn -64185-06-01 14:23 J -21721996.06 -21721995.90 -21721995.73 0.0258 0.0132

Saturn -64185-08-29 10:33 J -21721907.08 -21721907.06 -21721907.03 0.0258 0.0255

Moon -64185-11-21 17:45 J -21721822.91 -21721822.76 -21721822.61 0.2638 0.0796

Earth -64185-11-21 19:11 J -21721822.85 -21721822.70 -21721822.55 0.2642 0.0737 *

Mars -64184-05-20 01:11 J -21721643.61 -21721643.45 -21721643.29 0.1588 0.0599

Jupiter -64182-09-06 08:52 J -21720804.24 -21720804.13 -21720804.02 0.0526 0.0272

Jupiter -64182-12-04 14:23 J -21720715.01 -21720714.90 -21720714.79 0.0526 0.0228

Earth -64181-05-24 17:01 J -21720542.88 -21720542.79 -21720542.71 0.2689 0.1734

Moon -64181-05-24 17:30 J -21720542.85 -21720542.77 -21720542.68 0.2687 0.1707 *

Venus -64181-06-01 14:09 J -21720535.01 -21720534.91 -21720534.82 0.3819 0.1255

Mars -64177-01-05 17:45 J -21719221.86 -21719221.76 -21719221.65 0.1953 0.0785

Jupiter -64176-10-26 14:52 J -21718562.07 -21718561.88 -21718561.70 0.0499 0.0020

Venus -64176-12-16 06:28 J -21718511.29 -21718511.23 -21718511.17 0.3819 0.3060

Moon -64175-06-03 10:33 J -21718342.12 -21718342.06 -21718342.00 0.2699 0.2233

Earth -64175-06-03 11:16 J -21718342.09 -21718342.03 -21718341.98 0.2697 0.2309 *

Mars -64175-10-10 03:21 J -21718213.53 -21718213.36 -21718213.20 0.1591 0.0316

Moon -64172-11-25 00:57 J -21717071.60 -21717071.46 -21717071.32 0.2641 0.1209

Earth -64172-11-25 02:37 J -21717071.52 -21717071.39 -21717071.25 0.2640 0.1471 *

Saturn -64171-10-02 23:30 J -21716759.62 -21716759.52 -21716759.41 0.0304 0.0183

Saturn -64171-12-30 12:42 J -21716671.10 -21716670.97 -21716670.84 0.0304 0.0046

Saturn -64170-03-29 01:40 J -21716582.55 -21716582.43 -21716582.31 0.0304 0.0091

Jupiter -64170-06-25 13:40 J -21716494.01 -21716493.93 -21716493.85 0.0527 0.0388

Saturn -64170-06-25 14:23 J -21716493.98 -21716493.90 -21716493.81 0.0304 0.0228 *

Jupiter -64170-09-22 19:11 J -21716404.82 -21716404.70 -21716404.58 0.0526 0.0112

Earth -64168-05-27 10:47 J -21715792.16 -21715792.05 -21715791.95 0.2691 0.0662

Moon -64168-05-27 11:16 J -21715792.14 -21715792.03 -21715791.93 0.2685 0.0562 *

Mars -64168-05-28 01:11 J -21715791.48 -21715791.45 -21715791.41 0.1947 0.1844

Uranus -64166-09-10 15:35 J -21714955.94 -21714955.85 -21714955.76 0.0145 0.0127

Uranus -64166-12-08 00:13 J -21714867.63 -21714867.49 -21714867.33 0.0145 0.0094

Mars -64165-03-01 05:16 J -21714783.38 -21714783.28 -21714783.18 0.1595 0.1234

Uranus -64165-03-05 09:06 J -21714779.29 -21714779.12 -21714778.94 0.0145 0.0062

Uranus -64165-06-01 17:59 J -21714690.94 -21714690.75 -21714690.56 0.0145 0.0030

Uranus -64165-08-29 02:52 J -21714602.58 -21714602.38 -21714602.18 0.0145 0.0003

Uranus -64165-11-25 11:30 J -21714514.20 -21714514.02 -21714513.82 0.0145 0.0035

Uranus -64164-02-21 20:09 J -21714425.82 -21714425.66 -21714425.47 0.0145 0.0068

Uranus -64164-05-21 05:01 J -21714337.42 -21714337.29 -21714337.14 0.0144 0.0100

Jupiter -64164-08-14 10:04 J -21714252.25 -21714252.08 -21714251.90 0.0499 0.0159

Uranus -64164-08-17 13:40 J -21714248.99 -21714248.93 -21714248.84 0.0144 0.0132

Jupiter -64158-04-13 18:28 J -21712183.76 -21712183.73 -21712183.70 0.0527 0.0505

Jupiter -64158-07-11 23:59 J -21712094.63 -21712094.50 -21712094.37 0.0526 0.0007

Jupiter -64158-10-09 05:16 J -21712005.32 -21712005.28 -21712005.24 0.0525 0.0491

Mars -64157-09-23 02:23 J -21711655.47 -21711655.40 -21711655.32 0.1963 0.1437

Saturn -64156-04-24 20:37 J -21711441.78 -21711441.64 -21711441.48 0.0258 0.0153

Saturn -64156-07-22 16:47 J -21711352.99 -21711352.80 -21711352.61 0.0258 0.0031

Saturn -64156-10-19 12:57 J -21711264.14 -21711263.96 -21711263.78 0.0258 0.0091

Saturn -64155-01-16 09:06 J -21711175.22 -21711175.12 -21711175.01 0.0258 0.0214

Moon -64155-05-30 04:18 J -21711041.43 -21711041.32 -21711041.21 0.2687 0.0320

Earth -64155-05-30 04:33 J -21711041.42 -21711041.31 -21711041.20 0.2693 0.0407 *

Venus -64155-07-22 17:01 J -21710987.87 -21710987.79 -21710987.72 0.3561 0.3131

Neptune -64154-03-28 17:59 J -21710738.77 -21710738.75 -21710738.69 0.0089 0.0087

Neptune -64154-06-24 21:49 J -21710650.67 -21710650.59 -21710650.50 0.0089 0.0079

Neptune -64154-09-21 01:11 J -21710562.54 -21710562.45 -21710562.32 0.0089 0.0072

Neptune -64154-12-18 04:47 J -21710474.42 -21710474.30 -21710474.15 0.0089 0.0064

Neptune -64153-03-15 08:37 J -21710386.28 -21710386.14 -21710385.99 0.0089 0.0056

Neptune -64153-06-11 11:59 J -21710298.15 -21710298.00 -21710297.82 0.0089 0.0049

Neptune -64153-09-07 15:49 J -21710210.01 -21710209.84 -21710209.66 0.0089 0.0041

Neptune -64153-12-04 19:25 J -21710121.86 -21710121.69 -21710121.50 0.0089 0.0033

Neptune -64152-03-02 23:01 J -21710033.72 -21710033.54 -21710033.35 0.0089 0.0025

Neptune -64152-05-30 02:37 J -21709945.57 -21709945.39 -21709945.19 0.0089 0.0018

Jupiter -64152-06-02 07:25 J -21709942.34 -21709942.19 -21709942.05 0.0499 0.0315

Neptune -64152-08-26 06:28 J -21709857.43 -21709857.23 -21709857.04 0.0089 0.0010

Jupiter -64152-08-31 19:11 J -21709851.83 -21709851.70 -21709851.57 0.0500 0.0344

Moon -64152-11-19 17:45 J -21709771.79 -21709771.76 -21709771.74 0.2639 0.2603

Earth -64152-11-19 18:28 J -21709771.78 -21709771.73 -21709771.68 0.2644 0.2503 *

Neptune -64152-11-22 10:04 J -21709769.28 -21709769.08 -21709768.89 0.0089 0.0002

Neptune -64151-02-18 13:40 J -21709681.12 -21709680.93 -21709680.74 0.0089 0.0006

Neptune -64151-05-17 17:16 J -21709592.97 -21709592.78 -21709592.59 0.0089 0.0013

Neptune -64151-08-13 20:37 J -21709504.82 -21709504.64 -21709504.44 0.0089 0.0022

Neptune -64151-11-10 00:28 J -21709416.66 -21709416.48 -21709416.29 0.0089 0.0029

Neptune -64150-02-06 04:04 J -21709328.50 -21709328.33 -21709328.15 0.0089 0.0037

Neptune -64150-05-05 07:40 J -21709240.34 -21709240.18 -21709240.00 0.0089 0.0045

Neptune -64150-08-01 11:16 J -21709152.17 -21709152.03 -21709151.86 0.0089 0.0053

Neptune -64150-10-28 14:52 J -21709064.01 -21709063.88 -21709063.72 0.0089 0.0061

Neptune -64149-01-24 18:42 J -21708975.84 -21708975.72 -21708975.59 0.0089 0.0068

Venus -64149-02-06 00:57 J -21708963.60 -21708963.46 -21708963.31 0.3560 0.1343

Neptune -64149-04-21 22:18 J -21708887.66 -21708887.57 -21708887.46 0.0089 0.0076

Neptune -64149-07-19 01:54 J -21708799.47 -21708799.42 -21708799.34 0.0089 0.0084

Earth -64148-05-23 03:49 J -21708491.36 -21708491.34 -21708491.31 0.2687 0.2593

Moon -64148-05-23 04:33 J -21708491.34 -21708491.31 -21708491.28 0.2690 0.2541 *

Mars -64147-02-13 10:04 J -21708225.19 -21708225.08 -21708224.97 0.1958 0.0379

Jupiter -64146-04-30 04:18 J -21707784.44 -21707784.32 -21707784.20 0.0526 0.0129

Jupiter -64146-07-28 09:35 J -21707695.19 -21707695.10 -21707695.01 0.0525 0.0368

Mars -64145-11-18 01:54 J -21707216.57 -21707216.42 -21707216.28 0.1588 0.0733

Moon -64142-06-01 21:35 J -21706290.69 -21706290.60 -21706290.50 0.2692 0.1438

Earth -64142-06-01 22:18 J -21706290.66 -21706290.57 -21706290.48 0.2695 0.1463 *

Saturn -64141-02-19 23:30 J -21706027.59 -21706027.52 -21706027.43 0.0304 0.0240

Saturn -64141-05-18 12:42 J -21705939.09 -21705938.97 -21705938.84 0.0305 0.0102

Venus -64141-05-24 11:16 J -21705933.07 -21705933.03 -21705932.99 0.3818 0.3440

Saturn -64141-08-15 01:54 J -21705850.55 -21705850.42 -21705850.29 0.0305 0.0036

Saturn -64141-11-11 14:52 J -21705761.99 -21705761.88 -21705761.78 0.0305 0.0173

Jupiter -64140-03-21 04:47 J -21705632.35 -21705632.30 -21705632.23 0.0499 0.0469

Jupiter -64140-06-19 16:33 J -21705541.98 -21705541.81 -21705541.64 0.0500 0.0188

Moon -64139-11-23 00:28 J -21705020.64 -21705020.48 -21705020.33 0.2638 0.0521

Earth -64139-11-23 01:54 J -21705020.58 -21705020.42 -21705020.27 0.2642 0.0339 *

Mars -64138-07-06 17:45 J -21704794.87 -21704794.76 -21704794.66 0.1953 0.0690

Venus -64136-12-08 03:21 J -21703909.45 -21703909.36 -21703909.27 0.3819 0.1684

Mars -64135-04-10 03:49 J -21703786.50 -21703786.34 -21703786.17 0.1591 0.0182

Earth -64135-05-25 21:49 J -21703740.68 -21703740.59 -21703740.50 0.2689 0.1519

Moon -64135-05-25 22:18 J -21703740.66 -21703740.57 -21703740.47 0.2686 0.1411 *

Jupiter -64134-02-16 08:37 J -21703474.25 -21703474.14 -21703474.03 0.0526 0.0254

Jupiter -64134-05-16 13:54 J -21703385.03 -21703384.92 -21703384.81 0.0525 0.0245

Venus -64130-06-23 19:25 J -21701885.79 -21701885.69 -21701885.59 0.3819 0.0150

Moon -64129-06-03 15:21 J -21701539.91 -21701539.86 -21701539.82 0.2700 0.2428

Earth -64129-06-03 16:04 J -21701539.87 -21701539.83 -21701539.80 0.2697 0.2514 *

Mars -64129-11-26 01:25 J -21701364.49 -21701364.44 -21701364.39 0.1948 0.1726

Jupiter -64128-04-07 13:54 J -21701232.11 -21701231.92 -21701231.73 0.0500 0.0032

Saturn -64127-09-11 18:42 J -21700709.83 -21700709.72 -21700709.59 0.0258 0.0197

Saturn -64127-12-09 14:52 J -21700621.06 -21700620.88 -21700620.70 0.0258 0.0075

Saturn -64126-03-08 11:01 J -21700532.23 -21700532.04 -21700531.86 0.0258 0.0047

Saturn -64126-06-05 06:57 J -21700443.34 -21700443.21 -21700443.06 0.0258 0.0170

Mars -64126-08-31 06:13 J -21700356.37 -21700356.24 -21700356.12 0.1595 0.1089

Moon -64126-11-26 07:40 J -21700269.30 -21700269.18 -21700269.07 0.2641 0.1813

Earth -64126-11-26 09:21 J -21700269.22 -21700269.11 -21700269.00 0.2639 0.1883 *

Venus -64124-01-06 11:45 J -21699862.10 -21699862.01 -21699861.92 0.3819 0.1896

Jupiter -64123-12-05 12:42 J -21699164.06 -21699163.97 -21699163.88 0.0526 0.0380

Uranus -64123-12-05 17:59 J -21699163.78 -21699163.75 -21699163.70 0.0133 0.0127

Uranus -64122-03-03 21:06 J -21699075.69 -21699075.62 -21699075.54 0.0133 0.0110

Jupiter -64122-03-04 18:13 J -21699074.86 -21699074.74 -21699074.62 0.0526 0.0120

Earth -64122-05-28 15:35 J -21698989.96 -21698989.85 -21698989.74 0.2691 0.0451

Moon -64122-05-28 15:49 J -21698989.95 -21698989.84 -21698989.73 0.2686 0.0471 *

Uranus -64122-05-30 23:59 J -21698987.59 -21698987.50 -21698987.40 0.0133 0.0093

Uranus -64122-08-27 02:52 J -21698899.48 -21698899.38 -21698899.27 0.0133 0.0076

Uranus -64122-11-23 05:59 J -21698811.37 -21698811.25 -21698811.13 0.0134 0.0059

Uranus -64121-02-19 08:52 J -21698723.25 -21698723.13 -21698723.00 0.0134 0.0043

Uranus -64121-05-17 11:59 J -21698635.13 -21698635.00 -21698634.87 0.0134 0.0026

Uranus -64121-08-13 14:52 J -21698547.01 -21698546.88 -21698546.75 0.0134 0.0009

Uranus -64121-11-09 17:45 J -21698458.89 -21698458.76 -21698458.63 0.0134 0.0009

Uranus -64120-02-05 20:37 J -21698370.76 -21698370.64 -21698370.50 0.0134 0.0026

Uranus -64120-05-04 23:45 J -21698282.63 -21698282.51 -21698282.39 0.0134 0.0043

Uranus -64120-08-01 02:37 J -21698194.50 -21698194.39 -21698194.27 0.0134 0.0060

Uranus -64120-10-28 05:30 J -21698106.37 -21698106.27 -21698106.16 0.0134 0.0077

Uranus -64119-01-24 08:37 J -21698018.23 -21698018.14 -21698018.05 0.0134 0.0094

Uranus -64119-04-22 11:30 J -21697930.09 -21697930.02 -21697929.94 0.0135 0.0111

Uranus -64119-07-19 14:23 J -21697841.93 -21697841.90 -21697841.85 0.0135 0.0129

Venus -64119-07-23 04:04 J -21697838.35 -21697838.33 -21697838.31 0.3819 0.3711

Mars -64117-03-24 02:37 J -21697228.46 -21697228.39 -21697228.33 0.1963 0.1553

Jupiter -64116-01-24 10:47 J -21696922.23 -21696922.05 -21696921.86 0.0499 0.0128

Saturn -64112-07-09 00:13 J -21695295.52 -21695295.49 -21695295.46 0.0304 0.0292

Saturn -64112-10-05 13:25 J -21695207.05 -21695206.94 -21695206.83 0.0304 0.0155

Saturn -64111-01-02 02:23 J -21695118.53 -21695118.40 -21695118.27 0.0304 0.0019

Saturn -64111-03-31 15:21 J -21695029.97 -21695029.86 -21695029.74 0.0304 0.0120

Saturn -64111-06-28 04:18 J -21694941.39 -21694941.32 -21694941.25 0.0304 0.0255

Jupiter -64111-09-23 17:16 J -21694853.81 -21694853.78 -21694853.73 0.0527 0.0498

Jupiter -64111-12-21 23:01 J -21694764.67 -21694764.54 -21694764.41 0.0526 0.0005

Jupiter -64110-03-21 04:18 J -21694675.35 -21694675.32 -21694675.28 0.0525 0.0500

Moon -64109-05-30 09:06 J -21694239.23 -21694239.12 -21694239.02 0.2687 0.0645

Earth -64109-05-30 09:21 J -21694239.22 -21694239.11 -21694239.00 0.2694 0.0613 *

Mars -64108-08-14 10:04 J -21693798.19 -21693798.08 -21693797.97 0.1958 0.0491

Moon -64106-11-21 00:13 J -21692969.59 -21692969.49 -21692969.40 0.2638 0.2122

Earth -64106-11-21 01:11 J -21692969.55 -21692969.45 -21692969.36 0.2644 0.2098 *

Mars -64105-05-19 02:23 J -21692789.54 -21692789.40 -21692789.26 0.1588 0.0868

Jupiter -64105-11-12 06:13 J -21692612.38 -21692612.24 -21692612.09 0.0499 0.0305

Jupiter -64104-02-10 17:59 J -21692521.87 -21692521.75 -21692521.61 0.0500 0.0356

Earth -64102-05-24 08:37 J -21691689.19 -21691689.14 -21691689.09 0.2687 0.2378

Moon -64102-05-24 09:21 J -21691689.16 -21691689.11 -21691689.06 0.2689 0.2315 *

Jupiter -64099-10-10 03:49 J -21690454.46 -21690454.34 -21690454.22 0.0526 0.0112

Mars -64098-01-04 17:45 J -21690367.87 -21690367.76 -21690367.65 0.1953 0.0570

Jupiter -64098-01-07 09:06 J -21690365.20 -21690365.12 -21690365.03 0.0525 0.0386

Venus -64098-02-26 18:57 J -21690314.85 -21690314.71 -21690314.57 0.3561 0.1601

Saturn -64097-01-29 17:16 J -21689977.84 -21689977.78 -21689977.70 0.0258 0.0237

Saturn -64097-04-27 13:25 J -21689889.11 -21689888.94 -21689888.77 0.0258 0.0115

Saturn -64097-07-25 09:21 J -21689800.30 -21689800.11 -21689799.92 0.0258 0.0008

Saturn -64097-10-22 05:30 J -21689711.43 -21689711.27 -21689711.10 0.0258 0.0129

Saturn -64096-01-19 01:40 J -21689622.46 -21689622.43 -21689622.38 0.0258 0.0252

Moon -64096-06-02 02:23 J -21689488.49 -21689488.40 -21689488.31 0.2694 0.1548

Earth -64096-06-02 03:06 J -21689488.45 -21689488.37 -21689488.29 0.2696 0.1673 *

Mars -64096-10-09 04:33 J -21689359.48 -21689359.31 -21689359.14 0.1591 0.0045

Jupiter -64093-08-31 03:35 J -21688302.42 -21688302.35 -21688302.28 0.0499 0.0461

Venus -64093-09-12 02:52 J -21688290.47 -21688290.38 -21688290.29 0.3560 0.2835

Moon -64093-11-23 06:57 J -21688218.37 -21688218.21 -21688218.05 0.2639 0.0055

Earth -64093-11-23 08:37 J -21688218.30 -21688218.14 -21688217.98 0.2641 0.0108 *

Jupiter -64093-11-29 15:06 J -21688212.04 -21688211.87 -21688211.69 0.0500 0.0196

Earth -64089-05-26 02:37 J -21686938.49 -21686938.39 -21686938.30 0.2689 0.1308

Moon -64089-05-26 03:06 J -21686938.46 -21686938.37 -21686938.27 0.2686 0.1262 *

Mars -64089-05-27 01:25 J -21686937.51 -21686937.44 -21686937.38 0.1948 0.1616

Jupiter -64087-07-29 08:09 J -21686144.27 -21686144.16 -21686144.05 0.0526 0.0237

Jupiter -64087-10-26 13:25 J -21686055.04 -21686054.94 -21686054.83 0.0525 0.0263

Mars -64086-03-01 06:42 J -21685929.35 -21685929.22 -21685929.09 0.1595 0.0959

Venus -64085-12-29 08:37 J -21685260.20 -21685260.14 -21685260.07 0.3818 0.2823

Moon -64083-06-04 20:09 J -21684737.67 -21684737.66 -21684737.65 0.2700 0.2672

Saturn -64082-02-22 13:25 J -21684475.03 -21684474.94 -21684474.84 0.0304 0.0210

Saturn -64082-05-22 02:37 J -21684386.51 -21684386.39 -21684386.26 0.0305 0.0073

Saturn -64082-08-18 15:35 J -21684297.97 -21684297.85 -21684297.72 0.0305 0.0065

Uranus -64082-09-30 23:30 J -21684254.63 -21684254.52 -21684254.41 0.0145 0.0117

Saturn -64082-11-15 04:33 J -21684209.40 -21684209.31 -21684209.21 0.0305 0.0201

Uranus -64082-12-28 08:09 J -21684166.31 -21684166.16 -21684165.99 0.0145 0.0085

Uranus -64081-03-25 17:01 J -21684077.97 -21684077.79 -21684077.60 0.0145 0.0053

Uranus -64081-06-22 01:54 J -21683989.61 -21683989.42 -21683989.22 0.0145 0.0021

Jupiter -64081-09-17 12:42 J -21683902.16 -21683901.97 -21683901.79 0.0500 0.0042

Uranus -64081-09-18 10:47 J -21683901.24 -21683901.05 -21683900.85 0.0145 0.0012

Uranus -64081-12-15 19:25 J -21683812.87 -21683812.69 -21683812.50 0.0145 0.0044

Uranus -64080-03-14 04:04 J -21683724.48 -21683724.33 -21683724.15 0.0144 0.0077

Uranus -64080-06-10 12:57 J -21683636.08 -21683635.96 -21683635.82 0.0144 0.0108

Uranus -64080-09-06 21:35 J -21683547.63 -21683547.60 -21683547.54 0.0144 0.0141

Moon -64080-11-26 14:23 J -21683467.00 -21683466.90 -21683466.80 0.2641 0.2044

Earth -64080-11-26 16:04 J -21683466.90 -21683466.83 -21683466.75 0.2639 0.2295 *

Venus -64079-07-15 00:57 J -21683236.56 -21683236.46 -21683236.37 0.3819 0.1052

Mars -64078-09-23 02:23 J -21682801.46 -21682801.40 -21682801.34 0.1963 0.1654

Moon -64076-05-28 20:23 J -21682187.76 -21682187.65 -21682187.54 0.2685 0.0206

Earth -64076-05-28 20:23 J -21682187.76 -21682187.65 -21682187.54 0.2692 0.0238 *

Jupiter -64075-05-17 12:28 J -21681834.07 -21681833.98 -21681833.89 0.0526 0.0362

Jupiter -64075-08-14 17:45 J -21681744.88 -21681744.76 -21681744.63 0.0526 0.0140

Venus -64073-01-28 17:01 J -21681212.89 -21681212.79 -21681212.69 0.3819 0.0754

Neptune -64072-01-06 20:23 J -21680868.68 -21680868.65 -21680868.61 0.0089 0.0085

Neptune -64072-04-04 21:35 J -21680780.65 -21680780.60 -21680780.53 0.0089 0.0080

Neptune -64072-07-01 22:47 J -21680692.60 -21680692.55 -21680692.46 0.0089 0.0075

Neptune -64072-09-28 00:28 J -21680604.56 -21680604.48 -21680604.39 0.0089 0.0069

Neptune -64072-12-25 01:40 J -21680516.51 -21680516.43 -21680516.33 0.0089 0.0064

Neptune -64071-03-23 03:06 J -21680428.46 -21680428.37 -21680428.26 0.0089 0.0058

Neptune -64071-06-19 04:33 J -21680340.41 -21680340.31 -21680340.20 0.0089 0.0053

Neptune -64071-09-15 05:45 J -21680252.36 -21680252.26 -21680252.14 0.0089 0.0048

Neptune -64071-12-12 07:11 J -21680164.31 -21680164.20 -21680164.08 0.0089 0.0042

Neptune -64070-03-10 08:37 J -21680076.26 -21680076.14 -21680076.02 0.0089 0.0037

Neptune -64070-06-06 09:49 J -21679988.21 -21679988.09 -21679987.96 0.0089 0.0032

Neptune -64070-09-02 11:16 J -21679900.15 -21679900.03 -21679899.90 0.0089 0.0026

Neptune -64070-11-29 12:42 J -21679812.10 -21679811.97 -21679811.84 0.0089 0.0021

Neptune -64069-02-25 13:54 J -21679724.05 -21679723.92 -21679723.78 0.0089 0.0016

Neptune -64069-05-23 15:21 J -21679635.99 -21679635.86 -21679635.73 0.0089 0.0010

Jupiter -64069-07-06 09:49 J -21679592.27 -21679592.09 -21679591.90 0.0500 0.0117

Neptune -64069-08-19 16:33 J -21679547.94 -21679547.81 -21679547.67 0.0089 0.0006

Neptune -64069-11-15 17:59 J -21679459.88 -21679459.75 -21679459.62 0.0089 0.0000

Neptune -64068-02-11 19:25 J -21679371.83 -21679371.69 -21679371.56 0.0089 0.0006

Mars -64068-02-12 10:04 J -21679371.19 -21679371.08 -21679370.97 0.1959 0.0594

Neptune -64068-05-10 20:37 J -21679283.77 -21679283.64 -21679283.51 0.0089 0.0011

Neptune -64068-08-06 21:49 J -21679195.71 -21679195.59 -21679195.45 0.0089 0.0017

Venus -64068-08-13 09:21 J -21679189.19 -21679189.11 -21679189.04 0.3819 0.2545

Saturn -64068-09-14 11:30 J -21679157.17 -21679157.02 -21679156.88 0.0258 0.0159

Neptune -64068-11-02 23:16 J -21679107.66 -21679107.53 -21679107.40 0.0089 0.0021

Saturn -64068-12-12 07:25 J -21679068.38 -21679068.19 -21679068.00 0.0258 0.0038

Neptune -64067-01-30 00:28 J -21679019.60 -21679019.48 -21679019.35 0.0089 0.0027

Saturn -64067-03-11 03:35 J -21678979.53 -21678979.35 -21678979.17 0.0258 0.0084

Neptune -64067-04-28 01:54 J -21678931.54 -21678931.42 -21678931.29 0.0089 0.0032

Saturn -64067-06-07 23:30 J -21678890.62 -21678890.52 -21678890.40 0.0258 0.0208

Neptune -64067-07-25 03:06 J -21678843.48 -21678843.37 -21678843.24 0.0089 0.0038

Neptune -64067-10-21 04:18 J -21678755.42 -21678755.32 -21678755.19 0.0089 0.0043

Neptune -64066-01-17 05:45 J -21678667.36 -21678667.26 -21678667.14 0.0089 0.0048

Neptune -64066-04-15 07:11 J -21678579.30 -21678579.20 -21678579.09 0.0089 0.0053

Neptune -64066-07-12 08:09 J -21678491.24 -21678491.16 -21678491.05 0.0089 0.0059

Neptune -64066-10-08 09:35 J -21678403.18 -21678403.10 -21678403.00 0.0089 0.0064

Mars -64066-11-18 03:21 J -21678362.49 -21678362.36 -21678362.23 0.1588 0.1013

Neptune -64065-01-04 11:01 J -21678315.12 -21678315.04 -21678314.95 0.0089 0.0069

Neptune -64065-04-01 12:13 J -21678227.05 -21678226.99 -21678226.91 0.0089 0.0074

Neptune -64065-06-28 13:40 J -21678138.98 -21678138.93 -21678138.87 0.0089 0.0079

Neptune -64065-09-24 14:37 J -21678050.91 -21678050.89 -21678050.83 0.0089 0.0085

Jupiter -64063-03-05 16:33 J -21677523.86 -21677523.81 -21677523.77 0.0527 0.0489

Moon -64063-05-31 13:54 J -21677437.03 -21677436.92 -21677436.82 0.2688 0.0729

Earth -64063-05-31 14:09 J -21677437.01 -21677436.91 -21677436.81 0.2694 0.0826 *

Jupiter -64063-06-02 22:04 J -21677434.71 -21677434.58 -21677434.45 0.0526 0.0013

Jupiter -64063-08-31 03:21 J -21677345.39 -21677345.36 -21677345.33 0.0525 0.0508

Moon -64060-11-21 06:57 J -21676167.33 -21676167.21 -21676167.10 0.2638 0.1846

Earth -64060-11-21 07:54 J -21676167.30 -21676167.17 -21676167.05 0.2644 0.1692 *

Mars -64059-07-05 17:45 J -21675940.87 -21675940.76 -21675940.65 0.1953 0.0449

Pluto -64058-01-25 21:49 J -21675736.61 -21675736.59 -21675736.53 0.0061 0.0059

Pluto -64058-04-23 23:01 J -21675648.60 -21675648.54 -21675648.44 0.0061 0.0054

Pluto -64058-07-21 00:28 J -21675560.58 -21675560.48 -21675560.37 0.0061 0.0049

Pluto -64058-10-17 01:40 J -21675472.55 -21675472.43 -21675472.31 0.0061 0.0044

Pluto -64057-01-13 02:23 J -21675384.51 -21675384.40 -21675384.24 0.0061 0.0040

Pluto -64057-04-10 03:35 J -21675296.48 -21675296.35 -21675296.18 0.0061 0.0035

Jupiter -64057-04-24 06:57 J -21675282.36 -21675282.21 -21675282.05 0.0499 0.0275

Pluto -64057-07-07 04:47 J -21675208.44 -21675208.30 -21675208.12 0.0061 0.0030

Jupiter -64057-07-23 18:42 J -21675191.83 -21675191.72 -21675191.60 0.0500 0.0386

Pluto -64057-10-03 05:59 J -21675120.39 -21675120.25 -21675120.07 0.0061 0.0026

Pluto -64057-12-30 07:11 J -21675032.35 -21675032.20 -21675032.01 0.0061 0.0021

Pluto -64056-03-28 08:52 J -21674944.31 -21674944.13 -21674943.96 0.0061 0.0015

Mars -64056-04-09 05:16 J -21674932.44 -21674932.28 -21674932.11 0.1591 0.0107

Earth -64056-05-24 13:25 J -21674887.00 -21674886.94 -21674886.87 0.2688 0.2166

Moon -64056-05-24 14:09 J -21674886.97 -21674886.91 -21674886.84 0.2687 0.2052 *

Pluto -64056-06-24 10:04 J -21674856.26 -21674856.08 -21674855.90 0.0061 0.0010

Pluto -64056-09-20 11:16 J -21674768.21 -21674768.03 -21674767.85 0.0062 0.0005

Pluto -64056-12-17 12:28 J -21674680.16 -21674679.98 -21674679.80 0.0062 0.0000

Pluto -64055-03-15 13:40 J -21674592.11 -21674591.93 -21674591.75 0.0062 0.0006

Pluto -64055-06-11 14:52 J -21674504.06 -21674503.88 -21674503.70 0.0062 0.0011

Pluto -64055-09-07 16:04 J -21674416.00 -21674415.83 -21674415.65 0.0062 0.0016

Pluto -64055-12-04 17:16 J -21674327.94 -21674327.78 -21674327.60 0.0062 0.0021

Pluto -64054-03-02 18:42 J -21674239.89 -21674239.72 -21674239.56 0.0062 0.0026

Pluto -64054-05-29 19:25 J -21674151.83 -21674151.69 -21674151.52 0.0062 0.0032

Pluto -64054-08-25 20:52 J -21674063.76 -21674063.63 -21674063.47 0.0062 0.0037

Pluto -64054-11-21 22:18 J -21673975.69 -21673975.57 -21673975.43 0.0062 0.0043

Pluto -64053-02-17 23:16 J -21673887.62 -21673887.53 -21673887.40 0.0062 0.0048

Pluto -64053-05-16 00:42 J -21673799.55 -21673799.47 -21673799.37 0.0062 0.0054

Saturn -64053-07-11 14:09 J -21673742.97 -21673742.91 -21673742.84 0.0304 0.0262

Pluto -64053-08-12 02:09 J -21673711.46 -21673711.41 -21673711.35 0.0062 0.0059

Saturn -64053-10-08 03:21 J -21673654.47 -21673654.36 -21673654.24 0.0304 0.0124

Saturn -64052-01-04 16:33 J -21673565.94 -21673565.81 -21673565.68 0.0304 0.0013

Saturn -64052-04-03 05:30 J -21673477.38 -21673477.27 -21673477.16 0.0304 0.0149

Saturn -64052-06-30 18:13 J -21673388.78 -21673388.74 -21673388.69 0.0304 0.0284

Jupiter -64051-03-22 02:52 J -21673124.50 -21673124.38 -21673124.26 0.0526 0.0104

Jupiter -64051-06-19 08:09 J -21673035.24 -21673035.16 -21673035.08 0.0526 0.0394

Moon -64050-06-03 07:11 J -21672686.28 -21672686.20 -21672686.12 0.2695 0.1863

Earth -64050-06-03 07:54 J -21672686.25 -21672686.17 -21672686.09 0.2696 0.1877 *

Mars -64050-11-26 01:25 J -21672510.52 -21672510.44 -21672510.37 0.1948 0.1510

Mars -64047-08-30 07:25 J -21671502.34 -21671502.19 -21671502.05 0.1595 0.0824

Moon -64047-11-24 13:25 J -21671416.10 -21671415.94 -21671415.78 0.2640 0.0361

Earth -64047-11-24 15:06 J -21671416.02 -21671415.87 -21671415.71 0.2641 0.0499 *

Jupiter -64045-02-11 02:37 J -21670972.47 -21670972.39 -21670972.32 0.0499 0.0450

Jupiter -64045-05-11 14:09 J -21670882.08 -21670881.91 -21670881.74 0.0500 0.0207

Earth -64043-05-27 07:25 J -21670136.29 -21670136.19 -21670136.09 0.2690 0.1092

Moon -64043-05-27 07:54 J -21670136.27 -21670136.17 -21670136.07 0.2686 0.1015 *

Venus -64042-10-03 20:52 J -21669641.79 -21669641.63 -21669641.48 0.3561 0.0124

Jupiter -64039-01-08 07:40 J -21668814.30 -21668814.18 -21668814.07 0.0527 0.0222

Jupiter -64039-04-07 12:57 J -21668725.06 -21668724.96 -21668724.85 0.0526 0.0279

Uranus -64039-12-26 01:11 J -21668462.49 -21668462.45 -21668462.40 0.0133 0.0123

Saturn -64038-02-01 10:04 J -21668425.19 -21668425.08 -21668424.96 0.0258 0.0198

Mars -64038-03-24 02:23 J -21668374.45 -21668374.40 -21668374.35 0.1963 0.1763

Uranus -64038-03-24 04:04 J -21668374.40 -21668374.33 -21668374.25 0.0133 0.0107 *

Saturn -64038-05-01 05:59 J -21668336.42 -21668336.25 -21668336.06 0.0258 0.0077

Uranus -64038-06-20 07:11 J -21668286.30 -21668286.20 -21668286.10 0.0133 0.0090

Saturn -64038-07-29 02:09 J -21668247.59 -21668247.41 -21668247.22 0.0258 0.0045

Uranus -64038-09-16 10:04 J -21668198.19 -21668198.08 -21668197.97 0.0134 0.0073

Saturn -64038-10-25 22:18 J -21668158.71 -21668158.57 -21668158.42 0.0258 0.0168

Uranus -64038-12-13 12:57 J -21668110.07 -21668109.96 -21668109.84 0.0134 0.0056

Uranus -64037-03-10 16:04 J -21668021.96 -21668021.83 -21668021.71 0.0134 0.0039

Uranus -64037-06-06 18:57 J -21667933.84 -21667933.71 -21667933.58 0.0134 0.0022

Uranus -64037-09-02 21:49 J -21667845.72 -21667845.59 -21667845.46 0.0134 0.0006

Uranus -64037-11-30 00:42 J -21667757.59 -21667757.47 -21667757.33 0.0134 0.0013

Uranus -64036-02-26 03:49 J -21667669.47 -21667669.34 -21667669.21 0.0134 0.0029

Uranus -64036-05-25 06:42 J -21667581.34 -21667581.22 -21667581.09 0.0134 0.0046

Uranus -64036-08-21 09:35 J -21667493.21 -21667493.10 -21667492.98 0.0134 0.0063

Uranus -64036-11-17 12:28 J -21667405.08 -21667404.98 -21667404.87 0.0134 0.0081

Uranus -64035-02-13 15:35 J -21667316.94 -21667316.85 -21667316.76 0.0134 0.0097

Uranus -64035-05-12 18:28 J -21667228.79 -21667228.73 -21667228.66 0.0135 0.0115

Uranus -64035-08-08 21:21 J -21667140.62 -21667140.61 -21667140.57 0.0135 0.0132

Moon -64034-11-27 21:06 J -21666664.63 -21666664.62 -21666664.60 0.2640 0.2620

Jupiter -64033-02-28 11:01 J -21666572.22 -21666572.04 -21666571.85 0.0500 0.0048

Moon -64030-05-30 01:11 J -21665385.56 -21665385.45 -21665385.34 0.2685 0.0060

Earth -64030-05-30 01:11 J -21665385.56 -21665385.45 -21665385.34 0.2692 0.0028 *

Mars -64029-08-13 10:04 J -21664944.18 -21664944.08 -21664943.97 0.1959 0.0718

Venus -64028-08-05 06:13 J -21664587.32 -21664587.24 -21664587.16 0.3818 0.2194

Jupiter -64028-10-27 11:45 J -21664504.10 -21664504.01 -21664503.91 0.0526 0.0348

Jupiter -64027-01-24 17:16 J -21664414.90 -21664414.78 -21664414.66 0.0526 0.0155

Mars -64026-05-19 03:49 J -21663935.45 -21663935.34 -21663935.22 0.1588 0.1146

Saturn -64023-02-25 03:49 J -21662922.45 -21662922.34 -21662922.24 0.0304 0.0178

Saturn -64023-05-24 16:47 J -21662833.93 -21662833.80 -21662833.67 0.0304 0.0041

Saturn -64023-08-21 05:45 J -21662745.38 -21662745.26 -21662745.13 0.0305 0.0097

Saturn -64023-11-17 18:42 J -21662656.80 -21662656.72 -21662656.63 0.0305 0.0232

Venus -64022-02-18 22:33 J -21662563.66 -21662563.56 -21662563.46 0.3819 0.0426

Jupiter -64022-12-17 08:23 J -21662262.33 -21662262.15 -21662261.96 0.0500 0.0110

Mars -64019-01-03 17:45 J -21661513.88 -21661513.76 -21661513.65 0.1953 0.0363

Moon -64017-05-31 18:28 J -21660634.83 -21660634.73 -21660634.63 0.2689 0.1035

Earth -64017-05-31 18:57 J -21660634.81 -21660634.71 -21660634.61 0.2694 0.1032 *

Venus -64017-09-03 14:37 J -21660539.98 -21660539.89 -21660539.79 0.3819 0.1387

Mars -64017-10-08 05:59 J -21660505.42 -21660505.25 -21660505.08 0.1591 0.0232

Jupiter -64016-08-15 16:04 J -21660193.88 -21660193.83 -21660193.77 0.0526 0.0472

Jupiter -64016-11-12 21:35 J -21660104.72 -21660104.60 -21660104.47 0.0526 0.0032

Jupiter -64015-02-10 02:52 J -21660015.38 -21660015.38 -21660015.37 0.0525 0.0524

Moon -64014-11-22 13:25 J -21659365.08 -21659364.94 -21659364.81 0.2639 0.1302

Earth -64014-11-22 14:23 J -21659365.04 -21659364.90 -21659364.76 0.2643 0.1288 *

Venus -64011-03-20 06:57 J -21658516.26 -21658516.21 -21658516.16 0.3819 0.3195

Earth -64010-05-25 18:28 J -21658084.81 -21658084.73 -21658084.66 0.2688 0.1951

Moon -64010-05-25 19:11 J -21658084.78 -21658084.70 -21658084.63 0.2687 0.1917 *

Mars -64010-05-27 01:25 J -21658083.52 -21658083.44 -21658083.36 0.1948 0.1391

Jupiter -64010-10-05 05:45 J -21657952.41 -21657952.26 -21657952.10 0.0499 0.0266

Jupiter -64009-01-03 17:30 J -21657861.88 -21657861.77 -21657861.65 0.0500 0.0396

Saturn -64009-06-20 08:09 J -21657693.21 -21657693.16 -21657693.08 0.0258 0.0241

Saturn -64009-09-17 04:18 J -21657604.49 -21657604.32 -21657604.15 0.0258 0.0120

Saturn -64009-12-15 00:28 J -21657515.67 -21657515.48 -21657515.29 0.0258 0.0006

Saturn -64008-03-13 20:23 J -21657426.81 -21657426.65 -21657426.48 0.0258 0.0125

Saturn -64008-06-10 16:33 J -21657337.85 -21657337.81 -21657337.75 0.0258 0.0248

Mars -64007-02-28 08:09 J -21657075.31 -21657075.16 -21657075.01 0.1595 0.0678

Moon -64004-06-03 11:59 J -21655884.07 -21655884.00 -21655883.93 0.2695 0.1941

Earth -64004-06-03 12:42 J -21655884.04 -21655883.97 -21655883.90 0.2696 0.2087 *

Jupiter -64004-09-01 01:54 J -21655794.55 -21655794.42 -21655794.30 0.0526 0.0099

Jupiter -64004-11-29 07:11 J -21655705.28 -21655705.20 -21655705.12 0.0525 0.0400

Moon -64001-11-24 20:09 J -21654613.82 -21654613.66 -21654613.51 0.2640 0.0682

Earth -64001-11-24 21:49 J -21654613.74 -21654613.59 -21654613.44 0.2641 0.0906 *

64TH MILLENNIUM BCE

This is a list of transits of Mercury in the 64th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Mars -63999-09-22 02:37 J -21653947.42 -21653947.39 -21653947.36 0.1964 0.1889

Jupiter -63998-07-24 02:52 J -21653642.47 -21653642.38 -21653642.28 0.0499 0.0424

Uranus -63998-07-24 22:04 J -21653641.60 -21653641.58 -21653641.52 0.0145 0.0142

Uranus -63998-10-21 06:57 J -21653553.32 -21653553.21 -21653553.07 0.0145 0.0109

Jupiter -63998-10-22 14:23 J -21653552.06 -21653551.90 -21653551.73 0.0500 0.0234

Uranus -63997-01-17 16:04 J -21653464.99 -21653464.83 -21653464.66 0.0145 0.0076

Uranus -63997-04-15 00:57 J -21653376.65 -21653376.46 -21653376.28 0.0145 0.0044

Earth -63997-05-27 12:13 J -21653334.09 -21653333.99 -21653333.89 0.2690 0.0880

Moon -63997-05-27 12:42 J -21653334.08 -21653333.97 -21653333.87 0.2686 0.0816 *

Uranus -63997-07-12 09:49 J -21653288.29 -21653288.09 -21653287.90 0.0145 0.0012

Uranus -63997-10-08 18:28 J -21653199.92 -21653199.73 -21653199.53 0.0145 0.0021

Uranus -63996-01-05 03:21 J -21653111.54 -21653111.36 -21653111.18 0.0145 0.0053

Uranus -63996-04-03 11:45 J -21653023.15 -21653023.01 -21653022.84 0.0144 0.0086

Uranus -63996-06-30 20:37 J -21652934.74 -21652934.64 -21652934.52 0.0144 0.0117

Saturn -63994-07-15 04:47 J -21652190.39 -21652190.30 -21652190.21 0.0304 0.0227

Saturn -63994-10-11 17:59 J -21652101.88 -21652101.75 -21652101.63 0.0304 0.0090

Saturn -63993-01-08 06:57 J -21652013.34 -21652013.21 -21652013.08 0.0304 0.0047

Saturn -63993-04-05 19:54 J -21651924.77 -21651924.67 -21651924.57 0.0304 0.0183

Jupiter -63992-06-20 06:28 J -21651484.35 -21651484.23 -21651484.11 0.0527 0.0216

Jupiter -63992-09-17 11:59 J -21651395.11 -21651395.00 -21651394.90 0.0526 0.0284

Venus -63991-10-24 14:23 J -21650992.97 -21650992.90 -21650992.82 0.3561 0.3099

Neptune -63990-12-23 17:16 J -21650567.83 -21650567.78 -21650567.70 0.0089 0.0083

Mars -63989-02-12 10:04 J -21650517.18 -21650517.08 -21650516.97 0.1959 0.0821

Neptune -63989-03-20 21:06 J -21650479.72 -21650479.62 -21650479.52 0.0089 0.0075

Neptune -63989-06-17 00:13 J -21650391.59 -21650391.49 -21650391.35 0.0089 0.0068

Neptune -63989-09-13 04:04 J -21650303.46 -21650303.33 -21650303.18 0.0089 0.0060

Neptune -63989-12-10 07:25 J -21650215.33 -21650215.19 -21650215.02 0.0089 0.0053

Neptune -63988-03-08 11:16 J -21650127.19 -21650127.03 -21650126.86 0.0089 0.0045

Neptune -63988-06-04 14:52 J -21650039.05 -21650038.88 -21650038.70 0.0089 0.0037

Neptune -63988-08-31 18:13 J -21649950.91 -21649950.74 -21649950.54 0.0089 0.0030

Neptune -63988-11-27 22:04 J -21649862.76 -21649862.58 -21649862.39 0.0089 0.0022

Neptune -63987-02-24 01:40 J -21649774.61 -21649774.43 -21649774.23 0.0089 0.0014

Neptune -63987-05-23 05:30 J -21649686.47 -21649686.27 -21649686.08 0.0089 0.0006

Neptune -63987-08-19 09:06 J -21649598.32 -21649598.12 -21649597.93 0.0089 0.0002

Neptune -63987-11-15 12:42 J -21649510.16 -21649509.97 -21649509.78 0.0089 0.0009

Mars -63987-11-17 04:33 J -21649508.41 -21649508.31 -21649508.21 0.1588 0.1281

Neptune -63986-02-11 16:04 J -21649422.01 -21649421.83 -21649421.63 0.0089 0.0018

Neptune -63986-05-10 19:54 J -21649333.85 -21649333.67 -21649333.48 0.0089 0.0025

Neptune -63986-08-06 23:30 J -21649245.70 -21649245.52 -21649245.33 0.0089 0.0033

Jupiter -63986-08-10 09:49 J -21649242.27 -21649242.09 -21649241.90 0.0499 0.0055

Neptune -63986-11-03 03:06 J -21649157.54 -21649157.37 -21649157.19 0.0089 0.0041

Neptune -63985-01-30 06:42 J -21649069.37 -21649069.22 -21649069.05 0.0089 0.0049

Neptune -63985-04-27 10:04 J -21648981.21 -21648981.08 -21648980.91 0.0089 0.0057

Venus -63985-05-09 22:33 J -21648968.70 -21648968.56 -21648968.41 0.3561 0.1420

Neptune -63985-07-24 14:09 J -21648893.04 -21648892.91 -21648892.77 0.0089 0.0064

Neptune -63985-10-20 17:45 J -21648804.86 -21648804.76 -21648804.64 0.0089 0.0072

Neptune -63984-01-16 21:21 J -21648716.68 -21648716.61 -21648716.52 0.0089 0.0080

Neptune -63984-04-15 00:57 J -21648628.47 -21648628.46 -21648628.42 0.0089 0.0088

Moon -63984-05-30 05:59 J -21648583.36 -21648583.25 -21648583.14 0.2685 0.0204

Earth -63984-05-30 05:59 J -21648583.36 -21648583.25 -21648583.14 0.2692 0.0190 *

Jupiter -63980-04-08 11:01 J -21647174.13 -21647174.04 -21647173.94 0.0527 0.0336

Mars -63980-07-04 17:45 J -21647086.87 -21647086.76 -21647086.65 0.1954 0.0232

Jupiter -63980-07-06 16:33 J -21647084.93 -21647084.81 -21647084.69 0.0526 0.0168

Saturn -63979-02-04 03:21 J -21646872.51 -21646872.36 -21646872.21 0.0259 0.0156

Saturn -63979-05-03 23:30 J -21646783.71 -21646783.52 -21646783.33 0.0258 0.0035

Saturn -63979-07-31 19:25 J -21646694.86 -21646694.69 -21646694.50 0.0258 0.0088

Saturn -63979-10-28 15:35 J -21646605.95 -21646605.85 -21646605.73 0.0258 0.0211

Mars -63977-04-08 06:42 J -21646078.38 -21646078.22 -21646078.06 0.1591 0.0371

Venus -63977-08-26 11:45 J -21645938.06 -21645938.01 -21645937.96 0.3818 0.3325

Jupiter -63974-05-29 06:42 J -21644932.40 -21644932.22 -21644932.03 0.0499 0.0106

Venus -63971-03-12 03:49 J -21643914.43 -21643914.34 -21643914.25 0.3819 0.1564

Moon -63971-06-01 23:16 J -21643832.63 -21643832.53 -21643832.43 0.2690 0.1146

Earth -63971-06-01 23:45 J -21643832.60 -21643832.51 -21643832.41 0.2694 0.1244 *

Mars -63971-11-25 01:25 J -21643656.53 -21643656.44 -21643656.36 0.1948 0.1284

Jupiter -63968-01-25 15:21 J -21642863.92 -21642863.86 -21642863.80 0.0527 0.0461

Jupiter -63968-04-24 20:52 J -21642774.75 -21642774.63 -21642774.50 0.0526 0.0045

Mars -63968-08-29 08:37 J -21642648.29 -21642648.14 -21642647.98 0.1595 0.0549

Moon -63968-11-22 19:40 J -21642562.82 -21642562.68 -21642562.53 0.2640 0.1110

Earth -63968-11-22 21:06 J -21642562.77 -21642562.62 -21642562.47 0.2643 0.0881 *

Pluto -63966-09-13 03:49 J -21641903.35 -21641903.34 -21641903.31 0.0084 0.0083

Venus -63966-09-25 20:09 J -21641890.76 -21641890.66 -21641890.56 0.3819 0.0267

Pluto -63966-12-10 05:45 J -21641815.33 -21641815.26 -21641815.19 0.0084 0.0073

Pluto -63965-03-07 06:57 J -21641727.29 -21641727.21 -21641727.10 0.0084 0.0062

Pluto -63965-06-03 08:37 J -21641639.24 -21641639.14 -21641639.02 0.0084 0.0052

Pluto -63965-08-30 10:04 J -21641551.19 -21641551.08 -21641550.94 0.0084 0.0042

Pluto -63965-11-26 11:59 J -21641463.14 -21641463.00 -21641462.87 0.0084 0.0031

Saturn -63965-12-01 05:30 J -21641458.32 -21641458.27 -21641458.21 0.0304 0.0275

Pluto -63964-02-22 13:25 J -21641375.08 -21641374.94 -21641374.80 0.0083 0.0021

Saturn -63964-02-27 18:42 J -21641369.84 -21641369.72 -21641369.60 0.0304 0.0139

Pluto -63964-05-21 14:52 J -21641287.02 -21641286.88 -21641286.74 0.0083 0.0011

Earth -63964-05-25 23:16 J -21641282.62 -21641282.53 -21641282.45 0.2688 0.1735

Moon -63964-05-25 23:59 J -21641282.59 -21641282.50 -21641282.41 0.2688 0.1599 *

Saturn -63964-05-27 07:40 J -21641281.31 -21641281.18 -21641281.05 0.0304 0.0007

Pluto -63964-08-17 16:18 J -21641198.96 -21641198.82 -21641198.67 0.0083 0.0003

Saturn -63964-08-23 20:37 J -21641192.75 -21641192.64 -21641192.52 0.0304 0.0134

Pluto -63964-11-13 17:45 J -21641110.89 -21641110.76 -21641110.61 0.0083 0.0010

Saturn -63964-11-20 09:35 J -21641104.16 -21641104.10 -21641104.04 0.0305 0.0269

Pluto -63963-02-09 19:25 J -21641022.83 -21641022.69 -21641022.56 0.0083 0.0019

Pluto -63963-05-08 20:52 J -21640934.76 -21640934.63 -21640934.50 0.0083 0.0029

Pluto -63963-08-04 22:04 J -21640846.69 -21640846.58 -21640846.45 0.0083 0.0039

Pluto -63963-10-31 23:30 J -21640758.62 -21640758.52 -21640758.40 0.0082 0.0049

Pluto -63962-01-28 01:11 J -21640670.55 -21640670.45 -21640670.35 0.0082 0.0058

Jupiter -63962-03-17 04:04 J -21640622.49 -21640622.33 -21640622.17 0.0499 0.0263

Pluto -63962-04-26 02:23 J -21640582.47 -21640582.40 -21640582.31 0.0082 0.0067

Jupiter -63962-06-15 15:49 J -21640531.95 -21640531.84 -21640531.72 0.0500 0.0400

Pluto -63962-07-23 04:04 J -21640494.38 -21640494.33 -21640494.29 0.0082 0.0077

Venus -63960-04-10 12:13 J -21639867.08 -21639866.99 -21639866.90 0.3819 0.2023

Mars -63958-01-19 10:47 J -21639218.11 -21639218.05 -21639217.98 0.1599 0.1464

Moon -63958-06-04 16:47 J -21639081.86 -21639081.80 -21639081.74 0.2696 0.2277

Earth -63958-06-04 17:30 J -21639081.83 -21639081.77 -21639081.72 0.2696 0.2291 *

Jupiter -63956-02-11 01:11 J -21638464.57 -21638464.45 -21638464.32 0.0526 0.0084

Jupiter -63956-05-11 06:28 J -21638375.30 -21638375.23 -21638375.15 0.0525 0.0414

Moon -63955-11-26 02:37 J -21637811.53 -21637811.39 -21637811.24 0.2640 0.1208

Earth -63955-11-26 04:33 J -21637811.45 -21637811.31 -21637811.17 0.2640 0.1312 *

Uranus -63954-01-15 07:54 J -21637761.22 -21637761.17 -21637761.11 0.0133 0.0121

Uranus -63954-04-13 10:47 J -21637673.12 -21637673.05 -21637672.96 0.0133 0.0104

Uranus -63954-07-10 13:54 J -21637585.02 -21637584.92 -21637584.82 0.0133 0.0087

Uranus -63954-10-06 16:47 J -21637496.91 -21637496.80 -21637496.69 0.0133 0.0071

Uranus -63953-01-02 19:54 J -21637408.79 -21637408.67 -21637408.55 0.0134 0.0054

Uranus -63953-03-30 22:47 J -21637320.68 -21637320.55 -21637320.43 0.0134 0.0037

Uranus -63953-06-27 01:40 J -21637232.56 -21637232.43 -21637232.30 0.0134 0.0020

Uranus -63953-09-23 04:33 J -21637144.44 -21637144.31 -21637144.18 0.0134 0.0005

Uranus -63953-12-20 07:40 J -21637056.31 -21637056.18 -21637056.05 0.0134 0.0014

Uranus -63952-03-18 10:33 J -21636968.19 -21636968.06 -21636967.93 0.0134 0.0031

Uranus -63952-06-14 13:25 J -21636880.06 -21636879.94 -21636879.82 0.0134 0.0048

Uranus -63952-09-10 16:18 J -21636791.93 -21636791.82 -21636791.70 0.0134 0.0065

Uranus -63952-12-07 19:11 J -21636703.79 -21636703.70 -21636703.59 0.0134 0.0083

Uranus -63951-03-05 22:18 J -21636615.65 -21636615.57 -21636615.48 0.0134 0.0099

Earth -63951-05-28 17:01 J -21636531.90 -21636531.79 -21636531.68 0.2691 0.0666

Moon -63951-05-28 17:30 J -21636531.88 -21636531.77 -21636531.67 0.2684 0.0672 *

Uranus -63951-06-02 01:11 J -21636527.51 -21636527.45 -21636527.38 0.0135 0.0117

Uranus -63951-08-29 04:04 J -21636439.33 -21636439.33 -21636439.31 0.0135 0.0134

Jupiter -63950-01-03 01:11 J -21636312.54 -21636312.45 -21636312.34 0.0499 0.0420

Jupiter -63950-04-03 12:57 J -21636222.12 -21636221.96 -21636221.79 0.0500 0.0241

Saturn -63950-06-24 01:54 J -21636140.54 -21636140.42 -21636140.30 0.0259 0.0197

Mars -63950-08-13 10:04 J -21636090.18 -21636090.08 -21636089.98 0.1959 0.0932

Saturn -63950-09-20 21:49 J -21636051.76 -21636051.59 -21636051.40 0.0258 0.0076

Saturn -63950-12-18 17:59 J -21635962.93 -21635962.75 -21635962.56 0.0258 0.0047

Saturn -63949-03-16 14:09 J -21635874.04 -21635873.91 -21635873.76 0.0258 0.0170

Mars -63947-05-18 05:16 J -21635081.35 -21635081.28 -21635081.20 0.1588 0.1426

Jupiter -63945-11-30 05:16 J -21634154.40 -21634154.28 -21634154.16 0.0526 0.0213

Jupiter -63944-02-27 10:33 J -21634065.16 -21634065.06 -21634064.95 0.0526 0.0288

Mars -63940-01-02 17:45 J -21632659.87 -21632659.76 -21632659.64 0.1954 0.0120

Jupiter -63938-01-20 09:49 J -21631912.27 -21631912.09 -21631911.90 0.0500 0.0078

Moon -63938-05-31 10:47 J -21631781.16 -21631781.05 -21631780.94 0.2686 0.0383

Earth -63938-05-31 10:47 J -21631781.16 -21631781.05 -21631780.94 0.2693 0.0399 *

Mars -63938-10-08 07:25 J -21631651.35 -21631651.19 -21631651.03 0.1591 0.0509

Saturn -63935-07-17 20:09 J -21630637.77 -21630637.66 -21630637.56 0.0303 0.0183

Saturn -63935-10-14 09:06 J -21630549.25 -21630549.12 -21630548.99 0.0304 0.0047

Earth -63935-11-20 20:37 J -21630511.66 -21630511.64 -21630511.62 0.2645 0.2622

Saturn -63934-01-10 22:04 J -21630460.70 -21630460.58 -21630460.45 0.0304 0.0090

Saturn -63934-04-09 11:01 J -21630372.12 -21630372.04 -21630371.95 0.0304 0.0224

Venus -63934-05-31 16:33 J -21630319.95 -21630319.81 -21630319.67 0.3561 0.1554

Jupiter -63933-09-18 09:49 J -21629844.19 -21629844.09 -21629843.99 0.0527 0.0333

Jupiter -63933-12-16 15:21 J -21629754.98 -21629754.86 -21629754.74 0.0526 0.0169

Earth -63931-05-24 10:04 J -21629231.10 -21629231.08 -21629231.05 0.2686 0.2594

Moon -63931-05-24 10:47 J -21629231.09 -21629231.05 -21629231.01 0.2688 0.2463 *

Mars -63931-05-26 01:25 J -21629229.53 -21629229.44 -21629229.35 0.1948 0.1175

Venus -63929-12-15 00:28 J -21628295.57 -21628295.48 -21628295.39 0.3560 0.2922

Mars -63928-02-27 09:21 J -21628221.27 -21628221.11 -21628220.95 0.1595 0.0411

Jupiter -63927-11-08 05:16 J -21627602.46 -21627602.28 -21627602.09 0.0499 0.0100

Moon -63925-06-02 04:04 J -21627030.43 -21627030.33 -21627030.24 0.2691 0.1406

Earth -63925-06-02 04:33 J -21627030.40 -21627030.31 -21627030.22 0.2695 0.1452 *

Moon -63922-11-24 02:09 J -21625760.56 -21625760.41 -21625760.25 0.2640 0.0513

Earth -63922-11-24 03:49 J -21625760.50 -21625760.34 -21625760.18 0.2643 0.0469 *

Jupiter -63921-07-07 14:23 J -21625533.96 -21625533.90 -21625533.84 0.0527 0.0455

Jupiter -63921-10-04 19:54 J -21625444.79 -21625444.67 -21625444.54 0.0526 0.0052

Saturn -63921-11-10 01:25 J -21625408.52 -21625408.44 -21625408.35 0.0259 0.0231

Saturn -63920-02-06 21:21 J -21625319.77 -21625319.61 -21625319.43 0.0259 0.0110

Venus -63920-04-02 09:21 J -21625265.18 -21625265.11 -21625265.04 0.3818 0.2709

Saturn -63920-05-06 17:30 J -21625230.96 -21625230.77 -21625230.58 0.0259 0.0013

Saturn -63920-08-03 13:40 J -21625142.09 -21625141.93 -21625141.76 0.0258 0.0136

Mars -63919-07-20 11:30 J -21624791.11 -21624791.02 -21624790.93 0.1599 0.1329

Earth -63918-05-27 04:04 J -21624480.42 -21624480.33 -21624480.24 0.2688 0.1522

Moon -63918-05-27 04:47 J -21624480.39 -21624480.30 -21624480.21 0.2687 0.1506 *

Jupiter -63915-08-27 02:09 J -21623292.57 -21623292.41 -21623292.25 0.0499 0.0261

Venus -63915-10-17 01:25 J -21623241.54 -21623241.44 -21623241.34 0.3819 0.0925

Jupiter -63915-11-25 13:54 J -21623202.03 -21623201.92 -21623201.81 0.0500 0.0399

Uranus -63914-08-14 04:33 J -21622940.36 -21622940.31 -21622940.23 0.0145 0.0137

Uranus -63914-11-10 13:40 J -21622852.06 -21622851.93 -21622851.79 0.0145 0.0104

Uranus -63913-02-06 22:18 J -21622763.73 -21622763.57 -21622763.39 0.0145 0.0072

Uranus -63913-05-05 07:11 J -21622675.38 -21622675.20 -21622675.01 0.0145 0.0040

Uranus -63913-08-01 16:04 J -21622587.02 -21622586.83 -21622586.63 0.0145 0.0008

Uranus -63913-10-29 00:57 J -21622498.65 -21622498.46 -21622498.27 0.0145 0.0025

Uranus -63912-01-25 09:35 J -21622410.27 -21622410.10 -21622409.91 0.0145 0.0058

Uranus -63912-04-23 18:28 J -21622321.88 -21622321.73 -21622321.57 0.0144 0.0089

Moon -63912-06-04 21:35 J -21622279.65 -21622279.60 -21622279.55 0.2698 0.2379

Earth -63912-06-04 22:18 J -21622279.61 -21622279.57 -21622279.53 0.2697 0.2500 *

Uranus -63912-07-21 03:06 J -21622233.46 -21622233.37 -21622233.26 0.0144 0.0122

Mars -63910-02-11 10:04 J -21621663.17 -21621663.08 -21621662.98 0.1959 0.1046

Venus -63909-05-01 17:30 J -21621217.87 -21621217.77 -21621217.67 0.3819 0.0868

Jupiter -63909-07-24 00:13 J -21621134.61 -21621134.49 -21621134.36 0.0526 0.0076

Jupiter -63909-10-21 05:30 J -21621045.34 -21621045.27 -21621045.19 0.0525 0.0422

Moon -63909-11-26 09:35 J -21621009.23 -21621009.10 -21621008.97 0.2640 0.1482

Earth -63909-11-26 11:16 J -21621009.15 -21621009.03 -21621008.91 0.2640 0.1725 *

Neptune -63908-07-07 18:57 J -21620785.72 -21620785.71 -21620785.68 0.0089 0.0088

Neptune -63908-10-03 20:09 J -21620697.69 -21620697.66 -21620697.60 0.0089 0.0083

Mars -63908-11-16 05:59 J -21620654.28 -21620654.25 -21620654.22 0.1588 0.1557

Neptune -63908-12-30 21:49 J -21620609.65 -21620609.59 -21620609.52 0.0089 0.0077

Neptune -63907-03-28 23:01 J -21620521.61 -21620521.54 -21620521.45 0.0089 0.0072

Neptune -63907-06-25 00:42 J -21620433.56 -21620433.47 -21620433.39 0.0089 0.0066

Neptune -63907-09-21 01:54 J -21620345.51 -21620345.42 -21620345.32 0.0089 0.0061

Neptune -63907-12-18 03:06 J -21620257.46 -21620257.37 -21620257.26 0.0089 0.0056

Neptune -63906-03-16 04:47 J -21620169.41 -21620169.30 -21620169.19 0.0089 0.0050

Neptune -63906-06-12 05:59 J -21620081.36 -21620081.25 -21620081.13 0.0089 0.0045

Neptune -63906-09-08 07:11 J -21619993.31 -21619993.20 -21619993.07 0.0089 0.0040

Saturn -63906-12-04 21:06 J -21619905.70 -21619905.62 -21619905.53 0.0303 0.0229

Neptune -63906-12-05 08:37 J -21619905.26 -21619905.14 -21619905.01 0.0089 0.0034

Neptune -63905-03-02 10:04 J -21619817.20 -21619817.08 -21619816.95 0.0089 0.0029

Saturn -63905-03-02 10:18 J -21619817.19 -21619817.07 -21619816.94 0.0304 0.0092 *

Earth -63905-05-28 21:49 J -21619729.70 -21619729.59 -21619729.48 0.2691 0.0458

Moon -63905-05-28 22:04 J -21619729.68 -21619729.58 -21619729.47 0.2684 0.0386 *

Neptune -63905-05-29 11:16 J -21619729.15 -21619729.03 -21619728.89 0.0089 0.0024

Saturn -63905-05-29 23:30 J -21619728.65 -21619728.52 -21619728.40 0.0304 0.0046

Neptune -63905-08-25 12:42 J -21619641.10 -21619640.97 -21619640.84 0.0089 0.0018

Saturn -63905-08-26 12:13 J -21619640.09 -21619639.99 -21619639.88 0.0304 0.0180

Neptune -63905-11-21 14:09 J -21619553.04 -21619552.91 -21619552.78 0.0089 0.0013

Neptune -63904-02-17 15:21 J -21619464.99 -21619464.86 -21619464.72 0.0089 0.0008

Neptune -63904-05-16 16:47 J -21619376.93 -21619376.80 -21619376.67 0.0089 0.0002

Neptune -63904-08-12 18:13 J -21619288.88 -21619288.74 -21619288.61 0.0089 0.0004

Neptune -63904-11-08 19:25 J -21619200.82 -21619200.69 -21619200.56 0.0089 0.0009

Venus -63904-11-15 09:49 J -21619194.16 -21619194.09 -21619194.02 0.3819 0.2676

Neptune -63903-02-04 20:52 J -21619112.76 -21619112.63 -21619112.50 0.0089 0.0014

Neptune -63903-05-03 22:04 J -21619024.71 -21619024.58 -21619024.45 0.0089 0.0019

Jupiter -63903-06-14 23:16 J -21618982.62 -21618982.53 -21618982.43 0.0499 0.0420

Neptune -63903-07-30 23:16 J -21618936.65 -21618936.53 -21618936.40 0.0089 0.0025

Jupiter -63903-09-13 11:01 J -21618892.21 -21618892.04 -21618891.88 0.0500 0.0240

Neptune -63903-10-27 00:42 J -21618848.59 -21618848.47 -21618848.34 0.0089 0.0030

Neptune -63902-01-23 02:09 J -21618760.53 -21618760.41 -21618760.29 0.0089 0.0035

Neptune -63902-04-21 03:06 J -21618672.48 -21618672.37 -21618672.24 0.0089 0.0041

Neptune -63902-07-18 04:33 J -21618584.42 -21618584.31 -21618584.19 0.0089 0.0046

Neptune -63902-10-14 05:59 J -21618496.36 -21618496.25 -21618496.14 0.0089 0.0051

Neptune -63901-01-10 07:25 J -21618408.29 -21618408.19 -21618408.09 0.0089 0.0056

Neptune -63901-04-07 08:23 J -21618320.23 -21618320.15 -21618320.05 0.0089 0.0062

Mars -63901-07-03 17:45 J -21618232.88 -21618232.76 -21618232.65 0.1954 0.0066

Neptune -63901-07-04 09:49 J -21618232.17 -21618232.09 -21618232.00 0.0089 0.0067

Neptune -63901-09-30 11:01 J -21618144.11 -21618144.04 -21618143.95 0.0089 0.0072

Neptune -63901-12-27 12:28 J -21618056.04 -21618055.98 -21618055.91 0.0089 0.0077

Neptune -63900-03-25 13:25 J -21617967.97 -21617967.94 -21617967.87 0.0089 0.0083

Neptune -63900-06-21 14:52 J -21617879.88 -21617879.88 -21617879.85 0.0089 0.0088

Mars -63898-04-08 08:09 J -21617224.32 -21617224.16 -21617224.01 0.1591 0.0647

Jupiter -63897-05-12 04:33 J -21616824.43 -21616824.31 -21616824.20 0.0526 0.0203

Jupiter -63897-08-09 09:49 J -21616735.19 -21616735.09 -21616734.99 0.0526 0.0297

Moon -63892-05-31 15:21 J -21614978.96 -21614978.86 -21614978.75 0.2687 0.0562

Earth -63892-05-31 15:35 J -21614978.95 -21614978.85 -21614978.74 0.2693 0.0614 *

Mars -63892-11-24 01:25 J -21614802.54 -21614802.44 -21614802.34 0.1948 0.1053

Saturn -63891-06-26 20:23 J -21614587.80 -21614587.65 -21614587.49 0.0259 0.0148

Jupiter -63891-07-02 07:54 J -21614582.35 -21614582.17 -21614581.98 0.0500 0.0080

Saturn -63891-09-23 16:33 J -21614498.99 -21614498.81 -21614498.62 0.0258 0.0026

Saturn -63891-12-21 12:42 J -21614410.14 -21614409.97 -21614409.79 0.0258 0.0098

Saturn -63890-03-20 08:52 J -21614321.21 -21614321.13 -21614321.02 0.0258 0.0221

Mars -63889-08-28 10:18 J -21613794.24 -21613794.07 -21613793.91 0.1595 0.0267

Moon -63889-11-21 02:23 J -21613709.48 -21613709.40 -21613709.31 0.2639 0.2237

Earth -63889-11-21 03:21 J -21613709.45 -21613709.36 -21613709.28 0.2645 0.2224 *

Jupiter -63885-02-29 08:23 J -21612514.25 -21612514.15 -21612514.05 0.0527 0.0333

Earth -63885-05-24 14:52 J -21612428.92 -21612428.88 -21612428.83 0.2687 0.2381

Moon -63885-05-24 15:49 J -21612428.89 -21612428.84 -21612428.79 0.2689 0.2358 *

Jupiter -63885-05-28 13:54 J -21612425.04 -21612424.92 -21612424.80 0.0526 0.0169

Mars -63879-01-18 12:13 J -21610364.10 -21610363.99 -21610363.88 0.1599 0.1193

Jupiter -63879-04-20 04:47 J -21610272.49 -21610272.30 -21610272.12 0.0499 0.0084

Moon -63879-06-03 08:52 J -21610228.22 -21610228.13 -21610228.05 0.2691 0.1574

Earth -63879-06-03 09:21 J -21610228.19 -21610228.11 -21610228.02 0.2695 0.1659 *

Venus -63877-01-05 18:28 J -21609646.89 -21609646.73 -21609646.57 0.3561 0.0032

Saturn -63876-04-22 23:01 J -21609173.59 -21609173.54 -21609173.47 0.0303 0.0268

Saturn -63876-07-20 12:13 J -21609085.10 -21609084.99 -21609084.87 0.0303 0.0132

Saturn -63876-10-17 01:25 J -21608996.57 -21608996.44 -21608996.31 0.0304 0.0011

Moon -63876-11-24 08:52 J -21608958.29 -21608958.13 -21608957.97 0.2639 0.0316

Earth -63876-11-24 10:33 J -21608958.22 -21608958.06 -21608957.90 0.2642 0.0055 *

Saturn -63875-01-13 14:09 J -21608908.02 -21608907.91 -21608907.79 0.0304 0.0141

Saturn -63875-04-12 03:06 J -21608819.42 -21608819.37 -21608819.31 0.0304 0.0275

Jupiter -63874-12-18 12:42 J -21608204.03 -21608203.97 -21608203.90 0.0527 0.0456

Jupiter -63873-03-16 18:28 J -21608114.86 -21608114.73 -21608114.61 0.0526 0.0049

Earth -63872-05-27 08:52 J -21607678.23 -21607678.13 -21607678.03 0.2689 0.1309

Moon -63872-05-27 09:21 J -21607678.20 -21607678.11 -21607678.01 0.2686 0.1186 *

Mars -63871-08-12 10:04 J -21607236.17 -21607236.08 -21607235.99 0.1959 0.1156

Uranus -63870-02-04 14:37 J -21607059.94 -21607059.89 -21607059.83 0.0133 0.0119

Uranus -63870-05-03 17:30 J -21606971.84 -21606971.77 -21606971.68 0.0133 0.0102

Uranus -63870-07-30 20:37 J -21606883.74 -21606883.64 -21606883.54 0.0133 0.0085

Uranus -63870-10-26 23:30 J -21606795.63 -21606795.52 -21606795.40 0.0133 0.0069

Uranus -63869-01-23 02:37 J -21606707.51 -21606707.39 -21606707.27 0.0133 0.0052

Uranus -63869-04-20 05:30 J -21606619.40 -21606619.27 -21606619.14 0.0134 0.0035

Uranus -63869-07-17 08:23 J -21606531.28 -21606531.15 -21606531.02 0.0134 0.0018

Uranus -63869-10-13 11:16 J -21606443.16 -21606443.03 -21606442.90 0.0134 0.0003

Uranus -63868-01-09 14:23 J -21606355.03 -21606354.90 -21606354.77 0.0134 0.0016

Uranus -63868-04-07 17:16 J -21606266.91 -21606266.78 -21606266.65 0.0134 0.0033

Uranus -63868-07-04 20:09 J -21606178.78 -21606178.66 -21606178.54 0.0134 0.0050

Uranus -63868-09-30 23:01 J -21606090.65 -21606090.54 -21606090.42 0.0134 0.0067

Uranus -63868-12-28 01:54 J -21606002.51 -21606002.42 -21606002.31 0.0134 0.0084

Jupiter -63867-02-06 00:13 J -21605962.64 -21605962.49 -21605962.33 0.0499 0.0260

Uranus -63867-03-26 04:47 J -21605914.37 -21605914.30 -21605914.20 0.0134 0.0102

Jupiter -63867-05-07 11:59 J -21605872.11 -21605872.00 -21605871.89 0.0499 0.0401

Uranus -63867-06-22 07:54 J -21605826.23 -21605826.17 -21605826.11 0.0134 0.0118

Moon -63866-06-06 02:23 J -21605477.41 -21605477.40 -21605477.39 0.2700 0.2675

Venus -63864-11-07 06:42 J -21604592.30 -21604592.22 -21604592.13 0.3818 0.2087

Moon -63863-11-27 16:33 J -21604206.91 -21604206.81 -21604206.72 0.2642 0.2093

Earth -63863-11-27 17:59 J -21604206.84 -21604206.75 -21604206.65 0.2640 0.2141 *

Saturn -63862-11-13 20:23 J -21603855.78 -21603855.65 -21603855.51 0.0259 0.0179

Mars -63861-01-02 17:45 J -21603805.87 -21603805.76 -21603805.65 0.1954 0.0102

Jupiter -63861-01-03 23:01 J -21603804.67 -21603804.54 -21603804.42 0.0527 0.0075

Saturn -63861-02-10 16:33 J -21603766.99 -21603766.81 -21603766.62 0.0259 0.0057

Jupiter -63861-04-02 04:18 J -21603715.39 -21603715.32 -21603715.25 0.0526 0.0426

Saturn -63861-05-09 12:42 J -21603678.15 -21603677.97 -21603677.78 0.0259 0.0067

Saturn -63861-08-06 09:06 J -21603589.25 -21603589.12 -21603588.99 0.0259 0.0190

Earth -63859-05-30 02:37 J -21602927.50 -21602927.39 -21602927.28 0.2691 0.0257

Moon -63859-05-30 02:52 J -21602927.48 -21602927.38 -21602927.27 0.2684 0.0290 *

Mars -63859-10-07 08:52 J -21602797.28 -21602797.13 -21602796.99 0.1591 0.0784

Venus -63858-05-23 23:01 J -21602568.64 -21602568.54 -21602568.44 0.3819 0.0304

Jupiter -63856-11-24 21:06 J -21601652.71 -21601652.62 -21601652.52 0.0499 0.0421

Jupiter -63855-02-23 08:37 J -21601562.31 -21601562.14 -21601561.98 0.0499 0.0236

Venus -63853-12-06 15:06 J -21600544.96 -21600544.87 -21600544.78 0.3819 0.1506

Mars -63852-05-25 01:25 J -21600375.54 -21600375.44 -21600375.34 0.1948 0.0950

Jupiter -63850-10-23 03:06 J -21599494.48 -21599494.37 -21599494.25 0.0527 0.0201

Jupiter -63849-01-20 08:37 J -21599405.24 -21599405.14 -21599405.04 0.0526 0.0301

Mars -63849-02-27 10:47 J -21599367.22 -21599367.05 -21599366.88 0.1595 0.0136

Venus -63847-06-22 07:25 J -21598521.24 -21598521.19 -21598521.14 0.3819 0.3331

Saturn -63847-12-07 14:09 J -21598353.02 -21598352.91 -21598352.80 0.0303 0.0170

Saturn -63846-03-06 03:06 J -21598264.50 -21598264.37 -21598264.24 0.0304 0.0035

Moon -63846-06-01 20:09 J -21598176.77 -21598176.66 -21598176.56 0.2687 0.0813

Earth -63846-06-01 20:23 J -21598176.75 -21598176.65 -21598176.54 0.2693 0.0821 *

Saturn -63846-06-02 16:04 J -21598175.95 -21598175.83 -21598175.70 0.0304 0.0102

Saturn -63846-08-30 05:01 J -21598087.37 -21598087.29 -21598087.21 0.0304 0.0236

Jupiter -63844-12-12 05:30 J -21597252.46 -21597252.27 -21597252.09 0.0499 0.0074

Moon -63843-11-22 08:37 J -21596907.24 -21596907.14 -21596907.03 0.2640 0.1938

Earth -63843-11-22 09:49 J -21596907.20 -21596907.09 -21596906.97 0.2645 0.1821 *

Mars -63840-07-19 12:57 J -21595937.09 -21595936.96 -21595936.84 0.1599 0.1053

Earth -63839-05-25 19:54 J -21595626.74 -21595626.67 -21595626.61 0.2687 0.2169

Moon -63839-05-25 20:23 J -21595626.71 -21595626.65 -21595626.58 0.2689 0.2050 *

Jupiter -63838-08-11 07:11 J -21595184.29 -21595184.20 -21595184.10 0.0527 0.0328

Jupiter -63838-11-08 12:42 J -21595095.08 -21595094.97 -21595094.85 0.0526 0.0176

Moon -63833-06-03 13:40 J -21593426.01 -21593425.93 -21593425.85 0.2693 0.1793

Earth -63833-06-03 14:09 J -21593425.98 -21593425.91 -21593425.83 0.2695 0.1869 *

Saturn -63832-04-01 19:54 J -21593123.76 -21593123.67 -21593123.55 0.0259 0.0214

Saturn -63832-06-29 16:04 J -21593035.00 -21593034.83 -21593034.65 0.0259 0.0092

Saturn -63832-09-26 12:13 J -21592946.17 -21592945.99 -21592945.79 0.0259 0.0032

Jupiter -63832-09-30 02:23 J -21592942.58 -21592942.40 -21592942.22 0.0499 0.0087

Saturn -63832-12-24 08:37 J -21592857.29 -21592857.14 -21592856.99 0.0258 0.0154

Mars -63831-02-10 10:04 J -21592809.16 -21592809.08 -21592808.99 0.1959 0.1265

Uranus -63830-09-03 10:04 J -21592239.13 -21592239.08 -21592239.00 0.0145 0.0136

Moon -63830-11-25 15:35 J -21592156.01 -21592155.85 -21592155.69 0.2639 0.0290

Earth -63830-11-25 17:16 J -21592155.94 -21592155.78 -21592155.62 0.2642 0.0350 *

Uranus -63830-11-30 18:42 J -21592150.84 -21592150.72 -21592150.57 0.0145 0.0105

Uranus -63829-02-27 03:49 J -21592062.50 -21592062.34 -21592062.16 0.0145 0.0071

Uranus -63829-05-25 12:42 J -21591974.16 -21591973.97 -21591973.78 0.0145 0.0039

Uranus -63829-08-21 21:35 J -21591885.80 -21591885.60 -21591885.41 0.0145 0.0006

Uranus -63829-11-18 06:28 J -21591797.43 -21591797.23 -21591797.04 0.0145 0.0026

Uranus -63828-02-14 14:52 J -21591709.05 -21591708.88 -21591708.69 0.0145 0.0059

Uranus -63828-05-13 23:45 J -21591620.65 -21591620.51 -21591620.35 0.0144 0.0090

Uranus -63828-08-10 08:23 J -21591532.24 -21591532.15 -21591532.03 0.0144 0.0123

Venus -63826-01-26 12:13 J -21590998.07 -21590997.99 -21590997.91 0.3561 0.3026

Earth -63826-05-28 13:40 J -21590876.03 -21590875.93 -21590875.83 0.2689 0.1097

Moon -63826-05-28 14:09 J -21590876.01 -21590875.91 -21590875.81 0.2684 0.1095 *

Jupiter -63826-05-30 11:16 J -21590874.09 -21590874.03 -21590873.97 0.0527 0.0460

Jupiter -63826-08-27 16:47 J -21590784.93 -21590784.80 -21590784.67 0.0526 0.0044

Neptune -63825-06-22 13:11 J -21590484.98 -21590484.95 -21590484.89 0.0089 0.0086

Neptune -63825-09-18 16:33 J -21590396.88 -21590396.81 -21590396.70 0.0089 0.0079

Neptune -63825-12-15 20:23 J -21590308.76 -21590308.65 -21590308.53 0.0089 0.0071

Neptune -63824-03-13 23:45 J -21590220.63 -21590220.51 -21590220.36 0.0089 0.0064

Neptune -63824-06-10 03:21 J -21590132.50 -21590132.36 -21590132.20 0.0089 0.0056

Neptune -63824-09-06 07:11 J -21590044.36 -21590044.20 -21590044.04 0.0089 0.0048

Neptune -63824-12-03 10:33 J -21589956.22 -21589956.06 -21589955.88 0.0089 0.0041

Neptune -63823-03-01 14:09 J -21589868.08 -21589867.91 -21589867.72 0.0089 0.0033

Neptune -63823-05-28 17:59 J -21589779.94 -21589779.75 -21589779.57 0.0089 0.0025

Neptune -63823-08-24 21:21 J -21589691.79 -21589691.61 -21589691.41 0.0089 0.0018

Neptune -63823-11-21 01:11 J -21589603.64 -21589603.45 -21589603.26 0.0089 0.0010

Neptune -63822-02-17 04:47 J -21589515.50 -21589515.30 -21589515.11 0.0089 0.0002

Neptune -63822-05-16 08:23 J -21589427.34 -21589427.15 -21589426.96 0.0089 0.0006

Mars -63822-07-03 17:45 J -21589378.87 -21589378.76 -21589378.64 0.1954 0.0227

Neptune -63822-08-12 11:59 J -21589339.19 -21589339.00 -21589338.81 0.0089 0.0014

Neptune -63822-11-08 15:35 J -21589251.04 -21589250.85 -21589250.66 0.0089 0.0022

Neptune -63821-02-04 18:57 J -21589162.88 -21589162.71 -21589162.51 0.0089 0.0030

Neptune -63821-05-02 22:33 J -21589074.72 -21589074.56 -21589074.37 0.0089 0.0038

Neptune -63821-07-30 02:23 J -21588986.56 -21588986.40 -21588986.22 0.0089 0.0045

Venus -63821-08-11 20:23 J -21588973.79 -21588973.65 -21588973.50 0.3560 0.1520

Neptune -63821-10-26 05:59 J -21588898.40 -21588898.25 -21588898.08 0.0089 0.0053

Neptune -63820-01-22 09:35 J -21588810.23 -21588810.10 -21588809.95 0.0089 0.0061

Neptune -63820-04-20 13:11 J -21588722.06 -21588721.95 -21588721.81 0.0089 0.0069

Neptune -63820-07-17 16:47 J -21588633.88 -21588633.80 -21588633.68 0.0089 0.0077

Jupiter -63820-07-18 23:01 J -21588632.70 -21588632.54 -21588632.37 0.0499 0.0251

Neptune -63820-10-13 20:52 J -21588545.69 -21588545.63 -21588545.57 0.0089 0.0084

Jupiter -63820-10-17 10:47 J -21588542.15 -21588542.05 -21588541.94 0.0500 0.0411

Mars -63819-04-07 09:35 J -21588370.24 -21588370.10 -21588369.97 0.1591 0.0923

Saturn -63817-04-25 16:18 J -21587620.91 -21587620.82 -21587620.72 0.0303 0.0206

Saturn -63817-07-23 05:30 J -21587532.40 -21587532.27 -21587532.15 0.0303 0.0071

Saturn -63817-10-19 18:28 J -21587443.86 -21587443.73 -21587443.61 0.0304 0.0065

Moon -63817-11-27 23:16 J -21587404.61 -21587404.53 -21587404.46 0.2643 0.2299

Earth -63817-11-28 00:42 J -21587404.50 -21587404.47 -21587404.43 0.2639 0.2555 *

Saturn -63816-01-16 07:11 J -21587355.29 -21587355.20 -21587355.10 0.0304 0.0200

Jupiter -63814-06-15 21:06 J -21586474.74 -21586474.62 -21586474.49 0.0527 0.0080

Jupiter -63814-09-13 02:37 J -21586385.47 -21586385.39 -21586385.32 0.0526 0.0421

Moon -63813-05-30 07:40 J -21586125.29 -21586125.18 -21586125.07 0.2685 0.0046

Earth -63813-05-30 07:40 J -21586125.29 -21586125.18 -21586125.08 0.2691 0.0119 *

Mars -63813-11-23 01:25 J -21585948.55 -21585948.44 -21585948.34 0.1948 0.0841

Venus -63813-11-28 12:13 J -21585943.04 -21585942.99 -21585942.94 0.3818 0.3223

Pluto -63813-12-21 12:13 J -21585920.01 -21585919.99 -21585919.93 0.0061 0.0059

Pluto -63812-03-19 13:25 J -21585832.00 -21585831.94 -21585831.84 0.0061 0.0054

Pluto -63812-06-15 14:52 J -21585743.98 -21585743.88 -21585743.77 0.0061 0.0049

Pluto -63812-09-11 16:04 J -21585655.95 -21585655.83 -21585655.71 0.0061 0.0044

Pluto -63812-12-08 17:16 J -21585567.91 -21585567.78 -21585567.64 0.0061 0.0040

Pluto -63811-03-06 17:59 J -21585479.88 -21585479.75 -21585479.58 0.0061 0.0035

Pluto -63811-06-02 19:11 J -21585391.84 -21585391.70 -21585391.53 0.0061 0.0030

Pluto -63811-08-29 20:23 J -21585303.79 -21585303.65 -21585303.47 0.0061 0.0026

Pluto -63811-11-25 21:35 J -21585215.75 -21585215.60 -21585215.41 0.0061 0.0021

Pluto -63810-02-21 23:01 J -21585127.71 -21585127.54 -21585127.36 0.0061 0.0015

Pluto -63810-05-21 00:28 J -21585039.66 -21585039.48 -21585039.31 0.0061 0.0010

Pluto -63810-08-17 01:40 J -21584951.61 -21584951.43 -21584951.25 0.0062 0.0005

Mars -63810-08-28 11:30 J -21584940.19 -21584940.02 -21584939.85 0.1595 0.0021

Pluto -63810-11-13 02:52 J -21584863.56 -21584863.38 -21584863.20 0.0062 0.0000

Pluto -63809-02-09 04:04 J -21584775.51 -21584775.33 -21584775.15 0.0062 0.0005

Pluto -63809-05-07 05:16 J -21584687.46 -21584687.28 -21584687.10 0.0062 0.0011

Pluto -63809-08-03 06:28 J -21584599.40 -21584599.23 -21584599.05 0.0062 0.0016

Pluto -63809-10-30 07:40 J -21584511.34 -21584511.18 -21584511.00 0.0062 0.0021

Pluto -63808-01-26 08:52 J -21584423.29 -21584423.13 -21584422.96 0.0062 0.0026

Pluto -63808-04-24 10:18 J -21584335.22 -21584335.07 -21584334.91 0.0062 0.0031

Jupiter -63808-05-06 18:57 J -21584322.80 -21584322.71 -21584322.61 0.0498 0.0423

Pluto -63808-07-21 11:16 J -21584247.16 -21584247.03 -21584246.87 0.0062 0.0037

Jupiter -63808-08-05 06:13 J -21584232.40 -21584232.24 -21584232.07 0.0499 0.0234

Pluto -63808-10-17 12:28 J -21584159.09 -21584158.98 -21584158.83 0.0062 0.0043

Pluto -63807-01-13 13:54 J -21584071.02 -21584070.92 -21584070.79 0.0062 0.0048

Pluto -63807-04-11 14:52 J -21583982.95 -21583982.88 -21583982.76 0.0062 0.0054

Venus -63807-06-14 04:18 J -21583919.41 -21583919.32 -21583919.22 0.3818 0.1450

Pluto -63807-07-08 16:18 J -21583894.86 -21583894.82 -21583894.74 0.0062 0.0059

Mars -63803-04-15 09:06 J -21582518.15 -21582518.12 -21582518.10 0.1942 0.1877

Saturn -63803-08-19 20:37 J -21582391.70 -21582391.64 -21582391.57 0.0260 0.0242

Saturn -63803-11-16 16:33 J -21582302.97 -21582302.81 -21582302.64 0.0259 0.0120

Saturn -63802-02-13 12:57 J -21582214.15 -21582213.96 -21582213.77 0.0259 0.0005

Jupiter -63802-04-04 01:25 J -21582164.55 -21582164.44 -21582164.32 0.0527 0.0205

Saturn -63802-05-13 09:06 J -21582125.28 -21582125.12 -21582124.95 0.0259 0.0126

Jupiter -63802-07-02 06:57 J -21582075.31 -21582075.21 -21582075.10 0.0526 0.0299

Saturn -63802-08-10 05:30 J -21582036.31 -21582036.27 -21582036.22 0.0259 0.0250

Venus -63802-12-28 20:37 J -21581895.74 -21581895.64 -21581895.54 0.3819 0.0367

Mars -63800-01-17 13:25 J -21581510.07 -21581509.94 -21581509.80 0.1599 0.0919

Moon -63800-06-02 00:57 J -21581374.57 -21581374.46 -21581374.36 0.2687 0.0923

Earth -63800-06-02 01:25 J -21581374.54 -21581374.44 -21581374.34 0.2693 0.1031 *

Moon -63797-11-22 15:06 J -21580105.00 -21580104.87 -21580104.74 0.2639 0.1544

Earth -63797-11-22 16:33 J -21580104.94 -21580104.81 -21580104.68 0.2644 0.1421 *

Jupiter -63796-05-24 02:52 J -21579922.56 -21579922.38 -21579922.19 0.0499 0.0068

Venus -63796-07-13 12:42 J -21579872.05 -21579871.97 -21579871.88 0.3819 0.2161

Earth -63793-05-26 00:42 J -21578824.55 -21578824.47 -21578824.40 0.2687 0.1953

Moon -63793-05-26 01:25 J -21578824.52 -21578824.44 -21578824.37 0.2688 0.1904 *

Mars -63792-08-11 10:04 J -21578382.16 -21578382.08 -21578382.00 0.1959 0.1383

Jupiter -63790-01-21 05:45 J -21577854.36 -21577854.26 -21577854.16 0.0527 0.0331

Jupiter -63790-04-20 11:16 J -21577765.15 -21577765.03 -21577764.91 0.0526 0.0172

Saturn -63788-09-12 18:42 J -21576888.80 -21576888.72 -21576888.64 0.0303 0.0240

Saturn -63788-12-10 07:54 J -21576800.30 -21576800.17 -21576800.05 0.0303 0.0104

Saturn -63787-03-08 20:52 J -21576711.76 -21576711.63 -21576711.50 0.0304 0.0032

Moon -63787-06-04 18:28 J -21576623.80 -21576623.73 -21576623.66 0.2695 0.2032

Earth -63787-06-04 18:57 J -21576623.77 -21576623.71 -21576623.64 0.2695 0.2075 *

Saturn -63787-06-05 09:35 J -21576623.20 -21576623.10 -21576622.99 0.0304 0.0167

Saturn -63787-09-01 22:33 J -21576534.58 -21576534.56 -21576534.54 0.0304 0.0300

Uranus -63786-02-24 21:21 J -21576358.66 -21576358.61 -21576358.54 0.0133 0.0117

Uranus -63786-05-24 00:13 J -21576270.57 -21576270.49 -21576270.40 0.0133 0.0101

Uranus -63786-08-20 03:21 J -21576182.46 -21576182.36 -21576182.26 0.0133 0.0083

Uranus -63786-11-16 06:13 J -21576094.35 -21576094.24 -21576094.12 0.0133 0.0067

Uranus -63785-02-12 09:06 J -21576006.24 -21576006.12 -21576005.99 0.0133 0.0050

Uranus -63785-05-10 12:13 J -21575918.12 -21575917.99 -21575917.86 0.0134 0.0033

Uranus -63785-08-06 15:06 J -21575830.00 -21575829.87 -21575829.74 0.0134 0.0016

Uranus -63785-11-02 17:59 J -21575741.88 -21575741.75 -21575741.62 0.0134 0.0003

Uranus -63784-01-29 21:06 J -21575653.75 -21575653.62 -21575653.49 0.0134 0.0018

Jupiter -63784-03-11 23:30 J -21575612.70 -21575612.52 -21575612.33 0.0499 0.0096

Uranus -63784-04-27 23:59 J -21575565.63 -21575565.50 -21575565.38 0.0134 0.0035

Uranus -63784-07-25 02:52 J -21575477.50 -21575477.38 -21575477.26 0.0134 0.0052

Uranus -63784-10-21 05:45 J -21575389.37 -21575389.26 -21575389.14 0.0134 0.0069

Moon -63784-11-25 22:18 J -21575353.73 -21575353.57 -21575353.42 0.2641 0.0539

Earth -63784-11-25 23:45 J -21575353.66 -21575353.51 -21575353.35 0.2642 0.0758 *

Uranus -63783-01-17 08:37 J -21575301.23 -21575301.14 -21575301.03 0.0134 0.0086

Uranus -63783-04-15 11:30 J -21575213.09 -21575213.02 -21575212.93 0.0134 0.0104

Uranus -63783-07-12 14:37 J -21575124.94 -21575124.89 -21575124.83 0.0134 0.0120

Mars -63782-01-01 17:45 J -21574951.88 -21574951.76 -21574951.65 0.1954 0.0322

Earth -63780-05-28 18:28 J -21574073.83 -21574073.73 -21574073.62 0.2689 0.0887

Moon -63780-05-28 18:57 J -21574073.81 -21574073.71 -21574073.60 0.2684 0.0780 *

Mars -63780-10-06 10:04 J -21573943.20 -21573943.08 -21573942.95 0.1591 0.1058

Jupiter -63779-11-09 09:49 J -21573544.15 -21573544.09 -21573544.03 0.0527 0.0459

Jupiter -63778-02-06 15:21 J -21573454.98 -21573454.86 -21573454.73 0.0526 0.0049

Saturn -63773-04-04 16:33 J -21571570.95 -21571570.81 -21571570.65 0.0259 0.0153

Mars -63773-05-24 01:25 J -21571521.55 -21571521.44 -21571521.33 0.1949 0.0720

Saturn -63773-07-02 12:57 J -21571482.15 -21571481.96 -21571481.77 0.0259 0.0030

Saturn -63773-09-29 09:06 J -21571393.30 -21571393.12 -21571392.94 0.0259 0.0093

Saturn -63773-12-27 05:30 J -21571304.37 -21571304.27 -21571304.17 0.0259 0.0217

Jupiter -63773-12-28 20:23 J -21571302.81 -21571302.65 -21571302.49 0.0499 0.0258

Jupiter -63772-03-29 08:09 J -21571212.27 -21571212.16 -21571212.05 0.0500 0.0404

Mars -63770-02-26 12:13 J -21570513.15 -21570512.99 -21570512.82 0.1595 0.0150

Venus -63770-09-02 14:09 J -21570325.05 -21570324.91 -21570324.76 0.3561 0.1480

Moon -63767-05-31 12:13 J -21569323.10 -21569322.99 -21569322.88 0.2685 0.0155

Earth -63767-05-31 12:28 J -21569323.09 -21569322.98 -21569322.88 0.2692 0.0208 *

Jupiter -63767-11-25 19:11 J -21569144.82 -21569144.70 -21569144.57 0.0526 0.0088

Jupiter -63766-02-23 00:42 J -21569055.55 -21569055.47 -21569055.40 0.0526 0.0413

Venus -63764-03-18 22:18 J -21568300.65 -21568300.57 -21568300.49 0.3560 0.3033

Mars -63764-10-14 09:06 J -21568091.17 -21568091.12 -21568091.08 0.1942 0.1761

Mars -63761-07-18 14:09 J -21567083.05 -21567082.91 -21567082.76 0.1598 0.0782

Jupiter -63761-10-16 17:01 J -21566992.88 -21566992.79 -21566992.69 0.0499 0.0421

Jupiter -63760-01-15 04:33 J -21566902.47 -21566902.31 -21566902.14 0.0499 0.0238

Saturn -63758-01-30 21:21 J -21566156.66 -21566156.61 -21566156.55 0.0303 0.0271

Saturn -63758-04-29 10:33 J -21566068.18 -21566068.06 -21566067.94 0.0303 0.0135

Saturn -63758-07-26 23:30 J -21565979.65 -21565979.52 -21565979.39 0.0303 0.0005

Saturn -63758-10-23 12:28 J -21565891.09 -21565890.98 -21565890.86 0.0304 0.0135

Saturn -63757-01-20 01:11 J -21565802.50 -21565802.45 -21565802.39 0.0304 0.0270

Venus -63756-07-05 09:49 J -21565270.16 -21565270.09 -21565270.02 0.3818 0.2591

Jupiter -63755-09-13 23:30 J -21564834.63 -21564834.52 -21564834.40 0.0527 0.0213

Jupiter -63755-12-12 05:01 J -21564745.39 -21564745.29 -21564745.19 0.0526 0.0290

Moon -63754-06-03 05:45 J -21564572.36 -21564572.26 -21564572.17 0.2688 0.1239

Earth -63754-06-03 06:13 J -21564572.34 -21564572.24 -21564572.15 0.2694 0.1235 *

Mars -63752-02-09 10:04 J -21563955.15 -21563955.08 -21563955.01 0.1959 0.1484

Moon -63751-11-23 21:49 J -21563302.73 -21563302.59 -21563302.44 0.2639 0.1108

Earth -63751-11-23 23:16 J -21563302.68 -21563302.53 -21563302.39 0.2644 0.1014 *

Venus -63750-01-19 01:54 J -21563246.52 -21563246.42 -21563246.32 0.3818 0.0812

Jupiter -63749-11-03 00:13 J -21562592.67 -21562592.49 -21562592.30 0.0499 0.0064

Earth -63747-05-27 05:30 J -21562022.35 -21562022.27 -21562022.19 0.2688 0.1741

Moon -63747-05-27 06:13 J -21562022.33 -21562022.24 -21562022.16 0.2686 0.1667 *

Uranus -63746-09-23 15:35 J -21561537.91 -21561537.85 -21561537.78 0.0145 0.0136

Uranus -63746-12-21 00:13 J -21561449.61 -21561449.49 -21561449.34 0.0145 0.0104

Uranus -63745-03-18 09:06 J -21561361.28 -21561361.12 -21561360.94 0.0145 0.0071

Uranus -63745-06-14 17:59 J -21561272.93 -21561272.75 -21561272.56 0.0145 0.0039

Venus -63745-08-03 18:13 J -21561222.84 -21561222.74 -21561222.65 0.3819 0.1003

Uranus -63745-09-11 02:52 J -21561184.57 -21561184.38 -21561184.18 0.0145 0.0006

Uranus -63745-12-08 11:30 J -21561096.21 -21561096.02 -21561095.82 0.0145 0.0027

Uranus -63744-03-06 20:23 J -21561007.83 -21561007.65 -21561007.47 0.0145 0.0059

Uranus -63744-06-03 05:01 J -21560919.43 -21560919.29 -21560919.13 0.0144 0.0091

Saturn -63744-08-22 17:30 J -21560838.90 -21560838.77 -21560838.63 0.0260 0.0179

Uranus -63744-08-30 13:54 J -21560831.02 -21560830.92 -21560830.81 0.0144 0.0123

Saturn -63744-11-19 13:40 J -21560750.11 -21560749.93 -21560749.74 0.0259 0.0056

Saturn -63743-02-16 09:49 J -21560661.27 -21560661.09 -21560660.90 0.0259 0.0068

Neptune -63743-04-03 18:57 J -21560614.73 -21560614.71 -21560614.66 0.0089 0.0085

Saturn -63743-05-16 06:13 J -21560572.36 -21560572.24 -21560572.11 0.0259 0.0191

Neptune -63743-06-30 20:23 J -21560526.70 -21560526.65 -21560526.58 0.0089 0.0080

Mars -63743-07-02 17:45 J -21560524.87 -21560524.76 -21560524.65 0.1954 0.0437

Jupiter -63743-07-03 03:49 J -21560524.44 -21560524.34 -21560524.25 0.0527 0.0340

Neptune -63743-09-26 21:49 J -21560438.66 -21560438.59 -21560438.51 0.0089 0.0074

Jupiter -63743-09-30 09:21 J -21560435.23 -21560435.11 -21560434.99 0.0527 0.0166

Neptune -63743-12-23 23:01 J -21560350.61 -21560350.54 -21560350.44 0.0089 0.0069

Neptune -63742-03-22 00:28 J -21560262.56 -21560262.48 -21560262.38 0.0089 0.0064

Neptune -63742-06-18 01:54 J -21560174.51 -21560174.42 -21560174.31 0.0089 0.0058

Neptune -63742-09-14 03:21 J -21560086.46 -21560086.36 -21560086.25 0.0089 0.0052

Neptune -63742-12-11 04:47 J -21559998.41 -21559998.30 -21559998.19 0.0089 0.0047

Neptune -63741-03-08 05:59 J -21559910.36 -21559910.25 -21559910.12 0.0089 0.0042

Neptune -63741-06-04 07:25 J -21559822.31 -21559822.19 -21559822.06 0.0089 0.0036

Moon -63741-06-04 23:16 J -21559821.60 -21559821.53 -21559821.47 0.2696 0.2158

Earth -63741-06-04 23:45 J -21559821.56 -21559821.51 -21559821.45 0.2696 0.2284 *

Neptune -63741-08-31 08:52 J -21559734.25 -21559734.13 -21559734.00 0.0089 0.0031

Neptune -63741-11-27 10:04 J -21559646.20 -21559646.08 -21559645.95 0.0089 0.0026

Neptune -63740-02-23 11:30 J -21559558.15 -21559558.02 -21559557.89 0.0089 0.0020

Mars -63740-04-06 10:47 J -21559516.16 -21559516.05 -21559515.94 0.1591 0.1196

Neptune -63740-05-22 12:57 J -21559470.09 -21559469.96 -21559469.83 0.0089 0.0015

Neptune -63740-08-18 14:09 J -21559382.04 -21559381.91 -21559381.77 0.0089 0.0010

Neptune -63740-11-14 15:35 J -21559293.98 -21559293.85 -21559293.72 0.0089 0.0004

Neptune -63739-02-10 17:01 J -21559205.93 -21559205.79 -21559205.66 0.0089 0.0003

Venus -63739-02-17 10:18 J -21559199.13 -21559199.07 -21559199.00 0.3819 0.2817

Neptune -63739-05-09 18:13 J -21559117.87 -21559117.74 -21559117.61 0.0089 0.0006

Neptune -63739-08-05 19:40 J -21559029.82 -21559029.68 -21559029.55 0.0089 0.0012

Neptune -63739-11-01 20:52 J -21558941.76 -21558941.63 -21558941.50 0.0089 0.0017

Neptune -63738-01-28 22:04 J -21558853.70 -21558853.58 -21558853.44 0.0089 0.0023

Neptune -63738-04-26 23:30 J -21558765.64 -21558765.52 -21558765.39 0.0089 0.0028

Neptune -63738-07-24 00:42 J -21558677.59 -21558677.47 -21558677.34 0.0089 0.0033

Neptune -63738-10-20 01:54 J -21558589.53 -21558589.42 -21558589.29 0.0089 0.0039

Moon -63738-11-27 04:47 J -21558551.45 -21558551.30 -21558551.15 0.2642 0.1030

Earth -63738-11-27 06:28 J -21558551.37 -21558551.23 -21558551.08 0.2641 0.1165 *

Neptune -63737-01-16 03:21 J -21558501.47 -21558501.36 -21558501.24 0.0089 0.0044

Neptune -63737-04-13 04:47 J -21558413.41 -21558413.30 -21558413.19 0.0089 0.0049

Neptune -63737-07-10 05:59 J -21558325.35 -21558325.25 -21558325.14 0.0089 0.0054

Jupiter -63737-08-21 20:52 J -21558282.81 -21558282.63 -21558282.45 0.0499 0.0104

Neptune -63737-10-06 07:11 J -21558237.29 -21558237.20 -21558237.09 0.0089 0.0060

Neptune -63736-01-02 08:37 J -21558149.22 -21558149.14 -21558149.05 0.0089 0.0065

Neptune -63736-03-31 09:49 J -21558061.16 -21558061.09 -21558061.00 0.0089 0.0070

Neptune -63736-06-27 11:16 J -21557973.09 -21557973.03 -21557972.96 0.0089 0.0075

Neptune -63736-09-23 12:42 J -21557885.03 -21557884.97 -21557884.92 0.0089 0.0080

Neptune -63736-12-20 13:40 J -21557796.95 -21557796.93 -21557796.88 0.0089 0.0086

Earth -63734-05-29 23:16 J -21557271.63 -21557271.53 -21557271.42 0.2690 0.0680

Moon -63734-05-29 23:45 J -21557271.61 -21557271.51 -21557271.40 0.2685 0.0667 *

Mars -63734-11-23 01:25 J -21557094.55 -21557094.44 -21557094.33 0.1948 0.0616

Jupiter -63731-04-21 07:54 J -21556214.23 -21556214.17 -21556214.11 0.0527 0.0467

Jupiter -63731-07-19 13:40 J -21556125.06 -21556124.93 -21556124.81 0.0526 0.0043

Mars -63731-08-27 12:57 J -21556086.13 -21556085.96 -21556085.80 0.1595 0.0279

Saturn -63729-06-18 23:59 J -21555424.50 -21555424.50 -21555424.49 0.0302 0.0302

Saturn -63729-09-15 13:11 J -21555336.06 -21555335.95 -21555335.84 0.0303 0.0166

Saturn -63729-12-13 02:23 J -21555247.53 -21555247.40 -21555247.27 0.0303 0.0032

Saturn -63728-03-11 15:06 J -21555158.99 -21555158.87 -21555158.74 0.0303 0.0105

Saturn -63728-06-08 04:04 J -21555070.41 -21555070.33 -21555070.25 0.0304 0.0239

Jupiter -63725-06-09 17:16 J -21553972.94 -21553972.78 -21553972.62 0.0499 0.0270

Jupiter -63725-09-08 04:47 J -21553882.41 -21553882.30 -21553882.18 0.0500 0.0392

Mars -63724-04-14 08:52 J -21553664.18 -21553664.13 -21553664.07 0.1942 0.1663

Mars -63721-01-17 14:52 J -21552656.03 -21552655.88 -21552655.72 0.1599 0.0641

Moon -63721-05-31 17:01 J -21552520.90 -21552520.79 -21552520.68 0.2685 0.0421

Earth -63721-05-31 17:16 J -21552520.89 -21552520.78 -21552520.68 0.2692 0.0397 *

Pluto -63720-08-08 18:57 J -21552086.71 -21552086.71 -21552086.68 0.0084 0.0084

Pluto -63720-11-04 20:37 J -21551998.70 -21551998.64 -21551998.56 0.0084 0.0073

Pluto -63719-01-31 22:04 J -21551910.66 -21551910.58 -21551910.47 0.0084 0.0063

Pluto -63719-04-29 23:59 J -21551822.61 -21551822.50 -21551822.39 0.0084 0.0052

Jupiter -63719-05-07 17:45 J -21551814.88 -21551814.76 -21551814.64 0.0526 0.0088

Pluto -63719-07-27 01:25 J -21551734.55 -21551734.44 -21551734.31 0.0084 0.0042

Jupiter -63719-08-04 23:01 J -21551725.61 -21551725.54 -21551725.46 0.0526 0.0412

Pluto -63719-10-23 03:06 J -21551646.50 -21551646.37 -21551646.24 0.0084 0.0032

Pluto -63718-01-19 04:33 J -21551558.44 -21551558.31 -21551558.17 0.0083 0.0022

Pluto -63718-04-17 06:13 J -21551470.38 -21551470.24 -21551470.10 0.0083 0.0011

Pluto -63718-07-14 07:40 J -21551382.32 -21551382.18 -21551382.04 0.0083 0.0002

Pluto -63718-10-10 09:06 J -21551294.26 -21551294.12 -21551293.97 0.0083 0.0009

Pluto -63717-01-06 10:33 J -21551206.19 -21551206.06 -21551205.91 0.0083 0.0019

Pluto -63717-04-03 12:13 J -21551118.12 -21551117.99 -21551117.86 0.0083 0.0028

Pluto -63717-06-30 13:40 J -21551030.06 -21551029.93 -21551029.81 0.0083 0.0038

Pluto -63717-09-26 14:52 J -21550941.99 -21550941.88 -21550941.76 0.0082 0.0048

Pluto -63717-12-23 16:33 J -21550853.91 -21550853.81 -21550853.71 0.0082 0.0057

Pluto -63716-03-21 17:45 J -21550765.83 -21550765.76 -21550765.67 0.0082 0.0066

Pluto -63716-06-17 19:25 J -21550677.75 -21550677.69 -21550677.64 0.0082 0.0076

Saturn -63714-01-09 17:45 J -21550106.86 -21550106.76 -21550106.64 0.0259 0.0210

Saturn -63714-04-08 13:54 J -21550018.09 -21550017.92 -21550017.74 0.0259 0.0088

Earth -63714-05-25 16:18 J -21549970.84 -21549970.82 -21549970.79 0.2686 0.2597

Moon -63714-05-25 17:01 J -21549970.82 -21549970.79 -21549970.76 0.2690 0.2575 *

Saturn -63714-07-06 10:18 J -21549929.26 -21549929.07 -21549928.88 0.0259 0.0036

Saturn -63714-10-03 06:28 J -21549840.37 -21549840.23 -21549840.08 0.0259 0.0160

Jupiter -63713-03-28 13:54 J -21549663.00 -21549662.92 -21549662.82 0.0499 0.0433

Venus -63713-04-08 16:18 J -21549651.98 -21549651.82 -21549651.67 0.3561 0.0113

Jupiter -63713-06-27 01:25 J -21549572.60 -21549572.44 -21549572.27 0.0499 0.0227

Mars -63713-08-10 10:04 J -21549528.14 -21549528.08 -21549528.01 0.1959 0.1600

Mars -63712-06-08 17:01 J -21549225.82 -21549225.79 -21549225.76 0.1603 0.1564

Moon -63708-06-03 10:18 J -21547770.16 -21547770.07 -21547769.97 0.2690 0.1325

Earth -63708-06-03 11:01 J -21547770.14 -21547770.04 -21547769.95 0.2694 0.1443 *

Jupiter -63707-02-23 21:35 J -21547504.72 -21547504.60 -21547504.49 0.0527 0.0222

Jupiter -63707-05-24 03:06 J -21547415.48 -21547415.37 -21547415.27 0.0526 0.0281

Venus -63705-07-26 15:21 J -21546620.88 -21546620.86 -21546620.85 0.3817 0.3736

Moon -63705-11-24 04:33 J -21546500.47 -21546500.31 -21546500.16 0.2640 0.0784

Earth -63705-11-24 05:45 J -21546500.41 -21546500.26 -21546500.10 0.2643 0.0612 *

Mars -63704-12-31 17:45 J -21546097.87 -21546097.76 -21546097.65 0.1954 0.0553

Uranus -63703-12-19 01:11 J -21545745.46 -21545745.45 -21545745.43 0.0133 0.0132

Uranus -63702-03-17 04:18 J -21545657.38 -21545657.32 -21545657.26 0.0133 0.0115

Uranus -63702-06-13 06:57 J -21545569.28 -21545569.21 -21545569.11 0.0133 0.0099

Uranus -63702-09-09 10:04 J -21545481.18 -21545481.08 -21545480.97 0.0133 0.0081

Uranus -63702-12-06 12:57 J -21545393.07 -21545392.96 -21545392.84 0.0133 0.0065

Uranus -63701-03-03 16:04 J -21545304.95 -21545304.83 -21545304.71 0.0134 0.0048

Jupiter -63701-04-14 22:04 J -21545262.77 -21545262.58 -21545262.39 0.0499 0.0061

Earth -63701-05-27 10:18 J -21545220.16 -21545220.07 -21545219.98 0.2688 0.1526

Moon -63701-05-27 11:01 J -21545220.13 -21545220.04 -21545219.95 0.2685 0.1428 *

Uranus -63701-05-30 18:57 J -21545216.83 -21545216.71 -21545216.58 0.0134 0.0031

Uranus -63701-08-26 21:49 J -21545128.71 -21545128.59 -21545128.45 0.0134 0.0015

Mars -63701-10-05 11:30 J -21545089.11 -21545089.02 -21545088.93 0.1591 0.1335

Uranus -63701-11-23 00:57 J -21545040.59 -21545040.46 -21545040.33 0.0134 0.0004

Uranus -63700-02-19 03:49 J -21544952.47 -21544952.34 -21544952.21 0.0134 0.0020

Uranus -63700-05-18 06:42 J -21544864.34 -21544864.22 -21544864.09 0.0134 0.0037

Uranus -63700-08-14 09:49 J -21544776.21 -21544776.09 -21544775.97 0.0134 0.0054

Uranus -63700-11-10 12:42 J -21544688.08 -21544687.97 -21544687.86 0.0134 0.0071

Saturn -63699-02-02 16:04 J -21544603.92 -21544603.83 -21544603.73 0.0303 0.0195

Uranus -63699-02-06 15:35 J -21544599.94 -21544599.85 -21544599.75 0.0134 0.0089

Venus -63699-02-09 07:25 J -21544597.28 -21544597.19 -21544597.10 0.3818 0.1956

Saturn -63699-05-02 05:16 J -21544515.41 -21544515.28 -21544515.15 0.0303 0.0060

Uranus -63699-05-05 18:42 J -21544511.80 -21544511.72 -21544511.64 0.0134 0.0106

Saturn -63699-07-29 18:13 J -21544426.87 -21544426.74 -21544426.62 0.0304 0.0076

Uranus -63699-08-01 21:35 J -21544423.65 -21544423.60 -21544423.55 0.0134 0.0123

Saturn -63699-10-26 06:57 J -21544338.30 -21544338.21 -21544338.11 0.0304 0.0210

Jupiter -63696-12-13 01:40 J -21543194.52 -21543194.43 -21543194.34 0.0527 0.0350

Jupiter -63695-03-12 07:11 J -21543105.32 -21543105.20 -21543105.08 0.0526 0.0156

Moon -63695-06-06 03:49 J -21543019.38 -21543019.34 -21543019.29 0.2697 0.2463

Earth -63695-06-06 04:33 J -21543019.34 -21543019.31 -21543019.27 0.2696 0.2484 *

Mars -63694-05-24 01:25 J -21542667.55 -21542667.44 -21542667.33 0.1948 0.0507

Venus -63694-08-25 23:30 J -21542573.62 -21542573.52 -21542573.42 0.3819 0.0176

Moon -63692-11-27 11:30 J -21541749.16 -21541749.02 -21541748.89 0.2642 0.1401

Earth -63692-11-27 13:11 J -21541749.07 -21541748.95 -21541748.82 0.2641 0.1575 *

Mars -63691-02-25 13:25 J -21541659.10 -21541658.94 -21541658.77 0.1594 0.0416

Jupiter -63689-02-01 17:59 J -21540952.93 -21540952.75 -21540952.56 0.0499 0.0112

Venus -63688-03-10 15:49 J -21540549.94 -21540549.84 -21540549.75 0.3819 0.1650

Earth -63688-05-30 04:18 J -21540469.43 -21540469.32 -21540469.22 0.2690 0.0476

Moon -63688-05-30 04:33 J -21540469.42 -21540469.31 -21540469.20 0.2685 0.0404 *

Saturn -63685-05-28 18:57 J -21539374.78 -21539374.71 -21539374.62 0.0260 0.0235

Saturn -63685-08-25 15:06 J -21539286.04 -21539285.87 -21539285.70 0.0260 0.0112

Mars -63685-10-13 09:06 J -21539237.19 -21539237.12 -21539237.05 0.1942 0.1538

Saturn -63685-11-22 11:16 J -21539197.22 -21539197.03 -21539196.84 0.0259 0.0012

Saturn -63684-02-19 07:25 J -21539108.34 -21539108.19 -21539108.02 0.0259 0.0135

Saturn -63684-05-19 04:04 J -21539019.33 -21539019.33 -21539019.33 0.0259 0.0259

Jupiter -63684-10-01 05:45 J -21538884.31 -21538884.26 -21538884.21 0.0528 0.0480

Jupiter -63684-12-29 11:30 J -21538795.15 -21538795.02 -21538794.90 0.0527 0.0029

Venus -63683-09-24 07:54 J -21538526.21 -21538526.17 -21538526.13 0.3819 0.3474

Mars -63682-07-18 15:35 J -21538229.01 -21538228.85 -21538228.69 0.1598 0.0507

Jupiter -63678-11-20 14:37 J -21536643.05 -21536642.89 -21536642.74 0.0498 0.0277

Jupiter -63677-02-19 02:09 J -21536552.53 -21536552.41 -21536552.29 0.0499 0.0382

Moon -63675-06-01 21:49 J -21535718.70 -21535718.59 -21535718.48 0.2685 0.0528

Earth -63675-06-01 22:04 J -21535718.69 -21535718.58 -21535718.48 0.2692 0.0600 *

Mars -63673-02-09 10:04 J -21535101.13 -21535101.08 -21535101.03 0.1959 0.1709

Mars -63673-12-07 17:30 J -21534798.84 -21534798.77 -21534798.69 0.1603 0.1433

Jupiter -63672-10-17 15:35 J -21534484.97 -21534484.85 -21534484.72 0.0527 0.0100

Moon -63672-11-22 04:33 J -21534449.35 -21534449.31 -21534449.27 0.2640 0.2525

Earth -63672-11-22 05:16 J -21534449.35 -21534449.28 -21534449.21 0.2646 0.2355 *

Jupiter -63671-01-14 21:06 J -21534395.70 -21534395.62 -21534395.54 0.0526 0.0403

Saturn -63670-06-22 19:11 J -21533871.79 -21533871.70 -21533871.61 0.0303 0.0223

Saturn -63670-09-19 08:09 J -21533783.28 -21533783.16 -21533783.03 0.0303 0.0088

Saturn -63670-12-16 21:06 J -21533694.74 -21533694.62 -21533694.49 0.0303 0.0049

Saturn -63669-03-14 10:04 J -21533606.18 -21533606.08 -21533605.98 0.0303 0.0182

Earth -63668-05-25 21:21 J -21533168.66 -21533168.61 -21533168.57 0.2686 0.2383

Moon -63668-05-25 21:49 J -21533168.64 -21533168.59 -21533168.53 0.2688 0.2260 *

Jupiter -63666-09-08 10:47 J -21532333.13 -21532333.05 -21532332.97 0.0499 0.0446

Jupiter -63666-12-07 22:04 J -21532242.74 -21532242.58 -21532242.41 0.0499 0.0213

Mars -63664-07-01 17:45 J -21531670.87 -21531670.76 -21531670.65 0.1954 0.0651

Venus -63662-04-30 09:49 J -21531003.17 -21531003.09 -21531003.00 0.3561 0.2980

Moon -63662-06-04 15:06 J -21530967.96 -21530967.87 -21530967.78 0.2692 0.1630

Earth -63662-06-04 15:49 J -21530967.93 -21530967.84 -21530967.76 0.2694 0.1647 *

Uranus -63662-10-13 21:49 J -21530836.66 -21530836.59 -21530836.50 0.0145 0.0132

Uranus -63661-01-10 06:28 J -21530748.36 -21530748.23 -21530748.08 0.0145 0.0100

Mars -63661-04-05 12:13 J -21530662.05 -21530661.99 -21530661.93 0.1591 0.1473

Uranus -63661-04-07 15:35 J -21530660.02 -21530659.85 -21530659.68 0.0145 0.0067

Uranus -63661-07-05 00:13 J -21530571.67 -21530571.49 -21530571.30 0.0145 0.0035

Uranus -63661-10-01 09:06 J -21530483.31 -21530483.12 -21530482.92 0.0145 0.0003

Uranus -63661-12-28 17:45 J -21530394.95 -21530394.76 -21530394.56 0.0145 0.0030

Neptune -63660-03-19 12:28 J -21530314.04 -21530313.98 -21530313.90 0.0089 0.0082

Uranus -63660-03-27 02:37 J -21530306.56 -21530306.39 -21530306.21 0.0145 0.0062

Neptune -63660-06-15 15:49 J -21530225.92 -21530225.84 -21530225.72 0.0089 0.0075

Uranus -63660-06-23 11:30 J -21530218.17 -21530218.02 -21530217.88 0.0144 0.0094

Jupiter -63660-08-05 19:54 J -21530174.78 -21530174.67 -21530174.56 0.0527 0.0225

Neptune -63660-09-11 19:40 J -21530137.80 -21530137.68 -21530137.55 0.0089 0.0067

Uranus -63660-09-19 19:54 J -21530129.75 -21530129.67 -21530129.56 0.0144 0.0126

Jupiter -63660-11-03 01:25 J -21530085.55 -21530085.44 -21530085.34 0.0526 0.0278

Neptune -63660-12-08 23:16 J -21530049.67 -21530049.53 -21530049.38 0.0089 0.0059

Neptune -63659-03-07 02:37 J -21529961.53 -21529961.39 -21529961.22 0.0089 0.0052

Neptune -63659-06-03 06:13 J -21529873.40 -21529873.24 -21529873.06 0.0089 0.0044

Neptune -63659-08-30 10:04 J -21529785.26 -21529785.08 -21529784.90 0.0089 0.0036

Moon -63659-11-25 10:47 J -21529698.20 -21529698.05 -21529697.89 0.2641 0.0283

Earth -63659-11-25 12:28 J -21529698.14 -21529697.98 -21529697.82 0.2643 0.0209 *

Neptune -63659-11-26 13:25 J -21529697.11 -21529696.94 -21529696.75 0.0089 0.0029

Neptune -63658-02-22 17:01 J -21529608.97 -21529608.79 -21529608.59 0.0089 0.0021

Neptune -63658-05-21 20:52 J -21529520.82 -21529520.63 -21529520.44 0.0089 0.0013

Neptune -63658-08-18 00:13 J -21529432.68 -21529432.49 -21529432.29 0.0089 0.0006

Neptune -63658-11-14 04:04 J -21529344.53 -21529344.33 -21529344.14 0.0089 0.0003

Neptune -63657-02-10 07:25 J -21529256.38 -21529256.19 -21529255.99 0.0089 0.0011

Neptune -63657-05-08 11:16 J -21529168.22 -21529168.03 -21529167.84 0.0089 0.0018

Neptune -63657-08-04 14:52 J -21529080.07 -21529079.88 -21529079.69 0.0089 0.0026

Neptune -63657-10-31 18:13 J -21528991.91 -21528991.74 -21528991.55 0.0089 0.0034

Venus -63657-11-13 17:59 J -21528978.89 -21528978.75 -21528978.61 0.3561 0.1579

Neptune -63656-01-27 21:49 J -21528903.75 -21528903.59 -21528903.41 0.0089 0.0042

Neptune -63656-04-26 01:25 J -21528815.59 -21528815.44 -21528815.26 0.0089 0.0050

Neptune -63656-07-23 05:30 J -21528727.42 -21528727.27 -21528727.12 0.0089 0.0057

Neptune -63656-10-19 08:52 J -21528639.25 -21528639.13 -21528638.99 0.0089 0.0065

Saturn -63655-01-12 15:35 J -21528554.00 -21528553.85 -21528553.69 0.0259 0.0142

Neptune -63655-01-15 12:28 J -21528551.08 -21528550.98 -21528550.86 0.0089 0.0073

Saturn -63655-04-11 11:45 J -21528465.20 -21528465.01 -21528464.82 0.0259 0.0020

Neptune -63655-04-13 16:04 J -21528462.89 -21528462.83 -21528462.74 0.0089 0.0081

Earth -63655-05-28 15:06 J -21528417.96 -21528417.87 -21528417.77 0.2688 0.1315

Moon -63655-05-28 15:49 J -21528417.93 -21528417.84 -21528417.74 0.2686 0.1266 *

Saturn -63655-07-09 07:54 J -21528376.34 -21528376.17 -21528375.99 0.0259 0.0105

Neptune -63655-07-10 19:54 J -21528374.67 -21528374.67 -21528374.65 0.0089 0.0088

Saturn -63655-10-06 04:18 J -21528287.40 -21528287.32 -21528287.22 0.0259 0.0229

Mars -63655-11-22 01:25 J -21528240.55 -21528240.44 -21528240.33 0.1949 0.0385

Jupiter -63654-09-25 18:42 J -21527932.90 -21527932.72 -21527932.53 0.0499 0.0049

Mars -63652-08-26 14:23 J -21527232.06 -21527231.90 -21527231.74 0.1594 0.0559

Moon -63649-06-06 08:52 J -21526217.17 -21526217.13 -21526217.10 0.2697 0.2557

Earth -63649-06-06 09:21 J -21526217.11 -21526217.11 -21526217.10 0.2696 0.2692 *

Venus -63648-03-02 12:57 J -21525948.02 -21525947.96 -21525947.91 0.3818 0.3108

Jupiter -63648-05-24 23:45 J -21525864.60 -21525864.51 -21525864.42 0.0527 0.0360

Jupiter -63648-08-22 05:16 J -21525775.40 -21525775.28 -21525775.16 0.0526 0.0145

Moon -63646-11-28 18:13 J -21524946.86 -21524946.74 -21524946.63 0.2642 0.1802

Earth -63646-11-28 19:54 J -21524946.77 -21524946.67 -21524946.56 0.2641 0.1979 *

Mars -63645-04-13 09:06 J -21524810.20 -21524810.12 -21524810.05 0.1942 0.1434

Venus -63643-09-16 05:01 J -21523924.39 -21523924.29 -21523924.20 0.3818 0.1319

Mars -63642-01-16 16:18 J -21523801.99 -21523801.82 -21523801.66 0.1598 0.0371

Earth -63642-05-31 09:06 J -21523667.23 -21523667.12 -21523667.01 0.2690 0.0260

Moon -63642-05-31 09:21 J -21523667.22 -21523667.11 -21523667.00 0.2684 0.0248 *

Jupiter -63642-07-14 15:21 J -21523623.04 -21523622.86 -21523622.67 0.0499 0.0118

Saturn -63641-11-08 22:04 J -21523139.65 -21523139.58 -21523139.51 0.0303 0.0252

Saturn -63640-02-05 11:01 J -21523051.16 -21523051.04 -21523050.92 0.0303 0.0117

Saturn -63640-05-04 23:59 J -21522962.63 -21522962.50 -21522962.36 0.0303 0.0022

Saturn -63640-08-01 12:57 J -21522874.07 -21522873.96 -21522873.85 0.0304 0.0153

Saturn -63640-10-29 01:54 J -21522785.46 -21522785.42 -21522785.38 0.0304 0.0287

Venus -63637-03-31 21:06 J -21521900.72 -21521900.62 -21521900.52 0.3819 0.0475

Jupiter -63636-03-13 03:35 J -21521554.39 -21521554.35 -21521554.30 0.0527 0.0489

Jupiter -63636-06-10 09:21 J -21521465.23 -21521465.11 -21521464.98 0.0527 0.0019

Jupiter -63636-09-07 14:37 J -21521375.90 -21521375.89 -21521375.87 0.0526 0.0518

Mars -63634-08-10 10:04 J -21520674.12 -21520674.08 -21520674.04 0.1959 0.1819

Mars -63633-06-07 18:13 J -21520371.83 -21520371.74 -21520371.64 0.1603 0.1294

Venus -63632-10-15 13:11 J -21519877.03 -21519876.95 -21519876.87 0.3819 0.2302

Jupiter -63630-05-02 11:45 J -21519313.16 -21519313.01 -21519312.86 0.0498 0.0285

Jupiter -63630-07-31 23:16 J -21519222.65 -21519222.53 -21519222.41 0.0499 0.0374

Moon -63629-06-02 02:37 J -21518916.50 -21518916.39 -21518916.29 0.2686 0.0808

Earth -63629-06-02 02:52 J -21518916.49 -21518916.38 -21518916.28 0.2693 0.0806 *

Saturn -63626-06-01 16:47 J -21517821.94 -21517821.80 -21517821.65 0.0260 0.0167

Saturn -63626-08-29 12:57 J -21517733.15 -21517732.96 -21517732.77 0.0259 0.0044

Moon -63626-11-23 11:01 J -21517647.15 -21517647.04 -21517646.93 0.2639 0.1922

Earth -63626-11-23 11:59 J -21517647.11 -21517647.00 -21517646.90 0.2645 0.1954 *

Saturn -63626-11-26 09:06 J -21517644.30 -21517644.12 -21517643.94 0.0259 0.0079

Saturn -63625-02-23 05:30 J -21517555.38 -21517555.27 -21517555.15 0.0259 0.0203

Mars -63625-12-30 17:45 J -21517243.86 -21517243.76 -21517243.65 0.1954 0.0769

Jupiter -63624-03-29 13:25 J -21517155.06 -21517154.94 -21517154.81 0.0527 0.0112

Jupiter -63624-06-26 18:57 J -21517065.79 -21517065.71 -21517065.63 0.0526 0.0392

Earth -63622-05-27 02:09 J -21516366.47 -21516366.41 -21516366.35 0.2686 0.2168

Moon -63622-05-27 02:52 J -21516366.45 -21516366.38 -21516366.32 0.2687 0.2155 *

Uranus -63618-01-08 08:09 J -21515044.19 -21515044.16 -21515044.13 0.0133 0.0129

Jupiter -63618-02-18 08:09 J -21515003.23 -21515003.16 -21515003.07 0.0498 0.0451

Uranus -63618-04-06 11:01 J -21514956.10 -21514956.04 -21514955.97 0.0133 0.0113

Jupiter -63618-05-19 19:25 J -21514912.85 -21514912.69 -21514912.51 0.0499 0.0207

Uranus -63618-07-03 14:09 J -21514868.00 -21514867.91 -21514867.82 0.0133 0.0096

Uranus -63618-09-29 17:01 J -21514779.89 -21514779.79 -21514779.68 0.0134 0.0079

Uranus -63618-12-26 19:54 J -21514691.78 -21514691.67 -21514691.55 0.0134 0.0062

Uranus -63617-03-23 22:47 J -21514603.67 -21514603.55 -21514603.42 0.0134 0.0046

Uranus -63617-06-20 01:54 J -21514515.55 -21514515.42 -21514515.29 0.0134 0.0028

Uranus -63617-09-16 04:47 J -21514427.43 -21514427.30 -21514427.17 0.0134 0.0011

Uranus -63617-12-13 07:40 J -21514339.31 -21514339.18 -21514339.04 0.0134 0.0007

Uranus -63616-03-11 10:47 J -21514251.18 -21514251.05 -21514250.92 0.0134 0.0023

Moon -63616-06-04 19:54 J -21514165.75 -21514165.67 -21514165.59 0.2692 0.1725

Earth -63616-06-04 20:37 J -21514165.72 -21514165.64 -21514165.56 0.2694 0.1853 *

Uranus -63616-06-07 13:40 J -21514163.05 -21514162.93 -21514162.80 0.0134 0.0040

Uranus -63616-09-03 16:33 J -21514074.92 -21514074.81 -21514074.69 0.0134 0.0057

Uranus -63616-11-30 19:25 J -21513986.79 -21513986.69 -21513986.57 0.0134 0.0074

Uranus -63615-02-26 22:33 J -21513898.65 -21513898.56 -21513898.46 0.0134 0.0091

Mars -63615-05-23 01:25 J -21513813.56 -21513813.44 -21513813.33 0.1948 0.0289

Uranus -63615-05-26 01:25 J -21513810.51 -21513810.44 -21513810.36 0.0134 0.0109

Uranus -63615-08-22 04:18 J -21513722.35 -21513722.32 -21513722.27 0.0135 0.0126

Moon -63613-11-25 17:30 J -21512895.93 -21512895.77 -21512895.61 0.2642 0.0087

Earth -63613-11-25 19:11 J -21512895.86 -21512895.70 -21512895.54 0.2643 0.0200 *

Jupiter -63612-01-15 17:45 J -21512844.87 -21512844.76 -21512844.65 0.0527 0.0237

Mars -63612-02-24 14:52 J -21512805.03 -21512804.88 -21512804.73 0.1594 0.0688

Jupiter -63612-04-14 23:16 J -21512755.64 -21512755.53 -21512755.42 0.0526 0.0267

Saturn -63611-03-29 00:57 J -21512407.50 -21512407.46 -21512407.41 0.0302 0.0281

Saturn -63611-06-25 14:09 J -21512319.03 -21512318.91 -21512318.80 0.0303 0.0146

Saturn -63611-09-22 03:06 J -21512230.50 -21512230.37 -21512230.24 0.0303 0.0010

Saturn -63611-12-19 16:04 J -21512141.95 -21512141.83 -21512141.71 0.0303 0.0124

Saturn -63610-03-18 04:47 J -21512053.36 -21512053.30 -21512053.23 0.0304 0.0258

Earth -63609-05-28 19:54 J -21511615.77 -21511615.67 -21511615.57 0.2688 0.1106

Moon -63609-05-28 20:37 J -21511615.74 -21511615.64 -21511615.54 0.2686 0.0991 *

Jupiter -63606-03-07 15:35 J -21510603.04 -21510602.85 -21510602.67 0.0499 0.0035

Mars -63606-10-13 09:06 J -21510383.21 -21510383.12 -21510383.04 0.1943 0.1325

Venus -63606-12-05 11:45 J -21510330.15 -21510330.01 -21510329.86 0.3561 0.1428

Mars -63603-07-17 17:01 J -21509374.96 -21509374.79 -21509374.62 0.1598 0.0227

Jupiter -63601-11-03 22:04 J -21508534.67 -21508534.58 -21508534.49 0.0527 0.0363

Jupiter -63600-02-01 03:35 J -21508445.47 -21508445.35 -21508445.23 0.0526 0.0142

Venus -63600-06-20 19:54 J -21508305.74 -21508305.67 -21508305.59 0.3560 0.3117

Moon -63600-11-29 00:57 J -21508144.54 -21508144.46 -21508144.38 0.2642 0.2268

Earth -63600-11-29 02:37 J -21508144.45 -21508144.39 -21508144.32 0.2640 0.2387 *

Saturn -63597-10-18 17:16 J -21507089.90 -21507089.78 -21507089.65 0.0259 0.0197

Saturn -63596-01-15 13:25 J -21507001.12 -21507000.94 -21507000.76 0.0259 0.0074

Saturn -63596-04-14 09:35 J -21506912.29 -21506912.10 -21506911.91 0.0259 0.0049

Moon -63596-05-31 13:54 J -21506865.03 -21506864.92 -21506864.81 0.2683 0.0087

Earth -63596-05-31 13:54 J -21506865.03 -21506864.92 -21506864.81 0.2691 0.0071 *

Saturn -63596-07-12 05:45 J -21506823.39 -21506823.26 -21506823.11 0.0259 0.0173

Jupiter -63595-12-24 12:13 J -21506293.17 -21506292.99 -21506292.81 0.0499 0.0130

Mars -63594-02-08 10:04 J -21506247.09 -21506247.08 -21506247.06 0.1960 0.1930

Mars -63594-12-07 18:57 J -21505944.82 -21505944.71 -21505944.59 0.1602 0.1154

Venus -63592-10-07 10:18 J -21505275.14 -21505275.07 -21505274.99 0.3818 0.2478

Jupiter -63589-08-23 01:40 J -21504224.46 -21504224.43 -21504224.39 0.0527 0.0497

Jupiter -63589-11-20 07:25 J -21504135.32 -21504135.19 -21504135.06 0.0526 0.0011

Jupiter -63588-02-17 12:42 J -21504045.99 -21504045.97 -21504045.94 0.0525 0.0509

Venus -63586-04-23 02:23 J -21503251.50 -21503251.40 -21503251.30 0.3819 0.0705

Mars -63585-06-30 17:45 J -21502816.86 -21502816.76 -21502816.66 0.1954 0.0886

Moon -63583-06-03 07:11 J -21502114.30 -21502114.20 -21502114.09 0.2687 0.0967

Earth -63583-06-03 07:40 J -21502114.28 -21502114.18 -21502114.08 0.2693 0.1013 *

Jupiter -63583-10-12 08:52 J -21501983.28 -21501983.13 -21501982.98 0.0499 0.0294

Jupiter -63582-01-10 20:23 J -21501892.77 -21501892.65 -21501892.52 0.0500 0.0369

Saturn -63582-11-12 16:47 J -21501586.90 -21501586.80 -21501586.69 0.0303 0.0176

Saturn -63581-02-09 05:59 J -21501498.38 -21501498.25 -21501498.13 0.0303 0.0042

Saturn -63581-05-07 18:57 J -21501409.84 -21501409.71 -21501409.59 0.0304 0.0095

Saturn -63581-08-04 07:40 J -21501321.26 -21501321.18 -21501321.09 0.0304 0.0229

Venus -63581-11-05 18:42 J -21501227.82 -21501227.72 -21501227.63 0.3819 0.1123

Moon -63580-11-23 17:30 J -21500844.89 -21500844.77 -21500844.65 0.2640 0.1728

Earth -63580-11-23 18:42 J -21500844.85 -21500844.72 -21500844.59 0.2645 0.1546 *

Neptune -63579-10-02 17:30 J -21500531.77 -21500531.77 -21500531.73 0.0089 0.0088

Neptune -63579-12-29 19:11 J -21500443.74 -21500443.70 -21500443.64 0.0089 0.0082

Neptune -63578-03-27 20:23 J -21500355.70 -21500355.65 -21500355.57 0.0089 0.0077

Neptune -63578-06-23 22:04 J -21500267.66 -21500267.58 -21500267.50 0.0089 0.0071

Neptune -63578-09-19 23:16 J -21500179.61 -21500179.53 -21500179.43 0.0089 0.0066

Uranus -63578-11-03 05:01 J -21500135.38 -21500135.29 -21500135.18 0.0145 0.0126

Neptune -63578-12-17 00:28 J -21500091.56 -21500091.48 -21500091.37 0.0089 0.0061

Uranus -63577-01-30 13:54 J -21500047.06 -21500046.92 -21500046.77 0.0145 0.0093

Neptune -63577-03-14 02:09 J -21500003.51 -21500003.41 -21500003.30 0.0089 0.0055

Uranus -63577-04-27 22:33 J -21499958.73 -21499958.56 -21499958.37 0.0145 0.0061

Neptune -63577-06-10 03:21 J -21499915.46 -21499915.36 -21499915.24 0.0089 0.0050

Uranus -63577-07-25 07:25 J -21499870.38 -21499870.19 -21499869.99 0.0145 0.0029

Neptune -63577-09-06 05:01 J -21499827.41 -21499827.29 -21499827.18 0.0089 0.0044

Jupiter -63577-09-08 11:30 J -21499825.14 -21499825.02 -21499824.90 0.0527 0.0119

Uranus -63577-10-21 16:18 J -21499782.02 -21499781.82 -21499781.62 0.0145 0.0004

Neptune -63577-12-03 06:13 J -21499739.36 -21499739.24 -21499739.12 0.0089 0.0039

Jupiter -63577-12-06 17:01 J -21499735.88 -21499735.79 -21499735.71 0.0526 0.0383

Uranus -63576-01-18 00:57 J -21499693.64 -21499693.46 -21499693.27 0.0145 0.0036

Neptune -63576-03-01 07:25 J -21499651.30 -21499651.19 -21499651.06 0.0089 0.0034

Uranus -63576-04-16 09:35 J -21499605.26 -21499605.10 -21499604.92 0.0145 0.0069

Earth -63576-05-27 06:57 J -21499564.28 -21499564.21 -21499564.14 0.2686 0.1957

Moon -63576-05-27 07:40 J -21499564.26 -21499564.18 -21499564.10 0.2687 0.1809 *

Neptune -63576-05-28 08:52 J -21499563.25 -21499563.13 -21499563.00 0.0089 0.0028

Uranus -63576-07-13 18:13 J -21499516.87 -21499516.74 -21499516.59 0.0144 0.0101

Neptune -63576-08-24 10:18 J -21499475.20 -21499475.07 -21499474.94 0.0089 0.0023

Uranus -63576-10-10 03:06 J -21499428.44 -21499428.37 -21499428.29 0.0144 0.0132

Neptune -63576-11-20 11:45 J -21499387.14 -21499387.01 -21499386.88 0.0089 0.0017

Mars -63576-11-21 01:25 J -21499386.56 -21499386.44 -21499386.33 0.1949 0.0176

Neptune -63575-02-16 13:11 J -21499299.09 -21499298.95 -21499298.82 0.0089 0.0012

Neptune -63575-05-15 14:23 J -21499211.03 -21499210.90 -21499210.77 0.0089 0.0006

Venus -63575-05-22 10:47 J -21499204.11 -21499204.05 -21499203.98 0.3819 0.2944

Neptune -63575-08-11 15:49 J -21499122.98 -21499122.84 -21499122.71 0.0089 0.0002

Neptune -63575-11-07 17:01 J -21499034.92 -21499034.79 -21499034.65 0.0089 0.0005

Neptune -63574-02-03 18:28 J -21498946.86 -21498946.73 -21498946.60 0.0089 0.0010

Neptune -63574-05-02 19:40 J -21498858.81 -21498858.68 -21498858.55 0.0089 0.0015

Neptune -63574-07-29 20:52 J -21498770.75 -21498770.63 -21498770.49 0.0089 0.0021

Neptune -63574-10-25 22:18 J -21498682.69 -21498682.57 -21498682.44 0.0089 0.0026

Neptune -63573-01-21 23:45 J -21498594.64 -21498594.51 -21498594.39 0.0089 0.0031

Neptune -63573-04-19 00:57 J -21498506.58 -21498506.46 -21498506.33 0.0089 0.0036

Neptune -63573-07-16 02:09 J -21498418.52 -21498418.41 -21498418.28 0.0089 0.0042

Mars -63573-08-25 15:35 J -21498377.99 -21498377.85 -21498377.71 0.1594 0.0827

Neptune -63573-10-12 03:35 J -21498330.46 -21498330.35 -21498330.23 0.0089 0.0047

Neptune -63572-01-08 05:01 J -21498242.40 -21498242.29 -21498242.19 0.0089 0.0052

Neptune -63572-04-06 05:59 J -21498154.34 -21498154.25 -21498154.14 0.0089 0.0058

Neptune -63572-07-03 07:25 J -21498066.27 -21498066.19 -21498066.09 0.0089 0.0063

Neptune -63572-09-29 08:52 J -21497978.21 -21497978.13 -21497978.04 0.0089 0.0068

Neptune -63572-12-26 10:18 J -21497890.15 -21497890.07 -21497890.00 0.0089 0.0073

Neptune -63571-03-24 11:16 J -21497802.08 -21497802.03 -21497801.96 0.0089 0.0079

Neptune -63571-06-20 12:42 J -21497714.00 -21497713.97 -21497713.92 0.0089 0.0084

Jupiter -63571-07-31 05:30 J -21497673.34 -21497673.27 -21497673.19 0.0498 0.0458

Jupiter -63571-10-29 16:47 J -21497582.97 -21497582.80 -21497582.63 0.0499 0.0200

Moon -63570-06-06 00:42 J -21497363.54 -21497363.47 -21497363.40 0.2693 0.2024

Earth -63570-06-06 01:25 J -21497363.51 -21497363.44 -21497363.37 0.2695 0.2058 *

Saturn -63567-03-07 18:13 J -21496357.83 -21496357.74 -21496357.64 0.0260 0.0223

Saturn -63567-06-04 14:23 J -21496269.07 -21496268.90 -21496268.73 0.0259 0.0101

Saturn -63567-09-01 10:33 J -21496180.25 -21496180.06 -21496179.87 0.0259 0.0022

Pluto -63567-11-17 03:35 J -21496103.39 -21496103.35 -21496103.29 0.0061 0.0058

Moon -63567-11-26 23:59 J -21496093.65 -21496093.50 -21496093.34 0.2641 0.0555

Earth -63567-11-27 01:54 J -21496093.58 -21496093.42 -21496093.27 0.2642 0.0609 *

Saturn -63567-11-29 06:42 J -21496091.37 -21496091.22 -21496091.06 0.0259 0.0146

Pluto -63566-02-13 04:47 J -21496015.38 -21496015.30 -21496015.21 0.0061 0.0053

Mars -63566-04-13 09:06 J -21495956.21 -21495956.12 -21495956.03 0.1943 0.1208

Pluto -63566-05-12 05:30 J -21495927.35 -21495927.27 -21495927.14 0.0061 0.0049

Pluto -63566-08-08 06:42 J -21495839.32 -21495839.22 -21495839.08 0.0061 0.0044

Pluto -63566-11-04 07:54 J -21495751.29 -21495751.17 -21495751.02 0.0061 0.0039

Pluto -63565-01-31 09:06 J -21495663.25 -21495663.12 -21495662.96 0.0061 0.0034

Pluto -63565-04-28 10:18 J -21495575.21 -21495575.07 -21495574.90 0.0061 0.0029

Jupiter -63565-06-27 15:35 J -21495514.96 -21495514.85 -21495514.74 0.0527 0.0250

Pluto -63565-07-25 11:30 J -21495487.17 -21495487.02 -21495486.84 0.0061 0.0025

Jupiter -63565-09-24 21:06 J -21495425.73 -21495425.62 -21495425.51 0.0527 0.0256

Pluto -63565-10-21 12:42 J -21495399.13 -21495398.97 -21495398.79 0.0061 0.0020

Pluto -63564-01-17 13:54 J -21495311.08 -21495310.92 -21495310.73 0.0061 0.0015

Pluto -63564-04-15 15:06 J -21495223.04 -21495222.87 -21495222.68 0.0062 0.0010

Pluto -63564-07-12 16:33 J -21495134.99 -21495134.81 -21495134.63 0.0062 0.0004

Pluto -63564-10-08 17:45 J -21495046.94 -21495046.76 -21495046.58 0.0062 0.0001

Pluto -63563-01-04 18:57 J -21494958.89 -21494958.71 -21494958.53 0.0062 0.0006

Mars -63563-01-15 17:45 J -21494947.93 -21494947.76 -21494947.60 0.1598 0.0100

Pluto -63563-04-02 20:09 J -21494870.83 -21494870.66 -21494870.48 0.0062 0.0011

Earth -63563-05-30 00:57 J -21494813.57 -21494813.46 -21494813.36 0.2689 0.0896

Moon -63563-05-30 01:25 J -21494813.55 -21494813.44 -21494813.34 0.2684 0.0888 *

Pluto -63563-06-29 21:21 J -21494782.78 -21494782.61 -21494782.43 0.0062 0.0017

Pluto -63563-09-25 22:33 J -21494694.72 -21494694.56 -21494694.38 0.0062 0.0022

Pluto -63563-12-22 23:45 J -21494606.66 -21494606.51 -21494606.34 0.0062 0.0027

Pluto -63562-03-21 01:11 J -21494518.60 -21494518.45 -21494518.29 0.0062 0.0032

Pluto -63562-06-17 02:37 J -21494430.54 -21494430.39 -21494430.25 0.0062 0.0038

Pluto -63562-09-13 03:21 J -21494342.47 -21494342.36 -21494342.21 0.0062 0.0043

Pluto -63562-12-10 04:47 J -21494254.40 -21494254.30 -21494254.17 0.0062 0.0049

Pluto -63561-03-07 06:13 J -21494166.32 -21494166.24 -21494166.14 0.0062 0.0054

Pluto -63561-06-03 07:11 J -21494078.23 -21494078.20 -21494078.12 0.0062 0.0060

Jupiter -63559-08-17 13:11 J -21493273.13 -21493272.95 -21493272.76 0.0499 0.0035

Mars -63554-06-07 19:40 J -21491517.81 -21491517.68 -21491517.55 0.1602 0.1022

Moon -63554-11-30 07:54 J -21491342.20 -21491342.17 -21491342.14 0.2643 0.2594

Jupiter -63553-04-15 19:54 J -21491204.76 -21491204.67 -21491204.58 0.0527 0.0374

Jupiter -63553-07-14 01:25 J -21491115.56 -21491115.44 -21491115.31 0.0526 0.0133

Saturn -63552-03-31 19:25 J -21490854.78 -21490854.69 -21490854.59 0.0303 0.0208

Saturn -63552-06-28 08:37 J -21490766.27 -21490766.14 -21490766.01 0.0303 0.0072

Saturn -63552-09-24 21:35 J -21490677.73 -21490677.60 -21490677.47 0.0303 0.0063

Saturn -63552-12-22 10:33 J -21490589.16 -21490589.06 -21490588.96 0.0303 0.0197

Moon -63550-06-01 18:42 J -21490062.83 -21490062.72 -21490062.61 0.2684 0.0226

Earth -63550-06-01 18:42 J -21490062.83 -21490062.72 -21490062.61 0.2691 0.0171 *

Venus -63549-07-11 13:54 J -21489657.08 -21489656.92 -21489656.77 0.3561 0.0160

Jupiter -63547-06-05 09:06 J -21488963.30 -21488963.12 -21488962.94 0.0499 0.0141

Mars -63546-12-30 17:45 J -21488389.86 -21488389.76 -21488389.67 0.1954 0.0981

Jupiter -63541-02-03 00:13 J -21486894.53 -21486894.49 -21486894.45 0.0527 0.0498

Jupiter -63541-05-02 05:59 J -21486805.38 -21486805.25 -21486805.13 0.0526 0.0015

Jupiter -63541-07-30 11:16 J -21486716.06 -21486716.03 -21486716.00 0.0525 0.0508

Venus -63541-10-28 15:49 J -21486625.87 -21486625.84 -21486625.81 0.3817 0.3624

Saturn -63538-07-25 18:28 J -21485625.76 -21485625.73 -21485625.68 0.0259 0.0254

Saturn -63538-10-22 14:37 J -21485537.05 -21485536.89 -21485536.72 0.0259 0.0132

Saturn -63537-01-19 10:47 J -21485448.24 -21485448.05 -21485447.86 0.0259 0.0009

Saturn -63537-04-17 06:57 J -21485359.38 -21485359.21 -21485359.04 0.0259 0.0114

Moon -63537-06-03 11:59 J -21485312.10 -21485312.00 -21485311.90 0.2688 0.1147

Earth -63537-06-03 12:28 J -21485312.08 -21485311.98 -21485311.88 0.2693 0.1221 *

Saturn -63537-07-15 03:06 J -21485270.43 -21485270.37 -21485270.29 0.0259 0.0238

Mars -63536-05-22 01:25 J -21484959.55 -21484959.44 -21484959.32 0.1949 0.0059

Jupiter -63535-03-24 05:45 J -21484653.40 -21484653.26 -21484653.11 0.0499 0.0305

Venus -63535-05-14 07:54 J -21484602.26 -21484602.17 -21484602.08 0.3818 0.1845

Jupiter -63535-06-22 17:16 J -21484562.90 -21484562.78 -21484562.64 0.0500 0.0358

Uranus -63534-01-28 15:06 J -21484342.91 -21484342.87 -21484342.83 0.0133 0.0127

Uranus -63534-04-26 17:59 J -21484254.82 -21484254.75 -21484254.67 0.0133 0.0110

Uranus -63534-07-23 21:06 J -21484166.71 -21484166.62 -21484166.53 0.0133 0.0093

Uranus -63534-10-19 23:45 J -21484078.61 -21484078.51 -21484078.39 0.0134 0.0077

Moon -63534-11-24 23:45 J -21484042.65 -21484042.51 -21484042.36 0.2641 0.1214

Earth -63534-11-25 01:11 J -21484042.59 -21484042.45 -21484042.30 0.2645 0.1151 *

Uranus -63533-01-16 02:52 J -21483990.49 -21483990.38 -21483990.26 0.0134 0.0059

Mars -63533-02-24 16:18 J -21483950.95 -21483950.82 -21483950.68 0.1594 0.0973

Uranus -63533-04-13 05:45 J -21483902.38 -21483902.26 -21483902.13 0.0134 0.0043

Uranus -63533-07-10 08:52 J -21483814.26 -21483814.13 -21483814.00 0.0134 0.0025

Uranus -63533-10-06 11:45 J -21483726.14 -21483726.01 -21483725.88 0.0134 0.0008

Uranus -63532-01-02 14:37 J -21483638.02 -21483637.89 -21483637.75 0.0134 0.0010

Uranus -63532-03-31 17:45 J -21483549.89 -21483549.76 -21483549.63 0.0134 0.0026

Uranus -63532-06-27 20:37 J -21483461.76 -21483461.64 -21483461.51 0.0134 0.0043

Uranus -63532-09-23 23:30 J -21483373.63 -21483373.52 -21483373.40 0.0134 0.0060

Uranus -63532-12-21 02:23 J -21483285.50 -21483285.40 -21483285.29 0.0134 0.0078

Uranus -63531-03-19 05:30 J -21483197.36 -21483197.27 -21483197.18 0.0134 0.0095

Uranus -63531-06-15 08:23 J -21483109.21 -21483109.15 -21483109.07 0.0135 0.0112

Uranus -63531-09-11 11:30 J -21483021.05 -21483021.02 -21483020.98 0.0135 0.0129

Earth -63530-05-28 11:45 J -21482762.09 -21482762.01 -21482761.92 0.2687 0.1742

Moon -63530-05-28 12:28 J -21482762.06 -21482761.98 -21482761.89 0.2687 0.1726 *

Venus -63530-11-27 23:59 J -21482578.60 -21482578.50 -21482578.40 0.3819 0.0081

Jupiter -63529-02-19 09:49 J -21482495.21 -21482495.09 -21482494.97 0.0526 0.0123

Jupiter -63529-05-18 15:06 J -21482405.95 -21482405.87 -21482405.78 0.0526 0.0379

Mars -63527-10-12 09:06 J -21481529.22 -21481529.12 -21481529.03 0.1942 0.1096

Moon -63524-06-06 05:30 J -21480561.33 -21480561.27 -21480561.21 0.2694 0.2158

Earth -63524-06-06 06:13 J -21480561.30 -21480561.24 -21480561.18 0.2695 0.2263 *

Venus -63524-06-12 16:18 J -21480554.91 -21480554.82 -21480554.73 0.3819 0.1777

Mars -63524-07-16 18:13 J -21480520.90 -21480520.74 -21480520.57 0.1598 0.0051

Jupiter -63523-01-10 02:37 J -21480343.45 -21480343.39 -21480343.32 0.0499 0.0466

Jupiter -63523-04-10 14:09 J -21480253.08 -21480252.91 -21480252.74 0.0499 0.0194

Saturn -63523-08-18 21:49 J -21480122.66 -21480122.59 -21480122.51 0.0303 0.0242

Saturn -63523-11-15 11:01 J -21480034.16 -21480034.04 -21480033.92 0.0303 0.0106

Saturn -63522-02-11 23:59 J -21479945.63 -21479945.50 -21479945.37 0.0304 0.0029

Saturn -63522-05-11 12:57 J -21479857.07 -21479856.96 -21479856.85 0.0304 0.0164

Saturn -63522-08-08 01:40 J -21479768.45 -21479768.43 -21479768.40 0.0304 0.0298

Moon -63521-11-27 06:57 J -21479291.37 -21479291.21 -21479291.06 0.2641 0.0748

Earth -63521-11-27 08:37 J -21479291.29 -21479291.14 -21479290.99 0.2642 0.1019 *

Venus -63519-12-27 08:23 J -21478531.18 -21478531.15 -21478531.12 0.3819 0.3600

Jupiter -63518-12-08 13:54 J -21478185.03 -21478184.92 -21478184.81 0.0527 0.0253

Jupiter -63517-03-06 19:25 J -21478095.80 -21478095.69 -21478095.58 0.0526 0.0252

Earth -63517-05-30 05:45 J -21478011.37 -21478011.26 -21478011.16 0.2689 0.0682

Moon -63517-05-30 05:59 J -21478011.35 -21478011.25 -21478011.14 0.2683 0.0579 *

Mars -63515-12-06 20:23 J -21477090.79 -21477090.65 -21477090.51 0.1602 0.0884

Jupiter -63511-01-27 10:47 J -21475943.24 -21475943.05 -21475942.86 0.0499 0.0028

Saturn -63508-03-10 15:06 J -21474805.01 -21474804.87 -21474804.71 0.0259 0.0160

Saturn -63508-06-07 11:16 J -21474716.21 -21474716.03 -21474715.84 0.0259 0.0038

Saturn -63508-09-04 07:25 J -21474627.36 -21474627.19 -21474627.01 0.0259 0.0085

Saturn -63508-12-02 03:35 J -21474538.45 -21474538.35 -21474538.23 0.0259 0.0209

Mars -63506-06-30 17:45 J -21473962.85 -21473962.76 -21473962.66 0.1954 0.1103

Jupiter -63506-09-26 17:45 J -21473874.84 -21473874.76 -21473874.67 0.0527 0.0384

Jupiter -63506-12-24 23:30 J -21473785.64 -21473785.52 -21473785.40 0.0527 0.0124

Moon -63504-06-01 23:30 J -21473260.63 -21473260.52 -21473260.41 0.2685 0.0333

Earth -63504-06-01 23:30 J -21473260.63 -21473260.52 -21473260.41 0.2691 0.0377 *

Jupiter -63500-11-15 07:25 J -21471633.37 -21471633.19 -21471633.01 0.0499 0.0137

Venus -63498-08-02 07:25 J -21471008.28 -21471008.19 -21471008.10 0.3561 0.2916

Earth -63497-05-25 22:47 J -21470710.58 -21470710.55 -21470710.53 0.2685 0.2601

Moon -63497-05-25 23:16 J -21470710.56 -21470710.53 -21470710.50 0.2688 0.2548 *

Mars -63497-11-20 01:25 J -21470532.56 -21470532.44 -21470532.33 0.1948 0.0062

Neptune -63496-09-17 08:37 J -21470231.19 -21470231.14 -21470231.09 0.0089 0.0085

Neptune -63496-12-14 11:45 J -21470143.08 -21470143.01 -21470142.90 0.0089 0.0078

Neptune -63495-03-12 15:35 J -21470054.96 -21470054.85 -21470054.73 0.0089 0.0070

Neptune -63495-06-08 18:57 J -21469966.83 -21469966.71 -21469966.56 0.0089 0.0063

Neptune -63495-09-04 22:33 J -21469878.70 -21469878.56 -21469878.40 0.0089 0.0055

Neptune -63495-12-02 02:23 J -21469790.56 -21469790.40 -21469790.24 0.0089 0.0047

Neptune -63494-02-28 05:30 J -21469702.43 -21469702.27 -21469702.08 0.0089 0.0040

Neptune -63494-05-27 09:21 J -21469614.29 -21469614.11 -21469613.93 0.0089 0.0032

Jupiter -63494-07-15 22:18 J -21469564.60 -21469564.57 -21469564.54 0.0527 0.0507

Neptune -63494-08-23 12:57 J -21469526.14 -21469525.96 -21469525.77 0.0089 0.0024

Mars -63494-08-25 17:01 J -21469523.91 -21469523.79 -21469523.67 0.1594 0.1101

Jupiter -63494-10-13 04:04 J -21469475.46 -21469475.33 -21469475.21 0.0527 0.0019

Neptune -63494-11-19 16:18 J -21469438.00 -21469437.82 -21469437.62 0.0089 0.0017

Uranus -63494-11-23 12:42 J -21469434.07 -21469433.97 -21469433.84 0.0145 0.0117

Saturn -63493-01-06 00:13 J -21469390.54 -21469390.49 -21469390.44 0.0303 0.0277

Jupiter -63493-01-10 09:21 J -21469386.14 -21469386.11 -21469386.08 0.0526 0.0502

Neptune -63493-02-15 20:09 J -21469349.85 -21469349.66 -21469349.47 0.0089 0.0009

Uranus -63493-02-19 21:49 J -21469345.75 -21469345.59 -21469345.43 0.0145 0.0084

Saturn -63493-04-03 13:25 J -21469302.06 -21469301.94 -21469301.83 0.0303 0.0141

Neptune -63493-05-13 23:45 J -21469261.70 -21469261.51 -21469261.32 0.0089 0.0001

Uranus -63493-05-18 06:28 J -21469257.41 -21469257.23 -21469257.04 0.0145 0.0052

Saturn -63493-07-01 02:23 J -21469213.53 -21469213.40 -21469213.27 0.0303 0.0007

Neptune -63493-08-10 03:21 J -21469173.55 -21469173.36 -21469173.17 0.0089 0.0007

Uranus -63493-08-14 15:21 J -21469169.05 -21469168.86 -21469168.67 0.0145 0.0020

Saturn -63493-09-27 15:21 J -21469124.98 -21469124.86 -21469124.74 0.0304 0.0129

Neptune -63493-11-06 06:57 J -21469085.40 -21469085.21 -21469085.02 0.0089 0.0015

Uranus -63493-11-10 23:59 J -21469080.69 -21469080.50 -21469080.30 0.0145 0.0013

Saturn -63493-12-25 04:18 J -21469036.38 -21469036.32 -21469036.26 0.0304 0.0263

Neptune -63492-02-02 10:18 J -21468997.25 -21468997.07 -21468996.87 0.0089 0.0023

Uranus -63492-02-07 08:52 J -21468992.32 -21468992.13 -21468991.95 0.0145 0.0045

Venus -63492-02-15 15:49 J -21468983.98 -21468983.84 -21468983.70 0.3561 0.1687

Neptune -63492-05-01 13:54 J -21468909.09 -21468908.92 -21468908.73 0.0089 0.0031

Uranus -63492-05-06 17:16 J -21468903.93 -21468903.78 -21468903.60 0.0144 0.0078

Neptune -63492-07-28 17:45 J -21468820.93 -21468820.76 -21468820.58 0.0089 0.0038

Uranus -63492-08-03 01:54 J -21468815.53 -21468815.42 -21468815.27 0.0144 0.0110

Neptune -63492-10-24 21:21 J -21468732.77 -21468732.61 -21468732.44 0.0089 0.0046

Uranus -63492-10-30 10:47 J -21468727.08 -21468727.05 -21468727.00 0.0144 0.0141

Neptune -63491-01-21 00:42 J -21468644.61 -21468644.47 -21468644.30 0.0089 0.0054

Neptune -63491-04-19 04:18 J -21468556.44 -21468556.32 -21468556.16 0.0089 0.0062

Moon -63491-06-04 16:47 J -21468509.90 -21468509.80 -21468509.71 0.2689 0.1393

Earth -63491-06-04 17:16 J -21468509.87 -21468509.78 -21468509.69 0.2693 0.1426 *

Neptune -63491-07-16 07:54 J -21468468.27 -21468468.17 -21468468.03 0.0089 0.0070

Neptune -63491-10-12 11:59 J -21468380.09 -21468380.00 -21468379.91 0.0089 0.0077

Neptune -63490-01-08 15:21 J -21468291.90 -21468291.86 -21468291.79 0.0089 0.0085

Jupiter -63488-09-03 03:06 J -21467323.52 -21467323.37 -21467323.23 0.0499 0.0312

Moon -63488-11-25 06:13 J -21467240.38 -21467240.24 -21467240.09 0.2641 0.0941

Earth -63488-11-25 07:54 J -21467240.32 -21467240.17 -21467240.02 0.2644 0.0749 *

Jupiter -63488-12-02 14:23 J -21467233.02 -21467232.90 -21467232.76 0.0500 0.0351

Mars -63487-04-12 08:52 J -21467102.22 -21467102.13 -21467102.03 0.1943 0.0998

Mars -63484-01-14 19:11 J -21466093.87 -21466093.70 -21466093.54 0.1598 0.0189

Earth -63484-05-28 16:33 J -21465959.90 -21465959.81 -21465959.72 0.2687 0.1535

Moon -63484-05-28 17:16 J -21465959.87 -21465959.78 -21465959.69 0.2686 0.1407 *

Venus -63484-06-04 13:25 J -21465953.00 -21465952.94 -21465952.88 0.3817 0.2994

Jupiter -63482-08-01 08:23 J -21465165.27 -21465165.15 -21465165.02 0.0527 0.0122

Jupiter -63482-10-29 13:54 J -21465076.01 -21465075.92 -21465075.84 0.0526 0.0381

Saturn -63479-07-28 15:21 J -21464072.98 -21464072.86 -21464072.73 0.0259 0.0192

Saturn -63479-10-25 11:30 J -21463984.20 -21463984.02 -21463983.84 0.0259 0.0070

Venus -63479-12-19 05:30 J -21463929.37 -21463929.27 -21463929.18 0.3818 0.1208

Saturn -63478-01-22 07:25 J -21463895.37 -21463895.19 -21463895.00 0.0259 0.0053

Saturn -63478-04-21 03:35 J -21463806.48 -21463806.35 -21463806.20 0.0258 0.0176

Moon -63478-06-07 10:18 J -21463759.12 -21463759.07 -21463759.02 0.2696 0.2401

Earth -63478-06-07 11:01 J -21463759.08 -21463759.04 -21463759.00 0.2695 0.2469 *

Jupiter -63476-06-21 23:45 J -21463013.55 -21463013.51 -21463013.44 0.0499 0.0474

Jupiter -63476-09-20 11:16 J -21462923.20 -21462923.03 -21462922.85 0.0500 0.0186

Mars -63475-06-06 21:06 J -21462663.77 -21462663.62 -21462663.47 0.1602 0.0744

Moon -63475-11-28 13:40 J -21462489.07 -21462488.93 -21462488.80 0.2642 0.1362

Earth -63475-11-28 15:21 J -21462489.00 -21462488.86 -21462488.73 0.2642 0.1420 *

Pluto -63474-07-05 11:16 J -21462270.06 -21462270.03 -21462269.97 0.0084 0.0079

Pluto -63474-10-01 13:11 J -21462182.03 -21462181.95 -21462181.87 0.0084 0.0068

Pluto -63474-12-28 14:37 J -21462093.98 -21462093.89 -21462093.78 0.0084 0.0058

Pluto -63473-03-25 16:04 J -21462005.93 -21462005.83 -21462005.70 0.0084 0.0048

Pluto -63473-06-21 17:45 J -21461917.88 -21461917.76 -21461917.62 0.0084 0.0038

Venus -63473-07-03 21:35 J -21461905.70 -21461905.60 -21461905.50 0.3819 0.0606

Pluto -63473-09-17 19:25 J -21461829.82 -21461829.69 -21461829.55 0.0083 0.0027

Pluto -63473-12-14 20:52 J -21461741.76 -21461741.63 -21461741.48 0.0083 0.0017

Pluto -63472-03-12 22:33 J -21461653.70 -21461653.56 -21461653.42 0.0083 0.0007

Pluto -63472-06-08 23:59 J -21461565.64 -21461565.50 -21461565.35 0.0083 0.0004

Pluto -63472-09-05 01:25 J -21461477.57 -21461477.44 -21461477.29 0.0083 0.0013

Pluto -63472-12-02 02:52 J -21461389.51 -21461389.38 -21461389.24 0.0083 0.0023

Pluto -63471-02-28 04:18 J -21461301.44 -21461301.32 -21461301.18 0.0083 0.0033

Pluto -63471-05-27 05:59 J -21461213.37 -21461213.25 -21461213.13 0.0082 0.0042

Earth -63471-05-31 10:33 J -21461209.17 -21461209.06 -21461208.95 0.2689 0.0469

Moon -63471-05-31 11:01 J -21461209.15 -21461209.04 -21461208.94 0.2683 0.0497 *

Pluto -63471-08-23 07:11 J -21461125.30 -21461125.20 -21461125.08 0.0082 0.0052

Pluto -63471-11-19 08:37 J -21461037.22 -21461037.14 -21461037.04 0.0082 0.0061

Pluto -63470-02-15 10:04 J -21460949.14 -21460949.08 -21460949.00 0.0082 0.0070

Pluto -63470-05-14 11:30 J -21460861.04 -21460861.02 -21460860.98 0.0082 0.0079

Jupiter -63470-05-20 12:28 J -21460855.09 -21460854.98 -21460854.87 0.0526 0.0253

Jupiter -63470-08-17 17:59 J -21460765.86 -21460765.75 -21460765.64 0.0526 0.0252

Venus -63467-01-17 13:54 J -21459882.00 -21459881.92 -21459881.85 0.3819 0.2429

Mars -63467-12-29 17:45 J -21459535.85 -21459535.76 -21459535.67 0.1954 0.1215

Jupiter -63464-07-09 08:23 J -21458613.34 -21458613.15 -21458612.97 0.0499 0.0026

Saturn -63464-08-21 15:06 J -21458569.97 -21458569.87 -21458569.76 0.0303 0.0181

Saturn -63464-11-18 04:18 J -21458481.45 -21458481.32 -21458481.19 0.0304 0.0044

Saturn -63463-02-14 17:16 J -21458392.90 -21458392.78 -21458392.65 0.0304 0.0091

Saturn -63463-05-14 06:13 J -21458304.32 -21458304.24 -21458304.15 0.0304 0.0226

Jupiter -63458-03-08 16:33 J -21456544.90 -21456544.81 -21456544.73 0.0527 0.0382

Moon -63458-06-03 04:04 J -21456458.43 -21456458.33 -21456458.22 0.2685 0.0624

Earth -63458-06-03 04:18 J -21456458.43 -21456458.32 -21456458.21 0.2691 0.0586 *

Jupiter -63458-06-05 22:04 J -21456455.70 -21456455.58 -21456455.46 0.0526 0.0124

Mars -63457-05-21 01:25 J -21456105.56 -21456105.44 -21456105.33 0.1949 0.0166

Moon -63455-11-23 06:42 J -21455189.27 -21455189.22 -21455189.17 0.2641 0.2499

Earth -63455-11-23 07:25 J -21455189.24 -21455189.19 -21455189.14 0.2646 0.2481 *

Mars -63454-02-23 17:45 J -21455096.87 -21455096.76 -21455096.66 0.1594 0.1238

Jupiter -63452-04-27 05:16 J -21454303.46 -21454303.28 -21454303.10 0.0499 0.0138

Earth -63451-05-27 03:35 J -21453908.40 -21453908.35 -21453908.30 0.2685 0.2388

Moon -63451-05-27 04:18 J -21453908.38 -21453908.32 -21453908.27 0.2689 0.2315 *

Uranus -63450-02-17 21:49 J -21453641.63 -21453641.59 -21453641.54 0.0133 0.0124

Uranus -63450-05-17 00:42 J -21453553.54 -21453553.47 -21453553.39 0.0133 0.0108

Uranus -63450-08-13 03:49 J -21453465.43 -21453465.34 -21453465.24 0.0133 0.0091

Uranus -63450-11-09 06:42 J -21453377.33 -21453377.22 -21453377.11 0.0134 0.0074

Saturn -63450-12-15 15:21 J -21453340.94 -21453340.86 -21453340.76 0.0259 0.0224

Uranus -63449-02-05 09:49 J -21453289.21 -21453289.09 -21453288.98 0.0134 0.0057

Saturn -63449-03-13 11:30 J -21453252.19 -21453252.02 -21453251.85 0.0259 0.0102

Uranus -63449-05-03 12:42 J -21453201.10 -21453200.97 -21453200.85 0.0134 0.0040

Saturn -63449-06-10 07:40 J -21453163.37 -21453163.18 -21453162.99 0.0259 0.0021

Uranus -63449-07-30 15:35 J -21453112.98 -21453112.85 -21453112.72 0.0134 0.0023

Saturn -63449-09-07 03:35 J -21453074.50 -21453074.35 -21453074.18 0.0259 0.0144

Uranus -63449-10-26 18:42 J -21453024.86 -21453024.72 -21453024.59 0.0134 0.0007

Uranus -63448-01-22 21:35 J -21452936.73 -21452936.60 -21452936.47 0.0134 0.0011

Uranus -63448-04-21 00:28 J -21452848.61 -21452848.48 -21452848.35 0.0134 0.0028

Uranus -63448-07-18 03:35 J -21452760.48 -21452760.35 -21452760.23 0.0134 0.0046

Mars -63448-10-11 09:06 J -21452675.22 -21452675.12 -21452675.02 0.1943 0.0873

Uranus -63448-10-14 06:28 J -21452672.35 -21452672.23 -21452672.12 0.0134 0.0063

Uranus -63447-01-10 09:21 J -21452584.21 -21452584.11 -21452584.00 0.0134 0.0080

Uranus -63447-04-08 12:13 J -21452496.07 -21452495.99 -21452495.89 0.0134 0.0097

Uranus -63447-07-05 15:06 J -21452407.93 -21452407.87 -21452407.79 0.0135 0.0115

Uranus -63447-10-01 18:13 J -21452319.76 -21452319.74 -21452319.71 0.0135 0.0132

Jupiter -63447-12-25 20:23 J -21452234.67 -21452234.65 -21452234.62 0.0527 0.0513

Jupiter -63446-03-25 02:09 J -21452145.53 -21452145.41 -21452145.28 0.0527 0.0009

Jupiter -63446-06-22 07:40 J -21452056.22 -21452056.18 -21452056.15 0.0526 0.0497

Moon -63445-06-04 21:35 J -21451707.69 -21451707.60 -21451707.51 0.2689 0.1529

Earth -63445-06-04 22:04 J -21451707.66 -21451707.58 -21451707.49 0.2693 0.1634 *

Mars -63445-07-15 19:40 J -21451666.84 -21451666.68 -21451666.51 0.1598 0.0317

Moon -63442-11-26 12:57 J -21450438.12 -21450437.96 -21450437.80 0.2640 0.0463

Earth -63442-11-26 14:37 J -21450438.05 -21450437.89 -21450437.74 0.2644 0.0359 *

Venus -63441-03-08 09:35 J -21450335.25 -21450335.10 -21450334.96 0.3561 0.1344

Jupiter -63440-02-13 01:54 J -21449993.56 -21449993.42 -21449993.27 0.0499 0.0301

Jupiter -63440-05-14 13:25 J -21449903.07 -21449902.94 -21449902.81 0.0499 0.0360

Mars -63438-03-03 16:33 J -21449244.82 -21449244.81 -21449244.79 0.1936 0.1918

Earth -63438-05-29 21:35 J -21449157.70 -21449157.60 -21449157.51 0.2687 0.1324

Moon -63438-05-29 22:04 J -21449157.67 -21449157.58 -21449157.48 0.2685 0.1279 *

Venus -63436-09-22 17:45 J -21448310.82 -21448310.76 -21448310.70 0.3561 0.3230

Mars -63436-12-05 21:35 J -21448236.75 -21448236.60 -21448236.44 0.1602 0.0610

Saturn -63434-01-08 17:01 J -21447837.87 -21447837.79 -21447837.69 0.0303 0.0220

Jupiter -63434-01-11 06:42 J -21447835.34 -21447835.22 -21447835.10 0.0527 0.0126

Saturn -63434-04-07 06:13 J -21447749.36 -21447749.24 -21447749.11 0.0303 0.0084

Jupiter -63434-04-10 12:13 J -21447746.08 -21447745.99 -21447745.91 0.0526 0.0378

Saturn -63434-07-04 19:11 J -21447660.82 -21447660.70 -21447660.57 0.0303 0.0052

Saturn -63434-10-01 08:09 J -21447572.26 -21447572.16 -21447572.05 0.0304 0.0186

Moon -63432-06-07 15:06 J -21446956.89 -21446956.87 -21446956.85 0.2698 0.2622

Earth -63432-06-07 15:49 J -21446956.85 -21446956.84 -21446956.83 0.2695 0.2670 *

Moon -63429-11-28 20:23 J -21445686.78 -21445686.65 -21445686.53 0.2643 0.1599

Earth -63429-11-28 21:49 J -21445686.70 -21445686.59 -21445686.47 0.2641 0.1827 *

Jupiter -63429-12-01 21:35 J -21445683.65 -21445683.60 -21445683.55 0.0499 0.0477

Jupiter -63428-03-02 08:52 J -21445593.30 -21445593.13 -21445592.95 0.0499 0.0183

Venus -63427-01-09 11:01 J -21445280.12 -21445280.04 -21445279.96 0.3818 0.2360

Mars -63427-06-29 17:45 J -21445108.85 -21445108.76 -21445108.68 0.1954 0.1313

Mars -63426-04-27 23:45 J -21444806.55 -21444806.51 -21444806.46 0.1607 0.1532

Earth -63425-05-31 15:21 J -21444406.97 -21444406.86 -21444406.75 0.2690 0.0262

Moon -63425-05-31 15:35 J -21444406.96 -21444406.85 -21444406.74 0.2684 0.0183 *

Jupiter -63423-10-30 11:16 J -21443525.14 -21443525.03 -21443524.92 0.0527 0.0247

Jupiter -63422-01-27 16:47 J -21443435.91 -21443435.80 -21443435.69 0.0526 0.0258

Venus -63422-07-26 03:06 J -21443256.47 -21443256.37 -21443256.27 0.3818 0.0570

Saturn -63420-05-03 15:21 J -21442608.88 -21442608.86 -21442608.83 0.0259 0.0257

Saturn -63420-07-31 11:16 J -21442520.19 -21442520.03 -21442519.87 0.0259 0.0136

Saturn -63420-10-28 07:11 J -21442431.39 -21442431.20 -21442431.01 0.0259 0.0015

Saturn -63419-01-25 03:21 J -21442342.53 -21442342.36 -21442342.19 0.0258 0.0108

Saturn -63419-04-23 23:16 J -21442253.60 -21442253.53 -21442253.43 0.0258 0.0232

Mars -63418-11-20 01:25 J -21441678.55 -21441678.44 -21441678.32 0.1949 0.0281

Jupiter -63417-12-19 05:45 J -21441283.44 -21441283.26 -21441283.07 0.0499 0.0023

Venus -63416-02-07 19:11 J -21441232.79 -21441232.70 -21441232.60 0.3819 0.1262

Mars -63415-08-24 18:28 J -21440669.81 -21440669.73 -21440669.65 0.1594 0.1381

Neptune -63414-06-29 17:45 J -21440360.79 -21440360.76 -21440360.71 0.0089 0.0085

Neptune -63414-09-25 19:11 J -21440272.75 -21440272.70 -21440272.63 0.0089 0.0079

Neptune -63414-12-22 20:37 J -21440184.71 -21440184.64 -21440184.56 0.0089 0.0074

Neptune -63413-03-19 21:49 J -21440096.66 -21440096.59 -21440096.49 0.0089 0.0069

Neptune -63413-06-15 23:16 J -21440008.61 -21440008.53 -21440008.43 0.0089 0.0063

Neptune -63413-09-12 00:42 J -21439920.56 -21439920.47 -21439920.36 0.0089 0.0057

Neptune -63413-12-09 02:09 J -21439832.51 -21439832.41 -21439832.30 0.0089 0.0052

Neptune -63412-03-07 03:21 J -21439744.46 -21439744.36 -21439744.24 0.0089 0.0047

Neptune -63412-06-03 04:47 J -21439656.41 -21439656.30 -21439656.17 0.0089 0.0041

Moon -63412-06-03 08:52 J -21439656.24 -21439656.13 -21439656.02 0.2685 0.0697 *

Earth -63412-06-03 09:06 J -21439656.22 -21439656.12 -21439656.01 0.2692 0.0794 *

Neptune -63412-08-30 06:13 J -21439568.36 -21439568.24 -21439568.11 0.0089 0.0036

Neptune -63412-11-26 07:25 J -21439480.31 -21439480.19 -21439480.05 0.0089 0.0031

Neptune -63411-02-22 09:06 J -21439392.25 -21439392.12 -21439391.99 0.0089 0.0025

Neptune -63411-05-21 10:18 J -21439304.20 -21439304.07 -21439303.94 0.0089 0.0020

Neptune -63411-08-17 11:45 J -21439216.14 -21439216.01 -21439215.88 0.0089 0.0014

Jupiter -63411-08-18 15:21 J -21439214.95 -21439214.86 -21439214.77 0.0527 0.0377

Venus -63411-08-24 11:30 J -21439209.08 -21439209.02 -21439208.97 0.3819 0.3089

Neptune -63411-11-13 12:57 J -21439128.09 -21439127.96 -21439127.82 0.0089 0.0010

Jupiter -63411-11-15 20:52 J -21439125.75 -21439125.63 -21439125.51 0.0526 0.0130

Neptune -63410-02-09 14:23 J -21439040.03 -21439039.90 -21439039.76 0.0089 0.0004

Neptune -63410-05-08 15:49 J -21438951.98 -21438951.84 -21438951.71 0.0089 0.0002

Neptune -63410-08-04 17:01 J -21438863.92 -21438863.79 -21438863.65 0.0089 0.0008

Uranus -63410-09-16 11:30 J -21438821.05 -21438821.02 -21438820.97 0.0145 0.0141

Neptune -63410-10-31 18:28 J -21438775.86 -21438775.73 -21438775.60 0.0089 0.0013

Uranus -63410-12-13 20:09 J -21438732.77 -21438732.66 -21438732.52 0.0145 0.0109

Neptune -63409-01-27 19:54 J -21438687.80 -21438687.67 -21438687.54 0.0089 0.0018

Uranus -63409-03-11 05:01 J -21438644.45 -21438644.29 -21438644.12 0.0145 0.0077

Neptune -63409-04-24 21:06 J -21438599.75 -21438599.62 -21438599.49 0.0089 0.0023

Uranus -63409-06-07 13:54 J -21438556.10 -21438555.92 -21438555.73 0.0145 0.0044

Neptune -63409-07-21 22:18 J -21438511.69 -21438511.57 -21438511.44 0.0089 0.0029

Uranus -63409-09-03 22:47 J -21438467.74 -21438467.55 -21438467.36 0.0145 0.0012

Neptune -63409-10-17 23:45 J -21438423.63 -21438423.51 -21438423.39 0.0089 0.0034

Moon -63409-11-23 12:57 J -21438387.04 -21438386.96 -21438386.87 0.2641 0.2247

Earth -63409-11-23 14:09 J -21438387.01 -21438386.91 -21438386.82 0.2646 0.2083 *

Uranus -63409-12-01 07:25 J -21438379.38 -21438379.19 -21438378.99 0.0145 0.0021

Neptune -63408-01-14 00:57 J -21438335.57 -21438335.46 -21438335.33 0.0089 0.0039

Uranus -63408-02-27 16:18 J -21438291.00 -21438290.82 -21438290.64 0.0145 0.0053

Mars -63408-04-11 09:06 J -21438248.23 -21438248.12 -21438248.02 0.1943 0.0771

Neptune -63408-04-12 02:09 J -21438247.51 -21438247.41 -21438247.28 0.0089 0.0045

Uranus -63408-05-27 01:11 J -21438202.61 -21438202.45 -21438202.30 0.0144 0.0085

Neptune -63408-07-09 03:35 J -21438159.45 -21438159.35 -21438159.23 0.0089 0.0050

Uranus -63408-08-23 09:21 J -21438114.20 -21438114.11 -21438113.98 0.0144 0.0118

Neptune -63408-10-05 05:01 J -21438071.39 -21438071.29 -21438071.18 0.0089 0.0055

Neptune -63407-01-01 06:13 J -21437983.33 -21437983.24 -21437983.14 0.0089 0.0061

Neptune -63407-03-30 07:25 J -21437895.27 -21437895.19 -21437895.09 0.0089 0.0066

Neptune -63407-06-26 08:52 J -21437807.20 -21437807.13 -21437807.05 0.0089 0.0071

Neptune -63407-09-22 10:18 J -21437719.13 -21437719.07 -21437719.00 0.0089 0.0076

Neptune -63407-12-19 11:16 J -21437631.06 -21437631.03 -21437630.96 0.0089 0.0082

Neptune -63406-03-17 12:42 J -21437542.98 -21437542.97 -21437542.93 0.0089 0.0087

Mars -63405-01-14 20:23 J -21437239.81 -21437239.65 -21437239.49 0.1598 0.0453

Earth -63405-05-27 08:23 J -21437106.21 -21437106.15 -21437106.09 0.2686 0.2172

Moon -63405-05-27 09:06 J -21437106.19 -21437106.12 -21437106.05 0.2688 0.2094 *

Saturn -63405-05-27 18:28 J -21437105.79 -21437105.73 -21437105.67 0.0303 0.0265

Saturn -63405-08-24 07:25 J -21437017.30 -21437017.19 -21437017.07 0.0304 0.0129

Jupiter -63405-10-07 02:52 J -21436973.55 -21436973.38 -21436973.20 0.0499 0.0140

Saturn -63405-11-20 20:37 J -21436928.77 -21436928.64 -21436928.51 0.0304 0.0008

Saturn -63404-02-17 09:35 J -21436840.21 -21436840.10 -21436839.98 0.0304 0.0143

Saturn -63404-05-16 22:18 J -21436751.61 -21436751.57 -21436751.51 0.0304 0.0278

Moon -63399-06-06 02:23 J -21434905.48 -21434905.40 -21434905.32 0.2691 0.1823

Earth -63399-06-06 02:52 J -21434905.46 -21434905.38 -21434905.30 0.2694 0.1839 *

Jupiter -63399-06-06 19:25 J -21434904.72 -21434904.69 -21434904.66 0.0527 0.0506

Mars -63399-09-01 16:47 J -21434817.84 -21434817.80 -21434817.76 0.1937 0.1796

Jupiter -63399-09-04 01:11 J -21434815.58 -21434815.45 -21434815.33 0.0526 0.0011

Jupiter -63399-12-02 06:28 J -21434726.26 -21434726.23 -21434726.20 0.0525 0.0502

Mars -63396-06-05 22:18 J -21433809.73 -21433809.57 -21433809.41 0.1602 0.0473

Moon -63396-11-26 19:40 J -21433635.84 -21433635.68 -21433635.52 0.2641 0.0093

Earth -63396-11-26 21:06 J -21433635.77 -21433635.62 -21433635.46 0.2644 0.0099 *

Jupiter -63393-07-26 00:13 J -21432663.64 -21432663.49 -21432663.34 0.0499 0.0298

Jupiter -63393-10-24 11:30 J -21432573.14 -21432573.02 -21432572.89 0.0499 0.0366

Earth -63392-05-30 02:23 J -21432355.50 -21432355.40 -21432355.30 0.2688 0.1114

Moon -63392-05-30 02:52 J -21432355.48 -21432355.38 -21432355.28 0.2684 0.1029 *

Saturn -63391-12-18 10:47 J -21431788.19 -21431788.05 -21431787.91 0.0259 0.0171

Saturn -63390-03-17 06:42 J -21431699.40 -21431699.22 -21431699.03 0.0259 0.0050

Saturn -63390-06-14 02:52 J -21431610.56 -21431610.38 -21431610.20 0.0258 0.0073

Saturn -63390-09-10 23:01 J -21431521.66 -21431521.54 -21431521.41 0.0258 0.0196

Mars -63388-12-28 17:45 J -21430681.84 -21430681.76 -21430681.68 0.1954 0.1430

Jupiter -63387-06-23 05:16 J -21430505.41 -21430505.28 -21430505.16 0.0527 0.0127

Jupiter -63387-09-20 10:33 J -21430416.14 -21430416.06 -21430415.97 0.0526 0.0378

Mars -63387-10-27 00:13 J -21430379.56 -21430379.49 -21430379.41 0.1607 0.1404

Venus -63385-10-13 11:30 J -21429662.18 -21429662.02 -21429661.87 0.3561 0.0222

Moon -63383-11-30 02:52 J -21428884.47 -21428884.38 -21428884.29 0.2644 0.2136

Earth -63383-11-30 04:33 J -21428884.39 -21428884.31 -21428884.22 0.2641 0.2231 *

Jupiter -63381-05-13 21:06 J -21428353.69 -21428353.62 -21428353.55 0.0499 0.0459

Jupiter -63381-08-12 08:23 J -21428263.32 -21428263.15 -21428262.98 0.0499 0.0200

Earth -63379-06-01 20:09 J -21427604.77 -21427604.66 -21427604.55 0.2690 0.0052

Moon -63379-06-01 20:23 J -21427604.76 -21427604.65 -21427604.54 0.2684 0.0071 *

Mars -63378-05-21 01:11 J -21427251.56 -21427251.45 -21427251.33 0.1949 0.0385

Venus -63376-01-30 16:18 J -21426630.85 -21426630.82 -21426630.78 0.3817 0.3509

Saturn -63375-01-11 09:06 J -21426285.23 -21426285.12 -21426285.01 0.0303 0.0172

Mars -63375-02-22 18:57 J -21426242.76 -21426242.71 -21426242.66 0.1594 0.1512

Saturn -63375-04-09 22:18 J -21426196.70 -21426196.57 -21426196.44 0.0303 0.0037

Jupiter -63375-04-11 09:49 J -21426195.20 -21426195.09 -21426194.98 0.0527 0.0247

Saturn -63375-07-07 11:16 J -21426108.15 -21426108.03 -21426107.91 0.0304 0.0099

Jupiter -63375-07-09 15:21 J -21426105.97 -21426105.86 -21426105.75 0.0526 0.0258

Saturn -63375-10-03 23:59 J -21426019.57 -21426019.50 -21426019.41 0.0304 0.0234

Venus -63371-08-16 08:23 J -21424607.24 -21424607.15 -21424607.06 0.3818 0.1727

Jupiter -63369-05-31 03:49 J -21423953.53 -21423953.34 -21423953.15 0.0499 0.0022

Mars -63369-10-10 09:06 J -21423821.23 -21423821.12 -21423821.01 0.1943 0.0658

Uranus -63366-03-10 04:33 J -21422940.35 -21422940.31 -21422940.25 0.0133 0.0122

Moon -63366-06-04 13:40 J -21422854.03 -21422853.93 -21422853.83 0.2685 0.1022

Earth -63366-06-04 13:54 J -21422854.02 -21422853.92 -21422853.82 0.2692 0.1001 *

Uranus -63366-06-06 07:25 J -21422852.26 -21422852.19 -21422852.10 0.0133 0.0106

Mars -63366-07-15 21:06 J -21422812.77 -21422812.62 -21422812.46 0.1598 0.0597

Uranus -63366-09-02 10:33 J -21422764.16 -21422764.06 -21422763.96 0.0133 0.0089

Uranus -63366-11-29 13:25 J -21422676.05 -21422675.94 -21422675.82 0.0133 0.0072

Uranus -63365-02-25 16:33 J -21422587.93 -21422587.81 -21422587.69 0.0134 0.0055

Venus -63365-03-01 00:42 J -21422583.58 -21422583.47 -21422583.37 0.3819 0.0170

Uranus -63365-05-23 19:25 J -21422499.82 -21422499.69 -21422499.56 0.0134 0.0038

Uranus -63365-08-19 22:18 J -21422411.70 -21422411.57 -21422411.44 0.0134 0.0021

Uranus -63365-11-16 01:25 J -21422323.57 -21422323.44 -21422323.31 0.0134 0.0005

Uranus -63364-02-12 04:18 J -21422235.45 -21422235.32 -21422235.19 0.0134 0.0013

Uranus -63364-05-11 07:11 J -21422147.32 -21422147.20 -21422147.07 0.0134 0.0030

Uranus -63364-08-07 10:04 J -21422059.20 -21422059.08 -21422058.95 0.0134 0.0048

Uranus -63364-11-03 13:11 J -21421971.06 -21421970.95 -21421970.84 0.0134 0.0065

Jupiter -63363-01-28 14:23 J -21421884.99 -21421884.90 -21421884.81 0.0527 0.0367

Uranus -63363-01-30 16:04 J -21421882.93 -21421882.83 -21421882.72 0.0134 0.0082

Jupiter -63363-04-27 20:09 J -21421795.79 -21421795.66 -21421795.54 0.0526 0.0141

Uranus -63363-04-28 18:57 J -21421794.79 -21421794.71 -21421794.61 0.0134 0.0099

Uranus -63363-07-25 21:49 J -21421706.64 -21421706.59 -21421706.51 0.0134 0.0117

Uranus -63363-10-22 00:57 J -21421618.47 -21421618.46 -21421618.44 0.0135 0.0134

Moon -63363-11-24 19:25 J -21421584.81 -21421584.69 -21421584.57 0.2641 0.1702

Earth -63363-11-24 20:37 J -21421584.76 -21421584.64 -21421584.52 0.2646 0.1691 *

Saturn -63361-05-06 10:18 J -21421056.18 -21421056.07 -21421055.96 0.0259 0.0206

Saturn -63361-08-03 06:13 J -21420967.42 -21420967.24 -21420967.06 0.0259 0.0085

Saturn -63361-10-31 02:09 J -21420878.59 -21420878.41 -21420878.22 0.0258 0.0037

Saturn -63360-01-27 22:18 J -21420789.72 -21420789.57 -21420789.42 0.0258 0.0159

Venus -63360-09-14 16:47 J -21420559.89 -21420559.80 -21420559.71 0.3819 0.1912

Mars -63359-03-02 16:47 J -21420390.85 -21420390.80 -21420390.75 0.1936 0.1682

Earth -63359-05-28 13:11 J -21420304.02 -21420303.95 -21420303.87 0.2686 0.1959

Moon -63359-05-28 13:54 J -21420303.99 -21420303.92 -21420303.84 0.2687 0.1916 *

Jupiter -63357-03-19 00:57 J -21419643.64 -21419643.46 -21419643.28 0.0499 0.0139

Mars -63357-12-04 23:01 J -21419382.70 -21419382.54 -21419382.37 0.1602 0.0334

Venus -63354-03-31 08:52 J -21418536.14 -21418536.13 -21418536.11 0.3819 0.3745

Moon -63353-06-06 06:57 J -21418103.28 -21418103.21 -21418103.13 0.2693 0.1911

Earth -63353-06-06 07:40 J -21418103.25 -21418103.18 -21418103.11 0.2694 0.2043 *

Jupiter -63352-11-16 18:28 J -21417574.77 -21417574.73 -21417574.69 0.0527 0.0496

Jupiter -63351-02-14 00:13 J -21417485.62 -21417485.49 -21417485.36 0.0526 0.0012

Jupiter -63351-05-14 05:30 J -21417396.29 -21417396.27 -21417396.24 0.0525 0.0512

Moon -63350-11-28 02:09 J -21416833.57 -21416833.41 -21416833.25 0.2642 0.0273

Earth -63350-11-28 03:49 J -21416833.49 -21416833.34 -21416833.18 0.2643 0.0460 *

Mars -63348-06-28 17:45 J -21416254.83 -21416254.76 -21416254.69 0.1954 0.1543

Mars -63347-04-27 00:57 J -21415952.56 -21415952.46 -21415952.36 0.1606 0.1267

Earth -63346-05-31 07:11 J -21415553.31 -21415553.20 -21415553.10 0.2688 0.0898

Moon -63346-05-31 07:40 J -21415553.28 -21415553.18 -21415553.07 0.2684 0.0835 *

Saturn -63346-05-31 09:49 J -21415553.18 -21415553.09 -21415553.00 0.0304 0.0221 *

Saturn -63346-08-27 23:01 J -21415464.66 -21415464.54 -21415464.41 0.0304 0.0085

Saturn -63346-11-24 11:59 J -21415376.12 -21415376.00 -21415375.87 0.0304 0.0053

Jupiter -63345-01-05 22:04 J -21415333.72 -21415333.58 -21415333.42 0.0499 0.0298

Saturn -63345-02-21 00:57 J -21415287.56 -21415287.46 -21415287.35 0.0304 0.0187

Jupiter -63345-04-05 09:49 J -21415243.21 -21415243.09 -21415242.96 0.0500 0.0368

Jupiter -63340-12-03 04:33 J -21413175.44 -21413175.31 -21413175.19 0.0526 0.0117

Jupiter -63339-03-02 09:49 J -21413086.17 -21413086.09 -21413086.01 0.0526 0.0388

Mars -63339-11-19 01:25 J -21412824.55 -21412824.44 -21412824.33 0.1949 0.0492

Moon -63337-11-30 09:35 J -21412082.15 -21412082.10 -21412082.04 0.2643 0.2444

Jupiter -63334-10-24 19:40 J -21411023.75 -21411023.68 -21411023.60 0.0499 0.0452

Venus -63334-11-04 05:01 J -21411013.38 -21411013.29 -21411013.20 0.3562 0.2882

Jupiter -63333-01-23 06:57 J -21410933.38 -21410933.21 -21410933.04 0.0499 0.0209

Moon -63333-06-02 00:57 J -21410802.57 -21410802.46 -21410802.35 0.2684 0.0200

Earth -63333-06-02 00:57 J -21410802.57 -21410802.46 -21410802.35 0.2690 0.0160 *

Saturn -63332-09-23 09:06 J -21410324.17 -21410324.12 -21410324.05 0.0259 0.0244

Saturn -63332-12-21 05:16 J -21410235.45 -21410235.28 -21410235.12 0.0259 0.0123

Saturn -63331-03-20 01:11 J -21410146.64 -21410146.45 -21410146.26 0.0258 0.0003

Neptune -63331-06-14 07:54 J -21410060.24 -21410060.17 -21410060.09 0.0089 0.0081

Saturn -63331-06-16 21:21 J -21410057.78 -21410057.61 -21410057.44 0.0258 0.0120

Neptune -63331-09-10 11:01 J -21409972.13 -21409972.04 -21409971.92 0.0089 0.0074

Saturn -63331-09-13 17:16 J -21409968.83 -21409968.78 -21409968.71 0.0258 0.0243

Neptune -63331-12-07 14:52 J -21409884.00 -21409883.88 -21409883.75 0.0089 0.0066

Neptune -63330-03-05 17:59 J -21409795.87 -21409795.75 -21409795.58 0.0089 0.0059

Neptune -63330-06-01 21:49 J -21409707.74 -21409707.59 -21409707.42 0.0089 0.0051

Neptune -63330-08-29 01:25 J -21409619.60 -21409619.44 -21409619.26 0.0089 0.0043

Neptune -63330-11-25 04:47 J -21409531.46 -21409531.30 -21409531.11 0.0089 0.0036

Neptune -63329-02-21 08:37 J -21409443.32 -21409443.14 -21409442.95 0.0089 0.0028

Mars -63329-04-10 09:06 J -21409394.23 -21409394.12 -21409394.01 0.1943 0.0547

Neptune -63329-05-19 12:13 J -21409355.18 -21409354.99 -21409354.80 0.0089 0.0020

Neptune -63329-08-15 15:49 J -21409267.03 -21409266.84 -21409266.65 0.0089 0.0012

Neptune -63329-11-11 19:25 J -21409178.88 -21409178.69 -21409178.50 0.0089 0.0004

Neptune -63328-02-07 23:01 J -21409090.73 -21409090.54 -21409090.35 0.0089 0.0003

Neptune -63328-05-07 02:23 J -21409002.58 -21409002.40 -21409002.20 0.0089 0.0012

Venus -63328-05-20 13:25 J -21408989.08 -21408988.94 -21408988.80 0.3561 0.1769

Neptune -63328-08-03 06:13 J -21408914.43 -21408914.24 -21408914.05 0.0089 0.0019

Jupiter -63328-09-21 08:37 J -21408865.26 -21408865.14 -21408865.03 0.0527 0.0245

Neptune -63328-10-30 09:35 J -21408826.28 -21408826.10 -21408825.90 0.0089 0.0027

Jupiter -63328-12-19 14:09 J -21408776.02 -21408775.91 -21408775.80 0.0526 0.0262

Neptune -63327-01-26 13:11 J -21408738.12 -21408737.95 -21408737.76 0.0089 0.0035

Neptune -63327-04-24 16:47 J -21408649.96 -21408649.80 -21408649.62 0.0089 0.0043

Neptune -63327-07-21 20:09 J -21408561.80 -21408561.66 -21408561.48 0.0089 0.0051

Neptune -63327-10-18 00:13 J -21408473.63 -21408473.49 -21408473.34 0.0089 0.0058

Mars -63326-01-13 21:49 J -21408385.74 -21408385.59 -21408385.45 0.1598 0.0729

Neptune -63326-01-14 03:49 J -21408385.46 -21408385.34 -21408385.21 0.0089 0.0066 *

Neptune -63326-04-12 07:11 J -21408297.29 -21408297.20 -21408297.08 0.0089 0.0074

Neptune -63326-07-09 10:47 J -21408209.11 -21408209.05 -21408208.96 0.0089 0.0082

Uranus -63326-10-06 17:59 J -21408119.81 -21408119.75 -21408119.69 0.0145 0.0138

Uranus -63325-01-03 02:37 J -21408031.52 -21408031.39 -21408031.25 0.0145 0.0105

Uranus -63325-03-31 11:16 J -21407943.19 -21407943.03 -21407942.85 0.0145 0.0073

Uranus -63325-06-27 20:23 J -21407854.84 -21407854.65 -21407854.47 0.0145 0.0040

Uranus -63325-09-24 05:01 J -21407766.48 -21407766.29 -21407766.09 0.0145 0.0008

Uranus -63325-12-21 13:54 J -21407678.11 -21407677.92 -21407677.73 0.0145 0.0025

Uranus -63324-03-19 22:33 J -21407589.74 -21407589.56 -21407589.38 0.0145 0.0057

Uranus -63324-06-16 07:11 J -21407501.34 -21407501.20 -21407501.04 0.0144 0.0089

Uranus -63324-09-12 15:49 J -21407412.93 -21407412.84 -21407412.72 0.0144 0.0122

Jupiter -63322-11-11 03:49 J -21406623.52 -21406623.34 -21406623.15 0.0499 0.0046

Pluto -63321-10-12 17:59 J -21406286.78 -21406286.75 -21406286.68 0.0061 0.0058

Pluto -63320-01-08 19:25 J -21406198.77 -21406198.69 -21406198.60 0.0061 0.0053

Pluto -63320-04-06 20:09 J -21406110.74 -21406110.66 -21406110.53 0.0061 0.0049

Moon -63320-06-04 18:28 J -21406051.83 -21406051.73 -21406051.63 0.2686 0.1109

Earth -63320-06-04 18:42 J -21406051.81 -21406051.72 -21406051.62 0.2692 0.1207 *

Pluto -63320-07-03 21:21 J -21406022.71 -21406022.61 -21406022.47 0.0061 0.0044

Mars -63320-08-31 16:47 J -21405963.87 -21405963.80 -21405963.74 0.1937 0.1586

Venus -63320-09-06 13:54 J -21405957.98 -21405957.92 -21405957.85 0.3817 0.2874

Pluto -63320-09-29 22:33 J -21405934.68 -21405934.56 -21405934.41 0.0061 0.0039

Pluto -63320-12-26 23:45 J -21405846.64 -21405846.51 -21405846.35 0.0061 0.0034

Pluto -63319-03-25 00:57 J -21405758.60 -21405758.46 -21405758.29 0.0061 0.0030

Pluto -63319-06-21 02:09 J -21405670.56 -21405670.41 -21405670.23 0.0061 0.0025

Pluto -63319-09-17 03:21 J -21405582.52 -21405582.36 -21405582.18 0.0061 0.0020

Pluto -63319-12-14 04:33 J -21405494.47 -21405494.31 -21405494.13 0.0061 0.0015

Pluto -63318-03-12 05:45 J -21405406.43 -21405406.26 -21405406.07 0.0062 0.0010

Pluto -63318-06-08 07:11 J -21405318.38 -21405318.20 -21405318.02 0.0062 0.0004

Pluto -63318-09-04 08:23 J -21405230.33 -21405230.15 -21405229.97 0.0062 0.0001

Pluto -63318-12-01 09:35 J -21405142.28 -21405142.10 -21405141.92 0.0062 0.0006

Pluto -63317-02-27 10:47 J -21405054.23 -21405054.05 -21405053.87 0.0062 0.0011

Pluto -63317-05-25 11:59 J -21404966.17 -21404966.00 -21404965.82 0.0062 0.0016

Mars -63317-06-04 23:45 J -21404955.68 -21404955.51 -21404955.35 0.1602 0.0202

Pluto -63317-08-21 12:57 J -21404878.11 -21404877.96 -21404877.78 0.0062 0.0022

Saturn -63317-10-17 10:47 J -21404821.10 -21404821.05 -21404820.98 0.0303 0.0269

Pluto -63317-11-17 14:09 J -21404790.06 -21404789.91 -21404789.73 0.0062 0.0027

Moon -63317-11-25 02:09 J -21404782.54 -21404782.41 -21404782.28 0.2640 0.1487

Earth -63317-11-25 03:21 J -21404782.50 -21404782.36 -21404782.22 0.2646 0.1286 *

Saturn -63316-01-13 23:59 J -21404732.61 -21404732.50 -21404732.38 0.0303 0.0133

Pluto -63316-02-13 15:21 J -21404702.00 -21404701.86 -21404701.69 0.0062 0.0033

Saturn -63316-04-12 13:11 J -21404644.08 -21404643.95 -21404643.82 0.0304 0.0003

Pluto -63316-05-12 16:47 J -21404613.93 -21404613.80 -21404613.65 0.0062 0.0037

Saturn -63316-07-10 02:09 J -21404555.52 -21404555.41 -21404555.29 0.0304 0.0138

Jupiter -63316-07-10 13:11 J -21404555.04 -21404554.95 -21404554.86 0.0527 0.0364

Pluto -63316-08-08 18:13 J -21404525.87 -21404525.74 -21404525.61 0.0062 0.0043

Saturn -63316-10-06 15:06 J -21404466.92 -21404466.87 -21404466.81 0.0304 0.0272

Jupiter -63316-10-07 18:42 J -21404465.84 -21404465.72 -21404465.59 0.0526 0.0144

Pluto -63316-11-04 19:11 J -21404437.80 -21404437.70 -21404437.57 0.0062 0.0048

Pluto -63315-01-31 20:37 J -21404349.72 -21404349.64 -21404349.54 0.0062 0.0054

Pluto -63315-04-29 22:04 J -21404261.63 -21404261.58 -21404261.52 0.0062 0.0059

Venus -63314-03-23 05:59 J -21403934.34 -21403934.25 -21403934.15 0.3818 0.1084

Earth -63313-05-28 17:59 J -21403501.83 -21403501.75 -21403501.66 0.2686 0.1751

Moon -63313-05-28 18:42 J -21403501.80 -21403501.72 -21403501.63 0.2685 0.1620 *

Jupiter -63310-08-29 23:16 J -21402313.71 -21402313.53 -21402313.35 0.0499 0.0134

Venus -63309-10-05 22:18 J -21401910.67 -21401910.57 -21401910.48 0.3819 0.0759

Mars -63309-12-27 17:45 J -21401827.82 -21401827.76 -21401827.70 0.1955 0.1641

Mars -63308-10-26 01:54 J -21401525.54 -21401525.42 -21401525.31 0.1606 0.1123

Moon -63307-06-07 11:45 J -21401301.07 -21401301.01 -21401300.95 0.2694 0.2233

Earth -63307-06-07 12:28 J -21401301.04 -21401300.98 -21401300.92 0.2694 0.2247 *

Jupiter -63304-04-28 17:45 J -21400244.80 -21400244.76 -21400244.71 0.0527 0.0483

Jupiter -63304-07-26 23:30 J -21400155.64 -21400155.52 -21400155.39 0.0526 0.0028

Moon -63304-11-28 08:52 J -21400031.29 -21400031.13 -21400030.98 0.2643 0.0771

Earth -63304-11-28 10:33 J -21400031.21 -21400031.06 -21400030.91 0.2643 0.0859 *

Venus -63303-04-21 14:23 J -21399886.98 -21399886.90 -21399886.83 0.3819 0.2561

Saturn -63302-05-10 04:18 J -21399503.46 -21399503.32 -21399503.17 0.0259 0.0160

Saturn -63302-08-07 00:13 J -21399414.67 -21399414.49 -21399414.30 0.0258 0.0039

Saturn -63302-11-03 20:23 J -21399325.83 -21399325.65 -21399325.47 0.0258 0.0083

Saturn -63301-01-31 16:18 J -21399236.92 -21399236.82 -21399236.70 0.0258 0.0205

Earth -63300-05-31 11:59 J -21398751.11 -21398751.00 -21398750.89 0.2688 0.0686

Moon -63300-05-31 12:28 J -21398751.08 -21398750.98 -21398750.87 0.2684 0.0639 *

Mars -63299-05-20 01:25 J -21398397.55 -21398397.44 -21398397.33 0.1949 0.0608

Jupiter -63298-06-17 20:23 J -21398003.79 -21398003.65 -21398003.49 0.0499 0.0293

Jupiter -63298-09-16 07:54 J -21397913.29 -21397913.17 -21397913.04 0.0500 0.0373

Jupiter -63292-05-15 03:49 J -21395845.46 -21395845.34 -21395845.22 0.0526 0.0101

Jupiter -63292-08-12 09:06 J -21395756.20 -21395756.12 -21395756.04 0.0525 0.0402

Mars -63290-10-10 09:06 J -21394967.23 -21394967.12 -21394967.01 0.1943 0.0437

Saturn -63287-06-03 00:28 J -21394000.58 -21394000.48 -21394000.37 0.0304 0.0185

Moon -63287-06-03 05:45 J -21394000.37 -21394000.26 -21394000.15 0.2683 0.0357 *

Earth -63287-06-03 05:45 J -21394000.37 -21394000.26 -21394000.15 0.2691 0.0377 *

Mars -63287-07-14 22:18 J -21393958.71 -21393958.57 -21393958.43 0.1598 0.0863

Saturn -63287-08-30 13:40 J -21393912.06 -21393911.93 -21393911.80 0.0304 0.0049

Saturn -63287-11-27 02:37 J -21393823.51 -21393823.39 -21393823.26 0.0304 0.0088

Saturn -63286-02-23 15:35 J -21393734.93 -21393734.85 -21393734.76 0.0305 0.0222

Jupiter -63286-04-05 17:59 J -21393693.83 -21393693.75 -21393693.67 0.0499 0.0449

Jupiter -63286-07-05 05:16 J -21393603.44 -21393603.28 -21393603.11 0.0500 0.0215

Uranus -63282-03-30 11:16 J -21392239.08 -21392239.03 -21392238.97 0.0133 0.0120

Uranus -63282-06-26 14:09 J -21392150.99 -21392150.91 -21392150.82 0.0133 0.0104

Uranus -63282-09-22 17:01 J -21392062.88 -21392062.79 -21392062.68 0.0133 0.0087

Uranus -63282-12-19 19:54 J -21391974.77 -21391974.67 -21391974.55 0.0133 0.0071

Uranus -63281-03-16 23:01 J -21391886.66 -21391886.54 -21391886.42 0.0133 0.0053

Uranus -63281-06-13 01:54 J -21391798.54 -21391798.42 -21391798.29 0.0134 0.0037

Uranus -63281-09-09 05:01 J -21391710.42 -21391710.29 -21391710.16 0.0134 0.0019

Uranus -63281-12-06 07:54 J -21391622.30 -21391622.17 -21391622.04 0.0134 0.0004

Mars -63280-03-01 16:47 J -21391536.88 -21391536.80 -21391536.73 0.1937 0.1468

Jupiter -63280-03-03 07:54 J -21391535.28 -21391535.17 -21391535.05 0.0526 0.0229

Uranus -63280-03-04 11:01 J -21391534.17 -21391534.04 -21391533.91 0.0134 0.0015

Earth -63280-05-27 05:01 J -21391450.32 -21391450.29 -21391450.27 0.2684 0.2604

Moon -63280-05-27 05:30 J -21391450.31 -21391450.27 -21391450.23 0.2689 0.2490 *

Uranus -63280-05-31 13:54 J -21391446.05 -21391445.92 -21391445.79 0.0134 0.0032

Jupiter -63280-05-31 13:25 J -21391446.04 -21391445.94 -21391445.83 0.0526 0.0277 *

Uranus -63280-08-27 16:47 J -21391357.92 -21391357.80 -21391357.67 0.0134 0.0049

Uranus -63280-11-23 19:54 J -21391269.79 -21391269.67 -21391269.56 0.0134 0.0066

Uranus -63279-02-19 22:47 J -21391181.65 -21391181.55 -21391181.45 0.0134 0.0083

Uranus -63279-05-19 01:40 J -21391093.51 -21391093.43 -21391093.34 0.0134 0.0101

Uranus -63279-08-15 04:47 J -21391005.36 -21391005.30 -21391005.24 0.0134 0.0118

Mars -63278-12-05 00:28 J -21390528.65 -21390528.48 -21390528.32 0.1602 0.0075

Venus -63277-06-10 06:57 J -21390340.35 -21390340.21 -21390340.06 0.3561 0.1302

Jupiter -63274-04-23 02:37 J -21389293.57 -21389293.39 -21389293.20 0.0499 0.0057

Moon -63274-06-05 23:01 J -21389249.63 -21389249.54 -21389249.44 0.2688 0.1395

Earth -63274-06-05 23:30 J -21389249.61 -21389249.52 -21389249.42 0.2693 0.1417 *

Saturn -63273-09-26 02:52 J -21388771.49 -21388771.38 -21388771.26 0.0259 0.0201

Saturn -63273-12-23 22:47 J -21388682.72 -21388682.55 -21388682.37 0.0258 0.0080

Saturn -63272-03-22 18:57 J -21388593.90 -21388593.71 -21388593.53 0.0258 0.0042

Saturn -63272-06-19 14:52 J -21388505.02 -21388504.88 -21388504.73 0.0258 0.0164

Venus -63272-12-25 15:21 J -21388315.91 -21388315.86 -21388315.81 0.3561 0.3328

Moon -63271-11-26 08:37 J -21387980.29 -21387980.14 -21387979.99 0.2641 0.0907

Earth -63271-11-26 10:04 J -21387980.23 -21387980.08 -21387979.93 0.2645 0.0889 *

Mars -63269-06-27 17:45 J -21387400.81 -21387400.76 -21387400.71 0.1955 0.1760

Jupiter -63269-12-20 11:59 J -21387225.09 -21387225.00 -21387224.90 0.0527 0.0358

Jupiter -63268-03-19 17:45 J -21387135.88 -21387135.76 -21387135.64 0.0526 0.0150

Mars -63268-04-26 02:23 J -21387098.53 -21387098.40 -21387098.27 0.1606 0.0993

Earth -63267-05-29 23:01 J -21386699.63 -21386699.54 -21386699.45 0.2686 0.1538

Moon -63267-05-29 23:45 J -21386699.60 -21386699.51 -21386699.42 0.2685 0.1518 *

Venus -63263-04-13 11:30 J -21385285.10 -21385285.02 -21385284.94 0.3818 0.2243

Jupiter -63262-02-08 23:45 J -21384983.69 -21384983.51 -21384983.33 0.0499 0.0106

Moon -63261-06-07 16:33 J -21384498.86 -21384498.81 -21384498.75 0.2694 0.2310

Earth -63261-06-07 17:16 J -21384498.82 -21384498.78 -21384498.73 0.2695 0.2451 *

Mars -63260-11-18 01:11 J -21383970.55 -21383970.45 -21383970.34 0.1949 0.0710

Saturn -63258-10-21 01:25 J -21383268.52 -21383268.44 -21383268.35 0.0303 0.0234

Venus -63258-10-28 03:35 J -21383261.45 -21383261.35 -21383261.25 0.3818 0.0435

Moon -63258-11-29 15:21 J -21383229.00 -21383228.86 -21383228.71 0.2643 0.1012

Earth -63258-11-29 17:16 J -21383228.92 -21383228.78 -21383228.64 0.2643 0.1267 *

Saturn -63257-01-17 14:37 J -21383180.01 -21383179.89 -21383179.76 0.0303 0.0098

Saturn -63257-04-15 03:49 J -21383091.47 -21383091.34 -21383091.21 0.0304 0.0038

Saturn -63257-07-12 16:47 J -21383002.91 -21383002.80 -21383002.70 0.0304 0.0172

Jupiter -63257-10-08 16:47 J -21382914.85 -21382914.80 -21382914.75 0.0527 0.0477

Jupiter -63256-01-05 22:33 J -21382825.69 -21382825.56 -21382825.44 0.0526 0.0035

Earth -63254-06-01 16:47 J -21381948.91 -21381948.80 -21381948.69 0.2689 0.0479

Moon -63254-06-01 17:16 J -21381948.89 -21381948.78 -21381948.67 0.2683 0.0403 *

Venus -63252-05-12 19:40 J -21381237.77 -21381237.68 -21381237.58 0.3819 0.1383

Jupiter -63251-11-27 19:11 J -21380673.85 -21380673.70 -21380673.54 0.0499 0.0284

Jupiter -63250-02-26 06:42 J -21380583.34 -21380583.22 -21380583.10 0.0500 0.0382

Mars -63250-04-10 09:06 J -21380540.24 -21380540.12 -21380540.01 0.1943 0.0337

Neptune -63250-12-28 16:33 J -21380277.83 -21380277.81 -21380277.78 0.0089 0.0087

Neptune -63249-03-25 17:45 J -21380189.80 -21380189.76 -21380189.70 0.0089 0.0082

Neptune -63249-06-21 19:25 J -21380101.76 -21380101.69 -21380101.62 0.0089 0.0076

Neptune -63249-09-17 20:37 J -21380013.71 -21380013.64 -21380013.55 0.0089 0.0071

Neptune -63249-12-14 21:49 J -21379925.66 -21379925.59 -21379925.49 0.0089 0.0066

Neptune -63248-03-12 23:30 J -21379837.62 -21379837.52 -21379837.42 0.0089 0.0060

Neptune -63248-06-09 00:42 J -21379749.57 -21379749.47 -21379749.36 0.0089 0.0055

Neptune -63248-09-05 02:23 J -21379661.51 -21379661.40 -21379661.29 0.0089 0.0049

Neptune -63248-12-02 03:35 J -21379573.46 -21379573.35 -21379573.23 0.0089 0.0044

Mars -63247-01-12 23:16 J -21379531.66 -21379531.53 -21379531.40 0.1598 0.1008

Neptune -63247-02-28 04:47 J -21379485.41 -21379485.30 -21379485.17 0.0089 0.0039

Neptune -63247-05-27 06:13 J -21379397.36 -21379397.24 -21379397.11 0.0089 0.0033

Neptune -63247-08-23 07:40 J -21379309.30 -21379309.18 -21379309.05 0.0089 0.0028

Neptune -63247-11-19 09:06 J -21379221.25 -21379221.12 -21379220.99 0.0089 0.0022

Venus -63247-11-26 11:59 J -21379214.06 -21379214.00 -21379213.95 0.3819 0.3221

Neptune -63246-02-15 10:18 J -21379133.20 -21379133.07 -21379132.93 0.0089 0.0017

Neptune -63246-05-14 11:45 J -21379045.14 -21379045.01 -21379044.88 0.0089 0.0011

Neptune -63246-08-10 13:11 J -21378957.09 -21378956.95 -21378956.82 0.0089 0.0006

Neptune -63246-11-06 14:23 J -21378869.03 -21378868.90 -21378868.76 0.0089 0.0003

Neptune -63245-02-02 15:49 J -21378780.97 -21378780.84 -21378780.71 0.0089 0.0005

Neptune -63245-04-30 17:01 J -21378692.92 -21378692.79 -21378692.65 0.0089 0.0011

Neptune -63245-07-27 18:28 J -21378604.86 -21378604.73 -21378604.60 0.0089 0.0016

Neptune -63245-10-23 19:54 J -21378516.80 -21378516.67 -21378516.54 0.0089 0.0021

Jupiter -63245-10-25 03:21 J -21378515.49 -21378515.36 -21378515.24 0.0527 0.0087

Neptune -63244-01-19 21:06 J -21378428.74 -21378428.62 -21378428.49 0.0089 0.0026

Jupiter -63244-01-22 08:37 J -21378426.21 -21378426.14 -21378426.06 0.0526 0.0418

Neptune -63244-04-17 22:18 J -21378340.69 -21378340.57 -21378340.44 0.0089 0.0032

Neptune -63244-07-14 23:45 J -21378252.63 -21378252.51 -21378252.39 0.0089 0.0037

Neptune -63244-10-11 00:57 J -21378164.57 -21378164.46 -21378164.33 0.0089 0.0043

Neptune -63243-01-07 02:23 J -21378076.51 -21378076.40 -21378076.28 0.0089 0.0048

Saturn -63243-02-13 01:54 J -21378039.48 -21378039.42 -21378039.34 0.0259 0.0238

Neptune -63243-04-05 03:35 J -21377988.45 -21377988.35 -21377988.23 0.0089 0.0053

Saturn -63243-05-12 21:49 J -21377950.76 -21377950.59 -21377950.42 0.0259 0.0118

Neptune -63243-07-02 05:01 J -21377900.38 -21377900.29 -21377900.19 0.0089 0.0058

Saturn -63243-08-09 17:45 J -21377861.95 -21377861.76 -21377861.57 0.0258 0.0004

Neptune -63243-09-28 06:13 J -21377812.32 -21377812.24 -21377812.14 0.0089 0.0064

Saturn -63243-11-06 13:40 J -21377773.09 -21377772.93 -21377772.76 0.0258 0.0125

Neptune -63243-12-25 07:40 J -21377724.26 -21377724.18 -21377724.09 0.0089 0.0069

Saturn -63242-02-03 09:49 J -21377684.13 -21377684.09 -21377684.03 0.0258 0.0247

Neptune -63242-03-23 09:06 J -21377636.19 -21377636.12 -21377636.05 0.0089 0.0074

Neptune -63242-06-19 10:04 J -21377548.12 -21377548.08 -21377548.01 0.0089 0.0080

Neptune -63242-09-15 11:30 J -21377460.05 -21377460.02 -21377459.97 0.0089 0.0085

Uranus -63242-10-26 23:01 J -21377418.59 -21377418.54 -21377418.46 0.0145 0.0137

Uranus -63241-01-23 08:09 J -21377330.29 -21377330.16 -21377330.02 0.0145 0.0104

Uranus -63241-04-20 16:47 J -21377241.96 -21377241.80 -21377241.62 0.0145 0.0072

Moon -63241-06-03 10:33 J -21377198.17 -21377198.06 -21377197.95 0.2684 0.0561

Earth -63241-06-03 10:33 J -21377198.16 -21377198.06 -21377197.95 0.2691 0.0583 *

Uranus -63241-07-18 01:40 J -21377153.61 -21377153.43 -21377153.24 0.0145 0.0039

Mars -63241-08-30 16:47 J -21377109.88 -21377109.80 -21377109.72 0.1937 0.1349

Uranus -63241-10-14 10:33 J -21377065.25 -21377065.06 -21377064.86 0.0145 0.0007

Uranus -63240-01-10 19:11 J -21376976.89 -21376976.70 -21376976.50 0.0145 0.0026

Uranus -63240-04-09 04:04 J -21376888.51 -21376888.33 -21376888.15 0.0145 0.0058

Uranus -63240-07-06 12:42 J -21376800.11 -21376799.97 -21376799.81 0.0144 0.0090

Uranus -63240-10-02 21:21 J -21376711.70 -21376711.61 -21376711.49 0.0144 0.0123

Jupiter -63239-09-15 16:33 J -21376363.89 -21376363.81 -21376363.73 0.0499 0.0442

Jupiter -63239-12-15 03:49 J -21376273.51 -21376273.34 -21376273.17 0.0500 0.0221

Mars -63238-06-05 01:11 J -21376101.62 -21376101.45 -21376101.29 0.1602 0.0086

Moon -63238-11-24 08:52 J -21375929.15 -21375929.13 -21375929.10 0.2641 0.2585

Earth -63238-11-24 09:35 J -21375929.12 -21375929.10 -21375929.07 0.2647 0.2605 *

Earth -63234-05-28 09:49 J -21374648.14 -21374648.09 -21374648.04 0.2684 0.2388

Moon -63234-05-28 10:33 J -21374648.11 -21374648.06 -21374648.01 0.2687 0.2377 *

Jupiter -63233-08-13 07:25 J -21374205.30 -21374205.19 -21374205.07 0.0526 0.0213

Jupiter -63233-11-10 12:57 J -21374116.06 -21374115.96 -21374115.85 0.0526 0.0293

Mars -63230-12-27 17:45 J -21372973.79 -21372973.76 -21372973.73 0.1954 0.1868

Mars -63229-10-25 02:52 J -21372671.52 -21372671.38 -21372671.24 0.1606 0.0859

Saturn -63228-03-09 01:25 J -21372536.47 -21372536.44 -21372536.40 0.0303 0.0290

Pluto -63228-05-31 03:06 J -21372453.41 -21372453.37 -21372453.31 0.0084 0.0078

Saturn -63228-06-05 14:37 J -21372448.00 -21372447.89 -21372447.77 0.0304 0.0155

Moon -63228-06-06 03:49 J -21372447.43 -21372447.34 -21372447.25 0.2690 0.1539

Earth -63228-06-06 04:33 J -21372447.40 -21372447.31 -21372447.23 0.2693 0.1624 *

Pluto -63228-08-27 04:33 J -21372365.38 -21372365.31 -21372365.21 0.0084 0.0068

Saturn -63228-09-02 03:49 J -21372359.47 -21372359.34 -21372359.21 0.0304 0.0018

Pluto -63228-11-23 06:13 J -21372277.33 -21372277.24 -21372277.13 0.0084 0.0058

Saturn -63228-11-29 16:47 J -21372270.92 -21372270.80 -21372270.68 0.0304 0.0117

Pluto -63227-02-19 07:54 J -21372189.28 -21372189.17 -21372189.05 0.0084 0.0047

Saturn -63227-02-26 05:45 J -21372182.33 -21372182.26 -21372182.19 0.0305 0.0252

Pluto -63227-05-18 09:35 J -21372101.23 -21372101.10 -21372100.97 0.0084 0.0037

Pluto -63227-08-14 11:01 J -21372013.17 -21372013.04 -21372012.90 0.0083 0.0027

Jupiter -63227-10-03 01:11 J -21371963.63 -21371963.45 -21371963.26 0.0500 0.0064

Pluto -63227-11-10 12:42 J -21371925.11 -21371924.97 -21371924.83 0.0083 0.0017

Pluto -63226-02-06 14:09 J -21371837.05 -21371836.91 -21371836.77 0.0083 0.0007

Pluto -63226-05-05 15:35 J -21371748.99 -21371748.85 -21371748.71 0.0083 0.0004

Pluto -63226-08-01 17:01 J -21371660.92 -21371660.79 -21371660.65 0.0083 0.0013

Pluto -63226-10-28 18:28 J -21371572.86 -21371572.73 -21371572.59 0.0083 0.0023

Pluto -63225-01-24 19:54 J -21371484.79 -21371484.67 -21371484.53 0.0083 0.0033

Pluto -63225-04-21 21:21 J -21371396.72 -21371396.61 -21371396.48 0.0082 0.0042

Pluto -63225-07-18 22:47 J -21371308.65 -21371308.55 -21371308.43 0.0082 0.0052

Pluto -63225-10-15 00:13 J -21371220.57 -21371220.49 -21371220.39 0.0082 0.0061

Moon -63225-11-26 15:06 J -21371178.02 -21371177.87 -21371177.71 0.2642 0.0720

Earth -63225-11-26 16:47 J -21371177.96 -21371177.80 -21371177.65 0.2645 0.0486 *

Pluto -63224-01-11 01:40 J -21371132.49 -21371132.43 -21371132.35 0.0082 0.0070

Pluto -63224-04-09 02:52 J -21371044.39 -21371044.38 -21371044.33 0.0082 0.0080

Earth -63221-05-30 03:49 J -21369897.44 -21369897.34 -21369897.25 0.2687 0.1330

Moon -63221-05-30 04:33 J -21369897.41 -21369897.31 -21369897.21 0.2685 0.1188 *

Jupiter -63221-06-01 11:45 J -21369895.11 -21369895.01 -21369894.91 0.0527 0.0339

Jupiter -63221-08-29 17:16 J -21369805.90 -21369805.78 -21369805.66 0.0526 0.0168

Venus -63220-01-15 09:06 J -21369667.28 -21369667.12 -21369666.96 0.3561 0.0296

Mars -63220-05-19 01:25 J -21369543.55 -21369543.44 -21369543.34 0.1949 0.0819

Moon -63215-06-08 21:21 J -21367696.62 -21367696.61 -21367696.59 0.2695 0.2636

Earth -63215-06-08 22:04 J -21367696.59 -21367696.58 -21367696.56 0.2695 0.2656 *

Jupiter -63215-07-21 22:47 J -21367653.73 -21367653.55 -21367653.37 0.0499 0.0094

Saturn -63214-09-29 19:54 J -21367218.81 -21367218.67 -21367218.52 0.0259 0.0161

Saturn -63214-12-27 16:04 J -21367130.02 -21367129.83 -21367129.65 0.0258 0.0040

Saturn -63213-03-25 11:59 J -21367041.18 -21367041.00 -21367040.82 0.0258 0.0082

Saturn -63213-06-22 08:09 J -21366952.27 -21366952.16 -21366952.04 0.0258 0.0204

Venus -63212-05-04 17:01 J -21366635.84 -21366635.79 -21366635.75 0.3817 0.3404

Moon -63212-11-29 22:04 J -21366426.70 -21366426.58 -21366426.45 0.2643 0.1605

Earth -63212-11-29 23:59 J -21366426.62 -21366426.50 -21366426.38 0.2642 0.1672 *

Mars -63211-10-09 09:06 J -21366113.24 -21366113.12 -21366113.01 0.1943 0.0214

Jupiter -63209-03-20 15:49 J -21365584.90 -21365584.84 -21365584.78 0.0527 0.0469

Jupiter -63209-06-17 21:35 J -21365495.73 -21365495.60 -21365495.48 0.0526 0.0042

Earth -63208-06-01 21:35 J -21365146.71 -21365146.60 -21365146.49 0.2689 0.0276

Moon -63208-06-01 21:49 J -21365146.70 -21365146.59 -21365146.48 0.2683 0.0308 *

Mars -63208-07-13 23:45 J -21365104.63 -21365104.51 -21365104.39 0.1598 0.1139

Venus -63207-11-18 09:06 J -21364612.21 -21364612.12 -21364612.03 0.3818 0.1608

Jupiter -63203-05-09 19:54 J -21363343.83 -21363343.67 -21363343.51 0.0499 0.0254

Jupiter -63203-08-08 07:25 J -21363253.29 -21363253.19 -21363253.09 0.0500 0.0412

Mars -63201-02-29 16:33 J -21362682.89 -21362682.81 -21362682.72 0.1937 0.1259

Venus -63201-06-03 01:11 J -21362588.55 -21362588.45 -21362588.35 0.3818 0.0224

Saturn -63199-10-23 15:35 J -21361715.95 -21361715.85 -21361715.76 0.0303 0.0204

Mars -63199-12-04 01:40 J -21361674.60 -21361674.43 -21361674.26 0.1602 0.0212

Saturn -63198-01-20 04:33 J -21361627.43 -21361627.31 -21361627.18 0.0303 0.0070

Saturn -63198-04-18 17:45 J -21361538.89 -21361538.76 -21361538.63 0.0304 0.0067

Uranus -63198-04-19 17:59 J -21361537.80 -21361537.75 -21361537.68 0.0133 0.0118

Saturn -63198-07-16 06:42 J -21361450.32 -21361450.22 -21361450.12 0.0304 0.0201

Uranus -63198-07-16 21:06 J -21361449.70 -21361449.62 -21361449.53 0.0133 0.0101

Uranus -63198-10-12 23:59 J -21361361.60 -21361361.50 -21361361.39 0.0133 0.0084

Uranus -63197-01-09 02:52 J -21361273.48 -21361273.38 -21361273.26 0.0133 0.0068

Jupiter -63197-04-06 02:09 J -21361185.53 -21361185.41 -21361185.28 0.0527 0.0079

Uranus -63197-04-06 05:59 J -21361185.37 -21361185.25 -21361185.13 0.0133 0.0050 *

Uranus -63197-07-03 08:52 J -21361097.25 -21361097.13 -21361097.00 0.0133 0.0034

Jupiter -63197-07-04 07:40 J -21361096.25 -21361096.18 -21361096.11 0.0526 0.0426

Uranus -63197-09-29 11:59 J -21361009.13 -21361009.00 -21361008.87 0.0134 0.0017

Uranus -63197-12-26 14:52 J -21360921.01 -21360920.88 -21360920.75 0.0134 0.0001

Uranus -63196-03-24 17:45 J -21360832.89 -21360832.76 -21360832.63 0.0134 0.0018

Uranus -63196-06-20 20:52 J -21360744.76 -21360744.63 -21360744.51 0.0134 0.0035

Uranus -63196-09-16 23:45 J -21360656.63 -21360656.51 -21360656.39 0.0134 0.0052

Uranus -63196-12-14 02:37 J -21360568.50 -21360568.39 -21360568.27 0.0134 0.0069

Venus -63196-12-17 17:16 J -21360564.86 -21360564.78 -21360564.69 0.3819 0.2037

Uranus -63195-03-12 05:30 J -21360480.36 -21360480.27 -21360480.16 0.0134 0.0087

Moon -63195-06-04 15:21 J -21360395.97 -21360395.86 -21360395.76 0.2685 0.0784

Earth -63195-06-04 15:35 J -21360395.96 -21360395.85 -21360395.75 0.2691 0.0788 *

Uranus -63195-06-08 08:37 J -21360392.22 -21360392.14 -21360392.06 0.0134 0.0103

Uranus -63195-09-04 11:30 J -21360304.07 -21360304.02 -21360303.96 0.0134 0.0121

Moon -63192-11-24 15:35 J -21359126.93 -21359126.85 -21359126.78 0.2641 0.2318

Earth -63192-11-24 16:18 J -21359126.91 -21359126.82 -21359126.74 0.2647 0.2213 *

Jupiter -63191-02-25 15:21 J -21359033.94 -21359033.86 -21359033.76 0.0499 0.0431

Jupiter -63191-05-27 02:52 J -21358943.55 -21358943.38 -21358943.22 0.0499 0.0232

Mars -63189-04-25 03:49 J -21358244.49 -21358244.34 -21358244.19 0.1606 0.0714

Earth -63188-05-28 14:37 J -21357845.95 -21357845.89 -21357845.83 0.2685 0.2178

Moon -63188-05-28 15:21 J -21357845.93 -21357845.86 -21357845.79 0.2686 0.2058 *

Jupiter -63185-01-24 06:57 J -21356875.32 -21356875.21 -21356875.09 0.0527 0.0197

Jupiter -63185-04-22 12:28 J -21356786.08 -21356785.98 -21356785.88 0.0526 0.0310

Saturn -63184-02-15 18:57 J -21356486.83 -21356486.71 -21356486.59 0.0259 0.0199

Saturn -63184-05-15 14:52 J -21356398.06 -21356397.88 -21356397.70 0.0259 0.0078

Saturn -63184-08-12 10:47 J -21356309.24 -21356309.05 -21356308.86 0.0258 0.0043

Saturn -63184-11-09 06:42 J -21356220.36 -21356220.22 -21356220.07 0.0258 0.0165

Moon -63182-06-07 08:37 J -21355645.22 -21355645.14 -21355645.06 0.2690 0.1751

Earth -63182-06-07 09:21 J -21355645.19 -21355645.11 -21355645.04 0.2693 0.1826 *

Mars -63181-11-17 01:25 J -21355116.54 -21355116.44 -21355116.34 0.1949 0.0938

Jupiter -63179-03-14 23:59 J -21354633.69 -21354633.50 -21354633.32 0.0499 0.0071

Moon -63179-11-27 21:35 J -21354375.76 -21354375.60 -21354375.44 0.2643 0.0158

Earth -63179-11-27 23:16 J -21354375.69 -21354375.53 -21354375.37 0.2644 0.0093 *

Earth -63175-05-31 08:37 J -21353095.24 -21353095.14 -21353095.04 0.2687 0.1115

Moon -63175-05-31 09:21 J -21353095.21 -21353095.11 -21353095.01 0.2685 0.1108 *

Jupiter -63174-11-12 11:16 J -21352565.13 -21352565.03 -21352564.93 0.0527 0.0323

Jupiter -63173-02-09 16:47 J -21352475.91 -21352475.80 -21352475.68 0.0526 0.0186

Mars -63171-04-09 09:06 J -21351686.24 -21351686.12 -21351686.01 0.1943 0.0125

Venus -63169-02-06 02:37 J -21351018.48 -21351018.39 -21351018.29 0.3562 0.2810

Saturn -63169-03-11 15:35 J -21350983.91 -21350983.85 -21350983.78 0.0303 0.0259

Saturn -63169-06-08 04:47 J -21350895.42 -21350895.30 -21350895.18 0.0304 0.0124

Saturn -63169-09-04 17:59 J -21350806.88 -21350806.75 -21350806.62 0.0304 0.0014

Saturn -63169-12-02 06:57 J -21350718.32 -21350718.21 -21350718.10 0.0304 0.0147

Mars -63168-01-12 00:28 J -21350677.58 -21350677.48 -21350677.38 0.1598 0.1274

Saturn -63168-02-28 19:40 J -21350629.72 -21350629.68 -21350629.63 0.0305 0.0282

Jupiter -63168-12-31 21:21 J -21350323.79 -21350323.61 -21350323.42 0.0499 0.0087

Neptune -63167-12-13 03:21 J -21349977.41 -21349977.36 -21349977.31 0.0089 0.0085

Neptune -63166-03-11 06:28 J -21349889.30 -21349889.23 -21349889.12 0.0089 0.0078

Neptune -63166-06-07 10:18 J -21349801.18 -21349801.07 -21349800.95 0.0089 0.0070

Neptune -63166-09-03 13:40 J -21349713.05 -21349712.93 -21349712.78 0.0089 0.0063

Neptune -63166-11-30 17:16 J -21349624.92 -21349624.78 -21349624.62 0.0089 0.0055

Moon -63166-12-01 05:01 J -21349624.40 -21349624.29 -21349624.18 0.2643 0.1827

Earth -63166-12-01 06:42 J -21349624.32 -21349624.22 -21349624.12 0.2642 0.2079 *

Neptune -63165-02-26 20:52 J -21349536.78 -21349536.63 -21349536.46 0.0089 0.0047

Neptune -63165-05-25 00:13 J -21349448.65 -21349448.49 -21349448.30 0.0089 0.0040

Neptune -63165-08-21 04:04 J -21349360.51 -21349360.33 -21349360.14 0.0089 0.0032

Neptune -63165-11-17 07:40 J -21349272.36 -21349272.18 -21349271.99 0.0089 0.0024

Neptune -63164-02-13 11:16 J -21349184.22 -21349184.03 -21349183.84 0.0089 0.0016

Neptune -63164-05-12 14:52 J -21349096.07 -21349095.88 -21349095.69 0.0089 0.0008

Neptune -63164-08-08 18:28 J -21349007.92 -21349007.73 -21349007.54 0.0089 0.0001

Venus -63164-08-22 11:16 J -21348994.17 -21348994.03 -21348993.90 0.3561 0.1882

Neptune -63164-11-04 22:04 J -21348919.77 -21348919.58 -21348919.39 0.0089 0.0007

Neptune -63163-02-01 01:40 J -21348831.62 -21348831.43 -21348831.24 0.0089 0.0015

Neptune -63163-04-30 05:16 J -21348743.47 -21348743.28 -21348743.09 0.0089 0.0023

Neptune -63163-07-27 08:37 J -21348655.31 -21348655.14 -21348654.95 0.0089 0.0031

Neptune -63163-10-23 12:13 J -21348567.16 -21348566.99 -21348566.81 0.0089 0.0039

Neptune -63162-01-19 15:35 J -21348479.00 -21348478.85 -21348478.66 0.0089 0.0047

Neptune -63162-04-17 19:40 J -21348390.83 -21348390.68 -21348390.53 0.0089 0.0054

Earth -63162-06-03 02:23 J -21348344.51 -21348344.40 -21348344.29 0.2689 0.0107

Moon -63162-06-03 02:37 J -21348344.50 -21348344.39 -21348344.28 0.2682 0.0085 *

Neptune -63162-07-14 23:01 J -21348302.67 -21348302.54 -21348302.39 0.0089 0.0062

Mars -63162-08-30 16:47 J -21348255.89 -21348255.80 -21348255.71 0.1937 0.1135

Jupiter -63162-08-31 15:35 J -21348254.92 -21348254.85 -21348254.79 0.0527 0.0450

Neptune -63162-10-11 02:37 J -21348214.50 -21348214.39 -21348214.26 0.0089 0.0070

Jupiter -63162-11-28 21:06 J -21348165.74 -21348165.62 -21348165.49 0.0526 0.0061

Neptune -63161-01-07 06:13 J -21348126.32 -21348126.24 -21348126.13 0.0089 0.0078

Neptune -63161-04-04 09:49 J -21348038.12 -21348038.09 -21348038.03 0.0089 0.0086

Mars -63159-06-04 02:23 J -21347247.57 -21347247.40 -21347247.24 0.1602 0.0348

Uranus -63158-11-16 04:47 J -21346717.35 -21346717.30 -21346717.22 0.0145 0.0136

Uranus -63157-02-12 13:40 J -21346629.06 -21346628.93 -21346628.78 0.0145 0.0103

Uranus -63157-05-10 22:33 J -21346540.72 -21346540.56 -21346540.38 0.0145 0.0070

Uranus -63157-08-07 07:25 J -21346452.38 -21346452.19 -21346452.00 0.0145 0.0038

Uranus -63157-11-03 16:18 J -21346364.02 -21346363.82 -21346363.63 0.0145 0.0005

Uranus -63156-01-31 00:57 J -21346275.65 -21346275.46 -21346275.26 0.0145 0.0028

Uranus -63156-04-29 09:49 J -21346187.27 -21346187.09 -21346186.91 0.0145 0.0060

Uranus -63156-07-26 18:13 J -21346098.87 -21346098.74 -21346098.57 0.0144 0.0093

Jupiter -63156-10-19 18:57 J -21346013.87 -21346013.71 -21346013.55 0.0499 0.0242

Uranus -63156-10-23 03:06 J -21346010.45 -21346010.37 -21346010.26 0.0144 0.0125

Venus -63156-12-09 14:23 J -21345962.96 -21345962.90 -21345962.83 0.3817 0.2765

Jupiter -63155-01-18 06:28 J -21345923.33 -21345923.23 -21345923.13 0.0500 0.0425

Saturn -63155-07-05 17:01 J -21345754.85 -21345754.79 -21345754.73 0.0259 0.0242

Saturn -63155-10-02 12:57 J -21345666.13 -21345665.96 -21345665.80 0.0259 0.0122

Saturn -63155-12-30 08:52 J -21345577.32 -21345577.13 -21345576.94 0.0258 0.0003

Saturn -63154-03-29 04:47 J -21345488.46 -21345488.30 -21345488.13 0.0258 0.0121

Saturn -63154-06-26 00:57 J -21345399.51 -21345399.46 -21345399.39 0.0258 0.0243

Venus -63150-06-25 06:28 J -21343939.32 -21343939.23 -21343939.13 0.3818 0.0968

Jupiter -63150-09-17 01:25 J -21343855.57 -21343855.44 -21343855.32 0.0526 0.0071

Mars -63150-10-25 04:18 J -21343817.48 -21343817.32 -21343817.17 0.1606 0.0586

Jupiter -63150-12-15 06:42 J -21343766.29 -21343766.22 -21343766.15 0.0526 0.0435

Moon -63149-06-04 19:54 J -21343593.77 -21343593.67 -21343593.56 0.2686 0.0911

Earth -63149-06-04 20:23 J -21343593.76 -21343593.65 -21343593.55 0.2691 0.0990 *

Moon -63146-11-25 21:49 J -21342324.70 -21342324.59 -21342324.48 0.2642 0.1903

Earth -63146-11-25 22:47 J -21342324.66 -21342324.55 -21342324.43 0.2647 0.1818 *

Venus -63144-01-07 22:47 J -21341915.65 -21341915.55 -21341915.46 0.3818 0.0875

Jupiter -63144-08-07 16:04 J -21341703.94 -21341703.83 -21341703.72 0.0499 0.0402

Jupiter -63144-11-06 03:21 J -21341613.52 -21341613.36 -21341613.20 0.0500 0.0262

Earth -63142-05-29 19:25 J -21341043.76 -21341043.69 -21341043.61 0.2685 0.1969

Moon -63142-05-29 20:09 J -21341043.73 -21341043.66 -21341043.58 0.2687 0.1928 *

Mars -63141-05-18 01:11 J -21340689.54 -21340689.45 -21340689.35 0.1949 0.1032

Mars -63140-03-16 06:28 J -21340387.29 -21340387.23 -21340387.18 0.1611 0.1514

Saturn -63140-10-26 05:30 J -21340163.37 -21340163.27 -21340163.16 0.0303 0.0175

Saturn -63139-01-22 18:42 J -21340074.85 -21340074.72 -21340074.59 0.0303 0.0039

Saturn -63139-04-21 07:40 J -21339986.30 -21339986.18 -21339986.05 0.0304 0.0096

Saturn -63139-07-18 20:37 J -21339897.72 -21339897.64 -21339897.55 0.0304 0.0230

Venus -63139-07-24 14:52 J -21339891.95 -21339891.88 -21339891.81 0.3819 0.2699

Jupiter -63138-07-06 05:59 J -21339545.37 -21339545.25 -21339545.13 0.0527 0.0189

Jupiter -63138-10-03 11:30 J -21339456.12 -21339456.02 -21339455.92 0.0526 0.0318

Moon -63136-06-07 13:25 J -21338843.01 -21338842.94 -21338842.87 0.2690 0.1963

Earth -63136-06-07 14:09 J -21338842.98 -21338842.91 -21338842.84 0.2693 0.2029 *

Moon -63133-11-28 04:18 J -21337573.48 -21337573.32 -21337573.16 0.2642 0.0084

Earth -63133-11-28 05:59 J -21337573.41 -21337573.25 -21337573.09 0.2644 0.0313 *

Jupiter -63132-08-24 22:47 J -21337303.73 -21337303.55 -21337303.36 0.0499 0.0082

Mars -63132-10-08 09:06 J -21337259.24 -21337259.12 -21337259.01 0.1944 0.0038

Earth -63129-05-31 13:25 J -21336293.04 -21336292.94 -21336292.84 0.2687 0.0908

Moon -63129-05-31 13:54 J -21336293.02 -21336292.92 -21336292.81 0.2683 0.0797 *

Mars -63129-07-13 01:11 J -21336250.52 -21336250.45 -21336250.37 0.1598 0.1417

Jupiter -63126-04-24 10:47 J -21335235.15 -21335235.05 -21335234.95 0.0527 0.0308

Jupiter -63126-07-22 16:18 J -21335145.93 -21335145.82 -21335145.70 0.0526 0.0201

Saturn -63125-02-19 11:30 J -21334934.16 -21334934.02 -21334933.86 0.0259 0.0160

Saturn -63125-05-18 07:40 J -21334845.37 -21334845.18 -21334844.99 0.0259 0.0039

Saturn -63125-08-15 03:35 J -21334756.53 -21334756.35 -21334756.17 0.0259 0.0083

Saturn -63125-11-11 23:45 J -21334667.62 -21334667.51 -21334667.39 0.0258 0.0205

Mars -63122-02-28 16:47 J -21333828.90 -21333828.80 -21333828.70 0.1937 0.1024

Jupiter -63120-06-12 19:54 J -21332993.85 -21332993.67 -21332993.48 0.0499 0.0079

Moon -63120-12-01 11:45 J -21332822.07 -21332822.01 -21332821.95 0.2645 0.2444

Earth -63120-12-01 13:25 J -21332822.00 -21332821.94 -21332821.89 0.2641 0.2477 *

Mars -63120-12-03 03:06 J -21332820.53 -21332820.37 -21332820.21 0.1602 0.0486

Moon -63116-06-03 07:25 J -21331542.30 -21331542.19 -21331542.08 0.2683 0.0147

Earth -63116-06-03 07:25 J -21331542.30 -21331542.19 -21331542.09 0.2690 0.0184 *

Jupiter -63114-02-10 14:52 J -21330924.94 -21330924.88 -21330924.80 0.0527 0.0435

Uranus -63114-02-10 22:04 J -21330924.59 -21330924.58 -21330924.57 0.0133 0.0132

Uranus -63114-05-10 00:42 J -21330836.52 -21330836.47 -21330836.39 0.0133 0.0116

Jupiter -63114-05-10 20:37 J -21330835.76 -21330835.64 -21330835.51 0.0526 0.0076

Uranus -63114-08-06 03:49 J -21330748.42 -21330748.34 -21330748.24 0.0133 0.0099

Uranus -63114-11-02 06:42 J -21330660.31 -21330660.22 -21330660.11 0.0133 0.0083

Uranus -63113-01-29 09:49 J -21330572.20 -21330572.09 -21330571.97 0.0133 0.0065

Uranus -63113-04-26 12:42 J -21330484.08 -21330483.97 -21330483.84 0.0133 0.0049

Uranus -63113-07-23 15:49 J -21330395.97 -21330395.84 -21330395.71 0.0134 0.0031

Venus -63113-09-12 04:47 J -21330345.45 -21330345.30 -21330345.15 0.3562 0.1216

Uranus -63113-10-19 18:42 J -21330307.85 -21330307.72 -21330307.59 0.0134 0.0015

Uranus -63112-01-15 21:49 J -21330219.72 -21330219.59 -21330219.46 0.0134 0.0004

Uranus -63112-04-14 00:42 J -21330131.60 -21330131.47 -21330131.34 0.0134 0.0020

Uranus -63112-07-11 03:35 J -21330043.47 -21330043.35 -21330043.22 0.0134 0.0037

Uranus -63112-10-07 06:42 J -21329955.34 -21329955.22 -21329955.10 0.0134 0.0055

Uranus -63111-01-03 09:35 J -21329867.21 -21329867.10 -21329866.99 0.0134 0.0072

Uranus -63111-04-01 12:28 J -21329779.07 -21329778.98 -21329778.88 0.0134 0.0089

Uranus -63111-06-28 15:21 J -21329690.93 -21329690.86 -21329690.77 0.0134 0.0106

Uranus -63111-09-24 18:13 J -21329602.78 -21329602.74 -21329602.68 0.0134 0.0124

Saturn -63110-03-15 05:45 J -21329431.34 -21329431.26 -21329431.17 0.0303 0.0228

Mars -63110-04-25 05:01 J -21329390.45 -21329390.29 -21329390.13 0.1606 0.0448

Saturn -63110-06-11 18:57 J -21329342.83 -21329342.71 -21329342.58 0.0303 0.0093

Saturn -63110-09-08 07:54 J -21329254.30 -21329254.17 -21329254.04 0.0304 0.0043

Saturn -63110-12-05 20:52 J -21329165.73 -21329165.63 -21329165.52 0.0304 0.0177

Jupiter -63108-03-31 17:30 J -21328683.93 -21328683.77 -21328683.61 0.0499 0.0236

Jupiter -63108-06-30 05:01 J -21328593.38 -21328593.29 -21328593.20 0.0500 0.0432

Venus -63107-03-29 13:11 J -21328320.99 -21328320.95 -21328320.92 0.3561 0.3444

Moon -63103-06-06 00:42 J -21326791.57 -21326791.47 -21326791.37 0.2686 0.1199

Earth -63103-06-06 01:11 J -21326791.55 -21326791.45 -21326791.36 0.2692 0.1195 *

Jupiter -63102-02-27 00:57 J -21326525.59 -21326525.46 -21326525.33 0.0526 0.0051

Jupiter -63102-05-27 06:13 J -21326436.30 -21326436.24 -21326436.17 0.0525 0.0453

Mars -63102-11-17 01:25 J -21326262.54 -21326262.44 -21326262.35 0.1949 0.1149

Mars -63101-09-14 06:57 J -21325960.29 -21325960.21 -21325960.13 0.1611 0.1383

Moon -63100-11-26 04:04 J -21325522.46 -21325522.33 -21325522.20 0.2642 0.1513

Earth -63100-11-26 05:30 J -21325522.40 -21325522.27 -21325522.14 0.2646 0.1425 *

Venus -63099-07-16 11:59 J -21325290.08 -21325290.00 -21325289.91 0.3817 0.2121

Jupiter -63096-01-17 14:52 J -21324373.99 -21324373.88 -21324373.76 0.0499 0.0392

Jupiter -63096-04-18 02:09 J -21324283.56 -21324283.41 -21324283.25 0.0500 0.0274

Earth -63096-05-30 00:28 J -21324241.57 -21324241.48 -21324241.40 0.2686 0.1760

Moon -63096-05-30 00:57 J -21324241.54 -21324241.46 -21324241.37 0.2687 0.1659 *

Saturn -63096-07-08 09:35 J -21324202.21 -21324202.10 -21324201.98 0.0259 0.0204

Saturn -63096-10-05 05:30 J -21324113.44 -21324113.27 -21324113.09 0.0259 0.0084

Saturn -63095-01-02 01:40 J -21324024.62 -21324024.43 -21324024.24 0.0259 0.0038

Saturn -63095-03-31 21:49 J -21323935.74 -21323935.59 -21323935.44 0.0258 0.0160

Venus -63093-01-30 04:04 J -21323266.43 -21323266.33 -21323266.23 0.3818 0.0331

Mars -63092-04-08 09:06 J -21322832.24 -21322832.12 -21322832.01 0.1943 0.0129

Jupiter -63091-12-16 05:01 J -21322215.41 -21322215.29 -21322215.17 0.0527 0.0181

Jupiter -63090-03-15 10:33 J -21322126.16 -21322126.06 -21322125.96 0.0526 0.0326

Moon -63090-06-08 18:13 J -21322040.80 -21322040.74 -21322040.68 0.2692 0.2131

Earth -63090-06-08 18:57 J -21322040.77 -21322040.71 -21322040.65 0.2694 0.2232 *

Mars -63089-01-12 01:40 J -21321823.46 -21321823.43 -21321823.39 0.1598 0.1548

Venus -63088-08-14 20:09 J -21321242.75 -21321242.66 -21321242.56 0.3819 0.1530

Moon -63087-11-29 10:47 J -21320771.20 -21320771.05 -21320770.89 0.2642 0.0614

Earth -63087-11-29 12:28 J -21320771.13 -21320770.98 -21320770.82 0.2644 0.0714 *

Neptune -63085-09-23 16:18 J -21320106.84 -21320106.82 -21320106.77 0.0089 0.0085

Neptune -63085-12-20 17:59 J -21320018.81 -21320018.75 -21320018.69 0.0089 0.0079

Jupiter -63084-02-03 23:16 J -21319973.71 -21319973.53 -21319973.35 0.0499 0.0111

Neptune -63084-03-18 19:11 J -21319930.77 -21319930.70 -21319930.62 0.0089 0.0074

Neptune -63084-06-14 20:37 J -21319842.72 -21319842.64 -21319842.55 0.0089 0.0068

Neptune -63084-09-10 22:04 J -21319754.67 -21319754.58 -21319754.48 0.0089 0.0063

Neptune -63084-12-07 23:16 J -21319666.62 -21319666.53 -21319666.42 0.0089 0.0058

Neptune -63083-03-06 00:42 J -21319578.57 -21319578.47 -21319578.36 0.0089 0.0052

Earth -63083-06-01 18:13 J -21319490.84 -21319490.74 -21319490.63 0.2688 0.0699

Moon -63083-06-01 18:42 J -21319490.82 -21319490.72 -21319490.61 0.2682 0.0687 *

Neptune -63083-06-02 02:09 J -21319490.52 -21319490.41 -21319490.29 0.0089 0.0046

Neptune -63083-08-29 03:35 J -21319402.47 -21319402.35 -21319402.23 0.0089 0.0041

Mars -63083-08-29 16:47 J -21319401.91 -21319401.80 -21319401.70 0.1937 0.0928

Neptune -63083-11-25 04:47 J -21319314.41 -21319314.30 -21319314.17 0.0089 0.0036

Neptune -63082-02-21 06:13 J -21319226.36 -21319226.24 -21319226.11 0.0089 0.0030

Venus -63082-02-28 12:28 J -21319219.03 -21319218.98 -21319218.94 0.3819 0.3366

Neptune -63082-05-20 07:40 J -21319138.31 -21319138.18 -21319138.05 0.0089 0.0025

Neptune -63082-08-16 08:52 J -21319050.25 -21319050.13 -21319049.99 0.0089 0.0020

Neptune -63082-11-12 10:18 J -21318962.20 -21318962.07 -21318961.94 0.0089 0.0014

Neptune -63081-02-08 11:45 J -21318874.14 -21318874.01 -21318873.88 0.0089 0.0009

Neptune -63081-05-06 12:57 J -21318786.09 -21318785.96 -21318785.82 0.0089 0.0005

Saturn -63081-08-01 06:42 J -21318699.27 -21318699.22 -21318699.17 0.0302 0.0276

Neptune -63081-08-02 14:23 J -21318698.03 -21318697.90 -21318697.77 0.0089 0.0002

Saturn -63081-10-28 19:54 J -21318610.78 -21318610.67 -21318610.55 0.0303 0.0141

Neptune -63081-10-29 15:49 J -21318609.98 -21318609.84 -21318609.71 0.0089 0.0008

Saturn -63080-01-25 09:06 J -21318522.25 -21318522.12 -21318521.99 0.0303 0.0008

Neptune -63080-01-25 17:01 J -21318521.92 -21318521.79 -21318521.66 0.0089 0.0013

Neptune -63080-04-23 18:13 J -21318433.86 -21318433.74 -21318433.60 0.0089 0.0019

Saturn -63080-04-23 22:04 J -21318433.70 -21318433.58 -21318433.46 0.0304 0.0129 *

Mars -63080-06-03 03:35 J -21318393.50 -21318393.35 -21318393.19 0.1602 0.0624

Neptune -63080-07-20 19:40 J -21318345.80 -21318345.68 -21318345.55 0.0089 0.0024

Saturn -63080-07-21 11:01 J -21318345.11 -21318345.04 -21318344.98 0.0304 0.0262

Neptune -63080-10-16 21:06 J -21318257.75 -21318257.62 -21318257.50 0.0089 0.0029

Neptune -63079-01-12 22:18 J -21318169.69 -21318169.57 -21318169.44 0.0089 0.0034

Neptune -63079-04-10 23:45 J -21318081.63 -21318081.51 -21318081.39 0.0089 0.0040

Neptune -63079-07-08 00:57 J -21317993.57 -21317993.46 -21317993.34 0.0089 0.0045

Neptune -63079-10-04 02:09 J -21317905.51 -21317905.41 -21317905.29 0.0089 0.0051

Jupiter -63079-10-04 09:35 J -21317905.20 -21317905.10 -21317904.99 0.0527 0.0302

Neptune -63079-12-31 03:35 J -21317817.45 -21317817.35 -21317817.24 0.0089 0.0056

Jupiter -63078-01-01 15:06 J -21317815.98 -21317815.87 -21317815.75 0.0526 0.0209

Neptune -63078-03-29 05:01 J -21317729.38 -21317729.29 -21317729.19 0.0089 0.0061

Neptune -63078-06-25 06:28 J -21317641.32 -21317641.23 -21317641.14 0.0089 0.0066

Neptune -63078-09-21 07:25 J -21317553.25 -21317553.19 -21317553.10 0.0089 0.0072

Neptune -63078-12-18 08:52 J -21317465.19 -21317465.13 -21317465.06 0.0089 0.0077

Neptune -63077-03-15 10:18 J -21317377.11 -21317377.07 -21317377.02 0.0089 0.0082

Neptune -63077-06-11 11:16 J -21317289.03 -21317289.03 -21317288.99 0.0089 0.0088

Pluto -63075-09-08 08:37 J -21316470.18 -21316470.14 -21316470.07 0.0061 0.0058

Pluto -63075-12-05 09:49 J -21316382.16 -21316382.09 -21316381.99 0.0061 0.0053

Pluto -63074-03-03 11:16 J -21316294.14 -21316294.03 -21316293.92 0.0061 0.0048

Pluto -63074-05-30 11:45 J -21316206.11 -21316206.01 -21316205.86 0.0061 0.0045

Pluto -63074-08-26 13:11 J -21316118.07 -21316117.95 -21316117.80 0.0061 0.0039

Pluto -63074-11-22 14:23 J -21316030.03 -21316029.90 -21316029.74 0.0061 0.0034

Uranus -63074-12-06 11:45 J -21316016.08 -21316016.01 -21316015.91 0.0145 0.0130

Pluto -63073-02-18 15:35 J -21315941.99 -21315941.85 -21315941.68 0.0061 0.0029

Uranus -63073-03-03 20:37 J -21315927.78 -21315927.64 -21315927.49 0.0145 0.0097

Pluto -63073-05-16 16:47 J -21315853.95 -21315853.80 -21315853.62 0.0061 0.0025

Uranus -63073-05-31 05:16 J -21315839.44 -21315839.28 -21315839.09 0.0145 0.0065

Pluto -63073-08-12 17:59 J -21315765.91 -21315765.75 -21315765.57 0.0061 0.0020

Uranus -63073-08-27 14:23 J -21315751.09 -21315750.90 -21315750.71 0.0145 0.0032

Pluto -63073-11-08 19:11 J -21315677.86 -21315677.70 -21315677.52 0.0061 0.0015

Jupiter -63073-11-22 18:57 J -21315663.90 -21315663.71 -21315663.53 0.0499 0.0069

Uranus -63073-11-23 23:16 J -21315662.73 -21315662.53 -21315662.34 0.0145 0.0003

Pluto -63072-02-04 20:23 J -21315589.82 -21315589.65 -21315589.46 0.0062 0.0010

Uranus -63072-02-20 07:54 J -21315574.36 -21315574.17 -21315573.98 0.0145 0.0033

Pluto -63072-05-03 21:49 J -21315501.77 -21315501.59 -21315501.41 0.0062 0.0004

Uranus -63072-05-19 16:33 J -21315485.98 -21315485.81 -21315485.63 0.0145 0.0065

Pluto -63072-07-30 23:01 J -21315413.72 -21315413.54 -21315413.36 0.0062 0.0001

Uranus -63072-08-16 01:25 J -21315397.58 -21315397.44 -21315397.29 0.0144 0.0097

Pluto -63072-10-27 00:13 J -21315325.67 -21315325.49 -21315325.31 0.0062 0.0006

Uranus -63072-11-12 10:04 J -21315309.15 -21315309.08 -21315308.99 0.0144 0.0130

Pluto -63071-01-23 01:25 J -21315237.61 -21315237.44 -21315237.26 0.0062 0.0011

Pluto -63071-04-21 02:37 J -21315149.56 -21315149.39 -21315149.21 0.0062 0.0016

Pluto -63071-07-18 03:49 J -21315061.50 -21315061.34 -21315061.16 0.0062 0.0021

Pluto -63071-10-14 04:47 J -21314973.44 -21314973.30 -21314973.12 0.0062 0.0027

Mars -63071-10-24 05:45 J -21314963.42 -21314963.26 -21314963.10 0.1606 0.0305

Pluto -63070-01-10 06:13 J -21314885.38 -21314885.24 -21314885.07 0.0062 0.0032

Pluto -63070-04-08 07:25 J -21314797.32 -21314797.19 -21314797.03 0.0062 0.0037

Moon -63070-06-04 12:13 J -21314740.10 -21314739.99 -21314739.88 0.2683 0.0414

Earth -63070-06-04 12:13 J -21314740.10 -21314739.99 -21314739.89 0.2690 0.0365 *

Pluto -63070-07-05 08:52 J -21314709.25 -21314709.13 -21314708.99 0.0062 0.0043

Pluto -63070-10-01 10:18 J -21314621.18 -21314621.07 -21314620.95 0.0062 0.0048

Pluto -63070-12-28 11:01 J -21314533.11 -21314533.04 -21314532.92 0.0062 0.0054

Pluto -63069-03-25 12:42 J -21314445.02 -21314444.97 -21314444.90 0.0063 0.0059

Jupiter -63067-07-23 14:09 J -21313594.98 -21313594.91 -21313594.83 0.0527 0.0424

Jupiter -63067-10-20 19:54 J -21313505.79 -21313505.67 -21313505.54 0.0527 0.0089

Saturn -63067-11-25 08:37 J -21313470.20 -21313470.14 -21313470.06 0.0260 0.0241

Saturn -63066-02-22 04:33 J -21313381.47 -21313381.31 -21313381.14 0.0259 0.0120

Saturn -63066-05-22 00:42 J -21313292.66 -21313292.47 -21313292.28 0.0259 0.0003

Saturn -63066-08-18 20:37 J -21313203.80 -21313203.64 -21313203.47 0.0259 0.0124

Saturn -63066-11-15 17:01 J -21313114.85 -21313114.79 -21313114.74 0.0259 0.0246

Earth -63063-05-28 11:16 J -21312190.05 -21312190.03 -21312190.01 0.2684 0.2604

Moon -63063-05-28 11:45 J -21312190.03 -21312190.01 -21312189.98 0.2688 0.2585 *

Mars -63062-05-18 01:25 J -21311835.53 -21311835.44 -21311835.36 0.1949 0.1262

Mars -63061-03-15 07:40 J -21311533.29 -21311533.18 -21311533.08 0.1611 0.1248

Jupiter -63061-09-10 15:49 J -21311354.00 -21311353.84 -21311353.67 0.0499 0.0230

Jupiter -63061-12-10 03:21 J -21311263.44 -21311263.36 -21311263.27 0.0500 0.0438

Moon -63057-06-06 05:30 J -21309989.37 -21309989.27 -21309989.18 0.2686 0.1282

Earth -63057-06-06 05:59 J -21309989.34 -21309989.25 -21309989.16 0.2692 0.1401 *

Venus -63056-04-19 06:42 J -21309672.38 -21309672.22 -21309672.06 0.3561 0.0384

Jupiter -63055-08-09 00:13 J -21309195.61 -21309195.49 -21309195.36 0.0526 0.0042

Jupiter -63055-11-06 05:45 J -21309106.32 -21309106.26 -21309106.21 0.0526 0.0466

Moon -63054-11-27 10:33 J -21308720.20 -21308720.06 -21308719.91 0.2642 0.1212

Earth -63054-11-27 12:13 J -21308720.14 -21308719.99 -21308719.85 0.2646 0.1028 *

Mars -63053-10-07 09:06 J -21308405.24 -21308405.12 -21308405.01 0.1943 0.0227

Saturn -63051-03-17 20:23 J -21307878.75 -21307878.65 -21307878.54 0.0303 0.0192

Saturn -63051-06-14 09:35 J -21307790.23 -21307790.10 -21307789.97 0.0303 0.0057

Saturn -63051-09-10 22:33 J -21307701.68 -21307701.56 -21307701.43 0.0304 0.0078

Saturn -63051-12-08 11:30 J -21307613.11 -21307613.02 -21307612.93 0.0304 0.0212

Earth -63050-05-31 05:16 J -21307439.37 -21307439.28 -21307439.19 0.2686 0.1546

Moon -63050-05-31 05:59 J -21307439.35 -21307439.25 -21307439.16 0.2686 0.1473 *

Jupiter -63049-06-29 13:25 J -21307044.06 -21307043.94 -21307043.82 0.0499 0.0387

Jupiter -63049-09-28 00:42 J -21306953.62 -21306953.47 -21306953.31 0.0500 0.0278

Venus -63048-08-06 17:30 J -21306640.82 -21306640.77 -21306640.72 0.3817 0.3279

Moon -63044-06-08 23:01 J -21305238.59 -21305238.54 -21305238.49 0.2694 0.2411

Earth -63044-06-08 23:45 J -21305238.56 -21305238.51 -21305238.47 0.2694 0.2435 *

Mars -63043-02-27 16:47 J -21304974.91 -21304974.80 -21304974.70 0.1937 0.0809

Jupiter -63043-05-28 04:33 J -21304885.43 -21304885.31 -21304885.19 0.0527 0.0165

Jupiter -63043-08-25 10:04 J -21304796.18 -21304796.08 -21304795.99 0.0526 0.0341

Venus -63042-02-20 09:35 J -21304617.19 -21304617.10 -21304617.01 0.3818 0.1471

Moon -63041-11-29 17:30 J -21303968.91 -21303968.77 -21303968.62 0.2644 0.0941

Earth -63041-11-29 19:11 J -21303968.84 -21303968.70 -21303968.55 0.2643 0.1113 *

Mars -63041-12-02 04:18 J -21303966.46 -21303966.32 -21303966.17 0.1602 0.0759

Earth -63037-06-01 23:01 J -21302688.64 -21302688.54 -21302688.43 0.2688 0.0498

Moon -63037-06-01 23:30 J -21302688.63 -21302688.52 -21302688.41 0.2683 0.0414 *

Saturn -63037-07-11 02:52 J -21302649.52 -21302649.38 -21302649.23 0.0259 0.0163

Jupiter -63037-07-16 22:04 J -21302643.76 -21302643.58 -21302643.40 0.0499 0.0119

Venus -63037-09-05 01:40 J -21302593.53 -21302593.43 -21302593.33 0.3818 0.0353

Saturn -63037-10-07 22:47 J -21302560.73 -21302560.55 -21302560.36 0.0259 0.0042

Saturn -63036-01-04 18:57 J -21302471.89 -21302471.71 -21302471.53 0.0259 0.0080

Saturn -63036-04-03 15:06 J -21302382.98 -21302382.87 -21302382.75 0.0258 0.0203

Mars -63034-07-21 00:28 J -21301544.52 -21301544.48 -21301544.45 0.1930 0.1831

Jupiter -63031-03-16 08:37 J -21300575.25 -21300575.14 -21300575.04 0.0527 0.0296

Venus -63031-03-21 17:45 J -21300569.84 -21300569.76 -21300569.67 0.3819 0.2181

Mars -63031-04-24 06:13 J -21300536.40 -21300536.24 -21300536.07 0.1606 0.0177

Jupiter -63031-06-13 14:09 J -21300486.03 -21300485.91 -21300485.80 0.0526 0.0213

Uranus -63030-03-03 05:01 J -21300223.31 -21300223.29 -21300223.25 0.0133 0.0129

Uranus -63030-05-30 07:54 J -21300135.23 -21300135.17 -21300135.09 0.0133 0.0113

Uranus -63030-08-26 11:01 J -21300047.13 -21300047.04 -21300046.94 0.0133 0.0095

Uranus -63030-11-22 13:54 J -21299959.02 -21299958.92 -21299958.81 0.0133 0.0079

Uranus -63029-02-18 17:01 J -21299870.90 -21299870.79 -21299870.67 0.0133 0.0061

Uranus -63029-05-16 19:54 J -21299782.79 -21299782.67 -21299782.54 0.0134 0.0045

Uranus -63029-08-12 23:01 J -21299694.67 -21299694.54 -21299694.41 0.0134 0.0027

Uranus -63029-11-09 01:54 J -21299606.55 -21299606.42 -21299606.29 0.0134 0.0010

Uranus -63028-02-05 04:47 J -21299518.43 -21299518.30 -21299518.16 0.0134 0.0008

Uranus -63028-05-04 07:54 J -21299430.30 -21299430.17 -21299430.04 0.0134 0.0024

Uranus -63028-07-31 10:47 J -21299342.17 -21299342.05 -21299341.92 0.0134 0.0041

Uranus -63028-10-27 13:40 J -21299254.04 -21299253.93 -21299253.81 0.0134 0.0058

Uranus -63027-01-23 16:33 J -21299165.91 -21299165.81 -21299165.69 0.0134 0.0076

Uranus -63027-04-21 19:40 J -21299077.77 -21299077.68 -21299077.58 0.0134 0.0093

Uranus -63027-07-18 22:47 J -21298989.63 -21298989.55 -21298989.48 0.0134 0.0110

Uranus -63027-10-15 01:25 J -21298901.47 -21298901.44 -21298901.39 0.0135 0.0127

Jupiter -63025-05-04 18:57 J -21298333.90 -21298333.71 -21298333.52 0.0499 0.0045

Moon -63024-06-04 16:47 J -21297937.91 -21297937.80 -21297937.69 0.2684 0.0509

Earth -63024-06-04 17:01 J -21297937.90 -21297937.79 -21297937.69 0.2690 0.0565 *

Mars -63023-11-16 01:11 J -21297408.53 -21297408.45 -21297408.37 0.1949 0.1358

Saturn -63022-08-04 21:35 J -21297146.67 -21297146.60 -21297146.51 0.0302 0.0237

Mars -63022-09-14 08:23 J -21297106.27 -21297106.15 -21297106.03 0.1611 0.1108

Saturn -63022-11-01 10:47 J -21297058.17 -21297058.05 -21297057.92 0.0303 0.0103

Saturn -63021-01-28 23:59 J -21296969.63 -21296969.50 -21296969.37 0.0303 0.0033

Saturn -63021-04-26 12:57 J -21296881.07 -21296880.96 -21296880.85 0.0304 0.0166

Saturn -63021-07-24 01:40 J -21296792.44 -21296792.43 -21296792.41 0.0304 0.0300

Jupiter -63019-01-02 12:57 J -21296265.03 -21296264.96 -21296264.88 0.0527 0.0419

Jupiter -63019-04-01 18:42 J -21296175.84 -21296175.72 -21296175.59 0.0527 0.0093

Earth -63017-05-28 16:04 J -21295387.88 -21295387.83 -21295387.78 0.2684 0.2395

Moon -63017-05-28 16:47 J -21295387.86 -21295387.80 -21295387.75 0.2688 0.2287 *

Jupiter -63013-02-21 14:37 J -21294024.05 -21294023.89 -21294023.72 0.0499 0.0222

Mars -63013-04-07 09:06 J -21293978.24 -21293978.12 -21293978.01 0.1944 0.0336

Jupiter -63013-05-22 01:54 J -21293933.50 -21293933.42 -21293933.33 0.0499 0.0445

Moon -63011-06-07 10:18 J -21293187.16 -21293187.07 -21293186.99 0.2687 0.1608

Earth -63011-06-07 10:47 J -21293187.14 -21293187.05 -21293186.96 0.2692 0.1602 *

Moon -63008-11-27 17:16 J -21291917.93 -21291917.78 -21291917.63 0.2642 0.0698

Earth -63008-11-27 18:42 J -21291917.87 -21291917.72 -21291917.57 0.2646 0.0632 *

Saturn -63008-11-28 02:09 J -21291917.53 -21291917.41 -21291917.29 0.0260 0.0198

Jupiter -63007-01-18 23:16 J -21291865.65 -21291865.53 -21291865.40 0.0527 0.0035

Saturn -63007-02-24 22:04 J -21291828.76 -21291828.58 -21291828.40 0.0260 0.0077

Jupiter -63007-04-18 04:47 J -21291776.35 -21291776.30 -21291776.25 0.0526 0.0477

Saturn -63007-05-24 18:13 J -21291739.93 -21291739.74 -21291739.55 0.0259 0.0045

Saturn -63007-08-21 14:09 J -21291651.04 -21291650.91 -21291650.76 0.0259 0.0168

Venus -63005-05-10 00:13 J -21291023.59 -21291023.49 -21291023.39 0.3562 0.2763

Earth -63004-05-31 10:04 J -21290637.18 -21290637.08 -21290636.98 0.2686 0.1332

Moon -63004-05-31 10:47 J -21290637.15 -21290637.05 -21290636.96 0.2684 0.1284 *

Mars -63004-08-28 16:47 J -21290547.91 -21290547.80 -21290547.69 0.1937 0.0693

Neptune -63002-09-09 01:54 J -21289806.47 -21289806.42 -21289806.33 0.0089 0.0082

Neptune -63002-12-06 05:45 J -21289718.36 -21289718.26 -21289718.15 0.0089 0.0074

Jupiter -63002-12-10 11:45 J -21289714.13 -21289714.01 -21289713.89 0.0498 0.0382

Neptune -63001-03-03 08:52 J -21289630.23 -21289630.13 -21289629.98 0.0089 0.0067

Jupiter -63001-03-09 22:47 J -21289623.70 -21289623.55 -21289623.39 0.0499 0.0281

Neptune -63001-05-30 12:42 J -21289542.11 -21289541.97 -21289541.82 0.0089 0.0059

Mars -63001-06-02 05:01 J -21289539.43 -21289539.29 -21289539.15 0.1601 0.0895

Neptune -63001-08-26 16:04 J -21289453.97 -21289453.83 -21289453.66 0.0089 0.0052

Neptune -63001-11-22 19:40 J -21289365.83 -21289365.68 -21289365.50 0.0089 0.0044

63RD MILLENNIUM BCE

This is a list of transits of Mercury in the 63rd millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Neptune -63000-02-18 23:16 J -21289277.70 -21289277.53 -21289277.34 0.0089 0.0036

Neptune -63000-05-18 03:06 J -21289189.55 -21289189.37 -21289189.19 0.0089 0.0028

Neptune -63000-08-14 06:28 J -21289101.41 -21289101.23 -21289101.04 0.0089 0.0020

Neptune -63000-11-10 10:04 J -21289013.27 -21289013.08 -21289012.88 0.0089 0.0013

Venus -63000-11-24 08:37 J -21288999.27 -21288999.14 -21288999.01 0.3561 0.1944

Neptune -62999-02-06 13:40 J -21288925.12 -21288924.93 -21288924.73 0.0089 0.0005

Neptune -62999-05-05 17:16 J -21288836.97 -21288836.78 -21288836.58 0.0089 0.0004

Neptune -62999-08-01 20:52 J -21288748.82 -21288748.63 -21288748.43 0.0089 0.0011

Neptune -62999-10-29 00:28 J -21288660.67 -21288660.48 -21288660.29 0.0089 0.0019

Neptune -62998-01-25 04:04 J -21288572.51 -21288572.33 -21288572.14 0.0089 0.0027

Neptune -62998-04-23 07:25 J -21288484.35 -21288484.19 -21288484.00 0.0089 0.0035

Moon -62998-06-10 03:49 J -21288436.38 -21288436.34 -21288436.30 0.2696 0.2501

Earth -62998-06-10 04:33 J -21288436.33 -21288436.31 -21288436.29 0.2694 0.2636 *

Neptune -62998-07-20 11:01 J -21288396.20 -21288396.04 -21288395.86 0.0089 0.0043

Neptune -62998-10-16 14:52 J -21288308.03 -21288307.88 -21288307.72 0.0089 0.0050

Neptune -62997-01-12 18:28 J -21288219.87 -21288219.73 -21288219.58 0.0089 0.0058

Neptune -62997-04-09 22:04 J -21288131.70 -21288131.58 -21288131.44 0.0089 0.0066

Neptune -62997-07-07 01:25 J -21288043.53 -21288043.44 -21288043.32 0.0089 0.0074

Neptune -62997-10-03 05:01 J -21287955.34 -21287955.29 -21287955.20 0.0089 0.0082

Jupiter -62996-11-07 03:35 J -21287555.47 -21287555.35 -21287555.23 0.0527 0.0156

Jupiter -62995-02-04 09:06 J -21287466.21 -21287466.12 -21287466.03 0.0526 0.0351

Moon -62995-12-01 00:13 J -21287166.62 -21287166.49 -21287166.35 0.2645 0.1336

Earth -62995-12-01 01:54 J -21287166.55 -21287166.42 -21287166.29 0.2643 0.1513 *

Mars -62994-01-19 00:28 J -21287117.53 -21287117.48 -21287117.43 0.1930 0.1724

Saturn -62993-12-21 22:47 J -21286414.59 -21286414.55 -21286414.50 0.0302 0.0282

Saturn -62992-03-20 11:59 J -21286326.12 -21286326.00 -21286325.89 0.0303 0.0148

Saturn -62992-06-17 00:57 J -21286237.59 -21286237.46 -21286237.33 0.0303 0.0014

Saturn -62992-09-13 13:54 J -21286149.04 -21286148.92 -21286148.80 0.0303 0.0121

Mars -62992-10-23 06:57 J -21286109.38 -21286109.21 -21286109.04 0.1606 0.0040

Saturn -62992-12-11 02:52 J -21286060.45 -21286060.38 -21286060.31 0.0304 0.0254

Venus -62991-03-13 15:06 J -21285967.94 -21285967.87 -21285967.80 0.3817 0.2638

Earth -62991-06-03 04:04 J -21285886.44 -21285886.33 -21285886.23 0.2688 0.0297

Moon -62991-06-03 04:18 J -21285886.43 -21285886.32 -21285886.21 0.2683 0.0264 *

Uranus -62990-12-26 19:40 J -21285314.77 -21285314.68 -21285314.56 0.0145 0.0121

Jupiter -62990-12-27 20:09 J -21285313.84 -21285313.66 -21285313.48 0.0499 0.0120

Uranus -62989-03-24 04:33 J -21285226.46 -21285226.31 -21285226.15 0.0145 0.0088

Uranus -62989-06-20 13:11 J -21285138.12 -21285137.95 -21285137.76 0.0145 0.0056

Uranus -62989-09-16 22:18 J -21285049.76 -21285049.57 -21285049.38 0.0145 0.0023

Uranus -62989-12-14 06:57 J -21284961.40 -21284961.21 -21284961.01 0.0145 0.0010

Uranus -62988-03-12 15:49 J -21284873.03 -21284872.84 -21284872.65 0.0145 0.0042

Uranus -62988-06-09 00:13 J -21284784.64 -21284784.49 -21284784.31 0.0145 0.0075

Uranus -62988-09-05 09:06 J -21284696.24 -21284696.12 -21284695.98 0.0144 0.0107

Uranus -62988-12-02 17:59 J -21284607.80 -21284607.75 -21284607.69 0.0144 0.0139

Venus -62986-09-27 07:11 J -21283944.30 -21283944.20 -21283944.10 0.3818 0.0825

Jupiter -62984-08-26 07:54 J -21283245.28 -21283245.17 -21283245.07 0.0527 0.0284

Jupiter -62984-11-23 13:25 J -21283156.05 -21283155.94 -21283155.83 0.0526 0.0225

Mars -62983-05-17 01:11 J -21282981.52 -21282981.45 -21282981.37 0.1949 0.1470

Mars -62982-03-15 08:52 J -21282679.26 -21282679.13 -21282679.00 0.1611 0.0975

Pluto -62982-04-26 19:25 J -21282636.75 -21282636.69 -21282636.63 0.0084 0.0075

Pluto -62982-07-23 20:52 J -21282548.71 -21282548.63 -21282548.54 0.0084 0.0065

Pluto -62982-10-19 22:18 J -21282460.67 -21282460.57 -21282460.45 0.0084 0.0055

Pluto -62981-01-15 23:59 J -21282372.61 -21282372.50 -21282372.37 0.0084 0.0044

Pluto -62981-04-13 01:25 J -21282284.56 -21282284.44 -21282284.30 0.0083 0.0035

Pluto -62981-07-10 03:06 J -21282196.50 -21282196.37 -21282196.23 0.0083 0.0024

Pluto -62981-10-06 04:47 J -21282108.44 -21282108.30 -21282108.16 0.0083 0.0014

Pluto -62980-01-02 06:13 J -21282020.38 -21282020.24 -21282020.10 0.0083 0.0004

Pluto -62980-03-31 07:40 J -21281932.32 -21281932.18 -21281932.03 0.0083 0.0006

Venus -62980-04-11 23:16 J -21281920.63 -21281920.53 -21281920.43 0.3819 0.0998

Pluto -62980-06-27 09:06 J -21281844.25 -21281844.12 -21281843.97 0.0083 0.0016

Pluto -62980-09-23 10:33 J -21281756.19 -21281756.06 -21281755.92 0.0083 0.0026

Pluto -62980-12-20 12:13 J -21281668.12 -21281667.99 -21281667.86 0.0083 0.0035

Pluto -62979-03-18 13:25 J -21281580.05 -21281579.94 -21281579.81 0.0082 0.0045

Pluto -62979-06-14 14:52 J -21281491.98 -21281491.88 -21281491.77 0.0082 0.0054

Pluto -62979-09-10 16:18 J -21281403.90 -21281403.82 -21281403.72 0.0082 0.0063

Pluto -62979-12-07 17:59 J -21281315.82 -21281315.75 -21281315.69 0.0082 0.0073

Pluto -62978-03-05 19:11 J -21281227.70 -21281227.70 -21281227.69 0.0082 0.0082

Saturn -62978-04-17 00:42 J -21281185.53 -21281185.47 -21281185.39 0.0260 0.0239

Moon -62978-06-05 21:35 J -21281135.71 -21281135.60 -21281135.50 0.2684 0.0776

Earth -62978-06-05 21:49 J -21281135.70 -21281135.59 -21281135.49 0.2690 0.0768 *

Saturn -62978-07-14 20:37 J -21281096.80 -21281096.64 -21281096.47 0.0259 0.0118

Saturn -62978-10-11 16:47 J -21281007.99 -21281007.80 -21281007.61 0.0259 0.0004

Jupiter -62978-10-15 17:16 J -21281003.97 -21281003.78 -21281003.59 0.0499 0.0041

Saturn -62977-01-08 12:42 J -21280919.12 -21280918.97 -21280918.79 0.0259 0.0127

Saturn -62977-04-06 09:21 J -21280830.16 -21280830.11 -21280830.07 0.0259 0.0249

Venus -62975-10-26 15:21 J -21279896.92 -21279896.86 -21279896.79 0.3819 0.2841

Moon -62975-11-25 17:30 J -21279866.85 -21279866.77 -21279866.70 0.2642 0.2318

Earth -62975-11-25 18:28 J -21279866.80 -21279866.73 -21279866.66 0.2648 0.2338 *

Mars -62974-10-07 09:06 J -21279551.23 -21279551.12 -21279551.01 0.1943 0.0444

Jupiter -62972-06-14 11:45 J -21278935.09 -21278935.01 -21278934.93 0.0527 0.0417

Jupiter -62972-09-11 17:30 J -21278845.90 -21278845.77 -21278845.65 0.0526 0.0095

Earth -62971-05-29 20:52 J -21278585.69 -21278585.63 -21278585.56 0.2684 0.2184

Moon -62971-05-29 21:35 J -21278585.66 -21278585.60 -21278585.54 0.2687 0.2175 *

Jupiter -62966-08-03 14:09 J -21276694.08 -21276693.91 -21276693.74 0.0499 0.0204

Jupiter -62966-11-02 01:40 J -21276603.49 -21276603.43 -21276603.36 0.0500 0.0464

Moon -62965-06-07 15:06 J -21276384.96 -21276384.87 -21276384.79 0.2689 0.1690

Earth -62965-06-07 15:35 J -21276384.93 -21276384.85 -21276384.77 0.2693 0.1807 *

Mars -62964-02-26 16:33 J -21276120.92 -21276120.81 -21276120.70 0.1937 0.0602

Saturn -62963-08-07 13:40 J -21275594.03 -21275593.93 -21275593.83 0.0302 0.0189

Saturn -62963-11-04 02:37 J -21275505.52 -21275505.39 -21275505.26 0.0303 0.0055

Saturn -62962-01-31 15:35 J -21275416.97 -21275416.85 -21275416.72 0.0303 0.0080

Saturn -62962-04-30 04:33 J -21275328.40 -21275328.31 -21275328.22 0.0303 0.0213

Moon -62962-11-28 23:59 J -21275115.66 -21275115.50 -21275115.35 0.2642 0.0454

Earth -62962-11-29 01:25 J -21275115.60 -21275115.44 -21275115.28 0.2645 0.0230 *

Mars -62962-12-02 05:45 J -21275112.39 -21275112.26 -21275112.13 0.1602 0.1032

Jupiter -62960-06-30 21:49 J -21274535.71 -21274535.59 -21274535.46 0.0527 0.0034

Jupiter -62960-09-28 03:21 J -21274446.41 -21274446.36 -21274446.31 0.0526 0.0477

Earth -62958-06-01 14:52 J -21273834.98 -21273834.88 -21273834.78 0.2686 0.1126

Moon -62958-06-01 15:35 J -21273834.95 -21273834.85 -21273834.75 0.2683 0.1009 *

Mars -62955-07-20 00:28 J -21272690.54 -21272690.48 -21272690.41 0.1931 0.1604

Jupiter -62954-05-22 10:04 J -21272384.20 -21272384.08 -21272383.96 0.0498 0.0378

Jupiter -62954-08-20 21:06 J -21272293.77 -21272293.62 -21272293.46 0.0499 0.0285

Mars -62952-04-23 07:40 J -21271682.34 -21271682.18 -21271682.01 0.1606 0.0110

Saturn -62949-11-30 20:23 J -21270364.80 -21270364.65 -21270364.49 0.0260 0.0151

Moon -62949-12-01 06:57 J -21270364.33 -21270364.21 -21270364.10 0.2645 0.1799

Earth -62949-12-01 08:37 J -21270364.25 -21270364.14 -21270364.03 0.2643 0.1913 *

Venus -62949-12-15 02:23 J -21270350.55 -21270350.40 -21270350.25 0.3562 0.1153

Saturn -62948-02-27 16:33 J -21270276.00 -21270275.81 -21270275.62 0.0260 0.0029

Jupiter -62948-04-19 02:23 J -21270225.52 -21270225.40 -21270225.28 0.0527 0.0153

Saturn -62948-05-27 12:28 J -21270187.15 -21270186.98 -21270186.80 0.0259 0.0095

Jupiter -62948-07-17 07:54 J -21270136.26 -21270136.17 -21270136.08 0.0526 0.0356

Saturn -62948-08-24 08:37 J -21270098.23 -21270098.14 -21270098.03 0.0259 0.0218

Uranus -62946-03-23 12:13 J -21269522.03 -21269521.99 -21269521.95 0.0133 0.0126

Uranus -62946-06-19 15:06 J -21269433.94 -21269433.87 -21269433.79 0.0133 0.0109

Uranus -62946-09-15 17:59 J -21269345.83 -21269345.75 -21269345.65 0.0133 0.0092

Uranus -62946-12-12 21:06 J -21269257.73 -21269257.62 -21269257.51 0.0133 0.0075

Uranus -62945-03-09 23:59 J -21269169.61 -21269169.50 -21269169.38 0.0134 0.0058

Earth -62945-06-03 08:52 J -21269084.24 -21269084.13 -21269084.02 0.2689 0.0090

Moon -62945-06-03 09:06 J -21269084.23 -21269084.12 -21269084.01 0.2683 0.0045 *

Uranus -62945-06-06 03:06 J -21269081.50 -21269081.37 -21269081.25 0.0134 0.0041

Uranus -62945-09-02 05:59 J -21268993.38 -21268993.25 -21268993.12 0.0134 0.0024

Uranus -62945-11-29 08:52 J -21268905.26 -21268905.13 -21268904.99 0.0134 0.0008

Uranus -62944-02-25 11:59 J -21268817.13 -21268817.00 -21268816.87 0.0134 0.0010

Uranus -62944-05-24 14:52 J -21268729.01 -21268728.88 -21268728.75 0.0134 0.0027

Uranus -62944-08-20 17:45 J -21268640.88 -21268640.76 -21268640.63 0.0134 0.0045

Mars -62944-11-15 01:25 J -21268554.51 -21268554.44 -21268554.38 0.1950 0.1591

Uranus -62944-11-16 20:52 J -21268552.75 -21268552.63 -21268552.52 0.0134 0.0062

Uranus -62943-02-12 23:45 J -21268464.61 -21268464.51 -21268464.40 0.0134 0.0079

Uranus -62943-05-12 02:37 J -21268376.48 -21268376.39 -21268376.30 0.0134 0.0096

Venus -62943-07-01 10:33 J -21268326.07 -21268326.06 -21268326.04 0.3561 0.3527

Uranus -62943-08-08 05:30 J -21268288.33 -21268288.27 -21268288.19 0.0135 0.0114

Mars -62943-09-13 09:35 J -21268252.24 -21268252.10 -21268251.96 0.1610 0.0839

Uranus -62943-11-04 08:23 J -21268200.17 -21268200.15 -21268200.11 0.0135 0.0131

Jupiter -62942-06-08 17:59 J -21267983.93 -21267983.75 -21267983.57 0.0499 0.0120

Venus -62940-04-03 20:37 J -21267318.65 -21267318.64 -21267318.64 0.3816 0.3804

Jupiter -62936-02-05 06:42 J -21265915.33 -21265915.22 -21265915.12 0.0527 0.0280

Jupiter -62936-05-05 12:13 J -21265826.10 -21265825.99 -21265825.87 0.0526 0.0230

Venus -62935-10-18 12:42 J -21265295.06 -21265294.97 -21265294.89 0.3817 0.1998

Mars -62934-04-07 08:52 J -21265124.24 -21265124.13 -21265124.02 0.1943 0.0545

Saturn -62934-12-25 15:06 J -21264861.95 -21264861.87 -21264861.78 0.0302 0.0230

Saturn -62933-03-23 04:18 J -21264773.45 -21264773.32 -21264773.20 0.0302 0.0096

Saturn -62933-06-19 17:16 J -21264684.91 -21264684.78 -21264684.65 0.0303 0.0038

Saturn -62933-09-16 06:13 J -21264596.35 -21264596.24 -21264596.13 0.0303 0.0171

Moon -62932-06-06 02:23 J -21264333.50 -21264333.40 -21264333.30 0.2684 0.0922

Earth -62932-06-06 02:37 J -21264333.49 -21264333.39 -21264333.29 0.2691 0.0977 *

Jupiter -62930-03-27 15:06 J -21263674.06 -21263673.87 -21263673.69 0.0499 0.0044

Venus -62929-05-03 04:33 J -21263271.41 -21263271.31 -21263271.20 0.3818 0.0244

Moon -62929-11-25 23:59 J -21263064.59 -21263064.50 -21263064.41 0.2642 0.2133

Earth -62929-11-26 00:57 J -21263064.56 -21263064.46 -21263064.35 0.2647 0.1947 *

Earth -62925-05-30 01:54 J -21261783.50 -21261783.42 -21261783.35 0.2685 0.1978

Moon -62925-05-30 02:23 J -21261783.48 -21261783.40 -21261783.32 0.2686 0.1843 *

Mars -62925-08-27 16:47 J -21261693.91 -21261693.80 -21261693.69 0.1937 0.0478

Jupiter -62925-11-24 10:47 J -21261605.13 -21261605.05 -21261604.97 0.0527 0.0409

Jupiter -62924-02-21 16:33 J -21261515.94 -21261515.81 -21261515.69 0.0526 0.0103

Venus -62924-11-16 20:52 J -21261247.72 -21261247.63 -21261247.54 0.3819 0.1659

Mars -62922-06-02 06:28 J -21260685.35 -21260685.23 -21260685.12 0.1601 0.1168

Neptune -62920-03-24 14:52 J -21260023.89 -21260023.88 -21260023.85 0.0089 0.0087

Neptune -62920-06-20 16:18 J -21259935.86 -21259935.82 -21259935.76 0.0089 0.0082

Neptune -62920-09-16 17:30 J -21259847.82 -21259847.77 -21259847.69 0.0089 0.0077

Neptune -62920-12-13 19:11 J -21259759.78 -21259759.70 -21259759.62 0.0089 0.0071

Neptune -62919-03-11 20:23 J -21259671.73 -21259671.65 -21259671.55 0.0089 0.0066

Saturn -62919-04-19 19:25 J -21259632.81 -21259632.69 -21259632.56 0.0260 0.0189

Neptune -62919-06-07 22:04 J -21259583.68 -21259583.58 -21259583.48 0.0089 0.0060

Moon -62919-06-08 19:40 J -21259582.75 -21259582.68 -21259582.60 0.2691 0.1982

Earth -62919-06-08 20:23 J -21259582.72 -21259582.65 -21259582.58 0.2693 0.2012 *

Saturn -62919-07-17 15:35 J -21259544.03 -21259543.85 -21259543.67 0.0260 0.0067

Neptune -62919-09-03 23:16 J -21259495.63 -21259495.53 -21259495.42 0.0089 0.0055

Saturn -62919-10-14 11:45 J -21259455.20 -21259455.01 -21259454.83 0.0259 0.0055

Neptune -62919-12-01 00:28 J -21259407.58 -21259407.48 -21259407.36 0.0089 0.0050

Saturn -62918-01-11 07:54 J -21259366.31 -21259366.17 -21259366.03 0.0259 0.0178

Jupiter -62918-01-13 11:59 J -21259364.16 -21259364.00 -21259363.83 0.0499 0.0205

Neptune -62918-02-27 02:09 J -21259319.53 -21259319.41 -21259319.29 0.0089 0.0044

Jupiter -62918-04-13 23:30 J -21259273.58 -21259273.52 -21259273.45 0.0500 0.0464

Neptune -62918-05-26 03:21 J -21259231.47 -21259231.36 -21259231.23 0.0089 0.0039

Venus -62918-06-02 12:57 J -21259224.00 -21259223.96 -21259223.92 0.3819 0.3503

Neptune -62918-08-22 04:47 J -21259143.42 -21259143.30 -21259143.17 0.0089 0.0033

Neptune -62918-11-18 06:13 J -21259055.37 -21259055.24 -21259055.11 0.0089 0.0028

Neptune -62917-02-14 07:25 J -21258967.31 -21258967.19 -21258967.06 0.0089 0.0023

Neptune -62917-05-12 08:52 J -21258879.26 -21258879.13 -21258879.00 0.0089 0.0017

Neptune -62917-08-08 10:18 J -21258791.21 -21258791.07 -21258790.94 0.0089 0.0012

Neptune -62917-11-04 11:30 J -21258703.15 -21258703.02 -21258702.88 0.0089 0.0006

Neptune -62916-01-31 12:57 J -21258615.09 -21258614.96 -21258614.83 0.0089 0.0001

Neptune -62916-04-29 14:09 J -21258527.04 -21258526.91 -21258526.77 0.0089 0.0006

Neptune -62916-07-26 15:35 J -21258438.98 -21258438.85 -21258438.72 0.0089 0.0010

Neptune -62916-10-22 16:47 J -21258350.92 -21258350.80 -21258350.66 0.0089 0.0016

Moon -62916-11-29 06:28 J -21258313.39 -21258313.23 -21258313.08 0.2644 0.0133

Earth -62916-11-29 08:09 J -21258313.32 -21258313.16 -21258313.01 0.2645 0.0180 *

Mars -62915-01-18 00:28 J -21258263.55 -21258263.48 -21258263.41 0.1930 0.1507

Neptune -62915-01-18 18:13 J -21258262.87 -21258262.74 -21258262.61 0.0089 0.0021

Neptune -62915-04-16 19:40 J -21258174.81 -21258174.68 -21258174.56 0.0089 0.0026

Neptune -62915-07-13 20:52 J -21258086.75 -21258086.63 -21258086.50 0.0089 0.0031

Neptune -62915-10-09 22:04 J -21257998.69 -21257998.58 -21257998.45 0.0089 0.0037

Neptune -62914-01-05 23:30 J -21257910.63 -21257910.52 -21257910.40 0.0089 0.0042

Neptune -62914-04-04 00:42 J -21257822.57 -21257822.47 -21257822.35 0.0089 0.0048

Neptune -62914-07-01 02:09 J -21257734.51 -21257734.41 -21257734.30 0.0089 0.0053

Neptune -62914-09-27 03:35 J -21257646.45 -21257646.35 -21257646.25 0.0089 0.0058

Neptune -62914-12-24 04:33 J -21257558.39 -21257558.31 -21257558.20 0.0089 0.0064

Neptune -62913-03-21 05:59 J -21257470.32 -21257470.25 -21257470.16 0.0089 0.0069

Neptune -62913-06-17 07:25 J -21257382.26 -21257382.19 -21257382.11 0.0089 0.0074

Neptune -62913-09-13 08:52 J -21257294.19 -21257294.13 -21257294.07 0.0089 0.0079

Mars -62913-10-22 08:23 J -21257255.32 -21257255.15 -21257254.99 0.1606 0.0238

Neptune -62913-12-10 09:49 J -21257206.11 -21257206.09 -21257206.04 0.0089 0.0085

Jupiter -62913-12-10 20:23 J -21257205.77 -21257205.65 -21257205.52 0.0527 0.0031

Jupiter -62912-03-10 01:54 J -21257116.47 -21257116.42 -21257116.37 0.0526 0.0475

Earth -62912-06-01 19:40 J -21257032.78 -21257032.68 -21257032.57 0.2687 0.0917

Moon -62912-06-01 20:23 J -21257032.75 -21257032.65 -21257032.54 0.2684 0.0889 *

Jupiter -62907-11-01 08:52 J -21255054.25 -21255054.13 -21255054.00 0.0499 0.0368

Jupiter -62906-01-30 20:09 J -21254963.80 -21254963.66 -21254963.51 0.0499 0.0298

Uranus -62906-10-19 19:25 J -21254701.72 -21254701.69 -21254701.64 0.0145 0.0142

Uranus -62905-01-16 04:18 J -21254613.44 -21254613.32 -21254613.19 0.0145 0.0110

Uranus -62905-04-13 12:57 J -21254525.11 -21254524.96 -21254524.78 0.0145 0.0078

Uranus -62905-07-10 22:04 J -21254436.77 -21254436.58 -21254436.40 0.0145 0.0044

Uranus -62905-10-07 06:42 J -21254348.41 -21254348.22 -21254348.02 0.0145 0.0012

Uranus -62904-01-03 15:35 J -21254260.04 -21254259.85 -21254259.66 0.0145 0.0021

Uranus -62904-04-02 00:13 J -21254171.67 -21254171.49 -21254171.30 0.0145 0.0053

Saturn -62904-05-13 17:16 J -21254129.84 -21254129.78 -21254129.72 0.0302 0.0267

Mars -62904-05-16 01:11 J -21254127.51 -21254127.45 -21254127.40 0.1949 0.1681

Uranus -62904-06-29 08:52 J -21254083.28 -21254083.13 -21254082.96 0.0145 0.0086

Saturn -62904-08-10 06:13 J -21254041.35 -21254041.24 -21254041.12 0.0302 0.0133

Uranus -62904-09-25 17:45 J -21253994.87 -21253994.76 -21253994.64 0.0144 0.0118

Saturn -62904-11-06 19:25 J -21253952.82 -21253952.69 -21253952.56 0.0303 0.0003

Saturn -62903-02-03 08:23 J -21253864.27 -21253864.15 -21253864.04 0.0303 0.0135

Mars -62903-03-14 10:18 J -21253825.22 -21253825.07 -21253824.92 0.1610 0.0697

Saturn -62903-05-02 21:06 J -21253775.67 -21253775.62 -21253775.56 0.0303 0.0268

Moon -62903-12-02 13:40 J -21253562.02 -21253561.93 -21253561.84 0.2644 0.2108

Earth -62903-12-02 15:21 J -21253561.93 -21253561.86 -21253561.79 0.2642 0.2319 *

Jupiter -62901-09-29 00:42 J -21252895.59 -21252895.47 -21252895.35 0.0527 0.0156

Jupiter -62901-12-27 06:13 J -21252806.33 -21252806.24 -21252806.14 0.0526 0.0353

Moon -62899-06-04 13:40 J -21252282.04 -21252281.93 -21252281.82 0.2682 0.0194

Earth -62899-06-04 13:40 J -21252282.04 -21252281.93 -21252281.82 0.2689 0.0142 *

Mars -62895-10-06 09:06 J -21250697.23 -21250697.12 -21250697.02 0.1944 0.0661

Jupiter -62895-11-18 16:04 J -21250654.01 -21250653.83 -21250653.65 0.0499 0.0120

Venus -62892-07-22 04:18 J -21249677.48 -21249677.32 -21249677.16 0.3561 0.0459

Saturn -62890-09-06 19:54 J -21248900.77 -21248900.67 -21248900.57 0.0261 0.0219

Saturn -62890-12-04 15:49 J -21248812.01 -21248811.84 -21248811.67 0.0260 0.0097

Saturn -62889-03-02 11:59 J -21248723.19 -21248723.00 -21248722.81 0.0260 0.0026

Saturn -62889-05-30 08:09 J -21248634.31 -21248634.16 -21248634.01 0.0260 0.0149

Jupiter -62889-07-18 05:01 J -21248585.40 -21248585.29 -21248585.18 0.0528 0.0283

Jupiter -62889-10-15 10:47 J -21248496.17 -21248496.05 -21248495.94 0.0527 0.0229

Moon -62886-06-07 07:11 J -21247531.30 -21247531.20 -21247531.10 0.2685 0.1153

Earth -62886-06-07 07:25 J -21247531.29 -21247531.19 -21247531.09 0.2691 0.1181 *

Mars -62885-02-26 16:47 J -21247266.92 -21247266.80 -21247266.69 0.1937 0.0370

Venus -62884-11-08 17:59 J -21246645.80 -21246645.75 -21246645.69 0.3817 0.3163

Jupiter -62883-09-06 12:42 J -21246344.16 -21246343.97 -21246343.78 0.0498 0.0046

Moon -62883-11-27 06:28 J -21246262.35 -21246262.23 -21246262.10 0.2642 0.1565

Earth -62883-11-27 07:40 J -21246262.31 -21246262.18 -21246262.05 0.2647 0.1556 *

Mars -62883-12-01 06:57 J -21246258.30 -21246258.21 -21246258.11 0.1601 0.1306

Earth -62879-05-31 06:42 J -21244981.31 -21244981.22 -21244981.14 0.2685 0.1763

Moon -62879-05-31 07:25 J -21244981.27 -21244981.19 -21244981.11 0.2685 0.1746 *

Venus -62878-05-25 10:04 J -21244622.17 -21244622.08 -21244621.98 0.3817 0.1356

Jupiter -62877-05-06 09:06 J -21244275.19 -21244275.12 -21244275.04 0.0527 0.0412

Jupiter -62877-08-03 15:06 J -21244186.00 -21244185.87 -21244185.75 0.0527 0.0104

Mars -62876-07-19 00:28 J -21243836.56 -21243836.48 -21243836.40 0.1931 0.1392

Saturn -62875-12-28 08:37 J -21243309.25 -21243309.14 -21243309.03 0.0302 0.0168

Saturn -62874-03-26 21:35 J -21243220.73 -21243220.60 -21243220.47 0.0302 0.0034

Saturn -62874-06-23 10:33 J -21243132.18 -21243132.06 -21243131.94 0.0303 0.0099

Saturn -62874-09-19 23:16 J -21243043.60 -21243043.53 -21243043.44 0.0303 0.0232

Mars -62873-04-22 08:52 J -21242828.29 -21242828.13 -21242827.96 0.1606 0.0374

Moon -62873-06-09 00:28 J -21242780.54 -21242780.48 -21242780.41 0.2692 0.2108

Earth -62873-06-09 01:11 J -21242780.51 -21242780.45 -21242780.39 0.2693 0.2218 *

Venus -62873-12-08 02:09 J -21242598.51 -21242598.41 -21242598.31 0.3818 0.0477

Jupiter -62871-06-25 09:35 J -21242034.27 -21242034.10 -21242033.94 0.0499 0.0211

Jupiter -62871-09-23 20:52 J -21241943.70 -21241943.63 -21241943.56 0.0499 0.0457

Moon -62870-11-30 12:57 J -21241511.12 -21241510.96 -21241510.80 0.2644 0.0294

Earth -62870-11-30 14:37 J -21241511.04 -21241510.89 -21241510.73 0.2644 0.0569 *

Venus -62867-06-23 18:28 J -21240574.81 -21240574.73 -21240574.66 0.3819 0.2323

Earth -62866-06-03 00:28 J -21240230.58 -21240230.48 -21240230.37 0.2687 0.0716

Moon -62866-06-03 01:11 J -21240230.56 -21240230.45 -21240230.34 0.2684 0.0591 *

Jupiter -62865-05-22 19:11 J -21239875.83 -21239875.70 -21239875.57 0.0527 0.0026

Jupiter -62865-08-20 00:28 J -21239786.52 -21239786.48 -21239786.42 0.0526 0.0480

Mars -62865-11-14 01:11 J -21239700.49 -21239700.45 -21239700.41 0.1950 0.1798

Mars -62864-09-12 10:47 J -21239398.20 -21239398.05 -21239397.89 0.1610 0.0568

Uranus -62862-04-12 19:11 J -21238820.74 -21238820.70 -21238820.64 0.0133 0.0122

Uranus -62862-07-09 22:18 J -21238732.65 -21238732.57 -21238732.49 0.0133 0.0105

Uranus -62862-10-06 01:11 J -21238644.54 -21238644.45 -21238644.35 0.0133 0.0088

Uranus -62861-01-02 04:04 J -21238556.43 -21238556.33 -21238556.21 0.0133 0.0072

Uranus -62861-03-30 07:11 J -21238468.32 -21238468.20 -21238468.08 0.0134 0.0054

Uranus -62861-06-26 10:04 J -21238380.20 -21238380.08 -21238379.95 0.0134 0.0038

Uranus -62861-09-22 13:11 J -21238292.08 -21238291.95 -21238291.82 0.0134 0.0020

Uranus -62861-12-19 16:04 J -21238203.96 -21238203.83 -21238203.70 0.0134 0.0003

Saturn -62860-01-23 19:11 J -21238168.73 -21238168.70 -21238168.65 0.0260 0.0255

Uranus -62860-03-17 18:57 J -21238115.84 -21238115.71 -21238115.58 0.0134 0.0014

Saturn -62860-04-22 15:06 J -21238080.02 -21238079.87 -21238079.70 0.0260 0.0133

Uranus -62860-06-13 21:49 J -21238027.71 -21238027.59 -21238027.46 0.0134 0.0032

Saturn -62860-07-20 11:30 J -21237991.21 -21237991.02 -21237990.83 0.0260 0.0011

Uranus -62860-09-10 00:57 J -21237939.58 -21237939.46 -21237939.34 0.0134 0.0048

Saturn -62860-10-17 07:40 J -21237902.35 -21237902.18 -21237902.01 0.0259 0.0113

Uranus -62860-12-07 03:49 J -21237851.45 -21237851.34 -21237851.22 0.0134 0.0065

Saturn -62859-01-14 03:49 J -21237813.41 -21237813.34 -21237813.26 0.0259 0.0236

Uranus -62859-03-05 06:42 J -21237763.32 -21237763.22 -21237763.11 0.0134 0.0083

Jupiter -62859-04-13 06:28 J -21237724.35 -21237724.23 -21237724.11 0.0499 0.0373

Uranus -62859-06-01 09:49 J -21237675.18 -21237675.09 -21237675.00 0.0134 0.0100

Jupiter -62859-07-12 17:45 J -21237633.91 -21237633.76 -21237633.61 0.0499 0.0292

Uranus -62859-08-28 12:42 J -21237587.03 -21237586.97 -21237586.90 0.0135 0.0117

Uranus -62859-11-24 15:35 J -21237498.85 -21237498.85 -21237498.84 0.0135 0.0134

Mars -62855-04-06 08:52 J -21236270.23 -21236270.13 -21236270.02 0.1943 0.0764

Mars -62854-02-02 12:42 J -21235968.03 -21235967.97 -21235967.91 0.1615 0.1509

Jupiter -62853-03-10 23:01 J -21235565.66 -21235565.54 -21235565.42 0.0527 0.0161

Moon -62853-06-04 18:28 J -21235479.84 -21235479.73 -21235479.62 0.2682 0.0313

Earth -62853-06-04 18:28 J -21235479.84 -21235479.73 -21235479.62 0.2689 0.0344 *

Jupiter -62853-06-08 04:33 J -21235476.40 -21235476.31 -21235476.22 0.0526 0.0348

Jupiter -62847-04-30 14:23 J -21233324.08 -21233323.90 -21233323.72 0.0499 0.0125

Earth -62846-05-29 17:30 J -21232929.79 -21232929.77 -21232929.75 0.2683 0.2613

Moon -62846-05-29 17:59 J -21232929.77 -21232929.75 -21232929.73 0.2688 0.2600 *

Mars -62846-08-27 16:33 J -21232839.92 -21232839.81 -21232839.69 0.1938 0.0279

Saturn -62845-05-16 11:01 J -21232577.14 -21232577.04 -21232576.94 0.0302 0.0201

Saturn -62845-08-12 23:59 J -21232488.62 -21232488.50 -21232488.37 0.0302 0.0068

Saturn -62845-11-09 12:57 J -21232400.08 -21232399.96 -21232399.83 0.0303 0.0067

Saturn -62844-02-06 01:54 J -21232311.51 -21232311.42 -21232311.32 0.0303 0.0199

Mars -62843-06-01 07:40 J -21231831.25 -21231831.18 -21231831.11 0.1601 0.1444

Jupiter -62842-12-29 03:06 J -21231255.47 -21231255.37 -21231255.26 0.0527 0.0290

Jupiter -62841-03-27 08:52 J -21231166.24 -21231166.13 -21231166.02 0.0527 0.0223

Venus -62841-08-11 21:49 J -21231028.69 -21231028.59 -21231028.49 0.3562 0.2682

Moon -62840-06-07 11:45 J -21230729.10 -21230729.01 -21230728.91 0.2686 0.1355

Earth -62840-06-07 12:13 J -21230729.08 -21230728.99 -21230728.89 0.2691 0.1386 *

Neptune -62837-03-08 20:52 J -21229723.65 -21229723.63 -21229723.57 0.0089 0.0087

Neptune -62837-06-05 00:42 J -21229635.55 -21229635.47 -21229635.38 0.0089 0.0079

Neptune -62837-09-01 03:49 J -21229547.43 -21229547.34 -21229547.21 0.0089 0.0072

Moon -62837-11-27 12:57 J -21229460.10 -21229459.96 -21229459.82 0.2643 0.1334

Earth -62837-11-27 14:09 J -21229460.05 -21229459.91 -21229459.76 0.2647 0.1166 *

Neptune -62837-11-28 07:40 J -21229459.31 -21229459.18 -21229459.04 0.0089 0.0064

Mars -62836-01-17 00:28 J -21229409.56 -21229409.48 -21229409.39 0.1931 0.1277

Neptune -62836-02-24 11:16 J -21229371.17 -21229371.03 -21229370.88 0.0089 0.0056

Neptune -62836-05-23 14:37 J -21229283.04 -21229282.89 -21229282.72 0.0089 0.0049

Neptune -62836-08-19 18:13 J -21229194.90 -21229194.74 -21229194.56 0.0089 0.0041

Neptune -62836-11-15 21:49 J -21229106.76 -21229106.59 -21229106.41 0.0089 0.0033

Neptune -62835-02-12 01:11 J -21229018.62 -21229018.45 -21229018.25 0.0089 0.0026

Jupiter -62835-02-16 10:18 J -21229014.25 -21229014.07 -21229013.88 0.0498 0.0050

Venus -62835-02-26 06:28 J -21229004.36 -21229004.23 -21229004.10 0.3561 0.2058

Neptune -62835-05-11 05:01 J -21228930.48 -21228930.29 -21228930.10 0.0089 0.0017

Neptune -62835-08-07 08:37 J -21228842.33 -21228842.14 -21228841.95 0.0089 0.0010

Neptune -62835-11-03 12:13 J -21228754.18 -21228753.99 -21228753.80 0.0089 0.0002

Neptune -62834-01-30 15:49 J -21228666.03 -21228665.84 -21228665.65 0.0089 0.0006

Neptune -62834-04-28 19:25 J -21228577.88 -21228577.69 -21228577.50 0.0089 0.0014

Neptune -62834-07-25 22:47 J -21228489.73 -21228489.55 -21228489.35 0.0089 0.0022

Neptune -62834-10-22 02:23 J -21228401.57 -21228401.40 -21228401.21 0.0089 0.0030

Mars -62834-10-22 09:35 J -21228401.25 -21228401.10 -21228400.94 0.1605 0.0515 *

Neptune -62833-01-18 05:59 J -21228313.42 -21228313.25 -21228313.06 0.0089 0.0038

Neptune -62833-04-15 09:49 J -21228225.26 -21228225.09 -21228224.92 0.0089 0.0045

Earth -62833-05-31 11:30 J -21228179.11 -21228179.02 -21228178.93 0.2685 0.1552

Moon -62833-05-31 12:13 J -21228179.08 -21228178.99 -21228178.90 0.2685 0.1412 *

Neptune -62833-07-12 13:25 J -21228137.09 -21228136.94 -21228136.78 0.0089 0.0053

Neptune -62833-10-08 16:47 J -21228048.93 -21228048.80 -21228048.65 0.0089 0.0061

Neptune -62832-01-04 20:23 J -21227960.76 -21227960.65 -21227960.52 0.0089 0.0069

Neptune -62832-04-02 23:59 J -21227872.58 -21227872.50 -21227872.39 0.0089 0.0077

Neptune -62832-06-30 03:35 J -21227784.39 -21227784.35 -21227784.28 0.0089 0.0085

Saturn -62831-09-09 16:04 J -21227347.97 -21227347.83 -21227347.68 0.0261 0.0160

Saturn -62831-12-07 12:13 J -21227259.18 -21227258.99 -21227258.81 0.0260 0.0038

Saturn -62830-03-06 08:09 J -21227170.33 -21227170.16 -21227169.97 0.0260 0.0086

Saturn -62830-06-03 04:33 J -21227081.42 -21227081.31 -21227081.19 0.0260 0.0209

Jupiter -62830-10-17 07:11 J -21226945.27 -21226945.20 -21226945.12 0.0528 0.0420

Jupiter -62829-01-14 13:11 J -21226856.08 -21226855.95 -21226855.83 0.0527 0.0096

Pluto -62829-08-03 22:47 J -21226653.57 -21226653.55 -21226653.49 0.0061 0.0059

Pluto -62829-10-31 00:13 J -21226565.56 -21226565.49 -21226565.41 0.0061 0.0054

Pluto -62828-01-27 00:57 J -21226477.54 -21226477.46 -21226477.34 0.0061 0.0050

Pluto -62828-04-25 02:09 J -21226389.51 -21226389.41 -21226389.27 0.0061 0.0045

Pluto -62828-07-22 03:21 J -21226301.48 -21226301.36 -21226301.21 0.0061 0.0040

Pluto -62828-10-18 04:33 J -21226213.44 -21226213.31 -21226213.15 0.0061 0.0036

Pluto -62827-01-14 05:45 J -21226125.40 -21226125.26 -21226125.09 0.0061 0.0031

Pluto -62827-04-12 06:57 J -21226037.36 -21226037.21 -21226037.04 0.0061 0.0026

Moon -62827-06-10 05:16 J -21225978.33 -21225978.28 -21225978.23 0.2692 0.2361

Earth -62827-06-10 05:59 J -21225978.29 -21225978.25 -21225978.20 0.2693 0.2416 *

Venus -62827-06-15 15:35 J -21225972.92 -21225972.85 -21225972.77 0.3817 0.2517

Pluto -62827-07-09 08:09 J -21225949.32 -21225949.16 -21225948.98 0.0061 0.0021

Pluto -62827-10-05 09:21 J -21225861.27 -21225861.11 -21225860.93 0.0061 0.0016

Pluto -62826-01-01 10:47 J -21225773.23 -21225773.05 -21225772.87 0.0062 0.0011

Pluto -62826-03-30 11:59 J -21225685.18 -21225685.00 -21225684.82 0.0062 0.0006

Pluto -62826-06-26 13:11 J -21225597.13 -21225596.95 -21225596.77 0.0062 0.0001

Pluto -62826-09-22 14:23 J -21225509.08 -21225508.90 -21225508.72 0.0062 0.0005

Pluto -62826-12-19 15:35 J -21225421.03 -21225420.85 -21225420.67 0.0062 0.0010

Pluto -62825-03-16 16:47 J -21225332.97 -21225332.80 -21225332.62 0.0062 0.0015

Mars -62825-05-15 01:11 J -21225273.46 -21225273.45 -21225273.43 0.1950 0.1912

Pluto -62825-06-12 17:59 J -21225244.91 -21225244.75 -21225244.57 0.0062 0.0020

Pluto -62825-09-08 19:11 J -21225156.86 -21225156.70 -21225156.53 0.0062 0.0025

Pluto -62825-12-05 20:23 J -21225068.80 -21225068.65 -21225068.48 0.0062 0.0031

Pluto -62824-03-03 21:49 J -21224980.73 -21224980.59 -21224980.44 0.0062 0.0036

Mars -62824-03-13 11:30 J -21224971.18 -21224971.02 -21224970.86 0.1610 0.0431

Pluto -62824-05-30 22:47 J -21224892.67 -21224892.55 -21224892.40 0.0062 0.0041

Pluto -62824-08-26 23:59 J -21224804.60 -21224804.50 -21224804.36 0.0062 0.0047

Pluto -62824-11-23 01:25 J -21224716.53 -21224716.44 -21224716.33 0.0062 0.0052

Moon -62824-11-30 19:25 J -21224708.83 -21224708.69 -21224708.54 0.2644 0.0903

Earth -62824-11-30 21:21 J -21224708.76 -21224708.61 -21224708.46 0.2644 0.0960 *

Jupiter -62824-12-05 06:57 J -21224704.37 -21224704.21 -21224704.04 0.0498 0.0216

Pluto -62823-02-19 02:23 J -21224628.44 -21224628.40 -21224628.30 0.0062 0.0058

Jupiter -62823-03-05 18:13 J -21224613.82 -21224613.74 -21224613.66 0.0499 0.0450

Pluto -62823-05-18 04:18 J -21224540.32 -21224540.32 -21224540.31 0.0063 0.0062

Uranus -62822-11-09 03:35 J -21224000.43 -21224000.35 -21224000.27 0.0145 0.0133

Venus -62822-12-30 07:40 J -21223949.28 -21223949.18 -21223949.08 0.3818 0.0704

Uranus -62821-02-05 12:13 J -21223912.12 -21223911.99 -21223911.84 0.0145 0.0100

Uranus -62821-05-03 20:52 J -21223823.79 -21223823.63 -21223823.45 0.0145 0.0068

Uranus -62821-07-31 05:45 J -21223735.44 -21223735.26 -21223735.06 0.0145 0.0035

Uranus -62821-10-27 14:37 J -21223647.08 -21223646.89 -21223646.69 0.0145 0.0004

Uranus -62820-01-23 23:30 J -21223558.71 -21223558.52 -21223558.33 0.0145 0.0030

Uranus -62820-04-22 08:09 J -21223470.33 -21223470.16 -21223469.98 0.0145 0.0063

Earth -62820-06-03 05:30 J -21223428.38 -21223428.27 -21223428.17 0.2687 0.0504

Moon -62820-06-03 05:59 J -21223428.36 -21223428.25 -21223428.15 0.2682 0.0515 *

Uranus -62820-07-19 17:01 J -21223381.94 -21223381.79 -21223381.64 0.0145 0.0095

Uranus -62820-10-16 01:25 J -21223293.51 -21223293.44 -21223293.33 0.0144 0.0128

Jupiter -62818-11-02 17:16 J -21222545.90 -21222545.78 -21222545.65 0.0527 0.0037

Jupiter -62817-01-30 22:47 J -21222456.60 -21222456.55 -21222456.50 0.0526 0.0475

Venus -62816-07-14 23:45 J -21221925.61 -21221925.51 -21221925.41 0.3818 0.1134

Saturn -62816-10-03 13:40 J -21221845.01 -21221844.93 -21221844.85 0.0302 0.0233

Mars -62816-10-05 08:52 J -21221843.23 -21221843.13 -21221843.02 0.1944 0.0875

Saturn -62816-12-31 02:37 J -21221756.51 -21221756.39 -21221756.26 0.0302 0.0099

Saturn -62815-03-29 15:35 J -21221667.98 -21221667.85 -21221667.72 0.0303 0.0035

Saturn -62815-06-26 04:33 J -21221579.42 -21221579.31 -21221579.20 0.0303 0.0167

Mars -62815-08-03 13:25 J -21221541.03 -21221540.94 -21221540.85 0.1615 0.1371

Saturn -62815-09-22 17:16 J -21221490.79 -21221490.78 -21221490.76 0.0303 0.0299

Jupiter -62812-09-23 03:35 J -21220394.47 -21220394.35 -21220394.23 0.0498 0.0382

Jupiter -62812-12-22 14:37 J -21220304.04 -21220303.89 -21220303.73 0.0499 0.0282

Venus -62810-01-28 15:49 J -21219901.90 -21219901.84 -21219901.77 0.3819 0.2988

Moon -62807-06-05 23:16 J -21218677.64 -21218677.53 -21218677.42 0.2682 0.0601

Earth -62807-06-05 23:16 J -21218677.64 -21218677.53 -21218677.42 0.2689 0.0548 *

Mars -62806-02-25 16:47 J -21218412.92 -21218412.80 -21218412.69 0.1938 0.0158

Jupiter -62806-08-21 21:35 J -21218235.72 -21218235.60 -21218235.48 0.0527 0.0161

Jupiter -62806-11-19 03:06 J -21218146.46 -21218146.37 -21218146.28 0.0526 0.0348

Mars -62804-11-30 08:23 J -21217404.17 -21217404.15 -21217404.13 0.1601 0.1577

Saturn -62801-01-27 16:04 J -21216615.95 -21216615.83 -21216615.70 0.0260 0.0192

Saturn -62801-04-25 12:13 J -21216527.17 -21216526.99 -21216526.81 0.0260 0.0070

Saturn -62801-07-23 08:23 J -21216438.33 -21216438.15 -21216437.96 0.0260 0.0053

Saturn -62801-10-20 04:33 J -21216349.44 -21216349.31 -21216349.17 0.0259 0.0176

Earth -62800-05-29 22:18 J -21216127.61 -21216127.57 -21216127.52 0.2683 0.2402

Moon -62800-05-29 23:01 J -21216127.59 -21216127.54 -21216127.49 0.2686 0.2332 *

Jupiter -62800-10-10 11:30 J -21215994.20 -21215994.02 -21215993.84 0.0499 0.0116

Mars -62797-07-18 00:28 J -21214982.57 -21214982.48 -21214982.39 0.1931 0.1178

Mars -62794-04-22 10:18 J -21213974.22 -21213974.07 -21213973.92 0.1606 0.0644

Moon -62794-06-08 16:33 J -21213926.90 -21213926.81 -21213926.72 0.2687 0.1485

Earth -62794-06-08 17:01 J -21213926.87 -21213926.79 -21213926.70 0.2692 0.1589 *

Jupiter -62794-06-10 01:25 J -21213925.55 -21213925.44 -21213925.34 0.0527 0.0297

Jupiter -62794-09-07 06:57 J -21213836.32 -21213836.21 -21213836.09 0.0526 0.0215

Moon -62791-11-28 19:25 J -21212657.84 -21212657.69 -21212657.54 0.2644 0.0894

Earth -62791-11-28 20:52 J -21212657.78 -21212657.63 -21212657.48 0.2646 0.0771 *

Jupiter -62788-07-29 08:09 J -21211684.35 -21211684.16 -21211683.97 0.0499 0.0050

Earth -62787-06-01 16:18 J -21211376.91 -21211376.82 -21211376.72 0.2685 0.1344

Moon -62787-06-01 17:01 J -21211376.88 -21211376.79 -21211376.69 0.2685 0.1317 *

Saturn -62786-02-20 16:18 J -21211112.88 -21211112.82 -21211112.75 0.0302 0.0262

Saturn -62786-05-20 05:30 J -21211024.39 -21211024.27 -21211024.15 0.0302 0.0128

Saturn -62786-08-16 18:28 J -21210935.86 -21210935.73 -21210935.60 0.0303 0.0007

Saturn -62786-11-13 07:25 J -21210847.30 -21210847.19 -21210847.07 0.0303 0.0138

Saturn -62785-02-09 20:23 J -21210758.71 -21210758.65 -21210758.60 0.0303 0.0270

Mars -62785-09-11 12:13 J -21210544.15 -21210543.99 -21210543.82 0.1610 0.0288

Venus -62784-03-18 23:59 J -21210355.65 -21210355.50 -21210355.35 0.3562 0.1063

Jupiter -62782-03-29 05:16 J -21209615.35 -21209615.28 -21209615.20 0.0527 0.0428

Jupiter -62782-06-26 11:16 J -21209526.16 -21209526.03 -21209525.91 0.0527 0.0088

Moon -62781-06-10 10:04 J -21209176.11 -21209176.08 -21209176.04 0.2693 0.2540

Earth -62781-06-10 10:47 J -21209176.07 -21209176.05 -21209176.02 0.2694 0.2619 *

Uranus -62778-05-03 02:09 J -21208119.46 -21208119.41 -21208119.35 0.0133 0.0119

Uranus -62778-07-30 05:01 J -21208031.36 -21208031.29 -21208031.20 0.0133 0.0103

Uranus -62778-10-26 08:09 J -21207943.26 -21207943.16 -21207943.06 0.0133 0.0085

Moon -62778-12-02 02:23 J -21207906.55 -21207906.40 -21207906.26 0.2644 0.1103

Earth -62778-12-02 04:04 J -21207906.47 -21207906.33 -21207906.20 0.2644 0.1358 *

Uranus -62777-01-22 11:01 J -21207855.15 -21207855.04 -21207854.92 0.0133 0.0069

Uranus -62777-04-19 14:09 J -21207767.03 -21207766.91 -21207766.79 0.0133 0.0052

Uranus -62777-07-16 17:01 J -21207678.92 -21207678.79 -21207678.66 0.0134 0.0035

Uranus -62777-10-12 19:54 J -21207590.80 -21207590.67 -21207590.54 0.0134 0.0018

Uranus -62776-01-08 23:01 J -21207502.68 -21207502.54 -21207502.41 0.0134 0.0004

Mars -62776-04-05 08:52 J -21207416.22 -21207416.13 -21207416.03 0.1944 0.0987

Uranus -62776-04-07 01:54 J -21207414.55 -21207414.42 -21207414.29 0.0134 0.0016

Jupiter -62776-05-17 04:18 J -21207374.48 -21207374.32 -21207374.15 0.0498 0.0222

Uranus -62776-07-04 04:47 J -21207326.43 -21207326.30 -21207326.17 0.0134 0.0034

Venus -62776-07-06 21:06 J -21207323.64 -21207323.62 -21207323.60 0.3816 0.3679

Jupiter -62776-08-15 15:35 J -21207283.93 -21207283.85 -21207283.77 0.0499 0.0444

Uranus -62776-09-30 07:40 J -21207238.30 -21207238.18 -21207238.05 0.0134 0.0051

Uranus -62776-12-27 10:33 J -21207150.17 -21207150.06 -21207149.94 0.0134 0.0068

Mars -62775-02-01 14:09 J -21207114.02 -21207113.91 -21207113.81 0.1615 0.1234

Uranus -62775-03-25 13:25 J -21207062.03 -21207061.94 -21207061.83 0.0134 0.0086

Uranus -62775-06-21 16:33 J -21206973.89 -21206973.81 -21206973.72 0.0134 0.0102

Uranus -62775-09-17 19:25 J -21206885.74 -21206885.69 -21206885.63 0.0134 0.0119

Earth -62774-06-04 10:18 J -21206626.18 -21206626.07 -21206625.96 0.2688 0.0294

Moon -62774-06-04 10:33 J -21206626.17 -21206626.06 -21206625.95 0.2682 0.0205 *

Saturn -62772-06-15 17:01 J -21205883.88 -21205883.79 -21205883.67 0.0261 0.0218

Saturn -62772-09-12 13:11 J -21205795.12 -21205794.95 -21205794.77 0.0260 0.0096

Saturn -62772-12-10 09:21 J -21205706.29 -21205706.11 -21205705.92 0.0260 0.0028

Saturn -62771-03-09 05:45 J -21205617.41 -21205617.26 -21205617.11 0.0260 0.0151

Venus -62770-01-20 13:11 J -21205300.04 -21205299.95 -21205299.86 0.3817 0.1869

Jupiter -62770-04-14 15:21 J -21205215.99 -21205215.86 -21205215.74 0.0527 0.0044

Jupiter -62770-07-12 20:52 J -21205126.69 -21205126.63 -21205126.58 0.0527 0.0466

Mars -62767-08-26 16:47 J -21203985.92 -21203985.80 -21203985.69 0.1937 0.0050

Venus -62765-08-05 05:16 J -21203276.38 -21203276.28 -21203276.18 0.3818 0.0088

Jupiter -62764-03-05 00:57 J -21203064.57 -21203064.46 -21203064.34 0.0498 0.0388

Jupiter -62764-06-03 11:59 J -21202974.15 -21202974.00 -21202973.84 0.0499 0.0275

Moon -62761-06-06 04:04 J -21201875.44 -21201875.33 -21201875.22 0.2683 0.0691

Earth -62761-06-06 04:04 J -21201875.43 -21201875.33 -21201875.22 0.2690 0.0759 *

Venus -62759-02-18 21:21 J -21201252.70 -21201252.61 -21201252.52 0.3818 0.1799

Jupiter -62758-01-31 19:25 J -21200905.81 -21200905.69 -21200905.57 0.0527 0.0172

Jupiter -62758-05-01 01:11 J -21200816.55 -21200816.45 -21200816.36 0.0526 0.0340

Moon -62758-11-26 19:54 J -21200606.70 -21200606.67 -21200606.63 0.2643 0.2571

Earth -62758-11-26 20:37 J -21200606.69 -21200606.64 -21200606.59 0.2649 0.2470 *

Mars -62757-01-17 00:28 J -21200555.58 -21200555.48 -21200555.39 0.1931 0.1068

Saturn -62757-07-09 19:11 J -21200380.72 -21200380.70 -21200380.66 0.0301 0.0291

Saturn -62757-10-06 08:23 J -21200292.26 -21200292.15 -21200292.04 0.0302 0.0157

Saturn -62756-01-02 21:35 J -21200203.73 -21200203.60 -21200203.47 0.0302 0.0025

Saturn -62756-04-01 10:33 J -21200115.19 -21200115.06 -21200114.94 0.0303 0.0110

Saturn -62756-06-28 23:16 J -21200026.60 -21200026.53 -21200026.45 0.0303 0.0242

Neptune -62756-12-19 14:23 J -21199852.91 -21199852.90 -21199852.85 0.0089 0.0086

Neptune -62755-03-17 16:04 J -21199764.88 -21199764.83 -21199764.77 0.0089 0.0080

Neptune -62755-06-13 17:16 J -21199676.84 -21199676.78 -21199676.69 0.0089 0.0075

Neptune -62755-09-09 18:57 J -21199588.79 -21199588.71 -21199588.62 0.0089 0.0069

Mars -62755-10-21 11:01 J -21199547.19 -21199547.04 -21199546.90 0.1605 0.0781

Neptune -62755-12-06 20:09 J -21199500.74 -21199500.66 -21199500.56 0.0089 0.0064

Neptune -62754-03-04 21:49 J -21199412.69 -21199412.59 -21199412.49 0.0089 0.0058

Earth -62754-05-31 03:06 J -21199325.43 -21199325.37 -21199325.30 0.2684 0.2194

Moon -62754-05-31 03:49 J -21199325.40 -21199325.34 -21199325.27 0.2686 0.2112 *

Neptune -62754-05-31 23:01 J -21199324.64 -21199324.54 -21199324.43 0.0089 0.0053

Neptune -62754-08-28 00:28 J -21199236.59 -21199236.48 -21199236.36 0.0089 0.0047

Venus -62754-09-04 13:25 J -21199228.96 -21199228.94 -21199228.91 0.3819 0.3652

Neptune -62754-11-24 01:40 J -21199148.54 -21199148.43 -21199148.30 0.0089 0.0042

Neptune -62753-02-20 03:06 J -21199060.49 -21199060.37 -21199060.24 0.0089 0.0036

Neptune -62753-05-18 04:33 J -21198972.43 -21198972.31 -21198972.18 0.0089 0.0031

Neptune -62753-08-14 05:45 J -21198884.38 -21198884.26 -21198884.12 0.0089 0.0026

Neptune -62753-11-10 07:11 J -21198796.32 -21198796.20 -21198796.06 0.0089 0.0020

Neptune -62752-02-06 08:37 J -21198708.27 -21198708.14 -21198708.01 0.0089 0.0015

Jupiter -62752-03-22 08:09 J -21198664.34 -21198664.16 -21198663.97 0.0499 0.0104

Neptune -62752-05-05 10:04 J -21198620.22 -21198620.08 -21198619.95 0.0089 0.0009

Neptune -62752-08-01 11:16 J -21198532.16 -21198532.03 -21198531.89 0.0089 0.0005

Neptune -62752-10-28 12:42 J -21198444.10 -21198443.97 -21198443.84 0.0089 0.0002

Neptune -62751-01-24 13:54 J -21198356.05 -21198355.92 -21198355.78 0.0089 0.0008

Neptune -62751-04-22 15:21 J -21198267.99 -21198267.86 -21198267.73 0.0089 0.0012

Neptune -62751-07-19 16:47 J -21198179.93 -21198179.80 -21198179.67 0.0089 0.0018

Neptune -62751-10-15 17:59 J -21198091.88 -21198091.75 -21198091.62 0.0089 0.0023

Neptune -62750-01-11 19:11 J -21198003.82 -21198003.70 -21198003.57 0.0089 0.0029

Neptune -62750-04-09 20:37 J -21197915.76 -21197915.64 -21197915.51 0.0089 0.0034

Neptune -62750-07-06 22:04 J -21197827.70 -21197827.58 -21197827.46 0.0089 0.0039

Neptune -62750-10-02 23:16 J -21197739.64 -21197739.53 -21197739.41 0.0089 0.0045

Neptune -62750-12-30 00:42 J -21197651.58 -21197651.47 -21197651.36 0.0089 0.0050

Neptune -62749-03-27 01:54 J -21197563.52 -21197563.42 -21197563.31 0.0089 0.0055

Neptune -62749-06-23 03:06 J -21197475.46 -21197475.37 -21197475.26 0.0089 0.0061

Neptune -62749-09-19 04:33 J -21197387.39 -21197387.31 -21197387.22 0.0089 0.0066

Neptune -62749-12-16 05:59 J -21197299.33 -21197299.25 -21197299.17 0.0089 0.0071

Neptune -62748-03-14 06:57 J -21197211.26 -21197211.21 -21197211.13 0.0089 0.0077

Moon -62748-06-08 21:21 J -21197124.69 -21197124.61 -21197124.53 0.2687 0.1772

Earth -62748-06-08 21:49 J -21197124.67 -21197124.59 -21197124.51 0.2692 0.1794 *

Neptune -62748-06-10 08:23 J -21197123.19 -21197123.15 -21197123.09 0.0089 0.0082

Neptune -62748-09-06 09:49 J -21197035.11 -21197035.09 -21197035.06 0.0089 0.0087

Jupiter -62747-11-19 23:45 J -21196595.62 -21196595.51 -21196595.41 0.0527 0.0300

Jupiter -62746-02-17 05:16 J -21196506.39 -21196506.28 -21196506.16 0.0526 0.0213

Mars -62745-03-12 12:42 J -21196117.13 -21196116.97 -21196116.80 0.1610 0.0163

Moon -62745-11-29 01:40 J -21195855.58 -21195855.43 -21195855.27 0.2644 0.0539

Earth -62745-11-29 03:21 J -21195855.51 -21195855.36 -21195855.20 0.2646 0.0390 *

Saturn -62743-11-02 17:45 J -21195151.81 -21195151.76 -21195151.70 0.0261 0.0248

Saturn -62742-01-30 13:40 J -21195063.09 -21195062.93 -21195062.76 0.0260 0.0126

Saturn -62742-04-29 09:49 J -21194974.28 -21194974.09 -21194973.90 0.0260 0.0004

Saturn -62742-07-27 05:59 J -21194885.41 -21194885.25 -21194885.08 0.0260 0.0120

Saturn -62742-10-24 02:09 J -21194796.46 -21194796.41 -21194796.33 0.0259 0.0243

Earth -62741-06-01 21:06 J -21194574.72 -21194574.62 -21194574.52 0.2686 0.1136

Moon -62741-06-01 21:49 J -21194574.69 -21194574.59 -21194574.49 0.2684 0.1028 *

Jupiter -62740-01-08 05:01 J -21194354.48 -21194354.29 -21194354.11 0.0499 0.0063

Uranus -62738-11-29 10:33 J -21193299.15 -21193299.06 -21193298.97 0.0145 0.0127

Uranus -62737-02-25 19:11 J -21193210.84 -21193210.70 -21193210.55 0.0145 0.0094

Uranus -62737-05-24 04:04 J -21193122.51 -21193122.33 -21193122.15 0.0145 0.0062

Uranus -62737-08-20 12:42 J -21193034.16 -21193033.97 -21193033.77 0.0145 0.0029

Mars -62737-10-04 08:52 J -21192989.22 -21192989.13 -21192989.03 0.1944 0.1092

Uranus -62737-11-16 21:35 J -21192945.79 -21192945.60 -21192945.40 0.0145 0.0004

Uranus -62736-02-13 06:28 J -21192857.42 -21192857.23 -21192857.04 0.0145 0.0036

Pluto -62736-03-22 10:18 J -21192820.12 -21192820.07 -21192820.02 0.0084 0.0077

Uranus -62736-05-12 15:06 J -21192769.04 -21192768.87 -21192768.69 0.0145 0.0069

Pluto -62736-06-18 11:45 J -21192732.09 -21192732.01 -21192731.92 0.0084 0.0067

Mars -62736-08-02 14:37 J -21192687.01 -21192686.89 -21192686.77 0.1615 0.1100

Uranus -62736-08-08 23:59 J -21192680.64 -21192680.50 -21192680.36 0.0145 0.0101

Pluto -62736-09-14 13:11 J -21192644.04 -21192643.95 -21192643.83 0.0084 0.0057

Uranus -62736-11-05 08:23 J -21192592.21 -21192592.15 -21192592.06 0.0145 0.0134

Pluto -62736-12-11 14:52 J -21192555.99 -21192555.88 -21192555.76 0.0084 0.0047

Pluto -62735-03-09 16:18 J -21192467.94 -21192467.82 -21192467.68 0.0083 0.0037

Pluto -62735-06-05 17:59 J -21192379.88 -21192379.75 -21192379.61 0.0083 0.0026

Pluto -62735-09-01 19:40 J -21192291.82 -21192291.68 -21192291.54 0.0083 0.0016

Jupiter -62735-09-08 03:21 J -21192285.43 -21192285.36 -21192285.29 0.0527 0.0436

Pluto -62735-11-28 21:06 J -21192203.76 -21192203.62 -21192203.47 0.0083 0.0007

Jupiter -62735-12-06 09:06 J -21192196.24 -21192196.12 -21192195.99 0.0527 0.0079

Pluto -62734-02-24 22:47 J -21192115.69 -21192115.55 -21192115.41 0.0083 0.0004

Pluto -62734-05-24 00:13 J -21192027.63 -21192027.49 -21192027.35 0.0083 0.0013

Pluto -62734-08-20 01:40 J -21191939.56 -21191939.43 -21191939.29 0.0083 0.0023

Pluto -62734-11-16 03:06 J -21191851.50 -21191851.37 -21191851.24 0.0083 0.0033

Pluto -62733-02-12 04:18 J -21191763.43 -21191763.32 -21191763.19 0.0082 0.0043

Pluto -62733-05-10 05:59 J -21191675.35 -21191675.25 -21191675.14 0.0082 0.0052

Pluto -62733-08-06 07:11 J -21191587.28 -21191587.20 -21191587.09 0.0082 0.0061

Pluto -62733-11-02 08:37 J -21191499.20 -21191499.14 -21191499.06 0.0082 0.0070

Pluto -62732-01-29 10:18 J -21191411.10 -21191411.07 -21191411.04 0.0082 0.0079

Moon -62732-12-02 09:06 J -21191104.24 -21191104.12 -21191104.00 0.2645 0.1675

Earth -62732-12-02 10:33 J -21191104.17 -21191104.06 -21191103.94 0.2643 0.1755 *

Jupiter -62729-10-27 01:40 J -21190044.59 -21190044.43 -21190044.26 0.0499 0.0228

Jupiter -62728-01-25 12:57 J -21189954.04 -21189953.96 -21189953.87 0.0499 0.0440

Earth -62728-06-04 15:06 J -21189823.98 -21189823.87 -21189823.76 0.2688 0.0085

Moon -62728-06-04 15:21 J -21189823.97 -21189823.86 -21189823.75 0.2681 0.0134 *

Venus -62728-10-24 01:54 J -21189682.58 -21189682.42 -21189682.26 0.3562 0.0529

Saturn -62727-02-23 11:16 J -21189560.13 -21189560.03 -21189559.93 0.0302 0.0187

Mars -62727-02-24 16:33 J -21189558.92 -21189558.81 -21189558.69 0.1938 0.0070

Saturn -62727-05-23 00:13 J -21189471.62 -21189471.49 -21189471.36 0.0302 0.0053

Saturn -62727-08-19 13:11 J -21189383.07 -21189382.95 -21189382.82 0.0303 0.0081

Saturn -62727-11-16 02:09 J -21189294.50 -21189294.41 -21189294.32 0.0303 0.0213

Jupiter -62723-09-24 13:11 J -21187886.07 -21187885.95 -21187885.82 0.0527 0.0054

Jupiter -62723-12-22 18:42 J -21187796.78 -21187796.72 -21187796.66 0.0526 0.0456

Venus -62719-02-10 18:42 J -21186650.78 -21186650.72 -21186650.66 0.3816 0.3034

Mars -62718-07-18 00:28 J -21186128.58 -21186128.48 -21186128.38 0.1931 0.0947

Jupiter -62717-08-14 22:18 J -21185734.68 -21185734.57 -21185734.46 0.0498 0.0395

Jupiter -62717-11-13 09:06 J -21185644.27 -21185644.12 -21185643.96 0.0499 0.0267

Mars -62715-04-21 11:45 J -21185120.15 -21185120.01 -21185119.87 0.1605 0.0925

Moon -62715-06-07 08:37 J -21185073.24 -21185073.14 -21185073.04 0.2684 0.0984

Earth -62715-06-07 08:52 J -21185073.23 -21185073.13 -21185073.02 0.2690 0.0961 *

Venus -62714-08-27 10:47 J -21184627.15 -21184627.05 -21184626.96 0.3817 0.1229

Saturn -62713-06-18 15:06 J -21184331.02 -21184330.87 -21184330.72 0.0261 0.0150

Saturn -62713-09-15 11:01 J -21184242.22 -21184242.04 -21184241.85 0.0260 0.0029

Saturn -62713-12-13 07:11 J -21184153.37 -21184153.20 -21184153.02 0.0260 0.0096

Saturn -62712-03-12 03:35 J -21184064.45 -21184064.35 -21184064.25 0.0260 0.0219

Moon -62712-11-27 02:09 J -21183804.50 -21183804.41 -21183804.31 0.2644 0.2088

Earth -62712-11-27 03:21 J -21183804.46 -21183804.36 -21183804.27 0.2648 0.2081 *

Jupiter -62711-07-13 17:16 J -21183575.90 -21183575.78 -21183575.66 0.0528 0.0184

Jupiter -62711-10-10 23:01 J -21183486.64 -21183486.54 -21183486.45 0.0527 0.0328

Venus -62708-03-12 02:52 J -21182603.48 -21182603.38 -21182603.28 0.3818 0.0625

Earth -62708-05-31 08:09 J -21182523.24 -21182523.16 -21182523.09 0.2684 0.1979

Moon -62708-05-31 08:52 J -21182523.21 -21182523.13 -21182523.06 0.2686 0.1926 *

Mars -62706-09-11 13:25 J -21181690.11 -21181689.94 -21181689.77 0.1610 0.0024

Jupiter -62705-09-01 05:45 J -21181334.45 -21181334.26 -21181334.08 0.0498 0.0098

Venus -62703-09-25 18:57 J -21180579.79 -21180579.71 -21180579.64 0.3819 0.2463

Moon -62702-06-10 02:09 J -21180322.49 -21180322.41 -21180322.33 0.2688 0.1871

Earth -62702-06-10 02:52 J -21180322.46 -21180322.38 -21180322.31 0.2692 0.1997 *

Jupiter -62699-05-01 21:21 J -21179265.71 -21179265.61 -21179265.50 0.0528 0.0313

Jupiter -62699-07-30 03:06 J -21179176.48 -21179176.37 -21179176.25 0.0527 0.0202

Moon -62699-11-30 08:23 J -21179053.30 -21179053.15 -21179052.99 0.2643 0.0165

Earth -62699-11-30 10:04 J -21179053.24 -21179053.08 -21179052.92 0.2646 0.0054 *

Saturn -62698-07-13 14:23 J -21178827.99 -21178827.90 -21178827.81 0.0301 0.0214

Saturn -62698-10-10 03:21 J -21178739.48 -21178739.36 -21178739.23 0.0302 0.0081

Saturn -62697-01-06 16:33 J -21178650.94 -21178650.81 -21178650.69 0.0302 0.0054

Saturn -62697-04-04 05:16 J -21178562.38 -21178562.28 -21178562.18 0.0303 0.0186

Mars -62697-04-04 08:52 J -21178562.22 -21178562.13 -21178562.04 0.1944 0.1193 *

Mars -62696-01-31 15:21 J -21178259.99 -21178259.86 -21178259.73 0.1615 0.0964

Earth -62695-06-03 01:54 J -21177772.52 -21177772.42 -21177772.31 0.2686 0.0933

Moon -62695-06-03 02:37 J -21177772.49 -21177772.39 -21177772.29 0.2683 0.0866 *

Uranus -62694-02-24 06:13 J -21177506.24 -21177506.24 -21177506.22 0.0133 0.0132

Uranus -62694-05-23 09:21 J -21177418.17 -21177418.11 -21177418.04 0.0133 0.0115

Uranus -62694-08-19 11:59 J -21177330.07 -21177330.00 -21177329.90 0.0133 0.0100

Uranus -62694-11-15 15:06 J -21177241.97 -21177241.87 -21177241.76 0.0133 0.0082

Uranus -62693-02-11 17:59 J -21177153.86 -21177153.75 -21177153.63 0.0133 0.0065

Uranus -62693-05-09 21:06 J -21177065.74 -21177065.62 -21177065.50 0.0133 0.0048

Jupiter -62693-06-20 01:40 J -21177024.61 -21177024.43 -21177024.24 0.0499 0.0076

Uranus -62693-08-05 23:59 J -21176977.62 -21176977.50 -21176977.37 0.0133 0.0031

Uranus -62693-11-02 03:06 J -21176889.50 -21176889.37 -21176889.24 0.0134 0.0014

Uranus -62692-01-29 05:59 J -21176801.38 -21176801.25 -21176801.12 0.0134 0.0003

Uranus -62692-04-27 08:52 J -21176713.26 -21176713.13 -21176713.00 0.0134 0.0020

Uranus -62692-07-24 11:59 J -21176625.13 -21176625.00 -21176624.88 0.0134 0.0037

Uranus -62692-10-20 14:52 J -21176537.00 -21176536.88 -21176536.76 0.0134 0.0054

Uranus -62691-01-16 17:45 J -21176448.87 -21176448.76 -21176448.65 0.0134 0.0071

Uranus -62691-04-14 20:37 J -21176360.73 -21176360.64 -21176360.54 0.0134 0.0089

Uranus -62691-07-11 23:45 J -21176272.59 -21176272.51 -21176272.43 0.0134 0.0106

Uranus -62691-10-08 02:37 J -21176184.44 -21176184.39 -21176184.34 0.0134 0.0123

Mars -62688-08-25 16:47 J -21175131.92 -21175131.80 -21175131.69 0.1938 0.0182

Jupiter -62687-02-18 01:40 J -21174955.50 -21174955.43 -21174955.36 0.0527 0.0440

Jupiter -62687-05-18 07:25 J -21174866.31 -21174866.19 -21174866.06 0.0527 0.0076

Moon -62686-12-03 15:49 J -21174301.94 -21174301.84 -21174301.74 0.2646 0.1980

Earth -62686-12-03 17:16 J -21174301.87 -21174301.78 -21174301.69 0.2643 0.2150 *

Saturn -62684-11-05 15:35 J -21173598.98 -21173598.85 -21173598.71 0.0260 0.0180

Saturn -62683-02-02 11:30 J -21173510.20 -21173510.02 -21173509.83 0.0260 0.0058

Saturn -62683-05-02 07:40 J -21173421.36 -21173421.18 -21173420.99 0.0260 0.0066

Saturn -62683-07-30 04:04 J -21173332.46 -21173332.33 -21173332.20 0.0259 0.0188

Earth -62682-06-05 19:54 J -21173021.78 -21173021.67 -21173021.56 0.2688 0.0126

Moon -62682-06-05 20:09 J -21173021.77 -21173021.66 -21173021.55 0.2682 0.0209 *

Jupiter -62681-04-07 22:33 J -21172714.73 -21172714.56 -21172714.40 0.0499 0.0241

Jupiter -62681-07-07 09:49 J -21172624.19 -21172624.09 -21172624.00 0.0499 0.0427

Mars -62678-01-16 00:28 J -21171701.59 -21171701.48 -21171701.38 0.1931 0.0853

Venus -62677-11-13 19:25 J -21171033.80 -21171033.69 -21171033.59 0.3562 0.2644

Mars -62676-10-20 12:13 J -21170693.11 -21170692.99 -21170692.86 0.1605 0.1054

Jupiter -62675-03-06 11:16 J -21170556.15 -21170556.03 -21170555.90 0.0527 0.0061

Jupiter -62675-06-03 16:47 J -21170466.86 -21170466.80 -21170466.74 0.0526 0.0448

Neptune -62673-12-03 19:11 J -21169552.74 -21169552.70 -21169552.62 0.0089 0.0085

Neptune -62672-03-01 22:47 J -21169464.63 -21169464.55 -21169464.44 0.0089 0.0077

Neptune -62672-05-29 02:23 J -21169376.51 -21169376.40 -21169376.27 0.0089 0.0069

Neptune -62672-08-25 05:45 J -21169288.38 -21169288.26 -21169288.11 0.0089 0.0062

Neptune -62672-11-21 09:21 J -21169200.25 -21169200.11 -21169199.94 0.0089 0.0054

Neptune -62671-02-17 12:57 J -21169112.11 -21169111.96 -21169111.79 0.0089 0.0046

Neptune -62671-05-16 16:18 J -21169023.98 -21169023.82 -21169023.63 0.0089 0.0039

Venus -62671-05-31 03:49 J -21169009.46 -21169009.34 -21169009.21 0.3561 0.2136

Neptune -62671-08-12 20:09 J -21168935.84 -21168935.66 -21168935.47 0.0089 0.0031

Neptune -62671-11-08 23:45 J -21168847.69 -21168847.51 -21168847.32 0.0089 0.0023

Neptune -62670-02-05 03:21 J -21168759.55 -21168759.36 -21168759.17 0.0089 0.0015

Neptune -62670-05-04 06:57 J -21168671.40 -21168671.21 -21168671.02 0.0089 0.0007

Neptune -62670-07-31 10:33 J -21168583.26 -21168583.06 -21168582.87 0.0089 0.0001

Neptune -62670-10-27 13:54 J -21168495.11 -21168494.92 -21168494.72 0.0089 0.0009

Neptune -62669-01-23 17:30 J -21168406.95 -21168406.77 -21168406.57 0.0089 0.0016

Jupiter -62669-01-25 19:25 J -21168404.80 -21168404.69 -21168404.58 0.0498 0.0404

Neptune -62669-04-20 20:52 J -21168318.80 -21168318.63 -21168318.43 0.0089 0.0025

Jupiter -62669-04-25 06:28 J -21168314.39 -21168314.23 -21168314.07 0.0499 0.0260

Mars -62669-06-07 08:09 J -21168271.18 -21168271.16 -21168271.13 0.1924 0.1857

Moon -62669-06-07 13:25 J -21168271.04 -21168270.94 -21168270.84 0.2684 0.1066

Earth -62669-06-07 13:40 J -21168271.02 -21168270.93 -21168270.83 0.2690 0.1171 *

Neptune -62669-07-18 00:42 J -21168230.65 -21168230.47 -21168230.28 0.0089 0.0032

Neptune -62669-10-14 04:18 J -21168142.49 -21168142.32 -21168142.14 0.0089 0.0040

Saturn -62669-11-29 17:01 J -21168095.86 -21168095.79 -21168095.71 0.0302 0.0243

Neptune -62668-01-10 07:54 J -21168054.33 -21168054.17 -21168054.00 0.0089 0.0048

Saturn -62668-02-26 06:13 J -21168007.36 -21168007.24 -21168007.12 0.0302 0.0110

Neptune -62668-04-08 11:16 J -21167966.16 -21167966.03 -21167965.86 0.0089 0.0056

Saturn -62668-05-25 19:11 J -21167918.83 -21167918.70 -21167918.57 0.0303 0.0025

Neptune -62668-07-05 14:52 J -21167878.00 -21167877.88 -21167877.73 0.0089 0.0064

Saturn -62668-08-22 08:09 J -21167830.27 -21167830.16 -21167830.05 0.0303 0.0157

Neptune -62668-10-01 18:28 J -21167789.82 -21167789.73 -21167789.60 0.0089 0.0072

Saturn -62668-11-18 20:52 J -21167741.66 -21167741.63 -21167741.59 0.0303 0.0289

Neptune -62668-12-28 22:04 J -21167701.64 -21167701.58 -21167701.47 0.0089 0.0080

Neptune -62667-03-27 02:09 J -21167613.44 -21167613.41 -21167613.38 0.0089 0.0087

Mars -62666-03-12 14:09 J -21167263.07 -21167262.91 -21167262.74 0.1610 0.0128

Moon -62666-11-28 08:37 J -21167002.25 -21167002.14 -21167002.03 0.2644 0.1900

Earth -62666-11-28 09:49 J -21167002.21 -21167002.09 -21167001.97 0.2648 0.1687 *

Jupiter -62664-12-23 15:21 J -21166245.98 -21166245.86 -21166245.74 0.0527 0.0192

Jupiter -62663-03-22 20:52 J -21166156.73 -21166156.63 -21166156.53 0.0526 0.0320

Venus -62663-09-17 16:18 J -21165977.90 -21165977.82 -21165977.75 0.3816 0.2391

Earth -62662-06-01 12:57 J -21165721.04 -21165720.96 -21165720.88 0.2684 0.1769

Moon -62662-06-01 13:40 J -21165721.02 -21165720.93 -21165720.85 0.2686 0.1665 *

Mars -62658-10-04 09:06 J -21164135.21 -21164135.12 -21164135.04 0.1944 0.1315

Jupiter -62657-02-12 02:52 J -21164004.56 -21164004.38 -21164004.19 0.0498 0.0091

Venus -62657-04-02 08:09 J -21163954.26 -21163954.16 -21163954.06 0.3818 0.0581

Mars -62657-08-01 16:04 J -21163832.97 -21163832.83 -21163832.69 0.1615 0.0826

Moon -62656-06-10 06:57 J -21163520.27 -21163520.21 -21163520.15 0.2690 0.2182

Earth -62656-06-10 07:40 J -21163520.25 -21163520.18 -21163520.12 0.2692 0.2195 *

Saturn -62654-03-25 17:01 J -21162866.90 -21162866.79 -21162866.67 0.0261 0.0204

Saturn -62654-06-22 12:57 J -21162778.14 -21162777.96 -21162777.78 0.0260 0.0082

Saturn -62654-09-19 09:06 J -21162689.31 -21162689.12 -21162688.93 0.0260 0.0041

Saturn -62654-12-17 05:16 J -21162600.42 -21162600.28 -21162600.13 0.0260 0.0164

Uranus -62654-12-19 16:33 J -21162597.90 -21162597.81 -21162597.71 0.0145 0.0124

Uranus -62653-03-17 01:11 J -21162509.59 -21162509.45 -21162509.29 0.0145 0.0091

Uranus -62653-06-13 10:04 J -21162421.25 -21162421.08 -21162420.90 0.0145 0.0059

Uranus -62653-09-09 18:57 J -21162332.90 -21162332.71 -21162332.52 0.0145 0.0026

Moon -62653-11-30 15:06 J -21162251.03 -21162250.87 -21162250.71 0.2644 0.0308

Earth -62653-11-30 16:47 J -21162250.96 -21162250.80 -21162250.64 0.2645 0.0413 *

Uranus -62653-12-07 03:49 J -21162244.54 -21162244.34 -21162244.15 0.0145 0.0007

Uranus -62652-03-05 12:28 J -21162156.17 -21162155.98 -21162155.79 0.0145 0.0039

Uranus -62652-06-01 21:06 J -21162067.78 -21162067.62 -21162067.44 0.0145 0.0072

Uranus -62652-08-29 05:45 J -21161979.38 -21161979.26 -21161979.11 0.0145 0.0105

Jupiter -62652-10-11 19:11 J -21161935.80 -21161935.70 -21161935.60 0.0528 0.0326

Venus -62652-10-17 00:13 J -21161930.58 -21161930.49 -21161930.39 0.3818 0.1284

Uranus -62652-11-25 14:37 J -21161890.94 -21161890.89 -21161890.82 0.0145 0.0137

Jupiter -62651-01-09 00:57 J -21161846.58 -21161846.46 -21161846.34 0.0527 0.0189

Earth -62649-06-03 06:57 J -21160970.32 -21160970.21 -21160970.11 0.2686 0.0717

Moon -62649-06-03 07:25 J -21160970.30 -21160970.19 -21160970.08 0.2682 0.0663 *

Mars -62648-02-23 16:47 J -21160704.92 -21160704.80 -21160704.69 0.1938 0.0289

Venus -62646-05-02 16:18 J -21159906.87 -21159906.82 -21159906.76 0.3819 0.3125

Jupiter -62646-11-30 23:30 J -21159694.71 -21159694.52 -21159694.34 0.0498 0.0077

Jupiter -62640-07-30 23:30 J -21157625.58 -21157625.52 -21157625.46 0.0528 0.0453

Jupiter -62640-10-28 05:16 J -21157536.40 -21157536.28 -21157536.15 0.0527 0.0064

Moon -62640-12-03 22:33 J -21157499.62 -21157499.56 -21157499.50 0.2647 0.2427

Earth -62640-12-03 23:59 J -21157499.54 -21157499.50 -21157499.46 0.2643 0.2553 *

Saturn -62639-04-18 19:54 J -21157363.72 -21157363.67 -21157363.61 0.0301 0.0273

Saturn -62639-07-16 09:06 J -21157275.24 -21157275.12 -21157275.00 0.0302 0.0140

Mars -62639-07-17 00:28 J -21157274.59 -21157274.48 -21157274.37 0.1931 0.0737

Saturn -62639-10-12 22:04 J -21157186.71 -21157186.58 -21157186.45 0.0302 0.0009

Saturn -62638-01-09 11:01 J -21157098.16 -21157098.04 -21157097.92 0.0303 0.0127

Saturn -62638-04-07 23:59 J -21157009.57 -21157009.50 -21157009.44 0.0303 0.0259

Mars -62636-04-20 12:57 J -21156266.07 -21156265.96 -21156265.85 0.1605 0.1193

Earth -62636-06-06 00:42 J -21156219.58 -21156219.47 -21156219.36 0.2688 0.0338

Moon -62636-06-06 00:57 J -21156219.57 -21156219.46 -21156219.35 0.2682 0.0323 *

Jupiter -62634-09-18 19:11 J -21155384.85 -21155384.70 -21155384.53 0.0498 0.0253

Jupiter -62634-12-18 06:28 J -21155294.33 -21155294.23 -21155294.12 0.0499 0.0416

Mars -62630-12-07 08:09 J -21153844.20 -21153844.16 -21153844.11 0.1924 0.1745

Earth -62629-05-29 23:45 J -21153669.53 -21153669.51 -21153669.49 0.2682 0.2619

Moon -62629-05-30 00:13 J -21153669.52 -21153669.49 -21153669.45 0.2687 0.2504 *

Jupiter -62628-08-16 09:35 J -21153226.22 -21153226.10 -21153225.97 0.0527 0.0065

Jupiter -62628-11-13 15:06 J -21153136.93 -21153136.87 -21153136.80 0.0526 0.0446

Mars -62627-09-10 14:52 J -21152836.05 -21152835.88 -21152835.72 0.1610 0.0255

Saturn -62625-08-11 17:30 J -21152134.85 -21152134.77 -21152134.68 0.0260 0.0233

Saturn -62625-11-08 13:25 J -21152046.10 -21152045.94 -21152045.77 0.0260 0.0112

Saturn -62624-02-05 09:35 J -21151957.29 -21151957.10 -21151956.91 0.0260 0.0010

Saturn -62624-05-05 05:45 J -21151868.42 -21151868.26 -21151868.10 0.0259 0.0133

Saturn -62624-08-02 01:54 J -21151779.44 -21151779.42 -21151779.39 0.0259 0.0256

Moon -62623-06-08 18:13 J -21151468.83 -21151468.74 -21151468.65 0.2684 0.1370

Earth -62623-06-08 18:42 J -21151468.82 -21151468.72 -21151468.63 0.2691 0.1369 *

Jupiter -62622-07-07 16:04 J -21151074.92 -21151074.83 -21151074.72 0.0498 0.0416

Jupiter -62622-10-06 03:06 J -21150984.53 -21150984.37 -21150984.20 0.0499 0.0249

Venus -62620-06-20 21:21 J -21150360.76 -21150360.61 -21150360.45 0.3562 0.1013

Moon -62620-11-28 15:06 J -21150200.01 -21150199.87 -21150199.73 0.2643 0.1312

Earth -62620-11-28 16:33 J -21150199.95 -21150199.81 -21150199.68 0.2648 0.1301 *

Mars -62618-04-04 08:52 J -21149708.21 -21149708.13 -21149708.05 0.1944 0.1413

Mars -62617-01-31 16:47 J -21149405.95 -21149405.80 -21149405.65 0.1615 0.0691

Earth -62616-06-01 17:45 J -21148918.85 -21148918.76 -21148918.67 0.2684 0.1561

Moon -62616-06-01 18:28 J -21148918.82 -21148918.73 -21148918.64 0.2685 0.1537 *

Jupiter -62616-06-04 13:25 J -21148916.05 -21148915.94 -21148915.82 0.0527 0.0198

Jupiter -62616-09-01 19:11 J -21148826.80 -21148826.70 -21148826.60 0.0526 0.0314

Venus -62612-10-08 21:35 J -21147328.63 -21147328.60 -21147328.56 0.3816 0.3561

Uranus -62610-03-16 13:11 J -21146804.97 -21146804.95 -21146804.91 0.0133 0.0129

Moon -62610-06-11 11:45 J -21146718.07 -21146718.01 -21146717.96 0.2692 0.2264

Earth -62610-06-11 12:28 J -21146718.03 -21146717.98 -21146717.94 0.2693 0.2399 *

Uranus -62610-06-12 16:18 J -21146716.88 -21146716.82 -21146716.75 0.0133 0.0112

Jupiter -62610-07-24 23:59 J -21146674.68 -21146674.50 -21146674.31 0.0499 0.0083

Uranus -62610-09-08 19:11 J -21146628.78 -21146628.70 -21146628.60 0.0133 0.0095

Saturn -62610-12-03 11:30 J -21146543.12 -21146543.02 -21146542.91 0.0302 0.0172

Uranus -62610-12-05 22:18 J -21146540.67 -21146540.57 -21146540.46 0.0133 0.0078

Saturn -62609-03-01 00:42 J -21146454.60 -21146454.47 -21146454.34 0.0303 0.0039

Uranus -62609-03-03 01:11 J -21146452.56 -21146452.45 -21146452.33 0.0133 0.0061

Saturn -62609-05-28 13:40 J -21146366.06 -21146365.93 -21146365.81 0.0303 0.0095

Uranus -62609-05-30 04:04 J -21146364.45 -21146364.33 -21146364.20 0.0133 0.0045

Mars -62609-08-24 16:33 J -21146277.92 -21146277.81 -21146277.69 0.1938 0.0393

Saturn -62609-08-25 02:37 J -21146277.48 -21146277.39 -21146277.31 0.0303 0.0228

Uranus -62609-08-26 07:11 J -21146276.33 -21146276.20 -21146276.07 0.0133 0.0028

Uranus -62609-11-22 10:04 J -21146188.21 -21146188.08 -21146187.95 0.0134 0.0011

Uranus -62608-02-18 12:57 J -21146100.09 -21146099.96 -21146099.83 0.0134 0.0007

Uranus -62608-05-17 15:49 J -21146011.96 -21146011.84 -21146011.70 0.0134 0.0024

Uranus -62608-08-13 18:57 J -21145923.84 -21145923.71 -21145923.59 0.0134 0.0041

Uranus -62608-11-09 21:49 J -21145835.71 -21145835.59 -21145835.47 0.0134 0.0058

Uranus -62607-02-06 00:42 J -21145747.57 -21145747.47 -21145747.36 0.0134 0.0075

Uranus -62607-05-05 03:35 J -21145659.44 -21145659.35 -21145659.25 0.0134 0.0092

Uranus -62607-08-01 06:42 J -21145571.29 -21145571.22 -21145571.14 0.0134 0.0109

Uranus -62607-10-28 09:35 J -21145483.14 -21145483.10 -21145483.05 0.0134 0.0126

Moon -62607-12-01 21:49 J -21145448.74 -21145448.59 -21145448.44 0.2645 0.0579

Earth -62607-12-01 23:30 J -21145448.67 -21145448.52 -21145448.37 0.2645 0.0811 *

Venus -62606-04-24 13:40 J -21145305.02 -21145304.93 -21145304.84 0.3817 0.1751

Jupiter -62604-03-23 17:30 J -21144605.87 -21144605.77 -21144605.67 0.0527 0.0329

Jupiter -62604-06-20 23:16 J -21144516.65 -21144516.53 -21144516.41 0.0527 0.0184

Earth -62603-06-04 11:45 J -21144168.12 -21144168.01 -21144167.90 0.2687 0.0509

Moon -62603-06-04 12:13 J -21144168.10 -21144167.99 -21144167.88 0.2682 0.0432 *

Venus -62601-11-07 05:45 J -21143281.36 -21143281.26 -21143281.16 0.3818 0.0093

Mars -62599-01-15 00:28 J -21142847.59 -21142847.48 -21142847.37 0.1931 0.0622

Jupiter -62598-05-12 20:52 J -21142364.81 -21142364.63 -21142364.45 0.0498 0.0083

Mars -62597-10-19 13:40 J -21141839.02 -21141838.93 -21141838.84 0.1605 0.1332

Saturn -62596-12-29 18:28 J -21141402.74 -21141402.73 -21141402.71 0.0261 0.0260

Saturn -62595-03-28 14:23 J -21141314.05 -21141313.90 -21141313.74 0.0260 0.0138

Venus -62595-05-23 21:49 J -21141257.68 -21141257.59 -21141257.50 0.3818 0.1928

Saturn -62595-06-25 10:33 J -21141225.25 -21141225.06 -21141224.87 0.0260 0.0016

Saturn -62595-09-22 06:28 J -21141136.39 -21141136.23 -21141136.05 0.0260 0.0107

Saturn -62595-12-20 02:52 J -21141047.46 -21141047.38 -21141047.29 0.0259 0.0229

Jupiter -62592-01-09 21:21 J -21140295.67 -21140295.61 -21140295.55 0.0528 0.0464

Jupiter -62592-04-09 03:21 J -21140206.49 -21140206.36 -21140206.24 0.0527 0.0056

Neptune -62591-09-15 14:09 J -21139681.94 -21139681.91 -21139681.86 0.0089 0.0084

Neptune -62591-12-12 15:21 J -21139593.90 -21139593.86 -21139593.78 0.0089 0.0079

Neptune -62590-03-10 17:01 J -21139505.86 -21139505.79 -21139505.71 0.0089 0.0073

Neptune -62590-06-06 18:13 J -21139417.81 -21139417.74 -21139417.64 0.0089 0.0068

Moon -62590-06-07 05:30 J -21139417.37 -21139417.27 -21139417.16 0.2682 0.0539

Earth -62590-06-07 05:45 J -21139417.37 -21139417.26 -21139417.16 0.2689 0.0549 *

Mars -62590-06-07 08:09 J -21139417.22 -21139417.16 -21139417.10 0.1924 0.1638 *

Neptune -62590-09-02 19:54 J -21139329.76 -21139329.67 -21139329.57 0.0089 0.0062

Neptune -62590-11-29 21:06 J -21139241.71 -21139241.62 -21139241.51 0.0089 0.0057

Venus -62590-12-07 13:54 J -21139233.93 -21139233.92 -21139233.91 0.3819 0.3790

Neptune -62589-02-25 22:33 J -21139153.66 -21139153.56 -21139153.44 0.0089 0.0051

Neptune -62589-05-23 23:59 J -21139065.61 -21139065.50 -21139065.38 0.0089 0.0045

Neptune -62589-08-20 01:25 J -21138977.56 -21138977.44 -21138977.32 0.0089 0.0040

Neptune -62589-11-16 02:37 J -21138889.51 -21138889.39 -21138889.26 0.0089 0.0035

Neptune -62588-02-12 04:04 J -21138801.45 -21138801.33 -21138801.20 0.0089 0.0029

Neptune -62588-05-11 05:30 J -21138713.40 -21138713.27 -21138713.14 0.0089 0.0024

Neptune -62588-08-07 06:42 J -21138625.34 -21138625.22 -21138625.08 0.0089 0.0019

Neptune -62588-11-03 08:09 J -21138537.29 -21138537.16 -21138537.02 0.0089 0.0013

Neptune -62587-01-30 09:35 J -21138449.23 -21138449.10 -21138448.97 0.0089 0.0007

Mars -62587-03-11 15:21 J -21138409.02 -21138408.86 -21138408.69 0.1610 0.0392

Neptune -62587-04-28 11:01 J -21138361.18 -21138361.04 -21138360.91 0.0089 0.0003

Neptune -62587-07-25 12:13 J -21138273.12 -21138272.99 -21138272.85 0.0089 0.0004

Neptune -62587-10-21 13:40 J -21138185.06 -21138184.93 -21138184.80 0.0089 0.0009

Neptune -62586-01-17 14:52 J -21138097.01 -21138096.88 -21138096.74 0.0089 0.0014

Jupiter -62586-02-28 17:30 J -21138054.93 -21138054.77 -21138054.61 0.0498 0.0249

Neptune -62586-04-15 16:18 J -21138008.95 -21138008.82 -21138008.69 0.0089 0.0019

Jupiter -62586-05-30 04:33 J -21137964.41 -21137964.31 -21137964.20 0.0499 0.0417

Neptune -62586-07-12 17:30 J -21137920.89 -21137920.77 -21137920.64 0.0089 0.0025

Neptune -62586-10-08 18:42 J -21137832.83 -21137832.72 -21137832.58 0.0089 0.0031

Neptune -62585-01-04 20:09 J -21137744.77 -21137744.66 -21137744.53 0.0089 0.0036

Neptune -62585-04-01 21:35 J -21137656.72 -21137656.60 -21137656.48 0.0089 0.0041

Neptune -62585-06-28 22:47 J -21137568.66 -21137568.55 -21137568.43 0.0089 0.0046

Neptune -62585-09-24 23:59 J -21137480.59 -21137480.50 -21137480.38 0.0089 0.0052

Neptune -62585-12-22 01:25 J -21137392.53 -21137392.44 -21137392.33 0.0089 0.0057

Neptune -62584-03-20 02:37 J -21137304.47 -21137304.39 -21137304.28 0.0089 0.0063

Neptune -62584-06-16 04:04 J -21137216.41 -21137216.33 -21137216.24 0.0089 0.0068

Neptune -62584-09-12 05:30 J -21137128.34 -21137128.27 -21137128.19 0.0089 0.0073

Neptune -62584-12-09 06:57 J -21137040.27 -21137040.21 -21137040.15 0.0089 0.0078

Neptune -62583-03-07 07:54 J -21136952.20 -21136952.17 -21136952.11 0.0089 0.0084

Earth -62583-05-31 04:33 J -21136867.35 -21136867.31 -21136867.26 0.2682 0.2410

Moon -62583-05-31 05:16 J -21136867.33 -21136867.28 -21136867.24 0.2687 0.2425 *

Neptune -62583-06-03 09:35 J -21136864.10 -21136864.10 -21136864.10 0.0089 0.0089

Pluto -62583-06-30 13:11 J -21136836.95 -21136836.95 -21136836.93 0.0061 0.0061

Pluto -62583-09-26 14:09 J -21136748.96 -21136748.91 -21136748.83 0.0061 0.0056

Pluto -62583-12-23 15:21 J -21136660.94 -21136660.86 -21136660.75 0.0061 0.0051

Pluto -62582-03-21 16:33 J -21136572.91 -21136572.81 -21136572.69 0.0061 0.0047

Pluto -62582-06-17 17:16 J -21136484.88 -21136484.78 -21136484.62 0.0061 0.0043

Pluto -62582-09-13 18:28 J -21136396.85 -21136396.73 -21136396.57 0.0061 0.0038

Pluto -62582-12-10 19:40 J -21136308.81 -21136308.68 -21136308.51 0.0061 0.0033

Pluto -62581-03-07 21:06 J -21136220.77 -21136220.62 -21136220.45 0.0061 0.0027

Pluto -62581-06-03 22:18 J -21136132.73 -21136132.57 -21136132.40 0.0061 0.0022

Pluto -62581-08-30 23:30 J -21136044.68 -21136044.52 -21136044.34 0.0061 0.0017

Pluto -62581-11-27 00:42 J -21135956.64 -21135956.47 -21135956.29 0.0062 0.0012

Jupiter -62580-01-26 07:40 J -21135896.31 -21135896.18 -21135896.06 0.0527 0.0073

Pluto -62580-02-23 01:54 J -21135868.59 -21135868.42 -21135868.24 0.0062 0.0007

Saturn -62580-04-21 14:09 J -21135811.00 -21135810.91 -21135810.81 0.0302 0.0204

Jupiter -62580-04-25 13:11 J -21135807.02 -21135806.95 -21135806.88 0.0526 0.0438

Pluto -62580-05-22 03:06 J -21135780.54 -21135780.37 -21135780.19 0.0062 0.0003

Saturn -62580-07-19 03:21 J -21135722.49 -21135722.36 -21135722.23 0.0302 0.0070

Pluto -62580-08-18 04:33 J -21135692.49 -21135692.31 -21135692.14 0.0062 0.0003

Saturn -62580-10-15 16:18 J -21135633.95 -21135633.82 -21135633.69 0.0303 0.0063

Pluto -62580-11-14 05:30 J -21135604.44 -21135604.27 -21135604.09 0.0062 0.0008

Saturn -62579-01-12 05:16 J -21135545.38 -21135545.28 -21135545.18 0.0303 0.0196

Pluto -62579-02-10 06:42 J -21135516.39 -21135516.22 -21135516.04 0.0062 0.0013

Pluto -62579-05-09 08:09 J -21135428.33 -21135428.16 -21135427.99 0.0062 0.0018

Pluto -62579-08-05 09:21 J -21135340.28 -21135340.11 -21135339.94 0.0062 0.0023

Mars -62579-10-03 08:52 J -21135281.20 -21135281.13 -21135281.06 0.1944 0.1524

Pluto -62579-11-01 10:18 J -21135252.22 -21135252.07 -21135251.90 0.0062 0.0029

Pluto -62578-01-28 11:30 J -21135164.16 -21135164.02 -21135163.86 0.0062 0.0034

Pluto -62578-04-26 12:42 J -21135076.09 -21135075.97 -21135075.81 0.0062 0.0040

Pluto -62578-07-23 14:09 J -21134988.02 -21134987.91 -21134987.77 0.0062 0.0045

Mars -62578-08-01 17:16 J -21134978.93 -21134978.78 -21134978.62 0.1615 0.0554

Pluto -62578-10-19 15:06 J -21134899.95 -21134899.87 -21134899.74 0.0062 0.0051

Pluto -62577-01-15 16:33 J -21134811.87 -21134811.81 -21134811.71 0.0063 0.0056

Pluto -62577-04-12 17:59 J -21134723.78 -21134723.75 -21134723.70 0.0063 0.0061

Moon -62577-06-08 23:01 J -21134666.63 -21134666.54 -21134666.45 0.2685 0.1485

Earth -62577-06-08 23:30 J -21134666.61 -21134666.52 -21134666.43 0.2691 0.1574 *

Jupiter -62575-12-17 13:11 J -21133745.04 -21133744.95 -21133744.85 0.0498 0.0425

Jupiter -62574-03-18 00:13 J -21133654.65 -21133654.49 -21133654.32 0.0499 0.0240

Moon -62574-11-29 21:35 J -21133397.74 -21133397.60 -21133397.45 0.2643 0.1141

Earth -62574-11-29 23:01 J -21133397.69 -21133397.54 -21133397.39 0.2647 0.0912 *

Earth -62570-06-02 22:33 J -21132116.65 -21132116.56 -21132116.46 0.2685 0.1354

Moon -62570-06-02 23:16 J -21132116.63 -21132116.53 -21132116.43 0.2683 0.1213 *

Uranus -62569-01-08 23:16 J -21131896.64 -21131896.53 -21131896.42 0.0146 0.0119

Mars -62569-02-23 16:47 J -21131850.92 -21131850.80 -21131850.69 0.1938 0.0507

Uranus -62569-04-06 07:54 J -21131808.32 -21131808.17 -21131808.00 0.0145 0.0086

Uranus -62569-07-03 16:47 J -21131719.98 -21131719.80 -21131719.61 0.0145 0.0054

Uranus -62569-09-30 01:40 J -21131631.62 -21131631.43 -21131631.24 0.0145 0.0021

Jupiter -62569-11-14 11:59 J -21131586.11 -21131586.00 -21131585.88 0.0527 0.0197

Mars -62569-12-21 19:11 J -21131548.76 -21131548.70 -21131548.64 0.1620 0.1503

Uranus -62569-12-27 10:33 J -21131543.26 -21131543.06 -21131542.87 0.0145 0.0012

Jupiter -62568-02-11 17:45 J -21131496.86 -21131496.76 -21131496.66 0.0526 0.0315

Uranus -62568-03-25 18:57 J -21131454.88 -21131454.71 -21131454.51 0.0145 0.0045

Uranus -62568-06-22 03:49 J -21131366.50 -21131366.34 -21131366.17 0.0145 0.0077

Uranus -62568-09-18 12:28 J -21131278.09 -21131277.98 -21131277.84 0.0145 0.0110

Uranus -62568-12-15 21:21 J -21131189.63 -21131189.61 -21131189.57 0.0145 0.0142

Saturn -62566-08-15 14:37 J -21130582.02 -21130581.89 -21130581.74 0.0260 0.0169

Saturn -62566-11-12 10:47 J -21130493.23 -21130493.05 -21130492.86 0.0260 0.0047

Saturn -62565-02-09 06:57 J -21130404.39 -21130404.21 -21130404.03 0.0259 0.0075

Saturn -62565-05-08 03:06 J -21130315.49 -21130315.37 -21130315.25 0.0259 0.0197

Moon -62564-06-11 16:33 J -21129915.84 -21129915.81 -21129915.79 0.2693 0.2577

Earth -62564-06-11 17:16 J -21129915.81 -21129915.78 -21129915.76 0.2693 0.2597 *

Venus -62563-01-25 23:30 J -21129687.68 -21129687.52 -21129687.36 0.3562 0.0623

Jupiter -62562-01-03 21:06 J -21129344.81 -21129344.62 -21129344.44 0.0499 0.0074

Moon -62561-12-02 04:18 J -21128646.46 -21128646.32 -21128646.18 0.2646 0.1146

Earth -62561-12-02 05:59 J -21128646.39 -21128646.25 -21128646.10 0.2645 0.1204 *

Mars -62560-07-16 00:28 J -21128420.59 -21128420.48 -21128420.37 0.1931 0.0525

Mars -62557-04-19 14:23 J -21127411.97 -21127411.90 -21127411.84 0.1605 0.1467

Earth -62557-06-04 16:33 J -21127365.92 -21127365.81 -21127365.70 0.2687 0.0302

Moon -62557-06-04 17:01 J -21127365.90 -21127365.79 -21127365.68 0.2682 0.0282 *

Jupiter -62557-09-02 16:04 J -21127275.93 -21127275.83 -21127275.73 0.0527 0.0330

Jupiter -62557-11-30 21:35 J -21127186.71 -21127186.60 -21127186.48 0.0526 0.0184

Venus -62555-05-15 19:11 J -21126655.76 -21126655.70 -21126655.64 0.3816 0.2922

Saturn -62551-09-08 16:04 J -21125078.90 -21125078.83 -21125078.75 0.0302 0.0242

Jupiter -62551-10-22 17:59 J -21125034.93 -21125034.75 -21125034.56 0.0499 0.0091

Saturn -62551-12-06 05:16 J -21124990.40 -21124990.28 -21124990.16 0.0303 0.0108

Mars -62551-12-06 08:09 J -21124990.23 -21124990.16 -21124990.09 0.1925 0.1529 *

Saturn -62550-03-04 18:13 J -21124901.87 -21124901.74 -21124901.61 0.0303 0.0028

Saturn -62550-06-01 07:11 J -21124813.31 -21124813.20 -21124813.09 0.0303 0.0160

Saturn -62550-08-28 20:09 J -21124724.69 -21124724.66 -21124724.63 0.0304 0.0291

Venus -62550-11-29 11:16 J -21124632.13 -21124632.03 -21124631.94 0.3817 0.1099

Mars -62548-09-09 16:18 J -21123981.98 -21123981.82 -21123981.66 0.1610 0.0535

Jupiter -62545-06-21 19:54 J -21122965.73 -21122965.67 -21122965.61 0.0527 0.0463

Jupiter -62545-09-19 01:40 J -21122876.55 -21122876.43 -21122876.30 0.0527 0.0055

Moon -62544-06-07 10:18 J -21122615.17 -21122615.07 -21122614.96 0.2682 0.0741

Earth -62544-06-07 10:33 J -21122615.17 -21122615.06 -21122614.96 0.2689 0.0745 *

Venus -62544-06-14 03:21 J -21122608.46 -21122608.36 -21122608.26 0.3818 0.0748

Earth -62541-11-26 23:01 J -21121346.57 -21121346.54 -21121346.52 0.2649 0.2595

Mars -62539-04-03 08:52 J -21120854.19 -21120854.13 -21120854.07 0.1944 0.1636

Jupiter -62539-08-10 15:06 J -21120725.03 -21120724.87 -21120724.71 0.0498 0.0252

Jupiter -62539-11-09 02:23 J -21120634.50 -21120634.40 -21120634.30 0.0499 0.0416

Venus -62539-12-28 19:25 J -21120584.76 -21120584.69 -21120584.62 0.3819 0.2596

Mars -62538-01-30 17:59 J -21120551.91 -21120551.75 -21120551.59 0.1614 0.0417

Earth -62537-05-31 09:35 J -21120065.17 -21120065.10 -21120065.04 0.2683 0.2201

Moon -62537-05-31 10:04 J -21120065.15 -21120065.08 -21120065.01 0.2687 0.2085 *

Saturn -62536-01-01 15:21 J -21119849.98 -21119849.86 -21119849.74 0.0260 0.0199

Saturn -62536-03-31 11:16 J -21119761.21 -21119761.03 -21119760.85 0.0260 0.0077

Saturn -62536-06-28 07:11 J -21119672.38 -21119672.20 -21119672.01 0.0260 0.0045

Saturn -62536-09-25 03:21 J -21119583.50 -21119583.36 -21119583.21 0.0259 0.0167

Jupiter -62533-07-08 05:45 J -21118566.39 -21118566.26 -21118566.13 0.0527 0.0079

Jupiter -62533-10-05 11:16 J -21118477.10 -21118477.03 -21118476.96 0.0526 0.0431

Moon -62531-06-10 03:49 J -21117864.43 -21117864.34 -21117864.26 0.2687 0.1729

Earth -62531-06-10 04:18 J -21117864.40 -21117864.32 -21117864.24 0.2691 0.1774 *

Mars -62530-08-24 16:47 J -21117423.91 -21117423.80 -21117423.69 0.1938 0.0614

Mars -62529-06-21 19:54 J -21117121.76 -21117121.67 -21117121.59 0.1620 0.1365

Moon -62528-11-30 04:18 J -21116595.48 -21116595.32 -21116595.17 0.2644 0.0568

Earth -62528-11-30 05:45 J -21116595.42 -21116595.26 -21116595.11 0.2647 0.0521 *

Jupiter -62527-05-29 11:59 J -21116415.10 -21116415.00 -21116414.90 0.0498 0.0416

Jupiter -62527-08-27 23:01 J -21116324.70 -21116324.54 -21116324.38 0.0499 0.0248

Uranus -62526-04-05 20:37 J -21116103.67 -21116103.64 -21116103.59 0.0133 0.0125

Uranus -62526-07-02 23:45 J -21116015.58 -21116015.51 -21116015.43 0.0133 0.0107

Uranus -62526-09-29 02:37 J -21115927.48 -21115927.39 -21115927.29 0.0133 0.0091

Uranus -62526-12-26 05:45 J -21115839.37 -21115839.26 -21115839.15 0.0133 0.0074

Uranus -62525-03-23 08:37 J -21115751.26 -21115751.14 -21115751.02 0.0133 0.0057

Uranus -62525-06-19 11:30 J -21115663.14 -21115663.02 -21115662.89 0.0133 0.0040

Uranus -62525-09-15 14:23 J -21115575.02 -21115574.90 -21115574.77 0.0133 0.0023

Uranus -62525-12-12 17:30 J -21115486.90 -21115486.77 -21115486.64 0.0134 0.0006

Uranus -62524-03-10 20:23 J -21115398.78 -21115398.65 -21115398.52 0.0134 0.0011

Earth -62524-06-03 03:21 J -21115314.45 -21115314.36 -21115314.26 0.2685 0.1149

Moon -62524-06-03 04:18 J -21115314.42 -21115314.32 -21115314.22 0.2683 0.1137 *

Uranus -62524-06-06 23:16 J -21115310.65 -21115310.53 -21115310.40 0.0134 0.0029

Uranus -62524-09-03 02:09 J -21115222.53 -21115222.41 -21115222.28 0.0134 0.0046

Uranus -62524-11-30 05:01 J -21115134.40 -21115134.29 -21115134.17 0.0134 0.0063

Uranus -62523-02-26 08:09 J -21115046.26 -21115046.16 -21115046.05 0.0134 0.0080

Uranus -62523-05-25 11:01 J -21114958.12 -21114958.04 -21114957.94 0.0134 0.0097

Uranus -62523-08-21 13:54 J -21114869.98 -21114869.92 -21114869.84 0.0134 0.0115

Uranus -62523-11-17 17:01 J -21114781.81 -21114781.79 -21114781.76 0.0134 0.0132

Saturn -62521-01-26 18:13 J -21114346.78 -21114346.74 -21114346.68 0.0301 0.0277

Saturn -62521-04-24 07:25 J -21114258.30 -21114258.19 -21114258.07 0.0302 0.0144

Jupiter -62521-04-26 10:04 J -21114256.19 -21114256.08 -21114255.96 0.0527 0.0205

Saturn -62521-07-21 20:37 J -21114169.77 -21114169.64 -21114169.51 0.0302 0.0011

Jupiter -62521-07-24 15:49 J -21114166.94 -21114166.84 -21114166.74 0.0527 0.0309

Saturn -62521-10-18 09:35 J -21114081.22 -21114081.10 -21114080.98 0.0303 0.0123

Mars -62520-01-14 00:28 J -21113993.59 -21113993.48 -21113993.37 0.1931 0.0411

Saturn -62520-01-14 22:18 J -21113992.63 -21113992.57 -21113992.50 0.0303 0.0255

Moon -62518-06-12 21:21 J -21113113.62 -21113113.61 -21113113.60 0.2693 0.2672

Mars -62518-10-19 14:52 J -21112984.88 -21112984.88 -21112984.87 0.1605 0.1604

Jupiter -62515-06-15 18:28 J -21112014.91 -21112014.73 -21112014.54 0.0499 0.0069

Moon -62515-12-03 11:01 J -21111844.18 -21111844.04 -21111843.91 0.2646 0.1328

Earth -62515-12-03 12:42 J -21111844.09 -21111843.97 -21111843.84 0.2644 0.1598 *

Venus -62512-02-15 17:01 J -21111038.90 -21111038.79 -21111038.68 0.3563 0.2565

Earth -62511-06-05 21:21 J -21110563.72 -21110563.61 -21110563.50 0.2687 0.0110

Moon -62511-06-05 21:49 J -21110563.70 -21110563.59 -21110563.48 0.2682 0.0090 *

Mars -62511-06-06 08:09 J -21110563.23 -21110563.16 -21110563.08 0.1924 0.1417

Jupiter -62509-02-13 14:37 J -21109945.98 -21109945.89 -21109945.79 0.0527 0.0327

Jupiter -62509-05-12 20:23 J -21109856.77 -21109856.65 -21109856.53 0.0527 0.0188

Mars -62508-03-10 16:47 J -21109554.95 -21109554.80 -21109554.65 0.1610 0.0664

Neptune -62508-08-30 17:16 J -21109381.83 -21109381.78 -21109381.70 0.0089 0.0083

Neptune -62508-11-26 20:52 J -21109293.72 -21109293.63 -21109293.52 0.0089 0.0075

Neptune -62507-02-23 00:13 J -21109205.60 -21109205.49 -21109205.35 0.0089 0.0068

Saturn -62507-05-21 15:21 J -21109117.94 -21109117.86 -21109117.77 0.0260 0.0231

Neptune -62507-05-22 03:49 J -21109117.47 -21109117.34 -21109117.19 0.0089 0.0060

Neptune -62507-08-18 07:25 J -21109029.34 -21109029.19 -21109029.03 0.0089 0.0052

Saturn -62507-08-18 11:16 J -21109029.20 -21109029.03 -21109028.86 0.0260 0.0110 *

Venus -62507-09-02 01:40 J -21109014.56 -21109014.43 -21109014.31 0.3562 0.2248

Neptune -62507-11-14 10:47 J -21108941.20 -21108941.05 -21108940.87 0.0089 0.0045

Saturn -62507-11-15 07:11 J -21108940.39 -21108940.20 -21108940.01 0.0259 0.0012

Neptune -62506-02-10 14:23 J -21108853.06 -21108852.90 -21108852.71 0.0089 0.0037

Saturn -62506-02-12 03:21 J -21108851.52 -21108851.36 -21108851.20 0.0259 0.0134

Neptune -62506-05-09 17:59 J -21108764.92 -21108764.75 -21108764.56 0.0089 0.0029

Saturn -62506-05-11 23:16 J -21108762.54 -21108762.53 -21108762.49 0.0259 0.0256

Neptune -62506-08-05 21:35 J -21108676.78 -21108676.60 -21108676.41 0.0089 0.0021

Neptune -62506-11-02 01:11 J -21108588.64 -21108588.45 -21108588.26 0.0089 0.0013

Neptune -62505-01-29 04:47 J -21108500.49 -21108500.30 -21108500.11 0.0089 0.0005

Neptune -62505-04-26 08:23 J -21108412.34 -21108412.15 -21108411.96 0.0089 0.0002

Neptune -62505-07-23 11:45 J -21108324.19 -21108324.01 -21108323.81 0.0089 0.0011

Neptune -62505-10-19 15:35 J -21108236.04 -21108235.85 -21108235.66 0.0089 0.0018

Neptune -62504-01-15 19:11 J -21108147.89 -21108147.70 -21108147.52 0.0089 0.0026

Neptune -62504-04-13 22:33 J -21108059.73 -21108059.56 -21108059.37 0.0089 0.0034

Neptune -62504-07-11 02:09 J -21107971.57 -21107971.41 -21107971.23 0.0089 0.0042

Neptune -62504-10-07 05:45 J -21107883.41 -21107883.26 -21107883.09 0.0089 0.0050

Neptune -62503-01-03 09:06 J -21107795.25 -21107795.12 -21107794.95 0.0089 0.0058

Neptune -62503-04-01 12:42 J -21107707.08 -21107706.97 -21107706.82 0.0089 0.0066

Jupiter -62503-04-03 15:21 J -21107705.04 -21107704.86 -21107704.67 0.0499 0.0096

Neptune -62503-06-28 16:18 J -21107618.91 -21107618.82 -21107618.69 0.0089 0.0074

Neptune -62503-09-24 20:23 J -21107530.72 -21107530.65 -21107530.57 0.0089 0.0081

Mars -62500-10-02 08:52 J -21106427.18 -21106427.13 -21106427.08 0.1944 0.1739

Mars -62499-07-31 18:42 J -21106124.89 -21106124.72 -21106124.56 0.1615 0.0280

Venus -62499-12-20 16:47 J -21105982.88 -21105982.80 -21105982.72 0.3816 0.2276

Moon -62498-06-08 15:06 J -21105812.97 -21105812.87 -21105812.76 0.2682 0.0900

Earth -62498-06-08 15:21 J -21105812.97 -21105812.86 -21105812.76 0.2689 0.0948 *

Jupiter -62498-12-02 18:42 J -21105635.78 -21105635.72 -21105635.66 0.0527 0.0459

Jupiter -62497-03-01 00:28 J -21105546.60 -21105546.48 -21105546.35 0.0527 0.0057

Moon -62495-11-28 04:33 J -21104544.39 -21104544.31 -21104544.23 0.2643 0.2257

Earth -62495-11-28 05:30 J -21104544.36 -21104544.27 -21104544.19 0.2649 0.2212 *

Venus -62493-07-05 08:52 J -21103959.23 -21103959.13 -21103959.03 0.3817 0.0454

Saturn -62492-09-11 08:52 J -21103526.23 -21103526.13 -21103526.02 0.0302 0.0186

Saturn -62492-12-08 22:04 J -21103437.71 -21103437.58 -21103437.45 0.0303 0.0052

Jupiter -62491-01-20 12:42 J -21103395.13 -21103394.97 -21103394.81 0.0499 0.0256

Saturn -62491-03-07 11:01 J -21103349.16 -21103349.04 -21103348.91 0.0303 0.0082

Jupiter -62491-04-20 23:59 J -21103304.60 -21103304.50 -21103304.40 0.0499 0.0413

Earth -62491-06-01 14:23 J -21103262.97 -21103262.90 -21103262.83 0.2683 0.1988

Moon -62491-06-01 15:06 J -21103262.95 -21103262.87 -21103262.80 0.2685 0.1959 *

Saturn -62491-06-03 23:59 J -21103260.59 -21103260.50 -21103260.41 0.0304 0.0215

Pluto -62490-02-16 01:25 J -21103003.48 -21103003.44 -21103003.38 0.0084 0.0078

Mars -62490-02-22 16:33 J -21102996.91 -21102996.81 -21102996.70 0.1938 0.0713

Pluto -62490-05-15 02:52 J -21102915.45 -21102915.38 -21102915.28 0.0084 0.0068

Pluto -62490-08-11 04:33 J -21102827.40 -21102827.31 -21102827.20 0.0084 0.0058

Pluto -62490-11-07 06:28 J -21102739.35 -21102739.23 -21102739.12 0.0084 0.0047

Mars -62490-12-21 20:37 J -21102694.75 -21102694.64 -21102694.53 0.1619 0.1221

Pluto -62489-02-03 07:54 J -21102651.30 -21102651.17 -21102651.04 0.0083 0.0037

Pluto -62489-05-01 09:21 J -21102563.24 -21102563.11 -21102562.97 0.0083 0.0027

Pluto -62489-07-28 10:47 J -21102475.18 -21102475.05 -21102474.90 0.0083 0.0018

Pluto -62489-10-24 12:28 J -21102387.12 -21102386.98 -21102386.83 0.0083 0.0007

Pluto -62488-01-20 14:09 J -21102299.06 -21102298.91 -21102298.77 0.0083 0.0004

Pluto -62488-04-18 15:35 J -21102210.99 -21102210.85 -21102210.71 0.0083 0.0013

Pluto -62488-07-15 17:01 J -21102122.93 -21102122.79 -21102122.65 0.0083 0.0022

Pluto -62488-10-11 18:13 J -21102034.86 -21102034.74 -21102034.60 0.0083 0.0033

Pluto -62487-01-07 19:54 J -21101946.79 -21101946.67 -21101946.54 0.0082 0.0042

Venus -62487-01-19 00:57 J -21101935.56 -21101935.46 -21101935.37 0.3818 0.1414

Pluto -62487-04-05 21:06 J -21101858.72 -21101858.62 -21101858.50 0.0082 0.0051

Pluto -62487-07-02 22:47 J -21101770.64 -21101770.55 -21101770.45 0.0082 0.0060

Pluto -62487-09-29 00:13 J -21101682.56 -21101682.49 -21101682.41 0.0082 0.0069

Pluto -62487-12-26 01:25 J -21101594.46 -21101594.44 -21101594.39 0.0082 0.0079

Uranus -62486-11-01 22:18 J -21101283.60 -21101283.57 -21101283.54 0.0146 0.0143

Jupiter -62486-12-19 04:33 J -21101236.43 -21101236.31 -21101236.18 0.0527 0.0074

Uranus -62485-01-29 06:57 J -21101195.33 -21101195.21 -21101195.08 0.0146 0.0111

Jupiter -62485-03-17 10:04 J -21101147.15 -21101147.08 -21101147.01 0.0526 0.0436

Uranus -62485-04-26 15:49 J -21101107.00 -21101106.84 -21101106.68 0.0145 0.0078

Moon -62485-06-10 08:23 J -21101062.22 -21101062.15 -21101062.07 0.2689 0.1913

Earth -62485-06-10 09:06 J -21101062.19 -21101062.12 -21101062.05 0.2691 0.1974 *

Uranus -62485-07-24 00:28 J -21101018.66 -21101018.48 -21101018.29 0.0145 0.0045

Uranus -62485-10-20 09:21 J -21100930.30 -21100930.11 -21100929.91 0.0145 0.0012

Uranus -62484-01-16 18:13 J -21100841.94 -21100841.74 -21100841.55 0.0145 0.0020

Uranus -62484-04-15 02:52 J -21100753.56 -21100753.38 -21100753.20 0.0145 0.0053

Uranus -62484-07-12 11:30 J -21100665.17 -21100665.02 -21100664.85 0.0145 0.0086

Uranus -62484-10-08 20:23 J -21100576.76 -21100576.65 -21100576.53 0.0145 0.0118

Venus -62482-08-04 17:01 J -21099911.84 -21099911.79 -21099911.74 0.3819 0.3267

Moon -62482-12-01 10:33 J -21099793.21 -21099793.06 -21099792.90 0.2645 0.0355

Earth -62482-12-01 12:13 J -21099793.14 -21099792.99 -21099792.83 0.2646 0.0136 *

Mars -62481-07-15 00:28 J -21099566.59 -21099566.48 -21099566.36 0.1932 0.0298

Jupiter -62480-11-08 10:04 J -21099085.18 -21099085.08 -21099084.98 0.0498 0.0414

Jupiter -62479-02-06 20:52 J -21098994.78 -21098994.63 -21098994.46 0.0499 0.0251

Earth -62478-06-04 08:23 J -21098512.26 -21098512.15 -21098512.05 0.2685 0.0939

Moon -62478-06-04 09:06 J -21098512.23 -21098512.12 -21098512.02 0.2683 0.0801 *

Saturn -62477-01-05 10:47 J -21098297.19 -21098297.05 -21098296.88 0.0260 0.0144

Saturn -62477-04-03 06:57 J -21098208.40 -21098208.21 -21098208.02 0.0260 0.0022

Saturn -62477-07-01 02:52 J -21098119.55 -21098119.38 -21098119.20 0.0259 0.0100

Saturn -62477-09-27 23:01 J -21098030.63 -21098030.54 -21098030.44 0.0259 0.0222

Jupiter -62474-10-07 08:37 J -21096926.26 -21096926.14 -21096926.03 0.0527 0.0207

Jupiter -62473-01-04 14:09 J -21096837.01 -21096836.91 -21096836.81 0.0527 0.0307

Mars -62472-12-05 08:09 J -21096136.24 -21096136.16 -21096136.07 0.1924 0.1312

Mars -62469-09-08 17:30 J -21095127.92 -21095127.77 -21095127.63 0.1610 0.0800

Moon -62469-12-03 17:45 J -21095041.87 -21095041.76 -21095041.66 0.2645 0.1946

Earth -62469-12-03 19:25 J -21095041.79 -21095041.69 -21095041.59 0.2644 0.1992 *

Jupiter -62468-11-25 17:45 J -21094684.94 -21094684.76 -21094684.57 0.0499 0.0085

Earth -62465-06-06 02:09 J -21093761.52 -21093761.41 -21093761.30 0.2687 0.0141

Moon -62465-06-06 02:23 J -21093761.51 -21093761.40 -21093761.29 0.2681 0.0102 *

Saturn -62462-01-29 10:47 J -21092794.14 -21092794.05 -21092793.97 0.0302 0.0226

Saturn -62462-04-27 23:45 J -21092705.63 -21092705.51 -21092705.38 0.0302 0.0093

Saturn -62462-07-25 12:57 J -21092617.09 -21092616.96 -21092616.83 0.0303 0.0041

Jupiter -62462-07-26 12:57 J -21092616.05 -21092615.96 -21092615.86 0.0527 0.0330

Saturn -62462-10-22 01:40 J -21092528.53 -21092528.43 -21092528.32 0.0303 0.0174

Jupiter -62462-10-23 18:42 J -21092526.83 -21092526.72 -21092526.60 0.0527 0.0186

Mars -62460-04-02 08:52 J -21092000.16 -21092000.13 -21092000.10 0.1944 0.1844

Mars -62459-01-29 19:11 J -21091697.86 -21091697.70 -21091697.53 0.1614 0.0149

Jupiter -62456-09-13 13:25 J -21090375.13 -21090374.94 -21090374.76 0.0499 0.0096

Venus -62456-09-22 18:57 J -21090365.86 -21090365.71 -21090365.55 0.3562 0.0931

Moon -62452-06-08 19:54 J -21089010.77 -21089010.67 -21089010.57 0.2683 0.1159

Earth -62452-06-08 20:09 J -21089010.76 -21089010.66 -21089010.56 0.2690 0.1146 *

Mars -62451-08-23 16:47 J -21088569.91 -21088569.80 -21088569.70 0.1938 0.0833

Jupiter -62450-05-14 17:45 J -21088305.83 -21088305.76 -21088305.70 0.0527 0.0452

Mars -62450-06-21 21:06 J -21088267.74 -21088267.62 -21088267.50 0.1620 0.1093

Jupiter -62450-08-11 23:30 J -21088216.65 -21088216.52 -21088216.39 0.0527 0.0065

Moon -62449-11-28 11:01 J -21087742.15 -21087742.04 -21087741.93 0.2643 0.1912

Earth -62449-11-28 11:59 J -21087742.11 -21087742.00 -21087741.89 0.2649 0.1829 *

Saturn -62448-05-24 10:33 J -21087565.19 -21087565.06 -21087564.92 0.0260 0.0178

Saturn -62448-08-21 06:28 J -21087476.41 -21087476.23 -21087476.04 0.0260 0.0057

Saturn -62448-11-18 02:37 J -21087387.58 -21087387.39 -21087387.21 0.0259 0.0065

Venus -62447-01-10 22:18 J -21087333.61 -21087333.57 -21087333.53 0.3815 0.3441

Saturn -62447-02-14 22:33 J -21087298.69 -21087298.56 -21087298.43 0.0259 0.0186

Earth -62445-06-01 19:11 J -21086460.78 -21086460.70 -21086460.62 0.2683 0.1780

Moon -62445-06-01 19:54 J -21086460.75 -21086460.67 -21086460.58 0.2684 0.1678 *

Jupiter -62444-07-02 10:18 J -21086065.22 -21086065.07 -21086064.90 0.0499 0.0258

Jupiter -62444-09-30 21:35 J -21085974.70 -21085974.60 -21085974.49 0.0499 0.0413

Uranus -62442-04-26 04:18 J -21085402.38 -21085402.32 -21085402.27 0.0133 0.0120

Uranus -62442-07-23 06:57 J -21085314.28 -21085314.21 -21085314.12 0.0133 0.0103

Venus -62442-07-27 14:09 J -21085310.00 -21085309.91 -21085309.81 0.3817 0.1628

Uranus -62442-10-19 09:49 J -21085226.18 -21085226.09 -21085225.98 0.0133 0.0086

Mars -62441-01-14 00:28 J -21085139.60 -21085139.48 -21085139.37 0.1931 0.0208

Uranus -62441-01-15 12:57 J -21085138.07 -21085137.96 -21085137.84 0.0133 0.0069

Uranus -62441-04-12 15:49 J -21085049.95 -21085049.84 -21085049.71 0.0133 0.0052

Uranus -62441-07-09 18:57 J -21084961.84 -21084961.71 -21084961.58 0.0133 0.0035

Uranus -62441-10-05 21:49 J -21084873.72 -21084873.59 -21084873.46 0.0134 0.0018

Uranus -62440-01-02 00:42 J -21084785.60 -21084785.47 -21084785.33 0.0134 0.0005

Uranus -62440-03-31 03:49 J -21084697.47 -21084697.34 -21084697.21 0.0134 0.0016

Uranus -62440-06-27 06:42 J -21084609.35 -21084609.22 -21084609.09 0.0134 0.0033

Uranus -62440-09-23 09:35 J -21084521.22 -21084521.10 -21084520.97 0.0134 0.0051

Uranus -62440-12-20 12:28 J -21084433.09 -21084432.98 -21084432.86 0.0134 0.0068

Uranus -62439-03-18 15:21 J -21084344.95 -21084344.86 -21084344.75 0.0134 0.0086

Moon -62439-06-11 13:11 J -21084260.02 -21084259.95 -21084259.88 0.2689 0.2077

Earth -62439-06-11 13:54 J -21084259.98 -21084259.92 -21084259.86 0.2692 0.2175 *

Uranus -62439-06-14 18:28 J -21084256.81 -21084256.73 -21084256.64 0.0134 0.0102

Uranus -62439-09-10 21:21 J -21084168.66 -21084168.61 -21084168.54 0.0134 0.0120

Jupiter -62438-05-31 03:35 J -21083906.47 -21083906.35 -21083906.22 0.0527 0.0065

Jupiter -62438-08-28 09:06 J -21083817.18 -21083817.12 -21083817.05 0.0526 0.0444

Venus -62436-02-09 06:28 J -21083286.34 -21083286.23 -21083286.13 0.3817 0.0289

Moon -62436-12-01 17:01 J -21082990.94 -21082990.79 -21082990.63 0.2645 0.0165

Earth -62436-12-01 18:57 J -21082990.87 -21082990.71 -21082990.55 0.2646 0.0261 *

Saturn -62433-06-17 11:30 J -21082062.07 -21082062.02 -21082061.97 0.0302 0.0274

Saturn -62433-09-14 00:42 J -21081973.59 -21081973.47 -21081973.35 0.0303 0.0140

Saturn -62433-12-11 13:54 J -21081885.06 -21081884.92 -21081884.79 0.0303 0.0012

Saturn -62432-03-10 02:52 J -21081796.50 -21081796.38 -21081796.26 0.0303 0.0127

Jupiter -62432-04-20 07:54 J -21081755.27 -21081755.17 -21081755.07 0.0499 0.0416

Earth -62432-06-04 13:11 J -21081710.06 -21081709.95 -21081709.84 0.2686 0.0729

Moon -62432-06-04 13:54 J -21081710.03 -21081709.92 -21081709.82 0.2683 0.0725 *

Mars -62432-06-05 08:09 J -21081709.24 -21081709.16 -21081709.07 0.1925 0.1201

Saturn -62432-06-06 15:35 J -21081707.91 -21081707.85 -21081707.78 0.0304 0.0260

Jupiter -62432-07-19 18:57 J -21081664.87 -21081664.71 -21081664.55 0.0499 0.0251

Venus -62431-08-25 22:18 J -21081262.65 -21081262.57 -21081262.48 0.3818 0.2083

Mars -62429-03-09 18:13 J -21080700.87 -21080700.74 -21080700.60 0.1609 0.0946

Neptune -62426-03-16 12:13 J -21079599.00 -21079598.99 -21079598.97 0.0089 0.0088

Jupiter -62426-03-19 07:40 J -21079596.29 -21079596.18 -21079596.06 0.0527 0.0196

Neptune -62426-06-12 13:25 J -21079510.97 -21079510.94 -21079510.88 0.0089 0.0083

Jupiter -62426-06-16 13:25 J -21079507.04 -21079506.94 -21079506.84 0.0526 0.0317

Neptune -62426-09-08 15:06 J -21079422.93 -21079422.87 -21079422.80 0.0089 0.0077

Neptune -62426-12-05 16:18 J -21079334.88 -21079334.82 -21079334.73 0.0089 0.0072

Neptune -62425-03-02 17:59 J -21079246.84 -21079246.75 -21079246.66 0.0089 0.0066

Neptune -62425-05-29 19:11 J -21079158.79 -21079158.70 -21079158.59 0.0089 0.0061

Neptune -62425-08-25 20:37 J -21079070.74 -21079070.64 -21079070.53 0.0089 0.0055

Neptune -62425-11-21 22:04 J -21078982.69 -21078982.58 -21078982.46 0.0089 0.0050

Neptune -62424-02-17 23:30 J -21078894.63 -21078894.52 -21078894.40 0.0089 0.0044

Neptune -62424-05-17 00:42 J -21078806.58 -21078806.47 -21078806.34 0.0089 0.0039

Neptune -62424-08-13 02:09 J -21078718.53 -21078718.41 -21078718.28 0.0089 0.0033

Neptune -62424-11-09 03:35 J -21078630.47 -21078630.35 -21078630.22 0.0089 0.0028

Neptune -62423-02-05 04:47 J -21078542.42 -21078542.30 -21078542.16 0.0089 0.0023

Neptune -62423-05-04 06:28 J -21078454.37 -21078454.23 -21078454.10 0.0089 0.0017

Neptune -62423-07-31 07:40 J -21078366.31 -21078366.18 -21078366.05 0.0089 0.0011

Neptune -62423-10-27 09:06 J -21078278.26 -21078278.12 -21078277.99 0.0089 0.0006

Moon -62423-12-05 00:28 J -21078239.56 -21078239.48 -21078239.39 0.2646 0.2157

Earth -62423-12-05 02:09 J -21078239.48 -21078239.41 -21078239.35 0.2643 0.2388 *

Neptune -62422-01-23 10:18 J -21078190.20 -21078190.07 -21078189.93 0.0089 0.0003

Neptune -62422-04-21 11:45 J -21078102.14 -21078102.01 -21078101.88 0.0089 0.0005

Neptune -62422-07-18 13:11 J -21078014.09 -21078013.95 -21078013.82 0.0089 0.0010

Neptune -62422-10-14 14:23 J -21077926.03 -21077925.90 -21077925.77 0.0089 0.0016

Neptune -62421-01-10 15:49 J -21077837.97 -21077837.84 -21077837.71 0.0089 0.0021

Neptune -62421-04-07 17:01 J -21077749.91 -21077749.79 -21077749.66 0.0089 0.0027

Neptune -62421-07-04 18:28 J -21077661.85 -21077661.73 -21077661.61 0.0089 0.0032

Neptune -62421-09-30 19:40 J -21077573.79 -21077573.68 -21077573.55 0.0089 0.0037

Neptune -62421-12-27 20:52 J -21077485.74 -21077485.63 -21077485.50 0.0089 0.0043

Neptune -62420-03-25 22:18 J -21077397.67 -21077397.57 -21077397.45 0.0089 0.0048

Jupiter -62420-05-07 16:18 J -21077355.01 -21077354.82 -21077354.64 0.0499 0.0091

Neptune -62420-06-21 23:45 J -21077309.61 -21077309.51 -21077309.40 0.0089 0.0053

Mars -62420-07-30 19:54 J -21077270.83 -21077270.67 -21077270.50 0.1614 0.0038

Neptune -62420-09-18 00:57 J -21077221.55 -21077221.46 -21077221.35 0.0089 0.0059

Neptune -62420-12-15 02:23 J -21077133.49 -21077133.40 -21077133.31 0.0089 0.0064

Neptune -62419-03-13 03:49 J -21077045.42 -21077045.34 -21077045.26 0.0089 0.0069

Moon -62419-06-07 07:11 J -21076959.31 -21076959.20 -21076959.09 0.2681 0.0401

Earth -62419-06-07 07:11 J -21076959.31 -21076959.20 -21076959.09 0.2688 0.0329 *

Neptune -62419-06-09 04:47 J -21076957.36 -21076957.30 -21076957.22 0.0089 0.0075

Neptune -62419-09-05 06:13 J -21076869.29 -21076869.24 -21076869.18 0.0089 0.0080

Saturn -62419-10-11 09:49 J -21076833.19 -21076833.09 -21076832.99 0.0260 0.0215

Neptune -62419-12-02 07:40 J -21076781.21 -21076781.18 -21076781.14 0.0089 0.0085

Saturn -62418-01-08 05:30 J -21076744.44 -21076744.27 -21076744.09 0.0260 0.0095

Saturn -62418-04-07 01:40 J -21076655.62 -21076655.43 -21076655.24 0.0259 0.0027

Saturn -62418-07-04 21:35 J -21076566.75 -21076566.60 -21076566.44 0.0259 0.0149

Jupiter -62414-01-05 11:45 J -21075286.11 -21075286.01 -21075285.91 0.0527 0.0328

Jupiter -62414-04-04 17:30 J -21075196.89 -21075196.77 -21075196.65 0.0527 0.0188

Earth -62412-05-31 05:59 J -21074409.27 -21074409.25 -21074409.23 0.2682 0.2627

Moon -62412-05-31 06:28 J -21074409.25 -21074409.23 -21074409.21 0.2687 0.2608 *

Mars -62411-02-21 16:47 J -21074142.90 -21074142.80 -21074142.70 0.1938 0.0939

Mars -62411-12-20 21:49 J -21073840.72 -21073840.59 -21073840.46 0.1619 0.0954

Jupiter -62408-02-23 13:11 J -21073045.13 -21073044.95 -21073044.77 0.0499 0.0074

Moon -62406-06-10 00:28 J -21072208.57 -21072208.48 -21072208.38 0.2685 0.1253

Earth -62406-06-10 00:57 J -21072208.56 -21072208.46 -21072208.37 0.2690 0.1351 *

Saturn -62403-02-01 02:09 J -21071241.51 -21071241.41 -21071241.31 0.0302 0.0184

Saturn -62403-04-30 15:21 J -21071152.99 -21071152.86 -21071152.73 0.0302 0.0051

Saturn -62403-07-28 04:18 J -21071064.45 -21071064.32 -21071064.20 0.0303 0.0083

Jupiter -62403-10-24 16:18 J -21070975.89 -21070975.82 -21070975.76 0.0528 0.0451

Saturn -62403-10-24 17:16 J -21070975.87 -21070975.78 -21070975.69 0.0303 0.0215 *

Moon -62403-11-29 17:16 J -21070939.90 -21070939.78 -21070939.65 0.2645 0.1598

Earth -62403-11-29 18:42 J -21070939.85 -21070939.72 -21070939.59 0.2648 0.1443 *

Jupiter -62402-01-21 22:04 J -21070886.70 -21070886.58 -21070886.45 0.0527 0.0067

Mars -62402-07-15 00:28 J -21070712.59 -21070712.48 -21070712.36 0.1932 0.0081

Uranus -62402-11-22 06:57 J -21070582.28 -21070582.21 -21070582.12 0.0146 0.0131

Uranus -62401-02-18 15:35 J -21070493.98 -21070493.85 -21070493.69 0.0146 0.0099

Uranus -62401-05-17 00:28 J -21070405.64 -21070405.48 -21070405.30 0.0145 0.0066

Uranus -62401-08-13 09:21 J -21070317.29 -21070317.11 -21070316.91 0.0145 0.0033

Uranus -62401-11-09 18:13 J -21070228.93 -21070228.74 -21070228.54 0.0145 0.0001

Uranus -62400-02-06 02:52 J -21070140.56 -21070140.38 -21070140.18 0.0145 0.0033

Uranus -62400-05-05 11:30 J -21070052.18 -21070052.02 -21070051.83 0.0145 0.0066

Uranus -62400-08-01 20:23 J -21069963.78 -21069963.65 -21069963.50 0.0145 0.0098

Uranus -62400-10-29 05:01 J -21069875.36 -21069875.29 -21069875.19 0.0145 0.0131

Venus -62399-04-29 21:06 J -21069692.78 -21069692.62 -21069692.46 0.3562 0.0705

Earth -62399-06-02 23:59 J -21069658.59 -21069658.50 -21069658.41 0.2684 0.1571

Moon -62399-06-03 00:42 J -21069658.56 -21069658.47 -21069658.38 0.2685 0.1508 *

Jupiter -62397-12-12 08:37 J -21068735.29 -21068735.14 -21068734.97 0.0499 0.0254

Jupiter -62396-03-12 19:54 J -21068644.77 -21068644.67 -21068644.57 0.0499 0.0417

Moon -62393-06-11 17:59 J -21067457.80 -21067457.75 -21067457.70 0.2689 0.2332

Earth -62393-06-11 18:42 J -21067457.77 -21067457.72 -21067457.67 0.2692 0.2375 *

Mars -62393-12-04 08:09 J -21067282.25 -21067282.16 -21067282.06 0.1924 0.1090

Venus -62391-08-17 19:40 J -21066660.74 -21066660.68 -21066660.61 0.3816 0.2796

Jupiter -62391-11-10 02:52 J -21066576.51 -21066576.38 -21066576.26 0.0527 0.0054

Jupiter -62390-02-07 08:23 J -21066487.21 -21066487.15 -21066487.09 0.0526 0.0457

Mars -62390-09-08 18:42 J -21066273.84 -21066273.72 -21066273.59 0.1609 0.1077

Moon -62390-12-02 23:45 J -21066188.67 -21066188.51 -21066188.36 0.2645 0.0447

Earth -62390-12-03 01:25 J -21066188.59 -21066188.44 -21066188.28 0.2646 0.0649 *

Saturn -62389-02-28 08:52 J -21066101.16 -21066101.13 -21066101.07 0.0260 0.0251

Saturn -62389-05-27 04:47 J -21066012.45 -21066012.30 -21066012.13 0.0260 0.0131

Saturn -62389-08-24 00:57 J -21065923.65 -21065923.46 -21065923.28 0.0259 0.0012

Saturn -62389-11-20 20:52 J -21065834.80 -21065834.63 -21065834.46 0.0259 0.0112

Saturn -62388-02-17 17:01 J -21065745.87 -21065745.79 -21065745.71 0.0259 0.0233

Earth -62386-06-05 17:59 J -21064907.86 -21064907.75 -21064907.64 0.2686 0.0522

Moon -62386-06-05 18:28 J -21064907.84 -21064907.73 -21064907.62 0.2681 0.0432 *

Venus -62385-03-02 11:45 J -21064637.10 -21064637.01 -21064636.91 0.3817 0.0962

Jupiter -62385-09-30 05:59 J -21064425.35 -21064425.25 -21064425.14 0.0499 0.0413

Jupiter -62385-12-29 17:01 J -21064334.95 -21064334.79 -21064334.63 0.0499 0.0254

Mars -62380-01-28 20:37 J -21062843.80 -21062843.64 -21062843.47 0.1614 0.0134

Venus -62380-09-16 03:49 J -21062613.44 -21062613.34 -21062613.24 0.3818 0.0891

Jupiter -62379-08-29 06:57 J -21062266.32 -21062266.21 -21062266.09 0.0527 0.0183

Jupiter -62379-11-26 12:28 J -21062177.07 -21062176.98 -21062176.88 0.0526 0.0330

Venus -62374-04-01 19:54 J -21060589.74 -21060589.67 -21060589.60 0.3819 0.2743

Saturn -62374-06-21 02:23 J -21060509.47 -21060509.40 -21060509.31 0.0302 0.0236

Saturn -62374-09-17 15:35 J -21060420.97 -21060420.85 -21060420.72 0.0303 0.0103

Saturn -62374-12-15 04:47 J -21060332.43 -21060332.30 -21060332.17 0.0303 0.0032

Saturn -62373-03-12 17:45 J -21060243.87 -21060243.76 -21060243.65 0.0304 0.0165

Moon -62373-06-07 11:59 J -21060157.11 -21060157.00 -21060156.89 0.2681 0.0476

Earth -62373-06-07 11:59 J -21060157.11 -21060157.00 -21060156.90 0.2688 0.0525 *

Saturn -62373-06-09 06:42 J -21060155.24 -21060155.22 -21060155.20 0.0304 0.0297

Jupiter -62373-10-17 14:23 J -21060025.08 -21060024.90 -21060024.72 0.0499 0.0094

Mars -62372-08-22 16:33 J -21059715.90 -21059715.81 -21059715.71 0.1938 0.1043

Mars -62371-06-20 22:33 J -21059413.70 -21059413.56 -21059413.42 0.1619 0.0811

Jupiter -62367-06-17 11:01 J -21057956.14 -21057956.04 -21057955.93 0.0527 0.0313

Jupiter -62367-09-14 16:47 J -21057866.91 -21057866.80 -21057866.68 0.0526 0.0203

Earth -62366-06-01 10:47 J -21057607.09 -21057607.05 -21057607.00 0.2682 0.2418

Moon -62366-06-01 11:30 J -21057607.08 -21057607.02 -21057606.97 0.2686 0.2317 *

Mars -62362-01-13 00:28 J -21056285.59 -21056285.48 -21056285.36 0.1932 0.0064

Jupiter -62361-08-05 11:59 J -21055715.19 -21055715.00 -21055714.82 0.0499 0.0066

Moon -62360-06-10 05:16 J -21055406.37 -21055406.28 -21055406.19 0.2685 0.1556

Earth -62360-06-10 05:45 J -21055406.35 -21055406.26 -21055406.17 0.2690 0.1551 *

Saturn -62360-10-14 03:21 J -21055280.49 -21055280.36 -21055280.21 0.0260 0.0172

Saturn -62359-01-10 23:16 J -21055191.71 -21055191.53 -21055191.34 0.0259 0.0051

Saturn -62359-04-09 19:25 J -21055102.87 -21055102.69 -21055102.51 0.0259 0.0070

Saturn -62359-07-07 15:21 J -21055013.98 -21055013.86 -21055013.73 0.0259 0.0192

Uranus -62358-02-17 08:52 J -21054789.15 -21054789.13 -21054789.11 0.0133 0.0130

Uranus -62358-05-16 11:30 J -21054701.07 -21054701.02 -21054700.94 0.0133 0.0114

Uranus -62358-08-12 14:37 J -21054612.97 -21054612.89 -21054612.79 0.0133 0.0097

Uranus -62358-11-08 17:30 J -21054524.87 -21054524.77 -21054524.66 0.0133 0.0080

Uranus -62357-02-04 20:37 J -21054436.75 -21054436.64 -21054436.52 0.0133 0.0063

Uranus -62357-05-02 23:30 J -21054348.64 -21054348.52 -21054348.39 0.0133 0.0046

Uranus -62357-07-30 02:37 J -21054260.52 -21054260.39 -21054260.26 0.0133 0.0029

Uranus -62357-10-26 05:30 J -21054172.40 -21054172.27 -21054172.14 0.0134 0.0012

Moon -62357-11-29 23:45 J -21054137.65 -21054137.51 -21054137.37 0.2645 0.1111

Earth -62357-11-30 01:11 J -21054137.59 -21054137.45 -21054137.30 0.2648 0.1052 *

Uranus -62356-01-22 08:23 J -21054084.28 -21054084.15 -21054084.02 0.0134 0.0006

Uranus -62356-04-20 11:16 J -21053996.15 -21053996.03 -21053995.89 0.0134 0.0023

Uranus -62356-07-17 14:23 J -21053908.03 -21053907.90 -21053907.78 0.0134 0.0040

Uranus -62356-10-13 17:16 J -21053819.90 -21053819.78 -21053819.66 0.0134 0.0057

Uranus -62355-01-09 20:09 J -21053731.76 -21053731.66 -21053731.55 0.0134 0.0074

Jupiter -62355-04-05 15:06 J -21053645.94 -21053645.87 -21053645.80 0.0527 0.0445

Uranus -62355-04-07 23:01 J -21053643.63 -21053643.54 -21053643.44 0.0134 0.0092

Jupiter -62355-07-03 20:52 J -21053556.75 -21053556.63 -21053556.50 0.0527 0.0074

Uranus -62355-07-05 02:09 J -21053555.48 -21053555.41 -21053555.33 0.0134 0.0108

Uranus -62355-10-01 05:01 J -21053467.33 -21053467.29 -21053467.24 0.0134 0.0126

Earth -62353-06-03 04:47 J -21052856.39 -21052856.30 -21052856.20 0.2684 0.1367

Moon -62353-06-03 05:45 J -21052856.36 -21052856.26 -21052856.17 0.2685 0.1290 *

Mars -62353-06-04 08:09 J -21052855.25 -21052855.16 -21052855.06 0.1925 0.0984

Mars -62350-03-09 19:25 J -21051846.80 -21051846.69 -21051846.58 0.1609 0.1214

Jupiter -62349-05-24 09:06 J -21051405.29 -21051405.12 -21051404.96 0.0499 0.0227

Jupiter -62349-08-22 20:09 J -21051314.74 -21051314.66 -21051314.57 0.0499 0.0443

Venus -62348-05-20 14:23 J -21051044.01 -21051043.90 -21051043.79 0.3563 0.2513

Moon -62347-06-12 22:47 J -21050655.59 -21050655.55 -21050655.50 0.2691 0.2460

Earth -62347-06-12 23:30 J -21050655.55 -21050655.52 -21050655.49 0.2692 0.2577 *

Saturn -62345-11-07 03:21 J -21049777.39 -21049777.36 -21049777.31 0.0301 0.0284

Saturn -62344-02-03 16:47 J -21049688.92 -21049688.80 -21049688.69 0.0302 0.0150

Saturn -62344-05-03 05:45 J -21049600.39 -21049600.26 -21049600.13 0.0302 0.0018

Saturn -62344-07-30 18:42 J -21049511.83 -21049511.72 -21049511.59 0.0303 0.0118

Saturn -62344-10-27 07:40 J -21049423.25 -21049423.18 -21049423.10 0.0303 0.0250

Moon -62344-12-03 06:28 J -21049386.38 -21049386.23 -21049386.08 0.2645 0.0901

Earth -62344-12-03 08:09 J -21049386.30 -21049386.16 -21049386.01 0.2645 0.1045 *

Neptune -62343-02-28 11:59 J -21049299.00 -21049299.00 -21049299.00 0.0089 0.0089

Jupiter -62343-04-22 01:40 J -21049246.56 -21049246.43 -21049246.31 0.0527 0.0049

Neptune -62343-05-27 15:21 J -21049210.93 -21049210.86 -21049210.78 0.0089 0.0081

Jupiter -62343-07-20 07:11 J -21049157.26 -21049157.20 -21049157.14 0.0526 0.0462

Neptune -62343-08-23 18:28 J -21049122.82 -21049122.73 -21049122.61 0.0089 0.0074

Neptune -62343-11-19 22:04 J -21049034.69 -21049034.58 -21049034.44 0.0089 0.0066

Venus -62343-12-04 23:01 J -21049019.66 -21049019.54 -21049019.42 0.3562 0.2326

Neptune -62342-02-16 01:25 J -21048946.57 -21048946.44 -21048946.28 0.0089 0.0059

Neptune -62342-05-15 05:01 J -21048858.43 -21048858.29 -21048858.12 0.0089 0.0051

Neptune -62342-08-11 08:37 J -21048770.30 -21048770.14 -21048769.97 0.0089 0.0043

Neptune -62342-11-07 12:13 J -21048682.16 -21048681.99 -21048681.81 0.0089 0.0035

Neptune -62341-02-03 15:35 J -21048594.02 -21048593.85 -21048593.66 0.0089 0.0028

Neptune -62341-05-01 19:11 J -21048505.88 -21048505.70 -21048505.51 0.0089 0.0020

Neptune -62341-07-28 22:47 J -21048417.74 -21048417.55 -21048417.36 0.0089 0.0012

Mars -62341-07-29 21:21 J -21048416.78 -21048416.61 -21048416.45 0.1614 0.0270

Neptune -62341-10-25 02:23 J -21048329.59 -21048329.40 -21048329.21 0.0089 0.0004

Neptune -62340-01-21 05:59 J -21048241.44 -21048241.25 -21048241.06 0.0089 0.0004

Neptune -62340-04-19 09:21 J -21048153.29 -21048153.11 -21048152.91 0.0089 0.0012

Earth -62340-06-05 22:47 J -21048105.66 -21048105.55 -21048105.44 0.2686 0.0325

Moon -62340-06-05 23:16 J -21048105.64 -21048105.53 -21048105.42 0.2681 0.0293 *

Neptune -62340-07-16 12:57 J -21048065.14 -21048064.96 -21048064.77 0.0089 0.0020

Neptune -62340-10-12 16:18 J -21047976.99 -21047976.82 -21047976.62 0.0089 0.0028

Neptune -62339-01-08 20:09 J -21047888.83 -21047888.66 -21047888.48 0.0089 0.0035

Neptune -62339-04-06 23:45 J -21047800.68 -21047800.51 -21047800.34 0.0089 0.0043

Neptune -62339-07-04 03:06 J -21047712.51 -21047712.37 -21047712.20 0.0089 0.0051

Neptune -62339-09-30 06:42 J -21047624.35 -21047624.22 -21047624.06 0.0089 0.0059

Neptune -62339-12-27 10:18 J -21047536.18 -21047536.07 -21047535.93 0.0089 0.0067

Neptune -62338-03-25 13:54 J -21047448.01 -21047447.92 -21047447.80 0.0089 0.0075

Neptune -62338-06-21 17:30 J -21047359.82 -21047359.77 -21047359.68 0.0089 0.0083

Jupiter -62337-03-12 04:47 J -21047095.41 -21047095.30 -21047095.20 0.0498 0.0405

Jupiter -62337-06-10 15:35 J -21047005.01 -21047004.85 -21047004.69 0.0499 0.0262

Pluto -62337-08-22 03:49 J -21046932.37 -21046932.34 -21046932.27 0.0061 0.0058

Pluto -62337-11-18 05:16 J -21046844.36 -21046844.28 -21046844.19 0.0061 0.0053

Pluto -62336-02-14 05:59 J -21046756.33 -21046756.25 -21046756.12 0.0061 0.0049

Pluto -62336-05-13 07:11 J -21046668.30 -21046668.20 -21046668.06 0.0061 0.0044

Pluto -62336-08-09 08:23 J -21046580.27 -21046580.15 -21046580.00 0.0061 0.0040

Pluto -62336-11-05 09:35 J -21046492.23 -21046492.10 -21046491.94 0.0061 0.0035

Pluto -62335-02-01 11:01 J -21046404.19 -21046404.04 -21046403.88 0.0061 0.0030

Pluto -62335-04-30 12:13 J -21046316.15 -21046315.99 -21046315.83 0.0061 0.0025

Pluto -62335-07-27 13:25 J -21046228.11 -21046227.94 -21046227.77 0.0061 0.0020

Pluto -62335-10-23 14:37 J -21046140.06 -21046139.89 -21046139.72 0.0062 0.0015

Pluto -62334-01-19 15:49 J -21046052.02 -21046051.84 -21046051.66 0.0062 0.0010

Venus -62334-03-24 17:16 J -21045987.86 -21045987.78 -21045987.70 0.3816 0.2144

Pluto -62334-04-17 17:01 J -21045963.97 -21045963.79 -21045963.61 0.0062 0.0005

Pluto -62334-07-14 18:13 J -21045875.92 -21045875.74 -21045875.56 0.0062 0.0001

Pluto -62334-10-10 19:25 J -21045787.87 -21045787.69 -21045787.51 0.0062 0.0005

Pluto -62333-01-06 20:37 J -21045699.82 -21045699.64 -21045699.46 0.0062 0.0010

Pluto -62333-04-03 21:49 J -21045611.76 -21045611.59 -21045611.42 0.0062 0.0015

Pluto -62333-06-30 22:47 J -21045523.71 -21045523.55 -21045523.37 0.0062 0.0021

Pluto -62333-09-26 23:59 J -21045435.65 -21045435.50 -21045435.32 0.0062 0.0026

Pluto -62333-12-24 01:11 J -21045347.59 -21045347.45 -21045347.28 0.0062 0.0031

Mars -62332-02-20 16:47 J -21045288.89 -21045288.80 -21045288.71 0.1938 0.1157

Pluto -62332-03-22 02:23 J -21045259.53 -21045259.40 -21045259.24 0.0062 0.0037

Pluto -62332-06-18 03:49 J -21045171.46 -21045171.34 -21045171.20 0.0062 0.0042

Pluto -62332-09-14 05:16 J -21045083.39 -21045083.28 -21045083.16 0.0062 0.0047

Pluto -62332-12-11 05:59 J -21044995.32 -21044995.25 -21044995.13 0.0062 0.0053

Mars -62332-12-19 23:01 J -21044986.69 -21044986.54 -21044986.39 0.1619 0.0683

Jupiter -62331-02-08 06:28 J -21044936.35 -21044936.23 -21044936.11 0.0527 0.0169

Pluto -62331-03-09 07:25 J -21044907.24 -21044907.19 -21044907.10 0.0063 0.0058

Jupiter -62331-05-08 11:59 J -21044847.09 -21044847.00 -21044846.91 0.0526 0.0345

Saturn -62330-03-03 02:23 J -21044548.50 -21044548.40 -21044548.28 0.0260 0.0209

Saturn -62330-05-30 22:18 J -21044459.74 -21044459.57 -21044459.39 0.0260 0.0089

Saturn -62330-08-27 18:13 J -21044370.93 -21044370.74 -21044370.55 0.0259 0.0032

Saturn -62330-11-24 14:09 J -21044282.05 -21044281.91 -21044281.75 0.0259 0.0154

Venus -62329-10-07 09:21 J -21043964.21 -21043964.11 -21043964.01 0.3817 0.0299

Moon -62327-06-08 16:47 J -21043354.91 -21043354.80 -21043354.70 0.2682 0.0767

Earth -62327-06-08 16:47 J -21043354.91 -21043354.80 -21043354.70 0.2689 0.0725 *

Jupiter -62325-03-29 12:42 J -21042695.15 -21042694.97 -21042694.78 0.0499 0.0100

Venus -62323-04-23 01:25 J -21041940.53 -21041940.44 -21041940.35 0.3818 0.1545

Mars -62323-07-14 00:28 J -21041858.60 -21041858.48 -21041858.37 0.1932 0.0136

Mars -62322-05-12 01:11 J -21041556.45 -21041556.45 -21041556.45 0.1625 0.1624

Earth -62320-06-01 15:49 J -21040804.90 -21040804.84 -21040804.78 0.2682 0.2208

Moon -62320-06-01 16:18 J -21040804.88 -21040804.82 -21040804.75 0.2686 0.2199 *

Jupiter -62320-11-27 10:33 J -21040626.16 -21040626.06 -21040625.95 0.0527 0.0297

Jupiter -62319-02-24 16:18 J -21040536.93 -21040536.82 -21040536.71 0.0526 0.0218

Venus -62318-11-06 17:30 J -21039916.81 -21039916.77 -21039916.73 0.3819 0.3413

Uranus -62318-12-12 16:18 J -21039880.93 -21039880.82 -21039880.70 0.0146 0.0117

Uranus -62317-03-10 00:57 J -21039792.61 -21039792.46 -21039792.29 0.0145 0.0084

Uranus -62317-06-06 09:49 J -21039704.27 -21039704.09 -21039703.90 0.0145 0.0052

Uranus -62317-09-02 18:42 J -21039615.91 -21039615.72 -21039615.53 0.0145 0.0019

Uranus -62317-11-30 03:35 J -21039527.55 -21039527.35 -21039527.16 0.0145 0.0014

Uranus -62316-02-26 12:13 J -21039439.17 -21039438.99 -21039438.80 0.0145 0.0047

Uranus -62316-05-25 20:52 J -21039350.78 -21039350.63 -21039350.46 0.0145 0.0080

Uranus -62316-08-22 05:45 J -21039262.38 -21039262.26 -21039262.13 0.0145 0.0112

Uranus -62316-11-18 14:23 J -21039173.90 -21039173.90 -21039173.88 0.0145 0.0145

Saturn -62315-06-23 16:47 J -21038956.89 -21038956.80 -21038956.70 0.0302 0.0204

Saturn -62315-09-20 05:59 J -21038868.38 -21038868.25 -21038868.12 0.0303 0.0070

Saturn -62315-12-17 18:57 J -21038779.83 -21038779.71 -21038779.58 0.0303 0.0064

Saturn -62314-03-16 07:54 J -21038691.26 -21038691.17 -21038691.07 0.0304 0.0196

Moon -62314-06-11 10:04 J -21038604.17 -21038604.08 -21038603.99 0.2685 0.1630

Earth -62314-06-11 10:33 J -21038604.14 -21038604.06 -21038603.98 0.2691 0.1755 *

Mars -62314-12-04 08:23 J -21038428.26 -21038428.15 -21038428.05 0.1925 0.0871

Jupiter -62313-01-16 10:18 J -21038385.25 -21038385.07 -21038384.88 0.0499 0.0059

Mars -62311-09-07 20:23 J -21037419.74 -21037419.65 -21037419.57 0.1609 0.1359

Moon -62311-12-01 06:13 J -21037335.39 -21037335.24 -21037335.09 0.2645 0.0894

Earth -62311-12-01 07:54 J -21037335.32 -21037335.17 -21037335.02 0.2648 0.0660 *

Jupiter -62308-09-15 14:52 J -21036315.96 -21036315.88 -21036315.81 0.0527 0.0427

Jupiter -62308-12-13 20:37 J -21036226.77 -21036226.64 -21036226.52 0.0526 0.0091

Earth -62307-06-04 09:49 J -21036054.19 -21036054.09 -21036053.99 0.2684 0.1157

Moon -62307-06-04 10:33 J -21036054.17 -21036054.06 -21036053.96 0.2683 0.1063 *

Mars -62304-04-25 16:04 J -21034997.85 -21034997.83 -21034997.81 0.1917 0.1870

Jupiter -62302-11-04 07:54 J -21034075.34 -21034075.17 -21034075.00 0.0499 0.0216

Mars -62301-01-28 22:04 J -21033989.75 -21033989.58 -21033989.42 0.1614 0.0408

Jupiter -62301-02-02 19:11 J -21033984.77 -21033984.70 -21033984.63 0.0499 0.0456

Saturn -62301-07-20 00:42 J -21033816.51 -21033816.47 -21033816.42 0.0260 0.0252

Saturn -62301-10-16 20:23 J -21033727.80 -21033727.65 -21033727.48 0.0260 0.0132

Saturn -62300-01-13 16:18 J -21033639.00 -21033638.82 -21033638.63 0.0259 0.0013

Saturn -62300-04-12 12:28 J -21033550.15 -21033549.98 -21033549.81 0.0259 0.0110

Saturn -62300-07-10 08:23 J -21033461.22 -21033461.15 -21033461.06 0.0259 0.0232

Moon -62298-12-04 13:11 J -21032584.08 -21032583.95 -21032583.81 0.2647 0.1326

Earth -62298-12-04 14:52 J -21032584.01 -21032583.88 -21032583.75 0.2645 0.1441 *

Jupiter -62296-10-02 00:42 J -21031916.60 -21031916.47 -21031916.34 0.0527 0.0041

Jupiter -62296-12-30 06:13 J -21031827.30 -21031827.24 -21031827.19 0.0526 0.0470

Earth -62294-06-07 03:35 J -21031303.46 -21031303.35 -21031303.23 0.2687 0.0158

Moon -62294-06-07 04:04 J -21031303.44 -21031303.33 -21031303.22 0.2681 0.0095 *

Mars -62293-08-21 16:47 J -21030861.89 -21030861.80 -21030861.72 0.1938 0.1266

Mars -62292-06-19 23:45 J -21030559.66 -21030559.51 -21030559.35 0.1619 0.0543

Venus -62292-12-25 16:33 J -21030370.97 -21030370.81 -21030370.66 0.3563 0.0859

Jupiter -62290-08-23 05:01 J -21029765.40 -21029765.29 -21029765.16 0.0498 0.0377

Jupiter -62290-11-21 16:04 J -21029674.98 -21029674.83 -21029674.67 0.0499 0.0292

Saturn -62286-11-10 17:45 J -21028224.83 -21028224.76 -21028224.69 0.0302 0.0252

Saturn -62285-02-07 06:57 J -21028136.33 -21028136.21 -21028136.09 0.0302 0.0119

Saturn -62285-05-05 19:54 J -21028047.80 -21028047.67 -21028047.53 0.0303 0.0017

Saturn -62285-08-02 08:52 J -21027959.24 -21027959.13 -21027959.01 0.0303 0.0148

Saturn -62285-10-29 21:49 J -21027870.63 -21027870.59 -21027870.54 0.0303 0.0280

Jupiter -62284-07-21 05:16 J -21027606.40 -21027606.28 -21027606.16 0.0527 0.0162

Jupiter -62284-10-18 10:47 J -21027517.14 -21027517.05 -21027516.95 0.0526 0.0353

Mars -62283-01-12 00:28 J -21027431.59 -21027431.48 -21027431.36 0.1932 0.0247

Venus -62283-04-14 22:47 J -21027338.60 -21027338.55 -21027338.50 0.3815 0.3321

Mars -62283-11-10 01:40 J -21027129.49 -21027129.43 -21027129.37 0.1624 0.1495

Moon -62281-06-08 21:21 J -21026552.71 -21026552.61 -21026552.50 0.2682 0.0878

Earth -62281-06-08 21:35 J -21026552.70 -21026552.60 -21026552.50 0.2689 0.0927 *

Jupiter -62278-09-09 11:45 J -21025365.19 -21025365.01 -21025364.83 0.0499 0.0110

Venus -62278-10-29 14:52 J -21025314.97 -21025314.88 -21025314.79 0.3816 0.1486

Moon -62278-11-29 06:42 J -21025284.26 -21025284.22 -21025284.17 0.2645 0.2512

Earth -62278-11-29 07:40 J -21025284.25 -21025284.18 -21025284.11 0.2650 0.2342 *

Uranus -62274-03-09 16:04 J -21024087.86 -21024087.83 -21024087.78 0.0133 0.0125

Earth -62274-06-02 20:37 J -21024002.71 -21024002.64 -21024002.57 0.2682 0.2000

Moon -62274-06-02 21:06 J -21024002.69 -21024002.62 -21024002.54 0.2686 0.1877 *

Mars -62274-06-04 08:09 J -21024001.26 -21024001.16 -21024001.05 0.1925 0.0765

Uranus -62274-06-05 19:11 J -21023999.77 -21023999.70 -21023999.63 0.0133 0.0108

Uranus -62274-09-01 22:04 J -21023911.67 -21023911.58 -21023911.48 0.0133 0.0092

Uranus -62274-11-29 00:57 J -21023823.56 -21023823.46 -21023823.34 0.0133 0.0075

Uranus -62273-02-25 04:04 J -21023735.45 -21023735.33 -21023735.21 0.0133 0.0058

Uranus -62273-05-23 06:57 J -21023647.33 -21023647.21 -21023647.08 0.0133 0.0041

Uranus -62273-08-19 09:49 J -21023559.21 -21023559.09 -21023558.96 0.0133 0.0024

Uranus -62273-11-15 12:57 J -21023471.09 -21023470.96 -21023470.83 0.0133 0.0007

Uranus -62272-02-11 15:49 J -21023382.97 -21023382.84 -21023382.71 0.0134 0.0011

Jupiter -62272-05-09 10:04 J -21023296.19 -21023296.08 -21023295.97 0.0527 0.0282

Uranus -62272-05-10 18:42 J -21023294.84 -21023294.72 -21023294.59 0.0134 0.0028

Venus -62272-05-14 06:57 J -21023291.31 -21023291.21 -21023291.11 0.3817 0.0392

Jupiter -62272-08-06 15:49 J -21023206.96 -21023206.84 -21023206.73 0.0527 0.0234

Uranus -62272-08-06 21:35 J -21023206.72 -21023206.60 -21023206.47 0.0134 0.0045

Uranus -62272-11-03 00:42 J -21023118.59 -21023118.47 -21023118.35 0.0134 0.0062

Uranus -62271-01-30 03:35 J -21023030.45 -21023030.35 -21023030.24 0.0134 0.0079

Saturn -62271-03-05 19:25 J -21022995.83 -21022995.69 -21022995.55 0.0260 0.0170

Mars -62271-03-08 20:52 J -21022992.69 -21022992.63 -21022992.57 0.1609 0.1488

Uranus -62271-04-28 06:28 J -21022942.31 -21022942.23 -21022942.13 0.0134 0.0096

Saturn -62271-06-02 15:21 J -21022907.05 -21022906.86 -21022906.68 0.0260 0.0050

Uranus -62271-07-25 09:35 J -21022854.17 -21022854.10 -21022854.03 0.0134 0.0113

Saturn -62271-08-30 11:16 J -21022818.21 -21022818.03 -21022817.85 0.0259 0.0072

Uranus -62271-10-21 12:28 J -21022766.00 -21022765.98 -21022765.95 0.0134 0.0131

Saturn -62271-11-27 07:11 J -21022729.32 -21022729.20 -21022729.07 0.0259 0.0193

Moon -62268-06-11 14:52 J -21021801.95 -21021801.88 -21021801.81 0.2686 0.1950

Earth -62268-06-11 15:21 J -21021801.93 -21021801.86 -21021801.78 0.2691 0.1955 *

Venus -62267-11-27 23:01 J -21021267.63 -21021267.54 -21021267.46 0.3818 0.2221

Jupiter -62266-06-28 08:52 J -21021055.31 -21021055.13 -21021054.94 0.0499 0.0052

Mars -62265-10-24 16:04 J -21020570.88 -21020570.83 -21020570.79 0.1918 0.1771

Moon -62265-12-01 12:57 J -21020533.12 -21020532.96 -21020532.81 0.2644 0.0325

Earth -62265-12-01 14:23 J -21020533.05 -21020532.90 -21020532.74 0.2647 0.0284 *

Mars -62262-07-29 22:47 J -21019562.71 -21019562.55 -21019562.40 0.1614 0.0548

Neptune -62262-12-11 11:16 J -21019428.04 -21019428.03 -21019428.00 0.0089 0.0088

Neptune -62261-03-08 12:42 J -21019340.01 -21019339.97 -21019339.91 0.0089 0.0082

Earth -62261-06-04 14:37 J -21019251.99 -21019251.89 -21019251.79 0.2685 0.0950

Neptune -62261-06-04 14:09 J -21019251.97 -21019251.91 -21019251.83 0.0089 0.0076 *

Moon -62261-06-04 15:21 J -21019251.97 -21019251.86 -21019251.76 0.2682 0.0929 *

Neptune -62261-08-31 15:35 J -21019163.92 -21019163.85 -21019163.76 0.0089 0.0071

Neptune -62261-11-27 16:47 J -21019075.87 -21019075.80 -21019075.69 0.0089 0.0066

Neptune -62260-02-23 18:28 J -21018987.82 -21018987.73 -21018987.63 0.0089 0.0060

Jupiter -62260-02-25 14:23 J -21018985.98 -21018985.90 -21018985.82 0.0527 0.0410

Neptune -62260-05-22 19:40 J -21018899.77 -21018899.68 -21018899.56 0.0089 0.0055

Jupiter -62260-05-25 20:09 J -21018896.78 -21018896.66 -21018896.54 0.0527 0.0108

Neptune -62260-08-18 21:21 J -21018811.72 -21018811.61 -21018811.50 0.0089 0.0049

Neptune -62260-11-14 22:33 J -21018723.67 -21018723.56 -21018723.44 0.0089 0.0044

Neptune -62259-02-10 23:59 J -21018635.62 -21018635.50 -21018635.37 0.0089 0.0038

Neptune -62259-05-10 01:25 J -21018547.56 -21018547.44 -21018547.31 0.0089 0.0032

Neptune -62259-08-06 02:52 J -21018459.51 -21018459.38 -21018459.25 0.0089 0.0027

Neptune -62259-11-02 04:04 J -21018371.45 -21018371.33 -21018371.19 0.0089 0.0022

Neptune -62258-01-29 05:30 J -21018283.40 -21018283.27 -21018283.13 0.0089 0.0016

Neptune -62258-04-27 06:57 J -21018195.34 -21018195.21 -21018195.08 0.0089 0.0010

Neptune -62258-07-24 08:23 J -21018107.29 -21018107.15 -21018107.02 0.0089 0.0005

Neptune -62258-10-20 09:35 J -21018019.23 -21018019.10 -21018018.96 0.0089 0.0002

Neptune -62257-01-16 11:01 J -21017931.17 -21017931.04 -21017930.91 0.0089 0.0006

Neptune -62257-04-13 12:13 J -21017843.12 -21017842.99 -21017842.85 0.0089 0.0012

Neptune -62257-07-10 13:40 J -21017755.06 -21017754.93 -21017754.80 0.0089 0.0017

Neptune -62257-10-06 15:06 J -21017667.00 -21017666.87 -21017666.74 0.0089 0.0022

Neptune -62256-01-02 16:18 J -21017578.94 -21017578.82 -21017578.69 0.0089 0.0028

Neptune -62256-03-31 17:45 J -21017490.88 -21017490.76 -21017490.64 0.0089 0.0033

Saturn -62256-06-26 06:57 J -21017404.32 -21017404.21 -21017404.10 0.0302 0.0174

Neptune -62256-06-27 18:57 J -21017402.82 -21017402.71 -21017402.58 0.0089 0.0038

Saturn -62256-09-22 20:09 J -21017315.79 -21017315.66 -21017315.53 0.0303 0.0041

Neptune -62256-09-23 20:23 J -21017314.76 -21017314.65 -21017314.53 0.0089 0.0044

Saturn -62256-12-20 09:06 J -21017227.24 -21017227.12 -21017227.00 0.0303 0.0092

Neptune -62256-12-20 21:35 J -21017226.70 -21017226.60 -21017226.48 0.0089 0.0049

Saturn -62255-03-18 22:04 J -21017138.67 -21017138.58 -21017138.50 0.0304 0.0225

Neptune -62255-03-18 22:47 J -21017138.64 -21017138.55 -21017138.43 0.0089 0.0055 *

Neptune -62255-06-15 00:13 J -21017050.58 -21017050.49 -21017050.39 0.0089 0.0060

Neptune -62255-09-11 01:40 J -21016962.52 -21016962.43 -21016962.34 0.0089 0.0065

Neptune -62255-12-08 02:52 J -21016874.45 -21016874.38 -21016874.29 0.0089 0.0070

Neptune -62254-03-06 04:04 J -21016786.38 -21016786.33 -21016786.25 0.0089 0.0076

Jupiter -62254-04-16 06:28 J -21016745.39 -21016745.23 -21016745.06 0.0499 0.0209

Neptune -62254-06-02 05:30 J -21016698.31 -21016698.27 -21016698.21 0.0089 0.0081

Jupiter -62254-07-15 17:45 J -21016654.82 -21016654.76 -21016654.69 0.0500 0.0464

Neptune -62254-08-29 06:57 J -21016610.23 -21016610.21 -21016610.18 0.0089 0.0086

Mars -62253-02-20 16:33 J -21016434.89 -21016434.81 -21016434.73 0.1939 0.1369

Mars -62253-12-19 00:28 J -21016132.64 -21016132.48 -21016132.31 0.1619 0.0401

Moon -62252-12-04 19:54 J -21015781.79 -21015781.67 -21015781.55 0.2648 0.1623

Earth -62252-12-04 21:35 J -21015781.72 -21015781.60 -21015781.49 0.2645 0.1833 *

Jupiter -62248-03-14 00:28 J -21014586.61 -21014586.48 -21014586.36 0.0527 0.0025

Earth -62248-06-07 08:37 J -21014501.25 -21014501.14 -21014501.03 0.2687 0.0124

Moon -62248-06-07 08:52 J -21014501.24 -21014501.13 -21014501.02 0.2681 0.0146 *

Jupiter -62248-06-11 05:45 J -21014497.30 -21014497.26 -21014497.21 0.0526 0.0490

Pluto -62244-01-11 15:35 J -21013186.85 -21013186.85 -21013186.83 0.0084 0.0084

Pluto -62244-04-09 17:16 J -21013098.84 -21013098.78 -21013098.70 0.0084 0.0073

Pluto -62244-07-06 18:57 J -21013010.80 -21013010.71 -21013010.61 0.0084 0.0063

Mars -62244-07-13 00:28 J -21013004.59 -21013004.48 -21013004.36 0.1932 0.0372

Pluto -62244-10-02 20:23 J -21012922.75 -21012922.65 -21012922.53 0.0084 0.0053

Pluto -62244-12-29 22:04 J -21012834.70 -21012834.58 -21012834.45 0.0083 0.0042

Pluto -62243-03-27 23:30 J -21012746.64 -21012746.52 -21012746.38 0.0083 0.0033

Mars -62243-05-11 02:09 J -21012702.49 -21012702.41 -21012702.32 0.1624 0.1360

Pluto -62243-06-24 01:11 J -21012658.58 -21012658.45 -21012658.31 0.0083 0.0022

Pluto -62243-09-20 02:52 J -21012570.52 -21012570.38 -21012570.24 0.0083 0.0012

Pluto -62243-12-17 04:18 J -21012482.46 -21012482.32 -21012482.18 0.0083 0.0003

Jupiter -62242-02-02 04:04 J -21012435.45 -21012435.33 -21012435.20 0.0499 0.0365

Pluto -62242-03-15 05:45 J -21012394.40 -21012394.26 -21012394.11 0.0083 0.0008

Jupiter -62242-05-03 15:06 J -21012345.01 -21012344.87 -21012344.72 0.0499 0.0305

Pluto -62242-06-11 07:11 J -21012306.33 -21012306.20 -21012306.05 0.0083 0.0018

Saturn -62242-07-23 17:16 J -21012263.88 -21012263.78 -21012263.67 0.0260 0.0215

Pluto -62242-09-07 08:52 J -21012218.27 -21012218.13 -21012218.00 0.0083 0.0027

Saturn -62242-10-20 13:11 J -21012175.13 -21012174.95 -21012174.78 0.0260 0.0095

Pluto -62242-12-04 10:04 J -21012130.20 -21012130.08 -21012129.94 0.0082 0.0037

Saturn -62241-01-17 09:06 J -21012086.31 -21012086.12 -21012085.93 0.0259 0.0026

Pluto -62241-03-01 11:45 J -21012042.13 -21012042.01 -21012041.89 0.0082 0.0046

Saturn -62241-04-15 05:01 J -21011997.44 -21011997.29 -21011997.13 0.0259 0.0148

Pluto -62241-05-28 12:57 J -21011954.05 -21011953.96 -21011953.85 0.0082 0.0055

Pluto -62241-08-24 14:23 J -21011865.98 -21011865.90 -21011865.80 0.0082 0.0065

Pluto -62241-11-20 15:35 J -21011777.89 -21011777.85 -21011777.77 0.0082 0.0074

Jupiter -62237-12-31 04:18 J -21010276.44 -21010276.32 -21010276.19 0.0527 0.0153

Jupiter -62236-03-30 10:04 J -21010187.17 -21010187.08 -21010186.99 0.0526 0.0362

Moon -62235-06-10 02:09 J -21009750.51 -21009750.41 -21009750.31 0.2682 0.1111

Earth -62235-06-10 02:23 J -21009750.50 -21009750.40 -21009750.30 0.2689 0.1131 *

Venus -62235-08-01 18:42 J -21009697.88 -21009697.72 -21009697.57 0.3562 0.0798

Mars -62235-12-03 08:09 J -21009574.26 -21009574.16 -21009574.05 0.1925 0.0660

Uranus -62234-10-05 16:04 J -21009267.89 -21009267.83 -21009267.77 0.0146 0.0138

Uranus -62233-01-02 00:28 J -21009179.60 -21009179.48 -21009179.33 0.0146 0.0106

Uranus -62233-03-30 09:35 J -21009091.26 -21009091.10 -21009090.93 0.0146 0.0073

Uranus -62233-06-26 18:28 J -21009002.92 -21009002.73 -21009002.54 0.0145 0.0040

Uranus -62233-09-23 03:21 J -21008914.56 -21008914.36 -21008914.17 0.0145 0.0007

Uranus -62233-12-20 11:59 J -21008826.19 -21008826.00 -21008825.80 0.0145 0.0026

Uranus -62232-03-18 20:52 J -21008737.81 -21008737.63 -21008737.45 0.0145 0.0059

Uranus -62232-06-15 05:30 J -21008649.41 -21008649.27 -21008649.11 0.0145 0.0092

Uranus -62232-09-11 14:09 J -21008560.99 -21008560.91 -21008560.80 0.0145 0.0125

Moon -62232-11-29 13:11 J -21008482.06 -21008481.95 -21008481.85 0.2644 0.1982

Earth -62232-11-29 14:23 J -21008482.01 -21008481.90 -21008481.80 0.2649 0.1961 *

Jupiter -62230-02-19 12:13 J -21008035.17 -21008034.99 -21008034.81 0.0499 0.0142

Earth -62228-06-03 01:25 J -21007200.52 -21007200.44 -21007200.36 0.2683 0.1792

Moon -62228-06-03 02:09 J -21007200.49 -21007200.41 -21007200.33 0.2685 0.1787 *

Saturn -62227-11-13 07:40 J -21006672.27 -21006672.18 -21006672.09 0.0302 0.0224

Venus -62227-11-19 20:23 J -21006665.72 -21006665.65 -21006665.58 0.3815 0.2673

Saturn -62226-02-09 20:52 J -21006583.76 -21006583.63 -21006583.50 0.0302 0.0090

Saturn -62226-05-09 09:49 J -21006495.22 -21006495.09 -21006494.96 0.0303 0.0044

Saturn -62226-08-05 23:01 J -21006406.65 -21006406.54 -21006406.44 0.0303 0.0176

Mars -62225-04-24 16:04 J -21006143.89 -21006143.83 -21006143.77 0.1918 0.1653

Jupiter -62225-10-19 09:06 J -21005966.23 -21005966.12 -21005966.02 0.0527 0.0274

Jupiter -62224-01-16 14:37 J -21005877.00 -21005876.89 -21005876.77 0.0527 0.0243

Mars -62222-01-27 23:16 J -21005135.68 -21005135.53 -21005135.38 0.1614 0.0683

Moon -62222-06-12 19:40 J -21004999.75 -21004999.68 -21004999.61 0.2688 0.2048

Earth -62222-06-12 20:09 J -21004999.72 -21004999.66 -21004999.59 0.2691 0.2159 *

Venus -62221-06-04 12:13 J -21004642.08 -21004641.99 -21004641.89 0.3816 0.0849

Moon -62219-12-02 19:25 J -21003730.85 -21003730.69 -21003730.53 0.2645 0.0139

Earth -62219-12-02 21:06 J -21003730.78 -21003730.62 -21003730.47 0.2647 0.0121 *

Jupiter -62219-12-08 07:54 J -21003725.35 -21003725.17 -21003724.98 0.0499 0.0039

Venus -62216-12-19 04:18 J -21002618.41 -21002618.32 -21002618.22 0.3817 0.1020

Earth -62215-06-05 19:25 J -21002449.80 -21002449.69 -21002449.58 0.2685 0.0743

Moon -62215-06-05 20:09 J -21002449.77 -21002449.66 -21002449.55 0.2681 0.0617 *

Mars -62214-08-21 16:47 J -21002007.87 -21002007.80 -21002007.73 0.1938 0.1485

Mars -62213-06-19 01:11 J -21001705.62 -21001705.45 -21001705.29 0.1619 0.0274

Jupiter -62213-08-07 13:40 J -21001656.01 -21001655.93 -21001655.85 0.0528 0.0396

Jupiter -62213-11-04 19:25 J -21001566.81 -21001566.69 -21001566.56 0.0527 0.0124

Saturn -62213-12-09 16:04 J -21001531.86 -21001531.83 -21001531.77 0.0261 0.0253

Saturn -62212-03-08 11:59 J -21001443.16 -21001443.00 -21001442.83 0.0260 0.0132

Saturn -62212-06-05 07:54 J -21001354.36 -21001354.17 -21001353.98 0.0260 0.0012

Saturn -62212-09-02 03:49 J -21001265.50 -21001265.34 -21001265.16 0.0259 0.0110

Saturn -62212-11-29 23:59 J -21001176.58 -21001176.50 -21001176.41 0.0259 0.0232

Venus -62210-07-04 20:23 J -21000594.71 -21000594.65 -21000594.58 0.3818 0.2894

Jupiter -62207-09-26 05:16 J -20999415.45 -20999415.28 -20999415.11 0.0498 0.0200

Jupiter -62207-12-25 16:18 J -20999324.87 -20999324.82 -20999324.76 0.0499 0.0472

Moon -62206-12-06 02:23 J -20998979.48 -20998979.40 -20998979.31 0.2648 0.2161

Earth -62206-12-06 04:04 J -20998979.41 -20998979.33 -20998979.24 0.2644 0.2221 *

Mars -62204-01-11 00:28 J -20998577.59 -20998577.48 -20998577.37 0.1932 0.0457

Mars -62204-11-09 03:06 J -20998275.48 -20998275.37 -20998275.26 0.1624 0.1215

Earth -62202-06-08 13:25 J -20997699.05 -20997698.94 -20997698.83 0.2687 0.0306

Moon -62202-06-08 13:40 J -20997699.04 -20997698.93 -20997698.82 0.2681 0.0308 *

Jupiter -62201-05-26 17:59 J -20997345.76 -20997345.75 -20997345.74 0.0528 0.0523

Jupiter -62201-08-23 23:59 J -20997256.63 -20997256.50 -20997256.38 0.0527 0.0016

Jupiter -62201-11-21 05:16 J -20997167.31 -20997167.28 -20997167.25 0.0526 0.0507

Saturn -62197-04-01 07:40 J -20995940.22 -20995940.18 -20995940.12 0.0301 0.0278

Saturn -62197-06-28 21:06 J -20995851.74 -20995851.62 -20995851.51 0.0302 0.0144

Saturn -62197-09-25 10:04 J -20995763.21 -20995763.08 -20995762.95 0.0303 0.0013

Saturn -62197-12-22 23:01 J -20995674.65 -20995674.54 -20995674.42 0.0303 0.0122

Saturn -62196-03-21 11:59 J -20995586.07 -20995586.00 -20995585.93 0.0304 0.0254

Earth -62195-06-01 12:13 J -20995149.01 -20995148.99 -20995148.97 0.2681 0.2636

Moon -62195-06-01 12:42 J -20995148.99 -20995148.97 -20995148.95 0.2687 0.2640 *

Mars -62195-06-03 08:23 J -20995147.26 -20995147.15 -20995147.04 0.1925 0.0542

Jupiter -62195-07-15 02:52 J -20995105.51 -20995105.38 -20995105.25 0.0499 0.0357

Jupiter -62195-10-13 13:54 J -20995015.07 -20995014.92 -20995014.78 0.0499 0.0312

Uranus -62190-03-29 23:30 J -20993386.56 -20993386.52 -20993386.46 0.0133 0.0120

Uranus -62190-06-26 02:37 J -20993298.47 -20993298.39 -20993298.31 0.0133 0.0103

Uranus -62190-09-22 05:30 J -20993210.36 -20993210.27 -20993210.17 0.0133 0.0086

Uranus -62190-12-19 08:23 J -20993122.25 -20993122.15 -20993122.03 0.0133 0.0069

Uranus -62189-03-16 11:30 J -20993034.14 -20993034.02 -20993033.90 0.0133 0.0052

Moon -62189-06-10 06:57 J -20992948.31 -20992948.21 -20992948.11 0.2683 0.1293

Earth -62189-06-10 07:11 J -20992948.29 -20992948.20 -20992948.10 0.2689 0.1332 *

Jupiter -62189-06-12 04:04 J -20992946.45 -20992946.33 -20992946.20 0.0527 0.0133

Uranus -62189-06-12 14:23 J -20992946.02 -20992945.90 -20992945.77 0.0133 0.0035

Uranus -62189-09-08 17:30 J -20992857.90 -20992857.77 -20992857.64 0.0133 0.0018

Jupiter -62189-09-09 09:35 J -20992857.18 -20992857.10 -20992857.01 0.0526 0.0381

Uranus -62189-12-05 20:23 J -20992769.78 -20992769.65 -20992769.52 0.0133 0.0001

Uranus -62188-03-03 23:16 J -20992681.66 -20992681.53 -20992681.40 0.0133 0.0016

Uranus -62188-05-31 02:09 J -20992593.53 -20992593.41 -20992593.28 0.0134 0.0034

Uranus -62188-08-27 05:16 J -20992505.40 -20992505.28 -20992505.16 0.0134 0.0050

Uranus -62188-11-23 08:09 J -20992417.27 -20992417.16 -20992417.05 0.0134 0.0067

Uranus -62187-02-19 11:01 J -20992329.14 -20992329.04 -20992328.93 0.0134 0.0085

Uranus -62187-05-18 13:54 J -20992241.00 -20992240.92 -20992240.83 0.0134 0.0102

Uranus -62187-08-14 16:47 J -20992152.85 -20992152.80 -20992152.73 0.0134 0.0119

Mars -62186-10-24 16:04 J -20991716.89 -20991716.83 -20991716.76 0.1918 0.1539

Moon -62186-11-30 19:40 J -20991679.80 -20991679.68 -20991679.56 0.2644 0.1754

Earth -62186-11-30 20:52 J -20991679.75 -20991679.63 -20991679.50 0.2649 0.1575 *

Venus -62184-08-22 11:59 J -20991049.11 -20991049.00 -20991048.88 0.3563 0.2428

Saturn -62183-07-26 10:04 J -20990711.22 -20990711.08 -20990710.95 0.0260 0.0178

Mars -62183-07-28 23:59 J -20990708.64 -20990708.50 -20990708.36 0.1614 0.0820

Jupiter -62183-08-01 11:16 J -20990705.21 -20990705.03 -20990704.85 0.0499 0.0153

Saturn -62183-10-23 05:45 J -20990622.44 -20990622.26 -20990622.07 0.0260 0.0057

Saturn -62182-01-20 01:54 J -20990533.61 -20990533.42 -20990533.24 0.0259 0.0065

Saturn -62182-04-18 21:49 J -20990444.72 -20990444.59 -20990444.45 0.0259 0.0186

Earth -62182-06-04 06:13 J -20990398.33 -20990398.24 -20990398.15 0.2683 0.1587

Moon -62182-06-04 06:57 J -20990398.30 -20990398.21 -20990398.12 0.2684 0.1454 *

Neptune -62179-11-25 09:06 J -20989128.13 -20989128.12 -20989128.07 0.0089 0.0088

Neptune -62178-02-21 12:57 J -20989040.04 -20989039.96 -20989039.88 0.0089 0.0080

Venus -62178-03-08 20:52 J -20989024.75 -20989024.63 -20989024.52 0.3562 0.2449

Neptune -62178-05-20 16:04 J -20988951.92 -20988951.83 -20988951.71 0.0089 0.0073

Neptune -62178-08-16 19:40 J -20988863.80 -20988863.68 -20988863.54 0.0089 0.0065

Neptune -62178-11-12 23:01 J -20988775.67 -20988775.54 -20988775.38 0.0089 0.0058

Neptune -62177-02-09 02:37 J -20988687.54 -20988687.39 -20988687.22 0.0089 0.0050

Jupiter -62177-03-31 08:09 J -20988636.27 -20988636.16 -20988636.05 0.0527 0.0265

Neptune -62177-05-07 06:13 J -20988599.40 -20988599.24 -20988599.07 0.0089 0.0042

Jupiter -62177-06-28 13:54 J -20988547.03 -20988546.92 -20988546.81 0.0526 0.0252

Neptune -62177-08-03 09:49 J -20988511.27 -20988511.09 -20988510.91 0.0089 0.0034

Neptune -62177-10-30 13:11 J -20988423.13 -20988422.95 -20988422.76 0.0089 0.0027

Neptune -62176-01-26 16:47 J -20988334.99 -20988334.80 -20988334.61 0.0089 0.0019

Neptune -62176-04-24 20:23 J -20988246.84 -20988246.65 -20988246.46 0.0089 0.0011

Moon -62176-06-13 00:28 J -20988197.54 -20988197.48 -20988197.43 0.2690 0.2305

Earth -62176-06-13 01:11 J -20988197.50 -20988197.45 -20988197.40 0.2691 0.2358 *

Neptune -62176-07-21 23:59 J -20988158.70 -20988158.50 -20988158.31 0.0089 0.0003

Neptune -62176-10-18 03:21 J -20988070.55 -20988070.36 -20988070.16 0.0089 0.0005

Neptune -62175-01-14 06:57 J -20987982.40 -20987982.21 -20987982.02 0.0089 0.0013

Neptune -62175-04-12 10:18 J -20987894.25 -20987894.07 -20987893.87 0.0089 0.0021

Neptune -62175-07-09 13:54 J -20987806.10 -20987805.92 -20987805.73 0.0089 0.0028

Neptune -62175-10-05 17:45 J -20987717.94 -20987717.76 -20987717.59 0.0089 0.0036

Neptune -62174-01-01 21:06 J -20987629.78 -20987629.62 -20987629.45 0.0089 0.0044

Mars -62174-02-19 16:47 J -20987580.87 -20987580.80 -20987580.74 0.1938 0.1588

Neptune -62174-03-31 00:42 J -20987541.62 -20987541.47 -20987541.31 0.0089 0.0052

Neptune -62174-06-27 04:04 J -20987453.46 -20987453.33 -20987453.17 0.0089 0.0060

Neptune -62174-09-23 07:40 J -20987365.29 -20987365.18 -20987365.04 0.0089 0.0068

Mars -62174-12-19 01:40 J -20987278.59 -20987278.43 -20987278.26 0.1619 0.0137

Neptune -62174-12-20 11:16 J -20987277.11 -20987277.03 -20987276.91 0.0089 0.0076

Neptune -62173-03-17 14:37 J -20987188.93 -20987188.89 -20987188.80 0.0089 0.0084

Moon -62173-12-03 01:54 J -20986928.57 -20986928.42 -20986928.26 0.2647 0.0449

Earth -62173-12-03 03:35 J -20986928.50 -20986928.35 -20986928.19 0.2646 0.0504 *

Jupiter -62171-05-20 08:23 J -20986395.33 -20986395.15 -20986394.96 0.0499 0.0013

Venus -62170-06-26 17:45 J -20985992.84 -20985992.76 -20985992.67 0.3816 0.2017

Earth -62169-06-06 00:13 J -20985647.60 -20985647.49 -20985647.38 0.2685 0.0541

Moon -62169-06-06 00:57 J -20985647.57 -20985647.46 -20985647.35 0.2682 0.0531 *

Saturn -62168-11-15 22:04 J -20985119.68 -20985119.58 -20985119.48 0.0302 0.0192

Saturn -62167-02-12 11:01 J -20985031.17 -20985031.04 -20985030.91 0.0302 0.0059

Saturn -62167-05-12 00:13 J -20984942.62 -20984942.49 -20984942.37 0.0303 0.0074

Saturn -62167-08-08 13:11 J -20984854.05 -20984853.95 -20984853.86 0.0303 0.0206

Jupiter -62165-01-18 12:42 J -20984326.06 -20984325.97 -20984325.89 0.0528 0.0388

Jupiter -62165-04-16 18:28 J -20984236.85 -20984236.73 -20984236.61 0.0527 0.0131

Mars -62165-07-12 00:28 J -20984150.59 -20984150.48 -20984150.37 0.1932 0.0576

Venus -62164-01-09 09:49 J -20983969.19 -20983969.09 -20983968.99 0.3817 0.0187

Mars -62164-05-10 03:35 J -20983848.47 -20983848.35 -20983848.23 0.1624 0.1084

Moon -62160-12-06 09:06 J -20982177.18 -20982177.12 -20982177.05 0.2647 0.2386

Earth -62160-12-06 10:47 J -20982177.07 -20982177.05 -20982177.03 0.2644 0.2612 *

Jupiter -62159-03-08 04:18 J -20982085.49 -20982085.32 -20982085.15 0.0498 0.0188

Jupiter -62159-06-06 15:21 J -20981994.90 -20981994.86 -20981994.82 0.0499 0.0483

Venus -62159-07-26 01:54 J -20981945.51 -20981945.42 -20981945.33 0.3818 0.1691

Moon -62156-06-08 18:13 J -20980896.85 -20980896.74 -20980896.63 0.2681 0.0552

Earth -62156-06-08 18:13 J -20980896.85 -20980896.74 -20980896.63 0.2688 0.0502 *

Mars -62156-12-02 08:23 J -20980720.27 -20980720.15 -20980720.04 0.1925 0.0436

Jupiter -62154-11-06 17:16 J -20980015.81 -20980015.78 -20980015.75 0.0528 0.0512

Saturn -62154-12-13 09:06 J -20979979.22 -20979979.12 -20979979.02 0.0261 0.0214

Jupiter -62153-02-03 23:16 J -20979926.66 -20979926.53 -20979926.41 0.0527 0.0013

Venus -62153-02-08 17:59 J -20979921.78 -20979921.75 -20979921.71 0.3818 0.3568

Saturn -62153-03-11 04:47 J -20979890.47 -20979890.30 -20979890.12 0.0260 0.0094

Jupiter -62153-05-03 04:47 J -20979837.32 -20979837.30 -20979837.29 0.0526 0.0521

Saturn -62153-06-08 00:42 J -20979801.65 -20979801.47 -20979801.28 0.0260 0.0029

Saturn -62153-09-04 20:52 J -20979712.78 -20979712.63 -20979712.47 0.0260 0.0150

Uranus -62150-10-25 23:16 J -20978566.60 -20978566.53 -20978566.44 0.0146 0.0131

Uranus -62149-01-22 08:09 J -20978478.30 -20978478.16 -20978478.01 0.0146 0.0098

Uranus -62149-04-19 17:01 J -20978389.96 -20978389.79 -20978389.61 0.0146 0.0065

Earth -62149-06-01 17:01 J -20978346.83 -20978346.79 -20978346.74 0.2681 0.2429

Moon -62149-06-01 17:30 J -20978346.82 -20978346.77 -20978346.72 0.2687 0.2353 *

Uranus -62149-07-17 01:54 J -20978301.61 -20978301.42 -20978301.23 0.0145 0.0032

Uranus -62149-10-13 10:47 J -20978213.25 -20978213.05 -20978212.86 0.0145 0.0002

Uranus -62148-01-09 19:25 J -20978124.87 -20978124.69 -20978124.49 0.0145 0.0035

Uranus -62148-04-08 04:18 J -20978036.49 -20978036.32 -20978036.14 0.0145 0.0067

Uranus -62148-07-05 12:57 J -20977948.09 -20977947.96 -20977947.81 0.0145 0.0100

Uranus -62148-10-01 21:35 J -20977859.66 -20977859.60 -20977859.50 0.0145 0.0133

Jupiter -62148-12-25 01:40 J -20977775.56 -20977775.43 -20977775.30 0.0498 0.0348

Jupiter -62147-03-25 12:28 J -20977685.12 -20977684.98 -20977684.84 0.0499 0.0320

Mars -62146-04-24 16:04 J -20977289.91 -20977289.83 -20977289.76 0.1918 0.1445

Mars -62143-01-27 00:42 J -20976281.60 -20976281.47 -20976281.34 0.1614 0.0960

Moon -62143-06-11 11:45 J -20976146.10 -20976146.01 -20976145.92 0.2684 0.1475

Earth -62143-06-11 11:59 J -20976146.09 -20976146.00 -20976145.91 0.2690 0.1536 *

Jupiter -62142-11-23 03:35 J -20975616.48 -20975616.35 -20975616.23 0.0527 0.0118

Jupiter -62141-02-20 09:06 J -20975527.20 -20975527.12 -20975527.04 0.0526 0.0396

Moon -62140-12-01 02:09 J -20974877.55 -20974877.41 -20974877.27 0.2644 0.1259

Earth -62140-12-01 03:21 J -20974877.50 -20974877.36 -20974877.22 0.2649 0.1198 *

Saturn -62138-04-04 22:18 J -20974387.65 -20974387.57 -20974387.49 0.0301 0.0244

Saturn -62138-07-02 11:30 J -20974299.14 -20974299.02 -20974298.90 0.0302 0.0111

Saturn -62138-09-29 00:28 J -20974210.61 -20974210.48 -20974210.35 0.0302 0.0022

Saturn -62138-12-26 13:25 J -20974122.05 -20974121.94 -20974121.83 0.0303 0.0154

Saturn -62137-03-24 02:23 J -20974033.44 -20974033.40 -20974033.36 0.0303 0.0285

Earth -62136-06-04 11:16 J -20973596.13 -20973596.03 -20973595.94 0.2684 0.1377

Moon -62136-06-04 11:59 J -20973596.10 -20973596.00 -20973595.91 0.2683 0.1348 *

Jupiter -62135-01-11 09:49 J -20973375.27 -20973375.09 -20973374.91 0.0499 0.0160

Mars -62135-08-20 16:47 J -20973153.86 -20973153.80 -20973153.75 0.1939 0.1696

Mars -62134-06-19 02:37 J -20972851.56 -20972851.39 -20972851.23 0.1619 0.0034

Moon -62130-06-14 05:01 J -20971395.33 -20971395.29 -20971395.24 0.2691 0.2468

Earth -62130-06-14 05:59 J -20971395.29 -20971395.25 -20971395.22 0.2692 0.2554 *

Jupiter -62130-09-11 07:40 J -20971306.29 -20971306.18 -20971306.06 0.0527 0.0247

Jupiter -62130-12-09 13:25 J -20971217.05 -20971216.94 -20971216.83 0.0526 0.0269

Venus -62127-03-29 14:09 J -20970376.07 -20970375.91 -20970375.75 0.3563 0.0770

Moon -62127-12-04 08:37 J -20970126.30 -20970126.14 -20970125.99 0.2647 0.0638

Earth -62127-12-04 10:18 J -20970126.22 -20970126.07 -20970125.92 0.2646 0.0889 *

Mars -62125-01-11 00:28 J -20969723.58 -20969723.48 -20969723.37 0.1932 0.0695

Mars -62125-11-08 04:18 J -20969421.46 -20969421.32 -20969421.19 0.1624 0.0948

Saturn -62124-05-01 07:11 J -20969247.22 -20969247.20 -20969247.18 0.0261 0.0258

Saturn -62124-07-29 02:52 J -20969158.53 -20969158.38 -20969158.22 0.0260 0.0138

Saturn -62124-10-25 22:47 J -20969069.73 -20969069.55 -20969069.36 0.0260 0.0018

Jupiter -62124-10-30 07:11 J -20969065.38 -20969065.20 -20969065.01 0.0499 0.0009

Saturn -62123-01-22 18:57 J -20968980.88 -20968980.71 -20968980.54 0.0259 0.0105

Saturn -62123-04-21 14:52 J -20968891.96 -20968891.88 -20968891.78 0.0259 0.0228

Earth -62123-06-07 05:01 J -20968845.40 -20968845.29 -20968845.18 0.2686 0.0347

Moon -62123-06-07 05:45 J -20968845.37 -20968845.26 -20968845.15 0.2682 0.0229 *

Venus -62119-07-17 23:16 J -20967343.58 -20967343.53 -20967343.47 0.3815 0.3196

Jupiter -62118-06-30 11:45 J -20966996.10 -20966996.01 -20966995.93 0.0527 0.0381

Jupiter -62118-09-27 17:30 J -20966906.89 -20966906.77 -20966906.65 0.0527 0.0138

Mars -62116-06-02 08:23 J -20966293.27 -20966293.15 -20966293.04 0.1925 0.0333

Venus -62113-01-31 15:21 J -20965319.95 -20965319.86 -20965319.76 0.3816 0.1352

Jupiter -62112-08-18 04:33 J -20964755.49 -20964755.31 -20964755.14 0.0499 0.0163

Moon -62110-06-09 23:01 J -20964094.65 -20964094.54 -20964094.43 0.2680 0.0646

Earth -62110-06-09 23:01 J -20964094.65 -20964094.54 -20964094.43 0.2688 0.0705 *

Saturn -62109-08-21 23:16 J -20963655.55 -20963655.53 -20963655.49 0.0301 0.0289

Saturn -62109-11-18 12:42 J -20963567.08 -20963566.97 -20963566.86 0.0302 0.0156

Saturn -62108-02-15 01:40 J -20963478.56 -20963478.43 -20963478.29 0.0302 0.0025

Saturn -62108-05-14 14:37 J -20963390.00 -20963389.89 -20963389.76 0.0303 0.0110

Saturn -62108-08-11 03:35 J -20963301.42 -20963301.35 -20963301.27 0.0303 0.0241

Venus -62108-08-16 07:25 J -20963296.29 -20963296.19 -20963296.09 0.3817 0.0495

Mars -62107-10-23 16:04 J -20962862.91 -20962862.83 -20962862.74 0.1918 0.1323

Uranus -62106-01-21 04:04 J -20962773.34 -20962773.33 -20962773.30 0.0133 0.0131

Jupiter -62106-04-18 16:04 J -20962685.86 -20962685.83 -20962685.80 0.0528 0.0506

Uranus -62106-04-19 07:11 J -20962685.26 -20962685.20 -20962685.13 0.0133 0.0114

Uranus -62106-07-16 10:04 J -20962597.16 -20962597.08 -20962596.99 0.0133 0.0097

Jupiter -62106-07-16 22:04 J -20962596.71 -20962596.58 -20962596.45 0.0527 0.0015

Uranus -62106-10-12 12:57 J -20962509.06 -20962508.96 -20962508.85 0.0133 0.0081

Uranus -62105-01-08 15:49 J -20962420.95 -20962420.84 -20962420.72 0.0133 0.0064

Uranus -62105-04-05 18:57 J -20962332.83 -20962332.71 -20962332.59 0.0133 0.0047

Uranus -62105-07-02 21:49 J -20962244.71 -20962244.59 -20962244.46 0.0133 0.0030

Uranus -62105-09-29 00:57 J -20962156.59 -20962156.46 -20962156.33 0.0133 0.0013

Uranus -62105-12-26 03:49 J -20962068.47 -20962068.34 -20962068.21 0.0133 0.0004

Uranus -62104-03-24 06:42 J -20961980.35 -20961980.22 -20961980.09 0.0133 0.0021

Uranus -62104-06-20 09:35 J -20961892.22 -20961892.10 -20961891.97 0.0133 0.0038

Mars -62104-07-28 01:25 J -20961854.56 -20961854.44 -20961854.32 0.1614 0.1096

Uranus -62104-09-16 12:28 J -20961804.09 -20961803.98 -20961803.85 0.0134 0.0056

Uranus -62104-12-13 15:21 J -20961715.96 -20961715.86 -20961715.74 0.0134 0.0073

Uranus -62103-03-11 18:28 J -20961627.82 -20961627.73 -20961627.63 0.0134 0.0090

Earth -62103-06-02 22:04 J -20961544.64 -20961544.58 -20961544.52 0.2681 0.2219

Moon -62103-06-02 22:33 J -20961544.62 -20961544.56 -20961544.50 0.2686 0.2175 *

Uranus -62103-06-07 21:21 J -20961539.68 -20961539.61 -20961539.53 0.0134 0.0107

Uranus -62103-09-04 00:13 J -20961451.53 -20961451.49 -20961451.44 0.0134 0.0124

Venus -62102-03-01 23:30 J -20961272.60 -20961272.52 -20961272.44 0.3818 0.2366

Jupiter -62100-06-06 00:28 J -20960445.62 -20960445.48 -20960445.35 0.0498 0.0338

Jupiter -62100-09-04 11:01 J -20960355.17 -20960355.04 -20960354.89 0.0499 0.0330

Moon -62097-06-11 16:18 J -20959343.90 -20959343.82 -20959343.73 0.2685 0.1716

Earth -62097-06-11 16:47 J -20959343.88 -20959343.80 -20959343.71 0.2690 0.1736 *

Neptune -62097-09-06 10:33 J -20959257.08 -20959257.06 -20959257.03 0.0089 0.0087

Neptune -62097-12-03 11:45 J -20959169.05 -20959169.01 -20959168.95 0.0089 0.0082

Neptune -62096-03-01 13:25 J -20959081.01 -20959080.94 -20959080.87 0.0089 0.0076

Neptune -62096-05-28 14:37 J -20958992.96 -20958992.89 -20958992.80 0.0089 0.0071

Neptune -62096-08-24 16:04 J -20958904.91 -20958904.83 -20958904.73 0.0089 0.0065

Neptune -62096-11-20 17:16 J -20958816.86 -20958816.78 -20958816.67 0.0089 0.0060

Neptune -62095-02-16 18:57 J -20958728.81 -20958728.71 -20958728.60 0.0089 0.0054

Mars -62095-02-18 16:47 J -20958726.84 -20958726.80 -20958726.76 0.1939 0.1807

Neptune -62095-05-15 20:09 J -20958640.76 -20958640.66 -20958640.54 0.0089 0.0049

Neptune -62095-08-11 21:49 J -20958552.71 -20958552.59 -20958552.47 0.0089 0.0043

Neptune -62095-11-07 23:01 J -20958464.66 -20958464.54 -20958464.41 0.0089 0.0038

Saturn -62095-12-16 02:09 J -20958426.54 -20958426.41 -20958426.26 0.0261 0.0173

Mars -62095-12-18 03:06 J -20958424.54 -20958424.37 -20958424.20 0.1619 0.0143

Neptune -62094-02-04 00:28 J -20958376.60 -20958376.48 -20958376.35 0.0089 0.0032

Saturn -62094-03-14 22:18 J -20958337.76 -20958337.57 -20958337.39 0.0261 0.0052

Neptune -62094-05-03 01:54 J -20958288.55 -20958288.42 -20958288.29 0.0089 0.0026

Jupiter -62094-05-05 02:37 J -20958286.51 -20958286.39 -20958286.27 0.0528 0.0109

Saturn -62094-06-11 18:13 J -20958248.92 -20958248.74 -20958248.56 0.0260 0.0070

Neptune -62094-07-30 03:21 J -20958200.49 -20958200.36 -20958200.23 0.0089 0.0021

Jupiter -62094-08-02 08:23 J -20958197.23 -20958197.15 -20958197.08 0.0527 0.0407

Saturn -62094-09-08 14:09 J -20958160.03 -20958159.91 -20958159.77 0.0260 0.0193

Neptune -62094-10-26 04:33 J -20958112.44 -20958112.31 -20958112.17 0.0089 0.0016

Moon -62094-12-02 08:37 J -20958075.29 -20958075.14 -20958075.00 0.2646 0.0953

Earth -62094-12-02 10:04 J -20958075.23 -20958075.08 -20958074.93 0.2648 0.0813 *

Neptune -62093-01-22 05:59 J -20958024.38 -20958024.25 -20958024.11 0.0089 0.0010

Neptune -62093-04-19 07:25 J -20957936.33 -20957936.19 -20957936.06 0.0089 0.0005

Neptune -62093-07-16 08:52 J -20957848.27 -20957848.13 -20957848.00 0.0089 0.0003

Neptune -62093-10-12 10:04 J -20957760.21 -20957760.08 -20957759.94 0.0089 0.0007

Neptune -62092-01-08 11:30 J -20957672.15 -20957672.02 -20957671.89 0.0089 0.0012

Neptune -62092-04-06 12:42 J -20957584.10 -20957583.97 -20957583.83 0.0089 0.0017

Neptune -62092-07-03 14:09 J -20957496.04 -20957495.91 -20957495.78 0.0089 0.0023

Neptune -62092-09-29 15:35 J -20957407.98 -20957407.85 -20957407.73 0.0089 0.0028

Neptune -62092-12-26 16:47 J -20957319.92 -20957319.80 -20957319.67 0.0089 0.0033

Neptune -62091-03-24 18:13 J -20957231.86 -20957231.74 -20957231.62 0.0089 0.0039

Neptune -62091-06-20 19:11 J -20957143.80 -20957143.70 -20957143.57 0.0089 0.0045

Neptune -62091-09-16 20:37 J -20957055.74 -20957055.64 -20957055.52 0.0089 0.0050

Pluto -62091-10-14 18:57 J -20957027.78 -20957027.71 -20957027.65 0.0061 0.0056

Neptune -62091-12-13 22:04 J -20956967.68 -20956967.58 -20956967.47 0.0089 0.0055

Pluto -62090-01-10 19:25 J -20956939.76 -20956939.69 -20956939.57 0.0061 0.0052

Neptune -62090-03-11 23:16 J -20956879.61 -20956879.53 -20956879.42 0.0089 0.0061

Pluto -62090-04-08 20:52 J -20956851.73 -20956851.63 -20956851.51 0.0061 0.0047

Earth -62090-06-05 16:04 J -20956793.93 -20956793.83 -20956793.73 0.2684 0.1171

Moon -62090-06-05 16:47 J -20956793.90 -20956793.80 -20956793.70 0.2683 0.1046 *

Neptune -62090-06-08 00:42 J -20956791.55 -20956791.47 -20956791.38 0.0089 0.0066

Pluto -62090-07-05 22:04 J -20956763.70 -20956763.58 -20956763.44 0.0061 0.0042

Neptune -62090-09-04 02:09 J -20956703.49 -20956703.41 -20956703.33 0.0089 0.0071

Pluto -62090-10-01 23:16 J -20956675.66 -20956675.53 -20956675.38 0.0061 0.0038

Neptune -62090-12-01 03:06 J -20956615.42 -20956615.37 -20956615.29 0.0089 0.0077

Pluto -62090-12-29 00:28 J -20956587.62 -20956587.48 -20956587.32 0.0061 0.0033

Neptune -62089-02-27 04:33 J -20956527.35 -20956527.31 -20956527.25 0.0089 0.0082

Pluto -62089-03-26 01:25 J -20956499.58 -20956499.44 -20956499.27 0.0061 0.0028

Neptune -62089-05-25 05:59 J -20956439.27 -20956439.25 -20956439.22 0.0089 0.0087

Pluto -62089-06-22 02:37 J -20956411.54 -20956411.39 -20956411.21 0.0061 0.0023

Pluto -62089-09-18 03:49 J -20956323.50 -20956323.34 -20956323.16 0.0062 0.0019

Pluto -62089-12-15 05:01 J -20956235.45 -20956235.29 -20956235.10 0.0062 0.0014

Pluto -62088-03-13 06:13 J -20956147.41 -20956147.24 -20956147.05 0.0062 0.0009

Pluto -62088-06-09 07:40 J -20956059.36 -20956059.18 -20956059.00 0.0062 0.0003

Jupiter -62088-06-23 08:09 J -20956045.33 -20956045.16 -20956044.98 0.0499 0.0166

Pluto -62088-09-05 08:52 J -20955971.31 -20955971.13 -20955970.95 0.0062 0.0002

Pluto -62088-12-02 10:04 J -20955883.26 -20955883.08 -20955882.90 0.0062 0.0007

Pluto -62087-02-28 11:16 J -20955795.20 -20955795.03 -20955794.85 0.0062 0.0012

Pluto -62087-05-27 12:28 J -20955707.15 -20955706.98 -20955706.80 0.0062 0.0017

Pluto -62087-08-23 13:40 J -20955619.09 -20955618.93 -20955618.76 0.0062 0.0022

Pluto -62087-11-19 14:52 J -20955531.03 -20955530.88 -20955530.71 0.0062 0.0028

Pluto -62086-02-15 16:18 J -20955442.97 -20955442.82 -20955442.67 0.0062 0.0033

Pluto -62086-05-14 17:01 J -20955354.91 -20955354.79 -20955354.63 0.0062 0.0039

Mars -62086-07-12 00:28 J -20955296.59 -20955296.48 -20955296.38 0.1932 0.0785

Pluto -62086-08-10 18:28 J -20955266.84 -20955266.73 -20955266.59 0.0062 0.0043

Pluto -62086-11-06 19:40 J -20955178.77 -20955178.68 -20955178.55 0.0062 0.0049

Pluto -62085-02-02 21:06 J -20955090.70 -20955090.62 -20955090.52 0.0063 0.0054

Pluto -62085-04-30 22:04 J -20955002.61 -20955002.58 -20955002.50 0.0063 0.0060

Mars -62085-05-09 05:01 J -20954994.43 -20954994.29 -20954994.14 0.1624 0.0801

Moon -62084-06-14 10:04 J -20954593.09 -20954593.08 -20954593.08 0.2691 0.2675

Jupiter -62082-02-21 06:57 J -20953976.32 -20953976.21 -20953976.10 0.0528 0.0236

Jupiter -62082-05-21 12:42 J -20953887.08 -20953886.97 -20953886.87 0.0527 0.0281

Moon -62081-12-04 15:06 J -20953324.01 -20953323.87 -20953323.73 0.2647 0.1194

Earth -62081-12-04 16:47 J -20953323.93 -20953323.80 -20953323.66 0.2646 0.1275 *

Saturn -62079-04-07 13:25 J -20952835.03 -20952834.94 -20952834.84 0.0301 0.0203

Saturn -62079-07-05 02:37 J -20952746.52 -20952746.39 -20952746.26 0.0302 0.0070

Saturn -62079-10-01 15:35 J -20952657.97 -20952657.85 -20952657.72 0.0302 0.0062

Saturn -62079-12-29 04:33 J -20952569.41 -20952569.31 -20952569.21 0.0303 0.0194

Earth -62077-06-07 10:04 J -20952043.19 -20952043.08 -20952042.97 0.2686 0.0148

Moon -62077-06-07 10:18 J -20952043.18 -20952043.07 -20952042.96 0.2681 0.0157 *

Mars -62077-12-01 08:23 J -20951866.27 -20951866.15 -20951866.04 0.1925 0.0213

Jupiter -62076-04-11 05:30 J -20951735.45 -20951735.27 -20951735.08 0.0499 0.0006

Venus -62071-11-03 16:04 J -20949702.98 -20949702.83 -20949702.67 0.3563 0.0871

Jupiter -62071-12-10 11:01 J -20949666.13 -20949666.04 -20949665.95 0.0527 0.0366

Jupiter -62070-03-09 17:01 J -20949576.92 -20949576.79 -20949576.67 0.0527 0.0154

Mars -62067-04-23 16:04 J -20948435.92 -20948435.83 -20948435.74 0.1918 0.1215

Uranus -62066-11-15 05:59 J -20947865.33 -20947865.25 -20947865.14 0.0146 0.0125

Uranus -62065-02-11 15:06 J -20947777.02 -20947776.87 -20947776.72 0.0146 0.0092

Saturn -62065-05-04 00:28 J -20947694.57 -20947694.48 -20947694.37 0.0261 0.0216

Uranus -62065-05-09 23:59 J -20947688.68 -20947688.50 -20947688.32 0.0146 0.0059

Saturn -62065-07-31 20:23 J -20947605.82 -20947605.65 -20947605.47 0.0260 0.0095

Uranus -62065-08-06 08:52 J -20947600.33 -20947600.13 -20947599.94 0.0146 0.0026

Saturn -62065-10-28 16:33 J -20947517.00 -20947516.81 -20947516.62 0.0260 0.0027

Uranus -62065-11-02 17:30 J -20947511.96 -20947511.77 -20947511.57 0.0145 0.0008

Saturn -62064-01-25 12:28 J -20947428.12 -20947427.98 -20947427.82 0.0260 0.0150

Mars -62064-01-26 01:54 J -20947427.52 -20947427.42 -20947427.31 0.1614 0.1233

Jupiter -62064-01-28 02:52 J -20947425.55 -20947425.38 -20947425.20 0.0499 0.0156

Uranus -62064-01-30 02:23 J -20947423.59 -20947423.40 -20947423.21 0.0145 0.0040

Uranus -62064-04-28 11:01 J -20947335.20 -20947335.04 -20947334.86 0.0145 0.0074

Moon -62064-06-10 03:49 J -20947292.44 -20947292.34 -20947292.24 0.2681 0.0960

Earth -62064-06-10 03:49 J -20947292.44 -20947292.34 -20947292.23 0.2688 0.0911 *

Uranus -62064-07-25 19:54 J -20947246.79 -20947246.67 -20947246.53 0.0145 0.0106

Uranus -62064-10-22 04:33 J -20947158.35 -20947158.31 -20947158.24 0.0145 0.0139

Venus -62062-02-21 20:52 J -20946670.70 -20946670.63 -20946670.55 0.3815 0.2536

Moon -62061-11-29 09:21 J -20946024.17 -20946024.11 -20946024.06 0.2644 0.2461

Earth -62061-11-29 10:04 J -20946024.13 -20946024.08 -20946024.03 0.2651 0.2469 *

Jupiter -62059-09-28 14:52 J -20945355.91 -20945355.88 -20945355.84 0.0528 0.0501

Jupiter -62059-12-26 20:52 J -20945266.76 -20945266.63 -20945266.50 0.0527 0.0020

Earth -62057-06-03 02:52 J -20944742.45 -20944742.38 -20944742.31 0.2682 0.2012

Moon -62057-06-03 03:35 J -20944742.43 -20944742.35 -20944742.28 0.2684 0.1962 *

Venus -62057-09-06 12:57 J -20944647.06 -20944646.96 -20944646.86 0.3816 0.0692

Mars -62056-08-19 16:47 J -20944299.82 -20944299.80 -20944299.79 0.1939 0.1915

Mars -62055-06-18 03:49 J -20943997.50 -20943997.34 -20943997.18 0.1619 0.0284

Jupiter -62053-11-16 00:13 J -20943115.64 -20943115.49 -20943115.35 0.0498 0.0319

Jupiter -62052-02-14 11:01 J -20943025.17 -20943025.04 -20943024.91 0.0499 0.0351

Venus -62051-03-23 05:01 J -20942623.39 -20942623.29 -20942623.20 0.3817 0.1169

Moon -62051-06-12 21:06 J -20942541.70 -20942541.62 -20942541.54 0.2686 0.1812

Earth -62051-06-12 21:49 J -20942541.67 -20942541.59 -20942541.52 0.2690 0.1936 *

Saturn -62050-08-25 14:52 J -20942102.95 -20942102.88 -20942102.80 0.0301 0.0245

Saturn -62050-11-22 04:04 J -20942014.45 -20942014.33 -20942014.21 0.0301 0.0113

Saturn -62049-02-18 17:16 J -20941925.92 -20941925.78 -20941925.65 0.0302 0.0021

Saturn -62049-05-17 05:59 J -20941837.36 -20941837.25 -20941837.13 0.0302 0.0151

Saturn -62049-08-13 18:57 J -20941748.75 -20941748.71 -20941748.66 0.0303 0.0282

Moon -62048-12-02 14:52 J -20941273.03 -20941272.88 -20941272.72 0.2647 0.0611

Earth -62048-12-02 16:33 J -20941272.96 -20941272.81 -20941272.65 0.2648 0.0431 *

Jupiter -62047-10-15 01:25 J -20940956.57 -20940956.44 -20940956.32 0.0527 0.0107

Mars -62046-01-10 00:28 J -20940869.58 -20940869.48 -20940869.38 0.1932 0.0900

Jupiter -62046-01-12 06:57 J -20940867.29 -20940867.21 -20940867.13 0.0527 0.0409

Venus -62046-10-06 21:06 J -20940599.68 -20940599.62 -20940599.56 0.3818 0.3041

Mars -62046-11-08 05:30 J -20940567.42 -20940567.27 -20940567.12 0.1624 0.0673

Earth -62044-06-05 20:52 J -20939991.73 -20939991.63 -20939991.53 0.2684 0.0961

Moon -62044-06-05 21:35 J -20939991.70 -20939991.60 -20939991.50 0.2683 0.0917 *

Jupiter -62041-09-03 20:09 J -20938805.68 -20938805.66 -20938805.63 0.0498 0.0492

Jupiter -62041-12-03 06:42 J -20938715.39 -20938715.22 -20938715.04 0.0498 0.0172

Mars -62037-06-01 08:23 J -20937439.27 -20937439.15 -20937439.04 0.1925 0.0116

Mars -62036-03-30 07:25 J -20937137.19 -20937137.19 -20937137.19 0.1630 0.1629

Saturn -62036-09-21 00:13 J -20936962.54 -20936962.49 -20936962.43 0.0262 0.0249

Saturn -62036-12-18 20:09 J -20936873.82 -20936873.66 -20936873.49 0.0261 0.0127

Saturn -62035-03-17 16:18 J -20936785.01 -20936784.82 -20936784.63 0.0261 0.0006

Saturn -62035-06-14 12:13 J -20936696.15 -20936695.99 -20936695.82 0.0260 0.0117

Jupiter -62035-08-03 05:45 J -20936646.37 -20936646.26 -20936646.15 0.0528 0.0232

Saturn -62035-09-11 08:23 J -20936607.21 -20936607.15 -20936607.07 0.0260 0.0240

Jupiter -62035-10-31 11:30 J -20936557.13 -20936557.02 -20936556.91 0.0527 0.0287

Moon -62035-12-05 21:49 J -20936521.72 -20936521.59 -20936521.46 0.2647 0.1449

Earth -62035-12-05 23:30 J -20936521.64 -20936521.52 -20936521.40 0.2646 0.1662 *

Earth -62031-06-08 14:52 J -20935240.99 -20935240.88 -20935240.77 0.2686 0.0089

Moon -62031-06-08 15:06 J -20935240.98 -20935240.87 -20935240.76 0.2680 0.0157 *

Jupiter -62029-09-21 03:49 J -20934405.53 -20934405.34 -20934405.16 0.0498 0.0008

Mars -62028-10-22 16:04 J -20934008.92 -20934008.83 -20934008.73 0.1918 0.1111

Mars -62025-07-27 02:52 J -20933000.47 -20933000.38 -20933000.30 0.1614 0.1376

Jupiter -62023-05-22 10:04 J -20932336.18 -20932336.08 -20932335.99 0.0528 0.0361

Jupiter -62023-08-19 15:49 J -20932246.96 -20932246.84 -20932246.72 0.0527 0.0159

Uranus -62022-02-10 11:45 J -20932072.04 -20932072.01 -20932071.96 0.0133 0.0125

Uranus -62022-05-09 14:52 J -20931983.95 -20931983.88 -20931983.80 0.0133 0.0108

Uranus -62022-08-05 17:45 J -20931895.85 -20931895.76 -20931895.66 0.0133 0.0091

Uranus -62022-11-01 20:37 J -20931807.74 -20931807.64 -20931807.52 0.0133 0.0074

Uranus -62021-01-28 23:45 J -20931719.63 -20931719.51 -20931719.39 0.0133 0.0057

Uranus -62021-04-26 02:37 J -20931631.51 -20931631.39 -20931631.26 0.0133 0.0040

Uranus -62021-07-23 05:30 J -20931543.40 -20931543.27 -20931543.14 0.0133 0.0024

Uranus -62021-10-19 08:37 J -20931455.28 -20931455.14 -20931455.01 0.0133 0.0008

Saturn -62020-01-11 16:18 J -20931370.85 -20931370.82 -20931370.78 0.0300 0.0287

Uranus -62020-01-15 11:30 J -20931367.15 -20931367.02 -20931366.89 0.0133 0.0011

Saturn -62020-04-10 05:30 J -20931282.38 -20931282.27 -20931282.16 0.0301 0.0155

Uranus -62020-04-13 14:23 J -20931279.03 -20931278.90 -20931278.77 0.0133 0.0028

Saturn -62020-07-07 18:28 J -20931193.86 -20931193.73 -20931193.59 0.0302 0.0025

Uranus -62020-07-10 17:16 J -20931190.90 -20931190.78 -20931190.65 0.0133 0.0045

Saturn -62020-10-04 07:25 J -20931105.31 -20931105.19 -20931105.06 0.0302 0.0109

Uranus -62020-10-06 20:09 J -20931102.77 -20931102.66 -20931102.54 0.0134 0.0062

Venus -62020-11-24 09:21 J -20931054.23 -20931054.11 -20931053.99 0.3564 0.2391

Saturn -62020-12-31 20:23 J -20931016.73 -20931016.65 -20931016.57 0.0303 0.0240

Uranus -62019-01-02 23:16 J -20931014.64 -20931014.53 -20931014.43 0.0134 0.0079

Uranus -62019-04-01 02:09 J -20930926.50 -20930926.41 -20930926.32 0.0134 0.0096

Uranus -62019-06-28 05:01 J -20930838.35 -20930838.29 -20930838.22 0.0134 0.0113

Uranus -62019-09-24 07:54 J -20930750.19 -20930750.17 -20930750.14 0.0134 0.0130

Moon -62018-06-11 08:37 J -20930490.24 -20930490.14 -20930490.04 0.2682 0.1036

Earth -62018-06-11 08:37 J -20930490.24 -20930490.14 -20930490.04 0.2688 0.1116 *

Jupiter -62017-07-10 00:57 J -20930095.64 -20930095.46 -20930095.28 0.0498 0.0156

Mars -62016-12-17 04:33 J -20929570.47 -20929570.31 -20929570.15 0.1618 0.0425

Moon -62015-11-30 15:35 J -20929221.93 -20929221.85 -20929221.76 0.2645 0.2251

Earth -62015-11-30 16:33 J -20929221.90 -20929221.81 -20929221.71 0.2650 0.2089 *

Venus -62014-06-10 18:13 J -20929029.85 -20929029.74 -20929029.63 0.3562 0.2525

Neptune -62014-08-22 06:13 J -20928957.25 -20928957.24 -20928957.19 0.0089 0.0088

Neptune -62014-11-18 09:49 J -20928869.15 -20928869.09 -20928868.99 0.0089 0.0080

Neptune -62013-02-14 13:40 J -20928781.04 -20928780.93 -20928780.82 0.0089 0.0072

Neptune -62013-05-12 16:47 J -20928692.91 -20928692.80 -20928692.66 0.0089 0.0065

Neptune -62013-08-08 20:23 J -20928604.79 -20928604.65 -20928604.49 0.0089 0.0057

Neptune -62013-11-04 23:59 J -20928516.65 -20928516.50 -20928516.34 0.0089 0.0049

Neptune -62012-02-01 03:21 J -20928428.52 -20928428.36 -20928428.18 0.0089 0.0042

Neptune -62012-04-30 06:57 J -20928340.38 -20928340.21 -20928340.03 0.0089 0.0034

Neptune -62012-07-27 10:33 J -20928252.24 -20928252.06 -20928251.88 0.0089 0.0026

Neptune -62012-10-23 13:54 J -20928164.10 -20928163.92 -20928163.73 0.0089 0.0018

Neptune -62011-01-19 17:30 J -20928075.96 -20928075.77 -20928075.58 0.0089 0.0010

Jupiter -62011-03-10 14:09 J -20928025.95 -20928025.91 -20928025.87 0.0528 0.0491

Venus -62011-03-15 02:23 J -20928021.42 -20928021.40 -20928021.38 0.3814 0.3718

Neptune -62011-04-17 21:06 J -20927987.81 -20927987.62 -20927987.43 0.0089 0.0003

Earth -62011-06-04 07:40 J -20927940.26 -20927940.18 -20927940.10 0.2682 0.1804

Moon -62011-06-04 08:23 J -20927940.23 -20927940.15 -20927940.06 0.2684 0.1697 *

Jupiter -62011-06-07 20:09 J -20927936.79 -20927936.66 -20927936.54 0.0527 0.0034

Neptune -62011-07-15 00:28 J -20927899.67 -20927899.48 -20927899.28 0.0089 0.0005

Neptune -62011-10-11 04:04 J -20927811.52 -20927811.33 -20927811.14 0.0089 0.0013

Neptune -62010-01-07 07:40 J -20927723.37 -20927723.18 -20927722.99 0.0089 0.0021

Neptune -62010-04-05 11:01 J -20927635.22 -20927635.04 -20927634.85 0.0089 0.0029

Neptune -62010-07-02 14:23 J -20927547.06 -20927546.90 -20927546.71 0.0089 0.0037

Neptune -62010-09-28 17:59 J -20927458.90 -20927458.75 -20927458.57 0.0089 0.0045

Neptune -62010-12-25 21:49 J -20927370.74 -20927370.59 -20927370.43 0.0089 0.0052

Neptune -62009-03-23 01:25 J -20927282.58 -20927282.44 -20927282.30 0.0089 0.0060

Neptune -62009-06-19 04:47 J -20927194.41 -20927194.30 -20927194.17 0.0089 0.0068

Neptune -62009-09-15 08:23 J -20927106.24 -20927106.15 -20927106.04 0.0089 0.0076

Neptune -62009-12-12 11:59 J -20927018.05 -20927018.00 -20927017.93 0.0089 0.0084

Mars -62007-07-11 00:42 J -20926442.57 -20926442.47 -20926442.38 0.1932 0.1019

Saturn -62006-05-07 18:57 J -20926141.85 -20926141.71 -20926141.57 0.0261 0.0168

Mars -62006-05-09 06:13 J -20926140.40 -20926140.24 -20926140.08 0.1624 0.0536

Saturn -62006-08-04 14:52 J -20926053.06 -20926052.88 -20926052.69 0.0261 0.0046

Venus -62006-09-28 18:28 J -20925997.82 -20925997.73 -20925997.64 0.3815 0.1874

Saturn -62006-11-01 11:01 J -20925964.22 -20925964.04 -20925963.86 0.0260 0.0076

Saturn -62005-01-29 07:11 J -20925875.32 -20925875.20 -20925875.08 0.0260 0.0199

Jupiter -62005-04-27 22:04 J -20925785.72 -20925785.58 -20925785.43 0.0498 0.0317

Moon -62005-06-13 01:54 J -20925739.48 -20925739.42 -20925739.35 0.2687 0.2123

Earth -62005-06-13 02:37 J -20925739.46 -20925739.39 -20925739.33 0.2691 0.2134 *

Jupiter -62005-07-27 09:06 J -20925695.25 -20925695.12 -20925694.99 0.0499 0.0353

Moon -62002-12-03 21:35 J -20924470.76 -20924470.60 -20924470.44 0.2646 0.0152

Earth -62002-12-03 23:16 J -20924470.69 -20924470.53 -20924470.37 0.2648 0.0040 *

62ND MILLENNIUM BCE

This is a list of transits of Mercury in the 62nd millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Venus -62000-04-13 10:18 J -20923974.17 -20923974.07 -20923973.96 0.3817 0.0165

Jupiter -61999-03-26 23:59 J -20923626.63 -20923626.50 -20923626.38 0.0527 0.0104

Jupiter -61999-06-24 05:30 J -20923537.35 -20923537.27 -20923537.19 0.0526 0.0410

Pluto -61998-03-06 07:54 J -20923282.22 -20923282.17 -20923282.11 0.0084 0.0077

Pluto -61998-06-02 09:21 J -20923194.18 -20923194.11 -20923194.01 0.0084 0.0067

Earth -61998-06-07 01:40 J -20923189.53 -20923189.43 -20923189.32 0.2684 0.0760

Moon -61998-06-07 02:23 J -20923189.51 -20923189.40 -20923189.29 0.2682 0.0680 *

Pluto -61998-08-29 11:01 J -20923106.13 -20923106.04 -20923105.92 0.0084 0.0057

Pluto -61998-11-25 12:28 J -20923018.08 -20923017.98 -20923017.85 0.0083 0.0047

Mars -61998-12-01 08:23 J -20923012.27 -20923012.15 -20923012.04 0.1925 0.0049

Pluto -61997-02-21 14:09 J -20922930.03 -20922929.91 -20922929.77 0.0083 0.0037

Pluto -61997-05-19 15:49 J -20922841.97 -20922841.84 -20922841.70 0.0083 0.0026

Pluto -61997-08-15 17:30 J -20922753.91 -20922753.77 -20922753.63 0.0083 0.0016

Mars -61997-09-28 08:09 J -20922710.23 -20922710.16 -20922710.10 0.1629 0.1492

Pluto -61997-11-11 18:57 J -20922665.85 -20922665.71 -20922665.56 0.0083 0.0006

Pluto -61996-02-07 20:37 J -20922577.79 -20922577.64 -20922577.50 0.0083 0.0004

Pluto -61996-05-06 22:04 J -20922489.72 -20922489.58 -20922489.44 0.0083 0.0013

Pluto -61996-08-02 23:30 J -20922401.65 -20922401.52 -20922401.38 0.0083 0.0023

Pluto -61996-10-30 00:57 J -20922313.59 -20922313.46 -20922313.33 0.0082 0.0032

Pluto -61995-01-26 02:09 J -20922225.52 -20922225.41 -20922225.28 0.0082 0.0042

Pluto -61995-04-24 03:49 J -20922137.45 -20922137.34 -20922137.23 0.0082 0.0051

Pluto -61995-07-21 05:16 J -20922049.37 -20922049.28 -20922049.18 0.0082 0.0060

Pluto -61995-10-17 06:28 J -20921961.29 -20921961.23 -20921961.14 0.0082 0.0070

Venus -61995-10-28 02:23 J -20921950.48 -20921950.40 -20921950.31 0.3818 0.1844

Pluto -61994-01-13 07:54 J -20921873.19 -20921873.17 -20921873.12 0.0082 0.0079

Jupiter -61993-02-14 19:25 J -20921475.74 -20921475.69 -20921475.64 0.0498 0.0478

Jupiter -61993-05-15 05:59 J -20921385.42 -20921385.25 -20921385.08 0.0499 0.0187

Saturn -61991-08-28 07:25 J -20920550.29 -20920550.19 -20920550.09 0.0301 0.0192

Saturn -61991-11-24 20:37 J -20920461.77 -20920461.64 -20920461.51 0.0301 0.0061

Saturn -61990-02-21 09:35 J -20920373.23 -20920373.10 -20920372.97 0.0302 0.0071

Saturn -61990-05-20 22:18 J -20920284.66 -20920284.57 -20920284.47 0.0302 0.0203

Venus -61989-05-12 18:28 J -20919926.75 -20919926.73 -20919926.71 0.3818 0.3705

Moon -61989-12-06 04:47 J -20919719.41 -20919719.30 -20919719.20 0.2648 0.1946

Earth -61989-12-06 06:13 J -20919719.34 -20919719.24 -20919719.14 0.2645 0.2054 *

Mars -61988-04-22 16:04 J -20919581.92 -20919581.83 -20919581.73 0.1918 0.0998

Jupiter -61987-01-13 04:18 J -20919316.44 -20919316.32 -20919316.21 0.0528 0.0233

Jupiter -61987-04-12 10:04 J -20919227.19 -20919227.08 -20919226.98 0.0527 0.0286

Mars -61985-01-26 03:21 J -20918573.41 -20918573.36 -20918573.30 0.1613 0.1509

Earth -61985-06-08 19:40 J -20918438.79 -20918438.68 -20918438.57 0.2687 0.0282

Moon -61985-06-08 19:54 J -20918438.78 -20918438.67 -20918438.56 0.2680 0.0279 *

Uranus -61982-12-05 13:40 J -20917164.03 -20917163.93 -20917163.80 0.0146 0.0117

Uranus -61981-03-02 22:33 J -20917075.71 -20917075.56 -20917075.39 0.0146 0.0084

Jupiter -61981-03-03 01:54 J -20917075.60 -20917075.42 -20917075.23 0.0498 0.0012 *

Uranus -61981-05-30 07:25 J -20916987.36 -20916987.19 -20916987.00 0.0146 0.0051

Uranus -61981-08-26 16:18 J -20916899.01 -20916898.82 -20916898.62 0.0146 0.0018

Uranus -61981-11-23 01:11 J -20916810.64 -20916810.45 -20916810.25 0.0145 0.0016

Uranus -61980-02-19 10:04 J -20916722.26 -20916722.08 -20916721.89 0.0145 0.0049

Uranus -61980-05-18 18:57 J -20916633.87 -20916633.71 -20916633.55 0.0145 0.0082

Uranus -61980-08-15 03:49 J -20916545.46 -20916545.34 -20916545.22 0.0145 0.0114

Earth -61978-06-02 18:28 J -20915888.74 -20915888.73 -20915888.72 0.2680 0.2650

Moon -61978-06-02 18:57 J -20915888.74 -20915888.71 -20915888.68 0.2686 0.2560 *

Saturn -61977-09-23 18:57 J -20915409.82 -20915409.71 -20915409.58 0.0262 0.0199

Saturn -61977-12-21 15:06 J -20915321.05 -20915320.87 -20915320.69 0.0261 0.0077

Saturn -61976-03-20 11:16 J -20915232.22 -20915232.03 -20915231.85 0.0261 0.0046

Mars -61976-06-17 05:01 J -20915143.44 -20915143.29 -20915143.13 0.1619 0.0557

Saturn -61976-06-17 07:25 J -20915143.33 -20915143.19 -20915143.05 0.0260 0.0169 *

Jupiter -61976-11-01 08:23 J -20915006.24 -20915006.15 -20915006.06 0.0528 0.0363

Jupiter -61975-01-29 14:23 J -20914917.02 -20914916.90 -20914916.78 0.0528 0.0160

Moon -61972-06-11 13:11 J -20913688.04 -20913687.95 -20913687.85 0.2683 0.1322

Earth -61972-06-11 13:40 J -20913688.03 -20913687.93 -20913687.84 0.2689 0.1316 *

Jupiter -61970-12-20 22:47 J -20912765.72 -20912765.55 -20912765.37 0.0498 0.0156

Moon -61969-11-30 21:49 J -20912419.71 -20912419.59 -20912419.47 0.2646 0.1729

Earth -61969-11-30 23:01 J -20912419.65 -20912419.54 -20912419.42 0.2650 0.1717 *

Mars -61967-01-09 00:28 J -20912015.57 -20912015.48 -20912015.39 0.1932 0.1109

Mars -61967-11-07 06:57 J -20911713.37 -20911713.21 -20911713.04 0.1624 0.0391

Earth -61965-06-04 12:28 J -20911138.06 -20911137.98 -20911137.89 0.2682 0.1598

Moon -61965-06-04 13:11 J -20911138.03 -20911137.95 -20911137.86 0.2685 0.1564 *

Jupiter -61964-08-20 12:28 J -20910696.02 -20910695.98 -20910695.93 0.0528 0.0493

Jupiter -61964-11-17 18:42 J -20910606.85 -20910606.72 -20910606.60 0.0527 0.0033

Venus -61963-07-01 11:30 J -20910381.17 -20910381.02 -20910380.86 0.3563 0.0711

Saturn -61961-01-15 09:21 J -20909818.19 -20909818.11 -20909818.02 0.0300 0.0229

Saturn -61961-04-12 22:33 J -20909729.69 -20909729.56 -20909729.44 0.0301 0.0098

Saturn -61961-07-10 11:30 J -20909641.15 -20909641.02 -20909640.89 0.0302 0.0033

Saturn -61961-10-07 00:28 J -20909552.59 -20909552.48 -20909552.37 0.0302 0.0164

Saturn -61960-01-03 13:11 J -20909463.97 -20909463.95 -20909463.92 0.0302 0.0295

Moon -61959-06-14 06:42 J -20908937.28 -20908937.22 -20908937.16 0.2687 0.2199

Earth -61959-06-14 07:25 J -20908937.24 -20908937.19 -20908937.14 0.2691 0.2332 *

Mars -61958-06-01 08:23 J -20908585.26 -20908585.15 -20908585.03 0.1926 0.0118

Jupiter -61958-10-08 19:54 J -20908455.81 -20908455.67 -20908455.53 0.0498 0.0320

Jupiter -61957-01-07 06:42 J -20908365.35 -20908365.22 -20908365.09 0.0499 0.0349

Mars -61957-03-29 08:52 J -20908283.22 -20908283.13 -20908283.04 0.1629 0.1353

Moon -61956-12-04 04:04 J -20907668.48 -20907668.33 -20907668.17 0.2646 0.0143

Earth -61956-12-04 05:45 J -20907668.41 -20907668.26 -20907668.10 0.2647 0.0356 *

Venus -61955-10-19 23:59 J -20907348.56 -20907348.50 -20907348.44 0.3815 0.3064

Earth -61952-06-07 06:28 J -20906387.33 -20906387.23 -20906387.12 0.2685 0.0559

Moon -61952-06-07 07:11 J -20906387.31 -20906387.20 -20906387.09 0.2680 0.0477 *

Jupiter -61952-09-05 22:47 J -20906296.67 -20906296.55 -20906296.42 0.0527 0.0099

Jupiter -61952-12-04 04:18 J -20906207.39 -20906207.32 -20906207.24 0.0526 0.0417

Venus -61949-05-04 15:49 J -20905324.93 -20905324.84 -20905324.74 0.3816 0.1234

Mars -61949-10-21 16:18 J -20905154.93 -20905154.82 -20905154.72 0.1918 0.0885

Saturn -61947-02-10 18:13 J -20904677.81 -20904677.74 -20904677.66 0.0262 0.0236

Saturn -61947-05-10 14:09 J -20904589.07 -20904588.91 -20904588.74 0.0261 0.0115

Saturn -61947-08-07 10:18 J -20904500.26 -20904500.07 -20904499.88 0.0261 0.0008

Saturn -61947-11-04 06:28 J -20904411.39 -20904411.23 -20904411.06 0.0260 0.0130

Saturn -61946-02-01 02:52 J -20904322.42 -20904322.38 -20904322.34 0.0260 0.0253

Jupiter -61946-07-27 17:01 J -20904145.83 -20904145.79 -20904145.74 0.0498 0.0481

Jupiter -61946-10-26 03:35 J -20904055.52 -20904055.35 -20904055.17 0.0499 0.0184

Venus -61944-11-18 07:54 J -20903301.27 -20903301.17 -20903301.07 0.3817 0.0640

Moon -61943-12-07 11:30 J -20902917.09 -20902917.02 -20902916.95 0.2649 0.2346

Earth -61943-12-07 12:57 J -20902917.02 -20902916.96 -20902916.91 0.2645 0.2448 *

Jupiter -61940-06-25 02:37 J -20901986.50 -20901986.39 -20901986.28 0.0527 0.0235

Jupiter -61940-09-22 08:23 J -20901897.26 -20901897.15 -20901897.05 0.0527 0.0283

Mars -61939-03-13 23:59 J -20901724.52 -20901724.50 -20901724.48 0.1911 0.1880

Earth -61939-06-10 00:28 J -20901636.59 -20901636.48 -20901636.37 0.2687 0.0487

Moon -61939-06-10 00:42 J -20901636.58 -20901636.47 -20901636.36 0.2680 0.0529 *

Uranus -61938-03-02 19:25 J -20901370.74 -20901370.69 -20901370.62 0.0133 0.0119

Uranus -61938-05-29 22:18 J -20901282.64 -20901282.57 -20901282.47 0.0133 0.0102

Venus -61938-06-03 23:59 J -20901277.57 -20901277.50 -20901277.42 0.3818 0.2504

Uranus -61938-08-26 01:25 J -20901194.54 -20901194.44 -20901194.34 0.0133 0.0085

Uranus -61938-11-22 04:18 J -20901106.43 -20901106.32 -20901106.20 0.0133 0.0068

Uranus -61937-02-18 07:25 J -20901018.31 -20901018.19 -20901018.07 0.0133 0.0051

Uranus -61937-05-16 10:18 J -20900930.20 -20900930.07 -20900929.94 0.0133 0.0034

Uranus -61937-08-12 13:11 J -20900842.08 -20900841.95 -20900841.82 0.0133 0.0017

Uranus -61937-11-08 16:18 J -20900753.96 -20900753.82 -20900753.69 0.0133 0.0005

Mars -61937-12-16 05:45 J -20900716.41 -20900716.26 -20900716.11 0.1618 0.0696

Uranus -61936-02-04 19:11 J -20900665.83 -20900665.70 -20900665.57 0.0133 0.0017

Uranus -61936-05-03 22:04 J -20900577.71 -20900577.58 -20900577.45 0.0133 0.0034

Uranus -61936-07-31 00:57 J -20900489.58 -20900489.46 -20900489.34 0.0134 0.0051

Uranus -61936-10-27 03:49 J -20900401.45 -20900401.34 -20900401.22 0.0134 0.0068

Uranus -61935-01-23 06:42 J -20900313.31 -20900313.22 -20900313.11 0.0134 0.0085

Uranus -61935-04-21 09:49 J -20900225.17 -20900225.09 -20900225.01 0.0134 0.0102

Uranus -61935-07-18 12:42 J -20900137.02 -20900136.97 -20900136.91 0.0134 0.0119

Jupiter -61934-08-14 00:28 J -20899745.66 -20899745.48 -20899745.29 0.0498 0.0019

Earth -61932-06-02 23:16 J -20899086.57 -20899086.53 -20899086.48 0.2681 0.2440

Moon -61932-06-02 23:59 J -20899086.55 -20899086.50 -20899086.46 0.2685 0.2451 *

Neptune -61932-06-03 09:35 J -20899086.13 -20899086.10 -20899086.08 0.0089 0.0087

Saturn -61932-06-03 11:45 J -20899086.07 -20899086.01 -20899085.95 0.0300 0.0263

Neptune -61932-08-30 10:33 J -20898998.10 -20898998.06 -20898998.00 0.0089 0.0082

Saturn -61932-08-31 00:42 J -20898997.58 -20898997.47 -20898997.35 0.0301 0.0132

Neptune -61932-11-26 12:13 J -20898910.05 -20898909.99 -20898909.92 0.0089 0.0076

Saturn -61932-11-27 13:54 J -20898909.05 -20898908.92 -20898908.79 0.0301 0.0007

Neptune -61931-02-22 13:25 J -20898822.01 -20898821.94 -20898821.85 0.0089 0.0071

Saturn -61931-02-24 02:37 J -20898820.50 -20898820.39 -20898820.27 0.0302 0.0131

Neptune -61931-05-21 15:06 J -20898733.96 -20898733.87 -20898733.78 0.0089 0.0065

Saturn -61931-05-23 15:35 J -20898731.91 -20898731.85 -20898731.79 0.0302 0.0261

Neptune -61931-08-17 16:18 J -20898645.91 -20898645.82 -20898645.71 0.0089 0.0060

Neptune -61931-11-13 17:45 J -20898557.86 -20898557.76 -20898557.65 0.0089 0.0054

Neptune -61930-02-09 19:11 J -20898469.81 -20898469.70 -20898469.58 0.0089 0.0049

Neptune -61930-05-08 20:37 J -20898381.76 -20898381.64 -20898381.52 0.0089 0.0043

Neptune -61930-08-04 21:49 J -20898293.70 -20898293.59 -20898293.46 0.0089 0.0038

Neptune -61930-10-31 23:30 J -20898205.65 -20898205.52 -20898205.40 0.0089 0.0032

Neptune -61929-01-28 00:42 J -20898117.59 -20898117.47 -20898117.34 0.0089 0.0027

Neptune -61929-04-25 02:09 J -20898029.54 -20898029.41 -20898029.28 0.0089 0.0021

Neptune -61929-07-22 03:35 J -20897941.48 -20897941.35 -20897941.22 0.0089 0.0015

Neptune -61929-10-18 04:47 J -20897853.43 -20897853.30 -20897853.16 0.0089 0.0011

Neptune -61928-01-14 06:13 J -20897765.37 -20897765.24 -20897765.10 0.0089 0.0005

Neptune -61928-04-12 07:40 J -20897677.31 -20897677.18 -20897677.05 0.0089 0.0001

Jupiter -61928-04-13 06:42 J -20897676.31 -20897676.22 -20897676.13 0.0528 0.0366

Neptune -61928-07-09 09:06 J -20897589.26 -20897589.12 -20897588.99 0.0089 0.0007

Mars -61928-07-10 00:28 J -20897588.56 -20897588.48 -20897588.39 0.1933 0.1231

Jupiter -61928-07-11 12:42 J -20897587.09 -20897586.97 -20897586.85 0.0527 0.0156

Neptune -61928-10-05 10:18 J -20897501.20 -20897501.07 -20897500.93 0.0089 0.0012

Neptune -61927-01-01 11:45 J -20897413.14 -20897413.01 -20897412.88 0.0089 0.0017

Neptune -61927-03-30 13:11 J -20897325.08 -20897324.95 -20897324.82 0.0089 0.0023

Mars -61927-05-08 07:40 J -20897286.35 -20897286.18 -20897286.02 0.1624 0.0260

Neptune -61927-06-26 14:23 J -20897237.02 -20897236.90 -20897236.77 0.0089 0.0028

Neptune -61927-09-22 15:35 J -20897148.96 -20897148.85 -20897148.72 0.0089 0.0034

Neptune -61927-12-19 17:01 J -20897060.90 -20897060.79 -20897060.66 0.0089 0.0039

Neptune -61926-03-17 18:13 J -20896972.84 -20896972.74 -20896972.61 0.0089 0.0045

Moon -61926-06-12 17:59 J -20896885.84 -20896885.75 -20896885.66 0.2683 0.1421

Earth -61926-06-12 18:28 J -20896885.82 -20896885.73 -20896885.64 0.2689 0.1513 *

Neptune -61926-06-13 19:40 J -20896884.78 -20896884.68 -20896884.56 0.0089 0.0050

Neptune -61926-09-09 20:52 J -20896796.72 -20896796.63 -20896796.51 0.0089 0.0056

Neptune -61926-12-06 22:18 J -20896708.66 -20896708.57 -20896708.47 0.0089 0.0061

Neptune -61925-03-03 23:45 J -20896620.59 -20896620.51 -20896620.42 0.0089 0.0066

Neptune -61925-05-31 00:57 J -20896532.53 -20896532.46 -20896532.37 0.0089 0.0072

Neptune -61925-08-27 02:23 J -20896444.46 -20896444.40 -20896444.33 0.0089 0.0077

Neptune -61925-11-23 03:35 J -20896356.39 -20896356.35 -20896356.29 0.0089 0.0082

Neptune -61924-02-19 04:47 J -20896268.30 -20896268.30 -20896268.26 0.0089 0.0088

Moon -61923-12-02 04:18 J -20895617.45 -20895617.32 -20895617.20 0.2646 0.1569

Earth -61923-12-02 05:45 J -20895617.40 -20895617.26 -20895617.13 0.2649 0.1335 *

Jupiter -61922-06-01 20:37 J -20895435.81 -20895435.64 -20895435.46 0.0498 0.0157

Earth -61919-06-05 17:30 J -20894335.87 -20894335.77 -20894335.68 0.2683 0.1395

Moon -61919-06-05 17:59 J -20894335.84 -20894335.75 -20894335.65 0.2684 0.1273 *

Mars -61919-11-30 08:23 J -20894158.27 -20894158.15 -20894158.04 0.1925 0.0222

Saturn -61918-09-27 14:52 J -20893857.04 -20893856.88 -20893856.72 0.0262 0.0143

Mars -61918-09-28 09:21 J -20893856.22 -20893856.11 -20893856.00 0.1629 0.1219

Saturn -61918-12-25 10:47 J -20893768.23 -20893768.05 -20893767.86 0.0261 0.0022

Saturn -61917-03-23 06:57 J -20893679.38 -20893679.21 -20893679.03 0.0261 0.0103

Saturn -61917-06-20 03:21 J -20893590.45 -20893590.36 -20893590.27 0.0261 0.0226

Jupiter -61916-01-30 10:47 J -20893366.09 -20893366.05 -20893366.01 0.0529 0.0499

Jupiter -61916-04-29 16:47 J -20893276.92 -20893276.80 -20893276.67 0.0528 0.0029

Moon -61913-06-14 11:30 J -20892135.05 -20892135.02 -20892134.98 0.2689 0.2516

Earth -61913-06-14 12:13 J -20892135.03 -20892134.99 -20892134.96 0.2691 0.2529 *

Jupiter -61910-03-20 17:45 J -20891125.90 -20891125.76 -20891125.62 0.0498 0.0322

Jupiter -61910-06-19 04:18 J -20891035.45 -20891035.32 -20891035.19 0.0498 0.0345

Moon -61910-12-05 10:47 J -20890866.20 -20890866.05 -20890865.90 0.2647 0.0660

Earth -61910-12-05 12:28 J -20890866.13 -20890865.98 -20890865.83 0.2647 0.0729 *

Mars -61909-04-21 16:04 J -20890727.93 -20890727.83 -20890727.72 0.1918 0.0787

Venus -61906-02-05 13:40 J -20889708.08 -20889707.93 -20889707.77 0.3563 0.0979

Earth -61906-06-08 11:30 J -20889585.13 -20889585.02 -20889584.91 0.2685 0.0358

Moon -61906-06-08 11:59 J -20889585.11 -20889585.00 -20889584.89 0.2680 0.0323 *

Jupiter -61904-02-15 21:06 J -20888966.75 -20888966.62 -20888966.50 0.0528 0.0103

Jupiter -61904-05-16 02:37 J -20888877.46 -20888877.39 -20888877.31 0.0527 0.0414

Saturn -61903-10-21 14:09 J -20888353.93 -20888353.91 -20888353.89 0.0300 0.0295

Saturn -61902-01-18 03:21 J -20888265.47 -20888265.36 -20888265.25 0.0300 0.0164

Saturn -61902-04-16 16:18 J -20888176.95 -20888176.82 -20888176.69 0.0301 0.0033

Saturn -61902-07-14 05:16 J -20888088.40 -20888088.28 -20888088.16 0.0302 0.0098

Saturn -61902-10-10 17:59 J -20887999.83 -20887999.75 -20887999.66 0.0302 0.0229

Mars -61900-09-11 23:59 J -20887297.54 -20887297.50 -20887297.45 0.1911 0.1760

Jupiter -61898-01-06 14:23 J -20886815.93 -20886815.90 -20886815.87 0.0498 0.0488

Jupiter -61898-04-07 00:57 J -20886725.64 -20886725.46 -20886725.29 0.0498 0.0176

Venus -61898-05-26 21:21 J -20886675.68 -20886675.61 -20886675.53 0.3815 0.2416

Uranus -61898-09-28 13:40 J -20886550.99 -20886550.93 -20886550.87 0.0146 0.0138

Uranus -61898-12-25 22:04 J -20886462.70 -20886462.58 -20886462.43 0.0146 0.0106

Uranus -61897-03-23 06:57 J -20886374.36 -20886374.21 -20886374.03 0.0146 0.0073

Mars -61897-06-16 06:28 J -20886289.37 -20886289.23 -20886289.08 0.1618 0.0840

Uranus -61897-06-19 15:49 J -20886286.02 -20886285.84 -20886285.64 0.0146 0.0040

Uranus -61897-09-16 00:57 J -20886197.66 -20886197.46 -20886197.27 0.0146 0.0006

Uranus -61897-12-13 09:35 J -20886109.29 -20886109.10 -20886108.90 0.0145 0.0027

Uranus -61896-03-11 18:28 J -20886020.90 -20886020.73 -20886020.55 0.0145 0.0060

Uranus -61896-06-08 03:06 J -20885932.51 -20885932.37 -20885932.21 0.0145 0.0093

Uranus -61896-09-04 11:59 J -20885844.08 -20885844.00 -20885843.89 0.0145 0.0126

Moon -61893-06-10 05:30 J -20884834.38 -20884834.27 -20884834.17 0.2681 0.0697

Earth -61893-06-10 05:16 J -20884834.38 -20884834.28 -20884834.17 0.2687 0.0696 *

Jupiter -61893-12-05 01:11 J -20884656.56 -20884656.45 -20884656.33 0.0528 0.0234

Venus -61893-12-09 13:25 J -20884652.04 -20884651.94 -20884651.84 0.3816 0.0562

Jupiter -61892-03-04 06:57 J -20884567.31 -20884567.21 -20884567.10 0.0527 0.0285

Mars -61888-01-08 00:42 J -20883161.55 -20883161.47 -20883161.39 0.1932 0.1342

Saturn -61888-02-13 14:23 J -20883125.03 -20883124.90 -20883124.76 0.0262 0.0178

Saturn -61888-05-13 10:33 J -20883036.24 -20883036.06 -20883035.88 0.0261 0.0056

Saturn -61888-08-10 06:42 J -20882947.40 -20882947.22 -20882947.04 0.0261 0.0067

Mars -61888-11-06 08:09 J -20882859.32 -20882859.16 -20882858.99 0.1624 0.0127

Saturn -61888-11-07 02:37 J -20882858.50 -20882858.39 -20882858.25 0.0260 0.0191

Venus -61887-06-25 05:30 J -20882628.36 -20882628.27 -20882628.18 0.3817 0.1309

Jupiter -61886-01-23 21:49 J -20882415.78 -20882415.59 -20882415.41 0.0498 0.0011

Earth -61886-06-04 04:18 J -20882284.38 -20882284.32 -20882284.26 0.2681 0.2236

Moon -61886-06-04 04:47 J -20882284.37 -20882284.30 -20882284.23 0.2686 0.2115 *

Venus -61881-01-08 21:35 J -20880604.66 -20880604.60 -20880604.55 0.3818 0.3179

Jupiter -61881-09-23 05:01 J -20880346.38 -20880346.29 -20880346.20 0.0528 0.0372

Jupiter -61881-12-21 10:47 J -20880257.17 -20880257.05 -20880256.93 0.0527 0.0150

Moon -61880-06-12 22:47 J -20880083.64 -20880083.55 -20880083.47 0.2683 0.1691

Earth -61880-06-12 23:16 J -20880083.62 -20880083.53 -20880083.45 0.2689 0.1712 *

Mars -61879-05-31 08:23 J -20879731.27 -20879731.15 -20879731.04 0.1926 0.0328

Mars -61878-03-29 10:04 J -20879429.20 -20879429.08 -20879428.96 0.1629 0.1079

Moon -61877-12-02 10:47 J -20878815.20 -20878815.05 -20878814.91 0.2646 0.0992

Earth -61877-12-02 12:13 J -20878815.13 -20878814.99 -20878814.84 0.2649 0.0958 *

Jupiter -61875-11-11 18:42 J -20878105.90 -20878105.72 -20878105.54 0.0498 0.0156

Earth -61873-06-05 22:18 J -20877533.67 -20877533.57 -20877533.47 0.2683 0.1184

Moon -61873-06-05 23:01 J -20877533.64 -20877533.54 -20877533.44 0.2682 0.1171 *

Saturn -61873-06-06 05:59 J -20877533.35 -20877533.25 -20877533.15 0.0300 0.0195

Saturn -61873-09-02 18:57 J -20877444.84 -20877444.71 -20877444.58 0.0301 0.0064

Saturn -61873-11-30 07:54 J -20877356.30 -20877356.17 -20877356.04 0.0302 0.0068

Saturn -61872-02-26 20:52 J -20877267.73 -20877267.63 -20877267.53 0.0302 0.0198

Mars -61870-10-21 16:18 J -20876300.93 -20876300.82 -20876300.71 0.1918 0.0666

Jupiter -61869-07-12 08:52 J -20876036.16 -20876036.13 -20876036.09 0.0528 0.0505

Jupiter -61869-10-09 14:52 J -20875947.00 -20875946.88 -20875946.75 0.0527 0.0027

Moon -61867-06-15 16:18 J -20875332.84 -20875332.82 -20875332.80 0.2692 0.2606

Moon -61864-12-05 17:30 J -20874063.92 -20874063.77 -20874063.63 0.2648 0.0869

Earth -61864-12-05 18:57 J -20874063.85 -20874063.71 -20874063.56 0.2647 0.1114 *

Jupiter -61863-08-30 15:06 J -20873796.01 -20873795.87 -20873795.73 0.0497 0.0326

Jupiter -61863-11-29 01:40 J -20873705.56 -20873705.43 -20873705.29 0.0498 0.0341

Mars -61860-03-12 23:59 J -20872870.56 -20872870.50 -20872870.45 0.1911 0.1665

Earth -61860-06-08 16:18 J -20872782.93 -20872782.82 -20872782.71 0.2685 0.0149

Moon -61860-06-08 16:47 J -20872782.91 -20872782.80 -20872782.69 0.2680 0.0048 *

Saturn -61859-07-03 15:35 J -20872392.97 -20872392.85 -20872392.74 0.0262 0.0204

Saturn -61859-09-30 11:30 J -20872304.20 -20872304.02 -20872303.84 0.0262 0.0082

Saturn -61859-12-28 07:40 J -20872215.37 -20872215.18 -20872215.00 0.0261 0.0041

Saturn -61858-03-27 03:49 J -20872126.48 -20872126.34 -20872126.19 0.0261 0.0164

Mars -61858-12-16 07:11 J -20871862.33 -20871862.20 -20871862.07 0.1618 0.0971

Jupiter -61857-07-28 18:57 J -20871636.83 -20871636.71 -20871636.58 0.0528 0.0114

Jupiter -61857-10-26 00:42 J -20871547.55 -20871547.47 -20871547.39 0.0527 0.0405

Venus -61855-02-26 06:57 J -20871059.33 -20871059.21 -20871059.09 0.3564 0.2302

Uranus -61855-12-25 00:28 J -20870757.51 -20870757.48 -20870757.44 0.0133 0.0128

Uranus -61854-03-23 03:35 J -20870669.42 -20870669.35 -20870669.28 0.0133 0.0111

Uranus -61854-06-19 06:28 J -20870581.32 -20870581.23 -20870581.14 0.0133 0.0094

Uranus -61854-09-15 09:21 J -20870493.21 -20870493.11 -20870493.00 0.0133 0.0077

Uranus -61854-12-12 12:13 J -20870405.10 -20870404.99 -20870404.87 0.0133 0.0061

Uranus -61853-03-09 15:21 J -20870316.99 -20870316.86 -20870316.74 0.0133 0.0044

Uranus -61853-06-05 18:13 J -20870228.87 -20870228.74 -20870228.61 0.0133 0.0027

Uranus -61853-09-01 21:06 J -20870140.75 -20870140.62 -20870140.49 0.0133 0.0010

Uranus -61853-11-29 00:13 J -20870052.63 -20870052.49 -20870052.36 0.0133 0.0009

Uranus -61852-02-25 03:06 J -20869964.50 -20869964.37 -20869964.24 0.0133 0.0025

Uranus -61852-05-24 05:59 J -20869876.38 -20869876.25 -20869876.13 0.0134 0.0041

Uranus -61852-08-20 08:52 J -20869788.25 -20869788.13 -20869788.01 0.0134 0.0058

Uranus -61852-11-16 11:45 J -20869700.11 -20869700.01 -20869699.90 0.0134 0.0076

Uranus -61851-02-12 14:37 J -20869611.98 -20869611.89 -20869611.79 0.0134 0.0093

Uranus -61851-05-11 17:30 J -20869523.83 -20869523.77 -20869523.69 0.0134 0.0110

Jupiter -61851-06-18 11:59 J -20869486.02 -20869486.00 -20869485.97 0.0497 0.0491

Uranus -61851-08-07 20:23 J -20869435.68 -20869435.65 -20869435.60 0.0134 0.0127

Jupiter -61851-09-16 22:18 J -20869395.74 -20869395.57 -20869395.39 0.0498 0.0172

Venus -61850-09-12 15:49 J -20869034.94 -20869034.84 -20869034.73 0.3563 0.2643

Neptune -61849-05-18 03:49 J -20868786.37 -20868786.34 -20868786.30 0.0089 0.0087

Mars -61849-07-09 00:28 J -20868734.56 -20868734.48 -20868734.40 0.1933 0.1435

Neptune -61849-08-14 06:57 J -20868698.27 -20868698.21 -20868698.11 0.0089 0.0080

Neptune -61849-11-10 10:33 J -20868610.16 -20868610.06 -20868609.94 0.0089 0.0072

Neptune -61848-02-06 14:23 J -20868522.03 -20868521.90 -20868521.77 0.0089 0.0064

Neptune -61848-05-05 17:30 J -20868433.90 -20868433.77 -20868433.61 0.0089 0.0057

Mars -61848-05-07 09:06 J -20868432.29 -20868432.12 -20868431.96 0.1623 0.0033

Neptune -61848-08-01 21:06 J -20868345.77 -20868345.62 -20868345.46 0.0089 0.0049

Neptune -61848-10-29 00:42 J -20868257.64 -20868257.47 -20868257.30 0.0089 0.0041

Neptune -61847-01-25 03:49 J -20868169.50 -20868169.34 -20868169.15 0.0089 0.0034

Neptune -61847-04-23 07:25 J -20868081.36 -20868081.19 -20868081.00 0.0089 0.0026

Moon -61847-06-11 10:04 J -20868032.18 -20868032.08 -20868031.98 0.2681 0.0849

Earth -61847-06-11 10:04 J -20868032.18 -20868032.08 -20868031.97 0.2687 0.0896 *

Venus -61847-06-17 03:06 J -20868026.41 -20868026.37 -20868026.34 0.3814 0.3596

Neptune -61847-07-20 11:01 J -20867993.22 -20867993.04 -20867992.85 0.0089 0.0018

Neptune -61847-10-16 14:37 J -20867905.08 -20867904.89 -20867904.70 0.0089 0.0010

Neptune -61846-01-12 18:13 J -20867816.93 -20867816.74 -20867816.55 0.0089 0.0002

Neptune -61846-04-10 21:35 J -20867728.79 -20867728.60 -20867728.40 0.0089 0.0006

Neptune -61846-07-08 01:11 J -20867640.64 -20867640.45 -20867640.26 0.0089 0.0013

Neptune -61846-10-04 04:33 J -20867552.49 -20867552.31 -20867552.11 0.0089 0.0021

Neptune -61846-12-31 08:09 J -20867464.34 -20867464.16 -20867463.97 0.0089 0.0029

Neptune -61845-03-28 11:45 J -20867376.18 -20867376.01 -20867375.83 0.0089 0.0037

Jupiter -61845-05-16 23:16 J -20867326.64 -20867326.53 -20867326.42 0.0528 0.0243

Neptune -61845-06-24 15:06 J -20867288.03 -20867287.87 -20867287.69 0.0089 0.0045

Jupiter -61845-08-14 05:01 J -20867237.40 -20867237.29 -20867237.18 0.0527 0.0277

Pluto -61845-09-09 07:54 J -20867211.19 -20867211.17 -20867211.15 0.0061 0.0060

Neptune -61845-09-20 18:42 J -20867199.87 -20867199.72 -20867199.56 0.0089 0.0053

Pluto -61845-12-06 08:37 J -20867123.19 -20867123.14 -20867123.05 0.0061 0.0056

Neptune -61845-12-17 22:04 J -20867111.70 -20867111.58 -20867111.42 0.0089 0.0061

Pluto -61844-03-04 09:49 J -20867035.17 -20867035.09 -20867034.98 0.0061 0.0051

Neptune -61844-03-16 01:40 J -20867023.54 -20867023.43 -20867023.29 0.0089 0.0069

Pluto -61844-05-31 11:01 J -20866947.14 -20866947.04 -20866946.91 0.0061 0.0047

Neptune -61844-06-12 05:30 J -20866935.36 -20866935.27 -20866935.17 0.0089 0.0076

Pluto -61844-08-27 12:28 J -20866859.11 -20866858.98 -20866858.85 0.0061 0.0042

Neptune -61844-09-08 09:06 J -20866847.17 -20866847.12 -20866847.06 0.0089 0.0084

Saturn -61844-10-24 08:37 J -20866801.22 -20866801.14 -20866801.05 0.0300 0.0224

Pluto -61844-11-23 13:11 J -20866771.07 -20866770.95 -20866770.79 0.0061 0.0037

Earth -61844-11-30 12:13 J -20866764.01 -20866763.99 -20866763.96 0.2651 0.2605

Saturn -61843-01-20 21:49 J -20866712.72 -20866712.59 -20866712.47 0.0301 0.0093

Pluto -61843-02-19 14:23 J -20866683.03 -20866682.90 -20866682.73 0.0061 0.0032

Saturn -61843-04-19 10:47 J -20866624.18 -20866624.05 -20866623.92 0.0301 0.0038

Pluto -61843-05-18 15:35 J -20866594.99 -20866594.85 -20866594.68 0.0061 0.0028

Saturn -61843-07-16 23:45 J -20866535.62 -20866535.51 -20866535.40 0.0302 0.0168

Pluto -61843-08-14 16:47 J -20866506.95 -20866506.80 -20866506.62 0.0061 0.0023

Saturn -61843-10-13 12:28 J -20866446.99 -20866446.98 -20866446.96 0.0302 0.0298

Pluto -61843-11-10 17:59 J -20866418.91 -20866418.75 -20866418.57 0.0062 0.0018

Pluto -61842-02-06 19:11 J -20866330.86 -20866330.70 -20866330.51 0.0062 0.0013

Pluto -61842-05-05 20:37 J -20866242.82 -20866242.64 -20866242.46 0.0062 0.0008

Pluto -61842-08-01 21:49 J -20866154.77 -20866154.59 -20866154.41 0.0062 0.0003

Pluto -61842-10-28 23:01 J -20866066.72 -20866066.54 -20866066.36 0.0062 0.0003

Venus -61842-12-31 18:57 J -20866002.80 -20866002.71 -20866002.62 0.3815 0.1752

Pluto -61841-01-25 00:13 J -20865978.67 -20865978.49 -20865978.31 0.0062 0.0008

Pluto -61841-04-22 01:11 J -20865890.61 -20865890.45 -20865890.26 0.0062 0.0013

Pluto -61841-07-19 02:23 J -20865802.56 -20865802.40 -20865802.21 0.0062 0.0018

Pluto -61841-10-15 03:35 J -20865714.50 -20865714.35 -20865714.17 0.0062 0.0024

Pluto -61840-01-11 05:01 J -20865626.44 -20865626.29 -20865626.12 0.0062 0.0028

Pluto -61840-04-09 06:13 J -20865538.38 -20865538.24 -20865538.08 0.0062 0.0033

Earth -61840-06-04 09:06 J -20865482.19 -20865482.12 -20865482.05 0.2681 0.2022

Moon -61840-06-04 09:35 J -20865482.17 -20865482.10 -20865482.02 0.2686 0.2022 *

Pluto -61840-07-06 07:25 J -20865450.32 -20865450.19 -20865450.04 0.0062 0.0039

Pluto -61840-10-02 08:52 J -20865362.25 -20865362.13 -20865362.00 0.0062 0.0044

Mars -61840-11-29 08:23 J -20865304.26 -20865304.15 -20865304.04 0.1926 0.0444

Pluto -61840-12-29 09:49 J -20865274.18 -20865274.09 -20865273.96 0.0062 0.0050

Pluto -61839-03-27 11:01 J -20865186.10 -20865186.04 -20865185.93 0.0063 0.0055

Pluto -61839-06-23 12:28 J -20865098.01 -20865097.98 -20865097.91 0.0063 0.0060

Jupiter -61839-07-05 18:42 J -20865085.90 -20865085.72 -20865085.53 0.0498 0.0004

Mars -61839-09-27 10:33 J -20865002.19 -20865002.06 -20865001.92 0.1629 0.0946

Venus -61836-07-16 11:01 J -20863979.14 -20863979.04 -20863978.94 0.3816 0.0125

Moon -61834-06-14 03:35 J -20863281.43 -20863281.35 -20863281.27 0.2685 0.1840

Earth -61834-06-14 04:04 J -20863281.41 -20863281.33 -20863281.26 0.2689 0.1912 *

Jupiter -61833-03-05 03:21 J -20863016.45 -20863016.36 -20863016.27 0.0528 0.0373

Jupiter -61833-06-02 09:21 J -20862927.23 -20862927.11 -20862926.99 0.0527 0.0149

Moon -61831-12-03 17:16 J -20862012.93 -20862012.78 -20862012.63 0.2646 0.0797

Earth -61831-12-03 18:57 J -20862012.87 -20862012.71 -20862012.56 0.2649 0.0575 *

Venus -61830-01-30 03:06 J -20861955.46 -20861955.37 -20861955.29 0.3817 0.1983

Mars -61830-04-21 16:18 J -20861873.93 -20861873.82 -20861873.71 0.1918 0.0562

Saturn -61830-11-20 15:35 J -20861660.92 -20861660.85 -20861660.77 0.0262 0.0237

Saturn -61829-02-17 11:30 J -20861572.19 -20861572.02 -20861571.85 0.0261 0.0115

Saturn -61829-05-16 07:40 J -20861483.37 -20861483.18 -20861482.99 0.0261 0.0008

Saturn -61829-08-13 03:35 J -20861394.50 -20861394.35 -20861394.18 0.0261 0.0131

Saturn -61829-11-09 23:59 J -20861305.53 -20861305.50 -20861305.45 0.0260 0.0254

Jupiter -61827-04-23 15:35 J -20860776.02 -20860775.85 -20860775.67 0.0498 0.0166

Earth -61827-06-07 03:06 J -20860731.47 -20860731.37 -20860731.27 0.2683 0.0980

Moon -61827-06-07 03:49 J -20860731.45 -20860731.34 -20860731.24 0.2681 0.0842 *

Jupiter -61822-12-23 06:57 J -20858706.23 -20858706.21 -20858706.18 0.0528 0.0512

Jupiter -61821-03-21 12:57 J -20858617.08 -20858616.96 -20858616.83 0.0527 0.0020

Jupiter -61821-06-18 18:28 J -20858527.73 -20858527.73 -20858527.72 0.0526 0.0526

Mars -61821-09-10 23:59 J -20858443.56 -20858443.50 -20858443.43 0.1911 0.1549

Mars -61818-06-16 07:54 J -20857435.29 -20857435.17 -20857435.05 0.1618 0.1110

Moon -61818-12-06 23:59 J -20857261.63 -20857261.50 -20857261.37 0.2649 0.1462

Earth -61818-12-07 01:40 J -20857261.56 -20857261.43 -20857261.30 0.2646 0.1500 *

Jupiter -61815-02-09 12:28 J -20856466.11 -20856465.98 -20856465.84 0.0498 0.0332

Jupiter -61815-05-10 23:16 J -20856375.66 -20856375.53 -20856375.39 0.0499 0.0338

Saturn -61814-03-13 11:30 J -20856069.09 -20856069.02 -20856068.95 0.0300 0.0253

Earth -61814-06-09 21:06 J -20855980.73 -20855980.62 -20855980.51 0.2686 0.0060

Moon -61814-06-09 21:35 J -20855980.71 -20855980.60 -20855980.49 0.2680 0.0070 *

Saturn -61814-06-10 00:42 J -20855980.59 -20855980.47 -20855980.35 0.0301 0.0122 *

Saturn -61814-09-06 13:40 J -20855892.06 -20855891.93 -20855891.80 0.0301 0.0010

Uranus -61814-10-18 23:16 J -20855849.62 -20855849.53 -20855849.42 0.0146 0.0123

Saturn -61814-12-04 02:37 J -20855803.51 -20855803.39 -20855803.28 0.0302 0.0140

Uranus -61813-01-15 08:09 J -20855761.31 -20855761.16 -20855761.00 0.0146 0.0090

Saturn -61813-03-01 15:21 J -20855714.91 -20855714.86 -20855714.80 0.0302 0.0270

Uranus -61813-04-12 17:01 J -20855672.97 -20855672.79 -20855672.61 0.0146 0.0057

Uranus -61813-07-10 01:54 J -20855584.61 -20855584.42 -20855584.23 0.0146 0.0024

Uranus -61813-10-06 10:33 J -20855496.25 -20855496.06 -20855495.86 0.0146 0.0010

Uranus -61812-01-02 19:25 J -20855407.87 -20855407.69 -20855407.50 0.0145 0.0043

Uranus -61812-04-01 04:04 J -20855319.49 -20855319.33 -20855319.15 0.0145 0.0076

Uranus -61812-06-28 12:57 J -20855231.08 -20855230.96 -20855230.82 0.0145 0.0108

Uranus -61812-09-24 21:35 J -20855142.63 -20855142.60 -20855142.54 0.0145 0.0142

Mars -61809-01-08 00:28 J -20854307.54 -20854307.48 -20854307.41 0.1933 0.1552

Jupiter -61809-01-08 17:01 J -20854306.91 -20854306.79 -20854306.66 0.0528 0.0122

Jupiter -61809-04-06 22:47 J -20854217.63 -20854217.55 -20854217.47 0.0527 0.0396

Mars -61809-11-05 09:35 J -20854005.27 -20854005.10 -20854004.94 0.1623 0.0153

Jupiter -61803-02-26 19:40 J -20852065.86 -20852065.68 -20852065.50 0.0498 0.0165

Moon -61801-06-11 14:52 J -20851229.98 -20851229.88 -20851229.78 0.2681 0.1104

Earth -61801-06-11 15:06 J -20851229.97 -20851229.87 -20851229.77 0.2688 0.1092 *

Saturn -61800-04-08 16:47 J -20850928.80 -20850928.80 -20850928.78 0.0262 0.0262

Mars -61800-05-30 08:23 J -20850877.26 -20850877.15 -20850877.04 0.1926 0.0544

Saturn -61800-07-06 12:42 J -20850840.12 -20850839.97 -20850839.81 0.0262 0.0140

Saturn -61800-10-03 08:52 J -20850751.32 -20850751.13 -20850750.94 0.0261 0.0017

Saturn -61800-12-31 05:01 J -20850662.46 -20850662.29 -20850662.12 0.0261 0.0106

Mars -61799-03-28 11:16 J -20850575.17 -20850575.03 -20850574.88 0.1629 0.0805

Saturn -61799-03-30 01:25 J -20850573.53 -20850573.44 -20850573.36 0.0261 0.0229

Venus -61799-10-03 09:06 J -20850386.28 -20850386.12 -20850385.96 0.3564 0.0622

Jupiter -61798-10-27 20:52 J -20849996.74 -20849996.63 -20849996.52 0.0528 0.0257

Moon -61798-12-01 17:45 J -20849961.83 -20849961.76 -20849961.69 0.2646 0.2318

Earth -61798-12-01 18:57 J -20849961.79 -20849961.71 -20849961.63 0.2651 0.2230 *

Jupiter -61797-01-25 02:52 J -20849907.49 -20849907.38 -20849907.27 0.0528 0.0265

Earth -61794-06-05 13:54 J -20848680.00 -20848679.92 -20848679.84 0.2682 0.1816

Moon -61794-06-05 14:37 J -20848679.98 -20848679.89 -20848679.81 0.2685 0.1711 *

Jupiter -61792-12-15 16:18 J -20847756.01 -20847755.82 -20847755.63 0.0498 0.0005

Mars -61791-10-20 16:18 J -20847446.94 -20847446.82 -20847446.71 0.1919 0.0457

Venus -61790-01-22 00:28 J -20847353.54 -20847353.48 -20847353.42 0.3814 0.2935

Moon -61788-06-14 08:09 J -20846479.23 -20846479.16 -20846479.09 0.2687 0.2033

Earth -61788-06-14 08:52 J -20846479.20 -20846479.13 -20846479.06 0.2690 0.2109 *

Jupiter -61786-08-16 01:11 J -20845686.54 -20845686.45 -20845686.37 0.0528 0.0387

Jupiter -61786-11-13 07:11 J -20845597.33 -20845597.20 -20845597.08 0.0527 0.0138

Saturn -61785-07-30 14:37 J -20845336.93 -20845336.89 -20845336.85 0.0300 0.0280

Venus -61785-08-06 16:33 J -20845329.91 -20845329.81 -20845329.72 0.3815 0.1089

Saturn -61785-10-27 03:35 J -20845248.46 -20845248.35 -20845248.23 0.0300 0.0150

Moon -61785-12-03 23:45 J -20845210.67 -20845210.51 -20845210.35 0.2647 0.0284

Earth -61785-12-04 01:25 J -20845210.60 -20845210.44 -20845210.29 0.2648 0.0198 *

Saturn -61784-01-23 16:47 J -20845159.93 -20845159.80 -20845159.67 0.0301 0.0019

Saturn -61784-04-22 05:45 J -20845071.38 -20845071.26 -20845071.14 0.0301 0.0113

Saturn -61784-07-19 18:28 J -20844982.80 -20844982.73 -20844982.65 0.0302 0.0242

Mars -61781-03-12 00:13 J -20844016.57 -20844016.49 -20844016.42 0.1911 0.1436

Earth -61781-06-07 07:54 J -20843929.27 -20843929.17 -20843929.06 0.2684 0.0775

Moon -61781-06-07 08:37 J -20843929.24 -20843929.14 -20843929.03 0.2681 0.0760 *

Jupiter -61780-10-03 12:28 J -20843446.15 -20843445.98 -20843445.81 0.0498 0.0178

Jupiter -61779-01-01 23:16 J -20843355.55 -20843355.53 -20843355.50 0.0499 0.0494

Venus -61779-02-20 08:37 J -20843306.24 -20843306.14 -20843306.05 0.3817 0.0795

Mars -61779-12-15 08:37 J -20843008.25 -20843008.14 -20843008.04 0.1618 0.1250

Jupiter -61774-06-04 05:16 J -20841376.30 -20841376.28 -20841376.25 0.0528 0.0516

Jupiter -61774-09-01 11:16 J -20841287.15 -20841287.03 -20841286.90 0.0527 0.0020

Venus -61774-09-06 00:28 J -20841282.55 -20841282.48 -20841282.40 0.3817 0.2663

Jupiter -61774-11-29 16:47 J -20841197.80 -20841197.80 -20841197.78 0.0526 0.0524

Moon -61772-12-07 06:42 J -20840459.34 -20840459.22 -20840459.10 0.2649 0.1636

Earth -61772-12-07 08:23 J -20840459.26 -20840459.15 -20840459.04 0.2646 0.1890 *

Saturn -61771-11-23 13:11 J -20840108.09 -20840107.95 -20840107.81 0.0262 0.0171

Uranus -61770-01-14 08:23 J -20840056.20 -20840056.15 -20840056.09 0.0133 0.0121

Saturn -61770-02-20 09:06 J -20840019.30 -20840019.12 -20840018.93 0.0261 0.0049

Uranus -61770-04-12 11:16 J -20839968.10 -20839968.03 -20839967.94 0.0133 0.0104

Saturn -61770-05-20 05:16 J -20839930.46 -20839930.28 -20839930.10 0.0261 0.0074

Mars -61770-07-09 00:42 J -20839880.53 -20839880.47 -20839880.42 0.1933 0.1666

Uranus -61770-07-09 14:09 J -20839880.00 -20839879.91 -20839879.80 0.0133 0.0087

Saturn -61770-08-17 01:25 J -20839841.56 -20839841.44 -20839841.31 0.0260 0.0197

Uranus -61770-10-05 17:16 J -20839791.89 -20839791.78 -20839791.67 0.0133 0.0070

Uranus -61769-01-01 20:09 J -20839703.78 -20839703.66 -20839703.54 0.0133 0.0053

Uranus -61769-03-29 23:01 J -20839615.66 -20839615.54 -20839615.41 0.0133 0.0037

Mars -61769-05-06 10:18 J -20839578.24 -20839578.07 -20839577.91 0.1623 0.0292

Uranus -61769-06-26 02:09 J -20839527.54 -20839527.41 -20839527.28 0.0133 0.0020

Uranus -61769-09-22 05:01 J -20839439.42 -20839439.29 -20839439.16 0.0133 0.0002

Uranus -61769-12-19 07:54 J -20839351.30 -20839351.17 -20839351.04 0.0133 0.0015

Uranus -61768-03-17 10:47 J -20839263.17 -20839263.05 -20839262.92 0.0133 0.0032

Earth -61768-06-10 01:54 J -20839178.53 -20839178.42 -20839178.31 0.2686 0.0270

Moon -61768-06-10 02:09 J -20839178.52 -20839178.41 -20839178.30 0.2680 0.0349 *

Uranus -61768-06-13 13:40 J -20839175.05 -20839174.93 -20839174.80 0.0134 0.0049

Jupiter -61768-07-22 09:21 J -20839136.24 -20839136.11 -20839135.98 0.0498 0.0344

Uranus -61768-09-09 16:33 J -20839086.92 -20839086.81 -20839086.69 0.0134 0.0066

Jupiter -61768-10-20 19:54 J -20839045.80 -20839045.67 -20839045.52 0.0499 0.0326

Uranus -61768-12-06 19:40 J -20838998.78 -20838998.68 -20838998.58 0.0134 0.0083

Neptune -61767-02-28 07:54 J -20838915.17 -20838915.17 -20838915.14 0.0089 0.0088

Uranus -61767-03-04 22:33 J -20838910.64 -20838910.56 -20838910.47 0.0134 0.0100

Neptune -61767-05-27 09:35 J -20838827.15 -20838827.10 -20838827.05 0.0089 0.0082

Uranus -61767-06-01 01:25 J -20838822.50 -20838822.44 -20838822.37 0.0134 0.0117

Neptune -61767-08-23 10:47 J -20838739.11 -20838739.05 -20838738.97 0.0089 0.0077

Neptune -61767-11-19 12:28 J -20838651.06 -20838650.98 -20838650.90 0.0089 0.0071

Neptune -61766-02-15 13:40 J -20838563.01 -20838562.93 -20838562.83 0.0089 0.0066

Neptune -61766-05-14 15:06 J -20838474.96 -20838474.87 -20838474.77 0.0089 0.0060

Neptune -61766-08-10 16:18 J -20838386.91 -20838386.82 -20838386.70 0.0089 0.0055

Neptune -61766-11-06 17:59 J -20838298.86 -20838298.75 -20838298.64 0.0089 0.0049

Neptune -61765-02-02 19:11 J -20838210.81 -20838210.70 -20838210.57 0.0089 0.0044

Neptune -61765-04-30 20:37 J -20838122.75 -20838122.64 -20838122.51 0.0089 0.0038

Neptune -61765-07-27 22:04 J -20838034.70 -20838034.58 -20838034.45 0.0089 0.0032

Neptune -61765-10-23 23:30 J -20837946.65 -20837946.52 -20837946.39 0.0089 0.0027

Neptune -61764-01-20 00:42 J -20837858.59 -20837858.47 -20837858.33 0.0089 0.0022

Neptune -61764-04-18 02:23 J -20837770.54 -20837770.40 -20837770.27 0.0089 0.0016

Neptune -61764-07-15 03:35 J -20837682.48 -20837682.35 -20837682.21 0.0089 0.0011

Neptune -61764-10-11 05:01 J -20837594.42 -20837594.29 -20837594.16 0.0089 0.0005

Neptune -61763-01-07 06:28 J -20837506.37 -20837506.23 -20837506.10 0.0089 0.0002

Neptune -61763-04-05 07:40 J -20837418.31 -20837418.18 -20837418.04 0.0089 0.0007

Neptune -61763-07-02 09:06 J -20837330.25 -20837330.12 -20837329.99 0.0089 0.0011

Neptune -61763-09-28 10:33 J -20837242.19 -20837242.06 -20837241.93 0.0089 0.0017

Neptune -61763-12-25 11:45 J -20837154.13 -20837154.01 -20837153.88 0.0089 0.0023

Neptune -61762-03-23 13:11 J -20837066.08 -20837065.95 -20837065.82 0.0089 0.0028

Neptune -61762-06-19 14:23 J -20836978.02 -20836977.90 -20836977.77 0.0089 0.0034

Jupiter -61762-06-20 15:06 J -20836976.99 -20836976.87 -20836976.75 0.0527 0.0129

Neptune -61762-09-15 15:49 J -20836889.96 -20836889.84 -20836889.72 0.0089 0.0039

Jupiter -61762-09-17 20:52 J -20836887.72 -20836887.63 -20836887.55 0.0527 0.0389

Neptune -61762-12-12 17:16 J -20836801.90 -20836801.78 -20836801.67 0.0089 0.0044

Neptune -61761-03-09 18:28 J -20836713.83 -20836713.73 -20836713.61 0.0089 0.0050

Earth -61761-06-03 00:42 J -20836628.48 -20836628.47 -20836628.46 0.2680 0.2659

Moon -61761-06-03 01:11 J -20836628.47 -20836628.45 -20836628.44 0.2686 0.2638 *

Neptune -61761-06-05 19:54 J -20836625.77 -20836625.67 -20836625.56 0.0089 0.0055

Neptune -61761-09-01 21:06 J -20836537.71 -20836537.62 -20836537.52 0.0089 0.0060

Mars -61761-11-28 08:23 J -20836450.26 -20836450.15 -20836450.04 0.1926 0.0653

Neptune -61761-11-28 22:33 J -20836449.64 -20836449.56 -20836449.47 0.0089 0.0066

Neptune -61760-02-24 23:59 J -20836361.58 -20836361.50 -20836361.42 0.0089 0.0071

Neptune -61760-05-24 00:57 J -20836273.51 -20836273.46 -20836273.38 0.0089 0.0077

Neptune -61760-08-20 02:23 J -20836185.44 -20836185.40 -20836185.34 0.0089 0.0082

Mars -61760-09-26 11:59 J -20836148.15 -20836148.00 -20836147.85 0.1629 0.0669

Neptune -61760-11-16 03:49 J -20836097.36 -20836097.34 -20836097.31 0.0089 0.0087

Jupiter -61756-08-08 16:47 J -20834735.98 -20834735.80 -20834735.62 0.0498 0.0157

Saturn -61755-03-16 06:28 J -20834516.34 -20834516.23 -20834516.13 0.0301 0.0179

Saturn -61755-06-12 19:25 J -20834427.82 -20834427.69 -20834427.56 0.0301 0.0048

Moon -61755-06-12 19:40 J -20834427.78 -20834427.68 -20834427.58 0.2681 0.1215 *

Earth -61755-06-12 19:54 J -20834427.77 -20834427.67 -20834427.58 0.2688 0.1290 *

Saturn -61755-09-09 08:23 J -20834339.27 -20834339.15 -20834339.02 0.0302 0.0084

Saturn -61755-12-06 21:06 J -20834250.70 -20834250.62 -20834250.52 0.0302 0.0215

Pluto -61752-04-27 23:01 J -20833377.59 -20833377.54 -20833377.47 0.0084 0.0075

Pluto -61752-07-25 00:42 J -20833289.55 -20833289.47 -20833289.38 0.0084 0.0065

Pluto -61752-10-21 02:09 J -20833201.51 -20833201.41 -20833201.29 0.0084 0.0055

Moon -61752-12-02 00:13 J -20833159.59 -20833159.49 -20833159.38 0.2645 0.1969

Earth -61752-12-02 01:25 J -20833159.55 -20833159.44 -20833159.33 0.2651 0.1851 *

Pluto -61751-01-17 03:49 J -20833113.45 -20833113.34 -20833113.21 0.0083 0.0045

Pluto -61751-04-15 05:30 J -20833025.40 -20833025.27 -20833025.14 0.0083 0.0034

Mars -61751-04-20 16:18 J -20833019.94 -20833019.82 -20833019.71 0.1919 0.0344

Pluto -61751-07-12 07:11 J -20832937.34 -20832937.20 -20832937.07 0.0083 0.0024

Pluto -61751-10-08 08:37 J -20832849.28 -20832849.14 -20832849.00 0.0083 0.0014

Pluto -61750-01-04 10:04 J -20832761.22 -20832761.08 -20832760.93 0.0083 0.0006

Pluto -61750-04-02 11:45 J -20832673.15 -20832673.01 -20832672.87 0.0083 0.0005

Jupiter -61750-04-08 18:57 J -20832666.81 -20832666.71 -20832666.59 0.0528 0.0264

Pluto -61750-06-29 13:11 J -20832585.09 -20832584.95 -20832584.81 0.0083 0.0015

Jupiter -61750-07-07 00:57 J -20832577.57 -20832577.46 -20832577.35 0.0527 0.0258

Pluto -61750-09-25 14:37 J -20832497.02 -20832496.89 -20832496.75 0.0082 0.0024

Pluto -61750-12-22 16:04 J -20832408.95 -20832408.83 -20832408.70 0.0082 0.0034

Pluto -61749-03-19 17:30 J -20832320.88 -20832320.77 -20832320.64 0.0082 0.0043

Pluto -61749-06-15 18:57 J -20832232.81 -20832232.71 -20832232.60 0.0082 0.0052

Pluto -61749-09-11 20:37 J -20832144.74 -20832144.64 -20832144.55 0.0082 0.0061

Pluto -61749-12-08 21:35 J -20832056.65 -20832056.60 -20832056.52 0.0082 0.0071

Pluto -61748-03-06 23:01 J -20831968.55 -20831968.54 -20831968.50 0.0082 0.0080

Earth -61748-06-05 18:42 J -20831877.80 -20831877.72 -20831877.63 0.2682 0.1613

Moon -61748-06-05 19:25 J -20831877.78 -20831877.69 -20831877.60 0.2683 0.1554 *

Jupiter -61744-05-27 13:25 J -20830426.12 -20830425.94 -20830425.75 0.0498 0.0014

Venus -61742-05-10 11:16 J -20829713.18 -20829713.03 -20829712.88 0.3563 0.1058

Moon -61742-06-15 12:57 J -20829677.01 -20829676.96 -20829676.90 0.2688 0.2265

Earth -61742-06-15 13:40 J -20829676.98 -20829676.93 -20829676.87 0.2690 0.2305 *

Mars -61742-09-10 23:59 J -20829589.58 -20829589.50 -20829589.42 0.1911 0.1337

Saturn -61741-04-11 14:23 J -20829376.02 -20829375.90 -20829375.77 0.0262 0.0196

Saturn -61741-07-09 10:33 J -20829287.24 -20829287.06 -20829286.88 0.0261 0.0074

Saturn -61741-10-06 06:28 J -20829198.41 -20829198.23 -20829198.04 0.0261 0.0049

Saturn -61740-01-03 02:52 J -20829109.52 -20829109.38 -20829109.24 0.0261 0.0172

Mars -61739-06-15 09:06 J -20828581.20 -20828581.12 -20828581.03 0.1618 0.1383

Moon -61739-12-05 06:13 J -20828408.39 -20828408.24 -20828408.08 0.2648 0.0067

Earth -61739-12-05 07:54 J -20828408.32 -20828408.17 -20828408.01 0.2648 0.0206 *

Jupiter -61738-01-25 22:47 J -20828356.63 -20828356.55 -20828356.47 0.0528 0.0401

Jupiter -61738-04-25 04:47 J -20828267.42 -20828267.30 -20828267.18 0.0528 0.0124

Earth -61735-06-08 12:57 J -20827127.07 -20827126.96 -20827126.86 0.2684 0.0574

Moon -61735-06-08 13:25 J -20827127.05 -20827126.94 -20827126.83 0.2681 0.0451 *

Venus -61734-08-28 22:04 J -20826680.66 -20826680.58 -20826680.50 0.3814 0.2274

Jupiter -61732-03-15 10:04 J -20826116.25 -20826116.08 -20826115.90 0.0498 0.0181

Jupiter -61732-06-13 20:52 J -20826025.65 -20826025.63 -20826025.60 0.0498 0.0490

Mars -61730-01-07 00:28 J -20825453.52 -20825453.48 -20825453.43 0.1933 0.1758

Uranus -61730-08-11 23:59 J -20825236.55 -20825236.50 -20825236.46 0.0146 0.0142

Mars -61730-11-05 11:01 J -20825151.20 -20825151.04 -20825150.88 0.1623 0.0437

Uranus -61730-11-08 08:23 J -20825148.26 -20825148.15 -20825148.01 0.0146 0.0109

Uranus -61729-02-04 17:30 J -20825059.94 -20825059.77 -20825059.60 0.0146 0.0075

Uranus -61729-05-03 02:09 J -20824971.59 -20824971.41 -20824971.22 0.0146 0.0043

Uranus -61729-07-30 11:01 J -20824883.23 -20824883.04 -20824882.84 0.0146 0.0010

Uranus -61729-10-26 19:54 J -20824794.86 -20824794.67 -20824794.48 0.0146 0.0024

Uranus -61728-01-23 04:33 J -20824706.48 -20824706.31 -20824706.12 0.0145 0.0058

Venus -61728-03-13 13:54 J -20824657.02 -20824656.92 -20824656.82 0.3816 0.0454

Uranus -61728-04-21 13:25 J -20824618.08 -20824617.94 -20824617.78 0.0145 0.0090

Uranus -61728-07-18 22:04 J -20824529.67 -20824529.58 -20824529.46 0.0145 0.0123

Jupiter -61726-02-11 09:06 J -20823957.25 -20823957.12 -20823956.99 0.0528 0.0005

Jupiter -61726-05-11 14:37 J -20823867.91 -20823867.89 -20823867.86 0.0527 0.0512

Saturn -61726-08-03 09:35 J -20823784.20 -20823784.10 -20823784.01 0.0300 0.0206

Saturn -61726-10-30 22:33 J -20823695.69 -20823695.56 -20823695.43 0.0301 0.0075

Moon -61726-12-08 13:25 J -20823657.03 -20823656.94 -20823656.86 0.2648 0.2230

Earth -61726-12-08 14:52 J -20823656.96 -20823656.88 -20823656.80 0.2646 0.2270 *

Saturn -61725-01-27 11:30 J -20823607.15 -20823607.02 -20823606.89 0.0301 0.0055

Saturn -61725-04-25 00:28 J -20823518.58 -20823518.48 -20823518.38 0.0302 0.0186

Venus -61723-09-27 05:59 J -20822633.34 -20822633.25 -20822633.15 0.3817 0.1462

Moon -61722-06-11 06:57 J -20822376.32 -20822376.21 -20822376.10 0.2679 0.0421

Earth -61722-06-11 06:42 J -20822376.32 -20822376.22 -20822376.11 0.2686 0.0481 *

Mars -61721-05-29 08:23 J -20822023.25 -20822023.15 -20822023.04 0.1926 0.0769

Jupiter -61720-01-01 05:59 J -20821806.37 -20821806.25 -20821806.11 0.0498 0.0356

Mars -61720-03-27 12:42 J -20821721.13 -20821720.97 -20821720.82 0.1629 0.0532

Jupiter -61720-04-01 16:47 J -20821715.94 -20821715.80 -20821715.65 0.0499 0.0313

Venus -61717-04-11 22:04 J -20820609.63 -20820609.58 -20820609.53 0.3818 0.3330

Earth -61715-06-04 05:30 J -20819826.31 -20819826.27 -20819826.23 0.2680 0.2454

Moon -61715-06-04 05:59 J -20819826.30 -20819826.25 -20819826.20 0.2686 0.2395 *

Jupiter -61715-11-30 13:25 J -20819647.06 -20819646.94 -20819646.82 0.0528 0.0132

Jupiter -61714-02-27 19:11 J -20819557.79 -20819557.70 -20819557.62 0.0527 0.0386

Saturn -61712-08-29 15:06 J -20818643.96 -20818643.87 -20818643.78 0.0262 0.0225

Mars -61712-10-19 16:18 J -20818592.94 -20818592.82 -20818592.71 0.1919 0.0232

Saturn -61712-11-26 11:01 J -20818555.21 -20818555.04 -20818554.87 0.0261 0.0104

Saturn -61711-02-23 06:57 J -20818466.39 -20818466.21 -20818466.02 0.0261 0.0019

Saturn -61711-05-23 03:06 J -20818377.52 -20818377.37 -20818377.21 0.0261 0.0141

Mars -61711-08-17 14:23 J -20818290.96 -20818290.90 -20818290.84 0.1635 0.1500

Moon -61709-06-13 00:28 J -20817625.58 -20817625.48 -20817625.39 0.2683 0.1509

Earth -61709-06-13 00:42 J -20817625.56 -20817625.47 -20817625.38 0.2688 0.1490 *

Jupiter -61708-01-18 13:25 J -20817406.11 -20817405.94 -20817405.76 0.0498 0.0146

Moon -61706-12-03 06:42 J -20816357.35 -20816357.22 -20816357.09 0.2646 0.1532

Earth -61706-12-03 07:54 J -20816357.30 -20816357.17 -20816357.04 0.2650 0.1475 *

Jupiter -61703-09-18 17:16 J -20815336.89 -20815336.78 -20815336.67 0.0528 0.0269

Jupiter -61703-12-16 23:01 J -20815247.65 -20815247.54 -20815247.43 0.0527 0.0251

Mars -61702-03-11 23:59 J -20815162.58 -20815162.50 -20815162.41 0.1911 0.1225

Earth -61702-06-06 23:45 J -20815075.61 -20815075.51 -20815075.42 0.2682 0.1405

Moon -61702-06-07 00:28 J -20815075.58 -20815075.48 -20815075.39 0.2682 0.1326 *

Mars -61700-12-14 09:49 J -20814154.14 -20814154.09 -20814154.04 0.1618 0.1523

Jupiter -61697-11-06 10:33 J -20813096.25 -20813096.06 -20813095.88 0.0498 0.0022

Saturn -61697-12-20 11:59 J -20813052.08 -20813052.00 -20813051.92 0.0300 0.0237

Saturn -61696-03-19 01:11 J -20812963.58 -20812963.45 -20812963.33 0.0301 0.0106

Saturn -61696-06-15 14:09 J -20812875.04 -20812874.91 -20812874.78 0.0302 0.0025

Moon -61696-06-15 17:45 J -20812874.81 -20812874.76 -20812874.71 0.2688 0.2384 *

Earth -61696-06-15 18:28 J -20812874.76 -20812874.73 -20812874.69 0.2690 0.2505 *

Saturn -61696-09-12 03:06 J -20812786.48 -20812786.37 -20812786.26 0.0302 0.0156

Saturn -61696-12-09 15:49 J -20812697.88 -20812697.84 -20812697.80 0.0302 0.0286

Moon -61693-12-05 12:42 J -20811606.12 -20811605.97 -20811605.81 0.2648 0.0423

Earth -61693-12-05 14:37 J -20811606.04 -20811605.89 -20811605.74 0.2648 0.0573 *

Venus -61691-05-31 04:33 J -20811064.44 -20811064.31 -20811064.19 0.3564 0.2246

Jupiter -61691-07-07 21:06 J -20811026.70 -20811026.62 -20811026.54 0.0528 0.0405

Mars -61691-07-08 00:42 J -20811026.50 -20811026.47 -20811026.45 0.1933 0.1878

Jupiter -61691-10-05 03:06 J -20810937.50 -20810937.37 -20810937.25 0.0527 0.0119

Mars -61690-05-06 11:30 J -20810724.17 -20810724.02 -20810723.86 0.1623 0.0566

Earth -61689-06-08 17:45 J -20810324.87 -20810324.76 -20810324.65 0.2684 0.0363

Moon -61689-06-08 18:13 J -20810324.85 -20810324.74 -20810324.63 0.2681 0.0343 *

Uranus -61687-11-07 13:11 J -20809442.96 -20809442.95 -20809442.92 0.0133 0.0130

Uranus -61686-02-03 16:04 J -20809354.89 -20809354.83 -20809354.75 0.0133 0.0114

Uranus -61686-05-02 19:11 J -20809266.79 -20809266.70 -20809266.61 0.0133 0.0097

Uranus -61686-07-29 22:04 J -20809178.68 -20809178.58 -20809178.47 0.0133 0.0080

Uranus -61686-10-26 00:57 J -20809090.57 -20809090.46 -20809090.34 0.0133 0.0063

Venus -61686-12-15 13:11 J -20809040.05 -20809039.95 -20809039.84 0.3563 0.2729

Uranus -61685-01-22 04:04 J -20809002.46 -20809002.33 -20809002.21 0.0133 0.0046

Uranus -61685-04-19 06:57 J -20808914.34 -20808914.21 -20808914.08 0.0133 0.0029

Uranus -61685-07-16 09:49 J -20808826.22 -20808826.09 -20808825.96 0.0133 0.0012

Jupiter -61685-08-25 07:25 J -20808786.36 -20808786.19 -20808786.02 0.0498 0.0187

Uranus -61685-10-12 12:42 J -20808738.10 -20808737.97 -20808737.84 0.0133 0.0005

Jupiter -61685-11-23 18:13 J -20808695.78 -20808695.74 -20808695.70 0.0498 0.0485

Uranus -61684-01-08 15:35 J -20808649.97 -20808649.85 -20808649.72 0.0133 0.0022

Neptune -61684-02-12 00:57 J -20808615.49 -20808615.46 -20808615.43 0.0089 0.0087

Uranus -61684-04-06 18:42 J -20808561.85 -20808561.72 -20808561.60 0.0133 0.0039

Neptune -61684-05-11 04:04 J -20808527.40 -20808527.33 -20808527.23 0.0089 0.0080

Uranus -61684-07-03 21:35 J -20808473.72 -20808473.60 -20808473.48 0.0134 0.0056

Neptune -61684-08-07 07:40 J -20808439.28 -20808439.18 -20808439.06 0.0089 0.0072

Uranus -61684-09-30 00:28 J -20808385.59 -20808385.48 -20808385.37 0.0134 0.0073

Neptune -61684-11-03 10:47 J -20808351.16 -20808351.05 -20808350.90 0.0089 0.0065

Uranus -61684-12-27 03:21 J -20808297.45 -20808297.36 -20808297.26 0.0134 0.0090

Neptune -61683-01-30 14:23 J -20808263.03 -20808262.90 -20808262.74 0.0089 0.0057

Uranus -61683-03-25 06:13 J -20808209.31 -20808209.24 -20808209.16 0.0134 0.0107

Neptune -61683-04-28 17:59 J -20808174.90 -20808174.75 -20808174.58 0.0089 0.0049

Uranus -61683-06-21 09:06 J -20808121.16 -20808121.12 -20808121.06 0.0134 0.0124

Neptune -61683-07-25 21:21 J -20808086.77 -20808086.61 -20808086.43 0.0089 0.0042

Venus -61683-09-19 03:35 J -20808031.39 -20808031.35 -20808031.31 0.3813 0.3459

Neptune -61683-10-22 00:57 J -20807998.63 -20807998.46 -20807998.28 0.0089 0.0034

Saturn -61682-01-16 16:04 J -20807911.87 -20807911.83 -20807911.77 0.0262 0.0251

Neptune -61682-01-18 04:33 J -20807910.49 -20807910.31 -20807910.12 0.0089 0.0026

Saturn -61682-04-15 11:59 J -20807823.15 -20807823.00 -20807822.83 0.0261 0.0130

Neptune -61682-04-16 08:09 J -20807822.35 -20807822.16 -20807821.97 0.0089 0.0018

Saturn -61682-07-13 08:09 J -20807734.35 -20807734.16 -20807733.97 0.0261 0.0007

Neptune -61682-07-13 11:30 J -20807734.21 -20807734.02 -20807733.82 0.0089 0.0010 *

Neptune -61682-10-09 15:06 J -20807646.06 -20807645.87 -20807645.68 0.0089 0.0002

Saturn -61682-10-10 04:04 J -20807645.49 -20807645.33 -20807645.15 0.0261 0.0116

Mars -61682-11-28 08:23 J -20807596.25 -20807596.15 -20807596.05 0.1926 0.0867

Neptune -61681-01-05 18:42 J -20807557.92 -20807557.72 -20807557.53 0.0089 0.0006

Saturn -61681-01-07 00:28 J -20807556.55 -20807556.48 -20807556.40 0.0260 0.0238

Neptune -61681-04-02 22:04 J -20807469.77 -20807469.58 -20807469.39 0.0089 0.0013

Neptune -61681-06-30 01:25 J -20807381.62 -20807381.44 -20807381.24 0.0089 0.0022

Mars -61681-09-25 13:11 J -20807294.11 -20807293.95 -20807293.78 0.1629 0.0397

Neptune -61681-09-26 05:16 J -20807293.46 -20807293.28 -20807293.10 0.0089 0.0029

Neptune -61681-12-23 08:37 J -20807205.31 -20807205.14 -20807204.96 0.0089 0.0037

Neptune -61680-03-21 11:59 J -20807117.15 -20807117.00 -20807116.82 0.0089 0.0045

Neptune -61680-06-17 15:35 J -20807028.99 -20807028.85 -20807028.68 0.0089 0.0053

Neptune -61680-09-13 18:57 J -20806940.83 -20806940.71 -20806940.55 0.0089 0.0061

Moon -61680-12-08 20:23 J -20806854.70 -20806854.65 -20806854.60 0.2649 0.2488

Neptune -61680-12-10 22:33 J -20806852.66 -20806852.56 -20806852.42 0.0089 0.0069

Neptune -61679-03-09 02:09 J -20806764.49 -20806764.41 -20806764.30 0.0089 0.0076

Neptune -61679-06-05 05:59 J -20806676.30 -20806676.25 -20806676.19 0.0089 0.0084

Jupiter -61679-07-24 06:57 J -20806627.34 -20806627.21 -20806627.08 0.0528 0.0017

Jupiter -61679-10-21 12:28 J -20806538.01 -20806537.98 -20806537.94 0.0527 0.0501

Venus -61677-04-03 19:25 J -20806007.78 -20806007.69 -20806007.59 0.3815 0.1625

Moon -61676-06-11 11:45 J -20805574.12 -20805574.01 -20805573.90 0.2679 0.0730

Earth -61676-06-11 11:45 J -20805574.12 -20805574.01 -20805573.91 0.2686 0.0674 *

Jupiter -61673-06-13 04:18 J -20804476.45 -20804476.32 -20804476.19 0.0497 0.0353

Jupiter -61673-09-11 14:37 J -20804386.03 -20804385.89 -20804385.74 0.0498 0.0315

Mars -61672-04-19 16:18 J -20804165.94 -20804165.82 -20804165.71 0.1919 0.0144

Venus -61672-10-18 11:30 J -20803984.12 -20803984.02 -20803983.92 0.3816 0.0271

Mars -61671-02-15 15:06 J -20803863.96 -20803863.87 -20803863.78 0.1634 0.1357

Earth -61669-06-04 10:33 J -20803024.12 -20803024.06 -20803024.01 0.2680 0.2244

Moon -61669-06-04 11:01 J -20803024.10 -20803024.04 -20803023.98 0.2684 0.2235 *

Saturn -61667-05-09 14:52 J -20802319.94 -20802319.88 -20802319.82 0.0300 0.0267

Jupiter -61667-05-12 11:16 J -20802317.15 -20802317.03 -20802316.91 0.0528 0.0144

Saturn -61667-08-06 03:49 J -20802231.45 -20802231.34 -20802231.22 0.0300 0.0137

Jupiter -61667-08-09 17:01 J -20802227.88 -20802227.79 -20802227.70 0.0527 0.0376

Saturn -61667-11-02 17:01 J -20802142.92 -20802142.79 -20802142.66 0.0301 0.0005

Saturn -61666-01-30 05:59 J -20802054.37 -20802054.25 -20802054.13 0.0301 0.0126

Saturn -61666-04-28 18:42 J -20801965.78 -20801965.72 -20801965.65 0.0302 0.0256

Venus -61666-05-04 03:35 J -20801960.43 -20801960.35 -20801960.27 0.3817 0.2122

Moon -61663-06-14 05:01 J -20800823.38 -20800823.29 -20800823.20 0.2684 0.1579

Earth -61663-06-14 05:30 J -20800823.35 -20800823.27 -20800823.18 0.2689 0.1691 *

Mars -61663-09-10 00:13 J -20800735.58 -20800735.49 -20800735.40 0.1911 0.1105

Jupiter -61661-06-30 10:33 J -20800076.24 -20800076.06 -20800075.88 0.0498 0.0135

Moon -61660-12-03 13:11 J -20799555.09 -20799554.95 -20799554.82 0.2647 0.1309

Earth -61660-12-03 14:37 J -20799555.03 -20799554.89 -20799554.75 0.2650 0.1094 *

Earth -61656-06-07 04:33 J -20798273.41 -20798273.31 -20798273.21 0.2682 0.1198

Moon -61656-06-07 05:16 J -20798273.38 -20798273.28 -20798273.18 0.2683 0.1108 *

Jupiter -61655-02-28 15:35 J -20798006.96 -20798006.85 -20798006.74 0.0528 0.0271

Jupiter -61655-05-28 21:35 J -20797917.72 -20797917.60 -20797917.49 0.0527 0.0251

Saturn -61653-09-01 12:28 J -20797091.12 -20797090.98 -20797090.83 0.0261 0.0160

Saturn -61653-11-29 08:37 J -20797002.33 -20797002.14 -20797001.96 0.0261 0.0038

Saturn -61652-02-26 04:33 J -20796913.48 -20796913.31 -20796913.13 0.0261 0.0085

Saturn -61652-05-26 00:42 J -20796824.58 -20796824.47 -20796824.35 0.0260 0.0207

Mars -61651-11-04 12:13 J -20796297.14 -20796296.99 -20796296.84 0.1623 0.0702

Moon -61650-06-16 22:33 J -20796072.56 -20796072.56 -20796072.55 0.2689 0.2680

Jupiter -61649-04-18 07:25 J -20795766.38 -20795766.19 -20795766.01 0.0498 0.0033

Moon -61647-12-06 19:25 J -20794803.84 -20794803.69 -20794803.54 0.2648 0.0817

Earth -61647-12-06 21:21 J -20794803.76 -20794803.61 -20794803.47 0.2647 0.0963 *

Uranus -61646-09-01 08:52 J -20794535.22 -20794535.13 -20794535.04 0.0146 0.0129

Uranus -61646-11-28 17:16 J -20794446.91 -20794446.78 -20794446.62 0.0146 0.0096

Uranus -61645-02-25 02:23 J -20794358.57 -20794358.40 -20794358.22 0.0146 0.0062

Uranus -61645-05-23 11:16 J -20794270.22 -20794270.03 -20794269.84 0.0146 0.0029

Uranus -61645-08-19 20:09 J -20794181.86 -20794181.66 -20794181.47 0.0146 0.0005

Uranus -61645-11-16 04:47 J -20794093.48 -20794093.30 -20794093.11 0.0146 0.0037

Uranus -61644-02-12 13:25 J -20794005.10 -20794004.94 -20794004.76 0.0146 0.0071

Uranus -61644-05-11 22:18 J -20793916.70 -20793916.57 -20793916.42 0.0145 0.0103

Uranus -61644-08-08 06:57 J -20793828.26 -20793828.21 -20793828.13 0.0145 0.0137

Jupiter -61644-12-17 19:25 J -20793696.77 -20793696.69 -20793696.61 0.0528 0.0407

Jupiter -61643-03-17 01:25 J -20793607.56 -20793607.44 -20793607.32 0.0527 0.0116

Earth -61643-06-09 22:33 J -20793522.67 -20793522.56 -20793522.45 0.2685 0.0162

Moon -61643-06-09 23:01 J -20793522.65 -20793522.54 -20793522.43 0.2679 0.0110 *

Mars -61642-05-29 08:23 J -20793169.25 -20793169.15 -20793169.05 0.1926 0.0975

Mars -61641-03-26 13:54 J -20792867.08 -20792866.92 -20792866.75 0.1629 0.0257

Saturn -61638-12-24 05:59 J -20791499.36 -20791499.25 -20791499.14 0.0301 0.0172

Jupiter -61637-02-05 04:33 J -20791456.48 -20791456.31 -20791456.14 0.0498 0.0196

Saturn -61637-03-21 19:11 J -20791410.83 -20791410.70 -20791410.57 0.0302 0.0041

Jupiter -61637-05-05 15:21 J -20791365.91 -20791365.86 -20791365.81 0.0499 0.0477

Saturn -61637-06-18 08:09 J -20791322.29 -20791322.16 -20791322.04 0.0302 0.0091

Saturn -61637-09-14 20:52 J -20791233.71 -20791233.63 -20791233.54 0.0302 0.0222

Venus -61634-01-05 06:42 J -20790391.38 -20790391.22 -20790391.07 0.3564 0.0546

Mars -61633-10-18 16:18 J -20789738.93 -20789738.82 -20789738.70 0.1919 0.0019

Mars -61632-08-16 15:35 J -20789436.96 -20789436.85 -20789436.74 0.1634 0.1228

Jupiter -61631-01-03 05:30 J -20789297.40 -20789297.27 -20789297.15 0.0527 0.0025

Jupiter -61631-04-02 11:01 J -20789208.08 -20789208.04 -20789208.00 0.0526 0.0499

Moon -61630-06-12 16:33 J -20788771.92 -20788771.81 -20788771.71 0.2680 0.0825

Earth -61630-06-12 16:33 J -20788771.92 -20788771.81 -20788771.71 0.2687 0.0871 *

Venus -61626-04-26 00:57 J -20787358.52 -20787358.46 -20787358.39 0.3814 0.2813

Jupiter -61626-11-24 01:40 J -20787146.55 -20787146.43 -20787146.30 0.0498 0.0358

Jupiter -61625-02-22 12:13 J -20787056.13 -20787055.99 -20787055.84 0.0498 0.0311

Saturn -61623-01-19 13:25 J -20786359.07 -20786358.94 -20786358.81 0.0261 0.0187

Mars -61623-03-10 23:59 J -20786308.60 -20786308.50 -20786308.40 0.1911 0.1014

Saturn -61623-04-18 09:21 J -20786270.29 -20786270.11 -20786269.93 0.0261 0.0066

Earth -61623-06-05 15:21 J -20786221.93 -20786221.86 -20786221.79 0.2681 0.2038

Moon -61623-06-05 16:04 J -20786221.91 -20786221.83 -20786221.76 0.2684 0.1917 *

Saturn -61623-07-16 05:30 J -20786181.46 -20786181.27 -20786181.09 0.0261 0.0057

Saturn -61623-10-13 01:25 J -20786092.57 -20786092.44 -20786092.30 0.0260 0.0179

Venus -61621-11-08 17:01 J -20785334.89 -20785334.79 -20785334.69 0.3815 0.0950

Jupiter -61620-10-22 09:21 J -20784987.24 -20784987.11 -20784986.99 0.0528 0.0154

Jupiter -61619-01-19 14:52 J -20784897.96 -20784897.88 -20784897.79 0.0527 0.0368

Moon -61617-06-14 09:49 J -20784021.17 -20784021.09 -20784021.01 0.2684 0.1882

Earth -61617-06-14 10:18 J -20784021.14 -20784021.07 -20784020.99 0.2689 0.1889 *

Venus -61615-05-25 09:06 J -20783311.22 -20783311.12 -20783311.03 0.3816 0.0923

Moon -61614-12-04 19:25 J -20782752.84 -20782752.69 -20782752.54 0.2648 0.0769

Earth -61614-12-04 21:06 J -20782752.77 -20782752.62 -20782752.47 0.2650 0.0721 *

Jupiter -61614-12-11 08:52 J -20782746.30 -20782746.13 -20782745.95 0.0498 0.0142

Mars -61611-05-05 12:57 J -20781870.10 -20781869.96 -20781869.82 0.1623 0.0849

Earth -61610-06-08 09:21 J -20781471.21 -20781471.11 -20781471.00 0.2683 0.0993

Moon -61610-06-08 10:04 J -20781471.18 -20781471.08 -20781470.97 0.2682 0.0943 *

Venus -61610-12-09 01:11 J -20781287.52 -20781287.45 -20781287.39 0.3817 0.2804

Saturn -61608-05-12 08:37 J -20780767.24 -20780767.14 -20780767.04 0.0300 0.0204

Saturn -61608-08-08 21:35 J -20780678.72 -20780678.60 -20780678.47 0.0301 0.0073

Jupiter -61608-08-10 13:40 J -20780677.04 -20780676.93 -20780676.83 0.0528 0.0281

Saturn -61608-11-05 10:47 J -20780590.18 -20780590.05 -20780589.92 0.0301 0.0059

Jupiter -61608-11-07 19:25 J -20780587.80 -20780587.69 -20780587.58 0.0527 0.0242

Saturn -61607-02-01 23:30 J -20780501.62 -20780501.52 -20780501.41 0.0302 0.0189

Neptune -61603-11-25 06:57 J -20778744.22 -20778744.21 -20778744.20 0.0089 0.0088

Mars -61603-11-27 08:23 J -20778742.24 -20778742.15 -20778742.05 0.1926 0.1095

Uranus -61603-11-27 20:52 J -20778741.67 -20778741.63 -20778741.58 0.0132 0.0124

Neptune -61602-02-21 08:09 J -20778656.20 -20778656.16 -20778656.11 0.0089 0.0083

Uranus -61602-02-23 23:59 J -20778653.58 -20778653.50 -20778653.42 0.0133 0.0107

Neptune -61602-05-20 09:35 J -20778568.16 -20778568.10 -20778568.03 0.0089 0.0077

Uranus -61602-05-23 02:52 J -20778565.47 -20778565.38 -20778565.28 0.0133 0.0090

Neptune -61602-08-16 10:47 J -20778480.11 -20778480.05 -20778479.96 0.0089 0.0072

Uranus -61602-08-19 05:45 J -20778477.37 -20778477.26 -20778477.15 0.0133 0.0073

Mars -61602-09-25 14:37 J -20778440.06 -20778439.89 -20778439.73 0.1628 0.0123

Jupiter -61602-09-29 04:33 J -20778436.49 -20778436.31 -20778436.12 0.0498 0.0040

Neptune -61602-11-12 12:28 J -20778392.07 -20778391.98 -20778391.89 0.0089 0.0066

Uranus -61602-11-15 08:37 J -20778389.25 -20778389.14 -20778389.02 0.0133 0.0057

Neptune -61601-02-08 13:40 J -20778304.02 -20778303.93 -20778303.82 0.0089 0.0061

Uranus -61601-02-11 11:30 J -20778301.14 -20778301.02 -20778300.89 0.0133 0.0040

Neptune -61601-05-06 15:21 J -20778215.97 -20778215.86 -20778215.76 0.0089 0.0055

Uranus -61601-05-09 14:37 J -20778213.02 -20778212.89 -20778212.76 0.0133 0.0023

Neptune -61601-08-02 16:33 J -20778127.91 -20778127.81 -20778127.69 0.0089 0.0050

Uranus -61601-08-05 17:30 J -20778124.90 -20778124.77 -20778124.64 0.0133 0.0006

Neptune -61601-10-29 17:59 J -20778039.86 -20778039.75 -20778039.63 0.0089 0.0044

Uranus -61601-11-01 20:23 J -20778036.78 -20778036.65 -20778036.52 0.0133 0.0011

Moon -61601-12-07 02:09 J -20778001.55 -20778001.41 -20778001.27 0.2648 0.1159

Earth -61601-12-07 03:49 J -20778001.47 -20778001.34 -20778001.20 0.2647 0.1342 *

Neptune -61600-01-25 19:25 J -20777951.81 -20777951.69 -20777951.57 0.0089 0.0038

Uranus -61600-01-28 23:16 J -20777948.65 -20777948.53 -20777948.40 0.0133 0.0028

Neptune -61600-04-23 20:52 J -20777863.75 -20777863.63 -20777863.50 0.0089 0.0033

Uranus -61600-04-27 02:09 J -20777860.53 -20777860.41 -20777860.28 0.0133 0.0045

Neptune -61600-07-20 22:04 J -20777775.70 -20777775.58 -20777775.44 0.0089 0.0028

Uranus -61600-07-24 05:01 J -20777772.40 -20777772.29 -20777772.17 0.0133 0.0063

Neptune -61600-10-16 23:30 J -20777687.64 -20777687.52 -20777687.38 0.0089 0.0022

Uranus -61600-10-20 07:54 J -20777684.26 -20777684.17 -20777684.06 0.0133 0.0080

Neptune -61599-01-13 00:57 J -20777599.59 -20777599.46 -20777599.32 0.0089 0.0016

Uranus -61599-01-16 11:01 J -20777596.13 -20777596.04 -20777595.95 0.0134 0.0096

Neptune -61599-04-11 02:23 J -20777511.53 -20777511.40 -20777511.27 0.0089 0.0011

Uranus -61599-04-14 13:54 J -20777507.98 -20777507.92 -20777507.85 0.0134 0.0113

Neptune -61599-07-08 03:49 J -20777423.48 -20777423.34 -20777423.21 0.0089 0.0006

Uranus -61599-07-11 17:01 J -20777419.82 -20777419.79 -20777419.77 0.0134 0.0130

Neptune -61599-10-04 05:01 J -20777335.42 -20777335.29 -20777335.15 0.0089 0.0003

Neptune -61599-12-31 06:28 J -20777247.36 -20777247.23 -20777247.09 0.0089 0.0006

Pluto -61598-01-28 22:18 J -20777218.61 -20777218.57 -20777218.49 0.0061 0.0057

Neptune -61598-03-29 07:54 J -20777159.30 -20777159.17 -20777159.04 0.0089 0.0011

Pluto -61598-04-26 23:30 J -20777130.59 -20777130.52 -20777130.41 0.0061 0.0052

Neptune -61598-06-25 09:06 J -20777071.25 -20777071.12 -20777070.98 0.0089 0.0017

Pluto -61598-07-24 00:57 J -20777042.56 -20777042.46 -20777042.35 0.0061 0.0047

Neptune -61598-09-21 10:33 J -20776983.19 -20776983.06 -20776982.93 0.0089 0.0022

Pluto -61598-10-20 01:40 J -20776954.53 -20776954.43 -20776954.28 0.0061 0.0043

Neptune -61598-12-18 11:45 J -20776895.13 -20776895.01 -20776894.88 0.0089 0.0028

Pluto -61597-01-16 02:52 J -20776866.50 -20776866.38 -20776866.22 0.0061 0.0038

Neptune -61597-03-15 13:11 J -20776807.07 -20776806.95 -20776806.82 0.0089 0.0033

Pluto -61597-04-13 04:04 J -20776778.46 -20776778.33 -20776778.17 0.0061 0.0034

Earth -61597-06-10 03:21 J -20776720.47 -20776720.36 -20776720.25 0.2685 0.0059

Moon -61597-06-10 03:49 J -20776720.45 -20776720.34 -20776720.23 0.2679 0.0101 *

Neptune -61597-06-11 14:23 J -20776719.01 -20776718.90 -20776718.77 0.0089 0.0039

Pluto -61597-07-10 05:16 J -20776690.42 -20776690.28 -20776690.11 0.0061 0.0029

Neptune -61597-09-07 15:49 J -20776630.95 -20776630.84 -20776630.72 0.0089 0.0044

Pluto -61597-10-06 06:28 J -20776602.38 -20776602.23 -20776602.05 0.0061 0.0024

Neptune -61597-12-04 17:16 J -20776542.89 -20776542.78 -20776542.67 0.0089 0.0049

Pluto -61596-01-02 07:40 J -20776514.34 -20776514.18 -20776514.00 0.0062 0.0019

Neptune -61596-03-02 18:28 J -20776454.82 -20776454.73 -20776454.62 0.0089 0.0055

Pluto -61596-03-31 08:52 J -20776426.29 -20776426.13 -20776425.95 0.0062 0.0014

Jupiter -61596-05-29 17:59 J -20776366.83 -20776366.75 -20776366.67 0.0528 0.0406

Neptune -61596-05-29 19:54 J -20776366.76 -20776366.67 -20776366.57 0.0089 0.0060 *

Pluto -61596-06-27 10:04 J -20776338.25 -20776338.08 -20776337.90 0.0062 0.0009

Neptune -61596-08-25 21:06 J -20776278.70 -20776278.62 -20776278.52 0.0089 0.0066

Jupiter -61596-08-26 23:59 J -20776277.62 -20776277.50 -20776277.38 0.0527 0.0118

Pluto -61596-09-23 11:30 J -20776250.20 -20776250.02 -20776249.84 0.0062 0.0004

Neptune -61596-11-21 22:33 J -20776190.63 -20776190.56 -20776190.47 0.0089 0.0071

Pluto -61596-12-20 12:42 J -20776162.15 -20776161.97 -20776161.79 0.0062 0.0001

Neptune -61595-02-17 23:59 J -20776102.56 -20776102.50 -20776102.43 0.0089 0.0076

Pluto -61595-03-18 13:54 J -20776074.10 -20776073.92 -20776073.74 0.0062 0.0006

Neptune -61595-05-17 01:11 J -20776014.49 -20776014.45 -20776014.39 0.0089 0.0082

Pluto -61595-06-14 15:06 J -20775986.05 -20775985.87 -20775985.70 0.0062 0.0011

Neptune -61595-08-13 02:37 J -20775926.41 -20775926.39 -20775926.36 0.0089 0.0087

Pluto -61595-09-10 16:18 J -20775897.99 -20775897.82 -20775897.65 0.0062 0.0016

Pluto -61595-12-07 17:30 J -20775809.94 -20775809.77 -20775809.60 0.0062 0.0022

Pluto -61594-03-05 18:28 J -20775721.88 -20775721.73 -20775721.56 0.0062 0.0027

Pluto -61594-06-01 19:40 J -20775633.82 -20775633.68 -20775633.51 0.0062 0.0032

Saturn -61594-06-08 13:54 J -20775627.02 -20775626.92 -20775626.82 0.0262 0.0217

Pluto -61594-08-28 20:52 J -20775545.76 -20775545.63 -20775545.47 0.0062 0.0038

Saturn -61594-09-05 09:35 J -20775538.27 -20775538.10 -20775537.92 0.0261 0.0096

Pluto -61594-11-24 22:18 J -20775457.69 -20775457.57 -20775457.43 0.0062 0.0043

Saturn -61594-12-03 05:45 J -20775449.45 -20775449.26 -20775449.08 0.0261 0.0026

Pluto -61593-02-20 23:30 J -20775369.62 -20775369.52 -20775369.39 0.0062 0.0048

Saturn -61593-03-01 01:40 J -20775360.58 -20775360.43 -20775360.27 0.0260 0.0147

Mars -61593-04-18 16:18 J -20775311.94 -20775311.82 -20775311.71 0.1919 0.0091

Pluto -61593-05-19 00:28 J -20775281.55 -20775281.48 -20775281.36 0.0063 0.0054

Pluto -61593-08-15 01:54 J -20775193.46 -20775193.42 -20775193.34 0.0063 0.0059

Mars -61592-02-14 16:18 J -20775009.94 -20775009.82 -20775009.70 0.1634 0.1089

Jupiter -61590-07-18 01:40 J -20774126.60 -20774126.43 -20774126.26 0.0498 0.0204

Jupiter -61590-10-16 12:28 J -20774036.04 -20774035.98 -20774035.92 0.0499 0.0470

Moon -61584-06-12 21:06 J -20771969.72 -20771969.62 -20771969.52 0.2681 0.1075

Earth -61584-06-12 21:21 J -20771969.71 -20771969.61 -20771969.51 0.2687 0.1068 *

Jupiter -61584-06-15 04:04 J -20771967.46 -20771967.33 -20771967.20 0.0527 0.0017

Mars -61584-09-09 00:13 J -20771881.60 -20771881.49 -20771881.39 0.1912 0.0897

Jupiter -61584-09-12 09:35 J -20771878.13 -20771878.10 -20771878.06 0.0526 0.0501

Moon -61581-12-01 20:09 J -20770701.73 -20770701.66 -20770701.59 0.2647 0.2364

Earth -61581-12-01 21:06 J -20770701.68 -20770701.62 -20770701.55 0.2652 0.2363 *

Saturn -61579-09-29 10:04 J -20770035.15 -20770035.08 -20770035.00 0.0301 0.0244

Saturn -61579-12-26 23:16 J -20769946.65 -20769946.53 -20769946.41 0.0301 0.0113

Saturn -61578-03-25 12:28 J -20769858.12 -20769857.98 -20769857.85 0.0302 0.0021

Jupiter -61578-05-05 23:01 J -20769816.66 -20769816.54 -20769816.41 0.0498 0.0365

Saturn -61578-06-22 01:11 J -20769769.56 -20769769.45 -20769769.33 0.0302 0.0151

Jupiter -61578-08-04 09:35 J -20769726.24 -20769726.10 -20769725.95 0.0499 0.0305

Venus -61578-08-12 08:52 J -20769718.28 -20769718.13 -20769717.98 0.3563 0.1160

Saturn -61578-09-18 14:09 J -20769680.95 -20769680.91 -20769680.86 0.0303 0.0280

Earth -61577-06-05 20:09 J -20769419.74 -20769419.66 -20769419.58 0.2681 0.1831

Moon -61577-06-05 20:52 J -20769419.71 -20769419.63 -20769419.55 0.2684 0.1825 *

Mars -61574-01-30 07:54 J -20768451.18 -20768451.17 -20768451.15 0.1903 0.1875

Jupiter -61572-04-03 07:54 J -20767657.29 -20767657.17 -20767657.04 0.0528 0.0150

Jupiter -61572-07-01 13:40 J -20767568.02 -20767567.93 -20767567.84 0.0527 0.0371

Mars -61572-11-03 13:25 J -20767443.07 -20767442.94 -20767442.80 0.1623 0.0977

Moon -61571-06-15 14:37 J -20767218.96 -20767218.89 -20767218.82 0.2685 0.1965

Earth -61571-06-15 15:06 J -20767218.93 -20767218.87 -20767218.80 0.2689 0.2088 *

Venus -61570-11-30 22:33 J -20766685.64 -20766685.56 -20766685.48 0.3814 0.2148

Moon -61568-12-05 01:54 J -20765950.57 -20765950.42 -20765950.26 0.2647 0.0602

Earth -61568-12-05 03:35 J -20765950.50 -20765950.35 -20765950.19 0.2649 0.0345 *

Jupiter -61566-05-23 06:42 J -20765416.39 -20765416.22 -20765416.04 0.0498 0.0142

Saturn -61565-10-25 13:54 J -20764894.96 -20764894.92 -20764894.85 0.0262 0.0249

Saturn -61564-01-22 09:49 J -20764806.25 -20764806.09 -20764805.92 0.0261 0.0128

Saturn -61564-04-21 05:45 J -20764717.44 -20764717.26 -20764717.07 0.0261 0.0009

Earth -61564-06-08 14:09 J -20764669.01 -20764668.91 -20764668.80 0.2683 0.0798

Moon -61564-06-08 14:52 J -20764668.99 -20764668.88 -20764668.77 0.2681 0.0678 *

Venus -61564-06-15 14:37 J -20764661.99 -20764661.89 -20764661.79 0.3815 0.0292

Saturn -61564-07-19 01:54 J -20764628.59 -20764628.42 -20764628.25 0.0260 0.0116

Saturn -61564-10-15 21:49 J -20764539.65 -20764539.59 -20764539.50 0.0260 0.0238

Mars -61563-05-28 08:23 J -20764315.24 -20764315.15 -20764315.06 0.1926 0.1188

Mars -61562-03-26 15:21 J -20764013.03 -20764012.86 -20764012.70 0.1628 0.0026

Uranus -61562-09-21 15:35 J -20763833.94 -20763833.85 -20763833.74 0.0146 0.0122

Uranus -61562-12-19 00:28 J -20763745.63 -20763745.48 -20763745.32 0.0146 0.0089

Uranus -61561-03-16 09:21 J -20763657.29 -20763657.11 -20763656.93 0.0146 0.0056

Uranus -61561-06-12 18:13 J -20763568.93 -20763568.74 -20763568.55 0.0146 0.0023

Uranus -61561-09-09 03:06 J -20763480.57 -20763480.37 -20763480.18 0.0146 0.0011

Uranus -61561-12-06 11:45 J -20763392.19 -20763392.01 -20763391.82 0.0146 0.0044

Jupiter -61560-01-20 11:45 J -20763347.11 -20763347.01 -20763346.90 0.0528 0.0286

Uranus -61560-03-04 20:37 J -20763303.80 -20763303.64 -20763303.47 0.0146 0.0077

Jupiter -61560-04-19 17:45 J -20763257.87 -20763257.76 -20763257.65 0.0527 0.0238

Uranus -61560-06-01 05:16 J -20763215.39 -20763215.28 -20763215.14 0.0145 0.0110

Uranus -61560-08-28 13:54 J -20763126.93 -20763126.92 -20763126.87 0.0145 0.0144

Venus -61559-12-30 06:28 J -20762638.32 -20762638.23 -20762638.13 0.3817 0.1599

Moon -61555-12-08 08:52 J -20761199.25 -20761199.13 -20761199.00 0.2650 0.1670

Earth -61555-12-08 10:33 J -20761199.18 -20761199.06 -20761198.95 0.2647 0.1723 *

Jupiter -61554-03-11 03:49 J -20761106.53 -20761106.34 -20761106.16 0.0498 0.0028

Mars -61554-10-18 16:18 J -20760884.94 -20760884.82 -20760884.71 0.1919 0.0198

Venus -61553-07-14 22:33 J -20760614.59 -20760614.56 -20760614.52 0.3818 0.3490

Mars -61553-08-15 17:01 J -20760582.92 -20760582.79 -20760582.66 0.1634 0.0948

Earth -61551-06-11 08:09 J -20759918.27 -20759918.16 -20759918.05 0.2685 0.0261

Moon -61551-06-11 08:37 J -20759918.25 -20759918.14 -20759918.03 0.2679 0.0268 *

Saturn -61549-02-16 11:59 J -20759303.03 -20759303.00 -20759302.95 0.0300 0.0281

Saturn -61549-05-15 01:25 J -20759214.56 -20759214.44 -20759214.33 0.0301 0.0150

Saturn -61549-08-11 14:23 J -20759126.03 -20759125.90 -20759125.77 0.0301 0.0020

Saturn -61549-11-08 03:21 J -20759037.48 -20759037.36 -20759037.23 0.0302 0.0113

Jupiter -61549-11-08 16:18 J -20759036.90 -20759036.82 -20759036.75 0.0528 0.0412

Saturn -61548-02-04 16:18 J -20758948.89 -20758948.82 -20758948.74 0.0302 0.0242

Jupiter -61548-02-05 22:18 J -20758947.70 -20758947.57 -20758947.45 0.0527 0.0114

Mars -61544-03-10 00:13 J -20757454.60 -20757454.49 -20757454.39 0.1912 0.0784

Earth -61544-06-04 06:57 J -20757368.21 -20757368.21 -20757368.21 0.2679 0.2671

Moon -61544-06-04 07:25 J -20757368.19 -20757368.19 -20757368.19 0.2684 0.2684

Jupiter -61543-12-27 23:16 J -20756796.69 -20756796.53 -20756796.36 0.0498 0.0206

Jupiter -61542-03-28 10:04 J -20756706.14 -20756706.08 -20756706.01 0.0499 0.0468

Moon -61538-06-14 01:54 J -20755167.52 -20755167.42 -20755167.32 0.2681 0.1232

Earth -61538-06-14 02:09 J -20755167.51 -20755167.41 -20755167.31 0.2687 0.1270 *

Jupiter -61537-11-25 02:52 J -20754637.51 -20754637.38 -20754637.25 0.0528 0.0009

Jupiter -61536-02-22 08:23 J -20754548.18 -20754548.15 -20754548.12 0.0527 0.0507

Saturn -61535-06-11 09:49 J -20754074.23 -20754074.09 -20754073.93 0.0261 0.0160

Mars -61535-07-31 08:09 J -20754024.20 -20754024.16 -20754024.12 0.1904 0.1766

Saturn -61535-09-08 05:45 J -20753985.44 -20753985.26 -20753985.07 0.0261 0.0039

Moon -61535-12-03 02:23 J -20753899.49 -20753899.40 -20753899.31 0.2647 0.2157

Earth -61535-12-03 03:49 J -20753899.45 -20753899.34 -20753899.24 0.2651 0.1989 *

Saturn -61535-12-06 01:40 J -20753896.60 -20753896.43 -20753896.24 0.0260 0.0084

Saturn -61534-03-04 21:49 J -20753807.70 -20753807.59 -20753807.47 0.0260 0.0205

Mars -61532-05-04 14:09 J -20753016.03 -20753015.91 -20753015.79 0.1623 0.1116

Earth -61531-06-07 01:11 J -20752617.54 -20752617.45 -20752617.37 0.2681 0.1630

Moon -61531-06-07 01:40 J -20752617.52 -20752617.43 -20752617.33 0.2684 0.1493 *

Jupiter -61531-10-15 20:37 J -20752486.76 -20752486.64 -20752486.52 0.0498 0.0368

Jupiter -61530-01-14 07:11 J -20752396.35 -20752396.20 -20752396.05 0.0499 0.0302

Venus -61527-09-02 01:54 J -20751069.54 -20751069.42 -20751069.29 0.3565 0.2154

Moon -61525-06-15 19:25 J -20750416.75 -20750416.69 -20750416.63 0.2686 0.2257

Earth -61525-06-15 19:54 J -20750416.72 -20750416.67 -20750416.61 0.2689 0.2286 *

Jupiter -61525-09-13 06:57 J -20750327.33 -20750327.21 -20750327.09 0.0527 0.0142

Jupiter -61525-12-11 12:42 J -20750238.06 -20750237.97 -20750237.89 0.0527 0.0377

Mars -61524-11-26 08:23 J -20749888.23 -20749888.15 -20749888.07 0.1926 0.1298

Mars -61523-09-24 15:49 J -20749586.00 -20749585.84 -20749585.67 0.1628 0.0154

Moon -61522-12-06 08:37 J -20749148.30 -20749148.14 -20749147.99 0.2647 0.0062

Earth -61522-12-06 10:18 J -20749148.23 -20749148.07 -20749147.92 0.2649 0.0075 *

Venus -61521-03-18 11:01 J -20749045.14 -20749045.04 -20749044.95 0.3563 0.2847

Saturn -61520-10-02 02:23 J -20748482.50 -20748482.40 -20748482.30 0.0301 0.0195

Neptune -61520-11-08 21:21 J -20748444.61 -20748444.61 -20748444.55 0.0089 0.0088

Saturn -61520-12-29 15:35 J -20748393.98 -20748393.85 -20748393.72 0.0302 0.0063

Neptune -61519-02-05 00:57 J -20748356.52 -20748356.46 -20748356.36 0.0089 0.0080

Saturn -61519-03-28 04:33 J -20748305.44 -20748305.31 -20748305.18 0.0302 0.0068

Neptune -61519-05-04 04:33 J -20748268.41 -20748268.31 -20748268.19 0.0089 0.0072

Saturn -61519-06-24 17:30 J -20748216.87 -20748216.77 -20748216.67 0.0303 0.0199

Neptune -61519-07-31 07:54 J -20748180.28 -20748180.17 -20748180.03 0.0089 0.0065

Neptune -61519-10-27 11:30 J -20748092.16 -20748092.02 -20748091.87 0.0089 0.0057

Jupiter -61519-11-02 04:33 J -20748086.49 -20748086.31 -20748086.13 0.0499 0.0139

Uranus -61519-12-18 04:47 J -20748040.36 -20748040.30 -20748040.24 0.0132 0.0117

Venus -61519-12-22 04:04 J -20748036.37 -20748036.33 -20748036.28 0.3813 0.3338

Neptune -61518-01-23 15:06 J -20748004.03 -20748003.87 -20748003.71 0.0089 0.0049

Uranus -61518-03-16 07:40 J -20747952.26 -20747952.18 -20747952.09 0.0132 0.0100

Neptune -61518-04-21 18:13 J -20747915.89 -20747915.74 -20747915.56 0.0089 0.0042

Earth -61518-06-09 19:11 J -20747866.81 -20747866.70 -20747866.60 0.2683 0.0589

Moon -61518-06-09 19:40 J -20747866.79 -20747866.68 -20747866.57 0.2679 0.0582 *

Uranus -61518-06-12 10:33 J -20747864.16 -20747864.06 -20747863.95 0.0133 0.0083

Neptune -61518-07-18 21:49 J -20747827.76 -20747827.59 -20747827.40 0.0089 0.0034

Uranus -61518-09-08 13:25 J -20747776.05 -20747775.94 -20747775.82 0.0133 0.0067

Neptune -61518-10-15 01:25 J -20747739.62 -20747739.44 -20747739.25 0.0089 0.0026

Uranus -61518-12-05 16:33 J -20747687.93 -20747687.81 -20747687.69 0.0133 0.0050

Neptune -61517-01-11 05:01 J -20747651.48 -20747651.29 -20747651.10 0.0089 0.0018

Uranus -61517-03-02 19:25 J -20747599.82 -20747599.69 -20747599.56 0.0133 0.0033

Neptune -61517-04-08 08:23 J -20747563.34 -20747563.15 -20747562.95 0.0089 0.0010

Uranus -61517-05-29 22:18 J -20747511.70 -20747511.57 -20747511.44 0.0133 0.0016

Neptune -61517-07-05 11:59 J -20747475.19 -20747475.00 -20747474.81 0.0089 0.0002

Uranus -61517-08-26 01:11 J -20747423.58 -20747423.45 -20747423.31 0.0133 0.0004

Neptune -61517-10-01 15:35 J -20747387.04 -20747386.85 -20747386.66 0.0089 0.0006

Uranus -61517-11-22 04:18 J -20747335.45 -20747335.32 -20747335.19 0.0133 0.0018

Neptune -61517-12-28 18:57 J -20747298.90 -20747298.71 -20747298.52 0.0089 0.0013

Uranus -61516-02-18 06:57 J -20747247.33 -20747247.21 -20747247.08 0.0133 0.0036

Neptune -61516-03-26 22:18 J -20747210.75 -20747210.57 -20747210.37 0.0089 0.0022

Uranus -61516-05-17 09:49 J -20747159.20 -20747159.09 -20747158.96 0.0133 0.0053

Neptune -61516-06-23 02:09 J -20747122.59 -20747122.41 -20747122.23 0.0089 0.0029

Uranus -61516-08-13 12:42 J -20747071.07 -20747070.97 -20747070.85 0.0133 0.0070

Neptune -61516-09-19 05:30 J -20747034.44 -20747034.27 -20747034.09 0.0089 0.0037

Uranus -61516-11-09 15:49 J -20746982.94 -20746982.84 -20746982.74 0.0133 0.0086

Neptune -61516-12-16 08:52 J -20746946.28 -20746946.13 -20746945.95 0.0089 0.0045

Uranus -61515-02-05 18:42 J -20746894.80 -20746894.72 -20746894.63 0.0133 0.0103

Neptune -61515-03-14 12:28 J -20746858.12 -20746857.98 -20746857.81 0.0089 0.0053

Uranus -61515-05-04 21:49 J -20746806.65 -20746806.59 -20746806.54 0.0134 0.0120

Neptune -61515-06-10 15:49 J -20746769.96 -20746769.84 -20746769.68 0.0089 0.0061

Neptune -61515-09-06 19:25 J -20746681.79 -20746681.69 -20746681.55 0.0089 0.0069

Neptune -61515-12-03 22:47 J -20746593.62 -20746593.55 -20746593.43 0.0089 0.0077

Neptune -61514-03-02 02:23 J -20746505.43 -20746505.40 -20746505.32 0.0089 0.0085

Mars -61514-04-18 16:18 J -20746457.93 -20746457.82 -20746457.71 0.1919 0.0306

Mars -61513-02-14 17:30 J -20746155.91 -20746155.77 -20746155.63 0.1634 0.0819

Jupiter -61513-07-02 11:01 J -20746017.15 -20746017.04 -20746016.93 0.0528 0.0275

Venus -61513-07-06 20:09 J -20746012.75 -20746012.66 -20746012.57 0.3814 0.1476

Jupiter -61513-09-29 16:47 J -20745927.91 -20745927.80 -20745927.69 0.0527 0.0247

Moon -61509-12-08 15:35 J -20744396.95 -20744396.85 -20744396.74 0.2651 0.1888

Earth -61509-12-08 17:01 J -20744396.88 -20744396.79 -20744396.70 0.2646 0.2106 *

Venus -61507-01-20 11:59 J -20743989.10 -20743989.00 -20743988.90 0.3816 0.0431

Jupiter -61507-08-21 01:54 J -20743776.61 -20743776.42 -20743776.23 0.0498 0.0022

Pluto -61506-06-20 13:54 J -20743472.98 -20743472.92 -20743472.85 0.0084 0.0074

Pluto -61506-09-16 15:35 J -20743384.94 -20743384.85 -20743384.76 0.0084 0.0064

Saturn -61506-10-29 09:35 J -20743342.22 -20743342.10 -20743341.98 0.0261 0.0195

Pluto -61506-12-13 17:01 J -20743296.89 -20743296.79 -20743296.67 0.0084 0.0054

Saturn -61505-01-26 05:30 J -20743253.45 -20743253.27 -20743253.10 0.0261 0.0074

Pluto -61505-03-10 18:42 J -20743208.84 -20743208.72 -20743208.59 0.0083 0.0044

Saturn -61505-04-24 01:25 J -20743164.63 -20743164.44 -20743164.26 0.0260 0.0048

Pluto -61505-06-06 20:23 J -20743120.78 -20743120.65 -20743120.52 0.0083 0.0034

Earth -61505-06-11 13:11 J -20743116.06 -20743115.95 -20743115.85 0.2686 0.0458

Moon -61505-06-11 13:25 J -20743116.05 -20743115.94 -20743115.84 0.2679 0.0508 *

Saturn -61505-07-21 21:21 J -20743075.75 -20743075.61 -20743075.46 0.0260 0.0169

Pluto -61505-09-02 21:49 J -20743032.72 -20743032.59 -20743032.45 0.0083 0.0024

Mars -61505-09-07 23:59 J -20743027.60 -20743027.50 -20743027.39 0.1912 0.0690

Pluto -61505-11-29 23:30 J -20742944.66 -20742944.52 -20742944.38 0.0083 0.0014

Pluto -61504-02-26 00:57 J -20742856.60 -20742856.46 -20742856.31 0.0083 0.0004

Pluto -61504-05-25 02:23 J -20742768.54 -20742768.40 -20742768.25 0.0083 0.0007

Pluto -61504-08-21 03:49 J -20742680.47 -20742680.34 -20742680.19 0.0083 0.0016

Pluto -61504-11-17 05:30 J -20742592.41 -20742592.27 -20742592.13 0.0082 0.0025

Pluto -61503-02-13 06:57 J -20742504.34 -20742504.21 -20742504.08 0.0082 0.0034

Pluto -61503-05-12 08:23 J -20742416.27 -20742416.15 -20742416.03 0.0082 0.0044

Pluto -61503-08-08 09:35 J -20742328.19 -20742328.10 -20742327.98 0.0082 0.0053

Pluto -61503-11-04 11:16 J -20742240.12 -20742240.03 -20742239.94 0.0082 0.0062

Pluto -61502-01-31 12:42 J -20742152.03 -20742151.97 -20742151.90 0.0082 0.0071

Pluto -61502-04-29 14:09 J -20742063.93 -20742063.91 -20742063.88 0.0082 0.0080

Venus -61502-08-06 04:04 J -20741965.41 -20741965.33 -20741965.25 0.3817 0.2274

Jupiter -61501-04-20 14:37 J -20741706.96 -20741706.89 -20741706.81 0.0528 0.0412

Jupiter -61501-07-18 20:52 J -20741617.76 -20741617.63 -20741617.51 0.0527 0.0115

Earth -61498-06-05 11:45 J -20740566.05 -20740566.01 -20740565.97 0.2679 0.2464

Moon -61498-06-05 12:13 J -20740566.03 -20740565.99 -20740565.94 0.2684 0.2387 *

Mars -61495-01-29 08:09 J -20739597.22 -20739597.16 -20739597.11 0.1904 0.1654

Jupiter -61495-06-08 23:01 J -20739466.71 -20739466.54 -20739466.37 0.0498 0.0187

Jupiter -61495-09-07 09:35 J -20739376.13 -20739376.10 -20739376.06 0.0499 0.0487

Mars -61493-11-02 14:52 J -20738588.98 -20738588.88 -20738588.77 0.1623 0.1261

Moon -61492-06-14 06:42 J -20738365.32 -20738365.22 -20738365.13 0.2681 0.1414

Earth -61492-06-14 06:57 J -20738365.30 -20738365.21 -20738365.12 0.2688 0.1468 *

Saturn -61490-02-19 04:04 J -20737750.41 -20737750.33 -20737750.24 0.0300 0.0234

Saturn -61490-05-18 17:16 J -20737661.90 -20737661.78 -20737661.65 0.0301 0.0103

Saturn -61490-08-15 06:28 J -20737573.36 -20737573.23 -20737573.10 0.0301 0.0029

Saturn -61490-11-11 19:11 J -20737484.80 -20737484.70 -20737484.58 0.0302 0.0159

Saturn -61489-02-08 08:09 J -20737396.19 -20737396.16 -20737396.12 0.0302 0.0289

Jupiter -61489-05-07 01:11 J -20737307.57 -20737307.45 -20737307.32 0.0528 0.0019

Jupiter -61489-08-04 06:57 J -20737218.24 -20737218.21 -20737218.18 0.0527 0.0507

Moon -61489-12-03 08:52 J -20737097.25 -20737097.13 -20737097.01 0.2647 0.1696

Earth -61489-12-03 10:18 J -20737097.19 -20737097.07 -20737096.95 0.2651 0.1615 *

Earth -61485-06-07 05:59 J -20735815.35 -20735815.25 -20735815.16 0.2681 0.1418

Moon -61485-06-07 06:42 J -20735815.32 -20735815.22 -20735815.13 0.2683 0.1405 *

Mars -61484-05-27 08:23 J -20735461.22 -20735461.15 -20735461.07 0.1926 0.1413

Mars -61483-03-25 16:33 J -20735158.97 -20735158.81 -20735158.65 0.1628 0.0290

Jupiter -61483-03-27 18:42 J -20735156.84 -20735156.72 -20735156.59 0.0498 0.0366

Jupiter -61483-06-26 05:16 J -20735066.43 -20735066.28 -20735066.13 0.0499 0.0304

Moon -61479-06-17 00:13 J -20733614.54 -20733614.49 -20733614.44 0.2688 0.2392

Earth -61479-06-17 00:57 J -20733614.50 -20733614.46 -20733614.42 0.2690 0.2482 *

Uranus -61478-10-11 22:47 J -20733132.65 -20733132.55 -20733132.42 0.0146 0.0115

Uranus -61477-01-08 07:40 J -20733044.33 -20733044.18 -20733044.01 0.0146 0.0082

Jupiter -61477-02-24 05:59 J -20732997.37 -20732997.25 -20732997.13 0.0528 0.0133

Uranus -61477-04-05 16:47 J -20732955.98 -20732955.80 -20732955.62 0.0146 0.0048

Jupiter -61477-05-23 11:45 J -20732908.10 -20732908.01 -20732907.93 0.0527 0.0388

Uranus -61477-07-03 01:40 J -20732867.63 -20732867.43 -20732867.24 0.0146 0.0015

Uranus -61477-09-29 10:18 J -20732779.26 -20732779.07 -20732778.87 0.0146 0.0018

Uranus -61477-12-26 18:57 J -20732690.88 -20732690.71 -20732690.52 0.0146 0.0052

Saturn -61476-03-17 09:21 J -20732610.20 -20732610.11 -20732610.02 0.0262 0.0228

Uranus -61476-03-25 03:49 J -20732602.49 -20732602.34 -20732602.17 0.0146 0.0085

Saturn -61476-06-14 05:01 J -20732521.46 -20732521.29 -20732521.12 0.0261 0.0108

Uranus -61476-06-21 12:42 J -20732514.07 -20732513.97 -20732513.85 0.0145 0.0118

Saturn -61476-09-11 00:57 J -20732432.65 -20732432.46 -20732432.27 0.0261 0.0014

Moon -61476-12-06 15:06 J -20732346.02 -20732345.87 -20732345.71 0.2649 0.0194

Earth -61476-12-06 16:47 J -20732345.95 -20732345.80 -20732345.64 0.2648 0.0418 *

Saturn -61476-12-08 20:52 J -20732343.78 -20732343.63 -20732343.46 0.0260 0.0135

Saturn -61475-03-07 17:16 J -20732254.81 -20732254.78 -20732254.76 0.0260 0.0256

Mars -61475-10-17 16:18 J -20732030.93 -20732030.82 -20732030.71 0.1919 0.0415

Mars -61474-08-15 18:13 J -20731728.89 -20731728.74 -20731728.59 0.1634 0.0680

Earth -61472-06-09 23:59 J -20731064.61 -20731064.50 -20731064.39 0.2684 0.0386

Moon -61472-06-10 00:28 J -20731064.59 -20731064.48 -20731064.37 0.2679 0.0268 *

Jupiter -61471-04-14 02:23 J -20730756.58 -20730756.40 -20730756.22 0.0499 0.0140

Venus -61470-04-09 04:04 J -20730396.48 -20730396.33 -20730396.17 0.3564 0.0459

Jupiter -61466-12-13 10:04 J -20728687.19 -20728687.08 -20728686.97 0.0528 0.0264

Mars -61465-03-09 00:13 J -20728600.60 -20728600.49 -20728600.38 0.1912 0.0574

Jupiter -61465-03-11 15:49 J -20728597.95 -20728597.84 -20728597.73 0.0527 0.0259

Moon -61463-12-09 22:18 J -20727594.63 -20727594.57 -20727594.52 0.2650 0.2470

Earth -61463-12-09 23:45 J -20727594.56 -20727594.51 -20727594.46 0.2646 0.2487 *

Venus -61462-07-29 01:40 J -20727363.50 -20727363.43 -20727363.36 0.3813 0.2673

Saturn -61461-07-08 04:33 J -20727018.35 -20727018.31 -20727018.27 0.0300 0.0284

Saturn -61461-10-04 17:45 J -20726929.87 -20726929.76 -20726929.64 0.0301 0.0153

Saturn -61460-01-01 06:57 J -20726841.34 -20726841.21 -20726841.08 0.0302 0.0022

Saturn -61460-03-30 19:54 J -20726752.79 -20726752.67 -20726752.55 0.0302 0.0109

Saturn -61460-06-27 08:52 J -20726664.21 -20726664.13 -20726664.05 0.0303 0.0240

Jupiter -61459-01-30 23:45 J -20726446.69 -20726446.51 -20726446.32 0.0498 0.0025

Moon -61459-06-12 17:59 J -20726313.86 -20726313.75 -20726313.64 0.2680 0.0606

Earth -61459-06-12 17:59 J -20726313.86 -20726313.75 -20726313.65 0.2686 0.0649 *

Venus -61456-02-10 17:45 J -20725339.86 -20725339.76 -20725339.67 0.3815 0.0819

Mars -61456-07-30 08:09 J -20725170.23 -20725170.16 -20725170.10 0.1904 0.1549

Jupiter -61454-10-01 14:09 J -20724376.99 -20724376.91 -20724376.83 0.0528 0.0397

Jupiter -61454-12-29 20:09 J -20724287.78 -20724287.66 -20724287.54 0.0527 0.0128

Mars -61453-05-03 15:35 J -20724161.94 -20724161.85 -20724161.77 0.1623 0.1388

Earth -61452-06-05 16:47 J -20723763.86 -20723763.80 -20723763.75 0.2680 0.2258

Moon -61452-06-05 17:16 J -20723763.84 -20723763.78 -20723763.72 0.2685 0.2230 *

Venus -61451-08-27 09:35 J -20723316.19 -20723316.10 -20723316.00 0.3816 0.1070

Jupiter -61448-11-18 21:21 J -20722136.78 -20722136.61 -20722136.43 0.0498 0.0180

Jupiter -61447-02-17 08:23 J -20722046.17 -20722046.15 -20722046.13 0.0499 0.0495

Saturn -61447-11-01 03:49 J -20721789.49 -20721789.34 -20721789.18 0.0261 0.0147

Saturn -61446-01-28 23:45 J -20721700.69 -20721700.51 -20721700.32 0.0261 0.0027

Saturn -61446-04-27 19:40 J -20721611.85 -20721611.68 -20721611.50 0.0260 0.0095

Moon -61446-06-15 11:30 J -20721563.11 -20721563.02 -20721562.94 0.2682 0.1644

Earth -61446-06-15 11:45 J -20721563.09 -20721563.01 -20721562.92 0.2688 0.1668 *

Saturn -61446-07-25 15:49 J -20721522.94 -20721522.84 -20721522.73 0.0260 0.0217

Venus -61445-03-12 01:40 J -20721292.49 -20721292.43 -20721292.37 0.3817 0.2958

Mars -61445-11-25 08:23 J -20721034.22 -20721034.15 -20721034.08 0.1926 0.1508

Mars -61444-09-23 17:16 J -20720731.94 -20720731.78 -20720731.62 0.1628 0.0430

Moon -61443-12-04 15:21 J -20720294.99 -20720294.86 -20720294.72 0.2647 0.1394

Earth -61443-12-04 16:47 J -20720294.94 -20720294.80 -20720294.66 0.2651 0.1240 *

Jupiter -61442-10-17 23:59 J -20719977.62 -20719977.50 -20719977.37 0.0527 0.0016

Jupiter -61441-01-15 05:45 J -20719888.29 -20719888.26 -20719888.24 0.0527 0.0512

Earth -61439-06-08 10:47 J -20719013.15 -20719013.05 -20719012.95 0.2682 0.1213

Moon -61439-06-08 11:30 J -20719013.12 -20719013.02 -20719012.92 0.2681 0.1095 *

Neptune -61438-11-18 06:28 J -20718485.25 -20718485.23 -20718485.17 0.0089 0.0084

Neptune -61437-02-14 08:09 J -20718397.21 -20718397.16 -20718397.09 0.0089 0.0078

Neptune -61437-05-12 09:21 J -20718309.17 -20718309.11 -20718309.02 0.0089 0.0073

Neptune -61437-08-08 11:01 J -20718221.12 -20718221.04 -20718220.95 0.0089 0.0067

Neptune -61437-11-04 12:28 J -20718133.07 -20718132.98 -20718132.88 0.0089 0.0061

Neptune -61436-01-31 13:40 J -20718045.02 -20718044.93 -20718044.81 0.0089 0.0056

Neptune -61436-04-29 15:21 J -20717956.97 -20717956.86 -20717956.75 0.0089 0.0050

Neptune -61436-07-26 16:33 J -20717868.92 -20717868.81 -20717868.69 0.0089 0.0045

Jupiter -61436-09-06 18:42 J -20717826.85 -20717826.72 -20717826.58 0.0498 0.0342

Neptune -61436-10-22 17:59 J -20717780.86 -20717780.75 -20717780.62 0.0089 0.0039

Jupiter -61436-12-06 05:16 J -20717736.42 -20717736.28 -20717736.14 0.0499 0.0329

Neptune -61435-01-18 19:25 J -20717692.81 -20717692.69 -20717692.56 0.0089 0.0034

Neptune -61435-04-16 20:52 J -20717604.76 -20717604.63 -20717604.50 0.0089 0.0028

Mars -61435-04-17 16:18 J -20717603.93 -20717603.82 -20717603.71 0.1920 0.0518

Neptune -61435-07-13 22:04 J -20717516.70 -20717516.58 -20717516.44 0.0089 0.0023

Neptune -61435-10-09 23:45 J -20717428.65 -20717428.51 -20717428.38 0.0089 0.0017

Uranus -61435-10-11 09:35 J -20717427.13 -20717427.10 -20717427.06 0.0132 0.0127

Neptune -61434-01-06 00:57 J -20717340.59 -20717340.46 -20717340.32 0.0089 0.0012

Uranus -61434-01-07 12:42 J -20717339.04 -20717338.97 -20717338.90 0.0132 0.0110

Mars -61434-02-13 18:57 J -20717301.87 -20717301.71 -20717301.55 0.1634 0.0538

Neptune -61434-04-04 02:23 J -20717252.53 -20717252.40 -20717252.26 0.0089 0.0006

Uranus -61434-04-05 15:35 J -20717250.94 -20717250.85 -20717250.76 0.0133 0.0093

Neptune -61434-07-01 03:49 J -20717164.48 -20717164.34 -20717164.21 0.0089 0.0001

Uranus -61434-07-02 18:13 J -20717162.84 -20717162.74 -20717162.62 0.0133 0.0077

Neptune -61434-09-27 05:01 J -20717076.42 -20717076.29 -20717076.15 0.0089 0.0006

Uranus -61434-09-28 21:21 J -20717074.72 -20717074.61 -20717074.49 0.0133 0.0059

Neptune -61434-12-24 06:28 J -20716988.36 -20716988.23 -20716988.10 0.0089 0.0011

Uranus -61434-12-26 00:13 J -20716986.61 -20716986.49 -20716986.36 0.0133 0.0043

Neptune -61433-03-21 07:54 J -20716900.30 -20716900.17 -20716900.04 0.0089 0.0016

Uranus -61433-03-23 03:21 J -20716898.49 -20716898.36 -20716898.23 0.0133 0.0026

Moon -61433-06-17 05:01 J -20716812.32 -20716812.29 -20716812.27 0.2690 0.2596

Earth -61433-06-17 05:45 J -20716812.27 -20716812.26 -20716812.26 0.2690 0.2674 *

Neptune -61433-06-17 09:06 J -20716812.24 -20716812.12 -20716811.99 0.0089 0.0022

Uranus -61433-06-19 06:13 J -20716810.37 -20716810.24 -20716810.11 0.0133 0.0009

Neptune -61433-09-13 10:33 J -20716724.19 -20716724.06 -20716723.93 0.0089 0.0027

Uranus -61433-09-15 09:06 J -20716722.25 -20716722.12 -20716721.99 0.0133 0.0008

Neptune -61433-12-10 11:45 J -20716636.13 -20716636.01 -20716635.88 0.0089 0.0033

Uranus -61433-12-12 11:59 J -20716634.13 -20716634.00 -20716633.87 0.0133 0.0025

Neptune -61432-03-08 13:11 J -20716548.07 -20716547.95 -20716547.83 0.0089 0.0038

Uranus -61432-03-10 14:52 J -20716546.00 -20716545.88 -20716545.75 0.0133 0.0042

Neptune -61432-06-04 14:23 J -20716460.01 -20716459.90 -20716459.77 0.0089 0.0044

Uranus -61432-06-06 17:45 J -20716457.87 -20716457.76 -20716457.64 0.0133 0.0059

Neptune -61432-08-31 15:49 J -20716371.94 -20716371.84 -20716371.72 0.0089 0.0049

Uranus -61432-09-02 20:37 J -20716369.74 -20716369.64 -20716369.53 0.0133 0.0076

Neptune -61432-11-27 17:16 J -20716283.88 -20716283.78 -20716283.67 0.0089 0.0054

Uranus -61432-11-29 23:30 J -20716281.60 -20716281.52 -20716281.42 0.0133 0.0094

Saturn -61431-02-21 19:11 J -20716197.80 -20716197.70 -20716197.60 0.0300 0.0197

Neptune -61431-02-23 18:28 J -20716195.82 -20716195.73 -20716195.62 0.0089 0.0060

Uranus -61431-02-26 02:23 J -20716193.46 -20716193.40 -20716193.32 0.0133 0.0111

Saturn -61431-05-21 08:23 J -20716109.28 -20716109.15 -20716109.03 0.0301 0.0066

Neptune -61431-05-22 19:54 J -20716107.75 -20716107.67 -20716107.58 0.0089 0.0065

Uranus -61431-05-25 05:16 J -20716105.30 -20716105.28 -20716105.23 0.0134 0.0128

Saturn -61431-08-17 21:21 J -20716020.74 -20716020.61 -20716020.48 0.0302 0.0065

Neptune -61431-08-18 21:06 J -20716019.69 -20716019.62 -20716019.53 0.0089 0.0071

Saturn -61431-11-14 10:18 J -20715932.17 -20715932.07 -20715931.97 0.0302 0.0196

Neptune -61431-11-14 22:33 J -20715931.62 -20715931.56 -20715931.49 0.0089 0.0076

Neptune -61430-02-10 23:59 J -20715843.55 -20715843.50 -20715843.45 0.0089 0.0081

Neptune -61430-05-10 01:11 J -20715755.47 -20715755.45 -20715755.41 0.0089 0.0087

Jupiter -61430-08-06 04:33 J -20715667.43 -20715667.31 -20715667.18 0.0528 0.0131

Jupiter -61430-11-03 10:18 J -20715578.15 -20715578.07 -20715577.98 0.0527 0.0391

Moon -61430-12-07 21:49 J -20715543.74 -20715543.59 -20715543.44 0.2650 0.0719

Earth -61430-12-07 23:30 J -20715543.67 -20715543.52 -20715543.37 0.2648 0.0798 *

Earth -61426-06-11 04:47 J -20714262.41 -20714262.30 -20714262.19 0.2684 0.0179

Moon -61426-06-11 05:16 J -20714262.39 -20714262.28 -20714262.16 0.2680 0.0212 *

Mars -61426-09-08 00:13 J -20714173.60 -20714173.49 -20714173.38 0.1912 0.0458

Mars -61425-07-05 20:23 J -20713871.70 -20713871.65 -20713871.59 0.1640 0.1518

Jupiter -61424-09-24 00:57 J -20713426.64 -20713426.46 -20713426.29 0.0498 0.0146

Jupiter -61418-05-25 09:21 J -20711357.22 -20711357.11 -20711357.00 0.0528 0.0253

Jupiter -61418-08-22 15:06 J -20711267.97 -20711267.87 -20711267.76 0.0527 0.0272

Saturn -61417-03-20 03:06 J -20711057.49 -20711057.37 -20711057.23 0.0261 0.0183

Saturn -61417-06-16 23:01 J -20710968.72 -20710968.54 -20710968.35 0.0261 0.0062

Saturn -61417-09-13 18:57 J -20710879.89 -20710879.71 -20710879.52 0.0260 0.0060

Saturn -61417-12-11 15:06 J -20710791.00 -20710790.87 -20710790.73 0.0260 0.0180

Mars -61416-01-28 08:09 J -20710743.24 -20710743.16 -20710743.09 0.1904 0.1445

Mars -61414-11-02 16:04 J -20709734.88 -20709734.83 -20709734.77 0.1623 0.1525

Venus -61414-11-14 06:13 J -20709723.39 -20709723.24 -20709723.09 0.3564 0.1228

Moon -61413-06-12 22:47 J -20709511.66 -20709511.55 -20709511.45 0.2679 0.0898

Earth -61413-06-12 22:47 J -20709511.65 -20709511.55 -20709511.45 0.2686 0.0847 *

Jupiter -61412-07-12 22:04 J -20709116.76 -20709116.58 -20709116.39 0.0498 0.0020

Jupiter -61406-03-13 13:25 J -20707047.02 -20707046.94 -20707046.85 0.0528 0.0383

Earth -61406-06-06 21:35 J -20706961.67 -20706961.60 -20706961.53 0.2680 0.2051

Moon -61406-06-06 22:04 J -20706961.65 -20706961.58 -20706961.50 0.2685 0.1991 *

Jupiter -61406-06-10 19:25 J -20706957.81 -20706957.69 -20706957.57 0.0527 0.0143

Venus -61405-03-03 23:16 J -20706690.62 -20706690.53 -20706690.45 0.3814 0.2008

Mars -61405-05-26 08:23 J -20706607.21 -20706607.15 -20706607.09 0.1926 0.1617

Mars -61404-03-24 17:45 J -20706304.91 -20706304.76 -20706304.60 0.1628 0.0567

Saturn -61402-07-11 19:25 J -20705465.76 -20705465.69 -20705465.62 0.0300 0.0249

Saturn -61402-10-08 08:37 J -20705377.26 -20705377.14 -20705377.02 0.0301 0.0118

Saturn -61401-01-04 21:35 J -20705288.73 -20705288.60 -20705288.47 0.0302 0.0013

Saturn -61401-04-02 10:33 J -20705200.17 -20705200.06 -20705199.94 0.0302 0.0144

Saturn -61401-06-29 23:30 J -20705111.57 -20705111.52 -20705111.47 0.0303 0.0274

Jupiter -61400-04-30 19:40 J -20704806.85 -20704806.68 -20704806.50 0.0498 0.0176

Moon -61400-06-15 16:18 J -20704760.91 -20704760.82 -20704760.74 0.2683 0.1773

Earth -61400-06-15 16:47 J -20704760.88 -20704760.80 -20704760.73 0.2688 0.1866 *

Venus -61400-09-17 15:06 J -20704666.97 -20704666.87 -20704666.77 0.3815 0.0152

Moon -61397-12-04 21:49 J -20703492.73 -20703492.59 -20703492.44 0.2648 0.0999

Earth -61397-12-04 23:30 J -20703492.67 -20703492.52 -20703492.38 0.2650 0.0863 *

Mars -61396-10-16 16:18 J -20703176.93 -20703176.82 -20703176.71 0.1919 0.0632

Mars -61395-08-14 19:25 J -20702874.85 -20702874.69 -20702874.53 0.1634 0.0409

Jupiter -61395-12-30 17:30 J -20702736.79 -20702736.77 -20702736.74 0.0528 0.0515

Jupiter -61394-03-29 23:45 J -20702647.64 -20702647.51 -20702647.39 0.0527 0.0017

Venus -61394-04-03 07:11 J -20702643.29 -20702643.20 -20702643.11 0.3816 0.1745

Uranus -61394-08-04 21:21 J -20702519.65 -20702519.61 -20702519.55 0.0146 0.0141

Uranus -61394-11-01 06:28 J -20702431.36 -20702431.23 -20702431.10 0.0146 0.0108

Uranus -61393-01-28 15:06 J -20702343.03 -20702342.87 -20702342.70 0.0146 0.0075

Uranus -61393-04-25 23:59 J -20702254.68 -20702254.50 -20702254.31 0.0146 0.0041

Earth -61393-06-08 15:35 J -20702210.95 -20702210.85 -20702210.74 0.2682 0.1013

Moon -61393-06-08 16:18 J -20702210.92 -20702210.82 -20702210.71 0.2680 0.0966 *

Uranus -61393-07-23 08:52 J -20702166.33 -20702166.13 -20702165.94 0.0146 0.0008

Uranus -61393-10-19 17:30 J -20702077.96 -20702077.77 -20702077.57 0.0146 0.0026

Uranus -61392-01-16 02:23 J -20701989.57 -20701989.40 -20701989.22 0.0146 0.0059

Uranus -61392-04-14 11:16 J -20701901.18 -20701901.03 -20701900.88 0.0146 0.0092

Uranus -61392-07-11 19:54 J -20701812.76 -20701812.67 -20701812.56 0.0145 0.0125

Venus -61389-10-16 23:16 J -20700619.56 -20700619.53 -20700619.51 0.3817 0.3646

Jupiter -61388-02-16 17:30 J -20700496.90 -20700496.77 -20700496.63 0.0498 0.0332

Jupiter -61388-05-18 04:04 J -20700406.46 -20700406.33 -20700406.19 0.0499 0.0340

Saturn -61388-08-07 01:25 J -20700325.52 -20700325.44 -20700325.34 0.0261 0.0226

Saturn -61388-11-03 21:21 J -20700236.78 -20700236.61 -20700236.44 0.0261 0.0105

Saturn -61387-01-31 17:16 J -20700147.97 -20700147.78 -20700147.59 0.0260 0.0016

Saturn -61387-04-30 13:25 J -20700059.10 -20700058.94 -20700058.78 0.0260 0.0137

Saturn -61387-07-28 09:21 J -20699970.11 -20699970.11 -20699970.09 0.0260 0.0259

Mars -61386-03-08 23:59 J -20699746.61 -20699746.50 -20699746.38 0.1912 0.0372

Mars -61385-01-04 21:21 J -20699444.70 -20699444.61 -20699444.53 0.1640 0.1373

Moon -61384-12-08 04:18 J -20698741.46 -20698741.32 -20698741.17 0.2650 0.0978

Earth -61384-12-08 05:59 J -20698741.39 -20698741.25 -20698741.11 0.2648 0.1180 *

Jupiter -61382-01-16 03:35 J -20698337.47 -20698337.35 -20698337.22 0.0528 0.0122

Jupiter -61382-04-15 09:21 J -20698248.19 -20698248.11 -20698248.03 0.0527 0.0398

Earth -61380-06-11 09:35 J -20697460.21 -20697460.10 -20697459.99 0.2684 0.0098

Moon -61380-06-11 10:04 J -20697460.19 -20697460.08 -20697459.97 0.2679 0.0128 *

Mars -61377-07-29 08:09 J -20696316.24 -20696316.16 -20696316.08 0.1904 0.1328

Jupiter -61377-12-05 15:06 J -20696186.90 -20696186.87 -20696186.85 0.0498 0.0492

Jupiter -61376-03-06 01:11 J -20696096.62 -20696096.45 -20696096.27 0.0498 0.0175

Saturn -61373-11-27 20:23 J -20694733.67 -20694733.65 -20694733.63 0.0300 0.0295

Saturn -61372-02-24 09:35 J -20694645.21 -20694645.10 -20694644.99 0.0300 0.0164

Saturn -61372-05-23 22:47 J -20694556.68 -20694556.55 -20694556.42 0.0301 0.0034

Saturn -61372-08-20 11:45 J -20694468.14 -20694468.01 -20694467.89 0.0302 0.0097

Saturn -61372-11-17 00:42 J -20694379.56 -20694379.47 -20694379.39 0.0302 0.0227

Jupiter -61371-11-04 08:09 J -20694027.27 -20694027.16 -20694027.05 0.0528 0.0247

Jupiter -61370-02-01 13:54 J -20693938.02 -20693937.92 -20693937.81 0.0527 0.0278

Moon -61367-06-14 03:35 J -20692709.45 -20692709.35 -20692709.25 0.2679 0.0975

Earth -61367-06-14 03:35 J -20692709.45 -20692709.35 -20692709.25 0.2686 0.1052 *

Mars -61366-11-25 08:23 J -20692180.19 -20692180.15 -20692180.10 0.1927 0.1735

Mars -61365-09-22 18:28 J -20691877.88 -20691877.73 -20691877.58 0.1628 0.0699

Jupiter -61365-12-22 20:52 J -20691786.81 -20691786.63 -20691786.44 0.0498 0.0012

Earth -61364-12-02 23:30 J -20691441.57 -20691441.52 -20691441.46 0.2652 0.2488

Venus -61363-12-04 23:16 J -20691074.65 -20691074.53 -20691074.40 0.3565 0.2107

Earth -61360-06-07 02:23 J -20690159.48 -20690159.40 -20690159.32 0.2680 0.1848

Moon -61360-06-07 03:06 J -20690159.45 -20690159.37 -20690159.29 0.2683 0.1766 *

Jupiter -61359-08-23 12:42 J -20689717.05 -20689716.97 -20689716.88 0.0528 0.0370

Jupiter -61359-11-20 18:42 J -20689627.84 -20689627.72 -20689627.59 0.0527 0.0158

Saturn -61359-12-25 00:42 J -20689593.47 -20689593.47 -20689593.46 0.0262 0.0262

Saturn -61358-03-23 20:23 J -20689504.80 -20689504.65 -20689504.49 0.0261 0.0142

Saturn -61358-06-20 16:18 J -20689416.01 -20689415.82 -20689415.63 0.0261 0.0021

Saturn -61358-09-17 12:13 J -20689327.16 -20689326.99 -20689326.81 0.0260 0.0100

Saturn -61358-12-15 08:23 J -20689238.25 -20689238.15 -20689238.05 0.0260 0.0221

Venus -61357-06-20 08:23 J -20689050.24 -20689050.15 -20689050.06 0.3563 0.2927

Mars -61356-04-16 16:18 J -20688749.93 -20688749.82 -20688749.72 0.1919 0.0732

Mars -61355-02-12 20:09 J -20688447.83 -20688447.66 -20688447.50 0.1634 0.0271

Neptune -61355-08-05 18:57 J -20688273.74 -20688273.71 -20688273.67 0.0089 0.0087

Neptune -61355-11-01 22:04 J -20688185.64 -20688185.58 -20688185.48 0.0089 0.0080

Neptune -61354-01-29 01:40 J -20688097.53 -20688097.43 -20688097.31 0.0089 0.0072

Venus -61354-03-26 04:47 J -20688041.36 -20688041.30 -20688041.25 0.3813 0.3205

Neptune -61354-04-27 04:47 J -20688009.41 -20688009.30 -20688009.15 0.0089 0.0065

Moon -61354-06-16 20:52 J -20687958.70 -20687958.63 -20687958.56 0.2685 0.2053

Earth -61354-06-16 21:35 J -20687958.67 -20687958.60 -20687958.53 0.2688 0.2063 *

Neptune -61354-07-24 08:23 J -20687921.28 -20687921.15 -20687920.99 0.0089 0.0057

Neptune -61354-10-20 11:59 J -20687833.15 -20687833.00 -20687832.83 0.0089 0.0049

Neptune -61353-01-16 15:21 J -20687745.02 -20687744.86 -20687744.68 0.0089 0.0041

Neptune -61353-04-13 18:57 J -20687656.88 -20687656.71 -20687656.53 0.0089 0.0033

Neptune -61353-07-10 22:18 J -20687568.74 -20687568.57 -20687568.38 0.0089 0.0026

Neptune -61353-10-07 01:54 J -20687480.60 -20687480.42 -20687480.23 0.0089 0.0018

Jupiter -61353-10-10 18:28 J -20687476.91 -20687476.73 -20687476.56 0.0498 0.0168

Neptune -61352-01-03 05:30 J -20687392.46 -20687392.27 -20687392.08 0.0089 0.0010

Pluto -61352-03-22 11:45 J -20687314.04 -20687314.01 -20687313.97 0.0061 0.0059

Neptune -61352-04-01 09:06 J -20687304.31 -20687304.12 -20687303.93 0.0089 0.0003

Pluto -61352-06-18 12:28 J -20687226.04 -20687225.98 -20687225.89 0.0061 0.0055

Neptune -61352-06-28 12:28 J -20687216.17 -20687215.98 -20687215.79 0.0089 0.0006

Pluto -61352-09-14 13:40 J -20687138.01 -20687137.93 -20687137.82 0.0061 0.0050

Neptune -61352-09-24 16:04 J -20687128.02 -20687127.83 -20687127.64 0.0089 0.0013

Pluto -61352-12-11 14:52 J -20687049.98 -20687049.88 -20687049.75 0.0061 0.0046

Neptune -61352-12-21 19:25 J -20687039.87 -20687039.69 -20687039.50 0.0089 0.0021

Pluto -61351-03-09 16:18 J -20686961.95 -20686961.82 -20686961.69 0.0061 0.0041

Neptune -61351-03-19 22:47 J -20686951.72 -20686951.55 -20686951.35 0.0089 0.0030

Pluto -61351-06-05 17:01 J -20686873.92 -20686873.79 -20686873.63 0.0061 0.0036

Neptune -61351-06-16 02:37 J -20686863.56 -20686863.39 -20686863.21 0.0089 0.0037

Pluto -61351-09-01 18:13 J -20686785.88 -20686785.74 -20686785.57 0.0061 0.0032

Neptune -61351-09-12 06:13 J -20686775.41 -20686775.24 -20686775.08 0.0089 0.0045

Uranus -61351-10-31 17:30 J -20686725.82 -20686725.77 -20686725.71 0.0132 0.0119

Pluto -61351-11-28 19:25 J -20686697.84 -20686697.69 -20686697.52 0.0061 0.0027

Moon -61351-12-06 04:18 J -20686690.47 -20686690.32 -20686690.17 0.2649 0.0587

Earth -61351-12-06 05:59 J -20686690.40 -20686690.25 -20686690.10 0.2650 0.0489 *

Neptune -61351-12-09 09:35 J -20686687.25 -20686687.10 -20686686.94 0.0089 0.0053

Uranus -61350-01-27 20:23 J -20686637.73 -20686637.65 -20686637.56 0.0133 0.0103

Pluto -61350-02-24 20:37 J -20686609.80 -20686609.64 -20686609.46 0.0062 0.0022

Neptune -61350-03-07 12:57 J -20686599.09 -20686598.96 -20686598.81 0.0089 0.0061

Uranus -61350-04-25 23:30 J -20686549.62 -20686549.52 -20686549.42 0.0133 0.0086

Pluto -61350-05-23 21:49 J -20686521.75 -20686521.59 -20686521.41 0.0062 0.0017

Neptune -61350-06-03 16:33 J -20686510.92 -20686510.81 -20686510.68 0.0089 0.0069

Uranus -61350-07-23 02:23 J -20686461.51 -20686461.40 -20686461.29 0.0133 0.0069

Pluto -61350-08-19 23:01 J -20686433.71 -20686433.54 -20686433.36 0.0062 0.0012

Neptune -61350-08-30 20:09 J -20686422.74 -20686422.66 -20686422.55 0.0089 0.0077

Uranus -61350-10-19 05:16 J -20686373.40 -20686373.28 -20686373.16 0.0133 0.0052

Pluto -61350-11-16 00:28 J -20686345.66 -20686345.48 -20686345.31 0.0062 0.0007

Neptune -61350-11-26 23:30 J -20686334.55 -20686334.52 -20686334.44 0.0089 0.0085

Uranus -61349-01-15 08:09 J -20686285.28 -20686285.16 -20686285.03 0.0133 0.0035

Pluto -61349-02-12 01:40 J -20686257.61 -20686257.43 -20686257.25 0.0062 0.0002

Uranus -61349-04-12 11:01 J -20686197.16 -20686197.04 -20686196.90 0.0133 0.0019

Pluto -61349-05-10 02:52 J -20686169.56 -20686169.38 -20686169.20 0.0062 0.0003

Uranus -61349-07-09 14:09 J -20686109.04 -20686108.91 -20686108.78 0.0133 0.0002

Pluto -61349-08-06 04:04 J -20686081.51 -20686081.33 -20686081.16 0.0062 0.0008

Uranus -61349-10-05 17:01 J -20686020.92 -20686020.79 -20686020.66 0.0133 0.0016

Venus -61349-10-08 20:37 J -20686017.73 -20686017.64 -20686017.54 0.3814 0.1338

Pluto -61349-11-02 05:01 J -20685993.46 -20685993.29 -20685993.11 0.0062 0.0013

Uranus -61348-01-01 19:54 J -20685932.80 -20685932.67 -20685932.54 0.0133 0.0033

Pluto -61348-01-29 06:13 J -20685905.40 -20685905.24 -20685905.06 0.0062 0.0019

Uranus -61348-03-30 22:47 J -20685844.67 -20685844.55 -20685844.42 0.0133 0.0050

Pluto -61348-04-27 07:40 J -20685817.35 -20685817.18 -20685817.02 0.0062 0.0023

Uranus -61348-06-27 01:54 J -20685756.54 -20685756.42 -20685756.31 0.0133 0.0067

Pluto -61348-07-24 08:52 J -20685729.29 -20685729.13 -20685728.97 0.0062 0.0029

Uranus -61348-09-23 04:47 J -20685668.40 -20685668.30 -20685668.20 0.0133 0.0084

Pluto -61348-10-20 09:35 J -20685641.23 -20685641.10 -20685640.93 0.0062 0.0035

Uranus -61348-12-20 07:40 J -20685580.26 -20685580.18 -20685580.09 0.0133 0.0101

Pluto -61347-01-16 11:01 J -20685553.17 -20685553.04 -20685552.89 0.0062 0.0039

Uranus -61347-03-18 10:33 J -20685492.12 -20685492.06 -20685492.00 0.0134 0.0118

Pluto -61347-04-14 12:13 J -20685465.10 -20685464.99 -20685464.85 0.0062 0.0045

Earth -61347-06-09 20:37 J -20685408.75 -20685408.64 -20685408.54 0.2683 0.0814

Moon -61347-06-09 21:21 J -20685408.72 -20685408.61 -20685408.51 0.2681 0.0715 *

Jupiter -61347-06-11 17:01 J -20685406.83 -20685406.79 -20685406.75 0.0528 0.0499

Pluto -61347-07-11 13:40 J -20685377.03 -20685376.93 -20685376.81 0.0063 0.0050

Mars -61347-09-07 00:13 J -20685319.61 -20685319.49 -20685319.38 0.1912 0.0249

Jupiter -61347-09-08 23:16 J -20685317.66 -20685317.53 -20685317.41 0.0527 0.0034

Pluto -61347-10-07 15:06 J -20685288.95 -20685288.87 -20685288.78 0.0063 0.0055

Pluto -61346-01-03 15:49 J -20685200.86 -20685200.84 -20685200.77 0.0063 0.0061

Mars -61346-07-05 21:49 J -20685017.70 -20685017.59 -20685017.49 0.1640 0.1246

Venus -61343-04-24 12:42 J -20683994.07 -20683993.97 -20683993.87 0.3816 0.0545

Saturn -61343-07-14 09:35 J -20683913.19 -20683913.10 -20683913.01 0.0300 0.0218

Saturn -61343-10-10 22:47 J -20683824.68 -20683824.55 -20683824.43 0.0301 0.0088

Saturn -61342-01-07 11:45 J -20683736.14 -20683736.01 -20683735.88 0.0302 0.0043

Saturn -61342-04-06 00:42 J -20683647.58 -20683647.47 -20683647.36 0.0302 0.0173

Jupiter -61341-07-29 16:04 J -20683166.97 -20683166.83 -20683166.69 0.0498 0.0326

Jupiter -61341-10-28 02:37 J -20683076.52 -20683076.39 -20683076.26 0.0499 0.0347

Venus -61338-11-08 04:47 J -20681970.38 -20681970.30 -20681970.23 0.3817 0.2429

Moon -61338-12-09 11:01 J -20681939.17 -20681939.04 -20681938.91 0.2650 0.1452

Earth -61338-12-09 12:42 J -20681939.10 -20681938.97 -20681938.85 0.2647 0.1560 *

Mars -61337-01-28 08:09 J -20681889.25 -20681889.16 -20681889.07 0.1904 0.1229

Jupiter -61335-06-28 03:21 J -20681007.48 -20681007.36 -20681007.24 0.0527 0.0102

Jupiter -61335-09-25 09:06 J -20680918.20 -20680918.12 -20680918.05 0.0527 0.0418

Earth -61334-06-12 14:37 J -20680658.00 -20680657.89 -20680657.78 0.2685 0.0245

Moon -61334-06-12 14:52 J -20680657.99 -20680657.88 -20680657.77 0.2678 0.0223 *

Jupiter -61329-05-17 13:54 J -20678856.96 -20678856.92 -20678856.87 0.0498 0.0481

Saturn -61329-08-09 18:13 J -20678772.86 -20678772.74 -20678772.61 0.0261 0.0187

Jupiter -61329-08-16 00:13 J -20678766.66 -20678766.49 -20678766.32 0.0499 0.0187

Saturn -61329-11-06 14:09 J -20678684.09 -20678683.91 -20678683.73 0.0261 0.0067

Saturn -61328-02-03 10:04 J -20678595.26 -20678595.08 -20678594.89 0.0260 0.0054

Saturn -61328-05-03 05:59 J -20678506.38 -20678506.25 -20678506.10 0.0260 0.0176

Moon -61327-06-05 13:25 J -20678107.96 -20678107.94 -20678107.92 0.2685 0.2610

Mars -61326-05-26 08:23 J -20677753.19 -20677753.15 -20677753.12 0.1926 0.1825

Mars -61325-03-23 19:11 J -20677450.84 -20677450.70 -20677450.56 0.1628 0.0842

Jupiter -61323-04-16 07:11 J -20676697.31 -20676697.20 -20676697.08 0.0528 0.0237

Jupiter -61323-07-14 13:11 J -20676608.06 -20676607.95 -20676607.85 0.0527 0.0287

Moon -61321-06-14 08:23 J -20675907.25 -20675907.15 -20675907.06 0.2680 0.1283

Earth -61321-06-14 08:23 J -20675907.24 -20675907.15 -20675907.05 0.2687 0.1249 *

Moon -61318-12-04 05:01 J -20674639.38 -20674639.29 -20674639.20 0.2647 0.2116

Earth -61318-12-04 06:13 J -20674639.33 -20674639.24 -20674639.15 0.2652 0.2121 *

Jupiter -61317-06-03 21:35 J -20674456.79 -20674456.60 -20674456.42 0.0498 0.0026

Mars -61317-10-15 16:18 J -20674322.92 -20674322.82 -20674322.72 0.1920 0.0841

Mars -61316-08-13 20:52 J -20674020.80 -20674020.63 -20674020.47 0.1633 0.0131

Earth -61314-06-08 07:11 J -20673357.28 -20673357.20 -20673357.11 0.2680 0.1643

Moon -61314-06-08 07:54 J -20673357.25 -20673357.17 -20673357.08 0.2682 0.1611 *

Saturn -61314-12-01 10:33 J -20673181.12 -20673181.06 -20673181.00 0.0300 0.0265

Saturn -61313-02-27 23:45 J -20673092.63 -20673092.51 -20673092.39 0.0300 0.0135

Saturn -61313-05-26 12:42 J -20673004.10 -20673003.97 -20673003.84 0.0301 0.0006

Saturn -61313-08-23 01:40 J -20672915.55 -20672915.43 -20672915.31 0.0302 0.0127

Saturn -61313-11-19 14:37 J -20672826.95 -20672826.89 -20672826.82 0.0302 0.0256

Jupiter -61311-02-02 11:45 J -20672387.10 -20672387.01 -20672386.92 0.0528 0.0362

Jupiter -61311-05-02 17:45 J -20672297.88 -20672297.76 -20672297.64 0.0527 0.0165

Uranus -61310-08-25 06:42 J -20671818.31 -20671818.22 -20671818.12 0.0146 0.0127

Uranus -61310-11-21 15:21 J -20671730.00 -20671729.86 -20671729.70 0.0146 0.0094

Uranus -61309-02-18 00:13 J -20671641.66 -20671641.49 -20671641.31 0.0146 0.0061

Uranus -61309-05-16 09:06 J -20671553.31 -20671553.12 -20671552.93 0.0146 0.0028

Uranus -61309-08-12 17:59 J -20671464.94 -20671464.75 -20671464.56 0.0146 0.0006

Uranus -61309-11-09 02:52 J -20671376.57 -20671376.38 -20671376.20 0.0146 0.0039

Uranus -61308-02-05 11:16 J -20671288.18 -20671288.03 -20671287.85 0.0146 0.0073

Uranus -61308-05-04 20:09 J -20671199.78 -20671199.66 -20671199.51 0.0146 0.0106

Moon -61308-06-17 01:40 J -20671156.49 -20671156.43 -20671156.36 0.2686 0.2125

Earth -61308-06-17 02:23 J -20671156.46 -20671156.40 -20671156.34 0.2689 0.2261 *

Uranus -61308-08-01 05:01 J -20671111.33 -20671111.29 -20671111.22 0.0145 0.0139

Mars -61307-03-08 00:13 J -20670892.61 -20670892.49 -20670892.37 0.1912 0.0139

Mars -61306-01-03 22:18 J -20670590.69 -20670590.57 -20670590.45 0.1640 0.1110

Venus -61306-07-12 01:40 J -20670401.59 -20670401.43 -20670401.27 0.3565 0.0396

Jupiter -61305-03-22 17:16 J -20670146.95 -20670146.78 -20670146.60 0.0498 0.0156

Moon -61305-12-06 10:47 J -20669888.20 -20669888.05 -20669887.89 0.2650 0.0342

Earth -61305-12-06 12:28 J -20669888.13 -20669887.98 -20669887.82 0.2649 0.0122 *

Earth -61301-06-10 01:25 J -20668606.55 -20668606.44 -20668606.33 0.2683 0.0608

Moon -61301-06-10 02:09 J -20668606.52 -20668606.41 -20668606.31 0.2681 0.0549 *

Jupiter -61300-11-21 16:18 J -20668076.86 -20668076.82 -20668076.77 0.0529 0.0487

Saturn -61300-12-27 17:16 J -20668040.87 -20668040.78 -20668040.68 0.0262 0.0225

Jupiter -61299-02-18 22:33 J -20667987.69 -20667987.56 -20667987.43 0.0528 0.0043

Saturn -61299-03-26 12:57 J -20667952.12 -20667951.96 -20667951.78 0.0261 0.0105

Saturn -61299-06-23 08:52 J -20667863.31 -20667863.13 -20667862.94 0.0261 0.0018

Saturn -61299-09-20 04:47 J -20667774.45 -20667774.30 -20667774.13 0.0261 0.0139

Saturn -61299-12-18 00:57 J -20667685.46 -20667685.46 -20667685.44 0.0260 0.0260

Mars -61298-07-29 08:09 J -20667462.25 -20667462.16 -20667462.07 0.1904 0.1120

Venus -61298-10-31 02:09 J -20667368.48 -20667368.41 -20667368.33 0.3813 0.2540

Jupiter -61293-01-09 14:52 J -20665837.02 -20665836.88 -20665836.74 0.0498 0.0316

Jupiter -61293-04-09 01:11 J -20665746.57 -20665746.45 -20665746.31 0.0499 0.0356

Venus -61292-05-15 18:13 J -20665344.84 -20665344.74 -20665344.64 0.3815 0.0682

Moon -61292-12-09 17:45 J -20665136.87 -20665136.76 -20665136.65 0.2650 0.1804

Earth -61292-12-09 19:11 J -20665136.80 -20665136.70 -20665136.59 0.2647 0.1941 *

Earth -61288-06-12 19:25 J -20663855.80 -20663855.69 -20663855.58 0.2685 0.0427

Moon -61288-06-12 19:40 J -20663855.79 -20663855.68 -20663855.57 0.2678 0.0477 *

Jupiter -61288-12-08 02:52 J -20663677.51 -20663677.38 -20663677.25 0.0528 0.0085

Jupiter -61287-03-07 08:37 J -20663588.21 -20663588.14 -20663588.07 0.0527 0.0435

Venus -61287-11-29 10:04 J -20663321.17 -20663321.08 -20663320.98 0.3816 0.1220

Mars -61286-09-22 19:40 J -20663023.81 -20663023.68 -20663023.54 0.1628 0.0973

Saturn -61284-07-16 23:45 J -20662360.61 -20662360.51 -20662360.41 0.0300 0.0188

Saturn -61284-10-13 12:42 J -20662272.09 -20662271.97 -20662271.83 0.0301 0.0059

Saturn -61283-01-10 01:54 J -20662183.55 -20662183.42 -20662183.29 0.0302 0.0072

Saturn -61283-04-08 14:52 J -20662094.98 -20662094.88 -20662094.79 0.0302 0.0202

Jupiter -61282-10-28 12:42 J -20661527.03 -20661526.97 -20661526.92 0.0498 0.0473

Jupiter -61281-01-26 22:47 J -20661436.72 -20661436.55 -20661436.38 0.0499 0.0195

Earth -61281-06-05 17:59 J -20661305.79 -20661305.75 -20661305.71 0.2679 0.2480

Moon -61281-06-05 18:28 J -20661305.77 -20661305.73 -20661305.70 0.2684 0.2506 *

Venus -61281-06-14 02:09 J -20661297.46 -20661297.41 -20661297.35 0.3817 0.3108

Mars -61277-04-15 16:18 J -20659895.92 -20659895.82 -20659895.72 0.1919 0.0947

Mars -61276-02-11 21:21 J -20659593.78 -20659593.61 -20659593.45 0.1634 0.0006

Jupiter -61276-09-26 06:57 J -20659367.32 -20659367.21 -20659367.09 0.0528 0.0217

Jupiter -61276-12-24 12:57 J -20659278.06 -20659277.96 -20659277.86 0.0527 0.0308

Moon -61275-06-15 12:57 J -20659105.05 -20659104.96 -20659104.86 0.2681 0.1367

Earth -61275-06-15 13:25 J -20659105.04 -20659104.94 -20659104.85 0.2687 0.1450 *

Neptune -61273-08-14 05:30 J -20658314.31 -20658314.27 -20658314.22 0.0089 0.0084

Neptune -61273-11-10 06:42 J -20658226.27 -20658226.22 -20658226.14 0.0089 0.0079

Neptune -61272-02-06 08:09 J -20658138.22 -20658138.16 -20658138.07 0.0089 0.0073

Neptune -61272-05-05 09:49 J -20658050.18 -20658050.09 -20658050.00 0.0089 0.0067

Neptune -61272-08-01 11:01 J -20657962.13 -20657962.04 -20657961.93 0.0089 0.0062

Neptune -61272-10-28 12:28 J -20657874.08 -20657873.98 -20657873.87 0.0089 0.0056

Moon -61272-12-04 11:16 J -20657837.13 -20657837.03 -20657836.92 0.2648 0.1957

Earth -61272-12-04 12:42 J -20657837.09 -20657836.97 -20657836.86 0.2652 0.1750 *

Neptune -61271-01-24 13:54 J -20657786.02 -20657785.92 -20657785.80 0.0089 0.0051

Neptune -61271-04-22 15:21 J -20657697.97 -20657697.86 -20657697.74 0.0089 0.0045

Neptune -61271-07-19 16:33 J -20657609.92 -20657609.81 -20657609.68 0.0089 0.0040

Neptune -61271-10-15 18:13 J -20657521.86 -20657521.74 -20657521.62 0.0089 0.0034

Neptune -61270-01-11 19:25 J -20657433.81 -20657433.69 -20657433.55 0.0089 0.0029

Neptune -61270-04-09 20:52 J -20657345.75 -20657345.63 -20657345.49 0.0089 0.0023

Neptune -61270-07-06 22:18 J -20657257.70 -20657257.57 -20657257.43 0.0089 0.0017

Saturn -61270-08-13 10:33 J -20657220.20 -20657220.06 -20657219.90 0.0261 0.0152

Neptune -61270-10-02 23:45 J -20657169.64 -20657169.51 -20657169.38 0.0089 0.0012

Saturn -61270-11-10 06:28 J -20657131.41 -20657131.23 -20657131.04 0.0261 0.0031

Jupiter -61270-11-14 20:23 J -20657126.83 -20657126.65 -20657126.46 0.0498 0.0038

Neptune -61270-12-30 01:11 J -20657081.59 -20657081.45 -20657081.32 0.0089 0.0006

Saturn -61269-02-07 02:37 J -20657042.57 -20657042.39 -20657042.22 0.0261 0.0091

Neptune -61269-03-27 02:23 J -20656993.53 -20656993.40 -20656993.26 0.0089 0.0003

Saturn -61269-05-05 22:47 J -20656953.66 -20656953.55 -20656953.45 0.0260 0.0212

Neptune -61269-06-23 03:49 J -20656905.47 -20656905.34 -20656905.20 0.0089 0.0005

Neptune -61269-09-19 05:16 J -20656817.41 -20656817.28 -20656817.15 0.0089 0.0010

Neptune -61269-12-16 06:28 J -20656729.36 -20656729.23 -20656729.09 0.0089 0.0016

Neptune -61268-03-14 07:54 J -20656641.30 -20656641.17 -20656641.04 0.0089 0.0021

Earth -61268-06-08 12:13 J -20656555.09 -20656554.99 -20656554.90 0.2681 0.1437

Moon -61268-06-08 12:57 J -20656555.06 -20656554.96 -20656554.86 0.2682 0.1305 *

Neptune -61268-06-10 09:06 J -20656553.24 -20656553.12 -20656552.98 0.0089 0.0027

Mars -61268-09-06 00:13 J -20656465.61 -20656465.49 -20656465.38 0.1912 0.0073

Neptune -61268-09-06 10:33 J -20656465.18 -20656465.06 -20656464.93 0.0089 0.0032

Neptune -61268-12-03 11:45 J -20656377.12 -20656377.01 -20656376.88 0.0089 0.0038

Neptune -61267-03-01 13:11 J -20656289.06 -20656288.95 -20656288.83 0.0089 0.0043

Neptune -61267-05-28 14:23 J -20656201.00 -20656200.90 -20656200.78 0.0089 0.0049

Mars -61267-07-04 23:16 J -20656163.67 -20656163.53 -20656163.40 0.1639 0.0964

Neptune -61267-08-24 15:49 J -20656112.94 -20656112.84 -20656112.73 0.0089 0.0054

Uranus -61267-08-24 22:33 J -20656112.58 -20656112.56 -20656112.53 0.0132 0.0128

Neptune -61267-11-20 17:30 J -20656024.87 -20656024.77 -20656024.68 0.0089 0.0059

Uranus -61267-11-21 01:25 J -20656024.50 -20656024.44 -20656024.36 0.0133 0.0112

Neptune -61266-02-16 18:28 J -20655936.81 -20655936.73 -20655936.63 0.0089 0.0065

Uranus -61266-02-17 04:33 J -20655936.40 -20655936.31 -20655936.22 0.0133 0.0095

Neptune -61266-05-15 19:54 J -20655848.74 -20655848.67 -20655848.58 0.0089 0.0070

Uranus -61266-05-16 07:25 J -20655848.29 -20655848.19 -20655848.08 0.0133 0.0078

Neptune -61266-08-11 21:06 J -20655760.67 -20655760.62 -20655760.54 0.0089 0.0076

Uranus -61266-08-12 10:18 J -20655760.18 -20655760.07 -20655759.95 0.0133 0.0061

Neptune -61266-11-07 22:33 J -20655672.60 -20655672.56 -20655672.50 0.0089 0.0081

Uranus -61266-11-08 13:25 J -20655672.07 -20655671.94 -20655671.82 0.0133 0.0044

Neptune -61265-02-03 23:59 J -20655584.52 -20655584.50 -20655584.47 0.0089 0.0086

Uranus -61265-02-04 16:18 J -20655583.95 -20655583.82 -20655583.69 0.0133 0.0027

Uranus -61265-05-02 19:11 J -20655495.83 -20655495.70 -20655495.57 0.0133 0.0010

Uranus -61265-07-29 22:04 J -20655407.71 -20655407.58 -20655407.45 0.0133 0.0007

Uranus -61265-10-26 00:57 J -20655319.58 -20655319.46 -20655319.32 0.0133 0.0024

Uranus -61264-01-22 03:49 J -20655231.46 -20655231.34 -20655231.21 0.0133 0.0042

Uranus -61264-04-20 06:42 J -20655143.33 -20655143.22 -20655143.09 0.0133 0.0059

Jupiter -61264-07-15 11:01 J -20655057.14 -20655057.04 -20655056.95 0.0528 0.0352

Uranus -61264-07-17 09:35 J -20655055.20 -20655055.10 -20655054.98 0.0133 0.0076

Jupiter -61264-10-12 16:47 J -20654967.91 -20654967.80 -20654967.67 0.0527 0.0176

Uranus -61264-10-13 12:42 J -20654967.06 -20654966.97 -20654966.87 0.0133 0.0092

Uranus -61263-01-09 15:35 J -20654878.92 -20654878.85 -20654878.77 0.0134 0.0109

Uranus -61263-04-07 18:42 J -20654790.76 -20654790.72 -20654790.68 0.0134 0.0126

Moon -61262-06-18 06:28 J -20654354.27 -20654354.23 -20654354.19 0.2686 0.2443

Earth -61262-06-18 07:11 J -20654354.24 -20654354.20 -20654354.16 0.2689 0.2453 *

Pluto -61260-08-12 03:21 J -20653568.39 -20653568.36 -20653568.31 0.0084 0.0080

Pluto -61260-11-08 04:47 J -20653480.36 -20653480.30 -20653480.21 0.0084 0.0070

Pluto -61259-02-04 06:28 J -20653392.32 -20653392.23 -20653392.12 0.0084 0.0060

Pluto -61259-05-03 08:09 J -20653304.27 -20653304.16 -20653304.04 0.0083 0.0049

Pluto -61259-07-30 09:35 J -20653216.21 -20653216.10 -20653215.96 0.0083 0.0040

Pluto -61259-10-26 11:16 J -20653128.16 -20653128.03 -20653127.89 0.0083 0.0029

Moon -61259-12-07 17:16 J -20653085.93 -20653085.78 -20653085.62 0.2649 0.0192

Earth -61259-12-07 19:11 J -20653085.86 -20653085.70 -20653085.55 0.2649 0.0271 *

Pluto -61258-01-22 12:57 J -20653040.10 -20653039.96 -20653039.82 0.0083 0.0019

Mars -61258-01-27 08:09 J -20653035.26 -20653035.16 -20653035.06 0.1905 0.1008

Pluto -61258-04-20 14:23 J -20652952.04 -20652951.90 -20652951.75 0.0083 0.0010

Pluto -61258-07-17 16:04 J -20652863.97 -20652863.83 -20652863.69 0.0083 0.0001

Jupiter -61258-09-02 17:45 J -20652816.94 -20652816.76 -20652816.58 0.0498 0.0127

Pluto -61258-10-13 17:30 J -20652775.91 -20652775.77 -20652775.63 0.0083 0.0010

Pluto -61257-01-09 18:57 J -20652687.84 -20652687.71 -20652687.57 0.0082 0.0019

Pluto -61257-04-06 20:23 J -20652599.78 -20652599.65 -20652599.51 0.0082 0.0029

Pluto -61257-07-03 21:49 J -20652511.71 -20652511.59 -20652511.46 0.0082 0.0038

Pluto -61257-09-29 23:30 J -20652423.64 -20652423.52 -20652423.41 0.0082 0.0047

Pluto -61257-12-27 00:42 J -20652335.56 -20652335.47 -20652335.36 0.0082 0.0057

Pluto -61256-03-25 02:09 J -20652247.48 -20652247.41 -20652247.32 0.0082 0.0066

Pluto -61256-06-21 03:35 J -20652159.40 -20652159.35 -20652159.29 0.0082 0.0075

Earth -61255-06-11 06:13 J -20651804.35 -20651804.24 -20651804.13 0.2683 0.0400

Moon -61255-06-11 06:42 J -20651804.33 -20651804.22 -20651804.11 0.2679 0.0370 *

Saturn -61255-12-04 00:28 J -20651628.55 -20651628.48 -20651628.39 0.0300 0.0236

Saturn -61254-03-02 13:40 J -20651540.05 -20651539.93 -20651539.80 0.0300 0.0106

Saturn -61254-05-30 02:52 J -20651451.51 -20651451.38 -20651451.25 0.0301 0.0026

Saturn -61254-08-26 15:49 J -20651362.95 -20651362.84 -20651362.73 0.0302 0.0155

Saturn -61254-11-23 04:33 J -20651274.35 -20651274.31 -20651274.26 0.0302 0.0284

Jupiter -61252-05-03 15:21 J -20650746.91 -20650746.86 -20650746.81 0.0528 0.0478

Jupiter -61252-07-31 21:35 J -20650657.73 -20650657.60 -20650657.48 0.0528 0.0054

Venus -61249-02-16 03:49 J -20649728.49 -20649728.34 -20649728.19 0.3564 0.1337

Venus -61247-11-21 07:40 J -20648719.19 -20648719.18 -20648719.16 0.3812 0.3737

Mars -61246-03-23 20:23 J -20648596.77 -20648596.65 -20648596.53 0.1628 0.1109

Jupiter -61246-06-21 13:54 J -20648507.07 -20648506.92 -20648506.77 0.0498 0.0304

Jupiter -61246-09-20 00:13 J -20648416.61 -20648416.49 -20648416.36 0.0498 0.0368

Moon -61246-12-11 00:42 J -20648334.56 -20648334.47 -20648334.39 0.2651 0.2186

Earth -61246-12-11 01:54 J -20648334.50 -20648334.42 -20648334.35 0.2647 0.2321 *

Earth -61242-06-14 00:13 J -20647053.60 -20647053.49 -20647053.38 0.2685 0.0626

Moon -61242-06-14 00:28 J -20647053.59 -20647053.48 -20647053.37 0.2678 0.0632 *

Venus -61241-06-05 23:45 J -20646695.60 -20646695.51 -20646695.42 0.3813 0.1874

Saturn -61241-12-30 09:35 J -20646488.22 -20646488.10 -20646487.97 0.0262 0.0189

Saturn -61240-03-29 05:30 J -20646399.45 -20646399.27 -20646399.09 0.0262 0.0068

Jupiter -61240-05-20 02:09 J -20646347.54 -20646347.41 -20646347.28 0.0528 0.0072

Saturn -61240-06-26 01:25 J -20646310.62 -20646310.44 -20646310.25 0.0261 0.0053

Jupiter -61240-08-17 07:54 J -20646258.23 -20646258.17 -20646258.11 0.0527 0.0450

Saturn -61240-09-22 21:21 J -20646221.74 -20646221.61 -20646221.46 0.0261 0.0176

Mars -61238-10-15 16:18 J -20645468.92 -20645468.82 -20645468.72 0.1919 0.1054

Mars -61237-08-12 22:04 J -20645166.75 -20645166.58 -20645166.42 0.1633 0.0141

Venus -61236-12-20 15:35 J -20644671.95 -20644671.85 -20644671.75 0.3815 0.0115

Earth -61235-06-06 23:01 J -20644503.60 -20644503.54 -20644503.49 0.2679 0.2275

Moon -61235-06-06 23:30 J -20644503.59 -20644503.52 -20644503.46 0.2683 0.2166 *

Jupiter -61234-04-09 11:16 J -20644197.09 -20644197.03 -20644196.96 0.0497 0.0463

Jupiter -61234-07-08 21:35 J -20644106.77 -20644106.60 -20644106.43 0.0498 0.0204

Venus -61230-07-06 07:40 J -20642648.27 -20642648.18 -20642648.09 0.3816 0.1895

Moon -61229-06-15 17:45 J -20642302.85 -20642302.76 -20642302.68 0.2682 0.1618

Earth -61229-06-15 18:13 J -20642302.83 -20642302.74 -20642302.66 0.2687 0.1643 *

Mars -61228-03-07 00:13 J -20642038.61 -20642038.49 -20642038.38 0.1912 0.0074

Jupiter -61228-03-08 06:28 J -20642037.35 -20642037.23 -20642037.11 0.0528 0.0201

Jupiter -61228-06-05 12:13 J -20641948.09 -20641947.99 -20641947.89 0.0527 0.0324

Mars -61227-01-02 23:30 J -20641736.66 -20641736.52 -20641736.38 0.1639 0.0839

Uranus -61226-09-14 15:35 J -20641116.96 -20641116.85 -20641116.72 0.0146 0.0114

Moon -61226-12-05 17:30 J -20641034.90 -20641034.77 -20641034.63 0.2649 0.1429

Earth -61226-12-05 19:11 J -20641034.83 -20641034.70 -20641034.57 0.2651 0.1383 *

Uranus -61226-12-12 00:28 J -20641028.63 -20641028.48 -20641028.31 0.0146 0.0081

Uranus -61225-03-09 09:21 J -20640940.29 -20640940.11 -20640939.92 0.0146 0.0047

Saturn -61225-04-22 00:57 J -20640896.50 -20640896.46 -20640896.43 0.0299 0.0287

Uranus -61225-06-05 18:13 J -20640851.93 -20640851.74 -20640851.55 0.0146 0.0014

Saturn -61225-07-19 14:09 J -20640808.03 -20640807.91 -20640807.80 0.0300 0.0157

Uranus -61225-09-02 03:06 J -20640763.56 -20640763.37 -20640763.18 0.0146 0.0019

Saturn -61225-10-16 03:06 J -20640719.50 -20640719.37 -20640719.24 0.0301 0.0027

Uranus -61225-11-29 11:45 J -20640675.18 -20640675.01 -20640674.82 0.0146 0.0053

Saturn -61224-01-12 16:04 J -20640630.95 -20640630.83 -20640630.71 0.0301 0.0103

Venus -61224-01-18 23:45 J -20640624.52 -20640624.51 -20640624.50 0.3817 0.3791

Uranus -61224-02-25 20:37 J -20640586.79 -20640586.64 -20640586.48 0.0146 0.0086

Saturn -61224-04-11 05:01 J -20640542.37 -20640542.29 -20640542.21 0.0302 0.0232

Uranus -61224-05-25 05:16 J -20640498.38 -20640498.28 -20640498.16 0.0145 0.0119

Jupiter -61222-04-26 19:11 J -20639796.89 -20639796.70 -20639796.52 0.0498 0.0045

Earth -61222-06-09 17:01 J -20639752.89 -20639752.79 -20639752.69 0.2681 0.1232

Moon -61222-06-09 17:45 J -20639752.86 -20639752.76 -20639752.66 0.2682 0.1213 *

Mars -61219-07-28 08:09 J -20638608.26 -20638608.16 -20638608.06 0.1904 0.0907

Jupiter -61217-12-25 10:33 J -20637727.15 -20637727.06 -20637726.96 0.0528 0.0332

Jupiter -61216-03-24 16:33 J -20637637.93 -20637637.81 -20637637.69 0.0527 0.0195

Moon -61216-06-18 11:16 J -20637552.06 -20637552.03 -20637551.99 0.2687 0.2518

Earth -61216-06-18 11:59 J -20637552.01 -20637552.00 -20637551.98 0.2689 0.2649 *

Moon -61213-12-07 23:59 J -20636283.65 -20636283.50 -20636283.34 0.2649 0.0396

Earth -61213-12-08 01:40 J -20636283.58 -20636283.43 -20636283.28 0.2649 0.0640 *

Saturn -61211-05-19 07:25 J -20635756.27 -20635756.19 -20635756.11 0.0262 0.0236

Saturn -61211-08-16 03:06 J -20635667.53 -20635667.37 -20635667.20 0.0262 0.0115

Saturn -61211-11-12 23:01 J -20635578.72 -20635578.54 -20635578.35 0.0261 0.0007

Saturn -61210-02-09 19:11 J -20635489.86 -20635489.70 -20635489.54 0.0261 0.0128

Jupiter -61210-02-12 16:47 J -20635486.98 -20635486.80 -20635486.62 0.0498 0.0116

Saturn -61210-05-09 15:06 J -20635400.91 -20635400.87 -20635400.81 0.0260 0.0250

Mars -61210-12-18 16:04 J -20635177.85 -20635177.83 -20635177.82 0.1897 0.1875

Earth -61209-06-11 11:01 J -20635002.15 -20635002.04 -20635001.93 0.2683 0.0211

Moon -61209-06-11 11:30 J -20635002.13 -20635002.02 -20635001.91 0.2678 0.0124 *

Mars -61207-09-21 21:06 J -20634169.72 -20634169.62 -20634169.51 0.1628 0.1252

Jupiter -61205-10-13 14:23 J -20633416.95 -20633416.90 -20633416.84 0.0528 0.0469

Jupiter -61204-01-10 20:37 J -20633327.77 -20633327.64 -20633327.52 0.0527 0.0061

Jupiter -61199-12-01 14:09 J -20631177.06 -20631176.91 -20631176.76 0.0498 0.0277

Jupiter -61198-03-02 00:28 J -20631086.58 -20631086.48 -20631086.36 0.0499 0.0397

Venus -61198-03-08 20:52 J -20631079.76 -20631079.63 -20631079.49 0.3565 0.2010

Mars -61198-04-15 16:18 J -20631041.91 -20631041.82 -20631041.73 0.1920 0.1158

Mars -61197-02-11 22:47 J -20630739.72 -20630739.55 -20630739.39 0.1633 0.0281

Moon -61196-06-14 05:16 J -20630251.39 -20630251.28 -20630251.18 0.2679 0.0833

Earth -61196-06-14 05:01 J -20630251.39 -20630251.29 -20630251.18 0.2686 0.0829 *

Saturn -61196-12-06 15:06 J -20630075.96 -20630075.87 -20630075.77 0.0300 0.0202

Saturn -61195-03-05 04:18 J -20629987.45 -20629987.32 -20629987.19 0.0300 0.0072

Saturn -61195-06-01 17:16 J -20629898.91 -20629898.78 -20629898.65 0.0301 0.0058

Saturn -61195-08-29 05:59 J -20629810.34 -20629810.25 -20629810.14 0.0302 0.0188

Venus -61193-09-22 05:59 J -20629055.33 -20629055.25 -20629055.17 0.3564 0.3053

Jupiter -61193-10-30 00:57 J -20629017.58 -20629017.46 -20629017.33 0.0528 0.0068

Jupiter -61192-01-27 06:42 J -20628928.28 -20628928.22 -20628928.15 0.0527 0.0457

Neptune -61190-05-02 15:49 J -20628102.86 -20628102.84 -20628102.79 0.0089 0.0087

Venus -61190-06-28 05:16 J -20628046.34 -20628046.28 -20628046.22 0.3812 0.3067

Neptune -61190-07-29 18:57 J -20628014.77 -20628014.71 -20628014.60 0.0089 0.0080

Neptune -61190-10-25 22:33 J -20627926.65 -20627926.56 -20627926.43 0.0089 0.0072

Neptune -61189-01-22 02:23 J -20627838.53 -20627838.40 -20627838.27 0.0089 0.0064

Neptune -61189-04-19 05:30 J -20627750.40 -20627750.27 -20627750.11 0.0089 0.0057

Earth -61189-06-07 03:49 J -20627701.41 -20627701.34 -20627701.27 0.2679 0.2067

Moon -61189-06-07 04:33 J -20627701.38 -20627701.31 -20627701.25 0.2683 0.2061 *

Neptune -61189-07-16 08:52 J -20627662.27 -20627662.13 -20627661.96 0.0089 0.0049

Mars -61189-09-05 00:13 J -20627611.60 -20627611.49 -20627611.37 0.1912 0.0183

Neptune -61189-10-12 12:42 J -20627574.14 -20627573.97 -20627573.80 0.0089 0.0041

Neptune -61188-01-08 15:49 J -20627486.00 -20627485.84 -20627485.65 0.0089 0.0034

Neptune -61188-04-06 19:25 J -20627397.87 -20627397.69 -20627397.50 0.0089 0.0026

Neptune -61188-07-03 23:01 J -20627309.73 -20627309.54 -20627309.35 0.0089 0.0018

Mars -61188-07-04 00:13 J -20627309.64 -20627309.49 -20627309.34 0.1639 0.0702 *

Neptune -61188-09-30 02:37 J -20627221.58 -20627221.39 -20627221.20 0.0089 0.0010

Neptune -61188-12-27 05:59 J -20627133.44 -20627133.25 -20627133.06 0.0089 0.0002

Neptune -61187-03-25 09:35 J -20627045.29 -20627045.10 -20627044.91 0.0089 0.0006

Neptune -61187-06-21 12:57 J -20626957.15 -20626956.96 -20626956.77 0.0089 0.0014

Neptune -61187-09-17 16:18 J -20626869.00 -20626868.82 -20626868.62 0.0089 0.0022

Jupiter -61187-09-19 10:18 J -20626867.14 -20626867.07 -20626866.99 0.0497 0.0452

Neptune -61187-12-14 19:54 J -20626780.84 -20626780.67 -20626780.48 0.0089 0.0029

Jupiter -61187-12-18 20:23 J -20626776.81 -20626776.65 -20626776.48 0.0498 0.0216

Neptune -61186-03-12 23:16 J -20626692.69 -20626692.53 -20626692.34 0.0089 0.0038

Neptune -61186-06-09 02:52 J -20626604.53 -20626604.38 -20626604.20 0.0089 0.0045

Neptune -61186-09-05 06:42 J -20626516.37 -20626516.22 -20626516.07 0.0089 0.0053

Neptune -61186-12-02 10:04 J -20626428.21 -20626428.08 -20626427.93 0.0089 0.0061

Neptune -61185-02-28 13:40 J -20626340.04 -20626339.93 -20626339.80 0.0089 0.0069

Neptune -61185-05-26 17:01 J -20626251.87 -20626251.79 -20626251.68 0.0089 0.0077

Neptune -61185-08-22 20:37 J -20626163.68 -20626163.64 -20626163.57 0.0088 0.0085

Venus -61184-01-10 21:21 J -20626022.71 -20626022.61 -20626022.52 0.3814 0.1215

Moon -61183-06-16 22:33 J -20625500.65 -20625500.56 -20625500.48 0.2682 0.1765

Earth -61183-06-16 23:01 J -20625500.62 -20625500.54 -20625500.46 0.2687 0.1841 *

Uranus -61183-09-14 06:13 J -20625411.28 -20625411.24 -20625411.17 0.0132 0.0122

Uranus -61183-12-11 09:21 J -20625323.18 -20625323.11 -20625323.02 0.0133 0.0104

Uranus -61182-03-09 12:13 J -20625235.08 -20625234.99 -20625234.88 0.0133 0.0088

Uranus -61182-06-05 15:21 J -20625146.97 -20625146.86 -20625146.75 0.0133 0.0070

Uranus -61182-09-01 18:13 J -20625058.86 -20625058.74 -20625058.62 0.0133 0.0054

Uranus -61182-11-28 21:06 J -20624970.74 -20624970.62 -20624970.49 0.0133 0.0037

Saturn -61181-01-03 02:23 J -20624935.55 -20624935.40 -20624935.25 0.0262 0.0152

Uranus -61181-02-25 00:13 J -20624882.62 -20624882.49 -20624882.36 0.0133 0.0019

Saturn -61181-03-31 22:04 J -20624846.76 -20624846.58 -20624846.39 0.0262 0.0031

Uranus -61181-05-23 03:06 J -20624794.50 -20624794.37 -20624794.24 0.0133 0.0003

Saturn -61181-06-28 18:13 J -20624757.91 -20624757.74 -20624757.56 0.0261 0.0092

Jupiter -61181-08-18 05:30 J -20624707.39 -20624707.27 -20624707.15 0.0529 0.0192

Uranus -61181-08-19 05:59 J -20624706.38 -20624706.25 -20624706.12 0.0133 0.0015

Saturn -61181-09-25 14:23 J -20624669.00 -20624668.90 -20624668.79 0.0261 0.0214

Uranus -61181-11-15 08:52 J -20624618.25 -20624618.13 -20624618.00 0.0133 0.0032

Jupiter -61181-11-15 11:30 J -20624618.12 -20624618.02 -20624617.93 0.0528 0.0334 *

Uranus -61180-02-11 11:59 J -20624530.12 -20624530.00 -20624529.88 0.0133 0.0049

Uranus -61180-05-10 14:52 J -20624441.99 -20624441.88 -20624441.76 0.0133 0.0066

Uranus -61180-08-06 17:45 J -20624353.86 -20624353.76 -20624353.65 0.0133 0.0083

Uranus -61180-11-02 20:37 J -20624265.72 -20624265.64 -20624265.55 0.0133 0.0100

Moon -61180-12-05 23:59 J -20624232.64 -20624232.50 -20624232.36 0.2649 0.1242

Earth -61180-12-06 01:40 J -20624232.57 -20624232.43 -20624232.29 0.2651 0.1012 *

Mars -61179-01-26 08:09 J -20624181.27 -20624181.16 -20624181.06 0.1905 0.0802

Uranus -61179-01-29 23:45 J -20624177.57 -20624177.51 -20624177.45 0.0134 0.0117

Venus -61179-07-27 13:11 J -20623999.05 -20623998.95 -20623998.85 0.3815 0.0684

Earth -61176-06-09 21:49 J -20622950.69 -20622950.59 -20622950.48 0.2682 0.1031

Moon -61176-06-09 22:33 J -20622950.66 -20622950.56 -20622950.45 0.2681 0.0896 *

Jupiter -61175-10-06 17:45 J -20622466.94 -20622466.76 -20622466.57 0.0498 0.0052

Venus -61173-02-10 05:16 J -20621975.35 -20621975.28 -20621975.21 0.3816 0.2581

Mars -61170-06-18 16:04 J -20620750.87 -20620750.83 -20620750.79 0.1897 0.1759

Jupiter -61169-06-06 09:49 J -20620397.19 -20620397.09 -20620396.99 0.0528 0.0320

Jupiter -61169-09-03 15:49 J -20620307.96 -20620307.84 -20620307.72 0.0527 0.0207

Mars -61167-03-22 21:35 J -20619742.68 -20619742.60 -20619742.51 0.1628 0.1385

Moon -61167-12-09 06:42 J -20619481.37 -20619481.22 -20619481.08 0.2650 0.0973

Earth -61167-12-09 08:09 J -20619481.30 -20619481.16 -20619481.01 0.2649 0.1011 *

Saturn -61166-04-25 15:49 J -20619343.91 -20619343.84 -20619343.77 0.0299 0.0250

Saturn -61166-07-23 04:47 J -20619255.42 -20619255.30 -20619255.18 0.0300 0.0121

Saturn -61166-10-19 17:59 J -20619166.89 -20619166.75 -20619166.62 0.0301 0.0013

Saturn -61165-01-16 06:42 J -20619078.33 -20619078.22 -20619078.10 0.0301 0.0138

Saturn -61165-04-13 19:40 J -20618989.74 -20618989.68 -20618989.62 0.0302 0.0267

Earth -61163-06-12 16:04 J -20618199.95 -20618199.83 -20618199.72 0.2684 0.0106

Moon -61163-06-12 16:18 J -20618199.93 -20618199.82 -20618199.70 0.2678 0.0108 *

Jupiter -61163-07-25 15:06 J -20618157.05 -20618156.87 -20618156.68 0.0498 0.0110

Mars -61159-10-14 16:18 J -20616614.91 -20616614.82 -20616614.74 0.1920 0.1267

Mars -61158-08-12 23:16 J -20616312.69 -20616312.53 -20616312.37 0.1633 0.0410

Jupiter -61157-03-25 13:54 J -20616086.98 -20616086.92 -20616086.85 0.0528 0.0452

Jupiter -61157-06-22 20:09 J -20615997.79 -20615997.66 -20615997.54 0.0527 0.0078

Saturn -61152-05-21 23:59 J -20614203.61 -20614203.50 -20614203.37 0.0262 0.0198

Saturn -61152-08-18 20:09 J -20614114.84 -20614114.66 -20614114.48 0.0262 0.0076

Saturn -61152-11-15 16:04 J -20614026.01 -20614025.83 -20614025.64 0.0261 0.0046

Saturn -61151-02-12 12:13 J -20613937.13 -20613936.99 -20613936.85 0.0261 0.0168

Jupiter -61151-05-13 12:42 J -20613847.12 -20613846.97 -20613846.81 0.0498 0.0269

Jupiter -61151-08-11 23:16 J -20613756.63 -20613756.53 -20613756.42 0.0499 0.0405

Moon -61150-06-15 09:49 J -20613449.19 -20613449.09 -20613448.99 0.2679 0.1035

Earth -61150-06-15 09:49 J -20613449.19 -20613449.09 -20613448.98 0.2686 0.1027 *

Mars -61149-03-05 23:59 J -20613184.61 -20613184.50 -20613184.38 0.1912 0.0283

Mars -61148-01-02 00:57 J -20612882.61 -20612882.46 -20612882.30 0.1639 0.0557

Earth -61147-12-04 02:09 J -20612181.43 -20612181.41 -20612181.39 0.2653 0.2617

Jupiter -61145-04-10 23:59 J -20611687.63 -20611687.50 -20611687.37 0.0528 0.0058

Jupiter -61145-07-09 05:45 J -20611598.32 -20611598.26 -20611598.20 0.0527 0.0463

Earth -61143-06-08 08:37 J -20610899.22 -20610899.14 -20610899.06 0.2680 0.1861

Moon -61143-06-08 09:21 J -20610899.19 -20610899.11 -20610899.03 0.2683 0.1746 *

Uranus -61142-07-08 16:33 J -20610503.89 -20610503.81 -20610503.72 0.0146 0.0132

Uranus -61142-10-05 01:25 J -20610415.58 -20610415.44 -20610415.30 0.0146 0.0098

Venus -61142-10-13 23:01 J -20610406.70 -20610406.54 -20610406.38 0.3565 0.0302

Uranus -61141-01-01 10:04 J -20610327.24 -20610327.08 -20610326.90 0.0146 0.0065

Uranus -61141-03-29 18:57 J -20610238.89 -20610238.71 -20610238.51 0.0146 0.0032

Uranus -61141-06-26 03:49 J -20610150.53 -20610150.34 -20610150.14 0.0146 0.0003

Uranus -61141-09-22 12:42 J -20610062.16 -20610061.97 -20610061.78 0.0146 0.0035

Uranus -61141-12-19 21:21 J -20609973.77 -20609973.61 -20609973.43 0.0146 0.0069

Uranus -61140-03-18 06:13 J -20609885.37 -20609885.24 -20609885.09 0.0146 0.0102

Uranus -61140-06-14 15:06 J -20609796.93 -20609796.87 -20609796.79 0.0145 0.0135

Mars -61140-07-27 08:09 J -20609754.27 -20609754.16 -20609754.05 0.1905 0.0686

Jupiter -61139-03-01 10:18 J -20609537.16 -20609537.07 -20609536.98 0.0498 0.0430

Mars -61139-05-25 02:37 J -20609452.45 -20609452.39 -20609452.34 0.1645 0.1543

Jupiter -61139-05-30 20:23 J -20609446.81 -20609446.65 -20609446.48 0.0498 0.0239

Moon -61137-06-17 03:21 J -20608698.44 -20608698.36 -20608698.29 0.2683 0.1982

Earth -61137-06-17 03:49 J -20608698.41 -20608698.34 -20608698.27 0.2688 0.2036 *

Saturn -61137-09-11 17:01 J -20608611.81 -20608611.79 -20608611.77 0.0299 0.0293

Saturn -61137-12-09 06:13 J -20608523.35 -20608523.24 -20608523.13 0.0300 0.0164

Saturn -61136-03-07 19:11 J -20608434.83 -20608434.70 -20608434.57 0.0300 0.0035

Saturn -61136-06-04 08:09 J -20608346.28 -20608346.16 -20608346.03 0.0301 0.0096

Saturn -61136-08-31 21:06 J -20608257.70 -20608257.62 -20608257.53 0.0302 0.0224

Moon -61134-12-07 06:42 J -20607430.37 -20607430.22 -20607430.07 0.2649 0.0712

Earth -61134-12-07 08:23 J -20607430.31 -20607430.15 -20607430.00 0.2651 0.0642 *

Jupiter -61133-01-29 04:18 J -20607377.44 -20607377.32 -20607377.20 0.0528 0.0187

Venus -61133-02-02 02:52 J -20607373.46 -20607373.38 -20607373.31 0.3812 0.2399

Jupiter -61133-04-27 10:18 J -20607288.17 -20607288.07 -20607287.98 0.0527 0.0339

Mars -61131-12-17 16:04 J -20606323.88 -20606323.83 -20606323.78 0.1897 0.1655

Earth -61130-06-11 02:52 J -20606148.49 -20606148.38 -20606148.28 0.2682 0.0827

Moon -61130-06-11 03:21 J -20606148.46 -20606148.36 -20606148.25 0.2679 0.0818 *

Venus -61128-08-17 18:42 J -20605349.82 -20605349.72 -20605349.62 0.3814 0.0527

Mars -61128-09-20 22:18 J -20605315.63 -20605315.57 -20605315.51 0.1627 0.1517

Jupiter -61127-03-18 16:33 J -20605137.00 -20605136.81 -20605136.63 0.0498 0.0061

Saturn -61123-10-08 23:45 J -20603471.59 -20603471.51 -20603471.42 0.0263 0.0231

Saturn -61122-01-05 19:25 J -20603382.85 -20603382.69 -20603382.51 0.0262 0.0111

Venus -61122-03-03 10:47 J -20603326.15 -20603326.05 -20603325.96 0.3816 0.1370

Saturn -61122-04-04 15:35 J -20603294.04 -20603293.85 -20603293.66 0.0262 0.0012

Saturn -61122-07-02 11:30 J -20603205.17 -20603205.02 -20603204.85 0.0261 0.0135

Saturn -61122-09-29 07:40 J -20603116.20 -20603116.18 -20603116.14 0.0261 0.0257

Jupiter -61122-11-17 08:37 J -20603067.24 -20603067.14 -20603067.04 0.0529 0.0316

Jupiter -61121-02-14 14:37 J -20602978.00 -20602977.89 -20602977.77 0.0528 0.0215

Moon -61121-12-09 13:25 J -20602679.08 -20602678.94 -20602678.80 0.2652 0.1169

Earth -61121-12-09 14:52 J -20602679.02 -20602678.88 -20602678.75 0.2648 0.1393 *

Mars -61119-04-14 16:18 J -20602187.90 -20602187.82 -20602187.74 0.1920 0.1367

Mars -61118-02-10 23:59 J -20601885.66 -20601885.50 -20601885.35 0.1633 0.0549

Earth -61117-06-12 20:52 J -20601397.74 -20601397.63 -20601397.52 0.2684 0.0208

Moon -61117-06-12 21:06 J -20601397.73 -20601397.62 -20601397.50 0.2678 0.0322 *

Venus -61117-09-16 02:52 J -20601302.43 -20601302.38 -20601302.33 0.3817 0.3270

Jupiter -61115-01-04 13:40 J -20600827.11 -20600826.93 -20600826.75 0.0497 0.0103

Moon -61110-06-06 19:40 J -20598847.68 -20598847.68 -20598847.67 0.2683 0.2679

Mars -61110-09-05 00:13 J -20598757.60 -20598757.49 -20598757.38 0.1912 0.0393

Jupiter -61110-09-05 12:57 J -20598757.03 -20598756.96 -20598756.89 0.0529 0.0445

Jupiter -61110-12-03 19:11 J -20598667.83 -20598667.70 -20598667.58 0.0528 0.0087

Mars -61109-07-03 01:25 J -20598455.60 -20598455.44 -20598455.28 0.1639 0.0430

Neptune -61108-05-11 04:18 J -20598143.36 -20598143.32 -20598143.28 0.0089 0.0084

Neptune -61108-08-07 05:30 J -20598055.32 -20598055.27 -20598055.20 0.0089 0.0079

Neptune -61108-11-03 07:11 J -20597967.27 -20597967.20 -20597967.12 0.0089 0.0073

Neptune -61107-01-30 08:23 J -20597879.23 -20597879.15 -20597879.05 0.0089 0.0068

Saturn -61107-04-28 07:25 J -20597791.28 -20597791.19 -20597791.09 0.0299 0.0207

Neptune -61107-04-28 09:49 J -20597791.18 -20597791.09 -20597790.98 0.0089 0.0062 *

Neptune -61107-07-25 11:16 J -20597703.13 -20597703.03 -20597702.92 0.0089 0.0056

Saturn -61107-07-25 20:23 J -20597702.77 -20597702.65 -20597702.52 0.0300 0.0078

Neptune -61107-10-21 12:42 J -20597615.07 -20597614.97 -20597614.85 0.0089 0.0051

Saturn -61107-10-22 09:21 J -20597614.23 -20597614.11 -20597613.98 0.0301 0.0053

Neptune -61106-01-17 14:09 J -20597527.02 -20597526.91 -20597526.79 0.0089 0.0045

Saturn -61106-01-18 22:18 J -20597525.67 -20597525.57 -20597525.46 0.0301 0.0181

Neptune -61106-04-15 15:35 J -20597438.97 -20597438.85 -20597438.73 0.0089 0.0040

Neptune -61106-07-12 17:01 J -20597350.91 -20597350.79 -20597350.66 0.0089 0.0034

Pluto -61106-08-11 00:28 J -20597321.50 -20597321.48 -20597321.46 0.0061 0.0060

Neptune -61106-10-08 18:13 J -20597262.86 -20597262.74 -20597262.60 0.0089 0.0029

Pluto -61106-11-07 01:11 J -20597233.50 -20597233.45 -20597233.36 0.0061 0.0056

Neptune -61105-01-04 19:40 J -20597174.80 -20597174.68 -20597174.54 0.0089 0.0023

Pluto -61105-02-03 02:23 J -20597145.48 -20597145.40 -20597145.29 0.0061 0.0051

Neptune -61105-04-01 21:06 J -20597086.75 -20597086.62 -20597086.48 0.0089 0.0017

Pluto -61105-05-01 03:49 J -20597057.45 -20597057.34 -20597057.22 0.0061 0.0046

Neptune -61105-06-28 22:33 J -20596998.69 -20596998.56 -20596998.43 0.0089 0.0012

Pluto -61105-07-28 04:33 J -20596969.42 -20596969.31 -20596969.16 0.0061 0.0042

Neptune -61105-09-24 23:59 J -20596910.64 -20596910.50 -20596910.37 0.0089 0.0006

Pluto -61105-10-24 05:45 J -20596881.38 -20596881.26 -20596881.10 0.0061 0.0037

Neptune -61105-12-22 01:25 J -20596822.58 -20596822.44 -20596822.31 0.0089 0.0003

Pluto -61104-01-20 06:57 J -20596793.35 -20596793.21 -20596793.05 0.0061 0.0033

Neptune -61104-03-20 02:37 J -20596734.52 -20596734.39 -20596734.25 0.0089 0.0005

Pluto -61104-04-18 08:09 J -20596705.31 -20596705.16 -20596704.99 0.0061 0.0028

Moon -61104-06-15 14:37 J -20596646.99 -20596646.89 -20596646.79 0.2680 0.1152

Earth -61104-06-15 14:52 J -20596646.98 -20596646.88 -20596646.79 0.2686 0.1228 *

Neptune -61104-06-16 04:04 J -20596646.46 -20596646.33 -20596646.20 0.0089 0.0010

Pluto -61104-07-15 09:35 J -20596617.26 -20596617.10 -20596616.93 0.0061 0.0023

Neptune -61104-09-12 05:16 J -20596558.41 -20596558.28 -20596558.14 0.0089 0.0016

Pluto -61104-10-11 10:47 J -20596529.22 -20596529.05 -20596528.88 0.0062 0.0018

Jupiter -61104-10-23 11:01 J -20596517.20 -20596517.04 -20596516.88 0.0498 0.0266

Neptune -61104-12-09 06:42 J -20596470.35 -20596470.22 -20596470.09 0.0089 0.0021

Pluto -61103-01-07 11:59 J -20596441.18 -20596441.00 -20596440.83 0.0062 0.0013

Jupiter -61103-01-21 21:21 J -20596426.71 -20596426.61 -20596426.50 0.0498 0.0408

Neptune -61103-03-07 08:09 J -20596382.29 -20596382.16 -20596382.03 0.0089 0.0027

Pluto -61103-04-05 13:11 J -20596353.13 -20596352.95 -20596352.78 0.0062 0.0008

Neptune -61103-06-03 09:35 J -20596294.23 -20596294.10 -20596293.98 0.0089 0.0032

Pluto -61103-07-02 14:09 J -20596265.08 -20596264.91 -20596264.73 0.0062 0.0004

Neptune -61103-08-30 10:47 J -20596206.17 -20596206.05 -20596205.93 0.0089 0.0038

Pluto -61103-09-28 15:35 J -20596177.03 -20596176.85 -20596176.67 0.0062 0.0002

Neptune -61103-11-26 12:13 J -20596118.11 -20596117.99 -20596117.87 0.0089 0.0043

Pluto -61103-12-25 16:33 J -20596088.98 -20596088.81 -20596088.63 0.0062 0.0007

Neptune -61102-02-22 13:25 J -20596030.05 -20596029.94 -20596029.82 0.0089 0.0049

Pluto -61102-03-23 17:45 J -20596000.93 -20596000.76 -20596000.58 0.0062 0.0012

Neptune -61102-05-21 14:52 J -20595941.98 -20595941.88 -20595941.77 0.0089 0.0054

Pluto -61102-06-19 18:57 J -20595912.87 -20595912.71 -20595912.53 0.0062 0.0017

Neptune -61102-08-17 15:49 J -20595853.92 -20595853.84 -20595853.72 0.0089 0.0060

Pluto -61102-09-15 20:09 J -20595824.82 -20595824.66 -20595824.48 0.0062 0.0022

Neptune -61102-11-13 17:16 J -20595765.86 -20595765.78 -20595765.68 0.0089 0.0065

Pluto -61102-12-12 21:21 J -20595736.76 -20595736.61 -20595736.44 0.0062 0.0027

Neptune -61101-02-09 18:57 J -20595677.79 -20595677.71 -20595677.63 0.0089 0.0070

Pluto -61101-03-09 22:33 J -20595648.70 -20595648.56 -20595648.39 0.0062 0.0033

Neptune -61101-05-07 19:54 J -20595589.72 -20595589.67 -20595589.59 0.0089 0.0076

Pluto -61101-06-05 23:59 J -20595560.64 -20595560.50 -20595560.35 0.0062 0.0038

Neptune -61101-08-03 21:21 J -20595501.65 -20595501.61 -20595501.55 0.0089 0.0081

Pluto -61101-09-02 01:11 J -20595472.57 -20595472.45 -20595472.31 0.0062 0.0043

Neptune -61101-10-30 22:47 J -20595413.57 -20595413.55 -20595413.52 0.0089 0.0086

Pluto -61101-11-29 02:09 J -20595384.50 -20595384.41 -20595384.28 0.0063 0.0049

Moon -61101-12-04 07:11 J -20595379.26 -20595379.20 -20595379.13 0.2649 0.2397

Earth -61101-12-04 08:37 J -20595379.22 -20595379.14 -20595379.06 0.2653 0.2249 *

Mars -61100-01-25 08:09 J -20595327.27 -20595327.16 -20595327.05 0.1904 0.0589

Pluto -61100-02-25 03:21 J -20595296.43 -20595296.36 -20595296.24 0.0063 0.0054

Pluto -61100-05-24 04:47 J -20595208.34 -20595208.30 -20595208.22 0.0063 0.0059

Mars -61100-11-23 03:06 J -20595025.45 -20595025.37 -20595025.28 0.1645 0.1406

Uranus -61099-07-08 11:16 J -20594798.04 -20594798.03 -20594798.00 0.0132 0.0131

Uranus -61099-10-04 14:23 J -20594709.97 -20594709.90 -20594709.83 0.0132 0.0114

Uranus -61099-12-31 17:16 J -20594621.87 -20594621.78 -20594621.69 0.0132 0.0097

Uranus -61098-03-29 20:09 J -20594533.76 -20594533.66 -20594533.55 0.0133 0.0080

Uranus -61098-06-25 23:01 J -20594445.65 -20594445.54 -20594445.42 0.0133 0.0064

Jupiter -61098-09-21 23:16 J -20594357.66 -20594357.53 -20594357.40 0.0528 0.0045

Uranus -61098-09-22 02:09 J -20594357.53 -20594357.41 -20594357.29 0.0133 0.0046 *

Uranus -61098-12-19 05:01 J -20594269.42 -20594269.29 -20594269.16 0.0133 0.0029

Jupiter -61098-12-20 05:01 J -20594268.34 -20594268.29 -20594268.24 0.0527 0.0477

Uranus -61097-03-16 08:09 J -20594181.30 -20594181.16 -20594181.03 0.0133 0.0013

Earth -61097-06-08 13:40 J -20594097.02 -20594096.93 -20594096.85 0.2680 0.1659

Moon -61097-06-08 14:09 J -20594096.99 -20594096.91 -20594096.82 0.2683 0.1628 *

Uranus -61097-06-12 11:01 J -20594093.17 -20594093.04 -20594092.91 0.0133 0.0005

Uranus -61097-09-08 13:54 J -20594005.05 -20594004.92 -20594004.79 0.0133 0.0022

Uranus -61097-12-05 16:47 J -20593916.92 -20593916.80 -20593916.67 0.0133 0.0039

Uranus -61096-03-03 19:40 J -20593828.80 -20593828.68 -20593828.56 0.0133 0.0056

Uranus -61096-05-30 22:47 J -20593740.66 -20593740.55 -20593740.44 0.0133 0.0073

Uranus -61096-08-27 01:40 J -20593652.53 -20593652.43 -20593652.34 0.0133 0.0090

Uranus -61096-11-23 04:33 J -20593564.39 -20593564.31 -20593564.23 0.0133 0.0107

Uranus -61095-02-19 07:25 J -20593476.23 -20593476.19 -20593476.14 0.0134 0.0124

Saturn -61093-05-24 17:59 J -20592650.90 -20592650.75 -20592650.61 0.0262 0.0154

Saturn -61093-08-21 13:54 J -20592562.11 -20592561.92 -20592561.74 0.0262 0.0032

Saturn -61093-11-18 09:49 J -20592473.26 -20592473.09 -20592472.91 0.0261 0.0091

Saturn -61092-02-15 05:59 J -20592384.35 -20592384.25 -20592384.14 0.0261 0.0213

Jupiter -61092-08-11 08:23 J -20592207.24 -20592207.15 -20592207.05 0.0498 0.0426

Jupiter -61092-11-09 18:42 J -20592116.88 -20592116.72 -20592116.56 0.0498 0.0244

Mars -61091-06-17 16:04 J -20591896.90 -20591896.83 -20591896.77 0.1897 0.1553

Moon -61091-06-18 08:09 J -20591896.23 -20591896.16 -20591896.10 0.2685 0.2181

Earth -61091-06-18 08:37 J -20591896.20 -20591896.14 -20591896.08 0.2688 0.2231 *

Moon -61088-12-07 13:11 J -20590628.10 -20590627.95 -20590627.79 0.2649 0.0452

Earth -61088-12-07 14:52 J -20590628.04 -20590627.88 -20590627.73 0.2650 0.0262 *

Jupiter -61086-07-11 03:06 J -20590047.49 -20590047.37 -20590047.25 0.0528 0.0182

Jupiter -61086-10-08 08:52 J -20589958.22 -20589958.13 -20589958.03 0.0527 0.0343

Venus -61085-05-20 01:11 J -20589733.60 -20589733.45 -20589733.30 0.3565 0.1423

Earth -61084-06-11 07:40 J -20589346.29 -20589346.18 -20589346.07 0.2682 0.0620

Moon -61084-06-11 08:23 J -20589346.26 -20589346.15 -20589346.04 0.2679 0.0503 *

Venus -61082-02-23 08:23 J -20588724.18 -20588724.15 -20588724.12 0.3811 0.3596

Jupiter -61080-08-28 15:49 J -20587807.02 -20587806.84 -20587806.66 0.0498 0.0078

Mars -61080-10-13 16:18 J -20587760.89 -20587760.82 -20587760.75 0.1920 0.1479

Mars -61079-08-12 00:42 J -20587458.62 -20587458.47 -20587458.32 0.1633 0.0689

Saturn -61078-09-15 09:06 J -20587059.19 -20587059.12 -20587059.04 0.0299 0.0245

Saturn -61078-12-12 22:18 J -20586970.69 -20586970.57 -20586970.45 0.0300 0.0117

Saturn -61077-03-10 11:16 J -20586882.16 -20586882.03 -20586881.90 0.0300 0.0013

Saturn -61077-06-07 00:13 J -20586793.61 -20586793.49 -20586793.38 0.0301 0.0142

Saturn -61077-09-03 12:57 J -20586705.01 -20586704.96 -20586704.90 0.0301 0.0270

Venus -61077-09-08 00:13 J -20586700.58 -20586700.49 -20586700.40 0.3813 0.1733

Moon -61075-12-10 19:54 J -20585876.78 -20585876.67 -20585876.55 0.2652 0.1738

Earth -61075-12-10 21:21 J -20585876.72 -20585876.61 -20585876.49 0.2648 0.1772 *

Jupiter -61074-04-29 07:25 J -20585737.30 -20585737.19 -20585737.09 0.0528 0.0313

Jupiter -61074-07-27 13:25 J -20585648.06 -20585647.94 -20585647.83 0.0528 0.0216

Venus -61071-03-24 16:18 J -20584676.92 -20584676.82 -20584676.72 0.3815 0.0167

Earth -61071-06-14 01:40 J -20584595.54 -20584595.43 -20584595.32 0.2684 0.0408

Moon -61071-06-14 01:54 J -20584595.53 -20584595.42 -20584595.31 0.2678 0.0382 *

Mars -61070-03-06 00:13 J -20584330.60 -20584330.49 -20584330.38 0.1912 0.0499

Mars -61069-01-02 02:09 J -20584028.57 -20584028.41 -20584028.25 0.1639 0.0293

Jupiter -61068-06-16 11:59 J -20583497.18 -20583497.00 -20583496.81 0.0497 0.0099

Venus -61066-10-08 08:23 J -20582653.24 -20582653.15 -20582653.07 0.3816 0.2057

Earth -61064-06-07 00:13 J -20582045.53 -20582045.49 -20582045.45 0.2678 0.2494

Moon -61064-06-07 00:42 J -20582045.51 -20582045.47 -20582045.43 0.2684 0.2431 *

Saturn -61064-10-11 17:45 J -20581918.88 -20581918.76 -20581918.62 0.0263 0.0186

Saturn -61063-01-08 13:54 J -20581830.10 -20581829.92 -20581829.74 0.0263 0.0064

Saturn -61063-04-07 09:49 J -20581741.27 -20581741.09 -20581740.91 0.0262 0.0059

Saturn -61063-07-05 05:59 J -20581652.38 -20581652.25 -20581652.11 0.0262 0.0182

Jupiter -61062-02-15 11:30 J -20581427.09 -20581427.02 -20581426.95 0.0529 0.0446

Jupiter -61062-05-15 17:45 J -20581337.89 -20581337.76 -20581337.64 0.0528 0.0088

Mars -61061-07-26 08:09 J -20580900.27 -20580900.16 -20580900.05 0.1905 0.0480

Mars -61060-05-24 03:49 J -20580598.44 -20580598.34 -20580598.24 0.1645 0.1272

Moon -61058-06-16 19:11 J -20579844.79 -20579844.70 -20579844.60 0.2680 0.1445

Earth -61058-06-16 19:40 J -20579844.77 -20579844.68 -20579844.59 0.2686 0.1421 *

Uranus -61058-07-29 00:13 J -20579802.58 -20579802.49 -20579802.38 0.0146 0.0123

Uranus -61058-10-25 09:06 J -20579714.27 -20579714.12 -20579713.96 0.0146 0.0089

Uranus -61057-01-21 17:45 J -20579625.93 -20579625.76 -20579625.57 0.0146 0.0056

Uranus -61057-04-19 02:52 J -20579537.57 -20579537.38 -20579537.19 0.0146 0.0022

Uranus -61057-07-16 11:45 J -20579449.21 -20579449.01 -20579448.82 0.0146 0.0011

Uranus -61057-10-12 20:23 J -20579360.83 -20579360.65 -20579360.46 0.0146 0.0045

Uranus -61056-01-09 05:16 J -20579272.44 -20579272.28 -20579272.11 0.0146 0.0078

Jupiter -61056-04-04 09:21 J -20579187.27 -20579187.11 -20579186.95 0.0497 0.0262

Uranus -61056-04-07 13:54 J -20579184.03 -20579183.92 -20579183.78 0.0146 0.0111

Jupiter -61056-07-03 19:25 J -20579096.79 -20579096.69 -20579096.58 0.0498 0.0410

Uranus -61056-07-04 22:47 J -20579095.56 -20579095.55 -20579095.52 0.0145 0.0144

Moon -61055-12-05 13:40 J -20578577.03 -20578576.93 -20578576.83 0.2648 0.1950

Earth -61055-12-05 15:06 J -20578576.98 -20578576.87 -20578576.76 0.2653 0.1886 *

Mars -61052-12-16 16:04 J -20577469.90 -20577469.83 -20577469.75 0.1897 0.1440

Earth -61051-06-09 18:28 J -20577294.83 -20577294.73 -20577294.64 0.2680 0.1454

Moon -61051-06-09 19:11 J -20577294.80 -20577294.70 -20577294.61 0.2682 0.1371 *

Jupiter -61050-03-03 22:04 J -20577027.71 -20577027.58 -20577027.46 0.0528 0.0044

Jupiter -61050-06-01 03:49 J -20576938.39 -20576938.34 -20576938.29 0.0527 0.0481

Saturn -61048-02-01 10:47 J -20576327.08 -20576327.05 -20576327.01 0.0298 0.0284

Saturn -61048-04-30 23:59 J -20576238.61 -20576238.50 -20576238.39 0.0299 0.0156

Saturn -61048-07-28 12:57 J -20576150.09 -20576149.96 -20576149.83 0.0300 0.0027

Saturn -61048-10-25 01:54 J -20576061.55 -20576061.42 -20576061.30 0.0300 0.0102

Saturn -61047-01-21 14:37 J -20575972.97 -20575972.89 -20575972.80 0.0301 0.0230

Moon -61045-06-18 12:57 J -20575094.02 -20575093.96 -20575093.91 0.2687 0.2320

Earth -61045-06-18 13:25 J -20575093.98 -20575093.94 -20575093.89 0.2688 0.2427 *

Jupiter -61044-01-21 06:28 J -20574877.32 -20574877.23 -20574877.14 0.0497 0.0426

Jupiter -61044-04-21 16:33 J -20574786.97 -20574786.81 -20574786.65 0.0498 0.0243

Moon -61042-12-08 19:40 J -20573825.83 -20573825.68 -20573825.52 0.2651 0.0085

Earth -61042-12-08 21:21 J -20573825.76 -20573825.61 -20573825.45 0.2650 0.0118 *

Mars -61040-04-13 16:18 J -20573333.89 -20573333.82 -20573333.76 0.1920 0.1581

Mars -61039-02-10 01:11 J -20573031.59 -20573031.45 -20573031.31 0.1633 0.0820

Jupiter -61039-12-21 02:09 J -20572717.53 -20572717.41 -20572717.29 0.0528 0.0174

Jupiter -61038-03-20 07:54 J -20572628.26 -20572628.17 -20572628.07 0.0527 0.0352

Earth -61038-06-12 12:28 J -20572544.09 -20572543.98 -20572543.87 0.2682 0.0422

Moon -61038-06-12 13:11 J -20572544.06 -20572543.95 -20572543.84 0.2679 0.0398 *

Saturn -61034-02-28 16:33 J -20571186.89 -20571186.81 -20571186.71 0.0263 0.0226

Saturn -61034-05-28 12:42 J -20571098.14 -20571097.97 -20571097.80 0.0262 0.0104

Venus -61034-06-10 18:13 J -20571084.87 -20571084.74 -20571084.60 0.3566 0.1958

Saturn -61034-08-25 08:37 J -20571009.32 -20571009.14 -20571008.95 0.0262 0.0019

Saturn -61034-11-22 04:47 J -20570920.45 -20570920.30 -20570920.14 0.0261 0.0141

Jupiter -61032-02-07 13:40 J -20570477.11 -20570476.93 -20570476.74 0.0498 0.0078

Mars -61031-09-04 00:13 J -20569903.60 -20569903.49 -20569903.38 0.1913 0.0599

Mars -61030-07-03 02:52 J -20569601.54 -20569601.38 -20569601.21 0.1639 0.0148

Moon -61029-12-11 02:37 J -20569074.49 -20569074.39 -20569074.28 0.2652 0.1952

Earth -61029-12-11 04:04 J -20569074.42 -20569074.33 -20569074.24 0.2647 0.2153 *

Venus -61029-12-25 03:21 J -20569060.43 -20569060.36 -20569060.29 0.3564 0.3147

Jupiter -61027-10-09 05:45 J -20568407.36 -20568407.26 -20568407.15 0.0528 0.0314

Jupiter -61026-01-06 11:59 J -20568318.12 -20568318.00 -20568317.89 0.0527 0.0216

Venus -61026-09-30 05:59 J -20568051.32 -20568051.25 -20568051.19 0.3812 0.2932

Neptune -61025-01-27 13:25 J -20567931.98 -20567931.94 -20567931.89 0.0089 0.0086

Neptune -61025-04-24 16:33 J -20567843.88 -20567843.81 -20567843.71 0.0089 0.0079

Moon -61025-06-14 06:42 J -20567793.33 -20567793.22 -20567793.12 0.2678 0.0670

Earth -61025-06-14 06:28 J -20567793.33 -20567793.23 -20567793.12 0.2685 0.0611 *

Neptune -61025-07-21 20:09 J -20567755.76 -20567755.66 -20567755.54 0.0089 0.0071

Neptune -61025-10-17 23:16 J -20567667.64 -20567667.53 -20567667.38 0.0089 0.0064

Neptune -61024-01-14 02:52 J -20567579.51 -20567579.38 -20567579.22 0.0089 0.0056

Neptune -61024-04-12 06:28 J -20567491.38 -20567491.23 -20567491.07 0.0089 0.0048

Neptune -61024-07-09 09:35 J -20567403.25 -20567403.10 -20567402.91 0.0089 0.0041

Neptune -61024-10-05 13:11 J -20567315.12 -20567314.95 -20567314.76 0.0089 0.0033

Neptune -61023-01-01 16:47 J -20567226.98 -20567226.80 -20567226.61 0.0089 0.0025

Neptune -61023-03-30 20:23 J -20567138.84 -20567138.65 -20567138.46 0.0089 0.0017

Neptune -61023-06-26 23:45 J -20567050.70 -20567050.51 -20567050.32 0.0089 0.0009

Neptune -61023-09-23 03:21 J -20566962.55 -20566962.36 -20566962.17 0.0089 0.0001

Neptune -61023-12-20 06:42 J -20566874.41 -20566874.22 -20566874.02 0.0089 0.0007

Neptune -61022-03-18 10:18 J -20566786.26 -20566786.07 -20566785.88 0.0089 0.0014

Neptune -61022-06-14 13:40 J -20566698.11 -20566697.93 -20566697.74 0.0089 0.0022

Neptune -61022-09-10 17:01 J -20566609.96 -20566609.79 -20566609.60 0.0089 0.0031

Neptune -61022-12-07 20:52 J -20566521.80 -20566521.63 -20566521.46 0.0089 0.0038

Mars -61021-01-25 08:09 J -20566473.27 -20566473.16 -20566473.04 0.1905 0.0369

Neptune -61021-03-05 00:13 J -20566433.65 -20566433.49 -20566433.32 0.0089 0.0046

Neptune -61021-06-01 03:49 J -20566345.49 -20566345.34 -20566345.18 0.0089 0.0054

Neptune -61021-08-28 07:11 J -20566257.32 -20566257.20 -20566257.05 0.0089 0.0062

Mars -61021-11-22 04:18 J -20566171.43 -20566171.32 -20566171.20 0.1645 0.1138

Neptune -61021-11-24 10:47 J -20566169.16 -20566169.05 -20566168.92 0.0089 0.0070

Jupiter -61021-11-26 10:47 J -20566167.23 -20566167.05 -20566166.86 0.0498 0.0088

Neptune -61020-02-20 14:09 J -20566080.98 -20566080.91 -20566080.80 0.0089 0.0078

Venus -61020-04-14 21:49 J -20566027.69 -20566027.59 -20566027.50 0.3814 0.1060

Neptune -61020-05-19 17:45 J -20565992.79 -20565992.76 -20565992.69 0.0089 0.0086

Saturn -61019-09-18 02:09 J -20565506.51 -20565506.41 -20565506.31 0.0299 0.0190

Saturn -61019-12-15 15:06 J -20565418.00 -20565417.87 -20565417.74 0.0300 0.0061

Saturn -61018-03-14 04:04 J -20565329.46 -20565329.33 -20565329.20 0.0300 0.0068

Earth -61018-06-08 05:01 J -20565243.34 -20565243.29 -20565243.23 0.2678 0.2291

Moon -61018-06-08 05:30 J -20565243.32 -20565243.27 -20565243.21 0.2684 0.2283 *

Saturn -61018-06-10 17:01 J -20565240.89 -20565240.79 -20565240.69 0.0301 0.0196

Jupiter -61015-07-28 09:49 J -20564097.15 -20564097.09 -20564097.02 0.0529 0.0447

Uranus -61015-07-28 18:57 J -20564096.74 -20564096.71 -20564096.66 0.0132 0.0124

Uranus -61015-10-24 21:49 J -20564008.65 -20564008.59 -20564008.50 0.0132 0.0108

Jupiter -61015-10-25 16:04 J -20564007.95 -20564007.83 -20564007.70 0.0528 0.0086

Venus -61015-10-29 13:40 J -20564004.02 -20564003.93 -20564003.83 0.3815 0.0852

Uranus -61014-01-21 00:57 J -20563920.55 -20563920.46 -20563920.36 0.0132 0.0090

Uranus -61014-04-19 03:49 J -20563832.44 -20563832.34 -20563832.22 0.0132 0.0074

Uranus -61014-07-16 06:57 J -20563744.33 -20563744.21 -20563744.09 0.0133 0.0057

Uranus -61014-10-12 09:49 J -20563656.21 -20563656.09 -20563655.96 0.0133 0.0040

Pluto -61014-12-31 17:30 J -20563575.81 -20563575.77 -20563575.73 0.0084 0.0080

Uranus -61013-01-08 12:42 J -20563568.10 -20563567.97 -20563567.84 0.0133 0.0023

Pluto -61013-03-28 18:57 J -20563487.78 -20563487.71 -20563487.63 0.0084 0.0070

Uranus -61013-04-05 15:35 J -20563479.98 -20563479.85 -20563479.71 0.0133 0.0007

Pluto -61013-06-24 20:37 J -20563399.74 -20563399.64 -20563399.54 0.0084 0.0060

Uranus -61013-07-02 18:42 J -20563391.85 -20563391.72 -20563391.59 0.0133 0.0012

Pluto -61013-09-20 22:04 J -20563311.69 -20563311.58 -20563311.46 0.0083 0.0050

Uranus -61013-09-28 21:35 J -20563303.73 -20563303.60 -20563303.47 0.0133 0.0028

Pluto -61013-12-17 23:45 J -20563223.63 -20563223.51 -20563223.38 0.0083 0.0040

Uranus -61013-12-26 00:28 J -20563215.60 -20563215.48 -20563215.36 0.0133 0.0045

Pluto -61012-03-16 01:25 J -20563135.57 -20563135.44 -20563135.31 0.0083 0.0030

Uranus -61012-03-24 03:21 J -20563127.47 -20563127.36 -20563127.24 0.0133 0.0062

Pluto -61012-06-12 02:52 J -20563047.52 -20563047.38 -20563047.24 0.0083 0.0020

Mars -61012-06-16 16:04 J -20563042.91 -20563042.83 -20563042.75 0.1897 0.1335

Moon -61012-06-17 00:13 J -20563042.58 -20563042.49 -20563042.40 0.2680 0.1525

Earth -61012-06-17 00:28 J -20563042.57 -20563042.48 -20563042.39 0.2687 0.1620 *

Uranus -61012-06-20 06:13 J -20563039.34 -20563039.24 -20563039.13 0.0133 0.0079

Pluto -61012-09-08 04:33 J -20562959.45 -20562959.31 -20562959.17 0.0083 0.0010

Uranus -61012-09-16 09:06 J -20562951.20 -20562951.12 -20562951.02 0.0133 0.0096

Pluto -61012-12-05 05:59 J -20562871.39 -20562871.25 -20562871.11 0.0083 0.0001

Uranus -61012-12-13 11:59 J -20562863.06 -20562863.00 -20562862.92 0.0133 0.0113

Pluto -61011-03-03 07:25 J -20562783.33 -20562783.19 -20562783.04 0.0083 0.0010

Uranus -61011-03-11 14:52 J -20562774.90 -20562774.88 -20562774.84 0.0133 0.0130

Pluto -61011-05-30 09:06 J -20562695.26 -20562695.12 -20562694.99 0.0082 0.0019

Pluto -61011-08-26 10:18 J -20562607.20 -20562607.07 -20562606.93 0.0082 0.0029

Pluto -61011-11-22 11:59 J -20562519.13 -20562519.00 -20562518.87 0.0082 0.0038

Pluto -61010-02-18 13:11 J -20562431.05 -20562430.95 -20562430.82 0.0082 0.0047

Pluto -61010-05-17 14:37 J -20562342.98 -20562342.89 -20562342.78 0.0082 0.0056

Pluto -61010-08-13 16:18 J -20562254.90 -20562254.82 -20562254.74 0.0082 0.0065

Pluto -61010-11-09 17:45 J -20562166.82 -20562166.76 -20562166.70 0.0082 0.0074

Venus -61009-05-14 05:45 J -20561980.33 -20561980.26 -20561980.19 0.3816 0.2725

Jupiter -61009-09-14 07:25 J -20561857.35 -20561857.19 -20561857.03 0.0497 0.0260

Moon -61009-12-05 20:09 J -20561774.78 -20561774.66 -20561774.54 0.2648 0.1706

Earth -61009-12-05 21:35 J -20561774.73 -20561774.60 -20561774.48 0.2652 0.1520 *

Jupiter -61009-12-13 17:30 J -20561766.87 -20561766.77 -20561766.66 0.0498 0.0412

Earth -61005-06-09 23:16 J -20560492.63 -20560492.53 -20560492.43 0.2681 0.1250

Moon -61005-06-09 23:59 J -20560492.60 -20560492.50 -20560492.40 0.2680 0.1161 *

Saturn -61005-07-17 17:16 J -20560454.82 -20560454.78 -20560454.74 0.0264 0.0255

Saturn -61005-10-14 13:11 J -20560366.11 -20560365.95 -20560365.79 0.0263 0.0133

Saturn -61004-01-11 09:06 J -20560277.30 -20560277.12 -20560276.93 0.0263 0.0011

Saturn -61004-04-10 05:16 J -20560188.45 -20560188.28 -20560188.11 0.0262 0.0112

Saturn -61004-07-08 01:25 J -20560099.51 -20560099.44 -20560099.35 0.0262 0.0236

Jupiter -61003-08-13 20:09 J -20559697.78 -20559697.66 -20559697.53 0.0529 0.0050

Jupiter -61003-11-11 02:09 J -20559608.46 -20559608.41 -20559608.36 0.0528 0.0478

Mars -61001-10-12 16:18 J -20558906.88 -20558906.82 -20558906.77 0.1920 0.1686

61ST MILLENNIUM BCE

This is a list of transits of Mercury in the 61st millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Mars	**-61000-08-11 01:54**	**J**	**-20558604.56**	**-20558604.42**	**-20558604.29**	**0.1633**	**0.0959**	
Moon	**-60999-06-19 17:30**	**J**	**-20558291.79**	**-20558291.77**	**-20558291.74**	**0.2688**	**0.2601**	
Earth	**-60999-06-19 18:13**	**J**	**-20558291.76**	**-20558291.74**	**-20558291.71**	**0.2689**	**0.2623**	*****
Jupiter	**-60997-07-03 04:33**	**J**	**-20557547.40**	**-20557547.31**	**-20557547.22**	**0.0497**	**0.0424**	
Jupiter	**-60997-10-01 14:23**	**J**	**-20557457.06**	**-20557456.90**	**-20557456.73**	**0.0498**	**0.0243**	
Moon	**-60996-12-09 02:09**	**J**	**-20557023.56**	**-20557023.41**	**-20557023.25**	**0.2652**	**0.0368**	
Earth	**-60996-12-09 03:49**	**J**	**-20557023.49**	**-20557023.34**	**-20557023.18**	**0.2650**	**0.0484**	*****
Earth	**-60992-06-12 17:16**	**J**	**-20555741.89**	**-20555741.78**	**-20555741.66**	**0.2683**	**0.0241**	
Moon	**-60992-06-12 17:59**	**J**	**-20555741.86**	**-20555741.75**	**-20555741.64**	**0.2679**	**0.0126**	*****
Mars	**-60991-03-05 00:13**	**J**	**-20555476.60**	**-20555476.49**	**-20555476.38**	**0.1913**	**0.0708**	
Jupiter	**-60991-06-02 00:28**	**J**	**-20555387.60**	**-20555387.48**	**-20555387.36**	**0.0529**	**0.0177**	
Jupiter	**-60991-08-30 06:28**	**J**	**-20555298.33**	**-20555298.23**	**-20555298.14**	**0.0528**	**0.0350**	
Mars	**-60990-01-01 03:21**	**J**	**-20555174.53**	**-20555174.36**	**-20555174.20**	**0.1639**	**0.0022**	
Saturn	**-60989-02-05 04:18**	**J**	**-20554774.40**	**-20554774.32**	**-20554774.23**	**0.0298**	**0.0223**	
Saturn	**-60989-05-03 17:30**	**J**	**-20554685.90**	**-20554685.77**	**-20554685.65**	**0.0299**	**0.0095**	
Saturn	**-60989-07-31 06:28**	**J**	**-20554597.36**	**-20554597.23**	**-20554597.10**	**0.0300**	**0.0034**	
Saturn	**-60989-10-27 19:11**	**J**	**-20554508.81**	**-20554508.70**	**-20554508.59**	**0.0301**	**0.0162**	
Saturn	**-60988-01-24 07:54**	**J**	**-20554420.19**	**-20554420.17**	**-20554420.13**	**0.0301**	**0.0290**	
Jupiter	**-60985-07-20 11:16**	**J**	**-20553147.22**	**-20553147.03**	**-20553146.85**	**0.0498**	**0.0074**	
Moon	**-60983-12-12 09:21**	**J**	**-20552272.16**	**-20552272.11**	**-20552272.05**	**0.2652**	**0.2484**	
Earth	**-60983-12-12 10:33**	**J**	**-20552272.10**	**-20552272.06**	**-20552272.01**	**0.2647**	**0.2531**	*****
Mars	**-60982-07-26 08:09**	**J**	**-20552046.28**	**-20552046.16**	**-20552046.05**	**0.1905**	**0.0270**	

Mars -60981-05-23 05:01 J -20551744.42 -20551744.29 -20551744.16 0.1645 0.0998

Jupiter -60979-03-21 04:33 J -20551077.41 -20551077.31 -20551077.20 0.0529 0.0309

Moon -60979-06-15 11:16 J -20550991.13 -20550991.03 -20550990.92 0.2678 0.0759

Earth -60979-06-15 11:16 J -20550991.13 -20550991.03 -20550990.92 0.2685 0.0808 *

Jupiter -60979-06-18 10:33 J -20550988.17 -20550988.06 -20550987.94 0.0528 0.0220

Venus -60977-01-15 20:23 J -20550411.81 -20550411.65 -20550411.48 0.3565 0.0236

Saturn -60975-03-03 12:28 J -20549634.12 -20549633.98 -20549633.84 0.0263 0.0170

Saturn -60975-05-31 08:23 J -20549545.33 -20549545.15 -20549544.96 0.0262 0.0049

Saturn -60975-08-28 04:33 J -20549456.49 -20549456.31 -20549456.13 0.0262 0.0075

Saturn -60975-11-25 00:57 J -20549367.58 -20549367.46 -20549367.34 0.0261 0.0198

Uranus -60974-08-18 07:25 J -20549101.29 -20549101.19 -20549101.06 0.0146 0.0116

Uranus -60974-11-14 16:18 J -20549012.97 -20549012.82 -20549012.65 0.0146 0.0082

Uranus -60973-02-11 01:11 J -20548924.63 -20548924.45 -20548924.26 0.0146 0.0049

Jupiter -60973-05-08 08:23 J -20548837.33 -20548837.15 -20548836.97 0.0498 0.0092

Uranus -60973-05-09 10:04 J -20548836.27 -20548836.08 -20548835.88 0.0146 0.0015

Uranus -60973-08-05 18:57 J -20548747.90 -20548747.71 -20548747.52 0.0146 0.0018

Uranus -60973-11-02 03:49 J -20548659.52 -20548659.34 -20548659.16 0.0146 0.0052

Mars -60973-12-15 16:04 J -20548615.92 -20548615.83 -20548615.74 0.1897 0.1232

Uranus -60972-01-29 12:28 J -20548571.13 -20548570.98 -20548570.81 0.0146 0.0085

Uranus -60972-04-27 21:21 J -20548482.71 -20548482.61 -20548482.49 0.0146 0.0119

Earth -60972-06-08 10:04 J -20548441.15 -20548441.08 -20548441.01 0.2679 0.2084

Moon -60972-06-08 10:33 J -20548441.13 -20548441.06 -20548440.99 0.2683 0.1989 *

Venus -60969-05-06 03:21 J -20547378.44 -20547378.36 -20547378.28 0.3812 0.2270

Jupiter -60967-01-07 08:09 J -20546767.22 -20546767.16 -20546767.09 0.0529 0.0450

Jupiter -60967-04-06 14:23 J -20546678.02 -20546677.90 -20546677.77 0.0528 0.0083

Moon -60966-06-18 04:47 J -20546240.38 -20546240.30 -20546240.22 0.2682 0.1819

Earth -60966-06-18 05:16 J -20546240.36 -20546240.28 -20546240.20 0.2687 0.1814 *

Venus -60964-11-19 19:11 J -20545354.80 -20545354.70 -20545354.60 0.3814 0.0418

Moon -60963-12-07 02:37 J -20544972.53 -20544972.39 -20544972.25 0.2650 0.1195

Earth -60963-12-07 04:04 J -20544972.47 -20544972.33 -20544972.19 0.2652 0.1152 *

Jupiter -60961-02-25 05:30 J -20544527.43 -20544527.27 -20544527.11 0.0497 0.0257

Mars -60961-04-12 16:18 J -20544479.86 -20544479.82 -20544479.78 0.1920 0.1792

Jupiter -60961-05-25 15:49 J -20544436.94 -20544436.84 -20544436.74 0.0498 0.0416

Mars -60960-02-09 02:23 J -20544177.52 -20544177.40 -20544177.27 0.1633 0.1096

Saturn -60960-06-24 06:42 J -20544042.28 -20544042.22 -20544042.15 0.0299 0.0255

Saturn -60960-09-20 19:54 J -20543953.79 -20543953.67 -20543953.55 0.0299 0.0127

Saturn -60960-12-18 08:52 J -20543865.26 -20543865.13 -20543865.00 0.0300 0.0002

Saturn -60959-03-16 21:35 J -20543776.71 -20543776.60 -20543776.48 0.0301 0.0131

Earth -60959-06-11 04:04 J -20543690.43 -20543690.33 -20543690.22 0.2681 0.1050

Moon -60959-06-11 05:01 J -20543690.40 -20543690.29 -20543690.19 0.2680 0.0998 *

Saturn -60959-06-13 10:33 J -20543688.12 -20543688.06 -20543687.99 0.0301 0.0258

Venus -60958-06-05 11:16 J -20543331.12 -20543331.03 -20543330.94 0.3815 0.1509

Jupiter -60955-01-23 18:28 J -20542367.86 -20542367.73 -20542367.60 0.0528 0.0051

Jupiter -60955-04-23 00:13 J -20542278.54 -20542278.49 -20542278.43 0.0527 0.0473

Moon -60953-06-19 22:33 J -20541489.57 -20541489.56 -20541489.56 0.2688 0.2682

Venus -60953-12-19 03:21 J -20541307.41 -20541307.36 -20541307.32 0.3816 0.3414

Mars -60952-09-03 00:13 J -20541049.59 -20541049.49 -20541049.38 0.1913 0.0818

Mars -60951-07-02 04:04 J -20540747.50 -20540747.33 -20540747.17 0.1639 0.0120

Moon -60950-12-10 08:52 J -20540221.28 -20540221.13 -20540220.98 0.2651 0.0662

Earth -60950-12-10 10:33 J -20540221.21 -20540221.06 -20540220.91 0.2649 0.0858 *

Jupiter -60950-12-14 02:09 J -20540217.50 -20540217.41 -20540217.31 0.0497 0.0426

Jupiter -60949-03-13 12:13 J -20540127.16 -20540126.99 -20540126.83 0.0497 0.0241

Earth -60946-06-13 22:18 J -20538939.68 -20538939.57 -20538939.46 0.2683 0.0079

Moon -60946-06-13 22:47 J -20538939.67 -20538939.55 -20538939.44 0.2678 0.0107 *

Saturn -60946-07-21 13:25 J -20538902.06 -20538901.94 -20538901.81 0.0263 0.0197

Saturn -60946-10-18 09:21 J -20538813.28 -20538813.11 -20538812.93 0.0263 0.0075

Saturn -60945-01-15 05:30 J -20538724.45 -20538724.27 -20538724.08 0.0262 0.0049

Saturn -60945-04-13 01:40 J -20538635.56 -20538635.43 -20538635.28 0.0262 0.0172

Jupiter -60944-11-11 22:18 J -20538057.68 -20538057.57 -20538057.45 0.0529 0.0188

Neptune -60943-02-05 02:52 J -20537972.41 -20537972.38 -20537972.33 0.0089 0.0085

Jupiter -60943-02-09 04:18 J -20537968.41 -20537968.32 -20537968.22 0.0528 0.0343

Neptune -60943-05-04 04:18 J -20537884.37 -20537884.32 -20537884.25 0.0089 0.0079

Neptune -60943-07-31 05:59 J -20537796.32 -20537796.25 -20537796.17 0.0089 0.0073

Neptune -60943-10-27 07:11 J -20537708.27 -20537708.20 -20537708.10 0.0089 0.0068

Neptune -60942-01-23 08:52 J -20537620.22 -20537620.13 -20537620.03 0.0089 0.0062

Mars -60942-01-24 08:09 J -20537619.28 -20537619.16 -20537619.04 0.1905 0.0162

Neptune -60942-04-21 10:18 J -20537532.17 -20537532.07 -20537531.97 0.0089 0.0056

Neptune -60942-07-18 11:30 J -20537444.12 -20537444.02 -20537443.90 0.0089 0.0051

Neptune -60942-10-14 13:11 J -20537356.07 -20537355.95 -20537355.84 0.0089 0.0045

Mars -60942-11-22 05:30 J -20537317.40 -20537317.27 -20537317.13 0.1645 0.0865

Neptune -60941-01-10 14:23 J -20537268.01 -20537267.90 -20537267.77 0.0089 0.0040

Neptune -60941-04-07 15:49 J -20537179.96 -20537179.84 -20537179.71 0.0089 0.0034

Neptune -60941-07-04 17:16 J -20537091.91 -20537091.78 -20537091.65 0.0089 0.0028

Neptune -60941-09-30 18:42 J -20537003.85 -20537003.72 -20537003.59 0.0089 0.0023

Neptune -60941-12-27 19:54 J -20536915.79 -20536915.67 -20536915.53 0.0089 0.0018

Neptune -60940-03-25 21:21 J -20536827.74 -20536827.61 -20536827.47 0.0089 0.0012

Neptune -60940-06-21 22:47 J -20536739.68 -20536739.55 -20536739.41 0.0089 0.0006

Neptune -60940-09-18 00:13 J -20536651.62 -20536651.49 -20536651.36 0.0089 0.0001

Neptune -60940-12-15 01:40 J -20536563.57 -20536563.43 -20536563.30 0.0089 0.0005

Neptune -60939-03-13 02:52 J -20536475.51 -20536475.38 -20536475.24 0.0089 0.0011

Neptune -60939-06-09 04:18 J -20536387.45 -20536387.32 -20536387.19 0.0089 0.0016

Neptune -60939-09-05 05:30 J -20536299.39 -20536299.27 -20536299.13 0.0089 0.0022

Neptune -60939-12-02 06:57 J -20536211.33 -20536211.21 -20536211.08 0.0089 0.0027

Neptune -60938-02-28 08:09 J -20536123.27 -20536123.16 -20536123.02 0.0089 0.0033

Neptune -60938-05-27 09:35 J -20536035.21 -20536035.10 -20536034.97 0.0089 0.0038

Neptune -60938-08-23 10:47 J -20535947.15 -20535947.05 -20535946.92 0.0089 0.0044

Neptune -60938-11-19 12:13 J -20535859.09 -20535858.99 -20535858.87 0.0089 0.0049

Jupiter -60938-12-31 08:52 J -20535817.31 -20535817.13 -20535816.94 0.0497 0.0073

Neptune -60937-02-15 13:54 J -20535771.03 -20535770.92 -20535770.82 0.0089 0.0054

Neptune -60937-05-13 14:52 J -20535682.96 -20535682.88 -20535682.77 0.0089 0.0060

Neptune -60937-08-09 16:18 J -20535594.90 -20535594.82 -20535594.72 0.0089 0.0065

Neptune -60937-11-05 17:30 J -20535506.84 -20535506.77 -20535506.68 0.0089 0.0071

Neptune -60936-02-01 18:57 J -20535418.77 -20535418.71 -20535418.63 0.0089 0.0076

Neptune -60936-04-30 20:23 J -20535330.69 -20535330.65 -20535330.59 0.0089 0.0081

Neptune -60936-07-27 21:35 J -20535242.61 -20535242.60 -20535242.56 0.0089 0.0087

Moon -60933-06-15 16:04 J -20534188.93 -20534188.83 -20534188.72 0.2678 0.1039

Earth -60933-06-15 16:18 J -20534188.93 -20534188.82 -20534188.72 0.2685 0.1006 *

Mars -60933-06-15 16:04 J -20534188.92 -20534188.83 -20534188.73 0.1897 0.1120 *

Jupiter -60932-08-31 02:37 J -20533747.49 -20533747.39 -20533747.29 0.0529 0.0318

Jupiter -60932-11-28 08:37 J -20533658.25 -20533658.14 -20533658.02 0.0528 0.0214

Uranus -60931-08-18 02:52 J -20533395.44 -20533395.38 -20533395.32 0.0132 0.0118

Saturn -60931-11-11 09:35 J -20533310.14 -20533310.10 -20533310.06 0.0298 0.0284

Uranus -60931-11-14 05:45 J -20533307.34 -20533307.26 -20533307.17 0.0132 0.0101

Saturn -60930-02-07 22:33 J -20533221.67 -20533221.56 -20533221.44 0.0299 0.0157

Uranus -60930-02-10 08:37 J -20533219.24 -20533219.14 -20533219.03 0.0132 0.0084

Saturn -60930-05-07 11:45 J -20533133.14 -20533133.01 -20533132.88 0.0299 0.0029

Uranus -60930-05-09 11:30 J -20533131.13 -20533131.02 -20533130.90 0.0132 0.0067

Saturn -60930-08-04 00:28 J -20533044.60 -20533044.48 -20533044.35 0.0300 0.0101

Uranus -60930-08-05 14:23 J -20533043.01 -20533042.90 -20533042.77 0.0133 0.0051

Saturn -60930-10-31 13:25 J -20532956.02 -20532955.94 -20532955.86 0.0301 0.0228

Uranus -60930-11-01 17:30 J -20532954.90 -20532954.77 -20532954.64 0.0133 0.0033

Uranus -60929-01-28 20:23 J -20532866.78 -20532866.65 -20532866.52 0.0133 0.0017

Uranus -60929-04-25 23:16 J -20532778.66 -20532778.53 -20532778.39 0.0133 0.0005

Uranus -60929-07-23 02:23 J -20532690.53 -20532690.40 -20532690.27 0.0133 0.0018

Uranus -60929-10-19 05:01 J -20532602.41 -20532602.29 -20532602.15 0.0133 0.0035

Uranus -60928-01-15 08:09 J -20532514.28 -20532514.16 -20532514.04 0.0133 0.0051

Uranus -60928-04-13 11:01 J -20532426.15 -20532426.04 -20532425.93 0.0133 0.0068

Uranus -60928-07-10 13:54 J -20532338.02 -20532337.92 -20532337.82 0.0133 0.0085

Uranus -60928-10-06 16:47 J -20532249.88 -20532249.80 -20532249.71 0.0133 0.0102

Uranus -60927-01-02 19:40 J -20532161.73 -20532161.68 -20532161.62 0.0133 0.0120

Earth -60926-06-09 14:52 J -20531638.96 -20531638.88 -20531638.80 0.2679 0.1878

Moon -60926-06-09 15:35 J -20531638.93 -20531638.85 -20531638.77 0.2682 0.1873 *

Jupiter -60926-10-19 05:30 J -20531507.45 -20531507.27 -20531507.09 0.0497 0.0100

Mars -60922-10-12 16:18 J -20530052.84 -20530052.82 -20530052.81 0.1920 0.1898

Mars -60921-08-10 03:06 J -20529750.48 -20529750.37 -20529750.26 0.1633 0.1229

Venus -60921-08-21 22:47 J -20529738.69 -20529738.55 -20529738.41 0.3565 0.1540

Moon -60920-06-18 09:35 J -20529438.18 -20529438.10 -20529438.02 0.2684 0.1896

Earth -60920-06-18 10:04 J -20529438.15 -20529438.08 -20529438.01 0.2687 0.2012 *

Jupiter -60920-06-19 06:42 J -20529437.28 -20529437.22 -20529437.15 0.0529 0.0450

Jupiter -60920-09-16 12:57 J -20529348.09 -20529347.96 -20529347.84 0.0528 0.0082

Venus -60918-05-28 08:52 J -20528729.17 -20528729.13 -20528729.09 0.3811 0.3471

Moon -60917-12-07 08:52 J -20528170.27 -20528170.13 -20528169.98 0.2651 0.1032

Earth -60917-12-07 10:33 J -20528170.21 -20528170.06 -20528169.91 0.2651 0.0783 *

Saturn -60917-12-07 13:11 J -20528170.03 -20528169.95 -20528169.85 0.0263 0.0231 *

Saturn -60916-03-06 09:06 J -20528081.28 -20528081.12 -20528080.94 0.0263 0.0109

Saturn -60916-06-03 05:16 J -20527992.46 -20527992.28 -20527992.09 0.0262 0.0015

Saturn -60916-08-31 01:25 J -20527903.59 -20527903.44 -20527903.27 0.0262 0.0137

Saturn -60916-11-27 21:35 J -20527814.60 -20527814.60 -20527814.57 0.0261 0.0261

Jupiter -60914-08-07 02:37 J -20527197.55 -20527197.39 -20527197.24 0.0497 0.0266

Jupiter -60914-11-05 12:57 J -20527107.07 -20527106.96 -20527106.86 0.0498 0.0407

Earth -60913-06-11 09:06 J -20526888.23 -20526888.12 -20526888.02 0.2681 0.0844

Moon -60913-06-11 09:49 J -20526888.20 -20526888.09 -20526887.98 0.2680 0.0731 *

Venus -60913-12-11 00:57 J -20526705.56 -20526705.46 -20526705.37 0.3813 0.1604

Mars -60912-03-03 23:59 J -20526622.60 -20526622.50 -20526622.39 0.1913 0.0915

Mars -60912-12-31 04:47 J -20526320.46 -20526320.30 -20526320.14 0.1639 0.0262

Jupiter -60908-07-05 16:47 J -20525037.93 -20525037.80 -20525037.68 0.0528 0.0059

Jupiter -60908-10-02 22:33 J -20524948.62 -20524948.56 -20524948.51 0.0527 0.0467

Venus -60907-06-26 16:47 J -20524681.90 -20524681.80 -20524681.70 0.3814 0.0302

Moon -60904-12-10 15:35 J -20523418.99 -20523418.85 -20523418.71 0.2651 0.1150

Earth -60904-12-10 17:01 J -20523418.93 -20523418.79 -20523418.65 0.2649 0.1232 *

Mars -60903-07-25 08:09 J -20523192.27 -20523192.16 -20523192.04 0.1905 0.0082

Mars -60902-05-23 06:13 J -20522890.39 -20522890.24 -20522890.09 0.1645 0.0729

Jupiter -60902-05-25 23:45 J -20522887.60 -20522887.51 -20522887.42 0.0497 0.0430

Jupiter -60902-08-24 09:35 J -20522797.25 -20522797.10 -20522796.93 0.0498 0.0239

Venus -60901-01-10 08:52 J -20522658.21 -20522658.13 -20522658.05 0.3815 0.2198

Saturn -60901-06-27 01:25 J -20522489.54 -20522489.44 -20522489.34 0.0299 0.0185

Saturn -60901-09-23 14:23 J -20522401.03 -20522400.90 -20522400.77 0.0300 0.0057

Saturn -60901-12-21 03:21 J -20522312.49 -20522312.36 -20522312.23 0.0300 0.0072

Saturn -60900-03-19 16:04 J -20522223.92 -20522223.83 -20522223.73 0.0301 0.0200

Earth -60900-06-14 03:06 J -20522137.48 -20522137.37 -20522137.26 0.2683 0.0185

Moon -60900-06-14 03:21 J -20522137.47 -20522137.36 -20522137.25 0.2677 0.0210 *

Jupiter -60896-04-23 20:37 J -20520727.76 -20520727.64 -20520727.52 0.0528 0.0192

Jupiter -60896-07-22 02:37 J -20520638.49 -20520638.39 -20520638.30 0.0528 0.0336

Mars -60894-12-15 16:04 J -20519761.93 -20519761.83 -20519761.73 0.1897 0.1017

Uranus -60890-06-11 05:01 J -20518488.30 -20518488.29 -20518488.24 0.0146 0.0145

Jupiter -60890-06-12 06:28 J -20518487.42 -20518487.23 -20518487.05 0.0497 0.0067

Uranus -60890-09-07 13:54 J -20518400.03 -20518399.92 -20518399.78 0.0146 0.0111

Uranus -60890-12-04 23:01 J -20518311.70 -20518311.54 -20518311.38 0.0146 0.0078

Uranus -60889-03-02 07:40 J -20518223.36 -20518223.18 -20518222.99 0.0146 0.0044

Uranus -60889-05-29 16:33 J -20518135.00 -20518134.81 -20518134.61 0.0146 0.0011

Uranus -60889-08-26 01:25 J -20518046.63 -20518046.44 -20518046.25 0.0146 0.0023

Uranus -60889-11-22 10:18 J -20517958.25 -20517958.07 -20517957.89 0.0146 0.0056

Uranus -60888-02-18 18:57 J -20517869.86 -20517869.71 -20517869.55 0.0146 0.0090

Uranus -60888-05-18 03:49 J -20517781.44 -20517781.34 -20517781.23 0.0146 0.0123

Saturn -60887-04-26 14:23 J -20517437.93 -20517437.90 -20517437.84 0.0264 0.0256

Moon -60887-06-16 20:52 J -20517386.73 -20517386.63 -20517386.53 0.2679 0.1161

Earth -60887-06-16 21:06 J -20517386.72 -20517386.62 -20517386.52 0.2685 0.1199 *

Saturn -60887-07-24 10:33 J -20517349.22 -20517349.06 -20517348.90 0.0263 0.0134

Saturn -60887-10-21 06:42 J -20517260.41 -20517260.22 -20517260.04 0.0263 0.0011

Saturn -60886-01-18 02:52 J -20517171.55 -20517171.38 -20517171.21 0.0262 0.0112

Saturn -60886-04-16 23:01 J -20517082.61 -20517082.54 -20517082.45 0.0262 0.0236

Jupiter -60884-02-10 00:13 J -20516417.58 -20516417.49 -20516417.39 0.0529 0.0332

Jupiter -60884-05-10 06:28 J -20516328.34 -20516328.23 -20516328.11 0.0528 0.0201

Moon -60884-12-05 09:49 J -20516119.13 -20516119.09 -20516119.05 0.2649 0.2550

Earth -60884-12-05 11:01 J -20516119.11 -20516119.04 -20516118.98 0.2654 0.2391 *

Mars -60881-02-09 03:49 J -20515323.43 -20515323.34 -20515323.26 0.1633 0.1368

Earth -60880-06-09 19:40 J -20514836.76 -20514836.68 -20514836.59 0.2679 0.1678

Moon -60880-06-09 20:23 J -20514836.74 -20514836.65 -20514836.55 0.2681 0.1540 *

Jupiter -60878-03-31 03:06 J -20514177.55 -20514177.37 -20514177.18 0.0497 0.0103

Moon -60874-06-19 14:23 J -20512635.97 -20512635.90 -20512635.84 0.2684 0.2178

Earth -60874-06-19 14:52 J -20512635.94 -20512635.88 -20512635.81 0.2687 0.2206 *

Mars -60873-09-02 00:13 J -20512195.59 -20512195.49 -20512195.39 0.1913 0.1029

Jupiter -60873-11-29 04:33 J -20512107.37 -20512107.31 -20512107.25 0.0529 0.0463

Jupiter -60872-02-26 10:47 J -20512018.18 -20512018.05 -20512017.92 0.0528 0.0071

Mars -60872-07-01 05:16 J -20511893.44 -20511893.28 -20511893.12 0.1639 0.0388

Saturn -60872-11-14 04:18 J -20511757.41 -20511757.32 -20511757.22 0.0298 0.0212

Saturn -60871-02-10 17:30 J -20511668.90 -20511668.77 -20511668.65 0.0299 0.0084

Saturn -60871-05-10 06:28 J -20511580.36 -20511580.23 -20511580.10 0.0300 0.0045

Saturn -60871-08-06 19:11 J -20511491.80 -20511491.70 -20511491.59 0.0300 0.0172

Saturn -60871-11-03 07:54 J -20511403.18 -20511403.17 -20511403.15 0.0301 0.0299

Moon -60871-12-08 15:21 J -20511368.01 -20511367.86 -20511367.71 0.2651 0.0466

Earth -60871-12-08 17:01 J -20511367.94 -20511367.79 -20511367.63 0.2651 0.0421 *

Venus -60870-09-12 15:49 J -20511089.98 -20511089.84 -20511089.70 0.3567 0.1864

Earth -60867-06-12 13:54 J -20510086.03 -20510085.92 -20510085.81 0.2682 0.0641

Moon -60867-06-12 14:37 J -20510086.00 -20510085.89 -20510085.78 0.2680 0.0618 *

Jupiter -60866-01-16 23:30 J -20509867.67 -20509867.52 -20509867.36 0.0497 0.0276

Jupiter -60866-04-17 09:35 J -20509777.20 -20509777.10 -20509776.98 0.0498 0.0397

Venus -60864-03-29 00:57 J -20509065.52 -20509065.46 -20509065.40 0.3564 0.3268

Mars -60863-01-23 08:09 J -20508765.28 -20508765.16 -20508765.05 0.1905 0.0068

Mars -60863-11-21 06:57 J -20508463.37 -20508463.21 -20508463.06 0.1645 0.0590

Venus -60861-01-02 06:28 J -20508056.30 -20508056.23 -20508056.17 0.3811 0.2802

Neptune -60861-10-23 11:01 J -20507761.09 -20507761.04 -20507760.99 0.0089 0.0085

Jupiter -60861-12-15 15:06 J -20507708.00 -20507707.87 -20507707.75 0.0528 0.0062

Neptune -60860-01-19 14:09 J -20507672.99 -20507672.91 -20507672.81 0.0089 0.0078

Jupiter -60860-03-14 20:52 J -20507618.69 -20507618.63 -20507618.57 0.0527 0.0465

Neptune -60860-04-17 17:45 J -20507584.87 -20507584.76 -20507584.64 0.0089 0.0070

Neptune -60860-07-14 20:52 J -20507496.75 -20507496.63 -20507496.48 0.0089 0.0063

Neptune -60860-10-11 00:28 J -20507408.62 -20507408.48 -20507408.32 0.0089 0.0055

Neptune -60859-01-07 03:49 J -20507320.49 -20507320.34 -20507320.17 0.0089 0.0047

Pluto -60859-03-27 13:11 J -20507240.98 -20507240.95 -20507240.89 0.0061 0.0059

Neptune -60859-04-05 07:11 J -20507232.36 -20507232.20 -20507232.02 0.0089 0.0040

Pluto -60859-06-23 14:23 J -20507152.96 -20507152.90 -20507152.81 0.0061 0.0054

Neptune -60859-07-02 10:47 J -20507144.22 -20507144.05 -20507143.87 0.0089 0.0032

Pluto -60859-09-19 15:49 J -20507064.94 -20507064.84 -20507064.74 0.0061 0.0050

Neptune -60859-09-28 14:09 J -20507056.08 -20507055.91 -20507055.72 0.0089 0.0024

Pluto -60859-12-16 16:33 J -20506976.91 -20506976.81 -20506976.68 0.0061 0.0045

Neptune -60859-12-25 17:45 J -20506967.94 -20506967.76 -20506967.57 0.0089 0.0016

Pluto -60858-03-14 17:45 J -20506888.88 -20506888.76 -20506888.61 0.0061 0.0040

Neptune -60858-03-23 21:21 J -20506879.80 -20506879.61 -20506879.42 0.0089 0.0008

Pluto -60858-06-10 18:57 J -20506800.84 -20506800.71 -20506800.56 0.0061 0.0036

Neptune -60858-06-20 00:42 J -20506791.66 -20506791.47 -20506791.28 0.0089 0.0001

Pluto -60858-09-06 20:23 J -20506712.80 -20506712.65 -20506712.50 0.0061 0.0031

Neptune -60858-09-16 04:18 J -20506703.51 -20506703.32 -20506703.13 0.0089 0.0008

Pluto -60858-12-03 21:06 J -20506624.76 -20506624.62 -20506624.44 0.0061 0.0027

Saturn -60858-12-11 10:47 J -20506617.19 -20506617.05 -20506616.90 0.0263 0.0165

Moon -60858-12-11 22:18 J -20506616.70 -20506616.57 -20506616.44 0.2652 0.1403

Earth -60858-12-11 23:45 J -20506616.64 -20506616.51 -20506616.39 0.2648 0.1606 *

Neptune -60858-12-13 07:40 J -20506615.37 -20506615.18 -20506614.99 0.0089 0.0016

Pluto -60857-02-29 22:18 J -20506536.72 -20506536.57 -20506536.39 0.0061 0.0022

Saturn -60857-03-09 06:42 J -20506528.40 -20506528.22 -20506528.03 0.0263 0.0044

Neptune -60857-03-10 11:01 J -20506527.22 -20506527.04 -20506526.85 0.0089 0.0024

Pluto -60857-05-27 23:30 J -20506448.68 -20506448.52 -20506448.34 0.0062 0.0017

Saturn -60857-06-06 02:52 J -20506439.55 -20506439.38 -20506439.20 0.0262 0.0080

Neptune -60857-06-06 14:23 J -20506439.06 -20506438.90 -20506438.70 0.0089 0.0032

Pluto -60857-08-24 00:57 J -20506360.63 -20506360.46 -20506360.28 0.0062 0.0012

Neptune -60857-09-02 18:13 J -20506350.91 -20506350.74 -20506350.57 0.0089 0.0039

Saturn -60857-09-02 23:16 J -20506350.65 -20506350.53 -20506350.41 0.0262 0.0203 *

Pluto -60857-11-20 02:09 J -20506272.58 -20506272.41 -20506272.23 0.0062 0.0007

Neptune -60857-11-29 21:49 J -20506262.75 -20506262.59 -20506262.43 0.0089 0.0047

Pluto -60856-02-16 03:21 J -20506184.54 -20506184.36 -20506184.18 0.0062 0.0002

Neptune -60856-02-26 01:11 J -20506174.59 -20506174.45 -20506174.29 0.0089 0.0055

Pluto -60856-05-15 04:33 J -20506096.49 -20506096.31 -20506096.13 0.0062 0.0003

Neptune -60856-05-25 04:47 J -20506086.43 -20506086.30 -20506086.16 0.0089 0.0063

Venus -60856-07-17 22:18 J -20506032.67 -20506032.57 -20506032.47 0.3813 0.0914

Pluto -60856-08-11 05:45 J -20506008.44 -20506008.26 -20506008.08 0.0062 0.0008

Neptune -60856-08-21 08:09 J -20505998.26 -20505998.16 -20505998.03 0.0089 0.0071

Pluto -60856-11-07 06:57 J -20505920.38 -20505920.21 -20505920.03 0.0062 0.0013

Neptune -60856-11-17 11:45 J -20505910.09 -20505910.01 -20505909.91 0.0089 0.0079

Pluto -60855-02-03 08:09 J -20505832.33 -20505832.16 -20505831.99 0.0062 0.0018

Neptune -60855-02-13 15:06 J -20505821.89 -20505821.87 -20505821.81 0.0089 0.0087

Pluto -60855-05-02 09:21 J -20505744.27 -20505744.11 -20505743.94 0.0062 0.0023

Pluto -60855-07-29 10:33 J -20505656.21 -20505656.06 -20505655.90 0.0062 0.0029

Pluto -60855-10-25 11:59 J -20505568.15 -20505568.00 -20505567.85 0.0062 0.0034

Jupiter -60855-11-04 20:37 J -20505557.72 -20505557.64 -20505557.55 0.0497 0.0441

Pluto -60854-01-21 12:42 J -20505480.09 -20505479.97 -20505479.81 0.0062 0.0039

Jupiter -60854-02-03 06:28 J -20505467.39 -20505467.23 -20505467.06 0.0498 0.0228

Pluto -60854-04-19 13:54 J -20505392.02 -20505391.92 -20505391.77 0.0062 0.0045

Earth -60854-06-15 07:54 J -20505335.28 -20505335.17 -20505335.06 0.2684 0.0384

Moon -60854-06-15 08:09 J -20505335.27 -20505335.16 -20505335.05 0.2677 0.0445 *

Mars -60854-06-15 16:04 J -20505334.93 -20505334.83 -20505334.73 0.1898 0.0912

Pluto -60854-07-16 15:21 J -20505303.95 -20505303.86 -20505303.74 0.0063 0.0050

Pluto -60854-10-12 16:33 J -20505215.88 -20505215.81 -20505215.71 0.0063 0.0055

Pluto -60853-01-08 17:59 J -20505127.79 -20505127.75 -20505127.69 0.0063 0.0060

Mars -60853-04-12 08:37 J -20505033.19 -20505033.14 -20505033.10 0.1651 0.1573

Venus -60850-01-31 14:23 J -20504009.00 -20504008.90 -20504008.81 0.3814 0.0985

Jupiter -60849-10-03 18:42 J -20503397.84 -20503397.72 -20503397.60 0.0528 0.0199

Jupiter -60848-01-01 00:42 J -20503308.57 -20503308.47 -20503308.37 0.0527 0.0329

Earth -60847-06-08 06:28 J -20502785.27 -20502785.23 -20502785.19 0.2677 0.2510

Moon -60847-06-08 06:57 J -20502785.26 -20502785.21 -20502785.17 0.2683 0.2441 *

Uranus -60847-06-11 07:25 J -20502782.21 -20502782.19 -20502782.16 0.0132 0.0129

Uranus -60847-09-07 10:04 J -20502694.13 -20502694.08 -20502694.00 0.0132 0.0113

Uranus -60847-12-04 13:11 J -20502606.03 -20502605.95 -20502605.85 0.0132 0.0095

Uranus -60846-03-02 16:04 J -20502517.92 -20502517.83 -20502517.71 0.0132 0.0079

Uranus -60846-05-29 19:11 J -20502429.81 -20502429.70 -20502429.58 0.0133 0.0061

Uranus -60846-08-25 22:04 J -20502341.70 -20502341.58 -20502341.45 0.0133 0.0045

Uranus -60846-11-22 01:11 J -20502253.58 -20502253.45 -20502253.32 0.0133 0.0027

Uranus -60845-02-18 04:04 J -20502165.46 -20502165.33 -20502165.20 0.0133 0.0010

Uranus -60845-05-16 06:57 J -20502077.34 -20502077.21 -20502077.08 0.0133 0.0007

Uranus -60845-08-12 09:49 J -20501989.22 -20501989.09 -20501988.96 0.0133 0.0024

Venus -60845-08-16 06:13 J -20501985.30 -20501985.24 -20501985.17 0.3816 0.2886

Mars -60845-11-05 00:13 J -20501904.51 -20501904.49 -20501904.48 0.1889 0.1858

Uranus -60845-11-08 12:42 J -20501901.09 -20501900.97 -20501900.84 0.0133 0.0041

Uranus -60844-02-04 15:49 J -20501812.96 -20501812.84 -20501812.73 0.0133 0.0058

Uranus -60844-05-03 18:42 J -20501724.83 -20501724.72 -20501724.61 0.0133 0.0074

Uranus -60844-07-30 21:35 J -20501636.69 -20501636.60 -20501636.51 0.0133 0.0091

Uranus -60844-10-27 00:28 J -20501548.55 -20501548.48 -20501548.40 0.0133 0.0108

Uranus -60843-01-23 03:21 J -20501460.40 -20501460.36 -20501460.32 0.0133 0.0126

Jupiter -60843-11-22 03:35 J -20501157.54 -20501157.35 -20501157.17 0.0498 0.0059

Saturn -60842-04-03 06:57 J -20501025.28 -20501025.21 -20501025.13 0.0299 0.0242

Saturn -60842-06-30 20:09 J -20500936.78 -20500936.66 -20500936.54 0.0299 0.0113

Mars -60842-08-10 04:18 J -20500896.38 -20500896.32 -20500896.25 0.1632 0.1506

Saturn -60842-09-27 09:06 J -20500848.25 -20500848.12 -20500847.99 0.0300 0.0016

Saturn -60842-12-24 22:04 J -20500759.70 -20500759.58 -20500759.47 0.0301 0.0143

Saturn -60841-03-22 10:47 J -20500671.10 -20500671.05 -20500670.99 0.0301 0.0271

Moon -60841-06-17 01:40 J -20500584.53 -20500584.43 -20500584.34 0.2680 0.1358

Earth -60841-06-17 01:54 J -20500584.51 -20500584.42 -20500584.33 0.2686 0.1396 *

Moon -60838-12-06 16:04 J -20499316.92 -20499316.83 -20499316.73 0.2650 0.2097

Earth -60838-12-06 17:30 J -20499316.87 -20499316.77 -20499316.67 0.2653 0.2023 *

Jupiter -60837-07-22 22:33 J -20499087.66 -20499087.56 -20499087.46 0.0529 0.0337

Jupiter -60837-10-20 04:33 J -20498998.42 -20498998.31 -20498998.19 0.0528 0.0195

Earth -60834-06-11 00:42 J -20498034.56 -20498034.47 -20498034.38 0.2680 0.1469

Moon -60834-06-11 01:25 J -20498034.53 -20498034.44 -20498034.35 0.2682 0.1458 *

Mars -60833-03-03 00:13 J -20497768.58 -20497768.49 -20497768.40 0.1913 0.1132

Mars -60833-12-30 05:59 J -20497466.41 -20497466.25 -20497466.10 0.1639 0.0527

Jupiter -60831-09-10 00:28 J -20496847.66 -20496847.48 -20496847.30 0.0497 0.0109

Saturn -60828-04-29 12:13 J -20495885.11 -20495884.99 -20495884.86 0.0263 0.0190

Moon -60828-06-19 19:11 J -20495833.76 -20495833.70 -20495833.65 0.2684 0.2291

Earth -60828-06-19 19:54 J -20495833.72 -20495833.67 -20495833.63 0.2688 0.2400 *

Saturn -60828-07-27 08:09 J -20495796.34 -20495796.16 -20495795.98 0.0263 0.0068

Saturn -60828-10-24 04:18 J -20495707.50 -20495707.32 -20495707.13 0.0262 0.0056

Saturn -60827-01-21 00:28 J -20495618.61 -20495618.48 -20495618.34 0.0262 0.0179

Jupiter -60825-05-11 02:09 J -20494777.46 -20494777.41 -20494777.36 0.0529 0.0478

Jupiter -60825-08-08 08:23 J -20494688.27 -20494688.15 -20494688.02 0.0529 0.0059

Moon -60825-12-08 21:49 J -20494565.74 -20494565.59 -20494565.43 0.2651 0.0311

Earth -60825-12-08 23:45 J -20494565.67 -20494565.51 -20494565.36 0.2651 0.0093 *

Mars -60824-07-24 08:09 J -20494338.28 -20494338.16 -20494338.04 0.1905 0.0159

Mars -60823-05-22 07:25 J -20494036.35 -20494036.19 -20494036.03 0.1645 0.0456

Earth -60821-06-12 18:42 J -20493283.83 -20493283.72 -20493283.61 0.2682 0.0444

Moon -60821-06-12 19:25 J -20493283.80 -20493283.69 -20493283.58 0.2678 0.0326 *

Jupiter -60819-06-28 21:21 J -20492537.76 -20492537.61 -20492537.46 0.0497 0.0277

Jupiter -60819-09-27 07:25 J -20492447.30 -20492447.19 -20492447.08 0.0498 0.0394

Mars -60815-12-14 16:04 J -20490907.93 -20490907.83 -20490907.72 0.1897 0.0802

Mars -60814-10-12 09:06 J -20490606.20 -20490606.12 -20490606.05 0.1651 0.1447

Venus -60813-04-18 17:59 J -20490416.91 -20490416.75 -20490416.59 0.3566 0.0121

Jupiter -60813-05-27 12:42 J -20490378.10 -20490377.97 -20490377.84 0.0529 0.0073

Saturn -60813-08-20 10:18 J -20490293.13 -20490293.07 -20490293.01 0.0298 0.0267

Jupiter -60813-08-24 18:28 J -20490288.79 -20490288.73 -20490288.66 0.0528 0.0454

Saturn -60813-11-16 23:16 J -20490204.64 -20490204.53 -20490204.41 0.0299 0.0139

Saturn -60812-02-13 12:28 J -20490116.12 -20490115.98 -20490115.85 0.0299 0.0015

Saturn -60812-05-13 01:11 J -20490027.57 -20490027.45 -20490027.33 0.0300 0.0117

Saturn -60812-08-09 13:54 J -20489938.99 -20489938.92 -20489938.84 0.0301 0.0245

Moon -60812-12-12 05:01 J -20489814.39 -20489814.29 -20489814.19 0.2653 0.1976

Earth -60812-12-12 06:13 J -20489814.34 -20489814.24 -20489814.14 0.2648 0.1975 *

Moon -60808-06-15 12:57 J -20488533.07 -20488532.96 -20488532.85 0.2677 0.0572

Earth -60808-06-15 12:42 J -20488533.07 -20488532.97 -20488532.86 0.2684 0.0587 *

Jupiter -60807-04-16 17:30 J -20488227.84 -20488227.77 -20488227.69 0.0497 0.0452

Jupiter -60807-07-16 03:21 J -20488137.52 -20488137.36 -20488137.19 0.0498 0.0216

Uranus -60806-07-01 13:11 J -20487787.02 -20487786.95 -20487786.88 0.0146 0.0136

Uranus -60806-09-27 21:49 J -20487698.72 -20487698.59 -20487698.45 0.0146 0.0102

Uranus -60806-12-25 06:28 J -20487610.39 -20487610.23 -20487610.05 0.0146 0.0069

Uranus -60805-03-22 15:21 J -20487522.04 -20487521.86 -20487521.67 0.0146 0.0036

Mars -60805-05-05 23:59 J -20487477.54 -20487477.50 -20487477.46 0.1889 0.1767

Uranus -60805-06-19 00:13 J -20487433.68 -20487433.49 -20487433.29 0.0146 0.0003

Venus -60805-08-08 03:49 J -20487383.42 -20487383.34 -20487383.25 0.3812 0.2130

Uranus -60805-09-15 09:06 J -20487345.31 -20487345.12 -20487344.93 0.0146 0.0031

Uranus -60805-12-12 17:45 J -20487256.93 -20487256.76 -20487256.58 0.0146 0.0065

Uranus -60804-03-11 02:37 J -20487168.53 -20487168.39 -20487168.24 0.0146 0.0098

Uranus -60804-06-07 11:16 J -20487080.10 -20487080.03 -20487079.93 0.0146 0.0131

Jupiter -60801-03-15 17:01 J -20486067.91 -20486067.79 -20486067.67 0.0529 0.0203

Earth -60801-06-08 11:16 J -20485983.08 -20485983.03 -20485982.97 0.2678 0.2305

Moon -60801-06-08 11:59 J -20485983.06 -20485983.00 -20485982.95 0.2682 0.2278 *

Jupiter -60801-06-12 23:01 J -20485978.64 -20485978.54 -20485978.44 0.0528 0.0326

Venus -60799-02-21 19:54 J -20485359.77 -20485359.67 -20485359.57 0.3813 0.0229

Saturn -60799-09-16 12:42 J -20485153.07 -20485152.97 -20485152.87 0.0263 0.0220

Saturn -60799-12-14 08:37 J -20485064.31 -20485064.14 -20485063.96 0.0263 0.0098

Saturn -60798-03-13 04:47 J -20484975.49 -20484975.30 -20484975.12 0.0262 0.0025

Saturn -60798-06-10 00:57 J -20484886.62 -20484886.46 -20484886.31 0.0262 0.0147

Jupiter -60795-05-04 00:13 J -20483827.67 -20483827.49 -20483827.30 0.0498 0.0048

Moon -60795-06-18 06:13 J -20483782.32 -20483782.24 -20483782.15 0.2681 0.1569

Earth -60795-06-18 06:42 J -20483782.31 -20483782.22 -20483782.13 0.2686 0.1592 *

Mars -60794-09-02 00:13 J -20483341.58 -20483341.49 -20483341.41 0.1913 0.1232

Venus -60794-09-07 11:45 J -20483336.10 -20483336.01 -20483335.92 0.3815 0.1676

Mars -60793-06-30 06:42 J -20483039.37 -20483039.22 -20483039.07 0.1638 0.0671

Moon -60792-12-06 22:33 J -20482514.68 -20482514.56 -20482514.45 0.2651 0.1800

Earth -60792-12-06 23:59 J -20482514.62 -20482514.50 -20482514.38 0.2653 0.1654 *

Jupiter -60789-01-02 20:37 J -20481757.73 -20481757.64 -20481757.54 0.0528 0.0343

Jupiter -60789-04-01 02:52 J -20481668.50 -20481668.38 -20481668.26 0.0528 0.0189

Venus -60788-03-23 03:49 J -20481312.37 -20481312.34 -20481312.31 0.3816 0.3577

Earth -60788-06-11 05:30 J -20481232.37 -20481232.27 -20481232.17 0.2680 0.1267

Moon -60788-06-11 06:13 J -20481232.34 -20481232.24 -20481232.14 0.2681 0.1135 *

Mars -60784-01-22 08:09 J -20479911.27 -20479911.16 -20479911.04 0.1905 0.0276

Mars -60784-11-20 08:09 J -20479609.32 -20479609.16 -20479609.00 0.1644 0.0322

Saturn -60783-01-07 12:42 J -20479560.97 -20479560.97 -20479560.96 0.0298 0.0298

Jupiter -60783-02-19 21:21 J -20479517.79 -20479517.61 -20479517.43 0.0498 0.0120

Saturn -60783-04-06 01:54 J -20479472.53 -20479472.42 -20479472.31 0.0299 0.0170

Saturn -60783-07-03 14:52 J -20479384.01 -20479383.88 -20479383.75 0.0300 0.0042

Saturn -60783-09-30 03:49 J -20479295.46 -20479295.34 -20479295.21 0.0300 0.0087

Saturn -60783-12-27 16:33 J -20479206.89 -20479206.81 -20479206.71 0.0301 0.0215

Moon -60782-06-20 23:59 J -20479031.53 -20479031.50 -20479031.47 0.2686 0.2539

Earth -60782-06-21 00:42 J -20479031.50 -20479031.47 -20479031.45 0.2688 0.2592 *

Neptune -60779-11-02 01:54 J -20477801.45 -20477801.42 -20477801.36 0.0089 0.0084

Moon -60779-12-10 04:33 J -20477763.46 -20477763.31 -20477763.15 0.2651 0.0272

Earth -60779-12-10 06:13 J -20477763.39 -20477763.24 -20477763.08 0.2650 0.0329 *

Neptune -60778-01-29 03:35 J -20477713.41 -20477713.35 -20477713.28 0.0089 0.0078

Neptune -60778-04-27 04:47 J -20477625.36 -20477625.30 -20477625.21 0.0089 0.0073

Neptune -60778-07-24 06:28 J -20477537.31 -20477537.23 -20477537.14 0.0089 0.0067

Neptune -60778-10-20 07:40 J -20477449.26 -20477449.18 -20477449.07 0.0089 0.0062

Jupiter -60778-10-22 00:28 J -20477447.53 -20477447.48 -20477447.43 0.0529 0.0481

Neptune -60777-01-16 09:06 J -20477361.21 -20477361.12 -20477361.00 0.0089 0.0056

Jupiter -60777-01-19 06:42 J -20477358.35 -20477358.22 -20477358.09 0.0528 0.0053

Neptune -60777-04-13 10:47 J -20477273.16 -20477273.05 -20477272.94 0.0089 0.0050

Neptune -60777-07-10 11:59 J -20477185.11 -20477185.00 -20477184.87 0.0089 0.0045

Neptune -60777-10-06 13:25 J -20477097.05 -20477096.94 -20477096.81 0.0089 0.0039

Neptune -60776-01-02 14:52 J -20477009.00 -20477008.88 -20477008.75 0.0089 0.0033

Neptune -60776-03-31 16:18 J -20476920.94 -20476920.82 -20476920.69 0.0089 0.0028

Neptune -60776-06-27 17:45 J -20476832.89 -20476832.76 -20476832.63 0.0089 0.0022

Neptune -60776-09-23 19:11 J -20476744.83 -20476744.70 -20476744.57 0.0089 0.0016

Neptune -60776-12-20 20:37 J -20476656.77 -20476656.64 -20476656.51 0.0089 0.0011

Neptune -60775-03-18 22:04 J -20476568.72 -20476568.58 -20476568.45 0.0089 0.0006

Earth -60775-06-13 23:45 J -20476481.63 -20476481.51 -20476481.40 0.2682 0.0263

Moon -60775-06-14 00:13 J -20476481.60 -20476481.49 -20476481.38 0.2677 0.0252 *

Mars -60775-06-14 16:04 J -20476480.94 -20476480.83 -20476480.72 0.1897 0.0698

Neptune -60775-06-14 23:16 J -20476480.66 -20476480.53 -20476480.39 0.0089 0.0003

Neptune -60775-09-11 00:42 J -20476392.60 -20476392.47 -20476392.33 0.0089 0.0006

Neptune -60775-12-08 02:09 J -20476304.54 -20476304.41 -20476304.28 0.0089 0.0011

Neptune -60774-03-06 03:21 J -20476216.49 -20476216.36 -20476216.22 0.0089 0.0017

Mars -60774-04-12 09:35 J -20476179.19 -20476179.10 -20476179.00 0.1651 0.1307

Neptune -60774-06-02 04:47 J -20476128.43 -20476128.30 -20476128.17 0.0089 0.0022

Neptune -60774-08-29 06:13 J -20476040.37 -20476040.24 -20476040.11 0.0089 0.0028

Neptune -60774-11-25 07:25 J -20475952.31 -20475952.19 -20475952.06 0.0089 0.0033

Neptune -60773-02-21 08:52 J -20475864.25 -20475864.13 -20475864.01 0.0089 0.0039

Neptune -60773-05-19 10:18 J -20475776.19 -20475776.07 -20475775.95 0.0089 0.0044

Neptune -60773-08-15 11:30 J -20475688.12 -20475688.02 -20475687.90 0.0089 0.0050

Neptune -60773-11-11 12:57 J -20475600.06 -20475599.96 -20475599.85 0.0089 0.0055

Neptune -60772-02-07 14:09 J -20475512.00 -20475511.91 -20475511.81 0.0089 0.0061

Neptune -60772-05-06 15:35 J -20475423.93 -20475423.85 -20475423.76 0.0089 0.0066

Neptune -60772-08-02 16:47 J -20475335.87 -20475335.80 -20475335.71 0.0089 0.0072

Neptune -60772-10-29 18:13 J -20475247.80 -20475247.74 -20475247.67 0.0089 0.0077

Jupiter -60772-12-08 18:28 J -20475207.87 -20475207.73 -20475207.57 0.0497 0.0284

Neptune -60771-01-25 19:40 J -20475159.73 -20475159.68 -20475159.63 0.0089 0.0082

Jupiter -60771-03-09 04:33 J -20475117.42 -20475117.31 -20475117.19 0.0498 0.0388

Neptune -60771-04-23 20:37 J -20475071.64 -20475071.64 -20475071.60 0.0089 0.0088

Saturn -60769-02-03 13:54 J -20474420.98 -20474420.92 -20474420.85 0.0264 0.0245

Saturn -60769-05-02 09:49 J -20474332.25 -20474332.09 -20474331.92 0.0263 0.0123

Saturn -60769-07-30 05:59 J -20474243.44 -20474243.25 -20474243.06 0.0263 0.0002

Saturn -60769-10-27 02:09 J -20474154.58 -20474154.41 -20474154.25 0.0262 0.0122

Saturn -60768-01-23 22:18 J -20474065.63 -20474065.57 -20474065.50 0.0262 0.0245

Pluto -60767-08-17 06:57 J -20473495.25 -20473495.21 -20473495.16 0.0084 0.0078

Pluto -60767-11-13 08:37 J -20473407.22 -20473407.14 -20473407.06 0.0084 0.0068

Pluto -60766-02-09 10:04 J -20473319.17 -20473319.08 -20473318.97 0.0083 0.0058

Pluto -60766-05-08 11:45 J -20473231.12 -20473231.01 -20473230.89 0.0083 0.0048

Pluto -60766-08-04 13:25 J -20473143.07 -20473142.94 -20473142.81 0.0083 0.0038

Pluto -60766-10-31 14:52 J -20473055.01 -20473054.88 -20473054.74 0.0083 0.0028

Mars -60766-11-04 23:59 J -20473050.55 -20473050.50 -20473050.44 0.1889 0.1652

Jupiter -60766-11-07 10:33 J -20473048.19 -20473048.06 -20473047.94 0.0529 0.0088

Moon -60766-12-13 11:45 J -20473012.10 -20473012.01 -20473011.92 0.2653 0.2156

Earth -60766-12-13 12:42 J -20473012.04 -20473011.97 -20473011.90 0.2648 0.2354 *

Pluto -60765-01-27 16:33 J -20472966.95 -20472966.81 -20472966.67 0.0083 0.0018

Jupiter -60765-02-04 16:18 J -20472958.88 -20472958.82 -20472958.75 0.0528 0.0441

Pluto -60765-04-24 17:59 J -20472878.89 -20472878.75 -20472878.60 0.0083 0.0009

Pluto -60765-07-21 19:40 J -20472790.82 -20472790.68 -20472790.54 0.0083 0.0001

Pluto -60765-10-17 21:06 J -20472702.76 -20472702.62 -20472702.48 0.0083 0.0011

Pluto -60764-01-13 22:33 J -20472614.69 -20472614.56 -20472614.42 0.0082 0.0021

Pluto -60764-04-11 23:59 J -20472526.63 -20472526.50 -20472526.36 0.0082 0.0030

Pluto -60764-07-09 01:25 J -20472438.56 -20472438.44 -20472438.31 0.0082 0.0039

Pluto -60764-10-05 03:06 J -20472350.48 -20472350.37 -20472350.26 0.0082 0.0048

Pluto -60763-01-01 04:18 J -20472262.41 -20472262.32 -20472262.21 0.0082 0.0058

Pluto -60763-03-30 05:45 J -20472174.33 -20472174.26 -20472174.17 0.0082 0.0067

Pluto -60763-06-26 07:11 J -20472086.24 -20472086.20 -20472086.14 0.0082 0.0076

Uranus -60763-07-01 15:06 J -20472080.92 -20472080.87 -20472080.82 0.0132 0.0123

Uranus -60763-09-27 17:59 J -20471992.82 -20471992.75 -20471992.67 0.0132 0.0106

Uranus -60763-12-24 21:06 J -20471904.72 -20471904.62 -20471904.53 0.0133 0.0089

Uranus -60762-03-22 23:59 J -20471816.61 -20471816.50 -20471816.39 0.0133 0.0072

Venus -60762-05-10 11:01 J -20471768.05 -20471768.04 -20471768.03 0.3568 0.3552

Moon -60762-06-16 17:45 J -20471730.87 -20471730.76 -20471730.65 0.2678 0.0834

Earth -60762-06-16 17:45 J -20471730.87 -20471730.76 -20471730.66 0.2684 0.0784 *

Uranus -60762-06-19 02:52 J -20471728.50 -20471728.38 -20471728.26 0.0133 0.0055

Uranus -60762-09-15 05:45 J -20471640.38 -20471640.26 -20471640.13 0.0133 0.0038

Uranus -60762-12-12 08:37 J -20471552.26 -20471552.14 -20471552.00 0.0133 0.0022

Uranus -60761-03-09 11:45 J -20471464.14 -20471464.01 -20471463.88 0.0133 0.0005

Uranus -60761-06-05 14:37 J -20471376.02 -20471375.89 -20471375.76 0.0133 0.0013

Uranus -60761-09-01 17:30 J -20471287.90 -20471287.77 -20471287.64 0.0133 0.0030

Uranus -60761-11-28 20:23 J -20471199.77 -20471199.65 -20471199.52 0.0133 0.0047

Uranus -60760-02-24 23:16 J -20471111.64 -20471111.53 -20471111.41 0.0133 0.0064

Uranus -60760-05-24 02:09 J -20471023.51 -20471023.41 -20471023.30 0.0133 0.0081

Uranus -60760-08-20 05:16 J -20470935.37 -20470935.28 -20470935.19 0.0133 0.0098

Jupiter -60760-09-26 15:35 J -20470897.92 -20470897.85 -20470897.77 0.0497 0.0450

Uranus -60760-11-16 08:09 J -20470847.22 -20470847.16 -20470847.09 0.0133 0.0115

Jupiter -60760-12-26 01:25 J -20470807.61 -20470807.44 -20470807.27 0.0497 0.0216

Uranus -60759-02-12 11:01 J -20470759.05 -20470759.04 -20470759.02 0.0134 0.0132

Venus -60757-11-23 20:09 J -20469743.80 -20469743.66 -20469743.52 0.3565 0.1610

Earth -60755-06-09 16:18 J -20469180.89 -20469180.82 -20469180.75 0.2678 0.2101

Moon -60755-06-09 16:47 J -20469180.87 -20469180.80 -20469180.73 0.2683 0.2036 *

Mars -60754-03-03 00:13 J -20468914.57 -20468914.49 -20468914.41 0.1913 0.1343

Saturn -60754-08-24 04:47 J -20468740.39 -20468740.30 -20468740.19 0.0298 0.0197

Jupiter -60754-08-26 14:37 J -20468738.00 -20468737.89 -20468737.77 0.0529 0.0217

Venus -60754-08-30 09:35 J -20468734.15 -20468734.10 -20468734.06 0.3810 0.3330

Saturn -60754-11-20 17:59 J -20468651.88 -20468651.75 -20468651.62 0.0299 0.0069

Jupiter -60754-11-23 20:37 J -20468648.74 -20468648.64 -20468648.54 0.0528 0.0314

Mars -60754-12-30 07:11 J -20468612.35 -20468612.20 -20468612.06 0.1638 0.0797

Saturn -60753-02-17 06:57 J -20468563.34 -20468563.21 -20468563.08 0.0300 0.0059

Saturn -60753-05-15 19:40 J -20468474.78 -20468474.68 -20468474.57 0.0300 0.0187

Moon -60749-06-18 11:01 J -20466980.12 -20466980.04 -20466979.95 0.2681 0.1705

Earth -60749-06-18 11:30 J -20466980.10 -20466980.02 -20466979.93 0.2686 0.1793 *

Venus -60748-03-15 01:25 J -20466710.53 -20466710.44 -20466710.35 0.3812 0.1443

Jupiter -60748-10-13 21:21 J -20466497.80 -20466497.61 -20466497.43 0.0498 0.0038

Moon -60746-12-08 04:47 J -20465712.43 -20465712.30 -20465712.17 0.2650 0.1438

Earth -60746-12-08 06:28 J -20465712.36 -20465712.23 -20465712.09 0.2652 0.1291 *

Mars -60745-07-23 08:09 J -20465484.28 -20465484.16 -20465484.05 0.1905 0.0368

Mars -60744-05-21 08:52 J -20465182.30 -20465182.13 -20465181.97 0.1644 0.0178

Venus -60743-09-28 17:30 J -20464686.87 -20464686.77 -20464686.68 0.3814 0.0485

Earth -60742-06-12 10:18 J -20464430.17 -20464430.07 -20464429.96 0.2680 0.1069

Moon -60742-06-12 11:01 J -20464430.14 -20464430.04 -20464429.93 0.2680 0.1037 *

Jupiter -60742-06-14 18:57 J -20464427.80 -20464427.71 -20464427.61 0.0529 0.0346

Jupiter -60742-09-12 01:11 J -20464338.57 -20464338.45 -20464338.33 0.0528 0.0187

Saturn -60740-09-19 10:18 J -20463600.21 -20463600.07 -20463599.91 0.0263 0.0153

Saturn -60740-12-17 06:28 J -20463511.42 -20463511.23 -20463511.05 0.0262 0.0031

Saturn -60739-03-16 02:23 J -20463422.57 -20463422.40 -20463422.22 0.0262 0.0091

Saturn -60739-06-12 22:33 J -20463333.66 -20463333.56 -20463333.45 0.0262 0.0214

Venus -60737-04-13 09:21 J -20462663.19 -20462663.11 -20462663.03 0.3815 0.2352

Jupiter -60736-08-01 18:13 J -20462187.92 -20462187.74 -20462187.56 0.0497 0.0131

Mars -60736-12-13 16:04 J -20462053.94 -20462053.83 -20462053.72 0.1898 0.0593

Mars -60735-10-11 10:18 J -20461752.18 -20461752.07 -20461751.95 0.1651 0.1168

Moon -60733-12-10 11:16 J -20460961.18 -20460961.03 -20460960.88 0.2652 0.0517

Earth -60733-12-10 12:42 J -20460961.12 -20460960.97 -20460960.81 0.2650 0.0707 *

Jupiter -60730-04-02 22:47 J -20460117.60 -20460117.55 -20460117.50 0.0529 0.0485

Jupiter -60730-07-01 05:01 J -20460028.42 -20460028.29 -20460028.16 0.0528 0.0050

Earth -60729-06-14 04:33 J -20459679.42 -20459679.31 -20459679.20 0.2682 0.0064

Moon -60729-06-14 05:01 J -20459679.40 -20459679.29 -20459679.18 0.2677 0.0077 *

Mars -60726-05-06 00:13 J -20458623.56 -20458623.49 -20458623.43 0.1889 0.1542

Saturn -60724-01-10 06:57 J -20458008.29 -20458008.21 -20458008.12 0.0299 0.0231

Saturn -60724-04-08 20:09 J -20457919.78 -20457919.66 -20457919.53 0.0300 0.0102

Jupiter -60724-05-20 15:35 J -20457878.00 -20457877.85 -20457877.70 0.0497 0.0295

Saturn -60724-07-06 09:06 J -20457831.25 -20457831.12 -20457830.99 0.0300 0.0027

Jupiter -60724-08-19 01:40 J -20457787.55 -20457787.43 -20457787.31 0.0498 0.0378

Saturn -60724-10-02 22:04 J -20457742.69 -20457742.58 -20457742.47 0.0301 0.0154

Saturn -60724-12-30 10:47 J -20457654.09 -20457654.05 -20457654.00 0.0301 0.0282

Uranus -60722-07-21 21:06 J -20457085.71 -20457085.62 -20457085.52 0.0146 0.0126

Uranus -60722-10-18 05:59 J -20456997.40 -20456997.25 -20456997.10 0.0146 0.0092

Uranus -60721-01-14 14:37 J -20456909.06 -20456908.89 -20456908.71 0.0146 0.0059

Uranus -60721-04-11 23:30 J -20456820.71 -20456820.52 -20456820.33 0.0146 0.0026

Uranus -60721-07-09 08:23 J -20456732.35 -20456732.15 -20456731.96 0.0146 0.0008

Uranus -60721-10-05 17:01 J -20456643.97 -20456643.79 -20456643.60 0.0146 0.0041

Uranus -60720-01-02 01:40 J -20456555.59 -20456555.43 -20456555.25 0.0146 0.0075

Uranus -60720-03-31 10:33 J -20456467.18 -20456467.06 -20456466.92 0.0146 0.0108

Uranus -60720-06-27 19:25 J -20456378.73 -20456378.69 -20456378.64 0.0145 0.0141

Jupiter -60718-04-19 08:52 J -20455718.25 -20455718.13 -20455718.00 0.0528 0.0087

Jupiter -60718-07-17 14:37 J -20455628.95 -20455628.89 -20455628.82 0.0527 0.0440

Moon -60716-06-16 22:33 J -20454928.67 -20454928.56 -20454928.46 0.2678 0.0916

Earth -60716-06-16 22:33 J -20454928.66 -20454928.56 -20454928.46 0.2684 0.0979 *

Mars -60715-09-01 00:13 J -20454487.56 -20454487.49 -20454487.42 0.1913 0.1451

Mars -60714-06-30 07:54 J -20454185.31 -20454185.17 -20454185.04 0.1638 0.0937

Jupiter -60712-03-08 12:57 J -20453568.03 -20453567.96 -20453567.89 0.0497 0.0456

Jupiter -60712-06-06 22:47 J -20453477.72 -20453477.55 -20453477.38 0.0498 0.0212

Saturn -60710-02-06 11:30 J -20452868.16 -20452868.02 -20452867.89 0.0263 0.0180

Saturn -60710-05-06 07:25 J -20452779.38 -20452779.19 -20452779.01 0.0263 0.0059

Saturn -60710-08-03 03:21 J -20452690.54 -20452690.36 -20452690.18 0.0262 0.0064

Saturn -60710-10-30 23:16 J -20452601.65 -20452601.53 -20452601.39 0.0262 0.0187

Earth -60709-06-09 21:06 J -20452378.70 -20452378.62 -20452378.54 0.2678 0.1895

Moon -60709-06-09 21:49 J -20452378.67 -20452378.59 -20452378.51 0.2683 0.1834 *

Jupiter -60706-02-05 12:28 J -20451408.09 -20451407.98 -20451407.86 0.0529 0.0228

Jupiter -60706-05-05 18:28 J -20451318.83 -20451318.73 -20451318.62 0.0528 0.0304

Venus -60706-12-15 13:11 J -20451095.09 -20451094.95 -20451094.81 0.3567 0.1800

Mars -60705-01-22 08:09 J -20451057.27 -20451057.16 -20451057.05 0.1906 0.0475

Mars -60705-11-19 09:21 J -20450755.27 -20450755.11 -20450754.94 0.1644 0.0047

Moon -60703-06-19 16:04 J -20450177.91 -20450177.83 -20450177.76 0.2681 0.1974

Earth -60703-06-19 16:33 J -20450177.89 -20450177.81 -20450177.74 0.2687 0.1983 *

Jupiter -60700-03-25 19:40 J -20449167.87 -20449167.68 -20449167.50 0.0497 0.0043

Venus -60700-06-30 22:18 J -20449070.62 -20449070.57 -20449070.52 0.3565 0.3354

Moon -60700-12-08 11:30 J -20448910.17 -20448910.02 -20448909.88 0.2650 0.1045

Earth -60700-12-08 12:57 J -20448910.10 -20448909.96 -20448909.81 0.2652 0.0929 *

Venus -60697-04-05 06:57 J -20448061.28 -20448061.21 -20448061.14 0.3811 0.2660

Earth -60696-06-12 15:21 J -20447627.97 -20447627.86 -20447627.76 0.2681 0.0868

Moon -60696-06-12 16:04 J -20447627.94 -20447627.83 -20447627.73 0.2678 0.0779 *

Mars -60696-06-13 16:04 J -20447626.94 -20447626.83 -20447626.71 0.1897 0.0486

Neptune -60696-07-20 08:37 J -20447590.19 -20447590.14 -20447590.06 0.0089 0.0084

Neptune -60696-10-16 11:59 J -20447502.08 -20447502.00 -20447501.89 0.0089 0.0076

Neptune -60695-01-12 15:21 J -20447413.96 -20447413.86 -20447413.72 0.0089 0.0069

Neptune -60695-04-10 18:42 J -20447325.84 -20447325.72 -20447325.57 0.0089 0.0061

Mars -60695-04-11 10:47 J -20447325.17 -20447325.05 -20447324.92 0.1651 0.1038

Saturn -60695-05-30 09:49 J -20447276.15 -20447276.09 -20447276.02 0.0298 0.0260

Neptune -60695-07-07 22:18 J -20447237.71 -20447237.57 -20447237.41 0.0089 0.0053

Saturn -60695-08-26 23:01 J -20447187.66 -20447187.54 -20447187.42 0.0299 0.0132

Neptune -60695-10-04 01:25 J -20447149.58 -20447149.44 -20447149.26 0.0089 0.0046

Saturn -60695-11-23 11:59 J -20447099.13 -20447099.00 -20447098.87 0.0299 0.0004

Jupiter -60695-11-24 16:47 J -20447097.89 -20447097.80 -20447097.71 0.0529 0.0358

Neptune -60695-12-31 05:01 J -20447061.45 -20447061.29 -20447061.11 0.0089 0.0038

Saturn -60694-02-20 00:57 J -20447010.58 -20447010.46 -20447010.34 0.0300 0.0124

Jupiter -60694-02-21 23:01 J -20447008.66 -20447008.54 -20447008.42 0.0528 0.0176

Neptune -60694-03-29 08:37 J -20446973.31 -20446973.14 -20446972.96 0.0089 0.0030

Saturn -60694-05-19 13:40 J -20446922.00 -20446921.93 -20446921.86 0.0301 0.0251

Neptune -60694-06-25 12:13 J -20446885.18 -20446884.99 -20446884.81 0.0089 0.0022

Neptune -60694-09-21 15:35 J -20446797.04 -20446796.85 -20446796.66 0.0089 0.0014

Neptune -60694-12-18 18:57 J -20446708.90 -20446708.71 -20446708.51 0.0089 0.0007

Neptune -60693-03-15 22:33 J -20446620.75 -20446620.56 -20446620.37 0.0089 0.0001

Neptune -60693-06-12 01:54 J -20446532.61 -20446532.42 -20446532.23 0.0089 0.0009

Neptune -60693-09-08 05:30 J -20446444.46 -20446444.27 -20446444.08 0.0089 0.0017

Neptune -60693-12-05 08:52 J -20446356.31 -20446356.13 -20446355.94 0.0089 0.0025

Neptune -60692-03-03 12:13 J -20446268.16 -20446267.99 -20446267.80 0.0089 0.0033

Neptune -60692-05-30 15:49 J -20446180.00 -20446179.84 -20446179.66 0.0089 0.0041

Neptune -60692-08-26 19:11 J -20446091.85 -20446091.70 -20446091.53 0.0089 0.0049

Venus -60692-10-19 23:01 J -20446037.64 -20446037.54 -20446037.44 0.3813 0.0770

Neptune -60692-11-22 22:47 J -20446003.69 -20446003.55 -20446003.39 0.0089 0.0057

Neptune -60691-02-19 02:09 J -20445915.52 -20445915.41 -20445915.26 0.0089 0.0065

Neptune -60691-05-18 05:45 J -20445827.36 -20445827.26 -20445827.14 0.0089 0.0073

Neptune -60691-08-14 09:06 J -20445739.18 -20445739.12 -20445739.02 0.0089 0.0081

Neptune -60691-11-10 12:57 J -20445650.96 -20445650.96 -20445650.94 0.0089 0.0088

Jupiter -60688-01-11 15:21 J -20444858.03 -20444857.86 -20444857.68 0.0497 0.0139

Mars -60687-11-03 23:59 J -20444196.57 -20444196.50 -20444196.42 0.1889 0.1445

Moon -60687-12-11 17:59 J -20444158.90 -20444158.75 -20444158.61 0.2653 0.0966

Earth -60687-12-11 19:25 J -20444158.83 -20444158.69 -20444158.55 0.2650 0.1071 *

Venus -60686-05-05 14:52 J -20444013.98 -20444013.88 -20444013.78 0.3814 0.1126

Earth -60683-06-15 09:21 J -20442877.22 -20442877.11 -20442877.00 0.2683 0.0161

Moon -60683-06-15 09:49 J -20442877.20 -20442877.09 -20442876.98 0.2678 0.0155 *

Jupiter -60683-09-12 21:06 J -20442787.66 -20442787.62 -20442787.57 0.0529 0.0486

Jupiter -60683-12-11 03:21 J -20442698.48 -20442698.36 -20442698.23 0.0528 0.0054

Saturn -60681-06-25 11:45 J -20442136.11 -20442136.01 -20442135.90 0.0263 0.0210

Saturn -60681-09-22 07:40 J -20442047.35 -20442047.18 -20442047.00 0.0263 0.0089

Venus -60681-11-18 06:57 J -20441990.27 -20441990.21 -20441990.15 0.3816 0.3043

Saturn -60681-12-20 03:35 J -20441958.53 -20441958.35 -20441958.16 0.0262 0.0033

Saturn -60680-03-18 23:45 J -20441869.66 -20441869.51 -20441869.36 0.0262 0.0155

Uranus -60679-07-21 22:47 J -20441379.61 -20441379.55 -20441379.49 0.0133 0.0117

Uranus -60679-10-18 01:40 J -20441291.51 -20441291.43 -20441291.34 0.0133 0.0100

Uranus -60678-01-14 04:33 J -20441203.41 -20441203.31 -20441203.20 0.0133 0.0083

Uranus -60678-04-12 07:40 J -20441115.30 -20441115.18 -20441115.07 0.0133 0.0066

Uranus -60678-07-09 10:33 J -20441027.18 -20441027.06 -20441026.94 0.0133 0.0049

Uranus -60678-10-05 13:25 J -20440939.07 -20440938.94 -20440938.81 0.0133 0.0032

Uranus -60677-01-01 16:18 J -20440850.95 -20440850.82 -20440850.69 0.0133 0.0015

Uranus -60677-03-29 19:11 J -20440762.83 -20440762.70 -20440762.56 0.0133 0.0005

Uranus -60677-06-25 22:18 J -20440674.70 -20440674.57 -20440674.44 0.0133 0.0019

Uranus -60677-09-22 01:11 J -20440586.58 -20440586.45 -20440586.33 0.0133 0.0036

Jupiter -60677-10-30 12:28 J -20440548.12 -20440547.98 -20440547.83 0.0497 0.0304

Uranus -60677-12-19 04:04 J -20440498.45 -20440498.33 -20440498.21 0.0133 0.0053

Jupiter -60676-01-28 22:47 J -20440457.68 -20440457.55 -20440457.43 0.0498 0.0369

Uranus -60676-03-17 06:57 J -20440410.32 -20440410.21 -20440410.10 0.0133 0.0070

Moon -60676-06-08 08:09 J -20440327.17 -20440327.16 -20440327.15 0.2683 0.2655

Uranus -60676-06-13 09:49 J -20440322.18 -20440322.09 -20440321.99 0.0133 0.0087

Uranus -60676-09-09 12:42 J -20440234.04 -20440233.97 -20440233.88 0.0133 0.0104

Uranus -60676-12-06 15:49 J -20440145.89 -20440145.84 -20440145.79 0.0134 0.0121

Mars -60675-03-02 00:13 J -20440060.56 -20440060.49 -20440060.43 0.1913 0.1547

Mars -60675-12-29 08:37 J -20439758.26 -20439758.14 -20439758.02 0.1638 0.1081

Jupiter -60671-09-29 07:25 J -20438388.32 -20438388.19 -20438388.06 0.0528 0.0087

Jupiter -60671-12-27 13:11 J -20438299.01 -20438298.95 -20438298.88 0.0527 0.0440

Moon -60670-06-18 03:06 J -20438126.47 -20438126.37 -20438126.27 0.2678 0.1213

Earth -60670-06-18 03:21 J -20438126.46 -20438126.36 -20438126.26 0.2685 0.1175 *

Moon -60667-12-06 12:13 J -20436859.04 -20436858.99 -20436858.95 0.2650 0.2521

Earth -60667-12-06 13:25 J -20436858.98 -20436858.94 -20436858.89 0.2654 0.2516 *

Mars -60666-07-23 08:09 J -20436630.27 -20436630.16 -20436630.05 0.1906 0.0596

Saturn -60665-01-14 00:28 J -20436455.58 -20436455.48 -20436455.36 0.0299 0.0172

Saturn -60665-04-11 13:40 J -20436367.06 -20436366.93 -20436366.80 0.0300 0.0042

Mars -60665-05-20 10:04 J -20436328.25 -20436328.08 -20436327.92 0.1644 0.0095

Saturn -60665-07-09 02:37 J -20436278.51 -20436278.39 -20436278.26 0.0301 0.0086

Jupiter -60665-08-18 10:04 J -20436238.14 -20436238.08 -20436238.02 0.0497 0.0465

Saturn -60665-10-05 15:35 J -20436189.94 -20436189.85 -20436189.76 0.0301 0.0214

Jupiter -60665-11-16 19:54 J -20436147.84 -20436147.67 -20436147.50 0.0498 0.0203

Earth -60663-06-11 01:54 J -20435576.50 -20435576.42 -20435576.33 0.2679 0.1697

Moon -60663-06-11 02:37 J -20435576.48 -20435576.39 -20435576.30 0.2682 0.1653 *

Jupiter -60659-07-18 11:16 J -20434078.14 -20434078.03 -20434077.91 0.0528 0.0224

Jupiter -60659-10-15 17:16 J -20433988.88 -20433988.78 -20433988.68 0.0528 0.0306

Moon -60657-06-19 20:37 J -20433375.70 -20433375.64 -20433375.57 0.2683 0.2063

Earth -60657-06-19 21:21 J -20433375.67 -20433375.61 -20433375.55 0.2687 0.2179 *

Mars -60657-12-12 16:04 J -20433199.94 -20433199.83 -20433199.71 0.1898 0.0383

Mars -60656-10-10 11:30 J -20432898.16 -20432898.02 -20432897.88 0.1651 0.0900

Moon -60654-12-09 17:59 J -20432107.90 -20432107.75 -20432107.60 0.2651 0.0762

Earth -60654-12-09 19:25 J -20432107.84 -20432107.69 -20432107.54 0.2652 0.0567 *

Jupiter -60653-09-04 17:16 J -20431837.97 -20431837.78 -20431837.60 0.0498 0.0040

Saturn -60652-11-12 11:59 J -20431404.06 -20431404.00 -20431403.92 0.0263 0.0241

Saturn -60651-02-09 07:54 J -20431315.33 -20431315.17 -20431315.00 0.0263 0.0120

Saturn -60651-05-09 04:04 J -20431226.52 -20431226.33 -20431226.15 0.0262 0.0005

Saturn -60651-08-05 23:59 J -20431137.66 -20431137.50 -20431137.33 0.0262 0.0124

Saturn -60651-11-02 20:09 J -20431048.71 -20431048.66 -20431048.59 0.0261 0.0246

Earth -60650-06-13 20:09 J -20430825.77 -20430825.66 -20430825.55 0.2681 0.0662

Moon -60650-06-13 20:52 J -20430825.74 -20430825.63 -20430825.52 0.2678 0.0594 *

Venus -60649-07-21 15:21 J -20430422.02 -20430421.86 -20430421.70 0.3566 0.0086

Mars -60647-05-05 00:13 J -20429769.58 -20429769.49 -20429769.41 0.1890 0.1333

Jupiter -60647-05-06 14:52 J -20429767.97 -20429767.88 -20429767.78 0.0529 0.0365

Jupiter -60647-08-03 21:06 J -20429678.74 -20429678.62 -20429678.50 0.0528 0.0170

Jupiter -60641-06-23 14:09 J -20427528.08 -20427527.91 -20427527.73 0.0497 0.0128

Venus -60641-11-10 04:33 J -20427388.40 -20427388.31 -20427388.23 0.3812 0.1982

Moon -60641-12-12 00:28 J -20427356.62 -20427356.48 -20427356.35 0.2653 0.1303

Earth -60641-12-12 01:54 J -20427356.55 -20427356.42 -20427356.29 0.2649 0.1438 *

Uranus -60638-05-14 21:21 J -20426472.62 -20426472.61 -20426472.59 0.0146 0.0146

Uranus -60638-08-11 06:13 J -20426384.36 -20426384.24 -20426384.12 0.0146 0.0112

Uranus -60638-11-07 14:52 J -20426296.04 -20426295.88 -20426295.71 0.0146 0.0079

Uranus -60637-02-03 23:30 J -20426207.70 -20426207.52 -20426207.33 0.0146 0.0046

Uranus -60637-05-02 08:23 J -20426119.34 -20426119.15 -20426118.95 0.0146 0.0013

Earth -60637-06-15 14:09 J -20426075.02 -20426074.91 -20426074.80 0.2683 0.0364

Moon -60637-06-15 14:23 J -20426075.01 -20426074.90 -20426074.79 0.2677 0.0436 *

Uranus -60637-07-29 17:16 J -20426030.97 -20426030.78 -20426030.59 0.0146 0.0021

Uranus -60637-10-26 01:54 J -20425942.60 -20425942.42 -20425942.23 0.0146 0.0054

Uranus -60636-01-22 10:33 J -20425854.20 -20425854.06 -20425853.89 0.0146 0.0088

Uranus -60636-04-20 19:25 J -20425765.79 -20425765.69 -20425765.57 0.0145 0.0120

Saturn -60636-06-02 03:06 J -20425723.47 -20425723.37 -20425723.28 0.0299 0.0204

Saturn -60636-08-29 16:04 J -20425634.96 -20425634.83 -20425634.70 0.0299 0.0076

Mars -60636-08-31 00:13 J -20425633.54 -20425633.49 -20425633.43 0.1913 0.1662

Saturn -60636-11-26 05:01 J -20425546.42 -20425546.29 -20425546.16 0.0300 0.0054

Saturn -60635-02-22 17:59 J -20425457.85 -20425457.75 -20425457.64 0.0300 0.0181

Jupiter -60635-02-22 19:11 J -20425457.74 -20425457.70 -20425457.66 0.0529 0.0495 *

Jupiter -60635-05-23 01:25 J -20425368.56 -20425368.44 -20425368.31 0.0528 0.0046

Venus -60635-05-26 20:23 J -20425364.75 -20425364.65 -20425364.55 0.3813 0.0094

Mars -60635-06-29 09:06 J -20425331.23 -20425331.12 -20425331.01 0.1638 0.1208

Earth -60630-06-09 12:42 J -20423525.00 -20423524.97 -20423524.94 0.2677 0.2524

Moon -60630-06-09 13:11 J -20423524.98 -20423524.95 -20423524.92 0.2683 0.2556 *

Venus -60630-12-10 12:28 J -20423341.07 -20423340.98 -20423340.90 0.3815 0.1823

Jupiter -60629-04-11 10:04 J -20423218.22 -20423218.08 -20423217.93 0.0497 0.0308

Jupiter -60629-07-10 20:09 J -20423127.78 -20423127.66 -20423127.53 0.0498 0.0365

Mars -60626-01-21 08:09 J -20422203.27 -20422203.16 -20422203.05 0.1905 0.0683

Mars -60626-11-19 10:47 J -20421901.22 -20421901.05 -20421900.89 0.1644 0.0234

Moon -60624-06-18 07:54 J -20421324.26 -20421324.17 -20421324.07 0.2678 0.1287

Earth -60624-06-18 08:09 J -20421324.25 -20421324.16 -20421324.06 0.2685 0.1371 *

Venus -60624-06-25 04:18 J -20421317.33 -20421317.32 -20421317.30 0.3816 0.3735

Jupiter -60623-03-11 05:59 J -20421058.37 -20421058.25 -20421058.12 0.0528 0.0085

Jupiter -60623-06-08 11:59 J -20420969.07 -20420969.00 -20420968.93 0.0527 0.0444

Saturn -60622-06-29 08:09 J -20420583.30 -20420583.16 -20420583.00 0.0263 0.0151

Saturn -60622-09-26 04:04 J -20420494.51 -20420494.33 -20420494.14 0.0262 0.0030

Saturn -60622-12-24 00:13 J -20420405.67 -20420405.49 -20420405.32 0.0262 0.0092

Saturn -60621-03-21 20:09 J -20420316.76 -20420316.66 -20420316.55 0.0261 0.0214

Moon -60621-12-06 18:42 J -20420056.79 -20420056.72 -20420056.65 0.2649 0.2366

Earth -60621-12-06 19:54 J -20420056.76 -20420056.67 -20420056.58 0.2654 0.2155 *

Jupiter -60617-01-29 07:25 J -20418908.24 -20418908.19 -20418908.13 0.0497 0.0470

Jupiter -60617-04-28 17:16 J -20418817.95 -20418817.78 -20418817.61 0.0498 0.0198

Earth -60617-06-11 06:57 J -20418774.30 -20418774.21 -20418774.12 0.2679 0.1491

Moon -60617-06-11 07:40 J -20418774.28 -20418774.18 -20418774.09 0.2681 0.1379 *

Mars -60617-06-12 16:18 J -20418772.94 -20418772.82 -20418772.71 0.1898 0.0280

Mars -60616-04-10 12:13 J -20418471.13 -20418470.99 -20418470.84 0.1650 0.0757

Neptune -60614-05-02 23:59 J -20417718.50 -20417718.50 -20417718.49 0.0089 0.0088

Neptune -60614-07-30 01:11 J -20417630.48 -20417630.45 -20417630.39 0.0089 0.0083

Neptune -60614-10-26 02:52 J -20417542.44 -20417542.38 -20417542.31 0.0089 0.0077

Neptune -60613-01-22 04:04 J -20417454.40 -20417454.33 -20417454.24 0.0089 0.0072

Neptune -60613-04-19 05:45 J -20417366.35 -20417366.26 -20417366.17 0.0089 0.0066

Neptune -60613-07-16 06:57 J -20417278.30 -20417278.21 -20417278.10 0.0089 0.0060

Neptune -60613-10-12 08:23 J -20417190.25 -20417190.15 -20417190.04 0.0089 0.0055

Pluto -60613-11-11 01:25 J -20417160.45 -20417160.44 -20417160.41 0.0061 0.0060

Neptune -60612-01-08 10:04 J -20417102.19 -20417102.08 -20417101.97 0.0089 0.0049

Pluto -60612-02-07 02:09 J -20417072.45 -20417072.41 -20417072.32 0.0061 0.0056

Neptune -60612-04-06 11:16 J -20417014.14 -20417014.03 -20417013.91 0.0089 0.0044

Pluto -60612-05-06 03:35 J -20416984.43 -20416984.35 -20416984.24 0.0061 0.0051

Neptune -60612-07-03 12:42 J -20416926.09 -20416925.97 -20416925.84 0.0089 0.0038

Pluto -60612-08-02 04:47 J -20416896.41 -20416896.30 -20416896.18 0.0061 0.0047

Neptune -60612-09-29 14:09 J -20416838.03 -20416837.91 -20416837.78 0.0089 0.0032

Pluto -60612-10-29 05:30 J -20416808.37 -20416808.27 -20416808.12 0.0061 0.0043

Neptune -60612-12-26 15:35 J -20416749.98 -20416749.85 -20416749.72 0.0089 0.0027

Jupiter -60612-12-28 10:04 J -20416748.20 -20416748.08 -20416747.96 0.0528 0.0219

Pluto -60611-01-25 06:42 J -20416720.34 -20416720.22 -20416720.06 0.0061 0.0038

Neptune -60611-03-24 17:01 J -20416661.92 -20416661.79 -20416661.66 0.0089 0.0021

Jupiter -60611-03-27 16:04 J -20416658.93 -20416658.83 -20416658.73 0.0527 0.0311

Pluto -60611-04-23 08:09 J -20416632.30 -20416632.16 -20416632.00 0.0061 0.0032

Neptune -60611-06-20 18:28 J -20416573.86 -20416573.73 -20416573.60 0.0089 0.0015

Moon -60611-06-21 01:25 J -20416573.49 -20416573.44 -20416573.39 0.2685 0.2361

Earth -60611-06-21 02:09 J -20416573.46 -20416573.41 -20416573.36 0.2687 0.2370 *

Pluto -60611-07-20 09:21 J -20416544.26 -20416544.11 -20416543.95 0.0061 0.0028

Neptune -60611-09-16 19:54 J -20416485.81 -20416485.67 -20416485.54 0.0089 0.0010

Pluto -60611-10-16 10:33 J -20416456.22 -20416456.06 -20416455.89 0.0061 0.0023

Neptune -60611-12-13 21:06 J -20416397.75 -20416397.62 -20416397.48 0.0089 0.0005

Pluto -60610-01-12 11:45 J -20416368.18 -20416368.01 -20416367.84 0.0062 0.0018

Neptune -60610-03-11 22:33 J -20416309.69 -20416309.56 -20416309.42 0.0089 0.0002

Pluto -60610-04-10 12:42 J -20416280.14 -20416279.97 -20416279.79 0.0062 0.0013

Neptune -60610-06-07 23:59 J -20416221.63 -20416221.50 -20416221.37 0.0089 0.0007

Pluto -60610-07-07 13:54 J -20416192.09 -20416191.92 -20416191.74 0.0062 0.0009

Neptune -60610-09-04 01:25 J -20416133.58 -20416133.44 -20416133.31 0.0089 0.0012

Pluto -60610-10-03 15:06 J -20416104.04 -20416103.87 -20416103.69 0.0062 0.0004

Neptune -60610-12-01 02:37 J -20416045.52 -20416045.39 -20416045.25 0.0089 0.0018

Pluto -60610-12-30 16:33 J -20416015.99 -20416015.81 -20416015.64 0.0062 0.0002

Neptune -60609-02-27 04:04 J -20415957.46 -20415957.33 -20415957.20 0.0089 0.0023

Pluto -60609-03-27 17:30 J -20415927.94 -20415927.77 -20415927.59 0.0062 0.0007

Neptune -60609-05-25 05:30 J -20415869.40 -20415869.27 -20415869.14 0.0089 0.0029

Pluto -60609-06-23 18:42 J -20415839.89 -20415839.72 -20415839.54 0.0062 0.0012

Neptune -60609-08-21 06:42 J -20415781.34 -20415781.22 -20415781.09 0.0089 0.0035

Pluto -60609-09-19 19:40 J -20415751.84 -20415751.68 -20415751.49 0.0062 0.0018

Neptune -60609-11-17 08:09 J -20415693.28 -20415693.16 -20415693.04 0.0089 0.0040

Pluto -60609-12-16 20:52 J -20415663.78 -20415663.63 -20415663.45 0.0062 0.0022

Neptune -60608-02-13 09:21 J -20415605.21 -20415605.11 -20415604.99 0.0089 0.0046

Pluto -60608-03-14 22:04 J -20415575.72 -20415575.58 -20415575.40 0.0062 0.0028

Neptune -60608-05-12 10:47 J -20415517.15 -20415517.05 -20415516.94 0.0089 0.0051

Pluto -60608-06-10 23:16 J -20415487.66 -20415487.53 -20415487.36 0.0062 0.0033

Neptune -60608-08-08 11:59 J -20415429.09 -20415429.00 -20415428.89 0.0089 0.0057

Pluto -60608-09-07 00:42 J -20415399.60 -20415399.47 -20415399.32 0.0062 0.0037

Mars -60608-11-03 00:13 J -20415342.58 -20415342.49 -20415342.40 0.1890 0.1219

Neptune -60608-11-04 13:25 J -20415341.03 -20415340.94 -20415340.84 0.0089 0.0062

Pluto -60608-12-04 01:54 J -20415311.54 -20415311.42 -20415311.28 0.0062 0.0043

Moon -60608-12-10 00:28 J -20415305.64 -20415305.48 -20415305.33 0.2653 0.0254

Earth -60608-12-10 02:09 J -20415305.57 -20415305.41 -20415305.26 0.2651 0.0204 *

Neptune -60607-01-31 14:52 J -20415252.96 -20415252.88 -20415252.79 0.0089 0.0067

Pluto -60607-03-02 03:06 J -20415223.47 -20415223.37 -20415223.24 0.0063 0.0048

Neptune -60607-04-29 16:04 J -20415164.89 -20415164.83 -20415164.74 0.0089 0.0073

Pluto -60607-05-29 04:33 J -20415135.39 -20415135.31 -20415135.21 0.0063 0.0053

Neptune -60607-07-26 17:30 J -20415076.82 -20415076.77 -20415076.70 0.0089 0.0078

Pluto -60607-08-25 05:30 J -20415047.31 -20415047.27 -20415047.18 0.0063 0.0059

Saturn -60607-10-20 04:04 J -20414991.40 -20414991.33 -20414991.25 0.0299 0.0247

Neptune -60607-10-22 18:42 J -20414988.75 -20414988.72 -20414988.66 0.0089 0.0084

Saturn -60606-01-16 17:16 J -20414902.90 -20414902.78 -20414902.66 0.0300 0.0118

Neptune -60606-01-18 20:23 J -20414900.65 -20414900.65 -20414900.65 0.0089 0.0089

Saturn -60606-04-15 06:28 J -20414814.37 -20414814.23 -20414814.10 0.0300 0.0014

Saturn -60606-07-12 19:11 J -20414725.81 -20414725.70 -20414725.58 0.0301 0.0139

Saturn -60606-10-09 08:09 J -20414637.22 -20414637.16 -20414637.10 0.0301 0.0266

Jupiter -60605-02-15 14:37 J -20414508.07 -20414507.89 -20414507.70 0.0498 0.0034

Earth -60604-06-14 00:57 J -20414023.57 -20414023.46 -20414023.35 0.2681 0.0467

Moon -60604-06-14 01:40 J -20414023.54 -20414023.43 -20414023.32 0.2678 0.0399 *

Jupiter -60600-10-16 13:54 J -20412438.01 -20412437.92 -20412437.82 0.0528 0.0356

Jupiter -60599-01-13 20:09 J -20412348.78 -20412348.66 -20412348.54 0.0528 0.0178

Venus -60598-08-12 08:23 J -20411773.18 -20411773.15 -20411773.11 0.3568 0.3473

Mars -60596-03-01 00:13 J -20411206.53 -20411206.49 -20411206.45 0.1913 0.1763

Mars -60596-12-28 09:49 J -20410904.19 -20410904.09 -20410904.00 0.1638 0.1347

Uranus -60595-05-15 03:06 J -20410766.39 -20410766.37 -20410766.33 0.0132 0.0128

Uranus -60595-08-11 05:59 J -20410678.31 -20410678.25 -20410678.17 0.0133 0.0112

Uranus -60595-11-07 08:52 J -20410590.21 -20410590.13 -20410590.02 0.0133 0.0095

Moon -60595-12-13 06:57 J -20410554.32 -20410554.21 -20410554.09 0.2653 0.1678

Earth -60595-12-13 08:23 J -20410554.26 -20410554.15 -20410554.03 0.2649 0.1810 *

Uranus -60594-02-03 11:59 J -20410502.10 -20410502.00 -20410501.89 0.0133 0.0078

Uranus -60594-05-02 14:52 J -20410413.99 -20410413.88 -20410413.75 0.0133 0.0061

Uranus -60594-07-29 17:59 J -20410325.87 -20410325.75 -20410325.62 0.0133 0.0043

Uranus -60594-10-25 20:52 J -20410237.76 -20410237.63 -20410237.50 0.0133 0.0027

Jupiter -60594-12-04 12:13 J -20410198.17 -20410197.99 -20410197.81 0.0497 0.0126

Uranus -60593-01-21 23:59 J -20410149.64 -20410149.50 -20410149.37 0.0133 0.0010

Uranus -60593-04-19 02:52 J -20410061.51 -20410061.38 -20410061.25 0.0133 0.0008

Uranus -60593-07-16 05:45 J -20409973.39 -20409973.26 -20409973.13 0.0133 0.0025

Uranus -60593-10-12 08:37 J -20409885.26 -20409885.14 -20409885.01 0.0133 0.0042

Saturn -60593-11-15 07:54 J -20409851.30 -20409851.17 -20409851.04 0.0263 0.0186

Uranus -60592-01-08 11:30 J -20409797.13 -20409797.02 -20409796.90 0.0133 0.0059

Saturn -60592-02-12 03:49 J -20409762.52 -20409762.34 -20409762.16 0.0262 0.0065

Venus -60592-02-25 17:45 J -20409748.90 -20409748.76 -20409748.62 0.3566 0.1727

Uranus -60592-04-06 14:37 J -20409709.00 -20409708.89 -20409708.79 0.0133 0.0076

Saturn -60592-05-11 23:45 J -20409673.69 -20409673.51 -20409673.33 0.0262 0.0057

Uranus -60592-07-03 17:30 J -20409620.86 -20409620.77 -20409620.68 0.0133 0.0093

Saturn -60592-08-08 19:54 J -20409584.81 -20409584.67 -20409584.53 0.0261 0.0179

Uranus -60592-09-29 20:23 J -20409532.72 -20409532.65 -20409532.58 0.0134 0.0110

Uranus -60592-12-26 23:16 J -20409444.57 -20409444.53 -20409444.49 0.0134 0.0127

Moon -60591-06-16 19:11 J -20409272.81 -20409272.70 -20409272.59 0.2677 0.0555

Earth -60591-06-16 19:11 J -20409272.81 -20409272.70 -20409272.60 0.2683 0.0566 *

Venus -60590-12-02 10:04 J -20408739.13 -20408739.08 -20408739.03 0.3810 0.3196

Jupiter -60588-08-04 17:30 J -20408127.81 -20408127.77 -20408127.72 0.0529 0.0497

Jupiter -60588-11-01 23:59 J -20408038.63 -20408038.50 -20408038.37 0.0528 0.0041

Mars -60587-07-22 08:09 J -20407776.26 -20407776.16 -20407776.05 0.1906 0.0796

Mars -60586-05-20 11:16 J -20407474.19 -20407474.03 -20407473.87 0.1644 0.0366

Earth -60584-06-09 17:30 J -20406722.82 -20406722.77 -20406722.71 0.2677 0.2324

Moon -60584-06-09 17:59 J -20406722.81 -20406722.75 -20406722.69 0.2683 0.2225 *

Venus -60584-06-17 01:54 J -20406715.51 -20406715.42 -20406715.32 0.3812 0.1308

Jupiter -60582-09-22 09:21 J -20405888.25 -20405888.11 -20405887.96 0.0497 0.0291

Jupiter -60582-12-21 19:25 J -20405797.80 -20405797.69 -20405797.57 0.0498 0.0382

Venus -60579-12-31 17:59 J -20404691.85 -20404691.75 -20404691.65 0.3813 0.0604

Moon -60578-06-19 12:42 J -20404522.06 -20404521.97 -20404521.88 0.2679 0.1576

Earth -60578-06-19 12:57 J -20404522.04 -20404521.96 -20404521.87 0.2685 0.1569 *

Mars -60578-12-12 16:18 J -20404345.94 -20404345.82 -20404345.71 0.1898 0.0174

Saturn -60577-03-08 06:13 J -20404259.28 -20404259.24 -20404259.20 0.0298 0.0283

Saturn -60577-06-04 19:11 J -20404170.81 -20404170.70 -20404170.58 0.0299 0.0156

Saturn -60577-09-01 08:23 J -20404082.28 -20404082.15 -20404082.02 0.0300 0.0027

Mars -60577-10-09 12:42 J -20404044.12 -20404043.97 -20404043.82 0.1651 0.0629

Saturn -60577-11-28 21:21 J -20403993.73 -20403993.61 -20403993.49 0.0300 0.0101

Saturn -60576-02-25 10:04 J -20403905.16 -20403905.08 -20403904.99 0.0301 0.0229

Jupiter -60576-08-21 04:18 J -20403728.44 -20403728.32 -20403728.19 0.0529 0.0088

Jupiter -60576-11-18 10:18 J -20403639.14 -20403639.07 -20403639.00 0.0528 0.0441

Moon -60575-12-08 00:57 J -20403254.57 -20403254.46 -20403254.34 0.2650 0.1817

Earth -60575-12-08 02:23 J -20403254.51 -20403254.40 -20403254.29 0.2654 0.1800 *

Venus -60573-07-16 09:49 J -20402668.16 -20402668.09 -20402668.01 0.3815 0.2513

Earth -60571-06-12 11:45 J -20401972.11 -20401972.01 -20401971.91 0.2679 0.1286

Moon -60571-06-12 12:28 J -20401972.07 -20401971.98 -20401971.88 0.2680 0.1269 *

Jupiter -60570-07-11 05:16 J -20401578.33 -20401578.28 -20401578.21 0.0497 0.0470

Jupiter -60570-10-09 15:06 J -20401488.04 -20401487.87 -20401487.70 0.0498 0.0198

Mars -60568-05-03 23:59 J -20400915.59 -20400915.50 -20400915.40 0.1890 0.1129

Mars -60567-03-01 14:23 J -20400613.93 -20400613.90 -20400613.86 0.1657 0.1613

Moon -60565-06-21 06:13 J -20399771.28 -20399771.24 -20399771.19 0.2686 0.2424

Earth -60565-06-21 06:57 J -20399771.24 -20399771.21 -20399771.18 0.2687 0.2563 *

Jupiter -60564-06-09 08:52 J -20399418.24 -20399418.13 -20399418.01 0.0529 0.0213

Jupiter -60564-09-06 14:52 J -20399328.98 -20399328.88 -20399328.78 0.0528 0.0320

Saturn -60563-04-04 07:40 J -20399119.27 -20399119.18 -20399119.07 0.0263 0.0218

Saturn -60563-07-02 03:35 J -20399030.52 -20399030.35 -20399030.17 0.0263 0.0098

Saturn -60563-09-28 23:30 J -20398941.70 -20398941.52 -20398941.33 0.0262 0.0024

Saturn -60563-12-26 19:25 J -20398852.84 -20398852.69 -20398852.53 0.0261 0.0146

Moon -60562-12-11 06:57 J -20398503.37 -20398503.21 -20398503.06 0.2653 0.0096

Earth -60562-12-11 08:37 J -20398503.30 -20398503.14 -20398502.99 0.2651 0.0181 *

Earth -60558-06-15 05:59 J -20397221.36 -20397221.25 -20397221.14 0.2682 0.0278

Moon -60558-06-15 06:28 J -20397221.34 -20397221.23 -20397221.12 0.2678 0.0179 *

Jupiter -60558-07-28 12:28 J -20397178.17 -20397177.98 -20397177.80 0.0498 0.0034

Mars -60557-08-30 00:13 J -20396779.51 -20396779.49 -20396779.47 0.1914 0.1865

Mars -60556-06-28 10:33 J -20396477.13 -20396477.06 -20396476.99 0.1638 0.1492

Uranus -60554-06-04 05:16 J -20395771.34 -20395771.28 -20395771.20 0.0146 0.0136

Uranus -60554-08-31 14:09 J -20395683.04 -20395682.91 -20395682.77 0.0146 0.0102

Uranus -60554-11-27 22:47 J -20395594.71 -20395594.55 -20395594.37 0.0146 0.0069

Uranus -60553-02-24 07:40 J -20395506.36 -20395506.18 -20395505.99 0.0146 0.0036

Uranus -60553-05-22 16:33 J -20395418.00 -20395417.81 -20395417.62 0.0146 0.0003

Uranus -60553-08-19 01:11 J -20395329.64 -20395329.45 -20395329.26 0.0146 0.0031

Uranus -60553-11-15 10:04 J -20395241.25 -20395241.08 -20395240.91 0.0146 0.0064

Uranus -60552-02-11 18:28 J -20395152.86 -20395152.73 -20395152.57 0.0146 0.0098

Jupiter -60552-03-28 12:57 J -20395108.05 -20395107.96 -20395107.86 0.0529 0.0347

Uranus -60552-05-11 03:21 J -20395064.43 -20395064.36 -20395064.26 0.0145 0.0131

Jupiter -60552-06-25 19:11 J -20395018.82 -20395018.70 -20395018.58 0.0528 0.0187

Moon -60549-12-13 13:54 J -20393752.01 -20393751.92 -20393751.83 0.2653 0.2131

Earth -60549-12-13 15:06 J -20393751.96 -20393751.87 -20393751.79 0.2649 0.2182 *

Saturn -60548-10-22 19:54 J -20393438.77 -20393438.67 -20393438.57 0.0299 0.0203

Saturn -60547-01-19 09:06 J -20393350.25 -20393350.12 -20393350.00 0.0300 0.0075

Mars -60547-01-20 08:09 J -20393349.26 -20393349.16 -20393349.05 0.1906 0.0912

Saturn -60547-04-17 22:04 J -20393261.71 -20393261.58 -20393261.45 0.0300 0.0054

Saturn -60547-07-15 10:47 J -20393173.15 -20393173.05 -20393172.94 0.0301 0.0182

Mars -60547-11-18 11:59 J -20393047.16 -20393047.00 -20393046.85 0.1644 0.0502

Jupiter -60546-05-16 10:04 J -20392868.26 -20392868.08 -20392867.90 0.0498 0.0128

Moon -60545-06-16 23:59 J -20392470.61 -20392470.50 -20392470.39 0.2676 0.0760

Earth -60545-06-16 23:59 J -20392470.61 -20392470.50 -20392470.40 0.2684 0.0756 *

Venus -60541-03-18 10:47 J -20391100.19 -20391100.05 -20391099.91 0.3567 0.1698

Jupiter -60540-01-14 16:47 J -20390797.84 -20390797.80 -20390797.74 0.0529 0.0483

Jupiter -60540-04-13 23:16 J -20390708.66 -20390708.53 -20390708.40 0.0528 0.0054

Earth -60538-06-10 22:33 J -20389920.63 -20389920.56 -20389920.50 0.2678 0.2117

Moon -60538-06-10 23:01 J -20389920.61 -20389920.54 -20389920.48 0.2682 0.2129 *

Mars -60538-06-12 16:18 J -20389918.94 -20389918.82 -20389918.71 0.1898 0.0096

Mars -60537-04-09 13:25 J -20389617.10 -20389616.94 -20389616.78 0.1650 0.0487

Venus -60536-10-02 19:54 J -20389075.71 -20389075.67 -20389075.64 0.3565 0.3473

Jupiter -60534-03-04 07:40 J -20388558.32 -20388558.18 -20388558.02 0.0497 0.0287

Jupiter -60534-06-02 17:45 J -20388467.87 -20388467.76 -20388467.64 0.0498 0.0388

Saturn -60534-08-22 06:57 J -20388387.24 -20388387.21 -20388387.17 0.0263 0.0256

Saturn -60534-11-19 02:52 J -20388298.54 -20388298.38 -20388298.23 0.0263 0.0136

Saturn -60533-02-15 22:33 J -20388209.74 -20388209.56 -20388209.37 0.0262 0.0016

Saturn -60533-05-14 18:42 J -20388120.89 -20388120.72 -20388120.55 0.0261 0.0107

Venus -60533-07-08 07:40 J -20388066.26 -20388066.18 -20388066.11 0.3811 0.2516

Saturn -60533-08-11 14:37 J -20388031.97 -20388031.89 -20388031.79 0.0261 0.0229

Moon -60532-06-19 17:30 J -20387719.86 -20387719.77 -20387719.69 0.2681 0.1686

Earth -60532-06-19 17:59 J -20387719.84 -20387719.75 -20387719.67 0.2686 0.1760 *

Neptune -60531-04-16 06:42 J -20387419.28 -20387419.22 -20387419.13 0.0089 0.0082

Neptune -60531-07-13 10:04 J -20387331.17 -20387331.08 -20387330.96 0.0089 0.0074

Neptune -60531-10-09 13:54 J -20387243.05 -20387242.92 -20387242.80 0.0089 0.0066

Neptune -60530-01-05 16:47 J -20387154.92 -20387154.80 -20387154.64 0.0089 0.0059

Neptune -60530-04-03 20:23 J -20387066.79 -20387066.65 -20387066.49 0.0089 0.0051

Neptune -60530-06-30 23:59 J -20386978.66 -20386978.50 -20386978.33 0.0089 0.0043

Neptune -60530-09-27 03:06 J -20386890.53 -20386890.37 -20386890.18 0.0089 0.0036

Neptune -60530-12-24 06:42 J -20386802.39 -20386802.22 -20386802.03 0.0089 0.0028

Neptune -60529-03-21 10:18 J -20386714.26 -20386714.07 -20386713.88 0.0089 0.0020

Neptune -60529-06-17 13:40 J -20386626.12 -20386625.93 -20386625.74 0.0089 0.0012

Neptune -60529-09-13 17:16 J -20386537.97 -20386537.78 -20386537.59 0.0089 0.0004

Mars -60529-11-02 00:13 J -20386488.59 -20386488.49 -20386488.39 0.1890 0.1010

Moon -60529-12-08 07:25 J -20386452.31 -20386452.19 -20386452.07 0.2651 0.1646

Earth -60529-12-08 08:52 J -20386452.26 -20386452.13 -20386452.00 0.2653 0.1437 *

Neptune -60529-12-10 20:37 J -20386449.83 -20386449.64 -20386449.45 0.0089 0.0004

Jupiter -60528-01-31 03:06 J -20386398.50 -20386398.37 -20386398.24 0.0528 0.0084

Neptune -60528-03-08 23:59 J -20386361.68 -20386361.50 -20386361.31 0.0089 0.0012

Jupiter -60528-04-30 08:52 J -20386309.19 -20386309.13 -20386309.06 0.0527 0.0444

Neptune -60528-06-05 03:21 J -20386273.54 -20386273.36 -20386273.16 0.0089 0.0020

Mars -60528-08-30 14:52 J -20386186.95 -20386186.88 -20386186.81 0.1657 0.1487

Neptune -60528-09-01 06:42 J -20386185.39 -20386185.22 -20386185.02 0.0089 0.0028

Neptune -60528-11-28 10:33 J -20386097.24 -20386097.06 -20386096.88 0.0089 0.0035

Venus -60527-01-21 23:30 J -20386042.62 -20386042.52 -20386042.42 0.3812 0.0619

Neptune -60527-02-24 13:54 J -20386009.08 -20386008.92 -20386008.75 0.0089 0.0043

Neptune -60527-05-23 17:30 J -20385920.92 -20385920.77 -20385920.61 0.0089 0.0051

Neptune -60527-08-19 20:52 J -20385832.76 -20385832.63 -20385832.48 0.0089 0.0059

Neptune -60527-11-16 00:13 J -20385744.60 -20385744.49 -20385744.35 0.0089 0.0067

Neptune -60526-02-12 03:49 J -20385656.43 -20385656.34 -20385656.23 0.0089 0.0075

Neptune -60526-05-11 07:11 J -20385568.25 -20385568.20 -20385568.11 0.0089 0.0083

Earth -60525-06-12 16:33 J -20385169.91 -20385169.81 -20385169.70 0.2680 0.1090

Moon -60525-06-12 17:30 J -20385169.88 -20385169.77 -20385169.67 0.2680 0.0948 *

Jupiter -60523-12-21 05:16 J -20384248.36 -20384248.28 -20384248.20 0.0497 0.0448

Jupiter -60522-03-21 14:52 J -20384158.04 -20384157.88 -20384157.71 0.0498 0.0221

Venus -60522-08-07 15:21 J -20384018.95 -20384018.86 -20384018.76 0.3814 0.1293

Pluto -60520-04-02 19:25 J -20383414.71 -20383414.69 -20383414.64 0.0084 0.0081

Pluto -60520-06-29 21:06 J -20383326.69 -20383326.62 -20383326.53 0.0084 0.0070

Pluto -60520-09-25 22:33 J -20383238.64 -20383238.56 -20383238.44 0.0083 0.0061

Pluto -60520-12-23 00:13 J -20383150.59 -20383150.49 -20383150.36 0.0083 0.0051

Pluto -60519-03-21 01:54 J -20383062.54 -20383062.42 -20383062.29 0.0083 0.0040

Pluto -60519-06-17 03:35 J -20382974.48 -20382974.35 -20382974.21 0.0083 0.0030

Pluto -60519-09-13 05:16 J -20382886.42 -20382886.28 -20382886.14 0.0083 0.0020

Pluto -60519-12-10 06:42 J -20382798.36 -20382798.22 -20382798.07 0.0083 0.0011

Pluto -60518-03-08 08:23 J -20382710.29 -20382710.15 -20382710.01 0.0083 0.0001

Saturn -60518-03-11 21:21 J -20382706.68 -20382706.61 -20382706.53 0.0298 0.0244

Pluto -60518-06-04 09:49 J -20382622.23 -20382622.09 -20382621.95 0.0083 0.0009

Saturn -60518-06-08 10:33 J -20382618.18 -20382618.06 -20382617.93 0.0299 0.0115

Pluto -60518-08-31 11:16 J -20382534.16 -20382534.03 -20382533.89 0.0082 0.0018

Saturn -60518-09-04 23:45 J -20382529.64 -20382529.51 -20382529.38 0.0300 0.0013

Pluto -60518-11-27 12:42 J -20382446.10 -20382445.97 -20382445.83 0.0082 0.0028

Saturn -60518-12-02 12:42 J -20382441.09 -20382440.97 -20382440.86 0.0300 0.0141

Pluto -60517-02-23 14:23 J -20382358.03 -20382357.90 -20382357.77 0.0082 0.0037

Saturn -60517-02-29 01:25 J -20382352.49 -20382352.44 -20382352.38 0.0301 0.0269

Pluto -60517-05-21 15:35 J -20382269.96 -20382269.85 -20382269.72 0.0082 0.0046

Pluto -60517-08-17 17:01 J -20382181.88 -20382181.79 -20382181.67 0.0082 0.0055

Pluto -60517-11-13 18:42 J -20382093.80 -20382093.72 -20382093.63 0.0082 0.0064

Jupiter -60517-11-19 07:25 J -20382088.30 -20382088.19 -20382088.07 0.0529 0.0212

Mars -60517-12-27 11:01 J -20382050.06 -20382050.04 -20382050.02 0.1638 0.1620

Pluto -60516-02-09 20:09 J -20382005.72 -20382005.66 -20382005.60 0.0082 0.0073

Jupiter -60516-02-16 13:25 J -20381999.03 -20381998.94 -20381998.84 0.0528 0.0321

Venus -60516-02-20 07:25 J -20381995.24 -20381995.19 -20381995.14 0.3815 0.3206

Moon -60516-12-11 13:25 J -20381701.09 -20381700.94 -20381700.79 0.2652 0.0491

Earth -60516-12-11 15:06 J -20381701.02 -20381700.87 -20381700.72 0.2651 0.0534 *

Earth -60512-06-15 10:47 J -20380419.16 -20380419.05 -20380418.94 0.2682 0.0067

Moon -60512-06-15 11:16 J -20380419.14 -20380419.03 -20380418.92 0.2677 0.0063 *

Uranus -60511-06-04 10:18 J -20380065.10 -20380065.07 -20380065.01 0.0132 0.0124

Uranus -60511-08-31 13:25 J -20379977.01 -20379976.94 -20379976.86 0.0132 0.0107

Uranus -60511-11-27 16:18 J -20379888.91 -20379888.82 -20379888.72 0.0133 0.0090

Jupiter -60510-01-07 10:47 J -20379848.24 -20379848.05 -20379847.87 0.0498 0.0038

Uranus -60510-02-23 19:25 J -20379800.80 -20379800.69 -20379800.58 0.0133 0.0073

Uranus -60510-05-22 22:18 J -20379712.69 -20379712.57 -20379712.45 0.0133 0.0056

Uranus -60510-08-19 01:11 J -20379624.57 -20379624.45 -20379624.32 0.0133 0.0039

Uranus -60510-11-15 04:18 J -20379536.45 -20379536.32 -20379536.19 0.0133 0.0022

Uranus -60509-02-11 07:11 J -20379448.33 -20379448.20 -20379448.07 0.0133 0.0005

Uranus -60509-05-09 10:04 J -20379360.21 -20379360.08 -20379359.95 0.0133 0.0012

Uranus -60509-08-05 12:57 J -20379272.09 -20379271.96 -20379271.83 0.0133 0.0029

Uranus -60509-11-01 15:49 J -20379183.96 -20379183.84 -20379183.71 0.0133 0.0046

Uranus -60508-01-28 18:42 J -20379095.83 -20379095.72 -20379095.60 0.0133 0.0063

Uranus -60508-04-26 21:35 J -20379007.70 -20379007.60 -20379007.49 0.0133 0.0081

Mars -60508-07-21 08:09 J -20378922.26 -20378922.16 -20378922.06 0.1906 0.1002

Uranus -60508-07-24 00:28 J -20378919.56 -20378919.48 -20378919.38 0.0133 0.0098

Uranus -60508-10-20 03:35 J -20378831.41 -20378831.35 -20378831.28 0.0133 0.0114

Uranus -60507-01-16 06:28 J -20378743.24 -20378743.23 -20378743.21 0.0134 0.0132

Mars -60507-05-19 12:42 J -20378620.12 -20378619.97 -20378619.82 0.1644 0.0646

Jupiter -60505-09-07 11:59 J -20377778.09 -20377778.00 -20377777.90 0.0529 0.0338

Jupiter -60505-12-05 18:13 J -20377688.86 -20377688.74 -20377688.62 0.0528 0.0198

Saturn -60504-04-07 02:23 J -20377566.54 -20377566.40 -20377566.26 0.0263 0.0170

Saturn -60504-07-04 22:04 J -20377477.76 -20377477.58 -20377477.39 0.0262 0.0050

Saturn -60504-10-01 17:59 J -20377388.92 -20377388.75 -20377388.56 0.0262 0.0073

Saturn -60504-12-29 14:09 J -20377300.03 -20377299.91 -20377299.78 0.0261 0.0194

Moon -60503-12-14 20:52 J -20376949.70 -20376949.63 -20376949.57 0.2654 0.2408

Earth -60503-12-14 21:35 J -20376949.64 -20376949.60 -20376949.56 0.2648 0.2550 *

Moon -60499-06-18 04:47 J -20375668.40 -20375668.30 -20375668.19 0.2677 0.0969

Earth -60499-06-18 04:47 J -20375668.40 -20375668.30 -20375668.20 0.2684 0.0952 *

Jupiter -60499-10-26 08:09 J -20375538.34 -20375538.16 -20375537.98 0.0497 0.0125

Mars -60499-12-11 16:18 J -20375491.94 -20375491.82 -20375491.71 0.1898 0.0070

Mars -60498-10-09 14:09 J -20375190.07 -20375189.91 -20375189.75 0.1650 0.0350

Jupiter -60493-06-26 16:18 J -20373467.88 -20373467.82 -20373467.77 0.0529 0.0470

Jupiter -60493-09-23 22:33 J -20373378.69 -20373378.56 -20373378.44 0.0528 0.0067

Earth -60492-06-11 03:21 J -20373118.44 -20373118.36 -20373118.28 0.2678 0.1918

Moon -60492-06-11 04:04 J -20373118.42 -20373118.33 -20373118.25 0.2681 0.1813 *

Mars -60489-05-03 00:13 J -20372061.59 -20372061.49 -20372061.39 0.1890 0.0902

Saturn -60489-07-28 21:49 J -20371974.61 -20371974.59 -20371974.57 0.0298 0.0294

Saturn -60489-10-25 11:01 J -20371886.15 -20371886.04 -20371885.93 0.0299 0.0166

Saturn -60488-01-21 23:59 J -20371797.63 -20371797.50 -20371797.37 0.0300 0.0038

Mars -60488-02-28 15:35 J -20371759.94 -20371759.85 -20371759.76 0.1657 0.1349

Saturn -60488-04-20 12:57 J -20371709.08 -20371708.96 -20371708.83 0.0301 0.0091

Saturn -60488-07-18 01:54 J -20371620.51 -20371620.42 -20371620.33 0.0301 0.0219

Jupiter -60487-08-14 05:59 J -20371228.40 -20371228.25 -20371228.10 0.0497 0.0284

Jupiter -60487-11-12 15:49 J -20371137.95 -20371137.84 -20371137.72 0.0498 0.0391

Moon -60486-06-20 22:04 J -20370917.65 -20370917.58 -20370917.50 0.2682 0.1899

Earth -60486-06-20 22:47 J -20370917.63 -20370917.55 -20370917.48 0.2686 0.1954 *

Venus -60485-10-23 12:42 J -20370427.13 -20370426.97 -20370426.80 0.3567 0.0109

Moon -60483-12-09 13:40 J -20369650.07 -20369649.93 -20369649.79 0.2652 0.1162

Earth -60483-12-09 15:21 J -20369650.00 -20369649.86 -20369649.72 0.2653 0.1075 *

Venus -60482-07-30 13:11 J -20369416.97 -20369416.95 -20369416.94 0.3809 0.3728

Jupiter -60481-07-13 02:37 J -20369068.52 -20369068.39 -20369068.26 0.0528 0.0066

Jupiter -60481-10-10 08:23 J -20368979.21 -20368979.15 -20368979.09 0.0527 0.0461

Mars -60480-09-23 08:09 J -20368631.18 -20368631.16 -20368631.14 0.1882 0.1847

Earth -60479-06-13 21:35 J -20368367.71 -20368367.60 -20368367.50 0.2680 0.0886

Moon -60479-06-13 22:18 J -20368367.68 -20368367.57 -20368367.47 0.2680 0.0873 *

Venus -60476-02-12 05:01 J -20367393.38 -20367393.29 -20367393.20 0.3811 0.1832

Jupiter -60475-06-02 03:49 J -20366918.42 -20366918.34 -20366918.25 0.0497 0.0440

Saturn -60475-08-25 00:42 J -20366834.57 -20366834.47 -20366834.36 0.0263 0.0212

Jupiter -60475-08-31 13:40 J -20366828.10 -20366827.93 -20366827.77 0.0498 0.0230

Saturn -60475-11-21 20:37 J -20366745.81 -20366745.64 -20366745.47 0.0262 0.0091

Saturn -60474-02-18 16:33 J -20366656.99 -20366656.81 -20366656.62 0.0262 0.0030

Saturn -60474-05-18 12:28 J -20366568.13 -20366567.98 -20366567.82 0.0261 0.0151

Venus -60471-08-28 21:06 J -20365369.73 -20365369.62 -20365369.52 0.3813 0.0178

Uranus -60470-06-24 12:28 J -20365070.06 -20365069.98 -20365069.88 0.0146 0.0129

Uranus -60470-09-20 21:21 J -20364981.75 -20364981.61 -20364981.46 0.0146 0.0095

Moon -60470-12-12 20:09 J -20364898.81 -20364898.66 -20364898.51 0.2653 0.0666

Earth -60470-12-12 21:35 J -20364898.75 -20364898.60 -20364898.45 0.2650 0.0902 *

Uranus -60470-12-18 05:59 J -20364893.42 -20364893.25 -20364893.07 0.0146 0.0062

Uranus -60469-03-15 14:52 J -20364805.07 -20364804.88 -20364804.69 0.0146 0.0029

Jupiter -60469-05-01 06:28 J -20364758.35 -20364758.23 -20364758.11 0.0528 0.0204

Uranus -60469-06-11 23:30 J -20364716.71 -20364716.52 -20364716.32 0.0146 0.0005

Jupiter -60469-07-29 12:28 J -20364669.08 -20364668.98 -20364668.88 0.0528 0.0327

Uranus -60469-09-08 08:23 J -20364628.34 -20364628.15 -20364627.96 0.0146 0.0038

Uranus -60469-12-05 17:01 J -20364539.95 -20364539.79 -20364539.62 0.0146 0.0071

Mars -60468-01-19 08:09 J -20364495.25 -20364495.16 -20364495.06 0.1906 0.1111

Uranus -60468-03-04 01:40 J -20364451.55 -20364451.43 -20364451.28 0.0146 0.0105

Uranus -60468-05-31 10:33 J -20364363.11 -20364363.06 -20364362.99 0.0145 0.0138

Mars -60468-11-17 13:11 J -20364193.10 -20364192.95 -20364192.81 0.1644 0.0776

Earth -60466-06-16 15:35 J -20363616.96 -20363616.85 -20363616.74 0.2682 0.0144

Moon -60466-06-16 16:04 J -20363616.94 -20363616.83 -20363616.72 0.2676 0.0240 *

Venus -60465-03-13 12:57 J -20363346.04 -20363345.96 -20363345.87 0.3814 0.1980

Jupiter -60463-06-19 11:01 J -20362518.23 -20362518.04 -20362517.86 0.0498 0.0066

Saturn -60459-03-14 12:13 J -20361154.09 -20361153.99 -20361153.90 0.0299 0.0209

Saturn -60459-06-11 01:11 J -20361065.57 -20361065.45 -20361065.32 0.0299 0.0082

Mars -60459-06-11 16:18 J -20361064.94 -20361064.82 -20361064.71 0.1898 0.0161

Saturn -60459-09-07 14:23 J -20360977.03 -20360976.90 -20360976.77 0.0300 0.0047

Saturn -60459-12-05 03:06 J -20360888.47 -20360888.37 -20360888.26 0.0301 0.0175

Mars -60458-04-09 14:37 J -20360763.05 -20360762.89 -20360762.73 0.1650 0.0216

Jupiter -60457-02-18 10:47 J -20360448.15 -20360448.05 -20360447.95 0.0529 0.0333

Jupiter -60457-05-17 17:01 J -20360358.91 -20360358.79 -20360358.67 0.0528 0.0202

Moon -60453-06-18 09:35 J -20358866.20 -20358866.10 -20358866.00 0.2678 0.1106

Earth -60453-06-18 09:35 J -20358866.20 -20358866.10 -20358866.00 0.2684 0.1149 *

Jupiter -60451-04-07 06:57 J -20358208.39 -20358208.21 -20358208.03 0.0497 0.0117

Mars -60450-11-02 00:13 J -20357634.60 -20357634.49 -20357634.39 0.1890 0.0804

Earth -60450-12-07 16:04 J -20357598.84 -20357598.83 -20357598.82 0.2655 0.2644

Neptune -60449-01-27 23:16 J -20357547.54 -20357547.53 -20357547.50 0.0089 0.0087

Neptune -60449-04-25 00:57 J -20357459.51 -20357459.46 -20357459.41 0.0089 0.0081

Neptune -60449-07-22 02:09 J -20357371.47 -20357371.41 -20357371.33 0.0089 0.0076

Mars -60449-08-29 16:18 J -20357332.93 -20357332.82 -20357332.71 0.1657 0.1203

Neptune -60449-10-18 03:35 J -20357283.42 -20357283.35 -20357283.26 0.0089 0.0070

Neptune -60448-01-14 05:01 J -20357195.37 -20357195.29 -20357195.19 0.0089 0.0064

Neptune -60448-04-12 06:28 J -20357107.32 -20357107.23 -20357107.12 0.0089 0.0059

Neptune -60448-07-09 07:54 J -20357019.27 -20357019.17 -20357019.06 0.0089 0.0053

Neptune -60448-10-05 09:21 J -20356931.22 -20356931.11 -20356930.99 0.0089 0.0047

Neptune -60447-01-01 10:47 J -20356843.17 -20356843.05 -20356842.93 0.0089 0.0042

Neptune -60447-03-30 11:59 J -20356755.11 -20356755.00 -20356754.86 0.0089 0.0037

Neptune -60447-06-26 13:40 J -20356667.06 -20356666.93 -20356666.80 0.0089 0.0031

Neptune -60447-09-22 15:06 J -20356579.00 -20356578.87 -20356578.74 0.0089 0.0025

Neptune -60447-12-19 16:18 J -20356490.94 -20356490.82 -20356490.68 0.0089 0.0020

Neptune -60446-03-17 17:59 J -20356402.89 -20356402.75 -20356402.62 0.0089 0.0014

Earth -60446-06-12 08:09 J -20356316.24 -20356316.16 -20356316.07 0.2678 0.1713

Moon -60446-06-12 08:52 J -20356316.21 -20356316.13 -20356316.04 0.2681 0.1680 *

Neptune -60446-06-13 19:11 J -20356314.83 -20356314.70 -20356314.56 0.0089 0.0009

Neptune -60446-09-09 20:37 J -20356226.77 -20356226.64 -20356226.50 0.0089 0.0003

Neptune -60446-12-06 22:04 J -20356138.71 -20356138.58 -20356138.45 0.0089 0.0003

Jupiter -60446-12-07 15:21 J -20356137.92 -20356137.86 -20356137.80 0.0529 0.0459

Saturn -60445-01-12 00:13 J -20356102.54 -20356102.49 -20356102.42 0.0264 0.0247

Neptune -60445-03-03 23:30 J -20356050.66 -20356050.52 -20356050.39 0.0089 0.0009

Jupiter -60445-03-05 21:49 J -20356048.72 -20356048.59 -20356048.47 0.0528 0.0081

Saturn -60445-04-09 20:09 J -20356013.82 -20356013.66 -20356013.50 0.0263 0.0126

Neptune -60445-05-31 00:42 J -20355962.60 -20355962.47 -20355962.33 0.0089 0.0014

Saturn -60445-07-07 15:49 J -20355925.02 -20355924.84 -20355924.65 0.0262 0.0008

Neptune -60445-08-27 02:09 J -20355874.54 -20355874.41 -20355874.28 0.0089 0.0020

Saturn -60445-10-04 11:59 J -20355836.17 -20355836.00 -20355835.84 0.0262 0.0116

Neptune -60445-11-23 03:35 J -20355786.48 -20355786.35 -20355786.22 0.0089 0.0025

Saturn -60444-01-01 07:54 J -20355747.24 -20355747.17 -20355747.09 0.0261 0.0238

Neptune -60444-02-19 04:47 J -20355698.42 -20355698.30 -20355698.17 0.0089 0.0031

Neptune -60444-05-18 06:13 J -20355610.36 -20355610.24 -20355610.11 0.0089 0.0036

Neptune -60444-08-14 07:25 J -20355522.30 -20355522.19 -20355522.06 0.0089 0.0042

Neptune -60444-11-10 09:06 J -20355434.23 -20355434.12 -20355434.01 0.0089 0.0047

Neptune -60443-02-06 10:18 J -20355346.17 -20355346.07 -20355345.96 0.0089 0.0053

Neptune -60443-05-05 11:45 J -20355258.11 -20355258.01 -20355257.91 0.0089 0.0058

Neptune -60443-08-01 12:57 J -20355170.04 -20355169.96 -20355169.86 0.0089 0.0064

Neptune -60443-10-28 14:23 J -20355081.98 -20355081.90 -20355081.81 0.0089 0.0069

Neptune -60442-01-24 15:35 J -20354993.91 -20354993.85 -20354993.77 0.0089 0.0075

Neptune -60442-04-22 17:01 J -20354905.84 -20354905.79 -20354905.73 0.0089 0.0080

Neptune -60442-07-19 18:28 J -20354817.76 -20354817.73 -20354817.69 0.0089 0.0085

Mars -60440-03-24 08:23 J -20354204.20 -20354204.15 -20354204.11 0.1882 0.1738

Moon -60440-06-21 03:06 J -20354115.44 -20354115.37 -20354115.31 0.2682 0.2092

Earth -60440-06-21 03:35 J -20354115.41 -20354115.35 -20354115.29 0.2686 0.2148 *

Jupiter -60439-01-24 04:18 J -20353898.47 -20353898.32 -20353898.16 0.0497 0.0278

Jupiter -60439-04-24 14:23 J -20353808.01 -20353807.90 -20353807.79 0.0498 0.0397

Moon -60437-12-09 20:09 J -20352847.80 -20352847.66 -20352847.51 0.2652 0.0906

Earth -60437-12-09 22:04 J -20352847.73 -20352847.58 -20352847.44 0.2652 0.0710 *

Venus -60434-11-14 05:45 J -20351778.30 -20351778.26 -20351778.22 0.3569 0.3419

Jupiter -60434-12-24 02:09 J -20351738.54 -20351738.41 -20351738.29 0.0528 0.0055

Jupiter -60433-03-22 07:54 J -20351649.22 -20351649.17 -20351649.12 0.0527 0.0477

Earth -60433-06-14 02:23 J -20351565.51 -20351565.40 -20351565.29 0.2680 0.0686

Moon -60433-06-14 03:06 J -20351565.48 -20351565.37 -20351565.26 0.2679 0.0558 *

Saturn -60430-08-01 12:13 J -20350422.05 -20350421.99 -20350421.92 0.0298 0.0261

Saturn -60430-10-29 01:25 J -20350333.56 -20350333.44 -20350333.32 0.0299 0.0133

Saturn -60429-01-25 14:23 J -20350245.03 -20350244.90 -20350244.76 0.0300 0.0011

Saturn -60429-04-23 03:21 J -20350156.48 -20350156.36 -20350156.24 0.0301 0.0123

Mars -60429-07-20 08:23 J -20350068.24 -20350068.15 -20350068.07 0.1906 0.1227

Saturn -60429-07-20 16:18 J -20350067.89 -20350067.82 -20350067.75 0.0301 0.0250

Mars -60428-05-18 13:54 J -20349766.06 -20349765.92 -20349765.79 0.1644 0.0913

Venus -60428-05-30 15:06 J -20349754.01 -20349753.87 -20349753.74 0.3566 0.1811

Jupiter -60428-11-12 02:09 J -20349588.49 -20349588.41 -20349588.32 0.0497 0.0435

Jupiter -60427-02-10 11:59 J -20349498.16 -20349498.00 -20349497.83 0.0498 0.0236

Uranus -60427-06-24 17:30 J -20349363.81 -20349363.77 -20349363.70 0.0132 0.0119

Uranus -60427-09-20 20:37 J -20349275.72 -20349275.64 -20349275.55 0.0132 0.0102

Uranus -60427-12-17 23:30 J -20349187.61 -20349187.52 -20349187.41 0.0132 0.0085

Uranus -60426-03-16 02:23 J -20349099.50 -20349099.40 -20349099.28 0.0133 0.0069

Uranus -60426-06-12 05:30 J -20349011.39 -20349011.27 -20349011.15 0.0133 0.0051

Uranus -60426-09-08 08:23 J -20348923.27 -20348923.15 -20348923.02 0.0133 0.0035

Uranus -60426-12-05 11:30 J -20348835.15 -20348835.02 -20348834.89 0.0133 0.0018

Uranus -60425-03-02 14:23 J -20348747.03 -20348746.90 -20348746.77 0.0133 0.0002

Venus -60425-03-05 10:33 J -20348744.11 -20348744.06 -20348744.00 0.3810 0.3052

Uranus -60425-05-29 17:16 J -20348658.91 -20348658.78 -20348658.65 0.0133 0.0017

Uranus -60425-08-25 20:09 J -20348570.79 -20348570.66 -20348570.53 0.0133 0.0034

Uranus -60425-11-21 23:01 J -20348482.66 -20348482.54 -20348482.41 0.0133 0.0051

Uranus -60424-02-18 01:54 J -20348394.53 -20348394.42 -20348394.30 0.0133 0.0068

Uranus -60424-05-17 05:01 J -20348306.39 -20348306.29 -20348306.19 0.0133 0.0085

Uranus -60424-08-13 07:54 J -20348218.25 -20348218.17 -20348218.09 0.0133 0.0102

Uranus -60424-11-09 10:47 J -20348130.10 -20348130.05 -20348129.99 0.0133 0.0119

Moon -60424-12-13 02:52 J -20348096.52 -20348096.38 -20348096.24 0.2654 0.1245

Earth -60424-12-13 04:18 J -20348096.46 -20348096.32 -20348096.19 0.2650 0.1276 *

Jupiter -60422-10-12 06:13 J -20347428.36 -20347428.24 -20347428.12 0.0528 0.0185

Jupiter -60421-01-09 11:59 J -20347339.09 -20347339.00 -20347338.90 0.0527 0.0348

Earth -60420-06-16 20:23 J -20346814.76 -20346814.65 -20346814.54 0.2682 0.0349

Moon -60420-06-16 20:52 J -20346814.74 -20346814.63 -20346814.52 0.2676 0.0308 *

Venus -60420-09-19 02:37 J -20346720.49 -20346720.39 -20346720.30 0.3811 0.1153

Mars -60420-12-10 16:18 J -20346637.94 -20346637.82 -20346637.71 0.1898 0.0263

Mars -60419-10-08 15:21 J -20346336.03 -20346335.86 -20346335.70 0.1650 0.0078

Saturn -60416-08-27 17:45 J -20345281.89 -20345281.76 -20345281.61 0.0263 0.0172

Saturn -60416-11-24 13:54 J -20345193.10 -20345192.92 -20345192.74 0.0262 0.0051

Jupiter -60416-11-29 09:49 J -20345188.27 -20345188.09 -20345187.91 0.0498 0.0076

Saturn -60415-02-21 09:49 J -20345104.27 -20345104.09 -20345103.91 0.0262 0.0071

Saturn -60415-05-21 05:45 J -20345015.38 -20345015.26 -20345015.13 0.0261 0.0193

Venus -60414-04-04 18:28 J -20344696.83 -20344696.73 -20344696.63 0.3813 0.0752

Earth -60413-06-09 18:57 J -20344264.74 -20344264.71 -20344264.68 0.2676 0.2549

Moon -60413-06-09 19:11 J -20344264.74 -20344264.70 -20344264.66 0.2682 0.2511 *

Mars -60410-05-03 00:13 J -20343207.60 -20343207.49 -20343207.38 0.1890 0.0692

Jupiter -60410-07-31 10:04 J -20343118.18 -20343118.08 -20343117.98 0.0529 0.0323

Jupiter -60410-10-28 16:04 J -20343028.94 -20343028.83 -20343028.71 0.0528 0.0212

Mars -60409-02-28 16:47 J -20342905.92 -20342905.80 -20342905.68 0.1657 0.1076

Venus -60409-10-18 10:33 J -20342673.13 -20342673.06 -20342672.99 0.3815 0.2673

Moon -60407-06-19 14:09 J -20342064.00 -20342063.91 -20342063.81 0.2679 0.1365

Earth -60407-06-19 14:23 J -20342063.99 -20342063.90 -20342063.80 0.2685 0.1349 *

Jupiter -60404-09-17 07:11 J -20340878.38 -20340878.20 -20340878.02 0.0497 0.0088

Moon -60404-12-07 21:06 J -20340796.69 -20340796.62 -20340796.55 0.2651 0.2347

Earth -60404-12-07 22:33 J -20340796.64 -20340796.56 -20340796.49 0.2655 0.2292 *

Mars -60401-09-22 08:09 J -20339777.21 -20339777.16 -20339777.10 0.1882 0.1636

Saturn -60400-03-17 02:37 J -20339601.50 -20339601.39 -20339601.29 0.0299 0.0178

Earth -60400-06-12 13:11 J -20339514.04 -20339513.95 -20339513.86 0.2678 0.1513

Moon -60400-06-12 13:54 J -20339514.02 -20339513.92 -20339513.83 0.2681 0.1413 *

Saturn -60400-06-13 15:35 J -20339512.98 -20339512.85 -20339512.72 0.0299 0.0050

Saturn -60400-09-10 04:33 J -20339424.43 -20339424.31 -20339424.18 0.0300 0.0078

Saturn -60400-12-07 17:30 J -20339335.86 -20339335.77 -20339335.67 0.0301 0.0205

Jupiter -60398-05-19 14:09 J -20338807.97 -20338807.91 -20338807.84 0.0529 0.0452

Jupiter -60398-08-16 20:37 J -20338718.76 -20338718.64 -20338718.51 0.0528 0.0086

Moon -60394-06-22 07:54 J -20337313.23 -20337313.17 -20337313.12 0.2683 0.2256

Earth -60394-06-22 08:23 J -20337313.20 -20337313.15 -20337313.10 0.2687 0.2342 *

Jupiter -60392-07-06 03:21 J -20336568.51 -20336568.36 -20336568.20 0.0497 0.0266

Jupiter -60392-10-04 13:11 J -20336478.05 -20336477.95 -20336477.84 0.0498 0.0409

Moon -60391-12-11 02:37 J -20336045.54 -20336045.39 -20336045.23 0.2652 0.0473

Earth -60391-12-11 04:18 J -20336045.47 -20336045.32 -20336045.16 0.2652 0.0355 *

Mars -60389-01-19 08:09 J -20335641.24 -20335641.16 -20335641.08 0.1906 0.1316

Mars -60389-11-16 14:37 J -20335339.02 -20335338.89 -20335338.77 0.1644 0.1058

Earth -60387-06-15 07:11 J -20334763.31 -20334763.20 -20334763.09 0.2681 0.0490

Moon -60387-06-15 07:54 J -20334763.28 -20334763.17 -20334763.06 0.2677 0.0465 *

Saturn -60386-01-14 17:16 J -20334549.89 -20334549.78 -20334549.67 0.0264 0.0207

Saturn -60386-04-13 12:57 J -20334461.13 -20334460.96 -20334460.78 0.0263 0.0087

Jupiter -60386-06-05 01:11 J -20334408.57 -20334408.45 -20334408.32 0.0529 0.0041

Saturn -60386-07-11 08:52 J -20334372.31 -20334372.13 -20334371.94 0.0262 0.0035

Uranus -60386-07-14 18:13 J -20334368.82 -20334368.74 -20334368.63 0.0146 0.0127

Jupiter -60386-09-02 07:11 J -20334319.24 -20334319.20 -20334319.16 0.0528 0.0491

Saturn -60386-10-08 05:01 J -20334283.44 -20334283.29 -20334283.14 0.0262 0.0156

Uranus -60386-10-11 03:06 J -20334280.51 -20334280.37 -20334280.22 0.0146 0.0093

Uranus -60385-01-07 11:45 J -20334192.18 -20334192.01 -20334191.83 0.0146 0.0060

Uranus -60385-04-04 20:37 J -20334103.83 -20334103.64 -20334103.45 0.0146 0.0027

Uranus -60385-07-02 05:16 J -20334015.47 -20334015.28 -20334015.08 0.0146 0.0008

Uranus -60385-09-28 14:09 J -20333927.10 -20333926.91 -20333926.72 0.0146 0.0040

Uranus -60385-12-25 22:47 J -20333838.71 -20333838.55 -20333838.38 0.0146 0.0073

Uranus -60384-03-24 07:25 J -20333750.31 -20333750.19 -20333750.05 0.0145 0.0107

Uranus -60384-06-20 16:18 J -20333661.86 -20333661.82 -20333661.76 0.0145 0.0140

Jupiter -60380-04-24 00:57 J -20332258.55 -20332258.46 -20332258.36 0.0497 0.0425

Mars -60380-06-10 16:18 J -20332210.93 -20332210.82 -20332210.71 0.1899 0.0369

Jupiter -60380-07-23 10:47 J -20332168.21 -20332168.05 -20332167.89 0.0498 0.0245

Mars -60379-04-08 16:04 J -20331909.00 -20331908.83 -20331908.67 0.1650 0.0065

Moon -60378-12-14 09:35 J -20331294.23 -20331294.10 -20331293.97 0.2655 0.1475

Earth -60378-12-14 10:47 J -20331294.17 -20331294.05 -20331293.93 0.2650 0.1645 *

Venus -60377-06-20 07:54 J -20331105.31 -20331105.17 -20331105.02 0.3568 0.1644

Jupiter -60374-03-24 05:30 J -20330098.39 -20330098.27 -20330098.15 0.0529 0.0169

Earth -60374-06-18 01:25 J -20330012.55 -20330012.44 -20330012.33 0.2683 0.0537

Moon -60374-06-18 01:40 J -20330012.54 -20330012.43 -20330012.32 0.2677 0.0620 *

Jupiter -60374-06-21 11:30 J -20330009.11 -20330009.02 -20330008.93 0.0528 0.0364

Saturn -60371-08-04 02:23 J -20328869.47 -20328869.40 -20328869.31 0.0298 0.0232

Saturn -60371-10-31 15:35 J -20328780.97 -20328780.85 -20328780.72 0.0299 0.0104

Mars -60371-11-01 00:13 J -20328780.60 -20328780.49 -20328780.38 0.1890 0.0583

Saturn -60370-01-28 04:47 J -20328692.44 -20328692.30 -20328692.17 0.0300 0.0026

Saturn -60370-04-26 17:30 J -20328603.88 -20328603.77 -20328603.65 0.0300 0.0152

Saturn -60370-07-24 06:28 J -20328515.28 -20328515.23 -20328515.18 0.0301 0.0278

Mars -60370-08-29 17:30 J -20328478.91 -20328478.77 -20328478.64 0.1656 0.0941

Venus -60369-10-10 08:09 J -20328071.24 -20328071.16 -20328071.08 0.3810 0.2365

Jupiter -60368-05-11 08:23 J -20327858.33 -20327858.15 -20327857.97 0.0498 0.0084

Earth -60367-06-10 23:45 J -20327462.56 -20327462.51 -20327462.46 0.2677 0.2342

Moon -60367-06-11 00:13 J -20327462.54 -20327462.49 -20327462.44 0.2682 0.2333 *

Neptune -60367-10-15 01:40 J -20327336.45 -20327336.43 -20327336.38 0.0089 0.0087

Neptune -60366-01-11 05:16 J -20327248.36 -20327248.28 -20327248.19 0.0089 0.0079

Neptune -60366-04-09 08:23 J -20327160.25 -20327160.15 -20327160.03 0.0089 0.0072

Neptune -60366-07-06 11:45 J -20327072.12 -20327072.01 -20327071.86 0.0089 0.0064

Pluto -60366-09-24 13:54 J -20326991.95 -20326991.92 -20326991.85 0.0061 0.0058

Neptune -60366-10-02 15:21 J -20326984.00 -20326983.86 -20326983.71 0.0089 0.0056

Pluto -60366-12-21 15:21 J -20326903.93 -20326903.86 -20326903.77 0.0061 0.0053

Neptune -60366-12-29 18:28 J -20326895.87 -20326895.73 -20326895.55 0.0089 0.0049

Pluto -60365-03-18 16:04 J -20326815.91 -20326815.83 -20326815.70 0.0061 0.0049

Neptune -60365-03-26 22:04 J -20326807.74 -20326807.58 -20326807.40 0.0089 0.0041

Pluto -60365-06-14 17:16 J -20326727.88 -20326727.78 -20326727.64 0.0061 0.0045

Neptune -60365-06-23 01:40 J -20326719.60 -20326719.43 -20326719.25 0.0089 0.0033

Pluto -60365-09-10 18:42 J -20326639.85 -20326639.72 -20326639.58 0.0061 0.0040

Neptune -60365-09-19 05:01 J -20326631.47 -20326631.29 -20326631.10 0.0089 0.0025

Pluto -60365-12-07 19:54 J -20326551.81 -20326551.67 -20326551.52 0.0061 0.0035

Neptune -60365-12-16 08:23 J -20326543.33 -20326543.15 -20326542.96 0.0089 0.0018

Pluto -60364-03-05 20:37 J -20326463.77 -20326463.64 -20326463.47 0.0061 0.0031

Neptune -60364-03-14 11:59 J -20326455.19 -20326455.00 -20326454.81 0.0089 0.0009

Pluto -60364-06-01 22:04 J -20326375.73 -20326375.58 -20326375.41 0.0061 0.0025

Neptune -60364-06-10 15:21 J -20326367.05 -20326366.86 -20326366.66 0.0089 0.0003

Pluto -60364-08-28 23:16 J -20326287.69 -20326287.53 -20326287.36 0.0062 0.0021

Neptune -60364-09-06 18:57 J -20326278.90 -20326278.71 -20326278.52 0.0089 0.0006

Pluto -60364-11-25 00:28 J -20326199.65 -20326199.48 -20326199.30 0.0062 0.0016

Neptune -60364-12-03 22:18 J -20326190.76 -20326190.57 -20326190.38 0.0089 0.0014

Pluto -60363-02-21 01:40 J -20326111.60 -20326111.43 -20326111.25 0.0062 0.0011

Neptune -60363-03-02 01:54 J -20326102.61 -20326102.42 -20326102.24 0.0089 0.0022

Venus -60363-04-25 23:59 J -20326047.60 -20326047.50 -20326047.40 0.3812 0.0480

Pluto -60363-05-20 02:52 J -20326023.56 -20326023.38 -20326023.20 0.0062 0.0006

Neptune -60363-05-29 05:16 J -20326014.46 -20326014.28 -20326014.10 0.0089 0.0030

Pluto -60363-08-16 04:04 J -20325935.51 -20325935.33 -20325935.15 0.0062 0.0001

Neptune -60363-08-25 08:37 J -20325926.31 -20325926.14 -20325925.96 0.0089 0.0038

Pluto -60363-11-12 05:16 J -20325847.46 -20325847.28 -20325847.10 0.0062 0.0004

Neptune -60363-11-21 11:59 J -20325838.15 -20325838.00 -20325837.82 0.0089 0.0046

Jupiter -60362-01-10 09:49 J -20325788.20 -20325788.09 -20325787.99 0.0529 0.0302

Pluto -60362-02-08 06:13 J -20325759.41 -20325759.24 -20325759.06 0.0062 0.0009

Neptune -60362-02-17 15:35 J -20325749.99 -20325749.85 -20325749.69 0.0089 0.0054

Jupiter -60362-04-09 15:49 J -20325698.95 -20325698.84 -20325698.73 0.0528 0.0233

Pluto -60362-05-07 07:25 J -20325671.36 -20325671.19 -20325671.01 0.0062 0.0014

Neptune -60362-05-16 18:57 J -20325661.83 -20325661.71 -20325661.56 0.0089 0.0062

Pluto -60362-08-03 08:37 J -20325583.30 -20325583.14 -20325582.96 0.0062 0.0019

Neptune -60362-08-12 22:18 J -20325573.67 -20325573.57 -20325573.43 0.0089 0.0070

Pluto -60362-10-30 09:49 J -20325495.25 -20325495.09 -20325494.92 0.0062 0.0024

Neptune -60362-11-09 01:54 J -20325485.49 -20325485.42 -20325485.31 0.0089 0.0078

Pluto -60361-01-26 11:01 J -20325407.19 -20325407.04 -20325406.87 0.0062 0.0029

Neptune -60361-02-05 05:16 J -20325397.30 -20325397.28 -20325397.20 0.0089 0.0086

Mars -60361-03-23 08:09 J -20325350.22 -20325350.16 -20325350.09 0.1882 0.1531

Pluto -60361-04-23 12:13 J -20325319.13 -20325318.99 -20325318.83 0.0062 0.0035

Moon -60361-06-19 18:57 J -20325261.80 -20325261.71 -20325261.62 0.2679 0.1436

Earth -60361-06-19 19:25 J -20325261.78 -20325261.69 -20325261.60 0.2685 0.1539 *

Pluto -60361-07-20 13:25 J -20325231.06 -20325230.94 -20325230.79 0.0062 0.0040

Pluto -60361-10-16 14:52 J -20325143.00 -20325142.88 -20325142.75 0.0062 0.0045

Pluto -60360-01-12 16:18 J -20325054.93 -20325054.82 -20325054.72 0.0063 0.0050

Pluto -60360-04-10 17:01 J -20324966.85 -20324966.79 -20324966.69 0.0063 0.0056

Pluto -60360-07-07 18:13 J -20324878.76 -20324878.74 -20324878.67 0.0063 0.0061

Venus -60358-11-09 16:04 J -20324023.93 -20324023.83 -20324023.74 0.3814 0.1445

Moon -60358-12-09 03:21 J -20323994.45 -20323994.36 -20323994.27 0.2651 0.2144

Earth -60358-12-09 04:47 J -20323994.40 -20323994.30 -20323994.19 0.2654 0.1936 *

Saturn -60357-06-02 15:06 J -20323817.92 -20323817.87 -20323817.83 0.0264 0.0254

Saturn -60357-08-30 10:33 J -20323729.21 -20323729.06 -20323728.89 0.0263 0.0134

Saturn -60357-11-27 06:42 J -20323640.41 -20323640.22 -20323640.04 0.0262 0.0013

Saturn -60356-02-24 02:37 J -20323551.56 -20323551.39 -20323551.22 0.0262 0.0109

Jupiter -60356-02-27 06:13 J -20323548.42 -20323548.24 -20323548.06 0.0498 0.0075

Saturn -60356-05-23 22:33 J -20323462.63 -20323462.56 -20323462.46 0.0261 0.0232

Earth -60354-06-13 17:59 J -20322711.85 -20322711.75 -20322711.65 0.2679 0.1310

Moon -60354-06-13 18:42 J -20322711.82 -20322711.72 -20322711.62 0.2681 0.1252 *

Venus -60352-05-25 07:54 J -20322000.21 -20322000.17 -20322000.12 0.3815 0.3353

Jupiter -60351-10-29 13:25 J -20321478.01 -20321477.94 -20321477.87 0.0529 0.0440

Jupiter -60350-01-26 19:54 J -20321388.80 -20321388.67 -20321388.55 0.0528 0.0099

Mars -60350-07-20 08:09 J -20321214.23 -20321214.16 -20321214.08 0.1906 0.1433

Mars -60349-05-17 15:06 J -20320911.98 -20320911.87 -20320911.76 0.1643 0.1190

Moon -60348-06-22 12:42 J -20320511.01 -20320510.97 -20320510.94 0.2684 0.2502

Earth -60348-06-22 13:11 J -20320510.98 -20320510.95 -20320510.91 0.2687 0.2533 *

Moon -60345-12-11 09:21 J -20319243.27 -20319243.11 -20319242.96 0.2652 0.0121

Earth -60345-12-11 11:01 J -20319243.20 -20319243.04 -20319242.89 0.2652 0.0072 *

Jupiter -60345-12-16 03:49 J -20319238.50 -20319238.34 -20319238.18 0.0497 0.0237

Jupiter -60344-03-16 13:40 J -20319148.01 -20319147.93 -20319147.84 0.0498 0.0440

Uranus -60343-04-17 21:49 J -20318750.59 -20318750.59 -20318750.59 0.0132 0.0132

Uranus -60343-07-15 00:42 J -20318662.53 -20318662.47 -20318662.40 0.0132 0.0115

Uranus -60343-10-11 03:35 J -20318574.43 -20318574.35 -20318574.25 0.0132 0.0099

Uranus -60342-01-07 06:42 J -20318486.32 -20318486.22 -20318486.11 0.0133 0.0081

Uranus -60342-04-05 09:35 J -20318398.21 -20318398.10 -20318397.98 0.0133 0.0065

Uranus -60342-07-02 12:28 J -20318310.10 -20318309.98 -20318309.85 0.0133 0.0048

Uranus -60342-09-28 15:35 J -20318221.98 -20318221.85 -20318221.72 0.0133 0.0031

Saturn -60342-12-22 03:35 J -20318137.40 -20318137.35 -20318137.30 0.0298 0.0276

Uranus -60342-12-25 18:28 J -20318133.86 -20318133.73 -20318133.60 0.0133 0.0014

Saturn -60341-03-19 16:47 J -20318048.92 -20318048.80 -20318048.69 0.0299 0.0148

Uranus -60341-03-22 21:21 J -20318045.74 -20318045.61 -20318045.47 0.0133 0.0006

Earth -60341-06-15 12:13 J -20317961.10 -20317960.99 -20317960.88 0.2681 0.0301

Moon -60341-06-15 12:42 J -20317961.08 -20317960.97 -20317960.86 0.2676 0.0192 *

Saturn -60341-06-16 05:45 J -20317960.39 -20317960.26 -20317960.13 0.0299 0.0021

Uranus -60341-06-19 00:28 J -20317957.61 -20317957.48 -20317957.35 0.0133 0.0021

Saturn -60341-09-12 18:42 J -20317871.84 -20317871.72 -20317871.60 0.0300 0.0107

Uranus -60341-09-15 03:21 J -20317869.49 -20317869.36 -20317869.23 0.0133 0.0038

Mars -60341-12-09 16:18 J -20317783.93 -20317783.82 -20317783.71 0.1898 0.0473

Saturn -60341-12-10 07:40 J -20317783.26 -20317783.18 -20317783.10 0.0301 0.0234

Uranus -60341-12-12 06:13 J -20317781.36 -20317781.24 -20317781.12 0.0133 0.0055

Uranus -60340-03-10 09:06 J -20317693.23 -20317693.12 -20317693.01 0.0133 0.0072

Uranus -60340-06-06 11:59 J -20317605.09 -20317605.00 -20317604.90 0.0133 0.0089

Uranus -60340-09-02 14:52 J -20317516.95 -20317516.88 -20317516.79 0.0133 0.0106

Mars -60340-10-07 16:33 J -20317481.97 -20317481.81 -20317481.65 0.1650 0.0195

Uranus -60340-11-29 17:45 J -20317428.80 -20317428.76 -20317428.70 0.0133 0.0123

Jupiter -60339-11-15 00:13 J -20317078.62 -20317078.49 -20317078.36 0.0529 0.0030

Jupiter -60338-02-12 06:13 J -20316989.28 -20316989.24 -20316989.21 0.0528 0.0499

Jupiter -60333-10-03 23:59 J -20314928.59 -20314928.50 -20314928.39 0.0497 0.0413

Jupiter -60332-01-02 09:35 J -20314838.25 -20314838.10 -20314837.94 0.0497 0.0258

Moon -60332-12-14 16:04 J -20314491.93 -20314491.83 -20314491.73 0.2655 0.1962

Earth -60332-12-14 17:16 J -20314491.88 -20314491.78 -20314491.68 0.2649 0.2008 *

Mars -60331-05-02 00:13 J -20314353.60 -20314353.49 -20314353.38 0.1890 0.0488

Mars -60330-02-27 18:13 J -20314051.88 -20314051.74 -20314051.60 0.1656 0.0793

Earth -60328-06-18 06:13 J -20313210.35 -20313210.24 -20313210.13 0.2683 0.0730

Moon -60328-06-18 06:28 J -20313210.34 -20313210.23 -20313210.13 0.2677 0.0699 *

Saturn -60327-01-17 09:49 J -20312997.23 -20312997.09 -20312996.95 0.0264 0.0170

Saturn -60327-04-16 05:45 J -20312908.44 -20312908.26 -20312908.08 0.0263 0.0049

Saturn -60327-07-14 01:40 J -20312819.60 -20312819.43 -20312819.25 0.0262 0.0073

Jupiter -60327-09-03 04:47 J -20312768.42 -20312768.30 -20312768.18 0.0529 0.0156

Saturn -60327-10-10 21:49 J -20312730.71 -20312730.59 -20312730.46 0.0262 0.0195

Jupiter -60327-12-01 10:47 J -20312679.13 -20312679.05 -20312678.96 0.0528 0.0377

Mars -60322-09-22 08:23 J -20310923.23 -20310923.15 -20310923.07 0.1882 0.1412

Earth -60321-06-11 04:33 J -20310660.37 -20310660.31 -20310660.24 0.2677 0.2143

Moon -60321-06-11 05:16 J -20310660.35 -20310660.28 -20310660.21 0.2682 0.2047 *

Jupiter -60321-10-21 07:11 J -20310528.38 -20310528.20 -20310528.02 0.0497 0.0094

Venus -60320-01-25 10:18 J -20310432.23 -20310432.07 -20310431.91 0.3567 0.0147

Venus -60318-11-01 13:40 J -20309421.96 -20309421.93 -20309421.90 0.3809 0.3589

Moon -60315-06-20 23:45 J -20308459.59 -20308459.51 -20308459.42 0.2679 0.1750

Earth -60315-06-21 00:13 J -20308459.57 -20308459.49 -20308459.41 0.2685 0.1731 *

Jupiter -60315-06-22 09:06 J -20308458.23 -20308458.12 -20308458.01 0.0529 0.0286

Jupiter -60315-09-19 15:21 J -20308368.97 -20308368.86 -20308368.75 0.0528 0.0249

Venus -60312-05-17 05:30 J -20307398.36 -20307398.27 -20307398.18 0.3810 0.1703

Saturn -60312-08-06 17:01 J -20307316.89 -20307316.79 -20307316.69 0.0298 0.0199

Saturn -60312-11-03 05:59 J -20307228.37 -20307228.25 -20307228.12 0.0299 0.0072

Moon -60312-12-09 09:49 J -20307192.21 -20307192.09 -20307191.97 0.2651 0.1621

Earth -60312-12-09 11:16 J -20307192.15 -20307192.03 -20307191.90 0.2654 0.1580 *

Saturn -60311-01-30 18:57 J -20307139.83 -20307139.71 -20307139.58 0.0300 0.0057

Saturn -60311-04-29 07:54 J -20307051.27 -20307051.17 -20307051.06 0.0300 0.0182

Mars -60310-01-18 08:23 J -20306787.22 -20306787.15 -20306787.09 0.1906 0.1541

Mars -60310-11-16 15:49 J -20306484.94 -20306484.84 -20306484.75 0.1643 0.1325

Jupiter -60309-08-09 04:47 J -20306218.48 -20306218.30 -20306218.11 0.0497 0.0067

Earth -60308-06-13 22:47 J -20305909.65 -20305909.55 -20305909.45 0.2679 0.1113

Moon -60308-06-13 23:30 J -20305909.62 -20305909.52 -20305909.41 0.2679 0.1055 *

Venus -60307-11-30 21:35 J -20305374.70 -20305374.60 -20305374.50 0.3812 0.0220

Jupiter -60303-04-10 13:11 J -20304148.02 -20304147.95 -20304147.87 0.0529 0.0420

Jupiter -60303-07-08 19:25 J -20304058.81 -20304058.69 -20304058.56 0.0528 0.0119

Moon -60302-06-23 17:30 J -20303708.80 -20303708.77 -20303708.75 0.2686 0.2595

Uranus -60302-08-04 00:13 J -20303667.58 -20303667.49 -20303667.38 0.0146 0.0124

Uranus -60302-10-31 08:52 J -20303579.27 -20303579.13 -20303578.97 0.0146 0.0091

Uranus -60301-01-27 17:45 J -20303490.93 -20303490.76 -20303490.58 0.0146 0.0058

Uranus -60301-04-25 02:37 J -20303402.58 -20303402.39 -20303402.20 0.0146 0.0024

Mars -60301-06-09 16:18 J -20303356.93 -20303356.82 -20303356.71 0.1898 0.0576

Venus -60301-06-15 13:25 J -20303351.02 -20303350.94 -20303350.85 0.3814 0.2134

Uranus -60301-07-22 11:16 J -20303314.22 -20303314.03 -20303313.83 0.0146 0.0009

Uranus -60301-10-18 19:54 J -20303225.85 -20303225.67 -20303225.48 0.0146 0.0043

Uranus -60300-01-15 04:47 J -20303137.46 -20303137.30 -20303137.13 0.0146 0.0076

Mars -60300-04-07 17:16 J -20303054.94 -20303054.78 -20303054.62 0.1650 0.0337

Uranus -60300-04-13 13:11 J -20303049.06 -20303048.95 -20303048.80 0.0145 0.0110

Uranus -60300-07-10 22:04 J -20302960.60 -20302960.58 -20302960.53 0.0145 0.0143

Moon -60299-12-12 15:49 J -20302440.99 -20302440.84 -20302440.68 0.2654 0.0194

Earth -60299-12-12 17:30 J -20302440.93 -20302440.77 -20302440.62 0.2651 0.0382 *

Saturn -60298-06-06 07:25 J -20302265.29 -20302265.19 -20302265.08 0.0264 0.0218

Saturn -60298-09-03 03:06 J -20302176.53 -20302176.37 -20302176.19 0.0263 0.0097

Saturn -60298-11-30 23:16 J -20302087.71 -20302087.53 -20302087.34 0.0262 0.0025

Saturn -60297-02-27 19:25 J -20301998.85 -20301998.69 -20301998.54 0.0262 0.0147

Jupiter -60297-05-28 02:37 J -20301908.55 -20301908.39 -20301908.22 0.0497 0.0226

Jupiter -60297-08-26 12:42 J -20301818.04 -20301817.97 -20301817.89 0.0498 0.0452

Earth -60295-06-16 17:01 J -20301158.90 -20301158.79 -20301158.68 0.2681 0.0090

Moon -60295-06-16 17:30 J -20301158.88 -20301158.77 -20301158.65 0.2677 0.0102 *

Mars -60292-10-31 00:13 J -20299926.60 -20299926.49 -20299926.37 0.1890 0.0377

Jupiter -60291-04-26 23:30 J -20299748.65 -20299748.52 -20299748.40 0.0528 0.0024

Jupiter -60291-07-25 05:16 J -20299659.31 -20299659.28 -20299659.25 0.0527 0.0509

Mars -60291-08-28 18:42 J -20299624.87 -20299624.72 -20299624.57 0.1656 0.0666

Moon -60286-12-15 22:47 J -20297689.63 -20297689.55 -20297689.47 0.2654 0.2248

Earth -60286-12-15 23:45 J -20297689.57 -20297689.51 -20297689.44 0.2649 0.2377 *

Jupiter -60285-03-16 00:13 J -20297598.60 -20297598.49 -20297598.37 0.0497 0.0386

Jupiter -60285-06-14 10:04 J -20297508.23 -20297508.08 -20297507.93 0.0498 0.0286

Neptune -60285-10-23 23:01 J -20297376.57 -20297376.54 -20297376.50 0.0089 0.0085

Neptune -60284-01-20 00:28 J -20297288.54 -20297288.48 -20297288.42 0.0089 0.0079

Neptune -60284-04-18 01:40 J -20297200.49 -20297200.43 -20297200.34 0.0089 0.0074

Neptune -60284-07-15 03:21 J -20297112.44 -20297112.36 -20297112.27 0.0089 0.0068

Neptune -60284-10-11 04:33 J -20297024.39 -20297024.31 -20297024.20 0.0089 0.0063

Neptune -60283-01-07 05:59 J -20296936.34 -20296936.25 -20296936.13 0.0089 0.0057

Neptune -60283-04-05 07:40 J -20296848.29 -20296848.18 -20296848.07 0.0089 0.0051

Neptune -60283-07-02 08:52 J -20296760.24 -20296760.13 -20296760.00 0.0089 0.0046

Neptune -60283-09-28 10:18 J -20296672.18 -20296672.07 -20296671.94 0.0089 0.0040

Saturn -60283-12-24 17:59 J -20296584.82 -20296584.75 -20296584.67 0.0298 0.0243

Neptune -60283-12-25 11:59 J -20296584.13 -20296584.00 -20296583.88 0.0089 0.0034

Saturn -60282-03-23 07:11 J -20296496.32 -20296496.20 -20296496.08 0.0298 0.0116

Mars -60282-03-23 08:23 J -20296496.24 -20296496.15 -20296496.07 0.1882 0.1320 *

Neptune -60282-03-23 13:11 J -20296496.07 -20296495.95 -20296495.82 0.0089 0.0029 *

Moon -60282-06-19 11:01 J -20296408.14 -20296408.04 -20296407.94 0.2677 0.0955

Earth -60282-06-19 11:01 J -20296408.14 -20296408.04 -20296407.94 0.2683 0.0923 *

Neptune -60282-06-19 14:37 J -20296408.02 -20296407.89 -20296407.76 0.0089 0.0023 *

Saturn -60282-06-19 20:09 J -20296407.79 -20296407.66 -20296407.53 0.0299 0.0011 *

Neptune -60282-09-15 16:04 J -20296319.96 -20296319.83 -20296319.70 0.0089 0.0017

Saturn -60282-09-16 09:06 J -20296319.24 -20296319.12 -20296319.01 0.0300 0.0138

Neptune -60282-12-12 17:30 J -20296231.90 -20296231.77 -20296231.64 0.0089 0.0012

Saturn -60282-12-13 21:49 J -20296230.65 -20296230.59 -20296230.53 0.0301 0.0264

Mars -60281-01-18 20:09 J -20296194.66 -20296194.66 -20296194.66 0.1663 0.1662

Neptune -60281-03-09 18:57 J -20296143.85 -20296143.71 -20296143.58 0.0089 0.0006

Neptune -60281-06-05 20:23 J -20296055.79 -20296055.65 -20296055.52 0.0089 0.0002

Neptune -60281-09-01 21:35 J -20295967.73 -20295967.60 -20295967.46 0.0089 0.0006

Neptune -60281-11-28 23:01 J -20295879.67 -20295879.54 -20295879.40 0.0089 0.0011

Neptune -60280-02-25 00:28 J -20295791.61 -20295791.48 -20295791.35 0.0089 0.0016

Neptune -60280-05-24 01:54 J -20295703.55 -20295703.42 -20295703.29 0.0089 0.0022

Neptune -60280-08-20 03:06 J -20295615.49 -20295615.37 -20295615.24 0.0089 0.0027

Neptune -60280-11-16 04:33 J -20295527.43 -20295527.31 -20295527.18 0.0089 0.0033

Neptune -60279-02-12 05:45 J -20295439.37 -20295439.26 -20295439.13 0.0089 0.0039

Jupiter -60279-02-13 03:49 J -20295438.46 -20295438.34 -20295438.22 0.0529 0.0148

Neptune -60279-05-11 07:11 J -20295351.31 -20295351.20 -20295351.08 0.0089 0.0044

Jupiter -60279-05-13 09:49 J -20295349.18 -20295349.09 -20295349.00 0.0528 0.0385

Neptune -60279-08-07 08:23 J -20295263.25 -20295263.15 -20295263.03 0.0089 0.0050

Neptune -60279-11-03 09:49 J -20295175.18 -20295175.09 -20295174.98 0.0089 0.0055

Neptune -60278-01-30 11:01 J -20295087.12 -20295087.04 -20295086.93 0.0089 0.0061

Neptune -60278-04-28 12:42 J -20294999.05 -20294998.97 -20294998.88 0.0089 0.0066

Neptune -60278-07-25 14:09 J -20294910.99 -20294910.91 -20294910.83 0.0089 0.0071

Neptune -60278-10-21 15:21 J -20294822.92 -20294822.86 -20294822.79 0.0089 0.0077

Neptune -60277-01-17 16:47 J -20294734.85 -20294734.80 -20294734.75 0.0089 0.0082

Neptune -60277-04-14 17:45 J -20294646.76 -20294646.76 -20294646.72 0.0089 0.0088

Earth -60275-06-12 09:35 J -20293858.18 -20293858.10 -20293858.03 0.2677 0.1935

Moon -60275-06-12 10:04 J -20293858.15 -20293858.08 -20293858.00 0.2682 0.1937 *

Pluto -60273-02-14 09:06 J -20293246.17 -20293246.12 -20293246.06 0.0084 0.0077

Jupiter -60273-04-02 06:13 J -20293198.42 -20293198.24 -20293198.06 0.0497 0.0106

Pluto -60273-05-12 10:33 J -20293158.13 -20293158.06 -20293157.96 0.0083 0.0067

Pluto -60273-08-08 12:13 J -20293070.08 -20293069.99 -20293069.87 0.0083 0.0057

Pluto -60273-11-04 13:54 J -20292982.03 -20292981.92 -20292981.79 0.0083 0.0046

Pluto -60272-01-31 15:35 J -20292893.97 -20292893.85 -20292893.72 0.0083 0.0036

Pluto -60272-04-29 17:16 J -20292805.92 -20292805.78 -20292805.64 0.0083 0.0026

Pluto -60272-07-26 18:42 J -20292717.86 -20292717.72 -20292717.58 0.0083 0.0017

Pluto -60272-10-22 20:23 J -20292629.79 -20292629.65 -20292629.51 0.0083 0.0007

Pluto -60271-01-18 21:49 J -20292541.73 -20292541.59 -20292541.45 0.0083 0.0003

Pluto -60271-04-16 23:16 J -20292453.67 -20292453.53 -20292453.38 0.0082 0.0012

Pluto -60271-07-14 00:57 J -20292365.60 -20292365.46 -20292365.33 0.0082 0.0022

Mars -60271-07-19 08:09 J -20292360.22 -20292360.16 -20292360.10 0.1906 0.1634

Pluto -60271-10-10 02:09 J -20292277.53 -20292277.41 -20292277.27 0.0082 0.0031

Pluto -60270-01-06 03:35 J -20292189.46 -20292189.35 -20292189.22 0.0082 0.0041

Pluto -60270-04-04 05:16 J -20292101.39 -20292101.28 -20292101.17 0.0082 0.0049

Mars -60270-05-17 16:33 J -20292057.88 -20292057.81 -20292057.74 0.1643 0.1472

Pluto -60270-07-01 06:28 J -20292013.32 -20292013.23 -20292013.12 0.0082 0.0059

Pluto -60270-09-27 07:54 J -20291925.24 -20291925.17 -20291925.08 0.0082 0.0068

Pluto -60270-12-24 09:21 J -20291837.15 -20291837.11 -20291837.05 0.0082 0.0076

Venus -60269-02-16 03:21 J -20291783.42 -20291783.36 -20291783.31 0.3569 0.3326

Moon -60269-06-21 04:33 J -20291657.39 -20291657.31 -20291657.23 0.2680 0.1817

Earth -60269-06-21 05:01 J -20291657.36 -20291657.29 -20291657.21 0.2685 0.1924 *

Saturn -60269-10-23 06:28 J -20291533.26 -20291533.23 -20291533.17 0.0264 0.0255

Saturn -60268-01-20 02:23 J -20291444.55 -20291444.40 -20291444.23 0.0264 0.0133

Saturn -60268-04-18 22:33 J -20291355.75 -20291355.56 -20291355.38 0.0263 0.0012

Saturn -60268-07-16 18:28 J -20291266.90 -20291266.73 -20291266.56 0.0263 0.0111

Saturn -60268-10-13 14:37 J -20291177.97 -20291177.89 -20291177.80 0.0262 0.0234

Jupiter -60268-12-02 08:09 J -20291128.27 -20291128.16 -20291128.05 0.0529 0.0277

Jupiter -60267-03-01 14:23 J -20291039.01 -20291038.90 -20291038.79 0.0529 0.0260

Moon -60266-12-10 16:18 J -20290389.95 -20290389.82 -20290389.69 0.2651 0.1447

Earth -60266-12-10 17:45 J -20290389.89 -20290389.76 -20290389.62 0.2654 0.1220 *

Venus -60264-09-01 12:28 J -20289759.11 -20289758.98 -20289758.84 0.3567 0.1930

Earth -60262-06-15 03:49 J -20289107.45 -20289107.34 -20289107.24 0.2679 0.0912

Moon -60262-06-15 04:33 J -20289107.42 -20289107.31 -20289107.21 0.2678 0.0798 *

Mars -60262-12-09 16:18 J -20288929.93 -20288929.82 -20288929.71 0.1899 0.0687

Jupiter -60261-01-20 03:35 J -20288888.53 -20288888.35 -20288888.16 0.0497 0.0057

Venus -60261-06-07 11:16 J -20288749.10 -20288749.03 -20288748.97 0.3809 0.2911

Mars -60261-10-06 17:59 J -20288627.91 -20288627.75 -20288627.60 0.1649 0.0475

Uranus -60259-05-08 05:01 J -20288049.32 -20288049.29 -20288049.26 0.0132 0.0129

Uranus -60259-08-04 07:54 J -20287961.24 -20287961.17 -20287961.10 0.0132 0.0112

Uranus -60259-10-31 10:47 J -20287873.14 -20287873.05 -20287872.95 0.0133 0.0095

Uranus -60258-01-27 13:54 J -20287785.03 -20287784.92 -20287784.81 0.0133 0.0078

Uranus -60258-04-25 16:47 J -20287696.91 -20287696.80 -20287696.68 0.0133 0.0061

Uranus -60258-07-22 19:40 J -20287608.80 -20287608.68 -20287608.55 0.0133 0.0044

Uranus -60258-10-18 22:47 J -20287520.68 -20287520.55 -20287520.42 0.0133 0.0027

Uranus -60257-01-15 01:40 J -20287432.56 -20287432.43 -20287432.30 0.0133 0.0010

Uranus -60257-04-12 04:33 J -20287344.44 -20287344.31 -20287344.17 0.0133 0.0008

Uranus -60257-07-09 07:40 J -20287256.31 -20287256.18 -20287256.05 0.0133 0.0025

Uranus -60257-10-05 10:33 J -20287168.19 -20287168.06 -20287167.94 0.0133 0.0042

Uranus -60256-01-01 13:25 J -20287080.06 -20287079.94 -20287079.82 0.0133 0.0059

Uranus -60256-03-30 16:18 J -20286991.92 -20286991.82 -20286991.71 0.0133 0.0076

Uranus -60256-06-26 19:11 J -20286903.79 -20286903.70 -20286903.60 0.0133 0.0093

Jupiter -60256-09-20 12:28 J -20286818.06 -20286817.98 -20286817.90 0.0529 0.0408

Uranus -60256-09-22 22:04 J -20286815.64 -20286815.58 -20286815.50 0.0133 0.0111

Jupiter -60256-12-18 18:42 J -20286728.84 -20286728.72 -20286728.59 0.0528 0.0132

Uranus -60256-12-20 00:57 J -20286727.48 -20286727.46 -20286727.41 0.0133 0.0128

Venus -60256-12-22 03:06 J -20286725.47 -20286725.37 -20286725.27 0.3811 0.1011

Saturn -60253-05-12 18:28 J -20285852.75 -20285852.73 -20285852.70 0.0297 0.0291

Saturn -60253-08-09 07:40 J -20285764.29 -20285764.18 -20285764.07 0.0298 0.0165

Saturn -60253-11-05 20:52 J -20285675.77 -20285675.63 -20285675.50 0.0299 0.0039

Moon -60253-12-12 22:18 J -20285638.71 -20285638.57 -20285638.42 0.2654 0.0684

Earth -60253-12-12 23:59 J -20285638.65 -20285638.50 -20285638.35 0.2651 0.0740 *

Saturn -60252-02-02 09:35 J -20285587.22 -20285587.10 -20285586.97 0.0299 0.0089

Mars -60252-05-01 00:28 J -20285499.60 -20285499.48 -20285499.37 0.1890 0.0273

Saturn -60252-05-01 22:33 J -20285498.65 -20285498.56 -20285498.47 0.0300 0.0215

Mars -60251-02-26 19:25 J -20285197.85 -20285197.69 -20285197.54 0.1656 0.0528

Venus -60250-07-07 18:57 J -20284701.80 -20284701.71 -20284701.61 0.3813 0.0926

Jupiter -60250-11-08 01:11 J -20284578.61 -20284578.45 -20284578.28 0.0497 0.0218

Jupiter -60249-02-06 11:01 J -20284488.10 -20284488.04 -20284487.96 0.0498 0.0459

Earth -60249-06-16 21:49 J -20284356.70 -20284356.59 -20284356.48 0.2682 0.0114

Moon -60249-06-16 22:18 J -20284356.68 -20284356.57 -20284356.46 0.2677 0.0176 *

Venus -60244-01-20 11:01 J -20282678.11 -20282678.04 -20282677.97 0.3814 0.2824

Jupiter -60244-10-06 23:01 J -20282418.67 -20282418.54 -20282418.41 0.0528 0.0004

Mars -60243-09-21 08:23 J -20282069.24 -20282069.15 -20282069.06 0.1882 0.1206

Mars -60242-07-19 20:37 J -20281767.69 -20281767.64 -20281767.57 0.1663 0.1530

Saturn -60239-06-09 00:13 J -20280712.62 -20280712.49 -20280712.36 0.0264 0.0180

Saturn -60239-09-05 20:09 J -20280623.84 -20280623.66 -20280623.48 0.0263 0.0059

Saturn -60239-12-03 16:04 J -20280535.01 -20280534.83 -20280534.65 0.0263 0.0064

Saturn -60238-03-02 12:13 J -20280446.12 -20280445.99 -20280445.86 0.0262 0.0186

Jupiter -60238-08-26 23:01 J -20280268.66 -20280268.54 -20280268.42 0.0497 0.0376

Jupiter -60238-11-25 08:52 J -20280178.28 -20280178.13 -20280177.98 0.0498 0.0296

Moon -60236-06-19 15:49 J -20279605.94 -20279605.84 -20279605.74 0.2677 0.1076

Earth -60236-06-19 15:49 J -20279605.94 -20279605.84 -20279605.74 0.2684 0.1122 *

Jupiter -60232-07-26 02:52 J -20278108.50 -20278108.38 -20278108.26 0.0529 0.0139

Jupiter -60232-10-23 08:52 J -20278019.21 -20278019.13 -20278019.05 0.0528 0.0393

Mars -60231-01-17 08:09 J -20277933.20 -20277933.16 -20277933.11 0.1907 0.1746

Mars -60231-11-15 17:01 J -20277630.82 -20277630.79 -20277630.75 0.1643 0.1601

Earth -60229-06-12 14:23 J -20277055.98 -20277055.90 -20277055.81 0.2678 0.1735

Moon -60229-06-12 15:06 J -20277055.96 -20277055.87 -20277055.78 0.2681 0.1618 *

Jupiter -60226-09-13 06:13 J -20275868.42 -20275868.24 -20275868.06 0.0497 0.0131

Saturn -60224-12-27 08:52 J -20275032.22 -20275032.13 -20275032.03 0.0298 0.0207

Saturn -60223-03-25 22:04 J -20274943.71 -20274943.58 -20274943.45 0.0298 0.0080

Moon -60223-06-22 09:21 J -20274855.18 -20274855.11 -20274855.04 0.2682 0.2102

Saturn -60223-06-22 11:01 J -20274855.17 -20274855.04 -20274854.91 0.0299 0.0047 *

Earth -60223-06-22 09:49 J -20274855.15 -20274855.09 -20274855.02 0.2686 0.2116 *

Saturn -60223-09-18 23:59 J -20274766.61 -20274766.50 -20274766.39 0.0300 0.0174

Saturn -60223-12-16 12:42 J -20274677.97 -20274677.97 -20274677.96 0.0300 0.0299

Mars -60222-06-09 16:18 J -20274502.92 -20274502.82 -20274502.71 0.1898 0.0790

Mars -60221-04-06 18:28 J -20274200.88 -20274200.73 -20274200.57 0.1650 0.0613

Jupiter -60220-05-14 06:57 J -20273798.31 -20273798.21 -20273798.09 0.0529 0.0271

Jupiter -60220-08-11 13:11 J -20273709.06 -20273708.95 -20273708.84 0.0528 0.0267

Moon -60220-12-10 22:47 J -20273587.70 -20273587.55 -20273587.41 0.2653 0.0909

Earth -60220-12-11 00:13 J -20273587.63 -20273587.49 -20273587.34 0.2653 0.0867 *

Uranus -60218-08-24 06:42 J -20272966.31 -20272966.22 -20272966.09 0.0146 0.0119

Uranus -60218-11-20 15:35 J -20272878.00 -20272877.85 -20272877.69 0.0146 0.0086

Uranus -60217-02-17 00:13 J -20272789.66 -20272789.49 -20272789.30 0.0146 0.0053

Uranus -60217-05-15 09:06 J -20272701.31 -20272701.12 -20272700.92 0.0146 0.0020

Uranus -60217-08-11 17:59 J -20272612.94 -20272612.75 -20272612.56 0.0146 0.0014

Uranus -60217-11-08 02:37 J -20272524.57 -20272524.39 -20272524.20 0.0146 0.0047

Uranus -60216-02-04 11:16 J -20272436.18 -20272436.03 -20272435.86 0.0145 0.0081

Uranus -60216-05-03 20:09 J -20272347.78 -20272347.66 -20272347.54 0.0145 0.0114

Earth -60216-06-15 08:37 J -20272305.25 -20272305.14 -20272305.03 0.2680 0.0706

Moon -60216-06-15 09:21 J -20272305.22 -20272305.11 -20272305.00 0.2678 0.0680 *

Jupiter -60214-07-02 02:23 J -20271558.58 -20271558.40 -20271558.21 0.0497 0.0047

Venus -60213-09-22 05:30 J -20271110.41 -20271110.27 -20271110.12 0.3569 0.1543

Mars -60213-10-30 00:13 J -20271072.60 -20271072.49 -20271072.37 0.1891 0.0175

Mars -60212-08-27 20:09 J -20270770.82 -20270770.66 -20270770.50 0.1656 0.0382

Saturn -60210-10-26 23:30 J -20269980.62 -20269980.52 -20269980.41 0.0265 0.0216

Saturn -60209-01-23 19:25 J -20269891.86 -20269891.69 -20269891.51 0.0264 0.0094

Saturn -60209-04-21 15:35 J -20269803.04 -20269802.85 -20269802.67 0.0263 0.0029

Saturn -60209-07-19 11:30 J -20269714.16 -20269714.02 -20269713.86 0.0263 0.0152

Jupiter -60208-03-02 11:16 J -20269488.11 -20269488.03 -20269487.95 0.0530 0.0403

Jupiter -60208-05-30 17:45 J -20269398.88 -20269398.76 -20269398.64 0.0529 0.0139

Moon -60207-12-14 05:01 J -20268836.44 -20268836.29 -20268836.15 0.2654 0.0888

Earth -60207-12-14 06:28 J -20268836.37 -20268836.23 -20268836.09 0.2651 0.1104 *

Venus -60204-01-12 08:37 J -20268076.22 -20268076.14 -20268076.06 0.3809 0.2231

Mars -60203-03-22 08:23 J -20267642.24 -20267642.15 -20267642.05 0.1882 0.1096

Earth -60203-06-18 02:37 J -20267554.50 -20267554.39 -20267554.28 0.2682 0.0327

Moon -60203-06-18 03:06 J -20267554.48 -20267554.37 -20267554.26 0.2676 0.0361 *

Mars -60202-01-17 21:21 J -20267340.69 -20267340.61 -20267340.52 0.1663 0.1394

Jupiter -60202-04-19 23:59 J -20267248.67 -20267248.50 -20267248.33 0.0497 0.0209

Neptune -60202-07-12 00:13 J -20267165.53 -20267165.49 -20267165.41 0.0089 0.0084

Jupiter -60202-07-19 09:49 J -20267158.15 -20267158.09 -20267158.03 0.0497 0.0466

Neptune -60202-10-08 03:49 J -20267077.43 -20267077.34 -20267077.24 0.0089 0.0076

Neptune -60201-01-04 06:57 J -20266989.31 -20266989.21 -20266989.07 0.0089 0.0069

Neptune -60201-04-01 10:33 J -20266901.19 -20266901.06 -20266900.91 0.0089 0.0061

Neptune -60201-06-28 14:09 J -20266813.06 -20266812.91 -20266812.76 0.0089 0.0053

Neptune -60201-09-24 17:16 J -20266724.93 -20266724.78 -20266724.61 0.0089 0.0046

Neptune -60201-12-21 20:37 J -20266636.80 -20266636.64 -20266636.45 0.0089 0.0038

Neptune -60200-03-20 00:13 J -20266548.66 -20266548.49 -20266548.30 0.0089 0.0030

Neptune -60200-06-16 03:49 J -20266460.52 -20266460.34 -20266460.16 0.0089 0.0022

Neptune -60200-09-12 07:11 J -20266372.39 -20266372.20 -20266372.01 0.0089 0.0014

Neptune -60200-12-09 10:33 J -20266284.24 -20266284.06 -20266283.86 0.0089 0.0007

Neptune -60199-03-07 14:09 J -20266196.10 -20266195.91 -20266195.72 0.0089 0.0002

Neptune -60199-06-03 17:30 J -20266107.96 -20266107.77 -20266107.58 0.0089 0.0010

Venus -60199-07-29 00:42 J -20266052.57 -20266052.47 -20266052.37 0.3811 0.0343

Neptune -60199-08-30 20:52 J -20266019.81 -20266019.63 -20266019.44 0.0089 0.0018

Neptune -60199-11-27 00:13 J -20265931.66 -20265931.49 -20265931.29 0.0089 0.0026

Neptune -60198-02-23 03:35 J -20265843.51 -20265843.35 -20265843.16 0.0089 0.0034

Neptune -60198-05-22 07:25 J -20265755.36 -20265755.19 -20265755.02 0.0089 0.0041

Neptune -60198-08-18 10:47 J -20265667.20 -20265667.05 -20265666.88 0.0089 0.0049

Neptune -60198-11-14 14:23 J -20265579.04 -20265578.90 -20265578.75 0.0089 0.0057

Neptune -60197-02-10 17:45 J -20265490.88 -20265490.76 -20265490.62 0.0089 0.0065

Neptune -60197-05-08 21:06 J -20265402.71 -20265402.62 -20265402.50 0.0089 0.0073

Neptune -60197-08-05 00:42 J -20265314.53 -20265314.47 -20265314.38 0.0089 0.0081

Jupiter -60196-03-18 22:04 J -20265088.71 -20265088.58 -20265088.45 0.0529 0.0012

Earth -60196-06-11 00:57 J -20265004.48 -20265004.46 -20265004.43 0.2676 0.2569

Moon -60196-06-11 01:25 J -20265004.48 -20265004.44 -20265004.41 0.2682 0.2493 *

Saturn -60194-05-16 10:04 J -20264300.15 -20264300.08 -20264300.01 0.0297 0.0250

Saturn -60194-08-12 23:16 J -20264211.65 -20264211.53 -20264211.41 0.0298 0.0124

Saturn -60194-11-09 12:13 J -20264123.13 -20264122.99 -20264122.86 0.0299 0.0008

Saturn -60193-02-06 00:57 J -20264034.58 -20264034.46 -20264034.34 0.0299 0.0129

Venus -60193-02-11 16:33 J -20264028.90 -20264028.81 -20264028.72 0.3813 0.1602

Saturn -60193-05-04 13:40 J -20263945.99 -20263945.93 -20263945.86 0.0300 0.0254

Mars -60192-07-18 08:23 J -20263506.17 -20263506.15 -20263506.13 0.1907 0.1858

Jupiter -60190-02-05 21:21 J -20262938.72 -20262938.61 -20262938.48 0.0497 0.0371

Jupiter -60190-05-07 07:11 J -20262848.35 -20262848.20 -20262848.06 0.0498 0.0301

Moon -60190-06-20 20:37 J -20262803.74 -20262803.64 -20262803.54 0.2677 0.1310

Earth -60190-06-20 20:52 J -20262803.73 -20262803.63 -20262803.54 0.2684 0.1316 *

Venus -60188-08-27 08:37 J -20262005.18 -20262005.14 -20262005.11 0.3814 0.3523

Moon -60187-12-08 23:45 J -20261536.57 -20261536.51 -20261536.46 0.2651 0.2459

Earth -60187-12-09 00:57 J -20261536.52 -20261536.46 -20261536.40 0.2655 0.2426 *

Jupiter -60184-01-05 02:09 J -20260778.53 -20260778.41 -20260778.28 0.0529 0.0124

Jupiter -60184-04-04 08:09 J -20260689.24 -20260689.16 -20260689.08 0.0528 0.0409

Earth -60183-06-13 19:25 J -20260253.79 -20260253.69 -20260253.60 0.2678 0.1534

Moon -60183-06-13 19:54 J -20260253.76 -20260253.67 -20260253.57 0.2680 0.1528 *

Mars -60183-12-08 16:18 J -20260075.92 -20260075.82 -20260075.72 0.1899 0.0894

Mars -60182-10-06 19:11 J -20259773.85 -20259773.70 -20259773.55 0.1649 0.0748

Saturn -60180-03-14 21:21 J -20259248.63 -20259248.61 -20259248.58 0.0265 0.0262

Saturn -60180-06-11 17:16 J -20259159.93 -20259159.78 -20259159.62 0.0264 0.0140

Saturn -60180-09-08 13:25 J -20259071.13 -20259070.94 -20259070.76 0.0263 0.0018

Saturn -60180-12-06 09:35 J -20258982.27 -20258982.10 -20258981.93 0.0263 0.0105

Saturn -60179-03-05 05:30 J -20258893.35 -20258893.27 -20258893.17 0.0262 0.0228

Jupiter -60178-02-23 04:33 J -20258538.49 -20258538.31 -20258538.13 0.0497 0.0138

Moon -60177-06-22 14:09 J -20258052.97 -20258052.91 -20258052.85 0.2683 0.2204

Earth -60177-06-22 14:37 J -20258052.94 -20258052.89 -20258052.83 0.2686 0.2308 *

Uranus -60175-05-28 11:45 J -20257348.04 -20257348.01 -20257347.95 0.0133 0.0126

Uranus -60175-08-24 15:06 J -20257259.95 -20257259.87 -20257259.80 0.0133 0.0108

Uranus -60175-11-20 17:59 J -20257171.84 -20257171.75 -20257171.65 0.0133 0.0091

Uranus -60174-02-16 20:52 J -20257083.73 -20257083.63 -20257083.52 0.0133 0.0074

Uranus -60174-05-15 23:59 J -20256995.62 -20256995.50 -20256995.38 0.0133 0.0057

Uranus -60174-08-12 02:52 J -20256907.50 -20256907.38 -20256907.25 0.0133 0.0040

Uranus -60174-11-08 05:45 J -20256819.38 -20256819.26 -20256819.12 0.0133 0.0023

Moon -60174-12-12 05:16 J -20256785.43 -20256785.28 -20256785.14 0.2654 0.0741

Earth -60174-12-12 06:42 J -20256785.37 -20256785.22 -20256785.06 0.2653 0.0505 *

Uranus -60173-02-04 08:52 J -20256731.26 -20256731.13 -20256731.00 0.0133 0.0006

Mars -60173-04-30 00:28 J -20256645.60 -20256645.48 -20256645.37 0.1891 0.0085

Uranus -60173-05-02 11:45 J -20256643.14 -20256643.01 -20256642.88 0.0133 0.0012

Uranus -60173-07-29 14:37 J -20256555.01 -20256554.89 -20256554.76 0.0133 0.0029

Jupiter -60173-10-24 05:59 J -20256468.36 -20256468.25 -20256468.14 0.0529 0.0264

Uranus -60173-10-25 17:30 J -20256466.89 -20256466.77 -20256466.64 0.0133 0.0046

Jupiter -60172-01-21 11:59 J -20256379.10 -20256379.00 -20256378.89 0.0528 0.0273

Uranus -60172-01-21 20:37 J -20256378.75 -20256378.64 -20256378.52 0.0133 0.0063

Mars -60172-02-25 20:37 J -20256343.81 -20256343.64 -20256343.48 0.1656 0.0257

Uranus -60172-04-19 23:30 J -20256290.62 -20256290.52 -20256290.41 0.0133 0.0080

Uranus -60172-07-17 02:23 J -20256202.48 -20256202.40 -20256202.31 0.0133 0.0097

Uranus -60172-10-13 05:16 J -20256114.34 -20256114.28 -20256114.21 0.0133 0.0115

Uranus -60171-01-09 08:09 J -20256026.17 -20256026.16 -20256026.13 0.0134 0.0132

Earth -60170-06-16 13:25 J -20255503.05 -20255502.94 -20255502.83 0.2680 0.0515

Moon -60170-06-16 14:09 J -20255503.02 -20255502.91 -20255502.80 0.2678 0.0388 *

Jupiter -60167-12-12 01:54 J -20254228.60 -20254228.42 -20254228.23 0.0497 0.0028

Saturn -60165-10-02 11:45 J -20253568.04 -20253568.01 -20253567.99 0.0297 0.0289

Saturn -60165-12-30 00:42 J -20253479.58 -20253479.47 -20253479.36 0.0298 0.0163

Saturn -60164-03-28 13:40 J -20253391.06 -20253390.93 -20253390.80 0.0298 0.0037

Saturn -60164-06-25 02:37 J -20253302.52 -20253302.39 -20253302.26 0.0299 0.0089

Mars -60164-09-20 08:23 J -20253215.25 -20253215.15 -20253215.05 0.1882 0.0997

Saturn -60164-09-21 15:21 J -20253213.94 -20253213.86 -20253213.76 0.0300 0.0215

Mars -60163-07-18 22:04 J -20252913.68 -20252913.58 -20252913.47 0.1663 0.1251

Jupiter -60161-08-12 10:04 J -20252158.16 -20252158.08 -20252158.00 0.0529 0.0398

Jupiter -60161-11-09 16:18 J -20252068.94 -20252068.82 -20252068.69 0.0529 0.0144

Moon -60161-12-14 11:45 J -20252034.14 -20252034.01 -20252033.89 0.2654 0.1440

Earth -60161-12-14 12:57 J -20252034.09 -20252033.96 -20252033.83 0.2650 0.1468 *

Earth -60157-06-18 07:40 J -20250752.29 -20250752.18 -20250752.07 0.2682 0.0510

Moon -60157-06-18 07:54 J -20250752.28 -20250752.17 -20250752.06 0.2676 0.0493 *

Venus -60156-04-29 07:40 J -20250437.34 -20250437.18 -20250437.02 0.3568 0.0245

Jupiter -60155-09-29 22:33 J -20249918.73 -20249918.56 -20249918.39 0.0496 0.0201

Jupiter -60155-12-29 08:23 J -20249828.20 -20249828.15 -20249828.10 0.0497 0.0474

Venus -60153-02-03 14:23 J -20249426.94 -20249426.90 -20249426.86 0.3808 0.3444

Saturn -60151-10-29 17:16 J -20248427.92 -20248427.78 -20248427.64 0.0265 0.0173

Saturn -60150-01-26 13:11 J -20248339.13 -20248338.95 -20248338.77 0.0264 0.0051

Saturn -60150-04-25 09:06 J -20248250.29 -20248250.12 -20248249.93 0.0263 0.0073

Earth -60150-06-12 05:59 J -20248202.30 -20248202.25 -20248202.20 0.2676 0.2364

Moon -60150-06-12 06:13 J -20248202.29 -20248202.24 -20248202.19 0.2682 0.2379 *

Saturn -60150-07-23 05:30 J -20248161.39 -20248161.27 -20248161.15 0.0263 0.0195

Jupiter -60149-08-28 20:37 J -20247758.77 -20247758.64 -20247758.51 0.0529 0.0012

Venus -60148-08-19 06:13 J -20247403.33 -20247403.24 -20247403.15 0.3810 0.1544

Moon -60144-06-21 01:25 J -20246001.53 -20246001.44 -20246001.35 0.2678 0.1485

Earth -60144-06-21 01:40 J -20246001.52 -20246001.43 -20246001.34 0.2684 0.1509 *

Mars -60143-06-08 16:18 J -20245648.91 -20245648.82 -20245648.72 0.1899 0.1006

Jupiter -60143-07-18 19:54 J -20245608.79 -20245608.67 -20245608.54 0.0496 0.0364

Jupiter -60143-10-17 05:30 J -20245518.41 -20245518.27 -20245518.12 0.0497 0.0306

Venus -60142-03-04 22:04 J -20245379.68 -20245379.58 -20245379.48 0.3812 0.0397

Mars -60142-04-06 19:54 J -20245346.81 -20245346.67 -20245346.53 0.1649 0.0889

Moon -60141-12-09 05:59 J -20244734.33 -20244734.25 -20244734.16 0.2651 0.2210

Earth -60141-12-09 07:25 J -20244734.29 -20244734.19 -20244734.10 0.2655 0.2068 *

Earth -60137-06-14 00:13 J -20243451.59 -20243451.49 -20243451.39 0.2678 0.1334

Moon -60137-06-14 00:57 J -20243451.56 -20243451.46 -20243451.36 0.2679 0.1199 *

Jupiter -60137-06-17 00:57 J -20243448.58 -20243448.46 -20243448.34 0.0529 0.0120

Jupiter -60137-09-14 06:57 J -20243359.28 -20243359.21 -20243359.13 0.0528 0.0414

Venus -60137-09-17 14:09 J -20243355.99 -20243355.91 -20243355.83 0.3813 0.2297

Saturn -60135-05-19 02:23 J -20242747.50 -20242747.40 -20242747.30 0.0297 0.0202

Saturn -60135-08-15 15:21 J -20242658.99 -20242658.86 -20242658.73 0.0298 0.0076

Saturn -60135-11-12 04:18 J -20242570.45 -20242570.32 -20242570.19 0.0298 0.0050

Saturn -60134-02-08 17:01 J -20242481.89 -20242481.79 -20242481.68 0.0299 0.0175

Uranus -60134-06-17 05:59 J -20242353.28 -20242353.25 -20242353.21 0.0146 0.0143

Uranus -60134-09-13 14:37 J -20242265.01 -20242264.89 -20242264.76 0.0146 0.0110

Mars -60134-10-30 00:28 J -20242218.60 -20242218.48 -20242218.36 0.1891 0.0059

Uranus -60134-12-10 23:16 J -20242176.69 -20242176.53 -20242176.36 0.0146 0.0077

Uranus -60133-03-08 08:09 J -20242088.34 -20242088.16 -20242087.98 0.0146 0.0044

Uranus -60133-06-04 16:47 J -20241999.99 -20241999.80 -20241999.60 0.0146 0.0011

Mars -60133-08-26 21:06 J -20241916.78 -20241916.62 -20241916.45 0.1656 0.0121

Uranus -60133-09-01 01:25 J -20241911.62 -20241911.44 -20241911.24 0.0146 0.0023

Uranus -60133-11-28 10:18 J -20241823.25 -20241823.07 -20241822.89 0.0145 0.0056

Uranus -60132-02-24 18:42 J -20241734.86 -20241734.72 -20241734.55 0.0145 0.0090

Uranus -60132-05-24 03:35 J -20241646.44 -20241646.35 -20241646.24 0.0145 0.0122

Moon -60131-06-23 18:57 J -20241250.76 -20241250.71 -20241250.67 0.2684 0.2450

Earth -60131-06-23 19:40 J -20241250.72 -20241250.68 -20241250.65 0.2686 0.2500 *

Jupiter -60131-08-05 02:37 J -20241208.57 -20241208.39 -20241208.21 0.0497 0.0139

Moon -60128-12-12 11:30 J -20239983.17 -20239983.02 -20239982.86 0.2654 0.0214

Earth -60128-12-12 13:11 J -20239983.10 -20239982.95 -20239982.79 0.2653 0.0163 *

Jupiter -60125-04-05 05:01 J -20239138.40 -20239138.29 -20239138.18 0.0529 0.0254

Jupiter -60125-07-03 11:16 J -20239049.14 -20239049.03 -20239048.92 0.0528 0.0283

Mars -60124-03-21 08:23 J -20238788.25 -20238788.15 -20238788.05 0.1883 0.0889

Earth -60124-06-16 18:28 J -20238700.84 -20238700.73 -20238700.62 0.2680 0.0319

Moon -60124-06-16 18:57 J -20238700.82 -20238700.71 -20238700.60 0.2677 0.0310 *

Mars -60123-01-16 22:33 J -20238486.68 -20238486.56 -20238486.44 0.1663 0.1119

Saturn -60121-03-17 15:21 J -20237695.95 -20237695.86 -20237695.75 0.0265 0.0217

Saturn -60121-06-14 11:30 J -20237607.19 -20237607.02 -20237606.85 0.0264 0.0094

Saturn -60121-09-11 07:40 J -20237518.37 -20237518.18 -20237518.00 0.0263 0.0029

Saturn -60121-12-09 03:35 J -20237429.49 -20237429.35 -20237429.19 0.0263 0.0152

Neptune -60120-04-23 21:21 J -20237293.62 -20237293.61 -20237293.59 0.0089 0.0088

Neptune -60120-07-20 22:33 J -20237205.59 -20237205.56 -20237205.50 0.0089 0.0083

Neptune -60120-10-16 23:59 J -20237117.55 -20237117.50 -20237117.42 0.0089 0.0077

Neptune -60119-01-13 01:40 J -20237029.51 -20237029.43 -20237029.35 0.0089 0.0071

Neptune -60119-04-11 02:52 J -20236941.46 -20236941.38 -20236941.27 0.0089 0.0066

Jupiter -60119-05-23 23:59 J -20236898.68 -20236898.50 -20236898.31 0.0497 0.0026

Neptune -60119-07-08 04:33 J -20236853.41 -20236853.31 -20236853.21 0.0089 0.0060

Pluto -60119-08-07 01:54 J -20236823.45 -20236823.42 -20236823.35 0.0061 0.0058

Neptune -60119-10-04 05:59 J -20236765.35 -20236765.25 -20236765.14 0.0089 0.0054

Pluto -60119-11-03 02:52 J -20236735.44 -20236735.38 -20236735.28 0.0061 0.0054

Neptune -60119-12-31 07:11 J -20236677.30 -20236677.20 -20236677.08 0.0089 0.0049

Pluto -60118-01-30 04:04 J -20236647.41 -20236647.33 -20236647.21 0.0061 0.0049

Neptune -60118-03-29 08:52 J -20236589.25 -20236589.13 -20236589.01 0.0089 0.0043

Pluto -60118-04-28 05:30 J -20236559.38 -20236559.27 -20236559.15 0.0061 0.0044

Neptune -60118-06-25 10:04 J -20236501.19 -20236501.08 -20236500.95 0.0089 0.0038

Pluto -60118-07-25 06:13 J -20236471.35 -20236471.24 -20236471.09 0.0061 0.0040

Neptune -60118-09-21 11:30 J -20236413.14 -20236413.02 -20236412.89 0.0089 0.0032

Pluto -60118-10-21 07:25 J -20236383.32 -20236383.19 -20236383.03 0.0061 0.0036

Neptune -60118-12-18 13:11 J -20236325.08 -20236324.95 -20236324.82 0.0089 0.0026

Pluto -60117-01-17 08:37 J -20236295.28 -20236295.14 -20236294.97 0.0061 0.0031

Neptune -60117-03-15 14:23 J -20236237.03 -20236236.90 -20236236.76 0.0089 0.0021

Pluto -60117-04-14 10:04 J -20236207.24 -20236207.08 -20236206.92 0.0061 0.0026

Neptune -60117-06-11 15:49 J -20236148.97 -20236148.84 -20236148.70 0.0089 0.0015

Pluto -60117-07-11 11:16 J -20236119.20 -20236119.03 -20236118.86 0.0062 0.0021

Neptune -60117-09-07 17:16 J -20236060.91 -20236060.78 -20236060.64 0.0089 0.0009

Pluto -60117-10-07 12:13 J -20236031.15 -20236030.99 -20236030.81 0.0062 0.0016

Neptune -60117-12-04 18:42 J -20235972.86 -20235972.72 -20235972.59 0.0089 0.0004

Pluto -60116-01-03 13:25 J -20235943.11 -20235942.94 -20235942.76 0.0062 0.0012

Neptune -60116-03-02 20:09 J -20235884.80 -20235884.66 -20235884.53 0.0089 0.0003

Pluto -60116-04-01 14:37 J -20235855.06 -20235854.89 -20235854.71 0.0062 0.0007

Neptune -60116-05-29 21:21 J -20235796.74 -20235796.61 -20235796.47 0.0089 0.0008

Pluto -60116-06-28 16:04 J -20235767.01 -20235766.83 -20235766.66 0.0062 0.0002

Neptune -60116-08-25 22:47 J -20235708.68 -20235708.55 -20235708.41 0.0089 0.0013

Pluto -60116-09-24 17:01 J -20235678.96 -20235678.79 -20235678.61 0.0062 0.0004

Neptune -60116-11-22 00:13 J -20235620.62 -20235620.49 -20235620.36 0.0089 0.0019

Pluto -60116-12-21 18:13 J -20235590.91 -20235590.74 -20235590.56 0.0062 0.0009

Neptune -60115-02-18 01:25 J -20235532.56 -20235532.44 -20235532.30 0.0089 0.0025

Pluto -60115-03-19 19:25 J -20235502.86 -20235502.69 -20235502.51 0.0062 0.0013

Neptune -60115-05-17 02:52 J -20235444.50 -20235444.38 -20235444.25 0.0089 0.0030

Pluto -60115-06-15 20:37 J -20235414.81 -20235414.64 -20235414.47 0.0062 0.0018

Mars -60115-08-11 16:33 J -20235357.84 -20235357.81 -20235357.78 0.1874 0.1810

Neptune -60115-08-13 04:04 J -20235356.44 -20235356.33 -20235356.20 0.0089 0.0036

Pluto -60115-09-11 21:49 J -20235326.75 -20235326.59 -20235326.42 0.0062 0.0024

Neptune -60115-11-09 05:30 J -20235268.38 -20235268.27 -20235268.14 0.0089 0.0041

Pluto -60115-12-08 23:01 J -20235238.69 -20235238.54 -20235238.38 0.0062 0.0029

Moon -60115-12-15 18:28 J -20235231.85 -20235231.73 -20235231.61 0.2655 0.1649

Earth -60115-12-15 19:40 J -20235231.79 -20235231.68 -20235231.57 0.2650 0.1838 *

Neptune -60114-02-05 06:57 J -20235180.32 -20235180.21 -20235180.09 0.0089 0.0046

Pluto -60114-03-07 00:13 J -20235150.63 -20235150.49 -20235150.33 0.0062 0.0034

Neptune -60114-05-04 08:23 J -20235092.26 -20235092.15 -20235092.04 0.0089 0.0052

Pluto -60114-06-03 01:40 J -20235062.57 -20235062.43 -20235062.29 0.0062 0.0039

Neptune -60114-07-31 09:49 J -20235004.19 -20235004.09 -20235003.99 0.0089 0.0057

Pluto -60114-08-30 02:23 J -20234974.50 -20234974.40 -20234974.25 0.0063 0.0045

Neptune -60114-10-27 11:01 J -20234916.13 -20234916.04 -20234915.94 0.0089 0.0063

Pluto -60114-11-26 03:35 J -20234886.44 -20234886.35 -20234886.22 0.0063 0.0050

Jupiter -60113-01-23 08:37 J -20234828.22 -20234828.14 -20234828.05 0.0529 0.0395

Neptune -60113-01-23 12:28 J -20234828.06 -20234827.98 -20234827.89 0.0089 0.0068 *

Pluto -60113-02-22 05:01 J -20234798.36 -20234798.29 -20234798.19 0.0063 0.0055

Neptune -60113-04-20 13:40 J -20234739.99 -20234739.93 -20234739.85 0.0089 0.0074

Jupiter -60113-04-21 15:06 J -20234738.99 -20234738.87 -20234738.75 0.0528 0.0145

Pluto -60113-05-20 06:28 J -20234710.27 -20234710.23 -20234710.17 0.0063 0.0060

Neptune -60113-07-17 15:06 J -20234651.92 -20234651.87 -20234651.81 0.0089 0.0079

Neptune -60113-10-13 16:18 J -20234563.85 -20234563.82 -20234563.77 0.0089 0.0085

Earth -60111-06-19 12:28 J -20233950.09 -20233949.98 -20233949.87 0.2682 0.0701

Moon -60111-06-19 12:42 J -20233950.08 -20233949.97 -20233949.87 0.2675 0.0768 *

Jupiter -60107-03-11 21:21 J -20232588.78 -20232588.61 -20232588.44 0.0497 0.0190

Jupiter -60107-06-10 07:11 J -20232498.23 -20232498.20 -20232498.16 0.0498 0.0488

Saturn -60106-10-06 04:18 J -20232015.40 -20232015.32 -20232015.24 0.0297 0.0238

Saturn -60105-01-02 17:16 J -20231926.90 -20231926.78 -20231926.65 0.0298 0.0112

Saturn -60105-03-31 06:13 J -20231838.37 -20231838.24 -20231838.11 0.0298 0.0014

Venus -60105-05-20 00:42 J -20231788.54 -20231788.47 -20231788.41 0.3570 0.3268

Saturn -60105-06-27 19:11 J -20231749.82 -20231749.70 -20231749.59 0.0299 0.0140

Saturn -60105-09-24 07:54 J -20231661.23 -20231661.17 -20231661.11 0.0300 0.0265

Earth -60104-06-12 10:47 J -20231400.11 -20231400.05 -20231399.98 0.2676 0.2161

Moon -60104-06-12 11:16 J -20231400.10 -20231400.03 -20231399.96 0.2681 0.2099 *

Mars -60104-12-07 16:18 J -20231221.91 -20231221.82 -20231221.72 0.1899 0.1105

Mars -60103-10-05 20:23 J -20230919.78 -20230919.65 -20230919.52 0.1649 0.1023

Jupiter -60101-02-08 19:11 J -20230428.83 -20230428.70 -20230428.57 0.0529 0.0014

Venus -60100-12-04 09:49 J -20229764.22 -20229764.09 -20229763.96 0.3567 0.2001

Moon -60098-06-22 05:59 J -20229199.33 -20229199.25 -20229199.16 0.2679 0.1628

Earth -60098-06-22 06:28 J -20229199.31 -20229199.23 -20229199.14 0.2685 0.1701 *

Venus -60097-09-09 11:45 J -20228754.08 -20228754.01 -20228753.94 0.3808 0.2761

Jupiter -60096-12-28 18:13 J -20228278.86 -20228278.74 -20228278.61 0.0496 0.0359

Jupiter -60095-03-29 03:35 J -20228188.49 -20228188.35 -20228188.20 0.0497 0.0311

Moon -60095-12-10 12:13 J -20227932.09 -20227931.99 -20227931.88 0.2653 0.1858

Earth -60095-12-10 13:54 J -20227932.04 -20227931.92 -20227931.81 0.2655 0.1718 *

Mars -60094-04-30 00:13 J -20227791.60 -20227791.49 -20227791.37 0.1891 0.0170

Mars -60093-02-25 22:04 J -20227489.75 -20227489.58 -20227489.42 0.1656 0.0045

Saturn -60092-08-04 15:49 J -20226963.90 -20226963.84 -20226963.78 0.0265 0.0247

Saturn -60092-11-01 11:30 J -20226875.17 -20226875.02 -20226874.85 0.0265 0.0126

Saturn -60091-01-29 07:40 J -20226786.36 -20226786.18 -20226785.99 0.0264 0.0007

Venus -60091-03-26 03:35 J -20226730.44 -20226730.35 -20226730.25 0.3811 0.0872

Saturn -60091-04-28 03:49 J -20226697.50 -20226697.34 -20226697.17 0.0264 0.0121

Earth -60091-06-15 05:01 J -20226649.39 -20226649.29 -20226649.19 0.2678 0.1132

Moon -60091-06-15 05:45 J -20226649.36 -20226649.26 -20226649.15 0.2679 0.1113 *

Uranus -60091-06-17 19:11 J -20226646.75 -20226646.70 -20226646.64 0.0133 0.0121

Saturn -60091-07-26 00:13 J -20226608.55 -20226608.49 -20226608.42 0.0263 0.0244

Uranus -60091-09-13 22:18 J -20226558.65 -20226558.57 -20226558.49 0.0133 0.0104

Uranus -60091-12-11 01:11 J -20226470.55 -20226470.45 -20226470.35 0.0133 0.0087

Uranus -60090-03-09 04:04 J -20226382.44 -20226382.33 -20226382.21 0.0133 0.0070

Uranus -60090-06-05 06:57 J -20226294.32 -20226294.21 -20226294.08 0.0133 0.0053

Uranus -60090-09-01 10:04 J -20226206.21 -20226206.08 -20226205.95 0.0133 0.0036

Jupiter -60090-11-27 23:16 J -20226118.66 -20226118.53 -20226118.41 0.0530 0.0124

Uranus -60090-11-28 12:57 J -20226118.09 -20226117.96 -20226117.82 0.0133 0.0019

Uranus -60089-02-24 16:04 J -20226029.96 -20226029.83 -20226029.70 0.0133 0.0001

Jupiter -60089-02-25 05:16 J -20226029.35 -20226029.28 -20226029.20 0.0529 0.0413

Uranus -60089-05-22 18:57 J -20225941.84 -20225941.71 -20225941.58 0.0133 0.0016

Uranus -60089-08-18 21:49 J -20225853.71 -20225853.59 -20225853.46 0.0133 0.0033

Uranus -60089-11-15 00:57 J -20225765.58 -20225765.46 -20225765.34 0.0133 0.0050

Uranus -60088-02-11 03:49 J -20225677.45 -20225677.34 -20225677.23 0.0133 0.0067

Uranus -60088-05-10 06:42 J -20225589.32 -20225589.22 -20225589.11 0.0133 0.0085

Uranus -60088-08-06 09:35 J -20225501.18 -20225501.10 -20225501.01 0.0133 0.0102

Uranus -60088-11-02 12:42 J -20225413.03 -20225412.97 -20225412.91 0.0134 0.0119

Venus -60086-10-09 19:40 J -20224706.78 -20224706.68 -20224706.58 0.3812 0.1067

Moon -60085-06-23 23:45 J -20224448.53 -20224448.51 -20224448.49 0.2684 0.2605

Mars -60085-09-19 08:37 J -20224361.25 -20224361.14 -20224361.04 0.1883 0.0773

Mars -60084-07-17 23:16 J -20224059.66 -20224059.53 -20224059.40 0.1662 0.0982

Jupiter -60083-01-15 00:42 J -20223878.64 -20223878.47 -20223878.29 0.0497 0.0143

Moon -60082-12-13 18:13 J -20223180.90 -20223180.74 -20223180.59 0.2653 0.0018

Earth -60082-12-13 19:54 J -20223180.83 -20223180.67 -20223180.52 0.2652 0.0227 *

Venus -60080-04-24 11:30 J -20222683.08 -20222683.02 -20222682.96 0.3814 0.2984

Earth -60078-06-17 23:16 J -20221898.64 -20221898.53 -20221898.42 0.2681 0.0118

Moon -60078-06-17 23:45 J -20221898.62 -20221898.51 -20221898.40 0.2676 0.0003 *

Jupiter -60078-09-16 03:21 J -20221808.47 -20221808.36 -20221808.24 0.0530 0.0256

Jupiter -60078-12-14 09:35 J -20221719.20 -20221719.10 -20221718.99 0.0529 0.0283

Saturn -60076-02-22 06:13 J -20221283.28 -20221283.24 -20221283.18 0.0296 0.0273

Saturn -60076-05-21 19:25 J -20221194.80 -20221194.69 -20221194.57 0.0297 0.0147

Saturn -60076-08-18 08:23 J -20221106.28 -20221106.15 -20221106.02 0.0298 0.0022

Saturn -60076-11-14 21:21 J -20221017.74 -20221017.61 -20221017.49 0.0299 0.0104

Mars -60075-02-09 16:33 J -20220930.86 -20220930.81 -20220930.76 0.1874 0.1709

Saturn -60075-02-11 10:04 J -20220929.16 -20220929.08 -20220929.00 0.0299 0.0229

Jupiter -60072-11-02 21:49 J -20219568.78 -20219568.59 -20219568.41 0.0497 0.0027

Moon -60069-12-16 01:11 J -20218429.53 -20218429.45 -20218429.37 0.2656 0.2230

Earth -60069-12-16 02:09 J -20218429.49 -20218429.41 -20218429.33 0.2650 0.2202 *

Jupiter -60066-07-05 07:25 J -20217498.27 -20217498.19 -20217498.10 0.0529 0.0390

Jupiter -60066-10-02 13:54 J -20217409.04 -20217408.92 -20217408.80 0.0529 0.0151

Moon -60065-06-19 17:30 J -20217147.88 -20217147.77 -20217147.67 0.2676 0.0853

Earth -60065-06-19 17:16 J -20217147.88 -20217147.78 -20217147.67 0.2683 0.0897 *

Mars -60064-06-07 16:18 J -20216794.91 -20216794.82 -20216794.73 0.1899 0.1211

Mars -60063-04-05 21:06 J -20216492.73 -20216492.62 -20216492.50 0.1649 0.1164

Saturn -60062-03-21 10:33 J -20216143.20 -20216143.06 -20216142.91 0.0265 0.0166

Saturn -60062-06-18 06:42 J -20216054.41 -20216054.22 -20216054.04 0.0264 0.0043

Saturn -60062-09-15 02:37 J -20215965.56 -20215965.39 -20215965.21 0.0263 0.0081

Saturn -60062-12-12 22:47 J -20215876.65 -20215876.55 -20215876.42 0.0263 0.0204

Jupiter -60060-08-21 18:57 J -20215258.87 -20215258.71 -20215258.53 0.0497 0.0192

Jupiter -60060-11-20 05:01 J -20215168.33 -20215168.29 -20215168.25 0.0498 0.0485

Earth -60058-06-13 15:49 J -20214597.92 -20214597.84 -20214597.77 0.2677 0.1962

Moon -60058-06-13 16:18 J -20214597.90 -20214597.82 -20214597.74 0.2681 0.1898 *

Mars -60055-10-29 00:28 J -20213364.59 -20213364.48 -20213364.36 0.1891 0.0269

Jupiter -60054-07-21 17:45 J -20213098.89 -20213098.76 -20213098.64 0.0529 0.0018

Mars -60054-08-26 22:33 J -20213062.73 -20213062.56 -20213062.40 0.1656 0.0163

Moon -60052-06-22 10:47 J -20212397.13 -20212397.05 -20212396.97 0.2680 0.1883

Earth -60052-06-22 11:16 J -20212397.10 -20212397.03 -20212396.95 0.2685 0.1895 *

Uranus -60050-07-07 13:54 J -20211651.99 -20211651.92 -20211651.84 0.0146 0.0133

Uranus -60050-10-03 22:47 J -20211563.69 -20211563.55 -20211563.41 0.0146 0.0100

Uranus -60050-12-31 07:25 J -20211475.36 -20211475.19 -20211475.02 0.0146 0.0067

Uranus -60049-03-28 16:04 J -20211387.02 -20211386.83 -20211386.64 0.0146 0.0034

Uranus -60049-06-25 00:57 J -20211298.66 -20211298.46 -20211298.27 0.0146 0.0003

Uranus -60049-09-21 09:35 J -20211210.29 -20211210.10 -20211209.91 0.0145 0.0033

Moon -60049-12-10 18:42 J -20211129.85 -20211129.72 -20211129.60 0.2653 0.1472

Earth -60049-12-10 20:23 J -20211129.79 -20211129.65 -20211129.52 0.2654 0.1368 *

Uranus -60049-12-18 18:13 J -20211121.91 -20211121.74 -20211121.56 0.0145 0.0066

Venus -60049-12-25 02:52 J -20211115.53 -20211115.38 -20211115.23 0.3569 0.1473

Uranus -60048-03-17 02:52 J -20211033.51 -20211033.38 -20211033.23 0.0145 0.0099

Jupiter -60048-06-09 16:18 J -20210948.94 -20210948.82 -20210948.68 0.0497 0.0356

Uranus -60048-06-13 11:30 J -20210945.08 -20210945.02 -20210944.93 0.0145 0.0132

Jupiter -60048-09-08 01:54 J -20210858.56 -20210858.42 -20210858.27 0.0497 0.0317

Saturn -60047-10-08 21:49 J -20210462.70 -20210462.59 -20210462.49 0.0297 0.0179

Saturn -60046-01-05 10:47 J -20210374.18 -20210374.05 -20210373.92 0.0298 0.0054

Saturn -60046-04-03 23:30 J -20210285.64 -20210285.52 -20210285.39 0.0299 0.0073

Saturn -60046-07-01 12:28 J -20210197.08 -20210196.98 -20210196.88 0.0299 0.0197

Mars -60045-03-20 08:23 J -20209934.26 -20209934.15 -20209934.04 0.1882 0.0681

Earth -60045-06-15 10:04 J -20209847.19 -20209847.08 -20209846.98 0.2679 0.0935

Moon -60045-06-15 10:47 J -20209847.16 -20209847.05 -20209846.95 0.2679 0.0818 *

Mars -60044-01-15 23:59 J -20209632.64 -20209632.50 -20209632.36 0.1663 0.0840

Jupiter -60042-05-09 21:35 J -20208788.72 -20208788.60 -20208788.47 0.0529 0.0126

Jupiter -60042-08-07 03:49 J -20208699.42 -20208699.34 -20208699.27 0.0528 0.0410

Venus -60040-04-16 09:21 J -20208081.20 -20208081.11 -20208081.03 0.3809 0.2085

Neptune -60037-01-09 19:54 J -20207082.68 -20207082.67 -20207082.65 0.0089 0.0088

Neptune -60037-04-06 23:01 J -20206994.60 -20206994.54 -20206994.45 0.0089 0.0081

Neptune -60037-07-04 02:37 J -20206906.49 -20206906.39 -20206906.28 0.0089 0.0073

Neptune -60037-09-30 06:13 J -20206818.37 -20206818.24 -20206818.12 0.0089 0.0065

Neptune -60037-12-27 09:06 J -20206730.25 -20206730.12 -20206729.96 0.0089 0.0058

Neptune -60036-03-25 12:42 J -20206642.12 -20206641.97 -20206641.81 0.0089 0.0050

Neptune -60036-06-21 16:18 J -20206553.99 -20206553.82 -20206553.65 0.0089 0.0042

Jupiter -60036-06-26 22:33 J -20206548.73 -20206548.56 -20206548.38 0.0497 0.0144

Mars -60036-08-10 16:33 J -20206503.87 -20206503.81 -20206503.75 0.1875 0.1600

Neptune -60036-09-17 19:25 J -20206465.85 -20206465.69 -20206465.50 0.0089 0.0035

Moon -60036-12-14 00:42 J -20206378.62 -20206378.47 -20206378.31 0.2654 0.0493

Earth -60036-12-14 02:23 J -20206378.55 -20206378.40 -20206378.25 0.2652 0.0581 *

Neptune -60036-12-14 22:47 J -20206377.72 -20206377.55 -20206377.36 0.0089 0.0027

Neptune -60035-03-13 02:23 J -20206289.58 -20206289.40 -20206289.21 0.0089 0.0019

Neptune -60035-06-09 05:59 J -20206201.44 -20206201.25 -20206201.06 0.0089 0.0011

Neptune -60035-09-05 09:21 J -20206113.30 -20206113.11 -20206112.92 0.0089 0.0003

Venus -60035-10-31 01:11 J -20206057.55 -20206057.45 -20206057.35 0.3811 0.0169

Neptune -60035-12-02 12:42 J -20206025.15 -20206024.97 -20206024.77 0.0089 0.0006

Neptune -60034-02-28 16:18 J -20205937.01 -20205936.82 -20205936.63 0.0089 0.0013

Neptune -60034-05-27 19:40 J -20205848.86 -20205848.68 -20205848.49 0.0089 0.0021

Neptune -60034-08-23 23:01 J -20205760.71 -20205760.54 -20205760.35 0.0089 0.0029

Neptune -60034-11-20 02:37 J -20205672.56 -20205672.39 -20205672.21 0.0089 0.0037

Neptune -60033-02-16 05:59 J -20205584.40 -20205584.25 -20205584.07 0.0089 0.0045

Neptune -60033-05-14 09:21 J -20205496.25 -20205496.11 -20205495.94 0.0089 0.0053

Saturn -60033-08-07 11:16 J -20205411.15 -20205411.03 -20205410.90 0.0265 0.0194

Neptune -60033-08-10 12:57 J -20205408.09 -20205407.96 -20205407.81 0.0089 0.0061

Saturn -60033-11-04 07:25 J -20205322.37 -20205322.19 -20205322.01 0.0265 0.0071

Neptune -60033-11-06 16:18 J -20205319.92 -20205319.82 -20205319.68 0.0089 0.0069

Saturn -60032-02-01 03:21 J -20205233.54 -20205233.36 -20205233.17 0.0264 0.0053

Neptune -60032-02-02 19:54 J -20205231.75 -20205231.67 -20205231.56 0.0089 0.0077

Saturn -60032-04-30 23:30 J -20205144.65 -20205144.52 -20205144.37 0.0263 0.0177

Neptune -60032-05-01 23:16 J -20205143.56 -20205143.53 -20205143.45 0.0089 0.0085

Earth -60032-06-18 04:04 J -20205096.44 -20205096.33 -20205096.22 0.2681 0.0095

Moon -60032-06-18 04:33 J -20205096.42 -20205096.31 -20205096.20 0.2675 0.0084 *

Jupiter -60030-02-26 01:25 J -20204478.55 -20204478.44 -20204478.33 0.0530 0.0265

Jupiter -60030-05-26 07:40 J -20204389.28 -20204389.18 -20204389.07 0.0529 0.0276

Venus -60029-05-15 17:01 J -20204033.88 -20204033.79 -20204033.70 0.3813 0.1753

Pluto -60027-12-27 22:04 J -20203077.63 -20203077.58 -20203077.51 0.0084 0.0075

Pluto -60026-03-25 23:45 J -20202989.59 -20202989.51 -20202989.41 0.0083 0.0065

Pluto -60026-06-22 01:25 J -20202901.54 -20202901.44 -20202901.33 0.0083 0.0054

Pluto -60026-09-18 03:06 J -20202813.49 -20202813.37 -20202813.25 0.0083 0.0044

Pluto -60026-12-15 04:33 J -20202725.44 -20202725.31 -20202725.17 0.0083 0.0035

Pluto -60025-03-12 05:59 J -20202637.38 -20202637.25 -20202637.10 0.0083 0.0025

Pluto -60025-06-08 07:40 J -20202549.32 -20202549.18 -20202549.03 0.0083 0.0015

Pluto -60025-09-04 09:21 J -20202461.25 -20202461.11 -20202460.97 0.0083 0.0005

Pluto -60025-12-01 10:47 J -20202373.19 -20202373.05 -20202372.90 0.0083 0.0004

Mars -60025-12-06 16:33 J -20202367.90 -20202367.81 -20202367.73 0.1899 0.1323

Pluto -60024-02-27 12:13 J -20202285.13 -20202284.99 -20202284.84 0.0082 0.0014

Jupiter -60024-04-14 19:40 J -20202238.86 -20202238.68 -20202238.49 0.0496 0.0027

Pluto -60024-05-26 13:40 J -20202197.06 -20202196.93 -20202196.79 0.0082 0.0023

Pluto -60024-08-22 15:21 J -20202108.99 -20202108.86 -20202108.73 0.0082 0.0032

Mars -60024-10-04 21:49 J -20202065.69 -20202065.59 -20202065.49 0.1649 0.1300

Pluto -60024-11-18 16:47 J -20202020.92 -20202020.80 -20202020.68 0.0082 0.0041

Venus -60024-11-29 09:06 J -20202010.14 -20202010.12 -20202010.10 0.3814 0.3685

Pluto -60023-02-14 17:59 J -20201932.85 -20201932.75 -20201932.63 0.0082 0.0051

Pluto -60023-05-13 19:25 J -20201844.77 -20201844.69 -20201844.58 0.0082 0.0060

Pluto -60023-08-09 20:52 J -20201756.69 -20201756.63 -20201756.54 0.0082 0.0069

Pluto -60023-11-05 22:18 J -20201668.60 -20201668.57 -20201668.52 0.0081 0.0078

Moon -60023-12-17 07:54 J -20201627.23 -20201627.17 -20201627.11 0.2656 0.2418

Earth -60023-12-17 08:37 J -20201627.17 -20201627.14 -20201627.10 0.2649 0.2571 *

Moon -60019-06-20 22:04 J -20200345.68 -20200345.58 -20200345.48 0.2677 0.1141

Earth -60019-06-20 22:04 J -20200345.68 -20200345.58 -20200345.47 0.2683 0.1094 *

Jupiter -60019-12-15 05:30 J -20200168.35 -20200168.27 -20200168.18 0.0530 0.0398

Jupiter -60018-03-14 11:59 J -20200079.12 -20200079.00 -20200078.88 0.0529 0.0145

Saturn -60017-02-26 00:28 J -20199730.57 -20199730.48 -20199730.39 0.0296 0.0209

Saturn -60017-05-24 13:25 J -20199642.07 -20199641.94 -20199641.81 0.0297 0.0084

Saturn -60017-08-21 02:23 J -20199553.53 -20199553.40 -20199553.27 0.0298 0.0042

Saturn -60017-11-17 15:06 J -20199464.98 -20199464.87 -20199464.76 0.0299 0.0166

Saturn -60016-02-14 03:49 J -20199376.36 -20199376.34 -20199376.31 0.0299 0.0291

Mars -60015-04-29 00:28 J -20198937.59 -20198937.48 -20198937.37 0.1891 0.0371

Mars -60014-02-24 23:01 J -20198635.70 -20198635.54 -20198635.38 0.1656 0.0300

Jupiter -60012-01-31 16:33 J -20197928.98 -20197928.81 -20197928.64 0.0497 0.0197

Jupiter -60012-05-02 02:23 J -20197838.45 -20197838.40 -20197838.36 0.0497 0.0479

Earth -60012-06-13 20:37 J -20197795.72 -20197795.64 -20197795.56 0.2677 0.1757

Moon -60012-06-13 21:21 J -20197795.70 -20197795.61 -20197795.53 0.2681 0.1712 *

Uranus -60007-07-08 02:09 J -20195945.46 -20195945.41 -20195945.34 0.0133 0.0118

Uranus -60007-10-04 05:01 J -20195857.36 -20195857.29 -20195857.19 0.0133 0.0101

Uranus -60007-12-31 08:09 J -20195769.26 -20195769.16 -20195769.05 0.0133 0.0083

Jupiter -60007-12-31 16:18 J -20195768.95 -20195768.82 -20195768.70 0.0529 0.0020

Uranus -60006-03-29 11:16 J -20195681.15 -20195681.03 -20195680.92 0.0133 0.0066

Moon -60006-06-23 15:35 J -20195594.92 -20195594.85 -20195594.77 0.2680 0.1970

Earth -60006-06-23 16:04 J -20195594.89 -20195594.83 -20195594.76 0.2685 0.2086 *

Uranus -60006-06-25 14:09 J -20195593.03 -20195592.91 -20195592.79 0.0133 0.0049

Mars -60006-09-19 08:37 J -20195507.26 -20195507.14 -20195507.03 0.1883 0.0570

Uranus -60006-09-21 17:01 J -20195504.91 -20195504.79 -20195504.66 0.0133 0.0032

Uranus -60006-12-18 20:09 J -20195416.79 -20195416.66 -20195416.53 0.0133 0.0015

Uranus -60005-03-15 23:01 J -20195328.67 -20195328.54 -20195328.41 0.0133 0.0003

Uranus -60005-06-12 01:54 J -20195240.55 -20195240.42 -20195240.28 0.0133 0.0020

Mars -60005-07-17 00:28 J -20195205.63 -20195205.48 -20195205.33 0.1662 0.0708

Uranus -60005-09-08 04:47 J -20195152.42 -20195152.30 -20195152.17 0.0133 0.0038

Uranus -60005-12-05 07:54 J -20195064.29 -20195064.17 -20195064.05 0.0133 0.0054

Uranus -60004-03-03 10:47 J -20194976.16 -20194976.05 -20194975.94 0.0133 0.0071

Uranus -60004-05-30 13:40 J -20194888.02 -20194887.93 -20194887.83 0.0133 0.0088

Uranus -60004-08-26 16:33 J -20194799.88 -20194799.81 -20194799.72 0.0134 0.0106

Uranus -60004-11-22 19:25 J -20194711.73 -20194711.69 -20194711.63 0.0134 0.0123

Saturn -60004-12-25 10:47 J -20194679.13 -20194679.05 -20194678.96 0.0265 0.0230

Saturn -60003-03-24 06:42 J -20194590.38 -20194590.22 -20194590.05 0.0265 0.0108

Saturn -60003-06-21 02:52 J -20194501.56 -20194501.38 -20194501.19 0.0264 0.0015

Saturn -60003-09-17 23:01 J -20194412.69 -20194412.54 -20194412.38 0.0263 0.0139

Moon -60003-12-12 01:11 J -20194327.59 -20194327.45 -20194327.32 0.2653 0.1211

Earth -60003-12-12 02:37 J -20194327.53 -20194327.39 -20194327.24 0.2654 0.1013 *

Saturn -60003-12-15 19:25 J -20194323.70 -20194323.69 -20194323.68 0.0263 0.0262

Jupiter -60001-11-19 13:40 J -20193619.05 -20193618.93 -20193618.80 0.0497 0.0362

60TH MILLENNIUM BCE

This is a list of transits of Mercury in the 60th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Jupiter	**-60000-02-17 23:16**	**J**	**-20193528.67**	**-20193528.53**	**-20193528.38**	**0.0497**	**0.0310**	
Earth	**-59999-06-16 14:52**	**J**	**-20193044.99**	**-20193044.88**	**-20193044.77**	**0.2679**	**0.0735**	
Moon	**-59999-06-16 15:35**	**J**	**-20193044.96**	**-20193044.85**	**-20193044.74**	**0.2678**	**0.0684**	*
Mars	**-59996-02-08 16:33**	**J**	**-20192076.88**	**-20192076.81**	**-20192076.74**	**0.1874**	**0.1494**	
Jupiter	**-59995-10-19 19:54**	**J**	**-20191458.79**	**-20191458.67**	**-20191458.55**	**0.0529**	**0.0129**	
Jupiter	**-59994-01-17 01:54**	**J**	**-20191369.50**	**-20191369.42**	**-20191369.34**	**0.0528**	**0.0406**	
Venus	**-59992-08-01 05:01**	**J**	**-20190442.45**	**-20190442.29**	**-20190442.13**	**0.3568**	**0.0334**	
Moon	**-59990-12-15 07:25**	**J**	**-20189576.33**	**-20189576.19**	**-20189576.04**	**0.2655**	**0.0823**	
Earth	**-59990-12-15 08:52**	**J**	**-20189576.28**	**-20189576.13**	**-20189575.99**	**0.2651**	**0.0940**	*
Venus	**-59989-05-07 14:52**	**J**	**-20189431.93**	**-20189431.88**	**-20189431.83**	**0.3808**	**0.3306**	
Jupiter	**-59989-12-06 20:23**	**J**	**-20189218.83**	**-20189218.65**	**-20189218.47**	**0.0497**	**0.0141**	
Saturn	**-59988-07-15 02:52**	**J**	**-20188998.45**	**-20188998.38**	**-20188998.30**	**0.0297**	**0.0239**	
Saturn	**-59988-10-11 15:49**	**J**	**-20188909.96**	**-20188909.84**	**-20188909.71**	**0.0297**	**0.0114**	
Saturn	**-59987-01-08 04:47**	**J**	**-20188821.43**	**-20188821.30**	**-20188821.16**	**0.0298**	**0.0014**	
Saturn	**-59987-04-06 17:45**	**J**	**-20188732.88**	**-20188732.76**	**-20188732.64**	**0.0299**	**0.0137**	
Saturn	**-59987-07-04 06:28**	**J**	**-20188644.29**	**-20188644.23**	**-20188644.17**	**0.0300**	**0.0261**	
Earth	**-59986-06-19 08:52**	**J**	**-20188294.24**	**-20188294.13**	**-20188294.01**	**0.2681**	**0.0300**	
Moon	**-59986-06-19 09:21**	**J**	**-20188294.22**	**-20188294.11**	**-20188294.00**	**0.2676**	**0.0380**	*
Mars	**-59985-06-06 16:18**	**J**	**-20187940.89**	**-20187940.82**	**-20187940.74**	**0.1899**	**0.1421**	
Mars	**-59984-04-04 22:33**	**J**	**-20187638.64**	**-20187638.56**	**-20187638.49**	**0.1649**	**0.1440**	

Venus -59984-11-21 06:42 J -20187408.31 -20187408.22 -20187408.12 0.3810 0.1397

Jupiter -59983-08-07 23:45 J -20187148.62 -20187148.51 -20187148.40 0.0529 0.0268

Jupiter -59983-11-05 05:59 J -20187059.36 -20187059.25 -20187059.14 0.0529 0.0271

Earth -59979-06-12 07:11 J -20185744.22 -20185744.20 -20185744.17 0.2675 0.2586

Moon -59979-06-12 07:25 J -20185744.21 -20185744.19 -20185744.17 0.2681 0.2620 *

Venus -59978-06-06 22:47 J -20185384.65 -20185384.55 -20185384.46 0.3811 0.0550

Jupiter -59977-09-24 17:16 J -20184908.96 -20184908.78 -20184908.59 0.0496 0.0029

Mars -59976-10-28 00:28 J -20184510.59 -20184510.48 -20184510.37 0.1891 0.0473

Mars -59975-08-25 23:59 J -20184208.66 -20184208.50 -20184208.35 0.1655 0.0445

Saturn -59974-05-14 11:45 J -20183947.04 -20183947.01 -20183946.95 0.0266 0.0257

Saturn -59974-08-11 07:54 J -20183858.33 -20183858.17 -20183858.01 0.0265 0.0134

Saturn -59974-11-08 04:04 J -20183769.52 -20183769.33 -20183769.15 0.0264 0.0011

Saturn -59973-02-05 00:13 J -20183680.66 -20183680.49 -20183680.32 0.0264 0.0113

Saturn -59973-05-03 20:23 J -20183591.72 -20183591.65 -20183591.56 0.0263 0.0237

Moon -59973-06-21 02:52 J -20183543.48 -20183543.38 -20183543.28 0.2677 0.1207

Earth -59973-06-21 03:06 J -20183543.47 -20183543.37 -20183543.28 0.2683 0.1286 *

Venus -59973-12-20 14:37 J -20183360.97 -20183360.89 -20183360.82 0.3813 0.2447

Jupiter -59971-05-27 03:21 J -20182838.44 -20182838.36 -20182838.28 0.0530 0.0411

Jupiter -59971-08-24 09:49 J -20182749.21 -20182749.09 -20182748.97 0.0529 0.0133

Earth -59970-12-10 03:21 J -20182276.39 -20182276.36 -20182276.32 0.2656 0.2560

Mars -59966-03-20 08:37 J -20181080.25 -20181080.14 -20181080.03 0.1883 0.0457

Earth -59966-06-15 01:25 J -20180993.53 -20180993.44 -20180993.35 0.2677 0.1560

Moon -59966-06-15 02:09 J -20180993.50 -20180993.41 -20180993.32 0.2681 0.1464 *

Uranus -59966-07-27 21:21 J -20180950.70 -20180950.61 -20180950.51 0.0146 0.0125

Uranus -59966-10-24 06:13 J -20180862.39 -20180862.24 -20180862.09 0.0146 0.0092

Mars -59965-01-16 01:11 J -20180778.61 -20180778.45 -20180778.30 0.1662 0.0573

Uranus -59965-01-20 14:52 J -20180774.06 -20180773.88 -20180773.70 0.0146 0.0059

Uranus -59965-04-17 23:30 J -20180685.71 -20180685.52 -20180685.33 0.0146 0.0026

Jupiter -59965-07-13 14:23 J -20180599.07 -20180598.90 -20180598.73 0.0496 0.0197

Uranus -59965-07-15 08:23 J -20180597.35 -20180597.15 -20180596.96 0.0146 0.0008

Uranus -59965-10-11 17:01 J -20180508.98 -20180508.79 -20180508.60 0.0145 0.0041

Jupiter -59965-10-11 23:59 J -20180508.55 -20180508.50 -20180508.45 0.0497 0.0477

Uranus -59964-01-08 01:25 J -20180420.59 -20180420.44 -20180420.26 0.0145 0.0075

Uranus -59964-04-06 10:18 J -20180332.19 -20180332.07 -20180331.93 0.0145 0.0107

Uranus -59964-07-03 18:57 J -20180243.74 -20180243.71 -20180243.65 0.0145 0.0141

Moon -59960-06-23 20:23 J -20178792.70 -20178792.65 -20178792.59 0.2681 0.2273

Earth -59960-06-23 21:06 J -20178792.68 -20178792.62 -20178792.57 0.2685 0.2276 *

Jupiter -59959-06-12 14:09 J -20178439.04 -20178438.91 -20178438.79 0.0529 0.0018

Saturn -59959-12-02 05:59 J -20178266.31 -20178266.25 -20178266.20 0.0296 0.0266

Saturn -59958-02-28 18:57 J -20178177.83 -20178177.71 -20178177.59 0.0297 0.0141

Saturn -59958-05-28 07:54 J -20178089.30 -20178089.17 -20178089.04 0.0298 0.0016

Saturn -59958-08-24 20:37 J -20178000.76 -20178000.64 -20178000.51 0.0298 0.0109

Saturn -59958-11-21 09:35 J -20177912.18 -20177912.10 -20177912.02 0.0299 0.0233

Mars -59957-08-09 16:47 J -20177649.88 -20177649.80 -20177649.73 0.1874 0.1389

Moon -59957-12-12 07:40 J -20177525.33 -20177525.18 -20177525.04 0.2653 0.0734

Earth -59957-12-12 09:06 J -20177525.27 -20177525.12 -20177524.97 0.2654 0.0661 *

Mars -59956-06-07 02:37 J -20177348.44 -20177348.39 -20177348.34 0.1669 0.1579

Neptune -59955-01-18 21:21 J -20177122.64 -20177122.61 -20177122.57 0.0089 0.0085

Neptune -59955-04-16 22:33 J -20177034.61 -20177034.56 -20177034.49 0.0089 0.0080

Neptune -59955-07-13 23:59 J -20176946.56 -20176946.50 -20176946.41 0.0089 0.0074

Neptune -59955-10-10 01:40 J -20176858.51 -20176858.43 -20176858.34 0.0089 0.0068

Neptune -59954-01-06 02:52 J -20176770.46 -20176770.38 -20176770.27 0.0089 0.0063

Neptune -59954-04-04 04:18 J -20176682.41 -20176682.32 -20176682.21 0.0089 0.0057

Neptune -59954-07-01 05:59 J -20176594.36 -20176594.25 -20176594.14 0.0089 0.0051

Neptune -59954-09-27 07:11 J -20176506.31 -20176506.20 -20176506.07 0.0089 0.0046

Neptune -59954-12-24 08:37 J -20176418.25 -20176418.14 -20176418.01 0.0089 0.0040

Neptune -59953-03-21 10:04 J -20176330.20 -20176330.08 -20176329.95 0.0089 0.0034

Jupiter -59953-05-01 11:01 J -20176289.16 -20176289.04 -20176288.92 0.0496 0.0369

Earth -59953-06-16 19:40 J -20176242.79 -20176242.68 -20176242.57 0.2680 0.0537

Moon -59953-06-16 20:23 J -20176242.76 -20176242.65 -20176242.54 0.2676 0.0474 *

Neptune -59953-06-17 11:30 J -20176242.14 -20176242.02 -20176241.89 0.0089 0.0029

Jupiter -59953-07-30 20:23 J -20176198.80 -20176198.65 -20176198.50 0.0497 0.0301

Neptune -59953-09-13 12:57 J -20176154.09 -20176153.96 -20176153.82 0.0089 0.0023

Neptune -59953-12-10 14:23 J -20176066.03 -20176065.90 -20176065.76 0.0089 0.0017

Neptune -59952-03-08 15:49 J -20175977.97 -20175977.84 -20175977.70 0.0089 0.0012

Neptune -59952-06-04 17:16 J -20175889.92 -20175889.78 -20175889.65 0.0089 0.0006

Neptune -59952-08-31 18:42 J -20175801.86 -20175801.72 -20175801.59 0.0089 0.0002

Neptune -59952-11-27 19:54 J -20175713.80 -20175713.67 -20175713.53 0.0089 0.0006

Neptune -59951-02-23 21:21 J -20175625.74 -20175625.61 -20175625.47 0.0089 0.0011

Neptune -59951-05-22 22:47 J -20175537.68 -20175537.55 -20175537.42 0.0089 0.0016

Neptune -59951-08-19 00:13 J -20175449.62 -20175449.49 -20175449.36 0.0089 0.0022

Neptune -59951-11-15 01:25 J -20175361.56 -20175361.44 -20175361.31 0.0089 0.0027

Neptune -59950-02-11 02:52 J -20175273.50 -20175273.38 -20175273.25 0.0089 0.0033

Neptune -59950-05-10 04:18 J -20175185.44 -20175185.32 -20175185.20 0.0089 0.0038

Neptune -59950-08-06 05:30 J -20175097.38 -20175097.27 -20175097.15 0.0089 0.0044

Neptune -59950-11-02 06:42 J -20175009.32 -20175009.22 -20175009.10 0.0089 0.0050

Neptune -59949-01-29 08:09 J -20174921.25 -20174921.16 -20174921.04 0.0089 0.0055

Neptune -59949-04-26 09:49 J -20174833.19 -20174833.09 -20174833.00 0.0089 0.0060

Neptune -59949-07-23 11:01 J -20174745.12 -20174745.04 -20174744.95 0.0089 0.0066

Neptune -59949-10-19 12:28 J -20174657.06 -20174656.98 -20174656.90 0.0089 0.0071

Neptune -59948-01-15 13:40 J -20174568.99 -20174568.93 -20174568.86 0.0089 0.0077

Neptune -59948-04-13 15:06 J -20174480.91 -20174480.87 -20174480.82 0.0089 0.0082

Neptune -59948-07-10 16:18 J -20174392.83 -20174392.82 -20174392.79 0.0089 0.0088

Jupiter -59947-03-31 18:13 J -20174128.86 -20174128.74 -20174128.62 0.0529 0.0132

Jupiter -59947-06-29 00:28 J -20174039.56 -20174039.48 -20174039.40 0.0528 0.0405

Mars -59946-12-06 16:18 J -20173513.88 -20173513.82 -20173513.75 0.1899 0.1526

Mars -59945-10-03 23:01 J -20173211.58 -20173211.54 -20173211.49 0.1649 0.1574

Saturn -59945-12-28 07:54 J -20173126.31 -20173126.17 -20173126.02 0.0265 0.0167

Saturn -59944-03-27 04:04 J -20173037.51 -20173037.33 -20173037.15 0.0264 0.0044

Saturn -59944-06-24 00:13 J -20172948.67 -20172948.49 -20172948.31 0.0264 0.0079

Saturn -59944-09-20 20:23 J -20172859.76 -20172859.65 -20172859.53 0.0263 0.0202

Moon -59944-12-15 14:09 J -20172774.05 -20172773.91 -20172773.78 0.2656 0.1164

Earth -59944-12-15 15:21 J -20172774.00 -20172773.86 -20172773.73 0.2651 0.1299 *

Jupiter -59941-05-18 17:16 J -20171888.95 -20171888.78 -20171888.60 0.0497 0.0132

Venus -59941-08-21 22:04 J -20171793.65 -20171793.58 -20171793.51 0.3570 0.3173

Earth -59940-06-19 13:54 J -20171492.03 -20171491.92 -20171491.81 0.2682 0.0479

Moon -59940-06-19 14:09 J -20171492.02 -20171491.91 -20171491.80 0.2676 0.0481 *

Mars -59936-04-28 00:28 J -20170083.59 -20170083.48 -20170083.37 0.1891 0.0582

Jupiter -59935-01-17 21:49 J -20169818.70 -20169818.59 -20169818.48 0.0529 0.0274

Mars -59935-02-24 00:13 J -20169781.64 -20169781.49 -20169781.33 0.1655 0.0573

Venus -59935-03-08 07:25 J -20169769.32 -20169769.19 -20169769.06 0.3568 0.2132

Jupiter -59935-04-17 04:04 J -20169729.44 -20169729.33 -20169729.22 0.0528 0.0266

Earth -59933-06-12 12:13 J -20168942.04 -20168941.99 -20168941.94 0.2675 0.2384

Moon -59933-06-12 12:28 J -20168942.03 -20168941.98 -20168941.92 0.2681 0.2287 *

Venus -59933-12-12 12:13 J -20168759.06 -20168758.99 -20168758.91 0.3808 0.2628

Jupiter -59929-03-06 14:37 J -20167579.08 -20167578.89 -20167578.71 0.0497 0.0037

Saturn -59929-04-20 08:23 J -20167534.15 -20167534.15 -20167534.13 0.0296 0.0296

Saturn -59929-07-17 21:35 J -20167445.71 -20167445.60 -20167445.49 0.0297 0.0170

Saturn -59929-10-14 10:33 J -20167357.19 -20167357.06 -20167356.93 0.0298 0.0045

Saturn -59928-01-10 23:30 J -20167268.65 -20167268.52 -20167268.39 0.0299 0.0081

Saturn -59928-04-09 12:13 J -20167180.08 -20167179.99 -20167179.89 0.0299 0.0206

Moon -59927-06-22 07:40 J -20166741.27 -20166741.18 -20166741.09 0.2677 0.1492

Earth -59927-06-22 07:54 J -20166741.26 -20166741.17 -20166741.08 0.2684 0.1474 *

Venus -59927-06-28 04:18 J -20166735.42 -20166735.32 -20166735.22 0.3810 0.0706

Mars -59927-09-18 08:37 J -20166653.26 -20166653.14 -20166653.03 0.1883 0.0365

Mars -59926-07-17 01:54 J -20166351.58 -20166351.42 -20166351.26 0.1662 0.0426

Jupiter -59924-11-06 01:40 J -20165508.51 -20165508.43 -20165508.35 0.0530 0.0414

Moon -59924-12-10 08:23 J -20165474.23 -20165474.15 -20165474.07 0.2652 0.2231

Earth -59924-12-10 09:49 J -20165474.17 -20165474.09 -20165474.00 0.2656 0.2212 *

Jupiter -59923-02-03 08:09 J -20165419.29 -20165419.16 -20165419.04 0.0529 0.0129

Uranus -59923-05-01 05:59 J -20165332.25 -20165332.25 -20165332.22 0.0132 0.0132

Uranus -59923-07-28 09:06 J -20165244.18 -20165244.12 -20165244.05 0.0132 0.0114

Uranus -59923-10-24 11:59 J -20165156.08 -20165156.00 -20165155.90 0.0133 0.0098

Uranus -59922-01-20 15:06 J -20165067.97 -20165067.87 -20165067.76 0.0133 0.0080

Uranus -59922-04-18 18:13 J -20164979.86 -20164979.74 -20164979.63 0.0133 0.0063

Uranus -59922-07-15 21:06 J -20164891.74 -20164891.62 -20164891.49 0.0133 0.0046

Uranus -59922-10-11 23:59 J -20164803.62 -20164803.50 -20164803.37 0.0133 0.0029

Uranus -59921-01-08 03:06 J -20164715.50 -20164715.37 -20164715.24 0.0133 0.0012

Venus -59921-01-11 20:09 J -20164711.75 -20164711.66 -20164711.56 0.3812 0.1215

Uranus -59921-04-05 05:59 J -20164627.38 -20164627.25 -20164627.12 0.0133 0.0006

Uranus -59921-07-02 08:52 J -20164539.26 -20164539.13 -20164539.00 0.0133 0.0023

Uranus -59921-09-28 11:45 J -20164451.13 -20164451.01 -20164450.88 0.0133 0.0040

Uranus -59921-12-25 14:52 J -20164363.00 -20164362.88 -20164362.76 0.0133 0.0057

Uranus -59920-03-23 17:45 J -20164274.87 -20164274.76 -20164274.65 0.0133 0.0074

Earth -59920-06-15 06:28 J -20164191.33 -20164191.23 -20164191.14 0.2678 0.1354

Moon -59920-06-15 07:11 J -20164191.30 -20164191.20 -20164191.11 0.2680 0.1333 *

Uranus -59920-06-19 20:37 J -20164186.73 -20164186.64 -20164186.54 0.0133 0.0091

Uranus -59920-09-15 23:30 J -20164098.59 -20164098.52 -20164098.44 0.0133 0.0109

Uranus -59920-12-13 02:23 J -20164010.43 -20164010.40 -20164010.35 0.0134 0.0126

Jupiter -59918-12-24 11:45 J -20163269.18 -20163269.01 -20163268.84 0.0496 0.0202

Mars -59917-02-08 16:47 J -20163222.89 -20163222.80 -20163222.72 0.1875 0.1282

Jupiter -59917-03-23 21:06 J -20163178.67 -20163178.62 -20163178.55 0.0497 0.0472

Mars -59917-12-06 03:21 J -20162921.44 -20162921.36 -20162921.28 0.1669 0.1442

Venus -59916-07-27 12:13 J -20162688.05 -20162687.99 -20162687.94 0.3814 0.3154

Saturn -59915-05-17 09:21 J -20162394.23 -20162394.11 -20162393.98 0.0265 0.0192

Saturn -59915-08-14 05:16 J -20162305.45 -20162305.28 -20162305.10 0.0265 0.0069

Saturn -59915-11-11 01:25 J -20162216.62 -20162216.44 -20162216.25 0.0264 0.0055

Saturn -59914-02-07 21:49 J -20162127.73 -20162127.59 -20162127.45 0.0263 0.0178

Moon -59914-06-25 01:11 J -20161990.50 -20161990.45 -20161990.40 0.2683 0.2341

Earth -59914-06-25 01:54 J -20161990.46 -20161990.42 -20161990.38 0.2686 0.2466 *

Jupiter -59912-11-22 11:45 J -20161109.14 -20161109.01 -20161108.88 0.0530 0.0013

Jupiter -59911-02-19 17:45 J -20161019.77 -20161019.76 -20161019.74 0.0529 0.0522

Moon -59911-12-13 14:09 J -20160723.06 -20160722.91 -20160722.76 0.2654 0.0523

Earth -59911-12-13 15:49 J -20160723.00 -20160722.84 -20160722.69 0.2653 0.0307 *

Earth -59907-06-18 00:42 J -20159440.59 -20159440.47 -20159440.36 0.2680 0.0354

Moon -59907-06-18 01:11 J -20159440.56 -20159440.45 -20159440.34 0.2676 0.0259 *

Mars -59906-06-06 16:33 J -20159086.87 -20159086.81 -20159086.76 0.1900 0.1636

Jupiter -59906-10-12 08:52 J -20158959.25 -20158959.13 -20158959.01 0.0496 0.0369

Jupiter -59905-01-10 17:59 J -20158868.89 -20158868.75 -20158868.60 0.0497 0.0300

Jupiter -59900-09-10 15:49 J -20156798.96 -20156798.84 -20156798.71 0.0530 0.0146

Saturn -59900-12-05 00:42 J -20156713.56 -20156713.47 -20156713.36 0.0296 0.0196

Jupiter -59900-12-08 22:04 J -20156709.66 -20156709.58 -20156709.49 0.0529 0.0392

Saturn -59899-03-03 13:54 J -20156625.05 -20156624.92 -20156624.79 0.0297 0.0070

Saturn -59899-05-31 02:37 J -20156536.51 -20156536.39 -20156536.26 0.0298 0.0056

Saturn -59899-08-27 15:35 J -20156447.96 -20156447.85 -20156447.75 0.0299 0.0180

Moon -59898-12-16 20:37 J -20155971.76 -20155971.64 -20155971.52 0.2656 0.1597

Earth -59898-12-16 21:49 J -20155971.71 -20155971.59 -20155971.47 0.2651 0.1661 *

Mars -59897-10-27 00:28 J -20155656.59 -20155656.48 -20155656.37 0.1891 0.0691

Mars -59896-08-25 00:57 J -20155354.60 -20155354.46 -20155354.31 0.1655 0.0712

Earth -59894-06-20 18:42 J -20154689.83 -20154689.72 -20154689.61 0.2682 0.0670

Moon -59894-06-20 18:57 J -20154689.82 -20154689.71 -20154689.60 0.2676 0.0698 *

Jupiter -59894-10-29 14:09 J -20154559.08 -20154558.91 -20154558.73 0.0497 0.0122

Jupiter -59888-06-29 20:09 J -20152488.77 -20152488.66 -20152488.55 0.0530 0.0278

Jupiter -59888-09-27 02:23 J -20152399.51 -20152399.40 -20152399.29 0.0529 0.0262

Mars -59887-03-19 08:37 J -20152226.26 -20152226.14 -20152226.02 0.1883 0.0251

Earth -59887-06-13 17:01 J -20152139.85 -20152139.79 -20152139.73 0.2676 0.2183

Moon -59887-06-13 17:30 J -20152139.83 -20152139.77 -20152139.71 0.2682 0.2208 *

Mars -59886-01-15 02:23 J -20151924.56 -20151924.40 -20151924.24 0.1662 0.0297

Saturn -59886-10-04 09:35 J -20151662.18 -20151662.10 -20151661.99 0.0265 0.0223

Saturn -59885-01-01 05:45 J -20151573.43 -20151573.26 -20151573.09 0.0265 0.0100

Saturn -59885-03-30 01:54 J -20151484.61 -20151484.42 -20151484.24 0.0264 0.0023

Saturn -59885-06-26 21:49 J -20151395.73 -20151395.59 -20151395.42 0.0263 0.0147

Venus -59884-03-29 00:13 J -20151120.63 -20151120.49 -20151120.34 0.3570 0.1376

Uranus -59882-08-17 03:35 J -20150249.44 -20150249.35 -20150249.23 0.0146 0.0121

Jupiter -59882-08-17 11:16 J -20150249.21 -20150249.03 -20150248.84 0.0497 0.0048

Uranus -59882-11-13 12:28 J -20150161.13 -20150160.98 -20150160.82 0.0146 0.0088

Uranus -59881-02-09 21:06 J -20150072.79 -20150072.62 -20150072.44 0.0146 0.0055

Uranus -59881-05-08 05:59 J -20149984.44 -20149984.25 -20149984.06 0.0146 0.0021

Moon -59881-06-22 12:28 J -20149939.07 -20149938.98 -20149938.89 0.2677 0.1591

Earth -59881-06-22 12:42 J -20149939.05 -20149938.97 -20149938.88 0.2684 0.1670 *

Uranus -59881-08-04 14:37 J -20149896.08 -20149895.89 -20149895.70 0.0146 0.0012

Uranus -59881-10-31 23:16 J -20149807.71 -20149807.53 -20149807.34 0.0145 0.0045

Uranus -59880-01-28 07:54 J -20149719.32 -20149719.17 -20149719.00 0.0145 0.0079

Uranus -59880-04-26 16:47 J -20149630.92 -20149630.80 -20149630.67 0.0145 0.0112

Uranus -59880-07-24 01:40 J -20149542.44 -20149542.43 -20149542.42 0.0145 0.0145

Mars -59878-08-09 16:47 J -20148795.89 -20148795.80 -20148795.71 0.1875 0.1175

Moon -59878-12-11 14:52 J -20148671.97 -20148671.88 -20148671.78 0.2652 0.2073

Earth -59878-12-11 16:18 J -20148671.92 -20148671.82 -20148671.71 0.2655 0.1856 *

Mars -59877-06-06 03:49 J -20148494.44 -20148494.34 -20148494.24 0.1669 0.1309

Jupiter -59876-04-17 23:45 J -20148178.59 -20148178.51 -20148178.43 0.0529 0.0421

Jupiter -59876-07-16 06:13 J -20148089.36 -20148089.24 -20148089.12 0.0529 0.0122

Venus -59876-07-19 09:49 J -20148086.17 -20148086.09 -20148086.00 0.3809 0.1929

Earth -59874-06-16 11:16 J -20147389.13 -20147389.03 -20147388.93 0.2678 0.1156

Moon -59874-06-16 11:59 J -20147389.10 -20147389.00 -20147388.90 0.2678 0.1025 *

Neptune -59873-10-05 18:42 J -20146911.76 -20146911.72 -20146911.65 0.0089 0.0085

Neptune -59872-01-01 22:04 J -20146823.65 -20146823.58 -20146823.47 0.0089 0.0077

Neptune -59872-03-31 01:40 J -20146735.54 -20146735.43 -20146735.31 0.0089 0.0069

Pluto -59872-06-19 13:25 J -20146654.97 -20146654.94 -20146654.89 0.0061 0.0059

Neptune -59872-06-27 04:47 J -20146647.42 -20146647.30 -20146647.15 0.0089 0.0062

Pluto -59872-09-15 14:09 J -20146566.96 -20146566.91 -20146566.81 0.0061 0.0056

Neptune -59872-09-23 08:09 J -20146559.29 -20146559.16 -20146558.99 0.0089 0.0054

Pluto -59872-12-12 15:35 J -20146478.93 -20146478.85 -20146478.74 0.0061 0.0050

Neptune -59872-12-20 11:45 J -20146471.16 -20146471.01 -20146470.84 0.0089 0.0046

Pluto -59871-03-10 16:47 J -20146390.91 -20146390.80 -20146390.67 0.0061 0.0046

Neptune -59871-03-18 15:21 J -20146383.03 -20146382.86 -20146382.69 0.0089 0.0038

Pluto -59871-06-06 17:45 J -20146302.87 -20146302.76 -20146302.61 0.0061 0.0041

Neptune -59871-06-14 18:28 J -20146294.90 -20146294.73 -20146294.54 0.0089 0.0031

Pluto -59871-09-02 18:57 J -20146214.84 -20146214.71 -20146214.56 0.0061 0.0037

Neptune -59871-09-10 22:04 J -20146206.76 -20146206.58 -20146206.39 0.0089 0.0023

Pluto -59871-11-29 20:09 J -20146126.80 -20146126.66 -20146126.50 0.0061 0.0032

Neptune -59871-12-08 01:25 J -20146118.62 -20146118.44 -20146118.25 0.0089 0.0015

Venus -59870-02-02 01:40 J -20146062.53 -20146062.43 -20146062.33 0.3810 0.0160

Pluto -59870-02-25 21:35 J -20146038.76 -20146038.60 -20146038.44 0.0061 0.0027

Neptune -59870-03-06 05:01 J -20146030.48 -20146030.29 -20146030.10 0.0089 0.0007

Saturn -59870-04-24 03:21 J -20145981.45 -20145981.36 -20145981.28 0.0297 0.0226

Pluto -59870-05-24 22:18 J -20145950.72 -20145950.57 -20145950.39 0.0062 0.0023

Neptune -59870-06-02 08:23 J -20145942.34 -20145942.15 -20145941.96 0.0089 0.0001

Jupiter -59870-06-05 08:37 J -20145939.31 -20145939.14 -20145938.97 0.0497 0.0214

Saturn -59870-07-21 16:18 J -20145892.94 -20145892.82 -20145892.69 0.0298 0.0100

Pluto -59870-08-20 23:30 J -20145862.68 -20145862.52 -20145862.34 0.0062 0.0018

Neptune -59870-08-29 11:59 J -20145854.19 -20145854.00 -20145853.82 0.0089 0.0009

Jupiter -59870-09-03 18:13 J -20145848.80 -20145848.74 -20145848.67 0.0497 0.0462

Saturn -59870-10-18 05:16 J -20145804.41 -20145804.28 -20145804.15 0.0298 0.0025

Pluto -59870-11-17 00:42 J -20145774.63 -20145774.47 -20145774.29 0.0062 0.0013

Neptune -59870-11-25 15:21 J -20145766.05 -20145765.86 -20145765.67 0.0089 0.0017

Saturn -59869-01-14 17:59 J -20145715.86 -20145715.75 -20145715.63 0.0299 0.0151

Pluto -59869-02-13 02:09 J -20145686.59 -20145686.41 -20145686.23 0.0062 0.0008

Neptune -59869-02-21 18:42 J -20145677.90 -20145677.72 -20145677.53 0.0089 0.0025

Saturn -59869-04-12 06:42 J -20145627.26 -20145627.22 -20145627.16 0.0300 0.0275

Pluto -59869-05-11 03:21 J -20145598.54 -20145598.36 -20145598.18 0.0062 0.0003

Neptune -59869-05-19 22:04 J -20145589.75 -20145589.58 -20145589.39 0.0089 0.0033

Pluto -59869-08-07 04:33 J -20145510.49 -20145510.31 -20145510.13 0.0062 0.0002

Neptune -59869-08-16 01:25 J -20145501.60 -20145501.44 -20145501.26 0.0089 0.0041

Pluto -59869-11-03 05:45 J -20145422.44 -20145422.26 -20145422.09 0.0062 0.0007

Neptune -59869-11-12 05:01 J -20145413.44 -20145413.29 -20145413.12 0.0089 0.0049

Pluto -59868-01-30 06:42 J -20145334.39 -20145334.22 -20145334.04 0.0062 0.0012

Neptune -59868-02-08 08:23 J -20145325.28 -20145325.15 -20145324.99 0.0089 0.0057

Pluto -59868-04-28 07:54 J -20145246.33 -20145246.17 -20145245.99 0.0062 0.0017

Neptune -59868-05-07 11:45 J -20145237.12 -20145237.01 -20145236.86 0.0089 0.0065

Moon -59868-06-25 05:59 J -20145188.27 -20145188.25 -20145188.23 0.2685 0.2636

Earth -59868-06-25 06:42 J -20145188.23 -20145188.22 -20145188.21 0.2686 0.2652 *

Pluto -59868-07-25 09:06 J -20145158.28 -20145158.12 -20145157.95 0.0062 0.0022

Neptune -59868-08-03 15:21 J -20145148.95 -20145148.86 -20145148.73 0.0089 0.0073

Pluto -59868-10-21 10:18 J -20145070.22 -20145070.07 -20145069.90 0.0062 0.0027

Neptune -59868-10-30 18:42 J -20145060.77 -20145060.72 -20145060.62 0.0089 0.0081

Pluto -59867-01-17 11:30 J -20144982.16 -20144982.02 -20144981.86 0.0062 0.0032

Neptune -59867-01-26 22:33 J -20144972.56 -20144972.56 -20144972.54 0.0089 0.0089

Pluto -59867-04-15 12:42 J -20144894.10 -20144893.97 -20144893.82 0.0062 0.0038

Pluto -59867-07-12 13:54 J -20144806.04 -20144805.92 -20144805.78 0.0062 0.0043

Pluto -59867-10-08 15:21 J -20144717.97 -20144717.86 -20144717.74 0.0063 0.0048

Mars -59867-12-05 16:18 J -20144659.86 -20144659.82 -20144659.77 0.1899 0.1734

Pluto -59866-01-04 16:33 J -20144629.89 -20144629.81 -20144629.71 0.0063 0.0053

Pluto -59866-04-02 17:30 J -20144541.81 -20144541.77 -20144541.69 0.0063 0.0059

Venus -59865-08-17 17:45 J -20144038.85 -20144038.76 -20144038.68 0.3812 0.1917

Moon -59865-12-13 20:37 J -20143920.79 -20143920.64 -20143920.49 0.2656 0.0027

Earth -59865-12-13 22:18 J -20143920.73 -20143920.57 -20143920.42 0.2653 0.0098 *

Jupiter -59864-05-04 10:04 J -20143779.21 -20143779.08 -20143778.95 0.0529 0.0017

Jupiter -59864-08-01 16:04 J -20143689.85 -20143689.83 -20143689.81 0.0528 0.0516

Earth -59861-06-18 05:30 J -20142638.38 -20142638.27 -20142638.16 0.2680 0.0138

Moon -59861-06-18 06:13 J -20142638.36 -20142638.24 -20142638.13 0.2677 0.0132 *

Jupiter -59858-03-24 05:59 J -20141629.36 -20141629.25 -20141629.13 0.0496 0.0376

Jupiter -59858-06-22 15:21 J -20141539.01 -20141538.86 -20141538.71 0.0497 0.0293

Mars -59857-04-27 00:28 J -20141229.58 -20141229.48 -20141229.37 0.1892 0.0788

Saturn -59856-02-20 11:16 J -20140930.09 -20140930.03 -20140929.96 0.0265 0.0246

Mars -59856-02-23 01:40 J -20140927.56 -20140927.43 -20140927.28 0.1655 0.0857

Saturn -59856-05-20 07:25 J -20140841.36 -20140841.19 -20140841.03 0.0265 0.0124

Saturn -59856-08-17 03:21 J -20140752.55 -20140752.36 -20140752.17 0.0264 0.0001

Saturn -59856-11-13 23:30 J -20140663.68 -20140663.52 -20140663.35 0.0264 0.0122

Saturn -59855-02-10 19:40 J -20140574.74 -20140574.68 -20140574.61 0.0263 0.0245

Jupiter -59852-02-20 13:40 J -20139469.05 -20139468.93 -20139468.81 0.0530 0.0160

Jupiter -59852-05-20 19:54 J -20139379.76 -20139379.67 -20139379.59 0.0529 0.0379

Moon -59852-12-17 03:21 J -20139169.47 -20139169.36 -20139169.25 0.2655 0.1872

Earth -59852-12-17 04:18 J -20139169.41 -20139169.32 -20139169.22 0.2650 0.2026 *

Moon -59848-06-20 23:45 J -20137887.62 -20137887.51 -20137887.41 0.2675 0.0887

Earth -59848-06-20 23:30 J -20137887.62 -20137887.52 -20137887.41 0.2682 0.0871 *

Mars -59848-09-17 08:37 J -20137799.25 -20137799.14 -20137799.02 0.1883 0.0146

Mars -59847-07-16 03:06 J -20137497.54 -20137497.37 -20137497.21 0.1662 0.0166

Jupiter -59846-04-10 12:13 J -20137229.17 -20137228.99 -20137228.81 0.0497 0.0122

Earth -59841-06-13 21:49 J -20135337.66 -20135337.59 -20135337.51 0.2676 0.1983

Moon -59841-06-13 22:18 J -20135337.64 -20135337.57 -20135337.49 0.2681 0.1879 *

Saturn -59841-09-10 06:28 J -20135249.29 -20135249.23 -20135249.16 0.0296 0.0250

Saturn -59841-12-07 19:25 J -20135160.80 -20135160.69 -20135160.56 0.0297 0.0126

Jupiter -59841-12-09 17:45 J -20135158.87 -20135158.76 -20135158.65 0.0530 0.0293

Saturn -59840-03-06 08:37 J -20135072.28 -20135072.14 -20135072.01 0.0298 0.0008

Jupiter -59840-03-08 23:59 J -20135069.61 -20135069.50 -20135069.38 0.0529 0.0249

Saturn -59840-06-02 21:21 J -20134983.73 -20134983.61 -20134983.49 0.0298 0.0125

Saturn -59840-08-30 10:04 J -20134895.15 -20134895.08 -20134895.00 0.0299 0.0249

Uranus -59839-05-21 12:57 J -20134630.98 -20134630.96 -20134630.93 0.0132 0.0129

Uranus -59839-08-17 15:49 J -20134542.90 -20134542.84 -20134542.76 0.0132 0.0112

Uranus -59839-11-13 18:57 J -20134454.80 -20134454.71 -20134454.61 0.0133 0.0095

Mars -59838-02-07 16:47 J -20134368.90 -20134368.80 -20134368.71 0.1875 0.1073

Uranus -59838-02-09 21:49 J -20134366.69 -20134366.59 -20134366.47 0.0133 0.0078

Uranus -59838-05-09 00:57 J -20134278.58 -20134278.46 -20134278.34 0.0133 0.0060

Uranus -59838-08-05 03:49 J -20134190.46 -20134190.34 -20134190.21 0.0133 0.0043

Uranus -59838-11-01 06:57 J -20134102.34 -20134102.21 -20134102.08 0.0133 0.0026

Mars -59838-12-06 04:18 J -20134067.43 -20134067.32 -20134067.20 0.1669 0.1171

Uranus -59837-01-28 09:49 J -20134014.22 -20134014.09 -20134013.96 0.0133 0.0009

Uranus -59837-04-25 12:57 J -20133926.10 -20133925.96 -20133925.83 0.0133 0.0009

Uranus -59837-07-22 15:49 J -20133837.97 -20133837.84 -20133837.71 0.0133 0.0025

Uranus -59837-10-18 18:42 J -20133749.84 -20133749.72 -20133749.60 0.0133 0.0042

Uranus -59836-01-14 21:35 J -20133661.71 -20133661.60 -20133661.48 0.0133 0.0060

Uranus -59836-04-13 00:42 J -20133573.58 -20133573.47 -20133573.37 0.0133 0.0077

Uranus -59836-07-10 03:35 J -20133485.44 -20133485.35 -20133485.26 0.0133 0.0094

Uranus -59836-10-06 06:28 J -20133397.30 -20133397.23 -20133397.16 0.0133 0.0111

Uranus -59835-01-02 09:21 J -20133309.14 -20133309.11 -20133309.07 0.0134 0.0128

Moon -59835-06-23 17:16 J -20133136.86 -20133136.78 -20133136.70 0.2679 0.1840

Earth -59835-06-23 17:30 J -20133136.84 -20133136.77 -20133136.69 0.2684 0.1861 *

Jupiter -59834-01-27 08:09 J -20132919.34 -20132919.16 -20132918.97 0.0497 0.0059

Moon -59832-12-11 21:21 J -20131869.73 -20131869.61 -20131869.49 0.2653 0.1557

Earth -59832-12-11 22:47 J -20131869.67 -20131869.55 -20131869.42 0.2655 0.1506 *

Jupiter -59829-09-27 21:49 J -20130848.66 -20130848.59 -20130848.51 0.0530 0.0426

Jupiter -59829-12-26 04:33 J -20130759.44 -20130759.31 -20130759.19 0.0529 0.0120

Earth -59828-06-16 16:04 J -20130586.93 -20130586.83 -20130586.72 0.2678 0.0963

Moon -59828-06-16 17:01 J -20130586.90 -20130586.79 -20130586.69 0.2677 0.0951 *

Venus -59828-11-03 02:23 J -20130447.56 -20130447.40 -20130447.24 0.3569 0.0411

Mars -59827-06-05 16:33 J -20130232.84 -20130232.81 -20130232.79 0.1900 0.1839

Saturn -59827-10-07 07:54 J -20130109.32 -20130109.17 -20130109.02 0.0265 0.0153

Saturn -59826-01-04 03:49 J -20130020.52 -20130020.34 -20130020.15 0.0264 0.0031

Saturn -59826-04-02 23:59 J -20129931.67 -20129931.50 -20129931.32 0.0264 0.0092

Saturn -59826-06-30 20:09 J -20129842.76 -20129842.66 -20129842.55 0.0263 0.0215

Venus -59825-08-09 15:21 J -20129436.91 -20129436.86 -20129436.80 0.3807 0.3160

Jupiter -59823-11-15 05:30 J -20128609.44 -20128609.27 -20128609.11 0.0497 0.0225

Jupiter -59822-02-13 15:06 J -20128518.95 -20128518.87 -20128518.79 0.0497 0.0450

Venus -59819-02-23 07:25 J -20127413.29 -20127413.19 -20127413.10 0.3809 0.1240

Moon -59819-12-15 03:06 J -20127118.52 -20127118.37 -20127118.21 0.2656 0.0189

Earth -59819-12-15 04:47 J -20127118.45 -20127118.30 -20127118.15 0.2653 0.0423 *

Mars -59818-10-27 00:28 J -20126802.58 -20126802.48 -20126802.37 0.1891 0.0904

Mars -59817-08-24 02:09 J -20126500.54 -20126500.41 -20126500.27 0.1655 0.0983

Jupiter -59817-10-14 08:09 J -20126449.28 -20126449.16 -20126449.03 0.0529 0.0028

Jupiter -59816-01-11 14:09 J -20126359.93 -20126359.91 -20126359.88 0.0528 0.0513

Earth -59815-06-19 10:18 J -20125836.18 -20125836.07 -20125835.96 0.2680 0.0080

Moon -59815-06-19 10:47 J -20125836.16 -20125836.05 -20125835.93 0.2676 0.0186 *

Venus -59814-09-08 23:16 J -20125389.63 -20125389.53 -20125389.43 0.3811 0.0684

Saturn -59811-01-28 08:52 J -20124517.17 -20124517.13 -20124517.09 0.0297 0.0283

Saturn -59811-04-26 21:49 J -20124428.70 -20124428.59 -20124428.47 0.0297 0.0158

Saturn -59811-07-24 10:47 J -20124340.18 -20124340.05 -20124339.91 0.0298 0.0033

Jupiter -59811-09-03 02:52 J -20124299.49 -20124299.38 -20124299.26 0.0496 0.0389

Saturn -59811-10-20 23:45 J -20124251.63 -20124251.51 -20124251.38 0.0299 0.0093

Jupiter -59811-12-02 12:13 J -20124209.14 -20124208.99 -20124208.84 0.0497 0.0282

Saturn -59810-01-17 12:28 J -20124163.06 -20124162.98 -20124162.89 0.0300 0.0219

Mars -59808-03-18 08:37 J -20123372.26 -20123372.14 -20123372.03 0.1883 0.0068

Venus -59808-03-24 15:06 J -20123365.94 -20123365.87 -20123365.79 0.3813 0.2620

Mars -59807-01-14 03:49 J -20123070.51 -20123070.34 -20123070.18 0.1662 0.0036

Moon -59806-12-18 10:04 J -20122367.14 -20122367.08 -20122367.01 0.2656 0.2404

Earth -59806-12-18 11:01 J -20122367.11 -20122367.04 -20122366.98 0.2650 0.2386 *

Jupiter -59805-08-02 11:59 J -20122139.12 -20122139.00 -20122138.88 0.0529 0.0161

Jupiter -59805-10-30 18:13 J -20122049.83 -20122049.74 -20122049.65 0.0528 0.0377

Moon -59802-06-22 04:33 J -20121085.42 -20121085.31 -20121085.21 0.2675 0.1035

Earth -59802-06-22 04:33 J -20121085.41 -20121085.31 -20121085.21 0.2683 0.1065 *

Mars -59799-08-08 16:47 J -20119941.90 -20119941.80 -20119941.70 0.1875 0.0961

Jupiter -59799-09-20 09:35 J -20119899.28 -20119899.10 -20119898.92 0.0497 0.0116

Mars -59798-06-06 05:01 J -20119640.41 -20119640.29 -20119640.16 0.1669 0.1032

Uranus -59798-09-06 09:06 J -20119548.21 -20119548.12 -20119548.00 0.0146 0.0120

Uranus -59798-12-03 17:59 J -20119459.90 -20119459.75 -20119459.59 0.0146 0.0087

Saturn -59797-02-24 09:06 J -20119377.25 -20119377.12 -20119376.98 0.0265 0.0179

Uranus -59797-03-01 02:37 J -20119371.56 -20119371.39 -20119371.20 0.0146 0.0054

Saturn -59797-05-23 05:01 J -20119288.47 -20119288.29 -20119288.11 0.0264 0.0057

Uranus -59797-05-28 11:30 J -20119283.21 -20119283.02 -20119282.83 0.0146 0.0020

Saturn -59797-08-20 01:11 J -20119199.63 -20119199.45 -20119199.27 0.0264 0.0065

Uranus -59797-08-24 20:09 J -20119194.85 -20119194.66 -20119194.47 0.0146 0.0013

Saturn -59797-11-16 21:21 J -20119110.74 -20119110.61 -20119110.48 0.0263 0.0188

Uranus -59797-11-21 04:47 J -20119106.48 -20119106.30 -20119106.11 0.0145 0.0046

Uranus -59796-02-17 13:25 J -20119018.09 -20119017.94 -20119017.77 0.0145 0.0080

Uranus -59796-05-16 22:18 J -20118929.69 -20118929.57 -20118929.45 0.0145 0.0113

Earth -59795-06-15 02:52 J -20118535.46 -20118535.38 -20118535.30 0.2676 0.1782

Moon -59795-06-15 03:21 J -20118535.44 -20118535.36 -20118535.28 0.2680 0.1772 *

Jupiter -59793-05-21 15:35 J -20117828.96 -20117828.85 -20117828.75 0.0530 0.0305

Jupiter -59793-08-18 21:49 J -20117739.70 -20117739.59 -20117739.47 0.0529 0.0238

Neptune -59791-07-19 19:40 J -20117039.68 -20117039.68 -20117039.65 0.0089 0.0088

Neptune -59791-10-15 21:21 J -20116951.66 -20116951.61 -20116951.56 0.0089 0.0082

Neptune -59790-01-11 22:33 J -20116863.62 -20116863.56 -20116863.48 0.0089 0.0077

Neptune -59790-04-09 23:59 J -20116775.57 -20116775.50 -20116775.41 0.0089 0.0071

Neptune -59790-07-07 01:40 J -20116687.52 -20116687.43 -20116687.34 0.0089 0.0065

Neptune -59790-10-03 02:52 J -20116599.47 -20116599.38 -20116599.27 0.0089 0.0060

Neptune -59790-12-30 04:18 J -20116511.42 -20116511.32 -20116511.20 0.0089 0.0054

Neptune -59789-03-27 05:59 J -20116423.36 -20116423.25 -20116423.14 0.0089 0.0048

Neptune -59789-06-23 07:11 J -20116335.31 -20116335.20 -20116335.07 0.0089 0.0043

Moon -59789-06-23 21:49 J -20116334.66 -20116334.59 -20116334.51 0.2680 0.2001

Earth -59789-06-23 22:33 J -20116334.63 -20116334.56 -20116334.49 0.2684 0.2055 *

Neptune -59789-09-19 08:37 J -20116247.26 -20116247.14 -20116247.01 0.0089 0.0037

Neptune -59789-12-16 10:04 J -20116159.20 -20116159.08 -20116158.95 0.0089 0.0031

Neptune -59788-03-14 11:30 J -20116071.14 -20116071.02 -20116070.88 0.0089 0.0026

Neptune -59788-06-10 12:57 J -20115983.09 -20115982.96 -20115982.82 0.0089 0.0020

Neptune -59788-09-06 14:23 J -20115895.03 -20115894.90 -20115894.76 0.0089 0.0014

Neptune -59788-12-03 15:49 J -20115806.97 -20115806.84 -20115806.70 0.0089 0.0009

Neptune -59787-03-01 17:16 J -20115718.92 -20115718.78 -20115718.65 0.0089 0.0003

Neptune -59787-05-28 18:42 J -20115630.86 -20115630.72 -20115630.59 0.0089 0.0003

Jupiter -59787-07-09 06:28 J -20115589.41 -20115589.23 -20115589.04 0.0496 0.0054

Neptune -59787-08-24 19:54 J -20115542.80 -20115542.67 -20115542.53 0.0089 0.0009

Neptune -59787-11-20 21:21 J -20115454.74 -20115454.61 -20115454.47 0.0089 0.0014

Neptune -59786-02-16 22:47 J -20115366.68 -20115366.55 -20115366.42 0.0089 0.0019

Neptune -59786-05-16 00:13 J -20115278.62 -20115278.49 -20115278.36 0.0089 0.0025

Neptune -59786-08-12 01:25 J -20115190.56 -20115190.44 -20115190.31 0.0089 0.0030

Neptune -59786-11-08 02:52 J -20115102.50 -20115102.38 -20115102.26 0.0089 0.0036

Moon -59786-12-13 03:35 J -20115067.48 -20115067.35 -20115067.21 0.2654 0.1333

Earth -59786-12-13 05:16 J -20115067.42 -20115067.28 -20115067.14 0.2655 0.1154 *

Neptune -59785-02-04 04:04 J -20115014.44 -20115014.33 -20115014.20 0.0089 0.0042

Neptune -59785-05-02 05:30 J -20114926.38 -20114926.27 -20114926.15 0.0089 0.0047

Neptune -59785-07-29 06:42 J -20114838.31 -20114838.22 -20114838.10 0.0089 0.0053

Neptune -59785-10-25 08:09 J -20114750.25 -20114750.16 -20114750.05 0.0089 0.0058

Neptune -59784-01-21 09:21 J -20114662.19 -20114662.11 -20114662.00 0.0089 0.0064

Neptune -59784-04-19 11:01 J -20114574.12 -20114574.04 -20114573.95 0.0089 0.0069

Neptune -59784-07-16 12:28 J -20114486.05 -20114485.98 -20114485.91 0.0089 0.0074

Neptune -59784-10-12 13:40 J -20114397.98 -20114397.93 -20114397.87 0.0089 0.0080

Neptune -59783-01-08 15:06 J -20114309.90 -20114309.87 -20114309.83 0.0089 0.0085

Earth -59782-06-17 21:06 J -20113784.73 -20113784.62 -20113784.51 0.2679 0.0762

Moon -59782-06-17 21:49 J -20113784.70 -20113784.59 -20113784.48 0.2678 0.0616 *

Saturn -59782-09-14 00:57 J -20113696.57 -20113696.46 -20113696.36 0.0297 0.0185

Saturn -59782-12-11 13:54 J -20113608.05 -20113607.92 -20113607.79 0.0297 0.0060

Saturn -59781-03-09 02:37 J -20113519.51 -20113519.39 -20113519.26 0.0298 0.0066

Jupiter -59781-03-09 19:40 J -20113518.75 -20113518.68 -20113518.61 0.0530 0.0439

Saturn -59781-06-05 15:35 J -20113430.95 -20113430.85 -20113430.75 0.0299 0.0190

Jupiter -59781-06-07 02:09 J -20113429.53 -20113429.41 -20113429.28 0.0529 0.0107

Pluto -59780-11-09 10:18 J -20112909.12 -20112909.07 -20112909.01 0.0083 0.0077

Pluto -59779-02-05 11:59 J -20112821.08 -20112821.00 -20112820.91 0.0083 0.0067

Pluto -59779-05-04 13:40 J -20112733.03 -20112732.93 -20112732.82 0.0083 0.0057

Pluto -59779-07-31 15:06 J -20112644.98 -20112644.87 -20112644.74 0.0083 0.0047

Pluto -59779-10-27 16:47 J -20112556.92 -20112556.80 -20112556.67 0.0083 0.0037

Pluto -59778-01-23 18:28 J -20112468.87 -20112468.73 -20112468.60 0.0083 0.0027

Pluto -59778-04-21 19:54 J -20112380.81 -20112380.67 -20112380.53 0.0083 0.0018

Mars -59778-04-27 00:28 J -20112375.58 -20112375.48 -20112375.38 0.1891 0.1000

Pluto -59778-07-18 21:35 J -20112292.75 -20112292.60 -20112292.46 0.0083 0.0008

Pluto -59778-10-14 23:01 J -20112204.68 -20112204.54 -20112204.40 0.0082 0.0002

Pluto -59777-01-11 00:28 J -20112116.62 -20112116.48 -20112116.33 0.0082 0.0011

Mars -59777-02-23 02:52 J -20112073.50 -20112073.38 -20112073.26 0.1655 0.1123

Pluto -59777-04-08 01:54 J -20112028.55 -20112028.42 -20112028.28 0.0082 0.0021

Pluto -59777-07-05 03:21 J -20111940.48 -20111940.36 -20111940.22 0.0082 0.0030

Pluto -59777-10-01 04:47 J -20111852.42 -20111852.30 -20111852.17 0.0082 0.0039

Venus -59777-11-23 19:25 J -20111798.77 -20111798.69 -20111798.62 0.3571 0.3125

Pluto -59777-12-28 06:28 J -20111764.34 -20111764.23 -20111764.12 0.0082 0.0048

Pluto -59776-03-26 07:54 J -20111676.27 -20111676.17 -20111676.07 0.0082 0.0057

Pluto -59776-06-22 09:21 J -20111588.19 -20111588.11 -20111588.03 0.0082 0.0066

Pluto -59776-09-18 10:47 J -20111500.10 -20111500.05 -20111500.00 0.0081 0.0075

Jupiter -59775-04-27 02:37 J -20111279.55 -20111279.39 -20111279.23 0.0496 0.0234

Jupiter -59775-07-26 11:59 J -20111189.08 -20111189.00 -20111188.91 0.0497 0.0442

Moon -59773-12-15 09:35 J -20110316.25 -20110316.10 -20110315.95 0.2655 0.0741

Earth -59773-12-15 11:16 J -20110316.18 -20110316.03 -20110315.88 0.2652 0.0776 *

Venus -59771-06-10 04:47 J -20109774.43 -20109774.30 -20109774.18 0.3568 0.2219

Jupiter -59769-03-26 06:42 J -20109119.35 -20109119.22 -20109119.10 0.0529 0.0027

Earth -59769-06-19 15:21 J -20109033.98 -20109033.86 -20109033.75 0.2681 0.0276

Moon -59769-06-19 15:35 J -20109033.96 -20109033.85 -20109033.74 0.2675 0.0239 *

Jupiter -59769-06-23 12:42 J -20109030.00 -20109029.97 -20109029.94 0.0528 0.0512

Mars -59769-09-16 08:37 J -20108945.25 -20108945.14 -20108945.02 0.1883 0.0079

Venus -59768-03-16 12:57 J -20108764.03 -20108763.96 -20108763.88 0.3808 0.2465

Saturn -59768-07-13 09:49 J -20108645.20 -20108645.09 -20108644.97 0.0265 0.0207

Mars -59768-07-15 04:18 J -20108643.49 -20108643.32 -20108643.16 0.1662 0.0117

Saturn -59768-10-10 05:45 J -20108556.43 -20108556.26 -20108556.09 0.0264 0.0086

Saturn -59767-01-07 01:40 J -20108467.61 -20108467.43 -20108467.24 0.0264 0.0037

Saturn -59767-04-05 21:49 J -20108378.74 -20108378.59 -20108378.44 0.0263 0.0159

Jupiter -59763-02-12 23:59 J -20106969.61 -20106969.50 -20106969.39 0.0496 0.0398

Jupiter -59763-05-14 09:06 J -20106879.27 -20106879.12 -20106878.96 0.0497 0.0272

Venus -59763-09-30 04:47 J -20106740.40 -20106740.30 -20106740.20 0.3810 0.0555

Moon -59762-06-13 13:40 J -20106483.96 -20106483.93 -20106483.91 0.2682 0.2604

Earth -59762-06-13 13:25 J -20106483.96 -20106483.94 -20106483.92 0.2675 0.2609 *

Moon -59760-12-18 17:01 J -20105564.81 -20105564.79 -20105564.77 0.2656 0.2623

Mars -59759-02-06 16:47 J -20105514.90 -20105514.80 -20105514.70 0.1875 0.0859

Mars -59759-12-05 05:30 J -20105213.40 -20105213.27 -20105213.13 0.1669 0.0900

Jupiter -59757-01-13 10:33 J -20104809.18 -20104809.06 -20104808.94 0.0529 0.0162

Jupiter -59757-04-11 16:33 J -20104719.89 -20104719.81 -20104719.72 0.0528 0.0376

Venus -59757-04-14 20:37 J -20104716.73 -20104716.64 -20104716.54 0.3812 0.1389

Moon -59756-06-22 09:21 J -20104283.21 -20104283.11 -20104283.02 0.2676 0.1282

Earth -59756-06-22 09:21 J -20104283.21 -20104283.11 -20104283.01 0.2683 0.1252 *

Uranus -59755-06-10 19:54 J -20103929.71 -20103929.67 -20103929.63 0.0132 0.0126

Uranus -59755-09-06 23:01 J -20103841.62 -20103841.54 -20103841.47 0.0133 0.0109

Uranus -59755-12-04 01:54 J -20103753.51 -20103753.42 -20103753.32 0.0133 0.0092

Uranus -59754-03-02 04:47 J -20103665.40 -20103665.30 -20103665.19 0.0133 0.0075

Uranus -59754-05-29 07:40 J -20103577.29 -20103577.18 -20103577.05 0.0133 0.0058

Uranus -59754-08-25 10:47 J -20103489.17 -20103489.05 -20103488.92 0.0133 0.0041

Uranus -59754-11-21 13:40 J -20103401.06 -20103400.93 -20103400.80 0.0133 0.0024

Uranus -59753-02-17 16:47 J -20103312.93 -20103312.80 -20103312.67 0.0133 0.0007

Uranus -59753-05-15 19:40 J -20103224.81 -20103224.68 -20103224.55 0.0133 0.0011

Uranus -59753-08-11 22:33 J -20103136.68 -20103136.56 -20103136.43 0.0133 0.0028

Uranus -59753-11-08 01:25 J -20103048.56 -20103048.44 -20103048.31 0.0133 0.0046

Saturn -59752-01-31 02:37 J -20102964.48 -20102964.39 -20102964.30 0.0297 0.0221

Uranus -59752-02-04 04:33 J -20102960.43 -20102960.31 -20102960.20 0.0133 0.0062

Saturn -59752-04-29 15:35 J -20102875.97 -20102875.85 -20102875.72 0.0298 0.0096

Uranus -59752-05-03 07:25 J -20102872.29 -20102872.19 -20102872.08 0.0133 0.0079

Saturn -59752-07-27 04:33 J -20102787.44 -20102787.31 -20102787.17 0.0299 0.0032

Uranus -59752-07-30 10:18 J -20102784.15 -20102784.07 -20102783.98 0.0133 0.0097

Saturn -59752-10-23 17:30 J -20102698.88 -20102698.77 -20102698.66 0.0299 0.0155

Uranus -59752-10-26 13:11 J -20102696.01 -20102695.95 -20102695.88 0.0133 0.0114

Venus -59752-10-29 12:42 J -20102693.02 -20102692.97 -20102692.92 0.3813 0.3321

Saturn -59751-01-20 06:13 J -20102610.28 -20102610.24 -20102610.19 0.0300 0.0280

Uranus -59751-01-22 16:04 J -20102607.84 -20102607.83 -20102607.80 0.0134 0.0131

Jupiter -59751-03-02 06:28 J -20102569.41 -20102569.23 -20102569.05 0.0497 0.0106

Mars -59750-06-30 00:57 J -20102084.50 -20102084.46 -20102084.43 0.1867 0.1782

Earth -59749-06-15 07:40 J -20101733.27 -20101733.18 -20101733.09 0.2677 0.1581

Moon -59749-06-15 08:23 J -20101733.24 -20101733.15 -20101733.06 0.2679 0.1488 *

Jupiter -59746-11-01 14:09 J -20100499.01 -20100498.91 -20100498.80 0.0529 0.0302

Jupiter -59745-01-29 20:37 J -20100409.75 -20100409.64 -20100409.53 0.0529 0.0240

Moon -59743-06-25 02:37 J -20099532.45 -20099532.39 -20099532.32 0.2681 0.2155

Earth -59743-06-25 03:21 J -20099532.42 -20099532.36 -20099532.30 0.2685 0.2243 *

Moon -59740-12-13 10:04 J -20098265.22 -20098265.08 -20098264.94 0.2655 0.0936

Earth -59740-12-13 11:45 J -20098265.16 -20098265.01 -20098264.86 0.2654 0.0803 *

Jupiter -59740-12-19 04:04 J -20098259.52 -20098259.33 -20098259.15 0.0497 0.0057

Mars -59739-10-26 00:28 J -20097948.57 -20097948.48 -20097948.38 0.1892 0.1106

Saturn -59739-11-30 10:18 J -20097913.14 -20097913.07 -20097912.98 0.0265 0.0237

Saturn -59738-02-27 06:13 J -20097824.40 -20097824.24 -20097824.07 0.0264 0.0116

Saturn -59738-05-27 02:23 J -20097735.59 -20097735.40 -20097735.22 0.0264 0.0007

Saturn -59738-08-23 22:18 J -20097646.73 -20097646.57 -20097646.40 0.0263 0.0129

Mars -59738-08-24 03:35 J -20097646.45 -20097646.35 -20097646.24 0.1655 0.1266 *

Saturn -59738-11-20 18:42 J -20097557.77 -20097557.72 -20097557.67 0.0263 0.0252

Earth -59736-06-18 01:54 J -20096982.53 -20096982.42 -20096982.31 0.2679 0.0562

Moon -59736-06-18 02:37 J -20096982.50 -20096982.39 -20096982.28 0.2678 0.0550 *

Jupiter -59734-08-20 17:45 J -20096188.83 -20096188.76 -20096188.69 0.0530 0.0447

Jupiter -59734-11-18 00:13 J -20096099.61 -20096099.49 -20096099.36 0.0529 0.0099

Mars -59729-03-17 08:37 J -20094518.25 -20094518.14 -20094518.02 0.1883 0.0190

Mars -59728-01-13 04:47 J -20094216.46 -20094216.30 -20094216.13 0.1662 0.0254

Jupiter -59728-10-07 01:11 J -20093949.61 -20093949.45 -20093949.28 0.0496 0.0224

Jupiter -59727-01-05 10:33 J -20093859.13 -20093859.06 -20093858.97 0.0497 0.0451

Moon -59727-12-16 16:18 J -20093513.96 -20093513.82 -20093513.67 0.2655 0.0939

Earth -59727-12-16 17:45 J -20093513.90 -20093513.76 -20093513.62 0.2652 0.1136 *

Saturn -59723-06-20 05:16 J -20092232.34 -20092232.28 -20092232.20 0.0296 0.0251

Earth -59723-06-20 20:09 J -20092231.77 -20092231.66 -20092231.55 0.2681 0.0448

Moon -59723-06-20 20:23 J -20092231.76 -20092231.65 -20092231.54 0.2674 0.0538 *

Saturn -59723-09-16 18:28 J -20092143.85 -20092143.73 -20092143.61 0.0297 0.0125

Saturn -59723-12-14 07:25 J -20092055.32 -20092055.19 -20092055.06 0.0298 0.0001

Saturn -59722-03-12 20:23 J -20091966.77 -20091966.65 -20091966.53 0.0299 0.0125

Saturn -59722-06-09 09:06 J -20091878.19 -20091878.12 -20091878.05 0.0299 0.0249

Jupiter -59722-09-06 04:33 J -20091789.44 -20091789.31 -20091789.18 0.0529 0.0033

Jupiter -59722-12-04 10:33 J -20091700.09 -20091700.06 -20091700.02 0.0528 0.0503

Venus -59720-06-30 21:35 J -20091125.75 -20091125.60 -20091125.45 0.3570 0.1310

Mars -59720-08-07 16:47 J -20091087.91 -20091087.80 -20091087.69 0.1875 0.0755

Mars -59719-06-05 06:13 J -20090786.38 -20090786.24 -20090786.09 0.1668 0.0760

Venus -59717-04-06 18:28 J -20090114.75 -20090114.73 -20090114.71 0.3806 0.3697

Earth -59716-06-13 18:13 J -20089681.78 -20089681.74 -20089681.69 0.2675 0.2409

Moon -59716-06-13 18:28 J -20089681.77 -20089681.73 -20089681.68 0.2681 0.2403 *

Jupiter -59716-07-25 21:21 J -20089639.71 -20089639.61 -20089639.50 0.0496 0.0403

Jupiter -59716-10-24 06:28 J -20089549.38 -20089549.23 -20089549.07 0.0497 0.0266

Uranus -59714-09-26 14:52 J -20088846.97 -20088846.88 -20088846.75 0.0146 0.0118

Uranus -59714-12-23 23:45 J -20088758.66 -20088758.51 -20088758.35 0.0146 0.0085

Uranus -59713-03-21 08:23 J -20088670.32 -20088670.15 -20088669.96 0.0146 0.0052

Uranus -59713-06-17 17:16 J -20088581.97 -20088581.78 -20088581.59 0.0146 0.0018

Uranus -59713-09-14 01:54 J -20088493.61 -20088493.42 -20088493.23 0.0146 0.0015

Uranus -59713-12-11 10:33 J -20088405.24 -20088405.06 -20088404.87 0.0145 0.0048

Uranus -59712-03-09 19:11 J -20088316.85 -20088316.70 -20088316.53 0.0145 0.0081

Uranus -59712-06-06 03:49 J -20088228.45 -20088228.34 -20088228.21 0.0145 0.0115

Venus -59712-10-21 10:33 J -20088091.15 -20088091.06 -20088090.98 0.3808 0.1781

Mars -59711-12-29 00:57 J -20087657.51 -20087657.46 -20087657.41 0.1867 0.1668

Moon -59710-06-23 13:54 J -20087481.01 -20087480.92 -20087480.82 0.2677 0.1376

Earth -59710-06-23 14:09 J -20087481.00 -20087480.91 -20087480.82 0.2683 0.1446 *

Jupiter -59710-06-25 08:52 J -20087479.25 -20087479.13 -20087479.00 0.0529 0.0162

Jupiter -59710-09-22 15:06 J -20087389.95 -20087389.87 -20087389.78 0.0529 0.0378

Saturn -59709-04-18 11:16 J -20087181.03 -20087181.03 -20087181.03 0.0265 0.0265

Saturn -59709-07-16 06:42 J -20087092.36 -20087092.22 -20087092.06 0.0265 0.0145

Saturn -59709-10-13 02:52 J -20087003.57 -20087003.38 -20087003.20 0.0264 0.0023

Saturn -59708-01-09 22:47 J -20086914.72 -20086914.55 -20086914.38 0.0263 0.0099

Neptune -59708-04-05 14:37 J -20086828.90 -20086828.89 -20086828.85 0.0089 0.0088

Saturn -59708-04-08 18:42 J -20086825.81 -20086825.72 -20086825.61 0.0263 0.0222

Neptune -59708-07-02 17:45 J -20086740.81 -20086740.76 -20086740.66 0.0089 0.0081

Neptune -59708-09-28 21:21 J -20086652.70 -20086652.61 -20086652.49 0.0089 0.0073

Neptune -59708-12-26 00:42 J -20086564.58 -20086564.47 -20086564.33 0.0089 0.0065

Neptune -59707-03-24 03:49 J -20086476.46 -20086476.34 -20086476.17 0.0089 0.0058

Neptune -59707-06-20 07:25 J -20086388.33 -20086388.19 -20086388.02 0.0089 0.0050

Neptune -59707-09-16 11:01 J -20086300.20 -20086300.04 -20086299.87 0.0089 0.0042

Moon -59707-12-11 11:16 J -20086214.08 -20086214.03 -20086213.98 0.2653 0.2511

Earth -59707-12-11 12:28 J -20086214.05 -20086213.98 -20086213.91 0.2656 0.2343 *

Neptune -59707-12-13 14:23 J -20086212.07 -20086211.90 -20086211.72 0.0089 0.0034

Neptune -59706-03-11 17:59 J -20086123.93 -20086123.75 -20086123.57 0.0089 0.0026

Venus -59706-05-07 02:23 J -20086067.50 -20086067.40 -20086067.30 0.3810 0.0184

Neptune -59706-06-07 21:06 J -20086035.80 -20086035.62 -20086035.43 0.0089 0.0019

Neptune -59706-09-04 00:42 J -20085947.66 -20085947.47 -20085947.28 0.0089 0.0011

Neptune -59706-12-01 04:04 J -20085859.52 -20085859.33 -20085859.14 0.0089 0.0003

Neptune -59705-02-27 07:25 J -20085771.37 -20085771.19 -20085770.99 0.0089 0.0006

Neptune -59705-05-25 11:01 J -20085683.23 -20085683.04 -20085682.85 0.0089 0.0013

Neptune -59705-08-21 14:23 J -20085595.08 -20085594.90 -20085594.71 0.0089 0.0021

Neptune -59705-11-17 17:59 J -20085506.93 -20085506.75 -20085506.57 0.0089 0.0029

Neptune -59704-02-13 21:21 J -20085418.78 -20085418.61 -20085418.43 0.0089 0.0037

Neptune -59704-05-13 00:42 J -20085330.63 -20085330.47 -20085330.30 0.0089 0.0045

Neptune -59704-08-09 04:18 J -20085242.47 -20085242.32 -20085242.16 0.0089 0.0053

Jupiter -59704-08-12 03:49 J -20085239.52 -20085239.34 -20085239.16 0.0497 0.0100

Neptune -59704-11-05 07:40 J -20085154.31 -20085154.18 -20085154.03 0.0089 0.0061

Neptune -59703-02-01 11:16 J -20085066.14 -20085066.03 -20085065.91 0.0089 0.0069

Neptune -59703-04-30 14:37 J -20084977.97 -20084977.89 -20084977.78 0.0089 0.0077

Earth -59703-06-16 12:42 J -20084931.07 -20084930.97 -20084930.88 0.2677 0.1385

Moon -59703-06-16 13:25 J -20084931.04 -20084930.94 -20084930.85 0.2679 0.1322 *

Neptune -59703-07-27 18:13 J -20084889.78 -20084889.74 -20084889.68 0.0089 0.0085

Venus -59701-11-19 18:13 J -20084043.82 -20084043.74 -20084043.66 0.3812 0.2076

Mars -59699-04-26 00:28 J -20083521.56 -20083521.48 -20083521.39 0.1892 0.1212

Mars -59698-02-22 04:04 J -20083219.41 -20083219.33 -20083219.24 0.1655 0.1395

Jupiter -59698-04-13 12:57 J -20083169.07 -20083168.96 -20083168.86 0.0529 0.0299

Jupiter -59698-07-11 19:11 J -20083079.81 -20083079.70 -20083079.59 0.0529 0.0243

Moon -59697-06-25 07:25 J -20082730.23 -20082730.19 -20082730.14 0.2681 0.2395

Earth -59697-06-25 08:09 J -20082730.20 -20082730.16 -20082730.11 0.2685 0.2431 *

Saturn -59694-11-07 06:28 J -20081500.24 -20081500.23 -20081500.20 0.0296 0.0292

Moon -59694-12-14 16:33 J -20081462.96 -20081462.81 -20081462.66 0.2655 0.0601

Earth -59694-12-14 18:13 J -20081462.89 -20081462.74 -20081462.59 0.2654 0.0453 *

Saturn -59693-02-03 19:40 J -20081411.79 -20081411.68 -20081411.57 0.0297 0.0167

Saturn -59693-05-02 08:37 J -20081323.27 -20081323.14 -20081323.00 0.0298 0.0042

Saturn -59693-07-29 21:35 J -20081234.72 -20081234.60 -20081234.47 0.0299 0.0084

Saturn -59693-10-26 10:18 J -20081146.16 -20081146.07 -20081145.97 0.0300 0.0210

Jupiter -59692-05-31 01:11 J -20080929.63 -20080929.45 -20080929.26 0.0497 0.0065

Earth -59690-06-19 06:57 J -20080180.32 -20080180.21 -20080180.10 0.2679 0.0377

Moon -59690-06-19 07:25 J -20080180.30 -20080180.19 -20080180.08 0.2677 0.0260 *

Mars -59690-09-16 08:37 J -20080091.25 -20080091.14 -20080091.02 0.1883 0.0271

Mars -59689-07-14 05:45 J -20079789.42 -20079789.26 -20079789.10 0.1661 0.0399

Jupiter -59686-01-30 16:47 J -20078858.87 -20078858.80 -20078858.73 0.0529 0.0439

Jupiter -59686-04-29 23:16 J -20078769.66 -20078769.53 -20078769.41 0.0529 0.0107

Moon -59681-12-16 23:01 J -20076711.66 -20076711.54 -20076711.41 0.2656 0.1454

Earth -59681-12-17 00:13 J -20076711.62 -20076711.49 -20076711.36 0.2651 0.1492 *

Mars -59680-02-05 16:47 J -20076660.91 -20076660.80 -20076660.69 0.1875 0.0648

Jupiter -59680-03-18 23:01 J -20076619.70 -20076619.54 -20076619.38 0.0497 0.0225

Jupiter -59680-06-17 08:23 J -20076529.22 -20076529.15 -20076529.07 0.0497 0.0452

Saturn -59680-12-03 06:42 J -20076360.35 -20076360.22 -20076360.08 0.0265 0.0178

Mars -59680-12-04 06:57 J -20076359.36 -20076359.21 -20076359.06 0.1668 0.0625

Saturn -59679-03-02 02:37 J -20076271.57 -20076271.39 -20076271.21 0.0264 0.0057

Saturn -59679-05-29 22:47 J -20076182.73 -20076182.55 -20076182.37 0.0263 0.0065

Saturn -59679-08-26 18:42 J -20076093.84 -20076093.72 -20076093.58 0.0263 0.0188

Earth -59677-06-21 00:57 J -20075429.57 -20075429.46 -20075429.35 0.2681 0.0643

Moon -59677-06-21 01:11 J -20075429.56 -20075429.45 -20075429.34 0.2675 0.0611 *

Jupiter -59674-02-16 02:52 J -20074459.51 -20074459.38 -20074459.25 0.0529 0.0035

Jupiter -59674-05-16 08:52 J -20074370.16 -20074370.13 -20074370.09 0.0528 0.0500

Mars -59671-06-29 00:57 J -20073230.52 -20073230.46 -20073230.40 0.1867 0.1561

Uranus -59671-07-01 02:37 J -20073228.43 -20073228.39 -20073228.34 0.0133 0.0124

Uranus -59671-09-27 05:30 J -20073140.34 -20073140.27 -20073140.18 0.0133 0.0107

Uranus -59671-12-24 08:37 J -20073052.23 -20073052.14 -20073052.04 0.0133 0.0090

Uranus -59670-03-22 11:30 J -20072964.12 -20072964.02 -20072963.90 0.0133 0.0073

Mars -59670-04-26 08:09 J -20072929.18 -20072929.16 -20072929.13 0.1675 0.1642

Earth -59670-06-14 23:16 J -20072879.59 -20072879.53 -20072879.47 0.2675 0.2206

Moon -59670-06-14 23:45 J -20072879.58 -20072879.51 -20072879.45 0.2680 0.2135 *

Uranus -59670-06-18 14:37 J -20072876.01 -20072875.89 -20072875.77 0.0133 0.0055

Uranus -59670-09-14 17:30 J -20072787.89 -20072787.77 -20072787.64 0.0133 0.0038

Uranus -59670-12-11 20:37 J -20072699.77 -20072699.64 -20072699.51 0.0133 0.0021

Uranus -59669-03-08 23:30 J -20072611.65 -20072611.52 -20072611.39 0.0133 0.0004

Uranus -59669-06-05 02:23 J -20072523.53 -20072523.40 -20072523.27 0.0133 0.0014

Uranus -59669-09-01 05:30 J -20072435.40 -20072435.27 -20072435.14 0.0133 0.0031

Uranus -59669-11-28 08:23 J -20072347.27 -20072347.15 -20072347.03 0.0133 0.0048

Jupiter -59668-01-04 20:23 J -20072309.76 -20072309.65 -20072309.53 0.0496 0.0389

Uranus -59668-02-24 11:16 J -20072259.14 -20072259.03 -20072258.91 0.0133 0.0065

Jupiter -59668-04-05 05:30 J -20072219.42 -20072219.27 -20072219.11 0.0497 0.0282

Uranus -59668-05-23 14:09 J -20072171.01 -20072170.91 -20072170.80 0.0133 0.0082

Uranus -59668-08-19 17:01 J -20072082.87 -20072082.79 -20072082.70 0.0133 0.0099

Uranus -59668-11-15 19:54 J -20071994.72 -20071994.67 -20071994.60 0.0134 0.0117

Uranus -59667-02-11 23:01 J -20071906.54 -20071906.54 -20071906.53 0.0134 0.0133

Saturn -59664-06-22 22:04 J -20070679.68 -20070679.58 -20070679.49 0.0297 0.0200

Moon -59664-06-23 18:42 J -20070678.81 -20070678.72 -20070678.64 0.2678 0.1654

Earth -59664-06-23 18:57 J -20070678.79 -20070678.71 -20070678.62 0.2683 0.1637 *

Saturn -59664-09-19 11:01 J -20070591.17 -20070591.04 -20070590.91 0.0297 0.0075

Saturn -59664-12-16 23:59 J -20070502.63 -20070502.50 -20070502.37 0.0298 0.0050

Venus -59663-02-04 23:59 J -20070452.66 -20070452.50 -20070452.34 0.3569 0.0524

Saturn -59663-03-15 12:57 J -20070414.07 -20070413.96 -20070413.86 0.0299 0.0175

Saturn -59663-06-12 01:40 J -20070325.43 -20070325.43 -20070325.43 0.0300 0.0299

Jupiter -59663-12-05 07:11 J -20070149.32 -20070149.20 -20070149.08 0.0530 0.0167

Jupiter -59662-03-04 13:25 J -20070060.03 -20070059.94 -20070059.85 0.0529 0.0373

Venus -59661-11-11 16:04 J -20069441.89 -20069441.83 -20069441.77 0.3807 0.3009

Moon -59661-12-11 17:16 J -20069411.87 -20069411.78 -20069411.68 0.2654 0.2039

Earth -59661-12-11 18:57 J -20069411.81 -20069411.71 -20069411.61 0.2656 0.2002 *

Mars -59660-10-25 00:42 J -20069094.56 -20069094.47 -20069094.39 0.1892 0.1316

Mars -59659-08-23 04:47 J -20068792.36 -20068792.30 -20068792.24 0.1655 0.1535

Earth -59657-06-16 17:30 J -20068128.87 -20068128.77 -20068128.67 0.2677 0.1182

Moon -59657-06-16 18:13 J -20068128.84 -20068128.74 -20068128.64 0.2679 0.1106 *

Jupiter -59656-01-22 01:25 J -20067909.62 -20067909.44 -20067909.26 0.0497 0.0098

Venus -59655-05-28 07:54 J -20067418.27 -20067418.17 -20067418.07 0.3809 0.1094

Moon -59651-06-26 12:28 J -20065928.02 -20065927.98 -20065927.95 0.2682 0.2510

Earth -59651-06-26 12:57 J -20065927.98 -20065927.96 -20065927.94 0.2685 0.2621 *

Jupiter -59651-09-23 11:30 J -20065839.12 -20065839.02 -20065838.91 0.0530 0.0296

Jupiter -59651-12-21 17:59 J -20065749.86 -20065749.75 -20065749.64 0.0529 0.0248

Mars -59650-03-17 08:37 J -20065664.25 -20065664.14 -20065664.02 0.1884 0.0382

Saturn -59650-04-22 06:57 J -20065628.31 -20065628.21 -20065628.09 0.0265 0.0209

Saturn -59650-07-20 02:52 J -20065539.55 -20065539.38 -20065539.20 0.0264 0.0087

Saturn -59650-10-16 22:47 J -20065450.73 -20065450.55 -20065450.36 0.0264 0.0034

Venus -59650-12-11 23:45 J -20065394.61 -20065394.51 -20065394.41 0.3811 0.0843

Mars -59649-01-13 05:59 J -20065362.40 -20065362.25 -20065362.09 0.1661 0.0526

Saturn -59649-01-13 18:42 J -20065361.86 -20065361.72 -20065361.56 0.0263 0.0156

Moon -59648-12-14 23:01 J -20064660.69 -20064660.54 -20064660.39 0.2654 0.0262

Earth -59648-12-15 00:42 J -20064660.63 -20064660.47 -20064660.32 0.2654 0.0106 *

Jupiter -59645-11-09 23:01 J -20063599.73 -20063599.54 -20063599.36 0.0497 0.0068

Earth -59644-06-19 11:45 J -20063378.12 -20063378.01 -20063377.90 0.2680 0.0173

Moon -59644-06-19 12:13 J -20063378.10 -20063377.99 -20063377.88 0.2675 0.0146 *

Venus -59644-06-26 15:49 J -20063370.91 -20063370.84 -20063370.78 0.3812 0.2782

Mars -59641-08-06 16:47 J -20062233.91 -20062233.80 -20062233.69 0.1875 0.0546

Mars -59640-06-04 07:25 J -20061932.34 -20061932.19 -20061932.03 0.1668 0.0489

Jupiter -59639-07-12 15:35 J -20061528.92 -20061528.85 -20061528.78 0.0530 0.0431

Jupiter -59639-10-09 22:04 J -20061439.70 -20061439.58 -20061439.45 0.0529 0.0115

Saturn -59635-11-09 22:47 J -20059947.62 -20059947.55 -20059947.48 0.0297 0.0245

Moon -59635-12-18 05:45 J -20059909.37 -20059909.26 -20059909.14 0.2657 0.1751

Earth -59635-12-18 06:42 J -20059909.33 -20059909.22 -20059909.11 0.2651 0.1851 *

Saturn -59634-02-06 11:45 J -20059859.13 -20059859.01 -20059858.88 0.0298 0.0120

Saturn -59634-05-06 00:57 J -20059770.60 -20059770.46 -20059770.33 0.0298 0.0009

Saturn -59634-08-02 13:40 J -20059682.04 -20059681.93 -20059681.81 0.0299 0.0131

Saturn -59634-10-30 02:23 J -20059593.46 -20059593.40 -20059593.32 0.0300 0.0256

Jupiter -59633-08-28 20:37 J -20059289.80 -20059289.64 -20059289.48 0.0497 0.0229

Jupiter -59633-11-27 05:59 J -20059199.32 -20059199.25 -20059199.16 0.0497 0.0449

Mars -59632-12-28 00:57 J -20058803.53 -20058803.46 -20058803.39 0.1867 0.1465

Earth -59631-06-22 05:45 J -20058627.36 -20058627.26 -20058627.15 0.2682 0.0841

Moon -59631-06-22 05:59 J -20058627.35 -20058627.25 -20058627.14 0.2675 0.0907 *

Mars -59631-10-25 08:52 J -20058502.19 -20058502.13 -20058502.06 0.1675 0.1498

Uranus -59630-07-20 13:11 J -20058233.95 -20058233.95 -20058233.95 0.0146 0.0146

Uranus -59630-10-16 21:35 J -20058145.71 -20058145.60 -20058145.47 0.0146 0.0113

Uranus -59629-01-13 06:28 J -20058057.39 -20058057.23 -20058057.07 0.0146 0.0080

Uranus -59629-04-10 15:06 J -20057969.05 -20057968.87 -20057968.69 0.0146 0.0047

Uranus -59629-07-07 23:45 J -20057880.70 -20057880.51 -20057880.32 0.0146 0.0014

Uranus -59629-10-04 08:23 J -20057792.34 -20057792.15 -20057791.96 0.0146 0.0019

Uranus -59629-12-31 17:01 J -20057703.97 -20057703.79 -20057703.61 0.0145 0.0052

Uranus -59628-03-30 01:40 J -20057615.58 -20057615.43 -20057615.27 0.0145 0.0086

Uranus -59628-06-26 10:33 J -20057527.17 -20057527.06 -20057526.95 0.0145 0.0119

Jupiter -59627-07-29 02:09 J -20057129.54 -20057129.41 -20057129.28 0.0529 0.0024

Jupiter -59627-10-26 08:09 J -20057040.19 -20057040.16 -20057040.13 0.0528 0.0512

Neptune -59626-04-15 19:40 J -20056868.70 -20056868.68 -20056868.63 0.0089 0.0085

Neptune -59626-07-12 21:21 J -20056780.67 -20056780.61 -20056780.55 0.0089 0.0079

Neptune -59626-10-08 22:33 J -20056692.62 -20056692.56 -20056692.47 0.0089 0.0074

Neptune -59625-01-04 23:59 J -20056604.57 -20056604.50 -20056604.40 0.0089 0.0068

Neptune -59625-04-02 01:40 J -20056516.52 -20056516.43 -20056516.33 0.0089 0.0062

Neptune -59625-06-29 03:06 J -20056428.47 -20056428.37 -20056428.26 0.0089 0.0056

Pluto -59625-07-29 00:28 J -20056398.50 -20056398.48 -20056398.42 0.0061 0.0059

Neptune -59625-09-25 04:33 J -20056340.42 -20056340.31 -20056340.19 0.0089 0.0050

Pluto -59625-10-25 01:54 J -20056310.49 -20056310.42 -20056310.34 0.0061 0.0054

Neptune -59625-12-22 05:59 J -20056252.36 -20056252.25 -20056252.13 0.0089 0.0045

Pluto -59624-01-21 02:37 J -20056222.47 -20056222.39 -20056222.27 0.0061 0.0051

Neptune -59624-03-20 07:25 J -20056164.31 -20056164.19 -20056164.06 0.0089 0.0039

Pluto -59624-04-19 04:04 J -20056134.44 -20056134.33 -20056134.20 0.0061 0.0045

Earth -59624-06-15 04:04 J -20056077.40 -20056077.33 -20056077.26 0.2675 0.2005

Moon -59624-06-15 04:47 J -20056077.38 -20056077.30 -20056077.23 0.2680 0.2009 *

Neptune -59624-06-16 08:52 J -20056076.25 -20056076.13 -20056076.00 0.0089 0.0033

Pluto -59624-07-16 05:16 J -20056046.40 -20056046.28 -20056046.14 0.0061 0.0041

Neptune -59624-09-12 10:18 J -20055988.20 -20055988.07 -20055987.94 0.0089 0.0028

Pluto -59624-10-12 06:13 J -20055958.37 -20055958.24 -20055958.09 0.0061 0.0036

Neptune -59624-12-09 11:45 J -20055900.14 -20055900.01 -20055899.88 0.0089 0.0022

Pluto -59623-01-08 07:25 J -20055870.33 -20055870.19 -20055870.03 0.0061 0.0032

Neptune -59623-03-07 13:11 J -20055812.08 -20055811.95 -20055811.82 0.0089 0.0016

Pluto -59623-04-06 08:37 J -20055782.29 -20055782.14 -20055781.97 0.0061 0.0027

Neptune -59623-06-03 14:37 J -20055724.03 -20055723.89 -20055723.76 0.0089 0.0011

Pluto -59623-07-03 09:49 J -20055694.25 -20055694.09 -20055693.92 0.0062 0.0022

Neptune -59623-08-30 16:04 J -20055635.97 -20055635.83 -20055635.70 0.0089 0.0006

Pluto -59623-09-29 10:47 J -20055606.21 -20055606.05 -20055605.87 0.0062 0.0018

Neptune -59623-11-26 17:16 J -20055547.91 -20055547.78 -20055547.64 0.0089 0.0002

Pluto -59623-12-26 11:59 J -20055518.16 -20055518.00 -20055517.81 0.0062 0.0013

Neptune -59622-02-22 18:42 J -20055459.85 -20055459.72 -20055459.58 0.0089 0.0006

Pluto -59622-03-24 13:25 J -20055430.11 -20055429.94 -20055429.76 0.0062 0.0008

Neptune -59622-05-21 20:09 J -20055371.79 -20055371.66 -20055371.53 0.0089 0.0012

Pluto -59622-06-20 14:37 J -20055342.07 -20055341.89 -20055341.71 0.0062 0.0003

Neptune -59622-08-17 21:35 J -20055283.73 -20055283.60 -20055283.47 0.0089 0.0017

Pluto -59622-09-16 15:49 J -20055254.02 -20055253.84 -20055253.66 0.0062 0.0002

Neptune -59622-11-13 22:47 J -20055195.68 -20055195.55 -20055195.42 0.0089 0.0023

Pluto -59622-12-13 17:01 J -20055165.97 -20055165.79 -20055165.61 0.0062 0.0007

Neptune -59621-02-10 00:13 J -20055107.62 -20055107.49 -20055107.36 0.0089 0.0028

Pluto -59621-03-10 18:13 J -20055077.91 -20055077.74 -20055077.57 0.0062 0.0012

Neptune -59621-05-08 01:40 J -20055019.55 -20055019.43 -20055019.31 0.0089 0.0034

Pluto -59621-06-06 19:11 J -20054989.86 -20054989.70 -20054989.52 0.0062 0.0017

Jupiter -59621-06-16 18:28 J -20054979.84 -20054979.73 -20054979.61 0.0496 0.0387

Neptune -59621-08-04 02:52 J -20054931.49 -20054931.38 -20054931.25 0.0089 0.0039

Pluto -59621-09-02 20:23 J -20054901.81 -20054901.65 -20054901.47 0.0062 0.0022

Saturn -59621-09-08 05:59 J -20054896.30 -20054896.25 -20054896.17 0.0265 0.0247

Jupiter -59621-09-15 03:49 J -20054889.49 -20054889.34 -20054889.19 0.0497 0.0286

Neptune -59621-10-31 04:18 J -20054843.43 -20054843.32 -20054843.20 0.0089 0.0045

Pluto -59621-11-29 21:35 J -20054813.75 -20054813.60 -20054813.43 0.0062 0.0027

Saturn -59621-12-06 01:54 J -20054807.58 -20054807.42 -20054807.25 0.0264 0.0126

Neptune -59620-01-27 05:30 J -20054755.37 -20054755.27 -20054755.15 0.0089 0.0051

Pluto -59620-02-25 22:47 J -20054725.69 -20054725.55 -20054725.39 0.0062 0.0033

Saturn -59620-03-04 21:49 J -20054718.77 -20054718.59 -20054718.40 0.0264 0.0008

Mars -59620-04-25 00:28 J -20054667.55 -20054667.48 -20054667.40 0.1892 0.1415

Neptune -59620-04-25 06:57 J -20054667.31 -20054667.21 -20054667.10 0.0089 0.0056

Pluto -59620-05-24 23:59 J -20054637.63 -20054637.50 -20054637.34 0.0062 0.0038

Saturn -59620-06-01 17:59 J -20054629.91 -20054629.75 -20054629.58 0.0263 0.0118

Neptune -59620-07-22 08:09 J -20054579.24 -20054579.16 -20054579.05 0.0089 0.0062

Pluto -59620-08-21 01:11 J -20054549.56 -20054549.45 -20054549.30 0.0063 0.0043

Saturn -59620-08-29 14:09 J -20054540.98 -20054540.91 -20054540.83 0.0263 0.0240

Neptune -59620-10-18 09:35 J -20054491.18 -20054491.10 -20054491.00 0.0089 0.0067

Pluto -59620-11-17 02:37 J -20054461.49 -20054461.39 -20054461.27 0.0063 0.0048

Neptune -59619-01-14 11:16 J -20054403.11 -20054403.03 -20054402.96 0.0089 0.0072

Pluto -59619-02-13 03:49 J -20054373.42 -20054373.34 -20054373.24 0.0063 0.0053

Neptune -59619-04-12 12:13 J -20054315.04 -20054314.99 -20054314.91 0.0089 0.0078

Pluto -59619-05-12 04:47 J -20054285.34 -20054285.30 -20054285.21 0.0063 0.0059

Neptune -59619-07-09 13:54 J -20054226.96 -20054226.92 -20054226.88 0.0089 0.0083

Neptune -59619-10-05 15:06 J -20054138.87 -20054138.87 -20054138.86 0.0089 0.0089

Moon -59618-06-24 23:30 J -20053876.61 -20053876.52 -20053876.44 0.2678 0.1718

Earth -59618-06-24 23:59 J -20053876.58 -20053876.50 -20053876.42 0.2684 0.1832 *

Jupiter -59615-05-17 05:45 J -20052819.38 -20052819.26 -20052819.14 0.0529 0.0165

Jupiter -59615-08-14 11:59 J -20052730.09 -20052730.00 -20052729.91 0.0528 0.0375

Moon -59615-12-12 23:45 J -20052609.62 -20052609.51 -20052609.40 0.2654 0.1891

Earth -59615-12-13 01:25 J -20052609.56 -20052609.44 -20052609.33 0.2656 0.1652 *

Venus -59612-02-25 16:47 J -20051803.88 -20051803.80 -20051803.72 0.3571 0.3027

Earth -59611-06-17 22:18 J -20051326.67 -20051326.57 -20051326.46 0.2678 0.0988

Moon -59611-06-17 23:01 J -20051326.64 -20051326.54 -20051326.43 0.2679 0.0901 *

Mars -59611-09-15 08:52 J -20051237.25 -20051237.13 -20051237.02 0.1884 0.0492

Mars -59610-07-14 06:42 J -20050935.37 -20050935.22 -20050935.07 0.1661 0.0661

Jupiter -59609-07-04 01:11 J -20050579.63 -20050579.45 -20050579.27 0.0497 0.0119

Venus -59607-09-12 02:09 J -20049779.53 -20049779.41 -20049779.29 0.3569 0.2342

Saturn -59605-03-29 00:28 J -20049215.51 -20049215.48 -20049215.44 0.0296 0.0282

Saturn -59605-06-25 13:40 J -20049127.04 -20049126.93 -20049126.81 0.0297 0.0157

Saturn -59605-09-22 02:37 J -20049038.52 -20049038.39 -20049038.25 0.0298 0.0034

Saturn -59605-12-19 15:35 J -20048949.97 -20048949.85 -20048949.72 0.0298 0.0093

Saturn -59604-03-18 04:33 J -20048861.40 -20048861.31 -20048861.22 0.0299 0.0218

Venus -59604-06-18 13:25 J -20048769.02 -20048768.94 -20048768.86 0.3807 0.2322

Jupiter -59603-03-05 10:04 J -20048509.19 -20048509.08 -20048508.98 0.0530 0.0296

Jupiter -59603-06-02 16:18 J -20048419.93 -20048419.82 -20048419.70 0.0529 0.0248

Moon -59602-12-16 05:30 J -20047858.42 -20047858.27 -20047858.11 0.2655 0.0182

Earth -59602-12-16 06:57 J -20047858.36 -20047858.21 -20047858.05 0.2653 0.0264 *

Mars -59601-02-05 16:47 J -20047806.91 -20047806.80 -20047806.68 0.1875 0.0443

Mars -59601-12-03 08:09 J -20047505.32 -20047505.16 -20047505.00 0.1668 0.0352

Venus -59598-01-02 05:16 J -20046745.38 -20046745.28 -20046745.18 0.3809 0.0432

Earth -59598-06-20 16:33 J -20046575.92 -20046575.81 -20046575.70 0.2680 0.0054

Moon -59598-06-20 17:01 J -20046575.90 -20046575.79 -20046575.67 0.2675 0.0146 *

Jupiter -59597-04-21 21:06 J -20046269.80 -20046269.62 -20046269.44 0.0497 0.0064

Venus -59593-07-17 21:21 J -20044721.70 -20044721.61 -20044721.52 0.3811 0.1542

Mars -59592-06-28 00:57 J -20044376.54 -20044376.46 -20044376.38 0.1867 0.1353

Jupiter -59592-12-22 14:23 J -20044198.97 -20044198.90 -20044198.82 0.0530 0.0425

Jupiter -59591-03-21 21:06 J -20044109.75 -20044109.62 -20044109.50 0.0529 0.0122

Saturn -59591-04-25 01:40 J -20044075.57 -20044075.43 -20044075.27 0.0265 0.0159

Mars -59591-04-25 09:21 J -20044075.20 -20044075.11 -20044075.02 0.1675 0.1373

Saturn -59591-07-22 21:35 J -20043986.78 -20043986.60 -20043986.41 0.0264 0.0038

Saturn -59591-10-19 17:45 J -20043897.94 -20043897.76 -20043897.59 0.0263 0.0084

Saturn -59590-01-16 13:54 J -20043809.04 -20043808.92 -20043808.81 0.0263 0.0206

Moon -59589-12-18 12:13 J -20043107.08 -20043106.99 -20043106.90 0.2657 0.2140

Earth -59589-12-18 13:11 J -20043107.03 -20043106.95 -20043106.86 0.2651 0.2208 *

Venus -59587-01-31 13:11 J -20042697.99 -20042697.95 -20042697.91 0.3813 0.3483

Uranus -59587-07-21 09:35 J -20042527.15 -20042527.10 -20042527.05 0.0133 0.0121

Uranus -59587-10-17 12:28 J -20042439.05 -20042438.98 -20042438.89 0.0133 0.0104

Uranus -59586-01-13 15:35 J -20042350.95 -20042350.85 -20042350.75 0.0133 0.0087

Uranus -59586-04-11 18:28 J -20042262.84 -20042262.73 -20042262.61 0.0133 0.0070

Uranus -59586-07-08 21:21 J -20042174.72 -20042174.61 -20042174.48 0.0133 0.0053

Uranus -59586-10-05 00:28 J -20042086.60 -20042086.48 -20042086.35 0.0133 0.0035

Uranus -59585-01-01 03:35 J -20041998.48 -20041998.35 -20041998.22 0.0133 0.0018

Jupiter -59585-02-08 18:42 J -20041959.88 -20041959.72 -20041959.56 0.0496 0.0226

Uranus -59585-03-29 06:28 J -20041910.36 -20041910.23 -20041910.10 0.0133 0.0001

Jupiter -59585-05-09 04:04 J -20041869.40 -20041869.33 -20041869.25 0.0497 0.0450

Moon -59585-06-22 10:47 J -20041825.16 -20041825.05 -20041824.95 0.2676 0.0995

Earth -59585-06-22 10:47 J -20041825.16 -20041825.05 -20041824.95 0.2682 0.1032 *

Uranus -59585-06-25 09:21 J -20041822.24 -20041822.11 -20041821.98 0.0133 0.0016

Uranus -59585-09-21 12:28 J -20041734.11 -20041733.98 -20041733.86 0.0133 0.0034

Uranus -59585-12-18 15:21 J -20041645.98 -20041645.86 -20041645.74 0.0133 0.0051

Uranus -59584-03-16 18:13 J -20041557.85 -20041557.74 -20041557.63 0.0133 0.0068

Uranus -59584-06-12 21:06 J -20041469.72 -20041469.62 -20041469.51 0.0133 0.0085

Uranus -59584-09-08 23:59 J -20041381.58 -20041381.50 -20041381.41 0.0134 0.0102

Uranus -59584-12-06 02:52 J -20041293.43 -20041293.38 -20041293.31 0.0134 0.0120

Mars -59581-10-24 00:42 J -20040240.54 -20040240.47 -20040240.41 0.1892 0.1523

Jupiter -59579-01-08 01:11 J -20039799.57 -20039799.45 -20039799.32 0.0529 0.0016

Jupiter -59579-04-07 07:11 J -20039710.21 -20039710.20 -20039710.18 0.0528 0.0524

Earth -59578-06-16 09:06 J -20039275.21 -20039275.12 -20039275.04 0.2676 0.1807

Moon -59578-06-16 09:35 J -20039275.18 -20039275.10 -20039275.01 0.2680 0.1686 *

Saturn -59576-11-12 14:09 J -20038395.01 -20038394.91 -20038394.82 0.0297 0.0206

Saturn -59575-02-09 03:06 J -20038306.50 -20038306.37 -20038306.24 0.0298 0.0081

Saturn -59575-05-08 16:04 J -20038217.96 -20038217.83 -20038217.70 0.0298 0.0044

Saturn -59575-08-05 04:47 J -20038129.40 -20038129.30 -20038129.18 0.0299 0.0170

Saturn -59575-11-01 17:45 J -20038040.78 -20038040.76 -20038040.73 0.0300 0.0293

Jupiter -59574-11-27 16:33 J -20037649.92 -20037649.81 -20037649.69 0.0497 0.0386

Jupiter -59573-02-26 01:54 J -20037559.57 -20037559.42 -20037559.27 0.0497 0.0287

Moon -59572-06-25 04:18 J -20037074.39 -20037074.32 -20037074.25 0.2678 0.2025

Earth -59572-06-25 04:47 J -20037074.37 -20037074.30 -20037074.23 0.2684 0.2017 *

Mars -59571-03-16 08:37 J -20036810.25 -20036810.14 -20036810.03 0.1884 0.0580

Mars -59570-01-12 07:25 J -20036508.33 -20036508.19 -20036508.04 0.1661 0.0808

Moon -59569-12-13 06:13 J -20035807.37 -20035807.24 -20035807.11 0.2654 0.1334

Earth -59569-12-13 07:54 J -20035807.31 -20035807.17 -20035807.04 0.2655 0.1303 *

Jupiter -59568-10-27 05:16 J -20035489.40 -20035489.28 -20035489.16 0.0529 0.0148

Jupiter -59567-01-24 11:30 J -20035400.11 -20035400.02 -20035399.94 0.0528 0.0391

Earth -59565-06-18 03:21 J -20034524.47 -20034524.36 -20034524.26 0.2678 0.0786

Moon -59565-06-18 04:04 J -20034524.44 -20034524.33 -20034524.22 0.2677 0.0754 *

Mars -59562-08-06 17:01 J -20033379.91 -20033379.79 -20033379.68 0.1876 0.0333

Saturn -59562-09-12 00:13 J -20033343.60 -20033343.49 -20033343.37 0.0265 0.0201

Saturn -59562-12-09 20:09 J -20033254.84 -20033254.66 -20033254.48 0.0264 0.0080

Jupiter -59562-12-14 23:30 J -20033249.69 -20033249.52 -20033249.34 0.0497 0.0126

Saturn -59561-03-07 16:04 J -20033166.01 -20033165.83 -20033165.65 0.0263 0.0042

Mars -59561-06-03 08:37 J -20033078.30 -20033078.14 -20033077.97 0.1668 0.0218

Saturn -59561-06-04 11:59 J -20033077.14 -20033077.00 -20033076.85 0.0263 0.0164

Jupiter -59556-08-15 08:52 J -20031179.23 -20031179.13 -20031179.02 0.0529 0.0290

Venus -59556-10-02 19:11 J -20031130.86 -20031130.70 -20031130.55 0.3571 0.1210

Jupiter -59556-11-12 15:21 J -20031089.97 -20031089.86 -20031089.75 0.0529 0.0254

Moon -59556-12-16 12:13 J -20031056.14 -20031055.99 -20031055.84 0.2657 0.0410

Earth -59556-12-16 13:40 J -20031056.08 -20031055.93 -20031055.78 0.2653 0.0613 *

Venus -59553-07-09 19:11 J -20030119.74 -20030119.70 -20030119.67 0.3805 0.3547

Mars -59553-12-27 00:57 J -20029949.54 -20029949.46 -20029949.37 0.1867 0.1250

Earth -59552-06-20 21:21 J -20029773.72 -20029773.61 -20029773.49 0.2680 0.0250

Moon -59552-06-20 22:04 J -20029773.69 -20029773.58 -20029773.47 0.2675 0.0285 *

Mars -59552-10-24 10:04 J -20029648.19 -20029648.08 -20029647.97 0.1675 0.1236

Jupiter -59550-10-02 21:06 J -20028939.80 -20028939.62 -20028939.44 0.0497 0.0039

Venus -59547-01-23 11:01 J -20028096.13 -20028096.04 -20028095.95 0.3807 0.1628

Saturn -59546-04-01 15:35 J -20027662.92 -20027662.85 -20027662.78 0.0296 0.0246

Saturn -59546-06-29 04:33 J -20027574.43 -20027574.31 -20027574.18 0.0297 0.0122

Uranus -59546-08-09 20:23 J -20027532.69 -20027532.65 -20027532.57 0.0146 0.0138

Saturn -59546-09-25 17:45 J -20027485.90 -20027485.76 -20027485.63 0.0298 0.0010

Uranus -59546-11-06 05:16 J -20027444.41 -20027444.28 -20027444.14 0.0146 0.0105

Saturn -59546-12-23 06:28 J -20027397.34 -20027397.23 -20027397.11 0.0299 0.0129

Uranus -59545-02-02 13:54 J -20027356.08 -20027355.92 -20027355.75 0.0146 0.0072

Saturn -59545-03-20 19:25 J -20027308.76 -20027308.69 -20027308.62 0.0299 0.0253

Uranus -59545-04-30 22:33 J -20027267.74 -20027267.56 -20027267.37 0.0146 0.0039

Earth -59545-06-13 19:25 J -20027223.70 -20027223.69 -20027223.67 0.2674 0.2637

Moon -59545-06-13 19:40 J -20027223.70 -20027223.68 -20027223.65 0.2680 0.2570 *

Uranus -59545-07-28 07:11 J -20027179.39 -20027179.20 -20027179.01 0.0146 0.0006

Uranus -59545-10-24 15:49 J -20027091.03 -20027090.84 -20027090.65 0.0145 0.0027

Uranus -59544-01-21 00:28 J -20027002.65 -20027002.48 -20027002.30 0.0145 0.0060

Uranus -59544-04-19 09:06 J -20026914.26 -20026914.12 -20026913.97 0.0145 0.0094

Jupiter -59544-06-03 13:11 J -20026869.03 -20026868.95 -20026868.87 0.0530 0.0422

Uranus -59544-07-16 17:45 J -20026825.85 -20026825.76 -20026825.66 0.0145 0.0127

Jupiter -59544-08-31 19:40 J -20026779.80 -20026779.68 -20026779.55 0.0529 0.0125

Neptune -59544-12-31 13:54 J -20026657.96 -20026657.92 -20026657.84 0.0089 0.0084

Neptune -59543-03-29 17:30 J -20026569.86 -20026569.77 -20026569.67 0.0089 0.0076

Neptune -59543-06-25 20:37 J -20026481.74 -20026481.64 -20026481.51 0.0089 0.0069

Neptune -59543-09-21 23:59 J -20026393.62 -20026393.50 -20026393.35 0.0089 0.0061

Neptune -59543-12-19 03:35 J -20026305.50 -20026305.35 -20026305.20 0.0089 0.0053

Moon -59543-12-19 18:57 J -20026304.75 -20026304.71 -20026304.66 0.2656 0.2518

Earth -59543-12-19 19:40 J -20026304.71 -20026304.68 -20026304.64 0.2650 0.2565 *

Neptune -59542-03-17 06:57 J -20026217.37 -20026217.21 -20026217.04 0.0089 0.0045

Neptune -59542-06-13 10:04 J -20026129.24 -20026129.08 -20026128.90 0.0089 0.0038

Venus -59542-08-09 02:52 J -20026072.48 -20026072.38 -20026072.28 0.3810 0.0308

Neptune -59542-09-09 13:40 J -20026041.10 -20026040.93 -20026040.75 0.0089 0.0030

Neptune -59542-12-06 17:01 J -20025952.97 -20025952.79 -20025952.60 0.0089 0.0022

Neptune -59541-03-03 20:37 J -20025864.83 -20025864.64 -20025864.46 0.0089 0.0014

Mars -59541-04-24 00:28 J -20025813.53 -20025813.48 -20025813.42 0.1892 0.1622

Neptune -59541-05-30 23:59 J -20025776.69 -20025776.50 -20025776.31 0.0089 0.0006

Neptune -59541-08-27 03:21 J -20025688.55 -20025688.36 -20025688.17 0.0089 0.0002

Neptune -59541-11-23 06:42 J -20025600.41 -20025600.22 -20025600.03 0.0089 0.0010

Neptune -59540-02-19 10:04 J -20025512.26 -20025512.08 -20025511.89 0.0089 0.0018

Neptune -59540-05-18 13:25 J -20025424.11 -20025423.94 -20025423.75 0.0089 0.0026

Neptune -59540-08-14 16:47 J -20025335.96 -20025335.80 -20025335.61 0.0089 0.0034

Neptune -59540-11-10 20:09 J -20025247.81 -20025247.66 -20025247.47 0.0089 0.0042

Neptune -59539-02-06 23:45 J -20025159.65 -20025159.51 -20025159.34 0.0089 0.0050

Neptune -59539-05-06 03:06 J -20025071.50 -20025071.37 -20025071.21 0.0089 0.0058

Moon -59539-06-23 15:21 J -20025022.96 -20025022.86 -20025022.76 0.2676 0.1225

Earth -59539-06-23 15:35 J -20025022.95 -20025022.85 -20025022.75 0.2682 0.1222 *

Neptune -59539-08-02 06:28 J -20024983.33 -20024983.23 -20024983.08 0.0089 0.0066

Neptune -59539-10-29 10:04 J -20024895.17 -20024895.08 -20024894.95 0.0089 0.0074

Neptune -59538-01-25 13:25 J -20024806.99 -20024806.94 -20024806.84 0.0089 0.0082

Jupiter -59538-07-21 17:16 J -20024629.94 -20024629.78 -20024629.61 0.0496 0.0219

Jupiter -59538-10-20 02:37 J -20024539.46 -20024539.39 -20024539.32 0.0497 0.0457

Venus -59536-02-21 18:57 J -20024048.79 -20024048.71 -20024048.63 0.3811 0.2252

Pluto -59533-12-18 22:47 J -20022652.61 -20022652.55 -20022652.47 0.0083 0.0074

Saturn -59532-01-28 23:45 J -20022611.58 -20022611.51 -20022611.42 0.0265 0.0236

Pluto -59532-03-17 00:28 J -20022564.56 -20022564.48 -20022564.38 0.0083 0.0064

Saturn -59532-04-27 19:40 J -20022522.84 -20022522.68 -20022522.51 0.0265 0.0114

Pluto -59532-06-13 02:09 J -20022476.51 -20022476.41 -20022476.30 0.0083 0.0054

Earth -59532-06-16 13:54 J -20022473.01 -20022472.92 -20022472.83 0.2676 0.1606

Moon -59532-06-16 14:37 J -20022472.98 -20022472.89 -20022472.81 0.2680 0.1615 *

Jupiter -59532-06-20 00:28 J -20022469.61 -20022469.48 -20022469.36 0.0530 0.0017

Saturn -59532-07-25 15:35 J -20022434.04 -20022433.85 -20022433.67 0.0264 0.0007

Pluto -59532-09-09 03:35 J -20022388.46 -20022388.35 -20022388.22 0.0083 0.0044

Mars -59532-09-14 08:52 J -20022383.24 -20022383.13 -20022383.03 0.1884 0.0696

Saturn -59532-10-22 11:30 J -20022345.18 -20022345.02 -20022344.85 0.0263 0.0129

Pluto -59532-12-06 05:16 J -20022300.40 -20022300.28 -20022300.14 0.0083 0.0034

Saturn -59531-01-19 07:40 J -20022256.23 -20022256.18 -20022256.12 0.0263 0.0251

Pluto -59531-03-04 06:57 J -20022212.34 -20022212.21 -20022212.07 0.0083 0.0024

Pluto -59531-05-31 08:23 J -20022124.28 -20022124.15 -20022124.00 0.0083 0.0015

Mars -59531-07-13 07:54 J -20022081.30 -20022081.17 -20022081.03 0.1661 0.0935

Pluto -59531-08-27 10:04 J -20022036.22 -20022036.08 -20022035.94 0.0083 0.0005

Pluto -59531-11-23 11:30 J -20021948.16 -20021948.02 -20021947.87 0.0082 0.0005

Pluto -59530-02-19 12:57 J -20021860.09 -20021859.96 -20021859.81 0.0082 0.0015

Pluto -59530-05-18 14:37 J -20021772.03 -20021771.89 -20021771.75 0.0082 0.0023

Pluto -59530-08-14 16:04 J -20021683.96 -20021683.83 -20021683.70 0.0082 0.0032

Pluto -59530-11-10 17:16 J -20021595.89 -20021595.78 -20021595.64 0.0082 0.0042

Pluto -59529-02-06 18:42 J -20021507.82 -20021507.72 -20021507.60 0.0082 0.0051

Pluto -59529-05-04 20:09 J -20021419.74 -20021419.66 -20021419.55 0.0082 0.0060

Pluto -59529-07-31 21:35 J -20021331.66 -20021331.60 -20021331.51 0.0081 0.0069

Pluto -59529-10-27 23:01 J -20021243.57 -20021243.54 -20021243.48 0.0081 0.0078

Jupiter -59526-05-09 15:06 J -20020319.99 -20020319.87 -20020319.75 0.0496 0.0379

Moon -59526-06-26 09:06 J -20020272.19 -20020272.12 -20020272.05 0.2679 0.2104

Earth -59526-06-26 09:35 J -20020272.16 -20020272.10 -20020272.04 0.2684 0.2210 *

Jupiter -59526-08-08 00:13 J -20020229.64 -20020229.49 -20020229.34 0.0497 0.0292

Moon -59523-12-14 12:42 J -20019005.11 -20019004.97 -20019004.83 0.2654 0.1183

Earth -59523-12-14 14:09 J -20019005.05 -20019004.91 -20019004.76 0.2655 0.0951 *

Mars -59522-02-04 16:47 J -20018952.91 -20018952.80 -20018952.68 0.1875 0.0239

Mars -59522-12-03 09:21 J -20018651.28 -20018651.11 -20018650.95 0.1668 0.0085

Jupiter -59520-04-08 04:33 J -20018159.43 -20018159.31 -20018159.18 0.0529 0.0134

Jupiter -59520-07-06 10:47 J -20018070.13 -20018070.05 -20018069.97 0.0528 0.0406

Earth -59519-06-19 08:09 J -20017722.27 -20017722.16 -20017722.05 0.2678 0.0589

Moon -59519-06-19 08:52 J -20017722.24 -20017722.13 -20017722.02 0.2676 0.0460 *

Saturn -59517-11-15 04:47 J -20016842.41 -20016842.30 -20016842.19 0.0297 0.0172

Saturn -59516-02-11 17:45 J -20016753.89 -20016753.76 -20016753.63 0.0298 0.0048

Saturn -59516-05-11 06:42 J -20016665.35 -20016665.22 -20016665.09 0.0298 0.0077

Saturn -59516-08-07 19:25 J -20016576.78 -20016576.69 -20016576.59 0.0299 0.0202

Jupiter -59514-05-26 21:49 J -20015919.76 -20015919.59 -20015919.41 0.0497 0.0131

Mars -59513-06-27 00:57 J -20015522.55 -20015522.46 -20015522.37 0.1867 0.1151

Mars -59512-04-24 10:47 J -20015221.17 -20015221.05 -20015220.93 0.1675 0.1091

Moon -59510-12-17 18:42 J -20014253.86 -20014253.72 -20014253.57 0.2657 0.0954

Earth -59510-12-17 20:09 J -20014253.80 -20014253.66 -20014253.52 0.2653 0.0967 *

Jupiter -59508-01-25 08:37 J -20013849.25 -20013849.14 -20013849.03 0.0529 0.0269

Jupiter -59508-04-24 14:52 J -20013759.98 -20013759.88 -20013759.77 0.0529 0.0274

Earth -59506-06-22 02:23 J -20012971.51 -20012971.40 -20012971.29 0.2680 0.0421

Moon -59506-06-22 02:52 J -20012971.49 -20012971.38 -20012971.27 0.2675 0.0452 *

Uranus -59503-08-10 16:18 J -20011825.87 -20011825.82 -20011825.75 0.0133 0.0119

Saturn -59503-09-14 17:30 J -20011790.91 -20011790.77 -20011790.62 0.0265 0.0161

Uranus -59503-11-06 19:25 J -20011737.77 -20011737.69 -20011737.60 0.0133 0.0101

Saturn -59503-12-12 13:25 J -20011702.12 -20011701.94 -20011701.76 0.0264 0.0040

Uranus -59502-02-02 22:18 J -20011649.66 -20011649.57 -20011649.46 0.0133 0.0084

Saturn -59502-03-11 09:21 J -20011613.28 -20011613.11 -20011612.93 0.0263 0.0082

Jupiter -59502-03-14 19:54 J -20011609.86 -20011609.67 -20011609.49 0.0497 0.0029

Uranus -59502-05-02 01:25 J -20011561.55 -20011561.44 -20011561.32 0.0133 0.0067

Saturn -59502-06-08 05:16 J -20011524.38 -20011524.28 -20011524.15 0.0263 0.0205

Uranus -59502-07-29 04:18 J -20011473.44 -20011473.32 -20011473.19 0.0133 0.0050

Mars -59502-10-24 00:42 J -20011386.52 -20011386.47 -20011386.43 0.1892 0.1728

Uranus -59502-10-25 07:11 J -20011385.32 -20011385.20 -20011385.06 0.0133 0.0034

Uranus -59501-01-21 10:18 J -20011297.20 -20011297.07 -20011296.94 0.0133 0.0015

Uranus -59501-04-18 13:25 J -20011209.08 -20011208.94 -20011208.81 0.0133 0.0005

Uranus -59501-07-15 16:18 J -20011120.95 -20011120.82 -20011120.69 0.0133 0.0019

Uranus -59501-10-11 19:11 J -20011032.82 -20011032.70 -20011032.57 0.0133 0.0036

Uranus -59500-01-07 22:04 J -20010944.70 -20010944.58 -20010944.45 0.0133 0.0054

Uranus -59500-04-06 01:11 J -20010856.56 -20010856.45 -20010856.34 0.0133 0.0071

Uranus -59500-07-03 04:04 J -20010768.43 -20010768.33 -20010768.23 0.0134 0.0088

Uranus -59500-09-29 06:57 J -20010680.28 -20010680.21 -20010680.13 0.0134 0.0105

Uranus -59500-12-26 09:49 J -20010592.13 -20010592.09 -20010592.03 0.0134 0.0123

Venus -59499-05-09 21:21 J -20010457.77 -20010457.61 -20010457.45 0.3570 0.0617

Earth -59499-06-15 00:28 J -20010421.52 -20010421.48 -20010421.44 0.2674 0.2432

Moon -59499-06-15 00:42 J -20010421.51 -20010421.47 -20010421.42 0.2681 0.2451 *

Jupiter -59497-11-13 12:13 J -20009539.07 -20009538.99 -20009538.91 0.0530 0.0412

Jupiter -59496-02-10 18:42 J -20009449.84 -20009449.72 -20009449.59 0.0529 0.0136

Venus -59496-02-13 16:33 J -20009446.87 -20009446.81 -20009446.74 0.3806 0.2855

Moon -59493-06-23 20:09 J -20008220.75 -20008220.66 -20008220.56 0.2675 0.1392

Earth -59493-06-23 20:23 J -20008220.74 -20008220.65 -20008220.55 0.2682 0.1416 *

Mars -59492-03-15 08:52 J -20007956.24 -20007956.13 -20007956.03 0.1884 0.0800

Mars -59491-01-11 08:37 J -20007654.27 -20007654.14 -20007654.02 0.1661 0.1071

Venus -59491-08-30 08:23 J -20007423.24 -20007423.15 -20007423.05 0.3808 0.0945

Jupiter -59491-12-31 17:30 J -20007299.94 -20007299.77 -20007299.60 0.0497 0.0191

Jupiter -59490-04-01 02:52 J -20007209.41 -20007209.38 -20007209.34 0.0497 0.0487

Moon -59490-12-12 13:40 J -20006953.94 -20006953.93 -20006953.91 0.2653 0.2627

Earth -59490-12-12 15:06 J -20006953.92 -20006953.87 -20006953.82 0.2657 0.2477 *

Saturn -59487-04-04 05:59 J -20006110.34 -20006110.25 -20006110.16 0.0296 0.0215

Saturn -59487-07-01 18:57 J -20006021.83 -20006021.71 -20006021.58 0.0297 0.0091

Saturn -59487-09-28 07:54 J -20005933.30 -20005933.17 -20005933.03 0.0298 0.0035

Saturn -59487-12-25 20:52 J -20005844.74 -20005844.63 -20005844.52 0.0299 0.0159

Saturn -59486-03-24 09:35 J -20005756.13 -20005756.10 -20005756.05 0.0299 0.0283

Earth -59486-06-17 18:42 J -20005670.81 -20005670.72 -20005670.62 0.2676 0.1410

Moon -59486-06-17 19:25 J -20005670.79 -20005670.69 -20005670.59 0.2679 0.1282 *

Venus -59485-03-15 00:28 J -20005399.58 -20005399.48 -20005399.39 0.3810 0.1012

Jupiter -59485-11-29 23:16 J -20005139.66 -20005139.53 -20005139.40 0.0529 0.0011

Mars -59483-08-05 16:47 J -20004525.91 -20004525.80 -20004525.68 0.1876 0.0145

Mars -59482-06-03 09:49 J -20004224.25 -20004224.09 -20004223.92 0.1668 0.0064

Moon -59480-06-26 13:54 J -20003469.97 -20003469.92 -20003469.87 0.2681 0.2360

Earth -59480-06-26 14:23 J -20003469.94 -20003469.90 -20003469.85 0.2685 0.2397 *

Venus -59480-09-28 16:18 J -20003375.88 -20003375.82 -20003375.76 0.3812 0.2951

Jupiter -59479-10-19 13:54 J -20002990.04 -20002989.92 -20002989.80 0.0496 0.0368

Jupiter -59478-01-17 23:01 J -20002899.69 -20002899.54 -20002899.39 0.0497 0.0303

Moon -59477-12-14 19:11 J -20002202.85 -20002202.70 -20002202.55 0.2656 0.0655

Earth -59477-12-14 20:37 J -20002202.79 -20002202.64 -20002202.49 0.2655 0.0603 *

Mars -59474-12-27 01:11 J -20001095.55 -20001095.45 -20001095.36 0.1867 0.1041

Saturn -59473-02-01 16:47 J -20001058.92 -20001058.80 -20001058.68 0.0265 0.0197

Saturn -59473-04-30 12:28 J -20000970.15 -20000969.98 -20000969.80 0.0265 0.0076

Earth -59473-06-19 12:57 J -20000920.07 -20000919.96 -20000919.85 0.2679 0.0403

Moon -59473-06-19 13:40 J -20000920.04 -20000919.93 -20000919.81 0.2676 0.0396 *

Saturn -59473-07-28 08:37 J -20000881.33 -20000881.14 -20000880.96 0.0264 0.0046

Jupiter -59473-09-18 03:49 J -20000829.47 -20000829.34 -20000829.22 0.0530 0.0123

Mars -59473-10-23 11:01 J -20000794.17 -20000794.04 -20000793.90 0.1675 0.0969

Saturn -59473-10-25 04:33 J -20000792.45 -20000792.31 -20000792.16 0.0263 0.0168

Jupiter -59473-12-16 10:04 J -20000740.16 -20000740.08 -20000740.01 0.0529 0.0419

Jupiter -59467-11-05 20:37 J -19998589.82 -19998589.64 -19998589.46 0.0497 0.0140

Moon -59464-12-18 01:25 J -19997451.58 -19997451.44 -19997451.30 0.2656 0.1111

Earth -59464-12-18 02:37 J -19997451.52 -19997451.39 -19997451.25 0.2652 0.1328 *

Mars -59462-04-24 00:42 J -19996959.50 -19996959.47 -19996959.45 0.1892 0.1829

Uranus -59462-08-30 04:18 J -19996831.40 -19996831.32 -19996831.23 0.0146 0.0129

Neptune -59462-10-14 18:28 J -19996785.75 -19996785.73 -19996785.71 0.0089 0.0087

Uranus -59462-11-26 12:57 J -19996743.10 -19996742.96 -19996742.81 0.0146 0.0096

Neptune -59461-01-10 19:40 J -19996697.72 -19996697.68 -19996697.61 0.0089 0.0082

Uranus -59461-02-22 21:35 J -19996654.77 -19996654.60 -19996654.42 0.0146 0.0063

Neptune -59461-04-07 21:21 J -19996609.67 -19996609.61 -19996609.54 0.0089 0.0076

Uranus -59461-05-21 06:13 J -19996566.43 -19996566.24 -19996566.05 0.0146 0.0030

Neptune -59461-07-04 22:47 J -19996521.63 -19996521.55 -19996521.46 0.0089 0.0070

Jupiter -59461-07-07 07:54 J -19996519.28 -19996519.17 -19996519.05 0.0530 0.0255

Uranus -59461-08-17 14:52 J -19996478.07 -19996477.88 -19996477.69 0.0146 0.0003

Neptune -59461-09-30 23:59 J -19996433.58 -19996433.50 -19996433.39 0.0089 0.0065

Jupiter -59461-10-04 14:23 J -19996430.01 -19996429.90 -19996429.79 0.0529 0.0290

Uranus -59461-11-13 23:16 J -19996389.71 -19996389.53 -19996389.33 0.0145 0.0037

Neptune -59461-12-28 01:40 J -19996345.53 -19996345.43 -19996345.32 0.0089 0.0059

Uranus -59460-02-10 07:54 J -19996301.33 -19996301.17 -19996300.99 0.0145 0.0070

Neptune -59460-03-26 03:06 J -19996257.47 -19996257.37 -19996257.25 0.0089 0.0053

Uranus -59460-05-09 16:33 J -19996212.93 -19996212.81 -19996212.66 0.0145 0.0103

Neptune -59460-06-22 04:33 J -19996169.42 -19996169.31 -19996169.19 0.0089 0.0047

Earth -59460-06-22 07:11 J -19996169.31 -19996169.20 -19996169.09 0.2681 0.0614 *

Moon -59460-06-22 07:25 J -19996169.30 -19996169.19 -19996169.08 0.2675 0.0677 *

Uranus -59460-08-06 01:25 J -19996124.50 -19996124.44 -19996124.37 0.0145 0.0135

Neptune -59460-09-18 05:59 J -19996081.36 -19996081.25 -19996081.12 0.0089 0.0042

Neptune -59460-12-15 07:25 J -19995993.31 -19995993.19 -19995993.06 0.0089 0.0036

Neptune -59459-03-13 08:52 J -19995905.25 -19995905.13 -19995905.00 0.0089 0.0030

Neptune -59459-06-09 10:18 J -19995817.20 -19995817.07 -19995816.93 0.0089 0.0025

Neptune -59459-09-05 11:45 J -19995729.14 -19995729.01 -19995728.87 0.0089 0.0019

Neptune -59459-12-02 13:11 J -19995641.08 -19995640.95 -19995640.81 0.0089 0.0013

Neptune -59458-02-28 14:37 J -19995553.02 -19995552.89 -19995552.75 0.0089 0.0008

Neptune -59458-05-27 16:04 J -19995464.97 -19995464.83 -19995464.69 0.0089 0.0002

Saturn -59458-08-22 05:59 J -19995378.30 -19995378.25 -19995378.19 0.0296 0.0267

Neptune -59458-08-23 17:30 J -19995376.91 -19995376.77 -19995376.64 0.0089 0.0004

Saturn -59458-11-18 19:11 J -19995289.82 -19995289.70 -19995289.59 0.0297 0.0142

Neptune -59458-11-19 18:57 J -19995288.85 -19995288.71 -19995288.58 0.0089 0.0010

Saturn -59457-02-15 08:09 J -19995201.29 -19995201.16 -19995201.03 0.0298 0.0018

Neptune -59457-02-15 20:09 J -19995200.79 -19995200.66 -19995200.52 0.0089 0.0015

Saturn -59457-05-13 20:52 J -19995112.75 -19995112.63 -19995112.50 0.0298 0.0107

Neptune -59457-05-13 21:35 J -19995112.73 -19995112.60 -19995112.47 0.0089 0.0021 *

Neptune -59457-08-09 23:01 J -19995024.67 -19995024.54 -19995024.41 0.0089 0.0026

Saturn -59457-08-10 09:49 J -19995024.17 -19995024.09 -19995024.01 0.0299 0.0231

Neptune -59457-11-06 00:13 J -19994936.61 -19994936.49 -19994936.36 0.0089 0.0032

Neptune -59456-02-02 01:40 J -19994848.55 -19994848.43 -19994848.30 0.0089 0.0037

Neptune -59456-05-01 03:06 J -19994760.49 -19994760.37 -19994760.25 0.0089 0.0043

Neptune -59456-07-28 04:18 J -19994672.42 -19994672.32 -19994672.20 0.0089 0.0049

Neptune -59456-10-24 05:45 J -19994584.36 -19994584.26 -19994584.15 0.0089 0.0054

Neptune -59455-01-20 06:57 J -19994496.30 -19994496.21 -19994496.10 0.0089 0.0060

Neptune -59455-04-18 08:23 J -19994408.23 -19994408.15 -19994408.05 0.0089 0.0065

Neptune -59455-07-15 09:35 J -19994320.16 -19994320.10 -19994320.00 0.0089 0.0071

Jupiter -59455-08-24 18:28 J -19994279.92 -19994279.73 -19994279.55 0.0497 0.0022

Neptune -59455-10-11 11:01 J -19994232.09 -19994232.04 -19994231.96 0.0089 0.0076

Neptune -59454-01-07 12:42 J -19994144.02 -19994143.97 -19994143.92 0.0089 0.0081

Neptune -59454-04-05 13:40 J -19994055.94 -19994055.93 -19994055.89 0.0089 0.0087

Earth -59453-06-15 05:16 J -19993619.34 -19993619.28 -19993619.22 0.2675 0.2235

Moon -59453-06-15 05:45 J -19993619.32 -19993619.26 -19993619.20 0.2681 0.2166 *

Mars -59453-09-13 08:37 J -19993529.24 -19993529.14 -19993529.04 0.1884 0.0893

Mars -59452-07-12 09:21 J -19993227.22 -19993227.11 -19993227.00 0.1661 0.1217

Jupiter -59449-04-25 11:59 J -19992209.08 -19992209.00 -19992208.91 0.0530 0.0390

Jupiter -59449-07-23 18:28 J -19992119.85 -19992119.73 -19992119.60 0.0529 0.0157

Venus -59448-05-30 14:09 J -19991809.00 -19991808.91 -19991808.82 0.3572 0.2962

Moon -59447-06-25 01:11 J -19991418.54 -19991418.45 -19991418.36 0.2676 0.1572

Earth -59447-06-25 01:25 J -19991418.53 -19991418.44 -19991418.36 0.2683 0.1610 *

Saturn -59444-06-20 14:23 J -19990326.97 -19990326.90 -19990326.83 0.0265 0.0245

Saturn -59444-09-17 10:04 J -19990238.24 -19990238.08 -19990237.92 0.0265 0.0124

Moon -59444-12-12 20:09 J -19990151.74 -19990151.66 -19990151.58 0.2653 0.2224

Earth -59444-12-12 21:35 J -19990151.69 -19990151.60 -19990151.51 0.2657 0.2133 *

Saturn -59444-12-15 05:59 J -19990149.43 -19990149.25 -19990149.06 0.0264 0.0003

Mars -59443-02-03 17:01 J -19990098.91 -19990098.79 -19990098.68 0.1876 0.0044

Saturn -59443-03-14 01:54 J -19990060.58 -19990060.42 -19990060.25 0.0263 0.0121

Saturn -59443-06-10 22:18 J -19989971.64 -19989971.57 -19989971.50 0.0263 0.0242

Jupiter -59443-06-12 16:33 J -19989969.99 -19989969.81 -19989969.64 0.0497 0.0180

Mars -59443-12-02 10:33 J -19989797.22 -19989797.06 -19989796.90 0.1668 0.0194

Venus -59443-12-14 23:30 J -19989784.64 -19989784.52 -19989784.40 0.3569 0.2423

Earth -59440-06-17 23:45 J -19988868.61 -19988868.51 -19988868.41 0.2677 0.1210

Moon -59440-06-18 00:28 J -19988868.58 -19988868.48 -19988868.38 0.2678 0.1190 *

Venus -59440-09-20 14:09 J -19988773.99 -19988773.91 -19988773.83 0.3806 0.2165

Jupiter -59437-05-11 22:18 J -19987809.69 -19987809.57 -19987809.44 0.0529 0.0022

Venus -59434-04-06 05:59 J -19986750.35 -19986750.25 -19986750.15 0.3809 0.0237

Mars -59434-06-27 01:11 J -19986668.55 -19986668.45 -19986668.35 0.1867 0.0936

Moon -59434-06-27 18:42 J -19986667.76 -19986667.72 -19986667.69 0.2683 0.2506

Earth -59434-06-27 19:25 J -19986667.72 -19986667.69 -19986667.67 0.2685 0.2588 *

Mars -59433-04-23 11:45 J -19986367.15 -19986367.01 -19986366.87 0.1675 0.0827

Jupiter -59431-03-31 14:09 J -19985660.04 -19985659.91 -19985659.77 0.0496 0.0340

Jupiter -59431-06-29 23:30 J -19985569.66 -19985569.52 -19985569.39 0.0497 0.0333

Moon -59431-12-16 01:40 J -19985400.59 -19985400.43 -19985400.28 0.2656 0.0460

Earth -59431-12-16 03:06 J -19985400.52 -19985400.37 -19985400.22 0.2654 0.0253 *

Venus -59429-10-19 21:49 J -19984726.68 -19984726.59 -19984726.50 0.3811 0.1712

Saturn -59428-04-06 20:09 J -19984557.76 -19984557.66 -19984557.55 0.0296 0.0186

Saturn -59428-07-04 09:06 J -19984469.24 -19984469.12 -19984468.98 0.0297 0.0062

Saturn -59428-09-30 22:04 J -19984380.70 -19984380.58 -19984380.45 0.0298 0.0064

Saturn -59428-12-28 11:01 J -19984292.14 -19984292.04 -19984291.94 0.0299 0.0187

Earth -59427-06-20 17:59 J -19984117.86 -19984117.75 -19984117.64 0.2679 0.0202

Moon -59427-06-20 18:42 J -19984117.84 -19984117.72 -19984117.61 0.2676 0.0112 *

Jupiter -59425-02-29 02:37 J -19983499.51 -19983499.39 -19983499.26 0.0530 0.0115

Jupiter -59425-05-28 08:52 J -19983410.20 -19983410.13 -19983410.05 0.0529 0.0427

Mars -59425-11-16 09:06 J -19983238.13 -19983238.12 -19983238.10 0.1859 0.1845

Venus -59423-05-05 13:40 J -19982702.95 -19982702.93 -19982702.90 0.3812 0.3649

Jupiter -59419-04-17 19:40 J -19981259.86 -19981259.68 -19981259.51 0.0497 0.0153

Uranus -59419-06-03 20:23 J -19981212.65 -19981212.65 -19981212.65 0.0133 0.0133

Uranus -59419-08-30 23:16 J -19981124.59 -19981124.53 -19981124.46 0.0133 0.0116

Uranus -59419-11-27 02:09 J -19981036.49 -19981036.41 -19981036.31 0.0133 0.0099

Uranus -59418-02-23 05:16 J -19980948.38 -19980948.28 -19980948.17 0.0133 0.0081

Uranus -59418-05-22 08:23 J -19980860.27 -19980860.15 -19980860.04 0.0133 0.0064

Uranus -59418-08-18 11:16 J -19980772.15 -19980772.03 -19980771.90 0.0133 0.0047

Uranus -59418-11-14 14:09 J -19980684.03 -19980683.91 -19980683.78 0.0133 0.0030

Moon -59418-12-19 07:54 J -19980649.29 -19980649.17 -19980649.05 0.2656 0.1681

Earth -59418-12-19 09:06 J -19980649.24 -19980649.12 -19980649.00 0.2652 0.1677 *

Uranus -59417-02-10 17:16 J -19980595.91 -19980595.78 -19980595.65 0.0133 0.0013

Uranus -59417-05-08 20:09 J -19980507.79 -19980507.66 -19980507.53 0.0133 0.0005

Uranus -59417-08-04 23:01 J -19980419.66 -19980419.54 -19980419.40 0.0133 0.0023

Uranus -59417-11-01 02:09 J -19980331.54 -19980331.41 -19980331.29 0.0133 0.0039

Uranus -59416-01-28 05:01 J -19980243.41 -19980243.29 -19980243.17 0.0133 0.0056

Uranus -59416-04-26 07:54 J -19980155.27 -19980155.17 -19980155.06 0.0133 0.0074

Uranus -59416-07-23 11:01 J -19980067.14 -19980067.04 -19980066.95 0.0134 0.0091

Uranus -59416-10-19 13:40 J -19979978.99 -19979978.93 -19979978.84 0.0134 0.0109

Uranus -59415-01-15 16:33 J -19979890.84 -19979890.81 -19979890.75 0.0134 0.0126

Saturn -59414-02-04 09:06 J -19979506.26 -19979506.12 -19979505.97 0.0265 0.0161

Saturn -59414-05-04 05:01 J -19979417.47 -19979417.29 -19979417.10 0.0265 0.0039

Moon -59414-06-23 12:13 J -19979367.10 -19979366.99 -19979366.88 0.2674 0.0761

Earth -59414-06-23 11:59 J -19979367.10 -19979367.00 -19979366.89 0.2681 0.0812 *

Saturn -59414-08-01 01:11 J -19979328.63 -19979328.45 -19979328.28 0.0264 0.0083

Saturn -59414-10-28 21:06 J -19979239.73 -19979239.62 -19979239.50 0.0263 0.0206

Jupiter -59414-12-18 07:11 J -19979189.31 -19979189.20 -19979189.09 0.0530 0.0243

Mars -59413-03-14 08:52 J -19979102.23 -19979102.13 -19979102.04 0.1884 0.1003

Jupiter -59413-03-16 13:40 J -19979100.04 -19979099.93 -19979099.83 0.0529 0.0302

Mars -59412-01-10 09:49 J -19978800.19 -19978800.09 -19978800.00 0.1661 0.1342

Jupiter -59407-02-03 17:16 J -19976949.96 -19976949.78 -19976949.59 0.0496 0.0011

Earth -59407-06-16 10:18 J -19976817.14 -19976817.07 -19976817.00 0.2675 0.2030

Moon -59407-06-16 10:47 J -19976817.13 -19976817.05 -19976816.98 0.2681 0.2015 *

Mars -59404-08-04 16:47 J -19975671.91 -19975671.80 -19975671.68 0.1876 0.0110

Mars -59403-06-02 11:01 J -19975370.20 -19975370.04 -19975369.88 0.1668 0.0333

Jupiter -59402-10-06 11:30 J -19974879.11 -19974879.02 -19974878.93 0.0530 0.0375

Jupiter -59401-01-03 17:59 J -19974789.87 -19974789.75 -19974789.63 0.0529 0.0173

Moon -59401-06-25 05:45 J -19974616.34 -19974616.26 -19974616.17 0.2677 0.1788

Earth -59401-06-25 06:13 J -19974616.32 -19974616.24 -19974616.16 0.2683 0.1794 *

Saturn -59399-08-24 20:23 J -19973825.73 -19973825.65 -19973825.57 0.0296 0.0236

Saturn -59399-11-21 09:21 J -19973737.23 -19973737.11 -19973736.98 0.0297 0.0113

Saturn -59398-02-17 22:18 J -19973648.70 -19973648.57 -19973648.43 0.0297 0.0013

Saturn -59398-05-17 11:16 J -19973560.15 -19973560.03 -19973559.91 0.0298 0.0136

Saturn -59398-08-13 23:59 J -19973471.56 -19973471.50 -19973471.43 0.0299 0.0259

Moon -59398-12-14 02:23 J -19973349.50 -19973349.40 -19973349.29 0.2654 0.1894

Earth -59398-12-14 03:49 J -19973349.45 -19973349.34 -19973349.22 0.2656 0.1790 *

Jupiter -59396-11-22 15:06 J -19972640.04 -19972639.87 -19972639.69 0.0496 0.0170

Mars -59395-12-26 00:57 J -19972241.56 -19972241.46 -19972241.35 0.1868 0.0841

Earth -59394-06-19 04:33 J -19972066.41 -19972066.31 -19972066.20 0.2677 0.1012

Moon -59394-06-19 05:16 J -19972066.38 -19972066.28 -19972066.17 0.2677 0.0895 *

Mars -59394-10-23 12:28 J -19971940.13 -19971939.98 -19971939.83 0.1675 0.0686

Venus -59391-01-04 16:18 J -19971135.97 -19971135.82 -19971135.66 0.3571 0.1126

Jupiter -59390-07-25 15:21 J -19970568.89 -19970568.86 -19970568.82 0.0530 0.0511

Jupiter -59390-10-22 22:04 J -19970479.70 -19970479.58 -19970479.45 0.0529 0.0042

Venus -59389-10-11 19:40 J -19970124.72 -19970124.68 -19970124.64 0.3805 0.3394

Mars -59385-05-17 09:21 J -19968811.15 -19968811.11 -19968811.07 0.1859 0.1735

Saturn -59385-06-23 06:28 J -19968774.33 -19968774.23 -19968774.12 0.0266 0.0210

Saturn -59385-09-20 02:23 J -19968685.57 -19968685.40 -19968685.23 0.0265 0.0089

Moon -59385-12-16 07:54 J -19968598.32 -19968598.17 -19968598.01 0.2656 0.0063

Earth -59385-12-16 09:35 J -19968598.25 -19968598.10 -19968597.94 0.2654 0.0102 *

Saturn -59385-12-17 22:18 J -19968596.75 -19968596.57 -19968596.38 0.0264 0.0034

Saturn -59384-03-16 18:28 J -19968507.88 -19968507.73 -19968507.58 0.0263 0.0156

Jupiter -59384-09-10 13:11 J -19968330.08 -19968329.95 -19968329.81 0.0496 0.0328

Jupiter -59384-12-09 22:18 J -19968239.70 -19968239.57 -19968239.43 0.0497 0.0346

Venus -59383-04-27 11:30 J -19968101.11 -19968101.02 -19968100.93 0.3807 0.1476

Earth -59381-06-20 22:47 J -19967315.66 -19967315.55 -19967315.44 0.2679 0.0023

Moon -59381-06-20 23:30 J -19967315.64 -19967315.52 -19967315.41 0.2676 0.0105 *

Neptune -59379-07-01 10:04 J -19966575.10 -19966575.08 -19966575.02 0.0089 0.0087

Neptune -59379-09-27 13:40 J -19966487.00 -19966486.93 -19966486.84 0.0089 0.0079

Neptune -59379-12-24 17:16 J -19966398.89 -19966398.78 -19966398.67 0.0089 0.0071

Neptune -59378-03-22 20:09 J -19966310.77 -19966310.66 -19966310.52 0.0089 0.0064

Neptune -59378-06-18 23:30 J -19966222.65 -19966222.52 -19966222.36 0.0089 0.0056

Jupiter -59378-08-11 01:54 J -19966169.54 -19966169.42 -19966169.29 0.0529 0.0101

Pluto -59378-09-07 11:30 J -19966142.03 -19966142.02 -19966141.98 0.0061 0.0060

Neptune -59378-09-15 03:06 J -19966134.53 -19966134.37 -19966134.21 0.0089 0.0048

Uranus -59378-09-19 11:16 J -19966130.12 -19966130.03 -19966129.91 0.0146 0.0122

Jupiter -59378-11-08 08:09 J -19966080.23 -19966080.16 -19966080.09 0.0528 0.0439

Venus -59378-11-11 03:35 J -19966077.45 -19966077.35 -19966077.25 0.3809 0.0493

Pluto -59378-12-04 12:57 J -19966054.03 -19966053.96 -19966053.89 0.0061 0.0056

Neptune -59378-12-12 06:13 J -19966046.40 -19966046.24 -19966046.06 0.0089 0.0041

Uranus -59378-12-16 20:09 J -19966041.81 -19966041.66 -19966041.51 0.0146 0.0089

Pluto -59377-03-01 13:40 J -19965966.01 -19965965.93 -19965965.82 0.0061 0.0051

Neptune -59377-03-09 09:35 J -19965958.26 -19965958.10 -19965957.91 0.0089 0.0033

Uranus -59377-03-14 04:47 J -19965953.48 -19965953.30 -19965953.12 0.0146 0.0056

Pluto -59377-05-28 14:52 J -19965877.98 -19965877.88 -19965877.76 0.0061 0.0047

Neptune -59377-06-05 13:11 J -19965870.13 -19965869.95 -19965869.77 0.0089 0.0025

Uranus -59377-06-10 13:25 J -19965865.13 -19965864.94 -19965864.75 0.0146 0.0023

Pluto -59377-08-24 15:49 J -19965789.95 -19965789.84 -19965789.70 0.0061 0.0042

Neptune -59377-09-01 16:33 J -19965781.99 -19965781.81 -19965781.62 0.0089 0.0017

Uranus -59377-09-06 22:04 J -19965776.78 -19965776.58 -19965776.39 0.0146 0.0010

Pluto -59377-11-20 17:01 J -19965701.91 -19965701.79 -19965701.64 0.0061 0.0037

Neptune -59377-11-28 19:54 J -19965693.86 -19965693.67 -19965693.48 0.0089 0.0009

Uranus -59377-12-04 06:28 J -19965688.41 -19965688.23 -19965688.04 0.0145 0.0044

Pluto -59376-02-16 18:13 J -19965613.88 -19965613.74 -19965613.58 0.0061 0.0033

Neptune -59376-02-24 23:16 J -19965605.72 -19965605.53 -19965605.34 0.0089 0.0002

Uranus -59376-03-02 15:06 J -19965600.03 -19965599.87 -19965599.70 0.0145 0.0077

Pluto -59376-05-15 19:25 J -19965525.84 -19965525.69 -19965525.53 0.0061 0.0028

Neptune -59376-05-24 02:37 J -19965517.57 -19965517.39 -19965517.19 0.0089 0.0007

Uranus -59376-05-29 23:59 J -19965511.62 -19965511.50 -19965511.37 0.0145 0.0110

Pluto -59376-08-11 20:23 J -19965437.80 -19965437.65 -19965437.47 0.0062 0.0024

Neptune -59376-08-20 05:59 J -19965429.43 -19965429.25 -19965429.05 0.0089 0.0015

Uranus -59376-08-26 08:37 J -19965423.17 -19965423.14 -19965423.10 0.0145 0.0143

Pluto -59376-11-07 21:35 J -19965349.76 -19965349.60 -19965349.42 0.0062 0.0019

Neptune -59376-11-16 09:21 J -19965341.28 -19965341.11 -19965340.91 0.0089 0.0023

Pluto -59375-02-03 22:47 J -19965261.71 -19965261.55 -19965261.37 0.0062 0.0014

Neptune -59375-02-12 12:42 J -19965253.13 -19965252.97 -19965252.78 0.0089 0.0031

Pluto -59375-05-02 23:59 J -19965173.67 -19965173.50 -19965173.32 0.0062 0.0009

Neptune -59375-05-11 16:33 J -19965164.98 -19965164.81 -19965164.64 0.0089 0.0038

Pluto -59375-07-30 01:25 J -19965085.62 -19965085.44 -19965085.27 0.0062 0.0004

Neptune -59375-08-07 19:54 J -19965076.83 -19965076.67 -19965076.50 0.0089 0.0046

Pluto -59375-10-26 02:37 J -19964997.57 -19964997.39 -19964997.22 0.0062 0.0001

Neptune -59375-11-03 23:16 J -19964988.67 -19964988.53 -19964988.37 0.0089 0.0054

Pluto -59374-01-22 03:35 J -19964909.52 -19964909.35 -19964909.17 0.0062 0.0006

Neptune -59374-01-31 02:52 J -19964900.51 -19964900.38 -19964900.24 0.0089 0.0062

Pluto -59374-04-20 04:47 J -19964821.47 -19964821.30 -19964821.12 0.0062 0.0011

Neptune -59374-04-29 06:13 J -19964812.35 -19964812.24 -19964812.12 0.0089 0.0070

Pluto -59374-07-17 05:59 J -19964733.41 -19964733.25 -19964733.07 0.0062 0.0016

Neptune -59374-07-26 09:49 J -19964724.17 -19964724.09 -19964724.00 0.0089 0.0078

Mars -59374-09-13 08:52 J -19964675.22 -19964675.13 -19964675.04 0.1884 0.1111

Pluto -59374-10-13 06:57 J -19964645.36 -19964645.21 -19964645.03 0.0062 0.0022

Neptune -59374-10-22 13:11 J -19964635.98 -19964635.95 -19964635.90 0.0089 0.0086

Pluto -59373-01-09 08:09 J -19964557.30 -19964557.16 -19964556.98 0.0062 0.0027

Pluto -59373-04-06 09:21 J -19964469.24 -19964469.11 -19964468.94 0.0062 0.0032

Pluto -59373-07-03 10:33 J -19964381.18 -19964381.06 -19964380.89 0.0062 0.0037

Mars -59373-07-11 10:18 J -19964373.14 -19964373.07 -19964372.99 0.1661 0.1481

Pluto -59373-09-29 11:45 J -19964293.12 -19964293.01 -19964292.85 0.0063 0.0042

Pluto -59373-12-26 13:11 J -19964205.05 -19964204.95 -19964204.82 0.0063 0.0047

Pluto -59372-03-24 14:23 J -19964116.98 -19964116.90 -19964116.78 0.0063 0.0052

Venus -59372-05-26 19:25 J -19964053.77 -19964053.69 -19964053.62 0.3811 0.2405

Pluto -59372-06-20 15:49 J -19964028.90 -19964028.84 -19964028.76 0.0063 0.0057

Jupiter -59372-06-29 11:01 J -19964020.07 -19964020.04 -19964020.00 0.0496 0.0487

Pluto -59372-09-16 17:01 J -19963940.80 -19963940.79 -19963940.75 0.0063 0.0062

Jupiter -59372-09-27 19:54 J -19963929.84 -19963929.67 -19963929.50 0.0497 0.0181

Moon -59372-12-19 14:52 J -19963846.99 -19963846.88 -19963846.78 0.2657 0.1883

Earth -59372-12-19 15:35 J -19963846.95 -19963846.85 -19963846.75 0.2651 0.2035 *

Saturn -59369-01-11 21:21 J -19963093.65 -19963093.61 -19963093.57 0.0295 0.0280

Saturn -59369-04-09 10:33 J -19963005.18 -19963005.06 -19963004.95 0.0296 0.0157

Saturn -59369-07-06 23:30 J -19962916.66 -19962916.52 -19962916.39 0.0297 0.0033

Saturn -59369-10-03 12:13 J -19962828.11 -19962827.99 -19962827.86 0.0298 0.0092

Saturn -59369-12-31 01:11 J -19962739.54 -19962739.45 -19962739.36 0.0299 0.0215

Earth -59368-06-23 17:01 J -19962564.90 -19962564.79 -19962564.69 0.2681 0.0998

Moon -59368-06-23 17:01 J -19962564.89 -19962564.79 -19962564.69 0.2674 0.1068 *

Jupiter -59366-05-30 06:13 J -19961859.36 -19961859.24 -19961859.13 0.0530 0.0234

Jupiter -59366-08-27 12:28 J -19961770.08 -19961769.98 -19961769.87 0.0529 0.0311

Mars -59364-02-02 17:01 J -19961244.91 -19961244.79 -19961244.68 0.1876 0.0193

Mars -59364-12-01 11:45 J -19960943.17 -19960943.01 -19960942.86 0.1668 0.0467

Earth -59361-06-16 15:06 J -19960014.95 -19960014.87 -19960014.79 0.2675 0.1833

Moon -59361-06-16 15:49 J -19960014.93 -19960014.84 -19960014.76 0.2680 0.1790 *

Jupiter -59360-07-16 16:18 J -19959620.00 -19959619.82 -19959619.63 0.0496 0.0009

Saturn -59356-11-10 05:59 J -19958042.32 -19958042.25 -19958042.19 0.0266 0.0247

Saturn -59355-02-07 01:25 J -19957953.59 -19957953.44 -19957953.27 0.0266 0.0126

Saturn -59355-05-06 21:35 J -19957864.78 -19957864.60 -19957864.41 0.0265 0.0004

Mars -59355-06-26 01:11 J -19957814.56 -19957814.45 -19957814.34 0.1867 0.0727

Moon -59355-06-26 10:33 J -19957814.14 -19957814.06 -19957813.98 0.2679 0.1884

Earth -59355-06-26 11:01 J -19957814.11 -19957814.04 -19957813.97 0.2683 0.1986 *

Saturn -59355-08-03 17:30 J -19957775.93 -19957775.77 -19957775.60 0.0264 0.0121

Saturn -59355-10-31 13:54 J -19957686.99 -19957686.92 -19957686.85 0.0264 0.0243

Jupiter -59354-03-18 10:18 J -19957549.16 -19957549.07 -19957548.97 0.0531 0.0367

Mars -59354-04-23 12:57 J -19957513.11 -19957512.96 -19957512.81 0.1675 0.0561

Jupiter -59354-06-15 17:01 J -19957459.91 -19957459.79 -19957459.67 0.0530 0.0183

Moon -59352-12-14 08:52 J -19956547.25 -19956547.13 -19956547.01 0.2655 0.1637

Earth -59352-12-14 10:18 J -19956547.20 -19956547.07 -19956546.94 0.2656 0.1445 *

Jupiter -59348-05-04 14:09 J -19955310.08 -19955309.91 -19955309.74 0.0496 0.0158

Earth -59348-06-19 09:35 J -19955264.21 -19955264.10 -19955264.00 0.2678 0.0816

Moon -59348-06-19 10:18 J -19955264.18 -19955264.07 -19955263.96 0.2678 0.0771 *

Mars -59346-11-16 09:06 J -19954384.17 -19954384.12 -19954384.06 0.1859 0.1642

Mars -59345-09-12 14:23 J -19954082.95 -19954082.90 -19954082.85 0.1682 0.1577

Jupiter -59342-01-04 14:37 J -19953238.93 -19953238.89 -19953238.85 0.0530 0.0498

Jupiter -59342-04-03 21:21 J -19953149.73 -19953149.61 -19953149.48 0.0530 0.0055

Saturn -59340-08-27 11:01 J -19952273.14 -19952273.04 -19952272.94 0.0296 0.0204

Saturn -59340-11-23 23:59 J -19952184.63 -19952184.50 -19952184.37 0.0296 0.0080

Saturn -59339-02-20 12:57 J -19952096.09 -19952095.96 -19952095.83 0.0297 0.0044

Saturn -59339-05-20 01:40 J -19952007.54 -19952007.43 -19952007.32 0.0298 0.0167

Saturn -59339-08-16 14:23 J -19951918.92 -19951918.90 -19951918.87 0.0299 0.0290

Moon -59339-12-17 14:37 J -19951796.05 -19951795.89 -19951795.74 0.2656 0.0292

Earth -59339-12-17 16:04 J -19951795.98 -19951795.83 -19951795.68 0.2654 0.0450 *

Jupiter -59336-02-20 11:59 J -19951000.14 -19951000.00 -19950999.86 0.0496 0.0318

Jupiter -59336-05-21 21:06 J -19950909.75 -19950909.62 -19950909.49 0.0497 0.0355

Earth -59335-06-22 03:49 J -19950513.46 -19950513.34 -19950513.23 0.2680 0.0224

Moon -59335-06-22 04:04 J -19950513.44 -19950513.33 -19950513.21 0.2674 0.0304 *

Uranus -59335-06-24 02:52 J -19950511.39 -19950511.38 -19950511.35 0.0133 0.0131

Venus -59335-08-11 18:42 J -19950462.88 -19950462.72 -19950462.56 0.3571 0.0716

Uranus -59335-09-20 05:45 J -19950423.31 -19950423.26 -19950423.18 0.0133 0.0114

Uranus -59335-12-17 08:52 J -19950335.21 -19950335.13 -19950335.03 0.0133 0.0096

Mars -59334-03-14 08:37 J -19950248.23 -19950248.14 -19950248.05 0.1884 0.1200

Uranus -59334-03-15 11:59 J -19950247.10 -19950247.00 -19950246.89 0.0133 0.0079

Uranus -59334-06-11 14:52 J -19950158.99 -19950158.88 -19950158.76 0.0133 0.0062

Uranus -59334-09-07 17:59 J -19950070.88 -19950070.75 -19950070.63 0.0133 0.0045

Uranus -59334-12-04 20:52 J -19949982.76 -19949982.63 -19949982.50 0.0133 0.0028

Mars -59333-01-10 11:16 J -19949946.06 -19949946.03 -19949946.00 0.1661 0.1626

Uranus -59333-03-01 23:59 J -19949894.63 -19949894.50 -19949894.37 0.0133 0.0011

Uranus -59333-05-29 02:52 J -19949806.51 -19949806.38 -19949806.25 0.0133 0.0007

Uranus -59333-08-25 05:45 J -19949718.39 -19949718.26 -19949718.13 0.0133 0.0024

Uranus -59333-11-21 08:52 J -19949630.26 -19949630.13 -19949630.01 0.0133 0.0041

Uranus -59332-02-17 11:45 J -19949542.13 -19949542.01 -19949541.89 0.0133 0.0059

Uranus -59332-05-16 14:37 J -19949453.99 -19949453.89 -19949453.78 0.0133 0.0076

Venus -59332-05-18 17:01 J -19949451.85 -19949451.79 -19949451.72 0.3805 0.2720

Uranus -59332-08-12 17:30 J -19949365.86 -19949365.77 -19949365.67 0.0133 0.0093

Uranus -59332-11-08 20:23 J -19949277.71 -19949277.65 -19949277.57 0.0134 0.0111

Uranus -59331-02-04 23:30 J -19949189.55 -19949189.52 -19949189.48 0.0134 0.0128

Jupiter -59330-01-21 01:40 J -19948839.56 -19948839.43 -19948839.31 0.0530 0.0082

Jupiter -59330-04-20 07:40 J -19948750.23 -19948750.18 -19948750.11 0.0529 0.0460

Earth -59328-06-15 01:40 J -19947963.44 -19947963.43 -19947963.42 0.2673 0.2657

Venus -59327-12-02 09:06 J -19947428.22 -19947428.12 -19947428.02 0.3808 0.0781

Saturn -59326-06-26 22:47 J -19947221.68 -19947221.55 -19947221.40 0.0266 0.0175

Saturn -59326-09-23 18:57 J -19947132.89 -19947132.71 -19947132.53 0.0265 0.0052

Moon -59326-12-20 21:35 J -19947044.66 -19947044.60 -19947044.54 0.2658 0.2418

Earth -59326-12-20 22:04 J -19947044.64 -19947044.58 -19947044.51 0.2651 0.2392 *

Saturn -59326-12-21 14:52 J -19947044.05 -19947043.88 -19947043.70 0.0264 0.0071

Saturn -59325-03-19 11:16 J -19946955.16 -19946955.03 -19946954.91 0.0264 0.0193

Mars -59325-08-03 17:01 J -19946817.91 -19946817.79 -19946817.67 0.1876 0.0292

Jupiter -59325-12-09 10:04 J -19946690.13 -19946690.08 -19946690.03 0.0496 0.0475

Jupiter -59324-03-09 18:42 J -19946599.89 -19946599.72 -19946599.55 0.0497 0.0193

Mars -59324-06-01 12:13 J -19946516.14 -19946515.99 -19946515.83 0.1667 0.0602

Moon -59322-06-24 21:49 J -19945762.69 -19945762.59 -19945762.49 0.2675 0.1133

Earth -59322-06-24 21:49 J -19945762.69 -19945762.59 -19945762.49 0.2682 0.1190 *

Venus -59321-06-17 00:57 J -19945404.56 -19945404.46 -19945404.36 0.3809 0.1162

Jupiter -59319-11-09 05:16 J -19944529.39 -19944529.28 -19944529.16 0.0530 0.0222

Jupiter -59318-02-06 11:45 J -19944440.11 -19944440.01 -19944439.91 0.0529 0.0322

Mars -59316-12-25 01:11 J -19943387.56 -19943387.45 -19943387.34 0.1867 0.0627

Venus -59316-12-31 16:47 J -19943380.85 -19943380.80 -19943380.74 0.3811 0.3108

Earth -59315-06-17 20:09 J -19943212.75 -19943212.66 -19943212.57 0.2676 0.1631

Moon -59315-06-17 20:52 J -19943212.73 -19943212.63 -19943212.54 0.2679 0.1541 *

Mars -59315-10-22 13:40 J -19943086.09 -19943085.93 -19943085.78 0.1675 0.0425

Jupiter -59313-12-26 16:18 J -19942290.00 -19942289.82 -19942289.63 0.0497 0.0030

Saturn -59310-01-14 12:13 J -19941541.06 -19941540.99 -19941540.92 0.0295 0.0245

Saturn -59310-04-13 01:11 J -19941452.57 -19941452.45 -19941452.33 0.0296 0.0122

Saturn -59310-07-10 14:09 J -19941364.04 -19941363.91 -19941363.78 0.0297 0.0004

Saturn -59310-10-07 03:06 J -19941275.49 -19941275.37 -19941275.25 0.0298 0.0125

Saturn -59309-01-03 15:49 J -19941186.91 -19941186.84 -19941186.77 0.0299 0.0248

Moon -59309-06-26 15:21 J -19941011.93 -19941011.86 -19941011.80 0.2679 0.2171

Earth -59309-06-26 15:49 J -19941011.90 -19941011.84 -19941011.77 0.2684 0.2171 *

Jupiter -59307-08-28 09:21 J -19940219.20 -19940219.11 -19940219.01 0.0530 0.0357

Jupiter -59307-11-25 16:04 J -19940129.95 -19940129.83 -19940129.71 0.0529 0.0191

Mars -59306-05-17 09:21 J -19939957.18 -19939957.11 -19939957.05 0.1859 0.1534

Moon -59306-12-15 15:06 J -19939745.01 -19939744.87 -19939744.73 0.2656 0.1168

Earth -59306-12-15 16:47 J -19939744.94 -19939744.80 -19939744.66 0.2656 0.1104 *

Mars -59305-03-13 14:52 J -19939655.96 -19939655.88 -19939655.80 0.1682 0.1447

Earth -59302-06-20 14:23 J -19938462.01 -19938461.90 -19938461.79 0.2678 0.0617

Moon -59302-06-20 15:06 J -19938461.98 -19938461.87 -19938461.76 0.2678 0.0523 *

Jupiter -59301-10-14 12:57 J -19937980.13 -19937979.96 -19937979.78 0.0496 0.0146

Neptune -59297-07-10 18:28 J -19936614.76 -19936614.73 -19936614.68 0.0089 0.0084

Neptune -59297-10-06 20:09 J -19936526.72 -19936526.66 -19936526.60 0.0089 0.0078

Saturn -59297-11-12 22:18 J -19936489.67 -19936489.57 -19936489.45 0.0266 0.0210

Neptune -59296-01-02 21:21 J -19936438.68 -19936438.61 -19936438.52 0.0089 0.0072

Saturn -59296-02-09 18:13 J -19936400.91 -19936400.74 -19936400.56 0.0266 0.0088

Neptune -59296-03-31 22:47 J -19936350.63 -19936350.55 -19936350.45 0.0089 0.0067

Saturn -59296-05-09 14:23 J -19936312.08 -19936311.90 -19936311.72 0.0265 0.0035

Neptune -59296-06-28 00:28 J -19936262.58 -19936262.48 -19936262.38 0.0089 0.0061

Saturn -59296-08-06 10:18 J -19936223.21 -19936223.07 -19936222.91 0.0264 0.0159

Neptune -59296-09-24 01:40 J -19936174.53 -19936174.43 -19936174.31 0.0089 0.0055

Neptune -59296-12-21 03:06 J -19936086.47 -19936086.37 -19936086.25 0.0089 0.0050

Neptune -59295-03-19 04:47 J -19935998.42 -19935998.30 -19935998.18 0.0089 0.0044

Neptune -59295-06-15 06:13 J -19935910.36 -19935910.24 -19935910.12 0.0089 0.0038

Jupiter -59295-06-16 13:25 J -19935908.98 -19935908.94 -19935908.89 0.0531 0.0493

Neptune -59295-09-11 07:25 J -19935822.31 -19935822.19 -19935822.05 0.0089 0.0033

Mars -59295-09-12 08:52 J -19935821.21 -19935821.13 -19935821.05 0.1884 0.1313

Jupiter -59295-09-13 20:23 J -19935819.78 -19935819.65 -19935819.52 0.0530 0.0060

Neptune -59295-12-08 09:06 J -19935734.25 -19935734.12 -19935733.99 0.0089 0.0027

Neptune -59294-03-06 10:33 J -19935646.19 -19935646.06 -19935645.93 0.0089 0.0021

Neptune -59294-06-02 11:45 J -19935558.14 -19935558.01 -19935557.87 0.0089 0.0016

Neptune -59294-08-29 13:25 J -19935470.08 -19935469.94 -19935469.81 0.0089 0.0010

Uranus -59294-10-09 17:16 J -19935428.87 -19935428.78 -19935428.66 0.0146 0.0119

Neptune -59294-11-25 14:52 J -19935382.02 -19935381.88 -19935381.75 0.0089 0.0005

Uranus -59293-01-06 02:09 J -19935340.56 -19935340.41 -19935340.25 0.0146 0.0086

Neptune -59293-02-21 16:04 J -19935293.96 -19935293.83 -19935293.69 0.0089 0.0003

Uranus -59293-04-03 10:47 J -19935252.23 -19935252.05 -19935251.87 0.0146 0.0053

Neptune -59293-05-19 17:30 J -19935205.90 -19935205.77 -19935205.63 0.0089 0.0007

Uranus -59293-06-30 19:25 J -19935163.88 -19935163.69 -19935163.50 0.0146 0.0020

Neptune -59293-08-15 18:57 J -19935117.84 -19935117.71 -19935117.58 0.0089 0.0013

Uranus -59293-09-27 04:04 J -19935075.52 -19935075.33 -19935075.14 0.0145 0.0013

Neptune -59293-11-11 20:09 J -19935029.78 -19935029.66 -19935029.52 0.0089 0.0019

Moon -59293-12-17 21:06 J -19934993.77 -19934993.62 -19934993.47 0.2656 0.0681

Earth -59293-12-17 22:33 J -19934993.71 -19934993.56 -19934993.41 0.2653 0.0801 *

Uranus -59293-12-24 12:42 J -19934987.15 -19934986.97 -19934986.79 0.0145 0.0047

Neptune -59292-02-07 21:49 J -19934941.72 -19934941.59 -19934941.46 0.0089 0.0024

Uranus -59292-03-22 21:21 J -19934898.77 -19934898.61 -19934898.45 0.0145 0.0080

Neptune -59292-05-06 23:01 J -19934853.66 -19934853.54 -19934853.41 0.0089 0.0030

Uranus -59292-06-19 05:45 J -19934810.37 -19934810.26 -19934810.13 0.0145 0.0113

Neptune -59292-08-03 00:28 J -19934765.60 -19934765.48 -19934765.36 0.0089 0.0035

Neptune -59292-10-30 01:40 J -19934677.54 -19934677.43 -19934677.30 0.0089 0.0041

Neptune -59291-01-26 03:06 J -19934589.48 -19934589.37 -19934589.25 0.0089 0.0046

Neptune -59291-04-24 04:33 J -19934501.42 -19934501.31 -19934501.20 0.0089 0.0052

Neptune -59291-07-21 05:45 J -19934413.35 -19934413.26 -19934413.15 0.0089 0.0058

Neptune -59291-10-17 07:11 J -19934325.29 -19934325.20 -19934325.10 0.0089 0.0063

Neptune -59290-01-13 08:23 J -19934237.22 -19934237.15 -19934237.05 0.0089 0.0069

Neptune -59290-04-11 09:49 J -19934149.15 -19934149.09 -19934149.01 0.0089 0.0074

Neptune -59290-07-08 11:30 J -19934061.08 -19934061.02 -19934060.97 0.0089 0.0079

Neptune -59290-10-04 12:28 J -19933973.00 -19933972.98 -19933972.93 0.0089 0.0085

Earth -59289-06-22 08:37 J -19933711.25 -19933711.14 -19933711.03 0.2680 0.0390

Moon -59289-06-22 09:06 J -19933711.23 -19933711.12 -19933711.01 0.2674 0.0397 *

Jupiter -59289-08-02 10:47 J -19933670.19 -19933670.05 -19933669.90 0.0496 0.0307

Jupiter -59289-10-31 19:40 J -19933579.80 -19933579.68 -19933579.55 0.0496 0.0366

Pluto -59285-01-28 10:04 J -19932396.13 -19932396.08 -19932396.01 0.0083 0.0076

Mars -59285-02-02 16:47 J -19932390.91 -19932390.80 -19932390.68 0.1876 0.0391

Pluto -59285-04-25 11:45 J -19932308.09 -19932308.01 -19932307.91 0.0083 0.0066

Pluto -59285-07-22 13:25 J -19932220.04 -19932219.94 -19932219.82 0.0083 0.0056

Pluto -59285-10-18 15:21 J -19932131.98 -19932131.86 -19932131.74 0.0083 0.0045

Mars -59285-11-30 12:57 J -19932089.11 -19932088.96 -19932088.82 0.1668 0.0739

Pluto -59284-01-14 16:33 J -19932043.93 -19932043.81 -19932043.67 0.0083 0.0036

Pluto -59284-04-12 18:28 J -19931955.87 -19931955.73 -19931955.60 0.0083 0.0026

Pluto -59284-07-09 19:54 J -19931867.81 -19931867.67 -19931867.53 0.0083 0.0016

Venus -59284-09-01 11:30 J -19931814.11 -19931814.02 -19931813.92 0.3573 0.2853

Pluto -59284-10-05 21:35 J -19931779.75 -19931779.60 -19931779.46 0.0082 0.0007

Pluto -59283-01-01 23:01 J -19931691.68 -19931691.54 -19931691.40 0.0082 0.0003

Pluto -59283-03-31 00:28 J -19931603.62 -19931603.48 -19931603.33 0.0082 0.0012

Pluto -59283-06-27 01:54 J -19931515.55 -19931515.42 -19931515.27 0.0082 0.0022

Jupiter -59283-07-03 00:42 J -19931509.60 -19931509.47 -19931509.35 0.0530 0.0071

Pluto -59283-09-23 03:35 J -19931427.48 -19931427.35 -19931427.22 0.0082 0.0030

Jupiter -59283-09-30 06:57 J -19931420.27 -19931420.21 -19931420.16 0.0529 0.0470

Pluto -59283-12-20 04:47 J -19931339.41 -19931339.30 -19931339.16 0.0082 0.0040

Pluto -59282-03-18 06:13 J -19931251.34 -19931251.24 -19931251.11 0.0082 0.0049

Pluto -59282-06-14 07:40 J -19931163.27 -19931163.18 -19931163.07 0.0082 0.0058

Moon -59282-06-16 06:42 J -19931161.26 -19931161.22 -19931161.17 0.2680 0.2394

Earth -59282-06-16 06:42 J -19931161.26 -19931161.22 -19931161.18 0.2674 0.2457 *

Pluto -59282-09-10 09:06 J -19931075.19 -19931075.12 -19931075.03 0.0081 0.0067

Pluto -59282-12-07 10:33 J -19930987.10 -19930987.06 -19930986.99 0.0081 0.0075

Saturn -59281-06-02 13:11 J -19930808.97 -19930808.95 -19930808.93 0.0295 0.0290

Saturn -59281-08-30 02:09 J -19930720.52 -19930720.41 -19930720.30 0.0295 0.0167

Saturn -59281-11-26 15:06 J -19930632.00 -19930631.87 -19930631.74 0.0296 0.0045

Saturn -59280-02-23 03:49 J -19930543.46 -19930543.34 -19930543.21 0.0297 0.0079

Saturn -59280-05-22 16:33 J -19930454.90 -19930454.81 -19930454.71 0.0298 0.0202

Moon -59280-12-21 04:04 J -19930242.33 -19930242.33 -19930242.32 0.2658 0.2653

Venus -59278-03-18 20:52 J -19929789.74 -19929789.63 -19929789.51 0.3570 0.2553

Jupiter -59277-05-21 08:37 J -19929360.20 -19929360.14 -19929360.08 0.0496 0.0467

Jupiter -59277-08-19 17:16 J -19929269.95 -19929269.78 -19929269.61 0.0497 0.0200

Mars -59276-06-25 01:11 J -19928960.57 -19928960.45 -19928960.34 0.1868 0.0527

Moon -59276-06-25 02:37 J -19928960.48 -19928960.39 -19928960.30 0.2676 0.1419 *

Earth -59276-06-25 02:37 J -19928960.48 -19928960.39 -19928960.29 0.2682 0.1384 *

Venus -59276-12-23 14:37 J -19928778.97 -19928778.89 -19928778.81 0.3806 0.2017

Mars -59275-04-22 14:23 J -19928659.06 -19928658.90 -19928658.74 0.1674 0.0280

Moon -59273-12-12 16:33 J -19927693.83 -19927693.81 -19927693.78 0.2654 0.2610

Earth -59273-12-12 17:45 J -19927693.78 -19927693.76 -19927693.73 0.2658 0.2607 *

Jupiter -59271-04-21 04:47 J -19927199.42 -19927199.30 -19927199.18 0.0530 0.0206

Jupiter -59271-07-19 11:16 J -19927110.13 -19927110.03 -19927109.94 0.0529 0.0339

Venus -59270-07-09 06:28 J -19926755.33 -19926755.23 -19926755.13 0.3808 0.0152

Earth -59269-06-18 00:57 J -19926410.55 -19926410.46 -19926410.36 0.2676 0.1434

Moon -59269-06-18 01:40 J -19926410.52 -19926410.43 -19926410.33 0.2679 0.1410 *

Saturn -59267-04-01 19:54 J -19925757.70 -19925757.67 -19925757.62 0.0267 0.0258

Saturn -59267-06-29 15:49 J -19925668.99 -19925668.84 -19925668.68 0.0266 0.0136

Saturn -59267-09-26 11:59 J -19925580.18 -19925580.00 -19925579.81 0.0265 0.0013

Mars -59267-11-15 09:21 J -19925530.18 -19925530.11 -19925530.03 0.1859 0.1421

Saturn -59267-12-24 08:09 J -19925491.33 -19925491.16 -19925490.99 0.0264 0.0110

Saturn -59266-03-23 04:33 J -19925402.40 -19925402.31 -19925402.23 0.0264 0.0233

Mars -59266-09-12 15:21 J -19925228.96 -19925228.86 -19925228.76 0.1682 0.1316

Jupiter -59265-06-07 15:06 J -19924960.06 -19924959.87 -19924959.69 0.0497 0.0039

Venus -59264-01-21 22:33 J -19924731.65 -19924731.56 -19924731.48 0.3810 0.1873

Moon -59263-06-27 20:09 J -19924209.72 -19924209.66 -19924209.60 0.2679 0.2232

Earth -59263-06-27 20:37 J -19924209.69 -19924209.64 -19924209.59 0.2684 0.2363 *

Moon -59260-12-15 21:35 J -19922942.74 -19922942.60 -19922942.46 0.2655 0.0990

Earth -59260-12-15 23:16 J -19922942.68 -19922942.53 -19922942.39 0.2655 0.0756 *

Jupiter -59259-02-07 08:23 J -19922889.24 -19922889.15 -19922889.05 0.0530 0.0348

Jupiter -59259-05-07 15:06 J -19922799.99 -19922799.87 -19922799.76 0.0529 0.0200

Earth -59256-06-20 19:11 J -19921659.81 -19921659.70 -19921659.59 0.2678 0.0430

Moon -59256-06-20 19:54 J -19921659.78 -19921659.67 -19921659.56 0.2676 0.0349 *

Mars -59255-03-13 08:52 J -19921394.21 -19921394.13 -19921394.06 0.1884 0.1415

Jupiter -59253-03-26 12:42 J -19920650.15 -19920649.97 -19920649.79 0.0496 0.0126

Saturn -59251-01-17 03:35 J -19919988.44 -19919988.35 -19919988.25 0.0295 0.0206

Saturn -59251-04-15 16:33 J -19919899.94 -19919899.81 -19919899.68 0.0296 0.0083

Saturn -59251-07-13 05:30 J -19919811.40 -19919811.27 -19919811.14 0.0297 0.0040

Uranus -59251-07-14 09:35 J -19919810.12 -19919810.10 -19919810.06 0.0132 0.0128

Saturn -59251-10-09 18:13 J -19919722.85 -19919722.74 -19919722.63 0.0298 0.0163

Uranus -59251-10-10 12:42 J -19919722.04 -19919721.97 -19919721.89 0.0133 0.0111

Saturn -59250-01-06 06:57 J -19919634.24 -19919634.21 -19919634.17 0.0299 0.0286

Uranus -59250-01-06 15:49 J -19919633.93 -19919633.84 -19919633.75 0.0133 0.0094

Uranus -59250-04-04 18:42 J -19919545.82 -19919545.72 -19919545.61 0.0133 0.0077

Uranus -59250-07-01 21:35 J -19919457.71 -19919457.60 -19919457.47 0.0133 0.0060

Uranus -59250-09-28 00:42 J -19919369.59 -19919369.47 -19919369.34 0.0133 0.0042

Uranus -59250-12-25 03:49 J -19919281.47 -19919281.34 -19919281.21 0.0133 0.0025

Uranus -59249-03-22 06:42 J -19919193.35 -19919193.22 -19919193.09 0.0133 0.0008

Uranus -59249-06-18 09:35 J -19919105.23 -19919105.10 -19919104.96 0.0133 0.0010

Uranus -59249-09-14 12:42 J -19919017.10 -19919016.97 -19919016.84 0.0133 0.0027

Uranus -59249-12-11 15:35 J -19918928.97 -19918928.85 -19918928.73 0.0133 0.0044

Uranus -59248-03-09 18:28 J -19918840.84 -19918840.73 -19918840.61 0.0133 0.0061

Uranus -59248-06-05 21:21 J -19918752.71 -19918752.61 -19918752.50 0.0133 0.0079

Uranus -59248-09-02 00:28 J -19918664.57 -19918664.48 -19918664.39 0.0133 0.0096

Jupiter -59248-11-26 12:28 J -19918579.03 -19918578.98 -19918578.93 0.0530 0.0485

Uranus -59248-11-29 03:21 J -19918576.42 -19918576.36 -19918576.29 0.0133 0.0113

Jupiter -59247-02-23 19:11 J -19918489.83 -19918489.70 -19918489.57 0.0530 0.0067

Uranus -59247-02-25 06:28 J -19918488.26 -19918488.23 -19918488.21 0.0134 0.0130

Moon -59247-12-19 03:49 J -19918191.48 -19918191.34 -19918191.20 0.2658 0.1094

Earth -59247-12-19 05:01 J -19918191.43 -19918191.29 -19918191.15 0.2653 0.1149 *

Mars -59246-08-03 17:01 J -19917963.91 -19917963.79 -19917963.68 0.1876 0.0493

Mars -59245-05-31 13:25 J -19917662.08 -19917661.94 -19917661.80 0.1667 0.0875

Earth -59243-06-23 13:25 J -19916909.05 -19916908.94 -19916908.83 0.2680 0.0584

Moon -59243-06-23 13:54 J -19916909.03 -19916908.92 -19916908.81 0.2674 0.0651 *

Jupiter -59241-01-13 09:35 J -19916340.24 -19916340.10 -19916339.95 0.0496 0.0296

Jupiter -59241-04-12 18:28 J -19916249.85 -19916249.73 -19916249.61 0.0496 0.0376

Saturn -59238-11-16 15:49 J -19914936.98 -19914936.84 -19914936.70 0.0266 0.0170

Saturn -59237-02-13 11:45 J -19914848.19 -19914848.01 -19914847.83 0.0266 0.0047

Saturn -59237-05-12 07:54 J -19914759.35 -19914759.17 -19914758.99 0.0265 0.0076

Saturn -59237-08-09 04:04 J -19914670.45 -19914670.33 -19914670.21 0.0264 0.0200

Mars -59237-12-24 01:11 J -19914533.56 -19914533.45 -19914533.34 0.1868 0.0417

Earth -59236-06-16 11:30 J -19914359.08 -19914359.02 -19914358.96 0.2674 0.2255

Moon -59236-06-16 11:59 J -19914359.06 -19914359.00 -19914358.95 0.2680 0.2287 *

Mars -59236-10-21 14:37 J -19914232.05 -19914231.89 -19914231.73 0.1674 0.0156

Jupiter -59236-12-12 23:16 J -19914179.65 -19914179.53 -19914179.40 0.0530 0.0069

Jupiter -59235-03-12 05:30 J -19914090.32 -19914090.27 -19914090.21 0.0529 0.0475

Moon -59230-06-26 07:11 J -19912158.29 -19912158.20 -19912158.10 0.2676 0.1501

Earth -59230-06-26 07:40 J -19912158.27 -19912158.18 -19912158.10 0.2682 0.1573 *

Jupiter -59230-11-01 07:25 J -19912030.26 -19912030.19 -19912030.12 0.0495 0.0457

Jupiter -59229-01-30 15:49 J -19911940.00 -19911939.84 -19911939.67 0.0496 0.0209

Venus -59227-04-08 13:54 J -19911141.08 -19911140.92 -19911140.77 0.3572 0.1017

Mars -59227-05-16 09:06 J -19911103.20 -19911103.12 -19911103.03 0.1859 0.1334

Moon -59227-12-13 22:47 J -19910891.60 -19910891.55 -19910891.50 0.2655 0.2471

Earth -59227-12-14 00:13 J -19910891.57 -19910891.49 -19910891.41 0.2657 0.2263 *

Mars -59226-03-13 16:04 J -19910801.94 -19910801.83 -19910801.71 0.1682 0.1170

Venus -59224-01-13 20:09 J -19910129.71 -19910129.66 -19910129.61 0.3804 0.3255

Jupiter -59224-10-01 03:35 J -19909869.47 -19909869.35 -19909869.23 0.0530 0.0200

Jupiter -59224-12-29 10:04 J -19909780.18 -19909780.08 -19909779.99 0.0529 0.0346

Earth -59223-06-19 05:59 J -19909608.35 -19909608.25 -19909608.15 0.2676 0.1237

Moon -59223-06-19 06:42 J -19909608.33 -19909608.22 -19909608.12 0.2679 0.1121 *

Saturn -59222-06-06 05:01 J -19909256.36 -19909256.29 -19909256.21 0.0295 0.0245

Saturn -59222-09-02 17:59 J -19909167.87 -19909167.75 -19909167.62 0.0295 0.0123

Saturn -59222-11-30 06:57 J -19909079.34 -19909079.21 -19909079.08 0.0296 0.0004

Saturn -59221-02-26 19:40 J -19908990.79 -19908990.68 -19908990.55 0.0297 0.0123

Saturn -59221-05-25 08:23 J -19908902.22 -19908902.15 -19908902.07 0.0298 0.0245

Venus -59219-07-30 12:13 J -19908106.09 -19908105.99 -19908105.90 0.3806 0.1318

Jupiter -59218-11-18 13:11 J -19907630.13 -19907629.95 -19907629.76 0.0496 0.0044

Moon -59217-06-28 00:57 J -19907407.49 -19907407.46 -19907407.43 0.2680 0.2548

Earth -59217-06-28 01:40 J -19907407.46 -19907407.43 -19907407.40 0.2684 0.2548 *

Mars -59216-09-11 08:37 J -19906967.20 -19906967.14 -19906967.07 0.1885 0.1509

Neptune -59214-03-28 09:49 J -19906404.15 -19906404.09 -19906404.02 0.0089 0.0082

Neptune -59214-06-24 12:42 J -19906316.05 -19906315.97 -19906315.85 0.0089 0.0075

Neptune -59214-09-20 16:18 J -19906227.93 -19906227.82 -19906227.69 0.0089 0.0067

Moon -59214-12-17 04:04 J -19906140.48 -19906140.33 -19906140.18 0.2655 0.0446

Earth -59214-12-17 05:45 J -19906140.41 -19906140.26 -19906140.11 0.2655 0.0403 *

Neptune -59214-12-17 19:40 J -19906139.81 -19906139.68 -19906139.53 0.0089 0.0059

Venus -59213-02-13 04:04 J -19906082.43 -19906082.33 -19906082.23 0.3808 0.0630

Neptune -59213-03-14 22:47 J -19906051.69 -19906051.55 -19906051.38 0.0089 0.0052

Neptune -59213-06-11 02:09 J -19905963.56 -19905963.41 -19905963.23 0.0089 0.0044

Neptune -59213-09-07 05:45 J -19905875.43 -19905875.26 -19905875.08 0.0089 0.0036

Neptune -59213-12-04 09:06 J -19905787.30 -19905787.12 -19905786.94 0.0089 0.0028

Neptune -59212-03-02 12:13 J -19905699.16 -19905698.99 -19905698.79 0.0089 0.0021

Neptune -59212-05-29 15:49 J -19905611.02 -19905610.84 -19905610.65 0.0089 0.0013

Jupiter -59212-07-20 07:40 J -19905559.28 -19905559.18 -19905559.08 0.0530 0.0336

Neptune -59212-08-25 19:11 J -19905522.88 -19905522.70 -19905522.51 0.0089 0.0005

Jupiter -59212-10-17 14:09 J -19905470.02 -19905469.91 -19905469.79 0.0529 0.0213

Neptune -59212-11-21 22:33 J -19905434.74 -19905434.56 -19905434.36 0.0089 0.0004

Neptune -59211-02-18 02:09 J -19905346.60 -19905346.41 -19905346.22 0.0089 0.0011

Neptune -59211-05-17 05:30 J -19905258.46 -19905258.27 -19905258.09 0.0089 0.0019

Neptune -59211-08-13 08:52 J -19905170.31 -19905170.13 -19905169.95 0.0089 0.0027

Neptune -59211-11-09 12:13 J -19905082.16 -19905081.99 -19905081.81 0.0089 0.0035

Neptune -59210-02-05 15:35 J -19904994.01 -19904993.85 -19904993.68 0.0089 0.0043

Neptune -59210-05-04 18:57 J -19904905.85 -19904905.71 -19904905.54 0.0089 0.0051

Earth -59210-06-22 00:13 J -19904857.60 -19904857.49 -19904857.38 0.2678 0.0229

Moon -59210-06-22 00:42 J -19904857.58 -19904857.47 -19904857.35 0.2675 0.0222 *

Neptune -59210-07-31 22:18 J -19904817.70 -19904817.57 -19904817.41 0.0089 0.0059

Neptune -59210-10-28 01:54 J -19904729.53 -19904729.42 -19904729.28 0.0089 0.0067

Uranus -59210-10-29 22:47 J -19904727.65 -19904727.55 -19904727.42 0.0146 0.0118

Neptune -59209-01-24 05:16 J -19904641.37 -19904641.28 -19904641.16 0.0089 0.0075

Uranus -59209-01-26 07:25 J -19904639.33 -19904639.19 -19904639.02 0.0146 0.0085

Neptune -59209-04-21 08:37 J -19904553.19 -19904553.14 -19904553.05 0.0089 0.0083

Uranus -59209-04-23 16:18 J -19904551.00 -19904550.82 -19904550.64 0.0146 0.0052

Uranus -59209-07-21 00:57 J -19904462.65 -19904462.46 -19904462.27 0.0146 0.0019

Uranus -59209-10-17 09:35 J -19904374.29 -19904374.10 -19904373.91 0.0145 0.0015

Uranus -59208-01-13 18:13 J -19904285.92 -19904285.74 -19904285.56 0.0145 0.0048

Saturn -59208-04-04 13:40 J -19904205.03 -19904204.93 -19904204.82 0.0267 0.0215

Uranus -59208-04-12 02:37 J -19904197.54 -19904197.39 -19904197.22 0.0145 0.0082

Saturn -59208-07-02 09:35 J -19904116.27 -19904116.10 -19904115.92 0.0266 0.0093

Uranus -59208-07-09 11:30 J -19904109.13 -19904109.02 -19904108.90 0.0145 0.0114

Venus -59208-08-28 19:54 J -19904058.74 -19904058.67 -19904058.60 0.3810 0.2573

Saturn -59208-09-29 05:45 J -19904027.44 -19904027.26 -19904027.07 0.0265 0.0031

Saturn -59208-12-27 01:54 J -19903938.56 -19903938.42 -19903938.26 0.0265 0.0154

Mars -59206-02-01 17:01 J -19903536.90 -19903536.79 -19903536.68 0.1876 0.0600

Jupiter -59206-09-06 11:01 J -19903320.22 -19903320.04 -19903319.86 0.0496 0.0121

Mars -59206-11-30 14:09 J -19903235.04 -19903234.91 -19903234.78 0.1667 0.1009

Moon -59201-12-19 10:33 J -19901389.19 -19901389.06 -19901388.93 0.2658 0.1347

Earth -59201-12-19 11:30 J -19901389.14 -19901389.02 -19901388.89 0.2652 0.1509 *

Jupiter -59200-05-08 11:16 J -19901249.08 -19901249.03 -19901248.98 0.0530 0.0480

Jupiter -59200-08-05 17:59 J -19901159.88 -19901159.75 -19901159.62 0.0530 0.0072

Earth -59197-06-23 18:28 J -19900106.84 -19900106.73 -19900106.63 0.2680 0.0781

Moon -59197-06-23 18:42 J -19900106.83 -19900106.72 -19900106.61 0.2675 0.0790 *

Mars -59197-06-24 01:11 J -19900106.57 -19900106.45 -19900106.33 0.1868 0.0315

Mars -59196-04-21 15:21 J -19899805.02 -19899804.86 -19899804.70 0.1674 0.0015

Jupiter -59194-06-25 08:37 J -19899010.29 -19899010.14 -19899009.99 0.0496 0.0283

Jupiter -59194-09-23 17:30 J -19898919.88 -19898919.77 -19898919.65 0.0497 0.0391

Saturn -59193-10-23 06:42 J -19898524.25 -19898524.22 -19898524.18 0.0295 0.0282

Saturn -59192-01-19 19:54 J -19898435.79 -19898435.67 -19898435.56 0.0295 0.0160

Saturn -59192-04-18 08:37 J -19898347.27 -19898347.14 -19898347.00 0.0296 0.0038

Saturn -59192-07-15 21:35 J -19898258.73 -19898258.60 -19898258.47 0.0297 0.0086

Saturn -59192-10-12 10:18 J -19898170.16 -19898170.07 -19898169.98 0.0298 0.0208

Earth -59190-06-17 16:33 J -19897556.88 -19897556.81 -19897556.74 0.2674 0.2060

Moon -59190-06-17 17:01 J -19897556.87 -19897556.79 -19897556.72 0.2680 0.1957 *

Jupiter -59188-05-24 22:04 J -19896849.71 -19896849.58 -19896849.45 0.0530 0.0064

Jupiter -59188-08-22 04:18 J -19896760.37 -19896760.32 -19896760.27 0.0529 0.0478

Mars -59188-11-14 09:21 J -19896676.20 -19896676.11 -19896676.02 0.1859 0.1221

Mars -59187-09-11 16:33 J -19896374.93 -19896374.81 -19896374.68 0.1682 0.1045

Moon -59184-06-26 11:59 J -19895356.08 -19895356.00 -19895355.91 0.2676 0.1759

Earth -59184-06-26 12:28 J -19895356.06 -19895355.98 -19895355.90 0.2683 0.1762 *

Jupiter -59182-04-13 05:45 J -19894700.33 -19894700.26 -19894700.18 0.0495 0.0450

Jupiter -59182-07-12 14:23 J -19894610.07 -19894609.90 -19894609.73 0.0496 0.0216

Moon -59181-12-14 05:01 J -19894089.39 -19894089.29 -19894089.19 0.2654 0.1973

Earth -59181-12-14 06:28 J -19894089.33 -19894089.23 -19894089.12 0.2657 0.1928 *

Saturn -59179-08-22 13:40 J -19893472.98 -19893472.93 -19893472.85 0.0267 0.0248

Saturn -59179-11-19 09:49 J -19893384.25 -19893384.09 -19893383.92 0.0266 0.0124

Saturn -59178-02-16 05:59 J -19893295.43 -19893295.25 -19893295.07 0.0266 0.0001

Saturn -59178-05-16 02:09 J -19893206.57 -19893206.41 -19893206.24 0.0265 0.0123

Saturn -59178-08-12 22:33 J -19893117.62 -19893117.56 -19893117.49 0.0265 0.0247

Earth -59177-06-19 10:47 J -19892806.15 -19892806.05 -19892805.95 0.2677 0.1036

Moon -59177-06-19 11:30 J -19892806.12 -19892806.02 -19892805.92 0.2679 0.1027 *

Mars -59176-03-12 08:52 J -19892540.19 -19892540.13 -19892540.08 0.1885 0.1617

Jupiter -59176-03-13 01:54 J -19892539.54 -19892539.42 -19892539.30 0.0531 0.0203

Jupiter -59176-06-10 08:23 J -19892450.24 -19892450.15 -19892450.05 0.0530 0.0345

Moon -59171-06-29 05:45 J -19890605.28 -19890605.26 -19890605.24 0.2682 0.2615

Venus -59171-11-13 16:04 J -19890467.99 -19890467.83 -19890467.68 0.3571 0.0799

Jupiter -59170-04-30 11:45 J -19890300.19 -19890300.01 -19890299.83 0.0496 0.0049

Venus -59168-08-20 17:45 J -19889456.83 -19889456.76 -19889456.69 0.3805 0.2557

Moon -59168-12-17 10:33 J -19889338.21 -19889338.06 -19889337.90 0.2656 0.0296

Earth -59168-12-17 12:13 J -19889338.15 -19889337.99 -19889337.84 0.2655 0.0078 *

Mars -59167-08-02 17:01 J -19889109.90 -19889109.79 -19889109.68 0.1876 0.0697

Uranus -59167-08-03 16:18 J -19889108.85 -19889108.82 -19889108.77 0.0133 0.0126

Uranus -59167-10-30 19:25 J -19889020.76 -19889020.69 -19889020.61 0.0133 0.0109

Uranus -59166-01-26 22:33 J -19888932.66 -19888932.56 -19888932.47 0.0133 0.0092

Uranus -59166-04-25 01:25 J -19888844.55 -19888844.44 -19888844.33 0.0133 0.0075

Mars -59166-05-31 14:52 J -19888808.00 -19888807.88 -19888807.77 0.1667 0.1150

Uranus -59166-07-22 04:18 J -19888756.43 -19888756.32 -19888756.19 0.0133 0.0058

Uranus -59166-10-18 07:25 J -19888668.31 -19888668.19 -19888668.06 0.0133 0.0040

Uranus -59165-01-14 10:33 J -19888580.19 -19888580.06 -19888579.93 0.0133 0.0023

Uranus -59165-04-11 13:25 J -19888492.07 -19888491.94 -19888491.81 0.0133 0.0006

Uranus -59165-07-08 16:18 J -19888403.95 -19888403.82 -19888403.68 0.0133 0.0013

Uranus -59165-10-04 19:25 J -19888315.82 -19888315.69 -19888315.56 0.0133 0.0029

Jupiter -59165-12-30 05:59 J -19888229.34 -19888229.25 -19888229.15 0.0531 0.0337

Uranus -59165-12-31 22:18 J -19888227.69 -19888227.57 -19888227.44 0.0133 0.0046

Jupiter -59164-03-29 12:42 J -19888140.08 -19888139.97 -19888139.85 0.0530 0.0214

Uranus -59164-03-30 01:11 J -19888139.56 -19888139.45 -19888139.33 0.0133 0.0064

Earth -59164-06-22 05:01 J -19888055.40 -19888055.29 -19888055.18 0.2679 0.0053

Moon -59164-06-22 05:45 J -19888055.37 -19888055.26 -19888055.15 0.2675 0.0086 *

Uranus -59164-06-26 04:18 J -19888051.42 -19888051.32 -19888051.22 0.0133 0.0081

Uranus -59164-09-22 07:11 J -19887963.28 -19887963.20 -19887963.11 0.0133 0.0098

Uranus -59164-12-19 10:04 J -19887875.14 -19887875.08 -19887875.01 0.0133 0.0115

Uranus -59163-03-17 12:57 J -19887786.96 -19887786.96 -19887786.94 0.0134 0.0133

Saturn -59163-06-08 21:49 J -19887703.69 -19887703.59 -19887703.49 0.0295 0.0194

Saturn -59163-09-05 10:47 J -19887615.18 -19887615.05 -19887614.92 0.0296 0.0072

Saturn -59163-12-02 23:30 J -19887526.64 -19887526.52 -19887526.38 0.0296 0.0052

Saturn -59162-03-01 12:28 J -19887438.09 -19887437.98 -19887437.88 0.0297 0.0173

Venus -59162-03-06 09:35 J -19887433.20 -19887433.10 -19887433.00 0.3807 0.0621

Saturn -59162-05-29 01:11 J -19887349.47 -19887349.45 -19887349.44 0.0298 0.0294

Jupiter -59158-02-16 08:52 J -19885990.31 -19885990.13 -19885989.95 0.0496 0.0119

Mars -59158-12-24 01:11 J -19885679.57 -19885679.45 -19885679.33 0.1868 0.0218

Venus -59157-09-19 01:25 J -19885409.53 -19885409.44 -19885409.34 0.3809 0.1344

Mars -59157-10-20 16:04 J -19885377.99 -19885377.83 -19885377.67 0.1674 0.0128

Moon -59155-12-20 17:01 J -19884586.90 -19884586.79 -19884586.68 0.2658 0.1859

Earth -59155-12-20 17:59 J -19884586.85 -19884586.75 -19884586.64 0.2652 0.1866 *

Jupiter -59153-10-18 10:04 J -19883919.13 -19883919.08 -19883919.02 0.0531 0.0473

Jupiter -59152-01-15 17:01 J -19883829.92 -19883829.79 -19883829.67 0.0530 0.0082

Venus -59151-04-04 17:30 J -19883385.82 -19883385.77 -19883385.72 0.3811 0.3283

Earth -59151-06-24 23:16 J -19883304.64 -19883304.53 -19883304.43 0.2681 0.0967

Moon -59151-06-24 23:16 J -19883304.63 -19883304.53 -19883304.42 0.2674 0.0971 *

Saturn -59149-04-07 08:23 J -19882652.29 -19882652.15 -19882652.00 0.0267 0.0166

Saturn -59149-07-05 04:33 J -19882563.49 -19882563.31 -19882563.13 0.0266 0.0043

Saturn -59149-10-02 00:42 J -19882474.65 -19882474.47 -19882474.30 0.0265 0.0080

Saturn -59149-12-29 20:52 J -19882385.74 -19882385.63 -19882385.51 0.0265 0.0204

Mars -59148-05-15 09:21 J -19882249.20 -19882249.11 -19882249.01 0.1859 0.1114

Mars -59147-03-12 17:16 J -19881947.92 -19881947.78 -19881947.65 0.1681 0.0910

Jupiter -59147-12-05 06:28 J -19881680.38 -19881680.23 -19881680.08 0.0496 0.0282

Jupiter -59146-03-05 15:21 J -19881589.96 -19881589.86 -19881589.74 0.0497 0.0392

Earth -59144-06-17 21:21 J -19880754.69 -19880754.61 -19880754.53 0.2675 0.1856

Moon -59144-06-17 21:49 J -19880754.67 -19880754.59 -19880754.51 0.2680 0.1871 *

Jupiter -59141-11-03 20:37 J -19879519.77 -19879519.64 -19879519.51 0.0530 0.0062

Jupiter -59140-02-01 02:52 J -19879430.43 -19879430.38 -19879430.33 0.0529 0.0479

Moon -59138-06-27 17:01 J -19878553.87 -19878553.79 -19878553.72 0.2676 0.1887

Earth -59138-06-27 17:16 J -19878553.85 -19878553.78 -19878553.70 0.2683 0.1950 *

Mars -59137-09-10 08:52 J -19878113.18 -19878113.13 -19878113.09 0.1885 0.1723

Jupiter -59135-09-23 04:04 J -19877370.40 -19877370.33 -19877370.24 0.0496 0.0445

Moon -59135-12-15 11:30 J -19877287.13 -19877287.02 -19877286.91 0.2654 0.1785

Earth -59135-12-15 12:57 J -19877287.08 -19877286.96 -19877286.84 0.2657 0.1587 *

Jupiter -59135-12-22 12:57 J -19877280.13 -19877279.96 -19877279.80 0.0496 0.0224

Saturn -59134-10-26 23:59 J -19876971.58 -19876971.50 -19876971.41 0.0295 0.0227

Saturn -59133-01-23 12:57 J -19876883.08 -19876882.96 -19876882.83 0.0296 0.0105

Saturn -59133-04-21 01:54 J -19876794.56 -19876794.42 -19876794.29 0.0297 0.0019

Saturn -59133-07-18 14:37 J -19876706.01 -19876705.89 -19876705.77 0.0297 0.0140

Saturn -59133-10-15 03:21 J -19876617.42 -19876617.36 -19876617.30 0.0298 0.0262

Neptune -59132-01-08 16:47 J -19876531.81 -19876531.80 -19876531.75 0.0089 0.0087

Neptune -59132-04-06 18:28 J -19876443.78 -19876443.73 -19876443.67 0.0089 0.0081

Neptune -59132-07-03 19:54 J -19876355.73 -19876355.67 -19876355.59 0.0089 0.0075

Neptune -59132-09-29 21:35 J -19876267.68 -19876267.60 -19876267.52 0.0089 0.0069

Neptune -59132-12-26 22:47 J -19876179.63 -19876179.55 -19876179.44 0.0089 0.0064

Neptune -59131-03-25 00:13 J -19876091.58 -19876091.49 -19876091.38 0.0089 0.0058

Earth -59131-06-20 15:35 J -19876003.95 -19876003.85 -19876003.74 0.2677 0.0848

Moon -59131-06-20 16:18 J -19876003.92 -19876003.82 -19876003.71 0.2677 0.0713 *

Neptune -59131-06-21 01:54 J -19876003.53 -19876003.42 -19876003.31 0.0089 0.0052

Neptune -59131-09-17 03:06 J -19875915.47 -19875915.37 -19875915.24 0.0089 0.0047

Neptune -59131-12-14 04:47 J -19875827.42 -19875827.30 -19875827.18 0.0089 0.0040

Pluto -59130-01-12 22:04 J -19875797.59 -19875797.58 -19875797.53 0.0061 0.0060

Neptune -59130-03-12 06:13 J -19875739.36 -19875739.24 -19875739.11 0.0089 0.0035

Pluto -59130-04-10 23:16 J -19875709.59 -19875709.53 -19875709.44 0.0061 0.0056

Neptune -59130-06-08 07:40 J -19875651.31 -19875651.18 -19875651.05 0.0089 0.0029

Pluto -59130-07-08 00:13 J -19875621.57 -19875621.49 -19875621.38 0.0061 0.0051

Neptune -59130-09-04 09:06 J -19875563.25 -19875563.12 -19875562.99 0.0089 0.0023

Pluto -59130-10-04 01:25 J -19875533.54 -19875533.44 -19875533.31 0.0061 0.0046

Neptune -59130-12-01 10:33 J -19875475.19 -19875475.06 -19875474.93 0.0089 0.0018

Pluto -59130-12-31 02:37 J -19875445.51 -19875445.39 -19875445.25 0.0061 0.0042

Neptune -59129-02-27 11:59 J -19875387.13 -19875387.00 -19875386.87 0.0089 0.0012

Pluto -59129-03-28 03:35 J -19875357.47 -19875357.35 -19875357.19 0.0061 0.0037

Neptune -59129-05-25 13:25 J -19875299.08 -19875298.94 -19875298.81 0.0089 0.0006

Pluto -59129-06-24 04:47 J -19875269.44 -19875269.30 -19875269.14 0.0061 0.0033

Neptune -59129-08-21 14:52 J -19875211.02 -19875210.88 -19875210.75 0.0089 0.0002

Jupiter -59129-08-23 00:28 J -19875209.60 -19875209.48 -19875209.36 0.0530 0.0202

Pluto -59129-09-20 05:59 J -19875181.40 -19875181.25 -19875181.08 0.0062 0.0028

Neptune -59129-11-17 16:18 J -19875122.96 -19875122.82 -19875122.69 0.0089 0.0005

Jupiter -59129-11-20 06:57 J -19875120.30 -19875120.21 -19875120.11 0.0529 0.0345

Pluto -59129-12-17 07:11 J -19875093.36 -19875093.20 -19875093.03 0.0062 0.0023

Neptune -59128-02-13 17:30 J -19875034.90 -19875034.77 -19875034.63 0.0089 0.0011

Pluto -59128-03-15 08:09 J -19875005.31 -19875005.16 -19875004.98 0.0062 0.0019

Neptune -59128-05-12 18:57 J -19874946.84 -19874946.71 -19874946.57 0.0089 0.0016

Pluto -59128-06-11 09:21 J -19874917.27 -19874917.11 -19874916.93 0.0062 0.0014

Neptune -59128-08-08 20:23 J -19874858.78 -19874858.65 -19874858.52 0.0089 0.0022

Pluto -59128-09-07 10:33 J -19874829.23 -19874829.06 -19874828.88 0.0062 0.0009

Neptune -59128-11-04 21:35 J -19874770.72 -19874770.60 -19874770.46 0.0089 0.0028

Pluto -59128-12-04 11:59 J -19874741.18 -19874741.00 -19874740.83 0.0062 0.0004

Mars -59127-01-31 17:01 J -19874682.90 -19874682.79 -19874682.69 0.1876 0.0798

Neptune -59127-01-31 23:16 J -19874682.66 -19874682.53 -19874682.41 0.0089 0.0033

Pluto -59127-03-02 13:11 J -19874653.13 -19874652.95 -19874652.78 0.0062 0.0001

Neptune -59127-04-30 00:28 J -19874594.60 -19874594.48 -19874594.35 0.0089 0.0039

Pluto -59127-05-29 14:23 J -19874565.08 -19874564.90 -19874564.73 0.0062 0.0006

Neptune -59127-07-27 01:40 J -19874506.53 -19874506.43 -19874506.30 0.0089 0.0045

Pluto -59127-08-25 15:21 J -19874477.03 -19874476.86 -19874476.68 0.0062 0.0011

Neptune -59127-10-23 03:06 J -19874418.47 -19874418.37 -19874418.25 0.0089 0.0050

Pluto -59127-11-21 16:33 J -19874388.98 -19874388.81 -19874388.63 0.0062 0.0016

Mars -59127-11-29 15:21 J -19874380.96 -19874380.86 -19874380.76 0.1667 0.1281

Neptune -59126-01-19 04:33 J -19874330.41 -19874330.31 -19874330.20 0.0089 0.0055

Pluto -59126-02-17 17:45 J -19874300.92 -19874300.76 -19874300.59 0.0062 0.0021

Neptune -59126-04-17 05:59 J -19874242.34 -19874242.25 -19874242.15 0.0089 0.0061

Pluto -59126-05-16 18:42 J -19874212.86 -19874212.72 -19874212.54 0.0062 0.0027

Neptune -59126-07-14 07:11 J -19874154.27 -19874154.20 -19874154.10 0.0089 0.0067

Pluto -59126-08-12 19:54 J -19874124.80 -19874124.67 -19874124.50 0.0062 0.0032

Neptune -59126-10-10 08:37 J -19874066.21 -19874066.14 -19874066.05 0.0089 0.0072

Pluto -59126-11-08 21:06 J -19874036.74 -19874036.62 -19874036.46 0.0062 0.0037

Uranus -59126-11-19 04:47 J -19874026.40 -19874026.30 -19874026.17 0.0146 0.0116

Neptune -59125-01-06 09:49 J -19873978.14 -19873978.09 -19873978.01 0.0089 0.0078

Pluto -59125-02-04 22:33 J -19873948.68 -19873948.56 -19873948.42 0.0063 0.0042

Uranus -59125-02-15 13:25 J -19873938.09 -19873937.94 -19873937.77 0.0146 0.0083

Neptune -59125-04-03 11:16 J -19873890.06 -19873890.03 -19873889.97 0.0089 0.0083

Pluto -59125-05-02 23:45 J -19873860.61 -19873860.51 -19873860.38 0.0063 0.0047

Uranus -59125-05-13 22:04 J -19873849.75 -19873849.58 -19873849.39 0.0146 0.0050

Neptune -59125-06-30 12:57 J -19873801.97 -19873801.96 -19873801.95 0.0089 0.0088

Pluto -59125-07-30 00:57 J -19873772.54 -19873772.46 -19873772.34 0.0063 0.0052

Uranus -59125-08-10 06:42 J -19873761.41 -19873761.22 -19873761.02 0.0146 0.0017

Pluto -59125-10-26 02:23 J -19873684.46 -19873684.40 -19873684.32 0.0063 0.0057

Uranus -59125-11-06 15:21 J -19873673.05 -19873672.86 -19873672.66 0.0145 0.0018

Pluto -59124-01-22 03:49 J -19873596.36 -19873596.34 -19873596.32 0.0063 0.0062

Uranus -59124-02-02 23:59 J -19873584.67 -19873584.50 -19873584.31 0.0145 0.0050

Uranus -59124-05-02 08:37 J -19873496.29 -19873496.14 -19873495.97 0.0145 0.0084

Uranus -59124-07-29 17:30 J -19873407.88 -19873407.77 -19873407.65 0.0145 0.0117

Jupiter -59123-10-10 09:49 J -19872970.27 -19872970.09 -19872969.91 0.0496 0.0052

Moon -59122-12-18 17:16 J -19872535.94 -19872535.78 -19872535.63 0.2658 0.0276

Earth -59122-12-18 18:42 J -19872535.88 -19872535.72 -19872535.57 0.2654 0.0300 *

Saturn -59120-08-25 08:52 J -19871920.24 -19871920.13 -19871920.00 0.0267 0.0196

Saturn -59120-11-22 05:01 J -19871831.46 -19871831.29 -19871831.11 0.0266 0.0073

Venus -59120-12-04 08:52 J -19871819.23 -19871819.13 -19871819.03 0.3573 0.2797

Saturn -59119-02-19 01:11 J -19871742.63 -19871742.45 -19871742.27 0.0266 0.0051

Saturn -59119-05-18 21:35 J -19871653.74 -19871653.60 -19871653.46 0.0265 0.0175

Earth -59118-06-23 09:49 J -19871253.20 -19871253.09 -19871252.97 0.2679 0.0196

Moon -59118-06-23 10:33 J -19871253.17 -19871253.06 -19871252.95 0.2675 0.0174 *

Mars -59118-06-24 01:11 J -19871252.57 -19871252.45 -19871252.33 0.1868 0.0111

Mars -59117-04-20 16:33 J -19870950.97 -19870950.81 -19870950.65 0.1674 0.0255

Jupiter -59117-06-11 04:04 J -19870899.42 -19870899.33 -19870899.23 0.0531 0.0345

Jupiter -59117-09-08 10:47 J -19870810.16 -19870810.05 -19870809.93 0.0530 0.0208

Venus -59117-09-10 23:16 J -19870807.53 -19870807.53 -19870807.52 0.3803 0.3791

Venus -59114-06-20 18:13 J -19869794.85 -19869794.74 -19869794.63 0.3571 0.2631

Venus -59111-03-27 15:21 J -19868783.95 -19868783.86 -19868783.78 0.3806 0.1859

Jupiter -59111-07-29 07:11 J -19868660.38 -19868660.20 -19868660.02 0.0495 0.0114

Mars -59109-11-13 09:21 J -19867822.21 -19867822.11 -19867822.01 0.1859 0.1020

Moon -59109-12-20 23:45 J -19867784.61 -19867784.51 -19867784.42 0.2657 0.2054

Earth -59109-12-21 00:28 J -19867784.56 -19867784.48 -19867784.39 0.2652 0.2219 *

Mars -59108-09-10 17:59 J -19867520.90 -19867520.75 -19867520.61 0.1681 0.0766

Venus -59106-10-11 07:11 J -19866760.30 -19866760.20 -19866760.10 0.3808 0.0118

Jupiter -59105-03-30 08:09 J -19866589.21 -19866589.16 -19866589.10 0.0531 0.0480

Moon -59105-06-25 04:04 J -19866502.43 -19866502.33 -19866502.23 0.2674 0.1188

Earth -59105-06-25 04:04 J -19866502.43 -19866502.33 -19866502.23 0.2681 0.1158 *

Jupiter -59105-06-27 15:06 J -19866500.00 -19866499.87 -19866499.74 0.0530 0.0075

Saturn -59104-03-15 02:23 J -19866239.46 -19866239.40 -19866239.33 0.0294 0.0258

Saturn -59104-06-11 15:35 J -19866150.97 -19866150.85 -19866150.74 0.0295 0.0136

Saturn -59104-09-08 04:18 J -19866062.45 -19866062.32 -19866062.18 0.0296 0.0015

Saturn -59104-12-05 17:16 J -19865973.91 -19865973.78 -19865973.66 0.0296 0.0109

Saturn -59103-03-04 05:45 J -19865885.34 -19865885.26 -19865885.17 0.0297 0.0230

Venus -59100-04-25 23:01 J -19864736.63 -19864736.54 -19864736.46 0.3810 0.2034

Jupiter -59099-05-17 04:04 J -19864350.47 -19864350.33 -19864350.17 0.0496 0.0285

Jupiter -59099-08-15 12:57 J -19864260.07 -19864259.96 -19864259.84 0.0496 0.0388

Earth -59098-06-19 02:23 J -19863952.49 -19863952.40 -19863952.32 0.2675 0.1664

Moon -59098-06-19 02:52 J -19863952.47 -19863952.38 -19863952.29 0.2680 0.1565 *

Mars -59097-03-11 08:37 J -19863686.16 -19863686.14 -19863686.11 0.1885 0.1813

Jupiter -59093-04-15 19:11 J -19862189.83 -19862189.70 -19862189.57 0.0530 0.0060

Jupiter -59093-07-14 01:25 J -19862100.48 -19862100.44 -19862100.39 0.0529 0.0484

Moon -59092-06-27 21:49 J -19861751.66 -19861751.59 -19861751.53 0.2678 0.2095

Earth -59092-06-27 22:04 J -19861751.64 -19861751.58 -19861751.51 0.2683 0.2140 *

Saturn -59090-01-12 08:09 J -19861188.24 -19861188.16 -19861188.07 0.0267 0.0234

Saturn -59090-04-11 04:04 J -19861099.49 -19861099.33 -19861099.16 0.0266 0.0112

Saturn -59090-07-09 00:13 J -19861010.67 -19861010.49 -19861010.30 0.0266 0.0012

Saturn -59090-10-05 20:23 J -19860921.80 -19860921.65 -19860921.48 0.0265 0.0136

Saturn -59089-01-02 16:47 J -19860832.82 -19860832.80 -19860832.76 0.0264 0.0260

Moon -59089-12-15 17:45 J -19860484.89 -19860484.76 -19860484.62 0.2655 0.1336

Earth -59089-12-15 19:25 J -19860484.83 -19860484.69 -19860484.56 0.2656 0.1246 *

Mars -59088-08-01 17:01 J -19860255.89 -19860255.79 -19860255.69 0.1877 0.0909

Jupiter -59087-03-05 01:40 J -19860040.50 -19860040.43 -19860040.35 0.0496 0.0448

Mars -59087-05-30 15:49 J -19859953.92 -19859953.84 -19859953.75 0.1667 0.1417

Jupiter -59087-06-03 10:18 J -19859950.23 -19859950.07 -19859949.90 0.0496 0.0220

Earth -59085-06-20 20:37 J -19859201.75 -19859201.64 -19859201.53 0.2677 0.0646

Moon -59085-06-20 21:21 J -19859201.72 -19859201.61 -19859201.50 0.2676 0.0634 *

Uranus -59083-08-23 23:16 J -19858407.57 -19858407.53 -19858407.48 0.0133 0.0124

Uranus -59083-11-20 02:09 J -19858319.48 -19858319.41 -19858319.32 0.0133 0.0107

Uranus -59082-02-16 05:30 J -19858231.37 -19858231.27 -19858231.18 0.0133 0.0089

Uranus -59082-05-15 08:23 J -19858143.26 -19858143.15 -19858143.04 0.0133 0.0072

Uranus -59082-08-11 11:16 J -19858055.15 -19858055.03 -19858054.90 0.0133 0.0055

Uranus -59082-11-07 14:23 J -19857967.03 -19857966.90 -19857966.77 0.0133 0.0037

Jupiter -59081-02-02 22:47 J -19857879.66 -19857879.55 -19857879.43 0.0530 0.0204

Uranus -59081-02-03 17:16 J -19857878.91 -19857878.78 -19857878.64 0.0133 0.0021

Uranus -59081-05-01 20:23 J -19857790.78 -19857790.65 -19857790.52 0.0133 0.0003

Jupiter -59081-05-02 05:16 J -19857790.37 -19857790.28 -19857790.18 0.0529 0.0343

Uranus -59081-07-28 23:16 J -19857702.66 -19857702.53 -19857702.40 0.0133 0.0015

Uranus -59081-10-25 02:09 J -19857614.53 -19857614.41 -19857614.28 0.0133 0.0032

Uranus -59080-01-21 05:16 J -19857526.40 -19857526.28 -19857526.16 0.0133 0.0049

Uranus -59080-04-19 08:09 J -19857438.27 -19857438.16 -19857438.04 0.0133 0.0066

Uranus -59080-07-16 11:16 J -19857350.13 -19857350.03 -19857349.93 0.0133 0.0084

Uranus -59080-10-12 14:09 J -19857261.99 -19857261.91 -19857261.82 0.0133 0.0101

Uranus -59079-01-08 16:47 J -19857173.84 -19857173.80 -19857173.73 0.0134 0.0119

Mars -59079-12-23 01:11 J -19856825.57 -19856825.45 -19856825.33 0.1868 0.0013

Mars -59078-10-20 17:01 J -19856523.95 -19856523.79 -19856523.63 0.1674 0.0394

Moon -59076-12-18 23:30 J -19855733.67 -19855733.52 -19855733.37 0.2658 0.0424

Earth -59076-12-19 00:57 J -19855733.61 -19855733.46 -19855733.31 0.2654 0.0639 *

Jupiter -59075-03-22 07:40 J -19855640.36 -19855640.18 -19855640.00 0.0496 0.0052

Saturn -59075-08-02 04:47 J -19855507.32 -19855507.30 -19855507.27 0.0294 0.0289

Saturn -59075-10-29 17:45 J -19855418.86 -19855418.76 -19855418.64 0.0295 0.0167

Saturn -59074-01-26 06:42 J -19855330.35 -19855330.22 -19855330.09 0.0296 0.0045

Saturn -59074-04-24 19:40 J -19855241.81 -19855241.68 -19855241.55 0.0297 0.0078

Saturn -59074-07-22 08:23 J -19855153.25 -19855153.15 -19855153.05 0.0298 0.0200

Earth -59072-06-23 14:52 J -19854450.99 -19854450.88 -19854450.77 0.2679 0.0359

Moon -59072-06-23 15:21 J -19854450.97 -19854450.86 -19854450.75 0.2675 0.0463 *

Jupiter -59070-11-22 02:37 J -19853569.49 -19853569.39 -19853569.29 0.0530 0.0345

Jupiter -59069-02-19 09:21 J -19853480.23 -19853480.11 -19853480.00 0.0530 0.0206

Mars -59069-05-14 09:21 J -19853395.21 -19853395.11 -19853395.01 0.1859 0.0912

Mars -59068-03-11 18:13 J -19853093.88 -19853093.74 -19853093.59 0.1681 0.0639

Earth -59065-06-16 12:42 J -19851901.01 -19851900.97 -19851900.93 0.2673 0.2481

Moon -59065-06-16 12:57 J -19851901.00 -19851900.96 -19851900.92 0.2680 0.2475 *

Jupiter -59063-01-08 04:47 J -19851330.47 -19851330.30 -19851330.12 0.0495 0.0116

Venus -59063-07-11 11:01 J -19851146.19 -19851146.04 -19851145.88 0.3573 0.0951

Moon -59063-12-22 06:28 J -19850982.25 -19850982.23 -19850982.21 0.2657 0.2616

Earth -59063-12-22 06:57 J -19850982.24 -19850982.21 -19850982.17 0.2651 0.2567 *

Saturn -59061-05-31 09:06 J -19850456.15 -19850456.12 -19850456.08 0.0267 0.0262

Saturn -59061-08-28 05:01 J -19850367.44 -19850367.29 -19850367.13 0.0267 0.0139

Saturn -59061-11-25 01:11 J -19850278.63 -19850278.45 -19850278.26 0.0266 0.0017

Saturn -59060-02-21 21:35 J -19850189.77 -19850189.60 -19850189.43 0.0265 0.0109

Venus -59060-04-17 20:52 J -19850134.69 -19850134.63 -19850134.58 0.3804 0.3099

Saturn -59060-05-21 17:45 J -19850100.84 -19850100.76 -19850100.67 0.0265 0.0233

Mars -59060-10-04 17:30 J -19849964.79 -19849964.77 -19849964.74 0.1850 0.1802

Moon -59059-06-26 08:52 J -19849700.23 -19849700.13 -19849700.03 0.2674 0.1291

Earth -59059-06-26 08:52 J -19849700.22 -19849700.13 -19849700.03 0.2681 0.1348 *

Mars -59059-08-01 19:25 J -19849663.70 -19849663.69 -19849663.67 0.1689 0.1676

Jupiter -59058-09-10 05:59 J -19849259.29 -19849259.25 -19849259.20 0.0531 0.0492

Jupiter -59058-12-08 12:57 J -19849170.09 -19849169.96 -19849169.83 0.0530 0.0064

Venus -59055-11-01 12:42 J -19848111.06 -19848110.97 -19848110.87 0.3806 0.1154

Earth -59052-06-19 07:11 J -19847150.29 -19847150.20 -19847150.11 0.2675 0.1459

Moon -59052-06-19 07:54 J -19847150.27 -19847150.17 -19847150.08 0.2679 0.1435 *

Jupiter -59052-10-27 02:09 J -19847020.55 -19847020.41 -19847020.25 0.0495 0.0282

Jupiter -59051-01-25 11:01 J -19846930.15 -19846930.04 -19846929.93 0.0496 0.0389

Neptune -59050-09-26 05:30 J -19846321.30 -19846321.27 -19846321.20 0.0089 0.0086

Neptune -59050-12-23 08:52 J -19846233.20 -19846233.13 -19846233.03 0.0089 0.0078

Neptune -59049-03-20 12:28 J -19846145.09 -19846144.98 -19846144.86 0.0089 0.0070

Venus -59049-05-17 04:33 J -19846087.41 -19846087.31 -19846087.21 0.3808 0.0786

Neptune -59049-06-16 15:21 J -19846056.97 -19846056.86 -19846056.71 0.0089 0.0063

Neptune -59049-09-12 18:57 J -19845968.85 -19845968.71 -19845968.55 0.0089 0.0055

Neptune -59049-12-09 22:18 J -19845880.72 -19845880.57 -19845880.40 0.0089 0.0047

Mars -59048-01-30 17:01 J -19845828.89 -19845828.79 -19845828.70 0.1876 0.1001

Neptune -59048-03-08 01:54 J -19845792.59 -19845792.42 -19845792.25 0.0089 0.0039

Neptune -59048-06-04 05:01 J -19845704.46 -19845704.29 -19845704.11 0.0089 0.0032

Neptune -59048-08-31 08:23 J -19845616.33 -19845616.15 -19845615.96 0.0089 0.0024

Neptune -59048-11-27 11:45 J -19845528.19 -19845528.01 -19845527.82 0.0089 0.0016

Mars -59048-11-28 16:33 J -19845526.86 -19845526.81 -19845526.75 0.1667 0.1557

Neptune -59047-02-23 15:21 J -19845440.05 -19845439.86 -19845439.68 0.0089 0.0008

Neptune -59047-05-22 18:42 J -19845351.91 -19845351.72 -19845351.53 0.0089 0.0001

Neptune -59047-08-18 22:04 J -19845263.77 -19845263.58 -19845263.39 0.0089 0.0008

Neptune -59047-11-15 01:25 J -19845175.63 -19845175.44 -19845175.25 0.0089 0.0016

Neptune -59046-02-11 04:33 J -19845087.48 -19845087.31 -19845087.12 0.0089 0.0024

Neptune -59046-05-10 07:54 J -19844999.33 -19844999.17 -19844998.98 0.0089 0.0032

Moon -59046-06-29 02:23 J -19844949.45 -19844949.40 -19844949.34 0.2679 0.2291

Earth -59046-06-29 03:06 J -19844949.43 -19844949.37 -19844949.32 0.2683 0.2325 *

Neptune -59046-08-06 11:16 J -19844911.18 -19844911.03 -19844910.84 0.0089 0.0040

Jupiter -59046-09-26 17:01 J -19844859.91 -19844859.79 -19844859.66 0.0531 0.0071

Neptune -59046-11-02 14:37 J -19844823.03 -19844822.89 -19844822.71 0.0089 0.0048

Jupiter -59046-12-24 23:30 J -19844770.58 -19844770.52 -19844770.47 0.0530 0.0475

Neptune -59045-01-29 18:13 J -19844734.88 -19844734.74 -19844734.58 0.0089 0.0056

Saturn -59045-03-17 20:52 J -19844686.73 -19844686.63 -19844686.53 0.0294 0.0193

Neptune -59045-04-26 21:35 J -19844646.72 -19844646.60 -19844646.45 0.0089 0.0064

Saturn -59045-06-14 09:49 J -19844598.22 -19844598.09 -19844597.96 0.0295 0.0071

Neptune -59045-07-24 00:57 J -19844558.55 -19844558.46 -19844558.33 0.0089 0.0072

Saturn -59045-09-10 22:33 J -19844509.69 -19844509.56 -19844509.42 0.0296 0.0052

Neptune -59045-10-20 04:18 J -19844470.38 -19844470.32 -19844470.21 0.0089 0.0080

Saturn -59045-12-08 11:16 J -19844421.13 -19844421.03 -19844420.92 0.0297 0.0173

Neptune -59044-01-16 08:23 J -19844382.18 -19844382.15 -19844382.12 0.0089 0.0087

Saturn -59044-03-06 23:59 J -19844332.51 -19844332.50 -19844332.48 0.0298 0.0294

Venus -59044-11-30 20:23 J -19844063.71 -19844063.65 -19844063.58 0.3810 0.2747

Moon -59043-12-17 00:13 J -19843682.63 -19843682.49 -19843682.35 0.2656 0.1033

Earth -59043-12-17 01:54 J -19843682.57 -19843682.42 -19843682.28 0.2656 0.0903 *

Uranus -59042-09-12 03:06 J -19843413.40 -19843413.37 -19843413.32 0.0146 0.0143

Uranus -59042-12-09 11:45 J -19843325.13 -19843325.01 -19843324.88 0.0146 0.0110

Uranus -59041-03-06 20:23 J -19843236.81 -19843236.65 -19843236.48 0.0146 0.0077

Uranus -59041-06-03 05:01 J -19843148.47 -19843148.29 -19843148.10 0.0146 0.0044

Uranus -59041-08-30 13:40 J -19843060.12 -19843059.93 -19843059.74 0.0146 0.0011

Uranus -59041-11-26 22:18 J -19842971.76 -19842971.57 -19842971.38 0.0145 0.0023

Uranus -59040-02-23 06:42 J -19842883.39 -19842883.22 -19842883.03 0.0145 0.0057

Uranus -59040-05-22 15:21 J -19842795.00 -19842794.86 -19842794.69 0.0145 0.0090

Jupiter -59040-08-14 23:01 J -19842710.61 -19842710.54 -19842710.46 0.0495 0.0453

Uranus -59040-08-19 00:13 J -19842706.59 -19842706.49 -19842706.38 0.0145 0.0122

Jupiter -59040-11-13 07:40 J -19842620.35 -19842620.18 -19842620.02 0.0496 0.0214

Earth -59039-06-22 01:25 J -19842399.55 -19842399.44 -19842399.33 0.2677 0.0456

Moon -59039-06-22 02:09 J -19842399.52 -19842399.41 -19842399.29 0.2676 0.0331 *

Mars -59039-06-23 01:11 J -19842398.57 -19842398.45 -19842398.33 0.1868 0.0097

Pluto -59038-03-08 20:23 J -19842139.66 -19842139.65 -19842139.62 0.0083 0.0083

Mars -59038-04-20 17:45 J -19842096.91 -19842096.76 -19842096.60 0.1674 0.0538

Pluto -59038-06-04 22:04 J -19842051.64 -19842051.58 -19842051.50 0.0083 0.0073

Pluto -59038-08-31 23:45 J -19841963.60 -19841963.51 -19841963.41 0.0083 0.0063

Pluto -59038-11-28 01:11 J -19841875.55 -19841875.45 -19841875.33 0.0083 0.0053

Pluto -59037-02-24 02:52 J -19841787.49 -19841787.38 -19841787.25 0.0083 0.0043

Pluto -59037-05-22 04:33 J -19841699.44 -19841699.31 -19841699.17 0.0083 0.0033

Pluto -59037-08-18 05:59 J -19841611.38 -19841611.25 -19841611.10 0.0083 0.0024

Pluto -59037-11-14 07:54 J -19841523.32 -19841523.17 -19841523.03 0.0083 0.0014

Pluto -59036-02-10 09:21 J -19841435.25 -19841435.11 -19841434.97 0.0082 0.0004

Pluto -59036-05-09 10:47 J -19841347.19 -19841347.05 -19841346.90 0.0082 0.0005

Pluto -59036-08-05 12:28 J -19841259.12 -19841258.98 -19841258.84 0.0082 0.0014

Pluto -59036-11-01 13:40 J -19841171.06 -19841170.93 -19841170.78 0.0082 0.0024

Pluto -59035-01-28 15:06 J -19841082.99 -19841082.87 -19841082.73 0.0082 0.0033

Pluto -59035-04-26 16:47 J -19840994.92 -19840994.80 -19840994.67 0.0082 0.0042

Pluto -59035-07-23 18:13 J -19840906.85 -19840906.74 -19840906.62 0.0082 0.0051

Pluto -59035-10-19 19:40 J -19840818.77 -19840818.68 -19840818.58 0.0082 0.0060

Pluto -59034-01-15 21:06 J -19840730.69 -19840730.62 -19840730.54 0.0081 0.0068

Pluto -59034-04-13 22:18 J -19840642.60 -19840642.57 -19840642.51 0.0081 0.0078

Jupiter -59034-07-15 21:21 J -19840549.73 -19840549.61 -19840549.50 0.0530 0.0206

Jupiter -59034-10-13 03:35 J -19840460.44 -19840460.35 -19840460.25 0.0530 0.0344

Saturn -59031-01-15 04:47 J -19839635.43 -19839635.30 -19839635.16 0.0267 0.0174

Saturn -59031-04-14 00:57 J -19839546.64 -19839546.46 -19839546.28 0.0266 0.0051

Saturn -59031-07-11 21:06 J -19839457.80 -19839457.62 -19839457.44 0.0266 0.0073

Saturn -59031-10-08 17:16 J -19839368.90 -19839368.78 -19839368.65 0.0265 0.0197

Mars -59030-11-13 09:35 J -19838968.21 -19838968.10 -19838968.00 0.1860 0.0805

Moon -59030-12-20 05:59 J -19838931.39 -19838931.25 -19838931.10 0.2657 0.0944

Earth -59030-12-20 07:25 J -19838931.33 -19838931.19 -19838931.04 0.2653 0.0990 *

Mars -59029-09-09 18:57 J -19838666.87 -19838666.71 -19838666.56 0.1681 0.0505

Jupiter -59028-09-01 04:47 J -19838310.48 -19838310.30 -19838310.12 0.0496 0.0045

Earth -59026-06-24 19:40 J -19837648.79 -19837648.68 -19837648.57 0.2680 0.0548

Moon -59026-06-24 20:09 J -19837648.77 -19837648.66 -19837648.55 0.2674 0.0527 *

Jupiter -59022-05-04 00:42 J -19836239.56 -19836239.47 -19836239.37 0.0530 0.0350

Jupiter -59022-08-01 07:25 J -19836150.31 -19836150.19 -19836150.07 0.0530 0.0201

Mars -59020-04-04 17:30 J -19835537.81 -19835537.77 -19835537.72 0.1851 0.1703

Mars -59019-01-30 20:09 J -19835236.72 -19835236.66 -19835236.60 0.1689 0.1537

Earth -59019-06-17 17:45 J -19835098.82 -19835098.76 -19835098.71 0.2673 0.2282

Moon -59019-06-17 17:59 J -19835098.81 -19835098.75 -19835098.69 0.2680 0.2247 *

Jupiter -59016-06-20 02:09 J -19834000.58 -19834000.41 -19834000.23 0.0496 0.0122

Saturn -59016-08-04 23:16 J -19833954.61 -19833954.53 -19833954.44 0.0295 0.0223

Saturn -59016-11-01 12:28 J -19833866.11 -19833865.98 -19833865.86 0.0296 0.0101

Saturn -59015-01-29 01:11 J -19833777.58 -19833777.45 -19833777.32 0.0296 0.0022

Saturn -59015-04-27 13:54 J -19833689.03 -19833688.92 -19833688.80 0.0297 0.0144

Saturn -59015-07-25 02:37 J -19833600.44 -19833600.39 -19833600.33 0.0298 0.0265

Moon -59013-06-26 13:40 J -19832898.02 -19832897.93 -19832897.84 0.2675 0.1577

Earth -59013-06-26 13:54 J -19832898.01 -19832897.92 -19832897.83 0.2682 0.1537 *

Jupiter -59010-02-20 04:18 J -19831929.36 -19831929.32 -19831929.27 0.0531 0.0494

Jupiter -59010-05-20 11:16 J -19831840.16 -19831840.03 -19831839.90 0.0530 0.0062

Moon -59010-12-15 01:40 J -19831631.49 -19831631.43 -19831631.37 0.2654 0.2430

Earth -59010-12-15 02:52 J -19831631.44 -19831631.38 -19831631.32 0.2658 0.2404 *

Mars -59009-07-31 17:01 J -19831401.88 -19831401.79 -19831401.70 0.1877 0.1106

Venus -59006-02-15 13:25 J -19830473.10 -19830472.94 -19830472.78 0.3572 0.0908

Earth -59006-06-20 11:59 J -19830348.09 -19830348.00 -19830347.90 0.2676 0.1267

Moon -59006-06-20 12:42 J -19830348.07 -19830347.97 -19830347.87 0.2678 0.1194 *

Jupiter -59004-04-07 23:45 J -19829690.66 -19829690.51 -19829690.36 0.0495 0.0286

Jupiter -59004-07-07 08:23 J -19829600.26 -19829600.15 -19829600.03 0.0496 0.0385

Venus -59004-11-22 18:13 J -19829461.81 -19829461.74 -19829461.66 0.3804 0.2403

Saturn -59002-06-04 05:59 J -19828903.36 -19828903.25 -19828903.12 0.0267 0.0200

Saturn -59002-09-01 02:09 J -19828814.58 -19828814.41 -19828814.23 0.0266 0.0077

Saturn -59002-11-28 22:18 J -19828725.75 -19828725.57 -19828725.39 0.0266 0.0047

Saturn -59001-02-25 18:28 J -19828636.86 -19828636.73 -19828636.58 0.0265 0.0171

59TH MILLENNIUM BCE

This is a list of transits of Mercury in the 59th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Moon	**-59000-06-29 07:11 J**		**-19828147.24**	**-19828147.20**	**-19828147.15**	**0.2680**	**0.2402**	
Earth	**-59000-06-29 07:54 J**		**-19828147.21**	**-19828147.17**	**-19828147.14**	**0.2684**	**0.2512**	*
Mars	**-59000-12-22 01:11 J**		**-19827971.56**	**-19827971.45**	**-19827971.33**	**0.1868**	**0.0207**	
Uranus	**-58999-09-13 06:13 J**		**-19827706.29**	**-19827706.24**	**-19827706.19**	**0.0133**	**0.0121**	
Mars	**-58999-10-19 18:13 J**		**-19827669.89**	**-19827669.74**	**-19827669.59**	**0.1674**	**0.0661**	
Uranus	**-58999-12-10 09:06 J**		**-19827618.19**	**-19827618.12**	**-19827618.03**	**0.0133**	**0.0104**	
Uranus	**-58998-03-08 12:13 J**		**-19827530.09**	**-19827529.99**	**-19827529.89**	**0.0133**	**0.0086**	
Jupiter	**-58998-03-08 14:52 J**		**-19827530.01**	**-19827529.88**	**-19827529.75**	**0.0531**	**0.0084**	*
Uranus	**-58998-06-04 15:21 J**		**-19827441.97**	**-19827441.86**	**-19827441.75**	**0.0133**	**0.0069**	
Jupiter	**-58998-06-05 21:06 J**		**-19827440.67**	**-19827440.62**	**-19827440.56**	**0.0530**	**0.0463**	
Venus	**-58998-06-08 10:18 J**		**-19827438.17**	**-19827438.07**	**-19827437.98**	**0.3806**	**0.0492**	
Uranus	**-58998-08-31 18:13 J**		**-19827353.86**	**-19827353.74**	**-19827353.62**	**0.0133**	**0.0052**	
Uranus	**-58998-11-27 21:06 J**		**-19827265.74**	**-19827265.62**	**-19827265.49**	**0.0133**	**0.0035**	
Uranus	**-58997-02-24 00:13 J**		**-19827177.62**	**-19827177.49**	**-19827177.36**	**0.0133**	**0.0017**	
Uranus	**-58997-05-22 03:21 J**		**-19827089.50**	**-19827089.36**	**-19827089.23**	**0.0133**	**0.0004**	
Uranus	**-58997-08-18 06:13 J**		**-19827001.37**	**-19827001.24**	**-19827001.11**	**0.0133**	**0.0017**	
Uranus	**-58997-11-14 09:06 J**		**-19826913.24**	**-19826913.12**	**-19826912.99**	**0.0133**	**0.0035**	
Moon	**-58997-12-17 06:28 J**		**-19826880.37**	**-19826880.23**	**-19826880.08**	**0.2657**	**0.0739**	
Earth	**-58997-12-17 08:09 J**		**-19826880.31**	**-19826880.16**	**-19826880.01**	**0.2656**	**0.0560**	*
Uranus	**-58996-02-10 11:59 J**		**-19826825.11**	**-19826825.00**	**-19826824.87**	**0.0133**	**0.0052**	

Uranus -58996-05-09 15:06 J -19826736.98 -19826736.87 -19826736.76 0.0133 0.0069

Uranus -58996-08-05 17:59 J -19826648.84 -19826648.75 -19826648.65 0.0133 0.0087

Uranus -58996-11-01 20:52 J -19826560.70 -19826560.63 -19826560.54 0.0134 0.0104

Uranus -58995-01-28 23:59 J -19826472.55 -19826472.50 -19826472.45 0.0134 0.0121

Earth -58993-06-22 06:28 J -19825597.34 -19825597.23 -19825597.12 0.2678 0.0261

Moon -58993-06-22 07:11 J -19825597.31 -19825597.20 -19825597.09 0.2677 0.0236 *

Venus -58993-12-22 02:09 J -19825414.51 -19825414.41 -19825414.32 0.3809 0.1498

Jupiter -58992-01-24 21:06 J -19825380.69 -19825380.62 -19825380.55 0.0495 0.0451

Jupiter -58992-04-25 05:30 J -19825290.44 -19825290.27 -19825290.11 0.0496 0.0214

Mars -58990-05-14 09:21 J -19824541.22 -19824541.11 -19824541.00 0.1860 0.0713

Mars -58989-03-10 19:40 J -19824239.84 -19824239.68 -19824239.52 0.1681 0.0357

Venus -58987-07-07 17:59 J -19823390.79 -19823390.75 -19823390.71 0.3810 0.3454

Saturn -58987-12-23 02:37 J -19823222.46 -19823222.39 -19823222.32 0.0294 0.0247

Jupiter -58987-12-25 18:57 J -19823219.83 -19823219.71 -19823219.60 0.0531 0.0219

Saturn -58986-03-21 15:35 J -19823133.97 -19823133.85 -19823133.73 0.0295 0.0125

Jupiter -58986-03-25 01:25 J -19823130.54 -19823130.44 -19823130.34 0.0530 0.0330

Saturn -58986-06-18 04:33 J -19823045.45 -19823045.31 -19823045.18 0.0296 0.0008

Saturn -58986-09-14 17:16 J -19822956.90 -19822956.78 -19822956.66 0.0296 0.0118

Saturn -58986-12-12 05:59 J -19822868.33 -19822868.25 -19822868.18 0.0297 0.0239

Moon -58984-12-20 12:42 J -19822129.10 -19822128.97 -19822128.83 0.2657 0.1181

Earth -58984-12-20 13:54 J -19822129.05 -19822128.92 -19822128.78 0.2653 0.1339 *

Mars -58981-10-03 17:45 J -19821110.82 -19821110.76 -19821110.70 0.1851 0.1592

Jupiter -58980-02-11 01:54 J -19820980.61 -19820980.42 -19820980.24 0.0496 0.0036

Earth -58980-06-25 00:28 J -19820846.58 -19820846.48 -19820846.37 0.2680 0.0748

Moon -58980-06-25 00:57 J -19820846.57 -19820846.46 -19820846.36 0.2673 0.0829 *

Mars -58980-07-31 20:37 J -19820809.72 -19820809.64 -19820809.55 0.1688 0.1403

Jupiter -58975-10-13 23:01 J -19818909.64 -19818909.54 -19818909.45 0.0531 0.0354

Jupiter -58974-01-11 05:45 J -19818820.38 -19818820.26 -19818820.14 0.0530 0.0198

Earth -58973-06-17 22:33 J -19818296.63 -19818296.56 -19818296.49 0.2674 0.2083

Moon -58973-06-17 23:01 J -19818296.61 -19818296.54 -19818296.48 0.2680 0.2093 *

Saturn -58973-10-21 06:28 J -19818171.32 -19818171.23 -19818171.14 0.0267 0.0231

Saturn -58972-01-18 02:23 J -19818082.57 -19818082.40 -19818082.23 0.0266 0.0109

Saturn -58972-04-16 22:18 J -19817993.75 -19817993.57 -19817993.38 0.0266 0.0016

Saturn -58972-07-14 18:28 J -19817904.88 -19817904.73 -19817904.56 0.0265 0.0138

Saturn -58972-10-11 14:52 J -19817815.90 -19817815.88 -19817815.85 0.0265 0.0262

Mars -58969-01-30 17:01 J -19816974.88 -19816974.79 -19816974.70 0.1877 0.1215

Jupiter -58969-11-29 23:01 J -19816670.71 -19816670.54 -19816670.36 0.0496 0.0133

Neptune -58968-10-05 16:47 J -19816360.83 -19816360.80 -19816360.74 0.0089 0.0084

Neptune -58967-01-01 18:28 J -19816272.79 -19816272.73 -19816272.66 0.0089 0.0078

Neptune -58967-03-30 19:54 J -19816184.74 -19816184.67 -19816184.58 0.0089 0.0072

Neptune -58967-06-26 21:35 J -19816096.69 -19816096.60 -19816096.51 0.0089 0.0066

Moon -58967-06-27 18:28 J -19816095.82 -19816095.73 -19816095.64 0.2676 0.1642

Earth -58967-06-27 18:42 J -19816095.80 -19816095.72 -19816095.64 0.2682 0.1725 *

Neptune -58967-09-22 22:47 J -19816008.64 -19816008.55 -19816008.44 0.0089 0.0060

Neptune -58967-12-20 00:13 J -19815920.59 -19815920.49 -19815920.37 0.0089 0.0055

Neptune -58966-03-18 01:54 J -19815832.53 -19815832.42 -19815832.31 0.0089 0.0049

Neptune -58966-06-14 03:21 J -19815744.48 -19815744.36 -19815744.24 0.0089 0.0043

Neptune -58966-09-10 04:33 J -19815656.42 -19815656.31 -19815656.18 0.0089 0.0038

Neptune -58966-12-07 06:13 J -19815568.37 -19815568.24 -19815568.11 0.0089 0.0032

Neptune -58965-03-04 07:40 J -19815480.31 -19815480.18 -19815480.05 0.0089 0.0026

Neptune -58965-05-31 09:06 J -19815392.25 -19815392.12 -19815391.99 0.0089 0.0020

Neptune -58965-08-27 10:33 J -19815304.20 -19815304.06 -19815303.93 0.0089 0.0015

Neptune -58965-11-23 11:45 J -19815216.14 -19815216.01 -19815215.87 0.0089 0.0010

Neptune -58964-02-19 13:25 J -19815128.08 -19815127.94 -19815127.81 0.0089 0.0004

Neptune -58964-05-18 14:52 J -19815040.02 -19815039.88 -19815039.75 0.0089 0.0004

Neptune -58964-08-14 16:04 J -19814951.96 -19814951.83 -19814951.69 0.0089 0.0008

Neptune -58964-11-10 17:30 J -19814863.90 -19814863.77 -19814863.63 0.0089 0.0014

Moon -58964-12-15 07:54 J -19814829.25 -19814829.17 -19814829.09 0.2655 0.2264

Earth -58964-12-15 09:06 J -19814829.21 -19814829.12 -19814829.02 0.2658 0.2067 *

Neptune -58963-02-06 18:57 J -19814775.84 -19814775.71 -19814775.58 0.0089 0.0019

Neptune -58963-05-05 20:23 J -19814687.78 -19814687.65 -19814687.52 0.0089 0.0025

Neptune -58963-08-01 21:35 J -19814599.72 -19814599.60 -19814599.47 0.0089 0.0031

Jupiter -58963-08-02 02:23 J -19814599.43 -19814599.40 -19814599.35 0.0531 0.0500

Neptune -58963-10-28 23:01 J -19814511.66 -19814511.54 -19814511.41 0.0089 0.0036

Jupiter -58963-10-30 09:21 J -19814510.23 -19814510.11 -19814509.98 0.0530 0.0058

Neptune -58962-01-25 00:28 J -19814423.59 -19814423.48 -19814423.36 0.0089 0.0042

Neptune -58962-04-23 01:40 J -19814335.53 -19814335.43 -19814335.31 0.0089 0.0048

Neptune -58962-07-20 03:06 J -19814247.47 -19814247.37 -19814247.25 0.0089 0.0053

Neptune -58962-10-16 04:33 J -19814159.40 -19814159.31 -19814159.20 0.0089 0.0059

Neptune -58961-01-12 05:59 J -19814071.34 -19814071.25 -19814071.15 0.0089 0.0064

Neptune -58961-04-09 07:11 J -19813983.27 -19813983.20 -19813983.11 0.0089 0.0070

Neptune -58961-07-06 08:37 J -19813895.20 -19813895.14 -19813895.06 0.0089 0.0075

Neptune -58961-10-02 09:49 J -19813807.13 -19813807.09 -19813807.02 0.0089 0.0081

Neptune -58961-12-29 11:30 J -19813719.05 -19813719.02 -19813718.99 0.0089 0.0086

Earth -58960-06-20 17:01 J -19813545.89 -19813545.79 -19813545.69 0.2676 0.1066

Moon -58960-06-20 17:45 J -19813545.86 -19813545.76 -19813545.65 0.2678 0.0978 *

Mars -58960-06-22 01:11 J -19813544.56 -19813544.45 -19813544.33 0.1868 0.0303

Mars -58959-04-19 18:57 J -19813242.85 -19813242.71 -19813242.57 0.1674 0.0802

Uranus -58958-10-02 10:47 J -19812712.11 -19812712.05 -19812711.96 0.0146 0.0134

Uranus -58958-12-29 19:25 J -19812623.82 -19812623.69 -19812623.54 0.0146 0.0101

Uranus -58957-03-27 04:04 J -19812535.49 -19812535.33 -19812535.15 0.0146 0.0068

Saturn -58957-05-11 05:01 J -19812490.33 -19812490.29 -19812490.24 0.0294 0.0277

Uranus -58957-06-23 12:42 J -19812447.15 -19812446.97 -19812446.78 0.0146 0.0035

Saturn -58957-08-07 17:59 J -19812401.86 -19812401.75 -19812401.63 0.0295 0.0155

Jupiter -58957-09-17 20:37 J -19812360.78 -19812360.64 -19812360.49 0.0496 0.0297

Uranus -58957-09-19 21:35 J -19812358.80 -19812358.60 -19812358.41 0.0145 0.0003

Saturn -58957-11-04 06:57 J -19812313.34 -19812313.21 -19812313.08 0.0296 0.0033

Uranus -58957-12-17 05:59 J -19812270.43 -19812270.25 -19812270.06 0.0145 0.0032

Jupiter -58957-12-17 05:30 J -19812270.39 -19812270.27 -19812270.15 0.0496 0.0376 *

Saturn -58956-01-31 19:54 J -19812224.80 -19812224.67 -19812224.55 0.0297 0.0090

Uranus -58956-03-15 14:37 J -19812182.06 -19812181.89 -19812181.71 0.0145 0.0065

Saturn -58956-04-30 08:23 J -19812136.23 -19812136.15 -19812136.05 0.0298 0.0212

Uranus -58956-06-11 23:16 J -19812093.66 -19812093.53 -19812093.38 0.0145 0.0098

Uranus -58956-09-08 07:54 J -19812005.24 -19812005.17 -19812005.08 0.0145 0.0132

Venus -58955-03-08 06:13 J -19811824.34 -19811824.24 -19811824.13 0.3574 0.2692

Moon -58954-06-30 11:59 J -19811345.00 -19811345.00 -19811345.00 0.2680 0.2678

Venus -58953-12-13 23:59 J -19810812.53 -19810812.50 -19810812.48 0.3802 0.3645

Jupiter -58951-08-18 13:11 J -19810200.08 -19810199.95 -19810199.82 0.0530 0.0086

Mars -58951-11-12 09:21 J -19810114.22 -19810114.11 -19810113.99 0.1860 0.0604

Jupiter -58951-11-15 19:25 J -19810110.75 -19810110.69 -19810110.62 0.0529 0.0459

Moon -58951-12-18 12:57 J -19810078.11 -19810077.96 -19810077.81 0.2657 0.0311

Earth -58951-12-18 14:37 J -19810078.04 -19810077.89 -19810077.74 0.2655 0.0216 *

Mars -58950-09-09 20:09 J -19809812.82 -19809812.66 -19809812.50 0.1681 0.0237

Venus -58950-09-22 15:35 J -19809799.95 -19809799.85 -19809799.75 0.3571 0.2766

Earth -58947-06-23 11:16 J -19808795.14 -19808795.03 -19808794.92 0.2678 0.0063

Moon -58947-06-23 11:59 J -19808795.12 -19808795.00 -19808794.89 0.2675 0.0070 *

Venus -58947-06-29 15:49 J -19808788.93 -19808788.84 -19808788.75 0.3805 0.1697

Jupiter -58945-07-06 18:13 J -19808050.80 -19808050.74 -19808050.67 0.0495 0.0458

Jupiter -58945-10-05 02:37 J -19807960.55 -19807960.39 -19807960.22 0.0496 0.0208

Saturn -58943-03-10 07:54 J -19807439.22 -19807439.17 -19807439.12 0.0267 0.0257

Saturn -58943-06-07 03:35 J -19807350.50 -19807350.35 -19807350.19 0.0267 0.0135

Saturn -58943-09-03 23:45 J -19807261.69 -19807261.51 -19807261.32 0.0266 0.0011

Saturn -58943-12-01 19:54 J -19807172.83 -19807172.67 -19807172.50 0.0265 0.0113

Saturn -58942-02-28 16:04 J -19807083.90 -19807083.83 -19807083.74 0.0265 0.0237

Venus -58941-01-13 07:40 J -19806765.28 -19806765.18 -19806765.08 0.3807 0.0243

Mars -58941-04-03 17:30 J -19806683.83 -19806683.77 -19806683.70 0.1851 0.1496

Mars -58940-01-29 21:21 J -19806382.72 -19806382.61 -19806382.51 0.1689 0.1268

Jupiter -58939-06-06 16:33 J -19805889.92 -19805889.81 -19805889.70 0.0531 0.0234

Jupiter -58939-09-03 23:01 J -19805800.64 -19805800.54 -19805800.43 0.0530 0.0317

Moon -58938-12-21 19:25 J -19805326.81 -19805326.69 -19805326.57 0.2658 0.1618

Earth -58938-12-21 20:23 J -19805326.77 -19805326.65 -19805326.53 0.2653 0.1685 *

Venus -58936-07-28 23:30 J -19804741.60 -19804741.52 -19804741.44 0.3809 0.2207

Earth -58934-06-26 05:30 J -19804044.38 -19804044.27 -19804044.17 0.2680 0.0935

Moon -58934-06-26 05:45 J -19804044.37 -19804044.26 -19804044.15 0.2673 0.0902 *

Jupiter -58933-07-23 23:45 J -19803650.69 -19803650.51 -19803650.32 0.0496 0.0039

Mars -58930-07-31 17:01 J -19802547.87 -19802547.79 -19802547.71 0.1877 0.1307

Saturn -58928-12-25 21:21 J -19801669.71 -19801669.61 -19801669.50 0.0294 0.0178

Saturn -58927-03-24 10:18 J -19801581.20 -19801581.07 -19801580.94 0.0295 0.0057

Jupiter -58927-03-25 20:37 J -19801579.73 -19801579.64 -19801579.55 0.0531 0.0370

Earth -58927-06-19 03:35 J -19801494.43 -19801494.35 -19801494.27 0.2674 0.1886

Moon -58927-06-19 04:04 J -19801494.42 -19801494.33 -19801494.25 0.2679 0.1798 *

Saturn -58927-06-20 23:16 J -19801492.66 -19801492.53 -19801492.40 0.0296 0.0065

Jupiter -58927-06-23 03:21 J -19801490.48 -19801490.36 -19801490.24 0.0530 0.0184

Saturn -58927-09-17 11:59 J -19801404.10 -19801404.00 -19801403.90 0.0297 0.0187

Jupiter -58921-05-11 20:09 J -19799340.84 -19799340.66 -19799340.48 0.0496 0.0142

Moon -58921-06-27 23:16 J -19799293.61 -19799293.53 -19799293.46 0.2677 0.1930

Earth -58921-06-27 23:30 J -19799293.59 -19799293.52 -19799293.44 0.2682 0.1915 *

Mars -58921-12-21 01:11 J -19799117.56 -19799117.45 -19799117.33 0.1869 0.0404

Mars -58920-10-18 19:40 J -19798815.82 -19798815.68 -19798815.55 0.1673 0.0941

Moon -58918-12-16 14:09 J -19798027.02 -19798026.91 -19798026.80 0.2656 0.1750

Earth -58918-12-16 15:35 J -19798026.96 -19798026.85 -19798026.73 0.2657 0.1724 *

Jupiter -58915-01-12 00:42 J -19797269.51 -19797269.47 -19797269.43 0.0531 0.0505

Jupiter -58915-04-11 07:40 J -19797180.31 -19797180.18 -19797180.05 0.0530 0.0052

Uranus -58915-10-03 13:11 J -19797005.00 -19797004.95 -19797004.89 0.0133 0.0117

Uranus -58915-12-30 16:18 J -19796916.91 -19796916.82 -19796916.73 0.0133 0.0100

Uranus -58914-03-28 19:11 J -19796828.80 -19796828.70 -19796828.59 0.0133 0.0083

Earth -58914-06-21 21:49 J -19796743.69 -19796743.59 -19796743.48 0.2676 0.0875

Moon -58914-06-21 22:47 J -19796743.66 -19796743.55 -19796743.45 0.2678 0.0826 *

Uranus -58914-06-24 22:18 J -19796740.68 -19796740.57 -19796740.45 0.0133 0.0066

Uranus -58914-09-21 01:25 J -19796652.57 -19796652.44 -19796652.32 0.0133 0.0048

Saturn -58914-10-25 04:18 J -19796618.46 -19796618.32 -19796618.18 0.0267 0.0164

Uranus -58914-12-18 04:18 J -19796564.45 -19796564.32 -19796564.19 0.0133 0.0031

Saturn -58913-01-22 00:13 J -19796529.67 -19796529.49 -19796529.31 0.0266 0.0041

Uranus -58913-03-15 07:11 J -19796476.33 -19796476.20 -19796476.06 0.0133 0.0014

Saturn -58913-04-19 20:23 J -19796440.83 -19796440.65 -19796440.47 0.0265 0.0082

Uranus -58913-06-11 10:18 J -19796388.20 -19796388.07 -19796387.94 0.0133 0.0004

Saturn -58913-07-17 16:33 J -19796351.92 -19796351.81 -19796351.69 0.0265 0.0205

Uranus -58913-09-07 13:11 J -19796300.08 -19796299.95 -19796299.82 0.0133 0.0021

Uranus -58913-12-04 16:04 J -19796211.95 -19796211.83 -19796211.70 0.0133 0.0039

Uranus -58912-03-02 19:11 J -19796123.82 -19796123.70 -19796123.58 0.0133 0.0055

Uranus -58912-05-29 22:04 J -19796035.69 -19796035.58 -19796035.47 0.0133 0.0073

Uranus -58912-08-26 00:57 J -19795947.55 -19795947.46 -19795947.36 0.0134 0.0090

Uranus -58912-11-22 03:49 J -19795859.41 -19795859.34 -19795859.25 0.0134 0.0108

Uranus -58911-02-18 06:57 J -19795771.25 -19795771.21 -19795771.16 0.0134 0.0125

Mars -58911-05-13 09:35 J -19795687.22 -19795687.10 -19795686.99 0.1860 0.0498

Mars -58910-03-10 20:37 J -19795385.80 -19795385.64 -19795385.48 0.1681 0.0098

Jupiter -58909-02-28 17:30 J -19795030.91 -19795030.77 -19795030.63 0.0496 0.0308

Jupiter -58909-05-29 02:09 J -19794940.53 -19794940.41 -19794940.28 0.0496 0.0364

Moon -58905-12-18 19:25 J -19793275.84 -19793275.69 -19793275.53 0.2656 0.0103

Earth -58905-12-18 21:06 J -19793275.77 -19793275.62 -19793275.47 0.2655 0.0131 *

Jupiter -58903-01-28 11:16 J -19792870.15 -19792870.03 -19792869.90 0.0530 0.0092

Jupiter -58903-04-27 17:45 J -19792780.82 -19792780.76 -19792780.70 0.0529 0.0454

Mars -58902-10-03 17:45 J -19792256.84 -19792256.76 -19792256.69 0.1851 0.1389

Earth -58901-06-23 16:04 J -19791992.94 -19791992.83 -19791992.71 0.2678 0.0169

Moon -58901-06-23 16:47 J -19791992.91 -19791992.80 -19791992.69 0.2674 0.0191 *

Mars -58901-07-30 21:49 J -19791955.71 -19791955.59 -19791955.47 0.1688 0.1132

Venus -58899-10-13 08:23 J -19791151.30 -19791151.15 -19791150.99 0.3573 0.0857

Saturn -58898-05-14 23:30 J -19790937.61 -19790937.52 -19790937.42 0.0295 0.0211

Saturn -58898-08-11 12:42 J -19790849.10 -19790848.97 -19790848.85 0.0296 0.0089

Saturn -58898-11-08 01:25 J -19790760.57 -19790760.44 -19790760.31 0.0297 0.0034

Jupiter -58898-12-17 15:06 J -19790720.92 -19790720.87 -19790720.81 0.0496 0.0471

Saturn -58897-02-04 14:09 J -19790672.02 -19790671.91 -19790671.79 0.0297 0.0156

Jupiter -58897-03-16 23:30 J -19790630.69 -19790630.52 -19790630.35 0.0496 0.0196

Saturn -58897-05-03 02:52 J -19790583.42 -19790583.38 -19790583.33 0.0298 0.0277

Venus -58896-07-20 21:21 J -19790139.67 -19790139.61 -19790139.54 0.3803 0.2942

Moon -58894-06-17 13:54 J -19789442.93 -19789442.92 -19789442.91 0.2679 0.2659

Jupiter -58892-11-16 15:06 J -19788559.99 -19788559.87 -19788559.76 0.0530 0.0234

Moon -58892-12-22 02:09 J -19788524.51 -19788524.41 -19788524.31 0.2659 0.1995

Earth -58892-12-22 02:52 J -19788524.47 -19788524.38 -19788524.28 0.2653 0.2034 *

Jupiter -58891-02-13 21:35 J -19788470.70 -19788470.60 -19788470.50 0.0529 0.0315

Mars -58890-01-29 17:01 J -19788120.87 -19788120.79 -19788120.72 0.1877 0.1410

Venus -58890-02-03 13:25 J -19788116.04 -19788115.94 -19788115.85 0.3805 0.1009

Earth -58888-06-26 10:18 J -19787242.17 -19787242.07 -19787241.97 0.2680 0.1123

Moon -58888-06-26 10:33 J -19787242.16 -19787242.06 -19787241.96 0.2674 0.1178 *

Jupiter -58885-01-03 21:06 J -19786320.80 -19786320.62 -19786320.44 0.0496 0.0031

Neptune -58885-06-22 04:33 J -19786150.36 -19786150.31 -19786150.22 0.0089 0.0082

Venus -58885-08-19 05:16 J -19786092.38 -19786092.28 -19786092.19 0.3808 0.0965

Neptune -58885-09-18 08:09 J -19786062.25 -19786062.16 -19786062.05 0.0089 0.0074

Neptune -58885-12-15 11:30 J -19785974.14 -19785974.02 -19785973.89 0.0089 0.0066

Saturn -58884-03-13 05:16 J -19785886.40 -19785886.28 -19785886.14 0.0267 0.0191

Neptune -58884-03-13 14:37 J -19785886.02 -19785885.89 -19785885.74 0.0089 0.0059

Neptune -58884-06-09 17:59 J -19785797.89 -19785797.75 -19785797.59 0.0089 0.0051

Saturn -58884-06-10 01:25 J -19785797.62 -19785797.44 -19785797.26 0.0266 0.0068 *

Neptune -58884-09-05 21:21 J -19785709.76 -19785709.61 -19785709.44 0.0089 0.0043

Saturn -58884-09-06 21:21 J -19785708.78 -19785708.61 -19785708.42 0.0265 0.0056

Neptune -58884-12-03 00:57 J -19785621.63 -19785621.46 -19785621.29 0.0089 0.0035

Saturn -58884-12-04 17:30 J -19785619.90 -19785619.77 -19785619.62 0.0265 0.0179

Neptune -58883-03-01 04:04 J -19785533.50 -19785533.33 -19785533.14 0.0089 0.0028

Pluto -58883-05-20 08:23 J -19785453.15 -19785453.15 -19785453.12 0.0061 0.0061

Neptune -58883-05-28 07:25 J -19785445.37 -19785445.19 -19785445.00 0.0089 0.0020

Pluto -58883-08-16 09:35 J -19785365.16 -19785365.10 -19785365.03 0.0061 0.0056

Neptune -58883-08-24 11:01 J -19785357.23 -19785357.04 -19785356.85 0.0089 0.0012

Pluto -58883-11-12 10:18 J -19785277.14 -19785277.07 -19785276.95 0.0061 0.0052

Neptune -58883-11-20 14:23 J -19785269.09 -19785268.90 -19785268.71 0.0089 0.0004

Pluto -58882-02-08 11:45 J -19785189.11 -19785189.01 -19785188.89 0.0061 0.0047

Neptune -58882-02-16 17:45 J -19785180.95 -19785180.76 -19785180.57 0.0089 0.0004

Pluto -58882-05-07 12:57 J -19785101.08 -19785100.96 -19785100.83 0.0061 0.0043

Neptune -58882-05-15 21:06 J -19785092.81 -19785092.62 -19785092.43 0.0089 0.0012

Pluto -58882-08-03 13:40 J -19785013.04 -19785012.93 -19785012.77 0.0061 0.0039

Neptune -58882-08-12 00:28 J -19785004.66 -19785004.48 -19785004.29 0.0089 0.0020

Pluto -58882-10-30 15:06 J -19784925.01 -19784924.87 -19784924.71 0.0061 0.0034

Neptune -58882-11-08 03:49 J -19784916.51 -19784916.34 -19784916.15 0.0089 0.0028

Pluto -58881-01-26 16:18 J -19784836.97 -19784836.82 -19784836.66 0.0061 0.0029

Neptune -58881-02-04 07:11 J -19784828.37 -19784828.20 -19784828.02 0.0089 0.0036

Pluto -58881-04-23 17:16 J -19784748.93 -19784748.78 -19784748.61 0.0062 0.0024

Neptune -58881-05-02 10:33 J -19784740.21 -19784740.06 -19784739.88 0.0089 0.0044

Earth -58881-06-19 08:23 J -19784692.23 -19784692.15 -19784692.06 0.2674 0.1686

Moon -58881-06-19 09:06 J -19784692.21 -19784692.12 -19784692.04 0.2679 0.1696 *

Mars -58881-06-21 01:11 J -19784690.56 -19784690.45 -19784690.33 0.1868 0.0513

Pluto -58881-07-20 18:28 J -19784660.89 -19784660.73 -19784660.55 0.0062 0.0020

Neptune -58881-07-29 13:54 J -19784652.06 -19784651.92 -19784651.75 0.0089 0.0052

Pluto -58881-10-16 19:40 J -19784572.84 -19784572.68 -19784572.50 0.0062 0.0015

Neptune -58881-10-25 17:16 J -19784563.90 -19784563.78 -19784563.62 0.0089 0.0060

Pluto -58880-01-12 20:52 J -19784484.80 -19784484.63 -19784484.45 0.0062 0.0010

Neptune -58880-01-21 20:52 J -19784475.74 -19784475.63 -19784475.50 0.0089 0.0068

Pluto -58880-04-10 22:04 J -19784396.75 -19784396.58 -19784396.40 0.0062 0.0005

Mars -58880-04-18 20:09 J -19784388.79 -19784388.66 -19784388.54 0.1673 0.1072

Neptune -58880-04-20 00:13 J -19784387.57 -19784387.49 -19784387.38 0.0089 0.0076

Pluto -58880-07-07 23:16 J -19784308.70 -19784308.53 -19784308.35 0.0062 0.0001

Neptune -58880-07-17 03:35 J -19784299.39 -19784299.35 -19784299.27 0.0089 0.0084

Jupiter -58880-09-04 18:13 J -19784249.82 -19784249.74 -19784249.65 0.0531 0.0384

Pluto -58880-10-04 00:28 J -19784220.66 -19784220.48 -19784220.30 0.0062 0.0005

Jupiter -58880-12-03 01:11 J -19784160.57 -19784160.45 -19784160.33 0.0530 0.0172

Pluto -58880-12-31 01:25 J -19784132.60 -19784132.44 -19784132.26 0.0062 0.0010

Venus -58879-03-04 21:06 J -19784068.68 -19784068.62 -19784068.56 0.3810 0.2919

Pluto -58879-03-29 02:37 J -19784044.55 -19784044.39 -19784044.21 0.0062 0.0015

Pluto -58879-06-25 04:04 J -19783956.50 -19783956.33 -19783956.16 0.0062 0.0020

Pluto -58879-09-21 05:16 J -19783868.44 -19783868.28 -19783868.12 0.0062 0.0025

Pluto -58879-12-18 06:28 J -19783780.39 -19783780.23 -19783780.07 0.0062 0.0030

Pluto -58878-03-16 07:40 J -19783692.33 -19783692.18 -19783692.03 0.0062 0.0035

Pluto -58878-06-12 08:52 J -19783604.26 -19783604.13 -19783603.99 0.0063 0.0040

Pluto -58878-09-08 09:35 J -19783516.20 -19783516.10 -19783515.95 0.0063 0.0046

Pluto -58878-12-05 10:47 J -19783428.13 -19783428.05 -19783427.92 0.0063 0.0051

Pluto -58877-03-02 12:13 J -19783340.05 -19783339.99 -19783339.89 0.0063 0.0056

Pluto -58877-05-29 13:25 J -19783251.96 -19783251.94 -19783251.88 0.0063 0.0061

Moon -58875-06-29 04:04 J -19782491.41 -19782491.33 -19782491.26 0.2677 0.1996

Earth -58875-06-29 04:33 J -19782491.38 -19782491.31 -19782491.25 0.2683 0.2104 *

Jupiter -58874-10-22 18:13 J -19782010.91 -19782010.74 -19782010.56 0.0495 0.0138

Uranus -58874-10-22 18:42 J -19782010.80 -19782010.72 -19782010.61 0.0146 0.0124 *

Uranus -58873-01-19 03:21 J -19781922.50 -19781922.36 -19781922.20 0.0146 0.0091

Uranus -58873-04-16 11:59 J -19781834.17 -19781834.00 -19781833.82 0.0146 0.0058

Uranus -58873-07-13 20:52 J -19781745.82 -19781745.63 -19781745.44 0.0146 0.0025

Uranus -58873-10-10 05:16 J -19781657.47 -19781657.28 -19781657.08 0.0145 0.0009

Uranus -58872-01-06 13:54 J -19781569.10 -19781568.92 -19781568.73 0.0145 0.0042

Uranus -58872-04-04 22:18 J -19781480.72 -19781480.57 -19781480.39 0.0145 0.0076

Uranus -58872-07-02 07:11 J -19781392.32 -19781392.20 -19781392.06 0.0145 0.0108

Uranus -58872-09-28 15:49 J -19781303.87 -19781303.84 -19781303.79 0.0145 0.0141

Mars -58872-11-11 09:21 J -19781260.22 -19781260.11 -19781259.99 0.1860 0.0403

Moon -58872-12-16 20:23 J -19781224.77 -19781224.65 -19781224.53 0.2656 0.1626

Earth -58872-12-16 22:04 J -19781224.71 -19781224.58 -19781224.45 0.2657 0.1382 *

Mars -58871-09-08 21:21 J -19780958.77 -19780958.61 -19780958.44 0.1681 0.0058

Saturn -58869-10-01 02:52 J -19780205.46 -19780205.38 -19780205.30 0.0294 0.0235

Saturn -58869-12-28 15:49 J -19780116.96 -19780116.84 -19780116.72 0.0295 0.0113

Saturn -58868-03-27 04:47 J -19780028.44 -19780028.30 -19780028.17 0.0296 0.0010

Earth -58868-06-22 02:52 J -19779941.49 -19779941.38 -19779941.27 0.2677 0.0679

Moon -58868-06-22 03:35 J -19779941.46 -19779941.35 -19779941.24 0.2678 0.0570 *

Saturn -58868-06-23 17:30 J -19779939.89 -19779939.77 -19779939.65 0.0297 0.0130

Jupiter -58868-06-23 22:18 J -19779939.59 -19779939.57 -19779939.55 0.0531 0.0521

Saturn -58868-09-20 06:13 J -19779851.31 -19779851.24 -19779851.17 0.0297 0.0252

Jupiter -58868-09-21 05:16 J -19779850.41 -19779850.28 -19779850.15 0.0530 0.0037

Mars -58862-04-03 17:45 J -19777829.84 -19777829.76 -19777829.68 0.1851 0.1284

Jupiter -58862-08-10 14:37 J -19777701.03 -19777700.89 -19777700.75 0.0495 0.0317

Jupiter -58862-11-08 23:16 J -19777610.66 -19777610.53 -19777610.40 0.0496 0.0354

Mars -58861-01-29 22:33 J -19777528.69 -19777528.56 -19777528.43 0.1688 0.0999

Moon -58859-12-20 02:09 J -19776473.56 -19776473.41 -19776473.26 0.2657 0.0442

Earth -58859-12-20 03:35 J -19776473.50 -19776473.35 -19776473.20 0.2655 0.0481 *

Jupiter -58856-07-10 09:35 J -19775540.23 -19775540.10 -19775539.97 0.0530 0.0095

Jupiter -58856-10-07 16:04 J -19775450.90 -19775450.83 -19775450.77 0.0529 0.0452

Earth -58855-06-24 21:06 J -19775190.73 -19775190.62 -19775190.51 0.2679 0.0329

Moon -58855-06-24 21:35 J -19775190.71 -19775190.60 -19775190.49 0.2673 0.0360 *

Saturn -58855-07-31 06:13 J -19775154.34 -19775154.24 -19775154.13 0.0267 0.0218

Saturn -58855-10-28 02:09 J -19775065.58 -19775065.41 -19775065.24 0.0266 0.0096

Saturn -58854-01-24 22:04 J -19774976.76 -19774976.58 -19774976.39 0.0266 0.0027

Saturn -58854-04-23 18:13 J -19774887.89 -19774887.74 -19774887.58 0.0265 0.0150

Mars -58851-07-30 17:01 J -19773693.85 -19773693.79 -19773693.72 0.1877 0.1523

Jupiter -58850-05-29 11:59 J -19773391.03 -19773391.00 -19773390.95 0.0495 0.0482

Jupiter -58850-08-27 20:23 J -19773300.82 -19773300.65 -19773300.48 0.0496 0.0185

Earth -58848-06-17 18:57 J -19772640.75 -19772640.71 -19772640.68 0.2673 0.2509

Moon -58848-06-17 18:57 J -19772640.74 -19772640.71 -19772640.68 0.2679 0.2568 *

Moon -58846-12-23 08:37 J -19771722.21 -19771722.14 -19771722.06 0.2659 0.2288

Earth -58846-12-23 09:35 J -19771722.17 -19771722.10 -19771722.04 0.2652 0.2389 *

Jupiter -58844-04-28 13:25 J -19771230.06 -19771229.94 -19771229.83 0.0530 0.0237

Jupiter -58844-07-26 19:54 J -19771140.77 -19771140.67 -19771140.57 0.0529 0.0313

Venus -58842-05-20 10:47 J -19770478.21 -19770478.05 -19770477.90 0.3573 0.1004

Moon -58842-06-27 15:21 J -19770439.96 -19770439.86 -19770439.77 0.2674 0.1295

Earth -58842-06-27 15:06 J -19770439.96 -19770439.87 -19770439.77 0.2681 0.1318 *

Mars -58842-12-21 01:11 J -19770263.56 -19770263.45 -19770263.34 0.1868 0.0611

Mars -58841-10-17 20:37 J -19769961.75 -19769961.64 -19769961.52 0.1673 0.1211

Saturn -58839-02-18 04:47 J -19769473.35 -19769473.30 -19769473.25 0.0294 0.0270

Venus -58839-02-24 18:57 J -19769466.79 -19769466.71 -19769466.63 0.3804 0.2234

Saturn -58839-05-17 17:45 J -19769384.88 -19769384.76 -19769384.64 0.0295 0.0148

Saturn -58839-08-14 06:42 J -19769296.35 -19769296.22 -19769296.09 0.0296 0.0026

Saturn -58839-11-10 19:25 J -19769207.81 -19769207.69 -19769207.56 0.0297 0.0097

Saturn -58838-02-07 08:09 J -19769119.24 -19769119.16 -19769119.07 0.0298 0.0219

Jupiter -58838-06-15 17:59 J -19768990.94 -19768990.75 -19768990.57 0.0496 0.0020

Earth -58835-06-20 13:25 J -19767890.04 -19767889.94 -19767889.85 0.2675 0.1492

Moon -58835-06-20 13:54 J -19767890.01 -19767889.92 -19767889.82 0.2679 0.1366 *

Venus -58834-09-10 10:47 J -19767443.15 -19767443.05 -19767442.95 0.3806 0.0291

Jupiter -58832-02-14 17:01 J -19766919.88 -19766919.79 -19766919.70 0.0530 0.0380

Mars -58832-05-12 09:35 J -19766833.22 -19766833.10 -19766832.99 0.1860 0.0299

Jupiter -58832-05-14 23:45 J -19766830.63 -19766830.51 -19766830.39 0.0530 0.0173

Mars -58831-03-09 21:49 J -19766531.75 -19766531.59 -19766531.43 0.1681 0.0175

Uranus -58831-07-27 17:01 J -19766391.80 -19766391.79 -19766391.77 0.0133 0.0132

Uranus -58831-10-23 19:54 J -19766303.72 -19766303.67 -19766303.59 0.0133 0.0115

Uranus -58830-01-19 23:01 J -19766215.62 -19766215.54 -19766215.44 0.0133 0.0097

Uranus -58830-04-18 02:09 J -19766127.51 -19766127.41 -19766127.30 0.0133 0.0080

Uranus -58830-07-15 05:01 J -19766039.40 -19766039.29 -19766039.17 0.0133 0.0063

Uranus -58830-10-11 08:09 J -19765951.28 -19765951.16 -19765951.03 0.0133 0.0045

Uranus -58829-01-07 11:01 J -19765863.16 -19765863.04 -19765862.90 0.0133 0.0029

Uranus -58829-04-04 14:09 J -19765775.04 -19765774.91 -19765774.78 0.0133 0.0011

Moon -58829-06-29 08:52 J -19765689.19 -19765689.13 -19765689.08 0.2677 0.2285

Earth -58829-06-29 09:21 J -19765689.17 -19765689.11 -19765689.06 0.2683 0.2289 *

Uranus -58829-07-01 17:01 J -19765686.92 -19765686.79 -19765686.65 0.0133 0.0007

Uranus -58829-09-27 19:54 J -19765598.79 -19765598.67 -19765598.53 0.0133 0.0025

Uranus -58829-12-24 23:01 J -19765510.66 -19765510.54 -19765510.41 0.0133 0.0041

Uranus -58828-03-23 01:54 J -19765422.53 -19765422.42 -19765422.30 0.0133 0.0058

Venus -58828-03-26 02:37 J -19765419.48 -19765419.39 -19765419.30 0.3808 0.1670

Uranus -58828-06-19 04:47 J -19765334.40 -19765334.30 -19765334.18 0.0133 0.0076

Uranus -58828-09-15 07:54 J -19765246.26 -19765246.17 -19765246.08 0.0133 0.0093

Uranus -58828-12-12 10:47 J -19765158.12 -19765158.05 -19765157.97 0.0134 0.0110

Uranus -58827-03-10 13:54 J -19765069.96 -19765069.92 -19765069.89 0.0134 0.0127

Jupiter -58826-04-03 15:35 J -19764681.02 -19764680.85 -19764680.67 0.0496 0.0144

Moon -58826-12-18 02:52 J -19764422.52 -19764422.38 -19764422.24 0.2655 0.1089

Earth -58826-12-18 04:18 J -19764422.46 -19764422.32 -19764422.18 0.2657 0.1053 *

Saturn -58826-12-18 06:57 J -19764422.27 -19764422.21 -19764422.14 0.0267 0.0247 *

Saturn -58825-03-16 02:52 J -19764333.54 -19764333.38 -19764333.22 0.0266 0.0126

Saturn -58825-06-12 22:47 J -19764244.73 -19764244.55 -19764244.36 0.0266 0.0006

Saturn -58825-09-09 18:57 J -19764155.87 -19764155.71 -19764155.54 0.0265 0.0120

Saturn -58825-12-07 15:06 J -19764066.93 -19764066.87 -19764066.79 0.0264 0.0243

Mars -58823-10-02 17:45 J -19763402.85 -19763402.76 -19763402.67 0.1851 0.1183

Venus -58823-10-09 18:28 J -19763395.75 -19763395.73 -19763395.70 0.3810 0.3633

Earth -58822-06-23 07:40 J -19763139.29 -19763139.18 -19763139.07 0.2677 0.0481

Moon -58822-06-23 08:23 J -19763139.26 -19763139.15 -19763139.04 0.2676 0.0464 *

Mars -58822-07-30 23:01 J -19763101.68 -19763101.54 -19763101.40 0.1688 0.0861

Jupiter -58821-12-03 20:09 J -19762609.66 -19762609.66 -19762609.65 0.0531 0.0530

Jupiter -58820-03-03 03:06 J -19762520.49 -19762520.37 -19762520.24 0.0530 0.0034

Jupiter -58814-01-20 13:11 J -19760371.09 -19760370.95 -19760370.81 0.0495 0.0309

Jupiter -58814-04-20 21:49 J -19760280.72 -19760280.59 -19760280.47 0.0496 0.0362

Moon -58813-12-20 08:52 J -19759671.28 -19759671.13 -19759670.99 0.2658 0.0619

Earth -58813-12-20 10:04 J -19759671.23 -19759671.08 -19759670.94 0.2654 0.0826 *

Mars -58811-01-28 17:01 J -19759266.85 -19759266.79 -19759266.73 0.1877 0.1610

Saturn -58810-10-04 20:37 J -19758652.74 -19758652.64 -19758652.53 0.0295 0.0175

Saturn -58809-01-01 09:35 J -19758564.23 -19758564.10 -19758563.97 0.0296 0.0053

Saturn -58809-03-29 22:33 J -19758475.69 -19758475.56 -19758475.43 0.0296 0.0069

Earth -58809-06-25 01:54 J -19758388.53 -19758388.42 -19758388.31 0.2679 0.0516

Moon -58809-06-25 02:23 J -19758388.51 -19758388.40 -19758388.29 0.2674 0.0594 *

Saturn -58809-06-26 11:16 J -19758387.13 -19758387.03 -19758386.93 0.0297 0.0191

Jupiter -58809-12-20 07:25 J -19758210.32 -19758210.19 -19758210.07 0.0530 0.0107

Jupiter -58808-03-19 13:54 J -19758120.99 -19758120.92 -19758120.86 0.0530 0.0441

Neptune -58803-04-05 15:35 J -19756277.88 -19756277.85 -19756277.81 0.0089 0.0086

Neptune -58803-07-02 17:01 J -19756189.84 -19756189.79 -19756189.73 0.0089 0.0080

Neptune -58803-09-28 18:13 J -19756101.80 -19756101.74 -19756101.65 0.0089 0.0075

Jupiter -58803-11-08 09:35 J -19756061.13 -19756061.10 -19756061.07 0.0495 0.0487

Neptune -58803-12-25 19:54 J -19756013.75 -19756013.67 -19756013.58 0.0089 0.0069

Jupiter -58802-02-06 17:45 J -19755970.93 -19755970.76 -19755970.59 0.0496 0.0178

Neptune -58802-03-23 21:21 J -19755925.70 -19755925.61 -19755925.51 0.0089 0.0063

Earth -58802-06-18 23:45 J -19755838.56 -19755838.51 -19755838.45 0.2673 0.2313

Moon -58802-06-18 23:59 J -19755838.55 -19755838.50 -19755838.44 0.2679 0.2258 *

Neptune -58802-06-19 23:01 J -19755837.64 -19755837.54 -19755837.44 0.0089 0.0057

Mars -58802-06-21 01:25 J -19755836.55 -19755836.44 -19755836.34 0.1869 0.0715

Neptune -58802-09-16 00:13 J -19755749.59 -19755749.49 -19755749.37 0.0089 0.0052

Neptune -58802-12-13 01:40 J -19755661.54 -19755661.43 -19755661.30 0.0089 0.0046

Neptune -58801-03-10 03:21 J -19755573.48 -19755573.36 -19755573.24 0.0089 0.0040

Mars -58801-04-17 21:21 J -19755534.70 -19755534.61 -19755534.51 0.1673 0.1353

Neptune -58801-06-06 04:33 J -19755485.43 -19755485.31 -19755485.17 0.0089 0.0035

Neptune -58801-09-02 06:13 J -19755397.37 -19755397.24 -19755397.11 0.0089 0.0029

Neptune -58801-11-29 07:40 J -19755309.31 -19755309.18 -19755309.05 0.0089 0.0023

Neptune -58800-02-25 08:52 J -19755221.26 -19755221.13 -19755220.99 0.0089 0.0018

Neptune -58800-05-24 10:33 J -19755133.20 -19755133.06 -19755132.93 0.0089 0.0012

Neptune -58800-08-20 11:45 J -19755045.14 -19755045.01 -19755044.87 0.0089 0.0007

Neptune -58800-11-16 13:25 J -19754957.08 -19754956.94 -19754956.81 0.0089 0.0003

Neptune -58799-02-12 14:37 J -19754869.02 -19754868.89 -19754868.75 0.0089 0.0006

Neptune -58799-05-11 16:04 J -19754780.96 -19754780.83 -19754780.69 0.0089 0.0011

Neptune -58799-08-07 17:30 J -19754692.90 -19754692.77 -19754692.64 0.0089 0.0017

Neptune -58799-11-03 18:57 J -19754604.84 -19754604.71 -19754604.58 0.0089 0.0022

Neptune -58798-01-30 20:23 J -19754516.78 -19754516.65 -19754516.52 0.0089 0.0028

Neptune -58798-04-28 21:35 J -19754428.72 -19754428.60 -19754428.47 0.0089 0.0034

Neptune -58798-07-25 22:47 J -19754340.66 -19754340.55 -19754340.42 0.0089 0.0040

Neptune -58798-10-22 00:28 J -19754252.59 -19754252.48 -19754252.36 0.0089 0.0045

Neptune -58797-01-18 01:40 J -19754164.53 -19754164.43 -19754164.31 0.0089 0.0051

Neptune -58797-04-15 03:06 J -19754076.47 -19754076.37 -19754076.26 0.0089 0.0056

Neptune -58797-07-12 04:18 J -19753988.40 -19753988.32 -19753988.21 0.0089 0.0062

Neptune -58797-10-08 05:59 J -19753900.33 -19753900.25 -19753900.16 0.0089 0.0067

Jupiter -58797-10-08 11:45 J -19753900.13 -19753900.01 -19753899.90 0.0531 0.0239

Neptune -58796-01-04 07:11 J -19753812.27 -19753812.20 -19753812.11 0.0089 0.0073

Jupiter -58796-01-05 18:13 J -19753810.84 -19753810.74 -19753810.63 0.0530 0.0313

Neptune -58796-04-02 08:52 J -19753724.19 -19753724.13 -19753724.07 0.0089 0.0078

Moon -58796-06-27 19:54 J -19753637.76 -19753637.67 -19753637.57 0.2674 0.1479

Earth -58796-06-27 20:09 J -19753637.75 -19753637.66 -19753637.57 0.2681 0.1502 *

Neptune -58796-06-29 09:49 J -19753636.12 -19753636.09 -19753636.03 0.0089 0.0084

Saturn -58796-08-03 03:35 J -19753601.50 -19753601.35 -19753601.20 0.0267 0.0153

Saturn -58796-10-30 23:30 J -19753512.70 -19753512.52 -19753512.34 0.0266 0.0031

Saturn -58795-01-27 19:40 J -19753423.86 -19753423.68 -19753423.51 0.0265 0.0091

Saturn -58795-04-26 15:49 J -19753334.95 -19753334.84 -19753334.73 0.0265 0.0214

Mars -58793-11-10 09:35 J -19752406.22 -19752406.10 -19752405.98 0.1860 0.0185

Moon -58793-12-15 04:18 J -19752371.34 -19752371.32 -19752371.31 0.2655 0.2636

Earth -58793-12-15 05:30 J -19752371.31 -19752371.27 -19752371.23 0.2659 0.2537 *

Mars -58792-09-07 22:18 J -19752104.72 -19752104.57 -19752104.41 0.1681 0.0315

Venus -58791-06-10 03:35 J -19751829.46 -19751829.35 -19751829.24 0.3575 0.2625

Pluto -58791-10-10 08:52 J -19751707.19 -19751707.13 -19751707.06 0.0083 0.0074

Jupiter -58791-11-25 15:06 J -19751661.05 -19751660.87 -19751660.69 0.0496 0.0011

Pluto -58790-01-06 10:33 J -19751619.15 -19751619.06 -19751618.97 0.0083 0.0064

Pluto -58790-04-04 11:45 J -19751531.10 -19751531.01 -19751530.88 0.0083 0.0056

Pluto -58790-07-01 13:40 J -19751443.05 -19751442.93 -19751442.80 0.0083 0.0045

Pluto -58790-09-27 15:21 J -19751354.99 -19751354.86 -19751354.73 0.0083 0.0035

Uranus -58790-11-12 02:09 J -19751309.51 -19751309.41 -19751309.29 0.0146 0.0116

Pluto -58790-12-24 16:47 J -19751266.93 -19751266.80 -19751266.66 0.0083 0.0026

Uranus -58789-02-08 10:47 J -19751221.20 -19751221.05 -19751220.89 0.0146 0.0083

Pluto -58789-03-21 18:28 J -19751178.87 -19751178.73 -19751178.59 0.0083 0.0016

Uranus -58789-05-06 19:25 J -19751132.87 -19751132.69 -19751132.51 0.0146 0.0050

Pluto -58789-06-17 20:09 J -19751090.81 -19751090.66 -19751090.52 0.0082 0.0007

Earth -58789-06-20 18:13 J -19751087.84 -19751087.74 -19751087.64 0.2675 0.1293

Moon -58789-06-20 18:57 J -19751087.81 -19751087.71 -19751087.61 0.2679 0.1300 *

Uranus -58789-08-03 04:04 J -19751044.52 -19751044.33 -19751044.14 0.0146 0.0017

Pluto -58789-09-13 21:35 J -19751002.74 -19751002.60 -19751002.46 0.0082 0.0003

Uranus -58789-10-30 12:42 J -19750956.16 -19750955.97 -19750955.78 0.0146 0.0017

Pluto -58789-12-10 23:01 J -19750914.68 -19750914.54 -19750914.40 0.0082 0.0012

Uranus -58788-01-26 21:21 J -19750867.79 -19750867.61 -19750867.43 0.0145 0.0050

Pluto -58788-03-09 00:28 J -19750826.61 -19750826.48 -19750826.34 0.0082 0.0022

Venus -58788-03-18 00:28 J -19750817.51 -19750817.48 -19750817.44 0.3802 0.3483

Uranus -58788-04-25 05:45 J -19750779.40 -19750779.26 -19750779.09 0.0145 0.0083

Pluto -58788-06-05 01:54 J -19750738.55 -19750738.42 -19750738.28 0.0082 0.0031

Uranus -58788-07-22 14:23 J -19750691.00 -19750690.90 -19750690.77 0.0145 0.0117

Pluto -58788-09-01 03:21 J -19750650.48 -19750650.36 -19750650.23 0.0082 0.0040

Pluto -58788-11-28 04:47 J -19750562.40 -19750562.30 -19750562.18 0.0082 0.0049

Pluto -58787-02-24 06:13 J -19750474.33 -19750474.24 -19750474.13 0.0081 0.0058

Pluto -58787-05-23 07:40 J -19750386.25 -19750386.18 -19750386.09 0.0081 0.0067

Pluto -58787-08-19 09:06 J -19750298.16 -19750298.12 -19750298.06 0.0081 0.0075

Venus -58786-12-25 12:57 J -19749805.05 -19749804.96 -19749804.86 0.3572 0.2863

Jupiter -58785-07-27 15:35 J -19749589.94 -19749589.85 -19749589.76 0.0530 0.0379

Jupiter -58785-10-24 22:18 J -19749500.69 -19749500.57 -19749500.45 0.0530 0.0175

Mars -58783-04-02 17:45 J -19748975.86 -19748975.76 -19748975.67 0.1851 0.1082

Moon -58783-06-30 13:40 J -19748886.98 -19748886.93 -19748886.88 0.2678 0.2382

Earth -58783-06-30 14:09 J -19748886.95 -19748886.91 -19748886.87 0.2683 0.2473 *

Venus -58783-10-01 16:18 J -19748793.91 -19748793.82 -19748793.72 0.3804 0.1542

Mars -58782-01-28 23:30 J -19748674.66 -19748674.52 -19748674.37 0.1688 0.0727

Saturn -58780-02-20 22:04 J -19747920.67 -19747920.58 -19747920.49 0.0295 0.0214

Saturn -58780-05-20 11:01 J -19747832.17 -19747832.04 -19747831.91 0.0296 0.0092

Saturn -58780-08-16 23:59 J -19747743.63 -19747743.50 -19747743.37 0.0297 0.0030

Saturn -58780-11-13 12:42 J -19747655.08 -19747654.97 -19747654.85 0.0297 0.0152

Moon -58780-12-18 09:21 J -19747620.26 -19747620.11 -19747619.97 0.2656 0.0929

Earth -58780-12-18 10:47 J -19747620.20 -19747620.05 -19747619.90 0.2656 0.0709 *

Saturn -58779-02-10 01:25 J -19747566.49 -19747566.44 -19747566.39 0.0298 0.0274

Jupiter -58779-09-13 12:42 J -19747351.14 -19747350.97 -19747350.79 0.0496 0.0153

Venus -58777-04-16 08:09 J -19746770.25 -19746770.16 -19746770.06 0.3807 0.0450

Earth -58776-06-23 12:28 J -19746337.09 -19746336.98 -19746336.86 0.2677 0.0307

Moon -58776-06-23 13:11 J -19746337.06 -19746336.95 -19746336.83 0.2675 0.0174 *

Jupiter -58773-05-15 19:11 J -19745279.72 -19745279.70 -19745279.68 0.0531 0.0522

Jupiter -58773-08-13 02:09 J -19745190.54 -19745190.41 -19745190.28 0.0530 0.0035

Mars -58772-07-29 17:01 J -19744839.83 -19744839.79 -19744839.74 0.1877 0.1719

Venus -58772-10-31 00:13 J -19744746.57 -19744746.49 -19744746.41 0.3809 0.2380

Jupiter -58767-07-02 10:47 J -19743041.19 -19743041.05 -19743040.91 0.0496 0.0312

Jupiter -58767-09-30 19:25 J -19742950.82 -19742950.69 -19742950.57 0.0496 0.0360

Saturn -58767-12-21 03:49 J -19742869.47 -19742869.34 -19742869.21 0.0266 0.0186

Moon -58767-12-21 15:21 J -19742869.00 -19742868.86 -19742868.73 0.2659 0.1172

Earth -58767-12-21 16:33 J -19742868.95 -19742868.81 -19742868.67 0.2654 0.1167 *

Saturn -58766-03-19 23:45 J -19742780.69 -19742780.51 -19742780.33 0.0266 0.0064

Saturn -58766-06-16 19:40 J -19742691.86 -19742691.68 -19742691.50 0.0265 0.0059

Saturn -58766-09-13 15:49 J -19742602.97 -19742602.84 -19742602.70 0.0265 0.0182

Earth -58763-06-26 06:42 J -19741586.32 -19741586.22 -19741586.11 0.2679 0.0716

Moon -58763-06-26 07:11 J -19741586.31 -19741586.20 -19741586.09 0.2674 0.0714 *

Mars -58763-12-20 01:11 J -19741409.55 -19741409.45 -19741409.34 0.1869 0.0818

Mars -58762-10-17 21:49 J -19741107.66 -19741107.59 -19741107.51 0.1673 0.1479

Jupiter -58761-06-01 05:30 J -19740880.39 -19740880.27 -19740880.14 0.0530 0.0113

Jupiter -58761-08-29 11:59 J -19740791.07 -19740791.00 -19740790.93 0.0529 0.0436

Earth -58756-06-19 04:47 J -19739036.37 -19739036.30 -19739036.23 0.2673 0.2111

Moon -58756-06-19 05:01 J -19739036.35 -19739036.29 -19739036.22 0.2679 0.2109 *

Jupiter -58755-04-20 08:23 J -19738731.19 -19738731.15 -19738731.10 0.0495 0.0475

Jupiter -58755-07-19 16:33 J -19738640.98 -19738640.81 -19738640.64 0.0496 0.0191

Mars -58753-05-11 09:21 J -19737979.22 -19737979.11 -19737978.99 0.1860 0.0117

Mars -58752-03-08 23:16 J -19737677.69 -19737677.53 -19737677.38 0.1680 0.0460

Saturn -58751-07-11 00:42 J -19737188.55 -19737188.47 -19737188.40 0.0294 0.0244

Saturn -58751-10-07 13:40 J -19737100.05 -19737099.93 -19737099.81 0.0295 0.0122

Saturn -58750-01-04 02:37 J -19737011.52 -19737011.39 -19737011.26 0.0296 0.0001

Saturn -58750-04-02 15:21 J -19736922.98 -19736922.86 -19736922.73 0.0297 0.0123

Moon -58750-06-29 00:42 J -19736835.55 -19736835.47 -19736835.38 0.2674 0.1687

Earth -58750-06-29 00:57 J -19736835.54 -19736835.46 -19736835.37 0.2681 0.1691 *

Saturn -58750-06-30 04:04 J -19736834.40 -19736834.33 -19736834.25 0.0298 0.0244

Jupiter -58749-03-20 09:35 J -19736570.21 -19736570.10 -19736569.98 0.0531 0.0248

Jupiter -58749-06-17 16:18 J -19736480.92 -19736480.82 -19736480.72 0.0530 0.0305

Uranus -58747-08-16 23:59 J -19735690.52 -19735690.50 -19735690.47 0.0132 0.0128

Uranus -58747-11-13 02:52 J -19735602.44 -19735602.38 -19735602.30 0.0132 0.0112

Moon -58747-12-16 10:33 J -19735569.13 -19735569.06 -19735568.99 0.2655 0.2309

Earth -58747-12-16 11:59 J -19735569.09 -19735569.00 -19735568.92 0.2658 0.2201 *

Uranus -58746-02-09 06:13 J -19735514.34 -19735514.24 -19735514.15 0.0133 0.0094

Uranus -58746-05-08 09:06 J -19735426.23 -19735426.12 -19735426.01 0.0133 0.0077

Uranus -58746-08-04 11:59 J -19735338.11 -19735338.00 -19735337.88 0.0133 0.0060

Uranus -58746-10-31 14:52 J -19735250.00 -19735249.88 -19735249.75 0.0133 0.0043

Uranus -58745-01-27 17:59 J -19735161.88 -19735161.75 -19735161.62 0.0133 0.0025

Uranus -58745-04-24 21:06 J -19735073.76 -19735073.62 -19735073.49 0.0133 0.0008

Uranus -58745-07-21 23:59 J -19734985.63 -19734985.50 -19734985.37 0.0133 0.0009

Uranus -58745-10-18 02:52 J -19734897.51 -19734897.38 -19734897.25 0.0133 0.0027

Uranus -58744-01-14 05:45 J -19734809.38 -19734809.26 -19734809.13 0.0133 0.0045

Uranus -58744-04-12 08:52 J -19734721.25 -19734721.13 -19734721.01 0.0133 0.0061

Uranus -58744-07-09 11:45 J -19734633.11 -19734633.01 -19734632.90 0.0133 0.0078

Mars -58744-10-01 17:59 J -19734548.85 -19734548.75 -19734548.65 0.1852 0.0972

Uranus -58744-10-05 14:37 J -19734544.97 -19734544.89 -19734544.79 0.0133 0.0096

Uranus -58743-01-01 17:45 J -19734456.83 -19734456.76 -19734456.69 0.0133 0.0113

Uranus -58743-03-30 20:37 J -19734368.66 -19734368.64 -19734368.61 0.0134 0.0130

Jupiter -58743-05-07 12:42 J -19734331.15 -19734330.97 -19734330.79 0.0496 0.0008

Earth -58743-06-21 23:16 J -19734285.64 -19734285.53 -19734285.43 0.2676 0.1103

Moon -58743-06-21 23:45 J -19734285.61 -19734285.51 -19734285.40 0.2678 0.0983 *

Mars -58743-07-30 00:13 J -19734247.64 -19734247.49 -19734247.34 0.1688 0.0590

Jupiter -58737-01-07 14:09 J -19732260.00 -19732259.91 -19732259.82 0.0531 0.0379

Jupiter -58737-04-05 20:52 J -19732170.75 -19732170.63 -19732170.51 0.0530 0.0177

Saturn -58737-05-09 04:33 J -19732137.42 -19732137.31 -19732137.21 0.0267 0.0214

Moon -58737-06-30 18:28 J -19732084.75 -19732084.73 -19732084.71 0.2680 0.2605

Earth -58737-06-30 18:57 J -19732084.72 -19732084.71 -19732084.70 0.2683 0.2659 *

Saturn -58737-08-06 00:13 J -19732048.66 -19732048.49 -19732048.32 0.0266 0.0093

Saturn -58737-11-02 20:09 J -19731959.84 -19731959.66 -19731959.47 0.0265 0.0029

Saturn -58736-01-30 16:18 J -19731870.97 -19731870.82 -19731870.67 0.0265 0.0152

Venus -58734-01-15 05:45 J -19731156.41 -19731156.26 -19731156.10 0.3574 0.0762

Moon -58734-12-19 15:35 J -19730818.00 -19730817.85 -19730817.69 0.2657 0.0457

Earth -58734-12-19 17:16 J -19730817.93 -19730817.78 -19730817.63 0.2656 0.0373 *

Mars -58734-12-20 01:25 J -19730817.48 -19730817.44 -19730817.40 0.1696 0.1633

Mars -58732-01-27 17:01 J -19730412.81 -19730412.79 -19730412.76 0.1877 0.1825

Venus -58732-10-22 22:04 J -19730144.65 -19730144.58 -19730144.51 0.3802 0.2777

Jupiter -58731-02-23 10:18 J -19730021.24 -19730021.07 -19730020.90 0.0496 0.0157

Earth -58730-06-24 17:30 J -19729534.88 -19729534.77 -19729534.66 0.2678 0.0098

Moon -58730-06-24 18:13 J -19729534.85 -19729534.74 -19729534.63 0.2675 0.0094 *

Venus -58726-05-08 13:54 J -19728121.02 -19728120.92 -19728120.82 0.3805 0.0842

Jupiter -58726-10-26 17:59 J -19727949.78 -19727949.75 -19727949.73 0.0531 0.0517

Jupiter -58725-01-24 00:57 J -19727860.59 -19727860.46 -19727860.33 0.0530 0.0041

Mars -58723-06-20 01:25 J -19726982.55 -19726982.44 -19726982.34 0.1869 0.0917

Mars -58722-04-17 22:33 J -19726680.59 -19726680.56 -19726680.52 0.1673 0.1622

Saturn -58722-11-28 01:40 J -19726456.46 -19726456.43 -19726456.40 0.0294 0.0286

Saturn -58721-02-24 14:37 J -19726368.00 -19726367.89 -19726367.78 0.0295 0.0165

Saturn -58721-05-23 03:35 J -19726279.48 -19726279.35 -19726279.22 0.0296 0.0043

Saturn -58721-08-19 16:33 J -19726190.94 -19726190.81 -19726190.68 0.0297 0.0080

Saturn -58721-11-16 05:16 J -19726102.37 -19726102.28 -19726102.18 0.0298 0.0201

Venus -58721-11-21 05:45 J -19726097.36 -19726097.26 -19726097.16 0.3807 0.1125

Neptune -58721-12-21 00:13 J -19726067.52 -19726067.49 -19726067.42 0.0089 0.0086

Moon -58721-12-21 21:49 J -19726066.73 -19726066.59 -19726066.46 0.2658 0.1310

Earth -58721-12-21 23:01 J -19726066.67 -19726066.54 -19726066.42 0.2653 0.1514 *

Neptune -58720-03-19 03:35 J -19725979.42 -19725979.35 -19725979.25 0.0089 0.0078

Neptune -58720-06-15 07:11 J -19725891.31 -19725891.20 -19725891.09 0.0089 0.0070

Neptune -58720-09-11 10:04 J -19725803.19 -19725803.08 -19725802.93 0.0089 0.0063

Neptune -58720-12-08 13:40 J -19725715.07 -19725714.93 -19725714.78 0.0089 0.0055

Jupiter -58720-12-12 08:09 J -19725711.30 -19725711.16 -19725711.02 0.0496 0.0318

Neptune -58719-03-06 17:01 J -19725626.94 -19725626.79 -19725626.63 0.0089 0.0047

Jupiter -58719-03-12 16:47 J -19725620.93 -19725620.80 -19725620.67 0.0496 0.0355

Neptune -58719-06-02 20:09 J -19725538.81 -19725538.66 -19725538.48 0.0089 0.0040

Neptune -58719-08-29 23:30 J -19725450.68 -19725450.52 -19725450.33 0.0089 0.0032

Neptune -58719-11-26 03:06 J -19725362.55 -19725362.37 -19725362.19 0.0089 0.0024

Neptune -58718-02-22 06:28 J -19725274.41 -19725274.23 -19725274.04 0.0089 0.0016

Neptune -58718-05-21 09:49 J -19725186.28 -19725186.09 -19725185.90 0.0089 0.0008

Neptune -58718-08-17 13:11 J -19725098.14 -19725097.95 -19725097.76 0.0089 0.0001

Neptune -58718-11-13 16:33 J -19725010.00 -19725009.81 -19725009.62 0.0089 0.0008

Neptune -58717-02-09 19:54 J -19724921.85 -19724921.67 -19724921.48 0.0089 0.0016

Neptune -58717-05-07 23:16 J -19724833.71 -19724833.53 -19724833.34 0.0089 0.0024

Earth -58717-06-26 11:45 J -19724784.12 -19724784.01 -19724783.91 0.2680 0.0898

Moon -58717-06-26 11:59 J -19724784.11 -19724784.00 -19724783.90 0.2674 0.0972 *

Neptune -58717-08-04 02:37 J -19724745.56 -19724745.39 -19724745.21 0.0089 0.0032

Neptune -58717-10-31 05:59 J -19724657.41 -19724657.25 -19724657.07 0.0089 0.0040

Neptune -58716-01-27 09:21 J -19724569.26 -19724569.11 -19724568.94 0.0089 0.0048

Neptune -58716-04-25 12:42 J -19724481.10 -19724480.97 -19724480.81 0.0089 0.0056

Neptune -58716-07-22 16:04 J -19724392.94 -19724392.83 -19724392.68 0.0089 0.0064

Neptune -58716-10-18 19:25 J -19724304.78 -19724304.69 -19724304.56 0.0089 0.0072

Neptune -58715-01-14 23:01 J -19724216.61 -19724216.54 -19724216.44 0.0089 0.0080

Neptune -58715-04-13 02:23 J -19724128.41 -19724128.40 -19724128.35 0.0089 0.0088

Venus -58715-06-06 21:35 J -19724073.66 -19724073.60 -19724073.54 0.3809 0.3078

Mars -58714-11-10 09:35 J -19723552.22 -19723552.10 -19723551.98 0.1860 0.0020

Jupiter -58714-11-12 04:47 J -19723550.43 -19723550.30 -19723550.18 0.0530 0.0100

Jupiter -58713-02-09 11:01 J -19723461.10 -19723461.04 -19723460.97 0.0529 0.0448

Mars -58713-09-06 23:30 J -19723250.67 -19723250.52 -19723250.36 0.1680 0.0586

Earth -58710-06-20 09:49 J -19722234.17 -19722234.09 -19722234.02 0.2674 0.1913

Moon -58710-06-20 10:04 J -19722234.16 -19722234.08 -19722234.00 0.2680 0.1866 *

Saturn -58708-09-26 03:49 J -19721405.39 -19721405.34 -19721405.28 0.0267 0.0251

Jupiter -58708-09-30 06:28 J -19721401.28 -19721401.23 -19721401.18 0.0496 0.0475

Saturn -58708-12-23 23:30 J -19721316.67 -19721316.52 -19721316.35 0.0266 0.0130

Jupiter -58708-12-29 14:37 J -19721311.06 -19721310.89 -19721310.72 0.0496 0.0193

Saturn -58707-03-22 19:40 J -19721227.87 -19721227.68 -19721227.50 0.0265 0.0008

Saturn -58707-06-19 15:35 J -19721139.01 -19721138.85 -19721138.68 0.0265 0.0115

Saturn -58707-09-16 11:45 J -19721050.08 -19721050.01 -19721049.92 0.0264 0.0238

Uranus -58706-09-04 23:59 J -19720696.51 -19720696.50 -19720696.48 0.0146 0.0145

Uranus -58706-12-02 08:37 J -19720608.26 -19720608.14 -19720608.02 0.0146 0.0112

Uranus -58705-02-28 17:16 J -19720519.94 -19720519.78 -19720519.62 0.0146 0.0079

Uranus -58705-05-27 01:54 J -19720431.60 -19720431.42 -19720431.24 0.0146 0.0046

Uranus -58705-08-23 10:18 J -19720343.26 -19720343.07 -19720342.87 0.0146 0.0014

Uranus -58705-11-19 18:57 J -19720254.90 -19720254.71 -19720254.51 0.0146 0.0021

Uranus -58704-02-16 03:35 J -19720166.52 -19720166.35 -19720166.17 0.0145 0.0054

Mars -58704-04-01 17:45 J -19720121.86 -19720121.76 -19720121.65 0.1851 0.0876

Uranus -58704-05-15 11:59 J -19720078.14 -19720078.00 -19720077.83 0.0145 0.0088

Moon -58704-06-29 05:30 J -19720033.35 -19720033.27 -19720033.18 0.2675 0.1819

Earth -58704-06-29 05:45 J -19720033.33 -19720033.26 -19720033.18 0.2682 0.1878 *

Uranus -58704-08-11 20:52 J -19719989.73 -19719989.63 -19719989.52 0.0145 0.0120

Mars -58703-01-28 00:57 J -19719820.62 -19719820.46 -19719820.31 0.1688 0.0454

Jupiter -58702-08-31 08:09 J -19719240.27 -19719240.16 -19719240.04 0.0530 0.0247

Jupiter -58702-11-28 14:52 J -19719150.98 -19719150.88 -19719150.78 0.0530 0.0305

Moon -58701-12-16 16:47 J -19718766.89 -19718766.80 -19718766.70 0.2655 0.2009

Earth -58701-12-16 18:13 J -19718766.84 -19718766.74 -19718766.63 0.2658 0.1868 *

Earth -58697-06-22 04:04 J -19717483.44 -19717483.33 -19717483.22 0.2676 0.0900

Moon -58697-06-22 04:47 J -19717483.41 -19717483.30 -19717483.19 0.2677 0.0867 *

Jupiter -58696-10-17 11:59 J -19717001.18 -19717001.00 -19717000.81 0.0496 0.0027

Mars -58695-08-23 02:09 J -19716691.45 -19716691.41 -19716691.38 0.1843 0.1753

Mars -58694-06-20 02:09 J -19716390.48 -19716390.41 -19716390.34 0.1695 0.1491

Saturn -58692-07-13 16:47 J -19715635.90 -19715635.80 -19715635.70 0.0295 0.0199

Saturn -58692-10-10 05:45 J -19715547.39 -19715547.26 -19715547.13 0.0296 0.0077

Saturn -58691-01-06 18:42 J -19715458.86 -19715458.72 -19715458.59 0.0296 0.0045

Saturn -58691-04-05 07:25 J -19715370.30 -19715370.19 -19715370.08 0.0297 0.0167

Saturn -58691-07-02 20:09 J -19715281.69 -19715281.66 -19715281.63 0.0298 0.0288

Jupiter -58690-06-19 12:13 J -19714930.07 -19714929.99 -19714929.90 0.0531 0.0382

Jupiter -58690-09-16 19:11 J -19714840.82 -19714840.70 -19714840.58 0.0530 0.0174

Moon -58688-12-19 22:04 J -19714015.73 -19714015.58 -19714015.42 0.2658 0.0192

Earth -58688-12-19 23:45 J -19714015.67 -19714015.51 -19714015.36 0.2656 0.0058 *

Earth -58684-06-24 22:18 J -19712732.68 -19712732.57 -19712732.46 0.2678 0.0111

Moon -58684-06-24 23:01 J -19712732.65 -19712732.54 -19712732.43 0.2675 0.0230 *

Jupiter -58684-08-05 08:23 J -19712691.33 -19712691.15 -19712690.98 0.0496 0.0156

Mars -58684-12-19 01:25 J -19712555.54 -19712555.44 -19712555.35 0.1869 0.1020

Jupiter -58678-04-07 16:33 J -19710619.83 -19710619.81 -19710619.78 0.0531 0.0514

Saturn -58678-05-12 23:59 J -19710584.64 -19710584.50 -19710584.35 0.0267 0.0160

Jupiter -58678-07-05 23:45 J -19710530.64 -19710530.51 -19710530.39 0.0530 0.0047

Saturn -58678-08-09 19:54 J -19710495.85 -19710495.67 -19710495.49 0.0266 0.0038

Venus -58678-08-22 08:09 J -19710483.31 -19710483.16 -19710483.01 0.3573 0.1120

Saturn -58678-11-06 15:49 J -19710407.01 -19710406.84 -19710406.66 0.0265 0.0084

Saturn -58677-02-03 11:59 J -19710318.11 -19710318.00 -19710317.88 0.0265 0.0207

Venus -58675-05-29 19:25 J -19709471.77 -19709471.69 -19709471.61 0.3803 0.2088

Moon -58675-12-23 04:18 J -19709264.43 -19709264.32 -19709264.21 0.2658 0.1858

Earth -58675-12-23 05:30 J -19709264.38 -19709264.27 -19709264.17 0.2653 0.1859 *

Mars -58674-05-11 09:35 J -19709125.22 -19709125.10 -19709124.98 0.1860 0.0125

Mars -58673-03-08 00:13 J -19708823.63 -19708823.49 -19708823.34 0.1680 0.0723

Jupiter -58672-05-24 05:59 J -19708381.38 -19708381.25 -19708381.10 0.0495 0.0318

Jupiter -58672-08-22 14:37 J -19708291.02 -19708290.89 -19708290.76 0.0496 0.0355

Moon -58671-06-27 16:47 J -19707981.91 -19707981.80 -19707981.70 0.2673 0.1035

Earth -58671-06-27 16:33 J -19707981.91 -19707981.81 -19707981.71 0.2680 0.1088 *

Venus -58670-12-13 11:16 J -19707448.13 -19707448.03 -19707447.93 0.3805 0.0170

Jupiter -58666-04-24 03:49 J -19706220.47 -19706220.34 -19706220.21 0.0530 0.0090

Jupiter -58666-07-22 10:04 J -19706131.14 -19706131.08 -19706131.01 0.0529 0.0457

Mars -58665-09-30 17:45 J -19705694.86 -19705694.76 -19705694.65 0.1852 0.0772

Earth -58664-06-20 14:37 J -19705431.98 -19705431.89 -19705431.80 0.2674 0.1716

Moon -58664-06-20 15:06 J -19705431.96 -19705431.87 -19705431.79 0.2680 0.1679 *

Venus -58664-06-28 03:21 J -19705424.45 -19705424.36 -19705424.28 0.3807 0.1841

Mars -58664-07-29 01:25 J -19705393.60 -19705393.44 -19705393.28 0.1688 0.0317

Uranus -58663-09-06 06:57 J -19704989.25 -19704989.21 -19704989.17 0.0132 0.0126

Saturn -58663-11-30 17:16 J -19704903.85 -19704903.78 -19704903.71 0.0294 0.0245

Uranus -58663-12-03 09:49 J -19704901.16 -19704901.09 -19704901.01 0.0132 0.0109

Saturn -58662-02-27 06:13 J -19704815.36 -19704815.24 -19704815.11 0.0295 0.0124

Uranus -58662-03-01 12:42 J -19704813.06 -19704812.97 -19704812.86 0.0133 0.0092

Saturn -58662-05-26 19:11 J -19704726.83 -19704726.70 -19704726.56 0.0296 0.0009

Uranus -58662-05-28 15:49 J -19704724.95 -19704724.84 -19704724.73 0.0133 0.0074

Saturn -58662-08-23 08:09 J -19704638.28 -19704638.16 -19704638.04 0.0297 0.0121

Uranus -58662-08-24 18:57 J -19704636.83 -19704636.71 -19704636.59 0.0133 0.0057

Saturn -58662-11-19 20:52 J -19704549.70 -19704549.63 -19704549.55 0.0298 0.0242

Uranus -58662-11-20 21:49 J -19704548.71 -19704548.59 -19704548.46 0.0133 0.0040

Uranus -58661-02-17 00:42 J -19704460.59 -19704460.47 -19704460.33 0.0133 0.0023

Uranus -58661-05-15 03:49 J -19704372.47 -19704372.34 -19704372.21 0.0133 0.0005

Uranus -58661-08-11 06:42 J -19704284.35 -19704284.22 -19704284.08 0.0133 0.0013

Uranus -58661-11-07 09:49 J -19704196.22 -19704196.09 -19704195.96 0.0133 0.0029

Uranus -58660-02-03 12:42 J -19704108.09 -19704107.97 -19704107.85 0.0133 0.0046

Jupiter -58660-03-12 04:04 J -19704071.37 -19704071.33 -19704071.28 0.0496 0.0476

Uranus -58660-05-02 15:35 J -19704019.96 -19704019.85 -19704019.73 0.0133 0.0064

Jupiter -58660-06-10 12:28 J -19703981.15 -19703980.98 -19703980.81 0.0496 0.0191

Uranus -58660-07-29 18:28 J -19703931.83 -19703931.73 -19703931.62 0.0133 0.0081

Uranus -58660-10-25 21:21 J -19703843.69 -19703843.61 -19703843.51 0.0133 0.0099

Uranus -58659-01-22 00:28 J -19703755.54 -19703755.48 -19703755.41 0.0133 0.0115

Uranus -58659-04-20 03:21 J -19703667.37 -19703667.36 -19703667.34 0.0134 0.0133

Venus -58658-01-11 19:11 J -19703400.71 -19703400.70 -19703400.70 0.3810 0.3795

Moon -58658-06-30 10:18 J -19703231.14 -19703231.07 -19703231.00 0.2676 0.2073

Earth -58658-06-30 10:47 J -19703231.12 -19703231.05 -19703230.98 0.2682 0.2064 *

Mars -58655-02-21 02:09 J -19702264.46 -19702264.41 -19702264.36 0.1843 0.1645

Moon -58655-12-17 23:16 J -19701964.65 -19701964.53 -19701964.41 0.2656 0.1601

Earth -58655-12-18 00:42 J -19701964.59 -19701964.47 -19701964.35 0.2658 0.1534 *

Mars -58655-12-19 02:23 J -19701963.49 -19701963.40 -19701963.30 0.1696 0.1368

Jupiter -58654-02-10 07:40 J -19701910.29 -19701910.18 -19701910.06 0.0530 0.0230

Jupiter -58654-05-10 14:09 J -19701821.01 -19701820.91 -19701820.80 0.0529 0.0322

Earth -58651-06-23 09:06 J -19700681.23 -19700681.12 -19700681.02 0.2676 0.0712

Moon -58651-06-23 09:49 J -19700681.20 -19700681.09 -19700680.98 0.2676 0.0610 *

Saturn -58649-09-28 22:47 J -19699852.67 -19699852.55 -19699852.43 0.0267 0.0201

Saturn -58649-12-26 18:28 J -19699763.90 -19699763.73 -19699763.55 0.0266 0.0080

Saturn -58648-03-25 14:23 J -19699675.08 -19699674.90 -19699674.71 0.0265 0.0044

Jupiter -58648-03-29 10:18 J -19699671.25 -19699671.07 -19699670.88 0.0496 0.0032

Saturn -58648-06-22 10:33 J -19699586.20 -19699586.06 -19699585.91 0.0265 0.0165

Mars -58644-06-19 01:25 J -19698128.53 -19698128.44 -19698128.35 0.1869 0.1122

Jupiter -58643-11-29 11:01 J -19697600.12 -19697600.04 -19697599.94 0.0531 0.0377

Jupiter -58642-02-26 17:59 J -19697510.87 -19697510.75 -19697510.63 0.0530 0.0179

Moon -58642-12-21 04:33 J -19697213.46 -19697213.31 -19697213.16 0.2658 0.0180

Earth -58642-12-21 05:59 J -19697213.40 -19697213.25 -19697213.09 0.2655 0.0316 *

Neptune -58639-12-31 15:06 J -19696106.90 -19696106.87 -19696106.81 0.0089 0.0084

Neptune -58638-03-29 16:33 J -19696018.86 -19696018.81 -19696018.73 0.0089 0.0078

Neptune -58638-06-25 18:13 J -19695930.81 -19695930.74 -19695930.65 0.0089 0.0072

Earth -58638-06-26 03:21 J -19695930.47 -19695930.36 -19695930.25 0.2678 0.0300

Moon -58638-06-26 03:49 J -19695930.45 -19695930.34 -19695930.23 0.2675 0.0302 *

Neptune -58638-09-21 19:40 J -19695842.76 -19695842.68 -19695842.58 0.0089 0.0066

Neptune -58638-12-18 21:21 J -19695754.71 -19695754.61 -19695754.51 0.0089 0.0060

Neptune -58637-03-15 22:33 J -19695666.66 -19695666.56 -19695666.44 0.0089 0.0055

Neptune -58637-06-11 23:59 J -19695578.60 -19695578.50 -19695578.38 0.0089 0.0049

Neptune -58637-09-08 01:40 J -19695490.55 -19695490.43 -19695490.31 0.0089 0.0043

Neptune -58637-12-05 02:52 J -19695402.49 -19695402.38 -19695402.24 0.0089 0.0038

Jupiter -58636-01-15 08:09 J -19695361.34 -19695361.16 -19695360.99 0.0496 0.0134

Neptune -58636-03-03 04:33 J -19695314.44 -19695314.31 -19695314.18 0.0089 0.0031

Neptune -58636-05-30 05:59 J -19695226.38 -19695226.25 -19695226.12 0.0089 0.0026

Neptune -58636-08-26 07:25 J -19695138.32 -19695138.19 -19695138.06 0.0089 0.0020

Neptune -58636-11-22 08:52 J -19695050.26 -19695050.13 -19695050.00 0.0089 0.0014

Pluto -58636-12-21 18:28 J -19695020.74 -19695020.73 -19695020.69 0.0061 0.0060

Neptune -58635-02-18 10:18 J -19694962.21 -19694962.07 -19694961.93 0.0089 0.0009

Pluto -58635-03-19 19:54 J -19694932.74 -19694932.67 -19694932.60 0.0061 0.0056

Neptune -58635-05-17 11:45 J -19694874.15 -19694874.01 -19694873.88 0.0089 0.0003

Pluto -58635-06-15 20:37 J -19694844.72 -19694844.64 -19694844.53 0.0061 0.0051

Neptune -58635-08-13 13:11 J -19694786.09 -19694785.95 -19694785.82 0.0089 0.0003

Pluto -58635-09-11 21:49 J -19694756.69 -19694756.59 -19694756.47 0.0061 0.0047

Mars -58635-11-09 09:35 J -19694698.22 -19694698.10 -19694697.98 0.1860 0.0218

Neptune -58635-11-09 14:23 J -19694698.03 -19694697.90 -19694697.76 0.0089 0.0009 *

Pluto -58635-12-08 22:47 J -19694668.66 -19694668.55 -19694668.41 0.0061 0.0042

Neptune -58634-02-05 15:49 J -19694609.97 -19694609.84 -19694609.70 0.0089 0.0014

Pluto -58634-03-06 23:59 J -19694580.62 -19694580.50 -19694580.35 0.0061 0.0038

Neptune -58634-05-04 17:16 J -19694521.91 -19694521.78 -19694521.64 0.0089 0.0020

Pluto -58634-06-03 01:25 J -19694492.59 -19694492.44 -19694492.29 0.0061 0.0033

Neptune -58634-07-31 18:42 J -19694433.85 -19694433.72 -19694433.59 0.0089 0.0025

Pluto -58634-08-30 02:09 J -19694404.55 -19694404.41 -19694404.24 0.0062 0.0029

Mars -58634-09-07 00:57 J -19694396.60 -19694396.46 -19694396.32 0.1680 0.0869

Neptune -58634-10-27 20:09 J -19694345.79 -19694345.66 -19694345.53 0.0089 0.0031

Pluto -58634-11-26 03:21 J -19694316.51 -19694316.36 -19694316.18 0.0062 0.0024

Neptune -58633-01-23 21:21 J -19694257.72 -19694257.61 -19694257.48 0.0089 0.0037

Pluto -58633-02-22 04:33 J -19694228.47 -19694228.31 -19694228.13 0.0062 0.0019

Saturn -58633-04-18 18:57 J -19694171.74 -19694171.71 -19694171.67 0.0294 0.0282

Neptune -58633-04-20 23:01 J -19694169.66 -19694169.54 -19694169.43 0.0089 0.0042

Pluto -58633-05-20 05:59 J -19694140.42 -19694140.25 -19694140.08 0.0062 0.0014

Saturn -58633-07-16 08:09 J -19694083.27 -19694083.16 -19694083.05 0.0295 0.0160

Neptune -58633-07-18 00:13 J -19694081.60 -19694081.49 -19694081.37 0.0089 0.0048

Pluto -58633-08-16 07:11 J -19694052.38 -19694052.20 -19694052.03 0.0062 0.0009

Saturn -58633-10-12 21:06 J -19693994.75 -19693994.62 -19693994.49 0.0296 0.0038

Neptune -58633-10-14 01:25 J -19693993.54 -19693993.44 -19693993.32 0.0089 0.0054

Pluto -58633-11-12 08:09 J -19693964.33 -19693964.16 -19693963.98 0.0062 0.0005

Saturn -58632-01-09 10:04 J -19693906.21 -19693906.08 -19693905.96 0.0297 0.0084

Neptune -58632-01-10 02:52 J -19693905.47 -19693905.38 -19693905.27 0.0089 0.0059

Pluto -58632-02-08 09:21 J -19693876.28 -19693876.11 -19693875.93 0.0062 0.0001

Saturn -58632-04-07 22:47 J -19693817.64 -19693817.55 -19693817.45 0.0297 0.0205

Neptune -58632-04-08 04:18 J -19693817.40 -19693817.32 -19693817.22 0.0089 0.0064

Pluto -58632-05-07 10:33 J -19693788.23 -19693788.06 -19693787.88 0.0062 0.0005

Neptune -58632-07-05 05:45 J -19693729.34 -19693729.26 -19693729.17 0.0089 0.0070

Pluto -58632-08-03 11:45 J -19693700.18 -19693700.01 -19693699.83 0.0062 0.0010

Neptune -58632-10-01 06:57 J -19693641.27 -19693641.21 -19693641.13 0.0089 0.0076

Pluto -58632-10-30 12:57 J -19693612.13 -19693611.96 -19693611.79 0.0062 0.0015

Neptune -58632-12-28 08:23 J -19693553.19 -19693553.15 -19693553.09 0.0089 0.0081

Pluto -58631-01-26 13:54 J -19693524.08 -19693523.92 -19693523.74 0.0062 0.0021

Neptune -58631-03-26 09:35 J -19693465.11 -19693465.10 -19693465.06 0.0089 0.0087

Pluto -58631-04-24 15:06 J -19693436.02 -19693435.87 -19693435.70 0.0062 0.0026

Moon -58631-06-19 01:11 J -19693380.49 -19693380.45 -19693380.41 0.2679 0.2486

Earth -58631-06-19 01:11 J -19693380.49 -19693380.45 -19693380.42 0.2672 0.2541 *

Pluto -58631-07-21 16:18 J -19693347.96 -19693347.82 -19693347.65 0.0062 0.0031

Jupiter -58631-09-17 15:06 J -19693289.89 -19693289.87 -19693289.83 0.0531 0.0513

Pluto -58631-10-17 17:30 J -19693259.90 -19693259.77 -19693259.61 0.0063 0.0036

Jupiter -58631-12-15 22:18 J -19693200.70 -19693200.57 -19693200.45 0.0530 0.0048

Pluto -58630-01-13 18:42 J -19693171.84 -19693171.72 -19693171.57 0.0063 0.0041

Pluto -58630-04-11 19:54 J -19693083.77 -19693083.67 -19693083.53 0.0063 0.0046

Pluto -58630-07-08 21:21 J -19692995.70 -19692995.61 -19692995.50 0.0063 0.0051

Pluto -58630-10-04 22:33 J -19692907.63 -19692907.56 -19692907.47 0.0063 0.0056

Pluto -58630-12-31 23:59 J -19692819.53 -19692819.50 -19692819.46 0.0063 0.0061

Moon -58629-12-23 11:01 J -19692462.13 -19692462.04 -19692461.94 0.2658 0.2091

Earth -58629-12-23 11:45 J -19692462.09 -19692462.01 -19692461.92 0.2653 0.2208 *

Venus -58627-09-12 00:57 J -19691834.57 -19691834.46 -19691834.35 0.3576 0.2519

Mars -58625-03-31 17:59 J -19691267.86 -19691267.75 -19691267.64 0.1852 0.0664

Moon -58625-06-27 21:35 J -19691179.70 -19691179.60 -19691179.50 0.2673 0.1346

Earth -58625-06-27 21:35 J -19691179.70 -19691179.60 -19691179.51 0.2680 0.1281 *

Jupiter -58625-11-03 04:33 J -19691051.45 -19691051.31 -19691051.17 0.0495 0.0311

Mars -58624-01-27 01:54 J -19690966.58 -19690966.42 -19690966.26 0.1688 0.0185

Jupiter -58624-02-01 12:57 J -19690961.08 -19690960.96 -19690960.83 0.0496 0.0361

Venus -58624-06-20 01:11 J -19690822.50 -19690822.45 -19690822.41 0.3801 0.3331

Uranus -58622-09-25 05:59 J -19689995.28 -19689995.25 -19689995.20 0.0146 0.0142

Uranus -58622-12-22 14:37 J -19689907.01 -19689906.89 -19689906.76 0.0146 0.0109

Uranus -58621-03-19 23:16 J -19689818.69 -19689818.53 -19689818.36 0.0146 0.0076

Venus -58621-03-28 10:33 J -19689810.15 -19689810.06 -19689809.98 0.3572 0.2993

Uranus -58621-06-16 07:54 J -19689730.35 -19689730.17 -19689729.99 0.0146 0.0043

Uranus -58621-09-12 16:33 J -19689642.00 -19689641.81 -19689641.62 0.0146 0.0010

Uranus -58621-12-10 00:57 J -19689553.64 -19689553.46 -19689553.26 0.0146 0.0024

Uranus -58620-03-08 09:35 J -19689465.27 -19689465.10 -19689464.91 0.0146 0.0057

Uranus -58620-06-04 18:13 J -19689376.88 -19689376.74 -19689376.58 0.0145 0.0090

Uranus -58620-09-01 02:52 J -19689288.47 -19689288.38 -19689288.27 0.0145 0.0123

Saturn -58619-02-15 22:33 J -19689120.64 -19689120.56 -19689120.47 0.0267 0.0233

Saturn -58619-05-15 18:28 J -19689031.90 -19689031.73 -19689031.57 0.0267 0.0112

Saturn -58619-08-12 14:23 J -19688943.08 -19688942.90 -19688942.72 0.0266 0.0010

Jupiter -58619-10-04 02:37 J -19688890.51 -19688890.39 -19688890.26 0.0531 0.0084

Saturn -58619-11-09 10:33 J -19688854.22 -19688854.06 -19688853.90 0.0265 0.0133

Jupiter -58618-01-01 09:06 J -19688801.17 -19688801.12 -19688801.06 0.0530 0.0466

Venus -58618-01-03 17:01 J -19688798.89 -19688798.79 -19688798.70 0.3804 0.1387

Saturn -58618-02-06 06:42 J -19688765.27 -19688765.22 -19688765.17 0.0264 0.0255

Earth -58618-06-21 19:25 J -19688629.78 -19688629.69 -19688629.59 0.2674 0.1522

Moon -58618-06-21 20:09 J -19688629.76 -19688629.66 -19688629.57 0.2679 0.1498 *

Mars -58616-08-22 02:09 J -19687837.47 -19687837.41 -19687837.35 0.1843 0.1541

Mars -58615-06-19 03:06 J -19687536.48 -19687536.37 -19687536.26 0.1695 0.1225

Venus -58613-07-19 08:52 J -19686775.23 -19686775.13 -19686775.03 0.3806 0.0587

Jupiter -58613-08-22 02:37 J -19686741.44 -19686741.39 -19686741.34 0.0495 0.0470

Jupiter -58613-11-20 10:47 J -19686651.22 -19686651.05 -19686650.89 0.0496 0.0196

Moon -58612-06-30 15:06 J -19686428.94 -19686428.87 -19686428.80 0.2677 0.2140

Earth -58612-06-30 15:35 J -19686428.91 -19686428.85 -19686428.79 0.2682 0.2248 *

Moon -58609-12-18 05:30 J -19685162.40 -19685162.27 -19685162.14 0.2657 0.1410

Earth -58609-12-18 07:11 J -19685162.34 -19685162.20 -19685162.07 0.2657 0.1196 *

Venus -58607-02-02 00:42 J -19684751.54 -19684751.47 -19684751.40 0.3808 0.2545

Jupiter -58607-07-23 06:57 J -19684580.33 -19684580.21 -19684580.10 0.0531 0.0218

Jupiter -58607-10-20 13:25 J -19684491.04 -19684490.94 -19684490.84 0.0530 0.0334

Earth -58605-06-23 13:54 J -19683879.03 -19683878.92 -19683878.81 0.2676 0.0514

Moon -58605-06-23 14:37 J -19683879.00 -19683878.89 -19683878.78 0.2676 0.0449 *

Mars -58605-12-18 01:25 J -19683701.53 -19683701.44 -19683701.35 0.1869 0.1221

Saturn -58604-12-03 08:23 J -19683351.24 -19683351.15 -19683351.06 0.0294 0.0209

Saturn -58603-03-01 21:21 J -19683262.74 -19683262.61 -19683262.48 0.0295 0.0087

Saturn -58603-05-29 10:18 J -19683174.20 -19683174.07 -19683173.94 0.0296 0.0034

Saturn -58603-08-25 23:01 J -19683085.65 -19683085.54 -19683085.43 0.0297 0.0156

Saturn -58603-11-22 11:45 J -19682997.05 -19682997.01 -19682996.96 0.0298 0.0277

Jupiter -58601-09-08 08:37 J -19682341.33 -19682341.14 -19682340.96 0.0496 0.0035

Moon -58596-12-21 11:01 J -19680411.19 -19680411.04 -19680410.89 0.2658 0.0540

Earth -58596-12-21 12:28 J -19680411.13 -19680410.98 -19680410.83 0.2655 0.0658 *

Mars -58595-05-10 09:35 J -19680271.21 -19680271.10 -19680270.98 0.1861 0.0326

Jupiter -58595-05-11 10:47 J -19680270.14 -19680270.05 -19680269.96 0.0531 0.0357

Jupiter -58595-08-08 17:30 J -19680180.89 -19680180.77 -19680180.65 0.0530 0.0199

Mars -58594-03-08 01:25 J -19679969.57 -19679969.44 -19679969.31 0.1680 0.0993

Earth -58592-06-26 08:09 J -19679128.27 -19679128.16 -19679128.05 0.2679 0.0483

Moon -58592-06-26 08:37 J -19679128.25 -19679128.14 -19679128.03 0.2673 0.0562 *

Saturn -58590-10-02 16:18 J -19678299.96 -19678299.82 -19678299.67 0.0267 0.0158

Saturn -58590-12-30 12:28 J -19678211.17 -19678210.98 -19678210.80 0.0266 0.0036

Saturn -58589-03-28 08:23 J -19678122.32 -19678122.15 -19678121.97 0.0265 0.0087

Saturn -58589-06-25 04:33 J -19678033.42 -19678033.31 -19678033.19 0.0265 0.0210

Jupiter -58589-06-27 06:42 J -19678031.40 -19678031.22 -19678031.04 0.0496 0.0125

Mars -58586-09-30 17:59 J -19676840.87 -19676840.75 -19676840.64 0.1852 0.0568

Earth -58585-06-19 05:59 J -19676578.30 -19676578.25 -19676578.20 0.2672 0.2337

Moon -58585-06-19 05:59 J -19676578.29 -19676578.25 -19676578.20 0.2680 0.2401 *

Mars -58585-07-28 02:37 J -19676539.55 -19676539.39 -19676539.23 0.1688 0.0042

Jupiter -58583-02-27 14:23 J -19675959.94 -19675959.90 -19675959.87 0.0531 0.0503

Jupiter -58583-05-27 21:21 J -19675870.74 -19675870.61 -19675870.49 0.0530 0.0058

Moon -58583-12-24 17:45 J -19675659.80 -19675659.76 -19675659.72 0.2659 0.2549

Earth -58583-12-24 18:13 J -19675659.77 -19675659.74 -19675659.70 0.2652 0.2551 *

Moon -58579-06-29 02:23 J -19674377.49 -19674377.40 -19674377.30 0.2674 0.1410

Earth -58579-06-29 02:23 J -19674377.49 -19674377.40 -19674377.31 0.2681 0.1468 *

Uranus -58579-09-26 13:40 J -19674287.97 -19674287.93 -19674287.87 0.0132 0.0123

Uranus -58579-12-23 16:47 J -19674199.87 -19674199.80 -19674199.71 0.0133 0.0105

Uranus -58578-03-21 19:54 J -19674111.77 -19674111.67 -19674111.57 0.0133 0.0088

Uranus -58578-06-17 22:47 J -19674023.66 -19674023.55 -19674023.43 0.0133 0.0071

Uranus -58578-09-14 01:54 J -19673935.54 -19673935.42 -19673935.30 0.0133 0.0053

Uranus -58578-12-11 04:47 J -19673847.42 -19673847.30 -19673847.17 0.0133 0.0037

Uranus -58577-03-08 07:54 J -19673759.30 -19673759.17 -19673759.04 0.0133 0.0019

Jupiter -58577-04-15 04:33 J -19673721.46 -19673721.31 -19673721.16 0.0496 0.0286

Uranus -58577-06-04 10:47 J -19673671.18 -19673671.05 -19673670.91 0.0133 0.0003

Jupiter -58577-07-14 13:11 J -19673631.07 -19673630.95 -19673630.84 0.0496 0.0388

Uranus -58577-08-31 13:54 J -19673583.05 -19673582.92 -19673582.79 0.0133 0.0016

Uranus -58577-11-27 16:47 J -19673494.93 -19673494.80 -19673494.67 0.0133 0.0033

Mars -58576-02-20 02:09 J -19673410.48 -19673410.41 -19673410.34 0.1843 0.1442

Uranus -58576-02-23 19:40 J -19673406.80 -19673406.68 -19673406.55 0.0133 0.0050

Uranus -58576-05-22 22:33 J -19673318.67 -19673318.56 -19673318.44 0.0133 0.0067

Uranus -58576-08-19 01:40 J -19673230.53 -19673230.43 -19673230.33 0.0133 0.0084

Uranus -58576-11-15 04:33 J -19673142.39 -19673142.31 -19673142.22 0.0133 0.0102

Mars -58576-12-18 03:49 J -19673109.46 -19673109.34 -19673109.22 0.1695 0.1084

Uranus -58575-02-11 07:40 J -19673054.24 -19673054.18 -19673054.13 0.0133 0.0119

Saturn -58574-04-22 09:49 J -19672619.16 -19672619.09 -19672619.02 0.0294 0.0248

Saturn -58574-07-19 22:47 J -19672530.67 -19672530.55 -19672530.43 0.0295 0.0127

Saturn -58574-10-16 11:45 J -19672442.14 -19672442.01 -19672441.88 0.0296 0.0006

Saturn -58573-01-13 00:28 J -19672353.60 -19672353.48 -19672353.35 0.0297 0.0117

Saturn -58573-04-10 13:25 J -19672265.02 -19672264.94 -19672264.86 0.0297 0.0237

Earth -58572-06-22 00:28 J -19671827.58 -19671827.48 -19671827.38 0.2675 0.1326

Moon -58572-06-22 00:57 J -19671827.55 -19671827.46 -19671827.36 0.2678 0.1222 *

Jupiter -58571-03-16 01:25 J -19671560.56 -19671560.44 -19671560.31 0.0530 0.0078

Jupiter -58571-06-13 07:54 J -19671471.22 -19671471.17 -19671471.11 0.0530 0.0471

Venus -58570-04-19 03:21 J -19671161.52 -19671161.36 -19671161.20 0.3575 0.0650

Venus -58567-01-24 22:33 J -19670149.63 -19670149.56 -19670149.49 0.3802 0.2626

Moon -58566-07-01 19:54 J -19669626.72 -19669626.67 -19669626.63 0.2678 0.2437

Earth -58566-07-01 20:23 J -19669626.69 -19669626.65 -19669626.60 0.2683 0.2434 *

Jupiter -58565-02-02 01:25 J -19669411.51 -19669411.44 -19669411.38 0.0495 0.0460

Jupiter -58565-05-02 09:21 J -19669321.28 -19669321.11 -19669320.94 0.0496 0.0206

Mars -58565-06-18 01:25 J -19669274.52 -19669274.44 -19669274.36 0.1869 0.1326

Moon -58563-12-19 11:45 J -19668360.15 -19668360.01 -19668359.86 0.2657 0.0899

Earth -58563-12-19 13:25 J -19668360.08 -19668359.94 -19668359.79 0.2657 0.0860 *

Venus -58562-08-10 14:23 J -19668126.00 -19668125.90 -19668125.80 0.3804 0.0676

Saturn -58560-02-18 16:04 J -19667567.95 -19667567.83 -19667567.70 0.0267 0.0192

Saturn -58560-05-18 11:59 J -19667479.18 -19667479.00 -19667478.83 0.0266 0.0070

Saturn -58560-08-15 07:54 J -19667390.35 -19667390.17 -19667389.99 0.0266 0.0053

Saturn -58560-11-12 04:04 J -19667301.47 -19667301.33 -19667301.19 0.0265 0.0175

Jupiter -58559-01-02 05:59 J -19667250.37 -19667250.25 -19667250.14 0.0531 0.0209

Jupiter -58559-04-01 12:28 J -19667161.07 -19667160.98 -19667160.88 0.0530 0.0345

Earth -58559-06-24 18:42 J -19667076.83 -19667076.72 -19667076.60 0.2677 0.0330

Moon -58559-06-24 19:25 J -19667076.80 -19667076.69 -19667076.57 0.2677 0.0272 *

Venus -58556-02-23 06:28 J -19666102.33 -19666102.23 -19666102.14 0.3806 0.1310

Neptune -58556-09-16 22:47 J -19665896.59 -19665896.55 -19665896.46 0.0089 0.0083

Mars -58556-11-08 09:49 J -19665844.21 -19665844.09 -19665843.98 0.1861 0.0438

Neptune -58556-12-14 02:23 J -19665808.49 -19665808.40 -19665808.29 0.0089 0.0075

Neptune -58555-03-12 05:45 J -19665720.37 -19665720.26 -19665720.13 0.0089 0.0067

Neptune -58555-06-08 08:52 J -19665632.25 -19665632.13 -19665631.98 0.0089 0.0060

Neptune -58555-09-04 12:13 J -19665544.13 -19665543.99 -19665543.83 0.0089 0.0052

Mars -58555-09-06 02:09 J -19665542.53 -19665542.41 -19665542.29 0.1680 0.1132

Neptune -58555-12-01 15:35 J -19665456.00 -19665455.85 -19665455.68 0.0089 0.0044

Neptune -58554-02-27 18:57 J -19665367.87 -19665367.71 -19665367.53 0.0089 0.0036

Neptune -58554-05-26 22:18 J -19665279.74 -19665279.57 -19665279.39 0.0089 0.0028

Neptune -58554-08-23 01:40 J -19665191.61 -19665191.43 -19665191.24 0.0089 0.0021

Neptune -58554-11-19 05:01 J -19665103.47 -19665103.29 -19665103.10 0.0089 0.0013

Neptune -58553-02-15 08:37 J -19665015.33 -19665015.14 -19665014.96 0.0089 0.0005

Jupiter -58553-02-19 07:11 J -19665011.38 -19665011.20 -19665011.02 0.0496 0.0043

Neptune -58553-05-13 11:59 J -19664927.19 -19664927.00 -19664926.81 0.0089 0.0004

Neptune -58553-08-09 15:06 J -19664839.05 -19664838.87 -19664838.68 0.0089 0.0012

Neptune -58553-11-05 18:42 J -19664750.91 -19664750.72 -19664750.54 0.0089 0.0019

Neptune -58552-02-01 22:04 J -19664662.76 -19664662.58 -19664662.40 0.0089 0.0027

Neptune -58552-05-01 01:25 J -19664574.61 -19664574.44 -19664574.26 0.0089 0.0035

Neptune -58552-07-28 04:47 J -19664486.46 -19664486.30 -19664486.13 0.0089 0.0043

Neptune -58552-10-24 08:09 J -19664398.31 -19664398.16 -19664398.00 0.0089 0.0051

Neptune -58551-01-20 11:30 J -19664310.15 -19664310.02 -19664309.87 0.0089 0.0059

Neptune -58551-04-18 15:06 J -19664221.99 -19664221.87 -19664221.74 0.0089 0.0067

Neptune -58551-07-15 18:28 J -19664133.82 -19664133.73 -19664133.62 0.0089 0.0075

Venus -58551-09-08 22:18 J -19664078.62 -19664078.57 -19664078.52 0.3809 0.3261

Neptune -58551-10-11 21:49 J -19664045.64 -19664045.59 -19664045.51 0.0089 0.0083

Moon -58550-12-22 17:45 J -19663608.91 -19663608.76 -19663608.62 0.2658 0.0846

Earth -58550-12-22 18:57 J -19663608.85 -19663608.71 -19663608.57 0.2655 0.0998 *

Jupiter -58548-10-21 10:04 J -19662940.18 -19662940.08 -19662939.98 0.0531 0.0343

Jupiter -58547-01-18 16:47 J -19662850.91 -19662850.80 -19662850.68 0.0530 0.0214

Mars -58546-03-31 17:59 J -19662413.87 -19662413.75 -19662413.64 0.1852 0.0463

Earth -58546-06-27 12:57 J -19662326.06 -19662325.96 -19662325.85 0.2679 0.0683

Moon -58546-06-27 13:25 J -19662326.05 -19662325.94 -19662325.83 0.2673 0.0694 *

Mars -58545-01-27 03:06 J -19662112.53 -19662112.37 -19662112.20 0.1687 0.0100

Saturn -58545-12-05 23:01 J -19661798.64 -19661798.54 -19661798.43 0.0294 0.0176

Saturn -58544-03-04 11:59 J -19661710.13 -19661710.00 -19661709.87 0.0295 0.0055

Saturn -58544-06-01 00:57 J -19661621.59 -19661621.46 -19661621.33 0.0296 0.0066

Saturn -58544-08-28 13:40 J -19661533.03 -19661532.93 -19661532.83 0.0297 0.0187

Pluto -58543-02-14 18:42 J -19661362.75 -19661362.72 -19661362.68 0.0083 0.0081

Pluto -58543-05-13 20:23 J -19661274.72 -19661274.65 -19661274.58 0.0083 0.0071

Pluto -58543-08-09 21:35 J -19661186.68 -19661186.60 -19661186.49 0.0083 0.0062

Pluto -58543-11-05 23:30 J -19661098.63 -19661098.52 -19661098.40 0.0083 0.0051

Pluto -58542-02-02 01:11 J -19661010.57 -19661010.45 -19661010.32 0.0083 0.0041

Pluto -58542-05-01 02:37 J -19660922.52 -19660922.39 -19660922.25 0.0083 0.0032

Pluto -58542-07-28 04:18 J -19660834.46 -19660834.32 -19660834.18 0.0083 0.0022

Pluto -58542-10-24 05:45 J -19660746.40 -19660746.26 -19660746.11 0.0082 0.0013

Jupiter -58542-12-08 05:01 J -19660701.46 -19660701.29 -19660701.11 0.0496 0.0119

Pluto -58541-01-20 07:25 J -19660658.33 -19660658.19 -19660658.05 0.0082 0.0003

Pluto -58541-04-17 08:52 J -19660570.27 -19660570.13 -19660569.98 0.0082 0.0007

Pluto -58541-07-14 10:18 J -19660482.20 -19660482.07 -19660481.92 0.0082 0.0016

Pluto -58541-10-10 11:45 J -19660394.14 -19660394.01 -19660393.86 0.0082 0.0025

Pluto -58540-01-06 13:25 J -19660306.07 -19660305.94 -19660305.81 0.0082 0.0034

Pluto -58540-04-04 14:52 J -19660218.00 -19660217.88 -19660217.76 0.0082 0.0043

Pluto -58540-07-01 16:18 J -19660129.92 -19660129.82 -19660129.71 0.0082 0.0052

Pluto -58540-09-27 17:45 J -19660041.85 -19660041.76 -19660041.66 0.0081 0.0061

Pluto -58540-12-24 18:57 J -19659953.77 -19659953.71 -19659953.62 0.0081 0.0070

Pluto -58539-03-22 20:23 J -19659865.67 -19659865.65 -19659865.60 0.0081 0.0078

Moon -58539-06-20 11:01 J -19659776.11 -19659776.04 -19659775.97 0.2679 0.2071

Earth -58539-06-20 11:01 J -19659776.11 -19659776.04 -19659775.98 0.2673 0.2142 *

Uranus -58538-10-15 12:28 J -19659294.03 -19659293.98 -19659293.91 0.0146 0.0138

Uranus -58537-01-11 21:06 J -19659205.75 -19659205.62 -19659205.48 0.0146 0.0105

Uranus -58537-04-09 05:45 J -19659117.43 -19659117.26 -19659117.09 0.0146 0.0072

Uranus -58537-07-06 14:09 J -19659029.09 -19659028.91 -19659028.72 0.0146 0.0039

Mars -58537-08-21 02:23 J -19658983.49 -19658983.40 -19658983.32 0.1843 0.1334

Uranus -58537-10-02 22:47 J -19658940.74 -19658940.55 -19658940.35 0.0146 0.0007

Uranus -58537-12-30 07:25 J -19658852.38 -19658852.19 -19658852.00 0.0146 0.0028

Uranus -58536-03-28 16:04 J -19658764.00 -19658763.83 -19658763.65 0.0146 0.0061

Mars -58536-06-18 04:18 J -19658682.45 -19658682.32 -19658682.19 0.1695 0.0958

Uranus -58536-06-25 00:28 J -19658675.61 -19658675.48 -19658675.32 0.0146 0.0095

Jupiter -58536-08-09 13:54 J -19658629.97 -19658629.92 -19658629.86 0.0531 0.0482

Uranus -58536-09-21 09:06 J -19658587.20 -19658587.12 -19658587.01 0.0145 0.0128

Jupiter -58536-11-06 20:52 J -19658540.75 -19658540.63 -19658540.50 0.0530 0.0080

Moon -58533-06-29 07:11 J -19657575.29 -19657575.20 -19657575.12 0.2674 0.1682

Earth -58533-06-29 07:11 J -19657575.29 -19657575.20 -19657575.11 0.2681 0.1651 *

Saturn -58531-07-08 13:25 J -19656836.01 -19656835.94 -19656835.85 0.0267 0.0240

Saturn -58531-10-05 09:21 J -19656747.27 -19656747.11 -19656746.94 0.0267 0.0118

Saturn -58530-01-02 05:30 J -19656658.46 -19656658.27 -19656658.09 0.0266 0.0007

Saturn -58530-04-01 01:25 J -19656569.60 -19656569.44 -19656569.27 0.0265 0.0127

Saturn -58530-06-28 21:35 J -19656480.65 -19656480.60 -19656480.53 0.0265 0.0250

Jupiter -58530-09-26 03:21 J -19656391.51 -19656391.36 -19656391.21 0.0496 0.0275

Moon -58530-12-17 13:25 J -19656309.01 -19656308.94 -19656308.87 0.2656 0.2356

Earth -58530-12-17 14:37 J -19656308.96 -19656308.89 -19656308.82 0.2659 0.2337 *

Jupiter -58530-12-25 11:59 J -19656301.11 -19656301.00 -19656300.89 0.0496 0.0400

Earth -58526-06-23 05:16 J -19655025.38 -19655025.28 -19655025.18 0.2675 0.1130

Moon -58526-06-23 05:59 J -19655025.35 -19655025.25 -19655025.15 0.2678 0.1122 *

Mars -58526-12-18 01:25 J -19654847.51 -19654847.44 -19654847.37 0.1869 0.1425

Jupiter -58524-08-26 00:42 J -19654230.60 -19654230.47 -19654230.34 0.0530 0.0066

Jupiter -58524-11-23 07:11 J -19654141.25 -19654141.20 -19654141.15 0.0529 0.0482

Moon -58520-07-02 00:42 J -19652824.51 -19652824.47 -19652824.43 0.2678 0.2490

Earth -58520-07-02 01:11 J -19652824.47 -19652824.45 -19652824.43 0.2683 0.2622 *

Jupiter -58518-07-15 01:25 J -19652081.52 -19652081.44 -19652081.35 0.0495 0.0435

Jupiter -58518-10-13 09:35 J -19651991.26 -19651991.10 -19651990.94 0.0496 0.0234

Moon -58517-12-19 18:13 J -19651557.88 -19651557.74 -19651557.59 0.2657 0.0769

Earth -58517-12-19 19:54 J -19651557.82 -19651557.67 -19651557.52 0.2657 0.0519 *

Mars -58516-05-09 09:35 J -19651417.21 -19651417.10 -19651416.99 0.1861 0.0524

Mars -58515-03-07 02:52 J -19651115.48 -19651115.38 -19651115.28 0.1680 0.1281

Saturn -58515-04-25 00:13 J -19651066.58 -19651066.49 -19651066.40 0.0294 0.0218

Saturn -58515-07-22 13:11 J -19650978.08 -19650977.95 -19650977.82 0.0295 0.0097

Saturn -58515-10-19 02:09 J -19650889.54 -19650889.41 -19650889.28 0.0296 0.0025

Saturn -58514-01-15 14:52 J -19650800.99 -19650800.88 -19650800.76 0.0297 0.0146

Saturn -58514-04-14 03:35 J -19650712.40 -19650712.35 -19650712.29 0.0297 0.0266

Venus -58514-11-24 05:30 J -19650488.42 -19650488.27 -19650488.12 0.3574 0.1207

Earth -58513-06-24 23:45 J -19650274.62 -19650274.51 -19650274.40 0.2677 0.0142

Moon -58513-06-25 00:28 J -19650274.60 -19650274.48 -19650274.37 0.2675 0.0094 *

Jupiter -58512-06-14 04:47 J -19649920.42 -19649920.30 -19649920.18 0.0531 0.0200

Jupiter -58512-09-11 11:30 J -19649831.11 -19649831.02 -19649830.93 0.0530 0.0353

Venus -58511-08-31 20:09 J -19649476.75 -19649476.66 -19649476.58 0.3802 0.1923

Mars -58507-09-29 17:59 J -19647986.86 -19647986.75 -19647986.63 0.1852 0.0354

Mars -58506-07-28 03:49 J -19647685.50 -19647685.34 -19647685.18 0.1687 0.0228

Jupiter -58506-08-01 06:13 J -19647681.43 -19647681.24 -19647681.06 0.0495 0.0056

Venus -58505-03-16 11:59 J -19647453.10 -19647453.00 -19647452.90 0.3805 0.0068

Moon -58504-12-23 00:28 J -19646806.62 -19646806.48 -19646806.35 0.2659 0.1331

Earth -58504-12-23 01:25 J -19646806.57 -19646806.44 -19646806.31 0.2654 0.1343 *

Saturn -58501-02-22 08:37 J -19646015.28 -19646015.14 -19646014.99 0.0267 0.0155

Saturn -58501-05-21 04:47 J -19645926.49 -19645926.30 -19645926.12 0.0267 0.0033

Saturn -58501-08-18 00:42 J -19645837.64 -19645837.47 -19645837.29 0.0266 0.0091

Saturn -58501-11-14 20:52 J -19645748.73 -19645748.63 -19645748.52 0.0265 0.0214

Jupiter -58500-04-02 09:06 J -19645610.22 -19645610.12 -19645610.02 0.0531 0.0333

Earth -58500-06-27 17:59 J -19645523.86 -19645523.75 -19645523.65 0.2679 0.0861

Moon -58500-06-27 18:13 J -19645523.84 -19645523.74 -19645523.63 0.2673 0.0908 *

Jupiter -58500-06-30 16:04 J -19645520.95 -19645520.83 -19645520.72 0.0530 0.0225

Venus -58500-09-30 03:49 J -19645429.42 -19645429.34 -19645429.26 0.3807 0.2010

Mars -58497-02-20 02:09 J -19644556.49 -19644556.41 -19644556.32 0.1843 0.1235

Mars -58497-12-17 05:01 J -19644255.44 -19644255.29 -19644255.15 0.1695 0.0819

Uranus -58495-10-16 20:37 J -19643586.68 -19643586.64 -19643586.57 0.0133 0.0120

Uranus -58494-01-12 23:59 J -19643498.59 -19643498.50 -19643498.42 0.0133 0.0102

Uranus -58494-04-11 02:52 J -19643410.48 -19643410.38 -19643410.28 0.0133 0.0085

Jupiter -58494-05-20 04:04 J -19643371.51 -19643371.33 -19643371.15 0.0495 0.0106

Uranus -58494-07-08 05:45 J -19643322.37 -19643322.26 -19643322.14 0.0133 0.0068

Uranus -58494-10-04 08:52 J -19643234.25 -19643234.13 -19643234.01 0.0133 0.0050

Uranus -58494-12-31 11:59 J -19643146.13 -19643146.00 -19643145.88 0.0133 0.0033

Uranus -58493-03-28 14:52 J -19643058.01 -19643057.88 -19643057.75 0.0133 0.0016

Earth -58493-06-20 15:49 J -19642973.92 -19642973.84 -19642973.76 0.2673 0.1945

Moon -58493-06-20 16:04 J -19642973.90 -19642973.83 -19642973.75 0.2679 0.1977 *

Uranus -58493-06-24 17:45 J -19642969.89 -19642969.76 -19642969.62 0.0133 0.0004

Uranus -58493-09-20 20:52 J -19642881.76 -19642881.63 -19642881.50 0.0133 0.0019

Uranus -58493-12-17 23:45 J -19642793.64 -19642793.51 -19642793.38 0.0133 0.0036

Uranus -58492-03-16 02:37 J -19642705.51 -19642705.39 -19642705.26 0.0133 0.0053

Uranus -58492-06-12 05:45 J -19642617.37 -19642617.26 -19642617.15 0.0133 0.0071

Uranus -58492-09-08 08:37 J -19642529.24 -19642529.14 -19642529.04 0.0133 0.0088

Uranus -58492-12-05 11:30 J -19642441.09 -19642441.02 -19642440.94 0.0133 0.0105

Uranus -58491-03-03 14:23 J -19642352.94 -19642352.90 -19642352.84 0.0133 0.0122

Jupiter -58488-01-19 13:11 J -19641300.00 -19641299.95 -19641299.89 0.0531 0.0468

Jupiter -58488-04-18 20:23 J -19641210.78 -19641210.65 -19641210.53 0.0530 0.0094

Moon -58487-06-30 11:45 J -19640773.09 -19640773.01 -19640772.92 0.2675 0.1785

Earth -58487-06-30 11:59 J -19640773.08 -19640773.00 -19640772.92 0.2681 0.1841 *

Mars -58486-06-18 01:25 J -19640420.51 -19640420.44 -19640420.37 0.1869 0.1527

Saturn -58486-09-12 00:28 J -19640334.53 -19640334.48 -19640334.42 0.0293 0.0266

Saturn -58486-12-09 13:25 J -19640246.05 -19640245.94 -19640245.82 0.0294 0.0146

Saturn -58485-03-07 02:23 J -19640157.53 -19640157.40 -19640157.27 0.0295 0.0025

Saturn -58485-06-03 15:06 J -19640068.99 -19640068.87 -19640068.74 0.0296 0.0096

Saturn -58485-08-31 04:04 J -19639980.42 -19639980.33 -19639980.25 0.0297 0.0216

Moon -58484-12-17 19:40 J -19639506.77 -19639506.68 -19639506.60 0.2656 0.2185

Earth -58484-12-17 21:06 J -19639506.72 -19639506.62 -19639506.52 0.2659 0.2006 *

Jupiter -58482-03-08 02:09 J -19639061.56 -19639061.41 -19639061.26 0.0495 0.0266

Jupiter -58482-06-06 10:33 J -19638971.16 -19638971.06 -19638970.95 0.0496 0.0408

Earth -58480-06-23 10:18 J -19638223.18 -19638223.07 -19638222.97 0.2675 0.0936

Moon -58480-06-23 11:01 J -19638223.15 -19638223.04 -19638222.94 0.2678 0.0803 *

Mars -58477-11-07 09:49 J -19636990.20 -19636990.09 -19636989.98 0.1861 0.0637

Jupiter -58476-02-05 00:28 J -19636900.61 -19636900.48 -19636900.35 0.0530 0.0044

Jupiter -58476-05-05 06:42 J -19636811.25 -19636811.22 -19636811.18 0.0529 0.0505

Mars -58476-09-05 03:21 J -19636688.45 -19636688.36 -19636688.28 0.1680 0.1404

Neptune -58474-07-01 13:25 J -19636023.95 -19636023.94 -19636023.90 0.0089 0.0087

Neptune -58474-09-27 15:06 J -19635935.92 -19635935.87 -19635935.81 0.0089 0.0081

Neptune -58474-12-24 16:33 J -19635847.88 -19635847.81 -19635847.73 0.0089 0.0075

Neptune -58473-03-21 18:13 J -19635759.83 -19635759.74 -19635759.66 0.0089 0.0069

Neptune -58473-06-17 19:25 J -19635671.78 -19635671.69 -19635671.59 0.0089 0.0063

Neptune -58473-09-13 20:52 J -19635583.72 -19635583.63 -19635583.52 0.0089 0.0058

Neptune -58473-12-10 22:33 J -19635495.67 -19635495.56 -19635495.45 0.0089 0.0052

Neptune -58472-03-08 23:59 J -19635407.62 -19635407.50 -19635407.38 0.0089 0.0046

Neptune -58472-06-05 01:11 J -19635319.56 -19635319.45 -19635319.32 0.0089 0.0041

Saturn -58472-07-11 05:45 J -19635283.37 -19635283.26 -19635283.14 0.0268 0.0205

Neptune -58472-09-01 02:52 J -19635231.51 -19635231.38 -19635231.25 0.0089 0.0035

Saturn -58472-10-08 01:54 J -19635194.60 -19635194.42 -19635194.25 0.0267 0.0083

Neptune -58472-11-28 04:18 J -19635143.45 -19635143.32 -19635143.19 0.0089 0.0029

Saturn -58471-01-04 21:49 J -19635105.77 -19635105.59 -19635105.40 0.0266 0.0040

Neptune -58471-02-24 05:30 J -19635055.39 -19635055.27 -19635055.13 0.0089 0.0024

Saturn -58471-04-03 17:59 J -19635016.89 -19635016.75 -19635016.60 0.0265 0.0163

Neptune -58471-05-23 07:11 J -19634967.33 -19634967.20 -19634967.07 0.0089 0.0017

Neptune -58471-08-19 08:37 J -19634879.28 -19634879.14 -19634879.01 0.0089 0.0012

Neptune -58471-11-15 10:04 J -19634791.22 -19634791.08 -19634790.95 0.0089 0.0006

Moon -58471-12-21 00:42 J -19634755.62 -19634755.47 -19634755.32 0.2657 0.0226

Earth -58471-12-21 02:09 J -19634755.56 -19634755.41 -19634755.25 0.2656 0.0200 *

Jupiter -58471-12-25 00:13 J -19634751.58 -19634751.49 -19634751.39 0.0495 0.0423

Neptune -58470-02-11 11:30 J -19634703.16 -19634703.02 -19634702.89 0.0089 0.0002

Jupiter -58470-03-25 08:23 J -19634661.30 -19634661.15 -19634660.98 0.0496 0.0248

Neptune -58470-05-10 12:57 J -19634615.10 -19634614.96 -19634614.83 0.0089 0.0006

Neptune -58470-08-06 14:09 J -19634527.04 -19634526.91 -19634526.77 0.0089 0.0011

Neptune -58470-11-02 15:35 J -19634438.98 -19634438.85 -19634438.71 0.0089 0.0017

Neptune -58469-01-29 17:01 J -19634350.92 -19634350.79 -19634350.66 0.0089 0.0022

Neptune -58469-04-26 18:28 J -19634262.86 -19634262.73 -19634262.60 0.0089 0.0028

Neptune -58469-07-23 19:40 J -19634174.80 -19634174.68 -19634174.55 0.0089 0.0034

Neptune -58469-10-19 21:06 J -19634086.73 -19634086.62 -19634086.49 0.0089 0.0039

Neptune -58468-01-15 22:33 J -19633998.67 -19633998.56 -19633998.44 0.0089 0.0045

Neptune -58468-04-13 23:59 J -19633910.61 -19633910.50 -19633910.39 0.0089 0.0050

Neptune -58468-07-11 01:11 J -19633822.54 -19633822.45 -19633822.34 0.0089 0.0056

Neptune -58468-10-07 02:37 J -19633734.48 -19633734.39 -19633734.29 0.0089 0.0061

Neptune -58467-01-03 04:04 J -19633646.41 -19633646.33 -19633646.24 0.0089 0.0067

Mars -58467-03-30 17:59 J -19633559.87 -19633559.75 -19633559.64 0.1852 0.0262

Neptune -58467-04-01 05:16 J -19633558.34 -19633558.28 -19633558.19 0.0089 0.0073

Earth -58467-06-26 04:33 J -19633472.42 -19633472.31 -19633472.20 0.2677 0.0084

Moon -58467-06-26 05:16 J -19633472.39 -19633472.28 -19633472.17 0.2674 0.0082 *

Neptune -58467-06-28 06:42 J -19633470.27 -19633470.22 -19633470.15 0.0089 0.0078

Neptune -58467-09-24 07:54 J -19633382.20 -19633382.17 -19633382.11 0.0089 0.0084

Mars -58466-01-26 04:33 J -19633258.47 -19633258.31 -19633258.16 0.1687 0.0372

Jupiter -58465-11-24 04:04 J -19632590.45 -19632590.33 -19632590.21 0.0531 0.0187

Jupiter -58464-02-21 10:47 J -19632501.14 -19632501.05 -19632500.96 0.0530 0.0366

Venus -58463-12-14 22:18 J -19631839.69 -19631839.57 -19631839.46 0.3576 0.2453

Venus -58460-09-22 01:40 J -19630827.48 -19630827.43 -19630827.38 0.3800 0.3165

Jupiter -58458-01-11 06:13 J -19630351.42 -19630351.24 -19630351.05 0.0496 0.0084

Mars -58458-08-21 02:23 J -19630129.50 -19630129.40 -19630129.31 0.1844 0.1130

Moon -58458-12-24 06:57 J -19630004.33 -19630004.21 -19630004.09 0.2660 0.1513

Earth -58458-12-24 07:54 J -19630004.29 -19630004.17 -19630004.05 0.2654 0.1687 *

Mars -58457-06-17 05:30 J -19629828.41 -19629828.27 -19629828.12 0.1695 0.0677

Venus -58457-06-30 07:40 J -19629815.26 -19629815.18 -19629815.10 0.3573 0.3077

Saturn -58456-04-27 14:37 J -19629513.99 -19629513.89 -19629513.79 0.0294 0.0188

Saturn -58456-07-25 03:35 J -19629425.48 -19629425.35 -19629425.22 0.0295 0.0067

Saturn -58456-10-21 16:33 J -19629336.94 -19629336.81 -19629336.68 0.0296 0.0054

Saturn -58455-01-18 05:16 J -19629248.39 -19629248.28 -19629248.17 0.0297 0.0175

Saturn -58455-04-16 17:59 J -19629159.76 -19629159.75 -19629159.74 0.0297 0.0295

Venus -58454-04-07 17:30 J -19628803.86 -19628803.77 -19628803.67 0.3803 0.1214

Earth -58454-06-28 22:47 J -19628721.65 -19628721.55 -19628721.45 0.2679 0.1051

Moon -58454-06-28 23:01 J -19628721.64 -19628721.54 -19628721.43 0.2673 0.1092 *

Uranus -58454-11-04 19:54 J -19628592.74 -19628592.67 -19628592.57 0.0146 0.0130

Uranus -58453-02-01 04:33 J -19628504.44 -19628504.31 -19628504.16 0.0146 0.0097

Uranus -58453-04-29 13:11 J -19628416.12 -19628415.95 -19628415.77 0.0146 0.0064

Uranus -58453-07-26 21:49 J -19628327.77 -19628327.59 -19628327.40 0.0146 0.0031

Jupiter -58453-09-12 08:09 J -19628280.26 -19628280.16 -19628280.06 0.0531 0.0323

Uranus -58453-10-23 06:28 J -19628239.42 -19628239.23 -19628239.04 0.0146 0.0003

Jupiter -58453-12-10 14:52 J -19628190.99 -19628190.88 -19628190.76 0.0530 0.0235

Uranus -58452-01-19 15:06 J -19628151.06 -19628150.87 -19628150.68 0.0146 0.0036

Uranus -58452-04-17 23:30 J -19628062.68 -19628062.52 -19628062.34 0.0146 0.0069

Uranus -58452-07-15 08:09 J -19627974.29 -19627974.16 -19627974.02 0.0145 0.0103

Uranus -58452-10-11 16:47 J -19627885.86 -19627885.80 -19627885.72 0.0145 0.0136

Venus -58449-10-21 09:21 J -19626780.20 -19626780.11 -19626780.01 0.3805 0.0768

Earth -58447-06-21 20:52 J -19626171.72 -19626171.63 -19626171.55 0.2674 0.1750

Moon -58447-06-21 21:21 J -19626171.70 -19626171.61 -19626171.53 0.2679 0.1658 *

Jupiter -58447-10-30 03:06 J -19626041.55 -19626041.37 -19626041.19 0.0495 0.0092

Mars -58447-12-17 01:25 J -19625993.49 -19625993.44 -19625993.38 0.1870 0.1633

Venus -58443-05-07 01:11 J -19624756.52 -19624756.45 -19624756.38 0.3808 0.2716

Saturn -58443-11-28 05:01 J -19624551.36 -19624551.29 -19624551.21 0.0268 0.0242

Saturn -58442-02-25 00:57 J -19624462.62 -19624462.46 -19624462.29 0.0267 0.0120

Saturn -58442-05-24 21:06 J -19624373.80 -19624373.62 -19624373.44 0.0267 0.0004

Saturn -58442-08-21 17:01 J -19624284.94 -19624284.79 -19624284.62 0.0266 0.0127

Saturn -58442-11-18 13:11 J -19624195.99 -19624195.95 -19624195.88 0.0265 0.0251

Moon -58441-06-30 16:33 J -19623970.88 -19623970.81 -19623970.74 0.2675 0.1993

Earth -58441-06-30 17:01 J -19623970.86 -19623970.79 -19623970.72 0.2681 0.2024 *

Jupiter -58441-07-01 12:13 J -19623970.05 -19623969.99 -19623969.92 0.0532 0.0460

Jupiter -58441-09-28 19:25 J -19623880.82 -19623880.69 -19623880.57 0.0531 0.0103

Moon -58438-12-19 01:40 J -19622704.54 -19622704.43 -19622704.31 0.2656 0.1766

Earth -58438-12-19 03:21 J -19622704.48 -19622704.36 -19622704.24 0.2658 0.1678 *

Mars -58437-05-08 09:49 J -19622563.20 -19622563.09 -19622562.99 0.1861 0.0738

Mars -58436-03-06 03:49 J -19622261.40 -19622261.34 -19622261.27 0.1680 0.1545

Jupiter -58435-08-18 01:11 J -19621731.61 -19621731.45 -19621731.29 0.0495 0.0252

Jupiter -58435-11-16 09:21 J -19621641.20 -19621641.11 -19621641.01 0.0496 0.0421

Earth -58434-06-24 15:06 J -19621420.98 -19621420.87 -19621420.76 0.2676 0.0742

Moon -58434-06-24 15:49 J -19621420.95 -19621420.84 -19621420.73 0.2678 0.0738 *

Jupiter -58429-07-17 23:45 J -19619570.64 -19619570.51 -19619570.38 0.0531 0.0032

Jupiter -58429-10-15 05:59 J -19619481.26 -19619481.25 -19619481.22 0.0530 0.0520

Mars -58428-09-28 17:59 J -19619132.86 -19619132.75 -19619132.63 0.1852 0.0157

Mars -58427-07-27 05:01 J -19618831.44 -19618831.29 -19618831.14 0.1687 0.0503

Saturn -58427-09-14 15:06 J -19618781.95 -19618781.87 -19618781.79 0.0293 0.0235

Saturn -58427-12-12 04:04 J -19618693.45 -19618693.33 -19618693.20 0.0294 0.0115

Saturn -58426-03-10 17:01 J -19618604.93 -19618604.79 -19618604.66 0.0295 0.0008

Saturn -58426-06-07 05:45 J -19618516.38 -19618516.26 -19618516.14 0.0296 0.0126

Saturn -58426-09-03 18:28 J -19618427.80 -19618427.73 -19618427.66 0.0297 0.0246

Moon -58425-12-21 07:11 J -19617953.35 -19617953.20 -19617953.05 0.2658 0.0073

Earth -58425-12-21 08:37 J -19617953.29 -19617953.14 -19617952.99 0.2656 0.0158 *

Jupiter -58423-06-05 23:01 J -19617421.63 -19617421.54 -19617421.43 0.0495 0.0412

Jupiter -58423-09-04 07:11 J -19617331.35 -19617331.20 -19617331.04 0.0496 0.0257

Earth -58421-06-26 09:35 J -19616670.22 -19616670.10 -19616669.99 0.2678 0.0273

Moon -58421-06-26 10:04 J -19616670.19 -19616670.08 -19616669.97 0.2673 0.0377 *

Mars -58418-02-19 02:23 J -19615702.50 -19615702.40 -19615702.30 0.1843 0.1024

Mars -58418-12-17 05:59 J -19615401.40 -19615401.25 -19615401.10 0.1695 0.0550

Jupiter -58417-05-06 03:49 J -19615260.47 -19615260.34 -19615260.22 0.0531 0.0166

Jupiter -58417-08-03 10:18 J -19615171.15 -19615171.07 -19615170.98 0.0530 0.0387

Moon -58414-06-20 07:11 J -19614120.23 -19614120.20 -19614120.17 0.2678 0.2567

Earth -58414-06-20 07:11 J -19614120.23 -19614120.20 -19614120.17 0.2672 0.2565 *

Saturn -58413-07-13 21:49 J -19613730.72 -19613730.59 -19613730.44 0.0268 0.0172

Saturn -58413-10-10 17:59 J -19613641.93 -19613641.75 -19613641.57 0.0267 0.0049

Saturn -58412-01-07 14:09 J -19613553.08 -19613552.91 -19613552.73 0.0266 0.0075

Saturn -58412-04-06 10:18 J -19613464.18 -19613464.07 -19613463.94 0.0265 0.0199

Moon -58412-12-24 13:25 J -19613202.04 -19613201.94 -19613201.85 0.2659 0.2053

Earth -58412-12-24 14:23 J -19613202.00 -19613201.90 -19613201.80 0.2653 0.2025 *

Jupiter -58411-06-23 05:16 J -19613021.46 -19613021.28 -19613021.10 0.0496 0.0096

Uranus -58411-08-10 01:11 J -19612973.46 -19612973.45 -19612973.44 0.0133 0.0132

Uranus -58411-11-06 04:04 J -19612885.39 -19612885.33 -19612885.26 0.0133 0.0115

Uranus -58410-02-02 06:57 J -19612797.29 -19612797.21 -19612797.11 0.0133 0.0098

Uranus -58410-05-01 10:04 J -19612709.18 -19612709.08 -19612708.97 0.0133 0.0080

Uranus -58410-07-28 13:11 J -19612621.07 -19612620.95 -19612620.83 0.0133 0.0063

Uranus -58410-10-24 16:04 J -19612532.95 -19612532.83 -19612532.70 0.0133 0.0046

Uranus -58409-01-20 19:11 J -19612444.83 -19612444.70 -19612444.57 0.0133 0.0028

Uranus -58409-04-17 22:04 J -19612356.71 -19612356.58 -19612356.44 0.0133 0.0012

Uranus -58409-07-15 01:11 J -19612268.59 -19612268.45 -19612268.32 0.0133 0.0007

Uranus -58409-10-11 04:04 J -19612180.46 -19612180.33 -19612180.20 0.0133 0.0023

Uranus -58408-01-07 06:57 J -19612092.33 -19612092.21 -19612092.08 0.0133 0.0041

Uranus -58408-04-05 09:49 J -19612004.20 -19612004.09 -19612003.96 0.0133 0.0059

Mars -58408-05-08 07:25 J -19611971.24 -19611971.19 -19611971.13 0.1702 0.1584

Moon -58408-06-29 03:49 J -19611919.44 -19611919.34 -19611919.24 0.2673 0.1222

Earth -58408-06-29 03:35 J -19611919.44 -19611919.35 -19611919.25 0.2680 0.1244 *

Uranus -58408-07-02 12:57 J -19611916.07 -19611915.96 -19611915.85 0.0133 0.0075

Uranus -58408-09-28 15:49 J -19611827.93 -19611827.84 -19611827.74 0.0133 0.0093

Uranus -58408-12-25 18:57 J -19611739.78 -19611739.71 -19611739.64 0.0133 0.0110

Uranus -58407-03-23 21:35 J -19611651.63 -19611651.60 -19611651.55 0.0134 0.0128

Mars -58407-06-17 01:25 J -19611566.48 -19611566.44 -19611566.40 0.1869 0.1730

Venus -58406-07-22 00:28 J -19611166.64 -19611166.48 -19611166.32 0.3575 0.0569

Jupiter -58405-02-23 07:25 J -19610950.30 -19610950.19 -19610950.09 0.0531 0.0310

Jupiter -58405-05-22 14:09 J -19610861.02 -19610860.91 -19610860.80 0.0530 0.0246

Venus -58403-04-28 23:16 J -19610154.61 -19610154.53 -19610154.46 0.3801 0.2473

Earth -58401-06-22 01:40 J -19609369.52 -19609369.43 -19609369.34 0.2674 0.1551

Moon -58401-06-22 02:09 J -19609369.50 -19609369.41 -19609369.32 0.2679 0.1548 *

Jupiter -58399-04-11 03:06 J -19608711.55 -19608711.37 -19608711.19 0.0496 0.0067

Mars -58398-11-07 09:49 J -19608136.20 -19608136.09 -19608135.99 0.1861 0.0836

Venus -58398-11-12 15:06 J -19608130.97 -19608130.87 -19608130.77 0.3804 0.0509

Saturn -58397-02-01 16:04 J -19608049.86 -19608049.83 -19608049.78 0.0293 0.0276

Saturn -58397-04-30 05:16 J -19607961.39 -19607961.28 -19607961.17 0.0294 0.0156

Saturn -58397-07-27 18:13 J -19607872.88 -19607872.74 -19607872.61 0.0295 0.0036

Saturn -58397-10-24 06:57 J -19607784.34 -19607784.21 -19607784.08 0.0296 0.0085

Saturn -58396-01-20 19:40 J -19607695.77 -19607695.68 -19607695.58 0.0297 0.0205

Moon -58395-07-01 21:21 J -19607168.67 -19607168.61 -19607168.54 0.2675 0.2169

Earth -58395-07-01 21:49 J -19607168.65 -19607168.59 -19607168.53 0.2682 0.2209 *

Jupiter -58394-12-12 11:16 J -19606640.09 -19606640.03 -19606639.96 0.0531 0.0449

Jupiter -58393-03-10 18:28 J -19606550.86 -19606550.73 -19606550.61 0.0530 0.0113

Venus -58392-05-28 06:57 J -19606107.31 -19606107.21 -19606107.12 0.3806 0.1463

Moon -58392-12-19 08:09 J -19605902.28 -19605902.16 -19605902.04 0.2656 0.1505

Earth -58392-12-19 09:35 J -19605902.23 -19605902.10 -19605901.97 0.2658 0.1348 *

Neptune -58391-03-17 17:59 J -19605813.76 -19605813.75 -19605813.70 0.0089 0.0088

Neptune -58391-06-13 21:21 J -19605725.67 -19605725.61 -19605725.51 0.0089 0.0080

Neptune -58391-09-10 00:57 J -19605637.56 -19605637.46 -19605637.35 0.0089 0.0072

Neptune -58391-12-07 03:49 J -19605549.45 -19605549.34 -19605549.19 0.0089 0.0065

Neptune -58390-03-05 07:11 J -19605461.33 -19605461.20 -19605461.04 0.0089 0.0057

Neptune -58390-06-01 10:47 J -19605373.20 -19605373.05 -19605372.89 0.0089 0.0049

Neptune -58390-08-28 14:09 J -19605285.07 -19605284.91 -19605284.74 0.0089 0.0041

Neptune -58390-11-24 17:16 J -19605196.94 -19605196.78 -19605196.60 0.0089 0.0034

Neptune -58389-02-20 20:37 J -19605108.81 -19605108.64 -19605108.45 0.0089 0.0026

Neptune -58389-05-18 23:59 J -19605020.68 -19605020.50 -19605020.31 0.0089 0.0018

Neptune -58389-08-15 03:21 J -19604932.54 -19604932.36 -19604932.17 0.0089 0.0010

Neptune -58389-11-11 06:42 J -19604844.40 -19604844.22 -19604844.03 0.0089 0.0003

Neptune -58388-02-07 10:04 J -19604756.26 -19604756.08 -19604755.89 0.0089 0.0006

Mars -58388-03-29 18:13 J -19604705.86 -19604705.74 -19604705.63 0.1852 0.0078

Neptune -58388-05-06 13:25 J -19604668.12 -19604667.94 -19604667.75 0.0089 0.0014

Earth -58388-06-24 20:09 J -19604618.77 -19604618.66 -19604618.55 0.2676 0.0551

Moon -58388-06-24 20:52 J -19604618.74 -19604618.63 -19604618.52 0.2676 0.0423 *

Pluto -58388-07-25 04:18 J -19604588.33 -19604588.32 -19604588.29 0.0061 0.0060

Neptune -58388-08-02 16:47 J -19604579.98 -19604579.80 -19604579.61 0.0089 0.0022

Pluto -58388-10-21 05:01 J -19604500.33 -19604500.29 -19604500.20 0.0061 0.0056

Neptune -58388-10-29 20:09 J -19604491.83 -19604491.66 -19604491.47 0.0089 0.0030

Pluto -58387-01-17 06:28 J -19604412.31 -19604412.23 -19604412.13 0.0061 0.0051

Mars -58387-01-25 05:30 J -19604404.42 -19604404.27 -19604404.12 0.1687 0.0640

Neptune -58387-01-25 23:30 J -19604403.68 -19604403.52 -19604403.34 0.0089 0.0038

Jupiter -58387-01-28 00:13 J -19604401.65 -19604401.49 -19604401.33 0.0495 0.0239

Pluto -58387-04-15 07:11 J -19604324.29 -19604324.20 -19604324.06 0.0061 0.0048

Neptune -58387-04-24 02:52 J -19604315.53 -19604315.38 -19604315.21 0.0089 0.0046

Jupiter -58387-04-28 08:37 J -19604311.23 -19604311.14 -19604311.06 0.0496 0.0434

Pluto -58387-07-12 08:37 J -19604236.25 -19604236.14 -19604236.00 0.0061 0.0042

Neptune -58387-07-21 06:13 J -19604227.38 -19604227.24 -19604227.08 0.0089 0.0054

Pluto -58387-10-08 09:49 J -19604148.22 -19604148.09 -19604147.95 0.0061 0.0038

Neptune -58387-10-17 09:35 J -19604139.22 -19604139.10 -19604138.95 0.0089 0.0062

Venus -58387-12-11 22:47 J -19604083.59 -19604083.55 -19604083.51 0.3808 0.3433

Pluto -58386-01-04 10:47 J -19604060.18 -19604060.05 -19604059.89 0.0061 0.0033

Neptune -58386-01-13 12:57 J -19604051.06 -19604050.96 -19604050.82 0.0089 0.0070

Pluto -58386-04-02 11:59 J -19603972.14 -19603972.00 -19603971.83 0.0062 0.0029

Neptune -58386-04-11 16:33 J -19603962.89 -19603962.81 -19603962.71 0.0089 0.0078

Pluto -58386-06-29 13:11 J -19603884.10 -19603883.95 -19603883.78 0.0062 0.0024

Neptune -58386-07-08 19:54 J -19603874.70 -19603874.67 -19603874.61 0.0089 0.0086

Pluto -58386-09-25 14:37 J -19603796.06 -19603795.89 -19603795.73 0.0062 0.0019

Pluto -58386-12-22 15:21 J -19603708.02 -19603707.86 -19603707.68 0.0062 0.0015

Pluto -58385-03-19 16:33 J -19603619.97 -19603619.81 -19603619.63 0.0062 0.0010

Pluto -58385-06-15 17:59 J -19603531.93 -19603531.75 -19603531.58 0.0062 0.0005

Pluto -58385-09-11 19:11 J -19603443.88 -19603443.70 -19603443.53 0.0062 0.0001

Pluto -58385-12-08 20:09 J -19603355.83 -19603355.66 -19603355.48 0.0062 0.0005

Pluto -58384-03-06 21:21 J -19603267.78 -19603267.61 -19603267.43 0.0062 0.0010

Pluto -58384-06-02 22:18 J -19603179.73 -19603179.57 -19603179.38 0.0062 0.0016

Pluto -58384-08-29 23:45 J -19603091.67 -19603091.51 -19603091.34 0.0062 0.0020

Pluto -58384-11-26 00:57 J -19603003.62 -19603003.46 -19603003.29 0.0062 0.0025

Saturn -58384-11-30 21:35 J -19602998.72 -19602998.60 -19602998.49 0.0268 0.0208

Pluto -58383-02-22 02:09 J -19602915.56 -19602915.41 -19602915.25 0.0062 0.0030

Saturn -58383-02-27 17:30 J -19602909.95 -19602909.77 -19602909.60 0.0268 0.0085

Pluto -58383-05-21 03:21 J -19602827.50 -19602827.36 -19602827.21 0.0063 0.0035

Saturn -58383-05-27 13:25 J -19602821.12 -19602820.94 -19602820.75 0.0267 0.0039

Pluto -58383-08-17 04:33 J -19602739.44 -19602739.31 -19602739.17 0.0063 0.0040

Saturn -58383-08-24 09:49 J -19602732.24 -19602732.09 -19602731.95 0.0266 0.0162

Pluto -58383-11-13 05:45 J -19602651.37 -19602651.26 -19602651.13 0.0063 0.0045

Pluto -58382-02-09 07:11 J -19602563.30 -19602563.20 -19602563.09 0.0063 0.0050

Pluto -58382-05-08 07:54 J -19602475.23 -19602475.17 -19602475.06 0.0063 0.0056

Pluto -58382-08-04 09:06 J -19602387.14 -19602387.12 -19602387.05 0.0063 0.0061

Jupiter -58382-12-28 22:33 J -19602240.69 -19602240.56 -19602240.43 0.0531 0.0023

Jupiter -58381-03-27 05:01 J -19602151.29 -19602151.29 -19602151.28 0.0530 0.0528

Mars -58379-08-20 02:23 J -19601275.50 -19601275.40 -19601275.30 0.1844 0.0921

Moon -58379-12-22 13:40 J -19601151.08 -19601150.93 -19601150.78 0.2659 0.0440

Earth -58379-12-22 15:06 J -19601151.02 -19601150.87 -19601150.72 0.2656 0.0488 *

Mars -58378-06-17 06:42 J -19600974.38 -19600974.22 -19600974.06 0.1695 0.0406

Jupiter -58376-11-15 22:18 J -19600091.68 -19600091.57 -19600091.47 0.0495 0.0398

Jupiter -58375-02-14 06:13 J -19600001.40 -19600001.24 -19600001.09 0.0495 0.0269

Earth -58375-06-27 14:23 J -19599868.01 -19599867.90 -19599867.79 0.2678 0.0447

Moon -58375-06-27 15:06 J -19599867.99 -19599867.87 -19599867.76 0.2674 0.0455 *

Jupiter -58370-10-17 02:52 J -19597930.50 -19597930.38 -19597930.26 0.0531 0.0156

Uranus -58370-11-25 04:18 J -19597891.42 -19597891.32 -19597891.20 0.0146 0.0119

Mars -58369-01-10 10:47 J -19597845.08 -19597845.05 -19597845.03 0.1835 0.1790

Jupiter -58369-01-14 09:21 J -19597841.19 -19597841.11 -19597841.02 0.0530 0.0399

Uranus -58369-02-21 12:57 J -19597803.11 -19597802.96 -19597802.80 0.0146 0.0086

Uranus -58369-05-19 21:35 J -19597714.78 -19597714.60 -19597714.42 0.0146 0.0053

Uranus -58369-08-16 06:13 J -19597626.43 -19597626.24 -19597626.05 0.0146 0.0019

Mars -58369-11-06 07:40 J -19597544.25 -19597544.18 -19597544.09 0.1702 0.1464

Uranus -58369-11-12 14:52 J -19597538.08 -19597537.88 -19597537.69 0.0146 0.0014

Uranus -58368-02-08 23:16 J -19597449.71 -19597449.53 -19597449.34 0.0146 0.0047

Uranus -58368-05-08 07:40 J -19597361.33 -19597361.18 -19597361.01 0.0146 0.0081

Moon -58368-06-20 12:13 J -19597318.04 -19597317.99 -19597317.94 0.2678 0.2356

Earth -58368-06-20 12:13 J -19597318.04 -19597317.99 -19597317.94 0.2672 0.2369 *

Uranus -58368-08-04 16:33 J -19597272.92 -19597272.81 -19597272.69 0.0145 0.0114

Saturn -58368-09-17 05:59 J -19597229.34 -19597229.25 -19597229.15 0.0293 0.0200

Saturn -58368-12-14 18:57 J -19597140.84 -19597140.71 -19597140.58 0.0294 0.0080

Mars -58368-12-16 01:25 J -19597139.46 -19597139.44 -19597139.42 0.1869 0.1830

Saturn -58367-03-13 07:54 J -19597052.30 -19597052.17 -19597052.04 0.0295 0.0040

Saturn -58367-06-09 20:37 J -19596963.75 -19596963.64 -19596963.53 0.0296 0.0160

Saturn -58367-09-06 09:21 J -19596875.15 -19596875.11 -19596875.07 0.0297 0.0279

Moon -58366-12-25 19:54 J -19596399.75 -19596399.67 -19596399.58 0.2659 0.2209

Earth -58366-12-25 20:52 J -19596399.70 -19596399.63 -19596399.57 0.2653 0.2371 *

Jupiter -58364-12-03 03:49 J -19595691.52 -19595691.34 -19595691.16 0.0496 0.0105

Moon -58362-06-30 08:37 J -19595117.24 -19595117.14 -19595117.05 0.2673 0.1469

Earth -58362-06-30 08:37 J -19595117.24 -19595117.14 -19595117.05 0.2680 0.1425 *

Mars -58358-05-08 09:49 J -19593709.19 -19593709.09 -19593708.99 0.1861 0.0941

Jupiter -58358-08-05 06:57 J -19593620.32 -19593620.21 -19593620.11 0.0531 0.0293

Jupiter -58358-11-02 13:40 J -19593531.04 -19593530.93 -19593530.82 0.0530 0.0265

Earth -58355-06-23 06:42 J -19592567.32 -19592567.22 -19592567.13 0.2674 0.1357

Moon -58355-06-23 07:11 J -19592567.30 -19592567.20 -19592567.10 0.2679 0.1273 *

Saturn -58354-04-19 18:42 J -19592266.76 -19592266.72 -19592266.67 0.0269 0.0258

Saturn -58354-07-17 14:37 J -19592178.04 -19592177.89 -19592177.73 0.0268 0.0135

Saturn -58354-10-14 10:47 J -19592089.24 -19592089.05 -19592088.87 0.0267 0.0012

Saturn -58353-01-11 06:42 J -19592000.38 -19592000.22 -19592000.04 0.0266 0.0113

Saturn -58353-04-09 03:06 J -19591911.45 -19591911.37 -19591911.28 0.0266 0.0236

Venus -58352-05-20 04:47 J -19591505.32 -19591505.30 -19591505.29 0.3799 0.3721

Jupiter -58352-09-21 01:54 J -19591381.61 -19591381.42 -19591381.24 0.0495 0.0058

Venus -58349-02-26 02:52 J -19590493.53 -19590493.38 -19590493.23 0.3575 0.1327

Moon -58349-07-02 02:09 J -19590366.46 -19590366.41 -19590366.35 0.2676 0.2330

Earth -58349-07-02 02:37 J -19590366.43 -19590366.39 -19590366.34 0.2682 0.2392 *

Mars -58349-09-27 17:59 J -19590278.86 -19590278.75 -19590278.63 0.1852 0.0073

Mars -58348-07-26 06:13 J -19589977.38 -19589977.24 -19589977.09 0.1687 0.0785

Venus -58347-12-03 20:37 J -19589481.73 -19589481.64 -19589481.55 0.3802 0.1758

Jupiter -58346-05-24 10:18 J -19589310.13 -19589310.07 -19589309.99 0.0531 0.0438

Jupiter -58346-08-21 17:30 J -19589220.90 -19589220.77 -19589220.65 0.0530 0.0123

Moon -58346-12-20 14:37 J -19589100.03 -19589099.89 -19589099.75 0.2656 0.1139

Earth -58346-12-20 16:04 J -19589099.97 -19589099.83 -19589099.69 0.2658 0.1012 *

Earth -58342-06-26 00:57 J -19587816.57 -19587816.46 -19587816.35 0.2676 0.0355

Moon -58342-06-26 01:40 J -19587816.54 -19587816.43 -19587816.32 0.2675 0.0337 *

Venus -58341-06-18 12:28 J -19587458.08 -19587457.98 -19587457.88 0.3804 0.0211

Jupiter -58340-07-09 23:45 J -19587071.67 -19587071.51 -19587071.35 0.0495 0.0218

Jupiter -58340-10-08 08:09 J -19586981.23 -19586981.16 -19586981.09 0.0496 0.0457

Mars -58339-02-18 02:23 J -19586848.50 -19586848.40 -19586848.29 0.1844 0.0821

Mars -58339-12-16 07:25 J -19586547.35 -19586547.19 -19586547.03 0.1694 0.0268

Saturn -58338-02-04 07:25 J -19586497.26 -19586497.19 -19586497.11 0.0293 0.0239

Saturn -58338-05-03 20:23 J -19586408.77 -19586408.65 -19586408.52 0.0294 0.0119

Saturn -58338-07-31 09:21 J -19586320.25 -19586320.11 -19586319.98 0.0295 0.0004

Saturn -58338-10-27 22:04 J -19586231.70 -19586231.58 -19586231.46 0.0296 0.0121

Saturn -58337-01-24 10:33 J -19586143.13 -19586143.06 -19586142.98 0.0296 0.0241

Venus -58335-01-02 04:18 J -19585434.40 -19585434.32 -19585434.24 0.3806 0.2174

Jupiter -58334-06-09 21:35 J -19584910.73 -19584910.60 -19584910.47 0.0531 0.0018

Moon -58333-12-22 20:09 J -19584348.81 -19584348.66 -19584348.51 0.2659 0.0660

Earth -58333-12-22 21:35 J -19584348.75 -19584348.60 -19584348.46 0.2655 0.0831 *

Mars -58330-07-11 10:47 J -19583418.09 -19583418.05 -19583418.00 0.1835 0.1680

Mars -58329-05-07 08:23 J -19583117.25 -19583117.15 -19583117.05 0.1702 0.1324

Earth -58329-06-27 19:11 J -19583065.81 -19583065.70 -19583065.59 0.2678 0.0636

Moon -58329-06-27 19:40 J -19583065.78 -19583065.68 -19583065.57 0.2674 0.0750 *

Jupiter -58328-04-27 21:06 J -19582761.73 -19582761.62 -19582761.51 0.0495 0.0386

Jupiter -58328-07-27 05:01 J -19582671.44 -19582671.29 -19582671.14 0.0495 0.0281

Uranus -58327-08-30 08:09 J -19582272.18 -19582272.16 -19582272.12 0.0132 0.0128

Uranus -58327-11-26 11:16 J -19582184.10 -19582184.03 -19582183.95 0.0133 0.0110

Uranus -58326-02-22 14:23 J -19582095.99 -19582095.90 -19582095.81 0.0133 0.0093

Uranus -58326-05-21 17:16 J -19582007.88 -19582007.78 -19582007.67 0.0133 0.0076

Uranus -58326-08-17 20:23 J -19581919.77 -19581919.65 -19581919.53 0.0133 0.0059

Uranus -58326-11-13 23:16 J -19581831.65 -19581831.53 -19581831.40 0.0133 0.0041

Uranus -58325-02-10 02:23 J -19581743.53 -19581743.40 -19581743.27 0.0133 0.0024

Uranus -58325-05-08 05:16 J -19581655.41 -19581655.28 -19581655.15 0.0133 0.0007

Uranus -58325-08-04 08:23 J -19581567.29 -19581567.15 -19581567.02 0.0133 0.0011

Uranus -58325-10-31 11:16 J -19581479.16 -19581479.03 -19581478.90 0.0133 0.0028

Saturn -58325-12-03 13:54 J -19581446.05 -19581445.92 -19581445.77 0.0268 0.0172

Uranus -58324-01-27 14:09 J -19581391.03 -19581390.91 -19581390.78 0.0133 0.0045

Saturn -58324-03-02 10:18 J -19581357.25 -19581357.07 -19581356.89 0.0268 0.0048

Uranus -58324-04-25 17:16 J -19581302.90 -19581302.78 -19581302.67 0.0133 0.0062

Saturn -58324-05-30 06:13 J -19581268.41 -19581268.24 -19581268.06 0.0267 0.0077

Uranus -58324-07-22 20:09 J -19581214.76 -19581214.66 -19581214.55 0.0133 0.0080

Saturn -58324-08-27 02:37 J -19581179.51 -19581179.39 -19581179.27 0.0266 0.0201

Uranus -58324-10-18 23:01 J -19581126.62 -19581126.54 -19581126.45 0.0133 0.0097

Uranus -58323-01-15 01:54 J -19581038.48 -19581038.42 -19581038.35 0.0133 0.0115

Uranus -58323-04-13 04:47 J -19580950.31 -19580950.30 -19580950.27 0.0134 0.0132

Jupiter -58322-03-29 01:25 J -19580600.56 -19580600.44 -19580600.31 0.0532 0.0153

Earth -58322-06-21 17:01 J -19580515.85 -19580515.79 -19580515.73 0.2672 0.2173

Moon -58322-06-21 17:16 J -19580515.84 -19580515.78 -19580515.72 0.2679 0.2188 *

Jupiter -58322-06-26 08:09 J -19580511.24 -19580511.16 -19580511.08 0.0531 0.0403

Mars -58319-11-06 09:49 J -19579282.18 -19579282.09 -19579281.99 0.1861 0.1046

Jupiter -58316-05-15 02:37 J -19578361.56 -19578361.39 -19578361.21 0.0495 0.0117

Moon -58316-06-30 13:25 J -19578315.03 -19578314.94 -19578314.85 0.2673 0.1541

Earth -58316-06-30 13:25 J -19578315.03 -19578314.94 -19578314.85 0.2680 0.1612 *

Moon -58313-12-17 16:18 J -19577048.82 -19577048.82 -19577048.82 0.2655 0.2655

Earth -58313-12-17 17:30 J -19577048.82 -19577048.77 -19577048.72 0.2660 0.2467 *

Jupiter -58310-01-15 05:45 J -19576290.37 -19576290.26 -19576290.15 0.0532 0.0287

Jupiter -58310-04-14 12:28 J -19576201.08 -19576200.98 -19576200.87 0.0531 0.0273

Neptune -58309-03-27 12:57 J -19575852.99 -19575852.96 -19575852.91 0.0089 0.0085

Mars -58309-03-28 18:13 J -19575851.86 -19575851.74 -19575851.63 0.1853 0.0168

Saturn -58309-06-23 08:37 J -19575765.17 -19575765.14 -19575765.09 0.0292 0.0279

Earth -58309-06-23 11:30 J -19575765.12 -19575765.02 -19575764.92 0.2674 0.1161 *

Moon -58309-06-23 12:13 J -19575765.10 -19575764.99 -19575764.89 0.2678 0.1118 *

Neptune -58309-06-23 14:37 J -19575764.95 -19575764.89 -19575764.82 0.0089 0.0079 *

Neptune -58309-09-19 16:04 J -19575676.90 -19575676.83 -19575676.75 0.0089 0.0073

Saturn -58309-09-19 21:49 J -19575676.70 -19575676.59 -19575676.48 0.0293 0.0160

Neptune -58309-12-16 17:16 J -19575588.85 -19575588.78 -19575588.67 0.0089 0.0068

Saturn -58309-12-17 10:33 J -19575588.19 -19575588.06 -19575587.92 0.0294 0.0041

Mars -58308-01-24 06:42 J -19575550.35 -19575550.22 -19575550.08 0.1687 0.0915

Neptune -58308-03-14 18:57 J -19575500.80 -19575500.71 -19575500.60 0.0089 0.0062

Saturn -58308-03-15 23:16 J -19575499.65 -19575499.53 -19575499.40 0.0295 0.0080

Neptune -58308-06-10 20:23 J -19575412.75 -19575412.65 -19575412.53 0.0089 0.0056

Saturn -58308-06-12 11:59 J -19575411.09 -19575411.00 -19575410.90 0.0296 0.0199

Neptune -58308-09-06 22:04 J -19575324.69 -19575324.58 -19575324.47 0.0089 0.0050

Neptune -58308-12-03 23:30 J -19575236.64 -19575236.52 -19575236.40 0.0089 0.0044

Neptune -58307-03-02 00:42 J -19575148.58 -19575148.47 -19575148.33 0.0089 0.0039

Neptune -58307-05-29 02:23 J -19575060.52 -19575060.40 -19575060.27 0.0089 0.0033

Neptune -58307-08-25 03:49 J -19574972.47 -19574972.34 -19574972.21 0.0089 0.0027

Neptune -58307-11-21 05:16 J -19574884.41 -19574884.28 -19574884.15 0.0089 0.0021

Neptune -58306-02-17 06:42 J -19574796.35 -19574796.22 -19574796.08 0.0089 0.0015

Neptune -58306-05-16 08:09 J -19574708.29 -19574708.16 -19574708.02 0.0089 0.0010

Neptune -58306-08-12 09:35 J -19574620.24 -19574620.10 -19574619.96 0.0089 0.0004

Neptune -58306-11-08 11:01 J -19574532.18 -19574532.04 -19574531.90 0.0089 0.0002

Neptune -58305-02-04 12:28 J -19574444.12 -19574443.98 -19574443.85 0.0089 0.0007

Neptune -58305-05-02 13:40 J -19574356.06 -19574355.93 -19574355.79 0.0089 0.0014

Neptune -58305-07-29 15:21 J -19574268.00 -19574267.86 -19574267.73 0.0089 0.0019

Neptune -58305-10-25 16:33 J -19574179.93 -19574179.81 -19574179.67 0.0089 0.0025

Neptune -58304-01-21 17:59 J -19574091.87 -19574091.75 -19574091.62 0.0089 0.0030

Jupiter -58304-03-03 00:13 J -19574051.67 -19574051.49 -19574051.30 0.0495 0.0050

Neptune -58304-04-19 19:25 J -19574003.81 -19574003.69 -19574003.56 0.0089 0.0036

Neptune -58304-07-16 20:37 J -19573915.75 -19573915.64 -19573915.51 0.0089 0.0042

Neptune -58304-10-12 22:18 J -19573827.69 -19573827.57 -19573827.46 0.0089 0.0047

Neptune -58303-01-08 23:30 J -19573739.62 -19573739.52 -19573739.41 0.0089 0.0053

Neptune -58303-04-07 00:57 J -19573651.56 -19573651.46 -19573651.35 0.0089 0.0058

Moon -58303-07-03 06:57 J -19573564.24 -19573564.21 -19573564.18 0.2678 0.2559

Earth -58303-07-03 07:40 J -19573564.21 -19573564.18 -19573564.16 0.2682 0.2577 *

Neptune -58303-07-04 02:09 J -19573563.49 -19573563.41 -19573563.31 0.0089 0.0064

Neptune -58303-09-30 03:49 J -19573475.42 -19573475.34 -19573475.26 0.0089 0.0069

Neptune -58303-12-27 05:01 J -19573387.35 -19573387.29 -19573387.21 0.0089 0.0075

Neptune -58302-03-25 06:13 J -19573299.28 -19573299.24 -19573299.17 0.0089 0.0081

Neptune -58302-06-21 07:40 J -19573211.20 -19573211.18 -19573211.14 0.0089 0.0086

Mars -58300-08-19 02:23 J -19572421.50 -19572421.40 -19572421.29 0.1844 0.0716

Moon -58300-12-20 20:52 J -19572297.77 -19572297.63 -19572297.48 0.2658 0.0771

Earth -58300-12-20 22:33 J -19572297.71 -19572297.56 -19572297.42 0.2657 0.0679 *

Mars -58299-06-16 07:54 J -19572120.33 -19572120.17 -19572120.01 0.1694 0.0142

Jupiter -58299-11-03 09:35 J -19571980.17 -19571980.10 -19571980.02 0.0531 0.0425

Jupiter -58298-01-31 16:47 J -19571890.93 -19571890.80 -19571890.68 0.0531 0.0138

Venus -58298-03-18 19:40 J -19571844.80 -19571844.68 -19571844.56 0.3577 0.2333

Earth -58296-06-26 05:59 J -19571014.37 -19571014.25 -19571014.14 0.2676 0.0178

Moon -58296-06-26 06:42 J -19571014.33 -19571014.22 -19571014.11 0.2675 0.0054 *

Pluto -58296-09-18 04:47 J -19570930.31 -19570930.30 -19570930.26 0.0083 0.0082

Pluto -58296-12-15 06:28 J -19570842.29 -19570842.23 -19570842.14 0.0083 0.0072

Venus -58296-12-25 02:09 J -19570832.47 -19570832.41 -19570832.35 0.3800 0.3017

Pluto -58295-03-13 08:09 J -19570754.25 -19570754.16 -19570754.05 0.0083 0.0062

Saturn -58295-04-22 11:45 J -19570714.11 -19570714.01 -19570713.90 0.0269 0.0219

Pluto -58295-06-09 09:35 J -19570666.20 -19570666.10 -19570665.97 0.0083 0.0052

Saturn -58295-07-20 07:40 J -19570625.34 -19570625.18 -19570625.00 0.0268 0.0096

Pluto -58295-09-05 11:30 J -19570578.14 -19570578.02 -19570577.89 0.0083 0.0042

Saturn -58295-10-17 03:49 J -19570536.52 -19570536.34 -19570536.15 0.0267 0.0029

Pluto -58295-12-02 13:11 J -19570490.08 -19570489.95 -19570489.82 0.0083 0.0032

Saturn -58294-01-13 23:59 J -19570447.64 -19570447.50 -19570447.34 0.0266 0.0153

Pluto -58294-02-28 14:37 J -19570402.03 -19570401.89 -19570401.75 0.0083 0.0023

Pluto -58294-05-27 16:04 J -19570313.96 -19570313.83 -19570313.68 0.0082 0.0014

Pluto -58294-08-23 17:45 J -19570225.90 -19570225.76 -19570225.61 0.0082 0.0004

Pluto -58294-11-19 19:11 J -19570137.84 -19570137.70 -19570137.55 0.0082 0.0006

Pluto -58293-02-15 20:52 J -19570049.77 -19570049.63 -19570049.49 0.0082 0.0015

Pluto -58293-05-13 22:18 J -19569961.71 -19569961.57 -19569961.43 0.0082 0.0024

Pluto -58293-08-09 23:45 J -19569873.64 -19569873.51 -19569873.38 0.0082 0.0033

Venus -58293-10-02 05:01 J -19569820.35 -19569820.29 -19569820.22 0.3574 0.3211

Pluto -58293-11-06 01:11 J -19569785.57 -19569785.45 -19569785.32 0.0082 0.0042

Jupiter -58293-12-19 22:18 J -19569741.74 -19569741.57 -19569741.41 0.0495 0.0211

Pluto -58292-02-02 02:52 J -19569697.50 -19569697.38 -19569697.27 0.0081 0.0051

Jupiter -58292-03-20 06:42 J -19569651.28 -19569651.22 -19569651.16 0.0496 0.0464

Pluto -58292-05-01 04:04 J -19569609.42 -19569609.33 -19569609.23 0.0081 0.0060

Pluto -58292-07-28 05:30 J -19569521.34 -19569521.27 -19569521.19 0.0081 0.0068

Pluto -58292-10-24 06:42 J -19569433.25 -19569433.22 -19569433.16 0.0081 0.0077

Mars -58290-01-09 10:47 J -19568991.11 -19568991.05 -19568991.00 0.1835 0.1589

Venus -58290-07-10 18:13 J -19568808.84 -19568808.74 -19568808.65 0.3802 0.1056

Mars -58290-11-06 09:06 J -19568690.23 -19568690.12 -19568690.00 0.1702 0.1178

Jupiter -58287-11-19 20:23 J -19567580.78 -19567580.65 -19567580.52 0.0531 0.0009

Moon -58287-12-24 02:37 J -19567546.53 -19567546.39 -19567546.25 0.2659 0.1093

Earth -58287-12-24 03:49 J -19567546.47 -19567546.34 -19567546.20 0.2655 0.1170 *

Uranus -58286-09-18 04:04 J -19567278.36 -19567278.33 -19567278.26 0.0146 0.0141

Uranus -58286-12-15 12:42 J -19567190.08 -19567189.97 -19567189.83 0.0146 0.0107

Uranus -58285-03-12 21:21 J -19567101.76 -19567101.61 -19567101.44 0.0146 0.0074

Uranus -58285-06-09 05:59 J -19567013.43 -19567013.25 -19567013.06 0.0146 0.0041

Uranus -58285-09-05 14:37 J -19566925.08 -19566924.89 -19566924.69 0.0146 0.0008

Uranus -58285-12-02 23:16 J -19566836.72 -19566836.53 -19566836.34 0.0146 0.0026

Venus -58284-01-23 10:04 J -19566785.18 -19566785.08 -19566784.99 0.3805 0.0928

Uranus -58284-03-01 07:40 J -19566748.35 -19566748.18 -19566747.99 0.0146 0.0060

Uranus -58284-05-28 16:18 J -19566659.96 -19566659.82 -19566659.66 0.0146 0.0093

Uranus -58284-08-25 01:11 J -19566571.54 -19566571.45 -19566571.35 0.0145 0.0126

Earth -58283-06-29 00:13 J -19566263.60 -19566263.49 -19566263.39 0.2679 0.0830

Moon -58283-06-29 00:28 J -19566263.58 -19566263.48 -19566263.37 0.2673 0.0807 *

Jupiter -58281-10-07 20:09 J -19565431.78 -19565431.66 -19565431.54 0.0495 0.0372

Jupiter -58280-01-06 04:18 J -19565341.47 -19565341.32 -19565341.18 0.0496 0.0298

Saturn -58279-02-06 23:16 J -19564944.62 -19564944.53 -19564944.43 0.0293 0.0197

Saturn -58279-05-06 12:13 J -19564856.12 -19564855.99 -19564855.86 0.0294 0.0078

Mars -58279-05-07 09:49 J -19564855.18 -19564855.09 -19564855.00 0.1861 0.1138

Saturn -58279-08-03 01:11 J -19564767.59 -19564767.45 -19564767.32 0.0295 0.0043

Venus -58279-08-09 01:54 J -19564761.49 -19564761.42 -19564761.36 0.3807 0.2896

Saturn -58279-10-30 13:54 J -19564679.03 -19564678.92 -19564678.81 0.0296 0.0162

Saturn -58278-01-27 02:23 J -19564590.44 -19564590.40 -19564590.36 0.0297 0.0281

Earth -58276-06-21 22:04 J -19563713.66 -19563713.58 -19563713.51 0.2673 0.1977

Moon -58276-06-21 22:18 J -19563713.65 -19563713.57 -19563713.50 0.2680 0.1917 *

Jupiter -58275-09-08 00:28 J -19563270.61 -19563270.48 -19563270.36 0.0531 0.0146

Jupiter -58275-12-06 06:57 J -19563181.29 -19563181.21 -19563181.13 0.0530 0.0409

Moon -58270-07-01 18:13 J -19561512.82 -19561512.74 -19561512.66 0.2674 0.1844

Earth -58270-07-01 18:13 J -19561512.82 -19561512.74 -19561512.65 0.2681 0.1799 *

Mars -58270-09-27 18:13 J -19561424.86 -19561424.74 -19561424.62 0.1853 0.0267

Mars -58269-07-25 07:25 J -19561123.32 -19561123.19 -19561123.06 0.1686 0.1049

Jupiter -58269-10-25 01:11 J -19561031.62 -19561031.45 -19561031.27 0.0495 0.0126

Moon -58267-12-18 22:33 J -19560246.65 -19560246.56 -19560246.48 0.2655 0.2153

Earth -58267-12-18 23:45 J -19560246.60 -19560246.51 -19560246.42 0.2659 0.2145 *

Saturn -58266-09-09 11:45 J -19559982.06 -19559982.01 -19559981.94 0.0269 0.0252

Saturn -58266-12-07 07:40 J -19559893.33 -19559893.18 -19559893.01 0.0268 0.0129

Saturn -58265-03-05 03:49 J -19559804.52 -19559804.34 -19559804.15 0.0268 0.0007

Saturn -58265-06-02 00:13 J -19559715.66 -19559715.49 -19559715.33 0.0267 0.0119

Saturn -58265-08-29 20:37 J -19559626.71 -19559626.64 -19559626.57 0.0266 0.0244

Earth -58263-06-24 16:33 J -19558962.92 -19558962.81 -19558962.71 0.2675 0.0973

Moon -58263-06-24 17:01 J -19558962.89 -19558962.79 -19558962.68 0.2677 0.0924 *

Jupiter -58263-06-27 04:04 J -19558960.44 -19558960.33 -19558960.22 0.0532 0.0288

Jupiter -58263-09-24 11:01 J -19558871.15 -19558871.04 -19558870.93 0.0531 0.0272

Mars -58260-02-17 02:23 J -19557994.51 -19557994.40 -19557994.28 0.1844 0.0618

Mars -58260-12-15 08:23 J -19557693.31 -19557693.15 -19557692.98 0.1694 0.0049

Moon -58257-07-03 11:45 J -19556762.02 -19556762.01 -19556761.99 0.2679 0.2634

Jupiter -58257-08-12 23:01 J -19556721.72 -19556721.54 -19556721.36 0.0495 0.0040

Moon -58254-12-22 03:21 J -19555495.51 -19555495.36 -19555495.21 0.2659 0.0545

Earth -58254-12-22 05:01 J -19555495.45 -19555495.29 -19555495.14 0.2657 0.0346 *

Jupiter -58251-04-15 08:09 J -19554650.23 -19554650.16 -19554650.08 0.0532 0.0424

Mars -58251-07-10 10:47 J -19554564.12 -19554564.05 -19554563.98 0.1835 0.1477

Jupiter -58251-07-13 15:21 J -19554560.99 -19554560.86 -19554560.74 0.0531 0.0140

Mars -58250-05-07 09:35 J -19554263.22 -19554263.10 -19554262.97 0.1702 0.1052

Saturn -58250-06-27 01:11 J -19554212.52 -19554212.45 -19554212.36 0.0292 0.0232

Earth -58250-06-27 10:47 J -19554212.16 -19554212.05 -19554211.94 0.2677 0.0031

Moon -58250-06-27 11:30 J -19554212.13 -19554212.02 -19554211.91 0.2675 0.0068 *

Saturn -58250-09-23 14:09 J -19554124.03 -19554123.91 -19554123.78 0.0293 0.0113

Saturn -58250-12-21 03:06 J -19554035.51 -19554035.37 -19554035.24 0.0294 0.0009

Saturn -58249-03-18 15:49 J -19553946.96 -19553946.84 -19553946.72 0.0295 0.0126

Saturn -58249-06-15 04:18 J -19553858.39 -19553858.32 -19553858.24 0.0296 0.0244

Jupiter -58245-05-31 20:23 J -19552411.81 -19552411.65 -19552411.48 0.0495 0.0207

Jupiter -58245-08-30 04:33 J -19552321.36 -19552321.31 -19552321.24 0.0496 0.0468

Uranus -58243-09-19 15:35 J -19551570.89 -19551570.85 -19551570.80 0.0132 0.0122

Uranus -58243-12-16 18:28 J -19551482.80 -19551482.73 -19551482.64 0.0132 0.0105

Uranus -58242-03-14 21:35 J -19551394.69 -19551394.60 -19551394.50 0.0133 0.0088

Uranus -58242-06-11 00:42 J -19551306.58 -19551306.47 -19551306.36 0.0133 0.0071

Uranus -58242-09-07 03:35 J -19551218.47 -19551218.35 -19551218.22 0.0133 0.0054

Venus -58242-10-23 21:49 J -19551171.75 -19551171.59 -19551171.43 0.3576 0.0468

Uranus -58242-12-04 06:42 J -19551130.35 -19551130.22 -19551130.09 0.0133 0.0036

Uranus -58241-03-01 09:35 J -19551042.23 -19551042.10 -19551041.97 0.0133 0.0019

Uranus -58241-05-28 12:42 J -19550954.11 -19550953.97 -19550953.84 0.0133 0.0003

Uranus -58241-08-24 15:35 J -19550865.98 -19550865.85 -19550865.72 0.0133 0.0016

Uranus -58241-11-20 18:28 J -19550777.85 -19550777.73 -19550777.60 0.0133 0.0033

Moon -58241-12-24 09:21 J -19550744.24 -19550744.11 -19550743.98 0.2659 0.1402

Earth -58241-12-24 10:33 J -19550744.19 -19550744.06 -19550743.94 0.2654 0.1513 *

Uranus -58240-02-16 21:35 J -19550689.72 -19550689.60 -19550689.48 0.0133 0.0050

Uranus -58240-05-16 00:28 J -19550601.59 -19550601.48 -19550601.36 0.0133 0.0068

Uranus -58240-08-12 03:21 J -19550513.45 -19550513.36 -19550513.25 0.0133 0.0085

Mars -58240-11-05 09:49 J -19550428.17 -19550428.09 -19550428.00 0.1861 0.1250

Uranus -58240-11-08 06:13 J -19550425.31 -19550425.24 -19550425.15 0.0133 0.0102

Uranus -58239-02-04 09:21 J -19550337.16 -19550337.11 -19550337.05 0.0133 0.0119

Jupiter -58239-05-01 19:25 J -19550250.82 -19550250.69 -19550250.56 0.0531 0.0004

Venus -58239-07-31 23:45 J -19550159.59 -19550159.51 -19550159.43 0.3800 0.2299

Earth -58237-06-29 05:01 J -19549461.39 -19549461.29 -19549461.19 0.2679 0.1013

Moon -58237-06-29 05:16 J -19549461.38 -19549461.28 -19549461.18 0.2672 0.1082 *

Saturn -58236-04-25 05:59 J -19549161.39 -19549161.25 -19549161.12 0.0269 0.0174

Saturn -58236-07-23 01:54 J -19549072.60 -19549072.42 -19549072.24 0.0268 0.0051

Saturn -58236-10-19 22:04 J -19548983.75 -19548983.58 -19548983.40 0.0267 0.0074

Saturn -58235-01-16 18:28 J -19548894.85 -19548894.73 -19548894.60 0.0266 0.0198

Venus -58233-02-14 15:35 J -19548135.95 -19548135.85 -19548135.75 0.3803 0.0332

Jupiter -58233-03-19 18:13 J -19548101.86 -19548101.74 -19548101.62 0.0495 0.0369

Jupiter -58233-06-18 02:23 J -19548011.55 -19548011.40 -19548011.26 0.0496 0.0301

Mars -58230-03-28 18:13 J -19546997.86 -19546997.74 -19546997.63 0.1853 0.0362

Earth -58230-06-23 02:52 J -19546911.46 -19546911.38 -19546911.30 0.2673 0.1779

Moon -58230-06-23 03:06 J -19546911.45 -19546911.37 -19546911.28 0.2679 0.1809 *

Mars -58229-01-24 08:09 J -19546696.27 -19546696.16 -19546696.05 0.1687 0.1195

Venus -58228-08-30 07:25 J -19546112.28 -19546112.19 -19546112.10 0.3805 0.1637

Jupiter -58227-02-17 23:01 J -19545940.66 -19545940.54 -19545940.42 0.0531 0.0142

Jupiter -58227-05-18 05:45 J -19545851.34 -19545851.26 -19545851.18 0.0530 0.0412

Neptune -58227-12-12 16:33 J -19545642.85 -19545642.81 -19545642.75 0.0089 0.0085

Neptune -58226-03-10 19:40 J -19545554.75 -19545554.68 -19545554.57 0.0089 0.0078

Neptune -58226-06-06 23:01 J -19545466.64 -19545466.54 -19545466.41 0.0089 0.0070

Neptune -58226-09-03 02:23 J -19545378.52 -19545378.40 -19545378.26 0.0089 0.0062

Neptune -58226-11-30 05:30 J -19545290.40 -19545290.27 -19545290.11 0.0089 0.0055

Neptune -58225-02-26 08:52 J -19545202.28 -19545202.13 -19545201.96 0.0089 0.0047

Neptune -58225-05-24 12:13 J -19545114.15 -19545113.99 -19545113.82 0.0089 0.0039

Neptune -58225-08-20 15:35 J -19545026.02 -19545025.85 -19545025.67 0.0089 0.0031

Neptune -58225-11-16 18:42 J -19544937.89 -19544937.72 -19544937.53 0.0089 0.0024

Neptune -58224-02-12 22:04 J -19544849.76 -19544849.58 -19544849.39 0.0089 0.0016

Neptune -58224-05-12 01:40 J -19544761.62 -19544761.43 -19544761.24 0.0089 0.0008

Moon -58224-07-01 23:01 J -19544710.62 -19544710.54 -19544710.46 0.2675 0.1902

Earth -58224-07-01 23:16 J -19544710.61 -19544710.53 -19544710.46 0.2681 0.1986 *

Neptune -58224-08-08 05:01 J -19544673.48 -19544673.29 -19544673.10 0.0089 0.0001

Neptune -58224-11-04 08:09 J -19544585.34 -19544585.16 -19544584.97 0.0089 0.0009

Neptune -58223-01-31 11:45 J -19544497.20 -19544497.01 -19544496.83 0.0089 0.0016

Neptune -58223-04-29 15:06 J -19544409.05 -19544408.87 -19544408.69 0.0089 0.0024

Neptune -58223-07-26 18:13 J -19544320.91 -19544320.74 -19544320.56 0.0089 0.0032

Neptune -58223-10-22 21:35 J -19544232.76 -19544232.60 -19544232.42 0.0089 0.0040

Neptune -58222-01-19 00:57 J -19544144.61 -19544144.46 -19544144.29 0.0089 0.0048

Venus -58222-03-15 23:16 J -19544088.55 -19544088.53 -19544088.50 0.3808 0.3621

Neptune -58222-04-17 04:18 J -19544056.45 -19544056.32 -19544056.16 0.0089 0.0056

Neptune -58222-07-14 07:54 J -19543968.29 -19543968.17 -19543968.03 0.0089 0.0064

Neptune -58222-10-10 11:16 J -19543880.13 -19543880.03 -19543879.91 0.0089 0.0072

Neptune -58221-01-06 14:37 J -19543791.96 -19543791.89 -19543791.80 0.0089 0.0080

Neptune -58221-04-03 18:13 J -19543703.75 -19543703.74 -19543703.71 0.0089 0.0088

Jupiter -58221-04-05 23:59 J -19543701.68 -19543701.50 -19543701.33 0.0495 0.0135

Mars -58221-08-18 02:37 J -19543567.51 -19543567.39 -19543567.28 0.1844 0.0509

Saturn -58221-11-13 03:06 J -19543480.42 -19543480.37 -19543480.31 0.0292 0.0266

Moon -58221-12-19 04:47 J -19543444.40 -19543444.30 -19543444.20 0.2656 0.2023

Earth -58221-12-19 05:59 J -19543444.35 -19543444.25 -19543444.14 0.2659 0.1816 *

Saturn -58220-02-09 16:04 J -19543391.94 -19543391.83 -19543391.71 0.0293 0.0147

Saturn -58220-05-09 05:01 J -19543303.42 -19543303.29 -19543303.16 0.0294 0.0028

Mars -58220-06-15 09:06 J -19543266.28 -19543266.12 -19543265.96 0.1694 0.0149

Saturn -58220-08-05 17:45 J -19543214.89 -19543214.76 -19543214.63 0.0295 0.0092

Saturn -58220-11-02 06:28 J -19543126.32 -19543126.23 -19543126.14 0.0296 0.0211

Earth -58217-06-24 21:21 J -19542160.72 -19542160.61 -19542160.50 0.2675 0.0776

Moon -58217-06-24 22:04 J -19542160.69 -19542160.58 -19542160.47 0.2676 0.0666 *

Jupiter -58216-12-07 02:52 J -19541630.49 -19541630.38 -19541630.27 0.0531 0.0284

Jupiter -58215-03-06 09:35 J -19541541.20 -19541541.10 -19541540.99 0.0531 0.0276

Mars -58211-01-08 11:01 J -19540137.12 -19540137.04 -19540136.97 0.1835 0.1372

Mars -58211-11-05 10:04 J -19539836.21 -19539836.08 -19539835.94 0.1702 0.0918

Jupiter -58209-01-23 21:06 J -19539391.80 -19539391.62 -19539391.43 0.0495 0.0037

Moon -58208-12-22 09:35 J -19538693.25 -19538693.10 -19538692.95 0.2659 0.0081

Earth -58208-12-22 11:16 J -19538693.18 -19538693.03 -19538692.88 0.2656 0.0013 *

Saturn -58207-09-12 06:13 J -19538429.35 -19538429.24 -19538429.12 0.0269 0.0205

Saturn -58207-12-10 02:23 J -19538340.57 -19538340.40 -19538340.22 0.0268 0.0081

Saturn -58206-03-08 22:33 J -19538251.74 -19538251.56 -19538251.38 0.0268 0.0043

Saturn -58206-06-05 18:57 J -19538162.85 -19538162.71 -19538162.57 0.0267 0.0168

Earth -58204-06-27 15:35 J -19537409.96 -19537409.85 -19537409.73 0.2677 0.0232

Moon -58204-06-27 16:18 J -19537409.93 -19537409.82 -19537409.71 0.2675 0.0293 *

Jupiter -58204-09-25 06:13 J -19537320.31 -19537320.24 -19537320.16 0.0532 0.0431

Jupiter -58204-12-23 13:25 J -19537231.06 -19537230.94 -19537230.81 0.0531 0.0134

Uranus -58202-10-08 12:13 J -19536577.07 -19536576.99 -19536576.90 0.0146 0.0131

Uranus -58201-01-04 20:23 J -19536488.77 -19536488.65 -19536488.49 0.0146 0.0098

Uranus -58201-04-02 05:16 J -19536400.45 -19536400.28 -19536400.11 0.0146 0.0065

Uranus -58201-06-29 13:54 J -19536312.11 -19536311.92 -19536311.73 0.0146 0.0031

Uranus -58201-09-25 22:33 J -19536223.75 -19536223.56 -19536223.37 0.0146 0.0003

Uranus -58201-12-23 06:57 J -19536135.39 -19536135.21 -19536135.02 0.0146 0.0036

Uranus -58200-03-21 15:35 J -19536047.01 -19536046.85 -19536046.67 0.0146 0.0069

Mars -58200-05-06 09:49 J -19536001.17 -19536001.09 -19536001.01 0.1861 0.1348

Uranus -58200-06-17 23:59 J -19535958.62 -19535958.50 -19535958.35 0.0146 0.0103

Uranus -58200-09-14 08:52 J -19535870.19 -19535870.13 -19535870.05 0.0145 0.0136

Jupiter -58198-11-11 18:57 J -19535081.88 -19535081.71 -19535081.54 0.0494 0.0199

Jupiter -58197-02-10 03:06 J -19534991.42 -19534991.37 -19534991.32 0.0495 0.0473

Earth -58197-06-20 13:11 J -19534859.97 -19534859.95 -19534859.92 0.2671 0.2599

Moon -58197-06-20 13:11 J -19534859.95 -19534859.95 -19534859.95 0.2678 0.2678 *

Moon -58195-12-25 16:04 J -19533941.95 -19533941.83 -19533941.72 0.2660 0.1754

Earth -58195-12-25 16:47 J -19533941.91 -19533941.80 -19533941.69 0.2654 0.1852 *

Jupiter -58192-10-11 17:45 J -19532920.89 -19532920.76 -19532920.64 0.0531 0.0019

Saturn -58191-06-29 18:28 J -19532659.83 -19532659.73 -19532659.62 0.0292 0.0178

Earth -58191-06-30 09:49 J -19532659.19 -19532659.09 -19532658.99 0.2679 0.1202

Moon -58191-06-30 10:04 J -19532659.18 -19532659.08 -19532658.98 0.2672 0.1185 *

Saturn -58191-09-26 07:25 J -19532571.32 -19532571.19 -19532571.06 0.0293 0.0060

Mars -58191-09-26 18:13 J -19532570.85 -19532570.74 -19532570.63 0.1853 0.0466

Saturn -58191-12-23 20:09 J -19532482.79 -19532482.66 -19532482.53 0.0294 0.0059

Saturn -58190-03-22 08:52 J -19532394.24 -19532394.13 -19532394.03 0.0295 0.0178

Mars -58190-07-25 08:37 J -19532269.24 -19532269.14 -19532269.04 0.1686 0.1327

Venus -58188-08-22 05:16 J -19531510.31 -19531510.28 -19531510.24 0.3798 0.3559

Jupiter -58186-08-30 16:04 J -19530771.94 -19530771.83 -19530771.70 0.0495 0.0368

Jupiter -58186-11-28 23:59 J -19530681.64 -19530681.50 -19530681.35 0.0495 0.0301

Venus -58185-05-30 00:13 J -19530498.64 -19530498.49 -19530498.35 0.3576 0.1421

Earth -58184-06-23 07:54 J -19530109.26 -19530109.17 -19530109.08 0.2673 0.1585

Moon -58184-06-23 08:09 J -19530109.25 -19530109.16 -19530109.06 0.2678 0.1492 *

Venus -58182-03-07 21:21 J -19529486.71 -19529486.61 -19529486.52 0.3801 0.1595

Mars -58181-02-17 02:37 J -19529140.51 -19529140.39 -19529140.28 0.1844 0.0406

Mars -58181-12-14 09:35 J -19528839.26 -19528839.10 -19528838.94 0.1694 0.0273

Jupiter -58180-07-30 21:49 J -19528610.72 -19528610.59 -19528610.47 0.0531 0.0138

Jupiter -58180-10-28 04:18 J -19528521.39 -19528521.32 -19528521.24 0.0530 0.0418

Moon -58178-07-03 03:35 J -19527908.41 -19527908.35 -19527908.28 0.2676 0.2176

Earth -58178-07-03 04:04 J -19527908.39 -19527908.33 -19527908.27 0.2681 0.2166 *

Saturn -58177-01-30 05:01 J -19527697.35 -19527697.29 -19527697.20 0.0269 0.0246

Saturn -58177-04-28 01:11 J -19527608.61 -19527608.45 -19527608.28 0.0268 0.0122

Saturn -58177-07-25 21:21 J -19527519.79 -19527519.61 -19527519.42 0.0268 0.0004

Venus -58177-09-20 13:11 J -19527463.05 -19527462.95 -19527462.85 0.3803 0.0406

Saturn -58177-10-22 17:30 J -19527430.92 -19527430.77 -19527430.60 0.0267 0.0127

Saturn -58176-01-19 13:54 J -19527341.97 -19527341.92 -19527341.85 0.0266 0.0251

Moon -58175-12-20 11:01 J -19526642.17 -19526642.04 -19526641.92 0.2658 0.1525

Earth -58175-12-20 12:28 J -19526642.10 -19526641.98 -19526641.86 0.2659 0.1489 *

Jupiter -58174-09-16 21:35 J -19526371.78 -19526371.60 -19526371.42 0.0495 0.0133

Mars -58172-07-09 10:47 J -19525710.13 -19525710.05 -19525709.96 0.1835 0.1279

Venus -58171-04-06 05:01 J -19525439.37 -19525439.29 -19525439.22 0.3806 0.2357

Mars -58171-05-06 11:01 J -19525409.19 -19525409.04 -19525408.90 0.1702 0.0768

Earth -58171-06-26 02:09 J -19525358.52 -19525358.41 -19525358.30 0.2675 0.0588

Moon -58171-06-26 03:06 J -19525358.48 -19525358.37 -19525358.26 0.2677 0.0558 *

Jupiter -58168-05-19 01:11 J -19524300.55 -19524300.45 -19524300.34 0.0531 0.0284

Jupiter -58168-08-16 08:09 J -19524211.27 -19524211.16 -19524211.05 0.0530 0.0275

Jupiter -58162-07-05 19:11 J -19522061.88 -19522061.70 -19522061.51 0.0495 0.0033

Saturn -58162-11-16 20:37 J -19521927.73 -19521927.64 -19521927.54 0.0293 0.0210

Moon -58162-12-23 16:04 J -19521890.98 -19521890.83 -19521890.67 0.2658 0.0135

Earth -58162-12-23 17:45 J -19521890.91 -19521890.76 -19521890.61 0.2656 0.0330 *

Saturn -58161-02-13 09:35 J -19521839.22 -19521839.10 -19521838.97 0.0294 0.0091

Saturn -58161-05-11 22:33 J -19521750.70 -19521750.56 -19521750.43 0.0294 0.0029

Saturn -58161-08-08 11:16 J -19521662.15 -19521662.03 -19521661.92 0.0295 0.0148

Mars -58161-11-04 09:49 J -19521574.16 -19521574.09 -19521574.01 0.1862 0.1448

Saturn -58161-11-04 23:45 J -19521573.56 -19521573.51 -19521573.45 0.0296 0.0266

Uranus -58159-10-09 22:47 J -19520869.60 -19520869.55 -19520869.49 0.0132 0.0118

Uranus -58158-01-06 01:54 J -19520781.51 -19520781.42 -19520781.34 0.0132 0.0100

Uranus -58158-04-04 04:47 J -19520693.40 -19520693.30 -19520693.19 0.0132 0.0083

Earth -58158-06-28 20:37 J -19520607.75 -19520607.64 -19520607.53 0.2677 0.0413

Moon -58158-06-28 21:06 J -19520607.73 -19520607.62 -19520607.51 0.2673 0.0478 *

Uranus -58158-07-01 07:40 J -19520605.29 -19520605.18 -19520605.06 0.0132 0.0067

Uranus -58158-09-27 10:47 J -19520517.17 -19520517.05 -19520516.92 0.0132 0.0049

Uranus -58158-12-24 13:54 J -19520429.05 -19520428.92 -19520428.79 0.0133 0.0032

Uranus -58157-03-21 16:47 J -19520340.93 -19520340.80 -19520340.67 0.0133 0.0015

Uranus -58157-06-17 19:54 J -19520252.81 -19520252.67 -19520252.54 0.0133 0.0004

Uranus -58157-09-13 22:47 J -19520164.68 -19520164.55 -19520164.42 0.0133 0.0020

Uranus -58157-12-11 01:40 J -19520076.55 -19520076.43 -19520076.30 0.0133 0.0038

Jupiter -58156-03-07 04:47 J -19519990.37 -19519990.30 -19519990.22 0.0532 0.0429

Uranus -58156-03-09 04:33 J -19519988.42 -19519988.31 -19519988.18 0.0133 0.0055

Jupiter -58156-06-04 11:59 J -19519901.12 -19519901.00 -19519900.88 0.0531 0.0135

Uranus -58156-06-05 07:40 J -19519900.29 -19519900.18 -19519900.07 0.0133 0.0072

Uranus -58156-09-01 10:33 J -19519812.15 -19519812.06 -19519811.96 0.0133 0.0089

Uranus -58156-11-28 13:40 J -19519724.01 -19519723.93 -19519723.85 0.0133 0.0106

Uranus -58155-02-24 16:33 J -19519635.85 -19519635.81 -19519635.76 0.0133 0.0124

Mars -58151-03-27 18:13 J -19518143.85 -19518143.74 -19518143.62 0.1853 0.0576

Moon -58151-06-21 18:13 J -19518057.79 -19518057.74 -19518057.69 0.2679 0.2356

Earth -58151-06-21 18:13 J -19518057.79 -19518057.74 -19518057.69 0.2671 0.2401 *

Mars -58150-01-23 09:21 J -19517842.19 -19517842.11 -19517842.03 0.1686 0.1461

Jupiter -58150-04-23 16:47 J -19517751.97 -19517751.80 -19517751.63 0.0494 0.0198

Jupiter -58150-07-23 00:57 J -19517661.51 -19517661.46 -19517661.41 0.0495 0.0474

Moon -58149-12-25 22:33 J -19517139.64 -19517139.56 -19517139.47 0.2660 0.2203

Earth -58149-12-25 23:16 J -19517139.61 -19517139.53 -19517139.44 0.2654 0.2189 *

Saturn -58148-09-15 02:09 J -19516876.56 -19516876.41 -19516876.26 0.0269 0.0150

Saturn -58148-12-12 22:18 J -19516787.76 -19516787.57 -19516787.39 0.0268 0.0026

Saturn -58147-03-11 18:28 J -19516698.90 -19516698.73 -19516698.56 0.0267 0.0098

Saturn -58147-06-08 14:52 J -19516609.98 -19516609.88 -19516609.78 0.0267 0.0223

Earth -58145-06-30 14:52 J -19515856.98 -19515856.88 -19515856.79 0.2679 0.1386

Moon -58145-06-30 14:52 J -19515856.97 -19515856.88 -19515856.78 0.2673 0.1425 *

Neptune -58145-12-22 12:13 J -19515682.02 -19515681.99 -19515681.93 0.0089 0.0083

Neptune -58144-03-20 13:40 J -19515593.98 -19515593.93 -19515593.85 0.0089 0.0078

Jupiter -58144-03-23 15:35 J -19515590.98 -19515590.85 -19515590.72 0.0532 0.0011

Neptune -58144-06-16 15:21 J -19515505.93 -19515505.86 -19515505.77 0.0089 0.0072

Neptune -58144-09-12 16:47 J -19515417.88 -19515417.80 -19515417.70 0.0089 0.0066

Neptune -58144-12-09 18:28 J -19515329.83 -19515329.73 -19515329.63 0.0089 0.0060

Neptune -58143-03-07 19:54 J -19515241.78 -19515241.67 -19515241.56 0.0089 0.0054

Neptune -58143-06-03 21:06 J -19515153.72 -19515153.62 -19515153.49 0.0089 0.0049

Neptune -58143-08-30 22:47 J -19515065.67 -19515065.55 -19515065.43 0.0089 0.0043

Neptune -58143-11-27 00:13 J -19514977.61 -19514977.49 -19514977.36 0.0089 0.0037

Neptune -58142-02-23 01:54 J -19514889.55 -19514889.42 -19514889.30 0.0089 0.0031

Neptune -58142-05-22 03:06 J -19514801.50 -19514801.37 -19514801.23 0.0089 0.0025

Mars -58142-08-18 02:37 J -19514713.51 -19514713.39 -19514713.27 0.1844 0.0305

Neptune -58142-08-18 04:33 J -19514713.44 -19514713.31 -19514713.17 0.0089 0.0020 *

Neptune -58142-11-14 06:13 J -19514625.38 -19514625.24 -19514625.11 0.0089 0.0014

Neptune -58141-02-10 07:25 J -19514537.32 -19514537.19 -19514537.05 0.0089 0.0009

Neptune -58141-05-08 08:52 J -19514449.26 -19514449.13 -19514448.99 0.0089 0.0004

Mars -58141-06-14 10:18 J -19514412.23 -19514412.07 -19514411.91 0.1694 0.0415

Neptune -58141-08-04 10:18 J -19514361.20 -19514361.07 -19514360.93 0.0089 0.0004

Neptune -58141-10-31 11:45 J -19514273.14 -19514273.01 -19514272.87 0.0089 0.0009

Neptune -58140-01-27 13:11 J -19514185.08 -19514184.95 -19514184.81 0.0089 0.0015

Neptune -58140-04-25 14:37 J -19514097.02 -19514096.89 -19514096.76 0.0089 0.0020

Pluto -58140-05-24 13:40 J -19514067.95 -19514067.93 -19514067.85 0.0061 0.0060

Neptune -58140-07-22 16:04 J -19514008.96 -19514008.83 -19514008.70 0.0089 0.0026

Pluto -58140-08-20 15:06 J -19513979.93 -19513979.87 -19513979.78 0.0061 0.0054

Neptune -58140-10-18 17:16 J -19513920.90 -19513920.78 -19513920.65 0.0089 0.0032

Pluto -58140-11-16 16:33 J -19513891.91 -19513891.81 -19513891.71 0.0061 0.0050

Neptune -58139-01-14 18:42 J -19513832.84 -19513832.72 -19513832.59 0.0089 0.0038

Pluto -58139-02-12 17:16 J -19513803.88 -19513803.78 -19513803.65 0.0061 0.0046

Neptune -58139-04-12 20:09 J -19513744.77 -19513744.66 -19513744.54 0.0089 0.0043

Pluto -58139-05-11 18:28 J -19513715.85 -19513715.73 -19513715.59 0.0061 0.0041

Neptune -58139-07-09 21:35 J -19513656.71 -19513656.60 -19513656.48 0.0089 0.0049

Pluto -58139-08-07 19:25 J -19513627.81 -19513627.69 -19513627.53 0.0061 0.0037

Neptune -58139-10-05 23:01 J -19513568.64 -19513568.54 -19513568.43 0.0089 0.0054

Pluto -58139-11-03 20:37 J -19513539.77 -19513539.64 -19513539.48 0.0062 0.0032

Neptune -58138-01-02 00:13 J -19513480.58 -19513480.49 -19513480.38 0.0089 0.0060

Pluto -58138-01-30 22:04 J -19513451.74 -19513451.58 -19513451.42 0.0062 0.0027

Jupiter -58138-02-09 14:23 J -19513442.02 -19513441.90 -19513441.77 0.0494 0.0362

Neptune -58138-03-31 01:40 J -19513392.51 -19513392.43 -19513392.33 0.0089 0.0065

Pluto -58138-04-28 23:16 J -19513363.69 -19513363.53 -19513363.37 0.0062 0.0022

Jupiter -58138-05-10 22:18 J -19513351.72 -19513351.57 -19513351.43 0.0495 0.0304

Earth -58138-06-24 12:42 J -19513307.06 -19513306.97 -19513306.87 0.2674 0.1390

Moon -58138-06-24 13:25 J -19513307.04 -19513306.94 -19513306.85 0.2678 0.1402 *

Neptune -58138-06-27 03:06 J -19513304.44 -19513304.37 -19513304.29 0.0089 0.0071

Pluto -58138-07-26 00:13 J -19513275.65 -19513275.49 -19513275.32 0.0062 0.0018

Neptune -58138-09-23 04:18 J -19513216.37 -19513216.32 -19513216.24 0.0089 0.0077

Pluto -58138-10-22 01:25 J -19513187.61 -19513187.44 -19513187.26 0.0062 0.0013

Neptune -58138-12-20 05:45 J -19513128.30 -19513128.26 -19513128.20 0.0089 0.0082

Pluto -58137-01-18 02:37 J -19513099.56 -19513099.39 -19513099.21 0.0062 0.0008

Neptune -58137-03-17 06:57 J -19513040.21 -19513040.21 -19513040.17 0.0089 0.0088

Pluto -58137-04-15 03:49 J -19513011.51 -19513011.34 -19513011.16 0.0062 0.0003

Pluto -58137-07-12 05:01 J -19512923.47 -19512923.29 -19512923.11 0.0062 0.0002

Pluto -58137-10-08 06:13 J -19512835.42 -19512835.24 -19512835.07 0.0062 0.0007

Pluto -58136-01-04 07:25 J -19512747.37 -19512747.19 -19512747.02 0.0062 0.0011

Pluto -58136-04-02 08:23 J -19512659.31 -19512659.15 -19512658.97 0.0062 0.0017

Pluto -58136-06-29 09:35 J -19512571.26 -19512571.10 -19512570.93 0.0062 0.0022

Pluto -58136-09-25 10:47 J -19512483.20 -19512483.05 -19512482.88 0.0062 0.0027

Pluto -58136-12-22 11:59 J -19512395.14 -19512395.00 -19512394.84 0.0062 0.0032

Pluto -58135-03-20 13:11 J -19512307.08 -19512306.95 -19512306.80 0.0063 0.0037

Pluto -58135-06-16 14:23 J -19512219.02 -19512218.90 -19512218.76 0.0063 0.0042

Pluto -58135-09-12 15:35 J -19512130.95 -19512130.85 -19512130.72 0.0063 0.0047

Pluto -58135-12-09 16:47 J -19512042.88 -19512042.80 -19512042.69 0.0063 0.0052

Pluto -58134-03-07 18:13 J -19511954.80 -19511954.74 -19511954.66 0.0063 0.0057

Pluto -58134-06-03 19:25 J -19511866.70 -19511866.69 -19511866.66 0.0063 0.0062

Venus -58134-06-20 17:01 J -19511849.92 -19511849.79 -19511849.67 0.3578 0.2262

Mars -58132-01-07 11:01 J -19511283.13 -19511283.04 -19511282.95 0.1836 0.1168

Jupiter -58132-01-09 19:40 J -19511280.80 -19511280.68 -19511280.56 0.0532 0.0147

Saturn -58132-04-04 23:45 J -19511195.59 -19511195.51 -19511195.43 0.0292 0.0236

Jupiter -58132-04-09 02:23 J -19511191.48 -19511191.40 -19511191.32 0.0531 0.0410

Saturn -58132-07-02 12:28 J -19511107.10 -19511106.98 -19511106.85 0.0293 0.0118

Moon -58132-07-03 08:23 J -19511106.20 -19511106.15 -19511106.09 0.2676 0.2261

Earth -58132-07-03 08:52 J -19511106.18 -19511106.13 -19511106.08 0.2681 0.2353 *

Saturn -58132-09-29 01:25 J -19511018.57 -19511018.44 -19511018.31 0.0294 0.0002

Mars -58132-11-04 11:16 J -19510982.18 -19510982.03 -19510981.88 0.1702 0.0646

Saturn -58132-12-26 14:09 J -19510930.03 -19510929.91 -19510929.79 0.0294 0.0120

Saturn -58131-03-25 02:37 J -19510841.46 -19510841.39 -19510841.31 0.0295 0.0239

Venus -58131-03-29 02:52 J -19510837.45 -19510837.38 -19510837.32 0.3799 0.2844

Moon -58129-12-20 17:16 J -19509839.91 -19509839.78 -19509839.65 0.2658 0.1382

Earth -58129-12-20 18:42 J -19509839.85 -19509839.72 -19509839.58 0.2658 0.1161 *

Venus -58128-01-04 02:23 J -19509825.46 -19509825.40 -19509825.34 0.3575 0.3307

Jupiter -58126-02-26 18:57 J -19509041.88 -19509041.71 -19509041.53 0.0495 0.0130

Venus -58126-10-12 18:42 J -19508813.82 -19508813.72 -19508813.62 0.3802 0.0872

Earth -58125-06-26 07:11 J -19508556.31 -19508556.20 -19508556.09 0.2676 0.0391

Moon -58125-06-26 07:54 J -19508556.28 -19508556.17 -19508556.06 0.2677 0.0266 *

Mars -58122-03-27 12:28 J -19507551.99 -19507551.98 -19507551.96 0.1710 0.1697

Mars -58121-05-05 10:04 J -19507147.15 -19507147.08 -19507147.02 0.1862 0.1552

Jupiter -58121-10-28 23:45 J -19506970.62 -19506970.51 -19506970.40 0.0532 0.0284

Jupiter -58120-01-26 06:42 J -19506881.33 -19506881.22 -19506881.11 0.0531 0.0277

Venus -58120-04-27 10:33 J -19506790.16 -19506790.06 -19506789.96 0.3804 0.1093

Saturn -58118-02-02 01:40 J -19506144.56 -19506144.43 -19506144.30 0.0269 0.0186

Saturn -58118-05-01 21:35 J -19506055.77 -19506055.60 -19506055.42 0.0268 0.0063

Saturn -58118-07-29 17:45 J -19505966.93 -19505966.76 -19505966.58 0.0267 0.0062

Saturn -58118-10-26 14:09 J -19505878.04 -19505877.91 -19505877.77 0.0267 0.0186

Uranus -58118-10-28 18:57 J -19505875.79 -19505875.71 -19505875.60 0.0146 0.0125

Uranus -58117-01-25 03:35 J -19505787.49 -19505787.35 -19505787.19 0.0146 0.0091

Uranus -58117-04-22 12:13 J -19505699.16 -19505698.99 -19505698.81 0.0146 0.0058

Uranus -58117-07-19 20:52 J -19505610.82 -19505610.63 -19505610.44 0.0146 0.0025

Uranus -58117-10-16 05:30 J -19505522.46 -19505522.27 -19505522.08 0.0146 0.0009

Uranus -58116-01-12 13:54 J -19505434.09 -19505433.92 -19505433.72 0.0146 0.0043

Uranus -58116-04-10 22:47 J -19505345.71 -19505345.55 -19505345.38 0.0146 0.0076

Uranus -58116-07-08 07:11 J -19505257.31 -19505257.20 -19505257.06 0.0146 0.0110

Uranus -58116-10-04 16:04 J -19505168.86 -19505168.83 -19505168.79 0.0146 0.0143

Moon -58116-12-23 22:47 J -19505088.70 -19505088.55 -19505088.41 0.2659 0.0643

Earth -58116-12-23 23:59 J -19505088.64 -19505088.50 -19505088.35 0.2656 0.0664 *

Venus -58115-11-11 02:23 J -19504766.45 -19504766.40 -19504766.34 0.3807 0.3078

Jupiter -58115-12-15 16:33 J -19504731.99 -19504731.81 -19504731.63 0.0495 0.0038

Earth -58112-06-29 01:25 J -19503805.55 -19503805.44 -19503805.33 0.2678 0.0598

Moon -58112-06-29 01:54 J -19503805.53 -19503805.42 -19503805.31 0.2672 0.0613 *

Mars -58112-09-25 18:13 J -19503716.85 -19503716.74 -19503716.63 0.1853 0.0665

Mars -58111-07-24 10:04 J -19503415.13 -19503415.08 -19503415.04 0.1686 0.1608

Jupiter -58109-08-17 03:06 J -19502660.44 -19502660.37 -19502660.29 0.0531 0.0431

Jupiter -58109-11-14 10:18 J -19502571.19 -19502571.07 -19502570.95 0.0531 0.0132

Earth -58105-06-21 23:16 J -19501255.60 -19501255.53 -19501255.47 0.2672 0.2204

Moon -58105-06-21 23:16 J -19501255.59 -19501255.53 -19501255.47 0.2678 0.2250 *

Saturn -58103-08-23 01:54 J -19500463.47 -19500463.42 -19500463.36 0.0292 0.0267

Jupiter -58103-10-03 14:09 J -19500422.07 -19500421.91 -19500421.74 0.0495 0.0204

Saturn -58103-11-19 14:52 J -19500374.99 -19500374.88 -19500374.76 0.0293 0.0148

Moon -58103-12-27 05:01 J -19500337.35 -19500337.29 -19500337.22 0.2660 0.2410

Earth -58103-12-27 05:45 J -19500337.30 -19500337.26 -19500337.22 0.2653 0.2531 *

Jupiter -58102-01-01 22:18 J -19500331.61 -19500331.57 -19500331.51 0.0496 0.0472

Mars -58102-02-16 02:37 J -19500286.51 -19500286.39 -19500286.27 0.1845 0.0204

Saturn -58102-02-16 03:49 J -19500286.47 -19500286.34 -19500286.21 0.0294 0.0029 *

Saturn -58102-05-15 16:33 J -19500197.94 -19500197.81 -19500197.68 0.0295 0.0090

Saturn -58102-08-12 05:16 J -19500109.37 -19500109.28 -19500109.19 0.0296 0.0209

Mars -58102-12-14 11:01 J -19499985.20 -19499985.04 -19499984.89 0.1694 0.0553

Moon -58099-07-01 19:40 J -19499054.77 -19499054.68 -19499054.59 0.2673 0.1570

Earth -58099-07-01 19:40 J -19499054.77 -19499054.68 -19499054.59 0.2680 0.1572 *

Jupiter -58097-09-02 13:54 J -19498261.04 -19498260.92 -19498260.79 0.0531 0.0020

Earth -58096-12-18 20:09 J -19497788.68 -19497788.66 -19497788.63 0.2660 0.2609

Mars -58093-07-08 11:01 J -19496856.13 -19496856.04 -19496855.94 0.1836 0.1062

Mars -58092-05-05 11:59 J -19496555.15 -19496555.00 -19496554.85 0.1701 0.0506

Earth -58092-06-24 17:45 J -19496504.86 -19496504.76 -19496504.66 0.2674 0.1198

Moon -58092-06-24 18:13 J -19496504.84 -19496504.74 -19496504.63 0.2678 0.1075 *

Jupiter -58091-07-22 11:59 J -19496112.12 -19496112.00 -19496111.87 0.0494 0.0365

Jupiter -58091-10-20 19:40 J -19496021.82 -19496021.68 -19496021.53 0.0495 0.0302

Saturn -58089-06-21 02:52 J -19495412.49 -19495412.38 -19495412.27 0.0269 0.0213

Saturn -58089-09-17 22:47 J -19495323.71 -19495323.55 -19495323.37 0.0268 0.0090

Saturn -58089-12-15 19:11 J -19495234.88 -19495234.70 -19495234.52 0.0268 0.0035

Saturn -58088-03-14 15:21 J -19495146.00 -19495145.86 -19495145.71 0.0267 0.0160

Moon -58086-07-04 13:11 J -19494303.98 -19494303.95 -19494303.91 0.2676 0.2509

Earth -58086-07-04 13:54 J -19494303.96 -19494303.92 -19494303.89 0.2682 0.2533 *

Jupiter -58085-06-21 17:16 J -19493950.90 -19493950.78 -19493950.65 0.0532 0.0161

Jupiter -58085-09-19 00:13 J -19493861.57 -19493861.49 -19493861.41 0.0531 0.0398

Mars -58083-09-25 13:11 J -19493125.02 -19493124.95 -19493124.89 0.1709 0.1565

Moon -58083-12-21 23:30 J -19493037.66 -19493037.52 -19493037.38 0.2657 0.0895

Earth -58083-12-22 01:11 J -19493037.60 -19493037.45 -19493037.31 0.2658 0.0832 *

Mars -58082-11-04 10:04 J -19492720.13 -19492720.08 -19492720.03 0.1862 0.1653

Earth -58079-06-27 11:59 J -19491754.11 -19491754.00 -19491753.89 0.2676 0.0205

Moon -58079-06-27 12:42 J -19491754.08 -19491753.97 -19491753.86 0.2675 0.0198 *

Jupiter -58079-08-08 17:01 J -19491711.96 -19491711.79 -19491711.61 0.0495 0.0132

Venus -58077-01-25 19:11 J -19491176.86 -19491176.70 -19491176.54 0.3577 0.0364

Uranus -58075-08-03 03:06 J -19490256.38 -19490256.37 -19490256.34 0.0132 0.0130

Uranus -58075-10-30 06:13 J -19490168.30 -19490168.24 -19490168.17 0.0132 0.0112

Venus -58075-11-03 00:13 J -19490164.57 -19490164.49 -19490164.40 0.3800 0.2138

Uranus -58074-01-26 09:06 J -19490080.20 -19490080.12 -19490080.02 0.0132 0.0095

Uranus -58074-04-24 12:13 J -19489992.09 -19489991.99 -19489991.88 0.0132 0.0078

Uranus -58074-07-21 15:21 J -19489903.98 -19489903.86 -19489903.74 0.0132 0.0060

Uranus -58074-10-17 18:13 J -19489815.86 -19489815.74 -19489815.61 0.0132 0.0043

Saturn -58073-01-10 05:16 J -19489731.29 -19489731.28 -19489731.27 0.0291 0.0289

Uranus -58073-01-13 21:21 J -19489727.74 -19489727.61 -19489727.48 0.0133 0.0026

Saturn -58073-04-07 18:13 J -19489642.85 -19489642.74 -19489642.63 0.0292 0.0171

Jupiter -58073-04-09 21:21 J -19489640.72 -19489640.61 -19489640.50 0.0532 0.0298

Uranus -58073-04-11 00:13 J -19489639.62 -19489639.49 -19489639.35 0.0133 0.0009

Saturn -58073-07-05 07:11 J -19489554.34 -19489554.20 -19489554.07 0.0293 0.0053

Uranus -58073-07-08 03:21 J -19489551.50 -19489551.36 -19489551.23 0.0133 0.0009

Jupiter -58073-07-08 04:18 J -19489551.43 -19489551.32 -19489551.21 0.0531 0.0264 *

Saturn -58073-10-01 19:54 J -19489465.80 -19489465.67 -19489465.54 0.0294 0.0066

Uranus -58073-10-04 06:13 J -19489463.37 -19489463.24 -19489463.11 0.0133 0.0026

Saturn -58073-12-29 08:37 J -19489377.25 -19489377.14 -19489377.04 0.0295 0.0184

Uranus -58073-12-31 09:06 J -19489375.24 -19489375.12 -19489374.99 0.0133 0.0043

Mars -58072-03-26 18:13 J -19489289.84 -19489289.74 -19489289.63 0.1853 0.0770

Uranus -58072-03-29 12:13 J -19489287.11 -19489286.99 -19489286.87 0.0133 0.0060

Uranus -58072-06-25 15:06 J -19489198.97 -19489198.87 -19489198.76 0.0133 0.0077

Uranus -58072-09-21 17:59 J -19489110.84 -19489110.75 -19489110.65 0.0133 0.0095

Uranus -58072-12-18 20:52 J -19489022.69 -19489022.63 -19489022.55 0.0133 0.0112

Uranus -58071-03-16 23:45 J -19488934.53 -19488934.51 -19488934.47 0.0133 0.0130

Moon -58070-12-25 05:16 J -19488286.42 -19488286.28 -19488286.13 0.2660 0.0808

Earth -58070-12-25 06:28 J -19488286.37 -19488286.23 -19488286.09 0.2655 0.0999 *

Venus -58069-05-18 16:04 J -19488140.93 -19488140.83 -19488140.73 0.3802 0.0213

Jupiter -58067-05-27 13:54 J -19487402.11 -19487401.92 -19487401.74 0.0495 0.0046

Earth -58066-06-30 06:28 J -19487003.34 -19487003.23 -19487003.13 0.2678 0.0791

Moon -58066-06-30 06:57 J -19487003.32 -19487003.21 -19487003.11 0.2673 0.0880 *

Venus -58064-12-02 08:09 J -19486117.25 -19486117.16 -19486117.08 0.3805 0.1818

Mars -58063-08-17 02:37 J -19485859.50 -19485859.39 -19485859.27 0.1844 0.0116

Mars -58062-06-14 11:30 J -19485558.17 -19485558.02 -19485557.87 0.1694 0.0685

Neptune -58062-09-08 14:37 J -19485471.94 -19485471.89 -19485471.82 0.0089 0.0083

Neptune -58062-12-05 17:30 J -19485383.84 -19485383.77 -19485383.65 0.0089 0.0076

Jupiter -58061-01-28 01:25 J -19485330.51 -19485330.44 -19485330.37 0.0532 0.0436

Neptune -58061-03-02 21:06 J -19485295.73 -19485295.62 -19485295.50 0.0089 0.0068

Jupiter -58061-04-26 08:37 J -19485241.27 -19485241.14 -19485241.02 0.0531 0.0130

Neptune -58061-05-30 00:28 J -19485207.61 -19485207.48 -19485207.34 0.0089 0.0060

Neptune -58061-08-26 03:21 J -19485119.49 -19485119.36 -19485119.19 0.0089 0.0053

Neptune -58061-11-22 06:42 J -19485031.37 -19485031.22 -19485031.05 0.0089 0.0045

Neptune -58060-02-18 10:18 J -19484943.24 -19484943.07 -19484942.90 0.0089 0.0037

Neptune -58060-05-17 13:11 J -19484855.11 -19484854.95 -19484854.76 0.0089 0.0030

Neptune -58060-08-13 16:47 J -19484766.98 -19484766.80 -19484766.62 0.0089 0.0022

Saturn -58060-11-08 03:06 J -19484680.44 -19484680.37 -19484680.30 0.0269 0.0245

Neptune -58060-11-09 20:09 J -19484678.85 -19484678.66 -19484678.48 0.0089 0.0014

Saturn -58059-02-04 23:01 J -19484591.70 -19484591.54 -19484591.38 0.0269 0.0122

Neptune -58059-02-05 23:30 J -19484590.71 -19484590.52 -19484590.33 0.0089 0.0006

Saturn -58059-05-04 19:11 J -19484502.89 -19484502.70 -19484502.52 0.0268 0.0004

Neptune -58059-05-05 02:52 J -19484502.57 -19484502.38 -19484502.20 0.0089 0.0003 *

Earth -58059-06-23 04:04 J -19484453.40 -19484453.33 -19484453.25 0.2672 0.2008

Moon -58059-06-23 04:18 J -19484453.39 -19484453.32 -19484453.24 0.2678 0.1970 *

Neptune -58059-08-01 05:59 J -19484414.43 -19484414.25 -19484414.06 0.0089 0.0010

Saturn -58059-08-01 15:21 J -19484414.02 -19484413.86 -19484413.70 0.0267 0.0126

Neptune -58059-10-28 09:21 J -19484326.29 -19484326.11 -19484325.92 0.0089 0.0018

Saturn -58059-10-29 11:30 J -19484325.07 -19484325.02 -19484324.95 0.0266 0.0251

Neptune -58058-01-24 12:42 J -19484238.15 -19484237.97 -19484237.78 0.0089 0.0026

Neptune -58058-04-22 16:04 J -19484150.00 -19484149.83 -19484149.65 0.0089 0.0034

Venus -58058-06-17 23:59 J -19484093.51 -19484093.50 -19484093.50 0.3807 0.3790

Neptune -58058-07-19 19:25 J -19484061.85 -19484061.69 -19484061.52 0.0089 0.0042

Neptune -58058-10-15 22:33 J -19483973.70 -19483973.56 -19483973.39 0.0089 0.0050

Neptune -58057-01-12 02:09 J -19483885.54 -19483885.41 -19483885.26 0.0089 0.0058

Neptune -58057-04-09 05:30 J -19483797.38 -19483797.27 -19483797.13 0.0089 0.0066

Neptune -58057-07-06 08:52 J -19483709.22 -19483709.13 -19483709.01 0.0089 0.0074

Neptune -58057-10-02 12:13 J -19483621.04 -19483620.99 -19483620.90 0.0089 0.0082

Jupiter -58055-03-15 11:16 J -19483092.19 -19483092.03 -19483091.86 0.0495 0.0212

Jupiter -58055-06-13 19:25 J -19483001.75 -19483001.69 -19483001.62 0.0496 0.0462

Mars -58053-01-07 11:01 J -19482429.14 -19482429.04 -19482428.94 0.1836 0.0970

Moon -58053-07-02 00:28 J -19482252.57 -19482252.48 -19482252.40 0.2674 0.1714

Earth -58053-07-02 00:28 J -19482252.56 -19482252.48 -19482252.39 0.2680 0.1761 *

Mars -58053-11-03 12:42 J -19482128.13 -19482127.97 -19482127.81 0.1701 0.0359

Moon -58050-12-20 01:11 J -19480986.51 -19480986.45 -19480986.39 0.2657 0.2424

Earth -58050-12-20 02:37 J -19480986.47 -19480986.39 -19480986.32 0.2660 0.2281 *

Jupiter -58049-02-13 12:13 J -19480931.12 -19480930.99 -19480930.86 0.0531 0.0016

Pluto -58048-07-18 16:18 J -19480409.88 -19480409.82 -19480409.75 0.0083 0.0075

Pluto -58048-10-14 17:45 J -19480321.84 -19480321.76 -19480321.66 0.0083 0.0065

Pluto -58047-01-10 19:25 J -19480233.79 -19480233.69 -19480233.57 0.0083 0.0055

Pluto -58047-04-08 21:21 J -19480145.73 -19480145.61 -19480145.49 0.0083 0.0045

Pluto -58047-07-05 22:47 J -19480057.68 -19480057.55 -19480057.42 0.0083 0.0036

Pluto -58047-10-02 00:28 J -19479969.62 -19479969.48 -19479969.34 0.0083 0.0026

Pluto -58047-12-29 01:54 J -19479881.56 -19479881.42 -19479881.28 0.0082 0.0017

Pluto -58046-03-27 03:35 J -19479793.50 -19479793.35 -19479793.21 0.0082 0.0007

Pluto -58046-06-23 05:01 J -19479705.43 -19479705.29 -19479705.14 0.0082 0.0002

Earth -58046-06-25 22:33 J -19479702.66 -19479702.56 -19479702.45 0.2674 0.1003

Moon -58046-06-25 23:16 J -19479702.64 -19479702.53 -19479702.43 0.2678 0.1000 *

Pluto -58046-09-19 06:28 J -19479617.37 -19479617.23 -19479617.08 0.0082 0.0012

Pluto -58046-12-16 07:54 J -19479529.30 -19479529.17 -19479529.02 0.0082 0.0021

Pluto -58045-03-13 09:21 J -19479441.23 -19479441.11 -19479440.97 0.0082 0.0030

Pluto -58045-06-09 10:47 J -19479353.17 -19479353.05 -19479352.91 0.0082 0.0039

Pluto -58045-09-05 12:13 J -19479265.09 -19479264.99 -19479264.86 0.0081 0.0048

Pluto -58045-12-02 13:40 J -19479177.02 -19479176.93 -19479176.82 0.0081 0.0057

Pluto -58044-02-28 15:06 J -19479088.94 -19479088.87 -19479088.77 0.0081 0.0065

Pluto -58044-05-27 16:47 J -19479000.86 -19479000.80 -19479000.74 0.0081 0.0074

Mars -58044-05-29 19:25 J -19478998.70 -19478998.69 -19478998.68 0.1827 0.1815

Saturn -58044-08-25 20:37 J -19478910.73 -19478910.64 -19478910.54 0.0293 0.0201

Saturn -58044-11-22 09:35 J -19478822.23 -19478822.10 -19478821.97 0.0294 0.0082

Jupiter -58043-01-01 09:06 J -19478782.24 -19478782.12 -19478782.00 0.0495 0.0375

Saturn -58043-02-18 22:18 J -19478733.70 -19478733.57 -19478733.44 0.0294 0.0037

Mars -58043-03-26 13:40 J -19478698.02 -19478697.93 -19478697.84 0.1709 0.1428

Jupiter -58043-04-01 16:47 J -19478691.94 -19478691.80 -19478691.65 0.0495 0.0293

Saturn -58043-05-18 11:01 J -19478645.15 -19478645.04 -19478644.93 0.0295 0.0156

Saturn -58043-08-14 23:45 J -19478556.56 -19478556.51 -19478556.46 0.0296 0.0274

Mars -58042-05-05 09:49 J -19478293.12 -19478293.09 -19478293.05 0.1862 0.1748

Moon -58040-07-04 18:13 J -19477501.76 -19477501.74 -19477501.73 0.2677 0.2643

Jupiter -58038-12-02 15:49 J -19476620.96 -19476620.84 -19476620.72 0.0531 0.0161

Jupiter -58037-02-29 22:33 J -19476531.64 -19476531.56 -19476531.48 0.0530 0.0396

Moon -58037-12-22 05:59 J -19476235.40 -19476235.25 -19476235.11 0.2657 0.0691

Earth -58037-12-22 07:25 J -19476235.34 -19476235.19 -19476235.04 0.2658 0.0505 *

Uranus -58034-11-18 01:54 J -19475174.52 -19475174.42 -19475174.30 0.0146 0.0119

Uranus -58033-02-14 10:33 J -19475086.21 -19475086.06 -19475085.90 0.0146 0.0085

Uranus -58033-05-12 19:11 J -19474997.88 -19474997.70 -19474997.52 0.0146 0.0052

Earth -58033-06-27 17:01 J -19474951.91 -19474951.79 -19474951.68 0.2676 0.0067

Moon -58033-06-27 17:45 J -19474951.88 -19474951.76 -19474951.65 0.2674 0.0153 *

Uranus -58033-08-09 03:49 J -19474909.53 -19474909.34 -19474909.15 0.0146 0.0019

Mars -58033-09-24 18:28 J -19474862.83 -19474862.73 -19474862.63 0.1853 0.0879

Uranus -58033-11-05 12:28 J -19474821.17 -19474820.98 -19474820.79 0.0146 0.0015

Uranus -58032-02-01 20:52 J -19474732.80 -19474732.63 -19474732.44 0.0146 0.0049

Uranus -58032-05-01 05:45 J -19474644.42 -19474644.26 -19474644.10 0.0146 0.0082

Uranus -58032-07-28 14:09 J -19474556.01 -19474555.91 -19474555.78 0.0146 0.0116

Jupiter -58031-01-18 14:23 J -19474382.07 -19474381.90 -19474381.72 0.0495 0.0127

Saturn -58030-06-25 00:13 J -19473859.63 -19473859.49 -19473859.33 0.0269 0.0148

Saturn -58030-09-21 20:23 J -19473770.83 -19473770.65 -19473770.46 0.0268 0.0024

Saturn -58030-12-19 16:47 J -19473681.97 -19473681.80 -19473681.63 0.0267 0.0100

Saturn -58029-03-17 12:57 J -19473593.05 -19473592.96 -19473592.86 0.0267 0.0225

Jupiter -58026-09-20 18:57 J -19472310.81 -19472310.71 -19472310.60 0.0532 0.0313

Jupiter -58026-12-19 01:54 J -19472221.53 -19472221.42 -19472221.30 0.0531 0.0251

Venus -58024-11-24 05:59 J -19471515.29 -19471515.25 -19471515.21 0.3798 0.3395

Moon -58024-12-25 11:45 J -19471484.14 -19471484.01 -19471483.88 0.2661 0.1328

Earth -58024-12-25 12:57 J -19471484.10 -19471483.96 -19471483.83 0.2655 0.1329 *

Mars -58023-02-15 02:37 J -19471432.50 -19471432.39 -19471432.27 0.1844 0.0055

Mars -58023-12-13 12:13 J -19471131.13 -19471130.99 -19471130.85 0.1693 0.0827

Venus -58021-08-31 21:35 J -19470503.75 -19470503.60 -19470503.46 0.3576 0.1544

Earth -58020-06-30 11:16 J -19470201.13 -19470201.03 -19470200.93 0.2678 0.0974

Moon -58020-06-30 11:45 J -19470201.12 -19470201.01 -19470200.91 0.2673 0.0963 *

Jupiter -58020-11-06 11:45 J -19470072.19 -19470072.01 -19470071.82 0.0495 0.0044

Venus -58018-06-09 21:49 J -19469491.68 -19469491.59 -19469491.50 0.3800 0.1431

Saturn -58014-01-12 23:59 J -19468178.58 -19468178.50 -19468178.41 0.0292 0.0223

Saturn -58014-04-11 12:57 J -19468090.08 -19468089.96 -19468089.83 0.0293 0.0105

Mars -58014-07-08 11:16 J -19468002.14 -19468002.03 -19468001.93 0.1836 0.0861

Saturn -58014-07-09 01:40 J -19468001.56 -19468001.43 -19468001.29 0.0294 0.0017

Jupiter -58014-07-09 22:47 J -19468000.61 -19468000.55 -19468000.48 0.0532 0.0453

Saturn -58014-10-05 14:23 J -19467913.01 -19467912.90 -19467912.78 0.0294 0.0132

Jupiter -58014-10-07 06:13 J -19467911.37 -19467911.24 -19467911.12 0.0531 0.0115

Saturn -58013-01-02 03:06 J -19467824.44 -19467824.37 -19467824.30 0.0295 0.0250

Mars -58013-05-04 13:11 J -19467701.11 -19467700.95 -19467700.79 0.1701 0.0238

Earth -58013-06-23 09:06 J -19467651.20 -19467651.12 -19467651.04 0.2672 0.1812

Moon -58013-06-23 09:21 J -19467651.19 -19467651.11 -19467651.02 0.2678 0.1784 *

Venus -58013-12-23 13:40 J -19467468.03 -19467467.93 -19467467.83 0.3803 0.0550

Jupiter -58008-08-25 08:23 J -19465762.31 -19465762.15 -19465761.98 0.0495 0.0220

Jupiter -58008-11-23 16:33 J -19465671.88 -19465671.81 -19465671.74 0.0495 0.0453

Moon -58007-07-03 05:16 J -19465450.36 -19465450.28 -19465450.21 0.2673 0.1952

Earth -58007-07-03 05:30 J -19465450.35 -19465450.27 -19465450.20 0.2680 0.1940 *

Venus -58007-07-09 05:30 J -19465444.34 -19465444.27 -19465444.20 0.3805 0.2533

Mars -58005-11-27 19:25 J -19464571.73 -19464571.69 -19464571.66 0.1827 0.1721

Mars -58004-09-24 14:09 J -19464271.01 -19464270.91 -19464270.80 0.1709 0.1293

Moon -58004-12-20 07:25 J -19464184.29 -19464184.19 -19464184.09 0.2657 0.2024

Earth -58004-12-20 08:52 J -19464184.23 -19464184.13 -19464184.03 0.2660 0.1955 *

Mars -58003-11-03 10:04 J -19463866.08 -19463866.08 -19463866.07 0.1862 0.1855

Jupiter -58002-07-26 10:18 J -19463601.20 -19463601.07 -19463600.94 0.0531 0.0021

Saturn -58001-11-11 00:57 J -19463127.59 -19463127.46 -19463127.32 0.0269 0.0177

58TH MILLENNIUM BCE

This is a list of transits of Mercury in the 58th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Saturn -58000-02-07 20:52 J -19463038.80 -19463038.63 -19463038.45 0.0268 0.0054

Saturn -58000-05-07 17:01 J -19462949.96 -19462949.79 -19462949.61 0.0267 0.0070

Earth -58000-06-26 03:35 J -19462900.46 -19462900.35 -19462900.25 0.2674 0.0813

Moon -58000-06-26 04:04 J -19462900.43 -19462900.33 -19462900.22 0.2677 0.0709 *

Saturn -58000-08-04 13:25 J -19462861.07 -19462860.94 -19462860.81 0.0267 0.0194

Jupiter -57996-06-13 05:59 J -19461452.36 -19461452.25 -19461452.13 0.0495 0.0385

Jupiter -57996-09-11 13:40 J -19461362.07 -19461361.93 -19461361.77 0.0495 0.0283

Mars -57993-03-25 18:13 J -19460435.84 -19460435.74 -19460435.64 0.1853 0.0967

Uranus -57991-08-23 10:33 J -19459555.10 -19459555.06 -19459555.01 0.0132 0.0124

Uranus -57991-11-19 13:25 J -19459467.00 -19459466.94 -19459466.85 0.0132 0.0108

Moon -57991-12-23 12:28 J -19459433.13 -19459432.98 -19459432.83 0.2659 0.0278

Earth -57991-12-23 13:54 J -19459433.07 -19459432.92 -19459432.77 0.2657 0.0170 *

Uranus -57990-02-15 16:47 J -19459378.90 -19459378.80 -19459378.71 0.0132 0.0090

Jupiter -57990-05-14 13:54 J -19459291.04 -19459290.92 -19459290.79 0.0531 0.0166

Uranus -57990-05-14 19:40 J -19459290.79 -19459290.68 -19459290.57 0.0132 0.0073 *

Uranus -57990-08-10 22:33 J -19459202.67 -19459202.56 -19459202.43 0.0132 0.0056

Jupiter -57990-08-11 20:37 J -19459201.72 -19459201.64 -19459201.55 0.0530 0.0393

Uranus -57990-11-07 01:40 J -19459114.56 -19459114.43 -19459114.30 0.0132 0.0038

Uranus -57989-02-03 04:47 J -19459026.43 -19459026.30 -19459026.17 0.0133 0.0021

Uranus -57989-05-01 07:40 J -19458938.31 -19458938.18 -19458938.05 0.0133 0.0004

Uranus -57989-07-28 10:33 J -19458850.19 -19458850.06 -19458849.92 0.0133 0.0014

Uranus -57989-10-24 13:40 J -19458762.06 -19458761.93 -19458761.80 0.0133 0.0031

Uranus -57988-01-20 16:33 J -19458673.93 -19458673.81 -19458673.68 0.0133 0.0048

Uranus -57988-04-18 19:25 J -19458585.80 -19458585.69 -19458585.57 0.0133 0.0066

Uranus -57988-07-15 22:18 J -19458497.66 -19458497.57 -19458497.46 0.0133 0.0083

Uranus -57988-10-12 01:11 J -19458409.52 -19458409.45 -19458409.35 0.0133 0.0100

Uranus -57987-01-08 04:18 J -19458321.37 -19458321.32 -19458321.25 0.0133 0.0117

Earth -57987-06-28 21:49 J -19458149.70 -19458149.59 -19458149.48 0.2677 0.0185

Moon -57987-06-28 22:33 J -19458149.67 -19458149.56 -19458149.45 0.2673 0.0190 *

Saturn -57985-06-01 02:09 J -19457446.47 -19457446.41 -19457446.34 0.0292 0.0255

Saturn -57985-08-28 15:06 J -19457357.98 -19457357.87 -19457357.75 0.0293 0.0136

Saturn -57985-11-25 04:04 J -19457269.46 -19457269.33 -19457269.20 0.0294 0.0017

Saturn -57984-02-21 16:47 J -19457180.92 -19457180.80 -19457180.67 0.0295 0.0102

Saturn -57984-05-21 05:30 J -19457092.36 -19457092.27 -19457092.18 0.0296 0.0220

Jupiter -57984-06-30 11:16 J -19457052.21 -19457052.03 -19457051.85 0.0495 0.0115

Mars -57984-08-16 02:52 J -19457005.50 -19457005.38 -19457005.26 0.1845 0.0111

Mars -57983-06-13 12:42 J -19456704.10 -19456703.97 -19456703.83 0.1693 0.0964

Moon -57980-06-21 19:11 J -19455599.72 -19455599.70 -19455599.68 0.2677 0.2625

Earth -57980-06-21 19:25 J -19455599.71 -19455599.69 -19455599.68 0.2671 0.2630 *

Neptune -57980-06-22 10:04 J -19455599.09 -19455599.08 -19455599.06 0.0089 0.0088

Neptune -57980-09-18 11:45 J -19455511.06 -19455511.01 -19455510.96 0.0089 0.0082

Neptune -57980-12-15 12:57 J -19455423.02 -19455422.96 -19455422.88 0.0089 0.0076

Neptune -57979-03-13 14:23 J -19455334.97 -19455334.90 -19455334.80 0.0089 0.0071

Neptune -57979-06-09 16:04 J -19455246.92 -19455246.83 -19455246.73 0.0089 0.0065

Neptune -57979-09-05 17:30 J -19455158.87 -19455158.77 -19455158.66 0.0089 0.0059

Neptune -57979-12-02 19:11 J -19455070.81 -19455070.70 -19455070.59 0.0089 0.0053

Neptune -57978-02-28 20:23 J -19454982.76 -19454982.65 -19454982.52 0.0089 0.0048

Jupiter -57978-03-02 17:30 J -19454980.87 -19454980.77 -19454980.66 0.0531 0.0312

Neptune -57978-05-27 21:49 J -19454894.70 -19454894.59 -19454894.46 0.0089 0.0042

Jupiter -57978-05-31 00:28 J -19454891.59 -19454891.48 -19454891.37 0.0531 0.0250

Neptune -57978-08-23 23:30 J -19454806.64 -19454806.52 -19454806.39 0.0089 0.0036

Neptune -57978-11-20 00:57 J -19454718.59 -19454718.46 -19454718.33 0.0089 0.0030

Moon -57978-12-26 18:13 J -19454681.86 -19454681.74 -19454681.61 0.2660 0.1500

Earth -57978-12-26 19:25 J -19454681.81 -19454681.69 -19454681.58 0.2655 0.1671 *

Neptune -57977-02-16 02:23 J -19454630.53 -19454630.40 -19454630.26 0.0089 0.0024

Neptune -57977-05-14 03:49 J -19454542.47 -19454542.34 -19454542.20 0.0089 0.0018

Neptune -57977-08-10 05:16 J -19454454.41 -19454454.28 -19454454.14 0.0089 0.0013

Neptune -57977-11-06 06:42 J -19454366.35 -19454366.22 -19454366.08 0.0089 0.0007

Neptune -57976-02-02 08:09 J -19454278.29 -19454278.16 -19454278.02 0.0089 0.0003

Neptune -57976-05-01 09:35 J -19454190.23 -19454190.10 -19454189.96 0.0089 0.0005

Neptune -57976-07-28 11:01 J -19454102.17 -19454102.04 -19454101.90 0.0089 0.0011

Neptune -57976-10-24 12:28 J -19454014.11 -19454013.98 -19454013.84 0.0089 0.0016

Neptune -57975-01-20 13:54 J -19453926.05 -19453925.92 -19453925.79 0.0089 0.0022

Neptune -57975-04-18 15:21 J -19453837.99 -19453837.86 -19453837.73 0.0089 0.0027

Neptune -57975-07-15 16:47 J -19453749.93 -19453749.80 -19453749.68 0.0089 0.0033

Neptune -57975-10-11 17:59 J -19453661.86 -19453661.75 -19453661.62 0.0089 0.0039

Mars -57974-01-06 11:16 J -19453575.14 -19453575.03 -19453574.93 0.1836 0.0759

Neptune -57974-01-07 19:25 J -19453573.80 -19453573.69 -19453573.57 0.0089 0.0045

Neptune -57974-04-05 20:52 J -19453485.74 -19453485.63 -19453485.52 0.0089 0.0050

Earth -57974-07-01 16:04 J -19453398.93 -19453398.83 -19453398.73 0.2679 0.1162

Moon -57974-07-01 16:18 J -19453398.92 -19453398.82 -19453398.72 0.2673 0.1242 *

Neptune -57974-07-02 22:04 J -19453397.67 -19453397.58 -19453397.46 0.0089 0.0056

Neptune -57974-09-28 23:30 J -19453309.61 -19453309.52 -19453309.41 0.0089 0.0062

Mars -57974-11-03 13:40 J -19453274.09 -19453273.93 -19453273.77 0.1701 0.0099

Neptune -57974-12-26 00:57 J -19453221.54 -19453221.46 -19453221.37 0.0089 0.0067

Neptune -57973-03-23 02:09 J -19453133.47 -19453133.41 -19453133.32 0.0089 0.0073

Neptune -57973-06-19 03:49 J -19453045.40 -19453045.34 -19453045.28 0.0089 0.0078

Neptune -57973-09-15 05:01 J -19452957.32 -19452957.29 -19452957.24 0.0089 0.0084

Jupiter -57972-04-18 09:06 J -19452742.30 -19452742.12 -19452741.94 0.0495 0.0049

Saturn -57971-03-31 01:54 J -19452395.52 -19452395.42 -19452395.29 0.0269 0.0204

Saturn -57971-06-27 22:04 J -19452306.75 -19452306.58 -19452306.40 0.0268 0.0081

Saturn -57971-09-24 18:13 J -19452217.92 -19452217.74 -19452217.56 0.0267 0.0044

Saturn -57971-12-22 14:23 J -19452129.03 -19452128.90 -19452128.75 0.0267 0.0168

Venus -57970-09-22 14:23 J -19451855.03 -19451854.90 -19451854.77 0.3579 0.2149

Earth -57967-06-24 13:54 J -19450849.01 -19450848.92 -19450848.83 0.2673 0.1620

Moon -57967-06-24 14:23 J -19450848.99 -19450848.90 -19450848.81 0.2679 0.1596 *

Venus -57967-07-01 03:21 J -19450842.43 -19450842.36 -19450842.29 0.3798 0.2683

Jupiter -57967-12-19 20:37 J -19450670.70 -19450670.64 -19450670.58 0.0532 0.0465

Jupiter -57966-03-19 03:49 J -19450581.46 -19450581.34 -19450581.21 0.0531 0.0102

Mars -57965-05-28 19:25 J -19450144.74 -19450144.69 -19450144.64 0.1827 0.1616

Mars -57964-03-25 14:52 J -19449844.00 -19449843.88 -19449843.76 0.1709 0.1155

Venus -57964-04-07 23:45 J -19449830.55 -19449830.51 -19449830.47 0.3575 0.3440

Venus -57961-01-14 19:11 J -19448818.80 -19448818.70 -19448818.60 0.3801 0.0719

Moon -57961-07-03 10:04 J -19448648.15 -19448648.08 -19448648.01 0.2674 0.2047

Earth -57961-07-03 10:18 J -19448648.14 -19448648.07 -19448648.00 0.2681 0.2127 *

Jupiter -57960-02-04 06:28 J -19448432.39 -19448432.23 -19448432.06 0.0494 0.0217

Jupiter -57960-05-05 14:37 J -19448341.96 -19448341.89 -19448341.82 0.0495 0.0456

Moon -57958-12-21 13:54 J -19447382.03 -19447381.92 -19447381.81 0.2656 0.1811

Earth -57958-12-21 15:21 J -19447381.98 -19447381.86 -19447381.75 0.2659 0.1628 *

Venus -57956-07-30 11:01 J -19446795.13 -19446795.04 -19446794.94 0.3804 0.1278

Saturn -57956-10-19 05:30 J -19446714.30 -19446714.27 -19446714.22 0.0292 0.0277

Saturn -57955-01-15 18:42 J -19446625.83 -19446625.72 -19446625.61 0.0293 0.0158

Saturn -57955-04-14 07:25 J -19446537.32 -19446537.19 -19446537.05 0.0293 0.0040

Saturn -57955-07-11 20:23 J -19446448.78 -19446448.65 -19446448.53 0.0294 0.0080

Saturn -57955-10-08 08:52 J -19446360.22 -19446360.13 -19446360.03 0.0295 0.0197

Jupiter -57954-01-05 07:54 J -19446271.30 -19446271.17 -19446271.04 0.0532 0.0036

Jupiter -57954-04-04 14:37 J -19446181.91 -19446181.89 -19446181.87 0.0531 0.0519

Earth -57954-06-27 08:23 J -19446098.26 -19446098.15 -19446098.04 0.2675 0.0618

Moon -57954-06-27 09:06 J -19446098.23 -19446098.12 -19446098.01 0.2676 0.0566 *

Mars -57954-09-24 18:28 J -19446008.83 -19446008.73 -19446008.64 0.1854 0.1076

Venus -57950-02-13 03:06 J -19444771.42 -19444771.37 -19444771.32 0.3806 0.3256

Uranus -57950-09-11 00:57 J -19444561.49 -19444561.46 -19444561.42 0.0146 0.0144

Uranus -57950-12-08 09:21 J -19444473.22 -19444473.11 -19444472.97 0.0146 0.0111

Uranus -57949-03-05 17:59 J -19444384.90 -19444384.75 -19444384.58 0.0146 0.0077

Uranus -57949-06-02 02:37 J -19444296.57 -19444296.39 -19444296.20 0.0146 0.0044

Uranus -57949-08-29 11:16 J -19444208.22 -19444208.03 -19444207.84 0.0146 0.0011

Jupiter -57949-11-23 03:06 J -19444122.47 -19444122.37 -19444122.26 0.0494 0.0394

Uranus -57949-11-25 19:54 J -19444119.86 -19444119.67 -19444119.48 0.0146 0.0023

Jupiter -57948-02-21 10:47 J -19444032.20 -19444032.05 -19444031.90 0.0495 0.0273

Uranus -57948-02-22 04:33 J -19444031.48 -19444031.31 -19444031.13 0.0146 0.0057

Uranus -57948-05-21 12:57 J -19443943.10 -19443942.96 -19443942.80 0.0146 0.0091

Uranus -57948-08-17 21:49 J -19443854.68 -19443854.59 -19443854.49 0.0146 0.0124

Moon -57945-12-23 18:57 J -19442630.86 -19442630.71 -19442630.56 0.2660 0.0074

Earth -57945-12-23 20:23 J -19442630.80 -19442630.65 -19442630.50 0.2657 0.0170 *

Mars -57944-02-14 02:52 J -19442578.50 -19442578.38 -19442578.27 0.1845 0.0211

Mars -57944-12-12 13:11 J -19442277.07 -19442276.95 -19442276.83 0.1693 0.1094

Jupiter -57943-10-24 12:13 J -19441961.12 -19441960.99 -19441960.87 0.0532 0.0172

Jupiter -57942-01-21 18:57 J -19441871.80 -19441871.71 -19441871.62 0.0531 0.0388

Saturn -57942-08-18 02:52 J -19441663.46 -19441663.38 -19441663.28 0.0269 0.0231

Saturn -57942-11-14 23:01 J -19441574.71 -19441574.54 -19441574.38 0.0268 0.0108

Saturn -57941-02-11 18:57 J -19441485.89 -19441485.71 -19441485.52 0.0268 0.0015

Saturn -57941-05-10 15:06 J -19441397.02 -19441396.87 -19441396.71 0.0267 0.0139

Earth -57941-06-29 02:52 J -19441347.49 -19441347.38 -19441347.27 0.2677 0.0380

Moon -57941-06-29 03:21 J -19441347.47 -19441347.36 -19441347.24 0.2674 0.0506 *

Saturn -57941-08-07 11:30 J -19441308.04 -19441308.02 -19441307.99 0.0266 0.0262

Jupiter -57937-12-10 08:09 J -19439722.34 -19439722.16 -19439721.98 0.0495 0.0105

Mars -57935-07-07 11:01 J -19439148.15 -19439148.04 -19439147.93 0.1836 0.0665

Mars -57934-05-04 14:23 J -19438847.06 -19438846.90 -19438846.73 0.1701 0.0070

Earth -57934-06-23 00:13 J -19438797.53 -19438797.49 -19438797.44 0.2671 0.2437

Moon -57934-06-23 00:13 J -19438797.52 -19438797.49 -19438797.45 0.2677 0.2498 *

Moon -57932-12-27 00:57 J -19437879.56 -19437879.46 -19437879.36 0.2660 0.1993

Earth -57932-12-27 01:54 J -19437879.52 -19437879.42 -19437879.32 0.2655 0.2009 *

Jupiter -57931-08-12 15:49 J -19437650.94 -19437650.84 -19437650.74 0.0531 0.0315

Jupiter -57931-11-09 22:47 J -19437561.66 -19437561.55 -19437561.44 0.0531 0.0247

Moon -57928-07-01 21:06 J -19436596.72 -19436596.62 -19436596.52 0.2672 0.1297

Earth -57928-07-01 21:06 J -19436596.72 -19436596.62 -19436596.53 0.2679 0.1350 *

Saturn -57926-06-04 20:37 J -19435893.74 -19435893.64 -19435893.54 0.0293 0.0192

Saturn -57926-09-01 09:21 J -19435805.24 -19435805.11 -19435804.98 0.0294 0.0074

Mars -57926-11-27 19:40 J -19435717.75 -19435717.68 -19435717.62 0.1827 0.1508

Saturn -57926-11-28 22:18 J -19435716.70 -19435716.57 -19435716.44 0.0295 0.0046

Saturn -57925-02-25 11:01 J -19435628.15 -19435628.04 -19435627.93 0.0295 0.0164

Saturn -57925-05-23 23:45 J -19435539.55 -19435539.51 -19435539.48 0.0296 0.0283

Mars -57925-09-23 15:21 J -19435416.99 -19435416.86 -19435416.73 0.1709 0.1024

Jupiter -57925-09-28 05:59 J -19435412.43 -19435412.25 -19435412.07 0.0495 0.0062

Earth -57921-06-24 18:57 J -19434046.81 -19434046.71 -19434046.62 0.2673 0.1425

Moon -57921-06-24 19:25 J -19434046.79 -19434046.69 -19434046.60 0.2679 0.1365 *

Jupiter -57919-05-31 19:11 J -19433340.76 -19433340.70 -19433340.63 0.0532 0.0463

Jupiter -57919-08-29 02:23 J -19433251.52 -19433251.40 -19433251.27 0.0531 0.0106

Moon -57915-07-04 14:52 J -19431845.93 -19431845.88 -19431845.83 0.2675 0.2325

Earth -57915-07-04 15:06 J -19431845.92 -19431845.87 -19431845.81 0.2681 0.2309 *

Mars -57914-03-25 18:28 J -19431581.82 -19431581.73 -19431581.64 0.1854 0.1180

Venus -57913-04-28 16:33 J -19431181.97 -19431181.81 -19431181.65 0.3578 0.0260

Jupiter -57913-07-17 03:49 J -19431102.50 -19431102.34 -19431102.17 0.0495 0.0223

Jupiter -57913-10-15 11:45 J -19431012.07 -19431012.01 -19431011.93 0.0495 0.0452

Saturn -57912-01-04 03:49 J -19430931.38 -19430931.34 -19430931.29 0.0269 0.0260

Saturn -57912-04-02 23:45 J -19430842.66 -19430842.51 -19430842.35 0.0268 0.0138

Saturn -57912-06-30 19:54 J -19430753.86 -19430753.67 -19430753.49 0.0268 0.0016

Saturn -57912-09-27 16:04 J -19430665.00 -19430664.83 -19430664.67 0.0267 0.0109

Moon -57912-12-21 20:09 J -19430579.79 -19430579.66 -19430579.53 0.2657 0.1348

Earth -57912-12-21 21:35 J -19430579.73 -19430579.60 -19430579.47 0.2659 0.1307 *

Saturn -57912-12-25 12:13 J -19430576.07 -19430575.99 -19430575.90 0.0266 0.0233

Venus -57910-02-05 00:57 J -19430169.55 -19430169.46 -19430169.38 0.3799 0.1970

Earth -57908-06-27 13:11 J -19429296.06 -19429295.95 -19429295.83 0.2675 0.0442

Moon -57908-06-27 14:09 J -19429296.02 -19429295.91 -19429295.80 0.2675 0.0362 *

Jupiter -57907-06-17 05:45 J -19428941.39 -19428941.26 -19428941.13 0.0531 0.0048

Uranus -57907-09-12 18:13 J -19428853.79 -19428853.74 -19428853.68 0.0132 0.0118

Jupiter -57907-09-14 12:28 J -19428852.01 -19428851.98 -19428851.95 0.0530 0.0509

Uranus -57907-12-09 21:21 J -19428765.69 -19428765.61 -19428765.52 0.0132 0.0101

Uranus -57906-03-08 00:13 J -19428677.59 -19428677.49 -19428677.38 0.0132 0.0084

Uranus -57906-06-04 03:21 J -19428589.47 -19428589.36 -19428589.24 0.0132 0.0066

Uranus -57906-08-31 06:13 J -19428501.36 -19428501.24 -19428501.11 0.0132 0.0049

Uranus -57906-11-27 09:21 J -19428413.24 -19428413.11 -19428412.98 0.0133 0.0032

Uranus -57905-02-23 12:28 J -19428325.12 -19428324.98 -19428324.85 0.0133 0.0015

Uranus -57905-05-21 15:21 J -19428236.99 -19428236.86 -19428236.73 0.0133 0.0003

Mars -57905-08-15 02:52 J -19428151.50 -19428151.38 -19428151.27 0.1845 0.0307

Uranus -57905-08-17 18:13 J -19428148.87 -19428148.74 -19428148.61 0.0133 0.0020

Venus -57905-08-20 16:47 J -19428145.90 -19428145.80 -19428145.70 0.3802 0.0045

Uranus -57905-11-13 21:06 J -19428060.74 -19428060.62 -19428060.49 0.0133 0.0038

Uranus -57904-02-10 00:13 J -19427972.61 -19427972.49 -19427972.37 0.0133 0.0055

Uranus -57904-05-09 03:06 J -19427884.48 -19427884.37 -19427884.25 0.0133 0.0072

Mars -57904-06-12 13:54 J -19427850.03 -19427849.92 -19427849.81 0.1693 0.1236

Uranus -57904-08-05 05:59 J -19427796.34 -19427796.25 -19427796.15 0.0133 0.0089

Uranus -57904-11-01 08:52 J -19427708.20 -19427708.13 -19427708.04 0.0133 0.0107

Uranus -57903-01-28 11:59 J -19427620.04 -19427620.00 -19427619.95 0.0133 0.0123

Jupiter -57901-05-05 01:25 J -19426792.54 -19426792.44 -19426792.32 0.0494 0.0388

Jupiter -57901-08-03 09:06 J -19426702.27 -19426702.12 -19426701.96 0.0495 0.0280

Venus -57899-03-06 08:37 J -19426122.22 -19426122.14 -19426122.05 0.3804 0.1995

Moon -57899-12-25 01:11 J -19425828.60 -19425828.45 -19425828.30 0.2660 0.0342

Earth -57899-12-25 02:37 J -19425828.53 -19425828.39 -19425828.24 0.2656 0.0507 *

Neptune -57897-06-04 12:13 J -19425301.04 -19425300.99 -19425300.91 0.0089 0.0082

Neptune -57897-08-31 15:49 J -19425212.94 -19425212.84 -19425212.74 0.0089 0.0074

Saturn -57897-10-21 23:45 J -19425161.60 -19425161.51 -19425161.42 0.0292 0.0216

Neptune -57897-11-27 18:42 J -19425124.83 -19425124.72 -19425124.59 0.0089 0.0067

Saturn -57896-01-18 12:42 J -19425073.10 -19425072.97 -19425072.85 0.0293 0.0098

Neptune -57896-02-23 22:04 J -19425036.71 -19425036.58 -19425036.43 0.0089 0.0059

Saturn -57896-04-17 01:25 J -19424984.57 -19424984.44 -19424984.30 0.0294 0.0021

Neptune -57896-05-23 01:25 J -19424948.59 -19424948.44 -19424948.29 0.0089 0.0051

Saturn -57896-07-14 14:09 J -19424896.02 -19424895.91 -19424895.79 0.0295 0.0139

Neptune -57896-08-19 04:18 J -19424860.46 -19424860.32 -19424860.14 0.0089 0.0044

Saturn -57896-10-11 02:52 J -19424807.44 -19424807.38 -19424807.32 0.0296 0.0257

Neptune -57896-11-15 07:54 J -19424772.34 -19424772.17 -19424772.00 0.0089 0.0036

Mars -57895-01-05 11:16 J -19424721.14 -19424721.03 -19424720.92 0.1836 0.0553

Neptune -57895-02-11 11:16 J -19424684.21 -19424684.03 -19424683.85 0.0089 0.0028

Jupiter -57895-04-05 09:49 J -19424631.21 -19424631.09 -19424630.97 0.0532 0.0185

Neptune -57895-05-10 14:23 J -19424596.08 -19424595.90 -19424595.71 0.0089 0.0020

Earth -57895-06-30 07:40 J -19424545.29 -19424545.18 -19424545.07 0.2677 0.0558

Moon -57895-06-30 08:23 J -19424545.26 -19424545.15 -19424545.04 0.2674 0.0584 *

Jupiter -57895-07-03 16:33 J -19424541.89 -19424541.81 -19424541.72 0.0531 0.0376

Neptune -57895-08-06 17:45 J -19424507.94 -19424507.76 -19424507.57 0.0089 0.0012

Mars -57895-11-02 14:52 J -19424420.04 -19424419.88 -19424419.72 0.1701 0.0173

Neptune -57895-11-02 21:06 J -19424419.81 -19424419.62 -19424419.43 0.0089 0.0005 *

Neptune -57894-01-30 00:28 J -19424331.67 -19424331.48 -19424331.29 0.0089 0.0003

Neptune -57894-04-28 03:35 J -19424243.53 -19424243.35 -19424243.16 0.0089 0.0011

Neptune -57894-07-25 06:57 J -19424155.39 -19424155.21 -19424155.02 0.0089 0.0019

Neptune -57894-10-21 10:18 J -19424067.25 -19424067.07 -19424066.89 0.0089 0.0027

Neptune -57893-01-17 13:40 J -19423979.10 -19423978.93 -19423978.75 0.0089 0.0035

Neptune -57893-04-14 17:01 J -19423890.95 -19423890.79 -19423890.62 0.0089 0.0043

Neptune -57893-07-11 20:09 J -19423802.80 -19423802.66 -19423802.49 0.0089 0.0051

Neptune -57893-10-07 23:30 J -19423714.65 -19423714.52 -19423714.36 0.0089 0.0059

Neptune -57892-01-04 02:52 J -19423626.49 -19423626.38 -19423626.24 0.0089 0.0067

Pluto -57892-03-23 23:16 J -19423547.56 -19423547.53 -19423547.46 0.0061 0.0058

Neptune -57892-04-02 06:13 J -19423538.32 -19423538.24 -19423538.12 0.0089 0.0075

Pluto -57892-06-20 00:28 J -19423459.55 -19423459.48 -19423459.38 0.0061 0.0054

Neptune -57892-06-29 09:49 J -19423450.14 -19423450.09 -19423450.01 0.0089 0.0083

Pluto -57892-09-16 01:25 J -19423371.52 -19423371.44 -19423371.32 0.0061 0.0049

Pluto -57892-12-13 02:37 J -19423283.49 -19423283.39 -19423283.26 0.0061 0.0045

Pluto -57891-03-11 03:35 J -19423195.46 -19423195.35 -19423195.20 0.0061 0.0041

Pluto -57891-06-07 04:47 J -19423107.42 -19423107.30 -19423107.14 0.0061 0.0036

Pluto -57891-09-03 06:13 J -19423019.39 -19423019.24 -19423019.08 0.0062 0.0031

Pluto -57891-11-30 07:25 J -19422931.35 -19422931.19 -19422931.03 0.0062 0.0026

Pluto -57890-02-26 08:23 J -19422843.31 -19422843.15 -19422842.98 0.0062 0.0022

Pluto -57890-05-25 09:35 J -19422755.26 -19422755.10 -19422754.93 0.0062 0.0017

Pluto -57890-08-21 10:47 J -19422667.22 -19422667.05 -19422666.87 0.0062 0.0012

Pluto -57890-11-17 11:59 J -19422579.17 -19422579.00 -19422578.82 0.0062 0.0007

Pluto -57889-02-13 13:11 J -19422491.13 -19422490.95 -19422490.77 0.0062 0.0002

Pluto -57889-05-11 14:23 J -19422403.08 -19422402.90 -19422402.72 0.0062 0.0002

Jupiter -57889-05-22 05:30 J -19422392.45 -19422392.27 -19422392.09 0.0495 0.0097

Pluto -57889-08-07 15:35 J -19422315.03 -19422314.85 -19422314.68 0.0062 0.0007

Pluto -57889-11-03 16:33 J -19422226.97 -19422226.81 -19422226.63 0.0062 0.0012

Pluto -57888-01-30 17:45 J -19422138.92 -19422138.76 -19422138.58 0.0062 0.0017

Pluto -57888-04-28 18:42 J -19422050.87 -19422050.72 -19422050.54 0.0062 0.0023

Moon -57888-06-23 05:16 J -19421995.34 -19421995.28 -19421995.21 0.2678 0.2176

Earth -57888-06-23 05:16 J -19421995.34 -19421995.28 -19421995.22 0.2671 0.2239 *

Pluto -57888-07-25 19:54 J -19421962.81 -19421962.67 -19421962.49 0.0062 0.0028

Pluto -57888-10-21 21:35 J -19421874.75 -19421874.60 -19421874.45 0.0063 0.0032

Pluto -57887-01-17 22:47 J -19421786.69 -19421786.55 -19421786.41 0.0063 0.0037

Pluto -57887-04-15 23:59 J -19421698.63 -19421698.50 -19421698.37 0.0063 0.0042

Pluto -57887-07-13 00:42 J -19421610.56 -19421610.47 -19421610.33 0.0063 0.0048

Pluto -57887-10-09 01:54 J -19421522.49 -19421522.42 -19421522.30 0.0063 0.0053

Pluto -57886-01-05 03:21 J -19421434.41 -19421434.36 -19421434.27 0.0063 0.0058

Pluto -57886-04-03 05:01 J -19421346.29 -19421346.29 -19421346.28 0.0063 0.0063

Mars -57886-05-28 19:25 J -19421290.76 -19421290.69 -19421290.61 0.1827 0.1414

Moon -57886-12-28 07:40 J -19421077.26 -19421077.18 -19421077.11 0.2660 0.2278

Earth -57886-12-28 08:09 J -19421077.22 -19421077.16 -19421077.09 0.2654 0.2348 *

Mars -57885-03-24 16:04 J -19420989.97 -19420989.83 -19420989.70 0.1709 0.0880

Jupiter -57883-01-22 13:54 J -19420321.02 -19420320.92 -19420320.81 0.0532 0.0320

Jupiter -57883-04-21 21:06 J -19420231.73 -19420231.62 -19420231.51 0.0531 0.0244

Saturn -57883-08-21 00:28 J -19420110.61 -19420110.48 -19420110.33 0.0269 0.0165

Saturn -57883-11-17 20:37 J -19420021.82 -19420021.64 -19420021.46 0.0268 0.0042

Saturn -57882-02-14 16:33 J -19419932.98 -19419932.81 -19419932.63 0.0267 0.0082

Saturn -57882-05-14 12:57 J -19419844.08 -19419843.96 -19419843.84 0.0266 0.0205

Moon -57882-07-03 01:54 J -19419794.51 -19419794.42 -19419794.33 0.2672 0.1593

Earth -57882-07-03 01:54 J -19419794.51 -19419794.42 -19419794.33 0.2679 0.1533 *

Jupiter -57877-03-10 03:06 J -19418082.55 -19418082.37 -19418082.19 0.0495 0.0070

Earth -57875-06-25 23:45 J -19417244.61 -19417244.51 -19417244.41 0.2673 0.1233

Moon -57875-06-26 00:13 J -19417244.59 -19417244.49 -19417244.39 0.2678 0.1230 *

Mars -57875-09-23 18:28 J -19417154.82 -19417154.73 -19417154.65 0.1854 0.1271

Jupiter -57872-11-10 17:45 J -19416010.82 -19416010.76 -19416010.70 0.0532 0.0463

Jupiter -57871-02-08 00:57 J -19415921.58 -19415921.46 -19415921.33 0.0531 0.0104

Moon -57869-07-04 19:40 J -19415043.73 -19415043.68 -19415043.63 0.2676 0.2383

Earth -57869-07-04 20:09 J -19415043.70 -19415043.66 -19415043.62 0.2681 0.2493 *

Saturn -57867-03-11 01:11 J -19414429.51 -19414429.45 -19414429.38 0.0292 0.0254

Saturn -57867-06-07 14:09 J -19414341.03 -19414340.91 -19414340.79 0.0293 0.0135

Saturn -57867-09-04 03:06 J -19414252.51 -19414252.37 -19414252.24 0.0294 0.0017

Saturn -57867-12-01 15:49 J -19414163.96 -19414163.84 -19414163.72 0.0295 0.0103

Saturn -57866-02-28 04:33 J -19414075.40 -19414075.31 -19414075.22 0.0296 0.0221

Uranus -57866-10-01 09:35 J -19413860.17 -19413860.10 -19413860.01 0.0146 0.0131

Moon -57866-12-23 02:23 J -19413777.53 -19413777.40 -19413777.27 0.2659 0.1206

Earth -57866-12-23 03:49 J -19413777.48 -19413777.34 -19413777.20 0.2658 0.0981 *

Jupiter -57866-12-28 00:57 J -19413772.62 -19413772.46 -19413772.30 0.0495 0.0233

Uranus -57866-12-28 17:59 J -19413771.88 -19413771.75 -19413771.60 0.0146 0.0099

Mars -57865-02-14 02:52 J -19413724.49 -19413724.38 -19413724.26 0.1845 0.0410

Uranus -57865-03-26 02:37 J -19413683.55 -19413683.39 -19413683.21 0.0146 0.0065

Jupiter -57865-03-27 08:52 J -19413682.21 -19413682.13 -19413682.04 0.0496 0.0440

Uranus -57865-06-22 11:30 J -19413595.21 -19413595.02 -19413594.84 0.0146 0.0032

Uranus -57865-09-18 19:54 J -19413506.86 -19413506.67 -19413506.47 0.0146 0.0004

Mars -57865-12-11 14:37 J -19413422.99 -19413422.89 -19413422.80 0.1693 0.1372

Uranus -57865-12-16 04:33 J -19413418.49 -19413418.31 -19413418.12 0.0146 0.0036

Uranus -57864-03-14 13:11 J -19413330.12 -19413329.95 -19413329.78 0.0146 0.0069

Uranus -57864-06-10 21:35 J -19413241.72 -19413241.60 -19413241.45 0.0146 0.0103

Uranus -57864-09-07 06:13 J -19413153.29 -19413153.24 -19413153.16 0.0146 0.0137

Earth -57862-06-28 18:13 J -19412493.85 -19412493.74 -19412493.63 0.2675 0.0237

Moon -57862-06-28 18:57 J -19412493.82 -19412493.71 -19412493.59 0.2675 0.0162 *

Jupiter -57860-11-27 04:47 J -19411611.43 -19411611.30 -19411611.18 0.0531 0.0043

Jupiter -57859-02-24 11:16 J -19411522.05 -19411522.03 -19411522.00 0.0530 0.0514

Venus -57859-02-26 06:28 J -19411520.28 -19411520.23 -19411520.18 0.3797 0.3225

Venus -57857-12-03 18:42 J -19410508.86 -19410508.72 -19410508.58 0.3577 0.1624

Mars -57856-07-06 11:16 J -19410294.14 -19410294.03 -19410293.91 0.1836 0.0449

Mars -57855-05-03 15:35 J -19409993.01 -19409992.85 -19409992.70 0.1701 0.0315

Venus -57854-09-11 22:18 J -19409496.66 -19409496.57 -19409496.47 0.3800 0.1256

Jupiter -57854-10-15 23:01 J -19409462.64 -19409462.54 -19409462.43 0.0495 0.0392

Saturn -57853-01-08 00:57 J -19409378.58 -19409378.46 -19409378.34 0.0269 0.0197

Jupiter -57853-01-14 06:42 J -19409372.37 -19409372.22 -19409372.07 0.0495 0.0276

Saturn -57853-04-05 20:37 J -19409289.81 -19409289.64 -19409289.46 0.0268 0.0075

Saturn -57853-07-03 16:47 J -19409200.98 -19409200.80 -19409200.62 0.0267 0.0049

Saturn -57853-09-30 13:11 J -19409112.09 -19409111.95 -19409111.81 0.0266 0.0172

Moon -57853-12-25 07:40 J -19409026.33 -19409026.18 -19409026.04 0.2659 0.0761

Earth -57853-12-25 09:06 J -19409026.27 -19409026.12 -19409025.98 0.2656 0.0825 *

Earth -57849-06-30 12:28 J -19407743.08 -19407742.98 -19407742.87 0.2677 0.0753

Moon -57849-06-30 12:57 J -19407743.06 -19407742.96 -19407742.85 0.2672 0.0810 *

Venus -57848-03-27 14:09 J -19407473.00 -19407472.91 -19407472.81 0.3802 0.0745

Jupiter -57848-09-15 07:54 J -19407301.29 -19407301.17 -19407301.05 0.0531 0.0191

Jupiter -57848-12-13 14:52 J -19407211.97 -19407211.88 -19407211.79 0.0531 0.0369

Mars -57847-11-26 19:40 J -19406863.77 -19406863.68 -19406863.60 0.1827 0.1310

Mars -57846-09-23 16:33 J -19406562.96 -19406562.81 -19406562.67 0.1709 0.0752

Venus -57843-10-11 05:59 J -19405449.31 -19405449.25 -19405449.18 0.3805 0.2723

Earth -57842-06-24 10:18 J -19405193.15 -19405193.07 -19405193.00 0.2672 0.2042

Moon -57842-06-24 10:18 J -19405193.14 -19405193.07 -19405193.00 0.2679 0.2103 *

Jupiter -57842-11-02 04:18 J -19405062.50 -19405062.32 -19405062.15 0.0495 0.0108

Moon -57840-12-28 14:23 J -19404274.91 -19404274.90 -19404274.89 0.2660 0.2654

Saturn -57838-07-29 03:49 J -19403697.37 -19403697.34 -19403697.30 0.0292 0.0281

Saturn -57838-10-25 17:01 J -19403608.90 -19403608.79 -19403608.68 0.0293 0.0162

Saturn -57837-01-22 05:59 J -19403520.39 -19403520.25 -19403520.12 0.0294 0.0044

Saturn -57837-04-19 18:42 J -19403431.85 -19403431.72 -19403431.59 0.0294 0.0075

Saturn -57837-07-17 07:25 J -19403343.29 -19403343.19 -19403343.09 0.0295 0.0193

Moon -57836-07-03 06:57 J -19402992.30 -19402992.21 -19402992.13 0.2672 0.1668

Earth -57836-07-03 06:42 J -19402992.30 -19402992.22 -19402992.13 0.2679 0.1717 *

Jupiter -57836-07-04 11:45 J -19402991.10 -19402991.01 -19402990.90 0.0532 0.0331

Jupiter -57836-10-01 18:57 J -19402901.82 -19402901.71 -19402901.59 0.0531 0.0235

Mars -57835-03-24 18:28 J -19402727.81 -19402727.73 -19402727.65 0.1854 0.1375

Moon -57833-12-20 04:18 J -19401726.35 -19401726.32 -19401726.29 0.2656 0.2587

Earth -57833-12-20 05:16 J -19401726.34 -19401726.28 -19401726.22 0.2661 0.2417 *

Jupiter -57830-08-21 00:28 J -19400752.66 -19400752.48 -19400752.29 0.0495 0.0075

Earth -57829-06-26 04:47 J -19400442.41 -19400442.30 -19400442.20 0.2674 0.1041

Moon -57829-06-26 05:16 J -19400442.38 -19400442.28 -19400442.17 0.2677 0.0923 *

Mars -57826-08-15 02:52 J -19399297.49 -19399297.38 -19399297.27 0.1845 0.0510

Mars -57825-06-11 15:06 J -19398995.94 -19398995.87 -19398995.80 0.1693 0.1506

Jupiter -57824-04-22 16:04 J -19398680.89 -19398680.83 -19398680.77 0.0532 0.0465

Saturn -57824-05-27 01:25 J -19398646.53 -19398646.44 -19398646.33 0.0269 0.0225

Jupiter -57824-07-20 23:16 J -19398591.65 -19398591.53 -19398591.40 0.0531 0.0106

Saturn -57824-08-23 21:21 J -19398557.77 -19398557.61 -19398557.44 0.0268 0.0103

Saturn -57824-11-20 17:30 J -19398468.96 -19398468.77 -19398468.59 0.0268 0.0020

Saturn -57823-02-17 13:25 J -19398380.09 -19398379.94 -19398379.78 0.0267 0.0143

Saturn -57823-05-17 09:49 J -19398291.09 -19398291.09 -19398291.09 0.0266 0.0266

Moon -57823-07-06 00:28 J -19398241.49 -19398241.48 -19398241.48 0.2677 0.2670

Earth -57823-07-06 00:57 J -19398241.47 -19398241.46 -19398241.45 0.2681 0.2671

Uranus -57823-07-06 23:01 J -19398240.57 -19398240.54 -19398240.51 0.0132 0.0129

Uranus -57823-10-03 01:54 J -19398152.49 -19398152.42 -19398152.35 0.0132 0.0111

Uranus -57823-12-30 04:47 J -19398064.38 -19398064.30 -19398064.20 0.0132 0.0095

Uranus -57822-03-28 07:54 J -19397976.27 -19397976.17 -19397976.06 0.0132 0.0077

Uranus -57822-06-24 11:01 J -19397888.16 -19397888.04 -19397887.92 0.0132 0.0060

Uranus -57822-09-20 13:54 J -19397800.04 -19397799.92 -19397799.79 0.0133 0.0043

Uranus -57822-12-17 17:01 J -19397711.92 -19397711.79 -19397711.66 0.0133 0.0025

Uranus -57821-03-14 19:54 J -19397623.80 -19397623.67 -19397623.53 0.0133 0.0009

Uranus -57821-06-10 23:01 J -19397535.67 -19397535.54 -19397535.41 0.0133 0.0010

Uranus -57821-09-07 01:54 J -19397447.55 -19397447.42 -19397447.29 0.0133 0.0027

Uranus -57821-12-04 04:47 J -19397359.42 -19397359.30 -19397359.17 0.0133 0.0044

Uranus -57820-03-02 07:54 J -19397271.29 -19397271.17 -19397271.05 0.0133 0.0061

Uranus -57820-05-29 10:47 J -19397183.15 -19397183.05 -19397182.94 0.0133 0.0078

Uranus -57820-08-25 13:40 J -19397095.02 -19397094.93 -19397094.83 0.0133 0.0095

Uranus -57820-11-21 16:47 J -19397006.87 -19397006.80 -19397006.73 0.0133 0.0113

Moon -57820-12-23 08:37 J -19396975.28 -19396975.14 -19396974.99 0.2659 0.0685

Earth -57820-12-23 10:18 J -19396975.22 -19396975.07 -19396974.92 0.2658 0.0654 *

Uranus -57819-02-17 19:40 J -19396918.71 -19396918.68 -19396918.65 0.0133 0.0130

Jupiter -57818-06-08 22:18 J -19396442.73 -19396442.57 -19396442.41 0.0495 0.0238

Jupiter -57818-09-07 06:13 J -19396352.32 -19396352.24 -19396352.15 0.0495 0.0435

Mars -57816-01-04 11:16 J -19395867.15 -19395867.03 -19395866.92 0.1837 0.0359

Earth -57816-06-28 23:01 J -19395691.65 -19395691.54 -19395691.42 0.2676 0.0113

Moon -57816-06-28 23:59 J -19395691.62 -19395691.50 -19395691.39 0.2675 0.0083 *

Mars -57816-11-01 16:18 J -19395565.98 -19395565.82 -19395565.67 0.1701 0.0459

Neptune -57815-03-19 08:52 J -19395428.14 -19395428.13 -19395428.10 0.0089 0.0088

Neptune -57815-06-15 10:18 J -19395340.11 -19395340.07 -19395340.01 0.0089 0.0082

Neptune -57815-09-11 11:59 J -19395252.06 -19395252.00 -19395251.93 0.0089 0.0076

Neptune -57815-12-08 13:40 J -19395164.02 -19395163.93 -19395163.85 0.0089 0.0070

Neptune -57814-03-06 14:52 J -19395075.96 -19395075.88 -19395075.78 0.0089 0.0064

Neptune -57814-06-02 16:18 J -19394987.91 -19394987.82 -19394987.71 0.0089 0.0059

Neptune -57814-08-29 17:59 J -19394899.86 -19394899.75 -19394899.64 0.0089 0.0053

Neptune -57814-11-25 19:25 J -19394811.80 -19394811.69 -19394811.57 0.0089 0.0047

Neptune -57813-02-21 20:52 J -19394723.75 -19394723.63 -19394723.50 0.0089 0.0041

Neptune -57813-05-19 22:33 J -19394635.69 -19394635.56 -19394635.44 0.0089 0.0035

Neptune -57813-08-15 23:45 J -19394547.63 -19394547.51 -19394547.37 0.0089 0.0030

Neptune -57813-11-12 01:11 J -19394459.57 -19394459.45 -19394459.31 0.0089 0.0024

Neptune -57812-02-08 02:52 J -19394371.51 -19394371.38 -19394371.25 0.0089 0.0018

Neptune -57812-05-07 04:18 J -19394283.46 -19394283.32 -19394283.18 0.0089 0.0012

Jupiter -57812-05-09 03:21 J -19394281.49 -19394281.36 -19394281.23 0.0531 0.0036

Neptune -57812-08-03 05:45 J -19394195.40 -19394195.26 -19394195.12 0.0089 0.0006

Jupiter -57812-08-06 10:04 J -19394192.10 -19394192.08 -19394192.06 0.0530 0.0519

Neptune -57812-10-30 07:11 J -19394107.34 -19394107.20 -19394107.06 0.0089 0.0001

Neptune -57811-01-26 08:37 J -19394019.28 -19394019.14 -19394019.00 0.0089 0.0005

Neptune -57811-04-24 10:04 J -19393931.21 -19393931.08 -19393930.94 0.0089 0.0011

Neptune -57811-07-21 11:30 J -19393843.15 -19393843.02 -19393842.89 0.0089 0.0017

Neptune -57811-10-17 12:57 J -19393755.09 -19393754.96 -19393754.83 0.0089 0.0022

Neptune -57810-01-13 14:09 J -19393667.03 -19393666.91 -19393666.77 0.0089 0.0029

Neptune -57810-04-11 15:49 J -19393578.97 -19393578.84 -19393578.72 0.0089 0.0034

Neptune -57810-07-08 17:01 J -19393490.90 -19393490.79 -19393490.66 0.0089 0.0040

Neptune -57810-10-04 18:28 J -19393402.84 -19393402.73 -19393402.61 0.0089 0.0045

Neptune -57810-12-31 19:54 J -19393314.78 -19393314.67 -19393314.56 0.0089 0.0051

Neptune -57809-03-28 21:06 J -19393226.71 -19393226.62 -19393226.50 0.0089 0.0057

Neptune -57809-06-24 22:47 J -19393138.64 -19393138.55 -19393138.45 0.0089 0.0062

Neptune -57809-09-20 23:59 J -19393050.58 -19393050.50 -19393050.41 0.0089 0.0068

Neptune -57809-12-18 01:11 J -19392962.51 -19392962.45 -19392962.36 0.0089 0.0074

Saturn -57808-03-13 17:59 J -19392876.84 -19392876.75 -19392876.65 0.0293 0.0203

Neptune -57808-03-16 02:52 J -19392874.43 -19392874.38 -19392874.32 0.0089 0.0079

Saturn -57808-06-10 06:57 J -19392788.34 -19392788.21 -19392788.08 0.0294 0.0085

Neptune -57808-06-12 04:04 J -19392786.36 -19392786.33 -19392786.28 0.0089 0.0085

Saturn -57808-09-06 19:40 J -19392699.81 -19392699.68 -19392699.54 0.0294 0.0036

Saturn -57808-12-04 08:37 J -19392611.26 -19392611.14 -19392611.03 0.0295 0.0153

Saturn -57807-03-02 21:06 J -19392522.67 -19392522.62 -19392522.56 0.0296 0.0271

Mars -57807-05-27 19:40 J -19392436.77 -19392436.68 -19392436.59 0.1828 0.1202

Moon -57807-12-26 14:23 J -19392224.04 -19392223.90 -19392223.76 0.2660 0.0988

Earth -57807-12-26 15:35 J -19392223.99 -19392223.85 -19392223.72 0.2656 0.1163 *

Mars -57806-03-24 17:01 J -19392135.94 -19392135.79 -19392135.64 0.1709 0.0616

Jupiter -57806-03-27 20:23 J -19392132.75 -19392132.65 -19392132.54 0.0495 0.0399

Jupiter -57806-06-26 04:04 J -19392042.49 -19392042.33 -19392042.18 0.0495 0.0269

Venus -57806-12-25 11:30 J -19391860.15 -19391860.02 -19391859.89 0.3579 0.2071

Earth -57803-07-01 17:30 J -19390940.88 -19390940.77 -19390940.67 0.2678 0.0933

Moon -57803-07-01 17:45 J -19390940.86 -19390940.76 -19390940.65 0.2672 0.0975 *

Venus -57803-10-03 04:04 J -19390847.41 -19390847.33 -19390847.26 0.3798 0.2512

Pluto -57800-02-19 00:42 J -19389977.47 -19389977.47 -19389977.44 0.0083 0.0083

Jupiter -57800-02-25 06:57 J -19389971.33 -19389971.21 -19389971.08 0.0531 0.0180

Pluto -57800-05-18 02:37 J -19389889.46 -19389889.39 -19389889.32 0.0083 0.0072

Jupiter -57800-05-25 13:54 J -19389882.01 -19389881.92 -19389881.83 0.0530 0.0380

Venus -57800-07-10 21:06 J -19389835.64 -19389835.62 -19389835.60 0.3576 0.3538

Pluto -57800-08-14 04:04 J -19389801.41 -19389801.33 -19389801.23 0.0083 0.0063

Pluto -57800-11-10 05:45 J -19389713.36 -19389713.26 -19389713.14 0.0083 0.0053

Pluto -57799-02-06 07:11 J -19389625.31 -19389625.20 -19389625.06 0.0083 0.0044

Pluto -57799-05-05 09:06 J -19389537.25 -19389537.12 -19389536.99 0.0083 0.0034

Pluto -57799-08-01 10:33 J -19389449.19 -19389449.06 -19389448.92 0.0082 0.0024

Pluto -57799-10-28 12:13 J -19389361.13 -19389360.99 -19389360.85 0.0082 0.0015

Pluto -57798-01-24 13:40 J -19389273.07 -19389272.93 -19389272.78 0.0082 0.0006

Pluto -57798-04-22 15:21 J -19389185.01 -19389184.86 -19389184.72 0.0082 0.0004

Pluto -57798-07-19 16:47 J -19389096.94 -19389096.80 -19389096.66 0.0082 0.0013

Pluto -57798-10-15 18:13 J -19389008.87 -19389008.74 -19389008.60 0.0082 0.0022

Pluto -57797-01-11 19:40 J -19388920.81 -19388920.68 -19388920.54 0.0082 0.0031

Pluto -57797-04-08 21:21 J -19388832.74 -19388832.61 -19388832.49 0.0082 0.0040

Venus -57797-04-17 19:54 J -19388823.77 -19388823.67 -19388823.57 0.3801 0.0543

Pluto -57797-07-05 22:33 J -19388744.67 -19388744.56 -19388744.44 0.0081 0.0049

Mars -57797-08-13 17:59 J -19388705.77 -19388705.75 -19388705.72 0.1717 0.1686

Pluto -57797-10-01 23:59 J -19388656.59 -19388656.50 -19388656.39 0.0081 0.0058

Pluto -57797-12-29 01:25 J -19388568.51 -19388568.44 -19388568.35 0.0081 0.0066

Pluto -57796-03-27 02:37 J -19388480.42 -19388480.39 -19388480.32 0.0081 0.0075

Earth -57796-06-24 15:06 J -19388390.95 -19388390.87 -19388390.79 0.2672 0.1849

Moon -57796-06-24 15:21 J -19388390.94 -19388390.86 -19388390.78 0.2678 0.1776 *

Mars -57796-09-22 18:28 J -19388300.79 -19388300.73 -19388300.66 0.1854 0.1484

Saturn -57795-10-14 00:57 J -19387914.49 -19387914.46 -19387914.41 0.0269 0.0262

Saturn -57794-01-10 20:52 J -19387825.78 -19387825.63 -19387825.47 0.0268 0.0140

Saturn -57794-04-09 16:47 J -19387736.98 -19387736.80 -19387736.61 0.0267 0.0019

Jupiter -57794-04-14 01:54 J -19387732.59 -19387732.42 -19387732.24 0.0495 0.0108

Saturn -57794-07-07 12:57 J -19387648.12 -19387647.96 -19387647.79 0.0267 0.0106

Saturn -57794-10-04 09:06 J -19387559.20 -19387559.12 -19387559.02 0.0266 0.0229

Venus -57792-11-01 11:45 J -19386800.10 -19386800.01 -19386799.92 0.3803 0.1450

Moon -57790-07-04 11:30 J -19386190.09 -19386190.02 -19386189.94 0.2673 0.1915

Earth -57790-07-04 11:45 J -19386190.09 -19386190.01 -19386189.94 0.2680 0.1901 *

Jupiter -57789-12-14 10:18 J -19385661.17 -19385661.07 -19385660.97 0.0532 0.0330

Jupiter -57788-03-13 17:30 J -19385571.89 -19385571.77 -19385571.66 0.0531 0.0234

Moon -57787-12-21 10:18 J -19384924.15 -19384924.07 -19384923.98 0.2657 0.2148

Earth -57787-12-21 11:45 J -19384924.10 -19384924.01 -19384923.92 0.2660 0.2097 *

Mars -57786-02-13 02:52 J -19384870.49 -19384870.38 -19384870.27 0.1845 0.0608

Venus -57786-05-18 03:35 J -19384776.39 -19384776.35 -19384776.31 0.3805 0.3427

Mars -57786-12-11 15:49 J -19384568.88 -19384568.84 -19384568.81 0.1693 0.1645

Earth -57783-06-27 09:35 J -19383640.20 -19383640.10 -19383639.99 0.2674 0.0847

Moon -57783-06-27 10:18 J -19383640.17 -19383640.07 -19383639.96 0.2677 0.0847 *

Jupiter -57782-01-30 23:45 J -19383422.69 -19383422.51 -19383422.33 0.0495 0.0059

Uranus -57782-10-21 18:28 J -19383158.82 -19383158.73 -19383158.60 0.0146 0.0118

Uranus -57781-01-18 03:06 J -19383070.51 -19383070.37 -19383070.20 0.0146 0.0084

Uranus -57781-04-15 11:59 J -19382982.18 -19382982.00 -19382981.82 0.0146 0.0051

Uranus -57781-07-12 20:37 J -19382893.83 -19382893.64 -19382893.45 0.0146 0.0017

Uranus -57781-10-09 05:01 J -19382805.48 -19382805.29 -19382805.09 0.0146 0.0017

Uranus -57780-01-05 13:40 J -19382717.11 -19382716.93 -19382716.75 0.0146 0.0050

Uranus -57780-04-03 22:04 J -19382628.72 -19382628.58 -19382628.41 0.0146 0.0084

Uranus -57780-07-01 06:57 J -19382540.32 -19382540.21 -19382540.09 0.0146 0.0117

Saturn -57779-07-31 20:23 J -19382144.73 -19382144.65 -19382144.57 0.0292 0.0234

Saturn -57779-10-28 09:21 J -19382056.23 -19382056.11 -19382055.99 0.0293 0.0116

Saturn -57778-01-24 22:18 J -19381967.71 -19381967.57 -19381967.44 0.0294 0.0008

Saturn -57778-04-23 11:01 J -19381879.16 -19381879.04 -19381878.92 0.0295 0.0122

Saturn -57778-07-20 23:45 J -19381790.59 -19381790.51 -19381790.44 0.0296 0.0240

Mars -57777-07-05 11:16 J -19381440.15 -19381440.03 -19381439.91 0.1837 0.0251

Jupiter -57777-10-02 14:09 J -19381350.96 -19381350.91 -19381350.85 0.0532 0.0471

Jupiter -57777-12-30 21:35 J -19381261.73 -19381261.60 -19381261.47 0.0531 0.0098

Mars -57776-05-02 16:33 J -19381138.96 -19381138.81 -19381138.66 0.1701 0.0581

Moon -57774-12-24 14:52 J -19380173.02 -19380172.88 -19380172.73 0.2659 0.0572

Earth -57774-12-24 16:33 J -19380172.96 -19380172.81 -19380172.66 0.2658 0.0327 *

Jupiter -57771-11-18 20:09 J -19379112.81 -19379112.66 -19379112.49 0.0494 0.0238

Jupiter -57770-02-17 04:04 J -19379022.41 -19379022.33 -19379022.24 0.0495 0.0435

Earth -57770-06-30 04:04 J -19378889.44 -19378889.33 -19378889.22 0.2676 0.0143

Moon -57770-06-30 04:47 J -19378889.41 -19378889.30 -19378889.19 0.2674 0.0255 *

Mars -57768-11-25 19:40 J -19378009.78 -19378009.68 -19378009.59 0.1827 0.1109

Mars -57767-09-22 17:45 J -19377708.92 -19377708.76 -19377708.61 0.1709 0.0477

Saturn -57765-05-29 21:21 J -19377093.75 -19377093.61 -19377093.47 0.0269 0.0169

Saturn -57765-08-26 17:16 J -19377004.96 -19377004.78 -19377004.60 0.0268 0.0047

Jupiter -57765-10-19 01:54 J -19376951.55 -19376951.42 -19376951.29 0.0532 0.0035

Saturn -57765-11-23 13:11 J -19376916.12 -19376915.95 -19376915.77 0.0267 0.0077

Jupiter -57764-01-16 08:37 J -19376862.16 -19376862.14 -19376862.12 0.0531 0.0523

Saturn -57764-02-20 09:35 J -19376827.22 -19376827.10 -19376826.98 0.0266 0.0199

Moon -57763-06-23 01:11 J -19376339.45 -19376339.45 -19376339.44 0.2677 0.2669

Earth -57763-06-23 01:25 J -19376339.44 -19376339.44 -19376339.43 0.2670 0.2665 *

Moon -57761-12-26 20:52 J -19375421.75 -19375421.63 -19375421.50 0.2661 0.1511

Earth -57761-12-26 21:49 J -19375421.71 -19375421.59 -19375421.46 0.2655 0.1496 *

Jupiter -57759-09-06 18:28 J -19374802.84 -19374802.73 -19374802.63 0.0494 0.0399

Jupiter -57759-12-06 01:54 J -19374712.58 -19374712.42 -19374712.27 0.0495 0.0268

Mars -57757-02-12 18:42 J -19374278.79 -19374278.72 -19374278.65 0.1717 0.1545

Earth -57757-07-01 22:18 J -19374138.67 -19374138.57 -19374138.47 0.2678 0.1120

Moon -57757-07-01 22:47 J -19374138.65 -19374138.55 -19374138.45 0.2672 0.1135 *

Mars -57756-03-23 18:28 J -19373873.79 -19373873.73 -19373873.67 0.1854 0.1568

Jupiter -57753-08-07 05:59 J -19372641.37 -19372641.25 -19372641.13 0.0531 0.0172

Jupiter -57753-11-04 12:42 J -19372552.05 -19372551.97 -19372551.88 0.0531 0.0389

Venus -57752-10-24 09:35 J -19372198.10 -19372198.10 -19372198.09 0.3796 0.3774

Earth -57750-06-25 20:09 J -19371588.75 -19371588.66 -19371588.57 0.2672 0.1652

Moon -57750-06-25 20:23 J -19371588.73 -19371588.65 -19371588.56 0.2678 0.1671 *

Saturn -57750-12-18 21:06 J -19371412.66 -19371412.62 -19371412.58 0.0292 0.0278

Saturn -57749-03-16 10:04 J -19371324.19 -19371324.08 -19371323.97 0.0293 0.0160

Saturn -57749-06-12 23:01 J -19371235.67 -19371235.54 -19371235.41 0.0294 0.0041

Venus -57749-07-31 13:54 J -19371187.08 -19371186.92 -19371186.76 0.3579 0.0162

Saturn -57749-09-09 11:45 J -19371147.14 -19371147.01 -19371146.88 0.0295 0.0078

Saturn -57749-12-07 00:28 J -19371058.58 -19371058.48 -19371058.38 0.0296 0.0196

Mars -57747-08-14 02:52 J -19370443.48 -19370443.38 -19370443.27 0.1846 0.0717

Jupiter -57747-09-23 23:45 J -19370402.69 -19370402.51 -19370402.33 0.0495 0.0105

Venus -57746-05-10 01:25 J -19370174.53 -19370174.44 -19370174.35 0.3799 0.1804

Moon -57744-07-04 16:18 J -19369387.89 -19369387.82 -19369387.75 0.2674 0.2044

Earth -57744-07-04 16:33 J -19369387.88 -19369387.81 -19369387.74 0.2680 0.2081 *

Jupiter -57741-05-26 09:35 J -19368331.20 -19368331.10 -19368330.99 0.0531 0.0316

Jupiter -57741-08-23 16:47 J -19368241.91 -19368241.80 -19368241.69 0.0531 0.0249

Venus -57741-11-22 17:16 J -19368150.88 -19368150.78 -19368150.68 0.3801 0.0211

Moon -57741-12-21 16:33 J -19368121.92 -19368121.81 -19368121.71 0.2658 0.1920

Earth -57741-12-21 17:59 J -19368121.86 -19368121.75 -19368121.64 0.2660 0.1778 *

Uranus -57739-07-27 06:42 J -19367539.27 -19367539.22 -19367539.17 0.0132 0.0121

Uranus -57739-10-23 09:35 J -19367451.17 -19367451.10 -19367451.01 0.0132 0.0104

Uranus -57738-01-19 12:42 J -19367363.07 -19367362.97 -19367362.87 0.0132 0.0087

Uranus -57738-04-17 15:49 J -19367274.95 -19367274.84 -19367274.73 0.0132 0.0070

Uranus -57738-07-14 18:42 J -19367186.84 -19367186.72 -19367186.59 0.0132 0.0053

Uranus -57738-10-10 21:49 J -19367098.72 -19367098.59 -19367098.46 0.0133 0.0035

Mars -57737-01-04 11:16 J -19367013.14 -19367013.03 -19367012.91 0.1836 0.0158

Uranus -57737-01-07 00:42 J -19367010.60 -19367010.47 -19367010.34 0.0133 0.0018

Uranus -57737-04-04 03:49 J -19366922.48 -19366922.34 -19366922.21 0.0133 0.0003

Earth -57737-06-27 14:37 J -19366838.00 -19366837.89 -19366837.78 0.2674 0.0656

Moon -57737-06-27 15:21 J -19366837.97 -19366837.86 -19366837.75 0.2677 0.0518 *

Uranus -57737-07-01 06:42 J -19366834.35 -19366834.22 -19366834.09 0.0133 0.0016

Uranus -57737-09-27 09:35 J -19366746.22 -19366746.10 -19366745.97 0.0133 0.0034

Mars -57737-10-31 17:16 J -19366711.93 -19366711.78 -19366711.64 0.1700 0.0719

Uranus -57737-12-24 12:42 J -19366658.09 -19366657.97 -19366657.85 0.0133 0.0051

Uranus -57736-03-22 15:35 J -19366569.96 -19366569.85 -19366569.74 0.0133 0.0068

Uranus -57736-06-18 18:28 J -19366481.83 -19366481.73 -19366481.63 0.0133 0.0085

Uranus -57736-09-14 21:21 J -19366393.69 -19366393.61 -19366393.52 0.0133 0.0103

Saturn -57736-10-16 20:09 J -19366361.77 -19366361.66 -19366361.55 0.0269 0.0211

Uranus -57736-12-12 00:28 J -19366305.54 -19366305.48 -19366305.42 0.0133 0.0120

Saturn -57735-01-13 15:49 J -19366273.00 -19366272.84 -19366272.66 0.0268 0.0089

Saturn -57735-04-12 11:59 J -19366184.18 -19366184.00 -19366183.82 0.0267 0.0034

Venus -57735-06-08 09:06 J -19366127.20 -19366127.12 -19366127.04 0.3804 0.2164

Saturn -57735-07-10 08:09 J -19366095.31 -19366095.16 -19366095.01 0.0267 0.0157

Jupiter -57735-07-12 21:49 J -19366092.77 -19366092.59 -19366092.41 0.0495 0.0055

Neptune -57733-12-03 06:42 J -19365218.22 -19365218.22 -19365218.20 0.0089 0.0088

Neptune -57732-03-01 09:49 J -19365130.15 -19365130.09 -19365130.00 0.0089 0.0081

Neptune -57732-05-28 13:25 J -19365042.04 -19365041.94 -19365041.84 0.0089 0.0073

Neptune -57732-08-24 16:18 J -19364953.93 -19364953.82 -19364953.68 0.0089 0.0066

Neptune -57732-11-20 19:40 J -19364865.81 -19364865.68 -19364865.53 0.0089 0.0058

Neptune -57731-02-16 23:01 J -19364777.69 -19364777.54 -19364777.39 0.0089 0.0050

Neptune -57731-05-16 01:54 J -19364689.57 -19364689.42 -19364689.24 0.0089 0.0043

Neptune -57731-08-12 05:16 J -19364601.44 -19364601.28 -19364601.10 0.0089 0.0035

Neptune -57731-11-08 08:37 J -19364513.31 -19364513.14 -19364512.96 0.0089 0.0027

Neptune -57730-02-04 11:45 J -19364425.18 -19364425.01 -19364424.81 0.0089 0.0020

Neptune -57730-05-03 15:21 J -19364337.05 -19364336.86 -19364336.67 0.0089 0.0011

Neptune -57730-07-30 18:42 J -19364248.91 -19364248.72 -19364248.54 0.0089 0.0004

Neptune -57730-10-26 21:49 J -19364160.77 -19364160.59 -19364160.40 0.0089 0.0005

Neptune -57729-01-23 01:11 J -19364072.63 -19364072.45 -19364072.26 0.0089 0.0012

Jupiter -57729-03-14 12:57 J -19364021.02 -19364020.96 -19364020.90 0.0532 0.0466

Neptune -57729-04-20 04:33 J -19363984.49 -19363984.31 -19363984.13 0.0089 0.0020

Jupiter -57729-06-11 20:23 J -19363931.78 -19363931.65 -19363931.53 0.0531 0.0104

Neptune -57729-07-17 07:54 J -19363896.35 -19363896.17 -19363895.99 0.0089 0.0028

Neptune -57729-10-13 11:01 J -19363808.20 -19363808.04 -19363807.86 0.0089 0.0036

Neptune -57728-01-09 14:23 J -19363720.06 -19363719.90 -19363719.73 0.0089 0.0044

Neptune -57728-04-07 17:45 J -19363631.91 -19363631.76 -19363631.60 0.0089 0.0052

Mars -57728-05-26 19:40 J -19363582.78 -19363582.68 -19363582.58 0.1828 0.1005

Neptune -57728-07-04 21:06 J -19363543.75 -19363543.62 -19363543.47 0.0089 0.0060

Neptune -57728-10-01 00:28 J -19363455.59 -19363455.48 -19363455.35 0.0089 0.0068

Moon -57728-12-24 21:21 J -19363370.76 -19363370.61 -19363370.46 0.2659 0.0049

Earth -57728-12-24 23:01 J -19363370.70 -19363370.54 -19363370.39 0.2657 0.0054 *

Neptune -57728-12-28 03:49 J -19363367.43 -19363367.34 -19363367.23 0.0089 0.0076

Mars -57727-03-23 18:13 J -19363281.90 -19363281.74 -19363281.58 0.1708 0.0342

Neptune -57727-03-26 07:11 J -19363279.25 -19363279.20 -19363279.13 0.0089 0.0084

Earth -57724-06-30 08:52 J -19362087.24 -19362087.13 -19362087.01 0.2676 0.0343

Moon -57724-06-30 09:35 J -19362087.21 -19362087.10 -19362086.99 0.2673 0.0332 *

Jupiter -57723-04-30 19:40 J -19361782.84 -19361782.68 -19361782.51 0.0495 0.0219

Jupiter -57723-07-30 03:35 J -19361692.41 -19361692.35 -19361692.27 0.0495 0.0456

Saturn -57720-08-03 11:59 J -19360592.10 -19360592.00 -19360591.90 0.0292 0.0194

Saturn -57720-10-31 00:57 J -19360503.59 -19360503.46 -19360503.33 0.0293 0.0076

Saturn -57719-01-27 13:40 J -19360415.06 -19360414.93 -19360414.79 0.0294 0.0044

Saturn -57719-04-26 02:37 J -19360326.50 -19360326.39 -19360326.28 0.0295 0.0161

Saturn -57719-07-23 15:06 J -19360237.91 -19360237.87 -19360237.82 0.0296 0.0279

Mars -57718-08-13 19:11 J -19359851.79 -19359851.70 -19359851.62 0.1717 0.1422

Jupiter -57717-03-31 00:28 J -19359621.61 -19359621.48 -19359621.35 0.0531 0.0036

Moon -57717-06-23 06:13 J -19359537.28 -19359537.24 -19359537.20 0.2677 0.2508

Earth -57717-06-23 06:28 J -19359537.27 -19359537.23 -19359537.19 0.2670 0.2467 *

Jupiter -57717-06-28 06:57 J -19359532.22 -19359532.21 -19359532.18 0.0530 0.0523

Mars -57717-09-21 18:28 J -19359446.77 -19359446.73 -19359446.68 0.1854 0.1677

Moon -57715-12-28 03:35 J -19358619.47 -19358619.35 -19358619.23 0.2661 0.1663

Earth -57715-12-28 04:18 J -19358619.43 -19358619.32 -19358619.21 0.2655 0.1829 *

Jupiter -57711-02-16 16:33 J -19357472.91 -19357472.81 -19357472.70 0.0494 0.0394

Jupiter -57711-05-17 23:59 J -19357382.65 -19357382.50 -19357382.35 0.0495 0.0273

Earth -57711-07-03 03:21 J -19357336.46 -19357336.36 -19357336.27 0.2678 0.1309

Moon -57711-07-03 03:35 J -19357336.45 -19357336.35 -19357336.25 0.2672 0.1360 *

Mars -57707-02-12 02:52 J -19356016.48 -19356016.38 -19356016.27 0.1845 0.0808

Saturn -57706-03-05 20:09 J -19355629.73 -19355629.66 -19355629.58 0.0269 0.0242

Saturn -57706-06-02 16:04 J -19355540.99 -19355540.83 -19355540.67 0.0269 0.0120

Saturn -57706-08-30 11:59 J -19355452.18 -19355452.00 -19355451.82 0.0268 0.0004

Saturn -57706-11-27 08:09 J -19355363.32 -19355363.16 -19355363.00 0.0267 0.0125

Jupiter -57705-01-18 04:47 J -19355311.42 -19355311.30 -19355311.18 0.0532 0.0167

Saturn -57705-02-24 04:18 J -19355274.38 -19355274.32 -19355274.25 0.0266 0.0249

Jupiter -57705-04-16 11:30 J -19355222.10 -19355222.02 -19355221.93 0.0531 0.0396

Earth -57704-06-26 00:57 J -19354786.55 -19354786.46 -19354786.36 0.2672 0.1462

Moon -57704-06-26 01:25 J -19354786.53 -19354786.44 -19354786.34 0.2677 0.1386 *

Jupiter -57699-03-05 21:49 J -19353072.77 -19353072.59 -19353072.41 0.0495 0.0109

Mars -57698-07-05 11:16 J -19352586.15 -19352586.03 -19352585.91 0.1837 0.0061

Moon -57698-07-05 21:06 J -19352585.68 -19352585.62 -19352585.56 0.2674 0.2210

Earth -57698-07-05 21:21 J -19352585.66 -19352585.61 -19352585.55 0.2680 0.2267 *

Uranus -57698-08-14 19:25 J -19352545.75 -19352545.69 -19352545.61 0.0146 0.0136

Uranus -57698-11-11 04:04 J -19352457.46 -19352457.33 -19352457.19 0.0146 0.0103

Uranus -57697-02-07 12:28 J -19352369.14 -19352368.98 -19352368.80 0.0146 0.0069

Mars -57697-05-01 17:59 J -19352284.89 -19352284.75 -19352284.61 0.1700 0.0867

Uranus -57697-05-05 21:06 J -19352280.80 -19352280.62 -19352280.43 0.0146 0.0036

Uranus -57697-08-02 05:45 J -19352192.45 -19352192.26 -19352192.07 0.0146 0.0003

Uranus -57697-10-29 14:23 J -19352104.09 -19352103.90 -19352103.71 0.0146 0.0031

Uranus -57696-01-25 22:47 J -19352015.71 -19352015.55 -19352015.37 0.0146 0.0065

Uranus -57696-04-24 07:25 J -19351927.32 -19351927.19 -19351927.04 0.0146 0.0099

Uranus -57696-07-21 16:18 J -19351838.90 -19351838.82 -19351838.74 0.0146 0.0132

Venus -57695-05-31 06:57 J -19351525.26 -19351525.21 -19351525.15 0.3796 0.3076

Moon -57695-12-22 22:47 J -19351319.67 -19351319.55 -19351319.43 0.2658 0.1585

Earth -57695-12-23 00:13 J -19351319.61 -19351319.49 -19351319.36 0.2660 0.1453 *

Jupiter -57694-11-06 08:52 J -19351001.24 -19351001.13 -19351001.03 0.0532 0.0305

Jupiter -57693-02-03 15:49 J -19350911.95 -19350911.84 -19350911.73 0.0531 0.0261

Venus -57692-03-07 16:18 J -19350513.96 -19350513.82 -19350513.69 0.3578 0.1759

Earth -57691-06-28 19:25 J -19350035.80 -19350035.69 -19350035.58 0.2675 0.0469

Moon -57691-06-28 20:09 J -19350035.77 -19350035.66 -19350035.55 0.2677 0.0465 *

Saturn -57691-12-21 12:28 J -19349860.06 -19349859.98 -19349859.91 0.0292 0.0241

Saturn -57690-03-20 01:25 J -19349771.57 -19349771.44 -19349771.32 0.0293 0.0123

Saturn -57690-06-16 14:09 J -19349683.04 -19349682.91 -19349682.77 0.0294 0.0008

Saturn -57690-09-13 03:06 J -19349594.50 -19349594.37 -19349594.25 0.0295 0.0114

Saturn -57690-12-10 15:35 J -19349505.93 -19349505.85 -19349505.77 0.0296 0.0232

Venus -57690-12-14 23:01 J -19349501.64 -19349501.54 -19349501.45 0.3799 0.1094

Mars -57689-11-24 19:54 J -19349155.78 -19349155.67 -19349155.57 0.1828 0.0899

Mars -57688-09-21 18:42 J -19348854.88 -19348854.72 -19348854.56 0.1708 0.0213

Jupiter -57688-12-22 19:54 J -19348762.85 -19348762.67 -19348762.49 0.0495 0.0053

Venus -57684-06-29 14:52 J -19347477.98 -19347477.88 -19347477.79 0.3802 0.0906

Jupiter -57682-08-25 12:28 J -19346691.04 -19346690.98 -19346690.91 0.0532 0.0447

Jupiter -57682-11-22 19:54 J -19346601.80 -19346601.67 -19346601.55 0.0531 0.0122

Moon -57682-12-26 03:49 J -19346568.49 -19346568.34 -19346568.19 0.2660 0.0159

Earth -57682-12-26 05:16 J -19346568.43 -19346568.28 -19346568.13 0.2657 0.0329 *

Mars -57679-04-17 04:04 J -19345725.36 -19345725.33 -19345725.30 0.1819 0.1749

Venus -57678-01-13 06:42 J -19345454.29 -19345454.22 -19345454.16 0.3804 0.2886

Mars -57678-02-11 19:40 J -19345424.78 -19345424.68 -19345424.57 0.1717 0.1282

Earth -57678-07-01 13:54 J -19345285.03 -19345284.92 -19345284.81 0.2677 0.0522

Moon -57678-07-01 14:23 J -19345285.01 -19345284.90 -19345284.79 0.2672 0.0652 *

Mars -57677-03-22 18:28 J -19345019.76 -19345019.73 -19345019.70 0.1854 0.1779

Saturn -57677-10-19 14:09 J -19344809.05 -19344808.91 -19344808.77 0.0269 0.0165

Saturn -57676-01-16 10:04 J -19344720.26 -19344720.08 -19344719.90 0.0268 0.0043

Saturn -57676-04-15 06:13 J -19344631.42 -19344631.24 -19344631.07 0.0267 0.0080

Saturn -57676-07-13 02:23 J -19344542.51 -19344542.40 -19344542.28 0.0266 0.0203

Jupiter -57676-10-10 18:13 J -19344452.90 -19344452.74 -19344452.57 0.0495 0.0211

Jupiter -57675-01-09 02:09 J -19344362.47 -19344362.41 -19344362.35 0.0496 0.0464

Moon -57671-06-24 11:16 J -19342735.08 -19342735.03 -19342734.97 0.2677 0.2290

Earth -57671-06-24 11:30 J -19342735.08 -19342735.02 -19342734.97 0.2671 0.2273 *

Jupiter -57670-09-10 23:30 J -19342291.65 -19342291.52 -19342291.40 0.0531 0.0032

Moon -57669-12-28 09:49 J -19341817.17 -19341817.09 -19341817.00 0.2661 0.2204

Earth -57669-12-28 10:47 J -19341817.14 -19341817.05 -19341816.96 0.2655 0.2160 *

Mars -57668-08-13 02:52 J -19341589.48 -19341589.38 -19341589.27 0.1845 0.0911

Moon -57665-07-03 08:23 J -19340534.25 -19340534.15 -19340534.06 0.2672 0.1459

Earth -57665-07-03 08:09 J -19340534.25 -19340534.16 -19340534.07 0.2679 0.1490 *

Jupiter -57664-07-29 16:18 J -19340142.93 -19340142.82 -19340142.70 0.0495 0.0372

Jupiter -57664-10-27 23:59 J -19340052.65 -19340052.50 -19340052.36 0.0495 0.0298

Saturn -57661-05-09 13:54 J -19339127.95 -19339127.92 -19339127.88 0.0292 0.0278

Saturn -57661-08-06 02:52 J -19339039.49 -19339039.38 -19339039.26 0.0293 0.0160

Saturn -57661-11-02 15:49 J -19338950.97 -19338950.84 -19338950.70 0.0293 0.0042

Saturn -57660-01-30 04:33 J -19338862.43 -19338862.31 -19338862.18 0.0294 0.0078

Saturn -57660-04-28 17:16 J -19338773.87 -19338773.78 -19338773.67 0.0295 0.0195

Mars -57658-01-03 11:30 J -19338159.14 -19338159.02 -19338158.91 0.1837 0.0080

Earth -57658-06-27 05:59 J -19337984.35 -19337984.25 -19337984.15 0.2673 0.1266

Moon -57658-06-27 06:28 J -19337984.33 -19337984.23 -19337984.13 0.2678 0.1237 *

Jupiter -57658-06-30 03:21 J -19337981.48 -19337981.36 -19337981.23 0.0532 0.0163

Jupiter -57658-09-27 10:18 J -19337892.15 -19337892.07 -19337891.99 0.0531 0.0398

Mars -57658-10-31 18:13 J -19337857.87 -19337857.74 -19337857.61 0.1700 0.0987

Uranus -57655-05-20 11:16 J -19336926.03 -19336926.03 -19336926.02 0.0132 0.0132

Uranus -57655-08-16 14:23 J -19336837.96 -19336837.90 -19336837.83 0.0132 0.0114

Uranus -57655-11-12 17:16 J -19336749.86 -19336749.78 -19336749.68 0.0132 0.0098

Uranus -57654-02-08 20:23 J -19336661.75 -19336661.65 -19336661.54 0.0132 0.0080

Uranus -57654-05-07 23:16 J -19336573.64 -19336573.53 -19336573.41 0.0132 0.0063

Uranus -57654-08-04 02:23 J -19336485.52 -19336485.40 -19336485.27 0.0132 0.0046

Uranus -57654-10-31 05:30 J -19336397.40 -19336397.27 -19336397.14 0.0132 0.0029

Uranus -57653-01-27 08:23 J -19336309.28 -19336309.15 -19336309.02 0.0132 0.0011

Uranus -57653-04-24 11:16 J -19336221.16 -19336221.03 -19336220.89 0.0133 0.0007

Uranus -57653-07-21 14:23 J -19336133.03 -19336132.90 -19336132.77 0.0133 0.0023

Uranus -57653-10-17 17:16 J -19336044.91 -19336044.78 -19336044.65 0.0133 0.0040

Uranus -57652-01-13 20:09 J -19335956.78 -19335956.66 -19335956.54 0.0133 0.0057

Uranus -57652-04-11 23:01 J -19335868.64 -19335868.54 -19335868.42 0.0133 0.0075

Moon -57652-07-06 01:54 J -19335783.46 -19335783.42 -19335783.37 0.2674 0.2424

Earth -57652-07-06 02:23 J -19335783.45 -19335783.40 -19335783.36 0.2681 0.2446 *

Uranus -57652-07-09 01:54 J -19335780.50 -19335780.42 -19335780.32 0.0133 0.0092

Jupiter -57652-08-15 20:23 J -19335742.82 -19335742.65 -19335742.47 0.0495 0.0118

Uranus -57652-10-05 04:47 J -19335692.36 -19335692.30 -19335692.21 0.0133 0.0109

Uranus -57651-01-01 07:54 J -19335604.20 -19335604.17 -19335604.12 0.0133 0.0126

Neptune -57651-12-14 07:40 J -19335257.19 -19335257.18 -19335257.15 0.0089 0.0088

Neptune -57650-03-12 09:06 J -19335169.16 -19335169.12 -19335169.05 0.0089 0.0082

Neptune -57650-06-08 10:47 J -19335081.11 -19335081.05 -19335080.97 0.0089 0.0076

Neptune -57650-09-04 12:13 J -19334993.06 -19334992.99 -19334992.90 0.0089 0.0070

Neptune -57650-12-01 13:54 J -19334905.01 -19334904.92 -19334904.82 0.0089 0.0064

Neptune -57649-02-27 15:21 J -19334816.96 -19334816.86 -19334816.75 0.0089 0.0058

Neptune -57649-05-25 16:33 J -19334728.91 -19334728.81 -19334728.68 0.0089 0.0053

Mars -57649-05-25 19:40 J -19334728.79 -19334728.68 -19334728.57 0.1828 0.0807 *

Neptune -57649-08-21 18:13 J -19334640.85 -19334640.74 -19334640.62 0.0089 0.0047

Neptune -57649-11-17 19:40 J -19334552.79 -19334552.68 -19334552.55 0.0089 0.0041

Moon -57649-12-23 05:01 J -19334517.42 -19334517.29 -19334517.15 0.2658 0.1243

Earth -57649-12-23 06:42 J -19334517.36 -19334517.22 -19334517.08 0.2659 0.1125 *

Neptune -57648-02-13 21:21 J -19334464.74 -19334464.61 -19334464.49 0.0089 0.0035

Mars -57648-03-22 19:25 J -19334427.85 -19334427.69 -19334427.53 0.1708 0.0067

Neptune -57648-05-12 22:47 J -19334376.68 -19334376.55 -19334376.42 0.0089 0.0029

Neptune -57648-08-09 00:13 J -19334288.62 -19334288.49 -19334288.36 0.0089 0.0023

Neptune -57648-11-05 01:40 J -19334200.56 -19334200.43 -19334200.29 0.0089 0.0017

Neptune -57647-02-01 03:06 J -19334112.50 -19334112.37 -19334112.23 0.0089 0.0012

Saturn -57647-03-08 13:54 J -19334077.04 -19334076.92 -19334076.80 0.0269 0.0199

Neptune -57647-04-30 04:33 J -19334024.44 -19334024.31 -19334024.17 0.0089 0.0006

Saturn -57647-06-05 09:49 J -19333988.26 -19333988.09 -19333987.92 0.0269 0.0077

Neptune -57647-07-27 05:59 J -19333936.38 -19333936.25 -19333936.11 0.0089 0.0002

Saturn -57647-09-02 05:45 J -19333899.43 -19333899.26 -19333899.07 0.0268 0.0047

Neptune -57647-10-23 07:25 J -19333848.32 -19333848.19 -19333848.05 0.0089 0.0006

Saturn -57647-11-30 01:54 J -19333810.55 -19333810.42 -19333810.27 0.0267 0.0170

Neptune -57646-01-19 08:52 J -19333760.26 -19333760.13 -19333759.99 0.0089 0.0012

Neptune -57646-04-17 10:18 J -19333672.20 -19333672.07 -19333671.93 0.0089 0.0017

Jupiter -57646-04-18 07:40 J -19333671.29 -19333671.18 -19333671.07 0.0532 0.0298

Neptune -57646-07-14 11:45 J -19333584.14 -19333584.01 -19333583.88 0.0089 0.0023

Jupiter -57646-07-16 14:52 J -19333581.99 -19333581.88 -19333581.77 0.0531 0.0269

Neptune -57646-10-10 13:11 J -19333496.08 -19333495.95 -19333495.82 0.0089 0.0029

Neptune -57645-01-06 14:23 J -19333408.01 -19333407.90 -19333407.76 0.0089 0.0035

Neptune -57645-04-03 16:04 J -19333319.95 -19333319.83 -19333319.71 0.0089 0.0040

Earth -57645-06-29 00:28 J -19333233.59 -19333233.48 -19333233.37 0.2675 0.0278

Moon -57645-06-29 01:11 J -19333233.56 -19333233.45 -19333233.34 0.2675 0.0162 *

Neptune -57645-06-30 17:16 J -19333231.89 -19333231.78 -19333231.65 0.0089 0.0046

Neptune -57645-09-26 18:42 J -19333143.82 -19333143.72 -19333143.60 0.0089 0.0051

Neptune -57645-12-23 20:09 J -19333055.76 -19333055.66 -19333055.55 0.0089 0.0057

Pluto -57644-01-21 07:40 J -19333027.19 -19333027.18 -19333027.12 0.0061 0.0060

Neptune -57644-03-21 21:35 J -19332967.69 -19332967.60 -19332967.50 0.0089 0.0063

Pluto -57644-04-19 09:06 J -19332939.18 -19332939.12 -19332939.04 0.0061 0.0055

Neptune -57644-06-17 23:01 J -19332879.62 -19332879.54 -19332879.45 0.0089 0.0068

Pluto -57644-07-16 09:49 J -19332851.16 -19332851.09 -19332850.97 0.0061 0.0051

Neptune -57644-09-14 00:13 J -19332791.55 -19332791.49 -19332791.41 0.0089 0.0074

Pluto -57644-10-12 11:01 J -19332763.13 -19332763.04 -19332762.91 0.0061 0.0047

Neptune -57644-12-11 01:25 J -19332703.48 -19332703.44 -19332703.36 0.0089 0.0080

Pluto -57643-01-08 12:28 J -19332675.10 -19332674.98 -19332674.85 0.0061 0.0042

Neptune -57643-03-09 03:06 J -19332615.40 -19332615.37 -19332615.33 0.0089 0.0085

Pluto -57643-04-06 13:25 J -19332587.07 -19332586.94 -19332586.79 0.0061 0.0037

Pluto -57643-07-03 14:37 J -19332499.03 -19332498.89 -19332498.74 0.0062 0.0033

Pluto -57643-09-29 15:49 J -19332410.99 -19332410.84 -19332410.68 0.0062 0.0028

Pluto -57643-12-26 16:47 J -19332322.95 -19332322.80 -19332322.63 0.0062 0.0024

Pluto -57642-03-24 17:59 J -19332234.91 -19332234.75 -19332234.57 0.0062 0.0019

Pluto -57642-06-20 19:11 J -19332146.86 -19332146.70 -19332146.52 0.0062 0.0014

Pluto -57642-09-16 20:23 J -19332058.82 -19332058.65 -19332058.47 0.0062 0.0009

Pluto -57642-12-13 21:35 J -19331970.77 -19331970.60 -19331970.42 0.0062 0.0005

Pluto -57641-03-10 22:47 J -19331882.72 -19331882.55 -19331882.37 0.0062 0.0001

Venus -57641-03-28 09:06 J -19331865.26 -19331865.12 -19331864.99 0.3580 0.1952

Pluto -57641-06-06 23:59 J -19331794.67 -19331794.50 -19331794.32 0.0062 0.0005

Pluto -57641-09-03 00:57 J -19331706.62 -19331706.46 -19331706.28 0.0062 0.0011

Pluto -57641-11-30 02:09 J -19331618.57 -19331618.41 -19331618.23 0.0062 0.0015

Pluto -57640-02-26 03:35 J -19331530.52 -19331530.35 -19331530.18 0.0062 0.0020

Pluto -57640-05-25 04:47 J -19331442.46 -19331442.30 -19331442.14 0.0062 0.0025

Jupiter -57640-06-03 18:28 J -19331432.91 -19331432.73 -19331432.54 0.0495 0.0046

Pluto -57640-08-21 05:59 J -19331354.40 -19331354.25 -19331354.09 0.0063 0.0030

Mars -57640-10-16 04:04 J -19331298.37 -19331298.33 -19331298.28 0.1819 0.1646

Pluto -57640-11-17 07:11 J -19331266.34 -19331266.20 -19331266.05 0.0063 0.0035

Pluto -57639-02-13 08:23 J -19331178.28 -19331178.15 -19331178.01 0.0063 0.0040

Pluto -57639-05-12 09:35 J -19331090.22 -19331090.10 -19331089.97 0.0063 0.0045

Pluto -57639-08-08 10:47 J -19331002.15 -19331002.05 -19331001.94 0.0063 0.0050

Mars -57639-08-12 20:23 J -19330997.77 -19330997.65 -19330997.53 0.1716 0.1143

Pluto -57639-11-04 12:13 J -19330914.07 -19330913.99 -19330913.91 0.0063 0.0055

Venus -57638-01-05 04:33 J -19330852.39 -19330852.31 -19330852.23 0.3797 0.2353

Pluto -57638-01-31 12:57 J -19330825.98 -19330825.96 -19330825.89 0.0063 0.0061

Moon -57636-12-26 10:33 J -19329766.21 -19329766.06 -19329765.91 0.2661 0.0590

Earth -57636-12-26 11:45 J -19329766.16 -19329766.01 -19329765.86 0.2657 0.0664 *

Jupiter -57634-02-04 11:45 J -19329361.08 -19329361.01 -19329360.94 0.0532 0.0434

Jupiter -57634-05-04 19:11 J -19329271.83 -19329271.70 -19329271.58 0.0531 0.0136

Venus -57633-07-20 20:23 J -19328828.75 -19328828.65 -19328828.55 0.3800 0.0367

Earth -57632-07-01 18:42 J -19328482.83 -19328482.72 -19328482.61 0.2677 0.0710

Moon -57632-07-01 19:25 J -19328482.80 -19328482.69 -19328482.58 0.2673 0.0699 *

Saturn -57632-12-24 03:06 J -19328307.46 -19328307.37 -19328307.27 0.0292 0.0208

Saturn -57631-03-22 16:18 J -19328218.95 -19328218.82 -19328218.70 0.0293 0.0090

Saturn -57631-06-19 05:01 J -19328130.42 -19328130.29 -19328130.16 0.0294 0.0028

Saturn -57631-09-15 17:45 J -19328041.87 -19328041.76 -19328041.64 0.0295 0.0146

Saturn -57631-12-13 06:28 J -19327953.29 -19327953.23 -19327953.17 0.0296 0.0264

Mars -57628-02-11 03:06 J -19327162.47 -19327162.37 -19327162.27 0.1846 0.1013

Jupiter -57628-03-22 16:47 J -19327122.97 -19327122.80 -19327122.64 0.0495 0.0205

Jupiter -57628-06-21 00:28 J -19327032.53 -19327032.48 -19327032.42 0.0495 0.0470

Venus -57627-02-03 12:13 J -19326805.08 -19326804.99 -19326804.90 0.3802 0.1625

Moon -57625-06-24 16:18 J -19325932.89 -19325932.82 -19325932.74 0.2677 0.2048

Earth -57625-06-24 16:18 J -19325932.89 -19325932.82 -19325932.75 0.2671 0.2078 *

Moon -57623-12-29 16:33 J -19325014.88 -19325014.81 -19325014.74 0.2660 0.2358

Earth -57623-12-29 17:16 J -19325014.83 -19325014.78 -19325014.73 0.2654 0.2497 *

Jupiter -57622-02-20 23:01 J -19324961.67 -19324961.54 -19324961.41 0.0531 0.0008

Venus -57622-08-20 04:04 J -19324781.36 -19324781.33 -19324781.30 0.3805 0.3615

Mars -57619-07-04 11:30 J -19323732.14 -19323732.02 -19323731.90 0.1837 0.0159

Moon -57619-07-04 12:57 J -19323732.04 -19323731.96 -19323731.87 0.2672 0.1724 *

Earth -57619-07-04 12:57 J -19323732.04 -19323731.96 -19323731.87 0.2679 0.1675 *

Mars -57618-05-01 18:57 J -19323430.83 -19323430.71 -19323430.59 0.1700 0.1128

Saturn -57618-07-26 11:30 J -19323345.09 -19323345.02 -19323344.95 0.0269 0.0248

Saturn -57618-10-23 07:11 J -19323256.35 -19323256.20 -19323256.03 0.0269 0.0126

Saturn -57617-01-20 03:21 J -19323167.54 -19323167.36 -19323167.18 0.0268 0.0003

Saturn -57617-04-17 23:30 J -19323078.68 -19323078.52 -19323078.36 0.0267 0.0121

Saturn -57617-07-15 19:40 J -19322989.74 -19322989.68 -19322989.60 0.0266 0.0244

Jupiter -57616-01-08 15:06 J -19322812.99 -19322812.87 -19322812.75 0.0495 0.0361

Jupiter -57616-04-08 22:33 J -19322722.70 -19322722.56 -19322722.41 0.0495 0.0308

Moon -57616-12-21 06:57 J -19322466.25 -19322466.21 -19322466.17 0.2658 0.2555

Earth -57616-12-21 08:23 J -19322466.19 -19322466.15 -19322466.12 0.2661 0.2550 *

Uranus -57614-09-04 03:21 J -19321844.45 -19321844.36 -19321844.25 0.0147 0.0126

Uranus -57614-12-01 11:45 J -19321756.14 -19321756.01 -19321755.85 0.0147 0.0093

Uranus -57613-02-27 20:37 J -19321667.81 -19321667.64 -19321667.47 0.0146 0.0059

Uranus -57613-05-26 05:16 J -19321579.47 -19321579.28 -19321579.09 0.0146 0.0025

Uranus -57613-08-22 13:40 J -19321491.12 -19321490.93 -19321490.73 0.0146 0.0009

Uranus -57613-11-18 22:18 J -19321402.75 -19321402.57 -19321402.38 0.0146 0.0042

Uranus -57612-02-15 06:42 J -19321314.37 -19321314.22 -19321314.04 0.0146 0.0076

Uranus -57612-05-14 15:35 J -19321225.97 -19321225.85 -19321225.72 0.0146 0.0109

Earth -57612-06-27 10:47 J -19321182.15 -19321182.05 -19321181.94 0.2673 0.1079

Moon -57612-06-27 11:30 J -19321182.13 -19321182.02 -19321181.92 0.2678 0.1015 *

Uranus -57612-08-11 00:13 J -19321137.52 -19321137.49 -19321137.45 0.0146 0.0143

Jupiter -57611-12-10 02:37 J -19320651.51 -19320651.39 -19320651.27 0.0531 0.0151

Jupiter -57610-03-09 09:21 J -19320562.18 -19320562.11 -19320562.03 0.0531 0.0410

Mars -57610-11-24 19:54 J -19320301.78 -19320301.67 -19320301.56 0.1828 0.0706

Mars -57609-09-20 19:54 J -19320000.83 -19320000.67 -19320000.51 0.1708 0.0063

Moon -57606-07-07 06:42 J -19318981.25 -19318981.22 -19318981.19 0.2675 0.2543

Earth -57606-07-07 07:11 J -19318981.22 -19318981.20 -19318981.18 0.2681 0.2628 *

Jupiter -57604-01-25 20:37 J -19318412.82 -19318412.64 -19318412.47 0.0495 0.0144

Moon -57603-12-24 11:30 J -19317715.16 -19317715.02 -19317714.88 0.2658 0.0971

Earth -57603-12-24 12:57 J -19317715.10 -19317714.96 -19317714.81 0.2659 0.0804 *

Saturn -57602-05-13 04:18 J -19317575.38 -19317575.32 -19317575.24 0.0292 0.0248

Saturn -57602-08-09 17:30 J -19317486.89 -19317486.77 -19317486.65 0.0293 0.0130

Saturn -57602-11-06 06:13 J -19317398.37 -19317398.24 -19317398.10 0.0294 0.0015

Saturn -57601-02-02 19:11 J -19317309.83 -19317309.70 -19317309.58 0.0294 0.0107

Saturn -57601-05-01 07:40 J -19317221.26 -19317221.18 -19317221.09 0.0295 0.0225

Mars -57600-04-16 04:18 J -19316871.39 -19316871.32 -19316871.26 0.1819 0.1545

Mars -57599-02-10 20:52 J -19316570.76 -19316570.63 -19316570.51 0.1716 0.1018

Earth -57599-06-30 05:16 J -19316431.39 -19316431.28 -19316431.16 0.2675 0.0108

Moon -57599-06-30 05:59 J -19316431.36 -19316431.25 -19316431.13 0.2674 0.0105 *

Jupiter -57599-09-28 06:42 J -19316341.33 -19316341.22 -19316341.12 0.0532 0.0290

Jupiter -57599-12-26 13:40 J -19316252.04 -19316251.93 -19316251.82 0.0531 0.0276

Jupiter -57593-11-13 17:30 J -19314102.96 -19314102.77 -19314102.59 0.0494 0.0034

Moon -57590-12-27 17:01 J -19312963.94 -19312963.79 -19312963.65 0.2661 0.0886

Earth -57590-12-27 18:13 J -19312963.88 -19312963.74 -19312963.60 0.2656 0.0996 *

Mars -57589-08-12 03:06 J -19312735.47 -19312735.37 -19312735.28 0.1845 0.1109

Saturn -57588-03-11 06:57 J -19312524.35 -19312524.21 -19312524.06 0.0269 0.0160

Saturn -57588-06-08 02:52 J -19312435.56 -19312435.38 -19312435.20 0.0269 0.0038

Saturn -57588-09-04 23:01 J -19312346.71 -19312346.54 -19312346.37 0.0268 0.0086

Saturn -57588-12-02 19:11 J -19312257.81 -19312257.70 -19312257.58 0.0267 0.0210

Venus -57587-01-26 10:04 J -19312203.10 -19312203.08 -19312203.05 0.3795 0.3618

Jupiter -57587-07-17 10:47 J -19312031.13 -19312031.05 -19312030.98 0.0533 0.0427

Jupiter -57587-10-14 17:59 J -19311941.87 -19311941.75 -19311941.62 0.0532 0.0145

Earth -57586-07-02 23:45 J -19311680.62 -19311680.51 -19311680.41 0.2677 0.0896

Moon -57586-07-03 00:13 J -19311680.60 -19311680.49 -19311680.39 0.2673 0.1000 *

Venus -57585-11-02 11:16 J -19311192.19 -19311192.03 -19311191.87 0.3580 0.0108

Venus -57582-08-12 02:09 J -19310179.50 -19310179.41 -19310179.32 0.3798 0.1632

Jupiter -57581-09-01 15:35 J -19309793.02 -19309792.85 -19309792.68 0.0494 0.0193

Jupiter -57581-11-30 23:16 J -19309702.57 -19309702.53 -19309702.48 0.0495 0.0480

Mars -57579-01-02 11:16 J -19309305.14 -19309305.03 -19309304.91 0.1837 0.0253

Earth -57579-06-25 21:21 J -19309130.69 -19309130.61 -19309130.53 0.2671 0.1884

Moon -57579-06-25 21:35 J -19309130.68 -19309130.60 -19309130.52 0.2678 0.1914 *

Mars -57579-10-30 19:40 J -19309003.79 -19309003.68 -19309003.57 0.1700 0.1270

Venus -57576-02-24 17:59 J -19308155.85 -19308155.75 -19308155.65 0.3800 0.0375

Jupiter -57575-08-02 22:18 J -19307631.70 -19307631.57 -19307631.44 0.0532 0.0011

Moon -57573-07-04 17:45 J -19306929.84 -19306929.76 -19306929.67 0.2672 0.1779

Earth -57573-07-04 17:59 J -19306929.83 -19306929.75 -19306929.67 0.2679 0.1859 *

Saturn -57573-12-26 17:45 J -19306754.86 -19306754.76 -19306754.65 0.0292 0.0177

Saturn -57572-03-25 06:42 J -19306666.35 -19306666.22 -19306666.09 0.0293 0.0060

Saturn -57572-06-21 19:25 J -19306577.82 -19306577.69 -19306577.55 0.0294 0.0059

Saturn -57572-09-18 08:09 J -19306489.26 -19306489.16 -19306489.05 0.0295 0.0176

Saturn -57572-12-15 20:52 J -19306400.64 -19306400.63 -19306400.62 0.0295 0.0293

Uranus -57571-06-09 18:57 J -19306224.74 -19306224.71 -19306224.66 0.0132 0.0125

Uranus -57571-09-05 21:49 J -19306136.65 -19306136.59 -19306136.50 0.0132 0.0108

Venus -57571-09-10 09:49 J -19306132.17 -19306132.09 -19306132.01 0.3803 0.2351

Uranus -57571-12-03 01:11 J -19306048.55 -19306048.45 -19306048.35 0.0132 0.0090

Uranus -57570-03-01 04:04 J -19305960.44 -19305960.33 -19305960.21 0.0132 0.0073

Mars -57570-05-25 19:54 J -19305874.78 -19305874.67 -19305874.56 0.1828 0.0596

Uranus -57570-05-28 07:11 J -19305872.32 -19305872.20 -19305872.08 0.0132 0.0056

Uranus -57570-08-24 10:04 J -19305784.20 -19305784.08 -19305783.95 0.0132 0.0039

Uranus -57570-11-20 12:57 J -19305696.08 -19305695.96 -19305695.82 0.0132 0.0023

Moon -57570-12-22 13:11 J -19305664.01 -19305663.95 -19305663.89 0.2657 0.2445

Earth -57570-12-22 14:23 J -19305663.97 -19305663.90 -19305663.82 0.2661 0.2236 *

Uranus -57569-02-16 16:04 J -19305607.96 -19305607.83 -19305607.70 0.0132 0.0005

Mars -57569-03-21 20:23 J -19305573.81 -19305573.65 -19305573.49 0.1708 0.0197

Uranus -57569-05-14 18:57 J -19305519.84 -19305519.71 -19305519.57 0.0132 0.0013

Jupiter -57569-06-20 13:54 J -19305483.05 -19305482.92 -19305482.80 0.0494 0.0352

Uranus -57569-08-10 22:04 J -19305431.71 -19305431.58 -19305431.45 0.0133 0.0030

Jupiter -57569-09-18 21:21 J -19305392.75 -19305392.61 -19305392.47 0.0495 0.0317

Uranus -57569-11-07 00:57 J -19305343.58 -19305343.46 -19305343.34 0.0133 0.0047

Uranus -57568-02-03 03:49 J -19305255.45 -19305255.34 -19305255.22 0.0133 0.0064

Uranus -57568-05-02 06:57 J -19305167.32 -19305167.21 -19305167.11 0.0133 0.0081

Uranus -57568-07-29 09:49 J -19305079.18 -19305079.09 -19305079.00 0.0133 0.0098

Neptune -57568-08-30 04:04 J -19305047.34 -19305047.33 -19305047.30 0.0089 0.0088

Uranus -57568-10-25 12:42 J -19304991.03 -19304990.97 -19304990.90 0.0133 0.0115

Neptune -57568-11-26 06:57 J -19304959.26 -19304959.21 -19304959.11 0.0089 0.0081

Uranus -57567-01-21 15:35 J -19304902.85 -19304902.85 -19304902.84 0.0133 0.0132

Neptune -57567-02-22 10:18 J -19304871.16 -19304871.07 -19304870.95 0.0089 0.0073

Neptune -57567-05-21 13:40 J -19304783.04 -19304782.93 -19304782.80 0.0089 0.0065

Neptune -57567-08-17 16:47 J -19304694.93 -19304694.80 -19304694.65 0.0089 0.0058

Neptune -57567-11-13 20:09 J -19304606.80 -19304606.66 -19304606.50 0.0089 0.0050

Neptune -57566-02-09 23:30 J -19304518.68 -19304518.52 -19304518.35 0.0089 0.0042

Neptune -57566-05-09 02:23 J -19304430.55 -19304430.40 -19304430.21 0.0089 0.0035

Earth -57566-06-28 15:49 J -19304379.95 -19304379.84 -19304379.73 0.2673 0.0883

Moon -57566-06-28 16:18 J -19304379.92 -19304379.82 -19304379.71 0.2677 0.0821 *

Neptune -57566-08-05 05:45 J -19304342.42 -19304342.26 -19304342.07 0.0089 0.0027

Neptune -57566-11-01 09:06 J -19304254.29 -19304254.12 -19304253.93 0.0089 0.0019

Neptune -57565-01-28 12:28 J -19304166.16 -19304165.98 -19304165.79 0.0089 0.0011

Neptune -57565-04-25 15:49 J -19304078.02 -19304077.84 -19304077.65 0.0089 0.0003

Neptune -57565-07-22 19:11 J -19303989.89 -19303989.70 -19303989.51 0.0089 0.0005

Neptune -57565-10-18 22:33 J -19303901.75 -19303901.56 -19303901.38 0.0089 0.0013

Neptune -57564-01-15 01:40 J -19303813.61 -19303813.43 -19303813.24 0.0089 0.0021

Neptune -57564-04-13 05:01 J -19303725.46 -19303725.29 -19303725.11 0.0089 0.0029

Neptune -57564-07-10 08:09 J -19303637.32 -19303637.16 -19303636.98 0.0089 0.0037

Neptune -57564-10-06 11:30 J -19303549.17 -19303549.02 -19303548.85 0.0089 0.0045

Neptune -57563-01-02 14:37 J -19303461.02 -19303460.89 -19303460.72 0.0089 0.0053

Neptune -57563-03-31 17:59 J -19303372.87 -19303372.75 -19303372.59 0.0089 0.0061

Jupiter -57563-05-22 02:23 J -19303321.53 -19303321.40 -19303321.28 0.0532 0.0129

Neptune -57563-06-27 21:21 J -19303284.71 -19303284.61 -19303284.47 0.0089 0.0069

Jupiter -57563-08-19 09:06 J -19303232.19 -19303232.12 -19303232.04 0.0531 0.0432

Neptune -57563-09-24 00:42 J -19303196.54 -19303196.47 -19303196.35 0.0089 0.0077

Neptune -57563-12-21 04:04 J -19303108.36 -19303108.33 -19303108.25 0.0089 0.0085

Mars -57561-10-15 04:18 J -19302444.39 -19302444.32 -19302444.25 0.1819 0.1442

Mars -57560-08-11 21:21 J -19302143.74 -19302143.61 -19302143.47 0.1716 0.0878

Saturn -57559-07-29 04:04 J -19301792.44 -19301792.33 -19301792.22 0.0270 0.0211

Saturn -57559-10-25 23:59 J -19301703.67 -19301703.50 -19301703.33 0.0269 0.0089

Saturn -57558-01-22 20:09 J -19301614.84 -19301614.66 -19301614.48 0.0268 0.0035

Saturn -57558-04-21 16:18 J -19301525.96 -19301525.82 -19301525.67 0.0267 0.0159

Jupiter -57557-07-07 19:25 J -19301082.86 -19301082.69 -19301082.52 0.0495 0.0156

Moon -57557-12-24 17:45 J -19300912.90 -19300912.76 -19300912.61 0.2660 0.0540

Earth -57557-12-24 19:25 J -19300912.84 -19300912.69 -19300912.54 0.2658 0.0486 *

Earth -57553-06-30 10:18 J -19299629.19 -19299629.07 -19299628.96 0.2675 0.0131

Moon -57553-06-30 11:01 J -19299629.15 -19299629.04 -19299628.93 0.2674 0.0199 *

Pluto -57553-12-19 10:18 J -19299457.07 -19299457.07 -19299457.05 0.0083 0.0083

Pluto -57552-03-17 11:59 J -19299369.06 -19299369.00 -19299368.93 0.0083 0.0073

Pluto -57552-06-13 13:40 J -19299281.02 -19299280.93 -19299280.83 0.0083 0.0063

Pluto -57552-09-09 15:06 J -19299192.97 -19299192.87 -19299192.75 0.0083 0.0054

Pluto -57552-12-06 17:01 J -19299104.91 -19299104.79 -19299104.67 0.0083 0.0044

Pluto -57551-03-04 18:28 J -19299016.85 -19299016.73 -19299016.59 0.0083 0.0035

Jupiter -57551-03-10 05:45 J -19299011.37 -19299011.26 -19299011.15 0.0532 0.0276

Pluto -57551-05-31 20:09 J -19298928.80 -19298928.66 -19298928.52 0.0082 0.0025

Jupiter -57551-06-07 12:57 J -19298922.07 -19298921.96 -19298921.85 0.0531 0.0290

Pluto -57551-08-27 21:49 J -19298840.73 -19298840.59 -19298840.45 0.0082 0.0016

Pluto -57551-11-23 23:16 J -19298752.67 -19298752.53 -19298752.38 0.0082 0.0006

Pluto -57550-02-20 00:57 J -19298664.61 -19298664.46 -19298664.32 0.0082 0.0004

Pluto -57550-05-19 02:23 J -19298576.54 -19298576.40 -19298576.26 0.0082 0.0012

Pluto -57550-08-15 03:49 J -19298488.48 -19298488.34 -19298488.20 0.0082 0.0021

Pluto -57550-11-11 05:16 J -19298400.41 -19298400.28 -19298400.14 0.0082 0.0030

Pluto -57549-02-07 06:42 J -19298312.34 -19298312.22 -19298312.09 0.0081 0.0039

Mars -57549-02-11 02:52 J -19298308.46 -19298308.38 -19298308.29 0.1846 0.1207

Pluto -57549-05-05 08:23 J -19298224.27 -19298224.15 -19298224.04 0.0081 0.0048

Pluto -57549-08-01 09:35 J -19298136.19 -19298136.10 -19298135.99 0.0081 0.0057

Pluto -57549-10-28 11:01 J -19298048.11 -19298048.04 -19298047.95 0.0081 0.0065

Pluto -57548-01-24 12:13 J -19297960.03 -19297959.99 -19297959.92 0.0081 0.0074

Jupiter -57545-04-25 17:30 J -19296772.95 -19296772.77 -19296772.59 0.0495 0.0007

Moon -57544-12-27 23:16 J -19296161.66 -19296161.53 -19296161.39 0.2661 0.1218

Earth -57544-12-28 00:28 J -19296161.61 -19296161.48 -19296161.34 0.2656 0.1327 *

Saturn -57543-05-15 18:57 J -19296022.79 -19296022.71 -19296022.61 0.0292 0.0217

Saturn -57543-08-12 07:54 J -19295934.29 -19295934.17 -19295934.04 0.0293 0.0100

Saturn -57543-11-08 20:52 J -19295845.77 -19295845.63 -19295845.50 0.0293 0.0019

Saturn -57542-02-05 09:35 J -19295757.22 -19295757.10 -19295756.98 0.0294 0.0136

Saturn -57542-05-04 22:04 J -19295668.64 -19295668.58 -19295668.51 0.0295 0.0254

Earth -57540-07-03 04:33 J -19294878.41 -19294878.31 -19294878.21 0.2678 0.1079

Moon -57540-07-03 05:01 J -19294878.40 -19294878.29 -19294878.19 0.2672 0.1071 *

Mars -57540-07-03 11:30 J -19294878.14 -19294878.02 -19294877.90 0.1837 0.0354

Jupiter -57540-12-27 09:49 J -19294701.17 -19294701.09 -19294701.01 0.0532 0.0416

Jupiter -57539-03-26 17:01 J -19294611.91 -19294611.79 -19294611.67 0.0531 0.0154

Mars -57539-04-30 20:09 J -19294576.75 -19294576.66 -19294576.57 0.1700 0.1395

Jupiter -57533-02-12 14:37 J -19292463.06 -19292462.89 -19292462.72 0.0494 0.0179

Jupiter -57533-05-12 22:18 J -19292372.57 -19292372.57 -19292372.56 0.0495 0.0494

Earth -57533-06-26 02:09 J -19292328.49 -19292328.41 -19292328.32 0.2672 0.1691

Moon -57533-06-26 02:23 J -19292328.48 -19292328.40 -19292328.31 0.2678 0.1613 *

Venus -57531-09-02 07:40 J -19291530.24 -19291530.18 -19291530.12 0.3796 0.2897

Mars -57531-11-23 19:54 J -19291447.79 -19291447.67 -19291447.56 0.1828 0.0509

Mars -57530-09-20 21:06 J -19291146.78 -19291146.62 -19291146.46 0.1708 0.0337

Uranus -57530-09-24 11:01 J -19291143.14 -19291143.04 -19291142.92 0.0147 0.0117

Saturn -57530-12-16 03:35 J -19291060.42 -19291060.35 -19291060.28 0.0270 0.0247

Uranus -57530-12-21 19:40 J -19291054.83 -19291054.68 -19291054.52 0.0147 0.0084

Saturn -57529-03-13 23:30 J -19290971.68 -19290971.52 -19290971.36 0.0269 0.0125

Uranus -57529-03-19 04:04 J -19290966.50 -19290966.33 -19290966.14 0.0146 0.0051

Saturn -57529-06-10 19:25 J -19290882.87 -19290882.69 -19290882.50 0.0269 0.0006

Uranus -57529-06-15 12:42 J -19290878.15 -19290877.97 -19290877.77 0.0146 0.0017

Saturn -57529-09-07 15:35 J -19290794.01 -19290793.85 -19290793.68 0.0268 0.0123

Uranus -57529-09-11 21:21 J -19290789.80 -19290789.61 -19290789.42 0.0146 0.0017

Saturn -57529-12-05 11:45 J -19290705.06 -19290705.01 -19290704.93 0.0267 0.0247

Uranus -57529-12-09 05:59 J -19290701.43 -19290701.25 -19290701.07 0.0146 0.0051

Uranus -57528-03-07 14:37 J -19290613.04 -19290612.89 -19290612.73 0.0146 0.0084

Uranus -57528-06-03 23:01 J -19290524.64 -19290524.54 -19290524.42 0.0146 0.0118

Venus -57528-06-09 13:25 J -19290519.08 -19290518.94 -19290518.80 0.3579 0.1857

Jupiter -57527-01-12 21:21 J -19290301.74 -19290301.61 -19290301.48 0.0532 0.0021

Moon -57527-07-05 22:47 J -19290127.62 -19290127.55 -19290127.49 0.2672 0.2085

Earth -57527-07-05 22:47 J -19290127.62 -19290127.55 -19290127.48 0.2680 0.2039 *

Venus -57525-03-17 23:30 J -19289506.62 -19289506.52 -19289506.42 0.3798 0.0907

Moon -57524-12-22 19:25 J -19288861.79 -19288861.69 -19288861.58 0.2657 0.1921

Earth -57524-12-22 20:52 J -19288861.73 -19288861.63 -19288861.53 0.2660 0.1915 *

Jupiter -57522-12-01 12:57 J -19288153.09 -19288152.96 -19288152.83 0.0494 0.0337

Jupiter -57521-02-29 20:09 J -19288062.79 -19288062.66 -19288062.52 0.0495 0.0330

Mars -57521-04-15 04:18 J -19288017.40 -19288017.32 -19288017.24 0.1820 0.1344

Mars -57520-02-09 22:04 J -19287716.73 -19287716.58 -19287716.44 0.1716 0.0741

Earth -57520-06-28 20:37 J -19287577.74 -19287577.64 -19287577.53 0.2674 0.0700

Moon -57520-06-28 21:21 J -19287577.72 -19287577.61 -19287577.50 0.2676 0.0670 *

Venus -57520-10-01 15:21 J -19287482.95 -19287482.86 -19287482.76 0.3801 0.1087

Jupiter -57516-11-01 01:25 J -19285991.56 -19285991.44 -19285991.31 0.0532 0.0117

Jupiter -57515-01-29 08:23 J -19285902.21 -19285902.15 -19285902.08 0.0531 0.0447

Venus -57514-04-17 07:11 J -19285459.26 -19285459.20 -19285459.14 0.3804 0.3074

Saturn -57514-10-02 19:25 J -19285290.74 -19285290.69 -19285290.63 0.0291 0.0263

Saturn -57514-12-30 08:23 J -19285202.26 -19285202.15 -19285202.03 0.0292 0.0146

Saturn -57513-03-27 21:21 J -19285113.75 -19285113.61 -19285113.48 0.0293 0.0029

Saturn -57513-06-24 10:04 J -19285025.21 -19285025.08 -19285024.95 0.0294 0.0088

Saturn -57513-09-20 22:33 J -19284936.65 -19284936.56 -19284936.46 0.0294 0.0205

Moon -57511-12-26 00:13 J -19284110.64 -19284110.49 -19284110.34 0.2661 0.0380

Earth -57511-12-26 01:40 J -19284110.58 -19284110.43 -19284110.28 0.2658 0.0158 *

Mars -57510-08-12 03:06 J -19283881.45 -19283881.37 -19283881.29 0.1846 0.1311

Jupiter -57510-12-18 18:13 J -19283752.91 -19283752.74 -19283752.57 0.0495 0.0167

Earth -57507-07-01 15:06 J -19282826.98 -19282826.87 -19282826.76 0.2676 0.0294

Moon -57507-07-01 15:49 J -19282826.95 -19282826.84 -19282826.73 0.2674 0.0359 *

Jupiter -57504-08-20 05:30 J -19281681.38 -19281681.27 -19281681.16 0.0532 0.0254

Jupiter -57504-11-17 12:28 J -19281592.08 -19281591.98 -19281591.87 0.0531 0.0312

Mars -57500-01-01 11:30 J -19280451.14 -19280451.02 -19280450.91 0.1837 0.0452

Moon -57500-06-24 12:28 J -19280277.02 -19280276.98 -19280276.94 0.2677 0.2465

Earth -57500-06-24 12:28 J -19280277.01 -19280276.98 -19280276.94 0.2670 0.2502 *

Saturn -57500-07-31 20:23 J -19280239.78 -19280239.65 -19280239.51 0.0270 0.0177

Saturn -57500-10-28 16:33 J -19280150.99 -19280150.81 -19280150.63 0.0269 0.0053

Mars -57500-10-29 20:37 J -19280149.70 -19280149.64 -19280149.57 0.1700 0.1533

Saturn -57499-01-25 12:42 J -19280062.15 -19280061.97 -19280061.79 0.0268 0.0071

Saturn -57499-04-24 08:52 J -19279973.25 -19279973.13 -19279973.00 0.0267 0.0195

Jupiter -57498-10-06 16:18 J -19279443.00 -19279442.82 -19279442.63 0.0495 0.0012

Moon -57498-12-29 05:59 J -19279359.37 -19279359.25 -19279359.13 0.2660 0.1597

Earth -57498-12-29 06:57 J -19279359.33 -19279359.21 -19279359.09 0.2656 0.1650 *

Earth -57494-07-04 09:21 J -19278076.20 -19278076.11 -19278076.01 0.2678 0.1266

Moon -57494-07-04 09:35 J -19278076.19 -19278076.10 -19278076.00 0.2671 0.1311 *

Jupiter -57492-06-08 09:06 J -19277371.21 -19277371.12 -19277371.04 0.0532 0.0402

Jupiter -57492-09-05 16:18 J -19277281.94 -19277281.82 -19277281.70 0.0531 0.0168

Mars -57491-05-24 19:54 J -19277020.79 -19277020.67 -19277020.55 0.1828 0.0402

Mars -57490-03-21 21:35 J -19276719.75 -19276719.60 -19276719.45 0.1708 0.0467

Earth -57487-06-27 07:11 J -19275526.29 -19275526.20 -19275526.11 0.2672 0.1493

Moon -57487-06-27 07:25 J -19275526.28 -19275526.19 -19275526.09 0.2678 0.1530 *

Uranus -57487-06-30 02:37 J -19275523.44 -19275523.39 -19275523.32 0.0132 0.0118

Uranus -57487-09-26 05:45 J -19275435.34 -19275435.26 -19275435.17 0.0132 0.0101

Uranus -57487-12-23 08:52 J -19275347.23 -19275347.13 -19275347.03 0.0132 0.0083

Uranus -57486-03-21 11:45 J -19275259.12 -19275259.01 -19275258.89 0.0132 0.0067

Uranus -57486-06-17 14:52 J -19275171.00 -19275170.88 -19275170.76 0.0132 0.0049

Jupiter -57486-07-25 14:37 J -19275133.07 -19275132.89 -19275132.72 0.0495 0.0155

Neptune -57486-09-10 06:13 J -19275086.24 -19275086.24 -19275086.21 0.0089 0.0088

Uranus -57486-09-13 17:45 J -19275082.88 -19275082.76 -19275082.63 0.0132 0.0032

Neptune -57486-12-07 07:54 J -19274998.21 -19274998.17 -19274998.11 0.0089 0.0082

Uranus -57486-12-10 20:52 J -19274994.76 -19274994.63 -19274994.50 0.0132 0.0015

Neptune -57485-03-04 09:21 J -19274910.17 -19274910.11 -19274910.03 0.0089 0.0076

Uranus -57485-03-07 23:45 J -19274906.64 -19274906.51 -19274906.38 0.0132 0.0003

Neptune -57485-05-31 11:01 J -19274822.12 -19274822.04 -19274821.95 0.0089 0.0070

Uranus -57485-06-04 02:37 J -19274818.52 -19274818.39 -19274818.25 0.0132 0.0020

Neptune -57485-08-27 12:42 J -19274734.07 -19274733.97 -19274733.88 0.0089 0.0064

Uranus -57485-08-31 05:45 J -19274730.39 -19274730.26 -19274730.13 0.0132 0.0037

Neptune -57485-11-23 13:54 J -19274646.01 -19274645.92 -19274645.81 0.0089 0.0058

Uranus -57485-11-27 08:37 J -19274642.26 -19274642.14 -19274642.02 0.0133 0.0054

Neptune -57484-02-19 15:21 J -19274557.96 -19274557.86 -19274557.74 0.0089 0.0053

Uranus -57484-02-23 11:30 J -19274554.13 -19274554.02 -19274553.90 0.0133 0.0071

Saturn -57484-05-18 09:35 J -19274470.20 -19274470.10 -19274469.99 0.0292 0.0186

Neptune -57484-05-18 16:47 J -19274469.91 -19274469.80 -19274469.67 0.0089 0.0047

Uranus -57484-05-22 14:23 J -19274465.99 -19274465.90 -19274465.80 0.0133 0.0088

Neptune -57484-08-14 18:28 J -19274381.85 -19274381.73 -19274381.61 0.0089 0.0041

Saturn -57484-08-14 22:33 J -19274381.69 -19274381.56 -19274381.43 0.0293 0.0069 *

Uranus -57484-08-18 17:16 J -19274377.85 -19274377.78 -19274377.69 0.0133 0.0105

Neptune -57484-11-10 19:54 J -19274293.79 -19274293.67 -19274293.54 0.0089 0.0035

Saturn -57484-11-11 11:16 J -19274293.16 -19274293.03 -19274292.90 0.0293 0.0049

Uranus -57484-11-14 20:23 J -19274289.70 -19274289.65 -19274289.60 0.0133 0.0122

Neptune -57483-02-06 21:21 J -19274205.73 -19274205.61 -19274205.47 0.0089 0.0029

Saturn -57483-02-07 23:59 J -19274204.61 -19274204.50 -19274204.39 0.0294 0.0166

Neptune -57483-05-05 22:47 J -19274117.68 -19274117.55 -19274117.41 0.0089 0.0024

Saturn -57483-05-07 12:42 J -19274116.01 -19274115.97 -19274115.94 0.0295 0.0282

Neptune -57483-08-02 00:13 J -19274029.62 -19274029.49 -19274029.35 0.0089 0.0018

Neptune -57483-10-29 01:54 J -19273941.56 -19273941.42 -19273941.29 0.0089 0.0012

Neptune -57482-01-25 03:21 J -19273853.50 -19273853.36 -19273853.22 0.0089 0.0006

Neptune -57482-04-23 04:47 J -19273765.44 -19273765.30 -19273765.16 0.0089 0.0000

Neptune -57482-07-20 06:13 J -19273677.38 -19273677.24 -19273677.10 0.0089 0.0006

Mars -57482-10-15 04:18 J -19273590.41 -19273590.32 -19273590.23 0.1819 0.1240

Neptune -57482-10-16 07:40 J -19273589.32 -19273589.18 -19273589.05 0.0089 0.0011

Neptune -57481-01-12 09:06 J -19273501.25 -19273501.12 -19273500.99 0.0089 0.0017

Neptune -57481-04-09 10:33 J -19273413.19 -19273413.06 -19273412.93 0.0089 0.0023

Moon -57481-07-06 03:21 J -19273325.42 -19273325.36 -19273325.29 0.2674 0.2144

Earth -57481-07-06 03:35 J -19273325.41 -19273325.35 -19273325.29 0.2680 0.2222 *

Neptune -57481-07-06 11:45 J -19273325.13 -19273325.01 -19273324.87 0.0089 0.0029

Mars -57481-08-10 22:18 J -19273289.71 -19273289.57 -19273289.42 0.1716 0.0616

Neptune -57481-10-02 13:11 J -19273237.07 -19273236.95 -19273236.82 0.0089 0.0035

Neptune -57481-12-29 14:52 J -19273149.00 -19273148.88 -19273148.76 0.0089 0.0040

Neptune -57480-03-27 16:04 J -19273060.94 -19273060.83 -19273060.71 0.0089 0.0046

Neptune -57480-06-23 17:30 J -19272972.87 -19272972.77 -19272972.65 0.0089 0.0051

Jupiter -57480-06-24 20:23 J -19272971.78 -19272971.65 -19272971.52 0.0532 0.0030

Neptune -57480-09-19 18:57 J -19272884.81 -19272884.71 -19272884.60 0.0089 0.0057

Neptune -57480-12-16 20:09 J -19272796.74 -19272796.66 -19272796.55 0.0089 0.0063

Neptune -57479-03-14 21:35 J -19272708.67 -19272708.60 -19272708.50 0.0089 0.0069

Neptune -57479-06-10 23:01 J -19272620.60 -19272620.54 -19272620.46 0.0089 0.0074

Neptune -57479-09-07 00:28 J -19272532.53 -19272532.48 -19272532.41 0.0089 0.0080

Neptune -57479-12-04 01:54 J -19272444.45 -19272444.42 -19272444.38 0.0089 0.0085

Moon -57478-12-24 01:40 J -19272059.54 -19272059.43 -19272059.32 0.2658 0.1799

Earth -57478-12-24 03:06 J -19272059.49 -19272059.37 -19272059.25 0.2660 0.1594 *

Venus -57477-06-30 06:13 J -19271870.38 -19271870.24 -19271870.10 0.3581 0.1883

Venus -57474-04-09 05:16 J -19270857.37 -19270857.28 -19270857.20 0.3796 0.2180

Jupiter -57474-05-13 11:59 J -19270823.14 -19270823.00 -19270822.86 0.0494 0.0323

Earth -57474-06-30 01:40 J -19270775.54 -19270775.43 -19270775.32 0.2674 0.0502

Moon -57474-06-30 02:23 J -19270775.51 -19270775.40 -19270775.29 0.2675 0.0375 *

Jupiter -57474-08-11 19:11 J -19270732.83 -19270732.70 -19270732.57 0.0495 0.0345

Mars -57472-12-31 23:30 J -19269859.55 -19269859.52 -19269859.48 0.1724 0.1679

Saturn -57471-12-18 19:54 J -19269507.78 -19269507.67 -19269507.56 0.0270 0.0213

Mars -57470-02-10 03:06 J -19269454.45 -19269454.37 -19269454.30 0.1846 0.1403

Saturn -57470-03-17 15:49 J -19269419.01 -19269418.84 -19269418.66 0.0270 0.0090

Saturn -57470-06-14 11:59 J -19269330.18 -19269330.00 -19269329.82 0.0269 0.0035

Saturn -57470-09-11 08:23 J -19269241.30 -19269241.15 -19269241.00 0.0268 0.0159

Venus -57469-10-22 21:06 J -19268833.72 -19268833.62 -19268833.52 0.3799 0.0222

Jupiter -57468-04-13 00:28 J -19268661.61 -19268661.48 -19268661.36 0.0532 0.0109

Jupiter -57468-07-11 07:25 J -19268572.26 -19268572.19 -19268572.13 0.0532 0.0455

Moon -57465-12-26 06:28 J -19267308.38 -19267308.23 -19267308.08 0.2660 0.0159

Earth -57465-12-26 08:09 J -19267308.31 -19267308.16 -19267308.01 0.2658 0.0174 *

Venus -57463-05-08 12:42 J -19266810.05 -19266809.97 -19266809.88 0.3802 0.1811

Jupiter -57462-03-01 10:18 J -19266513.10 -19266513.07 -19266513.03 0.0494 0.0480

Jupiter -57462-05-30 17:16 J -19266422.95 -19266422.78 -19266422.61 0.0494 0.0181

Earth -57461-07-01 20:09 J -19266024.78 -19266024.66 -19266024.55 0.2676 0.0490

Moon -57461-07-01 20:37 J -19266024.75 -19266024.64 -19266024.53 0.2673 0.0533 *

Mars -57461-07-02 11:30 J -19266024.13 -19266024.02 -19266023.91 0.1837 0.0548

Mars -57460-04-29 21:21 J -19265722.63 -19265722.61 -19265722.58 0.1699 0.1678

Venus -57458-11-22 04:47 J -19264786.30 -19264786.30 -19264786.30 0.3804 0.3801

Jupiter -57456-01-30 04:33 J -19264351.42 -19264351.31 -19264351.19 0.0532 0.0244

Jupiter -57456-04-29 11:45 J -19264262.11 -19264262.01 -19264261.91 0.0532 0.0324

Saturn -57455-10-05 10:33 J -19263738.14 -19263738.06 -19263737.97 0.0291 0.0228

Saturn -57454-01-01 23:30 J -19263649.64 -19263649.52 -19263649.40 0.0292 0.0112

Saturn -57454-03-31 12:13 J -19263561.12 -19263560.99 -19263560.85 0.0292 0.0006

Earth -57454-06-25 17:30 J -19263474.83 -19263474.77 -19263474.72 0.2670 0.2305

Moon -57454-06-25 17:30 J -19263474.82 -19263474.77 -19263474.72 0.2677 0.2370 *

Saturn -57454-06-28 00:57 J -19263472.58 -19263472.46 -19263472.34 0.0293 0.0121

Saturn -57454-09-24 13:40 J -19263384.01 -19263383.93 -19263383.86 0.0294 0.0238

Mars -57452-11-22 19:54 J -19262593.78 -19262593.67 -19262593.55 0.1829 0.0298

Moon -57452-12-29 12:42 J -19262557.08 -19262556.97 -19262556.87 0.2661 0.1865

Earth -57452-12-29 13:25 J -19262557.04 -19262556.94 -19262556.84 0.2655 0.1984 *

Mars -57451-09-19 22:04 J -19262292.73 -19262292.58 -19262292.43 0.1708 0.0597

Jupiter -57450-03-18 15:06 J -19262113.05 -19262112.87 -19262112.69 0.0494 0.0018

Moon -57448-07-04 14:37 J -19261273.99 -19261273.89 -19261273.80 0.2671 0.1447

Earth -57448-07-04 14:23 J -19261273.99 -19261273.90 -19261273.81 0.2678 0.1446 *

Uranus -57446-07-18 09:35 J -19260530.13 -19260530.10 -19260530.06 0.0147 0.0144

Uranus -57446-10-14 17:59 J -19260441.87 -19260441.75 -19260441.62 0.0147 0.0111

Uranus -57445-01-11 02:23 J -19260353.55 -19260353.40 -19260353.23 0.0147 0.0078

Uranus -57445-04-08 11:16 J -19260265.22 -19260265.03 -19260264.85 0.0147 0.0044

Uranus -57445-07-05 19:40 J -19260176.87 -19260176.68 -19260176.49 0.0146 0.0011

Uranus -57445-10-02 04:18 J -19260088.51 -19260088.32 -19260088.13 0.0146 0.0023

Jupiter -57445-11-18 08:37 J -19260041.23 -19260041.14 -19260041.05 0.0532 0.0383

Uranus -57445-12-29 12:42 J -19260000.14 -19259999.97 -19259999.78 0.0146 0.0058

Jupiter -57444-02-15 15:49 J -19259951.96 -19259951.84 -19259951.72 0.0532 0.0187

Uranus -57444-03-27 21:21 J -19259911.75 -19259911.61 -19259911.45 0.0146 0.0091

Uranus -57444-06-24 06:13 J -19259823.34 -19259823.24 -19259823.14 0.0146 0.0125

Mars -57442-04-15 04:18 J -19259163.41 -19259163.32 -19259163.23 0.1820 0.1144

Mars -57441-02-09 23:01 J -19258862.69 -19258862.54 -19258862.39 0.1716 0.0475

Saturn -57441-05-06 16:47 J -19258775.82 -19258775.80 -19258775.75 0.0271 0.0265

Earth -57441-06-27 11:59 J -19258724.09 -19258724.00 -19258723.90 0.2672 0.1308

Moon -57441-06-27 12:28 J -19258724.08 -19258723.98 -19258723.88 0.2677 0.1205 *

Saturn -57441-08-03 12:57 J -19258687.11 -19258686.96 -19258686.80 0.0270 0.0141

Saturn -57441-10-31 09:06 J -19258598.30 -19258598.12 -19258597.94 0.0269 0.0017

Saturn -57440-01-28 05:16 J -19258509.45 -19258509.28 -19258509.11 0.0268 0.0107

Saturn -57440-04-27 01:40 J -19258420.52 -19258420.43 -19258420.34 0.0267 0.0232

Jupiter -57438-01-04 13:25 J -19257803.12 -19257802.94 -19257802.77 0.0494 0.0143

Moon -57435-07-07 08:09 J -19256523.21 -19256523.16 -19256523.11 0.2675 0.2392

Earth -57435-07-07 08:37 J -19256523.19 -19256523.14 -19256523.10 0.2680 0.2402 *

Jupiter -57433-09-06 11:59 J -19255731.00 -19255731.00 -19255731.00 0.0532 0.0531

Jupiter -57433-12-04 19:25 J -19255641.81 -19255641.69 -19255641.56 0.0532 0.0045

Mars -57432-07-01 23:59 J -19255432.57 -19255432.50 -19255432.44 0.1724 0.1557

Moon -57432-12-24 07:54 J -19255257.30 -19255257.17 -19255257.04 0.2659 0.1337

Earth -57432-12-24 09:21 J -19255257.24 -19255257.11 -19255256.97 0.2660 0.1280 *

Mars -57431-08-11 03:06 J -19255027.44 -19255027.37 -19255027.31 0.1846 0.1503

Earth -57428-06-30 06:28 J -19253973.34 -19253973.23 -19253973.11 0.2674 0.0330

Moon -57428-06-30 07:25 J -19253973.30 -19253973.19 -19253973.08 0.2676 0.0299 *

Jupiter -57427-10-23 11:30 J -19253493.16 -19253493.02 -19253492.87 0.0494 0.0303

Jupiter -57426-01-21 18:57 J -19253402.83 -19253402.71 -19253402.59 0.0495 0.0367

Saturn -57425-02-22 11:45 J -19253006.05 -19253006.01 -19253005.95 0.0291 0.0268

Saturn -57425-05-21 00:42 J -19252917.58 -19252917.47 -19252917.35 0.0291 0.0151

Saturn -57425-08-17 13:40 J -19252829.07 -19252828.93 -19252828.80 0.0292 0.0035

Saturn -57425-11-14 02:23 J -19252740.53 -19252740.40 -19252740.27 0.0293 0.0082

Saturn -57424-02-10 14:52 J -19252651.97 -19252651.88 -19252651.78 0.0294 0.0199

Venus -57423-04-30 10:47 J -19252208.09 -19252208.05 -19252208.01 0.3794 0.3449

Mars -57421-01-01 11:30 J -19251597.13 -19251597.02 -19251596.91 0.1837 0.0651

Jupiter -57421-09-22 23:30 J -19251331.65 -19251331.52 -19251331.40 0.0532 0.0098

Jupiter -57421-12-21 06:28 J -19251242.29 -19251242.23 -19251242.17 0.0531 0.0464

Venus -57420-02-04 08:37 J -19251197.30 -19251197.14 -19251196.98 0.3580 0.0092

Moon -57419-12-27 12:57 J -19250506.11 -19250505.96 -19250505.81 0.2660 0.0269

Earth -57419-12-27 14:23 J -19250506.05 -19250505.90 -19250505.75 0.2657 0.0496 *

Venus -57418-11-14 02:37 J -19250184.48 -19250184.39 -19250184.30 0.3797 0.1454

Earth -57415-07-03 00:57 J -19249222.57 -19249222.46 -19249222.35 0.2676 0.0666

Moon -57415-07-03 01:25 J -19249222.54 -19249222.44 -19249222.33 0.2672 0.0758 *

Jupiter -57415-08-11 09:21 J -19249183.17 -19249183.11 -19249183.05 0.0494 0.0466

Jupiter -57415-11-09 16:04 J -19249092.99 -19249092.83 -19249092.66 0.0494 0.0195

Mars -57412-05-23 19:54 J -19248166.79 -19248166.67 -19248166.55 0.1828 0.0210

Venus -57412-05-29 18:28 J -19248160.83 -19248160.73 -19248160.63 0.3800 0.0529

Saturn -57412-12-21 12:28 J -19247955.11 -19247954.98 -19247954.84 0.0270 0.0177

Saturn -57411-03-20 08:37 J -19247866.32 -19247866.14 -19247865.96 0.0270 0.0053

Mars -57411-03-20 22:47 J -19247865.69 -19247865.55 -19247865.40 0.1708 0.0745

Saturn -57411-06-17 04:47 J -19247777.47 -19247777.30 -19247777.12 0.0269 0.0072

Saturn -57411-09-14 01:11 J -19247688.57 -19247688.45 -19247688.32 0.0268 0.0196

Jupiter -57409-07-12 03:21 J -19247021.48 -19247021.36 -19247021.25 0.0533 0.0240

Jupiter -57409-10-09 10:18 J -19246932.16 -19246932.07 -19246931.96 0.0532 0.0329

Moon -57408-06-25 22:33 J -19246672.63 -19246672.56 -19246672.49 0.2678 0.2080

Earth -57408-06-25 22:33 J -19246672.63 -19246672.56 -19246672.50 0.2671 0.2114 *

Venus -57407-12-13 10:18 J -19246137.14 -19246137.07 -19246137.00 0.3802 0.2528

Moon -57406-12-30 19:11 J -19245754.76 -19245754.70 -19245754.63 0.2662 0.2372

Earth -57406-12-30 19:54 J -19245754.75 -19245754.67 -19245754.60 0.2655 0.2315 *

Uranus -57403-04-23 07:25 J -19244910.21 -19244910.19 -19244910.15 0.0132 0.0128

Neptune -57403-05-27 01:11 J -19244876.46 -19244876.45 -19244876.40 0.0089 0.0088

Uranus -57403-07-20 10:33 J -19244822.13 -19244822.06 -19244821.98 0.0132 0.0111

Neptune -57403-08-23 04:33 J -19244788.37 -19244788.31 -19244788.22 0.0089 0.0080

Jupiter -57403-08-28 14:09 J -19244783.09 -19244782.91 -19244782.73 0.0494 0.0032

Mars -57403-10-14 04:18 J -19244736.41 -19244736.32 -19244736.22 0.1820 0.1041

Uranus -57403-10-16 13:25 J -19244734.02 -19244733.94 -19244733.84 0.0132 0.0094

Neptune -57403-11-19 07:54 J -19244700.27 -19244700.17 -19244700.06 0.0089 0.0072

Uranus -57402-01-12 16:33 J -19244645.91 -19244645.81 -19244645.70 0.0132 0.0077

Neptune -57402-02-15 10:47 J -19244612.16 -19244612.05 -19244611.91 0.0089 0.0065

Uranus -57402-04-10 19:40 J -19244557.80 -19244557.68 -19244557.56 0.0132 0.0059

Neptune -57402-05-14 14:09 J -19244524.04 -19244523.91 -19244523.76 0.0089 0.0057

Earth -57402-07-05 19:11 J -19244471.79 -19244471.70 -19244471.61 0.2678 0.1631

Moon -57402-07-05 19:25 J -19244471.78 -19244471.69 -19244471.60 0.2672 0.1641 *

Uranus -57402-07-07 22:33 J -19244469.68 -19244469.56 -19244469.43 0.0132 0.0042

Neptune -57402-08-10 17:45 J -19244435.92 -19244435.76 -19244435.61 0.0089 0.0049

Mars -57402-08-10 23:30 J -19244435.67 -19244435.52 -19244435.36 0.1715 0.0342 *

Uranus -57402-10-04 01:40 J -19244381.56 -19244381.43 -19244381.30 0.0132 0.0025

Neptune -57402-11-06 20:37 J -19244347.79 -19244347.64 -19244347.47 0.0089 0.0042

Uranus -57402-12-31 04:33 J -19244293.44 -19244293.31 -19244293.17 0.0132 0.0008

Neptune -57401-02-02 23:59 J -19244259.67 -19244259.50 -19244259.32 0.0089 0.0034

Uranus -57401-03-28 07:40 J -19244205.32 -19244205.18 -19244205.05 0.0132 0.0010

Neptune -57401-05-01 03:21 J -19244171.54 -19244171.36 -19244171.18 0.0089 0.0026

Uranus -57401-06-24 10:33 J -19244117.19 -19244117.06 -19244116.93 0.0132 0.0026

Neptune -57401-07-28 06:28 J -19244083.41 -19244083.23 -19244083.04 0.0089 0.0018

Uranus -57401-09-20 13:25 J -19244029.06 -19244028.94 -19244028.81 0.0133 0.0044

Neptune -57401-10-24 09:49 J -19243995.27 -19243995.09 -19243994.90 0.0089 0.0010

Uranus -57401-12-17 16:18 J -19243940.93 -19243940.82 -19243940.70 0.0133 0.0061

Neptune -57400-01-20 13:11 J -19243907.14 -19243906.95 -19243906.76 0.0089 0.0002

Uranus -57400-03-15 19:25 J -19243852.80 -19243852.69 -19243852.58 0.0133 0.0078

Neptune -57400-04-18 16:33 J -19243819.00 -19243818.81 -19243818.63 0.0089 0.0006

Uranus -57400-06-11 22:18 J -19243764.66 -19243764.57 -19243764.48 0.0133 0.0095

Neptune -57400-07-15 19:40 J -19243730.86 -19243730.68 -19243730.49 0.0089 0.0013

Uranus -57400-09-08 01:11 J -19243676.51 -19243676.45 -19243676.38 0.0133 0.0112

Neptune -57400-10-11 22:47 J -19243642.72 -19243642.55 -19243642.36 0.0089 0.0022

Uranus -57400-12-05 04:04 J -19243588.35 -19243588.33 -19243588.30 0.0133 0.0129

Neptune -57399-01-08 02:09 J -19243554.58 -19243554.41 -19243554.22 0.0089 0.0029

Neptune -57399-04-06 05:45 J -19243466.43 -19243466.26 -19243466.09 0.0089 0.0037

Neptune -57399-07-03 08:52 J -19243378.29 -19243378.13 -19243377.96 0.0089 0.0045

Neptune -57399-09-29 12:13 J -19243290.14 -19243289.99 -19243289.83 0.0089 0.0053

Neptune -57399-12-26 15:35 J -19243201.98 -19243201.85 -19243201.71 0.0089 0.0061

Neptune -57398-03-24 18:57 J -19243113.82 -19243113.71 -19243113.59 0.0089 0.0069

Neptune -57398-06-20 22:18 J -19243025.66 -19243025.57 -19243025.47 0.0089 0.0077

Neptune -57398-09-17 01:25 J -19242937.48 -19242937.44 -19242937.37 0.0089 0.0085

Jupiter -57397-04-30 07:25 J -19242711.28 -19242711.19 -19242711.10 0.0533 0.0377

Jupiter -57397-07-28 14:37 J -19242622.00 -19242621.89 -19242621.77 0.0532 0.0196

Pluto -57396-02-16 17:01 J -19242418.83 -19242418.79 -19242418.74 0.0061 0.0059

Pluto -57396-05-15 17:45 J -19242330.82 -19242330.76 -19242330.66 0.0061 0.0055

Pluto -57396-08-11 19:11 J -19242242.79 -19242242.70 -19242242.59 0.0061 0.0050

Saturn -57396-10-08 02:09 J -19242185.51 -19242185.41 -19242185.31 0.0290 0.0191

Pluto -57396-11-07 19:54 J -19242154.77 -19242154.67 -19242154.53 0.0061 0.0046

Saturn -57395-01-04 14:52 J -19242097.01 -19242096.88 -19242096.75 0.0291 0.0075

Pluto -57395-02-03 21:06 J -19242066.73 -19242066.62 -19242066.47 0.0061 0.0041

Saturn -57395-04-03 03:35 J -19242008.48 -19242008.35 -19242008.21 0.0292 0.0042

Pluto -57395-05-02 22:33 J -19241978.70 -19241978.56 -19241978.42 0.0062 0.0036

Earth -57395-06-28 17:01 J -19241921.89 -19241921.79 -19241921.69 0.2673 0.1109

Moon -57395-06-28 17:45 J -19241921.87 -19241921.76 -19241921.66 0.2677 0.1114 *

Saturn -57395-06-30 16:18 J -19241919.93 -19241919.82 -19241919.71 0.0293 0.0158

Pluto -57395-07-29 23:16 J -19241890.66 -19241890.53 -19241890.36 0.0062 0.0032

Saturn -57395-09-27 04:47 J -19241831.34 -19241831.30 -19241831.25 0.0294 0.0274

Pluto -57395-10-26 00:42 J -19241802.62 -19241802.47 -19241802.31 0.0062 0.0027

Pluto -57394-01-22 01:54 J -19241714.58 -19241714.42 -19241714.25 0.0062 0.0022

Pluto -57394-04-20 02:52 J -19241626.54 -19241626.38 -19241626.20 0.0062 0.0018

Pluto -57394-07-17 04:04 J -19241538.49 -19241538.33 -19241538.15 0.0062 0.0013

Pluto -57394-10-13 05:16 J -19241450.45 -19241450.28 -19241450.10 0.0062 0.0008

Pluto -57393-01-09 06:28 J -19241362.40 -19241362.23 -19241362.05 0.0062 0.0003

Pluto -57393-04-06 07:40 J -19241274.35 -19241274.18 -19241274.00 0.0062 0.0002

Pluto -57393-07-03 08:52 J -19241186.30 -19241186.13 -19241185.95 0.0062 0.0006

Pluto -57393-09-29 10:04 J -19241098.25 -19241098.08 -19241097.91 0.0062 0.0011

Pluto -57393-12-26 11:01 J -19241010.20 -19241010.04 -19241009.86 0.0062 0.0017

Mars -57393-12-31 00:28 J -19241005.57 -19241005.48 -19241005.39 0.1724 0.1423

Pluto -57392-03-24 12:13 J -19240922.15 -19240921.99 -19240921.81 0.0062 0.0021

Pluto -57392-06-20 13:25 J -19240834.09 -19240833.94 -19240833.77 0.0062 0.0026

Pluto -57392-09-16 14:23 J -19240746.03 -19240745.90 -19240745.73 0.0063 0.0032

Pluto -57392-12-13 15:35 J -19240657.97 -19240657.85 -19240657.68 0.0063 0.0037

Mars -57391-02-09 03:06 J -19240600.42 -19240600.37 -19240600.31 0.1846 0.1605

Pluto -57391-03-11 16:47 J -19240569.91 -19240569.80 -19240569.64 0.0063 0.0042

Pluto -57391-06-07 17:59 J -19240481.84 -19240481.75 -19240481.61 0.0063 0.0047

Jupiter -57391-06-16 11:59 J -19240473.17 -19240473.00 -19240472.82 0.0494 0.0133

Pluto -57391-09-03 19:25 J -19240393.77 -19240393.69 -19240393.57 0.0063 0.0052

Pluto -57391-11-30 20:37 J -19240305.69 -19240305.64 -19240305.54 0.0063 0.0057

Pluto -57390-02-26 21:49 J -19240217.60 -19240217.59 -19240217.54 0.0063 0.0062

Moon -57389-07-07 12:57 J -19239721.00 -19239720.96 -19239720.92 0.2675 0.2507

Earth -57389-07-07 13:25 J -19239720.97 -19239720.94 -19239720.91 0.2680 0.2579 *

Moon -57386-12-25 14:09 J -19238455.04 -19238454.91 -19238454.77 0.2660 0.1140

Earth -57386-12-25 15:49 J -19238454.98 -19238454.84 -19238454.70 0.2659 0.0956 *

Jupiter -57385-02-17 11:16 J -19238401.06 -19238401.03 -19238401.00 0.0533 0.0517

Jupiter -57385-05-16 18:57 J -19238311.84 -19238311.71 -19238311.59 0.0532 0.0061

Saturn -57382-05-10 09:49 J -19237223.18 -19237223.09 -19237222.99 0.0271 0.0227

Earth -57382-07-01 11:30 J -19237171.13 -19237171.02 -19237170.91 0.2675 0.0127

Moon -57382-07-01 12:13 J -19237171.10 -19237170.99 -19237170.88 0.2675 0.0012 *

Mars -57382-07-02 11:30 J -19237170.13 -19237170.02 -19237169.91 0.1837 0.0749

Saturn -57382-08-07 05:59 J -19237134.42 -19237134.25 -19237134.09 0.0270 0.0103

Saturn -57382-11-04 02:09 J -19237045.59 -19237045.41 -19237045.23 0.0269 0.0022

Saturn -57381-01-31 22:18 J -19236956.72 -19236956.57 -19236956.41 0.0268 0.0146

Jupiter -57379-04-04 10:04 J -19236163.22 -19236163.08 -19236162.93 0.0494 0.0293

Jupiter -57379-07-03 17:30 J -19236072.88 -19236072.77 -19236072.65 0.0495 0.0377

Jupiter -57373-03-04 22:33 J -19234001.69 -19234001.56 -19234001.44 0.0532 0.0089

Jupiter -57373-06-02 05:16 J -19233912.33 -19233912.28 -19233912.22 0.0531 0.0474

Mars -57373-11-21 19:54 J -19233739.79 -19233739.67 -19233739.55 0.1829 0.0109

Moon -57373-12-27 19:25 J -19233703.83 -19233703.69 -19233703.54 0.2660 0.0809

Earth -57373-12-27 20:52 J -19233703.78 -19233703.63 -19233703.49 0.2657 0.0821 *

Mars -57372-09-18 23:16 J -19233438.67 -19233438.53 -19233438.39 0.1707 0.0869

Earth -57369-07-03 05:59 J -19232420.36 -19232420.25 -19232420.15 0.2677 0.0860

Moon -57369-07-03 06:28 J -19232420.34 -19232420.23 -19232420.13 0.2671 0.0848 *

Jupiter -57367-01-21 08:23 J -19231853.22 -19231853.15 -19231853.08 0.0494 0.0452

Jupiter -57367-04-21 15:21 J -19231763.02 -19231762.86 -19231762.69 0.0495 0.0212

Venus -57367-12-05 08:09 J -19231535.22 -19231535.16 -19231535.09 0.3795 0.2730

Saturn -57366-02-25 03:35 J -19231453.43 -19231453.35 -19231453.26 0.0291 0.0227

Saturn -57366-05-24 16:33 J -19231364.94 -19231364.81 -19231364.69 0.0292 0.0111

Saturn -57366-08-21 05:16 J -19231276.41 -19231276.28 -19231276.15 0.0292 0.0005

Saturn -57366-11-17 17:59 J -19231187.87 -19231187.75 -19231187.63 0.0293 0.0122

Saturn -57365-02-14 06:28 J -19231099.30 -19231099.23 -19231099.15 0.0294 0.0238

Venus -57364-09-11 10:47 J -19230524.18 -19230524.05 -19230523.91 0.3579 0.1993

Mars -57363-04-14 04:18 J -19230309.42 -19230309.32 -19230309.21 0.1820 0.0943

Mars -57362-02-08 23:59 J -19230008.66 -19230008.50 -19230008.34 0.1716 0.0213

Earth -57362-06-27 03:21 J -19229870.44 -19229870.36 -19229870.28 0.2671 0.1918

Moon -57362-06-27 03:21 J -19229870.43 -19229870.36 -19229870.28 0.2678 0.1948 *

Uranus -57362-08-07 17:30 J -19229828.83 -19229828.77 -19229828.68 0.0147 0.0134

Uranus -57362-11-04 02:23 J -19229740.54 -19229740.40 -19229740.26 0.0147 0.0100

Jupiter -57362-12-23 02:09 J -19229691.52 -19229691.41 -19229691.29 0.0532 0.0231

Uranus -57361-01-31 10:47 J -19229652.21 -19229652.05 -19229651.88 0.0147 0.0067

Jupiter -57361-03-21 09:21 J -19229602.21 -19229602.11 -19229602.01 0.0531 0.0336

Uranus -57361-04-28 19:11 J -19229563.88 -19229563.70 -19229563.50 0.0147 0.0034

Venus -57361-06-19 23:59 J -19229511.59 -19229511.50 -19229511.40 0.3798 0.0753

Uranus -57361-07-26 04:04 J -19229475.53 -19229475.33 -19229475.14 0.0146 0.0003

Uranus -57361-10-22 12:28 J -19229387.16 -19229386.98 -19229386.79 0.0146 0.0034

Uranus -57360-01-18 20:52 J -19229298.79 -19229298.63 -19229298.45 0.0146 0.0069

Uranus -57360-04-17 05:45 J -19229210.39 -19229210.26 -19229210.12 0.0146 0.0102

Uranus -57360-07-14 14:23 J -19229121.97 -19229121.90 -19229121.83 0.0146 0.0135

Moon -57360-12-31 01:40 J -19228952.47 -19228952.43 -19228952.38 0.2662 0.2518

Earth -57360-12-31 02:09 J -19228952.42 -19228952.41 -19228952.40 0.2655 0.2644 *

Moon -57356-07-06 00:13 J -19227669.57 -19227669.49 -19227669.41 0.2672 0.1830

Earth -57356-07-06 00:13 J -19227669.57 -19227669.49 -19227669.41 0.2679 0.1815 *

Venus -57355-01-03 15:49 J -19227487.93 -19227487.84 -19227487.74 0.3800 0.1266

Jupiter -57355-02-07 12:57 J -19227453.15 -19227452.96 -19227452.78 0.0494 0.0043

Mars -57354-09-04 12:42 J -19226878.99 -19226878.97 -19226878.95 0.1811 0.1777

Mars -57353-07-01 01:11 J -19226578.55 -19226578.45 -19226578.34 0.1724 0.1278

Saturn -57353-09-26 09:35 J -19226491.13 -19226491.10 -19226491.04 0.0271 0.0262

Moon -57353-12-22 16:18 J -19226403.88 -19226403.82 -19226403.76 0.2658 0.2422

Earth -57353-12-22 17:30 J -19226403.84 -19226403.77 -19226403.70 0.2661 0.2362 *

Saturn -57353-12-24 05:45 J -19226402.41 -19226402.26 -19226402.10 0.0270 0.0137

Saturn -57352-03-23 01:54 J -19226313.60 -19226313.42 -19226313.24 0.0270 0.0013

Saturn -57352-06-19 22:18 J -19226224.74 -19226224.57 -19226224.41 0.0269 0.0112

Mars -57352-08-10 03:06 J -19226173.42 -19226173.37 -19226173.33 0.1846 0.1697

Saturn -57352-09-16 18:42 J -19226135.80 -19226135.72 -19226135.64 0.0268 0.0237

Venus -57350-07-20 07:54 J -19225464.22 -19225464.17 -19225464.13 0.3803 0.3263

Jupiter -57350-10-11 05:45 J -19225381.35 -19225381.26 -19225381.17 0.0533 0.0378

Jupiter -57349-01-08 13:11 J -19225292.07 -19225291.95 -19225291.83 0.0532 0.0196

Earth -57349-06-28 21:49 J -19225119.69 -19225119.59 -19225119.48 0.2673 0.0929

Moon -57349-06-28 22:33 J -19225119.66 -19225119.56 -19225119.45 0.2677 0.0813 *

Jupiter -57344-11-26 10:47 J -19223143.22 -19223143.05 -19223142.87 0.0494 0.0121

Mars -57343-12-31 11:30 J -19222743.12 -19222743.02 -19222742.92 0.1838 0.0843

Moon -57340-12-25 20:37 J -19221652.79 -19221652.64 -19221652.50 0.2659 0.0736

Earth -57340-12-25 22:04 J -19221652.72 -19221652.58 -19221652.43 0.2659 0.0636 *

Jupiter -57338-07-30 09:49 J -19221071.12 -19221071.09 -19221071.06 0.0533 0.0516

Jupiter -57338-10-27 17:30 J -19220981.90 -19220981.77 -19220981.65 0.0532 0.0063

Saturn -57337-07-14 05:30 J -19220721.33 -19220721.27 -19220721.21 0.0290 0.0262

Saturn -57337-10-10 18:13 J -19220632.85 -19220632.74 -19220632.62 0.0290 0.0147

Saturn -57336-01-07 07:11 J -19220544.34 -19220544.20 -19220544.07 0.0291 0.0032

Saturn -57336-04-05 19:40 J -19220455.80 -19220455.68 -19220455.55 0.0292 0.0085

Earth -57336-07-01 16:18 J -19220368.93 -19220368.82 -19220368.70 0.2675 0.0122

Moon -57336-07-01 17:01 J -19220368.90 -19220368.79 -19220368.67 0.2674 0.0130 *

Saturn -57336-07-03 08:23 J -19220367.25 -19220367.15 -19220367.05 0.0293 0.0200

Mars -57333-05-22 20:09 J -19219312.78 -19219312.66 -19219312.55 0.1829 0.0067

Mars -57332-03-19 23:45 J -19219011.64 -19219011.51 -19219011.38 0.1707 0.1005

Jupiter -57332-09-14 08:37 J -19218833.29 -19218833.14 -19218832.99 0.0494 0.0286

Jupiter -57332-12-13 15:49 J -19218742.95 -19218742.84 -19218742.72 0.0495 0.0383

Moon -57327-12-29 02:09 J -19216901.55 -19216901.41 -19216901.27 0.2662 0.0986

Earth -57327-12-29 03:06 J -19216901.50 -19216901.37 -19216901.23 0.2657 0.1149 *

Jupiter -57326-08-15 21:35 J -19216671.73 -19216671.60 -19216671.48 0.0532 0.0079

Jupiter -57326-11-13 04:18 J -19216582.36 -19216582.32 -19216582.27 0.0531 0.0486

Mars -57324-10-13 04:33 J -19215882.42 -19215882.31 -19215882.21 0.1820 0.0844

Saturn -57323-05-13 03:21 J -19215670.48 -19215670.36 -19215670.22 0.0271 0.0185

Earth -57323-07-04 10:47 J -19215618.15 -19215618.05 -19215617.95 0.2677 0.1037

Moon -57323-07-04 11:16 J -19215618.13 -19215618.03 -19215617.93 0.2671 0.1140 *

Saturn -57323-08-09 23:30 J -19215581.69 -19215581.52 -19215581.34 0.0270 0.0061

Mars -57323-08-10 00:42 J -19215581.63 -19215581.47 -19215581.31 0.1715 0.0073 *

Saturn -57323-11-06 19:54 J -19215492.85 -19215492.67 -19215492.49 0.0269 0.0064

Saturn -57322-02-03 16:18 J -19215403.95 -19215403.82 -19215403.69 0.0268 0.0189

Neptune -57321-06-06 05:01 J -19214915.30 -19214915.29 -19214915.27 0.0089 0.0088

Neptune -57321-09-02 06:42 J -19214827.27 -19214827.22 -19214827.17 0.0089 0.0082

Neptune -57321-11-29 07:54 J -19214739.23 -19214739.17 -19214739.09 0.0089 0.0076

Neptune -57320-02-25 09:21 J -19214651.18 -19214651.11 -19214651.01 0.0089 0.0071

Neptune -57320-05-24 11:01 J -19214563.13 -19214563.04 -19214562.94 0.0089 0.0065

Jupiter -57320-07-03 06:42 J -19214523.29 -19214523.22 -19214523.14 0.0494 0.0446

Neptune -57320-08-20 12:28 J -19214475.07 -19214474.98 -19214474.87 0.0089 0.0059

Jupiter -57320-10-01 13:40 J -19214433.09 -19214432.93 -19214432.77 0.0494 0.0217

Neptune -57320-11-16 14:09 J -19214387.02 -19214386.91 -19214386.80 0.0089 0.0053

Neptune -57319-02-12 15:35 J -19214298.96 -19214298.85 -19214298.73 0.0089 0.0047

Neptune -57319-05-11 16:47 J -19214210.91 -19214210.80 -19214210.66 0.0089 0.0042

Uranus -57319-05-13 15:21 J -19214208.90 -19214208.86 -19214208.80 0.0132 0.0121

Neptune -57319-08-07 18:28 J -19214122.85 -19214122.73 -19214122.60 0.0089 0.0035

Uranus -57319-08-09 18:28 J -19214120.81 -19214120.73 -19214120.65 0.0132 0.0104

Neptune -57319-11-03 19:54 J -19214034.79 -19214034.67 -19214034.53 0.0089 0.0030

Uranus -57319-11-05 21:21 J -19214032.70 -19214032.61 -19214032.50 0.0132 0.0087

Neptune -57318-01-30 21:35 J -19213946.73 -19213946.60 -19213946.47 0.0089 0.0024

Uranus -57318-02-02 00:28 J -19213944.59 -19213944.48 -19213944.36 0.0132 0.0069

Neptune -57318-04-28 23:01 J -19213858.67 -19213858.54 -19213858.41 0.0089 0.0018

Uranus -57318-05-01 03:21 J -19213856.48 -19213856.36 -19213856.23 0.0132 0.0052

Neptune -57318-07-26 00:28 J -19213770.62 -19213770.48 -19213770.34 0.0089 0.0012

Uranus -57318-07-28 06:28 J -19213768.36 -19213768.23 -19213768.10 0.0132 0.0035

Neptune -57318-10-22 01:54 J -19213682.56 -19213682.42 -19213682.28 0.0089 0.0006

Uranus -57318-10-24 09:21 J -19213680.24 -19213680.11 -19213679.97 0.0132 0.0018

Neptune -57317-01-18 03:21 J -19213594.50 -19213594.36 -19213594.22 0.0089 0.0001

Uranus -57317-01-20 12:28 J -19213592.11 -19213591.98 -19213591.85 0.0132 0.0001

Neptune -57317-04-15 04:47 J -19213506.43 -19213506.30 -19213506.16 0.0089 0.0005

Uranus -57317-04-17 15:21 J -19213503.99 -19213503.86 -19213503.73 0.0132 0.0017

Neptune -57317-07-12 06:13 J -19213418.37 -19213418.24 -19213418.10 0.0089 0.0011

Uranus -57317-07-14 18:13 J -19213415.86 -19213415.74 -19213415.60 0.0133 0.0035

Neptune -57317-10-08 07:40 J -19213330.31 -19213330.18 -19213330.04 0.0089 0.0017

Uranus -57317-10-10 21:06 J -19213327.73 -19213327.62 -19213327.49 0.0133 0.0052

Neptune -57316-01-04 09:06 J -19213242.25 -19213242.12 -19213241.99 0.0089 0.0022

Uranus -57316-01-07 00:13 J -19213239.60 -19213239.49 -19213239.37 0.0133 0.0068

Neptune -57316-04-02 10:18 J -19213154.19 -19213154.07 -19213153.93 0.0089 0.0029

Uranus -57316-04-05 03:06 J -19213151.46 -19213151.37 -19213151.26 0.0133 0.0086

Earth -57316-06-27 08:23 J -19213068.24 -19213068.15 -19213068.07 0.2671 0.1723

Moon -57316-06-27 08:37 J -19213068.23 -19213068.14 -19213068.06 0.2677 0.1704 *

Neptune -57316-06-29 11:59 J -19213066.12 -19213066.00 -19213065.87 0.0089 0.0034

Uranus -57316-07-02 05:59 J -19213063.32 -19213063.25 -19213063.16 0.0133 0.0103

Neptune -57316-09-25 13:11 J -19212978.06 -19212977.95 -19212977.82 0.0089 0.0040

Uranus -57316-09-28 08:52 J -19212975.17 -19212975.13 -19212975.06 0.0133 0.0120

Neptune -57316-12-22 14:37 J -19212890.00 -19212889.89 -19212889.76 0.0089 0.0046

Neptune -57315-03-20 16:18 J -19212801.93 -19212801.82 -19212801.71 0.0089 0.0051

Neptune -57315-06-16 17:30 J -19212713.87 -19212713.77 -19212713.66 0.0089 0.0057

Neptune -57315-09-12 18:42 J -19212625.80 -19212625.72 -19212625.61 0.0089 0.0063

Neptune -57315-12-09 20:23 J -19212537.73 -19212537.65 -19212537.56 0.0089 0.0068

Mars -57314-03-05 12:57 J -19212452.01 -19212451.96 -19212451.92 0.1811 0.1673

Neptune -57314-03-07 21:35 J -19212449.66 -19212449.60 -19212449.51 0.0089 0.0074

Neptune -57314-06-03 23:16 J -19212361.59 -19212361.53 -19212361.47 0.0089 0.0079

Jupiter -57314-06-04 00:57 J -19212361.57 -19212361.46 -19212361.34 0.0532 0.0225 *

Neptune -57314-08-31 00:28 J -19212273.51 -19212273.48 -19212273.43 0.0089 0.0085

Jupiter -57314-09-01 08:09 J -19212272.26 -19212272.16 -19212272.06 0.0531 0.0342

Mars -57314-12-31 01:25 J -19212151.55 -19212151.44 -19212151.32 0.1724 0.1159

Venus -57313-10-02 03:35 J -19211875.49 -19211875.35 -19211875.21 0.3582 0.1760

Mars -57312-02-08 03:06 J -19211746.40 -19211746.37 -19211746.35 0.1846 0.1794

Moon -57310-07-07 04:47 J -19210867.37 -19210867.30 -19210867.22 0.2673 0.1934

Earth -57310-07-07 05:01 J -19210867.36 -19210867.29 -19210867.22 0.2679 0.1995 *

Venus -57310-07-12 05:45 J -19210862.34 -19210862.26 -19210862.18 0.3795 0.2000

Jupiter -57308-07-20 11:30 J -19210123.20 -19210123.02 -19210122.84 0.0494 0.0053

Saturn -57307-02-27 19:54 J -19209900.77 -19209900.67 -19209900.56 0.0291 0.0182

Saturn -57307-05-27 08:52 J -19209812.26 -19209812.13 -19209812.00 0.0292 0.0066

Saturn -57307-08-23 21:35 J -19209723.73 -19209723.60 -19209723.47 0.0293 0.0051

Saturn -57307-11-20 10:18 J -19209635.18 -19209635.07 -19209634.96 0.0293 0.0167

Moon -57307-12-23 22:18 J -19209601.65 -19209601.57 -19209601.49 0.2659 0.2231

Earth -57307-12-23 23:45 J -19209601.60 -19209601.51 -19209601.42 0.2661 0.2048 *

Saturn -57306-02-16 22:47 J -19209546.58 -19209546.55 -19209546.51 0.0294 0.0282

Pluto -57304-01-14 20:09 J -19208848.69 -19208848.66 -19208848.61 0.0083 0.0080

Venus -57304-01-24 21:35 J -19208838.70 -19208838.60 -19208838.50 0.3798 0.0037

Pluto -57304-04-12 22:04 J -19208760.66 -19208760.58 -19208760.50 0.0083 0.0069

Pluto -57304-07-09 23:30 J -19208672.61 -19208672.52 -19208672.41 0.0083 0.0060

Pluto -57304-10-06 01:11 J -19208584.56 -19208584.45 -19208584.33 0.0083 0.0050

Pluto -57303-01-02 02:52 J -19208496.50 -19208496.38 -19208496.25 0.0083 0.0040

Pluto -57303-03-31 04:18 J -19208408.45 -19208408.32 -19208408.18 0.0082 0.0031

Pluto -57303-06-27 05:59 J -19208320.39 -19208320.25 -19208320.11 0.0082 0.0022

Earth -57303-06-30 02:52 J -19208317.49 -19208317.38 -19208317.27 0.2673 0.0729

Moon -57303-06-30 03:35 J -19208317.46 -19208317.35 -19208317.24 0.2677 0.0709 *

Mars -57303-07-01 11:30 J -19208316.12 -19208316.02 -19208315.92 0.1838 0.0949

Pluto -57303-09-23 07:40 J -19208232.32 -19208232.18 -19208232.04 0.0082 0.0012

Pluto -57303-12-20 09:06 J -19208144.26 -19208144.12 -19208143.97 0.0082 0.0004

Pluto -57302-03-18 10:47 J -19208056.20 -19208056.05 -19208055.91 0.0082 0.0006

Jupiter -57302-03-23 04:33 J -19208051.40 -19208051.31 -19208051.21 0.0532 0.0371

Pluto -57302-06-14 12:13 J -19207968.13 -19207967.99 -19207967.85 0.0082 0.0015

Jupiter -57302-06-20 11:59 J -19207962.12 -19207962.00 -19207961.88 0.0532 0.0202

Pluto -57302-09-10 13:40 J -19207880.06 -19207879.93 -19207879.79 0.0082 0.0024

Pluto -57302-12-07 15:06 J -19207791.99 -19207791.87 -19207791.73 0.0081 0.0033

Pluto -57301-03-04 16:47 J -19207703.92 -19207703.80 -19207703.68 0.0081 0.0042

Pluto -57301-05-31 18:13 J -19207615.85 -19207615.74 -19207615.63 0.0081 0.0051

Pluto -57301-08-27 19:25 J -19207527.78 -19207527.69 -19207527.58 0.0081 0.0059

Pluto -57301-11-23 20:52 J -19207439.70 -19207439.63 -19207439.54 0.0081 0.0068

Pluto -57300-02-19 22:33 J -19207351.60 -19207351.56 -19207351.52 0.0081 0.0076

Venus -57299-08-10 13:25 J -19206815.02 -19206814.94 -19206814.86 0.3801 0.1987

Jupiter -57296-05-08 09:21 J -19205813.29 -19205813.11 -19205812.94 0.0494 0.0114

Saturn -57294-09-30 03:49 J -19204938.44 -19204938.34 -19204938.23 0.0271 0.0217

Mars -57294-11-21 19:54 J -19204885.79 -19204885.67 -19204885.55 0.1829 0.0097

Moon -57294-12-27 02:52 J -19204850.52 -19204850.38 -19204850.23 0.2659 0.0460

Earth -57294-12-27 04:33 J -19204850.46 -19204850.31 -19204850.16 0.2659 0.0308 *

Saturn -57294-12-27 23:59 J -19204849.67 -19204849.50 -19204849.33 0.0270 0.0093

Saturn -57293-03-25 20:09 J -19204760.84 -19204760.66 -19204760.48 0.0270 0.0032

Saturn -57293-06-22 16:18 J -19204671.96 -19204671.82 -19204671.66 0.0269 0.0158

Mars -57293-09-18 00:28 J -19204584.60 -19204584.48 -19204584.36 0.1707 0.1148

Jupiter -57290-01-09 07:54 J -19203741.19 -19203741.17 -19203741.14 0.0533 0.0521

Jupiter -57290-04-08 15:35 J -19203651.98 -19203651.85 -19203651.72 0.0533 0.0058

Earth -57290-07-02 21:21 J -19203566.72 -19203566.61 -19203566.50 0.2675 0.0252

Moon -57290-07-02 22:04 J -19203566.69 -19203566.58 -19203566.47 0.2673 0.0376 *

Jupiter -57284-02-24 07:11 J -19201503.35 -19201503.20 -19201503.05 0.0493 0.0276

Mars -57284-04-13 04:33 J -19201455.42 -19201455.31 -19201455.21 0.1820 0.0744

Jupiter -57284-05-25 14:23 J -19201413.01 -19201412.90 -19201412.79 0.0494 0.0391

Mars -57283-02-08 01:11 J -19201154.61 -19201154.45 -19201154.29 0.1715 0.0066

Moon -57283-06-25 18:13 J -19201016.76 -19201016.74 -19201016.72 0.2676 0.2617

Earth -57283-06-25 18:42 J -19201016.76 -19201016.72 -19201016.69 0.2669 0.2538 *

Moon -57281-12-29 08:37 J -19200099.26 -19200099.14 -19200099.01 0.2662 0.1462

Earth -57281-12-29 09:35 J -19200099.22 -19200099.10 -19200098.97 0.2656 0.1480 *

Jupiter -57278-01-25 19:40 J -19199341.80 -19199341.68 -19199341.55 0.0533 0.0081

Jupiter -57278-04-25 02:37 J -19199252.43 -19199252.39 -19199252.33 0.0532 0.0485

Saturn -57278-07-17 22:33 J -19199168.65 -19199168.56 -19199168.47 0.0290 0.0212

Uranus -57278-08-28 02:09 J -19199127.50 -19199127.41 -19199127.30 0.0147 0.0122

Saturn -57278-10-14 11:16 J -19199080.15 -19199080.03 -19199079.90 0.0291 0.0097

Uranus -57278-11-24 10:47 J -19199039.20 -19199039.05 -19199038.90 0.0147 0.0088

Saturn -57277-01-10 23:59 J -19198991.63 -19198991.50 -19198991.36 0.0292 0.0020

Uranus -57277-02-20 19:11 J -19198950.87 -19198950.70 -19198950.52 0.0147 0.0055

Saturn -57277-04-08 12:42 J -19198903.09 -19198902.97 -19198902.85 0.0293 0.0135

Uranus -57277-05-19 03:49 J -19198862.53 -19198862.34 -19198862.15 0.0147 0.0021

Earth -57277-07-04 15:35 J -19198815.95 -19198815.85 -19198815.75 0.2677 0.1224

Moon -57277-07-04 16:04 J -19198815.93 -19198815.83 -19198815.73 0.2672 0.1197 *

Saturn -57277-07-06 01:11 J -19198814.52 -19198814.45 -19198814.38 0.0293 0.0250

Uranus -57277-08-15 12:28 J -19198774.17 -19198773.98 -19198773.79 0.0146 0.0013

Uranus -57277-11-11 20:52 J -19198685.80 -19198685.63 -19198685.44 0.0146 0.0047

Uranus -57276-02-08 05:30 J -19198597.42 -19198597.27 -19198597.10 0.0146 0.0080

Uranus -57276-05-07 13:54 J -19198509.02 -19198508.92 -19198508.78 0.0146 0.0114

Mars -57275-09-03 12:57 J -19198025.02 -19198024.96 -19198024.90 0.1811 0.1568

Mars -57274-07-01 02:09 J -19197724.54 -19197724.41 -19197724.28 0.1724 0.1020

Jupiter -57273-12-13 04:47 J -19197193.37 -19197193.30 -19197193.22 0.0494 0.0442

Jupiter -57272-03-13 11:30 J -19197103.18 -19197103.02 -19197102.85 0.0494 0.0221

Earth -57270-06-28 13:11 J -19196266.04 -19196265.95 -19196265.85 0.2671 0.1536

Moon -57270-06-28 13:40 J -19196266.02 -19196265.93 -19196265.84 0.2677 0.1479 *

Jupiter -57267-11-13 23:45 J -19195031.63 -19195031.51 -19195031.39 0.0533 0.0219

Jupiter -57266-02-11 06:57 J -19194942.31 -19194942.21 -19194942.12 0.0532 0.0349

Saturn -57264-02-16 02:23 J -19194206.45 -19194206.40 -19194206.35 0.0271 0.0260

Saturn -57264-05-15 22:18 J -19194117.72 -19194117.57 -19194117.41 0.0271 0.0136

Moon -57264-07-07 09:35 J -19194065.16 -19194065.10 -19194065.03 0.2673 0.2203

Earth -57264-07-07 09:49 J -19194065.15 -19194065.09 -19194065.02 0.2679 0.2179 *

Saturn -57264-08-12 18:28 J -19194028.91 -19194028.73 -19194028.55 0.0270 0.0011

Saturn -57264-11-09 14:37 J -19193940.05 -19193939.89 -19193939.72 0.0269 0.0114

Mars -57264-12-30 11:30 J -19193889.11 -19193889.02 -19193888.92 0.1838 0.1045

Saturn -57263-02-06 11:01 J -19193851.11 -19193851.04 -19193850.95 0.0268 0.0239

Moon -57261-12-24 04:33 J -19192799.42 -19192799.31 -19192799.20 0.2658 0.1775

Earth -57261-12-24 05:59 J -19192799.36 -19192799.25 -19192799.13 0.2661 0.1737 *

Jupiter -57261-12-30 09:21 J -19192793.29 -19192793.11 -19192792.92 0.0494 0.0055

Venus -57259-08-02 11:16 J -19192213.07 -19192213.03 -19192212.98 0.3793 0.3277

Earth -57257-06-30 07:54 J -19191515.28 -19191515.17 -19191515.06 0.2674 0.0548

Moon -57257-06-30 08:23 J -19191515.26 -19191515.15 -19191515.03 0.2677 0.0462 *

Venus -57256-05-09 05:59 J -19191202.41 -19191202.25 -19191202.09 0.3581 0.0176

Jupiter -57255-09-02 03:06 J -19190721.46 -19190721.37 -19190721.27 0.0532 0.0369

Jupiter -57255-11-30 10:33 J -19190632.18 -19190632.06 -19190631.94 0.0532 0.0204

Mars -57254-05-22 19:54 J -19190458.78 -19190458.67 -19190458.55 0.1829 0.0207

Venus -57253-02-16 03:21 J -19190189.46 -19190189.36 -19190189.27 0.3796 0.1289

Mars -57253-03-19 00:57 J -19190157.57 -19190157.46 -19190157.36 0.1707 0.1274

Jupiter -57249-10-18 07:25 J -19188483.37 -19188483.19 -19188483.01 0.0494 0.0110

Saturn -57249-12-04 00:28 J -19188436.55 -19188436.48 -19188436.40 0.0290 0.0244

Saturn -57248-03-02 13:25 J -19188348.06 -19188347.94 -19188347.82 0.0291 0.0128

Saturn -57248-05-30 02:09 J -19188259.54 -19188259.41 -19188259.28 0.0292 0.0013

Saturn -57248-08-26 14:52 J -19188171.01 -19188170.88 -19188170.76 0.0293 0.0103

Venus -57248-08-31 18:57 J -19188165.80 -19188165.71 -19188165.61 0.3799 0.0734

Saturn -57248-11-23 03:21 J -19188082.45 -19188082.36 -19188082.27 0.0294 0.0218

Moon -57248-12-27 09:21 J -19188048.26 -19188048.11 -19188047.96 0.2660 0.0137

Earth -57248-12-27 10:47 J -19188048.20 -19188048.05 -19188047.90 0.2658 0.0019 *

Mars -57245-10-12 04:33 J -19187028.42 -19187028.31 -19187028.20 0.1820 0.0642

Earth -57244-07-03 02:09 J -19186764.52 -19186764.41 -19186764.29 0.2676 0.0450

Moon -57244-07-03 02:52 J -19186764.49 -19186764.38 -19186764.27 0.2672 0.0464 *

Mars -57244-08-09 01:40 J -19186727.59 -19186727.43 -19186727.27 0.1715 0.0197

Jupiter -57243-06-21 06:42 J -19186411.25 -19186411.22 -19186411.19 0.0533 0.0516

Jupiter -57243-09-18 14:23 J -19186322.03 -19186321.90 -19186321.77 0.0532 0.0061

Venus -57242-03-17 11:01 J -19186142.11 -19186142.04 -19186141.98 0.3802 0.2724

Neptune -57238-02-20 22:47 J -19184705.58 -19184705.55 -19184705.52 0.0089 0.0087

Neptune -57238-05-20 01:40 J -19184617.49 -19184617.43 -19184617.34 0.0089 0.0080

Neptune -57238-08-16 05:01 J -19184529.39 -19184529.29 -19184529.18 0.0089 0.0072

Neptune -57238-11-12 07:54 J -19184441.28 -19184441.17 -19184441.02 0.0089 0.0065

Neptune -57237-02-08 11:16 J -19184353.16 -19184353.03 -19184352.88 0.0089 0.0057

Neptune -57237-05-06 14:37 J -19184265.04 -19184264.89 -19184264.73 0.0089 0.0049

Moon -57237-06-25 23:16 J -19184214.58 -19184214.53 -19184214.47 0.2676 0.2323

Earth -57237-06-25 23:30 J -19184214.57 -19184214.52 -19184214.46 0.2670 0.2345 *

Neptune -57237-08-02 17:45 J -19184176.91 -19184176.76 -19184176.59 0.0089 0.0041

Jupiter -57237-08-06 05:16 J -19184173.43 -19184173.28 -19184173.13 0.0493 0.0273

Neptune -57237-10-29 21:06 J -19184088.79 -19184088.62 -19184088.44 0.0089 0.0033

Jupiter -57237-11-04 12:28 J -19184083.09 -19184082.98 -19184082.87 0.0494 0.0395

Neptune -57236-01-26 00:13 J -19184000.66 -19184000.49 -19184000.30 0.0089 0.0026

Neptune -57236-04-24 03:35 J -19183912.53 -19183912.35 -19183912.16 0.0089 0.0018

Neptune -57236-07-21 06:57 J -19183824.39 -19183824.21 -19183824.02 0.0089 0.0010

Neptune -57236-10-17 10:18 J -19183736.26 -19183736.07 -19183735.89 0.0089 0.0002

Neptune -57235-01-13 13:25 J -19183648.12 -19183647.94 -19183647.75 0.0089 0.0006

Mars -57235-03-04 12:57 J -19183598.03 -19183597.96 -19183597.90 0.1811 0.1477

Uranus -57235-03-06 20:23 J -19183595.67 -19183595.65 -19183595.63 0.0132 0.0130

Neptune -57235-04-11 16:47 J -19183559.98 -19183559.80 -19183559.61 0.0089 0.0014

Uranus -57235-06-02 23:16 J -19183507.59 -19183507.53 -19183507.46 0.0132 0.0113

Neptune -57235-07-08 19:54 J -19183471.84 -19183471.67 -19183471.48 0.0089 0.0022

Uranus -57235-08-30 02:09 J -19183419.49 -19183419.41 -19183419.31 0.0132 0.0096

Saturn -57235-10-02 22:47 J -19183385.68 -19183385.55 -19183385.40 0.0271 0.0167

Neptune -57235-10-04 23:16 J -19183383.70 -19183383.53 -19183383.35 0.0089 0.0030

Uranus -57235-11-26 05:30 J -19183331.38 -19183331.27 -19183331.17 0.0132 0.0079

Mars -57235-12-30 02:52 J -19183297.52 -19183297.38 -19183297.25 0.1723 0.0877

Moon -57235-12-30 15:06 J -19183296.99 -19183296.87 -19183296.76 0.2662 0.1694

Earth -57235-12-30 16:04 J -19183296.94 -19183296.83 -19183296.72 0.2656 0.1810 *

Saturn -57235-12-30 18:57 J -19183296.89 -19183296.71 -19183296.53 0.0270 0.0042 *

Neptune -57234-01-01 02:23 J -19183295.55 -19183295.40 -19183295.21 0.0089 0.0038

Uranus -57234-02-22 08:23 J -19183243.27 -19183243.15 -19183243.03 0.0132 0.0061

Saturn -57234-03-29 15:21 J -19183208.03 -19183207.86 -19183207.69 0.0269 0.0083

Neptune -57234-03-30 05:45 J -19183207.41 -19183207.26 -19183207.08 0.0089 0.0046

Uranus -57234-05-21 11:16 J -19183155.15 -19183155.03 -19183154.90 0.0132 0.0045

Neptune -57234-06-26 09:06 J -19183119.26 -19183119.12 -19183118.96 0.0089 0.0054

Saturn -57234-06-26 11:45 J -19183119.12 -19183119.01 -19183118.89 0.0269 0.0209 *

Uranus -57234-08-17 14:23 J -19183067.03 -19183066.90 -19183066.77 0.0132 0.0027

Neptune -57234-09-22 12:28 J -19183031.10 -19183030.98 -19183030.83 0.0089 0.0061

Uranus -57234-11-13 17:30 J -19182978.91 -19182978.77 -19182978.64 0.0132 0.0010

Neptune -57234-12-19 15:35 J -19182942.94 -19182942.85 -19182942.71 0.0089 0.0070

Uranus -57233-02-09 20:23 J -19182890.78 -19182890.65 -19182890.52 0.0132 0.0008

Neptune -57233-03-16 18:57 J -19182854.78 -19182854.71 -19182854.60 0.0089 0.0078

Uranus -57233-05-07 23:16 J -19182802.66 -19182802.53 -19182802.40 0.0132 0.0025

Neptune -57233-06-12 22:18 J -19182766.59 -19182766.57 -19182766.50 0.0089 0.0086

Uranus -57233-08-04 02:23 J -19182714.53 -19182714.40 -19182714.28 0.0133 0.0042

Uranus -57233-10-31 05:16 J -19182626.40 -19182626.28 -19182626.16 0.0133 0.0059

Uranus -57232-01-27 08:09 J -19182538.26 -19182538.16 -19182538.05 0.0133 0.0076

Uranus -57232-04-25 11:01 J -19182450.12 -19182450.04 -19182449.94 0.0133 0.0094

Uranus -57232-07-22 13:54 J -19182361.98 -19182361.92 -19182361.84 0.0133 0.0111

Uranus -57232-10-18 17:01 J -19182273.82 -19182273.79 -19182273.75 0.0133 0.0128

Earth -57231-07-05 20:37 J -19182013.74 -19182013.64 -19182013.55 0.2678 0.1405

Moon -57231-07-05 20:52 J -19182013.73 -19182013.63 -19182013.54 0.2672 0.1481 *

Jupiter -57231-07-07 17:45 J -19182011.89 -19182011.76 -19182011.63 0.0533 0.0089

Jupiter -57231-10-05 00:42 J -19181922.52 -19181922.47 -19181922.41 0.0532 0.0477

Jupiter -57225-05-25 03:21 J -19179863.44 -19179863.36 -19179863.28 0.0493 0.0434

Jupiter -57225-08-23 10:04 J -19179773.24 -19179773.08 -19179772.92 0.0494 0.0226

Earth -57224-06-28 18:13 J -19179463.84 -19179463.74 -19179463.64 0.2672 0.1340

Moon -57224-06-28 18:42 J -19179463.82 -19179463.72 -19179463.62 0.2678 0.1337 *

Mars -57224-06-30 11:30 J -19179462.11 -19179462.02 -19179461.93 0.1838 0.1142

Saturn -57219-04-23 03:21 J -19177704.40 -19177704.36 -19177704.31 0.0289 0.0270

Jupiter -57219-04-25 21:35 J -19177701.71 -19177701.60 -19177701.48 0.0533 0.0229

Saturn -57219-07-20 16:04 J -19177615.94 -19177615.83 -19177615.71 0.0290 0.0156

Jupiter -57219-07-24 05:01 J -19177612.39 -19177612.29 -19177612.20 0.0532 0.0342

Saturn -57219-10-17 05:01 J -19177527.43 -19177527.29 -19177527.16 0.0291 0.0041

Saturn -57218-01-13 17:30 J -19177438.89 -19177438.77 -19177438.64 0.0292 0.0076

Saturn -57218-04-12 06:13 J -19177350.34 -19177350.24 -19177350.14 0.0293 0.0190

Moon -57218-07-08 14:37 J -19177262.95 -19177262.89 -19177262.84 0.2673 0.2262

Earth -57218-07-08 14:52 J -19177262.93 -19177262.88 -19177262.83 0.2680 0.2357 *

Mars -57215-11-20 20:09 J -19176031.78 -19176031.66 -19176031.54 0.1829 0.0301

Moon -57215-12-25 10:47 J -19175997.17 -19175997.05 -19175996.93 0.2658 0.1636

Earth -57215-12-25 12:13 J -19175997.11 -19175996.99 -19175996.86 0.2660 0.1422 *

Mars -57214-09-18 01:25 J -19175730.53 -19175730.44 -19175730.35 0.1707 0.1406

Jupiter -57213-06-11 07:11 J -19175463.38 -19175463.20 -19175463.02 0.0494 0.0053

Earth -57211-07-01 12:42 J -19174713.08 -19174712.97 -19174712.86 0.2674 0.0353

Moon -57211-07-01 13:25 J -19174713.05 -19174712.94 -19174712.83 0.2675 0.0281 *

Jupiter -57207-02-12 01:40 J -19173391.52 -19173391.43 -19173391.34 0.0533 0.0368

Jupiter -57207-05-12 09:06 J -19173302.24 -19173302.12 -19173302.00 0.0532 0.0206

Saturn -57205-02-19 22:04 J -19172653.69 -19172653.58 -19172653.46 0.0271 0.0205

Mars -57205-04-12 04:33 J -19172601.43 -19172601.31 -19172601.20 0.1820 0.0546

Saturn -57205-05-18 18:13 J -19172564.92 -19172564.74 -19172564.57 0.0270 0.0081

Saturn -57205-08-15 14:23 J -19172476.08 -19172475.90 -19172475.72 0.0270 0.0044

Saturn -57205-11-12 10:47 J -19172387.19 -19172387.05 -19172386.91 0.0269 0.0169

Mars -57204-02-07 02:23 J -19172300.56 -19172300.40 -19172300.25 0.1715 0.0334

Venus -57202-03-09 08:52 J -19171540.20 -19171540.13 -19171540.06 0.3794 0.2545

Moon -57202-12-28 15:49 J -19171245.99 -19171245.84 -19171245.69 0.2662 0.0281

Earth -57202-12-28 17:16 J -19171245.93 -19171245.78 -19171245.63 0.2658 0.0337 *

Jupiter -57201-03-30 05:01 J -19171153.47 -19171153.29 -19171153.12 0.0494 0.0114

Venus -57200-12-14 08:09 J -19170529.29 -19170529.16 -19170529.03 0.3580 0.2077

Earth -57198-07-04 07:11 J -19169962.31 -19169962.20 -19169962.09 0.2676 0.0624

Moon -57198-07-04 07:54 J -19169962.28 -19169962.17 -19169962.06 0.2673 0.0729 *

Venus -57197-09-22 00:42 J -19169516.57 -19169516.47 -19169516.37 0.3797 0.0555

Mars -57196-09-02 12:57 J -19169171.03 -19169170.96 -19169170.88 0.1812 0.1369

Jupiter -57196-12-01 05:01 J -19169081.32 -19169081.29 -19169081.26 0.0533 0.0517

Jupiter -57195-02-28 12:42 J -19168992.10 -19168991.97 -19168991.84 0.0532 0.0060

Mars -57195-06-30 03:06 J -19168870.51 -19168870.37 -19168870.23 0.1723 0.0755

Uranus -57194-06-21 03:06 J -19168514.41 -19168514.37 -19168514.29 0.0147 0.0139

Uranus -57194-09-17 11:45 J -19168426.13 -19168426.01 -19168425.87 0.0147 0.0106

Uranus -57194-12-14 20:23 J -19168337.81 -19168337.65 -19168337.48 0.0147 0.0072

Uranus -57193-03-12 04:47 J -19168249.48 -19168249.30 -19168249.11 0.0147 0.0039

Uranus -57193-06-08 13:25 J -19168161.13 -19168160.94 -19168160.74 0.0146 0.0006

Uranus -57193-09-04 22:04 J -19168072.77 -19168072.58 -19168072.39 0.0146 0.0029

Uranus -57193-12-02 06:42 J -19167984.39 -19167984.22 -19167984.05 0.0146 0.0063

Uranus -57192-02-28 15:06 J -19167896.00 -19167895.87 -19167895.72 0.0146 0.0097

Uranus -57192-05-27 23:45 J -19167807.58 -19167807.51 -19167807.41 0.0146 0.0130

Venus -57191-04-07 16:33 J -19167492.90 -19167492.81 -19167492.72 0.3800 0.1445

Earth -57191-06-27 04:33 J -19167412.38 -19167412.31 -19167412.24 0.2670 0.2146

Moon -57191-06-27 04:33 J -19167412.37 -19167412.31 -19167412.25 0.2677 0.2213 *

Saturn -57190-12-07 18:28 J -19166883.83 -19166883.73 -19166883.63 0.0291 0.0186

Jupiter -57189-01-17 02:52 J -19166843.53 -19166843.38 -19166843.23 0.0494 0.0277

Saturn -57189-03-05 07:11 J -19166795.33 -19166795.20 -19166795.07 0.0291 0.0071

Jupiter -57189-04-16 10:04 J -19166753.19 -19166753.08 -19166752.97 0.0495 0.0392

Saturn -57189-06-01 19:54 J -19166706.80 -19166706.67 -19166706.54 0.0292 0.0045

Saturn -57189-08-29 08:37 J -19166618.25 -19166618.14 -19166618.03 0.0293 0.0160

Saturn -57189-11-25 21:06 J -19166529.66 -19166529.62 -19166529.58 0.0294 0.0275

Moon -57189-12-30 21:35 J -19166494.69 -19166494.60 -19166494.51 0.2661 0.2090

Earth -57189-12-30 22:18 J -19166494.66 -19166494.57 -19166494.48 0.2656 0.2134 *

Venus -57186-10-22 08:23 J -19165469.19 -19165469.15 -19165469.11 0.3802 0.3447

Earth -57185-07-06 01:25 J -19165211.53 -19165211.44 -19165211.35 0.2678 0.1590

Moon -57185-07-06 01:40 J -19165211.52 -19165211.43 -19165211.34 0.2671 0.1544 *

Mars -57185-12-29 11:30 J -19165035.10 -19165035.02 -19165034.93 0.1838 0.1243

Jupiter -57184-12-17 16:18 J -19164681.95 -19164681.82 -19164681.69 0.0532 0.0087

Jupiter -57183-03-16 23:16 J -19164592.58 -19164592.53 -19164592.48 0.0531 0.0477

Earth -57178-06-29 23:01 J -19162661.64 -19162661.54 -19162661.43 0.2672 0.1156

Moon -57178-06-29 23:30 J -19162661.62 -19162661.52 -19162661.41 0.2678 0.1068 *

Jupiter -57178-11-05 00:57 J -19162533.54 -19162533.46 -19162533.37 0.0493 0.0436

Jupiter -57177-02-03 07:40 J -19162443.34 -19162443.18 -19162443.01 0.0494 0.0226

Saturn -57176-07-08 23:16 J -19161921.62 -19161921.53 -19161921.44 0.0271 0.0233

Saturn -57176-10-05 19:11 J -19161832.86 -19161832.70 -19161832.53 0.0270 0.0109

Saturn -57175-01-02 15:21 J -19161744.04 -19161743.86 -19161743.68 0.0270 0.0016

Saturn -57175-04-01 11:45 J -19161655.17 -19161655.01 -19161654.85 0.0269 0.0141

Mars -57175-05-21 19:54 J -19161604.78 -19161604.67 -19161604.55 0.1829 0.0392

Saturn -57175-06-29 08:09 J -19161566.17 -19161566.16 -19161566.14 0.0268 0.0267

Mars -57174-03-19 02:09 J -19161303.47 -19161303.41 -19161303.34 0.1707 0.1556

Moon -57172-07-08 19:25 J -19160460.72 -19160460.69 -19160460.66 0.2674 0.2558

Earth -57172-07-08 19:40 J -19160460.71 -19160460.68 -19160460.65 0.2680 0.2535 *

Jupiter -57172-10-05 19:25 J -19160371.80 -19160371.69 -19160371.57 0.0533 0.0240

Jupiter -57171-01-03 02:37 J -19160282.48 -19160282.39 -19160282.29 0.0532 0.0331

Moon -57169-12-25 17:01 J -19159194.92 -19159194.79 -19159194.65 0.2659 0.1133

Earth -57169-12-25 18:42 J -19159194.86 -19159194.72 -19159194.59 0.2660 0.1107 *

Mars -57166-10-12 04:33 J -19158174.42 -19158174.31 -19158174.19 0.1821 0.0440

Jupiter -57166-11-22 05:16 J -19158133.46 -19158133.28 -19158133.09 0.0494 0.0058

Earth -57165-07-01 17:45 J -19157910.88 -19157910.76 -19157910.65 0.2674 0.0185

Moon -57165-07-01 18:28 J -19157910.84 -19157910.73 -19157910.62 0.2674 0.0124 *

Mars -57165-08-08 02:52 J -19157873.53 -19157873.38 -19157873.22 0.1715 0.0468

Saturn -57160-04-25 21:35 J -19156151.69 -19156151.60 -19156151.50 0.0290 0.0210

Saturn -57160-07-23 10:33 J -19156063.19 -19156063.06 -19156062.93 0.0291 0.0094

Jupiter -57160-07-24 23:16 J -19156061.62 -19156061.53 -19156061.44 0.0533 0.0382

Saturn -57160-10-19 23:16 J -19155974.67 -19155974.53 -19155974.40 0.0291 0.0021

Jupiter -57160-10-22 06:42 J -19155972.33 -19155972.22 -19155972.10 0.0532 0.0194

Saturn -57159-01-16 11:45 J -19155886.12 -19155886.01 -19155885.89 0.0292 0.0136

Saturn -57159-04-15 00:28 J -19155797.55 -19155797.48 -19155797.42 0.0293 0.0251

Neptune -57156-03-03 03:35 J -19154744.35 -19154744.35 -19154744.33 0.0089 0.0088

Mars -57156-03-03 12:57 J -19154744.04 -19154743.96 -19154743.87 0.1811 0.1272

Neptune -57156-05-30 05:01 J -19154656.33 -19154656.29 -19154656.23 0.0089 0.0083

Neptune -57156-08-26 06:28 J -19154568.28 -19154568.23 -19154568.15 0.0089 0.0077

Neptune -57156-11-22 08:09 J -19154480.24 -19154480.16 -19154480.07 0.0089 0.0071

Moon -57156-12-28 22:04 J -19154443.72 -19154443.58 -19154443.43 0.2662 0.0465

Earth -57156-12-28 23:30 J -19154443.67 -19154443.52 -19154443.37 0.2658 0.0653 *

Mars -57156-12-29 03:35 J -19154443.49 -19154443.35 -19154443.20 0.1723 0.0621 *

Neptune -57155-02-18 09:35 J -19154392.18 -19154392.10 -19154392.00 0.0089 0.0065

Neptune -57155-05-17 11:16 J -19154304.13 -19154304.03 -19154303.93 0.0089 0.0059

Neptune -57155-08-13 12:42 J -19154216.08 -19154215.97 -19154215.86 0.0089 0.0053

Neptune -57155-11-09 13:54 J -19154128.02 -19154127.92 -19154127.79 0.0089 0.0048

Neptune -57154-02-05 15:35 J -19154039.96 -19154039.85 -19154039.72 0.0089 0.0041

Neptune -57154-05-04 17:01 J -19153951.91 -19153951.79 -19153951.65 0.0089 0.0036

Neptune -57154-07-31 18:42 J -19153863.85 -19153863.72 -19153863.59 0.0089 0.0030

Jupiter -57154-09-10 02:23 J -19153823.58 -19153823.40 -19153823.22 0.0494 0.0118

Neptune -57154-10-27 20:09 J -19153775.79 -19153775.66 -19153775.53 0.0089 0.0024

Neptune -57153-01-23 21:35 J -19153687.73 -19153687.60 -19153687.46 0.0089 0.0018

Neptune -57153-04-20 23:01 J -19153599.67 -19153599.54 -19153599.40 0.0089 0.0012

Neptune -57153-07-18 00:28 J -19153511.61 -19153511.48 -19153511.34 0.0089 0.0007

Neptune -57153-10-14 02:09 J -19153423.55 -19153423.41 -19153423.28 0.0089 0.0003

Neptune -57152-01-10 03:35 J -19153335.49 -19153335.35 -19153335.22 0.0089 0.0006

Neptune -57152-04-08 04:47 J -19153247.43 -19153247.30 -19153247.16 0.0089 0.0011

Earth -57152-07-04 11:59 J -19153160.10 -19153160.00 -19153159.89 0.2676 0.0813

Moon -57152-07-04 12:42 J -19153160.08 -19153159.97 -19153159.86 0.2673 0.0843 *

Neptune -57152-07-05 06:13 J -19153159.37 -19153159.24 -19153159.10 0.0089 0.0017

Neptune -57152-10-01 07:40 J -19153071.31 -19153071.18 -19153071.04 0.0089 0.0023

Neptune -57152-12-28 09:06 J -19152983.24 -19152983.12 -19152982.99 0.0089 0.0028

Neptune -57151-03-26 10:33 J -19152895.18 -19152895.06 -19152894.93 0.0089 0.0034

Uranus -57151-03-27 04:18 J -19152894.37 -19152894.32 -19152894.27 0.0132 0.0122

Neptune -57151-06-22 11:59 J -19152807.12 -19152807.00 -19152806.87 0.0089 0.0040

Uranus -57151-06-23 07:11 J -19152806.27 -19152806.20 -19152806.11 0.0132 0.0105

Neptune -57151-09-18 13:11 J -19152719.05 -19152718.95 -19152718.82 0.0089 0.0046

Uranus -57151-09-19 10:04 J -19152718.17 -19152718.08 -19152717.97 0.0132 0.0089

Neptune -57151-12-15 14:52 J -19152630.99 -19152630.88 -19152630.77 0.0089 0.0051

Uranus -57151-12-16 13:25 J -19152630.05 -19152629.94 -19152629.83 0.0132 0.0071

Neptune -57150-03-13 16:04 J -19152542.92 -19152542.83 -19152542.71 0.0089 0.0057

Uranus -57150-03-14 16:18 J -19152541.94 -19152541.82 -19152541.70 0.0132 0.0053

Neptune -57150-06-09 17:45 J -19152454.86 -19152454.76 -19152454.66 0.0089 0.0062

Uranus -57150-06-10 19:11 J -19152453.82 -19152453.70 -19152453.56 0.0132 0.0037

Neptune -57150-09-05 18:57 J -19152366.79 -19152366.71 -19152366.62 0.0089 0.0068

Uranus -57150-09-06 22:18 J -19152365.70 -19152365.57 -19152365.44 0.0132 0.0019

Neptune -57150-12-02 20:23 J -19152278.72 -19152278.65 -19152278.57 0.0089 0.0074

Uranus -57150-12-04 01:25 J -19152277.58 -19152277.44 -19152277.31 0.0132 0.0004

Neptune -57149-02-28 21:49 J -19152190.64 -19152190.59 -19152190.52 0.0089 0.0079

Uranus -57149-03-01 04:18 J -19152189.45 -19152189.32 -19152189.19 0.0132 0.0016

Neptune -57149-05-26 23:01 J -19152102.56 -19152102.54 -19152102.49 0.0089 0.0085

Uranus -57149-05-28 07:11 J -19152101.32 -19152101.20 -19152101.07 0.0132 0.0033

Uranus -57149-08-24 10:18 J -19152013.20 -19152013.07 -19152012.95 0.0133 0.0050

Uranus -57149-11-20 12:57 J -19151925.06 -19151924.96 -19151924.84 0.0133 0.0068

Venus -57148-01-04 00:57 J -19151880.60 -19151880.46 -19151880.32 0.3583 0.1663

Uranus -57148-02-16 16:04 J -19151836.93 -19151836.83 -19151836.72 0.0133 0.0084

Pluto -57148-03-15 00:42 J -19151810.48 -19151810.47 -19151810.42 0.0061 0.0060

Jupiter -57148-05-13 03:21 J -19151751.39 -19151751.36 -19151751.34 0.0533 0.0522

Uranus -57148-05-15 18:57 J -19151748.78 -19151748.71 -19151748.62 0.0133 0.0102

Pluto -57148-06-11 01:54 J -19151722.48 -19151722.42 -19151722.34 0.0061 0.0056

Jupiter -57148-08-10 11:01 J -19151662.17 -19151662.04 -19151661.92 0.0532 0.0058

Uranus -57148-08-11 21:49 J -19151660.64 -19151660.59 -19151660.52 0.0133 0.0119

Pluto -57148-09-07 02:52 J -19151634.46 -19151634.38 -19151634.27 0.0061 0.0051

Pluto -57148-12-04 04:04 J -19151546.43 -19151546.33 -19151546.21 0.0061 0.0047

Pluto -57147-03-02 05:01 J -19151458.40 -19151458.29 -19151458.15 0.0061 0.0042

Pluto -57147-05-29 06:13 J -19151370.36 -19151370.24 -19151370.09 0.0062 0.0038

Pluto -57147-08-25 07:25 J -19151282.33 -19151282.19 -19151282.04 0.0062 0.0033

Pluto -57147-11-21 08:23 J -19151194.29 -19151194.15 -19151193.98 0.0062 0.0029

Saturn -57147-11-25 23:01 J -19151189.57 -19151189.54 -19151189.51 0.0272 0.0267

Pluto -57146-02-17 09:35 J -19151106.25 -19151106.10 -19151105.93 0.0062 0.0024

Saturn -57146-02-22 18:57 J -19151100.86 -19151100.71 -19151100.56 0.0271 0.0143

Pluto -57146-05-16 10:47 J -19151018.21 -19151018.05 -19151017.87 0.0062 0.0019

Mars -57146-05-21 04:47 J -19151013.33 -19151013.30 -19151013.28 0.1732 0.1702

Saturn -57146-05-22 15:06 J -19151012.05 -19151011.87 -19151011.69 0.0270 0.0019

Pluto -57146-08-12 11:45 J -19150930.16 -19150930.01 -19150929.82 0.0062 0.0015

Saturn -57146-08-19 11:16 J -19150923.19 -19150923.03 -19150922.86 0.0269 0.0106

Venus -57146-10-14 06:13 J -19150867.32 -19150867.24 -19150867.15 0.3795 0.1831

Pluto -57146-11-08 13:11 J -19150842.12 -19150841.95 -19150841.77 0.0062 0.0010

Saturn -57146-11-16 07:40 J -19150834.27 -19150834.18 -19150834.08 0.0268 0.0231

Pluto -57145-02-04 14:23 J -19150754.07 -19150753.90 -19150753.72 0.0062 0.0005

Pluto -57145-05-02 15:35 J -19150666.02 -19150665.85 -19150665.67 0.0062 0.0000

Moon -57145-06-27 09:35 J -19150610.18 -19150610.10 -19150610.02 0.2677 0.1885

Earth -57145-06-27 09:35 J -19150610.18 -19150610.10 -19150610.03 0.2670 0.1955 *

Mars -57145-06-29 11:45 J -19150608.09 -19150608.01 -19150607.93 0.1838 0.1340

Pluto -57145-07-29 16:47 J -19150577.98 -19150577.80 -19150577.62 0.0062 0.0005

Pluto -57145-10-25 17:59 J -19150489.92 -19150489.75 -19150489.58 0.0062 0.0010

Pluto -57144-01-21 18:57 J -19150401.87 -19150401.71 -19150401.53 0.0062 0.0015

Pluto -57144-04-19 20:09 J -19150313.82 -19150313.66 -19150313.48 0.0062 0.0020

Pluto -57144-07-16 21:21 J -19150225.76 -19150225.61 -19150225.44 0.0062 0.0025

Pluto -57144-10-12 22:33 J -19150137.71 -19150137.56 -19150137.39 0.0063 0.0030

Pluto -57143-01-08 23:30 J -19150049.65 -19150049.52 -19150049.35 0.0063 0.0035

Pluto -57143-04-07 00:42 J -19149961.58 -19149961.47 -19149961.31 0.0063 0.0040

Pluto -57143-07-04 02:09 J -19149873.52 -19149873.41 -19149873.27 0.0063 0.0045

Pluto -57143-09-30 03:21 J -19149785.45 -19149785.36 -19149785.24 0.0063 0.0050

Pluto -57143-12-27 04:33 J -19149697.38 -19149697.31 -19149697.21 0.0063 0.0055

Moon -57142-01-01 04:18 J -19149692.38 -19149692.32 -19149692.26 0.2661 0.2444

Earth -57142-01-01 04:47 J -19149692.35 -19149692.30 -19149692.24 0.2655 0.2460 *

Pluto -57142-03-25 05:45 J -19149609.29 -19149609.26 -19149609.19 0.0063 0.0060

Jupiter -57142-06-29 00:13 J -19149513.64 -19149513.49 -19149513.34 0.0494 0.0283

Jupiter -57142-09-27 07:11 J -19149423.31 -19149423.20 -19149423.08 0.0494 0.0385

Venus -57140-04-28 22:04 J -19148843.68 -19148843.58 -19148843.48 0.3798 0.0212

Moon -57139-07-07 06:28 J -19148409.32 -19148409.23 -19148409.15 0.2671 0.1807

Earth -57139-07-07 06:13 J -19148409.32 -19148409.24 -19148409.15 0.2678 0.1770 *

Jupiter -57136-05-29 14:37 J -19147352.02 -19147351.89 -19147351.77 0.0532 0.0092

Jupiter -57136-08-26 21:35 J -19147262.66 -19147262.60 -19147262.55 0.0531 0.0474

Mars -57136-11-19 20:09 J -19147177.78 -19147177.66 -19147177.55 0.1829 0.0495

Moon -57136-12-23 19:11 J -19147143.75 -19147143.70 -19147143.66 0.2658 0.2524

Earth -57136-12-23 20:23 J -19147143.70 -19147143.65 -19147143.60 0.2662 0.2502 *

Mars -57135-09-17 02:37 J -19146876.42 -19146876.39 -19146876.36 0.1707 0.1677

Venus -57135-11-12 13:54 J -19146820.00 -19146819.92 -19146819.83 0.3800 0.2181

Earth -57132-06-30 04:04 J -19145859.43 -19145859.33 -19145859.22 0.2672 0.0957

Moon -57132-06-30 04:33 J -19145859.41 -19145859.31 -19145859.20 0.2677 0.0968 *

Saturn -57131-09-12 23:45 J -19145419.58 -19145419.51 -19145419.43 0.0290 0.0240

Saturn -57131-12-10 12:42 J -19145331.09 -19145330.97 -19145330.84 0.0291 0.0125

Saturn -57130-03-09 01:40 J -19145242.57 -19145242.43 -19145242.30 0.0292 0.0012

Jupiter -57130-04-16 22:18 J -19145203.65 -19145203.57 -19145203.50 0.0494 0.0445

Saturn -57130-06-05 14:09 J -19145154.03 -19145153.91 -19145153.78 0.0293 0.0107

Jupiter -57130-07-16 04:47 J -19145113.46 -19145113.30 -19145113.13 0.0494 0.0218

Saturn -57130-09-02 02:52 J -19145065.47 -19145065.38 -19145065.30 0.0294 0.0222

Mars -57126-04-12 04:33 J -19143747.43 -19143747.31 -19143747.19 0.1820 0.0346

Moon -57126-07-09 23:59 J -19143658.52 -19143658.50 -19143658.47 0.2675 0.2612

Mars -57125-02-07 03:21 J -19143446.51 -19143446.36 -19143446.21 0.1715 0.0600

Jupiter -57124-03-17 17:59 J -19143041.86 -19143041.75 -19143041.63 0.0532 0.0239

Jupiter -57124-06-15 01:11 J -19142952.55 -19142952.45 -19142952.35 0.0532 0.0331

Moon -57123-12-26 23:30 J -19142392.66 -19142392.52 -19142392.38 0.2660 0.1006

Earth -57123-12-27 00:57 J -19142392.60 -19142392.46 -19142392.32 0.2660 0.0786 *

Earth -57119-07-02 22:33 J -19141108.67 -19141108.56 -19141108.45 0.2675 0.0035

Moon -57119-07-02 23:16 J -19141108.64 -19141108.53 -19141108.41 0.2674 0.0166 *

Jupiter -57118-05-04 02:52 J -19140803.56 -19140803.38 -19140803.20 0.0494 0.0054

Saturn -57117-07-11 20:09 J -19140368.80 -19140368.66 -19140368.52 0.0271 0.0170

Mars -57117-09-01 12:57 J -19140317.05 -19140316.96 -19140316.87 0.1812 0.1176

Saturn -57117-10-08 16:18 J -19140280.00 -19140279.82 -19140279.64 0.0270 0.0046

Saturn -57116-01-05 12:28 J -19140191.15 -19140190.98 -19140190.80 0.0269 0.0079

Saturn -57116-04-04 08:52 J -19140102.24 -19140102.13 -19140102.01 0.0269 0.0204

Mars -57116-06-29 04:18 J -19140016.47 -19140016.32 -19140016.16 0.1723 0.0477

Jupiter -57112-01-03 20:52 J -19138731.71 -19138731.63 -19138731.54 0.0533 0.0396

Jupiter -57112-04-03 04:33 J -19138642.43 -19138642.31 -19138642.19 0.0532 0.0180

Uranus -57110-07-11 11:45 J -19137813.09 -19137813.01 -19137812.91 0.0147 0.0127

Uranus -57110-10-07 20:09 J -19137724.79 -19137724.66 -19137724.50 0.0147 0.0094

Moon -57110-12-30 04:33 J -19137641.45 -19137641.31 -19137641.17 0.2661 0.0956

Earth -57110-12-30 05:59 J -19137641.40 -19137641.25 -19137641.11 0.2657 0.0980 *

Uranus -57109-01-04 04:47 J -19137636.47 -19137636.30 -19137636.12 0.0147 0.0060

Uranus -57109-04-01 13:25 J -19137548.13 -19137547.94 -19137547.75 0.0147 0.0026

Uranus -57109-06-28 22:04 J -19137459.77 -19137459.58 -19137459.39 0.0146 0.0008

Uranus -57109-09-25 06:28 J -19137371.41 -19137371.23 -19137371.04 0.0146 0.0042

Uranus -57109-12-22 15:06 J -19137283.03 -19137282.87 -19137282.70 0.0146 0.0075

Uranus -57108-03-20 23:45 J -19137194.63 -19137194.51 -19137194.38 0.0146 0.0109

Uranus -57108-06-17 08:09 J -19137106.18 -19137106.16 -19137106.10 0.0146 0.0144

Mars -57107-11-19 05:16 J -19136586.35 -19136586.28 -19136586.22 0.1732 0.1572

Jupiter -57106-02-20 00:28 J -19136493.66 -19136493.48 -19136493.30 0.0493 0.0114

Earth -57106-07-05 17:01 J -19136357.90 -19136357.79 -19136357.69 0.2677 0.0994

Moon -57106-07-05 17:30 J -19136357.88 -19136357.77 -19136357.67 0.2672 0.1032 *

Mars -57106-12-29 11:30 J -19136181.09 -19136181.02 -19136180.94 0.1838 0.1437

Saturn -57101-01-31 03:21 J -19134687.41 -19134687.36 -19134687.30 0.0289 0.0261

Saturn -57101-04-28 16:18 J -19134598.94 -19134598.82 -19134598.71 0.0290 0.0146

Saturn -57101-07-26 05:01 J -19134510.42 -19134510.29 -19134510.16 0.0291 0.0031

Saturn -57101-10-22 17:45 J -19134421.89 -19134421.76 -19134421.63 0.0292 0.0084

Saturn -57100-01-19 06:13 J -19134333.33 -19134333.24 -19134333.14 0.0293 0.0199

Jupiter -57100-01-20 08:23 J -19134332.27 -19134332.15 -19134332.02 0.0533 0.0046

Earth -57099-06-28 14:23 J -19133807.98 -19133807.90 -19133807.81 0.2671 0.1763

Moon -57099-06-28 14:37 J -19133807.97 -19133807.89 -19133807.81 0.2678 0.1817 *

Mars -57096-05-20 20:09 J -19132750.77 -19132750.66 -19132750.55 0.1829 0.0595

Venus -57095-11-04 11:59 J -19132218.06 -19132218.00 -19132217.95 0.3793 0.3097

Jupiter -57095-12-08 21:21 J -19132183.75 -19132183.61 -19132183.46 0.0493 0.0290

Jupiter -57094-03-09 04:18 J -19132093.43 -19132093.32 -19132093.20 0.0494 0.0377

Moon -57093-07-07 11:16 J -19131607.11 -19131607.03 -19131606.95 0.2672 0.1913

Earth -57093-07-07 11:16 J -19131607.11 -19131607.03 -19131606.96 0.2679 0.1950 *

Venus -57092-08-11 03:21 J -19131207.53 -19131207.36 -19131207.20 0.3582 0.0294

Moon -57090-12-25 01:25 J -19130341.51 -19130341.44 -19130341.37 0.2658 0.2335

Earth -57090-12-25 02:37 J -19130341.47 -19130341.39 -19130341.30 0.2662 0.2187 *

Venus -57089-05-20 03:49 J -19130194.44 -19130194.34 -19130194.25 0.3796 0.1112

Jupiter -57089-11-08 12:42 J -19130022.10 -19130021.97 -19130021.85 0.0533 0.0098

Jupiter -57088-02-05 19:40 J -19129932.74 -19129932.68 -19129932.62 0.0532 0.0470

Saturn -57088-11-28 20:37 J -19129636.75 -19129636.64 -19129636.51 0.0271 0.0200

Saturn -57087-02-25 16:47 J -19129547.98 -19129547.80 -19129547.63 0.0270 0.0076

Saturn -57087-05-25 12:57 J -19129459.14 -19129458.96 -19129458.78 0.0269 0.0048

Saturn -57087-08-22 09:06 J -19129370.25 -19129370.12 -19129369.97 0.0269 0.0173

Mars -57087-10-11 04:33 J -19129320.43 -19129320.31 -19129320.19 0.1820 0.0247

Earth -57086-07-01 09:06 J -19129057.23 -19129057.12 -19129057.01 0.2673 0.0772

Moon -57086-07-01 09:35 J -19129057.21 -19129057.10 -19129056.99 0.2676 0.0652 *

Mars -57086-08-08 04:04 J -19129019.48 -19129019.33 -19129019.19 0.1715 0.0737

Venus -57084-12-03 19:40 J -19128170.78 -19128170.68 -19128170.58 0.3799 0.0901

Jupiter -57083-09-26 19:11 J -19127873.76 -19127873.70 -19127873.62 0.0493 0.0454

Jupiter -57083-12-26 01:54 J -19127783.58 -19127783.42 -19127783.25 0.0494 0.0208

Venus -57078-06-19 11:30 J -19126147.09 -19126147.02 -19126146.96 0.3801 0.2896

Mars -57077-03-02 13:11 J -19125890.05 -19125889.95 -19125889.86 0.1812 0.1071

Jupiter -57077-08-27 16:04 J -19125711.94 -19125711.83 -19125711.71 0.0532 0.0244

Jupiter -57077-11-24 23:30 J -19125622.62 -19125622.52 -19125622.42 0.0532 0.0327

Moon -57077-12-27 05:45 J -19125590.41 -19125590.26 -19125590.12 0.2661 0.0515

Earth -57077-12-27 07:11 J -19125590.35 -19125590.20 -19125590.05 0.2659 0.0473 *

Mars -57077-12-28 04:47 J -19125589.46 -19125589.30 -19125589.15 0.1723 0.0356

Neptune -57074-11-17 19:40 J -19124534.69 -19124534.68 -19124534.62 0.0089 0.0087

Neptune -57073-02-13 23:16 J -19124446.61 -19124446.53 -19124446.45 0.0089 0.0079

Neptune -57073-05-12 02:09 J -19124358.50 -19124358.41 -19124358.29 0.0089 0.0072

Earth -57073-07-03 03:35 J -19124306.47 -19124306.35 -19124306.24 0.2675 0.0222

Moon -57073-07-03 04:18 J -19124306.43 -19124306.32 -19124306.21 0.2674 0.0239 *

Neptune -57073-08-08 05:30 J -19124270.39 -19124270.27 -19124270.14 0.0089 0.0064

Neptune -57073-11-04 08:52 J -19124182.27 -19124182.13 -19124181.99 0.0089 0.0056

Neptune -57072-01-31 11:45 J -19124094.15 -19124094.01 -19124093.84 0.0089 0.0049

Neptune -57072-04-29 15:06 J -19124006.03 -19124005.87 -19124005.70 0.0089 0.0041

Neptune -57072-07-26 18:28 J -19123917.90 -19123917.73 -19123917.56 0.0089 0.0033

Saturn -57072-09-15 18:28 J -19123866.84 -19123866.73 -19123866.62 0.0291 0.0177

Neptune -57072-10-22 21:21 J -19123829.77 -19123829.61 -19123829.42 0.0089 0.0026

Saturn -57072-12-13 07:11 J -19123778.33 -19123778.20 -19123778.06 0.0292 0.0062

Neptune -57071-01-19 00:42 J -19123741.64 -19123741.47 -19123741.28 0.0089 0.0018

Saturn -57071-03-11 19:54 J -19123689.80 -19123689.67 -19123689.53 0.0292 0.0055

Neptune -57071-04-17 04:04 J -19123653.51 -19123653.33 -19123653.14 0.0089 0.0010

Saturn -57071-06-08 08:37 J -19123601.25 -19123601.14 -19123601.03 0.0293 0.0170

Neptune -57071-07-14 07:25 J -19123565.38 -19123565.19 -19123565.00 0.0089 0.0002

Saturn -57071-09-04 21:06 J -19123512.65 -19123512.62 -19123512.59 0.0294 0.0285

Neptune -57071-10-10 10:33 J -19123477.24 -19123477.06 -19123476.87 0.0089 0.0007

Jupiter -57071-10-13 23:45 J -19123473.69 -19123473.51 -19123473.33 0.0494 0.0042

Neptune -57070-01-06 13:54 J -19123389.10 -19123388.92 -19123388.73 0.0089 0.0014

Neptune -57070-04-04 17:16 J -19123300.96 -19123300.78 -19123300.60 0.0089 0.0022

Neptune -57070-07-01 20:23 J -19123212.82 -19123212.65 -19123212.47 0.0089 0.0030

Neptune -57070-09-27 23:45 J -19123124.67 -19123124.51 -19123124.33 0.0089 0.0038

Neptune -57070-12-25 03:06 J -19123036.53 -19123036.37 -19123036.20 0.0089 0.0046

Neptune -57069-03-22 06:13 J -19122948.38 -19122948.24 -19122948.08 0.0089 0.0054

Neptune -57069-06-18 09:35 J -19122860.22 -19122860.10 -19122859.95 0.0089 0.0062

Neptune -57069-09-14 12:57 J -19122772.06 -19122771.96 -19122771.83 0.0089 0.0070

Neptune -57069-12-11 16:18 J -19122683.90 -19122683.82 -19122683.72 0.0089 0.0078

Neptune -57068-03-09 19:40 J -19122595.71 -19122595.68 -19122595.62 0.0089 0.0086

Uranus -57067-01-18 09:06 J -19122281.12 -19122281.12 -19122281.12 0.0132 0.0132

Uranus -57067-04-16 11:59 J -19122193.06 -19122193.00 -19122192.93 0.0132 0.0115

Mars -57067-05-20 05:45 J -19122159.34 -19122159.26 -19122159.17 0.1732 0.1429

Uranus -57067-07-13 15:06 J -19122104.95 -19122104.87 -19122104.78 0.0132 0.0097

Uranus -57067-10-09 18:13 J -19122016.85 -19122016.74 -19122016.63 0.0132 0.0080

Uranus -57066-01-05 21:06 J -19121928.73 -19121928.62 -19121928.50 0.0132 0.0063

Uranus -57066-04-04 00:13 J -19121840.62 -19121840.49 -19121840.36 0.0132 0.0046

Moon -57066-06-27 00:28 J -19121756.50 -19121756.48 -19121756.46 0.2675 0.2628

Earth -57066-06-27 00:42 J -19121756.50 -19121756.47 -19121756.44 0.2669 0.2575 *

Mars -57066-06-29 11:45 J -19121754.07 -19121754.01 -19121753.95 0.1838 0.1536

Uranus -57066-07-01 03:06 J -19121752.50 -19121752.37 -19121752.23 0.0132 0.0029

Uranus -57066-09-27 06:13 J -19121664.37 -19121664.24 -19121664.11 0.0132 0.0011

Uranus -57066-12-24 09:06 J -19121576.25 -19121576.12 -19121575.98 0.0132 0.0006

Uranus -57065-03-21 12:13 J -19121488.12 -19121487.99 -19121487.86 0.0132 0.0023

Jupiter -57065-06-15 19:40 J -19121401.77 -19121401.68 -19121401.60 0.0533 0.0394

Uranus -57065-06-17 15:06 J -19121400.00 -19121399.87 -19121399.74 0.0132 0.0040

Jupiter -57065-09-13 03:06 J -19121312.49 -19121312.37 -19121312.25 0.0532 0.0181

Uranus -57065-09-13 17:59 J -19121311.86 -19121311.75 -19121311.63 0.0132 0.0058

Uranus -57065-12-10 20:52 J -19121223.73 -19121223.63 -19121223.51 0.0133 0.0075

Uranus -57064-03-08 23:59 J -19121135.59 -19121135.50 -19121135.40 0.0133 0.0092

Uranus -57064-06-05 02:52 J -19121047.45 -19121047.38 -19121047.30 0.0133 0.0109

Uranus -57064-09-01 05:45 J -19120959.29 -19120959.26 -19120959.21 0.0133 0.0126

Moon -57064-12-30 11:01 J -19120839.17 -19120839.04 -19120838.90 0.2661 0.1120

Earth -57064-12-30 12:13 J -19120839.12 -19120838.99 -19120838.86 0.2657 0.1302 *

Earth -57060-07-05 21:49 J -19119555.69 -19119555.59 -19119555.49 0.2677 0.1179

Moon -57060-07-05 22:18 J -19119555.67 -19119555.57 -19119555.47 0.2671 0.1238 *

Jupiter -57059-08-01 21:49 J -19119163.77 -19119163.59 -19119163.42 0.0494 0.0121

Saturn -57058-04-17 21:49 J -19118904.68 -19118904.59 -19118904.49 0.0271 0.0227

Saturn -57058-07-15 17:59 J -19118815.92 -19118815.75 -19118815.59 0.0270 0.0103

Saturn -57058-10-12 14:09 J -19118727.10 -19118726.91 -19118726.73 0.0269 0.0022

Saturn -57057-01-09 10:18 J -19118638.22 -19118638.07 -19118637.91 0.0269 0.0146

Mars -57057-11-18 20:09 J -19118323.77 -19118323.66 -19118323.55 0.1829 0.0686

Pluto -57056-02-10 05:16 J -19118240.31 -19118240.28 -19118240.23 0.0083 0.0079

Pluto -57056-05-09 06:57 J -19118152.28 -19118152.21 -19118152.12 0.0083 0.0069

Pluto -57056-08-05 08:23 J -19118064.23 -19118064.15 -19118064.03 0.0083 0.0060

Pluto -57056-11-01 10:18 J -19117976.18 -19117976.07 -19117975.95 0.0083 0.0050

Pluto -57055-01-28 11:45 J -19117888.13 -19117888.01 -19117887.88 0.0083 0.0040

Pluto -57055-04-26 13:25 J -19117800.07 -19117799.94 -19117799.80 0.0082 0.0031

Pluto -57055-07-23 15:06 J -19117712.01 -19117711.87 -19117711.73 0.0082 0.0021

Pluto -57055-10-19 16:33 J -19117623.95 -19117623.81 -19117623.66 0.0082 0.0012

Pluto -57054-01-15 18:13 J -19117535.89 -19117535.74 -19117535.60 0.0082 0.0003

Pluto -57054-04-13 19:40 J -19117447.82 -19117447.68 -19117447.53 0.0082 0.0006

Pluto -57054-07-10 21:06 J -19117359.75 -19117359.62 -19117359.47 0.0082 0.0016

Pluto -57054-10-06 22:33 J -19117271.69 -19117271.56 -19117271.41 0.0082 0.0025

Pluto -57053-01-02 23:59 J -19117183.62 -19117183.50 -19117183.36 0.0081 0.0034

Pluto -57053-03-31 01:25 J -19117095.55 -19117095.44 -19117095.30 0.0081 0.0042

Pluto -57053-06-27 03:06 J -19117007.48 -19117007.37 -19117007.25 0.0081 0.0051

Moon -57053-06-28 19:40 J -19117005.78 -19117005.68 -19117005.59 0.2678 0.1505

Earth -57053-06-28 19:25 J -19117005.78 -19117005.69 -19117005.60 0.2671 0.1572 *

Jupiter -57053-07-02 06:13 J -19117002.37 -19117002.24 -19117002.11 0.0532 0.0028

Pluto -57053-09-23 04:33 J -19116919.40 -19116919.31 -19116919.21 0.0081 0.0059

Pluto -57053-12-20 05:45 J -19116831.32 -19116831.26 -19116831.17 0.0081 0.0068

Pluto -57052-03-18 07:25 J -19116743.23 -19116743.19 -19116743.14 0.0081 0.0076

Mars -57047-04-11 04:33 J -19114893.42 -19114893.31 -19114893.19 0.1821 0.0160

Jupiter -57047-05-20 19:25 J -19114853.83 -19114853.69 -19114853.54 0.0493 0.0287

Moon -57047-07-08 16:04 J -19114804.90 -19114804.83 -19114804.76 0.2672 0.2123

Earth -57047-07-08 16:04 J -19114804.89 -19114804.83 -19114804.76 0.2679 0.2131 *

Jupiter -57047-08-19 02:23 J -19114763.51 -19114763.40 -19114763.28 0.0494 0.0381

Mars -57046-02-06 04:33 J -19114592.45 -19114592.31 -19114592.17 0.1715 0.0871

Moon -57044-12-25 07:40 J -19113539.28 -19113539.18 -19113539.08 0.2659 0.1964

Earth -57044-12-25 08:52 J -19113539.23 -19113539.13 -19113539.02 0.2661 0.1876 *

Saturn -57042-02-02 21:49 J -19113134.68 -19113134.59 -19113134.49 0.0290 0.0198

Saturn -57042-05-02 10:47 J -19113046.18 -19113046.05 -19113045.92 0.0291 0.0082

Saturn -57042-07-29 23:30 J -19112957.65 -19112957.52 -19112957.39 0.0292 0.0033

Saturn -57042-10-26 12:13 J -19112869.11 -19112868.99 -19112868.88 0.0293 0.0148

Saturn -57041-01-23 00:42 J -19112780.52 -19112780.47 -19112780.41 0.0293 0.0263

Jupiter -57041-04-20 10:04 J -19112692.20 -19112692.08 -19112691.95 0.0533 0.0113

Jupiter -57041-07-18 17:16 J -19112602.84 -19112602.78 -19112602.72 0.0532 0.0455

Venus -57041-08-31 20:09 J -19112558.70 -19112558.66 -19112558.63 0.3585 0.3473

Earth -57040-07-01 13:54 J -19112255.03 -19112254.92 -19112254.81 0.2673 0.0582

Moon -57040-07-01 14:37 J -19112255.00 -19112254.89 -19112254.78 0.2675 0.0581 *

Venus -57038-06-11 09:21 J -19111545.19 -19111545.11 -19111545.03 0.3793 0.2385

Mars -57038-09-01 13:11 J -19111463.05 -19111462.95 -19111462.85 0.1812 0.0969

Mars -57037-06-28 05:16 J -19111162.43 -19111162.28 -19111162.12 0.1723 0.0218

Jupiter -57035-03-08 16:33 J -19110543.87 -19110543.81 -19110543.75 0.0493 0.0461

Venus -57035-03-18 05:30 J -19110534.40 -19110534.27 -19110534.15 0.3581 0.2213

Jupiter -57035-06-06 23:01 J -19110453.71 -19110453.54 -19110453.37 0.0494 0.0199

Venus -57033-12-25 01:11 J -19109521.55 -19109521.45 -19109521.35 0.3796 0.0391

Moon -57031-12-28 11:59 J -19108788.15 -19108788.00 -19108787.85 0.2661 0.0362

Earth -57031-12-28 13:40 J -19108788.08 -19108787.93 -19108787.78 0.2659 0.0150 *

Jupiter -57029-02-07 14:09 J -19108382.02 -19108381.91 -19108381.79 0.0533 0.0252

Jupiter -57029-05-06 21:35 J -19108292.70 -19108292.60 -19108292.50 0.0532 0.0321

Saturn -57029-09-03 23:01 J -19108172.60 -19108172.54 -19108172.48 0.0271 0.0254

Saturn -57029-12-01 18:42 J -19108083.87 -19108083.72 -19108083.56 0.0271 0.0131

Mars -57028-01-21 21:35 J -19108032.61 -19108032.60 -19108032.59 0.1803 0.1793

Saturn -57028-02-28 14:52 J -19107995.06 -19107994.88 -19107994.70 0.0270 0.0007

Saturn -57028-05-28 11:01 J -19107906.20 -19107906.04 -19107905.87 0.0269 0.0117

Saturn -57028-08-25 07:25 J -19107817.27 -19107817.19 -19107817.11 0.0268 0.0241

Mars -57028-11-18 06:13 J -19107732.34 -19107732.24 -19107732.14 0.1731 0.1303

Earth -57027-07-04 08:23 J -19107504.26 -19107504.15 -19107504.04 0.2675 0.0396

Moon -57027-07-04 09:06 J -19107504.23 -19107504.12 -19107504.01 0.2673 0.0517 *

Venus -57027-07-10 17:01 J -19107497.88 -19107497.79 -19107497.70 0.3799 0.1631

Mars -57027-12-28 11:45 J -19107327.07 -19107327.01 -19107326.96 0.1838 0.1631

Uranus -57026-07-31 20:23 J -19107111.77 -19107111.65 -19107111.54 0.0147 0.0115

Uranus -57026-10-28 04:33 J -19107023.46 -19107023.31 -19107023.14 0.0147 0.0082

Uranus -57025-01-24 13:11 J -19106935.13 -19106934.95 -19106934.77 0.0147 0.0048

Uranus -57025-04-21 21:49 J -19106846.78 -19106846.59 -19106846.40 0.0147 0.0015

Uranus -57025-07-19 06:28 J -19106758.42 -19106758.23 -19106758.04 0.0146 0.0019

Uranus -57025-10-15 14:52 J -19106670.05 -19106669.88 -19106669.69 0.0146 0.0053

Uranus -57024-01-11 23:16 J -19106581.67 -19106581.53 -19106581.36 0.0146 0.0088

Uranus -57024-04-10 07:54 J -19106493.26 -19106493.17 -19106493.05 0.0146 0.0121

Jupiter -57023-03-25 20:37 J -19106143.82 -19106143.64 -19106143.46 0.0494 0.0031

Venus -57021-01-24 08:52 J -19105474.15 -19105474.13 -19105474.10 0.3802 0.3625

Moon -57020-06-27 05:30 J -19104954.32 -19104954.27 -19104954.22 0.2676 0.2402

Earth -57020-06-27 05:45 J -19104954.31 -19104954.26 -19104954.21 0.2669 0.2381 *

Jupiter -57018-11-26 17:45 J -19104071.84 -19104071.76 -19104071.67 0.0533 0.0398

Moon -57018-12-31 17:45 J -19104036.87 -19104036.76 -19104036.64 0.2662 0.1654

Earth -57018-12-31 18:42 J -19104036.84 -19104036.72 -19104036.60 0.2657 0.1626 *

Jupiter -57017-02-24 01:11 J -19103982.57 -19103982.45 -19103982.32 0.0532 0.0179

Mars -57017-05-19 20:09 J -19103896.77 -19103896.66 -19103896.55 0.1830 0.0788

Earth -57014-07-07 02:52 J -19102753.48 -19102753.38 -19102753.29 0.2677 0.1365

Moon -57014-07-07 03:06 J -19102753.47 -19102753.37 -19102753.27 0.2671 0.1351 *

Saturn -57013-06-21 23:45 J -19102402.59 -19102402.51 -19102402.43 0.0290 0.0231

Saturn -57013-09-18 12:42 J -19102314.09 -19102313.97 -19102313.85 0.0291 0.0116

Saturn -57013-12-16 01:25 J -19102225.57 -19102225.44 -19102225.30 0.0292 0.0005

Saturn -57012-03-14 14:09 J -19102137.03 -19102136.91 -19102136.79 0.0293 0.0115

Saturn -57012-06-11 02:37 J -19102048.46 -19102048.39 -19102048.30 0.0294 0.0231

Jupiter -57011-01-11 18:28 J -19101833.90 -19101833.73 -19101833.55 0.0494 0.0134

Mars -57008-10-10 04:33 J -19100466.43 -19100466.31 -19100466.19 0.1820 0.0077

Earth -57007-06-30 00:13 J -19100203.58 -19100203.49 -19100203.39 0.2671 0.1382

Moon -57007-06-30 00:42 J -19100203.57 -19100203.47 -19100203.37 0.2677 0.1382 *

Mars -57007-08-07 05:01 J -19100165.42 -19100165.29 -19100165.16 0.1715 0.1008

Jupiter -57006-12-13 04:47 J -19099672.43 -19099672.30 -19099672.17 0.0532 0.0034

Moon -57001-07-08 20:52 J -19098002.69 -19098002.63 -19098002.58 0.2673 0.2295

Earth -57001-07-08 21:06 J -19098002.68 -19098002.62 -19098002.57 0.2679 0.2312 *

57TH MILLENNIUM BCE

This is a list of transits of Mercury in the 57th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Jupiter -57000-10-30 16:47 J -19097523.94 -19097523.80 -19097523.65 0.0494 0.0293

Jupiter -56999-01-28 23:45 J -19097433.62 -19097433.51 -19097433.39 0.0494 0.0375

Saturn -56999-04-20 19:40 J -19097351.82 -19097351.68 -19097351.53 0.0270 0.0159

Saturn -56999-07-18 15:49 J -19097263.02 -19097262.84 -19097262.66 0.0270 0.0036

Saturn -56999-10-15 11:59 J -19097174.17 -19097174.00 -19097173.83 0.0269 0.0089

Saturn -56998-01-12 08:09 J -19097085.26 -19097085.16 -19097085.04 0.0268 0.0214

Mars -56998-03-02 13:11 J -19097036.06 -19097035.95 -19097035.85 0.1812 0.0876

Moon -56998-12-26 13:40 J -19096737.04 -19096736.93 -19096736.81 0.2660 0.1661

Earth -56998-12-26 15:21 J -19096736.99 -19096736.86 -19096736.74 0.2661 0.1563 *

Mars -56998-12-28 05:59 J -19096735.41 -19096735.25 -19096735.09 0.1723 0.0075

Earth -56994-07-02 18:57 J -19095452.82 -19095452.71 -19095452.60 0.2673 0.0398

Moon -56994-07-02 19:40 J -19095452.79 -19095452.68 -19095452.57 0.2676 0.0261 *

Jupiter -56994-10-01 07:54 J -19095362.29 -19095362.17 -19095362.04 0.0533 0.0125

Jupiter -56994-12-29 15:06 J -19095272.94 -19095272.87 -19095272.80 0.0532 0.0444

Neptune -56991-02-24 03:35 J -19094485.39 -19094485.35 -19094485.29 0.0089 0.0083

Neptune -56991-05-23 05:16 J -19094397.34 -19094397.28 -19094397.21 0.0089 0.0077

Neptune -56991-08-19 06:42 J -19094309.29 -19094309.22 -19094309.13 0.0089 0.0071

Neptune -56991-11-15 08:23 J -19094221.24 -19094221.15 -19094221.06 0.0089 0.0065

Neptune -56990-02-11 09:35 J -19094133.19 -19094133.10 -19094132.99 0.0089 0.0060

Neptune -56990-05-10 11:01 J -19094045.14 -19094045.04 -19094044.92 0.0089 0.0054

Neptune -56990-08-06 12:42 J -19093957.08 -19093956.97 -19093956.85 0.0089 0.0048

Neptune -56990-11-02 14:09 J -19093869.02 -19093868.91 -19093868.78 0.0089 0.0042

Neptune -56989-01-29 15:49 J -19093780.97 -19093780.84 -19093780.71 0.0089 0.0036

Neptune -56989-04-26 17:16 J -19093692.91 -19093692.78 -19093692.65 0.0089 0.0030

Mars -56989-07-22 21:35 J -19093605.63 -19093605.60 -19093605.56 0.1803 0.1689

Neptune -56989-07-23 18:42 J -19093604.85 -19093604.72 -19093604.58 0.0089 0.0024

Neptune -56989-10-19 20:09 J -19093516.79 -19093516.66 -19093516.52 0.0089 0.0018

Neptune -56988-01-15 21:35 J -19093428.73 -19093428.60 -19093428.46 0.0089 0.0013

Neptune -56988-04-13 23:16 J -19093340.67 -19093340.53 -19093340.40 0.0089 0.0007

Mars -56988-05-19 06:42 J -19093305.33 -19093305.22 -19093305.10 0.1731 0.1170

Neptune -56988-07-11 00:42 J -19093252.61 -19093252.47 -19093252.34 0.0089 0.0002

Jupiter -56988-08-18 14:52 J -19093213.95 -19093213.88 -19093213.81 0.0493 0.0456

Neptune -56988-10-07 02:09 J -19093164.55 -19093164.41 -19093164.28 0.0089 0.0005

Jupiter -56988-11-16 21:21 J -19093123.78 -19093123.61 -19093123.44 0.0494 0.0205

Neptune -56987-01-03 03:35 J -19093076.49 -19093076.35 -19093076.22 0.0089 0.0011

Neptune -56987-04-01 05:01 J -19092988.43 -19092988.29 -19092988.16 0.0089 0.0016

Neptune -56987-06-28 06:13 J -19092900.36 -19092900.24 -19092900.10 0.0089 0.0023

Mars -56987-06-28 11:45 J -19092900.05 -19092900.01 -19092899.97 0.1839 0.1729

Venus -56987-07-02 15:06 J -19092895.90 -19092895.87 -19092895.85 0.3791 0.3654

Neptune -56987-09-24 07:54 J -19092812.30 -19092812.17 -19092812.04 0.0089 0.0028

Neptune -56987-12-21 09:06 J -19092724.24 -19092724.12 -19092723.99 0.0089 0.0034

Neptune -56986-03-19 10:33 J -19092636.17 -19092636.06 -19092635.93 0.0089 0.0040

Neptune -56986-06-15 12:13 J -19092548.11 -19092547.99 -19092547.88 0.0089 0.0045

Neptune -56986-09-11 13:25 J -19092460.04 -19092459.94 -19092459.82 0.0089 0.0051

Neptune -56986-12-08 14:37 J -19092371.98 -19092371.89 -19092371.77 0.0089 0.0057

Neptune -56985-03-05 16:18 J -19092283.91 -19092283.82 -19092283.72 0.0089 0.0062

Neptune -56985-06-01 17:30 J -19092195.84 -19092195.77 -19092195.67 0.0089 0.0068

Neptune -56985-08-28 18:57 J -19092107.77 -19092107.71 -19092107.62 0.0089 0.0074

Neptune -56985-11-24 20:23 J -19092019.70 -19092019.65 -19092019.58 0.0089 0.0079

Moon -56985-12-28 18:28 J -19091985.88 -19091985.73 -19091985.58 0.2660 0.0111

Earth -56985-12-28 19:54 J -19091985.82 -19091985.67 -19091985.52 0.2659 0.0172 *

Neptune -56984-02-20 21:49 J -19091931.62 -19091931.59 -19091931.54 0.0089 0.0085

Venus -56984-04-07 22:18 J -19091885.71 -19091885.57 -19091885.42 0.3584 0.1540

Saturn -56984-11-09 03:06 J -19091670.43 -19091670.37 -19091670.30 0.0290 0.0253

Saturn -56983-02-05 16:04 J -19091581.95 -19091581.83 -19091581.71 0.0291 0.0138

Uranus -56983-02-07 17:01 J -19091579.83 -19091579.79 -19091579.75 0.0132 0.0124

Saturn -56983-05-05 04:47 J -19091493.43 -19091493.30 -19091493.16 0.0292 0.0025

Uranus -56983-05-06 19:54 J -19091491.74 -19091491.67 -19091491.59 0.0132 0.0107

Saturn -56983-08-01 17:45 J -19091404.89 -19091404.76 -19091404.64 0.0292 0.0094

Uranus -56983-08-02 23:01 J -19091403.64 -19091403.54 -19091403.44 0.0132 0.0090

Saturn -56983-10-29 06:13 J -19091316.33 -19091316.24 -19091316.15 0.0293 0.0208

Uranus -56983-10-30 01:54 J -19091315.52 -19091315.42 -19091315.30 0.0132 0.0073

Uranus -56982-01-26 05:01 J -19091227.41 -19091227.29 -19091227.17 0.0132 0.0055

Uranus -56982-04-24 08:09 J -19091139.29 -19091139.16 -19091139.04 0.0132 0.0038

Jupiter -56982-07-20 11:45 J -19091052.12 -19091052.01 -19091051.90 0.0533 0.0267

Uranus -56982-07-21 11:01 J -19091051.17 -19091051.04 -19091050.91 0.0132 0.0021

Uranus -56982-10-17 14:09 J -19090963.05 -19090962.91 -19090962.78 0.0132 0.0005

Jupiter -56982-10-17 19:11 J -19090962.80 -19090962.70 -19090962.60 0.0532 0.0307 *

Uranus -56981-01-13 17:01 J -19090874.92 -19090874.79 -19090874.66 0.0132 0.0013

Venus -56981-01-16 06:57 J -19090872.30 -19090872.21 -19090872.12 0.3794 0.1661

Uranus -56981-04-10 19:54 J -19090786.80 -19090786.67 -19090786.54 0.0132 0.0031

Earth -56981-07-04 13:25 J -19090702.05 -19090701.94 -19090701.83 0.2675 0.0590

Moon -56981-07-04 13:54 J -19090702.03 -19090701.92 -19090701.81 0.2672 0.0580 *

Uranus -56981-07-07 23:01 J -19090698.67 -19090698.54 -19090698.42 0.0132 0.0048

Uranus -56981-10-04 01:54 J -19090610.53 -19090610.42 -19090610.30 0.0132 0.0065

Uranus -56981-12-31 04:47 J -19090522.40 -19090522.30 -19090522.19 0.0132 0.0082

Uranus -56980-03-29 07:40 J -19090434.26 -19090434.18 -19090434.09 0.0133 0.0099

Uranus -56980-06-25 10:33 J -19090346.11 -19090346.06 -19090345.99 0.0133 0.0117

Mars -56978-11-18 20:09 J -19089469.76 -19089469.66 -19089469.55 0.1830 0.0895

Venus -56976-07-31 22:47 J -19088848.65 -19088848.55 -19088848.45 0.3797 0.0363

Jupiter -56976-09-04 17:45 J -19088813.94 -19088813.76 -19088813.57 0.0494 0.0026

Moon -56974-06-28 10:33 J -19088152.13 -19088152.06 -19088152.00 0.2677 0.2199

Earth -56974-06-28 10:33 J -19088152.12 -19088152.06 -19088151.99 0.2670 0.2187 *

Moon -56971-01-01 00:28 J -19087234.59 -19087234.48 -19087234.37 0.2663 0.1817

Earth -56971-01-01 00:57 J -19087234.56 -19087234.46 -19087234.35 0.2656 0.1955 *

Venus -56970-02-14 14:37 J -19086824.97 -19086824.89 -19086824.81 0.3800 0.2358

Jupiter -56970-05-08 15:49 J -19086741.92 -19086741.84 -19086741.75 0.0533 0.0405

Jupiter -56970-08-05 23:30 J -19086652.64 -19086652.52 -19086652.40 0.0532 0.0173

Saturn -56970-09-07 20:52 J -19086619.76 -19086619.63 -19086619.50 0.0271 0.0185

Saturn -56970-12-05 16:47 J -19086530.97 -19086530.80 -19086530.62 0.0270 0.0062

Saturn -56969-03-03 12:57 J -19086442.14 -19086441.96 -19086441.78 0.0269 0.0062

Saturn -56969-05-31 09:06 J -19086353.25 -19086353.12 -19086352.98 0.0268 0.0186

Mars -56968-04-10 04:47 J -19086039.42 -19086039.30 -19086039.19 0.1821 0.0085

Earth -56968-07-07 07:40 J -19085951.27 -19085951.18 -19085951.09 0.2677 0.1542

Moon -56968-07-07 07:54 J -19085951.26 -19085951.17 -19085951.08 0.2671 0.1612 *

Mars -56967-02-05 05:45 J -19085738.38 -19085738.26 -19085738.14 0.1714 0.1143

Jupiter -56964-06-23 15:35 J -19084504.02 -19084503.85 -19084503.67 0.0494 0.0143

Earth -56961-06-30 05:16 J -19083401.38 -19083401.28 -19083401.18 0.2672 0.1189

Moon -56961-06-30 05:45 J -19083401.36 -19083401.26 -19083401.16 0.2676 0.1133 *

Mars -56959-08-31 13:11 J -19082609.06 -19082608.95 -19082608.84 0.1812 0.0771

Jupiter -56958-05-25 03:21 J -19082342.49 -19082342.36 -19082342.24 0.0532 0.0034

Mars -56958-06-28 06:28 J -19082308.39 -19082308.23 -19082308.07 0.1723 0.0064

Moon -56955-07-10 01:25 J -19081200.48 -19081200.44 -19081200.39 0.2673 0.2412

Earth -56955-07-10 01:54 J -19081200.46 -19081200.42 -19081200.38 0.2679 0.2489 *

Saturn -56954-03-29 04:47 J -19080938.31 -19080938.30 -19080938.29 0.0290 0.0288

Saturn -56954-06-25 17:45 J -19080849.87 -19080849.76 -19080849.65 0.0291 0.0173

Saturn -56954-09-22 06:42 J -19080761.36 -19080761.22 -19080761.09 0.0292 0.0058

Saturn -56954-12-19 19:25 J -19080672.83 -19080672.69 -19080672.56 0.0293 0.0059

Saturn -56953-03-17 07:54 J -19080584.27 -19080584.17 -19080584.06 0.0293 0.0174

Saturn -56953-06-13 20:37 J -19080495.66 -19080495.64 -19080495.62 0.0294 0.0288

Jupiter -56952-04-11 13:40 J -19080194.07 -19080193.93 -19080193.79 0.0494 0.0305

Jupiter -56952-07-10 20:37 J -19080103.76 -19080103.64 -19080103.51 0.0494 0.0363

Moon -56952-12-26 19:54 J -19079934.79 -19079934.67 -19079934.54 0.2660 0.1426

Earth -56952-12-26 21:35 J -19079934.73 -19079934.60 -19079934.47 0.2661 0.1250 *

Mars -56949-01-21 21:35 J -19079178.65 -19079178.60 -19079178.54 0.1803 0.1597

Mars -56949-11-17 07:25 J -19078878.32 -19078878.19 -19078878.06 0.1731 0.1026

Earth -56948-07-02 23:45 J -19078650.62 -19078650.51 -19078650.39 0.2674 0.0212

Moon -56948-07-03 00:28 J -19078650.59 -19078650.48 -19078650.36 0.2676 0.0204 *

Mars -56948-12-27 11:45 J -19078473.02 -19078473.01 -19078473.00 0.1838 0.1828

Jupiter -56946-03-13 06:42 J -19078032.34 -19078032.22 -19078032.09 0.0532 0.0119

Jupiter -56946-06-10 13:54 J -19077942.99 -19077942.92 -19077942.85 0.0531 0.0450

Uranus -56942-05-24 18:28 J -19076498.76 -19076498.73 -19076498.68 0.0147 0.0143

Uranus -56942-08-21 02:52 J -19076410.49 -19076410.38 -19076410.24 0.0147 0.0110

Uranus -56942-11-17 11:30 J -19076322.18 -19076322.02 -19076321.85 0.0147 0.0076

Uranus -56941-02-13 19:54 J -19076233.84 -19076233.67 -19076233.48 0.0147 0.0043

Uranus -56941-05-12 04:47 J -19076145.49 -19076145.30 -19076145.11 0.0147 0.0009

Uranus -56941-08-08 13:11 J -19076057.13 -19076056.95 -19076056.76 0.0146 0.0026

Uranus -56941-11-04 21:49 J -19075968.76 -19075968.59 -19075968.41 0.0146 0.0059

Saturn -56940-01-24 21:06 J -19075887.72 -19075887.62 -19075887.50 0.0271 0.0217

Jupiter -56940-01-28 12:13 J -19075884.05 -19075883.99 -19075883.93 0.0494 0.0461

Uranus -56940-02-01 06:13 J -19075880.37 -19075880.24 -19075880.08 0.0146 0.0094

Saturn -56940-04-23 17:01 J -19075798.95 -19075798.79 -19075798.61 0.0270 0.0094

Jupiter -56940-04-28 18:42 J -19075793.89 -19075793.72 -19075793.55 0.0494 0.0200

Uranus -56940-04-30 14:52 J -19075791.96 -19075791.88 -19075791.77 0.0146 0.0127

Saturn -56940-07-21 13:11 J -19075710.13 -19075709.95 -19075709.76 0.0269 0.0031

Saturn -56940-10-18 09:21 J -19075621.25 -19075621.11 -19075620.95 0.0268 0.0155

Moon -56939-12-30 00:57 J -19075183.61 -19075183.46 -19075183.31 0.2661 0.0351

Earth -56939-12-30 02:23 J -19075183.55 -19075183.40 -19075183.25 0.2658 0.0496 *

Mars -56938-05-19 20:09 J -19075042.76 -19075042.66 -19075042.56 0.1830 0.0979

Earth -56935-07-05 18:13 J -19073899.85 -19073899.74 -19073899.63 0.2676 0.0764

Moon -56935-07-05 18:42 J -19073899.82 -19073899.72 -19073899.61 0.2671 0.0889 *

Jupiter -56935-12-30 09:49 J -19073722.20 -19073722.09 -19073721.98 0.0533 0.0273

Jupiter -56934-03-29 17:16 J -19073632.89 -19073632.78 -19073632.68 0.0532 0.0300

Venus -56930-02-06 12:28 J -19072223.04 -19072222.98 -19072222.92 0.3792 0.2928

Mars -56929-10-09 04:47 J -19071612.42 -19071612.30 -19071612.18 0.1821 0.0157

Jupiter -56928-02-14 16:33 J -19071484.00 -19071483.81 -19071483.63 0.0494 0.0034

Moon -56928-06-28 15:35 J -19071349.93 -19071349.85 -19071349.78 0.2677 0.2034

Earth -56928-06-28 15:35 J -19071349.93 -19071349.85 -19071349.78 0.2670 0.1995 *

Mars -56928-08-06 06:13 J -19071311.34 -19071311.24 -19071311.13 0.1714 0.1277

Venus -56928-11-13 00:28 J -19071212.64 -19071212.48 -19071212.32 0.3583 0.0369

Moon -56925-01-02 06:42 J -19070432.29 -19070432.22 -19070432.14 0.2663 0.2319

Earth -56925-01-02 07:25 J -19070432.26 -19070432.19 -19070432.11 0.2656 0.2279 *

Venus -56925-08-22 04:18 J -19070199.41 -19070199.32 -19070199.22 0.3795 0.0930

Saturn -56925-11-11 20:37 J -19070117.73 -19070117.64 -19070117.54 0.0290 0.0198

Saturn -56924-02-08 09:35 J -19070029.23 -19070029.10 -19070028.97 0.0291 0.0083

Saturn -56924-05-07 22:18 J -19069940.70 -19069940.57 -19069940.43 0.0292 0.0033

Saturn -56924-08-04 11:01 J -19069852.15 -19069852.04 -19069851.92 0.0293 0.0148

Saturn -56924-10-31 23:30 J -19069763.57 -19069763.52 -19069763.46 0.0294 0.0263

Jupiter -56923-10-18 13:40 J -19069412.01 -19069411.93 -19069411.85 0.0533 0.0417

Jupiter -56922-01-15 21:06 J -19069322.74 -19069322.62 -19069322.49 0.0532 0.0163

Moon -56922-07-08 12:42 J -19069149.06 -19069148.97 -19069148.88 0.2672 0.1677

Earth -56922-07-08 12:28 J -19069149.06 -19069148.98 -19069148.89 0.2678 0.1728 *

Mars -56919-03-01 13:11 J -19068182.06 -19068181.95 -19068181.84 0.1812 0.0674

Venus -56919-03-07 20:09 J -19068175.75 -19068175.66 -19068175.56 0.3798 0.1097

Earth -56919-12-24 23:16 J -19067883.54 -19067883.53 -19067883.51 0.2663 0.2631

Mars -56919-12-27 06:57 J -19067881.37 -19067881.21 -19067881.05 0.1723 0.0191

Jupiter -56917-12-03 13:11 J -19067174.13 -19067173.95 -19067173.78 0.0494 0.0147

Earth -56915-07-01 10:18 J -19066599.18 -19066599.07 -19066598.97 0.2672 0.1005

Moon -56915-07-01 10:47 J -19066599.15 -19066599.05 -19066598.94 0.2677 0.0944 *

Venus -56914-09-21 11:59 J -19066152.05 -19066152.00 -19066151.94 0.3800 0.3089

Saturn -56911-06-13 22:18 J -19065155.64 -19065155.57 -19065155.49 0.0271 0.0242

Saturn -56911-09-10 18:13 J -19065066.90 -19065066.74 -19065066.58 0.0270 0.0120

Jupiter -56911-11-04 01:25 J -19065012.56 -19065012.44 -19065012.31 0.0533 0.0032

Saturn -56911-12-08 14:09 J -19064978.09 -19064977.91 -19064977.72 0.0270 0.0008

Saturn -56910-03-07 10:18 J -19064889.22 -19064889.07 -19064888.90 0.0269 0.0127

Saturn -56910-06-04 06:42 J -19064800.28 -19064800.22 -19064800.15 0.0268 0.0251

Mars -56910-07-22 21:49 J -19064751.66 -19064751.59 -19064751.53 0.1804 0.1491

Mars -56909-05-18 07:54 J -19064451.31 -19064451.17 -19064451.04 0.1731 0.0898

Moon -56909-07-10 06:28 J -19064398.24 -19064398.23 -19064398.23 0.2674 0.2664

Earth -56909-07-10 06:42 J -19064398.22 -19064398.22 -19064398.21 0.2680 0.2669

Neptune -56909-08-13 17:16 J -19064363.81 -19064363.78 -19064363.72 0.0089 0.0086

Neptune -56909-11-09 20:09 J -19064275.72 -19064275.66 -19064275.55 0.0089 0.0079

Neptune -56908-02-05 23:30 J -19064187.61 -19064187.52 -19064187.40 0.0089 0.0071

Neptune -56908-05-05 02:52 J -19064099.50 -19064099.38 -19064099.25 0.0089 0.0063

Neptune -56908-08-01 05:45 J -19064011.38 -19064011.26 -19064011.10 0.0089 0.0056

Neptune -56908-10-28 09:06 J -19063923.26 -19063923.12 -19063922.95 0.0089 0.0048

Neptune -56907-01-24 12:28 J -19063835.14 -19063834.98 -19063834.81 0.0089 0.0040

Neptune -56907-04-22 15:35 J -19063747.01 -19063746.85 -19063746.67 0.0089 0.0032

Neptune -56907-07-19 18:57 J -19063658.89 -19063658.71 -19063658.53 0.0089 0.0024

Neptune -56907-10-15 22:04 J -19063570.75 -19063570.58 -19063570.39 0.0089 0.0017

Neptune -56906-01-12 01:25 J -19063482.62 -19063482.44 -19063482.25 0.0089 0.0009

Neptune -56906-04-10 04:47 J -19063394.49 -19063394.30 -19063394.12 0.0089 0.0001

Neptune -56906-07-07 07:54 J -19063306.35 -19063306.17 -19063305.98 0.0089 0.0007

Neptune -56906-10-03 11:16 J -19063218.21 -19063218.03 -19063217.85 0.0089 0.0015

Moon -56906-12-28 02:09 J -19063132.55 -19063132.41 -19063132.27 0.2659 0.1013

Earth -56906-12-28 03:49 J -19063132.48 -19063132.34 -19063132.20 0.2660 0.0939 *

Neptune -56906-12-30 14:23 J -19063130.07 -19063129.90 -19063129.71 0.0089 0.0023

Neptune -56905-03-27 17:45 J -19063041.93 -19063041.76 -19063041.58 0.0089 0.0031

Neptune -56905-06-23 20:52 J -19062953.79 -19062953.63 -19062953.45 0.0089 0.0039

Neptune -56905-09-20 00:13 J -19062865.64 -19062865.49 -19062865.32 0.0089 0.0047

Jupiter -56905-09-21 11:01 J -19062864.17 -19062864.04 -19062863.89 0.0493 0.0311

Neptune -56905-12-17 03:35 J -19062777.49 -19062777.35 -19062777.19 0.0089 0.0055

Jupiter -56905-12-20 17:59 J -19062773.87 -19062773.75 -19062773.62 0.0494 0.0357

Neptune -56904-03-15 06:42 J -19062689.33 -19062689.22 -19062689.07 0.0089 0.0063

Neptune -56904-06-11 10:04 J -19062601.17 -19062601.08 -19062600.95 0.0089 0.0071

Neptune -56904-09-07 13:25 J -19062513.01 -19062512.94 -19062512.84 0.0089 0.0079

Neptune -56904-12-04 16:47 J -19062424.82 -19062424.80 -19062424.74 0.0089 0.0087

Earth -56902-07-04 04:47 J -19061848.41 -19061848.30 -19061848.19 0.2674 0.0041

Moon -56902-07-04 05:30 J -19061848.38 -19061848.27 -19061848.16 0.2674 0.0088 *

Pluto -56900-07-07 08:52 J -19061114.16 -19061114.13 -19061114.07 0.0061 0.0059

Pluto -56900-10-03 10:04 J -19061026.14 -19061026.08 -19061025.99 0.0061 0.0055

Pluto -56900-12-30 11:01 J -19060938.12 -19060938.04 -19060937.93 0.0061 0.0050

Uranus -56899-02-28 00:42 J -19060878.52 -19060878.47 -19060878.41 0.0132 0.0117

Pluto -56899-03-28 12:13 J -19060850.09 -19060849.99 -19060849.86 0.0061 0.0046

Uranus -56899-05-27 03:49 J -19060790.43 -19060790.34 -19060790.25 0.0132 0.0100

Pluto -56899-06-24 13:11 J -19060762.06 -19060761.95 -19060761.81 0.0061 0.0041

Jupiter -56899-08-23 05:16 J -19060702.40 -19060702.28 -19060702.15 0.0532 0.0117

Uranus -56899-08-23 06:42 J -19060702.32 -19060702.22 -19060702.11 0.0132 0.0083 *

Pluto -56899-09-20 14:23 J -19060674.03 -19060673.90 -19060673.75 0.0062 0.0037

Mars -56899-11-17 20:23 J -19060615.75 -19060615.65 -19060615.56 0.1830 0.1088

Uranus -56899-11-19 09:49 J -19060614.20 -19060614.09 -19060613.97 0.0132 0.0066

Jupiter -56899-11-20 12:28 J -19060613.04 -19060612.98 -19060612.91 0.0532 0.0452

Pluto -56899-12-17 15:35 J -19060585.99 -19060585.85 -19060585.69 0.0062 0.0032

Uranus -56898-02-15 12:57 J -19060526.09 -19060525.96 -19060525.84 0.0132 0.0048

Pluto -56898-03-15 16:33 J -19060497.95 -19060497.81 -19060497.64 0.0062 0.0028

Uranus -56898-05-14 15:49 J -19060437.97 -19060437.84 -19060437.71 0.0132 0.0031

Pluto -56898-06-11 17:45 J -19060409.91 -19060409.76 -19060409.59 0.0062 0.0023

Uranus -56898-08-10 18:57 J -19060349.85 -19060349.71 -19060349.58 0.0132 0.0014

Pluto -56898-09-07 18:57 J -19060321.87 -19060321.71 -19060321.54 0.0062 0.0018

Uranus -56898-11-06 21:49 J -19060261.72 -19060261.59 -19060261.46 0.0132 0.0004

Pluto -56898-12-04 19:54 J -19060233.83 -19060233.67 -19060233.48 0.0062 0.0014

Uranus -56897-02-03 00:42 J -19060173.60 -19060173.47 -19060173.33 0.0132 0.0021

Pluto -56897-03-01 21:21 J -19060145.78 -19060145.61 -19060145.43 0.0062 0.0009

Uranus -56897-05-01 03:49 J -19060085.47 -19060085.34 -19060085.21 0.0132 0.0038

Pluto -56897-05-28 22:33 J -19060057.74 -19060057.56 -19060057.39 0.0062 0.0004

Uranus -56897-07-28 06:42 J -19059997.34 -19059997.22 -19059997.10 0.0132 0.0055

Pluto -56897-08-24 23:45 J -19059969.69 -19059969.51 -19059969.34 0.0062 0.0001

Uranus -56897-10-24 09:35 J -19059909.20 -19059909.10 -19059908.98 0.0132 0.0072

Pluto -56897-11-21 00:42 J -19059881.64 -19059881.47 -19059881.29 0.0062 0.0006

Uranus -56896-01-20 12:28 J -19059821.07 -19059820.98 -19059820.87 0.0132 0.0089

Pluto -56896-02-17 02:09 J -19059793.59 -19059793.41 -19059793.24 0.0062 0.0011

Uranus -56896-04-18 15:21 J -19059732.93 -19059732.86 -19059732.77 0.0133 0.0107

Pluto -56896-05-16 03:06 J -19059705.53 -19059705.37 -19059705.19 0.0062 0.0016

Uranus -56896-07-15 18:13 J -19059644.77 -19059644.74 -19059644.68 0.0133 0.0124

Pluto -56896-08-12 04:18 J -19059617.48 -19059617.32 -19059617.15 0.0062 0.0021

Pluto -56896-11-08 05:16 J -19059529.43 -19059529.28 -19059529.10 0.0063 0.0026

Pluto -56895-02-04 06:28 J -19059441.37 -19059441.23 -19059441.06 0.0063 0.0031

Saturn -56895-03-31 21:49 J -19059385.66 -19059385.59 -19059385.51 0.0290 0.0237

Pluto -56895-05-03 07:40 J -19059353.31 -19059353.18 -19059353.02 0.0063 0.0036

Saturn -56895-06-28 10:47 J -19059297.17 -19059297.05 -19059296.92 0.0291 0.0122

Pluto -56895-07-30 08:52 J -19059265.25 -19059265.13 -19059264.98 0.0063 0.0041

Saturn -56895-09-24 23:45 J -19059208.65 -19059208.51 -19059208.38 0.0292 0.0010

Pluto -56895-10-26 10:04 J -19059177.18 -19059177.08 -19059176.94 0.0063 0.0046

Saturn -56895-12-22 12:13 J -19059120.11 -19059119.99 -19059119.86 0.0293 0.0110

Pluto -56894-01-22 11:16 J -19059089.11 -19059089.03 -19059088.90 0.0063 0.0051

Saturn -56894-03-21 00:57 J -19059031.54 -19059031.46 -19059031.37 0.0294 0.0225

Pluto -56894-04-20 12:28 J -19059001.03 -19059000.98 -19059000.88 0.0063 0.0056

Pluto -56894-07-17 13:54 J -19058912.94 -19058912.92 -19058912.86 0.0063 0.0061

Jupiter -56893-07-10 09:21 J -19058554.16 -19058554.11 -19058554.05 0.0494 0.0470

Jupiter -56893-10-08 15:49 J -19058464.01 -19058463.84 -19058463.67 0.0494 0.0192

Moon -56893-12-30 07:25 J -19058381.33 -19058381.19 -19058381.04 0.2662 0.0705

Earth -56893-12-30 08:37 J -19058381.28 -19058381.14 -19058381.00 0.2658 0.0809 *

Mars -56889-04-09 04:47 J -19057185.42 -19057185.30 -19057185.19 0.1821 0.0253

Earth -56889-07-05 23:01 J -19057097.64 -19057097.54 -19057097.43 0.2676 0.0958

Moon -56889-07-05 23:45 J -19057097.62 -19057097.51 -19057097.40 0.2671 0.0944 *

Mars -56888-02-04 06:42 J -19056884.30 -19056884.22 -19056884.13 0.1714 0.1414

Jupiter -56887-06-11 08:52 J -19056392.24 -19056392.13 -19056392.01 0.0532 0.0263

Jupiter -56887-09-08 16:18 J -19056302.92 -19056302.82 -19056302.72 0.0532 0.0310

Earth -56882-06-29 20:37 J -19054547.73 -19054547.64 -19054547.56 0.2670 0.1805

Moon -56882-06-29 20:37 J -19054547.72 -19054547.64 -19054547.55 0.2677 0.1751 *

Saturn -56881-01-28 17:59 J -19054334.90 -19054334.75 -19054334.60 0.0270 0.0156

Saturn -56881-04-26 13:54 J -19054246.10 -19054245.92 -19054245.74 0.0270 0.0033

Saturn -56881-07-24 10:04 J -19054157.25 -19054157.08 -19054156.91 0.0269 0.0091

Jupiter -56881-07-27 14:09 J -19054154.09 -19054153.91 -19054153.73 0.0494 0.0031

Saturn -56881-10-21 06:13 J -19054068.34 -19054068.24 -19054068.12 0.0268 0.0215

Mars -56880-08-30 13:11 J -19053755.06 -19053754.95 -19053754.83 0.1813 0.0579

Moon -56879-01-02 13:25 J -19053629.99 -19053629.94 -19053629.90 0.2662 0.2508

Earth -56879-01-02 13:54 J -19053629.95 -19053629.92 -19053629.90 0.2656 0.2606 *

Mars -56879-06-27 07:40 J -19053454.33 -19053454.18 -19053454.02 0.1722 0.0335

Venus -56877-12-03 17:16 J -19052563.82 -19052563.78 -19052563.73 0.3586 0.3392

Moon -56876-07-08 17:30 J -19052346.85 -19052346.77 -19052346.70 0.2671 0.1953

Earth -56876-07-08 17:30 J -19052346.85 -19052346.77 -19052346.69 0.2678 0.1903 *

Jupiter -56875-03-30 11:59 J -19052082.08 -19052082.00 -19052081.92 0.0533 0.0418

Jupiter -56875-06-27 19:40 J -19051992.80 -19051992.68 -19051992.56 0.0532 0.0159

Venus -56874-09-13 10:04 J -19051550.16 -19051550.08 -19051550.00 0.3792 0.2202

Moon -56873-12-25 04:18 J -19051081.39 -19051081.32 -19051081.25 0.2659 0.2336

Earth -56873-12-25 05:30 J -19051081.34 -19051081.27 -19051081.20 0.2662 0.2329 *

Venus -56871-06-20 02:37 J -19050539.51 -19050539.39 -19050539.27 0.3582 0.2309

Mars -56870-01-20 21:49 J -19050324.66 -19050324.59 -19050324.51 0.1804 0.1387

Mars -56870-11-17 08:23 J -19050024.29 -19050024.15 -19050024.01 0.1731 0.0767

Jupiter -56869-05-15 11:59 J -19049844.17 -19049844.00 -19049843.82 0.0494 0.0135

Earth -56869-07-01 15:06 J -19049796.98 -19049796.87 -19049796.76 0.2672 0.0811

Moon -56869-07-01 15:49 J -19049796.95 -19049796.84 -19049796.74 0.2677 0.0775 *

Venus -56868-03-29 01:54 J -19049526.52 -19049526.42 -19049526.32 0.3796 0.0201

Saturn -56866-08-19 00:28 J -19048653.53 -19048653.48 -19048653.42 0.0290 0.0264

Saturn -56866-11-15 13:25 J -19048565.05 -19048564.94 -19048564.82 0.0291 0.0149

Saturn -56865-02-12 02:23 J -19048476.53 -19048476.40 -19048476.27 0.0292 0.0034

Saturn -56865-05-10 15:06 J -19048388.00 -19048387.87 -19048387.74 0.0292 0.0082

Saturn -56865-08-07 03:35 J -19048299.44 -19048299.35 -19048299.24 0.0293 0.0198

Jupiter -56863-04-15 23:30 J -19047682.65 -19047682.52 -19047682.39 0.0532 0.0023

Venus -56863-10-12 17:45 J -19047502.85 -19047502.76 -19047502.67 0.3798 0.1819

Moon -56860-12-28 08:37 J -19046330.28 -19046330.14 -19046330.00 0.2660 0.0823

Earth -56860-12-28 10:04 J -19046330.23 -19046330.08 -19046329.93 0.2660 0.0623 *

Mars -56859-05-18 20:23 J -19046188.74 -19046188.65 -19046188.56 0.1830 0.1185

Uranus -56858-06-14 02:09 J -19045797.48 -19045797.41 -19045797.33 0.0147 0.0134

Uranus -56858-09-10 10:33 J -19045709.19 -19045709.06 -19045708.91 0.0147 0.0101

Uranus -56858-12-07 18:57 J -19045620.86 -19045620.71 -19045620.53 0.0147 0.0068

Jupiter -56857-03-03 08:52 J -19045534.26 -19045534.13 -19045533.99 0.0493 0.0311

Uranus -56857-03-05 03:49 J -19045532.53 -19045532.34 -19045532.16 0.0147 0.0034

Uranus -56857-06-01 12:13 J -19045444.18 -19045443.99 -19045443.79 0.0147 0.0003

Jupiter -56857-06-01 15:49 J -19045443.97 -19045443.84 -19045443.72 0.0494 0.0355 *

Uranus -56857-08-28 20:52 J -19045355.81 -19045355.63 -19045355.44 0.0146 0.0034

Uranus -56857-11-25 05:30 J -19045267.44 -19045267.27 -19045267.10 0.0146 0.0068

Uranus -56856-02-21 14:09 J -19045179.05 -19045178.91 -19045178.77 0.0146 0.0102

Uranus -56856-05-20 22:47 J -19045090.62 -19045090.55 -19045090.48 0.0146 0.0136

Earth -56856-07-04 09:35 J -19045046.21 -19045046.10 -19045045.98 0.2674 0.0173

Moon -56856-07-04 10:18 J -19045046.18 -19045046.07 -19045045.95 0.2673 0.0237 *

Saturn -56852-06-16 18:42 J -19043602.85 -19043602.72 -19043602.59 0.0271 0.0183

Saturn -56852-09-13 14:37 J -19043514.06 -19043513.89 -19043513.71 0.0270 0.0061

Saturn -56852-12-11 10:47 J -19043425.23 -19043425.05 -19043424.87 0.0269 0.0063

Jupiter -56851-02-02 03:49 J -19043372.47 -19043372.34 -19043372.21 0.0533 0.0116

Saturn -56851-03-10 06:57 J -19043336.34 -19043336.21 -19043336.08 0.0269 0.0187

Jupiter -56851-05-02 11:01 J -19043283.11 -19043283.04 -19043282.98 0.0532 0.0453

Mars -56850-10-09 04:47 J -19042758.42 -19042758.30 -19042758.18 0.1821 0.0350

Moon -56849-06-27 06:13 J -19042496.26 -19042496.24 -19042496.21 0.2674 0.2596

Earth -56849-06-27 06:42 J -19042496.24 -19042496.22 -19042496.20 0.2668 0.2612 *

Mars -56849-08-05 07:25 J -19042457.26 -19042457.19 -19042457.12 0.1714 0.1549

Moon -56847-12-31 13:54 J -19041579.06 -19041578.92 -19041578.78 0.2663 0.1078

Earth -56847-12-31 15:06 J -19041579.01 -19041578.87 -19041578.74 0.2657 0.1132 *

Jupiter -56846-12-21 07:11 J -19041224.25 -19041224.20 -19041224.14 0.0493 0.0471

Jupiter -56845-03-20 13:40 J -19041134.10 -19041133.93 -19041133.76 0.0494 0.0190

Earth -56843-07-07 04:04 J -19040295.43 -19040295.33 -19040295.23 0.2676 0.1132

Moon -56843-07-07 04:33 J -19040295.41 -19040295.31 -19040295.21 0.2672 0.1226 *

Mars -56840-02-28 13:25 J -19039328.06 -19039327.94 -19039327.83 0.1812 0.0473

Jupiter -56840-11-21 07:40 J -19039062.29 -19039062.18 -19039062.06 0.0533 0.0257

Mars -56840-12-26 08:09 J -19039027.32 -19039027.16 -19039027.01 0.1722 0.0458

Jupiter -56839-02-18 15:06 J -19038972.97 -19038972.87 -19038972.77 0.0532 0.0316

Saturn -56836-04-03 14:23 J -19037833.00 -19037832.90 -19037832.80 0.0290 0.0191

Earth -56836-06-30 01:25 J -19037745.53 -19037745.44 -19037745.35 0.2671 0.1610

Moon -56836-06-30 01:40 J -19037745.51 -19037745.43 -19037745.34 0.2677 0.1651 *

Saturn -56836-07-01 03:21 J -19037744.49 -19037744.36 -19037744.23 0.0291 0.0076

Saturn -56836-09-27 16:04 J -19037655.97 -19037655.83 -19037655.70 0.0292 0.0040

Saturn -56836-12-25 04:33 J -19037567.42 -19037567.31 -19037567.19 0.0293 0.0155

Saturn -56835-03-23 17:16 J -19037478.83 -19037478.78 -19037478.73 0.0294 0.0269

Jupiter -56833-01-07 11:45 J -19036824.20 -19036824.01 -19036823.83 0.0494 0.0028

Mars -56831-07-21 21:49 J -19035897.67 -19035897.59 -19035897.51 0.1804 0.1296

Mars -56830-05-18 09:06 J -19035597.27 -19035597.12 -19035596.97 0.1731 0.0620

Moon -56830-07-09 22:18 J -19035544.64 -19035544.57 -19035544.50 0.2671 0.2006

Earth -56830-07-09 22:18 J -19035544.64 -19035544.57 -19035544.50 0.2678 0.2086 *

Jupiter -56828-09-09 11:16 J -19034752.11 -19034752.03 -19034751.94 0.0533 0.0404

Jupiter -56828-12-07 18:57 J -19034662.83 -19034662.71 -19034662.59 0.0532 0.0174

Neptune -56827-11-21 02:23 J -19034314.44 -19034314.40 -19034314.35 0.0089 0.0083

Moon -56827-12-26 10:33 J -19034279.14 -19034279.06 -19034278.98 0.2659 0.2228

Earth -56827-12-26 11:45 J -19034279.10 -19034279.01 -19034278.91 0.2662 0.2017 *

Neptune -56826-02-17 03:49 J -19034226.40 -19034226.34 -19034226.26 0.0089 0.0077

Neptune -56826-05-16 05:30 J -19034138.35 -19034138.27 -19034138.19 0.0089 0.0071

Neptune -56826-08-12 06:57 J -19034050.30 -19034050.21 -19034050.11 0.0089 0.0065

Neptune -56826-11-08 08:37 J -19033962.24 -19033962.14 -19033962.04 0.0089 0.0059

Neptune -56825-02-04 09:49 J -19033874.19 -19033874.09 -19033873.97 0.0089 0.0054

Neptune -56825-05-02 11:30 J -19033786.13 -19033786.02 -19033785.90 0.0089 0.0047

Neptune -56825-07-29 12:57 J -19033698.08 -19033697.96 -19033697.83 0.0089 0.0042

Neptune -56825-10-25 14:23 J -19033610.02 -19033609.90 -19033609.77 0.0089 0.0036

Neptune -56824-01-21 16:04 J -19033521.96 -19033521.83 -19033521.70 0.0089 0.0030

Neptune -56824-04-19 17:30 J -19033433.90 -19033433.77 -19033433.63 0.0089 0.0024

Neptune -56824-07-16 18:57 J -19033345.84 -19033345.71 -19033345.57 0.0089 0.0018

Neptune -56824-10-12 20:23 J -19033257.78 -19033257.65 -19033257.51 0.0089 0.0012

Neptune -56823-01-08 21:49 J -19033169.72 -19033169.59 -19033169.45 0.0089 0.0007

Neptune -56823-04-06 23:30 J -19033081.66 -19033081.52 -19033081.39 0.0089 0.0003

Earth -56823-07-02 20:09 J -19032994.77 -19032994.66 -19032994.55 0.2673 0.0626

Moon -56823-07-02 20:37 J -19032994.75 -19032994.64 -19032994.53 0.2676 0.0538 *

Neptune -56823-07-04 00:57 J -19032993.60 -19032993.46 -19032993.33 0.0089 0.0006

Neptune -56823-09-30 02:23 J -19032905.54 -19032905.40 -19032905.27 0.0089 0.0011

Venus -56823-10-04 15:35 J -19032900.89 -19032900.85 -19032900.81 0.3790 0.3474

Saturn -56823-11-03 17:30 J -19032870.86 -19032870.77 -19032870.66 0.0271 0.0224

Neptune -56823-12-27 03:49 J -19032817.48 -19032817.34 -19032817.21 0.0089 0.0017

Saturn -56822-01-31 13:25 J -19032782.10 -19032781.94 -19032781.77 0.0270 0.0102

Neptune -56822-03-25 05:01 J -19032729.42 -19032729.29 -19032729.15 0.0089 0.0023

Saturn -56822-04-30 09:35 J -19032693.28 -19032693.10 -19032692.92 0.0269 0.0022

Neptune -56822-06-21 06:28 J -19032641.35 -19032641.23 -19032641.09 0.0089 0.0029

Saturn -56822-07-28 05:45 J -19032604.41 -19032604.26 -19032604.10 0.0269 0.0146

Neptune -56822-09-17 07:54 J -19032553.29 -19032553.17 -19032553.04 0.0089 0.0034

Jupiter -56822-10-26 10:04 J -19032514.25 -19032514.08 -19032513.91 0.0494 0.0133

Neptune -56822-12-14 09:21 J -19032465.23 -19032465.11 -19032464.98 0.0089 0.0040

Neptune -56821-03-11 10:47 J -19032377.16 -19032377.05 -19032376.93 0.0089 0.0045

Neptune -56821-06-07 12:13 J -19032289.10 -19032288.99 -19032288.87 0.0089 0.0051

Neptune -56821-09-03 13:40 J -19032201.03 -19032200.93 -19032200.82 0.0089 0.0057

Mars -56821-10-07 09:49 J -19032167.10 -19032167.09 -19032167.07 0.1739 0.1722

Neptune -56821-11-30 14:52 J -19032112.96 -19032112.88 -19032112.77 0.0089 0.0063

Neptune -56820-02-26 16:33 J -19032024.89 -19032024.81 -19032024.72 0.0089 0.0068

Neptune -56820-05-25 17:45 J -19031936.82 -19031936.76 -19031936.68 0.0089 0.0074

Venus -56820-07-10 19:40 J -19031890.83 -19031890.68 -19031890.54 0.3585 0.1463

Neptune -56820-08-21 18:57 J -19031848.75 -19031848.71 -19031848.63 0.0089 0.0080

Mars -56820-11-16 20:09 J -19031761.74 -19031761.66 -19031761.57 0.1830 0.1277

Neptune -56820-11-17 20:37 J -19031760.67 -19031760.64 -19031760.60 0.0089 0.0085

Venus -56817-04-19 07:25 J -19030877.28 -19030877.19 -19030877.10 0.3793 0.1475

Jupiter -56816-09-25 22:18 J -19030352.70 -19030352.57 -19030352.44 0.0532 0.0026

Uranus -56816-12-22 05:16 J -19030265.30 -19030265.28 -19030265.24 0.0132 0.0128

Uranus -56815-03-20 08:37 J -19030177.21 -19030177.14 -19030177.07 0.0132 0.0110

Uranus -56815-06-16 11:30 J -19030089.11 -19030089.02 -19030088.92 0.0132 0.0093

Uranus -56815-09-12 14:23 J -19030001.00 -19030000.90 -19030000.78 0.0132 0.0076

Uranus -56815-12-09 17:45 J -19029912.88 -19029912.76 -19029912.64 0.0132 0.0058

Uranus -56814-03-07 20:37 J -19029824.76 -19029824.64 -19029824.51 0.0132 0.0041

Uranus -56814-06-03 23:45 J -19029736.64 -19029736.51 -19029736.38 0.0132 0.0024

Uranus -56814-08-31 02:37 J -19029648.52 -19029648.39 -19029648.26 0.0132 0.0007

Uranus -56814-11-27 05:45 J -19029560.40 -19029560.26 -19029560.13 0.0132 0.0011

Moon -56814-12-29 14:52 J -19029528.03 -19029527.88 -19029527.73 0.2661 0.0342

Earth -56814-12-29 16:18 J -19029527.97 -19029527.82 -19029527.67 0.2660 0.0315 *

Uranus -56813-02-23 08:37 J -19029472.27 -19029472.14 -19029472.01 0.0132 0.0028

Uranus -56813-05-21 11:30 J -19029384.14 -19029384.02 -19029383.89 0.0132 0.0045

Uranus -56813-08-17 14:23 J -19029296.01 -19029295.90 -19029295.78 0.0132 0.0062

Uranus -56813-11-13 17:16 J -19029207.88 -19029207.78 -19029207.66 0.0133 0.0080

Uranus -56812-02-09 20:09 J -19029119.74 -19029119.66 -19029119.56 0.0133 0.0097

Uranus -56812-05-08 23:16 J -19029031.59 -19029031.53 -19029031.46 0.0133 0.0113

Uranus -56812-08-05 02:09 J -19028943.42 -19028943.41 -19028943.38 0.0133 0.0131

Venus -56812-11-02 23:16 J -19028853.63 -19028853.53 -19028853.43 0.3796 0.0551

Mars -56810-04-09 04:47 J -19028331.41 -19028331.30 -19028331.18 0.1821 0.0455

Earth -56810-07-05 14:37 J -19028244.00 -19028243.89 -19028243.78 0.2675 0.0357

Moon -56810-07-05 15:21 J -19028243.97 -19028243.86 -19028243.75 0.2673 0.0418 *

Jupiter -56810-08-14 08:09 J -19028204.30 -19028204.16 -19028204.01 0.0494 0.0295

Jupiter -56810-11-12 15:06 J -19028113.99 -19028113.87 -19028113.75 0.0494 0.0374

Mars -56809-02-04 07:54 J -19028030.19 -19028030.17 -19028030.14 0.1714 0.1683

Pluto -56808-06-04 14:09 J -19027543.95 -19027543.91 -19027543.84 0.0083 0.0076

Pluto -56808-08-31 16:04 J -19027455.91 -19027455.83 -19027455.74 0.0083 0.0066

Pluto -56808-11-27 17:30 J -19027367.86 -19027367.77 -19027367.65 0.0083 0.0057

Pluto -56807-02-23 19:25 J -19027279.81 -19027279.69 -19027279.57 0.0083 0.0047

Pluto -56807-05-22 20:52 J -19027191.76 -19027191.63 -19027191.50 0.0082 0.0037

Pluto -56807-08-18 22:18 J -19027103.70 -19027103.57 -19027103.43 0.0082 0.0028

Saturn -56807-08-21 16:18 J -19027100.90 -19027100.82 -19027100.72 0.0290 0.0223

Pluto -56807-11-14 23:59 J -19027015.64 -19027015.50 -19027015.35 0.0082 0.0019

Saturn -56807-11-18 05:30 J -19027012.40 -19027012.27 -19027012.15 0.0291 0.0108

Pluto -56806-02-11 01:40 J -19026927.57 -19026927.43 -19026927.29 0.0082 0.0009

Saturn -56806-02-14 18:13 J -19026923.87 -19026923.74 -19026923.60 0.0292 0.0008

Pluto -56806-05-10 03:06 J -19026839.51 -19026839.37 -19026839.22 0.0082 0.0002

Saturn -56806-05-14 06:57 J -19026835.33 -19026835.21 -19026835.09 0.0293 0.0123

Venus -56806-05-19 15:06 J -19026829.94 -19026829.87 -19026829.80 0.3799 0.2538

Pluto -56806-08-06 04:47 J -19026751.45 -19026751.30 -19026751.16 0.0082 0.0009

Saturn -56806-08-10 19:40 J -19026746.76 -19026746.68 -19026746.61 0.0294 0.0238

Pluto -56806-11-02 06:13 J -19026663.38 -19026663.24 -19026663.10 0.0082 0.0018

Pluto -56805-01-29 07:40 J -19026575.31 -19026575.18 -19026575.04 0.0081 0.0027

Pluto -56805-04-26 09:06 J -19026487.24 -19026487.12 -19026486.99 0.0081 0.0035

Pluto -56805-07-23 10:33 J -19026399.17 -19026399.06 -19026398.93 0.0081 0.0044

Pluto -56805-10-19 11:45 J -19026311.10 -19026311.01 -19026310.89 0.0081 0.0054

Pluto -56804-01-15 13:25 J -19026223.02 -19026222.94 -19026222.84 0.0081 0.0061

Pluto -56804-04-13 14:52 J -19026134.94 -19026134.88 -19026134.80 0.0081 0.0070

Pluto -56804-07-10 16:33 J -19026046.84 -19026046.81 -19026046.78 0.0081 0.0078

Jupiter -56804-07-15 02:09 J -19026042.54 -19026042.41 -19026042.28 0.0533 0.0118

Jupiter -56804-10-12 09:21 J -19025953.18 -19025953.11 -19025953.05 0.0532 0.0451

Moon -56803-06-28 11:30 J -19025694.06 -19025694.02 -19025693.99 0.2675 0.2513

Earth -56803-06-28 11:45 J -19025694.06 -19025694.01 -19025693.96 0.2669 0.2417 *

Mars -56801-08-29 13:25 J -19024901.06 -19024900.94 -19024900.82 0.1812 0.0372

Moon -56801-12-31 20:09 J -19024776.79 -19024776.66 -19024776.53 0.2662 0.1311

Earth -56801-12-31 21:21 J -19024776.74 -19024776.61 -19024776.49 0.2657 0.1449 *

Mars -56800-06-26 08:37 J -19024600.29 -19024600.14 -19024599.99 0.1722 0.0599

Jupiter -56798-06-02 05:16 J -19023894.33 -19023894.28 -19023894.22 0.0493 0.0468

Jupiter -56798-08-31 11:45 J -19023804.18 -19023804.01 -19023803.84 0.0494 0.0193

Earth -56797-07-07 08:52 J -19023493.22 -19023493.13 -19023493.03 0.2677 0.1318

Moon -56797-07-07 09:21 J -19023493.21 -19023493.11 -19023493.01 0.2671 0.1317 *

Saturn -56793-03-22 17:59 J -19022138.80 -19022138.75 -19022138.68 0.0272 0.0254

Saturn -56793-06-19 13:54 J -19022050.08 -19022049.92 -19022049.76 0.0271 0.0131

Saturn -56793-09-16 09:49 J -19021961.27 -19021961.09 -19021960.90 0.0270 0.0010

Saturn -56793-12-14 05:59 J -19021872.41 -19021872.25 -19021872.08 0.0269 0.0116

Saturn -56792-03-13 02:23 J -19021783.48 -19021783.40 -19021783.32 0.0268 0.0240

Jupiter -56792-05-03 06:13 J -19021732.35 -19021732.24 -19021732.12 0.0533 0.0256

Jupiter -56792-07-31 13:40 J -19021643.03 -19021642.93 -19021642.82 0.0532 0.0320

Mars -56791-01-19 21:49 J -19021470.68 -19021470.59 -19021470.50 0.1804 0.1193

Mars -56791-11-16 09:35 J -19021170.26 -19021170.10 -19021169.95 0.1730 0.0500

Earth -56790-07-01 06:28 J -19020943.33 -19020943.23 -19020943.13 0.2671 0.1419

Moon -56790-07-01 06:42 J -19020943.31 -19020943.22 -19020943.12 0.2677 0.1328 *

Jupiter -56786-06-19 09:49 J -19019494.27 -19019494.09 -19019493.91 0.0494 0.0029

Moon -56784-07-10 03:06 J -19018742.43 -19018742.37 -19018742.31 0.2672 0.2291

Earth -56784-07-10 03:21 J -19018742.42 -19018742.36 -19018742.31 0.2679 0.2260 *

Mars -56781-04-07 10:18 J -19017740.13 -19017740.07 -19017740.01 0.1739 0.1591

Moon -56781-12-26 16:47 J -19017476.92 -19017476.80 -19017476.69 0.2659 0.1730

Earth -56781-12-26 18:13 J -19017476.86 -19017476.74 -19017476.63 0.2662 0.1709 *

Jupiter -56780-02-19 10:18 J -19017422.16 -19017422.07 -19017421.99 0.0533 0.0395

Mars -56780-05-17 20:23 J -19017334.73 -19017334.65 -19017334.58 0.1830 0.1379

Jupiter -56780-05-19 17:45 J -19017332.88 -19017332.76 -19017332.63 0.0532 0.0184

Saturn -56777-01-08 17:01 J -19016368.83 -19016368.79 -19016368.73 0.0289 0.0266

Saturn -56777-04-06 05:59 J -19016280.36 -19016280.25 -19016280.13 0.0290 0.0152

Earth -56777-07-03 00:57 J -19016192.57 -19016192.46 -19016192.34 0.2673 0.0439

Moon -56777-07-03 01:40 J -19016192.54 -19016192.43 -19016192.32 0.2675 0.0424 *

Saturn -56777-07-03 18:57 J -19016191.85 -19016191.71 -19016191.58 0.0291 0.0037

Saturn -56777-09-30 07:40 J -19016103.31 -19016103.18 -19016103.05 0.0292 0.0079

Saturn -56777-12-27 20:09 J -19016014.75 -19016014.66 -19016014.56 0.0293 0.0194

Jupiter -56774-04-07 07:54 J -19015184.34 -19015184.17 -19015183.99 0.0494 0.0132

Uranus -56774-07-04 09:35 J -19015096.18 -19015096.10 -19015095.99 0.0147 0.0126

Uranus -56774-09-30 18:28 J -19015007.88 -19015007.73 -19015007.58 0.0147 0.0092

Uranus -56774-12-28 02:52 J -19014919.55 -19014919.38 -19014919.20 0.0147 0.0058

Uranus -56773-03-25 11:30 J -19014831.21 -19014831.02 -19014830.84 0.0147 0.0025

Uranus -56773-06-21 19:54 J -19014742.86 -19014742.67 -19014742.48 0.0146 0.0009

Uranus -56773-09-18 04:33 J -19014654.49 -19014654.31 -19014654.13 0.0146 0.0043

Uranus -56773-12-15 12:57 J -19014566.12 -19014565.96 -19014565.79 0.0146 0.0077

Uranus -56772-03-13 21:35 J -19014477.72 -19014477.60 -19014477.47 0.0146 0.0110

Uranus -56772-06-10 06:13 J -19014389.26 -19014389.24 -19014389.20 0.0146 0.0144

Mars -56771-10-08 04:47 J -19013904.41 -19013904.30 -19013904.18 0.1821 0.0547

Jupiter -56768-03-07 21:49 J -19013022.72 -19013022.59 -19013022.47 0.0532 0.0045

Moon -56768-12-29 21:21 J -19012725.76 -19012725.61 -19012725.46 0.2662 0.0211

Earth -56768-12-29 22:47 J -19012725.70 -19012725.55 -19012725.40 0.2659 0.0047 *

Venus -56766-05-11 13:11 J -19012228.02 -19012227.95 -19012227.89 0.3791 0.2762

Earth -56764-07-05 19:25 J -19011441.80 -19011441.69 -19011441.58 0.2675 0.0541

Moon -56764-07-05 20:09 J -19011441.77 -19011441.66 -19011441.55 0.2673 0.0629 *

Saturn -56764-11-06 11:59 J -19011318.13 -19011318.00 -19011317.86 0.0271 0.0177

Saturn -56763-02-03 07:54 J -19011229.34 -19011229.17 -19011228.99 0.0270 0.0054

Venus -56763-02-14 21:49 J -19011217.75 -19011217.59 -19011217.43 0.3584 0.0489

Saturn -56763-05-03 04:04 J -19011140.50 -19011140.33 -19011140.15 0.0269 0.0071

Saturn -56763-07-31 00:13 J -19011051.60 -19011051.49 -19011051.35 0.0268 0.0195

Jupiter -56762-01-24 06:28 J -19010874.37 -19010874.23 -19010874.08 0.0494 0.0289

Jupiter -56762-04-24 13:25 J -19010784.05 -19010783.94 -19010783.82 0.0494 0.0380

Mars -56761-02-28 13:25 J -19010474.06 -19010473.94 -19010473.82 0.1813 0.0279

Venus -56761-11-24 05:01 J -19010204.39 -19010204.29 -19010204.19 0.3794 0.0749

Mars -56761-12-25 09:21 J -19010173.25 -19010173.11 -19010172.97 0.1722 0.0738

Moon -56757-06-28 16:33 J -19008891.87 -19008891.81 -19008891.75 0.2676 0.2199

Earth -56757-06-28 16:47 J -19008891.87 -19008891.80 -19008891.74 0.2669 0.2229 *

Jupiter -56757-12-25 01:11 J -19008712.58 -19008712.45 -19008712.33 0.0532 0.0111

Jupiter -56756-03-24 08:09 J -19008623.22 -19008623.16 -19008623.09 0.0532 0.0459

Venus -56755-06-09 20:52 J -19008180.73 -19008180.63 -19008180.54 0.3797 0.1270

Moon -56754-01-02 02:37 J -19007974.50 -19007974.39 -19007974.27 0.2662 0.1765

Earth -56754-01-02 03:35 J -19007974.46 -19007974.35 -19007974.23 0.2657 0.1772 *

Mars -56752-07-20 22:04 J -19007043.68 -19007043.58 -19007043.49 0.1804 0.1087

Mars -56751-05-17 10:04 J -19006743.23 -19006743.08 -19006742.92 0.1730 0.0360

Earth -56751-07-08 13:54 J -19006691.01 -19006690.92 -19006690.83 0.2677 0.1495

Moon -56751-07-08 14:09 J -19006691.00 -19006690.91 -19006690.82 0.2670 0.1516 *

Jupiter -56751-11-12 05:01 J -19006564.36 -19006564.29 -19006564.22 0.0494 0.0447

Jupiter -56750-02-10 11:16 J -19006474.19 -19006474.03 -19006473.86 0.0494 0.0215

Venus -56750-12-24 12:42 J -19006157.02 -19006156.97 -19006156.93 0.3800 0.3277

Saturn -56748-08-24 07:54 J -19005548.28 -19005548.17 -19005548.07 0.0290 0.0186

Saturn -56748-11-20 20:37 J -19005459.77 -19005459.64 -19005459.51 0.0291 0.0072

Saturn -56747-02-17 09:21 J -19005371.24 -19005371.11 -19005370.97 0.0292 0.0045

Saturn -56747-05-16 22:04 J -19005282.69 -19005282.58 -19005282.46 0.0293 0.0159

Saturn -56747-08-13 10:47 J -19005194.10 -19005194.05 -19005194.01 0.0294 0.0273

Jupiter -56745-10-13 05:01 J -19004402.41 -19004402.29 -19004402.18 0.0533 0.0252

Jupiter -56744-01-10 12:13 J -19004313.09 -19004312.99 -19004312.88 0.0532 0.0323

Neptune -56744-05-10 14:52 J -19004192.92 -19004192.88 -19004192.82 0.0089 0.0085

Earth -56744-07-01 11:16 J -19004141.13 -19004141.03 -19004140.92 0.2671 0.1235

Moon -56744-07-01 11:45 J -19004141.11 -19004141.01 -19004140.91 0.2677 0.1266 *

Neptune -56744-08-06 17:45 J -19004104.83 -19004104.76 -19004104.65 0.0089 0.0078

Neptune -56744-11-02 21:06 J -19004016.72 -19004016.62 -19004016.50 0.0089 0.0070

Neptune -56743-01-30 00:28 J -19003928.61 -19003928.48 -19003928.35 0.0089 0.0062

Neptune -56743-04-28 03:21 J -19003840.49 -19003840.36 -19003840.20 0.0089 0.0055

Neptune -56743-07-25 06:42 J -19003752.37 -19003752.22 -19003752.06 0.0089 0.0047

Neptune -56743-10-21 10:04 J -19003664.25 -19003664.08 -19003663.92 0.0089 0.0039

Neptune -56742-01-17 12:57 J -19003576.12 -19003575.96 -19003575.78 0.0089 0.0032

Neptune -56742-04-15 16:18 J -19003487.99 -19003487.82 -19003487.64 0.0089 0.0024

Neptune -56742-07-12 19:40 J -19003399.86 -19003399.68 -19003399.50 0.0089 0.0016

Mars -56742-10-07 11:01 J -19003313.13 -19003313.04 -19003312.96 0.1739 0.1454

Neptune -56742-10-08 22:47 J -19003311.73 -19003311.55 -19003311.36 0.0089 0.0008

Neptune -56741-01-05 02:09 J -19003223.60 -19003223.41 -19003223.23 0.0089 0.0001

Neptune -56741-04-02 05:16 J -19003135.46 -19003135.28 -19003135.09 0.0089 0.0008

Neptune -56741-06-29 08:37 J -19003047.32 -19003047.14 -19003046.96 0.0089 0.0016

Neptune -56741-09-25 11:45 J -19002959.18 -19002959.01 -19002958.82 0.0089 0.0024

Mars -56741-11-15 20:23 J -19002907.72 -19002907.65 -19002907.58 0.1830 0.1481

Neptune -56741-12-22 14:52 J -19002871.04 -19002870.88 -19002870.69 0.0089 0.0032

Neptune -56740-03-20 18:13 J -19002782.90 -19002782.74 -19002782.56 0.0089 0.0040

Neptune -56740-06-16 21:21 J -19002694.75 -19002694.61 -19002694.43 0.0089 0.0048

Neptune -56740-09-13 00:42 J -19002606.60 -19002606.47 -19002606.31 0.0089 0.0056

Neptune -56740-12-10 04:04 J -19002518.44 -19002518.33 -19002518.18 0.0089 0.0064

Neptune -56739-03-08 07:11 J -19002430.29 -19002430.20 -19002430.07 0.0089 0.0072

Neptune -56739-06-04 10:33 J -19002342.12 -19002342.06 -19002341.95 0.0089 0.0080

Neptune -56739-08-31 13:54 J -19002253.92 -19002253.92 -19002253.87 0.0089 0.0088

Jupiter -56739-11-29 08:23 J -19002164.34 -19002164.15 -19002163.97 0.0494 0.0038

Moon -56738-07-11 07:54 J -19001940.22 -19001940.17 -19001940.12 0.2673 0.2372

Earth -56738-07-11 08:09 J -19001940.20 -19001940.16 -19001940.12 0.2679 0.2440 *

Moon -56735-12-27 23:01 J -19000674.66 -19000674.54 -19000674.42 0.2659 0.1577

Earth -56735-12-28 00:28 J -19000674.61 -19000674.48 -19000674.35 0.2661 0.1395 *

Saturn -56734-03-26 11:59 J -19000586.11 -19000586.00 -19000585.88 0.0271 0.0210

Saturn -56734-06-23 07:54 J -19000497.34 -19000497.17 -19000497.00 0.0271 0.0087

Saturn -56734-09-20 04:04 J -19000408.51 -19000408.33 -19000408.15 0.0270 0.0037

Saturn -56734-12-18 00:13 J -19000319.63 -19000319.49 -19000319.34 0.0269 0.0161

Jupiter -56733-08-01 08:52 J -19000092.21 -19000092.13 -19000092.04 0.0533 0.0392

Jupiter -56733-10-29 16:47 J -19000002.92 -19000002.80 -19000002.68 0.0533 0.0190

Uranus -56731-01-11 13:11 J -18999564.00 -18999563.95 -18999563.89 0.0132 0.0121

Mars -56731-04-08 04:47 J -18999477.41 -18999477.30 -18999477.19 0.1821 0.0646

Uranus -56731-04-09 16:18 J -18999475.90 -18999475.82 -18999475.73 0.0132 0.0103

Earth -56731-07-04 05:59 J -18999390.36 -18999390.25 -18999390.14 0.2673 0.0247

Moon -56731-07-04 06:42 J -18999390.33 -18999390.22 -18999390.11 0.2674 0.0113 *

Uranus -56731-07-06 19:11 J -18999387.79 -18999387.70 -18999387.59 0.0132 0.0086

Uranus -56731-10-02 22:18 J -18999299.68 -18999299.57 -18999299.45 0.0132 0.0069

Uranus -56731-12-30 01:25 J -18999211.56 -18999211.44 -18999211.32 0.0132 0.0051

Uranus -56730-03-28 04:18 J -18999123.44 -18999123.32 -18999123.19 0.0132 0.0034

Uranus -56730-06-24 07:25 J -18999035.32 -18999035.19 -18999035.06 0.0132 0.0017

Uranus -56730-09-20 10:33 J -18998947.20 -18998947.06 -18998946.93 0.0132 0.0004

Uranus -56730-12-17 13:25 J -18998859.07 -18998858.94 -18998858.81 0.0132 0.0018

Uranus -56729-03-14 16:18 J -18998770.95 -18998770.82 -18998770.69 0.0132 0.0035

Uranus -56729-06-10 19:11 J -18998682.82 -18998682.70 -18998682.57 0.0132 0.0052

Uranus -56729-09-06 22:04 J -18998594.68 -18998594.58 -18998594.46 0.0133 0.0070

Uranus -56729-12-04 01:11 J -18998506.55 -18998506.45 -18998506.35 0.0133 0.0086

Uranus -56728-03-02 04:04 J -18998418.40 -18998418.33 -18998418.24 0.0133 0.0104

Uranus -56728-05-29 06:57 J -18998330.25 -18998330.21 -18998330.15 0.0133 0.0121

Jupiter -56727-09-17 06:28 J -18997854.40 -18997854.23 -18997854.05 0.0493 0.0124

Mars -56722-08-29 13:25 J -18996047.06 -18996046.94 -18996046.82 0.1813 0.0181

Moon -56722-12-31 03:35 J -18995923.50 -18995923.35 -18995923.20 0.2662 0.0306

Earth -56722-12-31 05:01 J -18995923.44 -18995923.29 -18995923.14 0.2659 0.0323 *

Jupiter -56721-05-20 12:57 J -18995781.97 -18995781.96 -18995781.95 0.0533 0.0530

Mars -56721-06-25 09:49 J -18995746.23 -18995746.09 -18995745.95 0.1722 0.0864

Jupiter -56721-08-17 20:52 J -18995692.76 -18995692.63 -18995692.50 0.0533 0.0053

Saturn -56718-01-11 08:09 J -18994816.23 -18994816.16 -18994816.07 0.0289 0.0232

Saturn -56718-04-09 21:06 J -18994727.74 -18994727.62 -18994727.50 0.0290 0.0117

Earth -56718-07-07 00:28 J -18994639.59 -18994639.48 -18994639.37 0.2675 0.0724

Moon -56718-07-07 01:11 J -18994639.56 -18994639.45 -18994639.35 0.2673 0.0757 *

Saturn -56718-07-07 09:49 J -18994639.22 -18994639.09 -18994638.95 0.0291 0.0008

Saturn -56718-10-03 22:33 J -18994550.68 -18994550.56 -18994550.43 0.0292 0.0112

Saturn -56718-12-31 11:16 J -18994462.12 -18994462.03 -18994461.95 0.0293 0.0226

Jupiter -56715-07-06 04:47 J -18993544.44 -18993544.30 -18993544.15 0.0494 0.0284

Jupiter -56715-10-04 11:45 J -18993454.12 -18993454.01 -18993453.90 0.0494 0.0385

Mars -56712-01-18 21:49 J -18992616.69 -18992616.59 -18992616.49 0.1804 0.0999

Venus -56712-03-07 14:52 J -18992568.95 -18992568.88 -18992568.82 0.3587 0.3272

Mars -56712-11-15 10:47 J -18992316.21 -18992316.05 -18992315.89 0.1730 0.0215

Moon -56711-06-29 21:35 J -18992089.67 -18992089.60 -18992089.53 0.2677 0.2077

Earth -56711-06-29 21:35 J -18992089.67 -18992089.60 -18992089.52 0.2669 0.2035 *

Venus -56710-12-16 10:33 J -18991555.14 -18991555.06 -18991554.98 0.3792 0.2026

Jupiter -56709-06-06 00:42 J -18991382.60 -18991382.47 -18991382.34 0.0533 0.0089

Jupiter -56709-09-03 07:54 J -18991293.22 -18991293.17 -18991293.12 0.0532 0.0480

Moon -56708-01-02 09:35 J -18991172.20 -18991172.10 -18991172.00 0.2662 0.1967

Earth -56708-01-02 10:04 J -18991172.17 -18991172.08 -18991171.99 0.2657 0.2095 *

Venus -56707-09-21 23:59 J -18990544.61 -18990544.50 -18990544.38 0.3583 0.2447

Moon -56705-07-08 18:57 J -18989888.80 -18989888.71 -18989888.62 0.2670 0.1698

Earth -56705-07-08 18:42 J -18989888.80 -18989888.72 -18989888.63 0.2677 0.1678 *

Saturn -56705-08-12 09:21 J -18989854.15 -18989854.11 -18989854.05 0.0272 0.0259

Saturn -56705-11-09 05:16 J -18989765.43 -18989765.28 -18989765.12 0.0271 0.0136

Saturn -56704-02-06 01:25 J -18989676.62 -18989676.44 -18989676.26 0.0270 0.0013

Saturn -56704-05-05 21:35 J -18989587.76 -18989587.60 -18989587.43 0.0269 0.0112

Venus -56704-07-01 02:23 J -18989531.50 -18989531.40 -18989531.30 0.3795 0.0032

Saturn -56704-08-02 17:59 J -18989498.83 -18989498.75 -18989498.66 0.0268 0.0236

Jupiter -56703-04-24 03:35 J -18989234.43 -18989234.35 -18989234.27 0.0494 0.0438

Jupiter -56703-07-23 10:04 J -18989144.25 -18989144.08 -18989143.92 0.0494 0.0225

Mars -56702-04-07 11:30 J -18988886.12 -18988886.02 -18988885.92 0.1739 0.1317

Mars -56701-05-16 20:23 J -18988480.71 -18988480.65 -18988480.59 0.1830 0.1568

Venus -56698-01-14 18:13 J -18987507.82 -18987507.74 -18987507.66 0.3798 0.1993

Earth -56698-07-02 16:18 J -18987338.92 -18987338.82 -18987338.71 0.2672 0.1041

Moon -56698-07-02 16:47 J -18987338.91 -18987338.80 -18987338.69 0.2677 0.0944 *

Jupiter -56697-03-25 04:04 J -18987072.44 -18987072.33 -18987072.21 0.0533 0.0240

Jupiter -56697-06-22 11:30 J -18986983.12 -18986983.02 -18986982.92 0.0532 0.0334

Moon -56692-07-11 12:42 J -18985138.00 -18985137.97 -18985137.95 0.2674 0.2588

Earth -56692-07-11 12:57 J -18985137.98 -18985137.96 -18985137.94 0.2679 0.2616 *

Mars -56692-10-07 05:01 J -18985050.40 -18985050.29 -18985050.18 0.1822 0.0750

Jupiter -56691-05-11 08:09 J -18984834.34 -18984834.16 -18984833.98 0.0494 0.0061

Uranus -56690-04-27 10:18 J -18984483.09 -18984483.07 -18984483.03 0.0147 0.0145

Uranus -56690-07-24 18:42 J -18984394.83 -18984394.72 -18984394.58 0.0147 0.0112

Uranus -56690-10-21 03:21 J -18984306.51 -18984306.36 -18984306.19 0.0147 0.0078

Uranus -56689-01-17 11:45 J -18984218.18 -18984218.01 -18984217.82 0.0147 0.0045

Uranus -56689-04-14 20:23 J -18984129.84 -18984129.65 -18984129.46 0.0146 0.0011

Saturn -56689-05-30 09:35 J -18984084.14 -18984084.10 -18984084.05 0.0289 0.0269

Uranus -56689-07-12 05:01 J -18984041.48 -18984041.29 -18984041.10 0.0146 0.0023

Saturn -56689-08-26 22:33 J -18983995.67 -18983995.56 -18983995.44 0.0290 0.0155

Uranus -56689-10-08 13:25 J -18983953.11 -18983952.94 -18983952.76 0.0146 0.0057

Saturn -56689-11-23 11:30 J -18983907.16 -18983907.02 -18983906.89 0.0291 0.0040

Moon -56689-12-28 05:16 J -18983872.42 -18983872.28 -18983872.15 0.2661 0.1177

Earth -56689-12-28 06:42 J -18983872.36 -18983872.22 -18983872.08 0.2661 0.1085 *

Uranus -56688-01-04 22:04 J -18983864.73 -18983864.58 -18983864.43 0.0146 0.0090

Saturn -56688-02-20 00:13 J -18983818.62 -18983818.49 -18983818.36 0.0292 0.0075

Uranus -56688-04-03 06:28 J -18983776.32 -18983776.23 -18983776.12 0.0146 0.0125

Saturn -56688-05-19 12:42 J -18983730.07 -18983729.97 -18983729.86 0.0293 0.0190

Jupiter -56685-01-12 07:54 J -18982762.26 -18982762.17 -18982762.08 0.0533 0.0383

Jupiter -56685-04-10 15:35 J -18982672.97 -18982672.85 -18982672.73 0.0532 0.0196

Earth -56685-07-04 10:47 J -18982588.16 -18982588.05 -18982587.93 0.2673 0.0097

Moon -56685-07-04 11:45 J -18982588.13 -18982588.01 -18982587.90 0.2674 0.0092 *

Mars -56682-02-27 13:25 J -18981620.06 -18981619.94 -18981619.82 0.1813 0.0095

Mars -56682-12-25 10:18 J -18981319.19 -18981319.07 -18981318.94 0.1722 0.1006

Jupiter -56679-02-27 05:16 J -18980524.45 -18980524.28 -18980524.10 0.0493 0.0113

Moon -56676-12-31 10:04 J -18979121.23 -18979121.08 -18979120.93 0.2662 0.0436

Earth -56676-12-31 11:30 J -18979121.17 -18979121.02 -18979120.88 0.2658 0.0648 *

Saturn -56675-03-29 05:01 J -18979033.42 -18979033.29 -18979033.15 0.0271 0.0171

Saturn -56675-06-26 01:11 J -18978944.63 -18978944.45 -18978944.27 0.0271 0.0047

Saturn -56675-09-22 21:06 J -18978855.79 -18978855.62 -18978855.44 0.0270 0.0078

Saturn -56675-12-20 17:30 J -18978766.88 -18978766.77 -18978766.65 0.0269 0.0202

Jupiter -56674-10-31 11:45 J -18978452.03 -18978452.01 -18978451.99 0.0534 0.0524

Jupiter -56673-01-28 19:40 J -18978362.81 -18978362.68 -18978362.55 0.0533 0.0061

Mars -56673-07-19 22:04 J -18978189.68 -18978189.58 -18978189.48 0.1804 0.0890

Mars -56672-05-16 11:16 J -18977889.19 -18977889.03 -18977888.87 0.1730 0.0094

Earth -56672-07-07 05:16 J -18977837.38 -18977837.28 -18977837.17 0.2676 0.0906

Moon -56672-07-07 05:59 J -18977837.36 -18977837.25 -18977837.15 0.2671 0.1008 *

Jupiter -56668-12-16 03:49 J -18976214.49 -18976214.34 -18976214.19 0.0493 0.0271

Jupiter -56667-03-16 10:33 J -18976124.17 -18976124.06 -18976123.95 0.0494 0.0396

Moon -56665-06-30 02:37 J -18975287.47 -18975287.39 -18975287.31 0.2677 0.1825

Earth -56665-06-30 02:37 J -18975287.47 -18975287.39 -18975287.31 0.2670 0.1843 *

Mars -56664-12-10 06:28 J -18974759.26 -18974759.23 -18974759.19 0.1795 0.1701

Mars -56663-10-06 11:59 J -18974459.11 -18974459.00 -18974458.89 0.1739 0.1189

Moon -56662-01-03 16:04 J -18974369.88 -18974369.83 -18974369.78 0.2663 0.2495

Earth -56662-01-03 16:33 J -18974369.87 -18974369.81 -18974369.75 0.2656 0.2415 *

Neptune -56662-05-21 23:45 J -18974231.51 -18974231.51 -18974231.51 0.0089 0.0088

Neptune -56662-08-18 00:57 J -18974143.49 -18974143.46 -18974143.40 0.0089 0.0083

Neptune -56662-11-14 02:37 J -18974055.45 -18974055.39 -18974055.31 0.0089 0.0077

Mars -56662-11-15 20:23 J -18974053.69 -18974053.65 -18974053.60 0.1830 0.1674

Jupiter -56662-11-16 23:59 J -18974052.63 -18974052.50 -18974052.38 0.0533 0.0078

Neptune -56661-02-10 04:04 J -18973967.40 -18973967.33 -18973967.24 0.0089 0.0071

Jupiter -56661-02-14 06:57 J -18973963.25 -18973963.21 -18973963.16 0.0532 0.0494

Neptune -56661-05-08 05:45 J -18973879.35 -18973879.26 -18973879.16 0.0089 0.0065

Neptune -56661-08-04 07:11 J -18973791.29 -18973791.20 -18973791.09 0.0089 0.0059

Neptune -56661-10-31 08:52 J -18973703.24 -18973703.13 -18973703.02 0.0089 0.0053

Neptune -56660-01-27 10:18 J -18973615.18 -18973615.07 -18973614.95 0.0089 0.0047

Neptune -56660-04-25 11:59 J -18973527.12 -18973527.00 -18973526.88 0.0089 0.0041

Neptune -56660-07-22 13:11 J -18973439.07 -18973438.95 -18973438.81 0.0089 0.0036

Neptune -56660-10-18 14:52 J -18973351.01 -18973350.88 -18973350.75 0.0089 0.0029

Saturn -56659-01-13 23:01 J -18973263.63 -18973263.54 -18973263.44 0.0289 0.0200

Neptune -56659-01-14 16:18 J -18973262.95 -18973262.82 -18973262.68 0.0089 0.0024

Saturn -56659-04-12 11:59 J -18973175.13 -18973175.00 -18973174.87 0.0290 0.0086

Neptune -56659-04-12 17:45 J -18973174.89 -18973174.76 -18973174.62 0.0089 0.0018 *

Neptune -56659-07-09 19:25 J -18973086.83 -18973086.69 -18973086.56 0.0089 0.0012

Saturn -56659-07-10 00:42 J -18973086.61 -18973086.47 -18973086.34 0.0291 0.0029 *

Moon -56659-07-09 23:45 J -18973086.59 -18973086.51 -18973086.43 0.2671 0.1845 *

Earth -56659-07-09 23:45 J -18973086.59 -18973086.51 -18973086.43 0.2678 0.1859 *

Neptune -56659-10-05 20:52 J -18972998.77 -18972998.63 -18972998.49 0.0089 0.0006

Saturn -56659-10-06 13:11 J -18972998.06 -18972997.95 -18972997.83 0.0292 0.0143

Neptune -56658-01-01 22:18 J -18972910.71 -18972910.57 -18972910.43 0.0089 0.0001

Saturn -56658-01-03 01:54 J -18972909.48 -18972909.42 -18972909.36 0.0293 0.0256

Venus -56658-01-06 16:04 J -18972905.87 -18972905.83 -18972905.78 0.3789 0.3312

Neptune -56658-03-30 23:45 J -18972822.65 -18972822.51 -18972822.37 0.0089 0.0006

Neptune -56658-06-27 01:11 J -18972734.59 -18972734.45 -18972734.31 0.0089 0.0012

Neptune -56658-09-23 02:37 J -18972646.52 -18972646.39 -18972646.25 0.0089 0.0017

Neptune -56658-12-20 04:04 J -18972558.46 -18972558.33 -18972558.20 0.0089 0.0023

Neptune -56657-03-17 05:30 J -18972470.40 -18972470.27 -18972470.14 0.0089 0.0029

Neptune -56657-06-13 06:57 J -18972382.33 -18972382.21 -18972382.08 0.0089 0.0035

Neptune -56657-09-09 08:09 J -18972294.27 -18972294.16 -18972294.03 0.0089 0.0041

Neptune -56657-12-06 09:49 J -18972206.21 -18972206.09 -18972205.97 0.0089 0.0046

Neptune -56656-03-04 11:01 J -18972118.14 -18972118.04 -18972117.92 0.0089 0.0052

Neptune -56656-05-31 12:28 J -18972030.07 -18972029.98 -18972029.87 0.0089 0.0058

Neptune -56656-08-27 14:09 J -18971942.01 -18971941.91 -18971941.82 0.0089 0.0063

Jupiter -56656-10-04 02:23 J -18971904.49 -18971904.40 -18971904.32 0.0493 0.0428

Venus -56656-10-12 17:01 J -18971895.94 -18971895.79 -18971895.64 0.3586 0.1338

Neptune -56656-11-23 15:21 J -18971853.94 -18971853.86 -18971853.77 0.0089 0.0069

Moon -56656-12-26 07:25 J -18971821.22 -18971821.19 -18971821.15 0.2658 0.2577

Earth -56656-12-26 08:37 J -18971821.19 -18971821.14 -18971821.09 0.2663 0.2457 *

Jupiter -56655-01-02 08:37 J -18971814.30 -18971814.14 -18971813.98 0.0494 0.0233

Neptune -56655-02-19 16:33 J -18971765.86 -18971765.81 -18971765.72 0.0089 0.0075

Neptune -56655-05-18 18:13 J -18971677.79 -18971677.74 -18971677.68 0.0089 0.0080

Neptune -56655-08-14 19:25 J -18971589.71 -18971589.69 -18971589.64 0.0089 0.0086

Venus -56653-07-22 08:09 J -18970882.26 -18970882.16 -18970882.07 0.3793 0.1297

Mars -56652-04-07 05:01 J -18970623.40 -18970623.29 -18970623.19 0.1821 0.0841

Earth -56652-07-02 21:21 J -18970536.72 -18970536.61 -18970536.51 0.2672 0.0858

Moon -56652-07-02 21:49 J -18970536.70 -18970536.59 -18970536.48 0.2676 0.0839 *

Pluto -56652-10-29 16:04 J -18970417.84 -18970417.83 -18970417.80 0.0061 0.0061

Pluto -56651-01-25 17:01 J -18970329.84 -18970329.79 -18970329.71 0.0061 0.0056

Pluto -56651-04-23 18:28 J -18970241.82 -18970241.73 -18970241.64 0.0061 0.0052

Pluto -56651-07-20 19:11 J -18970153.79 -18970153.70 -18970153.58 0.0061 0.0048

Pluto -56651-10-16 20:23 J -18970065.76 -18970065.65 -18970065.52 0.0061 0.0043

Pluto -56650-01-12 21:21 J -18969977.73 -18969977.61 -18969977.46 0.0062 0.0039

Pluto -56650-04-10 22:33 J -18969889.69 -18969889.56 -18969889.40 0.0062 0.0034

Pluto -56650-07-07 23:59 J -18969801.66 -18969801.50 -18969801.35 0.0062 0.0029

Jupiter -56650-09-05 03:49 J -18969742.46 -18969742.34 -18969742.22 0.0533 0.0218

Pluto -56650-10-04 00:42 J -18969713.62 -18969713.47 -18969713.30 0.0062 0.0025

Jupiter -56650-12-03 11:01 J -18969653.13 -18969653.04 -18969652.94 0.0532 0.0357

Pluto -56650-12-31 01:54 J -18969625.57 -18969625.42 -18969625.24 0.0062 0.0020

Pluto -56649-03-28 03:06 J -18969537.53 -18969537.37 -18969537.19 0.0062 0.0015

Pluto -56649-06-24 04:18 J -18969449.49 -18969449.32 -18969449.14 0.0062 0.0011

Pluto -56649-09-20 05:30 J -18969361.44 -18969361.27 -18969361.09 0.0062 0.0006

Pluto -56649-12-17 06:42 J -18969273.39 -18969273.22 -18969273.04 0.0062 0.0001

Pluto -56648-03-15 07:54 J -18969185.35 -18969185.17 -18969185.00 0.0062 0.0004

Pluto -56648-06-11 09:06 J -18969097.30 -18969097.12 -18969096.95 0.0062 0.0009

Pluto -56648-09-07 10:18 J -18969009.24 -18969009.07 -18969008.90 0.0062 0.0014

Uranus -56648-11-04 17:45 J -18968950.76 -18968950.76 -18968950.73 0.0132 0.0131

Pluto -56648-12-04 11:16 J -18968921.19 -18968921.03 -18968920.85 0.0062 0.0019

Uranus -56647-01-31 21:06 J -18968862.68 -18968862.62 -18968862.55 0.0132 0.0113

Venus -56647-02-04 23:59 J -18968858.60 -18968858.50 -18968858.41 0.3795 0.0733

Pluto -56647-03-02 12:28 J -18968833.14 -18968832.98 -18968832.81 0.0063 0.0024

Uranus -56647-04-29 23:59 J -18968774.58 -18968774.50 -18968774.40 0.0132 0.0096

Pluto -56647-05-29 13:25 J -18968745.08 -18968744.94 -18968744.77 0.0063 0.0029

Uranus -56647-07-27 03:06 J -18968686.47 -18968686.37 -18968686.26 0.0132 0.0079

Pluto -56647-08-25 14:37 J -18968657.02 -18968656.89 -18968656.72 0.0063 0.0034

Uranus -56647-10-23 06:13 J -18968598.36 -18968598.24 -18968598.12 0.0132 0.0061

Pluto -56647-11-21 15:49 J -18968568.96 -18968568.84 -18968568.68 0.0063 0.0039

Uranus -56646-01-19 09:06 J -18968510.24 -18968510.12 -18968509.99 0.0132 0.0044

Pluto -56646-02-17 17:01 J -18968480.89 -18968480.79 -18968480.64 0.0063 0.0044

Uranus -56646-04-17 12:13 J -18968422.12 -18968421.99 -18968421.86 0.0132 0.0027

Pluto -56646-05-16 18:13 J -18968392.83 -18968392.74 -18968392.61 0.0063 0.0049

Uranus -56646-07-14 15:06 J -18968334.00 -18968333.87 -18968333.73 0.0132 0.0011

Pluto -56646-08-12 19:25 J -18968304.75 -18968304.69 -18968304.57 0.0063 0.0054

Saturn -56646-08-16 02:09 J -18968301.51 -18968301.41 -18968301.31 0.0272 0.0223

Uranus -56646-10-10 18:13 J -18968245.87 -18968245.74 -18968245.61 0.0132 0.0008

Pluto -56646-11-08 20:52 J -18968216.67 -18968216.63 -18968216.55 0.0063 0.0059

Saturn -56646-11-12 22:04 J -18968212.75 -18968212.58 -18968212.41 0.0271 0.0099

Uranus -56645-01-06 21:06 J -18968157.75 -18968157.62 -18968157.49 0.0132 0.0025

Saturn -56645-02-09 18:13 J -18968123.92 -18968123.74 -18968123.56 0.0270 0.0025

Uranus -56645-04-03 23:59 J -18968069.62 -18968069.50 -18968069.37 0.0132 0.0043

Saturn -56645-05-08 14:23 J -18968035.05 -18968034.90 -18968034.74 0.0269 0.0149

Uranus -56645-07-01 03:06 J -18967981.49 -18967981.37 -18967981.25 0.0133 0.0059

Uranus -56645-09-27 05:59 J -18967893.35 -18967893.25 -18967893.14 0.0133 0.0077

Uranus -56645-12-24 08:52 J -18967805.21 -18967805.13 -18967805.03 0.0133 0.0094

Uranus -56644-03-22 11:45 J -18967717.07 -18967717.01 -18967716.93 0.0133 0.0111

Uranus -56644-06-18 14:52 J -18967628.91 -18967628.88 -18967628.84 0.0133 0.0128

Jupiter -56644-10-21 06:57 J -18967504.39 -18967504.21 -18967504.03 0.0494 0.0074

Mars -56643-08-28 13:40 J -18967193.05 -18967192.93 -18967192.81 0.1813 0.0060

Moon -56643-12-29 11:30 J -18967070.16 -18967070.02 -18967069.88 0.2661 0.0914

Earth -56643-12-29 12:57 J -18967070.10 -18967069.96 -18967069.82 0.2660 0.0776 *

Mars -56642-06-25 11:01 J -18966892.15 -18966892.04 -18966891.92 0.1721 0.1148

Venus -56642-08-21 15:49 J -18966834.91 -18966834.84 -18966834.78 0.3798 0.2737

Earth -56639-07-05 15:49 J -18965785.95 -18965785.84 -18965785.73 0.2674 0.0125

Moon -56639-07-05 16:33 J -18965785.92 -18965785.81 -18965785.70 0.2674 0.0262 *

Jupiter -56638-06-24 07:11 J -18965432.29 -18965432.20 -18965432.11 0.0533 0.0369

Jupiter -56638-09-21 14:37 J -18965343.00 -18965342.89 -18965342.77 0.0532 0.0211

Mars -56633-01-18 22:04 J -18963762.68 -18963762.58 -18963762.47 0.1804 0.0790

Mars -56633-11-14 11:45 J -18963462.17 -18963462.01 -18963461.85 0.1730 0.0046

Earth -56632-06-28 12:42 J -18963235.97 -18963235.97 -18963235.96 0.2668 0.2654

Jupiter -56632-08-09 05:16 J -18963194.46 -18963194.28 -18963194.10 0.0494 0.0088

Saturn -56630-06-03 00:13 J -18962531.56 -18962531.49 -18962531.41 0.0289 0.0239

Saturn -56630-08-30 13:11 J -18962443.07 -18962442.95 -18962442.83 0.0290 0.0125

Saturn -56630-11-27 01:54 J -18962354.55 -18962354.42 -18962354.28 0.0291 0.0011

Moon -56629-01-01 16:33 J -18962318.95 -18962318.81 -18962318.67 0.2662 0.0934

Earth -56629-01-01 17:45 J -18962318.90 -18962318.76 -18962318.62 0.2658 0.0958 *

Saturn -56629-02-23 14:37 J -18962266.02 -18962265.89 -18962265.77 0.0292 0.0104

Saturn -56629-05-22 03:06 J -18962177.45 -18962177.37 -18962177.28 0.0293 0.0218

Jupiter -56626-04-12 10:47 J -18961122.08 -18961122.05 -18961122.01 0.0533 0.0513

Earth -56626-07-08 10:18 J -18961035.18 -18961035.07 -18961034.97 0.2676 0.1089

Moon -56626-07-08 10:47 J -18961035.16 -18961035.05 -18961034.95 0.2670 0.1066 *

Jupiter -56626-07-10 18:42 J -18961032.85 -18961032.72 -18961032.59 0.0533 0.0071

Mars -56624-06-10 06:42 J -18960332.28 -18960332.22 -18960332.17 0.1796 0.1601

Mars -56623-04-06 12:42 J -18960032.10 -18960031.97 -18960031.85 0.1738 0.1048

Mars -56622-05-16 20:23 J -18959626.67 -18959626.65 -18959626.62 0.1830 0.1771

Jupiter -56620-05-28 02:52 J -18958884.53 -18958884.38 -18958884.23 0.0493 0.0257

Jupiter -56620-08-26 09:21 J -18958794.20 -18958794.11 -18958794.00 0.0494 0.0410

Moon -56619-07-01 07:40 J -18958485.27 -18958485.18 -18958485.09 0.2677 0.1654

Earth -56619-07-01 07:40 J -18958485.27 -18958485.18 -18958485.09 0.2670 0.1653 *

Saturn -56616-01-02 01:25 J -18957569.48 -18957569.44 -18957569.38 0.0272 0.0260

Moon -56616-01-03 22:33 J -18957567.57 -18957567.56 -18957567.54 0.2663 0.2632

Saturn -56616-03-31 21:35 J -18957480.76 -18957480.60 -18957480.45 0.0272 0.0136

Saturn -56616-06-28 17:30 J -18957391.95 -18957391.77 -18957391.58 0.0271 0.0014

Saturn -56616-09-25 13:54 J -18957303.09 -18957302.92 -18957302.76 0.0270 0.0113

Saturn -56616-12-23 10:04 J -18957214.15 -18957214.08 -18957213.99 0.0269 0.0238

Jupiter -56614-04-28 22:47 J -18956722.68 -18956722.55 -18956722.42 0.0533 0.0068

Jupiter -56614-07-27 05:59 J -18956633.29 -18956633.25 -18956633.21 0.0533 0.0503

Moon -56613-07-10 04:33 J -18956284.38 -18956284.31 -18956284.24 0.2671 0.2064

Earth -56613-07-10 04:33 J -18956284.38 -18956284.31 -18956284.24 0.2678 0.2032 *

Mars -56613-10-06 05:01 J -18956196.39 -18956196.29 -18956196.19 0.1822 0.0942

Moon -56610-12-27 13:40 J -18955019.02 -18955018.93 -18955018.85 0.2659 0.2186

Earth -56610-12-27 14:52 J -18955018.97 -18955018.88 -18955018.80 0.2663 0.2155 *

Jupiter -56608-03-16 01:25 J -18954574.53 -18954574.44 -18954574.34 0.0493 0.0413

Jupiter -56608-06-14 07:40 J -18954484.34 -18954484.18 -18954484.02 0.0493 0.0247

Uranus -56606-05-17 19:11 J -18953781.78 -18953781.70 -18953781.62 0.0147 0.0132

Earth -56606-07-04 02:09 J -18953734.52 -18953734.41 -18953734.30 0.2672 0.0667

Moon -56606-07-04 02:52 J -18953734.49 -18953734.38 -18953734.27 0.2676 0.0574 *

Uranus -56606-08-14 03:35 J -18953693.49 -18953693.35 -18953693.21 0.0147 0.0099

Uranus -56606-11-10 11:59 J -18953605.16 -18953605.00 -18953604.83 0.0147 0.0065

Uranus -56605-02-06 20:37 J -18953516.83 -18953516.64 -18953516.46 0.0146 0.0032

Uranus -56605-05-05 05:01 J -18953428.48 -18953428.29 -18953428.10 0.0146 0.0002

Uranus -56605-08-01 13:40 J -18953340.12 -18953339.93 -18953339.75 0.0146 0.0035

Uranus -56605-10-28 22:04 J -18953251.74 -18953251.58 -18953251.41 0.0146 0.0069

Uranus -56604-01-25 06:28 J -18953163.35 -18953163.23 -18953163.08 0.0146 0.0103

Uranus -56604-04-23 14:52 J -18953074.92 -18953074.88 -18953074.79 0.0146 0.0138

Mars -56603-02-26 13:40 J -18952766.05 -18952765.93 -18952765.81 0.1813 0.0125

Mars -56603-12-24 11:30 J -18952465.13 -18952465.02 -18952464.91 0.1722 0.1271

Jupiter -56602-02-15 02:52 J -18952412.50 -18952412.38 -18952412.26 0.0533 0.0206

Jupiter -56602-05-15 10:18 J -18952323.16 -18952323.07 -18952322.98 0.0533 0.0370

Venus -56602-08-13 13:40 J -18952233.00 -18952232.93 -18952232.86 0.3790 0.2572

Saturn -56601-10-20 00:42 J -18951799.49 -18951799.47 -18951799.44 0.0288 0.0284

Saturn -56600-01-16 13:40 J -18951711.04 -18951710.93 -18951710.82 0.0289 0.0170

Saturn -56600-04-15 02:23 J -18951622.53 -18951622.40 -18951622.26 0.0290 0.0057

Saturn -56600-07-12 15:06 J -18951534.00 -18951533.87 -18951533.73 0.0291 0.0058

Saturn -56600-10-09 03:49 J -18951445.45 -18951445.34 -18951445.23 0.0292 0.0171

Saturn -56599-01-05 16:04 J -18951356.85 -18951356.83 -18951356.79 0.0293 0.0285

Venus -56599-05-19 19:11 J -18951222.86 -18951222.70 -18951222.54 0.3585 0.0606

Moon -56597-12-29 17:45 J -18950267.91 -18950267.76 -18950267.62 0.2661 0.0608

Earth -56597-12-29 19:11 J -18950267.84 -18950267.70 -18950267.55 0.2660 0.0468 *

Venus -56596-02-26 05:30 J -18950209.37 -18950209.27 -18950209.17 0.3793 0.0556

Jupiter -56596-04-02 05:45 J -18950174.44 -18950174.26 -18950174.08 0.0494 0.0085

Mars -56594-07-19 22:04 J -18949335.69 -18949335.58 -18949335.47 0.1804 0.0698

Mars -56593-05-15 12:28 J -18949035.14 -18949034.98 -18949034.82 0.1730 0.0194

Earth -56593-07-05 20:37 J -18948983.75 -18948983.64 -18948983.52 0.2674 0.0320

Moon -56593-07-05 21:21 J -18948983.72 -18948983.61 -18948983.49 0.2673 0.0334 *

Venus -56591-09-11 21:21 J -18948185.70 -18948185.61 -18948185.52 0.3796 0.1455

Jupiter -56591-12-04 06:42 J -18948102.31 -18948102.22 -18948102.12 0.0533 0.0347

Jupiter -56590-03-03 14:23 J -18948013.01 -18948012.90 -18948012.78 0.0532 0.0232

Saturn -56587-08-18 18:13 J -18946748.86 -18946748.74 -18946748.61 0.0272 0.0189

Saturn -56587-11-15 14:23 J -18946660.07 -18946659.90 -18946659.72 0.0271 0.0065

Saturn -56586-02-12 10:33 J -18946571.24 -18946571.06 -18946570.88 0.0270 0.0060

Saturn -56586-05-12 06:57 J -18946482.34 -18946482.21 -18946482.08 0.0269 0.0184

Moon -56586-06-29 17:30 J -18946433.81 -18946433.77 -18946433.73 0.2675 0.2446

Earth -56586-06-29 17:45 J -18946433.80 -18946433.76 -18946433.72 0.2668 0.2459 *

Venus -56585-03-27 13:11 J -18946161.99 -18946161.95 -18946161.91 0.3799 0.3475

Mars -56585-12-09 06:42 J -18945905.28 -18945905.22 -18945905.15 0.1796 0.1497

Jupiter -56584-01-19 04:18 J -18945864.50 -18945864.32 -18945864.14 0.0494 0.0075

Mars -56584-10-05 13:11 J -18945605.09 -18945604.95 -18945604.82 0.1738 0.0916

Moon -56583-01-01 23:01 J -18945516.67 -18945516.54 -18945516.40 0.2663 0.1162

Earth -56583-01-01 23:59 J -18945516.63 -18945516.50 -18945516.36 0.2658 0.1278 *

Earth -56580-07-08 15:06 J -18944232.97 -18944232.87 -18944232.77 0.2676 0.1266

Moon -56580-07-08 15:35 J -18944232.95 -18944232.85 -18944232.75 0.2670 0.1370 *

Neptune -56579-02-04 12:28 J -18944022.02 -18944021.98 -18944021.90 0.0089 0.0084

Neptune -56579-05-03 15:49 J -18943933.92 -18943933.84 -18943933.74 0.0089 0.0076

Neptune -56579-07-30 19:11 J -18943845.81 -18943845.70 -18943845.58 0.0089 0.0068

Jupiter -56579-09-22 10:04 J -18943792.12 -18943792.08 -18943792.03 0.0533 0.0498

Neptune -56579-10-26 22:04 J -18943757.70 -18943757.58 -18943757.44 0.0089 0.0061

Jupiter -56579-12-20 17:59 J -18943702.88 -18943702.75 -18943702.62 0.0532 0.0085

Neptune -56578-01-23 01:25 J -18943669.58 -18943669.44 -18943669.29 0.0089 0.0053

Neptune -56578-04-21 04:18 J -18943581.46 -18943581.32 -18943581.15 0.0089 0.0046

Neptune -56578-07-18 07:40 J -18943493.34 -18943493.18 -18943493.01 0.0089 0.0038

Neptune -56578-10-14 10:47 J -18943405.22 -18943405.05 -18943404.87 0.0089 0.0030

Neptune -56577-01-10 14:09 J -18943317.09 -18943316.91 -18943316.73 0.0089 0.0022

Neptune -56577-04-07 17:16 J -18943228.96 -18943228.78 -18943228.59 0.0089 0.0014

Neptune -56577-07-04 20:37 J -18943140.83 -18943140.64 -18943140.46 0.0089 0.0007

Neptune -56577-09-30 23:45 J -18943052.69 -18943052.51 -18943052.32 0.0089 0.0002

Neptune -56577-12-28 02:52 J -18942964.56 -18942964.38 -18942964.19 0.0089 0.0010

Neptune -56576-03-26 06:13 J -18942876.42 -18942876.24 -18942876.05 0.0089 0.0017

Neptune -56576-06-22 09:35 J -18942788.28 -18942788.10 -18942787.92 0.0089 0.0025

Neptune -56576-09-18 12:42 J -18942700.14 -18942699.97 -18942699.79 0.0089 0.0033

Neptune -56576-12-15 16:04 J -18942611.99 -18942611.83 -18942611.66 0.0089 0.0041

Neptune -56575-03-13 19:11 J -18942523.85 -18942523.70 -18942523.53 0.0089 0.0049

Neptune -56575-06-09 22:33 J -18942435.69 -18942435.56 -18942435.41 0.0089 0.0057

Neptune -56575-09-06 01:54 J -18942347.54 -18942347.42 -18942347.29 0.0089 0.0065

Neptune -56575-12-03 05:01 J -18942259.38 -18942259.29 -18942259.17 0.0089 0.0073

Neptune -56574-03-01 08:23 J -18942171.21 -18942171.15 -18942171.06 0.0089 0.0081

Mars -56573-04-06 05:01 J -18941769.38 -18941769.29 -18941769.19 0.1822 0.1045

Earth -56573-07-01 12:28 J -18941683.07 -18941682.98 -18941682.88 0.2670 0.1463

Moon -56573-07-01 12:42 J -18941683.06 -18941682.97 -18941682.87 0.2676 0.1464 *

Jupiter -56573-11-07 02:37 J -18941554.55 -18941554.39 -18941554.23 0.0493 0.0234

Jupiter -56572-02-05 09:21 J -18941464.19 -18941464.11 -18941464.02 0.0494 0.0436

Saturn -56571-06-05 14:52 J -18940978.97 -18940978.88 -18940978.78 0.0289 0.0209

Saturn -56571-09-02 03:49 J -18940890.47 -18940890.34 -18940890.22 0.0290 0.0095

Saturn -56571-11-29 16:33 J -18940801.95 -18940801.81 -18940801.68 0.0291 0.0020

Saturn -56570-02-26 05:01 J -18940713.40 -18940713.29 -18940713.17 0.0292 0.0133

Saturn -56570-05-25 17:45 J -18940624.83 -18940624.76 -18940624.69 0.0293 0.0246

Moon -56567-07-11 09:21 J -18939482.18 -18939482.11 -18939482.05 0.2672 0.2138

Earth -56567-07-11 09:21 J -18939482.17 -18939482.11 -18939482.04 0.2678 0.2216 *

Jupiter -56567-10-08 21:49 J -18939392.72 -18939392.59 -18939392.46 0.0533 0.0058

Jupiter -56566-01-06 05:01 J -18939303.32 -18939303.29 -18939303.26 0.0532 0.0513

Mars -56564-08-27 13:40 J -18938339.05 -18938338.93 -18938338.81 0.1813 0.0222

Uranus -56564-11-25 01:40 J -18938249.47 -18938249.43 -18938249.38 0.0132 0.0124

Moon -56564-12-27 19:40 J -18938216.77 -18938216.68 -18938216.59 0.2660 0.2053

Earth -56564-12-27 21:06 J -18938216.73 -18938216.62 -18938216.51 0.2662 0.1847 *

Uranus -56563-02-21 04:33 J -18938161.38 -18938161.31 -18938161.22 0.0132 0.0107

Uranus -56563-05-20 07:54 J -18938073.27 -18938073.17 -18938073.07 0.0132 0.0089

Mars -56563-06-24 12:13 J -18938038.08 -18938037.99 -18938037.90 0.1721 0.1413

Uranus -56563-08-16 10:47 J -18937985.16 -18937985.05 -18937984.93 0.0132 0.0072

Uranus -56563-11-12 13:40 J -18937897.04 -18937896.93 -18937896.80 0.0132 0.0055

Uranus -56562-02-08 16:47 J -18937808.92 -18937808.80 -18937808.67 0.0132 0.0038

Uranus -56562-05-07 19:54 J -18937720.80 -18937720.67 -18937720.54 0.0132 0.0020

Uranus -56562-08-03 22:47 J -18937632.68 -18937632.55 -18937632.41 0.0132 0.0004

Uranus -56562-10-31 01:54 J -18937544.56 -18937544.42 -18937544.29 0.0132 0.0014

Uranus -56561-01-27 04:47 J -18937456.43 -18937456.30 -18937456.17 0.0132 0.0032

Uranus -56561-04-24 07:40 J -18937368.30 -18937368.18 -18937368.05 0.0133 0.0049

Uranus -56561-07-21 10:47 J -18937280.17 -18937280.05 -18937279.94 0.0133 0.0066

Jupiter -56561-08-26 00:28 J -18937244.58 -18937244.48 -18937244.37 0.0493 0.0398

Uranus -56561-10-17 13:40 J -18937192.03 -18937191.93 -18937191.83 0.0133 0.0083

Jupiter -56561-11-24 06:42 J -18937154.38 -18937154.22 -18937154.07 0.0493 0.0262

Uranus -56560-01-13 16:47 J -18937103.89 -18937103.80 -18937103.72 0.0133 0.0100

Uranus -56560-04-11 19:40 J -18937015.74 -18937015.68 -18937015.62 0.0133 0.0117

Earth -56560-07-04 07:11 J -18936932.31 -18936932.20 -18936932.09 0.2673 0.0480

Moon -56560-07-04 07:54 J -18936932.28 -18936932.17 -18936932.06 0.2676 0.0435 *

Pluto -56560-09-26 22:18 J -18936847.61 -18936847.57 -18936847.51 0.0083 0.0077

Pluto -56560-12-23 23:59 J -18936759.58 -18936759.50 -18936759.41 0.0083 0.0067

Pluto -56559-03-22 01:25 J -18936671.53 -18936671.44 -18936671.32 0.0083 0.0058

Pluto -56559-06-18 03:21 J -18936583.47 -18936583.36 -18936583.24 0.0083 0.0048

Pluto -56559-09-14 04:47 J -18936495.42 -18936495.30 -18936495.16 0.0082 0.0039

Pluto -56559-12-11 06:28 J -18936407.36 -18936407.23 -18936407.09 0.0082 0.0029

Pluto -56558-03-09 08:09 J -18936319.30 -18936319.16 -18936319.02 0.0082 0.0020

Pluto -56558-06-05 09:35 J -18936231.24 -18936231.10 -18936230.95 0.0082 0.0011

Pluto -56558-09-01 11:16 J -18936143.17 -18936143.03 -18936142.89 0.0082 0.0001

Pluto -56558-11-28 12:42 J -18936055.11 -18936054.97 -18936054.82 0.0082 0.0008

Saturn -56557-01-05 17:30 J -18936016.85 -18936016.77 -18936016.66 0.0272 0.0227

Pluto -56557-02-24 14:23 J -18935967.04 -18935966.90 -18935966.76 0.0082 0.0017

Saturn -56557-04-03 13:40 J -18935928.09 -18935927.93 -18935927.76 0.0272 0.0102

Pluto -56557-05-22 15:49 J -18935878.98 -18935878.84 -18935878.70 0.0081 0.0026

Saturn -56557-07-01 09:49 J -18935839.27 -18935839.09 -18935838.91 0.0271 0.0023

Pluto -56557-08-18 17:16 J -18935790.91 -18935790.78 -18935790.65 0.0081 0.0034

Saturn -56557-09-28 05:59 J -18935750.39 -18935750.25 -18935750.09 0.0270 0.0148

Pluto -56557-11-14 18:42 J -18935702.84 -18935702.72 -18935702.60 0.0081 0.0043

Pluto -56556-02-10 19:54 J -18935614.77 -18935614.67 -18935614.55 0.0081 0.0052

Pluto -56556-05-09 21:35 J -18935526.69 -18935526.60 -18935526.50 0.0081 0.0060

Pluto -56556-08-05 22:47 J -18935438.61 -18935438.55 -18935438.46 0.0081 0.0069

Pluto -56556-11-02 00:13 J -18935350.51 -18935350.49 -18935350.44 0.0081 0.0078

Jupiter -56555-07-28 01:40 J -18935082.55 -18935082.43 -18935082.31 0.0534 0.0199

Jupiter -56555-10-25 09:06 J -18934993.20 -18934993.12 -18934993.03 0.0533 0.0378

Mars -56554-01-17 22:18 J -18934908.69 -18934908.57 -18934908.46 0.1805 0.0595

Mars -56554-11-14 12:57 J -18934608.12 -18934607.96 -18934607.81 0.1730 0.0319

Moon -56551-12-30 23:59 J -18933465.65 -18933465.50 -18933465.35 0.2661 0.0253

Earth -56551-12-31 01:25 J -18933465.59 -18933465.44 -18933465.29 0.2660 0.0173 *

Jupiter -56549-09-12 05:01 J -18932844.47 -18932844.29 -18932844.12 0.0493 0.0101

Venus -56548-06-09 11:59 J -18932574.07 -18932574.00 -18932573.93 0.3588 0.3185

Earth -56547-07-07 01:40 J -18932181.54 -18932181.43 -18932181.32 0.2674 0.0492

Moon -56547-07-07 02:23 J -18932181.51 -18932181.40 -18932181.29 0.2672 0.0597 *

Venus -56545-03-19 11:16 J -18931560.12 -18931560.03 -18931559.95 0.3791 0.1844

Mars -56545-06-09 06:42 J -18931478.29 -18931478.22 -18931478.14 0.1796 0.1399

Mars -56544-04-05 13:40 J -18931178.07 -18931177.93 -18931177.79 0.1738 0.0779

Jupiter -56543-05-16 05:45 J -18930772.36 -18930772.26 -18930772.16 0.0534 0.0337

Jupiter -56543-08-13 13:25 J -18930683.05 -18930682.94 -18930682.82 0.0533 0.0244

Venus -56543-12-24 21:21 J -18930549.72 -18930549.61 -18930549.50 0.3584 0.2547

Saturn -56542-10-23 15:49 J -18930246.91 -18930246.84 -18930246.78 0.0288 0.0251

Saturn -56541-01-20 04:33 J -18930158.43 -18930158.31 -18930158.19 0.0289 0.0138

Saturn -56541-04-17 17:16 J -18930069.91 -18930069.78 -18930069.64 0.0290 0.0026

Saturn -56541-07-15 05:59 J -18929981.38 -18929981.25 -18929981.12 0.0291 0.0089

Saturn -56541-10-11 18:28 J -18929892.82 -18929892.73 -18929892.63 0.0292 0.0202

Moon -56540-06-29 22:33 J -18929631.61 -18929631.56 -18929631.51 0.2675 0.2359

Earth -56540-06-29 22:47 J -18929631.61 -18929631.55 -18929631.49 0.2669 0.2266 *

Venus -56540-10-03 03:06 J -18929536.47 -18929536.37 -18929536.27 0.3794 0.0225

Moon -56537-01-03 05:30 J -18928714.39 -18928714.27 -18928714.14 0.2664 0.1548

Earth -56537-01-03 06:28 J -18928714.35 -18928714.23 -18928714.11 0.2657 0.1594 *

Jupiter -56537-07-01 03:06 J -18928534.55 -18928534.37 -18928534.19 0.0493 0.0062

Venus -56534-04-18 18:57 J -18927512.80 -18927512.71 -18927512.63 0.3797 0.2194

Earth -56534-07-09 20:09 J -18927430.76 -18927430.66 -18927430.57 0.2676 0.1451

Moon -56534-07-09 20:23 J -18927430.74 -18927430.65 -18927430.55 0.2671 0.1422 *

Mars -56534-10-06 05:01 J -18927342.38 -18927342.29 -18927342.20 0.1822 0.1135

Jupiter -56531-03-04 09:35 J -18926462.15 -18926462.10 -18926462.04 0.0533 0.0479

Jupiter -56531-06-01 17:30 J -18926372.89 -18926372.77 -18926372.64 0.0533 0.0106

Saturn -56528-08-21 10:33 J -18925196.20 -18925196.06 -18925195.91 0.0272 0.0156

Saturn -56528-11-18 06:42 J -18925107.40 -18925107.22 -18925107.04 0.0271 0.0031

Saturn -56527-02-15 02:52 J -18925018.55 -18925018.38 -18925018.21 0.0270 0.0094

Saturn -56527-05-14 23:16 J -18924929.63 -18924929.53 -18924929.42 0.0269 0.0219

Earth -56527-07-02 17:30 J -18924880.87 -18924880.77 -18924880.67 0.2671 0.1272

Moon -56527-07-02 17:59 J -18924880.86 -18924880.75 -18924880.65 0.2676 0.1198 *

Jupiter -56525-04-19 01:25 J -18924224.60 -18924224.44 -18924224.27 0.0493 0.0221

Jupiter -56525-07-18 08:09 J -18924134.23 -18924134.16 -18924134.08 0.0494 0.0449

Mars -56524-02-25 13:40 J -18923912.05 -18923911.93 -18923911.81 0.1813 0.0319

Mars -56524-12-23 12:42 J -18923611.03 -18923610.97 -18923610.90 0.1721 0.1554

Uranus -56522-06-07 03:35 J -18923080.45 -18923080.35 -18923080.23 0.0147 0.0120

Uranus -56522-09-03 11:59 J -18922992.14 -18922992.00 -18922991.84 0.0147 0.0087

Uranus -56522-11-30 20:37 J -18922903.82 -18922903.64 -18922903.46 0.0147 0.0053

Uranus -56521-02-27 05:01 J -18922815.47 -18922815.29 -18922815.10 0.0146 0.0020

Uranus -56521-05-25 13:40 J -18922727.12 -18922726.93 -18922726.74 0.0146 0.0014

Moon -56521-07-11 14:09 J -18922679.96 -18922679.91 -18922679.87 0.2672 0.2418

Earth -56521-07-11 14:23 J -18922679.95 -18922679.90 -18922679.85 0.2678 0.2388 *

Uranus -56521-08-21 21:49 J -18922638.76 -18922638.59 -18922638.40 0.0146 0.0049

Uranus -56521-11-18 06:42 J -18922550.38 -18922550.22 -18922550.06 0.0146 0.0082

Uranus -56520-02-14 15:06 J -18922461.98 -18922461.87 -18922461.75 0.0146 0.0115

Jupiter -56519-03-20 21:06 J -18922062.75 -18922062.62 -18922062.49 0.0533 0.0043

Jupiter -56519-06-18 04:18 J -18921973.33 -18921973.32 -18921973.31 0.0532 0.0527

Moon -56518-12-29 01:40 J -18921414.55 -18921414.43 -18921414.31 0.2660 0.1570

Earth -56518-12-29 03:21 J -18921414.48 -18921414.36 -18921414.24 0.2662 0.1547 *

Mars -56515-07-18 22:18 J -18920481.69 -18920481.57 -18920481.45 0.1805 0.0488

Mars -56514-05-15 13:25 J -18920181.09 -18920180.94 -18920180.79 0.1730 0.0454

Earth -56514-07-05 11:59 J -18920130.11 -18920130.00 -18920129.88 0.2673 0.0302

Moon -56514-07-05 12:42 J -18920130.08 -18920129.97 -18920129.85 0.2676 0.0232 *

Jupiter -56513-02-05 23:59 J -18919914.61 -18919914.50 -18919914.38 0.0493 0.0379

Jupiter -56513-05-06 06:13 J -18919824.38 -18919824.24 -18919824.09 0.0494 0.0285

Saturn -56512-06-08 05:45 J -18919426.36 -18919426.26 -18919426.15 0.0289 0.0177

Saturn -56512-09-04 18:28 J -18919337.86 -18919337.73 -18919337.59 0.0290 0.0064

Saturn -56512-12-02 07:11 J -18919249.33 -18919249.20 -18919249.07 0.0291 0.0050

Saturn -56511-02-28 19:54 J -18919160.78 -18919160.67 -18919160.56 0.0292 0.0163

Saturn -56511-05-28 08:09 J -18919072.19 -18919072.16 -18919072.11 0.0293 0.0277

Jupiter -56507-01-07 00:57 J -18917752.58 -18917752.46 -18917752.34 0.0533 0.0187

Jupiter -56507-04-06 08:09 J -18917663.24 -18917663.16 -18917663.07 0.0532 0.0390

Mars -56506-12-09 06:42 J -18917051.30 -18917051.22 -18917051.13 0.1796 0.1302

Mars -56505-10-04 14:09 J -18916751.05 -18916750.91 -18916750.76 0.1738 0.0646

Moon -56505-12-31 06:28 J -18916663.38 -18916663.23 -18916663.08 0.2662 0.0024

Earth -56505-12-31 07:54 J -18916663.32 -18916663.17 -18916663.02 0.2659 0.0165 *

Jupiter -56501-02-23 03:49 J -18915514.51 -18915514.34 -18915514.16 0.0493 0.0116

Earth -56501-07-07 06:28 J -18915379.34 -18915379.23 -18915379.12 0.2675 0.0680

Moon -56501-07-07 07:11 J -18915379.31 -18915379.20 -18915379.09 0.2671 0.0712 *

Saturn -56498-01-08 10:04 J -18914464.20 -18914464.08 -18914463.95 0.0273 0.0192

Saturn -56498-04-07 06:13 J -18914375.41 -18914375.24 -18914375.07 0.0272 0.0067

Saturn -56498-07-05 02:23 J -18914286.57 -18914286.40 -18914286.22 0.0271 0.0058

Saturn -56498-10-01 22:47 J -18914197.68 -18914197.55 -18914197.41 0.0270 0.0183

Neptune -56497-02-15 22:33 J -18914060.57 -18914060.56 -18914060.54 0.0089 0.0088

Neptune -56497-05-13 23:59 J -18913972.54 -18913972.50 -18913972.44 0.0089 0.0082

Neptune -56497-08-10 01:40 J -18913884.49 -18913884.43 -18913884.36 0.0089 0.0076

Neptune -56497-11-06 03:06 J -18913796.45 -18913796.37 -18913796.28 0.0089 0.0070

Neptune -56496-02-02 04:47 J -18913708.39 -18913708.30 -18913708.20 0.0089 0.0064

Neptune -56496-05-01 06:13 J -18913620.34 -18913620.24 -18913620.13 0.0089 0.0058

Neptune -56496-07-28 07:54 J -18913532.28 -18913532.17 -18913532.06 0.0089 0.0052

Neptune -56496-10-24 09:06 J -18913444.23 -18913444.12 -18913443.99 0.0089 0.0047

Jupiter -56496-10-26 04:33 J -18913442.41 -18913442.31 -18913442.21 0.0534 0.0333

Neptune -56495-01-20 10:47 J -18913356.17 -18913356.05 -18913355.92 0.0089 0.0040

Jupiter -56495-01-23 12:13 J -18913353.10 -18913352.99 -18913352.88 0.0533 0.0249

Neptune -56495-04-18 12:13 J -18913268.11 -18913267.99 -18913267.86 0.0089 0.0035

Neptune -56495-07-15 13:40 J -18913180.05 -18913179.93 -18913179.79 0.0089 0.0029

Neptune -56495-10-11 15:21 J -18913091.99 -18913091.86 -18913091.72 0.0089 0.0023

Neptune -56494-01-07 16:47 J -18913003.93 -18913003.80 -18913003.66 0.0089 0.0017

Neptune -56494-04-05 18:13 J -18912915.87 -18912915.74 -18912915.60 0.0089 0.0011

Mars -56494-04-06 05:01 J -18912915.37 -18912915.29 -18912915.20 0.1822 0.1234

Venus -56494-04-10 16:47 J -18912910.85 -18912910.80 -18912910.75 0.3789 0.3124

Moon -56494-07-01 03:35 J -18912829.42 -18912829.35 -18912829.28 0.2675 0.2039

Earth -56494-07-01 03:49 J -18912829.41 -18912829.34 -18912829.27 0.2669 0.2077 *

Neptune -56494-07-02 19:54 J -18912827.81 -18912827.67 -18912827.54 0.0089 0.0005

Neptune -56494-09-28 21:21 J -18912739.75 -18912739.61 -18912739.47 0.0089 0.0001

Neptune -56494-12-25 22:47 J -18912651.69 -18912651.55 -18912651.41 0.0089 0.0007

Neptune -56493-03-23 00:13 J -18912563.63 -18912563.49 -18912563.35 0.0089 0.0012

Neptune -56493-06-19 01:40 J -18912475.56 -18912475.43 -18912475.30 0.0089 0.0018

Neptune -56493-09-15 03:06 J -18912387.50 -18912387.37 -18912387.24 0.0089 0.0024

Neptune -56493-12-12 04:33 J -18912299.44 -18912299.31 -18912299.18 0.0089 0.0030

Neptune -56492-03-10 05:59 J -18912211.37 -18912211.25 -18912211.12 0.0089 0.0036

Neptune -56492-06-06 07:11 J -18912123.31 -18912123.20 -18912123.07 0.0089 0.0042

Neptune -56492-09-02 08:52 J -18912035.24 -18912035.13 -18912035.01 0.0089 0.0047

Neptune -56492-11-29 10:04 J -18911947.18 -18911947.08 -18911946.96 0.0089 0.0053

Moon -56491-01-03 11:59 J -18911912.11 -18911912.00 -18911911.89 0.2663 0.1855

Earth -56491-01-03 12:42 J -18911912.07 -18911911.97 -18911911.86 0.2657 0.1912 *

Venus -56491-01-14 14:09 J -18911901.06 -18911900.91 -18911900.76 0.3587 0.1241

Neptune -56491-02-25 11:30 J -18911859.11 -18911859.02 -18911858.91 0.0089 0.0059

Neptune -56491-05-24 13:11 J -18911771.04 -18911770.95 -18911770.86 0.0089 0.0064

Neptune -56491-08-20 14:23 J -18911682.97 -18911682.90 -18911682.81 0.0089 0.0070

Neptune -56491-11-16 15:35 J -18911594.90 -18911594.85 -18911594.76 0.0089 0.0076

Neptune -56490-02-12 17:16 J -18911506.83 -18911506.78 -18911506.72 0.0089 0.0081

Neptune -56490-05-11 18:28 J -18911418.74 -18911418.73 -18911418.69 0.0089 0.0087

Jupiter -56490-12-12 02:09 J -18911204.59 -18911204.41 -18911204.23 0.0493 0.0047

Venus -56489-10-24 08:37 J -18910887.24 -18910887.14 -18910887.04 0.3792 0.1103

Earth -56488-07-10 00:57 J -18910628.55 -18910628.46 -18910628.37 0.2677 0.1628

Moon -56488-07-10 01:11 J -18910628.54 -18910628.45 -18910628.36 0.2671 0.1696 *

Mars -56485-08-26 13:40 J -18909485.04 -18909484.93 -18909484.81 0.1813 0.0428

Mars -56484-06-23 13:11 J -18909183.98 -18909183.95 -18909183.92 0.1721 0.1681

Jupiter -56484-08-14 08:23 J -18909132.20 -18909132.15 -18909132.09 0.0534 0.0473

Jupiter -56484-11-11 16:33 J -18909042.94 -18909042.81 -18909042.69 0.0533 0.0115

Venus -56483-05-10 00:28 J -18908863.58 -18908863.48 -18908863.38 0.3795 0.0905

Saturn -56483-10-26 06:57 J -18908694.29 -18908694.21 -18908694.11 0.0288 0.0216

Saturn -56482-01-22 19:54 J -18908605.80 -18908605.67 -18908605.54 0.0289 0.0103

Saturn -56482-04-21 08:37 J -18908517.28 -18908517.14 -18908517.01 0.0290 0.0011

Saturn -56482-07-18 21:06 J -18908428.74 -18908428.62 -18908428.50 0.0291 0.0123

Saturn -56482-10-15 09:35 J -18908340.17 -18908340.10 -18908340.02 0.0292 0.0236

Earth -56481-07-02 22:18 J -18908078.67 -18908078.57 -18908078.46 0.2671 0.1088

Moon -56481-07-02 23:01 J -18908078.65 -18908078.54 -18908078.44 0.2677 0.1101 *

Uranus -56480-12-15 09:06 J -18907548.17 -18907548.12 -18907548.05 0.0132 0.0118

Uranus -56479-03-13 12:13 J -18907460.07 -18907459.99 -18907459.90 0.0132 0.0100

Uranus -56479-06-09 15:21 J -18907371.96 -18907371.86 -18907371.75 0.0132 0.0083

Uranus -56479-09-05 18:13 J -18907283.85 -18907283.74 -18907283.61 0.0132 0.0066

Uranus -56479-12-02 21:21 J -18907195.73 -18907195.61 -18907195.48 0.0132 0.0049

Uranus -56478-03-01 00:28 J -18907107.61 -18907107.48 -18907107.35 0.0132 0.0031

Uranus -56478-05-28 03:21 J -18907019.49 -18907019.36 -18907019.22 0.0132 0.0014

Uranus -56478-08-24 06:28 J -18906931.36 -18906931.23 -18906931.10 0.0132 0.0003

Jupiter -56478-09-30 00:13 J -18906894.65 -18906894.49 -18906894.32 0.0493 0.0209

Uranus -56478-11-20 09:21 J -18906843.24 -18906843.11 -18906842.98 0.0132 0.0021

Venus -56478-11-23 16:18 J -18906839.88 -18906839.82 -18906839.76 0.3798 0.2927

Jupiter -56478-12-29 06:57 J -18906804.27 -18906804.21 -18906804.15 0.0494 0.0460

Uranus -56477-02-16 12:28 J -18906755.11 -18906754.98 -18906754.86 0.0132 0.0038

Uranus -56477-05-14 15:21 J -18906666.98 -18906666.86 -18906666.74 0.0132 0.0055

Uranus -56477-08-10 18:13 J -18906578.85 -18906578.74 -18906578.63 0.0133 0.0072

Uranus -56477-11-06 21:06 J -18906490.71 -18906490.62 -18906490.52 0.0133 0.0089

Uranus -56476-02-02 23:59 J -18906402.57 -18906402.50 -18906402.41 0.0133 0.0107

Uranus -56476-05-02 02:52 J -18906314.41 -18906314.38 -18906314.32 0.0133 0.0124

Mars -56475-01-16 22:18 J -18906054.69 -18906054.57 -18906054.46 0.1805 0.0401

Moon -56475-07-12 18:57 J -18905877.75 -18905877.71 -18905877.67 0.2672 0.2464

Earth -56475-07-12 19:11 J -18905877.73 -18905877.70 -18905877.67 0.2679 0.2568 *

Mars -56475-11-13 14:09 J -18905754.06 -18905753.91 -18905753.76 0.1729 0.0601

Jupiter -56472-08-30 20:23 J -18904732.78 -18904732.65 -18904732.52 0.0533 0.0028

Moon -56472-12-29 08:09 J -18904612.29 -18904612.16 -18904612.04 0.2660 0.1465

Earth -56472-12-29 09:35 J -18904612.23 -18904612.10 -18904611.97 0.2661 0.1237 *

Saturn -56469-05-27 06:57 J -18903732.27 -18903732.21 -18903732.12 0.0273 0.0244

Saturn -56469-08-24 03:21 J -18903643.52 -18903643.36 -18903643.20 0.0272 0.0119

Saturn -56469-11-20 23:30 J -18903554.70 -18903554.52 -18903554.34 0.0271 0.0008

Saturn -56468-02-17 19:40 J -18903465.83 -18903465.68 -18903465.52 0.0270 0.0131

Saturn -56468-05-17 16:04 J -18903376.87 -18903376.83 -18903376.77 0.0270 0.0257

Earth -56468-07-05 17:01 J -18903327.90 -18903327.79 -18903327.68 0.2673 0.0107

Moon -56468-07-05 17:45 J -18903327.87 -18903327.76 -18903327.65 0.2674 0.0014 *

Mars -56466-06-09 06:57 J -18902624.30 -18902624.21 -18902624.12 0.1796 0.1197

Jupiter -56466-07-18 22:47 J -18902584.67 -18902584.55 -18902584.43 0.0493 0.0367

Jupiter -56466-10-17 05:01 J -18902494.43 -18902494.29 -18902494.14 0.0494 0.0296

Mars -56465-04-04 14:52 J -18902324.03 -18902323.88 -18902323.73 0.1738 0.0509

Jupiter -56460-06-18 23:59 J -18900422.62 -18900422.50 -18900422.38 0.0533 0.0175

Jupiter -56460-09-16 07:25 J -18900333.28 -18900333.19 -18900333.11 0.0532 0.0400

Moon -56458-01-01 12:57 J -18899861.11 -18899860.96 -18899860.82 0.2663 0.0458

Earth -56458-01-01 14:09 J -18899861.06 -18899860.91 -18899860.76 0.2659 0.0469 *

Mars -56456-08-25 15:35 J -18898893.91 -18898893.85 -18898893.79 0.1747 0.1615

Earth -56455-07-08 11:30 J -18898577.13 -18898577.02 -18898576.91 0.2675 0.0858

Moon -56455-07-08 12:13 J -18898577.10 -18898576.99 -18898576.89 0.2672 0.0937 *

Mars -56455-10-05 05:16 J -18898488.36 -18898488.28 -18898488.20 0.1822 0.1340

Jupiter -56454-08-05 03:06 J -18898184.54 -18898184.37 -18898184.19 0.0494 0.0133

Saturn -56453-03-14 08:23 J -18897962.21 -18897962.15 -18897962.08 0.0288 0.0253

Saturn -56453-06-10 21:21 J -18897873.73 -18897873.61 -18897873.49 0.0289 0.0140

Saturn -56453-09-07 10:04 J -18897785.22 -18897785.08 -18897784.95 0.0290 0.0027

Saturn -56453-12-04 22:33 J -18897696.68 -18897696.56 -18897696.43 0.0291 0.0087

Saturn -56452-03-03 11:16 J -18897608.13 -18897608.03 -18897607.93 0.0292 0.0199

Jupiter -56448-04-07 03:35 J -18896112.45 -18896112.35 -18896112.25 0.0533 0.0321

Earth -56448-07-01 08:37 J -18896027.22 -18896027.14 -18896027.06 0.2669 0.1883

Moon -56448-07-01 08:37 J -18896027.21 -18896027.14 -18896027.06 0.2676 0.1948 *

Jupiter -56448-07-05 11:16 J -18896023.14 -18896023.03 -18896022.92 0.0533 0.0260

Moon -56445-01-04 18:28 J -18895109.82 -18895109.73 -18895109.65 0.2663 0.2156

Earth -56445-01-04 19:11 J -18895109.78 -18895109.70 -18895109.62 0.2657 0.2229 *

Mars -56445-02-25 13:40 J -18895058.04 -18895057.93 -18895057.81 0.1813 0.0522

Jupiter -56442-05-24 00:57 J -18893874.64 -18893874.46 -18893874.27 0.0493 0.0035

Moon -56442-07-11 05:59 J -18893826.34 -18893826.25 -18893826.17 0.2670 0.1774

Earth -56442-07-11 05:45 J -18893826.34 -18893826.26 -18893826.17 0.2677 0.1808 *

Saturn -56439-01-11 03:06 J -18892911.52 -18892911.37 -18892911.23 0.0273 0.0155

Saturn -56439-04-09 23:16 J -18892822.71 -18892822.53 -18892822.35 0.0272 0.0030

Saturn -56439-07-07 19:25 J -18892733.86 -18892733.69 -18892733.52 0.0271 0.0096

Saturn -56439-10-04 15:49 J -18892644.93 -18892644.84 -18892644.73 0.0270 0.0222

Earth -56439-12-27 11:45 J -18892561.04 -18892561.01 -18892560.98 0.2663 0.2589

Uranus -56438-03-31 02:23 J -18892467.41 -18892467.40 -18892467.38 0.0147 0.0146

Uranus -56438-06-27 10:47 J -18892379.16 -18892379.05 -18892378.93 0.0147 0.0113

Uranus -56438-09-23 19:11 J -18892290.85 -18892290.70 -18892290.54 0.0147 0.0080

Venus -56438-11-15 14:09 J -18892237.98 -18892237.91 -18892237.83 0.3790 0.2397

Uranus -56438-12-21 03:35 J -18892202.52 -18892202.35 -18892202.16 0.0147 0.0046

Uranus -56437-03-18 12:13 J -18892114.18 -18892113.99 -18892113.80 0.0146 0.0013

Uranus -56437-06-14 20:37 J -18892025.83 -18892025.64 -18892025.45 0.0146 0.0021

Uranus -56437-09-11 05:01 J -18891937.46 -18891937.29 -18891937.11 0.0146 0.0055

Uranus -56437-12-08 13:40 J -18891849.08 -18891848.93 -18891848.78 0.0146 0.0088

Jupiter -56436-01-24 06:57 J -18891802.27 -18891802.21 -18891802.15 0.0534 0.0472

Uranus -56436-03-06 22:04 J -18891760.67 -18891760.58 -18891760.47 0.0146 0.0122

Jupiter -56436-04-23 14:52 J -18891713.00 -18891712.88 -18891712.75 0.0534 0.0116

Mars -56436-07-17 22:18 J -18891627.69 -18891627.57 -18891627.45 0.1805 0.0297

Mars -56435-05-14 14:37 J -18891327.04 -18891326.89 -18891326.75 0.1729 0.0725

Earth -56435-07-04 03:21 J -18891276.47 -18891276.36 -18891276.25 0.2671 0.0897

Moon -56435-07-04 03:49 J -18891276.45 -18891276.34 -18891276.23 0.2677 0.0792 *

Venus -56435-08-21 16:33 J -18891227.97 -18891227.81 -18891227.66 0.3586 0.0725

Venus -56432-05-31 05:59 J -18890214.35 -18890214.25 -18890214.15 0.3793 0.0402

Jupiter -56430-03-11 23:16 J -18889564.69 -18889564.53 -18889564.36 0.0493 0.0194

Jupiter -56430-06-10 05:45 J -18889474.30 -18889474.26 -18889474.20 0.0493 0.0474

Mars -56427-12-08 06:57 J -18888197.31 -18888197.21 -18888197.12 0.1796 0.1102

Venus -56427-12-14 21:49 J -18888190.68 -18888190.59 -18888190.50 0.3796 0.1648

Mars -56426-10-04 15:21 J -18887897.02 -18887896.86 -18887896.71 0.1738 0.0376

Moon -56426-12-30 14:23 J -18887810.04 -18887809.90 -18887809.76 0.2660 0.0953

Earth -56426-12-30 15:49 J -18887809.98 -18887809.84 -18887809.70 0.2661 0.0929 *

Jupiter -56424-02-09 18:57 J -18887402.83 -18887402.71 -18887402.58 0.0534 0.0030

Saturn -56424-10-28 23:01 J -18887141.65 -18887141.54 -18887141.43 0.0288 0.0176

Saturn -56423-01-25 11:45 J -18887053.14 -18887053.01 -18887052.88 0.0289 0.0063

Saturn -56423-04-24 00:28 J -18886964.62 -18886964.48 -18886964.35 0.0290 0.0050

Saturn -56423-07-21 12:57 J -18886876.07 -18886875.96 -18886875.85 0.0291 0.0162

Saturn -56423-10-18 01:25 J -18886787.48 -18886787.44 -18886787.40 0.0292 0.0274

Earth -56422-07-06 22:04 J -18886525.70 -18886525.58 -18886525.47 0.2673 0.0135

Moon -56422-07-06 22:47 J -18886525.67 -18886525.55 -18886525.44 0.2673 0.0120 *

Venus -56421-06-29 13:40 J -18886166.95 -18886166.93 -18886166.90 0.3798 0.3660

Jupiter -56419-12-28 21:21 J -18885254.73 -18885254.61 -18885254.48 0.0493 0.0357

Jupiter -56418-03-29 03:35 J -18885164.49 -18885164.35 -18885164.21 0.0493 0.0305

Mars -56416-02-23 16:18 J -18884466.90 -18884466.82 -18884466.74 0.1746 0.1470

Mars -56415-04-05 05:01 J -18884061.36 -18884061.29 -18884061.21 0.1822 0.1428

Neptune -56415-11-01 10:33 J -18883851.11 -18883851.06 -18883850.98 0.0089 0.0082

Neptune -56414-01-28 13:54 J -18883763.02 -18883762.92 -18883762.82 0.0089 0.0074

Neptune -56414-04-26 16:47 J -18883674.91 -18883674.80 -18883674.67 0.0089 0.0067

Neptune -56414-07-23 19:54 J -18883586.79 -18883586.67 -18883586.52 0.0089 0.0059

Neptune -56414-10-19 23:01 J -18883498.67 -18883498.54 -18883498.38 0.0089 0.0052

Neptune -56413-01-16 02:09 J -18883410.55 -18883410.41 -18883410.23 0.0089 0.0044

Neptune -56413-04-13 05:30 J -18883322.43 -18883322.27 -18883322.09 0.0089 0.0036

Neptune -56413-07-10 08:52 J -18883234.30 -18883234.13 -18883233.96 0.0089 0.0028

Neptune -56413-10-06 11:45 J -18883146.18 -18883146.01 -18883145.82 0.0089 0.0021

Jupiter -56413-11-28 23:01 J -18883092.66 -18883092.54 -18883092.42 0.0534 0.0163

Moon -56412-01-01 19:11 J -18883058.84 -18883058.70 -18883058.55 0.2663 0.0591

Earth -56412-01-01 20:23 J -18883058.79 -18883058.65 -18883058.50 0.2659 0.0790 *

Neptune -56412-01-02 15:06 J -18883058.05 -18883057.87 -18883057.68 0.0089 0.0013

Jupiter -56412-02-26 06:28 J -18883003.31 -18883003.23 -18883003.15 0.0533 0.0414

Neptune -56412-03-31 18:28 J -18882969.92 -18882969.73 -18882969.55 0.0089 0.0005

Neptune -56412-06-27 21:35 J -18882881.78 -18882881.60 -18882881.41 0.0089 0.0004

Neptune -56412-09-24 00:57 J -18882793.65 -18882793.46 -18882793.28 0.0089 0.0011

Neptune -56412-12-21 04:04 J -18882705.51 -18882705.33 -18882705.14 0.0089 0.0019

Neptune -56411-03-19 07:11 J -18882617.37 -18882617.20 -18882617.01 0.0089 0.0027

Neptune -56411-06-15 10:33 J -18882529.23 -18882529.06 -18882528.88 0.0089 0.0035

Neptune -56411-09-11 13:40 J -18882441.08 -18882440.93 -18882440.76 0.0089 0.0043

Neptune -56411-12-08 17:01 J -18882352.93 -18882352.79 -18882352.63 0.0089 0.0051

Neptune -56410-03-06 20:09 J -18882264.78 -18882264.66 -18882264.50 0.0089 0.0059

Saturn -56410-05-31 00:28 J -18882179.59 -18882179.48 -18882179.35 0.0273 0.0203

Neptune -56410-06-02 23:30 J -18882176.63 -18882176.52 -18882176.38 0.0089 0.0067

Saturn -56410-08-27 20:37 J -18882090.81 -18882090.64 -18882090.46 0.0272 0.0079

Neptune -56410-08-30 02:52 J -18882088.47 -18882088.38 -18882088.27 0.0089 0.0075

Saturn -56410-11-24 17:01 J -18882001.97 -18882001.79 -18882001.61 0.0271 0.0047

Neptune -56410-11-26 05:59 J -18882000.30 -18882000.25 -18882000.16 0.0089 0.0083

Saturn -56409-02-21 13:25 J -18881913.08 -18881912.94 -18881912.80 0.0270 0.0173

Earth -56409-07-08 16:18 J -18881774.92 -18881774.82 -18881774.71 0.2675 0.1042

Moon -56409-07-08 17:01 J -18881774.89 -18881774.79 -18881774.69 0.2672 0.1091 *

Jupiter -56406-01-15 01:40 J -18880854.60 -18880854.43 -18880854.26 0.0493 0.0141

Mars -56406-08-26 13:54 J -18880631.03 -18880630.92 -18880630.81 0.1814 0.0617

Pluto -56403-05-19 23:01 J -18879633.55 -18879633.54 -18879633.48 0.0061 0.0061

Pluto -56403-08-16 00:28 J -18879545.54 -18879545.48 -18879545.40 0.0061 0.0056

Pluto -56403-11-12 01:11 J -18879457.52 -18879457.45 -18879457.33 0.0061 0.0052

Pluto -56402-02-08 02:37 J -18879369.49 -18879369.39 -18879369.27 0.0061 0.0047

Pluto -56402-05-07 03:21 J -18879281.46 -18879281.36 -18879281.21 0.0061 0.0043

Earth -56402-07-02 13:40 J -18879225.02 -18879224.93 -18879224.84 0.2670 0.1697

Moon -56402-07-02 13:40 J -18879225.01 -18879224.93 -18879224.84 0.2676 0.1635 *

Pluto -56402-08-03 04:47 J -18879193.43 -18879193.30 -18879193.15 0.0062 0.0038

Pluto -56402-10-30 05:59 J -18879105.39 -18879105.25 -18879105.10 0.0062 0.0033

Pluto -56401-01-26 06:57 J -18879017.35 -18879017.21 -18879017.04 0.0062 0.0029

Pluto -56401-04-23 08:09 J -18878929.31 -18878929.16 -18878928.99 0.0062 0.0024

Pluto -56401-07-20 09:21 J -18878841.27 -18878841.11 -18878840.94 0.0062 0.0019

Jupiter -56401-09-17 02:23 J -18878782.50 -18878782.40 -18878782.29 0.0533 0.0313

Pluto -56401-10-16 10:18 J -18878753.23 -18878753.07 -18878752.89 0.0062 0.0015

Jupiter -56401-12-15 10:04 J -18878693.19 -18878693.08 -18878692.97 0.0533 0.0268

Pluto -56400-01-12 11:30 J -18878665.18 -18878665.02 -18878664.84 0.0062 0.0010

Pluto -56400-04-10 12:57 J -18878577.14 -18878576.96 -18878576.79 0.0062 0.0005

Pluto -56400-07-07 13:54 J -18878489.09 -18878488.92 -18878488.74 0.0062 0.0002

Pluto -56400-10-03 15:06 J -18878401.04 -18878400.87 -18878400.69 0.0062 0.0005

Pluto -56400-12-30 16:18 J -18878312.99 -18878312.82 -18878312.64 0.0062 0.0009

Moon -56399-01-05 01:11 J -18878307.49 -18878307.45 -18878307.42 0.2663 0.2577

Earth -56399-01-05 01:25 J -18878307.48 -18878307.44 -18878307.40 0.2656 0.2544 *

Pluto -56399-03-28 17:16 J -18878224.94 -18878224.78 -18878224.60 0.0062 0.0015

Pluto -56399-06-24 18:28 J -18878136.89 -18878136.73 -18878136.55 0.0062 0.0019

Pluto -56399-09-20 19:40 J -18878048.83 -18878048.68 -18878048.51 0.0063 0.0024

Pluto -56399-12-17 21:06 J -18877960.78 -18877960.62 -18877960.46 0.0063 0.0029

Pluto -56398-03-15 22:18 J -18877872.72 -18877872.57 -18877872.42 0.0063 0.0034

Pluto -56398-06-11 23:30 J -18877784.65 -18877784.52 -18877784.38 0.0063 0.0039

Pluto -56398-09-08 00:42 J -18877696.59 -18877696.47 -18877696.34 0.0063 0.0044

Pluto -56398-12-05 01:54 J -18877608.52 -18877608.42 -18877608.31 0.0063 0.0049

Pluto -56397-03-02 03:06 J -18877520.45 -18877520.37 -18877520.28 0.0063 0.0054

Pluto -56397-05-29 04:33 J -18877432.37 -18877432.31 -18877432.25 0.0063 0.0060

Mars -56396-01-15 22:33 J -18877200.68 -18877200.56 -18877200.44 0.1805 0.0202

Moon -56396-07-11 10:47 J -18877024.12 -18877024.05 -18877023.98 0.2670 0.1999

Earth -56396-07-11 10:47 J -18877024.12 -18877024.05 -18877023.98 0.2677 0.1985 *

Uranus -56396-10-08 13:40 J -18876934.95 -18876934.93 -18876934.90 0.0132 0.0129

Mars -56396-11-12 15:06 J -18876900.01 -18876899.87 -18876899.73 0.1729 0.0859

Uranus -56395-01-04 16:33 J -18876846.87 -18876846.81 -18876846.73 0.0132 0.0112

Uranus -56395-04-02 19:40 J -18876758.77 -18876758.68 -18876758.58 0.0132 0.0095

Uranus -56395-06-29 22:47 J -18876670.66 -18876670.55 -18876670.44 0.0132 0.0077

Uranus -56395-09-26 01:54 J -18876582.54 -18876582.42 -18876582.30 0.0132 0.0060

Jupiter -56395-11-02 23:45 J -18876544.69 -18876544.51 -18876544.32 0.0493 0.0025

Uranus -56395-12-23 04:47 J -18876494.42 -18876494.30 -18876494.17 0.0132 0.0043

Saturn -56394-03-18 00:42 J -18876409.56 -18876409.47 -18876409.38 0.0288 0.0210

Uranus -56394-03-21 07:54 J -18876406.30 -18876406.17 -18876406.04 0.0132 0.0026

Saturn -56394-06-14 13:25 J -18876321.07 -18876320.94 -18876320.81 0.0289 0.0098

Uranus -56394-06-17 10:47 J -18876318.18 -18876318.05 -18876317.91 0.0132 0.0009

Saturn -56394-09-11 02:09 J -18876232.55 -18876232.41 -18876232.28 0.0290 0.0015

Uranus -56394-09-13 13:54 J -18876230.06 -18876229.92 -18876229.79 0.0132 0.0009

Saturn -56394-12-08 14:37 J -18876144.01 -18876143.89 -18876143.77 0.0291 0.0128

Uranus -56394-12-10 16:47 J -18876141.93 -18876141.80 -18876141.67 0.0132 0.0026

Saturn -56393-03-06 03:06 J -18876055.44 -18876055.37 -18876055.29 0.0292 0.0241

Uranus -56393-03-07 19:40 J -18876053.80 -18876053.68 -18876053.55 0.0132 0.0044

Uranus -56393-06-03 22:47 J -18875965.67 -18875965.55 -18875965.43 0.0132 0.0060

Uranus -56393-08-31 01:40 J -18875877.53 -18875877.43 -18875877.32 0.0132 0.0078

Uranus -56393-11-27 04:33 J -18875789.39 -18875789.31 -18875789.21 0.0133 0.0095

Moon -56393-12-27 16:33 J -18875758.87 -18875758.81 -18875758.74 0.2659 0.2355

Earth -56393-12-27 17:59 J -18875758.83 -18875758.75 -18875758.68 0.2663 0.2288 *

Uranus -56392-02-23 07:40 J -18875701.25 -18875701.18 -18875701.11 0.0133 0.0112

Uranus -56392-05-22 10:33 J -18875613.09 -18875613.06 -18875613.03 0.0133 0.0129

Earth -56389-07-04 08:23 J -18874474.26 -18874474.15 -18874474.04 0.2672 0.0712

Moon -56389-07-04 08:52 J -18874474.24 -18874474.13 -18874474.02 0.2676 0.0722 *

Jupiter -56389-07-06 05:59 J -18874472.31 -18874472.25 -18874472.19 0.0534 0.0461

Jupiter -56389-10-03 13:54 J -18874383.05 -18874382.92 -18874382.79 0.0533 0.0124

Mars -56387-06-08 06:57 J -18873770.31 -18873770.21 -18873770.11 0.1796 0.1001

Venus -56387-12-06 19:54 J -18873588.69 -18873588.67 -18873588.65 0.3787 0.3680

Mars -56386-04-04 15:49 J -18873469.99 -18873469.84 -18873469.68 0.1738 0.0241

Venus -56384-09-11 09:21 J -18872579.19 -18872579.11 -18872579.02 0.3589 0.3057

Jupiter -56383-08-21 22:04 J -18872234.75 -18872234.58 -18872234.42 0.0493 0.0185

Jupiter -56383-11-20 04:33 J -18872144.35 -18872144.31 -18872144.28 0.0493 0.0483

Venus -56381-06-21 11:45 J -18871565.10 -18871565.01 -18871564.92 0.3790 0.1664

Saturn -56381-10-17 00:42 J -18871447.55 -18871447.47 -18871447.38 0.0273 0.0236

Saturn -56380-01-13 20:52 J -18871358.79 -18871358.63 -18871358.47 0.0272 0.0112

Saturn -56380-04-12 17:01 J -18871269.97 -18871269.79 -18871269.61 0.0272 0.0014

Saturn -56380-07-10 13:25 J -18871181.09 -18871180.94 -18871180.78 0.0271 0.0140

Saturn -56380-10-07 10:04 J -18871092.11 -18871092.08 -18871092.05 0.0270 0.0265

Moon -56380-12-30 20:37 J -18871007.78 -18871007.64 -18871007.49 0.2662 0.0816

Earth -56380-12-30 22:04 J -18871007.72 -18871007.58 -18871007.43 0.2661 0.0620 *

Venus -56378-03-28 18:42 J -18870554.82 -18870554.72 -18870554.61 0.3585 0.2697

Jupiter -56377-07-22 17:16 J -18870072.91 -18870072.78 -18870072.65 0.0534 0.0030

Mars -56377-08-24 16:33 J -18870039.91 -18870039.81 -18870039.71 0.1747 0.1352

Earth -56376-07-07 02:52 J -18869723.49 -18869723.38 -18869723.27 0.2674 0.0263

Moon -56376-07-07 03:35 J -18869723.46 -18869723.35 -18869723.23 0.2673 0.0403 *

Mars -56376-10-04 05:16 J -18869634.34 -18869634.28 -18869634.22 0.1822 0.1530

Venus -56375-01-05 03:35 J -18869541.45 -18869541.35 -18869541.25 0.3793 0.0360

Jupiter -56371-06-09 20:23 J -18867924.78 -18867924.65 -18867924.53 0.0492 0.0344

Jupiter -56371-09-08 02:23 J -18867834.54 -18867834.40 -18867834.26 0.0493 0.0316

Venus -56370-07-21 19:25 J -18867517.77 -18867517.69 -18867517.61 0.3796 0.2383

Moon -56369-06-29 23:16 J -18867173.56 -18867173.53 -18867173.49 0.2673 0.2527

Earth -56369-06-29 23:45 J -18867173.54 -18867173.51 -18867173.47 0.2668 0.2504 *

Moon -56366-01-03 01:40 J -18866256.57 -18866256.43 -18866256.30 0.2663 0.1107

Earth -56366-01-03 02:52 J -18866256.52 -18866256.38 -18866256.24 0.2658 0.1102 *

Mars -56366-02-24 13:54 J -18866204.03 -18866203.92 -18866203.81 0.1813 0.0715

Jupiter -56365-05-10 21:21 J -18865762.73 -18865762.61 -18865762.49 0.0534 0.0165

Saturn -56365-08-04 02:52 J -18865677.45 -18865677.38 -18865677.30 0.0287 0.0241

Jupiter -56365-08-08 04:47 J -18865673.38 -18865673.30 -18865673.22 0.0533 0.0414

Saturn -56365-10-31 15:49 J -18865588.96 -18865588.84 -18865588.72 0.0288 0.0128

Saturn -56364-01-28 04:33 J -18865500.45 -18865500.31 -18865500.18 0.0289 0.0017

Saturn -56364-04-26 17:01 J -18865411.92 -18865411.79 -18865411.66 0.0290 0.0096

Saturn -56364-07-24 05:30 J -18865323.36 -18865323.27 -18865323.18 0.0291 0.0208

Earth -56363-07-09 21:21 J -18864972.71 -18864972.61 -18864972.51 0.2676 0.1221

Moon -56363-07-09 21:49 J -18864972.69 -18864972.59 -18864972.49 0.2671 0.1236 *

Jupiter -56359-06-26 23:59 J -18863524.68 -18863524.50 -18863524.33 0.0493 0.0146

Mars -56357-07-16 22:18 J -18862773.69 -18862773.57 -18862773.45 0.1805 0.0121

Mars -56356-05-13 15:49 J -18862472.96 -18862472.84 -18862472.71 0.1729 0.1011

Earth -56356-07-02 18:28 J -18862422.82 -18862422.73 -18862422.63 0.2670 0.1509

Moon -56356-07-02 18:42 J -18862422.81 -18862422.72 -18862422.62 0.2677 0.1544 *

Uranus -56354-04-20 08:52 J -18861766.16 -18861766.13 -18861766.06 0.0147 0.0141

Uranus -56354-07-17 17:16 J -18861677.89 -18861677.78 -18861677.64 0.0147 0.0108

Uranus -56354-10-14 01:40 J -18861589.58 -18861589.43 -18861589.25 0.0147 0.0075

Uranus -56353-01-10 10:18 J -18861501.25 -18861501.07 -18861500.88 0.0147 0.0041

Jupiter -56353-02-28 01:11 J -18861452.55 -18861452.45 -18861452.34 0.0534 0.0307

Uranus -56353-04-07 18:57 J -18861412.90 -18861412.71 -18861412.52 0.0146 0.0007

Jupiter -56353-05-27 08:52 J -18861363.23 -18861363.13 -18861363.02 0.0533 0.0276

Uranus -56353-07-05 03:21 J -18861324.55 -18861324.36 -18861324.17 0.0146 0.0026

Uranus -56353-10-01 11:45 J -18861236.18 -18861236.01 -18861235.83 0.0146 0.0060

Uranus -56353-12-28 20:09 J -18861147.79 -18861147.66 -18861147.50 0.0146 0.0094

Uranus -56352-03-27 05:01 J -18861059.38 -18861059.29 -18861059.20 0.0146 0.0128

Saturn -56351-06-02 18:57 J -18860626.85 -18860626.71 -18860626.56 0.0273 0.0157

Saturn -56351-08-30 15:06 J -18860538.05 -18860537.87 -18860537.69 0.0272 0.0032

Saturn -56351-11-27 11:30 J -18860449.19 -18860449.02 -18860448.85 0.0271 0.0094

Saturn -56350-02-24 07:54 J -18860360.27 -18860360.17 -18860360.06 0.0270 0.0220

Moon -56350-07-12 15:35 J -18860221.91 -18860221.85 -18860221.78 0.2670 0.2146

Earth -56350-07-12 15:35 J -18860221.91 -18860221.85 -18860221.78 0.2678 0.2164 *

Mars -56348-12-07 07:11 J -18859343.31 -18859343.20 -18859343.10 0.1797 0.0898

Jupiter -56347-04-14 22:04 J -18859214.77 -18859214.58 -18859214.40 0.0493 0.0021

Mars -56347-10-03 16:33 J -18859042.97 -18859042.81 -18859042.66 0.1737 0.0113

Moon -56347-12-28 22:47 J -18858956.64 -18858956.55 -18858956.46 0.2659 0.2105

Earth -56347-12-28 23:59 J -18858956.59 -18858956.50 -18858956.40 0.2663 0.1991 *

Earth -56343-07-05 13:11 J -18857672.06 -18857671.95 -18857671.84 0.2672 0.0527

Moon -56343-07-05 13:54 J -18857672.03 -18857671.92 -18857671.81 0.2675 0.0403 *

Jupiter -56342-12-17 04:33 J -18857142.37 -18857142.31 -18857142.24 0.0534 0.0457

Jupiter -56341-03-15 12:28 J -18857053.10 -18857052.98 -18857052.85 0.0533 0.0130

Mars -56338-04-29 15:35 J -18855912.88 -18855912.85 -18855912.81 0.1788 0.1697

Mars -56337-02-23 17:16 J -18855612.89 -18855612.78 -18855612.67 0.1746 0.1210

Mars -56336-04-04 05:16 J -18855207.33 -18855207.28 -18855207.23 0.1822 0.1631

Saturn -56336-12-22 04:47 J -18854945.34 -18854945.30 -18854945.26 0.0288 0.0274

Jupiter -56335-01-31 20:09 J -18854904.83 -18854904.66 -18854904.49 0.0493 0.0180

Saturn -56335-03-20 17:30 J -18854856.88 -18854856.77 -18854856.65 0.0289 0.0162

Jupiter -56335-05-02 02:52 J -18854814.40 -18854814.38 -18854814.36 0.0494 0.0489

Saturn -56335-06-17 06:13 J -18854768.37 -18854768.24 -18854768.10 0.0289 0.0050

Saturn -56335-09-13 18:57 J -18854679.84 -18854679.71 -18854679.58 0.0290 0.0063

Saturn -56335-12-11 07:25 J -18854591.29 -18854591.19 -18854591.08 0.0291 0.0176

Saturn -56334-03-09 19:54 J -18854502.69 -18854502.67 -18854502.65 0.0292 0.0287

Moon -56333-01-01 02:52 J -18854205.52 -18854205.38 -18854205.23 0.2663 0.0383

Earth -56333-01-01 04:33 J -18854205.46 -18854205.31 -18854205.17 0.2660 0.0322 *

Neptune -56333-11-11 21:35 J -18853889.61 -18853889.60 -18853889.56 0.0089 0.0087

Neptune -56332-02-07 23:16 J -18853801.58 -18853801.53 -18853801.47 0.0089 0.0080

Neptune -56332-05-07 00:42 J -18853713.53 -18853713.47 -18853713.38 0.0089 0.0075

Neptune -56332-08-03 02:09 J -18853625.48 -18853625.41 -18853625.31 0.0089 0.0069

Neptune -56332-10-30 03:49 J -18853537.43 -18853537.34 -18853537.23 0.0089 0.0063

Neptune -56331-01-26 05:30 J -18853449.37 -18853449.27 -18853449.16 0.0089 0.0057

Neptune -56331-04-24 06:57 J -18853361.32 -18853361.21 -18853361.09 0.0089 0.0051

Neptune -56331-07-21 08:23 J -18853273.26 -18853273.15 -18853273.02 0.0089 0.0045

Neptune -56331-10-17 10:04 J -18853185.20 -18853185.08 -18853184.95 0.0089 0.0039

Neptune -56330-01-13 11:30 J -18853097.14 -18853097.02 -18853096.89 0.0089 0.0033

Neptune -56330-04-11 13:11 J -18853009.08 -18853008.95 -18853008.82 0.0089 0.0027

Earth -56330-07-08 07:40 J -18852921.29 -18852921.18 -18852921.06 0.2674 0.0457

Moon -56330-07-08 08:37 J -18852921.25 -18852921.14 -18852921.03 0.2673 0.0458 *

Neptune -56330-07-08 14:23 J -18852921.03 -18852920.90 -18852920.76 0.0089 0.0022 *

Venus -56330-07-13 17:16 J -18852915.84 -18852915.78 -18852915.71 0.3788 0.2945

Neptune -56330-10-04 16:04 J -18852832.97 -18852832.83 -18852832.69 0.0089 0.0015

Neptune -56330-12-31 17:30 J -18852744.90 -18852744.77 -18852744.63 0.0089 0.0010

Jupiter -56329-01-02 16:04 J -18852742.95 -18852742.83 -18852742.70 0.0533 0.0026

Neptune -56329-03-28 18:57 J -18852656.84 -18852656.71 -18852656.57 0.0089 0.0005

Neptune -56329-06-24 20:37 J -18852568.78 -18852568.64 -18852568.51 0.0089 0.0003

Neptune -56329-09-20 22:04 J -18852480.72 -18852480.58 -18852480.45 0.0089 0.0008

Neptune -56329-12-17 23:30 J -18852392.66 -18852392.52 -18852392.39 0.0089 0.0014

Neptune -56328-03-16 00:57 J -18852304.59 -18852304.46 -18852304.33 0.0089 0.0020

Neptune -56328-06-12 02:23 J -18852216.53 -18852216.40 -18852216.27 0.0089 0.0026

Neptune -56328-09-08 03:49 J -18852128.47 -18852128.34 -18852128.21 0.0089 0.0031

Neptune -56328-12-05 05:01 J -18852040.40 -18852040.29 -18852040.15 0.0089 0.0038

Neptune -56327-03-03 06:42 J -18851952.34 -18851952.22 -18851952.10 0.0089 0.0043

Venus -56327-04-18 11:45 J -18851906.17 -18851906.01 -18851905.86 0.3588 0.1115

Neptune -56327-05-30 08:09 J -18851864.27 -18851864.16 -18851864.04 0.0089 0.0049

Mars -56327-08-25 13:54 J -18851777.02 -18851776.92 -18851776.81 0.1814 0.0813

Neptune -56327-08-26 09:21 J -18851776.20 -18851776.11 -18851775.99 0.0089 0.0055

Neptune -56327-11-22 11:01 J -18851688.14 -18851688.04 -18851687.94 0.0089 0.0060

Neptune -56326-02-18 12:13 J -18851600.07 -18851599.99 -18851599.89 0.0089 0.0066

Neptune -56326-05-17 13:40 J -18851512.00 -18851511.93 -18851511.84 0.0089 0.0072

Neptune -56326-08-13 15:21 J -18851423.93 -18851423.86 -18851423.80 0.0089 0.0077

Neptune -56326-11-09 16:33 J -18851335.85 -18851335.81 -18851335.76 0.0089 0.0083

Neptune -56325-02-05 17:59 J -18851247.75 -18851247.75 -18851247.74 0.0089 0.0088

Venus -56324-01-26 09:06 J -18850892.21 -18850892.12 -18850892.02 0.3791 0.0934

Jupiter -56324-11-19 18:28 J -18850594.86 -18850594.73 -18850594.60 0.0492 0.0339

Jupiter -56323-02-18 00:28 J -18850504.61 -18850504.48 -18850504.34 0.0493 0.0322

Moon -56323-07-01 04:33 J -18850371.36 -18850371.31 -18850371.26 0.2675 0.2337

Earth -56323-07-01 04:47 J -18850371.36 -18850371.30 -18850371.25 0.2668 0.2309 *

Saturn -56322-10-20 19:25 J -18849894.81 -18849894.69 -18849894.55 0.0273 0.0188

Saturn -56321-01-17 15:35 J -18849806.02 -18849805.85 -18849805.67 0.0272 0.0063

Saturn -56321-04-15 11:59 J -18849717.18 -18849717.00 -18849716.82 0.0271 0.0063

Saturn -56321-07-13 08:23 J -18849628.27 -18849628.15 -18849628.02 0.0271 0.0189

Moon -56320-01-03 08:09 J -18849454.29 -18849454.16 -18849454.03 0.2663 0.1244

Earth -56320-01-03 09:06 J -18849454.24 -18849454.12 -18849453.99 0.2658 0.1421 *

Venus -56319-08-12 00:57 J -18848868.55 -18848868.46 -18848868.36 0.3794 0.1106

Jupiter -56318-10-21 19:25 J -18848432.81 -18848432.69 -18848432.57 0.0534 0.0172

Mars -56317-01-15 22:33 J -18848346.68 -18848346.56 -18848346.44 0.1805 0.0013

Jupiter -56317-01-19 02:52 J -18848343.46 -18848343.38 -18848343.30 0.0533 0.0407

Earth -56317-07-10 02:09 J -18848170.50 -18848170.41 -18848170.31 0.2676 0.1402

Moon -56317-07-10 02:37 J -18848170.49 -18848170.39 -18848170.30 0.2670 0.1473 *

Mars -56317-11-11 16:18 J -18848045.94 -18848045.82 -18848045.70 0.1729 0.1131

Venus -56313-02-25 16:47 J -18846844.85 -18846844.80 -18846844.74 0.3797 0.3124

Uranus -56312-10-28 21:06 J -18846233.66 -18846233.62 -18846233.58 0.0132 0.0124

Jupiter -56312-12-06 22:33 J -18846194.74 -18846194.56 -18846194.39 0.0493 0.0156

Uranus -56311-01-24 23:59 J -18846145.57 -18846145.50 -18846145.42 0.0132 0.0107

Pluto -56311-04-17 06:28 J -18846063.29 -18846063.23 -18846063.17 0.0083 0.0075

Uranus -56311-04-23 03:06 J -18846057.46 -18846057.37 -18846057.27 0.0132 0.0090

Pluto -56311-07-14 07:40 J -18845975.25 -18845975.18 -18845975.08 0.0083 0.0066

Uranus -56311-07-20 06:13 J -18845969.35 -18845969.24 -18845969.13 0.0132 0.0072

Pluto -56311-10-10 09:35 J -18845887.20 -18845887.10 -18845886.99 0.0083 0.0056

Uranus -56311-10-16 09:06 J -18845881.24 -18845881.12 -18845880.99 0.0132 0.0055

Pluto -56310-01-06 11:01 J -18845799.15 -18845799.04 -18845798.91 0.0082 0.0047

Uranus -56310-01-12 12:13 J -18845793.12 -18845792.99 -18845792.86 0.0132 0.0038

Pluto -56310-04-04 12:42 J -18845711.09 -18845710.97 -18845710.83 0.0082 0.0037

Uranus -56310-04-10 15:21 J -18845705.00 -18845704.86 -18845704.73 0.0132 0.0020

Pluto -56310-07-01 14:09 J -18845623.03 -18845622.91 -18845622.76 0.0082 0.0029

Earth -56310-07-03 23:30 J -18845620.62 -18845620.52 -18845620.42 0.2670 0.1319

Moon -56310-07-03 23:45 J -18845620.61 -18845620.51 -18845620.41 0.2677 0.1264 *

Uranus -56310-07-07 18:13 J -18845616.87 -18845616.74 -18845616.60 0.0132 0.0003

Pluto -56310-09-27 16:04 J -18845534.97 -18845534.83 -18845534.69 0.0082 0.0018

Uranus -56310-10-03 21:21 J -18845528.75 -18845528.61 -18845528.48 0.0132 0.0015

Pluto -56310-12-24 17:30 J -18845446.91 -18845446.77 -18845446.62 0.0082 0.0009

Uranus -56310-12-31 00:13 J -18845440.62 -18845440.49 -18845440.36 0.0132 0.0031

Pluto -56309-03-21 19:11 J -18845358.85 -18845358.70 -18845358.56 0.0082 0.0001

Uranus -56309-03-28 03:21 J -18845352.49 -18845352.36 -18845352.24 0.0132 0.0049

Pluto -56309-06-17 20:37 J -18845270.78 -18845270.64 -18845270.49 0.0082 0.0009

Uranus -56309-06-24 06:13 J -18845264.36 -18845264.24 -18845264.13 0.0132 0.0066

Pluto -56309-09-13 22:04 J -18845182.72 -18845182.58 -18845182.43 0.0082 0.0018

Uranus -56309-09-20 08:52 J -18845176.22 -18845176.13 -18845176.01 0.0133 0.0084

Pluto -56309-12-10 23:45 J -18845094.65 -18845094.51 -18845094.38 0.0081 0.0027

Uranus -56309-12-17 11:59 J -18845088.08 -18845088.00 -18845087.91 0.0133 0.0100

Pluto -56308-03-09 01:11 J -18845006.58 -18845006.45 -18845006.32 0.0081 0.0035

Uranus -56308-03-15 14:52 J -18844999.93 -18844999.88 -18844999.81 0.0133 0.0118

Pluto -56308-06-05 02:23 J -18844918.51 -18844918.40 -18844918.27 0.0081 0.0045

Mars -56308-06-07 07:11 J -18844916.31 -18844916.20 -18844916.10 0.1796 0.0805

Pluto -56308-09-01 03:49 J -18844830.44 -18844830.34 -18844830.22 0.0081 0.0053

Pluto -56308-11-28 05:30 J -18844742.36 -18844742.27 -18844742.18 0.0081 0.0061

Pluto -56307-02-24 06:42 J -18844654.28 -18844654.22 -18844654.14 0.0081 0.0070

Mars -56307-04-03 17:01 J -18844615.95 -18844615.79 -18844615.63 0.1738 0.0041

Pluto -56307-05-23 08:23 J -18844566.18 -18844566.15 -18844566.12 0.0081 0.0078

Saturn -56306-08-07 20:23 J -18844124.75 -18844124.65 -18844124.55 0.0288 0.0188

Jupiter -56306-08-09 23:16 J -18844122.64 -18844122.53 -18844122.43 0.0534 0.0314

Saturn -56306-11-04 09:06 J -18844036.25 -18844036.12 -18844035.99 0.0289 0.0076

Jupiter -56306-11-07 06:57 J -18844033.32 -18844033.21 -18844033.10 0.0533 0.0270

Saturn -56305-01-31 21:49 J -18843947.73 -18843947.59 -18843947.46 0.0289 0.0036

Saturn -56305-04-29 10:18 J -18843859.18 -18843859.07 -18843858.96 0.0290 0.0148

Saturn -56305-07-26 22:47 J -18843770.61 -18843770.55 -18843770.49 0.0291 0.0259

Moon -56304-07-12 20:23 J -18843419.70 -18843419.65 -18843419.59 0.2671 0.2314

Earth -56304-07-12 20:37 J -18843419.69 -18843419.64 -18843419.59 0.2678 0.2341 *

Moon -56301-12-29 05:01 J -18842154.40 -18842154.29 -18842154.18 0.2660 0.1815

Earth -56301-12-29 06:13 J -18842154.35 -18842154.24 -18842154.12 0.2662 0.1687 *

Jupiter -56300-09-24 19:54 J -18841884.85 -18841884.67 -18841884.49 0.0493 0.0016

Mars -56299-10-28 15:35 J -18841485.90 -18841485.85 -18841485.80 0.1788 0.1600

Mars -56298-08-24 17:45 J -18841185.88 -18841185.76 -18841185.63 0.1746 0.1070

Earth -56297-07-05 18:13 J -18840869.85 -18840869.74 -18840869.63 0.2672 0.0341

Moon -56297-07-05 18:57 J -18840869.82 -18840869.71 -18840869.60 0.2674 0.0324 *

Mars -56297-10-03 05:16 J -18840780.32 -18840780.28 -18840780.24 0.1822 0.1719

Jupiter -56294-05-29 03:06 J -18839812.43 -18839812.37 -18839812.30 0.0534 0.0456

Jupiter -56294-08-26 11:01 J -18839723.16 -18839723.04 -18839722.91 0.0533 0.0132

Saturn -56292-03-08 18:28 J -18839162.82 -18839162.73 -18839162.63 0.0273 0.0227

Saturn -56292-06-05 14:23 J -18839074.06 -18839073.90 -18839073.73 0.0272 0.0104

Saturn -56292-09-02 10:47 J -18838985.23 -18838985.05 -18838984.87 0.0272 0.0022

Saturn -56292-11-30 07:11 J -18838896.35 -18838896.20 -18838896.05 0.0271 0.0148

Jupiter -56288-07-13 17:59 J -18837574.92 -18837574.75 -18837574.58 0.0493 0.0180

Jupiter -56288-10-12 00:13 J -18837484.50 -18837484.49 -18837484.46 0.0493 0.0489

Moon -56287-01-01 09:06 J -18837403.27 -18837403.12 -18837402.97 0.2663 0.0179

Earth -56287-01-01 10:47 J -18837403.20 -18837403.05 -18837402.90 0.2660 0.0077 *

Mars -56287-02-23 13:54 J -18837350.02 -18837349.92 -18837349.81 0.1814 0.0911

Earth -56284-07-08 12:42 J -18836119.08 -18836118.97 -18836118.86 0.2674 0.0627

Moon -56284-07-08 13:25 J -18836119.05 -18836118.94 -18836118.83 0.2673 0.0755 *

Jupiter -56282-06-14 14:37 J -18835413.02 -18835412.89 -18835412.76 0.0533 0.0018

Mars -56278-07-16 22:33 J -18833919.68 -18833919.56 -18833919.44 0.1805 0.0117

Mars -56277-05-12 16:47 J -18833618.90 -18833618.80 -18833618.69 0.1729 0.1271

Moon -56277-07-01 09:35 J -18833569.16 -18833569.10 -18833569.03 0.2676 0.2161

Earth -56277-07-01 09:49 J -18833569.16 -18833569.09 -18833569.02 0.2669 0.2118 *

Saturn -56277-12-24 22:33 J -18833392.65 -18833392.56 -18833392.47 0.0288 0.0219

Saturn -56276-03-23 11:16 J -18833304.16 -18833304.03 -18833303.90 0.0289 0.0107

Jupiter -56276-05-01 16:04 J -18833264.95 -18833264.83 -18833264.69 0.0493 0.0342

Saturn -56276-06-19 23:59 J -18833215.64 -18833215.50 -18833215.37 0.0290 0.0006

Jupiter -56276-07-30 22:18 J -18833174.71 -18833174.57 -18833174.43 0.0493 0.0321

Saturn -56276-09-16 12:28 J -18833127.10 -18833126.98 -18833126.85 0.0291 0.0118

Saturn -56276-12-14 00:57 J -18833038.54 -18833038.46 -18833038.38 0.0292 0.0230

Moon -56274-01-04 14:37 J -18832652.00 -18832651.89 -18832651.77 0.2663 0.1755

Earth -56274-01-04 15:21 J -18832651.97 -18832651.86 -18832651.74 0.2658 0.1731 *

Venus -56273-02-17 14:52 J -18832242.96 -18832242.88 -18832242.80 0.3788 0.2210

Earth -56271-07-11 07:11 J -18831368.29 -18831368.20 -18831368.11 0.2676 0.1580

Moon -56271-07-11 07:25 J -18831368.28 -18831368.19 -18831368.10 0.2670 0.1545 *

Venus -56271-11-23 13:40 J -18831233.08 -18831232.93 -18831232.77 0.3587 0.0827

Jupiter -56270-04-02 18:13 J -18831102.87 -18831102.74 -18831102.62 0.0534 0.0168

Uranus -56270-05-10 15:35 J -18831064.91 -18831064.85 -18831064.77 0.0147 0.0136

Jupiter -56270-07-01 01:40 J -18831013.51 -18831013.43 -18831013.35 0.0533 0.0410

Uranus -56270-08-06 23:59 J -18830976.62 -18830976.50 -18830976.36 0.0147 0.0103

Uranus -56270-11-03 08:23 J -18830888.31 -18830888.15 -18830887.98 0.0147 0.0070

Uranus -56269-01-30 16:47 J -18830799.98 -18830799.80 -18830799.61 0.0146 0.0036

Uranus -56269-04-28 01:25 J -18830711.63 -18830711.44 -18830711.25 0.0146 0.0003

Uranus -56269-07-25 09:49 J -18830623.27 -18830623.09 -18830622.90 0.0146 0.0031

Uranus -56269-10-21 18:13 J -18830534.91 -18830534.74 -18830534.56 0.0146 0.0065

Mars -56269-12-06 07:11 J -18830489.31 -18830489.20 -18830489.09 0.1797 0.0704

Uranus -56268-01-18 02:37 J -18830446.52 -18830446.39 -18830446.24 0.0146 0.0099

Uranus -56268-04-16 11:16 J -18830358.10 -18830358.03 -18830357.94 0.0146 0.0132

Venus -56268-09-02 06:42 J -18830219.32 -18830219.22 -18830219.12 0.3792 0.0192

Mars -56268-10-02 17:30 J -18830188.93 -18830188.77 -18830188.61 0.1737 0.0167

Jupiter -56264-05-18 20:23 J -18828864.82 -18828864.65 -18828864.48 0.0493 0.0157

Earth -56264-07-04 04:33 J -18828818.41 -18828818.31 -18828818.21 0.2671 0.1128

Moon -56264-07-04 04:47 J -18828818.40 -18828818.30 -18828818.19 0.2676 0.1114 *

Saturn -56263-07-26 19:25 J -18828430.75 -18828430.69 -18828430.63 0.0273 0.0257

Saturn -56263-10-23 15:21 J -18828342.01 -18828341.86 -18828341.70 0.0273 0.0133

Saturn -56262-01-20 11:30 J -18828253.20 -18828253.02 -18828252.84 0.0272 0.0009

Venus -56262-03-18 22:33 J -18828195.65 -18828195.56 -18828195.47 0.3795 0.1840

Saturn -56262-04-19 07:54 J -18828164.33 -18828164.17 -18828164.00 0.0271 0.0119

Saturn -56262-07-17 04:33 J -18828075.39 -18828075.31 -18828075.23 0.0270 0.0244

Mars -56259-04-28 15:49 J -18827058.91 -18827058.84 -18827058.78 0.1788 0.1498

Jupiter -56258-01-19 21:06 J -18826792.72 -18826792.62 -18826792.52 0.0534 0.0325

Mars -56258-02-22 18:13 J -18826758.87 -18826758.74 -18826758.61 0.1746 0.0947

Jupiter -56258-04-19 04:47 J -18826703.41 -18826703.30 -18826703.18 0.0534 0.0261

Moon -56258-07-14 01:11 J -18826617.49 -18826617.45 -18826617.41 0.2672 0.2513

Earth -56258-07-14 01:25 J -18826617.47 -18826617.44 -18826617.40 0.2678 0.2514 *

Mars -56257-04-03 05:16 J -18826353.28 -18826353.28 -18826353.27 0.1823 0.1820

Moon -56255-12-30 11:01 J -18825352.16 -18825352.04 -18825351.91 0.2661 0.1445

Earth -56255-12-30 12:28 J -18825352.10 -18825351.98 -18825351.85 0.2662 0.1384 *

Jupiter -56252-03-06 18:13 J -18824554.92 -18824554.74 -18824554.56 0.0493 0.0011

Earth -56251-07-06 23:01 J -18824067.65 -18824067.54 -18824067.42 0.2673 0.0178

Moon -56251-07-06 23:59 J -18824067.62 -18824067.50 -18824067.39 0.2675 0.0096 *

Neptune -56250-05-02 05:45 J -18823768.28 -18823768.26 -18823768.22 0.0089 0.0087

Neptune -56250-07-29 08:37 J -18823680.20 -18823680.14 -18823680.04 0.0089 0.0080

Neptune -56250-10-25 11:59 J -18823592.10 -18823592.00 -18823591.89 0.0089 0.0072

Neptune -56249-01-21 15:21 J -18823503.98 -18823503.86 -18823503.74 0.0089 0.0064

Neptune -56249-04-18 18:13 J -18823415.87 -18823415.74 -18823415.59 0.0089 0.0057

Neptune -56249-07-15 21:21 J -18823327.75 -18823327.61 -18823327.45 0.0089 0.0049

Neptune -56249-10-12 00:42 J -18823239.63 -18823239.47 -18823239.31 0.0089 0.0041

Neptune -56248-01-08 03:35 J -18823151.51 -18823151.35 -18823151.17 0.0089 0.0034

Neptune -56248-04-06 06:57 J -18823063.38 -18823063.21 -18823063.03 0.0089 0.0026

Neptune -56248-07-03 10:18 J -18822975.25 -18822975.07 -18822974.89 0.0089 0.0018

Mars -56248-08-24 14:09 J -18822923.01 -18822922.91 -18822922.82 0.1814 0.1013

Neptune -56248-09-29 13:25 J -18822887.12 -18822886.94 -18822886.75 0.0089 0.0010

Neptune -56248-12-26 16:47 J -18822798.99 -18822798.80 -18822798.62 0.0089 0.0003

Neptune -56247-03-24 19:54 J -18822710.86 -18822710.67 -18822710.49 0.0089 0.0006

Saturn -56247-05-14 01:40 J -18822660.50 -18822660.43 -18822660.35 0.0287 0.0242

Neptune -56247-06-20 23:01 J -18822622.72 -18822622.54 -18822622.35 0.0089 0.0014

Saturn -56247-08-10 14:37 J -18822572.02 -18822571.89 -18822571.77 0.0288 0.0130

Neptune -56247-09-17 02:09 J -18822534.58 -18822534.41 -18822534.22 0.0089 0.0022

Saturn -56247-11-07 03:06 J -18822483.50 -18822483.37 -18822483.23 0.0289 0.0019

Jupiter -56247-11-08 00:42 J -18822482.52 -18822482.47 -18822482.41 0.0534 0.0470

Neptune -56247-12-14 05:16 J -18822446.44 -18822446.28 -18822446.09 0.0089 0.0030

Saturn -56246-02-03 15:49 J -18822394.97 -18822394.84 -18822394.72 0.0290 0.0094

Jupiter -56246-02-05 08:52 J -18822393.26 -18822393.13 -18822393.00 0.0534 0.0119

Neptune -56246-03-12 08:52 J -18822358.30 -18822358.13 -18822357.96 0.0089 0.0037

Saturn -56246-05-03 04:18 J -18822306.42 -18822306.32 -18822306.23 0.0291 0.0205

Neptune -56246-06-08 11:59 J -18822270.16 -18822270.00 -18822269.84 0.0089 0.0045

Neptune -56246-09-04 15:21 J -18822182.01 -18822181.86 -18822181.71 0.0089 0.0053

Neptune -56246-12-01 18:28 J -18822093.86 -18822093.73 -18822093.59 0.0089 0.0061

Neptune -56245-02-27 21:49 J -18822005.70 -18822005.59 -18822005.47 0.0089 0.0069

Neptune -56245-05-26 00:57 J -18821917.54 -18821917.46 -18821917.36 0.0089 0.0077

Neptune -56245-08-22 04:18 J -18821829.36 -18821829.32 -18821829.26 0.0089 0.0085

Moon -56241-01-02 15:35 J -18820601.00 -18820600.85 -18820600.70 0.2662 0.0212

Earth -56241-01-02 17:01 J -18820600.94 -18820600.79 -18820600.64 0.2660 0.0307 *

Jupiter -56241-12-23 15:35 J -18820245.02 -18820244.85 -18820244.68 0.0493 0.0182

Jupiter -56240-03-23 21:49 J -18820154.61 -18820154.59 -18820154.55 0.0493 0.0486

Mars -56238-01-14 22:33 J -18819492.68 -18819492.56 -18819492.44 0.1805 0.0194

Earth -56238-07-09 17:30 J -18819316.87 -18819316.77 -18819316.66 0.2675 0.0816

Moon -56238-07-09 18:13 J -18819316.85 -18819316.74 -18819316.63 0.2671 0.0804 *

Mars -56238-11-11 17:30 J -18819191.86 -18819191.77 -18819191.68 0.1729 0.1416

Jupiter -56235-11-24 12:57 J -18818083.09 -18818082.96 -18818082.83 0.0534 0.0020

Saturn -56233-03-11 14:52 J -18817610.01 -18817609.88 -18817609.73 0.0273 0.0168

Saturn -56233-06-08 11:01 J -18817521.21 -18817521.04 -18817520.86 0.0272 0.0044

Saturn -56233-09-05 07:25 J -18817432.36 -18817432.19 -18817432.02 0.0271 0.0082

Saturn -56233-12-03 03:49 J -18817343.45 -18817343.34 -18817343.22 0.0271 0.0208

Moon -56231-07-02 14:37 J -18816766.97 -18816766.89 -18816766.81 0.2676 0.1912

Earth -56231-07-02 14:37 J -18816766.96 -18816766.89 -18816766.81 0.2669 0.1930 *

Mars -56229-06-06 07:11 J -18816062.31 -18816062.20 -18816062.08 0.1797 0.0602

Jupiter -56229-10-11 13:40 J -18815935.05 -18815934.93 -18815934.80 0.0493 0.0346

Moon -56228-01-04 21:21 J -18815849.71 -18815849.61 -18815849.51 0.2664 0.1950

Earth -56228-01-04 21:49 J -18815849.69 -18815849.59 -18815849.50 0.2657 0.2044 *

Jupiter -56228-01-09 19:40 J -18815844.82 -18815844.68 -18815844.54 0.0493 0.0316

Mars -56228-04-02 18:13 J -18815761.90 -18815761.74 -18815761.59 0.1737 0.0306

Uranus -56228-11-18 04:04 J -18815532.37 -18815532.33 -18815532.26 0.0132 0.0120

Uranus -56227-02-14 07:11 J -18815444.27 -18815444.20 -18815444.11 0.0132 0.0103

Uranus -56227-05-13 10:18 J -18815356.17 -18815356.07 -18815355.96 0.0132 0.0085

Uranus -56227-08-09 13:25 J -18815268.05 -18815267.94 -18815267.82 0.0132 0.0068

Uranus -56227-11-05 16:33 J -18815179.94 -18815179.81 -18815179.69 0.0132 0.0050

Uranus -56226-02-01 19:25 J -18815091.82 -18815091.69 -18815091.56 0.0132 0.0033

Uranus -56226-04-30 22:33 J -18815003.69 -18815003.56 -18815003.43 0.0132 0.0015

Uranus -56226-07-28 01:25 J -18814915.57 -18814915.44 -18814915.30 0.0132 0.0005

Uranus -56226-10-24 04:33 J -18814827.44 -18814827.31 -18814827.18 0.0132 0.0019

Uranus -56225-01-20 07:25 J -18814739.31 -18814739.19 -18814739.06 0.0132 0.0037

Uranus -56225-04-17 10:33 J -18814651.18 -18814651.06 -18814650.94 0.0132 0.0054

Earth -56225-07-11 11:59 J -18814566.08 -18814566.00 -18814565.91 0.2677 0.1757

Moon -56225-07-11 12:13 J -18814566.07 -18814565.99 -18814565.90 0.2670 0.1836 *

Uranus -56225-07-14 13:25 J -18814563.05 -18814562.94 -18814562.82 0.0133 0.0071

Uranus -56225-10-10 16:33 J -18814474.91 -18814474.81 -18814474.71 0.0133 0.0088

Uranus -56224-01-06 19:11 J -18814386.77 -18814386.70 -18814386.61 0.0133 0.0106

Uranus -56224-04-04 22:04 J -18814298.61 -18814298.58 -18814298.52 0.0133 0.0123

Jupiter -56223-09-12 16:18 J -18813772.94 -18813772.82 -18813772.69 0.0533 0.0170

Jupiter -56223-12-10 23:59 J -18813683.58 -18813683.50 -18813683.42 0.0533 0.0408

Venus -56222-03-10 20:23 J -18813593.68 -18813593.65 -18813593.61 0.3786 0.3495

Mars -56220-10-27 15:49 J -18812631.91 -18812631.84 -18812631.77 0.1788 0.1396

Venus -56220-12-14 06:42 J -18812584.31 -18812584.22 -18812584.13 0.3590 0.2975

Mars -56219-08-23 18:57 J -18812331.85 -18812331.71 -18812331.58 0.1746 0.0808

Earth -56218-07-05 09:21 J -18812016.21 -18812016.11 -18812016.00 0.2671 0.0948

Moon -56218-07-05 10:04 J -18812016.19 -18812016.08 -18812015.98 0.2676 0.0910 *

Saturn -56218-10-01 03:49 J -18811928.38 -18811928.34 -18811928.30 0.0287 0.0273

Saturn -56218-12-28 16:33 J -18811839.92 -18811839.81 -18811839.69 0.0288 0.0161

Saturn -56217-03-26 05:16 J -18811751.41 -18811751.28 -18811751.14 0.0289 0.0049

Saturn -56217-06-22 17:59 J -18811662.88 -18811662.75 -18811662.62 0.0290 0.0064

Saturn -56217-09-19 06:28 J -18811574.33 -18811574.23 -18811574.12 0.0291 0.0176

Venus -56217-09-23 12:13 J -18811570.08 -18811569.99 -18811569.89 0.3789 0.1477

Jupiter -56217-10-28 17:30 J -18811534.94 -18811534.77 -18811534.59 0.0493 0.0150

Saturn -56217-12-16 18:57 J -18811485.73 -18811485.71 -18811485.69 0.0292 0.0287

Venus -56214-06-30 15:49 J -18810559.93 -18810559.84 -18810559.74 0.3586 0.2790

Moon -56212-07-14 05:59 J -18809815.27 -18809815.25 -18809815.23 0.2673 0.2593

Venus -56211-04-09 04:04 J -18809546.43 -18809546.33 -18809546.23 0.3793 0.0570

Jupiter -56211-07-01 19:40 J -18809462.78 -18809462.68 -18809462.57 0.0534 0.0321

Jupiter -56211-09-29 03:35 J -18809373.46 -18809373.35 -18809373.24 0.0533 0.0262

Moon -56209-12-30 17:16 J -18808549.91 -18808549.78 -18808549.65 0.2662 0.1290

Earth -56209-12-30 18:42 J -18808549.85 -18808549.72 -18808549.58 0.2662 0.1081 *

Mars -56208-02-22 14:09 J -18808496.01 -18808495.91 -18808495.82 0.1814 0.1106

Venus -56206-10-23 19:54 J -18807522.74 -18807522.67 -18807522.59 0.3795 0.2585

Earth -56205-07-07 04:04 J -18807265.44 -18807265.33 -18807265.22 0.2673 0.0033

Moon -56205-07-07 04:47 J -18807265.41 -18807265.30 -18807265.18 0.2675 0.0077 *

Jupiter -56205-08-16 15:49 J -18807225.02 -18807224.84 -18807224.66 0.0493 0.0012

Saturn -56204-07-29 16:04 J -18806877.95 -18806877.83 -18806877.71 0.0273 0.0196

Saturn -56204-10-26 12:13 J -18806789.17 -18806788.99 -18806788.82 0.0272 0.0072

Saturn -56203-01-23 08:23 J -18806700.33 -18806700.15 -18806699.97 0.0271 0.0054

Saturn -56203-04-22 04:47 J -18806611.43 -18806611.30 -18806611.16 0.0271 0.0180

Jupiter -56199-04-19 22:33 J -18805152.61 -18805152.56 -18805152.51 0.0534 0.0482

Mars -56199-07-15 22:47 J -18805065.67 -18805065.55 -18805065.44 0.1806 0.0305

Jupiter -56199-07-18 06:42 J -18805063.35 -18805063.22 -18805063.10 0.0534 0.0108

Mars -56198-05-12 17:59 J -18804764.82 -18804764.75 -18804764.68 0.1728 0.1539

Moon -56195-01-02 22:04 J -18803798.73 -18803798.58 -18803798.44 0.2663 0.0521

Earth -56195-01-02 23:16 J -18803798.68 -18803798.53 -18803798.38 0.2659 0.0616 *

Jupiter -56193-06-04 13:54 J -18802915.09 -18802914.92 -18802914.75 0.0492 0.0177

Jupiter -56193-09-02 20:09 J -18802824.67 -18802824.66 -18802824.64 0.0493 0.0490

Earth -56192-07-09 22:33 J -18802514.66 -18802514.56 -18802514.45 0.2675 0.0989

Moon -56192-07-09 23:01 J -18802514.64 -18802514.54 -18802514.43 0.2670 0.1097 *

Mars -56190-12-06 07:11 J -18801635.31 -18801635.20 -18801635.08 0.1797 0.0508

Mars -56189-10-01 18:42 J -18801334.87 -18801334.72 -18801334.57 0.1737 0.0440

Saturn -56188-05-16 20:09 J -18801107.76 -18801107.66 -18801107.55 0.0288 0.0181

Saturn -56188-08-13 08:52 J -18801019.26 -18801019.13 -18801019.00 0.0289 0.0069

Saturn -56188-11-09 21:35 J -18800930.74 -18800930.60 -18800930.47 0.0290 0.0043

Saturn -56187-02-06 10:04 J -18800842.19 -18800842.08 -18800841.97 0.0290 0.0154

Saturn -56187-05-05 22:33 J -18800753.61 -18800753.56 -18800753.51 0.0291 0.0266

Jupiter -56187-05-06 10:33 J -18800753.19 -18800753.06 -18800752.93 0.0534 0.0037

Uranus -56186-05-30 23:01 J -18800363.62 -18800363.54 -18800363.44 0.0147 0.0128

Uranus -56186-08-27 07:25 J -18800275.32 -18800275.19 -18800275.04 0.0147 0.0095

Uranus -56186-11-23 15:49 J -18800187.00 -18800186.84 -18800186.66 0.0146 0.0061

Uranus -56185-02-20 00:13 J -18800098.67 -18800098.49 -18800098.30 0.0146 0.0028

Uranus -56185-05-18 08:52 J -18800010.32 -18800010.13 -18800009.94 0.0146 0.0006

Moon -56185-07-02 19:40 J -18799964.76 -18799964.68 -18799964.60 0.2676 0.1792

Earth -56185-07-02 19:40 J -18799964.76 -18799964.68 -18799964.59 0.2669 0.1738 *

Uranus -56185-08-14 17:16 J -18799921.96 -18799921.78 -18799921.60 0.0146 0.0039

Uranus -56185-11-11 01:25 J -18799833.59 -18799833.44 -18799833.26 0.0146 0.0074

Uranus -56184-02-07 10:18 J -18799745.20 -18799745.07 -18799744.94 0.0146 0.0106

Uranus -56184-05-06 18:42 J -18799656.76 -18799656.72 -18799656.66 0.0146 0.0140

Moon -56182-01-06 03:49 J -18799047.41 -18799047.34 -18799047.28 0.2664 0.2378

Earth -56182-01-06 04:18 J -18799047.39 -18799047.32 -18799047.26 0.2657 0.2362 *

Jupiter -56181-03-23 11:01 J -18798605.16 -18798605.04 -18798604.91 0.0492 0.0351

Jupiter -56181-06-21 17:01 J -18798514.93 -18798514.79 -18798514.65 0.0493 0.0310

Mars -56180-04-27 15:49 J -18798204.92 -18798204.84 -18798204.76 0.1788 0.1303

Mars -56179-02-21 19:25 J -18797904.83 -18797904.69 -18797904.54 0.1746 0.0665

Moon -56179-07-12 17:01 J -18797763.87 -18797763.79 -18797763.71 0.2671 0.1884

Earth -56179-07-12 17:01 J -18797763.87 -18797763.79 -18797763.72 0.2677 0.1936 *

Moon -56176-12-28 19:40 J -18796498.70 -18796498.68 -18796498.65 0.2660 0.2607

Earth -56176-12-28 20:52 J -18796498.69 -18796498.63 -18796498.57 0.2664 0.2429 *

Jupiter -56175-02-22 14:23 J -18796443.02 -18796442.90 -18796442.77 0.0534 0.0176

Jupiter -56175-05-22 22:04 J -18796353.66 -18796353.58 -18796353.50 0.0533 0.0404

Saturn -56175-12-16 16:18 J -18796145.91 -18796145.82 -18796145.72 0.0273 0.0227

Saturn -56174-03-15 12:13 J -18796057.15 -18796056.99 -18796056.82 0.0272 0.0104

Saturn -56174-06-12 08:37 J -18795968.32 -18795968.14 -18795967.96 0.0272 0.0022

Saturn -56174-09-09 04:47 J -18795879.45 -18795879.30 -18795879.14 0.0271 0.0147

Earth -56172-07-05 14:23 J -18795214.01 -18795213.90 -18795213.79 0.2671 0.0755

Moon -56172-07-05 15:06 J -18795213.98 -18795213.87 -18795213.76 0.2676 0.0674 *

Jupiter -56169-04-09 14:52 J -18794205.06 -18794204.88 -18794204.71 0.0493 0.0142

Mars -56169-08-23 14:09 J -18794069.00 -18794068.91 -18794068.82 0.1814 0.1205

Neptune -56168-08-08 21:06 J -18793718.65 -18793718.62 -18793718.57 0.0089 0.0085

Neptune -56168-11-04 22:33 J -18793630.61 -18793630.56 -18793630.49 0.0089 0.0079

Neptune -56167-02-01 00:13 J -18793542.56 -18793542.49 -18793542.41 0.0089 0.0073

Neptune -56167-04-30 01:40 J -18793454.51 -18793454.43 -18793454.33 0.0089 0.0067

Neptune -56167-07-27 03:21 J -18793366.46 -18793366.36 -18793366.26 0.0089 0.0061

Neptune -56167-10-23 04:47 J -18793278.40 -18793278.30 -18793278.19 0.0089 0.0055

Neptune -56166-01-19 06:13 J -18793190.35 -18793190.24 -18793190.12 0.0089 0.0049

Neptune -56166-04-17 07:54 J -18793102.29 -18793102.17 -18793102.05 0.0089 0.0043

Neptune -56166-07-14 09:21 J -18793014.23 -18793014.11 -18793013.98 0.0089 0.0037

Neptune -56166-10-10 10:47 J -18792926.17 -18792926.05 -18792925.91 0.0089 0.0031

Venus -56166-10-15 17:59 J -18792920.82 -18792920.75 -18792920.68 0.3787 0.2758

Neptune -56165-01-06 12:13 J -18792838.11 -18792837.99 -18792837.85 0.0089 0.0026

Neptune -56165-04-03 13:54 J -18792750.05 -18792749.92 -18792749.78 0.0089 0.0019

Neptune -56165-06-30 15:21 J -18792661.99 -18792661.86 -18792661.72 0.0089 0.0014

Neptune -56165-09-26 17:01 J -18792573.93 -18792573.79 -18792573.66 0.0089 0.0008

Neptune -56165-12-23 18:28 J -18792485.87 -18792485.73 -18792485.59 0.0089 0.0002

Neptune -56164-03-21 19:54 J -18792397.81 -18792397.67 -18792397.53 0.0089 0.0004

Neptune -56164-06-17 21:21 J -18792309.75 -18792309.61 -18792309.47 0.0089 0.0010

Neptune -56164-09-13 22:47 J -18792221.68 -18792221.55 -18792221.41 0.0089 0.0016

Neptune -56164-12-11 00:13 J -18792133.62 -18792133.49 -18792133.35 0.0089 0.0022

Jupiter -56164-12-11 17:59 J -18792132.85 -18792132.75 -18792132.65 0.0534 0.0325

Neptune -56163-03-09 01:40 J -18792045.56 -18792045.43 -18792045.30 0.0089 0.0028

Jupiter -56163-03-11 01:40 J -18792043.54 -18792043.43 -18792043.32 0.0533 0.0258

Neptune -56163-06-05 03:06 J -18791957.49 -18791957.37 -18791957.24 0.0089 0.0033

Venus -56163-07-21 08:52 J -18791911.28 -18791911.13 -18791910.98 0.3589 0.1015

Neptune -56163-09-01 04:47 J -18791869.43 -18791869.30 -18791869.18 0.0089 0.0039

Neptune -56163-11-28 05:59 J -18791781.36 -18791781.25 -18791781.13 0.0089 0.0045

Moon -56163-12-31 23:30 J -18791747.67 -18791747.52 -18791747.38 0.2661 0.0820

Earth -56162-01-01 00:57 J -18791747.60 -18791747.46 -18791747.31 0.2661 0.0780 *

Neptune -56162-02-24 07:25 J -18791693.29 -18791693.19 -18791693.07 0.0089 0.0051

Neptune -56162-05-23 08:52 J -18791605.23 -18791605.13 -18791605.02 0.0089 0.0056

Neptune -56162-08-19 10:18 J -18791517.16 -18791517.07 -18791516.97 0.0089 0.0062

Neptune -56162-11-15 11:45 J -18791429.09 -18791429.01 -18791428.92 0.0089 0.0068

Neptune -56161-02-11 12:57 J -18791341.02 -18791340.96 -18791340.87 0.0089 0.0074

Neptune -56161-05-09 14:37 J -18791252.94 -18791252.89 -18791252.83 0.0089 0.0079

Neptune -56161-08-05 15:49 J -18791164.86 -18791164.84 -18791164.79 0.0089 0.0085

Venus -56160-04-30 09:49 J -18790897.19 -18790897.09 -18790896.99 0.3790 0.0741

Mars -56159-01-13 22:47 J -18790638.67 -18790638.55 -18790638.43 0.1805 0.0400

Earth -56159-07-08 08:52 J -18790463.24 -18790463.13 -18790463.01 0.2673 0.0239

Moon -56159-07-08 09:49 J -18790463.21 -18790463.09 -18790462.98 0.2673 0.0312 *

Saturn -56159-10-03 22:18 J -18790375.66 -18790375.57 -18790375.48 0.0288 0.0212

Mars -56159-11-10 18:28 J -18790337.76 -18790337.73 -18790337.69 0.1728 0.1676

Saturn -56159-12-31 11:01 J -18790287.17 -18790287.04 -18790286.91 0.0289 0.0100

Saturn -56158-03-29 23:45 J -18790198.65 -18790198.51 -18790198.38 0.0290 0.0012

Saturn -56158-06-26 12:13 J -18790110.11 -18790109.99 -18790109.87 0.0291 0.0125

Saturn -56158-09-23 00:42 J -18790021.54 -18790021.47 -18790021.39 0.0292 0.0236

Jupiter -56157-01-27 12:42 J -18789895.15 -18789894.97 -18789894.78 0.0493 0.0026

Venus -56155-11-14 01:40 J -18788873.53 -18788873.43 -18788873.34 0.3793 0.1292

Pluto -56155-12-08 06:13 J -18788849.26 -18788849.24 -18788849.21 0.0061 0.0061

Pluto -56154-03-06 06:57 J -18788761.26 -18788761.21 -18788761.12 0.0061 0.0057

Pluto -56154-06-02 08:23 J -18788673.24 -18788673.15 -18788673.06 0.0061 0.0052

Pluto -56154-08-29 09:06 J -18788585.21 -18788585.12 -18788584.99 0.0061 0.0048

Pluto -56154-11-25 10:33 J -18788497.18 -18788497.06 -18788496.93 0.0062 0.0043

Pluto -56153-02-21 11:16 J -18788409.15 -18788409.03 -18788408.88 0.0062 0.0039

Pluto -56153-05-19 12:42 J -18788321.11 -18788320.97 -18788320.82 0.0062 0.0034

Pluto -56153-08-15 13:25 J -18788233.07 -18788232.94 -18788232.77 0.0062 0.0030

Pluto -56153-11-11 14:52 J -18788145.03 -18788144.88 -18788144.71 0.0062 0.0025

Pluto -56152-02-07 16:04 J -18788056.99 -18788056.83 -18788056.66 0.0062 0.0020

Pluto -56152-05-06 17:16 J -18787968.95 -18787968.78 -18787968.61 0.0062 0.0015

Earth -56152-07-01 05:45 J -18787913.29 -18787913.26 -18787913.22 0.2667 0.2544

Moon -56152-07-01 05:30 J -18787913.28 -18787913.27 -18787913.27 0.2674 0.2661 *

Pluto -56152-08-02 18:13 J -18787880.91 -18787880.74 -18787880.56 0.0062 0.0011

Jupiter -56152-09-29 21:06 J -18787822.67 -18787822.62 -18787822.56 0.0534 0.0479

Pluto -56152-10-29 19:25 J -18787792.86 -18787792.69 -18787792.51 0.0062 0.0006

Jupiter -56152-12-28 05:16 J -18787733.41 -18787733.28 -18787733.15 0.0533 0.0110

Pluto -56151-01-25 20:37 J -18787704.81 -18787704.64 -18787704.46 0.0062 0.0001

Pluto -56151-04-23 21:49 J -18787616.76 -18787616.59 -18787616.42 0.0062 0.0004

Pluto -56151-07-20 23:01 J -18787528.72 -18787528.54 -18787528.37 0.0062 0.0008

Pluto -56151-10-16 23:59 J -18787440.66 -18787440.50 -18787440.32 0.0062 0.0014

Pluto -56150-01-13 01:11 J -18787352.61 -18787352.45 -18787352.28 0.0062 0.0018

Pluto -56150-04-11 02:09 J -18787264.56 -18787264.41 -18787264.23 0.0063 0.0024

Mars -56150-06-06 07:25 J -18787208.31 -18787208.19 -18787208.08 0.1797 0.0410

Pluto -56150-07-08 03:49 J -18787176.50 -18787176.34 -18787176.19 0.0063 0.0028

Pluto -56150-10-04 04:47 J -18787088.44 -18787088.30 -18787088.14 0.0063 0.0033

Pluto -56150-12-31 05:59 J -18787000.38 -18787000.25 -18787000.10 0.0063 0.0038

Moon -56149-01-04 04:33 J -18786996.45 -18786996.31 -18786996.17 0.2664 0.0793

Earth -56149-01-04 05:30 J -18786996.41 -18786996.27 -18786996.13 0.2659 0.0927 *

Pluto -56149-03-28 07:11 J -18786912.32 -18786912.20 -18786912.06 0.0063 0.0043

Mars -56149-04-01 19:11 J -18786907.85 -18786907.70 -18786907.55 0.1737 0.0579

Venus -56149-05-29 17:30 J -18786849.82 -18786849.77 -18786849.73 0.3796 0.3308

Pluto -56149-06-24 08:23 J -18786824.25 -18786824.15 -18786824.03 0.0063 0.0048

Pluto -56149-09-20 09:35 J -18786736.18 -18786736.10 -18786736.00 0.0063 0.0053

Pluto -56149-12-17 11:01 J -18786648.10 -18786648.04 -18786647.97 0.0063 0.0058

Earth -56146-07-11 03:35 J -18785712.46 -18785712.35 -18785712.25 0.2675 0.1175

Moon -56146-07-11 04:04 J -18785712.43 -18785712.33 -18785712.23 0.2670 0.1175 *

Jupiter -56146-11-15 11:16 J -18785585.20 -18785585.03 -18785584.87 0.0493 0.0183

Jupiter -56145-02-13 17:30 J -18785494.80 -18785494.77 -18785494.74 0.0493 0.0485

Saturn -56145-05-04 17:16 J -18785413.83 -18785413.78 -18785413.71 0.0273 0.0256

Saturn -56145-08-01 13:25 J -18785325.10 -18785324.94 -18785324.78 0.0272 0.0132

Saturn -56145-10-29 09:35 J -18785236.28 -18785236.10 -18785235.92 0.0272 0.0007

Saturn -56144-01-26 05:45 J -18785147.42 -18785147.26 -18785147.09 0.0271 0.0119

Saturn -56144-04-25 02:09 J -18785058.47 -18785058.41 -18785058.32 0.0270 0.0245

Uranus -56144-09-11 08:37 J -18784919.14 -18784919.14 -18784919.14 0.0132 0.0132

Uranus -56144-12-08 11:45 J -18784831.08 -18784831.01 -18784830.95 0.0132 0.0115

Uranus -56143-03-06 14:37 J -18784742.98 -18784742.89 -18784742.80 0.0132 0.0097

Uranus -56143-06-02 17:30 J -18784654.86 -18784654.77 -18784654.65 0.0132 0.0080

Uranus -56143-08-29 20:52 J -18784566.75 -18784566.63 -18784566.51 0.0132 0.0062

Uranus -56143-11-25 23:45 J -18784478.63 -18784478.51 -18784478.38 0.0132 0.0045

Uranus -56142-02-22 02:52 J -18784390.51 -18784390.38 -18784390.25 0.0132 0.0028

Uranus -56142-05-21 05:45 J -18784302.39 -18784302.26 -18784302.12 0.0132 0.0012

Uranus -56142-08-17 08:52 J -18784214.26 -18784214.13 -18784213.99 0.0132 0.0007

Uranus -56142-11-13 11:59 J -18784126.13 -18784126.00 -18784125.87 0.0132 0.0025

Uranus -56141-02-09 14:52 J -18784038.00 -18784037.88 -18784037.75 0.0133 0.0042

Uranus -56141-05-07 17:45 J -18783949.87 -18783949.76 -18783949.64 0.0133 0.0059

Uranus -56141-08-03 20:37 J -18783861.74 -18783861.64 -18783861.52 0.0133 0.0077

Mars -56141-10-26 16:04 J -18783777.92 -18783777.83 -18783777.75 0.1788 0.1199

Uranus -56141-10-30 23:45 J -18783773.60 -18783773.51 -18783773.41 0.0133 0.0094

Uranus -56140-01-27 02:37 J -18783685.45 -18783685.39 -18783685.31 0.0133 0.0111

Uranus -56140-04-25 05:45 J -18783597.29 -18783597.26 -18783597.22 0.0133 0.0128

Mars -56140-08-22 19:54 J -18783477.82 -18783477.67 -18783477.52 0.1746 0.0545

Jupiter -56140-10-16 08:09 J -18783423.29 -18783423.16 -18783423.03 0.0534 0.0049

Jupiter -56139-01-13 15:35 J -18783333.86 -18783333.85 -18783333.83 0.0533 0.0528

Moon -56139-07-04 00:42 J -18783162.56 -18783162.47 -18783162.37 0.2676 0.1490

Earth -56139-07-04 00:42 J -18783162.56 -18783162.47 -18783162.38 0.2669 0.1551 *

Moon -56136-01-06 10:04 J -18782245.10 -18782245.08 -18782245.06 0.2663 0.2629

Jupiter -56134-09-03 09:21 J -18781275.24 -18781275.11 -18781274.98 0.0492 0.0346

Jupiter -56134-12-02 15:06 J -18781185.01 -18781184.87 -18781184.73 0.0493 0.0315

Moon -56133-07-12 21:49 J -18780961.65 -18780961.59 -18780961.52 0.2671 0.2153

Earth -56133-07-12 21:49 J -18780961.65 -18780961.59 -18780961.52 0.2677 0.2113 *

Mars -56130-01-12 20:52 J -18780047.68 -18780047.63 -18780047.58 0.1754 0.1641

Moon -56130-12-30 01:40 J -18779696.51 -18779696.43 -18779696.34 0.2661 0.2152

Earth -56130-12-30 03:06 J -18779696.46 -18779696.37 -18779696.28 0.2663 0.2126 *

Saturn -56129-02-21 01:40 J -18779643.50 -18779643.43 -18779643.34 0.0287 0.0232

Mars -56129-02-22 14:09 J -18779641.99 -18779641.91 -18779641.83 0.1814 0.1299

Saturn -56129-05-19 14:37 J -18779555.01 -18779554.89 -18779554.77 0.0288 0.0120

Saturn -56129-08-16 03:21 J -18779466.50 -18779466.36 -18779466.23 0.0289 0.0009

Saturn -56129-11-12 15:49 J -18779377.96 -18779377.84 -18779377.71 0.0290 0.0104

Saturn -56128-02-09 04:18 J -18779289.40 -18779289.32 -18779289.23 0.0291 0.0216

Jupiter -56128-08-04 11:59 J -18779113.12 -18779113.00 -18779112.88 0.0534 0.0193

Jupiter -56128-11-01 19:40 J -18779023.77 -18779023.68 -18779023.60 0.0533 0.0388

Earth -56126-07-06 19:25 J -18778411.80 -18778411.69 -18778411.58 0.2671 0.0574

Moon -56126-07-06 19:54 J -18778411.78 -18778411.67 -18778411.56 0.2676 0.0558 *

Jupiter -56122-09-20 11:59 J -18776875.17 -18776875.00 -18776874.82 0.0493 0.0135

Mars -56120-07-14 22:47 J -18776211.67 -18776211.55 -18776211.44 0.1806 0.0492

Moon -56116-01-01 05:45 J -18774945.40 -18774945.26 -18774945.11 0.2661 0.0691

Earth -56116-01-01 07:11 J -18774945.34 -18774945.20 -18774945.05 0.2661 0.0477 *

Jupiter -56116-05-23 15:49 J -18774802.94 -18774802.84 -18774802.73 0.0534 0.0334

Jupiter -56116-08-20 23:45 J -18774713.62 -18774713.51 -18774713.40 0.0533 0.0252

Saturn -56116-12-19 14:09 J -18774593.05 -18774592.91 -18774592.76 0.0273 0.0160

Saturn -56115-03-18 10:18 J -18774504.25 -18774504.07 -18774503.89 0.0272 0.0035

Saturn -56115-06-15 06:28 J -18774415.40 -18774415.23 -18774415.06 0.0271 0.0090

Saturn -56115-09-12 02:52 J -18774326.49 -18774326.38 -18774326.27 0.0270 0.0215

Earth -56113-07-08 13:54 J -18773661.03 -18773660.92 -18773660.81 0.2674 0.0399

Moon -56113-07-08 14:37 J -18773661.00 -18773660.89 -18773660.78 0.2672 0.0483 *

Mars -56111-12-05 07:25 J -18772781.31 -18772781.19 -18772781.07 0.1797 0.0304

Jupiter -56110-07-09 09:49 J -18772565.27 -18772565.09 -18772564.91 0.0493 0.0034

Mars -56110-10-01 19:40 J -18772480.82 -18772480.68 -18772480.53 0.1737 0.0709

Venus -56109-05-21 15:21 J -18772247.94 -18772247.86 -18772247.77 0.3788 0.2031

Venus -56106-02-25 11:01 J -18771238.19 -18771238.04 -18771237.88 0.3588 0.0967

Moon -56106-07-02 10:18 J -18771111.12 -18771111.07 -18771111.01 0.2674 0.2338

Earth -56106-07-02 10:47 J -18771111.10 -18771111.05 -18771111.00 0.2668 0.2353 *

Jupiter -56104-03-11 19:25 J -18770492.74 -18770492.69 -18770492.64 0.0534 0.0483

Jupiter -56104-06-09 03:21 J -18770403.48 -18770403.36 -18770403.23 0.0533 0.0107

Venus -56104-12-05 07:11 J -18770224.30 -18770224.20 -18770224.10 0.3791 0.0108

Moon -56103-01-04 10:47 J -18770194.18 -18770194.05 -18770193.91 0.2664 0.1234

Earth -56103-01-04 11:45 J -18770194.14 -18770194.01 -18770193.87 0.2659 0.1236 *

Uranus -56102-06-20 06:57 J -18769662.31 -18769662.21 -18769662.09 0.0146 0.0118

Uranus -56102-09-16 15:21 J -18769574.01 -18769573.86 -18769573.70 0.0146 0.0085

Uranus -56102-12-13 23:45 J -18769485.68 -18769485.51 -18769485.33 0.0146 0.0051

Uranus -56101-03-11 08:09 J -18769397.34 -18769397.16 -18769396.97 0.0146 0.0018

Mars -56101-04-26 15:49 J -18769350.93 -18769350.84 -18769350.74 0.1788 0.1105

Uranus -56101-06-07 16:33 J -18769308.99 -18769308.81 -18769308.61 0.0146 0.0017

Uranus -56101-09-04 01:11 J -18769220.63 -18769220.45 -18769220.27 0.0146 0.0049

Uranus -56101-12-01 09:21 J -18769132.25 -18769132.11 -18769131.94 0.0146 0.0083

Mars -56100-02-20 20:23 J -18769050.80 -18769050.65 -18769050.49 0.1746 0.0404

Uranus -56100-02-27 18:13 J -18769043.85 -18769043.74 -18769043.63 0.0146 0.0116

Saturn -56100-07-10 03:35 J -18768911.40 -18768911.35 -18768911.29 0.0288 0.0265

Earth -56100-07-11 08:23 J -18768910.25 -18768910.15 -18768910.05 0.2676 0.1351

Moon -56100-07-11 08:52 J -18768910.22 -18768910.13 -18768910.03 0.2671 0.1426 *

Saturn -56100-10-06 16:33 J -18768822.92 -18768822.81 -18768822.69 0.0289 0.0152

Saturn -56099-01-03 05:16 J -18768734.41 -18768734.28 -18768734.14 0.0290 0.0040

Saturn -56099-04-01 17:59 J -18768645.88 -18768645.75 -18768645.62 0.0290 0.0072

Saturn -56099-06-29 06:28 J -18768557.33 -18768557.23 -18768557.13 0.0291 0.0184

Jupiter -56098-04-27 07:54 J -18768255.33 -18768255.17 -18768255.00 0.0493 0.0196

Venus -56098-06-20 23:01 J -18768200.62 -18768200.54 -18768200.45 0.3794 0.2025

Jupiter -56098-07-26 14:09 J -18768164.95 -18768164.91 -18768164.85 0.0493 0.0473

Earth -56093-07-04 05:45 J -18766360.36 -18766360.26 -18766360.17 0.2670 0.1364

Moon -56093-07-04 05:59 J -18766360.35 -18766360.25 -18766360.16 0.2676 0.1400 *

Jupiter -56092-03-28 06:57 J -18766093.34 -18766093.21 -18766093.08 0.0533 0.0045

Jupiter -56092-06-25 14:09 J -18766003.91 -18766003.91 -18766003.90 0.0533 0.0531

Mars -56091-07-13 21:06 J -18765620.69 -18765620.62 -18765620.54 0.1754 0.1517

Mars -56090-08-23 14:09 J -18765214.98 -18765214.91 -18765214.84 0.1814 0.1396

Moon -56087-07-14 02:37 J -18764159.45 -18764159.39 -18764159.33 0.2671 0.2217

Earth -56087-07-14 02:52 J -18764159.44 -18764159.38 -18764159.33 0.2678 0.2289 *

Jupiter -56086-02-13 06:28 J -18763945.35 -18763945.23 -18763945.10 0.0493 0.0353

Saturn -56086-05-08 15:06 J -18763861.00 -18763860.87 -18763860.74 0.0273 0.0189

Jupiter -56086-05-14 12:28 J -18763855.12 -18763854.98 -18763854.84 0.0493 0.0309

Saturn -56086-08-05 11:01 J -18763772.21 -18763772.04 -18763771.86 0.0272 0.0065

Saturn -56086-11-02 07:11 J -18763683.37 -18763683.20 -18763683.02 0.0271 0.0061

Neptune -56085-01-27 03:49 J -18763597.37 -18763597.34 -18763597.26 0.0089 0.0085

Saturn -56085-01-30 03:35 J -18763594.48 -18763594.35 -18763594.21 0.0270 0.0185

Neptune -56085-04-24 07:11 J -18763509.27 -18763509.20 -18763509.10 0.0089 0.0077

Neptune -56085-07-21 10:33 J -18763421.17 -18763421.06 -18763420.94 0.0089 0.0069

Neptune -56085-10-17 13:25 J -18763333.06 -18763332.94 -18763332.80 0.0089 0.0062

Neptune -56084-01-13 16:33 J -18763244.94 -18763244.81 -18763244.65 0.0089 0.0054

Neptune -56084-04-11 19:54 J -18763156.82 -18763156.67 -18763156.51 0.0089 0.0046

Neptune -56084-07-08 22:47 J -18763068.70 -18763068.55 -18763068.37 0.0089 0.0039

Neptune -56084-10-05 02:09 J -18762980.57 -18762980.41 -18762980.23 0.0089 0.0031

Moon -56084-12-30 07:54 J -18762894.27 -18762894.17 -18762894.07 0.2660 0.2014

Earth -56084-12-30 09:21 J -18762894.22 -18762894.11 -18762894.00 0.2663 0.1824 *

Neptune -56083-01-01 05:30 J -18762892.45 -18762892.27 -18762892.09 0.0089 0.0023

Neptune -56083-03-30 08:37 J -18762804.32 -18762804.14 -18762803.96 0.0089 0.0015

Neptune -56083-06-26 11:45 J -18762716.19 -18762716.01 -18762715.82 0.0089 0.0008

Neptune -56083-09-22 15:06 J -18762628.06 -18762627.87 -18762627.69 0.0089 0.0001

Neptune -56083-12-19 18:13 J -18762539.92 -18762539.74 -18762539.55 0.0089 0.0009

Neptune -56082-03-17 21:21 J -18762451.78 -18762451.61 -18762451.42 0.0089 0.0017

Neptune -56082-06-14 00:28 J -18762363.65 -18762363.48 -18762363.29 0.0089 0.0025

Neptune -56082-09-10 03:49 J -18762275.50 -18762275.34 -18762275.16 0.0089 0.0032

Neptune -56082-12-07 07:11 J -18762187.36 -18762187.20 -18762187.03 0.0089 0.0040

Neptune -56081-03-04 10:33 J -18762099.22 -18762099.06 -18762098.90 0.0089 0.0048

Neptune -56081-05-31 13:40 J -18762011.07 -18762010.93 -18762010.78 0.0089 0.0056

Neptune -56081-08-27 17:01 J -18761922.92 -18761922.79 -18761922.66 0.0089 0.0064

Neptune -56081-11-23 20:09 J -18761834.76 -18761834.66 -18761834.54 0.0089 0.0072

Mars -56080-01-12 22:47 J -18761784.66 -18761784.55 -18761784.44 0.1806 0.0593

Jupiter -56080-01-14 09:49 J -18761783.21 -18761783.09 -18761782.97 0.0534 0.0204

Neptune -56080-02-19 23:30 J -18761746.59 -18761746.52 -18761746.44 0.0089 0.0080

Jupiter -56080-04-13 17:30 J -18761693.86 -18761693.77 -18761693.68 0.0533 0.0378

Neptune -56080-05-19 02:52 J -18761658.39 -18761658.38 -18761658.36 0.0089 0.0088

Earth -56080-07-07 00:13 J -18761609.60 -18761609.49 -18761609.37 0.2672 0.0389

Moon -56080-07-07 00:57 J -18761609.57 -18761609.46 -18761609.35 0.2676 0.0276 *

Jupiter -56074-03-02 10:18 J -18759545.25 -18759545.07 -18759544.90 0.0493 0.0140

Mars -56071-06-05 07:25 J -18758354.31 -18758354.19 -18758354.07 0.1797 0.0215

Saturn -56071-11-27 07:11 J -18758179.21 -18758179.20 -18758179.19 0.0287 0.0285

Moon -56070-01-02 12:13 J -18758143.14 -18758142.99 -18758142.84 0.2663 0.0181

Earth -56070-01-02 13:40 J -18758143.08 -18758142.93 -18758142.78 0.2661 0.0164 *

Saturn -56070-02-23 19:54 J -18758090.77 -18758090.67 -18758090.56 0.0288 0.0173

Mars -56070-04-01 20:23 J -18758053.79 -18758053.65 -18758053.51 0.1737 0.0851

Saturn -56070-05-23 08:52 J -18758002.26 -18758002.13 -18758002.00 0.0289 0.0061

Saturn -56070-08-19 21:21 J -18757913.74 -18757913.61 -18757913.47 0.0290 0.0053

Saturn -56070-11-16 10:04 J -18757825.19 -18757825.08 -18757824.97 0.0291 0.0163

Saturn -56069-02-12 22:33 J -18757736.60 -18757736.56 -18757736.52 0.0292 0.0275

Jupiter -56069-11-02 13:25 J -18757473.04 -18757472.94 -18757472.84 0.0534 0.0350

Jupiter -56068-01-30 21:21 J -18757383.73 -18757383.61 -18757383.50 0.0533 0.0236

Earth -56067-07-09 18:57 J -18756858.82 -18756858.71 -18756858.60 0.2674 0.0585

Moon -56067-07-09 19:40 J -18756858.79 -18756858.68 -18756858.57 0.2671 0.0617 *

Pluto -56063-11-05 13:40 J -18755278.97 -18755278.93 -18755278.86 0.0083 0.0076

Jupiter -56063-12-19 07:11 J -18755235.38 -18755235.20 -18755235.02 0.0493 0.0040

Pluto -56062-02-01 15:21 J -18755190.93 -18755190.86 -18755190.76 0.0083 0.0066

Pluto -56062-04-30 17:16 J -18755102.88 -18755102.78 -18755102.67 0.0083 0.0056

Pluto -56062-07-27 18:42 J -18755014.83 -18755014.72 -18755014.59 0.0082 0.0047

Pluto -56062-10-23 20:23 J -18754926.77 -18754926.65 -18754926.51 0.0082 0.0037

Mars -56062-10-26 16:04 J -18754923.93 -18754923.83 -18754923.73 0.1789 0.1004

Pluto -56061-01-19 21:49 J -18754838.71 -18754838.59 -18754838.44 0.0082 0.0029

Pluto -56061-04-16 23:30 J -18754750.65 -18754750.52 -18754750.37 0.0082 0.0019

Pluto -56061-07-14 01:11 J -18754662.59 -18754662.45 -18754662.30 0.0082 0.0009

Mars -56061-08-21 21:06 J -18754623.78 -18754623.62 -18754623.46 0.1745 0.0262

Pluto -56061-10-10 02:52 J -18754574.53 -18754574.38 -18754574.24 0.0082 0.0002

Pluto -56060-01-06 04:18 J -18754486.46 -18754486.32 -18754486.18 0.0082 0.0009

Pluto -56060-04-04 05:45 J -18754398.40 -18754398.26 -18754398.12 0.0082 0.0018

Pluto -56060-07-01 07:11 J -18754310.33 -18754310.20 -18754310.06 0.0081 0.0027

Moon -56060-07-02 15:35 J -18754308.91 -18754308.85 -18754308.79 0.2674 0.2248

Earth -56060-07-02 15:49 J -18754308.91 -18754308.84 -18754308.78 0.2668 0.2162 *

Pluto -56060-09-27 08:37 J -18754222.26 -18754222.14 -18754222.00 0.0081 0.0036

Uranus -56060-10-01 15:49 J -18754217.87 -18754217.84 -18754217.81 0.0132 0.0127

Pluto -56060-12-24 10:04 J -18754134.19 -18754134.08 -18754133.95 0.0081 0.0044

Uranus -56060-12-28 18:42 J -18754129.78 -18754129.72 -18754129.64 0.0132 0.0110

Pluto -56059-03-22 11:30 J -18754046.12 -18754046.02 -18754045.90 0.0081 0.0053

Uranus -56059-03-26 21:49 J -18754041.68 -18754041.59 -18754041.49 0.0132 0.0093

Pluto -56059-06-18 12:57 J -18753958.04 -18753957.96 -18753957.86 0.0081 0.0061

Uranus -56059-06-23 00:57 J -18753953.57 -18753953.46 -18753953.35 0.0132 0.0075

Pluto -56059-09-14 14:23 J -18753869.96 -18753869.90 -18753869.82 0.0081 0.0070

Uranus -56059-09-19 04:04 J -18753865.45 -18753865.33 -18753865.21 0.0132 0.0058

Pluto -56059-12-11 15:49 J -18753781.86 -18753781.84 -18753781.80 0.0081 0.0078

Uranus -56059-12-16 06:57 J -18753777.33 -18753777.21 -18753777.08 0.0132 0.0041

Uranus -56058-03-14 10:04 J -18753689.21 -18753689.08 -18753688.95 0.0132 0.0023

Uranus -56058-06-10 13:11 J -18753601.09 -18753600.95 -18753600.82 0.0132 0.0006

Venus -56058-06-12 21:06 J -18753598.67 -18753598.62 -18753598.58 0.3785 0.3327

Uranus -56058-09-06 16:04 J -18753512.96 -18753512.83 -18753512.69 0.0132 0.0013

Uranus -56058-12-03 19:11 J -18753424.83 -18753424.70 -18753424.57 0.0132 0.0029

Moon -56057-01-05 17:16 J -18753391.90 -18753391.78 -18753391.65 0.2664 0.1394

Earth -56057-01-05 18:13 J -18753391.86 -18753391.74 -18753391.62 0.2658 0.1552 *

Uranus -56057-02-29 22:04 J -18753336.70 -18753336.58 -18753336.45 0.0133 0.0047

Uranus -56057-05-28 01:11 J -18753248.57 -18753248.45 -18753248.33 0.0133 0.0064

Jupiter -56057-08-21 17:16 J -18753162.82 -18753162.78 -18753162.73 0.0534 0.0492

Uranus -56057-08-24 04:04 J -18753160.43 -18753160.33 -18753160.22 0.0133 0.0081

Saturn -56057-09-24 16:04 J -18753128.93 -18753128.83 -18753128.72 0.0273 0.0215

Jupiter -56057-11-19 01:25 J -18753073.56 -18753073.44 -18753073.31 0.0534 0.0099

Uranus -56057-11-20 06:57 J -18753072.29 -18753072.21 -18753072.11 0.0133 0.0099

Saturn -56057-12-22 11:59 J -18753040.16 -18753040.00 -18753039.83 0.0272 0.0092

Uranus -56056-02-16 10:04 J -18752984.14 -18752984.08 -18752984.01 0.0133 0.0116

Saturn -56056-03-21 08:09 J -18752951.34 -18752951.16 -18752950.98 0.0271 0.0033

Saturn -56056-06-18 04:18 J -18752862.46 -18752862.32 -18752862.16 0.0271 0.0158

Venus -56055-03-18 04:04 J -18752589.42 -18752589.33 -18752589.23 0.3591 0.2842

Earth -56054-07-12 13:25 J -18752108.04 -18752107.94 -18752107.85 0.2676 0.1531

Moon -56054-07-12 13:40 J -18752108.02 -18752107.93 -18752107.84 0.2670 0.1549 *

Venus -56053-12-26 12:57 J -18751575.06 -18751574.96 -18751574.87 0.3789 0.1297

Mars -56051-01-11 21:35 J -18751193.69 -18751193.60 -18751193.50 0.1754 0.1385

Jupiter -56051-10-07 05:16 J -18750925.44 -18750925.28 -18750925.12 0.0493 0.0204

Jupiter -56050-01-05 11:16 J -18750835.08 -18750835.03 -18750834.96 0.0493 0.0464

Mars -56050-02-21 14:09 J -18750787.97 -18750787.91 -18750787.84 0.1815 0.1495

Venus -56050-10-02 13:25 J -18750565.03 -18750564.94 -18750564.85 0.3587 0.2933

Earth -56047-07-05 10:33 J -18749558.16 -18749558.06 -18749557.96 0.2670 0.1177

Moon -56047-07-05 11:01 J -18749558.15 -18749558.04 -18749557.94 0.2676 0.1084 *

Venus -56047-07-12 04:47 J -18749551.40 -18749551.30 -18749551.20 0.3792 0.0747

Jupiter -56045-09-07 05:16 J -18748763.41 -18748763.28 -18748763.15 0.0533 0.0048

Jupiter -56045-12-05 12:28 J -18748673.99 -18748673.98 -18748673.96 0.0533 0.0529

Venus -56041-01-25 20:37 J -18747527.71 -18747527.64 -18747527.58 0.3795 0.2766

Saturn -56041-07-12 21:35 J -18747358.69 -18747358.60 -18747358.50 0.0288 0.0207

Mars -56041-07-13 22:47 J -18747357.66 -18747357.55 -18747357.44 0.1806 0.0694

Moon -56041-07-14 07:25 J -18747357.23 -18747357.19 -18747357.15 0.2671 0.2476

Earth -56041-07-14 07:40 J -18747357.22 -18747357.18 -18747357.14 0.2678 0.2463 *

Saturn -56041-10-09 10:33 J -18747270.19 -18747270.06 -18747269.93 0.0289 0.0095

Saturn -56040-01-05 23:16 J -18747181.67 -18747181.53 -18747181.40 0.0290 0.0019

Saturn -56040-04-04 11:45 J -18747093.13 -18747093.01 -18747092.89 0.0291 0.0129

Saturn -56040-07-02 00:13 J -18747004.56 -18747004.49 -18747004.41 0.0292 0.0241

Jupiter -56039-07-26 03:21 J -18746615.47 -18746615.36 -18746615.23 0.0493 0.0366

Jupiter -56039-10-24 09:21 J -18746525.26 -18746525.11 -18746524.97 0.0493 0.0296

Moon -56038-12-31 14:09 J -18746092.03 -18746091.91 -18746091.79 0.2660 0.1581

Earth -56038-12-31 15:35 J -18746091.97 -18746091.85 -18746091.73 0.2662 0.1529 *

Earth -56034-07-08 05:16 J -18744807.39 -18744807.28 -18744807.17 0.2672 0.0199

Moon -56034-07-08 05:59 J -18744807.36 -18744807.25 -18744807.14 0.2674 0.0196 *

Jupiter -56033-06-26 08:37 J -18744453.26 -18744453.14 -18744453.02 0.0534 0.0197

Jupiter -56033-09-23 16:18 J -18744363.91 -18744363.82 -18744363.73 0.0533 0.0383

Mars -56032-12-04 07:25 J -18743927.31 -18743927.19 -18743927.07 0.1797 0.0117

Mars -56031-09-30 20:52 J -18743626.76 -18743626.63 -18743626.50 0.1736 0.0979

Saturn -56027-02-11 16:33 J -18742396.88 -18742396.81 -18742396.73 0.0273 0.0247

Saturn -56027-05-11 12:28 J -18742308.14 -18742307.98 -18742307.82 0.0272 0.0123

Saturn -56027-08-08 08:37 J -18742219.32 -18742219.14 -18742218.96 0.0271 0.0001

Jupiter -56027-08-12 07:40 J -18742215.36 -18742215.18 -18742215.01 0.0493 0.0135

Saturn -56027-11-05 04:47 J -18742130.46 -18742130.30 -18742130.13 0.0271 0.0126

Saturn -56026-02-02 01:25 J -18742041.51 -18742041.44 -18742041.38 0.0270 0.0250

Moon -56024-01-02 18:28 J -18741340.87 -18741340.73 -18741340.58 0.2664 0.0090

Earth -56024-01-02 19:54 J -18741340.82 -18741340.67 -18741340.52 0.2660 0.0149 *

Mars -56022-04-26 16:04 J -18740496.93 -18740496.83 -18740496.73 0.1789 0.0904

Mars -56021-02-20 21:21 J -18740196.76 -18740196.61 -18740196.45 0.1745 0.0148

Jupiter -56021-04-14 11:30 J -18740143.12 -18740143.02 -18740142.93 0.0534 0.0357

Earth -56021-07-09 23:45 J -18740056.62 -18740056.51 -18740056.40 0.2674 0.0763

Moon -56021-07-10 00:28 J -18740056.58 -18740056.48 -18740056.37 0.2672 0.0871 *

Jupiter -56021-07-12 19:25 J -18740053.81 -18740053.69 -18740053.58 0.0533 0.0229

Uranus -56018-04-13 06:42 J -18739049.26 -18739049.22 -18739049.16 0.0146 0.0140

Uranus -56018-07-10 15:06 J -18738960.99 -18738960.87 -18738960.74 0.0146 0.0107

Uranus -56018-10-06 23:30 J -18738872.68 -18738872.52 -18738872.35 0.0146 0.0074

Uranus -56017-01-03 07:54 J -18738784.35 -18738784.17 -18738783.99 0.0146 0.0041

Uranus -56017-03-31 16:18 J -18738696.01 -18738695.82 -18738695.63 0.0146 0.0007

Uranus -56017-06-28 00:42 J -18738607.65 -18738607.47 -18738607.28 0.0146 0.0026

Uranus -56017-09-24 09:06 J -18738519.29 -18738519.12 -18738518.94 0.0146 0.0060

Uranus -56017-12-21 17:45 J -18738430.90 -18738430.76 -18738430.61 0.0146 0.0093

Uranus -56016-03-20 02:09 J -18738342.49 -18738342.41 -18738342.31 0.0146 0.0127

Jupiter -56015-05-31 05:30 J -18737905.45 -18737905.27 -18737905.09 0.0493 0.0034

Moon -56014-07-03 20:37 J -18737506.71 -18737506.64 -18737506.56 0.2675 0.1962

Earth -56014-07-03 20:52 J -18737506.71 -18737506.63 -18737506.56 0.2669 0.1976 *

Mars -56013-09-16 00:42 J -18737066.51 -18737066.47 -18737066.44 0.1780 0.1694

Mars -56012-07-12 22:18 J -18736766.67 -18736766.57 -18736766.46 0.1754 0.1239

Saturn -56012-11-30 00:42 J -18736626.55 -18736626.47 -18736626.38 0.0288 0.0230

Moon -56011-01-05 23:45 J -18736589.61 -18736589.51 -18736589.40 0.2664 0.1895

Earth -56011-01-06 00:42 J -18736589.58 -18736589.47 -18736589.37 0.2658 0.1867 *

Saturn -56011-02-26 13:40 J -18736538.05 -18736537.93 -18736537.81 0.0289 0.0118

Saturn -56011-05-26 02:23 J -18736449.53 -18736449.40 -18736449.26 0.0290 0.0006

Saturn -56011-08-22 15:06 J -18736361.00 -18736360.87 -18736360.75 0.0290 0.0106

Mars -56011-08-22 14:09 J -18736360.96 -18736360.91 -18736360.85 0.1814 0.1590 *

Saturn -56011-11-19 03:35 J -18736272.44 -18736272.35 -18736272.26 0.0291 0.0218

Jupiter -56009-02-01 14:52 J -18735832.91 -18735832.88 -18735832.83 0.0534 0.0506

Jupiter -56009-04-30 23:16 J -18735743.66 -18735743.53 -18735743.41 0.0534 0.0087

Earth -56008-07-12 18:13 J -18735305.83 -18735305.74 -18735305.65 0.2676 0.1707

Moon -56008-07-12 18:28 J -18735305.82 -18735305.73 -18735305.64 0.2670 0.1703 *

Neptune -56003-02-06 19:11 J -18733635.71 -18733635.70 -18733635.68 0.0089 0.0088

Jupiter -56003-03-19 02:37 J -18733595.55 -18733595.39 -18733595.23 0.0493 0.0209

Neptune -56003-05-05 20:52 J -18733547.68 -18733547.63 -18733547.58 0.0089 0.0082

Jupiter -56003-06-17 08:37 J -18733505.20 -18733505.14 -18733505.07 0.0493 0.0457

Neptune -56003-08-01 22:18 J -18733459.63 -18733459.57 -18733459.49 0.0089 0.0076

Neptune -56003-10-28 23:59 J -18733371.58 -18733371.50 -18733371.42 0.0089 0.0070

Neptune -56002-01-25 01:25 J -18733283.53 -18733283.44 -18733283.34 0.0089 0.0064

Neptune -56002-04-23 02:37 J -18733195.48 -18733195.39 -18733195.27 0.0089 0.0059

Neptune -56002-07-20 04:18 J -18733107.42 -18733107.32 -18733107.20 0.0089 0.0053

Neptune -56002-10-16 05:45 J -18733019.36 -18733019.26 -18733019.13 0.0089 0.0047

Neptune -56001-01-12 07:25 J -18732931.31 -18732931.19 -18732931.06 0.0089 0.0040

Mars -56001-01-12 22:47 J -18732930.66 -18732930.55 -18732930.44 0.1806 0.0781

Venus -56001-01-17 18:28 J -18732925.80 -18732925.73 -18732925.66 0.3786 0.2584

Neptune -56001-04-09 08:52 J -18732843.25 -18732843.13 -18732842.99 0.0089 0.0035

Earth -56001-07-05 15:35 J -18732755.96 -18732755.85 -18732755.75 0.2670 0.0988

Moon -56001-07-05 15:49 J -18732755.94 -18732755.84 -18732755.73 0.2677 0.1019 *

Neptune -56001-07-06 10:33 J -18732755.19 -18732755.06 -18732754.93 0.0089 0.0028

Neptune -56001-10-02 11:59 J -18732667.13 -18732667.00 -18732666.86 0.0089 0.0023

Neptune -56001-12-29 13:40 J -18732579.07 -18732578.93 -18732578.80 0.0089 0.0017

56TH MILLENNIUM BCE

This is a list of transits of Mercury in the 56th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Neptune -56000-03-27 15:06 J -18732491.01 -18732490.87 -18732490.73 0.0089 0.0011

Neptune -56000-06-23 16:33 J -18732402.95 -18732402.81 -18732402.67 0.0089 0.0005

Neptune -56000-09-19 17:59 J -18732314.89 -18732314.75 -18732314.61 0.0089 0.0001

Neptune -56000-12-16 19:25 J -18732226.82 -18732226.69 -18732226.55 0.0089 0.0007

Neptune -55999-03-14 20:52 J -18732138.76 -18732138.63 -18732138.49 0.0089 0.0013

Neptune -55999-06-10 22:18 J -18732050.70 -18732050.57 -18732050.43 0.0089 0.0019

Neptune -55999-09-06 23:45 J -18731962.64 -18731962.51 -18731962.37 0.0089 0.0025

Venus -55999-10-23 06:13 J -18731916.39 -18731916.24 -18731916.08 0.3590 0.0889

Neptune -55999-12-04 01:25 J -18731874.57 -18731874.44 -18731874.31 0.0089 0.0030

Neptune -55998-03-02 02:52 J -18731786.51 -18731786.38 -18731786.26 0.0089 0.0036

Neptune -55998-05-29 04:04 J -18731698.44 -18731698.33 -18731698.20 0.0089 0.0042

Saturn -55998-07-01 17:59 J -18731664.77 -18731664.75 -18731664.74 0.0274 0.0272

Neptune -55998-08-25 05:30 J -18731610.38 -18731610.27 -18731610.15 0.0089 0.0048

Saturn -55998-09-28 13:40 J -18731576.08 -18731575.93 -18731575.78 0.0273 0.0149

Neptune -55998-11-21 07:11 J -18731522.31 -18731522.20 -18731522.09 0.0089 0.0053

Saturn -55998-12-26 09:35 J -18731487.27 -18731487.10 -18731486.92 0.0272 0.0026

Neptune -55997-02-17 08:37 J -18731434.24 -18731434.14 -18731434.04 0.0089 0.0059

Jupiter -55997-02-18 03:21 J -18731433.49 -18731433.36 -18731433.23 0.0534 0.0052

Saturn -55997-03-24 05:45 J -18731398.42 -18731398.26 -18731398.09 0.0271 0.0099

Neptune -55997-05-15 09:49 J -18731346.17 -18731346.09 -18731345.99 0.0089 0.0065

Jupiter -55997-05-17 10:47 J -18731344.07 -18731344.05 -18731344.03 0.0533 0.0525

Saturn -55997-06-21 02:09 J -18731309.51 -18731309.41 -18731309.30 0.0270 0.0224

Neptune -55997-08-11 11:16 J -18731258.10 -18731258.03 -18731257.94 0.0089 0.0070

Neptune -55997-11-07 12:42 J -18731170.03 -18731169.97 -18731169.89 0.0089 0.0076

Neptune -55996-02-03 14:09 J -18731081.95 -18731081.91 -18731081.85 0.0089 0.0082

Neptune -55996-05-02 15:21 J -18730993.86 -18730993.86 -18730993.82 0.0089 0.0088

Venus -55996-08-02 10:18 J -18730902.17 -18730902.07 -18730901.97 0.3789 0.0552

Moon -55995-07-15 12:13 J -18730555.01 -18730554.99 -18730554.96 0.2672 0.2585

Earth -55995-07-15 12:28 J -18730554.99 -18730554.98 -18730554.96 0.2678 0.2638 *

Mars -55992-06-04 07:40 J -18729500.30 -18729500.18 -18729500.06 0.1798 0.0052

Moon -55992-12-31 20:23 J -18729289.78 -18729289.65 -18729289.53 0.2661 0.1381

Earth -55992-12-31 21:49 J -18729289.72 -18729289.59 -18729289.46 0.2662 0.1232 *

Jupiter -55991-01-05 00:57 J -18729285.58 -18729285.46 -18729285.34 0.0492 0.0371

Mars -55991-03-31 21:35 J -18729199.72 -18729199.60 -18729199.48 0.1736 0.1117

Jupiter -55991-04-05 06:28 J -18729195.37 -18729195.23 -18729195.08 0.0493 0.0290

Venus -55990-02-16 02:09 J -18728878.50 -18728878.41 -18728878.32 0.3792 0.1484

Earth -55988-07-08 10:04 J -18728005.19 -18728005.08 -18728004.96 0.2672 0.0098

Moon -55988-07-08 11:01 J -18728005.16 -18728005.04 -18728004.93 0.2673 0.0148 *

Jupiter -55986-12-07 06:57 J -18727123.33 -18727123.21 -18727123.08 0.0534 0.0198

Jupiter -55985-03-05 14:37 J -18727033.97 -18727033.89 -18727033.80 0.0533 0.0384

Venus -55985-08-31 17:59 J -18726854.78 -18726854.75 -18726854.71 0.3795 0.3508

Mars -55983-10-25 16:04 J -18726069.93 -18726069.83 -18726069.72 0.1789 0.0807

Saturn -55982-04-19 02:09 J -18725894.46 -18725894.41 -18725894.36 0.0288 0.0267

Saturn -55982-07-16 15:06 J -18725805.99 -18725805.87 -18725805.76 0.0289 0.0155

Mars -55982-08-21 22:04 J -18725769.74 -18725769.58 -18725769.42 0.1745 0.0009

Saturn -55982-10-13 03:49 J -18725717.47 -18725717.34 -18725717.21 0.0289 0.0043

Saturn -55981-01-09 16:33 J -18725628.94 -18725628.81 -18725628.68 0.0290 0.0070

Saturn -55981-04-07 05:01 J -18725540.39 -18725540.29 -18725540.18 0.0291 0.0181

Jupiter -55979-01-22 04:47 J -18724885.48 -18724885.30 -18724885.13 0.0493 0.0125

Moon -55978-01-04 00:42 J -18724538.61 -18724538.47 -18724538.32 0.2664 0.0431

Earth -55978-01-04 02:09 J -18724538.56 -18724538.41 -18724538.26 0.2660 0.0450 *

Uranus -55976-10-21 22:47 J -18723516.59 -18723516.55 -18723516.49 0.0132 0.0123

Uranus -55975-01-18 01:54 J -18723428.49 -18723428.42 -18723428.33 0.0132 0.0105

Uranus -55975-04-16 05:01 J -18723340.38 -18723340.29 -18723340.18 0.0132 0.0088

Earth -55975-07-11 04:47 J -18723254.41 -18723254.30 -18723254.20 0.2674 0.0943

Moon -55975-07-11 05:30 J -18723254.38 -18723254.27 -18723254.17 0.2672 0.0957 *

Uranus -55975-07-13 08:09 J -18723252.27 -18723252.16 -18723252.04 0.0132 0.0070

Uranus -55975-10-09 11:01 J -18723164.15 -18723164.04 -18723163.91 0.0132 0.0054

Uranus -55974-01-05 14:23 J -18723076.03 -18723075.90 -18723075.77 0.0132 0.0035

Uranus -55974-04-03 17:16 J -18722987.91 -18722987.78 -18722987.64 0.0132 0.0018

Uranus -55974-06-30 20:23 J -18722899.78 -18722899.65 -18722899.52 0.0132 0.0001

Jupiter -55974-09-25 10:33 J -18722813.16 -18722813.06 -18722812.96 0.0534 0.0348

Uranus -55974-09-26 23:16 J -18722811.66 -18722811.53 -18722811.39 0.0132 0.0018

Jupiter -55974-12-23 18:13 J -18722723.85 -18722723.74 -18722723.62 0.0533 0.0239

Uranus -55974-12-24 02:23 J -18722723.53 -18722723.40 -18722723.27 0.0132 0.0034

Mars -55973-03-17 00:42 J -18722639.52 -18722639.47 -18722639.42 0.1780 0.1593

Uranus -55973-03-21 05:16 J -18722635.40 -18722635.28 -18722635.15 0.0133 0.0052

Uranus -55973-06-17 08:23 J -18722547.26 -18722547.15 -18722547.04 0.0133 0.0069

Uranus -55973-09-13 11:30 J -18722459.12 -18722459.02 -18722458.92 0.0133 0.0086

Uranus -55973-12-10 14:09 J -18722370.98 -18722370.91 -18722370.82 0.0133 0.0104

Mars -55972-01-10 22:47 J -18722339.67 -18722339.55 -18722339.43 0.1754 0.1119

Uranus -55972-03-08 17:01 J -18722282.83 -18722282.79 -18722282.72 0.0133 0.0121

Mars -55971-02-20 14:09 J -18721933.95 -18721933.91 -18721933.87 0.1815 0.1683

Saturn -55968-02-14 13:25 J -18720844.07 -18720843.94 -18720843.81 0.0273 0.0185

Saturn -55968-05-14 09:21 J -18720755.28 -18720755.11 -18720754.93 0.0272 0.0061

Moon -55968-07-04 01:40 J -18720704.51 -18720704.43 -18720704.34 0.2676 0.1800

Earth -55968-07-04 01:40 J -18720704.51 -18720704.43 -18720704.34 0.2669 0.1785 *

Saturn -55968-08-11 05:30 J -18720666.44 -18720666.27 -18720666.09 0.0271 0.0063

Saturn -55968-11-08 01:54 J -18720577.55 -18720577.42 -18720577.29 0.0270 0.0188

Jupiter -55968-11-10 03:06 J -18720575.55 -18720575.37 -18720575.19 0.0493 0.0036

Moon -55965-01-07 06:28 J -18719787.32 -18719787.23 -18719787.14 0.2663 0.2054

Earth -55965-01-07 06:57 J -18719787.30 -18719787.21 -18719787.13 0.2658 0.2178 *

Mars -55962-07-13 23:01 J -18718503.65 -18718503.54 -18718503.44 0.1806 0.0885

Earth -55962-07-13 23:16 J -18718503.61 -18718503.53 -18718503.46 0.2676 0.1887 *

Moon -55962-07-13 23:16 J -18718503.61 -18718503.53 -18718503.45 0.2669 0.1924 *

Jupiter -55962-07-14 13:25 J -18718502.98 -18718502.94 -18718502.91 0.0534 0.0508

Jupiter -55962-10-11 21:35 J -18718413.73 -18718413.60 -18718413.48 0.0533 0.0084

Moon -55959-12-29 22:47 J -18717238.58 -18717238.55 -18717238.52 0.2659 0.2587

Earth -55959-12-29 23:59 J -18717238.54 -18717238.50 -18717238.46 0.2664 0.2559 *

Jupiter -55956-08-29 01:25 J -18716265.61 -18716265.44 -18716265.28 0.0493 0.0199

Jupiter -55956-11-27 07:25 J -18716175.24 -18716175.19 -18716175.13 0.0493 0.0469

Earth -55955-07-06 20:23 J -18715953.76 -18715953.65 -18715953.54 0.2671 0.0808

Moon -55955-07-06 20:52 J -18715953.74 -18715953.63 -18715953.52 0.2676 0.0722 *

Saturn -55953-12-02 17:45 J -18715073.86 -18715073.76 -18715073.65 0.0288 0.0181

Mars -55953-12-03 07:25 J -18715073.31 -18715073.19 -18715073.07 0.1797 0.0098

Saturn -55952-03-01 06:42 J -18714985.35 -18714985.22 -18714985.09 0.0289 0.0068

Saturn -55952-05-28 19:25 J -18714896.83 -18714896.69 -18714896.56 0.0290 0.0044

Saturn -55952-08-25 07:54 J -18714808.28 -18714808.17 -18714808.05 0.0291 0.0156

Mars -55952-09-29 22:04 J -18714772.69 -18714772.58 -18714772.47 0.1736 0.1254

Saturn -55952-11-21 20:23 J -18714719.69 -18714719.65 -18714719.59 0.0292 0.0268

Jupiter -55950-07-31 01:11 J -18714103.58 -18714103.45 -18714103.32 0.0534 0.0062

Jupiter -55950-10-28 08:52 J -18714014.16 -18714014.13 -18714014.11 0.0533 0.0516

Moon -55945-01-02 02:37 J -18712487.53 -18712487.39 -18712487.26 0.2662 0.1058

Earth -55945-01-02 04:04 J -18712487.47 -18712487.33 -18712487.19 0.2662 0.0930 *

Venus -55945-08-23 16:04 J -18712252.92 -18712252.83 -18712252.75 0.3787 0.1841

Jupiter -55944-06-16 22:33 J -18711955.67 -18711955.56 -18711955.44 0.0492 0.0373

Jupiter -55944-09-15 04:18 J -18711865.47 -18711865.32 -18711865.18 0.0493 0.0287

Mars -55943-04-25 16:04 J -18711642.94 -18711642.83 -18711642.72 0.1789 0.0714

Mars -55942-02-19 22:47 J -18711342.71 -18711342.55 -18711342.40 0.1745 0.0147

Venus -55942-05-30 08:23 J -18711243.30 -18711243.15 -18711243.00 0.3589 0.1076

Earth -55942-07-09 15:06 J -18711202.98 -18711202.87 -18711202.76 0.2673 0.0168

Moon -55942-07-09 15:49 J -18711202.95 -18711202.84 -18711202.72 0.2673 0.0203 *

Venus -55939-03-09 07:54 J -18710229.27 -18710229.17 -18710229.07 0.3790 0.0214

Saturn -55939-07-04 14:23 J -18710112.01 -18710111.90 -18710111.78 0.0273 0.0212

Saturn -55939-10-01 10:18 J -18710023.24 -18710023.07 -18710022.90 0.0272 0.0088

Saturn -55939-12-29 06:28 J -18709934.41 -18709934.23 -18709934.05 0.0271 0.0036

Saturn -55938-03-28 02:37 J -18709845.53 -18709845.39 -18709845.24 0.0271 0.0161

Jupiter -55938-05-19 05:16 J -18709793.40 -18709793.28 -18709793.16 0.0534 0.0201

Jupiter -55938-08-16 12:57 J -18709704.04 -18709703.96 -18709703.87 0.0533 0.0383

Moon -55935-07-02 11:16 J -18708653.05 -18708653.03 -18708653.01 0.2672 0.2615

Earth -55935-07-02 11:45 J -18708653.03 -18708653.01 -18708652.98 0.2667 0.2591 *

Uranus -55934-05-03 14:09 J -18708347.98 -18708347.91 -18708347.82 0.0146 0.0132

Uranus -55934-07-30 22:33 J -18708259.69 -18708259.56 -18708259.42 0.0146 0.0099

Mars -55934-09-16 00:57 J -18708212.53 -18708212.46 -18708212.40 0.1780 0.1490

Venus -55934-09-22 23:45 J -18708205.59 -18708205.51 -18708205.43 0.3793 0.2228

Uranus -55934-10-27 06:57 J -18708171.38 -18708171.21 -18708171.04 0.0146 0.0066

Uranus -55933-01-23 15:21 J -18708083.05 -18708082.86 -18708082.68 0.0146 0.0032

Uranus -55933-04-20 23:45 J -18707994.70 -18707994.51 -18707994.32 0.0146 0.0001

Mars -55933-07-11 23:16 J -18707912.66 -18707912.53 -18707912.40 0.1754 0.0983

Uranus -55933-07-18 08:09 J -18707906.34 -18707906.16 -18707905.97 0.0146 0.0035

Uranus -55933-10-14 16:33 J -18707817.97 -18707817.81 -18707817.64 0.0146 0.0068

Moon -55932-01-04 07:11 J -18707736.35 -18707736.20 -18707736.06 0.2663 0.0583

Earth -55932-01-04 08:23 J -18707736.29 -18707736.15 -18707736.01 0.2660 0.0755 *

Uranus -55932-01-11 00:57 J -18707729.59 -18707729.46 -18707729.32 0.0146 0.0102

Uranus -55932-04-09 09:35 J -18707641.16 -18707641.10 -18707641.03 0.0146 0.0135

Jupiter -55932-07-04 02:23 J -18707555.58 -18707555.40 -18707555.23 0.0493 0.0122

Mars -55932-08-21 14:23 J -18707506.92 -18707506.90 -18707506.88 0.1815 0.1784

Earth -55929-07-11 09:35 J -18706452.20 -18706452.10 -18706452.00 0.2675 0.1121

Moon -55929-07-11 10:04 J -18706452.18 -18706452.08 -18706451.97 0.2670 0.1232 *

Jupiter -55926-03-07 09:06 J -18705483.22 -18705483.12 -18705483.02 0.0534 0.0345

Jupiter -55926-06-04 17:01 J -18705393.90 -18705393.79 -18705393.68 0.0533 0.0242

Saturn -55923-04-21 18:42 J -18704341.80 -18704341.72 -18704341.63 0.0288 0.0221

Saturn -55923-07-19 07:40 J -18704253.31 -18704253.18 -18704253.05 0.0289 0.0109

Saturn -55923-10-15 20:23 J -18704164.79 -18704164.65 -18704164.51 0.0290 0.0003

Mars -55922-01-11 23:01 J -18704076.64 -18704076.54 -18704076.44 0.1806 0.0981

Saturn -55922-01-12 08:52 J -18704076.25 -18704076.13 -18704076.00 0.0291 0.0116

Saturn -55922-04-10 21:35 J -18703987.68 -18703987.60 -18703987.52 0.0292 0.0227

Moon -55922-07-05 06:42 J -18703902.31 -18703902.22 -18703902.13 0.2676 0.1599

Earth -55922-07-05 06:42 J -18703902.31 -18703902.22 -18703902.13 0.2669 0.1593 *

Neptune -55921-10-23 02:37 J -18703426.44 -18703426.39 -18703426.30 0.0089 0.0082

Neptune -55920-01-19 05:45 J -18703338.34 -18703338.26 -18703338.14 0.0089 0.0074

Neptune -55920-04-17 09:06 J -18703250.23 -18703250.12 -18703249.99 0.0089 0.0066

Jupiter -55920-04-22 00:28 J -18703245.65 -18703245.48 -18703245.29 0.0493 0.0043

Neptune -55920-07-14 11:59 J -18703162.12 -18703162.00 -18703161.85 0.0089 0.0059

Neptune -55920-10-10 15:21 J -18703074.00 -18703073.86 -18703073.70 0.0089 0.0051

Neptune -55919-01-06 18:28 J -18702985.88 -18702985.73 -18702985.56 0.0089 0.0043

Earth -55919-01-07 13:11 J -18702985.00 -18702984.95 -18702984.90 0.2657 0.2488

Moon -55919-01-07 12:57 J -18702984.99 -18702984.96 -18702984.92 0.2664 0.2572 *

Neptune -55919-04-04 21:49 J -18702897.76 -18702897.59 -18702897.42 0.0089 0.0035

Neptune -55919-07-02 00:42 J -18702809.63 -18702809.47 -18702809.29 0.0089 0.0028

Neptune -55919-09-28 04:04 J -18702721.51 -18702721.33 -18702721.15 0.0089 0.0020

Neptune -55919-12-25 07:11 J -18702633.38 -18702633.20 -18702633.01 0.0089 0.0012

Neptune -55918-03-23 10:33 J -18702545.25 -18702545.06 -18702544.88 0.0089 0.0004

Neptune -55918-06-19 13:40 J -18702457.11 -18702456.93 -18702456.74 0.0089 0.0004

Neptune -55918-09-15 16:47 J -18702368.98 -18702368.80 -18702368.61 0.0089 0.0012

Neptune -55918-12-12 19:54 J -18702280.84 -18702280.67 -18702280.48 0.0089 0.0020

Neptune -55917-03-09 23:16 J -18702192.70 -18702192.53 -18702192.35 0.0089 0.0028

Neptune -55917-06-06 02:23 J -18702104.56 -18702104.40 -18702104.22 0.0089 0.0036

Neptune -55917-09-02 05:30 J -18702016.42 -18702016.27 -18702016.09 0.0089 0.0044

Neptune -55917-11-29 08:52 J -18701928.27 -18701928.13 -18701927.97 0.0089 0.0052

Neptune -55916-02-25 11:59 J -18701840.12 -18701840.00 -18701839.85 0.0089 0.0060

Neptune -55916-05-24 15:21 J -18701751.97 -18701751.86 -18701751.73 0.0089 0.0068

Moon -55916-07-14 04:04 J -18701701.40 -18701701.33 -18701701.25 0.2670 0.2020

Earth -55916-07-14 04:04 J -18701701.40 -18701701.33 -18701701.26 0.2677 0.2058 *

Neptune -55916-08-20 18:28 J -18701663.81 -18701663.73 -18701663.61 0.0089 0.0076

Neptune -55916-11-16 21:49 J -18701575.63 -18701575.59 -18701575.51 0.0089 0.0084

Jupiter -55915-12-24 12:28 J -18701173.02 -18701172.98 -18701172.93 0.0534 0.0495

Jupiter -55914-03-23 20:37 J -18701083.76 -18701083.64 -18701083.51 0.0533 0.0097

Mars -55913-06-03 07:40 J -18700646.30 -18700646.18 -18700646.06 0.1798 0.0182

Moon -55913-12-30 05:01 J -18700436.35 -18700436.29 -18700436.23 0.2659 0.2425

Earth -55913-12-30 06:13 J -18700436.32 -18700436.24 -18700436.17 0.2664 0.2267 *

Mars -55912-03-30 22:33 J -18700345.65 -18700345.56 -18700345.46 0.1736 0.1387

Saturn -55910-11-21 13:40 J -18699380.00 -18699379.93 -18699379.86 0.0273 0.0251

Saturn -55909-02-18 09:35 J -18699291.26 -18699291.10 -18699290.95 0.0272 0.0128

Saturn -55909-05-17 05:30 J -18699202.45 -18699202.27 -18699202.09 0.0272 0.0005

Earth -55909-07-07 01:25 J -18699151.55 -18699151.44 -18699151.33 0.2671 0.0615

Moon -55909-07-07 02:09 J -18699151.52 -18699151.41 -18699151.30 0.2675 0.0587 *

Saturn -55909-08-14 01:40 J -18699113.59 -18699113.43 -18699113.26 0.0271 0.0121

Saturn -55909-11-10 22:18 J -18699024.65 -18699024.57 -18699024.50 0.0270 0.0245

Jupiter -55908-02-07 23:16 J -18698935.70 -18698935.53 -18698935.37 0.0493 0.0199

Jupiter -55908-05-09 05:30 J -18698845.33 -18698845.27 -18698845.22 0.0493 0.0470

Pluto -55906-09-24 13:11 J -18697976.98 -18697976.95 -18697976.88 0.0061 0.0059

Pluto -55906-12-21 14:37 J -18697888.96 -18697888.89 -18697888.80 0.0061 0.0054

Pluto -55905-03-18 15:21 J -18697800.94 -18697800.86 -18697800.74 0.0061 0.0050

Pluto -55905-06-14 16:47 J -18697712.91 -18697712.80 -18697712.68 0.0061 0.0045

Pluto -55905-09-10 17:30 J -18697624.88 -18697624.77 -18697624.62 0.0062 0.0041

Pluto -55905-12-07 18:57 J -18697536.84 -18697536.71 -18697536.56 0.0062 0.0036

Pluto -55904-03-05 19:54 J -18697448.81 -18697448.67 -18697448.51 0.0062 0.0032

Pluto -55904-06-01 21:06 J -18697360.77 -18697360.62 -18697360.46 0.0062 0.0027

Pluto -55904-08-28 22:18 J -18697272.73 -18697272.57 -18697272.40 0.0062 0.0022

Mars -55904-10-24 16:18 J -18697215.94 -18697215.82 -18697215.71 0.1789 0.0610

Pluto -55904-11-24 23:16 J -18697184.69 -18697184.53 -18697184.35 0.0062 0.0018

Pluto -55903-02-21 00:28 J -18697096.64 -18697096.48 -18697096.30 0.0062 0.0013

Pluto -55903-05-20 01:40 J -18697008.60 -18697008.43 -18697008.25 0.0062 0.0008

Pluto -55903-08-16 02:52 J -18696920.55 -18696920.38 -18696920.20 0.0062 0.0004

Mars -55903-08-20 23:01 J -18696915.70 -18696915.54 -18696915.38 0.1745 0.0264

Pluto -55903-11-12 04:04 J -18696832.51 -18696832.33 -18696832.16 0.0062 0.0001

Jupiter -55902-01-09 23:45 J -18696773.63 -18696773.51 -18696773.38 0.0533 0.0061

Pluto -55902-02-08 05:01 J -18696744.46 -18696744.29 -18696744.11 0.0062 0.0007

Jupiter -55902-04-09 07:11 J -18696684.22 -18696684.20 -18696684.17 0.0533 0.0518

Pluto -55902-05-07 06:13 J -18696656.41 -18696656.24 -18696656.06 0.0062 0.0011

Pluto -55902-08-03 07:25 J -18696568.35 -18696568.19 -18696568.01 0.0062 0.0016

Pluto -55902-10-30 08:37 J -18696480.30 -18696480.14 -18696479.97 0.0063 0.0021

Pluto -55901-01-26 09:35 J -18696392.25 -18696392.10 -18696391.93 0.0063 0.0026

Pluto -55901-04-23 10:47 J -18696304.19 -18696304.05 -18696303.88 0.0063 0.0031

Pluto -55901-07-20 11:59 J -18696216.13 -18696216.00 -18696215.84 0.0063 0.0036

Pluto -55901-10-16 13:11 J -18696128.07 -18696127.95 -18696127.80 0.0063 0.0041

Pluto -55900-01-12 14:23 J -18696040.00 -18696039.90 -18696039.76 0.0063 0.0046

Pluto -55900-04-10 15:35 J -18695951.93 -18695951.85 -18695951.73 0.0063 0.0051

Pluto -55900-07-07 16:47 J -18695863.86 -18695863.80 -18695863.70 0.0063 0.0056

Pluto -55900-10-03 17:59 J -18695775.77 -18695775.75 -18695775.68 0.0063 0.0062

Moon -55899-01-02 08:37 J -18695685.28 -18695685.14 -18695684.99 0.2663 0.0716

Earth -55899-01-02 10:18 J -18695685.22 -18695685.07 -18695684.93 0.2661 0.0626 *

Jupiter -55897-11-26 21:35 J -18694625.72 -18694625.60 -18694625.47 0.0493 0.0359

Jupiter -55896-02-25 03:21 J -18694535.50 -18694535.36 -18694535.22 0.0493 0.0303

Earth -55896-07-09 20:09 J -18694400.78 -18694400.66 -18694400.55 0.2673 0.0357

Moon -55896-07-09 20:52 J -18694400.74 -18694400.63 -18694400.52 0.2673 0.0482 *

Mars -55894-03-17 00:42 J -18693785.54 -18693785.47 -18693785.39 0.1780 0.1402

Saturn -55894-09-08 21:06 J -18693609.68 -18693609.62 -18693609.55 0.0288 0.0250

Venus -55894-09-14 21:35 J -18693603.65 -18693603.60 -18693603.54 0.3784 0.3133

Saturn -55894-12-06 10:04 J -18693521.20 -18693521.08 -18693520.96 0.0289 0.0137

Mars -55893-01-10 23:59 J -18693485.64 -18693485.50 -18693485.36 0.1754 0.0838

Saturn -55893-03-03 22:47 J -18693432.68 -18693432.55 -18693432.41 0.0289 0.0026

Saturn -55893-05-31 11:30 J -18693344.15 -18693344.02 -18693343.89 0.0290 0.0087

Saturn -55893-08-27 23:59 J -18693255.59 -18693255.50 -18693255.40 0.0291 0.0199

Uranus -55892-11-11 05:45 J -18692815.30 -18692815.26 -18692815.19 0.0132 0.0119

Uranus -55891-02-07 09:06 J -18692727.20 -18692727.12 -18692727.03 0.0132 0.0101

Uranus -55891-05-06 11:59 J -18692639.09 -18692639.00 -18692638.89 0.0132 0.0084

Venus -55891-06-20 01:25 J -18692594.54 -18692594.44 -18692594.34 0.3592 0.2744

Uranus -55891-08-02 15:06 J -18692550.98 -18692550.87 -18692550.75 0.0132 0.0067

Jupiter -55891-10-29 03:35 J -18692463.47 -18692463.35 -18692463.23 0.0534 0.0204

Uranus -55891-10-29 18:13 J -18692462.86 -18692462.74 -18692462.61 0.0132 0.0049

Uranus -55890-01-25 21:21 J -18692374.74 -18692374.61 -18692374.48 0.0132 0.0031

Jupiter -55890-01-26 11:16 J -18692374.12 -18692374.03 -18692373.94 0.0533 0.0379

Uranus -55890-04-24 00:28 J -18692286.62 -18692286.48 -18692286.35 0.0132 0.0014

Uranus -55890-07-21 03:21 J -18692198.49 -18692198.36 -18692198.22 0.0132 0.0005

Uranus -55890-10-17 06:28 J -18692110.36 -18692110.23 -18692110.10 0.0132 0.0021

Uranus -55889-01-13 09:21 J -18692022.23 -18692022.11 -18692021.98 0.0132 0.0038

Uranus -55889-04-10 12:28 J -18691934.10 -18691933.98 -18691933.86 0.0132 0.0055

Moon -55889-07-02 16:33 J -18691850.85 -18691850.81 -18691850.77 0.2673 0.2487

Earth -55889-07-02 16:47 J -18691850.85 -18691850.80 -18691850.75 0.2667 0.2396 *

Uranus -55889-07-07 15:21 J -18691845.97 -18691845.86 -18691845.74 0.0133 0.0073

Uranus -55889-10-03 18:28 J -18691757.83 -18691757.73 -18691757.63 0.0133 0.0090

Uranus -55889-12-30 21:06 J -18691669.68 -18691669.62 -18691669.53 0.0133 0.0108

Uranus -55888-03-29 00:13 J -18691581.53 -18691581.49 -18691581.44 0.0133 0.0125

Venus -55888-03-30 13:25 J -18691580.03 -18691579.94 -18691579.84 0.3788 0.1098

Moon -55886-01-05 13:40 J -18690934.07 -18690933.93 -18690933.79 0.2663 0.1018

Earth -55886-01-05 14:37 J -18690934.02 -18690933.89 -18690933.75 0.2659 0.1068 *

Venus -55885-01-04 10:33 J -18690570.14 -18690570.06 -18690569.98 0.3587 0.3041

Jupiter -55885-12-14 00:13 J -18690225.66 -18690225.49 -18690225.31 0.0493 0.0124

Earth -55883-07-12 14:37 J -18689649.99 -18689649.89 -18689649.79 0.2675 0.1300

Moon -55883-07-12 15:06 J -18689649.97 -18689649.87 -18689649.77 0.2669 0.1274 *

Mars -55883-07-12 23:01 J -18689649.64 -18689649.54 -18689649.45 0.1806 0.1072

Venus -55883-10-14 05:16 J -18689556.37 -18689556.28 -18689556.18 0.3791 0.0943

Saturn -55880-07-07 10:18 J -18688559.22 -18688559.07 -18688558.93 0.0273 0.0156

Saturn -55880-10-04 06:13 J -18688470.42 -18688470.24 -18688470.06 0.0272 0.0033

Saturn -55879-01-01 02:09 J -18688381.57 -18688381.41 -18688381.23 0.0271 0.0093

Saturn -55879-03-30 22:33 J -18688292.66 -18688292.56 -18688292.45 0.0270 0.0217

Jupiter -55879-08-17 07:25 J -18688153.28 -18688153.19 -18688153.09 0.0534 0.0346

Jupiter -55879-11-14 15:35 J -18688063.97 -18688063.85 -18688063.74 0.0534 0.0244

Venus -55877-04-28 21:06 J -18687532.68 -18687532.62 -18687532.56 0.3794 0.2966

Earth -55876-07-05 11:45 J -18687100.11 -18687100.01 -18687099.92 0.2669 0.1409

Moon -55876-07-05 11:45 J -18687100.10 -18687100.01 -18687099.91 0.2676 0.1386 *

Mars -55874-12-03 07:40 J -18686219.30 -18686219.18 -18686219.06 0.1798 0.0281

Mars -55873-09-28 23:01 J -18685918.61 -18685918.54 -18685918.46 0.1736 0.1516

Jupiter -55873-10-01 22:33 J -18685915.73 -18685915.56 -18685915.37 0.0493 0.0041

Earth -55870-07-15 08:52 J -18684899.19 -18684899.13 -18684899.07 0.2677 0.2235

Moon -55870-07-15 08:52 J -18684899.18 -18684899.13 -18684899.07 0.2670 0.2279 *

Jupiter -55867-06-05 11:16 J -18683843.08 -18683843.03 -18683842.98 0.0534 0.0489

Jupiter -55867-09-02 19:25 J -18683753.81 -18683753.69 -18683753.56 0.0534 0.0106

Moon -55867-12-31 11:01 J -18683634.13 -18683634.04 -18683633.94 0.2661 0.1984

Earth -55867-12-31 12:28 J -18683634.08 -18683633.98 -18683633.89 0.2663 0.1972 *

Saturn -55864-04-24 11:01 J -18682789.15 -18682789.04 -18682788.94 0.0288 0.0179

Mars -55864-04-24 16:18 J -18682788.94 -18682788.82 -18682788.71 0.1789 0.0515 *

Saturn -55864-07-21 23:45 J -18682700.64 -18682700.51 -18682700.38 0.0289 0.0067

Saturn -55864-10-18 12:28 J -18682612.12 -18682611.98 -18682611.85 0.0290 0.0045

Saturn -55863-01-15 00:57 J -18682523.57 -18682523.46 -18682523.35 0.0291 0.0156

Mars -55863-02-18 23:45 J -18682488.67 -18682488.51 -18682488.36 0.1745 0.0406

Saturn -55863-04-13 13:25 J -18682434.99 -18682434.94 -18682434.89 0.0292 0.0267

Earth -55863-07-08 06:28 J -18682349.34 -18682349.23 -18682349.12 0.2671 0.0432

Moon -55863-07-08 07:11 J -18682349.32 -18682349.20 -18682349.09 0.2675 0.0367 *

Jupiter -55861-07-20 21:06 J -18681605.78 -18681605.62 -18681605.46 0.0493 0.0199

Jupiter -55861-10-19 03:06 J -18681515.42 -18681515.37 -18681515.31 0.0493 0.0469

Jupiter -55855-06-21 23:16 J -18679443.66 -18679443.53 -18679443.40 0.0534 0.0042

Mars -55855-09-15 00:57 J -18679358.54 -18679358.46 -18679358.38 0.1781 0.1296

Mars -55854-07-12 00:13 J -18679058.63 -18679058.49 -18679058.34 0.1753 0.0718

Moon -55853-01-03 14:52 J -18678883.02 -18678882.88 -18678882.73 0.2663 0.0508

Earth -55853-01-03 16:33 J -18678882.96 -18678882.81 -18678882.67 0.2661 0.0331 *

Saturn -55851-11-24 08:23 J -18677827.26 -18677827.15 -18677827.02 0.0273 0.0201

Saturn -55850-02-21 04:33 J -18677738.48 -18677738.31 -18677738.14 0.0272 0.0077

Saturn -55850-05-21 00:42 J -18677649.65 -18677649.47 -18677649.30 0.0271 0.0047

Uranus -55850-05-23 20:23 J -18677646.72 -18677646.65 -18677646.54 0.0146 0.0128

Earth -55850-07-11 00:57 J -18677598.57 -18677598.46 -18677598.35 0.2673 0.0537

Moon -55850-07-11 01:40 J -18677598.54 -18677598.43 -18677598.31 0.2673 0.0561 *

Saturn -55850-08-17 20:52 J -18677560.77 -18677560.63 -18677560.49 0.0271 0.0172

Uranus -55850-08-20 04:47 J -18677558.43 -18677558.30 -18677558.14 0.0146 0.0095

Uranus -55850-11-16 13:11 J -18677470.11 -18677469.95 -18677469.77 0.0146 0.0061

Uranus -55849-02-12 21:49 J -18677381.78 -18677381.59 -18677381.40 0.0146 0.0028

Jupiter -55849-05-08 19:54 J -18677295.79 -18677295.67 -18677295.55 0.0493 0.0355

Uranus -55849-05-11 06:13 J -18677293.43 -18677293.24 -18677293.05 0.0146 0.0006

Jupiter -55849-08-07 01:25 J -18677205.58 -18677205.44 -18677205.29 0.0493 0.0308

Uranus -55849-08-07 14:37 J -18677205.07 -18677204.89 -18677204.71 0.0146 0.0039

Uranus -55849-11-03 23:01 J -18677116.70 -18677116.54 -18677116.37 0.0146 0.0073

Uranus -55848-01-31 07:40 J -18677028.31 -18677028.18 -18677028.05 0.0146 0.0106

Uranus -55848-04-29 16:04 J -18676939.88 -18676939.83 -18676939.78 0.0146 0.0140

Mars -55843-01-10 23:01 J -18675222.63 -18675222.54 -18675222.45 0.1806 0.1171

Jupiter -55843-04-10 02:23 J -18675133.52 -18675133.40 -18675133.28 0.0534 0.0197

Moon -55843-07-03 21:35 J -18675048.67 -18675048.60 -18675048.54 0.2674 0.2179

Earth -55843-07-03 21:49 J -18675048.65 -18675048.59 -18675048.53 0.2668 0.2209 *

Jupiter -55843-07-08 10:04 J -18675044.17 -18675044.08 -18675043.99 0.0533 0.0386

Moon -55840-01-05 20:09 J -18674131.79 -18674131.66 -18674131.53 0.2664 0.1306

Earth -55840-01-05 21:06 J -18674131.75 -18674131.62 -18674131.49 0.2659 0.1375 *

Neptune -55839-11-03 18:42 J -18673464.74 -18673464.72 -18673464.67 0.0089 0.0086

Neptune -55838-01-30 20:09 J -18673376.70 -18673376.66 -18673376.58 0.0089 0.0080

Neptune -55838-04-28 21:49 J -18673288.65 -18673288.59 -18673288.50 0.0089 0.0074

Neptune -55838-07-25 23:16 J -18673200.60 -18673200.53 -18673200.42 0.0089 0.0068

Neptune -55838-10-22 00:57 J -18673112.55 -18673112.46 -18673112.35 0.0089 0.0062

Neptune -55837-01-18 02:23 J -18673024.49 -18673024.40 -18673024.28 0.0089 0.0056

Neptune -55837-04-15 04:04 J -18672936.44 -18672936.33 -18672936.21 0.0089 0.0050

Venus -55837-04-20 19:11 J -18672930.78 -18672930.70 -18672930.63 0.3785 0.2395

Jupiter -55837-05-25 23:45 J -18672895.68 -18672895.51 -18672895.34 0.0493 0.0143

Neptune -55837-07-12 05:30 J -18672848.38 -18672848.27 -18672848.14 0.0089 0.0044

Earth -55837-07-12 19:25 J -18672847.78 -18672847.69 -18672847.59 0.2675 0.1477

Moon -55837-07-12 19:54 J -18672847.76 -18672847.67 -18672847.58 0.2669 0.1574 *

Neptune -55837-10-08 07:11 J -18672760.32 -18672760.20 -18672760.07 0.0089 0.0038

Neptune -55836-01-04 08:37 J -18672672.26 -18672672.14 -18672672.00 0.0089 0.0032

Neptune -55836-04-02 10:18 J -18672584.20 -18672584.07 -18672583.94 0.0089 0.0026

Neptune -55836-06-29 11:45 J -18672496.14 -18672496.01 -18672495.87 0.0089 0.0020

Neptune -55836-09-25 13:11 J -18672408.08 -18672407.95 -18672407.81 0.0089 0.0014

Neptune -55836-12-22 14:52 J -18672320.02 -18672319.88 -18672319.75 0.0089 0.0008

Neptune -55835-03-20 16:18 J -18672231.96 -18672231.82 -18672231.68 0.0089 0.0002

Neptune -55835-06-16 17:45 J -18672143.90 -18672143.76 -18672143.62 0.0089 0.0004

Saturn -55835-09-11 12:42 J -18672057.06 -18672056.97 -18672056.87 0.0288 0.0212

Neptune -55835-09-12 19:11 J -18672055.83 -18672055.70 -18672055.56 0.0089 0.0010

Saturn -55835-12-09 01:40 J -18671968.56 -18671968.43 -18671968.30 0.0289 0.0100

Neptune -55835-12-09 20:37 J -18671967.77 -18671967.64 -18671967.50 0.0089 0.0016

Venus -55834-01-25 03:35 J -18671921.51 -18671921.35 -18671921.20 0.3591 0.0777

Saturn -55834-03-07 14:23 J -18671880.04 -18671879.90 -18671879.77 0.0290 0.0012

Neptune -55834-03-07 22:04 J -18671879.71 -18671879.58 -18671879.44 0.0089 0.0022

Mars -55834-06-03 07:40 J -18671792.30 -18671792.18 -18671792.06 0.1798 0.0369

Neptune -55834-06-03 23:30 J -18671791.64 -18671791.52 -18671791.38 0.0089 0.0027

Saturn -55834-06-04 03:06 J -18671791.50 -18671791.37 -18671791.25 0.0291 0.0124 *

Neptune -55834-08-31 01:11 J -18671703.58 -18671703.45 -18671703.33 0.0089 0.0033

Saturn -55834-08-31 15:21 J -18671702.93 -18671702.86 -18671702.77 0.0291 0.0236

Neptune -55834-11-27 02:23 J -18671615.52 -18671615.40 -18671615.27 0.0089 0.0039

Neptune -55833-02-23 03:49 J -18671527.45 -18671527.34 -18671527.21 0.0089 0.0045

Mars -55833-03-29 23:45 J -18671491.55 -18671491.51 -18671491.46 0.1736 0.1663

Neptune -55833-05-21 05:16 J -18671439.38 -18671439.28 -18671439.16 0.0089 0.0051

Neptune -55833-08-17 06:57 J -18671351.32 -18671351.21 -18671351.11 0.0089 0.0056

Neptune -55833-11-13 08:09 J -18671263.25 -18671263.16 -18671263.05 0.0089 0.0062

Neptune -55832-02-09 09:35 J -18671175.18 -18671175.10 -18671175.00 0.0089 0.0068

Neptune -55832-05-08 11:16 J -18671087.11 -18671087.03 -18671086.96 0.0089 0.0073

Neptune -55832-08-04 12:28 J -18670999.03 -18670998.98 -18670998.91 0.0089 0.0079

Neptune -55832-10-31 13:54 J -18670910.95 -18670910.92 -18670910.87 0.0089 0.0085

Venus -55832-11-04 11:01 J -18670907.14 -18670907.04 -18670906.94 0.3789 0.0367

Jupiter -55831-01-27 05:59 J -18670823.35 -18670823.25 -18670823.15 0.0534 0.0344

Jupiter -55831-04-26 13:54 J -18670734.03 -18670733.92 -18670733.80 0.0533 0.0246

Earth -55830-07-06 16:33 J -18670297.91 -18670297.81 -18670297.70 0.2670 0.1223

Moon -55830-07-06 17:01 J -18670297.89 -18670297.79 -18670297.69 0.2676 0.1239 *

Venus -55826-05-21 02:37 J -18668883.47 -18668883.39 -18668883.30 0.3792 0.1683

Jupiter -55825-03-13 21:06 J -18668585.80 -18668585.62 -18668585.44 0.0492 0.0034

Mars -55825-10-23 16:18 J -18668361.94 -18668361.82 -18668361.70 0.1789 0.0416

Moon -55824-07-15 13:40 J -18668096.98 -18668096.93 -18668096.88 0.2671 0.2327

Earth -55824-07-15 13:54 J -18668096.97 -18668096.92 -18668096.88 0.2677 0.2409 *

Mars -55824-08-20 00:13 J -18668061.64 -18668061.49 -18668061.34 0.1744 0.0543

Saturn -55821-04-12 08:52 J -18667095.22 -18667095.13 -18667095.03 0.0274 0.0231

Saturn -55821-07-10 04:47 J -18667006.46 -18667006.30 -18667006.13 0.0273 0.0108

Saturn -55821-10-07 00:57 J -18666917.64 -18666917.46 -18666917.28 0.0272 0.0017

Venus -55821-12-03 18:42 J -18666859.74 -18666859.72 -18666859.71 0.3795 0.3711

Moon -55821-12-31 17:16 J -18666831.89 -18666831.78 -18666831.68 0.2662 0.1885

Earth -55821-12-31 18:28 J -18666831.84 -18666831.73 -18666831.61 0.2663 0.1674 *

Saturn -55820-01-03 21:06 J -18666828.77 -18666828.62 -18666828.46 0.0271 0.0141

Saturn -55820-04-02 17:30 J -18666739.79 -18666739.77 -18666739.73 0.0270 0.0266

Jupiter -55820-11-15 09:49 J -18666513.14 -18666513.09 -18666513.03 0.0535 0.0487

Jupiter -55819-02-12 18:13 J -18666423.87 -18666423.74 -18666423.62 0.0534 0.0108

Earth -55817-07-08 11:16 J -18665547.14 -18665547.03 -18665546.91 0.2672 0.0263

Moon -55817-07-08 11:59 J -18665547.11 -18665547.00 -18665546.88 0.2675 0.0199 *

Mars -55815-03-16 00:57 J -18664931.55 -18664931.46 -18664931.37 0.1781 0.1198

Mars -55814-01-10 00:42 J -18664631.61 -18664631.47 -18664631.32 0.1753 0.0586

Pluto -55814-05-26 20:23 J -18664494.68 -18664494.65 -18664494.61 0.0083 0.0080

Pluto -55814-08-22 22:04 J -18664406.65 -18664406.58 -18664406.50 0.0083 0.0070

Pluto -55814-11-18 23:30 J -18664318.61 -18664318.52 -18664318.41 0.0083 0.0061

Jupiter -55814-12-31 19:25 J -18664275.85 -18664275.69 -18664275.52 0.0492 0.0192

Pluto -55813-02-15 01:11 J -18664230.55 -18664230.45 -18664230.33 0.0082 0.0051

Jupiter -55813-03-31 01:25 J -18664185.48 -18664185.44 -18664185.39 0.0493 0.0475

Pluto -55813-05-13 02:52 J -18664142.50 -18664142.38 -18664142.25 0.0082 0.0042

Pluto -55813-08-09 04:33 J -18664054.44 -18664054.31 -18664054.17 0.0082 0.0032

Pluto -55813-11-05 05:59 J -18663966.38 -18663966.25 -18663966.10 0.0082 0.0023

Pluto -55812-02-01 07:40 J -18663878.32 -18663878.18 -18663878.03 0.0082 0.0014

Pluto -55812-04-30 09:21 J -18663790.26 -18663790.11 -18663789.97 0.0082 0.0005

Pluto -55812-07-27 10:47 J -18663702.19 -18663702.05 -18663701.90 0.0082 0.0005

Pluto -55812-10-23 12:13 J -18663614.13 -18663613.99 -18663613.84 0.0082 0.0014

Pluto -55811-01-19 13:40 J -18663526.06 -18663525.93 -18663525.78 0.0081 0.0023

Pluto -55811-04-17 15:06 J -18663437.99 -18663437.87 -18663437.73 0.0081 0.0031

Pluto -55811-07-14 16:33 J -18663349.92 -18663349.81 -18663349.67 0.0081 0.0040

Pluto -55811-10-10 18:13 J -18663261.85 -18663261.74 -18663261.62 0.0081 0.0048

Pluto -55810-01-06 19:25 J -18663173.78 -18663173.69 -18663173.57 0.0081 0.0057

Pluto -55810-04-04 21:06 J -18663085.70 -18663085.62 -18663085.53 0.0081 0.0065

Pluto -55810-07-01 22:18 J -18662997.61 -18662997.57 -18662997.50 0.0081 0.0074

Uranus -55808-12-01 12:57 J -18662114.02 -18662113.96 -18662113.89 0.0132 0.0115

Jupiter -55808-12-01 22:18 J -18662113.70 -18662113.57 -18662113.44 0.0534 0.0035

Moon -55807-01-03 21:21 J -18662080.76 -18662080.61 -18662080.46 0.2663 0.0084

Earth -55807-01-03 22:47 J -18662080.70 -18662080.55 -18662080.40 0.2661 0.0021 *

Uranus -55807-02-27 16:04 J -18662025.91 -18662025.83 -18662025.73 0.0132 0.0097

Uranus -55807-05-26 19:11 J -18661937.80 -18661937.70 -18661937.59 0.0132 0.0080

Uranus -55807-08-22 22:18 J -18661849.69 -18661849.57 -18661849.45 0.0132 0.0062

Uranus -55807-11-19 01:11 J -18661761.57 -18661761.45 -18661761.31 0.0132 0.0046

Uranus -55806-02-15 04:18 J -18661673.45 -18661673.32 -18661673.18 0.0132 0.0028

Uranus -55806-05-14 07:25 J -18661585.32 -18661585.19 -18661585.05 0.0132 0.0010

Uranus -55806-08-10 10:33 J -18661497.20 -18661497.06 -18661496.93 0.0132 0.0008

Uranus -55806-11-06 13:25 J -18661409.07 -18661408.94 -18661408.81 0.0132 0.0025

Saturn -55805-01-29 13:25 J -18661325.00 -18661324.94 -18661324.88 0.0287 0.0254

Uranus -55805-02-02 16:33 J -18661320.94 -18661320.81 -18661320.68 0.0132 0.0042

Saturn -55805-04-27 02:23 J -18661236.52 -18661236.40 -18661236.28 0.0288 0.0143

Uranus -55805-04-30 19:25 J -18661232.80 -18661232.69 -18661232.57 0.0132 0.0059

Mars -55805-06-01 01:40 J -18661201.47 -18661201.43 -18661201.39 0.1762 0.1699

Saturn -55805-07-24 15:06 J -18661148.01 -18661147.87 -18661147.74 0.0289 0.0032

Uranus -55805-07-27 22:18 J -18661144.67 -18661144.57 -18661144.45 0.0133 0.0077

Saturn -55805-10-21 03:35 J -18661059.48 -18661059.35 -18661059.22 0.0290 0.0080

Uranus -55805-10-24 01:25 J -18661056.53 -18661056.44 -18661056.34 0.0133 0.0094

Saturn -55804-01-17 16:18 J -18660970.92 -18660970.82 -18660970.72 0.0291 0.0191

Uranus -55804-01-20 04:33 J -18660968.38 -18660968.31 -18660968.24 0.0133 0.0111

Uranus -55804-04-18 07:25 J -18660880.22 -18660880.19 -18660880.16 0.0133 0.0128

Earth -55804-07-11 05:59 J -18660796.36 -18660796.25 -18660796.14 0.2674 0.0712

Moon -55804-07-11 06:42 J -18660796.33 -18660796.22 -18660796.12 0.2671 0.0797 *

Mars -55804-07-11 23:01 J -18660795.62 -18660795.54 -18660795.45 0.1806 0.1268

Jupiter -55802-10-19 17:59 J -18659965.87 -18659965.75 -18659965.62 0.0492 0.0350

Jupiter -55801-01-17 23:45 J -18659875.65 -18659875.51 -18659875.37 0.0493 0.0311

Moon -55797-07-04 02:37 J -18658246.46 -18658246.39 -18658246.32 0.2675 0.2115

Earth -55797-07-04 02:52 J -18658246.46 -18658246.38 -18658246.31 0.2668 0.2017 *

Jupiter -55796-09-20 01:54 J -18657803.54 -18657803.42 -18657803.30 0.0534 0.0177

Jupiter -55796-12-18 09:35 J -18657714.18 -18657714.10 -18657714.02 0.0533 0.0406

Mars -55795-12-02 07:40 J -18657365.29 -18657365.18 -18657365.06 0.1798 0.0471

Moon -55794-01-07 02:37 J -18657329.50 -18657329.39 -18657329.27 0.2665 0.1604

Earth -55794-01-07 03:21 J -18657329.48 -18657329.36 -18657329.24 0.2658 0.1681 *

Saturn -55792-11-27 02:23 J -18656274.54 -18656274.40 -18656274.25 0.0273 0.0156

Saturn -55791-02-23 22:33 J -18656185.74 -18656185.56 -18656185.38 0.0272 0.0032

Saturn -55791-05-23 18:42 J -18656096.89 -18656096.72 -18656096.55 0.0271 0.0093

Earth -55791-07-14 00:28 J -18656045.57 -18656045.48 -18656045.39 0.2676 0.1658

Moon -55791-07-14 00:42 J -18656045.55 -18656045.47 -18656045.38 0.2670 0.1636 *

Saturn -55791-08-20 15:06 J -18656007.97 -18656007.87 -18656007.76 0.0270 0.0217

Jupiter -55790-11-05 22:18 J -18655565.75 -18655565.57 -18655565.40 0.0493 0.0151

Venus -55786-05-13 00:42 J -18654281.49 -18654281.47 -18654281.45 0.3783 0.3694

Mars -55785-04-23 16:18 J -18653934.94 -18653934.82 -18653934.70 0.1789 0.0323

Mars -55784-02-18 00:42 J -18653634.62 -18653634.47 -18653634.33 0.1745 0.0668

Earth -55784-07-06 21:35 J -18653495.70 -18653495.60 -18653495.49 0.2670 0.1036

Moon -55784-07-06 22:04 J -18653495.69 -18653495.58 -18653495.48 0.2675 0.0943 *

Jupiter -55784-07-09 05:16 J -18653493.39 -18653493.28 -18653493.18 0.0534 0.0332

Jupiter -55784-10-06 13:11 J -18653404.07 -18653403.95 -18653403.84 0.0533 0.0256

Venus -55781-11-25 16:33 J -18652257.90 -18652257.81 -18652257.72 0.3786 0.1649

Moon -55778-07-16 18:28 J -18651294.75 -18651294.73 -18651294.71 0.2671 0.2608

Earth -55778-07-16 18:42 J -18651294.74 -18651294.72 -18651294.69 0.2678 0.2584 *

Jupiter -55778-08-24 20:37 J -18651255.82 -18651255.64 -18651255.46 0.0493 0.0011

Venus -55778-09-01 05:45 J -18651248.41 -18651248.26 -18651248.11 0.3590 0.1205

Mars -55776-09-14 00:57 J -18650504.55 -18650504.46 -18650504.36 0.1781 0.1107

Saturn -55776-09-14 03:49 J -18650504.44 -18650504.34 -18650504.23 0.0288 0.0178 *

Saturn -55776-12-11 16:47 J -18650415.93 -18650415.80 -18650415.67 0.0289 0.0066

Saturn -55775-03-10 05:30 J -18650327.40 -18650327.27 -18650327.14 0.0290 0.0046

Saturn -55775-06-06 17:59 J -18650238.86 -18650238.75 -18650238.63 0.0291 0.0157

Venus -55775-06-11 08:23 J -18650234.25 -18650234.15 -18650234.05 0.3789 0.0379

Mars -55775-07-11 01:25 J -18650204.59 -18650204.44 -18650204.28 0.1753 0.0440

Saturn -55775-09-03 06:28 J -18650150.28 -18650150.23 -18650150.18 0.0292 0.0268

Moon -55774-01-01 23:16 J -18650029.65 -18650029.53 -18650029.40 0.2662 0.1397

Earth -55774-01-02 00:57 J -18650029.59 -18650029.46 -18650029.34 0.2663 0.1375 *

Jupiter -55772-04-27 08:52 J -18649183.19 -18649183.13 -18649183.08 0.0534 0.0479

Jupiter -55772-07-25 17:01 J -18649093.92 -18649093.79 -18649093.67 0.0534 0.0114

Earth -55771-07-09 16:18 J -18648744.93 -18648744.82 -18648744.71 0.2672 0.0065

Moon -55771-07-09 17:01 J -18648744.90 -18648744.79 -18648744.68 0.2675 0.0021 *

Venus -55770-12-26 00:13 J -18648210.57 -18648210.49 -18648210.41 0.3793 0.2417

Jupiter -55766-06-12 18:13 J -18646945.91 -18646945.74 -18646945.57 0.0492 0.0181

Uranus -55766-06-13 02:23 J -18646945.48 -18646945.40 -18646945.28 0.0146 0.0125

Uranus -55766-09-09 10:47 J -18646857.18 -18646857.05 -18646856.89 0.0146 0.0092

Jupiter -55766-09-10 23:59 J -18646855.52 -18646855.50 -18646855.46 0.0493 0.0485

Mars -55766-12-01 02:09 J -18646774.48 -18646774.41 -18646774.34 0.1762 0.1569

Uranus -55766-12-06 19:11 J -18646768.86 -18646768.70 -18646768.52 0.0146 0.0059

Uranus -55765-03-04 03:49 J -18646680.53 -18646680.34 -18646680.15 0.0146 0.0025

Uranus -55765-05-31 12:13 J -18646592.18 -18646591.99 -18646591.80 0.0146 0.0009

Uranus -55765-08-27 20:37 J -18646503.82 -18646503.64 -18646503.46 0.0146 0.0042

Uranus -55765-11-24 04:47 J -18646415.45 -18646415.30 -18646415.12 0.0146 0.0076

Mars -55764-01-09 23:01 J -18646368.62 -18646368.54 -18646368.46 0.1807 0.1358

Uranus -55764-02-20 13:25 J -18646327.06 -18646326.94 -18646326.81 0.0146 0.0109

Uranus -55764-05-19 21:49 J -18646238.61 -18646238.59 -18646238.54 0.0146 0.0143

Saturn -55762-04-16 02:23 J -18645542.52 -18645542.40 -18645542.27 0.0274 0.0190

Saturn -55762-07-13 22:33 J -18645453.73 -18645453.56 -18645453.39 0.0273 0.0065

Saturn -55762-10-10 18:42 J -18645364.90 -18645364.72 -18645364.54 0.0272 0.0059

Moon -55761-01-05 03:49 J -18645278.49 -18645278.34 -18645278.19 0.2663 0.0107

Earth -55761-01-05 05:01 J -18645278.44 -18645278.29 -18645278.14 0.2660 0.0286 *

Saturn -55761-01-07 15:06 J -18645276.00 -18645275.87 -18645275.74 0.0271 0.0184

Jupiter -55760-05-13 20:52 J -18644783.76 -18644783.63 -18644783.50 0.0534 0.0031

Earth -55758-07-12 10:47 J -18643994.15 -18643994.05 -18643993.94 0.2674 0.0896

Moon -55758-07-12 11:30 J -18643994.12 -18643994.02 -18643993.91 0.2670 0.0950 *

Neptune -55756-04-22 22:47 J -18643343.59 -18643343.55 -18643343.50 0.0089 0.0085

Neptune -55756-07-20 01:40 J -18643255.50 -18643255.43 -18643255.33 0.0089 0.0078

Neptune -55756-10-16 05:01 J -18643167.40 -18643167.29 -18643167.18 0.0089 0.0070

Neptune -55755-01-12 07:40 J -18643079.29 -18643079.18 -18643079.03 0.0089 0.0063

Neptune -55755-04-10 11:01 J -18642991.17 -18642991.04 -18642990.88 0.0089 0.0055

Mars -55755-06-02 07:54 J -18642938.29 -18642938.17 -18642938.06 0.1798 0.0572

Neptune -55755-07-07 14:23 J -18642903.05 -18642902.90 -18642902.74 0.0089 0.0047

Neptune -55755-10-03 17:30 J -18642814.93 -18642814.77 -18642814.60 0.0089 0.0039

Neptune -55755-12-30 20:23 J -18642726.81 -18642726.65 -18642726.46 0.0089 0.0032

Neptune -55754-03-28 23:45 J -18642638.68 -18642638.51 -18642638.33 0.0089 0.0024

Jupiter -55754-03-31 17:01 J -18642635.92 -18642635.79 -18642635.66 0.0492 0.0338

Neptune -55754-06-25 03:06 J -18642550.55 -18642550.37 -18642550.19 0.0089 0.0016

Jupiter -55754-06-29 22:33 J -18642545.70 -18642545.56 -18642545.43 0.0493 0.0322

Neptune -55754-09-21 06:13 J -18642462.42 -18642462.24 -18642462.06 0.0089 0.0008

Neptune -55754-12-18 09:21 J -18642374.29 -18642374.11 -18642373.92 0.0089 0.0002

Neptune -55753-03-15 12:42 J -18642286.16 -18642285.97 -18642285.79 0.0089 0.0008

Neptune -55753-06-11 15:49 J -18642198.02 -18642197.84 -18642197.66 0.0089 0.0016

Neptune -55753-09-07 18:57 J -18642109.88 -18642109.71 -18642109.53 0.0089 0.0024

Neptune -55753-12-04 22:04 J -18642021.74 -18642021.58 -18642021.40 0.0089 0.0032

Neptune -55752-03-03 01:11 J -18641933.60 -18641933.45 -18641933.27 0.0089 0.0040

Neptune -55752-05-30 04:33 J -18641845.46 -18641845.31 -18641845.14 0.0089 0.0048

Neptune -55752-08-26 07:40 J -18641757.31 -18641757.18 -18641757.02 0.0089 0.0056

Neptune -55752-11-22 10:47 J -18641669.16 -18641669.05 -18641668.90 0.0089 0.0064

Neptune -55751-02-18 14:09 J -18641581.00 -18641580.91 -18641580.78 0.0089 0.0072

Neptune -55751-05-17 17:30 J -18641492.83 -18641492.77 -18641492.67 0.0089 0.0080

Moon -55751-07-05 07:40 J -18641444.27 -18641444.18 -18641444.10 0.2675 0.1788

Earth -55751-07-05 07:54 J -18641444.26 -18641444.17 -18641444.09 0.2668 0.1831 *

Neptune -55751-08-13 20:37 J -18641404.64 -18641404.64 -18641404.59 0.0089 0.0088

Moon -55748-01-07 09:06 J -18640527.22 -18640527.12 -18640527.03 0.2665 0.1994

Earth -55748-01-07 09:35 J -18640527.19 -18640527.10 -18640527.00 0.2658 0.1992 *

Jupiter -55748-03-02 00:57 J -18640473.58 -18640473.46 -18640473.33 0.0534 0.0166

Jupiter -55748-05-30 08:37 J -18640384.21 -18640384.14 -18640384.06 0.0533 0.0418

Saturn -55746-02-01 04:33 J -18639772.40 -18639772.31 -18639772.22 0.0287 0.0221

Saturn -55746-04-30 17:16 J -18639683.90 -18639683.78 -18639683.65 0.0288 0.0111

Saturn -55746-07-28 05:59 J -18639595.38 -18639595.25 -18639595.11 0.0289 0.0001

Mars -55746-10-23 16:33 J -18639507.93 -18639507.81 -18639507.70 0.1789 0.0234

Saturn -55746-10-24 18:28 J -18639506.85 -18639506.73 -18639506.60 0.0290 0.0112

Saturn -55745-01-21 06:57 J -18639418.29 -18639418.21 -18639418.12 0.0291 0.0223

Earth -55745-07-14 05:16 J -18639243.36 -18639243.28 -18639243.20 0.2676 0.1831

Moon -55745-07-14 05:30 J -18639243.35 -18639243.27 -18639243.19 0.2670 0.1885 *

Mars -55745-08-19 01:11 J -18639207.59 -18639207.45 -18639207.31 0.1744 0.0807

Jupiter -55742-04-17 20:37 J -18638235.81 -18638235.64 -18638235.46 0.0493 0.0160

Earth -55738-07-08 02:37 J -18636693.50 -18636693.39 -18636693.28 0.2670 0.0847

Moon -55738-07-08 03:06 J -18636693.48 -18636693.37 -18636693.26 0.2676 0.0867 *

Jupiter -55737-12-19 04:47 J -18636163.41 -18636163.30 -18636163.20 0.0534 0.0311

Mars -55736-03-15 01:11 J -18636077.55 -18636077.45 -18636077.35 0.1781 0.1006

Jupiter -55736-03-18 12:42 J -18636074.08 -18636073.97 -18636073.86 0.0533 0.0277

Mars -55735-01-09 01:54 J -18635777.58 -18635777.42 -18635777.27 0.1753 0.0323

Saturn -55733-09-01 23:30 J -18634810.59 -18634810.52 -18634810.43 0.0274 0.0241

Saturn -55733-11-29 19:40 J -18634721.84 -18634721.68 -18634721.52 0.0273 0.0117

Saturn -55732-02-26 15:49 J -18634633.02 -18634632.84 -18634632.66 0.0272 0.0009

Saturn -55732-05-26 11:59 J -18634544.15 -18634544.00 -18634543.84 0.0271 0.0133

Moon -55732-07-16 23:16 J -18634492.53 -18634492.53 -18634492.52 0.2671 0.2658

Saturn -55732-08-23 08:23 J -18634455.19 -18634455.15 -18634455.09 0.0270 0.0258

Jupiter -55730-02-03 19:25 J -18633925.87 -18633925.69 -18633925.51 0.0493 0.0007

Venus -55730-12-17 22:04 J -18633608.64 -18633608.58 -18633608.51 0.3784 0.2951

Moon -55728-01-02 05:30 J -18633227.40 -18633227.27 -18633227.14 0.2661 0.1291

Earth -55728-01-02 06:57 J -18633227.34 -18633227.21 -18633227.07 0.2662 0.1075 *

Venus -55727-09-21 22:47 J -18632599.66 -18632599.55 -18632599.44 0.3593 0.2605

Mars -55726-06-01 02:37 J -18632347.48 -18632347.39 -18632347.30 0.1762 0.1433

Earth -55725-07-09 21:21 J -18631942.73 -18631942.61 -18631942.50 0.2672 0.0154

Moon -55725-07-09 22:04 J -18631942.70 -18631942.58 -18631942.47 0.2673 0.0245 *

Mars -55725-07-10 23:16 J -18631941.60 -18631941.53 -18631941.47 0.1807 0.1460

Jupiter -55725-10-07 07:54 J -18631853.23 -18631853.17 -18631853.11 0.0534 0.0465

Jupiter -55724-01-04 16:04 J -18631763.95 -18631763.83 -18631763.70 0.0533 0.0128

Venus -55724-07-02 13:54 J -18631585.01 -18631584.92 -18631584.82 0.3787 0.0926

Uranus -55724-09-24 16:47 J -18631500.82 -18631500.80 -18631500.77 0.0132 0.0129

Uranus -55724-12-21 19:40 J -18631412.74 -18631412.68 -18631412.60 0.0132 0.0113

Uranus -55723-03-19 23:01 J -18631324.63 -18631324.54 -18631324.44 0.0132 0.0094

Uranus -55723-06-16 01:54 J -18631236.52 -18631236.42 -18631236.30 0.0132 0.0077

Uranus -55723-09-12 05:16 J -18631148.40 -18631148.28 -18631148.16 0.0132 0.0059

Uranus -55723-12-09 08:09 J -18631060.28 -18631060.16 -18631060.03 0.0132 0.0042

Uranus -55722-03-07 11:16 J -18630972.16 -18630972.03 -18630971.90 0.0132 0.0024

Uranus -55722-06-03 14:23 J -18630884.03 -18630883.90 -18630883.77 0.0132 0.0007

Uranus -55722-08-30 17:16 J -18630795.91 -18630795.78 -18630795.64 0.0132 0.0012

Uranus -55722-11-26 20:23 J -18630707.78 -18630707.65 -18630707.52 0.0132 0.0028

Uranus -55721-02-22 23:16 J -18630619.65 -18630619.53 -18630619.40 0.0133 0.0046

Venus -55721-04-07 07:54 J -18630575.24 -18630575.17 -18630575.10 0.3588 0.3187

Uranus -55721-05-21 02:23 J -18630531.52 -18630531.40 -18630531.28 0.0133 0.0062

Uranus -55721-08-17 05:16 J -18630443.38 -18630443.28 -18630443.17 0.0133 0.0080

Uranus -55721-11-13 08:23 J -18630355.24 -18630355.15 -18630355.06 0.0133 0.0097

Uranus -55720-02-09 11:01 J -18630267.09 -18630267.04 -18630266.96 0.0133 0.0115

Uranus -55720-05-08 14:09 J -18630178.92 -18630178.91 -18630178.89 0.0133 0.0132

Jupiter -55719-11-22 17:59 J -18629615.92 -18629615.75 -18629615.58 0.0493 0.0159

Venus -55718-01-16 05:45 J -18629561.35 -18629561.26 -18629561.16 0.3790 0.1136

Moon -55718-07-03 17:16 J -18629392.79 -18629392.78 -18629392.77 0.2672 0.2658

Earth -55718-07-03 17:45 J -18629392.77 -18629392.76 -18629392.74 0.2667 0.2635 *

Saturn -55717-06-20 05:45 J -18629040.31 -18629040.26 -18629040.20 0.0287 0.0258

Saturn -55717-09-16 18:42 J -18628951.84 -18628951.72 -18628951.60 0.0288 0.0147

Saturn -55717-12-14 07:25 J -18628863.32 -18628863.19 -18628863.05 0.0289 0.0036

Saturn -55716-03-12 20:09 J -18628774.79 -18628774.66 -18628774.53 0.0290 0.0075

Saturn -55716-06-09 08:37 J -18628686.24 -18628686.14 -18628686.04 0.0291 0.0186

Mars -55716-12-01 07:40 J -18628511.29 -18628511.18 -18628511.07 0.1798 0.0658

Moon -55715-01-05 10:18 J -18628476.22 -18628476.07 -18628475.93 0.2664 0.0600

Earth -55715-01-05 11:16 J -18628476.17 -18628476.03 -18628475.88 0.2660 0.0598 *

Venus -55713-07-31 21:35 J -18627537.65 -18627537.60 -18627537.54 0.3793 0.3173

Jupiter -55713-10-23 19:54 J -18627453.80 -18627453.67 -18627453.54 0.0534 0.0019

Earth -55712-07-12 15:49 J -18627191.95 -18627191.84 -18627191.74 0.2674 0.1069

Moon -55712-07-12 16:33 J -18627191.92 -18627191.81 -18627191.71 0.2670 0.1121 *

Jupiter -55707-09-10 15:49 J -18625305.97 -18625305.84 -18625305.70 0.0492 0.0325

Jupiter -55707-12-09 21:21 J -18625215.74 -18625215.61 -18625215.48 0.0493 0.0335

Mars -55706-04-23 16:33 J -18625080.93 -18625080.81 -18625080.69 0.1790 0.0140

Mars -55705-02-18 01:54 J -18624780.55 -18624780.42 -18624780.29 0.1744 0.0943

Earth -55705-07-05 12:42 J -18624642.06 -18624641.97 -18624641.88 0.2669 0.1642

Moon -55705-07-05 12:42 J -18624642.05 -18624641.97 -18624641.88 0.2675 0.1698 *

Saturn -55703-04-18 19:11 J -18623989.84 -18623989.70 -18623989.54 0.0274 0.0153

Saturn -55703-07-16 15:21 J -18623901.03 -18623900.86 -18623900.68 0.0273 0.0028

Saturn -55703-10-13 11:30 J -18623812.18 -18623812.02 -18623811.84 0.0272 0.0098

Moon -55702-01-08 15:35 J -18623724.93 -18623724.85 -18623724.77 0.2664 0.2207

Earth -55702-01-08 16:04 J -18623724.90 -18623724.83 -18623724.76 0.2658 0.2304 *

Saturn -55702-01-10 07:54 J -18623723.26 -18623723.17 -18623723.06 0.0271 0.0224

Jupiter -55701-08-11 23:45 J -18623143.63 -18623143.51 -18623143.38 0.0535 0.0160

Jupiter -55701-11-09 07:25 J -18623054.26 -18623054.19 -18623054.11 0.0534 0.0426

Earth -55699-07-15 10:18 J -18622441.15 -18622441.07 -18622441.00 0.2676 0.2008

Moon -55699-07-15 10:18 J -18622441.14 -18622441.07 -18622441.00 0.2670 0.1992 *

Mars -55697-09-13 01:11 J -18621650.55 -18621650.45 -18621650.35 0.1781 0.0904

Mars -55696-07-10 02:23 J -18621350.56 -18621350.40 -18621350.24 0.1753 0.0182

Moon -55696-12-31 08:09 J -18621176.21 -18621176.16 -18621176.12 0.2661 0.2501

Earth -55696-12-31 09:21 J -18621176.17 -18621176.11 -18621176.05 0.2664 0.2398 *

Jupiter -55695-06-29 14:52 J -18620995.92 -18620995.88 -18620995.85 0.0492 0.0479

Jupiter -55695-09-27 19:40 J -18620905.85 -18620905.68 -18620905.51 0.0492 0.0174

Earth -55692-07-08 07:25 J -18619891.30 -18619891.19 -18619891.07 0.2671 0.0674

Moon -55692-07-08 08:09 J -18619891.27 -18619891.16 -18619891.05 0.2676 0.0555 *

Jupiter -55689-05-31 03:49 J -18618833.45 -18618833.34 -18618833.23 0.0535 0.0300

Jupiter -55689-08-28 11:45 J -18618744.11 -18618744.01 -18618743.90 0.0534 0.0290

Mars -55687-02-03 09:49 J -18618220.13 -18618220.09 -18618220.06 0.1772 0.1683

Saturn -55687-02-03 19:25 J -18618219.79 -18618219.69 -18618219.58 0.0287 0.0190

Saturn -55687-05-03 08:09 J -18618131.29 -18618131.16 -18618131.03 0.0288 0.0079

Saturn -55687-07-30 20:52 J -18618042.76 -18618042.63 -18618042.50 0.0289 0.0032

Saturn -55687-10-27 09:21 J -18617954.22 -18617954.11 -18617953.99 0.0290 0.0143

Mars -55687-11-30 03:06 J -18617920.47 -18617920.37 -18617920.27 0.1762 0.1303

Saturn -55686-01-23 21:49 J -18617865.65 -18617865.59 -18617865.52 0.0291 0.0253

Mars -55685-01-09 23:16 J -18617514.59 -18617514.53 -18617514.48 0.1807 0.1553

Jupiter -55683-07-16 18:13 J -18616595.92 -18616595.74 -18616595.56 0.0492 0.0016

Moon -55682-01-03 11:45 J -18616425.15 -18616425.01 -18616424.87 0.2662 0.0821

Earth -55682-01-03 13:11 J -18616425.09 -18616424.95 -18616424.81 0.2662 0.0781 *

Uranus -55682-07-03 08:52 J -18616244.23 -18616244.13 -18616244.02 0.0146 0.0121

Uranus -55682-09-29 17:16 J -18616155.93 -18616155.78 -18616155.63 0.0146 0.0088

Uranus -55682-12-27 01:40 J -18616067.61 -18616067.43 -18616067.26 0.0146 0.0055

Uranus -55681-03-24 10:04 J -18615979.27 -18615979.08 -18615978.90 0.0146 0.0022

Uranus -55681-06-20 18:13 J -18615890.92 -18615890.74 -18615890.55 0.0146 0.0013

Uranus -55681-09-17 02:37 J -18615802.57 -18615802.39 -18615802.20 0.0146 0.0046

Uranus -55681-12-14 11:01 J -18615714.19 -18615714.04 -18615713.87 0.0146 0.0079

Uranus -55680-03-12 19:40 J -18615625.80 -18615625.68 -18615625.56 0.0146 0.0112

Earth -55679-07-11 02:09 J -18615140.52 -18615140.41 -18615140.29 0.2673 0.0305

Moon -55679-07-11 02:52 J -18615140.49 -18615140.38 -18615140.26 0.2672 0.0324 *

Jupiter -55677-03-19 07:25 J -18614523.26 -18614523.19 -18614523.11 0.0534 0.0445

Jupiter -55677-06-16 15:49 J -18614433.97 -18614433.84 -18614433.72 0.0534 0.0149

Mars -55676-06-01 07:54 J -18614084.28 -18614084.17 -18614084.07 0.1798 0.0758

Neptune -55674-05-04 17:16 J -18613381.79 -18613381.78 -18613381.76 0.0089 0.0088

Neptune -55674-07-31 18:57 J -18613293.76 -18613293.71 -18613293.66 0.0089 0.0082

Saturn -55674-09-05 16:04 J -18613257.94 -18613257.83 -18613257.71 0.0274 0.0206

Neptune -55674-10-27 20:23 J -18613205.72 -18613205.65 -18613205.58 0.0089 0.0076

Saturn -55674-12-03 11:59 J -18613169.16 -18613169.00 -18613168.82 0.0273 0.0082

Neptune -55673-01-23 22:04 J -18613117.67 -18613117.58 -18613117.50 0.0089 0.0070

Saturn -55673-03-01 08:23 J -18613080.33 -18613080.15 -18613079.97 0.0272 0.0043

Neptune -55673-04-20 23:30 J -18613029.61 -18613029.52 -18613029.42 0.0089 0.0064

Saturn -55673-05-29 04:33 J -18612991.44 -18612991.31 -18612991.16 0.0271 0.0170

Neptune -55673-07-18 00:57 J -18612941.56 -18612941.46 -18612941.35 0.0089 0.0058

Venus -55673-07-23 19:40 J -18612935.76 -18612935.68 -18612935.60 0.3784 0.2198

Neptune -55673-10-14 02:37 J -18612853.50 -18612853.39 -18612853.28 0.0089 0.0052

Neptune -55672-01-10 04:04 J -18612765.45 -18612765.33 -18612765.21 0.0089 0.0046

Neptune -55672-04-08 05:30 J -18612677.39 -18612677.27 -18612677.14 0.0089 0.0040

Moon -55672-07-03 22:18 J -18612590.60 -18612590.57 -18612590.53 0.2672 0.2523

Earth -55672-07-03 22:47 J -18612590.59 -18612590.55 -18612590.50 0.2667 0.2444 *

Neptune -55672-07-05 06:57 J -18612589.33 -18612589.21 -18612589.07 0.0089 0.0035

Neptune -55672-10-01 08:37 J -18612501.27 -18612501.14 -18612501.01 0.0089 0.0028

Neptune -55672-12-28 10:04 J -18612413.21 -18612413.08 -18612412.94 0.0089 0.0023

Neptune -55671-03-26 11:45 J -18612325.15 -18612325.01 -18612324.88 0.0089 0.0016

Jupiter -55671-05-04 16:47 J -18612285.97 -18612285.80 -18612285.63 0.0493 0.0146

Neptune -55671-06-22 13:11 J -18612237.09 -18612236.95 -18612236.81 0.0089 0.0011

Neptune -55671-09-18 14:37 J -18612149.03 -18612148.89 -18612148.75 0.0089 0.0005

Neptune -55671-12-15 16:04 J -18612060.96 -18612060.83 -18612060.69 0.0089 0.0003

Neptune -55670-03-13 17:30 J -18611972.90 -18611972.77 -18611972.63 0.0089 0.0008

Venus -55670-04-29 00:57 J -18611926.62 -18611926.46 -18611926.30 0.3592 0.0642

Neptune -55670-06-09 19:11 J -18611884.84 -18611884.70 -18611884.57 0.0089 0.0013

Neptune -55670-09-05 20:37 J -18611796.78 -18611796.64 -18611796.51 0.0089 0.0019

Neptune -55670-12-02 22:04 J -18611708.71 -18611708.58 -18611708.45 0.0089 0.0025

Moon -55669-01-06 16:33 J -18611673.95 -18611673.81 -18611673.67 0.2665 0.0709

Earth -55669-01-06 17:45 J -18611673.91 -18611673.76 -18611673.62 0.2660 0.0901 *

Neptune -55669-02-28 23:16 J -18611620.65 -18611620.53 -18611620.39 0.0089 0.0031

Neptune -55669-05-27 00:42 J -18611532.58 -18611532.47 -18611532.33 0.0089 0.0037

Neptune -55669-08-23 02:23 J -18611444.52 -18611444.40 -18611444.28 0.0089 0.0042

Neptune -55669-11-19 03:49 J -18611356.45 -18611356.34 -18611356.22 0.0089 0.0048

Neptune -55668-02-15 05:01 J -18611268.38 -18611268.29 -18611268.17 0.0089 0.0054

Neptune -55668-05-14 06:28 J -18611180.32 -18611180.23 -18611180.12 0.0089 0.0060

Neptune -55668-08-10 08:09 J -18611092.25 -18611092.16 -18611092.06 0.0089 0.0065

Neptune -55668-11-06 09:21 J -18611004.18 -18611004.11 -18611004.02 0.0089 0.0071

Neptune -55667-02-02 10:47 J -18610916.10 -18610916.05 -18610915.97 0.0089 0.0077

Venus -55667-02-06 11:30 J -18610912.12 -18610912.02 -18610911.92 0.3788 0.0166

Neptune -55667-05-01 12:28 J -18610828.03 -18610827.98 -18610827.93 0.0089 0.0082

Neptune -55667-07-28 13:40 J -18610739.93 -18610739.93 -18610739.90 0.0089 0.0088

Mars -55667-10-22 16:33 J -18610653.93 -18610653.81 -18610653.69 0.1789 0.0031

Earth -55666-07-13 20:37 J -18610389.74 -18610389.64 -18610389.54 0.2675 0.1250

Moon -55666-07-13 21:21 J -18610389.71 -18610389.61 -18610389.51 0.2671 0.1322 *

Mars -55666-08-19 02:09 J -18610353.53 -18610353.41 -18610353.28 0.1744 0.1070

Jupiter -55665-04-04 19:11 J -18610123.83 -18610123.70 -18610123.57 0.0534 0.0006

Venus -55662-08-23 03:21 J -18608888.45 -18608888.36 -18608888.27 0.3791 0.1875

Jupiter -55659-02-20 15:35 J -18607975.99 -18607975.85 -18607975.71 0.0492 0.0304

Jupiter -55659-05-21 21:06 J -18607885.74 -18607885.62 -18607885.50 0.0493 0.0359

Earth -55659-07-06 17:45 J -18607839.86 -18607839.76 -18607839.66 0.2669 0.1454

Moon -55659-07-06 17:59 J -18607839.85 -18607839.75 -18607839.66 0.2676 0.1404 *

Saturn -55658-06-23 20:37 J -18607487.72 -18607487.64 -18607487.55 0.0287 0.0227

Saturn -55658-09-20 09:35 J -18607399.23 -18607399.10 -18607398.98 0.0288 0.0117

Saturn -55658-12-17 22:18 J -18607310.71 -18607310.57 -18607310.44 0.0289 0.0011

Mars -55657-03-14 01:11 J -18607223.56 -18607223.45 -18607223.35 0.1781 0.0817

Saturn -55657-03-15 10:47 J -18607222.18 -18607222.05 -18607221.92 0.0290 0.0105

Pluto -55657-04-13 19:25 J -18607192.70 -18607192.69 -18607192.64 0.0061 0.0061

Saturn -55657-06-11 23:16 J -18607133.62 -18607133.53 -18607133.44 0.0291 0.0215

Pluto -55657-07-10 20:52 J -18607104.69 -18607104.63 -18607104.55 0.0061 0.0056

Pluto -55657-10-06 21:49 J -18607016.67 -18607016.59 -18607016.48 0.0061 0.0052

Pluto -55656-01-02 23:01 J -18606928.64 -18606928.54 -18606928.42 0.0062 0.0047

Mars -55656-01-08 03:06 J -18606923.53 -18606923.37 -18606923.21 0.1753 0.0043

Earth -55656-01-08 22:18 J -18606922.59 -18606922.57 -18606922.54 0.2657 0.2617

Pluto -55656-03-31 23:59 J -18606840.61 -18606840.50 -18606840.36 0.0062 0.0043

Pluto -55656-06-28 01:11 J -18606752.58 -18606752.45 -18606752.31 0.0062 0.0038

Pluto -55656-09-24 02:09 J -18606664.54 -18606664.41 -18606664.25 0.0062 0.0034

Pluto -55656-12-21 03:21 J -18606576.50 -18606576.36 -18606576.20 0.0062 0.0029

Pluto -55655-03-19 04:47 J -18606488.46 -18606488.30 -18606488.15 0.0062 0.0024

Pluto -55655-06-15 05:30 J -18606400.42 -18606400.27 -18606400.09 0.0062 0.0020

Pluto -55655-09-11 06:42 J -18606312.38 -18606312.22 -18606312.04 0.0062 0.0015

Pluto -55655-12-08 07:54 J -18606224.34 -18606224.17 -18606223.99 0.0062 0.0011

Pluto -55654-03-06 09:06 J -18606136.29 -18606136.12 -18606135.94 0.0062 0.0006

Pluto -55654-06-02 10:18 J -18606048.24 -18606048.07 -18606047.89 0.0062 0.0001

Pluto -55654-08-29 11:30 J -18605960.20 -18605960.02 -18605959.85 0.0062 0.0004

Pluto -55654-11-25 12:42 J -18605872.15 -18605871.97 -18605871.80 0.0062 0.0009

Jupiter -55653-01-22 23:01 J -18605813.67 -18605813.54 -18605813.42 0.0534 0.0148

Pluto -55653-02-21 13:40 J -18605784.09 -18605783.93 -18605783.75 0.0062 0.0014

Jupiter -55653-04-21 06:42 J -18605724.29 -18605724.22 -18605724.15 0.0533 0.0436

Pluto -55653-05-19 14:52 J -18605696.04 -18605695.88 -18605695.71 0.0063 0.0019

Moon -55653-07-15 15:06 J -18605638.93 -18605638.87 -18605638.81 0.2669 0.2167

Earth -55653-07-15 15:06 J -18605638.93 -18605638.87 -18605638.81 0.2676 0.2181 *

Pluto -55653-08-15 15:49 J -18605607.99 -18605607.84 -18605607.66 0.0063 0.0024

Pluto -55653-11-11 17:01 J -18605519.93 -18605519.79 -18605519.62 0.0063 0.0029

Pluto -55652-02-07 18:13 J -18605431.87 -18605431.74 -18605431.58 0.0063 0.0034

Pluto -55652-05-06 19:25 J -18605343.81 -18605343.69 -18605343.54 0.0063 0.0039

Pluto -55652-08-02 21:06 J -18605255.75 -18605255.62 -18605255.50 0.0063 0.0043

Pluto -55652-10-29 22:18 J -18605167.68 -18605167.57 -18605167.46 0.0063 0.0049

Pluto -55651-01-25 23:01 J -18605079.61 -18605079.54 -18605079.43 0.0063 0.0054

Pluto -55651-04-24 00:13 J -18604991.53 -18604991.49 -18604991.41 0.0063 0.0059

Moon -55649-01-01 14:09 J -18604373.99 -18604373.91 -18604373.83 0.2661 0.2226

Earth -55649-01-01 15:21 J -18604373.94 -18604373.86 -18604373.77 0.2664 0.2110 *

Mars -55648-08-04 09:49 J -18603793.14 -18603793.09 -18603793.03 0.1773 0.1582

Jupiter -55648-12-09 13:40 J -18603665.98 -18603665.93 -18603665.87 0.0492 0.0465

Jupiter -55647-03-09 18:42 J -18603575.88 -18603575.72 -18603575.55 0.0492 0.0189

Mars -55647-05-31 03:35 J -18603493.46 -18603493.35 -18603493.23 0.1761 0.1172

Earth -55646-07-09 12:28 J -18603089.09 -18603088.98 -18603088.87 0.2671 0.0480

Moon -55646-07-09 13:11 J -18603089.07 -18603088.95 -18603088.84 0.2675 0.0503 *

Mars -55646-07-10 23:01 J -18603087.58 -18603087.54 -18603087.49 0.1807 0.1644

Saturn -55644-01-22 15:35 J -18602525.92 -18602525.85 -18602525.76 0.0275 0.0243

Saturn -55644-04-21 11:30 J -18602437.17 -18602437.02 -18602436.85 0.0274 0.0119

Saturn -55644-07-19 07:54 J -18602348.35 -18602348.17 -18602347.99 0.0273 0.0008

Saturn -55644-10-16 04:04 J -18602259.48 -18602259.33 -18602259.17 0.0272 0.0133

Saturn -55643-01-13 00:42 J -18602170.52 -18602170.47 -18602170.41 0.0271 0.0258

Jupiter -55642-11-11 02:37 J -18601503.50 -18601503.39 -18601503.28 0.0535 0.0295

Jupiter -55641-02-08 10:33 J -18601414.16 -18601414.06 -18601413.95 0.0534 0.0297

Uranus -55640-10-14 23:45 J -18600799.54 -18600799.51 -18600799.47 0.0132 0.0126

Uranus -55639-01-11 02:52 J -18600711.45 -18600711.38 -18600711.30 0.0132 0.0109

Uranus -55639-04-09 05:59 J -18600623.34 -18600623.25 -18600623.15 0.0132 0.0091

Uranus -55639-07-06 09:06 J -18600535.23 -18600535.12 -18600535.01 0.0132 0.0073

Uranus -55639-10-02 11:59 J -18600447.11 -18600447.00 -18600446.87 0.0132 0.0057

Uranus -55639-12-29 15:06 J -18600358.99 -18600358.87 -18600358.74 0.0132 0.0039

Uranus -55638-03-27 18:13 J -18600270.87 -18600270.74 -18600270.61 0.0132 0.0021

Uranus -55638-06-23 21:21 J -18600182.75 -18600182.61 -18600182.48 0.0132 0.0004

Uranus -55638-09-20 00:13 J -18600094.62 -18600094.49 -18600094.35 0.0133 0.0014

Uranus -55638-12-17 03:21 J -18600006.49 -18600006.36 -18600006.23 0.0133 0.0031

Uranus -55637-03-14 06:13 J -18599918.36 -18599918.24 -18599918.11 0.0133 0.0049

Uranus -55637-06-10 09:21 J -18599830.23 -18599830.11 -18599829.99 0.0133 0.0066

Uranus -55637-09-06 12:13 J -18599742.09 -18599741.99 -18599741.88 0.0133 0.0083

Mars -55637-11-30 07:54 J -18599657.27 -18599657.17 -18599657.06 0.1798 0.0857

Uranus -55637-12-03 15:06 J -18599653.95 -18599653.87 -18599653.77 0.0133 0.0101

Moon -55636-01-03 17:59 J -18599622.89 -18599622.75 -18599622.60 0.2663 0.0645

Earth -55636-01-03 19:25 J -18599622.83 -18599622.69 -18599622.54 0.2662 0.0481 *

Uranus -55636-03-01 17:59 J -18599565.80 -18599565.75 -18599565.68 0.0133 0.0118

Jupiter -55636-12-26 17:16 J -18599265.96 -18599265.78 -18599265.60 0.0492 0.0029

Earth -55633-07-11 07:11 J -18598338.32 -18598338.20 -18598338.09 0.2673 0.0483

Moon -55633-07-11 07:54 J -18598338.28 -18598338.17 -18598338.06 0.2672 0.0617 *

Jupiter -55630-08-30 06:28 J -18597193.30 -18597193.23 -18597193.15 0.0535 0.0435

Jupiter -55630-11-27 14:52 J -18597104.01 -18597103.88 -18597103.76 0.0534 0.0160

Saturn -55629-11-09 21:35 J -18596755.64 -18596755.60 -18596755.55 0.0286 0.0268

Saturn -55628-02-06 10:33 J -18596667.18 -18596667.06 -18596666.95 0.0287 0.0158

Saturn -55628-05-05 23:01 J -18596578.67 -18596578.54 -18596578.40 0.0288 0.0049

Saturn -55628-08-02 11:45 J -18596490.14 -18596490.01 -18596489.88 0.0289 0.0063

Saturn -55628-10-30 00:13 J -18596401.60 -18596401.49 -18596401.38 0.0289 0.0172

Saturn -55627-01-26 12:28 J -18596313.00 -18596312.98 -18596312.94 0.0290 0.0282

Mars -55627-04-22 16:33 J -18596226.93 -18596226.81 -18596226.69 0.1789 0.0066

Mars -55626-02-17 02:52 J -18595926.49 -18595926.38 -18595926.27 0.1744 0.1208

Moon -55626-07-05 03:21 J -18595788.41 -18595788.36 -18595788.30 0.2673 0.2294

Earth -55626-07-05 03:49 J -18595788.40 -18595788.34 -18595788.28 0.2667 0.2251 *

Jupiter -55624-10-14 15:35 J -18594956.02 -18594955.85 -18594955.67 0.0492 0.0133

Moon -55623-01-06 22:47 J -18594871.68 -18594871.55 -18594871.42 0.2664 0.1209

Earth -55623-01-06 23:59 J -18594871.64 -18594871.50 -18594871.37 0.2659 0.1199 *

Venus -55622-08-15 01:11 J -18594286.48 -18594286.45 -18594286.41 0.3782 0.3503

Earth -55620-07-14 01:40 J -18593587.53 -18593587.43 -18593587.34 0.2675 0.1427

Moon -55620-07-14 02:09 J -18593587.51 -18593587.41 -18593587.32 0.2670 0.1424 *

Mars -55618-09-13 01:11 J -18592796.56 -18592796.45 -18592796.34 0.1781 0.0714

Jupiter -55618-09-15 18:42 J -18592793.85 -18592793.72 -18592793.59 0.0534 0.0021

Mars -55617-07-09 03:21 J -18592496.52 -18592496.36 -18592496.20 0.1753 0.0080

Venus -55616-02-27 17:16 J -18592262.88 -18592262.78 -18592262.69 0.3785 0.1462

Saturn -55615-09-08 08:23 J -18591705.29 -18591705.15 -18591705.01 0.0274 0.0173

Saturn -55615-12-06 04:33 J -18591616.49 -18591616.31 -18591616.14 0.0273 0.0048

Saturn -55614-03-05 00:42 J -18591527.64 -18591527.47 -18591527.29 0.0272 0.0078

Saturn -55614-06-01 21:21 J -18591438.73 -18591438.61 -18591438.49 0.0272 0.0204

Venus -55614-12-04 03:06 J -18591253.52 -18591253.37 -18591253.23 0.3591 0.1305

Earth -55613-07-06 22:47 J -18591037.65 -18591037.55 -18591037.45 0.2669 0.1268

Moon -55613-07-06 23:01 J -18591037.64 -18591037.54 -18591037.44 0.2676 0.1280 *

Jupiter -55612-08-02 14:23 J -18590646.04 -18590645.90 -18590645.75 0.0492 0.0290

Jupiter -55612-10-31 19:54 J -18590555.78 -18590555.67 -18590555.55 0.0493 0.0372

Venus -55611-09-13 09:06 J -18590239.22 -18590239.12 -18590239.03 0.3789 0.0607

Mars -55608-02-02 09:49 J -18589366.15 -18589366.09 -18589366.03 0.1772 0.1492

Mars -55608-11-29 04:04 J -18589066.45 -18589066.33 -18589066.20 0.1762 0.1038

Moon -55607-07-16 20:09 J -18588836.72 -18588836.66 -18588836.61 0.2670 0.2362

Earth -55607-07-16 20:09 J -18588836.71 -18588836.66 -18588836.61 0.2677 0.2358 *

Mars -55606-01-08 23:16 J -18588660.56 -18588660.53 -18588660.50 0.1807 0.1740

Jupiter -55606-07-04 22:04 J -18588483.70 -18588483.58 -18588483.45 0.0534 0.0133

Jupiter -55606-10-02 05:45 J -18588394.32 -18588394.26 -18588394.19 0.0533 0.0452

Venus -55605-03-29 00:57 J -18588215.54 -18588215.46 -18588215.39 0.3792 0.2630

Moon -55603-01-01 20:23 J -18587571.76 -18587571.65 -18587571.55 0.2660 0.1889

Earth -55603-01-01 21:35 J -18587571.70 -18587571.60 -18587571.49 0.2664 0.1814 *

Jupiter -55600-05-21 13:11 J -18586336.02 -18586335.95 -18586335.87 0.0492 0.0446

Earth -55600-07-09 17:30 J -18586286.89 -18586286.77 -18586286.66 0.2671 0.0303

Moon -55600-07-09 18:13 J -18586286.86 -18586286.74 -18586286.63 0.2674 0.0215 *

Jupiter -55600-08-19 18:28 J -18586245.90 -18586245.73 -18586245.57 0.0493 0.0210

Saturn -55599-06-26 11:45 J -18585935.11 -18585935.01 -18585934.91 0.0287 0.0195

Saturn -55599-09-23 00:28 J -18585846.61 -18585846.48 -18585846.35 0.0288 0.0085

Saturn -55599-12-20 12:57 J -18585758.09 -18585757.96 -18585757.82 0.0289 0.0028

Saturn -55598-03-19 01:40 J -18585669.55 -18585669.43 -18585669.31 0.0290 0.0136

Saturn -55598-06-15 14:09 J -18585580.98 -18585580.91 -18585580.84 0.0290 0.0246

Uranus -55598-07-23 16:04 J -18585542.94 -18585542.83 -18585542.71 0.0146 0.0114

Uranus -55598-10-19 23:59 J -18585454.64 -18585454.50 -18585454.33 0.0146 0.0082

Uranus -55597-01-16 08:23 J -18585366.32 -18585366.15 -18585365.96 0.0146 0.0049

Uranus -55597-04-13 17:01 J -18585277.98 -18585277.79 -18585277.60 0.0146 0.0015

Mars -55597-05-31 07:54 J -18585230.28 -18585230.17 -18585230.07 0.1798 0.0944

Uranus -55597-07-11 01:11 J -18585189.63 -18585189.45 -18585189.26 0.0146 0.0019

Uranus -55597-10-07 09:35 J -18585101.27 -18585101.10 -18585100.92 0.0146 0.0052

Uranus -55596-01-03 17:59 J -18585012.90 -18585012.75 -18585012.59 0.0146 0.0085

Uranus -55596-04-02 02:23 J -18584924.50 -18584924.40 -18584924.28 0.0146 0.0119

Jupiter -55594-04-23 01:40 J -18584173.54 -18584173.43 -18584173.31 0.0534 0.0281

Jupiter -55594-07-21 09:49 J -18584084.20 -18584084.09 -18584083.99 0.0534 0.0309

Neptune -55591-01-17 21:21 J -18583172.65 -18583172.61 -18583172.51 0.0089 0.0082

Neptune -55591-04-16 00:42 J -18583084.55 -18583084.47 -18583084.36 0.0089 0.0074

Neptune -55591-07-13 04:04 J -18582996.45 -18582996.33 -18582996.21 0.0089 0.0066

Neptune -55591-10-09 06:57 J -18582908.33 -18582908.21 -18582908.06 0.0089 0.0059

Moon -55590-01-05 00:13 J -18582820.63 -18582820.49 -18582820.34 0.2664 0.0293

Earth -55590-01-05 01:40 J -18582820.58 -18582820.43 -18582820.28 0.2661 0.0186 *

Neptune -55590-01-05 10:04 J -18582820.22 -18582820.08 -18582819.92 0.0089 0.0051

Neptune -55590-04-03 13:25 J -18582732.10 -18582731.94 -18582731.78 0.0089 0.0043

Neptune -55590-06-30 16:18 J -18582643.98 -18582643.82 -18582643.64 0.0089 0.0036

Neptune -55590-09-26 19:25 J -18582555.85 -18582555.69 -18582555.50 0.0089 0.0028

Neptune -55590-12-23 22:47 J -18582467.72 -18582467.55 -18582467.37 0.0089 0.0020

Neptune -55589-03-21 01:54 J -18582379.60 -18582379.42 -18582379.23 0.0089 0.0012

Neptune -55589-06-17 05:16 J -18582291.47 -18582291.28 -18582291.10 0.0089 0.0004

Neptune -55589-09-13 08:23 J -18582203.33 -18582203.15 -18582202.96 0.0089 0.0004

Neptune -55589-12-10 11:30 J -18582115.20 -18582115.02 -18582114.83 0.0089 0.0012

Neptune -55588-03-08 14:37 J -18582027.06 -18582026.89 -18582026.70 0.0089 0.0020

Neptune -55588-06-04 17:45 J -18581938.92 -18581938.76 -18581938.57 0.0089 0.0028

Jupiter -55588-06-07 16:18 J -18581936.00 -18581935.82 -18581935.64 0.0492 0.0043

Neptune -55588-08-31 21:06 J -18581850.78 -18581850.62 -18581850.44 0.0089 0.0036

Mars -55588-10-21 16:33 J -18581799.93 -18581799.81 -18581799.69 0.1790 0.0170

Neptune -55588-11-28 00:13 J -18581762.64 -18581762.49 -18581762.32 0.0089 0.0044

Neptune -55587-02-24 03:21 J -18581674.49 -18581674.36 -18581674.19 0.0089 0.0052

Neptune -55587-05-23 06:42 J -18581586.34 -18581586.22 -18581586.07 0.0089 0.0060

Earth -55587-07-12 11:59 J -18581536.11 -18581536.00 -18581535.89 0.2673 0.0665

Moon -55587-07-12 12:57 J -18581536.07 -18581535.96 -18581535.85 0.2672 0.0670 *

Mars -55587-08-18 03:21 J -18581499.46 -18581499.36 -18581499.26 0.1744 0.1343

Neptune -55587-08-19 09:49 J -18581498.19 -18581498.09 -18581497.95 0.0089 0.0068

Neptune -55587-11-15 13:11 J -18581410.03 -18581409.95 -18581409.84 0.0089 0.0076

Neptune -55586-02-11 16:33 J -18581321.86 -18581321.81 -18581321.74 0.0089 0.0084

Saturn -55585-01-26 07:54 J -18580973.28 -18580973.17 -18580973.05 0.0275 0.0210

Saturn -55585-04-24 04:04 J -18580884.50 -18580884.33 -18580884.16 0.0274 0.0085

Saturn -55585-07-22 00:13 J -18580795.67 -18580795.49 -18580795.31 0.0273 0.0041

Saturn -55585-10-18 20:37 J -18580706.78 -18580706.64 -18580706.49 0.0272 0.0167

Jupiter -55582-02-09 05:01 J -18579863.36 -18579863.29 -18579863.21 0.0535 0.0432

Jupiter -55582-05-09 13:25 J -18579774.06 -18579773.94 -18579773.81 0.0535 0.0165

Moon -55580-07-05 08:37 J -18578986.21 -18578986.14 -18578986.07 0.2674 0.2067

Earth -55580-07-05 08:52 J -18578986.20 -18578986.13 -18578986.06 0.2668 0.2061 *

Mars -55578-03-14 01:11 J -18578369.56 -18578369.45 -18578369.33 0.1781 0.0620

Mars -55577-01-08 03:49 J -18578069.49 -18578069.34 -18578069.18 0.1753 0.0217

Moon -55577-01-08 05:16 J -18578069.41 -18578069.28 -18578069.15 0.2664 0.1353 *

Earth -55577-01-08 06:13 J -18578069.36 -18578069.24 -18578069.12 0.2659 0.1504 *

Jupiter -55576-03-26 14:52 J -18577626.05 -18577625.88 -18577625.70 0.0492 0.0116

Earth -55574-07-15 06:28 J -18576785.32 -18576785.23 -18576785.14 0.2675 0.1604

Moon -55574-07-15 06:57 J -18576785.30 -18576785.21 -18576785.13 0.2669 0.1684 *

Jupiter -55570-02-25 17:30 J -18575463.90 -18575463.77 -18575463.64 0.0535 0.0030

Saturn -55570-11-13 12:57 J -18575203.03 -18575202.96 -18575202.88 0.0286 0.0233

Saturn -55569-02-10 01:40 J -18575114.55 -18575114.43 -18575114.30 0.0286 0.0124

Saturn -55569-05-08 14:23 J -18575026.04 -18575025.90 -18575025.76 0.0287 0.0014

Mars -55569-08-03 10:04 J -18574939.16 -18574939.08 -18574939.01 0.1773 0.1392

Saturn -55569-08-05 02:52 J -18574937.50 -18574937.38 -18574937.25 0.0288 0.0096

Saturn -55569-11-01 15:21 J -18574848.95 -18574848.86 -18574848.77 0.0289 0.0206

Mars -55568-05-30 04:33 J -18574639.44 -18574639.31 -18574639.17 0.1761 0.0906

Earth -55567-07-08 03:49 J -18574235.45 -18574235.34 -18574235.24 0.2670 0.1084

Moon -55567-07-08 04:04 J -18574235.44 -18574235.33 -18574235.23 0.2676 0.1046 *

Pluto -55566-12-15 03:35 J -18573710.36 -18573710.35 -18573710.32 0.0083 0.0082

Pluto -55565-03-12 05:16 J -18573622.34 -18573622.28 -18573622.20 0.0083 0.0072

Venus -55565-03-20 22:47 J -18573613.62 -18573613.55 -18573613.48 0.3783 0.2750

Pluto -55565-06-08 06:42 J -18573534.30 -18573534.22 -18573534.11 0.0083 0.0063

Pluto -55565-09-04 08:37 J -18573446.25 -18573446.14 -18573446.02 0.0082 0.0053

Pluto -55565-12-01 10:04 J -18573358.19 -18573358.08 -18573357.94 0.0082 0.0044

Jupiter -55564-01-12 13:11 J -18573316.09 -18573315.95 -18573315.80 0.0492 0.0277

Pluto -55564-02-27 11:45 J -18573270.13 -18573270.01 -18573269.87 0.0082 0.0034

Jupiter -55564-04-12 18:42 J -18573225.83 -18573225.72 -18573225.60 0.0493 0.0385

Pluto -55564-05-26 13:25 J -18573182.08 -18573181.94 -18573181.80 0.0082 0.0025

Pluto -55564-08-22 14:52 J -18573094.01 -18573093.88 -18573093.73 0.0082 0.0016

Pluto -55564-11-18 16:33 J -18573005.95 -18573005.81 -18573005.66 0.0082 0.0007

Pluto -55563-02-14 18:13 J -18572917.89 -18572917.74 -18572917.60 0.0082 0.0003

Pluto -55563-05-13 19:40 J -18572829.82 -18572829.68 -18572829.54 0.0082 0.0012

Pluto -55563-08-09 21:06 J -18572741.76 -18572741.62 -18572741.48 0.0081 0.0020

Pluto -55563-11-05 22:33 J -18572653.69 -18572653.56 -18572653.42 0.0081 0.0029

Venus -55563-12-24 20:09 J -18572604.78 -18572604.66 -18572604.55 0.3594 0.2516

Pluto -55562-02-01 23:59 J -18572565.62 -18572565.50 -18572565.37 0.0081 0.0038

Pluto -55562-05-01 01:40 J -18572477.55 -18572477.43 -18572477.31 0.0081 0.0046

Pluto -55562-07-28 02:52 J -18572389.47 -18572389.38 -18572389.27 0.0081 0.0055

Pluto -55562-10-24 04:18 J -18572301.40 -18572301.32 -18572301.22 0.0081 0.0064

Pluto -55561-01-20 05:45 J -18572213.31 -18572213.26 -18572213.19 0.0081 0.0072

Pluto -55561-04-17 07:25 J -18572125.20 -18572125.19 -18572125.18 0.0080 0.0080

Moon -55561-07-17 00:57 J -18572034.50 -18572034.46 -18572034.42 0.2670 0.2479

Earth -55561-07-17 00:57 J -18572034.49 -18572034.46 -18572034.43 0.2677 0.2528 *

Venus -55560-10-04 14:37 J -18571589.99 -18571589.89 -18571589.79 0.3786 0.0712

Jupiter -55559-12-14 21:35 J -18571153.73 -18571153.60 -18571153.48 0.0534 0.0116

Jupiter -55558-03-14 05:16 J -18571064.34 -18571064.28 -18571064.22 0.0534 0.0469

Mars -55558-11-30 07:54 J -18570803.27 -18570803.17 -18570803.07 0.1798 0.1043

Moon -55557-01-03 02:23 J -18570769.51 -18570769.40 -18570769.28 0.2661 0.1685

Earth -55557-01-03 03:49 J -18570769.46 -18570769.34 -18570769.22 0.2663 0.1519 *

Venus -55557-07-10 05:16 J -18570580.35 -18570580.28 -18570580.22 0.3590 0.3283

Saturn -55556-06-14 04:33 J -18570241.35 -18570241.31 -18570241.25 0.0275 0.0263

Saturn -55556-09-11 00:42 J -18570152.62 -18570152.47 -18570152.31 0.0274 0.0138

Uranus -55556-11-04 06:28 J -18570098.27 -18570098.23 -18570098.17 0.0132 0.0124

Saturn -55556-12-08 21:06 J -18570063.80 -18570063.62 -18570063.45 0.0273 0.0015

Uranus -55555-01-31 09:49 J -18570010.17 -18570010.09 -18570010.01 0.0132 0.0106

Saturn -55555-03-07 17:16 J -18569974.94 -18569974.78 -18569974.61 0.0272 0.0113

Uranus -55555-04-29 12:42 J -18569922.06 -18569921.97 -18569921.86 0.0132 0.0088

Saturn -55555-06-04 13:40 J -18569886.00 -18569885.93 -18569885.84 0.0272 0.0240

Uranus -55555-07-26 15:49 J -18569833.95 -18569833.84 -18569833.72 0.0132 0.0071

Uranus -55555-10-22 18:57 J -18569745.83 -18569745.71 -18569745.58 0.0132 0.0053

Uranus -55554-01-18 22:04 J -18569657.71 -18569657.58 -18569657.45 0.0132 0.0035

Uranus -55554-04-17 01:11 J -18569569.59 -18569569.45 -18569569.32 0.0133 0.0018

Venus -55554-04-20 06:28 J -18569566.32 -18569566.23 -18569566.14 0.3789 0.1328

Earth -55554-07-10 22:18 J -18569484.68 -18569484.57 -18569484.45 0.2672 0.0142

Moon -55554-07-10 23:16 J -18569484.65 -18569484.53 -18569484.42 0.2673 0.0125 *

Uranus -55554-07-14 04:04 J -18569481.46 -18569481.33 -18569481.19 0.0133 0.0003

Uranus -55554-10-10 07:11 J -18569393.33 -18569393.20 -18569393.07 0.0133 0.0017

Uranus -55553-01-06 10:04 J -18569305.20 -18569305.08 -18569304.95 0.0133 0.0035

Uranus -55553-04-03 13:11 J -18569217.07 -18569216.95 -18569216.83 0.0133 0.0052

Uranus -55553-06-30 16:04 J -18569128.94 -18569128.83 -18569128.71 0.0133 0.0069

Uranus -55553-09-26 19:11 J -18569040.80 -18569040.70 -18569040.60 0.0133 0.0086

Jupiter -55553-10-31 11:59 J -18569006.08 -18569006.00 -18569005.91 0.0492 0.0433

Uranus -55553-12-23 22:04 J -18568952.66 -18568952.58 -18568952.49 0.0133 0.0104

Jupiter -55552-01-29 17:01 J -18568915.95 -18568915.79 -18568915.62 0.0493 0.0223

Uranus -55552-03-22 00:57 J -18568864.50 -18568864.46 -18568864.40 0.0133 0.0121

Venus -55549-11-02 22:18 J -18567542.61 -18567542.57 -18567542.53 0.3792 0.3369

Mars -55548-04-21 16:33 J -18567372.93 -18567372.81 -18567372.69 0.1790 0.0256

Mars -55547-02-16 03:49 J -18567072.42 -18567072.34 -18567072.26 0.1744 0.1470

Jupiter -55547-10-03 00:57 J -18566843.57 -18566843.46 -18566843.35 0.0534 0.0267

Jupiter -55547-12-31 08:52 J -18566754.23 -18566754.13 -18566754.03 0.0534 0.0322

Moon -55544-01-05 06:42 J -18566018.37 -18566018.22 -18566018.08 0.2664 0.0086

Earth -55544-01-05 07:54 J -18566018.32 -18566018.17 -18566018.02 0.2661 0.0142 *

Earth -55541-07-12 17:01 J -18564733.90 -18564733.79 -18564733.68 0.2674 0.0839

Moon -55541-07-12 17:45 J -18564733.87 -18564733.76 -18564733.66 0.2672 0.0966 *

Jupiter -55541-11-17 15:35 J -18564606.03 -18564605.85 -18564605.67 0.0492 0.0061

Saturn -55540-04-01 14:23 J -18564470.94 -18564470.90 -18564470.86 0.0286 0.0270

Saturn -55540-06-29 03:06 J -18564382.48 -18564382.37 -18564382.26 0.0287 0.0160

Saturn -55540-09-25 15:49 J -18564293.98 -18564293.84 -18564293.71 0.0288 0.0051

Saturn -55540-12-23 04:18 J -18564205.45 -18564205.32 -18564205.19 0.0289 0.0060

Saturn -55539-03-21 16:47 J -18564116.91 -18564116.80 -18564116.69 0.0290 0.0169

Saturn -55539-06-18 05:16 J -18564028.31 -18564028.28 -18564028.25 0.0290 0.0279

Mars -55539-09-12 01:11 J -18563942.56 -18563942.45 -18563942.33 0.1781 0.0529

Mars -55538-07-09 04:33 J -18563642.46 -18563642.31 -18563642.15 0.1752 0.0363

Jupiter -55535-07-22 04:18 J -18562533.40 -18562533.32 -18562533.24 0.0535 0.0417

Jupiter -55535-10-19 12:42 J -18562444.09 -18562443.97 -18562443.85 0.0534 0.0178

Moon -55534-07-06 13:40 J -18562184.00 -18562183.93 -18562183.85 0.2675 0.1936

Earth -55534-07-06 13:54 J -18562184.00 -18562183.92 -18562183.84 0.2668 0.1876 *

Moon -55531-01-08 11:45 J -18561267.11 -18561267.01 -18561266.90 0.2664 0.1818

Earth -55531-01-08 12:28 J -18561267.09 -18561266.98 -18561266.87 0.2659 0.1809 *

Mars -55529-02-02 10:04 J -18560512.16 -18560512.08 -18560512.00 0.1773 0.1291

Jupiter -55529-09-05 13:54 J -18560296.10 -18560295.92 -18560295.75 0.0492 0.0102

Mars -55529-11-28 05:01 J -18560212.43 -18560212.29 -18560212.15 0.1761 0.0777

Earth -55528-07-15 11:30 J -18559983.10 -18559983.02 -18559982.94 0.2676 0.1779

Moon -55528-07-15 11:45 J -18559983.09 -18559983.01 -18559982.92 0.2669 0.1733 *

Saturn -55526-01-29 00:28 J -18559420.61 -18559420.48 -18559420.34 0.0275 0.0174

Saturn -55526-04-27 20:37 J -18559331.81 -18559331.64 -18559331.46 0.0274 0.0049

Saturn -55526-07-25 17:01 J -18559242.96 -18559242.79 -18559242.62 0.0273 0.0077

Saturn -55526-10-22 13:25 J -18559154.05 -18559153.94 -18559153.82 0.0272 0.0204

Jupiter -55523-08-07 16:04 J -18558133.96 -18558133.83 -18558133.70 0.0535 0.0029

Earth -55521-07-08 08:37 J -18557433.25 -18557433.14 -18557433.03 0.2670 0.0897

Moon -55521-07-08 09:06 J -18557433.23 -18557433.12 -18557433.01 0.2676 0.0859 *

Mars -55518-05-31 07:54 J -18556376.26 -18556376.17 -18556376.08 0.1799 0.1141

Jupiter -55517-06-24 12:28 J -18555986.13 -18555985.98 -18555985.83 0.0492 0.0260

Jupiter -55517-09-22 17:45 J -18555895.86 -18555895.76 -18555895.65 0.0492 0.0400

Uranus -55514-05-16 15:06 J -18554929.92 -18554929.87 -18554929.80 0.0146 0.0138

Uranus -55514-08-12 23:30 J -18554841.65 -18554841.52 -18554841.39 0.0146 0.0105

Uranus -55514-11-09 07:25 J -18554753.34 -18554753.19 -18554753.01 0.0146 0.0073

Uranus -55513-02-05 16:04 J -18554665.01 -18554664.83 -18554664.65 0.0146 0.0040

Uranus -55513-05-04 00:28 J -18554576.67 -18554576.48 -18554576.29 0.0146 0.0007

Uranus -55513-07-31 08:37 J -18554488.32 -18554488.14 -18554487.95 0.0146 0.0027

Uranus -55513-10-27 17:01 J -18554399.96 -18554399.79 -18554399.61 0.0146 0.0060

Uranus -55512-01-24 01:11 J -18554311.58 -18554311.45 -18554311.29 0.0146 0.0094

Uranus -55512-04-22 09:49 J -18554223.18 -18554223.09 -18554222.99 0.0146 0.0127

Moon -55511-01-03 08:37 J -18553967.27 -18553967.14 -18553967.01 0.2663 0.1258

Earth -55511-01-03 10:04 J -18553967.21 -18553967.08 -18553966.95 0.2663 0.1226 *

Jupiter -55511-05-26 20:09 J -18553823.79 -18553823.66 -18553823.53 0.0535 0.0112

Jupiter -55511-08-24 03:49 J -18553734.39 -18553734.34 -18553734.28 0.0534 0.0475

Saturn -55511-11-16 04:47 J -18553650.40 -18553650.30 -18553650.20 0.0286 0.0195

Saturn -55510-02-12 17:30 J -18553561.90 -18553561.77 -18553561.64 0.0287 0.0085

Saturn -55510-05-12 06:13 J -18553473.38 -18553473.24 -18553473.11 0.0288 0.0025

Saturn -55510-08-08 18:28 J -18553384.84 -18553384.73 -18553384.61 0.0288 0.0134

Saturn -55510-11-05 06:57 J -18553296.28 -18553296.21 -18553296.14 0.0289 0.0242

Neptune -55509-01-29 17:01 J -18553210.82 -18553210.79 -18553210.74 0.0089 0.0085

Neptune -55509-04-26 18:42 J -18553122.77 -18553122.72 -18553122.65 0.0089 0.0079

Neptune -55509-07-23 20:09 J -18553034.73 -18553034.66 -18553034.57 0.0089 0.0073

Neptune -55509-10-19 21:49 J -18552946.67 -18552946.59 -18552946.49 0.0089 0.0067

Mars -55509-10-20 16:33 J -18552945.92 -18552945.81 -18552945.69 0.1790 0.0359

Venus -55509-10-25 20:09 J -18552940.74 -18552940.66 -18552940.57 0.3784 0.2013

Neptune -55508-01-15 23:16 J -18552858.62 -18552858.53 -18552858.42 0.0089 0.0061

Neptune -55508-04-14 00:57 J -18552770.56 -18552770.46 -18552770.34 0.0089 0.0054

Neptune -55508-07-11 02:23 J -18552682.51 -18552682.40 -18552682.27 0.0089 0.0049

Earth -55508-07-11 03:21 J -18552682.47 -18552682.36 -18552682.24 0.2672 0.0075 *

Moon -55508-07-11 04:04 J -18552682.44 -18552682.33 -18552682.21 0.2674 0.0192 *

Mars -55508-08-17 04:18 J -18552645.37 -18552645.32 -18552645.26 0.1744 0.1609

Neptune -55508-10-07 04:04 J -18552594.45 -18552594.33 -18552594.20 0.0089 0.0042

Neptune -55507-01-03 05:30 J -18552506.39 -18552506.27 -18552506.14 0.0089 0.0037

Neptune -55507-04-01 07:11 J -18552418.33 -18552418.20 -18552418.07 0.0089 0.0031

Neptune -55507-06-28 08:37 J -18552330.27 -18552330.14 -18552330.00 0.0089 0.0025

Neptune -55507-09-24 10:04 J -18552242.21 -18552242.08 -18552241.94 0.0089 0.0019

Neptune -55507-12-21 11:45 J -18552154.15 -18552154.01 -18552153.87 0.0089 0.0013

Neptune -55506-03-19 13:11 J -18552066.09 -18552065.95 -18552065.81 0.0089 0.0007

Neptune -55506-06-15 14:37 J -18551978.03 -18551977.89 -18551977.75 0.0089 0.0002

Venus -55506-07-31 22:18 J -18551931.73 -18551931.57 -18551931.42 0.3593 0.0546

Neptune -55506-09-11 16:04 J -18551889.96 -18551889.83 -18551889.69 0.0089 0.0006

Neptune -55506-12-08 17:45 J -18551801.90 -18551801.76 -18551801.63 0.0089 0.0011

Neptune -55505-03-05 19:11 J -18551713.84 -18551713.70 -18551713.57 0.0089 0.0017

Jupiter -55505-04-12 10:47 J -18551676.14 -18551676.05 -18551675.96 0.0492 0.0422

Neptune -55505-06-01 20:37 J -18551625.77 -18551625.64 -18551625.51 0.0089 0.0022

Jupiter -55505-07-11 15:49 J -18551586.00 -18551585.84 -18551585.68 0.0492 0.0233

Neptune -55505-08-28 21:49 J -18551537.71 -18551537.59 -18551537.45 0.0089 0.0029

Neptune -55505-11-24 23:30 J -18551449.64 -18551449.52 -18551449.39 0.0089 0.0034

Neptune -55504-02-21 00:57 J -18551361.58 -18551361.46 -18551361.33 0.0089 0.0040

Neptune -55504-05-20 02:23 J -18551273.51 -18551273.40 -18551273.28 0.0089 0.0046

Neptune -55504-08-16 03:35 J -18551185.45 -18551185.35 -18551185.22 0.0089 0.0052

Neptune -55504-11-12 05:01 J -18551097.38 -18551097.29 -18551097.17 0.0089 0.0058

Neptune -55503-02-08 06:42 J -18551009.31 -18551009.22 -18551009.12 0.0089 0.0063

Neptune -55503-05-07 08:09 J -18550921.24 -18550921.16 -18550921.07 0.0089 0.0069

Venus -55503-05-11 11:59 J -18550917.10 -18550917.00 -18550916.90 0.3787 0.0135

Neptune -55503-08-03 09:21 J -18550833.17 -18550833.11 -18550833.02 0.0089 0.0075

Neptune -55503-10-30 11:01 J -18550745.09 -18550745.04 -18550744.98 0.0089 0.0080

Neptune -55502-01-26 12:13 J -18550657.01 -18550656.99 -18550656.94 0.0089 0.0086

Mars -55499-03-13 01:25 J -18549515.56 -18549515.44 -18549515.32 0.1781 0.0425

Jupiter -55499-03-14 23:59 J -18549513.61 -18549513.50 -18549513.38 0.0535 0.0255

Jupiter -55499-06-12 07:54 J -18549424.26 -18549424.17 -18549424.06 0.0534 0.0336

Moon -55498-01-06 12:57 J -18549216.11 -18549215.96 -18549215.82 0.2664 0.0295

Earth -55498-01-06 14:09 J -18549216.05 -18549215.91 -18549215.76 0.2661 0.0425 *

Mars -55498-01-07 04:47 J -18549215.45 -18549215.30 -18549215.15 0.1752 0.0479

Venus -55498-11-25 03:49 J -18548893.42 -18548893.34 -18548893.25 0.3790 0.2083

Saturn -55497-06-16 21:35 J -18548688.69 -18548688.60 -18548688.49 0.0275 0.0225

Saturn -55497-09-13 17:45 J -18548599.92 -18548599.76 -18548599.59 0.0274 0.0100

Saturn -55497-12-11 14:09 J -18548511.09 -18548510.91 -18548510.73 0.0273 0.0026

Saturn -55496-03-10 10:33 J -18548422.21 -18548422.06 -18548421.91 0.0272 0.0152

Earth -55495-07-13 21:49 J -18547931.69 -18547931.59 -18547931.48 0.2674 0.1027

Moon -55495-07-13 22:33 J -18547931.66 -18547931.56 -18547931.45 0.2670 0.1025 *

Jupiter -55493-04-29 14:09 J -18547276.09 -18547275.91 -18547275.73 0.0492 0.0071

Mars -55490-08-03 10:04 J -18546085.17 -18546085.08 -18546084.99 0.1773 0.1201

Mars -55489-05-29 05:45 J -18545785.41 -18545785.26 -18545785.12 0.1761 0.0638

Moon -55488-07-06 18:42 J -18545381.81 -18545381.72 -18545381.63 0.2675 0.1649

Earth -55488-07-06 18:42 J -18545381.80 -18545381.72 -18545381.63 0.2668 0.1692 *

Jupiter -55487-01-01 03:21 J -18545203.44 -18545203.36 -18545203.28 0.0535 0.0407

Jupiter -55487-03-31 11:30 J -18545114.14 -18545114.02 -18545113.90 0.0534 0.0188

Moon -55485-01-09 18:28 J -18544464.82 -18544464.73 -18544464.64 0.2665 0.2075

Earth -55485-01-09 18:42 J -18544464.80 -18544464.72 -18544464.63 0.2658 0.2118 *

Earth -55482-07-16 16:18 J -18543180.89 -18543180.82 -18543180.74 0.2676 0.1956

Moon -55482-07-16 16:33 J -18543180.88 -18543180.81 -18543180.73 0.2669 0.2036 *

Jupiter -55481-02-16 12:42 J -18542966.15 -18542965.97 -18542965.79 0.0492 0.0090

Saturn -55481-04-04 06:13 J -18542918.31 -18542918.24 -18542918.15 0.0286 0.0230

Saturn -55481-07-01 18:57 J -18542829.83 -18542829.71 -18542829.58 0.0287 0.0121

Saturn -55481-09-28 07:40 J -18542741.31 -18542741.18 -18542741.04 0.0288 0.0011

Saturn -55481-12-25 20:09 J -18542652.78 -18542652.66 -18542652.53 0.0289 0.0099

Saturn -55480-03-24 08:37 J -18542564.23 -18542564.14 -18542564.05 0.0290 0.0208

Mars -55480-10-19 06:13 J -18542355.24 -18542355.24 -18542355.23 0.1770 0.1766

Mars -55479-11-29 07:54 J -18541949.26 -18541949.17 -18541949.08 0.1798 0.1226

Moon -55478-01-01 11:30 J -18541916.07 -18541916.02 -18541915.98 0.2660 0.2512

Earth -55478-01-01 12:28 J -18541916.02 -18541915.98 -18541915.94 0.2665 0.2531 *

Jupiter -55475-01-17 15:06 J -18540804.00 -18540803.87 -18540803.74 0.0534 0.0042

Earth -55475-07-09 13:40 J -18540631.04 -18540630.93 -18540630.82 0.2670 0.0712

Moon -55475-07-09 14:09 J -18540631.02 -18540630.91 -18540630.80 0.2675 0.0697 *

Uranus -55472-11-24 13:40 J -18539396.99 -18539396.93 -18539396.88 0.0132 0.0120

Uranus -55471-02-20 16:33 J -18539308.89 -18539308.81 -18539308.72 0.0132 0.0102

Uranus -55471-05-19 19:40 J -18539220.78 -18539220.68 -18539220.57 0.0132 0.0085

Uranus -55471-08-15 22:47 J -18539132.66 -18539132.55 -18539132.43 0.0132 0.0067

Uranus -55471-11-12 01:54 J -18539044.54 -18539044.42 -18539044.29 0.0132 0.0050

Uranus -55470-02-08 05:01 J -18538956.42 -18538956.29 -18538956.16 0.0132 0.0032

Uranus -55470-05-07 08:09 J -18538868.30 -18538868.16 -18538868.03 0.0133 0.0015

Uranus -55470-08-03 11:01 J -18538780.17 -18538780.04 -18538779.90 0.0133 0.0004

Uranus -55470-10-30 14:09 J -18538692.04 -18538691.91 -18538691.78 0.0133 0.0020

Jupiter -55470-12-05 11:01 J -18538656.19 -18538656.04 -18538655.88 0.0492 0.0250

Uranus -55469-01-26 17:01 J -18538603.91 -18538603.79 -18538603.66 0.0133 0.0038

Jupiter -55469-03-04 16:18 J -18538565.91 -18538565.82 -18538565.71 0.0492 0.0412

Mars -55469-04-20 16:47 J -18538518.92 -18538518.80 -18538518.69 0.1790 0.0451

Uranus -55469-04-23 20:09 J -18538515.78 -18538515.66 -18538515.54 0.0133 0.0055

Uranus -55469-07-20 23:01 J -18538427.65 -18538427.54 -18538427.42 0.0133 0.0073

Uranus -55469-10-17 01:54 J -18538339.51 -18538339.42 -18538339.31 0.0133 0.0090

Uranus -55468-01-13 05:01 J -18538251.36 -18538251.29 -18538251.21 0.0133 0.0107

Mars -55468-02-15 05:01 J -18538218.29 -18538218.29 -18538218.29 0.1743 0.1742

Uranus -55468-04-11 08:09 J -18538163.20 -18538163.16 -18538163.12 0.0133 0.0124

Saturn -55468-11-03 21:49 J -18537956.65 -18537956.59 -18537956.54 0.0275 0.0260

Saturn -55467-01-31 17:45 J -18537867.91 -18537867.76 -18537867.60 0.0275 0.0135

Saturn -55467-04-30 13:54 J -18537779.10 -18537778.92 -18537778.74 0.0274 0.0011

Saturn -55467-07-28 10:18 J -18537690.23 -18537690.07 -18537689.90 0.0273 0.0118

Saturn -55467-10-25 06:57 J -18537601.28 -18537601.21 -18537601.13 0.0272 0.0244

Moon -55465-01-04 14:52 J -18537165.02 -18537164.88 -18537164.75 0.2663 0.1149

Earth -55465-01-04 16:18 J -18537164.96 -18537164.82 -18537164.68 0.2663 0.0926 *

Jupiter -55464-11-05 18:28 J -18536493.86 -18536493.73 -18536493.60 0.0535 0.0114

Jupiter -55463-02-03 02:23 J -18536404.46 -18536404.40 -18536404.35 0.0534 0.0473

Earth -55462-07-12 08:23 J -18535880.27 -18535880.15 -18535880.04 0.2672 0.0264

Moon -55462-07-12 09:06 J -18535880.23 -18535880.12 -18535880.01 0.2674 0.0307 *

Mars -55460-09-11 01:25 J -18535088.56 -18535088.44 -18535088.32 0.1781 0.0327

Mars -55459-07-08 05:30 J -18534788.42 -18534788.27 -18534788.12 0.1752 0.0617

Jupiter -55458-09-23 09:49 J -18534346.19 -18534346.09 -18534345.99 0.0491 0.0407

Venus -55458-11-17 01:54 J -18534291.47 -18534291.42 -18534291.38 0.3781 0.3308

Jupiter -55458-12-22 14:37 J -18534256.04 -18534255.89 -18534255.73 0.0492 0.0247

Moon -55455-07-05 04:18 J -18533330.36 -18533330.32 -18533330.28 0.2672 0.2477

Earth -55455-07-05 04:47 J -18533330.33 -18533330.30 -18533330.26 0.2666 0.2490 *

Moon -55452-01-06 19:25 J -18532413.84 -18532413.69 -18532413.55 0.2664 0.0675

Earth -55452-01-06 20:37 J -18532413.79 -18532413.64 -18532413.50 0.2660 0.0726 *

Venus -55452-06-01 17:45 J -18532267.86 -18532267.76 -18532267.67 0.3784 0.1274

Saturn -55452-08-22 08:37 J -18532186.19 -18532186.14 -18532186.09 0.0285 0.0260

Jupiter -55452-08-24 22:18 J -18532183.68 -18532183.57 -18532183.46 0.0535 0.0256

Saturn -55452-11-18 21:21 J -18532097.73 -18532097.61 -18532097.50 0.0286 0.0151

Jupiter -55452-11-22 06:28 J -18532094.33 -18532094.23 -18532094.13 0.0535 0.0336

Saturn -55451-02-15 09:49 J -18532009.22 -18532009.09 -18532008.95 0.0287 0.0043

Saturn -55451-05-14 22:33 J -18531920.69 -18531920.56 -18531920.43 0.0288 0.0067

Saturn -55451-08-11 11:01 J -18531832.15 -18531832.04 -18531831.94 0.0289 0.0176

Saturn -55451-11-07 23:01 J -18531743.55 -18531743.54 -18531743.51 0.0289 0.0285

Mars -55450-02-01 10:04 J -18531658.17 -18531658.08 -18531657.98 0.1773 0.1102

Mars -55450-11-28 05:59 J -18531358.40 -18531358.25 -18531358.10 0.1761 0.0512

Venus -55449-03-07 00:28 J -18531258.63 -18531258.48 -18531258.34 0.3592 0.1445

Earth -55449-07-14 02:52 J -18531129.48 -18531129.38 -18531129.28 0.2674 0.1197

Moon -55449-07-14 03:21 J -18531129.46 -18531129.36 -18531129.26 0.2669 0.1282 *

Venus -55447-12-16 09:35 J -18530244.20 -18530244.10 -18530244.00 0.3788 0.0781

Jupiter -55446-10-10 12:42 J -18529946.15 -18529945.97 -18529945.80 0.0492 0.0079

Moon -55442-07-07 23:45 J -18528579.60 -18528579.51 -18528579.42 0.2675 0.1567

Earth -55442-07-07 23:45 J -18528579.60 -18528579.51 -18528579.41 0.2668 0.1501 *

Venus -55441-07-01 01:25 J -18528220.51 -18528220.44 -18528220.38 0.3791 0.2818

Mars -55440-04-19 06:42 J -18527928.27 -18527928.22 -18527928.16 0.1770 0.1643

Jupiter -55440-06-13 02:09 J -18527873.50 -18527873.41 -18527873.32 0.0535 0.0400

Jupiter -55440-09-10 10:33 J -18527784.18 -18527784.06 -18527783.94 0.0534 0.0197

Moon -55439-01-10 00:42 J -18527662.53 -18527662.47 -18527662.40 0.2665 0.2409

Earth -55439-01-10 01:11 J -18527662.51 -18527662.45 -18527662.39 0.2658 0.2421 *

Mars -55439-05-30 07:54 J -18527522.25 -18527522.17 -18527522.09 0.1799 0.1326

Saturn -55438-06-20 15:35 J -18527135.98 -18527135.85 -18527135.71 0.0275 0.0182

Saturn -55438-09-17 11:45 J -18527047.18 -18527047.01 -18527046.83 0.0274 0.0056

Saturn -55438-12-15 08:09 J -18526958.33 -18526958.16 -18526957.99 0.0273 0.0070

Saturn -55437-03-13 04:33 J -18526869.43 -18526869.31 -18526869.18 0.0272 0.0197

Earth -55436-07-16 21:21 J -18526378.68 -18526378.61 -18526378.54 0.2676 0.2131

Moon -55436-07-16 21:35 J -18526378.67 -18526378.60 -18526378.53 0.2670 0.2082 *

Jupiter -55434-07-29 11:01 J -18525636.22 -18525636.04 -18525635.87 0.0492 0.0084

Moon -55432-01-01 17:30 J -18525113.83 -18525113.77 -18525113.71 0.2661 0.2403

Earth -55432-01-01 18:42 J -18525113.80 -18525113.72 -18525113.64 0.2664 0.2238 *

Uranus -55430-06-05 22:47 J -18524228.63 -18524228.55 -18524228.46 0.0146 0.0129

Uranus -55430-09-02 06:42 J -18524140.35 -18524140.22 -18524140.07 0.0146 0.0097

Mars -55430-10-20 16:47 J -18524091.92 -18524091.80 -18524091.69 0.1790 0.0544

Uranus -55430-11-29 15:06 J -18524052.03 -18524051.87 -18524051.70 0.0146 0.0064

Uranus -55429-02-25 23:30 J -18523963.70 -18523963.52 -18523963.33 0.0146 0.0031

Uranus -55429-05-24 07:54 J -18523875.36 -18523875.17 -18523874.98 0.0146 0.0003

Earth -55429-07-09 18:28 J -18523828.84 -18523828.73 -18523828.61 0.2670 0.0539

Moon -55429-07-09 19:11 J -18523828.81 -18523828.70 -18523828.59 0.2675 0.0424 *

Uranus -55429-08-20 16:04 J -18523787.01 -18523786.83 -18523786.64 0.0146 0.0035

Uranus -55429-11-17 00:13 J -18523698.64 -18523698.49 -18523698.31 0.0146 0.0069

Uranus -55428-02-13 08:52 J -18523610.26 -18523610.13 -18523609.99 0.0146 0.0102

Uranus -55428-05-12 17:01 J -18523521.84 -18523521.79 -18523521.71 0.0146 0.0136

Jupiter -55428-06-29 13:54 J -18523474.05 -18523473.92 -18523473.79 0.0534 0.0046

Neptune -55427-07-18 18:13 J -18523089.79 -18523089.74 -18523089.68 0.0089 0.0084

Neptune -55427-10-14 21:06 J -18523001.70 -18523001.62 -18523001.52 0.0089 0.0077

Neptune -55426-01-11 00:13 J -18522913.59 -18522913.49 -18522913.37 0.0089 0.0069

Neptune -55426-04-09 03:06 J -18522825.48 -18522825.37 -18522825.22 0.0089 0.0062

Neptune -55426-07-06 06:28 J -18522737.37 -18522737.23 -18522737.08 0.0089 0.0054

Neptune -55426-10-02 09:35 J -18522649.25 -18522649.10 -18522648.94 0.0089 0.0046

Neptune -55426-12-29 12:28 J -18522561.13 -18522560.98 -18522560.80 0.0089 0.0039

Neptune -55425-03-26 15:35 J -18522473.01 -18522472.85 -18522472.67 0.0089 0.0031

Neptune -55425-06-22 18:57 J -18522384.88 -18522384.71 -18522384.53 0.0089 0.0023

Neptune -55425-09-18 22:04 J -18522296.76 -18522296.58 -18522296.40 0.0089 0.0015

Neptune -55425-12-16 01:11 J -18522208.63 -18522208.45 -18522208.26 0.0089 0.0008

Neptune -55424-03-14 04:33 J -18522120.50 -18522120.31 -18522120.13 0.0089 0.0001

Neptune -55424-06-10 07:40 J -18522032.36 -18522032.18 -18522032.00 0.0089 0.0008

Neptune -55424-09-06 10:47 J -18521944.23 -18521944.05 -18521943.87 0.0089 0.0016

Neptune -55424-12-03 13:54 J -18521856.09 -18521855.92 -18521855.74 0.0089 0.0024

Neptune -55423-03-01 17:16 J -18521767.95 -18521767.78 -18521767.61 0.0089 0.0032

Neptune -55423-05-28 20:23 J -18521679.81 -18521679.65 -18521679.48 0.0089 0.0040

Neptune -55423-08-24 23:45 J -18521591.67 -18521591.51 -18521591.36 0.0089 0.0048

Neptune -55423-11-21 02:52 J -18521503.52 -18521503.38 -18521503.23 0.0089 0.0056

Neptune -55422-02-17 06:13 J -18521415.37 -18521415.24 -18521415.11 0.0089 0.0064

Saturn -55422-04-07 23:01 J -18521365.65 -18521365.54 -18521365.44 0.0286 0.0185

Neptune -55422-05-16 09:21 J -18521327.21 -18521327.11 -18521327.00 0.0089 0.0072

Jupiter -55422-05-17 09:35 J -18521326.26 -18521326.10 -18521325.95 0.0492 0.0244

Saturn -55422-07-05 11:45 J -18521277.15 -18521277.01 -18521276.88 0.0287 0.0076

Neptune -55422-08-12 12:42 J -18521239.04 -18521238.97 -18521238.89 0.0089 0.0080

Jupiter -55422-08-15 14:52 J -18521235.97 -18521235.88 -18521235.78 0.0493 0.0418

Saturn -55422-10-02 00:13 J -18521188.62 -18521188.49 -18521188.36 0.0288 0.0034

Neptune -55422-11-08 16:04 J -18521150.85 -18521150.83 -18521150.81 0.0089 0.0088

Saturn -55422-12-29 12:42 J -18521100.09 -18521099.97 -18521099.85 0.0289 0.0143

Saturn -55421-03-27 00:57 J -18521011.52 -18521011.46 -18521011.39 0.0290 0.0252

Mars -55420-03-12 01:25 J -18520661.56 -18520661.44 -18520661.32 0.1782 0.0239

Moon -55419-01-04 20:52 J -18520362.77 -18520362.63 -18520362.48 0.2663 0.0660

Earth -55419-01-04 22:33 J -18520362.70 -18520362.56 -18520362.42 0.2662 0.0632 *

Mars -55419-01-06 06:13 J -18520361.39 -18520361.24 -18520361.10 0.1752 0.0760

Jupiter -55416-04-17 17:30 J -18519163.90 -18519163.77 -18519163.65 0.0535 0.0106

Earth -55416-07-12 13:11 J -18519078.06 -18519077.95 -18519077.83 0.2672 0.0434

Moon -55416-07-12 13:54 J -18519078.03 -18519077.92 -18519077.80 0.2673 0.0497 *

Jupiter -55416-07-16 01:11 J -18519074.50 -18519074.45 -18519074.40 0.0534 0.0481

Mars -55411-08-02 10:18 J -18517231.17 -18517231.07 -18517230.97 0.1773 0.1003

Jupiter -55410-03-05 08:09 J -18517016.26 -18517016.16 -18517016.06 0.0492 0.0400

Mars -55410-05-29 06:28 J -18516931.38 -18516931.23 -18516931.07 0.1761 0.0382

Jupiter -55410-06-03 12:57 J -18516926.11 -18516925.96 -18516925.80 0.0492 0.0254

Moon -55409-07-05 09:35 J -18516528.15 -18516528.10 -18516528.06 0.2673 0.2405

Earth -55409-07-05 09:49 J -18516528.14 -18516528.09 -18516528.03 0.2667 0.2300 *

Saturn -55409-11-06 15:49 J -18516403.94 -18516403.84 -18516403.72 0.0275 0.0215

Pluto -55408-01-29 02:52 J -18516320.42 -18516320.38 -18516320.32 0.0061 0.0058

Saturn -55408-02-03 11:59 J -18516315.16 -18516315.00 -18516314.82 0.0274 0.0089

Pluto -55408-04-27 03:35 J -18516232.40 -18516232.35 -18516232.24 0.0061 0.0055

Saturn -55408-05-03 08:23 J -18516226.33 -18516226.15 -18516225.97 0.0273 0.0038

Pluto -55408-07-24 05:01 J -18516144.38 -18516144.29 -18516144.18 0.0061 0.0050

Saturn -55408-07-31 05:01 J -18516137.44 -18516137.29 -18516137.15 0.0273 0.0164

Pluto -55408-10-20 05:59 J -18516056.35 -18516056.25 -18516056.12 0.0062 0.0045

Pluto -55407-01-16 07:11 J -18515968.32 -18515968.20 -18515968.06 0.0062 0.0041

Pluto -55407-04-14 08:37 J -18515880.28 -18515880.14 -18515880.00 0.0062 0.0036

Pluto -55407-07-11 09:21 J -18515792.24 -18515792.11 -18515791.95 0.0062 0.0032

Pluto -55407-10-07 10:33 J -18515704.21 -18515704.06 -18515703.89 0.0062 0.0027

Pluto -55406-01-03 11:30 J -18515616.17 -18515616.02 -18515615.84 0.0062 0.0023

Moon -55406-01-08 01:54 J -18515611.56 -18515611.42 -18515611.28 0.2665 0.0877

Earth -55406-01-08 02:52 J -18515611.52 -18515611.38 -18515611.25 0.2660 0.1028 *

Pluto -55406-04-01 12:42 J -18515528.12 -18515527.97 -18515527.79 0.0062 0.0018

Pluto -55406-06-28 14:09 J -18515440.08 -18515439.91 -18515439.74 0.0062 0.0013

Pluto -55406-09-24 15:21 J -18515352.04 -18515351.86 -18515351.69 0.0062 0.0009

Pluto -55406-12-21 16:18 J -18515263.99 -18515263.82 -18515263.64 0.0062 0.0004

Pluto -55405-03-18 17:30 J -18515175.94 -18515175.77 -18515175.59 0.0062 0.0001

Pluto -55405-06-14 18:42 J -18515087.89 -18515087.72 -18515087.55 0.0062 0.0006

Pluto -55405-09-10 19:54 J -18514999.84 -18514999.67 -18514999.50 0.0062 0.0011

Pluto -55405-12-07 20:52 J -18514911.79 -18514911.63 -18514911.45 0.0063 0.0016

Jupiter -55404-02-03 20:23 J -18514853.76 -18514853.65 -18514853.54 0.0535 0.0262

Pluto -55404-03-05 22:04 J -18514823.74 -18514823.58 -18514823.41 0.0063 0.0021

Jupiter -55404-05-04 04:33 J -18514764.41 -18514764.31 -18514764.21 0.0535 0.0331

Pluto -55404-06-01 23:01 J -18514735.68 -18514735.54 -18514735.36 0.0063 0.0026

Pluto -55404-08-29 00:42 J -18514647.63 -18514647.47 -18514647.32 0.0063 0.0030

Pluto -55404-11-25 01:40 J -18514559.57 -18514559.43 -18514559.28 0.0063 0.0035

Pluto -55403-02-21 02:52 J -18514471.51 -18514471.38 -18514471.24 0.0063 0.0040

Pluto -55403-05-20 04:04 J -18514383.44 -18514383.33 -18514383.20 0.0063 0.0045

Earth -55403-07-15 07:54 J -18514327.27 -18514327.17 -18514327.08 0.2674 0.1377

Moon -55403-07-15 08:23 J -18514327.25 -18514327.15 -18514327.05 0.2669 0.1397 *

Pluto -55403-08-16 05:16 J -18514295.37 -18514295.28 -18514295.16 0.0063 0.0051

Pluto -55403-11-12 06:42 J -18514207.30 -18514207.22 -18514207.13 0.0063 0.0056

Pluto -55402-02-08 07:54 J -18514119.21 -18514119.17 -18514119.12 0.0063 0.0061

Venus -55401-06-22 23:16 J -18513618.60 -18513618.53 -18513618.46 0.3782 0.2571

Mars -55401-10-18 07:11 J -18513501.28 -18513501.20 -18513501.12 0.1770 0.1507

Mars -55400-11-28 08:09 J -18513095.23 -18513095.16 -18513095.09 0.1799 0.1425

Jupiter -55398-03-22 11:16 J -18512616.20 -18512616.03 -18512615.85 0.0492 0.0091

Venus -55398-03-28 17:30 J -18512609.89 -18512609.77 -18512609.65 0.3595 0.2370

Earth -55396-07-08 04:47 J -18511777.40 -18511777.30 -18511777.20 0.2669 0.1315

Moon -55396-07-08 05:01 J -18511777.39 -18511777.29 -18511777.19 0.2675 0.1250 *

Venus -55395-01-06 15:06 J -18511594.97 -18511594.87 -18511594.77 0.3785 0.0532

Saturn -55393-08-25 01:40 J -18510633.52 -18510633.43 -18510633.34 0.0285 0.0211

Venus -55393-10-12 02:37 J -18510585.43 -18510585.39 -18510585.35 0.3591 0.3442

Saturn -55393-11-21 14:23 J -18510545.02 -18510544.90 -18510544.77 0.0286 0.0102

Jupiter -55393-11-22 23:59 J -18510543.58 -18510543.50 -18510543.41 0.0535 0.0408

Saturn -55392-02-18 03:06 J -18510456.51 -18510456.37 -18510456.24 0.0287 0.0009

Jupiter -55392-02-20 08:37 J -18510454.26 -18510454.14 -18510454.02 0.0535 0.0191

Saturn -55392-05-17 15:21 J -18510367.98 -18510367.86 -18510367.73 0.0288 0.0116

Saturn -55392-08-14 03:49 J -18510279.42 -18510279.34 -18510279.25 0.0289 0.0224

Mars -55390-04-20 16:47 J -18509664.91 -18509664.80 -18509664.69 0.1790 0.0636

Moon -55390-07-18 02:09 J -18509576.46 -18509576.41 -18509576.35 0.2670 0.2329

Earth -55390-07-18 02:09 J -18509576.46 -18509576.41 -18509576.35 0.2676 0.2304 *

Venus -55390-07-23 06:57 J -18509571.30 -18509571.21 -18509571.11 0.3788 0.1534

Uranus -55388-12-14 20:09 J -18508695.71 -18508695.66 -18508695.59 0.0132 0.0117

Uranus -55387-03-12 23:16 J -18508607.61 -18508607.53 -18508607.43 0.0132 0.0100

Uranus -55387-06-09 02:23 J -18508519.50 -18508519.40 -18508519.29 0.0132 0.0082

Uranus -55387-09-05 05:30 J -18508431.38 -18508431.27 -18508431.15 0.0132 0.0065

Uranus -55387-12-02 08:37 J -18508343.26 -18508343.14 -18508343.01 0.0132 0.0047

Moon -55386-01-02 23:30 J -18508311.62 -18508311.52 -18508311.43 0.2662 0.2008

Earth -55386-01-03 00:42 J -18508311.56 -18508311.47 -18508311.37 0.2664 0.1953 *

Jupiter -55386-01-08 09:06 J -18508306.30 -18508306.12 -18508305.94 0.0492 0.0080

Uranus -55386-02-28 11:45 J -18508255.14 -18508255.01 -18508254.88 0.0132 0.0029

Uranus -55386-05-27 14:52 J -18508167.02 -18508166.88 -18508166.75 0.0133 0.0012

Uranus -55386-08-23 17:45 J -18508078.89 -18508078.76 -18508078.62 0.0133 0.0007

Uranus -55386-11-19 20:52 J -18507990.76 -18507990.63 -18507990.50 0.0133 0.0023

Uranus -55385-02-15 23:45 J -18507902.63 -18507902.51 -18507902.38 0.0133 0.0041

Uranus -55385-05-14 02:52 J -18507814.50 -18507814.38 -18507814.26 0.0133 0.0058

Uranus -55385-08-10 05:59 J -18507726.36 -18507726.25 -18507726.14 0.0133 0.0075

Uranus -55385-11-06 08:37 J -18507638.22 -18507638.14 -18507638.03 0.0133 0.0093

Uranus -55384-02-02 11:45 J -18507550.08 -18507550.01 -18507549.93 0.0133 0.0110

Venus -55384-02-04 22:47 J -18507547.58 -18507547.55 -18507547.52 0.3792 0.3563

Uranus -55384-05-01 14:52 J -18507461.91 -18507461.88 -18507461.84 0.0133 0.0127

Earth -55383-07-10 23:30 J -18507026.63 -18507026.52 -18507026.41 0.2671 0.0345

Moon -55383-07-11 00:13 J -18507026.60 -18507026.49 -18507026.38 0.2675 0.0346 *

Mars -55381-09-10 01:25 J -18506234.56 -18506234.44 -18506234.32 0.1782 0.0147

Jupiter -55381-12-09 12:28 J -18506144.11 -18506143.98 -18506143.85 0.0535 0.0050

Mars -55380-07-07 06:28 J -18505934.37 -18505934.23 -18505934.10 0.1752 0.0877

Saturn -55379-03-26 14:37 J -18505671.95 -18505671.89 -18505671.82 0.0276 0.0256

Saturn -55379-06-23 10:47 J -18505583.21 -18505583.05 -18505582.90 0.0275 0.0131

Saturn -55379-09-20 06:57 J -18505494.39 -18505494.21 -18505494.03 0.0274 0.0006

Saturn -55379-12-18 03:06 J -18505405.52 -18505405.37 -18505405.20 0.0273 0.0121

Saturn -55378-03-16 23:45 J -18505316.58 -18505316.51 -18505316.43 0.0272 0.0247

Jupiter -55375-10-27 07:25 J -18503996.34 -18503996.19 -18503996.03 0.0492 0.0242

Jupiter -55374-01-25 12:42 J -18503906.06 -18503905.97 -18503905.87 0.0492 0.0420

Moon -55373-01-06 03:21 J -18503560.51 -18503560.36 -18503560.22 0.2663 0.0553

Earth -55373-01-06 04:47 J -18503560.45 -18503560.30 -18503560.15 0.2662 0.0333 *

Mars -55371-01-31 10:04 J -18502804.18 -18502804.08 -18502803.97 0.1773 0.0913

Mars -55371-11-27 07:11 J -18502504.36 -18502504.20 -18502504.05 0.1761 0.0240

Earth -55370-07-13 18:13 J -18502275.85 -18502275.74 -18502275.63 0.2673 0.0610

Moon -55370-07-13 18:57 J -18502275.82 -18502275.71 -18502275.60 0.2671 0.0711 *

Jupiter -55369-09-27 15:49 J -18501833.96 -18501833.84 -18501833.71 0.0535 0.0103

Jupiter -55369-12-25 23:45 J -18501744.56 -18501744.51 -18501744.46 0.0534 0.0484

Saturn -55363-01-12 03:35 J -18499901.42 -18499901.35 -18499901.28 0.0286 0.0243

Saturn -55363-04-10 16:18 J -18499812.94 -18499812.82 -18499812.70 0.0286 0.0134

Moon -55363-07-06 14:23 J -18499725.97 -18499725.90 -18499725.83 0.2673 0.2105

Earth -55363-07-06 14:52 J -18499725.95 -18499725.88 -18499725.81 0.2667 0.2111 *

Saturn -55363-07-08 05:01 J -18499724.43 -18499724.29 -18499724.16 0.0287 0.0025

Jupiter -55363-08-15 05:59 J -18499686.35 -18499686.25 -18499686.15 0.0492 0.0401

Saturn -55363-10-04 17:30 J -18499635.90 -18499635.77 -18499635.64 0.0288 0.0084

Jupiter -55363-11-13 11:01 J -18499596.20 -18499596.04 -18499595.89 0.0492 0.0254

Saturn -55362-01-01 05:59 J -18499547.35 -18499547.25 -18499547.15 0.0289 0.0193

Mars -55362-06-23 18:57 J -18499373.75 -18499373.71 -18499373.68 0.1765 0.1671

Mars -55361-04-18 07:54 J -18499074.27 -18499074.17 -18499074.07 0.1769 0.1367

Moon -55360-01-08 08:09 J -18498809.28 -18498809.16 -18498809.03 0.2666 0.1366

Earth -55360-01-08 09:06 J -18498809.25 -18498809.12 -18498808.99 0.2659 0.1330 *

Mars -55360-05-29 07:54 J -18498668.23 -18498668.17 -18498668.10 0.1799 0.1509

Earth -55357-07-15 12:42 J -18497525.06 -18497524.97 -18497524.88 0.2675 0.1549

Moon -55357-07-15 13:11 J -18497525.04 -18497524.95 -18497524.86 0.2670 0.1601 *

Jupiter -55357-07-16 19:11 J -18497523.81 -18497523.70 -18497523.58 0.0535 0.0255

Jupiter -55357-10-14 03:21 J -18497434.46 -18497434.36 -18497434.26 0.0534 0.0337

Jupiter -55351-09-01 09:21 J -18495286.29 -18495286.11 -18495285.93 0.0492 0.0093

Mars -55351-10-19 16:47 J -18495237.91 -18495237.80 -18495237.69 0.1790 0.0736

Earth -55350-07-09 09:49 J -18494975.20 -18494975.09 -18494974.99 0.2669 0.1135

Moon -55350-07-09 10:04 J -18494975.18 -18494975.08 -18494974.98 0.2675 0.1164 *

Saturn -55350-11-10 11:16 J -18494851.17 -18494851.03 -18494850.88 0.0275 0.0162

Saturn -55349-02-07 07:25 J -18494762.36 -18494762.19 -18494762.01 0.0274 0.0037

Saturn -55349-05-06 03:49 J -18494673.51 -18494673.34 -18494673.17 0.0273 0.0090

Saturn -55349-08-03 00:28 J -18494584.59 -18494584.48 -18494584.37 0.0272 0.0217

Uranus -55346-06-26 05:16 J -18493527.36 -18493527.28 -18493527.17 0.0146 0.0124

Uranus -55346-09-22 13:40 J -18493439.07 -18493438.93 -18493438.78 0.0146 0.0091

Uranus -55346-12-19 21:49 J -18493350.76 -18493350.59 -18493350.41 0.0146 0.0059

Uranus -55345-03-17 06:13 J -18493262.42 -18493262.24 -18493262.05 0.0146 0.0025

Jupiter -55345-05-04 22:04 J -18493213.66 -18493213.58 -18493213.50 0.0535 0.0417

Uranus -55345-06-13 14:37 J -18493174.08 -18493173.89 -18493173.70 0.0146 0.0008

Neptune -55345-07-29 15:21 J -18493127.87 -18493127.86 -18493127.82 0.0089 0.0087

Jupiter -55345-08-02 06:28 J -18493124.35 -18493124.23 -18493124.11 0.0535 0.0182

Uranus -55345-09-09 22:47 J -18493085.73 -18493085.55 -18493085.36 0.0146 0.0041

Neptune -55345-10-25 17:16 J -18493039.83 -18493039.78 -18493039.73 0.0089 0.0081

Uranus -55345-12-07 07:11 J -18492997.36 -18492997.20 -18492997.03 0.0146 0.0074

Neptune -55344-01-21 18:42 J -18492951.79 -18492951.72 -18492951.64 0.0089 0.0075

Venus -55344-01-27 20:52 J -18492945.72 -18492945.63 -18492945.55 0.3783 0.1826

Uranus -55344-03-05 15:21 J -18492908.97 -18492908.86 -18492908.72 0.0146 0.0108

Neptune -55344-04-19 20:23 J -18492863.74 -18492863.65 -18492863.56 0.0089 0.0069

Uranus -55344-06-01 23:59 J -18492820.54 -18492820.50 -18492820.45 0.0146 0.0141

Neptune -55344-07-16 21:49 J -18492775.68 -18492775.59 -18492775.49 0.0089 0.0063

Moon -55344-07-18 06:57 J -18492774.25 -18492774.21 -18492774.16 0.2670 0.2424

Earth -55344-07-18 07:11 J -18492774.24 -18492774.20 -18492774.16 0.2677 0.2476 *

Neptune -55344-10-12 23:30 J -18492687.63 -18492687.52 -18492687.41 0.0089 0.0057

Neptune -55343-01-09 00:57 J -18492599.57 -18492599.46 -18492599.34 0.0089 0.0051

Neptune -55343-04-07 02:37 J -18492511.51 -18492511.39 -18492511.27 0.0089 0.0045

Neptune -55343-07-04 04:04 J -18492423.45 -18492423.33 -18492423.20 0.0089 0.0039

Neptune -55343-09-30 05:45 J -18492335.39 -18492335.26 -18492335.13 0.0089 0.0033

Neptune -55343-12-27 07:11 J -18492247.33 -18492247.20 -18492247.07 0.0089 0.0027

Neptune -55342-03-25 08:37 J -18492159.27 -18492159.14 -18492159.00 0.0089 0.0021

Neptune -55342-06-21 10:04 J -18492071.21 -18492071.08 -18492070.94 0.0089 0.0015

Neptune -55342-09-17 11:45 J -18491983.15 -18491983.01 -18491982.87 0.0089 0.0009

Venus -55342-11-02 19:25 J -18491936.84 -18491936.69 -18491936.53 0.3594 0.0436

Neptune -55342-12-14 13:11 J -18491895.09 -18491894.95 -18491894.81 0.0089 0.0003

Mars -55341-03-11 01:40 J -18491807.56 -18491807.43 -18491807.31 0.1782 0.0077

Neptune -55341-03-11 14:37 J -18491807.02 -18491806.89 -18491806.75 0.0089 0.0004

Neptune -55341-06-07 16:18 J -18491718.96 -18491718.82 -18491718.69 0.0089 0.0009

Neptune -55341-09-03 17:45 J -18491630.90 -18491630.76 -18491630.63 0.0089 0.0014

Neptune -55341-11-30 18:57 J -18491542.84 -18491542.71 -18491542.57 0.0089 0.0021

Moon -55340-01-03 05:30 J -18491509.38 -18491509.27 -18491509.16 0.2662 0.1814

Earth -55340-01-03 06:57 J -18491509.32 -18491509.21 -18491509.09 0.2664 0.1661 *

Mars -55340-01-05 06:57 J -18491507.33 -18491507.21 -18491507.08 0.1752 0.1015

Neptune -55340-02-26 20:37 J -18491454.77 -18491454.64 -18491454.51 0.0089 0.0026

Neptune -55340-05-25 22:04 J -18491366.71 -18491366.58 -18491366.45 0.0089 0.0032

Neptune -55340-08-21 23:30 J -18491278.64 -18491278.52 -18491278.39 0.0089 0.0038

Neptune -55340-11-18 00:57 J -18491190.58 -18491190.46 -18491190.34 0.0089 0.0044

Neptune -55339-02-14 02:09 J -18491102.51 -18491102.41 -18491102.28 0.0089 0.0050

Neptune -55339-05-13 03:49 J -18491014.44 -18491014.34 -18491014.23 0.0089 0.0055

Jupiter -55339-06-20 07:40 J -18490976.36 -18490976.18 -18490976.00 0.0492 0.0071

Neptune -55339-08-09 05:16 J -18490926.37 -18490926.28 -18490926.18 0.0089 0.0061

Venus -55339-08-13 12:42 J -18490922.07 -18490921.97 -18490921.87 0.3786 0.0241

Neptune -55339-11-05 06:42 J -18490838.30 -18490838.22 -18490838.13 0.0089 0.0067

Neptune -55338-02-01 07:54 J -18490750.23 -18490750.17 -18490750.08 0.0089 0.0073

Neptune -55338-04-30 09:35 J -18490662.16 -18490662.10 -18490662.03 0.0089 0.0078

Neptune -55338-07-27 10:47 J -18490574.08 -18490574.05 -18490573.99 0.0089 0.0084

Earth -55337-07-11 04:33 J -18490224.43 -18490224.31 -18490224.20 0.2671 0.0168

Moon -55337-07-11 05:16 J -18490224.40 -18490224.28 -18490224.17 0.2675 0.0112 *

Saturn -55334-06-01 06:42 J -18489169.26 -18489169.22 -18489169.17 0.0285 0.0266

Saturn -55334-08-28 19:25 J -18489080.80 -18489080.69 -18489080.57 0.0286 0.0158

Saturn -55334-11-25 08:09 J -18488992.30 -18488992.16 -18488992.03 0.0287 0.0049

Saturn -55333-02-21 20:37 J -18488903.77 -18488903.64 -18488903.51 0.0287 0.0060

Venus -55333-02-27 04:33 J -18488898.39 -18488898.31 -18488898.23 0.3789 0.2277

Saturn -55333-05-20 09:06 J -18488815.23 -18488815.12 -18488815.01 0.0288 0.0169

Jupiter -55333-05-21 10:18 J -18488814.20 -18488814.07 -18488813.94 0.0535 0.0038

Saturn -55333-08-16 21:21 J -18488726.64 -18488726.61 -18488726.57 0.0289 0.0277

Mars -55332-08-01 10:18 J -18488377.18 -18488377.07 -18488376.96 0.1773 0.0812

Mars -55331-05-28 07:40 J -18488077.34 -18488077.18 -18488077.03 0.1760 0.0116

Moon -55327-01-06 09:35 J -18486758.25 -18486758.10 -18486757.95 0.2664 0.0069

Earth -55327-01-06 11:01 J -18486758.19 -18486758.04 -18486757.89 0.2661 0.0062 *

Jupiter -55327-04-08 05:16 J -18486666.43 -18486666.28 -18486666.12 0.0492 0.0241

Jupiter -55327-07-07 10:33 J -18486576.15 -18486576.06 -18486575.97 0.0492 0.0419

Earth -55324-07-13 23:16 J -18485473.64 -18485473.53 -18485473.43 0.2673 0.0797

Moon -55324-07-13 23:59 J -18485473.61 -18485473.50 -18485473.40 0.2670 0.0808 *

Mars -55323-12-22 18:57 J -18484946.76 -18484946.71 -18484946.66 0.1765 0.1573

Mars -55322-10-18 08:09 J -18484647.27 -18484647.16 -18484647.05 0.1770 0.1252

Jupiter -55321-03-09 14:09 J -18484504.03 -18484503.91 -18484503.78 0.0535 0.0105

Jupiter -55321-06-06 22:04 J -18484414.63 -18484414.58 -18484414.53 0.0534 0.0483

Mars -55321-11-27 08:09 J -18484241.21 -18484241.16 -18484241.11 0.1799 0.1608

Saturn -55320-03-29 10:47 J -18484119.16 -18484119.05 -18484118.92 0.0275 0.0198

Saturn -55320-06-26 06:57 J -18484030.38 -18484030.21 -18484030.04 0.0274 0.0073

Saturn -55320-09-23 03:06 J -18483941.54 -18483941.37 -18483941.19 0.0273 0.0053

Saturn -55320-12-20 23:45 J -18483852.65 -18483852.51 -18483852.38 0.0273 0.0179

Moon -55317-07-06 19:40 J -18482923.76 -18482923.68 -18482923.61 0.2674 0.1993

Earth -55317-07-06 19:54 J -18482923.75 -18482923.67 -18482923.59 0.2668 0.1923 *

Pluto -55317-09-30 11:45 J -18482838.05 -18482838.01 -18482837.94 0.0083 0.0077

Pluto -55317-12-27 13:25 J -18482750.01 -18482749.94 -18482749.84 0.0083 0.0067

Pluto -55316-03-25 15:06 J -18482661.97 -18482661.87 -18482661.76 0.0082 0.0057

Pluto -55316-06-21 16:47 J -18482573.91 -18482573.80 -18482573.68 0.0082 0.0048

Pluto -55316-09-17 18:28 J -18482485.86 -18482485.73 -18482485.60 0.0082 0.0038

Pluto -55316-12-14 19:54 J -18482397.80 -18482397.67 -18482397.53 0.0082 0.0029

Jupiter -55315-01-25 03:35 J -18482356.44 -18482356.35 -18482356.24 0.0492 0.0403

Pluto -55315-03-12 21:35 J -18482309.74 -18482309.60 -18482309.46 0.0082 0.0020

Jupiter -55315-04-25 08:37 J -18482266.30 -18482266.14 -18482265.99 0.0492 0.0252

Pluto -55315-06-08 23:16 J -18482221.68 -18482221.53 -18482221.39 0.0082 0.0011

Pluto -55315-09-05 00:42 J -18482133.61 -18482133.47 -18482133.32 0.0082 0.0002

Pluto -55315-12-02 02:09 J -18482045.55 -18482045.41 -18482045.26 0.0082 0.0008

Moon -55314-01-09 14:37 J -18482007.01 -18482006.89 -18482006.77 0.2665 0.1474

Earth -55314-01-09 15:21 J -18482006.98 -18482006.86 -18482006.74 0.2659 0.1635 *

Pluto -55314-02-28 03:35 J -18481957.48 -18481957.35 -18481957.20 0.0081 0.0017

Pluto -55314-05-27 05:01 J -18481869.42 -18481869.29 -18481869.14 0.0081 0.0026

Pluto -55314-08-23 06:28 J -18481781.35 -18481781.23 -18481781.09 0.0081 0.0034

Pluto -55314-11-19 08:09 J -18481693.28 -18481693.16 -18481693.03 0.0081 0.0042

Pluto -55313-02-15 09:35 J -18481605.21 -18481605.10 -18481604.98 0.0081 0.0051

Pluto -55313-05-13 11:16 J -18481517.13 -18481517.03 -18481516.94 0.0081 0.0059

Pluto -55313-08-09 12:13 J -18481429.05 -18481428.99 -18481428.90 0.0081 0.0068

Pluto -55313-11-05 13:54 J -18481340.96 -18481340.92 -18481340.87 0.0080 0.0076

Mars -55311-04-19 16:47 J -18480810.91 -18480810.80 -18480810.69 0.1790 0.0824

Earth -55311-07-16 17:45 J -18480722.85 -18480722.76 -18480722.68 0.2675 0.1728

Moon -55311-07-16 17:59 J -18480722.83 -18480722.75 -18480722.66 0.2669 0.1766 *

Jupiter -55310-12-27 17:30 J -18480193.88 -18480193.77 -18480193.65 0.0535 0.0256

Jupiter -55309-03-26 01:40 J -18480104.53 -18480104.43 -18480104.33 0.0534 0.0336

Saturn -55304-01-14 21:21 J -18478348.71 -18478348.61 -18478348.50 0.0286 0.0189

Saturn -55304-04-13 10:04 J -18478260.21 -18478260.08 -18478259.94 0.0287 0.0080

Earth -55304-07-09 14:37 J -18478172.99 -18478172.89 -18478172.78 0.2669 0.0949

Moon -55304-07-09 15:06 J -18478172.98 -18478172.87 -18478172.76 0.2676 0.0857 *

Saturn -55304-07-10 22:47 J -18478171.69 -18478171.55 -18478171.42 0.0288 0.0030

Saturn -55304-10-07 11:16 J -18478083.15 -18478083.03 -18478082.91 0.0289 0.0139

Uranus -55304-10-07 23:59 J -18478082.50 -18478082.50 -18478082.49 0.0132 0.0132

Saturn -55303-01-03 23:30 J -18477994.58 -18477994.52 -18477994.45 0.0290 0.0248

Uranus -55303-01-04 03:06 J -18477994.43 -18477994.37 -18477994.30 0.0132 0.0114

Jupiter -55303-02-11 06:42 J -18477956.40 -18477956.22 -18477956.04 0.0492 0.0087

Uranus -55303-04-02 06:13 J -18477906.33 -18477906.24 -18477906.15 0.0132 0.0097

Uranus -55303-06-29 09:06 J -18477818.22 -18477818.12 -18477818.00 0.0132 0.0080

Uranus -55303-09-25 12:28 J -18477730.10 -18477729.98 -18477729.86 0.0132 0.0061

Uranus -55303-12-22 15:21 J -18477641.98 -18477641.86 -18477641.73 0.0132 0.0044

Uranus -55302-03-20 18:28 J -18477553.86 -18477553.73 -18477553.59 0.0132 0.0027

Uranus -55302-06-16 21:35 J -18477465.73 -18477465.60 -18477465.46 0.0132 0.0009

Mars -55302-09-10 01:40 J -18477380.56 -18477380.43 -18477380.31 0.1782 0.0085

Uranus -55302-09-13 00:42 J -18477377.61 -18477377.47 -18477377.34 0.0132 0.0009

Uranus -55302-12-10 03:35 J -18477289.48 -18477289.35 -18477289.21 0.0133 0.0026

Uranus -55301-03-07 06:42 J -18477201.35 -18477201.22 -18477201.09 0.0133 0.0043

Uranus -55301-06-03 09:35 J -18477113.21 -18477113.10 -18477112.98 0.0133 0.0061

Mars -55301-07-06 07:40 J -18477080.30 -18477080.18 -18477080.06 0.1751 0.1160

Uranus -55301-08-30 12:42 J -18477025.08 -18477024.97 -18477024.86 0.0133 0.0078

Uranus -55301-11-26 15:35 J -18476936.93 -18476936.85 -18476936.75 0.0133 0.0095

Uranus -55300-02-22 18:28 J -18476848.79 -18476848.73 -18476848.65 0.0133 0.0113

Uranus -55300-05-21 21:35 J -18476760.62 -18476760.60 -18476760.57 0.0133 0.0130

Moon -55298-07-19 11:45 J -18475972.02 -18475972.01 -18475971.99 0.2670 0.2634

Earth -55298-07-19 11:59 J -18475972.01 -18475972.00 -18475971.98 0.2677 0.2646 *

Jupiter -55298-10-15 20:52 J -18475883.71 -18475883.63 -18475883.55 0.0535 0.0411

Jupiter -55297-01-13 05:01 J -18475794.41 -18475794.29 -18475794.16 0.0534 0.0188

Moon -55294-01-04 11:45 J -18474707.14 -18474707.01 -18474706.89 0.2662 0.1468

Earth -55294-01-04 13:11 J -18474707.08 -18474706.95 -18474706.83 0.2663 0.1373 *

Venus -55293-02-19 02:23 J -18474296.45 -18474296.40 -18474296.34 0.3780 0.3119

Mars -55292-01-30 10:18 J -18473950.18 -18473950.07 -18473949.96 0.1774 0.0713

Mars -55292-11-26 08:09 J -18473650.32 -18473650.16 -18473650.01 0.1760 0.0049

Jupiter -55292-11-30 05:16 J -18473646.46 -18473646.28 -18473646.10 0.0492 0.0072

Earth -55291-07-12 09:21 J -18473422.22 -18473422.11 -18473421.99 0.2671 0.0093

Moon -55291-07-12 10:04 J -18473422.19 -18473422.08 -18473421.96 0.2673 0.0090 *

Saturn -55291-08-16 11:45 J -18473387.10 -18473387.01 -18473386.91 0.0275 0.0227

Saturn -55291-11-13 07:54 J -18473298.34 -18473298.17 -18473298.01 0.0274 0.0103

Saturn -55290-02-10 04:04 J -18473209.51 -18473209.33 -18473209.15 0.0274 0.0023

Saturn -55290-05-10 00:28 J -18473120.63 -18473120.48 -18473120.33 0.0273 0.0149

Venus -55288-09-03 18:13 J -18472272.83 -18472272.74 -18472272.64 0.3783 0.1076

Jupiter -55286-11-01 08:09 J -18471484.29 -18471484.16 -18471484.03 0.0535 0.0028

Venus -55285-06-08 21:35 J -18471263.74 -18471263.60 -18471263.45 0.3593 0.1564

Mars -55283-06-22 18:57 J -18470519.77 -18470519.71 -18470519.64 0.1765 0.1479

Venus -55282-03-20 10:04 J -18470249.17 -18470249.08 -18470248.98 0.3787 0.0996

Mars -55282-04-18 08:52 J -18470220.25 -18470220.13 -18470220.01 0.1769 0.1110

Moon -55281-01-07 16:04 J -18469955.98 -18469955.83 -18469955.68 0.2665 0.0102

Earth -55281-01-07 17:16 J -18469955.93 -18469955.78 -18469955.63 0.2661 0.0260 *

Mars -55281-05-28 08:09 J -18469814.20 -18469814.16 -18469814.13 0.1799 0.1703

Jupiter -55280-09-18 03:35 J -18469336.50 -18469336.35 -18469336.19 0.0491 0.0235

Jupiter -55280-12-17 08:52 J -18469246.22 -18469246.13 -18469246.04 0.0492 0.0425

Earth -55278-07-15 04:04 J -18468671.44 -18468671.33 -18468671.22 0.2673 0.0965

Moon -55278-07-15 04:47 J -18468671.40 -18468671.30 -18468671.20 0.2671 0.1089 *

Venus -55277-10-03 01:54 J -18468225.48 -18468225.42 -18468225.36 0.3790 0.3025

Saturn -55275-06-04 00:57 J -18467616.55 -18467616.46 -18467616.36 0.0285 0.0208

Saturn -55275-08-31 13:40 J -18467528.06 -18467527.93 -18467527.80 0.0286 0.0099

Saturn -55275-11-28 02:23 J -18467439.54 -18467439.40 -18467439.27 0.0287 0.0011

Saturn -55274-02-24 14:52 J -18467351.00 -18467350.88 -18467350.76 0.0288 0.0118

Saturn -55274-05-24 03:06 J -18467262.45 -18467262.37 -18467262.28 0.0289 0.0227

Jupiter -55274-08-20 11:45 J -18467174.13 -18467174.01 -18467173.88 0.0535 0.0119

Jupiter -55274-11-17 19:40 J -18467084.73 -18467084.68 -18467084.62 0.0534 0.0470

Mars -55272-10-18 16:47 J -18466383.90 -18466383.80 -18466383.69 0.1790 0.0924

Moon -55271-07-08 00:42 J -18466121.55 -18466121.47 -18466121.38 0.2674 0.1741

Earth -55271-07-08 00:57 J -18466121.55 -18466121.46 -18466121.38 0.2668 0.1737 *

Moon -55268-01-09 20:52 J -18465204.72 -18465204.63 -18465204.53 0.2665 0.1980

Earth -55268-01-09 21:35 J -18465204.70 -18465204.60 -18465204.49 0.2659 0.1935 *

Jupiter -55268-07-07 01:11 J -18465026.54 -18465026.45 -18465026.35 0.0491 0.0406

Jupiter -55268-10-05 05:59 J -18464936.40 -18464936.25 -18464936.09 0.0492 0.0248

Earth -55265-07-16 22:33 J -18463920.64 -18463920.56 -18463920.48 0.2675 0.1902

Moon -55265-07-16 22:47 J -18463920.63 -18463920.55 -18463920.47 0.2669 0.1877 *

Neptune -55262-01-16 14:37 J -18463006.92 -18463006.89 -18463006.86 0.0089 0.0087

Mars -55262-03-11 01:40 J -18462953.55 -18462953.43 -18462953.31 0.1782 0.0150

Neptune -55262-04-14 17:16 J -18462918.84 -18462918.78 -18462918.68 0.0089 0.0080

Jupiter -55262-06-08 15:35 J -18462863.96 -18462863.85 -18462863.73 0.0535 0.0263

Neptune -55262-07-11 20:37 J -18462830.74 -18462830.64 -18462830.53 0.0089 0.0072

Uranus -55262-07-16 11:30 J -18462826.12 -18462826.02 -18462825.91 0.0146 0.0121

Jupiter -55262-09-05 23:45 J -18462774.61 -18462774.51 -18462774.41 0.0534 0.0332

Neptune -55262-10-07 23:30 J -18462742.63 -18462742.52 -18462742.38 0.0089 0.0065

Uranus -55262-10-12 19:40 J -18462737.82 -18462737.68 -18462737.52 0.0146 0.0088

Earth -55261-01-02 15:35 J -18462655.85 -18462655.85 -18462655.84 0.2665 0.2661

Saturn -55261-01-03 11:59 J -18462655.05 -18462655.00 -18462654.93 0.0276 0.0259

Neptune -55261-01-04 02:37 J -18462654.52 -18462654.39 -18462654.24 0.0089 0.0057

Mars -55261-01-05 07:54 J -18462653.27 -18462653.17 -18462653.06 0.1752 0.1276

Uranus -55261-01-09 03:49 J -18462649.50 -18462649.34 -18462649.16 0.0146 0.0056

Neptune -55261-04-01 05:59 J -18462566.40 -18462566.25 -18462566.10 0.0089 0.0049

Saturn -55261-04-01 07:54 J -18462566.32 -18462566.17 -18462566.01 0.0275 0.0135 *

Uranus -55261-04-06 12:13 J -18462561.17 -18462560.99 -18462560.80 0.0146 0.0022

Neptune -55261-06-28 08:37 J -18462478.28 -18462478.14 -18462477.96 0.0089 0.0042

Saturn -55261-06-29 04:04 J -18462477.50 -18462477.33 -18462477.15 0.0274 0.0012

Uranus -55261-07-03 20:37 J -18462472.83 -18462472.64 -18462472.45 0.0146 0.0011

Neptune -55261-09-24 11:59 J -18462390.16 -18462390.00 -18462389.83 0.0089 0.0034

Saturn -55261-09-26 00:28 J -18462388.64 -18462388.48 -18462388.31 0.0273 0.0116

Uranus -55261-09-30 05:01 J -18462384.47 -18462384.29 -18462384.11 0.0146 0.0044

Neptune -55261-12-21 15:06 J -18462302.04 -18462301.87 -18462301.69 0.0089 0.0026

Saturn -55261-12-23 21:06 J -18462299.70 -18462299.62 -18462299.54 0.0272 0.0242

Uranus -55261-12-27 13:11 J -18462296.10 -18462295.95 -18462295.78 0.0146 0.0078

Neptune -55260-03-19 18:13 J -18462213.91 -18462213.74 -18462213.56 0.0089 0.0018

Uranus -55260-03-25 21:35 J -18462207.71 -18462207.60 -18462207.47 0.0146 0.0111

Neptune -55260-06-15 21:21 J -18462125.79 -18462125.61 -18462125.42 0.0089 0.0011

Uranus -55260-06-22 05:45 J -18462119.26 -18462119.26 -18462119.22 0.0146 0.0145

Neptune -55260-09-12 00:42 J -18462037.66 -18462037.47 -18462037.29 0.0089 0.0003

Neptune -55260-12-09 03:49 J -18461949.52 -18461949.34 -18461949.16 0.0089 0.0005

Neptune -55259-03-07 06:57 J -18461861.39 -18461861.21 -18461861.03 0.0089 0.0013

Neptune -55259-06-03 10:04 J -18461773.25 -18461773.08 -18461772.90 0.0089 0.0021

Neptune -55259-08-30 13:11 J -18461685.12 -18461684.95 -18461684.77 0.0089 0.0029

Neptune -55259-11-26 16:18 J -18461596.98 -18461596.82 -18461596.64 0.0089 0.0037

Neptune -55258-02-22 19:40 J -18461508.83 -18461508.68 -18461508.52 0.0089 0.0045

Neptune -55258-05-21 22:47 J -18461420.69 -18461420.55 -18461420.39 0.0089 0.0053

Earth -55258-07-10 19:40 J -18461370.79 -18461370.68 -18461370.57 0.2670 0.0761

Moon -55258-07-10 20:09 J -18461370.77 -18461370.66 -18461370.55 0.2676 0.0773 *

Neptune -55258-08-18 02:09 J -18461332.54 -18461332.41 -18461332.27 0.0089 0.0061

Neptune -55258-11-14 05:16 J -18461244.38 -18461244.28 -18461244.15 0.0089 0.0069

Neptune -55257-02-10 08:37 J -18461156.22 -18461156.14 -18461156.04 0.0089 0.0077

Neptune -55257-05-08 11:45 J -18461068.05 -18461068.01 -18461067.95 0.0089 0.0085

Jupiter -55256-07-24 04:04 J -18460626.50 -18460626.33 -18460626.15 0.0492 0.0082

Mars -55253-07-31 10:18 J -18459523.18 -18459523.07 -18459522.96 0.1773 0.0625

Mars -55252-05-27 08:37 J -18459223.29 -18459223.14 -18459222.98 0.1760 0.0164

Jupiter -55250-03-27 18:57 J -18458553.79 -18458553.71 -18458553.62 0.0535 0.0414

Jupiter -55250-06-25 03:21 J -18458464.48 -18458464.36 -18458464.24 0.0534 0.0184

Moon -55248-01-04 17:59 J -18457904.89 -18457904.75 -18457904.62 0.2662 0.1193

Earth -55248-01-04 19:25 J -18457904.83 -18457904.69 -18457904.56 0.2663 0.1083 *

Saturn -55246-10-22 02:52 J -18456884.45 -18456884.38 -18456884.31 0.0286 0.0240

Saturn -55245-01-18 15:35 J -18456795.97 -18456795.85 -18456795.73 0.0287 0.0131

Saturn -55245-04-16 04:18 J -18456707.46 -18456707.32 -18456707.18 0.0287 0.0022

Earth -55245-07-12 14:23 J -18456620.01 -18456619.90 -18456619.78 0.2672 0.0201

Moon -55245-07-12 15:06 J -18456619.98 -18456619.87 -18456619.75 0.2672 0.0336 *

Saturn -55245-07-13 16:47 J -18456618.93 -18456618.80 -18456618.67 0.0288 0.0088

Saturn -55245-10-10 05:16 J -18456530.38 -18456530.28 -18456530.18 0.0289 0.0196

Jupiter -55244-05-12 02:23 J -18456316.58 -18456316.40 -18456316.22 0.0492 0.0082

Mars -55244-12-21 19:11 J -18456092.78 -18456092.70 -18456092.63 0.1765 0.1384

Mars -55243-10-17 09:21 J -18455793.24 -18455793.11 -18455792.98 0.1769 0.0977

Mars -55242-11-27 08:09 J -18455387.17 -18455387.16 -18455387.16 0.1799 0.1790

Jupiter -55238-04-13 06:42 J -18454154.35 -18454154.22 -18454154.09 0.0534 0.0035

Moon -55238-07-06 10:18 J -18454070.09 -18454070.07 -18454070.06 0.2671 0.2635

Earth -55238-07-06 10:47 J -18454070.08 -18454070.05 -18454070.01 0.2666 0.2537 *

Venus -55237-09-24 23:59 J -18453623.58 -18453623.50 -18453623.43 0.3781 0.2373

Moon -55235-01-07 22:18 J -18453153.72 -18453153.57 -18453153.43 0.2665 0.0504

Earth -55235-01-07 23:30 J -18453153.67 -18453153.52 -18453153.38 0.2661 0.0555 *

Venus -55234-06-30 14:37 J -18452615.01 -18452614.89 -18452614.76 0.3596 0.2282

Jupiter -55232-02-28 01:11 J -18452006.61 -18452006.45 -18452006.30 0.0492 0.0240

Mars -55232-04-18 17:01 J -18451956.89 -18451956.79 -18451956.70 0.1791 0.1020

Jupiter -55232-05-29 06:13 J -18451916.33 -18451916.24 -18451916.14 0.0492 0.0421

Earth -55232-07-15 09:06 J -18451869.23 -18451869.12 -18451869.02 0.2674 0.1148

Moon -55232-07-15 09:35 J -18451869.20 -18451869.10 -18451868.99 0.2671 0.1148 *

Saturn -55232-08-19 09:06 J -18451834.26 -18451834.12 -18451833.98 0.0275 0.0163

Saturn -55232-11-16 05:16 J -18451745.46 -18451745.28 -18451745.11 0.0274 0.0038

Saturn -55231-02-13 01:25 J -18451656.61 -18451656.44 -18451656.27 0.0273 0.0088

Venus -55231-04-10 15:49 J -18451599.94 -18451599.84 -18451599.74 0.3785 0.0324

Saturn -55231-05-12 21:49 J -18451567.69 -18451567.59 -18451567.47 0.0272 0.0214

Venus -55228-01-13 23:59 J -18450590.52 -18450590.50 -18450590.49 0.3592 0.3561

Jupiter -55226-01-30 09:35 J -18449844.23 -18449844.10 -18449843.97 0.0535 0.0131

Jupiter -55226-04-29 17:30 J -18449754.83 -18449754.77 -18449754.70 0.0534 0.0458

Venus -55226-10-25 07:40 J -18449576.27 -18449576.18 -18449576.09 0.3788 0.1734

Moon -55225-07-08 05:59 J -18449319.35 -18449319.25 -18449319.16 0.2675 0.1537

Earth -55225-07-08 05:45 J -18449319.35 -18449319.26 -18449319.16 0.2668 0.1551 *

Mars -55223-09-09 01:40 J -18448526.55 -18448526.43 -18448526.31 0.1782 0.0246

Moon -55222-01-11 03:35 J -18448402.44 -18448402.35 -18448402.26 0.2665 0.2135

Earth -55222-01-11 04:04 J -18448402.41 -18448402.33 -18448402.25 0.2659 0.2240 *

Mars -55222-07-06 08:37 J -18448226.23 -18448226.14 -18448226.05 0.1751 0.1416

Jupiter -55221-12-16 23:30 J -18447696.62 -18447696.52 -18447696.42 0.0492 0.0401

Jupiter -55220-03-17 04:18 J -18447606.48 -18447606.32 -18447606.17 0.0492 0.0253

Venus -55220-05-09 23:30 J -18447552.53 -18447552.52 -18447552.52 0.3791 0.3773

Uranus -55220-10-28 06:42 J -18447381.24 -18447381.22 -18447381.19 0.0132 0.0129

Uranus -55219-01-24 09:35 J -18447293.16 -18447293.10 -18447293.02 0.0132 0.0113

Uranus -55219-04-22 12:57 J -18447205.05 -18447204.96 -18447204.86 0.0132 0.0094

Moon -55219-07-18 03:35 J -18447118.42 -18447118.35 -18447118.28 0.2669 0.2126

Earth -55219-07-18 03:35 J -18447118.42 -18447118.35 -18447118.28 0.2676 0.2073 *

Uranus -55219-07-19 16:04 J -18447116.94 -18447116.83 -18447116.72 0.0132 0.0077

Uranus -55219-10-15 18:57 J -18447028.82 -18447028.71 -18447028.58 0.0132 0.0060

Uranus -55218-01-11 22:18 J -18446940.70 -18446940.57 -18446940.45 0.0132 0.0042

Uranus -55218-04-10 01:11 J -18446852.58 -18446852.45 -18446852.31 0.0132 0.0024

Uranus -55218-07-07 04:18 J -18446764.45 -18446764.32 -18446764.18 0.0132 0.0007

Uranus -55218-10-03 07:25 J -18446676.33 -18446676.19 -18446676.06 0.0132 0.0011

Uranus -55218-12-30 10:18 J -18446588.20 -18446588.07 -18446587.94 0.0133 0.0028

Uranus -55217-03-27 13:25 J -18446500.06 -18446499.94 -18446499.81 0.0133 0.0046

Uranus -55217-06-23 16:33 J -18446411.93 -18446411.81 -18446411.70 0.0133 0.0063

Uranus -55217-09-19 19:11 J -18446323.79 -18446323.70 -18446323.58 0.0133 0.0081

Uranus -55217-12-16 22:18 J -18446235.65 -18446235.57 -18446235.47 0.0133 0.0098

Saturn -55216-03-10 06:28 J -18446152.28 -18446152.23 -18446152.17 0.0285 0.0259

Uranus -55216-03-15 01:25 J -18446147.50 -18446147.44 -18446147.37 0.0133 0.0115

Saturn -55216-06-06 19:11 J -18446063.81 -18446063.70 -18446063.58 0.0286 0.0150

Uranus -55216-06-11 04:33 J -18446059.32 -18446059.31 -18446059.30 0.0133 0.0132

Saturn -55216-09-03 07:54 J -18445975.30 -18445975.17 -18445975.03 0.0287 0.0042

Saturn -55216-11-30 20:37 J -18445886.77 -18445886.64 -18445886.51 0.0288 0.0069

Moon -55215-01-02 20:37 J -18445853.70 -18445853.64 -18445853.58 0.2661 0.2380

Earth -55215-01-02 21:49 J -18445853.65 -18445853.59 -18445853.53 0.2665 0.2376 *

Saturn -55215-02-27 09:06 J -18445798.23 -18445798.12 -18445798.02 0.0289 0.0177

Saturn -55215-05-26 21:21 J -18445709.63 -18445709.61 -18445709.59 0.0289 0.0285

Jupiter -55215-11-18 13:11 J -18445534.06 -18445533.95 -18445533.84 0.0535 0.0280

Jupiter -55214-02-15 21:21 J -18445444.71 -18445444.61 -18445444.51 0.0535 0.0316

Mars -55213-01-30 10:18 J -18445096.18 -18445096.07 -18445095.95 0.1774 0.0527

Mars -55213-11-25 09:06 J -18444796.28 -18444796.12 -18444795.97 0.1760 0.0285

Earth -55212-07-11 00:42 J -18444568.58 -18444568.47 -18444568.36 0.2670 0.0578

Moon -55212-07-11 01:11 J -18444568.56 -18444568.45 -18444568.34 0.2675 0.0508 *

Jupiter -55208-01-03 01:25 J -18443296.62 -18443296.44 -18443296.26 0.0492 0.0075

Mars -55204-06-21 19:11 J -18441665.78 -18441665.70 -18441665.62 0.1765 0.1283

Mars -55203-04-17 09:35 J -18441366.23 -18441366.10 -18441365.96 0.1769 0.0852

Jupiter -55203-09-06 17:01 J -18441223.87 -18441223.79 -18441223.71 0.0535 0.0424

Jupiter -55203-12-05 01:25 J -18441134.56 -18441134.44 -18441134.32 0.0535 0.0176

Moon -55202-01-06 00:13 J -18441102.63 -18441102.49 -18441102.35 0.2664 0.0947

Earth -55202-01-06 01:40 J -18441102.58 -18441102.43 -18441102.29 0.2663 0.0789 *

Saturn -55202-01-06 09:49 J -18441102.21 -18441102.09 -18441101.96 0.0275 0.0191

Saturn -55202-04-05 05:59 J -18441013.43 -18441013.25 -18441013.08 0.0274 0.0067

Saturn -55202-07-03 02:09 J -18440924.59 -18440924.41 -18440924.24 0.0273 0.0059

Saturn -55202-09-29 22:33 J -18440835.69 -18440835.56 -18440835.43 0.0273 0.0185

Earth -55199-07-13 19:25 J -18439817.81 -18439817.69 -18439817.58 0.2672 0.0383

Moon -55199-07-13 20:09 J -18439817.77 -18439817.66 -18439817.55 0.2672 0.0401 *

Jupiter -55197-10-21 23:30 J -18438986.69 -18438986.52 -18438986.34 0.0492 0.0091

Mars -55193-10-17 17:01 J -18437529.89 -18437529.79 -18437529.70 0.1790 0.1111

Moon -55192-07-06 15:21 J -18437267.91 -18437267.86 -18437267.81 0.2671 0.2354

Earth -55192-07-06 15:49 J -18437267.89 -18437267.84 -18437267.79 0.2666 0.2347 *

Jupiter -55191-09-23 05:01 J -18436824.42 -18436824.29 -18436824.16 0.0535 0.0029

Moon -55189-01-09 04:33 J -18436351.45 -18436351.31 -18436351.17 0.2665 0.0730

Earth -55189-01-09 05:45 J -18436351.40 -18436351.26 -18436351.12 0.2660 0.0855 *

Saturn -55187-10-24 21:21 J -18435331.72 -18435331.61 -18435331.51 0.0286 0.0181

Saturn -55186-01-21 10:04 J -18435243.22 -18435243.08 -18435242.95 0.0287 0.0072

Saturn -55186-04-19 22:33 J -18435154.69 -18435154.56 -18435154.42 0.0288 0.0038

Earth -55186-07-16 13:54 J -18435067.02 -18435066.92 -18435066.82 0.2674 0.1320

Moon -55186-07-16 14:23 J -18435066.99 -18435066.90 -18435066.80 0.2670 0.1430 *

Saturn -55186-07-17 11:01 J -18435066.15 -18435066.04 -18435065.92 0.0289 0.0146

Saturn -55186-10-13 23:30 J -18434977.58 -18434977.52 -18434977.46 0.0290 0.0255

Venus -55186-10-17 05:30 J -18434974.29 -18434974.27 -18434974.25 0.3778 0.3670

Jupiter -55185-08-09 22:04 J -18434676.73 -18434676.58 -18434676.43 0.0492 0.0252

Jupiter -55185-11-08 03:06 J -18434586.46 -18434586.37 -18434586.27 0.0492 0.0410

Mars -55183-03-10 01:40 J -18434099.55 -18434099.43 -18434099.31 0.1782 0.0335

Mars -55182-01-04 09:06 J -18433799.18 -18433799.12 -18433799.04 0.1751 0.1558

Neptune -55180-04-25 15:21 J -18432956.89 -18432956.86 -18432956.80 0.0089 0.0084

Venus -55180-05-01 21:21 J -18432950.70 -18432950.61 -18432950.52 0.3782 0.1624

Neptune -55180-07-22 17:01 J -18432868.84 -18432868.79 -18432868.71 0.0089 0.0078

Neptune -55180-10-18 18:28 J -18432780.79 -18432780.73 -18432780.63 0.0089 0.0072

Neptune -55179-01-14 20:09 J -18432692.74 -18432692.66 -18432692.55 0.0089 0.0066

Neptune -55179-04-12 21:49 J -18432604.69 -18432604.59 -18432604.48 0.0089 0.0059

Earth -55179-07-09 10:47 J -18432517.15 -18432517.05 -18432516.95 0.2668 0.1365

Moon -55179-07-09 10:47 J -18432517.14 -18432517.05 -18432516.95 0.2676 0.1394 *

Neptune -55179-07-09 23:16 J -18432516.63 -18432516.53 -18432516.41 0.0089 0.0054

Jupiter -55179-07-12 08:23 J -18432514.28 -18432514.15 -18432514.03 0.0535 0.0127

Neptune -55179-10-06 00:57 J -18432428.57 -18432428.46 -18432428.34 0.0089 0.0047

Jupiter -55179-10-09 16:04 J -18432424.89 -18432424.83 -18432424.76 0.0534 0.0463

Neptune -55178-01-02 02:23 J -18432340.51 -18432340.40 -18432340.26 0.0089 0.0042

Neptune -55178-03-31 04:04 J -18432252.45 -18432252.33 -18432252.20 0.0089 0.0035

Neptune -55178-06-27 05:30 J -18432164.39 -18432164.27 -18432164.13 0.0089 0.0030

Uranus -55178-08-05 17:01 J -18432124.88 -18432124.79 -18432124.67 0.0146 0.0119

Neptune -55178-09-23 07:11 J -18432076.33 -18432076.20 -18432076.06 0.0089 0.0023

Uranus -55178-11-02 01:25 J -18432036.58 -18432036.44 -18432036.28 0.0146 0.0086

Neptune -55178-12-20 08:37 J -18431988.27 -18431988.14 -18431988.00 0.0089 0.0018

Uranus -55177-01-29 09:49 J -18431948.27 -18431948.09 -18431947.92 0.0146 0.0053

Venus -55177-02-04 16:47 J -18431941.95 -18431941.80 -18431941.64 0.3595 0.0310

Neptune -55177-03-17 10:18 J -18431900.21 -18431900.07 -18431899.93 0.0089 0.0011

Uranus -55177-04-26 17:59 J -18431859.93 -18431859.75 -18431859.56 0.0146 0.0020

Neptune -55177-06-13 11:45 J -18431812.15 -18431812.01 -18431811.87 0.0089 0.0006

Uranus -55177-07-24 02:23 J -18431771.59 -18431771.40 -18431771.21 0.0146 0.0013

Neptune -55177-09-09 13:25 J -18431724.08 -18431723.94 -18431723.81 0.0089 0.0003

Uranus -55177-10-20 10:33 J -18431683.23 -18431683.06 -18431682.87 0.0146 0.0046

Neptune -55177-12-06 14:52 J -18431636.02 -18431635.88 -18431635.74 0.0089 0.0007

Earth -55176-01-11 10:18 J -18431600.11 -18431600.07 -18431600.03 0.2658 0.2539

Moon -55176-01-11 10:18 J -18431600.10 -18431600.07 -18431600.05 0.2665 0.2609 *

Uranus -55176-01-16 18:42 J -18431594.86 -18431594.72 -18431594.55 0.0146 0.0080

Neptune -55176-03-04 16:18 J -18431547.96 -18431547.82 -18431547.68 0.0089 0.0012

Uranus -55176-04-15 03:21 J -18431506.47 -18431506.36 -18431506.24 0.0146 0.0113

Neptune -55176-05-31 17:45 J -18431459.89 -18431459.76 -18431459.62 0.0089 0.0018

Neptune -55176-08-27 19:11 J -18431371.83 -18431371.70 -18431371.56 0.0089 0.0024

Neptune -55176-11-23 20:37 J -18431283.76 -18431283.64 -18431283.50 0.0089 0.0030

Neptune -55175-02-19 22:04 J -18431195.70 -18431195.58 -18431195.45 0.0089 0.0036

Neptune -55175-05-18 23:30 J -18431107.63 -18431107.52 -18431107.39 0.0089 0.0042

Neptune -55175-08-15 00:57 J -18431019.57 -18431019.46 -18431019.34 0.0089 0.0048

Neptune -55175-11-11 02:23 J -18430931.50 -18430931.40 -18430931.28 0.0089 0.0054

Venus -55175-11-15 13:11 J -18430927.05 -18430926.95 -18430926.85 0.3785 0.0450

Neptune -55174-02-07 04:04 J -18430843.43 -18430843.33 -18430843.23 0.0089 0.0059

Neptune -55174-05-06 05:16 J -18430755.36 -18430755.28 -18430755.18 0.0089 0.0065

Mars -55174-07-31 10:33 J -18430669.18 -18430669.06 -18430668.94 0.1774 0.0424

Neptune -55174-08-02 06:42 J -18430667.29 -18430667.22 -18430667.13 0.0089 0.0071

Neptune -55174-10-29 08:09 J -18430579.22 -18430579.16 -18430579.08 0.0089 0.0076

Neptune -55173-01-25 09:35 J -18430491.14 -18430491.10 -18430491.04 0.0089 0.0082

Neptune -55173-04-22 11:01 J -18430403.05 -18430403.04 -18430403.01 0.0089 0.0088

Saturn -55173-05-25 10:47 J -18430370.15 -18430370.05 -18430369.95 0.0275 0.0220

Mars -55173-05-26 09:35 J -18430369.25 -18430369.10 -18430368.95 0.1760 0.0417

Jupiter -55173-05-28 20:52 J -18430366.73 -18430366.63 -18430366.53 0.0492 0.0407

Moon -55173-07-18 08:37 J -18430316.21 -18430316.14 -18430316.08 0.2669 0.2191

Earth -55173-07-18 08:23 J -18430316.21 -18430316.15 -18430316.09 0.2676 0.2248 *

Saturn -55173-08-22 06:42 J -18430281.38 -18430281.22 -18430281.05 0.0274 0.0096

Jupiter -55173-08-27 01:40 J -18430276.59 -18430276.43 -18430276.28 0.0492 0.0247

Saturn -55173-11-19 02:52 J -18430192.56 -18430192.38 -18430192.20 0.0273 0.0029

Saturn -55172-02-15 23:16 J -18430103.68 -18430103.53 -18430103.38 0.0273 0.0155

Moon -55169-01-04 02:52 J -18429051.46 -18429051.38 -18429051.31 0.2661 0.2270

Earth -55169-01-04 04:04 J -18429051.42 -18429051.33 -18429051.24 0.2665 0.2085 *

Venus -55169-05-31 05:01 J -18428903.36 -18428903.29 -18428903.21 0.3788 0.2471

Jupiter -55167-04-30 11:01 J -18428204.15 -18428204.04 -18428203.93 0.0535 0.0290

Jupiter -55167-07-28 19:11 J -18428114.80 -18428114.70 -18428114.59 0.0534 0.0305

Earth -55166-07-12 05:45 J -18427766.38 -18427766.26 -18427766.15 0.2670 0.0407

Moon -55166-07-12 06:13 J -18427766.35 -18427766.24 -18427766.13 0.2674 0.0341 *

Mars -55165-12-20 19:11 J -18427238.79 -18427238.70 -18427238.61 0.1765 0.1190

Mars -55164-10-16 10:18 J -18426939.22 -18426939.07 -18426938.93 0.1769 0.0716

Jupiter -55161-06-14 23:45 J -18425966.69 -18425966.51 -18425966.33 0.0492 0.0081

Pluto -55160-08-19 09:06 J -18425536.13 -18425536.12 -18425536.07 0.0061 0.0061

Pluto -55160-11-15 10:04 J -18425448.12 -18425448.08 -18425447.99 0.0061 0.0057

Pluto -55159-02-11 11:16 J -18425360.10 -18425360.03 -18425359.92 0.0062 0.0052

Pluto -55159-05-10 12:13 J -18425272.08 -18425271.99 -18425271.86 0.0062 0.0048

Pluto -55159-08-06 13:40 J -18425184.04 -18425183.93 -18425183.80 0.0062 0.0043

Pluto -55159-11-02 14:52 J -18425096.01 -18425095.88 -18425095.74 0.0062 0.0038

Pluto -55158-01-29 15:49 J -18425007.97 -18425007.84 -18425007.68 0.0062 0.0034

Pluto -55158-04-27 17:01 J -18424919.94 -18424919.79 -18424919.63 0.0062 0.0029

Pluto -55158-07-24 17:59 J -18424831.90 -18424831.75 -18424831.58 0.0062 0.0025

Pluto -55158-10-20 19:11 J -18424743.86 -18424743.70 -18424743.53 0.0062 0.0020

Pluto -55157-01-16 20:23 J -18424655.81 -18424655.65 -18424655.48 0.0062 0.0015

Saturn -55157-03-13 00:42 J -18424599.56 -18424599.47 -18424599.37 0.0286 0.0201

Pluto -55157-04-13 21:35 J -18424567.77 -18424567.60 -18424567.42 0.0062 0.0011

Saturn -55157-06-09 13:25 J -18424511.06 -18424510.94 -18424510.81 0.0287 0.0092

Pluto -55157-07-10 22:47 J -18424479.72 -18424479.55 -18424479.38 0.0062 0.0006

Saturn -55157-09-06 02:09 J -18424422.54 -18424422.41 -18424422.27 0.0287 0.0018

Pluto -55157-10-06 23:59 J -18424391.68 -18424391.50 -18424391.33 0.0062 0.0001

Saturn -55157-12-03 14:37 J -18424334.01 -18424333.89 -18424333.77 0.0288 0.0127

Pluto -55156-01-03 01:11 J -18424303.63 -18424303.45 -18424303.28 0.0062 0.0004

Moon -55156-01-06 06:13 J -18424300.38 -18424300.24 -18424300.09 0.2665 0.0543

Earth -55156-01-06 07:40 J -18424300.32 -18424300.18 -18424300.03 0.2662 0.0501 *

Saturn -55156-03-02 03:06 J -18424245.44 -18424245.37 -18424245.29 0.0289 0.0235

Pluto -55156-04-01 02:09 J -18424215.58 -18424215.41 -18424215.23 0.0063 0.0009

Pluto -55156-06-28 03:21 J -18424127.53 -18424127.36 -18424127.18 0.0063 0.0013

Pluto -55156-09-24 04:18 J -18424039.47 -18424039.32 -18424039.14 0.0063 0.0019

Pluto -55156-12-21 05:45 J -18423951.42 -18423951.26 -18423951.09 0.0063 0.0023

Jupiter -55155-02-16 14:23 J -18423893.97 -18423893.90 -18423893.83 0.0535 0.0441

Pluto -55155-03-19 06:57 J -18423863.36 -18423863.21 -18423863.05 0.0063 0.0028

Jupiter -55155-05-16 23:01 J -18423804.67 -18423804.54 -18423804.42 0.0535 0.0160

Pluto -55155-06-15 07:54 J -18423775.31 -18423775.17 -18423775.01 0.0063 0.0033

Pluto -55155-09-11 09:06 J -18423687.25 -18423687.12 -18423686.97 0.0063 0.0038

Pluto -55155-12-08 10:18 J -18423599.18 -18423599.07 -18423598.93 0.0063 0.0043

Pluto -55154-03-06 11:30 J -18423511.12 -18423511.02 -18423510.89 0.0063 0.0049

Pluto -55154-06-02 12:57 J -18423423.04 -18423422.96 -18423422.86 0.0063 0.0053

Pluto -55154-08-29 14:09 J -18423334.96 -18423334.91 -18423334.84 0.0063 0.0059

Mars -55153-04-17 17:01 J -18423102.88 -18423102.79 -18423102.71 0.1791 0.1203

Earth -55153-07-14 00:28 J -18423015.60 -18423015.48 -18423015.37 0.2672 0.0570

Moon -55153-07-14 01:11 J -18423015.56 -18423015.45 -18423015.34 0.2672 0.0678 *

Jupiter -55149-04-02 20:52 J -18421656.80 -18421656.63 -18421656.45 0.0492 0.0097

Moon -55146-07-07 20:37 J -18420465.70 -18420465.64 -18420465.59 0.2673 0.2261

Earth -55146-07-07 20:52 J -18420465.70 -18420465.63 -18420465.56 0.2667 0.2160 *

Mars -55144-09-08 01:54 J -18419672.54 -18419672.42 -18419672.31 0.1782 0.0441

Saturn -55144-10-12 11:59 J -18419638.07 -18419638.00 -18419637.92 0.0275 0.0246

Saturn -55143-01-09 07:40 J -18419549.33 -18419549.18 -18419549.01 0.0275 0.0123

Moon -55143-01-09 11:01 J -18419549.18 -18419549.04 -18419548.91 0.2665 0.1077 *

Earth -55143-01-09 11:59 J -18419549.13 -18419549.00 -18419548.86 0.2660 0.1155 *

Jupiter -55143-03-05 02:52 J -18419494.51 -18419494.38 -18419494.25 0.0535 0.0024

Saturn -55143-04-08 04:04 J -18419460.51 -18419460.33 -18419460.15 0.0274 0.0005

Mars -55143-07-05 09:35 J -18419372.14 -18419372.10 -18419372.06 0.1751 0.1677

Saturn -55143-07-06 00:13 J -18419371.65 -18419371.49 -18419371.33 0.0273 0.0128

Saturn -55143-10-02 20:37 J -18419282.70 -18419282.64 -18419282.57 0.0272 0.0254

Earth -55140-07-16 18:57 J -18418264.81 -18418264.71 -18418264.62 0.2674 0.1499

Moon -55140-07-16 19:25 J -18418264.79 -18418264.69 -18418264.60 0.2669 0.1479 *

Jupiter -55137-01-20 19:11 J -18417346.85 -18417346.70 -18417346.54 0.0492 0.0259

Jupiter -55137-04-20 00:13 J -18417256.59 -18417256.49 -18417256.38 0.0492 0.0401

Uranus -55136-11-17 13:25 J -18416679.97 -18416679.94 -18416679.90 0.0132 0.0127

Uranus -55135-02-13 16:33 J -18416591.88 -18416591.81 -18416591.73 0.0132 0.0109

Uranus -55135-05-12 19:25 J -18416503.77 -18416503.69 -18416503.58 0.0132 0.0093

Uranus -55135-08-08 22:47 J -18416415.66 -18416415.55 -18416415.44 0.0132 0.0074

Uranus -55135-11-05 01:54 J -18416327.54 -18416327.42 -18416327.30 0.0132 0.0057

Mars -55134-01-29 10:18 J -18416242.18 -18416242.07 -18416241.95 0.1774 0.0345

Uranus -55134-02-01 05:01 J -18416239.42 -18416239.29 -18416239.16 0.0132 0.0039

Uranus -55134-04-30 08:09 J -18416151.30 -18416151.16 -18416151.03 0.0132 0.0022

Uranus -55134-07-27 11:01 J -18416063.17 -18416063.04 -18416062.90 0.0132 0.0006

Uranus -55134-10-23 14:09 J -18415975.04 -18415974.91 -18415974.78 0.0133 0.0014

Mars -55134-11-25 10:18 J -18415942.22 -18415942.07 -18415941.92 0.1760 0.0561

Uranus -55133-01-19 17:01 J -18415886.91 -18415886.79 -18415886.65 0.0133 0.0032

Uranus -55133-04-16 20:09 J -18415798.78 -18415798.66 -18415798.53 0.0133 0.0049

Moon -55133-07-09 15:49 J -18415714.94 -18415714.84 -18415714.73 0.2676 0.1135

Earth -55133-07-09 15:49 J -18415714.94 -18415714.84 -18415714.74 0.2669 0.1180 *

Uranus -55133-07-13 23:16 J -18415710.65 -18415710.53 -18415710.41 0.0133 0.0066

Uranus -55133-10-10 02:09 J -18415622.51 -18415622.41 -18415622.30 0.0133 0.0083

Uranus -55132-01-06 05:01 J -18415534.36 -18415534.29 -18415534.19 0.0133 0.0101

Uranus -55132-04-04 08:09 J -18415446.21 -18415446.16 -18415446.09 0.0133 0.0118

Jupiter -55132-12-22 06:28 J -18415184.35 -18415184.23 -18415184.10 0.0535 0.0130

Jupiter -55131-03-21 14:23 J -18415094.96 -18415094.90 -18415094.83 0.0534 0.0460

Venus -55129-05-23 02:52 J -18414301.44 -18414301.38 -18414301.31 0.3779 0.2938

Saturn -55128-07-31 02:23 J -18413867.47 -18413867.40 -18413867.32 0.0286 0.0234

Saturn -55128-10-27 15:21 J -18413778.99 -18413778.86 -18413778.74 0.0287 0.0125

Saturn -55127-01-24 03:49 J -18413690.47 -18413690.34 -18413690.20 0.0288 0.0018

Saturn -55127-04-22 16:33 J -18413601.94 -18413601.81 -18413601.68 0.0288 0.0094

Earth -55127-07-19 13:25 J -18413513.99 -18413513.94 -18413513.90 0.2676 0.2419

Moon -55127-07-19 13:25 J -18413513.98 -18413513.94 -18413513.90 0.2670 0.2470 *

Saturn -55127-07-20 05:01 J -18413513.39 -18413513.29 -18413513.20 0.0289 0.0202

Jupiter -55126-11-08 17:45 J -18413036.85 -18413036.76 -18413036.67 0.0492 0.0419

Jupiter -55125-02-06 22:33 J -18412946.72 -18412946.56 -18412946.40 0.0492 0.0235

Mars -55125-06-20 19:11 J -18412811.79 -18412811.70 -18412811.60 0.1766 0.1093

Mars -55124-04-16 10:47 J -18412512.20 -18412512.05 -18412511.90 0.1769 0.0577

Venus -55124-12-06 18:57 J -18412277.81 -18412277.71 -18412277.61 0.3783 0.0880

Moon -55123-01-04 08:52 J -18412249.24 -18412249.13 -18412249.02 0.2662 0.1811

Earth -55123-01-04 10:04 J -18412249.18 -18412249.08 -18412248.97 0.2664 0.1804 *

Venus -55121-09-10 19:11 J -18411268.84 -18411268.70 -18411268.56 0.3594 0.1713

Earth -55120-07-12 10:33 J -18410964.17 -18410964.06 -18410963.94 0.2671 0.0218

Moon -55120-07-12 11:16 J -18410964.14 -18410964.03 -18410963.91 0.2674 0.0177 *

Jupiter -55120-10-10 09:49 J -18410874.20 -18410874.09 -18410873.98 0.0535 0.0283

Jupiter -55119-01-07 17:59 J -18410784.85 -18410784.75 -18410784.64 0.0534 0.0311

Venus -55118-06-22 10:47 J -18410254.15 -18410254.05 -18410253.96 0.3786 0.1182

Mars -55115-09-06 11:16 J -18409082.06 -18409082.03 -18409081.99 0.1778 0.1722

Saturn -55114-05-29 08:23 J -18408817.30 -18408817.15 -18408817.00 0.0274 0.0154

Saturn -55114-08-26 04:33 J -18408728.49 -18408728.31 -18408728.14 0.0274 0.0030

Mars -55114-10-17 17:01 J -18408675.87 -18408675.79 -18408675.71 0.1791 0.1303

Saturn -55114-11-23 00:42 J -18408639.64 -18408639.47 -18408639.30 0.0273 0.0096

Jupiter -55114-11-25 21:06 J -18408636.80 -18408636.62 -18408636.45 0.0492 0.0075

Saturn -55113-02-19 20:52 J -18408550.72 -18408550.63 -18408550.51 0.0272 0.0222

Venus -55112-01-05 02:37 J -18408230.44 -18408230.39 -18408230.34 0.3789 0.3227

Moon -55110-01-07 12:28 J -18407498.12 -18407497.98 -18407497.83 0.2664 0.0411

Earth -55110-01-07 14:09 J -18407498.06 -18407497.91 -18407497.77 0.2662 0.0206 *

Jupiter -55108-07-29 12:28 J -18406564.05 -18406563.98 -18406563.91 0.0535 0.0448

Jupiter -55108-10-26 20:52 J -18406474.75 -18406474.63 -18406474.50 0.0534 0.0153

Earth -55107-07-15 05:16 J -18406213.39 -18406213.28 -18406213.17 0.2673 0.0735

Moon -55107-07-15 05:59 J -18406213.36 -18406213.25 -18406213.14 0.2672 0.0775 *

Mars -55104-03-09 01:54 J -18405245.54 -18405245.42 -18405245.31 0.1782 0.0533

Jupiter -55102-09-13 19:11 J -18404326.87 -18404326.70 -18404326.52 0.0492 0.0091

Moon -55100-07-08 01:40 J -18403663.51 -18403663.43 -18403663.35 0.2674 0.1936

Earth -55100-07-08 01:54 J -18403663.50 -18403663.42 -18403663.35 0.2667 0.1974 *

Saturn -55099-12-18 05:45 J -18403135.32 -18403135.26 -18403135.20 0.0285 0.0254

Saturn -55098-03-16 18:42 J -18403046.84 -18403046.72 -18403046.60 0.0286 0.0145

Saturn -55098-06-13 07:25 J -18402958.33 -18402958.19 -18402958.06 0.0287 0.0036

Saturn -55098-09-09 19:54 J -18402869.80 -18402869.67 -18402869.54 0.0288 0.0073

Neptune -55098-10-13 13:40 J -18402835.97 -18402835.93 -18402835.84 0.0089 0.0083

Saturn -55098-12-07 08:23 J -18402781.25 -18402781.15 -18402781.04 0.0289 0.0182

Neptune -55097-01-09 17:01 J -18402747.88 -18402747.79 -18402747.69 0.0089 0.0075

Moon -55097-01-10 17:30 J -18402746.89 -18402746.77 -18402746.64 0.2665 0.1436

Earth -55097-01-10 18:13 J -18402746.86 -18402746.74 -18402746.61 0.2660 0.1459 *

Neptune -55097-04-06 20:09 J -18402659.77 -18402659.66 -18402659.54 0.0089 0.0067

Neptune -55097-07-03 23:01 J -18402571.66 -18402571.54 -18402571.40 0.0089 0.0060

Neptune -55097-09-30 02:09 J -18402483.55 -18402483.41 -18402483.25 0.0089 0.0052

Neptune -55097-12-27 05:01 J -18402395.43 -18402395.29 -18402395.12 0.0089 0.0045

Neptune -55096-03-25 08:09 J -18402307.31 -18402307.16 -18402306.98 0.0089 0.0037

Neptune -55096-06-21 11:30 J -18402219.19 -18402219.02 -18402218.84 0.0089 0.0029

Jupiter -55096-08-15 00:42 J -18402164.60 -18402164.47 -18402164.34 0.0535 0.0019

Neptune -55096-09-17 14:37 J -18402131.07 -18402130.89 -18402130.71 0.0089 0.0021

Neptune -55096-12-14 17:45 J -18402042.94 -18402042.76 -18402042.58 0.0089 0.0013

Neptune -55095-03-12 20:52 J -18401954.81 -18401954.63 -18401954.45 0.0089 0.0006

Neptune -55095-06-08 23:59 J -18401866.68 -18401866.50 -18401866.31 0.0089 0.0003

Mars -55095-07-30 10:33 J -18401815.18 -18401815.06 -18401814.94 0.1774 0.0237

Neptune -55095-09-05 03:06 J -18401778.55 -18401778.37 -18401778.18 0.0089 0.0010

Neptune -55095-12-02 06:13 J -18401690.42 -18401690.24 -18401690.05 0.0089 0.0018

Neptune -55094-02-28 09:21 J -18401602.28 -18401602.11 -18401601.93 0.0089 0.0026

Mars -55094-05-26 10:33 J -18401515.20 -18401515.06 -18401514.91 0.1760 0.0688

Neptune -55094-05-27 12:28 J -18401514.14 -18401513.98 -18401513.80 0.0089 0.0034

Earth -55094-07-17 23:45 J -18401462.59 -18401462.51 -18401462.42 0.2675 0.1674

Moon -55094-07-18 00:13 J -18401462.57 -18401462.49 -18401462.40 0.2668 0.1752 *

Neptune -55094-08-23 15:35 J -18401426.00 -18401425.85 -18401425.67 0.0089 0.0042

Uranus -55094-08-25 23:30 J -18401423.63 -18401423.52 -18401423.40 0.0146 0.0115

Neptune -55094-11-19 18:57 J -18401337.86 -18401337.71 -18401337.55 0.0089 0.0050

Uranus -55094-11-22 07:40 J -18401335.33 -18401335.18 -18401335.02 0.0146 0.0083

Neptune -55093-02-15 22:04 J -18401249.71 -18401249.58 -18401249.43 0.0089 0.0058

Uranus -55093-02-18 15:49 J -18401247.01 -18401246.84 -18401246.66 0.0146 0.0050

Neptune -55093-05-14 01:11 J -18401161.56 -18401161.45 -18401161.31 0.0089 0.0066

Uranus -55093-05-17 00:13 J -18401158.68 -18401158.49 -18401158.30 0.0146 0.0017

Neptune -55093-08-10 04:33 J -18401073.40 -18401073.31 -18401073.20 0.0089 0.0074

Uranus -55093-08-13 08:23 J -18401070.33 -18401070.15 -18401069.96 0.0146 0.0017

Neptune -55093-11-06 07:40 J -18400985.23 -18400985.18 -18400985.09 0.0089 0.0082

Uranus -55093-11-09 16:47 J -18400981.97 -18400981.80 -18400981.62 0.0146 0.0050

Uranus -55092-02-06 01:11 J -18400893.60 -18400893.45 -18400893.29 0.0146 0.0083

Uranus -55092-05-05 09:21 J -18400805.21 -18400805.11 -18400804.98 0.0146 0.0117

Jupiter -55090-07-02 16:47 J -18400016.95 -18400016.80 -18400016.65 0.0492 0.0265

Jupiter -55090-09-30 21:35 J -18399926.70 -18399926.60 -18399926.49 0.0492 0.0395

Earth -55087-07-10 20:52 J -18398912.74 -18398912.63 -18398912.53 0.2669 0.1000

Moon -55087-07-10 21:06 J -18398912.73 -18398912.62 -18398912.52 0.2675 0.1029 *

Mars -55086-12-20 19:11 J -18398384.80 -18398384.70 -18398384.60 0.1765 0.0998

Saturn -55085-10-15 09:35 J -18398085.23 -18398085.10 -18398084.96 0.0275 0.0179

Mars -55085-10-15 11:01 J -18398085.19 -18398085.04 -18398084.89 0.1769 0.0459 *

Saturn -55084-01-12 05:30 J -18397996.44 -18397996.27 -18397996.09 0.0274 0.0055

Saturn -55084-04-11 01:54 J -18397907.60 -18397907.42 -18397907.25 0.0273 0.0070

Jupiter -55084-06-03 04:33 J -18397854.44 -18397854.31 -18397854.18 0.0535 0.0137

Saturn -55084-07-08 22:04 J -18397818.70 -18397818.58 -18397818.45 0.0272 0.0196

Jupiter -55084-08-31 12:28 J -18397765.04 -18397764.98 -18397764.91 0.0534 0.0455

Moon -55081-07-19 17:59 J -18396711.78 -18396711.75 -18396711.71 0.2670 0.2515

Earth -55081-07-19 18:13 J -18396711.76 -18396711.74 -18396711.71 0.2676 0.2593 *

Jupiter -55078-04-20 15:06 J -18395706.95 -18395706.87 -18395706.77 0.0491 0.0425

Jupiter -55078-07-19 19:40 J -18395616.83 -18395616.68 -18395616.51 0.0492 0.0229

Moon -55077-01-05 14:52 J -18395446.99 -18395446.88 -18395446.77 0.2663 0.1712

Earth -55077-01-05 16:18 J -18395446.94 -18395446.82 -18395446.70 0.2664 0.1513 *

Mars -55075-03-07 11:59 J -18394655.07 -18394655.00 -18394654.93 0.1778 0.1573

Mars -55074-04-17 17:01 J -18394248.86 -18394248.79 -18394248.72 0.1791 0.1389

Earth -55074-07-13 15:35 J -18394161.97 -18394161.85 -18394161.74 0.2671 0.0042

Moon -55074-07-13 16:18 J -18394161.93 -18394161.82 -18394161.71 0.2674 0.0067 *

Venus -55073-12-28 00:28 J -18393628.56 -18393628.48 -18393628.40 0.3780 0.2181

Jupiter -55072-03-22 08:09 J -18393544.27 -18393544.16 -18393544.05 0.0535 0.0284

Jupiter -55072-06-19 16:18 J -18393454.92 -18393454.82 -18393454.71 0.0534 0.0311

Venus -55070-10-02 12:13 J -18392620.12 -18392619.99 -18392619.86 0.3597 0.2137

Saturn -55069-08-02 20:09 J -18392314.77 -18392314.66 -18392314.56 0.0286 0.0181

Saturn -55069-10-30 08:52 J -18392226.26 -18392226.13 -18392226.00 0.0287 0.0072

Saturn -55068-01-26 21:21 J -18392137.74 -18392137.61 -18392137.47 0.0288 0.0038

Pluto -55068-04-20 19:25 J -18392053.73 -18392053.69 -18392053.63 0.0083 0.0077

Saturn -55068-04-25 10:04 J -18392049.20 -18392049.08 -18392048.97 0.0289 0.0146

Pluto -55068-07-17 20:52 J -18391965.70 -18391965.63 -18391965.53 0.0083 0.0068

Saturn -55068-07-22 22:18 J -18391960.63 -18391960.57 -18391960.50 0.0290 0.0254

Pluto -55068-10-13 22:47 J -18391877.65 -18391877.55 -18391877.44 0.0082 0.0058

Pluto -55067-01-10 00:13 J -18391789.59 -18391789.49 -18391789.36 0.0082 0.0049

Pluto -55067-04-08 01:54 J -18391701.54 -18391701.42 -18391701.28 0.0082 0.0039

Pluto -55067-07-05 03:35 J -18391613.48 -18391613.35 -18391613.21 0.0082 0.0030

Venus -55067-07-13 16:18 J -18391604.92 -18391604.82 -18391604.72 0.3783 0.0126

Pluto -55067-10-01 05:01 J -18391525.42 -18391525.29 -18391525.14 0.0082 0.0021

Pluto -55067-12-28 06:42 J -18391437.36 -18391437.22 -18391437.07 0.0082 0.0012

Pluto -55066-03-26 08:23 J -18391349.30 -18391349.15 -18391349.01 0.0082 0.0002

Jupiter -55066-05-07 17:59 J -18391306.92 -18391306.75 -18391306.57 0.0492 0.0065

Pluto -55066-06-22 09:49 J -18391261.23 -18391261.09 -18391260.94 0.0081 0.0007

Pluto -55066-09-18 11:16 J -18391173.17 -18391173.03 -18391172.88 0.0081 0.0016

Pluto -55066-12-15 12:42 J -18391085.10 -18391084.97 -18391084.82 0.0081 0.0024

Pluto -55065-03-12 14:09 J -18390997.03 -18390996.91 -18390996.77 0.0081 0.0033

Pluto -55065-06-08 15:49 J -18390908.96 -18390908.84 -18390908.71 0.0081 0.0041

Pluto -55065-09-04 17:01 J -18390820.89 -18390820.79 -18390820.66 0.0081 0.0050

Mars -55065-09-07 01:54 J -18390818.54 -18390818.42 -18390818.31 0.1783 0.0624

Pluto -55065-12-01 18:28 J -18390732.81 -18390732.73 -18390732.62 0.0081 0.0059

Moon -55064-01-07 18:42 J -18390695.86 -18390695.72 -18390695.57 0.2664 0.0095

Earth -55064-01-07 20:09 J -18390695.81 -18390695.66 -18390695.51 0.2662 0.0111 *

Pluto -55064-02-27 19:54 J -18390644.74 -18390644.67 -18390644.58 0.0081 0.0067

Pluto -55064-05-26 21:35 J -18390556.65 -18390556.60 -18390556.55 0.0080 0.0075

Venus -55061-01-27 08:09 J -18389581.25 -18389581.16 -18389581.07 0.3787 0.1924

Earth -55061-07-15 10:18 J -18389411.18 -18389411.07 -18389410.97 0.2673 0.0920

Moon -55061-07-15 10:47 J -18389411.15 -18389411.05 -18389410.94 0.2670 0.0978 *

Jupiter -55060-01-08 11:16 J -18389234.10 -18389234.03 -18389233.95 0.0535 0.0439

Jupiter -55060-04-07 19:54 J -18389144.79 -18389144.67 -18389144.55 0.0534 0.0162

Mars -55055-01-28 10:33 J -18387388.18 -18387388.06 -18387387.93 0.1774 0.0149

Saturn -55055-03-04 09:35 J -18387353.21 -18387353.10 -18387352.99 0.0275 0.0214

Saturn -55055-06-01 05:30 J -18387264.44 -18387264.27 -18387264.10 0.0274 0.0091

Saturn -55055-08-29 01:40 J -18387175.61 -18387175.43 -18387175.25 0.0273 0.0035

Mars -55055-11-24 11:01 J -18387088.18 -18387088.04 -18387087.90 0.1760 0.0816

Saturn -55055-11-25 21:49 J -18387086.73 -18387086.59 -18387086.44 0.0272 0.0160

Jupiter -55054-02-23 16:47 J -18386996.98 -18386996.80 -18386996.62 0.0492 0.0094

Moon -55054-07-09 06:42 J -18386861.30 -18386861.22 -18386861.14 0.2674 0.1877

Earth -55054-07-09 06:57 J -18386861.30 -18386861.21 -18386861.13 0.2667 0.1785 *

Uranus -55052-12-07 19:54 J -18385978.70 -18385978.67 -18385978.61 0.0132 0.0126

Moon -55051-01-10 23:59 J -18385944.61 -18385944.50 -18385944.38 0.2666 0.1656

Earth -55051-01-11 00:28 J -18385944.59 -18385944.48 -18385944.36 0.2659 0.1759 *

Uranus -55051-03-05 23:16 J -18385890.60 -18385890.53 -18385890.45 0.0132 0.0107

Uranus -55051-06-02 02:23 J -18385802.50 -18385802.40 -18385802.30 0.0132 0.0089

Uranus -55051-08-29 05:30 J -18385714.38 -18385714.27 -18385714.15 0.0132 0.0072

Uranus -55051-11-25 08:37 J -18385626.26 -18385626.14 -18385626.02 0.0132 0.0054

Uranus -55050-02-21 11:45 J -18385538.14 -18385538.01 -18385537.88 0.0132 0.0037

Uranus -55050-05-20 14:52 J -18385450.02 -18385449.88 -18385449.75 0.0132 0.0019

Uranus -55050-08-16 17:45 J -18385361.89 -18385361.76 -18385361.62 0.0133 0.0005

Uranus -55050-11-12 20:52 J -18385273.76 -18385273.63 -18385273.49 0.0133 0.0016

Uranus -55049-02-08 23:59 J -18385185.63 -18385185.50 -18385185.37 0.0133 0.0034

Uranus -55049-05-07 02:52 J -18385097.50 -18385097.38 -18385097.25 0.0133 0.0051

Uranus -55049-08-03 05:59 J -18385009.36 -18385009.25 -18385009.13 0.0133 0.0068

Uranus -55049-10-30 08:52 J -18384921.22 -18384921.13 -18384921.02 0.0133 0.0086

Jupiter -55048-01-24 22:47 J -18384834.68 -18384834.55 -18384834.42 0.0534 0.0010

Uranus -55048-01-26 11:59 J -18384833.08 -18384833.00 -18384832.91 0.0133 0.0103

Uranus -55048-04-24 14:52 J -18384744.92 -18384744.88 -18384744.82 0.0133 0.0121

Earth -55048-07-18 04:47 J -18384660.38 -18384660.30 -18384660.22 0.2675 0.1845

Moon -55048-07-18 05:01 J -18384660.37 -18384660.29 -18384660.20 0.2669 0.1835 *

Mars -55046-06-20 19:25 J -18383957.80 -18383957.69 -18383957.59 0.1766 0.0901

Mars -55045-04-15 11:45 J -18383658.16 -18383658.01 -18383657.85 0.1768 0.0314

Jupiter -55043-12-12 15:21 J -18382687.01 -18382686.86 -18382686.71 0.0492 0.0256

Jupiter -55042-03-12 20:09 J -18382596.75 -18382596.66 -18382596.55 0.0492 0.0406

Earth -55041-07-11 01:40 J -18382110.54 -18382110.43 -18382110.32 0.2669 0.0817

Moon -55041-07-11 02:09 J -18382110.52 -18382110.41 -18382110.30 0.2675 0.0714 *

Saturn -55040-12-20 23:01 J -18381582.63 -18381582.54 -18381582.44 0.0286 0.0205

Saturn -55039-03-19 11:45 J -18381494.13 -18381494.01 -18381493.88 0.0287 0.0096

Saturn -55039-06-16 00:28 J -18381405.61 -18381405.48 -18381405.34 0.0288 0.0014

Saturn -55039-09-12 12:57 J -18381317.08 -18381316.96 -18381316.83 0.0288 0.0123

Saturn -55039-12-10 01:25 J -18381228.51 -18381228.44 -18381228.36 0.0289 0.0231

Mars -55037-11-10 04:04 J -18380527.37 -18380527.33 -18380527.29 0.1758 0.1652

Jupiter -55037-11-13 02:23 J -18380524.53 -18380524.40 -18380524.27 0.0535 0.0147

Jupiter -55036-02-10 10:33 J -18380435.13 -18380435.06 -18380434.99 0.0534 0.0444

Mars -55036-09-05 12:13 J -18380228.07 -18380227.99 -18380227.90 0.1777 0.1460

Mars -55035-10-16 17:01 J -18379821.85 -18379821.79 -18379821.72 0.1791 0.1487

Moon -55031-01-05 20:52 J -18378644.75 -18378644.63 -18378644.50 0.2664 0.1274

Earth -55031-01-05 22:33 J -18378644.69 -18378644.56 -18378644.43 0.2664 0.1227 *

Jupiter -55031-09-30 12:42 J -18378377.05 -18378376.97 -18378376.88 0.0491 0.0428

Jupiter -55031-12-29 17:16 J -18378286.94 -18378286.78 -18378286.62 0.0492 0.0226

Earth -55028-07-13 20:37 J -18377359.76 -18377359.64 -18377359.53 0.2671 0.0184

Moon -55028-07-13 21:21 J -18377359.73 -18377359.61 -18377359.50 0.2674 0.0194 *

Saturn -55026-07-22 10:33 J -18376621.13 -18376621.06 -18376620.97 0.0275 0.0240

Saturn -55026-10-19 06:28 J -18376532.38 -18376532.23 -18376532.06 0.0275 0.0117

Saturn -55025-01-16 02:37 J -18376443.57 -18376443.39 -18376443.21 0.0274 0.0009

Mars -55025-03-08 01:54 J -18376391.53 -18376391.42 -18376391.31 0.1783 0.0720

Saturn -55025-04-13 23:01 J -18376354.70 -18376354.54 -18376354.39 0.0273 0.0133

Saturn -55025-07-11 19:11 J -18376265.74 -18376265.70 -18376265.64 0.0272 0.0259

Jupiter -55025-09-01 06:13 J -18376214.35 -18376214.24 -18376214.13 0.0535 0.0290

Jupiter -55025-11-29 14:37 J -18376125.00 -18376124.89 -18376124.79 0.0535 0.0307

Venus -55021-01-19 05:59 J -18374979.28 -18374979.25 -18374979.21 0.3777 0.3492

Moon -55021-07-06 16:18 J -18374809.82 -18374809.82 -18374809.82 0.2671 0.2668

Earth -55021-07-06 16:47 J -18374809.82 -18374809.80 -18374809.77 0.2666 0.2584 *

Jupiter -55019-10-17 15:49 J -18373977.02 -18373976.84 -18373976.67 0.0492 0.0063

Moon -55018-01-09 01:11 J -18373893.59 -18373893.45 -18373893.30 0.2664 0.0207

Earth -55018-01-09 02:23 J -18373893.54 -18373893.40 -18373893.25 0.2661 0.0401 *

Mars -55016-07-29 10:33 J -18372961.18 -18372961.06 -18372960.94 0.1774 0.0059

Venus -55016-08-03 22:04 J -18372955.68 -18372955.58 -18372955.49 0.3781 0.1431

Neptune -55016-10-24 13:54 J -18372873.94 -18372873.92 -18372873.88 0.0089 0.0086

Neptune -55015-01-20 15:35 J -18372785.90 -18372785.85 -18372785.79 0.0089 0.0080

Neptune -55015-04-18 17:01 J -18372697.86 -18372697.79 -18372697.70 0.0089 0.0074

Mars -55015-05-25 11:45 J -18372661.14 -18372661.01 -18372660.87 0.1760 0.0965

Neptune -55015-07-15 18:42 J -18372609.80 -18372609.72 -18372609.62 0.0089 0.0068

Earth -55015-07-16 15:06 J -18372608.97 -18372608.87 -18372608.77 0.2673 0.1088

Moon -55015-07-16 15:49 J -18372608.94 -18372608.84 -18372608.74 0.2669 0.1168 *

Neptune -55015-10-11 20:09 J -18372521.75 -18372521.66 -18372521.55 0.0089 0.0062

Neptune -55014-01-07 21:49 J -18372433.69 -18372433.59 -18372433.48 0.0089 0.0056

Neptune -55014-04-05 23:16 J -18372345.63 -18372345.53 -18372345.40 0.0089 0.0050

Neptune -55014-07-03 00:57 J -18372257.58 -18372257.46 -18372257.33 0.0089 0.0044

Neptune -55014-09-29 02:23 J -18372169.52 -18372169.40 -18372169.26 0.0089 0.0038

Neptune -55014-12-26 04:04 J -18372081.46 -18372081.33 -18372081.20 0.0089 0.0032

Neptune -55013-03-23 05:30 J -18371993.39 -18371993.27 -18371993.13 0.0089 0.0026

Venus -55013-05-08 14:23 J -18371947.06 -18371946.90 -18371946.74 0.3596 0.0154

Neptune -55013-06-19 07:11 J -18371905.33 -18371905.20 -18371905.06 0.0089 0.0020

Jupiter -55013-06-20 09:49 J -18371904.16 -18371904.09 -18371904.01 0.0535 0.0437

Neptune -55013-09-15 08:52 J -18371817.27 -18371817.13 -18371817.00 0.0089 0.0014

Jupiter -55013-09-17 18:28 J -18371814.85 -18371814.73 -18371814.61 0.0535 0.0164

Neptune -55013-12-12 10:18 J -18371729.21 -18371729.07 -18371728.93 0.0089 0.0008

Neptune -55012-03-10 11:45 J -18371641.15 -18371641.01 -18371640.87 0.0089 0.0002

Neptune -55012-06-06 13:25 J -18371553.08 -18371552.94 -18371552.81 0.0089 0.0005

Neptune -55012-09-02 14:52 J -18371465.02 -18371464.88 -18371464.74 0.0089 0.0010

Neptune -55012-11-29 16:18 J -18371376.95 -18371376.82 -18371376.68 0.0089 0.0016

Neptune -55011-02-25 17:45 J -18371288.89 -18371288.76 -18371288.62 0.0089 0.0022

Neptune -55011-05-24 19:25 J -18371200.83 -18371200.69 -18371200.56 0.0089 0.0028

Neptune -55011-08-20 20:52 J -18371112.76 -18371112.63 -18371112.51 0.0089 0.0034

Neptune -55011-11-16 22:04 J -18371024.69 -18371024.58 -18371024.45 0.0089 0.0040

Neptune -55010-02-12 23:30 J -18370936.63 -18370936.52 -18370936.39 0.0089 0.0046

Venus -55010-02-17 13:54 J -18370932.02 -18370931.92 -18370931.82 0.3784 0.0643

Saturn -55010-05-10 00:13 J -18370850.56 -18370850.49 -18370850.42 0.0285 0.0242

Neptune -55010-05-12 00:57 J -18370848.56 -18370848.46 -18370848.34 0.0089 0.0052

Uranus -55010-06-18 22:18 J -18370810.61 -18370810.57 -18370810.52 0.0146 0.0141

Saturn -55010-08-06 12:57 J -18370762.08 -18370761.96 -18370761.84 0.0286 0.0133

Neptune -55010-08-08 02:37 J -18370760.49 -18370760.39 -18370760.28 0.0089 0.0057

Uranus -55010-09-15 06:42 J -18370722.35 -18370722.22 -18370722.10 0.0146 0.0109

Saturn -55010-11-03 01:40 J -18370673.56 -18370673.43 -18370673.29 0.0287 0.0025

Neptune -55010-11-04 04:04 J -18370672.42 -18370672.33 -18370672.23 0.0089 0.0063

Uranus -55010-12-12 14:37 J -18370634.04 -18370633.89 -18370633.72 0.0146 0.0076

Saturn -55009-01-30 14:09 J -18370585.03 -18370584.91 -18370584.77 0.0288 0.0086

Neptune -55009-01-31 05:16 J -18370584.35 -18370584.28 -18370584.18 0.0089 0.0069

Uranus -55009-03-09 23:01 J -18370545.72 -18370545.54 -18370545.36 0.0146 0.0043

Saturn -55009-04-28 02:52 J -18370496.48 -18370496.38 -18370496.28 0.0289 0.0193

Neptune -55009-04-28 06:42 J -18370496.28 -18370496.22 -18370496.13 0.0089 0.0075 *

Uranus -55009-06-06 07:11 J -18370457.39 -18370457.20 -18370457.01 0.0146 0.0010

Neptune -55009-07-25 08:23 J -18370408.20 -18370408.15 -18370408.09 0.0089 0.0080

Uranus -55009-09-02 15:35 J -18370369.04 -18370368.85 -18370368.67 0.0146 0.0023

Neptune -55009-10-21 09:49 J -18370320.12 -18370320.09 -18370320.06 0.0089 0.0086

Uranus -55009-11-29 23:45 J -18370280.68 -18370280.51 -18370280.33 0.0146 0.0056

Uranus -55008-02-26 07:54 J -18370192.31 -18370192.17 -18370192.01 0.0146 0.0090

Uranus -55008-05-25 16:33 J -18370103.91 -18370103.81 -18370103.71 0.0146 0.0123

Moon -55008-07-09 11:45 J -18370059.10 -18370059.01 -18370058.92 0.2674 0.1564

Earth -55008-07-09 11:45 J -18370059.10 -18370059.01 -18370058.91 0.2668 0.1603 *

Jupiter -55007-08-05 14:09 J -18369667.08 -18369666.91 -18369666.73 0.0492 0.0100

Mars -55007-12-19 19:25 J -18369530.80 -18369530.69 -18369530.58 0.1766 0.0803

Mars -55006-10-15 12:13 J -18369231.14 -18369230.99 -18369230.83 0.1768 0.0183

Moon -55005-01-12 06:28 J -18369142.32 -18369142.23 -18369142.15 0.2666 0.2107

Earth -55005-01-12 06:57 J -18369142.31 -18369142.21 -18369142.12 0.2659 0.2055 *

Venus -55005-09-02 05:45 J -18368908.33 -18368908.26 -18368908.19 0.3788 0.2684

Earth -55002-07-19 09:35 J -18367858.17 -18367858.10 -18367858.02 0.2675 0.2019

Moon -55002-07-19 09:49 J -18367858.16 -18367858.09 -18367858.01 0.2669 0.2055 *

Jupiter -55001-07-06 22:04 J -18367504.71 -18367504.58 -18367504.45 0.0535 0.0021

55TH MILLENNIUM BCE

This is a list of transits of Mercury in the 55th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Moon	**-54998-01-03 23:59**	**J**	**-18366593.53**	**-18366593.50**	**-18366593.47**	**0.2662**	**0.2590**	
Earth	**-54998-01-04 00:57**	**J**	**-18366593.50**	**-18366593.46**	**-18366593.41**	**0.2665**	**0.2510**	*
Mars	**-54997-05-11 04:04**	**J**	**-18366100.38**	**-18366100.33**	**-18366100.27**	**0.1758**	**0.1557**	
Mars	**-54996-03-06 12:57**	**J**	**-18365801.07**	**-18365800.96**	**-18365800.86**	**0.1777**	**0.1323**	
Saturn	**-54996-03-07 05:30**	**J**	**-18365800.40**	**-18365800.27**	**-18365800.12**	**0.0275**	**0.0157**	
Saturn	**-54996-06-04 01:40**	**J**	**-18365711.60**	**-18365711.43**	**-18365711.25**	**0.0274**	**0.0033**	
Saturn	**-54996-08-31 22:04**	**J**	**-18365622.75**	**-18365622.58**	**-18365622.41**	**0.0273**	**0.0093**	
Saturn	**-54996-11-28 18:28**	**J**	**-18365533.84**	**-18365533.73**	**-18365533.62**	**0.0272**	**0.0218**	
Mars	**-54995-04-16 17:16**	**J**	**-18365394.84**	**-18365394.78**	**-18365394.73**	**0.1791**	**0.1584**	
Jupiter	**-54995-05-24 12:57**	**J**	**-18365357.11**	**-18365356.96**	**-18365356.80**	**0.0492**	**0.0257**	
Earth	**-54995-07-12 06:42**	**J**	**-18365308.33**	**-18365308.22**	**-18365308.11**	**0.2670**	**0.0630**	
Moon	**-54995-07-12 07:11**	**J**	**-18365308.31**	**-18365308.20**	**-18365308.09**	**0.2675**	**0.0655**	*
Jupiter	**-54995-08-22 17:59**	**J**	**-18365266.85**	**-18365266.75**	**-18365266.65**	**0.0492**	**0.0404**	
Jupiter	**-54989-04-25 00:57**	**J**	**-18363194.59**	**-18363194.46**	**-18363194.33**	**0.0535**	**0.0145**	
Jupiter	**-54989-07-23 08:52**	**J**	**-18363105.19**	**-18363105.13**	**-18363105.06**	**0.0534**	**0.0446**	
Mars	**-54986-09-07 01:54**	**J**	**-18361964.53**	**-18361964.42**	**-18361964.31**	**0.1783**	**0.0814**	
Moon	**-54985-01-07 03:06**	**J**	**-18361842.50**	**-18361842.37**	**-18361842.24**	**0.2663**	**0.1129**	
Earth	**-54985-01-07 04:33**	**J**	**-18361842.44**	**-18361842.31**	**-18361842.17**	**0.2663**	**0.0942**	*
Jupiter	**-54983-03-12 11:45**	**J**	**-18361047.10**	**-18361047.01**	**-18361046.92**	**0.0492**	**0.0415**	
Jupiter	**-54983-06-10 16:18**	**J**	**-18360956.98**	**-18360956.82**	**-18360956.66**	**0.0492**	**0.0239**	
Earth	**-54982-07-15 01:25**	**J**	**-18360557.55**	**-18360557.44**	**-18360557.32**	**0.2672**	**0.0329**	
Moon	**-54982-07-15 02:09**	**J**	**-18360557.52**	**-18360557.41**	**-18360557.29**	**0.2673**	**0.0452**	*

Saturn -54981-09-26 02:37 J -18360118.43 -18360118.39 -18360118.34 0.0285 0.0269

Saturn -54981-12-23 15:35 J -18360029.96 -18360029.85 -18360029.74 0.0286 0.0160

Saturn -54980-03-22 04:18 J -18359941.45 -18359941.32 -18359941.18 0.0287 0.0051

Saturn -54980-06-18 17:01 J -18359852.93 -18359852.79 -18359852.66 0.0288 0.0058

Saturn -54980-09-15 05:30 J -18359764.38 -18359764.27 -18359764.16 0.0289 0.0167

Saturn -54980-12-12 17:59 J -18359675.79 -18359675.75 -18359675.71 0.0290 0.0275

Jupiter -54977-02-12 04:18 J -18358884.42 -18358884.32 -18358884.21 0.0535 0.0296

Jupiter -54977-05-11 12:42 J -18358795.07 -18358794.97 -18358794.86 0.0534 0.0302

Mars -54976-01-27 10:47 J -18358534.17 -18358534.05 -18358533.93 0.1774 0.0062

Mars -54976-11-23 12:13 J -18358234.11 -18358233.99 -18358233.87 0.1759 0.1085

Moon -54975-07-07 21:21 J -18358007.65 -18358007.61 -18358007.57 0.2672 0.2443

Earth -54975-07-07 21:49 J -18358007.64 -18358007.59 -18358007.54 0.2666 0.2397 *

Moon -54972-01-09 07:40 J -18357091.32 -18357091.18 -18357091.04 0.2666 0.0691

Earth -54972-01-09 08:37 J -18357091.28 -18357091.14 -18357090.99 0.2661 0.0687 *

Jupiter -54971-03-29 13:40 J -18356647.11 -18356646.93 -18356646.75 0.0492 0.0063

Earth -54969-07-16 20:09 J -18355806.76 -18355806.66 -18355806.56 0.2674 0.1268

Moon -54969-07-16 20:37 J -18355806.74 -18355806.64 -18355806.54 0.2669 0.1289 *

Uranus -54968-12-28 03:06 J -18355277.42 -18355277.37 -18355277.32 0.0132 0.0122

Uranus -54967-03-26 05:59 J -18355189.32 -18355189.25 -18355189.16 0.0132 0.0104

Mars -54967-06-19 19:25 J -18355103.80 -18355103.69 -18355103.58 0.1766 0.0709

Uranus -54967-06-22 09:06 J -18355101.21 -18355101.12 -18355101.01 0.0132 0.0087

Saturn -54967-07-25 06:42 J -18355068.35 -18355068.22 -18355068.09 0.0275 0.0184

Uranus -54967-09-18 12:28 J -18355013.10 -18355012.98 -18355012.87 0.0132 0.0069

Saturn -54967-10-22 02:37 J -18354979.57 -18354979.39 -18354979.22 0.0274 0.0060

Uranus -54967-12-15 15:35 J -18354924.98 -18354924.85 -18354924.73 0.0132 0.0051

Saturn -54966-01-18 22:47 J -18354890.73 -18354890.55 -18354890.38 0.0273 0.0065

Uranus -54966-03-13 18:42 J -18354836.85 -18354836.72 -18354836.59 0.0132 0.0033

Mars -54966-04-15 12:42 J -18354804.13 -18354803.97 -18354803.81 0.1768 0.0053

Saturn -54966-04-17 18:57 J -18354801.83 -18354801.71 -18354801.57 0.0273 0.0190

Uranus -54966-06-09 21:35 J -18354748.73 -18354748.60 -18354748.46 0.0133 0.0017

Uranus -54966-09-06 00:42 J -18354660.60 -18354660.47 -18354660.33 0.0133 0.0004

Jupiter -54966-12-01 08:09 J -18354574.23 -18354574.16 -18354574.09 0.0535 0.0441

Uranus -54966-12-03 03:49 J -18354572.47 -18354572.34 -18354572.21 0.0133 0.0019

Jupiter -54965-02-28 16:47 J -18354484.92 -18354484.80 -18354484.68 0.0535 0.0162

Uranus -54965-02-29 06:57 J -18354484.34 -18354484.21 -18354484.08 0.0133 0.0037

Uranus -54965-05-27 09:49 J -18354396.21 -18354396.09 -18354395.96 0.0133 0.0055

Uranus -54965-08-23 12:57 J -18354308.07 -18354307.96 -18354307.85 0.0133 0.0072

Venus -54965-08-25 03:35 J -18354306.42 -18354306.35 -18354306.28 0.3778 0.2732

Uranus -54965-11-19 15:49 J -18354219.93 -18354219.84 -18354219.74 0.0133 0.0090

Uranus -54964-02-15 18:57 J -18354131.78 -18354131.71 -18354131.63 0.0133 0.0107

Uranus -54964-05-14 21:49 J -18354043.63 -18354043.59 -18354043.54 0.0133 0.0124

Moon -54962-07-10 16:47 J -18353256.89 -18353256.80 -18353256.70 0.2674 0.1458

Earth -54962-07-10 16:47 J -18353256.89 -18353256.80 -18353256.70 0.2668 0.1415 *

Moon -54959-01-12 12:42 J -18352340.04 -18352339.97 -18352339.89 0.2665 0.2246

Earth -54959-01-12 13:11 J -18352340.02 -18352339.95 -18352339.88 0.2659 0.2358 *

Jupiter -54959-01-15 12:13 J -18352337.17 -18352336.99 -18352336.82 0.0492 0.0098

Venus -54959-03-10 19:25 J -18352282.79 -18352282.69 -18352282.59 0.3782 0.0667

Mars -54958-11-10 04:04 J -18351673.39 -18351673.33 -18351673.26 0.1758 0.1466

Mars -54957-09-04 13:25 J -18351374.05 -18351373.94 -18351373.82 0.1777 0.1181

Venus -54957-12-13 16:18 J -18351273.96 -18351273.82 -18351273.68 0.3595 0.1816

Moon -54956-07-19 14:37 J -18351055.95 -18351055.89 -18351055.83 0.2669 0.2194

Earth -54956-07-19 14:37 J -18351055.95 -18351055.89 -18351055.83 0.2675 0.2190 *

Mars -54956-10-15 17:01 J -18350967.83 -18350967.79 -18350967.75 0.1791 0.1672

Venus -54954-09-24 11:16 J -18350259.12 -18350259.03 -18350258.94 0.3785 0.1385

Jupiter -54954-12-17 20:37 J -18350174.77 -18350174.64 -18350174.51 0.0535 0.0022

Moon -54952-01-04 05:45 J -18349791.33 -18349791.26 -18349791.19 0.2662 0.2295

Earth -54952-01-04 07:11 J -18349791.28 -18349791.20 -18349791.12 0.2665 0.2231 *

Saturn -54951-05-12 16:18 J -18349297.91 -18349297.82 -18349297.71 0.0285 0.0201

Saturn -54951-08-09 05:16 J -18349209.41 -18349209.28 -18349209.15 0.0286 0.0091

Saturn -54951-11-05 17:59 J -18349120.89 -18349120.75 -18349120.62 0.0287 0.0018

Saturn -54950-02-02 06:28 J -18349032.35 -18349032.23 -18349032.11 0.0288 0.0126

Saturn -54950-05-01 18:42 J -18348943.79 -18348943.72 -18348943.64 0.0289 0.0235

Earth -54949-07-12 11:45 J -18348506.13 -18348506.01 -18348505.90 0.2670 0.0449

Moon -54949-07-12 12:13 J -18348506.10 -18348505.99 -18348505.88 0.2675 0.0334 *

Venus -54948-04-09 03:06 J -18348235.41 -18348235.37 -18348235.33 0.3789 0.3441

Jupiter -54948-11-03 10:47 J -18348027.20 -18348027.05 -18348026.90 0.0492 0.0258

Jupiter -54947-02-01 15:49 J -18347936.95 -18347936.84 -18347936.74 0.0492 0.0403

Mars -54946-03-08 01:54 J -18347537.52 -18347537.42 -18347537.31 0.1783 0.0906

Jupiter -54942-10-06 00:13 J -18345864.62 -18345864.49 -18345864.36 0.0535 0.0129

Jupiter -54941-01-03 08:09 J -18345775.22 -18345775.16 -18345775.09 0.0534 0.0462

Moon -54939-01-07 09:21 J -18345040.25 -18345040.11 -18345039.97 0.2663 0.0720

Earth -54939-01-07 10:47 J -18345040.19 -18345040.05 -18345039.90 0.2663 0.0651 *

Saturn -54938-12-12 05:01 J -18344336.39 -18344336.29 -18344336.19 0.0275 0.0229

Saturn -54937-03-10 00:57 J -18344247.63 -18344247.46 -18344247.30 0.0274 0.0105

Saturn -54937-06-06 21:06 J -18344158.80 -18344158.62 -18344158.44 0.0274 0.0021

Mars -54937-07-28 10:47 J -18344107.17 -18344107.05 -18344106.93 0.1774 0.0152

Saturn -54937-09-03 17:16 J -18344069.93 -18344069.78 -18344069.62 0.0273 0.0145

Saturn -54937-12-01 13:40 J -18343980.93 -18343980.93 -18343980.91 0.0272 0.0271

Mars -54936-05-24 12:42 J -18343807.08 -18343806.97 -18343806.86 0.1759 0.1220

Earth -54936-07-15 06:28 J -18343755.35 -18343755.23 -18343755.12 0.2672 0.0508

Moon -54936-07-15 07:11 J -18343755.31 -18343755.20 -18343755.09 0.2671 0.0506 *

Jupiter -54936-08-22 09:49 J -18343717.18 -18343717.09 -18343716.99 0.0492 0.0412

Jupiter -54936-11-20 14:23 J -18343627.06 -18343626.90 -18343626.75 0.0492 0.0242

Neptune -54933-04-12 10:33 J -18342753.10 -18342753.06 -18342753.01 0.0089 0.0085

Neptune -54933-07-09 13:11 J -18342665.01 -18342664.95 -18342664.84 0.0089 0.0078

Neptune -54933-10-05 16:33 J -18342576.91 -18342576.81 -18342576.69 0.0089 0.0070

Neptune -54932-01-01 19:25 J -18342488.80 -18342488.69 -18342488.55 0.0089 0.0063

Neptune -54932-03-30 22:33 J -18342400.69 -18342400.56 -18342400.41 0.0089 0.0055

Neptune -54932-06-27 01:40 J -18342312.57 -18342312.43 -18342312.27 0.0089 0.0047

Neptune -54932-09-23 04:33 J -18342224.46 -18342224.31 -18342224.13 0.0089 0.0040

Neptune -54932-12-20 07:40 J -18342136.34 -18342136.18 -18342136.00 0.0089 0.0032

Neptune -54931-03-18 11:01 J -18342048.21 -18342048.04 -18342047.86 0.0089 0.0024

Neptune -54931-06-14 14:09 J -18341960.09 -18341959.91 -18341959.73 0.0089 0.0016

Neptune -54931-09-10 17:16 J -18341871.96 -18341871.78 -18341871.60 0.0089 0.0008

Neptune -54931-12-07 20:23 J -18341783.83 -18341783.65 -18341783.47 0.0089 0.0001

Neptune -54930-03-05 23:30 J -18341695.70 -18341695.52 -18341695.34 0.0089 0.0007

Neptune -54930-06-02 02:37 J -18341607.57 -18341607.39 -18341607.21 0.0089 0.0015

Jupiter -54930-07-25 03:06 J -18341554.47 -18341554.37 -18341554.26 0.0535 0.0289

Neptune -54930-08-29 05:45 J -18341519.43 -18341519.26 -18341519.08 0.0089 0.0023

Jupiter -54930-10-22 11:30 J -18341465.12 -18341465.02 -18341464.91 0.0534 0.0308

Neptune -54930-11-25 08:52 J -18341431.30 -18341431.13 -18341430.95 0.0089 0.0031

Neptune -54929-02-21 11:59 J -18341343.16 -18341343.00 -18341342.83 0.0089 0.0039

Neptune -54929-05-19 15:06 J -18341255.02 -18341254.87 -18341254.70 0.0089 0.0047

Moon -54929-07-08 02:23 J -18341205.46 -18341205.40 -18341205.34 0.2672 0.2259

Earth -54929-07-08 02:52 J -18341205.44 -18341205.38 -18341205.32 0.2666 0.2208 *

Neptune -54929-08-15 18:13 J -18341166.87 -18341166.74 -18341166.58 0.0089 0.0055

Neptune -54929-11-11 21:35 J -18341078.72 -18341078.60 -18341078.46 0.0089 0.0063

Neptune -54928-02-08 00:42 J -18340990.57 -18340990.47 -18340990.35 0.0089 0.0071

Neptune -54928-05-07 03:49 J -18340902.41 -18340902.34 -18340902.24 0.0089 0.0079

Neptune -54928-08-03 07:11 J -18340814.22 -18340814.20 -18340814.15 0.0089 0.0087

Mars -54928-12-18 19:25 J -18340676.80 -18340676.69 -18340676.57 0.1766 0.0618

Mars -54927-10-14 13:11 J -18340377.10 -18340376.95 -18340376.79 0.1768 0.0089

Moon -54926-01-10 14:09 J -18340289.05 -18340288.91 -18340288.77 0.2666 0.0830

Earth -54926-01-10 14:52 J -18340289.01 -18340288.88 -18340288.74 0.2661 0.0986 *

Uranus -54926-07-09 05:59 J -18340109.32 -18340109.25 -18340109.17 0.0146 0.0132

Uranus -54926-10-05 13:54 J -18340021.04 -18340020.92 -18340020.77 0.0146 0.0100

Uranus -54925-01-01 22:18 J -18339932.73 -18339932.57 -18339932.40 0.0146 0.0067

Uranus -54925-03-30 06:28 J -18339844.41 -18339844.23 -18339844.04 0.0146 0.0034

Uranus -54925-06-26 14:52 J -18339756.07 -18339755.88 -18339755.69 0.0146 0.0002

Uranus -54925-09-22 23:01 J -18339667.72 -18339667.54 -18339667.35 0.0146 0.0032

Uranus -54925-12-20 07:25 J -18339579.36 -18339579.19 -18339579.02 0.0146 0.0065

Uranus -54924-03-18 15:35 J -18339490.98 -18339490.85 -18339490.70 0.0146 0.0099

Uranus -54924-06-14 23:59 J -18339402.57 -18339402.50 -18339402.41 0.0146 0.0132

Jupiter -54924-09-08 12:42 J -18339317.14 -18339316.97 -18339316.79 0.0492 0.0080

Earth -54923-07-18 00:57 J -18339004.55 -18339004.46 -18339004.36 0.2674 0.1441

Moon -54923-07-18 01:40 J -18339004.52 -18339004.43 -18339004.34 0.2670 0.1534 *

Saturn -54922-09-29 18:28 J -18338565.80 -18338565.73 -18338565.64 0.0285 0.0231

Saturn -54922-12-27 07:25 J -18338477.31 -18338477.19 -18338477.07 0.0286 0.0121

Saturn -54921-03-24 20:09 J -18338388.80 -18338388.66 -18338388.53 0.0287 0.0013

Saturn -54921-06-21 08:37 J -18338300.26 -18338300.14 -18338300.01 0.0288 0.0096

Saturn -54921-09-17 21:06 J -18338211.71 -18338211.62 -18338211.52 0.0289 0.0205

Mars -54918-05-11 04:18 J -18337246.40 -18337246.32 -18337246.25 0.1758 0.1365

Jupiter -54918-05-13 06:42 J -18337244.30 -18337244.22 -18337244.15 0.0535 0.0439

Jupiter -54918-08-10 15:06 J -18337154.99 -18337154.87 -18337154.74 0.0535 0.0164

Mars -54917-03-05 13:40 J -18336947.05 -18336946.93 -18336946.80 0.1777 0.1064

Mars -54916-04-15 17:16 J -18336540.80 -18336540.78 -18336540.77 0.1791 0.1765

Earth -54916-07-10 21:49 J -18336454.69 -18336454.59 -18336454.49 0.2668 0.1230

Moon -54916-07-10 22:04 J -18336454.68 -18336454.58 -18336454.48 0.2675 0.1198 *

Earth -54913-01-13 19:25 J -18335537.69 -18335537.69 -18335537.68 0.2658 0.2653

Jupiter -54912-06-27 10:33 J -18335007.24 -18335007.06 -18335006.89 0.0491 0.0094

Pluto -54911-06-05 16:33 J -18334663.85 -18334663.81 -18334663.75 0.0061 0.0059

Pluto -54911-09-01 17:16 J -18334575.84 -18334575.78 -18334575.68 0.0062 0.0055

Pluto -54911-11-28 18:42 J -18334487.81 -18334487.72 -18334487.61 0.0062 0.0050

Pluto -54910-02-24 19:25 J -18334399.78 -18334399.69 -18334399.55 0.0062 0.0046

Pluto -54910-05-23 20:52 J -18334311.75 -18334311.63 -18334311.49 0.0062 0.0041

Moon -54910-07-20 19:25 J -18334253.74 -18334253.69 -18334253.63 0.2669 0.2323

Earth -54910-07-20 19:25 J -18334253.74 -18334253.69 -18334253.64 0.2676 0.2364 *

Pluto -54910-08-19 21:49 J -18334223.72 -18334223.59 -18334223.44 0.0062 0.0037

Pluto -54910-11-15 23:01 J -18334135.68 -18334135.54 -18334135.38 0.0062 0.0032

Pluto -54909-02-11 23:59 J -18334047.64 -18334047.50 -18334047.33 0.0062 0.0028

Pluto -54909-05-10 01:11 J -18333959.60 -18333959.45 -18333959.28 0.0062 0.0023

Pluto -54909-08-06 02:23 J -18333871.56 -18333871.40 -18333871.23 0.0062 0.0018

Pluto -54909-11-02 03:49 J -18333783.51 -18333783.34 -18333783.17 0.0062 0.0014

Pluto -54908-01-29 04:47 J -18333695.47 -18333695.30 -18333695.13 0.0062 0.0009

Venus -54908-04-01 01:11 J -18333633.54 -18333633.45 -18333633.37 0.3779 0.1983

Pluto -54908-04-27 05:59 J -18333607.42 -18333607.25 -18333607.08 0.0062 0.0004

Saturn -54908-04-30 05:30 J -18333604.32 -18333604.27 -18333604.21 0.0276 0.0259

Pluto -54908-07-24 07:11 J -18333519.38 -18333519.20 -18333519.03 0.0062 0.0001

Saturn -54908-07-28 01:25 J -18333515.59 -18333515.44 -18333515.28 0.0275 0.0135

Pluto -54908-10-20 08:09 J -18333431.33 -18333431.16 -18333430.98 0.0062 0.0006

Saturn -54908-10-24 21:35 J -18333426.78 -18333426.60 -18333426.42 0.0274 0.0011

Pluto -54907-01-16 09:21 J -18333343.28 -18333343.11 -18333342.93 0.0063 0.0010

Saturn -54907-01-21 17:45 J -18333337.92 -18333337.76 -18333337.59 0.0273 0.0115

Pluto -54907-04-14 10:33 J -18333255.23 -18333255.06 -18333254.89 0.0063 0.0015

Saturn -54907-04-20 14:09 J -18333248.99 -18333248.91 -18333248.82 0.0272 0.0241

Pluto -54907-07-11 11:45 J -18333167.17 -18333167.01 -18333166.84 0.0063 0.0020

Mars -54907-09-06 02:09 J -18333110.51 -18333110.41 -18333110.31 0.1783 0.1006

Pluto -54907-10-07 12:42 J -18333079.12 -18333078.97 -18333078.80 0.0063 0.0025

Pluto -54906-01-03 13:54 J -18332991.06 -18332990.92 -18332990.75 0.0063 0.0030

Moon -54906-01-05 11:59 J -18332989.09 -18332989.00 -18332988.91 0.2662 0.2104

Earth -54906-01-05 13:25 J -18332989.04 -18332988.94 -18332988.85 0.2665 0.1942 *

Pluto -54906-04-01 15:06 J -18332903.00 -18332902.87 -18332902.71 0.0063 0.0035

Jupiter -54906-05-29 19:11 J -18332844.83 -18332844.70 -18332844.57 0.0535 0.0021

Pluto -54906-06-28 16:18 J -18332814.94 -18332814.82 -18332814.67 0.0063 0.0040

Pluto -54906-09-24 17:30 J -18332726.88 -18332726.77 -18332726.63 0.0063 0.0045

Pluto -54906-12-21 18:42 J -18332638.81 -18332638.72 -18332638.60 0.0063 0.0050

Venus -54905-01-04 09:35 J -18332625.23 -18332625.10 -18332624.97 0.3598 0.2025

Pluto -54905-03-18 19:54 J -18332550.73 -18332550.67 -18332550.57 0.0063 0.0056

Pluto -54905-06-14 21:06 J -18332462.65 -18332462.62 -18332462.55 0.0063 0.0061

Earth -54903-07-13 16:47 J -18331703.92 -18331703.80 -18331703.69 0.2670 0.0288

Moon -54903-07-13 17:16 J -18331703.89 -18331703.78 -18331703.67 0.2675 0.0270 *

Venus -54903-10-15 17:01 J -18331609.89 -18331609.79 -18331609.69 0.3783 0.0158

Jupiter -54900-04-15 09:21 J -18330697.27 -18330697.11 -18330696.96 0.0491 0.0251

Jupiter -54900-07-14 14:09 J -18330607.01 -18330606.91 -18330606.81 0.0492 0.0408

Mars -54897-01-27 10:47 J -18329680.17 -18329680.05 -18329679.93 0.1774 0.0235

Venus -54897-04-30 08:52 J -18329586.22 -18329586.13 -18329586.05 0.3786 0.2140

Mars -54897-11-22 13:25 J -18329380.04 -18329379.94 -18329379.84 0.1759 0.1365

Jupiter -54894-03-17 23:01 J -18328534.66 -18328534.54 -18328534.41 0.0535 0.0122

Jupiter -54894-06-15 07:11 J -18328445.26 -18328445.20 -18328445.14 0.0534 0.0471

Moon -54893-01-08 15:35 J -18328237.99 -18328237.85 -18328237.70 0.2664 0.0485

Earth -54893-01-08 17:01 J -18328237.94 -18328237.79 -18328237.64 0.2663 0.0360 *

Saturn -54892-02-15 19:25 J -18327833.73 -18327833.69 -18327833.65 0.0285 0.0271

Saturn -54892-05-15 08:09 J -18327745.27 -18327745.16 -18327745.04 0.0285 0.0163

Saturn -54892-08-11 20:52 J -18327656.76 -18327656.63 -18327656.49 0.0286 0.0055

Saturn -54892-11-08 09:35 J -18327568.24 -18327568.10 -18327567.97 0.0287 0.0054

Saturn -54891-02-04 22:04 J -18327479.69 -18327479.58 -18327479.47 0.0288 0.0162

Saturn -54891-05-04 10:18 J -18327391.11 -18327391.07 -18327391.02 0.0289 0.0270

Earth -54890-07-16 11:16 J -18326953.14 -18326953.03 -18326952.92 0.2672 0.0688

Moon -54890-07-16 12:13 J -18326953.10 -18326952.99 -18326952.88 0.2671 0.0823 *

Jupiter -54888-02-01 07:54 J -18326387.26 -18326387.17 -18326387.07 0.0492 0.0408

Jupiter -54888-05-02 12:28 J -18326297.14 -18326296.98 -18326296.82 0.0492 0.0245

Mars -54888-06-18 19:40 J -18326249.80 -18326249.68 -18326249.56 0.1766 0.0516

Mars -54887-04-14 13:54 J -18325950.08 -18325949.92 -18325949.77 0.1768 0.0222

Uranus -54883-01-17 09:49 J -18324576.14 -18324576.09 -18324576.03 0.0132 0.0119

Uranus -54883-04-15 12:57 J -18324488.04 -18324487.96 -18324487.87 0.0132 0.0101

Moon -54883-07-09 07:25 J -18324403.26 -18324403.19 -18324403.12 0.2672 0.2084

Earth -54883-07-09 07:54 J -18324403.25 -18324403.17 -18324403.10 0.2667 0.2021 *

Uranus -54883-07-12 16:04 J -18324399.93 -18324399.83 -18324399.72 0.0132 0.0083

Uranus -54883-10-08 19:11 J -18324311.81 -18324311.70 -18324311.58 0.0132 0.0066

Jupiter -54882-01-04 02:37 J -18324224.50 -18324224.39 -18324224.28 0.0535 0.0270

Uranus -54882-01-04 22:18 J -18324223.69 -18324223.57 -18324223.44 0.0132 0.0048

Uranus -54882-04-03 01:25 J -18324135.57 -18324135.44 -18324135.31 0.0132 0.0030

Jupiter -54882-04-03 11:01 J -18324135.14 -18324135.04 -18324134.94 0.0534 0.0327

Uranus -54882-06-30 04:33 J -18324047.44 -18324047.31 -18324047.18 0.0133 0.0013

Uranus -54882-09-26 07:40 J -18323959.32 -18323959.18 -18323959.05 0.0133 0.0005

Uranus -54882-12-23 10:33 J -18323871.19 -18323871.06 -18323870.92 0.0133 0.0023

Uranus -54881-03-20 13:40 J -18323783.05 -18323782.93 -18323782.80 0.0133 0.0040

Uranus -54881-06-16 16:33 J -18323694.92 -18323694.81 -18323694.68 0.0133 0.0058

Uranus -54881-09-12 19:40 J -18323606.78 -18323606.68 -18323606.56 0.0133 0.0075

Uranus -54881-12-09 22:47 J -18323518.64 -18323518.55 -18323518.45 0.0133 0.0092

Moon -54880-01-10 20:09 J -18323486.79 -18323486.66 -18323486.53 0.2666 0.1270

Earth -54880-01-10 21:06 J -18323486.75 -18323486.62 -18323486.49 0.2660 0.1274 *

Uranus -54880-03-08 01:40 J -18323430.49 -18323430.43 -18323430.35 0.0133 0.0110

Uranus -54880-06-04 04:47 J -18323342.33 -18323342.30 -18323342.26 0.0133 0.0127

Mars -54879-11-09 04:18 J -18322819.40 -18322819.32 -18322819.23 0.1758 0.1266

Saturn -54879-12-14 23:01 J -18322783.67 -18322783.54 -18322783.41 0.0275 0.0184

Saturn -54878-03-13 18:57 J -18322694.88 -18322694.71 -18322694.53 0.0274 0.0060

Saturn -54878-06-10 15:21 J -18322606.04 -18322605.86 -18322605.69 0.0273 0.0066

Mars -54878-09-04 14:23 J -18322520.03 -18322519.90 -18322519.77 0.1777 0.0928

Saturn -54878-09-07 11:30 J -18322517.14 -18322517.02 -18322516.88 0.0273 0.0192

Earth -54877-07-18 05:59 J -18322202.34 -18322202.25 -18322202.16 0.2674 0.1616

Moon -54877-07-18 06:28 J -18322202.32 -18322202.23 -18322202.14 0.2669 0.1600 *

Jupiter -54876-02-18 11:16 J -18321987.21 -18321987.03 -18321986.86 0.0492 0.0086

Jupiter -54871-10-23 05:45 J -18319914.34 -18319914.26 -18319914.18 0.0535 0.0428

Jupiter -54870-01-20 14:09 J -18319825.03 -18319824.91 -18319824.78 0.0534 0.0174

Earth -54870-07-12 02:52 J -18319652.49 -18319652.38 -18319652.28 0.2669 0.1046

Moon -54870-07-12 03:06 J -18319652.47 -18319652.37 -18319652.26 0.2675 0.1028 *

Mars -54867-03-07 02:09 J -18318683.51 -18318683.41 -18318683.32 0.1783 0.1097

Jupiter -54865-12-07 09:49 J -18317677.27 -18317677.09 -18317676.91 0.0492 0.0074

Moon -54864-07-21 00:28 J -18317451.51 -18317451.48 -18317451.45 0.2669 0.2554

Earth -54864-07-21 00:28 J -18317451.51 -18317451.48 -18317451.45 0.2676 0.2530 *

Saturn -54863-10-02 10:04 J -18317013.18 -18317013.08 -18317012.99 0.0285 0.0196

Saturn -54863-12-29 22:47 J -18316924.68 -18316924.55 -18316924.42 0.0286 0.0088

Saturn -54862-03-28 11:16 J -18316836.16 -18316836.03 -18316835.89 0.0287 0.0022

Saturn -54862-06-24 23:45 J -18316747.62 -18316747.51 -18316747.38 0.0288 0.0130

Saturn -54862-09-21 12:13 J -18316659.06 -18316658.99 -18316658.91 0.0289 0.0238

Moon -54860-01-05 18:13 J -18316186.86 -18316186.74 -18316186.63 0.2662 0.1697

Earth -54860-01-05 19:25 J -18316186.80 -18316186.69 -18316186.57 0.2665 0.1656 *

Jupiter -54859-11-08 17:59 J -18315514.88 -18315514.75 -18315514.62 0.0535 0.0028

Mars -54858-07-28 10:47 J -18315253.16 -18315253.05 -18315252.93 0.1775 0.0341

Venus -54857-04-22 06:42 J -18314984.27 -18314984.22 -18314984.17 0.3776 0.3290

Mars -54857-05-23 13:54 J -18314953.01 -18314952.92 -18314952.84 0.1759 0.1488

Earth -54857-07-13 21:35 J -18314901.71 -18314901.60 -18314901.48 0.2670 0.0095

Moon -54857-07-13 22:18 J -18314901.68 -18314901.57 -18314901.46 0.2673 0.0012 *

Jupiter -54853-09-25 07:40 J -18313367.33 -18313367.18 -18313367.02 0.0491 0.0242

Jupiter -54853-12-24 12:42 J -18313277.07 -18313276.97 -18313276.88 0.0492 0.0417

Venus -54852-11-05 22:33 J -18312960.65 -18312960.56 -18312960.46 0.3780 0.1220

Neptune -54851-04-24 12:13 J -18312790.99 -18312790.99 -18312790.97 0.0089 0.0088

Neptune -54851-07-21 14:09 J -18312702.96 -18312702.91 -18312702.86 0.0089 0.0082

Neptune -54851-10-17 15:35 J -18312614.91 -18312614.85 -18312614.77 0.0089 0.0076

Neptune -54850-01-13 17:16 J -18312526.86 -18312526.78 -18312526.69 0.0089 0.0070

Neptune -54850-04-11 18:42 J -18312438.81 -18312438.72 -18312438.62 0.0089 0.0064

Neptune -54850-07-08 20:23 J -18312350.75 -18312350.65 -18312350.54 0.0089 0.0058

Neptune -54850-10-04 21:49 J -18312262.70 -18312262.59 -18312262.47 0.0089 0.0052

Neptune -54850-12-31 23:30 J -18312174.64 -18312174.52 -18312174.40 0.0089 0.0046

Neptune -54849-03-29 00:57 J -18312086.58 -18312086.46 -18312086.33 0.0089 0.0040

Saturn -54849-05-02 23:01 J -18312051.63 -18312051.54 -18312051.42 0.0276 0.0217

Neptune -54849-06-25 02:37 J -18311998.52 -18311998.39 -18311998.26 0.0089 0.0034

Saturn -54849-07-30 19:11 J -18311962.86 -18311962.70 -18311962.53 0.0275 0.0092

Venus -54849-08-10 11:45 J -18311952.17 -18311952.01 -18311951.86 0.3597 0.0102

Neptune -54849-09-21 04:04 J -18311910.46 -18311910.33 -18311910.19 0.0089 0.0028

Saturn -54849-10-27 15:21 J -18311874.03 -18311873.86 -18311873.68 0.0274 0.0034

Mars -54849-12-17 19:40 J -18311822.80 -18311822.68 -18311822.56 0.1766 0.0421

Neptune -54849-12-18 05:45 J -18311822.40 -18311822.26 -18311822.13 0.0089 0.0022

Saturn -54848-01-24 11:45 J -18311785.15 -18311785.01 -18311784.86 0.0273 0.0159

Neptune -54848-03-16 07:11 J -18311734.33 -18311734.20 -18311734.06 0.0089 0.0016

Neptune -54848-06-12 08:52 J -18311646.27 -18311646.13 -18311646.00 0.0089 0.0010

Neptune -54848-09-08 10:18 J -18311558.21 -18311558.07 -18311557.93 0.0089 0.0004

Mars -54848-10-13 14:09 J -18311523.06 -18311522.91 -18311522.75 0.1768 0.0348

Neptune -54848-12-05 11:45 J -18311470.15 -18311470.01 -18311469.87 0.0089 0.0003

Moon -54847-01-08 22:04 J -18311435.73 -18311435.58 -18311435.44 0.2666 0.0201

Earth -54847-01-08 23:16 J -18311435.68 -18311435.53 -18311435.38 0.2662 0.0073 *

Neptune -54847-03-03 13:11 J -18311382.08 -18311381.95 -18311381.81 0.0089 0.0009

Neptune -54847-05-30 14:52 J -18311294.02 -18311293.88 -18311293.74 0.0089 0.0014

Neptune -54847-08-26 16:18 J -18311205.95 -18311205.82 -18311205.68 0.0089 0.0020

Jupiter -54847-08-27 21:35 J -18311204.72 -18311204.60 -18311204.47 0.0536 0.0120

Neptune -54847-11-22 17:45 J -18311117.89 -18311117.76 -18311117.62 0.0089 0.0026

Jupiter -54847-11-25 05:45 J -18311115.31 -18311115.26 -18311115.20 0.0535 0.0476

Neptune -54846-02-18 19:11 J -18311029.82 -18311029.70 -18311029.57 0.0089 0.0032

Neptune -54846-05-17 20:37 J -18310941.76 -18310941.64 -18310941.51 0.0089 0.0038

Venus -54846-05-22 14:23 J -18310937.00 -18310936.90 -18310936.80 0.3784 0.0831

Neptune -54846-08-13 22:04 J -18310853.69 -18310853.58 -18310853.45 0.0089 0.0044

Neptune -54846-11-09 23:30 J -18310765.62 -18310765.52 -18310765.40 0.0089 0.0050

Neptune -54845-02-06 01:11 J -18310677.55 -18310677.45 -18310677.34 0.0089 0.0055

Neptune -54845-05-04 02:37 J -18310589.49 -18310589.39 -18310589.29 0.0089 0.0061

Neptune -54845-07-31 04:04 J -18310501.41 -18310501.33 -18310501.24 0.0089 0.0067

Neptune -54845-10-27 05:16 J -18310413.34 -18310413.28 -18310413.19 0.0089 0.0073

Neptune -54844-01-23 06:42 J -18310325.27 -18310325.22 -18310325.14 0.0089 0.0079

Neptune -54844-04-21 08:23 J -18310237.19 -18310237.15 -18310237.10 0.0089 0.0084

Earth -54844-07-16 16:18 J -18310150.93 -18310150.82 -18310150.71 0.2672 0.0859

Moon -54844-07-16 17:01 J -18310150.89 -18310150.79 -18310150.68 0.2671 0.0866 *

Uranus -54842-07-29 13:11 J -18309408.03 -18309407.95 -18309407.84 0.0146 0.0124

Uranus -54842-10-25 21:35 J -18309319.74 -18309319.60 -18309319.45 0.0146 0.0091

Uranus -54841-01-22 05:30 J -18309231.43 -18309231.27 -18309231.08 0.0146 0.0060

Uranus -54841-04-19 13:54 J -18309143.10 -18309142.92 -18309142.73 0.0146 0.0026

Jupiter -54841-07-14 06:57 J -18309057.32 -18309057.21 -18309057.11 0.0491 0.0396

Uranus -54841-07-16 22:18 J -18309054.76 -18309054.57 -18309054.38 0.0146 0.0008

Jupiter -54841-10-12 11:16 J -18308967.19 -18308967.03 -18308966.88 0.0492 0.0256

Uranus -54841-10-13 06:28 J -18308966.40 -18308966.23 -18308966.04 0.0146 0.0041

Venus -54841-12-05 06:13 J -18308913.30 -18308913.24 -18308913.18 0.3787 0.2890

Uranus -54840-01-09 14:52 J -18308878.04 -18308877.88 -18308877.71 0.0146 0.0074

Uranus -54840-04-07 23:01 J -18308789.65 -18308789.54 -18308789.40 0.0146 0.0108

Uranus -54840-07-05 07:25 J -18308701.22 -18308701.19 -18308701.13 0.0146 0.0141

Mars -54839-05-10 04:18 J -18308392.41 -18308392.32 -18308392.23 0.1758 0.1177

Mars -54838-03-05 15:06 J -18308093.01 -18308092.87 -18308092.73 0.1777 0.0781

Moon -54837-07-09 12:42 J -18307601.06 -18307600.97 -18307600.89 0.2673 0.1824

Earth -54837-07-09 12:57 J -18307601.05 -18307600.96 -18307600.88 0.2667 0.1838 *

Jupiter -54835-06-16 01:40 J -18306894.55 -18306894.43 -18306894.32 0.0535 0.0261

Jupiter -54835-09-13 10:04 J -18306805.18 -18306805.08 -18306804.98 0.0535 0.0338

Moon -54834-01-12 02:37 J -18306684.51 -18306684.39 -18306684.27 0.2665 0.1461

Earth -54834-01-12 03:21 J -18306684.48 -18306684.36 -18306684.24 0.2660 0.1575 *

Saturn -54833-02-19 10:33 J -18306281.13 -18306281.06 -18306280.98 0.0284 0.0238

Saturn -54833-05-17 23:16 J -18306192.65 -18306192.53 -18306192.40 0.0285 0.0130

Saturn -54833-08-14 11:59 J -18306104.13 -18306104.00 -18306103.86 0.0286 0.0022

Saturn -54833-11-11 00:28 J -18306015.60 -18306015.48 -18306015.35 0.0287 0.0087

Saturn -54832-02-07 12:57 J -18305927.05 -18305926.96 -18305926.86 0.0288 0.0194

Earth -54831-07-19 10:47 J -18305400.13 -18305400.05 -18305399.96 0.2675 0.1791

Moon -54831-07-19 11:16 J -18305400.11 -18305400.03 -18305399.95 0.2668 0.1872 *

Jupiter -54829-07-31 09:35 J -18304657.27 -18304657.10 -18304656.92 0.0492 0.0095

Mars -54828-09-05 02:09 J -18304256.50 -18304256.41 -18304256.32 0.1783 0.1190

Earth -54824-07-12 07:54 J -18302850.28 -18302850.17 -18302850.07 0.2669 0.0872

Moon -54824-07-12 08:09 J -18302850.27 -18302850.16 -18302850.05 0.2676 0.0853 *

Jupiter -54823-04-04 05:16 J -18302584.37 -18302584.28 -18302584.20 0.0535 0.0408

Jupiter -54823-07-02 13:54 J -18302495.04 -18302494.92 -18302494.80 0.0535 0.0195

Saturn -54820-09-19 20:23 J -18301319.68 -18301319.65 -18301319.61 0.0276 0.0268

Pluto -54820-11-09 02:09 J -18301269.43 -18301269.41 -18301269.37 0.0083 0.0081

Saturn -54820-12-17 16:18 J -18301230.97 -18301230.82 -18301230.67 0.0275 0.0144

Pluto -54819-02-05 03:35 J -18301181.40 -18301181.35 -18301181.26 0.0083 0.0072

Saturn -54819-03-16 12:28 J -18301142.16 -18301141.98 -18301141.80 0.0274 0.0019

Pluto -54819-05-04 05:30 J -18301093.36 -18301093.27 -18301093.17 0.0082 0.0062

Saturn -54819-06-13 08:37 J -18301053.30 -18301053.14 -18301052.97 0.0273 0.0107

Pluto -54819-07-31 06:57 J -18301005.31 -18301005.21 -18301005.08 0.0082 0.0053

Saturn -54819-09-10 05:16 J -18300964.37 -18300964.28 -18300964.19 0.0273 0.0233

Pluto -54819-10-27 08:37 J -18300917.25 -18300917.14 -18300917.01 0.0082 0.0043

Pluto -54818-01-23 10:18 J -18300829.20 -18300829.07 -18300828.93 0.0082 0.0034

Mars -54818-01-26 11:01 J -18300826.16 -18300826.04 -18300825.92 0.1775 0.0434

Pluto -54818-04-21 11:45 J -18300741.14 -18300741.01 -18300740.86 0.0082 0.0025

Pluto -54818-07-18 13:25 J -18300653.08 -18300652.94 -18300652.79 0.0082 0.0016

Moon -54818-07-22 05:16 J -18300649.30 -18300649.28 -18300649.27 0.2670 0.2634

Pluto -54818-10-14 15:06 J -18300565.01 -18300564.87 -18300564.72 0.0082 0.0006

Mars -54818-11-22 14:23 J -18300525.96 -18300525.90 -18300525.84 0.1759 0.1620

Pluto -54817-01-10 16:33 J -18300476.95 -18300476.81 -18300476.66 0.0081 0.0004

Pluto -54817-04-07 18:13 J -18300388.89 -18300388.74 -18300388.60 0.0081 0.0012

Jupiter -54817-05-19 08:23 J -18300347.32 -18300347.15 -18300346.97 0.0492 0.0065

Pluto -54817-07-04 19:40 J -18300300.82 -18300300.68 -18300300.54 0.0081 0.0020

Pluto -54817-09-30 21:06 J -18300212.75 -18300212.62 -18300212.48 0.0081 0.0029

Pluto -54817-12-27 22:18 J -18300124.68 -18300124.57 -18300124.43 0.0081 0.0038

Pluto -54816-03-25 23:59 J -18300036.61 -18300036.50 -18300036.38 0.0081 0.0046

Pluto -54816-06-22 01:11 J -18299948.54 -18299948.45 -18299948.33 0.0081 0.0055

Pluto -54816-09-18 02:52 J -18299860.46 -18299860.38 -18299860.29 0.0081 0.0063

Pluto -54816-12-15 04:04 J -18299772.38 -18299772.33 -18299772.25 0.0080 0.0071

Pluto -54815-03-13 05:30 J -18299684.27 -18299684.27 -18299684.24 0.0080 0.0080

Moon -54814-01-07 00:13 J -18299384.60 -18299384.49 -18299384.37 0.2662 0.1559

Earth -54814-01-07 01:40 J -18299384.55 -18299384.43 -18299384.30 0.2664 0.1368 *

Jupiter -54811-04-20 17:01 J -18298184.92 -18298184.79 -18298184.66 0.0535 0.0042

Earth -54811-07-15 02:37 J -18298099.51 -18298099.39 -18298099.28 0.2671 0.0098

Moon -54811-07-15 03:21 J -18298099.47 -18298099.36 -18298099.25 0.2672 0.0150 *

Mars -54809-06-17 19:40 J -18297395.80 -18297395.68 -18297395.56 0.1766 0.0328

Mars -54808-04-13 14:52 J -18297096.03 -18297095.88 -18297095.73 0.1768 0.0488

Jupiter -54805-03-07 07:25 J -18296037.35 -18296037.19 -18296037.03 0.0492 0.0222

Jupiter -54805-06-05 12:13 J -18295947.07 -18295946.99 -18295946.91 0.0492 0.0440

Moon -54804-07-07 22:04 J -18295549.59 -18295549.58 -18295549.57 0.2669 0.2639

Earth -54804-07-07 22:47 J -18295549.56 -18295549.55 -18295549.54 0.2665 0.2637

Saturn -54804-07-08 11:59 J -18295549.03 -18295549.00 -18295548.96 0.0285 0.0273

Saturn -54804-10-05 00:57 J -18295460.57 -18295460.46 -18295460.35 0.0285 0.0165

Saturn -54803-01-01 13:40 J -18295372.07 -18295371.93 -18295371.80 0.0286 0.0056

Saturn -54803-03-31 02:09 J -18295283.54 -18295283.41 -18295283.27 0.0287 0.0052

Saturn -54803-06-27 14:37 J -18295195.00 -18295194.89 -18295194.77 0.0288 0.0160

Saturn -54803-09-24 03:06 J -18295106.42 -18295106.37 -18295106.32 0.0289 0.0267

Moon -54801-01-10 04:18 J -18294633.47 -18294633.32 -18294633.18 0.2666 0.0191

Earth -54801-01-10 05:30 J -18294633.42 -18294633.27 -18294633.12 0.2662 0.0227 *

Venus -54801-11-27 04:04 J -18294311.40 -18294311.33 -18294311.25 0.3777 0.2536

Mars -54800-11-08 04:33 J -18293965.41 -18293965.31 -18293965.21 0.1758 0.1073

Uranus -54799-02-06 16:33 J -18293874.86 -18293874.81 -18293874.73 0.0132 0.0116

Jupiter -54799-02-06 20:37 J -18293874.77 -18293874.64 -18293874.51 0.0535 0.0108 *

Uranus -54799-05-05 19:54 J -18293786.76 -18293786.67 -18293786.58 0.0132 0.0097

Jupiter -54799-05-07 04:47 J -18293785.35 -18293785.30 -18293785.25 0.0534 0.0484

Uranus -54799-08-01 22:47 J -18293698.65 -18293698.55 -18293698.43 0.0132 0.0081

Mars -54799-09-03 15:21 J -18293666.01 -18293665.86 -18293665.72 0.1777 0.0668

Uranus -54799-10-29 02:09 J -18293610.53 -18293610.41 -18293610.29 0.0132 0.0062

Uranus -54798-01-25 05:16 J -18293522.41 -18293522.28 -18293522.15 0.0132 0.0045

Uranus -54798-04-23 08:23 J -18293434.28 -18293434.15 -18293434.02 0.0132 0.0027

Earth -54798-07-17 21:21 J -18293348.72 -18293348.61 -18293348.51 0.2673 0.1037

Moon -54798-07-17 22:04 J -18293348.69 -18293348.58 -18293348.48 0.2671 0.1155 *

Uranus -54798-07-20 11:30 J -18293346.16 -18293346.02 -18293345.89 0.0132 0.0010

Uranus -54798-10-16 14:37 J -18293258.03 -18293257.89 -18293257.76 0.0133 0.0009

Uranus -54797-01-12 17:30 J -18293169.90 -18293169.77 -18293169.63 0.0133 0.0026

Uranus -54797-04-09 20:37 J -18293081.77 -18293081.64 -18293081.51 0.0133 0.0043

Uranus -54797-07-06 23:30 J -18292993.63 -18292993.52 -18292993.39 0.0133 0.0061

Uranus -54797-10-03 02:37 J -18292905.49 -18292905.39 -18292905.28 0.0133 0.0078

Uranus -54797-12-30 05:30 J -18292817.35 -18292817.27 -18292817.17 0.0133 0.0096

Uranus -54796-03-28 08:37 J -18292729.20 -18292729.14 -18292729.07 0.0133 0.0113

Uranus -54796-06-24 11:45 J -18292641.03 -18292641.01 -18292640.99 0.0133 0.0130

Venus -54795-06-12 19:54 J -18292287.77 -18292287.67 -18292287.57 0.3781 0.0490

Jupiter -54794-12-25 05:30 J -18291727.37 -18291727.27 -18291727.15 0.0491 0.0385

Jupiter -54793-03-24 09:49 J -18291637.23 -18291637.09 -18291636.93 0.0491 0.0269

Venus -54792-03-17 13:40 J -18291279.06 -18291278.93 -18291278.79 0.3596 0.1967

Moon -54791-07-10 17:45 J -18290798.84 -18290798.76 -18290798.67 0.2674 0.1725

Earth -54791-07-10 17:45 J -18290798.84 -18290798.76 -18290798.66 0.2667 0.1656 *

Saturn -54790-05-06 16:04 J -18290498.95 -18290498.83 -18290498.69 0.0276 0.0179

Saturn -54790-08-03 12:13 J -18290410.16 -18290409.99 -18290409.81 0.0275 0.0054

Saturn -54790-10-31 08:37 J -18290321.32 -18290321.14 -18290320.97 0.0274 0.0072

Venus -54790-12-27 11:45 J -18290264.10 -18290264.01 -18290263.91 0.3784 0.1593

Saturn -54789-01-28 04:47 J -18290232.41 -18290232.30 -18290232.17 0.0273 0.0198

Moon -54788-01-12 09:21 J -18289882.22 -18289882.11 -18289882.01 0.2666 0.1854

Earth -54788-01-12 09:49 J -18289882.20 -18289882.09 -18289881.99 0.2660 0.1874 *

Mars -54788-03-06 02:09 J -18289829.49 -18289829.41 -18289829.33 0.1783 0.1286

Jupiter -54788-11-26 00:13 J -18289564.60 -18289564.49 -18289564.37 0.0536 0.0256

Jupiter -54787-02-23 08:37 J -18289475.23 -18289475.14 -18289475.04 0.0535 0.0344

Earth -54785-07-19 15:49 J -18288597.92 -18288597.84 -18288597.76 0.2675 0.1962

Moon -54785-07-19 16:04 J -18288597.91 -18288597.83 -18288597.75 0.2668 0.1913 *

Venus -54784-07-12 03:35 J -18288240.37 -18288240.35 -18288240.32 0.3787 0.3643

Earth -54781-01-05 04:18 J -18287333.34 -18287333.32 -18287333.30 0.2666 0.2640

Jupiter -54781-01-11 08:37 J -18287327.31 -18287327.14 -18287326.96 0.0491 0.0109

Mars -54779-07-27 11:01 J -18286399.16 -18286399.04 -18286398.93 0.1775 0.0523

Earth -54778-07-13 12:42 J -18286048.08 -18286047.97 -18286047.86 0.2669 0.0684

Moon -54778-07-13 13:11 J -18286048.06 -18286047.95 -18286047.84 0.2675 0.0623 *

Jupiter -54776-09-14 04:04 J -18285254.41 -18285254.33 -18285254.24 0.0536 0.0399

Jupiter -54776-12-12 12:42 J -18285165.08 -18285164.97 -18285164.85 0.0535 0.0206

Saturn -54774-02-22 01:40 J -18284728.52 -18284728.43 -18284728.33 0.0284 0.0206

Saturn -54774-05-21 14:23 J -18284640.03 -18284639.90 -18284639.77 0.0285 0.0098

Saturn -54774-08-18 03:06 J -18284551.51 -18284551.37 -18284551.24 0.0286 0.0011

Saturn -54774-11-14 15:35 J -18284462.98 -18284462.85 -18284462.73 0.0287 0.0117

Saturn -54773-02-11 03:49 J -18284374.42 -18284374.34 -18284374.25 0.0288 0.0225

Jupiter -54770-10-30 07:11 J -18283017.37 -18283017.20 -18283017.02 0.0491 0.0053

Mars -54770-12-17 19:54 J -18282968.79 -18282968.67 -18282968.55 0.1767 0.0231

Neptune -54769-10-11 06:57 J -18282670.22 -18282670.21 -18282670.19 0.0089 0.0088

Mars -54769-10-12 15:21 J -18282669.01 -18282668.86 -18282668.71 0.1767 0.0618

Moon -54768-01-07 06:28 J -18282582.37 -18282582.23 -18282582.10 0.2664 0.1108

Earth -54768-01-07 07:54 J -18282582.31 -18282582.17 -18282582.04 0.2664 0.1091 *

Neptune -54768-01-07 09:35 J -18282582.16 -18282582.10 -18282582.01 0.0089 0.0081 *

Neptune -54768-04-05 12:57 J -18282494.06 -18282493.96 -18282493.86 0.0089 0.0073

Neptune -54768-07-02 15:35 J -18282405.95 -18282405.85 -18282405.71 0.0089 0.0066

Neptune -54768-09-28 18:42 J -18282317.84 -18282317.72 -18282317.57 0.0089 0.0058

Neptune -54768-12-25 22:04 J -18282229.73 -18282229.58 -18282229.43 0.0089 0.0050

Neptune -54767-03-24 00:57 J -18282141.61 -18282141.46 -18282141.29 0.0089 0.0043

Neptune -54767-06-20 04:04 J -18282053.49 -18282053.33 -18282053.16 0.0089 0.0035

Neptune -54767-09-16 07:11 J -18281965.37 -18281965.20 -18281965.02 0.0089 0.0027

Neptune -54767-12-13 10:04 J -18281877.25 -18281877.08 -18281876.89 0.0089 0.0020

Neptune -54766-03-11 13:25 J -18281789.12 -18281788.94 -18281788.76 0.0089 0.0012

Neptune -54766-06-07 16:33 J -18281700.99 -18281700.81 -18281700.63 0.0089 0.0004

Neptune -54766-09-03 19:40 J -18281612.86 -18281612.68 -18281612.50 0.0089 0.0004

Neptune -54766-11-30 22:47 J -18281524.73 -18281524.55 -18281524.37 0.0089 0.0012

Neptune -54765-02-27 01:54 J -18281436.60 -18281436.42 -18281436.24 0.0089 0.0020

Neptune -54765-05-25 05:01 J -18281348.46 -18281348.29 -18281348.11 0.0089 0.0028

Earth -54765-07-15 07:25 J -18281297.30 -18281297.19 -18281297.07 0.2671 0.0285

Moon -54765-07-15 08:23 J -18281297.27 -18281297.15 -18281297.04 0.2672 0.0346 *

Neptune -54765-08-21 08:09 J -18281260.32 -18281260.16 -18281259.99 0.0089 0.0036

Neptune -54765-11-17 11:16 J -18281172.18 -18281172.03 -18281171.86 0.0089 0.0044

Neptune -54764-02-13 14:23 J -18281084.04 -18281083.90 -18281083.74 0.0089 0.0052

Neptune -54764-05-12 17:30 J -18280995.89 -18280995.77 -18280995.62 0.0089 0.0060

Neptune -54764-08-08 20:37 J -18280907.74 -18280907.64 -18280907.50 0.0089 0.0068

Jupiter -54764-09-30 16:33 J -18280854.93 -18280854.81 -18280854.68 0.0535 0.0064

Neptune -54764-11-04 23:45 J -18280819.58 -18280819.51 -18280819.39 0.0089 0.0076

Neptune -54763-02-01 03:06 J -18280731.41 -18280731.37 -18280731.29 0.0089 0.0084

Saturn -54761-09-22 12:42 J -18279767.05 -18279766.97 -18279766.86 0.0276 0.0234

Saturn -54761-12-20 08:52 J -18279678.29 -18279678.13 -18279677.96 0.0275 0.0108

Saturn -54760-03-19 05:16 J -18279589.46 -18279589.28 -18279589.11 0.0274 0.0018

Mars -54760-05-09 04:33 J -18279538.41 -18279538.31 -18279538.21 0.1758 0.0979

Saturn -54760-06-16 01:25 J -18279500.59 -18279500.44 -18279500.28 0.0274 0.0144

Saturn -54760-09-12 22:04 J -18279411.60 -18279411.58 -18279411.55 0.0273 0.0270

Mars -54759-03-04 15:49 J -18279238.99 -18279238.84 -18279238.69 0.1777 0.0527

Moon -54758-07-09 03:21 J -18278747.39 -18278747.36 -18278747.34 0.2670 0.2572

Earth -54758-07-09 03:49 J -18278747.38 -18278747.34 -18278747.30 0.2666 0.2446 *

Jupiter -54758-08-18 06:13 J -18278707.40 -18278707.24 -18278707.08 0.0492 0.0208

Uranus -54758-08-18 20:09 J -18278706.76 -18278706.66 -18278706.54 0.0146 0.0118

Uranus -54758-11-15 04:18 J -18278618.46 -18278618.32 -18278618.16 0.0146 0.0085

Jupiter -54758-11-16 11:01 J -18278617.11 -18278617.04 -18278616.97 0.0492 0.0453

Uranus -54757-02-11 12:42 J -18278530.14 -18278529.97 -18278529.79 0.0146 0.0052

Uranus -54757-05-09 20:52 J -18278441.81 -18278441.63 -18278441.44 0.0146 0.0020

Uranus -54757-08-06 05:16 J -18278353.47 -18278353.28 -18278353.09 0.0146 0.0014

Uranus -54757-11-02 13:25 J -18278265.11 -18278264.94 -18278264.76 0.0146 0.0047

Uranus -54756-01-29 21:35 J -18278176.75 -18278176.60 -18278176.43 0.0146 0.0081

Uranus -54756-04-28 05:59 J -18278088.36 -18278088.25 -18278088.12 0.0146 0.0114

Moon -54755-01-10 10:33 J -18277831.21 -18277831.06 -18277830.92 0.2665 0.0361

Earth -54755-01-10 11:45 J -18277831.16 -18277831.01 -18277830.86 0.2661 0.0522 *

Earth -54752-07-18 02:09 J -18276546.51 -18276546.41 -18276546.31 0.2673 0.1211

Moon -54752-07-18 02:52 J -18276546.48 -18276546.38 -18276546.28 0.2670 0.1229 *

Jupiter -54752-07-19 19:54 J -18276544.80 -18276544.67 -18276544.54 0.0535 0.0093

Jupiter -54752-10-17 04:04 J -18276455.37 -18276455.33 -18276455.29 0.0534 0.0499

Mars -54751-09-29 13:25 J -18276107.96 -18276107.94 -18276107.93 0.1750 0.1724

Mars -54750-07-25 16:33 J -18275808.86 -18275808.81 -18275808.76 0.1785 0.1669

Mars -54749-09-04 02:09 J -18275402.48 -18275402.41 -18275402.33 0.1783 0.1381

Jupiter -54746-06-06 05:01 J -18274397.40 -18274397.29 -18274397.16 0.0492 0.0365

Jupiter -54746-09-04 09:35 J -18274307.24 -18274307.10 -18274306.95 0.0492 0.0291

Moon -54745-07-10 22:47 J -18273996.65 -18273996.55 -18273996.45 0.2675 0.1412

Earth -54745-07-10 22:47 J -18273996.64 -18273996.55 -18273996.45 0.2668 0.1469 *

Saturn -54745-07-11 02:52 J -18273996.45 -18273996.38 -18273996.31 0.0284 0.0243 *

Saturn -54745-10-07 15:35 J -18273907.97 -18273907.85 -18273907.73 0.0285 0.0135

Saturn -54744-01-04 04:18 J -18273819.46 -18273819.32 -18273819.18 0.0286 0.0027

Saturn -54744-04-02 16:47 J -18273730.93 -18273730.80 -18273730.67 0.0287 0.0081

Saturn -54744-06-30 05:16 J -18273642.38 -18273642.28 -18273642.18 0.0288 0.0188

Venus -54744-07-04 01:40 J -18273638.52 -18273638.43 -18273638.34 0.3778 0.1785

Moon -54742-01-13 15:49 J -18273079.92 -18273079.84 -18273079.76 0.2666 0.2181

Earth -54742-01-13 16:04 J -18273079.92 -18273079.83 -18273079.75 0.2659 0.2170 *

Venus -54741-04-07 06:57 J -18272630.34 -18272630.21 -18272630.07 0.3600 0.1868

Jupiter -54740-05-07 23:30 J -18272234.64 -18272234.52 -18272234.40 0.0535 0.0242

Jupiter -54740-08-05 07:54 J -18272145.27 -18272145.17 -18272145.08 0.0535 0.0356

Mars -54739-01-25 11:01 J -18271972.15 -18271972.04 -18271971.93 0.1775 0.0621

Earth -54739-07-20 20:52 J -18271795.70 -18271795.63 -18271795.57 0.2675 0.2135

Moon -54739-07-20 20:52 J -18271795.69 -18271795.63 -18271795.56 0.2668 0.2207 *

Venus -54738-01-17 17:30 J -18271614.87 -18271614.77 -18271614.67 0.3782 0.0285

Moon -54735-01-05 09:21 J -18270531.18 -18270531.11 -18270531.05 0.2661 0.2362

Earth -54735-01-05 10:33 J -18270531.13 -18270531.06 -18270531.00 0.2666 0.2362 *

Jupiter -54734-06-23 07:40 J -18269997.35 -18269997.18 -18269997.01 0.0491 0.0123

Venus -54733-08-02 09:21 J -18269591.19 -18269591.11 -18269591.03 0.3785 0.2346

Earth -54732-07-13 17:45 J -18269245.87 -18269245.76 -18269245.65 0.2669 0.0504

Moon -54732-07-13 18:13 J -18269245.85 -18269245.74 -18269245.63 0.2674 0.0507 *

Saturn -54731-02-09 12:57 J -18269035.00 -18269034.96 -18269034.92 0.0277 0.0268

Saturn -54731-05-09 08:37 J -18268946.28 -18268946.14 -18268945.98 0.0276 0.0144

Saturn -54731-08-06 05:01 J -18268857.47 -18268857.29 -18268857.12 0.0275 0.0019

Saturn -54731-11-03 01:11 J -18268768.61 -18268768.45 -18268768.28 0.0274 0.0108

Saturn -54730-01-30 21:49 J -18268679.68 -18268679.59 -18268679.50 0.0273 0.0235

Mars -54730-06-17 19:54 J -18268541.79 -18268541.67 -18268541.55 0.1766 0.0137

Mars -54729-04-12 15:49 J -18268241.98 -18268241.84 -18268241.70 0.1768 0.0752

Jupiter -54728-02-24 02:52 J -18267924.47 -18267924.38 -18267924.29 0.0536 0.0394

Jupiter -54728-05-24 11:30 J -18267835.14 -18267835.02 -18267834.90 0.0536 0.0211

Moon -54722-01-08 12:28 J -18265780.11 -18265779.98 -18265779.84 0.2665 0.1019

Earth -54722-01-08 13:54 J -18265780.06 -18265779.92 -18265779.78 0.2663 0.0802 *

Jupiter -54722-04-11 06:28 J -18265687.41 -18265687.23 -18265687.05 0.0491 0.0035

Mars -54721-11-07 04:33 J -18265111.41 -18265111.31 -18265111.20 0.1758 0.0887

Mars -54720-09-02 16:33 J -18264811.96 -18264811.81 -18264811.66 0.1776 0.0384

Earth -54719-07-16 12:28 J -18264495.09 -18264494.98 -18264494.87 0.2671 0.0449

Moon -54719-07-16 13:11 J -18264495.06 -18264494.95 -18264494.83 0.2673 0.0540 *

Jupiter -54716-03-12 15:35 J -18263524.98 -18263524.85 -18263524.72 0.0536 0.0072

Saturn -54716-11-28 03:49 J -18263264.35 -18263264.34 -18263264.32 0.0283 0.0282

Uranus -54716-11-30 20:23 J -18263261.67 -18263261.65 -18263261.63 0.0132 0.0130

Saturn -54715-02-24 16:47 J -18263175.91 -18263175.80 -18263175.69 0.0284 0.0174

Uranus -54715-02-26 23:30 J -18263173.58 -18263173.52 -18263173.44 0.0132 0.0112

Saturn -54715-05-24 05:16 J -18263087.41 -18263087.28 -18263087.14 0.0285 0.0068

Uranus -54715-05-26 02:37 J -18263085.48 -18263085.39 -18263085.29 0.0132 0.0095

Saturn -54715-08-20 17:59 J -18262998.89 -18262998.75 -18262998.62 0.0286 0.0040

Uranus -54715-08-22 05:45 J -18262997.36 -18262997.26 -18262997.15 0.0132 0.0077

Saturn -54715-11-17 06:28 J -18262910.35 -18262910.23 -18262910.12 0.0287 0.0147

Uranus -54715-11-18 08:52 J -18262909.25 -18262909.13 -18262909.00 0.0132 0.0059

Saturn -54714-02-13 18:42 J -18262821.78 -18262821.72 -18262821.66 0.0288 0.0254

Uranus -54714-02-14 11:59 J -18262821.12 -18262821.00 -18262820.87 0.0132 0.0042

Uranus -54714-05-13 15:06 J -18262733.00 -18262732.87 -18262732.74 0.0132 0.0024

Uranus -54714-08-09 18:13 J -18262644.87 -18262644.74 -18262644.61 0.0132 0.0007

Uranus -54714-11-05 21:21 J -18262556.75 -18262556.61 -18262556.48 0.0132 0.0011

Uranus -54713-02-02 00:13 J -18262468.62 -18262468.49 -18262468.35 0.0133 0.0029

Uranus -54713-04-30 03:21 J -18262380.48 -18262380.36 -18262380.23 0.0133 0.0046

Uranus -54713-07-27 06:13 J -18262292.35 -18262292.24 -18262292.11 0.0133 0.0064

Uranus -54713-10-23 09:21 J -18262204.21 -18262204.11 -18262204.00 0.0133 0.0081

Uranus -54712-01-19 12:28 J -18262116.07 -18262115.98 -18262115.89 0.0133 0.0098

Uranus -54712-04-17 15:21 J -18262027.92 -18262027.86 -18262027.79 0.0133 0.0116

Moon -54712-07-09 08:23 J -18261945.21 -18261945.15 -18261945.09 0.2671 0.2256

Earth -54712-07-09 08:52 J -18261945.19 -18261945.13 -18261945.07 0.2666 0.2261 *

Uranus -54712-07-14 18:28 J -18261939.73 -18261939.73 -18261939.73 0.0133 0.0133

Mars -54711-03-30 13:25 J -18261680.98 -18261680.94 -18261680.90 0.1750 0.1624

Mars -54710-01-23 17:01 J -18261381.87 -18261381.79 -18261381.72 0.1785 0.1541

Jupiter -54710-01-28 05:01 J -18261377.45 -18261377.29 -18261377.12 0.0491 0.0195

Jupiter -54710-04-28 09:49 J -18261287.14 -18261287.09 -18261287.03 0.0492 0.0466

Moon -54709-01-11 16:47 J -18261028.94 -18261028.80 -18261028.66 0.2665 0.0791

Earth -54709-01-11 17:59 J -18261028.90 -18261028.75 -18261028.61 0.2661 0.0808 *

Mars -54709-03-05 02:09 J -18260975.47 -18260975.41 -18260975.34 0.1784 0.1473

Earth -54706-07-19 07:11 J -18259744.30 -18259744.20 -18259744.11 0.2673 0.1385

Moon -54706-07-19 07:40 J -18259744.27 -18259744.18 -18259744.08 0.2668 0.1440 *

Jupiter -54705-12-29 19:25 J -18259214.82 -18259214.69 -18259214.56 0.0535 0.0072

Jupiter -54704-03-29 03:35 J -18259125.38 -18259125.35 -18259125.32 0.0535 0.0520

Saturn -54702-09-26 05:16 J -18258214.39 -18258214.28 -18258214.15 0.0276 0.0199

Saturn -54702-12-24 01:25 J -18258125.61 -18258125.44 -18258125.27 0.0275 0.0073

Saturn -54701-03-21 21:35 J -18258036.77 -18258036.60 -18258036.42 0.0274 0.0054

Saturn -54701-06-18 17:59 J -18257947.88 -18257947.75 -18257947.60 0.0274 0.0180

Mars -54700-07-26 11:16 J -18257545.14 -18257545.03 -18257544.92 0.1775 0.0721

Moon -54699-07-12 03:49 J -18257194.44 -18257194.34 -18257194.24 0.2675 0.1352

Earth -54699-07-12 03:49 J -18257194.44 -18257194.34 -18257194.24 0.2668 0.1282 *

Jupiter -54699-11-16 04:04 J -18257067.45 -18257067.33 -18257067.20 0.0491 0.0350

Jupiter -54698-02-14 08:23 J -18256977.29 -18256977.15 -18256977.00 0.0492 0.0305

Moon -54696-01-13 22:04 J -18256277.63 -18256277.58 -18256277.52 0.2666 0.2425

Earth -54696-01-13 22:18 J -18256277.62 -18256277.57 -18256277.52 0.2659 0.2468 *

Earth -54693-07-21 01:40 J -18254993.49 -18254993.43 -18254993.38 0.2675 0.2302

Moon -54693-07-21 01:40 J -18254993.48 -18254993.43 -18254993.37 0.2669 0.2263 *

Venus -54693-07-25 07:11 J -18254989.25 -18254989.20 -18254989.14 0.3775 0.3088

Jupiter -54693-10-17 22:47 J -18254904.67 -18254904.55 -18254904.43 0.0535 0.0227

Jupiter -54692-01-15 06:57 J -18254815.30 -18254815.21 -18254815.11 0.0535 0.0371

Mars -54691-12-16 19:54 J -18254114.79 -18254114.67 -18254114.55 0.1767 0.0040

Mars -54690-10-12 16:18 J -18253814.95 -18253814.82 -18253814.68 0.1767 0.0887

Moon -54689-01-06 15:21 J -18253728.94 -18253728.86 -18253728.78 0.2662 0.2221

Earth -54689-01-06 16:33 J -18253728.90 -18253728.81 -18253728.72 0.2665 0.2080 *

Venus -54687-02-07 23:01 J -18252965.63 -18252965.54 -18252965.44 0.3779 0.1029

Jupiter -54687-12-03 07:11 J -18252667.37 -18252667.20 -18252667.03 0.0492 0.0144

Neptune -54686-01-19 12:13 J -18252620.02 -18252619.99 -18252619.94 0.0089 0.0085

Neptune -54686-04-17 13:54 J -18252531.97 -18252531.92 -18252531.85 0.0089 0.0079

Neptune -54686-07-14 15:21 J -18252443.93 -18252443.86 -18252443.77 0.0089 0.0073

Saturn -54686-07-14 17:59 J -18252443.84 -18252443.75 -18252443.66 0.0284 0.0211 *

Earth -54686-07-14 22:47 J -18252443.67 -18252443.55 -18252443.44 0.2670 0.0332 *

Moon -54686-07-14 23:16 J -18252443.64 -18252443.53 -18252443.41 0.2674 0.0214 *

Neptune -54686-10-10 17:01 J -18252355.87 -18252355.79 -18252355.69 0.0089 0.0067

Saturn -54686-10-11 06:42 J -18252355.35 -18252355.22 -18252355.09 0.0285 0.0104

Neptune -54685-01-06 18:28 J -18252267.82 -18252267.73 -18252267.61 0.0089 0.0061

Saturn -54685-01-07 19:11 J -18252266.83 -18252266.70 -18252266.56 0.0286 0.0009

Neptune -54685-04-03 20:09 J -18252179.76 -18252179.66 -18252179.54 0.0089 0.0055

Saturn -54685-04-05 07:40 J -18252178.30 -18252178.18 -18252178.05 0.0287 0.0112

Neptune -54685-06-30 21:35 J -18252091.70 -18252091.60 -18252091.47 0.0089 0.0049

Saturn -54685-07-02 20:09 J -18252089.74 -18252089.66 -18252089.57 0.0288 0.0218

Neptune -54685-09-26 23:16 J -18252003.64 -18252003.53 -18252003.40 0.0089 0.0043

Venus -54685-11-12 08:52 J -18251957.29 -18251957.13 -18251956.97 0.3598 0.0110

Neptune -54685-12-24 00:57 J -18251915.58 -18251915.46 -18251915.33 0.0089 0.0036

Neptune -54684-03-22 02:37 J -18251827.52 -18251827.39 -18251827.26 0.0089 0.0030

Neptune -54684-06-18 04:04 J -18251739.46 -18251739.33 -18251739.19 0.0089 0.0024

Neptune -54684-09-14 05:30 J -18251651.40 -18251651.27 -18251651.13 0.0089 0.0019

Neptune -54684-12-11 07:11 J -18251563.34 -18251563.20 -18251563.06 0.0089 0.0012

Neptune -54683-03-09 08:52 J -18251475.27 -18251475.13 -18251474.99 0.0089 0.0007

Neptune -54683-06-05 10:18 J -18251387.21 -18251387.07 -18251386.93 0.0089 0.0001

Neptune -54683-09-01 11:45 J -18251299.15 -18251299.01 -18251298.87 0.0089 0.0006

Neptune -54683-11-28 13:11 J -18251211.08 -18251210.95 -18251210.81 0.0089 0.0012

Neptune -54682-02-24 14:52 J -18251123.02 -18251122.88 -18251122.75 0.0089 0.0018

Neptune -54682-05-23 16:18 J -18251034.95 -18251034.82 -18251034.69 0.0089 0.0024

Neptune -54682-08-19 17:45 J -18250946.89 -18250946.76 -18250946.63 0.0089 0.0029

Venus -54682-08-24 14:52 J -18250941.97 -18250941.88 -18250941.78 0.3783 0.1050

Neptune -54682-11-15 19:11 J -18250858.82 -18250858.70 -18250858.57 0.0089 0.0035

Neptune -54681-02-11 20:37 J -18250770.76 -18250770.64 -18250770.51 0.0089 0.0041

Mars -54681-05-08 04:47 J -18250684.41 -18250684.30 -18250684.19 0.1758 0.0787

Neptune -54681-05-09 22:18 J -18250682.69 -18250682.57 -18250682.46 0.0089 0.0047

Neptune -54681-08-05 23:45 J -18250594.62 -18250594.51 -18250594.40 0.0089 0.0053

Jupiter -54681-08-06 02:09 J -18250594.50 -18250594.41 -18250594.32 0.0535 0.0378 *

Neptune -54681-11-02 00:57 J -18250506.55 -18250506.46 -18250506.35 0.0089 0.0059

Jupiter -54681-11-03 10:47 J -18250505.17 -18250505.05 -18250504.93 0.0535 0.0225

Neptune -54680-01-29 02:23 J -18250418.48 -18250418.40 -18250418.29 0.0089 0.0065

Mars -54680-03-03 16:47 J -18250384.95 -18250384.80 -18250384.65 0.1776 0.0265

Neptune -54680-04-27 03:49 J -18250330.41 -18250330.34 -18250330.24 0.0089 0.0071

Neptune -54680-07-24 05:30 J -18250242.33 -18250242.27 -18250242.20 0.0089 0.0076

Neptune -54680-10-20 06:57 J -18250154.25 -18250154.21 -18250154.15 0.0089 0.0082

Neptune -54679-01-16 08:09 J -18250066.16 -18250066.16 -18250066.13 0.0089 0.0088

Moon -54676-01-08 18:42 J -18248977.87 -18248977.72 -18248977.58 0.2665 0.0541

Earth -54676-01-08 20:09 J -18248977.80 -18248977.66 -18248977.51 0.2663 0.0515 *

Venus -54676-03-09 06:42 J -18248918.27 -18248918.22 -18248918.16 0.3786 0.3107

Jupiter -54675-09-21 05:30 J -18248357.45 -18248357.27 -18248357.09 0.0491 0.0020

Uranus -54674-06-11 18:42 J -18248093.72 -18248093.72 -18248093.72 0.0146 0.0146

Uranus -54674-09-08 02:23 J -18248005.50 -18248005.40 -18248005.27 0.0146 0.0114

Uranus -54674-12-05 10:47 J -18247917.20 -18247917.05 -18247916.89 0.0146 0.0081

Uranus -54673-03-02 18:57 J -18247828.88 -18247828.71 -18247828.53 0.0146 0.0048

Uranus -54673-05-30 03:21 J -18247740.55 -18247740.36 -18247740.17 0.0146 0.0015

Earth -54673-07-16 17:30 J -18247692.88 -18247692.77 -18247692.66 0.2672 0.0628

Moon -54673-07-16 18:13 J -18247692.85 -18247692.74 -18247692.63 0.2672 0.0663 *

Uranus -54673-08-26 11:30 J -18247652.20 -18247652.02 -18247651.83 0.0146 0.0018

Uranus -54673-11-22 19:54 J -18247563.85 -18247563.67 -18247563.49 0.0146 0.0051

Saturn -54672-02-12 04:47 J -18247482.38 -18247482.30 -18247482.20 0.0277 0.0236

Uranus -54672-02-19 04:04 J -18247475.48 -18247475.33 -18247475.17 0.0146 0.0085

Saturn -54672-05-12 01:11 J -18247393.62 -18247393.45 -18247393.29 0.0276 0.0110

Uranus -54672-05-18 12:28 J -18247387.08 -18247386.98 -18247386.87 0.0146 0.0118

Saturn -54672-08-08 21:21 J -18247304.79 -18247304.61 -18247304.43 0.0275 0.0016

Mars -54672-09-28 13:25 J -18247254.00 -18247253.94 -18247253.88 0.1750 0.1533

Saturn -54672-11-05 17:45 J -18247215.91 -18247215.76 -18247215.61 0.0274 0.0143

Saturn -54671-02-02 14:23 J -18247126.92 -18247126.90 -18247126.87 0.0273 0.0269

Mars -54671-07-24 17:30 J -18246954.86 -18246954.77 -18246954.67 0.1785 0.1399

Mars -54670-09-04 02:23 J -18246548.46 -18246548.40 -18246548.35 0.1783 0.1569

Jupiter -54669-05-25 05:16 J -18246284.29 -18246284.28 -18246284.27 0.0536 0.0534

Jupiter -54669-08-22 14:09 J -18246195.03 -18246194.91 -18246194.78 0.0536 0.0079

Moon -54666-07-10 13:25 J -18245143.00 -18245142.94 -18245142.87 0.2673 0.2155

Earth -54666-07-10 13:54 J -18245142.99 -18245142.92 -18245142.85 0.2666 0.2073 *

Moon -54663-01-11 23:16 J -18244226.66 -18244226.53 -18244226.39 0.2666 0.0948

Earth -54663-01-12 00:13 J -18244226.63 -18244226.49 -18244226.36 0.2661 0.1104 *

Jupiter -54663-07-10 04:33 J -18244047.48 -18244047.31 -18244047.15 0.0491 0.0176

Jupiter -54663-10-08 09:06 J -18243957.15 -18243957.12 -18243957.09 0.0491 0.0483

Pluto -54663-12-24 23:01 J -18243879.56 -18243879.54 -18243879.51 0.0061 0.0061

Pluto -54662-03-22 23:45 J -18243791.55 -18243791.51 -18243791.42 0.0062 0.0057

Pluto -54662-06-19 01:11 J -18243703.53 -18243703.45 -18243703.35 0.0062 0.0052

Pluto -54662-09-15 01:54 J -18243615.51 -18243615.42 -18243615.29 0.0062 0.0048

Pluto -54662-12-12 03:21 J -18243527.48 -18243527.36 -18243527.23 0.0062 0.0043

Pluto -54661-03-09 04:18 J -18243439.44 -18243439.32 -18243439.17 0.0062 0.0039

Pluto -54661-06-05 05:30 J -18243351.41 -18243351.27 -18243351.12 0.0062 0.0034

Pluto -54661-09-01 06:28 J -18243263.37 -18243263.23 -18243263.06 0.0062 0.0030

Pluto -54661-11-28 07:40 J -18243175.33 -18243175.18 -18243175.01 0.0062 0.0025

Mars -54660-01-24 11:01 J -18243118.14 -18243118.04 -18243117.93 0.1775 0.0804

Pluto -54660-02-24 08:52 J -18243087.29 -18243087.13 -18243086.96 0.0062 0.0021

Pluto -54660-05-23 09:49 J -18242999.24 -18242999.09 -18242998.91 0.0062 0.0017

Earth -54660-07-19 11:59 J -18242942.09 -18242942.00 -18242941.90 0.2674 0.1558

Moon -54660-07-19 12:42 J -18242942.06 -18242941.97 -18242941.88 0.2668 0.1603 *

Pluto -54660-08-19 11:01 J -18242911.20 -18242911.04 -18242910.86 0.0062 0.0012

Pluto -54660-11-15 12:28 J -18242823.15 -18242822.98 -18242822.81 0.0062 0.0006

Pluto -54659-02-11 13:25 J -18242735.11 -18242734.94 -18242734.76 0.0062 0.0003

Pluto -54659-05-10 14:37 J -18242647.06 -18242646.89 -18242646.71 0.0063 0.0004

Pluto -54659-08-06 15:49 J -18242559.01 -18242558.84 -18242558.66 0.0063 0.0008

Pluto -54659-11-02 17:01 J -18242470.96 -18242470.79 -18242470.62 0.0063 0.0013

Pluto -54658-01-29 17:59 J -18242382.91 -18242382.75 -18242382.57 0.0063 0.0018

Pluto -54658-04-27 19:11 J -18242294.85 -18242294.70 -18242294.53 0.0063 0.0023

Pluto -54658-07-24 20:23 J -18242206.80 -18242206.65 -18242206.48 0.0063 0.0028

Pluto -54658-10-20 21:21 J -18242118.74 -18242118.61 -18242118.44 0.0063 0.0033

Pluto -54657-01-16 23:01 J -18242030.68 -18242030.54 -18242030.40 0.0063 0.0038

Pluto -54657-04-14 00:13 J -18241942.62 -18241942.49 -18241942.36 0.0063 0.0043

Jupiter -54657-06-10 18:13 J -18241884.87 -18241884.74 -18241884.61 0.0536 0.0065

Pluto -54657-07-11 00:57 J -18241854.55 -18241854.46 -18241854.32 0.0063 0.0049

Jupiter -54657-09-08 02:23 J -18241795.41 -18241795.40 -18241795.38 0.0535 0.0529

Pluto -54657-10-07 02:09 J -18241766.48 -18241766.41 -18241766.29 0.0063 0.0054

Saturn -54657-11-30 19:11 J -18241711.76 -18241711.70 -18241711.63 0.0283 0.0248

Pluto -54656-01-03 03:21 J -18241678.40 -18241678.36 -18241678.26 0.0063 0.0059

Saturn -54656-02-27 07:54 J -18241623.29 -18241623.17 -18241623.05 0.0284 0.0141

Pluto -54656-04-01 05:01 J -18241590.29 -18241590.29 -18241590.27 0.0064 0.0063

Saturn -54656-05-26 20:37 J -18241534.78 -18241534.64 -18241534.51 0.0285 0.0035

Saturn -54656-08-23 09:06 J -18241446.25 -18241446.12 -18241445.99 0.0286 0.0072

Saturn -54656-11-19 21:21 J -18241357.71 -18241357.61 -18241357.50 0.0287 0.0179

Saturn -54655-02-16 09:35 J -18241269.11 -18241269.10 -18241269.08 0.0288 0.0285

Earth -54653-07-12 08:52 J -18240392.24 -18240392.13 -18240392.03 0.2668 0.1103

Moon -54653-07-12 08:52 J -18240392.23 -18240392.13 -18240392.02 0.2674 0.1039 *

Jupiter -54651-04-28 03:06 J -18239737.50 -18239737.37 -18239737.24 0.0491 0.0335

Mars -54651-06-16 20:09 J -18239687.79 -18239687.66 -18239687.54 0.1767 0.0086

Jupiter -54651-07-27 07:11 J -18239647.33 -18239647.20 -18239647.05 0.0491 0.0319

Mars -54650-04-12 17:01 J -18239387.92 -18239387.79 -18239387.66 0.1767 0.1023

Moon -54647-07-22 06:28 J -18238191.27 -18238191.23 -18238191.19 0.2669 0.2485

Earth -54647-07-22 06:42 J -18238191.26 -18238191.22 -18238191.18 0.2676 0.2476 *

Jupiter -54645-03-29 22:04 J -18237574.70 -18237574.58 -18237574.46 0.0536 0.0209

Jupiter -54645-06-27 06:28 J -18237485.32 -18237485.23 -18237485.14 0.0535 0.0389

Moon -54643-01-06 21:21 J -18236926.71 -18236926.61 -18236926.51 0.2663 0.1894

Earth -54643-01-06 22:47 J -18236926.66 -18236926.55 -18236926.45 0.2665 0.1802 *

Saturn -54643-09-28 21:49 J -18236661.73 -18236661.59 -18236661.45 0.0276 0.0164

Saturn -54643-12-26 17:59 J -18236572.92 -18236572.75 -18236572.57 0.0275 0.0038

Saturn -54642-03-25 14:23 J -18236484.07 -18236483.90 -18236483.73 0.0275 0.0088

Saturn -54642-06-22 10:47 J -18236395.15 -18236395.05 -18236394.93 0.0274 0.0215

Mars -54642-11-07 04:47 J -18236257.41 -18236257.30 -18236257.19 0.1759 0.0689

Mars -54641-09-01 17:16 J -18235957.93 -18235957.78 -18235957.62 0.1776 0.0136

Earth -54640-07-15 03:35 J -18235641.46 -18235641.35 -18235641.23 0.2670 0.0169

Moon -54640-07-15 04:18 J -18235641.43 -18235641.32 -18235641.20 0.2674 0.0162 *

Jupiter -54639-02-14 02:09 J -18235427.42 -18235427.41 -18235427.40 0.0491 0.0490

Jupiter -54639-05-15 05:59 J -18235337.42 -18235337.25 -18235337.08 0.0491 0.0157

Venus -54636-03-01 04:47 J -18234316.38 -18234316.30 -18234316.22 0.3776 0.2335

Jupiter -54633-01-17 01:11 J -18233264.54 -18233264.45 -18233264.35 0.0535 0.0365

Jupiter -54633-04-15 09:49 J -18233175.20 -18233175.09 -18233174.97 0.0535 0.0240

Mars -54632-03-29 13:40 J -18232827.00 -18232826.93 -18232826.87 0.1750 0.1436

Uranus -54632-12-21 03:06 J -18232560.39 -18232560.37 -18232560.32 0.0132 0.0127

Mars -54631-01-22 17:59 J -18232527.86 -18232527.75 -18232527.64 0.1785 0.1274

Uranus -54631-03-19 06:28 J -18232472.30 -18232472.23 -18232472.15 0.0132 0.0109

Uranus -54631-06-15 09:35 J -18232384.19 -18232384.10 -18232384.00 0.0132 0.0091

Uranus -54631-09-11 12:42 J -18232296.08 -18232295.97 -18232295.85 0.0132 0.0074

Venus -54631-09-14 20:37 J -18232292.74 -18232292.64 -18232292.54 0.3780 0.0273

Uranus -54631-12-08 15:49 J -18232207.96 -18232207.84 -18232207.71 0.0132 0.0056

Moon -54630-01-10 00:57 J -18232175.61 -18232175.46 -18232175.32 0.2664 0.0433

Earth -54630-01-10 02:23 J -18232175.55 -18232175.40 -18232175.26 0.2663 0.0234 *

Mars -54630-03-05 02:23 J -18232121.44 -18232121.40 -18232121.36 0.1783 0.1659

Uranus -54630-03-06 18:57 J -18232119.84 -18232119.71 -18232119.58 0.0132 0.0038

Uranus -54630-06-02 22:04 J -18232031.71 -18232031.58 -18232031.45 0.0132 0.0021

Uranus -54630-08-30 01:11 J -18231943.59 -18231943.45 -18231943.32 0.0132 0.0004

Uranus -54630-11-26 04:18 J -18231855.46 -18231855.32 -18231855.19 0.0132 0.0015

Uranus -54629-02-22 07:11 J -18231767.33 -18231767.20 -18231767.07 0.0133 0.0032

Uranus -54629-05-20 10:04 J -18231679.19 -18231679.08 -18231678.95 0.0133 0.0050

Uranus -54629-08-16 13:11 J -18231591.06 -18231590.95 -18231590.83 0.0133 0.0067

Uranus -54629-11-12 16:18 J -18231502.92 -18231502.82 -18231502.72 0.0133 0.0084

Uranus -54628-02-08 19:11 J -18231414.78 -18231414.70 -18231414.61 0.0133 0.0101

Uranus -54628-05-07 22:04 J -18231326.62 -18231326.58 -18231326.51 0.0133 0.0119

Venus -54628-06-19 11:01 J -18231284.17 -18231284.04 -18231283.91 0.3597 0.2079

Jupiter -54627-03-03 04:47 J -18231027.48 -18231027.30 -18231027.12 0.0491 0.0005

Saturn -54627-07-17 09:21 J -18230891.22 -18230891.11 -18230891.01 0.0284 0.0178

Earth -54627-07-17 22:18 J -18230890.67 -18230890.57 -18230890.46 0.2672 0.0810

Moon -54627-07-17 23:01 J -18230890.64 -18230890.54 -18230890.43 0.2670 0.0925 *

Saturn -54627-10-13 21:49 J -18230802.72 -18230802.59 -18230802.45 0.0285 0.0071

Saturn -54626-01-10 10:33 J -18230714.20 -18230714.06 -18230713.93 0.0286 0.0037

Saturn -54626-04-08 22:47 J -18230625.66 -18230625.55 -18230625.43 0.0287 0.0144

Saturn -54626-07-06 11:01 J -18230537.09 -18230537.04 -18230536.97 0.0288 0.0251

Venus -54625-03-30 12:28 J -18230269.07 -18230268.98 -18230268.89 0.3783 0.1801

Jupiter -54622-11-05 04:33 J -18228954.34 -18228954.31 -18228954.28 0.0536 0.0518

Jupiter -54621-02-02 13:25 J -18228865.06 -18228864.94 -18228864.81 0.0535 0.0092

Mars -54621-07-25 11:16 J -18228691.13 -18228691.03 -18228690.93 0.1775 0.0905

Moon -54620-07-10 18:28 J -18228340.81 -18228340.73 -18228340.65 0.2673 0.1899

Earth -54620-07-10 18:57 J -18228340.79 -18228340.71 -18228340.63 0.2667 0.1891 *

Moon -54617-01-13 05:45 J -18227424.38 -18227424.26 -18227424.14 0.2667 0.1442

Earth -54617-01-13 06:28 J -18227424.36 -18227424.23 -18227424.11 0.2660 0.1394 *

Jupiter -54616-12-20 03:21 J -18226717.53 -18226717.36 -18226717.19 0.0491 0.0162

Earth -54614-07-20 17:01 J -18226139.88 -18226139.79 -18226139.71 0.2674 0.1730

Moon -54614-07-20 17:30 J -18226139.85 -18226139.77 -18226139.68 0.2669 0.1754 *

Saturn -54613-02-15 21:21 J -18225929.72 -18225929.61 -18225929.48 0.0277 0.0201

Saturn -54613-05-14 17:45 J -18225840.93 -18225840.76 -18225840.59 0.0276 0.0075

Saturn -54613-08-11 13:54 J -18225752.09 -18225751.92 -18225751.74 0.0275 0.0052

Saturn -54613-11-08 10:18 J -18225663.20 -18225663.07 -18225662.92 0.0274 0.0180

Mars -54612-12-15 20:09 J -18225260.79 -18225260.66 -18225260.54 0.1767 0.0166

Mars -54611-10-11 17:30 J -18224960.89 -18224960.77 -18224960.65 0.1767 0.1154

Jupiter -54610-11-21 16:47 J -18224554.93 -18224554.80 -18224554.67 0.0536 0.0063

Jupiter -54609-02-19 00:57 J -18224465.47 -18224465.46 -18224465.45 0.0535 0.0532

Earth -54607-07-13 13:54 J -18223590.03 -18223589.92 -18223589.82 0.2668 0.0919

Moon -54607-07-13 14:09 J -18223590.02 -18223589.91 -18223589.80 0.2674 0.0934 *

Neptune -54604-07-08 05:59 J -18222499.30 -18222499.25 -18222499.18 0.0089 0.0084

Neptune -54604-10-04 08:37 J -18222411.20 -18222411.14 -18222411.03 0.0089 0.0077

Jupiter -54604-10-08 02:23 J -18222407.53 -18222407.40 -18222407.26 0.0491 0.0317

Neptune -54604-12-31 11:59 J -18222323.10 -18222323.00 -18222322.88 0.0089 0.0069

Jupiter -54603-01-06 06:42 J -18222317.35 -18222317.22 -18222317.09 0.0491 0.0335

Neptune -54603-03-29 15:06 J -18222234.99 -18222234.87 -18222234.73 0.0089 0.0061

Neptune -54603-06-25 17:59 J -18222146.88 -18222146.75 -18222146.60 0.0089 0.0054

Neptune -54603-09-21 21:06 J -18222058.77 -18222058.62 -18222058.46 0.0089 0.0046

Neptune -54603-12-19 00:13 J -18221970.65 -18221970.49 -18221970.32 0.0089 0.0038

Neptune -54602-03-17 03:06 J -18221882.53 -18221882.37 -18221882.19 0.0089 0.0031

Mars -54602-05-08 04:47 J -18221830.41 -18221830.30 -18221830.18 0.1759 0.0600

Neptune -54602-06-13 06:13 J -18221794.40 -18221794.24 -18221794.05 0.0089 0.0023

Neptune -54602-09-09 09:35 J -18221706.28 -18221706.10 -18221705.92 0.0089 0.0015

Neptune -54602-12-06 12:42 J -18221618.15 -18221617.97 -18221617.79 0.0089 0.0007

Mars -54601-03-02 17:59 J -18221530.90 -18221530.75 -18221530.59 0.1776 0.0040

Neptune -54601-03-03 15:49 J -18221530.02 -18221529.84 -18221529.66 0.0089 0.0001

Neptune -54601-05-30 18:57 J -18221441.89 -18221441.71 -18221441.53 0.0089 0.0009

Moon -54601-07-22 11:16 J -18221389.05 -18221389.03 -18221389.01 0.2669 0.2610

Earth -54601-07-22 11:30 J -18221389.03 -18221389.02 -18221389.01 0.2676 0.2641 *

Neptune -54601-08-26 21:49 J -18221353.76 -18221353.59 -18221353.40 0.0089 0.0017

Neptune -54601-11-23 00:57 J -18221265.63 -18221265.46 -18221265.27 0.0089 0.0025

Neptune -54600-02-19 04:04 J -18221177.49 -18221177.33 -18221177.15 0.0089 0.0033

Neptune -54600-05-18 07:11 J -18221089.35 -18221089.20 -18221089.02 0.0089 0.0041

Neptune -54600-08-14 10:18 J -18221001.21 -18221001.07 -18221000.90 0.0089 0.0049

Neptune -54600-11-10 13:54 J -18220913.06 -18220912.92 -18220912.78 0.0089 0.0056

Neptune -54599-02-06 17:01 J -18220824.91 -18220824.79 -18220824.66 0.0089 0.0064

Neptune -54599-05-05 20:23 J -18220736.76 -18220736.65 -18220736.55 0.0089 0.0072

Neptune -54599-08-01 23:30 J -18220648.60 -18220648.52 -18220648.44 0.0089 0.0080

Neptune -54599-10-29 02:23 J -18220560.40 -18220560.40 -18220560.37 0.0089 0.0088

Jupiter -54598-09-09 20:37 J -18220244.76 -18220244.64 -18220244.52 0.0536 0.0206

Saturn -54598-12-04 11:01 J -18220159.13 -18220159.04 -18220158.95 0.0283 0.0211

Jupiter -54598-12-08 05:01 J -18220155.37 -18220155.29 -18220155.20 0.0536 0.0395

Moon -54597-01-08 03:21 J -18220124.48 -18220124.36 -18220124.25 0.2664 0.1630

Earth -54597-01-08 04:47 J -18220124.42 -18220124.30 -18220124.18 0.2665 0.1521 *

Saturn -54597-03-01 23:45 J -18220070.64 -18220070.51 -18220070.38 0.0284 0.0104

Saturn -54597-05-29 12:13 J -18219982.12 -18219981.99 -18219981.85 0.0285 0.0004

Saturn -54597-08-26 00:42 J -18219893.59 -18219893.47 -18219893.34 0.0286 0.0108

Saturn -54597-11-22 12:57 J -18219805.04 -18219804.96 -18219804.87 0.0287 0.0215

Earth -54594-07-16 08:37 J -18218839.25 -18218839.14 -18218839.02 0.2670 0.0044

Moon -54594-07-16 09:21 J -18218839.23 -18218839.11 -18218839.00 0.2674 0.0167 *

Mars -54593-09-27 13:40 J -18218400.01 -18218399.93 -18218399.85 0.1751 0.1333

Mars -54592-07-23 18:28 J -18218100.85 -18218100.73 -18218100.61 0.1785 0.1144

Jupiter -54592-07-27 00:57 J -18218097.49 -18218097.46 -18218097.42 0.0491 0.0477

Jupiter -54592-10-25 04:47 J -18218007.47 -18218007.30 -18218007.13 0.0491 0.0170

Mars -54591-09-03 02:23 J -18217694.42 -18217694.40 -18217694.38 0.1784 0.1754

Uranus -54590-07-02 00:28 J -18217392.50 -18217392.48 -18217392.43 0.0146 0.0144

Uranus -54590-09-28 08:52 J -18217304.25 -18217304.13 -18217304.01 0.0146 0.0111

Uranus -54590-12-25 16:47 J -18217215.95 -18217215.80 -18217215.63 0.0146 0.0078

Uranus -54589-03-23 00:57 J -18217127.63 -18217127.46 -18217127.27 0.0146 0.0046

Uranus -54589-06-19 09:21 J -18217039.30 -18217039.11 -18217038.92 0.0146 0.0012

Uranus -54589-09-15 17:30 J -18216950.95 -18216950.77 -18216950.58 0.0146 0.0021

Uranus -54589-12-13 01:54 J -18216862.59 -18216862.42 -18216862.24 0.0146 0.0054

Uranus -54588-03-11 10:04 J -18216774.22 -18216774.08 -18216773.92 0.0146 0.0088

Uranus -54588-06-07 18:28 J -18216685.83 -18216685.73 -18216685.62 0.0146 0.0121

Jupiter -54586-06-29 00:28 J -18215934.58 -18215934.48 -18215934.38 0.0536 0.0351

Jupiter -54586-09-26 09:06 J -18215845.23 -18215845.12 -18215845.01 0.0535 0.0253

Venus -54585-03-22 10:18 J -18215667.09 -18215667.07 -18215667.05 0.3774 0.3644

Moon -54584-01-10 07:11 J -18215373.35 -18215373.20 -18215373.05 0.2665 0.0023

Earth -54584-01-10 08:37 J -18215373.29 -18215373.14 -18215373.00 0.2662 0.0099 *

Saturn -54584-07-04 18:42 J -18215197.79 -18215197.72 -18215197.64 0.0277 0.0251

Saturn -54584-10-01 14:37 J -18215109.04 -18215108.89 -18215108.73 0.0276 0.0127

Saturn -54584-12-29 11:01 J -18215020.22 -18215020.04 -18215019.86 0.0275 0.0001

Saturn -54583-03-28 07:25 J -18214931.35 -18214931.19 -18214931.03 0.0275 0.0127

Saturn -54583-06-25 03:49 J -18214842.39 -18214842.34 -18214842.26 0.0274 0.0254

Mars -54581-01-24 11:16 J -18214264.13 -18214264.03 -18214263.93 0.1775 0.1002

Earth -54581-07-18 03:21 J -18214088.47 -18214088.36 -18214088.25 0.2672 0.0978

Moon -54581-07-18 04:04 J -18214088.44 -18214088.33 -18214088.22 0.2669 0.0975 *

Jupiter -54580-08-13 03:21 J -18213697.53 -18213697.36 -18213697.18 0.0491 0.0016

Venus -54580-10-06 02:09 J -18213643.50 -18213643.41 -18213643.32 0.3777 0.1577

Venus -54577-07-10 04:18 J -18212635.46 -18212635.32 -18212635.19 0.3601 0.1776

Jupiter -54574-04-17 03:35 J -18211624.39 -18211624.35 -18211624.31 0.0536 0.0506

Venus -54574-04-21 17:59 J -18211619.85 -18211619.75 -18211619.65 0.3781 0.0505

Moon -54574-07-11 23:30 J -18211538.60 -18211538.52 -18211538.43 0.2673 0.1750

Earth -54574-07-11 23:45 J -18211538.59 -18211538.51 -18211538.42 0.2667 0.1706 *

Jupiter -54574-07-15 12:28 J -18211535.11 -18211534.98 -18211534.85 0.0535 0.0103

Mars -54572-06-15 20:09 J -18210833.78 -18210833.66 -18210833.54 0.1767 0.0247

Moon -54571-01-13 11:59 J -18210622.12 -18210622.00 -18210621.88 0.2667 0.1544

Earth -54571-01-13 12:42 J -18210622.09 -18210621.97 -18210621.86 0.2660 0.1688 *

Mars -54571-04-11 17:59 J -18210533.85 -18210533.75 -18210533.64 0.1767 0.1294

Pluto -54571-05-30 09:49 J -18210485.11 -18210485.09 -18210485.06 0.0083 0.0081

Pluto -54571-08-26 11:30 J -18210397.08 -18210397.02 -18210396.94 0.0082 0.0072

Pluto -54571-11-22 12:57 J -18210309.04 -18210308.96 -18210308.85 0.0082 0.0062

Pluto -54570-02-18 14:52 J -18210220.99 -18210220.88 -18210220.77 0.0082 0.0053

Pluto -54570-05-17 16:18 J -18210132.94 -18210132.82 -18210132.69 0.0082 0.0044

Pluto -54570-08-13 17:59 J -18210044.88 -18210044.75 -18210044.61 0.0082 0.0034

Pluto -54570-11-09 19:40 J -18209956.82 -18209956.68 -18209956.54 0.0082 0.0025

Pluto -54569-02-05 21:06 J -18209868.76 -18209868.62 -18209868.47 0.0082 0.0016

Pluto -54569-05-03 22:47 J -18209780.70 -18209780.55 -18209780.41 0.0082 0.0007

Pluto -54569-07-31 00:13 J -18209692.63 -18209692.49 -18209692.34 0.0081 0.0002

Pluto -54569-10-27 01:40 J -18209604.57 -18209604.43 -18209604.28 0.0081 0.0011

Venus -54569-11-04 09:49 J -18209596.16 -18209596.09 -18209596.01 0.3784 0.2563

Pluto -54568-01-23 03:21 J -18209516.50 -18209516.36 -18209516.22 0.0081 0.0020

Pluto -54568-04-21 04:47 J -18209428.44 -18209428.30 -18209428.16 0.0081 0.0028

Saturn -54568-04-22 12:13 J -18209427.05 -18209426.99 -18209426.92 0.0284 0.0247

Jupiter -54568-06-01 02:09 J -18209387.58 -18209387.41 -18209387.24 0.0491 0.0150

Pluto -54568-07-18 05:59 J -18209340.37 -18209340.25 -18209340.11 0.0081 0.0037

Saturn -54568-07-20 00:57 J -18209338.57 -18209338.46 -18209338.33 0.0285 0.0141

Earth -54568-07-20 22:04 J -18209337.66 -18209337.58 -18209337.51 0.2674 0.1906

Moon -54568-07-20 22:18 J -18209337.64 -18209337.57 -18209337.49 0.2669 0.1961 *

Pluto -54568-10-14 07:40 J -18209252.30 -18209252.18 -18209252.06 0.0081 0.0045

Saturn -54568-10-16 13:40 J -18209250.06 -18209249.93 -18209249.79 0.0285 0.0033

Pluto -54567-01-10 08:52 J -18209164.22 -18209164.13 -18209164.01 0.0081 0.0054

Saturn -54567-01-13 02:09 J -18209161.54 -18209161.41 -18209161.28 0.0286 0.0073

Pluto -54567-04-08 10:33 J -18209076.15 -18209076.06 -18209075.97 0.0080 0.0062

Saturn -54567-04-11 14:37 J -18209073.00 -18209072.89 -18209072.79 0.0287 0.0180

Pluto -54567-07-05 11:45 J -18208988.06 -18208988.01 -18208987.93 0.0080 0.0070

Saturn -54567-07-09 02:52 J -18208984.39 -18208984.38 -18208984.37 0.0288 0.0286

Pluto -54567-10-01 13:11 J -18208899.97 -18208899.95 -18208899.91 0.0080 0.0078

Mars -54563-11-06 05:01 J -18207403.41 -18207403.29 -18207403.18 0.1759 0.0499

Jupiter -54562-05-03 16:04 J -18207224.96 -18207224.83 -18207224.70 0.0535 0.0051

Mars -54562-09-01 18:13 J -18207103.89 -18207103.74 -18207103.58 0.1776 0.0136

Earth -54561-07-13 18:42 J -18206787.83 -18206787.72 -18206787.61 0.2669 0.0742

Moon -54561-07-13 19:11 J -18206787.81 -18206787.70 -18206787.59 0.2675 0.0668 *

Jupiter -54556-03-20 01:11 J -18205077.59 -18205077.45 -18205077.31 0.0491 0.0306

Jupiter -54556-06-18 05:16 J -18204987.40 -18204987.28 -18204987.15 0.0491 0.0347

Saturn -54554-02-18 14:37 J -18204377.03 -18204376.89 -18204376.75 0.0277 0.0162

Saturn -54554-05-18 10:47 J -18204288.22 -18204288.05 -18204287.87 0.0276 0.0036

Saturn -54554-08-15 07:11 J -18204199.37 -18204199.20 -18204199.03 0.0275 0.0091

Saturn -54554-11-12 03:49 J -18204110.44 -18204110.34 -18204110.23 0.0274 0.0218

Mars -54553-03-28 13:40 J -18203973.02 -18203972.93 -18203972.85 0.1750 0.1246

Mars -54552-01-21 19:11 J -18203673.83 -18203673.70 -18203673.58 0.1785 0.1001

Moon -54551-01-08 09:35 J -18203322.23 -18203322.10 -18203321.98 0.2663 0.1377

Earth -54551-01-08 11:01 J -18203322.17 -18203322.04 -18203321.91 0.2664 0.1235 *

Jupiter -54550-02-19 18:57 J -18202914.83 -18202914.71 -18202914.59 0.0536 0.0207

Jupiter -54550-05-20 03:21 J -18202825.44 -18202825.36 -18202825.27 0.0536 0.0395

Earth -54548-07-16 13:40 J -18202037.05 -18202036.93 -18202036.82 0.2671 0.0218

Moon -54548-07-16 14:23 J -18202037.02 -18202036.90 -18202036.79 0.2673 0.0223 *

Uranus -54547-01-10 10:04 J -18201859.12 -18201859.08 -18201859.03 0.0132 0.0124

Uranus -54547-04-08 13:11 J -18201771.02 -18201770.95 -18201770.86 0.0132 0.0107

Uranus -54547-07-05 16:33 J -18201682.91 -18201682.81 -18201682.71 0.0132 0.0089

Uranus -54547-10-01 19:25 J -18201594.80 -18201594.69 -18201594.57 0.0132 0.0071

Uranus -54547-12-28 22:33 J -18201506.68 -18201506.56 -18201506.43 0.0132 0.0054

Uranus -54546-03-27 01:40 J -18201418.56 -18201418.43 -18201418.30 0.0132 0.0036

Uranus -54546-06-23 04:47 J -18201330.43 -18201330.30 -18201330.16 0.0132 0.0018

Uranus -54546-09-19 07:54 J -18201242.30 -18201242.17 -18201242.03 0.0132 0.0001

Uranus -54546-12-16 11:01 J -18201154.18 -18201154.04 -18201153.91 0.0133 0.0017

Uranus -54545-03-13 13:54 J -18201066.04 -18201065.92 -18201065.79 0.0133 0.0035

Uranus -54545-06-09 17:01 J -18200977.91 -18200977.79 -18200977.67 0.0133 0.0052

Uranus -54545-09-05 19:54 J -18200889.78 -18200889.67 -18200889.55 0.0133 0.0070

Uranus -54545-12-02 23:01 J -18200801.64 -18200801.54 -18200801.44 0.0133 0.0087

Jupiter -54544-01-06 00:13 J -18200767.55 -18200767.49 -18200767.43 0.0491 0.0460

Uranus -54544-03-01 01:54 J -18200713.49 -18200713.42 -18200713.33 0.0133 0.0104

Jupiter -54544-04-06 03:49 J -18200677.50 -18200677.34 -18200677.17 0.0491 0.0186

Uranus -54544-05-28 05:01 J -18200625.34 -18200625.29 -18200625.23 0.0133 0.0121

Mars -54542-07-25 11:16 J -18199837.12 -18199837.03 -18199836.93 0.1775 0.1089

Moon -54541-07-09 09:06 J -18199487.15 -18199487.12 -18199487.08 0.2670 0.2517

Earth -54541-07-09 09:49 J -18199487.13 -18199487.09 -18199487.05 0.2665 0.2502 *

Saturn -54539-09-09 14:37 J -18198694.92 -18198694.89 -18198694.86 0.0283 0.0276

Saturn -54539-12-07 03:21 J -18198606.47 -18198606.36 -18198606.25 0.0283 0.0170

Jupiter -54539-12-08 22:47 J -18198604.65 -18198604.55 -18198604.45 0.0536 0.0353

Moon -54538-01-11 13:40 J -18198571.08 -18198570.93 -18198570.79 0.2666 0.0243

Earth -54538-01-11 14:37 J -18198571.03 -18198570.89 -18198570.74 0.2662 0.0349 *

Saturn -54538-03-05 15:49 J -18198517.97 -18198517.84 -18198517.70 0.0284 0.0064

Jupiter -54538-03-08 07:25 J -18198515.30 -18198515.19 -18198515.07 0.0536 0.0254

Saturn -54538-06-02 04:33 J -18198429.45 -18198429.31 -18198429.18 0.0285 0.0043

Saturn -54538-08-29 16:47 J -18198340.91 -18198340.80 -18198340.68 0.0286 0.0148

Saturn -54538-11-26 05:01 J -18198252.35 -18198252.29 -18198252.23 0.0287 0.0254

Earth -54535-07-19 08:23 J -18197286.26 -18197286.15 -18197286.05 0.2673 0.1155

Moon -54535-07-19 09:06 J -18197286.22 -18197286.12 -18197286.02 0.2670 0.1285 *

Mars -54533-12-14 20:09 J -18196406.78 -18196406.66 -18196406.54 0.1767 0.0347

Jupiter -54532-01-23 02:09 J -18196367.59 -18196367.41 -18196367.23 0.0491 0.0021

Mars -54532-10-10 18:28 J -18196106.82 -18196106.73 -18196106.64 0.1767 0.1422

Venus -54529-10-27 07:54 J -18194994.24 -18194994.17 -18194994.11 0.3774 0.2890

Moon -54528-07-12 04:47 J -18194736.39 -18194736.30 -18194736.21 0.2673 0.1545

Earth -54528-07-12 04:47 J -18194736.39 -18194736.30 -18194736.20 0.2667 0.1521 *

Jupiter -54527-09-27 02:23 J -18194294.44 -18194294.40 -18194294.35 0.0536 0.0499

Jupiter -54527-12-25 11:30 J -18194205.15 -18194205.02 -18194204.90 0.0536 0.0113

Moon -54525-01-14 18:13 J -18193819.83 -18193819.74 -18193819.64 0.2666 0.2024

Earth -54525-01-14 18:57 J -18193819.81 -18193819.71 -18193819.61 0.2660 0.1979 *

Saturn -54525-07-07 12:13 J -18193645.09 -18193644.99 -18193644.87 0.0277 0.0210

Saturn -54525-10-04 08:23 J -18193556.31 -18193556.15 -18193555.98 0.0276 0.0084

Saturn -54524-01-01 04:47 J -18193467.48 -18193467.30 -18193467.12 0.0275 0.0042

Saturn -54524-03-31 01:11 J -18193378.59 -18193378.45 -18193378.31 0.0274 0.0169

Mars -54523-05-07 05:01 J -18192976.41 -18192976.29 -18192976.17 0.1759 0.0405

Venus -54523-05-12 23:45 J -18192970.61 -18192970.51 -18192970.41 0.3778 0.0829

Mars -54522-03-02 18:57 J -18192676.86 -18192676.71 -18192676.56 0.1776 0.0275

Neptune -54522-07-20 10:18 J -18192537.07 -18192537.07 -18192537.03 0.0089 0.0088

Earth -54522-07-22 02:52 J -18192535.45 -18192535.38 -18192535.31 0.2675 0.2073

Moon -54522-07-22 03:06 J -18192535.44 -18192535.37 -18192535.30 0.2668 0.2034 *

Neptune -54522-10-16 11:59 J -18192449.04 -18192449.00 -18192448.93 0.0089 0.0082

Neptune -54521-01-12 13:54 J -18192360.99 -18192360.92 -18192360.84 0.0089 0.0075

Neptune -54521-04-09 15:35 J -18192272.94 -18192272.85 -18192272.76 0.0089 0.0069

Neptune -54521-07-06 17:01 J -18192184.88 -18192184.79 -18192184.69 0.0089 0.0063

Neptune -54521-10-02 18:42 J -18192096.83 -18192096.72 -18192096.61 0.0089 0.0057

Jupiter -54521-11-11 00:42 J -18192057.64 -18192057.47 -18192057.30 0.0491 0.0141

Neptune -54521-12-29 20:09 J -18192008.77 -18192008.66 -18192008.54 0.0089 0.0051

Venus -54520-02-14 06:13 J -18191962.39 -18191962.24 -18191962.08 0.3599 0.0235

Neptune -54520-03-27 21:49 J -18191920.71 -18191920.59 -18191920.47 0.0089 0.0045

Neptune -54520-06-23 23:16 J -18191832.65 -18191832.53 -18191832.40 0.0089 0.0039

Neptune -54520-09-20 00:57 J -18191744.59 -18191744.46 -18191744.33 0.0089 0.0033

Neptune -54520-12-17 02:23 J -18191656.53 -18191656.40 -18191656.26 0.0089 0.0027

Neptune -54519-03-15 04:04 J -18191568.47 -18191568.33 -18191568.20 0.0089 0.0021

Neptune -54519-06-11 05:30 J -18191480.41 -18191480.27 -18191480.13 0.0089 0.0015

Neptune -54519-09-07 07:11 J -18191392.34 -18191392.20 -18191392.06 0.0089 0.0009

Neptune -54519-12-04 08:37 J -18191304.28 -18191304.14 -18191304.00 0.0089 0.0003

Earth -54518-01-06 13:40 J -18191270.98 -18191270.93 -18191270.88 0.2666 0.2491

Neptune -54518-03-02 10:04 J -18191216.22 -18191216.08 -18191215.94 0.0089 0.0004

Neptune -54518-05-29 11:30 J -18191128.15 -18191128.02 -18191127.88 0.0089 0.0010

Neptune -54518-08-25 12:57 J -18191040.09 -18191039.96 -18191039.81 0.0089 0.0016

Neptune -54518-11-21 14:37 J -18190952.02 -18190951.89 -18190951.75 0.0089 0.0021

Venus -54518-11-26 15:35 J -18190946.95 -18190946.85 -18190946.76 0.3782 0.1250

Neptune -54517-02-17 16:04 J -18190863.96 -18190863.83 -18190863.69 0.0089 0.0027

Neptune -54517-05-15 17:30 J -18190775.89 -18190775.77 -18190775.64 0.0089 0.0033

Neptune -54517-08-11 18:57 J -18190687.83 -18190687.71 -18190687.58 0.0089 0.0039

Neptune -54517-11-07 20:23 J -18190599.76 -18190599.65 -18190599.52 0.0089 0.0045

Neptune -54516-02-03 21:49 J -18190511.69 -18190511.59 -18190511.47 0.0089 0.0051

Neptune -54516-05-02 23:16 J -18190423.62 -18190423.53 -18190423.41 0.0089 0.0057

Neptune -54516-07-30 00:57 J -18190335.55 -18190335.46 -18190335.36 0.0089 0.0062

Neptune -54516-10-26 02:23 J -18190247.48 -18190247.40 -18190247.31 0.0089 0.0068

Neptune -54515-01-22 03:49 J -18190159.41 -18190159.34 -18190159.26 0.0089 0.0074

Neptune -54515-04-20 05:16 J -18190071.33 -18190071.28 -18190071.21 0.0089 0.0080

Earth -54515-07-14 23:45 J -18189985.62 -18189985.51 -18189985.40 0.2669 0.0556

Moon -54515-07-15 00:13 J -18189985.60 -18189985.49 -18189985.38 0.2675 0.0541 *

Neptune -54515-07-17 06:57 J -18189983.25 -18189983.21 -18189983.18 0.0089 0.0085

Jupiter -54515-10-13 14:52 J -18189895.01 -18189894.88 -18189894.75 0.0535 0.0041

Mars -54514-09-27 13:54 J -18189546.02 -18189545.92 -18189545.83 0.1751 0.1144

Mars -54513-07-22 19:25 J -18189246.82 -18189246.69 -18189246.55 0.1785 0.0875

Venus -54512-06-11 07:25 J -18188923.24 -18188923.19 -18188923.15 0.3785 0.3303

Saturn -54509-04-25 04:47 J -18187874.39 -18187874.30 -18187874.20 0.0284 0.0204

Saturn -54509-07-22 17:30 J -18187785.90 -18187785.77 -18187785.64 0.0285 0.0097

Jupiter -54509-08-29 23:30 J -18187747.66 -18187747.52 -18187747.38 0.0491 0.0299

Saturn -54509-10-19 05:59 J -18187697.38 -18187697.25 -18187697.11 0.0286 0.0014

Jupiter -54509-11-28 03:49 J -18187657.46 -18187657.34 -18187657.22 0.0491 0.0356

Saturn -54508-01-15 18:28 J -18187608.85 -18187608.73 -18187608.60 0.0287 0.0116

Saturn -54508-04-14 06:57 J -18187520.30 -18187520.21 -18187520.13 0.0287 0.0221

Uranus -54506-07-22 07:25 J -18186691.25 -18186691.19 -18186691.13 0.0146 0.0138

Uranus -54506-10-18 15:21 J -18186602.98 -18186602.86 -18186602.72 0.0146 0.0106

Moon -54505-01-09 15:49 J -18186519.98 -18186519.84 -18186519.71 0.2663 0.1024

Earth -54505-01-09 17:16 J -18186519.92 -18186519.78 -18186519.65 0.2664 0.0953 *

Uranus -54505-01-14 23:45 J -18186514.67 -18186514.51 -18186514.35 0.0146 0.0073

Uranus -54505-04-12 07:40 J -18186426.35 -18186426.18 -18186425.99 0.0146 0.0040

Uranus -54505-07-09 16:04 J -18186338.02 -18186337.83 -18186337.64 0.0146 0.0007

Uranus -54505-10-06 00:13 J -18186249.67 -18186249.49 -18186249.30 0.0146 0.0026

Uranus -54504-01-02 08:23 J -18186161.31 -18186161.15 -18186160.97 0.0146 0.0060

Uranus -54504-03-31 16:47 J -18186072.94 -18186072.80 -18186072.65 0.0146 0.0093

Uranus -54504-06-28 01:11 J -18185984.54 -18185984.45 -18185984.36 0.0146 0.0126

Jupiter -54503-08-01 18:13 J -18185584.87 -18185584.74 -18185584.62 0.0536 0.0195

Jupiter -54503-10-30 02:37 J -18185495.48 -18185495.39 -18185495.31 0.0535 0.0405

Mars -54502-01-23 11:30 J -18185410.11 -18185410.02 -18185409.93 0.1776 0.1187

Earth -54502-07-17 18:28 J -18185234.84 -18185234.73 -18185234.61 0.2671 0.0406

Moon -54502-07-17 19:25 J -18185234.81 -18185234.69 -18185234.58 0.2671 0.0510 *

Jupiter -54497-06-17 22:33 J -18183437.62 -18183437.56 -18183437.49 0.0491 0.0452

Jupiter -54497-09-16 02:23 J -18183347.57 -18183347.40 -18183347.24 0.0491 0.0194

Saturn -54496-11-24 12:28 J -18182913.06 -18182912.98 -18182912.89 0.0277 0.0244

Saturn -54495-02-21 08:37 J -18182824.30 -18182824.14 -18182823.98 0.0276 0.0119

Saturn -54495-05-21 04:47 J -18182735.48 -18182735.30 -18182735.12 0.0276 0.0009

Moon -54495-07-10 14:09 J -18182684.95 -18182684.91 -18182684.86 0.2670 0.2431

Earth -54495-07-10 14:52 J -18182684.94 -18182684.88 -18182684.83 0.2666 0.2314 *

Saturn -54495-08-18 01:25 J -18182646.60 -18182646.44 -18182646.29 0.0275 0.0135

Saturn -54495-11-14 22:04 J -18182557.63 -18182557.58 -18182557.53 0.0274 0.0262

Mars -54493-06-14 20:09 J -18181979.78 -18181979.66 -18181979.54 0.1767 0.0435

Moon -54492-01-11 19:54 J -18181768.81 -18181768.67 -18181768.53 0.2667 0.0554

Earth -54492-01-11 20:52 J -18181768.77 -18181768.63 -18181768.48 0.2662 0.0645 *

Mars -54492-04-10 19:11 J -18181679.77 -18181679.70 -18181679.63 0.1767 0.1561

Jupiter -54491-05-20 20:52 J -18181274.73 -18181274.63 -18181274.53 0.0536 0.0357

Jupiter -54491-08-18 05:30 J -18181185.38 -18181185.27 -18181185.15 0.0536 0.0251

Earth -54489-07-19 13:11 J -18180484.05 -18180483.95 -18180483.85 0.2673 0.1328

Moon -54489-07-19 13:54 J -18180484.02 -18180483.92 -18180483.82 0.2670 0.1319 *

Jupiter -54485-07-05 00:57 J -18179037.64 -18179037.46 -18179037.28 0.0491 0.0033

Mars -54484-11-05 05:01 J -18178549.41 -18178549.29 -18178549.17 0.1759 0.0311

Mars -54483-08-31 19:40 J -18178249.83 -18178249.68 -18178249.53 0.1775 0.0419

Moon -54482-07-13 09:49 J -18177934.19 -18177934.09 -18177933.99 0.2674 0.1304

Earth -54482-07-13 09:49 J -18177934.19 -18177934.09 -18177933.99 0.2667 0.1340 *

Saturn -54480-09-12 07:40 J -18177142.26 -18177142.18 -18177142.10 0.0283 0.0229

Saturn -54480-12-09 20:09 J -18177053.78 -18177053.66 -18177053.53 0.0284 0.0124

Moon -54479-01-15 00:57 J -18177017.54 -18177017.46 -18177017.38 0.2666 0.2203

Earth -54479-01-15 01:11 J -18177017.53 -18177017.45 -18177017.38 0.2660 0.2276 *

Saturn -54479-03-08 08:52 J -18176965.27 -18176965.13 -18176964.99 0.0285 0.0018

Jupiter -54479-03-09 00:28 J -18176964.52 -18176964.48 -18176964.44 0.0536 0.0506

Saturn -54479-06-04 21:21 J -18176876.74 -18176876.61 -18176876.48 0.0286 0.0088

Jupiter -54479-06-06 09:35 J -18176875.23 -18176875.10 -18176874.98 0.0536 0.0107

Saturn -54479-09-01 09:35 J -18176788.20 -18176788.10 -18176788.00 0.0286 0.0194

Earth -54476-07-22 07:54 J -18175733.23 -18175733.17 -18175733.11 0.2675 0.2245

Moon -54476-07-22 07:54 J -18175733.22 -18175733.17 -18175733.11 0.2668 0.2306 *

Mars -54474-03-28 13:54 J -18175119.02 -18175118.92 -18175118.82 0.1751 0.1046

Mars -54473-01-21 19:54 J -18174819.81 -18174819.67 -18174819.53 0.1785 0.0745

Jupiter -54473-04-22 23:01 J -18174727.71 -18174727.54 -18174727.37 0.0491 0.0135

Moon -54472-01-06 18:28 J -18174468.81 -18174468.73 -18174468.65 0.2662 0.2215

Earth -54472-01-06 19:54 J -18174468.75 -18174468.67 -18174468.59 0.2666 0.2218 *

Venus -54472-06-03 05:16 J -18174321.36 -18174321.28 -18174321.20 0.3775 0.2139

Venus -54469-03-06 23:45 J -18173313.52 -18173313.51 -18173313.50 0.3603 0.3591

Earth -54469-07-15 04:47 J -18173183.41 -18173183.30 -18173183.19 0.2669 0.0377

Moon -54469-07-15 05:16 J -18173183.39 -18173183.28 -18173183.17 0.2675 0.0328 *

Jupiter -54467-03-25 13:25 J -18172565.07 -18172564.94 -18172564.81 0.0536 0.0037

Venus -54467-12-17 21:06 J -18172297.72 -18172297.62 -18172297.52 0.3779 0.0098

Saturn -54466-07-11 06:57 J -18172092.35 -18172092.21 -18172092.07 0.0277 0.0162

Saturn -54466-10-08 03:06 J -18172003.55 -18172003.37 -18172003.19 0.0276 0.0036

Saturn -54465-01-04 23:30 J -18171914.69 -18171914.52 -18171914.35 0.0275 0.0090

Saturn -54465-04-02 19:54 J -18171825.77 -18171825.67 -18171825.56 0.0274 0.0218

Venus -54464-09-21 08:23 J -18171289.27 -18171289.15 -18171289.02 0.3598 0.2234

Uranus -54463-01-30 17:01 J -18171157.84 -18171157.79 -18171157.73 0.0132 0.0121

Uranus -54463-04-28 20:09 J -18171069.74 -18171069.66 -18171069.57 0.0132 0.0103

Mars -54463-07-24 11:30 J -18170983.10 -18170983.02 -18170982.94 0.1776 0.1283

Uranus -54463-07-25 23:16 J -18170981.63 -18170981.53 -18170981.42 0.0132 0.0085

Uranus -54463-10-22 02:23 J -18170893.51 -18170893.40 -18170893.28 0.0132 0.0068

Uranus -54462-01-18 05:45 J -18170805.39 -18170805.26 -18170805.14 0.0132 0.0050

Uranus -54462-04-16 08:37 J -18170717.27 -18170717.14 -18170717.00 0.0132 0.0033

Uranus -54462-07-13 11:45 J -18170629.14 -18170629.01 -18170628.87 0.0132 0.0015

Uranus -54462-10-09 14:52 J -18170541.01 -18170540.88 -18170540.74 0.0133 0.0003

Uranus -54461-01-05 17:59 J -18170452.88 -18170452.75 -18170452.62 0.0133 0.0020

Jupiter -54461-02-09 21:35 J -18170417.73 -18170417.60 -18170417.45 0.0491 0.0295

Uranus -54461-04-02 21:06 J -18170364.75 -18170364.62 -18170364.50 0.0133 0.0038

Jupiter -54461-05-10 01:54 J -18170327.54 -18170327.42 -18170327.30 0.0491 0.0360

Uranus -54461-06-29 23:59 J -18170276.62 -18170276.50 -18170276.38 0.0133 0.0055

Venus -54461-07-02 12:57 J -18170274.04 -18170273.96 -18170273.87 0.3782 0.2004

Uranus -54461-09-26 03:06 J -18170188.48 -18170188.37 -18170188.26 0.0133 0.0073

Uranus -54461-12-23 05:59 J -18170100.34 -18170100.25 -18170100.15 0.0133 0.0090

Uranus -54460-03-21 08:52 J -18170012.20 -18170012.13 -18170012.04 0.0133 0.0108

Uranus -54460-06-17 11:59 J -18169924.04 -18169924.00 -18169923.95 0.0133 0.0125

Moon -54459-01-09 21:49 J -18169717.73 -18169717.59 -18169717.45 0.2665 0.0854

Earth -54459-01-09 23:16 J -18169717.67 -18169717.53 -18169717.39 0.2664 0.0669 *

Earth -54456-07-17 23:30 J -18168432.63 -18168432.52 -18168432.41 0.2671 0.0572

Moon -54456-07-18 00:28 J -18168432.60 -18168432.48 -18168432.37 0.2671 0.0616 *

Jupiter -54455-01-11 16:47 J -18168254.92 -18168254.80 -18168254.68 0.0536 0.0190

Jupiter -54455-04-11 01:11 J -18168165.53 -18168165.45 -18168165.37 0.0535 0.0409

Mars -54454-12-14 20:23 J -18167552.77 -18167552.65 -18167552.54 0.1767 0.0532

Mars -54453-10-09 19:40 J -18167252.72 -18167252.68 -18167252.64 0.1766 0.1693

Saturn -54450-01-30 09:21 J -18166410.16 -18166410.11 -18166410.06 0.0283 0.0262

Saturn -54450-04-28 22:04 J -18166321.70 -18166321.58 -18166321.47 0.0284 0.0156

Saturn -54450-07-26 10:33 J -18166233.19 -18166233.06 -18166232.92 0.0285 0.0050

Saturn -54450-10-22 23:01 J -18166144.67 -18166144.54 -18166144.40 0.0286 0.0056

Jupiter -54450-11-28 20:37 J -18166107.71 -18166107.64 -18166107.57 0.0491 0.0452

Saturn -54449-01-19 11:30 J -18166056.13 -18166056.02 -18166055.91 0.0287 0.0162

Jupiter -54449-02-27 00:28 J -18166017.65 -18166017.48 -18166017.32 0.0491 0.0196

Saturn -54449-04-16 23:45 J -18165967.55 -18165967.51 -18165967.46 0.0288 0.0268

Moon -54449-07-10 19:11 J -18165882.77 -18165882.70 -18165882.63 0.2671 0.2125

Earth -54449-07-10 19:40 J -18165882.74 -18165882.68 -18165882.61 0.2666 0.2134 *

Moon -54446-01-13 02:09 J -18164966.55 -18164966.41 -18164966.27 0.2666 0.0862

Earth -54446-01-13 03:06 J -18164966.51 -18164966.37 -18164966.23 0.2661 0.0933 *

Mars -54444-05-06 05:16 J -18164122.41 -18164122.28 -18164122.16 0.1759 0.0222

Jupiter -54444-10-30 19:54 J -18163944.77 -18163944.67 -18163944.57 0.0536 0.0346

Jupiter -54443-01-28 04:33 J -18163855.42 -18163855.31 -18163855.19 0.0535 0.0259

Mars -54443-03-01 19:54 J -18163822.82 -18163822.67 -18163822.52 0.1775 0.0537

Earth -54443-07-20 18:13 J -18163681.83 -18163681.74 -18163681.65 0.2673 0.1499

Moon -54443-07-20 18:42 J -18163681.81 -18163681.72 -18163681.63 0.2669 0.1601 *

Neptune -54439-01-06 01:54 J -18162416.43 -18162416.42 -18162416.38 0.0089 0.0088

Neptune -54439-04-04 05:01 J -18162328.36 -18162328.29 -18162328.21 0.0089 0.0080

Neptune -54439-07-01 07:40 J -18162240.26 -18162240.18 -18162240.06 0.0089 0.0073

Neptune -54439-09-27 11:01 J -18162152.15 -18162152.04 -18162151.91 0.0089 0.0065

Neptune -54439-12-24 13:40 J -18162064.04 -18162063.93 -18162063.77 0.0089 0.0058

Neptune -54438-03-22 17:01 J -18161975.93 -18161975.79 -18161975.63 0.0089 0.0050

Neptune -54438-06-18 20:09 J -18161887.81 -18161887.66 -18161887.50 0.0089 0.0042

Neptune -54438-09-14 23:16 J -18161799.69 -18161799.53 -18161799.36 0.0089 0.0034

Neptune -54438-12-12 02:09 J -18161711.57 -18161711.41 -18161711.23 0.0089 0.0027

Jupiter -54438-12-15 23:01 J -18161707.72 -18161707.54 -18161707.36 0.0491 0.0037

Neptune -54437-03-09 05:16 J -18161623.45 -18161623.28 -18161623.10 0.0089 0.0019

Neptune -54437-06-05 08:37 J -18161535.32 -18161535.14 -18161534.96 0.0089 0.0011

Neptune -54437-09-01 11:30 J -18161447.20 -18161447.02 -18161446.83 0.0089 0.0004

Saturn -54437-11-27 07:25 J -18161360.31 -18161360.19 -18161360.07 0.0277 0.0194

Neptune -54437-11-28 14:37 J -18161359.07 -18161358.89 -18161358.70 0.0089 0.0005

Saturn -54436-02-24 03:35 J -18161271.52 -18161271.35 -18161271.18 0.0276 0.0069

Neptune -54436-02-24 17:45 J -18161270.94 -18161270.76 -18161270.57 0.0089 0.0013

Neptune -54436-05-23 20:52 J -18161182.80 -18161182.63 -18161182.45 0.0089 0.0021

Saturn -54436-05-23 23:45 J -18161182.68 -18161182.51 -18161182.33 0.0275 0.0058 *

Earth -54436-07-13 14:52 J -18161131.99 -18161131.88 -18161131.78 0.2668 0.1156

Moon -54436-07-13 14:52 J -18161131.98 -18161131.88 -18161131.77 0.2675 0.1202 *

Neptune -54436-08-19 23:59 J -18161094.67 -18161094.50 -18161094.32 0.0089 0.0029

Saturn -54436-08-20 20:09 J -18161093.78 -18161093.66 -18161093.52 0.0274 0.0186

Neptune -54436-11-16 03:06 J -18161006.53 -18161006.37 -18161006.20 0.0089 0.0037

Neptune -54435-02-12 06:13 J -18160918.39 -18160918.24 -18160918.07 0.0089 0.0045

Neptune -54435-05-11 09:21 J -18160830.25 -18160830.11 -18160829.95 0.0089 0.0053

Neptune -54435-08-07 12:28 J -18160742.10 -18160741.98 -18160741.83 0.0089 0.0061

Mars -54435-09-26 13:54 J -18160692.02 -18160691.92 -18160691.82 0.1751 0.0957

Neptune -54435-11-03 15:35 J -18160653.95 -18160653.85 -18160653.72 0.0089 0.0069

Neptune -54434-01-30 18:42 J -18160565.79 -18160565.72 -18160565.61 0.0089 0.0077

Neptune -54434-04-28 21:49 J -18160477.62 -18160477.59 -18160477.51 0.0089 0.0085

Mars -54434-07-22 20:37 J -18160392.79 -18160392.64 -18160392.49 0.1784 0.0600

Earth -54433-01-16 07:25 J -18160215.22 -18160215.19 -18160215.15 0.2659 0.2577

Moon -54433-01-16 07:40 J -18160215.21 -18160215.18 -18160215.16 0.2666 0.2619 *

Jupiter -54432-08-18 22:18 J -18159634.60 -18159634.57 -18159634.53 0.0536 0.0513

Jupiter -54432-11-16 07:25 J -18159545.31 -18159545.19 -18159545.06 0.0536 0.0100

Moon -54430-07-23 12:42 J -18158931.02 -18158930.97 -18158930.91 0.2668 0.2347

Earth -54430-07-23 12:42 J -18158931.01 -18158930.97 -18158930.92 0.2675 0.2414 *

Moon -54426-01-08 00:42 J -18157666.56 -18157666.47 -18157666.39 0.2662 0.2137

Earth -54426-01-08 01:54 J -18157666.52 -18157666.42 -18157666.32 0.2665 0.1942 *

Jupiter -54426-10-03 21:49 J -18157397.77 -18157397.59 -18157397.42 0.0491 0.0124

Mars -54425-02-16 22:47 J -18157261.58 -18157261.55 -18157261.52 0.1743 0.1685

Mars -54425-12-11 21:06 J -18156962.65 -18156962.62 -18156962.59 0.1793 0.1757

Mars -54423-01-22 11:30 J -18156556.10 -18156556.02 -18156555.95 0.1776 0.1369

Earth -54423-07-16 09:49 J -18156381.21 -18156381.09 -18156380.98 0.2670 0.0217

Moon -54423-07-16 10:18 J -18156381.18 -18156381.07 -18156380.95 0.2673 0.0127 *

Uranus -54422-08-11 14:23 J -18155989.96 -18155989.90 -18155989.80 0.0146 0.0131

Uranus -54422-11-07 22:47 J -18155901.68 -18155901.55 -18155901.41 0.0146 0.0098

Uranus -54421-02-04 06:42 J -18155813.37 -18155813.22 -18155813.04 0.0146 0.0066

Uranus -54421-05-02 15:06 J -18155725.05 -18155724.87 -18155724.68 0.0146 0.0032

Venus -54421-06-24 10:47 J -18155672.09 -18155672.05 -18155672.01 0.3772 0.3456

Uranus -54421-07-29 23:16 J -18155636.71 -18155636.53 -18155636.34 0.0146 0.0004

Saturn -54421-09-15 01:11 J -18155589.56 -18155589.45 -18155589.34 0.0283 0.0179

Uranus -54421-10-26 07:40 J -18155548.37 -18155548.18 -18155548.00 0.0146 0.0034

Saturn -54421-12-12 13:40 J -18155501.06 -18155500.93 -18155500.79 0.0284 0.0073

Uranus -54420-01-22 15:49 J -18155460.00 -18155459.84 -18155459.67 0.0146 0.0067

Saturn -54420-03-11 02:23 J -18155412.54 -18155412.40 -18155412.27 0.0285 0.0035

Uranus -54420-04-20 23:59 J -18155371.63 -18155371.50 -18155371.36 0.0146 0.0101

Saturn -54420-06-07 14:37 J -18155324.01 -18155323.89 -18155323.77 0.0286 0.0139

Uranus -54420-07-18 08:23 J -18155283.22 -18155283.15 -18155283.07 0.0146 0.0134

Saturn -54420-09-04 02:52 J -18155235.44 -18155235.38 -18155235.31 0.0287 0.0244

Jupiter -54420-09-04 11:16 J -18155235.16 -18155235.03 -18155234.90 0.0536 0.0049

Venus -54415-01-08 02:37 J -18153648.48 -18153648.39 -18153648.29 0.3776 0.1388

Mars -54414-06-14 20:23 J -18153125.76 -18153125.65 -18153125.54 0.1768 0.0629

Jupiter -54414-07-22 19:40 J -18153087.82 -18153087.68 -18153087.53 0.0491 0.0292

Pluto -54414-10-11 05:45 J -18153007.28 -18153007.26 -18153007.20 0.0062 0.0060

Jupiter -54414-10-20 23:45 J -18152997.62 -18152997.51 -18152997.38 0.0491 0.0362

Pluto -54413-01-07 07:11 J -18152919.27 -18152919.20 -18152919.12 0.0062 0.0055

Moon -54413-01-11 04:04 J -18152915.48 -18152915.33 -18152915.19 0.2666 0.0404

Earth -54413-01-11 05:30 J -18152915.42 -18152915.27 -18152915.13 0.2663 0.0391 *

Pluto -54413-04-04 07:54 J -18152831.25 -18152831.17 -18152831.05 0.0062 0.0051

Pluto -54413-07-01 09:21 J -18152743.22 -18152743.11 -18152742.99 0.0062 0.0046

Pluto -54413-09-27 10:04 J -18152655.19 -18152655.08 -18152654.93 0.0062 0.0042

Venus -54413-10-12 01:40 J -18152640.57 -18152640.43 -18152640.29 0.3602 0.1621

Pluto -54413-12-24 11:30 J -18152567.15 -18152567.02 -18152566.88 0.0062 0.0037

Pluto -54412-03-22 12:28 J -18152479.12 -18152478.98 -18152478.82 0.0062 0.0033

Pluto -54412-06-18 13:40 J -18152391.08 -18152390.93 -18152390.77 0.0062 0.0028

Pluto -54412-09-14 14:52 J -18152303.04 -18152302.88 -18152302.72 0.0062 0.0024

Pluto -54412-12-11 15:49 J -18152214.99 -18152214.84 -18152214.66 0.0062 0.0019

Pluto -54411-03-09 17:01 J -18152126.95 -18152126.79 -18152126.61 0.0062 0.0015

Pluto -54411-06-05 18:13 J -18152038.91 -18152038.74 -18152038.56 0.0062 0.0010

Pluto -54411-09-01 19:25 J -18151950.86 -18151950.69 -18151950.51 0.0062 0.0005

Pluto -54411-11-28 20:37 J -18151862.81 -18151862.64 -18151862.46 0.0063 0.0001

Pluto -54410-02-24 21:49 J -18151774.76 -18151774.59 -18151774.42 0.0063 0.0005

Pluto -54410-05-23 22:47 J -18151686.71 -18151686.55 -18151686.37 0.0063 0.0010

Earth -54410-07-19 04:33 J -18151630.42 -18151630.31 -18151630.20 0.2672 0.0746

Moon -54410-07-19 05:16 J -18151630.39 -18151630.28 -18151630.17 0.2671 0.0838 *

Venus -54410-07-24 18:42 J -18151624.82 -18151624.72 -18151624.62 0.3780 0.0707

Pluto -54410-08-19 23:59 J -18151598.66 -18151598.50 -18151598.32 0.0063 0.0015

Pluto -54410-11-16 01:11 J -18151510.61 -18151510.45 -18151510.28 0.0063 0.0019

Pluto -54409-02-12 02:23 J -18151422.55 -18151422.40 -18151422.23 0.0063 0.0024

Pluto -54409-05-10 03:35 J -18151334.50 -18151334.35 -18151334.19 0.0063 0.0029

Pluto -54409-08-06 04:47 J -18151246.44 -18151246.30 -18151246.15 0.0063 0.0034

Pluto -54409-11-02 05:45 J -18151158.38 -18151158.26 -18151158.10 0.0063 0.0040

Pluto -54408-01-29 06:57 J -18151070.31 -18151070.21 -18151070.07 0.0063 0.0045

Pluto -54408-04-27 08:09 J -18150982.25 -18150982.16 -18150982.03 0.0063 0.0050

Jupiter -54408-06-23 15:06 J -18150925.00 -18150924.87 -18150924.75 0.0536 0.0192

Pluto -54408-07-24 09:35 J -18150894.17 -18150894.10 -18150894.00 0.0063 0.0055

Jupiter -54408-09-20 23:30 J -18150835.60 -18150835.52 -18150835.44 0.0536 0.0409

Pluto -54408-10-20 10:47 J -18150806.09 -18150806.05 -18150805.98 0.0063 0.0060

Saturn -54407-04-16 06:28 J -18150628.31 -18150628.23 -18150628.13 0.0277 0.0233

Saturn -54407-07-14 02:37 J -18150539.55 -18150539.39 -18150539.22 0.0276 0.0107

Saturn -54407-10-10 22:47 J -18150450.72 -18150450.55 -18150450.37 0.0276 0.0020

Saturn -54406-01-07 19:11 J -18150361.85 -18150361.70 -18150361.54 0.0275 0.0146

Saturn -54406-04-06 16:04 J -18150272.85 -18150272.83 -18150272.82 0.0274 0.0272

Mars -54405-11-04 05:16 J -18149695.40 -18149695.28 -18149695.16 0.1759 0.0118

Venus -54404-02-06 10:33 J -18149601.13 -18149601.06 -18149601.00 0.3783 0.2761

Mars -54404-08-30 20:23 J -18149395.79 -18149395.65 -18149395.50 0.1775 0.0677

Moon -54403-07-12 00:28 J -18149080.55 -18149080.48 -18149080.41 0.2672 0.2042

Earth -54403-07-12 00:42 J -18149080.54 -18149080.47 -18149080.39 0.2666 0.1944 *

Jupiter -54402-05-10 18:28 J -18148777.79 -18148777.73 -18148777.66 0.0491 0.0451

Jupiter -54402-08-08 22:04 J -18148687.74 -18148687.58 -18148687.41 0.0491 0.0197

Moon -54400-01-13 08:23 J -18148164.28 -18148164.15 -18148164.01 0.2666 0.1113

Earth -54400-01-13 09:21 J -18148164.24 -18148164.11 -18148163.98 0.2661 0.1222 *

Earth -54397-07-20 23:01 J -18146879.62 -18146879.54 -18146879.45 0.2674 0.1677

Moon -54397-07-20 23:30 J -18146879.61 -18146879.52 -18146879.43 0.2668 0.1666 *

Jupiter -54396-04-11 18:13 J -18146614.84 -18146614.74 -18146614.64 0.0536 0.0346

Jupiter -54396-07-10 03:06 J -18146525.49 -18146525.37 -18146525.26 0.0535 0.0260

Mars -54395-03-27 13:54 J -18146265.02 -18146264.92 -18146264.81 0.1751 0.0861

Mars -54394-01-20 20:52 J -18145965.78 -18145965.63 -18145965.48 0.1784 0.0480

Saturn -54391-02-02 02:52 J -18144857.47 -18144857.38 -18144857.28 0.0284 0.0211

Saturn -54391-05-01 15:35 J -18144768.98 -18144768.85 -18144768.72 0.0285 0.0104

Saturn -54391-07-29 04:04 J -18144680.46 -18144680.33 -18144680.19 0.0285 0.0010

Saturn -54391-10-25 16:33 J -18144591.93 -18144591.81 -18144591.68 0.0286 0.0108

Saturn -54390-01-22 05:01 J -18144503.38 -18144503.29 -18144503.20 0.0287 0.0214

Jupiter -54390-05-27 20:37 J -18144377.82 -18144377.64 -18144377.46 0.0491 0.0033

Earth -54390-07-14 19:54 J -18144329.78 -18144329.67 -18144329.57 0.2668 0.0978

Moon -54390-07-14 19:54 J -18144329.77 -18144329.67 -18144329.56 0.2675 0.0909 *

Mars -54386-08-17 22:47 J -18142834.60 -18142834.55 -18142834.50 0.1743 0.1588

Mars -54385-06-11 21:35 J -18142535.66 -18142535.60 -18142535.54 0.1793 0.1631

Jupiter -54384-01-28 21:21 J -18142304.65 -18142304.61 -18142304.57 0.0536 0.0504

Jupiter -54384-04-28 06:28 J -18142215.36 -18142215.23 -18142215.11 0.0536 0.0108

Mars -54384-07-23 11:30 J -18142129.08 -18142129.02 -18142128.95 0.1776 0.1470

Earth -54384-07-23 17:45 J -18142128.79 -18142128.76 -18142128.74 0.2675 0.2582

Moon -54384-07-23 17:45 J -18142128.78 -18142128.76 -18142128.75 0.2669 0.2633 *

Moon -54380-01-08 06:42 J -18140864.33 -18140864.22 -18140864.11 0.2663 0.1679

Earth -54380-01-08 07:54 J -18140864.28 -18140864.17 -18140864.05 0.2665 0.1666 *

Uranus -54379-02-19 23:59 J -18140456.56 -18140456.50 -18140456.43 0.0132 0.0117

Uranus -54379-05-19 03:06 J -18140368.45 -18140368.37 -18140368.28 0.0132 0.0099

Uranus -54379-08-15 06:28 J -18140280.34 -18140280.23 -18140280.13 0.0132 0.0082

Uranus -54379-11-11 09:21 J -18140192.22 -18140192.11 -18140191.99 0.0132 0.0064

Uranus -54378-02-07 12:28 J -18140104.10 -18140103.98 -18140103.85 0.0132 0.0047

Jupiter -54378-03-15 19:25 J -18140067.86 -18140067.69 -18140067.51 0.0491 0.0125

Uranus -54378-05-06 15:35 J -18140015.98 -18140015.85 -18140015.71 0.0132 0.0029

Uranus -54378-08-02 18:42 J -18139927.85 -18139927.72 -18139927.58 0.0132 0.0011

Saturn -54378-09-03 07:11 J -18139896.24 -18139896.20 -18139896.14 0.0277 0.0264

Uranus -54378-10-29 21:49 J -18139839.73 -18139839.59 -18139839.46 0.0133 0.0006

Saturn -54378-12-01 03:21 J -18139807.51 -18139807.36 -18139807.21 0.0277 0.0139

Uranus -54377-01-26 00:57 J -18139751.60 -18139751.46 -18139751.33 0.0133 0.0024

Saturn -54377-02-27 23:30 J -18139718.70 -18139718.52 -18139718.34 0.0276 0.0013

Uranus -54377-04-23 03:49 J -18139663.46 -18139663.34 -18139663.21 0.0133 0.0042

Saturn -54377-05-26 19:54 J -18139629.83 -18139629.67 -18139629.51 0.0275 0.0114

Earth -54377-07-16 14:37 J -18139579.00 -18139578.89 -18139578.77 0.2670 0.0075

Moon -54377-07-16 15:21 J -18139578.97 -18139578.86 -18139578.74 0.2673 0.0080 *

Uranus -54377-07-20 06:57 J -18139575.33 -18139575.21 -18139575.09 0.0133 0.0059

Saturn -54377-08-23 16:18 J -18139540.89 -18139540.82 -18139540.73 0.0274 0.0241

Uranus -54377-10-16 10:04 J -18139487.19 -18139487.08 -18139486.97 0.0133 0.0076

Uranus -54376-01-12 12:57 J -18139399.05 -18139398.96 -18139398.86 0.0133 0.0094

Uranus -54376-04-10 16:04 J -18139310.90 -18139310.83 -18139310.76 0.0133 0.0111

Uranus -54376-07-07 18:57 J -18139222.74 -18139222.71 -18139222.67 0.0133 0.0128

Mars -54375-12-13 20:23 J -18138698.76 -18138698.65 -18138698.54 0.1767 0.0717

Jupiter -54372-02-14 09:06 J -18137905.25 -18137905.12 -18137904.99 0.0536 0.0057

Moon -54367-01-11 10:18 J -18136113.22 -18136113.07 -18136112.93 0.2666 0.0322

Earth -54367-01-11 11:30 J -18136113.16 -18136113.02 -18136112.87 0.2663 0.0126 *

Jupiter -54366-01-01 18:13 J -18135757.88 -18135757.74 -18135757.59 0.0491 0.0284

Jupiter -54366-04-01 22:18 J -18135667.69 -18135667.57 -18135667.45 0.0491 0.0369

Mars -54365-05-05 05:16 J -18135268.40 -18135268.28 -18135268.16 0.1760 0.0032

Venus -54364-01-29 08:23 J -18134999.22 -18134999.15 -18134999.08 0.3773 0.2697

Mars -54364-02-28 21:06 J -18134968.76 -18134968.62 -18134968.48 0.1775 0.0817

Earth -54364-07-19 09:21 J -18134828.21 -18134828.11 -18134828.00 0.2672 0.0925

Moon -54364-07-19 10:18 J -18134828.18 -18134828.07 -18134827.97 0.2671 0.0985 *

Saturn -54362-06-22 06:28 J -18134125.31 -18134125.23 -18134125.15 0.0283 0.0230

Saturn -54362-09-18 18:57 J -18134036.83 -18134036.71 -18134036.58 0.0284 0.0125

Saturn -54362-12-16 07:40 J -18133948.32 -18133948.18 -18133948.04 0.0285 0.0018

Saturn -54361-03-13 20:09 J -18133859.79 -18133859.66 -18133859.53 0.0286 0.0087

Saturn -54361-06-10 08:23 J -18133771.24 -18133771.15 -18133771.05 0.0286 0.0193

Jupiter -54361-12-03 12:42 J -18133595.09 -18133594.97 -18133594.85 0.0536 0.0207

Jupiter -54360-03-02 21:06 J -18133505.70 -18133505.62 -18133505.53 0.0536 0.0397

Venus -54359-08-15 00:13 J -18132975.59 -18132975.49 -18132975.39 0.3777 0.0613

Neptune -54357-04-15 10:33 J -18132366.10 -18132366.06 -18132366.02 0.0089 0.0084

Moon -54357-07-12 05:30 J -18132278.35 -18132278.27 -18132278.18 0.2673 0.1726

Earth -54357-07-12 05:45 J -18132278.34 -18132278.26 -18132278.17 0.2667 0.1760 *

Neptune -54357-07-12 11:59 J -18132278.06 -18132278.00 -18132277.93 0.0089 0.0078

Neptune -54357-10-08 13:40 J -18132190.01 -18132189.93 -18132189.84 0.0089 0.0072

Neptune -54356-01-04 15:06 J -18132101.95 -18132101.87 -18132101.77 0.0089 0.0066

Neptune -54356-04-02 16:47 J -18132013.90 -18132013.80 -18132013.69 0.0089 0.0060

Venus -54356-05-19 03:49 J -18131967.50 -18131967.34 -18131967.19 0.3601 0.0377

Neptune -54356-06-29 18:13 J -18131925.84 -18131925.74 -18131925.62 0.0089 0.0054

Mars -54356-09-25 14:09 J -18131838.02 -18131837.91 -18131837.80 0.1751 0.0758

Neptune -54356-09-25 19:54 J -18131837.78 -18131837.67 -18131837.54 0.0089 0.0048

Neptune -54356-12-22 21:35 J -18131749.72 -18131749.60 -18131749.47 0.0089 0.0041

Neptune -54355-03-20 23:01 J -18131661.66 -18131661.54 -18131661.40 0.0089 0.0036

Neptune -54355-06-17 00:42 J -18131573.60 -18131573.47 -18131573.34 0.0089 0.0029

Mars -54355-07-21 21:35 J -18131538.76 -18131538.60 -18131538.45 0.1784 0.0349

Neptune -54355-09-13 02:09 J -18131485.54 -18131485.41 -18131485.27 0.0089 0.0024

Jupiter -54355-10-20 16:18 J -18131447.89 -18131447.82 -18131447.75 0.0491 0.0452

Neptune -54355-12-10 03:49 J -18131397.48 -18131397.34 -18131397.20 0.0089 0.0017

Moon -54354-01-14 14:52 J -18131362.00 -18131361.88 -18131361.76 0.2666 0.1523

Earth -54354-01-14 15:35 J -18131361.97 -18131361.85 -18131361.73 0.2661 0.1506 *

Jupiter -54354-01-18 19:40 J -18131357.84 -18131357.68 -18131357.51 0.0491 0.0195

Neptune -54354-03-08 05:16 J -18131309.41 -18131309.28 -18131309.14 0.0089 0.0012

Neptune -54354-06-04 06:57 J -18131221.35 -18131221.21 -18131221.07 0.0089 0.0005

Neptune -54354-08-31 08:23 J -18131133.29 -18131133.15 -18131133.01 0.0089 0.0002

Neptune -54354-11-27 10:04 J -18131045.22 -18131045.08 -18131044.95 0.0089 0.0007

Neptune -54353-02-23 11:30 J -18130957.16 -18130957.02 -18130956.88 0.0089 0.0013

Venus -54353-02-28 16:04 J -18130951.92 -18130951.83 -18130951.74 0.3781 0.1461

Neptune -54353-05-21 12:57 J -18130869.09 -18130868.96 -18130868.82 0.0089 0.0018

Neptune -54353-08-17 14:23 J -18130781.03 -18130780.90 -18130780.76 0.0089 0.0024

Neptune -54353-11-13 15:49 J -18130692.96 -18130692.84 -18130692.70 0.0089 0.0031

Neptune -54352-02-09 17:16 J -18130604.90 -18130604.78 -18130604.64 0.0089 0.0037

Neptune -54352-05-08 18:57 J -18130516.83 -18130516.71 -18130516.59 0.0089 0.0042

Neptune -54352-08-04 20:23 J -18130428.76 -18130428.65 -18130428.53 0.0089 0.0048

Neptune -54352-10-31 21:49 J -18130340.69 -18130340.59 -18130340.48 0.0089 0.0054

Neptune -54351-01-27 23:16 J -18130252.62 -18130252.53 -18130252.42 0.0089 0.0060

Neptune -54351-04-26 00:42 J -18130164.55 -18130164.47 -18130164.37 0.0089 0.0065

Earth -54351-07-22 04:04 J -18130077.41 -18130077.33 -18130077.25 0.2674 0.1842

Moon -54351-07-22 04:33 J -18130077.39 -18130077.31 -18130077.24 0.2667 0.1900 *

Neptune -54351-07-23 02:23 J -18130076.48 -18130076.40 -18130076.32 0.0089 0.0071

Neptune -54351-10-19 03:35 J -18129988.41 -18129988.35 -18129988.27 0.0089 0.0077

Neptune -54350-01-15 05:01 J -18129900.33 -18129900.29 -18129900.23 0.0089 0.0083

Neptune -54350-04-13 06:42 J -18129812.22 -18129812.22 -18129812.21 0.0089 0.0088

Jupiter -54349-09-21 16:18 J -18129284.92 -18129284.82 -18129284.72 0.0536 0.0353

Jupiter -54349-12-20 01:11 J -18129195.56 -18129195.45 -18129195.34 0.0536 0.0255

Saturn -54348-04-19 03:21 J -18129075.50 -18129075.36 -18129075.22 0.0277 0.0172

Saturn -54348-07-16 23:16 J -18128986.70 -18128986.53 -18128986.35 0.0276 0.0047

Venus -54348-09-13 07:54 J -18128928.20 -18128928.17 -18128928.13 0.3784 0.3519

Saturn -54348-10-13 19:40 J -18128897.85 -18128897.68 -18128897.51 0.0275 0.0080

Saturn -54347-01-10 16:04 J -18128808.94 -18128808.83 -18128808.71 0.0274 0.0206

Mars -54346-02-15 22:47 J -18128407.61 -18128407.55 -18128407.48 0.1743 0.1495

Mars -54346-12-11 22:04 J -18128108.66 -18128108.58 -18128108.50 0.1793 0.1495

Mars -54344-01-21 11:45 J -18127702.07 -18127702.01 -18127701.96 0.1776 0.1563

Earth -54344-07-15 00:57 J -18127527.57 -18127527.46 -18127527.35 0.2668 0.0797

Moon -54344-07-15 01:11 J -18127527.56 -18127527.45 -18127527.34 0.2675 0.0833 *

Jupiter -54343-11-06 18:13 J -18127047.92 -18127047.74 -18127047.56 0.0491 0.0030

Uranus -54338-08-31 22:18 J -18125288.66 -18125288.57 -18125288.45 0.0146 0.0121

Uranus -54338-11-28 06:42 J -18125200.36 -18125200.22 -18125200.07 0.0146 0.0088

Uranus -54337-02-24 14:52 J -18125112.05 -18125111.88 -18125111.70 0.0146 0.0055

Uranus -54337-05-22 23:01 J -18125023.72 -18125023.54 -18125023.35 0.0146 0.0022

Jupiter -54337-07-10 19:40 J -18124974.72 -18124974.68 -18124974.64 0.0536 0.0507

Uranus -54337-08-19 07:11 J -18124935.38 -18124935.20 -18124935.01 0.0146 0.0011

Jupiter -54337-10-08 04:33 J -18124885.43 -18124885.31 -18124885.18 0.0536 0.0106

Uranus -54337-11-15 15:21 J -18124847.03 -18124846.86 -18124846.67 0.0146 0.0045

Uranus -54336-02-11 23:45 J -18124758.67 -18124758.51 -18124758.35 0.0146 0.0078

Uranus -54336-05-11 07:54 J -18124670.28 -18124670.17 -18124670.04 0.0146 0.0111

Uranus -54336-08-07 16:18 J -18124581.84 -18124581.82 -18124581.79 0.0146 0.0144

Mars -54335-06-13 20:23 J -18124271.75 -18124271.65 -18124271.54 0.1768 0.0814

Moon -54334-01-09 12:42 J -18124062.09 -18124061.97 -18124061.85 0.2664 0.1556

Earth -54334-01-09 14:09 J -18124062.03 -18124061.91 -18124061.79 0.2665 0.1384 *

Saturn -54333-11-08 08:09 J -18123393.20 -18123393.16 -18123393.11 0.0283 0.0262

Saturn -54332-02-04 20:52 J -18123304.74 -18123304.63 -18123304.51 0.0284 0.0156

Saturn -54332-05-04 09:35 J -18123216.23 -18123216.10 -18123215.96 0.0285 0.0050

Saturn -54332-07-31 22:04 J -18123127.71 -18123127.58 -18123127.45 0.0286 0.0057

Saturn -54332-10-28 10:33 J -18123039.17 -18123039.06 -18123038.95 0.0287 0.0162

Saturn -54331-01-24 22:47 J -18122950.59 -18122950.55 -18122950.50 0.0288 0.0268

Earth -54331-07-17 19:40 J -18122776.79 -18122776.68 -18122776.57 0.2670 0.0158

Moon -54331-07-17 20:23 J -18122776.76 -18122776.65 -18122776.53 0.2673 0.0285 *

Jupiter -54331-08-25 16:47 J -18122737.97 -18122737.80 -18122737.63 0.0491 0.0132

Mars -54326-11-04 05:16 J -18120841.40 -18120841.28 -18120841.15 0.1759 0.0101

Jupiter -54325-07-27 07:54 J -18120575.30 -18120575.17 -18120575.04 0.0536 0.0051

Mars -54325-08-29 21:21 J -18120541.74 -18120541.61 -18120541.47 0.1775 0.0937

Moon -54324-07-10 15:06 J -18120226.90 -18120226.87 -18120226.85 0.2668 0.2588

Earth -54324-07-10 15:49 J -18120226.87 -18120226.84 -18120226.81 0.2665 0.2555 *

Pluto -54322-03-16 18:13 J -18119612.79 -18119612.74 -18119612.68 0.0082 0.0076

Pluto -54322-06-12 19:40 J -18119524.75 -18119524.68 -18119524.58 0.0082 0.0067

Pluto -54322-09-08 21:21 J -18119436.70 -18119436.61 -18119436.49 0.0082 0.0057

Pluto -54322-12-05 23:16 J -18119348.65 -18119348.53 -18119348.41 0.0082 0.0048

Moon -54321-01-12 16:33 J -18119310.96 -18119310.81 -18119310.67 0.2665 0.0187

Earth -54321-01-12 17:45 J -18119310.90 -18119310.76 -18119310.61 0.2662 0.0192 *

Pluto -54321-03-03 00:42 J -18119260.59 -18119260.47 -18119260.34 0.0082 0.0038

Pluto -54321-05-30 02:23 J -18119172.54 -18119172.40 -18119172.26 0.0082 0.0029

Pluto -54321-08-26 03:49 J -18119084.48 -18119084.34 -18119084.19 0.0082 0.0020

Pluto -54321-11-22 05:30 J -18118996.41 -18118996.27 -18118996.13 0.0082 0.0011

Pluto -54320-02-18 06:57 J -18118908.35 -18118908.21 -18118908.06 0.0081 0.0003

Pluto -54320-05-17 08:23 J -18118820.29 -18118820.15 -18118820.00 0.0081 0.0008

Pluto -54320-08-13 10:04 J -18118732.22 -18118732.08 -18118731.94 0.0081 0.0015

Pluto -54320-11-09 11:30 J -18118644.16 -18118644.02 -18118643.88 0.0081 0.0024

Pluto -54319-02-05 12:57 J -18118556.09 -18118555.96 -18118555.82 0.0081 0.0033

Pluto -54319-05-04 14:23 J -18118468.02 -18118467.90 -18118467.77 0.0081 0.0041

Jupiter -54319-06-13 15:49 J -18118427.98 -18118427.84 -18118427.70 0.0491 0.0288

Pluto -54319-07-31 15:49 J -18118379.95 -18118379.84 -18118379.72 0.0081 0.0050

Saturn -54319-09-06 04:04 J -18118343.45 -18118343.33 -18118343.21 0.0277 0.0202

Jupiter -54319-09-11 19:54 J -18118337.79 -18118337.67 -18118337.55 0.0491 0.0366

Pluto -54319-10-27 17:16 J -18118291.87 -18118291.78 -18118291.68 0.0080 0.0058

Saturn -54319-12-03 23:59 J -18118254.66 -18118254.50 -18118254.32 0.0276 0.0077

Pluto -54318-01-23 18:28 J -18118203.79 -18118203.73 -18118203.64 0.0080 0.0067

Saturn -54318-03-02 20:23 J -18118165.82 -18118165.65 -18118165.47 0.0275 0.0049

Pluto -54318-04-21 19:54 J -18118115.71 -18118115.67 -18118115.60 0.0080 0.0075

Saturn -54318-05-30 16:47 J -18118076.93 -18118076.80 -18118076.66 0.0274 0.0176

Earth -54318-07-20 14:23 J -18118026.00 -18118025.90 -18118025.80 0.2672 0.1093

Moon -54318-07-20 15:06 J -18118025.97 -18118025.87 -18118025.77 0.2670 0.1132 *

Mars -54316-03-26 14:09 J -18117411.02 -18117410.91 -18117410.80 0.1751 0.0672

Mars -54315-01-19 22:04 J -18117111.73 -18117111.58 -18117111.42 0.1784 0.0203

Jupiter -54313-05-15 10:18 J -18116265.18 -18116265.07 -18116264.95 0.0536 0.0218

Jupiter -54313-08-12 18:57 J -18116175.80 -18116175.71 -18116175.62 0.0536 0.0386

Moon -54311-07-13 10:33 J -18115476.14 -18115476.06 -18115475.97 0.2674 0.1656

Earth -54311-07-13 10:47 J -18115476.14 -18115476.05 -18115475.96 0.2667 0.1575 *

Moon -54308-01-14 21:35 J -18114559.72 -18114559.60 -18114559.49 0.2667 0.1688

Earth -54308-01-14 21:49 J -18114559.70 -18114559.59 -18114559.48 0.2660 0.1800 *

Venus -54308-09-05 05:45 J -18114326.34 -18114326.26 -18114326.17 0.3774 0.1934

Jupiter -54307-04-01 14:37 J -18114117.96 -18114117.89 -18114117.82 0.0491 0.0446

Jupiter -54307-06-30 17:59 J -18114027.91 -18114027.75 -18114027.58 0.0491 0.0201

Mars -54307-08-16 23:01 J -18113980.61 -18113980.54 -18113980.47 0.1744 0.1396

Mars -54306-06-11 22:33 J -18113681.66 -18113681.56 -18113681.46 0.1793 0.1361

Venus -54305-06-08 21:06 J -18113318.66 -18113318.62 -18113318.59 0.3604 0.3475

Earth -54305-07-22 09:06 J -18113275.20 -18113275.12 -18113275.05 0.2674 0.2014

Moon -54305-07-22 09:21 J -18113275.18 -18113275.11 -18113275.04 0.2668 0.2020 *

Mars -54305-07-22 11:30 J -18113275.06 -18113275.02 -18113274.97 0.1776 0.1651 *

Saturn -54303-03-28 11:45 J -18112661.02 -18112661.01 -18112660.99 0.0283 0.0280

Saturn -54303-06-25 00:42 J -18112572.58 -18112572.47 -18112572.36 0.0284 0.0174

Saturn -54303-09-21 13:11 J -18112484.08 -18112483.95 -18112483.81 0.0284 0.0068

Saturn -54303-12-19 01:54 J -18112395.56 -18112395.42 -18112395.29 0.0285 0.0039

Saturn -54302-03-17 14:09 J -18112307.02 -18112306.91 -18112306.79 0.0286 0.0144

Venus -54302-03-21 21:49 J -18112302.69 -18112302.59 -18112302.49 0.3778 0.0189

Saturn -54302-06-14 02:23 J -18112218.46 -18112218.40 -18112218.33 0.0287 0.0250

Earth -54301-01-07 17:01 J -18112010.81 -18112010.79 -18112010.77 0.2667 0.2627

Jupiter -54301-03-03 13:40 J -18111955.02 -18111954.93 -18111954.83 0.0536 0.0370

Jupiter -54301-05-31 22:33 J -18111865.67 -18111865.56 -18111865.44 0.0536 0.0240

Venus -54300-12-24 05:45 J -18111294.38 -18111294.26 -18111294.14 0.3599 0.2343

Earth -54298-07-16 05:45 J -18110725.37 -18110725.26 -18110725.14 0.2669 0.0617

Moon -54298-07-16 06:13 J -18110725.35 -18110725.24 -18110725.13 0.2674 0.0515 *

Venus -54297-10-04 13:40 J -18110279.01 -18110278.93 -18110278.85 0.3782 0.2222

Mars -54296-12-12 20:37 J -18109844.75 -18109844.64 -18109844.54 0.1768 0.0910

Uranus -54296-12-14 04:04 J -18109843.35 -18109843.33 -18109843.31 0.0132 0.0130

Uranus -54295-03-12 06:57 J -18109755.27 -18109755.21 -18109755.13 0.0132 0.0113

Jupiter -54295-04-18 15:35 J -18109718.03 -18109717.85 -18109717.67 0.0491 0.0027

Uranus -54295-06-08 10:04 J -18109667.16 -18109667.08 -18109666.98 0.0132 0.0096

Uranus -54295-09-04 13:25 J -18109579.05 -18109578.94 -18109578.83 0.0132 0.0077

Uranus -54295-12-01 16:33 J -18109490.93 -18109490.81 -18109490.69 0.0132 0.0060

Uranus -54294-02-27 19:40 J -18109402.81 -18109402.68 -18109402.55 0.0132 0.0042

Uranus -54294-05-26 22:47 J -18109314.68 -18109314.55 -18109314.42 0.0132 0.0025

Uranus -54294-08-23 01:54 J -18109226.56 -18109226.42 -18109226.29 0.0132 0.0007

Uranus -54294-11-19 04:47 J -18109138.43 -18109138.30 -18109138.16 0.0133 0.0012

Uranus -54293-02-15 07:54 J -18109050.30 -18109050.17 -18109050.04 0.0133 0.0028

Uranus -54293-05-13 11:01 J -18108962.17 -18108962.04 -18108961.91 0.0133 0.0046

Uranus -54293-08-09 14:09 J -18108874.03 -18108873.91 -18108873.80 0.0133 0.0063

Uranus -54293-11-05 17:01 J -18108785.89 -18108785.79 -18108785.68 0.0133 0.0081

Uranus -54292-02-01 20:09 J -18108697.75 -18108697.66 -18108697.57 0.0133 0.0098

Uranus -54292-04-30 23:16 J -18108609.60 -18108609.53 -18108609.47 0.0133 0.0115

Uranus -54292-07-28 02:09 J -18108521.41 -18108521.41 -18108521.40 0.0133 0.0133

Jupiter -54290-12-21 17:30 J -18107644.80 -18107644.77 -18107644.74 0.0536 0.0517

Saturn -54289-01-24 04:33 J -18107611.39 -18107611.31 -18107611.20 0.0277 0.0232

Jupiter -54289-03-20 02:37 J -18107555.52 -18107555.39 -18107555.26 0.0536 0.0097

Saturn -54289-04-22 00:42 J -18107522.63 -18107522.47 -18107522.31 0.0276 0.0106

Saturn -54289-07-19 20:52 J -18107433.81 -18107433.63 -18107433.45 0.0276 0.0019

Saturn -54289-10-16 17:16 J -18107344.93 -18107344.78 -18107344.63 0.0275 0.0145

Moon -54288-01-09 18:42 J -18107259.85 -18107259.72 -18107259.59 0.2665 0.1186

Earth -54288-01-09 20:09 J -18107259.79 -18107259.66 -18107259.52 0.2664 0.1111 *

Saturn -54288-01-13 13:40 J -18107255.94 -18107255.93 -18107255.90 0.0274 0.0272

Mars -54286-05-05 05:30 J -18106414.40 -18106414.27 -18106414.15 0.1760 0.0173

Mars -54285-02-28 22:04 J -18106114.70 -18106114.58 -18106114.46 0.1775 0.1078

Earth -54285-07-18 00:42 J -18105974.59 -18105974.47 -18105974.36 0.2671 0.0341

Moon -54285-07-18 01:25 J -18105974.55 -18105974.44 -18105974.33 0.2673 0.0345 *

Jupiter -54283-02-04 14:09 J -18105408.08 -18105407.91 -18105407.74 0.0491 0.0138

Moon -54278-07-11 20:09 J -18103424.70 -18103424.66 -18103424.61 0.2670 0.2430

Earth -54278-07-11 20:37 J -18103424.69 -18103424.64 -18103424.59 0.2665 0.2371 *

Jupiter -54277-01-07 05:59 J -18103245.38 -18103245.25 -18103245.12 0.0536 0.0055

Mars -54277-09-24 14:23 J -18102984.02 -18102983.90 -18102983.79 0.1752 0.0573

Mars -54276-07-20 22:33 J -18102684.72 -18102684.56 -18102684.41 0.1784 0.0088

Moon -54275-01-12 22:47 J -18102508.70 -18102508.55 -18102508.40 0.2666 0.0285

Earth -54275-01-12 23:59 J -18102508.65 -18102508.50 -18102508.35 0.2662 0.0469 *

Neptune -54275-10-03 00:57 J -18102245.51 -18102245.46 -18102245.40 0.0089 0.0084

Neptune -54275-12-30 03:35 J -18102157.42 -18102157.35 -18102157.24 0.0089 0.0077

Neptune -54274-03-28 06:42 J -18102069.32 -18102069.22 -18102069.10 0.0089 0.0069

Neptune -54274-06-24 09:35 J -18101981.21 -18101981.10 -18101980.95 0.0089 0.0062

Neptune -54274-09-20 12:42 J -18101893.10 -18101892.97 -18101892.82 0.0089 0.0054

Saturn -54274-11-12 02:23 J -18101840.49 -18101840.40 -18101840.30 0.0284 0.0206

Neptune -54274-12-17 15:49 J -18101804.99 -18101804.84 -18101804.68 0.0089 0.0046

Saturn -54273-02-08 15:06 J -18101752.00 -18101751.87 -18101751.74 0.0285 0.0099

Neptune -54273-03-14 18:42 J -18101716.87 -18101716.72 -18101716.54 0.0089 0.0039

Saturn -54273-05-07 03:35 J -18101663.48 -18101663.35 -18101663.21 0.0286 0.0012

Neptune -54273-06-10 21:49 J -18101628.75 -18101628.59 -18101628.41 0.0089 0.0031

Saturn -54273-08-03 16:04 J -18101574.95 -18101574.83 -18101574.70 0.0286 0.0113

Neptune -54273-09-07 01:11 J -18101540.63 -18101540.45 -18101540.28 0.0089 0.0023

Saturn -54273-10-31 04:33 J -18101486.40 -18101486.31 -18101486.22 0.0287 0.0218

Neptune -54273-12-04 04:04 J -18101452.50 -18101452.33 -18101452.15 0.0089 0.0015

Neptune -54272-03-02 07:11 J -18101364.38 -18101364.20 -18101364.01 0.0089 0.0008

Neptune -54272-05-29 10:18 J -18101276.25 -18101276.07 -18101275.89 0.0089 0.0001

Earth -54272-07-20 19:25 J -18101223.79 -18101223.69 -18101223.59 0.2673 0.1270

Moon -54272-07-20 19:54 J -18101223.76 -18101223.67 -18101223.57 0.2669 0.1367 *

Neptune -54272-08-25 13:25 J -18101188.12 -18101187.94 -18101187.76 0.0089 0.0008

Neptune -54272-11-21 16:33 J -18101099.99 -18101099.81 -18101099.63 0.0089 0.0016

Jupiter -54272-11-23 12:42 J -18101098.11 -18101097.97 -18101097.83 0.0491 0.0299

Neptune -54271-02-17 19:40 J -18101011.85 -18101011.68 -18101011.50 0.0089 0.0024

Jupiter -54271-02-21 16:47 J -18101007.92 -18101007.80 -18101007.68 0.0491 0.0355

Neptune -54271-05-16 22:47 J -18100923.72 -18100923.55 -18100923.38 0.0089 0.0032

Neptune -54271-08-13 01:54 J -18100835.58 -18100835.42 -18100835.25 0.0089 0.0040

Neptune -54271-11-09 05:01 J -18100747.44 -18100747.29 -18100747.13 0.0089 0.0048

Neptune -54270-02-05 08:09 J -18100659.29 -18100659.16 -18100659.01 0.0089 0.0056

Neptune -54270-05-04 11:16 J -18100571.15 -18100571.03 -18100570.89 0.0089 0.0064

Neptune -54270-07-31 14:23 J -18100482.99 -18100482.90 -18100482.78 0.0089 0.0072

Neptune -54270-10-27 17:45 J -18100394.83 -18100394.76 -18100394.68 0.0089 0.0080

Neptune -54269-01-23 20:52 J -18100306.64 -18100306.63 -18100306.60 0.0089 0.0088

Mars -54267-02-14 23:01 J -18099553.62 -18099553.54 -18099553.46 0.1743 0.1303

Mars -54267-12-10 23:01 J -18099254.65 -18099254.54 -18099254.43 0.1793 0.1238

Jupiter -54266-10-26 09:06 J -18098935.24 -18098935.12 -18098935.00 0.0536 0.0211

Mars -54265-01-21 11:45 J -18098848.03 -18098848.01 -18098847.99 0.1776 0.1745

Jupiter -54265-01-23 17:45 J -18098845.85 -18098845.76 -18098845.67 0.0535 0.0391

Moon -54265-07-13 15:35 J -18098673.94 -18098673.85 -18098673.75 0.2674 0.1372

Earth -54265-07-13 15:49 J -18098673.94 -18098673.84 -18098673.74 0.2667 0.1393 *

Moon -54262-01-16 03:49 J -18097757.43 -18097757.34 -18097757.26 0.2667 0.2171

Earth -54262-01-16 04:04 J -18097757.42 -18097757.33 -18097757.24 0.2660 0.2090 *

Saturn -54260-06-12 05:30 J -18096879.32 -18096879.27 -18096879.21 0.0277 0.0261

Saturn -54260-09-09 01:25 J -18096790.59 -18096790.44 -18096790.28 0.0276 0.0137

Jupiter -54260-09-11 11:59 J -18096788.07 -18096788.00 -18096787.93 0.0491 0.0452

Saturn -54260-12-06 21:35 J -18096701.78 -18096701.60 -18096701.42 0.0275 0.0012

Jupiter -54260-12-10 15:35 J -18096698.02 -18096697.85 -18096697.69 0.0491 0.0195

Saturn -54259-03-05 17:59 J -18096612.91 -18096612.75 -18096612.59 0.0275 0.0115

Saturn -54259-06-02 14:23 J -18096523.98 -18096523.90 -18096523.81 0.0274 0.0241

Earth -54259-07-23 13:54 J -18096472.98 -18096472.92 -18096472.85 0.2674 0.2183

Moon -54259-07-23 14:09 J -18096472.97 -18096472.91 -18096472.84 0.2668 0.2198 *

Venus -54257-09-26 11:30 J -18095677.07 -18095677.02 -18095676.97 0.3771 0.3249

Mars -54256-06-12 20:37 J -18095417.74 -18095417.64 -18095417.54 0.1768 0.0997

Moon -54255-01-07 22:04 J -18095208.64 -18095208.58 -18095208.53 0.2663 0.2472

Earth -54255-01-07 23:01 J -18095208.60 -18095208.54 -18095208.47 0.2666 0.2355 *

Uranus -54254-06-24 22:04 J -18094675.60 -18094675.58 -18094675.54 0.0146 0.0144

Jupiter -54254-08-14 11:45 J -18094625.10 -18094625.01 -18094624.92 0.0536 0.0379

Uranus -54254-09-21 05:59 J -18094587.35 -18094587.25 -18094587.12 0.0146 0.0112

Jupiter -54254-11-11 20:37 J -18094535.76 -18094535.64 -18094535.53 0.0536 0.0230

Uranus -54254-12-18 14:23 J -18094499.06 -18094498.90 -18094498.74 0.0146 0.0078

Uranus -54253-03-15 22:33 J -18094410.74 -18094410.56 -18094410.38 0.0146 0.0046

Uranus -54253-06-12 06:42 J -18094322.41 -18094322.22 -18094322.03 0.0146 0.0013

Uranus -54253-09-08 14:52 J -18094234.07 -18094233.88 -18094233.69 0.0146 0.0020

Uranus -54253-12-05 23:01 J -18094145.71 -18094145.54 -18094145.36 0.0146 0.0054

Uranus -54252-03-04 07:11 J -18094057.34 -18094057.20 -18094057.04 0.0146 0.0087

Uranus -54252-05-31 15:35 J -18093968.95 -18093968.85 -18093968.74 0.0146 0.0120

Earth -54252-07-16 10:47 J -18093923.16 -18093923.05 -18093922.94 0.2669 0.0431

Moon -54252-07-16 11:16 J -18093923.14 -18093923.03 -18093922.91 0.2674 0.0451 *

Venus -54251-04-12 03:21 J -18093653.46 -18093653.36 -18093653.26 0.3775 0.1164

Venus -54248-01-13 23:01 J -18092645.68 -18092645.54 -18092645.40 0.3603 0.1498

Jupiter -54248-09-28 13:54 J -18092388.10 -18092387.92 -18092387.74 0.0491 0.0030

Mars -54247-11-03 05:30 J -18091987.39 -18091987.27 -18091987.15 0.1760 0.0259

Mars -54246-08-29 22:47 J -18091687.67 -18091687.55 -18091687.44 0.1774 0.1218

Venus -54246-10-26 19:11 J -18091629.80 -18091629.70 -18091629.60 0.3779 0.0915

Saturn -54244-03-31 05:59 J -18091108.33 -18091108.25 -18091108.17 0.0283 0.0224

Saturn -54244-06-27 18:42 J -18091019.84 -18091019.72 -18091019.59 0.0284 0.0118

Saturn -54244-09-24 07:25 J -18090931.33 -18090931.19 -18090931.06 0.0285 0.0014

Saturn -54244-12-21 19:54 J -18090842.80 -18090842.67 -18090842.54 0.0286 0.0094

Saturn -54243-03-20 08:09 J -18090754.25 -18090754.16 -18090754.06 0.0287 0.0200

Moon -54242-01-11 00:57 J -18090457.60 -18090457.46 -18090457.32 0.2665 0.0972

Earth -54242-01-11 02:23 J -18090457.54 -18090457.40 -18090457.26 0.2664 0.0825 *

Jupiter -54242-06-02 14:52 J -18090314.88 -18090314.88 -18090314.87 0.0536 0.0534

Jupiter -54242-08-30 23:59 J -18090225.62 -18090225.50 -18090225.37 0.0536 0.0082

Venus -54240-05-11 11:01 J -18089606.10 -18089606.04 -18089605.98 0.3783 0.2975

Earth -54239-07-19 05:30 J -18089172.38 -18089172.27 -18089172.15 0.2671 0.0519

Moon -54239-07-19 06:13 J -18089172.35 -18089172.24 -18089172.12 0.2672 0.0650 *

Mars -54237-03-25 14:23 J -18088557.02 -18088556.90 -18088556.78 0.1752 0.0475

Mars -54236-01-18 23:01 J -18088257.70 -18088257.54 -18088257.39 0.1784 0.0064

Jupiter -54236-07-17 11:30 J -18088078.19 -18088078.02 -18088077.85 0.0491 0.0144

Moon -54232-07-12 01:11 J -18086622.51 -18086622.45 -18086622.39 0.2671 0.2253

Earth -54232-07-12 01:40 J -18086622.49 -18086622.43 -18086622.36 0.2665 0.2184 *

Saturn -54230-01-27 02:37 J -18086058.53 -18086058.39 -18086058.24 0.0277 0.0163

Saturn -54230-04-25 22:47 J -18085969.73 -18085969.55 -18085969.38 0.0276 0.0038

Jupiter -54230-06-19 03:49 J -18085915.47 -18085915.34 -18085915.20 0.0536 0.0067

Saturn -54230-07-23 18:57 J -18085880.88 -18085880.71 -18085880.54 0.0275 0.0088

Jupiter -54230-09-16 12:13 J -18085825.99 -18085825.99 -18085825.98 0.0536 0.0534

Saturn -54230-10-20 15:21 J -18085791.97 -18085791.86 -18085791.74 0.0274 0.0214

Moon -54229-01-14 05:16 J -18085706.42 -18085706.28 -18085706.14 0.2667 0.0748

Earth -54229-01-14 06:13 J -18085706.38 -18085706.24 -18085706.10 0.2662 0.0754 *

Mars -54228-08-15 23:16 J -18085126.62 -18085126.53 -18085126.45 0.1744 0.1208

Mars -54227-06-10 23:30 J -18084827.64 -18084827.52 -18084827.40 0.1793 0.1098

Earth -54226-07-22 00:13 J -18084421.58 -18084421.49 -18084421.39 0.2673 0.1444

Moon -54226-07-22 00:57 J -18084421.56 -18084421.46 -18084421.36 0.2668 0.1438 *

Jupiter -54224-05-05 10:04 J -18083768.21 -18083768.08 -18083767.94 0.0491 0.0305

Jupiter -54224-08-03 14:09 J -18083678.04 -18083677.91 -18083677.79 0.0491 0.0348

Moon -54219-07-14 20:52 J -18081871.73 -18081871.63 -18081871.53 0.2674 0.1234

Earth -54219-07-14 20:52 J -18081871.73 -18081871.63 -18081871.53 0.2667 0.1211 *

Jupiter -54218-04-07 07:25 J -18081605.31 -18081605.19 -18081605.07 0.0536 0.0215

Jupiter -54218-07-05 16:04 J -18081515.92 -18081515.83 -18081515.75 0.0535 0.0388

Mars -54217-12-11 20:37 J -18080990.73 -18080990.64 -18080990.54 0.1768 0.1093

Moon -54216-01-16 10:04 J -18080955.16 -18080955.08 -18080955.01 0.2666 0.2271

Earth -54216-01-16 10:18 J -18080955.13 -18080955.07 -18080955.01 0.2660 0.2381 *

Saturn -54215-08-18 07:40 J -18080376.23 -18080376.18 -18080376.12 0.0283 0.0257

Saturn -54215-11-14 20:23 J -18080287.76 -18080287.65 -18080287.53 0.0284 0.0151

Saturn -54214-02-11 09:06 J -18080199.25 -18080199.12 -18080198.98 0.0285 0.0044

Saturn -54214-05-10 21:35 J -18080110.73 -18080110.60 -18080110.46 0.0286 0.0062

Saturn -54214-08-07 10:04 J -18080022.19 -18080022.08 -18080021.97 0.0287 0.0168

Saturn -54214-11-03 22:18 J -18079933.60 -18079933.57 -18079933.52 0.0288 0.0273

Moon -54213-07-23 18:57 J -18079670.76 -18079670.71 -18079670.66 0.2668 0.2377

Earth -54213-07-23 18:57 J -18079670.76 -18079670.71 -18079670.66 0.2675 0.2354 *

Jupiter -54212-02-21 08:52 J -18079458.18 -18079458.13 -18079458.07 0.0491 0.0463

Jupiter -54212-05-22 12:28 J -18079368.15 -18079367.98 -18079367.82 0.0491 0.0183

Uranus -54211-01-03 10:47 J -18079142.07 -18079142.05 -18079142.00 0.0132 0.0127

Uranus -54211-04-01 13:54 J -18079053.98 -18079053.92 -18079053.83 0.0132 0.0109

Uranus -54211-06-28 17:16 J -18078965.88 -18078965.78 -18078965.68 0.0132 0.0091

Uranus -54211-09-24 20:23 J -18078877.76 -18078877.65 -18078877.54 0.0132 0.0074

Uranus -54211-12-21 23:30 J -18078789.64 -18078789.52 -18078789.40 0.0132 0.0056

Uranus -54210-03-20 02:37 J -18078701.52 -18078701.39 -18078701.26 0.0132 0.0038

Uranus -54210-06-16 05:45 J -18078613.39 -18078613.26 -18078613.13 0.0132 0.0021

Uranus -54210-09-12 08:52 J -18078525.27 -18078525.13 -18078525.00 0.0132 0.0004

Uranus -54210-12-09 11:45 J -18078437.14 -18078437.01 -18078436.87 0.0132 0.0015

Moon -54209-01-09 03:49 J -18078406.42 -18078406.34 -18078406.25 0.2664 0.2109

Earth -54209-01-09 05:16 J -18078406.37 -18078406.28 -18078406.19 0.2666 0.2077 *

Uranus -54209-03-06 14:52 J -18078349.01 -18078348.88 -18078348.75 0.0132 0.0032

Uranus -54209-06-02 17:59 J -18078260.87 -18078260.75 -18078260.63 0.0133 0.0049

Uranus -54209-08-29 21:06 J -18078172.74 -18078172.62 -18078172.51 0.0133 0.0067

Uranus -54209-11-25 23:59 J -18078084.60 -18078084.50 -18078084.39 0.0133 0.0084

Uranus -54208-02-22 02:52 J -18077996.45 -18077996.38 -18077996.28 0.0133 0.0102

Uranus -54208-05-21 05:59 J -18077908.30 -18077908.25 -18077908.19 0.0133 0.0119

Mars -54207-05-04 05:30 J -18077560.39 -18077560.27 -18077560.15 0.1760 0.0355

Jupiter -54206-01-24 10:33 J -18077295.16 -18077295.06 -18077294.97 0.0536 0.0372

Mars -54206-02-27 23:01 J -18077260.64 -18077260.54 -18077260.44 0.1775 0.1337

Jupiter -54206-04-23 19:25 J -18077205.81 -18077205.69 -18077205.58 0.0535 0.0237

Earth -54206-07-17 15:49 J -18077120.96 -18077120.84 -18077120.73 0.2669 0.0262

Moon -54206-07-17 16:18 J -18077120.93 -18077120.82 -18077120.70 0.2674 0.0157 *

Saturn -54201-06-15 03:06 J -18075326.49 -18075326.37 -18075326.24 0.0277 0.0195

Saturn -54201-09-11 23:01 J -18075237.71 -18075237.54 -18075237.36 0.0276 0.0070

Saturn -54201-12-09 19:11 J -18075148.87 -18075148.70 -18075148.52 0.0275 0.0056

Saturn -54200-03-08 15:49 J -18075059.98 -18075059.84 -18075059.71 0.0274 0.0182

Jupiter -54200-03-10 11:16 J -18075058.21 -18075058.03 -18075057.85 0.0491 0.0024

Venus -54200-05-03 08:52 J -18075004.20 -18075004.13 -18075004.05 0.3773 0.2486

Mars -54198-09-24 14:23 J -18074130.02 -18074129.90 -18074129.78 0.1752 0.0388

Mars -54197-07-19 23:45 J -18073830.67 -18073830.51 -18073830.36 0.1783 0.0203

Moon -54196-01-11 07:11 J -18073655.34 -18073655.20 -18073655.06 0.2664 0.0649

Earth -54196-01-11 08:37 J -18073655.28 -18073655.14 -18073655.00 0.2664 0.0542 *

Venus -54195-11-17 00:57 J -18072980.56 -18072980.46 -18072980.36 0.3776 0.0428

Jupiter -54194-02-09 22:04 J -18072895.71 -18072895.58 -18072895.45 0.0536 0.0073

Earth -54193-07-19 10:33 J -18072370.17 -18072370.06 -18072369.95 0.2671 0.0689

Moon -54193-07-19 11:16 J -18072370.14 -18072370.03 -18072369.92 0.2671 0.0695 *

Neptune -54193-10-14 08:23 J -18072283.16 -18072283.15 -18072283.12 0.0089 0.0088

Neptune -54192-01-10 09:49 J -18072195.13 -18072195.09 -18072195.02 0.0089 0.0082

Neptune -54192-04-08 11:30 J -18072107.08 -18072107.02 -18072106.94 0.0089 0.0075

Neptune -54192-07-05 13:25 J -18072019.03 -18072018.94 -18072018.86 0.0089 0.0069

Venus -54192-08-21 00:57 J -18071972.61 -18071972.46 -18071972.30 0.3602 0.0506

Neptune -54192-10-01 14:52 J -18071930.97 -18071930.88 -18071930.78 0.0089 0.0063

Neptune -54192-12-28 16:33 J -18071842.92 -18071842.81 -18071842.70 0.0089 0.0057

Neptune -54191-03-26 17:59 J -18071754.86 -18071754.75 -18071754.63 0.0089 0.0051

Neptune -54191-06-22 19:40 J -18071666.80 -18071666.68 -18071666.56 0.0089 0.0045

Neptune -54191-09-18 21:06 J -18071578.74 -18071578.62 -18071578.49 0.0089 0.0039

Neptune -54191-12-15 22:47 J -18071490.68 -18071490.55 -18071490.42 0.0089 0.0033

Neptune -54190-03-14 00:13 J -18071402.62 -18071402.49 -18071402.35 0.0089 0.0027

Neptune -54190-06-10 01:54 J -18071314.56 -18071314.42 -18071314.28 0.0089 0.0020

Neptune -54190-09-06 03:21 J -18071226.49 -18071226.36 -18071226.22 0.0089 0.0015

Neptune -54190-12-03 05:01 J -18071138.43 -18071138.29 -18071138.15 0.0089 0.0008

Neptune -54189-02-29 06:28 J -18071050.37 -18071050.23 -18071050.09 0.0089 0.0003

Neptune -54189-05-27 08:09 J -18070962.30 -18070962.16 -18070962.02 0.0089 0.0004

Venus -54189-06-01 16:33 J -18070956.90 -18070956.81 -18070956.72 0.3780 0.1673

Neptune -54189-08-23 09:35 J -18070874.24 -18070874.10 -18070873.96 0.0089 0.0009

Neptune -54189-11-19 11:01 J -18070786.17 -18070786.04 -18070785.90 0.0089 0.0016

Jupiter -54189-12-27 09:49 J -18070748.26 -18070748.09 -18070747.92 0.0491 0.0138

Mars -54188-02-13 23:16 J -18070699.62 -18070699.53 -18070699.44 0.1744 0.1110

Neptune -54188-02-15 12:28 J -18070698.11 -18070697.98 -18070697.84 0.0089 0.0022

Neptune -54188-05-14 13:54 J -18070610.04 -18070609.92 -18070609.78 0.0089 0.0028

Neptune -54188-08-10 15:21 J -18070521.98 -18070521.86 -18070521.72 0.0089 0.0034

Neptune -54188-11-06 17:01 J -18070433.91 -18070433.79 -18070433.66 0.0089 0.0039

Mars -54188-12-09 23:59 J -18070400.63 -18070400.50 -18070400.37 0.1792 0.0968

Neptune -54187-02-02 18:28 J -18070345.84 -18070345.73 -18070345.60 0.0089 0.0045

Neptune -54187-05-01 19:54 J -18070257.77 -18070257.67 -18070257.55 0.0089 0.0051

Neptune -54187-07-28 21:21 J -18070169.70 -18070169.61 -18070169.49 0.0089 0.0057

Neptune -54187-10-24 22:47 J -18070081.63 -18070081.55 -18070081.44 0.0089 0.0063

Neptune -54186-01-21 00:13 J -18069993.56 -18069993.49 -18069993.39 0.0089 0.0069

Neptune -54186-04-19 01:54 J -18069905.49 -18069905.42 -18069905.34 0.0089 0.0074

Moon -54186-07-13 06:13 J -18069820.31 -18069820.24 -18069820.16 0.2672 0.2021

Earth -54186-07-13 06:42 J -18069820.29 -18069820.22 -18069820.14 0.2666 0.2000 *

Neptune -54186-07-16 03:21 J -18069817.41 -18069817.36 -18069817.30 0.0089 0.0080

Neptune -54186-10-12 04:47 J -18069729.33 -18069729.30 -18069729.26 0.0089 0.0086

Saturn -54185-01-05 11:01 J -18069644.06 -18069644.04 -18069644.01 0.0283 0.0276

Saturn -54185-04-02 23:59 J -18069555.61 -18069555.50 -18069555.39 0.0284 0.0170

Saturn -54185-06-30 12:42 J -18069467.11 -18069466.97 -18069466.84 0.0285 0.0064

Saturn -54185-09-27 01:11 J -18069378.58 -18069378.45 -18069378.31 0.0286 0.0043

Saturn -54185-12-24 13:40 J -18069290.04 -18069289.93 -18069289.81 0.0287 0.0149

Saturn -54184-03-23 01:54 J -18069201.47 -18069201.42 -18069201.35 0.0287 0.0254

Venus -54184-12-16 08:37 J -18068933.16 -18068933.14 -18068933.13 0.3783 0.3739

Moon -54183-01-14 11:30 J -18068904.15 -18068904.02 -18068903.88 0.2668 0.0932

Earth -54183-01-14 12:28 J -18068904.12 -18068903.98 -18068903.85 0.2662 0.1043 *

Jupiter -54183-11-29 01:25 J -18068585.57 -18068585.44 -18068585.31 0.0536 0.0080

Jupiter -54182-02-26 09:49 J -18068496.11 -18068496.09 -18068496.06 0.0535 0.0520

Earth -54180-07-22 05:16 J -18067619.37 -18067619.28 -18067619.19 0.2673 0.1612

Moon -54180-07-22 05:45 J -18067619.34 -18067619.26 -18067619.17 0.2669 0.1722 *

Mars -54177-06-11 20:52 J -18066563.72 -18066563.63 -18066563.55 0.1768 0.1190

Jupiter -54177-10-15 07:40 J -18066438.32 -18066438.18 -18066438.05 0.0491 0.0310

Jupiter -54176-01-13 11:16 J -18066348.15 -18066348.03 -18066347.90 0.0491 0.0342

Earth -54173-07-15 01:54 J -18065069.53 -18065069.42 -18065069.32 0.2668 0.1029

Moon -54173-07-15 02:09 J -18065069.52 -18065069.41 -18065069.31 0.2674 0.1020 *

Saturn -54172-11-02 04:33 J -18064594.41 -18064594.31 -18064594.20 0.0277 0.0219

Saturn -54171-01-30 00:28 J -18064505.64 -18064505.48 -18064505.31 0.0276 0.0095

Saturn -54171-04-28 20:37 J -18064416.82 -18064416.64 -18064416.46 0.0275 0.0030

Saturn -54171-07-26 16:47 J -18064327.94 -18064327.80 -18064327.65 0.0275 0.0157

Jupiter -54171-09-17 05:16 J -18064275.40 -18064275.28 -18064275.16 0.0536 0.0225

Jupiter -54171-12-15 13:54 J -18064186.01 -18064185.92 -18064185.83 0.0536 0.0381

Uranus -54170-07-15 05:16 J -18063974.34 -18063974.28 -18063974.21 0.0147 0.0136

Uranus -54170-10-11 13:25 J -18063886.07 -18063885.94 -18063885.81 0.0146 0.0104

Uranus -54169-01-07 21:21 J -18063797.76 -18063797.61 -18063797.44 0.0146 0.0072

Uranus -54169-04-05 05:45 J -18063709.44 -18063709.26 -18063709.08 0.0146 0.0038

Uranus -54169-07-02 13:54 J -18063621.11 -18063620.92 -18063620.73 0.0146 0.0005

Uranus -54169-09-28 22:04 J -18063532.76 -18063532.58 -18063532.39 0.0146 0.0028

Uranus -54169-12-26 06:13 J -18063444.41 -18063444.24 -18063444.06 0.0146 0.0061

Uranus -54168-03-24 14:37 J -18063356.03 -18063355.89 -18063355.75 0.0146 0.0095

Uranus -54168-06-20 22:47 J -18063267.63 -18063267.55 -18063267.45 0.0146 0.0128

Mars -54168-11-02 05:30 J -18063133.38 -18063133.27 -18063133.15 0.1760 0.0451

Moon -54167-07-24 23:45 J -18062868.55 -18062868.51 -18062868.47 0.2668 0.2459

Earth -54167-07-24 23:45 J -18062868.54 -18062868.51 -18062868.47 0.2675 0.2521 *

Mars -54167-08-28 23:30 J -18062833.60 -18062833.52 -18062833.43 0.1774 0.1478

Pluto -54165-04-30 12:28 J -18062222.98 -18062222.98 -18062222.96 0.0062 0.0062

Pluto -54165-07-27 13:40 J -18062134.99 -18062134.93 -18062134.86 0.0062 0.0057

Jupiter -54165-08-03 06:28 J -18062128.28 -18062128.23 -18062128.18 0.0491 0.0468

Pluto -54165-10-23 14:23 J -18062046.97 -18062046.90 -18062046.79 0.0062 0.0053

Jupiter -54165-11-01 09:49 J -18062038.26 -18062038.09 -18062037.92 0.0491 0.0177

Pluto -54164-01-19 15:21 J -18061958.94 -18061958.86 -18061958.73 0.0062 0.0049

Pluto -54164-04-17 16:47 J -18061870.91 -18061870.80 -18061870.67 0.0062 0.0044

Pluto -54164-07-14 17:30 J -18061782.88 -18061782.77 -18061782.61 0.0062 0.0040

Pluto -54164-10-10 18:57 J -18061694.84 -18061694.71 -18061694.56 0.0062 0.0035

Pluto -54163-01-06 20:09 J -18061606.80 -18061606.66 -18061606.50 0.0062 0.0030

Moon -54163-01-09 09:49 J -18061604.18 -18061604.09 -18061603.99 0.2664 0.1996

Earth -54163-01-09 11:16 J -18061604.13 -18061604.03 -18061603.92 0.2666 0.1801 *

Pluto -54163-04-04 21:06 J -18061518.76 -18061518.62 -18061518.45 0.0062 0.0026

Pluto -54163-07-01 22:18 J -18061430.72 -18061430.57 -18061430.40 0.0062 0.0022

Pluto -54163-09-27 23:30 J -18061342.68 -18061342.52 -18061342.35 0.0062 0.0017

Pluto -54163-12-25 00:42 J -18061254.64 -18061254.47 -18061254.29 0.0062 0.0012

Pluto -54162-03-23 01:54 J -18061166.59 -18061166.42 -18061166.24 0.0062 0.0007

Pluto -54162-06-19 03:06 J -18061078.54 -18061078.37 -18061078.20 0.0063 0.0003

Pluto -54162-09-15 04:18 J -18060990.49 -18060990.32 -18060990.15 0.0063 0.0002

Pluto -54162-12-12 05:30 J -18060902.44 -18060902.27 -18060902.10 0.0063 0.0007

Pluto -54161-03-09 06:28 J -18060814.39 -18060814.23 -18060814.05 0.0063 0.0012

Pluto -54161-06-05 07:40 J -18060726.34 -18060726.18 -18060726.01 0.0063 0.0017

Pluto -54161-09-01 08:52 J -18060638.29 -18060638.13 -18060637.96 0.0063 0.0022

Pluto -54161-11-28 09:49 J -18060550.23 -18060550.09 -18060549.92 0.0063 0.0027

Pluto -54160-02-24 11:01 J -18060462.17 -18060462.04 -18060461.87 0.0063 0.0032

Pluto -54160-05-23 12:42 J -18060374.11 -18060373.97 -18060373.83 0.0063 0.0037

Earth -54160-07-17 20:37 J -18060318.75 -18060318.64 -18060318.52 0.2670 0.0130

Moon -54160-07-17 21:21 J -18060318.72 -18060318.61 -18060318.50 0.2674 0.0062 *

Pluto -54160-08-19 13:54 J -18060286.05 -18060285.92 -18060285.79 0.0063 0.0042

Pluto -54160-11-15 15:06 J -18060197.99 -18060197.87 -18060197.75 0.0063 0.0047

Pluto -54159-02-11 16:18 J -18060109.92 -18060109.82 -18060109.72 0.0063 0.0052

Pluto -54159-05-10 17:01 J -18060021.84 -18060021.79 -18060021.69 0.0064 0.0058

Jupiter -54159-07-06 08:37 J -18059965.23 -18059965.14 -18059965.04 0.0536 0.0376

Pluto -54159-08-06 18:13 J -18059933.74 -18059933.74 -18059933.68 0.0064 0.0063

Jupiter -54159-10-03 17:45 J -18059875.88 -18059875.76 -18059875.65 0.0536 0.0235

Mars -54158-03-25 14:23 J -18059703.02 -18059702.90 -18059702.78 0.1752 0.0293

Mars -54157-01-18 23:59 J -18059403.65 -18059403.50 -18059403.35 0.1783 0.0318

Saturn -54156-08-21 01:25 J -18058823.54 -18058823.44 -18058823.35 0.0284 0.0205

Saturn -54156-11-17 14:09 J -18058735.04 -18058734.91 -18058734.78 0.0285 0.0099

Saturn -54155-02-14 02:37 J -18058646.52 -18058646.39 -18058646.25 0.0286 0.0010

Saturn -54155-05-13 15:06 J -18058557.99 -18058557.87 -18058557.74 0.0286 0.0114

Saturn -54155-08-10 03:35 J -18058469.43 -18058469.35 -18058469.26 0.0287 0.0219

Jupiter -54153-08-20 08:23 J -18057728.33 -18057728.15 -18057727.98 0.0491 0.0017

Moon -54150-01-12 13:25 J -18056853.08 -18056852.94 -18056852.79 0.2665 0.0340

Earth -54150-01-12 14:52 J -18056853.03 -18056852.88 -18056852.74 0.2663 0.0260 *

Mars -54149-08-14 23:16 J -18056272.63 -18056272.53 -18056272.43 0.1744 0.1017

Mars -54148-06-10 00:28 J -18055973.61 -18055973.48 -18055973.34 0.1793 0.0837

Jupiter -54147-04-24 11:45 J -18055655.02 -18055655.01 -18055655.00 0.0536 0.0533

Earth -54147-07-20 15:35 J -18055567.96 -18055567.85 -18055567.74 0.2671 0.0862

Moon -54147-07-20 16:18 J -18055567.93 -18055567.82 -18055567.71 0.2670 0.0985 *

Jupiter -54147-07-22 21:06 J -18055565.75 -18055565.62 -18055565.50 0.0536 0.0083

Venus -54144-12-08 06:28 J -18054331.32 -18054331.23 -18054331.14 0.3774 0.1723

Saturn -54142-03-22 04:33 J -18053862.37 -18053862.31 -18053862.24 0.0277 0.0253

Saturn -54142-06-19 00:28 J -18053773.63 -18053773.48 -18053773.32 0.0276 0.0130

Saturn -54142-09-15 20:37 J -18053684.82 -18053684.64 -18053684.46 0.0275 0.0005

Saturn -54142-12-13 16:47 J -18053595.96 -18053595.80 -18053595.63 0.0275 0.0122

Saturn -54141-03-11 13:11 J -18053507.01 -18053506.95 -18053506.86 0.0274 0.0248

Jupiter -54141-06-08 07:11 J -18053418.37 -18053418.20 -18053418.03 0.0491 0.0143

Venus -54141-09-10 18:28 J -18053323.79 -18053323.73 -18053323.67 0.3606 0.3325

Moon -54140-07-13 11:16 J -18053018.10 -18053018.03 -18053017.95 0.2672 0.1900

Earth -54140-07-13 11:45 J -18053018.09 -18053018.01 -18053017.92 0.2666 0.1815 *

Venus -54138-06-23 22:18 J -18052307.67 -18052307.57 -18052307.47 0.3777 0.0352

Mars -54138-12-11 20:37 J -18052136.72 -18052136.64 -18052136.55 0.1768 0.1274

Moon -54137-01-15 17:45 J -18052101.88 -18052101.76 -18052101.63 0.2667 0.1305

Earth -54137-01-15 18:42 J -18052101.85 -18052101.72 -18052101.59 0.2661 0.1334 *

Venus -54135-03-28 03:06 J -18051299.48 -18051299.37 -18051299.26 0.3600 0.2510

Jupiter -54135-05-10 23:45 J -18051255.64 -18051255.51 -18051255.38 0.0536 0.0082

Jupiter -54135-08-08 08:09 J -18051166.19 -18051166.16 -18051166.13 0.0535 0.0516

Earth -54134-07-23 10:18 J -18050817.16 -18050817.07 -18050816.99 0.2673 0.1785

Moon -54134-07-23 10:47 J -18050817.14 -18050817.05 -18050816.97 0.2669 0.1762 *

Venus -54132-01-06 14:09 J -18050283.99 -18050283.91 -18050283.83 0.3781 0.2426

Jupiter -54129-03-27 05:59 J -18049108.39 -18049108.25 -18049108.11 0.0491 0.0303

Jupiter -54129-06-25 09:49 J -18049018.21 -18049018.09 -18049017.96 0.0491 0.0350

Mars -54128-05-03 05:45 J -18048706.38 -18048706.26 -18048706.15 0.1760 0.0541

Uranus -54127-01-23 17:59 J -18048440.79 -18048440.75 -18048440.69 0.0132 0.0122

Mars -54127-02-27 00:13 J -18048406.55 -18048406.49 -18048406.43 0.1774 0.1616

Uranus -54127-04-21 21:21 J -18048352.69 -18048352.61 -18048352.53 0.0132 0.0104

Earth -54127-07-16 06:42 J -18048267.32 -18048267.22 -18048267.11 0.2668 0.0857

Moon -54127-07-16 07:11 J -18048267.31 -18048267.20 -18048267.09 0.2675 0.0806 *

Uranus -54127-07-19 00:28 J -18048264.58 -18048264.48 -18048264.38 0.0132 0.0087

Uranus -54127-10-15 03:35 J -18048176.46 -18048176.35 -18048176.23 0.0132 0.0069

Saturn -54126-01-08 04:18 J -18048091.39 -18048091.32 -18048091.23 0.0284 0.0227

Uranus -54126-01-11 06:42 J -18048088.34 -18048088.22 -18048088.09 0.0132 0.0051

Saturn -54126-04-06 17:16 J -18048002.90 -18048002.78 -18048002.65 0.0284 0.0120

Uranus -54126-04-09 09:49 J -18048000.22 -18048000.09 -18047999.96 0.0132 0.0034

Saturn -54126-07-04 05:59 J -18047914.39 -18047914.25 -18047914.11 0.0285 0.0014

Uranus -54126-07-06 12:57 J -18047912.10 -18047911.96 -18047911.83 0.0132 0.0016

Saturn -54126-09-30 18:28 J -18047825.86 -18047825.73 -18047825.60 0.0286 0.0093

Uranus -54126-10-02 16:04 J -18047823.97 -18047823.83 -18047823.70 0.0132 0.0004

Saturn -54126-12-28 06:57 J -18047737.31 -18047737.21 -18047737.12 0.0287 0.0198

Uranus -54126-12-29 18:57 J -18047735.84 -18047735.71 -18047735.57 0.0132 0.0019

Uranus -54125-03-26 22:04 J -18047647.71 -18047647.58 -18047647.45 0.0132 0.0036

Uranus -54125-06-23 01:11 J -18047559.57 -18047559.45 -18047559.33 0.0132 0.0054

Uranus -54125-09-19 04:04 J -18047471.44 -18047471.33 -18047471.21 0.0132 0.0072

Uranus -54125-12-16 07:11 J -18047383.30 -18047383.20 -18047383.10 0.0133 0.0089

Uranus -54124-03-14 10:18 J -18047295.15 -18047295.07 -18047294.99 0.0133 0.0106

Uranus -54124-06-10 13:11 J -18047206.99 -18047206.95 -18047206.90 0.0133 0.0123

Jupiter -54123-02-27 03:06 J -18046945.49 -18046945.37 -18046945.25 0.0536 0.0236

Jupiter -54123-05-27 11:45 J -18046856.10 -18046856.01 -18046855.92 0.0536 0.0369

Mars -54119-09-23 14:37 J -18045276.01 -18045275.89 -18045275.77 0.1752 0.0192

Mars -54118-07-20 00:28 J -18044976.63 -18044976.48 -18044976.33 0.1783 0.0452

Moon -54117-01-10 16:04 J -18044801.95 -18044801.83 -18044801.71 0.2663 0.1547

Earth -54117-01-10 17:30 J -18044801.89 -18044801.77 -18044801.65 0.2665 0.1530 *

Jupiter -54117-01-14 03:49 J -18044798.37 -18044798.34 -18044798.28 0.0491 0.0472

Jupiter -54117-04-13 07:11 J -18044708.36 -18044708.20 -18044708.03 0.0491 0.0174

Earth -54114-07-19 01:40 J -18043516.54 -18043516.43 -18043516.31 0.2670 0.0119

Moon -54114-07-19 02:23 J -18043516.51 -18043516.40 -18043516.28 0.2673 0.0178 *

Saturn -54113-11-05 01:40 J -18043041.56 -18043041.43 -18043041.27 0.0277 0.0155

Saturn -54112-02-01 21:49 J -18042952.76 -18042952.59 -18042952.41 0.0276 0.0030

Saturn -54112-05-01 18:13 J -18042863.91 -18042863.74 -18042863.58 0.0275 0.0096

Saturn -54112-07-29 14:23 J -18042774.99 -18042774.90 -18042774.79 0.0274 0.0222

Jupiter -54112-12-16 06:42 J -18042635.31 -18042635.22 -18042635.13 0.0536 0.0383

Jupiter -54111-03-15 15:35 J -18042545.96 -18042545.85 -18042545.73 0.0536 0.0229

Neptune -54110-04-02 20:23 J -18042162.65 -18042162.65 -18042162.62 0.0089 0.0089

Neptune -54110-06-29 23:30 J -18042074.58 -18042074.52 -18042074.44 0.0089 0.0081

Neptune -54110-09-26 02:09 J -18041986.49 -18041986.41 -18041986.29 0.0089 0.0074

Neptune -54110-12-23 05:16 J -18041898.38 -18041898.28 -18041898.15 0.0089 0.0066

Mars -54109-02-13 23:16 J -18041845.63 -18041845.53 -18041845.42 0.1744 0.0926

Neptune -54109-03-20 08:37 J -18041810.27 -18041810.14 -18041810.01 0.0089 0.0058

Neptune -54109-06-16 11:16 J -18041722.16 -18041722.03 -18041721.87 0.0089 0.0051

Neptune -54109-09-12 14:23 J -18041634.05 -18041633.90 -18041633.73 0.0089 0.0043

Mars -54109-12-09 00:57 J -18041546.60 -18041546.46 -18041546.32 0.1792 0.0705

Neptune -54109-12-09 17:16 J -18041545.93 -18041545.78 -18041545.60 0.0089 0.0036

Neptune -54108-03-07 20:23 J -18041457.81 -18041457.65 -18041457.47 0.0089 0.0028

Neptune -54108-06-03 23:30 J -18041369.69 -18041369.52 -18041369.33 0.0089 0.0020

Neptune -54108-08-31 02:52 J -18041281.56 -18041281.38 -18041281.20 0.0089 0.0012

Neptune -54108-11-27 05:45 J -18041193.44 -18041193.26 -18041193.07 0.0089 0.0005

Neptune -54107-02-23 08:52 J -18041105.31 -18041105.13 -18041104.95 0.0089 0.0004

Neptune -54107-05-22 11:59 J -18041017.18 -18041017.00 -18041016.82 0.0089 0.0012

Earth -54107-07-11 21:35 J -18040966.62 -18040966.60 -18040966.58 0.2665 0.2609

Neptune -54107-08-18 14:52 J -18040929.05 -18040928.88 -18040928.69 0.0089 0.0020

Neptune -54107-11-14 17:59 J -18040840.91 -18040840.75 -18040840.57 0.0089 0.0028

Neptune -54106-02-10 21:21 J -18040752.78 -18040752.61 -18040752.44 0.0089 0.0035

Neptune -54106-05-10 00:28 J -18040664.64 -18040664.48 -18040664.32 0.0089 0.0043

Neptune -54106-08-06 03:35 J -18040576.50 -18040576.35 -18040576.20 0.0089 0.0051

Neptune -54106-11-02 06:42 J -18040488.35 -18040488.22 -18040488.08 0.0089 0.0059

Neptune -54105-01-29 09:49 J -18040400.20 -18040400.09 -18040399.96 0.0089 0.0067

Jupiter -54105-01-31 05:59 J -18040398.43 -18040398.25 -18040398.07 0.0491 0.0012

Neptune -54105-04-26 13:11 J -18040312.05 -18040311.95 -18040311.85 0.0089 0.0075

Neptune -54105-07-23 16:18 J -18040223.88 -18040223.82 -18040223.75 0.0089 0.0083

Moon -54104-01-12 19:40 J -18040050.82 -18040050.68 -18040050.53 0.2667 0.0142

Earth -54104-01-12 20:52 J -18040050.78 -18040050.63 -18040050.48 0.2663 0.0047 *

Earth -54101-07-20 20:23 J -18038765.75 -18038765.65 -18038765.54 0.2672 0.1042

Moon -54101-07-20 21:21 J -18038765.72 -18038765.61 -18038765.51 0.2670 0.1054 *

Mars -54100-07-06 08:09 J -18038415.19 -18038415.16 -18038415.12 0.1736 0.1644

Jupiter -54100-10-04 10:18 J -18038325.08 -18038325.07 -18038325.06 0.0536 0.0533

Jupiter -54099-01-01 19:25 J -18038235.82 -18038235.69 -18038235.56 0.0536 0.0082

Mars -54098-06-11 20:52 J -18037709.71 -18037709.63 -18037709.56 0.1768 0.1370

Saturn -54097-05-27 05:45 J -18037359.30 -18037359.26 -18037359.20 0.0283 0.0262

Saturn -54097-08-23 18:28 J -18037270.84 -18037270.73 -18037270.61 0.0284 0.0156

Saturn -54097-11-20 07:11 J -18037182.33 -18037182.20 -18037182.06 0.0285 0.0051

Saturn -54096-02-16 19:54 J -18037093.81 -18037093.67 -18037093.54 0.0286 0.0057

Saturn -54096-05-16 08:09 J -18037005.26 -18037005.16 -18037005.04 0.0287 0.0163

Saturn -54096-08-12 20:37 J -18036916.68 -18036916.64 -18036916.59 0.0288 0.0267

Moon -54094-07-14 16:33 J -18036215.90 -18036215.81 -18036215.72 0.2673 0.1606

Earth -54094-07-14 16:47 J -18036215.89 -18036215.80 -18036215.71 0.2667 0.1633 *

Jupiter -54094-11-19 04:33 J -18036088.48 -18036088.31 -18036088.14 0.0491 0.0150

Venus -54093-12-29 11:59 J -18035682.06 -18035682.00 -18035681.94 0.3771 0.3048

Moon -54091-01-16 00:13 J -18035299.61 -18035299.49 -18035299.37 0.2667 0.1558

Earth -54091-01-16 00:57 J -18035299.58 -18035299.46 -18035299.35 0.2661 0.1623 *

Mars -54089-11-01 05:45 J -18034279.37 -18034279.26 -18034279.15 0.1760 0.0635

Earth -54088-07-23 15:06 J -18034014.94 -18034014.87 -18034014.79 0.2674 0.1952

Moon -54088-07-23 15:21 J -18034014.93 -18034014.86 -18034014.78 0.2668 0.2034 *

Mars -54088-08-28 00:28 J -18033979.50 -18033979.48 -18033979.45 0.1774 0.1737

Jupiter -54088-10-20 22:47 J -18033925.68 -18033925.55 -18033925.42 0.0536 0.0071

Jupiter -54087-01-18 07:11 J -18033836.22 -18033836.20 -18033836.18 0.0535 0.0527

Venus -54087-07-15 03:49 J -18033658.43 -18033658.34 -18033658.24 0.3774 0.0965

Uranus -54086-08-04 11:45 J -18033273.08 -18033273.01 -18033272.92 0.0147 0.0132

Uranus -54086-10-31 20:09 J -18033184.80 -18033184.66 -18033184.53 0.0146 0.0099

Uranus -54085-01-28 04:04 J -18033096.49 -18033096.33 -18033096.16 0.0146 0.0066

Uranus -54085-04-25 12:13 J -18033008.17 -18033007.99 -18033007.80 0.0146 0.0033

Uranus -54085-07-22 20:37 J -18032919.83 -18032919.64 -18032919.46 0.0146 0.0003

Uranus -54085-10-19 04:47 J -18032831.48 -18032831.30 -18032831.12 0.0146 0.0033

Uranus -54084-01-15 12:57 J -18032743.12 -18032742.96 -18032742.79 0.0146 0.0067

Uranus -54084-04-13 21:06 J -18032654.75 -18032654.62 -18032654.47 0.0146 0.0100

Venus -54084-04-17 20:23 J -18032650.79 -18032650.65 -18032650.50 0.3604 0.1351

Uranus -54084-07-11 05:45 J -18032566.34 -18032566.26 -18032566.19 0.0146 0.0133

Saturn -54083-03-25 00:57 J -18032309.57 -18032309.46 -18032309.32 0.0277 0.0194

Saturn -54083-06-21 21:06 J -18032220.79 -18032220.62 -18032220.45 0.0276 0.0069

Saturn -54083-09-18 17:16 J -18032131.95 -18032131.78 -18032131.60 0.0275 0.0057

Saturn -54083-12-16 13:40 J -18032043.06 -18032042.93 -18032042.79 0.0274 0.0183

Jupiter -54082-09-07 03:49 J -18031778.48 -18031778.34 -18031778.21 0.0491 0.0305

Jupiter -54082-12-06 07:25 J -18031688.31 -18031688.19 -18031688.06 0.0491 0.0349

Venus -54081-01-28 19:40 J -18031634.77 -18031634.68 -18031634.58 0.3778 0.1121

Earth -54081-07-16 11:45 J -18031465.12 -18031465.01 -18031464.89 0.2668 0.0671

Moon -54081-07-16 12:13 J -18031465.10 -18031464.99 -18031464.88 0.2675 0.0679 *

Mars -54079-03-24 14:37 J -18030849.02 -18030848.89 -18030848.77 0.1752 0.0120

Mars -54078-01-18 01:11 J -18030549.60 -18030549.45 -18030549.31 0.1783 0.0596

Jupiter -54076-08-09 01:25 J -18029615.55 -18029615.44 -18029615.32 0.0536 0.0235

Venus -54076-08-13 11:30 J -18029611.07 -18029611.02 -18029610.96 0.3782 0.3198

Jupiter -54076-11-06 10:04 J -18029526.17 -18029526.08 -18029525.98 0.0535 0.0370

Pluto -54074-10-05 01:40 J -18028828.47 -18028828.43 -18028828.37 0.0082 0.0077

Pluto -54073-01-01 03:06 J -18028740.44 -18028740.37 -18028740.27 0.0082 0.0068

Pluto -54073-03-29 05:01 J -18028652.39 -18028652.29 -18028652.18 0.0082 0.0058

Pluto -54073-06-25 06:42 J -18028564.34 -18028564.22 -18028564.10 0.0082 0.0048

Pluto -54073-09-21 08:09 J -18028476.28 -18028476.16 -18028476.02 0.0082 0.0039

Pluto -54073-12-18 09:49 J -18028388.22 -18028388.09 -18028387.95 0.0082 0.0030

Pluto -54072-03-16 11:30 J -18028300.16 -18028300.02 -18028299.88 0.0082 0.0021

Pluto -54072-06-12 12:57 J -18028212.10 -18028211.96 -18028211.81 0.0082 0.0012

Pluto -54072-09-08 14:37 J -18028124.04 -18028123.89 -18028123.75 0.0081 0.0003

Pluto -54072-12-05 16:04 J -18028035.97 -18028035.83 -18028035.68 0.0081 0.0006

Moon -54071-01-10 22:04 J -18027999.70 -18027999.58 -18027999.45 0.2664 0.1456

Earth -54071-01-10 23:30 J -18027999.65 -18027999.52 -18027999.39 0.2665 0.1252 *

Pluto -54071-03-03 17:30 J -18027947.91 -18027947.77 -18027947.62 0.0081 0.0015

Pluto -54071-05-30 18:57 J -18027859.84 -18027859.71 -18027859.57 0.0081 0.0023

Pluto -54071-08-26 20:23 J -18027771.77 -18027771.65 -18027771.51 0.0081 0.0032

Pluto -54071-11-22 22:04 J -18027683.70 -18027683.58 -18027683.46 0.0081 0.0040

Pluto -54070-02-18 23:16 J -18027595.63 -18027595.53 -18027595.41 0.0081 0.0049

Pluto -54070-05-18 00:57 J -18027507.56 -18027507.46 -18027507.36 0.0080 0.0057

Jupiter -54070-06-26 02:37 J -18027468.44 -18027468.39 -18027468.33 0.0491 0.0462

Pluto -54070-08-14 01:54 J -18027419.48 -18027419.42 -18027419.32 0.0080 0.0066

Mars -54070-08-14 23:30 J -18027418.63 -18027418.52 -18027418.41 0.1744 0.0826

Jupiter -54070-09-24 05:59 J -18027378.41 -18027378.25 -18027378.08 0.0491 0.0184

Pluto -54070-11-10 03:35 J -18027331.40 -18027331.35 -18027331.28 0.0080 0.0073

Mars -54069-06-09 01:25 J -18027119.58 -18027119.44 -18027119.29 0.1792 0.0573

Earth -54068-07-19 06:42 J -18026714.34 -18026714.22 -18026714.11 0.2670 0.0277

Moon -54068-07-19 07:25 J -18026714.30 -18026714.19 -18026714.08 0.2672 0.0355 *

Saturn -54067-01-10 21:21 J -18026538.72 -18026538.61 -18026538.50 0.0284 0.0181

Saturn -54067-04-09 10:04 J -18026450.21 -18026450.08 -18026449.95 0.0285 0.0075

Saturn -54067-07-06 22:33 J -18026361.69 -18026361.56 -18026361.42 0.0286 0.0033

Saturn -54067-10-03 11:01 J -18026273.15 -18026273.04 -18026272.92 0.0287 0.0138

Saturn -54067-12-30 23:30 J -18026184.59 -18026184.52 -18026184.45 0.0287 0.0243

Jupiter -54064-05-28 04:47 J -18025305.39 -18025305.30 -18025305.21 0.0536 0.0389

Jupiter -54064-08-25 13:40 J -18025216.04 -18025215.93 -18025215.81 0.0536 0.0222

Moon -54061-07-12 01:54 J -18024164.46 -18024164.42 -18024164.37 0.2668 0.2424

Earth -54061-07-12 02:37 J -18024164.43 -18024164.39 -18024164.34 0.2665 0.2423 *

Mars -54060-01-04 08:23 J -18023988.21 -18023988.15 -18023988.10 0.1736 0.1550

Mars -54060-10-30 01:54 J -18023689.45 -18023689.42 -18023689.38 0.1801 0.1733

Mars -54059-12-10 20:52 J -18023282.69 -18023282.63 -18023282.56 0.1769 0.1466

Moon -54058-01-14 01:54 J -18023248.57 -18023248.42 -18023248.27 0.2667 0.0289

Earth -54058-01-14 03:06 J -18023248.52 -18023248.37 -18023248.22 0.2663 0.0304 *

Jupiter -54058-07-13 03:49 J -18023068.52 -18023068.34 -18023068.17 0.0491 0.0016

Earth -54055-07-22 01:25 J -18021963.54 -18021963.44 -18021963.34 0.2672 0.1207

Moon -54055-07-22 02:09 J -18021963.51 -18021963.41 -18021963.31 0.2670 0.1310 *

Saturn -54054-08-12 02:23 J -18021577.50 -18021577.40 -18021577.29 0.0277 0.0219

Saturn -54054-11-08 22:18 J -18021488.73 -18021488.57 -18021488.40 0.0276 0.0095

Saturn -54053-02-05 18:28 J -18021399.91 -18021399.73 -18021399.55 0.0276 0.0031

Saturn -54053-05-04 14:37 J -18021311.03 -18021310.89 -18021310.73 0.0275 0.0157

Jupiter -54052-06-13 17:30 J -18020905.89 -18020905.77 -18020905.64 0.0536 0.0080

Mars -54049-05-02 05:45 J -18019852.37 -18019852.26 -18019852.15 0.1760 0.0724

Moon -54048-07-14 21:49 J -18019413.69 -18019413.59 -18019413.50 0.2673 0.1524

Earth -54048-07-14 21:49 J -18019413.69 -18019413.59 -18019413.49 0.2667 0.1447 *

Jupiter -54046-05-01 02:37 J -18018758.56 -18018758.39 -18018758.22 0.0491 0.0148

Moon -54045-01-17 06:42 J -18018497.33 -18018497.22 -18018497.12 0.2666 0.1857

Earth -54045-01-17 07:11 J -18018497.31 -18018497.20 -18018497.10 0.2660 0.1908 *

Uranus -54043-02-13 01:11 J -18017739.50 -18017739.45 -18017739.38 0.0132 0.0118

Uranus -54043-05-12 04:18 J -18017651.40 -18017651.32 -18017651.23 0.0132 0.0100

Uranus -54043-08-08 07:40 J -18017563.29 -18017563.18 -18017563.08 0.0132 0.0082

Uranus -54043-11-04 10:33 J -18017475.17 -18017475.06 -18017474.93 0.0132 0.0065

Uranus -54042-01-31 13:40 J -18017387.05 -18017386.93 -18017386.80 0.0132 0.0047

Uranus -54042-04-29 16:47 J -18017298.93 -18017298.80 -18017298.66 0.0132 0.0030

Earth -54042-07-24 20:09 J -18017212.73 -18017212.66 -18017212.60 0.2674 0.2125

Moon -54042-07-24 20:23 J -18017212.72 -18017212.65 -18017212.58 0.2667 0.2083 *

Uranus -54042-07-26 19:54 J -18017210.80 -18017210.67 -18017210.53 0.0132 0.0013

Uranus -54042-10-22 23:01 J -18017122.67 -18017122.54 -18017122.40 0.0132 0.0006

Uranus -54041-01-19 02:09 J -18017034.54 -18017034.41 -18017034.28 0.0132 0.0023

Uranus -54041-04-16 05:16 J -18016946.41 -18016946.28 -18016946.15 0.0132 0.0041

Uranus -54041-07-13 08:09 J -18016858.28 -18016858.16 -18016858.03 0.0132 0.0058

Uranus -54041-10-09 11:16 J -18016770.14 -18016770.03 -18016769.92 0.0132 0.0076

Uranus -54040-01-05 14:23 J -18016682.00 -18016681.90 -18016681.81 0.0132 0.0093

Jupiter -54040-04-01 21:21 J -18016595.74 -18016595.61 -18016595.48 0.0536 0.0068

Uranus -54040-04-03 17:16 J -18016593.85 -18016593.78 -18016593.70 0.0133 0.0110

Jupiter -54040-06-30 05:45 J -18016506.27 -18016506.26 -18016506.25 0.0536 0.0532

Uranus -54040-06-30 20:09 J -18016505.68 -18016505.66 -18016505.62 0.0133 0.0128

Mars -54040-09-22 14:37 J -18016422.01 -18016421.89 -18016421.77 0.1752 0.0034

Mars -54039-07-19 01:25 J -18016122.58 -18016122.44 -18016122.30 0.1783 0.0713

Moon -54038-01-09 01:11 J -18015948.46 -18015948.45 -18015948.43 0.2662 0.2633

Earth -54038-01-09 02:23 J -18015948.45 -18015948.40 -18015948.35 0.2667 0.2486 *

Saturn -54038-05-30 22:33 J -18015806.65 -18015806.56 -18015806.48 0.0283 0.0218

Saturn -54038-08-27 11:16 J -18015718.16 -18015718.03 -18015717.91 0.0284 0.0113

Saturn -54038-11-23 23:45 J -18015629.64 -18015629.51 -18015629.37 0.0285 0.0008

Saturn -54037-02-20 12:13 J -18015541.11 -18015540.99 -18015540.86 0.0286 0.0100

Saturn -54037-05-19 00:42 J -18015452.56 -18015452.47 -18015452.38 0.0287 0.0205

Venus -54036-08-05 09:35 J -18015009.18 -18015009.10 -18015009.02 0.3772 0.2278

Earth -54035-07-17 16:47 J -18014662.91 -18014662.80 -18014662.69 0.2669 0.0491

Moon -54035-07-17 17:16 J -18014662.90 -18014662.78 -18014662.67 0.2675 0.0420 *

Jupiter -54034-02-17 01:25 J -18014448.58 -18014448.44 -18014448.30 0.0491 0.0307

Jupiter -54034-05-18 05:01 J -18014358.41 -18014358.29 -18014358.16 0.0491 0.0346

Mars -54030-02-12 23:30 J -18012991.63 -18012991.52 -18012991.41 0.1744 0.0736

Venus -54030-02-19 01:25 J -18012985.54 -18012985.44 -18012985.34 0.3775 0.0204

Mars -54030-12-09 01:54 J -18012692.57 -18012692.42 -18012692.27 0.1792 0.0444

Jupiter -54028-01-19 00:42 J -18012285.59 -18012285.47 -18012285.35 0.0536 0.0220

Jupiter -54028-04-18 09:21 J -18012196.20 -18012196.11 -18012196.02 0.0535 0.0385

Neptune -54028-07-11 07:40 J -18012112.20 -18012112.18 -18012112.13 0.0089 0.0086

Neptune -54028-10-07 09:35 J -18012024.16 -18012024.10 -18012024.04 0.0089 0.0079

Venus -54028-11-22 22:18 J -18011977.72 -18011977.57 -18011977.41 0.3603 0.0621

Neptune -54027-01-03 11:01 J -18011936.11 -18011936.04 -18011935.95 0.0089 0.0073

Neptune -54027-04-01 12:42 J -18011848.05 -18011847.97 -18011847.87 0.0089 0.0067

Neptune -54027-06-28 14:09 J -18011760.00 -18011759.91 -18011759.79 0.0089 0.0061

Neptune -54027-09-24 15:49 J -18011671.94 -18011671.84 -18011671.72 0.0089 0.0055

Neptune -54027-12-21 17:30 J -18011583.88 -18011583.77 -18011583.65 0.0089 0.0048

Neptune -54026-03-19 18:57 J -18011495.82 -18011495.71 -18011495.57 0.0089 0.0043

Neptune -54026-06-15 20:37 J -18011407.76 -18011407.64 -18011407.50 0.0089 0.0036

Neptune -54026-09-11 22:18 J -18011319.70 -18011319.57 -18011319.44 0.0089 0.0030

Neptune -54026-12-08 23:59 J -18011231.64 -18011231.50 -18011231.37 0.0089 0.0024

Moon -54025-01-12 04:18 J -18011197.46 -18011197.32 -18011197.19 0.2665 0.0998

Earth -54025-01-12 05:45 J -18011197.40 -18011197.26 -18011197.13 0.2664 0.0981 *

Neptune -54025-03-06 01:25 J -18011143.58 -18011143.44 -18011143.30 0.0089 0.0018

Neptune -54025-06-02 02:52 J -18011055.51 -18011055.38 -18011055.23 0.0089 0.0012

Neptune -54025-08-29 04:33 J -18010967.45 -18010967.31 -18010967.17 0.0089 0.0006

Venus -54025-09-03 17:16 J -18010961.87 -18010961.78 -18010961.69 0.3779 0.1883

Neptune -54025-11-25 05:59 J -18010879.39 -18010879.25 -18010879.11 0.0089 0.0002

Saturn -54025-12-29 00:57 J -18010845.51 -18010845.46 -18010845.40 0.0277 0.0263

Neptune -54024-02-21 07:40 J -18010791.32 -18010791.18 -18010791.04 0.0089 0.0006

Saturn -54024-03-27 20:52 J -18010756.78 -18010756.63 -18010756.48 0.0277 0.0139

Neptune -54024-05-20 09:06 J -18010703.26 -18010703.12 -18010702.98 0.0089 0.0012

Saturn -54024-06-24 17:01 J -18010667.97 -18010667.79 -18010667.61 0.0276 0.0014

Neptune -54024-08-16 10:33 J -18010615.19 -18010615.06 -18010614.92 0.0089 0.0018

Saturn -54024-09-21 13:11 J -18010579.11 -18010578.95 -18010578.78 0.0275 0.0112

Neptune -54024-11-12 12:13 J -18010527.13 -18010526.99 -18010526.86 0.0089 0.0024

Saturn -54024-12-19 09:49 J -18010490.18 -18010490.09 -18010490.01 0.0274 0.0238

Neptune -54023-02-08 13:40 J -18010439.06 -18010438.93 -18010438.80 0.0089 0.0030

Neptune -54023-05-07 15:06 J -18010350.99 -18010350.87 -18010350.74 0.0089 0.0036

Neptune -54023-08-03 16:33 J -18010262.93 -18010262.81 -18010262.68 0.0089 0.0042

Neptune -54023-10-30 17:59 J -18010174.86 -18010174.75 -18010174.63 0.0089 0.0048

Jupiter -54023-12-06 00:42 J -18010138.53 -18010138.47 -18010138.41 0.0491 0.0460

Neptune -54022-01-26 19:25 J -18010086.79 -18010086.69 -18010086.57 0.0089 0.0054

Jupiter -54022-03-06 04:04 J -18010048.50 -18010048.33 -18010048.17 0.0491 0.0186

Neptune -54022-04-24 20:52 J -18009998.72 -18009998.63 -18009998.52 0.0089 0.0060

Earth -54022-07-20 11:45 J -18009912.13 -18009912.01 -18009911.90 0.2671 0.0458

Moon -54022-07-20 12:28 J -18009912.09 -18009911.98 -18009911.87 0.2672 0.0497 *

Neptune -54022-07-21 22:33 J -18009910.65 -18009910.56 -18009910.46 0.0089 0.0065

Neptune -54022-10-17 23:59 J -18009822.58 -18009822.50 -18009822.41 0.0089 0.0071

Neptune -54021-01-14 01:25 J -18009734.50 -18009734.44 -18009734.37 0.0089 0.0077

Neptune -54021-04-11 02:37 J -18009646.42 -18009646.39 -18009646.33 0.0089 0.0083

Mars -54021-07-05 08:23 J -18009561.22 -18009561.15 -18009561.09 0.1736 0.1458

Neptune -54021-07-08 04:33 J -18009558.32 -18009558.31 -18009558.30 0.0089 0.0088

Mars -54020-04-30 02:37 J -18009262.46 -18009262.39 -18009262.32 0.1801 0.1588

Mars -54019-06-10 20:52 J -18008855.69 -18008855.63 -18008855.58 0.1768 0.1549

Jupiter -54017-11-07 03:35 J -18007975.44 -18007975.35 -18007975.26 0.0536 0.0383

Jupiter -54016-02-04 12:28 J -18007886.10 -18007885.98 -18007885.86 0.0535 0.0227

Moon -54015-07-13 07:11 J -18007362.26 -18007362.20 -18007362.15 0.2669 0.2355

Earth -54015-07-13 07:40 J -18007362.24 -18007362.18 -18007362.12 0.2665 0.2238 *

Moon -54012-01-14 08:09 J -18006446.31 -18006446.16 -18006446.02 0.2667 0.0405

Earth -54012-01-14 09:21 J -18006446.26 -18006446.11 -18006445.97 0.2662 0.0588 *

Jupiter -54011-12-23 02:37 J -18005738.57 -18005738.39 -18005738.21 0.0491 0.0026

Mars -54010-11-01 05:45 J -18005425.36 -18005425.26 -18005425.15 0.1761 0.0821

Earth -54009-07-22 06:28 J -18005161.33 -18005161.23 -18005161.14 0.2672 0.1382

Moon -54009-07-22 06:57 J -18005161.30 -18005161.21 -18005161.11 0.2669 0.1420 *

Saturn -54009-10-17 00:42 J -18005074.53 -18005074.47 -18005074.40 0.0283 0.0246

Saturn -54008-01-13 13:25 J -18004986.05 -18004985.94 -18004985.81 0.0284 0.0141

Saturn -54008-04-12 02:09 J -18004897.54 -18004897.41 -18004897.27 0.0285 0.0035

Saturn -54008-07-09 14:37 J -18004809.02 -18004808.89 -18004808.75 0.0286 0.0073

Saturn -54008-10-06 03:06 J -18004720.47 -18004720.37 -18004720.26 0.0287 0.0178

Saturn -54007-01-02 15:35 J -18004631.87 -18004631.85 -18004631.83 0.0288 0.0283

Jupiter -54005-11-23 16:04 J -18003575.96 -18003575.83 -18003575.70 0.0536 0.0078

Moon -54002-07-16 02:52 J -18002611.48 -18002611.38 -18002611.28 0.2674 0.1203

Earth -54002-07-16 02:52 J -18002611.48 -18002611.38 -18002611.28 0.2667 0.1265 *

Uranus -54002-08-24 18:42 J -18002571.81 -18002571.72 -18002571.62 0.0147 0.0126

Uranus -54002-11-21 02:37 J -18002483.52 -18002483.39 -18002483.24 0.0147 0.0094

Uranus -54001-02-17 10:47 J -18002395.21 -18002395.05 -18002394.87 0.0146 0.0061

Uranus -54001-05-15 18:57 J -18002306.89 -18002306.71 -18002306.52 0.0146 0.0028

Uranus -54001-08-12 03:21 J -18002218.55 -18002218.36 -18002218.17 0.0146 0.0006

Uranus -54001-11-08 11:30 J -18002130.20 -18002130.02 -18002129.84 0.0146 0.0039

54TH MILLENNIUM BCE

This is a list of transits of Mercury in the 54th millennium BCE.

FROM MAX- C START MAX END SUNRAD DEPTH S

TRANSIT

TIME

Uranus -54000-02-04 19:40 J -18002041.84 -18002041.68 -18002041.51 0.0146 0.0073

Mars -54000-03-23 14:37 J -18001995.01 -18001994.89 -18001994.76 0.1752 0.0106

Uranus -54000-05-04 03:49 J -18001953.46 -18001953.34 -18001953.20 0.0146 0.0106

Uranus -54000-07-31 12:28 J -18001865.03 -18001864.98 -18001864.93 0.0146 0.0139

Mars -53999-01-17 01:54 J -18001695.56 -18001695.42 -18001695.28 0.1783 0.0846

Moon -53999-01-17 13:11 J -18001695.03 -18001694.95 -18001694.87 0.2667 0.2249

Earth -53999-01-17 13:25 J -18001695.03 -18001694.94 -18001694.86 0.2660 0.2195 *

Jupiter -53999-10-11 00:42 J -18001428.64 -18001428.47 -18001428.30 0.0491 0.0145

Earth -53996-07-25 00:57 J -18000410.51 -18000410.46 -18000410.40 0.2674 0.2288

Moon -53996-07-25 01:11 J -18000410.50 -18000410.45 -18000410.40 0.2667 0.2342 *

Saturn -53995-08-14 21:49 J -18000024.73 -18000024.59 -18000024.45 0.0277 0.0167

Saturn -53995-11-11 17:45 J -17999935.93 -17999935.76 -17999935.58 0.0276 0.0042

Saturn -53994-02-08 13:54 J -17999847.08 -17999846.92 -17999846.74 0.0275 0.0084

Saturn -53994-05-08 10:33 J -17999758.18 -17999758.06 -17999757.95 0.0275 0.0210

Jupiter -53993-09-11 19:40 J -17999265.81 -17999265.68 -17999265.55 0.0536 0.0070

Jupiter -53993-12-10 04:04 J -17999176.34 -17999176.33 -17999176.31 0.0536 0.0532

Moon -53992-01-09 07:25 J -17999146.27 -17999146.19 -17999146.12 0.2662 0.2253

Earth -53992-01-09 08:23 J -17999146.22 -17999146.15 -17999146.07 0.2666 0.2219 *

Mars -53991-08-13 23:30 J -17998564.63 -17998564.52 -17998564.40 0.1744 0.0643

Mars -53990-06-09 02:23 J -17998265.55 -17998265.40 -17998265.25 0.1792 0.0309

Earth -53989-07-17 21:49 J -17997860.71 -17997860.59 -17997860.48 0.2669 0.0311

Moon -53989-07-17 22:18 J -17997860.68 -17997860.57 -17997860.45 0.2673 0.0324 *

Jupiter -53987-07-29 23:45 J -17997118.65 -17997118.51 -17997118.37 0.0490 0.0300

Jupiter -53987-10-28 03:21 J -17997028.48 -17997028.36 -17997028.23 0.0491 0.0351

Venus -53985-08-26 15:06 J -17996359.90 -17996359.87 -17996359.85 0.3769 0.3605

Mars -53981-01-04 08:23 J -17995134.22 -17995134.15 -17995134.07 0.1736 0.1361

Jupiter -53981-06-30 23:30 J -17994955.64 -17994955.52 -17994955.40 0.0536 0.0215

Jupiter -53981-09-28 08:09 J -17994866.24 -17994866.16 -17994866.07 0.0536 0.0392

Mars -53981-10-29 02:52 J -17994835.47 -17994835.38 -17994835.30 0.1801 0.1478

Mars -53980-12-09 20:52 J -17994428.67 -17994428.63 -17994428.58 0.1769 0.1645

Moon -53979-01-12 10:18 J -17994395.20 -17994395.07 -17994394.93 0.2666 0.0892

Earth -53979-01-12 11:45 J -17994395.15 -17994395.01 -17994394.87 0.2664 0.0697 *

Venus -53979-03-12 06:57 J -17994336.30 -17994336.21 -17994336.11 0.3772 0.1511

Saturn -53979-06-02 14:23 J -17994254.00 -17994253.90 -17994253.79 0.0283 0.0179

Saturn -53979-08-30 03:06 J -17994165.50 -17994165.37 -17994165.23 0.0284 0.0074

Saturn -53979-11-26 15:49 J -17994076.98 -17994076.84 -17994076.71 0.0285 0.0033

Saturn -53978-02-23 04:04 J -17993988.44 -17993988.33 -17993988.21 0.0286 0.0138

Saturn -53978-05-22 16:33 J -17993899.88 -17993899.81 -17993899.74 0.0287 0.0242

Venus -53977-12-13 15:49 J -17993328.91 -17993328.84 -17993328.77 0.3607 0.3213

Earth -53976-07-20 16:33 J -17993109.92 -17993109.81 -17993109.69 0.2671 0.0633

Moon -53976-07-20 17:30 J -17993109.88 -17993109.77 -17993109.66 0.2672 0.0738 *

Jupiter -53975-05-17 22:47 J -17992808.61 -17992808.55 -17992808.49 0.0491 0.0457

Jupiter -53975-08-16 01:54 J -17992718.58 -17992718.42 -17992718.25 0.0491 0.0189

Venus -53974-09-25 22:47 J -17992312.65 -17992312.55 -17992312.45 0.3776 0.0589

Venus -53971-06-30 00:28 J -17991304.59 -17991304.48 -17991304.38 0.3602 0.2629

Mars -53970-05-02 05:45 J -17990998.36 -17990998.26 -17990998.15 0.1760 0.0912

Jupiter -53969-04-19 02:52 J -17990645.47 -17990645.38 -17990645.28 0.0536 0.0366

Moon -53969-07-13 12:13 J -17990560.06 -17990559.99 -17990559.92 0.2671 0.2064

Earth -53969-07-13 12:42 J -17990560.04 -17990559.97 -17990559.90 0.2665 0.2054 *

Jupiter -53969-07-17 11:45 J -17990556.12 -17990556.01 -17990555.89 0.0536 0.0245

Venus -53968-04-10 14:52 J -17990288.95 -17990288.88 -17990288.81 0.3780 0.2656

Moon -53966-01-15 14:23 J -17989644.04 -17989643.90 -17989643.76 0.2666 0.0877

Earth -53966-01-15 15:35 J -17989643.99 -17989643.85 -17989643.72 0.2662 0.0873 *

Saturn -53965-01-01 19:25 J -17989292.79 -17989292.69 -17989292.57 0.0277 0.0216

Saturn -53965-03-30 15:35 J -17989204.02 -17989203.85 -17989203.69 0.0277 0.0091

Saturn -53965-06-27 11:45 J -17989115.19 -17989115.01 -17989114.83 0.0276 0.0035

Saturn -53965-09-24 07:54 J -17989026.31 -17989026.17 -17989026.02 0.0275 0.0162

Jupiter -53963-06-04 00:57 J -17988408.64 -17988408.46 -17988408.28 0.0491 0.0031

Earth -53963-07-23 11:16 J -17988359.12 -17988359.03 -17988358.93 0.2673 0.1552

Moon -53963-07-23 11:59 J -17988359.10 -17988359.00 -17988358.91 0.2668 0.1584 *

Mars -53961-09-21 14:37 J -17987568.01 -17987567.89 -17987567.76 0.1752 0.0187

Mars -53960-07-18 02:37 J -17987268.52 -17987268.39 -17987268.26 0.1783 0.0994

Uranus -53960-12-07 05:30 J -17987126.29 -17987126.27 -17987126.25 0.0132 0.0130

Uranus -53959-03-05 08:23 J -17987038.21 -17987038.15 -17987038.07 0.0132 0.0113

Uranus -53959-06-01 11:30 J -17986950.10 -17986950.02 -17986949.92 0.0132 0.0095

Uranus -53959-08-28 14:52 J -17986861.99 -17986861.88 -17986861.77 0.0132 0.0077

Uranus -53959-11-24 17:59 J -17986773.87 -17986773.75 -17986773.63 0.0132 0.0060

Uranus -53958-02-20 21:06 J -17986685.75 -17986685.62 -17986685.49 0.0132 0.0042

Uranus -53958-05-20 00:13 J -17986597.62 -17986597.49 -17986597.36 0.0132 0.0024

Uranus -53958-08-16 03:21 J -17986509.50 -17986509.36 -17986509.23 0.0132 0.0007

Uranus -53958-11-12 06:28 J -17986421.37 -17986421.23 -17986421.10 0.0132 0.0011

Jupiter -53957-02-06 05:45 J -17986335.28 -17986335.26 -17986335.24 0.0536 0.0528

Uranus -53957-02-08 09:35 J -17986333.24 -17986333.10 -17986332.97 0.0132 0.0029

Jupiter -53957-05-05 14:52 J -17986246.01 -17986245.88 -17986245.75 0.0536 0.0088

Uranus -53957-05-06 12:28 J -17986245.10 -17986244.98 -17986244.85 0.0132 0.0046

Uranus -53957-08-02 15:35 J -17986156.97 -17986156.85 -17986156.73 0.0132 0.0063

Uranus -53957-10-29 18:42 J -17986068.83 -17986068.72 -17986068.62 0.0132 0.0081

Uranus -53956-01-25 21:35 J -17985980.68 -17985980.60 -17985980.51 0.0133 0.0098

Uranus -53956-04-24 00:28 J -17985892.53 -17985892.48 -17985892.41 0.0133 0.0116

Moon -53956-07-16 07:54 J -17985809.28 -17985809.17 -17985809.07 0.2674 0.1152

Earth -53956-07-16 07:54 J -17985809.28 -17985809.17 -17985809.07 0.2667 0.1089 *

Moon -53953-01-18 19:40 J -17984892.74 -17984892.68 -17984892.62 0.2667 0.2417

Earth -53953-01-18 19:40 J -17984892.73 -17984892.68 -17984892.63 0.2660 0.2484 *

Mars -53951-02-11 23:45 J -17984137.63 -17984137.51 -17984137.40 0.1745 0.0545

Jupiter -53951-03-22 23:45 J -17984098.68 -17984098.51 -17984098.33 0.0491 0.0129

Mars -53951-12-08 02:52 J -17983838.53 -17983838.38 -17983838.23 0.1792 0.0181

Moon -53950-07-26 05:59 J -17983608.29 -17983608.25 -17983608.20 0.2668 0.2433

Earth -53950-07-26 05:59 J -17983608.29 -17983608.25 -17983608.21 0.2675 0.2459 *

Saturn -53950-10-20 16:18 J -17983521.91 -17983521.82 -17983521.72 0.0283 0.0210

Saturn -53949-01-17 05:16 J -17983433.41 -17983433.28 -17983433.16 0.0284 0.0105

Saturn -53949-04-14 17:45 J -17983344.90 -17983344.76 -17983344.62 0.0285 0.0002

Saturn -53949-07-12 06:13 J -17983256.36 -17983256.24 -17983256.11 0.0286 0.0107

Saturn -53949-10-08 18:42 J -17983167.81 -17983167.72 -17983167.63 0.0287 0.0212

Moon -53946-01-10 13:25 J -17982344.03 -17982343.94 -17982343.85 0.2663 0.2050

Earth -53946-01-10 14:37 J -17982343.99 -17982343.89 -17982343.79 0.2666 0.1941 *

Neptune -53946-12-28 18:57 J -17981991.74 -17981991.71 -17981991.66 0.0089 0.0086

Jupiter -53945-02-22 18:28 J -17981935.86 -17981935.73 -17981935.60 0.0536 0.0066

Neptune -53945-03-25 21:35 J -17981903.66 -17981903.60 -17981903.50 0.0089 0.0079

Jupiter -53945-05-22 02:52 J -17981846.38 -17981846.38 -17981846.38 0.0535 0.0535

Neptune -53945-06-22 00:42 J -17981815.56 -17981815.47 -17981815.35 0.0089 0.0071

Neptune -53945-09-18 04:04 J -17981727.46 -17981727.33 -17981727.21 0.0089 0.0063

Neptune -53945-12-15 06:42 J -17981639.35 -17981639.22 -17981639.07 0.0089 0.0056

Neptune -53944-03-13 09:49 J -17981551.24 -17981551.09 -17981550.93 0.0089 0.0048

Neptune -53944-06-09 12:42 J -17981463.12 -17981462.97 -17981462.80 0.0089 0.0041

Neptune -53944-09-05 15:49 J -17981375.00 -17981374.84 -17981374.67 0.0089 0.0033

Neptune -53944-12-02 18:57 J -17981286.88 -17981286.71 -17981286.54 0.0089 0.0025

Neptune -53943-02-28 21:49 J -17981198.76 -17981198.59 -17981198.41 0.0089 0.0018

Neptune -53943-05-28 00:57 J -17981110.64 -17981110.46 -17981110.28 0.0089 0.0010

Earth -53943-07-19 02:52 J -17981058.50 -17981058.38 -17981058.27 0.2669 0.0144

Moon -53943-07-19 03:21 J -17981058.47 -17981058.36 -17981058.24 0.2673 0.0106 *

Neptune -53943-08-24 04:04 J -17981022.51 -17981022.33 -17981022.15 0.0089 0.0002

Neptune -53943-11-20 07:11 J -17980934.38 -17980934.20 -17980934.02 0.0089 0.0006

Neptune -53942-02-16 10:18 J -17980846.25 -17980846.07 -17980845.89 0.0089 0.0014

Neptune -53942-05-15 13:11 J -17980758.12 -17980757.95 -17980757.77 0.0089 0.0022

Mars -53942-07-05 08:37 J -17980707.23 -17980707.14 -17980707.06 0.1736 0.1266

Neptune -53942-08-11 16:18 J -17980669.99 -17980669.82 -17980669.64 0.0089 0.0030

Neptune -53942-11-07 19:25 J -17980581.85 -17980581.69 -17980581.52 0.0089 0.0038

Neptune -53941-02-03 22:18 J -17980493.71 -17980493.57 -17980493.40 0.0089 0.0046

Mars -53941-04-29 03:21 J -17980408.46 -17980408.36 -17980408.25 0.1801 0.1339

Neptune -53941-05-02 01:25 J -17980405.57 -17980405.44 -17980405.28 0.0089 0.0054

Neptune -53941-07-29 04:33 J -17980317.42 -17980317.31 -17980317.16 0.0089 0.0062

Neptune -53941-10-25 07:40 J -17980229.27 -17980229.18 -17980229.05 0.0089 0.0070

Neptune -53940-01-21 10:47 J -17980141.12 -17980141.05 -17980140.94 0.0089 0.0078

Neptune -53940-04-19 14:09 J -17980052.94 -17980052.91 -17980052.85 0.0089 0.0086

Mars -53940-06-09 21:06 J -17980001.64 -17980001.62 -17980001.60 0.1769 0.1739

Jupiter -53939-01-08 22:18 J -17979788.71 -17979788.57 -17979788.43 0.0490 0.0293

Jupiter -53939-04-09 01:40 J -17979698.54 -17979698.43 -17979698.30 0.0491 0.0359

Saturn -53936-05-20 20:09 J -17978560.74 -17978560.66 -17978560.58 0.0278 0.0246

Saturn -53936-08-17 15:49 J -17978471.99 -17978471.84 -17978471.67 0.0277 0.0122

Saturn -53936-11-14 12:13 J -17978383.17 -17978382.99 -17978382.81 0.0276 0.0005

Saturn -53935-02-11 08:23 J -17978294.30 -17978294.15 -17978293.99 0.0275 0.0130

Saturn -53935-05-11 05:01 J -17978205.35 -17978205.29 -17978205.23 0.0274 0.0257

Jupiter -53934-12-11 21:49 J -17977625.71 -17977625.59 -17977625.47 0.0537 0.0214

Moon -53933-01-13 16:33 J -17977592.96 -17977592.81 -17977592.67 0.2666 0.0472

Earth -53933-01-13 17:59 J -17977592.90 -17977592.75 -17977592.61 0.2664 0.0425 *

Jupiter -53933-03-10 06:42 J -17977536.31 -17977536.22 -17977536.13 0.0536 0.0394

Mars -53931-10-31 05:59 J -17976571.35 -17976571.25 -17976571.15 0.1760 0.1003

Earth -53930-07-21 21:35 J -17976307.71 -17976307.60 -17976307.49 0.2671 0.0806

Moon -53930-07-21 22:18 J -17976307.67 -17976307.57 -17976307.46 0.2672 0.0829 *

Venus -53928-04-02 12:42 J -17975687.04 -17975686.97 -17975686.91 0.3770 0.2836

Jupiter -53928-10-27 21:35 J -17975478.67 -17975478.60 -17975478.53 0.0490 0.0445

Jupiter -53927-01-26 00:42 J -17975388.63 -17975388.47 -17975388.31 0.0491 0.0198

Moon -53923-07-14 17:30 J -17973757.85 -17973757.77 -17973757.70 0.2672 0.1929

Earth -53923-07-14 17:45 J -17973757.84 -17973757.76 -17973757.68 0.2666 0.1871 *

Venus -53923-10-17 04:33 J -17973663.41 -17973663.31 -17973663.21 0.3773 0.0750

Jupiter -53922-09-30 01:40 J -17973315.53 -17973315.43 -17973315.33 0.0537 0.0359

Jupiter -53922-12-28 10:33 J -17973226.17 -17973226.06 -17973225.94 0.0536 0.0255

Mars -53921-03-22 14:52 J -17973141.00 -17973140.88 -17973140.76 0.1752 0.0273

Moon -53920-01-15 20:52 J -17972841.76 -17972841.63 -17972841.49 0.2667 0.1008

Earth -53920-01-15 21:35 J -17972841.73 -17972841.60 -17972841.46 0.2662 0.1157 *

Mars -53920-01-16 02:52 J -17972841.50 -17972841.38 -17972841.26 0.1782 0.1109 *

Saturn -53920-03-08 17:16 J -17972789.84 -17972789.78 -17972789.71 0.0282 0.0249

Saturn -53920-06-05 05:59 J -17972701.36 -17972701.25 -17972701.13 0.0283 0.0144

Venus -53920-07-20 17:45 J -17972655.91 -17972655.76 -17972655.61 0.3605 0.1240

Saturn -53920-09-01 18:42 J -17972612.86 -17972612.72 -17972612.58 0.0284 0.0039

Saturn -53920-11-29 07:11 J -17972524.33 -17972524.20 -17972524.07 0.0285 0.0067

Saturn -53919-02-25 19:40 J -17972435.79 -17972435.68 -17972435.57 0.0286 0.0171

Saturn -53919-05-25 07:54 J -17972347.20 -17972347.17 -17972347.13 0.0287 0.0276

Uranus -53918-09-14 02:09 J -17971870.51 -17971870.41 -17971870.30 0.0147 0.0118

Uranus -53918-12-11 10:04 J -17971782.22 -17971782.08 -17971781.92 0.0147 0.0085

Uranus -53917-03-08 18:13 J -17971693.91 -17971693.74 -17971693.56 0.0146 0.0053

Venus -53917-05-01 20:23 J -17971639.75 -17971639.65 -17971639.56 0.3777 0.1336

Uranus -53917-06-05 02:23 J -17971605.58 -17971605.40 -17971605.21 0.0146 0.0020

Earth -53917-07-23 16:18 J -17971556.91 -17971556.82 -17971556.73 0.2673 0.1722

Moon -53917-07-23 16:47 J -17971556.88 -17971556.80 -17971556.72 0.2667 0.1789 *

Uranus -53917-09-01 10:47 J -17971517.24 -17971517.05 -17971516.87 0.0146 0.0014

Uranus -53917-11-28 18:57 J -17971428.89 -17971428.71 -17971428.53 0.0146 0.0047

Pluto -53916-02-14 19:40 J -17971350.71 -17971350.68 -17971350.64 0.0062 0.0060

Uranus -53916-02-25 03:06 J -17971340.52 -17971340.37 -17971340.21 0.0146 0.0081

Pluto -53916-05-13 20:23 J -17971262.70 -17971262.65 -17971262.56 0.0062 0.0056

Uranus -53916-05-24 11:16 J -17971252.13 -17971252.03 -17971251.90 0.0146 0.0114

Pluto -53916-08-09 21:21 J -17971174.68 -17971174.61 -17971174.49 0.0062 0.0052

Pluto -53916-11-05 22:33 J -17971086.65 -17971086.56 -17971086.43 0.0062 0.0047

Jupiter -53916-11-13 23:16 J -17971078.70 -17971078.53 -17971078.35 0.0491 0.0040

Pluto -53915-02-01 23:30 J -17970998.62 -17970998.52 -17970998.37 0.0062 0.0043

Pluto -53915-05-01 00:57 J -17970910.59 -17970910.46 -17970910.32 0.0062 0.0038

Pluto -53915-07-28 02:09 J -17970822.55 -17970822.41 -17970822.26 0.0062 0.0034

Pluto -53915-10-24 03:06 J -17970734.51 -17970734.37 -17970734.21 0.0062 0.0029

Pluto -53914-01-20 04:18 J -17970646.47 -17970646.32 -17970646.15 0.0062 0.0025

Pluto -53914-04-18 05:45 J -17970558.43 -17970558.26 -17970558.10 0.0062 0.0020

Pluto -53914-07-15 06:28 J -17970470.39 -17970470.23 -17970470.05 0.0062 0.0016

Pluto -53914-10-11 07:54 J -17970382.34 -17970382.17 -17970382.00 0.0062 0.0010

Pluto -53913-01-07 09:06 J -17970294.29 -17970294.12 -17970293.95 0.0063 0.0006

Pluto -53913-04-04 10:18 J -17970206.25 -17970206.07 -17970205.90 0.0063 0.0001

Pluto -53913-07-01 11:30 J -17970118.20 -17970118.02 -17970117.85 0.0063 0.0004

Pluto -53913-09-27 12:28 J -17970030.15 -17970029.98 -17970029.80 0.0063 0.0009

Pluto -53913-12-24 13:25 J -17969942.10 -17969941.94 -17969941.76 0.0063 0.0014

Pluto -53912-03-22 14:52 J -17969854.04 -17969853.88 -17969853.71 0.0063 0.0018

Pluto -53912-06-18 16:04 J -17969765.99 -17969765.83 -17969765.66 0.0063 0.0023

Mars -53912-08-12 23:45 J -17969710.63 -17969710.51 -17969710.39 0.1744 0.0455

Pluto -53912-09-14 17:01 J -17969677.93 -17969677.79 -17969677.62 0.0063 0.0029

Venus -53912-11-15 12:13 J -17969616.03 -17969615.99 -17969615.95 0.3781 0.3412

Pluto -53912-12-11 18:13 J -17969589.87 -17969589.74 -17969589.58 0.0063 0.0034

Pluto -53911-03-09 19:25 J -17969501.81 -17969501.69 -17969501.54 0.0063 0.0039

Pluto -53911-06-05 20:37 J -17969413.75 -17969413.64 -17969413.50 0.0063 0.0044

Mars -53911-06-08 03:21 J -17969411.51 -17969411.36 -17969411.20 0.1792 0.0051

Pluto -53911-09-01 21:49 J -17969325.68 -17969325.59 -17969325.46 0.0063 0.0049

Pluto -53911-11-28 23:01 J -17969237.61 -17969237.54 -17969237.43 0.0064 0.0054

Pluto -53910-02-25 00:28 J -17969149.53 -17969149.48 -17969149.40 0.0064 0.0059

Moon -53910-07-17 12:57 J -17969007.07 -17969006.96 -17969006.85 0.2674 0.0848

Earth -53910-07-17 12:57 J -17969007.07 -17969006.96 -17969006.86 0.2668 0.0912 *

Jupiter -53910-07-19 05:01 J -17969005.32 -17969005.29 -17969005.25 0.0536 0.0510

Jupiter -53910-10-16 14:23 J -17968916.03 -17968915.90 -17968915.77 0.0536 0.0106

Saturn -53906-01-04 13:11 J -17967740.08 -17967739.95 -17967739.81 0.0277 0.0173

Saturn -53906-04-03 09:21 J -17967651.29 -17967651.11 -17967650.94 0.0276 0.0049

Saturn -53906-07-01 05:30 J -17967562.44 -17967562.27 -17967562.10 0.0276 0.0078

Saturn -53906-09-28 01:54 J -17967473.53 -17967473.42 -17967473.30 0.0275 0.0205

Moon -53904-07-26 10:47 J -17966806.07 -17966806.05 -17966806.03 0.2669 0.2617

Earth -53904-07-26 10:47 J -17966806.06 -17966806.05 -17966806.03 0.2675 0.2626 *

Jupiter -53904-09-01 22:33 J -17966768.74 -17966768.56 -17966768.39 0.0491 0.0119

Mars -53902-01-03 08:37 J -17966280.23 -17966280.14 -17966280.05 0.1737 0.1177

Mars -53902-10-29 04:04 J -17965981.45 -17965981.33 -17965981.22 0.1800 0.1203

Moon -53900-01-10 19:25 J -17965541.80 -17965541.69 -17965541.59 0.2665 0.1798

Earth -53900-01-10 20:37 J -17965541.75 -17965541.64 -17965541.52 0.2666 0.1670 *

Jupiter -53898-08-04 17:30 J -17964605.90 -17964605.77 -17964605.64 0.0536 0.0051

Earth -53897-07-19 07:40 J -17964256.29 -17964256.18 -17964256.06 0.2669 0.0104

Moon -53897-07-19 08:23 J -17964256.26 -17964256.15 -17964256.03 0.2673 0.0096 *

Jupiter -53892-06-20 21:35 J -17962458.75 -17962458.60 -17962458.46 0.0491 0.0275

Jupiter -53892-09-19 01:11 J -17962368.56 -17962368.45 -17962368.33 0.0491 0.0378

Mars -53891-05-01 05:59 J -17962144.34 -17962144.25 -17962144.16 0.1761 0.1093

Saturn -53891-07-26 18:57 J -17962057.71 -17962057.71 -17962057.71 0.0282 0.0282

Saturn -53891-10-23 07:40 J -17961969.29 -17961969.18 -17961969.07 0.0283 0.0177

Saturn -53890-01-19 20:23 J -17961880.78 -17961880.65 -17961880.52 0.0284 0.0072

Saturn -53890-04-18 08:52 J -17961792.26 -17961792.13 -17961791.99 0.0285 0.0034

Earth -53890-07-13 03:35 J -17961706.35 -17961706.35 -17961706.35 0.2664 0.2664

Saturn -53890-07-15 21:21 J -17961703.73 -17961703.61 -17961703.49 0.0286 0.0139

Saturn -53890-10-12 09:49 J -17961615.16 -17961615.09 -17961615.02 0.0287 0.0243

Moon -53887-01-13 22:47 J -17960790.70 -17960790.55 -17960790.41 0.2666 0.0307

Earth -53887-01-14 00:13 J -17960790.64 -17960790.49 -17960790.35 0.2664 0.0149 *

Jupiter -53886-05-23 20:52 J -17960295.75 -17960295.63 -17960295.51 0.0536 0.0204

Jupiter -53886-08-21 05:30 J -17960206.35 -17960206.27 -17960206.18 0.0536 0.0403

Earth -53884-07-22 02:37 J -17959505.50 -17959505.39 -17959505.29 0.2671 0.0975

Moon -53884-07-22 03:21 J -17959505.47 -17959505.36 -17959505.26 0.2670 0.1099 *

Mars -53882-09-21 14:52 J -17958714.00 -17958713.88 -17958713.76 0.1753 0.0370

Mars -53881-07-17 03:21 J -17958414.47 -17958414.36 -17958414.25 0.1782 0.1245

Jupiter -53880-04-08 20:09 J -17958148.73 -17958148.66 -17958148.58 0.0490 0.0435

Jupiter -53880-07-07 23:16 J -17958058.69 -17958058.53 -17958058.36 0.0490 0.0210

Saturn -53877-05-23 13:11 J -17957008.06 -17957007.95 -17957007.83 0.0278 0.0208

Moon -53877-07-14 22:33 J -17956955.65 -17956955.56 -17956955.48 0.2673 0.1722

Earth -53877-07-14 22:47 J -17956955.64 -17956955.55 -17956955.46 0.2666 0.1687 *

Saturn -53877-08-20 09:21 J -17956919.28 -17956919.11 -17956918.94 0.0277 0.0082

Saturn -53877-11-17 05:30 J -17956830.44 -17956830.27 -17956830.09 0.0276 0.0044

Saturn -53876-02-14 01:54 J -17956741.56 -17956741.42 -17956741.28 0.0275 0.0171

Uranus -53876-12-27 12:42 J -17956425.01 -17956424.97 -17956424.93 0.0132 0.0125

Uranus -53875-03-25 15:49 J -17956336.91 -17956336.84 -17956336.76 0.0132 0.0107

Uranus -53875-06-21 18:57 J -17956248.80 -17956248.71 -17956248.61 0.0132 0.0090

Uranus -53875-09-17 22:04 J -17956160.69 -17956160.58 -17956160.46 0.0132 0.0072

Uranus -53875-12-15 01:11 J -17956072.57 -17956072.45 -17956072.32 0.0132 0.0055

Moon -53874-01-17 03:21 J -17956039.48 -17956039.36 -17956039.24 0.2668 0.1481

Earth -53874-01-17 03:49 J -17956039.46 -17956039.34 -17956039.21 0.2661 0.1440 *

Jupiter -53874-03-12 00:13 J -17955985.59 -17955985.49 -17955985.39 0.0537 0.0357

Uranus -53874-03-13 04:18 J -17955984.44 -17955984.32 -17955984.18 0.0132 0.0037

Uranus -53874-06-09 07:25 J -17955896.32 -17955896.19 -17955896.05 0.0132 0.0020

Jupiter -53874-06-09 09:21 J -17955896.22 -17955896.11 -17955896.00 0.0536 0.0257 *

Uranus -53874-09-05 10:33 J -17955808.19 -17955808.06 -17955807.92 0.0132 0.0004

Uranus -53874-12-02 13:40 J -17955720.06 -17955719.93 -17955719.79 0.0132 0.0016

Uranus -53873-02-28 16:47 J -17955631.93 -17955631.80 -17955631.67 0.0132 0.0034

Uranus -53873-05-26 19:40 J -17955543.80 -17955543.68 -17955543.55 0.0132 0.0052

Uranus -53873-08-22 22:47 J -17955455.66 -17955455.55 -17955455.43 0.0132 0.0069

Uranus -53873-11-19 01:54 J -17955367.52 -17955367.42 -17955367.32 0.0133 0.0086

Mars -53872-02-10 23:45 J -17955283.63 -17955283.51 -17955283.39 0.1744 0.0362

Uranus -53872-02-15 04:47 J -17955279.37 -17955279.30 -17955279.21 0.0133 0.0104

Uranus -53872-05-14 07:54 J -17955191.22 -17955191.17 -17955191.11 0.0133 0.0121

Venus -53872-11-07 10:04 J -17955014.16 -17955014.08 -17955013.99 0.3771 0.2065

Mars -53872-12-07 03:49 J -17954984.50 -17954984.34 -17954984.19 0.1791 0.0083

Earth -53871-07-24 21:21 J -17954754.69 -17954754.61 -17954754.53 0.2673 0.1896

Moon -53871-07-24 21:49 J -17954754.67 -17954754.59 -17954754.51 0.2668 0.1894 *

Jupiter -53868-04-25 22:18 J -17953748.74 -17953748.57 -17953748.39 0.0490 0.0052

Venus -53866-05-24 01:54 J -17952990.52 -17952990.42 -17952990.32 0.3774 0.0055

Earth -53864-07-17 17:45 J -17952204.87 -17952204.76 -17952204.65 0.2668 0.0730

Moon -53864-07-17 18:13 J -17952204.85 -17952204.74 -17952204.63 0.2674 0.0730 *

Venus -53863-02-24 19:54 J -17951982.83 -17951982.67 -17951982.52 0.3604 0.0776

Neptune -53863-04-07 06:57 J -17951941.24 -17951941.21 -17951941.15 0.0088 0.0084

Mars -53863-07-04 08:37 J -17951853.23 -17951853.14 -17951853.04 0.1737 0.1078

Neptune -53863-07-04 08:37 J -17951853.20 -17951853.14 -17951853.06 0.0089 0.0077 *

Neptune -53863-09-30 10:04 J -17951765.15 -17951765.08 -17951764.98 0.0089 0.0072

Neptune -53863-12-27 11:59 J -17951677.09 -17951677.00 -17951676.90 0.0089 0.0065

Jupiter -53863-12-29 03:49 J -17951675.38 -17951675.34 -17951675.29 0.0537 0.0503

Neptune -53862-03-25 13:40 J -17951589.03 -17951588.93 -17951588.82 0.0089 0.0059

Jupiter -53862-03-28 13:11 J -17951586.07 -17951585.95 -17951585.82 0.0536 0.0117

Mars -53862-04-29 04:18 J -17951554.44 -17951554.32 -17951554.20 0.1800 0.1085

Neptune -53862-06-21 15:06 J -17951500.97 -17951500.87 -17951500.75 0.0089 0.0053

Neptune -53862-09-17 16:47 J -17951412.92 -17951412.80 -17951412.68 0.0089 0.0047

Neptune -53862-12-14 18:13 J -17951324.86 -17951324.74 -17951324.60 0.0089 0.0041

Saturn -53861-03-11 08:37 J -17951237.23 -17951237.14 -17951237.05 0.0282 0.0216

Neptune -53861-03-11 19:54 J -17951236.79 -17951236.67 -17951236.53 0.0089 0.0034

Saturn -53861-06-07 21:21 J -17951148.74 -17951148.61 -17951148.48 0.0283 0.0112

Neptune -53861-06-07 21:21 J -17951148.73 -17951148.61 -17951148.46 0.0089 0.0029 *

Neptune -53861-09-03 23:01 J -17951060.67 -17951060.54 -17951060.40 0.0089 0.0023

Saturn -53861-09-04 09:49 J -17951060.22 -17951060.09 -17951059.95 0.0284 0.0008

Neptune -53861-12-01 00:42 J -17950972.61 -17950972.47 -17950972.33 0.0089 0.0016

Saturn -53861-12-01 22:18 J -17950971.70 -17950971.57 -17950971.44 0.0285 0.0098

Venus -53861-12-06 17:45 J -17950966.84 -17950966.76 -17950966.67 0.3778 0.2104

Neptune -53860-02-27 02:09 J -17950884.54 -17950884.41 -17950884.26 0.0089 0.0011

Saturn -53860-02-28 10:33 J -17950883.15 -17950883.06 -17950882.96 0.0286 0.0202

Neptune -53860-05-26 03:49 J -17950796.48 -17950796.34 -17950796.20 0.0089 0.0004

Neptune -53860-08-22 05:30 J -17950708.41 -17950708.27 -17950708.13 0.0089 0.0003

Neptune -53860-11-18 06:57 J -17950620.35 -17950620.21 -17950620.07 0.0089 0.0008

Neptune -53859-02-14 08:23 J -17950532.28 -17950532.15 -17950532.01 0.0089 0.0014

Neptune -53859-05-13 09:49 J -17950444.22 -17950444.09 -17950443.95 0.0089 0.0020

Neptune -53859-08-09 11:30 J -17950356.15 -17950356.02 -17950355.89 0.0089 0.0026

Neptune -53859-11-05 12:57 J -17950268.09 -17950267.96 -17950267.83 0.0089 0.0032

Neptune -53858-02-01 14:23 J -17950180.02 -17950179.90 -17950179.77 0.0089 0.0038

Neptune -53858-04-30 15:49 J -17950091.95 -17950091.84 -17950091.71 0.0089 0.0044

Neptune -53858-07-27 17:30 J -17950003.88 -17950003.77 -17950003.65 0.0089 0.0050

Neptune -53858-10-23 18:57 J -17949915.81 -17949915.71 -17949915.60 0.0089 0.0056

Neptune -53857-01-19 20:23 J -17949827.74 -17949827.65 -17949827.55 0.0089 0.0061

Neptune -53857-04-16 21:35 J -17949739.67 -17949739.60 -17949739.49 0.0089 0.0068

Neptune -53857-07-13 23:30 J -17949651.60 -17949651.52 -17949651.44 0.0089 0.0073

Neptune -53857-10-10 00:42 J -17949563.52 -17949563.47 -17949563.40 0.0089 0.0079

Neptune -53856-01-06 02:09 J -17949475.44 -17949475.41 -17949475.36 0.0089 0.0085

Jupiter -53856-02-11 21:06 J -17949438.79 -17949438.62 -17949438.44 0.0490 0.0108

Moon -53854-01-12 01:25 J -17948739.56 -17948739.44 -17948739.32 0.2665 0.1461

Earth -53854-01-12 02:52 J -17948739.51 -17948739.38 -17948739.26 0.2665 0.1396 *

Mars -53852-10-30 05:59 J -17947717.34 -17947717.25 -17947717.16 0.1761 0.1187

Earth -53851-07-20 12:42 J -17947454.08 -17947453.97 -17947453.85 0.2670 0.0222

Moon -53851-07-20 13:25 J -17947454.05 -17947453.94 -17947453.83 0.2673 0.0344 *

Jupiter -53850-01-14 17:01 J -17947275.92 -17947275.79 -17947275.66 0.0536 0.0031

Saturn -53848-10-10 10:04 J -17946276.13 -17946276.08 -17946276.02 0.0278 0.0261

Saturn -53847-01-07 05:59 J -17946187.40 -17946187.25 -17946187.10 0.0277 0.0137

Saturn -53847-04-06 02:09 J -17946098.59 -17946098.41 -17946098.23 0.0277 0.0011

Saturn -53847-07-03 22:33 J -17946009.72 -17946009.56 -17946009.40 0.0276 0.0116

Saturn -53847-09-30 18:57 J -17945920.78 -17945920.71 -17945920.62 0.0275 0.0243

Jupiter -53845-11-30 20:23 J -17945128.80 -17945128.65 -17945128.50 0.0491 0.0262

Jupiter -53844-02-28 23:59 J -17945038.60 -17945038.50 -17945038.39 0.0491 0.0391

Moon -53844-07-13 07:54 J -17944904.19 -17944904.17 -17944904.14 0.2668 0.2594

Earth -53844-07-13 08:37 J -17944904.18 -17944904.14 -17944904.10 0.2665 0.2480 *

Mars -53842-03-22 14:52 J -17944287.00 -17944286.88 -17944286.76 0.1753 0.0451

Moon -53841-01-15 05:01 J -17943988.44 -17943988.29 -17943988.15 0.2666 0.0071

Earth -53841-01-15 06:13 J -17943988.39 -17943988.24 -17943988.09 0.2663 0.0145 *

Mars -53841-01-16 04:04 J -17943987.42 -17943987.33 -17943987.23 0.1782 0.1387

Jupiter -53839-11-02 20:09 J -17942965.78 -17942965.66 -17942965.54 0.0536 0.0188

Jupiter -53838-01-31 04:47 J -17942876.38 -17942876.30 -17942876.22 0.0536 0.0417

Earth -53838-07-23 07:25 J -17942703.29 -17942703.19 -17942703.08 0.2672 0.1154

Moon -53838-07-23 08:09 J -17942703.26 -17942703.16 -17942703.05 0.2669 0.1146 *

Uranus -53834-07-08 01:54 J -17941257.46 -17941257.42 -17941257.35 0.0147 0.0140

Uranus -53834-10-04 10:18 J -17941169.19 -17941169.07 -17941168.94 0.0147 0.0107

Uranus -53834-12-31 18:28 J -17941080.89 -17941080.73 -17941080.57 0.0147 0.0074

Uranus -53833-03-29 02:23 J -17940992.57 -17940992.40 -17940992.21 0.0146 0.0042

Uranus -53833-06-25 10:47 J -17940904.24 -17940904.05 -17940903.87 0.0146 0.0008

Mars -53833-08-11 23:59 J -17940856.62 -17940856.50 -17940856.38 0.1745 0.0267

Jupiter -53833-09-18 19:25 J -17940818.77 -17940818.69 -17940818.59 0.0491 0.0417

Uranus -53833-09-21 18:57 J -17940815.90 -17940815.71 -17940815.53 0.0146 0.0025

Jupiter -53833-12-17 22:47 J -17940728.71 -17940728.55 -17940728.39 0.0491 0.0230

Uranus -53833-12-19 03:06 J -17940727.54 -17940727.37 -17940727.20 0.0146 0.0059

Uranus -53832-03-17 11:16 J -17940639.17 -17940639.03 -17940638.88 0.0146 0.0092

Mars -53832-06-07 04:18 J -17940557.47 -17940557.32 -17940557.17 0.1791 0.0214

Uranus -53832-06-13 19:40 J -17940550.77 -17940550.68 -17940550.58 0.0146 0.0126

Saturn -53832-07-29 09:49 J -17940505.14 -17940505.09 -17940505.02 0.0282 0.0252

Saturn -53832-10-25 22:47 J -17940416.67 -17940416.55 -17940416.44 0.0283 0.0147

Saturn -53831-01-22 11:16 J -17940328.16 -17940328.03 -17940327.89 0.0284 0.0042

Saturn -53831-04-20 23:45 J -17940239.64 -17940239.51 -17940239.37 0.0285 0.0064

Moon -53831-07-16 03:35 J -17940153.45 -17940153.35 -17940153.26 0.2673 0.1526

Earth -53831-07-16 03:49 J -17940153.44 -17940153.34 -17940153.25 0.2666 0.1505 *

Saturn -53831-07-18 12:13 J -17940151.10 -17940150.99 -17940150.88 0.0286 0.0168

Saturn -53831-10-15 00:28 J -17940062.52 -17940062.48 -17940062.44 0.0287 0.0272

Moon -53828-01-17 09:35 J -17939237.21 -17939237.10 -17939236.98 0.2668 0.1620

Earth -53828-01-17 10:04 J -17939237.19 -17939237.08 -17939236.97 0.2661 0.1728 *

Jupiter -53827-08-21 23:30 J -17938655.62 -17938655.52 -17938655.42 0.0536 0.0342

Jupiter -53827-11-19 08:23 J -17938566.26 -17938566.15 -17938566.04 0.0536 0.0270

Pluto -53825-04-24 08:23 J -17938044.17 -17938044.15 -17938044.11 0.0082 0.0081

Pluto -53825-07-21 09:49 J -17937956.14 -17937956.09 -17937956.00 0.0082 0.0072

Earth -53825-07-25 02:09 J -17937952.48 -17937952.41 -17937952.34 0.2674 0.2061

Moon -53825-07-25 02:37 J -17937952.46 -17937952.39 -17937952.33 0.2668 0.2134 *

Pluto -53825-10-17 11:59 J -17937868.10 -17937868.00 -17937867.91 0.0082 0.0062

Pluto -53824-01-13 13:25 J -17937780.05 -17937779.94 -17937779.82 0.0082 0.0052

Pluto -53824-04-11 15:06 J -17937691.99 -17937691.87 -17937691.74 0.0082 0.0043

Pluto -53824-07-08 16:47 J -17937603.93 -17937603.80 -17937603.67 0.0082 0.0034

Pluto -53824-10-04 18:13 J -17937515.88 -17937515.74 -17937515.60 0.0082 0.0025

Pluto -53824-12-31 19:54 J -17937427.81 -17937427.67 -17937427.53 0.0082 0.0016

Mars -53823-01-02 08:52 J -17937426.24 -17937426.13 -17937426.03 0.1737 0.0987

Pluto -53823-03-29 21:21 J -17937339.75 -17937339.61 -17937339.46 0.0081 0.0007

Pluto -53823-06-25 23:01 J -17937251.69 -17937251.54 -17937251.40 0.0081 0.0002

Pluto -53823-09-22 00:28 J -17937163.62 -17937163.48 -17937163.34 0.0081 0.0010

Mars -53823-10-28 04:47 J -17937127.43 -17937127.30 -17937127.17 0.1800 0.0950

Pluto -53823-12-19 01:54 J -17937075.56 -17937075.42 -17937075.28 0.0081 0.0019

Pluto -53822-03-17 03:21 J -17936987.49 -17936987.36 -17936987.22 0.0081 0.0028

Pluto -53822-06-13 05:01 J -17936899.42 -17936899.29 -17936899.16 0.0081 0.0036

Pluto -53822-09-09 06:13 J -17936811.35 -17936811.24 -17936811.11 0.0081 0.0045

Pluto -53822-12-06 07:40 J -17936723.28 -17936723.18 -17936723.07 0.0080 0.0053

Moon -53821-01-10 04:47 J -17936688.33 -17936688.30 -17936688.27 0.2663 0.2603

Earth -53821-01-10 05:45 J -17936688.28 -17936688.26 -17936688.23 0.2667 0.2619 *

Pluto -53821-03-03 08:52 J -17936635.21 -17936635.13 -17936635.02 0.0080 0.0062

Pluto -53821-05-30 10:33 J -17936547.12 -17936547.06 -17936546.98 0.0080 0.0069

Pluto -53821-08-26 11:59 J -17936459.03 -17936459.00 -17936458.96 0.0080 0.0077

Jupiter -53821-10-05 21:06 J -17936418.79 -17936418.62 -17936418.44 0.0490 0.0068

Venus -53821-11-28 15:35 J -17936364.89 -17936364.85 -17936364.81 0.3768 0.3396

Saturn -53818-05-27 05:59 J -17935455.39 -17935455.25 -17935455.12 0.0278 0.0172

Earth -53818-07-18 22:47 J -17935402.66 -17935402.55 -17935402.43 0.2668 0.0549

Moon -53818-07-18 23:16 J -17935402.64 -17935402.53 -17935402.42 0.2674 0.0499 *

Saturn -53818-08-24 01:54 J -17935366.59 -17935366.42 -17935366.24 0.0277 0.0047

Saturn -53818-11-20 22:18 J -17935277.74 -17935277.57 -17935277.40 0.0276 0.0080

Saturn -53817-02-17 18:42 J -17935188.83 -17935188.72 -17935188.60 0.0275 0.0207

Jupiter -53815-06-10 02:37 J -17934345.44 -17934345.39 -17934345.35 0.0537 0.0499

Venus -53815-06-14 07:25 J -17934341.28 -17934341.19 -17934341.09 0.3771 0.1317

Jupiter -53815-09-07 11:59 J -17934256.13 -17934256.00 -17934255.88 0.0537 0.0121

Mars -53814-05-25 17:30 J -17933995.78 -17933995.77 -17933995.75 0.1729 0.1702

Venus -53812-03-17 13:11 J -17933334.03 -17933333.95 -17933333.87 0.3608 0.3060

Mars -53812-04-30 05:59 J -17933290.33 -17933290.25 -17933290.17 0.1761 0.1274

Venus -53810-12-28 23:30 J -17932317.62 -17932317.52 -17932317.42 0.3775 0.0791

Jupiter -53809-07-24 20:23 J -17932108.82 -17932108.65 -17932108.47 0.0490 0.0090

Moon -53808-01-12 07:25 J -17931937.31 -17931937.19 -17931937.06 0.2664 0.1300

Earth -53808-01-12 08:52 J -17931937.26 -17931937.13 -17931936.99 0.2665 0.1122 *

Venus -53807-10-01 21:49 J -17931309.69 -17931309.59 -17931309.49 0.3603 0.2790

Earth -53805-07-20 17:45 J -17930651.87 -17930651.76 -17930651.65 0.2670 0.0395

Moon -53805-07-20 18:28 J -17930651.84 -17930651.73 -17930651.62 0.2672 0.0410 *

Venus -53804-07-13 15:21 J -17930293.93 -17930293.86 -17930293.80 0.3779 0.2862

Jupiter -53803-06-26 15:49 J -17929945.97 -17929945.84 -17929945.71 0.0537 0.0022

Mars -53803-09-20 15:06 J -17929859.99 -17929859.87 -17929859.76 0.1753 0.0553

Saturn -53802-03-14 23:45 J -17929684.61 -17929684.51 -17929684.40 0.0282 0.0185

Saturn -53802-06-11 12:28 J -17929596.11 -17929595.98 -17929595.85 0.0283 0.0080

Mars -53802-07-17 04:18 J -17929560.40 -17929560.32 -17929560.24 0.1782 0.1504

Saturn -53802-09-08 00:57 J -17929507.60 -17929507.46 -17929507.32 0.0284 0.0025

Saturn -53802-12-05 13:25 J -17929419.06 -17929418.94 -17929418.82 0.0285 0.0129

Saturn -53801-03-03 01:25 J -17929330.51 -17929330.44 -17929330.35 0.0286 0.0233

Moon -53798-07-14 12:57 J -17928102.01 -17928101.96 -17928101.90 0.2670 0.2292

Earth -53798-07-14 13:40 J -17928101.99 -17928101.93 -17928101.87 0.2665 0.2294 *

Jupiter -53797-05-12 19:11 J -17927798.85 -17927798.70 -17927798.54 0.0490 0.0249

Jupiter -53797-08-10 22:47 J -17927708.65 -17927708.55 -17927708.45 0.0491 0.0404

Moon -53795-01-15 11:16 J -17927186.17 -17927186.03 -17927185.88 0.2667 0.0360

Earth -53795-01-15 12:28 J -17927186.13 -17927185.98 -17927185.84 0.2663 0.0423 *

Mars -53793-02-10 23:59 J -17926429.63 -17926429.50 -17926429.38 0.1745 0.0187

Mars -53793-12-06 04:47 J -17926130.45 -17926130.30 -17926130.15 0.1791 0.0346

Earth -53792-07-23 12:28 J -17925901.08 -17925900.98 -17925900.88 0.2672 0.1318

Moon -53792-07-23 13:11 J -17925901.05 -17925900.95 -17925900.85 0.2669 0.1445 *

Uranus -53791-01-16 20:09 J -17925723.71 -17925723.66 -17925723.60 0.0132 0.0119

Jupiter -53791-04-14 19:25 J -17925635.81 -17925635.69 -17925635.56 0.0537 0.0170

Uranus -53791-04-14 23:16 J -17925635.61 -17925635.53 -17925635.44 0.0132 0.0101 *

Uranus -53791-07-12 02:37 J -17925547.50 -17925547.39 -17925547.29 0.0132 0.0083

Jupiter -53791-07-13 04:18 J -17925546.39 -17925546.32 -17925546.25 0.0536 0.0438

Uranus -53791-10-08 05:30 J -17925459.38 -17925459.27 -17925459.14 0.0132 0.0066

Uranus -53790-01-04 08:52 J -17925371.26 -17925371.13 -17925371.00 0.0132 0.0048

Uranus -53790-04-02 11:59 J -17925283.13 -17925283.00 -17925282.87 0.0132 0.0030

Uranus -53790-06-29 15:06 J -17925195.01 -17925194.87 -17925194.74 0.0132 0.0013

Uranus -53790-09-25 18:13 J -17925106.88 -17925106.74 -17925106.61 0.0132 0.0005

Uranus -53790-12-22 21:21 J -17925018.75 -17925018.61 -17925018.48 0.0132 0.0023

Uranus -53789-03-20 00:13 J -17924930.61 -17924930.49 -17924930.36 0.0132 0.0040

Uranus -53789-06-16 03:21 J -17924842.48 -17924842.36 -17924842.24 0.0132 0.0057

Uranus -53789-09-12 06:28 J -17924754.34 -17924754.23 -17924754.12 0.0132 0.0075

Saturn -53789-10-13 02:09 J -17924723.50 -17924723.41 -17924723.30 0.0278 0.0229

Uranus -53789-12-09 09:21 J -17924666.20 -17924666.11 -17924666.01 0.0133 0.0092

Saturn -53788-01-09 22:18 J -17924634.73 -17924634.57 -17924634.40 0.0277 0.0103

Uranus -53788-03-07 12:28 J -17924578.05 -17924577.98 -17924577.90 0.0133 0.0110

Saturn -53788-04-08 18:42 J -17924545.90 -17924545.72 -17924545.55 0.0277 0.0024

Uranus -53788-06-03 15:21 J -17924489.89 -17924489.86 -17924489.82 0.0133 0.0127

Saturn -53788-07-06 15:06 J -17924457.02 -17924456.87 -17924456.72 0.0276 0.0151

Jupiter -53785-02-29 18:28 J -17923488.82 -17923488.73 -17923488.63 0.0490 0.0402

Jupiter -53785-05-29 21:35 J -17923398.75 -17923398.60 -17923398.44 0.0491 0.0245

Moon -53785-07-16 08:37 J -17923351.24 -17923351.14 -17923351.04 0.2673 0.1371

Earth -53785-07-16 08:52 J -17923351.23 -17923351.13 -17923351.03 0.2667 0.1328 *

Mars -53784-07-03 08:52 J -17922999.24 -17922999.13 -17922999.03 0.1737 0.0894

Mars -53783-04-28 05:30 J -17922700.41 -17922700.27 -17922700.14 0.1800 0.0811

Moon -53782-01-18 15:49 J -17922434.93 -17922434.84 -17922434.75 0.2667 0.2040

Earth -53782-01-18 16:18 J -17922434.91 -17922434.82 -17922434.72 0.2661 0.2012 *

Neptune -53781-09-23 17:01 J -17921820.83 -17921820.79 -17921820.71 0.0089 0.0084

Neptune -53781-12-20 20:09 J -17921732.74 -17921732.66 -17921732.56 0.0089 0.0076

Neptune -53780-03-18 23:01 J -17921644.64 -17921644.54 -17921644.41 0.0089 0.0069

Neptune -53780-06-15 02:09 J -17921556.53 -17921556.41 -17921556.27 0.0089 0.0061

Neptune -53780-09-11 05:16 J -17921468.42 -17921468.28 -17921468.14 0.0089 0.0053

Neptune -53780-12-08 07:54 J -17921380.31 -17921380.17 -17921380.00 0.0089 0.0046

Jupiter -53779-01-31 22:33 J -17921325.66 -17921325.56 -17921325.45 0.0536 0.0327

Neptune -53779-03-06 11:01 J -17921292.20 -17921292.04 -17921291.87 0.0089 0.0038

Jupiter -53779-05-01 07:40 J -17921236.29 -17921236.18 -17921236.07 0.0536 0.0286

Neptune -53779-06-02 13:54 J -17921204.08 -17921203.92 -17921203.74 0.0089 0.0031

Moon -53779-07-26 07:25 J -17921150.26 -17921150.19 -17921150.13 0.2668 0.2183

Earth -53779-07-26 07:11 J -17921150.26 -17921150.20 -17921150.14 0.2674 0.2230 *

Neptune -53779-08-29 17:01 J -17921115.96 -17921115.79 -17921115.61 0.0089 0.0023

Neptune -53779-11-25 20:09 J -17921027.84 -17921027.66 -17921027.48 0.0089 0.0015

Neptune -53778-02-21 23:16 J -17920939.71 -17920939.53 -17920939.35 0.0089 0.0007

Neptune -53778-05-21 02:09 J -17920851.59 -17920851.41 -17920851.22 0.0089 0.0002

Neptune -53778-08-17 05:16 J -17920763.46 -17920763.28 -17920763.10 0.0089 0.0008

Neptune -53778-11-13 08:09 J -17920675.33 -17920675.16 -17920674.97 0.0089 0.0017

Neptune -53777-02-09 11:30 J -17920587.20 -17920587.02 -17920586.85 0.0089 0.0024

Neptune -53777-05-07 14:23 J -17920499.06 -17920498.90 -17920498.72 0.0089 0.0032

Neptune -53777-08-03 17:30 J -17920410.93 -17920410.77 -17920410.60 0.0089 0.0040

Neptune -53777-10-30 20:37 J -17920322.79 -17920322.64 -17920322.48 0.0089 0.0048

Neptune -53776-01-26 23:45 J -17920234.65 -17920234.51 -17920234.36 0.0089 0.0056

Neptune -53776-04-25 02:37 J -17920146.50 -17920146.39 -17920146.25 0.0089 0.0064

Neptune -53776-07-22 05:45 J -17920058.35 -17920058.26 -17920058.14 0.0089 0.0072

Neptune -53776-10-18 08:52 J -17919970.19 -17919970.13 -17919970.03 0.0089 0.0080

Moon -53775-01-10 10:47 J -17919886.10 -17919886.05 -17919886.01 0.2664 0.2528

Earth -53775-01-10 11:59 J -17919886.07 -17919886.00 -17919885.94 0.2667 0.2347 *

Neptune -53775-01-14 12:13 J -17919882.00 -17919881.99 -17919881.95 0.0089 0.0088

Mars -53775-11-23 17:45 J -17919568.81 -17919568.76 -17919568.72 0.1729 0.1606

Jupiter -53773-03-17 20:37 J -17919088.82 -17919088.64 -17919088.46 0.0491 0.0085

Saturn -53773-08-01 00:57 J -17918952.54 -17918952.46 -17918952.37 0.0282 0.0221

Saturn -53773-10-28 13:40 J -17918864.05 -17918863.93 -17918863.80 0.0283 0.0116

Mars -53773-10-29 06:13 J -17918863.32 -17918863.24 -17918863.17 0.1761 0.1370

Saturn -53772-01-25 02:09 J -17918775.54 -17918775.41 -17918775.27 0.0284 0.0015

Saturn -53772-04-23 14:37 J -17918687.01 -17918686.89 -17918686.76 0.0285 0.0094

Earth -53772-07-19 03:49 J -17918600.45 -17918600.34 -17918600.23 0.2669 0.0371

Moon -53772-07-19 04:18 J -17918600.43 -17918600.32 -17918600.21 0.2675 0.0328 *

Saturn -53772-07-21 03:06 J -17918598.47 -17918598.37 -17918598.27 0.0286 0.0197

Jupiter -53768-11-20 01:54 J -17917015.48 -17917015.42 -17917015.37 0.0536 0.0482

Jupiter -53767-02-17 11:16 J -17916926.16 -17916926.03 -17916925.91 0.0536 0.0136

Venus -53764-07-05 13:11 J -17915692.02 -17915691.95 -17915691.88 0.3769 0.2633

Mars -53763-03-21 15:06 J -17915432.98 -17915432.87 -17915432.76 0.1753 0.0643

Moon -53762-01-13 13:40 J -17915135.07 -17915134.93 -17915134.80 0.2664 0.0891

Earth -53762-01-13 15:06 J -17915135.01 -17915134.87 -17915134.73 0.2665 0.0853 *

Mars -53762-01-15 04:47 J -17915133.35 -17915133.30 -17915133.24 0.1782 0.1638

Jupiter -53761-01-04 19:25 J -17914778.87 -17914778.69 -17914778.52 0.0490 0.0075

Saturn -53759-03-02 01:54 J -17913991.46 -17913991.42 -17913991.36 0.0279 0.0265

Saturn -53759-05-29 22:04 J -17913902.73 -17913902.58 -17913902.43 0.0278 0.0140

Earth -53759-07-21 22:47 J -17913849.67 -17913849.55 -17913849.44 0.2670 0.0573

Moon -53759-07-21 23:30 J -17913849.63 -17913849.52 -17913849.41 0.2671 0.0661 *

Saturn -53759-08-26 18:13 J -17913813.91 -17913813.74 -17913813.56 0.0277 0.0014

Saturn -53759-11-23 14:37 J -17913725.05 -17913724.89 -17913724.72 0.0276 0.0114

Venus -53758-01-19 05:01 J -17913668.39 -17913668.29 -17913668.19 0.3772 0.0542

Saturn -53758-02-20 11:16 J -17913636.11 -17913636.03 -17913635.94 0.0275 0.0241

Venus -53756-10-22 15:21 J -17912661.01 -17912660.86 -17912660.71 0.3607 0.1080

Jupiter -53756-12-06 14:23 J -17912616.03 -17912615.90 -17912615.77 0.0537 0.0022

Mars -53754-08-11 23:59 J -17912002.62 -17912002.50 -17912002.38 0.1745 0.0082

Mars -53753-06-06 05:16 J -17911703.43 -17911703.28 -17911703.13 0.1791 0.0478

Venus -53753-08-03 20:52 J -17911644.72 -17911644.63 -17911644.54 0.3776 0.1556

Moon -53752-07-14 17:59 J -17911299.81 -17911299.75 -17911299.69 0.2670 0.2239

Earth -53752-07-14 18:42 J -17911299.79 -17911299.72 -17911299.65 0.2665 0.2111 *

Uranus -53750-07-28 10:47 J -17910556.13 -17910556.05 -17910555.95 0.0147 0.0127

Jupiter -53750-10-23 18:42 J -17910468.88 -17910468.72 -17910468.57 0.0490 0.0229

Uranus -53750-10-24 18:57 J -17910467.85 -17910467.71 -17910467.57 0.0147 0.0094

Moon -53749-01-16 17:30 J -17910383.91 -17910383.77 -17910383.62 0.2668 0.0589

Earth -53749-01-16 18:42 J -17910383.87 -17910383.72 -17910383.58 0.2662 0.0705 *

Uranus -53749-01-21 02:52 J -17910379.54 -17910379.38 -17910379.20 0.0147 0.0062

Jupiter -53749-01-21 22:04 J -17910378.67 -17910378.58 -17910378.49 0.0490 0.0422

Uranus -53749-04-18 11:01 J -17910291.21 -17910291.04 -17910290.85 0.0146 0.0029

Uranus -53749-07-15 19:25 J -17910202.88 -17910202.69 -17910202.50 0.0146 0.0005

Uranus -53749-10-12 03:35 J -17910114.53 -17910114.35 -17910114.17 0.0146 0.0038

Uranus -53748-01-08 11:30 J -17910026.17 -17910026.02 -17910025.84 0.0146 0.0073

Uranus -53748-04-06 19:54 J -17909937.79 -17909937.67 -17909937.53 0.0146 0.0105

Uranus -53748-07-04 04:04 J -17909849.37 -17909849.33 -17909849.26 0.0146 0.0139

Venus -53747-02-17 12:42 J -17909620.99 -17909620.97 -17909620.94 0.3780 0.3624

Earth -53746-07-24 17:30 J -17909098.87 -17909098.77 -17909098.68 0.2672 0.1493

Moon -53746-07-24 18:13 J -17909098.84 -17909098.74 -17909098.65 0.2669 0.1489 *

Mars -53744-01-01 08:52 J -17908572.24 -17908572.13 -17908572.02 0.1737 0.0798

Jupiter -53744-09-24 18:13 J -17908305.86 -17908305.74 -17908305.61 0.0537 0.0163

Mars -53744-10-27 05:30 J -17908273.41 -17908273.27 -17908273.13 0.1800 0.0700

Saturn -53744-12-19 02:23 J -17908220.45 -17908220.40 -17908220.34 0.0281 0.0256

Jupiter -53744-12-23 03:06 J -17908216.44 -17908216.37 -17908216.30 0.0537 0.0446

Saturn -53743-03-17 15:06 J -17908131.99 -17908131.87 -17908131.75 0.0282 0.0152

Saturn -53743-06-14 03:35 J -17908043.48 -17908043.35 -17908043.21 0.0283 0.0049

Saturn -53743-09-10 16:04 J -17907954.96 -17907954.83 -17907954.69 0.0284 0.0056

Saturn -53743-12-08 04:18 J -17907866.43 -17907866.32 -17907866.20 0.0285 0.0160

Saturn -53742-03-06 16:33 J -17907777.85 -17907777.81 -17907777.75 0.0286 0.0263

Moon -53739-07-17 13:54 J -17906549.03 -17906548.92 -17906548.82 0.2674 0.1091

Earth -53739-07-17 13:54 J -17906549.03 -17906548.92 -17906548.82 0.2667 0.1146 *

Jupiter -53738-08-11 17:30 J -17906158.87 -17906158.77 -17906158.66 0.0490 0.0387

Jupiter -53738-11-09 20:37 J -17906068.79 -17906068.64 -17906068.49 0.0490 0.0258

Moon -53736-01-18 22:18 J -17905632.64 -17905632.57 -17905632.49 0.2667 0.2266

Earth -53736-01-18 22:33 J -17905632.63 -17905632.56 -17905632.49 0.2660 0.2300 *

Mars -53735-05-24 17:45 J -17905141.82 -17905141.76 -17905141.71 0.1729 0.1520

Mars -53733-04-29 06:13 J -17904436.31 -17904436.24 -17904436.18 0.1761 0.1457

Earth -53733-07-26 11:59 J -17904348.04 -17904348.00 -17904347.95 0.2674 0.2398

Moon -53733-07-26 12:13 J -17904348.03 -17904347.99 -17904347.95 0.2667 0.2457 *

Jupiter -53732-07-13 22:04 J -17903995.69 -17903995.58 -17903995.48 0.0537 0.0310

Jupiter -53732-10-11 06:57 J -17903906.31 -17903906.21 -17903906.10 0.0536 0.0304

Saturn -53730-10-16 18:42 J -17903170.84 -17903170.72 -17903170.59 0.0278 0.0194

Moon -53729-01-11 16:33 J -17903083.90 -17903083.81 -17903083.72 0.2664 0.2092

Earth -53729-01-11 17:59 J -17903083.84 -17903083.75 -17903083.66 0.2666 0.2085 *

Saturn -53729-01-13 14:52 J -17903082.05 -17903081.88 -17903081.71 0.0277 0.0068

Saturn -53729-04-11 11:01 J -17902993.21 -17902993.04 -17902992.86 0.0277 0.0059

Saturn -53729-07-09 07:40 J -17902904.31 -17902904.18 -17902904.05 0.0276 0.0186

Earth -53726-07-20 08:52 J -17901798.25 -17901798.13 -17901798.02 0.2669 0.0199

Moon -53726-07-20 09:21 J -17901798.23 -17901798.11 -17901798.00 0.2674 0.0167 *

Jupiter -53726-08-28 19:40 J -17901758.86 -17901758.68 -17901758.51 0.0490 0.0100

Mars -53724-09-19 15:06 J -17901005.98 -17901005.87 -17901005.76 0.1753 0.0730

Jupiter -53720-05-02 00:57 J -17899685.52 -17899685.46 -17899685.39 0.0536 0.0467

Jupiter -53720-07-30 10:18 J -17899596.19 -17899596.07 -17899595.94 0.0536 0.0151

Moon -53716-01-13 19:54 J -17898332.81 -17898332.67 -17898332.53 0.2666 0.0770

Earth -53716-01-13 21:06 J -17898332.76 -17898332.62 -17898332.47 0.2664 0.0575 *

Mars -53714-02-09 23:59 J -17897575.62 -17897575.50 -17897575.37 0.1745 0.0056

Jupiter -53714-06-16 18:28 J -17897448.90 -17897448.73 -17897448.55 0.0491 0.0060

Saturn -53714-08-04 16:18 J -17897399.92 -17897399.82 -17897399.72 0.0282 0.0188

Saturn -53714-11-01 05:01 J -17897311.43 -17897311.29 -17897311.16 0.0283 0.0084

Mars -53714-12-06 05:45 J -17897276.41 -17897276.26 -17897276.12 0.1791 0.0604

Saturn -53713-01-28 17:30 J -17897222.91 -17897222.77 -17897222.64 0.0284 0.0021

Saturn -53713-04-26 05:45 J -17897134.38 -17897134.26 -17897134.13 0.0285 0.0125

Earth -53713-07-22 03:35 J -17897047.46 -17897047.35 -17897047.24 0.2671 0.0743

Moon -53713-07-22 04:33 J -17897047.42 -17897047.31 -17897047.20 0.2670 0.0807 *

Saturn -53713-07-23 17:59 J -17897045.82 -17897045.75 -17897045.66 0.0286 0.0228

Jupiter -53708-05-18 13:40 J -17895286.06 -17895285.93 -17895285.79 0.0536 0.0018

Uranus -53708-11-10 00:42 J -17895110.49 -17895110.47 -17895110.46 0.0132 0.0130

Uranus -53707-02-06 03:35 J -17895022.41 -17895022.35 -17895022.27 0.0132 0.0113

Venus -53707-02-09 10:33 J -17895019.14 -17895019.06 -17895018.97 0.3769 0.1864

Uranus -53707-05-05 06:42 J -17894934.30 -17894934.22 -17894934.12 0.0132 0.0095

Uranus -53707-08-01 10:04 J -17894846.19 -17894846.08 -17894845.97 0.0132 0.0077

Uranus -53707-10-28 13:11 J -17894758.07 -17894757.95 -17894757.83 0.0132 0.0059

Uranus -53706-01-24 16:18 J -17894669.95 -17894669.82 -17894669.69 0.0132 0.0042

Uranus -53706-04-22 19:25 J -17894581.82 -17894581.69 -17894581.56 0.0132 0.0024

Moon -53706-07-15 23:16 J -17894497.61 -17894497.53 -17894497.45 0.2670 0.1915

Earth -53706-07-15 23:45 J -17894497.59 -17894497.51 -17894497.43 0.2665 0.1927 *

Uranus -53706-07-19 22:33 J -17894493.70 -17894493.56 -17894493.43 0.0132 0.0007

Uranus -53706-10-16 01:40 J -17894405.57 -17894405.43 -17894405.30 0.0132 0.0011

Uranus -53705-01-12 04:47 J -17894317.44 -17894317.30 -17894317.17 0.0132 0.0029

Uranus -53705-04-09 07:40 J -17894229.30 -17894229.18 -17894229.05 0.0132 0.0046

Mars -53705-07-02 08:52 J -17894145.24 -17894145.13 -17894145.01 0.1737 0.0707

Uranus -53705-07-06 10:47 J -17894141.17 -17894141.05 -17894140.93 0.0132 0.0063

Uranus -53705-10-02 13:54 J -17894053.03 -17894052.92 -17894052.82 0.0132 0.0081

Uranus -53705-12-29 16:47 J -17893964.88 -17893964.80 -17893964.71 0.0133 0.0098

Uranus -53704-03-27 19:40 J -17893876.73 -17893876.68 -17893876.61 0.0133 0.0116

Mars -53704-04-27 06:13 J -17893846.39 -17893846.24 -17893846.10 0.1800 0.0559

Uranus -53704-06-23 23:01 J -17893788.54 -17893788.54 -17893788.54 0.0133 0.0133

Moon -53703-01-16 23:45 J -17893581.64 -17893581.51 -17893581.37 0.2668 0.0965

Earth -53703-01-17 00:42 J -17893581.60 -17893581.47 -17893581.33 0.2662 0.0985 *

Jupiter -53702-04-04 17:30 J -17893138.93 -17893138.77 -17893138.61 0.0490 0.0215

Jupiter -53702-07-03 20:52 J -17893048.70 -17893048.63 -17893048.54 0.0490 0.0437

Venus -53702-08-26 02:37 J -17892995.50 -17892995.39 -17892995.29 0.3773 0.0273

Saturn -53700-03-04 18:13 J -17892438.83 -17892438.74 -17892438.64 0.0279 0.0232

Saturn -53700-06-01 14:23 J -17892350.06 -17892349.90 -17892349.73 0.0278 0.0106

Earth -53700-07-24 22:18 J -17892296.65 -17892296.57 -17892296.48 0.2673 0.1664

Moon -53700-07-24 23:01 J -17892296.63 -17892296.54 -17892296.46 0.2669 0.1752 *

Saturn -53700-08-29 10:47 J -17892261.23 -17892261.05 -17892260.88 0.0277 0.0021

Saturn -53700-11-26 07:11 J -17892172.35 -17892172.20 -17892172.05 0.0276 0.0148

Venus -53699-05-29 17:16 J -17891987.93 -17891987.78 -17891987.63 0.3605 0.0919

Neptune -53699-10-06 04:33 J -17891858.31 -17891858.31 -17891858.30 0.0089 0.0088

Neptune -53698-01-02 05:59 J -17891770.29 -17891770.25 -17891770.19 0.0089 0.0082

Neptune -53698-03-31 07:54 J -17891682.24 -17891682.17 -17891682.10 0.0089 0.0076

Neptune -53698-06-27 09:21 J -17891594.19 -17891594.11 -17891594.02 0.0089 0.0070

Neptune -53698-09-23 11:01 J -17891506.13 -17891506.04 -17891505.94 0.0089 0.0064

Neptune -53698-12-20 12:28 J -17891418.08 -17891417.98 -17891417.86 0.0089 0.0058

Neptune -53697-03-17 14:09 J -17891330.02 -17891329.91 -17891329.79 0.0089 0.0051

Neptune -53697-06-13 15:35 J -17891241.96 -17891241.85 -17891241.71 0.0089 0.0046

Neptune -53697-09-09 17:30 J -17891153.90 -17891153.77 -17891153.64 0.0089 0.0039

Neptune -53697-12-06 19:11 J -17891065.83 -17891065.70 -17891065.57 0.0089 0.0033

Neptune -53696-03-04 20:37 J -17890977.77 -17890977.64 -17890977.50 0.0089 0.0027

Jupiter -53696-03-06 16:47 J -17890975.92 -17890975.80 -17890975.67 0.0537 0.0160

Venus -53696-03-10 18:28 J -17890971.81 -17890971.73 -17890971.65 0.3777 0.2322

Neptune -53696-05-31 22:18 J -17890889.71 -17890889.57 -17890889.44 0.0089 0.0021

Jupiter -53696-06-04 01:40 J -17890886.50 -17890886.43 -17890886.36 0.0537 0.0449

Neptune -53696-08-27 23:45 J -17890801.65 -17890801.51 -17890801.37 0.0089 0.0015

Mars -53696-11-22 17:45 J -17890714.83 -17890714.76 -17890714.69 0.1729 0.1421

Neptune -53696-11-24 01:25 J -17890713.58 -17890713.44 -17890713.30 0.0089 0.0009

Neptune -53695-02-20 02:52 J -17890625.52 -17890625.38 -17890625.24 0.0089 0.0003

Neptune -53695-05-19 04:33 J -17890537.45 -17890537.31 -17890537.17 0.0089 0.0004

Neptune -53695-08-15 05:59 J -17890449.39 -17890449.25 -17890449.11 0.0089 0.0010

Mars -53695-09-17 06:42 J -17890416.26 -17890416.22 -17890416.18 0.1809 0.1726

Neptune -53695-11-11 07:25 J -17890361.32 -17890361.19 -17890361.05 0.0089 0.0016

Neptune -53694-02-07 09:06 J -17890273.25 -17890273.12 -17890272.98 0.0089 0.0022

Neptune -53694-05-06 10:33 J -17890185.19 -17890185.06 -17890184.92 0.0089 0.0028

Neptune -53694-08-02 11:59 J -17890097.12 -17890097.00 -17890096.86 0.0089 0.0034

Mars -53694-10-29 06:13 J -17890009.30 -17890009.24 -17890009.19 0.1761 0.1548

Neptune -53694-10-29 13:25 J -17890009.05 -17890008.94 -17890008.81 0.0089 0.0040

Neptune -53693-01-25 14:52 J -17889920.98 -17889920.88 -17889920.75 0.0089 0.0046

Neptune -53693-04-22 16:33 J -17889832.92 -17889832.81 -17889832.69 0.0089 0.0051

Earth -53693-07-17 18:57 J -17889746.82 -17889746.71 -17889746.61 0.2667 0.0968

Moon -53693-07-17 18:57 J -17889746.81 -17889746.71 -17889746.60 0.2674 0.1017 *

Neptune -53693-07-19 18:13 J -17889744.85 -17889744.74 -17889744.64 0.0089 0.0057

Neptune -53693-10-15 19:40 J -17889656.78 -17889656.68 -17889656.58 0.0089 0.0063

Neptune -53692-01-11 21:06 J -17889568.70 -17889568.62 -17889568.53 0.0089 0.0069

Neptune -53692-04-09 22:33 J -17889480.63 -17889480.56 -17889480.48 0.0089 0.0075

Neptune -53692-07-06 23:45 J -17889392.55 -17889392.51 -17889392.44 0.0089 0.0081

Neptune -53692-10-03 01:11 J -17889304.46 -17889304.45 -17889304.40 0.0089 0.0087

Earth -53690-01-20 04:47 J -17888830.33 -17888830.30 -17888830.27 0.2660 0.2583

Moon -53690-01-20 05:01 J -17888830.32 -17888830.29 -17888830.26 0.2666 0.2594 *

Jupiter -53690-01-21 16:47 J -17888828.91 -17888828.80 -17888828.68 0.0490 0.0368

Jupiter -53690-04-21 19:54 J -17888738.82 -17888738.67 -17888738.52 0.0490 0.0277

Moon -53687-07-27 17:01 J -17887545.82 -17887545.79 -17887545.75 0.2667 0.2496

Earth -53687-07-27 17:01 J -17887545.82 -17887545.79 -17887545.76 0.2674 0.2565 *

Saturn -53685-12-21 17:59 J -17886667.83 -17886667.75 -17886667.66 0.0281 0.0221

Jupiter -53685-12-23 20:23 J -17886665.75 -17886665.65 -17886665.54 0.0537 0.0307

Saturn -53684-03-20 06:42 J -17886579.34 -17886579.22 -17886579.09 0.0282 0.0117

Mars -53684-03-20 15:06 J -17886578.97 -17886578.87 -17886578.76 0.1753 0.0825

Jupiter -53684-03-23 05:45 J -17886576.37 -17886576.26 -17886576.16 0.0537 0.0309

Saturn -53684-06-16 19:11 J -17886490.84 -17886490.70 -17886490.56 0.0283 0.0014

Saturn -53684-09-13 07:40 J -17886402.31 -17886402.18 -17886402.05 0.0284 0.0090

Saturn -53684-12-10 19:54 J -17886313.77 -17886313.67 -17886313.57 0.0285 0.0193

Moon -53683-01-11 22:47 J -17886281.65 -17886281.55 -17886281.46 0.2663 0.1996

Earth -53683-01-11 23:59 J -17886281.60 -17886281.50 -17886281.39 0.2666 0.1811 *

Earth -53680-07-20 13:54 J -17884996.04 -17884995.92 -17884995.81 0.2669 0.0092

Moon -53680-07-20 14:23 J -17884996.01 -17884995.90 -17884995.78 0.2673 0.0080 *

Jupiter -53678-02-07 18:28 J -17884428.90 -17884428.73 -17884428.56 0.0490 0.0113

Mars -53675-08-10 23:59 J -17883148.62 -17883148.50 -17883148.38 0.1745 0.0105

Mars -53674-06-06 06:13 J -17882849.38 -17882849.24 -17882849.10 0.1791 0.0741

Jupiter -53673-10-12 00:13 J -17882355.56 -17882355.49 -17882355.42 0.0537 0.0454

Jupiter -53672-01-09 09:35 J -17882266.23 -17882266.10 -17882265.98 0.0537 0.0165

Saturn -53671-10-19 11:16 J -17881618.17 -17881618.03 -17881617.88 0.0278 0.0159

Moon -53670-01-15 01:54 J -17881530.56 -17881530.42 -17881530.27 0.2667 0.0311

Earth -53670-01-15 03:21 J -17881530.51 -17881530.36 -17881530.22 0.2664 0.0308 *

Saturn -53670-01-16 07:25 J -17881529.36 -17881529.19 -17881529.01 0.0277 0.0033

Saturn -53670-04-15 03:49 J -17881440.50 -17881440.34 -17881440.17 0.0277 0.0095

Saturn -53670-07-13 00:13 J -17881351.58 -17881351.49 -17881351.37 0.0276 0.0223

Pluto -53668-12-02 02:52 J -17880478.41 -17880478.38 -17880478.29 0.0062 0.0058

Pluto -53667-02-28 04:18 J -17880390.39 -17880390.32 -17880390.22 0.0062 0.0053

Pluto -53667-05-27 05:16 J -17880302.37 -17880302.28 -17880302.16 0.0062 0.0049

Earth -53667-07-23 08:37 J -17880245.25 -17880245.14 -17880245.03 0.2671 0.0916

Moon -53667-07-23 09:21 J -17880245.21 -17880245.11 -17880245.00 0.2671 0.0989 *

Pluto -53667-08-23 06:28 J -17880214.34 -17880214.23 -17880214.10 0.0062 0.0044

Pluto -53667-11-19 07:25 J -17880126.30 -17880126.19 -17880126.04 0.0062 0.0040

Jupiter -53667-11-26 17:30 J -17880118.95 -17880118.77 -17880118.60 0.0490 0.0047

Pluto -53666-02-15 08:37 J -17880038.27 -17880038.14 -17880037.98 0.0062 0.0036

Pluto -53666-05-14 09:35 J -17879950.23 -17879950.10 -17879949.93 0.0062 0.0032

Pluto -53666-08-10 11:01 J -17879862.19 -17879862.04 -17879861.88 0.0062 0.0026

Uranus -53666-08-17 19:11 J -17879854.81 -17879854.70 -17879854.59 0.0147 0.0115

Pluto -53666-11-06 12:13 J -17879774.15 -17879773.99 -17879773.82 0.0062 0.0022

Uranus -53666-11-14 03:06 J -17879766.52 -17879766.37 -17879766.21 0.0147 0.0083

Mars -53665-01-01 09:06 J -17879718.24 -17879718.12 -17879718.01 0.1737 0.0618

Pluto -53665-02-02 13:11 J -17879686.10 -17879685.95 -17879685.77 0.0062 0.0017

Uranus -53665-02-10 11:16 J -17879678.20 -17879678.03 -17879677.85 0.0147 0.0050

Pluto -53665-04-30 14:23 J -17879598.06 -17879597.90 -17879597.72 0.0063 0.0013

Uranus -53665-05-08 19:25 J -17879589.87 -17879589.69 -17879589.50 0.0147 0.0017

Pluto -53665-07-27 15:35 J -17879510.02 -17879509.85 -17879509.67 0.0063 0.0008

Uranus -53665-08-05 03:35 J -17879501.53 -17879501.35 -17879501.16 0.0146 0.0017

Pluto -53665-10-23 16:47 J -17879421.97 -17879421.80 -17879421.62 0.0063 0.0003

Mars -53665-10-26 06:42 J -17879419.37 -17879419.22 -17879419.07 0.1799 0.0424

Uranus -53665-11-01 11:45 J -17879413.18 -17879413.01 -17879412.83 0.0146 0.0051

Pluto -53664-01-19 17:59 J -17879333.92 -17879333.75 -17879333.57 0.0063 0.0002

Uranus -53664-01-28 20:09 J -17879324.81 -17879324.66 -17879324.50 0.0146 0.0084

Pluto -53664-04-17 19:11 J -17879245.87 -17879245.70 -17879245.52 0.0063 0.0007

Uranus -53664-04-27 04:18 J -17879236.42 -17879236.32 -17879236.20 0.0146 0.0117

Pluto -53664-07-14 20:09 J -17879157.82 -17879157.66 -17879157.48 0.0063 0.0012

Pluto -53664-10-10 21:35 J -17879069.77 -17879069.60 -17879069.43 0.0063 0.0016

Pluto -53663-01-06 22:47 J -17878981.71 -17878981.55 -17878981.38 0.0063 0.0021

Pluto -53663-04-04 23:45 J -17878893.66 -17878893.51 -17878893.34 0.0063 0.0027

Pluto -53663-07-02 00:57 J -17878805.60 -17878805.46 -17878805.30 0.0063 0.0032

Pluto -53663-09-28 02:09 J -17878717.54 -17878717.41 -17878717.25 0.0063 0.0037

Pluto -53663-12-25 03:21 J -17878629.48 -17878629.36 -17878629.21 0.0063 0.0042

Pluto -53662-03-23 04:33 J -17878541.41 -17878541.31 -17878541.18 0.0063 0.0047

Pluto -53662-06-19 05:45 J -17878453.34 -17878453.26 -17878453.14 0.0064 0.0052

Pluto -53662-09-15 07:11 J -17878365.27 -17878365.20 -17878365.11 0.0064 0.0057

Pluto -53662-12-12 08:23 J -17878277.17 -17878277.15 -17878277.10 0.0064 0.0062

Jupiter -53661-10-28 12:57 J -17877956.10 -17877955.96 -17877955.83 0.0536 0.0021

Moon -53660-07-16 04:18 J -17877695.40 -17877695.32 -17877695.23 0.2671 0.1839

Earth -53660-07-16 04:47 J -17877695.39 -17877695.30 -17877695.21 0.2666 0.1743 *

Moon -53657-01-18 05:59 J -17876779.38 -17876779.25 -17876779.11 0.2667 0.1130

Earth -53657-01-18 06:57 J -17876779.34 -17876779.21 -17876779.08 0.2662 0.1262 *

Venus -53656-03-02 16:18 J -17876369.88 -17876369.82 -17876369.77 0.3767 0.3188

Mars -53656-05-23 17:59 J -17876287.83 -17876287.75 -17876287.68 0.1730 0.1325

Mars -53655-03-18 07:11 J -17875989.27 -17875989.20 -17875989.13 0.1809 0.1595

Saturn -53655-05-10 19:11 J -17875935.75 -17875935.70 -17875935.64 0.0282 0.0257

Saturn -53655-08-07 07:54 J -17875847.28 -17875847.17 -17875847.05 0.0282 0.0153

Jupiter -53655-09-14 16:33 J -17875808.97 -17875808.81 -17875808.65 0.0490 0.0203

Saturn -53655-11-03 20:23 J -17875758.78 -17875758.65 -17875758.51 0.0283 0.0050

Jupiter -53655-12-13 19:54 J -17875718.73 -17875718.67 -17875718.60 0.0491 0.0451

Saturn -53654-01-31 08:52 J -17875670.26 -17875670.13 -17875669.99 0.0284 0.0055

Mars -53654-04-29 06:13 J -17875582.28 -17875582.24 -17875582.20 0.1761 0.1638

Saturn -53654-04-29 21:21 J -17875581.72 -17875581.61 -17875581.50 0.0285 0.0158

Earth -53654-07-26 03:21 J -17875494.44 -17875494.36 -17875494.28 0.2673 0.1831

Moon -53654-07-26 03:49 J -17875494.42 -17875494.34 -17875494.26 0.2668 0.1840 *

Saturn -53654-07-27 09:35 J -17875493.15 -17875493.10 -17875493.05 0.0286 0.0261

Venus -53651-09-16 08:09 J -17874346.26 -17874346.16 -17874346.06 0.3770 0.1093

Jupiter -53649-08-16 16:04 J -17873645.95 -17873645.83 -17873645.70 0.0537 0.0144

Jupiter -53649-11-14 00:57 J -17873556.52 -17873556.46 -17873556.40 0.0536 0.0464

Venus -53648-06-19 10:33 J -17873339.15 -17873339.06 -17873338.97 0.3609 0.2935

Earth -53647-07-18 23:45 J -17872944.62 -17872944.51 -17872944.39 0.2667 0.0791

Moon -53647-07-18 23:59 J -17872944.61 -17872944.50 -17872944.39 0.2674 0.0705 *

Venus -53645-03-31 23:59 J -17872322.59 -17872322.50 -17872322.40 0.3774 0.1011

Mars -53645-09-18 15:06 J -17872151.97 -17872151.87 -17872151.76 0.1753 0.0919

Jupiter -53643-07-03 15:35 J -17871498.96 -17871498.85 -17871498.72 0.0490 0.0356

Jupiter -53643-10-01 18:42 J -17871408.86 -17871408.72 -17871408.58 0.0490 0.0290

Venus -53642-01-03 19:11 J -17871314.79 -17871314.70 -17871314.61 0.3604 0.2909

Saturn -53641-03-07 11:16 J -17870886.15 -17870886.03 -17870885.91 0.0279 0.0195

Saturn -53641-06-04 07:25 J -17870797.36 -17870797.19 -17870797.02 0.0278 0.0069

Saturn -53641-09-01 03:35 J -17870708.52 -17870708.35 -17870708.17 0.0277 0.0059

Saturn -53641-11-29 00:13 J -17870619.62 -17870619.49 -17870619.36 0.0276 0.0186

Venus -53640-10-15 15:49 J -17870298.89 -17870298.84 -17870298.78 0.3778 0.3085

Moon -53637-01-13 04:47 J -17869479.41 -17869479.30 -17869479.18 0.2664 0.1577

Earth -53637-01-13 06:13 J -17869479.36 -17869479.24 -17869479.13 0.2666 0.1541 *

Jupiter -53637-06-04 18:57 J -17869335.82 -17869335.71 -17869335.60 0.0537 0.0306

Jupiter -53637-09-02 04:04 J -17869246.44 -17869246.33 -17869246.22 0.0537 0.0309

Mars -53635-02-09 00:13 J -17868721.62 -17868721.49 -17868721.37 0.1745 0.0199

Mars -53635-12-05 06:42 J -17868422.36 -17868422.22 -17868422.09 0.1790 0.0868

Earth -53634-07-21 18:42 J -17868193.83 -17868193.72 -17868193.60 0.2669 0.0182

Moon -53634-07-21 19:25 J -17868193.80 -17868193.69 -17868193.57 0.2672 0.0190 *

Jupiter -53631-07-20 17:45 J -17867098.94 -17867098.76 -17867098.59 0.0490 0.0131

Moon -53627-07-14 13:40 J -17865643.94 -17865643.93 -17865643.91 0.2667 0.2639

Earth -53627-07-14 14:37 J -17865643.93 -17865643.89 -17865643.86 0.2664 0.2536 *

Mars -53626-07-02 09:06 J -17865291.24 -17865291.12 -17865291.00 0.1737 0.0519

Saturn -53626-12-25 10:04 J -17865115.18 -17865115.08 -17865114.97 0.0281 0.0182

Saturn -53625-03-22 22:47 J -17865026.68 -17865026.55 -17865026.42 0.0282 0.0079

Jupiter -53625-03-23 22:33 J -17865025.63 -17865025.56 -17865025.49 0.0537 0.0456

Mars -53625-04-26 06:57 J -17864992.36 -17864992.21 -17864992.06 0.1800 0.0306

Saturn -53625-06-19 11:16 J -17864938.17 -17864938.03 -17864937.90 0.0283 0.0025

Jupiter -53625-06-21 07:54 J -17864936.29 -17864936.17 -17864936.05 0.0537 0.0166

Saturn -53625-09-15 23:30 J -17864849.64 -17864849.52 -17864849.40 0.0284 0.0128

Saturn -53625-12-13 11:45 J -17864761.08 -17864761.01 -17864760.93 0.0285 0.0231

Moon -53624-01-15 08:09 J -17864728.30 -17864728.16 -17864728.01 0.2667 0.0221

Earth -53624-01-15 09:21 J -17864728.25 -17864728.11 -17864727.96 0.2664 0.0083 *

Uranus -53624-11-30 07:54 J -17864409.20 -17864409.17 -17864409.11 0.0132 0.0124

Uranus -53623-02-26 11:16 J -17864321.10 -17864321.03 -17864320.94 0.0132 0.0106

Uranus -53623-05-25 14:23 J -17864232.99 -17864232.90 -17864232.79 0.0132 0.0088

Uranus -53623-08-21 17:45 J -17864144.88 -17864144.76 -17864144.65 0.0132 0.0070

Uranus -53623-11-17 20:37 J -17864056.76 -17864056.64 -17864056.51 0.0132 0.0053

Uranus -53622-02-13 23:59 J -17863968.63 -17863968.50 -17863968.37 0.0132 0.0035

Uranus -53622-05-13 03:06 J -17863880.51 -17863880.37 -17863880.24 0.0132 0.0018

Uranus -53622-08-09 06:13 J -17863792.38 -17863792.24 -17863792.11 0.0132 0.0004

Uranus -53622-11-05 09:06 J -17863704.25 -17863704.12 -17863703.98 0.0132 0.0018

Uranus -53621-02-01 12:13 J -17863616.12 -17863615.99 -17863615.86 0.0132 0.0035

Uranus -53621-04-29 15:21 J -17863527.98 -17863527.86 -17863527.74 0.0132 0.0052

Earth -53621-07-23 13:40 J -17863443.04 -17863442.93 -17863442.83 0.2671 0.1088

Moon -53621-07-23 14:23 J -17863443.00 -17863442.90 -17863442.80 0.2671 0.1171 *

Uranus -53621-07-26 18:28 J -17863439.85 -17863439.73 -17863439.62 0.0132 0.0070

Uranus -53621-10-22 21:06 J -17863351.71 -17863351.62 -17863351.51 0.0132 0.0088

Uranus -53620-01-19 00:13 J -17863263.56 -17863263.49 -17863263.40 0.0132 0.0105

Uranus -53620-04-17 03:21 J -17863175.41 -17863175.36 -17863175.30 0.0133 0.0122

Jupiter -53619-05-08 16:04 J -17862789.00 -17862788.83 -17862788.65 0.0490 0.0035

Mars -53617-11-21 17:59 J -17861860.84 -17861860.75 -17861860.67 0.1730 0.1240

Neptune -53616-06-20 15:06 J -17861649.92 -17861649.87 -17861649.79 0.0089 0.0082

Mars -53616-09-16 07:40 J -17861562.27 -17861562.18 -17861562.09 0.1809 0.1457

Neptune -53616-09-16 18:28 J -17861561.83 -17861561.73 -17861561.64 0.0089 0.0074

Neptune -53616-12-13 20:52 J -17861473.73 -17861473.63 -17861473.50 0.0089 0.0067

Neptune -53615-03-12 00:13 J -17861385.62 -17861385.49 -17861385.36 0.0089 0.0059

Neptune -53615-06-08 02:52 J -17861297.51 -17861297.38 -17861297.22 0.0089 0.0052

Neptune -53615-09-04 05:59 J -17861209.40 -17861209.25 -17861209.09 0.0089 0.0044

Mars -53615-10-28 06:13 J -17861155.26 -17861155.24 -17861155.22 0.1761 0.1728

Neptune -53615-12-01 08:52 J -17861121.28 -17861121.13 -17861120.96 0.0089 0.0037

Neptune -53614-02-27 11:59 J -17861033.17 -17861033.00 -17861032.83 0.0089 0.0029

Neptune -53614-05-26 15:06 J -17860945.05 -17860944.87 -17860944.70 0.0089 0.0021

Moon -53614-07-17 09:35 J -17860893.20 -17860893.10 -17860893.01 0.2673 0.1542

Earth -53614-07-17 09:49 J -17860893.19 -17860893.09 -17860893.00 0.2666 0.1566 *

Neptune -53614-08-22 17:59 J -17860856.92 -17860856.75 -17860856.57 0.0089 0.0013

Neptune -53614-11-18 21:06 J -17860768.80 -17860768.62 -17860768.44 0.0089 0.0005

Neptune -53613-02-15 00:13 J -17860680.67 -17860680.49 -17860680.31 0.0089 0.0003

Jupiter -53613-04-09 11:45 J -17860626.14 -17860626.01 -17860625.88 0.0537 0.0021

Neptune -53613-05-13 03:06 J -17860592.55 -17860592.37 -17860592.19 0.0089 0.0010

Neptune -53613-08-09 06:13 J -17860504.42 -17860504.24 -17860504.06 0.0089 0.0018

Neptune -53613-11-05 09:06 J -17860416.29 -17860416.12 -17860415.94 0.0089 0.0026

Neptune -53612-02-01 12:13 J -17860328.15 -17860327.99 -17860327.82 0.0089 0.0034

Neptune -53612-04-30 15:06 J -17860240.02 -17860239.87 -17860239.70 0.0089 0.0042

Saturn -53612-07-25 08:52 J -17860154.21 -17860154.13 -17860154.05 0.0279 0.0243

Neptune -53612-07-27 18:13 J -17860151.88 -17860151.74 -17860151.58 0.0089 0.0050

Saturn -53612-10-22 04:47 J -17860065.46 -17860065.30 -17860065.14 0.0278 0.0118

Neptune -53612-10-23 21:21 J -17860063.74 -17860063.61 -17860063.46 0.0089 0.0058

Moon -53611-01-18 12:28 J -17859977.09 -17859976.98 -17859976.86 0.2667 0.1586

Earth -53611-01-18 13:11 J -17859977.07 -17859976.95 -17859976.83 0.2661 0.1544 *

Saturn -53611-01-19 00:57 J -17859976.63 -17859976.46 -17859976.28 0.0277 0.0009

Neptune -53611-01-20 00:28 J -17859975.59 -17859975.48 -17859975.34 0.0089 0.0066

Saturn -53611-04-17 21:21 J -17859887.76 -17859887.61 -17859887.45 0.0276 0.0136

Neptune -53611-04-18 03:21 J -17859887.44 -17859887.36 -17859887.24 0.0089 0.0074

Neptune -53611-07-15 06:28 J -17859799.28 -17859799.23 -17859799.13 0.0089 0.0082

Saturn -53611-07-15 17:59 J -17859798.79 -17859798.75 -17859798.69 0.0276 0.0264

Earth -53608-07-26 08:23 J -17858692.23 -17858692.15 -17858692.08 0.2673 0.2000

Moon -53608-07-26 08:37 J -17858692.21 -17858692.14 -17858692.06 0.2667 0.2028 *

Jupiter -53607-02-24 15:06 J -17858479.03 -17858478.87 -17858478.71 0.0490 0.0192

Jupiter -53607-05-25 18:28 J -17858388.78 -17858388.73 -17858388.66 0.0490 0.0461

Mars -53605-03-19 15:06 J -17857724.97 -17857724.87 -17857724.77 0.1753 0.1002

Jupiter -53601-01-27 15:06 J -17856316.00 -17856315.87 -17856315.75 0.0537 0.0134

Jupiter -53601-04-25 23:45 J -17856226.56 -17856226.51 -17856226.45 0.0536 0.0474

Earth -53601-07-19 04:47 J -17856142.41 -17856142.30 -17856142.18 0.2668 0.0608

Moon -53601-07-19 05:01 J -17856142.40 -17856142.29 -17856142.17 0.2674 0.0653 *

Venus -53600-10-07 13:40 J -17855697.01 -17855696.93 -17855696.85 0.3768 0.2416

Saturn -53596-05-13 11:30 J -17854383.10 -17854383.02 -17854382.93 0.0282 0.0217

Saturn -53596-08-10 00:13 J -17854294.62 -17854294.49 -17854294.36 0.0283 0.0113

Mars -53596-08-10 00:13 J -17854294.61 -17854294.49 -17854294.37 0.1745 0.0291 *

Saturn -53596-11-06 12:42 J -17854206.11 -17854205.97 -17854205.83 0.0283 0.0009

Jupiter -53596-12-13 14:09 J -17854169.03 -17854168.91 -17854168.78 0.0490 0.0348

Saturn -53595-02-03 01:11 J -17854117.58 -17854117.45 -17854117.32 0.0284 0.0094

Jupiter -53595-03-13 17:16 J -17854078.92 -17854078.78 -17854078.64 0.0490 0.0299

Saturn -53595-05-02 13:25 J -17854029.04 -17854028.94 -17854028.84 0.0285 0.0197

Mars -53595-06-05 07:11 J -17853995.33 -17853995.20 -17853995.07 0.1790 0.0998

Venus -53594-04-23 05:30 J -17853673.37 -17853673.27 -17853673.16 0.3772 0.0362

Moon -53591-01-13 10:47 J -17852677.17 -17852677.05 -17852676.92 0.2665 0.1407

Earth -53591-01-13 12:13 J -17852677.12 -17852676.99 -17852676.86 0.2665 0.1268 *

Venus -53591-01-24 12:42 J -17852666.13 -17852665.97 -17852665.82 0.3608 0.0945

Jupiter -53590-11-15 18:13 J -17852005.85 -17852005.74 -17852005.63 0.0537 0.0291

Jupiter -53589-02-13 03:06 J -17851916.47 -17851916.37 -17851916.26 0.0536 0.0324

Venus -53589-11-05 21:35 J -17851649.69 -17851649.60 -17851649.51 0.3775 0.1777

Earth -53588-07-21 23:45 J -17851391.62 -17851391.51 -17851391.39 0.2670 0.0339

Moon -53588-07-22 00:28 J -17851391.59 -17851391.48 -17851391.36 0.2672 0.0482 *

Mars -53587-12-31 09:06 J -17850864.24 -17850864.12 -17850864.00 0.1737 0.0429

Mars -53586-10-26 07:25 J -17850565.34 -17850565.19 -17850565.03 0.1799 0.0176

Jupiter -53584-12-30 16:04 J -17849768.99 -17849768.83 -17849768.65 0.0490 0.0141

Saturn -53583-12-12 08:52 J -17849422.14 -17849422.13 -17849422.12 0.0279 0.0278

Saturn -53582-03-11 04:47 J -17849333.44 -17849333.30 -17849333.15 0.0278 0.0153

Saturn -53582-06-08 00:57 J -17849244.63 -17849244.46 -17849244.28 0.0278 0.0027

Uranus -53582-06-10 18:57 J -17849241.76 -17849241.71 -17849241.64 0.0147 0.0138

Saturn -53582-09-04 21:21 J -17849155.77 -17849155.61 -17849155.44 0.0277 0.0101

Uranus -53582-09-07 03:06 J -17849153.50 -17849153.37 -17849153.24 0.0147 0.0105

Saturn -53582-12-02 17:59 J -17849066.85 -17849066.75 -17849066.65 0.0276 0.0228

Uranus -53582-12-04 11:01 J -17849065.19 -17849065.04 -17849064.87 0.0147 0.0073

Uranus -53581-03-01 19:11 J -17848976.87 -17848976.70 -17848976.52 0.0147 0.0039

Uranus -53581-05-29 03:21 J -17848888.54 -17848888.36 -17848888.17 0.0147 0.0007

Moon -53581-07-14 18:57 J -17848841.76 -17848841.71 -17848841.67 0.2667 0.2410

Earth -53581-07-14 19:40 J -17848841.74 -17848841.68 -17848841.63 0.2664 0.2356 *

Uranus -53581-08-25 11:30 J -17848800.20 -17848800.02 -17848799.83 0.0147 0.0027

Uranus -53581-11-21 19:40 J -17848711.84 -17848711.68 -17848711.50 0.0146 0.0061

Uranus -53580-02-18 03:49 J -17848623.47 -17848623.34 -17848623.18 0.0146 0.0095

Uranus -53580-05-17 12:13 J -17848535.07 -17848534.99 -17848534.89 0.0146 0.0128

Moon -53578-01-16 14:23 J -17847926.05 -17847925.90 -17847925.76 0.2667 0.0249

Earth -53578-01-16 15:35 J -17847926.00 -17847925.85 -17847925.70 0.2663 0.0255 *

Jupiter -53578-09-03 20:37 J -17847695.70 -17847695.64 -17847695.57 0.0537 0.0458

Jupiter -53578-12-02 06:13 J -17847606.37 -17847606.24 -17847606.12 0.0537 0.0164

Mars -53577-05-22 17:59 J -17847433.84 -17847433.75 -17847433.66 0.1730 0.1142

Pluto -53577-11-12 16:04 J -17847259.85 -17847259.83 -17847259.79 0.0082 0.0081

Pluto -53576-02-08 17:45 J -17847171.82 -17847171.76 -17847171.68 0.0082 0.0071

Mars -53576-03-17 07:54 J -17847135.27 -17847135.17 -17847135.07 0.1808 0.1339

Pluto -53576-05-07 19:11 J -17847083.78 -17847083.70 -17847083.59 0.0082 0.0062

Pluto -53576-08-03 20:52 J -17846995.73 -17846995.63 -17846995.50 0.0082 0.0053

Pluto -53576-10-30 22:47 J -17846907.67 -17846907.55 -17846907.42 0.0082 0.0043

Pluto -53575-01-27 00:28 J -17846819.61 -17846819.48 -17846819.35 0.0082 0.0034

Pluto -53575-04-25 01:54 J -17846731.56 -17846731.42 -17846731.28 0.0082 0.0025

Pluto -53575-07-22 03:21 J -17846643.49 -17846643.36 -17846643.21 0.0081 0.0017

Earth -53575-07-24 18:42 J -17846640.82 -17846640.72 -17846640.62 0.2672 0.1265

Moon -53575-07-24 19:11 J -17846640.80 -17846640.70 -17846640.59 0.2669 0.1285 *

Pluto -53575-10-18 05:01 J -17846555.43 -17846555.29 -17846555.14 0.0081 0.0008

Pluto -53574-01-14 06:42 J -17846467.37 -17846467.22 -17846467.08 0.0081 0.0002

Pluto -53574-04-12 08:09 J -17846379.30 -17846379.16 -17846379.02 0.0081 0.0010

Pluto -53574-07-09 09:35 J -17846291.24 -17846291.10 -17846290.96 0.0081 0.0019

Pluto -53574-10-05 11:01 J -17846203.17 -17846203.04 -17846202.90 0.0081 0.0027

Pluto -53573-01-01 12:28 J -17846115.10 -17846114.98 -17846114.84 0.0081 0.0036

Pluto -53573-03-29 14:09 J -17846027.03 -17846026.91 -17846026.79 0.0081 0.0044

Pluto -53573-06-25 15:21 J -17845938.96 -17845938.86 -17845938.74 0.0080 0.0052

Pluto -53573-09-21 16:47 J -17845850.89 -17845850.80 -17845850.70 0.0080 0.0061

Pluto -53573-12-18 17:59 J -17845762.80 -17845762.75 -17845762.66 0.0080 0.0069

Pluto -53572-03-16 19:25 J -17845674.71 -17845674.69 -17845674.64 0.0080 0.0077

Jupiter -53572-10-18 15:06 J -17845459.04 -17845458.87 -17845458.69 0.0490 0.0019

Moon -53568-07-17 14:37 J -17844090.99 -17844090.89 -17844090.79 0.2673 0.1437

Earth -53568-07-17 14:52 J -17844090.98 -17844090.88 -17844090.78 0.2666 0.1384 *

Saturn -53567-09-30 14:09 J -17843650.98 -17843650.91 -17843650.84 0.0281 0.0243

Saturn -53567-12-28 02:52 J -17843562.50 -17843562.38 -17843562.26 0.0282 0.0139

Saturn -53566-03-26 15:21 J -17843474.00 -17843473.86 -17843473.72 0.0282 0.0036

Saturn -53566-06-23 03:49 J -17843385.48 -17843385.34 -17843385.21 0.0283 0.0068

Mars -53566-09-18 15:21 J -17843297.95 -17843297.86 -17843297.77 0.1753 0.1099

Saturn -53566-09-19 16:04 J -17843296.94 -17843296.83 -17843296.72 0.0284 0.0170

Jupiter -53566-09-20 09:49 J -17843296.22 -17843296.09 -17843295.96 0.0537 0.0017

Saturn -53566-12-17 04:04 J -17843208.36 -17843208.33 -17843208.29 0.0285 0.0272

Moon -53565-01-19 19:11 J -17843174.81 -17843174.70 -17843174.59 0.2668 0.1722

Earth -53565-01-19 19:25 J -17843174.80 -17843174.69 -17843174.58 0.2661 0.1830 *

Earth -53562-07-27 13:11 J -17841890.01 -17841889.95 -17841889.88 0.2673 0.2169

Moon -53562-07-27 13:40 J -17841889.99 -17841889.93 -17841889.87 0.2667 0.2198 *

Jupiter -53560-08-06 13:40 J -17841149.10 -17841148.93 -17841148.77 0.0490 0.0183

Jupiter -53560-11-04 17:01 J -17841058.84 -17841058.79 -17841058.74 0.0490 0.0469

Moon -53558-01-11 14:23 J -17840625.95 -17840625.90 -17840625.86 0.2662 0.2515

Earth -53558-01-11 15:21 J -17840625.91 -17840625.86 -17840625.81 0.2667 0.2482 *

Mars -53556-02-08 00:13 J -17839867.61 -17839867.49 -17839867.37 0.1745 0.0374

Mars -53556-12-04 07:40 J -17839568.30 -17839568.18 -17839568.06 0.1791 0.1134

Earth -53555-07-20 09:49 J -17839340.20 -17839340.09 -17839339.98 0.2668 0.0429

Moon -53555-07-20 10:18 J -17839340.19 -17839340.07 -17839339.96 0.2673 0.0341 *

Jupiter -53554-07-09 13:40 J -17838986.06 -17838985.93 -17838985.80 0.0537 0.0130

Jupiter -53554-10-06 22:33 J -17838896.62 -17838896.56 -17838896.51 0.0537 0.0479

Saturn -53553-07-28 03:06 J -17838601.49 -17838601.37 -17838601.25 0.0279 0.0197

Saturn -53553-10-24 23:16 J -17838512.70 -17838512.53 -17838512.36 0.0278 0.0071

Saturn -53552-01-21 19:25 J -17838423.86 -17838423.69 -17838423.51 0.0277 0.0056

Saturn -53552-04-20 15:49 J -17838334.96 -17838334.84 -17838334.70 0.0276 0.0183

Venus -53549-10-28 19:11 J -17837047.70 -17837047.70 -17837047.69 0.3765 0.3744

Jupiter -53548-05-25 12:28 J -17836839.10 -17836838.98 -17836838.85 0.0490 0.0341

Jupiter -53548-08-23 15:35 J -17836748.99 -17836748.85 -17836748.71 0.0490 0.0305

Mars -53547-07-01 09:06 J -17836437.24 -17836437.12 -17836437.00 0.1738 0.0341

Mars -53546-04-26 08:09 J -17836138.32 -17836138.16 -17836138.01 0.1799 0.0037

Moon -53545-01-14 16:47 J -17835874.93 -17835874.80 -17835874.66 0.2666 0.1116

Earth -53545-01-14 18:13 J -17835874.87 -17835874.74 -17835874.60 0.2665 0.1000 *

Venus -53543-05-14 11:16 J -17835024.12 -17835024.03 -17835023.94 0.3769 0.1652

Jupiter -53542-04-27 16:47 J -17834675.91 -17834675.80 -17834675.69 0.0537 0.0285

Earth -53542-07-23 04:47 J -17834589.41 -17834589.30 -17834589.19 0.2670 0.0510

Moon -53542-07-23 05:30 J -17834589.38 -17834589.27 -17834589.16 0.2672 0.0507 *

Jupiter -53542-07-26 01:54 J -17834586.52 -17834586.42 -17834586.32 0.0536 0.0329

Uranus -53540-12-20 15:35 J -17833707.90 -17833707.85 -17833707.78 0.0132 0.0117

Uranus -53539-03-18 18:57 J -17833619.80 -17833619.71 -17833619.62 0.0132 0.0099

Uranus -53539-06-14 22:04 J -17833531.68 -17833531.58 -17833531.47 0.0132 0.0082

Uranus -53539-09-11 01:11 J -17833443.56 -17833443.45 -17833443.33 0.0132 0.0064

Uranus -53539-12-08 04:18 J -17833355.44 -17833355.32 -17833355.19 0.0132 0.0046

Uranus -53538-03-06 07:25 J -17833267.32 -17833267.19 -17833267.05 0.0132 0.0029

Uranus -53538-06-02 10:33 J -17833179.19 -17833179.06 -17833178.92 0.0132 0.0011

Uranus -53538-08-29 13:40 J -17833091.07 -17833090.93 -17833090.79 0.0132 0.0006

Mars -53538-11-21 18:13 J -17833006.84 -17833006.74 -17833006.65 0.1730 0.1047

Uranus -53538-11-25 16:47 J -17833002.94 -17833002.80 -17833002.67 0.0132 0.0024

Venus -53538-11-28 03:06 J -17833000.47 -17833000.37 -17833000.27 0.3773 0.0455

Saturn -53537-02-17 15:35 J -17832918.87 -17832918.85 -17832918.82 0.0281 0.0276

Uranus -53537-02-21 19:40 J -17832914.80 -17832914.68 -17832914.55 0.0132 0.0041

Saturn -53537-05-16 04:18 J -17832830.43 -17832830.32 -17832830.21 0.0282 0.0173

Uranus -53537-05-19 22:47 J -17832826.67 -17832826.55 -17832826.43 0.0132 0.0059

Saturn -53537-08-12 17:01 J -17832741.93 -17832741.79 -17832741.66 0.0283 0.0069

Uranus -53537-08-16 01:40 J -17832738.53 -17832738.43 -17832738.31 0.0132 0.0076

Mars -53537-09-15 08:23 J -17832708.26 -17832708.15 -17832708.04 0.1808 0.1213

Saturn -53537-11-09 05:30 J -17832653.41 -17832653.27 -17832653.14 0.0284 0.0035

Uranus -53537-11-12 04:47 J -17832650.39 -17832650.30 -17832650.20 0.0132 0.0093

Saturn -53536-02-05 17:45 J -17832564.88 -17832564.76 -17832564.64 0.0285 0.0138

Uranus -53536-02-08 07:40 J -17832562.24 -17832562.18 -17832562.10 0.0132 0.0111

Saturn -53536-05-05 05:59 J -17832476.32 -17832476.25 -17832476.18 0.0286 0.0241

Uranus -53536-05-07 10:47 J -17832474.08 -17832474.05 -17832474.01 0.0132 0.0128

Jupiter -53536-06-11 14:23 J -17832439.07 -17832438.90 -17832438.73 0.0490 0.0144

Moon -53535-07-15 23:59 J -17832039.56 -17832039.50 -17832039.43 0.2669 0.2206

Earth -53535-07-16 00:42 J -17832039.54 -17832039.47 -17832039.41 0.2665 0.2170 *

Venus -53535-08-31 14:37 J -17831993.04 -17831992.89 -17831992.74 0.3606 0.1063

Neptune -53534-07-03 03:06 J -17831687.37 -17831687.37 -17831687.33 0.0089 0.0088

Neptune -53534-09-29 04:47 J -17831599.34 -17831599.30 -17831599.23 0.0089 0.0082

Neptune -53534-12-26 06:42 J -17831511.29 -17831511.22 -17831511.14 0.0089 0.0075

Neptune -53533-03-23 08:23 J -17831423.24 -17831423.15 -17831423.06 0.0089 0.0069

Neptune -53533-06-19 09:49 J -17831335.18 -17831335.09 -17831334.98 0.0089 0.0063

Neptune -53533-09-15 11:30 J -17831247.12 -17831247.02 -17831246.91 0.0089 0.0057

Neptune -53533-12-12 12:57 J -17831159.06 -17831158.96 -17831158.83 0.0089 0.0051

Moon -53532-01-16 20:37 J -17831123.78 -17831123.64 -17831123.49 0.2667 0.0382

Earth -53532-01-16 21:49 J -17831123.73 -17831123.59 -17831123.45 0.2663 0.0538 *

Neptune -53532-03-10 14:37 J -17831071.00 -17831070.89 -17831070.76 0.0089 0.0044

Neptune -53532-06-06 16:18 J -17830982.94 -17830982.82 -17830982.69 0.0089 0.0038

Venus -53532-06-12 18:57 J -17830976.78 -17830976.71 -17830976.64 0.3776 0.2529

Neptune -53532-09-02 17:59 J -17830894.88 -17830894.75 -17830894.62 0.0089 0.0032

Neptune -53532-11-29 19:40 J -17830806.82 -17830806.68 -17830806.55 0.0089 0.0026

Neptune -53531-02-25 21:06 J -17830718.75 -17830718.62 -17830718.48 0.0089 0.0020

Neptune -53531-05-24 22:47 J -17830630.69 -17830630.55 -17830630.41 0.0089 0.0014

Neptune -53531-08-21 00:13 J -17830542.63 -17830542.49 -17830542.35 0.0089 0.0008

Neptune -53531-11-17 01:54 J -17830454.56 -17830454.42 -17830454.28 0.0089 0.0002

Neptune -53530-02-13 03:21 J -17830366.50 -17830366.36 -17830366.22 0.0089 0.0005

Jupiter -53530-02-13 19:54 J -17830365.74 -17830365.67 -17830365.60 0.0537 0.0444

Neptune -53530-05-12 05:01 J -17830278.43 -17830278.29 -17830278.15 0.0089 0.0011

Jupiter -53530-05-14 05:16 J -17830276.40 -17830276.28 -17830276.16 0.0537 0.0175

Neptune -53530-08-08 06:28 J -17830190.36 -17830190.23 -17830190.09 0.0089 0.0017

Neptune -53530-11-04 07:54 J -17830102.30 -17830102.17 -17830102.03 0.0089 0.0023

Neptune -53529-01-31 09:35 J -17830014.23 -17830014.10 -17830013.97 0.0089 0.0029

Neptune -53529-04-28 11:01 J -17829926.16 -17829926.04 -17829925.91 0.0089 0.0035

Earth -53529-07-24 23:30 J -17829838.61 -17829838.52 -17829838.42 0.2672 0.1430

Moon -53529-07-25 00:13 J -17829838.58 -17829838.49 -17829838.40 0.2668 0.1538 *

Neptune -53529-07-25 12:28 J -17829838.09 -17829837.98 -17829837.85 0.0089 0.0041

Neptune -53529-10-21 13:54 J -17829750.03 -17829749.92 -17829749.79 0.0089 0.0047

Neptune -53528-01-17 15:35 J -17829661.96 -17829661.85 -17829661.73 0.0089 0.0052

Neptune -53528-04-15 17:01 J -17829573.89 -17829573.79 -17829573.68 0.0089 0.0059

Neptune -53528-07-12 18:28 J -17829485.81 -17829485.73 -17829485.62 0.0089 0.0065

Neptune -53528-10-08 20:09 J -17829397.74 -17829397.66 -17829397.57 0.0089 0.0070

Neptune -53527-01-04 21:35 J -17829309.66 -17829309.60 -17829309.53 0.0089 0.0076

Neptune -53527-04-02 23:01 J -17829221.58 -17829221.54 -17829221.48 0.0089 0.0082

Neptune -53527-06-30 00:28 J -17829133.49 -17829133.48 -17829133.45 0.0089 0.0088

Mars -53526-03-19 15:21 J -17828870.95 -17828870.86 -17828870.77 0.1753 0.1188

Jupiter -53524-03-30 13:25 J -17828129.12 -17828128.94 -17828128.76 0.0490 0.0013

Saturn -53524-12-15 03:21 J -17827869.45 -17827869.36 -17827869.26 0.0279 0.0231

Saturn -53523-03-13 23:30 J -17827780.69 -17827780.52 -17827780.36 0.0278 0.0105

Saturn -53523-06-10 19:40 J -17827691.86 -17827691.68 -17827691.50 0.0277 0.0022

Saturn -53523-09-07 16:04 J -17827602.97 -17827602.83 -17827602.67 0.0276 0.0149

Moon -53522-07-18 19:40 J -17827288.78 -17827288.68 -17827288.58 0.2673 0.1196

Earth -53522-07-18 19:54 J -17827288.78 -17827288.67 -17827288.57 0.2666 0.1208 *

Moon -53519-01-20 01:25 J -17826372.52 -17826372.44 -17826372.36 0.2668 0.2202

Earth -53519-01-20 01:40 J -17826372.52 -17826372.43 -17826372.34 0.2661 0.2112 *

Jupiter -53518-03-02 07:54 J -17825966.30 -17825966.17 -17825966.04 0.0537 0.0012

Mars -53517-08-09 00:13 J -17825440.60 -17825440.49 -17825440.37 0.1745 0.0473

Mars -53516-06-04 08:09 J -17825141.27 -17825141.16 -17825141.05 0.1790 0.1262

Earth -53516-07-27 18:13 J -17825087.79 -17825087.74 -17825087.69 0.2674 0.2336

Moon -53516-07-27 18:28 J -17825087.78 -17825087.73 -17825087.67 0.2668 0.2328 *

Moon -53512-01-11 20:09 J -17823823.72 -17823823.66 -17823823.59 0.2663 0.2362

Earth -53512-01-11 21:21 J -17823823.69 -17823823.61 -17823823.53 0.2667 0.2214 *

Jupiter -53512-01-16 12:28 J -17823819.15 -17823818.98 -17823818.82 0.0490 0.0171

Jupiter -53512-04-16 15:49 J -17823728.87 -17823728.84 -17823728.81 0.0490 0.0481

Earth -53509-07-20 14:52 J -17822538.00 -17822537.88 -17822537.77 0.2668 0.0257

Moon -53509-07-20 15:21 J -17822537.97 -17822537.86 -17822537.74 0.2673 0.0249 *

Saturn -53508-10-03 07:25 J -17822098.29 -17822098.19 -17822098.09 0.0281 0.0194

Mars -53508-12-30 09:21 J -17822010.24 -17822010.11 -17822009.99 0.1738 0.0248

Saturn -53508-12-30 20:09 J -17822009.79 -17822009.66 -17822009.53 0.0282 0.0091

Saturn -53507-03-29 08:37 J -17821921.28 -17821921.14 -17821921.01 0.0283 0.0013

Saturn -53507-06-25 20:52 J -17821832.75 -17821832.63 -17821832.50 0.0284 0.0115

Saturn -53507-09-22 09:06 J -17821744.20 -17821744.12 -17821744.03 0.0285 0.0218

Mars -53507-10-25 08:23 J -17821711.31 -17821711.15 -17821711.00 0.1799 0.0091

Jupiter -53507-12-19 11:30 J -17821656.15 -17821656.02 -17821655.89 0.0537 0.0139

Jupiter -53506-03-18 20:23 J -17821566.71 -17821566.65 -17821566.59 0.0537 0.0471

Jupiter -53501-11-04 10:47 J -17819509.17 -17819509.05 -17819508.92 0.0490 0.0336

Jupiter -53500-02-02 13:40 J -17819419.06 -17819418.93 -17819418.79 0.0490 0.0310

Moon -53499-01-14 23:01 J -17819072.68 -17819072.54 -17819072.41 0.2666 0.0828

Earth -53499-01-15 00:28 J -17819072.62 -17819072.48 -17819072.34 0.2665 0.0728 *

Mars -53498-05-22 17:59 J -17818579.85 -17818579.75 -17818579.64 0.1730 0.0962

Uranus -53498-07-01 01:54 J -17818540.49 -17818540.42 -17818540.32 0.0147 0.0131

Uranus -53498-09-27 10:04 J -17818452.21 -17818452.08 -17818451.93 0.0147 0.0098

Uranus -53498-12-24 18:13 J -17818363.90 -17818363.74 -17818363.57 0.0147 0.0065

Mars -53497-03-16 09:06 J -17818281.24 -17818281.12 -17818281.00 0.1808 0.1065

Uranus -53497-03-22 02:23 J -17818275.58 -17818275.40 -17818275.21 0.0147 0.0032

Uranus -53497-06-18 10:33 J -17818187.24 -17818187.06 -17818186.87 0.0147 0.0003

Uranus -53497-09-14 18:42 J -17818098.90 -17818098.72 -17818098.53 0.0147 0.0035

Uranus -53497-12-12 02:52 J -17818010.54 -17818010.38 -17818010.21 0.0147 0.0068

Uranus -53496-03-10 11:16 J -17817922.16 -17817922.03 -17817921.89 0.0147 0.0102

Uranus -53496-06-06 19:25 J -17817833.75 -17817833.69 -17817833.61 0.0146 0.0136

Earth -53496-07-23 09:49 J -17817787.20 -17817787.09 -17817786.98 0.2670 0.0686

Moon -53496-07-23 10:33 J -17817787.17 -17817787.06 -17817786.95 0.2672 0.0815 *

Jupiter -53495-10-07 15:06 J -17817345.98 -17817345.87 -17817345.76 0.0537 0.0287

Jupiter -53494-01-05 00:13 J -17817256.59 -17817256.49 -17817256.38 0.0537 0.0330

Saturn -53494-05-04 02:23 J -17817137.43 -17817137.40 -17817137.35 0.0279 0.0270

Saturn -53494-07-31 22:18 J -17817048.71 -17817048.57 -17817048.41 0.0279 0.0145

Saturn -53494-10-28 18:42 J -17816959.90 -17816959.72 -17816959.55 0.0278 0.0020

Saturn -53493-01-25 14:52 J -17816871.04 -17816870.88 -17816870.71 0.0277 0.0109

Saturn -53493-04-23 11:30 J -17816782.11 -17816782.02 -17816781.93 0.0276 0.0236

Venus -53492-06-04 16:47 J -17816374.86 -17816374.80 -17816374.74 0.3766 0.2984

Moon -53489-07-16 05:16 J -17815237.36 -17815237.28 -17815237.21 0.2671 0.2077

Earth -53489-07-16 05:45 J -17815237.34 -17815237.26 -17815237.19 0.2665 0.1987 *

Mars -53489-10-12 03:06 J -17815149.40 -17815149.37 -17815149.34 0.1723 0.1659

Jupiter -53489-11-21 12:13 J -17815109.15 -17815108.99 -17815108.81 0.0490 0.0147

Mars -53487-09-17 15:21 J -17814443.94 -17814443.86 -17814443.78 0.1754 0.1274

Venus -53487-12-19 08:37 J -17814351.24 -17814351.14 -17814351.04 0.3770 0.0881

Moon -53486-01-18 03:06 J -17814321.51 -17814321.37 -17814321.23 0.2668 0.0783

Earth -53486-01-18 03:49 J -17814321.48 -17814321.34 -17814321.20 0.2663 0.0814 *

Venus -53484-09-21 08:09 J -17813344.26 -17813344.16 -17813344.06 0.3611 0.2761

Earth -53483-07-26 04:33 J -17813036.40 -17813036.31 -17813036.22 0.2672 0.1601

Moon -53483-07-26 05:01 J -17813036.38 -17813036.29 -17813036.19 0.2667 0.1585 *

Jupiter -53483-07-26 18:13 J -17813035.81 -17813035.74 -17813035.66 0.0537 0.0443

Jupiter -53483-10-24 03:49 J -17812946.47 -17812946.34 -17812946.22 0.0537 0.0178

Venus -53481-07-04 00:28 J -17812327.57 -17812327.48 -17812327.38 0.3773 0.1224

Saturn -53478-02-20 09:06 J -17811366.20 -17811366.12 -17811366.04 0.0281 0.0227

Venus -53478-04-07 16:33 J -17811319.89 -17811319.81 -17811319.73 0.3605 0.3078

Saturn -53478-05-19 21:35 J -17811277.72 -17811277.60 -17811277.47 0.0282 0.0125

Saturn -53478-08-16 10:18 J -17811189.21 -17811189.07 -17811188.93 0.0283 0.0020

Saturn -53478-11-12 22:47 J -17811100.68 -17811100.55 -17811100.42 0.0284 0.0083

Mars -53477-02-08 00:28 J -17811013.60 -17811013.48 -17811013.37 0.1746 0.0564

Saturn -53477-02-09 11:01 J -17811012.14 -17811012.04 -17811011.94 0.0285 0.0186

Jupiter -53477-09-09 11:01 J -17810799.21 -17810799.04 -17810798.86 0.0490 0.0019

Mars -53477-12-03 08:23 J -17810714.24 -17810714.15 -17810714.05 0.1790 0.1388

Moon -53476-07-19 00:57 J -17810486.57 -17810486.46 -17810486.36 0.2673 0.1029

Earth -53476-07-19 00:42 J -17810486.57 -17810486.47 -17810486.36 0.2667 0.1028 *

Venus -53475-01-17 16:18 J -17810303.86 -17810303.82 -17810303.77 0.3777 0.3304

Moon -53473-01-21 07:40 J -17809570.25 -17809570.18 -17809570.11 0.2667 0.2313

Earth -53473-01-21 07:54 J -17809570.23 -17809570.17 -17809570.11 0.2660 0.2401 *

Jupiter -53471-08-12 06:57 J -17808636.34 -17808636.21 -17808636.08 0.0537 0.0021

Earth -53470-07-28 23:01 J -17808285.57 -17808285.54 -17808285.50 0.2674 0.2500

Moon -53470-07-28 23:16 J -17808285.56 -17808285.53 -17808285.50 0.2668 0.2537 *

Mars -53468-06-30 09:21 J -17807583.23 -17807583.11 -17807582.99 0.1738 0.0151

Mars -53467-04-25 08:52 J -17807284.28 -17807284.13 -17807283.97 0.1799 0.0227

Moon -53466-01-13 02:09 J -17807021.51 -17807021.41 -17807021.31 0.2665 0.1962

Earth -53466-01-13 03:21 J -17807021.45 -17807021.36 -17807021.26 0.2667 0.1951 *

Jupiter -53465-06-28 10:18 J -17806489.23 -17806489.07 -17806488.90 0.0490 0.0169

Jupiter -53465-09-26 13:40 J -17806398.95 -17806398.93 -17806398.90 0.0490 0.0484

Saturn -53465-12-17 22:47 J -17806316.67 -17806316.55 -17806316.41 0.0279 0.0177

Saturn -53464-03-16 19:11 J -17806227.88 -17806227.70 -17806227.53 0.0278 0.0051

Saturn -53464-06-13 15:21 J -17806139.03 -17806138.86 -17806138.69 0.0277 0.0076

Saturn -53464-09-10 11:45 J -17806050.12 -17806050.01 -17806049.88 0.0276 0.0204

Earth -53463-07-21 19:54 J -17805735.79 -17805735.67 -17805735.56 0.2669 0.0112

Moon -53463-07-21 20:23 J -17805735.76 -17805735.65 -17805735.53 0.2674 0.0052 *

Jupiter -53459-05-31 09:21 J -17804326.23 -17804326.11 -17804325.98 0.0537 0.0148

Jupiter -53459-08-28 18:13 J -17804236.80 -17804236.74 -17804236.67 0.0537 0.0464

Mars -53459-11-20 18:13 J -17804152.85 -17804152.74 -17804152.63 0.1730 0.0862

Mars -53458-09-15 09:21 J -17803854.24 -17803854.11 -17803853.98 0.1808 0.0955

Uranus -53456-10-13 20:09 J -17803094.68 -17803094.66 -17803094.62 0.0132 0.0128

Uranus -53455-01-09 23:30 J -17803006.59 -17803006.52 -17803006.44 0.0132 0.0110

Uranus -53455-04-08 02:37 J -17802918.48 -17802918.39 -17802918.29 0.0132 0.0092

Uranus -53455-07-05 05:45 J -17802830.37 -17802830.26 -17802830.14 0.0132 0.0075

Uranus -53455-10-01 08:52 J -17802742.25 -17802742.13 -17802742.00 0.0132 0.0057

Uranus -53455-12-28 11:59 J -17802654.13 -17802654.00 -17802653.87 0.0132 0.0040

Uranus -53454-03-26 15:06 J -17802566.00 -17802565.87 -17802565.73 0.0132 0.0022

Uranus -53454-06-22 18:13 J -17802477.87 -17802477.74 -17802477.60 0.0132 0.0004

Uranus -53454-09-18 21:21 J -17802389.75 -17802389.61 -17802389.48 0.0132 0.0013

Uranus -53454-12-16 00:13 J -17802301.61 -17802301.49 -17802301.35 0.0132 0.0031

Moon -53453-01-16 05:16 J -17802270.43 -17802270.28 -17802270.14 0.2666 0.0602

Earth -53453-01-16 06:42 J -17802270.37 -17802270.22 -17802270.08 0.2664 0.0459 *

Uranus -53453-03-13 03:21 J -17802213.48 -17802213.36 -17802213.23 0.0132 0.0048

Jupiter -53453-04-16 09:21 J -17802179.24 -17802179.11 -17802178.98 0.0490 0.0327

Uranus -53453-06-09 06:28 J -17802125.35 -17802125.23 -17802125.11 0.0132 0.0065

Jupiter -53453-07-15 12:13 J -17802089.12 -17802088.99 -17802088.85 0.0490 0.0319

Uranus -53453-09-05 09:35 J -17802037.21 -17802037.10 -17802037.00 0.0132 0.0083

Uranus -53453-12-02 12:28 J -17801949.06 -17801948.98 -17801948.89 0.0132 0.0100

Uranus -53452-02-28 15:21 J -17801860.91 -17801860.86 -17801860.79 0.0132 0.0117

Neptune -53452-12-19 10:04 J -17801567.09 -17801567.08 -17801567.04 0.0089 0.0088

Neptune -53451-03-17 12:42 J -17801479.02 -17801478.97 -17801478.87 0.0089 0.0081

Neptune -53451-06-13 15:49 J -17801390.92 -17801390.84 -17801390.72 0.0089 0.0073

Neptune -53451-09-09 19:11 J -17801302.82 -17801302.70 -17801302.58 0.0089 0.0065

Neptune -53451-12-06 21:49 J -17801214.71 -17801214.59 -17801214.45 0.0089 0.0058

Neptune -53450-03-05 00:57 J -17801126.60 -17801126.46 -17801126.31 0.0089 0.0050

Neptune -53450-06-01 03:35 J -17801038.49 -17801038.35 -17801038.18 0.0089 0.0043

Earth -53450-07-24 14:37 J -17800985.00 -17800984.89 -17800984.78 0.2671 0.0858

Moon -53450-07-24 15:35 J -17800984.96 -17800984.85 -17800984.75 0.2670 0.0873 *

Neptune -53450-08-28 06:42 J -17800950.38 -17800950.22 -17800950.05 0.0089 0.0035

Neptune -53450-11-24 09:49 J -17800862.26 -17800862.09 -17800861.92 0.0089 0.0027

Neptune -53449-02-20 12:42 J -17800774.14 -17800773.97 -17800773.79 0.0089 0.0020

Mars -53449-04-12 03:06 J -17800722.42 -17800722.37 -17800722.32 0.1722 0.1571

Neptune -53449-05-18 15:49 J -17800686.02 -17800685.84 -17800685.66 0.0089 0.0012

Saturn -53449-07-09 12:28 J -17800634.04 -17800633.98 -17800633.91 0.0281 0.0247

Neptune -53449-08-14 18:57 J -17800597.89 -17800597.71 -17800597.53 0.0089 0.0004

Saturn -53449-10-06 01:11 J -17800545.57 -17800545.45 -17800545.33 0.0282 0.0143

Neptune -53449-11-10 21:49 J -17800509.77 -17800509.59 -17800509.41 0.0089 0.0004

Saturn -53448-01-02 13:40 J -17800457.06 -17800456.93 -17800456.79 0.0283 0.0040

Neptune -53448-02-07 00:57 J -17800421.64 -17800421.46 -17800421.28 0.0089 0.0012

Saturn -53448-04-01 02:09 J -17800368.54 -17800368.41 -17800368.27 0.0283 0.0063

Neptune -53448-05-06 03:49 J -17800333.51 -17800333.34 -17800333.16 0.0089 0.0020

Saturn -53448-06-28 14:23 J -17800280.00 -17800279.90 -17800279.78 0.0284 0.0166

Neptune -53448-08-02 06:42 J -17800245.38 -17800245.22 -17800245.03 0.0089 0.0028

Saturn -53448-09-25 02:37 J -17800191.43 -17800191.39 -17800191.34 0.0285 0.0268

Neptune -53448-10-29 10:04 J -17800157.25 -17800157.08 -17800156.91 0.0089 0.0035

Neptune -53447-01-25 12:57 J -17800069.11 -17800068.96 -17800068.79 0.0089 0.0043

Mars -53447-03-18 15:21 J -17800016.93 -17800016.86 -17800016.78 0.1754 0.1369

Jupiter -53447-03-19 12:42 J -17800016.08 -17800015.97 -17800015.86 0.0537 0.0301

Neptune -53447-04-23 16:04 J -17799980.97 -17799980.83 -17799980.68 0.0089 0.0051

Jupiter -53447-06-16 22:04 J -17799926.69 -17799926.58 -17799926.48 0.0537 0.0317

Neptune -53447-07-20 19:11 J -17799892.83 -17799892.70 -17799892.56 0.0089 0.0059

Neptune -53447-10-16 22:04 J -17799804.68 -17799804.58 -17799804.45 0.0089 0.0067

Neptune -53446-01-13 01:11 J -17799716.53 -17799716.45 -17799716.34 0.0089 0.0075

Neptune -53446-04-11 04:18 J -17799628.37 -17799628.32 -17799628.24 0.0089 0.0083

Moon -53443-07-17 10:18 J -17798435.16 -17798435.07 -17798434.99 0.2671 0.1800

Earth -53443-07-17 10:47 J -17798435.14 -17798435.05 -17798434.97 0.2665 0.1805 *

Jupiter -53441-05-03 10:18 J -17797779.24 -17797779.07 -17797778.90 0.0490 0.0147

Moon -53440-01-18 09:21 J -17797519.24 -17797519.11 -17797518.97 0.2668 0.1033

Earth -53440-01-18 10:04 J -17797519.21 -17797519.08 -17797518.94 0.2662 0.1092 *

Mars -53438-08-09 00:28 J -17796586.60 -17796586.48 -17796586.37 0.1745 0.0650

Mars -53437-06-03 09:06 J -17796287.19 -17796287.12 -17796287.04 0.1790 0.1531

Earth -53437-07-26 09:35 J -17796234.19 -17796234.10 -17796234.02 0.2673 0.1769

Moon -53437-07-26 10:04 J -17796234.16 -17796234.08 -17796234.00 0.2668 0.1879 *

Jupiter -53435-01-05 16:18 J -17795705.89 -17795705.82 -17795705.75 0.0537 0.0449

Venus -53435-01-09 14:09 J -17795701.99 -17795701.91 -17795701.82 0.3767 0.2211

Jupiter -53435-04-05 01:54 J -17795616.55 -17795616.42 -17795616.30 0.0537 0.0173

Saturn -53435-05-06 23:01 J -17795584.66 -17795584.54 -17795584.43 0.0279 0.0210

Saturn -53435-08-03 18:57 J -17795495.88 -17795495.71 -17795495.54 0.0278 0.0085

Saturn -53435-10-31 15:06 J -17795407.05 -17795406.87 -17795406.69 0.0277 0.0041

Saturn -53434-01-28 11:30 J -17795318.16 -17795318.02 -17795317.88 0.0276 0.0168

Earth -53430-07-20 05:45 J -17793684.37 -17793684.26 -17793684.15 0.2667 0.0847

Moon -53430-07-20 05:59 J -17793684.36 -17793684.25 -17793684.14 0.2673 0.0856 *

Venus -53430-07-26 06:13 J -17793678.34 -17793678.24 -17793678.14 0.3770 0.0128

Jupiter -53429-02-20 08:52 J -17793469.31 -17793469.13 -17793468.95 0.0490 0.0016

Mars -53429-12-29 09:21 J -17793156.23 -17793156.11 -17793155.99 0.1738 0.0063

Mars -53428-10-24 09:21 J -17792857.26 -17792857.11 -17792856.96 0.1799 0.0358

Venus -53427-04-28 10:04 J -17792671.23 -17792671.08 -17792670.93 0.3609 0.0783

Venus -53424-02-07 22:04 J -17791654.67 -17791654.58 -17791654.50 0.3774 0.1983

Moon -53424-07-29 04:04 J -17791483.36 -17791483.33 -17791483.31 0.2668 0.2592

Earth -53424-07-29 04:04 J -17791483.33 -17791483.33 -17791483.32 0.2674 0.2666 *

Jupiter -53423-01-22 05:16 J -17791306.41 -17791306.28 -17791306.15 0.0537 0.0021

Moon -53420-01-13 08:09 J -17790219.26 -17790219.16 -17790219.06 0.2665 0.1889

Earth -53420-01-13 09:35 J -17790219.21 -17790219.10 -17790218.99 0.2666 0.1682 *

Saturn -53420-11-26 14:09 J -17789901.92 -17789901.91 -17789901.89 0.0281 0.0278

Saturn -53419-02-23 02:52 J -17789813.48 -17789813.38 -17789813.27 0.0282 0.0175

Mars -53419-05-21 18:13 J -17789725.85 -17789725.74 -17789725.62 0.1730 0.0770

Saturn -53419-05-22 15:35 J -17789724.98 -17789724.85 -17789724.72 0.0283 0.0071

Pluto -53419-06-22 09:21 J -17789694.13 -17789694.11 -17789694.05 0.0062 0.0060

Saturn -53419-08-19 04:04 J -17789636.47 -17789636.33 -17789636.19 0.0284 0.0032

Pluto -53419-09-18 11:01 J -17789606.12 -17789606.04 -17789605.97 0.0062 0.0055

Saturn -53419-11-15 16:18 J -17789547.93 -17789547.82 -17789547.70 0.0285 0.0136

Pluto -53419-12-15 11:45 J -17789518.09 -17789518.01 -17789517.90 0.0062 0.0051

Saturn -53418-02-12 04:33 J -17789459.38 -17789459.31 -17789459.23 0.0285 0.0238

Pluto -53418-03-13 12:28 J -17789430.07 -17789429.98 -17789429.84 0.0062 0.0047

Mars -53418-03-16 09:49 J -17789427.23 -17789427.09 -17789426.96 0.1808 0.0822

Pluto -53418-06-09 13:54 J -17789342.03 -17789341.92 -17789341.78 0.0062 0.0042

Pluto -53418-09-05 15:21 J -17789254.00 -17789253.86 -17789253.73 0.0062 0.0038

Pluto -53418-12-02 16:04 J -17789165.96 -17789165.83 -17789165.67 0.0062 0.0033

Jupiter -53418-12-09 07:40 J -17789159.34 -17789159.18 -17789159.01 0.0490 0.0176

Pluto -53417-02-28 17:16 J -17789077.92 -17789077.78 -17789077.62 0.0062 0.0029

Jupiter -53417-03-08 11:01 J -17789069.07 -17789069.04 -17789069.00 0.0490 0.0477

Pluto -53417-05-26 18:13 J -17788989.88 -17788989.74 -17788989.56 0.0062 0.0025

Earth -53417-07-22 00:57 J -17788933.58 -17788933.46 -17788933.35 0.2669 0.0144

Moon -53417-07-22 01:25 J -17788933.55 -17788933.44 -17788933.32 0.2674 0.0142 *

Pluto -53417-08-22 19:40 J -17788901.84 -17788901.68 -17788901.51 0.0062 0.0019

Pluto -53417-11-18 20:52 J -17788813.80 -17788813.63 -17788813.46 0.0063 0.0015

Pluto -53416-02-14 22:04 J -17788725.75 -17788725.58 -17788725.41 0.0063 0.0010

Pluto -53416-05-13 23:01 J -17788637.70 -17788637.54 -17788637.36 0.0063 0.0006

Pluto -53416-08-10 00:28 J -17788549.66 -17788549.48 -17788549.31 0.0063 0.0001

Pluto -53416-11-06 01:25 J -17788461.61 -17788461.44 -17788461.26 0.0063 0.0005

Pluto -53415-02-02 02:37 J -17788373.56 -17788373.39 -17788373.21 0.0063 0.0009

Pluto -53415-05-01 03:49 J -17788285.51 -17788285.34 -17788285.17 0.0063 0.0014

Pluto -53415-07-28 04:47 J -17788197.45 -17788197.30 -17788197.12 0.0063 0.0019

Pluto -53415-10-24 05:59 J -17788109.40 -17788109.25 -17788109.07 0.0063 0.0024

Pluto -53414-01-20 07:11 J -17788021.34 -17788021.20 -17788021.03 0.0063 0.0029

Pluto -53414-04-18 08:37 J -17787933.28 -17787933.14 -17787932.99 0.0063 0.0034

Pluto -53414-07-15 09:49 J -17787845.22 -17787845.09 -17787844.95 0.0063 0.0039

Uranus -53414-07-21 09:35 J -17787839.18 -17787839.10 -17787838.98 0.0147 0.0122

Pluto -53414-10-11 11:01 J -17787757.16 -17787757.04 -17787756.91 0.0063 0.0044

Uranus -53414-10-17 17:45 J -17787750.90 -17787750.76 -17787750.60 0.0147 0.0089

Pluto -53413-01-07 12:13 J -17787669.09 -17787668.99 -17787668.87 0.0064 0.0049

Uranus -53413-01-14 01:54 J -17787662.58 -17787662.42 -17787662.24 0.0147 0.0056

Pluto -53413-04-04 13:40 J -17787581.02 -17787580.93 -17787580.84 0.0064 0.0054

Uranus -53413-04-11 10:04 J -17787574.26 -17787574.08 -17787573.89 0.0147 0.0023

Pluto -53413-07-01 14:23 J -17787492.94 -17787492.90 -17787492.81 0.0064 0.0060

Uranus -53413-07-08 18:13 J -17787485.92 -17787485.74 -17787485.55 0.0147 0.0011

Uranus -53413-10-05 02:23 J -17787397.57 -17787397.40 -17787397.22 0.0147 0.0044

Uranus -53412-01-01 10:33 J -17787309.21 -17787309.06 -17787308.89 0.0147 0.0077

Uranus -53412-03-30 18:42 J -17787220.83 -17787220.72 -17787220.59 0.0147 0.0111

Uranus -53412-06-27 02:52 J -17787132.39 -17787132.38 -17787132.33 0.0146 0.0145

Jupiter -53412-11-10 08:23 J -17786996.28 -17786996.15 -17786996.03 0.0537 0.0138

Jupiter -53411-02-07 17:16 J -17786906.84 -17786906.78 -17786906.72 0.0536 0.0471

Moon -53410-07-15 19:40 J -17786383.70 -17786383.68 -17786383.66 0.2667 0.2596

Earth -53410-07-15 20:23 J -17786383.67 -17786383.65 -17786383.63 0.2664 0.2595 *

Mars -53410-10-12 03:06 J -17786295.43 -17786295.37 -17786295.30 0.1722 0.1476

Mars -53408-09-16 15:35 J -17785589.92 -17785589.85 -17785589.79 0.1754 0.1460

Moon -53407-01-16 11:16 J -17785468.17 -17785468.03 -17785467.88 0.2666 0.0240

Earth -53407-01-16 12:42 J -17785468.12 -17785467.97 -17785467.83 0.2664 0.0184 *

Saturn -53406-09-23 23:30 J -17784852.60 -17784852.52 -17784852.43 0.0279 0.0241

Jupiter -53406-09-27 06:57 J -17784849.33 -17784849.21 -17784849.08 0.0490 0.0329

Saturn -53406-12-21 19:25 J -17784763.85 -17784763.69 -17784763.53 0.0278 0.0117

Jupiter -53406-12-26 09:49 J -17784759.22 -17784759.09 -17784758.95 0.0490 0.0318

Saturn -53405-03-19 15:35 J -17784675.02 -17784674.85 -17784674.67 0.0277 0.0012

Saturn -53405-06-16 11:59 J -17784586.15 -17784586.00 -17784585.84 0.0276 0.0137

Saturn -53405-09-13 08:37 J -17784497.18 -17784497.14 -17784497.08 0.0276 0.0264

Earth -53404-07-24 19:40 J -17784182.78 -17784182.68 -17784182.57 0.2671 0.1027

Moon -53404-07-24 20:23 J -17784182.75 -17784182.65 -17784182.54 0.2669 0.1133 *

Jupiter -53400-08-29 10:33 J -17782686.16 -17782686.06 -17782685.95 0.0537 0.0310

Jupiter -53400-11-26 19:54 J -17782596.78 -17782596.67 -17782596.56 0.0537 0.0308

Mars -53398-02-07 00:28 J -17782159.59 -17782159.48 -17782159.37 0.1746 0.0742

Mars -53398-12-03 09:35 J -17781860.16 -17781860.10 -17781860.05 0.1790 0.1653

Moon -53397-07-17 15:21 J -17781632.95 -17781632.86 -17781632.77 0.2671 0.1719

Earth -53397-07-17 15:49 J -17781632.94 -17781632.84 -17781632.75 0.2666 0.1624 *

Moon -53394-01-19 15:35 J -17780716.97 -17780716.85 -17780716.72 0.2668 0.1309

Earth -53394-01-19 16:18 J -17780716.95 -17780716.82 -17780716.69 0.2662 0.1371 *

Jupiter -53394-07-16 06:13 J -17780539.26 -17780539.24 -17780539.22 0.0490 0.0485

Jupiter -53394-10-14 08:37 J -17780449.31 -17780449.14 -17780448.97 0.0490 0.0154

Earth -53391-07-27 14:23 J -17779431.98 -17779431.90 -17779431.82 0.2673 0.1937

Moon -53391-07-27 14:52 J -17779431.96 -17779431.88 -17779431.80 0.2668 0.1913 *

Saturn -53390-07-13 06:28 J -17779081.33 -17779081.23 -17779081.13 0.0281 0.0193

Saturn -53390-10-09 19:11 J -17778992.83 -17778992.70 -17778992.57 0.0282 0.0089

Saturn -53389-01-06 07:40 J -17778904.32 -17778904.18 -17778904.04 0.0283 0.0015

Saturn -53389-04-03 20:09 J -17778815.78 -17778815.66 -17778815.54 0.0284 0.0117

Mars -53389-06-29 09:35 J -17778729.23 -17778729.10 -17778728.98 0.1738 0.0075

Saturn -53389-07-01 08:23 J -17778727.23 -17778727.15 -17778727.06 0.0285 0.0220

Mars -53388-04-24 09:49 J -17778430.24 -17778430.09 -17778429.94 0.1799 0.0477

Jupiter -53388-06-17 13:54 J -17778375.99 -17778375.92 -17778375.86 0.0537 0.0466

Jupiter -53388-09-14 23:30 J -17778286.65 -17778286.52 -17778286.40 0.0537 0.0158

Venus -53384-01-30 19:40 J -17777052.71 -17777052.68 -17777052.64 0.3763 0.3548

Earth -53384-07-20 10:47 J -17776882.16 -17776882.05 -17776881.94 0.2668 0.0667

Moon -53384-07-20 11:16 J -17776882.15 -17776882.03 -17776881.92 0.2674 0.0600 *

Jupiter -53382-08-02 06:28 J -17776139.40 -17776139.23 -17776139.05 0.0490 0.0019

Mars -53380-11-19 18:13 J -17775298.85 -17775298.74 -17775298.62 0.1730 0.0683

Venus -53379-08-16 11:45 J -17775029.10 -17775029.01 -17775028.92 0.3768 0.1429

Mars -53379-09-14 10:18 J -17775000.21 -17775000.07 -17774999.93 0.1808 0.0683

Saturn -53376-02-09 23:59 J -17774120.53 -17774120.50 -17774120.45 0.0279 0.0271

Saturn -53376-05-09 19:54 J -17774031.81 -17774031.67 -17774031.52 0.0278 0.0147

Jupiter -53376-07-04 03:06 J -17773976.50 -17773976.37 -17773976.23 0.0537 0.0020

Saturn -53376-08-06 16:04 J -17773943.00 -17773942.83 -17773942.65 0.0278 0.0021

Saturn -53376-11-03 12:28 J -17773854.15 -17773853.98 -17773853.82 0.0277 0.0106

Saturn -53375-01-31 08:52 J -17773765.22 -17773765.13 -17773765.03 0.0276 0.0233

Moon -53374-01-14 14:09 J -17773417.03 -17773416.91 -17773416.79 0.2664 0.1430

Earth -53374-01-14 15:35 J -17773416.97 -17773416.85 -17773416.73 0.2666 0.1419 *

Venus -53373-03-01 03:35 J -17773005.45 -17773005.35 -17773005.25 0.3771 0.0683

Uranus -53372-11-03 03:49 J -17772393.38 -17772393.34 -17772393.28 0.0132 0.0121

Uranus -53371-01-30 07:11 J -17772305.28 -17772305.20 -17772305.12 0.0132 0.0103

Uranus -53371-04-28 10:18 J -17772217.17 -17772217.07 -17772216.97 0.0132 0.0085

Earth -53371-07-23 05:45 J -17772131.37 -17772131.26 -17772131.14 0.2669 0.0279

Moon -53371-07-23 06:28 J -17772131.34 -17772131.23 -17772131.12 0.2673 0.0327 *

Uranus -53371-07-25 13:25 J -17772129.05 -17772128.94 -17772128.82 0.0132 0.0068

Uranus -53371-10-21 16:33 J -17772040.93 -17772040.81 -17772040.68 0.0132 0.0050

Venus -53371-12-03 11:59 J -17771998.15 -17771998.00 -17771997.86 0.3608 0.1185

Uranus -53370-01-17 19:40 J -17771952.81 -17771952.68 -17771952.55 0.0132 0.0033

Mars -53370-04-12 03:21 J -17771868.43 -17771868.36 -17771868.29 0.1723 0.1382

Uranus -53370-04-15 22:47 J -17771864.68 -17771864.55 -17771864.41 0.0132 0.0015

Jupiter -53370-05-21 05:16 J -17771829.44 -17771829.28 -17771829.11 0.0490 0.0179

Uranus -53370-07-13 01:54 J -17771776.56 -17771776.42 -17771776.29 0.0132 0.0003

Jupiter -53370-08-19 08:37 J -17771739.19 -17771739.14 -17771739.10 0.0490 0.0472

Uranus -53370-10-09 05:01 J -17771688.43 -17771688.29 -17771688.16 0.0132 0.0020

Uranus -53369-01-05 07:54 J -17771600.29 -17771600.17 -17771600.04 0.0132 0.0038

Neptune -53369-03-29 02:09 J -17771516.43 -17771516.41 -17771516.39 0.0089 0.0087

Uranus -53369-04-02 11:01 J -17771512.16 -17771512.04 -17771511.92 0.0132 0.0055

Neptune -53369-06-25 03:35 J -17771428.40 -17771428.35 -17771428.28 0.0089 0.0081

Uranus -53369-06-29 13:54 J -17771424.02 -17771423.92 -17771423.80 0.0132 0.0072

Neptune -53369-09-21 05:16 J -17771340.35 -17771340.28 -17771340.20 0.0089 0.0075

Uranus -53369-09-25 17:01 J -17771335.88 -17771335.79 -17771335.69 0.0132 0.0089

Neptune -53369-12-18 06:42 J -17771252.29 -17771252.22 -17771252.12 0.0089 0.0069

Uranus -53369-12-22 20:09 J -17771247.74 -17771247.66 -17771247.58 0.0132 0.0107

Neptune -53368-03-16 08:23 J -17771164.24 -17771164.15 -17771164.04 0.0089 0.0063

Mars -53368-03-17 15:35 J -17771162.91 -17771162.85 -17771162.80 0.1754 0.1545

Uranus -53368-03-20 23:16 J -17771159.58 -17771159.53 -17771159.49 0.0132 0.0124

Neptune -53368-06-12 10:18 J -17771076.18 -17771076.07 -17771075.96 0.0089 0.0056

Neptune -53368-09-08 11:59 J -17770988.12 -17770988.00 -17770987.89 0.0089 0.0050

Venus -53368-09-14 19:25 J -17770981.75 -17770981.69 -17770981.62 0.3775 0.2761

Neptune -53368-12-05 13:25 J -17770900.06 -17770899.94 -17770899.81 0.0089 0.0044

Neptune -53367-03-03 15:06 J -17770812.00 -17770811.87 -17770811.74 0.0089 0.0038

Neptune -53367-05-30 16:33 J -17770723.94 -17770723.81 -17770723.67 0.0089 0.0032

Neptune -53367-08-26 18:13 J -17770635.87 -17770635.74 -17770635.60 0.0089 0.0025

Neptune -53367-11-22 19:40 J -17770547.81 -17770547.68 -17770547.53 0.0089 0.0020

Neptune -53366-02-18 21:21 J -17770459.75 -17770459.61 -17770459.47 0.0089 0.0013

Neptune -53366-05-17 23:01 J -17770371.68 -17770371.54 -17770371.40 0.0089 0.0007

Neptune -53366-08-14 00:28 J -17770283.62 -17770283.48 -17770283.33 0.0089 0.0003

Neptune -53366-11-10 02:09 J -17770195.55 -17770195.41 -17770195.27 0.0089 0.0005

Neptune -53365-02-06 03:35 J -17770107.48 -17770107.35 -17770107.21 0.0089 0.0011

Neptune -53365-05-04 05:01 J -17770019.42 -17770019.29 -17770019.14 0.0089 0.0018

Neptune -53365-07-31 06:42 J -17769931.35 -17769931.22 -17769931.08 0.0089 0.0023

Neptune -53365-10-27 08:09 J -17769843.28 -17769843.16 -17769843.02 0.0089 0.0030

Neptune -53364-01-23 09:35 J -17769755.22 -17769755.10 -17769754.96 0.0089 0.0036

Neptune -53364-04-21 11:16 J -17769667.15 -17769667.03 -17769666.90 0.0089 0.0041

Jupiter -53364-04-22 06:28 J -17769666.35 -17769666.23 -17769666.10 0.0537 0.0142

Moon -53364-07-16 00:42 J -17769581.50 -17769581.47 -17769581.43 0.2668 0.2541

Earth -53364-07-16 01:25 J -17769581.48 -17769581.44 -17769581.39 0.2664 0.2409 *

Neptune -53364-07-18 12:57 J -17769579.08 -17769578.96 -17769578.84 0.0089 0.0047

Jupiter -53364-07-20 15:21 J -17769576.92 -17769576.86 -17769576.79 0.0536 0.0469

Neptune -53364-10-14 14:23 J -17769491.01 -17769490.90 -17769490.79 0.0089 0.0053

Neptune -53363-01-10 15:49 J -17769402.94 -17769402.84 -17769402.73 0.0089 0.0059

Neptune -53363-04-08 17:16 J -17769314.86 -17769314.78 -17769314.68 0.0089 0.0065

Neptune -53363-07-05 18:42 J -17769226.79 -17769226.72 -17769226.63 0.0089 0.0071

Neptune -53363-10-01 20:09 J -17769138.71 -17769138.66 -17769138.58 0.0089 0.0077

Neptune -53363-12-28 21:35 J -17769050.63 -17769050.60 -17769050.54 0.0089 0.0083

Neptune -53362-03-26 23:16 J -17768962.53 -17768962.53 -17768962.51 0.0089 0.0088

Moon -53361-01-17 17:45 J -17768665.91 -17768665.76 -17768665.62 0.2668 0.0088

Earth -53361-01-17 18:57 J -17768665.86 -17768665.71 -17768665.57 0.2664 0.0126 *

Saturn -53361-11-29 08:09 J -17768349.23 -17768349.16 -17768349.07 0.0282 0.0225

Saturn -53360-02-25 20:52 J -17768260.75 -17768260.63 -17768260.50 0.0282 0.0121

Saturn -53360-05-25 09:35 J -17768172.24 -17768172.10 -17768171.96 0.0283 0.0018

Saturn -53360-08-21 22:04 J -17768083.71 -17768083.58 -17768083.45 0.0284 0.0086

Saturn -53360-11-18 10:18 J -17767995.17 -17767995.07 -17767994.97 0.0285 0.0189

Mars -53359-08-08 00:42 J -17767732.58 -17767732.47 -17767732.37 0.1746 0.0840

Jupiter -53358-03-09 04:18 J -17767519.45 -17767519.32 -17767519.20 0.0490 0.0338

Mars -53358-06-03 10:04 J -17767433.09 -17767433.08 -17767433.07 0.1790 0.1784

Jupiter -53358-06-07 06:57 J -17767429.34 -17767429.21 -17767429.07 0.0490 0.0308

Earth -53358-07-26 00:42 J -17767380.57 -17767380.47 -17767380.37 0.2671 0.1197

Moon -53358-07-26 01:25 J -17767380.54 -17767380.44 -17767380.34 0.2669 0.1233 *

Jupiter -53352-02-08 09:35 J -17765356.21 -17765356.10 -17765355.99 0.0537 0.0301

Jupiter -53352-05-08 18:42 J -17765266.82 -17765266.72 -17765266.61 0.0536 0.0315

Moon -53351-07-18 20:23 J -17764830.74 -17764830.65 -17764830.55 0.2672 0.1410

Earth -53351-07-18 20:37 J -17764830.73 -17764830.64 -17764830.54 0.2666 0.1445 *

Mars -53350-12-29 09:35 J -17764302.23 -17764302.10 -17764301.98 0.1738 0.0133

Mars -53349-10-23 10:18 J -17764003.22 -17764003.07 -17764002.93 0.1799 0.0611

Moon -53348-01-19 21:49 J -17763914.70 -17763914.59 -17763914.47 0.2668 0.1635

Earth -53348-01-19 22:33 J -17763914.68 -17763914.56 -17763914.45 0.2662 0.1648 *

Saturn -53347-09-26 20:37 J -17763299.77 -17763299.64 -17763299.50 0.0278 0.0178

Saturn -53347-12-24 16:47 J -17763210.98 -17763210.80 -17763210.63 0.0278 0.0053

Jupiter -53347-12-26 03:35 J -17763209.35 -17763209.35 -17763209.34 0.0490 0.0490

Saturn -53346-03-23 12:57 J -17763122.13 -17763121.96 -17763121.79 0.0277 0.0074

Jupiter -53346-03-26 05:59 J -17763119.42 -17763119.25 -17763119.08 0.0490 0.0149

Saturn -53346-06-20 09:21 J -17763033.22 -17763033.11 -17763032.98 0.0276 0.0201

Earth -53345-07-27 19:25 J -17762629.76 -17762629.69 -17762629.62 0.2673 0.2104

Moon -53345-07-27 19:40 J -17762629.74 -17762629.68 -17762629.61 0.2667 0.2172 *

Moon -53341-01-12 17:45 J -17761365.77 -17761365.76 -17761365.75 0.2664 0.2649

Earth -53341-01-12 18:42 J -17761365.74 -17761365.72 -17761365.69 0.2668 0.2610

Jupiter -53341-11-27 11:45 J -17761046.07 -17761046.01 -17761045.95 0.0537 0.0474

Jupiter -53340-02-24 21:21 J -17760956.74 -17760956.61 -17760956.49 0.0537 0.0149

Mars -53340-05-20 18:28 J -17760871.85 -17760871.73 -17760871.61 0.1730 0.0585

Mars -53339-03-15 10:33 J -17760573.20 -17760573.06 -17760572.91 0.1808 0.0566

Earth -53338-07-21 15:49 J -17760079.95 -17760079.84 -17760079.73 0.2668 0.0488

Moon -53338-07-21 16:18 J -17760079.94 -17760079.82 -17760079.71 0.2674 0.0521 *

Jupiter -53334-01-12 04:47 J -17758809.48 -17758809.30 -17758809.12 0.0490 0.0013

Saturn -53331-04-18 11:59 J -17757617.07 -17757617.00 -17757616.93 0.0281 0.0242

Saturn -53331-07-16 00:42 J -17757528.59 -17757528.47 -17757528.35 0.0282 0.0138

Mars -53331-10-11 03:21 J -17757441.44 -17757441.36 -17757441.28 0.1723 0.1290

Saturn -53331-10-12 13:11 J -17757440.08 -17757439.95 -17757439.81 0.0283 0.0035

Saturn -53330-01-09 01:40 J -17757351.56 -17757351.43 -17757351.29 0.0284 0.0069

Saturn -53330-04-07 14:09 J -17757263.02 -17757262.91 -17757262.80 0.0285 0.0172

Uranus -53330-05-14 09:35 J -17757226.12 -17757226.10 -17757226.05 0.0147 0.0144

Saturn -53330-07-05 02:23 J -17757174.43 -17757174.40 -17757174.37 0.0285 0.0274

Mars -53330-08-05 11:16 J -17757143.07 -17757143.03 -17757142.99 0.1817 0.1732

Uranus -53330-08-10 17:30 J -17757137.87 -17757137.77 -17757137.64 0.0147 0.0112

Uranus -53330-11-07 01:40 J -17757049.58 -17757049.43 -17757049.27 0.0147 0.0079

Uranus -53329-02-03 09:49 J -17756961.26 -17756961.09 -17756960.91 0.0147 0.0046

Uranus -53329-05-01 17:59 J -17756872.93 -17756872.75 -17756872.56 0.0147 0.0013

Uranus -53329-07-29 02:09 J -17756784.59 -17756784.41 -17756784.22 0.0147 0.0020

Mars -53329-09-15 15:35 J -17756735.89 -17756735.85 -17756735.81 0.1754 0.1640

Uranus -53329-10-25 10:18 J -17756696.24 -17756696.07 -17756695.89 0.0147 0.0054

Jupiter -53329-12-14 00:42 J -17756646.60 -17756646.47 -17756646.34 0.0537 0.0009

Moon -53328-01-14 20:09 J -17756614.78 -17756614.66 -17756614.53 0.2665 0.1350

Earth -53328-01-14 21:35 J -17756614.73 -17756614.60 -17756614.47 0.2666 0.1148 *

Uranus -53328-01-21 18:13 J -17756607.88 -17756607.74 -17756607.58 0.0147 0.0088

Uranus -53328-04-20 02:37 J -17756519.49 -17756519.39 -17756519.28 0.0147 0.0121

Pluto -53328-08-30 00:57 J -17756387.51 -17756387.46 -17756387.38 0.0082 0.0074

Venus -53328-09-06 17:16 J -17756379.85 -17756379.78 -17756379.71 0.3765 0.2764

Pluto -53328-11-26 02:37 J -17756299.47 -17756299.39 -17756299.29 0.0082 0.0064

Pluto -53327-02-22 04:18 J -17756211.42 -17756211.32 -17756211.20 0.0082 0.0055

Pluto -53327-05-21 05:45 J -17756123.36 -17756123.26 -17756123.12 0.0082 0.0046

Pluto -53327-08-17 07:25 J -17756035.31 -17756035.19 -17756035.05 0.0082 0.0037

Pluto -53327-11-13 09:06 J -17755947.25 -17755947.12 -17755946.97 0.0082 0.0028

Pluto -53326-02-09 10:47 J -17755859.19 -17755859.05 -17755858.90 0.0081 0.0019

Pluto -53326-05-08 12:28 J -17755771.13 -17755770.98 -17755770.84 0.0081 0.0010

Pluto -53326-08-04 13:54 J -17755683.06 -17755682.92 -17755682.77 0.0081 0.0002

Pluto -53326-10-31 15:21 J -17755595.00 -17755594.86 -17755594.71 0.0081 0.0008

Pluto -53325-01-27 16:47 J -17755506.93 -17755506.80 -17755506.65 0.0081 0.0017

Pluto -53325-04-24 18:28 J -17755418.87 -17755418.73 -17755418.59 0.0081 0.0025

Pluto -53325-07-21 19:40 J -17755330.80 -17755330.68 -17755330.54 0.0081 0.0034

Earth -53325-07-23 10:47 J -17755329.16 -17755329.05 -17755328.93 0.2670 0.0449

Moon -53325-07-23 11:30 J -17755329.13 -17755329.02 -17755328.90 0.2671 0.0550 *

Pluto -53325-10-17 21:21 J -17755242.73 -17755242.61 -17755242.48 0.0081 0.0042

Pluto -53324-01-13 22:33 J -17755154.66 -17755154.56 -17755154.43 0.0080 0.0051

Pluto -53324-04-11 23:59 J -17755066.58 -17755066.50 -17755066.39 0.0080 0.0059

Pluto -53324-07-09 01:40 J -17754978.51 -17754978.43 -17754978.35 0.0080 0.0066

Pluto -53324-10-05 03:06 J -17754890.42 -17754890.37 -17754890.32 0.0080 0.0074

Jupiter -53323-10-31 02:52 J -17754499.55 -17754499.38 -17754499.22 0.0490 0.0184

Jupiter -53322-01-29 05:59 J -17754409.30 -17754409.25 -17754409.20 0.0490 0.0467

Venus -53322-03-23 09:21 J -17754356.21 -17754356.11 -17754356.01 0.3769 0.0657

Venus -53320-12-24 05:30 J -17753349.37 -17753349.27 -17753349.16 0.3612 0.2641

Mars -53319-02-06 00:28 J -17753305.58 -17753305.48 -17753305.37 0.1746 0.0920

Moon -53318-07-17 05:45 J -17752779.32 -17752779.26 -17752779.20 0.2668 0.2239

Earth -53318-07-17 06:28 J -17752779.29 -17752779.23 -17752779.17 0.2664 0.2229 *

Saturn -53317-02-13 21:49 J -17752567.71 -17752567.59 -17752567.47 0.0279 0.0204

Saturn -53317-05-12 17:45 J -17752478.93 -17752478.76 -17752478.59 0.0278 0.0079

Saturn -53317-08-09 13:54 J -17752390.09 -17752389.92 -17752389.74 0.0277 0.0047

Jupiter -53317-10-02 04:18 J -17752336.44 -17752336.32 -17752336.19 0.0537 0.0152

Venus -53317-10-06 01:11 J -17752332.54 -17752332.45 -17752332.36 0.3772 0.1443

Saturn -53317-11-06 10:18 J -17752301.21 -17752301.07 -17752300.93 0.0276 0.0173

Jupiter -53317-12-30 13:25 J -17752247.01 -17752246.94 -17752246.88 0.0537 0.0460

Moon -53315-01-17 23:45 J -17751863.65 -17751863.51 -17751863.36 0.2668 0.0376

Earth -53315-01-18 00:57 J -17751863.61 -17751863.46 -17751863.32 0.2663 0.0364 *

Venus -53314-07-10 13:54 J -17751324.99 -17751324.92 -17751324.85 0.3607 0.3191

Earth -53312-07-26 05:45 J -17750578.36 -17750578.26 -17750578.17 0.2672 0.1372

Moon -53312-07-26 06:28 J -17750578.33 -17750578.23 -17750578.14 0.2669 0.1450 *

Venus -53311-04-21 17:01 J -17750308.82 -17750308.79 -17750308.76 0.3776 0.3532

Jupiter -53311-08-19 01:40 J -17750189.55 -17750189.43 -17750189.30 0.0490 0.0343

Jupiter -53311-11-17 04:33 J -17750099.45 -17750099.31 -17750099.17 0.0490 0.0302

Mars -53310-06-29 09:35 J -17749875.22 -17749875.10 -17749874.98 0.1738 0.0215

Mars -53309-04-23 10:47 J -17749576.19 -17749576.05 -17749575.91 0.1798 0.0751

Moon -53305-07-19 01:40 J -17748028.53 -17748028.43 -17748028.33 0.2673 0.1331

Earth -53305-07-19 01:40 J -17748028.53 -17748028.43 -17748028.32 0.2666 0.1263 *

Jupiter -53305-07-21 07:40 J -17748026.29 -17748026.18 -17748026.07 0.0537 0.0306

Jupiter -53305-10-18 17:01 J -17747936.90 -17747936.79 -17747936.69 0.0537 0.0312

Moon -53302-01-21 04:18 J -17747112.42 -17747112.32 -17747112.22 0.2667 0.1853

Earth -53302-01-21 04:33 J -17747112.41 -17747112.31 -17747112.20 0.2661 0.1930 *

Saturn -53302-09-05 13:25 J -17746884.96 -17746884.94 -17746884.90 0.0281 0.0275

Saturn -53302-12-03 02:23 J -17746796.51 -17746796.40 -17746796.29 0.0282 0.0170

Saturn -53301-02-29 15:06 J -17746708.01 -17746707.87 -17746707.74 0.0283 0.0067

Saturn -53301-05-28 03:35 J -17746619.49 -17746619.35 -17746619.22 0.0284 0.0037

Saturn -53301-08-24 15:49 J -17746530.95 -17746530.84 -17746530.72 0.0285 0.0140

Mars -53301-11-18 18:28 J -17746444.84 -17746444.73 -17746444.61 0.1730 0.0492

Saturn -53301-11-21 04:04 J -17746442.39 -17746442.33 -17746442.25 0.0285 0.0243

Mars -53300-09-13 11:01 J -17746146.19 -17746146.04 -17746145.89 0.1807 0.0437

Moon -53299-07-29 00:28 J -17745827.54 -17745827.48 -17745827.42 0.2667 0.2243

Earth -53299-07-29 00:13 J -17745827.54 -17745827.49 -17745827.43 0.2673 0.2270 *

Jupiter -53299-09-05 03:06 J -17745789.54 -17745789.37 -17745789.20 0.0490 0.0139

Moon -53295-01-12 23:30 J -17744563.57 -17744563.52 -17744563.46 0.2664 0.2459

Earth -53295-01-13 00:57 J -17744563.53 -17744563.46 -17744563.40 0.2667 0.2347 *

Jupiter -53293-05-09 10:33 J -17743716.12 -17743716.06 -17743715.99 0.0537 0.0466

Jupiter -53293-08-06 20:09 J -17743626.79 -17743626.66 -17743626.53 0.0537 0.0156

Earth -53292-07-21 20:52 J -17743277.75 -17743277.63 -17743277.52 0.2668 0.0313

Moon -53292-07-21 21:21 J -17743277.73 -17743277.61 -17743277.50 0.2674 0.0238 *

Mars -53291-04-11 03:21 J -17743014.45 -17743014.36 -17743014.27 0.1723 0.1198

Mars -53290-02-03 11:45 J -17742716.08 -17742716.01 -17742715.94 0.1816 0.1603

Mars -53289-03-16 15:35 J -17742308.86 -17742308.85 -17742308.83 0.1754 0.1728

Saturn -53288-07-02 22:04 J -17741835.66 -17741835.58 -17741835.49 0.0279 0.0237

Uranus -53288-08-27 08:37 J -17741780.15 -17741780.14 -17741780.13 0.0132 0.0131

Saturn -53288-09-29 17:59 J -17741746.91 -17741746.75 -17741746.59 0.0278 0.0113

Uranus -53288-11-23 11:45 J -17741692.07 -17741692.01 -17741691.94 0.0132 0.0113

Saturn -53288-12-27 14:09 J -17741658.09 -17741657.91 -17741657.73 0.0277 0.0013

Uranus -53287-02-19 14:52 J -17741603.97 -17741603.88 -17741603.78 0.0132 0.0096

Saturn -53287-03-26 10:33 J -17741569.21 -17741569.06 -17741568.91 0.0276 0.0140

Uranus -53287-05-18 17:59 J -17741515.85 -17741515.75 -17741515.63 0.0132 0.0078

Saturn -53287-06-23 06:57 J -17741480.24 -17741480.21 -17741480.16 0.0276 0.0267

Jupiter -53287-06-24 02:09 J -17741479.59 -17741479.41 -17741479.23 0.0490 0.0019

Uranus -53287-08-14 21:21 J -17741427.73 -17741427.61 -17741427.49 0.0132 0.0060

Neptune -53287-09-15 07:40 J -17741396.20 -17741396.18 -17741396.13 0.0089 0.0087

Uranus -53287-11-11 00:13 J -17741339.61 -17741339.49 -17741339.35 0.0132 0.0043

Neptune -53287-12-12 10:33 J -17741308.12 -17741308.06 -17741307.97 0.0089 0.0080

Uranus -53286-02-07 03:35 J -17741251.49 -17741251.35 -17741251.22 0.0132 0.0025

Neptune -53286-03-10 13:40 J -17741220.02 -17741219.93 -17741219.82 0.0089 0.0072

Uranus -53286-05-06 06:28 J -17741163.36 -17741163.23 -17741163.09 0.0132 0.0009

Neptune -53286-06-06 16:47 J -17741131.92 -17741131.80 -17741131.68 0.0089 0.0064

Uranus -53286-08-02 09:35 J -17741075.23 -17741075.10 -17741074.96 0.0132 0.0011

Neptune -53286-09-02 19:25 J -17741043.81 -17741043.69 -17741043.54 0.0089 0.0057

Uranus -53286-10-29 12:42 J -17740987.10 -17740986.97 -17740986.84 0.0132 0.0027

Neptune -53286-11-29 22:33 J -17740955.70 -17740955.56 -17740955.41 0.0089 0.0049

Uranus -53285-01-25 15:49 J -17740898.97 -17740898.84 -17740898.71 0.0132 0.0045

Neptune -53285-02-26 01:11 J -17740867.59 -17740867.45 -17740867.28 0.0089 0.0042

Uranus -53285-04-22 18:42 J -17740810.83 -17740810.72 -17740810.59 0.0132 0.0063

Neptune -53285-05-24 04:18 J -17740779.47 -17740779.32 -17740779.14 0.0089 0.0034

Uranus -53285-07-19 21:49 J -17740722.69 -17740722.59 -17740722.48 0.0132 0.0080

Neptune -53285-08-20 07:25 J -17740691.36 -17740691.19 -17740691.02 0.0089 0.0026

Uranus -53285-10-16 00:57 J -17740634.55 -17740634.46 -17740634.37 0.0132 0.0097

Neptune -53285-11-16 10:18 J -17740603.24 -17740603.07 -17740602.89 0.0089 0.0019

Uranus -53284-01-12 03:49 J -17740546.40 -17740546.34 -17740546.27 0.0132 0.0114

Neptune -53284-02-12 13:25 J -17740515.12 -17740514.94 -17740514.76 0.0089 0.0011

Uranus -53284-04-10 06:42 J -17740458.22 -17740458.22 -17740458.19 0.0132 0.0132

Neptune -53284-05-11 16:33 J -17740426.99 -17740426.81 -17740426.63 0.0089 0.0003

Neptune -53284-08-07 19:25 J -17740338.87 -17740338.69 -17740338.51 0.0089 0.0005

Neptune -53284-11-03 22:33 J -17740250.74 -17740250.56 -17740250.38 0.0089 0.0013

Neptune -53283-01-31 01:25 J -17740162.61 -17740162.44 -17740162.26 0.0089 0.0021

Neptune -53283-04-29 04:18 J -17740074.48 -17740074.32 -17740074.14 0.0089 0.0029

Neptune -53283-07-26 07:25 J -17739986.35 -17739986.19 -17739986.02 0.0089 0.0037

Neptune -53283-10-22 10:18 J -17739898.21 -17739898.07 -17739897.90 0.0089 0.0045

Moon -53282-01-16 02:23 J -17739812.53 -17739812.40 -17739812.26 0.2666 0.0910

Earth -53282-01-16 03:49 J -17739812.48 -17739812.34 -17739812.20 0.2665 0.0875 *

Neptune -53282-01-18 13:40 J -17739810.07 -17739809.93 -17739809.78 0.0089 0.0052

Neptune -53282-04-16 16:47 J -17739721.93 -17739721.80 -17739721.66 0.0089 0.0060

Neptune -53282-07-13 19:40 J -17739633.78 -17739633.68 -17739633.55 0.0089 0.0068

Neptune -53282-10-09 22:47 J -17739545.63 -17739545.55 -17739545.44 0.0089 0.0076

Neptune -53281-01-06 01:54 J -17739457.46 -17739457.42 -17739457.35 0.0089 0.0084

Jupiter -53281-05-25 22:33 J -17739316.69 -17739316.56 -17739316.42 0.0537 0.0023

Mars -53280-08-07 00:42 J -17738878.57 -17738878.47 -17738878.37 0.1746 0.1015

Earth -53279-07-24 15:49 J -17738526.95 -17738526.84 -17738526.73 0.2670 0.0622

Moon -53279-07-24 16:33 J -17738526.92 -17738526.81 -17738526.70 0.2671 0.0644 *

Jupiter -53275-04-12 00:57 J -17737169.62 -17737169.46 -17737169.29 0.0490 0.0179

Jupiter -53275-07-11 04:18 J -17737079.36 -17737079.32 -17737079.28 0.0490 0.0473

Saturn -53272-04-21 05:45 J -17736064.36 -17736064.26 -17736064.15 0.0282 0.0189

Moon -53272-07-17 11:01 J -17735977.11 -17735977.04 -17735976.98 0.2669 0.2147

Earth -53272-07-17 11:30 J -17735977.09 -17735977.02 -17735976.94 0.2665 0.2045 *

Saturn -53272-07-18 18:28 J -17735975.86 -17735975.73 -17735975.59 0.0283 0.0085

Saturn -53272-10-15 07:11 J -17735887.34 -17735887.20 -17735887.07 0.0284 0.0020

Saturn -53271-01-11 19:25 J -17735798.81 -17735798.69 -17735798.56 0.0284 0.0122

Saturn -53271-04-10 07:54 J -17735710.25 -17735710.17 -17735710.09 0.0285 0.0224

Venus -53271-04-13 14:52 J -17735706.97 -17735706.88 -17735706.80 0.3766 0.1984

Mars -53271-12-28 09:35 J -17735448.22 -17735448.10 -17735447.98 0.1738 0.0309

Mars -53270-10-23 11:01 J -17735149.17 -17735149.04 -17735148.90 0.1799 0.0868

Moon -53269-01-19 05:59 J -17735061.39 -17735061.25 -17735061.10 0.2668 0.0461

Earth -53269-01-19 07:11 J -17735061.34 -17735061.20 -17735061.06 0.2663 0.0646 *

Jupiter -53269-03-14 01:54 J -17735006.55 -17735006.42 -17735006.29 0.0537 0.0167

Jupiter -53269-06-11 10:47 J -17734917.11 -17734917.05 -17734916.97 0.0537 0.0446

Earth -53266-07-27 10:33 J -17733776.15 -17733776.06 -17733775.97 0.2672 0.1536

Moon -53266-07-27 11:16 J -17733776.12 -17733776.03 -17733775.94 0.2669 0.1593 *

Venus -53266-10-28 06:42 J -17733683.32 -17733683.22 -17733683.12 0.3769 0.0155

Jupiter -53263-01-28 23:16 J -17732859.65 -17732859.53 -17732859.41 0.0490 0.0348

Jupiter -53263-04-29 01:40 J -17732769.56 -17732769.43 -17732769.28 0.0490 0.0297

Venus -53263-07-31 07:25 J -17732676.34 -17732676.19 -17732676.04 0.3610 0.0660

Mars -53261-05-19 18:28 J -17732017.85 -17732017.73 -17732017.61 0.1731 0.0406

Mars -53260-03-14 11:45 J -17731719.16 -17731719.01 -17731718.86 0.1807 0.0290

Venus -53260-05-12 22:33 J -17731659.64 -17731659.56 -17731659.48 0.3773 0.2213

Moon -53259-07-20 06:42 J -17731226.32 -17731226.22 -17731226.11 0.2674 0.1030

Earth -53259-07-20 06:42 J -17731226.32 -17731226.22 -17731226.11 0.2666 0.1086 *

Saturn -53259-11-19 23:45 J -17731103.57 -17731103.51 -17731103.45 0.0279 0.0261

Saturn -53258-02-16 19:25 J -17731014.84 -17731014.69 -17731014.54 0.0278 0.0137

Saturn -53258-05-16 15:35 J -17730926.03 -17730925.85 -17730925.68 0.0278 0.0013

Saturn -53258-08-13 11:45 J -17730837.17 -17730837.01 -17730836.85 0.0277 0.0114

Saturn -53258-11-10 08:09 J -17730748.24 -17730748.16 -17730748.07 0.0276 0.0241

Jupiter -53257-01-01 05:30 J -17730696.38 -17730696.27 -17730696.17 0.0537 0.0317

Jupiter -53257-03-30 14:52 J -17730606.99 -17730606.88 -17730606.77 0.0537 0.0302

Earth -53256-01-21 10:47 J -17730310.13 -17730310.05 -17730309.97 0.2661 0.2206

Moon -53256-01-21 10:47 J -17730310.12 -17730310.05 -17730309.98 0.2667 0.2291 *

Earth -53253-07-29 05:16 J -17729025.32 -17729025.28 -17729025.24 0.2674 0.2435

Moon -53253-07-29 05:30 J -17729025.31 -17729025.27 -17729025.23 0.2667 0.2465 *

Mars -53252-10-10 03:35 J -17728587.45 -17728587.35 -17728587.26 0.1723 0.1101

Jupiter -53251-02-15 00:28 J -17728459.65 -17728459.48 -17728459.31 0.0490 0.0134

Mars -53251-08-04 11:59 J -17728289.08 -17728289.00 -17728288.91 0.1816 0.1477

Moon -53249-01-14 05:45 J -17727761.35 -17727761.26 -17727761.18 0.2663 0.2162

Earth -53249-01-14 06:57 J -17727761.30 -17727761.21 -17727761.12 0.2667 0.2083 *

Uranus -53246-06-03 18:42 J -17726524.80 -17726524.72 -17726524.63 0.0147 0.0130

Earth -53246-07-23 01:54 J -17726475.54 -17726475.42 -17726475.31 0.2668 0.0145

Moon -53246-07-23 02:23 J -17726475.51 -17726475.40 -17726475.29 0.2673 0.0153 *

Uranus -53246-08-31 02:37 J -17726436.52 -17726436.39 -17726436.25 0.0147 0.0098

Jupiter -53246-10-20 08:52 J -17726386.20 -17726386.13 -17726386.07 0.0537 0.0470

Uranus -53246-11-27 10:33 J -17726348.21 -17726348.06 -17726347.88 0.0147 0.0065

Jupiter -53245-01-17 18:28 J -17726296.86 -17726296.73 -17726296.61 0.0537 0.0154

Uranus -53245-02-23 18:42 J -17726259.89 -17726259.72 -17726259.53 0.0147 0.0032

Uranus -53245-05-22 02:52 J -17726171.56 -17726171.38 -17726171.19 0.0147 0.0004

Uranus -53245-08-18 11:01 J -17726083.22 -17726083.04 -17726082.85 0.0147 0.0035

Uranus -53245-11-14 19:25 J -17725994.86 -17725994.69 -17725994.53 0.0147 0.0068

Uranus -53244-02-11 03:21 J -17725906.49 -17725906.36 -17725906.22 0.0147 0.0102

Uranus -53244-05-10 11:30 J -17725818.08 -17725818.02 -17725817.94 0.0147 0.0136

Saturn -53243-09-08 07:25 J -17725332.27 -17725332.19 -17725332.11 0.0282 0.0222

Saturn -53243-12-05 20:09 J -17725243.79 -17725243.66 -17725243.54 0.0282 0.0119

Saturn -53242-03-04 08:37 J -17725155.27 -17725155.14 -17725155.00 0.0283 0.0016

Saturn -53242-05-31 21:06 J -17725066.75 -17725066.62 -17725066.49 0.0284 0.0088

Saturn -53242-08-28 09:35 J -17724978.20 -17724978.10 -17724978.00 0.0285 0.0191

Mars -53240-02-05 00:42 J -17724451.56 -17724451.47 -17724451.37 0.1746 0.1109

Jupiter -53240-12-03 23:16 J -17724149.71 -17724149.53 -17724149.35 0.0490 0.0028

Moon -53236-01-16 08:37 J -17723010.28 -17723010.14 -17723010.01 0.2667 0.0763

Earth -53236-01-16 09:49 J -17723010.23 -17723010.09 -17723009.95 0.2665 0.0606 *

Jupiter -53234-11-05 21:35 J -17721986.73 -17721986.60 -17721986.47 0.0537 0.0003

Earth -53233-07-24 20:52 J -17721724.74 -17721724.63 -17721724.52 0.2670 0.0796

Moon -53233-07-24 21:35 J -17721724.71 -17721724.60 -17721724.49 0.2671 0.0921 *

Mars -53231-06-28 09:35 J -17721021.21 -17721021.10 -17721020.98 0.1738 0.0403

Mars -53230-04-23 11:45 J -17720722.14 -17720722.01 -17720721.88 0.1798 0.1009

Saturn -53229-07-05 19:25 J -17720282.83 -17720282.69 -17720282.55 0.0278 0.0173

Saturn -53229-10-02 15:21 J -17720194.03 -17720193.86 -17720193.68 0.0278 0.0048

Saturn -53229-12-30 11:30 J -17720105.18 -17720105.02 -17720104.84 0.0277 0.0079

Saturn -53228-03-29 07:54 J -17720016.28 -17720016.17 -17720016.04 0.0276 0.0205

Jupiter -53228-09-21 22:33 J -17719839.73 -17719839.56 -17719839.40 0.0490 0.0184

Jupiter -53228-12-21 01:40 J -17719749.48 -17719749.43 -17719749.38 0.0490 0.0468

Moon -53226-07-18 16:04 J -17719174.91 -17719174.83 -17719174.75 0.2670 0.1895

Earth -53226-07-18 16:33 J -17719174.89 -17719174.81 -17719174.73 0.2665 0.1866 *

Moon -53223-01-19 12:13 J -17718259.12 -17718258.99 -17718258.85 0.2668 0.0940

Earth -53223-01-19 13:25 J -17718259.08 -17718258.94 -17718258.81 0.2663 0.0924 *

Jupiter -53222-08-24 23:59 J -17717676.62 -17717676.50 -17717676.37 0.0537 0.0172

Mars -53222-11-18 18:42 J -17717590.84 -17717590.72 -17717590.60 0.1731 0.0307

Jupiter -53222-11-22 09:06 J -17717587.19 -17717587.12 -17717587.05 0.0536 0.0441

Mars -53221-09-12 11:59 J -17717292.15 -17717292.00 -17717291.85 0.1807 0.0178

Venus -53220-05-04 20:23 J -17717057.70 -17717057.65 -17717057.61 0.3763 0.3324

Earth -53220-07-27 15:35 J -17716973.94 -17716973.85 -17716973.76 0.2672 0.1705

Moon -53220-07-27 16:04 J -17716973.92 -17716973.83 -17716973.74 0.2667 0.1714 *

Jupiter -53216-07-10 21:35 J -17715529.73 -17715529.60 -17715529.48 0.0490 0.0342

Jupiter -53216-10-09 00:13 J -17715439.63 -17715439.49 -17715439.35 0.0490 0.0304

Venus -53215-11-18 12:13 J -17715034.08 -17715033.99 -17715033.89 0.3767 0.1219

Saturn -53213-01-26 10:33 J -17714600.12 -17714600.06 -17714599.99 0.0281 0.0243

Saturn -53213-04-23 23:16 J -17714511.64 -17714511.53 -17714511.40 0.0282 0.0139

Earth -53213-07-20 11:45 J -17714424.12 -17714424.01 -17714423.90 0.2667 0.0905

Moon -53213-07-20 11:45 J -17714424.11 -17714424.01 -17714423.90 0.2674 0.0958 *

Saturn -53213-07-21 11:59 J -17714423.13 -17714423.00 -17714422.86 0.0283 0.0035

Saturn -53213-10-18 00:28 J -17714334.61 -17714334.48 -17714334.34 0.0284 0.0069

Saturn -53212-01-14 12:57 J -17714246.07 -17714245.96 -17714245.85 0.0285 0.0171

Mars -53212-04-10 03:35 J -17714160.45 -17714160.35 -17714160.25 0.1723 0.1015

Saturn -53212-04-13 01:11 J -17714157.48 -17714157.45 -17714157.41 0.0286 0.0274

Mars -53211-02-02 12:28 J -17713862.08 -17713861.98 -17713861.87 0.1816 0.1346

Moon -53210-01-22 17:16 J -17713507.84 -17713507.78 -17713507.72 0.2668 0.2420

Earth -53210-01-22 17:01 J -17713507.83 -17713507.79 -17713507.74 0.2661 0.2494 *

Jupiter -53210-06-13 03:06 J -17713366.47 -17713366.37 -17713366.26 0.0537 0.0329

Jupiter -53210-09-10 12:28 J -17713277.09 -17713276.98 -17713276.87 0.0537 0.0290

Venus -53209-06-03 04:18 J -17713010.42 -17713010.32 -17713010.23 0.3771 0.0897

Earth -53207-07-30 10:18 J -17712223.10 -17712223.07 -17712223.05 0.2674 0.2601

Moon -53207-07-30 10:18 J -17712223.09 -17712223.07 -17712223.04 0.2667 0.2592 *

Venus -53206-03-07 09:21 J -17712003.25 -17712003.11 -17712002.96 0.3609 0.1340

Neptune -53205-12-24 00:42 J -17711345.49 -17711345.47 -17711345.44 0.0089 0.0087

Neptune -53204-03-22 02:09 J -17711257.46 -17711257.41 -17711257.34 0.0089 0.0081

Neptune -53204-06-18 03:49 J -17711169.41 -17711169.34 -17711169.25 0.0089 0.0075

Jupiter -53204-07-27 22:04 J -17711129.75 -17711129.58 -17711129.41 0.0490 0.0129

Neptune -53204-09-14 05:16 J -17711081.35 -17711081.28 -17711081.17 0.0089 0.0069

Uranus -53204-09-16 16:33 J -17711078.86 -17711078.81 -17711078.76 0.0132 0.0123

Neptune -53204-12-11 07:11 J -17710993.30 -17710993.20 -17710993.09 0.0089 0.0062

Uranus -53204-12-13 19:40 J -17710990.76 -17710990.68 -17710990.60 0.0132 0.0105

Venus -53204-12-17 20:09 J -17710986.72 -17710986.66 -17710986.60 0.3774 0.2983

Moon -53203-01-14 11:30 J -17710959.12 -17710959.02 -17710958.91 0.2664 0.1899

Earth -53203-01-14 12:57 J -17710959.07 -17710958.96 -17710958.86 0.2667 0.1824 *

Neptune -53203-03-09 08:52 J -17710905.24 -17710905.13 -17710905.02 0.0089 0.0056

Uranus -53203-03-11 22:33 J -17710902.65 -17710902.56 -17710902.45 0.0132 0.0088

Neptune -53203-06-05 10:18 J -17710817.18 -17710817.07 -17710816.94 0.0089 0.0050

Uranus -53203-06-08 01:54 J -17710814.53 -17710814.42 -17710814.30 0.0132 0.0070

Mars -53203-08-31 12:28 J -17710729.99 -17710729.98 -17710729.97 0.1716 0.1707

Neptune -53203-09-01 11:59 J -17710729.12 -17710729.00 -17710728.87 0.0089 0.0044

Uranus -53203-09-04 05:01 J -17710726.41 -17710726.29 -17710726.16 0.0132 0.0052

Neptune -53203-11-28 13:40 J -17710641.06 -17710640.93 -17710640.80 0.0089 0.0037

Uranus -53203-12-01 08:09 J -17710638.29 -17710638.16 -17710638.03 0.0132 0.0035

Neptune -53202-02-24 15:06 J -17710552.99 -17710552.87 -17710552.73 0.0089 0.0032

Uranus -53202-02-27 11:16 J -17710550.16 -17710550.03 -17710549.89 0.0132 0.0017

Neptune -53202-05-23 16:47 J -17710464.93 -17710464.80 -17710464.66 0.0089 0.0025

Uranus -53202-05-26 14:23 J -17710462.04 -17710461.90 -17710461.76 0.0132 0.0001

Neptune -53202-08-19 18:28 J -17710376.87 -17710376.73 -17710376.59 0.0089 0.0019

Uranus -53202-08-22 17:30 J -17710373.90 -17710373.77 -17710373.64 0.0132 0.0018

Neptune -53202-11-15 20:09 J -17710288.80 -17710288.66 -17710288.52 0.0089 0.0013

Uranus -53202-11-18 20:37 J -17710285.77 -17710285.64 -17710285.51 0.0132 0.0035

Neptune -53201-02-11 21:35 J -17710200.74 -17710200.60 -17710200.46 0.0089 0.0007

Uranus -53201-02-14 23:30 J -17710197.64 -17710197.52 -17710197.39 0.0132 0.0053

Neptune -53201-05-09 23:16 J -17710112.67 -17710112.53 -17710112.39 0.0089 0.0001

Uranus -53201-05-13 02:37 J -17710109.50 -17710109.39 -17710109.27 0.0132 0.0070

Neptune -53201-08-06 00:42 J -17710024.61 -17710024.47 -17710024.33 0.0089 0.0006

Mars -53201-08-06 00:42 J -17710024.56 -17710024.47 -17710024.38 0.1746 0.1192 *

Uranus -53201-08-09 05:30 J -17710021.36 -17710021.27 -17710021.16 0.0132 0.0088

Neptune -53201-11-02 02:23 J -17709936.54 -17709936.40 -17709936.26 0.0089 0.0011

Uranus -53201-11-05 08:37 J -17709933.21 -17709933.14 -17709933.05 0.0132 0.0105

Neptune -53200-01-29 03:49 J -17709848.47 -17709848.34 -17709848.20 0.0089 0.0018

Uranus -53200-02-01 11:45 J -17709845.06 -17709845.01 -17709844.96 0.0132 0.0122

Neptune -53200-04-27 05:16 J -17709760.41 -17709760.28 -17709760.14 0.0089 0.0024

Earth -53200-07-23 06:57 J -17709673.33 -17709673.21 -17709673.10 0.2669 0.0107

Moon -53200-07-23 07:25 J -17709673.30 -17709673.19 -17709673.07 0.2672 0.0169 *

Neptune -53200-07-24 06:57 J -17709672.34 -17709672.21 -17709672.08 0.0089 0.0029

Neptune -53200-10-20 08:23 J -17709584.27 -17709584.15 -17709584.02 0.0089 0.0036

Saturn -53200-11-22 20:52 J -17709550.75 -17709550.63 -17709550.51 0.0279 0.0198

Neptune -53199-01-16 09:49 J -17709496.20 -17709496.09 -17709495.96 0.0089 0.0042

Saturn -53199-02-19 16:47 J -17709461.97 -17709461.80 -17709461.63 0.0278 0.0073

Neptune -53199-04-14 11:16 J -17709408.13 -17709408.03 -17709407.90 0.0089 0.0048

Saturn -53199-05-19 12:57 J -17709373.13 -17709372.96 -17709372.79 0.0277 0.0053

Neptune -53199-07-11 12:57 J -17709320.06 -17709319.96 -17709319.84 0.0089 0.0053

Saturn -53199-08-16 09:21 J -17709284.24 -17709284.11 -17709283.98 0.0276 0.0179

Neptune -53199-10-07 14:23 J -17709231.99 -17709231.90 -17709231.79 0.0089 0.0060

Neptune -53198-01-03 15:49 J -17709143.92 -17709143.84 -17709143.73 0.0089 0.0066

Jupiter -53198-04-01 06:42 J -17709056.28 -17709056.22 -17709056.17 0.0537 0.0481

Neptune -53198-04-01 17:30 J -17709055.84 -17709055.77 -17709055.68 0.0089 0.0071

Neptune -53198-06-28 18:57 J -17708967.77 -17708967.71 -17708967.64 0.0089 0.0077

Jupiter -53198-06-29 16:18 J -17708966.95 -17708966.82 -17708966.69 0.0537 0.0145

Neptune -53198-09-24 20:23 J -17708879.69 -17708879.65 -17708879.59 0.0089 0.0083

Neptune -53198-12-21 22:04 J -17708791.58 -17708791.58 -17708791.58 0.0089 0.0089

Earth -53193-07-16 02:23 J -17707123.41 -17707123.40 -17707123.40 0.2664 0.2653

Jupiter -53192-05-15 20:52 J -17706819.80 -17706819.63 -17706819.45 0.0490 0.0032

Mars -53192-12-27 09:49 J -17706594.21 -17706594.09 -17706593.97 0.1739 0.0490

Mars -53191-10-22 12:13 J -17706295.11 -17706294.99 -17706294.87 0.1798 0.1138

Moon -53190-01-17 14:37 J -17706208.03 -17706207.89 -17706207.75 0.2667 0.0414

Earth -53190-01-17 16:04 J -17706207.98 -17706207.83 -17706207.69 0.2665 0.0339 *

Earth -53187-07-26 01:40 J -17704922.53 -17704922.43 -17704922.32 0.2671 0.0964

Moon -53187-07-26 02:37 J -17704922.50 -17704922.39 -17704922.29 0.2671 0.0972 *

Jupiter -53186-04-17 19:54 J -17704656.80 -17704656.67 -17704656.54 0.0537 0.0004

Saturn -53184-06-14 11:59 J -17703868.02 -17703868.00 -17703867.98 0.0281 0.0277

Saturn -53184-09-11 00:42 J -17703779.57 -17703779.47 -17703779.36 0.0282 0.0174

Saturn -53184-12-08 13:25 J -17703691.07 -17703690.94 -17703690.81 0.0283 0.0070

Saturn -53183-03-07 01:54 J -17703602.55 -17703602.42 -17703602.28 0.0284 0.0033

Saturn -53183-06-03 14:23 J -17703514.02 -17703513.90 -17703513.78 0.0284 0.0136

Saturn -53183-08-31 02:37 J -17703425.46 -17703425.39 -17703425.31 0.0285 0.0239

Mars -53182-05-19 18:42 J -17703163.84 -17703163.72 -17703163.60 0.1731 0.0216

Mars -53181-03-13 12:28 J -17702865.13 -17702864.98 -17702864.82 0.1807 0.0049

Jupiter -53180-03-03 19:40 J -17702509.84 -17702509.68 -17702509.51 0.0490 0.0191

Jupiter -53180-06-01 22:47 J -17702419.60 -17702419.55 -17702419.49 0.0490 0.0461

Moon -53180-07-18 21:21 J -17702372.70 -17702372.61 -17702372.52 0.2672 0.1711

Earth -53180-07-18 21:35 J -17702372.69 -17702372.60 -17702372.51 0.2665 0.1682 *

Moon -53177-01-20 18:42 J -17701456.85 -17701456.72 -17701456.58 0.2668 0.1074

Earth -53177-01-20 19:25 J -17701456.82 -17701456.69 -17701456.56 0.2662 0.1200 *

Jupiter -53174-02-03 23:01 J -17700346.66 -17700346.54 -17700346.41 0.0537 0.0160

Jupiter -53174-05-04 08:09 J -17700257.23 -17700257.16 -17700257.09 0.0536 0.0453

Earth -53174-07-28 20:37 J -17700171.72 -17700171.64 -17700171.56 0.2673 0.1875

Moon -53174-07-28 21:06 J -17700171.70 -17700171.62 -17700171.55 0.2667 0.1959 *

Mars -53173-10-09 03:35 J -17699733.45 -17699733.35 -17699733.24 0.1723 0.0918

Mars -53172-08-03 12:57 J -17699435.07 -17699434.96 -17699434.85 0.1816 0.1216

Pluto -53170-01-10 16:47 J -17698909.82 -17698909.80 -17698909.75 0.0062 0.0060

Pluto -53170-04-08 17:45 J -17698821.82 -17698821.76 -17698821.67 0.0062 0.0056

Saturn -53170-04-11 20:09 J -17698818.75 -17698818.66 -17698818.57 0.0279 0.0237

Pluto -53170-07-05 19:11 J -17698733.79 -17698733.70 -17698733.60 0.0062 0.0051

Saturn -53170-07-09 16:04 J -17698729.99 -17698729.83 -17698729.67 0.0278 0.0112

Pluto -53170-10-01 19:54 J -17698645.76 -17698645.67 -17698645.54 0.0062 0.0047

Saturn -53170-10-06 12:13 J -17698641.17 -17698640.99 -17698640.81 0.0277 0.0014

Pluto -53170-12-28 21:21 J -17698557.73 -17698557.61 -17698557.48 0.0062 0.0043

Saturn -53169-01-03 08:37 J -17698552.30 -17698552.14 -17698551.99 0.0276 0.0140

Pluto -53169-03-25 22:04 J -17698469.70 -17698469.58 -17698469.43 0.0062 0.0039

Saturn -53169-04-01 05:01 J -17698463.33 -17698463.29 -17698463.24 0.0276 0.0267

Pluto -53169-06-21 23:30 J -17698381.66 -17698381.52 -17698381.37 0.0062 0.0034

Pluto -53169-09-18 00:28 J -17698293.62 -17698293.48 -17698293.32 0.0062 0.0029

Pluto -53169-12-15 01:40 J -17698205.58 -17698205.43 -17698205.26 0.0062 0.0025

Jupiter -53169-12-20 19:11 J -17698199.82 -17698199.70 -17698199.58 0.0490 0.0345

Pluto -53168-03-13 02:52 J -17698117.54 -17698117.38 -17698117.21 0.0062 0.0020

Jupiter -53168-03-20 21:49 J -17698109.73 -17698109.59 -17698109.45 0.0490 0.0301

Pluto -53168-06-09 03:49 J -17698029.50 -17698029.34 -17698029.16 0.0063 0.0016

Pluto -53168-09-05 05:01 J -17697941.45 -17697941.29 -17697941.11 0.0063 0.0011

Pluto -53168-12-02 06:28 J -17697853.40 -17697853.23 -17697853.06 0.0063 0.0006

Pluto -53167-02-28 07:40 J -17697765.36 -17697765.18 -17697765.01 0.0063 0.0001

Pluto -53167-05-27 08:52 J -17697677.31 -17697677.13 -17697676.96 0.0063 0.0004

Earth -53167-07-21 16:47 J -17697621.91 -17697621.80 -17697621.69 0.2667 0.0729

Moon -53167-07-21 17:01 J -17697621.90 -17697621.79 -17697621.68 0.2674 0.0690 *

Pluto -53167-08-23 09:49 J -17697589.26 -17697589.09 -17697588.91 0.0063 0.0009

Pluto -53167-11-19 11:16 J -17697501.20 -17697501.03 -17697500.86 0.0063 0.0014

Pluto -53166-02-15 12:13 J -17697413.15 -17697412.99 -17697412.82 0.0063 0.0018

Pluto -53166-05-14 13:25 J -17697325.10 -17697324.94 -17697324.77 0.0063 0.0023

Pluto -53166-08-10 14:23 J -17697237.04 -17697236.90 -17697236.73 0.0063 0.0029

Pluto -53166-11-06 15:35 J -17697148.98 -17697148.85 -17697148.68 0.0063 0.0034

Pluto -53165-02-02 16:47 J -17697060.92 -17697060.80 -17697060.64 0.0063 0.0039

Pluto -53165-04-30 17:59 J -17696972.86 -17696972.75 -17696972.60 0.0064 0.0044

Pluto -53165-07-27 19:11 J -17696884.79 -17696884.70 -17696884.56 0.0064 0.0049

Pluto -53165-10-23 20:37 J -17696796.72 -17696796.64 -17696796.53 0.0064 0.0054

Pluto -53164-01-19 21:49 J -17696708.64 -17696708.59 -17696708.51 0.0064 0.0059

Venus -53164-12-09 17:59 J -17696384.83 -17696384.75 -17696384.68 0.3764 0.2552

Mars -53163-03-01 12:28 J -17696303.01 -17696302.98 -17696302.94 0.1716 0.1614

Jupiter -53163-11-23 01:40 J -17696036.54 -17696036.43 -17696036.33 0.0537 0.0328

Jupiter -53162-02-20 11:01 J -17695947.15 -17695947.04 -17695946.93 0.0536 0.0291

Uranus -53162-06-24 03:06 J -17695823.47 -17695823.37 -17695823.25 0.0147 0.0118

Uranus -53162-09-20 11:01 J -17695735.18 -17695735.04 -17695734.88 0.0147 0.0085

Uranus -53162-12-17 19:11 J -17695646.87 -17695646.70 -17695646.52 0.0147 0.0052

Mars -53161-02-05 00:42 J -17695597.55 -17695597.47 -17695597.38 0.1746 0.1287

Uranus -53161-03-15 03:21 J -17695558.54 -17695558.36 -17695558.17 0.0147 0.0019

Uranus -53161-06-11 11:30 J -17695470.20 -17695470.02 -17695469.83 0.0147 0.0014

Uranus -53161-09-07 19:40 J -17695381.85 -17695381.68 -17695381.50 0.0147 0.0048

Uranus -53161-12-05 03:35 J -17695293.49 -17695293.35 -17695293.18 0.0147 0.0082

Uranus -53160-03-03 11:59 J -17695205.11 -17695205.00 -17695204.88 0.0147 0.0115

Venus -53158-06-25 09:49 J -17694361.19 -17694361.09 -17694360.99 0.3768 0.0447

Moon -53157-01-15 17:45 J -17694156.87 -17694156.76 -17694156.65 0.2665 0.1716

Earth -53157-01-15 18:57 J -17694156.83 -17694156.71 -17694156.59 0.2666 0.1556 *

Jupiter -53156-01-06 20:37 J -17693799.81 -17693799.64 -17693799.47 0.0490 0.0138

Venus -53155-03-28 03:06 J -17693354.48 -17693354.37 -17693354.26 0.3613 0.2477

Saturn -53154-01-29 03:35 J -17693047.45 -17693047.35 -17693047.25 0.0282 0.0197

Saturn -53154-04-27 16:18 J -17692958.95 -17692958.82 -17692958.69 0.0283 0.0093

Earth -53154-07-24 11:45 J -17692871.12 -17692871.01 -17692870.89 0.2669 0.0227

Moon -53154-07-24 12:28 J -17692871.09 -17692870.98 -17692870.86 0.2672 0.0239 *

Saturn -53154-07-25 05:01 J -17692870.43 -17692870.29 -17692870.16 0.0284 0.0014

Saturn -53154-10-21 17:16 J -17692781.90 -17692781.78 -17692781.65 0.0284 0.0114

Saturn -53153-01-18 05:45 J -17692693.35 -17692693.26 -17692693.17 0.0285 0.0216

Venus -53152-01-08 01:40 J -17692337.52 -17692337.43 -17692337.34 0.3771 0.1659

Mars -53152-06-27 09:49 J -17692167.21 -17692167.09 -17692166.97 0.1738 0.0580

Mars -53151-04-22 12:42 J -17691868.08 -17691867.97 -17691867.86 0.1798 0.1264

Jupiter -53151-09-11 04:33 J -17691726.36 -17691726.31 -17691726.25 0.0537 0.0487

Jupiter -53151-12-09 14:23 J -17691637.03 -17691636.90 -17691636.78 0.0537 0.0138

Venus -53150-10-12 11:16 J -17691330.08 -17691330.03 -17691329.97 0.3608 0.3363

Moon -53147-07-17 06:42 J -17690321.26 -17690321.22 -17690321.19 0.2666 0.2496

Earth -53147-07-17 07:25 J -17690321.23 -17690321.19 -17690321.15 0.2664 0.2472 *

Venus -53147-07-24 17:30 J -17690313.77 -17690313.77 -17690313.76 0.3775 0.3753

Jupiter -53145-10-25 18:42 J -17689489.90 -17689489.72 -17689489.55 0.0490 0.0033

Moon -53144-01-17 20:37 J -17689405.78 -17689405.64 -17689405.49 0.2667 0.0202

Earth -53144-01-17 22:04 J -17689405.73 -17689405.58 -17689405.43 0.2664 0.0069 *

Mars -53143-11-17 18:42 J -17688736.84 -17688736.72 -17688736.59 0.1731 0.0133

Mars -53142-09-12 13:11 J -17688438.10 -17688437.95 -17688437.80 0.1807 0.0101

Earth -53141-07-26 06:42 J -17688120.32 -17688120.22 -17688120.12 0.2671 0.1133

Moon -53141-07-26 07:25 J -17688120.29 -17688120.19 -17688120.09 0.2669 0.1260 *

Saturn -53141-08-28 21:35 J -17688086.65 -17688086.60 -17688086.53 0.0279 0.0262

Saturn -53141-11-25 17:30 J -17687997.92 -17687997.77 -17687997.62 0.0278 0.0137

Saturn -53140-02-22 13:40 J -17687909.11 -17687908.93 -17687908.76 0.0278 0.0014

Saturn -53140-05-22 09:49 J -17687820.25 -17687820.09 -17687819.93 0.0277 0.0114

Saturn -53140-08-19 06:13 J -17687731.32 -17687731.24 -17687731.15 0.0276 0.0241

Jupiter -53139-09-27 17:59 J -17687326.88 -17687326.75 -17687326.62 0.0537 0.0013

Moon -53134-07-20 02:23 J -17685570.49 -17685570.40 -17685570.31 0.2672 0.1555

Earth -53134-07-20 02:37 J -17685570.48 -17685570.39 -17685570.29 0.2666 0.1501 *

Mars -53133-04-09 03:49 J -17685306.45 -17685306.34 -17685306.23 0.1723 0.0824

Jupiter -53133-08-13 17:45 J -17685179.92 -17685179.76 -17685179.60 0.0490 0.0189

Jupiter -53133-11-11 20:37 J -17685089.69 -17685089.64 -17685089.58 0.0490 0.0461

Mars -53132-02-01 13:25 J -17685008.06 -17685007.94 -17685007.82 0.1816 0.1088

Moon -53131-01-21 01:11 J -17684654.57 -17684654.45 -17684654.33 0.2669 0.1493

Earth -53131-01-21 01:40 J -17684654.55 -17684654.43 -17684654.31 0.2662 0.1471 *

Earth -53128-07-29 01:25 J -17683369.51 -17683369.44 -17683369.37 0.2673 0.2039

Moon -53128-07-29 01:54 J -17683369.49 -17683369.42 -17683369.35 0.2667 0.2015 *

Jupiter -53127-07-16 21:35 J -17683016.73 -17683016.60 -17683016.48 0.0537 0.0159

Jupiter -53127-10-14 06:42 J -17682927.29 -17682927.22 -17682927.16 0.0537 0.0455

Saturn -53125-06-17 04:47 J -17682315.37 -17682315.30 -17682315.22 0.0281 0.0233

Saturn -53125-09-13 17:30 J -17682226.89 -17682226.77 -17682226.64 0.0282 0.0130

Saturn -53125-12-11 06:13 J -17682138.38 -17682138.24 -17682138.10 0.0283 0.0027

Saturn -53124-03-09 18:42 J -17682049.85 -17682049.72 -17682049.59 0.0284 0.0077

Saturn -53124-06-06 06:57 J -17681961.31 -17681961.21 -17681961.10 0.0285 0.0180

Mars -53124-08-30 12:42 J -17681876.03 -17681875.97 -17681875.92 0.1716 0.1519

Saturn -53124-09-02 19:11 J -17681872.71 -17681872.70 -17681872.68 0.0286 0.0282

Neptune -53122-06-12 05:16 J -17681225.31 -17681225.28 -17681225.22 0.0089 0.0086

Mars -53122-08-06 00:57 J -17681170.53 -17681170.46 -17681170.39 0.1747 0.1380

Neptune -53122-09-08 08:09 J -17681137.22 -17681137.16 -17681137.06 0.0089 0.0079

Neptune -53122-12-05 11:16 J -17681049.13 -17681049.03 -17681048.92 0.0089 0.0071

Neptune -53121-03-02 13:54 J -17680961.03 -17680960.92 -17680960.78 0.0089 0.0064

Neptune -53121-05-29 17:01 J -17680872.92 -17680872.79 -17680872.65 0.0089 0.0056

Jupiter -53121-06-01 16:47 J -17680869.92 -17680869.80 -17680869.67 0.0490 0.0347

Earth -53121-07-21 21:49 J -17680819.70 -17680819.59 -17680819.48 0.2667 0.0550

Moon -53121-07-21 22:04 J -17680819.69 -17680819.58 -17680819.46 0.2673 0.0537 *

Neptune -53121-08-25 19:40 J -17680784.81 -17680784.68 -17680784.51 0.0089 0.0049

Jupiter -53121-08-30 19:25 J -17680779.83 -17680779.69 -17680779.55 0.0490 0.0298

Neptune -53121-11-21 22:47 J -17680696.70 -17680696.55 -17680696.38 0.0089 0.0041

Neptune -53120-02-18 01:54 J -17680608.58 -17680608.42 -17680608.25 0.0089 0.0033

Neptune -53120-05-17 04:47 J -17680520.46 -17680520.30 -17680520.12 0.0089 0.0026

Neptune -53120-08-13 07:54 J -17680432.34 -17680432.17 -17680431.99 0.0089 0.0018

Uranus -53120-10-07 00:28 J -17680377.55 -17680377.48 -17680377.42 0.0132 0.0115

Neptune -53120-11-09 11:01 J -17680344.22 -17680344.04 -17680343.87 0.0089 0.0010

Uranus -53119-01-03 03:21 J -17680289.44 -17680289.36 -17680289.26 0.0132 0.0098

Neptune -53119-02-05 13:54 J -17680256.10 -17680255.92 -17680255.74 0.0089 0.0002

Uranus -53119-04-01 06:28 J -17680201.33 -17680201.23 -17680201.11 0.0132 0.0080

Neptune -53119-05-04 16:47 J -17680167.98 -17680167.80 -17680167.62 0.0089 0.0006

Uranus -53119-06-28 09:49 J -17680113.21 -17680113.09 -17680112.97 0.0132 0.0062

Neptune -53119-07-31 19:54 J -17680079.85 -17680079.67 -17680079.49 0.0089 0.0013

Uranus -53119-09-24 12:57 J -17680025.09 -17680024.96 -17680024.83 0.0132 0.0044

Neptune -53119-10-27 22:47 J -17679991.72 -17679991.55 -17679991.37 0.0089 0.0022

Uranus -53119-12-21 16:04 J -17679936.96 -17679936.83 -17679936.70 0.0132 0.0027

Neptune -53118-01-24 01:40 J -17679903.59 -17679903.43 -17679903.25 0.0089 0.0030

Uranus -53118-03-19 19:11 J -17679848.84 -17679848.70 -17679848.56 0.0132 0.0009

Neptune -53118-04-22 05:01 J -17679815.45 -17679815.29 -17679815.13 0.0089 0.0037

Uranus -53118-06-15 22:18 J -17679760.71 -17679760.57 -17679760.44 0.0132 0.0008

Neptune -53118-07-19 07:54 J -17679727.32 -17679727.17 -17679727.01 0.0089 0.0045

Uranus -53118-09-12 01:25 J -17679672.58 -17679672.44 -17679672.31 0.0132 0.0026

Neptune -53118-10-15 11:01 J -17679639.18 -17679639.04 -17679638.89 0.0089 0.0053

Uranus -53118-12-09 04:18 J -17679584.44 -17679584.32 -17679584.19 0.0132 0.0043

Neptune -53117-01-11 13:54 J -17679551.04 -17679550.92 -17679550.77 0.0089 0.0061

Uranus -53117-03-06 07:25 J -17679496.31 -17679496.19 -17679496.07 0.0132 0.0061

Neptune -53117-04-08 17:01 J -17679462.89 -17679462.79 -17679462.66 0.0089 0.0069

Uranus -53117-06-02 10:18 J -17679408.17 -17679408.07 -17679407.95 0.0132 0.0078

Neptune -53117-07-05 20:09 J -17679374.74 -17679374.66 -17679374.56 0.0089 0.0077

Uranus -53117-08-29 13:25 J -17679320.02 -17679319.94 -17679319.84 0.0132 0.0095

Neptune -53117-10-01 23:16 J -17679286.57 -17679286.53 -17679286.47 0.0089 0.0085

Uranus -53117-11-25 16:33 J -17679231.87 -17679231.81 -17679231.74 0.0132 0.0112

Uranus -53116-02-21 19:40 J -17679143.70 -17679143.68 -17679143.66 0.0132 0.0130

Jupiter -53115-05-05 00:42 J -17678706.57 -17678706.47 -17678706.36 0.0537 0.0315

Jupiter -53115-08-02 10:04 J -17678617.18 -17678617.08 -17678616.97 0.0537 0.0305

Mars -53113-12-26 09:49 J -17677740.20 -17677740.09 -17677739.97 0.1739 0.0671

Mars -53112-10-21 13:11 J -17677441.05 -17677440.95 -17677440.86 0.1798 0.1398

Moon -53111-01-15 23:30 J -17677354.64 -17677354.52 -17677354.39 0.2666 0.1325

Earth -53111-01-16 00:57 J -17677354.58 -17677354.46 -17677354.33 0.2666 0.1295 *

Saturn -53111-04-14 16:04 J -17677265.96 -17677265.83 -17677265.70 0.0279 0.0181

Saturn -53111-07-12 11:59 J -17677177.17 -17677177.00 -17677176.83 0.0278 0.0056

Saturn -53111-10-09 08:09 J -17677088.33 -17677088.16 -17677087.98 0.0277 0.0070

Saturn -53110-01-06 04:33 J -17676999.43 -17676999.31 -17676999.18 0.0276 0.0197

Jupiter -53109-06-18 18:28 J -17676469.90 -17676469.73 -17676469.56 0.0490 0.0139

Earth -53108-07-24 16:47 J -17676068.91 -17676068.80 -17676068.68 0.2669 0.0384

Moon -53108-07-24 17:30 J -17676068.88 -17676068.77 -17676068.66 0.2673 0.0497 *

Venus -53107-07-16 15:21 J -17675711.95 -17675711.86 -17675711.77 0.3765 0.1772

Jupiter -53103-02-21 03:21 J -17674396.42 -17674396.36 -17674396.31 0.0536 0.0482

Mars -53103-05-18 18:57 J -17674309.84 -17674309.71 -17674309.59 0.1731 0.0040

Jupiter -53103-05-21 12:57 J -17674307.09 -17674306.96 -17674306.83 0.0537 0.0143

Mars -53102-03-13 13:25 J -17674011.09 -17674010.94 -17674010.79 0.1807 0.0217

Venus -53101-01-30 07:11 J -17673688.30 -17673688.20 -17673688.09 0.3768 0.0363

Moon -53101-07-17 11:45 J -17673519.06 -17673519.01 -17673518.96 0.2668 0.2409

Earth -53101-07-17 12:28 J -17673519.04 -17673518.98 -17673518.92 0.2664 0.2285 *

Venus -53099-11-02 04:47 J -17672681.45 -17672681.30 -17672681.14 0.3612 0.0515

Moon -53098-01-19 03:06 J -17672603.52 -17672603.37 -17672603.23 0.2667 0.0118

Earth -53098-01-19 04:18 J -17672603.47 -17672603.32 -17672603.18 0.2664 0.0211 *

Jupiter -53097-04-06 17:30 J -17672159.95 -17672159.77 -17672159.60 0.0490 0.0024

Venus -53096-08-14 23:16 J -17671664.61 -17671664.53 -17671664.46 0.3772 0.2439

Saturn -53096-11-04 07:11 J -17671583.25 -17671583.20 -17671583.14 0.0281 0.0259

Saturn -53095-01-31 19:54 J -17671494.78 -17671494.67 -17671494.55 0.0282 0.0156

Saturn -53095-04-30 08:37 J -17671406.27 -17671406.14 -17671406.00 0.0283 0.0053

Earth -53095-07-27 11:45 J -17671318.11 -17671318.01 -17671317.91 0.2671 0.1304

Moon -53095-07-27 12:28 J -17671318.08 -17671317.98 -17671317.88 0.2668 0.1300 *

Saturn -53095-07-27 21:06 J -17671317.75 -17671317.62 -17671317.48 0.0284 0.0052

Saturn -53095-10-24 09:35 J -17671229.21 -17671229.10 -17671228.98 0.0285 0.0154

Saturn -53094-01-20 21:49 J -17671140.64 -17671140.59 -17671140.53 0.0285 0.0257

Mars -53094-10-09 03:49 J -17670879.45 -17670879.34 -17670879.23 0.1723 0.0734

Mars -53093-08-02 13:54 J -17670581.05 -17670580.92 -17670580.79 0.1816 0.0954

Jupiter -53091-03-09 16:18 J -17669996.95 -17669996.82 -17669996.69 0.0537 0.0015

Moon -53088-07-20 07:25 J -17668768.29 -17668768.19 -17668768.09 0.2672 0.1316

Earth -53088-07-20 07:40 J -17668768.28 -17668768.18 -17668768.08 0.2666 0.1323 *

Moon -53085-01-22 07:25 J -17667852.30 -17667852.19 -17667852.08 0.2669 0.1689

Earth -53085-01-22 07:40 J -17667852.29 -17667852.18 -17667852.06 0.2662 0.1749 *

Jupiter -53085-01-24 15:49 J -17667850.00 -17667849.84 -17667849.68 0.0490 0.0187

Jupiter -53085-04-23 18:42 J -17667759.77 -17667759.72 -17667759.66 0.0490 0.0463

Mars -53084-02-28 12:42 J -17667449.04 -17667448.97 -17667448.90 0.1716 0.1429

Mars -53082-02-04 00:57 J -17666743.53 -17666743.46 -17666743.40 0.1746 0.1462

Earth -53082-07-30 06:28 J -17666567.29 -17666567.23 -17666567.17 0.2673 0.2203

Moon -53082-07-30 06:42 J -17666567.27 -17666567.22 -17666567.16 0.2667 0.2290 *

Saturn -53082-09-01 17:16 J -17666533.89 -17666533.78 -17666533.66 0.0279 0.0208

Saturn -53082-11-29 13:11 J -17666445.12 -17666444.95 -17666444.78 0.0278 0.0083

Saturn -53081-02-26 09:21 J -17666356.29 -17666356.11 -17666355.94 0.0277 0.0043

Saturn -53081-05-25 05:30 J -17666267.40 -17666267.27 -17666267.12 0.0277 0.0170

Pluto -53080-12-22 07:40 J -17665691.20 -17665691.18 -17665691.14 0.0082 0.0080

Jupiter -53080-12-26 19:40 J -17665686.80 -17665686.68 -17665686.55 0.0537 0.0163

Pluto -53079-03-20 09:21 J -17665603.17 -17665603.11 -17665603.03 0.0082 0.0071

Jupiter -53079-03-26 04:47 J -17665597.36 -17665597.30 -17665597.23 0.0537 0.0453

Pluto -53079-06-16 10:47 J -17665515.13 -17665515.05 -17665514.94 0.0082 0.0062

Pluto -53079-09-12 12:28 J -17665427.08 -17665426.98 -17665426.85 0.0082 0.0053

Pluto -53079-12-09 14:09 J -17665339.02 -17665338.91 -17665338.77 0.0082 0.0044

Moon -53078-01-14 03:21 J -17665303.42 -17665303.36 -17665303.31 0.2664 0.2467

Earth -53078-01-14 04:18 J -17665303.37 -17665303.32 -17665303.27 0.2668 0.2482 *

Pluto -53078-03-07 15:49 J -17665250.96 -17665250.84 -17665250.70 0.0082 0.0035

Uranus -53078-04-17 03:49 J -17665210.39 -17665210.34 -17665210.26 0.0147 0.0137

Pluto -53078-06-03 17:30 J -17665162.90 -17665162.77 -17665162.63 0.0081 0.0025

Uranus -53078-07-14 11:59 J -17665122.12 -17665122.00 -17665121.87 0.0147 0.0104

Pluto -53078-08-30 19:11 J -17665074.84 -17665074.70 -17665074.56 0.0081 0.0016

Uranus -53078-10-10 20:09 J -17665033.82 -17665033.66 -17665033.50 0.0147 0.0071

Pluto -53078-11-26 20:37 J -17664986.78 -17664986.64 -17664986.49 0.0081 0.0008

Uranus -53077-01-07 04:04 J -17664945.51 -17664945.33 -17664945.15 0.0147 0.0038

Pluto -53077-02-22 22:18 J -17664898.72 -17664898.57 -17664898.43 0.0081 0.0002

Uranus -53077-04-04 12:13 J -17664857.17 -17664856.99 -17664856.80 0.0147 0.0005

Pluto -53077-05-20 23:45 J -17664810.65 -17664810.51 -17664810.37 0.0081 0.0010

Uranus -53077-07-01 20:23 J -17664768.83 -17664768.65 -17664768.47 0.0147 0.0028

Pluto -53077-08-17 01:11 J -17664722.59 -17664722.45 -17664722.31 0.0081 0.0018

Uranus -53077-09-28 04:18 J -17664680.48 -17664680.32 -17664680.14 0.0147 0.0062

Pluto -53077-11-13 02:37 J -17664634.52 -17664634.39 -17664634.25 0.0081 0.0027

Uranus -53077-12-25 12:28 J -17664592.11 -17664591.98 -17664591.82 0.0147 0.0096

Pluto -53076-02-09 04:04 J -17664546.45 -17664546.33 -17664546.19 0.0081 0.0035

Uranus -53076-03-23 21:06 J -17664503.71 -17664503.62 -17664503.53 0.0147 0.0129

Pluto -53076-05-08 05:30 J -17664458.38 -17664458.27 -17664458.14 0.0080 0.0044

Pluto -53076-08-04 06:57 J -17664370.31 -17664370.21 -17664370.09 0.0080 0.0052

Pluto -53076-10-31 08:09 J -17664282.24 -17664282.16 -17664282.05 0.0080 0.0061

Pluto -53075-01-27 09:35 J -17664194.16 -17664194.10 -17664194.01 0.0080 0.0068

Pluto -53075-04-25 11:01 J -17664106.07 -17664106.04 -17664105.98 0.0080 0.0076

Earth -53075-07-23 02:52 J -17664017.50 -17664017.38 -17664017.27 0.2668 0.0376

Moon -53075-07-23 03:21 J -17664017.48 -17664017.36 -17664017.25 0.2673 0.0352 *

Jupiter -53074-11-12 15:06 J -17663539.99 -17663539.87 -17663539.74 0.0490 0.0341

Jupiter -53073-02-10 17:30 J -17663449.91 -17663449.77 -17663449.63 0.0490 0.0302

Mars -53073-06-26 10:04 J -17663313.19 -17663313.08 -17663312.97 0.1739 0.0764

Mars -53072-04-21 13:40 J -17663014.00 -17663013.93 -17663013.85 0.1797 0.1537

Jupiter -53068-10-14 23:16 J -17661376.64 -17661376.53 -17661376.42 0.0537 0.0312

Jupiter -53067-01-12 08:37 J -17661287.24 -17661287.14 -17661287.03 0.0537 0.0310

Saturn -53066-06-20 21:06 J -17660762.72 -17660762.62 -17660762.52 0.0281 0.0193

Saturn -53066-09-17 09:49 J -17660674.22 -17660674.09 -17660673.96 0.0282 0.0090

Saturn -53066-12-14 22:18 J -17660585.71 -17660585.57 -17660585.43 0.0283 0.0013

Moon -53065-01-17 05:30 J -17660552.39 -17660552.27 -17660552.14 0.2666 0.1236

Earth -53065-01-17 07:11 J -17660552.34 -17660552.20 -17660552.07 0.2666 0.1031 *

Saturn -53065-03-12 10:47 J -17660497.18 -17660497.05 -17660496.93 0.0284 0.0115

Saturn -53065-06-08 23:01 J -17660408.62 -17660408.54 -17660408.45 0.0285 0.0218

Mars -53064-11-16 18:57 J -17659882.83 -17659882.71 -17659882.58 0.1731 0.0067

Mars -53063-09-11 13:54 J -17659584.07 -17659583.92 -17659583.77 0.1807 0.0349

Earth -53062-07-25 21:49 J -17659266.70 -17659266.59 -17659266.48 0.2670 0.0558

Moon -53062-07-25 22:33 J -17659266.67 -17659266.56 -17659266.45 0.2672 0.0590 *

Jupiter -53062-11-29 16:18 J -17659139.99 -17659139.82 -17659139.65 0.0490 0.0141

Jupiter -53056-08-03 02:23 J -17657066.46 -17657066.40 -17657066.33 0.0537 0.0467

Venus -53056-08-06 20:52 J -17657062.68 -17657062.63 -17657062.57 0.3761 0.3105

Jupiter -53056-10-31 12:13 J -17656977.12 -17656976.99 -17656976.87 0.0537 0.0159

Moon -53055-07-18 16:47 J -17656716.87 -17656716.80 -17656716.73 0.2669 0.2096

Earth -53055-07-18 17:30 J -17656716.84 -17656716.77 -17656716.70 0.2664 0.2108 *

Mars -53054-04-09 03:49 J -17656452.45 -17656452.34 -17656452.22 0.1723 0.0642

Mars -53053-02-01 14:23 J -17656154.04 -17656153.90 -17656153.77 0.1815 0.0829

Saturn -53052-01-18 15:06 J -17655801.93 -17655801.87 -17655801.80 0.0279 0.0255

Moon -53052-01-19 09:21 J -17655801.25 -17655801.11 -17655800.97 0.2668 0.0443

Earth -53052-01-19 10:18 J -17655801.21 -17655801.07 -17655800.93 0.2664 0.0474 *

Saturn -53052-04-17 11:01 J -17655713.19 -17655713.04 -17655712.88 0.0279 0.0131

Saturn -53052-07-15 07:11 J -17655624.38 -17655624.20 -17655624.02 0.0278 0.0005

Saturn -53052-10-12 03:21 J -17655535.51 -17655535.36 -17655535.19 0.0277 0.0122

Saturn -53051-01-08 23:59 J -17655446.57 -17655446.50 -17655446.42 0.0276 0.0248

Venus -53050-02-20 12:57 J -17655039.06 -17655038.96 -17655038.86 0.3765 0.0996

Jupiter -53050-09-17 15:35 J -17654830.03 -17654829.85 -17654829.67 0.0490 0.0016

Earth -53049-07-27 16:33 J -17654515.90 -17654515.81 -17654515.71 0.2672 0.1474

Moon -53049-07-27 17:16 J -17654515.87 -17654515.78 -17654515.68 0.2668 0.1585 *

Mars -53045-08-29 12:57 J -17653022.04 -17653021.96 -17653021.89 0.1716 0.1333

Venus -53045-09-05 04:47 J -17653015.40 -17653015.30 -17653015.20 0.3769 0.1114

Jupiter -53044-08-19 15:06 J -17652667.00 -17652666.87 -17652666.74 0.0537 0.0005

Mars -53043-08-05 00:57 J -17652316.51 -17652316.46 -17652316.40 0.1747 0.1557

Venus -53042-06-09 06:42 J -17652008.36 -17652008.22 -17652008.07 0.3610 0.1492

Moon -53042-07-21 12:42 J -17651966.08 -17651965.97 -17651965.87 0.2673 0.1207

Earth -53042-07-21 12:42 J -17651966.07 -17651965.97 -17651965.86 0.2666 0.1144 *

Neptune -53040-09-19 23:01 J -17651174.56 -17651174.54 -17651174.51 0.0089 0.0087

Neptune -53040-12-17 00:42 J -17651086.52 -17651086.47 -17651086.41 0.0089 0.0081

Moon -53039-01-22 13:40 J -17651050.02 -17651049.93 -17651049.84 0.2668 0.2023

Earth -53039-01-22 13:54 J -17651050.01 -17651049.92 -17651049.82 0.2661 0.2025 *

Neptune -53039-03-15 02:09 J -17650998.47 -17650998.41 -17650998.32 0.0089 0.0075

Venus -53039-03-21 20:37 J -17650991.69 -17650991.64 -17650991.59 0.3773 0.3216

Neptune -53039-06-11 03:49 J -17650910.42 -17650910.34 -17650910.24 0.0089 0.0069

Neptune -53039-09-07 05:45 J -17650822.36 -17650822.26 -17650822.16 0.0089 0.0062

Neptune -53039-12-04 07:11 J -17650734.30 -17650734.20 -17650734.08 0.0089 0.0056

Neptune -53038-03-02 08:52 J -17650646.24 -17650646.13 -17650646.01 0.0089 0.0050

Neptune -53038-05-29 10:33 J -17650558.18 -17650558.06 -17650557.93 0.0089 0.0043

Jupiter -53038-07-06 14:37 J -17650520.05 -17650519.89 -17650519.72 0.0490 0.0174

Neptune -53038-08-25 11:59 J -17650470.12 -17650470.00 -17650469.86 0.0089 0.0038

Jupiter -53038-10-04 17:45 J -17650429.79 -17650429.76 -17650429.72 0.0490 0.0479

Neptune -53038-11-21 13:40 J -17650382.06 -17650381.93 -17650381.79 0.0089 0.0031

Neptune -53037-02-17 15:21 J -17650293.99 -17650293.86 -17650293.72 0.0089 0.0025

Neptune -53037-05-15 17:01 J -17650205.93 -17650205.79 -17650205.65 0.0089 0.0019

Neptune -53037-08-11 18:42 J -17650117.86 -17650117.72 -17650117.58 0.0089 0.0013

Saturn -53037-11-06 23:01 J -17650030.62 -17650030.54 -17650030.45 0.0281 0.0223

Neptune -53037-11-07 20:09 J -17650029.80 -17650029.66 -17650029.52 0.0089 0.0007

Saturn -53036-02-03 11:59 J -17649942.13 -17649942.00 -17649941.88 0.0282 0.0119

Neptune -53036-02-03 21:49 J -17649941.73 -17649941.59 -17649941.45 0.0089 0.0002

Neptune -53036-05-02 23:16 J -17649853.67 -17649853.53 -17649853.39 0.0089 0.0006

Saturn -53036-05-03 00:28 J -17649853.62 -17649853.48 -17649853.34 0.0283 0.0016 *

Neptune -53036-07-30 00:57 J -17649765.60 -17649765.46 -17649765.32 0.0089 0.0012

Saturn -53036-07-30 12:57 J -17649765.09 -17649764.96 -17649764.83 0.0284 0.0087

Earth -53036-07-30 11:16 J -17649765.08 -17649765.03 -17649764.98 0.2673 0.2372 *

Moon -53036-07-30 11:30 J -17649765.07 -17649765.02 -17649764.96 0.2667 0.2322 *

Uranus -53036-07-31 05:01 J -17649764.33 -17649764.29 -17649764.25 0.0132 0.0125

Neptune -53036-10-26 02:23 J -17649677.54 -17649677.40 -17649677.26 0.0089 0.0018

Saturn -53036-10-27 01:11 J -17649676.54 -17649676.45 -17649676.34 0.0285 0.0190

Uranus -53036-10-27 08:09 J -17649676.23 -17649676.16 -17649676.08 0.0132 0.0107

Neptune -53035-01-22 03:49 J -17649589.47 -17649589.34 -17649589.20 0.0089 0.0024

Uranus -53035-01-23 11:16 J -17649588.12 -17649588.03 -17649587.92 0.0132 0.0090

Neptune -53035-04-20 05:30 J -17649501.40 -17649501.27 -17649501.14 0.0089 0.0030

Uranus -53035-04-21 14:23 J -17649500.00 -17649499.90 -17649499.78 0.0132 0.0072

Neptune -53035-07-17 06:57 J -17649413.33 -17649413.21 -17649413.08 0.0089 0.0036

Uranus -53035-07-18 17:45 J -17649411.88 -17649411.76 -17649411.64 0.0132 0.0054

Neptune -53035-10-13 08:23 J -17649325.26 -17649325.15 -17649325.02 0.0089 0.0042

Uranus -53035-10-14 20:52 J -17649323.76 -17649323.63 -17649323.50 0.0132 0.0036

Neptune -53034-01-09 10:04 J -17649237.19 -17649237.08 -17649236.96 0.0089 0.0048

Uranus -53034-01-10 23:59 J -17649235.64 -17649235.50 -17649235.37 0.0132 0.0019

Neptune -53034-04-07 11:30 J -17649149.12 -17649149.02 -17649148.90 0.0089 0.0054

Uranus -53034-04-09 03:06 J -17649147.51 -17649147.37 -17649147.24 0.0132 0.0002

Neptune -53034-07-04 12:57 J -17649061.05 -17649060.96 -17649060.85 0.0089 0.0060

Uranus -53034-07-06 06:13 J -17649059.38 -17649059.24 -17649059.11 0.0132 0.0016

Neptune -53034-09-30 14:23 J -17648972.98 -17648972.90 -17648972.79 0.0089 0.0066

Uranus -53034-10-02 09:06 J -17648971.25 -17648971.12 -17648970.98 0.0132 0.0034

Mars -53034-12-26 10:04 J -17648886.19 -17648886.08 -17648885.98 0.1739 0.0853

Neptune -53034-12-27 15:49 J -17648884.90 -17648884.84 -17648884.74 0.0089 0.0072

Uranus -53034-12-29 12:13 J -17648883.11 -17648882.99 -17648882.86 0.0132 0.0051

Neptune -53033-03-24 17:45 J -17648796.83 -17648796.76 -17648796.69 0.0089 0.0077

Uranus -53033-03-26 15:21 J -17648794.97 -17648794.86 -17648794.74 0.0132 0.0068

Neptune -53033-06-20 19:11 J -17648708.74 -17648708.70 -17648708.65 0.0089 0.0083

Uranus -53033-06-22 18:13 J -17648706.83 -17648706.74 -17648706.63 0.0132 0.0086

Uranus -53033-09-18 21:21 J -17648618.69 -17648618.61 -17648618.52 0.0132 0.0103

Mars -53033-10-20 14:09 J -17648586.97 -17648586.91 -17648586.86 0.1798 0.1658

Uranus -53033-12-16 00:13 J -17648530.53 -17648530.49 -17648530.43 0.0132 0.0120

Moon -53032-01-14 09:06 J -17648501.18 -17648501.12 -17648501.06 0.2665 0.2388

Earth -53032-01-14 10:18 J -17648501.15 -17648501.07 -17648500.99 0.2668 0.2222 *

Jupiter -53032-06-07 18:13 J -17648356.86 -17648356.74 -17648356.61 0.0537 0.0160

Jupiter -53032-09-05 03:21 J -17648267.42 -17648267.36 -17648267.29 0.0537 0.0456

Earth -53029-07-23 07:54 J -17647215.29 -17647215.17 -17647215.06 0.2668 0.0206

Moon -53029-07-23 08:23 J -17647215.27 -17647215.15 -17647215.04 0.2674 0.0128 *

Jupiter -53026-04-24 13:25 J -17646210.06 -17646209.94 -17646209.81 0.0490 0.0335

Jupiter -53026-07-23 15:49 J -17646119.97 -17646119.84 -17646119.70 0.0490 0.0309

Mars -53024-05-17 18:57 J -17645455.83 -17645455.71 -17645455.59 0.1731 0.0150

Mars -53023-03-12 14:37 J -17645157.04 -17645156.89 -17645156.74 0.1806 0.0495

Saturn -53023-09-04 11:45 J -17644981.15 -17644981.01 -17644980.86 0.0279 0.0161

Saturn -53023-12-02 07:54 J -17644892.35 -17644892.17 -17644892.00 0.0278 0.0035

Saturn -53022-03-01 04:04 J -17644803.49 -17644803.33 -17644803.16 0.0277 0.0091

Saturn -53022-05-29 00:28 J -17644714.58 -17644714.48 -17644714.36 0.0276 0.0219

Jupiter -53020-03-26 21:35 J -17644046.71 -17644046.60 -17644046.49 0.0537 0.0313

Jupiter -53020-06-24 07:11 J -17643957.31 -17643957.20 -17643957.10 0.0537 0.0310

Moon -53019-01-17 11:45 J -17643750.15 -17643750.01 -17643749.87 0.2666 0.0781

Earth -53019-01-17 13:11 J -17643750.09 -17643749.95 -17643749.81 0.2665 0.0764 *

Earth -53016-07-26 02:52 J -17642464.49 -17642464.38 -17642464.27 0.2670 0.0731

Moon -53016-07-26 03:35 J -17642464.46 -17642464.35 -17642464.24 0.2670 0.0797 *

Mars -53015-10-08 04:04 J -17642025.45 -17642025.33 -17642025.21 0.1724 0.0545

Jupiter -53014-02-10 12:57 J -17641899.97 -17641899.96 -17641899.93 0.0490 0.0486

Jupiter -53014-05-11 15:06 J -17641810.04 -17641809.87 -17641809.71 0.0490 0.0151

Mars -53014-08-02 14:52 J -17641727.02 -17641726.88 -17641726.74 0.1815 0.0699

Moon -53009-07-18 21:49 J -17639914.66 -17639914.59 -17639914.51 0.2670 0.2052

Earth -53009-07-18 22:33 J -17639914.64 -17639914.56 -17639914.48 0.2665 0.1923 *

Jupiter -53008-01-13 01:11 J -17639736.52 -17639736.45 -17639736.38 0.0537 0.0462

Jupiter -53008-04-12 11:01 J -17639647.17 -17639647.04 -17639646.92 0.0537 0.0166

Saturn -53007-03-27 00:13 J -17639298.54 -17639298.49 -17639298.44 0.0280 0.0259

Saturn -53007-06-23 12:57 J -17639210.07 -17639209.96 -17639209.84 0.0281 0.0157

Saturn -53007-09-20 01:40 J -17639121.57 -17639121.43 -17639121.30 0.0282 0.0054

Saturn -53007-12-17 14:09 J -17639033.05 -17639032.91 -17639032.78 0.0283 0.0049

Moon -53006-01-20 15:35 J -17638998.99 -17638998.85 -17638998.71 0.2669 0.0606

Earth -53006-01-20 16:33 J -17638998.95 -17638998.81 -17638998.67 0.2663 0.0749 *

Saturn -53006-03-16 02:23 J -17638944.51 -17638944.40 -17638944.28 0.0284 0.0151

Saturn -53006-06-12 14:37 J -17638855.95 -17638855.89 -17638855.83 0.0285 0.0253

Mars -53005-02-28 12:57 J -17638595.04 -17638594.96 -17638594.87 0.1716 0.1240

Mars -53003-02-03 01:11 J -17637889.49 -17637889.45 -17637889.42 0.1747 0.1650

Earth -53003-07-28 21:35 J -17637713.69 -17637713.60 -17637713.51 0.2672 0.1641

Moon -53003-07-28 22:18 J -17637713.66 -17637713.57 -17637713.48 0.2668 0.1649 *

Jupiter -53002-02-27 13:54 J -17637500.09 -17637499.92 -17637499.74 0.0490 0.0011

53RD MILLENNIUM BCE

This is a list of transits of Mercury in the 53rd millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Venus	**-52999-03-13 18:28 J**		**-17636389.81**	**-17636389.73**	**-17636389.65**	**0.3762**	**0.2324**	
Jupiter	**-52996-01-29 14:23 J**		**-17635337.03**	**-17635336.90**	**-17635336.76**	**0.0537**	**0.0024**	
Moon	**-52996-07-21 17:45 J**		**-17635163.87**	**-17635163.76**	**-17635163.65**	**0.2673**	**0.0907**	
Earth	**-52996-07-21 17:45 J**		**-17635163.87**	**-17635163.76**	**-17635163.65**	**0.2666**	**0.0968**	*
Uranus	**-52994-05-07 11:30 J**		**-17634509.10**	**-17634509.02**	**-17634508.93**	**0.0147**	**0.0128**	
Mars	**-52994-06-26 10:04 J**		**-17634459.18**	**-17634459.08**	**-17634458.98**	**0.1739**	**0.0943**	
Uranus	**-52994-08-03 19:25 J**		**-17634420.82**	**-17634420.69**	**-17634420.54**	**0.0147**	**0.0096**	
Venus	**-52994-09-27 10:18 J**		**-17634366.17**	**-17634366.07**	**-17634365.96**	**0.3766**	**0.0251**	
Uranus	**-52994-10-31 03:21 J**		**-17634332.52**	**-17634332.36**	**-17634332.18**	**0.0147**	**0.0063**	
Saturn	**-52993-01-22 09:06 J**		**-17634249.23**	**-17634249.12**	**-17634249.00**	**0.0279**	**0.0212**	
Moon	**-52993-01-23 19:54 J**		**-17634247.74**	**-17634247.67**	**-17634247.60**	**0.2668**	**0.2308**	
Earth	**-52993-01-23 20:09 J**		**-17634247.73**	**-17634247.66**	**-17634247.59**	**0.2661**	**0.2298**	*
Uranus	**-52993-01-27 11:30 J**		**-17634244.19**	**-17634244.02**	**-17634243.83**	**0.0147**	**0.0030**	
Saturn	**-52993-04-20 05:01 J**		**-17634160.45**	**-17634160.29**	**-17634160.12**	**0.0279**	**0.0087**	
Uranus	**-52993-04-24 19:54 J**		**-17634155.86**	**-17634155.67**	**-17634155.49**	**0.0147**	**0.0005**	
Saturn	**-52993-07-18 01:11 J**		**-17634071.62**	**-17634071.45**	**-17634071.27**	**0.0278**	**0.0040**	
Uranus	**-52993-07-22 04:04 J**		**-17634067.51**	**-17634067.33**	**-17634067.15**	**0.0147**	**0.0037**	
Saturn	**-52993-10-14 21:35 J**		**-17633982.74**	**-17633982.60**	**-17633982.45**	**0.0277**	**0.0167**	

Uranus -52993-10-18 11:59 J -17633979.16 -17633979.00 -17633978.83 0.0147 0.0071

Uranus -52992-01-14 20:09 J -17633890.78 -17633890.66 -17633890.52 0.0147 0.0105

Uranus -52992-04-13 04:47 J -17633802.36 -17633802.30 -17633802.24 0.0147 0.0138

Venus -52991-06-30 00:28 J -17633359.60 -17633359.48 -17633359.36 0.3614 0.2349

Jupiter -52991-12-16 13:11 J -17633190.11 -17633189.95 -17633189.78 0.0490 0.0165

Jupiter -52990-03-16 16:04 J -17633099.84 -17633099.83 -17633099.81 0.0490 0.0487

Earth -52990-07-31 16:18 J -17632962.85 -17632962.82 -17632962.78 0.2674 0.2534

Moon -52990-07-31 16:18 J -17632962.84 -17632962.82 -17632962.79 0.2667 0.2586 *

Venus -52988-04-12 02:23 J -17632342.49 -17632342.40 -17632342.32 0.3771 0.1896

Moon -52986-01-15 15:06 J -17631698.97 -17631698.87 -17631698.78 0.2665 0.1993

Earth -52986-01-15 16:18 J -17631698.91 -17631698.82 -17631698.72 0.2667 0.1958 *

Venus -52985-01-14 08:37 J -17631335.17 -17631335.14 -17631335.10 0.3609 0.3507

Mars -52985-11-15 19:11 J -17631028.82 -17631028.70 -17631028.58 0.1731 0.0246

Jupiter -52985-11-17 17:30 J -17631026.90 -17631026.77 -17631026.65 0.0537 0.0146

Jupiter -52984-02-15 02:37 J -17630937.46 -17630937.39 -17630937.33 0.0536 0.0468

Mars -52984-09-10 14:52 J -17630730.03 -17630729.88 -17630729.74 0.1806 0.0607

Earth -52983-07-24 12:57 J -17630413.08 -17630412.96 -17630412.85 0.2668 0.0101

Moon -52983-07-24 13:25 J -17630413.06 -17630412.94 -17630412.83 0.2674 0.0054 *

Jupiter -52979-10-04 12:42 J -17628880.10 -17628879.97 -17628879.84 0.0490 0.0320

Jupiter -52978-01-02 15:06 J -17628790.00 -17628789.87 -17628789.74 0.0490 0.0326

Saturn -52978-11-10 14:37 J -17628477.99 -17628477.89 -17628477.79 0.0281 0.0189

Saturn -52977-02-07 03:21 J -17628389.49 -17628389.36 -17628389.23 0.0282 0.0086

Saturn -52977-05-05 15:49 J -17628300.98 -17628300.84 -17628300.70 0.0283 0.0017

Saturn -52977-08-02 04:04 J -17628212.45 -17628212.33 -17628212.20 0.0284 0.0120

Saturn -52977-10-29 16:33 J -17628123.89 -17628123.81 -17628123.73 0.0285 0.0222

Mars -52975-04-08 04:04 J -17627598.45 -17627598.33 -17627598.21 0.1723 0.0459

Mars -52974-01-31 15:21 J -17627300.00 -17627299.86 -17627299.72 0.1815 0.0562

Moon -52973-01-18 17:59 J -17626947.89 -17626947.75 -17626947.61 0.2667 0.0690

Earth -52973-01-18 19:11 J -17626947.84 -17626947.70 -17626947.55 0.2665 0.0499 *

Jupiter -52973-09-05 20:37 J -17626716.75 -17626716.64 -17626716.53 0.0537 0.0303

Jupiter -52973-12-04 05:59 J -17626627.35 -17626627.25 -17626627.15 0.0537 0.0317

Earth -52970-07-27 07:54 J -17625662.28 -17625662.17 -17625662.07 0.2670 0.0906

Moon -52970-07-27 08:37 J -17625662.25 -17625662.14 -17625662.03 0.2669 0.0988 *

Jupiter -52967-07-23 11:45 J -17624570.05 -17624570.01 -17624569.97 0.0490 0.0476

Jupiter -52967-10-21 13:40 J -17624480.10 -17624479.93 -17624479.77 0.0490 0.0161

Mars -52966-08-29 12:57 J -17624168.05 -17624167.96 -17624167.86 0.1716 0.1149

Mars -52965-06-22 15:49 J -17623869.88 -17623869.84 -17623869.79 0.1824 0.1736

Saturn -52964-06-10 09:35 J -17623517.18 -17623517.10 -17623517.01 0.0280 0.0244

Mars -52964-08-04 00:57 J -17623462.47 -17623462.46 -17623462.44 0.1747 0.1733

Saturn -52964-09-07 05:30 J -17623428.42 -17623428.27 -17623428.11 0.0279 0.0119

Saturn -52964-12-05 01:40 J -17623339.60 -17623339.43 -17623339.25 0.0278 0.0009

Saturn -52963-03-03 22:04 J -17623250.73 -17623250.58 -17623250.42 0.0277 0.0135

Saturn -52963-05-31 18:28 J -17623161.77 -17623161.73 -17623161.67 0.0276 0.0262

Moon -52963-07-20 03:06 J -17623112.46 -17623112.37 -17623112.29 0.2670 0.1734

Earth -52963-07-20 03:35 J -17623112.44 -17623112.35 -17623112.26 0.2665 0.1744 *

Jupiter -52961-06-24 23:30 J -17622406.58 -17622406.52 -17622406.45 0.0538 0.0461

Jupiter -52961-09-22 09:21 J -17622317.23 -17622317.11 -17622316.98 0.0538 0.0168

Moon -52960-01-20 21:35 J -17622196.73 -17622196.60 -17622196.46 0.2669 0.1040

Earth -52960-01-20 22:33 J -17622196.69 -17622196.56 -17622196.42 0.2663 0.1015 *

Neptune -52957-03-08 03:06 J -17621054.41 -17621054.37 -17621054.32 0.0089 0.0085

Neptune -52957-06-04 05:45 J -17620966.33 -17620966.26 -17620966.16 0.0089 0.0078

Earth -52957-07-29 02:37 J -17620911.47 -17620911.39 -17620911.31 0.2672 0.1807

Moon -52957-07-29 03:06 J -17620911.45 -17620911.37 -17620911.29 0.2668 0.1883 *

Neptune -52957-08-31 08:52 J -17620878.23 -17620878.13 -17620878.02 0.0089 0.0070

Neptune -52957-11-27 11:30 J -17620790.13 -17620790.02 -17620789.88 0.0089 0.0063

Neptune -52956-02-23 14:37 J -17620702.02 -17620701.89 -17620701.75 0.0089 0.0055

Neptune -52956-05-22 17:16 J -17620613.91 -17620613.78 -17620613.61 0.0089 0.0048

Neptune -52956-08-18 20:23 J -17620525.80 -17620525.65 -17620525.48 0.0089 0.0040

Neptune -52956-11-14 23:30 J -17620437.68 -17620437.52 -17620437.35 0.0089 0.0032

Neptune -52955-02-11 02:23 J -17620349.57 -17620349.40 -17620349.22 0.0089 0.0024

Neptune -52955-05-10 05:16 J -17620261.45 -17620261.28 -17620261.10 0.0089 0.0017

Neptune -52955-08-06 08:23 J -17620173.33 -17620173.15 -17620172.97 0.0089 0.0009

Jupiter -52955-08-09 12:57 J -17620170.14 -17620169.96 -17620169.79 0.0489 0.0009

Neptune -52955-11-02 11:16 J -17620085.20 -17620085.03 -17620084.85 0.0089 0.0003

Mars -52955-12-25 10:04 J -17620032.17 -17620032.08 -17620031.98 0.1739 0.1036

Neptune -52954-01-29 14:23 J -17619997.08 -17619996.90 -17619996.72 0.0089 0.0007

Neptune -52954-04-27 17:16 J -17619908.95 -17619908.78 -17619908.60 0.0089 0.0015

Neptune -52954-07-24 20:09 J -17619820.82 -17619820.66 -17619820.47 0.0089 0.0023

Neptune -52954-10-20 23:30 J -17619732.69 -17619732.52 -17619732.35 0.0089 0.0030

Neptune -52953-01-17 02:23 J -17619644.56 -17619644.40 -17619644.23 0.0089 0.0038

Neptune -52953-04-14 05:16 J -17619556.42 -17619556.28 -17619556.11 0.0089 0.0046

Neptune -52953-07-11 08:23 J -17619468.28 -17619468.15 -17619468.00 0.0089 0.0054

Neptune -52953-10-07 11:16 J -17619380.14 -17619380.03 -17619379.88 0.0089 0.0062

Neptune -52952-01-03 14:23 J -17619292.00 -17619291.90 -17619291.77 0.0089 0.0070

Neptune -52952-04-01 17:30 J -17619203.84 -17619203.77 -17619203.67 0.0089 0.0078

Neptune -52952-06-28 20:37 J -17619115.67 -17619115.64 -17619115.58 0.0089 0.0086

Uranus -52952-08-20 12:57 J -17619063.02 -17619062.96 -17619062.90 0.0132 0.0117

Uranus -52952-11-16 15:49 J -17618974.91 -17618974.84 -17618974.74 0.0132 0.0100

Uranus -52951-02-12 19:11 J -17618886.80 -17618886.70 -17618886.59 0.0132 0.0082

Uranus -52951-05-11 22:18 J -17618798.68 -17618798.57 -17618798.44 0.0132 0.0064

Uranus -52951-08-08 01:40 J -17618710.56 -17618710.43 -17618710.30 0.0132 0.0046

Uranus -52951-11-04 04:47 J -17618622.43 -17618622.30 -17618622.17 0.0132 0.0029

Uranus -52950-01-31 07:54 J -17618534.31 -17618534.17 -17618534.04 0.0132 0.0011

Uranus -52950-04-29 11:01 J -17618446.18 -17618446.04 -17618445.91 0.0132 0.0007

Earth -52950-07-22 22:47 J -17618361.66 -17618361.55 -17618361.44 0.2667 0.0788

Moon -52950-07-22 23:01 J -17618361.65 -17618361.54 -17618361.43 0.2674 0.0842 *

Uranus -52950-07-26 14:09 J -17618358.05 -17618357.91 -17618357.78 0.0132 0.0024

Uranus -52950-10-22 17:01 J -17618269.91 -17618269.79 -17618269.66 0.0132 0.0042

Uranus -52949-01-18 20:09 J -17618181.78 -17618181.66 -17618181.54 0.0132 0.0059

Uranus -52949-04-15 23:16 J -17618093.64 -17618093.53 -17618093.42 0.0132 0.0076

Jupiter -52949-07-11 13:11 J -17618007.08 -17618006.95 -17618006.82 0.0538 0.0024

Uranus -52949-07-13 02:23 J -17618005.50 -17618005.40 -17618005.31 0.0132 0.0093

Uranus -52949-10-09 05:01 J -17617917.35 -17617917.29 -17617917.21 0.0132 0.0111

Uranus -52948-01-05 08:09 J -17617829.18 -17617829.16 -17617829.12 0.0132 0.0128

Saturn -52948-03-29 15:49 J -17617745.92 -17617745.84 -17617745.76 0.0280 0.0226

Venus -52948-04-03 23:59 J -17617740.52 -17617740.50 -17617740.48 0.3760 0.3663

Saturn -52948-06-26 04:18 J -17617657.44 -17617657.32 -17617657.19 0.0281 0.0124

Saturn -52948-09-22 17:01 J -17617568.93 -17617568.79 -17617568.65 0.0282 0.0021

Saturn -52948-12-20 05:16 J -17617480.41 -17617480.28 -17617480.14 0.0283 0.0082

Moon -52947-01-24 02:37 J -17617445.43 -17617445.39 -17617445.36 0.2667 0.2560

Earth -52947-01-24 02:23 J -17617445.43 -17617445.40 -17617445.37 0.2661 0.2579 *

Saturn -52947-03-18 17:45 J -17617391.86 -17617391.76 -17617391.66 0.0284 0.0183

Saturn -52947-06-15 05:59 J -17617303.26 -17617303.25 -17617303.25 0.0285 0.0284

Mars -52945-05-16 19:11 J -17616601.82 -17616601.70 -17616601.58 0.1731 0.0335

Mars -52944-03-11 15:21 J -17616303.00 -17616302.86 -17616302.72 0.1806 0.0746

Moon -52944-07-31 21:21 J -17616160.62 -17616160.61 -17616160.60 0.2667 0.2637

Jupiter -52943-05-28 11:59 J -17615860.17 -17615860.00 -17615859.83 0.0490 0.0154

Venus -52943-10-18 16:04 J -17615716.93 -17615716.83 -17615716.74 0.3764 0.1553

Moon -52940-01-15 21:06 J -17614896.72 -17614896.62 -17614896.52 0.2664 0.1852

Earth -52940-01-15 22:18 J -17614896.68 -17614896.57 -17614896.46 0.2667 0.1697 *

Jupiter -52937-04-29 16:47 J -17613696.93 -17613696.80 -17613696.67 0.0537 0.0127

Venus -52937-05-03 07:54 J -17613693.27 -17613693.17 -17613693.07 0.3768 0.0565

Earth -52937-07-24 17:45 J -17613610.87 -17613610.76 -17613610.64 0.2669 0.0164

Moon -52937-07-24 18:28 J -17613610.85 -17613610.73 -17613610.62 0.2673 0.0256 *

Jupiter -52937-07-28 01:54 J -17613607.47 -17613607.42 -17613607.37 0.0537 0.0487

Mars -52936-10-07 04:04 J -17613171.45 -17613171.33 -17613171.20 0.1724 0.0367

Mars -52935-08-01 15:49 J -17612872.99 -17612872.84 -17612872.70 0.1815 0.0438

Saturn -52934-01-25 02:23 J -17612696.53 -17612696.40 -17612696.26 0.0279 0.0172

Venus -52934-02-04 02:23 J -17612686.56 -17612686.40 -17612686.25 0.3613 0.0378

Saturn -52934-04-23 22:33 J -17612607.74 -17612607.56 -17612607.39 0.0279 0.0047

Saturn -52934-07-21 18:42 J -17612518.89 -17612518.72 -17612518.55 0.0278 0.0080

Saturn -52934-10-18 15:06 J -17612429.98 -17612429.87 -17612429.75 0.0277 0.0208

Venus -52932-11-16 23:45 J -17611669.58 -17611669.51 -17611669.44 0.3771 0.2669

Jupiter -52931-03-16 11:16 J -17611550.16 -17611550.03 -17611549.89 0.0490 0.0308

Jupiter -52931-06-14 13:40 J -17611460.05 -17611459.93 -17611459.80 0.0490 0.0338

Moon -52930-07-18 12:28 J -17611061.00 -17611060.98 -17611060.96 0.2666 0.2591

Earth -52930-07-18 13:11 J -17611060.98 -17611060.95 -17611060.91 0.2663 0.2533 *

Moon -52927-01-19 00:13 J -17610145.64 -17610145.49 -17610145.35 0.2668 0.0238

Earth -52927-01-19 01:25 J -17610145.58 -17610145.44 -17610145.29 0.2665 0.0224 *

Mars -52926-02-27 13:11 J -17609741.05 -17609740.95 -17609740.85 0.1716 0.1054

Mars -52926-12-22 16:04 J -17609442.89 -17609442.83 -17609442.76 0.1824 0.1623

Jupiter -52925-02-16 19:40 J -17609386.79 -17609386.68 -17609386.56 0.0537 0.0288

Jupiter -52925-05-16 05:01 J -17609297.39 -17609297.29 -17609297.18 0.0537 0.0333

Earth -52924-07-27 12:42 J -17608860.07 -17608859.97 -17608859.86 0.2670 0.1070

Moon -52924-07-27 13:40 J -17608860.04 -17608859.93 -17608859.83 0.2670 0.1110 *

Pluto -52922-07-31 23:45 J -17608125.52 -17608125.51 -17608125.47 0.0062 0.0061

Pluto -52922-10-28 00:42 J -17608037.52 -17608037.47 -17608037.38 0.0062 0.0057

Pluto -52921-01-24 01:54 J -17607949.49 -17607949.42 -17607949.31 0.0062 0.0052

Pluto -52921-04-21 02:52 J -17607861.47 -17607861.38 -17607861.25 0.0062 0.0048

Pluto -52921-07-18 04:18 J -17607773.43 -17607773.32 -17607773.19 0.0062 0.0043

Pluto -52921-10-14 05:01 J -17607685.40 -17607685.29 -17607685.13 0.0062 0.0040

Pluto -52920-01-10 06:28 J -17607597.36 -17607597.23 -17607597.08 0.0062 0.0034

Pluto -52920-04-08 07:40 J -17607509.33 -17607509.18 -17607509.02 0.0062 0.0030

Pluto -52920-07-05 08:37 J -17607421.28 -17607421.14 -17607420.97 0.0062 0.0026

Pluto -52920-10-01 09:49 J -17607333.24 -17607333.09 -17607332.92 0.0063 0.0021

Pluto -52920-12-28 11:01 J -17607245.20 -17607245.04 -17607244.87 0.0063 0.0016

Jupiter -52919-01-02 10:47 J -17607240.10 -17607240.05 -17607239.99 0.0490 0.0460

Pluto -52919-03-26 12:13 J -17607157.16 -17607156.99 -17607156.81 0.0063 0.0011

Jupiter -52919-04-02 12:42 J -17607150.13 -17607149.97 -17607149.80 0.0490 0.0179

Pluto -52919-06-22 13:25 J -17607069.11 -17607068.94 -17607068.76 0.0063 0.0007

Saturn -52919-08-16 17:01 J -17607013.83 -17607013.79 -17607013.73 0.0280 0.0260

Pluto -52919-09-18 14:37 J -17606981.06 -17606980.89 -17606980.71 0.0063 0.0002

Saturn -52919-11-13 05:59 J -17606925.37 -17606925.25 -17606925.14 0.0281 0.0157

Pluto -52919-12-15 15:49 J -17606893.01 -17606892.84 -17606892.67 0.0063 0.0003

Saturn -52918-02-09 18:28 J -17606836.86 -17606836.73 -17606836.59 0.0282 0.0054

Pluto -52918-03-13 17:01 J -17606804.96 -17606804.79 -17606804.62 0.0063 0.0008

Saturn -52918-05-09 06:57 J -17606748.34 -17606748.21 -17606748.07 0.0283 0.0048

Pluto -52918-06-09 17:59 J -17606716.91 -17606716.75 -17606716.57 0.0063 0.0013

Saturn -52918-08-05 19:11 J -17606659.81 -17606659.70 -17606659.58 0.0284 0.0151

Pluto -52918-09-05 19:25 J -17606628.86 -17606628.69 -17606628.52 0.0063 0.0018

Saturn -52918-11-02 07:40 J -17606571.24 -17606571.18 -17606571.12 0.0285 0.0252

Pluto -52918-12-02 20:37 J -17606540.80 -17606540.64 -17606540.48 0.0063 0.0023

Pluto -52917-02-28 21:35 J -17606452.75 -17606452.60 -17606452.43 0.0063 0.0028

Pluto -52917-05-26 22:47 J -17606364.69 -17606364.55 -17606364.39 0.0063 0.0033

Moon -52917-07-20 08:09 J -17606310.25 -17606310.16 -17606310.07 0.2671 0.1650

Earth -52917-07-20 08:37 J -17606310.24 -17606310.14 -17606310.05 0.2665 0.1565 *

Pluto -52917-08-22 23:59 J -17606276.63 -17606276.50 -17606276.35 0.0064 0.0038

Pluto -52917-11-19 01:11 J -17606188.56 -17606188.45 -17606188.31 0.0064 0.0043

Pluto -52916-02-15 02:23 J -17606100.50 -17606100.40 -17606100.27 0.0064 0.0048

Pluto -52916-05-14 03:35 J -17606012.43 -17606012.35 -17606012.23 0.0064 0.0053

Pluto -52916-08-10 05:01 J -17605924.35 -17605924.29 -17605924.21 0.0064 0.0058

Pluto -52916-11-06 06:13 J -17605836.25 -17605836.24 -17605836.20 0.0064 0.0063

Mars -52915-06-25 10:18 J -17605605.17 -17605605.07 -17605604.98 0.1739 0.1124

Moon -52914-01-22 04:04 J -17605394.46 -17605394.33 -17605394.20 0.2668 0.1149

Earth -52914-01-22 04:47 J -17605394.43 -17605394.30 -17605394.17 0.2663 0.1295 *

Jupiter -52914-12-05 22:47 J -17605076.62 -17605076.55 -17605076.48 0.0537 0.0446

Jupiter -52913-03-04 08:37 J -17604987.27 -17604987.14 -17604987.02 0.0537 0.0181

Earth -52911-07-30 07:40 J -17604109.26 -17604109.18 -17604109.11 0.2672 0.1975

Moon -52911-07-30 07:54 J -17604109.24 -17604109.17 -17604109.09 0.2667 0.2005 *

Uranus -52910-05-27 19:11 J -17603807.80 -17603807.70 -17603807.58 0.0147 0.0119

Uranus -52910-08-24 03:21 J -17603719.50 -17603719.36 -17603719.21 0.0147 0.0086

Uranus -52910-11-20 11:16 J -17603631.19 -17603631.03 -17603630.85 0.0147 0.0053

Uranus -52909-02-16 19:25 J -17603542.87 -17603542.69 -17603542.50 0.0147 0.0020

Uranus -52909-05-15 03:35 J -17603454.53 -17603454.35 -17603454.16 0.0147 0.0014

Uranus -52909-08-11 11:45 J -17603366.18 -17603366.01 -17603365.83 0.0147 0.0047

Uranus -52909-11-07 19:54 J -17603277.82 -17603277.67 -17603277.51 0.0147 0.0081

Uranus -52908-02-04 03:49 J -17603189.44 -17603189.34 -17603189.21 0.0147 0.0115

Jupiter -52907-01-19 11:45 J -17602840.19 -17602840.01 -17602839.84 0.0489 0.0020

Mars -52906-11-15 19:11 J -17602174.82 -17602174.70 -17602174.58 0.1732 0.0425

Saturn -52905-06-13 02:23 J -17601964.51 -17601964.40 -17601964.28 0.0280 0.0207

Mars -52905-09-09 16:04 J -17601875.97 -17601875.83 -17601875.70 0.1806 0.0887

Saturn -52905-09-09 22:33 J -17601875.73 -17601875.56 -17601875.39 0.0279 0.0081 *

Saturn -52905-12-07 18:42 J -17601786.89 -17601786.72 -17601786.54 0.0278 0.0046

Saturn -52904-03-06 15:06 J -17601698.00 -17601697.87 -17601697.72 0.0277 0.0173

Earth -52904-07-23 03:49 J -17601559.46 -17601559.34 -17601559.23 0.2667 0.0617

Moon -52904-07-23 04:04 J -17601559.45 -17601559.33 -17601559.22 0.2674 0.0536 *

Jupiter -52902-12-22 11:45 J -17600677.14 -17600677.01 -17600676.88 0.0538 0.0026

Mars -52896-04-07 04:18 J -17598744.44 -17598744.32 -17598744.20 0.1724 0.0269

Jupiter -52896-11-07 11:01 J -17598530.20 -17598530.04 -17598529.87 0.0489 0.0137

Mars -52895-01-30 16:04 J -17598445.98 -17598445.83 -17598445.68 0.1815 0.0313

Moon -52894-01-17 03:06 J -17598094.49 -17598094.37 -17598094.25 0.2665 0.1505

Earth -52894-01-17 04:33 J -17598094.43 -17598094.31 -17598094.19 0.2666 0.1438 *

Venus -52892-11-08 21:35 J -17597067.67 -17597067.60 -17597067.54 0.3761 0.2887

Earth -52891-07-25 22:47 J -17596808.66 -17596808.55 -17596808.43 0.2669 0.0326

Moon -52891-07-25 23:30 J -17596808.63 -17596808.52 -17596808.40 0.2671 0.0323 *

Jupiter -52890-10-10 15:35 J -17596366.98 -17596366.85 -17596366.72 0.0538 0.0120

Jupiter -52889-01-08 00:42 J -17596277.51 -17596277.47 -17596277.42 0.0537 0.0496

Saturn -52889-04-01 07:11 J -17596193.30 -17596193.20 -17596193.10 0.0280 0.0193

Saturn -52889-06-28 19:40 J -17596104.81 -17596104.68 -17596104.55 0.0281 0.0091

Saturn -52889-09-25 08:09 J -17596016.29 -17596016.16 -17596016.02 0.0282 0.0014

Saturn -52889-12-22 20:37 J -17595927.77 -17595927.64 -17595927.52 0.0283 0.0112

Saturn -52888-03-21 08:52 J -17595839.22 -17595839.13 -17595839.04 0.0284 0.0213

Mars -52887-08-28 13:11 J -17595314.05 -17595313.95 -17595313.85 0.1716 0.0962

Venus -52886-05-25 13:25 J -17595044.04 -17595043.94 -17595043.84 0.3765 0.0773

Mars -52886-06-22 16:47 J -17595015.89 -17595015.80 -17595015.72 0.1824 0.1484

Moon -52884-07-18 17:30 J -17594258.82 -17594258.77 -17594258.72 0.2667 0.2426

Earth -52884-07-18 18:13 J -17594258.79 -17594258.74 -17594258.68 0.2664 0.2351 *

Jupiter -52884-08-26 10:18 J -17594220.21 -17594220.07 -17594219.93 0.0490 0.0293

Jupiter -52884-11-24 12:42 J -17594130.09 -17594129.97 -17594129.85 0.0490 0.0351

Moon -52881-01-20 06:13 J -17593343.38 -17593343.24 -17593343.09 0.2668 0.0128

Earth -52881-01-20 07:25 J -17593343.33 -17593343.19 -17593343.04 0.2664 0.0054 *

Venus -52881-12-08 05:16 J -17593020.37 -17593020.28 -17593020.18 0.3769 0.1350

Earth -52878-07-28 17:45 J -17592057.86 -17592057.76 -17592057.66 0.2671 0.1238

Moon -52878-07-28 18:28 J -17592057.83 -17592057.73 -17592057.63 0.2670 0.1346 *

Jupiter -52878-07-29 18:57 J -17592056.82 -17592056.71 -17592056.59 0.0537 0.0271

Venus -52878-09-11 04:18 J -17592013.46 -17592013.32 -17592013.18 0.3612 0.1654

Jupiter -52878-10-27 04:33 J -17591967.41 -17591967.31 -17591967.21 0.0537 0.0351

Mars -52877-01-18 22:04 J -17591883.60 -17591883.58 -17591883.55 0.1709 0.1650

Saturn -52876-10-30 23:16 J -17591232.59 -17591232.53 -17591232.47 0.0280 0.0261

Mars -52876-12-24 10:18 J -17591178.16 -17591178.07 -17591177.98 0.1739 0.1214

Saturn -52875-01-27 19:11 J -17591143.85 -17591143.70 -17591143.55 0.0279 0.0136

Saturn -52875-04-26 15:21 J -17591055.04 -17591054.86 -17591054.69 0.0279 0.0011

Neptune -52875-06-16 21:35 J -17591003.62 -17591003.60 -17591003.57 0.0089 0.0087

Venus -52875-06-23 21:06 J -17590996.65 -17590996.62 -17590996.58 0.3772 0.3432

Saturn -52875-07-24 11:30 J -17590966.17 -17590966.02 -17590965.85 0.0278 0.0118

Neptune -52875-09-12 23:01 J -17590915.58 -17590915.54 -17590915.47 0.0089 0.0081

Saturn -52875-10-21 08:09 J -17590877.24 -17590877.16 -17590877.07 0.0277 0.0245

Neptune -52875-12-10 00:42 J -17590827.53 -17590827.47 -17590827.38 0.0089 0.0075

Neptune -52874-03-08 02:23 J -17590739.48 -17590739.40 -17590739.30 0.0089 0.0068

Neptune -52874-06-04 04:18 J -17590651.42 -17590651.32 -17590651.22 0.0089 0.0062

Neptune -52874-08-31 05:45 J -17590563.37 -17590563.26 -17590563.15 0.0089 0.0056

Neptune -52874-11-27 07:25 J -17590475.31 -17590475.19 -17590475.07 0.0089 0.0050

Neptune -52873-02-23 08:52 J -17590387.24 -17590387.13 -17590387.00 0.0089 0.0044

Neptune -52873-05-21 10:33 J -17590299.18 -17590299.06 -17590298.92 0.0089 0.0037

Neptune -52873-08-17 12:13 J -17590211.12 -17590210.99 -17590210.85 0.0089 0.0031

Neptune -52873-11-13 13:54 J -17590123.06 -17590122.92 -17590122.78 0.0089 0.0025

Neptune -52872-02-09 15:35 J -17590034.99 -17590034.85 -17590034.72 0.0089 0.0019

Neptune -52872-05-08 17:01 J -17589946.93 -17589946.79 -17589946.65 0.0089 0.0013

Jupiter -52872-06-14 09:49 J -17589910.16 -17589910.09 -17589910.02 0.0490 0.0445

Neptune -52872-08-04 18:42 J -17589858.86 -17589858.72 -17589858.58 0.0089 0.0007

Jupiter -52872-09-12 11:45 J -17589820.17 -17589820.01 -17589819.85 0.0490 0.0192

Neptune -52872-10-31 20:09 J -17589770.80 -17589770.66 -17589770.51 0.0089 0.0003

Neptune -52871-01-27 21:49 J -17589682.73 -17589682.59 -17589682.45 0.0089 0.0006

Neptune -52871-04-25 23:16 J -17589594.66 -17589594.53 -17589594.39 0.0089 0.0012

Moon -52871-07-21 13:25 J -17589508.04 -17589507.94 -17589507.84 0.2672 0.1383

Earth -52871-07-21 13:40 J -17589508.03 -17589507.93 -17589507.83 0.2666 0.1388 *

Neptune -52871-07-23 00:57 J -17589506.60 -17589506.46 -17589506.32 0.0089 0.0018

Neptune -52871-10-19 02:23 J -17589418.53 -17589418.40 -17589418.26 0.0089 0.0024

Neptune -52870-01-15 04:04 J -17589330.46 -17589330.33 -17589330.20 0.0089 0.0030

Neptune -52870-04-13 05:30 J -17589242.39 -17589242.27 -17589242.14 0.0089 0.0036

Neptune -52870-07-10 06:57 J -17589154.32 -17589154.21 -17589154.08 0.0089 0.0042

Neptune -52870-10-06 08:37 J -17589066.25 -17589066.14 -17589066.02 0.0089 0.0048

Neptune -52869-01-02 10:04 J -17588978.18 -17588978.08 -17588977.96 0.0089 0.0054

Neptune -52869-03-30 11:30 J -17588890.11 -17588890.02 -17588889.91 0.0089 0.0060

Neptune -52869-06-26 12:57 J -17588802.04 -17588801.96 -17588801.86 0.0089 0.0066

Neptune -52869-09-22 14:23 J -17588713.97 -17588713.90 -17588713.80 0.0089 0.0072

Neptune -52869-12-19 15:49 J -17588625.89 -17588625.84 -17588625.76 0.0089 0.0078

Moon -52868-01-22 10:33 J -17588592.18 -17588592.06 -17588591.95 0.2668 0.1624

Earth -52868-01-22 11:01 J -17588592.16 -17588592.04 -17588591.92 0.2662 0.1571 *

Neptune -52868-03-17 17:45 J -17588537.80 -17588537.76 -17588537.71 0.0089 0.0083

Uranus -52868-06-13 17:30 J -17588449.80 -17588449.77 -17588449.73 0.0132 0.0127

Uranus -52868-09-09 20:52 J -17588361.70 -17588361.63 -17588361.55 0.0132 0.0109

Uranus -52868-12-06 23:45 J -17588273.59 -17588273.51 -17588273.40 0.0132 0.0092

Uranus -52867-03-05 03:06 J -17588185.48 -17588185.37 -17588185.25 0.0132 0.0074

Uranus -52867-06-01 06:13 J -17588097.36 -17588097.24 -17588097.11 0.0132 0.0056

Uranus -52867-08-28 09:21 J -17588009.23 -17588009.11 -17588008.97 0.0132 0.0039

Uranus -52867-11-24 12:42 J -17587921.11 -17587920.97 -17587920.84 0.0132 0.0021

Uranus -52866-02-20 15:49 J -17587832.98 -17587832.84 -17587832.71 0.0132 0.0005

Mars -52866-05-16 19:25 J -17587747.81 -17587747.69 -17587747.58 0.1732 0.0519

Jupiter -52866-05-17 22:04 J -17587746.66 -17587746.58 -17587746.50 0.0537 0.0430

Uranus -52866-05-19 18:42 J -17587744.85 -17587744.72 -17587744.58 0.0132 0.0015

Jupiter -52866-08-15 07:40 J -17587657.30 -17587657.18 -17587657.05 0.0537 0.0197

Uranus -52866-08-15 21:49 J -17587656.72 -17587656.59 -17587656.46 0.0132 0.0032

Uranus -52866-11-12 00:57 J -17587568.58 -17587568.46 -17587568.33 0.0132 0.0049

Uranus -52865-02-08 03:49 J -17587480.45 -17587480.34 -17587480.21 0.0132 0.0067

Mars -52865-03-10 16:18 J -17587448.95 -17587448.82 -17587448.69 0.1806 0.1003

Uranus -52865-05-06 06:57 J -17587392.31 -17587392.21 -17587392.10 0.0132 0.0084

Earth -52865-07-30 12:28 J -17587307.04 -17587306.98 -17587306.91 0.2673 0.2139

Moon -52865-07-30 12:57 J -17587307.03 -17587306.96 -17587306.90 0.2666 0.2141 *

Uranus -52865-08-02 10:04 J -17587304.16 -17587304.08 -17587303.99 0.0132 0.0101

Uranus -52865-10-29 13:11 J -17587216.01 -17587215.95 -17587215.89 0.0132 0.0118

Earth -52861-01-15 07:40 J -17586043.20 -17586043.18 -17586043.15 0.2668 0.2613

Jupiter -52860-07-01 11:01 J -17585510.22 -17585510.04 -17585509.87 0.0490 0.0037

Saturn -52860-08-19 08:23 J -17585461.23 -17585461.15 -17585461.07 0.0280 0.0228

Saturn -52860-11-15 21:06 J -17585372.74 -17585372.62 -17585372.50 0.0281 0.0126

Saturn -52859-02-12 09:35 J -17585284.24 -17585284.10 -17585283.96 0.0282 0.0024

Saturn -52859-05-11 22:04 J -17585195.71 -17585195.58 -17585195.45 0.0283 0.0078

Saturn -52859-08-08 10:18 J -17585107.17 -17585107.07 -17585106.96 0.0284 0.0180

Saturn -52859-11-04 22:33 J -17585018.58 -17585018.56 -17585018.54 0.0285 0.0281

Earth -52858-07-24 08:52 J -17584757.25 -17584757.13 -17584757.02 0.2667 0.0443

Moon -52858-07-24 09:06 J -17584757.23 -17584757.12 -17584757.01 0.2674 0.0474 *

Mars -52857-10-06 04:18 J -17584317.44 -17584317.32 -17584317.20 0.1724 0.0182

Mars -52856-07-31 16:47 J -17584018.95 -17584018.80 -17584018.65 0.1815 0.0169

Jupiter -52854-06-03 11:01 J -17583347.17 -17583347.04 -17583346.91 0.0537 0.0044

Moon -52848-01-17 09:06 J -17581292.25 -17581292.12 -17581291.99 0.2666 0.1275

Earth -52848-01-17 10:33 J -17581292.19 -17581292.06 -17581291.93 0.2666 0.1178 *

Jupiter -52848-04-19 10:04 J -17581200.25 -17581200.08 -17581199.91 0.0489 0.0122

Mars -52847-02-26 13:25 J -17580887.05 -17580886.94 -17580886.84 0.1717 0.0871

Mars -52847-12-21 17:16 J -17580588.88 -17580588.78 -17580588.68 0.1823 0.1351

Saturn -52846-06-16 18:57 J -17580411.84 -17580411.71 -17580411.57 0.0280 0.0173

Saturn -52846-09-13 15:06 J -17580323.04 -17580322.87 -17580322.70 0.0279 0.0046

Saturn -52846-12-11 11:30 J -17580234.19 -17580234.02 -17580233.85 0.0278 0.0081

Saturn -52845-03-09 07:54 J -17580145.28 -17580145.17 -17580145.05 0.0277 0.0209

Earth -52845-07-26 03:49 J -17580006.45 -17580006.34 -17580006.23 0.2669 0.0490

Moon -52845-07-26 04:33 J -17580006.42 -17580006.31 -17580006.20 0.2671 0.0628 *

Jupiter -52842-03-22 14:09 J -17579037.04 -17579036.91 -17579036.78 0.0538 0.0117

Jupiter -52842-06-19 23:16 J -17578947.57 -17578947.53 -17578947.48 0.0538 0.0501

Mars -52838-07-19 22:18 J -17577456.62 -17577456.57 -17577456.52 0.1709 0.1554

Moon -52838-07-19 22:33 J -17577456.62 -17577456.56 -17577456.49 0.2667 0.2248 *

Earth -52838-07-19 23:16 J -17577456.59 -17577456.53 -17577456.46 0.2664 0.2169 *

Jupiter -52836-02-05 09:35 J -17576890.24 -17576890.10 -17576889.95 0.0489 0.0274

Jupiter -52836-05-06 11:59 J -17576800.12 -17576800.00 -17576799.89 0.0489 0.0369

Mars -52836-06-24 10:18 J -17576751.14 -17576751.07 -17576750.99 0.1740 0.1308

Moon -52835-01-20 12:28 J -17576541.13 -17576540.98 -17576540.84 0.2668 0.0284

Earth -52835-01-20 13:40 J -17576541.08 -17576540.93 -17576540.79 0.2664 0.0313 *

Venus -52835-06-15 18:57 J -17576394.79 -17576394.71 -17576394.63 0.3762 0.2115

Earth -52832-07-28 22:47 J -17575255.65 -17575255.55 -17575255.46 0.2671 0.1408

Moon -52832-07-28 23:30 J -17575255.62 -17575255.52 -17575255.43 0.2669 0.1413 *

Pluto -52831-07-12 16:04 J -17574906.87 -17574906.83 -17574906.78 0.0082 0.0079

Pluto -52831-10-08 17:30 J -17574818.83 -17574818.77 -17574818.68 0.0082 0.0070

Pluto -52830-01-04 19:11 J -17574730.79 -17574730.70 -17574730.59 0.0082 0.0060

Saturn -52830-01-06 09:49 J -17574729.13 -17574729.09 -17574729.04 0.0279 0.0262

Jupiter -52830-01-08 17:45 J -17574726.88 -17574726.76 -17574726.64 0.0538 0.0264

Pluto -52830-04-02 20:52 J -17574642.74 -17574642.63 -17574642.51 0.0082 0.0051

Saturn -52830-04-04 22:33 J -17574640.67 -17574640.56 -17574640.44 0.0280 0.0160

Jupiter -52830-04-08 03:21 J -17574637.46 -17574637.36 -17574637.27 0.0538 0.0359

Pluto -52830-06-29 22:33 J -17574554.68 -17574554.56 -17574554.43 0.0082 0.0042

Saturn -52830-07-02 11:01 J -17574552.17 -17574552.04 -17574551.90 0.0281 0.0059

Pluto -52830-09-26 00:13 J -17574466.62 -17574466.49 -17574466.35 0.0082 0.0033

Saturn -52830-09-28 23:30 J -17574463.65 -17574463.52 -17574463.38 0.0282 0.0044

Pluto -52830-12-23 01:54 J -17574378.56 -17574378.42 -17574378.28 0.0081 0.0024

Saturn -52830-12-26 11:45 J -17574375.12 -17574375.01 -17574374.89 0.0283 0.0145

Venus -52830-12-30 11:01 J -17574371.15 -17574371.04 -17574370.94 0.3766 0.0132

Pluto -52829-03-20 03:21 J -17574290.50 -17574290.36 -17574290.21 0.0081 0.0015

Saturn -52829-03-23 23:59 J -17574286.56 -17574286.50 -17574286.43 0.0284 0.0245

Pluto -52829-06-16 05:01 J -17574202.44 -17574202.29 -17574202.15 0.0081 0.0007

Pluto -52829-09-12 06:28 J -17574114.37 -17574114.23 -17574114.08 0.0081 0.0002

Pluto -52829-12-09 07:54 J -17574026.31 -17574026.17 -17574026.02 0.0081 0.0011

Pluto -52828-03-07 09:21 J -17573938.24 -17573938.11 -17573937.96 0.0081 0.0020

Pluto -52828-06-03 11:01 J -17573850.18 -17573850.04 -17573849.91 0.0081 0.0028

Pluto -52828-08-30 12:13 J -17573762.11 -17573761.99 -17573761.85 0.0080 0.0037

Pluto -52828-11-26 13:54 J -17573674.04 -17573673.92 -17573673.80 0.0080 0.0045

Pluto -52827-02-22 15:21 J -17573585.97 -17573585.86 -17573585.75 0.0080 0.0053

Pluto -52827-05-21 16:33 J -17573497.89 -17573497.81 -17573497.71 0.0080 0.0061

Pluto -52827-08-17 17:59 J -17573409.81 -17573409.75 -17573409.67 0.0080 0.0069

Venus -52827-10-01 22:04 J -17573364.71 -17573364.58 -17573364.46 0.3616 0.2178

Pluto -52827-11-13 19:25 J -17573321.72 -17573321.69 -17573321.64 0.0080 0.0077

Mars -52827-11-14 19:25 J -17573320.80 -17573320.69 -17573320.57 0.1732 0.0609

Uranus -52826-03-20 18:42 J -17573194.75 -17573194.72 -17573194.68 0.0147 0.0144

Uranus -52826-06-17 02:37 J -17573106.50 -17573106.39 -17573106.26 0.0147 0.0111

Mars -52826-09-09 16:47 J -17573021.92 -17573021.80 -17573021.68 0.1806 0.1138

Uranus -52826-09-13 10:33 J -17573018.21 -17573018.06 -17573017.90 0.0147 0.0078

Uranus -52826-12-10 18:42 J -17572929.89 -17572929.72 -17572929.54 0.0147 0.0045

Uranus -52825-03-08 02:52 J -17572841.57 -17572841.38 -17572841.20 0.0147 0.0012

Uranus -52825-06-04 10:47 J -17572753.23 -17572753.05 -17572752.86 0.0147 0.0022

Moon -52825-07-21 18:28 J -17572705.83 -17572705.73 -17572705.62 0.2673 0.1236

Earth -52825-07-21 18:42 J -17572705.83 -17572705.72 -17572705.62 0.2666 0.1209 *

Uranus -52825-08-31 18:57 J -17572664.88 -17572664.71 -17572664.53 0.0147 0.0055

Jupiter -52825-11-24 08:52 J -17572580.21 -17572580.13 -17572580.05 0.0489 0.0430

Uranus -52825-11-28 03:06 J -17572576.51 -17572576.37 -17572576.21 0.0147 0.0089

Jupiter -52824-02-22 10:33 J -17572490.21 -17572490.06 -17572489.89 0.0489 0.0208

Uranus -52824-02-24 11:16 J -17572488.12 -17572488.03 -17572487.91 0.0147 0.0123

Venus -52824-07-15 02:52 J -17572347.46 -17572347.38 -17572347.30 0.3769 0.2113

Moon -52822-01-23 16:47 J -17571789.90 -17571789.80 -17571789.69 0.2668 0.1753

Earth -52822-01-23 17:01 J -17571789.89 -17571789.79 -17571789.68 0.2662 0.1842 *

Earth -52819-07-31 17:30 J -17570504.83 -17570504.77 -17570504.72 0.2673 0.2304

Moon -52819-07-31 17:45 J -17570504.81 -17570504.76 -17570504.71 0.2666 0.2356 *

Jupiter -52819-10-27 21:21 J -17570416.70 -17570416.61 -17570416.53 0.0538 0.0415

Jupiter -52818-01-25 06:57 J -17570327.33 -17570327.21 -17570327.09 0.0538 0.0214

Mars -52817-04-06 04:18 J -17569890.44 -17569890.32 -17569890.19 0.1724 0.0104

Saturn -52817-11-02 15:35 J -17569679.94 -17569679.85 -17569679.74 0.0280 0.0227

Mars -52816-01-29 17:01 J -17569591.94 -17569591.79 -17569591.63 0.1815 0.0061

Saturn -52816-01-30 11:45 J -17569591.18 -17569591.01 -17569590.85 0.0279 0.0101

Saturn -52816-04-29 07:54 J -17569502.35 -17569502.17 -17569502.00 0.0279 0.0025

Saturn -52816-07-27 04:18 J -17569413.47 -17569413.32 -17569413.17 0.0278 0.0153

Moon -52815-01-15 12:42 J -17569241.03 -17569240.97 -17569240.90 0.2663 0.2358

Earth -52815-01-15 13:40 J -17569240.99 -17569240.93 -17569240.86 0.2668 0.2357 *

Jupiter -52813-12-11 09:49 J -17568180.26 -17568180.09 -17568179.91 0.0490 0.0050

Earth -52812-07-24 13:54 J -17567955.04 -17567954.92 -17567954.81 0.2668 0.0288

Moon -52812-07-24 14:09 J -17567955.02 -17567954.91 -17567954.79 0.2673 0.0202 *

Mars -52808-08-27 13:25 J -17566460.05 -17566459.94 -17566459.83 0.1717 0.0775

Mars -52807-06-21 17:30 J -17566161.88 -17566161.77 -17566161.66 0.1824 0.1231

Jupiter -52807-11-13 10:18 J -17566017.20 -17566017.07 -17566016.94 0.0537 0.0058

Moon -52802-01-18 15:06 J -17564490.00 -17564489.87 -17564489.74 0.2667 0.1064

Earth -52802-01-18 16:33 J -17564489.95 -17564489.81 -17564489.68 0.2666 0.0914 *

Saturn -52801-08-21 23:45 J -17563908.61 -17563908.51 -17563908.41 0.0280 0.0196

Jupiter -52801-09-29 09:06 J -17563870.29 -17563870.12 -17563869.95 0.0490 0.0107

Saturn -52801-11-18 12:13 J -17563820.11 -17563819.99 -17563819.85 0.0281 0.0095

Saturn -52800-02-15 00:57 J -17563731.60 -17563731.46 -17563731.33 0.0282 0.0011

Saturn -52800-05-14 13:11 J -17563643.07 -17563642.95 -17563642.82 0.0283 0.0110

Saturn -52800-08-11 01:25 J -17563554.53 -17563554.44 -17563554.35 0.0284 0.0211

Earth -52799-07-27 08:52 J -17563204.24 -17563204.13 -17563204.02 0.2670 0.0665

Moon -52799-07-27 09:35 J -17563204.21 -17563204.10 -17563203.99 0.2672 0.0665 *

Mars -52798-01-17 22:18 J -17563029.63 -17563029.57 -17563029.51 0.1710 0.1467

Mars -52797-12-23 10:18 J -17562324.14 -17562324.07 -17562323.99 0.1739 0.1395

Jupiter -52795-09-01 13:25 J -17561707.07 -17561706.94 -17561706.81 0.0537 0.0099

Jupiter -52795-11-29 22:33 J -17561617.59 -17561617.56 -17561617.52 0.0537 0.0516

Neptune -52793-12-03 00:42 J -17560883.52 -17560883.47 -17560883.42 0.0089 0.0084

Neptune -52792-03-01 03:21 J -17560795.44 -17560795.36 -17560795.26 0.0089 0.0077

Neptune -52792-05-28 05:59 J -17560707.34 -17560707.25 -17560707.12 0.0089 0.0070

Moon -52792-07-20 03:49 J -17560654.41 -17560654.34 -17560654.26 0.2669 0.2006

Earth -52792-07-20 04:18 J -17560654.39 -17560654.32 -17560654.24 0.2664 0.1991 *

Neptune -52792-08-24 09:06 J -17560619.24 -17560619.12 -17560618.99 0.0089 0.0062

Neptune -52792-11-20 12:13 J -17560531.13 -17560530.99 -17560530.85 0.0089 0.0054

Neptune -52791-02-16 14:52 J -17560443.02 -17560442.88 -17560442.72 0.0089 0.0047

Neptune -52791-05-15 17:59 J -17560354.91 -17560354.75 -17560354.59 0.0089 0.0039

Neptune -52791-08-11 20:37 J -17560266.79 -17560266.64 -17560266.46 0.0089 0.0032

Neptune -52791-11-07 23:45 J -17560178.68 -17560178.51 -17560178.33 0.0089 0.0024

Neptune -52790-02-04 02:52 J -17560090.56 -17560090.38 -17560090.21 0.0089 0.0016

Neptune -52790-05-03 05:45 J -17560002.44 -17560002.26 -17560002.08 0.0089 0.0008

Neptune -52790-07-30 08:52 J -17559914.31 -17559914.13 -17559913.95 0.0089 0.0002

Neptune -52790-10-26 11:45 J -17559826.19 -17559826.01 -17559825.83 0.0089 0.0007

Moon -52789-01-21 18:28 J -17559738.87 -17559738.73 -17559738.58 0.2668 0.0458

Earth -52789-01-21 19:40 J -17559738.82 -17559738.68 -17559738.54 0.2664 0.0575 *

Neptune -52789-01-22 14:37 J -17559738.06 -17559737.89 -17559737.71 0.0089 0.0015

Neptune -52789-04-19 17:45 J -17559649.93 -17559649.76 -17559649.59 0.0089 0.0023

Neptune -52789-07-16 20:37 J -17559561.80 -17559561.64 -17559561.46 0.0089 0.0031

Jupiter -52789-07-18 08:23 J -17559560.29 -17559560.15 -17559560.00 0.0489 0.0260

Neptune -52789-10-12 23:45 J -17559473.67 -17559473.51 -17559473.34 0.0089 0.0039

Jupiter -52789-10-16 10:47 J -17559470.16 -17559470.05 -17559469.94 0.0489 0.0384

Neptune -52788-01-09 02:37 J -17559385.53 -17559385.39 -17559385.23 0.0089 0.0047

Neptune -52788-04-07 05:30 J -17559297.39 -17559297.27 -17559297.11 0.0089 0.0055

Neptune -52788-07-04 08:37 J -17559209.25 -17559209.14 -17559209.00 0.0089 0.0063

Neptune -52788-09-30 11:45 J -17559121.11 -17559121.01 -17559120.89 0.0089 0.0071

Neptune -52788-12-27 14:37 J -17559032.95 -17559032.89 -17559032.78 0.0089 0.0079

Saturn -52787-03-22 15:21 J -17558947.91 -17558947.86 -17558947.80 0.0281 0.0264

Neptune -52787-03-25 17:45 J -17558944.78 -17558944.76 -17558944.70 0.0089 0.0087

Mars -52787-05-15 19:25 J -17558893.80 -17558893.69 -17558893.58 0.1732 0.0695

Saturn -52787-06-19 11:16 J -17558859.18 -17558859.03 -17558858.87 0.0280 0.0139

Saturn -52787-09-16 07:25 J -17558770.36 -17558770.19 -17558770.01 0.0279 0.0014

Saturn -52787-12-14 03:49 J -17558681.50 -17558681.34 -17558681.17 0.0278 0.0116

Mars -52786-03-10 17:30 J -17558594.88 -17558594.77 -17558594.66 0.1805 0.1282

Saturn -52786-03-13 00:42 J -17558592.56 -17558592.47 -17558592.39 0.0277 0.0244

Earth -52786-07-30 03:35 J -17558453.44 -17558453.35 -17558453.25 0.2671 0.1575

Moon -52786-07-30 04:18 J -17558453.41 -17558453.32 -17558453.23 0.2667 0.1686 *

Uranus -52784-07-04 01:25 J -17557748.49 -17557748.44 -17557748.38 0.0132 0.0119

Venus -52784-07-07 00:28 J -17557745.52 -17557745.48 -17557745.44 0.3758 0.3455

Uranus -52784-09-30 04:33 J -17557660.39 -17557660.31 -17557660.22 0.0132 0.0101

Uranus -52784-12-27 07:40 J -17557572.28 -17557572.18 -17557572.06 0.0132 0.0084

Uranus -52783-03-25 11:01 J -17557484.16 -17557484.04 -17557483.92 0.0132 0.0066

Jupiter -52783-06-20 16:18 J -17557396.94 -17557396.82 -17557396.71 0.0538 0.0262

Uranus -52783-06-21 14:09 J -17557396.03 -17557395.91 -17557395.78 0.0132 0.0048

Uranus -52783-09-17 17:16 J -17557307.91 -17557307.78 -17557307.64 0.0132 0.0031

Jupiter -52783-09-18 01:54 J -17557307.52 -17557307.42 -17557307.33 0.0538 0.0362

Uranus -52783-12-14 20:23 J -17557219.78 -17557219.65 -17557219.51 0.0132 0.0013

Uranus -52782-03-12 23:30 J -17557131.65 -17557131.52 -17557131.38 0.0132 0.0006

Uranus -52782-06-09 02:37 J -17557043.52 -17557043.39 -17557043.25 0.0132 0.0022

Uranus -52782-09-05 05:45 J -17556955.39 -17556955.26 -17556955.13 0.0132 0.0040

Uranus -52782-12-02 08:52 J -17556867.25 -17556867.13 -17556867.01 0.0132 0.0057

Uranus -52781-02-28 11:59 J -17556779.11 -17556779.00 -17556778.89 0.0132 0.0074

Uranus -52781-05-26 14:52 J -17556690.97 -17556690.88 -17556690.78 0.0132 0.0092

Uranus -52781-08-22 17:45 J -17556602.82 -17556602.76 -17556602.67 0.0132 0.0110

Uranus -52781-11-18 20:52 J -17556514.66 -17556514.63 -17556514.58 0.0132 0.0126

Moon -52779-07-22 23:30 J -17555903.62 -17555903.52 -17555903.41 0.2673 0.1049

Earth -52779-07-22 23:45 J -17555903.62 -17555903.51 -17555903.40 0.2666 0.1029 *

Venus -52778-01-20 16:33 J -17555721.91 -17555721.81 -17555721.72 0.3763 0.1334

Mars -52778-10-06 04:33 J -17555463.43 -17555463.31 -17555463.19 0.1724 0.0013

Jupiter -52777-05-06 08:09 J -17555250.25 -17555250.16 -17555250.06 0.0489 0.0410

Mars -52777-07-30 17:30 J -17555164.92 -17555164.77 -17555164.61 0.1814 0.0098

Jupiter -52777-08-04 10:04 J -17555160.24 -17555160.08 -17555159.92 0.0489 0.0227

Earth -52776-01-23 23:16 J -17554987.62 -17554987.53 -17554987.44 0.2662 0.2115

Moon -52776-01-23 23:16 J -17554987.61 -17554987.53 -17554987.45 0.2669 0.2194 *

Earth -52773-07-31 22:18 J -17553702.61 -17553702.57 -17553702.52 0.2673 0.2467

Moon -52773-07-31 22:47 J -17553702.60 -17553702.55 -17553702.51 0.2667 0.2438 *

Venus -52773-08-05 08:23 J -17553698.25 -17553698.15 -17553698.05 0.3766 0.0793

Saturn -52771-01-09 01:25 J -17553176.51 -17553176.44 -17553176.35 0.0279 0.0227

Saturn -52771-04-07 14:09 J -17553088.03 -17553087.91 -17553087.78 0.0280 0.0126

Jupiter -52771-04-08 19:40 J -17553086.76 -17553086.68 -17553086.59 0.0538 0.0412

Saturn -52771-07-05 02:37 J -17552999.52 -17552999.39 -17552999.25 0.0281 0.0026

Jupiter -52771-07-07 05:45 J -17552997.38 -17552997.26 -17552997.14 0.0538 0.0218

Saturn -52771-10-01 15:06 J -17552911.00 -17552910.87 -17552910.74 0.0282 0.0077

Saturn -52771-12-29 03:21 J -17552822.47 -17552822.36 -17552822.26 0.0283 0.0177

Saturn -52770-03-27 15:21 J -17552733.88 -17552733.86 -17552733.83 0.0284 0.0277

Venus -52770-05-08 23:45 J -17552691.66 -17552691.51 -17552691.35 0.3614 0.0208

Moon -52769-01-16 18:42 J -17552438.80 -17552438.72 -17552438.65 0.2664 0.2264

Earth -52769-01-16 19:40 J -17552438.76 -17552438.68 -17552438.59 0.2668 0.2100 *

Mars -52768-02-25 13:25 J -17552033.05 -17552032.94 -17552032.82 0.1717 0.0686

Mars -52768-12-20 17:59 J -17551734.87 -17551734.75 -17551734.63 0.1823 0.1096

Venus -52767-02-19 00:13 J -17551674.55 -17551674.49 -17551674.42 0.3770 0.2891

Earth -52766-07-25 18:42 J -17551152.83 -17551152.72 -17551152.60 0.2668 0.0129

Moon -52766-07-25 19:25 J -17551152.81 -17551152.69 -17551152.58 0.2673 0.0066 *

Jupiter -52765-05-23 08:52 J -17550850.31 -17550850.13 -17550849.96 0.0489 0.0064

Jupiter -52759-04-25 09:21 J -17548687.24 -17548687.11 -17548686.98 0.0538 0.0072

Mars -52759-07-18 22:33 J -17548602.63 -17548602.56 -17548602.49 0.1710 0.1369

Saturn -52758-11-06 08:23 J -17548127.28 -17548127.15 -17548127.03 0.0280 0.0192

Saturn -52757-02-03 04:18 J -17548038.49 -17548038.32 -17548038.15 0.0279 0.0066

Saturn -52757-05-02 00:42 J -17547949.65 -17547949.47 -17547949.30 0.0279 0.0062

Mars -52757-06-23 10:33 J -17547897.12 -17547897.06 -17547897.00 0.1740 0.1484

Saturn -52757-07-29 21:06 J -17547860.75 -17547860.62 -17547860.49 0.0278 0.0189

Moon -52756-01-18 21:06 J -17547687.76 -17547687.62 -17547687.48 0.2667 0.0705

Earth -52756-01-18 22:33 J -17547687.70 -17547687.56 -17547687.42 0.2665 0.0652 *

Jupiter -52753-03-11 08:09 J -17546540.34 -17546540.16 -17546539.99 0.0489 0.0093

Earth -52753-07-27 13:54 J -17546402.03 -17546401.92 -17546401.82 0.2670 0.0838

Moon -52753-07-27 14:37 J -17546402.00 -17546401.89 -17546401.79 0.2671 0.0960 *

Mars -52748-11-13 19:40 J -17544466.79 -17544466.68 -17544466.57 0.1732 0.0792

Jupiter -52747-02-11 12:42 J -17544377.11 -17544376.97 -17544376.84 0.0537 0.0086

Jupiter -52747-05-11 21:49 J -17544287.61 -17544287.59 -17544287.58 0.0537 0.0530

Mars -52747-09-08 17:45 J -17544167.86 -17544167.76 -17544167.66 0.1805 0.1396

Moon -52746-07-21 09:06 J -17543852.20 -17543852.12 -17543852.04 0.2670 0.1913

Earth -52746-07-21 09:21 J -17543852.19 -17543852.11 -17543852.02 0.2664 0.1809 *

Moon -52743-01-22 00:57 J -17542936.60 -17542936.46 -17542936.32 0.2668 0.0787

Earth -52743-01-22 01:54 J -17542936.56 -17542936.42 -17542936.29 0.2663 0.0850 *

Uranus -52742-04-10 03:06 J -17542493.43 -17542493.37 -17542493.27 0.0147 0.0131

Saturn -52742-05-29 02:37 J -17542444.43 -17542444.39 -17542444.34 0.0280 0.0263

Uranus -52742-07-07 11:16 J -17542405.16 -17542405.03 -17542404.89 0.0147 0.0098

Saturn -52742-08-25 15:21 J -17542355.97 -17542355.86 -17542355.74 0.0280 0.0161

Uranus -52742-10-03 19:25 J -17542316.86 -17542316.69 -17542316.53 0.0147 0.0065

Saturn -52742-11-22 04:04 J -17542267.47 -17542267.33 -17542267.20 0.0281 0.0060

Jupiter -52742-12-29 07:25 J -17542230.34 -17542230.19 -17542230.04 0.0490 0.0248

Uranus -52742-12-31 03:21 J -17542228.54 -17542228.36 -17542228.18 0.0147 0.0032

Saturn -52741-02-18 16:18 J -17542178.95 -17542178.82 -17542178.68 0.0282 0.0043

Uranus -52741-03-28 11:30 J -17542140.21 -17542140.02 -17542139.83 0.0147 0.0001

Jupiter -52741-03-28 09:49 J -17542140.19 -17542140.09 -17542139.99 0.0490 0.0398 *

Saturn -52741-05-17 04:47 J -17542090.42 -17542090.30 -17542090.18 0.0283 0.0143

Uranus -52741-06-24 19:25 J -17542051.86 -17542051.69 -17542051.50 0.0147 0.0035

Saturn -52741-08-13 16:47 J -17542001.86 -17542001.80 -17542001.73 0.0284 0.0244

Uranus -52741-09-21 03:35 J -17541963.51 -17541963.35 -17541963.18 0.0147 0.0068

Uranus -52741-12-18 11:45 J -17541875.13 -17541875.01 -17541874.87 0.0147 0.0102

Uranus -52740-03-16 19:54 J -17541786.73 -17541786.67 -17541786.59 0.0147 0.0136

Earth -52740-07-30 08:37 J -17541651.22 -17541651.14 -17541651.05 0.2672 0.1740

Moon -52740-07-30 09:21 J -17541651.20 -17541651.11 -17541651.03 0.2667 0.1719 *

Mars -52738-04-06 04:33 J -17541036.43 -17541036.31 -17541036.19 0.1724 0.0094

Mars -52737-01-29 18:13 J -17540737.89 -17540737.74 -17540737.59 0.1814 0.0226

Jupiter -52736-11-30 15:35 J -17540066.96 -17540066.85 -17540066.73 0.0537 0.0244

Jupiter -52735-02-28 01:11 J -17539977.54 -17539977.45 -17539977.36 0.0537 0.0378

Moon -52733-07-23 04:47 J -17539101.41 -17539101.30 -17539101.19 0.2673 0.0841

Earth -52733-07-23 04:47 J -17539101.41 -17539101.30 -17539101.19 0.2666 0.0858 *

Moon -52730-01-25 05:30 J -17538185.34 -17538185.27 -17538185.21 0.2668 0.2337

Earth -52730-01-25 05:30 J -17538185.34 -17538185.27 -17538185.21 0.2661 0.2389 *

Jupiter -52730-10-17 06:57 J -17537920.31 -17537920.21 -17537920.11 0.0489 0.0398

Jupiter -52729-01-15 08:52 J -17537830.29 -17537830.13 -17537829.98 0.0489 0.0240

Mars -52729-08-26 13:40 J -17537606.05 -17537605.93 -17537605.81 0.1717 0.0591

Saturn -52728-03-25 07:54 J -17537395.26 -17537395.17 -17537395.07 0.0281 0.0229

Mars -52728-06-20 18:42 J -17537307.85 -17537307.72 -17537307.60 0.1823 0.0962

Saturn -52728-06-22 04:04 J -17537306.49 -17537306.33 -17537306.17 0.0280 0.0103

Saturn -52728-09-19 00:13 J -17537217.66 -17537217.49 -17537217.31 0.0279 0.0025

Saturn -52728-12-16 20:37 J -17537128.78 -17537128.64 -17537128.48 0.0278 0.0153

Venus -52727-02-10 22:04 J -17537072.65 -17537072.58 -17537072.51 0.3759 0.2673

Earth -52727-08-02 03:21 J -17536900.38 -17536900.36 -17536900.34 0.2674 0.2628

Jupiter -52724-09-18 18:13 J -17535756.83 -17535756.74 -17535756.66 0.0538 0.0411

Jupiter -52724-12-17 04:04 J -17535667.45 -17535667.33 -17535667.21 0.0538 0.0219

Moon -52723-01-17 00:28 J -17535636.58 -17535636.48 -17535636.37 0.2666 0.1848

Earth -52723-01-17 01:54 J -17535636.53 -17535636.42 -17535636.32 0.2667 0.1843 *

Venus -52722-08-27 13:54 J -17535049.02 -17535048.92 -17535048.81 0.3764 0.0567

Earth -52720-07-25 23:45 J -17534350.62 -17534350.51 -17534350.39 0.2668 0.0121

Moon -52720-07-26 00:28 J -17534350.59 -17534350.48 -17534350.36 0.2673 0.0146 *

Mars -52719-01-16 22:33 J -17534175.64 -17534175.56 -17534175.48 0.1710 0.1276

Jupiter -52718-11-03 08:09 J -17533520.34 -17533520.16 -17533519.99 0.0489 0.0083

Mars -52718-12-23 10:33 J -17533470.11 -17533470.06 -17533470.01 0.1740 0.1577

Venus -52716-03-12 05:59 J -17533025.34 -17533025.25 -17533025.16 0.3767 0.1571

Venus -52714-12-14 01:40 J -17532018.57 -17532018.43 -17532018.30 0.3613 0.1787

Earth -52713-07-18 19:11 J -17531800.73 -17531800.70 -17531800.68 0.2663 0.2596

Saturn -52712-01-11 17:45 J -17531623.86 -17531623.76 -17531623.66 0.0279 0.0189

Saturn -52712-04-10 06:13 J -17531535.37 -17531535.24 -17531535.11 0.0280 0.0088

Saturn -52712-07-07 18:42 J -17531446.86 -17531446.72 -17531446.58 0.0281 0.0013

Saturn -52712-10-04 06:57 J -17531358.33 -17531358.21 -17531358.08 0.0282 0.0113

Jupiter -52712-10-05 07:40 J -17531357.31 -17531357.18 -17531357.05 0.0538 0.0073

Saturn -52712-12-31 19:11 J -17531269.79 -17531269.70 -17531269.61 0.0283 0.0213

Venus -52711-09-25 21:49 J -17531001.61 -17531001.59 -17531001.57 0.3771 0.3664

Moon -52710-01-20 03:21 J -17530885.51 -17530885.36 -17530885.22 0.2667 0.0572

Earth -52710-01-20 04:33 J -17530885.45 -17530885.31 -17530885.16 0.2665 0.0393 *

Neptune -52710-03-13 20:09 J -17530832.68 -17530832.66 -17530832.64 0.0089 0.0087

Neptune -52710-06-09 21:35 J -17530744.65 -17530744.60 -17530744.54 0.0089 0.0081

Neptune -52710-09-05 23:16 J -17530656.60 -17530656.53 -17530656.45 0.0089 0.0075

Neptune -52710-12-03 00:42 J -17530568.54 -17530568.47 -17530568.36 0.0089 0.0069

Neptune -52709-02-29 02:37 J -17530480.49 -17530480.39 -17530480.28 0.0089 0.0062

Neptune -52709-05-27 04:18 J -17530392.43 -17530392.32 -17530392.21 0.0089 0.0056

Neptune -52709-08-23 05:45 J -17530304.37 -17530304.26 -17530304.13 0.0089 0.0050

Neptune -52709-11-19 07:25 J -17530216.30 -17530216.19 -17530216.06 0.0089 0.0044

Neptune -52708-02-15 09:06 J -17530128.24 -17530128.12 -17530127.98 0.0089 0.0037

Neptune -52708-05-14 10:47 J -17530040.18 -17530040.05 -17530039.91 0.0089 0.0031

Mars -52708-05-14 19:40 J -17530039.79 -17530039.68 -17530039.58 0.1732 0.0881

Neptune -52708-08-10 12:28 J -17529952.12 -17529951.98 -17529951.84 0.0089 0.0025

Neptune -52708-11-06 14:09 J -17529864.05 -17529863.91 -17529863.77 0.0089 0.0019

Neptune -52707-02-02 15:35 J -17529775.99 -17529775.85 -17529775.71 0.0089 0.0013

Mars -52707-03-09 18:13 J -17529740.81 -17529740.74 -17529740.66 0.1805 0.1538

Neptune -52707-05-01 17:16 J -17529687.92 -17529687.78 -17529687.64 0.0089 0.0006

Neptune -52707-07-28 18:57 J -17529599.86 -17529599.71 -17529599.57 0.0089 0.0003

Earth -52707-07-28 18:42 J -17529599.82 -17529599.72 -17529599.61 0.2670 0.1010 *

Moon -52707-07-28 19:40 J -17529599.79 -17529599.68 -17529599.58 0.2670 0.1033 *

Neptune -52707-10-24 20:23 J -17529511.79 -17529511.65 -17529511.51 0.0089 0.0006

Neptune -52706-01-20 22:04 J -17529423.72 -17529423.58 -17529423.44 0.0089 0.0012

Neptune -52706-04-18 23:30 J -17529335.66 -17529335.52 -17529335.38 0.0089 0.0018

Neptune -52706-07-16 01:11 J -17529247.59 -17529247.45 -17529247.32 0.0089 0.0024

Jupiter -52706-08-22 06:57 J -17529210.38 -17529210.21 -17529210.04 0.0489 0.0079

Neptune -52706-10-12 02:37 J -17529159.52 -17529159.39 -17529159.26 0.0089 0.0030

Neptune -52705-01-08 04:18 J -17529071.45 -17529071.32 -17529071.20 0.0089 0.0036

Neptune -52705-04-05 05:45 J -17528983.38 -17528983.26 -17528983.14 0.0089 0.0042

Neptune -52705-07-02 07:11 J -17528895.31 -17528895.20 -17528895.08 0.0089 0.0048

Neptune -52705-09-28 08:52 J -17528807.24 -17528807.13 -17528807.02 0.0089 0.0054

Neptune -52705-12-25 10:18 J -17528719.17 -17528719.07 -17528718.97 0.0089 0.0060

Neptune -52704-03-23 11:45 J -17528631.10 -17528631.01 -17528630.91 0.0089 0.0066

Neptune -52704-06-19 13:11 J -17528543.02 -17528542.95 -17528542.86 0.0089 0.0072

Neptune -52704-09-15 14:37 J -17528454.94 -17528454.89 -17528454.81 0.0089 0.0078

Neptune -52704-12-12 16:04 J -17528366.86 -17528366.83 -17528366.77 0.0089 0.0084

Uranus -52700-04-27 05:59 J -17527135.26 -17527135.25 -17527135.21 0.0132 0.0129

Moon -52700-07-21 14:09 J -17527050.01 -17527049.91 -17527049.82 0.2671 0.1611

Earth -52700-07-21 14:23 J -17527049.99 -17527049.90 -17527049.80 0.2665 0.1633 *

Uranus -52700-07-24 09:21 J -17527047.18 -17527047.11 -17527047.03 0.0132 0.0111

Jupiter -52700-07-24 11:30 J -17527047.15 -17527047.02 -17527046.89 0.0538 0.0076 *

Uranus -52700-10-20 12:42 J -17526959.07 -17526958.97 -17526958.88 0.0132 0.0093

Uranus -52699-01-16 15:35 J -17526870.95 -17526870.85 -17526870.73 0.0132 0.0076

Uranus -52699-04-14 18:57 J -17526782.83 -17526782.71 -17526782.59 0.0132 0.0058

Uranus -52699-07-11 22:04 J -17526694.71 -17526694.58 -17526694.45 0.0132 0.0040

Saturn -52699-08-12 05:30 J -17526663.29 -17526663.27 -17526663.25 0.0281 0.0278

Mars -52699-10-05 04:47 J -17526609.43 -17526609.30 -17526609.18 0.1725 0.0195

Uranus -52699-10-08 01:11 J -17526606.58 -17526606.45 -17526606.31 0.0132 0.0023

Saturn -52699-11-09 01:25 J -17526574.59 -17526574.44 -17526574.30 0.0280 0.0153

Uranus -52698-01-04 04:18 J -17526518.45 -17526518.32 -17526518.18 0.0132 0.0006

Saturn -52698-02-05 21:21 J -17526485.78 -17526485.61 -17526485.43 0.0279 0.0028

Uranus -52698-04-02 07:25 J -17526430.32 -17526430.19 -17526430.05 0.0132 0.0013

Saturn -52698-05-05 17:45 J -17526396.92 -17526396.76 -17526396.59 0.0279 0.0101

Uranus -52698-06-29 10:33 J -17526342.19 -17526342.06 -17526341.93 0.0132 0.0030

Mars -52698-07-30 18:28 J -17526310.88 -17526310.73 -17526310.58 0.1814 0.0350

Saturn -52698-08-02 14:23 J -17526308.00 -17526307.90 -17526307.80 0.0278 0.0229

Uranus -52698-09-25 13:40 J -17526254.05 -17526253.93 -17526253.80 0.0132 0.0048

Uranus -52698-12-22 16:47 J -17526165.92 -17526165.80 -17526165.68 0.0132 0.0065

Moon -52697-01-23 07:25 J -17526134.33 -17526134.19 -17526134.06 0.2669 0.1107

Earth -52697-01-23 07:54 J -17526134.30 -17526134.17 -17526134.04 0.2663 0.1117 *

Uranus -52697-03-19 19:54 J -17526077.78 -17526077.67 -17526077.57 0.0132 0.0082

Uranus -52697-06-15 22:33 J -17525989.63 -17525989.56 -17525989.46 0.0132 0.0101

Uranus -52697-09-12 01:40 J -17525901.48 -17525901.43 -17525901.36 0.0132 0.0117

Jupiter -52694-06-10 06:13 J -17524900.39 -17524900.24 -17524900.09 0.0489 0.0235

Earth -52694-07-31 13:40 J -17524849.01 -17524848.93 -17524848.85 0.2672 0.1905

Moon -52694-07-31 14:09 J -17524848.98 -17524848.91 -17524848.83 0.2667 0.2014 *

Jupiter -52694-09-08 08:23 J -17524810.24 -17524810.15 -17524810.05 0.0489 0.0410

Mars -52689-02-25 13:40 J -17523179.05 -17523178.93 -17523178.81 0.1717 0.0500

Mars -52689-12-19 18:57 J -17522880.85 -17522880.71 -17522880.58 0.1823 0.0845

Jupiter -52688-05-12 14:37 J -17522737.01 -17522736.89 -17522736.77 0.0537 0.0232

Jupiter -52688-08-09 23:59 J -17522647.58 -17522647.50 -17522647.41 0.0537 0.0390

Earth -52687-07-24 09:49 J -17522299.21 -17522299.09 -17522298.98 0.2667 0.0682

Moon -52687-07-24 09:49 J -17522299.20 -17522299.09 -17522298.97 0.2673 0.0713 *

Saturn -52683-05-31 18:42 J -17520891.79 -17520891.72 -17520891.63 0.0280 0.0225

Saturn -52683-08-28 07:25 J -17520803.31 -17520803.19 -17520803.06 0.0281 0.0123

Saturn -52683-11-24 19:54 J -17520714.80 -17520714.67 -17520714.53 0.0281 0.0024

Saturn -52682-02-21 08:23 J -17520626.28 -17520626.15 -17520626.02 0.0282 0.0079

Jupiter -52682-03-29 05:30 J -17520590.37 -17520590.27 -17520590.16 0.0490 0.0390

Saturn -52682-05-20 20:37 J -17520537.74 -17520537.64 -17520537.53 0.0283 0.0180

Jupiter -52682-06-27 07:25 J -17520500.34 -17520500.19 -17520500.04 0.0490 0.0249

Saturn -52682-08-17 08:37 J -17520449.15 -17520449.14 -17520449.11 0.0284 0.0280

Mars -52680-07-17 22:33 J -17519748.64 -17519748.56 -17519748.47 0.1710 0.1188

Mars -52678-06-23 10:33 J -17519043.09 -17519043.06 -17519043.02 0.1740 0.1663

Moon -52677-01-18 06:28 J -17518834.34 -17518834.23 -17518834.12 0.2666 0.1781

Earth -52677-01-18 07:54 J -17518834.29 -17518834.17 -17518834.06 0.2667 0.1582 *

Jupiter -52676-02-28 17:30 J -17518426.86 -17518426.77 -17518426.68 0.0537 0.0393

Jupiter -52676-05-29 03:21 J -17518337.48 -17518337.36 -17518337.24 0.0537 0.0235

Earth -52674-07-27 04:47 J -17517548.41 -17517548.30 -17517548.18 0.2668 0.0260

Moon -52674-07-27 05:30 J -17517548.39 -17517548.27 -17517548.16 0.2673 0.0319 *

Pluto -52673-02-19 08:09 J -17517341.20 -17517341.16 -17517341.11 0.0062 0.0059

Pluto -52673-05-17 08:52 J -17517253.19 -17517253.13 -17517253.04 0.0062 0.0055

Pluto -52673-08-13 10:18 J -17517165.17 -17517165.07 -17517164.97 0.0062 0.0051

Pluto -52673-11-09 11:01 J -17517077.14 -17517077.04 -17517076.91 0.0062 0.0047

Pluto -52672-02-05 12:28 J -17516989.10 -17516988.98 -17516988.85 0.0062 0.0042

Pluto -52672-05-04 13:11 J -17516901.07 -17516900.95 -17516900.80 0.0062 0.0038

Pluto -52672-07-31 14:37 J -17516813.03 -17516812.89 -17516812.74 0.0062 0.0033

Pluto -52672-10-27 15:35 J -17516724.99 -17516724.85 -17516724.69 0.0062 0.0028

Pluto -52671-01-23 16:47 J -17516636.95 -17516636.80 -17516636.63 0.0063 0.0024

Pluto -52671-04-21 17:59 J -17516548.91 -17516548.75 -17516548.58 0.0063 0.0019

Pluto -52671-07-18 18:57 J -17516460.87 -17516460.71 -17516460.53 0.0063 0.0015

Venus -52671-09-17 19:40 J -17516399.77 -17516399.68 -17516399.60 0.3760 0.1893

Pluto -52671-10-14 20:09 J -17516372.82 -17516372.66 -17516372.48 0.0063 0.0010

Pluto -52670-01-10 21:35 J -17516284.77 -17516284.60 -17516284.43 0.0063 0.0005

Pluto -52670-04-08 22:47 J -17516196.72 -17516196.55 -17516196.38 0.0063 0.0000

Jupiter -52670-04-15 06:42 J -17516190.39 -17516190.22 -17516190.05 0.0489 0.0093

Pluto -52670-07-05 23:45 J -17516108.68 -17516108.51 -17516108.33 0.0063 0.0006

Pluto -52670-10-02 01:11 J -17516020.62 -17516020.45 -17516020.28 0.0063 0.0010

Pluto -52670-12-29 02:09 J -17515932.57 -17515932.41 -17515932.23 0.0063 0.0015

Pluto -52669-03-26 03:21 J -17515844.52 -17515844.36 -17515844.19 0.0063 0.0020

Saturn -52669-03-28 01:11 J -17515842.57 -17515842.45 -17515842.32 0.0280 0.0190

Pluto -52669-06-22 04:33 J -17515756.46 -17515756.31 -17515756.14 0.0063 0.0024

Saturn -52669-06-24 21:21 J -17515753.78 -17515753.61 -17515753.44 0.0280 0.0063

Pluto -52669-09-18 05:45 J -17515668.40 -17515668.26 -17515668.10 0.0063 0.0029

Saturn -52669-09-21 17:30 J -17515664.94 -17515664.77 -17515664.59 0.0279 0.0065

Mars -52669-11-12 19:40 J -17515612.78 -17515612.68 -17515612.58 0.1732 0.0970

Pluto -52669-12-15 06:42 J -17515580.35 -17515580.22 -17515580.05 0.0064 0.0035

Saturn -52669-12-19 14:09 J -17515576.03 -17515575.91 -17515575.78 0.0278 0.0192

Pluto -52668-03-13 07:54 J -17515492.28 -17515492.17 -17515492.01 0.0064 0.0040

Pluto -52668-06-09 09:21 J -17515404.22 -17515404.11 -17515403.97 0.0064 0.0045

Pluto -52668-09-05 10:33 J -17515316.15 -17515316.06 -17515315.93 0.0064 0.0050

Mars -52668-09-07 18:57 J -17515313.76 -17515313.71 -17515313.66 0.1805 0.1676

Pluto -52668-12-02 11:45 J -17515228.08 -17515228.01 -17515227.90 0.0064 0.0055

Pluto -52667-02-28 12:57 J -17515140.00 -17515139.96 -17515139.88 0.0064 0.0060

Moon -52667-07-19 23:30 J -17514998.57 -17514998.52 -17514998.48 0.2666 0.2423

Earth -52667-07-20 00:13 J -17514998.54 -17514998.49 -17514998.44 0.2663 0.2414 *

Venus -52665-04-02 11:30 J -17514376.12 -17514376.02 -17514375.92 0.3764 0.0244

Moon -52664-01-20 09:35 J -17514083.25 -17514083.10 -17514082.96 0.2667 0.0154

Earth -52664-01-20 10:47 J -17514083.20 -17514083.05 -17514082.91 0.2665 0.0121 *

Jupiter -52664-03-17 05:59 J -17514027.38 -17514027.25 -17514027.12 0.0538 0.0071

Venus -52662-01-03 19:25 J -17513369.82 -17513369.69 -17513369.57 0.3617 0.2047

Earth -52661-07-28 23:45 J -17512797.61 -17512797.51 -17512797.41 0.2670 0.1172

Moon -52661-07-29 00:28 J -17512797.58 -17512797.48 -17512797.38 0.2668 0.1254 *

Venus -52660-10-17 03:21 J -17512352.43 -17512352.36 -17512352.28 0.3768 0.2351

Mars -52659-04-05 04:47 J -17512182.42 -17512182.30 -17512182.18 0.1725 0.0281

Mars -52658-01-28 18:57 J -17511883.86 -17511883.71 -17511883.56 0.1814 0.0477

Jupiter -52658-02-01 05:59 J -17511880.42 -17511880.25 -17511880.07 0.0489 0.0063

Uranus -52658-04-30 11:30 J -17511792.11 -17511792.02 -17511791.90 0.0147 0.0119

Uranus -52658-07-27 19:40 J -17511703.82 -17511703.68 -17511703.53 0.0147 0.0086

Uranus -52658-10-24 03:49 J -17511615.51 -17511615.34 -17511615.17 0.0147 0.0053

Uranus -52657-01-20 11:45 J -17511527.19 -17511527.01 -17511526.82 0.0147 0.0020

Uranus -52657-04-17 19:54 J -17511438.86 -17511438.67 -17511438.49 0.0147 0.0013

Uranus -52657-07-15 03:49 J -17511350.51 -17511350.34 -17511350.16 0.0147 0.0047

Uranus -52657-10-11 12:13 J -17511262.15 -17511261.99 -17511261.84 0.0147 0.0080

Uranus -52656-01-07 20:09 J -17511173.77 -17511173.66 -17511173.53 0.0147 0.0114

Moon -52654-07-22 19:11 J -17510247.80 -17510247.70 -17510247.61 0.2671 0.1556

Earth -52654-07-22 19:25 J -17510247.78 -17510247.69 -17510247.59 0.2665 0.1452 *

Saturn -52654-10-18 21:35 J -17510159.66 -17510159.60 -17510159.54 0.0279 0.0249

Saturn -52653-01-15 10:04 J -17510071.19 -17510071.08 -17510070.96 0.0280 0.0149

Saturn -52653-04-12 22:47 J -17509982.69 -17509982.55 -17509982.42 0.0280 0.0048

Saturn -52653-07-10 11:01 J -17509894.17 -17509894.04 -17509893.90 0.0281 0.0053

Saturn -52653-10-06 23:16 J -17509805.64 -17509805.53 -17509805.41 0.0282 0.0154

Jupiter -52652-01-03 09:35 J -17509717.23 -17509717.10 -17509716.97 0.0538 0.0080

Saturn -52652-01-03 11:30 J -17509717.08 -17509717.02 -17509716.96 0.0283 0.0253 *

Moon -52651-01-23 13:25 J -17509332.06 -17509331.94 -17509331.81 0.2669 0.1295

Earth -52651-01-23 14:09 J -17509332.04 -17509331.91 -17509331.79 0.2663 0.1387 *

Mars -52650-08-26 13:54 J -17508752.04 -17508751.92 -17508751.80 0.1717 0.0409

Mars -52649-06-19 19:25 J -17508453.83 -17508453.69 -17508453.55 0.1823 0.0703

Earth -52648-07-31 18:42 J -17508046.79 -17508046.72 -17508046.65 0.2672 0.2075

Moon -52648-07-31 19:11 J -17508046.77 -17508046.70 -17508046.63 0.2667 0.2057 *

Jupiter -52647-11-20 04:47 J -17507570.45 -17507570.30 -17507570.14 0.0489 0.0225

Jupiter -52646-02-18 06:57 J -17507480.29 -17507480.21 -17507480.12 0.0489 0.0419

Earth -52641-07-24 14:37 J -17505497.00 -17505496.89 -17505496.77 0.2667 0.0515

Moon -52641-07-24 15:06 J -17505496.99 -17505496.87 -17505496.76 0.2673 0.0419 *

Jupiter -52641-10-22 13:11 J -17505407.07 -17505406.95 -17505406.83 0.0538 0.0228

Mars -52640-01-15 22:47 J -17505321.65 -17505321.55 -17505321.45 0.1710 0.1090

Jupiter -52640-01-19 22:47 J -17505317.64 -17505317.55 -17505317.46 0.0538 0.0395

Saturn -52640-08-14 23:16 J -17505110.62 -17505110.53 -17505110.43 0.0281 0.0235

Saturn -52640-11-11 19:25 J -17505021.85 -17505021.69 -17505021.53 0.0280 0.0109

Saturn -52639-02-08 15:35 J -17504933.03 -17504932.85 -17504932.68 0.0279 0.0018

Saturn -52639-05-08 11:59 J -17504844.15 -17504844.00 -17504843.85 0.0278 0.0145

Saturn -52639-08-05 08:23 J -17504755.17 -17504755.15 -17504755.11 0.0277 0.0274

Jupiter -52635-09-08 04:04 J -17503260.43 -17503260.33 -17503260.22 0.0489 0.0380

Jupiter -52635-12-07 05:59 J -17503170.40 -17503170.25 -17503170.10 0.0489 0.0258

Moon -52631-01-18 12:28 J -17502032.10 -17502031.98 -17502031.86 0.2666 0.1342

Earth -52631-01-18 13:54 J -17502032.04 -17502031.92 -17502031.80 0.2667 0.1321 *

Mars -52629-05-13 19:54 J -17501185.77 -17501185.67 -17501185.58 0.1732 0.1062

Jupiter -52629-08-10 16:18 J -17501096.91 -17501096.82 -17501096.73 0.0538 0.0386

Jupiter -52629-11-08 02:09 J -17501007.53 -17501007.41 -17501007.29 0.0537 0.0242

Mars -52628-03-08 19:11 J -17500886.71 -17500886.70 -17500886.68 0.1805 0.1793

Earth -52628-07-27 09:49 J -17500746.20 -17500746.09 -17500745.98 0.2669 0.0427

Moon -52628-07-27 10:33 J -17500746.17 -17500746.06 -17500745.95 0.2672 0.0459 *

Neptune -52628-08-29 22:18 J -17500712.62 -17500712.57 -17500712.50 0.0089 0.0083

Neptune -52628-11-26 00:57 J -17500624.54 -17500624.46 -17500624.36 0.0089 0.0076

Neptune -52627-02-22 04:04 J -17500536.44 -17500536.33 -17500536.22 0.0089 0.0068

Neptune -52627-05-21 06:42 J -17500448.34 -17500448.22 -17500448.08 0.0089 0.0061

Neptune -52627-08-17 09:49 J -17500360.23 -17500360.09 -17500359.95 0.0089 0.0053

Neptune -52627-11-13 12:28 J -17500272.12 -17500271.98 -17500271.82 0.0089 0.0046

Neptune -52626-02-09 15:35 J -17500184.01 -17500183.85 -17500183.69 0.0089 0.0038

Neptune -52626-05-08 18:13 J -17500095.89 -17500095.74 -17500095.56 0.0089 0.0031

Neptune -52626-08-04 21:21 J -17500007.78 -17500007.61 -17500007.43 0.0089 0.0023

Neptune -52626-11-01 00:28 J -17499919.66 -17499919.48 -17499919.31 0.0089 0.0015

Neptune -52625-01-28 03:21 J -17499831.54 -17499831.36 -17499831.18 0.0089 0.0007

Neptune -52625-04-25 06:13 J -17499743.42 -17499743.24 -17499743.06 0.0089 0.0002

Neptune -52625-07-22 09:06 J -17499655.29 -17499655.12 -17499654.93 0.0089 0.0009

Neptune -52625-10-18 12:13 J -17499567.16 -17499566.99 -17499566.81 0.0089 0.0016

Neptune -52624-01-14 15:21 J -17499479.04 -17499478.86 -17499478.69 0.0089 0.0024

Neptune -52624-04-12 18:13 J -17499390.91 -17499390.74 -17499390.57 0.0089 0.0032

Saturn -52624-06-03 11:30 J -17499339.12 -17499339.02 -17499338.91 0.0280 0.0182

Neptune -52624-07-09 21:06 J -17499302.77 -17499302.62 -17499302.45 0.0089 0.0040

Saturn -52624-08-30 23:59 J -17499250.63 -17499250.50 -17499250.36 0.0281 0.0082

Neptune -52624-10-05 23:59 J -17499214.64 -17499214.50 -17499214.33 0.0089 0.0048

Saturn -52624-11-27 12:42 J -17499162.11 -17499161.97 -17499161.84 0.0282 0.0022

Neptune -52623-01-02 03:06 J -17499126.50 -17499126.37 -17499126.22 0.0089 0.0056

Saturn -52623-02-24 00:57 J -17499073.58 -17499073.46 -17499073.34 0.0283 0.0121

Neptune -52623-03-31 05:59 J -17499038.36 -17499038.25 -17499038.11 0.0089 0.0064

Saturn -52623-05-23 12:57 J -17498985.04 -17498984.96 -17498984.87 0.0283 0.0221

Neptune -52623-06-27 09:06 J -17498950.21 -17498950.12 -17498950.00 0.0089 0.0072

Neptune -52623-09-23 12:13 J -17498862.05 -17498861.99 -17498861.90 0.0089 0.0080

Jupiter -52623-09-25 05:01 J -17498860.47 -17498860.29 -17498860.12 0.0489 0.0098

Neptune -52623-12-20 15:06 J -17498773.87 -17498773.87 -17498773.82 0.0089 0.0088

Moon -52621-07-20 04:33 J -17498196.36 -17498196.31 -17498196.26 0.2668 0.2346

Earth -52621-07-20 05:16 J -17498196.34 -17498196.28 -17498196.22 0.2664 0.2234 *

Mars -52620-10-04 04:47 J -17497755.42 -17497755.30 -17497755.18 0.1725 0.0367

Venus -52620-10-09 01:11 J -17497750.50 -17497750.45 -17497750.40 0.3757 0.3231

Mars -52619-07-29 19:40 J -17497456.82 -17497456.68 -17497456.54 0.1814 0.0621

Moon -52618-01-21 15:49 J -17497280.99 -17497280.84 -17497280.70 0.2669 0.0046

Earth -52618-01-21 16:47 J -17497280.94 -17497280.80 -17497280.65 0.2664 0.0156 *

Jupiter -52617-08-27 05:16 J -17496697.41 -17496697.28 -17496697.15 0.0538 0.0085

Uranus -52616-05-17 13:54 J -17496433.96 -17496433.92 -17496433.86 0.0132 0.0121

Uranus -52616-08-13 17:16 J -17496345.86 -17496345.78 -17496345.69 0.0132 0.0103

Uranus -52616-11-09 20:23 J -17496257.75 -17496257.65 -17496257.54 0.0132 0.0085

Uranus -52615-02-05 23:30 J -17496169.63 -17496169.52 -17496169.39 0.0132 0.0068

Uranus -52615-05-05 02:52 J -17496081.51 -17496081.38 -17496081.25 0.0132 0.0050

Earth -52615-07-30 04:47 J -17495995.40 -17495995.30 -17495995.20 0.2671 0.1341

Moon -52615-07-30 05:30 J -17495995.37 -17495995.27 -17495995.17 0.2668 0.1402 *

Uranus -52615-08-01 05:59 J -17495993.38 -17495993.25 -17495993.12 0.0132 0.0032

Uranus -52615-10-28 09:06 J -17495905.25 -17495905.12 -17495904.98 0.0132 0.0015

Uranus -52614-01-24 12:13 J -17495817.12 -17495816.99 -17495816.85 0.0132 0.0003

Uranus -52614-04-22 15:21 J -17495728.99 -17495728.86 -17495728.73 0.0132 0.0021

Venus -52614-04-24 17:01 J -17495726.88 -17495726.79 -17495726.69 0.3762 0.1102

Uranus -52614-07-19 18:28 J -17495640.86 -17495640.73 -17495640.60 0.0132 0.0038

Uranus -52614-10-15 21:35 J -17495552.72 -17495552.60 -17495552.48 0.0132 0.0056

Uranus -52613-01-12 00:28 J -17495464.59 -17495464.48 -17495464.36 0.0132 0.0073

Uranus -52613-04-09 03:35 J -17495376.44 -17495376.35 -17495376.25 0.0132 0.0090

Uranus -52613-07-06 06:42 J -17495288.30 -17495288.22 -17495288.14 0.0132 0.0107

Uranus -52613-10-02 09:49 J -17495200.14 -17495200.09 -17495200.05 0.0132 0.0125

Jupiter -52611-07-14 04:18 J -17494550.49 -17494550.32 -17494550.14 0.0489 0.0056

Saturn -52610-01-01 23:16 J -17494378.57 -17494378.53 -17494378.48 0.0281 0.0270

Mars -52610-02-24 13:54 J -17494325.04 -17494324.92 -17494324.80 0.1717 0.0314

Saturn -52610-03-31 19:11 J -17494289.84 -17494289.70 -17494289.55 0.0280 0.0145

Saturn -52610-06-28 15:35 J -17494201.03 -17494200.85 -17494200.68 0.0279 0.0020

Saturn -52610-09-25 11:45 J -17494112.17 -17494112.01 -17494111.84 0.0278 0.0110

Mars -52610-12-19 19:54 J -17494026.81 -17494026.67 -17494026.53 0.1823 0.0573

Saturn -52610-12-23 08:23 J -17494023.23 -17494023.15 -17494023.05 0.0278 0.0238

Venus -52609-11-07 09:06 J -17493703.22 -17493703.12 -17493703.03 0.3766 0.1027

Moon -52608-07-23 00:13 J -17493445.59 -17493445.49 -17493445.38 0.2671 0.1241

Earth -52608-07-23 00:28 J -17493445.58 -17493445.48 -17493445.37 0.2665 0.1277 *

Venus -52606-08-10 21:21 J -17492696.77 -17492696.61 -17492696.46 0.3615 0.0109

Moon -52605-01-24 19:40 J -17492529.79 -17492529.68 -17492529.57 0.2669 0.1688

Earth -52605-01-24 20:09 J -17492529.77 -17492529.66 -17492529.54 0.2662 0.1660 *

Jupiter -52605-06-15 07:40 J -17492387.31 -17492387.18 -17492387.05 0.0538 0.0084

Jupiter -52605-09-12 17:01 J -17492297.80 -17492297.79 -17492297.78 0.0538 0.0534

Venus -52603-05-24 00:57 J -17491679.52 -17491679.46 -17491679.41 0.3770 0.3119

Earth -52602-08-01 23:30 J -17491244.58 -17491244.52 -17491244.46 0.2673 0.2234

Moon -52602-08-01 23:59 J -17491244.56 -17491244.50 -17491244.45 0.2667 0.2291 *

Mars -52601-07-16 22:47 J -17490894.65 -17490894.55 -17490894.44 0.1710 0.0999

Mars -52600-05-10 20:23 J -17490596.69 -17490596.65 -17490596.61 0.1832 0.1754

Jupiter -52599-05-02 03:49 J -17490240.50 -17490240.34 -17490240.19 0.0489 0.0211

Jupiter -52599-07-31 05:59 J -17490150.33 -17490150.25 -17490150.17 0.0489 0.0433

Moon -52598-01-16 16:04 J -17489980.86 -17489980.83 -17489980.79 0.2665 0.2566

Earth -52598-01-16 17:16 J -17489980.83 -17489980.78 -17489980.73 0.2668 0.2488 *

Earth -52595-07-25 19:40 J -17488694.79 -17488694.68 -17488694.56 0.2667 0.0343

Moon -52595-07-25 20:09 J -17488694.77 -17488694.66 -17488694.54 0.2674 0.0364 *

Saturn -52595-10-21 14:37 J -17488606.98 -17488606.89 -17488606.80 0.0279 0.0204

Saturn -52594-01-18 03:06 J -17488518.49 -17488518.37 -17488518.24 0.0280 0.0104

Saturn -52594-04-16 15:35 J -17488429.99 -17488429.85 -17488429.71 0.0281 0.0006

Saturn -52594-07-14 04:04 J -17488341.46 -17488341.33 -17488341.20 0.0282 0.0098

Saturn -52594-10-10 16:18 J -17488252.92 -17488252.82 -17488252.73 0.0282 0.0198

Jupiter -52593-04-03 11:01 J -17488077.16 -17488077.04 -17488076.92 0.0538 0.0238

Jupiter -52593-07-01 20:37 J -17487987.73 -17487987.64 -17487987.55 0.0538 0.0388

Mars -52592-12-07 07:54 J -17487464.19 -17487464.17 -17487464.16 0.1703 0.1681

Mars -52590-11-12 19:54 J -17486758.76 -17486758.67 -17486758.58 0.1732 0.1152

Jupiter -52587-02-18 02:23 J -17485930.50 -17485930.40 -17485930.28 0.0489 0.0374

Jupiter -52587-05-19 04:04 J -17485840.47 -17485840.33 -17485840.17 0.0489 0.0264

Moon -52585-01-19 18:28 J -17485229.85 -17485229.73 -17485229.60 0.2666 0.1245

Earth -52585-01-19 19:54 J -17485229.80 -17485229.67 -17485229.54 0.2666 0.1060 *

Pluto -52583-11-03 23:45 J -17484210.52 -17484210.51 -17484210.49 0.0082 0.0082

Pluto -52582-01-31 01:25 J -17484122.50 -17484122.44 -17484122.37 0.0082 0.0072

Pluto -52582-04-29 03:06 J -17484034.46 -17484034.37 -17484034.27 0.0082 0.0063

Pluto -52582-07-26 04:33 J -17483946.41 -17483946.31 -17483946.19 0.0082 0.0054

Earth -52582-07-28 14:52 J -17483943.99 -17483943.88 -17483943.77 0.2669 0.0598

Moon -52582-07-28 15:35 J -17483943.96 -17483943.85 -17483943.74 0.2671 0.0710 *

Pluto -52582-10-22 06:13 J -17483858.35 -17483858.24 -17483858.11 0.0082 0.0045

Pluto -52581-01-18 07:54 J -17483770.30 -17483770.17 -17483770.03 0.0082 0.0036

Jupiter -52581-01-21 14:37 J -17483766.98 -17483766.89 -17483766.80 0.0538 0.0387

Pluto -52581-04-15 09:35 J -17483682.24 -17483682.10 -17483681.96 0.0081 0.0027

Jupiter -52581-04-20 00:28 J -17483677.59 -17483677.48 -17483677.36 0.0538 0.0243

Pluto -52581-07-12 11:01 J -17483594.18 -17483594.04 -17483593.89 0.0081 0.0018

Saturn -52581-08-17 17:59 J -17483557.87 -17483557.75 -17483557.61 0.0280 0.0186

Pluto -52581-10-08 12:42 J -17483506.11 -17483505.97 -17483505.82 0.0081 0.0009

Saturn -52581-11-14 14:09 J -17483469.08 -17483468.91 -17483468.74 0.0280 0.0060

Pluto -52580-01-04 14:09 J -17483418.05 -17483417.91 -17483417.76 0.0081 0.0003

Saturn -52580-02-11 10:33 J -17483380.23 -17483380.06 -17483379.89 0.0279 0.0068

Pluto -52580-04-02 15:49 J -17483329.99 -17483329.84 -17483329.70 0.0081 0.0008

Mars -52580-04-04 05:01 J -17483328.41 -17483328.29 -17483328.17 0.1725 0.0464

Saturn -52580-05-11 06:57 J -17483291.33 -17483291.21 -17483291.08 0.0278 0.0196

Pluto -52580-06-29 17:16 J -17483241.92 -17483241.78 -17483241.64 0.0081 0.0016

Pluto -52580-09-25 18:42 J -17483153.85 -17483153.72 -17483153.58 0.0081 0.0025

Pluto -52580-12-22 20:09 J -17483065.79 -17483065.66 -17483065.52 0.0080 0.0033

Mars -52579-01-27 19:54 J -17483029.81 -17483029.67 -17483029.53 0.1814 0.0741

Pluto -52579-03-20 21:35 J -17482977.72 -17482977.60 -17482977.47 0.0080 0.0042

Pluto -52579-06-16 23:16 J -17482889.65 -17482889.53 -17482889.42 0.0080 0.0050

Pluto -52579-09-13 00:13 J -17482801.57 -17482801.49 -17482801.37 0.0080 0.0058

Pluto -52579-12-10 01:40 J -17482713.49 -17482713.43 -17482713.33 0.0080 0.0066

Pluto -52578-03-08 03:06 J -17482625.41 -17482625.37 -17482625.30 0.0080 0.0074

Jupiter -52575-03-07 03:06 J -17481530.54 -17481530.37 -17481530.20 0.0489 0.0103

Moon -52575-07-21 09:35 J -17481394.17 -17481394.10 -17481394.03 0.2668 0.2081

Earth -52575-07-21 10:18 J -17481394.14 -17481394.07 -17481394.00 0.2664 0.2053 *

Uranus -52574-02-21 12:42 J -17481179.02 -17481178.97 -17481178.89 0.0147 0.0137

Uranus -52574-05-20 20:52 J -17481090.76 -17481090.63 -17481090.50 0.0147 0.0104

Uranus -52574-08-17 04:33 J -17481002.46 -17481002.31 -17481002.14 0.0147 0.0072

Uranus -52574-11-13 12:42 J -17480914.14 -17480913.97 -17480913.79 0.0147 0.0039

Uranus -52573-02-09 20:52 J -17480825.82 -17480825.63 -17480825.45 0.0147 0.0005

Uranus -52573-05-08 04:47 J -17480737.48 -17480737.30 -17480737.11 0.0147 0.0028

Uranus -52573-08-04 12:57 J -17480649.12 -17480648.96 -17480648.79 0.0147 0.0061

Uranus -52573-10-31 21:06 J -17480560.76 -17480560.62 -17480560.47 0.0147 0.0095

Moon -52572-01-21 22:04 J -17480478.73 -17480478.58 -17480478.44 0.2669 0.0435

Earth -52572-01-21 23:01 J -17480478.68 -17480478.54 -17480478.40 0.2664 0.0414 *

Uranus -52572-01-28 05:01 J -17480472.36 -17480472.29 -17480472.18 0.0147 0.0129

Mars -52571-08-25 13:54 J -17479898.04 -17479897.92 -17479897.79 0.1717 0.0228

Mars -52570-06-19 20:23 J -17479599.80 -17479599.65 -17479599.51 0.1823 0.0450

Jupiter -52569-02-07 03:49 J -17479367.47 -17479367.34 -17479367.21 0.0538 0.0089

Earth -52569-07-30 09:49 J -17479193.19 -17479193.09 -17479193.00 0.2671 0.1508

Moon -52569-07-30 10:33 J -17479193.16 -17479193.06 -17479192.97 0.2669 0.1560 *

Saturn -52565-03-09 16:04 J -17477874.90 -17477874.83 -17477874.76 0.0280 0.0238

Saturn -52565-06-06 04:33 J -17477786.43 -17477786.31 -17477786.18 0.0280 0.0137

Saturn -52565-09-02 17:16 J -17477697.92 -17477697.78 -17477697.65 0.0281 0.0036

Saturn -52565-11-30 05:30 J -17477609.40 -17477609.27 -17477609.13 0.0282 0.0066

Saturn -52564-02-26 17:45 J -17477520.86 -17477520.76 -17477520.64 0.0283 0.0166

Saturn -52564-05-26 05:59 J -17477432.29 -17477432.25 -17477432.20 0.0284 0.0266

Jupiter -52564-12-24 02:09 J -17477220.58 -17477220.41 -17477220.23 0.0489 0.0057

Venus -52563-05-15 22:33 J -17477077.63 -17477077.56 -17477077.48 0.3759 0.2445

Moon -52562-07-24 05:30 J -17476643.37 -17476643.27 -17476643.17 0.2672 0.1158

Earth -52562-07-24 05:30 J -17476643.37 -17476643.27 -17476643.16 0.2666 0.1099 *

Mars -52561-01-15 23:01 J -17476467.65 -17476467.54 -17476467.44 0.1710 0.0912

Mars -52561-11-08 21:06 J -17476169.69 -17476169.62 -17476169.55 0.1831 0.1616

Moon -52559-01-25 02:09 J -17475727.51 -17475727.41 -17475727.31 0.2668 0.1839

Earth -52559-01-25 02:23 J -17475727.50 -17475727.40 -17475727.30 0.2662 0.1933 *

Jupiter -52558-11-26 06:57 J -17475057.35 -17475057.21 -17475057.08 0.0538 0.0073

Venus -52558-11-29 14:37 J -17475053.99 -17475053.89 -17475053.79 0.3763 0.0318

Earth -52556-08-02 04:33 J -17474442.36 -17474442.31 -17474442.26 0.2673 0.2399

Moon -52556-08-02 04:47 J -17474442.35 -17474442.30 -17474442.25 0.2666 0.2394 *

Moon -52552-01-16 22:04 J -17473178.65 -17473178.58 -17473178.51 0.2665 0.2306

Earth -52552-01-16 23:16 J -17473178.60 -17473178.53 -17473178.45 0.2668 0.2234 *

Mars -52552-06-07 07:54 J -17473037.21 -17473037.17 -17473037.12 0.1703 0.1585

Venus -52552-06-14 06:28 J -17473030.32 -17473030.23 -17473030.14 0.3767 0.1791

Jupiter -52552-10-12 01:40 J -17472910.58 -17472910.43 -17472910.27 0.0489 0.0209

Saturn -52551-01-04 18:28 J -17472825.83 -17472825.73 -17472825.62 0.0280 0.0218

Jupiter -52551-01-10 03:49 J -17472820.41 -17472820.34 -17472820.26 0.0489 0.0437

Saturn -52551-04-03 14:37 J -17472737.06 -17472736.89 -17472736.73 0.0280 0.0093

Saturn -52551-07-01 10:47 J -17472648.23 -17472648.05 -17472647.88 0.0279 0.0034

Saturn -52551-09-28 07:11 J -17472559.34 -17472559.20 -17472559.05 0.0278 0.0162

Mars -52550-05-13 19:54 J -17472331.75 -17472331.67 -17472331.59 0.1733 0.1238

Venus -52549-03-16 23:01 J -17472023.67 -17472023.54 -17472023.41 0.3614 0.1955

Earth -52549-07-26 00:42 J -17471892.58 -17471892.47 -17471892.35 0.2668 0.0177

Moon -52549-07-26 01:11 J -17471892.56 -17471892.45 -17471892.33 0.2674 0.0057 *

Jupiter -52546-09-14 09:06 J -17470747.24 -17470747.12 -17470747.00 0.0538 0.0243

Neptune -52546-12-08 18:28 J -17470661.75 -17470661.73 -17470661.70 0.0089 0.0087

Jupiter -52546-12-12 18:42 J -17470657.81 -17470657.72 -17470657.63 0.0538 0.0381

Neptune -52545-03-05 19:54 J -17470573.71 -17470573.67 -17470573.60 0.0089 0.0081

Neptune -52545-06-01 21:35 J -17470485.66 -17470485.60 -17470485.51 0.0089 0.0075

Neptune -52545-08-28 23:30 J -17470397.61 -17470397.52 -17470397.43 0.0089 0.0068

Neptune -52545-11-25 01:11 J -17470309.55 -17470309.45 -17470309.34 0.0089 0.0062

Neptune -52544-02-21 02:37 J -17470221.49 -17470221.39 -17470221.27 0.0089 0.0056

Neptune -52544-05-20 04:18 J -17470133.43 -17470133.32 -17470133.19 0.0089 0.0050

Neptune -52544-08-16 06:13 J -17470045.37 -17470045.24 -17470045.12 0.0089 0.0043

Neptune -52544-11-12 07:40 J -17469957.30 -17469957.18 -17469957.04 0.0089 0.0037

Neptune -52543-02-08 09:21 J -17469869.24 -17469869.11 -17469868.97 0.0089 0.0031

Neptune -52543-05-07 11:01 J -17469781.17 -17469781.04 -17469780.90 0.0089 0.0024

Neptune -52543-08-03 12:28 J -17469693.11 -17469692.98 -17469692.83 0.0089 0.0019

Neptune -52543-10-30 14:09 J -17469605.05 -17469604.91 -17469604.76 0.0089 0.0012

Neptune -52542-01-26 15:49 J -17469516.98 -17469516.84 -17469516.70 0.0089 0.0006

Neptune -52542-04-24 17:30 J -17469428.91 -17469428.77 -17469428.63 0.0089 0.0001

Neptune -52542-07-21 18:57 J -17469340.85 -17469340.71 -17469340.57 0.0089 0.0007

Neptune -52542-10-17 20:37 J -17469252.78 -17469252.64 -17469252.50 0.0089 0.0012

Neptune -52541-01-13 22:04 J -17469164.71 -17469164.58 -17469164.44 0.0089 0.0019

Neptune -52541-04-10 23:45 J -17469076.65 -17469076.51 -17469076.38 0.0089 0.0024

Neptune -52541-07-08 01:11 J -17468988.58 -17468988.45 -17468988.31 0.0089 0.0031

Mars -52541-10-03 05:01 J -17468901.41 -17468901.29 -17468901.17 0.1725 0.0556

Neptune -52541-10-04 02:37 J -17468900.51 -17468900.39 -17468900.25 0.0089 0.0037

Neptune -52541-12-31 04:18 J -17468812.44 -17468812.32 -17468812.19 0.0089 0.0043

Neptune -52540-03-29 05:45 J -17468724.37 -17468724.26 -17468724.14 0.0089 0.0049

Neptune -52540-06-25 07:11 J -17468636.30 -17468636.20 -17468636.08 0.0089 0.0055

Mars -52540-07-28 20:23 J -17468602.78 -17468602.65 -17468602.51 0.1814 0.0873

Jupiter -52540-07-31 01:11 J -17468600.56 -17468600.45 -17468600.33 0.0489 0.0363

Neptune -52540-09-21 08:37 J -17468548.23 -17468548.14 -17468548.02 0.0089 0.0061

Jupiter -52540-10-29 02:52 J -17468510.52 -17468510.38 -17468510.23 0.0489 0.0275

Neptune -52540-12-18 10:18 J -17468460.15 -17468460.07 -17468459.97 0.0089 0.0067

Moon -52539-01-20 00:42 J -17468427.61 -17468427.47 -17468427.34 0.2667 0.0862

Earth -52539-01-20 01:54 J -17468427.56 -17468427.42 -17468427.28 0.2666 0.0806 *

Neptune -52539-03-16 11:45 J -17468372.08 -17468372.01 -17468371.92 0.0089 0.0073

Neptune -52539-06-12 13:40 J -17468284.00 -17468283.93 -17468283.87 0.0089 0.0078

Neptune -52539-09-08 14:52 J -17468195.91 -17468195.88 -17468195.83 0.0089 0.0084

Saturn -52536-07-27 19:25 J -17467142.74 -17467142.69 -17467142.64 0.0279 0.0257

Earth -52536-07-28 19:54 J -17467141.78 -17467141.67 -17467141.56 0.2669 0.0772

Moon -52536-07-28 20:37 J -17467141.75 -17467141.64 -17467141.53 0.2670 0.0773 *

Saturn -52536-10-24 08:09 J -17467054.28 -17467054.16 -17467054.05 0.0280 0.0156

Saturn -52535-01-20 20:37 J -17466965.78 -17466965.64 -17466965.50 0.0281 0.0055

Saturn -52535-04-19 09:06 J -17466877.26 -17466877.12 -17466876.99 0.0281 0.0046

Saturn -52535-07-16 21:21 J -17466788.73 -17466788.61 -17466788.49 0.0282 0.0146

Saturn -52535-10-13 09:21 J -17466700.17 -17466700.11 -17466700.04 0.0283 0.0246

Jupiter -52534-07-03 12:13 J -17466437.08 -17466436.99 -17466436.90 0.0538 0.0400

Jupiter -52534-09-30 22:18 J -17466347.69 -17466347.57 -17466347.46 0.0538 0.0231

Uranus -52532-03-10 18:42 J -17465820.73 -17465820.72 -17465820.71 0.0132 0.0131

Uranus -52532-06-06 21:49 J -17465732.65 -17465732.59 -17465732.51 0.0132 0.0113

Uranus -52532-09-03 01:11 J -17465644.54 -17465644.45 -17465644.36 0.0132 0.0095

Uranus -52532-11-30 04:18 J -17465556.43 -17465556.32 -17465556.21 0.0132 0.0077

Mars -52531-02-23 14:09 J -17465471.04 -17465470.91 -17465470.79 0.1717 0.0139

Uranus -52531-02-26 07:25 J -17465468.31 -17465468.19 -17465468.06 0.0132 0.0060

Uranus -52531-05-25 10:47 J -17465380.18 -17465380.05 -17465379.92 0.0132 0.0042

Uranus -52531-08-21 13:40 J -17465292.06 -17465291.93 -17465291.79 0.0132 0.0025

Uranus -52531-11-17 17:01 J -17465203.93 -17465203.79 -17465203.66 0.0132 0.0007

Mars -52531-12-18 20:52 J -17465172.78 -17465172.63 -17465172.48 0.1822 0.0316

Uranus -52530-02-13 20:09 J -17465115.80 -17465115.66 -17465115.53 0.0132 0.0011

Uranus -52530-05-12 23:01 J -17465027.67 -17465027.54 -17465027.40 0.0132 0.0029

Uranus -52530-08-09 02:09 J -17464939.53 -17464939.41 -17464939.28 0.0132 0.0046

Uranus -52530-11-05 05:16 J -17464851.40 -17464851.28 -17464851.16 0.0132 0.0063

Uranus -52529-02-01 08:23 J -17464763.26 -17464763.15 -17464763.04 0.0132 0.0080

Uranus -52529-04-29 11:16 J -17464675.11 -17464675.03 -17464674.93 0.0132 0.0098

Moon -52529-07-21 14:37 J -17464591.97 -17464591.89 -17464591.81 0.2669 0.1957

Earth -52529-07-21 15:21 J -17464591.94 -17464591.86 -17464591.78 0.2664 0.1874 *

Uranus -52529-07-26 14:09 J -17464586.96 -17464586.91 -17464586.83 0.0132 0.0116

Uranus -52529-10-22 17:30 J -17464498.77 -17464498.77 -17464498.77 0.0132 0.0132

Jupiter -52528-08-17 01:11 J -17464200.62 -17464200.45 -17464200.28 0.0489 0.0105

Moon -52526-01-23 04:04 J -17463676.47 -17463676.33 -17463676.19 0.2669 0.0513

Earth -52526-01-23 05:01 J -17463676.43 -17463676.29 -17463676.15 0.2664 0.0682 *

Earth -52523-07-31 14:37 J -17462390.98 -17462390.89 -17462390.80 0.2671 0.1673

Moon -52523-07-31 15:21 J -17462390.95 -17462390.86 -17462390.77 0.2668 0.1750 *

Saturn -52522-05-24 18:13 J -17462093.81 -17462093.74 -17462093.66 0.0281 0.0253

Mars -52522-07-16 23:01 J -17462040.65 -17462040.54 -17462040.43 0.1710 0.0813

Jupiter -52522-07-20 01:54 J -17462037.55 -17462037.42 -17462037.29 0.0538 0.0084

Saturn -52522-08-21 14:09 J -17462005.06 -17462004.91 -17462004.75 0.0280 0.0129

Saturn -52522-11-18 10:18 J -17461916.25 -17461916.07 -17461915.90 0.0279 0.0003

Saturn -52521-02-15 06:42 J -17461827.38 -17461827.22 -17461827.06 0.0278 0.0125

Mars -52521-05-09 21:21 J -17461742.70 -17461742.61 -17461742.53 0.1831 0.1501

Saturn -52521-05-14 03:06 J -17461738.44 -17461738.37 -17461738.29 0.0278 0.0253

Jupiter -52516-06-05 00:13 J -17459890.67 -17459890.49 -17459890.32 0.0489 0.0055

Earth -52516-07-24 10:33 J -17459841.17 -17459841.06 -17459840.95 0.2666 0.0924

Moon -52516-07-24 10:47 J -17459841.16 -17459841.05 -17459840.94 0.2673 0.0882 *

Earth -52513-01-26 08:37 J -17458925.22 -17458925.14 -17458925.06 0.2662 0.2205

Moon -52513-01-26 08:37 J -17458925.21 -17458925.14 -17458925.07 0.2668 0.2304 *

Mars -52513-12-06 07:54 J -17458610.22 -17458610.17 -17458610.11 0.1703 0.1497

Mars -52511-11-11 20:09 J -17457904.74 -17457904.66 -17457904.59 0.1733 0.1334

Jupiter -52510-05-08 05:16 J -17457727.41 -17457727.28 -17457727.15 0.0538 0.0071

Moon -52510-08-03 09:35 J -17457640.13 -17457640.10 -17457640.07 0.2666 0.2560

Earth -52510-08-03 09:21 J -17457640.13 -17457640.11 -17457640.08 0.2673 0.2561 *

Venus -52507-12-20 20:09 J -17456404.75 -17456404.66 -17456404.57 0.3760 0.1660

Moon -52506-01-18 04:04 J -17456376.42 -17456376.33 -17456376.25 0.2664 0.2105

Earth -52506-01-18 05:16 J -17456376.37 -17456376.28 -17456376.19 0.2668 0.1982 *

Saturn -52506-03-13 09:35 J -17456322.20 -17456322.10 -17456321.99 0.0280 0.0188

Saturn -52506-06-09 22:18 J -17456233.70 -17456233.57 -17456233.44 0.0281 0.0087

Saturn -52506-09-06 10:47 J -17456145.19 -17456145.05 -17456144.91 0.0282 0.0014

Saturn -52506-12-03 23:01 J -17456056.66 -17456056.54 -17456056.41 0.0282 0.0115

Saturn -52505-03-01 11:16 J -17455968.11 -17455968.03 -17455967.94 0.0283 0.0215

Jupiter -52504-03-23 23:16 J -17455580.69 -17455580.53 -17455580.37 0.0489 0.0214

Jupiter -52504-06-22 01:25 J -17455490.52 -17455490.44 -17455490.36 0.0489 0.0432

Earth -52503-07-27 05:45 J -17455090.37 -17455090.26 -17455090.14 0.2668 0.0051

Moon -52503-07-27 06:13 J -17455090.35 -17455090.24 -17455090.12 0.2673 0.0091 *

Mars -52501-04-03 05:01 J -17454474.40 -17454474.29 -17454474.18 0.1725 0.0638

Venus -52501-07-05 11:59 J -17454381.10 -17454381.00 -17454380.90 0.3763 0.0466

Mars -52500-01-26 21:06 J -17454175.75 -17454175.62 -17454175.49 0.1814 0.1014

Jupiter -52498-02-24 08:09 J -17453417.28 -17453417.16 -17453417.04 0.0538 0.0232

Venus -52498-04-07 17:01 J -17453374.92 -17453374.79 -17453374.66 0.3618 0.1861

Jupiter -52498-05-24 17:45 J -17453327.85 -17453327.76 -17453327.67 0.0537 0.0392

Earth -52496-07-20 00:57 J -17452540.46 -17452540.46 -17452540.46 0.2663 0.2659

Venus -52495-01-19 04:04 J -17452357.41 -17452357.33 -17452357.26 0.3767 0.2575

Moon -52493-01-21 06:42 J -17451625.36 -17451625.22 -17451625.08 0.2668 0.0654

Earth -52493-01-21 08:09 J -17451625.31 -17451625.16 -17451625.02 0.2666 0.0545 *

Saturn -52492-01-07 14:37 J -17451273.03 -17451272.89 -17451272.75 0.0280 0.0161

Jupiter -52492-01-09 23:01 J -17451270.66 -17451270.54 -17451270.43 0.0489 0.0365

Saturn -52492-04-06 10:47 J -17451184.23 -17451184.05 -17451183.88 0.0279 0.0035

Jupiter -52492-04-10 00:28 J -17451180.62 -17451180.48 -17451180.33 0.0489 0.0275

Saturn -52492-07-04 06:57 J -17451095.37 -17451095.21 -17451095.04 0.0278 0.0092

Mars -52492-08-24 14:09 J -17451044.03 -17451043.91 -17451043.78 0.1718 0.0043

Saturn -52492-10-01 03:35 J -17451006.46 -17451006.35 -17451006.24 0.0278 0.0220

Mars -52491-06-18 21:21 J -17450745.76 -17450745.61 -17450745.46 0.1822 0.0182

Uranus -52490-03-13 20:37 J -17450477.72 -17450477.64 -17450477.54 0.0147 0.0127

Uranus -52490-06-10 04:47 J -17450389.44 -17450389.30 -17450389.16 0.0147 0.0094

Earth -52490-07-30 00:42 J -17450339.57 -17450339.47 -17450339.36 0.2670 0.0935

Moon -52490-07-30 01:40 J -17450339.54 -17450339.43 -17450339.33 0.2670 0.1074 *

Uranus -52490-09-06 12:28 J -17450301.14 -17450300.98 -17450300.80 0.0147 0.0062

Uranus -52490-12-03 20:37 J -17450212.82 -17450212.64 -17450212.46 0.0147 0.0029

Uranus -52489-03-01 04:47 J -17450124.49 -17450124.30 -17450124.12 0.0147 0.0005

Uranus -52489-05-28 12:42 J -17450036.15 -17450035.97 -17450035.79 0.0147 0.0038

Uranus -52489-08-24 20:37 J -17449947.79 -17449947.64 -17449947.47 0.0147 0.0072

Uranus -52489-11-21 05:01 J -17449859.42 -17449859.29 -17449859.16 0.0147 0.0105

Uranus -52488-02-17 12:57 J -17449771.00 -17449770.96 -17449770.89 0.0147 0.0139

Jupiter -52487-12-13 10:18 J -17449107.16 -17449107.07 -17449106.99 0.0538 0.0408

Jupiter -52486-03-12 20:09 J -17449017.78 -17449017.66 -17449017.54 0.0538 0.0223

Moon -52483-07-22 19:54 J -17447789.76 -17447789.67 -17447789.58 0.2670 0.1742

Earth -52483-07-22 20:23 J -17447789.74 -17447789.65 -17447789.56 0.2665 0.1693 *

Mars -52482-01-14 23:16 J -17447613.65 -17447613.53 -17447613.42 0.1710 0.0722

Mars -52482-11-08 21:49 J -17447315.69 -17447315.59 -17447315.49 0.1831 0.1369

Moon -52480-01-23 10:18 J -17446874.21 -17446874.07 -17446873.94 0.2669 0.0951

Earth -52480-01-23 11:16 J -17446874.17 -17446874.03 -17446873.90 0.2663 0.0945 *

Jupiter -52480-01-26 23:30 J -17446870.69 -17446870.52 -17446870.34 0.0489 0.0114

Saturn -52477-07-30 13:11 J -17445590.04 -17445589.95 -17445589.86 0.0280 0.0206

Earth -52477-07-31 19:40 J -17445588.76 -17445588.68 -17445588.60 0.2672 0.1839

Moon -52477-07-31 20:09 J -17445588.74 -17445588.66 -17445588.57 0.2667 0.1834 *

Saturn -52477-10-27 01:40 J -17445501.55 -17445501.43 -17445501.29 0.0280 0.0106

Saturn -52476-01-23 14:23 J -17445413.04 -17445412.90 -17445412.76 0.0281 0.0007

Saturn -52476-04-22 02:37 J -17445324.52 -17445324.39 -17445324.26 0.0282 0.0097

Saturn -52476-07-19 14:52 J -17445235.97 -17445235.88 -17445235.78 0.0283 0.0197

Jupiter -52475-12-29 23:30 J -17444707.65 -17444707.52 -17444707.39 0.0538 0.0069

Mars -52473-06-06 08:09 J -17444183.23 -17444183.16 -17444183.09 0.1703 0.1401

Mars -52471-05-12 20:09 J -17443477.73 -17443477.66 -17443477.59 0.1733 0.1419

Earth -52470-07-25 15:35 J -17443038.96 -17443038.85 -17443038.73 0.2666 0.0748

Moon -52470-07-25 15:49 J -17443038.95 -17443038.84 -17443038.73 0.2674 0.0774 *

Jupiter -52469-11-14 21:49 J -17442560.76 -17442560.59 -17442560.41 0.0489 0.0057

Earth -52467-01-26 14:37 J -17442122.94 -17442122.89 -17442122.83 0.2661 0.2476

Moon -52467-01-26 14:52 J -17442122.93 -17442122.88 -17442122.82 0.2668 0.2413 *

Neptune -52463-05-26 19:54 J -17440541.72 -17440541.67 -17440541.59 0.0089 0.0082

Saturn -52463-05-27 15:21 J -17440540.99 -17440540.86 -17440540.74 0.0280 0.0191

Neptune -52463-08-22 23:01 J -17440453.63 -17440453.54 -17440453.44 0.0089 0.0074

Saturn -52463-08-24 11:16 J -17440452.20 -17440452.03 -17440451.86 0.0280 0.0066

Jupiter -52463-10-18 03:06 J -17440397.50 -17440397.37 -17440397.24 0.0538 0.0079

Neptune -52463-11-19 01:40 J -17440365.53 -17440365.43 -17440365.31 0.0089 0.0067

Saturn -52463-11-21 07:25 J -17440363.36 -17440363.19 -17440363.02 0.0279 0.0061

Neptune -52462-02-15 04:47 J -17440277.43 -17440277.30 -17440277.17 0.0089 0.0059

Saturn -52462-02-18 03:49 J -17440274.47 -17440274.34 -17440274.21 0.0278 0.0188

Neptune -52462-05-14 07:25 J -17440189.33 -17440189.19 -17440189.04 0.0089 0.0052

Neptune -52462-08-10 10:33 J -17440101.22 -17440101.06 -17440100.91 0.0089 0.0044

Mars -52462-10-03 05:16 J -17440047.39 -17440047.28 -17440047.17 0.1725 0.0735

Neptune -52462-11-06 13:11 J -17440013.10 -17440012.95 -17440012.78 0.0089 0.0037

Neptune -52461-02-02 16:04 J -17439924.99 -17439924.83 -17439924.65 0.0089 0.0029

Neptune -52461-04-30 18:57 J -17439836.87 -17439836.71 -17439836.53 0.0089 0.0022

Neptune -52461-07-27 22:04 J -17439748.76 -17439748.58 -17439748.40 0.0089 0.0014

Mars -52461-07-27 21:21 J -17439748.73 -17439748.61 -17439748.49 0.1813 0.1133 *

Neptune -52461-10-24 00:57 J -17439660.64 -17439660.46 -17439660.28 0.0089 0.0006

Moon -52460-01-18 10:04 J -17439574.19 -17439574.08 -17439573.97 0.2665 0.1765

Earth -52460-01-18 11:16 J -17439574.14 -17439574.03 -17439573.92 0.2667 0.1725 *

Neptune -52460-01-20 04:04 J -17439572.51 -17439572.33 -17439572.15 0.0089 0.0003

Neptune -52460-04-18 06:57 J -17439484.39 -17439484.21 -17439484.03 0.0089 0.0010

Neptune -52460-07-15 09:49 J -17439396.26 -17439396.09 -17439395.91 0.0089 0.0018

Neptune -52460-10-11 12:42 J -17439308.13 -17439307.97 -17439307.79 0.0089 0.0026

Neptune -52459-01-07 15:49 J -17439220.00 -17439219.84 -17439219.67 0.0089 0.0033

Neptune -52459-04-05 18:42 J -17439131.87 -17439131.72 -17439131.55 0.0089 0.0041

Neptune -52459-07-02 21:49 J -17439043.74 -17439043.59 -17439043.43 0.0089 0.0049

Neptune -52459-09-29 00:42 J -17438955.60 -17438955.47 -17438955.32 0.0089 0.0057

Neptune -52459-12-26 03:49 J -17438867.45 -17438867.34 -17438867.21 0.0089 0.0065

Neptune -52458-03-24 06:42 J -17438779.31 -17438779.22 -17438779.10 0.0089 0.0073

Neptune -52458-06-20 09:49 J -17438691.15 -17438691.09 -17438691.00 0.0089 0.0081

Neptune -52458-09-16 13:11 J -17438602.95 -17438602.95 -17438602.94 0.0089 0.0089

Earth -52457-07-27 10:47 J -17438288.16 -17438288.05 -17438287.93 0.2668 0.0188

Moon -52457-07-27 11:30 J -17438288.14 -17438288.02 -17438287.91 0.2672 0.0294 *

Jupiter -52457-09-02 21:06 J -17438250.78 -17438250.62 -17438250.47 0.0489 0.0215

Jupiter -52457-12-01 23:01 J -17438160.62 -17438160.54 -17438160.45 0.0489 0.0429

Venus -52455-01-11 01:40 J -17437755.49 -17437755.43 -17437755.37 0.3756 0.3012

Mars -52452-02-22 14:09 J -17436617.03 -17436616.91 -17436616.78 0.1718 0.0072

Mars -52452-12-17 21:35 J -17436318.75 -17436318.60 -17436318.44 0.1822 0.0075

Jupiter -52451-08-06 06:13 J -17436087.36 -17436087.24 -17436087.12 0.0538 0.0235

Jupiter -52451-11-03 16:04 J -17435997.92 -17435997.83 -17435997.75 0.0538 0.0390

Moon -52450-07-21 05:01 J -17435738.30 -17435738.29 -17435738.26 0.2665 0.2611

Earth -52450-07-21 05:59 J -17435738.29 -17435738.25 -17435738.21 0.2663 0.2479 *

Venus -52450-07-27 17:30 J -17435731.86 -17435731.77 -17435731.67 0.3760 0.0888

Uranus -52448-03-31 02:23 J -17435119.44 -17435119.40 -17435119.35 0.0132 0.0124

Uranus -52448-06-27 05:30 J -17435031.34 -17435031.27 -17435031.18 0.0132 0.0106

Uranus -52448-09-23 08:52 J -17434943.23 -17434943.13 -17434943.03 0.0132 0.0088

Saturn -52448-12-17 14:52 J -17434857.95 -17434857.88 -17434857.81 0.0280 0.0238

Uranus -52448-12-20 11:59 J -17434855.11 -17434855.00 -17434854.88 0.0132 0.0070

Moon -52447-01-21 12:42 J -17434823.11 -17434822.97 -17434822.82 0.2668 0.0401

Earth -52447-01-21 14:09 J -17434823.06 -17434822.91 -17434822.77 0.2665 0.0284 *

Saturn -52447-03-16 03:35 J -17434769.47 -17434769.35 -17434769.23 0.0280 0.0137

Uranus -52447-03-18 15:06 J -17434766.99 -17434766.87 -17434766.74 0.0132 0.0053

Saturn -52447-06-12 16:04 J -17434680.97 -17434680.83 -17434680.69 0.0281 0.0036

Uranus -52447-06-14 18:28 J -17434678.86 -17434678.73 -17434678.60 0.0132 0.0035

Saturn -52447-09-09 04:33 J -17434592.44 -17434592.31 -17434592.18 0.0282 0.0066

Uranus -52447-09-10 21:35 J -17434590.74 -17434590.60 -17434590.47 0.0132 0.0017

Saturn -52447-12-06 16:47 J -17434503.91 -17434503.80 -17434503.69 0.0283 0.0166

Uranus -52447-12-08 00:42 J -17434502.61 -17434502.47 -17434502.34 0.0132 0.0002

Saturn -52446-03-05 05:01 J -17434415.33 -17434415.29 -17434415.25 0.0284 0.0266

Uranus -52446-03-06 03:49 J -17434414.48 -17434414.34 -17434414.21 0.0132 0.0018

Uranus -52446-06-02 06:42 J -17434326.34 -17434326.22 -17434326.08 0.0132 0.0036

Uranus -52446-08-29 09:49 J -17434238.21 -17434238.09 -17434237.96 0.0132 0.0053

Uranus -52446-11-25 12:57 J -17434150.07 -17434149.96 -17434149.84 0.0132 0.0070

Uranus -52445-02-21 16:04 J -17434061.93 -17434061.83 -17434061.73 0.0132 0.0087

Uranus -52445-05-19 19:11 J -17433973.78 -17433973.70 -17433973.62 0.0132 0.0105

Jupiter -52445-06-21 20:09 J -17433940.77 -17433940.66 -17433940.54 0.0489 0.0372

Uranus -52445-08-15 21:49 J -17433885.63 -17433885.59 -17433885.53 0.0132 0.0122

Jupiter -52445-09-19 21:49 J -17433850.74 -17433850.59 -17433850.44 0.0489 0.0266

Venus -52444-02-09 09:35 J -17433708.20 -17433708.10 -17433708.01 0.3764 0.1243

Earth -52444-07-30 05:45 J -17433537.36 -17433537.26 -17433537.15 0.2670 0.1106

Moon -52444-07-30 06:42 J -17433537.33 -17433537.22 -17433537.12 0.2670 0.1109 *

Mars -52443-07-15 23:16 J -17433186.65 -17433186.53 -17433186.42 0.1711 0.0633

Mars -52442-05-09 22:18 J -17432888.68 -17432888.57 -17432888.45 0.1831 0.1226

Venus -52442-11-12 18:42 J -17432701.88 -17432701.72 -17432701.57 0.3617 0.0106

Jupiter -52439-05-25 09:06 J -17431777.21 -17431777.12 -17431777.03 0.0537 0.0398

Jupiter -52439-08-22 18:57 J -17431687.82 -17431687.71 -17431687.59 0.0538 0.0233

Venus -52439-08-26 01:25 J -17431684.48 -17431684.44 -17431684.39 0.3768 0.3356

Moon -52437-07-23 01:11 J -17430987.55 -17430987.45 -17430987.36 0.2671 0.1520

Earth -52437-07-23 01:25 J -17430987.53 -17430987.44 -17430987.34 0.2665 0.1514 *

Moon -52434-01-24 16:33 J -17430071.94 -17430071.81 -17430071.68 0.2669 0.1115

Earth -52434-01-24 17:16 J -17430071.91 -17430071.78 -17430071.65 0.2663 0.1211 *

Saturn -52434-10-14 15:49 J -17429808.94 -17429808.84 -17429808.74 0.0280 0.0223

Mars -52434-12-06 08:09 J -17429756.23 -17429756.16 -17429756.08 0.1704 0.1309

Saturn -52433-01-11 11:30 J -17429720.18 -17429720.02 -17429719.85 0.0280 0.0098

Saturn -52433-04-09 07:40 J -17429631.35 -17429631.18 -17429631.00 0.0279 0.0029

Saturn -52433-07-07 04:04 J -17429542.47 -17429542.33 -17429542.18 0.0278 0.0155

Jupiter -52433-07-08 21:06 J -17429540.79 -17429540.62 -17429540.45 0.0489 0.0109

Mars -52432-11-10 20:09 J -17429050.72 -17429050.66 -17429050.60 0.1733 0.1508

Earth -52431-08-02 00:42 J -17428786.55 -17428786.47 -17428786.40 0.2672 0.2001

Moon -52431-08-02 01:11 J -17428786.52 -17428786.45 -17428786.38 0.2666 0.2096 *

Jupiter -52427-06-10 21:21 J -17427377.74 -17427377.61 -17427377.47 0.0538 0.0064

Pluto -52425-09-08 15:49 J -17426556.88 -17426556.84 -17426556.76 0.0062 0.0058

Pluto -52425-12-05 17:16 J -17426468.86 -17426468.78 -17426468.69 0.0062 0.0054

Pluto -52424-03-03 17:59 J -17426380.84 -17426380.75 -17426380.63 0.0062 0.0049

Pluto -52424-05-30 19:25 J -17426292.80 -17426292.69 -17426292.57 0.0062 0.0045

Earth -52424-07-25 20:37 J -17426236.75 -17426236.64 -17426236.52 0.2667 0.0576

Moon -52424-07-25 20:52 J -17426236.74 -17426236.63 -17426236.52 0.2673 0.0544 *

Pluto -52424-08-26 20:09 J -17426204.77 -17426204.66 -17426204.51 0.0062 0.0041

Pluto -52424-11-22 21:35 J -17426116.73 -17426116.60 -17426116.45 0.0062 0.0036

Pluto -52423-02-18 22:33 J -17426028.70 -17426028.56 -17426028.40 0.0063 0.0031

Pluto -52423-05-17 23:45 J -17425940.66 -17425940.51 -17425940.35 0.0063 0.0027

Pluto -52423-08-14 00:57 J -17425852.62 -17425852.46 -17425852.29 0.0063 0.0022

Pluto -52423-11-10 01:54 J -17425764.57 -17425764.42 -17425764.24 0.0063 0.0018

Pluto -52422-02-06 03:06 J -17425676.53 -17425676.37 -17425676.19 0.0063 0.0013

Mars -52422-04-03 05:16 J -17425620.39 -17425620.28 -17425620.17 0.1725 0.0825

Pluto -52422-05-05 04:33 J -17425588.48 -17425588.31 -17425588.14 0.0063 0.0008

Pluto -52422-08-01 05:45 J -17425500.44 -17425500.26 -17425500.09 0.0063 0.0003

Pluto -52422-10-28 06:57 J -17425412.39 -17425412.21 -17425412.04 0.0063 0.0002

Pluto -52421-01-24 08:09 J -17425324.34 -17425324.16 -17425323.99 0.0063 0.0007

Mars -52421-01-26 21:49 J -17425321.70 -17425321.59 -17425321.48 0.1813 0.1264

Pluto -52421-04-21 09:06 J -17425236.28 -17425236.12 -17425235.94 0.0063 0.0012

Jupiter -52421-04-26 20:09 J -17425230.83 -17425230.66 -17425230.48 0.0489 0.0051

Pluto -52421-07-18 10:18 J -17425148.23 -17425148.07 -17425147.90 0.0063 0.0016

Pluto -52421-10-14 11:30 J -17425060.18 -17425060.02 -17425059.85 0.0063 0.0021

Pluto -52420-01-10 12:28 J -17424972.12 -17424971.98 -17424971.80 0.0063 0.0027

Pluto -52420-04-08 13:40 J -17424884.06 -17424883.93 -17424883.76 0.0064 0.0032

Pluto -52420-07-05 15:21 J -17424796.00 -17424795.86 -17424795.72 0.0064 0.0036

Pluto -52420-10-01 16:33 J -17424707.94 -17424707.81 -17424707.68 0.0064 0.0041

Pluto -52420-12-28 17:45 J -17424619.87 -17424619.76 -17424619.64 0.0064 0.0046

Pluto -52419-03-26 18:28 J -17424531.80 -17424531.73 -17424531.60 0.0064 0.0052

Pluto -52419-06-22 19:54 J -17424443.73 -17424443.67 -17424443.57 0.0064 0.0057

Pluto -52419-09-18 21:06 J -17424355.64 -17424355.62 -17424355.55 0.0064 0.0062

Saturn -52418-05-06 18:28 J -17424125.78 -17424125.73 -17424125.67 0.0279 0.0255

Saturn -52418-08-03 07:11 J -17424037.31 -17424037.20 -17424037.08 0.0280 0.0154

Saturn -52418-10-30 19:54 J -17423948.81 -17423948.67 -17423948.54 0.0281 0.0053

Saturn -52417-01-27 08:09 J -17423860.29 -17423860.16 -17423860.02 0.0282 0.0050

Saturn -52417-04-24 20:37 J -17423771.76 -17423771.64 -17423771.53 0.0283 0.0149

Saturn -52417-07-22 08:37 J -17423683.19 -17423683.14 -17423683.07 0.0283 0.0250

Jupiter -52415-03-30 00:28 J -17423067.61 -17423067.48 -17423067.34 0.0538 0.0098

Jupiter -52415-06-27 10:04 J -17422978.11 -17422978.08 -17422978.06 0.0538 0.0524

Moon -52414-01-19 16:04 J -17422771.94 -17422771.83 -17422771.72 0.2666 0.1644

Earth -52414-01-19 17:16 J -17422771.90 -17422771.78 -17422771.66 0.2667 0.1468 *

Mars -52413-08-23 14:23 J -17422190.03 -17422189.90 -17422189.78 0.1718 0.0144

Mars -52412-06-17 22:18 J -17421891.72 -17421891.57 -17421891.42 0.1822 0.0084

Earth -52411-07-28 15:49 J -17421485.96 -17421485.84 -17421485.73 0.2668 0.0361

Moon -52411-07-28 16:33 J -17421485.92 -17421485.81 -17421485.70 0.2672 0.0387 *

Jupiter -52409-02-13 18:28 J -17420920.88 -17420920.73 -17420920.57 0.0489 0.0219

Jupiter -52409-05-13 20:37 J -17420830.72 -17420830.64 -17420830.55 0.0489 0.0425

Uranus -52406-04-03 04:33 J -17419776.41 -17419776.31 -17419776.20 0.0147 0.0117

Uranus -52406-06-30 12:13 J -17419688.13 -17419687.99 -17419687.83 0.0147 0.0085

Uranus -52406-09-26 20:23 J -17419599.82 -17419599.65 -17419599.47 0.0147 0.0052

Uranus -52406-12-24 04:33 J -17419511.50 -17419511.31 -17419511.13 0.0147 0.0019

Uranus -52405-03-21 12:28 J -17419423.16 -17419422.98 -17419422.79 0.0147 0.0014

Uranus -52405-06-17 20:23 J -17419334.82 -17419334.65 -17419334.47 0.0147 0.0048

Uranus -52405-09-14 04:33 J -17419246.46 -17419246.31 -17419246.15 0.0147 0.0081

Uranus -52405-12-11 12:28 J -17419158.08 -17419157.98 -17419157.85 0.0147 0.0115

Saturn -52404-03-02 16:47 J -17419076.87 -17419076.80 -17419076.72 0.0281 0.0249

Saturn -52404-05-30 12:42 J -17418988.12 -17418987.97 -17418987.81 0.0280 0.0125

Moon -52404-07-21 10:18 J -17418936.13 -17418936.07 -17418936.01 0.2665 0.2307

Earth -52404-07-21 11:01 J -17418936.10 -17418936.04 -17418935.98 0.2663 0.2298 *

Saturn -52404-08-27 08:52 J -17418899.31 -17418899.13 -17418898.96 0.0279 0.0006

Saturn -52404-11-24 05:01 J -17418810.44 -17418810.29 -17418810.13 0.0278 0.0128

Mars -52403-01-13 23:16 J -17418759.64 -17418759.53 -17418759.41 0.1711 0.0541

Jupiter -52403-01-16 04:04 J -17418757.45 -17418757.33 -17418757.21 0.0538 0.0247

Saturn -52403-02-21 01:40 J -17418721.50 -17418721.43 -17418721.36 0.0278 0.0255

Jupiter -52403-04-15 13:54 J -17418668.02 -17418667.92 -17418667.83 0.0538 0.0380

Mars -52403-11-07 22:33 J -17418461.68 -17418461.56 -17418461.44 0.1831 0.1118

Moon -52401-01-22 18:57 J -17418020.86 -17418020.71 -17418020.57 0.2668 0.0106

Earth -52401-01-22 20:09 J -17418020.80 -17418020.66 -17418020.51 0.2665 0.0038 *

Venus -52399-08-17 23:16 J -17417082.62 -17417082.53 -17417082.45 0.3757 0.2221

Earth -52398-07-31 10:47 J -17416735.15 -17416735.05 -17416734.95 0.2670 0.1270

Moon -52398-07-31 11:30 J -17416735.12 -17416735.02 -17416734.92 0.2669 0.1393 *

Jupiter -52398-12-02 17:45 J -17416610.86 -17416610.76 -17416610.64 0.0489 0.0375

Jupiter -52397-03-01 19:25 J -17416520.84 -17416520.69 -17416520.54 0.0489 0.0262

Mars -52394-06-06 08:23 J -17415329.24 -17415329.15 -17415329.07 0.1703 0.1222

Venus -52393-03-02 15:06 J -17415058.97 -17415058.87 -17415058.77 0.3761 0.0094

Mars -52392-05-11 20:09 J -17414623.70 -17414623.66 -17414623.61 0.1733 0.1597

Jupiter -52392-11-04 07:11 J -17414447.28 -17414447.20 -17414447.11 0.0538 0.0403

Jupiter -52391-02-01 17:16 J -17414357.90 -17414357.78 -17414357.66 0.0538 0.0229

Moon -52391-07-24 06:13 J -17414185.34 -17414185.24 -17414185.14 0.2672 0.1413

Earth -52391-07-24 06:28 J -17414185.33 -17414185.23 -17414185.13 0.2665 0.1338 *

Saturn -52389-12-20 08:37 J -17413305.24 -17413305.14 -17413305.03 0.0280 0.0186

Moon -52388-01-24 23:01 J -17413269.66 -17413269.54 -17413269.42 0.2669 0.1470

Earth -52388-01-24 23:30 J -17413269.64 -17413269.52 -17413269.40 0.2663 0.1479 *

Saturn -52388-03-18 21:21 J -17413216.74 -17413216.61 -17413216.47 0.0281 0.0085

Saturn -52388-06-15 10:04 J -17413128.22 -17413128.08 -17413127.95 0.0282 0.0019

Saturn -52388-09-11 22:18 J -17413039.69 -17413039.57 -17413039.45 0.0282 0.0117

Venus -52388-09-16 06:57 J -17413035.29 -17413035.21 -17413035.12 0.3765 0.2035

Saturn -52388-12-09 10:33 J -17412951.14 -17412951.06 -17412950.97 0.0283 0.0217

Jupiter -52386-12-19 18:13 J -17412210.91 -17412210.74 -17412210.57 0.0489 0.0100

Venus -52385-06-18 20:23 J -17412028.77 -17412028.65 -17412028.52 0.3616 0.2102

Earth -52385-08-02 05:30 J -17411984.33 -17411984.27 -17411984.20 0.2672 0.2169

Moon -52385-08-02 05:59 J -17411984.31 -17411984.25 -17411984.18 0.2666 0.2132 *

Mars -52383-10-02 05:16 J -17411193.38 -17411193.28 -17411193.17 0.1725 0.0910

Mars -52382-07-27 22:33 J -17410894.65 -17410894.56 -17410894.46 0.1813 0.1410

Earth -52381-01-17 20:52 J -17410720.65 -17410720.63 -17410720.60 0.2669 0.2614

Neptune -52381-09-03 17:01 J -17410490.81 -17410490.79 -17410490.75 0.0088 0.0086

Neptune -52381-11-30 18:57 J -17410402.77 -17410402.71 -17410402.65 0.0089 0.0080

Neptune -52380-02-26 20:23 J -17410314.72 -17410314.65 -17410314.56 0.0089 0.0074

Neptune -52380-05-25 22:04 J -17410226.66 -17410226.58 -17410226.48 0.0089 0.0068

Neptune -52380-08-21 23:59 J -17410138.60 -17410138.50 -17410138.40 0.0089 0.0061

Neptune -52380-11-18 01:25 J -17410050.54 -17410050.44 -17410050.32 0.0089 0.0055

Jupiter -52380-11-20 20:23 J -17410047.78 -17410047.65 -17410047.52 0.0538 0.0071

Neptune -52379-02-14 03:06 J -17409962.48 -17409962.37 -17409962.24 0.0089 0.0049

Neptune -52379-05-13 04:47 J -17409874.42 -17409874.30 -17409874.17 0.0089 0.0042

Neptune -52379-08-09 06:28 J -17409786.35 -17409786.23 -17409786.09 0.0089 0.0036

Neptune -52379-11-05 08:09 J -17409698.29 -17409698.16 -17409698.02 0.0089 0.0030

Neptune -52378-02-01 09:49 J -17409610.23 -17409610.09 -17409609.95 0.0089 0.0024

Neptune -52378-04-30 11:30 J -17409522.16 -17409522.02 -17409521.88 0.0089 0.0017

Earth -52378-07-27 01:40 J -17409434.54 -17409434.43 -17409434.31 0.2667 0.0401

Moon -52378-07-27 02:09 J -17409434.53 -17409434.41 -17409434.30 0.2673 0.0369 *

Neptune -52378-07-27 12:57 J -17409434.10 -17409433.96 -17409433.81 0.0089 0.0012

Neptune -52378-10-23 14:37 J -17409346.03 -17409345.89 -17409345.75 0.0089 0.0005

Neptune -52377-01-19 16:18 J -17409257.96 -17409257.82 -17409257.68 0.0089 0.0002

Neptune -52377-04-16 17:45 J -17409169.90 -17409169.76 -17409169.61 0.0089 0.0008

Neptune -52377-07-13 19:25 J -17409081.83 -17409081.69 -17409081.55 0.0089 0.0013

Neptune -52377-10-09 20:52 J -17408993.76 -17408993.63 -17408993.49 0.0089 0.0020

Neptune -52376-01-05 22:33 J -17408905.69 -17408905.56 -17408905.42 0.0089 0.0025

Neptune -52376-04-03 23:59 J -17408817.63 -17408817.50 -17408817.36 0.0089 0.0032

Neptune -52376-07-01 01:40 J -17408729.56 -17408729.43 -17408729.30 0.0089 0.0038

Neptune -52376-09-27 03:06 J -17408641.49 -17408641.37 -17408641.24 0.0089 0.0044

Neptune -52376-12-24 04:33 J -17408553.42 -17408553.31 -17408553.19 0.0089 0.0050

Neptune -52375-03-22 05:59 J -17408465.34 -17408465.25 -17408465.13 0.0089 0.0056

Neptune -52375-06-18 07:40 J -17408377.27 -17408377.18 -17408377.07 0.0089 0.0062

Neptune -52375-09-14 09:06 J -17408289.20 -17408289.12 -17408289.02 0.0089 0.0068

Saturn -52375-10-17 12:57 J -17408256.10 -17408255.96 -17408255.81 0.0280 0.0158

Neptune -52375-12-11 10:33 J -17408201.12 -17408201.06 -17408200.97 0.0089 0.0074

Saturn -52374-01-14 09:06 J -17408167.29 -17408167.12 -17408166.95 0.0279 0.0032

Neptune -52374-03-09 11:59 J -17408113.04 -17408113.00 -17408112.92 0.0089 0.0080

Saturn -52374-04-13 05:16 J -17408078.44 -17408078.28 -17408078.11 0.0278 0.0094

Neptune -52374-06-05 13:54 J -17408024.95 -17408024.92 -17408024.88 0.0089 0.0085

Saturn -52374-07-11 01:40 J -17407989.53 -17407989.43 -17407989.32 0.0278 0.0222

Jupiter -52374-10-07 17:45 J -17407900.94 -17407900.76 -17407900.59 0.0489 0.0057

Mars -52373-02-22 14:23 J -17407763.02 -17407762.90 -17407762.77 0.1718 0.0235

Mars -52373-12-16 22:47 J -17407464.71 -17407464.55 -17407464.40 0.1822 0.0213

Moon -52368-01-19 22:04 J -17405969.71 -17405969.58 -17405969.46 0.2667 0.1226

Earth -52368-01-19 23:30 J -17405969.65 -17405969.52 -17405969.40 0.2667 0.1215 *

Jupiter -52368-09-08 22:33 J -17405737.69 -17405737.56 -17405737.43 0.0537 0.0103

Jupiter -52368-12-07 07:54 J -17405648.20 -17405648.17 -17405648.13 0.0537 0.0518

Earth -52365-07-28 20:52 J -17404683.74 -17404683.63 -17404683.52 0.2669 0.0532

Moon -52365-07-28 21:35 J -17404683.71 -17404683.60 -17404683.49 0.2672 0.0624 *

Uranus -52364-04-20 10:04 J -17404418.14 -17404418.08 -17404418.01 0.0132 0.0117

Mars -52364-07-14 23:30 J -17404332.64 -17404332.52 -17404332.40 0.1711 0.0447

Uranus -52364-07-17 13:11 J -17404330.03 -17404329.95 -17404329.85 0.0132 0.0099

Uranus -52364-10-13 16:33 J -17404241.91 -17404241.81 -17404241.70 0.0132 0.0081

Uranus -52363-01-09 19:40 J -17404153.80 -17404153.68 -17404153.56 0.0132 0.0063

Uranus -52363-04-07 22:47 J -17404065.67 -17404065.55 -17404065.42 0.0132 0.0046

Mars -52363-05-08 23:01 J -17404034.66 -17404034.54 -17404034.41 0.1831 0.0981

Uranus -52363-07-05 02:09 J -17403977.55 -17403977.41 -17403977.28 0.0132 0.0028

Uranus -52363-10-01 05:16 J -17403889.42 -17403889.28 -17403889.15 0.0132 0.0010

Uranus -52363-12-28 08:23 J -17403801.29 -17403801.15 -17403801.02 0.0132 0.0008

Uranus -52362-03-26 11:30 J -17403713.16 -17403713.02 -17403712.89 0.0132 0.0025

Uranus -52362-06-22 14:37 J -17403625.02 -17403624.89 -17403624.77 0.0132 0.0042

Jupiter -52362-07-26 16:47 J -17403590.95 -17403590.80 -17403590.64 0.0489 0.0214

Uranus -52362-09-18 17:30 J -17403536.89 -17403536.77 -17403536.65 0.0132 0.0060

Jupiter -52362-10-24 18:57 J -17403500.79 -17403500.71 -17403500.63 0.0489 0.0431

Uranus -52362-12-15 20:37 J -17403448.75 -17403448.64 -17403448.53 0.0132 0.0077

Uranus -52361-03-12 23:45 J -17403360.60 -17403360.51 -17403360.42 0.0132 0.0094

Uranus -52361-06-09 02:37 J -17403272.45 -17403272.39 -17403272.31 0.0132 0.0112

Uranus -52361-09-05 05:45 J -17403184.28 -17403184.26 -17403184.23 0.0132 0.0129

Saturn -52359-05-09 12:28 J -17402573.08 -17402572.98 -17402572.89 0.0280 0.0203

Saturn -52359-08-06 00:57 J -17402484.58 -17402484.46 -17402484.33 0.0281 0.0102

Saturn -52359-11-02 13:40 J -17402396.07 -17402395.93 -17402395.79 0.0282 0.0006

Saturn -52358-01-30 01:54 J -17402307.54 -17402307.42 -17402307.29 0.0282 0.0101

Saturn -52358-04-28 14:23 J -17402219.00 -17402218.90 -17402218.81 0.0283 0.0201

Moon -52358-07-22 15:21 J -17402133.92 -17402133.86 -17402133.79 0.2667 0.2248

Earth -52358-07-22 16:04 J -17402133.90 -17402133.83 -17402133.76 0.2664 0.2119 *

Jupiter -52356-06-28 01:40 J -17401427.55 -17401427.43 -17401427.31 0.0538 0.0262

Jupiter -52356-09-25 11:16 J -17401338.12 -17401338.03 -17401337.93 0.0538 0.0365

Moon -52355-01-23 01:11 J -17401218.60 -17401218.45 -17401218.31 0.2668 0.0138

Earth -52355-01-23 02:09 J -17401218.55 -17401218.41 -17401218.26 0.2665 0.0256 *

Mars -52355-12-05 08:23 J -17400902.24 -17400902.15 -17400902.05 0.1704 0.1125

Mars -52353-11-09 20:23 J -17400196.68 -17400196.65 -17400196.63 0.1733 0.1687

Earth -52352-07-31 15:49 J -17399932.94 -17399932.84 -17399932.75 0.2671 0.1441

Moon -52352-07-31 16:33 J -17399932.91 -17399932.81 -17399932.72 0.2668 0.1449 *

Jupiter -52350-05-14 15:21 J -17399280.96 -17399280.86 -17399280.75 0.0489 0.0380

Jupiter -52350-08-12 16:47 J -17399190.95 -17399190.80 -17399190.65 0.0489 0.0257

Venus -52348-09-08 04:33 J -17398433.33 -17398433.31 -17398433.28 0.3754 0.3575

Saturn -52345-03-05 14:37 J -17397524.02 -17397523.89 -17397523.76 0.0280 0.0182

Saturn -52345-06-02 10:33 J -17397435.23 -17397435.06 -17397434.89 0.0279 0.0057

Moon -52345-07-24 11:16 J -17397383.13 -17397383.03 -17397382.92 0.2672 0.1134

Earth -52345-07-24 11:30 J -17397383.12 -17397383.02 -17397382.91 0.2665 0.1162 *

Saturn -52345-08-30 06:42 J -17397346.39 -17397346.22 -17397346.05 0.0279 0.0069

Saturn -52345-11-27 03:06 J -17397257.49 -17397257.37 -17397257.24 0.0278 0.0196

Jupiter -52344-04-16 05:01 J -17397117.38 -17397117.29 -17397117.21 0.0538 0.0415

Jupiter -52344-07-14 15:06 J -17397027.99 -17397027.87 -17397027.75 0.0538 0.0218

Mars -52343-04-02 05:30 J -17396766.37 -17396766.27 -17396766.17 0.1725 0.1004

Mars -52342-01-25 22:47 J -17396467.63 -17396467.55 -17396467.47 0.1813 0.1525

Moon -52342-01-26 05:16 J -17396467.39 -17396467.28 -17396467.17 0.2670 0.1742

Earth -52342-01-26 05:30 J -17396467.38 -17396467.27 -17396467.16 0.2662 0.1747 *

Venus -52342-03-24 20:37 J -17396409.73 -17396409.64 -17396409.54 0.3758 0.1429

Earth -52339-08-03 10:33 J -17395182.11 -17395182.06 -17395182.00 0.2673 0.2328

Moon -52339-08-03 11:01 J -17395182.09 -17395182.04 -17395182.00 0.2667 0.2417 *

Jupiter -52338-05-31 15:49 J -17394881.01 -17394880.84 -17394880.67 0.0489 0.0096

Venus -52337-10-07 12:42 J -17394386.07 -17394385.97 -17394385.87 0.3762 0.0703

Moon -52335-01-18 01:54 J -17393918.49 -17393918.42 -17393918.36 0.2664 0.2365

Earth -52335-01-18 02:52 J -17393918.44 -17393918.38 -17393918.32 0.2668 0.2367 *

Pluto -52334-05-25 09:21 J -17393426.16 -17393426.11 -17393426.04 0.0082 0.0075

Venus -52334-07-10 14:23 J -17393380.04 -17393379.90 -17393379.77 0.3620 0.1725

Pluto -52334-08-21 11:01 J -17393338.12 -17393338.04 -17393337.95 0.0082 0.0065

Mars -52334-08-23 14:23 J -17393336.02 -17393335.90 -17393335.77 0.1718 0.0326

Pluto -52334-11-17 12:42 J -17393250.07 -17393249.97 -17393249.86 0.0082 0.0056

Pluto -52333-02-13 14:23 J -17393162.02 -17393161.90 -17393161.78 0.0082 0.0047

Pluto -52333-05-11 15:49 J -17393073.96 -17393073.84 -17393073.70 0.0082 0.0038

Mars -52333-06-16 23:01 J -17393037.69 -17393037.54 -17393037.39 0.1822 0.0337

Pluto -52333-08-07 17:30 J -17392985.90 -17392985.77 -17392985.63 0.0081 0.0029

Pluto -52333-11-03 19:11 J -17392897.84 -17392897.70 -17392897.56 0.0081 0.0020

Pluto -52332-01-30 20:37 J -17392809.78 -17392809.64 -17392809.49 0.0081 0.0012

Pluto -52332-04-28 22:18 J -17392721.72 -17392721.57 -17392721.43 0.0081 0.0003

Jupiter -52332-05-02 18:28 J -17392717.86 -17392717.73 -17392717.60 0.0538 0.0067

Pluto -52332-07-25 23:45 J -17392633.65 -17392633.51 -17392633.36 0.0081 0.0006

Earth -52332-07-27 06:42 J -17392632.33 -17392632.22 -17392632.10 0.2667 0.0224

Moon -52332-07-27 07:11 J -17392632.31 -17392632.20 -17392632.08 0.2673 0.0221 *

Pluto -52332-10-22 01:11 J -17392545.59 -17392545.45 -17392545.30 0.0081 0.0014

Pluto -52331-01-18 02:37 J -17392457.52 -17392457.39 -17392457.24 0.0081 0.0023

Pluto -52331-04-16 04:18 J -17392369.46 -17392369.32 -17392369.19 0.0080 0.0031

Venus -52331-04-23 04:33 J -17392362.37 -17392362.31 -17392362.24 0.3767 0.2814

Pluto -52331-07-13 05:30 J -17392281.39 -17392281.27 -17392281.13 0.0080 0.0040

Pluto -52331-10-09 06:57 J -17392193.32 -17392193.21 -17392193.08 0.0080 0.0048

Pluto -52330-01-05 08:37 J -17392105.24 -17392105.14 -17392105.04 0.0080 0.0055

Pluto -52330-04-03 09:35 J -17392017.17 -17392017.10 -17392016.99 0.0080 0.0064

Pluto -52330-06-30 11:01 J -17391929.08 -17391929.04 -17391928.96 0.0080 0.0072

Saturn -52330-09-26 13:54 J -17391840.99 -17391840.92 -17391840.84 0.0280 0.0236

Pluto -52330-09-26 12:42 J -17391840.97 -17391840.97 -17391840.95 0.0080 0.0079 *

Saturn -52330-12-24 02:37 J -17391752.51 -17391752.39 -17391752.26 0.0280 0.0134

Saturn -52329-03-21 15:21 J -17391664.00 -17391663.86 -17391663.72 0.0281 0.0033

Saturn -52329-06-18 03:49 J -17391575.48 -17391575.34 -17391575.21 0.0282 0.0068

Saturn -52329-09-14 16:04 J -17391486.94 -17391486.83 -17391486.72 0.0283 0.0168

Saturn -52329-12-12 04:18 J -17391398.36 -17391398.32 -17391398.28 0.0284 0.0268

Jupiter -52326-03-19 14:52 J -17390571.06 -17390570.88 -17390570.71 0.0489 0.0065

Mars -52324-01-12 23:30 J -17389905.64 -17389905.52 -17389905.40 0.1711 0.0360

Mars -52324-11-06 23:45 J -17389607.65 -17389607.51 -17389607.38 0.1830 0.0843

Moon -52322-01-21 04:04 J -17389167.46 -17389167.33 -17389167.20 0.2667 0.1161

Earth -52322-01-21 05:30 J -17389167.41 -17389167.27 -17389167.14 0.2666 0.0950 *

Uranus -52322-01-25 03:35 J -17389163.38 -17389163.35 -17389163.31 0.0147 0.0143

Uranus -52322-04-23 11:30 J -17389075.14 -17389075.02 -17389074.90 0.0147 0.0111

Uranus -52322-07-20 19:11 J -17388986.84 -17388986.70 -17388986.53 0.0147 0.0079

Uranus -52322-10-17 03:21 J -17388898.53 -17388898.36 -17388898.18 0.0147 0.0046

Uranus -52321-01-13 11:16 J -17388810.21 -17388810.03 -17388809.84 0.0147 0.0013

Uranus -52321-04-10 19:11 J -17388721.88 -17388721.70 -17388721.51 0.0147 0.0021

Uranus -52321-07-08 03:06 J -17388633.53 -17388633.37 -17388633.19 0.0147 0.0054

Uranus -52321-10-04 11:16 J -17388545.17 -17388545.03 -17388544.87 0.0147 0.0087

Uranus -52321-12-31 19:25 J -17388456.78 -17388456.69 -17388456.58 0.0147 0.0121

Jupiter -52320-02-18 21:35 J -17388407.73 -17388407.60 -17388407.47 0.0538 0.0093

Jupiter -52320-05-19 06:57 J -17388318.23 -17388318.21 -17388318.19 0.0537 0.0527

Earth -52319-07-30 01:54 J -17387881.54 -17387881.42 -17387881.31 0.2669 0.0706

Moon -52319-07-30 02:37 J -17387881.50 -17387881.39 -17387881.28 0.2672 0.0755 *

Saturn -52316-07-23 14:37 J -17386792.00 -17386791.89 -17386791.78 0.0280 0.0218

Saturn -52316-10-20 10:18 J -17386703.23 -17386703.07 -17386702.90 0.0280 0.0093

Saturn -52315-01-17 06:28 J -17386614.40 -17386614.23 -17386614.05 0.0279 0.0034

Saturn -52315-04-16 02:52 J -17386525.52 -17386525.38 -17386525.23 0.0278 0.0160

Mars -52315-06-05 08:37 J -17386475.24 -17386475.14 -17386475.04 0.1704 0.1031

Jupiter -52314-01-05 14:09 J -17386261.06 -17386260.91 -17386260.75 0.0489 0.0220

Jupiter -52314-04-05 16:18 J -17386170.91 -17386170.82 -17386170.74 0.0489 0.0426

Moon -52312-07-22 20:37 J -17385331.72 -17385331.64 -17385331.56 0.2669 0.1929

Earth -52312-07-22 21:06 J -17385331.70 -17385331.62 -17385331.54 0.2664 0.1941 *

Moon -52309-01-24 07:25 J -17384416.33 -17384416.19 -17384416.05 0.2669 0.0508

Earth -52309-01-24 08:23 J -17384416.29 -17384416.15 -17384416.01 0.2664 0.0511 *

Jupiter -52309-12-07 23:45 J -17384097.62 -17384097.51 -17384097.39 0.0537 0.0265

Jupiter -52308-03-07 09:35 J -17384008.20 -17384008.10 -17384008.01 0.0537 0.0361

Earth -52306-08-01 20:52 J -17383130.73 -17383130.63 -17383130.54 0.2671 0.1607

Moon -52306-08-01 21:21 J -17383130.69 -17383130.61 -17383130.52 0.2667 0.1697 *

Mars -52304-10-01 05:30 J -17382339.36 -17382339.27 -17382339.17 0.1726 0.1094

Mars -52303-07-26 23:16 J -17382040.59 -17382040.53 -17382040.47 0.1813 0.1658

Jupiter -52303-10-24 13:40 J -17381951.04 -17381950.93 -17381950.82 0.0490 0.0375

Jupiter -52302-01-22 15:06 J -17381861.02 -17381860.87 -17381860.72 0.0489 0.0263

Saturn -52300-02-12 17:16 J -17381108.83 -17381108.78 -17381108.72 0.0280 0.0255

Saturn -52300-05-12 05:59 J -17381020.36 -17381020.25 -17381020.13 0.0280 0.0154

Saturn -52300-08-08 18:42 J -17380931.86 -17380931.72 -17380931.59 0.0281 0.0052

Saturn -52300-11-05 07:11 J -17380843.34 -17380843.20 -17380843.07 0.0282 0.0049

Saturn -52299-02-01 19:25 J -17380754.80 -17380754.69 -17380754.57 0.0283 0.0150

Saturn -52299-05-01 07:40 J -17380666.24 -17380666.18 -17380666.11 0.0284 0.0250

Moon -52299-07-25 16:18 J -17380580.92 -17380580.82 -17380580.71 0.2672 0.1065

Earth -52299-07-25 16:33 J -17380580.92 -17380580.81 -17380580.70 0.2666 0.0985 *

Neptune -52299-11-24 14:52 J -17380458.88 -17380458.88 -17380458.83 0.0089 0.0088

Neptune -52298-02-20 17:59 J -17380370.81 -17380370.75 -17380370.67 0.0089 0.0080

Neptune -52298-05-19 20:37 J -17380282.72 -17380282.64 -17380282.52 0.0089 0.0073

Neptune -52298-08-15 23:45 J -17380194.62 -17380194.51 -17380194.39 0.0089 0.0065

Neptune -52298-11-12 02:23 J -17380106.52 -17380106.40 -17380106.26 0.0089 0.0058

Neptune -52297-02-08 05:30 J -17380018.41 -17380018.27 -17380018.12 0.0089 0.0050

Neptune -52297-05-06 08:09 J -17379930.30 -17379930.16 -17379930.00 0.0089 0.0043

Neptune -52297-08-02 11:01 J -17379842.19 -17379842.04 -17379841.87 0.0089 0.0035

Jupiter -52297-09-26 02:37 J -17379787.47 -17379787.39 -17379787.31 0.0537 0.0427

Neptune -52297-10-29 14:09 J -17379754.08 -17379753.91 -17379753.74 0.0089 0.0027

Jupiter -52297-12-24 12:42 J -17379698.09 -17379697.97 -17379697.85 0.0538 0.0206

Neptune -52296-01-25 16:47 J -17379665.96 -17379665.80 -17379665.62 0.0089 0.0020

Moon -52296-01-26 11:30 J -17379665.12 -17379665.02 -17379664.93 0.2669 0.1979

Earth -52296-01-26 11:45 J -17379665.11 -17379665.01 -17379664.92 0.2662 0.2014 *

Neptune -52296-04-23 19:54 J -17379577.84 -17379577.67 -17379577.49 0.0089 0.0012

Neptune -52296-07-20 22:47 J -17379489.72 -17379489.55 -17379489.37 0.0089 0.0004

Neptune -52296-10-17 01:54 J -17379401.60 -17379401.42 -17379401.25 0.0089 0.0004

Neptune -52295-01-13 04:33 J -17379313.48 -17379313.31 -17379313.12 0.0089 0.0012

Neptune -52295-04-11 07:40 J -17379225.35 -17379225.18 -17379225.00 0.0089 0.0019

Neptune -52295-07-08 10:33 J -17379137.23 -17379137.06 -17379136.88 0.0089 0.0027

Neptune -52295-10-04 13:25 J -17379049.10 -17379048.94 -17379048.77 0.0089 0.0035

Neptune -52295-12-31 16:18 J -17378960.96 -17378960.82 -17378960.65 0.0089 0.0043

Mars -52294-02-21 14:37 J -17378909.01 -17378908.89 -17378908.77 0.1718 0.0413

Neptune -52294-03-29 19:25 J -17378872.83 -17378872.69 -17378872.53 0.0089 0.0051

Neptune -52294-06-25 22:18 J -17378784.69 -17378784.57 -17378784.42 0.0089 0.0059

Neptune -52294-09-22 01:11 J -17378696.55 -17378696.45 -17378696.31 0.0089 0.0067

Mars -52294-12-16 23:30 J -17378610.66 -17378610.52 -17378610.37 0.1822 0.0468

Neptune -52294-12-19 04:47 J -17378608.40 -17378608.30 -17378608.20 0.0089 0.0074

Neptune -52293-03-16 07:40 J -17378520.24 -17378520.18 -17378520.11 0.0089 0.0082

Earth -52293-08-03 15:35 J -17378379.89 -17378379.85 -17378379.81 0.2673 0.2493

Moon -52293-08-03 15:49 J -17378379.88 -17378379.84 -17378379.80 0.2667 0.2450 *

Venus -52291-04-15 02:09 J -17377760.48 -17377760.41 -17377760.34 0.3755 0.2775

Jupiter -52291-11-10 13:25 J -17377551.12 -17377550.94 -17377550.77 0.0489 0.0092

Moon -52289-01-19 07:40 J -17377116.26 -17377116.18 -17377116.11 0.2666 0.2251

Earth -52289-01-19 08:52 J -17377116.22 -17377116.13 -17377116.04 0.2668 0.2112 *

Saturn -52287-12-10 16:18 J -17376059.90 -17376059.82 -17376059.73 0.0281 0.0241

Saturn -52286-03-09 11:59 J -17375971.15 -17375971.00 -17375970.84 0.0280 0.0117

Saturn -52286-06-06 08:09 J -17375882.34 -17375882.16 -17375881.98 0.0279 0.0009

Earth -52286-07-28 11:45 J -17375830.13 -17375830.01 -17375829.89 0.2668 0.0052

Moon -52286-07-28 12:13 J -17375830.10 -17375829.99 -17375829.87 0.2673 0.0068 *

Saturn -52286-09-03 04:18 J -17375793.47 -17375793.32 -17375793.16 0.0278 0.0136

Venus -52286-10-29 18:13 J -17375736.84 -17375736.74 -17375736.64 0.3759 0.0641

Saturn -52286-12-01 00:57 J -17375704.51 -17375704.46 -17375704.40 0.0278 0.0263

Mars -52285-07-13 23:45 J -17375478.64 -17375478.51 -17375478.39 0.1711 0.0266

Jupiter -52285-10-12 16:18 J -17375387.95 -17375387.82 -17375387.69 0.0538 0.0056

Mars -52284-05-07 23:59 J -17375180.64 -17375180.50 -17375180.37 0.1830 0.0730

Uranus -52280-02-11 14:09 J -17373804.92 -17373804.91 -17373804.87 0.0132 0.0129

Uranus -52280-05-10 17:30 J -17373716.83 -17373716.77 -17373716.69 0.0132 0.0111

Venus -52280-05-14 10:04 J -17373713.17 -17373713.08 -17373712.98 0.3764 0.1481

Uranus -52280-08-06 20:52 J -17373628.72 -17373628.63 -17373628.53 0.0132 0.0093

Uranus -52280-11-02 23:59 J -17373540.61 -17373540.50 -17373540.38 0.0132 0.0075

Uranus -52279-01-30 03:21 J -17373452.49 -17373452.36 -17373452.24 0.0132 0.0057

Uranus -52279-04-28 06:13 J -17373364.36 -17373364.24 -17373364.10 0.0132 0.0040

Uranus -52279-07-25 09:35 J -17373276.24 -17373276.10 -17373275.97 0.0132 0.0022

Jupiter -52279-08-29 12:28 J -17373241.15 -17373240.98 -17373240.80 0.0489 0.0067

Uranus -52279-10-21 12:42 J -17373188.11 -17373187.97 -17373187.83 0.0132 0.0004

Uranus -52278-01-17 15:49 J -17373099.97 -17373099.84 -17373099.70 0.0132 0.0013

Uranus -52278-04-15 18:57 J -17373011.84 -17373011.71 -17373011.58 0.0132 0.0031

Uranus -52278-07-12 22:04 J -17372923.71 -17372923.58 -17372923.46 0.0132 0.0048

Uranus -52278-10-09 00:57 J -17372835.57 -17372835.46 -17372835.34 0.0132 0.0066

Uranus -52277-01-05 04:04 J -17372747.43 -17372747.33 -17372747.22 0.0132 0.0083

Venus -52277-02-14 16:04 J -17372706.98 -17372706.83 -17372706.67 0.3618 0.0273

Uranus -52277-04-02 07:11 J -17372659.28 -17372659.20 -17372659.11 0.0132 0.0100

Uranus -52277-06-29 10:18 J -17372571.13 -17372571.07 -17372571.01 0.0132 0.0118

Moon -52276-01-21 10:04 J -17372365.22 -17372365.08 -17372364.94 0.2667 0.0707

Earth -52276-01-21 11:30 J -17372365.16 -17372365.02 -17372364.88 0.2666 0.0695 *

Mars -52276-12-04 08:37 J -17372048.25 -17372048.14 -17372048.04 0.1704 0.0946

Venus -52275-11-28 02:09 J -17371689.44 -17371689.41 -17371689.39 0.3768 0.3595

Earth -52273-07-30 06:42 J -17371079.33 -17371079.22 -17371079.11 0.2669 0.0873

Moon -52273-07-30 07:40 J -17371079.29 -17371079.18 -17371079.08 0.2670 0.0920 *

Jupiter -52273-07-31 19:40 J -17371077.81 -17371077.68 -17371077.55 0.0538 0.0096

Jupiter -52273-10-29 05:16 J -17370988.31 -17370988.28 -17370988.26 0.0538 0.0525

Saturn -52271-09-29 07:25 J -17370288.29 -17370288.19 -17370288.08 0.0280 0.0187

Saturn -52271-12-26 20:09 J -17370199.79 -17370199.66 -17370199.53 0.0281 0.0086

Saturn -52270-03-25 08:37 J -17370111.28 -17370111.14 -17370111.00 0.0281 0.0016

Saturn -52270-06-21 21:06 J -17370022.75 -17370022.62 -17370022.50 0.0282 0.0116

Saturn -52270-09-18 09:21 J -17369934.20 -17369934.11 -17369934.02 0.0283 0.0216

Jupiter -52267-06-17 11:45 J -17368931.17 -17368931.01 -17368930.86 0.0489 0.0226

Jupiter -52267-09-15 13:25 J -17368841.02 -17368840.94 -17368840.85 0.0489 0.0418

Mars -52266-04-26 17:30 J -17368617.80 -17368617.77 -17368617.73 0.1697 0.1617

Moon -52266-07-24 01:40 J -17368529.51 -17368529.43 -17368529.35 0.2670 0.1875

Earth -52266-07-24 02:23 J -17368529.49 -17368529.40 -17368529.32 0.2664 0.1761 *

Mars -52264-04-01 05:30 J -17367912.36 -17367912.27 -17367912.18 0.1726 0.1175

Moon -52263-01-24 13:40 J -17367614.07 -17367613.93 -17367613.79 0.2670 0.0626

Earth -52263-01-24 14:23 J -17367614.04 -17367613.90 -17367613.76 0.2664 0.0777 *

Mars -52263-01-24 23:59 J -17367613.51 -17367613.50 -17367613.49 0.1813 0.1800

Jupiter -52261-05-19 22:47 J -17366767.67 -17366767.55 -17366767.43 0.0538 0.0255

Jupiter -52261-08-17 08:23 J -17366678.24 -17366678.15 -17366678.05 0.0538 0.0372

Earth -52260-08-02 01:40 J -17366328.51 -17366328.43 -17366328.34 0.2671 0.1770

Moon -52260-08-02 02:23 J -17366328.48 -17366328.40 -17366328.31 0.2667 0.1797 *

Saturn -52257-04-28 15:35 J -17365327.85 -17365327.85 -17365327.83 0.0281 0.0280

Saturn -52257-07-26 11:16 J -17365239.16 -17365239.03 -17365238.88 0.0280 0.0156

Saturn -52257-10-23 07:25 J -17365150.36 -17365150.19 -17365150.02 0.0279 0.0030

Saturn -52256-01-20 03:35 J -17365061.51 -17365061.35 -17365061.18 0.0278 0.0097

Saturn -52256-04-18 23:59 J -17364972.59 -17364972.50 -17364972.39 0.0278 0.0224

Jupiter -52255-04-05 11:16 J -17364621.14 -17364621.03 -17364620.92 0.0490 0.0378

Jupiter -52255-07-04 12:42 J -17364531.12 -17364530.97 -17364530.82 0.0489 0.0259

Mars -52255-08-22 14:37 J -17364482.01 -17364481.89 -17364481.77 0.1719 0.0506

Mars -52254-06-16 23:59 J -17364183.64 -17364183.50 -17364183.35 0.1821 0.0600

Moon -52253-07-25 21:35 J -17363778.71 -17363778.60 -17363778.49 0.2672 0.0751

Earth -52253-07-25 21:35 J -17363778.71 -17363778.60 -17363778.49 0.2666 0.0811 *

Earth -52250-01-27 17:59 J -17362862.83 -17362862.75 -17362862.68 0.2662 0.2288

Moon -52250-01-27 17:45 J -17362862.82 -17362862.76 -17362862.69 0.2668 0.2338 *

Jupiter -52249-03-08 01:11 J -17362457.53 -17362457.45 -17362457.37 0.0537 0.0427

Jupiter -52249-06-05 11:01 J -17362368.16 -17362368.04 -17362367.91 0.0537 0.0207

Earth -52247-08-04 20:37 J -17361577.65 -17361577.64 -17361577.63 0.2673 0.2653

Mars -52245-01-12 23:45 J -17361051.64 -17361051.51 -17361051.39 0.1711 0.0175

Mars -52245-11-06 00:28 J -17360753.63 -17360753.48 -17360753.34 0.1830 0.0597

Moon -52243-01-19 13:25 J -17360314.03 -17360313.94 -17360313.84 0.2666 0.1934

Earth -52243-01-19 14:52 J -17360313.98 -17360313.88 -17360313.78 0.2668 0.1862 *

Jupiter -52243-04-22 11:45 J -17360221.18 -17360221.01 -17360220.84 0.0489 0.0099

Saturn -52241-02-16 10:33 J -17359556.15 -17359556.06 -17359555.97 0.0280 0.0208

Saturn -52241-05-14 23:16 J -17359467.66 -17359467.53 -17359467.40 0.0281 0.0107

Saturn -52241-08-11 11:45 J -17359379.15 -17359379.01 -17359378.87 0.0282 0.0007

Saturn -52241-11-08 00:13 J -17359290.62 -17359290.49 -17359290.36 0.0282 0.0095

Saturn -52240-02-04 12:28 J -17359202.07 -17359201.98 -17359201.88 0.0283 0.0196

Earth -52240-07-28 16:47 J -17359027.92 -17359027.80 -17359027.68 0.2668 0.0124

Moon -52240-07-28 17:16 J -17359027.89 -17359027.78 -17359027.66 0.2673 0.0120 *

Uranus -52238-02-14 11:01 J -17358462.10 -17358462.04 -17358461.96 0.0147 0.0135

Uranus -52238-05-13 18:42 J -17358373.83 -17358373.72 -17358373.57 0.0147 0.0103

Uranus -52238-08-10 02:52 J -17358285.54 -17358285.38 -17358285.21 0.0147 0.0070

Uranus -52238-11-06 10:47 J -17358197.22 -17358197.05 -17358196.87 0.0147 0.0037

Uranus -52237-02-02 18:42 J -17358108.90 -17358108.72 -17358108.53 0.0147 0.0006

Jupiter -52237-03-24 14:23 J -17358058.04 -17358057.90 -17358057.77 0.0538 0.0052

Uranus -52237-05-01 02:52 J -17358020.56 -17358020.38 -17358020.20 0.0147 0.0029

Uranus -52237-07-28 10:47 J -17357932.21 -17357932.05 -17357931.88 0.0147 0.0062

Uranus -52237-10-24 18:42 J -17357843.85 -17357843.72 -17357843.57 0.0147 0.0096

Uranus -52236-01-21 02:52 J -17357755.46 -17357755.38 -17357755.28 0.0147 0.0129

Mars -52236-06-04 08:37 J -17357621.24 -17357621.14 -17357621.03 0.1704 0.0853

Mars -52235-03-29 00:57 J -17357323.49 -17357323.46 -17357323.42 0.1839 0.1776

Venus -52235-11-19 23:45 J -17357087.60 -17357087.51 -17357087.42 0.3756 0.1986

Moon -52233-07-21 11:01 J -17356478.06 -17356478.04 -17356478.02 0.2665 0.2623

Earth -52233-07-21 11:45 J -17356478.04 -17356478.01 -17356477.97 0.2663 0.2545 *

Jupiter -52231-02-08 10:04 J -17355911.25 -17355911.08 -17355910.90 0.0489 0.0070

Moon -52230-01-22 16:18 J -17355562.96 -17355562.82 -17355562.68 0.2667 0.0619

Earth -52230-01-22 17:30 J -17355562.91 -17355562.77 -17355562.63 0.2666 0.0434 *

Venus -52229-06-04 15:35 J -17355063.95 -17355063.85 -17355063.74 0.3761 0.0174

Saturn -52228-12-13 13:11 J -17354507.08 -17354506.95 -17354506.82 0.0280 0.0180

Saturn -52227-03-12 09:06 J -17354418.29 -17354418.12 -17354417.95 0.0280 0.0055

Saturn -52227-06-09 05:16 J -17354329.45 -17354329.28 -17354329.11 0.0279 0.0072

Earth -52227-07-31 11:45 J -17354277.11 -17354277.01 -17354276.90 0.2670 0.1035

Moon -52227-07-31 12:28 J -17354277.08 -17354276.98 -17354276.87 0.2669 0.1148 *

Saturn -52227-09-06 01:25 J -17354240.56 -17354240.44 -17354240.31 0.0278 0.0199

Mars -52227-10-25 17:45 J -17354190.81 -17354190.76 -17354190.71 0.1697 0.1522

Venus -52226-03-07 10:04 J -17354058.11 -17354058.08 -17354058.04 0.3622 0.3519

Jupiter -52225-01-11 17:45 J -17353747.89 -17353747.76 -17353747.63 0.0538 0.0105

Jupiter -52225-04-10 03:06 J -17353658.40 -17353658.37 -17353658.33 0.0538 0.0519

Mars -52225-09-30 05:45 J -17353485.35 -17353485.26 -17353485.18 0.1726 0.1271

Venus -52224-12-19 07:40 J -17353040.26 -17353040.18 -17353040.10 0.3765 0.2262

Venus -52221-09-20 17:59 J -17352033.87 -17352033.75 -17352033.63 0.3617 0.2271

Moon -52220-07-24 06:42 J -17351727.31 -17351727.22 -17351727.12 0.2670 0.1583

Earth -52220-07-24 07:25 J -17351727.29 -17351727.19 -17351727.10 0.2665 0.1585 *

Jupiter -52220-11-27 09:35 J -17351601.25 -17351601.10 -17351600.94 0.0489 0.0224

Jupiter -52219-02-25 11:30 J -17351511.11 -17351511.02 -17351510.93 0.0489 0.0418

Moon -52217-01-25 19:54 J -17350811.81 -17350811.67 -17350811.54 0.2670 0.1084

Earth -52217-01-25 20:37 J -17350811.78 -17350811.64 -17350811.51 0.2663 0.1039 *

Neptune -52216-05-31 15:49 J -17350319.86 -17350319.84 -17350319.79 0.0088 0.0085

Neptune -52216-08-27 17:45 J -17350231.82 -17350231.76 -17350231.69 0.0088 0.0079

Neptune -52216-11-23 19:11 J -17350143.77 -17350143.70 -17350143.61 0.0088 0.0073

Neptune -52215-02-19 20:52 J -17350055.71 -17350055.63 -17350055.52 0.0088 0.0067

Mars -52215-02-20 14:37 J -17350055.00 -17350054.89 -17350054.77 0.1718 0.0591

Neptune -52215-05-18 22:47 J -17349967.65 -17349967.55 -17349967.44 0.0088 0.0060

Neptune -52215-08-15 00:13 J -17349879.59 -17349879.49 -17349879.36 0.0089 0.0054

Neptune -52215-11-11 01:54 J -17349791.53 -17349791.42 -17349791.29 0.0089 0.0048

Mars -52215-12-16 00:28 J -17349756.62 -17349756.48 -17349756.34 0.1822 0.0724

Neptune -52214-02-07 03:49 J -17349703.47 -17349703.34 -17349703.21 0.0089 0.0041

Neptune -52214-05-06 05:30 J -17349615.40 -17349615.27 -17349615.14 0.0089 0.0035

Neptune -52214-08-02 06:57 J -17349527.34 -17349527.21 -17349527.07 0.0089 0.0029

Earth -52214-08-03 06:42 J -17349526.30 -17349526.22 -17349526.14 0.2672 0.1932

Moon -52214-08-03 07:25 J -17349526.27 -17349526.19 -17349526.12 0.2668 0.1990 *

Neptune -52214-10-29 08:37 J -17349439.27 -17349439.14 -17349439.00 0.0089 0.0022

Jupiter -52214-10-30 21:06 J -17349437.74 -17349437.62 -17349437.50 0.0538 0.0256

Neptune -52213-01-25 10:18 J -17349351.21 -17349351.07 -17349350.93 0.0089 0.0016

Jupiter -52213-01-28 06:57 J -17349348.31 -17349348.21 -17349348.12 0.0538 0.0373

Neptune -52213-04-22 11:59 J -17349263.14 -17349263.00 -17349262.86 0.0089 0.0010

Neptune -52213-07-19 13:40 J -17349175.08 -17349174.93 -17349174.79 0.0089 0.0004

Neptune -52213-10-15 15:06 J -17349087.01 -17349086.87 -17349086.72 0.0089 0.0003

Neptune -52212-01-11 16:47 J -17348998.94 -17348998.80 -17348998.66 0.0089 0.0008

Neptune -52212-04-09 18:13 J -17348910.87 -17348910.74 -17348910.59 0.0089 0.0015

Saturn -52212-07-05 11:45 J -17348824.07 -17348824.01 -17348823.94 0.0279 0.0243

Neptune -52212-07-06 19:54 J -17348822.81 -17348822.67 -17348822.53 0.0089 0.0021

Saturn -52212-10-02 00:28 J -17348735.59 -17348735.48 -17348735.35 0.0280 0.0142

Neptune -52212-10-02 21:35 J -17348734.74 -17348734.60 -17348734.47 0.0089 0.0027

Saturn -52212-12-29 13:11 J -17348647.09 -17348646.95 -17348646.81 0.0281 0.0041

Neptune -52212-12-29 23:01 J -17348646.67 -17348646.54 -17348646.41 0.0089 0.0033

Neptune -52211-03-28 00:42 J -17348558.60 -17348558.47 -17348558.35 0.0089 0.0039

Saturn -52211-03-28 01:40 J -17348558.57 -17348558.43 -17348558.30 0.0282 0.0060 *

Neptune -52211-06-24 02:09 J -17348470.53 -17348470.41 -17348470.29 0.0089 0.0045

Saturn -52211-06-24 13:54 J -17348470.03 -17348469.92 -17348469.81 0.0282 0.0160

Neptune -52211-09-20 03:49 J -17348382.46 -17348382.34 -17348382.23 0.0089 0.0051

Saturn -52211-09-21 02:09 J -17348381.46 -17348381.41 -17348381.36 0.0283 0.0260

Neptune -52211-12-17 05:16 J -17348294.38 -17348294.28 -17348294.17 0.0089 0.0057

Neptune -52210-03-15 06:42 J -17348206.31 -17348206.22 -17348206.12 0.0089 0.0063

Neptune -52210-06-11 08:23 J -17348118.24 -17348118.15 -17348118.06 0.0089 0.0069

Neptune -52210-09-07 09:49 J -17348030.16 -17348030.09 -17348030.01 0.0089 0.0075

Neptune -52210-12-04 11:16 J -17347942.08 -17347942.03 -17347941.97 0.0089 0.0081

Neptune -52209-03-01 12:42 J -17347853.98 -17347853.97 -17347853.93 0.0089 0.0087

Jupiter -52208-09-15 08:52 J -17347291.23 -17347291.13 -17347291.02 0.0489 0.0380

Jupiter -52208-12-14 10:18 J -17347201.22 -17347201.07 -17347200.92 0.0489 0.0256

Earth -52207-07-27 02:37 J -17346976.50 -17346976.39 -17346976.28 0.2666 0.0637

Moon -52207-07-27 02:52 J -17346976.49 -17346976.38 -17346976.27 0.2673 0.0683 *

Mars -52206-07-13 23:45 J -17346624.63 -17346624.51 -17346624.38 0.1711 0.0089

Mars -52205-05-07 00:57 J -17346326.60 -17346326.46 -17346326.31 0.1830 0.0456

Earth -52204-01-27 23:59 J -17346060.53 -17346060.50 -17346060.46 0.2661 0.2558

Moon -52204-01-28 00:13 J -17346060.53 -17346060.49 -17346060.44 0.2668 0.2518 *

Jupiter -52202-08-18 23:59 J -17345127.58 -17345127.50 -17345127.41 0.0538 0.0415

Jupiter -52202-11-16 10:04 J -17345038.19 -17345038.08 -17345037.95 0.0538 0.0220

Saturn -52198-05-02 11:30 J -17343775.11 -17343775.02 -17343774.91 0.0281 0.0224

Saturn -52198-07-30 07:25 J -17343686.35 -17343686.19 -17343686.02 0.0280 0.0099

Saturn -52198-10-27 03:35 J -17343597.52 -17343597.35 -17343597.17 0.0279 0.0029

Moon -52197-01-20 19:25 J -17343511.80 -17343511.69 -17343511.58 0.2665 0.1729

Earth -52197-01-20 20:52 J -17343511.74 -17343511.63 -17343511.52 0.2667 0.1609 *

Saturn -52197-01-23 23:59 J -17343508.64 -17343508.50 -17343508.35 0.0278 0.0155

Mars -52197-12-03 08:52 J -17343194.24 -17343194.13 -17343194.02 0.1704 0.0758

Uranus -52196-03-03 21:49 J -17343103.63 -17343103.59 -17343103.53 0.0132 0.0122

Uranus -52196-05-31 01:11 J -17343015.53 -17343015.45 -17343015.36 0.0132 0.0104

Uranus -52196-08-27 04:33 J -17342927.42 -17342927.31 -17342927.21 0.0132 0.0086

Mars -52196-09-27 01:25 J -17342896.51 -17342896.44 -17342896.38 0.1839 0.1656

Jupiter -52196-10-02 09:35 J -17342891.27 -17342891.10 -17342890.93 0.0489 0.0099

Uranus -52196-11-23 07:25 J -17342839.30 -17342839.19 -17342839.06 0.0132 0.0069

Uranus -52195-02-19 10:47 J -17342751.18 -17342751.05 -17342750.92 0.0132 0.0051

Uranus -52195-05-18 13:54 J -17342663.05 -17342662.92 -17342662.78 0.0132 0.0033

Uranus -52195-08-14 17:01 J -17342574.92 -17342574.79 -17342574.65 0.0132 0.0016

Uranus -52195-11-10 20:09 J -17342486.79 -17342486.66 -17342486.52 0.0132 0.0005

Uranus -52194-02-06 23:16 J -17342398.66 -17342398.53 -17342398.39 0.0132 0.0020

Uranus -52194-05-06 02:23 J -17342310.53 -17342310.40 -17342310.27 0.0132 0.0038

Earth -52194-07-29 21:49 J -17342225.71 -17342225.59 -17342225.48 0.2668 0.0294

Moon -52194-07-29 22:18 J -17342225.68 -17342225.57 -17342225.45 0.2672 0.0414 *

Uranus -52194-08-02 05:30 J -17342222.39 -17342222.27 -17342222.14 0.0132 0.0055

Uranus -52194-10-29 08:37 J -17342134.25 -17342134.14 -17342134.03 0.0132 0.0072

Uranus -52193-01-25 11:45 J -17342046.11 -17342046.01 -17342045.91 0.0132 0.0090

Uranus -52193-04-22 14:37 J -17341957.96 -17341957.89 -17341957.80 0.0132 0.0107

Uranus -52193-07-19 17:45 J -17341869.80 -17341869.76 -17341869.71 0.0132 0.0124

Jupiter -52190-09-04 12:57 J -17340728.10 -17340727.96 -17340727.83 0.0537 0.0055

Mars -52187-04-25 17:45 J -17339763.82 -17339763.76 -17339763.69 0.1697 0.1432

Moon -52187-07-22 16:04 J -17339675.87 -17339675.83 -17339675.78 0.2666 0.2449

Earth -52187-07-22 17:01 J -17339675.85 -17339675.79 -17339675.74 0.2663 0.2365 *

Mars -52185-03-31 05:45 J -17339058.34 -17339058.26 -17339058.19 0.1726 0.1359

Moon -52184-01-22 22:18 J -17338760.71 -17338760.57 -17338760.42 0.2669 0.0216

Earth -52184-01-22 23:30 J -17338760.66 -17338760.52 -17338760.37 0.2665 0.0182 *

Jupiter -52184-07-21 08:52 J -17338581.31 -17338581.13 -17338580.96 0.0489 0.0060

Venus -52184-12-11 05:16 J -17338438.33 -17338438.28 -17338438.24 0.3753 0.3344

Saturn -52183-11-22 14:23 J -17338091.94 -17338091.90 -17338091.86 0.0279 0.0268

Saturn -52182-02-19 03:06 J -17338003.48 -17338003.37 -17338003.25 0.0280 0.0166

Saturn -52182-05-18 15:49 J -17337914.98 -17337914.84 -17337914.70 0.0281 0.0065

Saturn -52182-08-15 04:18 J -17337826.46 -17337826.32 -17337826.18 0.0282 0.0036

Saturn -52182-11-11 16:47 J -17337737.92 -17337737.80 -17337737.68 0.0283 0.0136

Saturn -52181-02-08 05:01 J -17337649.36 -17337649.29 -17337649.22 0.0283 0.0236

Earth -52181-07-31 16:47 J -17337474.90 -17337474.80 -17337474.70 0.2670 0.1204

Moon -52181-07-31 17:45 J -17337474.87 -17337474.76 -17337474.66 0.2669 0.1223 *

Jupiter -52178-06-23 15:49 J -17336417.97 -17336417.84 -17336417.71 0.0538 0.0107

Venus -52178-06-26 21:06 J -17336414.71 -17336414.62 -17336414.52 0.3757 0.1214

Jupiter -52178-09-21 01:25 J -17336328.47 -17336328.44 -17336328.41 0.0538 0.0515

Pluto -52177-12-31 23:59 J -17335860.55 -17335860.50 -17335860.44 0.0062 0.0059

Pluto -52176-03-30 00:42 J -17335772.53 -17335772.47 -17335772.37 0.0062 0.0055

Pluto -52176-06-26 02:09 J -17335684.50 -17335684.41 -17335684.30 0.0062 0.0050

Mars -52176-08-21 14:52 J -17335628.00 -17335627.88 -17335627.77 0.1719 0.0681

Pluto -52176-09-22 03:06 J -17335596.47 -17335596.37 -17335596.24 0.0062 0.0045

Pluto -52176-12-19 04:18 J -17335508.44 -17335508.32 -17335508.18 0.0062 0.0041

Pluto -52175-03-17 05:16 J -17335420.40 -17335420.28 -17335420.13 0.0062 0.0037

Pluto -52175-06-13 06:28 J -17335332.37 -17335332.23 -17335332.07 0.0063 0.0032

Mars -52175-06-16 00:57 J -17335329.59 -17335329.46 -17335329.32 0.1821 0.0859

Pluto -52175-09-09 07:54 J -17335244.33 -17335244.17 -17335244.02 0.0063 0.0027

Pluto -52175-12-06 08:37 J -17335156.29 -17335156.14 -17335155.96 0.0063 0.0023

Pluto -52174-03-04 10:04 J -17335068.24 -17335068.08 -17335067.91 0.0063 0.0018

Pluto -52174-05-31 11:16 J -17334980.20 -17334980.03 -17334979.86 0.0063 0.0013

Moon -52174-07-25 11:59 J -17334925.10 -17334925.00 -17334924.90 0.2670 0.1474

Earth -52174-07-25 12:28 J -17334925.08 -17334924.98 -17334924.88 0.2665 0.1406 *

Pluto -52174-08-27 12:28 J -17334892.15 -17334891.98 -17334891.81 0.0063 0.0008

Pluto -52174-11-23 13:40 J -17334804.10 -17334803.93 -17334803.76 0.0063 0.0004

Pluto -52173-02-19 14:52 J -17334716.06 -17334715.88 -17334715.71 0.0063 0.0002

Pluto -52173-05-17 15:49 J -17334628.01 -17334627.84 -17334627.66 0.0063 0.0007

Pluto -52173-08-13 17:01 J -17334539.95 -17334539.79 -17334539.61 0.0063 0.0011

Pluto -52173-11-09 18:28 J -17334451.90 -17334451.73 -17334451.56 0.0063 0.0016

Venus -52172-01-09 13:11 J -17334391.05 -17334390.95 -17334390.85 0.3762 0.0926

Pluto -52172-02-05 19:25 J -17334363.85 -17334363.69 -17334363.52 0.0063 0.0021

Pluto -52172-05-04 20:37 J -17334275.79 -17334275.64 -17334275.47 0.0064 0.0026

Jupiter -52172-05-09 07:25 J -17334271.34 -17334271.19 -17334271.03 0.0489 0.0223

Pluto -52172-07-31 21:49 J -17334187.73 -17334187.59 -17334187.43 0.0064 0.0031

Jupiter -52172-08-07 09:21 J -17334181.20 -17334181.11 -17334181.02 0.0489 0.0420

Pluto -52172-10-27 23:01 J -17334099.67 -17334099.54 -17334099.38 0.0064 0.0036

Pluto -52171-01-24 00:13 J -17334011.61 -17334011.49 -17334011.34 0.0064 0.0041

Moon -52171-01-26 01:54 J -17334009.54 -17334009.42 -17334009.29 0.2669 0.1164

Earth -52171-01-26 02:37 J -17334009.51 -17334009.39 -17334009.26 0.2663 0.1306 *

Pluto -52171-04-22 01:25 J -17333923.54 -17333923.44 -17333923.30 0.0064 0.0046

Pluto -52171-07-19 02:37 J -17333835.47 -17333835.39 -17333835.27 0.0064 0.0051

Pluto -52171-10-15 04:04 J -17333747.40 -17333747.33 -17333747.24 0.0064 0.0056

Pluto -52170-01-11 05:16 J -17333659.31 -17333659.28 -17333659.22 0.0064 0.0062

Venus -52170-10-12 11:59 J -17333385.14 -17333385.00 -17333384.86 0.3621 0.1549

Saturn -52169-09-18 13:11 J -17333043.02 -17333042.95 -17333042.87 0.0281 0.0249

Saturn -52169-12-16 09:06 J -17332954.28 -17332954.12 -17332953.97 0.0280 0.0125

Saturn -52168-03-15 05:01 J -17332865.46 -17332865.29 -17332865.11 0.0279 0.0002

Saturn -52168-06-12 01:11 J -17332776.60 -17332776.45 -17332776.29 0.0279 0.0128

Earth -52168-08-03 11:45 J -17332724.08 -17332724.01 -17332723.94 0.2672 0.2097

Moon -52168-08-03 12:13 J -17332724.06 -17332723.99 -17332723.93 0.2667 0.2147 *

Saturn -52168-09-08 21:35 J -17332687.65 -17332687.60 -17332687.52 0.0278 0.0256

Venus -52167-07-26 05:01 J -17332367.34 -17332367.29 -17332367.23 0.3765 0.3045

Mars -52166-01-11 23:59 J -17332197.63 -17332197.50 -17332197.38 0.1711 0.0052

Jupiter -52166-04-11 19:11 J -17332107.82 -17332107.70 -17332107.59 0.0538 0.0262

Jupiter -52166-07-10 05:01 J -17332018.39 -17332018.29 -17332018.20 0.0538 0.0368

Mars -52166-11-06 01:11 J -17331899.60 -17331899.45 -17331899.30 0.1830 0.0349

Earth -52161-07-27 07:40 J -17330174.30 -17330174.18 -17330174.07 0.2667 0.0463

Moon -52161-07-27 07:54 J -17330174.28 -17330174.17 -17330174.06 0.2674 0.0386 *

Jupiter -52160-02-25 07:11 J -17329961.31 -17329961.20 -17329961.09 0.0489 0.0375

Jupiter -52160-05-26 08:23 J -17329871.30 -17329871.15 -17329871.00 0.0489 0.0260

Mars -52157-06-03 08:52 J -17328767.24 -17328767.13 -17328767.02 0.1704 0.0672

Mars -52156-03-28 01:54 J -17328469.50 -17328469.42 -17328469.33 0.1839 0.1512

Jupiter -52154-01-28 22:33 J -17327797.65 -17327797.56 -17327797.48 0.0538 0.0414

Uranus -52154-03-06 18:57 J -17327760.80 -17327760.71 -17327760.61 0.0147 0.0125

Jupiter -52154-04-28 08:37 J -17327708.26 -17327708.14 -17327708.02 0.0538 0.0222

Uranus -52154-06-03 02:37 J -17327672.52 -17327672.39 -17327672.24 0.0147 0.0093

Uranus -52154-08-30 10:33 J -17327584.22 -17327584.06 -17327583.89 0.0147 0.0061

Uranus -52154-11-26 18:28 J -17327495.91 -17327495.73 -17327495.55 0.0147 0.0028

Uranus -52153-02-23 02:23 J -17327407.58 -17327407.40 -17327407.21 0.0147 0.0006

Uranus -52153-05-21 10:33 J -17327319.24 -17327319.06 -17327318.88 0.0147 0.0038

Saturn -52153-07-08 04:33 J -17327271.41 -17327271.31 -17327271.22 0.0279 0.0201

Uranus -52153-08-17 18:13 J -17327230.89 -17327230.74 -17327230.57 0.0147 0.0072

Saturn -52153-10-04 17:01 J -17327182.91 -17327182.79 -17327182.66 0.0280 0.0101

Uranus -52153-11-14 02:23 J -17327142.52 -17327142.40 -17327142.26 0.0147 0.0105

Saturn -52152-01-01 05:45 J -17327094.40 -17327094.26 -17327094.13 0.0281 0.0007

Uranus -52152-02-10 10:47 J -17327054.11 -17327054.05 -17327053.99 0.0147 0.0138

Saturn -52152-03-30 17:59 J -17327005.88 -17327005.75 -17327005.62 0.0282 0.0100

Saturn -52152-06-27 06:13 J -17326917.33 -17326917.24 -17326917.14 0.0283 0.0200

Moon -52151-01-21 01:25 J -17326709.56 -17326709.44 -17326709.32 0.2665 0.1463

Earth -52151-01-21 02:52 J -17326709.50 -17326709.38 -17326709.26 0.2667 0.1358 *

Jupiter -52148-03-14 07:25 J -17325561.36 -17325561.19 -17325561.02 0.0489 0.0100

Earth -52148-07-30 02:52 J -17325423.50 -17325423.38 -17325423.27 0.2668 0.0469

Moon -52148-07-30 03:35 J -17325423.47 -17325423.35 -17325423.24 0.2671 0.0466 *

Mars -52148-10-24 17:59 J -17325336.83 -17325336.75 -17325336.68 0.1698 0.1339

Mars -52146-09-30 05:45 J -17324631.33 -17324631.26 -17324631.20 0.1726 0.1442

Jupiter -52142-02-14 11:59 J -17323398.13 -17323398.00 -17323397.87 0.0538 0.0068

Moon -52141-07-22 21:06 J -17322873.68 -17322873.62 -17322873.55 0.2666 0.2231

Earth -52141-07-22 22:04 J -17322873.65 -17322873.58 -17322873.52 0.2663 0.2183 *

Saturn -52139-05-05 06:57 J -17322222.34 -17322222.21 -17322222.07 0.0281 0.0172

Saturn -52139-08-02 02:52 J -17322133.55 -17322133.38 -17322133.21 0.0280 0.0047

Saturn -52139-10-29 23:01 J -17322044.70 -17322044.54 -17322044.37 0.0279 0.0081

Moon -52138-01-24 04:33 J -17321958.45 -17321958.31 -17321958.17 0.2669 0.0046

Earth -52138-01-24 05:45 J -17321958.41 -17321958.26 -17321958.12 0.2665 0.0114 *

Saturn -52138-01-26 19:25 J -17321955.80 -17321955.69 -17321955.56 0.0278 0.0208

Jupiter -52137-12-31 06:57 J -17321251.39 -17321251.21 -17321251.04 0.0489 0.0056

Mars -52136-02-19 14:52 J -17321200.99 -17321200.88 -17321200.77 0.1719 0.0771

Mars -52136-12-15 01:25 J -17320902.57 -17320902.44 -17320902.31 0.1821 0.0983

Earth -52135-08-01 21:49 J -17320672.69 -17320672.59 -17320672.49 0.2670 0.1368

Moon -52135-08-01 22:33 J -17320672.65 -17320672.56 -17320672.46 0.2669 0.1493 *

Neptune -52134-08-21 12:57 J -17320287.98 -17320287.96 -17320287.89 0.0089 0.0086

Neptune -52134-11-17 16:04 J -17320199.90 -17320199.83 -17320199.74 0.0089 0.0078

Neptune -52133-02-13 18:42 J -17320111.81 -17320111.72 -17320111.60 0.0089 0.0071

Neptune -52133-05-11 21:49 J -17320023.70 -17320023.59 -17320023.46 0.0089 0.0063

Neptune -52133-08-08 00:28 J -17319935.60 -17319935.48 -17319935.33 0.0089 0.0056

Neptune -52133-11-04 03:35 J -17319847.49 -17319847.35 -17319847.20 0.0089 0.0048

Neptune -52132-01-31 06:28 J -17319759.38 -17319759.23 -17319759.07 0.0089 0.0040

Neptune -52132-04-29 09:06 J -17319671.27 -17319671.12 -17319670.94 0.0089 0.0033

Neptune -52132-07-26 12:13 J -17319583.16 -17319582.99 -17319582.82 0.0089 0.0025

Neptune -52132-10-22 15:06 J -17319495.04 -17319494.87 -17319494.69 0.0089 0.0017

Neptune -52131-01-18 17:59 J -17319406.92 -17319406.75 -17319406.57 0.0089 0.0010

Neptune -52131-04-16 21:06 J -17319318.80 -17319318.62 -17319318.45 0.0089 0.0003

Neptune -52131-07-13 23:59 J -17319230.68 -17319230.50 -17319230.32 0.0089 0.0006

Neptune -52131-10-10 02:52 J -17319142.56 -17319142.38 -17319142.20 0.0089 0.0014

Jupiter -52131-12-03 14:37 J -17319088.02 -17319087.89 -17319087.75 0.0537 0.0099

Neptune -52130-01-06 05:45 J -17319054.43 -17319054.26 -17319054.08 0.0089 0.0021

Jupiter -52130-03-03 00:13 J -17318998.52 -17318998.49 -17318998.46 0.0537 0.0523

Neptune -52130-04-04 08:52 J -17318966.30 -17318966.13 -17318965.96 0.0089 0.0029

Neptune -52130-07-01 11:45 J -17318878.17 -17318878.01 -17318877.85 0.0089 0.0037

Neptune -52130-09-27 14:37 J -17318790.04 -17318789.89 -17318789.73 0.0089 0.0045

Neptune -52130-12-24 17:30 J -17318701.90 -17318701.77 -17318701.61 0.0089 0.0053

Neptune -52129-03-21 20:23 J -17318613.76 -17318613.65 -17318613.50 0.0089 0.0061

Neptune -52129-06-17 23:30 J -17318525.62 -17318525.52 -17318525.39 0.0089 0.0069

Neptune -52129-09-14 02:23 J -17318437.47 -17318437.40 -17318437.29 0.0089 0.0077

Neptune -52129-12-11 05:30 J -17318349.31 -17318349.27 -17318349.20 0.0089 0.0085

Moon -52128-07-25 17:16 J -17318122.88 -17318122.78 -17318122.68 0.2671 0.1245

Earth -52128-07-25 17:30 J -17318122.88 -17318122.77 -17318122.67 0.2665 0.1229 *

Mars -52127-07-12 23:59 J -17317770.62 -17317770.50 -17317770.38 0.1711 0.0096

Venus -52127-07-18 02:37 J -17317765.46 -17317765.39 -17317765.31 0.3754 0.2557

Mars -52126-05-07 01:40 J -17317472.58 -17317472.43 -17317472.28 0.1830 0.0212

Moon -52125-01-27 08:23 J -17317207.27 -17317207.15 -17317207.04 0.2669 0.1615

Earth -52125-01-27 08:52 J -17317207.25 -17317207.13 -17317207.02 0.2663 0.1566 *

Jupiter -52125-10-19 06:13 J -17316941.39 -17316941.24 -17316941.08 0.0489 0.0212

Jupiter -52124-01-17 08:09 J -17316851.24 -17316851.16 -17316851.08 0.0489 0.0433

Saturn -52124-11-25 06:28 J -17316539.30 -17316539.23 -17316539.14 0.0279 0.0230

Saturn -52123-02-21 19:25 J -17316450.82 -17316450.69 -17316450.57 0.0280 0.0128

Saturn -52123-05-21 07:54 J -17316362.31 -17316362.17 -17316362.03 0.0281 0.0027

Saturn -52123-08-17 20:23 J -17316273.78 -17316273.65 -17316273.52 0.0282 0.0073

Saturn -52123-11-14 08:37 J -17316185.24 -17316185.14 -17316185.03 0.0283 0.0174

Saturn -52122-02-10 20:52 J -17316096.66 -17316096.63 -17316096.59 0.0284 0.0273

Earth -52122-08-04 16:33 J -17315921.86 -17315921.81 -17315921.75 0.2672 0.2263

Moon -52122-08-04 17:01 J -17315921.85 -17315921.79 -17315921.73 0.2666 0.2240 *

Venus -52121-01-31 18:42 J -17315741.82 -17315741.72 -17315741.62 0.3758 0.0420

Jupiter -52119-09-21 17:45 J -17314777.88 -17314777.76 -17314777.64 0.0538 0.0258

Jupiter -52119-12-20 03:35 J -17314688.45 -17314688.35 -17314688.26 0.0538 0.0370

Moon -52118-01-19 05:16 J -17314658.28 -17314658.28 -17314658.27 0.2665 0.2660

Earth -52118-01-19 06:28 J -17314658.28 -17314658.23 -17314658.18 0.2669 0.2496 *

Mars -52118-12-03 09:06 J -17314340.24 -17314340.12 -17314340.01 0.1704 0.0580

Mars -52117-09-26 02:09 J -17314042.50 -17314042.41 -17314042.31 0.1838 0.1398

Venus -52116-08-16 10:47 J -17313718.14 -17313718.05 -17313717.96 0.3762 0.1720

Earth -52115-07-28 12:42 J -17313372.09 -17313371.97 -17313371.85 0.2667 0.0291

Moon -52115-07-28 12:57 J -17313372.07 -17313371.96 -17313371.84 0.2673 0.0312 *

Venus -52113-05-18 13:40 J -17312712.08 -17312711.93 -17312711.77 0.3620 0.0440

Jupiter -52113-08-07 05:16 J -17312631.38 -17312631.28 -17312631.16 0.0489 0.0370

Jupiter -52113-11-05 06:28 J -17312541.37 -17312541.23 -17312541.08 0.0489 0.0266

Uranus -52112-03-24 05:16 J -17312402.33 -17312402.28 -17312402.21 0.0132 0.0116

Uranus -52112-06-20 08:37 J -17312314.23 -17312314.14 -17312314.05 0.0132 0.0098

Uranus -52112-09-16 11:45 J -17312226.11 -17312226.01 -17312225.90 0.0132 0.0081

Uranus -52112-12-13 14:52 J -17312137.99 -17312137.88 -17312137.75 0.0132 0.0063

Uranus -52111-03-11 18:13 J -17312049.87 -17312049.74 -17312049.61 0.0132 0.0045

Uranus -52111-06-07 21:21 J -17311961.74 -17311961.61 -17311961.47 0.0132 0.0027

Uranus -52111-09-04 00:28 J -17311873.61 -17311873.48 -17311873.34 0.0132 0.0010

Uranus -52111-12-01 03:35 J -17311785.48 -17311785.35 -17311785.21 0.0132 0.0010

Uranus -52110-02-27 06:42 J -17311697.35 -17311697.22 -17311697.08 0.0132 0.0026

Uranus -52110-05-26 09:49 J -17311609.21 -17311609.09 -17311608.96 0.0132 0.0044

Uranus -52110-08-22 12:57 J -17311521.08 -17311520.96 -17311520.84 0.0132 0.0061

Saturn -52110-09-22 07:54 J -17311490.29 -17311490.17 -17311490.05 0.0281 0.0201

Uranus -52110-11-18 16:04 J -17311432.94 -17311432.83 -17311432.72 0.0132 0.0078

Saturn -52110-12-20 03:49 J -17311401.51 -17311401.34 -17311401.17 0.0280 0.0076

Uranus -52109-02-14 18:57 J -17311344.79 -17311344.71 -17311344.61 0.0132 0.0096

Saturn -52109-03-17 23:59 J -17311312.67 -17311312.50 -17311312.33 0.0279 0.0051

Uranus -52109-05-12 22:04 J -17311256.64 -17311256.58 -17311256.50 0.0132 0.0113

Saturn -52109-06-14 20:23 J -17311223.78 -17311223.65 -17311223.51 0.0278 0.0178

Uranus -52109-08-09 01:11 J -17311168.46 -17311168.45 -17311168.42 0.0132 0.0130

Mars -52108-04-24 17:59 J -17310909.83 -17310909.75 -17310909.67 0.1697 0.1249

Jupiter -52107-07-10 20:37 J -17310467.72 -17310467.64 -17310467.55 0.0538 0.0417

Jupiter -52107-10-08 06:57 J -17310378.33 -17310378.21 -17310378.09 0.0538 0.0219

Mars -52106-03-31 05:45 J -17310204.31 -17310204.26 -17310204.20 0.1726 0.1533

Moon -52105-01-22 07:25 J -17309907.32 -17309907.19 -17309907.06 0.2667 0.1169

Earth -52105-01-22 08:52 J -17309907.26 -17309907.13 -17309907.00 0.2667 0.1104 *

Earth -52102-07-31 07:54 J -17308621.29 -17308621.17 -17308621.06 0.2669 0.0637

Moon -52102-07-31 08:37 J -17308621.25 -17308621.14 -17308621.03 0.2671 0.0759 *

Jupiter -52101-08-24 05:59 J -17308231.42 -17308231.25 -17308231.08 0.0489 0.0109

Mars -52097-08-20 14:52 J -17306773.98 -17306773.88 -17306773.77 0.1719 0.0856

Mars -52096-06-15 01:54 J -17306475.54 -17306475.42 -17306475.30 0.1821 0.1116

Moon -52095-07-24 02:23 J -17306071.47 -17306071.40 -17306071.33 0.2667 0.2107

Earth -52095-07-24 03:06 J -17306071.45 -17306071.37 -17306071.30 0.2664 0.2005 *

Jupiter -52095-07-27 10:33 J -17306068.19 -17306068.06 -17306067.93 0.0538 0.0073

Saturn -52094-04-14 07:54 J -17305807.21 -17305807.17 -17305807.13 0.0278 0.0265

Saturn -52094-07-11 20:23 J -17305718.76 -17305718.65 -17305718.53 0.0279 0.0165

Saturn -52094-10-08 09:06 J -17305630.25 -17305630.12 -17305629.98 0.0280 0.0064

Saturn -52093-01-04 21:35 J -17305541.74 -17305541.60 -17305541.46 0.0281 0.0037

Saturn -52093-04-02 09:49 J -17305453.20 -17305453.09 -17305452.97 0.0282 0.0137

Saturn -52093-06-29 22:04 J -17305364.65 -17305364.58 -17305364.50 0.0283 0.0236

Moon -52092-01-24 10:33 J -17305156.21 -17305156.06 -17305155.92 0.2669 0.0275

Earth -52092-01-24 11:45 J -17305156.16 -17305156.01 -17305155.87 0.2665 0.0348 *

Jupiter -52089-06-12 05:16 J -17303921.46 -17303921.28 -17303921.11 0.0489 0.0050

Earth -52089-08-02 02:52 J -17303870.48 -17303870.38 -17303870.29 0.2671 0.1538

Moon -52089-08-02 03:35 J -17303870.45 -17303870.35 -17303870.26 0.2669 0.1534 *

Mars -52087-01-10 23:59 J -17303343.62 -17303343.50 -17303343.37 0.1712 0.0184

Mars -52087-11-05 02:23 J -17303045.56 -17303045.40 -17303045.25 0.1829 0.0092

Pluto -52086-06-20 16:47 J -17302817.80 -17302817.80 -17302817.78 0.0082 0.0082

Pluto -52086-09-16 18:13 J -17302729.79 -17302729.74 -17302729.66 0.0082 0.0073

Pluto -52086-12-13 19:54 J -17302641.75 -17302641.67 -17302641.56 0.0082 0.0064

Pluto -52085-03-10 21:35 J -17302553.70 -17302553.60 -17302553.48 0.0082 0.0055

Pluto -52085-06-06 23:16 J -17302465.64 -17302465.53 -17302465.40 0.0082 0.0045

Pluto -52085-09-03 00:57 J -17302377.59 -17302377.46 -17302377.32 0.0081 0.0036

Pluto -52085-11-30 02:37 J -17302289.53 -17302289.39 -17302289.25 0.0081 0.0027

Pluto -52084-02-26 04:04 J -17302201.47 -17302201.33 -17302201.18 0.0081 0.0019

Pluto -52084-05-25 05:45 J -17302113.40 -17302113.26 -17302113.11 0.0081 0.0010

Pluto -52084-08-21 07:11 J -17302025.34 -17302025.20 -17302025.05 0.0081 0.0003

Pluto -52084-11-17 08:52 J -17301937.28 -17301937.13 -17301936.99 0.0081 0.0007

Pluto -52083-02-13 10:18 J -17301849.21 -17301849.07 -17301848.93 0.0081 0.0016

Pluto -52083-05-12 11:45 J -17301761.14 -17301761.01 -17301760.87 0.0080 0.0024

Jupiter -52083-05-15 13:54 J -17301758.05 -17301757.92 -17301757.79 0.0538 0.0082

Pluto -52083-08-08 13:11 J -17301673.08 -17301672.95 -17301672.81 0.0080 0.0032

Pluto -52083-11-04 14:37 J -17301585.01 -17301584.89 -17301584.76 0.0080 0.0041

Pluto -52082-01-31 15:49 J -17301496.94 -17301496.84 -17301496.71 0.0080 0.0050

Pluto -52082-04-29 17:30 J -17301408.86 -17301408.77 -17301408.66 0.0080 0.0057

Pluto -52082-07-26 18:42 J -17301320.79 -17301320.72 -17301320.62 0.0080 0.0065

Moon -52082-07-26 22:18 J -17301320.67 -17301320.57 -17301320.46 0.2672 0.1051 *

Earth -52082-07-26 22:33 J -17301320.67 -17301320.56 -17301320.45 0.2665 0.1053 *

Pluto -52082-10-22 20:09 J -17301232.70 -17301232.66 -17301232.59 0.0080 0.0073

Saturn -52080-02-08 05:16 J -17300758.35 -17300758.28 -17300758.20 0.0281 0.0252

Saturn -52080-05-08 01:11 J -17300669.60 -17300669.45 -17300669.29 0.0280 0.0127

Saturn -52080-08-04 21:21 J -17300580.79 -17300580.61 -17300580.44 0.0280 0.0005

Saturn -52080-11-01 17:30 J -17300491.92 -17300491.77 -17300491.61 0.0279 0.0127

Moon -52079-01-27 14:52 J -17300404.99 -17300404.88 -17300404.78 0.2669 0.1772

Earth -52079-01-27 14:52 J -17300404.98 -17300404.88 -17300404.77 0.2663 0.1834 *

Saturn -52079-01-29 14:09 J -17300402.98 -17300402.91 -17300402.84 0.0278 0.0254

Mars -52078-06-03 09:06 J -17299913.24 -17299913.12 -17299913.00 0.1705 0.0486

Mars -52077-03-27 02:37 J -17299615.50 -17299615.39 -17299615.28 0.1838 0.1270

Jupiter -52077-03-31 04:47 J -17299611.46 -17299611.30 -17299611.14 0.0489 0.0203

Jupiter -52077-06-29 06:28 J -17299521.30 -17299521.23 -17299521.15 0.0489 0.0440

Earth -52076-08-04 21:35 J -17299119.65 -17299119.60 -17299119.55 0.2672 0.2419

Moon -52076-08-04 21:49 J -17299119.63 -17299119.59 -17299119.55 0.2666 0.2488 *

Moon -52072-01-19 11:16 J -17297856.10 -17297856.03 -17297855.95 0.2664 0.2236

Earth -52072-01-19 12:28 J -17297856.06 -17297855.98 -17297855.91 0.2669 0.2249 *

Jupiter -52071-03-03 16:47 J -17297447.92 -17297447.80 -17297447.68 0.0538 0.0245

Jupiter -52071-06-01 02:37 J -17297358.48 -17297358.39 -17297358.30 0.0538 0.0383

Uranus -52071-12-28 19:11 J -17297147.71 -17297147.70 -17297147.67 0.0147 0.0146

Venus -52070-02-22 00:13 J -17297092.58 -17297092.49 -17297092.40 0.3755 0.1761

Uranus -52070-03-27 02:52 J -17297059.48 -17297059.38 -17297059.25 0.0147 0.0114

Uranus -52070-06-23 10:47 J -17296971.19 -17296971.05 -17296970.89 0.0147 0.0082

Uranus -52070-09-19 18:57 J -17296882.89 -17296882.71 -17296882.54 0.0147 0.0049

Uranus -52070-12-17 02:37 J -17296794.57 -17296794.39 -17296794.20 0.0147 0.0017

Uranus -52069-03-14 10:47 J -17296706.24 -17296706.05 -17296705.87 0.0147 0.0017

Uranus -52069-06-10 18:42 J -17296617.89 -17296617.72 -17296617.54 0.0147 0.0050

Earth -52069-07-28 17:45 J -17296569.88 -17296569.76 -17296569.64 0.2667 0.0120

Moon -52069-07-28 18:13 J -17296569.86 -17296569.74 -17296569.63 0.2673 0.0106 *

Uranus -52069-09-07 02:52 J -17296529.53 -17296529.38 -17296529.23 0.0147 0.0083

Mars -52069-10-23 17:59 J -17296482.84 -17296482.75 -17296482.65 0.1697 0.1159

Uranus -52069-12-04 10:33 J -17296441.16 -17296441.06 -17296440.93 0.0147 0.0117

Mars -52067-09-29 05:59 J -17295777.29 -17295777.25 -17295777.21 0.1726 0.1623

Jupiter -52065-01-18 04:18 J -17295301.43 -17295301.32 -17295301.20 0.0489 0.0357

Jupiter -52065-04-17 05:45 J -17295211.41 -17295211.26 -17295211.12 0.0489 0.0281

Venus -52065-09-06 16:18 J -17295068.92 -17295068.82 -17295068.72 0.3759 0.0389

Saturn -52065-11-27 22:18 J -17294986.67 -17294986.57 -17294986.47 0.0280 0.0195

Saturn -52064-02-24 11:01 J -17294898.17 -17294898.04 -17294897.91 0.0280 0.0094

Saturn -52064-05-23 23:30 J -17294809.66 -17294809.52 -17294809.38 0.0281 0.0007

Saturn -52064-08-20 11:45 J -17294721.13 -17294721.01 -17294720.88 0.0282 0.0107

Saturn -52064-11-16 23:59 J -17294632.58 -17294632.50 -17294632.40 0.0283 0.0207

Venus -52062-06-09 07:40 J -17294063.23 -17294063.18 -17294063.12 0.3624 0.3350

Jupiter -52060-12-20 19:40 J -17293137.77 -17293137.68 -17293137.60 0.0538 0.0407

Moon -52059-01-22 13:40 J -17293105.07 -17293104.93 -17293104.80 0.2668 0.1020

Earth -52059-01-22 14:52 J -17293105.01 -17293104.88 -17293104.74 0.2666 0.0846 *

Jupiter -52059-03-20 05:45 J -17293048.38 -17293048.26 -17293048.14 0.0538 0.0228

Venus -52059-03-23 08:09 J -17293045.23 -17293045.16 -17293045.08 0.3763 0.2505

Mars -52057-02-19 15:06 J -17292346.98 -17292346.87 -17292346.77 0.1719 0.0947

Mars -52057-12-14 02:23 J -17292048.51 -17292048.40 -17292048.29 0.1821 0.1244

Venus -52057-12-23 15:21 J -17292038.97 -17292038.86 -17292038.74 0.3618 0.2405

Earth -52056-07-31 12:42 J -17291819.08 -17291818.97 -17291818.86 0.2669 0.0807

Moon -52056-07-31 13:40 J -17291819.04 -17291818.93 -17291818.82 0.2671 0.0814 *

Jupiter -52053-02-04 04:33 J -17290901.48 -17290901.31 -17290901.14 0.0489 0.0118

Neptune -52051-02-25 14:52 J -17290148.91 -17290148.88 -17290148.82 0.0088 0.0084

Neptune -52051-05-24 16:47 J -17290060.86 -17290060.80 -17290060.72 0.0089 0.0077

Neptune -52051-08-20 18:28 J -17289972.81 -17289972.73 -17289972.64 0.0089 0.0071

Saturn -52051-09-25 01:54 J -17289937.56 -17289937.42 -17289937.28 0.0281 0.0158

Neptune -52051-11-16 20:09 J -17289884.75 -17289884.66 -17289884.56 0.0089 0.0064

Saturn -52051-12-22 21:49 J -17289848.76 -17289848.59 -17289848.41 0.0280 0.0032

Neptune -52050-02-12 22:04 J -17289796.69 -17289796.58 -17289796.48 0.0089 0.0058

Saturn -52050-03-21 17:59 J -17289759.91 -17289759.75 -17289759.58 0.0279 0.0095

Neptune -52050-05-11 23:30 J -17289708.63 -17289708.52 -17289708.40 0.0089 0.0052

Saturn -52050-06-18 14:37 J -17289670.99 -17289670.89 -17289670.78 0.0278 0.0223

Neptune -52050-08-08 01:11 J -17289620.57 -17289620.45 -17289620.32 0.0089 0.0046

Neptune -52050-11-04 02:37 J -17289532.50 -17289532.39 -17289532.25 0.0089 0.0040

Neptune -52049-01-31 04:33 J -17289444.44 -17289444.31 -17289444.18 0.0089 0.0033

Neptune -52049-04-28 06:13 J -17289356.38 -17289356.24 -17289356.10 0.0089 0.0027

Moon -52049-07-24 07:25 J -17289269.27 -17289269.19 -17289269.10 0.2668 0.1833

Earth -52049-07-24 08:09 J -17289269.25 -17289269.16 -17289269.08 0.2664 0.1827 *

Neptune -52049-07-25 07:40 J -17289268.31 -17289268.18 -17289268.03 0.0089 0.0021

Neptune -52049-10-21 09:21 J -17289180.25 -17289180.11 -17289179.96 0.0089 0.0015

Neptune -52048-01-17 11:01 J -17289092.18 -17289092.04 -17289091.90 0.0089 0.0008

Neptune -52048-04-15 12:42 J -17289004.11 -17289003.97 -17289003.83 0.0089 0.0002

Mars -52048-07-12 00:13 J -17288916.62 -17288916.49 -17288916.37 0.1712 0.0279

Neptune -52048-07-12 14:23 J -17288916.05 -17288915.90 -17288915.76 0.0089 0.0005

Neptune -52048-10-08 15:49 J -17288827.98 -17288827.84 -17288827.70 0.0089 0.0010

Neptune -52047-01-04 17:30 J -17288739.91 -17288739.77 -17288739.63 0.0089 0.0016

Jupiter -52047-01-06 08:52 J -17288738.26 -17288738.13 -17288737.99 0.0538 0.0074

Neptune -52047-04-02 18:57 J -17288651.84 -17288651.71 -17288651.57 0.0089 0.0023

Mars -52047-05-06 02:23 J -17288618.55 -17288618.40 -17288618.24 0.1829 0.0066

Neptune -52047-06-29 20:37 J -17288563.77 -17288563.64 -17288563.51 0.0089 0.0029

Neptune -52047-09-25 22:04 J -17288475.70 -17288475.58 -17288475.44 0.0089 0.0035

Neptune -52047-12-22 23:45 J -17288387.63 -17288387.51 -17288387.38 0.0089 0.0041

Moon -52046-01-25 16:47 J -17288353.94 -17288353.80 -17288353.66 0.2669 0.0524

Earth -52046-01-25 17:45 J -17288353.90 -17288353.76 -17288353.62 0.2664 0.0603 *

Neptune -52046-03-21 01:11 J -17288299.56 -17288299.45 -17288299.32 0.0089 0.0047

Neptune -52046-06-17 02:52 J -17288211.49 -17288211.38 -17288211.27 0.0089 0.0053

Neptune -52046-09-13 04:18 J -17288123.42 -17288123.32 -17288123.21 0.0089 0.0059

Neptune -52046-12-10 05:59 J -17288035.34 -17288035.25 -17288035.15 0.0089 0.0065

Neptune -52045-03-07 07:25 J -17287947.27 -17287947.19 -17287947.10 0.0089 0.0071

Neptune -52045-06-03 08:52 J -17287859.19 -17287859.13 -17287859.05 0.0089 0.0077

Neptune -52045-08-30 10:18 J -17287771.10 -17287771.07 -17287771.01 0.0089 0.0083

Neptune -52045-11-26 11:59 J -17287683.00 -17287683.00 -17287682.99 0.0089 0.0089

Earth -52043-08-03 07:40 J -17287068.26 -17287068.18 -17287068.09 0.2671 0.1701

Moon -52043-08-03 08:23 J -17287068.23 -17287068.15 -17287068.07 0.2667 0.1810 *

Jupiter -52042-11-23 04:04 J -17286591.50 -17286591.33 -17286591.15 0.0489 0.0036

Mars -52039-12-02 09:06 J -17285486.24 -17285486.12 -17285486.00 0.1704 0.0402

Mars -52038-09-26 03:06 J -17285188.48 -17285188.37 -17285188.25 0.1838 0.1136

Moon -52036-07-27 03:21 J -17284518.47 -17284518.36 -17284518.25 0.2673 0.0920

Earth -52036-07-27 03:35 J -17284518.46 -17284518.35 -17284518.24 0.2666 0.0884 *

Jupiter -52036-10-25 12:28 J -17284428.11 -17284427.98 -17284427.84 0.0538 0.0078

Saturn -52035-04-16 23:30 J -17284254.59 -17284254.52 -17284254.44 0.0278 0.0230

Saturn -52035-07-14 12:13 J -17284166.11 -17284165.99 -17284165.87 0.0279 0.0130

Saturn -52035-10-11 00:42 J -17284077.60 -17284077.47 -17284077.33 0.0280 0.0030

Saturn -52034-01-07 13:11 J -17283989.08 -17283988.95 -17283988.82 0.0281 0.0070

Saturn -52034-04-06 01:25 J -17283900.55 -17283900.44 -17283900.33 0.0282 0.0170

Saturn -52034-07-03 13:25 J -17283811.97 -17283811.94 -17283811.89 0.0283 0.0269

Earth -52033-01-28 21:06 J -17283602.71 -17283602.62 -17283602.53 0.2662 0.2098

Moon -52033-01-28 21:06 J -17283602.70 -17283602.62 -17283602.54 0.2669 0.2149 *

Earth -52030-08-06 02:37 J -17282317.42 -17282317.39 -17282317.37 0.2673 0.2584

Moon -52030-08-06 02:52 J -17282317.41 -17282317.38 -17282317.35 0.2666 0.2538 *

Jupiter -52030-09-11 03:21 J -17282281.52 -17282281.36 -17282281.20 0.0489 0.0193

Jupiter -52030-12-10 05:01 J -17282191.35 -17282191.29 -17282191.22 0.0489 0.0450

Mars -52029-04-23 18:13 J -17282055.84 -17282055.74 -17282055.65 0.1698 0.1068

Uranus -52028-01-15 09:35 J -17281789.13 -17281789.10 -17281789.07 0.0132 0.0128

Uranus -52028-04-13 12:42 J -17281701.04 -17281700.97 -17281700.89 0.0132 0.0110

Uranus -52028-07-10 16:04 J -17281612.92 -17281612.83 -17281612.73 0.0132 0.0092

Uranus -52028-10-06 19:25 J -17281524.81 -17281524.69 -17281524.58 0.0132 0.0074

Uranus -52027-01-02 22:33 J -17281436.68 -17281436.56 -17281436.44 0.0132 0.0056

Mars -52027-03-30 05:45 J -17281350.27 -17281350.26 -17281350.24 0.1726 0.1705

Uranus -52027-04-01 01:40 J -17281348.56 -17281348.43 -17281348.30 0.0132 0.0039

Uranus -52027-06-28 04:47 J -17281260.43 -17281260.30 -17281260.16 0.0132 0.0021

Uranus -52027-09-24 08:09 J -17281172.30 -17281172.16 -17281172.03 0.0132 0.0005

Uranus -52027-12-21 11:16 J -17281084.17 -17281084.03 -17281083.90 0.0132 0.0015

Moon -52026-01-20 17:16 J -17281053.86 -17281053.78 -17281053.70 0.2665 0.2168

Earth -52026-01-20 18:28 J -17281053.82 -17281053.73 -17281053.64 0.2668 0.1995 *

Uranus -52026-03-19 14:23 J -17280996.04 -17280995.90 -17280995.77 0.0132 0.0032

Uranus -52026-06-15 17:16 J -17280907.90 -17280907.78 -17280907.65 0.0132 0.0050

Uranus -52026-09-11 20:23 J -17280819.76 -17280819.65 -17280819.53 0.0132 0.0067

Uranus -52026-12-08 23:30 J -17280731.62 -17280731.52 -17280731.41 0.0132 0.0085

Uranus -52025-03-06 02:23 J -17280643.47 -17280643.40 -17280643.30 0.0132 0.0103

Uranus -52025-06-02 05:30 J -17280555.31 -17280555.27 -17280555.20 0.0132 0.0120

Jupiter -52024-08-13 16:04 J -17280117.95 -17280117.83 -17280117.71 0.0538 0.0229

Jupiter -52024-11-11 01:54 J -17280028.51 -17280028.42 -17280028.34 0.0538 0.0401

Earth -52023-07-29 22:47 J -17279767.67 -17279767.55 -17279767.43 0.2668 0.0064

Moon -52023-07-29 23:16 J -17279767.64 -17279767.53 -17279767.41 0.2672 0.0121 *

Saturn -52021-02-11 22:33 J -17279205.66 -17279205.56 -17279205.44 0.0281 0.0212

Saturn -52021-05-10 18:42 J -17279116.89 -17279116.72 -17279116.56 0.0280 0.0087

Saturn -52021-08-07 14:52 J -17279028.06 -17279027.88 -17279027.71 0.0280 0.0041

Saturn -52021-11-04 11:01 J -17278939.17 -17278939.04 -17278938.89 0.0279 0.0168

Venus -52019-03-15 05:45 J -17278443.31 -17278443.26 -17278443.20 0.3752 0.3109

Jupiter -52018-06-30 03:06 J -17277971.49 -17277971.37 -17277971.25 0.0489 0.0345

Mars -52018-08-20 15:06 J -17277919.97 -17277919.87 -17277919.77 0.1719 0.1037

Jupiter -52018-09-28 04:18 J -17277881.46 -17277881.32 -17277881.18 0.0489 0.0292

Mars -52017-06-14 02:52 J -17277621.48 -17277621.38 -17277621.28 0.1820 0.1374

Moon -52016-07-22 16:47 J -17277217.82 -17277217.80 -17277217.78 0.2663 0.2616

Earth -52016-07-22 17:45 J -17277217.78 -17277217.76 -17277217.74 0.2662 0.2614 *

Venus -52014-09-28 21:49 J -17276419.69 -17276419.59 -17276419.49 0.3756 0.0974

Moon -52013-01-23 19:40 J -17276302.82 -17276302.68 -17276302.55 0.2668 0.0616

Earth -52013-01-23 20:52 J -17276302.77 -17276302.63 -17276302.49 0.2666 0.0594 *

Jupiter -52012-06-01 18:42 J -17275807.81 -17275807.72 -17275807.63 0.0538 0.0392

Jupiter -52012-08-30 05:01 J -17275718.41 -17275718.29 -17275718.18 0.0538 0.0243

Earth -52010-08-01 17:45 J -17275016.86 -17275016.76 -17275016.65 0.2669 0.0973

Moon -52010-08-01 18:42 J -17275016.83 -17275016.72 -17275016.62 0.2671 0.1083 *

Mars -52008-01-10 00:13 J -17274489.61 -17274489.49 -17274489.37 0.1712 0.0363

Venus -52008-04-13 13:40 J -17274396.02 -17274395.93 -17274395.83 0.3760 0.1181

Mars -52008-11-04 03:06 J -17274191.53 -17274191.37 -17274191.22 0.1829 0.0183

Jupiter -52006-07-17 03:35 J -17273571.52 -17273571.35 -17273571.18 0.0489 0.0134

Saturn -52006-09-04 00:57 J -17273522.50 -17273522.46 -17273522.41 0.0279 0.0263

Saturn -52006-12-01 13:40 J -17273434.04 -17273433.93 -17273433.81 0.0280 0.0163

Venus -52005-01-14 09:21 J -17273390.25 -17273390.11 -17273389.97 0.3622 0.1400

Saturn -52005-02-28 02:23 J -17273345.54 -17273345.40 -17273345.27 0.0280 0.0062

Saturn -52005-05-26 14:52 J -17273257.02 -17273256.88 -17273256.75 0.0281 0.0038

Saturn -52005-08-23 03:06 J -17273168.49 -17273168.37 -17273168.25 0.0282 0.0138

Saturn -52005-11-19 15:21 J -17273079.93 -17273079.86 -17273079.79 0.0283 0.0237

Moon -52003-07-25 12:42 J -17272467.06 -17272466.97 -17272466.88 0.2670 0.1760

Earth -52003-07-25 13:11 J -17272467.04 -17272466.95 -17272466.86 0.2664 0.1650 *

Venus -52003-10-28 05:45 J -17272372.31 -17272372.26 -17272372.21 0.3764 0.3285

52ND MILLENNIUM BCE

This is a list of transits of Mercury in the 52nd millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Moon -52000-01-25 23:01 J -17271551.67 -17271551.54 -17271551.40 0.2669 0.0779

Earth -52000-01-25 23:59 J -17271551.64 -17271551.50 -17271551.37 0.2664 0.0870 *

Jupiter -52000-06-18 08:09 J -17271408.29 -17271408.16 -17271408.03 0.0538 0.0086

Mars -51999-06-02 09:21 J -17271059.24 -17271059.11 -17271058.99 0.1705 0.0312

Mars -51998-03-27 03:21 J -17270761.48 -17270761.36 -17270761.23 0.1838 0.1017

Earth -51997-08-03 12:42 J -17270266.05 -17270265.97 -17270265.89 0.2671 0.1867

Moon -51997-08-03 13:25 J -17270266.03 -17270265.94 -17270265.86 0.2666 0.1851 *

Jupiter -51994-05-05 02:52 J -17269261.56 -17269261.38 -17269261.21 0.0489 0.0026

Saturn -51992-06-30 23:01 J -17268473.62 -17268473.54 -17268473.46 0.0282 0.0245

Saturn -51992-09-27 18:42 J -17268384.87 -17268384.72 -17268384.56 0.0281 0.0121

Saturn -51992-12-25 14:52 J -17268296.05 -17268295.88 -17268295.70 0.0280 0.0010

Saturn -51991-03-24 11:16 J -17268207.18 -17268207.03 -17268206.87 0.0279 0.0134

Saturn -51991-06-21 07:40 J -17268118.22 -17268118.18 -17268118.11 0.0278 0.0263

Moon -51990-07-28 08:37 J -17267716.26 -17267716.14 -17267716.03 0.2673 0.0671

Earth -51990-07-28 08:37 J -17267716.26 -17267716.14 -17267716.03 0.2666 0.0707 *

Mars -51990-10-23 18:13 J -17267628.84 -17267628.74 -17267628.64 0.1698 0.0976

Jupiter -51988-04-06 11:01 J -17267098.17 -17267098.04 -17267097.91 0.0539 0.0074

Moon -51987-01-29 03:21 J -17266800.43 -17266800.36 -17266800.30 0.2669 0.2363

Earth -51987-01-29 03:21 J -17266800.43 -17266800.36 -17266800.30 0.2662 0.2369 *

Uranus -51986-01-18 03:06 J -17266446.43 -17266446.37 -17266446.29 0.0147 0.0136

Uranus -51986-04-16 10:47 J -17266358.16 -17266358.05 -17266357.91 0.0147 0.0104

Uranus -51986-07-13 18:57 J -17266269.87 -17266269.71 -17266269.55 0.0147 0.0071

Uranus -51986-10-10 02:37 J -17266181.56 -17266181.39 -17266181.21 0.0147 0.0039

Uranus -51985-01-06 10:47 J -17266093.24 -17266093.05 -17266092.87 0.0147 0.0006

Uranus -51985-04-03 18:28 J -17266004.90 -17266004.73 -17266004.54 0.0147 0.0028

Uranus -51985-07-01 02:23 J -17265916.56 -17265916.40 -17265916.22 0.0147 0.0061

Uranus -51985-09-27 10:33 J -17265828.19 -17265828.06 -17265827.91 0.0146 0.0094

Uranus -51985-12-24 18:57 J -17265739.80 -17265739.71 -17265739.62 0.0146 0.0127

Jupiter -51982-02-21 02:37 J -17264951.55 -17264951.39 -17264951.23 0.0489 0.0176

Jupiter -51982-05-22 04:04 J -17264861.37 -17264861.33 -17264861.28 0.0489 0.0466

Moon -51980-01-20 23:01 J -17264251.64 -17264251.54 -17264251.43 0.2666 0.1763

Earth -51980-01-21 00:28 J -17264251.59 -17264251.48 -17264251.38 0.2668 0.1752 *

Mars -51980-03-15 03:06 J -17264198.39 -17264198.37 -17264198.34 0.1691 0.1646

Mars -51978-02-18 15:06 J -17263492.96 -17263492.87 -17263492.78 0.1719 0.1119

Mars -51978-12-14 03:06 J -17263194.45 -17263194.37 -17263194.28 0.1821 0.1503

Earth -51977-07-30 03:49 J -17262965.46 -17262965.34 -17262965.23 0.2668 0.0235

Moon -51977-07-30 04:18 J -17262965.43 -17262965.32 -17262965.20 0.2672 0.0278 *

Jupiter -51976-01-23 14:37 J -17262788.01 -17262787.89 -17262787.77 0.0539 0.0223

Saturn -51976-04-19 15:06 J -17262701.97 -17262701.87 -17262701.77 0.0278 0.0197

Jupiter -51976-04-23 00:28 J -17262698.56 -17262698.48 -17262698.39 0.0539 0.0408

Saturn -51976-07-17 03:35 J -17262613.48 -17262613.35 -17262613.22 0.0279 0.0098

Saturn -51976-10-13 16:04 J -17262524.97 -17262524.83 -17262524.69 0.0280 0.0006

Saturn -51975-01-10 04:33 J -17262436.44 -17262436.31 -17262436.18 0.0281 0.0102

Saturn -51975-04-08 16:33 J -17262347.90 -17262347.81 -17262347.71 0.0282 0.0201

Jupiter -51971-12-10 01:54 J -17260641.54 -17260641.42 -17260641.29 0.0489 0.0331

Jupiter -51970-03-10 03:06 J -17260551.51 -17260551.37 -17260551.23 0.0489 0.0305

Moon -51970-07-23 21:49 J -17260415.61 -17260415.59 -17260415.56 0.2664 0.2566

Earth -51970-07-23 22:47 J -17260415.60 -17260415.55 -17260415.51 0.2663 0.2430 *

Neptune -51969-05-17 11:30 J -17260117.07 -17260117.02 -17260116.95 0.0089 0.0083

Mars -51969-07-11 00:13 J -17260062.61 -17260062.49 -17260062.37 0.1712 0.0450

Neptune -51969-08-13 14:09 J -17260028.98 -17260028.91 -17260028.80 0.0089 0.0076

Neptune -51969-11-09 17:16 J -17259940.88 -17259940.78 -17259940.66 0.0089 0.0068

Neptune -51968-02-05 19:54 J -17259852.78 -17259852.67 -17259852.53 0.0089 0.0061

Neptune -51968-05-04 23:01 J -17259764.68 -17259764.54 -17259764.40 0.0089 0.0053

Mars -51968-05-05 03:35 J -17259764.50 -17259764.35 -17259764.20 0.1829 0.0313 *

Neptune -51968-08-01 01:40 J -17259676.57 -17259676.43 -17259676.27 0.0089 0.0046

Neptune -51968-10-28 04:33 J -17259588.46 -17259588.31 -17259588.14 0.0089 0.0038

Moon -51967-01-24 01:40 J -17259500.57 -17259500.43 -17259500.29 0.2668 0.0526

Earth -51967-01-24 03:06 J -17259500.52 -17259500.37 -17259500.23 0.2666 0.0335 *

Neptune -51967-01-24 07:40 J -17259500.34 -17259500.18 -17259500.01 0.0089 0.0030 *

Neptune -51967-04-22 10:18 J -17259412.23 -17259412.07 -17259411.89 0.0089 0.0023

Neptune -51967-07-19 13:25 J -17259324.11 -17259323.94 -17259323.76 0.0089 0.0015

Neptune -51967-10-15 16:18 J -17259235.99 -17259235.82 -17259235.64 0.0089 0.0007

Neptune -51966-01-11 19:11 J -17259147.87 -17259147.70 -17259147.52 0.0089 0.0002

Neptune -51966-04-09 22:04 J -17259059.75 -17259059.58 -17259059.40 0.0089 0.0009

Neptune -51966-07-07 01:11 J -17258971.63 -17258971.45 -17258971.28 0.0089 0.0016

Neptune -51966-10-03 04:04 J -17258883.50 -17258883.33 -17258883.16 0.0089 0.0024

Neptune -51966-12-30 06:57 J -17258795.37 -17258795.21 -17258795.04 0.0089 0.0032

Neptune -51965-03-27 09:49 J -17258707.24 -17258707.09 -17258706.92 0.0089 0.0040

Neptune -51965-06-23 12:42 J -17258619.11 -17258618.97 -17258618.81 0.0089 0.0048

Neptune -51965-09-19 15:35 J -17258530.97 -17258530.85 -17258530.69 0.0089 0.0056

Jupiter -51965-11-11 17:59 J -17258477.84 -17258477.75 -17258477.65 0.0538 0.0376

Neptune -51965-12-16 18:57 J -17258442.83 -17258442.71 -17258442.58 0.0089 0.0063

Jupiter -51964-02-09 04:18 J -17258388.44 -17258388.32 -17258388.21 0.0538 0.0260

Neptune -51964-03-14 22:04 J -17258354.69 -17258354.58 -17258354.48 0.0089 0.0071

Neptune -51964-06-11 00:57 J -17258266.54 -17258266.46 -17258266.38 0.0089 0.0079

Earth -51964-08-01 22:47 J -17258214.65 -17258214.55 -17258214.44 0.2670 0.1134

Moon -51964-08-01 23:30 J -17258214.62 -17258214.52 -17258214.41 0.2670 0.1178 *

Neptune -51964-09-07 03:49 J -17258178.36 -17258178.34 -17258178.30 0.0089 0.0087

Venus -51963-10-20 03:21 J -17257770.44 -17257770.36 -17257770.28 0.3753 0.2319

Saturn -51962-02-14 15:21 J -17257652.98 -17257652.86 -17257652.72 0.0281 0.0176

Saturn -51962-05-14 11:30 J -17257564.19 -17257564.02 -17257563.85 0.0280 0.0049

Saturn -51962-08-11 07:40 J -17257475.34 -17257475.18 -17257475.00 0.0280 0.0079

Saturn -51962-11-08 04:18 J -17257386.44 -17257386.32 -17257386.20 0.0279 0.0206

Mars -51960-12-01 09:21 J -17256632.23 -17256632.11 -17256631.98 0.1705 0.0217

Mars -51959-09-25 03:49 J -17256334.47 -17256334.34 -17256334.21 0.1838 0.0893

Jupiter -51959-09-28 01:54 J -17256331.45 -17256331.42 -17256331.40 0.0489 0.0482

Jupiter -51959-12-27 02:37 J -17256241.56 -17256241.39 -17256241.23 0.0489 0.0148

Venus -51957-05-04 19:11 J -17255746.80 -17255746.70 -17255746.59 0.3757 0.0234

Moon -51957-07-25 17:45 J -17255664.85 -17255664.76 -17255664.66 0.2671 0.1445

Earth -51957-07-25 18:13 J -17255664.84 -17255664.74 -17255664.64 0.2664 0.1473 *

Moon -51954-01-27 05:30 J -17254749.40 -17254749.27 -17254749.14 0.2670 0.1155

Earth -51954-01-27 05:59 J -17254749.38 -17254749.25 -17254749.12 0.2664 0.1131 *

Jupiter -51953-11-28 07:11 J -17254078.32 -17254078.20 -17254078.06 0.0538 0.0104

Venus -51952-11-18 11:16 J -17253723.12 -17253723.03 -17253722.94 0.3761 0.1954

Earth -51951-08-04 17:45 J -17253463.83 -17253463.76 -17253463.69 0.2672 0.2028

Moon -51951-08-04 18:13 J -17253463.80 -17253463.74 -17253463.67 0.2666 0.2124 *

Mars -51950-04-23 18:13 J -17253201.84 -17253201.74 -17253201.63 0.1698 0.0890

Venus -51949-08-20 11:01 J -17252717.19 -17252717.04 -17252716.88 0.3621 0.0593

Saturn -51947-09-06 16:18 J -17251969.90 -17251969.82 -17251969.74 0.0279 0.0232

Jupiter -51947-10-15 01:54 J -17251931.59 -17251931.42 -17251931.24 0.0489 0.0008

Saturn -51947-12-04 05:01 J -17251881.41 -17251881.29 -17251881.17 0.0279 0.0132

Saturn -51946-03-02 17:30 J -17251792.91 -17251792.77 -17251792.63 0.0280 0.0032

Saturn -51946-05-30 05:59 J -17251704.39 -17251704.25 -17251704.12 0.0281 0.0068

Saturn -51946-08-26 18:13 J -17251615.85 -17251615.74 -17251615.63 0.0282 0.0167

Saturn -51946-11-23 06:13 J -17251527.28 -17251527.24 -17251527.19 0.0283 0.0266

Uranus -51944-02-04 16:47 J -17251087.84 -17251087.80 -17251087.75 0.0132 0.0123

Uranus -51944-05-03 19:54 J -17250999.74 -17250999.67 -17250999.58 0.0132 0.0105

Earth -51944-07-28 13:40 J -17250914.05 -17250913.93 -17250913.82 0.2666 0.0537

Moon -51944-07-28 13:40 J -17250914.04 -17250913.93 -17250913.81 0.2672 0.0579 *

Uranus -51944-07-30 23:16 J -17250911.63 -17250911.53 -17250911.42 0.0132 0.0087

Uranus -51944-10-27 02:37 J -17250823.51 -17250823.39 -17250823.27 0.0132 0.0069

Uranus -51943-01-23 05:45 J -17250735.38 -17250735.26 -17250735.13 0.0132 0.0051

Uranus -51943-04-21 09:06 J -17250647.26 -17250647.12 -17250646.99 0.0132 0.0033

Uranus -51943-07-18 12:13 J -17250559.13 -17250558.99 -17250558.86 0.0132 0.0016

Uranus -51943-10-14 15:21 J -17250471.00 -17250470.86 -17250470.72 0.0132 0.0002

Uranus -51942-01-10 18:28 J -17250382.86 -17250382.73 -17250382.59 0.0132 0.0020

Uranus -51942-04-08 21:35 J -17250294.73 -17250294.60 -17250294.47 0.0132 0.0038

Uranus -51942-07-06 00:42 J -17250206.59 -17250206.47 -17250206.35 0.0132 0.0055

Uranus -51942-10-02 03:49 J -17250118.45 -17250118.34 -17250118.23 0.0132 0.0073

Uranus -51942-12-29 06:42 J -17250030.31 -17250030.22 -17250030.11 0.0132 0.0090

Earth -51941-01-30 09:21 J -17249998.12 -17249998.11 -17249998.09 0.2662 0.2636

Moon -51941-01-30 09:35 J -17249998.11 -17249998.10 -17249998.09 0.2668 0.2661 *

Uranus -51941-03-26 10:04 J -17249942.16 -17249942.08 -17249942.00 0.0132 0.0107

Uranus -51941-06-22 12:57 J -17249853.99 -17249853.96 -17249853.91 0.0132 0.0125

Mars -51941-09-13 03:21 J -17249771.41 -17249771.36 -17249771.31 0.1691 0.1550

Jupiter -51941-09-16 10:18 J -17249768.20 -17249768.07 -17249767.93 0.0538 0.0058

Mars -51939-08-19 15:06 J -17249065.95 -17249065.87 -17249065.78 0.1719 0.1210

Mars -51938-06-14 03:35 J -17248767.41 -17248767.35 -17248767.28 0.1820 0.1632

Jupiter -51935-08-03 01:25 J -17247621.61 -17247621.44 -17247621.28 0.0489 0.0162

Jupiter -51935-11-01 03:06 J -17247531.40 -17247531.37 -17247531.34 0.0489 0.0480

Moon -51934-01-22 05:01 J -17247449.40 -17247449.29 -17247449.18 0.2667 0.1672

Earth -51934-01-22 06:28 J -17247449.35 -17247449.23 -17247449.12 0.2667 0.1499 *

Saturn -51933-07-03 15:35 J -17246920.96 -17246920.85 -17246920.74 0.0282 0.0211

Saturn -51933-09-30 11:16 J -17246832.19 -17246832.03 -17246831.86 0.0281 0.0086

Saturn -51933-12-28 07:40 J -17246743.35 -17246743.18 -17246743.01 0.0280 0.0042

Saturn -51932-03-27 04:04 J -17246654.47 -17246654.33 -17246654.19 0.0279 0.0170

Earth -51931-07-31 08:52 J -17246163.25 -17246163.13 -17246163.02 0.2668 0.0400

Moon -51931-07-31 09:21 J -17246163.22 -17246163.11 -17246162.99 0.2673 0.0494 *

Mars -51929-01-10 00:28 J -17245635.60 -17245635.48 -17245635.37 0.1712 0.0544

Jupiter -51929-07-05 13:11 J -17245458.07 -17245457.95 -17245457.83 0.0539 0.0220

Jupiter -51929-10-02 23:01 J -17245368.62 -17245368.54 -17245368.45 0.0539 0.0411

Mars -51929-11-03 03:49 J -17245337.49 -17245337.34 -17245337.20 0.1829 0.0425

Pluto -51928-04-25 07:40 J -17245164.21 -17245164.18 -17245164.11 0.0062 0.0060

Pluto -51928-07-22 09:06 J -17245076.19 -17245076.12 -17245076.03 0.0062 0.0055

Pluto -51928-10-18 09:49 J -17244988.17 -17244988.09 -17244987.97 0.0062 0.0051

Pluto -51927-01-14 11:16 J -17244900.14 -17244900.03 -17244899.91 0.0062 0.0046

Pluto -51927-04-12 12:13 J -17244812.10 -17244811.99 -17244811.85 0.0062 0.0041

Pluto -51927-07-09 13:25 J -17244724.07 -17244723.94 -17244723.79 0.0063 0.0037

Pluto -51927-10-05 14:52 J -17244636.03 -17244635.88 -17244635.74 0.0063 0.0032

Pluto -51926-01-01 15:35 J -17244547.99 -17244547.85 -17244547.68 0.0063 0.0028

Pluto -51926-03-30 16:47 J -17244459.95 -17244459.80 -17244459.63 0.0063 0.0023

Pluto -51926-06-26 18:13 J -17244371.91 -17244371.74 -17244371.58 0.0063 0.0018

Pluto -51926-09-22 19:11 J -17244283.86 -17244283.70 -17244283.52 0.0063 0.0014

Pluto -51926-12-19 20:23 J -17244195.82 -17244195.65 -17244195.47 0.0063 0.0009

Pluto -51925-03-16 21:35 J -17244107.77 -17244107.60 -17244107.42 0.0063 0.0004

Pluto -51925-06-12 22:47 J -17244019.72 -17244019.55 -17244019.37 0.0063 0.0001

Pluto -51925-09-08 23:59 J -17243931.67 -17243931.50 -17243931.33 0.0063 0.0006

Pluto -51925-12-06 01:11 J -17243843.62 -17243843.45 -17243843.28 0.0063 0.0010

Pluto -51924-03-04 02:23 J -17243755.57 -17243755.40 -17243755.23 0.0063 0.0015

Pluto -51924-05-31 03:21 J -17243667.51 -17243667.36 -17243667.18 0.0064 0.0021

Moon -51924-07-24 03:06 J -17243613.43 -17243613.37 -17243613.31 0.2666 0.2275

Earth -51924-07-24 03:49 J -17243613.40 -17243613.34 -17243613.28 0.2663 0.2253 *

Pluto -51924-08-27 04:33 J -17243579.46 -17243579.31 -17243579.14 0.0064 0.0026

Pluto -51924-11-23 05:45 J -17243491.40 -17243491.26 -17243491.09 0.0064 0.0031

Pluto -51923-02-19 07:25 J -17243403.34 -17243403.19 -17243403.05 0.0064 0.0035

Pluto -51923-05-18 08:37 J -17243315.27 -17243315.14 -17243315.01 0.0064 0.0040

Jupiter -51923-05-22 01:11 J -17243311.58 -17243311.45 -17243311.31 0.0489 0.0312

Pluto -51923-08-14 09:49 J -17243227.21 -17243227.09 -17243226.97 0.0064 0.0045

Jupiter -51923-08-20 02:23 J -17243221.53 -17243221.40 -17243221.27 0.0489 0.0324

Pluto -51923-11-10 10:33 J -17243139.14 -17243139.06 -17243138.93 0.0064 0.0051

Pluto -51922-02-06 11:45 J -17243051.07 -17243051.01 -17243050.90 0.0064 0.0057

Pluto -51922-05-05 13:11 J -17242962.98 -17242962.95 -17242962.88 0.0064 0.0061

Moon -51921-01-25 07:40 J -17242698.32 -17242698.18 -17242698.03 0.2668 0.0108

Earth -51921-01-25 09:06 J -17242698.27 -17242698.12 -17242697.98 0.2665 0.0103 *

Mars -51920-06-01 09:21 J -17242205.23 -17242205.11 -17242204.98 0.1705 0.0134

Mars -51919-03-26 04:33 J -17241907.45 -17241907.31 -17241907.18 0.1838 0.0750

Earth -51918-08-03 03:49 J -17241412.44 -17241412.34 -17241412.24 0.2670 0.1302

Moon -51918-08-03 04:33 J -17241412.41 -17241412.31 -17241412.21 0.2668 0.1357 *

Saturn -51917-01-24 17:59 J -17241237.79 -17241237.75 -17241237.71 0.0277 0.0264

Saturn -51917-04-22 06:28 J -17241149.34 -17241149.23 -17241149.11 0.0278 0.0165

Jupiter -51917-04-23 16:33 J -17241147.90 -17241147.81 -17241147.71 0.0539 0.0372

Saturn -51917-07-19 19:11 J -17241060.84 -17241060.70 -17241060.57 0.0279 0.0065

Jupiter -51917-07-22 02:52 J -17241058.49 -17241058.38 -17241058.27 0.0539 0.0266

Saturn -51917-10-16 07:25 J -17240972.32 -17240972.19 -17240972.05 0.0280 0.0035

Saturn -51916-01-12 19:54 J -17240883.79 -17240883.67 -17240883.55 0.0281 0.0133

Saturn -51916-04-11 07:54 J -17240795.24 -17240795.17 -17240795.09 0.0282 0.0231

Venus -51912-11-10 08:52 J -17239121.15 -17239121.13 -17239121.12 0.3750 0.3676

Jupiter -51911-03-10 00:42 J -17239001.51 -17239001.47 -17239001.42 0.0489 0.0466

Jupiter -51911-06-08 01:25 J -17238911.60 -17238911.44 -17238911.27 0.0489 0.0163

Moon -51911-07-26 23:01 J -17238862.64 -17238862.54 -17238862.45 0.2671 0.1402

Earth -51911-07-26 23:16 J -17238862.63 -17238862.53 -17238862.43 0.2665 0.1295 *

Mars -51911-10-22 18:28 J -17238774.84 -17238774.73 -17238774.62 0.1698 0.0795

Moon -51908-01-27 11:45 J -17237947.14 -17237947.01 -17237946.89 0.2670 0.1284

Earth -51908-01-27 11:59 J -17237947.12 -17237947.00 -17237946.87 0.2663 0.1398 *

Venus -51906-05-27 00:42 J -17237097.56 -17237097.47 -17237097.37 0.3754 0.1534

Jupiter -51905-02-10 19:54 J -17236837.70 -17236837.67 -17236837.64 0.0538 0.0524

Jupiter -51905-05-10 06:28 J -17236748.36 -17236748.23 -17236748.10 0.0538 0.0118

Earth -51905-08-04 22:47 J -17236661.62 -17236661.55 -17236661.49 0.2672 0.2191

Moon -51905-08-04 23:16 J -17236661.60 -17236661.53 -17236661.47 0.2667 0.2186 *

Saturn -51904-11-20 12:13 J -17236189.04 -17236188.99 -17236188.93 0.0282 0.0265

Saturn -51903-02-17 07:54 J -17236100.31 -17236100.17 -17236100.01 0.0281 0.0141

Saturn -51903-05-17 04:04 J -17236011.50 -17236011.33 -17236011.15 0.0280 0.0015

Saturn -51903-08-14 00:28 J -17235922.64 -17235922.48 -17235922.32 0.0280 0.0114

Saturn -51903-11-10 21:06 J -17235833.71 -17235833.62 -17235833.53 0.0279 0.0242

Uranus -51902-02-07 10:47 J -17235745.13 -17235745.05 -17235744.96 0.0147 0.0127

Uranus -51902-05-06 18:28 J -17235656.86 -17235656.73 -17235656.58 0.0147 0.0095

Uranus -51902-08-03 02:23 J -17235568.56 -17235568.40 -17235568.23 0.0147 0.0062

Uranus -51902-10-30 10:18 J -17235480.25 -17235480.07 -17235479.89 0.0147 0.0030

Earth -51901-01-20 10:04 J -17235398.10 -17235398.08 -17235398.06 0.2669 0.2628

Uranus -51901-01-26 18:13 J -17235391.92 -17235391.74 -17235391.55 0.0147 0.0003

Mars -51901-03-14 03:21 J -17235344.42 -17235344.36 -17235344.29 0.1691 0.1461

Uranus -51901-04-24 02:09 J -17235303.59 -17235303.41 -17235303.23 0.0147 0.0036

Uranus -51901-07-21 10:04 J -17235215.24 -17235215.08 -17235214.91 0.0146 0.0069

Uranus -51901-10-17 18:13 J -17235126.87 -17235126.74 -17235126.60 0.0146 0.0102

Venus -51901-12-09 16:47 J -17235073.90 -17235073.80 -17235073.70 0.3758 0.0616

Uranus -51900-01-14 02:23 J -17235038.46 -17235038.40 -17235038.33 0.0146 0.0136

Mars -51899-02-17 15:21 J -17234638.94 -17234638.86 -17234638.78 0.1719 0.1299

Jupiter -51899-03-27 00:57 J -17234601.64 -17234601.46 -17234601.29 0.0489 0.0008

Mars -51899-12-13 04:04 J -17234340.37 -17234340.33 -17234340.29 0.1820 0.1756

Earth -51898-07-29 18:42 J -17234111.84 -17234111.72 -17234111.61 0.2667 0.0365

Moon -51898-07-29 18:57 J -17234111.82 -17234111.71 -17234111.59 0.2673 0.0267 *

Venus -51898-09-11 05:16 J -17234068.35 -17234068.28 -17234068.21 0.3625 0.3179

Venus -51895-06-25 08:37 J -17233050.21 -17233050.14 -17233050.07 0.3762 0.2730

Jupiter -51893-02-27 09:35 J -17232438.23 -17232438.10 -17232437.97 0.0538 0.0040

Venus -51892-03-27 12:57 J -17232044.07 -17232043.96 -17232043.85 0.3619 0.2586

Mars -51890-07-11 00:28 J -17231208.60 -17231208.48 -17231208.37 0.1712 0.0630

Mars -51889-05-04 04:18 J -17230910.46 -17230910.32 -17230910.17 0.1829 0.0562

Moon -51888-01-22 11:01 J -17230647.17 -17230647.04 -17230646.92 0.2667 0.1296

Earth -51888-01-22 12:28 J -17230647.11 -17230646.98 -17230646.86 0.2667 0.1248 *

Saturn -51888-09-09 07:25 J -17230417.28 -17230417.19 -17230417.08 0.0279 0.0201

Saturn -51888-12-06 20:09 J -17230328.79 -17230328.66 -17230328.53 0.0279 0.0101

Jupiter -51887-01-13 00:28 J -17230291.65 -17230291.48 -17230291.32 0.0489 0.0147

Saturn -51887-03-05 08:37 J -17230240.28 -17230240.14 -17230240.00 0.0280 0.0006

Saturn -51887-06-01 21:06 J -17230151.75 -17230151.62 -17230151.49 0.0281 0.0098

Neptune -51887-08-26 12:28 J -17230065.98 -17230065.98 -17230065.94 0.0088 0.0088

Saturn -51887-08-29 09:06 J -17230063.21 -17230063.12 -17230063.02 0.0282 0.0197

Neptune -51887-11-22 14:23 J -17229977.95 -17229977.90 -17229977.83 0.0088 0.0081

Neptune -51886-02-18 16:04 J -17229889.90 -17229889.83 -17229889.74 0.0088 0.0075

Neptune -51886-05-17 17:45 J -17229801.84 -17229801.76 -17229801.66 0.0088 0.0068

Neptune -51886-08-13 19:40 J -17229713.78 -17229713.68 -17229713.58 0.0088 0.0062

Neptune -51886-11-09 21:06 J -17229625.72 -17229625.62 -17229625.50 0.0088 0.0056

Neptune -51885-02-05 22:47 J -17229537.66 -17229537.55 -17229537.42 0.0089 0.0050

Neptune -51885-05-04 00:28 J -17229449.60 -17229449.48 -17229449.35 0.0089 0.0043

Neptune -51885-07-31 02:09 J -17229361.53 -17229361.41 -17229361.27 0.0089 0.0037

Earth -51885-07-31 13:40 J -17229361.04 -17229360.93 -17229360.81 0.2668 0.0573

Moon -51885-07-31 14:23 J -17229361.01 -17229360.90 -17229360.78 0.2672 0.0581 *

Neptune -51885-10-27 03:49 J -17229273.47 -17229273.34 -17229273.20 0.0089 0.0031

Neptune -51884-01-23 05:30 J -17229185.40 -17229185.27 -17229185.13 0.0089 0.0024

Neptune -51884-04-21 07:11 J -17229097.34 -17229097.20 -17229097.06 0.0089 0.0018

Neptune -51884-07-18 08:52 J -17229009.27 -17229009.13 -17229008.99 0.0089 0.0012

Neptune -51884-10-14 10:18 J -17228921.21 -17228921.07 -17228920.92 0.0089 0.0006

Neptune -51883-01-10 11:59 J -17228833.14 -17228833.00 -17228832.86 0.0089 0.0002

Neptune -51883-04-08 13:40 J -17228745.07 -17228744.93 -17228744.79 0.0089 0.0007

Neptune -51883-07-05 15:21 J -17228657.00 -17228656.86 -17228656.72 0.0089 0.0013

Neptune -51883-10-01 16:47 J -17228568.94 -17228568.80 -17228568.66 0.0089 0.0019

Neptune -51883-12-28 18:28 J -17228480.87 -17228480.73 -17228480.60 0.0089 0.0025

Neptune -51882-03-26 19:54 J -17228392.80 -17228392.67 -17228392.53 0.0089 0.0031

Neptune -51882-06-22 21:21 J -17228304.73 -17228304.61 -17228304.47 0.0089 0.0038

Neptune -51882-09-18 23:01 J -17228216.66 -17228216.54 -17228216.41 0.0089 0.0043

Neptune -51882-12-16 00:28 J -17228128.58 -17228128.48 -17228128.35 0.0089 0.0050

Jupiter -51882-12-16 12:28 J -17228128.10 -17228127.98 -17228127.85 0.0538 0.0201

Neptune -51881-03-13 02:09 J -17228040.51 -17228040.41 -17228040.29 0.0089 0.0055

Jupiter -51881-03-14 22:33 J -17228038.64 -17228038.56 -17228038.48 0.0538 0.0429

Neptune -51881-06-09 03:35 J -17227952.44 -17227952.35 -17227952.24 0.0089 0.0062

Neptune -51881-09-05 05:16 J -17227864.36 -17227864.28 -17227864.18 0.0089 0.0067

Mars -51881-11-30 09:35 J -17227778.23 -17227778.10 -17227777.98 0.1705 0.0057

Neptune -51881-12-02 06:42 J -17227776.28 -17227776.22 -17227776.13 0.0089 0.0074

Neptune -51880-02-28 08:09 J -17227688.20 -17227688.16 -17227688.08 0.0089 0.0080

Neptune -51880-05-27 10:04 J -17227600.12 -17227600.08 -17227600.04 0.0089 0.0085

Mars -51880-09-24 04:33 J -17227480.45 -17227480.31 -17227480.17 0.1838 0.0641

Moon -51878-07-25 08:09 J -17226811.22 -17226811.16 -17226811.09 0.2667 0.2160

Earth -51878-07-25 08:52 J -17226811.20 -17226811.13 -17226811.06 0.2663 0.2071 *

Jupiter -51876-11-01 00:13 J -17225981.63 -17225981.49 -17225981.36 0.0489 0.0298

Moon -51875-01-25 14:09 J -17225896.06 -17225895.91 -17225895.77 0.2669 0.0058

Earth -51875-01-25 15:06 J -17225896.01 -17225895.87 -17225895.73 0.2665 0.0183 *

Jupiter -51875-01-30 01:11 J -17225891.57 -17225891.45 -17225891.32 0.0489 0.0338

Saturn -51874-07-07 07:54 J -17225368.30 -17225368.17 -17225368.04 0.0282 0.0177

Saturn -51874-10-04 03:49 J -17225279.51 -17225279.34 -17225279.16 0.0281 0.0051

Saturn -51873-01-01 00:13 J -17225190.66 -17225190.49 -17225190.32 0.0280 0.0077

Saturn -51873-03-29 20:37 J -17225101.75 -17225101.64 -17225101.51 0.0279 0.0206

Earth -51872-08-03 08:52 J -17224610.23 -17224610.13 -17224610.04 0.2670 0.1466

Moon -51872-08-03 09:35 J -17224610.19 -17224610.10 -17224610.01 0.2668 0.1550 *

Mars -51871-04-22 18:28 J -17224347.84 -17224347.73 -17224347.61 0.1698 0.0709

Mars -51870-02-14 05:01 J -17224050.30 -17224050.29 -17224050.27 0.1847 0.1832

Jupiter -51870-10-04 15:06 J -17223817.97 -17223817.87 -17223817.77 0.0539 0.0369

Jupiter -51869-01-02 01:25 J -17223728.55 -17223728.44 -17223728.33 0.0539 0.0269

Moon -51865-07-27 04:04 J -17222060.44 -17222060.33 -17222060.22 0.2671 0.1094

Earth -51865-07-27 04:18 J -17222060.42 -17222060.32 -17222060.21 0.2665 0.1123 *

Jupiter -51864-08-20 00:13 J -17221671.56 -17221671.49 -17221671.42 0.0489 0.0446

Jupiter -51864-11-18 00:42 J -17221581.63 -17221581.47 -17221581.30 0.0488 0.0184

Moon -51862-01-28 17:45 J -17221144.87 -17221144.76 -17221144.65 0.2670 0.1717

Earth -51862-01-28 18:13 J -17221144.85 -17221144.74 -17221144.63 0.2663 0.1654 *

Mars -51862-09-13 03:35 J -17220917.42 -17220917.35 -17220917.28 0.1691 0.1372

Uranus -51860-02-25 00:13 J -17220386.55 -17220386.49 -17220386.43 0.0132 0.0117

Uranus -51860-05-24 03:35 J -17220298.44 -17220298.35 -17220298.26 0.0132 0.0099

Mars -51860-08-18 15:21 J -17220211.93 -17220211.86 -17220211.79 0.1719 0.1382

Uranus -51860-08-20 06:42 J -17220210.33 -17220210.22 -17220210.11 0.0132 0.0081

Uranus -51860-11-16 09:49 J -17220122.20 -17220122.09 -17220121.96 0.0132 0.0063

Uranus -51859-02-12 12:57 J -17220034.08 -17220033.96 -17220033.82 0.0132 0.0046

Uranus -51859-05-11 16:18 J -17219945.95 -17219945.82 -17219945.68 0.0132 0.0028

Earth -51859-08-06 03:35 J -17219859.40 -17219859.35 -17219859.29 0.2672 0.2352

Moon -51859-08-06 04:04 J -17219859.38 -17219859.33 -17219859.28 0.2667 0.2391 *

Uranus -51859-08-07 19:25 J -17219857.82 -17219857.69 -17219857.55 0.0132 0.0011

Uranus -51859-11-03 22:47 J -17219769.69 -17219769.55 -17219769.42 0.0132 0.0009

Saturn -51858-01-27 09:21 J -17219685.18 -17219685.11 -17219685.02 0.0278 0.0231

Uranus -51858-01-31 01:40 J -17219681.56 -17219681.43 -17219681.29 0.0132 0.0026

Saturn -51858-04-25 22:04 J -17219596.70 -17219596.58 -17219596.45 0.0278 0.0131

Uranus -51858-04-29 05:01 J -17219593.42 -17219593.29 -17219593.16 0.0132 0.0043

Saturn -51858-07-23 10:33 J -17219508.19 -17219508.06 -17219507.92 0.0279 0.0033

Jupiter -51858-07-23 18:13 J -17219507.76 -17219507.74 -17219507.70 0.0539 0.0523

Uranus -51858-07-26 07:54 J -17219505.28 -17219505.17 -17219505.04 0.0132 0.0061

Saturn -51858-10-19 23:01 J -17219419.67 -17219419.54 -17219419.41 0.0280 0.0067

Jupiter -51858-10-21 05:01 J -17219418.42 -17219418.29 -17219418.16 0.0539 0.0122

Uranus -51858-10-22 11:01 J -17219417.14 -17219417.04 -17219416.92 0.0132 0.0078

Saturn -51857-01-16 11:16 J -17219331.14 -17219331.03 -17219330.92 0.0281 0.0165

Uranus -51857-01-18 14:23 J -17219329.00 -17219328.90 -17219328.81 0.0132 0.0096

Saturn -51857-04-13 23:16 J -17219242.57 -17219242.53 -17219242.48 0.0282 0.0263

Uranus -51857-04-15 17:16 J -17219240.84 -17219240.78 -17219240.71 0.0132 0.0113

Uranus -51857-07-12 20:23 J -17219152.67 -17219152.65 -17219152.63 0.0132 0.0130

Moon -51855-01-20 14:52 J -17218595.93 -17218595.88 -17218595.83 0.2666 0.2491

Earth -51855-01-20 16:04 J -17218595.89 -17218595.83 -17218595.77 0.2669 0.2381 *

Venus -51855-06-17 06:13 J -17218448.30 -17218448.24 -17218448.17 0.3751 0.2892

Earth -51852-07-29 23:45 J -17217309.63 -17217309.51 -17217309.40 0.2667 0.0199

Moon -51852-07-29 23:59 J -17217309.61 -17217309.50 -17217309.38 0.2673 0.0242 *

Jupiter -51852-09-05 23:59 J -17217271.68 -17217271.50 -17217271.33 0.0489 0.0023

Mars -51850-01-09 00:28 J -17216781.59 -17216781.48 -17216781.37 0.1712 0.0715

Mars -51850-11-03 04:47 J -17216483.44 -17216483.30 -17216483.16 0.1829 0.0694

Venus -51850-12-31 22:18 J -17216424.67 -17216424.57 -17216424.47 0.3755 0.0737

Jupiter -51846-08-09 08:37 J -17215108.27 -17215108.14 -17215108.01 0.0539 0.0028

Saturn -51845-11-23 04:47 J -17214636.39 -17214636.30 -17214636.20 0.0282 0.0230

Saturn -51844-02-20 00:42 J -17214547.63 -17214547.47 -17214547.31 0.0281 0.0104

Saturn -51844-05-19 20:52 J -17214458.80 -17214458.63 -17214458.46 0.0280 0.0022

Venus -51844-07-16 14:23 J -17214401.00 -17214400.90 -17214400.81 0.3759 0.1404

Saturn -51844-08-16 17:16 J -17214369.93 -17214369.78 -17214369.63 0.0280 0.0150

Saturn -51844-11-13 13:54 J -17214280.92 -17214280.92 -17214280.92 0.0279 0.0279

Moon -51842-01-23 17:01 J -17213844.92 -17213844.79 -17213844.66 0.2666 0.1149

Earth -51842-01-23 18:28 J -17213844.87 -17213844.73 -17213844.60 0.2667 0.0999 *

Venus -51841-04-17 06:57 J -17213395.35 -17213395.21 -17213395.06 0.3624 0.1215

Mars -51841-05-31 09:35 J -17213351.22 -17213351.10 -17213350.97 0.1705 0.0052

Mars -51840-03-25 05:01 J -17213053.43 -17213053.29 -17213053.14 0.1837 0.0511

Jupiter -51840-06-24 23:30 J -17212961.69 -17212961.52 -17212961.35 0.0489 0.0132

Earth -51839-08-01 18:42 J -17212558.83 -17212558.72 -17212558.60 0.2669 0.0738

Moon -51839-08-01 19:40 J -17212558.79 -17212558.68 -17212558.58 0.2671 0.0861 *

Venus -51838-01-30 06:13 J -17212377.27 -17212377.24 -17212377.21 0.3763 0.3516

Pluto -51838-10-13 02:09 J -17212121.44 -17212121.41 -17212121.36 0.0082 0.0078

Pluto -51837-01-09 03:49 J -17212033.41 -17212033.34 -17212033.26 0.0082 0.0069

Pluto -51837-04-06 05:30 J -17211945.36 -17211945.27 -17211945.17 0.0082 0.0060

Pluto -51837-07-03 07:11 J -17211857.31 -17211857.20 -17211857.08 0.0082 0.0051

Pluto -51837-09-29 08:52 J -17211769.26 -17211769.13 -17211769.01 0.0081 0.0042

Pluto -51837-12-26 10:18 J -17211681.20 -17211681.07 -17211680.93 0.0081 0.0033

Pluto -51836-03-24 11:59 J -17211593.14 -17211593.00 -17211592.86 0.0081 0.0024

Pluto -51836-06-20 13:25 J -17211505.08 -17211504.94 -17211504.79 0.0081 0.0016

Pluto -51836-09-16 15:06 J -17211417.02 -17211416.87 -17211416.73 0.0081 0.0007

Pluto -51836-12-13 16:33 J -17211328.95 -17211328.81 -17211328.66 0.0081 0.0003

Pluto -51835-03-11 17:59 J -17211240.89 -17211240.75 -17211240.60 0.0081 0.0011

Pluto -51835-06-07 19:40 J -17211152.82 -17211152.68 -17211152.54 0.0081 0.0019

Pluto -51835-09-03 20:52 J -17211064.76 -17211064.63 -17211064.48 0.0080 0.0028

Pluto -51835-11-30 22:33 J -17210976.69 -17210976.56 -17210976.43 0.0080 0.0035

Pluto -51834-02-26 23:59 J -17210888.62 -17210888.50 -17210888.37 0.0080 0.0043

Pluto -51834-05-26 01:25 J -17210800.55 -17210800.44 -17210800.33 0.0080 0.0051

Jupiter -51834-05-28 11:45 J -17210798.14 -17210798.01 -17210797.89 0.0538 0.0185

Pluto -51834-08-22 02:37 J -17210712.47 -17210712.39 -17210712.28 0.0080 0.0060

Jupiter -51834-08-25 21:35 J -17210708.67 -17210708.60 -17210708.53 0.0538 0.0443

Pluto -51834-11-18 04:04 J -17210624.39 -17210624.33 -17210624.24 0.0080 0.0068

Pluto -51833-02-14 05:16 J -17210536.30 -17210536.28 -17210536.21 0.0080 0.0076

Moon -51832-07-25 13:11 J -17210009.02 -17210008.95 -17210008.87 0.2668 0.1950

Earth -51832-07-25 13:54 J -17210009.00 -17210008.92 -17210008.84 0.2664 0.1896 *

Mars -51832-10-21 18:42 J -17209920.84 -17209920.72 -17209920.61 0.1698 0.0618

Mars -51831-08-15 05:30 J -17209623.32 -17209623.27 -17209623.21 0.1846 0.1700

Moon -51829-01-26 20:09 J -17209093.80 -17209093.66 -17209093.51 0.2670 0.0449

Earth -51829-01-26 21:06 J -17209093.76 -17209093.62 -17209093.47 0.2665 0.0440 *

Saturn -51829-06-15 10:33 J -17208953.09 -17208953.06 -17208953.02 0.0278 0.0266

Saturn -51829-09-11 23:16 J -17208864.64 -17208864.53 -17208864.42 0.0279 0.0167

Saturn -51829-12-09 11:45 J -17208776.14 -17208776.01 -17208775.87 0.0280 0.0067

Saturn -51828-03-08 00:13 J -17208687.63 -17208687.49 -17208687.35 0.0280 0.0032

Jupiter -51828-04-12 23:01 J -17208651.68 -17208651.54 -17208651.40 0.0489 0.0286

Saturn -51828-06-04 12:28 J -17208599.10 -17208598.98 -17208598.86 0.0281 0.0131

Jupiter -51828-07-12 00:13 J -17208561.61 -17208561.49 -17208561.37 0.0489 0.0352

Saturn -51828-09-01 00:42 J -17208510.55 -17208510.47 -17208510.39 0.0282 0.0229

Earth -51826-08-04 13:40 J -17207808.02 -17207807.93 -17207807.83 0.2671 0.1634

Moon -51826-08-04 14:37 J -17207807.98 -17207807.89 -17207807.80 0.2668 0.1659 *

Mars -51822-03-14 03:35 J -17206490.43 -17206490.35 -17206490.27 0.1691 0.1279

Jupiter -51822-03-16 14:37 J -17206487.99 -17206487.89 -17206487.79 0.0538 0.0347

Jupiter -51822-06-14 00:57 J -17206398.57 -17206398.46 -17206398.35 0.0538 0.0289

Mars -51820-02-16 15:21 J -17205784.92 -17205784.86 -17205784.80 0.1719 0.1470

Moon -51819-07-28 09:21 J -17205258.22 -17205258.11 -17205258.00 0.2672 0.0992

Earth -51819-07-28 09:21 J -17205258.22 -17205258.11 -17205258.00 0.2665 0.0948 *

Uranus -51818-02-27 17:30 J -17205043.86 -17205043.77 -17205043.66 0.0147 0.0121

Uranus -51818-05-27 01:25 J -17204955.58 -17204955.44 -17204955.29 0.0147 0.0089

Uranus -51818-08-23 09:06 J -17204867.28 -17204867.12 -17204866.94 0.0147 0.0057

Uranus -51818-11-19 17:16 J -17204778.96 -17204778.78 -17204778.60 0.0147 0.0024

Uranus -51817-02-16 01:11 J -17204690.64 -17204690.45 -17204690.27 0.0147 0.0010

Uranus -51817-05-14 08:52 J -17204602.30 -17204602.13 -17204601.95 0.0146 0.0043

Uranus -51817-08-10 16:47 J -17204513.95 -17204513.80 -17204513.63 0.0146 0.0076

Uranus -51817-11-07 00:57 J -17204425.57 -17204425.46 -17204425.33 0.0146 0.0109

Moon -51816-01-29 00:13 J -17204342.60 -17204342.49 -17204342.39 0.2669 0.1822

Earth -51816-01-29 00:28 J -17204342.58 -17204342.48 -17204342.38 0.2663 0.1922 *

Jupiter -51816-01-29 23:01 J -17204341.62 -17204341.54 -17204341.46 0.0489 0.0433

Uranus -51816-02-03 08:52 J -17204337.16 -17204337.13 -17204337.07 0.0146 0.0142

Jupiter -51816-04-29 23:30 J -17204251.67 -17204251.52 -17204251.35 0.0489 0.0197

Saturn -51815-04-12 04:33 J -17203904.36 -17203904.31 -17203904.25 0.0282 0.0267

Saturn -51815-07-10 00:28 J -17203815.63 -17203815.48 -17203815.33 0.0281 0.0142

Saturn -51815-10-06 20:37 J -17203726.82 -17203726.64 -17203726.47 0.0281 0.0016

Saturn -51814-01-03 16:47 J -17203637.95 -17203637.80 -17203637.63 0.0280 0.0113

Saturn -51814-04-02 13:25 J -17203549.02 -17203548.94 -17203548.85 0.0279 0.0242

Earth -51813-08-06 08:37 J -17203057.18 -17203057.14 -17203057.10 0.2672 0.2510

Moon -51813-08-06 08:52 J -17203057.16 -17203057.13 -17203057.10 0.2666 0.2526 *

Mars -51811-07-10 00:42 J -17202354.58 -17202354.47 -17202354.37 0.1712 0.0808

Jupiter -51810-01-02 16:47 J -17202177.83 -17202177.80 -17202177.77 0.0538 0.0520

Jupiter -51810-04-02 03:35 J -17202088.48 -17202088.35 -17202088.23 0.0539 0.0124

Mars -51810-05-04 05:01 J -17202056.42 -17202056.29 -17202056.15 0.1829 0.0808

Moon -51809-01-21 20:37 J -17201793.72 -17201793.64 -17201793.56 0.2666 0.2175

Earth -51809-01-21 21:49 J -17201793.67 -17201793.59 -17201793.50 0.2669 0.2141 *

Earth -51806-07-31 04:47 J -17200507.42 -17200507.30 -17200507.19 0.2667 0.0084

Moon -51806-07-31 05:01 J -17200507.40 -17200507.29 -17200507.17 0.2673 0.0124 *

Neptune -51805-11-15 07:11 J -17200034.21 -17200034.20 -17200034.15 0.0089 0.0088

Neptune -51804-02-11 10:18 J -17199946.14 -17199946.07 -17199945.99 0.0089 0.0080

Jupiter -51804-02-15 23:16 J -17199941.70 -17199941.53 -17199941.36 0.0488 0.0042

Neptune -51804-05-10 12:57 J -17199858.05 -17199857.96 -17199857.85 0.0089 0.0073

Neptune -51804-08-06 15:49 J -17199769.95 -17199769.84 -17199769.71 0.0089 0.0065

Neptune -51804-11-02 18:28 J -17199681.84 -17199681.73 -17199681.58 0.0089 0.0058

Neptune -51803-01-29 21:35 J -17199593.74 -17199593.60 -17199593.45 0.0089 0.0050

Neptune -51803-04-28 00:13 J -17199505.63 -17199505.49 -17199505.32 0.0089 0.0043

Neptune -51803-07-25 03:21 J -17199417.52 -17199417.36 -17199417.20 0.0089 0.0035

Neptune -51803-10-21 06:13 J -17199329.41 -17199329.24 -17199329.07 0.0089 0.0027

Neptune -51802-01-17 09:06 J -17199241.29 -17199241.12 -17199240.95 0.0089 0.0019

Neptune -51802-04-15 11:59 J -17199153.17 -17199153.00 -17199152.82 0.0089 0.0012

Neptune -51802-07-12 14:52 J -17199065.05 -17199064.88 -17199064.70 0.0089 0.0004

Neptune -51802-10-08 17:45 J -17198976.93 -17198976.76 -17198976.58 0.0089 0.0004

Mars -51802-11-30 09:35 J -17198924.22 -17198924.10 -17198923.98 0.1705 0.0133

Neptune -51801-01-04 20:37 J -17198888.81 -17198888.64 -17198888.46 0.0089 0.0012

Neptune -51801-04-01 23:30 J -17198800.68 -17198800.52 -17198800.34 0.0089 0.0020

Neptune -51801-06-29 02:37 J -17198712.56 -17198712.39 -17198712.22 0.0089 0.0027

Mars -51801-09-23 05:30 J -17198626.41 -17198626.27 -17198626.12 0.1837 0.0378

Neptune -51801-09-25 05:30 J -17198624.43 -17198624.27 -17198624.10 0.0089 0.0035

Neptune -51801-12-22 08:23 J -17198536.30 -17198536.15 -17198535.99 0.0089 0.0043

Neptune -51800-03-20 11:16 J -17198448.16 -17198448.03 -17198447.87 0.0089 0.0051

Neptune -51800-06-16 14:09 J -17198360.03 -17198359.91 -17198359.76 0.0089 0.0059

Neptune -51800-09-12 17:16 J -17198271.89 -17198271.78 -17198271.65 0.0089 0.0067

Neptune -51800-12-09 20:09 J -17198183.74 -17198183.66 -17198183.55 0.0089 0.0075

Saturn -51799-01-30 01:25 J -17198132.54 -17198132.44 -17198132.34 0.0278 0.0194

Neptune -51799-03-07 23:01 J -17198095.58 -17198095.54 -17198095.45 0.0089 0.0083

Saturn -51799-04-28 13:54 J -17198044.05 -17198043.92 -17198043.78 0.0278 0.0096

Saturn -51799-07-26 02:23 J -17197955.54 -17197955.40 -17197955.26 0.0279 0.0007

Saturn -51799-10-22 14:37 J -17197867.01 -17197866.89 -17197866.76 0.0280 0.0102

Saturn -51798-01-19 02:52 J -17197778.47 -17197778.38 -17197778.28 0.0281 0.0199

Jupiter -51798-01-19 06:57 J -17197778.34 -17197778.21 -17197778.07 0.0539 0.0028 *

Venus -51798-01-22 03:49 J -17197775.43 -17197775.34 -17197775.26 0.3752 0.2092

Moon -51796-01-23 23:01 J -17197042.67 -17197042.54 -17197042.40 0.2667 0.0829

Earth -51796-01-24 00:28 J -17197042.62 -17197042.48 -17197042.35 0.2666 0.0745 *

Earth -51793-08-01 23:45 J -17195756.62 -17195756.51 -17195756.40 0.2669 0.0899

Moon -51793-08-02 00:42 J -17195756.58 -17195756.47 -17195756.37 0.2669 0.0901 *

Venus -51793-08-06 19:54 J -17195751.78 -17195751.67 -17195751.57 0.3756 0.0116

Jupiter -51793-12-04 22:18 J -17195631.74 -17195631.57 -17195631.40 0.0489 0.0118

Mars -51792-04-21 18:42 J -17195493.84 -17195493.72 -17195493.60 0.1698 0.0527

Mars -51791-02-13 05:59 J -17195196.32 -17195196.25 -17195196.17 0.1846 0.1572

Venus -51787-02-20 11:45 J -17193728.09 -17193728.01 -17193727.93 0.3760 0.2185

Jupiter -51787-11-07 10:33 J -17193468.19 -17193468.06 -17193467.93 0.0539 0.0177

Jupiter -51786-02-04 20:23 J -17193378.71 -17193378.65 -17193378.58 0.0539 0.0455

Moon -51786-07-26 18:28 J -17193206.82 -17193206.73 -17193206.65 0.2668 0.1775

Earth -51786-07-26 18:57 J -17193206.79 -17193206.71 -17193206.62 0.2664 0.1719 *

Saturn -51786-11-26 21:49 J -17193083.71 -17193083.59 -17193083.46 0.0282 0.0192

Saturn -51785-02-23 17:45 J -17192994.93 -17192994.76 -17192994.59 0.0281 0.0066

Saturn -51785-05-22 13:54 J -17192906.09 -17192905.92 -17192905.74 0.0280 0.0062

Saturn -51785-08-19 10:33 J -17192817.19 -17192817.06 -17192816.93 0.0280 0.0190

Venus -51785-11-22 08:37 J -17192722.29 -17192722.14 -17192721.99 0.3622 0.0738

Moon -51783-01-27 02:23 J -17192291.54 -17192291.40 -17192291.26 0.2670 0.0568

Earth -51783-01-27 03:21 J -17192291.50 -17192291.36 -17192291.22 0.2664 0.0702 *

Mars -51783-09-12 03:49 J -17192063.43 -17192063.34 -17192063.25 0.1692 0.1188

Mars -51781-08-17 15:35 J -17191357.90 -17191357.85 -17191357.80 0.1720 0.1561

Jupiter -51781-09-22 22:04 J -17191321.73 -17191321.58 -17191321.44 0.0489 0.0272

Jupiter -51781-12-21 23:01 J -17191231.65 -17191231.54 -17191231.42 0.0489 0.0365

Earth -51780-08-04 18:42 J -17191005.80 -17191005.72 -17191005.63 0.2671 0.1795

Moon -51780-08-04 19:25 J -17191005.77 -17191005.69 -17191005.61 0.2668 0.1892 *

Uranus -51777-12-19 03:49 J -17189773.34 -17189773.34 -17189773.31 0.0132 0.0131

Uranus -51776-03-17 07:11 J -17189685.26 -17189685.20 -17189685.12 0.0132 0.0113

Uranus -51776-06-13 10:33 J -17189597.15 -17189597.06 -17189596.96 0.0132 0.0095

Uranus -51776-09-09 13:40 J -17189509.03 -17189508.93 -17189508.81 0.0132 0.0077

Uranus -51776-12-06 17:01 J -17189420.91 -17189420.79 -17189420.66 0.0132 0.0059

Uranus -51775-03-04 20:09 J -17189332.78 -17189332.66 -17189332.52 0.0132 0.0041

Uranus -51775-05-31 23:30 J -17189244.66 -17189244.52 -17189244.39 0.0132 0.0023

Jupiter -51775-08-26 13:25 J -17189158.04 -17189157.94 -17189157.83 0.0538 0.0336

Uranus -51775-08-28 02:37 J -17189156.53 -17189156.39 -17189156.25 0.0132 0.0005

Jupiter -51775-11-23 23:45 J -17189068.61 -17189068.51 -17189068.40 0.0538 0.0301

Uranus -51775-11-24 05:45 J -17189068.39 -17189068.26 -17189068.12 0.0132 0.0013

Uranus -51774-02-20 09:06 J -17188980.26 -17188980.12 -17188979.99 0.0132 0.0030

Uranus -51774-05-19 11:59 J -17188892.12 -17188892.00 -17188891.87 0.0132 0.0048

Uranus -51774-08-15 15:21 J -17188803.98 -17188803.86 -17188803.75 0.0132 0.0065

Uranus -51774-11-11 18:13 J -17188715.84 -17188715.74 -17188715.63 0.0132 0.0083

Uranus -51773-02-07 21:21 J -17188627.69 -17188627.61 -17188627.52 0.0132 0.0100

Uranus -51773-05-06 00:28 J -17188539.53 -17188539.48 -17188539.42 0.0132 0.0118

Moon -51773-07-28 14:37 J -17188456.01 -17188455.89 -17188455.78 0.2673 0.0755

Earth -51773-07-28 14:23 J -17188456.01 -17188455.90 -17188455.78 0.2666 0.0776 *

Mars -51771-01-08 00:42 J -17187927.58 -17187927.47 -17187927.37 0.1712 0.0893

Mars -51771-11-02 05:30 J -17187629.40 -17187629.27 -17187629.14 0.1829 0.0941

Earth -51770-01-30 06:28 J -17187540.31 -17187540.23 -17187540.15 0.2662 0.2180

Moon -51770-01-30 06:28 J -17187540.30 -17187540.23 -17187540.16 0.2669 0.2277 *

Saturn -51770-06-19 02:23 J -17187400.47 -17187400.40 -17187400.31 0.0278 0.0230

Saturn -51770-09-15 15:06 J -17187311.99 -17187311.87 -17187311.74 0.0279 0.0131

Saturn -51770-12-13 03:35 J -17187223.48 -17187223.35 -17187223.21 0.0280 0.0032

Saturn -51769-03-10 16:04 J -17187134.97 -17187134.83 -17187134.70 0.0280 0.0068

Saturn -51769-06-07 04:18 J -17187046.43 -17187046.32 -17187046.21 0.0281 0.0166

Jupiter -51769-07-11 21:35 J -17187011.68 -17187011.60 -17187011.51 0.0489 0.0424

Saturn -51769-09-03 16:18 J -17186957.86 -17186957.82 -17186957.77 0.0282 0.0264

Jupiter -51769-10-09 22:18 J -17186921.73 -17186921.57 -17186921.41 0.0489 0.0207

Moon -51767-08-07 13:40 J -17186254.94 -17186254.93 -17186254.92 0.2666 0.2648

Earth -51767-08-07 13:40 J -17186254.93 -17186254.93 -17186254.93 0.2673 0.2672 *

Moon -51763-01-22 02:37 J -17184991.48 -17184991.39 -17184991.30 0.2665 0.2047

Earth -51763-01-22 04:04 J -17184991.43 -17184991.33 -17184991.23 0.2668 0.1887 *

Jupiter -51763-06-14 16:18 J -17184847.87 -17184847.82 -17184847.77 0.0538 0.0499

Jupiter -51763-09-12 02:52 J -17184758.51 -17184758.38 -17184758.25 0.0538 0.0143

Mars -51762-05-31 09:49 J -17184497.22 -17184497.09 -17184496.97 0.1705 0.0230

Mars -51761-03-24 05:59 J -17184199.40 -17184199.25 -17184199.10 0.1837 0.0259

Earth -51760-07-31 09:49 J -17183705.21 -17183705.09 -17183704.98 0.2668 0.0177

Moon -51760-07-31 10:18 J -17183705.19 -17183705.07 -17183704.96 0.2673 0.0156 *

Jupiter -51757-07-28 21:49 J -17182611.76 -17182611.59 -17182611.41 0.0489 0.0054

Saturn -51756-04-14 21:35 J -17182351.69 -17182351.60 -17182351.50 0.0282 0.0229

Saturn -51756-07-12 17:30 J -17182262.93 -17182262.77 -17182262.61 0.0281 0.0103

Saturn -51756-10-09 13:40 J -17182174.10 -17182173.93 -17182173.75 0.0280 0.0025

Saturn -51755-01-06 10:04 J -17182085.22 -17182085.08 -17182084.93 0.0280 0.0153

Moon -51753-07-24 03:35 J -17181155.38 -17181155.35 -17181155.31 0.2664 0.2513

Earth -51753-07-24 04:33 J -17181155.35 -17181155.31 -17181155.27 0.2662 0.2501 *

Mars -51753-10-20 18:42 J -17181066.84 -17181066.72 -17181066.60 0.1698 0.0440

Mars -51752-08-14 06:28 J -17180769.32 -17180769.23 -17180769.14 0.1846 0.1453

Jupiter -51751-07-01 05:16 J -17180448.41 -17180448.28 -17180448.14 0.0539 0.0031

Moon -51750-01-25 05:16 J -17180240.42 -17180240.28 -17180240.14 0.2669 0.0567

Earth -51750-01-25 06:28 J -17180240.37 -17180240.23 -17180240.09 0.2666 0.0492 *

Venus -51747-02-12 09:21 J -17179126.15 -17179126.11 -17179126.08 0.3749 0.3454

Earth -51747-08-03 04:47 J -17178954.40 -17178954.30 -17178954.19 0.2669 0.1066

Moon -51747-08-03 05:45 J -17178954.37 -17178954.26 -17178954.16 0.2670 0.1209 *

Jupiter -51745-05-16 21:35 J -17178301.77 -17178301.60 -17178301.43 0.0488 0.0100

Mars -51743-03-13 03:49 J -17177636.44 -17177636.34 -17177636.25 0.1692 0.1102

Venus -51742-08-29 01:25 J -17177102.54 -17177102.44 -17177102.35 0.3753 0.1296

Mars -51741-02-16 15:21 J -17176930.89 -17176930.86 -17176930.82 0.1719 0.1640

Saturn -51741-11-05 05:01 J -17176668.34 -17176668.29 -17176668.23 0.0277 0.0254

Saturn -51740-02-01 17:45 J -17176579.87 -17176579.76 -17176579.64 0.0278 0.0155

Saturn -51740-05-01 06:28 J -17176491.37 -17176491.23 -17176491.10 0.0279 0.0056

Moon -51740-07-26 23:30 J -17176404.61 -17176404.52 -17176404.42 0.2669 0.1613

Earth -51740-07-27 00:13 J -17176404.59 -17176404.49 -17176404.40 0.2664 0.1541 *

Saturn -51740-07-28 18:42 J -17176402.85 -17176402.72 -17176402.58 0.0279 0.0043

Saturn -51740-10-25 06:57 J -17176314.33 -17176314.21 -17176314.09 0.0280 0.0141

Saturn -51739-01-21 18:57 J -17176225.77 -17176225.71 -17176225.63 0.0281 0.0238

Jupiter -51739-04-19 08:37 J -17176138.26 -17176138.14 -17176138.01 0.0539 0.0181

Jupiter -51739-07-17 18:42 J -17176048.79 -17176048.72 -17176048.65 0.0539 0.0452

Moon -51737-01-28 08:23 J -17175489.28 -17175489.15 -17175489.01 0.2670 0.0939

Earth -51737-01-28 09:21 J -17175489.25 -17175489.11 -17175488.98 0.2664 0.0955 *

Venus -51736-03-13 17:16 J -17175078.88 -17175078.78 -17175078.68 0.3757 0.0865

Uranus -51734-03-20 00:13 J -17174342.59 -17174342.49 -17174342.37 0.0147 0.0116

Uranus -51734-06-16 07:54 J -17174254.31 -17174254.17 -17174254.01 0.0147 0.0084

Earth -51734-08-05 23:45 J -17174203.59 -17174203.51 -17174203.43 0.2671 0.1957

Moon -51734-08-06 00:13 J -17174203.56 -17174203.49 -17174203.41 0.2667 0.1944 *

Uranus -51734-09-12 15:49 J -17174166.01 -17174165.84 -17174165.66 0.0147 0.0051

Uranus -51734-12-09 23:45 J -17174077.69 -17174077.51 -17174077.32 0.0147 0.0019

Venus -51734-12-14 02:52 J -17174073.47 -17174073.38 -17174073.30 0.3627 0.3038

Jupiter -51733-03-04 20:37 J -17173991.78 -17173991.64 -17173991.49 0.0489 0.0260

Uranus -51733-03-07 07:40 J -17173989.36 -17173989.18 -17173988.99 0.0147 0.0014

Jupiter -51733-06-02 21:49 J -17173901.70 -17173901.59 -17173901.48 0.0488 0.0376

Uranus -51733-06-03 15:35 J -17173901.02 -17173900.85 -17173900.67 0.0146 0.0047

Uranus -51733-08-30 23:30 J -17173812.67 -17173812.52 -17173812.36 0.0146 0.0081

Uranus -51733-11-27 07:40 J -17173724.29 -17173724.18 -17173724.06 0.0146 0.0114

Mars -51732-07-09 00:42 J -17173500.57 -17173500.47 -17173500.37 0.1713 0.0979

Mars -51731-05-03 06:13 J -17173202.36 -17173202.24 -17173202.12 0.1828 0.1080

Venus -51731-09-27 09:21 J -17173055.17 -17173055.11 -17173055.05 0.3761 0.2974

Venus -51728-06-29 10:18 J -17172049.17 -17172049.07 -17172048.97 0.3621 0.2741

Jupiter -51727-02-05 12:13 J -17171828.10 -17171827.99 -17171827.89 0.0539 0.0332

Jupiter -51727-05-05 22:33 J -17171738.67 -17171738.56 -17171738.45 0.0539 0.0306

Earth -51727-07-29 19:25 J -17171653.80 -17171653.69 -17171653.57 0.2666 0.0606

Moon -51727-07-29 19:40 J -17171653.79 -17171653.68 -17171653.57 0.2673 0.0597 *

Saturn -51727-09-01 19:40 J -17171619.71 -17171619.68 -17171619.64 0.0283 0.0274

Saturn -51727-11-29 15:21 J -17171531.00 -17171530.86 -17171530.71 0.0282 0.0150

Saturn -51726-02-26 11:30 J -17171442.19 -17171442.02 -17171441.84 0.0281 0.0023

Saturn -51726-05-26 07:54 J -17171353.33 -17171353.17 -17171353.01 0.0280 0.0105

Saturn -51726-08-23 04:18 J -17171264.41 -17171264.32 -17171264.22 0.0279 0.0233

Earth -51724-01-30 12:42 J -17170738.03 -17170737.97 -17170737.92 0.2662 0.2450

Moon -51724-01-30 12:57 J -17170738.02 -17170737.96 -17170737.90 0.2669 0.2410 *

Mars -51723-11-29 09:49 J -17170070.21 -17170070.09 -17170069.97 0.1705 0.0317

Neptune -51722-05-23 11:59 J -17169895.02 -17169895.00 -17169894.94 0.0088 0.0085

Neptune -51722-08-19 14:09 J -17169806.98 -17169806.91 -17169806.85 0.0088 0.0078

Mars -51722-09-23 06:13 J -17169772.39 -17169772.24 -17169772.09 0.1837 0.0134

Neptune -51722-11-15 15:35 J -17169718.93 -17169718.85 -17169718.76 0.0089 0.0072

Jupiter -51722-12-22 20:23 J -17169681.74 -17169681.65 -17169681.56 0.0489 0.0413

Neptune -51721-02-11 17:16 J -17169630.87 -17169630.78 -17169630.68 0.0089 0.0065

Jupiter -51721-03-21 20:52 J -17169591.78 -17169591.63 -17169591.47 0.0489 0.0217

Neptune -51721-05-09 19:11 J -17169542.81 -17169542.70 -17169542.60 0.0089 0.0059

Neptune -51721-08-05 20:37 J -17169454.75 -17169454.64 -17169454.52 0.0089 0.0053

Neptune -51721-11-01 22:18 J -17169366.69 -17169366.57 -17169366.44 0.0089 0.0047

Neptune -51720-01-28 23:59 J -17169278.62 -17169278.50 -17169278.37 0.0089 0.0040

Neptune -51720-04-27 01:25 J -17169190.56 -17169190.44 -17169190.29 0.0089 0.0035

Neptune -51720-07-24 03:21 J -17169102.49 -17169102.36 -17169102.22 0.0089 0.0028

Neptune -51720-10-20 05:01 J -17169014.43 -17169014.29 -17169014.15 0.0089 0.0021

Neptune -51719-01-16 06:42 J -17168926.36 -17168926.22 -17168926.08 0.0089 0.0015

Neptune -51719-04-14 08:09 J -17168838.30 -17168838.16 -17168838.01 0.0089 0.0010

Neptune -51719-07-11 09:49 J -17168750.23 -17168750.09 -17168749.94 0.0089 0.0004

Neptune -51719-10-07 11:30 J -17168662.16 -17168662.02 -17168661.88 0.0089 0.0003

Neptune -51718-01-03 13:11 J -17168574.09 -17168573.95 -17168573.81 0.0089 0.0009

Neptune -51718-04-01 14:37 J -17168486.02 -17168485.89 -17168485.75 0.0089 0.0016

Neptune -51718-06-28 16:18 J -17168397.96 -17168397.82 -17168397.68 0.0089 0.0022

Neptune -51718-09-24 17:59 J -17168309.89 -17168309.75 -17168309.62 0.0089 0.0028

Neptune -51718-12-21 19:25 J -17168221.82 -17168221.69 -17168221.56 0.0089 0.0034

Moon -51717-01-23 08:37 J -17168189.25 -17168189.14 -17168189.02 0.2665 0.1653

Earth -51717-01-23 10:04 J -17168189.19 -17168189.08 -17168188.97 0.2668 0.1637 *

Neptune -51717-03-18 21:06 J -17168133.75 -17168133.62 -17168133.49 0.0089 0.0040

Neptune -51717-06-14 22:47 J -17168045.67 -17168045.55 -17168045.43 0.0089 0.0046

Neptune -51717-09-11 00:13 J -17167957.60 -17167957.49 -17167957.38 0.0089 0.0052

Neptune -51717-12-08 01:54 J -17167869.53 -17167869.42 -17167869.32 0.0089 0.0058

Neptune -51716-03-06 03:21 J -17167781.45 -17167781.36 -17167781.26 0.0089 0.0064

Neptune -51716-06-02 05:01 J -17167693.38 -17167693.29 -17167693.21 0.0089 0.0070

Neptune -51716-08-29 06:28 J -17167605.30 -17167605.23 -17167605.16 0.0089 0.0076

Jupiter -51716-11-24 15:06 J -17167517.92 -17167517.87 -17167517.82 0.0538 0.0491

Neptune -51716-11-25 07:54 J -17167517.21 -17167517.17 -17167517.11 0.0089 0.0082

Neptune -51715-02-21 09:21 J -17167429.11 -17167429.11 -17167429.09 0.0089 0.0088

Jupiter -51715-02-22 01:40 J -17167428.55 -17167428.43 -17167428.30 0.0538 0.0152

Earth -51714-08-01 14:37 J -17166903.00 -17166902.89 -17166902.77 0.2668 0.0342

Moon -51714-08-01 15:21 J -17166902.97 -17166902.86 -17166902.74 0.2671 0.0412 *

Mars -51713-04-20 18:57 J -17166639.84 -17166639.71 -17166639.59 0.1698 0.0354

Mars -51712-02-12 06:42 J -17166342.32 -17166342.22 -17166342.11 0.1846 0.1324

Saturn -51711-06-21 18:57 J -17165847.81 -17165847.71 -17165847.60 0.0278 0.0190

Saturn -51711-09-18 07:40 J -17165759.31 -17165759.18 -17165759.05 0.0279 0.0091

Saturn -51711-12-15 20:09 J -17165670.80 -17165670.66 -17165670.52 0.0280 0.0010

Saturn -51710-03-14 08:23 J -17165582.28 -17165582.15 -17165582.02 0.0281 0.0107

Saturn -51710-06-10 20:37 J -17165493.73 -17165493.64 -17165493.55 0.0281 0.0205

Jupiter -51709-01-08 20:09 J -17165281.83 -17165281.66 -17165281.48 0.0489 0.0060

Moon -51707-07-25 08:52 J -17164353.17 -17164353.13 -17164353.09 0.2665 0.2463

Earth -51707-07-25 09:35 J -17164353.15 -17164353.10 -17164353.04 0.2663 0.2319 *

Moon -51704-01-25 11:16 J -17163438.17 -17163438.03 -17163437.89 0.2670 0.0379

Earth -51704-01-25 12:28 J -17163438.12 -17163437.98 -17163437.83 0.2666 0.0237 *

Mars -51704-09-11 03:49 J -17163209.44 -17163209.34 -17163209.23 0.1692 0.1010

Jupiter -51704-12-11 04:47 J -17163118.44 -17163118.30 -17163118.17 0.0538 0.0014

Earth -51701-08-03 09:49 J -17162152.19 -17162152.09 -17162151.99 0.2670 0.1232

Moon -51701-08-03 10:33 J -17162152.16 -17162152.06 -17162151.95 0.2670 0.1236 *

Jupiter -51698-10-27 19:54 J -17160971.84 -17160971.67 -17160971.49 0.0489 0.0093

Saturn -51697-04-17 15:21 J -17160798.98 -17160798.86 -17160798.73 0.0282 0.0186

Saturn -51697-07-15 11:16 J -17160710.19 -17160710.03 -17160709.85 0.0281 0.0060

Saturn -51697-10-12 07:40 J -17160621.35 -17160621.18 -17160621.01 0.0280 0.0068

Saturn -51696-01-09 04:04 J -17160532.45 -17160532.33 -17160532.20 0.0280 0.0197

Mars -51694-02-01 12:57 J -17159778.98 -17159778.96 -17159778.95 0.1685 0.1671

Moon -51694-07-28 04:47 J -17159602.40 -17159602.30 -17159602.20 0.2670 0.1353

Earth -51694-07-28 05:16 J -17159602.38 -17159602.28 -17159602.18 0.2664 0.1367 *

Mars -51692-01-07 00:42 J -17159073.56 -17159073.47 -17159073.37 0.1712 0.1068

Uranus -51692-01-08 11:16 J -17159072.07 -17159072.03 -17159071.99 0.0132 0.0126

Uranus -51692-04-06 14:23 J -17158983.97 -17158983.90 -17158983.81 0.0132 0.0108

Uranus -51692-07-03 17:45 J -17158895.86 -17158895.76 -17158895.66 0.0132 0.0090

Jupiter -51692-09-29 06:57 J -17158808.34 -17158808.21 -17158808.09 0.0539 0.0183

Uranus -51692-09-29 20:52 J -17158807.74 -17158807.63 -17158807.51 0.0132 0.0072

Mars -51692-11-01 06:13 J -17158775.35 -17158775.24 -17158775.12 0.1828 0.1190

Uranus -51692-12-27 00:13 J -17158719.61 -17158719.49 -17158719.36 0.0132 0.0054

Jupiter -51692-12-27 17:01 J -17158718.86 -17158718.79 -17158718.72 0.0539 0.0449

Moon -51691-01-28 14:52 J -17158687.01 -17158686.88 -17158686.75 0.2669 0.1156

Earth -51691-01-28 15:21 J -17158686.99 -17158686.86 -17158686.73 0.2664 0.1218 *

Uranus -51691-03-25 03:35 J -17158631.49 -17158631.35 -17158631.22 0.0132 0.0036

Uranus -51691-06-21 06:42 J -17158543.36 -17158543.22 -17158543.08 0.0132 0.0018

Uranus -51691-09-17 09:49 J -17158455.23 -17158455.09 -17158454.95 0.0132 0.0001

Venus -51691-09-19 06:57 J -17158453.29 -17158453.21 -17158453.14 0.3750 0.2656

Uranus -51691-12-14 12:57 J -17158367.09 -17158366.96 -17158366.82 0.0132 0.0017

Uranus -51690-03-12 16:04 J -17158278.96 -17158278.83 -17158278.69 0.0132 0.0035

Uranus -51690-06-08 19:11 J -17158190.82 -17158190.70 -17158190.57 0.0132 0.0053

Uranus -51690-09-04 22:18 J -17158102.68 -17158102.57 -17158102.45 0.0132 0.0070

Uranus -51690-12-02 01:25 J -17158014.54 -17158014.44 -17158014.33 0.0132 0.0088

Uranus -51689-02-28 04:33 J -17157926.39 -17157926.31 -17157926.23 0.0132 0.0105

Uranus -51689-05-26 07:40 J -17157838.22 -17157838.18 -17157838.13 0.0132 0.0122

Earth -51688-08-06 04:47 J -17157401.37 -17157401.30 -17157401.23 0.2672 0.2118

Moon -51688-08-06 05:16 J -17157401.34 -17157401.28 -17157401.22 0.2666 0.2215 *

Jupiter -51686-08-15 19:40 J -17156661.83 -17156661.68 -17156661.53 0.0489 0.0245

Jupiter -51686-11-13 20:52 J -17156571.74 -17156571.63 -17156571.53 0.0488 0.0392

Venus -51685-04-03 22:47 J -17156429.65 -17156429.55 -17156429.44 0.3754 0.0516

Mars -51683-05-30 09:49 J -17155643.21 -17155643.09 -17155642.97 0.1705 0.0398

Mars -51682-03-24 06:57 J -17155345.36 -17155345.21 -17155345.06 0.1837 0.0013

Saturn -51682-11-08 22:04 J -17155115.67 -17155115.58 -17155115.49 0.0278 0.0211

Saturn -51681-02-05 10:33 J -17155027.18 -17155027.06 -17155026.93 0.0278 0.0113

Saturn -51681-05-03 23:01 J -17154938.67 -17154938.54 -17154938.40 0.0279 0.0017

Earth -51681-07-30 00:28 J -17154851.59 -17154851.48 -17154851.36 0.2666 0.0436

Moon -51681-07-30 00:42 J -17154851.58 -17154851.47 -17154851.36 0.2673 0.0426 *

Saturn -51681-07-31 11:30 J -17154850.15 -17154850.02 -17154849.89 0.0280 0.0085

Saturn -51681-10-27 23:30 J -17154761.62 -17154761.52 -17154761.41 0.0281 0.0183

Saturn -51680-01-24 11:45 J -17154673.02 -17154673.01 -17154673.00 0.0281 0.0279

Pluto -51680-05-21 15:35 J -17154555.85 -17154555.85 -17154555.82 0.0062 0.0062

Jupiter -51680-07-18 10:04 J -17154498.18 -17154498.08 -17154497.98 0.0539 0.0340

Pluto -51680-08-17 16:47 J -17154467.85 -17154467.80 -17154467.73 0.0062 0.0058

Jupiter -51680-10-15 20:23 J -17154408.76 -17154408.65 -17154408.54 0.0539 0.0299

Venus -51680-10-18 14:52 J -17154405.97 -17154405.88 -17154405.79 0.3758 0.1643

Pluto -51680-11-13 17:30 J -17154379.83 -17154379.77 -17154379.66 0.0062 0.0054

Pluto -51679-02-09 18:57 J -17154291.80 -17154291.71 -17154291.59 0.0062 0.0049

Pluto -51679-05-08 19:54 J -17154203.77 -17154203.67 -17154203.53 0.0063 0.0045

Pluto -51679-08-04 21:06 J -17154115.74 -17154115.62 -17154115.48 0.0063 0.0040

Pluto -51679-10-31 22:18 J -17154027.70 -17154027.57 -17154027.42 0.0063 0.0035

Pluto -51678-01-27 23:16 J -17153939.66 -17153939.53 -17153939.36 0.0063 0.0031

Pluto -51678-04-26 00:28 J -17153851.62 -17153851.48 -17153851.31 0.0063 0.0026

Pluto -51678-07-23 01:54 J -17153763.58 -17153763.42 -17153763.26 0.0063 0.0021

Pluto -51678-10-19 02:52 J -17153675.54 -17153675.38 -17153675.21 0.0063 0.0017

Pluto -51677-01-15 04:04 J -17153587.49 -17153587.33 -17153587.15 0.0063 0.0012

Pluto -51677-04-12 05:16 J -17153499.45 -17153499.28 -17153499.10 0.0063 0.0007

Pluto -51677-07-09 06:28 J -17153411.40 -17153411.23 -17153411.05 0.0063 0.0003

Venus -51677-07-20 04:18 J -17153400.46 -17153400.32 -17153400.17 0.3625 0.1087

Pluto -51677-10-05 07:40 J -17153323.35 -17153323.18 -17153323.00 0.0063 0.0003

Pluto -51676-01-01 08:52 J -17153235.30 -17153235.13 -17153234.96 0.0063 0.0007

Pluto -51676-03-30 10:04 J -17153147.25 -17153147.08 -17153146.91 0.0063 0.0012

Pluto -51676-06-26 11:01 J -17153059.19 -17153059.04 -17153058.86 0.0064 0.0018

Pluto -51676-09-22 12:13 J -17152971.14 -17152970.99 -17152970.81 0.0064 0.0023

Pluto -51676-12-19 13:25 J -17152883.08 -17152882.94 -17152882.77 0.0064 0.0028

Pluto -51675-03-17 14:52 J -17152795.02 -17152794.88 -17152794.72 0.0064 0.0032

Pluto -51675-06-13 16:04 J -17152706.96 -17152706.83 -17152706.68 0.0064 0.0037

Pluto -51675-09-09 17:30 J -17152618.90 -17152618.77 -17152618.64 0.0064 0.0042

Pluto -51675-12-06 18:42 J -17152530.83 -17152530.72 -17152530.60 0.0064 0.0048

Pluto -51674-03-04 19:25 J -17152442.76 -17152442.69 -17152442.57 0.0064 0.0054

Pluto -51674-05-31 20:52 J -17152354.68 -17152354.63 -17152354.54 0.0064 0.0058

Jupiter -51674-06-03 18:57 J -17152351.81 -17152351.71 -17152351.62 0.0489 0.0405

Pluto -51674-08-27 22:04 J -17152266.59 -17152266.58 -17152266.53 0.0064 0.0064

Jupiter -51674-09-01 19:25 J -17152261.85 -17152261.69 -17152261.54 0.0488 0.0225

Mars -51674-10-20 18:57 J -17152212.83 -17152212.71 -17152212.58 0.1699 0.0259

Mars -51673-08-13 07:11 J -17151915.31 -17151915.20 -17151915.09 0.1845 0.1198

Moon -51671-01-23 14:37 J -17151387.00 -17151386.89 -17151386.77 0.2667 0.1573

Earth -51671-01-23 16:04 J -17151386.95 -17151386.83 -17151386.71 0.2667 0.1388 *

Jupiter -51668-05-06 13:25 J -17150187.99 -17150187.94 -17150187.89 0.0539 0.0493

Earth -51668-08-01 19:40 J -17150100.79 -17150100.68 -17150100.56 0.2668 0.0504

Moon -51668-08-01 20:37 J -17150100.76 -17150100.64 -17150100.53 0.2671 0.0554 *

Jupiter -51668-08-04 00:13 J -17150098.62 -17150098.49 -17150098.37 0.0539 0.0153

Saturn -51668-09-04 14:09 J -17150067.00 -17150066.91 -17150066.80 0.0282 0.0227

Saturn -51668-12-02 10:04 J -17149978.24 -17149978.08 -17149977.92 0.0281 0.0101

Saturn -51667-03-01 06:13 J -17149889.41 -17149889.24 -17149889.07 0.0281 0.0026

Saturn -51667-05-29 02:37 J -17149800.54 -17149800.39 -17149800.24 0.0280 0.0153

Mars -51664-03-12 04:04 J -17148782.44 -17148782.33 -17148782.23 0.1692 0.0919

Jupiter -51662-06-20 18:42 J -17147951.89 -17147951.72 -17147951.55 0.0488 0.0066

Moon -51661-07-25 13:54 J -17147550.99 -17147550.92 -17147550.85 0.2665 0.2144

Earth -51661-07-25 14:37 J -17147550.95 -17147550.89 -17147550.82 0.2663 0.2145 *

Moon -51658-01-26 17:16 J -17146635.92 -17146635.78 -17146635.64 0.2669 0.0030

Earth -51658-01-26 18:28 J -17146635.87 -17146635.73 -17146635.58 0.2665 0.0072 *

Jupiter -51656-05-23 03:21 J -17145788.49 -17145788.36 -17145788.23 0.0538 0.0007

Mars -51655-08-02 12:57 J -17145352.00 -17145351.96 -17145351.91 0.1685 0.1576

Earth -51655-08-04 14:52 J -17145349.98 -17145349.88 -17145349.78 0.2670 0.1396

Moon -51655-08-04 15:35 J -17145349.94 -17145349.85 -17145349.76 0.2669 0.1511 *

Mars -51653-07-08 00:42 J -17144646.55 -17144646.47 -17144646.37 0.1713 0.1156

Saturn -51652-03-27 23:16 J -17144383.59 -17144383.53 -17144383.46 0.0278 0.0245

Mars -51652-05-02 06:57 J -17144348.31 -17144348.21 -17144348.11 0.1828 0.1329

Saturn -51652-06-24 11:59 J -17144295.12 -17144295.00 -17144294.88 0.0279 0.0146

Saturn -51652-09-21 00:28 J -17144206.61 -17144206.48 -17144206.34 0.0279 0.0047

Saturn -51652-12-18 12:57 J -17144118.10 -17144117.96 -17144117.82 0.0280 0.0052

Saturn -51651-03-17 01:11 J -17144029.56 -17144029.45 -17144029.33 0.0281 0.0150

Saturn -51651-06-13 13:11 J -17143941.00 -17143940.95 -17143940.88 0.0282 0.0248

Uranus -51650-01-10 23:30 J -17143729.56 -17143729.52 -17143729.47 0.0147 0.0141

Jupiter -51650-04-08 17:59 J -17143641.92 -17143641.75 -17143641.58 0.0489 0.0091

Uranus -51650-04-09 07:11 J -17143641.31 -17143641.20 -17143641.07 0.0147 0.0109

Uranus -51650-07-06 15:06 J -17143553.03 -17143552.87 -17143552.72 0.0147 0.0077

Uranus -51650-10-02 22:47 J -17143464.72 -17143464.55 -17143464.37 0.0146 0.0045

Uranus -51650-12-30 06:42 J -17143376.40 -17143376.22 -17143376.04 0.0146 0.0012

Uranus -51649-03-27 14:37 J -17143288.07 -17143287.89 -17143287.71 0.0146 0.0021

Uranus -51649-06-23 22:33 J -17143199.73 -17143199.56 -17143199.39 0.0146 0.0054

Uranus -51649-09-20 06:13 J -17143111.37 -17143111.24 -17143111.08 0.0146 0.0088

Uranus -51649-12-17 14:23 J -17143022.99 -17143022.90 -17143022.79 0.0146 0.0120

Moon -51648-07-28 10:04 J -17142800.18 -17142800.08 -17142799.98 0.2672 0.1278

Earth -51648-07-28 10:18 J -17142800.18 -17142800.07 -17142799.97 0.2665 0.1190 *

Moon -51645-01-29 21:06 J -17141884.73 -17141884.62 -17141884.49 0.2670 0.1446

Earth -51645-01-29 21:35 J -17141884.72 -17141884.60 -17141884.48 0.2663 0.1481 *

Jupiter -51644-03-11 06:13 J -17141478.37 -17141478.24 -17141478.12 0.0538 0.0167

Jupiter -51644-06-08 16:04 J -17141388.89 -17141388.83 -17141388.76 0.0538 0.0464

Mars -51644-11-28 10:04 J -17141216.20 -17141216.08 -17141215.96 0.1706 0.0493

Mars -51643-09-22 06:57 J -17140918.36 -17140918.21 -17140918.06 0.1837 0.0128

Earth -51642-08-07 09:49 J -17140599.15 -17140599.09 -17140599.04 0.2672 0.2282

Moon -51642-08-07 10:18 J -17140599.14 -17140599.07 -17140599.01 0.2666 0.2245 *

Neptune -51640-08-12 06:13 J -17139863.28 -17139863.24 -17139863.18 0.0089 0.0084

Neptune -51640-11-08 08:52 J -17139775.20 -17139775.13 -17139775.03 0.0089 0.0077

Neptune -51639-02-04 11:59 J -17139687.11 -17139687.00 -17139686.89 0.0089 0.0069

Neptune -51639-05-03 14:37 J -17139599.01 -17139598.89 -17139598.76 0.0089 0.0062

Neptune -51639-07-30 17:30 J -17139510.90 -17139510.77 -17139510.63 0.0089 0.0054

Neptune -51639-10-26 20:09 J -17139422.80 -17139422.66 -17139422.50 0.0089 0.0047

Moon -51638-01-21 18:42 J -17139335.73 -17139335.72 -17139335.71 0.2664 0.2652

Earth -51638-01-21 19:40 J -17139335.72 -17139335.68 -17139335.63 0.2669 0.2512 *

Saturn -51638-01-22 14:09 J -17139334.96 -17139334.91 -17139334.83 0.0282 0.0262

Neptune -51638-01-22 23:16 J -17139334.69 -17139334.53 -17139334.37 0.0089 0.0039

Jupiter -51638-01-25 17:45 J -17139331.90 -17139331.76 -17139331.60 0.0489 0.0242

Neptune -51638-04-21 01:54 J -17139246.57 -17139246.42 -17139246.24 0.0089 0.0032

Saturn -51638-04-21 10:04 J -17139246.22 -17139246.08 -17139245.92 0.0281 0.0136

Jupiter -51638-04-25 18:42 J -17139241.81 -17139241.72 -17139241.61 0.0489 0.0397

Neptune -51638-07-18 04:47 J -17139158.46 -17139158.30 -17139158.12 0.0089 0.0024

Saturn -51638-07-19 06:13 J -17139157.41 -17139157.24 -17139157.06 0.0281 0.0010

Neptune -51638-10-14 07:54 J -17139070.34 -17139070.17 -17139070.00 0.0089 0.0016

Saturn -51638-10-16 02:37 J -17139068.55 -17139068.39 -17139068.23 0.0280 0.0118

Neptune -51637-01-10 10:47 J -17138982.23 -17138982.05 -17138981.87 0.0089 0.0008

Saturn -51637-01-12 23:16 J -17138979.61 -17138979.53 -17138979.45 0.0279 0.0246

Neptune -51637-04-07 13:40 J -17138894.11 -17138893.93 -17138893.75 0.0089 0.0001

Neptune -51637-07-04 16:33 J -17138805.98 -17138805.81 -17138805.63 0.0089 0.0007

Neptune -51637-09-30 19:25 J -17138717.86 -17138717.69 -17138717.51 0.0089 0.0015

Neptune -51637-12-27 22:18 J -17138629.74 -17138629.57 -17138629.39 0.0089 0.0023

Neptune -51636-03-26 01:11 J -17138541.61 -17138541.45 -17138541.27 0.0089 0.0031

Neptune -51636-06-22 04:04 J -17138453.48 -17138453.33 -17138453.16 0.0089 0.0039

Neptune -51636-09-18 06:57 J -17138365.35 -17138365.21 -17138365.04 0.0089 0.0047

Neptune -51636-12-15 09:49 J -17138277.21 -17138277.09 -17138276.93 0.0089 0.0055

Neptune -51635-03-13 12:57 J -17138189.07 -17138188.96 -17138188.82 0.0089 0.0063

Neptune -51635-06-09 16:18 J -17138100.93 -17138100.82 -17138100.71 0.0089 0.0070

Earth -51635-07-31 05:30 J -17138049.38 -17138049.27 -17138049.15 0.2667 0.0267

Moon -51635-07-31 05:59 J -17138049.37 -17138049.25 -17138049.14 0.2673 0.0223 *

Neptune -51635-09-05 19:11 J -17138012.78 -17138012.70 -17138012.61 0.0089 0.0078

Neptune -51635-12-02 22:18 J -17137924.61 -17137924.57 -17137924.53 0.0089 0.0086

Mars -51634-04-20 18:57 J -17137785.83 -17137785.71 -17137785.58 0.1698 0.0176

Venus -51634-04-26 04:18 J -17137780.41 -17137780.32 -17137780.23 0.3751 0.1853

Mars -51633-02-12 07:25 J -17137488.31 -17137488.19 -17137488.06 0.1846 0.1076

Jupiter -51633-12-28 08:09 J -17137168.26 -17137168.16 -17137168.06 0.0538 0.0344

Jupiter -51632-03-27 18:28 J -17137078.84 -17137078.73 -17137078.62 0.0539 0.0295

Venus -51629-11-08 20:23 J -17135756.75 -17135756.65 -17135756.55 0.3755 0.0305

Jupiter -51627-11-13 17:45 J -17135021.86 -17135021.76 -17135021.66 0.0489 0.0393

Jupiter -51626-02-11 18:13 J -17134931.89 -17134931.74 -17134931.59 0.0488 0.0237

Moon -51625-01-24 20:37 J -17134584.77 -17134584.64 -17134584.51 0.2668 0.1152

Earth -51625-01-24 22:04 J -17134584.71 -17134584.58 -17134584.46 0.2667 0.1145 *

Mars -51625-09-10 04:04 J -17134355.44 -17134355.33 -17134355.22 0.1692 0.0831

Venus -51623-05-25 12:28 J -17133733.06 -17133732.98 -17133732.91 0.3759 0.2432

Saturn -51623-08-15 02:37 J -17133651.43 -17133651.39 -17133651.35 0.0277 0.0264

Saturn -51623-11-11 15:21 J -17133562.97 -17133562.86 -17133562.75 0.0278 0.0165

Saturn -51622-02-08 03:49 J -17133474.47 -17133474.34 -17133474.20 0.0279 0.0067

Saturn -51622-05-07 16:18 J -17133385.96 -17133385.82 -17133385.68 0.0280 0.0033

Earth -51622-08-03 00:42 J -17133298.58 -17133298.47 -17133298.36 0.2668 0.0661

Moon -51622-08-03 01:25 J -17133298.55 -17133298.44 -17133298.32 0.2671 0.0732 *

Saturn -51622-08-04 04:33 J -17133297.43 -17133297.31 -17133297.19 0.0280 0.0131

Saturn -51622-10-31 16:47 J -17133208.88 -17133208.80 -17133208.72 0.0281 0.0228

Jupiter -51621-10-16 11:01 J -17132858.08 -17132858.04 -17132857.99 0.0538 0.0505

Jupiter -51620-01-13 21:49 J -17132768.72 -17132768.59 -17132768.46 0.0539 0.0141

Venus -51620-02-24 06:13 J -17132727.39 -17132727.24 -17132727.09 0.3624 0.0914

Mars -51615-01-31 13:11 J -17130925.01 -17130924.95 -17130924.89 0.1685 0.1485

Moon -51615-07-26 19:11 J -17130748.77 -17130748.70 -17130748.63 0.2667 0.2088

Earth -51615-07-26 19:54 J -17130748.75 -17130748.67 -17130748.59 0.2663 0.1963 *

Jupiter -51615-11-30 16:47 J -17130621.97 -17130621.80 -17130621.62 0.0488 0.0071

Mars -51613-01-07 00:57 J -17130219.55 -17130219.46 -17130219.38 0.1713 0.1239

Mars -51613-10-31 07:25 J -17129921.28 -17129921.19 -17129921.10 0.1828 0.1458

Moon -51612-01-26 23:30 J -17129833.66 -17129833.52 -17129833.38 0.2669 0.0121

Earth -51612-01-27 00:42 J -17129833.62 -17129833.47 -17129833.33 0.2665 0.0287 *

Earth -51609-08-04 19:54 J -17128547.77 -17128547.67 -17128547.58 0.2670 0.1562

Moon -51609-08-04 20:37 J -17128547.74 -17128547.64 -17128547.55 0.2667 0.1587 *

Saturn -51609-09-07 09:35 J -17128514.23 -17128514.10 -17128513.96 0.0282 0.0173

Jupiter -51609-11-02 01:25 J -17128458.57 -17128458.44 -17128458.31 0.0539 0.0009

Saturn -51609-12-05 05:45 J -17128425.43 -17128425.26 -17128425.09 0.0281 0.0047

Uranus -51608-01-28 18:13 J -17128370.79 -17128370.74 -17128370.69 0.0132 0.0122

Saturn -51608-03-04 01:54 J -17128336.59 -17128336.42 -17128336.25 0.0280 0.0080

Uranus -51608-04-26 21:21 J -17128282.68 -17128282.61 -17128282.52 0.0132 0.0104

Saturn -51608-05-31 22:18 J -17128247.68 -17128247.57 -17128247.45 0.0280 0.0208

Uranus -51608-07-24 00:42 J -17128194.57 -17128194.47 -17128194.36 0.0132 0.0086

Uranus -51608-10-20 03:49 J -17128106.45 -17128106.34 -17128106.21 0.0132 0.0068

Uranus -51607-01-16 07:11 J -17128018.32 -17128018.20 -17128018.07 0.0132 0.0050

Uranus -51607-04-14 10:33 J -17127930.19 -17127930.06 -17127929.93 0.0132 0.0032

Uranus -51607-07-11 13:40 J -17127842.06 -17127841.93 -17127841.79 0.0132 0.0014

Uranus -51607-10-07 16:47 J -17127753.93 -17127753.80 -17127753.66 0.0132 0.0006

Uranus -51606-01-03 19:54 J -17127665.80 -17127665.67 -17127665.53 0.0132 0.0022

Uranus -51606-04-01 23:01 J -17127577.66 -17127577.54 -17127577.40 0.0132 0.0040

Uranus -51606-06-29 02:09 J -17127489.52 -17127489.41 -17127489.28 0.0132 0.0057

Uranus -51606-09-25 05:16 J -17127401.38 -17127401.28 -17127401.16 0.0132 0.0075

Uranus -51606-12-22 08:37 J -17127313.24 -17127313.14 -17127313.05 0.0132 0.0092

Uranus -51605-03-19 11:30 J -17127225.09 -17127225.02 -17127224.94 0.0132 0.0109

Uranus -51605-06-15 14:37 J -17127136.92 -17127136.89 -17127136.85 0.0132 0.0127

Mars -51604-05-29 10:04 J -17126789.20 -17126789.08 -17126788.96 0.1706 0.0579

Mars -51603-03-23 07:40 J -17126491.33 -17126491.18 -17126491.04 0.1837 0.0257

Jupiter -51603-09-18 16:04 J -17126312.00 -17126311.83 -17126311.65 0.0488 0.0089

Moon -51602-07-29 15:06 J -17125997.98 -17125997.87 -17125997.76 0.2672 0.0973

Earth -51602-07-29 15:21 J -17125997.97 -17125997.86 -17125997.75 0.2665 0.1016 *

Moon -51599-01-30 03:21 J -17125082.46 -17125082.36 -17125082.25 0.2670 0.1784

Earth -51599-01-30 03:35 J -17125082.46 -17125082.35 -17125082.24 0.2663 0.1740 *

Jupiter -51597-08-21 04:33 J -17124148.44 -17124148.31 -17124148.18 0.0538 0.0166

Jupiter -51597-11-18 14:37 J -17124058.95 -17124058.89 -17124058.83 0.0538 0.0466

Earth -51596-08-07 14:37 J -17123796.93 -17123796.89 -17123796.84 0.2672 0.2443

Moon -51596-08-07 15:06 J -17123796.90 -17123796.87 -17123796.84 0.2666 0.2525 *

Mars -51595-10-19 19:11 J -17123358.83 -17123358.70 -17123358.58 0.1699 0.0085

Mars -51594-08-13 07:54 J -17123061.29 -17123061.17 -17123061.04 0.1845 0.0946

Saturn -51593-03-30 16:47 J -17122830.90 -17122830.80 -17122830.70 0.0278 0.0198

Saturn -51593-06-27 05:30 J -17122742.40 -17122742.27 -17122742.14 0.0279 0.0099

Saturn -51593-09-23 17:59 J -17122653.89 -17122653.75 -17122653.62 0.0280 0.0008

Saturn -51593-12-21 06:13 J -17122565.37 -17122565.24 -17122565.11 0.0280 0.0099

Moon -51592-01-22 00:42 J -17122533.54 -17122533.47 -17122533.40 0.2665 0.2286

Earth -51592-01-22 01:40 J -17122533.50 -17122533.43 -17122533.36 0.2669 0.2267 *

Saturn -51592-03-19 18:28 J -17122476.83 -17122476.73 -17122476.63 0.0281 0.0196

Jupiter -51591-07-07 15:35 J -17122002.00 -17122001.85 -17122001.70 0.0489 0.0244

Jupiter -51591-10-05 16:33 J -17121911.91 -17121911.81 -17121911.71 0.0489 0.0393

Pluto -51590-11-08 10:47 J -17121513.06 -17121513.05 -17121513.02 0.0082 0.0081

Pluto -51589-02-04 12:28 J -17121425.04 -17121424.98 -17121424.90 0.0082 0.0072

Pluto -51589-05-02 14:09 J -17121337.00 -17121336.91 -17121336.81 0.0082 0.0063

Pluto -51589-07-29 15:49 J -17121248.95 -17121248.84 -17121248.73 0.0082 0.0054

Earth -51589-07-31 10:33 J -17121247.17 -17121247.06 -17121246.94 0.2667 0.0105

Moon -51589-07-31 11:01 J -17121247.15 -17121247.04 -17121246.92 0.2672 0.0114 *

Pluto -51589-10-25 17:30 J -17121160.89 -17121160.77 -17121160.65 0.0081 0.0045

Pluto -51588-01-21 18:57 J -17121072.84 -17121072.71 -17121072.57 0.0081 0.0036

Pluto -51588-04-19 20:37 J -17120984.78 -17120984.64 -17120984.50 0.0081 0.0027

Pluto -51588-07-16 22:18 J -17120896.72 -17120896.57 -17120896.43 0.0081 0.0018

Pluto -51588-10-12 23:45 J -17120808.65 -17120808.51 -17120808.36 0.0081 0.0010

Pluto -51587-01-09 01:11 J -17120720.59 -17120720.45 -17120720.30 0.0081 0.0003

Pluto -51587-04-07 02:52 J -17120632.53 -17120632.38 -17120632.24 0.0081 0.0007

Pluto -51587-07-04 04:18 J -17120544.46 -17120544.32 -17120544.18 0.0080 0.0016

Pluto -51587-09-30 05:45 J -17120456.39 -17120456.26 -17120456.12 0.0080 0.0024

Pluto -51587-12-27 07:11 J -17120368.33 -17120368.20 -17120368.06 0.0080 0.0032

Pluto -51586-03-25 08:52 J -17120280.26 -17120280.13 -17120280.01 0.0080 0.0041

Pluto -51586-06-21 09:49 J -17120192.19 -17120192.09 -17120191.96 0.0080 0.0049

Pluto -51586-09-17 11:16 J -17120104.11 -17120104.03 -17120103.91 0.0080 0.0057

Pluto -51586-12-14 12:42 J -17120016.04 -17120015.97 -17120015.87 0.0080 0.0065

Mars -51585-03-11 04:18 J -17119928.44 -17119928.32 -17119928.21 0.1692 0.0741

Pluto -51585-03-11 14:09 J -17119927.95 -17119927.91 -17119927.84 0.0080 0.0073

Jupiter -51585-06-09 07:11 J -17119838.30 -17119838.20 -17119838.09 0.0538 0.0331

Jupiter -51585-09-06 17:45 J -17119748.87 -17119748.76 -17119748.66 0.0538 0.0308

Venus -51583-05-17 09:49 J -17119131.14 -17119131.09 -17119131.04 0.3748 0.3216

Moon -51579-01-25 02:37 J -17117782.52 -17117782.39 -17117782.26 0.2668 0.1090

Earth -51579-01-25 03:49 J -17117782.47 -17117782.34 -17117782.20 0.2667 0.0895 *

Saturn -51579-01-25 10:04 J -17117782.19 -17117782.08 -17117781.96 0.0282 0.0206

Saturn -51579-04-24 05:59 J -17117693.42 -17117693.25 -17117693.09 0.0281 0.0081

Jupiter -51579-04-25 15:35 J -17117691.95 -17117691.85 -17117691.75 0.0489 0.0393

Saturn -51579-07-22 02:09 J -17117604.59 -17117604.41 -17117604.24 0.0280 0.0046

Jupiter -51579-07-24 16:04 J -17117601.98 -17117601.83 -17117601.68 0.0489 0.0238

Saturn -51579-10-18 22:33 J -17117515.70 -17117515.56 -17117515.42 0.0280 0.0174

Venus -51578-12-01 01:54 J -17117107.52 -17117107.42 -17117107.32 0.3752 0.1051

Mars -51576-08-01 13:11 J -17116498.02 -17116497.95 -17116497.88 0.1685 0.1400

Earth -51576-08-03 05:45 J -17116496.37 -17116496.26 -17116496.15 0.2669 0.0829

Moon -51576-08-03 06:28 J -17116496.34 -17116496.23 -17116496.12 0.2671 0.0908 *

Mars -51574-07-08 00:57 J -17115792.54 -17115792.46 -17115792.38 0.1713 0.1327

Jupiter -51573-03-28 09:06 J -17115528.16 -17115528.12 -17115528.08 0.0538 0.0510

Mars -51573-05-01 07:40 J -17115494.25 -17115494.18 -17115494.11 0.1828 0.1576

Jupiter -51573-06-25 19:54 J -17115438.80 -17115438.67 -17115438.54 0.0539 0.0135

Venus -51572-06-15 17:59 J -17115083.85 -17115083.75 -17115083.66 0.3756 0.1095

Venus -51569-03-17 00:28 J -17114078.58 -17114078.48 -17114078.39 0.3628 0.2850

Moon -51569-07-27 00:13 J -17113946.57 -17113946.49 -17113946.40 0.2669 0.1789

Earth -51569-07-27 00:57 J -17113946.55 -17113946.46 -17113946.37 0.2664 0.1786 *

Jupiter -51567-05-12 15:21 J -17113292.03 -17113291.86 -17113291.69 0.0489 0.0080

Venus -51567-12-30 09:49 J -17113060.14 -17113060.09 -17113060.04 0.3760 0.3219

Moon -51566-01-28 05:45 J -17113031.40 -17113031.26 -17113031.12 0.2669 0.0547

Earth -51566-01-28 06:42 J -17113031.37 -17113031.22 -17113031.08 0.2665 0.0534 *

Uranus -51566-01-31 06:57 J -17113028.28 -17113028.21 -17113028.13 0.0147 0.0133

Uranus -51566-04-29 14:37 J -17112940.02 -17112939.89 -17112939.76 0.0146 0.0101

Uranus -51566-07-26 22:18 J -17112851.73 -17112851.57 -17112851.40 0.0146 0.0069

Uranus -51566-10-23 06:13 J -17112763.42 -17112763.24 -17112763.06 0.0146 0.0036

Uranus -51565-01-19 14:09 J -17112675.10 -17112674.91 -17112674.73 0.0146 0.0005

Uranus -51565-04-16 21:49 J -17112586.77 -17112586.59 -17112586.40 0.0146 0.0029

Uranus -51565-07-14 05:45 J -17112498.42 -17112498.26 -17112498.09 0.0146 0.0062

Uranus -51565-10-10 13:40 J -17112410.06 -17112409.93 -17112409.78 0.0146 0.0095

Mars -51565-11-27 10:04 J -17112362.19 -17112362.08 -17112361.97 0.1706 0.0663

Uranus -51564-01-06 21:35 J -17112321.67 -17112321.60 -17112321.50 0.0146 0.0128

Saturn -51564-08-17 20:09 J -17112098.74 -17112098.66 -17112098.56 0.0278 0.0216

Mars -51564-09-21 08:09 J -17112064.31 -17112064.16 -17112064.01 0.1836 0.0390

Venus -51564-10-01 07:54 J -17112054.26 -17112054.17 -17112054.08 0.3622 0.2927

Saturn -51564-11-14 08:52 J -17112010.25 -17112010.13 -17112010.00 0.0279 0.0117

Saturn -51563-02-10 21:35 J -17111921.74 -17111921.60 -17111921.46 0.0279 0.0019

Saturn -51563-05-10 09:49 J -17111833.22 -17111833.09 -17111832.96 0.0280 0.0081

Earth -51563-08-06 00:42 J -17111745.55 -17111745.47 -17111745.38 0.2670 0.1726

Moon -51563-08-06 01:25 J -17111745.52 -17111745.44 -17111745.35 0.2666 0.1787 *

Saturn -51563-08-06 22:04 J -17111744.68 -17111744.58 -17111744.47 0.0281 0.0179

Saturn -51563-11-03 10:18 J -17111656.09 -17111656.07 -17111656.05 0.0282 0.0276

Jupiter -51561-04-13 23:01 J -17111128.67 -17111128.54 -17111128.41 0.0539 0.0023

Neptune -51558-11-21 10:04 J -17109812.09 -17109812.08 -17109812.04 0.0088 0.0088

Neptune -51557-02-17 11:59 J -17109724.05 -17109724.00 -17109723.94 0.0088 0.0081

Neptune -51557-05-15 13:40 J -17109636.00 -17109635.93 -17109635.85 0.0088 0.0075

Neptune -51557-08-11 15:06 J -17109547.94 -17109547.87 -17109547.76 0.0088 0.0069

Neptune -51557-11-07 17:01 J -17109459.88 -17109459.79 -17109459.68 0.0089 0.0062

Neptune -51556-02-03 18:42 J -17109371.82 -17109371.72 -17109371.60 0.0089 0.0056

Neptune -51556-05-02 20:23 J -17109283.76 -17109283.65 -17109283.52 0.0089 0.0049

Moon -51556-07-29 20:09 J -17109195.77 -17109195.66 -17109195.55 0.2672 0.0924

Earth -51556-07-29 20:23 J -17109195.76 -17109195.65 -17109195.54 0.2665 0.0839 *

Neptune -51556-07-29 22:18 J -17109195.70 -17109195.57 -17109195.45 0.0089 0.0043 *

Neptune -51556-10-25 23:45 J -17109107.64 -17109107.51 -17109107.37 0.0089 0.0037

Neptune -51555-01-22 01:25 J -17109019.57 -17109019.44 -17109019.30 0.0089 0.0030

Jupiter -51555-02-28 14:09 J -17108982.08 -17108981.91 -17108981.74 0.0488 0.0087

Mars -51555-04-19 19:11 J -17108931.82 -17108931.70 -17108931.57 0.1699 0.0019

Neptune -51555-04-20 03:06 J -17108931.51 -17108931.37 -17108931.23 0.0089 0.0024

Neptune -51555-07-17 04:47 J -17108843.44 -17108843.30 -17108843.16 0.0089 0.0018

Neptune -51555-10-13 06:28 J -17108755.37 -17108755.23 -17108755.09 0.0089 0.0012

Neptune -51554-01-09 07:54 J -17108667.31 -17108667.17 -17108667.02 0.0089 0.0007

Mars -51554-02-11 08:23 J -17108634.28 -17108634.15 -17108634.02 0.1845 0.0821

Neptune -51554-04-07 09:35 J -17108579.24 -17108579.10 -17108578.95 0.0089 0.0002

Neptune -51554-07-04 11:16 J -17108491.17 -17108491.03 -17108490.89 0.0089 0.0007

Neptune -51554-09-30 12:57 J -17108403.10 -17108402.96 -17108402.82 0.0089 0.0013

Neptune -51554-12-27 14:23 J -17108315.03 -17108314.90 -17108314.76 0.0089 0.0019

Moon -51553-01-31 09:35 J -17108280.20 -17108280.10 -17108280.00 0.2670 0.1940

Earth -51553-01-31 09:49 J -17108280.19 -17108280.09 -17108280.00 0.2663 0.2004 *

Neptune -51553-03-24 15:49 J -17108226.96 -17108226.84 -17108226.69 0.0089 0.0026

Neptune -51553-06-20 17:30 J -17108138.90 -17108138.77 -17108138.63 0.0089 0.0032

Neptune -51553-09-16 19:11 J -17108050.82 -17108050.70 -17108050.57 0.0089 0.0037

Neptune -51553-12-13 20:37 J -17107962.75 -17107962.64 -17107962.51 0.0089 0.0044

Neptune -51552-03-11 22:18 J -17107874.68 -17107874.57 -17107874.45 0.0089 0.0050

Neptune -51552-06-07 23:45 J -17107786.61 -17107786.51 -17107786.39 0.0089 0.0056

Neptune -51552-09-04 01:25 J -17107698.53 -17107698.44 -17107698.33 0.0089 0.0062

Neptune -51552-12-01 02:52 J -17107610.46 -17107610.38 -17107610.28 0.0089 0.0068

Neptune -51551-02-27 04:18 J -17107522.38 -17107522.32 -17107522.23 0.0089 0.0074

Neptune -51551-05-26 05:59 J -17107434.30 -17107434.25 -17107434.18 0.0089 0.0080

Neptune -51551-08-22 07:25 J -17107346.21 -17107346.19 -17107346.14 0.0089 0.0086

Saturn -51550-06-14 10:33 J -17107050.15 -17107050.06 -17107049.97 0.0282 0.0238

Earth -51550-08-08 19:40 J -17106994.70 -17106994.68 -17106994.66 0.2672 0.2599

Moon -51550-08-08 19:54 J -17106994.70 -17106994.67 -17106994.64 0.2666 0.2566 *

Saturn -51550-09-11 06:13 J -17106961.40 -17106961.24 -17106961.08 0.0281 0.0113

Saturn -51550-12-09 02:09 J -17106872.58 -17106872.41 -17106872.23 0.0281 0.0015

Jupiter -51549-02-01 02:23 J -17106818.52 -17106818.40 -17106818.27 0.0539 0.0175

Saturn -51549-03-06 22:33 J -17106783.71 -17106783.56 -17106783.41 0.0280 0.0140

Jupiter -51549-04-30 12:28 J -17106729.04 -17106728.98 -17106728.91 0.0539 0.0459

Saturn -51549-06-03 19:11 J -17106694.75 -17106694.70 -17106694.66 0.0279 0.0268

Moon -51546-01-23 06:28 J -17105731.32 -17105731.23 -17105731.15 0.2666 0.2127

Earth -51546-01-23 07:40 J -17105731.27 -17105731.18 -17105731.09 0.2669 0.2023 *

Mars -51546-09-10 04:18 J -17105501.44 -17105501.32 -17105501.20 0.1692 0.0650

Jupiter -51544-12-17 13:25 J -17104672.08 -17104671.94 -17104671.79 0.0489 0.0243

Jupiter -51543-03-17 14:23 J -17104582.00 -17104581.90 -17104581.80 0.0488 0.0393

Earth -51543-08-01 15:35 J -17104444.96 -17104444.85 -17104444.73 0.2667 0.0100

Moon -51543-08-01 16:18 J -17104444.94 -17104444.82 -17104444.71 0.2672 0.0218 *

Jupiter -51538-11-20 05:30 J -17102508.37 -17102508.27 -17102508.16 0.0538 0.0332

Jupiter -51537-02-17 15:49 J -17102418.94 -17102418.84 -17102418.73 0.0539 0.0307

Mars -51536-01-30 13:11 J -17102071.02 -17102070.95 -17102070.87 0.1686 0.1308

Moon -51536-07-25 09:35 J -17101895.12 -17101895.10 -17101895.08 0.2662 0.2621

Earth -51536-07-25 10:18 J -17101895.09 -17101895.07 -17101895.04 0.2662 0.2568 *

Saturn -51534-01-04 21:49 J -17101366.65 -17101366.59 -17101366.53 0.0278 0.0248

Mars -51534-01-06 00:57 J -17101365.52 -17101365.46 -17101365.39 0.1713 0.1414

Saturn -51534-04-03 10:33 J -17101278.18 -17101278.06 -17101277.94 0.0279 0.0148

Saturn -51534-06-30 23:01 J -17101189.67 -17101189.54 -17101189.40 0.0279 0.0050

Saturn -51534-09-27 11:30 J -17101101.15 -17101101.02 -17101100.88 0.0280 0.0050

Mars -51534-10-31 08:09 J -17101067.21 -17101067.16 -17101067.11 0.1828 0.1710

Saturn -51534-12-24 23:45 J -17101012.62 -17101012.51 -17101012.39 0.0281 0.0148

Moon -51533-01-26 08:37 J -17100980.28 -17100980.14 -17100980.00 0.2668 0.0665

Earth -51533-01-26 10:04 J -17100980.22 -17100980.08 -17100979.94 0.2666 0.0643 *

Saturn -51533-03-22 11:59 J -17100924.06 -17100924.00 -17100923.93 0.0282 0.0245

Jupiter -51532-10-05 12:57 J -17100362.06 -17100361.96 -17100361.86 0.0489 0.0399

Jupiter -51531-01-03 13:25 J -17100272.09 -17100271.94 -17100271.79 0.0489 0.0232

Earth -51530-08-04 10:47 J -17099694.16 -17099694.05 -17099693.94 0.2669 0.0994

Moon -51530-08-04 11:30 J -17099694.12 -17099694.02 -17099693.91 0.2670 0.1023 *

Venus -51527-12-22 07:25 J -17098458.27 -17098458.19 -17098458.11 0.3749 0.2416

Jupiter -51526-09-08 08:09 J -17098198.21 -17098198.16 -17098198.11 0.0538 0.0498

Jupiter -51526-12-06 18:57 J -17098108.84 -17098108.71 -17098108.58 0.0538 0.0146

Mars -51525-05-28 10:04 J -17097935.19 -17097935.08 -17097934.96 0.1706 0.0757

Uranus -51524-02-18 01:25 J -17097669.50 -17097669.44 -17097669.38 0.0132 0.0117

Mars -51524-03-22 08:23 J -17097637.30 -17097637.15 -17097637.01 0.1836 0.0504

Uranus -51524-05-17 04:33 J -17097581.40 -17097581.31 -17097581.22 0.0132 0.0099

Uranus -51524-08-13 07:54 J -17097493.28 -17097493.17 -17097493.06 0.0132 0.0081

Uranus -51524-11-09 11:16 J -17097405.15 -17097405.03 -17097404.91 0.0132 0.0063

Uranus -51523-02-05 14:23 J -17097317.03 -17097316.90 -17097316.77 0.0132 0.0045

Uranus -51523-05-04 17:30 J -17097228.90 -17097228.77 -17097228.63 0.0132 0.0028

Moon -51523-07-28 05:30 J -17097144.36 -17097144.27 -17097144.18 0.2669 0.1702

Earth -51523-07-28 05:59 J -17097144.34 -17097144.25 -17097144.16 0.2664 0.1608 *

Uranus -51523-07-31 20:52 J -17097140.77 -17097140.63 -17097140.50 0.0132 0.0010

Uranus -51523-10-27 23:59 J -17097052.64 -17097052.50 -17097052.36 0.0132 0.0008

Uranus -51522-01-24 03:06 J -17096964.50 -17096964.37 -17096964.23 0.0132 0.0026

Uranus -51522-04-22 06:13 J -17096876.37 -17096876.24 -17096876.11 0.0132 0.0044

Uranus -51522-07-19 09:21 J -17096788.23 -17096788.11 -17096787.99 0.0132 0.0061

Uranus -51522-10-15 12:28 J -17096700.09 -17096699.98 -17096699.87 0.0132 0.0079

Uranus -51521-01-11 15:35 J -17096611.94 -17096611.85 -17096611.76 0.0132 0.0096

Uranus -51521-04-08 18:42 J -17096523.78 -17096523.72 -17096523.65 0.0132 0.0114

Uranus -51521-07-05 21:49 J -17096435.61 -17096435.59 -17096435.57 0.0132 0.0131

Venus -51521-07-06 23:30 J -17096434.63 -17096434.52 -17096434.42 0.3753 0.0311

Saturn -51521-10-31 10:33 J -17096318.09 -17096318.06 -17096318.01 0.0282 0.0271

Saturn -51520-01-28 06:28 J -17096229.38 -17096229.23 -17096229.08 0.0281 0.0147

Moon -51520-01-28 11:59 J -17096229.14 -17096229.00 -17096228.86 0.2670 0.0647 *

Earth -51520-01-28 12:42 J -17096229.11 -17096228.97 -17096228.83 0.2664 0.0789 *

Saturn -51520-04-27 02:23 J -17096140.57 -17096140.40 -17096140.22 0.0281 0.0021

Saturn -51520-07-24 22:47 J -17096051.72 -17096051.55 -17096051.39 0.0280 0.0106

Saturn -51520-10-21 18:57 J -17095962.79 -17095962.71 -17095962.60 0.0279 0.0235

Jupiter -51520-10-22 12:57 J -17095962.13 -17095961.96 -17095961.79 0.0489 0.0077

Earth -51517-08-06 05:45 J -17094943.34 -17094943.26 -17094943.18 0.2671 0.1885

Moon -51517-08-06 06:28 J -17094943.31 -17094943.23 -17094943.15 0.2667 0.1936 *

Mars -51516-10-18 19:11 J -17094504.82 -17094504.70 -17094504.57 0.1699 0.0104

Venus -51515-01-20 15:21 J -17094410.95 -17094410.86 -17094410.77 0.3757 0.1878

Mars -51515-08-12 08:52 J -17094207.27 -17094207.13 -17094207.00 0.1845 0.0696

Jupiter -51514-09-24 21:06 J -17093798.76 -17093798.62 -17093798.49 0.0538 0.0030

Venus -51513-10-22 02:09 J -17093405.56 -17093405.41 -17093405.26 0.3627 0.0895

Moon -51510-07-31 01:25 J -17092393.55 -17092393.44 -17092393.33 0.2672 0.0613

Earth -51510-07-31 01:25 J -17092393.55 -17092393.44 -17092393.33 0.2666 0.0670 *

Jupiter -51508-08-10 12:28 J -17091652.15 -17091651.98 -17091651.81 0.0489 0.0081

Moon -51507-01-31 15:49 J -17091477.91 -17091477.84 -17091477.77 0.2669 0.2341

Earth -51507-01-31 15:49 J -17091477.91 -17091477.84 -17091477.76 0.2662 0.2259 *

Mars -51506-03-11 04:18 J -17091074.44 -17091074.32 -17091074.20 0.1692 0.0565

Saturn -51505-05-24 01:25 J -17090634.48 -17090634.44 -17090634.40 0.0278 0.0265

Saturn -51505-08-20 14:09 J -17090546.02 -17090545.91 -17090545.80 0.0278 0.0165

Saturn -51505-11-17 02:52 J -17090457.52 -17090457.38 -17090457.25 0.0279 0.0066

Saturn -51504-02-13 15:21 J -17090369.00 -17090368.86 -17090368.73 0.0280 0.0034

Saturn -51504-05-13 03:35 J -17090280.47 -17090280.35 -17090280.23 0.0281 0.0131

Saturn -51504-08-09 15:49 J -17090191.92 -17090191.84 -17090191.76 0.0281 0.0229

Jupiter -51502-07-13 23:59 J -17089488.63 -17089488.50 -17089488.38 0.0538 0.0190

Jupiter -51502-10-11 10:04 J -17089399.15 -17089399.08 -17089399.01 0.0539 0.0444

Moon -51500-01-23 12:13 J -17088929.09 -17088928.99 -17088928.89 0.2667 0.1888

Earth -51500-01-23 13:40 J -17088929.04 -17088928.93 -17088928.83 0.2668 0.1779 *

Mars -51497-07-31 13:25 J -17087644.02 -17087643.94 -17087643.85 0.1686 0.1214

Earth -51497-08-01 20:37 J -17087642.75 -17087642.64 -17087642.52 0.2668 0.0266

Moon -51497-08-01 21:21 J -17087642.73 -17087642.61 -17087642.50 0.2673 0.0243 *

Jupiter -51496-05-29 11:16 J -17087342.18 -17087342.03 -17087341.88 0.0489 0.0246

Jupiter -51496-08-27 11:59 J -17087252.10 -17087252.00 -17087251.89 0.0488 0.0391

Mars -51495-07-07 01:11 J -17086938.51 -17086938.45 -17086938.40 0.1713 0.1501

Saturn -51491-06-17 07:25 J -17085497.32 -17085497.19 -17085497.05 0.0282 0.0174

Saturn -51491-09-14 03:21 J -17085408.53 -17085408.36 -17085408.19 0.0281 0.0049

Saturn -51491-12-11 23:30 J -17085319.69 -17085319.52 -17085319.35 0.0280 0.0078

Saturn -51490-03-10 19:40 J -17085230.79 -17085230.68 -17085230.55 0.0279 0.0206

Jupiter -51490-05-02 03:21 J -17085178.47 -17085178.36 -17085178.26 0.0539 0.0344

Moon -51490-07-26 14:37 J -17085092.93 -17085092.89 -17085092.84 0.2664 0.2446

Earth -51490-07-26 15:21 J -17085092.90 -17085092.86 -17085092.81 0.2662 0.2392 *

Jupiter -51490-07-30 13:40 J -17085089.04 -17085088.93 -17085088.82 0.0539 0.0296

Moon -51487-01-26 14:37 J -17084178.03 -17084177.89 -17084177.75 0.2668 0.0552

Earth -51487-01-26 15:49 J -17084177.98 -17084177.84 -17084177.69 0.2666 0.0399 *

Mars -51486-11-27 10:18 J -17083508.18 -17083508.07 -17083507.96 0.1706 0.0842

Mars -51485-09-20 08:52 J -17083210.28 -17083210.13 -17083209.99 0.1836 0.0632

Jupiter -51484-03-17 10:47 J -17083032.15 -17083032.05 -17083031.95 0.0489 0.0400

Jupiter -51484-06-15 11:01 J -17082942.19 -17082942.04 -17082941.88 0.0488 0.0230

Earth -51484-08-04 15:49 J -17082891.94 -17082891.84 -17082891.74 0.2669 0.1160

Moon -51484-08-04 16:33 J -17082891.91 -17082891.81 -17082891.71 0.2669 0.1283 *

Uranus -51482-02-20 14:23 J -17082326.99 -17082326.90 -17082326.80 0.0146 0.0124

Uranus -51482-05-19 22:04 J -17082238.71 -17082238.58 -17082238.43 0.0146 0.0092

Uranus -51482-08-16 05:59 J -17082150.42 -17082150.25 -17082150.08 0.0146 0.0059

Uranus -51482-11-12 13:40 J -17082062.10 -17082061.93 -17082061.74 0.0146 0.0027

Uranus -51481-02-08 21:35 J -17081973.78 -17081973.60 -17081973.41 0.0146 0.0006

Uranus -51481-05-07 05:30 J -17081885.45 -17081885.27 -17081885.09 0.0146 0.0038

Uranus -51481-08-03 13:11 J -17081797.10 -17081796.95 -17081796.78 0.0146 0.0071

Uranus -51481-10-30 21:06 J -17081708.74 -17081708.62 -17081708.48 0.0146 0.0104

Uranus -51480-01-27 05:16 J -17081620.33 -17081620.28 -17081620.21 0.0146 0.0137

Jupiter -51478-02-18 06:13 J -17080868.28 -17080868.24 -17080868.19 0.0538 0.0503

Jupiter -51478-05-18 17:01 J -17080778.92 -17080778.79 -17080778.66 0.0539 0.0143

Moon -51477-07-28 10:33 J -17080342.16 -17080342.06 -17080341.96 0.2670 0.1452

Earth -51477-07-28 11:01 J -17080342.14 -17080342.04 -17080341.94 0.2664 0.1435 *

Mars -51476-04-18 19:25 J -17080077.82 -17080077.69 -17080077.57 0.1699 0.0185

Saturn -51475-01-07 15:35 J -17079813.94 -17079813.85 -17079813.75 0.0278 0.0198

Neptune -51475-02-10 02:23 J -17079780.41 -17079780.40 -17079780.36 0.0089 0.0088

Mars -51475-02-10 09:06 J -17079780.26 -17079780.12 -17079779.98 0.1845 0.0569

Saturn -51475-04-06 04:18 J -17079725.45 -17079725.32 -17079725.19 0.0279 0.0098

Neptune -51475-05-09 05:30 J -17079692.34 -17079692.27 -17079692.20 0.0089 0.0080

Saturn -51475-07-03 16:47 J -17079636.93 -17079636.80 -17079636.66 0.0280 0.0009

Neptune -51475-08-05 07:54 J -17079604.25 -17079604.17 -17079604.06 0.0089 0.0073

Saturn -51475-09-30 05:16 J -17079548.41 -17079548.28 -17079548.15 0.0281 0.0100

Neptune -51475-11-01 11:01 J -17079516.16 -17079516.04 -17079515.92 0.0089 0.0065

Saturn -51475-12-27 17:30 J -17079459.87 -17079459.77 -17079459.67 0.0281 0.0197

Neptune -51474-01-28 13:40 J -17079428.05 -17079427.93 -17079427.79 0.0089 0.0058

Moon -51474-01-29 18:13 J -17079426.87 -17079426.74 -17079426.61 0.2671 0.1093

Earth -51474-01-29 18:42 J -17079426.85 -17079426.72 -17079426.58 0.2664 0.1046 *

Neptune -51474-04-26 16:33 J -17079339.95 -17079339.81 -17079339.66 0.0089 0.0050

Neptune -51474-07-23 19:11 J -17079251.84 -17079251.70 -17079251.54 0.0089 0.0043

Neptune -51474-10-19 22:18 J -17079163.73 -17079163.57 -17079163.41 0.0089 0.0035

Neptune -51473-01-16 00:57 J -17079075.62 -17079075.46 -17079075.29 0.0089 0.0028

Neptune -51473-04-13 03:49 J -17078987.50 -17078987.34 -17078987.16 0.0089 0.0020

Neptune -51473-07-10 06:57 J -17078899.39 -17078899.21 -17078899.04 0.0089 0.0012

Neptune -51473-10-06 09:49 J -17078811.27 -17078811.09 -17078810.92 0.0089 0.0005

Neptune -51472-01-02 12:42 J -17078723.15 -17078722.97 -17078722.80 0.0089 0.0004

Neptune -51472-03-31 15:35 J -17078635.03 -17078634.85 -17078634.68 0.0089 0.0011

Jupiter -51472-04-03 10:18 J -17078632.25 -17078632.07 -17078631.90 0.0489 0.0069

Neptune -51472-06-27 18:28 J -17078546.90 -17078546.73 -17078546.56 0.0089 0.0019

Neptune -51472-09-23 21:21 J -17078458.78 -17078458.61 -17078458.44 0.0089 0.0027

Neptune -51472-12-21 00:13 J -17078370.65 -17078370.49 -17078370.32 0.0089 0.0035

Neptune -51471-03-19 02:52 J -17078282.52 -17078282.38 -17078282.21 0.0089 0.0043

Neptune -51471-06-15 05:59 J -17078194.39 -17078194.25 -17078194.09 0.0089 0.0051

Earth -51471-08-07 10:47 J -17078141.12 -17078141.05 -17078140.98 0.2671 0.2047

Moon -51471-08-07 11:30 J -17078141.09 -17078141.02 -17078140.95 0.2667 0.2081 *

Neptune -51471-09-11 08:52 J -17078106.25 -17078106.13 -17078105.98 0.0089 0.0059

Neptune -51471-12-08 12:13 J -17078018.11 -17078017.99 -17078017.87 0.0089 0.0066

Neptune -51470-03-06 15:06 J -17077929.96 -17077929.87 -17077929.77 0.0089 0.0074

Neptune -51470-06-02 17:59 J -17077841.81 -17077841.75 -17077841.68 0.0089 0.0082

Venus -51470-07-29 05:01 J -17077785.39 -17077785.29 -17077785.20 0.3750 0.1624

Mars -51467-09-09 04:33 J -17076647.43 -17076647.31 -17076647.19 0.1692 0.0471

Jupiter -51466-03-06 19:54 J -17076468.80 -17076468.67 -17076468.53 0.0538 0.0021

Mars -51466-07-03 09:35 J -17076350.14 -17076350.10 -17076350.06 0.1853 0.1768

Venus -51464-02-10 20:52 J -17075761.73 -17075761.63 -17075761.53 0.3754 0.0536

Earth -51464-07-31 06:28 J -17075591.34 -17075591.23 -17075591.11 0.2666 0.0494

Moon -51464-07-31 06:42 J -17075591.33 -17075591.22 -17075591.11 0.2672 0.0524 *

Saturn -51462-11-04 07:40 J -17074765.29 -17074765.18 -17074765.06 0.0282 0.0208

Saturn -51461-02-01 03:35 J -17074676.52 -17074676.35 -17074676.19 0.0281 0.0083

Earth -51461-02-01 22:04 J -17074675.63 -17074675.58 -17074675.54 0.2662 0.2525

Moon -51461-02-01 22:18 J -17074675.62 -17074675.57 -17074675.52 0.2668 0.2473 *

Saturn -51461-04-29 23:45 J -17074587.69 -17074587.51 -17074587.34 0.0280 0.0043

Saturn -51461-07-27 19:54 J -17074498.80 -17074498.67 -17074498.53 0.0279 0.0171

Jupiter -51460-01-20 09:49 J -17074322.26 -17074322.09 -17074321.92 0.0489 0.0086

Venus -51459-08-27 12:57 J -17073738.03 -17073737.96 -17073737.89 0.3758 0.2674

Mars -51457-01-30 13:25 J -17073217.03 -17073216.94 -17073216.85 0.1686 0.1130

Venus -51456-05-29 03:49 J -17072732.49 -17072732.34 -17072732.20 0.3625 0.1098

Mars -51455-01-05 01:11 J -17072511.49 -17072511.45 -17072511.41 0.1713 0.1586

Jupiter -51455-12-23 22:04 J -17072158.71 -17072158.58 -17072158.46 0.0538 0.0195

Moon -51454-01-24 18:13 J -17072126.86 -17072126.74 -17072126.63 0.2667 0.1611

Earth -51454-01-24 19:25 J -17072126.80 -17072126.69 -17072126.57 0.2668 0.1536 *

Jupiter -51454-03-23 08:09 J -17072069.23 -17072069.16 -17072069.08 0.0538 0.0438

Earth -51451-08-03 01:40 J -17070840.54 -17070840.43 -17070840.31 0.2668 0.0425

Moon -51451-08-03 02:23 J -17070840.52 -17070840.40 -17070840.29 0.2672 0.0544 *

Jupiter -51449-11-08 09:21 J -17070012.26 -17070012.11 -17070011.96 0.0489 0.0242

Jupiter -51448-02-06 10:18 J -17069922.17 -17069922.07 -17069921.97 0.0489 0.0396

Saturn -51446-05-27 19:11 J -17069081.78 -17069081.70 -17069081.61 0.0278 0.0215

Mars -51446-05-28 10:18 J -17069081.18 -17069081.07 -17069080.97 0.1706 0.0924

Saturn -51446-08-24 07:54 J -17068993.29 -17068993.17 -17068993.04 0.0279 0.0115

Saturn -51446-11-20 20:37 J -17068904.78 -17068904.64 -17068904.50 0.0280 0.0017

Saturn -51445-02-17 08:52 J -17068816.26 -17068816.13 -17068815.99 0.0280 0.0083

Mars -51445-03-21 09:21 J -17068783.24 -17068783.11 -17068782.97 0.1836 0.0776

Saturn -51445-05-15 21:06 J -17068727.72 -17068727.62 -17068727.51 0.0281 0.0182

Saturn -51445-08-12 09:21 J -17068639.12 -17068639.11 -17068639.09 0.0282 0.0279

Moon -51444-07-26 19:54 J -17068290.73 -17068290.67 -17068290.62 0.2666 0.2318

Earth -51444-07-26 20:37 J -17068290.71 -17068290.64 -17068290.58 0.2663 0.2209 *

Jupiter -51443-10-12 00:42 J -17067848.56 -17067848.47 -17067848.37 0.0538 0.0359

Jupiter -51442-01-09 11:16 J -17067759.14 -17067759.03 -17067758.92 0.0539 0.0281

Moon -51441-01-27 20:52 J -17067375.77 -17067375.63 -17067375.49 0.2669 0.0197

Earth -51441-01-27 22:04 J -17067375.73 -17067375.58 -17067375.44 0.2666 0.0149 *

Uranus -51441-12-12 05:01 J -17067056.29 -17067056.29 -17067056.29 0.0132 0.0132

Uranus -51440-03-10 08:09 J -17066968.22 -17066968.16 -17066968.09 0.0132 0.0114

Uranus -51440-06-06 11:16 J -17066880.11 -17066880.03 -17066879.92 0.0132 0.0096

Uranus -51440-09-02 14:37 J -17066791.99 -17066791.89 -17066791.77 0.0132 0.0078

Uranus -51440-11-29 17:59 J -17066703.87 -17066703.75 -17066703.63 0.0132 0.0060

Uranus -51439-02-25 21:06 J -17066615.74 -17066615.62 -17066615.48 0.0132 0.0042

Uranus -51439-05-25 00:28 J -17066527.61 -17066527.48 -17066527.34 0.0132 0.0024

Uranus -51439-08-21 03:35 J -17066439.48 -17066439.35 -17066439.21 0.0132 0.0007

Uranus -51439-11-17 06:57 J -17066351.35 -17066351.21 -17066351.08 0.0132 0.0012

Uranus -51438-02-13 10:04 J -17066263.22 -17066263.08 -17066262.95 0.0132 0.0030

Uranus -51438-05-12 13:11 J -17066175.08 -17066174.95 -17066174.82 0.0132 0.0047

Earth -51438-08-05 20:52 J -17066089.73 -17066089.63 -17066089.53 0.2670 0.1325

Moon -51438-08-05 21:35 J -17066089.70 -17066089.60 -17066089.50 0.2668 0.1325 *

Uranus -51438-08-08 16:18 J -17066086.94 -17066086.82 -17066086.70 0.0132 0.0065

Uranus -51438-11-04 19:25 J -17065998.79 -17065998.69 -17065998.58 0.0132 0.0082

Uranus -51437-01-31 22:33 J -17065910.65 -17065910.56 -17065910.47 0.0132 0.0100

Uranus -51437-04-29 01:25 J -17065822.49 -17065822.44 -17065822.37 0.0132 0.0118

Jupiter -51437-08-27 08:23 J -17065702.25 -17065702.15 -17065702.06 0.0489 0.0404

Mars -51437-10-17 19:25 J -17065650.81 -17065650.69 -17065650.56 0.1699 0.0277

Jupiter -51437-11-25 08:37 J -17065612.29 -17065612.14 -17065611.98 0.0488 0.0225

Mars -51436-08-11 09:35 J -17065353.25 -17065353.10 -17065352.96 0.1845 0.0442

Saturn -51432-03-23 09:06 J -17064033.21 -17064033.12 -17064033.02 0.0282 0.0233

Saturn -51432-06-20 05:01 J -17063944.45 -17063944.29 -17063944.13 0.0281 0.0109

Pluto -51432-09-13 00:28 J -17063859.50 -17063859.48 -17063859.43 0.0062 0.0061

Saturn -51432-09-17 00:57 J -17063855.63 -17063855.46 -17063855.28 0.0281 0.0017

Pluto -51432-12-10 01:25 J -17063771.49 -17063771.44 -17063771.35 0.0062 0.0056

Saturn -51432-12-14 21:21 J -17063766.76 -17063766.61 -17063766.46 0.0280 0.0144

Pluto -51431-03-08 02:37 J -17063683.47 -17063683.39 -17063683.28 0.0062 0.0052

Saturn -51431-03-13 17:30 J -17063677.79 -17063677.77 -17063677.72 0.0279 0.0272

Pluto -51431-06-04 03:35 J -17063595.44 -17063595.35 -17063595.22 0.0063 0.0048

Moon -51431-07-29 15:35 J -17063539.95 -17063539.85 -17063539.74 0.2670 0.1313

Earth -51431-07-29 16:04 J -17063539.93 -17063539.83 -17063539.72 0.2664 0.1259 *

Jupiter -51431-07-31 03:49 J -17063538.37 -17063538.34 -17063538.30 0.0538 0.0516

Pluto -51431-08-31 04:47 J -17063507.41 -17063507.30 -17063507.16 0.0063 0.0043

Jupiter -51431-10-28 14:52 J -17063449.01 -17063448.88 -17063448.75 0.0539 0.0132

Pluto -51431-11-27 06:13 J -17063419.37 -17063419.24 -17063419.10 0.0063 0.0038

Pluto -51430-02-23 06:57 J -17063331.33 -17063331.21 -17063331.05 0.0063 0.0034

Pluto -51430-05-22 08:23 J -17063243.30 -17063243.15 -17063242.99 0.0063 0.0029

Pluto -51430-08-18 09:35 J -17063155.26 -17063155.10 -17063154.94 0.0063 0.0024

Pluto -51430-11-14 10:33 J -17063067.21 -17063067.06 -17063066.89 0.0063 0.0020

Pluto -51429-02-10 11:45 J -17062979.17 -17062979.01 -17062978.83 0.0063 0.0015

Pluto -51429-05-08 12:57 J -17062891.12 -17062890.96 -17062890.78 0.0063 0.0010

Pluto -51429-08-04 14:09 J -17062803.08 -17062802.91 -17062802.73 0.0063 0.0006

Pluto -51429-10-31 15:21 J -17062715.03 -17062714.86 -17062714.68 0.0063 0.0002

Pluto -51428-01-27 16:33 J -17062626.98 -17062626.81 -17062626.63 0.0063 0.0005

Moon -51428-01-30 00:13 J -17062624.62 -17062624.49 -17062624.36 0.2670 0.1179

Earth -51428-01-30 00:57 J -17062624.59 -17062624.46 -17062624.34 0.2664 0.1304 *

Pluto -51428-04-25 17:45 J -17062538.93 -17062538.76 -17062538.58 0.0064 0.0009

Pluto -51428-07-22 18:42 J -17062450.87 -17062450.72 -17062450.54 0.0064 0.0015

Pluto -51428-10-18 20:09 J -17062362.82 -17062362.66 -17062362.49 0.0064 0.0019

Pluto -51427-01-14 21:21 J -17062274.76 -17062274.61 -17062274.44 0.0064 0.0024

Mars -51427-03-10 04:33 J -17062220.43 -17062220.31 -17062220.19 0.1692 0.0383

Pluto -51427-04-12 22:33 J -17062186.71 -17062186.56 -17062186.40 0.0064 0.0029

Pluto -51427-07-09 23:45 J -17062098.65 -17062098.51 -17062098.35 0.0064 0.0034

Pluto -51427-10-06 00:57 J -17062010.59 -17062010.46 -17062010.31 0.0064 0.0039

Mars -51426-01-01 10:04 J -17061923.14 -17061923.08 -17061923.01 0.1853 0.1637

Pluto -51426-01-02 02:09 J -17061922.52 -17061922.41 -17061922.27 0.0064 0.0045

Pluto -51426-03-31 03:35 J -17061834.45 -17061834.35 -17061834.23 0.0064 0.0049

Pluto -51426-06-27 04:47 J -17061746.38 -17061746.30 -17061746.20 0.0064 0.0055

Pluto -51426-09-23 06:13 J -17061658.30 -17061658.24 -17061658.17 0.0064 0.0060

Earth -51425-08-07 15:49 J -17061338.90 -17061338.84 -17061338.78 0.2672 0.2209

Moon -51425-08-07 16:18 J -17061338.88 -17061338.82 -17061338.76 0.2667 0.2277 *

Jupiter -51425-09-13 07:54 J -17061302.34 -17061302.17 -17061302.00 0.0488 0.0066

Moon -51421-01-22 22:33 J -17060075.59 -17060075.56 -17060075.54 0.2666 0.2619

Earth -51421-01-22 23:30 J -17060075.54 -17060075.52 -17060075.50 0.2670 0.2635 *

Jupiter -51419-08-16 17:59 J -17059138.88 -17059138.75 -17059138.61 0.0539 0.0026

Venus -51419-08-19 10:18 J -17059136.13 -17059136.07 -17059136.01 0.3747 0.2976

Mars -51418-07-31 13:40 J -17058790.03 -17058789.93 -17058789.83 0.1686 0.1036

Earth -51418-08-01 11:30 J -17058789.14 -17058789.02 -17058788.90 0.2666 0.0327

Moon -51418-08-01 11:45 J -17058789.12 -17058789.01 -17058788.89 0.2673 0.0269 *

Saturn -51417-10-13 20:37 J -17058349.69 -17058349.64 -17058349.57 0.0278 0.0247

Saturn -51416-01-10 09:35 J -17058261.22 -17058261.10 -17058260.98 0.0279 0.0147

Saturn -51416-04-08 22:04 J -17058172.71 -17058172.58 -17058172.44 0.0279 0.0049

Mars -51416-07-06 01:11 J -17058084.47 -17058084.45 -17058084.42 0.1713 0.1672

Saturn -51416-07-06 10:33 J -17058084.19 -17058084.06 -17058083.92 0.0280 0.0052

Saturn -51416-10-02 23:01 J -17057995.66 -17057995.54 -17057995.43 0.0281 0.0149

Saturn -51416-12-30 11:01 J -17057907.10 -17057907.04 -17057906.97 0.0282 0.0247

Venus -51413-03-04 02:23 J -17057112.50 -17057112.40 -17057112.30 0.3751 0.0818

Jupiter -51413-07-02 07:11 J -17056992.37 -17056992.20 -17056992.03 0.0489 0.0093

Moon -51408-01-25 00:13 J -17055324.61 -17055324.49 -17055324.37 0.2666 0.1426

Earth -51408-01-25 01:25 J -17055324.56 -17055324.44 -17055324.31 0.2668 0.1287 *

Venus -51408-09-17 18:28 J -17055088.83 -17055088.73 -17055088.64 0.3755 0.1332

Jupiter -51407-06-04 20:52 J -17054828.75 -17054828.63 -17054828.50 0.0538 0.0186

Jupiter -51407-09-02 06:57 J -17054739.28 -17054739.21 -17054739.13 0.0538 0.0448

Mars -51407-11-26 10:18 J -17054654.16 -17054654.07 -17054653.97 0.1706 0.1017

Mars -51406-09-20 09:35 J -17054356.23 -17054356.10 -17054355.97 0.1836 0.0882

Venus -51405-06-18 22:04 J -17054083.69 -17054083.58 -17054083.48 0.3629 0.2688

Earth -51405-08-03 06:42 J -17054038.33 -17054038.22 -17054038.10 0.2668 0.0594

Moon -51405-08-03 07:25 J -17054038.30 -17054038.19 -17054038.08 0.2671 0.0595 *

Saturn -51403-08-10 09:06 J -17053301.16 -17053301.12 -17053301.07 0.0282 0.0269

Saturn -51403-11-07 04:47 J -17053212.44 -17053212.30 -17053212.15 0.0281 0.0145

Saturn -51402-02-04 00:42 J -17053123.64 -17053123.47 -17053123.29 0.0281 0.0020

Venus -51402-04-03 10:33 J -17053065.10 -17053065.06 -17053065.03 0.3759 0.3473

Saturn -51402-05-03 20:52 J -17053034.79 -17053034.63 -17053034.46 0.0280 0.0108

Saturn -51402-07-31 17:30 J -17052945.86 -17052945.77 -17052945.68 0.0279 0.0235

Jupiter -51401-04-20 06:57 J -17052682.36 -17052682.21 -17052682.06 0.0489 0.0246

Jupiter -51401-07-19 07:40 J -17052592.28 -17052592.18 -17052592.07 0.0489 0.0391

Venus -51399-01-03 05:16 J -17052059.36 -17052059.28 -17052059.20 0.3623 0.3067

Uranus -51398-03-12 21:49 J -17051625.70 -17051625.59 -17051625.48 0.0146 0.0116

Uranus -51398-06-09 05:30 J -17051537.42 -17051537.27 -17051537.12 0.0146 0.0084

Moon -51398-07-28 00:57 J -17051488.54 -17051488.46 -17051488.39 0.2666 0.2055

Earth -51398-07-28 01:40 J -17051488.51 -17051488.43 -17051488.36 0.2663 0.2035 *

Uranus -51398-09-05 13:11 J -17051449.12 -17051448.95 -17051448.78 0.0146 0.0052

Uranus -51398-12-02 21:06 J -17051360.80 -17051360.62 -17051360.44 0.0146 0.0019

Uranus -51397-02-29 04:47 J -17051272.48 -17051272.30 -17051272.11 0.0146 0.0014

Mars -51397-04-17 19:25 J -17051223.81 -17051223.69 -17051223.56 0.1699 0.0358

Uranus -51397-05-27 12:42 J -17051184.14 -17051183.97 -17051183.79 0.0146 0.0046

Uranus -51397-08-23 20:37 J -17051095.79 -17051095.64 -17051095.48 0.0146 0.0079

Uranus -51397-11-20 04:18 J -17051007.42 -17051007.32 -17051007.19 0.0146 0.0112

Mars -51396-02-09 10:04 J -17050926.23 -17050926.08 -17050925.93 0.1845 0.0314

Uranus -51396-02-16 12:13 J -17050918.99 -17050918.99 -17050918.95 0.0146 0.0145

Moon -51395-01-28 02:52 J -17050573.52 -17050573.38 -17050573.23 0.2670 0.0077

Earth -51395-01-28 04:04 J -17050573.48 -17050573.33 -17050573.19 0.2666 0.0122 *

Jupiter -51395-03-23 23:01 J -17050518.64 -17050518.54 -17050518.44 0.0538 0.0362

Jupiter -51395-06-21 09:21 J -17050429.22 -17050429.11 -17050428.99 0.0538 0.0279

Neptune -51393-08-17 10:04 J -17049641.12 -17049641.08 -17049641.03 0.0088 0.0084

Neptune -51393-11-13 11:30 J -17049553.07 -17049553.02 -17049552.93 0.0088 0.0078

Neptune -51392-02-09 13:40 J -17049465.02 -17049464.93 -17049464.85 0.0088 0.0071

Neptune -51392-05-08 15:06 J -17049376.96 -17049376.87 -17049376.76 0.0088 0.0065

Neptune -51392-08-04 16:47 J -17049288.90 -17049288.80 -17049288.68 0.0088 0.0058

Earth -51392-08-06 01:54 J -17049287.52 -17049287.42 -17049287.33 0.2670 0.1490

Moon -51392-08-06 02:37 J -17049287.48 -17049287.39 -17049287.30 0.2669 0.1623 *

Neptune -51392-10-31 18:42 J -17049200.84 -17049200.72 -17049200.61 0.0088 0.0052

Neptune -51391-01-27 20:09 J -17049112.78 -17049112.66 -17049112.53 0.0089 0.0046

Neptune -51391-04-25 21:49 J -17049024.71 -17049024.59 -17049024.45 0.0089 0.0039

Neptune -51391-07-22 23:30 J -17048936.65 -17048936.52 -17048936.38 0.0089 0.0033

Neptune -51391-10-19 01:11 J -17048848.58 -17048848.45 -17048848.31 0.0089 0.0027

Neptune -51390-01-15 02:52 J -17048760.52 -17048760.38 -17048760.24 0.0089 0.0021

Neptune -51390-04-13 04:33 J -17048672.45 -17048672.31 -17048672.17 0.0089 0.0014

Neptune -51390-07-10 06:13 J -17048584.38 -17048584.24 -17048584.10 0.0089 0.0008

Neptune -51390-10-06 07:54 J -17048496.32 -17048496.17 -17048496.03 0.0089 0.0002

Neptune -51389-01-02 09:21 J -17048408.25 -17048408.11 -17048407.96 0.0089 0.0005

Jupiter -51389-02-07 06:28 J -17048372.32 -17048372.23 -17048372.13 0.0489 0.0400

Neptune -51389-03-30 11:01 J -17048320.18 -17048320.04 -17048319.90 0.0089 0.0011

Jupiter -51389-05-07 06:42 J -17048282.37 -17048282.22 -17048282.06 0.0489 0.0231

Neptune -51389-06-26 12:42 J -17048232.11 -17048231.97 -17048231.83 0.0089 0.0017

Neptune -51389-09-22 14:23 J -17048144.04 -17048143.90 -17048143.77 0.0089 0.0023

Neptune -51389-12-19 15:49 J -17048055.97 -17048055.84 -17048055.70 0.0089 0.0029

Neptune -51388-03-17 17:30 J -17047967.90 -17047967.77 -17047967.64 0.0089 0.0035

Neptune -51388-06-13 18:57 J -17047879.83 -17047879.71 -17047879.58 0.0089 0.0041

Mars -51388-09-08 04:33 J -17047793.43 -17047793.31 -17047793.18 0.1693 0.0302

Neptune -51388-09-09 20:23 J -17047791.76 -17047791.65 -17047791.52 0.0089 0.0048

Neptune -51388-12-06 22:04 J -17047703.68 -17047703.58 -17047703.46 0.0089 0.0053

Saturn -51387-03-02 23:59 J -17047617.53 -17047617.50 -17047617.45 0.0278 0.0266

Neptune -51387-03-04 23:30 J -17047615.61 -17047615.52 -17047615.40 0.0089 0.0060

Saturn -51387-05-30 12:57 J -17047529.07 -17047528.96 -17047528.85 0.0279 0.0166

Neptune -51387-06-01 01:11 J -17047527.54 -17047527.45 -17047527.35 0.0089 0.0065

Mars -51387-07-02 10:33 J -17047496.14 -17047496.06 -17047495.97 0.1853 0.1502

Saturn -51387-08-27 01:40 J -17047440.57 -17047440.43 -17047440.30 0.0279 0.0067

Neptune -51387-08-28 02:37 J -17047439.46 -17047439.39 -17047439.29 0.0089 0.0072

Saturn -51387-11-23 14:09 J -17047352.05 -17047351.91 -17047351.78 0.0280 0.0033

Neptune -51387-11-24 04:04 J -17047351.38 -17047351.33 -17047351.25 0.0089 0.0078

Saturn -51386-02-20 02:23 J -17047263.52 -17047263.40 -17047263.28 0.0281 0.0131

Neptune -51386-02-20 05:59 J -17047263.29 -17047263.25 -17047263.20 0.0089 0.0083 *

Saturn -51386-05-19 14:37 J -17047174.96 -17047174.89 -17047174.81 0.0282 0.0229

Moon -51385-07-29 20:52 J -17046737.73 -17046737.63 -17046737.52 0.2671 0.1126

Earth -51385-07-29 21:06 J -17046737.72 -17046737.62 -17046737.51 0.2665 0.1087 *

Jupiter -51383-01-10 01:40 J -17046208.45 -17046208.43 -17046208.41 0.0538 0.0528

Jupiter -51383-04-09 12:28 J -17046119.11 -17046118.98 -17046118.85 0.0538 0.0118

Moon -51382-01-31 06:28 J -17045822.34 -17045822.23 -17045822.12 0.2670 0.1591

Earth -51382-01-31 06:57 J -17045822.33 -17045822.21 -17045822.09 0.2664 0.1558 *

Earth -51379-08-08 20:37 J -17044536.69 -17044536.64 -17044536.58 0.2672 0.2371

Moon -51379-08-08 21:06 J -17044536.67 -17044536.62 -17044536.57 0.2666 0.2332 *

Mars -51378-01-29 13:40 J -17044363.03 -17044362.93 -17044362.82 0.1686 0.0946

Jupiter -51377-02-24 05:30 J -17043972.45 -17043972.27 -17043972.10 0.0488 0.0062

Moon -51375-01-23 04:18 J -17043273.36 -17043273.32 -17043273.29 0.2666 0.2569

Earth -51375-01-23 05:16 J -17043273.34 -17043273.28 -17043273.22 0.2669 0.2396 *

Saturn -51373-03-26 06:42 J -17042480.36 -17042480.22 -17042480.08 0.0282 0.0168

Saturn -51373-06-23 02:37 J -17042391.56 -17042391.39 -17042391.22 0.0281 0.0043

Saturn -51373-09-19 22:47 J -17042302.72 -17042302.55 -17042302.39 0.0280 0.0084

Saturn -51373-12-17 18:57 J -17042213.82 -17042213.71 -17042213.59 0.0279 0.0212

Earth -51372-08-01 16:33 J -17041986.93 -17041986.81 -17041986.69 0.2666 0.0155

Moon -51372-08-01 16:47 J -17041986.91 -17041986.80 -17041986.68 0.2673 0.0167 *

Jupiter -51371-01-26 15:49 J -17041808.97 -17041808.84 -17041808.71 0.0539 0.0035

Mars -51369-06-20 22:47 J -17040932.59 -17040932.55 -17040932.52 0.1680 0.1597

Mars -51367-05-27 10:33 J -17040227.16 -17040227.06 -17040226.97 0.1706 0.1104

Mars -51366-03-21 10:04 J -17039929.20 -17039929.08 -17039928.95 0.1836 0.1019

Jupiter -51366-12-13 04:47 J -17039662.46 -17039662.30 -17039662.12 0.0488 0.0096

Moon -51362-01-26 06:13 J -17038522.37 -17038522.24 -17038522.11 0.2667 0.1069

Earth -51362-01-26 07:40 J -17038522.32 -17038522.18 -17038522.05 0.2667 0.1038 *

Venus -51362-03-26 07:54 J -17038463.25 -17038463.17 -17038463.09 0.3748 0.2172

Jupiter -51360-11-14 18:57 J -17037498.83 -17037498.71 -17037498.58 0.0539 0.0190

Jupiter -51359-02-12 05:16 J -17037409.35 -17037409.28 -17037409.21 0.0539 0.0445

Earth -51359-08-04 11:45 J -17037236.12 -17037236.01 -17037235.90 0.2668 0.0756

Moon -51359-08-04 12:28 J -17037236.09 -17037235.98 -17037235.87 0.2670 0.0869 *

Saturn -51358-10-17 14:23 J -17036796.99 -17036796.90 -17036796.80 0.0278 0.0198

Mars -51358-10-17 19:40 J -17036796.80 -17036796.68 -17036796.56 0.1699 0.0448 *

Saturn -51357-01-14 03:06 J -17036708.50 -17036708.37 -17036708.24 0.0279 0.0099

Saturn -51357-04-11 15:35 J -17036619.98 -17036619.85 -17036619.71 0.0280 0.0008

Saturn -51357-07-09 04:04 J -17036531.46 -17036531.33 -17036531.20 0.0280 0.0099

Mars -51357-08-10 10:18 J -17036499.22 -17036499.07 -17036498.92 0.1844 0.0194

Saturn -51357-10-05 16:18 J -17036442.91 -17036442.82 -17036442.72 0.0281 0.0197

Venus -51357-10-08 23:59 J -17036439.60 -17036439.50 -17036439.40 0.3752 0.0016

Uranus -51356-01-01 11:45 J -17036355.03 -17036355.01 -17036354.97 0.0132 0.0128

Uranus -51356-03-30 15:06 J -17036266.94 -17036266.87 -17036266.79 0.0132 0.0110

Uranus -51356-06-26 18:13 J -17036178.83 -17036178.74 -17036178.63 0.0132 0.0092

Uranus -51356-09-22 21:35 J -17036090.71 -17036090.60 -17036090.48 0.0132 0.0074

Uranus -51356-12-20 00:57 J -17036002.58 -17036002.46 -17036002.33 0.0132 0.0056

Uranus -51355-03-18 04:04 J -17035914.46 -17035914.33 -17035914.19 0.0132 0.0038

Uranus -51355-06-14 07:25 J -17035826.33 -17035826.19 -17035826.05 0.0132 0.0020

Uranus -51355-09-10 10:33 J -17035738.19 -17035738.06 -17035737.92 0.0132 0.0003

Uranus -51355-12-07 13:40 J -17035650.06 -17035649.93 -17035649.79 0.0132 0.0016

Uranus -51354-03-05 17:01 J -17035561.93 -17035561.79 -17035561.66 0.0132 0.0033

Uranus -51354-06-01 19:54 J -17035473.79 -17035473.67 -17035473.54 0.0132 0.0051

Uranus -51354-08-28 23:16 J -17035385.65 -17035385.53 -17035385.41 0.0132 0.0068

Jupiter -51354-10-01 04:18 J -17035352.47 -17035352.32 -17035352.17 0.0489 0.0252

Uranus -51354-11-25 02:09 J -17035297.50 -17035297.41 -17035297.30 0.0132 0.0086

Jupiter -51354-12-30 05:01 J -17035262.40 -17035262.29 -17035262.18 0.0489 0.0384

Uranus -51353-02-21 05:16 J -17035209.35 -17035209.28 -17035209.19 0.0132 0.0104

Uranus -51353-05-19 08:37 J -17035121.19 -17035121.14 -17035121.09 0.0132 0.0121

Moon -51352-07-28 05:59 J -17034686.33 -17034686.25 -17034686.17 0.2667 0.1978

Earth -51352-07-28 06:42 J -17034686.30 -17034686.22 -17034686.13 0.2663 0.1856 *

Venus -51351-04-24 16:04 J -17034415.92 -17034415.83 -17034415.75 0.3756 0.2132

Moon -51349-01-29 09:06 J -17033771.26 -17033771.12 -17033770.98 0.2670 0.0271

Earth -51349-01-29 10:04 J -17033771.22 -17033771.08 -17033770.94 0.2665 0.0372 *

Venus -51348-01-23 23:30 J -17033410.67 -17033410.52 -17033410.37 0.3628 0.0726

Mars -51348-03-09 04:47 J -17033366.42 -17033366.30 -17033366.18 0.1693 0.0205

Jupiter -51348-09-02 21:49 J -17033188.69 -17033188.59 -17033188.49 0.0538 0.0352

Jupiter -51348-12-01 08:23 J -17033099.26 -17033099.15 -17033099.04 0.0538 0.0288

Mars -51348-12-31 10:47 J -17033069.15 -17033069.05 -17033068.96 0.1853 0.1396

Earth -51346-08-07 06:42 J -17032485.31 -17032485.22 -17032485.13 0.2670 0.1655

Moon -51346-08-07 07:40 J -17032485.27 -17032485.18 -17032485.09 0.2668 0.1646 *

Saturn -51344-08-13 05:59 J -17031748.36 -17031748.25 -17031748.13 0.0282 0.0207

Saturn -51344-11-10 01:54 J -17031659.59 -17031659.42 -17031659.26 0.0281 0.0082

Saturn -51343-02-06 21:49 J -17031570.76 -17031570.59 -17031570.41 0.0280 0.0045

Saturn -51343-05-06 18:13 J -17031481.88 -17031481.74 -17031481.60 0.0279 0.0172

Jupiter -51342-07-20 04:04 J -17031042.42 -17031042.33 -17031042.23 0.0489 0.0404

Jupiter -51342-10-18 04:18 J -17030952.47 -17030952.32 -17030952.16 0.0489 0.0227

Pluto -51341-03-01 21:06 J -17030816.66 -17030816.62 -17030816.54 0.0082 0.0074

Pluto -51341-05-28 22:47 J -17030728.62 -17030728.55 -17030728.44 0.0082 0.0065

Pluto -51341-08-25 00:28 J -17030640.57 -17030640.48 -17030640.36 0.0082 0.0056

Pluto -51341-11-21 02:09 J -17030552.52 -17030552.41 -17030552.28 0.0081 0.0046

Pluto -51340-02-17 03:49 J -17030464.46 -17030464.34 -17030464.20 0.0081 0.0037

Pluto -51340-05-16 05:30 J -17030376.41 -17030376.27 -17030376.13 0.0081 0.0028

Pluto -51340-08-12 06:57 J -17030288.35 -17030288.21 -17030288.06 0.0081 0.0020

Pluto -51340-11-08 08:37 J -17030200.28 -17030200.14 -17030199.99 0.0081 0.0011

Pluto -51339-02-04 10:04 J -17030112.22 -17030112.08 -17030111.93 0.0081 0.0003

Pluto -51339-05-03 11:45 J -17030024.16 -17030024.01 -17030023.87 0.0081 0.0006

Pluto -51339-07-30 13:11 J -17029936.09 -17029935.95 -17029935.81 0.0080 0.0014

Mars -51339-07-30 13:40 J -17029936.03 -17029935.93 -17029935.82 0.1686 0.0863 *

Moon -51339-07-31 02:09 J -17029935.52 -17029935.41 -17029935.30 0.2672 0.0887

Earth -51339-07-31 02:09 J -17029935.52 -17029935.41 -17029935.30 0.2665 0.0917 *

Pluto -51339-10-26 14:37 J -17029848.03 -17029847.89 -17029847.75 0.0080 0.0023

Pluto -51338-01-22 16:04 J -17029759.96 -17029759.83 -17029759.69 0.0080 0.0031

Pluto -51338-04-20 17:30 J -17029671.89 -17029671.77 -17029671.64 0.0080 0.0039

Pluto -51338-07-17 18:57 J -17029583.82 -17029583.71 -17029583.59 0.0080 0.0047

Pluto -51338-10-13 20:23 J -17029495.75 -17029495.65 -17029495.54 0.0080 0.0055

Pluto -51337-01-09 21:49 J -17029407.67 -17029407.59 -17029407.50 0.0080 0.0063

Pluto -51337-04-06 23:16 J -17029319.59 -17029319.53 -17029319.46 0.0080 0.0071

Pluto -51337-07-04 00:28 J -17029231.48 -17029231.48 -17029231.45 0.0079 0.0079

Moon -51336-01-31 12:57 J -17029020.07 -17029019.96 -17029019.85 0.2670 0.1791

Earth -51336-01-31 12:57 J -17029020.06 -17029019.96 -17029019.85 0.2663 0.1819 *

Jupiter -51336-06-21 23:59 J -17028878.52 -17028878.50 -17028878.48 0.0538 0.0527

Jupiter -51336-09-19 10:47 J -17028789.18 -17028789.05 -17028788.92 0.0538 0.0119

Earth -51333-08-09 01:40 J -17027734.46 -17027734.43 -17027734.39 0.2672 0.2529

Moon -51333-08-09 01:54 J -17027734.44 -17027734.42 -17027734.39 0.2665 0.2607 *

Jupiter -51330-08-06 03:35 J -17026642.52 -17026642.35 -17026642.17 0.0489 0.0069

Mars -51330-12-20 22:47 J -17026505.60 -17026505.55 -17026505.49 0.1680 0.1507

Moon -51329-01-24 10:04 J -17026471.16 -17026471.08 -17026470.99 0.2665 0.2144

Earth -51329-01-24 11:16 J -17026471.11 -17026471.03 -17026470.95 0.2669 0.2156 *

Saturn -51328-03-05 17:30 J -17026064.85 -17026064.77 -17026064.68 0.0278 0.0219

Saturn -51328-06-02 06:13 J -17025976.36 -17025976.24 -17025976.11 0.0279 0.0119

Saturn -51328-08-29 18:57 J -17025887.85 -17025887.71 -17025887.58 0.0280 0.0022

Mars -51328-11-25 10:33 J -17025800.15 -17025800.06 -17025799.97 0.1706 0.1186

Saturn -51328-11-26 07:11 J -17025799.33 -17025799.20 -17025799.06 0.0281 0.0079

Saturn -51327-02-22 19:25 J -17025710.79 -17025710.69 -17025710.58 0.0281 0.0178

Saturn -51327-05-22 07:54 J -17025622.20 -17025622.17 -17025622.15 0.0282 0.0275

Mars -51327-09-19 10:47 J -17025502.17 -17025502.05 -17025501.94 0.1836 0.1156

Earth -51326-08-02 21:35 J -17025184.72 -17025184.60 -17025184.48 0.2667 0.0020

Moon -51326-08-02 22:04 J -17025184.70 -17025184.58 -17025184.47 0.2672 0.0073 *

Jupiter -51324-07-08 13:40 J -17024479.06 -17024478.93 -17024478.79 0.0538 0.0044

Earth -51319-07-26 16:04 J -17022634.84 -17022634.83 -17022634.81 0.2662 0.2640

Mars -51318-04-17 19:40 J -17022369.80 -17022369.68 -17022369.56 0.1700 0.0537

Jupiter -51318-05-25 02:37 J -17022332.56 -17022332.39 -17022332.22 0.0489 0.0097

Mars -51317-02-09 10:47 J -17022072.20 -17022072.05 -17022071.90 0.1844 0.0063

Moon -51316-01-26 12:13 J -17021720.12 -17021719.99 -17021719.86 0.2669 0.0975

Earth -51316-01-26 13:25 J -17021720.07 -17021719.94 -17021719.80 0.2667 0.0792 *

Saturn -51315-12-31 07:54 J -17021016.26 -17021016.17 -17021016.07 0.0282 0.0230

Uranus -51314-01-03 20:52 J -17021012.66 -17021012.63 -17021012.57 0.0146 0.0141

Saturn -51314-03-30 03:35 J -17020927.50 -17020927.35 -17020927.18 0.0281 0.0106

Uranus -51314-04-02 04:33 J -17020924.42 -17020924.31 -17020924.18 0.0146 0.0110

Saturn -51314-06-26 23:45 J -17020838.69 -17020838.51 -17020838.34 0.0281 0.0021

Uranus -51314-06-29 12:13 J -17020836.14 -17020835.99 -17020835.83 0.0146 0.0078

Saturn -51314-09-23 19:54 J -17020749.82 -17020749.67 -17020749.52 0.0280 0.0148

Uranus -51314-09-25 20:09 J -17020747.83 -17020747.66 -17020747.49 0.0146 0.0046

Saturn -51314-12-21 16:18 J -17020660.84 -17020660.82 -17020660.79 0.0279 0.0275

Uranus -51314-12-23 03:49 J -17020659.52 -17020659.34 -17020659.16 0.0146 0.0013

Uranus -51313-03-20 11:45 J -17020571.19 -17020571.01 -17020570.83 0.0146 0.0019

Uranus -51313-06-16 19:25 J -17020482.86 -17020482.69 -17020482.51 0.0146 0.0052

Earth -51313-08-04 16:47 J -17020433.91 -17020433.80 -17020433.69 0.2669 0.0924

Moon -51313-08-04 17:45 J -17020433.87 -17020433.76 -17020433.66 0.2670 0.0965 *

Uranus -51313-09-13 03:06 J -17020394.50 -17020394.37 -17020394.20 0.0146 0.0086

Uranus -51313-12-10 11:01 J -17020306.13 -17020306.04 -17020305.91 0.0146 0.0118

Jupiter -51312-04-26 16:47 J -17020168.92 -17020168.80 -17020168.67 0.0539 0.0200

Jupiter -51312-07-25 03:06 J -17020079.44 -17020079.37 -17020079.29 0.0539 0.0436

Venus -51311-04-16 13:25 J -17019813.97 -17019813.94 -17019813.91 0.3744 0.3539

Neptune -51311-11-07 01:54 J -17019609.47 -17019609.42 -17019609.36 0.0089 0.0083

Neptune -51310-02-03 04:33 J -17019521.39 -17019521.31 -17019521.21 0.0089 0.0076

Neptune -51310-05-02 07:11 J -17019433.30 -17019433.20 -17019433.08 0.0089 0.0069

Neptune -51310-07-29 10:04 J -17019345.20 -17019345.08 -17019344.95 0.0089 0.0061

Neptune -51310-10-25 12:42 J -17019257.09 -17019256.97 -17019256.82 0.0089 0.0054

Neptune -51309-01-21 15:35 J -17019168.99 -17019168.85 -17019168.69 0.0089 0.0046

Neptune -51309-04-18 18:42 J -17019080.88 -17019080.72 -17019080.56 0.0089 0.0038

Neptune -51309-07-15 21:21 J -17018992.77 -17018992.61 -17018992.44 0.0089 0.0031

Mars -51309-09-07 04:47 J -17018939.42 -17018939.30 -17018939.17 0.1693 0.0123

Neptune -51309-10-12 00:13 J -17018904.65 -17018904.49 -17018904.31 0.0089 0.0023

Neptune -51308-01-08 03:06 J -17018816.54 -17018816.37 -17018816.19 0.0089 0.0015

Neptune -51308-04-06 05:59 J -17018728.42 -17018728.25 -17018728.07 0.0089 0.0008

Mars -51308-07-01 11:16 J -17018642.14 -17018642.03 -17018641.92 0.1853 0.1258

Neptune -51308-07-03 08:52 J -17018640.30 -17018640.13 -17018639.95 0.0089 0.0002

Neptune -51308-09-29 11:45 J -17018552.18 -17018552.01 -17018551.83 0.0089 0.0008

Neptune -51308-12-26 14:37 J -17018464.06 -17018463.89 -17018463.71 0.0089 0.0016

Neptune -51307-03-24 17:30 J -17018375.93 -17018375.77 -17018375.59 0.0089 0.0024

Neptune -51307-06-20 20:23 J -17018287.81 -17018287.65 -17018287.48 0.0089 0.0032

Neptune -51307-09-16 23:30 J -17018199.68 -17018199.52 -17018199.36 0.0089 0.0039

Neptune -51307-12-14 02:23 J -17018111.55 -17018111.40 -17018111.25 0.0089 0.0047

Neptune -51306-03-12 05:16 J -17018023.41 -17018023.28 -17018023.13 0.0089 0.0055

Jupiter -51306-03-13 02:09 J -17018022.55 -17018022.41 -17018022.26 0.0489 0.0251

Neptune -51306-06-08 08:09 J -17017935.27 -17017935.16 -17017935.02 0.0089 0.0063

Jupiter -51306-06-11 02:52 J -17017932.49 -17017932.38 -17017932.27 0.0488 0.0384

Moon -51306-07-29 11:16 J -17017884.12 -17017884.03 -17017883.94 0.2668 0.1678

Earth -51306-07-29 11:45 J -17017884.10 -17017884.01 -17017883.92 0.2664 0.1684 *

Neptune -51306-09-04 11:01 J -17017847.13 -17017847.04 -17017846.92 0.0089 0.0071

Venus -51306-10-31 05:30 J -17017790.37 -17017790.27 -17017790.18 0.3749 0.1370

Neptune -51306-12-01 13:54 J -17017758.98 -17017758.92 -17017758.82 0.0089 0.0079

Neptune -51305-02-27 17:01 J -17017670.81 -17017670.79 -17017670.74 0.0089 0.0087

Moon -51303-01-29 15:06 J -17016969.01 -17016968.87 -17016968.73 0.2670 0.0589

Earth -51303-01-29 16:04 J -17016968.97 -17016968.83 -17016968.69 0.2665 0.0627 *

Jupiter -51300-02-12 19:54 J -17015858.76 -17015858.67 -17015858.56 0.0539 0.0356

Jupiter -51300-05-13 06:42 J -17015769.33 -17015769.22 -17015769.11 0.0539 0.0287

Venus -51300-05-15 21:35 J -17015766.70 -17015766.60 -17015766.50 0.3753 0.0794

Earth -51300-08-07 11:45 J -17015683.09 -17015683.01 -17015682.92 0.2670 0.1814

Moon -51300-08-07 12:28 J -17015683.06 -17015682.98 -17015682.90 0.2667 0.1918 *

Mars -51299-01-28 13:54 J -17015509.03 -17015508.92 -17015508.81 0.1686 0.0767

Saturn -51299-07-23 18:42 J -17015332.77 -17015332.72 -17015332.65 0.0277 0.0253

Saturn -51299-10-20 07:40 J -17015244.30 -17015244.18 -17015244.06 0.0278 0.0153

Saturn -51298-01-16 20:23 J -17015155.79 -17015155.65 -17015155.52 0.0279 0.0054

Saturn -51298-04-15 08:37 J -17015067.27 -17015067.14 -17015067.00 0.0280 0.0046

Saturn -51298-07-12 21:06 J -17014978.74 -17014978.62 -17014978.50 0.0281 0.0143

Saturn -51298-10-09 09:21 J -17014890.18 -17014890.11 -17014890.04 0.0281 0.0240

Venus -51295-11-29 13:25 J -17013743.00 -17013742.94 -17013742.87 0.3757 0.2925

Jupiter -51295-12-30 01:40 J -17013712.52 -17013712.43 -17013712.33 0.0489 0.0406

Jupiter -51294-03-30 01:54 J -17013622.57 -17013622.42 -17013622.26 0.0489 0.0223

Moon -51293-07-31 07:11 J -17013133.31 -17013133.20 -17013133.09 0.2673 0.0800

Earth -51293-07-31 07:11 J -17013133.31 -17013133.20 -17013133.08 0.2665 0.0747 *

Venus -51292-08-31 01:11 J -17012737.59 -17012737.45 -17012737.30 0.3626 0.1261

Earth -51290-02-01 19:11 J -17012217.79 -17012217.70 -17012217.61 0.2663 0.2081

Moon -51290-02-01 19:25 J -17012217.78 -17012217.69 -17012217.61 0.2670 0.2100 *

Mars -51290-06-20 23:01 J -17012078.61 -17012078.54 -17012078.48 0.1680 0.1418

Jupiter -51289-12-01 22:47 J -17011548.58 -17011548.55 -17011548.51 0.0538 0.0517

Jupiter -51288-03-01 09:49 J -17011459.22 -17011459.09 -17011458.96 0.0539 0.0130

Mars -51288-05-26 10:33 J -17011373.14 -17011373.06 -17011372.98 0.1706 0.1277

Mars -51287-03-20 10:47 J -17011075.15 -17011075.05 -17011074.94 0.1835 0.1270

Moon -51287-08-10 06:57 J -17010932.22 -17010932.21 -17010932.19 0.2666 0.2630

Saturn -51285-05-19 06:57 J -17010284.25 -17010284.21 -17010284.17 0.0282 0.0272

Saturn -51285-08-16 02:23 J -17010195.54 -17010195.40 -17010195.25 0.0282 0.0148

Saturn -51285-11-12 22:33 J -17010106.74 -17010106.56 -17010106.39 0.0281 0.0023

Saturn -51284-02-09 18:28 J -17010017.89 -17010017.73 -17010017.56 0.0280 0.0105

Saturn -51284-05-09 15:06 J -17009928.96 -17009928.87 -17009928.77 0.0279 0.0232

Moon -51283-01-24 16:04 J -17009668.92 -17009668.83 -17009668.74 0.2665 0.2085

Earth -51283-01-24 17:16 J -17009668.88 -17009668.78 -17009668.69 0.2669 0.1916 *

Jupiter -51282-01-16 01:25 J -17009312.61 -17009312.44 -17009312.26 0.0489 0.0067

Earth -51280-08-03 02:37 J -17008382.51 -17008382.39 -17008382.27 0.2667 0.0182

Moon -51280-08-03 03:06 J -17008382.48 -17008382.37 -17008382.25 0.2672 0.0267 *

Mars -51279-10-16 19:40 J -17007942.79 -17007942.68 -17007942.56 0.1699 0.0622

Mars -51278-08-10 11:16 J -17007645.18 -17007645.03 -17007644.88 0.1844 0.0071

Jupiter -51277-12-18 12:13 J -17007149.12 -17007148.99 -17007148.86 0.0538 0.0039

Moon -51273-07-26 20:23 J -17005832.69 -17005832.65 -17005832.61 0.2663 0.2472

Earth -51273-07-26 21:21 J -17005832.65 -17005832.61 -17005832.57 0.2662 0.2459 *

Uranus -51272-01-21 18:28 J -17005653.76 -17005653.73 -17005653.68 0.0132 0.0125

Uranus -51272-04-19 21:49 J -17005565.66 -17005565.59 -17005565.50 0.0132 0.0107

Uranus -51272-07-17 01:11 J -17005477.55 -17005477.45 -17005477.34 0.0132 0.0089

Uranus -51272-10-13 04:18 J -17005389.43 -17005389.32 -17005389.19 0.0132 0.0071

Uranus -51271-01-09 07:40 J -17005301.30 -17005301.18 -17005301.05 0.0132 0.0053

Uranus -51271-04-07 11:01 J -17005213.17 -17005213.04 -17005212.91 0.0132 0.0035

Uranus -51271-07-04 14:09 J -17005125.04 -17005124.91 -17005124.77 0.0132 0.0017

Uranus -51271-09-30 17:30 J -17005036.91 -17005036.77 -17005036.64 0.0132 0.0005

Jupiter -51271-11-04 00:57 J -17005002.63 -17005002.46 -17005002.29 0.0489 0.0090

Uranus -51271-12-27 20:37 J -17004948.78 -17004948.64 -17004948.51 0.0132 0.0019

Moon -51270-01-27 18:13 J -17004917.88 -17004917.74 -17004917.60 0.2669 0.0545

Earth -51270-01-27 19:25 J -17004917.83 -17004917.69 -17004917.55 0.2667 0.0547 *

Uranus -51270-03-25 23:45 J -17004860.64 -17004860.51 -17004860.38 0.0132 0.0036

Uranus -51270-06-22 02:52 J -17004772.50 -17004772.38 -17004772.26 0.0132 0.0054

Uranus -51270-09-18 05:59 J -17004684.36 -17004684.25 -17004684.13 0.0132 0.0072

Saturn -51270-12-10 21:35 J -17004600.61 -17004600.60 -17004600.58 0.0278 0.0276

Uranus -51270-12-15 09:06 J -17004596.22 -17004596.12 -17004596.02 0.0132 0.0089

Mars -51269-03-08 05:01 J -17004512.42 -17004512.29 -17004512.17 0.1693 0.0050

Saturn -51269-03-08 10:18 J -17004512.17 -17004512.07 -17004511.96 0.0279 0.0176 *

Uranus -51269-03-12 12:13 J -17004508.07 -17004507.99 -17004507.91 0.0132 0.0107

Saturn -51269-06-04 23:01 J -17004423.67 -17004423.54 -17004423.40 0.0279 0.0077

Uranus -51269-06-08 15:06 J -17004419.90 -17004419.87 -17004419.81 0.0132 0.0124

Saturn -51269-09-01 11:30 J -17004335.15 -17004335.02 -17004334.88 0.0280 0.0023

Saturn -51269-11-28 23:59 J -17004246.62 -17004246.50 -17004246.38 0.0281 0.0121

Mars -51269-12-30 11:45 J -17004215.12 -17004215.01 -17004214.89 0.1852 0.1127

Saturn -51268-02-25 12:13 J -17004158.07 -17004157.99 -17004157.90 0.0282 0.0219

Earth -51267-08-05 21:49 J -17003631.70 -17003631.59 -17003631.49 0.2669 0.1087

Moon -51267-08-05 22:33 J -17003631.66 -17003631.56 -17003631.45 0.2670 0.1177 *

Jupiter -51265-10-06 15:06 J -17002839.00 -17002838.87 -17002838.75 0.0538 0.0203

Jupiter -51264-01-04 01:11 J -17002749.52 -17002749.45 -17002749.37 0.0538 0.0433

Mars -51260-07-29 14:09 J -17001082.03 -17001081.91 -17001081.80 0.1686 0.0677

Moon -51260-07-29 16:33 J -17001081.91 -17001081.81 -17001081.72 0.2669 0.1617 *

Earth -51260-07-29 16:47 J -17001081.89 -17001081.80 -17001081.70 0.2664 0.1507 *

Jupiter -51259-08-22 23:59 J -17000692.64 -17000692.50 -17000692.35 0.0489 0.0251

Jupiter -51259-11-21 00:42 J -17000602.58 -17000602.47 -17000602.36 0.0488 0.0384

Moon -51257-01-30 21:21 J -17000166.74 -17000166.61 -17000166.47 0.2670 0.0765

Earth -51257-01-30 22:04 J -17000166.71 -17000166.58 -17000166.44 0.2664 0.0881 *

Saturn -51255-01-03 04:04 J -16999463.46 -16999463.33 -16999463.19 0.0282 0.0173

Saturn -51255-04-01 23:59 J -16999374.67 -16999374.50 -16999374.33 0.0281 0.0047

Saturn -51255-06-29 20:09 J -16999285.83 -16999285.66 -16999285.49 0.0280 0.0080

Saturn -51255-09-26 16:33 J -16999196.93 -16999196.81 -16999196.69 0.0280 0.0207

Venus -51255-11-21 11:01 J -16999141.11 -16999141.04 -16999140.98 0.3746 0.2739

Earth -51254-08-08 16:47 J -16998880.87 -16998880.80 -16998880.72 0.2671 0.1977

Moon -51254-08-08 17:30 J -16998880.85 -16998880.77 -16998880.70 0.2666 0.1978 *

Jupiter -51253-07-25 17:59 J -16998528.85 -16998528.75 -16998528.65 0.0539 0.0363

Jupiter -51253-10-23 04:33 J -16998439.42 -16998439.31 -16998439.19 0.0539 0.0281

Mars -51251-12-19 23:01 J -16997651.61 -16997651.54 -16997651.46 0.1680 0.1328

Venus -51249-06-06 02:52 J -16997117.48 -16997117.38 -16997117.27 0.3750 0.0596

Mars -51249-11-24 10:47 J -16996946.13 -16996946.05 -16996945.98 0.1707 0.1364

Mars -51248-09-18 11:16 J -16996648.12 -16996648.03 -16996647.93 0.1835 0.1400

Jupiter -51247-06-10 23:59 J -16996382.59 -16996382.50 -16996382.40 0.0489 0.0400

Moon -51247-08-01 12:13 J -16996331.10 -16996330.99 -16996330.87 0.2673 0.0525

Earth -51247-08-01 12:13 J -16996331.10 -16996330.99 -16996330.87 0.2666 0.0580 *

Jupiter -51247-09-08 23:59 J -16996292.65 -16996292.50 -16996292.34 0.0488 0.0228

Earth -51244-02-02 01:11 J -16995415.51 -16995415.45 -16995415.38 0.2662 0.2338

Moon -51244-02-02 01:25 J -16995415.50 -16995415.44 -16995415.38 0.2670 0.2386 *

Venus -51244-12-20 18:57 J -16995093.80 -16995093.71 -16995093.61 0.3754 0.1579

Jupiter -51241-05-13 21:06 J -16994218.65 -16994218.62 -16994218.58 0.0538 0.0518

Jupiter -51241-08-11 08:09 J -16994129.29 -16994129.16 -16994129.03 0.0539 0.0130

Venus -51241-09-20 19:40 J -16994088.79 -16994088.68 -16994088.57 0.3631 0.2492

Saturn -51240-07-26 11:45 J -16993780.10 -16993780.01 -16993779.91 0.0278 0.0209

Saturn -51240-10-23 00:28 J -16993691.61 -16993691.48 -16993691.35 0.0278 0.0111

Saturn -51239-01-19 13:11 J -16993603.09 -16993602.95 -16993602.82 0.0279 0.0015

Mars -51239-04-16 19:54 J -16993515.78 -16993515.67 -16993515.56 0.1700 0.0709

Saturn -51239-04-18 01:25 J -16993514.57 -16993514.44 -16993514.31 0.0280 0.0087

Saturn -51239-07-15 13:40 J -16993426.03 -16993425.93 -16993425.82 0.0281 0.0184

Saturn -51239-10-12 01:54 J -16993337.42 -16993337.42 -16993337.42 0.0281 0.0281

Mars -51238-02-08 11:45 J -16993218.16 -16993218.01 -16993217.86 0.1844 0.0199

Venus -51238-07-06 11:01 J -16993070.06 -16993070.04 -16993070.03 0.3758 0.3702

Moon -51237-01-25 21:49 J -16992866.69 -16992866.59 -16992866.48 0.2667 0.1703

Earth -51237-01-25 23:16 J -16992866.64 -16992866.53 -16992866.42 0.2668 0.1675 *

Venus -51235-04-07 02:52 J -16992064.44 -16992064.38 -16992064.31 0.3625 0.3255

Jupiter -51235-06-27 23:30 J -16991982.70 -16991982.52 -16991982.35 0.0488 0.0069

Earth -51234-08-04 07:40 J -16991580.30 -16991580.18 -16991580.06 0.2668 0.0350

Moon -51234-08-04 08:23 J -16991580.27 -16991580.15 -16991580.04 0.2672 0.0363 *

Uranus -51230-01-24 03:06 J -16990311.42 -16990311.37 -16990311.30 0.0147 0.0138

Uranus -51230-04-22 10:33 J -16990223.17 -16990223.06 -16990222.92 0.0146 0.0107

Uranus -51230-07-19 18:28 J -16990134.88 -16990134.73 -16990134.57 0.0146 0.0074

Mars -51230-09-07 05:01 J -16990085.41 -16990085.29 -16990085.16 0.1693 0.0068

Uranus -51230-10-16 02:09 J -16990046.58 -16990046.41 -16990046.23 0.0146 0.0042

Uranus -51229-01-12 10:04 J -16989958.26 -16989958.08 -16989957.90 0.0146 0.0010

Uranus -51229-04-09 17:45 J -16989869.94 -16989869.76 -16989869.57 0.0146 0.0023

Jupiter -51229-05-30 11:16 J -16989819.16 -16989819.03 -16989818.89 0.0539 0.0027

Mars -51229-06-30 11:59 J -16989788.12 -16989788.00 -16989787.88 0.1852 0.1015

Uranus -51229-07-07 01:40 J -16989781.60 -16989781.43 -16989781.26 0.0146 0.0055

Uranus -51229-10-03 09:21 J -16989693.24 -16989693.11 -16989692.95 0.0146 0.0089

Uranus -51229-12-30 17:16 J -16989604.87 -16989604.78 -16989604.67 0.0146 0.0122

Neptune -51228-02-15 07:54 J -16989558.18 -16989558.17 -16989558.12 0.0088 0.0087

Neptune -51228-05-14 09:49 J -16989470.14 -16989470.09 -16989470.02 0.0088 0.0080

Neptune -51228-08-10 11:30 J -16989382.09 -16989382.02 -16989381.93 0.0088 0.0074

Neptune -51228-11-06 13:25 J -16989294.03 -16989293.94 -16989293.84 0.0088 0.0067

Neptune -51227-02-02 15:06 J -16989205.97 -16989205.87 -16989205.76 0.0088 0.0061

Neptune -51227-05-01 16:33 J -16989117.91 -16989117.81 -16989117.68 0.0088 0.0055

Moon -51227-07-28 01:25 J -16989030.48 -16989030.44 -16989030.39 0.2663 0.2405

Earth -51227-07-28 02:23 J -16989030.46 -16989030.40 -16989030.34 0.2662 0.2282 *

Neptune -51227-07-28 18:28 J -16989029.85 -16989029.73 -16989029.60 0.0089 0.0048

Neptune -51227-10-24 20:09 J -16988941.78 -16988941.66 -16988941.53 0.0089 0.0042

Neptune -51226-01-20 21:49 J -16988853.72 -16988853.59 -16988853.45 0.0089 0.0035

Neptune -51226-04-18 23:30 J -16988765.65 -16988765.52 -16988765.38 0.0089 0.0029

Saturn -51226-05-23 02:23 J -16988731.51 -16988731.40 -16988731.29 0.0282 0.0219

Neptune -51226-07-16 01:11 J -16988677.59 -16988677.45 -16988677.31 0.0089 0.0023

Saturn -51226-08-19 22:04 J -16988642.74 -16988642.58 -16988642.42 0.0281 0.0094

Neptune -51226-10-12 02:52 J -16988589.52 -16988589.38 -16988589.24 0.0089 0.0016

Saturn -51226-11-16 18:13 J -16988553.92 -16988553.74 -16988553.57 0.0281 0.0033

Neptune -51225-01-08 04:33 J -16988501.45 -16988501.31 -16988501.17 0.0089 0.0010

Saturn -51225-02-13 14:23 J -16988465.04 -16988464.90 -16988464.75 0.0280 0.0160

Neptune -51225-04-05 06:13 J -16988413.39 -16988413.24 -16988413.10 0.0089 0.0004

Neptune -51225-07-02 07:54 J -16988325.32 -16988325.17 -16988325.03 0.0089 0.0003

Neptune -51225-09-28 09:21 J -16988237.25 -16988237.11 -16988236.96 0.0089 0.0009

Neptune -51225-12-25 11:01 J -16988149.18 -16988149.04 -16988148.90 0.0089 0.0015

Moon -51224-01-28 00:13 J -16988115.63 -16988115.49 -16988115.35 0.2669 0.0494

Earth -51224-01-28 01:25 J -16988115.58 -16988115.44 -16988115.30 0.2666 0.0299 *

Neptune -51224-03-23 12:42 J -16988061.11 -16988060.97 -16988060.83 0.0089 0.0021

Neptune -51224-06-19 14:09 J -16987973.04 -16987972.91 -16987972.77 0.0089 0.0027

Neptune -51224-09-15 15:49 J -16987884.97 -16987884.84 -16987884.71 0.0089 0.0033

Neptune -51224-12-12 17:30 J -16987796.90 -16987796.77 -16987796.65 0.0089 0.0039

Neptune -51223-03-10 18:42 J -16987708.83 -16987708.72 -16987708.59 0.0089 0.0046

Jupiter -51223-04-15 23:01 J -16987672.71 -16987672.54 -16987672.37 0.0489 0.0087

Neptune -51223-06-06 20:23 J -16987620.76 -16987620.65 -16987620.53 0.0089 0.0051

Neptune -51223-09-02 21:49 J -16987532.68 -16987532.59 -16987532.47 0.0089 0.0058

Neptune -51223-11-29 23:30 J -16987444.61 -16987444.52 -16987444.41 0.0089 0.0064

Neptune -51222-02-26 00:57 J -16987356.53 -16987356.46 -16987356.36 0.0089 0.0070

Neptune -51222-05-25 02:37 J -16987268.45 -16987268.39 -16987268.31 0.0089 0.0075

Neptune -51222-08-21 04:04 J -16987180.37 -16987180.33 -16987180.26 0.0089 0.0082

Neptune -51222-11-17 05:59 J -16987092.27 -16987092.25 -16987092.23 0.0089 0.0087

Earth -51221-08-06 02:52 J -16986829.48 -16986829.38 -16986829.28 0.2669 0.1254

Moon -51221-08-06 03:35 J -16986829.45 -16986829.35 -16986829.25 0.2670 0.1316 *

Mars -51220-01-27 14:09 J -16986655.03 -16986654.91 -16986654.79 0.1686 0.0594

Jupiter -51217-03-18 13:54 J -16985509.05 -16985508.92 -16985508.80 0.0538 0.0195

Jupiter -51217-06-15 23:59 J -16985419.57 -16985419.50 -16985419.42 0.0538 0.0440

Moon -51214-07-30 21:35 J -16984279.70 -16984279.60 -16984279.50 0.2671 0.1303

Earth -51214-07-30 22:04 J -16984279.68 -16984279.58 -16984279.48 0.2664 0.1331 *

Moon -51211-01-31 03:49 J -16983364.47 -16983364.34 -16983364.22 0.2670 0.1179

Earth -51211-01-31 04:18 J -16983364.45 -16983364.32 -16983364.19 0.2664 0.1129 *

Jupiter -51211-02-01 22:33 J -16983362.70 -16983362.56 -16983362.40 0.0489 0.0242

Jupiter -51211-05-02 23:16 J -16983272.63 -16983272.53 -16983272.42 0.0489 0.0395

Mars -51211-06-19 23:16 J -16983224.62 -16983224.53 -16983224.45 0.1680 0.1236

Saturn -51211-12-13 14:09 J -16983047.98 -16983047.91 -16983047.84 0.0278 0.0236

Saturn -51210-03-12 02:52 J -16982959.50 -16982959.38 -16982959.26 0.0279 0.0137

Saturn -51210-06-08 15:21 J -16982871.00 -16982870.86 -16982870.72 0.0279 0.0038

Saturn -51210-09-05 03:49 J -16982782.47 -16982782.34 -16982782.20 0.0280 0.0061

Saturn -51210-12-02 16:04 J -16982693.94 -16982693.83 -16982693.71 0.0281 0.0159

Saturn -51209-02-29 04:18 J -16982605.37 -16982605.32 -16982605.26 0.0282 0.0256

Mars -51209-05-25 10:47 J -16982519.12 -16982519.05 -16982518.99 0.1707 0.1446

Mars -51208-03-19 11:59 J -16982221.08 -16982221.00 -16982220.92 0.1835 0.1544

Earth -51208-08-08 21:49 J -16982078.66 -16982078.59 -16982078.52 0.2671 0.2134

Moon -51208-08-08 22:18 J -16982078.63 -16982078.57 -16982078.51 0.2666 0.2203 *

Jupiter -51205-01-05 16:33 J -16981198.91 -16981198.81 -16981198.71 0.0538 0.0359

Jupiter -51205-04-04 03:06 J -16981109.48 -16981109.37 -16981109.26 0.0538 0.0282

Earth -51201-08-01 17:30 J -16979528.89 -16979528.77 -16979528.66 0.2666 0.0402

Moon -51201-08-01 17:30 J -16979528.88 -16979528.77 -16979528.65 0.2672 0.0452 *

Mars -51200-10-15 20:09 J -16979088.77 -16979088.66 -16979088.56 0.1700 0.0803

Jupiter -51200-11-20 22:04 J -16979052.67 -16979052.58 -16979052.48 0.0489 0.0397

Jupiter -51199-02-18 22:04 J -16978962.73 -16978962.58 -16978962.42 0.0488 0.0231

Mars -51199-08-09 11:59 J -16978791.14 -16978791.00 -16978790.85 0.1844 0.0323

Earth -51198-02-03 07:25 J -16978613.22 -16978613.19 -16978613.16 0.2662 0.2599

Moon -51198-02-03 07:40 J -16978613.21 -16978613.18 -16978613.15 0.2669 0.2591 *

Venus -51198-06-28 08:23 J -16978468.24 -16978468.15 -16978468.06 0.3747 0.1945

Saturn -51197-10-09 03:35 J -16977999.42 -16977999.35 -16977999.26 0.0283 0.0246

Saturn -51196-01-05 23:30 J -16977910.68 -16977910.52 -16977910.36 0.0282 0.0121

Saturn -51196-04-04 19:25 J -16977821.86 -16977821.69 -16977821.51 0.0281 0.0007

Saturn -51196-07-02 15:49 J -16977733.00 -16977732.84 -16977732.69 0.0280 0.0133

Saturn -51196-09-29 12:13 J -16977644.05 -16977643.99 -16977643.93 0.0279 0.0260

Jupiter -51194-10-24 19:11 J -16976888.73 -16976888.70 -16976888.67 0.0539 0.0524

Jupiter -51193-01-22 06:13 J -16976799.37 -16976799.24 -16976799.11 0.0539 0.0126

Venus -51192-01-11 00:28 J -16976444.58 -16976444.48 -16976444.38 0.3751 0.0229

Moon -51191-01-26 03:49 J -16976064.46 -16976064.34 -16976064.23 0.2668 0.1565

Earth -51191-01-26 05:01 J -16976064.41 -16976064.29 -16976064.17 0.2668 0.1430 *

Mars -51190-03-08 05:01 J -16975658.41 -16975658.29 -16975658.16 0.1693 0.0161

Mars -51190-12-30 12:28 J -16975361.11 -16975360.98 -16975360.85 0.1852 0.0881

Uranus -51188-02-11 01:25 J -16974952.48 -16974952.44 -16974952.38 0.0132 0.0122

Uranus -51188-05-10 04:33 J -16974864.38 -16974864.31 -16974864.21 0.0132 0.0104

Earth -51188-08-04 12:42 J -16974778.09 -16974777.97 -16974777.86 0.2668 0.0518

Moon -51188-08-04 13:25 J -16974778.05 -16974777.94 -16974777.83 0.2672 0.0634 *

Uranus -51188-08-06 08:09 J -16974776.27 -16974776.16 -16974776.06 0.0132 0.0086

Uranus -51188-11-02 11:16 J -16974688.14 -16974688.03 -16974687.91 0.0132 0.0068

Jupiter -51188-12-07 21:49 J -16974652.76 -16974652.59 -16974652.42 0.0488 0.0076

Uranus -51187-01-29 14:37 J -16974600.02 -16974599.89 -16974599.76 0.0132 0.0049

Uranus -51187-04-27 17:45 J -16974511.89 -16974511.76 -16974511.62 0.0132 0.0032

Uranus -51187-07-24 21:06 J -16974423.76 -16974423.62 -16974423.49 0.0132 0.0014

Venus -51187-07-27 16:33 J -16974420.89 -16974420.81 -16974420.73 0.3755 0.2371

Uranus -51187-10-21 00:13 J -16974335.63 -16974335.49 -16974335.35 0.0132 0.0004

Uranus -51186-01-17 03:21 J -16974247.49 -16974247.36 -16974247.22 0.0132 0.0022

Uranus -51186-04-15 06:28 J -16974159.36 -16974159.23 -16974159.09 0.0132 0.0040

Uranus -51186-07-12 09:35 J -16974071.22 -16974071.10 -16974070.97 0.0132 0.0058

Uranus -51186-10-08 12:42 J -16973983.07 -16973982.97 -16973982.85 0.0132 0.0075

Uranus -51185-01-04 15:49 J -16973894.93 -16973894.84 -16973894.74 0.0132 0.0093

Uranus -51185-04-01 19:11 J -16973806.78 -16973806.70 -16973806.63 0.0132 0.0110

Uranus -51185-06-28 22:04 J -16973718.61 -16973718.58 -16973718.54 0.0132 0.0127

Venus -51184-04-27 21:21 J -16973415.77 -16973415.61 -16973415.46 0.3629 0.0534

Pluto -51184-10-09 09:06 J -16973251.13 -16973251.12 -16973251.09 0.0062 0.0062

Pluto -51183-01-05 09:49 J -16973163.13 -16973163.09 -16973163.00 0.0062 0.0058

Pluto -51183-04-03 11:16 J -16973075.11 -16973075.03 -16973074.93 0.0063 0.0053

Pluto -51183-06-30 12:13 J -16972987.08 -16972986.99 -16972986.87 0.0063 0.0049

Pluto -51183-09-26 13:25 J -16972899.05 -16972898.94 -16972898.81 0.0063 0.0044

Pluto -51183-12-23 14:23 J -16972811.02 -16972810.90 -16972810.75 0.0063 0.0040

Pluto -51182-03-21 15:35 J -16972722.98 -16972722.85 -16972722.70 0.0063 0.0035

Pluto -51182-06-17 16:47 J -16972634.94 -16972634.80 -16972634.64 0.0063 0.0030

Pluto -51182-09-13 17:45 J -16972546.90 -16972546.76 -16972546.59 0.0063 0.0026

Jupiter -51182-11-10 09:49 J -16972489.23 -16972489.09 -16972488.96 0.0539 0.0029

Pluto -51182-12-10 18:57 J -16972458.86 -16972458.71 -16972458.54 0.0063 0.0021

Pluto -51181-03-07 20:09 J -16972370.82 -16972370.66 -16972370.49 0.0063 0.0017

Saturn -51181-05-01 15:21 J -16972315.88 -16972315.86 -16972315.83 0.0277 0.0269

Pluto -51181-06-03 21:21 J -16972282.77 -16972282.61 -16972282.43 0.0063 0.0012

Moon -51181-07-28 06:42 J -16972228.29 -16972228.22 -16972228.15 0.2665 0.2145

Earth -51181-07-28 07:25 J -16972228.26 -16972228.19 -16972228.12 0.2663 0.2105 *

Mars -51181-07-28 14:09 J -16972228.03 -16972227.91 -16972227.78 0.1687 0.0503

Saturn -51181-07-29 04:04 J -16972227.43 -16972227.33 -16972227.21 0.0278 0.0171

Pluto -51181-08-30 22:33 J -16972194.73 -16972194.56 -16972194.38 0.0063 0.0007

Saturn -51181-10-25 16:47 J -16972138.93 -16972138.80 -16972138.66 0.0278 0.0072

Pluto -51181-11-26 23:45 J -16972106.68 -16972106.51 -16972106.33 0.0063 0.0002

Saturn -51180-01-22 05:16 J -16972050.42 -16972050.28 -16972050.14 0.0279 0.0026

Pluto -51180-02-23 00:57 J -16972018.63 -16972018.46 -16972018.28 0.0063 0.0003

Saturn -51180-04-20 17:30 J -16971961.89 -16971961.77 -16971961.64 0.0280 0.0124

Pluto -51180-05-22 02:09 J -16971930.58 -16971930.41 -16971930.24 0.0064 0.0008

Saturn -51180-07-18 05:45 J -16971873.34 -16971873.26 -16971873.17 0.0281 0.0221

Pluto -51180-08-18 03:21 J -16971842.53 -16971842.36 -16971842.19 0.0064 0.0013

Pluto -51180-11-14 04:33 J -16971754.47 -16971754.31 -16971754.14 0.0064 0.0018

Pluto -51179-02-10 05:30 J -16971666.42 -16971666.27 -16971666.09 0.0064 0.0023

Pluto -51179-05-09 06:42 J -16971578.36 -16971578.22 -16971578.05 0.0064 0.0028

Pluto -51179-08-05 07:54 J -16971490.30 -16971490.17 -16971490.00 0.0064 0.0033

Pluto -51179-11-01 09:06 J -16971402.24 -16971402.12 -16971401.96 0.0064 0.0038

Pluto -51178-01-28 10:18 J -16971314.18 -16971314.07 -16971313.92 0.0064 0.0044

Moon -51178-01-29 06:13 J -16971313.38 -16971313.24 -16971313.09 0.2669 0.0071

Earth -51178-01-29 07:25 J -16971313.33 -16971313.19 -16971313.04 0.2666 0.0081 *

Pluto -51178-04-26 11:45 J -16971226.11 -16971226.01 -16971225.88 0.0064 0.0048

Pluto -51178-07-23 12:57 J -16971138.04 -16971137.96 -16971137.85 0.0064 0.0054

Pluto -51178-10-19 14:23 J -16971049.96 -16971049.90 -16971049.82 0.0064 0.0059

Pluto -51177-01-15 15:35 J -16970961.86 -16970961.85 -16970961.81 0.0064 0.0064

Jupiter -51176-09-25 21:21 J -16970342.78 -16970342.61 -16970342.44 0.0488 0.0082

Earth -51175-08-07 07:54 J -16970027.27 -16970027.17 -16970027.08 0.2670 0.1419

Moon -51175-08-07 08:37 J -16970027.24 -16970027.14 -16970027.05 0.2668 0.1448 *

Mars -51172-12-18 23:16 J -16968797.62 -16968797.53 -16968797.44 0.1680 0.1147

Jupiter -51170-08-29 12:57 J -16968179.09 -16968178.96 -16968178.83 0.0539 0.0181

Mars -51170-11-24 10:47 J -16968092.10 -16968092.05 -16968091.99 0.1707 0.1538

Jupiter -51170-11-26 23:16 J -16968089.60 -16968089.53 -16968089.46 0.0539 0.0456

Mars -51169-09-17 12:13 J -16967794.05 -16967793.99 -16967793.93 0.1835 0.1651

Moon -51168-07-31 02:37 J -16967477.49 -16967477.39 -16967477.28 0.2671 0.1249

Earth -51168-07-31 03:06 J -16967477.48 -16967477.37 -16967477.27 0.2664 0.1158 *

Saturn -51167-05-25 20:52 J -16967178.76 -16967178.63 -16967178.49 0.0282 0.0171

Saturn -51167-08-22 17:01 J -16967089.97 -16967089.79 -16967089.62 0.0281 0.0046

Saturn -51167-11-19 13:11 J -16967001.12 -16967000.95 -16967000.79 0.0281 0.0082

Saturn -51166-02-16 09:21 J -16966912.22 -16966912.11 -16966911.99 0.0280 0.0210

Moon -51165-02-01 10:04 J -16966562.21 -16966562.08 -16966561.96 0.2671 0.1271

Earth -51165-02-01 10:18 J -16966562.19 -16966562.07 -16966561.95 0.2664 0.1383 *

Jupiter -51164-07-14 21:06 J -16966032.77 -16966032.62 -16966032.47 0.0489 0.0234

Jupiter -51164-10-12 21:35 J -16965942.69 -16965942.60 -16965942.50 0.0489 0.0402

Earth -51162-08-10 02:52 J -16965276.44 -16965276.38 -16965276.33 0.2671 0.2295

Moon -51162-08-10 03:21 J -16965276.42 -16965276.36 -16965276.31 0.2666 0.2312 *

Mars -51160-04-15 19:54 J -16964661.77 -16964661.67 -16964661.56 0.1700 0.0883

Mars -51159-02-07 12:42 J -16964364.12 -16964363.97 -16964363.83 0.1844 0.0458

Moon -51158-01-24 08:09 J -16964013.20 -16964013.16 -16964013.12 0.2665 0.2559

Earth -51158-01-24 09:06 J -16964013.16 -16964013.12 -16964013.08 0.2670 0.2526 *

Jupiter -51158-06-17 15:21 J -16963868.96 -16963868.86 -16963868.75 0.0538 0.0348

Jupiter -51158-09-15 01:54 J -16963779.52 -16963779.42 -16963779.30 0.0538 0.0295

Earth -51155-08-02 22:33 J -16962726.68 -16962726.56 -16962726.45 0.2666 0.0237

Moon -51155-08-02 22:47 J -16962726.66 -16962726.55 -16962726.43 0.2672 0.0142 *

Jupiter -51152-05-02 20:52 J -16961722.73 -16961722.63 -16961722.53 0.0489 0.0386

Jupiter -51152-07-31 20:52 J -16961632.77 -16961632.63 -16961632.47 0.0489 0.0244

Saturn -51152-12-16 05:59 J -16961495.34 -16961495.25 -16961495.15 0.0278 0.0200

Saturn -51151-03-14 18:42 J -16961406.85 -16961406.72 -16961406.58 0.0279 0.0101

Saturn -51151-06-11 07:25 J -16961318.33 -16961318.19 -16961318.05 0.0279 0.0007

Mars -51151-09-06 05:16 J -16961231.41 -16961231.28 -16961231.16 0.1693 0.0237

Saturn -51151-09-07 19:40 J -16961229.81 -16961229.68 -16961229.55 0.0280 0.0096

Saturn -51151-12-05 07:54 J -16961141.26 -16961141.17 -16961141.07 0.0281 0.0194

Mars -51150-06-30 12:57 J -16960934.09 -16960933.96 -16960933.82 0.1852 0.0748

Venus -51147-07-19 13:54 J -16959818.97 -16959818.92 -16959818.88 0.3743 0.3307

Uranus -51146-02-13 09:06 J -16959610.17 -16959610.12 -16959610.03 0.0146 0.0135

Jupiter -51146-04-05 18:13 J -16959558.78 -16959558.74 -16959558.71 0.0538 0.0513

Neptune -51146-05-07 22:18 J -16959526.60 -16959526.57 -16959526.52 0.0089 0.0086

Uranus -51146-05-12 17:01 J -16959521.91 -16959521.79 -16959521.66 0.0146 0.0103

Jupiter -51146-07-04 05:01 J -16959469.42 -16959469.29 -16959469.16 0.0538 0.0135

Neptune -51146-08-04 00:57 J -16959438.52 -16959438.46 -16959438.36 0.0089 0.0079

Uranus -51146-08-09 00:42 J -16959433.63 -16959433.47 -16959433.31 0.0146 0.0071

Neptune -51146-10-31 04:04 J -16959350.43 -16959350.33 -16959350.23 0.0089 0.0071

Uranus -51146-11-05 08:23 J -16959345.32 -16959345.15 -16959344.97 0.0146 0.0039

Neptune -51145-01-27 06:28 J -16959262.33 -16959262.23 -16959262.09 0.0089 0.0064

Moon -51145-01-27 09:35 J -16959262.22 -16959262.10 -16959261.97 0.2668 0.1277 *

Earth -51145-01-27 11:01 J -16959262.17 -16959262.04 -16959261.91 0.2668 0.1189 *

Uranus -51145-02-01 16:18 J -16959257.01 -16959256.82 -16959256.64 0.0146 0.0007

Neptune -51145-04-24 09:35 J -16959174.23 -16959174.10 -16959173.96 0.0089 0.0056

Uranus -51145-04-29 23:59 J -16959168.68 -16959168.50 -16959168.32 0.0146 0.0026

Neptune -51145-07-21 12:13 J -16959086.13 -16959085.99 -16959085.84 0.0089 0.0049

Uranus -51145-07-27 07:40 J -16959080.34 -16959080.18 -16959080.00 0.0146 0.0059

Neptune -51145-10-17 15:06 J -16958998.02 -16958997.87 -16958997.71 0.0089 0.0041

Uranus -51145-10-23 15:49 J -16958991.99 -16958991.84 -16958991.70 0.0146 0.0092

Neptune -51144-01-13 17:45 J -16958909.91 -16958909.76 -16958909.59 0.0089 0.0034

Uranus -51144-01-19 23:45 J -16958903.61 -16958903.51 -16958903.42 0.0146 0.0125

Neptune -51144-04-11 20:37 J -16958821.80 -16958821.64 -16958821.46 0.0089 0.0026

Neptune -51144-07-08 23:30 J -16958733.69 -16958733.52 -16958733.34 0.0089 0.0019

Neptune -51144-10-05 02:23 J -16958645.57 -16958645.40 -16958645.22 0.0089 0.0011

Neptune -51143-01-01 05:16 J -16958557.45 -16958557.28 -16958557.10 0.0089 0.0003

Neptune -51143-03-30 08:09 J -16958469.33 -16958469.16 -16958468.98 0.0089 0.0005

Neptune -51143-06-26 11:01 J -16958381.21 -16958381.04 -16958380.86 0.0089 0.0013

Neptune -51143-09-22 13:54 J -16958293.09 -16958292.92 -16958292.75 0.0089 0.0020

Neptune -51143-12-19 16:47 J -16958204.96 -16958204.80 -16958204.63 0.0089 0.0028

Neptune -51142-03-17 19:40 J -16958116.84 -16958116.68 -16958116.51 0.0089 0.0036

Neptune -51142-06-13 22:33 J -16958028.71 -16958028.56 -16958028.40 0.0089 0.0044

Earth -51142-08-05 17:45 J -16957975.87 -16957975.76 -16957975.65 0.2668 0.0687

Moon -51142-08-05 18:28 J -16957975.84 -16957975.73 -16957975.62 0.2672 0.0684 *

Neptune -51142-09-10 01:25 J -16957940.57 -16957940.44 -16957940.29 0.0089 0.0052

Neptune -51142-12-07 04:18 J -16957852.44 -16957852.32 -16957852.18 0.0089 0.0060

Mars -51141-01-27 14:23 J -16957801.02 -16957800.90 -16957800.78 0.1687 0.0409

Venus -51141-02-02 05:59 J -16957795.35 -16957795.25 -16957795.15 0.3748 0.1136

Neptune -51141-03-04 07:11 J -16957764.30 -16957764.20 -16957764.07 0.0089 0.0068

Neptune -51141-05-31 10:04 J -16957676.15 -16957676.08 -16957675.97 0.0089 0.0076

Neptune -51141-08-27 13:11 J -16957587.99 -16957587.95 -16957587.88 0.0089 0.0084

Jupiter -51140-05-19 20:09 J -16957322.83 -16957322.66 -16957322.49 0.0488 0.0084

Saturn -51138-10-12 21:49 J -16956446.70 -16956446.59 -16956446.46 0.0282 0.0201

Saturn -51137-01-09 17:45 J -16956357.92 -16956357.76 -16956357.59 0.0282 0.0075

Saturn -51137-04-07 13:54 J -16956269.09 -16956268.92 -16956268.75 0.0281 0.0052

Saturn -51137-07-05 10:18 J -16956180.20 -16956180.07 -16956179.94 0.0280 0.0179

Venus -51136-08-17 22:04 J -16955771.68 -16955771.58 -16955771.48 0.3752 0.1028

Moon -51135-07-29 11:45 J -16955426.08 -16955426.01 -16955425.93 0.2667 0.1991

Earth -51135-07-29 12:28 J -16955426.06 -16955425.98 -16955425.90 0.2663 0.1931 *

Jupiter -51134-04-22 07:54 J -16955159.30 -16955159.17 -16955159.03 0.0539 0.0028

Moon -51132-01-29 12:28 J -16954511.12 -16954510.98 -16954510.84 0.2670 0.0062

Earth -51132-01-29 13:25 J -16954511.08 -16954510.94 -16954510.79 0.2666 0.0210 *

Mars -51132-06-18 23:30 J -16954370.62 -16954370.52 -16954370.42 0.1680 0.1056

Venus -51130-03-03 13:54 J -16953747.97 -16953747.92 -16953747.86 0.3756 0.3168

Mars -51130-05-25 11:01 J -16953665.08 -16953665.04 -16953665.01 0.1707 0.1623

Mars -51129-03-18 12:42 J -16953367.00 -16953366.97 -16953366.94 0.1835 0.1791

Earth -51129-08-07 12:42 J -16953225.06 -16953224.97 -16953224.87 0.2670 0.1580

Moon -51129-08-07 13:40 J -16953225.02 -16953224.93 -16953224.85 0.2667 0.1687 *

Jupiter -51128-03-07 20:09 J -16953012.83 -16953012.66 -16953012.49 0.0488 0.0069

Venus -51128-12-02 22:47 J -16952742.69 -16952742.55 -16952742.41 0.3628 0.1416

Jupiter -51122-02-08 11:16 J -16950849.15 -16950849.03 -16950848.90 0.0539 0.0179

Saturn -51122-05-05 07:25 J -16950763.26 -16950763.19 -16950763.11 0.0277 0.0233

Jupiter -51122-05-08 21:49 J -16950759.66 -16950759.59 -16950759.53 0.0539 0.0460

Moon -51122-08-01 07:54 J -16950675.28 -16950675.17 -16950675.06 0.2671 0.0972

Earth -51122-08-01 08:09 J -16950675.27 -16950675.16 -16950675.05 0.2665 0.0985 *

Saturn -51122-08-01 20:09 J -16950674.78 -16950674.66 -16950674.53 0.0277 0.0135

Saturn -51122-10-29 08:52 J -16950586.27 -16950586.13 -16950586.00 0.0278 0.0037

Saturn -51121-01-25 21:06 J -16950497.75 -16950497.62 -16950497.48 0.0279 0.0061

Saturn -51121-04-23 09:21 J -16950409.22 -16950409.11 -16950408.99 0.0280 0.0159

Saturn -51121-07-20 21:35 J -16950320.65 -16950320.60 -16950320.55 0.0281 0.0255

Mars -51121-10-14 20:09 J -16950234.76 -16950234.66 -16950234.56 0.1700 0.0973

Mars -51120-08-08 12:57 J -16949937.10 -16949936.96 -16949936.82 0.1843 0.0577

Moon -51119-02-01 16:04 J -16949759.94 -16949759.83 -16949759.72 0.2671 0.1717

Earth -51119-02-01 16:18 J -16949759.93 -16949759.82 -16949759.70 0.2664 0.1639 *

Jupiter -51117-12-24 19:40 J -16948702.83 -16948702.68 -16948702.53 0.0488 0.0224

Jupiter -51116-03-24 20:09 J -16948612.75 -16948612.66 -16948612.57 0.0488 0.0411

Earth -51116-08-10 07:40 J -16948474.22 -16948474.18 -16948474.13 0.2672 0.2455

Moon -51116-08-10 08:09 J -16948474.20 -16948474.16 -16948474.12 0.2666 0.2473 *

Moon -51112-01-24 13:54 J -16947210.98 -16947210.92 -16947210.87 0.2666 0.2427

Earth -51112-01-24 14:52 J -16947210.95 -16947210.88 -16947210.81 0.2669 0.2290 *

Mars -51111-03-07 05:16 J -16946804.40 -16946804.28 -16946804.15 0.1693 0.0328

Jupiter -51111-11-27 14:37 J -16946539.00 -16946538.89 -16946538.79 0.0539 0.0333

Mars -51111-12-29 13:11 J -16946507.09 -16946506.95 -16946506.81 0.1852 0.0637

Jupiter -51110-02-25 01:11 J -16946449.55 -16946449.45 -16946449.34 0.0539 0.0310

Earth -51109-08-03 03:35 J -16945924.47 -16945924.35 -16945924.24 0.2666 0.0094

Moon -51109-08-03 04:04 J -16945924.45 -16945924.33 -16945924.22 0.2673 0.0122 *

Saturn -51108-02-28 18:57 J -16945714.78 -16945714.71 -16945714.63 0.0283 0.0253

Saturn -51108-05-28 14:52 J -16945626.03 -16945625.88 -16945625.73 0.0282 0.0128

Saturn -51108-08-25 10:47 J -16945537.22 -16945537.05 -16945536.88 0.0281 0.0002

Saturn -51108-11-22 06:57 J -16945448.36 -16945448.21 -16945448.05 0.0281 0.0126

Saturn -51107-02-19 03:35 J -16945359.42 -16945359.35 -16945359.27 0.0280 0.0254

Jupiter -51105-10-12 19:40 J -16944392.79 -16944392.68 -16944392.57 0.0489 0.0375

Jupiter -51104-01-10 19:40 J -16944302.83 -16944302.68 -16944302.53 0.0488 0.0254

Uranus -51104-03-03 08:09 J -16944251.21 -16944251.16 -16944251.10 0.0132 0.0119

Uranus -51104-05-30 11:16 J -16944163.11 -16944163.03 -16944162.93 0.0132 0.0102

Uranus -51104-08-26 14:37 J -16944074.99 -16944074.89 -16944074.78 0.0132 0.0083

Uranus -51104-11-22 17:59 J -16943986.87 -16943986.75 -16943986.63 0.0132 0.0065

Uranus -51103-02-18 21:06 J -16943898.74 -16943898.62 -16943898.48 0.0132 0.0047

Uranus -51103-05-18 00:28 J -16943810.61 -16943810.48 -16943810.34 0.0132 0.0029

Uranus -51103-08-14 03:35 J -16943722.48 -16943722.35 -16943722.21 0.0132 0.0012

Uranus -51103-11-10 06:57 J -16943634.35 -16943634.21 -16943634.07 0.0132 0.0007

Uranus -51102-02-06 10:04 J -16943546.21 -16943546.08 -16943545.94 0.0132 0.0025

Uranus -51102-05-05 13:11 J -16943458.08 -16943457.95 -16943457.82 0.0132 0.0042

Mars -51102-07-28 14:23 J -16943374.02 -16943373.90 -16943373.77 0.1687 0.0325

Uranus -51102-08-01 16:18 J -16943369.94 -16943369.82 -16943369.69 0.0132 0.0060

Uranus -51102-10-28 19:40 J -16943281.79 -16943281.68 -16943281.57 0.0132 0.0078

Uranus -51101-01-24 22:33 J -16943193.65 -16943193.56 -16943193.46 0.0132 0.0095

Uranus -51101-04-22 01:40 J -16943105.49 -16943105.43 -16943105.35 0.0132 0.0113

Mars -51101-05-20 14:09 J -16943076.94 -16943076.91 -16943076.88 0.1860 0.1804

Uranus -51101-07-19 04:47 J -16943017.31 -16943017.30 -16943017.27 0.0132 0.0130

Moon -51099-01-27 15:35 J -16942459.98 -16942459.85 -16942459.72 0.2668 0.1052

Earth -51099-01-27 17:01 J -16942459.92 -16942459.79 -16942459.65 0.2667 0.0941 *

Jupiter -51099-09-15 17:16 J -16942228.83 -16942228.78 -16942228.73 0.0538 0.0499

Jupiter -51099-12-14 04:04 J -16942139.45 -16942139.33 -16942139.20 0.0538 0.0150

Earth -51096-08-05 22:47 J -16941173.66 -16941173.55 -16941173.44 0.2668 0.0850

Moon -51096-08-05 23:30 J -16941173.63 -16941173.52 -16941173.41 0.2670 0.0977 *

Pluto -51093-03-28 06:57 J -16940208.27 -16940208.21 -16940208.15 0.0082 0.0073

Pluto -51093-06-24 08:37 J -16940120.23 -16940120.14 -16940120.05 0.0082 0.0064

Pluto -51093-09-20 09:49 J -16940032.18 -16940032.09 -16940031.97 0.0082 0.0056

Saturn -51093-09-21 08:52 J -16940031.16 -16940031.13 -16940031.08 0.0277 0.0266

Jupiter -51093-10-29 19:11 J -16939992.87 -16939992.70 -16939992.53 0.0489 0.0097

Pluto -51093-12-17 11:30 J -16939944.13 -16939944.02 -16939943.89 0.0081 0.0046

Mars -51093-12-17 23:30 J -16939943.62 -16939943.52 -16939943.41 0.1681 0.0966

Saturn -51093-12-18 21:49 J -16939942.70 -16939942.59 -16939942.48 0.0278 0.0166

Pluto -51092-03-15 13:11 J -16939856.07 -16939855.95 -16939855.81 0.0081 0.0037

Saturn -51092-03-17 10:18 J -16939854.20 -16939854.07 -16939853.93 0.0279 0.0068

Pluto -51092-06-11 14:52 J -16939768.02 -16939767.88 -16939767.74 0.0081 0.0029

Saturn -51092-06-13 22:47 J -16939765.68 -16939765.55 -16939765.41 0.0279 0.0031

Pluto -51092-09-07 16:18 J -16939679.95 -16939679.82 -16939679.67 0.0081 0.0020

Saturn -51092-09-10 11:16 J -16939677.15 -16939677.03 -16939676.91 0.0280 0.0128

Pluto -51092-12-04 17:59 J -16939591.89 -16939591.75 -16939591.60 0.0081 0.0011

Saturn -51092-12-07 23:16 J -16939588.60 -16939588.53 -16939588.44 0.0281 0.0225

Pluto -51091-03-02 19:25 J -16939503.83 -16939503.69 -16939503.54 0.0081 0.0004

Pluto -51091-05-29 21:06 J -16939415.77 -16939415.62 -16939415.48 0.0081 0.0006

Pluto -51091-08-25 22:33 J -16939327.70 -16939327.56 -16939327.42 0.0080 0.0014

Pluto -51091-11-21 23:59 J -16939239.64 -16939239.50 -16939239.36 0.0080 0.0023

Mars -51091-11-23 11:01 J -16939238.04 -16939238.04 -16939238.04 0.1707 0.1705

Pluto -51090-02-18 01:11 J -16939151.57 -16939151.45 -16939151.30 0.0080 0.0032

Venus -51090-02-23 11:30 J -16939146.10 -16939146.02 -16939145.95 0.3744 0.2503

Pluto -51090-05-17 02:52 J -16939063.50 -16939063.38 -16939063.25 0.0080 0.0039

Pluto -51090-08-13 04:18 J -16938975.43 -16938975.32 -16938975.20 0.0080 0.0047

Pluto -51090-11-09 05:45 J -16938887.36 -16938887.26 -16938887.15 0.0080 0.0055

Pluto -51089-02-05 07:11 J -16938799.28 -16938799.20 -16938799.11 0.0080 0.0063

Pluto -51089-05-03 08:23 J -16938711.20 -16938711.15 -16938711.07 0.0079 0.0071

Moon -51089-07-29 17:01 J -16938623.88 -16938623.79 -16938623.71 0.2668 0.1833

Earth -51089-07-29 17:45 J -16938623.85 -16938623.76 -16938623.68 0.2663 0.1756 *

Pluto -51089-07-30 09:49 J -16938623.10 -16938623.09 -16938623.06 0.0079 0.0078

Jupiter -51087-10-02 07:11 J -16937829.34 -16937829.20 -16937829.07 0.0539 0.0018

Moon -51086-01-30 18:42 J -16937708.86 -16937708.72 -16937708.58 0.2671 0.0435

Earth -51086-01-30 19:40 J -16937708.83 -16937708.68 -16937708.54 0.2665 0.0460 *

Venus -51085-09-08 03:35 J -16937122.45 -16937122.35 -16937122.25 0.3749 0.0333

Mars -51083-05-10 08:37 J -16936513.17 -16936513.14 -16936513.11 0.1674 0.1611

Earth -51083-08-08 17:45 J -16936422.84 -16936422.76 -16936422.67 0.2670 0.1744

Moon -51083-08-08 18:42 J -16936422.81 -16936422.72 -16936422.64 0.2667 0.1747 *

Mars -51081-04-14 20:09 J -16935807.75 -16935807.66 -16935807.56 0.1700 0.1063

Jupiter -51081-08-17 18:42 J -16935682.89 -16935682.72 -16935682.55 0.0488 0.0058

Mars -51080-02-06 13:25 J -16935510.08 -16935509.94 -16935509.80 0.1843 0.0703

Venus -51079-03-24 19:40 J -16935098.77 -16935098.68 -16935098.59 0.3753 0.1832

Saturn -51079-10-15 15:21 J -16934894.00 -16934893.86 -16934893.72 0.0282 0.0161

Saturn -51078-01-12 11:16 J -16934805.20 -16934805.03 -16934804.86 0.0282 0.0035

Saturn -51078-04-11 07:25 J -16934716.35 -16934716.19 -16934716.02 0.0281 0.0093

Saturn -51078-07-09 03:49 J -16934627.44 -16934627.34 -16934627.22 0.0280 0.0221

Venus -51077-12-23 17:16 J -16934093.90 -16934093.78 -16934093.67 0.3632 0.2334

Moon -51076-08-01 13:11 J -16933873.07 -16933872.95 -16933872.84 0.2671 0.0847

Earth -51076-08-01 13:11 J -16933873.06 -16933872.95 -16933872.84 0.2665 0.0813 *

Jupiter -51075-07-21 09:49 J -16933519.22 -16933519.09 -16933518.97 0.0539 0.0177

Jupiter -51075-10-18 20:09 J -16933429.72 -16933429.66 -16933429.59 0.0539 0.0462

Moon -51073-02-02 22:18 J -16932957.68 -16932957.57 -16932957.47 0.2670 0.1803

Earth -51073-02-02 22:18 J -16932957.67 -16932957.57 -16932957.46 0.2663 0.1894 *

Mars -51072-09-05 05:30 J -16932377.39 -16932377.27 -16932377.15 0.1693 0.0415

Mars -51071-06-29 13:54 J -16932080.07 -16932079.92 -16932079.78 0.1852 0.0499

Venus -51071-07-10 00:28 J -16932069.53 -16932069.48 -16932069.43 0.3626 0.3403

Earth -51070-08-11 12:42 J -16931671.99 -16931671.97 -16931671.95 0.2672 0.2613

Moon -51070-08-11 12:57 J -16931671.97 -16931671.96 -16931671.95 0.2666 0.2649 *

Jupiter -51069-06-05 18:42 J -16931372.87 -16931372.72 -16931372.56 0.0488 0.0208

Jupiter -51069-09-03 19:11 J -16931282.78 -16931282.70 -16931282.62 0.0488 0.0426

Moon -51066-01-25 19:40 J -16930408.77 -16930408.68 -16930408.59 0.2667 0.2057

Earth -51066-01-25 20:52 J -16930408.72 -16930408.63 -16930408.54 0.2669 0.2049 *

Neptune -51064-11-12 07:54 J -16929387.21 -16929387.17 -16929387.10 0.0088 0.0082

Neptune -51063-02-08 09:49 J -16929299.16 -16929299.09 -16929299.01 0.0088 0.0076

Neptune -51063-05-07 11:30 J -16929211.10 -16929211.02 -16929210.92 0.0088 0.0069

Saturn -51063-05-07 23:16 J -16929210.62 -16929210.53 -16929210.43 0.0277 0.0199

Jupiter -51063-05-09 13:11 J -16929209.06 -16929208.95 -16929208.85 0.0539 0.0330

Neptune -51063-08-03 13:25 J -16929123.04 -16929122.94 -16929122.84 0.0088 0.0063

Earth -51063-08-04 08:37 J -16929122.26 -16929122.14 -16929122.03 0.2667 0.0138

Moon -51063-08-04 09:06 J -16929122.24 -16929122.12 -16929122.01 0.2673 0.0224 *

Saturn -51063-08-04 11:59 J -16929122.13 -16929122.00 -16929121.87 0.0277 0.0100 *

Jupiter -51063-08-06 23:45 J -16929119.61 -16929119.51 -16929119.40 0.0539 0.0315

Neptune -51063-10-30 14:52 J -16929034.98 -16929034.88 -16929034.76 0.0088 0.0057

Saturn -51063-11-01 00:28 J -16929033.62 -16929033.48 -16929033.34 0.0278 0.0003

Mars -51062-01-26 14:37 J -16928947.02 -16928946.89 -16928946.77 0.1687 0.0233

Neptune -51062-01-26 16:33 J -16928946.92 -16928946.81 -16928946.68 0.0088 0.0051 *

Saturn -51062-01-28 12:42 J -16928945.10 -16928944.97 -16928944.84 0.0279 0.0094

Uranus -51062-03-05 15:49 J -16928908.91 -16928908.84 -16928908.75 0.0146 0.0130

Neptune -51062-04-24 18:28 J -16928858.85 -16928858.73 -16928858.60 0.0088 0.0044

Saturn -51062-04-27 00:57 J -16928856.56 -16928856.46 -16928856.36 0.0280 0.0191

Uranus -51062-06-01 23:30 J -16928820.65 -16928820.52 -16928820.38 0.0146 0.0098

Neptune -51062-07-21 20:09 J -16928770.79 -16928770.66 -16928770.53 0.0088 0.0037

Uranus -51062-08-29 06:57 J -16928732.36 -16928732.21 -16928732.04 0.0146 0.0067

Neptune -51062-10-17 21:35 J -16928682.72 -16928682.60 -16928682.45 0.0088 0.0032

Mars -51062-11-19 14:09 J -16928649.96 -16928649.91 -16928649.85 0.1860 0.1700

Uranus -51062-11-25 14:52 J -16928644.05 -16928643.88 -16928643.70 0.0146 0.0034

Neptune -51061-01-13 23:30 J -16928594.66 -16928594.52 -16928594.38 0.0088 0.0025

Uranus -51061-02-21 22:33 J -16928555.74 -16928555.56 -16928555.37 0.0146 0.0004

Neptune -51061-04-11 01:11 J -16928506.59 -16928506.45 -16928506.31 0.0089 0.0019

Uranus -51061-05-20 06:13 J -16928467.41 -16928467.24 -16928467.05 0.0146 0.0032

Neptune -51061-07-08 02:52 J -16928418.52 -16928418.38 -16928418.24 0.0089 0.0012

Uranus -51061-08-16 14:09 J -16928379.07 -16928378.91 -16928378.74 0.0146 0.0064

Neptune -51061-10-04 04:33 J -16928330.45 -16928330.31 -16928330.17 0.0089 0.0006

Uranus -51061-11-12 22:04 J -16928290.71 -16928290.58 -16928290.44 0.0146 0.0096

Neptune -51061-12-31 06:13 J -16928242.39 -16928242.24 -16928242.10 0.0089 0.0001

Uranus -51060-02-09 05:59 J -16928202.33 -16928202.25 -16928202.16 0.0146 0.0129

Neptune -51060-03-29 07:54 J -16928154.32 -16928154.17 -16928154.03 0.0089 0.0007

Neptune -51060-06-25 09:21 J -16928066.25 -16928066.11 -16928065.97 0.0089 0.0013

Neptune -51060-09-21 11:01 J -16927978.18 -16927978.04 -16927977.90 0.0089 0.0019

Neptune -51060-12-18 12:42 J -16927890.11 -16927889.97 -16927889.83 0.0089 0.0025

Neptune -51059-03-16 14:09 J -16927802.04 -16927801.91 -16927801.77 0.0089 0.0031

Neptune -51059-06-12 15:35 J -16927713.97 -16927713.85 -16927713.71 0.0089 0.0038

Neptune -51059-09-08 17:16 J -16927625.89 -16927625.78 -16927625.65 0.0089 0.0044

Neptune -51059-12-05 18:57 J -16927537.82 -16927537.71 -16927537.59 0.0089 0.0049

Neptune -51058-03-03 20:23 J -16927449.75 -16927449.65 -16927449.53 0.0089 0.0056

Neptune -51058-05-30 22:04 J -16927361.67 -16927361.58 -16927361.47 0.0089 0.0062

Neptune -51058-08-26 23:30 J -16927273.60 -16927273.52 -16927273.42 0.0089 0.0068

Neptune -51058-11-23 01:11 J -16927185.52 -16927185.45 -16927185.37 0.0089 0.0074

Neptune -51057-02-19 02:37 J -16927097.44 -16927097.39 -16927097.32 0.0089 0.0080

Jupiter -51057-03-24 18:28 J -16927062.84 -16927062.73 -16927062.62 0.0488 0.0362

Neptune -51057-05-17 04:04 J -16927009.35 -16927009.33 -16927009.28 0.0089 0.0086

Jupiter -51057-06-22 18:28 J -16926972.88 -16926972.73 -16926972.59 0.0488 0.0266

Earth -51056-07-28 03:06 J -16926572.41 -16926572.37 -16926572.34 0.2662 0.2536

Moon -51053-01-28 21:49 J -16925657.73 -16925657.59 -16925657.46 0.2668 0.0815

Earth -51053-01-28 23:01 J -16925657.68 -16925657.54 -16925657.40 0.2667 0.0695 *

Mars -51053-06-17 23:45 J -16925516.62 -16925516.51 -16925516.41 0.1680 0.0880

Jupiter -51051-02-25 16:18 J -16924898.88 -16924898.82 -16924898.76 0.0539 0.0485

Jupiter -51051-05-26 03:21 J -16924809.49 -16924809.36 -16924809.23 0.0539 0.0164

Earth -51050-08-07 03:49 J -16924371.45 -16924371.34 -16924371.24 0.2669 0.1019

Moon -51050-08-07 04:33 J -16924371.42 -16924371.31 -16924371.20 0.2669 0.1018 *

Saturn -51049-03-03 11:59 J -16924162.10 -16924162.00 -16924161.88 0.0283 0.0215

Saturn -51049-05-31 07:54 J -16924073.33 -16924073.17 -16924073.00 0.0282 0.0090

Saturn -51049-08-28 04:04 J -16923984.50 -16923984.33 -16923984.16 0.0281 0.0037

Saturn -51049-11-25 00:13 J -16923895.62 -16923895.49 -16923895.34 0.0281 0.0166

Jupiter -51045-04-10 17:59 J -16922662.92 -16922662.75 -16922662.58 0.0488 0.0111

Mars -51044-11-08 08:37 J -16922086.19 -16922086.14 -16922086.09 0.1674 0.1522

Moon -51043-07-30 22:04 J -16921821.67 -16921821.58 -16921821.49 0.2668 0.1606

Earth -51043-07-30 22:47 J -16921821.65 -16921821.55 -16921821.46 0.2664 0.1579 *

Mars -51042-10-14 20:23 J -16921380.74 -16921380.65 -16921380.56 0.1700 0.1145

Mars -51041-08-07 13:54 J -16921083.05 -16921082.92 -16921082.78 0.1843 0.0843

Moon -51040-01-31 00:42 J -16920906.60 -16920906.47 -16920906.33 0.2671 0.0630

Earth -51040-01-31 01:40 J -16920906.57 -16920906.43 -16920906.29 0.2665 0.0708 *

Jupiter -51039-03-14 06:13 J -16920499.37 -16920499.24 -16920499.10 0.0539 0.0007

Earth -51037-08-08 22:47 J -16919620.63 -16919620.55 -16919620.47 0.2670 0.1901

Moon -51037-08-08 23:30 J -16919620.59 -16919620.52 -16919620.44 0.2667 0.2014 *

Saturn -51034-09-25 00:42 J -16918478.55 -16918478.47 -16918478.40 0.0277 0.0232

Venus -51034-09-30 09:06 J -16918473.22 -16918473.12 -16918473.03 0.3745 0.1700

Saturn -51034-12-22 13:11 J -16918390.07 -16918389.95 -16918389.82 0.0278 0.0134

Jupiter -51033-01-28 17:45 J -16918352.94 -16918352.76 -16918352.59 0.0489 0.0045

Saturn -51033-03-20 01:54 J -16918301.56 -16918301.42 -16918301.28 0.0279 0.0036

Saturn -51033-06-16 14:09 J -16918213.04 -16918212.91 -16918212.77 0.0279 0.0062

Saturn -51033-09-13 02:23 J -16918124.51 -16918124.40 -16918124.28 0.0280 0.0159

Saturn -51033-12-10 14:37 J -16918035.94 -16918035.89 -16918035.83 0.0281 0.0255

Mars -51032-03-06 05:30 J -16917950.39 -16917950.27 -16917950.15 0.1694 0.0502

Mars -51032-12-28 14:09 J -16917653.05 -16917652.91 -16917652.76 0.1851 0.0371

Moon -51030-08-02 18:13 J -16917070.85 -16917070.74 -16917070.62 0.2672 0.0650

Earth -51030-08-02 18:13 J -16917070.85 -16917070.74 -16917070.62 0.2665 0.0641 *

Venus -51028-04-15 01:11 J -16916449.56 -16916449.45 -16916449.35 0.3750 0.0501

Jupiter -51028-12-31 09:06 J -16916189.25 -16916189.12 -16916188.99 0.0539 0.0159

Earth -51027-02-03 04:33 J -16916155.39 -16916155.31 -16916155.23 0.2663 0.2152

Moon -51027-02-03 04:47 J -16916155.38 -16916155.30 -16916155.23 0.2669 0.2235 *

Jupiter -51027-03-30 19:25 J -16916099.75 -16916099.69 -16916099.63 0.0539 0.0477

Mars -51023-07-27 14:37 J -16914520.01 -16914519.89 -16914519.76 0.1687 0.0148

Venus -51023-10-29 17:01 J -16914425.86 -16914425.79 -16914425.72 0.3754 0.2625

Mars -51022-05-20 14:37 J -16914222.96 -16914222.89 -16914222.81 0.1860 0.1570

Jupiter -51022-11-16 17:30 J -16914042.93 -16914042.77 -16914042.61 0.0488 0.0195

Jupiter -51021-02-14 17:59 J -16913952.83 -16913952.75 -16913952.68 0.0488 0.0439

Moon -51020-01-26 01:25 J -16913606.53 -16913606.44 -16913606.34 0.2666 0.1997

Earth -51020-01-26 02:52 J -16913606.48 -16913606.38 -16913606.28 0.2669 0.1808 *

Uranus -51020-03-23 14:52 J -16913549.94 -16913549.88 -16913549.81 0.0132 0.0116

Uranus -51020-06-19 17:59 J -16913461.83 -16913461.75 -16913461.65 0.0132 0.0099

Saturn -51020-07-21 12:13 J -16913430.06 -16913429.99 -16913429.91 0.0283 0.0250

Venus -51020-07-30 18:42 J -16913420.87 -16913420.72 -16913420.57 0.3631 0.0389

Uranus -51020-09-15 21:21 J -16913373.71 -16913373.61 -16913373.49 0.0132 0.0080

Saturn -51020-10-18 07:54 J -16913341.32 -16913341.17 -16913341.01 0.0282 0.0126

Uranus -51020-12-13 00:42 J -16913285.59 -16913285.47 -16913285.34 0.0132 0.0062

Saturn -51019-01-15 04:04 J -16913252.50 -16913252.33 -16913252.16 0.0282 0.0001

Uranus -51019-03-11 04:04 J -16913197.46 -16913197.33 -16913197.20 0.0132 0.0044

Saturn -51019-04-14 00:28 J -16913163.64 -16913163.48 -16913163.33 0.0281 0.0129

Uranus -51019-06-07 07:11 J -16913109.33 -16913109.20 -16913109.06 0.0132 0.0026

Saturn -51019-07-11 20:52 J -16913074.69 -16913074.63 -16913074.56 0.0280 0.0258

Uranus -51019-09-03 10:33 J -16913021.20 -16913021.06 -16913020.92 0.0132 0.0008

Uranus -51019-11-30 13:40 J -16912933.06 -16912932.93 -16912932.79 0.0132 0.0010

Uranus -51018-02-26 16:47 J -16912844.93 -16912844.80 -16912844.66 0.0132 0.0028

Uranus -51018-05-25 20:09 J -16912756.79 -16912756.66 -16912756.53 0.0132 0.0046

Uranus -51018-08-21 23:16 J -16912668.65 -16912668.53 -16912668.41 0.0132 0.0063

Uranus -51018-11-18 02:09 J -16912580.51 -16912580.41 -16912580.29 0.0132 0.0082

Uranus -51017-02-14 05:30 J -16912492.36 -16912492.27 -16912492.18 0.0132 0.0099

Uranus -51017-05-12 08:23 J -16912404.20 -16912404.15 -16912404.07 0.0132 0.0117

Earth -51017-08-04 13:40 J -16912320.05 -16912319.93 -16912319.82 0.2667 0.0292

Moon -51017-08-04 14:09 J -16912320.03 -16912319.91 -16912319.80 0.2672 0.0290 *

Jupiter -51016-10-19 11:30 J -16911879.12 -16911879.02 -16911878.91 0.0539 0.0328

Jupiter -51015-01-16 22:18 J -16911789.68 -16911789.57 -16911789.46 0.0539 0.0318

Mars -51014-12-17 23:45 J -16911089.62 -16911089.51 -16911089.40 0.1681 0.0788

Moon -51010-07-29 07:11 J -16909770.25 -16909770.20 -16909770.14 0.2664 0.2358

Earth -51010-07-29 08:09 J -16909770.21 -16909770.16 -16909770.11 0.2662 0.2356 *

Jupiter -51010-09-04 17:45 J -16909732.88 -16909732.76 -16909732.64 0.0488 0.0343

Jupiter -51010-12-03 17:45 J -16909642.90 -16909642.76 -16909642.62 0.0488 0.0285

Moon -51007-01-29 03:49 J -16908855.48 -16908855.34 -16908855.20 0.2669 0.0484

Earth -51007-01-29 05:01 J -16908855.43 -16908855.29 -16908855.15 0.2667 0.0449 *

Saturn -51004-02-11 02:09 J -16907746.44 -16907746.41 -16907746.36 0.0276 0.0263

Mars -51004-05-09 08:52 J -16907659.20 -16907659.13 -16907659.07 0.1674 0.1429

Saturn -51004-05-10 14:52 J -16907657.99 -16907657.88 -16907657.76 0.0277 0.0166

Saturn -51004-08-07 03:35 J -16907569.49 -16907569.35 -16907569.22 0.0277 0.0068

Earth -51004-08-07 08:52 J -16907569.24 -16907569.13 -16907569.03 0.2669 0.1182 *

Moon -51004-08-07 09:35 J -16907569.20 -16907569.10 -16907569.00 0.2669 0.1305 *

Jupiter -51004-08-07 14:37 J -16907568.94 -16907568.89 -16907568.83 0.0539 0.0483

Saturn -51004-11-03 15:49 J -16907480.97 -16907480.84 -16907480.70 0.0278 0.0031

Jupiter -51004-11-05 01:54 J -16907479.55 -16907479.42 -16907479.29 0.0539 0.0169

Saturn -51003-01-31 04:18 J -16907392.45 -16907392.32 -16907392.20 0.0279 0.0126

Saturn -51003-04-29 16:18 J -16907303.90 -16907303.82 -16907303.73 0.0280 0.0222

Mars -51002-04-14 20:23 J -16906953.73 -16906953.65 -16906953.56 0.1700 0.1234

Mars -51001-02-06 14:09 J -16906656.03 -16906655.91 -16906655.78 0.1843 0.0963

51ST MILLENNIUM BCE

This is a list of transits of Mercury in the 51st millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Jupiter -50998-09-21 17:01 J -16905332.96 -16905332.79 -16905332.62 0.0488 0.0126

Moon -50997-07-31 03:21 J -16905019.46 -16905019.36 -16905019.27 0.2669 0.1497

Earth -50997-07-31 03:49 J -16905019.44 -16905019.34 -16905019.24 0.2664 0.1404 *

Moon -50994-02-01 06:57 J -16904104.35 -16904104.21 -16904104.08 0.2670 0.0913

Earth -50994-02-01 07:40 J -16904104.31 -16904104.18 -16904104.05 0.2665 0.0960 *

Mars -50993-09-04 05:45 J -16903523.38 -16903523.26 -16903523.15 0.1694 0.0593

Mars -50992-06-28 14:23 J -16903226.04 -16903225.90 -16903225.75 0.1852 0.0260

Jupiter -50992-08-24 05:30 J -16903169.41 -16903169.27 -16903169.14 0.0539 0.0025

Earth -50991-08-10 03:49 J -16902818.41 -16902818.34 -16902818.27 0.2671 0.2061

Moon -50991-08-10 04:18 J -16902818.39 -16902818.32 -16902818.24 0.2667 0.2043 *

Saturn -50990-03-07 04:33 J -16902609.43 -16902609.31 -16902609.17 0.0283 0.0180

Saturn -50990-06-04 00:42 J -16902520.64 -16902520.47 -16902520.30 0.0282 0.0054

Saturn -50990-08-31 20:52 J -16902431.80 -16902431.63 -16902431.46 0.0281 0.0074

Saturn -50990-11-28 17:16 J -16902342.90 -16902342.78 -16902342.66 0.0281 0.0202

Jupiter -50986-07-10 16:47 J -16901022.98 -16901022.80 -16901022.63 0.0488 0.0030

Earth -50984-08-02 23:16 J -16900268.65 -16900268.53 -16900268.41 0.2666 0.0473

Moon -50984-08-02 23:30 J -16900268.64 -16900268.52 -16900268.41 0.2673 0.0446 *

Mars -50983-01-25 14:37 J -16900093.01 -16900092.89 -16900092.76 0.1687 0.0076

Venus -50983-10-21 14:23 J -16899823.95 -16899823.90 -16899823.84 0.3742 0.3063

Mars -50983-11-18 15:21 J -16899795.95 -16899795.86 -16899795.77 0.1860 0.1432

Neptune -50982-11-05 19:25 J -16899443.70 -16899443.69 -16899443.67 0.0089 0.0088

Neptune -50981-02-01 22:04 J -16899355.64 -16899355.58 -16899355.50 0.0089 0.0081

Earth -50981-02-04 10:33 J -16899353.11 -16899353.06 -16899353.00 0.2663 0.2410

Moon -50981-02-04 11:01 J -16899353.10 -16899353.04 -16899352.98 0.2669 0.2410 *

Neptune -50981-04-30 00:28 J -16899267.55 -16899267.48 -16899267.36 0.0089 0.0074

Neptune -50981-07-27 03:35 J -16899179.46 -16899179.35 -16899179.23 0.0089 0.0066

Neptune -50981-10-23 06:13 J -16899091.36 -16899091.24 -16899091.10 0.0089 0.0059

Neptune -50980-01-19 09:06 J -16899003.26 -16899003.12 -16899002.97 0.0089 0.0051

Neptune -50980-04-17 11:45 J -16898915.15 -16898915.01 -16898914.85 0.0089 0.0044

Jupiter -50980-06-12 08:23 J -16898859.28 -16898859.15 -16898859.02 0.0539 0.0143

Neptune -50980-07-14 14:37 J -16898827.04 -16898826.89 -16898826.72 0.0089 0.0036

Jupiter -50980-09-09 18:42 J -16898769.77 -16898769.72 -16898769.67 0.0539 0.0493

Neptune -50980-10-10 17:16 J -16898738.93 -16898738.78 -16898738.60 0.0089 0.0029

Neptune -50979-01-06 20:09 J -16898650.82 -16898650.66 -16898650.48 0.0089 0.0021

Neptune -50979-04-04 23:01 J -16898562.71 -16898562.54 -16898562.36 0.0089 0.0014

Neptune -50979-07-02 01:54 J -16898474.59 -16898474.42 -16898474.24 0.0089 0.0006

Neptune -50979-09-28 04:47 J -16898386.47 -16898386.30 -16898386.12 0.0089 0.0002

Neptune -50979-12-25 07:40 J -16898298.35 -16898298.18 -16898298.00 0.0089 0.0010

Neptune -50978-03-23 10:33 J -16898210.23 -16898210.06 -16898209.89 0.0089 0.0018

Uranus -50978-03-25 22:47 J -16898207.63 -16898207.55 -16898207.44 0.0146 0.0123

Neptune -50978-06-19 13:11 J -16898122.11 -16898121.95 -16898121.77 0.0089 0.0026

Uranus -50978-06-22 06:42 J -16898119.36 -16898119.22 -16898119.08 0.0146 0.0091

Neptune -50978-09-15 16:18 J -16898033.98 -16898033.82 -16898033.65 0.0089 0.0033

Uranus -50978-09-18 14:09 J -16898031.07 -16898030.91 -16898030.74 0.0146 0.0059

Neptune -50978-12-12 19:11 J -16897945.85 -16897945.70 -16897945.54 0.0089 0.0041

Uranus -50978-12-15 21:49 J -16897942.76 -16897942.59 -16897942.40 0.0146 0.0027

Neptune -50977-03-09 22:04 J -16897857.72 -16897857.58 -16897857.43 0.0089 0.0049

Uranus -50977-03-13 05:45 J -16897854.44 -16897854.26 -16897854.08 0.0146 0.0006

Venus -50977-05-06 06:28 J -16897800.33 -16897800.23 -16897800.13 0.3747 0.0894

Neptune -50977-06-06 00:42 J -16897769.59 -16897769.47 -16897769.32 0.0089 0.0057

Uranus -50977-06-09 13:25 J -16897766.11 -16897765.94 -16897765.76 0.0146 0.0038

Neptune -50977-09-02 03:49 J -16897681.45 -16897681.34 -16897681.21 0.0089 0.0065

Uranus -50977-09-05 21:21 J -16897677.77 -16897677.61 -16897677.45 0.0146 0.0071

Neptune -50977-11-29 06:42 J -16897593.31 -16897593.22 -16897593.11 0.0089 0.0073

Uranus -50977-12-03 05:16 J -16897589.41 -16897589.28 -16897589.15 0.0146 0.0104

Neptune -50976-02-25 09:35 J -16897505.16 -16897505.10 -16897505.01 0.0089 0.0081

Uranus -50976-03-01 13:11 J -16897501.01 -16897500.95 -16897500.89 0.0146 0.0136

Neptune -50976-05-24 12:42 J -16897416.97 -16897416.97 -16897416.95 0.0089 0.0089

Saturn -50975-09-27 16:04 J -16896925.92 -16896925.83 -16896925.73 0.0277 0.0201

Saturn -50975-12-25 04:47 J -16896837.43 -16896837.30 -16896837.17 0.0278 0.0103

Moon -50974-01-27 07:25 J -16896804.30 -16896804.19 -16896804.07 0.2666 0.1574

Earth -50974-01-27 08:52 J -16896804.25 -16896804.13 -16896804.02 0.2668 0.1573 *

Saturn -50974-03-23 17:16 J -16896748.92 -16896748.78 -16896748.64 0.0279 0.0007

Jupiter -50974-04-28 16:33 J -16896712.97 -16896712.81 -16896712.65 0.0489 0.0182

Mars -50974-06-17 23:59 J -16896662.62 -16896662.50 -16896662.39 0.1681 0.0696

Saturn -50974-06-20 05:30 J -16896660.40 -16896660.27 -16896660.14 0.0279 0.0092

Jupiter -50974-07-27 17:01 J -16896622.85 -16896622.79 -16896622.73 0.0488 0.0455

Saturn -50974-09-16 17:45 J -16896571.86 -16896571.76 -16896571.66 0.0280 0.0189

Venus -50972-11-19 22:33 J -16895776.65 -16895776.56 -16895776.46 0.3751 0.1279

Earth -50971-08-05 18:42 J -16895517.84 -16895517.72 -16895517.61 0.2667 0.0452

Moon -50971-08-05 19:11 J -16895517.81 -16895517.70 -16895517.58 0.2671 0.0513 *

Jupiter -50968-03-31 11:01 J -16894549.15 -16894549.04 -16894548.93 0.0539 0.0306

Jupiter -50968-06-28 21:49 J -16894459.70 -16894459.59 -16894459.49 0.0539 0.0337

Venus -50966-06-05 14:37 J -16893752.93 -16893752.89 -16893752.85 0.3755 0.3411

Mars -50965-11-07 08:52 J -16893232.20 -16893232.13 -16893232.05 0.1675 0.1339

Moon -50964-07-29 12:28 J -16892968.04 -16892967.98 -16892967.93 0.2665 0.2327

Earth -50964-07-29 13:11 J -16892968.01 -16892967.95 -16892967.88 0.2662 0.2179 *

Venus -50963-03-06 20:23 J -16892747.79 -16892747.65 -16892747.52 0.3629 0.1593

Mars -50963-10-13 20:37 J -16892526.72 -16892526.64 -16892526.57 0.1701 0.1324

Jupiter -50962-02-14 16:33 J -16892402.94 -16892402.81 -16892402.69 0.0488 0.0330

Jupiter -50962-05-15 16:18 J -16892312.95 -16892312.82 -16892312.67 0.0488 0.0299

Mars -50962-08-07 14:37 J -16892229.01 -16892228.89 -16892228.77 0.1843 0.1089

Moon -50961-01-30 09:49 J -16892053.23 -16892053.09 -16892052.95 0.2670 0.0373

Earth -50961-01-30 11:01 J -16892053.18 -16892053.04 -16892052.90 0.2666 0.0203 *

Saturn -50961-07-24 04:33 J -16891877.41 -16891877.31 -16891877.20 0.0283 0.0216

Saturn -50961-10-21 00:28 J -16891788.64 -16891788.48 -16891788.32 0.0282 0.0091

Saturn -50960-01-17 20:37 J -16891699.81 -16891699.64 -16891699.47 0.0282 0.0036

Saturn -50960-04-16 17:01 J -16891610.93 -16891610.79 -16891610.65 0.0281 0.0165

Earth -50958-08-08 13:40 J -16890767.02 -16890766.93 -16890766.83 0.2669 0.1347

Moon -50958-08-08 14:37 J -16890766.99 -16890766.89 -16890766.79 0.2669 0.1358 *

Jupiter -50956-01-17 13:11 J -16890239.01 -16890238.95 -16890238.89 0.0539 0.0480

Jupiter -50956-04-17 00:28 J -16890149.61 -16890149.48 -16890149.36 0.0539 0.0172

Mars -50953-03-05 05:45 J -16889096.38 -16889096.26 -16889096.15 0.1694 0.0677

Mars -50953-12-27 15:06 J -16888799.02 -16888798.87 -16888798.72 0.1851 0.0126

Moon -50951-08-01 08:37 J -16888217.25 -16888217.14 -16888217.04 0.2670 0.1211

Earth -50951-08-01 08:52 J -16888217.23 -16888217.13 -16888217.02 0.2664 0.1232 *

Jupiter -50951-12-03 16:47 J -16888092.83 -16888092.80 -16888092.76 0.0488 0.0475

Jupiter -50950-03-03 16:18 J -16888002.98 -16888002.82 -16888002.65 0.0488 0.0146

Moon -50948-02-01 13:11 J -16887302.08 -16887301.95 -16887301.82 0.2670 0.1191

Earth -50948-02-01 13:40 J -16887302.06 -16887301.93 -16887301.80 0.2664 0.1213 *

Saturn -50945-02-14 17:59 J -16886193.82 -16886193.75 -16886193.67 0.0276 0.0229

Saturn -50945-05-13 06:42 J -16886105.34 -16886105.22 -16886105.10 0.0277 0.0132

Saturn -50945-08-09 19:11 J -16886016.84 -16886016.70 -16886016.56 0.0277 0.0034

Earth -50945-08-10 08:52 J -16886016.19 -16886016.13 -16886016.07 0.2671 0.2220

Moon -50945-08-10 09:21 J -16886016.17 -16886016.11 -16886016.06 0.2665 0.2311 *

Saturn -50945-11-06 07:25 J -16885928.32 -16885928.19 -16885928.05 0.0278 0.0063

Saturn -50944-02-02 19:40 J -16885839.79 -16885839.68 -16885839.56 0.0279 0.0159

Jupiter -50944-02-03 03:49 J -16885839.47 -16885839.34 -16885839.21 0.0540 0.0020

Saturn -50944-05-02 07:54 J -16885751.23 -16885751.17 -16885751.12 0.0280 0.0254

Mars -50944-07-26 14:52 J -16885666.00 -16885665.88 -16885665.75 0.1687 0.0047

Mars -50943-05-19 15:35 J -16885368.96 -16885368.85 -16885368.75 0.1859 0.1319

Earth -50941-01-25 12:42 J -16884752.98 -16884752.97 -16884752.96 0.2670 0.2660

Jupiter -50939-12-20 15:49 J -16883693.02 -16883692.84 -16883692.67 0.0488 0.0017

Earth -50938-08-04 04:18 J -16883466.44 -16883466.32 -16883466.20 0.2666 0.0301

Moon -50938-08-04 04:33 J -16883466.43 -16883466.31 -16883466.20 0.2673 0.0324 *

Uranus -50936-01-14 18:13 J -16882936.74 -16882936.74 -16882936.73 0.0132 0.0132

Uranus -50936-04-12 21:35 J -16882848.67 -16882848.60 -16882848.53 0.0132 0.0113

Uranus -50936-07-10 00:42 J -16882760.56 -16882760.47 -16882760.37 0.0132 0.0096

Uranus -50936-10-06 04:04 J -16882672.44 -16882672.33 -16882672.21 0.0132 0.0077

Uranus -50935-01-02 07:25 J -16882584.31 -16882584.19 -16882584.06 0.0132 0.0059

Pluto -50935-01-31 18:28 J -16882554.78 -16882554.73 -16882554.66 0.0062 0.0059

Uranus -50935-03-31 10:47 J -16882496.18 -16882496.05 -16882495.92 0.0132 0.0041

Pluto -50935-04-29 19:11 J -16882466.76 -16882466.70 -16882466.59 0.0063 0.0055

Uranus -50935-06-27 13:54 J -16882408.05 -16882407.92 -16882407.78 0.0132 0.0023

Pluto -50935-07-26 20:37 J -16882378.73 -16882378.64 -16882378.53 0.0063 0.0050

Uranus -50935-09-23 17:16 J -16882319.92 -16882319.78 -16882319.64 0.0132 0.0005

Pluto -50935-10-22 21:21 J -16882290.70 -16882290.61 -16882290.47 0.0063 0.0046

Mars -50935-12-16 23:59 J -16882235.62 -16882235.50 -16882235.38 0.1681 0.0610

Uranus -50935-12-20 20:23 J -16882231.78 -16882231.65 -16882231.51 0.0132 0.0013

Pluto -50934-01-18 22:47 J -16882202.67 -16882202.55 -16882202.41 0.0063 0.0041

Uranus -50934-03-18 23:30 J -16882143.65 -16882143.52 -16882143.38 0.0132 0.0031

Pluto -50934-04-16 23:59 J -16882114.63 -16882114.50 -16882114.35 0.0063 0.0036

Uranus -50934-06-15 02:52 J -16882055.51 -16882055.38 -16882055.25 0.0132 0.0049

Pluto -50934-07-14 00:57 J -16882026.59 -16882026.46 -16882026.30 0.0063 0.0032

Uranus -50934-09-11 05:59 J -16881967.37 -16881967.25 -16881967.13 0.0132 0.0066

Pluto -50934-10-10 02:09 J -16881938.55 -16881938.41 -16881938.24 0.0063 0.0027

Uranus -50934-12-08 08:52 J -16881879.22 -16881879.13 -16881879.01 0.0132 0.0085

Pluto -50933-01-06 03:21 J -16881850.51 -16881850.36 -16881850.19 0.0063 0.0023

Uranus -50933-03-05 12:13 J -16881791.07 -16881790.99 -16881790.90 0.0132 0.0102

Pluto -50933-04-03 04:47 J -16881762.47 -16881762.30 -16881762.14 0.0063 0.0018

Uranus -50933-06-01 15:06 J -16881702.91 -16881702.87 -16881702.80 0.0132 0.0120

Pluto -50933-06-30 05:45 J -16881674.42 -16881674.26 -16881674.09 0.0063 0.0013

Pluto -50933-09-26 06:57 J -16881586.38 -16881586.21 -16881586.04 0.0063 0.0008

Jupiter -50933-11-22 07:11 J -16881529.33 -16881529.20 -16881529.07 0.0539 0.0132

Pluto -50933-12-23 08:09 J -16881498.33 -16881498.16 -16881497.99 0.0063 0.0003

Jupiter -50932-02-19 17:45 J -16881439.80 -16881439.76 -16881439.72 0.0539 0.0507

Pluto -50932-03-21 09:21 J -16881410.28 -16881410.11 -16881409.94 0.0064 0.0002

Pluto -50932-06-17 10:33 J -16881322.23 -16881322.06 -16881321.89 0.0064 0.0006

Pluto -50932-09-13 11:30 J -16881234.18 -16881234.02 -16881233.84 0.0064 0.0012

Pluto -50932-12-10 12:57 J -16881146.13 -16881145.96 -16881145.79 0.0064 0.0016

Saturn -50932-12-11 01:25 J -16881145.48 -16881145.44 -16881145.38 0.0284 0.0270

Pluto -50931-03-08 14:09 J -16881058.07 -16881057.91 -16881057.75 0.0064 0.0021

Saturn -50931-03-09 21:06 J -16881056.76 -16881056.62 -16881056.47 0.0283 0.0145

Pluto -50931-06-04 15:21 J -16880970.01 -16880969.86 -16880969.70 0.0064 0.0026

Saturn -50931-06-06 17:16 J -16880967.95 -16880967.78 -16880967.61 0.0282 0.0018

Pluto -50931-08-31 16:33 J -16880881.96 -16880881.81 -16880881.65 0.0064 0.0031

Saturn -50931-09-03 13:25 J -16880879.10 -16880878.94 -16880878.77 0.0281 0.0110

Pluto -50931-11-27 17:45 J -16880793.90 -16880793.76 -16880793.61 0.0064 0.0036

Saturn -50931-12-01 10:04 J -16880790.17 -16880790.08 -16880789.99 0.0281 0.0238

Pluto -50930-02-23 18:57 J -16880705.83 -16880705.71 -16880705.57 0.0064 0.0042

Pluto -50930-05-22 20:23 J -16880617.77 -16880617.65 -16880617.53 0.0064 0.0047

Pluto -50930-08-18 21:35 J -16880529.70 -16880529.60 -16880529.49 0.0064 0.0052

Pluto -50930-11-14 22:33 J -16880441.62 -16880441.56 -16880441.46 0.0064 0.0057

Pluto -50929-02-10 23:45 J -16880353.53 -16880353.51 -16880353.44 0.0065 0.0063

Moon -50928-01-27 13:25 J -16880002.06 -16880001.94 -16880001.82 0.2667 0.1513

Earth -50928-01-27 14:37 J -16880002.01 -16880001.89 -16880001.76 0.2668 0.1332 *

Jupiter -50927-10-08 15:35 J -16879383.01 -16879382.85 -16879382.69 0.0488 0.0166

Jupiter -50926-01-06 15:49 J -16879292.88 -16879292.84 -16879292.79 0.0488 0.0470

Venus -50926-05-28 11:59 J -16879151.08 -16879151.00 -16879150.92 0.3743 0.2257

Mars -50925-05-08 09:06 J -16878805.21 -16878805.12 -16878805.04 0.1675 0.1253

Earth -50925-08-05 23:30 J -16878715.63 -16878715.52 -16878715.40 0.2668 0.0617

Moon -50925-08-06 00:28 J -16878715.60 -16878715.48 -16878715.37 0.2670 0.0692 *

Mars -50923-04-13 20:37 J -16878099.71 -16878099.64 -16878099.58 0.1700 0.1403

Mars -50922-02-05 15:21 J -16877801.97 -16877801.86 -16877801.75 0.1843 0.1228

Jupiter -50921-09-10 10:18 J -16877219.19 -16877219.07 -16877218.96 0.0539 0.0292

Jupiter -50921-12-08 20:52 J -16877129.73 -16877129.63 -16877129.53 0.0539 0.0352

Venus -50921-12-11 04:04 J -16877127.43 -16877127.33 -16877127.23 0.3748 0.0085

Moon -50918-07-30 17:30 J -16876165.85 -16876165.77 -16876165.69 0.2665 0.2003

Earth -50918-07-30 18:28 J -16876165.81 -16876165.73 -16876165.66 0.2663 0.2004 *

Saturn -50916-07-03 18:57 J -16875461.74 -16875461.71 -16875461.67 0.0276 0.0265

Saturn -50916-09-30 07:40 J -16875373.29 -16875373.18 -16875373.07 0.0277 0.0168

Saturn -50916-12-27 20:09 J -16875284.79 -16875284.66 -16875284.52 0.0278 0.0070

Moon -50915-01-30 15:49 J -16875250.98 -16875250.84 -16875250.70 0.2670 0.0068

Earth -50915-01-30 17:01 J -16875250.93 -16875250.79 -16875250.65 0.2666 0.0049 *

Saturn -50915-03-26 08:37 J -16875196.28 -16875196.14 -16875196.00 0.0279 0.0028

Saturn -50915-06-22 20:52 J -16875107.75 -16875107.63 -16875107.50 0.0279 0.0124

Venus -50915-06-26 20:09 J -16875103.75 -16875103.66 -16875103.58 0.3752 0.2069

Jupiter -50915-07-27 15:21 J -16875072.99 -16875072.86 -16875072.73 0.0489 0.0318

Saturn -50915-09-19 09:06 J -16875019.20 -16875019.12 -16875019.04 0.0280 0.0220

Jupiter -50915-10-25 15:21 J -16874982.99 -16874982.86 -16874982.73 0.0488 0.0312

Mars -50914-09-04 05:45 J -16874669.37 -16874669.26 -16874669.15 0.1694 0.0767

Mars -50913-06-27 15:35 J -16874372.00 -16874371.85 -16874371.70 0.1851 0.0029

Venus -50912-03-27 14:52 J -16874099.00 -16874098.88 -16874098.76 0.3633 0.2138

Earth -50912-08-08 18:42 J -16873964.81 -16873964.72 -16873964.62 0.2670 0.1505

Moon -50912-08-08 19:40 J -16873964.78 -16873964.68 -16873964.59 0.2669 0.1604 *

Jupiter -50909-06-29 12:57 J -16872909.03 -16872908.96 -16872908.89 0.0538 0.0457

Jupiter -50909-09-26 23:59 J -16872819.63 -16872819.50 -16872819.38 0.0539 0.0193

Venus -50907-10-11 22:04 J -16872074.60 -16872074.58 -16872074.57 0.3628 0.3595

Moon -50905-08-01 13:40 J -16871415.03 -16871414.93 -16871414.82 0.2671 0.1150

Earth -50905-08-01 13:54 J -16871415.03 -16871414.92 -16871414.81 0.2664 0.1058 *

Mars -50904-01-24 15:06 J -16871239.00 -16871238.87 -16871238.75 0.1687 0.0131

Mars -50904-11-17 15:49 J -16870941.95 -16870941.84 -16870941.72 0.1859 0.1194

Jupiter -50903-05-15 15:35 J -16870762.90 -16870762.85 -16870762.80 0.0488 0.0463

Jupiter -50903-08-13 15:06 J -16870673.03 -16870672.87 -16870672.70 0.0488 0.0159

Moon -50902-02-02 19:25 J -16870499.81 -16870499.69 -16870499.57 0.2670 0.1396

Earth -50902-02-02 19:40 J -16870499.80 -16870499.68 -16870499.56 0.2664 0.1462 *

Saturn -50902-07-27 21:06 J -16870324.75 -16870324.62 -16870324.49 0.0283 0.0182

Saturn -50902-10-24 17:01 J -16870235.96 -16870235.79 -16870235.62 0.0282 0.0056

Saturn -50901-01-21 13:11 J -16870147.12 -16870146.95 -16870146.78 0.0282 0.0072

Saturn -50901-04-19 09:35 J -16870058.22 -16870058.10 -16870057.97 0.0281 0.0200

Neptune -50899-05-13 06:13 J -16869304.27 -16869304.24 -16869304.19 0.0088 0.0085

Neptune -50899-08-09 08:09 J -16869216.23 -16869216.16 -16869216.09 0.0088 0.0078

Earth -50899-08-11 13:54 J -16869213.97 -16869213.92 -16869213.87 0.2671 0.2382

Moon -50899-08-11 14:09 J -16869213.96 -16869213.91 -16869213.85 0.2665 0.2349 *

Neptune -50899-11-05 09:35 J -16869128.17 -16869128.10 -16869128.00 0.0088 0.0072

Neptune -50898-02-01 11:16 J -16869040.11 -16869040.03 -16869039.92 0.0088 0.0066

Neptune -50898-04-30 13:11 J -16868952.05 -16868951.95 -16868951.84 0.0088 0.0059

Neptune -50898-07-27 14:52 J -16868863.99 -16868863.88 -16868863.76 0.0088 0.0053

Neptune -50898-10-23 16:33 J -16868775.93 -16868775.81 -16868775.68 0.0088 0.0046

Neptune -50897-01-19 18:13 J -16868687.86 -16868687.74 -16868687.60 0.0088 0.0040

Neptune -50897-04-16 19:54 J -16868599.79 -16868599.67 -16868599.53 0.0088 0.0034

Neptune -50897-07-13 21:35 J -16868511.73 -16868511.60 -16868511.45 0.0089 0.0028

Jupiter -50897-07-16 02:23 J -16868509.54 -16868509.40 -16868509.27 0.0539 0.0028

Neptune -50897-10-09 23:30 J -16868423.66 -16868423.52 -16868423.38 0.0089 0.0021

Neptune -50896-01-06 01:11 J -16868335.59 -16868335.45 -16868335.31 0.0089 0.0014

Neptune -50896-04-04 02:52 J -16868247.53 -16868247.38 -16868247.24 0.0089 0.0008

Neptune -50896-07-01 04:33 J -16868159.46 -16868159.31 -16868159.17 0.0089 0.0003

Neptune -50896-09-27 05:59 J -16868071.39 -16868071.25 -16868071.10 0.0089 0.0005

Neptune -50896-12-24 07:40 J -16867983.32 -16867983.18 -16867983.03 0.0089 0.0011

Moon -50895-01-25 17:45 J -16867950.80 -16867950.76 -16867950.72 0.2665 0.2536

Earth -50895-01-25 18:42 J -16867950.78 -16867950.72 -16867950.66 0.2670 0.2421 *

Neptune -50895-03-22 09:21 J -16867895.25 -16867895.11 -16867894.97 0.0089 0.0017

Mars -50895-06-17 00:13 J -16867808.61 -16867808.49 -16867808.37 0.1681 0.0521

Neptune -50895-06-18 11:01 J -16867807.18 -16867807.04 -16867806.90 0.0089 0.0023

Neptune -50895-09-14 12:28 J -16867719.11 -16867718.98 -16867718.84 0.0089 0.0029

Neptune -50895-12-11 14:09 J -16867631.04 -16867630.91 -16867630.78 0.0089 0.0035

Uranus -50894-01-16 22:33 J -16867594.56 -16867594.56 -16867594.55 0.0146 0.0146

Neptune -50894-03-09 15:35 J -16867542.96 -16867542.85 -16867542.71 0.0089 0.0042

Uranus -50894-04-15 06:13 J -16867506.35 -16867506.24 -16867506.13 0.0146 0.0115

Neptune -50894-06-05 17:16 J -16867454.89 -16867454.78 -16867454.65 0.0089 0.0048

Uranus -50894-07-12 13:40 J -16867418.07 -16867417.93 -16867417.77 0.0146 0.0083

Neptune -50894-09-01 18:57 J -16867366.82 -16867366.71 -16867366.59 0.0089 0.0054

Uranus -50894-10-08 21:21 J -16867329.77 -16867329.61 -16867329.43 0.0146 0.0051

Neptune -50894-11-28 20:23 J -16867278.74 -16867278.65 -16867278.54 0.0089 0.0060

Uranus -50893-01-05 05:01 J -16867241.46 -16867241.29 -16867241.10 0.0146 0.0020

Neptune -50893-02-24 22:04 J -16867190.67 -16867190.58 -16867190.48 0.0089 0.0066

Uranus -50893-04-02 12:57 J -16867153.14 -16867152.96 -16867152.78 0.0146 0.0013

Neptune -50893-05-22 23:45 J -16867102.59 -16867102.51 -16867102.43 0.0089 0.0072

Uranus -50893-06-29 20:37 J -16867064.81 -16867064.64 -16867064.46 0.0146 0.0046

Neptune -50893-08-19 01:11 J -16867014.51 -16867014.45 -16867014.38 0.0089 0.0078

Uranus -50893-09-26 04:33 J -16866976.46 -16866976.31 -16866976.15 0.0146 0.0078

Neptune -50893-11-15 02:37 J -16866926.42 -16866926.39 -16866926.34 0.0089 0.0084

Uranus -50893-12-23 12:13 J -16866888.10 -16866887.99 -16866887.86 0.0146 0.0112

Uranus -50892-03-21 20:09 J -16866799.67 -16866799.66 -16866799.62 0.0146 0.0144

Earth -50892-08-04 09:21 J -16866664.23 -16866664.11 -16866663.99 0.2666 0.0136

Moon -50892-08-04 09:35 J -16866664.21 -16866664.10 -16866663.98 0.2672 0.0086 *

Jupiter -50891-06-01 15:06 J -16866363.04 -16866362.87 -16866362.70 0.0488 0.0008

Saturn -50886-02-17 09:49 J -16864641.18 -16864641.09 -16864640.98 0.0276 0.0195

Saturn -50886-05-16 22:33 J -16864552.69 -16864552.56 -16864552.43 0.0277 0.0097

Saturn -50886-08-13 11:01 J -16864464.18 -16864464.04 -16864463.90 0.0278 0.0006

Mars -50886-11-07 09:06 J -16864378.21 -16864378.12 -16864378.03 0.1675 0.1159

Saturn -50886-11-09 23:16 J -16864375.66 -16864375.53 -16864375.40 0.0278 0.0096

Saturn -50885-02-06 11:16 J -16864287.12 -16864287.03 -16864286.92 0.0279 0.0192

Jupiter -50885-05-04 05:30 J -16864199.40 -16864199.27 -16864199.14 0.0539 0.0132

Jupiter -50885-08-01 16:04 J -16864109.87 -16864109.83 -16864109.79 0.0540 0.0508

Mars -50884-10-12 20:37 J -16863672.69 -16863672.64 -16863672.58 0.1701 0.1494

Mars -50883-08-06 15:35 J -16863374.95 -16863374.85 -16863374.75 0.1842 0.1347

Moon -50882-01-28 19:25 J -16863199.82 -16863199.69 -16863199.57 0.2669 0.1117

Earth -50882-01-28 20:37 J -16863199.77 -16863199.64 -16863199.51 0.2668 0.1091 *

Jupiter -50879-03-20 14:37 J -16862053.06 -16862052.89 -16862052.73 0.0488 0.0151

Jupiter -50879-06-18 14:52 J -16861962.90 -16861962.88 -16861962.86 0.0488 0.0484

Earth -50879-08-07 04:47 J -16861913.42 -16861913.30 -16861913.19 0.2668 0.0783

Moon -50879-08-07 05:30 J -16861913.38 -16861913.27 -16861913.16 0.2671 0.0814 *

Venus -50875-06-18 17:16 J -16860501.80 -16860501.78 -16860501.76 0.3740 0.3642

Mars -50874-03-05 05:59 J -16860242.36 -16860242.25 -16860242.14 0.1694 0.0853

Mars -50874-12-27 15:49 J -16859944.99 -16859944.84 -16859944.69 0.1851 0.0133

Jupiter -50873-02-21 08:52 J -16859889.24 -16859889.13 -16859889.01 0.0539 0.0284

Jupiter -50873-05-20 19:40 J -16859799.77 -16859799.68 -16859799.58 0.0540 0.0362

Saturn -50873-12-13 18:13 J -16859592.83 -16859592.74 -16859592.63 0.0284 0.0233

Saturn -50872-03-12 14:09 J -16859504.07 -16859503.91 -16859503.75 0.0283 0.0107

Saturn -50872-06-09 10:18 J -16859415.25 -16859415.07 -16859414.90 0.0282 0.0020

Moon -50872-07-30 22:47 J -16859363.63 -16859363.55 -16859363.47 0.2666 0.1944

Earth -50872-07-30 23:30 J -16859363.61 -16859363.52 -16859363.44 0.2663 0.1827 *

Saturn -50872-09-06 06:28 J -16859326.37 -16859326.23 -16859326.08 0.0281 0.0148

Saturn -50872-12-04 03:06 J -16859237.39 -16859237.37 -16859237.34 0.0280 0.0277

Venus -50869-01-02 09:35 J -16858478.20 -16858478.10 -16858478.01 0.3744 0.1450

Moon -50869-01-31 21:49 J -16858448.73 -16858448.59 -16858448.44 0.2670 0.0136

Earth -50869-01-31 23:01 J -16858448.68 -16858448.54 -16858448.40 0.2666 0.0289 *

Jupiter -50867-01-06 14:23 J -16857743.03 -16857742.90 -16857742.77 0.0488 0.0303

Jupiter -50867-04-06 14:23 J -16857653.03 -16857652.90 -16857652.77 0.0488 0.0326

Earth -50866-08-09 23:45 J -16857162.60 -16857162.51 -16857162.42 0.2670 0.1665

Moon -50866-08-10 00:28 J -16857162.57 -16857162.48 -16857162.39 0.2667 0.1711 *

Mars -50865-07-25 15:06 J -16856812.00 -16856811.87 -16856811.75 0.1687 0.0209

Mars -50864-05-18 16:33 J -16856514.93 -16856514.81 -16856514.69 0.1859 0.1049

Venus -50864-07-18 01:40 J -16856454.53 -16856454.43 -16856454.33 0.3749 0.0723

Jupiter -50862-12-10 11:45 J -16855579.08 -16855579.01 -16855578.93 0.0539 0.0445

Jupiter -50861-03-08 23:01 J -16855489.67 -16855489.54 -16855489.42 0.0539 0.0206

Moon -50859-08-02 18:57 J -16854612.83 -16854612.71 -16854612.60 0.2672 0.0839

Earth -50859-08-02 18:57 J -16854612.82 -16854612.71 -16854612.59 0.2665 0.0890 *

Venus -50858-01-31 17:30 J -16854430.83 -16854430.77 -16854430.70 0.3753 0.2870

Saturn -50857-07-06 10:47 J -16853909.12 -16853909.05 -16853908.97 0.0277 0.0230

Saturn -50857-10-02 23:30 J -16853820.64 -16853820.52 -16853820.39 0.0277 0.0133

Saturn -50857-12-30 11:59 J -16853732.13 -16853732.00 -16853731.86 0.0278 0.0036

Moon -50856-02-03 01:40 J -16853697.53 -16853697.43 -16853697.32 0.2671 0.1796

Earth -50856-02-03 01:54 J -16853697.53 -16853697.42 -16853697.31 0.2664 0.1715 *

Saturn -50856-03-29 00:28 J -16853643.62 -16853643.48 -16853643.35 0.0279 0.0062

Saturn -50856-06-25 12:28 J -16853555.08 -16853554.98 -16853554.86 0.0279 0.0159

Saturn -50856-09-22 00:42 J -16853466.52 -16853466.47 -16853466.41 0.0280 0.0254

Jupiter -50856-10-25 14:23 J -16853432.96 -16853432.90 -16853432.84 0.0489 0.0454

Venus -50856-11-01 16:18 J -16853425.97 -16853425.82 -16853425.66 0.3632 0.0205

Mars -50856-12-16 00:13 J -16853381.61 -16853381.49 -16853381.37 0.1681 0.0429

Jupiter -50855-01-23 13:54 J -16853343.09 -16853342.92 -16853342.76 0.0488 0.0169

Earth -50853-08-11 18:42 J -16852411.75 -16852411.72 -16852411.68 0.2672 0.2533

Moon -50853-08-11 19:11 J -16852411.72 -16852411.70 -16852411.68 0.2665 0.2601 *

Uranus -50852-02-04 00:57 J -16852235.48 -16852235.46 -16852235.42 0.0132 0.0129

Uranus -50852-05-03 04:18 J -16852147.39 -16852147.32 -16852147.24 0.0132 0.0110

Uranus -50852-07-30 07:40 J -16852059.28 -16852059.18 -16852059.08 0.0132 0.0092

Uranus -50852-10-26 10:47 J -16851971.15 -16851971.05 -16851970.93 0.0132 0.0074

Uranus -50851-01-22 14:09 J -16851883.03 -16851882.91 -16851882.78 0.0132 0.0056

Uranus -50851-04-20 17:30 J -16851794.90 -16851794.77 -16851794.63 0.0132 0.0038

Uranus -50851-07-17 20:52 J -16851706.77 -16851706.63 -16851706.49 0.0132 0.0020

Uranus -50851-10-13 23:59 J -16851618.63 -16851618.50 -16851618.36 0.0132 0.0003

Uranus -50850-01-10 03:21 J -16851530.50 -16851530.36 -16851530.23 0.0132 0.0017

Uranus -50850-04-08 06:28 J -16851442.36 -16851442.23 -16851442.10 0.0132 0.0034

Uranus -50850-07-05 09:35 J -16851354.22 -16851354.10 -16851353.97 0.0132 0.0052

Uranus -50850-10-01 12:57 J -16851266.08 -16851265.96 -16851265.85 0.0132 0.0070

Jupiter -50850-12-27 01:54 J -16851179.56 -16851179.42 -16851179.29 0.0539 0.0046

Uranus -50850-12-28 15:49 J -16851177.93 -16851177.84 -16851177.73 0.0132 0.0088

Moon -50849-01-26 23:30 J -16851148.59 -16851148.52 -16851148.44 0.2666 0.2238

Earth -50849-01-27 00:42 J -16851148.55 -16851148.47 -16851148.40 0.2669 0.2188 *

Uranus -50849-03-25 18:57 J -16851089.78 -16851089.71 -16851089.62 0.0132 0.0105

Uranus -50849-06-21 22:04 J -16851001.62 -16851001.58 -16851001.52 0.0132 0.0123

Mars -50846-05-08 09:21 J -16849951.21 -16849951.11 -16849951.02 0.1675 0.1070

Earth -50846-08-05 14:23 J -16849862.02 -16849861.90 -16849861.78 0.2666 0.0060

Moon -50846-08-05 14:52 J -16849861.99 -16849861.88 -16849861.76 0.2672 0.0042 *

Pluto -50845-01-26 14:52 J -16849687.89 -16849687.88 -16849687.87 0.0082 0.0081

Pluto -50845-04-23 16:33 J -16849599.88 -16849599.81 -16849599.74 0.0082 0.0072

Pluto -50845-07-20 18:13 J -16849511.84 -16849511.74 -16849511.65 0.0082 0.0063

Pluto -50845-10-16 19:25 J -16849423.79 -16849423.69 -16849423.57 0.0081 0.0055

Pluto -50844-01-12 21:06 J -16849335.73 -16849335.62 -16849335.49 0.0081 0.0045

Pluto -50844-04-10 22:47 J -16849247.67 -16849247.55 -16849247.41 0.0081 0.0036

Mars -50844-04-12 20:52 J -16849245.67 -16849245.63 -16849245.59 0.1701 0.1582

Pluto -50844-07-08 00:28 J -16849159.62 -16849159.48 -16849159.34 0.0081 0.0027

Pluto -50844-10-04 01:54 J -16849071.56 -16849071.42 -16849071.27 0.0081 0.0019

Jupiter -50844-11-11 13:40 J -16849033.10 -16849032.93 -16849032.75 0.0488 0.0021

Pluto -50844-12-31 03:35 J -16848983.50 -16848983.35 -16848983.20 0.0081 0.0010

Mars -50843-02-04 16:04 J -16848947.92 -16848947.83 -16848947.74 0.1842 0.1474

Pluto -50843-03-29 05:01 J -16848895.43 -16848895.29 -16848895.14 0.0081 0.0003

Saturn -50843-05-02 17:59 J -16848860.79 -16848860.75 -16848860.69 0.0284 0.0270

Pluto -50843-06-25 06:42 J -16848807.37 -16848807.22 -16848807.08 0.0081 0.0007

Saturn -50843-07-30 13:54 J -16848772.07 -16848771.92 -16848771.78 0.0283 0.0145

Pluto -50843-09-21 07:54 J -16848719.30 -16848719.17 -16848719.02 0.0080 0.0016

Saturn -50843-10-27 09:49 J -16848683.26 -16848683.09 -16848682.92 0.0282 0.0019

Pluto -50843-12-18 09:35 J -16848631.24 -16848631.10 -16848630.96 0.0080 0.0023

Saturn -50842-01-24 05:59 J -16848594.41 -16848594.25 -16848594.08 0.0281 0.0110

Pluto -50842-03-16 10:47 J -16848543.17 -16848543.05 -16848542.90 0.0080 0.0032

Saturn -50842-04-23 02:37 J -16848505.48 -16848505.39 -16848505.30 0.0281 0.0238

Pluto -50842-06-12 12:13 J -16848455.10 -16848454.99 -16848454.85 0.0080 0.0040

Pluto -50842-09-08 13:40 J -16848367.03 -16848366.93 -16848366.80 0.0080 0.0048

Pluto -50842-12-05 15:06 J -16848278.96 -16848278.87 -16848278.76 0.0080 0.0056

Pluto -50841-03-02 16:33 J -16848190.88 -16848190.81 -16848190.71 0.0080 0.0064

Pluto -50841-05-29 17:59 J -16848102.80 -16848102.75 -16848102.68 0.0079 0.0072

Pluto -50841-08-25 19:25 J -16848014.69 -16848014.69 -16848014.68 0.0079 0.0079

Earth -50839-07-29 08:52 J -16847312.15 -16847312.13 -16847312.11 0.2662 0.2609

Jupiter -50838-10-15 04:04 J -16846869.46 -16846869.33 -16846869.20 0.0539 0.0130

Jupiter -50837-01-12 14:23 J -16846779.94 -16846779.90 -16846779.86 0.0540 0.0509

Moon -50836-01-29 01:11 J -16846397.58 -16846397.45 -16846397.31 0.2669 0.1013

Earth -50836-01-29 02:37 J -16846397.52 -16846397.39 -16846397.26 0.2667 0.0846 *

Mars -50835-09-03 05:59 J -16845815.35 -16845815.25 -16845815.15 0.1694 0.0940

Mars -50834-06-27 16:18 J -16845517.97 -16845517.82 -16845517.67 0.1851 0.0270

Earth -50833-08-07 09:35 J -16845111.20 -16845111.10 -16845110.99 0.2668 0.0944

Moon -50833-08-07 10:33 J -16845111.17 -16845111.06 -16845110.96 0.2671 0.1045 *

Jupiter -50832-08-30 13:40 J -16844723.09 -16844722.93 -16844722.76 0.0488 0.0133

Saturn -50828-11-23 13:25 J -16843176.99 -16843176.94 -16843176.88 0.0276 0.0254

Saturn -50827-02-20 02:09 J -16843088.52 -16843088.41 -16843088.29 0.0276 0.0157

Saturn -50827-05-19 14:37 J -16843000.02 -16842999.89 -16842999.75 0.0277 0.0060

Saturn -50827-08-16 03:06 J -16842911.51 -16842911.37 -16842911.23 0.0278 0.0037

Saturn -50827-11-12 15:21 J -16842822.98 -16842822.86 -16842822.74 0.0279 0.0133

Saturn -50826-02-09 03:21 J -16842734.43 -16842734.36 -16842734.28 0.0279 0.0229

Moon -50826-08-01 03:49 J -16842561.43 -16842561.34 -16842561.24 0.2668 0.1674

Earth -50826-08-01 04:33 J -16842561.40 -16842561.31 -16842561.22 0.2663 0.1653 *

Jupiter -50826-08-03 07:11 J -16842559.32 -16842559.20 -16842559.09 0.0539 0.0287

Jupiter -50826-10-31 17:59 J -16842469.85 -16842469.75 -16842469.65 0.0540 0.0359

Mars -50825-01-24 15:21 J -16842384.99 -16842384.86 -16842384.74 0.1688 0.0305

Mars -50825-11-16 16:47 J -16842087.93 -16842087.80 -16842087.68 0.1859 0.0946

Moon -50823-02-01 04:04 J -16841646.47 -16841646.33 -16841646.19 0.2670 0.0561

Earth -50823-02-01 05:01 J -16841646.43 -16841646.29 -16841646.15 0.2665 0.0537 *

Jupiter -50820-06-18 13:11 J -16840413.08 -16840412.95 -16840412.81 0.0488 0.0290

Earth -50820-08-10 04:47 J -16840360.38 -16840360.30 -16840360.22 0.2670 0.1825

Moon -50820-08-10 05:30 J -16840360.35 -16840360.27 -16840360.19 0.2666 0.1859 *

Jupiter -50820-09-16 13:11 J -16840323.08 -16840322.95 -16840322.83 0.0488 0.0339

Venus -50818-01-23 14:52 J -16839828.94 -16839828.88 -16839828.81 0.3741 0.2826

Neptune -50817-08-01 18:28 J -16839272.76 -16839272.73 -16839272.65 0.0089 0.0084

Neptune -50817-10-28 21:35 J -16839184.68 -16839184.60 -16839184.51 0.0089 0.0076

Neptune -50816-01-24 23:59 J -16839096.59 -16839096.50 -16839096.37 0.0089 0.0069

Neptune -50816-04-23 03:06 J -16839008.49 -16839008.37 -16839008.24 0.0089 0.0061

Mars -50816-06-16 00:13 J -16838954.61 -16838954.49 -16838954.36 0.1681 0.0346

Neptune -50816-07-20 05:45 J -16838920.39 -16838920.26 -16838920.11 0.0089 0.0054

Neptune -50816-10-16 08:37 J -16838832.28 -16838832.14 -16838831.99 0.0089 0.0046

Neptune -50815-01-12 11:16 J -16838744.18 -16838744.03 -16838743.86 0.0089 0.0039

Neptune -50815-04-10 14:09 J -16838656.07 -16838655.91 -16838655.74 0.0089 0.0031

Neptune -50815-07-07 16:47 J -16838567.96 -16838567.80 -16838567.62 0.0089 0.0024

Neptune -50815-10-03 19:40 J -16838479.84 -16838479.68 -16838479.50 0.0089 0.0016

Neptune -50815-12-30 22:33 J -16838391.73 -16838391.56 -16838391.38 0.0089 0.0009

Neptune -50814-03-29 01:25 J -16838303.61 -16838303.44 -16838303.26 0.0089 0.0001

Jupiter -50814-05-22 10:18 J -16838249.14 -16838249.07 -16838248.99 0.0539 0.0441

Neptune -50814-06-25 04:18 J -16838215.49 -16838215.32 -16838215.14 0.0089 0.0007

Jupiter -50814-08-19 21:35 J -16838159.72 -16838159.60 -16838159.48 0.0540 0.0211

Neptune -50814-09-21 07:11 J -16838127.37 -16838127.20 -16838127.03 0.0089 0.0015

Saturn -50814-12-17 11:45 J -16838040.13 -16838040.01 -16838039.88 0.0283 0.0192

Neptune -50814-12-18 09:49 J -16838039.25 -16838039.09 -16838038.91 0.0089 0.0023

Saturn -50813-03-15 07:40 J -16837951.35 -16837951.18 -16837951.01 0.0283 0.0066

Neptune -50813-03-15 12:42 J -16837951.13 -16837950.97 -16837950.80 0.0089 0.0031 *

Neptune -50813-06-11 15:35 J -16837863.00 -16837862.85 -16837862.68 0.0089 0.0039

Saturn -50813-06-12 03:49 J -16837862.51 -16837862.34 -16837862.17 0.0282 0.0061

Moon -50813-08-02 23:59 J -16837810.61 -16837810.50 -16837810.39 0.2672 0.0794

Earth -50813-08-02 23:59 J -16837810.61 -16837810.50 -16837810.38 0.2665 0.0720 *

Venus -50813-08-08 07:11 J -16837805.31 -16837805.20 -16837805.10 0.3745 0.0657

Neptune -50813-09-07 18:42 J -16837774.87 -16837774.72 -16837774.57 0.0089 0.0046

Saturn -50813-09-09 00:13 J -16837773.62 -16837773.49 -16837773.36 0.0281 0.0189

Neptune -50813-12-04 21:35 J -16837686.74 -16837686.60 -16837686.46 0.0089 0.0054

Neptune -50812-03-03 00:13 J -16837598.60 -16837598.49 -16837598.35 0.0089 0.0062

Neptune -50812-05-30 03:06 J -16837510.46 -16837510.37 -16837510.25 0.0089 0.0070

Neptune -50812-08-26 05:59 J -16837422.32 -16837422.25 -16837422.15 0.0089 0.0078

Neptune -50812-11-22 09:06 J -16837334.15 -16837334.12 -16837334.06 0.0089 0.0086

Moon -50810-02-04 07:54 J -16836895.27 -16836895.17 -16836895.07 0.2670 0.1887

Earth -50810-02-04 07:54 J -16836895.27 -16836895.17 -16836895.08 0.2663 0.1966 *

Uranus -50810-02-06 05:30 J -16836893.31 -16836893.27 -16836893.20 0.0146 0.0140

Uranus -50810-05-05 13:25 J -16836805.06 -16836804.94 -16836804.82 0.0146 0.0108

Uranus -50810-08-01 20:37 J -16836716.78 -16836716.64 -16836716.47 0.0146 0.0077

Uranus -50810-10-29 04:33 J -16836628.48 -16836628.31 -16836628.14 0.0146 0.0044

Uranus -50809-01-25 12:13 J -16836540.17 -16836539.99 -16836539.81 0.0146 0.0012

Uranus -50809-04-22 19:54 J -16836451.85 -16836451.67 -16836451.48 0.0146 0.0021

Uranus -50809-07-20 03:49 J -16836363.51 -16836363.34 -16836363.17 0.0146 0.0053

Uranus -50809-10-16 11:30 J -16836275.16 -16836275.02 -16836274.86 0.0146 0.0086

Uranus -50808-01-12 19:11 J -16836186.79 -16836186.70 -16836186.58 0.0146 0.0119

Jupiter -50808-04-06 13:11 J -16836103.02 -16836102.95 -16836102.88 0.0488 0.0441

Jupiter -50808-07-05 12:28 J -16836013.13 -16836012.98 -16836012.81 0.0488 0.0182

Venus -50807-02-21 23:01 J -16835781.63 -16835781.54 -16835781.44 0.3750 0.1523

Mars -50807-11-06 09:21 J -16835524.21 -16835524.11 -16835524.00 0.1675 0.0981

Mars -50805-10-11 20:52 J -16834818.65 -16834818.63 -16834818.61 0.1701 0.1663

Mars -50804-08-05 16:47 J -16834520.87 -16834520.80 -16834520.73 0.1842 0.1618

Moon -50803-01-27 05:30 J -16834346.37 -16834346.27 -16834346.18 0.2667 0.2017

Earth -50803-01-27 06:28 J -16834346.32 -16834346.23 -16834346.13 0.2669 0.1948 *

Jupiter -50802-06-08 00:42 J -16833849.60 -16833849.47 -16833849.34 0.0539 0.0054

Venus -50802-09-07 15:06 J -16833757.89 -16833757.87 -16833757.85 0.3754 0.3668

Earth -50800-08-05 19:25 J -16833059.80 -16833059.69 -16833059.57 0.2667 0.0215

Moon -50800-08-05 20:09 J -16833059.78 -16833059.66 -16833059.55 0.2672 0.0327 *

Venus -50799-06-08 17:59 J -16832752.89 -16832752.75 -16832752.62 0.3631 0.1776

Saturn -50798-07-10 03:06 J -16832356.47 -16832356.37 -16832356.27 0.0277 0.0193

Saturn -50798-10-06 15:49 J -16832267.97 -16832267.84 -16832267.71 0.0277 0.0095

Saturn -50797-01-03 04:18 J -16832179.46 -16832179.32 -16832179.18 0.0278 0.0006

Mars -50797-03-28 18:28 J -16832093.76 -16832093.73 -16832093.70 0.1669 0.1617

Saturn -50797-03-31 16:33 J -16832090.94 -16832090.81 -16832090.68 0.0279 0.0099

Saturn -50797-06-28 04:47 J -16832002.40 -16832002.30 -16832002.21 0.0280 0.0195

Jupiter -50796-04-23 12:13 J -16831703.17 -16831702.99 -16831702.82 0.0488 0.0026

Mars -50795-03-04 06:13 J -16831388.34 -16831388.24 -16831388.15 0.1694 0.1028

Mars -50795-12-26 16:47 J -16831090.95 -16831090.80 -16831090.65 0.1850 0.0395

Moon -50793-07-29 12:57 J -16830509.99 -16830509.96 -16830509.92 0.2662 0.2512

Earth -50793-07-29 13:54 J -16830509.97 -16830509.92 -16830509.88 0.2662 0.2431 *

Moon -50790-01-30 07:11 J -16829595.34 -16829595.20 -16829595.06 0.2669 0.0659

Earth -50790-01-30 08:37 J -16829595.28 -16829595.14 -16829595.00 0.2667 0.0607 *

Jupiter -50790-03-27 03:21 J -16829539.49 -16829539.36 -16829539.22 0.0539 0.0111

Jupiter -50790-06-24 13:54 J -16829449.94 -16829449.92 -16829449.90 0.0539 0.0528

Earth -50787-08-08 14:37 J -16828308.99 -16828308.89 -16828308.78 0.2669 0.1111

Moon -50787-08-08 15:35 J -16828308.96 -16828308.85 -16828308.75 0.2670 0.1118 *

Mars -50786-07-25 15:21 J -16827957.98 -16827957.86 -16827957.74 0.1688 0.0389

Mars -50785-05-17 17:16 J -16827660.92 -16827660.78 -16827660.65 0.1859 0.0812

Jupiter -50784-02-09 12:13 J -16827393.16 -16827392.99 -16827392.82 0.0488 0.0124

Saturn -50784-05-05 11:30 J -16827308.11 -16827308.02 -16827307.91 0.0283 0.0228

Saturn -50784-08-02 07:25 J -16827219.35 -16827219.19 -16827219.03 0.0283 0.0103

Saturn -50784-10-30 03:35 J -16827130.53 -16827130.35 -16827130.18 0.0282 0.0024

Saturn -50783-01-26 23:45 J -16827041.65 -16827041.51 -16827041.36 0.0281 0.0152

Moon -50780-08-01 09:06 J -16825759.22 -16825759.12 -16825759.03 0.2669 0.1544

Earth -50780-08-01 09:35 J -16825759.20 -16825759.10 -16825759.00 0.2664 0.1479 *

Jupiter -50778-01-13 05:30 J -16825229.39 -16825229.27 -16825229.16 0.0539 0.0288

Jupiter -50778-04-12 16:18 J -16825139.92 -16825139.82 -16825139.73 0.0540 0.0358

Moon -50777-02-02 10:33 J -16824844.20 -16824844.06 -16824843.93 0.2671 0.0671

Earth -50777-02-02 11:01 J -16824844.18 -16824844.04 -16824843.90 0.2665 0.0789 *

Mars -50777-12-15 00:28 J -16824527.60 -16824527.48 -16824527.35 0.1681 0.0252

Earth -50774-08-11 09:49 J -16823558.17 -16823558.09 -16823558.02 0.2670 0.1986

Moon -50774-08-11 10:33 J -16823558.14 -16823558.06 -16823557.99 0.2666 0.2065 *

Jupiter -50773-11-28 12:13 J -16823083.13 -16823082.99 -16823082.85 0.0488 0.0275

Jupiter -50772-02-26 12:13 J -16822993.11 -16822992.99 -16822992.87 0.0488 0.0355

Saturn -50769-11-26 05:59 J -16821624.33 -16821624.25 -16821624.15 0.0276 0.0214

Saturn -50768-02-22 18:42 J -16821535.84 -16821535.72 -16821535.59 0.0277 0.0116

Uranus -50768-02-24 07:54 J -16821534.21 -16821534.17 -16821534.13 0.0132 0.0125

Saturn -50768-05-22 07:11 J -16821447.34 -16821447.20 -16821447.06 0.0278 0.0020

Uranus -50768-05-23 11:01 J -16821446.11 -16821446.04 -16821445.96 0.0132 0.0107

Saturn -50768-08-18 19:40 J -16821358.82 -16821358.68 -16821358.55 0.0278 0.0077

Uranus -50768-08-19 14:23 J -16821358.00 -16821357.90 -16821357.80 0.0132 0.0089

Saturn -50768-11-15 07:40 J -16821270.28 -16821270.18 -16821270.07 0.0279 0.0173

Uranus -50768-11-15 17:30 J -16821269.88 -16821269.77 -16821269.64 0.0132 0.0071

Uranus -50767-02-11 20:52 J -16821181.75 -16821181.63 -16821181.50 0.0132 0.0053

Saturn -50767-02-11 19:54 J -16821181.71 -16821181.67 -16821181.64 0.0280 0.0268 *

Mars -50767-05-07 09:35 J -16821097.21 -16821097.10 -16821096.99 0.1675 0.0890

Uranus -50767-05-11 00:13 J -16821093.62 -16821093.49 -16821093.35 0.0132 0.0035

Moon -50767-08-04 05:16 J -16821008.40 -16821008.28 -16821008.17 0.2672 0.0506

Earth -50767-08-04 05:01 J -16821008.40 -16821008.29 -16821008.17 0.2665 0.0555 *

Uranus -50767-08-07 03:35 J -16821005.49 -16821005.35 -16821005.21 0.0132 0.0017

Jupiter -50767-11-01 08:23 J -16820919.22 -16820919.15 -16820919.08 0.0539 0.0448

Uranus -50767-11-03 06:42 J -16820917.35 -16820917.22 -16820917.08 0.0132 0.0004

Jupiter -50766-01-29 19:25 J -16820829.81 -16820829.69 -16820829.56 0.0540 0.0205

Uranus -50766-01-30 10:04 J -16820829.22 -16820829.08 -16820828.95 0.0132 0.0019

Uranus -50766-04-28 13:11 J -16820741.08 -16820740.95 -16820740.82 0.0132 0.0037

Uranus -50766-07-25 16:18 J -16820652.94 -16820652.82 -16820652.69 0.0132 0.0055

Uranus -50766-10-21 19:40 J -16820564.80 -16820564.68 -16820564.57 0.0132 0.0073

Uranus -50765-01-17 22:33 J -16820476.65 -16820476.56 -16820476.45 0.0132 0.0091

Uranus -50765-04-15 01:54 J -16820388.50 -16820388.42 -16820388.34 0.0132 0.0108

Uranus -50765-07-12 04:47 J -16820300.33 -16820300.30 -16820300.25 0.0132 0.0126

Mars -50764-02-03 17:01 J -16820093.84 -16820093.79 -16820093.75 0.1842 0.1732

Earth -50764-02-04 13:54 J -16820093.00 -16820092.92 -16820092.84 0.2663 0.2220

Moon -50764-02-04 14:09 J -16820092.98 -16820092.91 -16820092.85 0.2670 0.2327 *

Venus -50762-08-30 12:28 J -16819156.06 -16819155.98 -16819155.89 0.3742 0.2007

Jupiter -50761-09-16 11:45 J -16818773.08 -16818773.01 -16818772.93 0.0488 0.0431

Jupiter -50761-12-15 11:16 J -16818683.19 -16818683.03 -16818682.87 0.0488 0.0191

Mars -50758-09-27 18:28 J -16817666.78 -16817666.73 -16817666.68 0.1669 0.1532

Moon -50757-01-28 11:16 J -16817544.14 -16817544.03 -16817543.93 0.2668 0.1856

Earth -50757-01-28 12:28 J -16817544.09 -16817543.98 -16817543.87 0.2669 0.1709 *

Venus -50756-03-15 04:33 J -16817132.41 -16817132.31 -16817132.20 0.3746 0.0199

Mars -50756-09-02 06:13 J -16816961.33 -16816961.24 -16816961.15 0.1694 0.1113

Mars -50755-06-26 17:01 J -16816663.93 -16816663.79 -16816663.64 0.1851 0.0515

Saturn -50755-09-22 10:18 J -16816576.11 -16816576.07 -16816576.02 0.0284 0.0270

Jupiter -50755-11-17 23:01 J -16816519.67 -16816519.54 -16816519.41 0.0540 0.0055

Saturn -50755-12-20 05:59 J -16816487.39 -16816487.25 -16816487.10 0.0283 0.0146

Saturn -50754-03-19 01:54 J -16816398.59 -16816398.42 -16816398.25 0.0282 0.0020

Saturn -50754-06-15 22:04 J -16816309.74 -16816309.58 -16816309.41 0.0282 0.0108

Earth -50754-08-07 00:28 J -16816257.59 -16816257.48 -16816257.36 0.2667 0.0373

Moon -50754-08-07 01:11 J -16816257.57 -16816257.45 -16816257.34 0.2672 0.0355 *

Saturn -50754-09-12 18:28 J -16816220.81 -16816220.73 -16816220.63 0.0281 0.0237

Venus -50751-09-28 20:37 J -16815108.72 -16815108.64 -16815108.56 0.3751 0.2323

Jupiter -50749-10-03 10:47 J -16814373.22 -16814373.05 -16814372.88 0.0488 0.0034

Venus -50748-06-29 12:28 J -16814104.11 -16814103.98 -16814103.86 0.3635 0.1976

Moon -50747-07-30 18:13 J -16813707.80 -16813707.74 -16813707.68 0.2664 0.2288

Earth -50747-07-30 18:57 J -16813707.77 -16813707.71 -16813707.65 0.2662 0.2254 *

Mars -50746-01-23 15:21 J -16813530.98 -16813530.86 -16813530.74 0.1688 0.0472

Mars -50746-11-16 17:45 J -16813233.90 -16813233.76 -16813233.62 0.1859 0.0673

Moon -50744-01-30 13:25 J -16812793.08 -16812792.94 -16812792.80 0.2669 0.0483

Earth -50744-01-30 14:37 J -16812793.03 -16812792.89 -16812792.75 0.2667 0.0355 *

Jupiter -50743-09-06 02:09 J -16812209.54 -16812209.41 -16812209.28 0.0539 0.0104

Jupiter -50743-12-04 12:28 J -16812119.99 -16812119.98 -16812119.96 0.0539 0.0534

Earth -50741-08-08 19:40 J -16811506.78 -16811506.68 -16811506.57 0.2669 0.1267

Moon -50741-08-08 20:37 J -16811506.74 -16811506.64 -16811506.55 0.2668 0.1397 *

Saturn -50739-04-15 07:11 J -16810892.25 -16810892.20 -16810892.13 0.0276 0.0248

Saturn -50739-07-12 19:54 J -16810803.78 -16810803.67 -16810803.55 0.0277 0.0151

Saturn -50739-10-09 08:37 J -16810715.28 -16810715.14 -16810715.01 0.0278 0.0054

Saturn -50738-01-05 20:52 J -16810626.77 -16810626.63 -16810626.49 0.0278 0.0044

Saturn -50738-04-04 09:06 J -16810538.24 -16810538.12 -16810538.00 0.0279 0.0140

Saturn -50738-07-01 21:21 J -16810449.68 -16810449.61 -16810449.54 0.0280 0.0235

Mars -50737-06-15 00:42 J -16810100.60 -16810100.47 -16810100.35 0.1682 0.0169

Jupiter -50737-07-22 10:18 J -16810063.23 -16810063.07 -16810062.90 0.0488 0.0122

Neptune -50735-11-11 04:33 J -16809221.33 -16809221.31 -16809221.28 0.0088 0.0087

Neptune -50734-02-07 05:59 J -16809133.29 -16809133.25 -16809133.17 0.0088 0.0081

Neptune -50734-05-06 07:54 J -16809045.24 -16809045.17 -16809045.08 0.0088 0.0074

Neptune -50734-08-02 09:35 J -16808957.18 -16808957.10 -16808956.99 0.0088 0.0068

Moon -50734-08-02 14:09 J -16808957.01 -16808956.91 -16808956.81 0.2670 0.1349 *

Earth -50734-08-02 14:37 J -16808956.99 -16808956.89 -16808956.78 0.2664 0.1307 *

Neptune -50734-10-29 11:30 J -16808869.12 -16808869.02 -16808868.91 0.0088 0.0061

Neptune -50733-01-25 13:11 J -16808781.06 -16808780.95 -16808780.83 0.0088 0.0055

Neptune -50733-04-22 14:52 J -16808692.99 -16808692.88 -16808692.75 0.0088 0.0048

Neptune -50733-07-19 16:33 J -16808604.93 -16808604.81 -16808604.67 0.0088 0.0042

Neptune -50733-10-15 18:13 J -16808516.86 -16808516.74 -16808516.60 0.0088 0.0036

Neptune -50732-01-11 19:54 J -16808428.80 -16808428.67 -16808428.52 0.0088 0.0030

Neptune -50732-04-09 21:49 J -16808340.73 -16808340.59 -16808340.45 0.0088 0.0023

Neptune -50732-07-06 23:30 J -16808252.66 -16808252.52 -16808252.38 0.0089 0.0016

Neptune -50732-10-03 01:11 J -16808164.59 -16808164.45 -16808164.31 0.0089 0.0010

Neptune -50732-12-30 02:52 J -16808076.53 -16808076.38 -16808076.24 0.0089 0.0004

Moon -50731-02-02 16:33 J -16808041.94 -16808041.81 -16808041.68 0.2671 0.1066

Earth -50731-02-02 17:01 J -16808041.92 -16808041.79 -16808041.65 0.2665 0.1039 *

Neptune -50731-03-28 04:33 J -16807988.46 -16807988.31 -16807988.17 0.0089 0.0003

Neptune -50731-06-24 06:13 J -16807900.39 -16807900.24 -16807900.10 0.0089 0.0009

Jupiter -50731-06-25 04:47 J -16807899.42 -16807899.30 -16807899.18 0.0539 0.0269

Neptune -50731-09-20 07:40 J -16807812.32 -16807812.18 -16807812.03 0.0089 0.0015

Jupiter -50731-09-22 15:35 J -16807809.94 -16807809.85 -16807809.76 0.0539 0.0376

Neptune -50731-12-17 09:21 J -16807724.25 -16807724.11 -16807723.97 0.0089 0.0021

Neptune -50730-03-15 11:01 J -16807636.17 -16807636.04 -16807635.90 0.0089 0.0027

Neptune -50730-06-11 12:28 J -16807548.10 -16807547.98 -16807547.84 0.0089 0.0034

Neptune -50730-09-07 14:09 J -16807460.03 -16807459.91 -16807459.78 0.0089 0.0040

Neptune -50730-12-04 15:49 J -16807371.96 -16807371.84 -16807371.72 0.0089 0.0046

Neptune -50729-03-01 17:30 J -16807283.88 -16807283.77 -16807283.66 0.0089 0.0052

Neptune -50729-05-28 19:11 J -16807195.81 -16807195.70 -16807195.60 0.0089 0.0058

Neptune -50729-08-24 20:37 J -16807107.73 -16807107.64 -16807107.54 0.0089 0.0064

Neptune -50729-11-20 22:18 J -16807019.66 -16807019.57 -16807019.49 0.0089 0.0070

Neptune -50728-02-16 23:30 J -16806931.58 -16806931.52 -16806931.44 0.0089 0.0077

Neptune -50728-05-16 00:57 J -16806843.49 -16806843.46 -16806843.39 0.0089 0.0083

Earth -50728-08-11 14:52 J -16806755.95 -16806755.88 -16806755.82 0.2671 0.2147

Moon -50728-08-11 15:21 J -16806755.92 -16806755.86 -16806755.79 0.2666 0.2156 *

Neptune -50728-08-12 02:52 J -16806755.38 -16806755.38 -16806755.36 0.0089 0.0088

Mars -50728-11-05 09:35 J -16806670.21 -16806670.10 -16806669.99 0.1675 0.0802

Uranus -50726-02-26 12:28 J -16806192.05 -16806191.98 -16806191.91 0.0146 0.0134

Uranus -50726-05-25 19:54 J -16806103.79 -16806103.67 -16806103.54 0.0146 0.0102

Uranus -50726-08-22 03:35 J -16806015.51 -16806015.35 -16806015.19 0.0146 0.0071

Uranus -50726-11-18 11:16 J -16805927.20 -16805927.03 -16805926.85 0.0146 0.0039

Uranus -50725-02-14 18:57 J -16805838.89 -16805838.71 -16805838.53 0.0146 0.0006

Saturn -50725-05-08 05:59 J -16805755.38 -16805755.25 -16805755.12 0.0283 0.0181

Jupiter -50725-05-10 10:33 J -16805753.20 -16805753.06 -16805752.92 0.0488 0.0270

Uranus -50725-05-13 02:37 J -16805750.57 -16805750.39 -16805750.21 0.0146 0.0026

Saturn -50725-08-05 01:54 J -16805666.59 -16805666.42 -16805666.25 0.0282 0.0056

Jupiter -50725-08-08 10:18 J -16805663.18 -16805663.07 -16805662.95 0.0488 0.0361

Uranus -50725-08-09 10:33 J -16805662.23 -16805662.06 -16805661.89 0.0146 0.0059

Saturn -50725-11-01 22:04 J -16805577.75 -16805577.58 -16805577.41 0.0282 0.0072

Uranus -50725-11-05 18:13 J -16805573.88 -16805573.74 -16805573.59 0.0146 0.0091

Saturn -50724-01-29 18:28 J -16805488.85 -16805488.73 -16805488.61 0.0281 0.0200

Uranus -50724-02-02 02:09 J -16805485.50 -16805485.41 -16805485.31 0.0146 0.0124

Earth -50721-08-04 10:18 J -16804206.19 -16804206.07 -16804205.96 0.2666 0.0391

Moon -50721-08-04 10:18 J -16804206.18 -16804206.07 -16804205.95 0.2672 0.0398 *

Jupiter -50719-04-13 06:28 J -16803589.30 -16803589.23 -16803589.15 0.0539 0.0450

Jupiter -50719-07-11 17:45 J -16803499.88 -16803499.76 -16803499.64 0.0539 0.0202

Earth -50718-02-05 19:54 J -16803290.72 -16803290.67 -16803290.61 0.2663 0.2476

Moon -50718-02-05 20:23 J -16803290.71 -16803290.65 -16803290.59 0.2669 0.2425 *

Mars -50718-03-28 18:42 J -16803239.78 -16803239.72 -16803239.66 0.1669 0.1438

Mars -50716-03-03 06:13 J -16802534.32 -16802534.24 -16802534.15 0.1694 0.1199

Mars -50716-12-25 17:30 J -16802236.91 -16802236.77 -16802236.63 0.1850 0.0652

Jupiter -50713-02-27 10:33 J -16801443.14 -16801443.06 -16801442.97 0.0488 0.0419

Jupiter -50713-05-27 10:04 J -16801353.24 -16801353.08 -16801352.92 0.0488 0.0204

Moon -50711-01-28 17:01 J -16800741.91 -16800741.79 -16800741.68 0.2668 0.1508

Earth -50711-01-28 18:28 J -16800741.85 -16800741.73 -16800741.62 0.2668 0.1473 *

Venus -50711-09-20 17:59 J -16800506.79 -16800506.75 -16800506.71 0.3739 0.3390

Saturn -50710-09-02 10:18 J -16800160.09 -16800160.07 -16800160.03 0.0276 0.0268

Saturn -50710-11-29 23:01 J -16800071.64 -16800071.54 -16800071.42 0.0277 0.0171

Saturn -50709-02-26 11:45 J -16799983.14 -16799983.01 -16799982.87 0.0277 0.0073

Saturn -50709-05-25 00:13 J -16799894.63 -16799894.49 -16799894.35 0.0278 0.0024

Saturn -50709-08-21 12:28 J -16799806.10 -16799805.98 -16799805.85 0.0279 0.0120

Saturn -50709-11-18 00:42 J -16799717.56 -16799717.47 -16799717.39 0.0279 0.0216

Earth -50708-08-07 05:30 J -16799455.38 -16799455.27 -16799455.15 0.2667 0.0537

Moon -50708-08-07 06:13 J -16799455.35 -16799455.24 -16799455.13 0.2672 0.0650 *

Jupiter -50707-04-29 20:52 J -16799189.76 -16799189.63 -16799189.50 0.0539 0.0044

Mars -50707-07-24 15:35 J -16799103.97 -16799103.85 -16799103.73 0.1688 0.0564

Mars -50706-05-17 17:59 J -16798806.89 -16798806.75 -16798806.61 0.1858 0.0562

Venus -50705-04-05 10:04 J -16798483.18 -16798483.08 -16798482.98 0.3743 0.1194

Jupiter -50701-03-15 09:06 J -16797043.29 -16797043.12 -16797042.95 0.0488 0.0040

Moon -50701-07-30 23:16 J -16796905.59 -16796905.53 -16796905.46 0.2666 0.2203

Earth -50701-07-30 23:59 J -16796905.57 -16796905.50 -16796905.42 0.2663 0.2081 *

Venus -50700-10-20 02:09 J -16796459.51 -16796459.41 -16796459.31 0.3748 0.0972

Moon -50698-01-31 19:25 J -16795990.83 -16795990.69 -16795990.55 0.2670 0.0207

Earth -50698-01-31 20:37 J -16795990.79 -16795990.64 -16795990.50 0.2666 0.0125 *

Mars -50698-12-15 00:42 J -16795673.60 -16795673.47 -16795673.35 0.1681 0.0085

Mars -50697-10-06 18:42 J -16795376.77 -16795376.72 -16795376.67 0.1867 0.1749

Saturn -50696-09-25 05:30 J -16795023.37 -16795023.27 -16795023.16 0.0283 0.0218

Saturn -50696-12-23 01:25 J -16794934.61 -16794934.44 -16794934.28 0.0283 0.0093

Jupiter -50695-02-16 00:13 J -16794879.62 -16794879.49 -16794879.36 0.0539 0.0108

Saturn -50695-03-21 21:21 J -16794845.78 -16794845.61 -16794845.44 0.0282 0.0034

Jupiter -50695-05-16 10:47 J -16794790.07 -16794790.05 -16794790.03 0.0540 0.0532

Saturn -50695-06-18 17:30 J -16794756.91 -16794756.77 -16794756.62 0.0281 0.0162

Earth -50695-08-10 00:42 J -16794704.57 -16794704.47 -16794704.37 0.2669 0.1430

Moon -50695-08-10 01:40 J -16794704.53 -16794704.43 -16794704.34 0.2667 0.1426 *

Venus -50694-05-05 18:13 J -16794435.80 -16794435.74 -16794435.69 0.3752 0.3126

Venus -50691-02-03 13:54 J -16793431.07 -16793430.92 -16793430.77 0.3633 0.0038

Jupiter -50689-01-02 08:37 J -16792733.30 -16792733.14 -16792732.97 0.0488 0.0116

Mars -50688-05-06 09:49 J -16792243.21 -16792243.09 -16792242.98 0.1675 0.0715

Moon -50688-08-02 19:25 J -16792154.80 -16792154.69 -16792154.59 0.2670 0.1161

Earth -50688-08-02 19:40 J -16792154.78 -16792154.68 -16792154.57 0.2664 0.1137 *

Pluto -50687-02-27 03:21 J -16791946.40 -16791946.36 -16791946.28 0.0063 0.0059

Pluto -50687-05-26 04:47 J -16791858.38 -16791858.30 -16791858.21 0.0063 0.0054

Pluto -50687-08-22 05:30 J -16791770.35 -16791770.27 -16791770.15 0.0063 0.0050

Pluto -50687-11-18 06:57 J -16791682.32 -16791682.21 -16791682.08 0.0063 0.0045

Pluto -50686-02-14 07:40 J -16791594.29 -16791594.18 -16791594.03 0.0063 0.0041

Pluto -50686-05-13 09:06 J -16791506.25 -16791506.12 -16791505.97 0.0063 0.0036

Pluto -50686-08-09 10:18 J -16791418.21 -16791418.07 -16791417.91 0.0063 0.0031

Pluto -50686-11-05 11:16 J -16791330.17 -16791330.03 -16791329.86 0.0063 0.0027

Pluto -50685-02-01 12:28 J -16791242.13 -16791241.98 -16791241.81 0.0063 0.0022

Moon -50685-02-03 22:47 J -16791239.68 -16791239.55 -16791239.43 0.2671 0.1208

Earth -50685-02-03 23:16 J -16791239.66 -16791239.53 -16791239.41 0.2664 0.1291 *

Pluto -50685-04-29 13:40 J -16791154.09 -16791153.93 -16791153.76 0.0063 0.0018

Pluto -50685-07-26 14:52 J -16791066.04 -16791065.88 -16791065.70 0.0063 0.0013

Pluto -50685-10-22 16:18 J -16790977.99 -16790977.82 -16790977.65 0.0063 0.0008

Pluto -50684-01-18 17:16 J -16790889.95 -16790889.78 -16790889.60 0.0063 0.0003

Uranus -50684-03-16 14:37 J -16790832.94 -16790832.89 -16790832.84 0.0132 0.0122

Pluto -50684-04-16 18:28 J -16790801.90 -16790801.73 -16790801.55 0.0064 0.0002

Uranus -50684-06-12 17:45 J -16790744.83 -16790744.76 -16790744.66 0.0132 0.0104

Pluto -50684-07-13 19:40 J -16790713.85 -16790713.68 -16790713.51 0.0064 0.0007

Uranus -50684-09-08 21:21 J -16790656.72 -16790656.61 -16790656.51 0.0132 0.0085

Pluto -50684-10-09 20:52 J -16790625.80 -16790625.63 -16790625.46 0.0064 0.0012

Jupiter -50684-12-05 03:06 J -16790569.48 -16790569.37 -16790569.25 0.0539 0.0268

Uranus -50684-12-06 00:42 J -16790568.59 -16790568.47 -16790568.35 0.0132 0.0067

Pluto -50683-01-05 22:04 J -16790537.74 -16790537.58 -16790537.41 0.0064 0.0017

Uranus -50683-03-04 03:49 J -16790480.46 -16790480.34 -16790480.21 0.0132 0.0049

Jupiter -50683-03-04 14:09 J -16790480.01 -16790479.91 -16790479.82 0.0539 0.0379

Pluto -50683-04-03 23:01 J -16790449.69 -16790449.54 -16790449.36 0.0064 0.0022

Uranus -50683-05-31 07:11 J -16790392.33 -16790392.20 -16790392.07 0.0132 0.0031

Pluto -50683-07-01 00:13 J -16790361.63 -16790361.49 -16790361.32 0.0064 0.0027

Uranus -50683-08-27 10:18 J -16790304.20 -16790304.07 -16790303.93 0.0132 0.0014

Pluto -50683-09-27 01:25 J -16790273.57 -16790273.44 -16790273.27 0.0064 0.0032

Uranus -50683-11-23 13:40 J -16790216.07 -16790215.93 -16790215.79 0.0132 0.0005

Pluto -50683-12-24 02:37 J -16790185.51 -16790185.39 -16790185.23 0.0064 0.0037

Uranus -50682-02-19 16:47 J -16790127.93 -16790127.80 -16790127.66 0.0132 0.0023

Pluto -50682-03-22 03:49 J -16790097.45 -16790097.34 -16790097.19 0.0064 0.0043

Uranus -50682-05-18 20:09 J -16790039.79 -16790039.66 -16790039.53 0.0132 0.0041

Pluto -50682-06-18 05:16 J -16790009.38 -16790009.28 -16790009.15 0.0064 0.0047

Earth -50682-08-12 19:40 J -16789953.73 -16789953.68 -16789953.62 0.2671 0.2303

Moon -50682-08-12 20:23 J -16789953.70 -16789953.65 -16789953.61 0.2666 0.2387 *

Uranus -50682-08-14 23:16 J -16789951.65 -16789951.53 -16789951.41 0.0132 0.0058

Pluto -50682-09-14 06:28 J -16789921.31 -16789921.23 -16789921.11 0.0064 0.0053

Uranus -50682-11-11 02:23 J -16789863.51 -16789863.40 -16789863.29 0.0132 0.0076

Pluto -50682-12-11 07:54 J -16789833.24 -16789833.17 -16789833.08 0.0065 0.0058

Uranus -50681-02-07 05:30 J -16789775.36 -16789775.27 -16789775.17 0.0132 0.0094

Pluto -50681-03-08 09:06 J -16789745.14 -16789745.12 -16789745.07 0.0065 0.0063

Uranus -50681-05-05 08:37 J -16789687.20 -16789687.14 -16789687.06 0.0132 0.0111

Uranus -50681-08-01 11:45 J -16789599.03 -16789599.01 -16789598.97 0.0132 0.0129

Saturn -50680-04-18 00:28 J -16789339.57 -16789339.48 -16789339.38 0.0277 0.0203

Saturn -50680-07-15 13:11 J -16789251.08 -16789250.95 -16789250.82 0.0277 0.0106

Saturn -50680-10-12 01:40 J -16789162.57 -16789162.43 -16789162.29 0.0278 0.0009

Saturn -50679-01-08 13:54 J -16789074.05 -16789073.92 -16789073.79 0.0279 0.0088

Saturn -50679-04-07 02:09 J -16788985.51 -16788985.41 -16788985.31 0.0279 0.0184

Saturn -50679-07-04 14:09 J -16788896.91 -16788896.91 -16788896.89 0.0280 0.0279

Mars -50679-09-26 18:57 J -16788812.79 -16788812.71 -16788812.64 0.1669 0.1346

Moon -50678-01-26 21:21 J -16788690.65 -16788690.61 -16788690.56 0.2666 0.2536

Earth -50678-01-26 22:33 J -16788690.60 -16788690.56 -16788690.53 0.2670 0.2553 *

Jupiter -50678-10-21 08:23 J -16788423.29 -16788423.15 -16788423.01 0.0488 0.0271

Jupiter -50677-01-19 08:09 J -16788333.27 -16788333.16 -16788333.04 0.0488 0.0359

Mars -50677-09-01 06:28 J -16788107.31 -16788107.23 -16788107.15 0.1695 0.1288

Mars -50676-06-25 17:59 J -16787809.88 -16787809.75 -16787809.61 0.1850 0.0783

Earth -50675-08-05 15:21 J -16787403.98 -16787403.86 -16787403.75 0.2666 0.0220

Moon -50675-08-05 15:35 J -16787403.97 -16787403.85 -16787403.73 0.2672 0.0172 *

Jupiter -50672-09-23 05:45 J -16786259.34 -16786259.26 -16786259.18 0.0539 0.0434

Jupiter -50672-12-21 16:47 J -16786169.92 -16786169.80 -16786169.67 0.0539 0.0219

Mars -50667-01-22 15:35 J -16784676.96 -16784676.85 -16784676.73 0.1688 0.0652

Mars -50667-11-15 18:28 J -16784379.88 -16784379.73 -16784379.59 0.1858 0.0435

Saturn -50666-02-12 05:30 J -16784291.33 -16784291.27 -16784291.18 0.0283 0.0253

Saturn -50666-05-12 01:25 J -16784202.59 -16784202.44 -16784202.29 0.0283 0.0128

Saturn -50666-08-08 21:21 J -16784113.78 -16784113.61 -16784113.44 0.0282 0.0002

Jupiter -50666-08-09 08:37 J -16784113.23 -16784113.14 -16784113.05 0.0489 0.0418

Saturn -50666-11-05 17:30 J -16784024.92 -16784024.77 -16784024.61 0.0281 0.0126

Jupiter -50666-11-07 07:54 J -16784023.32 -16784023.17 -16784023.01 0.0488 0.0206

Moon -50665-01-29 23:01 J -16783939.66 -16783939.54 -16783939.42 0.2667 0.1408

Earth -50665-01-30 00:13 J -16783939.61 -16783939.49 -16783939.36 0.2668 0.1235 *

Saturn -50665-02-02 13:54 J -16783935.98 -16783935.92 -16783935.84 0.0281 0.0255

Earth -50662-08-08 10:33 J -16782653.17 -16782653.06 -16782652.95 0.2668 0.0701

Moon -50662-08-08 11:16 J -16782653.14 -16782653.03 -16782652.92 0.2671 0.0715 *

Jupiter -50660-10-09 18:57 J -16781859.84 -16781859.71 -16781859.58 0.0539 0.0040

Mars -50658-06-15 00:42 J -16781246.59 -16781246.47 -16781246.34 0.1682 0.0054

Mars -50657-04-06 19:11 J -16780949.77 -16780949.70 -16780949.63 0.1866 0.1622

Moon -50655-08-01 04:33 J -16780103.40 -16780103.31 -16780103.23 0.2667 0.1905

Earth -50655-08-01 05:16 J -16780103.36 -16780103.28 -16780103.20 0.2663 0.1904 *

Venus -50654-04-27 15:35 J -16779833.93 -16779833.85 -16779833.78 0.3740 0.2570

Jupiter -50654-08-26 07:40 J -16779713.35 -16779713.18 -16779713.01 0.0488 0.0050

Neptune -50652-01-30 15:35 J -16779189.88 -16779189.85 -16779189.80 0.0089 0.0086

Moon -50652-02-01 01:40 J -16779188.57 -16779188.43 -16779188.29 0.2671 0.0108

Earth -50652-02-01 02:37 J -16779188.54 -16779188.39 -16779188.25 0.2666 0.0135 *

Neptune -50652-04-28 17:59 J -16779101.80 -16779101.75 -16779101.65 0.0089 0.0079

Neptune -50652-07-25 21:06 J -16779013.71 -16779013.62 -16779013.51 0.0089 0.0071

Neptune -50652-10-21 23:45 J -16778925.62 -16778925.51 -16778925.38 0.0089 0.0064

Neptune -50651-01-18 02:37 J -16778837.52 -16778837.39 -16778837.25 0.0089 0.0056

Neptune -50651-04-16 05:16 J -16778749.42 -16778749.28 -16778749.13 0.0089 0.0049

Neptune -50651-07-13 08:09 J -16778661.31 -16778661.16 -16778661.00 0.0089 0.0041

Saturn -50651-09-05 03:49 J -16778607.42 -16778607.34 -16778607.25 0.0276 0.0221

Neptune -50651-10-09 10:47 J -16778573.20 -16778573.05 -16778572.88 0.0089 0.0034

Saturn -50651-12-02 16:33 J -16778518.93 -16778518.81 -16778518.68 0.0277 0.0124

Neptune -50650-01-05 13:40 J -16778485.09 -16778484.93 -16778484.76 0.0089 0.0026

Saturn -50650-03-01 05:16 J -16778430.42 -16778430.28 -16778430.14 0.0278 0.0027

Neptune -50650-04-03 16:33 J -16778396.98 -16778396.81 -16778396.64 0.0089 0.0018

Saturn -50650-05-28 17:30 J -16778341.90 -16778341.77 -16778341.63 0.0278 0.0071

Neptune -50650-06-30 19:11 J -16778308.87 -16778308.70 -16778308.52 0.0089 0.0011

Saturn -50650-08-25 05:45 J -16778253.37 -16778253.26 -16778253.15 0.0279 0.0167

Neptune -50650-09-26 22:04 J -16778220.75 -16778220.58 -16778220.40 0.0089 0.0004

Saturn -50650-11-21 17:45 J -16778164.80 -16778164.76 -16778164.71 0.0280 0.0262

Neptune -50650-12-24 00:57 J -16778132.63 -16778132.46 -16778132.28 0.0089 0.0005

Neptune -50649-03-21 03:49 J -16778044.51 -16778044.34 -16778044.17 0.0089 0.0012

Neptune -50649-06-17 06:42 J -16777956.39 -16777956.22 -16777956.05 0.0089 0.0020

Earth -50649-08-10 05:45 J -16777902.35 -16777902.26 -16777902.17 0.2669 0.1587

Moon -50649-08-10 06:28 J -16777902.31 -16777902.23 -16777902.14 0.2668 0.1722 *

Neptune -50649-09-13 09:21 J -16777868.27 -16777868.11 -16777867.94 0.0089 0.0028

Mars -50649-11-04 09:49 J -16777816.20 -16777816.09 -16777815.97 0.1675 0.0624

Venus -50649-11-10 07:40 J -16777810.28 -16777810.18 -16777810.08 0.3744 0.0387

Neptune -50649-12-10 12:13 J -16777780.14 -16777779.99 -16777779.82 0.0089 0.0036

Neptune -50648-03-08 15:06 J -16777692.02 -16777691.87 -16777691.71 0.0089 0.0044

Neptune -50648-06-04 17:45 J -16777603.89 -16777603.76 -16777603.60 0.0089 0.0052

Jupiter -50648-07-28 21:49 J -16777549.72 -16777549.59 -16777549.46 0.0539 0.0121

Neptune -50648-08-31 21:06 J -16777515.75 -16777515.62 -16777515.49 0.0089 0.0059

Jupiter -50648-10-26 08:23 J -16777460.18 -16777460.15 -16777460.12 0.0540 0.0519

Neptune -50648-11-27 23:45 J -16777427.62 -16777427.51 -16777427.39 0.0089 0.0067

Neptune -50647-02-24 02:37 J -16777339.47 -16777339.39 -16777339.29 0.0089 0.0075

Neptune -50647-05-23 05:30 J -16777251.32 -16777251.27 -16777251.20 0.0089 0.0083

Venus -50643-05-26 23:45 J -16775786.60 -16775786.51 -16775786.42 0.3749 0.1777

Uranus -50642-03-18 18:28 J -16775490.80 -16775490.73 -16775490.63 0.0146 0.0130

Jupiter -50642-06-14 06:42 J -16775403.39 -16775403.22 -16775403.05 0.0488 0.0113

Uranus -50642-06-15 02:09 J -16775402.53 -16775402.41 -16775402.27 0.0146 0.0099

Moon -50642-08-04 00:28 J -16775352.58 -16775352.48 -16775352.37 0.2671 0.1026

Earth -50642-08-04 00:42 J -16775352.58 -16775352.47 -16775352.35 0.2664 0.0969 *

Uranus -50642-09-11 09:49 J -16775314.25 -16775314.09 -16775313.92 0.0146 0.0067

Uranus -50642-12-08 17:30 J -16775225.94 -16775225.77 -16775225.59 0.0146 0.0035

Uranus -50641-03-06 01:11 J -16775137.63 -16775137.45 -16775137.26 0.0146 0.0004

Uranus -50641-06-02 08:52 J -16775049.30 -16775049.13 -16775048.94 0.0146 0.0031

Uranus -50641-08-29 16:47 J -16774960.96 -16774960.80 -16774960.63 0.0146 0.0063

Uranus -50641-11-26 00:28 J -16774872.61 -16774872.48 -16774872.33 0.0146 0.0096

Uranus -50640-02-22 08:23 J -16774784.23 -16774784.15 -16774784.06 0.0146 0.0128

Moon -50639-02-04 04:47 J -16774437.41 -16774437.30 -16774437.18 0.2670 0.1543

Earth -50639-02-04 05:16 J -16774437.40 -16774437.28 -16774437.17 0.2664 0.1537 *

Mars -50639-03-27 18:57 J -16774385.79 -16774385.71 -16774385.63 0.1669 0.1262

Mars -50637-03-02 06:28 J -16773680.30 -16773680.23 -16773680.16 0.1694 0.1371

Saturn -50637-09-28 01:40 J -16773470.57 -16773470.43 -16773470.29 0.0283 0.0160

Mars -50637-12-24 18:28 J -16773382.86 -16773382.73 -16773382.60 0.1850 0.0899

Saturn -50637-12-25 21:35 J -16773381.78 -16773381.60 -16773381.43 0.0282 0.0035

Saturn -50636-03-24 17:30 J -16773292.93 -16773292.77 -16773292.60 0.0282 0.0092

Jupiter -50636-05-17 01:11 J -16773239.57 -16773239.45 -16773239.34 0.0539 0.0276

Saturn -50636-06-21 13:54 J -16773204.02 -16773203.92 -16773203.81 0.0281 0.0220

Earth -50636-08-13 00:42 J -16773151.51 -16773151.47 -16773151.42 0.2671 0.2462

Moon -50636-08-13 01:11 J -16773151.50 -16773151.45 -16773151.41 0.2665 0.2419 *

Jupiter -50636-08-14 11:59 J -16773150.09 -16773150.00 -16773149.90 0.0540 0.0371

Venus -50635-09-10 15:35 J -16772757.98 -16772757.85 -16772757.72 0.3632 0.1958

Moon -50632-01-27 03:21 J -16771888.41 -16771888.36 -16771888.32 0.2666 0.2482

Earth -50632-01-27 04:18 J -16771888.38 -16771888.32 -16771888.25 0.2670 0.2316 *

Jupiter -50630-04-02 06:28 J -16771093.37 -16771093.23 -16771093.09 0.0488 0.0267

Jupiter -50630-07-01 06:13 J -16771003.35 -16771003.24 -16771003.12 0.0488 0.0362

Earth -50629-08-05 20:23 J -16770601.77 -16770601.65 -16770601.53 0.2666 0.0071

Moon -50629-08-05 20:37 J -16770601.76 -16770601.64 -16770601.52 0.2673 0.0031 *

Mars -50628-07-23 15:35 J -16770249.96 -16770249.85 -16770249.73 0.1688 0.0737

Mars -50627-05-16 18:57 J -16769952.85 -16769952.71 -16769952.56 0.1858 0.0297

Jupiter -50624-03-05 04:04 J -16768929.41 -16768929.33 -16768929.25 0.0539 0.0436

Jupiter -50624-06-02 15:06 J -16768839.99 -16768839.87 -16768839.74 0.0539 0.0217

Saturn -50621-01-23 05:16 J -16767875.33 -16767875.28 -16767875.22 0.0276 0.0254

Saturn -50621-04-20 17:59 J -16767786.86 -16767786.75 -16767786.63 0.0277 0.0156

Saturn -50621-07-18 06:42 J -16767698.36 -16767698.22 -16767698.09 0.0278 0.0059

Saturn -50621-10-14 18:57 J -16767609.84 -16767609.71 -16767609.57 0.0278 0.0040

Saturn -50620-01-11 07:11 J -16767521.31 -16767521.20 -16767521.07 0.0279 0.0136

Saturn -50620-04-09 19:25 J -16767432.76 -16767432.69 -16767432.61 0.0280 0.0230

Moon -50619-01-30 05:01 J -16767137.42 -16767137.29 -16767137.16 0.2668 0.1013

Earth -50619-01-30 06:13 J -16767137.37 -16767137.24 -16767137.11 0.2668 0.0998 *

Mars -50619-12-14 00:57 J -16766819.59 -16766819.46 -16766819.33 0.1682 0.0103

Jupiter -50618-01-19 06:13 J -16766783.32 -16766783.24 -16766783.16 0.0489 0.0421

Jupiter -50618-04-19 05:30 J -16766693.43 -16766693.27 -16766693.11 0.0488 0.0201

Mars -50618-10-06 19:25 J -16766522.77 -16766522.69 -16766522.60 0.1866 0.1504

Earth -50616-08-08 15:35 J -16765850.96 -16765850.85 -16765850.74 0.2668 0.0866

Moon -50616-08-08 16:18 J -16765850.92 -16765850.82 -16765850.71 0.2669 0.0956 *

Jupiter -50612-03-21 17:59 J -16764529.88 -16764529.75 -16764529.61 0.0539 0.0055

Mars -50609-05-05 10:04 J -16763389.20 -16763389.08 -16763388.96 0.1676 0.0534

Moon -50609-08-01 09:35 J -16763301.18 -16763301.10 -16763301.02 0.2667 0.1862

Earth -50609-08-01 10:18 J -16763301.16 -16763301.07 -16763300.98 0.2663 0.1728 *

Saturn -50607-02-15 01:54 J -16762738.54 -16762738.42 -16762738.30 0.0283 0.0194

Saturn -50607-05-14 21:35 J -16762649.76 -16762649.60 -16762649.43 0.0282 0.0069

Saturn -50607-08-11 17:45 J -16762560.93 -16762560.76 -16762560.59 0.0282 0.0057

Saturn -50607-11-08 14:09 J -16762472.04 -16762471.91 -16762471.78 0.0281 0.0185

Moon -50606-02-02 07:40 J -16762386.32 -16762386.18 -16762386.04 0.2671 0.0245

Earth -50606-02-02 08:37 J -16762386.28 -16762386.14 -16762386.00 0.2666 0.0378 *

Jupiter -50606-02-05 05:16 J -16762383.45 -16762383.28 -16762383.10 0.0488 0.0050

Earth -50603-08-11 10:47 J -16761100.14 -16761100.05 -16761099.96 0.2670 0.1750

Moon -50603-08-11 11:30 J -16761100.11 -16761100.02 -16761099.93 0.2668 0.1748 *

Jupiter -50600-01-07 19:54 J -16760219.80 -16760219.67 -16760219.54 0.0539 0.0126

Uranus -50600-04-05 21:21 J -16760131.66 -16760131.61 -16760131.55 0.0132 0.0119

Jupiter -50600-04-07 06:28 J -16760130.26 -16760130.23 -16760130.19 0.0539 0.0514

Uranus -50600-07-03 00:28 J -16760043.56 -16760043.48 -16760043.38 0.0132 0.0102

Mars -50600-09-25 19:11 J -16759958.79 -16759958.70 -16759958.61 0.1670 0.1168

Uranus -50600-09-29 03:49 J -16759955.44 -16759955.34 -16759955.22 0.0132 0.0083

Uranus -50600-12-26 07:25 J -16759867.31 -16759867.19 -16759867.07 0.0132 0.0064

Uranus -50599-03-24 10:33 J -16759779.18 -16759779.06 -16759778.93 0.0132 0.0047

Uranus -50599-06-20 13:54 J -16759691.05 -16759690.92 -16759690.78 0.0132 0.0028

Uranus -50599-09-16 17:16 J -16759602.92 -16759602.78 -16759602.65 0.0132 0.0011

Uranus -50599-12-13 20:23 J -16759514.79 -16759514.65 -16759514.51 0.0132 0.0008

Uranus -50598-03-11 23:30 J -16759426.65 -16759426.52 -16759426.38 0.0132 0.0026

Uranus -50598-06-08 02:52 J -16759338.51 -16759338.38 -16759338.25 0.0132 0.0043

Mars -50598-09-01 06:28 J -16759253.29 -16759253.23 -16759253.16 0.1695 0.1459

Uranus -50598-09-04 05:59 J -16759250.37 -16759250.25 -16759250.13 0.0132 0.0061

Uranus -50598-12-01 09:06 J -16759162.23 -16759162.12 -16759162.01 0.0132 0.0079

Venus -50598-12-02 13:11 J -16759161.05 -16759160.95 -16759160.86 0.3741 0.1763

Pluto -50597-02-22 00:28 J -16759079.50 -16759079.48 -16759079.43 0.0082 0.0079

Uranus -50597-02-27 12:13 J -16759074.08 -16759073.99 -16759073.89 0.0132 0.0096

Pluto -50597-05-20 02:09 J -16758991.47 -16758991.41 -16758991.32 0.0082 0.0070

Uranus -50597-05-25 15:35 J -16758985.92 -16758985.85 -16758985.79 0.0132 0.0114

Mars -50597-06-24 18:57 J -16758955.83 -16758955.71 -16758955.59 0.1850 0.1035

Pluto -50597-08-16 03:49 J -16758903.42 -16758903.34 -16758903.23 0.0082 0.0061

Uranus -50597-08-21 18:28 J -16758897.74 -16758897.73 -16758897.71 0.0132 0.0131

Pluto -50597-11-12 05:30 J -16758815.37 -16758815.27 -16758815.15 0.0081 0.0052

Pluto -50596-02-08 07:11 J -16758727.32 -16758727.20 -16758727.07 0.0081 0.0043

Pluto -50596-05-07 08:37 J -16758639.26 -16758639.14 -16758639.00 0.0081 0.0034

Pluto -50596-08-03 10:18 J -16758551.20 -16758551.07 -16758550.92 0.0081 0.0025

Moon -50596-08-04 05:45 J -16758550.37 -16758550.26 -16758550.14 0.2672 0.0751

Earth -50596-08-04 05:59 J -16758550.37 -16758550.25 -16758550.14 0.2665 0.0793 *

Pluto -50596-10-30 11:59 J -16758463.14 -16758463.00 -16758462.85 0.0081 0.0016

Pluto -50595-01-26 13:25 J -16758375.08 -16758374.94 -16758374.79 0.0081 0.0008

Pluto -50595-04-24 15:06 J -16758287.02 -16758286.87 -16758286.73 0.0081 0.0001

Pluto -50595-07-21 16:33 J -16758198.95 -16758198.81 -16758198.66 0.0080 0.0009

Pluto -50595-10-17 17:59 J -16758110.89 -16758110.75 -16758110.60 0.0080 0.0017

Jupiter -50595-11-24 05:01 J -16758073.45 -16758073.29 -16758073.12 0.0488 0.0107

Pluto -50594-01-13 19:40 J -16758022.82 -16758022.68 -16758022.55 0.0080 0.0026

Pluto -50594-04-11 20:52 J -16757934.75 -16757934.63 -16757934.49 0.0080 0.0034

Pluto -50594-07-08 22:18 J -16757846.69 -16757846.57 -16757846.44 0.0080 0.0042

Pluto -50594-10-04 23:45 J -16757758.61 -16757758.51 -16757758.39 0.0080 0.0050

Pluto -50593-01-01 01:11 J -16757670.54 -16757670.45 -16757670.34 0.0080 0.0058

Moon -50593-02-05 11:16 J -16757635.14 -16757635.03 -16757634.93 0.2670 0.1797

Earth -50593-02-05 11:16 J -16757635.14 -16757635.03 -16757634.92 0.2664 0.1787 *

Pluto -50593-03-29 02:37 J -16757582.46 -16757582.39 -16757582.30 0.0079 0.0066

Pluto -50593-06-25 03:49 J -16757494.38 -16757494.34 -16757494.27 0.0079 0.0074

Saturn -50592-06-11 08:52 J -16757143.15 -16757143.13 -16757143.10 0.0276 0.0271

Venus -50592-06-17 05:01 J -16757137.39 -16757137.29 -16757137.18 0.3745 0.0438

Saturn -50592-09-07 21:35 J -16757054.71 -16757054.60 -16757054.49 0.0277 0.0173

Saturn -50592-12-05 10:18 J -16756966.21 -16756966.07 -16756965.94 0.0278 0.0075

Saturn -50591-03-03 22:47 J -16756877.69 -16756877.55 -16756877.41 0.0278 0.0022

Saturn -50591-05-31 11:01 J -16756789.16 -16756789.04 -16756788.91 0.0279 0.0119

Saturn -50591-08-27 23:16 J -16756700.62 -16756700.53 -16756700.44 0.0280 0.0214

Earth -50590-08-14 05:45 J -16756349.28 -16756349.26 -16756349.24 0.2672 0.2615

Jupiter -50589-10-26 22:33 J -16755909.67 -16755909.56 -16755909.44 0.0539 0.0291

Mars -50588-01-21 15:49 J -16755822.95 -16755822.84 -16755822.73 0.1688 0.0824

Jupiter -50588-01-24 09:35 J -16755820.20 -16755820.10 -16755820.00 0.0539 0.0357

Mars -50588-11-14 19:11 J -16755525.85 -16755525.70 -16755525.55 0.1858 0.0190

Venus -50587-12-31 21:06 J -16755113.69 -16755113.62 -16755113.54 0.3750 0.2581

Moon -50586-01-28 08:52 J -16755086.21 -16755086.13 -16755086.04 0.2666 0.2096

Earth -50586-01-28 10:18 J -16755086.16 -16755086.07 -16755085.99 0.2669 0.2089 *

Venus -50584-10-01 10:04 J -16754109.21 -16754109.08 -16754108.94 0.3636 0.1771

Earth -50583-08-07 01:25 J -16753799.56 -16753799.44 -16753799.33 0.2667 0.0141

Moon -50583-08-07 01:40 J -16753799.54 -16753799.43 -16753799.31 0.2672 0.0167 *

Jupiter -50583-09-12 04:18 J -16753763.46 -16753763.32 -16753763.18 0.0488 0.0268

Jupiter -50583-12-11 03:49 J -16753673.45 -16753673.34 -16753673.22 0.0488 0.0361

Mars -50579-06-14 00:57 J -16752392.58 -16752392.46 -16752392.33 0.1682 0.0187

Mars -50578-04-06 19:54 J -16752095.76 -16752095.67 -16752095.57 0.1866 0.1368

Saturn -50578-07-05 02:52 J -16752006.48 -16752006.38 -16752006.27 0.0283 0.0222

Saturn -50578-10-01 22:33 J -16751917.72 -16751917.56 -16751917.40 0.0283 0.0098

Saturn -50578-12-29 18:28 J -16751828.90 -16751828.73 -16751828.55 0.0282 0.0029

Saturn -50577-03-27 14:37 J -16751740.03 -16751739.89 -16751739.74 0.0281 0.0156

Jupiter -50577-08-15 01:40 J -16751599.50 -16751599.43 -16751599.35 0.0539 0.0448

Jupiter -50577-11-12 12:57 J -16751510.08 -16751509.96 -16751509.83 0.0540 0.0207

Moon -50576-07-30 18:42 J -16751249.73 -16751249.72 -16751249.70 0.2663 0.2628

Earth -50576-07-30 19:40 J -16751249.72 -16751249.68 -16751249.64 0.2662 0.2504 *

Moon -50573-01-31 11:01 J -16750335.17 -16750335.04 -16750334.91 0.2669 0.0938

Earth -50573-01-31 12:13 J -16750335.13 -16750334.99 -16750334.85 0.2667 0.0754 *

Jupiter -50571-07-01 04:04 J -16749453.41 -16749453.33 -16749453.24 0.0488 0.0421

Jupiter -50571-09-29 03:21 J -16749363.52 -16749363.36 -16749363.20 0.0488 0.0201

Neptune -50570-08-08 04:18 J -16749050.36 -16749050.32 -16749050.26 0.0088 0.0083

Earth -50570-08-09 20:37 J -16749048.75 -16749048.64 -16749048.53 0.2668 0.1026

Moon -50570-08-09 21:21 J -16749048.71 -16749048.61 -16749048.50 0.2669 0.1094 *

Neptune -50570-11-04 05:59 J -16748962.31 -16748962.25 -16748962.16 0.0088 0.0076

Mars -50570-11-04 10:04 J -16748962.20 -16748962.08 -16748961.95 0.1676 0.0448 *

Neptune -50569-01-31 07:54 J -16748874.25 -16748874.17 -16748874.08 0.0088 0.0070

Neptune -50569-04-28 09:35 J -16748786.19 -16748786.10 -16748785.99 0.0088 0.0063

Neptune -50569-07-25 11:30 J -16748698.13 -16748698.02 -16748697.91 0.0088 0.0057

Neptune -50569-10-21 12:57 J -16748610.07 -16748609.96 -16748609.83 0.0088 0.0051

Neptune -50568-01-17 14:37 J -16748522.00 -16748521.89 -16748521.75 0.0088 0.0045

Neptune -50568-04-15 16:33 J -16748433.94 -16748433.81 -16748433.68 0.0088 0.0038

Neptune -50568-07-12 18:13 J -16748345.87 -16748345.74 -16748345.60 0.0088 0.0031

Neptune -50568-10-08 19:54 J -16748257.80 -16748257.67 -16748257.53 0.0089 0.0025

Neptune -50567-01-04 21:35 J -16748169.74 -16748169.60 -16748169.45 0.0089 0.0019

Neptune -50567-04-02 23:16 J -16748081.67 -16748081.53 -16748081.38 0.0089 0.0013

Neptune -50567-06-30 00:57 J -16747993.60 -16747993.46 -16747993.31 0.0089 0.0007

Neptune -50567-09-26 02:37 J -16747905.53 -16747905.39 -16747905.24 0.0089 0.0003

Neptune -50567-12-23 04:18 J -16747817.46 -16747817.32 -16747817.17 0.0089 0.0007

Neptune -50566-03-21 05:59 J -16747729.39 -16747729.25 -16747729.11 0.0089 0.0013

Neptune -50566-06-17 07:40 J -16747641.32 -16747641.18 -16747641.04 0.0089 0.0019

Neptune -50566-09-13 09:06 J -16747553.25 -16747553.12 -16747552.97 0.0089 0.0026

Neptune -50566-12-10 10:47 J -16747465.18 -16747465.05 -16747464.91 0.0089 0.0032

Neptune -50565-03-07 12:28 J -16747377.10 -16747376.98 -16747376.85 0.0089 0.0038

Neptune -50565-06-03 14:09 J -16747289.03 -16747288.91 -16747288.78 0.0089 0.0044

Neptune -50565-08-30 15:49 J -16747200.96 -16747200.84 -16747200.72 0.0089 0.0050

Jupiter -50565-08-31 16:18 J -16747199.96 -16747199.82 -16747199.69 0.0539 0.0054

Neptune -50565-11-26 17:30 J -16747112.88 -16747112.77 -16747112.66 0.0089 0.0056

Neptune -50564-02-22 18:42 J -16747024.81 -16747024.72 -16747024.61 0.0089 0.0063

Neptune -50564-05-21 20:23 J -16746936.73 -16746936.65 -16746936.55 0.0089 0.0068

Neptune -50564-08-17 21:49 J -16746848.65 -16746848.59 -16746848.50 0.0089 0.0075

Neptune -50564-11-13 23:30 J -16746760.56 -16746760.52 -16746760.45 0.0089 0.0081

Neptune -50563-02-10 00:57 J -16746672.47 -16746672.46 -16746672.41 0.0089 0.0087

Moon -50563-08-02 14:52 J -16746498.98 -16746498.88 -16746498.79 0.2667 0.1547

Earth -50563-08-02 15:21 J -16746498.95 -16746498.86 -16746498.76 0.2663 0.1555 *

Saturn -50562-01-25 23:01 J -16746322.63 -16746322.54 -16746322.44 0.0277 0.0205

Saturn -50562-04-24 11:45 J -16746234.13 -16746234.01 -16746233.87 0.0277 0.0107

Saturn -50562-07-22 00:28 J -16746145.62 -16746145.48 -16746145.34 0.0278 0.0011

Saturn -50562-10-18 12:42 J -16746057.10 -16746056.97 -16746056.84 0.0279 0.0088

Saturn -50561-01-15 00:57 J -16745968.56 -16745968.46 -16745968.35 0.0279 0.0184

Saturn -50561-04-12 13:11 J -16745879.96 -16745879.95 -16745879.94 0.0280 0.0278

Moon -50560-02-02 13:40 J -16745584.07 -16745583.93 -16745583.79 0.2671 0.0622

Earth -50560-02-02 14:37 J -16745584.03 -16745583.89 -16745583.75 0.2665 0.0619 *

Mars -50560-03-26 19:11 J -16745531.79 -16745531.70 -16745531.60 0.1670 0.1079

Jupiter -50559-07-18 02:52 J -16745053.56 -16745053.38 -16745053.21 0.0488 0.0044

Mars -50558-03-02 06:42 J -16744826.27 -16744826.22 -16744826.17 0.1695 0.1544

Uranus -50558-04-08 01:11 J -16744789.54 -16744789.45 -16744789.36 0.0146 0.0126

Uranus -50558-07-05 08:37 J -16744701.27 -16744701.14 -16744701.00 0.0146 0.0094

Uranus -50558-10-01 16:18 J -16744612.98 -16744612.82 -16744612.65 0.0146 0.0062

Mars -50558-12-24 19:25 J -16744528.81 -16744528.69 -16744528.58 0.1850 0.1160

Uranus -50558-12-28 23:59 J -16744524.68 -16744524.50 -16744524.32 0.0146 0.0030

Uranus -50557-03-26 07:40 J -16744436.36 -16744436.18 -16744436.00 0.0146 0.0002

Uranus -50557-06-22 15:21 J -16744348.03 -16744347.86 -16744347.68 0.0146 0.0035

Earth -50557-08-11 15:49 J -16744297.92 -16744297.84 -16744297.76 0.2670 0.1910

Moon -50557-08-11 16:33 J -16744297.89 -16744297.81 -16744297.74 0.2667 0.2005 *

Uranus -50557-09-18 23:01 J -16744259.69 -16744259.54 -16744259.37 0.0146 0.0067

Uranus -50557-12-16 06:42 J -16744171.34 -16744171.22 -16744171.07 0.0146 0.0100

Uranus -50556-03-14 14:52 J -16744082.95 -16744082.88 -16744082.80 0.0146 0.0133

Jupiter -50553-06-19 18:57 J -16742889.84 -16742889.71 -16742889.58 0.0539 0.0114

Jupiter -50553-09-17 05:30 J -16742800.30 -16742800.27 -16742800.25 0.0539 0.0525

Earth -50550-08-05 11:01 J -16741748.16 -16741748.04 -16741747.93 0.2665 0.0620

Moon -50550-08-05 11:01 J -16741748.15 -16741748.04 -16741747.93 0.2672 0.0690 *

Mars -50549-07-22 16:04 J -16741395.94 -16741395.83 -16741395.73 0.1688 0.0913

Saturn -50549-11-21 03:06 J -16741274.44 -16741274.37 -16741274.30 0.0283 0.0257

Saturn -50548-02-17 22:33 J -16741185.71 -16741185.56 -16741185.41 0.0283 0.0133

Mars -50548-05-15 19:40 J -16741098.83 -16741098.68 -16741098.53 0.1858 0.0058

Saturn -50548-05-17 18:28 J -16741096.90 -16741096.73 -16741096.55 0.0282 0.0008

Saturn -50548-08-14 14:37 J -16741008.04 -16741007.89 -16741007.73 0.0281 0.0120

Saturn -50548-11-11 11:01 J -16740919.11 -16740919.04 -16740918.95 0.0280 0.0248

Earth -50547-02-05 17:16 J -16740832.87 -16740832.78 -16740832.69 0.2663 0.2035

Moon -50547-02-05 17:30 J -16740832.86 -16740832.77 -16740832.68 0.2670 0.2021 *

Jupiter -50547-05-06 02:37 J -16740743.55 -16740743.39 -16740743.22 0.0488 0.0111

Venus -50547-12-23 18:28 J -16740511.78 -16740511.73 -16740511.68 0.3738 0.3140

Jupiter -50541-04-07 20:37 J -16738579.75 -16738579.64 -16738579.52 0.0538 0.0295

Jupiter -50541-07-06 07:40 J -16738490.28 -16738490.18 -16738490.08 0.0539 0.0352

Venus -50541-07-08 10:33 J -16738488.16 -16738488.06 -16738487.96 0.3742 0.0956

Moon -50540-01-28 14:52 J -16738283.97 -16738283.88 -16738283.78 0.2666 0.2000

Earth -50540-01-28 16:04 J -16738283.93 -16738283.83 -16738283.73 0.2669 0.1850 *

Mars -50540-12-13 01:11 J -16737965.58 -16737965.45 -16737965.33 0.1682 0.0279

Mars -50539-10-05 20:09 J -16737668.76 -16737668.66 -16737668.55 0.1866 0.1252

Earth -50537-08-07 06:28 J -16736997.35 -16736997.23 -16736997.12 0.2667 0.0296

Moon -50537-08-07 06:57 J -16736997.32 -16736997.21 -16736997.09 0.2671 0.0383 *

Venus -50535-01-22 02:37 J -16736464.49 -16736464.39 -16736464.29 0.3747 0.1222

Jupiter -50535-02-22 02:23 J -16736433.54 -16736433.40 -16736433.25 0.0489 0.0265

Jupiter -50535-05-23 02:09 J -16736343.52 -16736343.41 -16736343.29 0.0488 0.0366

Saturn -50533-06-14 02:37 J -16735590.47 -16735590.39 -16735590.30 0.0277 0.0222

Saturn -50533-09-10 15:21 J -16735501.98 -16735501.86 -16735501.73 0.0277 0.0124

Saturn -50533-12-08 04:04 J -16735413.47 -16735413.33 -16735413.19 0.0278 0.0026

Saturn -50532-03-06 16:33 J -16735324.95 -16735324.81 -16735324.68 0.0279 0.0071

Saturn -50532-06-03 04:33 J -16735236.41 -16735236.31 -16735236.19 0.0279 0.0168

Saturn -50532-08-30 16:47 J -16735147.84 -16735147.80 -16735147.75 0.0280 0.0263

Mars -50530-05-05 10:18 J -16734535.20 -16734535.07 -16734534.95 0.1676 0.0358

Moon -50530-07-31 23:45 J -16734447.56 -16734447.51 -16734447.45 0.2663 0.2367

Earth -50530-08-01 00:42 J -16734447.52 -16734447.47 -16734447.41 0.2662 0.2331 *

Venus -50530-08-07 18:42 J -16734440.76 -16734440.72 -16734440.68 0.3751 0.3377

Jupiter -50529-01-25 23:16 J -16734269.60 -16734269.53 -16734269.46 0.0538 0.0461

Jupiter -50529-04-24 10:33 J -16734180.18 -16734180.06 -16734179.93 0.0539 0.0192

Moon -50527-01-31 16:47 J -16733532.93 -16733532.80 -16733532.66 0.2670 0.0529

Earth -50527-01-31 18:13 J -16733532.88 -16733532.74 -16733532.60 0.2667 0.0523 *

Venus -50527-05-08 11:45 J -16733436.17 -16733436.01 -16733435.86 0.3635 0.0208

Earth -50524-08-10 01:40 J -16732246.53 -16732246.43 -16732246.33 0.2669 0.1191

Moon -50524-08-10 02:23 J -16732246.50 -16732246.40 -16732246.29 0.2670 0.1259 *

Jupiter -50524-12-11 01:40 J -16732123.50 -16732123.43 -16732123.34 0.0488 0.0424

Jupiter -50523-03-11 00:57 J -16732033.62 -16732033.46 -16732033.30 0.0488 0.0198

Mars -50521-09-24 19:11 J -16731104.80 -16731104.70 -16731104.59 0.1670 0.0995

Saturn -50519-04-10 04:33 J -16730542.32 -16730542.31 -16730542.29 0.0284 0.0282

Saturn -50519-07-08 00:13 J -16730453.63 -16730453.49 -16730453.35 0.0283 0.0158

Mars -50519-08-31 06:42 J -16730399.25 -16730399.22 -16730399.19 0.1695 0.1628

Saturn -50519-10-04 19:54 J -16730364.84 -16730364.67 -16730364.50 0.0282 0.0033

Saturn -50518-01-01 16:04 J -16730275.99 -16730275.83 -16730275.67 0.0282 0.0094

Saturn -50518-03-31 12:13 J -16730187.09 -16730186.99 -16730186.87 0.0281 0.0222

Mars -50518-06-24 19:40 J -16730101.78 -16730101.68 -16730101.57 0.1850 0.1286

Jupiter -50517-02-11 13:54 J -16729870.06 -16729869.92 -16729869.79 0.0539 0.0039

Moon -50517-08-02 20:09 J -16729696.76 -16729696.66 -16729696.57 0.2669 0.1485

Earth -50517-08-02 20:23 J -16729696.75 -16729696.65 -16729696.54 0.2664 0.1384 *

Uranus -50516-04-26 04:04 J -16729430.39 -16729430.33 -16729430.26 0.0132 0.0116

Uranus -50516-07-23 07:40 J -16729342.27 -16729342.18 -16729342.09 0.0132 0.0097

Uranus -50516-10-19 10:47 J -16729254.15 -16729254.05 -16729253.93 0.0132 0.0079

Uranus -50515-01-15 14:09 J -16729166.03 -16729165.91 -16729165.78 0.0132 0.0061

Uranus -50515-04-13 17:30 J -16729077.90 -16729077.77 -16729077.64 0.0132 0.0043

Uranus -50515-07-10 20:37 J -16728989.77 -16728989.64 -16728989.50 0.0132 0.0026

Uranus -50515-10-06 23:59 J -16728901.64 -16728901.50 -16728901.36 0.0132 0.0007

Uranus -50514-01-03 03:21 J -16728813.50 -16728813.36 -16728813.23 0.0132 0.0011

Moon -50514-02-03 19:54 J -16728781.81 -16728781.67 -16728781.54 0.2670 0.0735

Earth -50514-02-03 20:37 J -16728781.78 -16728781.64 -16728781.51 0.2665 0.0866 *

Uranus -50514-04-01 06:28 J -16728725.36 -16728725.23 -16728725.10 0.0132 0.0029

Uranus -50514-06-28 09:35 J -16728637.22 -16728637.10 -16728636.97 0.0132 0.0047

Uranus -50514-09-24 12:42 J -16728549.08 -16728548.97 -16728548.84 0.0132 0.0065

Uranus -50514-12-21 15:49 J -16728460.94 -16728460.84 -16728460.72 0.0132 0.0083

Uranus -50513-03-18 19:11 J -16728372.79 -16728372.70 -16728372.61 0.0132 0.0100

Uranus -50513-06-14 22:04 J -16728284.63 -16728284.58 -16728284.51 0.0132 0.0118

Jupiter -50512-12-28 00:28 J -16727723.65 -16727723.48 -16727723.30 0.0488 0.0043

Mars -50511-02-15 04:18 J -16727674.34 -16727674.32 -16727674.29 0.1664 0.1621

Earth -50511-08-12 20:52 J -16727495.71 -16727495.63 -16727495.56 0.2670 0.2070

Moon -50511-08-12 21:21 J -16727495.68 -16727495.61 -16727495.54 0.2666 0.2087 *

Mars -50509-01-21 16:04 J -16726968.93 -16726968.83 -16726968.73 0.1688 0.0995

Mars -50509-11-13 20:09 J -16726671.80 -16726671.66 -16726671.51 0.1858 0.0100

Jupiter -50506-11-30 17:01 J -16725559.92 -16725559.79 -16725559.66 0.0539 0.0119

Jupiter -50505-02-28 03:35 J -16725470.38 -16725470.35 -16725470.32 0.0539 0.0522

Earth -50504-08-05 16:04 J -16724945.95 -16724945.83 -16724945.71 0.2665 0.0451

Moon -50504-08-05 16:04 J -16724945.94 -16724945.83 -16724945.71 0.2672 0.0385 *

Saturn -50504-11-01 04:04 J -16724858.37 -16724858.33 -16724858.27 0.0276 0.0254

Saturn -50503-01-28 17:01 J -16724769.91 -16724769.79 -16724769.67 0.0277 0.0155

Saturn -50503-04-27 05:45 J -16724681.40 -16724681.26 -16724681.13 0.0278 0.0058

Saturn -50503-07-24 17:59 J -16724592.88 -16724592.75 -16724592.61 0.0278 0.0041

Saturn -50503-10-21 06:28 J -16724504.35 -16724504.23 -16724504.11 0.0279 0.0136

Saturn -50502-01-17 18:28 J -16724415.80 -16724415.73 -16724415.65 0.0280 0.0232

Earth -50501-02-06 23:30 J -16724030.60 -16724030.52 -16724030.45 0.2663 0.2290

Moon -50501-02-06 23:45 J -16724030.57 -16724030.51 -16724030.45 0.2670 0.2383 *

Mars -50500-06-13 01:11 J -16723538.57 -16723538.45 -16723538.32 0.1682 0.0367

Jupiter -50500-10-15 23:59 J -16723413.66 -16723413.50 -16723413.33 0.0488 0.0117

Mars -50499-04-05 20:37 J -16723241.75 -16723241.64 -16723241.52 0.1866 0.1126

Moon -50494-01-29 20:52 J -16721481.74 -16721481.63 -16721481.52 0.2667 0.1666

Earth -50494-01-29 22:04 J -16721481.69 -16721481.58 -16721481.47 0.2669 0.1613 *

Jupiter -50494-09-18 19:40 J -16721249.79 -16721249.68 -16721249.57 0.0539 0.0284

Jupiter -50494-12-17 06:42 J -16721160.32 -16721160.22 -16721160.13 0.0539 0.0363

Earth -50491-08-08 11:30 J -16720195.14 -16720195.02 -16720194.91 0.2667 0.0463

Moon -50491-08-08 12:13 J -16720195.11 -16720194.99 -16720194.88 0.2671 0.0461 *

Mars -50491-11-03 10:18 J -16720108.19 -16720108.07 -16720107.94 0.1676 0.0271

Venus -50490-07-30 16:04 J -16719838.91 -16719838.83 -16719838.75 0.3739 0.2325

Saturn -50490-11-24 23:59 J -16719721.62 -16719721.50 -16719721.38 0.0283 0.0194

Saturn -50489-02-21 19:40 J -16719632.84 -16719632.68 -16719632.51 0.0282 0.0070

Saturn -50489-05-20 15:49 J -16719544.01 -16719543.84 -16719543.67 0.0282 0.0057

Saturn -50489-08-17 11:59 J -16719455.13 -16719455.00 -16719454.86 0.0281 0.0185

Neptune -50488-07-31 12:13 J -16719106.99 -16719106.99 -16719106.96 0.0089 0.0089

Jupiter -50488-08-03 23:59 J -16719103.64 -16719103.50 -16719103.36 0.0489 0.0269

Neptune -50488-10-27 15:06 J -16719018.93 -16719018.87 -16719018.80 0.0089 0.0081

Jupiter -50488-11-01 23:45 J -16719013.63 -16719013.51 -16719013.39 0.0488 0.0361

Neptune -50487-01-23 17:45 J -16718930.84 -16718930.76 -16718930.66 0.0089 0.0074

Neptune -50487-04-21 20:37 J -16718842.75 -16718842.64 -16718842.52 0.0089 0.0066

Neptune -50487-07-18 23:16 J -16718754.65 -16718754.53 -16718754.40 0.0089 0.0059

Neptune -50487-10-15 02:09 J -16718666.55 -16718666.41 -16718666.27 0.0089 0.0051

Neptune -50486-01-11 04:33 J -16718578.45 -16718578.31 -16718578.15 0.0089 0.0044

Neptune -50486-04-09 07:40 J -16718490.34 -16718490.18 -16718490.02 0.0089 0.0036

Neptune -50486-07-06 10:18 J -16718402.23 -16718402.07 -16718401.90 0.0089 0.0029

Neptune -50486-10-02 13:11 J -16718314.12 -16718313.95 -16718313.78 0.0089 0.0021

Neptune -50486-12-29 15:49 J -16718226.01 -16718225.84 -16718225.66 0.0089 0.0014

Neptune -50485-03-26 18:42 J -16718137.89 -16718137.72 -16718137.54 0.0089 0.0006

Neptune -50485-06-22 21:35 J -16718049.77 -16718049.60 -16718049.42 0.0089 0.0002

Neptune -50485-09-19 00:28 J -16717961.66 -16717961.48 -16717961.31 0.0089 0.0010

Neptune -50485-12-16 03:06 J -16717873.54 -16717873.37 -16717873.19 0.0089 0.0018

Venus -50484-02-12 08:09 J -16717815.26 -16717815.16 -16717815.06 0.3743 0.0148

Neptune -50484-03-14 05:45 J -16717785.41 -16717785.26 -16717785.08 0.0089 0.0026

Neptune -50484-06-10 08:52 J -16717697.29 -16717697.13 -16717696.96 0.0089 0.0033

Moon -50484-08-01 05:01 J -16717645.35 -16717645.29 -16717645.23 0.2663 0.2254

Earth -50484-08-01 05:45 J -16717645.32 -16717645.26 -16717645.19 0.2662 0.2155 *

Neptune -50484-09-06 11:45 J -16717609.16 -16717609.01 -16717608.85 0.0089 0.0041

Neptune -50484-12-03 14:23 J -16717521.03 -16717520.90 -16717520.74 0.0089 0.0049

Neptune -50483-03-01 17:16 J -16717432.90 -16717432.78 -16717432.63 0.0089 0.0057

Neptune -50483-05-28 20:09 J -16717344.77 -16717344.66 -16717344.52 0.0089 0.0065

Neptune -50483-08-24 23:01 J -16717256.62 -16717256.54 -16717256.42 0.0089 0.0073

Neptune -50483-11-21 02:23 J -16717168.47 -16717168.40 -16717168.33 0.0089 0.0080

Neptune -50482-02-17 05:16 J -16717080.30 -16717080.28 -16717080.26 0.0089 0.0088

Jupiter -50482-07-07 21:35 J -16716939.67 -16716939.60 -16716939.54 0.0538 0.0463

Jupiter -50482-10-05 08:52 J -16716850.26 -16716850.13 -16716850.01 0.0539 0.0190

Moon -50481-02-01 23:01 J -16716730.68 -16716730.54 -16716730.41 0.2670 0.0458

Earth -50481-02-02 00:13 J -16716730.64 -16716730.49 -16716730.35 0.2667 0.0278 *

Mars -50481-03-25 19:25 J -16716677.79 -16716677.69 -16716677.58 0.1670 0.0901

Venus -50479-08-29 00:13 J -16715791.58 -16715791.49 -16715791.40 0.3748 0.2030

Mars -50479-12-23 20:09 J -16715674.75 -16715674.66 -16715674.56 0.1849 0.1416

Earth -50478-08-11 06:42 J -16715444.32 -16715444.22 -16715444.12 0.2669 0.1352

Moon -50478-08-11 07:25 J -16715444.28 -16715444.19 -16715444.09 0.2669 0.1439 *

Jupiter -50476-05-22 23:59 J -16714793.58 -16714793.50 -16714793.42 0.0489 0.0421

Venus -50476-05-29 06:28 J -16714787.27 -16714787.23 -16714787.20 0.3639 0.3508

Jupiter -50476-08-20 23:16 J -16714703.69 -16714703.53 -16714703.38 0.0488 0.0203

Saturn -50474-03-21 07:25 J -16714126.20 -16714126.19 -16714126.16 0.0277 0.0272

Uranus -50474-04-28 07:54 J -16714088.26 -16714088.17 -16714088.06 0.0146 0.0120

Saturn -50474-06-17 20:23 J -16714037.76 -16714037.65 -16714037.54 0.0277 0.0173

Uranus -50474-07-25 15:21 J -16713999.99 -16713999.86 -16713999.71 0.0146 0.0088

Saturn -50474-09-14 09:06 J -16713949.25 -16713949.12 -16713948.98 0.0278 0.0075

Uranus -50474-10-21 23:01 J -16713911.70 -16713911.54 -16713911.37 0.0146 0.0056

Saturn -50474-12-11 21:35 J -16713860.74 -16713860.60 -16713860.46 0.0279 0.0022

Uranus -50473-01-18 06:42 J -16713823.39 -16713823.22 -16713823.04 0.0146 0.0024

Saturn -50473-03-09 09:49 J -16713772.21 -16713772.09 -16713771.96 0.0279 0.0120

Uranus -50473-04-15 14:23 J -16713735.08 -16713734.90 -16713734.71 0.0146 0.0009

Saturn -50473-06-05 22:04 J -16713683.66 -16713683.58 -16713683.49 0.0280 0.0215

Uranus -50473-07-12 22:04 J -16713646.75 -16713646.58 -16713646.40 0.0146 0.0041

Uranus -50473-10-09 05:45 J -16713558.41 -16713558.26 -16713558.09 0.0146 0.0073

Uranus -50472-01-05 13:25 J -16713470.05 -16713469.94 -16713469.80 0.0146 0.0106

Uranus -50472-04-03 21:35 J -16713381.65 -16713381.60 -16713381.54 0.0146 0.0139

Mars -50472-08-16 04:33 J -16713247.36 -16713247.31 -16713247.27 0.1664 0.1534

Moon -50471-08-04 01:11 J -16712894.55 -16712894.45 -16712894.34 0.2670 0.1198

Earth -50471-08-04 01:40 J -16712894.54 -16712894.43 -16712894.33 0.2664 0.1213 *

Venus -50471-12-13 12:57 J -16712763.08 -16712762.96 -16712762.83 0.3633 0.2123

Mars -50470-07-22 16:04 J -16712541.92 -16712541.83 -16712541.73 0.1689 0.1085

Jupiter -50470-07-24 11:30 J -16712540.15 -16712540.02 -16712539.88 0.0539 0.0027

Mars -50469-05-14 20:23 J -16712244.80 -16712244.65 -16712244.50 0.1858 0.0197

Moon -50468-02-04 02:09 J -16711979.54 -16711979.41 -16711979.28 0.2671 0.1167

Earth -50468-02-04 02:37 J -16711979.52 -16711979.39 -16711979.26 0.2665 0.1110 *

Earth -50465-08-13 01:54 J -16710693.49 -16710693.42 -16710693.36 0.2671 0.2229

Moon -50465-08-13 02:23 J -16710693.46 -16710693.40 -16710693.34 0.2665 0.2267 *

Jupiter -50464-06-08 22:04 J -16710393.75 -16710393.58 -16710393.41 0.0488 0.0038

Mars -50461-12-12 01:11 J -16709111.57 -16709111.45 -16709111.33 0.1682 0.0449

Saturn -50460-04-13 01:54 J -16708989.52 -16708989.42 -16708989.31 0.0283 0.0217

Saturn -50460-07-10 21:35 J -16708900.76 -16708900.60 -16708900.44 0.0283 0.0093

Mars -50460-10-04 21:06 J -16708814.74 -16708814.62 -16708814.50 0.1866 0.0997

Saturn -50460-10-07 17:30 J -16708811.94 -16708811.77 -16708811.60 0.0282 0.0033

Saturn -50459-01-04 13:40 J -16708723.07 -16708722.93 -16708722.78 0.0281 0.0160

Jupiter -50458-05-12 14:37 J -16708230.02 -16708229.89 -16708229.76 0.0539 0.0132

Earth -50458-08-06 21:06 J -16708143.74 -16708143.62 -16708143.50 0.2666 0.0284

Moon -50458-08-06 21:21 J -16708143.73 -16708143.61 -16708143.50 0.2672 0.0340 *

Jupiter -50458-08-10 01:11 J -16708140.48 -16708140.45 -16708140.40 0.0540 0.0511

Earth -50455-02-07 05:30 J -16707228.31 -16707228.27 -16707228.23 0.2663 0.2539

Moon -50455-02-07 05:45 J -16707228.31 -16707228.26 -16707228.21 0.2670 0.2503 *

Jupiter -50452-03-27 21:49 J -16706083.75 -16706083.59 -16706083.42 0.0488 0.0117

Mars -50451-05-04 10:33 J -16705681.19 -16705681.06 -16705680.94 0.1676 0.0187

Moon -50448-01-30 02:37 J -16704679.50 -16704679.39 -16704679.27 0.2669 0.1474

Earth -50448-01-30 04:04 J -16704679.45 -16704679.33 -16704679.21 0.2668 0.1376 *

Jupiter -50446-02-28 17:45 J -16703919.88 -16703919.76 -16703919.65 0.0539 0.0289

Jupiter -50446-05-29 04:47 J -16703830.40 -16703830.30 -16703830.21 0.0539 0.0360

Earth -50445-08-08 16:33 J -16703392.93 -16703392.81 -16703392.70 0.2667 0.0626

Moon -50445-08-08 17:16 J -16703392.89 -16703392.78 -16703392.67 0.2671 0.0755 *

Saturn -50445-11-03 22:04 J -16703305.68 -16703305.58 -16703305.49 0.0277 0.0205

Saturn -50444-01-31 10:47 J -16703217.18 -16703217.05 -16703216.92 0.0277 0.0107

Saturn -50444-04-29 23:16 J -16703128.67 -16703128.53 -16703128.39 0.0278 0.0010

Saturn -50444-07-27 11:30 J -16703040.15 -16703040.02 -16703039.88 0.0279 0.0088

Saturn -50444-10-23 23:45 J -16702951.60 -16702951.51 -16702951.40 0.0279 0.0184

Saturn -50443-01-20 11:59 J -16702863.01 -16702863.00 -16702862.98 0.0280 0.0278

Mars -50442-09-24 19:40 J -16702250.79 -16702250.68 -16702250.57 0.1670 0.0811

Jupiter -50440-01-13 21:35 J -16701773.74 -16701773.60 -16701773.46 0.0488 0.0274

Jupiter -50440-04-13 21:06 J -16701683.74 -16701683.62 -16701683.50 0.0488 0.0355

Pluto -50440-12-27 12:13 J -16701426.02 -16701425.99 -16701425.95 0.0063 0.0061

Pluto -50439-03-25 12:57 J -16701338.01 -16701337.96 -16701337.87 0.0063 0.0057

Pluto -50439-06-21 14:23 J -16701249.99 -16701249.90 -16701249.80 0.0063 0.0052

Mars -50439-06-23 20:37 J -16701247.72 -16701247.64 -16701247.56 0.1849 0.1545

Venus -50439-08-20 21:21 J -16701189.62 -16701189.61 -16701189.60 0.3735 0.3708

Pluto -50439-09-17 15:06 J -16701161.96 -16701161.87 -16701161.74 0.0063 0.0048

Pluto -50439-12-14 16:33 J -16701073.93 -16701073.81 -16701073.68 0.0063 0.0043

Pluto -50438-03-12 17:16 J -16700985.89 -16700985.78 -16700985.62 0.0063 0.0039

Pluto -50438-06-08 18:42 J -16700897.85 -16700897.72 -16700897.57 0.0063 0.0034

Moon -50438-08-02 10:04 J -16700843.15 -16700843.08 -16700843.00 0.2665 0.2045

Earth -50438-08-02 11:01 J -16700843.12 -16700843.04 -16700842.96 0.2662 0.1982 *

Pluto -50438-09-04 19:54 J -16700809.81 -16700809.67 -16700809.51 0.0063 0.0029

Pluto -50438-12-01 20:52 J -16700721.77 -16700721.63 -16700721.46 0.0063 0.0025

Pluto -50437-02-27 22:04 J -16700633.73 -16700633.58 -16700633.41 0.0063 0.0020

Pluto -50437-05-25 23:16 J -16700545.69 -16700545.53 -16700545.35 0.0063 0.0016

Pluto -50437-08-22 00:42 J -16700457.64 -16700457.47 -16700457.30 0.0063 0.0011

Pluto -50437-11-18 01:54 J -16700369.59 -16700369.42 -16700369.25 0.0064 0.0006

Pluto -50436-02-14 03:06 J -16700281.55 -16700281.37 -16700281.20 0.0064 0.0001

Pluto -50436-05-13 04:18 J -16700193.50 -16700193.32 -16700193.15 0.0064 0.0004

Pluto -50436-08-09 05:16 J -16700105.44 -16700105.28 -16700105.10 0.0064 0.0009

Pluto -50436-11-05 06:28 J -16700017.39 -16700017.23 -16700017.05 0.0064 0.0014

Pluto -50435-02-01 07:40 J -16699929.34 -16699929.18 -16699929.01 0.0064 0.0019

Moon -50435-02-02 05:01 J -16699928.44 -16699928.29 -16699928.15 0.2670 0.0088

Earth -50435-02-02 06:13 J -16699928.39 -16699928.24 -16699928.10 0.2666 0.0084 *

Pluto -50435-04-30 08:52 J -16699841.28 -16699841.13 -16699840.96 0.0064 0.0024

Pluto -50435-07-27 10:04 J -16699753.22 -16699753.08 -16699752.92 0.0064 0.0029

Pluto -50435-10-23 11:16 J -16699665.17 -16699665.03 -16699664.87 0.0064 0.0034

Jupiter -50435-12-17 20:23 J -16699609.72 -16699609.65 -16699609.58 0.0539 0.0454

Pluto -50434-01-19 12:28 J -16699577.10 -16699576.98 -16699576.83 0.0064 0.0039

Jupiter -50434-03-17 07:40 J -16699520.30 -16699520.18 -16699520.06 0.0539 0.0200

Pluto -50434-04-17 13:40 J -16699489.04 -16699488.93 -16699488.79 0.0064 0.0044

Pluto -50434-07-14 14:52 J -16699400.97 -16699400.88 -16699400.75 0.0064 0.0050

Pluto -50434-10-10 16:18 J -16699312.90 -16699312.82 -16699312.72 0.0065 0.0055

Pluto -50433-01-06 17:30 J -16699224.82 -16699224.77 -16699224.69 0.0065 0.0060

Venus -50433-03-05 13:40 J -16699166.03 -16699165.93 -16699165.84 0.3740 0.1515

Mars -50432-02-14 04:33 J -16698820.37 -16698820.31 -16698820.25 0.1664 0.1444

Uranus -50432-02-17 07:25 J -16698817.19 -16698817.19 -16698817.16 0.0132 0.0131

Uranus -50432-05-16 11:01 J -16698729.11 -16698729.04 -16698728.97 0.0132 0.0113

Earth -50432-08-11 11:45 J -16698642.11 -16698642.01 -16698641.92 0.2669 0.1515

Moon -50432-08-11 12:28 J -16698642.07 -16698641.98 -16698641.88 0.2668 0.1529 *

Uranus -50432-08-12 14:23 J -16698641.00 -16698640.90 -16698640.80 0.0132 0.0094

Uranus -50432-11-08 17:30 J -16698552.87 -16698552.77 -16698552.65 0.0132 0.0076

Uranus -50431-02-04 20:52 J -16698464.75 -16698464.63 -16698464.50 0.0132 0.0058

Uranus -50431-05-04 00:13 J -16698376.62 -16698376.49 -16698376.36 0.0132 0.0040

Uranus -50431-07-31 03:35 J -16698288.49 -16698288.35 -16698288.22 0.0132 0.0022

Saturn -50431-08-31 01:11 J -16698257.51 -16698257.45 -16698257.38 0.0283 0.0257

Uranus -50431-10-27 06:42 J -16698200.35 -16698200.22 -16698200.08 0.0132 0.0005

Saturn -50431-11-27 20:52 J -16698168.78 -16698168.63 -16698168.48 0.0283 0.0133

Mars -50430-01-20 16:18 J -16698114.91 -16698114.82 -16698114.73 0.1689 0.1169

Uranus -50430-01-23 10:04 J -16698112.22 -16698112.08 -16698111.94 0.0132 0.0014

Saturn -50430-02-24 16:47 J -16698079.98 -16698079.80 -16698079.63 0.0282 0.0008

Uranus -50430-04-21 13:11 J -16698024.08 -16698023.95 -16698023.81 0.0132 0.0032

Saturn -50430-05-24 12:42 J -16697991.12 -16697990.97 -16697990.81 0.0281 0.0121

Uranus -50430-07-18 16:18 J -16697935.94 -16697935.82 -16697935.69 0.0132 0.0050

Saturn -50430-08-21 09:21 J -16697902.19 -16697902.11 -16697902.03 0.0281 0.0248

Uranus -50430-10-14 19:40 J -16697847.80 -16697847.68 -16697847.56 0.0132 0.0068

Mars -50430-11-13 20:52 J -16697817.78 -16697817.63 -16697817.48 0.1858 0.0325

Uranus -50429-01-10 22:33 J -16697759.65 -16697759.56 -16697759.45 0.0132 0.0086

Uranus -50429-04-08 01:54 J -16697671.50 -16697671.42 -16697671.33 0.0132 0.0103

Uranus -50429-07-05 04:47 J -16697583.34 -16697583.30 -16697583.23 0.0132 0.0121

Jupiter -50429-11-01 21:35 J -16697463.68 -16697463.60 -16697463.52 0.0489 0.0424

Jupiter -50428-01-30 20:37 J -16697373.79 -16697373.64 -16697373.48 0.0488 0.0199

Venus -50428-09-19 05:45 J -16697142.36 -16697142.26 -16697142.16 0.3744 0.0676

Moon -50425-08-04 06:13 J -16696092.34 -16696092.24 -16696092.13 0.2671 0.1111

Earth -50425-08-04 06:42 J -16696092.33 -16696092.22 -16696092.11 0.2664 0.1038 *

Jupiter -50422-01-03 09:49 J -16695210.22 -16695210.09 -16695209.95 0.0539 0.0028

Moon -50422-02-05 08:23 J -16695177.27 -16695177.15 -16695177.02 0.2671 0.1262

Earth -50422-02-05 08:37 J -16695177.26 -16695177.14 -16695177.02 0.2664 0.1361 *

Venus -50422-04-04 21:49 J -16695118.66 -16695118.59 -16695118.53 0.3749 0.2839

Mars -50421-06-12 01:25 J -16694684.56 -16694684.44 -16694684.32 0.1682 0.0537

Mars -50420-04-04 21:21 J -16694387.73 -16694387.61 -16694387.48 0.1865 0.0876

Venus -50419-01-03 07:40 J -16694114.31 -16694114.18 -16694114.04 0.3638 0.1609

Earth -50419-08-14 06:42 J -16693891.27 -16693891.22 -16693891.17 0.2671 0.2386

Moon -50419-08-14 07:25 J -16693891.24 -16693891.19 -16693891.15 0.2665 0.2427 *

Jupiter -50417-11-18 20:23 J -16693063.83 -16693063.65 -16693063.48 0.0488 0.0043

Moon -50415-01-28 07:11 J -16692628.25 -16692628.20 -16692628.15 0.2665 0.2453

Earth -50415-01-28 08:09 J -16692628.21 -16692628.16 -16692628.11 0.2670 0.2449 *

Saturn -50415-03-24 01:11 J -16692573.53 -16692573.45 -16692573.37 0.0277 0.0225

Saturn -50415-06-20 13:54 J -16692485.05 -16692484.92 -16692484.80 0.0278 0.0127

Saturn -50415-09-17 02:23 J -16692396.54 -16692396.40 -16692396.26 0.0278 0.0030

Saturn -50415-12-14 14:52 J -16692308.01 -16692307.88 -16692307.74 0.0279 0.0068

Saturn -50414-03-13 03:06 J -16692219.48 -16692219.37 -16692219.25 0.0280 0.0164

Saturn -50414-06-09 15:21 J -16692130.90 -16692130.86 -16692130.81 0.0280 0.0260

Earth -50412-08-07 02:09 J -16691341.53 -16691341.41 -16691341.29 0.2666 0.0119

Moon -50412-08-07 02:37 J -16691341.51 -16691341.39 -16691341.28 0.2672 0.0105 *

Mars -50412-11-02 10:33 J -16691254.18 -16691254.06 -16691253.93 0.1676 0.0099

Jupiter -50411-10-22 12:28 J -16690900.11 -16690899.98 -16690899.85 0.0539 0.0140

Jupiter -50410-01-19 23:01 J -16690810.58 -16690810.54 -16690810.49 0.0539 0.0502

Neptune -50405-02-06 02:37 J -16688967.42 -16688967.39 -16688967.35 0.0088 0.0085

Neptune -50405-05-04 04:04 J -16688879.38 -16688879.33 -16688879.25 0.0088 0.0079

Neptune -50405-07-31 06:13 J -16688791.32 -16688791.24 -16688791.16 0.0088 0.0072

Jupiter -50405-09-06 19:25 J -16688753.85 -16688753.69 -16688753.52 0.0488 0.0120

Neptune -50405-10-27 07:40 J -16688703.26 -16688703.18 -16688703.07 0.0088 0.0066

Neptune -50404-01-23 09:35 J -16688615.20 -16688615.10 -16688614.99 0.0089 0.0059

Neptune -50404-04-21 11:16 J -16688527.14 -16688527.03 -16688526.91 0.0089 0.0053

Neptune -50404-07-18 12:57 J -16688439.07 -16688438.96 -16688438.83 0.0089 0.0046

Neptune -50404-10-14 14:52 J -16688351.01 -16688350.88 -16688350.75 0.0089 0.0040

Neptune -50403-01-10 16:18 J -16688262.94 -16688262.82 -16688262.68 0.0089 0.0034

Neptune -50403-04-08 17:59 J -16688174.88 -16688174.75 -16688174.60 0.0089 0.0028

Neptune -50403-07-05 19:54 J -16688086.81 -16688086.67 -16688086.53 0.0089 0.0021

Neptune -50403-10-01 21:35 J -16687998.74 -16687998.60 -16687998.46 0.0089 0.0015

Neptune -50403-12-28 23:16 J -16687910.67 -16687910.53 -16687910.38 0.0089 0.0008

Moon -50402-01-31 08:37 J -16687877.27 -16687877.14 -16687877.02 0.2669 0.1266

Earth -50402-01-31 09:49 J -16687877.21 -16687877.09 -16687876.96 0.2668 0.1142 *

Mars -50402-03-25 19:40 J -16687823.79 -16687823.68 -16687823.57 0.1670 0.0728

Neptune -50402-03-27 00:57 J -16687822.60 -16687822.46 -16687822.31 0.0089 0.0002

Neptune -50402-06-23 02:37 J -16687734.53 -16687734.39 -16687734.25 0.0089 0.0004

Neptune -50402-09-19 04:18 J -16687646.46 -16687646.32 -16687646.18 0.0089 0.0011

Neptune -50402-12-16 05:59 J -16687558.39 -16687558.25 -16687558.11 0.0089 0.0017

Saturn -50401-01-18 03:21 J -16687525.38 -16687525.36 -16687525.33 0.0284 0.0279

Neptune -50401-03-13 07:25 J -16687470.32 -16687470.19 -16687470.04 0.0089 0.0023

Saturn -50401-04-15 22:47 J -16687436.69 -16687436.55 -16687436.40 0.0283 0.0155

Neptune -50401-06-09 09:06 J -16687382.25 -16687382.12 -16687381.98 0.0089 0.0029

Saturn -50401-07-13 18:42 J -16687347.89 -16687347.72 -16687347.55 0.0282 0.0030

Neptune -50401-09-05 10:47 J -16687294.18 -16687294.05 -16687293.92 0.0089 0.0036

Saturn -50401-10-10 14:37 J -16687259.05 -16687258.89 -16687258.72 0.0282 0.0097

Neptune -50401-12-02 12:28 J -16687206.10 -16687205.98 -16687205.85 0.0089 0.0042

Saturn -50400-01-07 11:01 J -16687170.14 -16687170.04 -16687169.93 0.0281 0.0224

Neptune -50400-02-28 13:54 J -16687118.03 -16687117.92 -16687117.79 0.0089 0.0048

Neptune -50400-05-27 15:35 J -16687029.96 -16687029.85 -16687029.73 0.0089 0.0054

Neptune -50400-08-23 17:16 J -16686941.88 -16686941.78 -16686941.67 0.0089 0.0060

Neptune -50400-11-19 18:42 J -16686853.80 -16686853.72 -16686853.62 0.0089 0.0066

Mars -50400-12-22 21:06 J -16686820.69 -16686820.62 -16686820.56 0.1849 0.1666

Neptune -50399-02-15 20:09 J -16686765.72 -16686765.66 -16686765.56 0.0089 0.0073

Neptune -50399-05-14 21:49 J -16686677.64 -16686677.59 -16686677.51 0.0089 0.0079

Earth -50399-08-09 21:35 J -16686590.71 -16686590.60 -16686590.49 0.2668 0.0791

Moon -50399-08-09 22:18 J -16686590.68 -16686590.57 -16686590.46 0.2671 0.0780 *

Jupiter -50399-08-10 15:21 J -16686589.97 -16686589.86 -16686589.75 0.0539 0.0301

Neptune -50399-08-10 23:16 J -16686589.55 -16686589.53 -16686589.47 0.0089 0.0085

Jupiter -50399-11-08 02:23 J -16686500.50 -16686500.40 -16686500.30 0.0540 0.0349

Jupiter -50393-06-25 19:25 J -16684443.83 -16684443.69 -16684443.55 0.0488 0.0272

Mars -50393-08-15 04:47 J -16684393.37 -16684393.30 -16684393.23 0.1664 0.1353

Jupiter -50393-09-23 18:57 J -16684353.83 -16684353.71 -16684353.59 0.0488 0.0356

Moon -50392-08-02 15:21 J -16684040.94 -16684040.86 -16684040.77 0.2667 0.1840

Earth -50392-08-02 16:04 J -16684040.92 -16684040.83 -16684040.74 0.2663 0.1805 *

Mars -50391-07-21 16:18 J -16683687.90 -16683687.82 -16683687.74 0.1689 0.1252

Uranus -50390-02-19 07:54 J -16683475.20 -16683475.17 -16683475.13 0.0146 0.0143

Mars -50390-05-14 21:35 J -16683390.75 -16683390.60 -16683390.46 0.1857 0.0468

Uranus -50390-05-18 15:21 J -16683386.97 -16683386.86 -16683386.74 0.0146 0.0112

Uranus -50390-08-14 22:47 J -16683298.69 -16683298.55 -16683298.39 0.0146 0.0080

Uranus -50390-11-11 06:28 J -16683210.40 -16683210.23 -16683210.06 0.0146 0.0048

Moon -50389-02-03 11:16 J -16683126.18 -16683126.03 -16683125.89 0.2670 0.0125

Earth -50389-02-03 12:13 J -16683126.14 -16683125.99 -16683125.85 0.2666 0.0223 *

Uranus -50389-02-07 14:09 J -16683122.09 -16683121.91 -16683121.73 0.0146 0.0016

Uranus -50389-05-05 21:49 J -16683033.77 -16683033.59 -16683033.41 0.0146 0.0016

Uranus -50389-08-02 05:30 J -16682945.44 -16682945.27 -16682945.10 0.0146 0.0048

Uranus -50389-10-29 12:57 J -16682857.10 -16682856.96 -16682856.79 0.0146 0.0082

Uranus -50388-01-25 21:06 J -16682768.73 -16682768.62 -16682768.51 0.0146 0.0114

Jupiter -50387-05-29 18:28 J -16682279.80 -16682279.73 -16682279.66 0.0539 0.0459

Jupiter -50387-08-27 05:45 J -16682190.38 -16682190.26 -16682190.13 0.0539 0.0197

Saturn -50386-08-11 02:37 J -16681841.44 -16681841.39 -16681841.34 0.0276 0.0257

Earth -50386-08-12 16:47 J -16681839.89 -16681839.80 -16681839.71 0.2670 0.1674

Moon -50386-08-12 17:30 J -16681839.86 -16681839.77 -16681839.69 0.2667 0.1793 *

Saturn -50386-11-07 15:21 J -16681752.97 -16681752.86 -16681752.74 0.0277 0.0159

Saturn -50385-02-04 04:04 J -16681664.47 -16681664.33 -16681664.19 0.0277 0.0062

Saturn -50385-05-02 16:33 J -16681575.95 -16681575.81 -16681575.67 0.0278 0.0035

Saturn -50385-07-30 04:47 J -16681487.42 -16681487.30 -16681487.17 0.0279 0.0132

Saturn -50385-10-26 17:01 J -16681398.87 -16681398.79 -16681398.71 0.0280 0.0227

Venus -50382-03-27 18:57 J -16680516.77 -16680516.71 -16680516.64 0.3736 0.2884

Mars -50382-12-12 01:40 J -16680257.55 -16680257.43 -16680257.32 0.1682 0.0628

Jupiter -50381-04-13 19:11 J -16680133.78 -16680133.70 -16680133.62 0.0489 0.0426

Jupiter -50381-07-12 18:13 J -16680043.89 -16680043.74 -16680043.58 0.0488 0.0196

Mars -50381-10-03 21:49 J -16679960.73 -16679960.59 -16679960.46 0.1865 0.0756

Moon -50379-08-05 11:30 J -16679290.13 -16679290.02 -16679289.91 0.2671 0.0875

Earth -50379-08-05 11:45 J -16679290.12 -16679290.01 -16679289.90 0.2664 0.0868 *

Venus -50377-10-10 11:01 J -16678493.14 -16678493.04 -16678492.93 0.3741 0.0715

Moon -50376-02-05 14:23 J -16678375.01 -16678374.90 -16678374.79 0.2671 0.1684

Earth -50376-02-05 14:37 J -16678375.00 -16678374.89 -16678374.77 0.2664 0.1608 *

Jupiter -50375-06-15 08:52 J -16677880.27 -16677880.13 -16677880.00 0.0539 0.0039

Earth -50373-08-14 11:45 J -16677089.04 -16677089.01 -16677088.98 0.2671 0.2543

Moon -50373-08-14 12:13 J -16677089.02 -16677088.99 -16677088.96 0.2666 0.2543 *

Mars -50372-05-03 10:47 J -16676827.18 -16676827.05 -16676826.93 0.1676 0.0053

Saturn -50372-09-02 21:35 J -16676704.72 -16676704.60 -16676704.47 0.0283 0.0198

Saturn -50372-11-30 17:16 J -16676615.94 -16676615.78 -16676615.61 0.0282 0.0073

Saturn -50371-02-27 13:25 J -16676527.11 -16676526.94 -16676526.77 0.0282 0.0054

Venus -50371-04-26 03:21 J -16676469.46 -16676469.36 -16676469.27 0.3745 0.1490

Saturn -50371-05-27 09:35 J -16676438.23 -16676438.10 -16676437.96 0.0281 0.0181

Moon -50369-01-29 12:57 J -16675826.02 -16675825.96 -16675825.90 0.2667 0.2368

Earth -50369-01-29 14:09 J -16675825.99 -16675825.91 -16675825.84 0.2670 0.2216 *

Jupiter -50369-04-30 17:59 J -16675733.92 -16675733.75 -16675733.57 0.0488 0.0042

Earth -50366-08-08 07:11 J -16674539.32 -16674539.20 -16674539.08 0.2666 0.0061

Moon -50366-08-08 07:40 J -16674539.30 -16674539.18 -16674539.06 0.2672 0.0059 *

Venus -50366-11-09 19:11 J -16674445.72 -16674445.70 -16674445.67 0.3750 0.3640

Jupiter -50363-04-03 11:01 J -16673570.17 -16673570.04 -16673569.91 0.0539 0.0136

Jupiter -50363-07-01 21:35 J -16673480.64 -16673480.60 -16673480.55 0.0539 0.0505

Venus -50363-08-10 09:06 J -16673441.27 -16673441.12 -16673440.97 0.3636 0.0349

Mars -50363-09-23 19:54 J -16673396.79 -16673396.67 -16673396.55 0.1670 0.0636

Mars -50360-06-22 21:35 J -16672393.63 -16672393.60 -16672393.57 0.1849 0.1799

Moon -50359-08-01 00:28 J -16671989.50 -16671989.48 -16671989.46 0.2660 0.2591

Earth -50359-08-01 01:25 J -16671989.47 -16671989.44 -16671989.42 0.2661 0.2587 *

Jupiter -50357-02-17 17:45 J -16671423.92 -16671423.76 -16671423.59 0.0489 0.0115

Moon -50356-01-31 14:23 J -16671075.03 -16671074.90 -16671074.77 0.2668 0.0973

Earth -50356-01-31 15:49 J -16671074.97 -16671074.84 -16671074.71 0.2668 0.0906 *

Saturn -50356-03-26 18:13 J -16671020.85 -16671020.74 -16671020.63 0.0277 0.0182

Saturn -50356-06-23 06:57 J -16670932.35 -16670932.21 -16670932.08 0.0278 0.0084

Saturn -50356-09-19 19:25 J -16670843.83 -16670843.69 -16670843.55 0.0278 0.0014

Saturn -50356-12-17 07:54 J -16670755.30 -16670755.17 -16670755.05 0.0279 0.0110

Saturn -50355-03-15 20:09 J -16670666.75 -16670666.66 -16670666.57 0.0280 0.0206

Mars -50353-02-14 04:47 J -16669966.38 -16669966.30 -16669966.22 0.1664 0.1267

Earth -50353-08-10 02:37 J -16669788.50 -16669788.39 -16669788.28 0.2668 0.0953

Moon -50353-08-10 03:21 J -16669788.47 -16669788.36 -16669788.26 0.2670 0.1078 *

Mars -50351-01-19 16:18 J -16669260.89 -16669260.82 -16669260.74 0.1689 0.1341

Jupiter -50351-01-20 13:40 J -16669260.04 -16669259.93 -16669259.82 0.0538 0.0303

Jupiter -50351-04-20 00:42 J -16669170.57 -16669170.47 -16669170.37 0.0539 0.0345

Mars -50351-11-12 21:35 J -16668963.74 -16668963.60 -16668963.46 0.1857 0.0571

Pluto -50350-12-22 10:04 J -16668559.08 -16668559.08 -16668559.05 0.0082 0.0081

Pluto -50349-03-19 11:45 J -16668471.07 -16668471.01 -16668470.93 0.0082 0.0072

Pluto -50349-06-15 13:40 J -16668383.02 -16668382.93 -16668382.84 0.0082 0.0063

Pluto -50349-09-11 14:52 J -16668294.97 -16668294.88 -16668294.75 0.0081 0.0055

Pluto -50349-12-08 16:33 J -16668206.92 -16668206.81 -16668206.68 0.0081 0.0046

Pluto -50348-03-06 18:13 J -16668118.86 -16668118.74 -16668118.60 0.0081 0.0037

Uranus -50348-03-09 14:23 J -16668115.93 -16668115.90 -16668115.85 0.0132 0.0127

Pluto -50348-06-02 19:40 J -16668030.80 -16668030.68 -16668030.53 0.0081 0.0028

Uranus -50348-06-05 17:45 J -16668027.83 -16668027.76 -16668027.67 0.0132 0.0109

Pluto -50348-08-29 21:35 J -16667942.74 -16667942.60 -16667942.46 0.0081 0.0019

Uranus -50348-09-01 21:21 J -16667939.71 -16667939.61 -16667939.51 0.0132 0.0090

Pluto -50348-11-25 23:01 J -16667854.68 -16667854.54 -16667854.39 0.0081 0.0010

Uranus -50348-11-29 00:28 J -16667851.59 -16667851.48 -16667851.36 0.0132 0.0072

Pluto -50347-02-22 00:42 J -16667766.62 -16667766.47 -16667766.33 0.0081 0.0003

Uranus -50347-02-25 03:49 J -16667763.46 -16667763.34 -16667763.21 0.0132 0.0054

Pluto -50347-05-21 02:09 J -16667678.56 -16667678.41 -16667678.27 0.0080 0.0007

Uranus -50347-05-24 07:11 J -16667675.33 -16667675.20 -16667675.07 0.0132 0.0036

Pluto -50347-08-17 03:35 J -16667590.49 -16667590.35 -16667590.21 0.0080 0.0015

Uranus -50347-08-20 10:33 J -16667587.20 -16667587.06 -16667586.93 0.0132 0.0018

Pluto -50347-11-13 05:01 J -16667502.43 -16667502.29 -16667502.15 0.0080 0.0023

Uranus -50347-11-16 13:40 J -16667499.07 -16667498.93 -16667498.79 0.0132 0.0001

Pluto -50346-02-09 06:28 J -16667414.36 -16667414.23 -16667414.09 0.0080 0.0031

Uranus -50346-02-12 16:47 J -16667410.93 -16667410.80 -16667410.66 0.0132 0.0019

Pluto -50346-05-08 07:40 J -16667326.29 -16667326.18 -16667326.04 0.0080 0.0040

Uranus -50346-05-11 20:09 J -16667322.79 -16667322.66 -16667322.53 0.0132 0.0036

Moon -50346-08-03 20:37 J -16667238.73 -16667238.64 -16667238.55 0.2668 0.1734

Earth -50346-08-03 21:06 J -16667238.71 -16667238.62 -16667238.52 0.2663 0.1632 *

Pluto -50346-08-04 09:06 J -16667238.22 -16667238.12 -16667237.99 0.0080 0.0048

Uranus -50346-08-07 23:16 J -16667234.65 -16667234.53 -16667234.40 0.0132 0.0054

Pluto -50346-10-31 10:33 J -16667150.15 -16667150.06 -16667149.94 0.0080 0.0056

Uranus -50346-11-04 02:23 J -16667146.51 -16667146.40 -16667146.28 0.0132 0.0072

Jupiter -50346-12-06 17:16 J -16667113.92 -16667113.78 -16667113.64 0.0488 0.0272

Pluto -50345-01-27 11:59 J -16667062.07 -16667062.00 -16667061.90 0.0080 0.0064

Uranus -50345-01-31 05:45 J -16667058.36 -16667058.26 -16667058.16 0.0132 0.0089

Jupiter -50345-03-05 16:47 J -16667023.92 -16667023.80 -16667023.68 0.0488 0.0355

Pluto -50345-04-24 13:11 J -16666973.99 -16666973.95 -16666973.87 0.0079 0.0072

Uranus -50345-04-28 08:52 J -16666970.21 -16666970.13 -16666970.05 0.0132 0.0106

Pluto -50345-07-21 15:06 J -16666885.88 -16666885.87 -16666885.86 0.0079 0.0079

Uranus -50345-07-25 11:59 J -16666882.04 -16666882.00 -16666881.95 0.0133 0.0124

Moon -50343-02-03 17:16 J -16666323.92 -16666323.78 -16666323.64 0.2671 0.0404

Earth -50343-02-03 17:59 J -16666323.89 -16666323.75 -16666323.61 0.2666 0.0457 *

Saturn -50342-01-20 23:30 J -16665972.62 -16665972.52 -16665972.41 0.0283 0.0222

Saturn -50342-04-19 19:11 J -16665883.86 -16665883.70 -16665883.54 0.0283 0.0097

Mars -50342-06-12 01:40 J -16665830.55 -16665830.43 -16665830.32 0.1682 0.0709

Saturn -50342-07-17 15:06 J -16665795.04 -16665794.87 -16665794.70 0.0282 0.0029

Saturn -50342-10-14 11:16 J -16665706.17 -16665706.03 -16665705.88 0.0281 0.0156

Mars -50341-04-03 22:18 J -16665533.71 -16665533.57 -16665533.43 0.1865 0.0617

Earth -50340-08-12 21:49 J -16665037.68 -16665037.59 -16665037.51 0.2670 0.1836

Moon -50340-08-12 22:33 J -16665037.65 -16665037.56 -16665037.48 0.2666 0.1822 *

Jupiter -50340-11-08 16:04 J -16664949.89 -16664949.83 -16664949.76 0.0539 0.0469

Jupiter -50339-02-06 03:35 J -16664860.47 -16664860.35 -16664860.22 0.0540 0.0189

Jupiter -50334-09-24 17:30 J -16662803.85 -16662803.77 -16662803.69 0.0488 0.0421

Jupiter -50334-12-23 16:18 J -16662713.97 -16662713.82 -16662713.66 0.0488 0.0200

Moon -50333-08-05 16:47 J -16662487.92 -16662487.80 -16662487.69 0.2671 0.0709

Earth -50333-08-05 16:47 J -16662487.91 -16662487.80 -16662487.68 0.2665 0.0698 *

Mars -50333-11-01 10:47 J -16662400.18 -16662400.05 -16662399.92 0.1676 0.0081

Mars -50332-08-24 23:01 J -16662103.57 -16662103.54 -16662103.51 0.1873 0.1820

Moon -50330-02-06 20:37 J -16661572.74 -16661572.64 -16661572.53 0.2671 0.1795

Earth -50330-02-06 20:52 J -16661572.74 -16661572.63 -16661572.53 0.2664 0.1863 *

Jupiter -50328-11-25 06:57 J -16660550.34 -16660550.21 -16660550.07 0.0539 0.0036

Saturn -50327-08-13 19:40 J -16660288.77 -16660288.68 -16660288.59 0.0276 0.0214

Saturn -50327-11-10 08:23 J -16660200.28 -16660200.15 -16660200.02 0.0277 0.0116

Saturn -50326-02-06 20:52 J -16660111.77 -16660111.63 -16660111.49 0.0277 0.0021

Saturn -50326-05-06 09:21 J -16660023.24 -16660023.11 -16660022.97 0.0278 0.0077

Saturn -50326-08-02 21:35 J -16659934.70 -16659934.60 -16659934.49 0.0279 0.0173

Saturn -50326-10-30 09:49 J -16659846.13 -16659846.09 -16659846.05 0.0280 0.0268

Venus -50326-11-01 16:33 J -16659843.89 -16659843.81 -16659843.72 0.3738 0.2068

Moon -50323-01-29 18:42 J -16659023.81 -16659023.72 -16659023.63 0.2668 0.1984

Earth -50323-01-29 19:54 J -16659023.76 -16659023.67 -16659023.58 0.2669 0.1986 *

Mars -50323-03-24 19:54 J -16658969.79 -16658969.67 -16658969.55 0.1670 0.0548

Neptune -50323-04-27 11:45 J -16658936.06 -16658936.01 -16658935.95 0.0089 0.0084

Neptune -50323-07-24 14:09 J -16658847.98 -16658847.91 -16658847.81 0.0089 0.0077

Neptune -50323-10-20 17:16 J -16658759.89 -16658759.78 -16658759.68 0.0089 0.0069

Neptune -50322-01-16 19:40 J -16658671.79 -16658671.68 -16658671.55 0.0089 0.0062

Neptune -50322-04-14 22:18 J -16658583.69 -16658583.57 -16658583.42 0.0089 0.0055

Neptune -50322-07-12 01:11 J -16658495.59 -16658495.45 -16658495.30 0.0089 0.0047

Neptune -50322-10-08 04:04 J -16658407.48 -16658407.33 -16658407.17 0.0089 0.0039

Jupiter -50322-10-11 16:04 J -16658404.01 -16658403.83 -16658403.66 0.0488 0.0043

Neptune -50321-01-04 06:42 J -16658319.38 -16658319.22 -16658319.05 0.0089 0.0032

Neptune -50321-04-01 09:35 J -16658231.27 -16658231.10 -16658230.93 0.0089 0.0024

Neptune -50321-06-28 12:13 J -16658143.15 -16658142.99 -16658142.81 0.0089 0.0017

Neptune -50321-09-24 15:06 J -16658055.04 -16658054.87 -16658054.69 0.0089 0.0009

Neptune -50321-12-21 17:59 J -16657966.93 -16657966.75 -16657966.58 0.0089 0.0001

Neptune -50320-03-19 20:37 J -16657878.81 -16657878.64 -16657878.46 0.0089 0.0007

Venus -50320-05-17 08:37 J -16657820.24 -16657820.14 -16657820.03 0.3742 0.0145

Neptune -50320-06-15 23:30 J -16657790.69 -16657790.52 -16657790.34 0.0089 0.0014

Earth -50320-08-08 12:13 J -16657737.10 -16657736.99 -16657736.87 0.2666 0.0222

Moon -50320-08-08 12:42 J -16657737.08 -16657736.97 -16657736.85 0.2672 0.0297 *

Neptune -50320-09-12 02:23 J -16657702.57 -16657702.40 -16657702.23 0.0089 0.0022

Neptune -50320-12-09 05:16 J -16657614.44 -16657614.28 -16657614.11 0.0089 0.0030

Neptune -50319-03-07 07:54 J -16657526.32 -16657526.17 -16657526.00 0.0089 0.0038

Neptune -50319-06-03 10:47 J -16657438.19 -16657438.05 -16657437.89 0.0089 0.0046

Neptune -50319-08-30 13:25 J -16657350.06 -16657349.94 -16657349.78 0.0089 0.0054

Neptune -50319-11-26 16:47 J -16657261.93 -16657261.80 -16657261.67 0.0089 0.0061

Neptune -50318-02-22 19:25 J -16657173.79 -16657173.69 -16657173.57 0.0089 0.0069

Neptune -50318-05-21 22:18 J -16657085.64 -16657085.57 -16657085.47 0.0089 0.0077

Neptune -50318-08-18 01:11 J -16656997.48 -16656997.45 -16656997.39 0.0089 0.0085

Jupiter -50316-09-13 10:04 J -16656240.21 -16656240.08 -16656239.95 0.0539 0.0125

Jupiter -50316-12-11 20:37 J -16656150.67 -16656150.64 -16656150.60 0.0539 0.0518

Venus -50315-12-01 00:42 J -16655796.55 -16655796.47 -16655796.39 0.3747 0.2292

Mars -50314-08-15 05:01 J -16655539.38 -16655539.29 -16655539.20 0.1664 0.1175

Saturn -50313-06-08 21:35 J -16655240.64 -16655240.60 -16655240.53 0.0284 0.0268

Moon -50313-08-01 05:45 J -16655187.30 -16655187.26 -16655187.23 0.2662 0.2542

Earth -50313-08-01 06:28 J -16655187.28 -16655187.23 -16655187.18 0.2662 0.2405 *

Saturn -50313-09-05 17:16 J -16655151.92 -16655151.78 -16655151.63 0.0283 0.0144

Saturn -50313-12-03 13:11 J -16655063.12 -16655062.95 -16655062.78 0.0282 0.0018

Saturn -50312-03-02 09:21 J -16654974.27 -16654974.11 -16654973.95 0.0282 0.0109

Saturn -50312-05-30 05:45 J -16654885.35 -16654885.26 -16654885.17 0.0281 0.0237

Mars -50312-07-20 16:33 J -16654833.88 -16654833.81 -16654833.75 0.1689 0.1425

Venus -50312-08-31 04:04 J -16654792.39 -16654792.33 -16654792.27 0.3641 0.3323

Mars -50311-05-13 22:04 J -16654536.71 -16654536.58 -16654536.44 0.1857 0.0710

Moon -50310-02-01 20:37 J -16654272.78 -16654272.64 -16654272.51 0.2669 0.0817

Earth -50310-02-01 21:49 J -16654272.73 -16654272.59 -16654272.45 0.2667 0.0665 *

Jupiter -50310-07-30 15:49 J -16654094.01 -16654093.84 -16654093.67 0.0488 0.0112

Earth -50307-08-11 07:40 J -16652986.29 -16652986.18 -16652986.08 0.2668 0.1116

Moon -50307-08-11 08:23 J -16652986.25 -16652986.15 -16652986.04 0.2669 0.1126 *

Uranus -50306-03-11 15:06 J -16652773.93 -16652773.87 -16652773.79 0.0146 0.0135

Venus -50306-03-17 10:47 J -16652768.17 -16652768.05 -16652767.94 0.3635 0.2313

Uranus -50306-06-07 22:33 J -16652685.68 -16652685.56 -16652685.42 0.0146 0.0104

Uranus -50306-09-04 06:13 J -16652597.39 -16652597.24 -16652597.08 0.0146 0.0072

Uranus -50306-12-01 13:40 J -16652509.10 -16652508.93 -16652508.75 0.0146 0.0040

Uranus -50305-02-27 21:35 J -16652420.79 -16652420.60 -16652420.42 0.0146 0.0009

Uranus -50305-05-26 05:01 J -16652332.46 -16652332.29 -16652332.11 0.0146 0.0025

Uranus -50305-08-22 12:57 J -16652244.13 -16652243.96 -16652243.80 0.0146 0.0057

Uranus -50305-11-18 20:23 J -16652155.78 -16652155.65 -16652155.50 0.0146 0.0090

Uranus -50304-02-15 04:04 J -16652067.41 -16652067.33 -16652067.22 0.0146 0.0123

Jupiter -50304-07-02 12:13 J -16651930.10 -16651929.99 -16651929.87 0.0538 0.0296

Jupiter -50304-09-29 23:16 J -16651840.63 -16651840.53 -16651840.43 0.0539 0.0352

Mars -50303-12-11 01:40 J -16651403.54 -16651403.43 -16651403.32 0.1683 0.0795

Mars -50302-10-03 22:33 J -16651106.70 -16651106.56 -16651106.42 0.1865 0.0505

Moon -50300-08-04 01:40 J -16650436.53 -16650436.43 -16650436.33 0.2668 0.1460

Earth -50300-08-04 02:23 J -16650436.50 -16650436.40 -16650436.31 0.2663 0.1461 *

Jupiter -50298-05-18 15:35 J -16649783.99 -16649783.85 -16649783.70 0.0489 0.0266

Jupiter -50298-08-16 15:06 J -16649693.98 -16649693.87 -16649693.75 0.0488 0.0364

Saturn -50298-12-31 22:04 J -16649556.65 -16649556.58 -16649556.51 0.0277 0.0240

Moon -50297-02-04 23:30 J -16649521.66 -16649521.52 -16649521.39 0.2672 0.0673

Earth -50297-02-04 23:59 J -16649521.63 -16649521.50 -16649521.36 0.2665 0.0703 *

Saturn -50297-03-29 10:47 J -16649468.17 -16649468.05 -16649467.93 0.0277 0.0142

Saturn -50297-06-25 23:30 J -16649379.66 -16649379.52 -16649379.39 0.0278 0.0045

Saturn -50297-09-22 11:45 J -16649291.14 -16649291.01 -16649290.87 0.0279 0.0053

Saturn -50297-12-20 00:13 J -16649202.61 -16649202.49 -16649202.38 0.0279 0.0149

Saturn -50296-03-18 12:28 J -16649114.05 -16649113.98 -16649113.92 0.0280 0.0244

Earth -50294-08-14 02:52 J -16648235.46 -16648235.38 -16648235.31 0.2670 0.1992

Moon -50294-08-14 03:35 J -16648235.42 -16648235.35 -16648235.29 0.2667 0.2114 *

Mars -50293-05-02 10:47 J -16647973.17 -16647973.05 -16647972.92 0.1676 0.0175

Mars -50292-02-22 23:01 J -16647676.59 -16647676.54 -16647676.48 0.1873 0.1709

Jupiter -50292-04-20 14:37 J -16647619.95 -16647619.89 -16647619.82 0.0538 0.0465

Jupiter -50292-07-19 02:09 J -16647530.53 -16647530.41 -16647530.28 0.0539 0.0190

Moon -50287-08-06 22:04 J -16645685.70 -16645685.58 -16645685.47 0.2672 0.0561

Earth -50287-08-06 21:49 J -16645685.70 -16645685.59 -16645685.47 0.2665 0.0532 *

Jupiter -50286-03-06 15:21 J -16645473.94 -16645473.86 -16645473.77 0.0488 0.0419

Jupiter -50286-06-04 14:23 J -16645384.05 -16645383.90 -16645383.74 0.0488 0.0202

Earth -50284-02-07 02:52 J -16644770.47 -16644770.38 -16644770.30 0.2663 0.2106

Moon -50284-02-07 02:52 J -16644770.46 -16644770.38 -16644770.30 0.2670 0.2163 *

Mars -50284-09-22 19:54 J -16644542.79 -16644542.67 -16644542.54 0.1670 0.0467

Saturn -50283-01-23 18:57 J -16644419.84 -16644419.71 -16644419.57 0.0283 0.0169

Saturn -50283-04-22 14:52 J -16644331.05 -16644330.88 -16644330.71 0.0283 0.0044

Saturn -50283-07-20 10:47 J -16644242.21 -16644242.05 -16644241.88 0.0282 0.0083

Saturn -50283-10-17 06:57 J -16644153.31 -16644153.21 -16644153.08 0.0281 0.0212

Jupiter -50280-05-07 05:01 J -16643220.43 -16643220.29 -16643220.16 0.0540 0.0030

Moon -50277-01-31 00:28 J -16642221.57 -16642221.48 -16642221.38 0.2667 0.1943

Earth -50277-01-31 01:54 J -16642221.53 -16642221.42 -16642221.32 0.2669 0.1753 *

Venus -50275-11-22 21:49 J -16641194.62 -16641194.59 -16641194.55 0.3734 0.3457

Mars -50274-02-13 05:01 J -16641112.38 -16641112.29 -16641112.19 0.1665 0.1089

Jupiter -50274-03-23 14:23 J -16641074.07 -16641073.90 -16641073.73 0.0488 0.0049

Earth -50274-08-09 17:16 J -16640934.89 -16640934.78 -16640934.66 0.2667 0.0393

Moon -50274-08-09 17:59 J -16640934.87 -16640934.75 -16640934.64 0.2672 0.0424 *

Mars -50272-01-18 16:33 J -16640406.86 -16640406.81 -16640406.76 0.1689 0.1506

Mars -50272-11-11 22:47 J -16640109.69 -16640109.55 -16640109.42 0.1857 0.0842

Venus -50269-06-07 14:09 J -16639171.01 -16639170.91 -16639170.82 0.3739 0.1265

Jupiter -50268-02-23 08:09 J -16638910.29 -16638910.16 -16638910.02 0.0539 0.0126

Saturn -50268-05-19 23:30 J -16638824.54 -16638824.52 -16638824.50 0.0275 0.0271

Jupiter -50268-05-23 18:57 J -16638820.74 -16638820.71 -16638820.67 0.0540 0.0520

Saturn -50268-08-16 12:13 J -16638736.10 -16638735.99 -16638735.88 0.0276 0.0174

Saturn -50268-11-13 00:57 J -16638647.60 -16638647.46 -16638647.32 0.0277 0.0077

Saturn -50267-02-09 13:25 J -16638559.08 -16638558.94 -16638558.80 0.0278 0.0020

Saturn -50267-05-09 01:40 J -16638470.55 -16638470.43 -16638470.30 0.0278 0.0116

Moon -50267-08-02 10:47 J -16638385.11 -16638385.05 -16638384.99 0.2664 0.2233

Earth -50267-08-02 11:30 J -16638385.08 -16638385.02 -16638384.95 0.2662 0.2233 *

Saturn -50267-08-05 13:54 J -16638382.00 -16638381.92 -16638381.83 0.0279 0.0211

Moon -50264-02-02 02:37 J -16637470.53 -16637470.39 -16637470.25 0.2670 0.0444

Earth -50264-02-02 03:49 J -16637470.48 -16637470.34 -16637470.20 0.2667 0.0436 *

Uranus -50264-03-29 21:06 J -16637414.65 -16637414.62 -16637414.56 0.0132 0.0124

Uranus -50264-06-26 00:42 J -16637326.55 -16637326.47 -16637326.38 0.0132 0.0105

Uranus -50264-09-22 04:04 J -16637238.43 -16637238.33 -16637238.22 0.0132 0.0087

Uranus -50264-12-19 07:11 J -16637150.31 -16637150.20 -16637150.07 0.0132 0.0069

Venus -50264-12-22 06:13 J -16637147.34 -16637147.24 -16637147.14 0.3743 0.0929

Uranus -50263-03-17 10:33 J -16637062.18 -16637062.06 -16637061.93 0.0132 0.0051

Mars -50263-06-11 01:54 J -16636976.53 -16636976.42 -16636976.32 0.1683 0.0883

Uranus -50263-06-13 13:54 J -16636974.05 -16636973.92 -16636973.78 0.0132 0.0033

Uranus -50263-09-09 17:16 J -16636885.92 -16636885.78 -16636885.64 0.0132 0.0015

Uranus -50263-12-06 20:23 J -16636797.78 -16636797.65 -16636797.51 0.0132 0.0005

Jupiter -50262-01-09 13:54 J -16636764.08 -16636763.92 -16636763.75 0.0488 0.0108

Uranus -50262-03-04 23:45 J -16636709.65 -16636709.51 -16636709.38 0.0132 0.0021

Mars -50262-04-03 23:01 J -16636679.69 -16636679.54 -16636679.40 0.1865 0.0380

Uranus -50262-06-01 02:52 J -16636621.51 -16636621.38 -16636621.25 0.0132 0.0039

Uranus -50262-08-28 05:59 J -16636533.37 -16636533.25 -16636533.12 0.0132 0.0057

Uranus -50262-11-24 09:21 J -16636445.22 -16636445.11 -16636445.00 0.0132 0.0074

Uranus -50261-02-20 12:13 J -16636357.07 -16636356.99 -16636356.88 0.0132 0.0093

Uranus -50261-05-18 15:35 J -16636268.92 -16636268.85 -16636268.77 0.0132 0.0110

Earth -50261-08-11 12:42 J -16636184.07 -16636183.97 -16636183.87 0.2669 0.1277

Moon -50261-08-11 13:25 J -16636184.04 -16636183.94 -16636183.84 0.2668 0.1383 *

Uranus -50261-08-14 18:42 J -16636180.75 -16636180.72 -16636180.68 0.0132 0.0127

Venus -50258-07-07 22:18 J -16635123.63 -16635123.57 -16635123.52 0.3747 0.3082

Jupiter -50257-12-12 11:16 J -16634600.15 -16634600.03 -16634599.92 0.0539 0.0284

Jupiter -50256-03-11 22:18 J -16634510.66 -16634510.57 -16634510.47 0.0540 0.0366

Venus -50255-04-07 05:30 J -16634119.41 -16634119.27 -16634119.13 0.3639 0.1403

Saturn -50254-06-12 16:33 J -16633687.91 -16633687.81 -16633687.70 0.0284 0.0219

Moon -50254-08-05 06:57 J -16633634.31 -16633634.21 -16633634.11 0.2669 0.1395

Earth -50254-08-05 07:25 J -16633634.29 -16633634.19 -16633634.09 0.2664 0.1285 *

Saturn -50254-09-09 12:13 J -16633599.15 -16633598.99 -16633598.83 0.0283 0.0094

Mars -50254-11-01 11:01 J -16633546.17 -16633546.04 -16633545.92 0.1676 0.0254

Saturn -50254-12-07 08:09 J -16633510.33 -16633510.16 -16633509.98 0.0282 0.0033

Saturn -50253-03-05 04:33 J -16633421.45 -16633421.31 -16633421.17 0.0281 0.0160

Mars -50253-08-23 23:30 J -16633249.59 -16633249.52 -16633249.44 0.1873 0.1578

Moon -50251-02-05 05:30 J -16632719.41 -16632719.27 -16632719.14 0.2671 0.0863

Earth -50251-02-05 06:13 J -16632719.38 -16632719.24 -16632719.11 0.2665 0.0947 *

Jupiter -50251-10-28 14:09 J -16632454.06 -16632453.91 -16632453.77 0.0488 0.0259

Jupiter -50250-01-26 13:25 J -16632364.05 -16632363.94 -16632363.82 0.0488 0.0370

Earth -50248-08-14 07:40 J -16631433.24 -16631433.18 -16631433.11 0.2670 0.2152

Moon -50248-08-14 08:23 J -16631433.22 -16631433.15 -16631433.08 0.2666 0.2131 *

Jupiter -50245-09-30 13:40 J -16630290.00 -16630289.93 -16630289.86 0.0538 0.0453

Jupiter -50245-12-29 00:57 J -16630200.58 -16630200.46 -16630200.33 0.0539 0.0202

Mars -50244-03-23 20:09 J -16630115.78 -16630115.66 -16630115.53 0.1670 0.0373

Neptune -50241-08-06 00:28 J -16628884.49 -16628884.48 -16628884.45 0.0088 0.0088

Earth -50241-08-07 02:52 J -16628883.49 -16628883.38 -16628883.26 0.2665 0.0373

Moon -50241-08-07 03:06 J -16628883.48 -16628883.37 -16628883.25 0.2672 0.0301 *

Neptune -50241-11-02 02:23 J -16628796.45 -16628796.40 -16628796.34 0.0088 0.0081

Neptune -50240-01-29 04:04 J -16628708.40 -16628708.33 -16628708.24 0.0088 0.0075

Neptune -50240-04-27 05:59 J -16628620.34 -16628620.25 -16628620.16 0.0088 0.0068

Neptune -50240-07-24 07:40 J -16628532.28 -16628532.18 -16628532.07 0.0088 0.0061

Neptune -50240-10-20 09:06 J -16628444.22 -16628444.12 -16628443.99 0.0088 0.0056

Neptune -50239-01-16 11:01 J -16628356.15 -16628356.04 -16628355.91 0.0088 0.0049

Neptune -50239-04-14 12:42 J -16628268.09 -16628267.97 -16628267.83 0.0088 0.0043

Neptune -50239-07-11 14:37 J -16628180.02 -16628179.89 -16628179.76 0.0089 0.0036

Jupiter -50239-08-16 14:09 J -16628144.00 -16628143.91 -16628143.82 0.0489 0.0410

Neptune -50239-10-07 16:18 J -16628091.95 -16628091.82 -16628091.68 0.0089 0.0030

Jupiter -50239-11-14 13:11 J -16628054.11 -16628053.95 -16628053.80 0.0488 0.0213

Saturn -50238-01-03 14:09 J -16628004.00 -16628003.91 -16628003.81 0.0277 0.0203

Neptune -50238-01-03 17:59 J -16628003.89 -16628003.75 -16628003.61 0.0089 0.0023 *

Earth -50238-02-08 08:52 J -16627968.19 -16627968.13 -16627968.06 0.2663 0.2356

Moon -50238-02-08 09:21 J -16627968.17 -16627968.11 -16627968.05 0.2669 0.2398 *

Neptune -50238-04-01 19:40 J -16627915.82 -16627915.68 -16627915.53 0.0089 0.0017

Saturn -50238-04-02 02:52 J -16627915.51 -16627915.38 -16627915.24 0.0277 0.0105

Neptune -50238-06-28 21:21 J -16627827.75 -16627827.61 -16627827.46 0.0089 0.0011

Saturn -50238-06-29 15:35 J -16627826.99 -16627826.85 -16627826.71 0.0278 0.0009

Neptune -50238-09-24 23:01 J -16627739.68 -16627739.54 -16627739.39 0.0089 0.0005

Saturn -50238-09-26 03:49 J -16627738.47 -16627738.34 -16627738.20 0.0279 0.0089

Neptune -50238-12-22 00:42 J -16627651.61 -16627651.47 -16627651.32 0.0089 0.0003

Saturn -50238-12-23 16:04 J -16627649.93 -16627649.83 -16627649.72 0.0279 0.0185

Neptune -50237-03-19 02:23 J -16627563.54 -16627563.40 -16627563.25 0.0089 0.0009

Saturn -50237-03-21 04:18 J -16627561.32 -16627561.32 -16627561.31 0.0280 0.0279

Neptune -50237-06-15 04:04 J -16627475.47 -16627475.33 -16627475.19 0.0089 0.0015

Neptune -50237-09-11 05:45 J -16627387.40 -16627387.26 -16627387.12 0.0089 0.0021

Neptune -50237-12-08 07:25 J -16627299.33 -16627299.19 -16627299.05 0.0089 0.0027

Neptune -50236-03-06 08:52 J -16627211.25 -16627211.13 -16627210.99 0.0089 0.0034

Neptune -50236-06-02 10:33 J -16627123.18 -16627123.06 -16627122.93 0.0089 0.0040

Neptune -50236-08-29 12:13 J -16627035.11 -16627034.99 -16627034.86 0.0089 0.0046

Neptune -50236-11-25 13:54 J -16626947.03 -16626946.92 -16626946.80 0.0089 0.0052

Neptune -50235-02-21 15:21 J -16626858.96 -16626858.86 -16626858.74 0.0089 0.0058

Neptune -50235-05-20 17:01 J -16626770.88 -16626770.79 -16626770.69 0.0089 0.0064

Mars -50235-08-14 05:16 J -16626685.38 -16626685.28 -16626685.18 0.1665 0.1003

Neptune -50235-08-16 18:42 J -16626682.80 -16626682.72 -16626682.63 0.0089 0.0070

Neptune -50235-11-12 19:54 J -16626594.72 -16626594.67 -16626594.58 0.0089 0.0077

Neptune -50234-02-08 21:35 J -16626506.63 -16626506.60 -16626506.54 0.0089 0.0083

Neptune -50234-05-07 23:16 J -16626418.53 -16626418.53 -16626418.51 0.0089 0.0088

Mars -50233-07-19 16:47 J -16625979.84 -16625979.80 -16625979.77 0.1689 0.1595

Jupiter -50233-10-17 03:49 J -16625890.47 -16625890.34 -16625890.21 0.0539 0.0038

Mars -50232-05-12 22:47 J -16625682.67 -16625682.55 -16625682.42 0.1857 0.0950

Moon -50231-01-31 06:28 J -16625419.35 -16625419.23 -16625419.12 0.2667 0.1528

Earth -50231-01-31 07:40 J -16625419.29 -16625419.18 -16625419.06 0.2669 0.1523 *

Earth -50228-08-09 22:18 J -16624132.68 -16624132.57 -16624132.45 0.2667 0.0552

Moon -50228-08-09 23:01 J -16624132.65 -16624132.54 -16624132.43 0.2671 0.0587 *

Jupiter -50227-09-02 12:42 J -16623744.14 -16623743.97 -16623743.80 0.0488 0.0056

Mars -50225-01-04 14:09 J -16623254.93 -16623254.91 -16623254.88 0.1659 0.1628

Saturn -50225-10-29 17:45 J -16622955.83 -16622955.76 -16622955.67 0.0284 0.0247

Saturn -50224-01-26 13:25 J -16622867.09 -16622866.94 -16622866.78 0.0283 0.0123

Saturn -50224-04-25 09:21 J -16622778.28 -16622778.11 -16622777.94 0.0282 0.0004

Saturn -50224-07-23 05:30 J -16622689.42 -16622689.27 -16622689.11 0.0282 0.0131

Saturn -50224-10-20 01:54 J -16622600.48 -16622600.42 -16622600.35 0.0281 0.0259

Mars -50224-12-10 01:54 J -16622549.53 -16622549.42 -16622549.32 0.1683 0.0963

Mars -50223-10-02 23:30 J -16622252.67 -16622252.52 -16622252.38 0.1865 0.0247

Uranus -50222-03-31 22:18 J -16622072.65 -16622072.57 -16622072.47 0.0146 0.0127

Uranus -50222-06-28 05:59 J -16621984.38 -16621984.25 -16621984.11 0.0146 0.0096

Uranus -50222-09-24 13:25 J -16621896.10 -16621895.94 -16621895.77 0.0146 0.0064

Uranus -50222-12-21 21:06 J -16621807.80 -16621807.62 -16621807.44 0.0146 0.0032

Uranus -50221-03-19 04:47 J -16621719.48 -16621719.30 -16621719.12 0.0146 0.0002

Uranus -50221-06-15 12:13 J -16621631.16 -16621630.99 -16621630.81 0.0146 0.0033

Moon -50221-08-02 15:49 J -16621582.90 -16621582.84 -16621582.77 0.2665 0.2192

Earth -50221-08-02 16:47 J -16621582.88 -16621582.80 -16621582.73 0.2662 0.2055 *

Jupiter -50221-08-05 06:28 J -16621580.36 -16621580.23 -16621580.10 0.0540 0.0128

Uranus -50221-09-11 20:09 J -16621542.82 -16621542.66 -16621542.50 0.0146 0.0064

Jupiter -50221-11-02 17:16 J -16621490.81 -16621490.78 -16621490.74 0.0540 0.0517

Uranus -50221-12-09 03:35 J -16621454.47 -16621454.35 -16621454.20 0.0146 0.0098

Uranus -50220-03-07 11:16 J -16621366.09 -16621366.03 -16621365.93 0.0146 0.0131

Moon -50218-02-03 08:37 J -16620668.28 -16620668.14 -16620668.00 0.2671 0.0361

Earth -50218-02-03 09:49 J -16620668.24 -16620668.09 -16620667.95 0.2667 0.0203 *

Venus -50218-06-29 19:25 J -16620521.76 -16620521.69 -16620521.62 0.3735 0.2647

Jupiter -50215-06-21 12:42 J -16619434.13 -16619433.97 -16619433.80 0.0488 0.0096

Earth -50215-08-12 17:45 J -16619381.86 -16619381.76 -16619381.67 0.2669 0.1438

Moon -50215-08-12 18:28 J -16619381.82 -16619381.73 -16619381.63 0.2668 0.1476 *

Mars -50214-05-02 11:01 J -16619119.16 -16619119.04 -16619118.91 0.1677 0.0342

Mars -50213-02-22 23:59 J -16618822.59 -16618822.50 -16618822.41 0.1873 0.1450

Venus -50212-01-12 11:45 J -16618498.12 -16618498.01 -16618497.91 0.3740 0.0466

Saturn -50209-05-22 15:35 J -16617271.91 -16617271.85 -16617271.77 0.0275 0.0235

Jupiter -50209-05-24 09:35 J -16617270.21 -16617270.10 -16617269.98 0.0539 0.0283

Saturn -50209-08-19 04:33 J -16617183.43 -16617183.31 -16617183.19 0.0276 0.0137

Jupiter -50209-08-21 20:37 J -16617180.73 -16617180.64 -16617180.54 0.0540 0.0369

Saturn -50209-11-15 17:01 J -16617094.93 -16617094.79 -16617094.65 0.0277 0.0041

Saturn -50208-02-12 05:30 J -16617006.41 -16617006.27 -16617006.14 0.0278 0.0055

Saturn -50208-05-11 17:45 J -16616917.88 -16616917.76 -16616917.64 0.0278 0.0151

Moon -50208-08-05 11:59 J -16616832.10 -16616832.00 -16616831.89 0.2669 0.1090

Earth -50208-08-05 12:28 J -16616832.09 -16616831.98 -16616831.87 0.2664 0.1115 *

Saturn -50208-08-08 05:59 J -16616829.32 -16616829.25 -16616829.19 0.0279 0.0245

Venus -50207-07-29 03:49 J -16616474.43 -16616474.34 -16616474.25 0.3744 0.1735

Moon -50205-02-06 11:30 J -16615917.14 -16615917.02 -16615916.89 0.2671 0.1203

Earth -50205-02-06 11:59 J -16615917.12 -16615917.00 -16615916.87 0.2665 0.1188 *

Mars -50205-09-21 20:23 J -16615688.78 -16615688.65 -16615688.53 0.1671 0.0290

Jupiter -50203-04-09 12:42 J -16615124.12 -16615123.97 -16615123.83 0.0488 0.0249

Jupiter -50203-07-08 11:59 J -16615034.11 -16615034.00 -16615033.89 0.0488 0.0378

Earth -50202-08-15 12:42 J -16614631.02 -16614630.97 -16614630.91 0.2671 0.2308

Moon -50202-08-15 13:11 J -16614631.00 -16614630.95 -16614630.90 0.2665 0.2384 *

Venus -50199-11-12 06:57 J -16613446.36 -16613446.21 -16613446.06 0.3638 0.0543

Moon -50198-01-29 11:01 J -16613368.06 -16613368.04 -16613368.02 0.2666 0.2626

Earth -50198-01-29 11:59 J -16613368.03 -16613368.00 -16613367.96 0.2670 0.2574 *

Jupiter -50197-03-12 12:28 J -16612960.05 -16612959.98 -16612959.90 0.0539 0.0442

Jupiter -50197-06-10 00:13 J -16612870.62 -16612870.49 -16612870.37 0.0540 0.0216

Mars -50195-02-12 05:16 J -16612258.38 -16612258.28 -16612258.17 0.1665 0.0913

Saturn -50195-06-15 10:33 J -16612135.18 -16612135.06 -16612134.92 0.0284 0.0175

Earth -50195-08-08 08:09 J -16612081.28 -16612081.16 -16612081.05 0.2666 0.0216

Moon -50195-08-08 08:09 J -16612081.27 -16612081.16 -16612081.04 0.2673 0.0249 *

Saturn -50195-09-12 06:28 J -16612046.40 -16612046.23 -16612046.06 0.0283 0.0049

Saturn -50195-12-10 02:37 J -16611957.56 -16611957.39 -16611957.23 0.0282 0.0078

Saturn -50194-03-08 22:47 J -16611868.66 -16611868.55 -16611868.43 0.0281 0.0207

Mars -50193-01-18 16:47 J -16611552.81 -16611552.80 -16611552.79 0.1689 0.1677

Mars -50193-11-10 23:16 J -16611255.65 -16611255.53 -16611255.41 0.1857 0.1081

Earth -50192-02-08 14:52 J -16611165.90 -16611165.88 -16611165.85 0.2663 0.2605

Moon -50192-02-08 15:35 J -16611165.87 -16611165.85 -16611165.84 0.2669 0.2643 *

Pluto -50192-10-26 21:49 J -16610905.61 -16610905.59 -16610905.54 0.0063 0.0061

Pluto -50191-01-22 22:47 J -16610817.60 -16610817.55 -16610817.46 0.0063 0.0057

Jupiter -50191-01-26 12:42 J -16610814.06 -16610813.97 -16610813.87 0.0488 0.0399

Pluto -50191-04-20 23:59 J -16610729.58 -16610729.50 -16610729.39 0.0063 0.0052

Jupiter -50191-04-26 11:45 J -16610724.17 -16610724.01 -16610723.86 0.0488 0.0222

Pluto -50191-07-18 00:57 J -16610641.55 -16610641.46 -16610641.33 0.0063 0.0048

Pluto -50191-10-14 02:09 J -16610553.52 -16610553.41 -16610553.27 0.0063 0.0043

Pluto -50190-01-10 03:35 J -16610465.48 -16610465.35 -16610465.21 0.0063 0.0038

Pluto -50190-04-08 04:18 J -16610377.44 -16610377.32 -16610377.16 0.0063 0.0035

Pluto -50190-07-05 05:45 J -16610289.41 -16610289.26 -16610289.10 0.0063 0.0029

Pluto -50190-10-01 06:57 J -16610201.36 -16610201.21 -16610201.05 0.0063 0.0025

Pluto -50190-12-28 07:54 J -16610113.32 -16610113.17 -16610113.00 0.0063 0.0020

Pluto -50189-03-25 09:06 J -16610025.28 -16610025.12 -16610024.94 0.0063 0.0016

Pluto -50189-06-21 10:18 J -16609937.23 -16609937.07 -16609936.89 0.0063 0.0011

Pluto -50189-09-17 11:45 J -16609849.18 -16609849.01 -16609848.84 0.0064 0.0006

Pluto -50189-12-14 12:57 J -16609761.13 -16609760.96 -16609760.79 0.0064 0.0001

Pluto -50188-03-12 14:09 J -16609673.08 -16609672.91 -16609672.74 0.0064 0.0004

Pluto -50188-06-08 15:06 J -16609585.03 -16609584.87 -16609584.69 0.0064 0.0009

Pluto -50188-09-04 16:18 J -16609496.98 -16609496.82 -16609496.64 0.0064 0.0014

Pluto -50188-12-01 17:30 J -16609408.93 -16609408.77 -16609408.60 0.0064 0.0019

Pluto -50187-02-27 18:42 J -16609320.87 -16609320.72 -16609320.55 0.0064 0.0024

Pluto -50187-05-26 19:54 J -16609232.81 -16609232.67 -16609232.50 0.0064 0.0029

Pluto -50187-08-22 21:06 J -16609144.75 -16609144.62 -16609144.46 0.0064 0.0034

Pluto -50187-11-18 22:18 J -16609056.69 -16609056.57 -16609056.42 0.0064 0.0040

Pluto -50186-02-14 23:30 J -16608968.63 -16608968.52 -16608968.38 0.0064 0.0045

Pluto -50186-05-14 00:57 J -16608880.56 -16608880.46 -16608880.34 0.0065 0.0050

Mars -50186-07-05 14:23 J -16608827.94 -16608827.90 -16608827.85 0.1659 0.1536

Pluto -50186-08-10 02:09 J -16608792.48 -16608792.41 -16608792.30 0.0065 0.0055

Pluto -50186-11-06 03:35 J -16608704.40 -16608704.35 -16608704.28 0.0065 0.0060

Moon -50185-02-01 12:28 J -16608617.10 -16608616.98 -16608616.87 0.2668 0.1456

Earth -50185-02-01 13:40 J -16608617.05 -16608616.93 -16608616.81 0.2668 0.1285 *

Jupiter -50185-03-29 02:52 J -16608560.51 -16608560.38 -16608560.25 0.0539 0.0051

Mars -50184-06-10 01:54 J -16608122.51 -16608122.42 -16608122.32 0.1683 0.1053

Mars -50183-04-02 23:45 J -16607825.66 -16607825.51 -16607825.36 0.1865 0.0128

Earth -50182-08-11 03:35 J -16607330.47 -16607330.35 -16607330.24 0.2667 0.0720

Moon -50182-08-11 04:18 J -16607330.43 -16607330.32 -16607330.21 0.2670 0.0816 *

Uranus -50180-04-19 04:18 J -16606713.37 -16606713.32 -16606713.26 0.0132 0.0119

Uranus -50180-07-16 07:40 J -16606625.26 -16606625.18 -16606625.09 0.0132 0.0101

Saturn -50180-10-09 17:16 J -16606539.81 -16606539.78 -16606539.74 0.0276 0.0266

Uranus -50180-10-12 11:01 J -16606537.14 -16606537.04 -16606536.93 0.0132 0.0083

Saturn -50179-01-06 05:59 J -16606451.36 -16606451.25 -16606451.13 0.0277 0.0169

Uranus -50179-01-08 14:09 J -16606449.02 -16606448.91 -16606448.78 0.0132 0.0065

Jupiter -50179-02-12 11:30 J -16606414.19 -16606414.02 -16606413.85 0.0488 0.0068

Saturn -50179-04-04 18:42 J -16606362.85 -16606362.72 -16606362.58 0.0277 0.0071

Uranus -50179-04-06 17:30 J -16606360.89 -16606360.77 -16606360.63 0.0132 0.0047

Saturn -50179-07-02 07:11 J -16606274.34 -16606274.20 -16606274.06 0.0278 0.0026

Uranus -50179-07-03 20:52 J -16606272.76 -16606272.63 -16606272.49 0.0132 0.0029

Saturn -50179-09-28 19:25 J -16606185.81 -16606185.69 -16606185.56 0.0279 0.0122

Uranus -50179-09-30 00:13 J -16606184.63 -16606184.49 -16606184.35 0.0132 0.0011

Saturn -50179-12-26 07:40 J -16606097.26 -16606097.18 -16606097.09 0.0279 0.0217

Uranus -50179-12-27 03:35 J -16606096.49 -16606096.35 -16606096.22 0.0132 0.0008

Uranus -50178-03-25 06:42 J -16606008.36 -16606008.22 -16606008.08 0.0132 0.0025

Uranus -50178-06-21 09:49 J -16605920.22 -16605920.09 -16605919.96 0.0132 0.0043

Uranus -50178-09-17 12:57 J -16605832.07 -16605831.96 -16605831.83 0.0132 0.0061

Uranus -50178-12-14 16:18 J -16605743.93 -16605743.82 -16605743.71 0.0132 0.0078

Uranus -50177-03-11 19:11 J -16605655.78 -16605655.70 -16605655.59 0.0132 0.0097

Uranus -50177-06-07 22:33 J -16605567.62 -16605567.56 -16605567.49 0.0132 0.0114

Uranus -50177-09-04 01:25 J -16605479.44 -16605479.44 -16605479.41 0.0132 0.0132

Moon -50175-08-03 21:06 J -16604780.71 -16604780.62 -16604780.54 0.2665 0.1897

Earth -50175-08-03 21:49 J -16604780.67 -16604780.59 -16604780.51 0.2662 0.1883 *

Mars -50175-10-31 11:16 J -16604692.15 -16604692.03 -16604691.91 0.1677 0.0427

Mars -50174-08-24 00:13 J -16604395.59 -16604395.49 -16604395.39 0.1873 0.1340

Jupiter -50173-01-16 05:30 J -16604250.40 -16604250.27 -16604250.14 0.0539 0.0113

Jupiter -50173-04-14 16:18 J -16604160.84 -16604160.82 -16604160.80 0.0539 0.0529

Moon -50172-02-03 14:37 J -16603866.03 -16603865.89 -16603865.75 0.2671 0.0080

Earth -50172-02-03 15:35 J -16603865.99 -16603865.85 -16603865.71 0.2666 0.0059 *

Earth -50169-08-12 22:47 J -16602579.65 -16602579.55 -16602579.46 0.2669 0.1600

Moon -50169-08-12 23:30 J -16602579.61 -16602579.52 -16602579.43 0.2668 0.1676 *

Jupiter -50168-12-01 11:16 J -16602104.20 -16602104.03 -16602103.86 0.0488 0.0086

Saturn -50166-11-02 11:30 J -16601403.14 -16601403.02 -16601402.91 0.0284 0.0206

Saturn -50165-01-30 07:11 J -16601314.36 -16601314.20 -16601314.04 0.0283 0.0081

Mars -50165-03-22 20:23 J -16601261.78 -16601261.65 -16601261.53 0.1671 0.0205

Saturn -50165-04-28 03:06 J -16601225.54 -16601225.37 -16601225.20 0.0282 0.0046

Saturn -50165-07-25 23:30 J -16601136.66 -16601136.52 -16601136.38 0.0282 0.0174

Moon -50162-08-06 17:16 J -16600029.88 -16600029.78 -16600029.67 0.2671 0.1031

Earth -50162-08-06 17:30 J -16600029.88 -16600029.77 -16600029.66 0.2664 0.0944 *

Jupiter -50162-11-04 07:54 J -16599940.29 -16599940.17 -16599940.06 0.0539 0.0284

Jupiter -50161-02-01 18:57 J -16599850.80 -16599850.71 -16599850.61 0.0540 0.0369

Venus -50161-02-03 17:01 J -16599848.88 -16599848.79 -16599848.70 0.3736 0.1823

Moon -50159-02-06 17:59 J -16599114.88 -16599114.75 -16599114.63 0.2671 0.1351

Earth -50159-02-06 18:13 J -16599114.87 -16599114.74 -16599114.62 0.2664 0.1435 *

Neptune -50159-10-26 08:09 J -16598853.18 -16598853.16 -16598853.12 0.0089 0.0087

Neptune -50158-01-22 10:47 J -16598765.11 -16598765.05 -16598764.97 0.0089 0.0080

Neptune -50158-04-20 13:11 J -16598677.02 -16598676.95 -16598676.83 0.0089 0.0073

Neptune -50158-07-17 16:18 J -16598588.93 -16598588.82 -16598588.70 0.0089 0.0065

Neptune -50158-10-13 18:42 J -16598500.83 -16598500.72 -16598500.57 0.0089 0.0058

Neptune -50157-01-09 21:35 J -16598412.73 -16598412.60 -16598412.45 0.0089 0.0050

Neptune -50157-04-07 00:13 J -16598324.63 -16598324.49 -16598324.33 0.0089 0.0043

Neptune -50157-07-04 03:06 J -16598236.52 -16598236.37 -16598236.20 0.0089 0.0035

Neptune -50157-09-30 05:45 J -16598148.41 -16598148.26 -16598148.08 0.0089 0.0028

Neptune -50157-12-27 08:37 J -16598060.30 -16598060.14 -16598059.96 0.0089 0.0020

Neptune -50156-03-25 11:30 J -16597972.19 -16597972.02 -16597971.85 0.0089 0.0012

Neptune -50156-06-21 14:23 J -16597884.08 -16597883.90 -16597883.73 0.0089 0.0005

Mars -50156-08-13 05:30 J -16597831.38 -16597831.27 -16597831.16 0.1665 0.0823

Earth -50156-08-15 17:45 J -16597828.80 -16597828.76 -16597828.72 0.2671 0.2462

Moon -50156-08-15 18:13 J -16597828.79 -16597828.74 -16597828.70 0.2665 0.2449 *

Venus -50156-08-19 09:06 J -16597825.22 -16597825.12 -16597825.01 0.3741 0.0410

Neptune -50156-09-17 17:01 J -16597795.96 -16597795.79 -16597795.61 0.0089 0.0004

Jupiter -50156-09-19 11:30 J -16597794.16 -16597794.02 -16597793.87 0.0488 0.0234

Neptune -50156-12-14 19:54 J -16597707.84 -16597707.67 -16597707.50 0.0089 0.0011

Jupiter -50156-12-18 10:47 J -16597704.14 -16597704.05 -16597703.94 0.0488 0.0394

Neptune -50155-03-12 22:33 J -16597619.72 -16597619.56 -16597619.38 0.0089 0.0019

Neptune -50155-06-09 01:25 J -16597531.60 -16597531.44 -16597531.27 0.0089 0.0027

Neptune -50155-09-05 04:18 J -16597443.48 -16597443.32 -16597443.15 0.0089 0.0034

Neptune -50155-12-02 07:11 J -16597355.35 -16597355.20 -16597355.04 0.0089 0.0042

Neptune -50154-02-28 09:49 J -16597267.22 -16597267.09 -16597266.93 0.0089 0.0050

Neptune -50154-05-27 12:42 J -16597179.09 -16597178.97 -16597178.82 0.0089 0.0058

Neptune -50154-08-23 15:35 J -16597090.95 -16597090.85 -16597090.72 0.0089 0.0066

Neptune -50154-11-19 18:28 J -16597002.81 -16597002.73 -16597002.62 0.0089 0.0074

Neptune -50153-02-15 21:21 J -16596914.66 -16596914.61 -16596914.53 0.0089 0.0082

Mars -50153-05-11 23:59 J -16596828.61 -16596828.50 -16596828.39 0.1856 0.1220

Moon -50152-01-29 16:47 J -16596565.86 -16596565.80 -16596565.74 0.2666 0.2422

Earth -50152-01-29 17:59 J -16596565.82 -16596565.75 -16596565.69 0.2670 0.2346 *

Venus -50150-03-05 01:11 J -16595801.52 -16595801.45 -16595801.37 0.3745 0.2545

Saturn -50150-05-26 07:54 J -16595719.27 -16595719.17 -16595719.08 0.0275 0.0199

Saturn -50150-08-22 20:23 J -16595630.78 -16595630.65 -16595630.52 0.0276 0.0102

Jupiter -50150-08-23 11:01 J -16595630.12 -16595630.04 -16595629.96 0.0539 0.0440

Saturn -50150-11-19 08:52 J -16595542.27 -16595542.13 -16595541.99 0.0277 0.0008

Jupiter -50150-11-20 22:33 J -16595540.68 -16595540.56 -16595540.44 0.0540 0.0218

Saturn -50149-02-15 21:21 J -16595453.74 -16595453.61 -16595453.48 0.0277 0.0090

Saturn -50149-05-14 09:21 J -16595365.21 -16595365.11 -16595365.00 0.0278 0.0184

Earth -50149-08-08 13:11 J -16595279.07 -16595278.95 -16595278.84 0.2666 0.0075

Moon -50149-08-08 13:25 J -16595279.06 -16595278.94 -16595278.82 0.2672 0.0071 *

Saturn -50149-08-10 21:35 J -16595276.61 -16595276.60 -16595276.59 0.0279 0.0278

Venus -50148-12-03 01:40 J -16594797.50 -16594797.43 -16594797.36 0.3642 0.3146

Mars -50146-01-03 14:37 J -16594400.95 -16594400.89 -16594400.83 0.1659 0.1449

Mars -50145-12-09 02:09 J -16593695.50 -16593695.41 -16593695.32 0.1683 0.1138

Jupiter -50144-07-08 11:30 J -16593484.12 -16593484.02 -16593483.91 0.0488 0.0386

Mars -50144-10-01 23:59 J -16593398.65 -16593398.50 -16593398.35 0.1865 0.0035

Jupiter -50144-10-06 10:18 J -16593394.22 -16593394.07 -16593393.91 0.0488 0.0235

Venus -50142-06-19 08:23 J -16592773.26 -16592773.15 -16592773.04 0.3636 0.2497

Moon -50139-02-01 18:28 J -16591814.86 -16591814.73 -16591814.61 0.2669 0.1098

Earth -50139-02-01 19:40 J -16591814.81 -16591814.68 -16591814.55 0.2668 0.1048 *

Uranus -50138-04-21 05:01 J -16591371.37 -16591371.29 -16591371.18 0.0147 0.0122

Uranus -50138-07-18 12:28 J -16591283.11 -16591282.98 -16591282.83 0.0147 0.0091

Jupiter -50138-09-09 01:54 J -16591230.55 -16591230.42 -16591230.29 0.0540 0.0065

Uranus -50138-10-14 20:09 J -16591194.82 -16591194.66 -16591194.49 0.0147 0.0059

Uranus -50137-01-11 03:49 J -16591106.52 -16591106.34 -16591106.16 0.0146 0.0027

Uranus -50137-04-08 11:30 J -16591018.20 -16591018.02 -16591017.84 0.0146 0.0006

Uranus -50137-07-05 18:57 J -16590929.88 -16590929.71 -16590929.53 0.0146 0.0039

Uranus -50137-10-02 02:52 J -16590841.54 -16590841.38 -16590841.22 0.0146 0.0070

Uranus -50137-12-29 10:18 J -16590753.18 -16590753.07 -16590752.93 0.0146 0.0104

Saturn -50136-03-21 08:37 J -16590671.21 -16590671.14 -16590671.08 0.0284 0.0259

Uranus -50136-03-27 18:13 J -16590664.79 -16590664.74 -16590664.66 0.0146 0.0136

Saturn -50136-06-18 04:04 J -16590582.48 -16590582.33 -16590582.18 0.0284 0.0134

Earth -50136-08-11 08:23 J -16590528.26 -16590528.15 -16590528.04 0.2668 0.0882

Moon -50136-08-11 09:21 J -16590528.22 -16590528.11 -16590528.00 0.2670 0.0890 *

Saturn -50136-09-14 23:59 J -16590493.67 -16590493.50 -16590493.33 0.0283 0.0009

Saturn -50136-12-12 20:09 J -16590404.82 -16590404.66 -16590404.50 0.0282 0.0119

Saturn -50135-03-11 16:33 J -16590315.89 -16590315.81 -16590315.73 0.0281 0.0248

Mars -50135-05-01 11:16 J -16590265.15 -16590265.03 -16590264.91 0.1677 0.0510

Mars -50134-02-22 00:42 J -16589968.58 -16589968.47 -16589968.36 0.1872 0.1209

Jupiter -50132-07-25 10:18 J -16589084.24 -16589084.07 -16589083.90 0.0488 0.0080

Moon -50129-08-04 02:09 J -16587978.49 -16587978.41 -16587978.32 0.2666 0.1811

Earth -50129-08-04 02:52 J -16587978.47 -16587978.38 -16587978.29 0.2663 0.1710 *

Moon -50126-02-04 20:37 J -16587063.78 -16587063.64 -16587063.50 0.2671 0.0134

Earth -50126-02-04 21:35 J -16587063.74 -16587063.60 -16587063.45 0.2666 0.0306 *

Jupiter -50126-06-28 04:33 J -16586920.44 -16586920.31 -16586920.17 0.0539 0.0100

Mars -50126-09-21 20:23 J -16586834.77 -16586834.65 -16586834.52 0.1671 0.0124

Earth -50123-08-14 03:49 J -16585777.43 -16585777.34 -16585777.26 0.2669 0.1759

Moon -50123-08-14 04:33 J -16585777.40 -16585777.31 -16585777.23 0.2667 0.1825 *

Saturn -50121-10-12 08:52 J -16584987.20 -16584987.13 -16584987.05 0.0276 0.0233

Saturn -50120-01-08 21:35 J -16584898.72 -16584898.60 -16584898.47 0.0277 0.0136

Saturn -50120-04-07 10:18 J -16584810.21 -16584810.07 -16584809.93 0.0277 0.0039

Jupiter -50120-05-13 10:04 J -16584774.25 -16584774.08 -16584773.91 0.0488 0.0074

Saturn -50120-07-04 22:33 J -16584721.69 -16584721.56 -16584721.42 0.0278 0.0058

Saturn -50120-10-01 10:47 J -16584633.16 -16584633.05 -16584632.93 0.0279 0.0153

Saturn -50120-12-28 23:01 J -16584544.60 -16584544.54 -16584544.47 0.0279 0.0247

Mars -50116-02-11 05:30 J -16583404.38 -16583404.27 -16583404.15 0.1665 0.0739

Moon -50116-08-06 22:33 J -16583227.68 -16583227.56 -16583227.45 0.2672 0.0736

Earth -50116-08-06 22:33 J -16583227.67 -16583227.56 -16583227.44 0.2664 0.0780 *

Jupiter -50114-04-16 07:11 J -16582610.31 -16582610.20 -16582610.08 0.0539 0.0265

Jupiter -50114-07-14 18:28 J -16582520.82 -16582520.73 -16582520.64 0.0539 0.0385

Mars -50114-11-10 23:59 J -16582401.60 -16582401.50 -16582401.40 0.1856 0.1323

Moon -50113-02-08 00:13 J -16582312.60 -16582312.49 -16582312.39 0.2671 0.1775

Earth -50113-02-08 00:13 J -16582312.60 -16582312.49 -16582312.38 0.2664 0.1676 *

Venus -50110-02-24 22:18 J -16581199.62 -16581199.57 -16581199.51 0.3733 0.3214

Earth -50110-08-16 22:47 J -16581026.57 -16581026.55 -16581026.53 0.2671 0.2619

Moon -50110-08-16 23:01 J -16581026.54 -16581026.54 -16581026.53 0.2665 0.2663 *

Jupiter -50108-03-01 10:18 J -16580464.22 -16580464.07 -16580463.92 0.0488 0.0222

Jupiter -50108-05-30 09:35 J -16580374.19 -16580374.10 -16580374.00 0.0488 0.0405

Mars -50107-07-04 14:37 J -16579973.96 -16579973.89 -16579973.82 0.1660 0.1362

Saturn -50107-11-05 04:18 J -16579850.45 -16579850.32 -16579850.18 0.0284 0.0169

Moon -50106-01-30 22:47 J -16579763.63 -16579763.55 -16579763.48 0.2666 0.2207

Earth -50106-01-30 23:45 J -16579763.59 -16579763.51 -16579763.43 0.2670 0.2116 *

Saturn -50106-02-02 00:13 J -16579761.66 -16579761.49 -16579761.32 0.0283 0.0043

Saturn -50106-05-01 20:23 J -16579672.82 -16579672.65 -16579672.48 0.0282 0.0085

Saturn -50106-07-29 16:33 J -16579583.91 -16579583.81 -16579583.69 0.0282 0.0214

Mars -50105-06-09 02:09 J -16579268.50 -16579268.41 -16579268.33 0.1683 0.1217

Venus -50105-09-09 14:37 J -16579175.99 -16579175.89 -16579175.79 0.3738 0.1000

Mars -50104-04-02 00:42 J -16578971.62 -16578971.47 -16578971.32 0.1864 0.0132

Earth -50103-08-09 18:13 J -16578476.86 -16578476.74 -16578476.62 0.2666 0.0147

Moon -50103-08-09 18:42 J -16578476.84 -16578476.72 -16578476.61 0.2671 0.0128 *

Jupiter -50102-02-02 09:21 J -16578300.19 -16578300.11 -16578300.03 0.0539 0.0439

Jupiter -50102-05-02 20:52 J -16578210.75 -16578210.63 -16578210.50 0.0540 0.0221

Pluto -50102-10-21 20:37 J -16578038.66 -16578038.64 -16578038.59 0.0082 0.0079

Pluto -50101-01-17 22:33 J -16577950.63 -16577950.56 -16577950.48 0.0082 0.0070

Pluto -50101-04-15 00:13 J -16577862.59 -16577862.49 -16577862.39 0.0081 0.0061

Pluto -50101-07-12 01:25 J -16577774.53 -16577774.44 -16577774.31 0.0081 0.0053

Pluto -50101-10-08 03:21 J -16577686.48 -16577686.36 -16577686.23 0.0081 0.0043

Pluto -50100-01-04 05:01 J -16577598.42 -16577598.29 -16577598.16 0.0081 0.0034

Pluto -50100-04-02 06:28 J -16577510.36 -16577510.23 -16577510.09 0.0081 0.0026

Pluto -50100-06-29 08:09 J -16577422.30 -16577422.16 -16577422.02 0.0081 0.0017

Pluto -50100-09-25 09:35 J -16577334.24 -16577334.10 -16577333.95 0.0081 0.0009

Pluto -50100-12-22 11:16 J -16577246.18 -16577246.03 -16577245.89 0.0080 0.0001

Pluto -50099-03-20 12:42 J -16577158.12 -16577157.97 -16577157.82 0.0080 0.0008

Venus -50099-03-26 06:42 J -16577152.31 -16577152.22 -16577152.12 0.3742 0.1195

Pluto -50099-06-16 14:09 J -16577070.05 -16577069.91 -16577069.77 0.0080 0.0017

Pluto -50099-09-12 15:35 J -16576981.98 -16576981.85 -16576981.71 0.0080 0.0025

Pluto -50099-12-09 17:01 J -16576893.92 -16576893.79 -16576893.65 0.0080 0.0033

Pluto -50098-03-07 18:28 J -16576805.85 -16576805.73 -16576805.60 0.0080 0.0041

Pluto -50098-06-03 19:54 J -16576717.78 -16576717.67 -16576717.55 0.0080 0.0049

Pluto -50098-08-30 21:21 J -16576629.71 -16576629.61 -16576629.51 0.0080 0.0057

Pluto -50098-11-26 22:33 J -16576541.63 -16576541.56 -16576541.46 0.0079 0.0065

Pluto -50097-02-22 23:59 J -16576453.54 -16576453.50 -16576453.43 0.0079 0.0072

Jupiter -50097-12-18 10:47 J -16576154.16 -16576154.05 -16576153.94 0.0488 0.0368

Jupiter -50096-03-18 09:35 J -16576064.25 -16576064.10 -16576063.95 0.0488 0.0253

Uranus -50096-05-09 11:01 J -16576012.09 -16576012.04 -16576011.96 0.0132 0.0116

Moon -50096-08-02 11:16 J -16575927.06 -16575927.03 -16575927.00 0.2661 0.2535

Earth -50096-08-02 12:13 J -16575927.03 -16575926.99 -16575926.95 0.2661 0.2486 *

Uranus -50096-08-05 14:37 J -16575923.98 -16575923.89 -16575923.79 0.0132 0.0097

Mars -50096-10-30 11:30 J -16575838.14 -16575838.02 -16575837.91 0.1677 0.0600

Uranus -50096-11-01 17:59 J -16575835.86 -16575835.75 -16575835.64 0.0132 0.0079

Uranus -50095-01-28 21:21 J -16575747.73 -16575747.61 -16575747.49 0.0132 0.0061

Uranus -50095-04-27 00:28 J -16575659.60 -16575659.48 -16575659.34 0.0132 0.0043

Uranus -50095-07-24 03:49 J -16575571.47 -16575571.34 -16575571.20 0.0132 0.0025

Mars -50095-08-23 00:57 J -16575541.57 -16575541.46 -16575541.34 0.1872 0.1087

Uranus -50095-10-20 07:11 J -16575483.34 -16575483.20 -16575483.06 0.0132 0.0007

Uranus -50094-01-16 10:18 J -16575395.20 -16575395.07 -16575394.93 0.0132 0.0011

Uranus -50094-04-14 13:40 J -16575307.07 -16575306.93 -16575306.80 0.0132 0.0029

Uranus -50094-07-11 16:47 J -16575218.93 -16575218.80 -16575218.67 0.0132 0.0047

Uranus -50094-10-07 19:54 J -16575130.78 -16575130.67 -16575130.55 0.0132 0.0064

Venus -50094-10-09 22:47 J -16575128.59 -16575128.55 -16575128.50 0.3746 0.3349

Uranus -50093-01-03 23:01 J -16575042.64 -16575042.54 -16575042.43 0.0132 0.0082

Moon -50093-02-03 00:13 J -16575012.62 -16575012.49 -16575012.36 0.2670 0.0932

Earth -50093-02-03 01:25 J -16575012.57 -16575012.44 -16575012.30 0.2668 0.0815 *

Uranus -50093-04-01 02:23 J -16574954.49 -16574954.40 -16574954.31 0.0132 0.0100

Uranus -50093-06-28 05:16 J -16574866.33 -16574866.28 -16574866.21 0.0132 0.0118

Saturn -50091-03-01 10:47 J -16574255.09 -16574255.05 -16574255.01 0.0275 0.0262

Saturn -50091-05-28 23:30 J -16574166.63 -16574166.52 -16574166.40 0.0275 0.0165

Venus -50091-07-10 03:06 J -16574124.51 -16574124.37 -16574124.23 0.3641 0.1225

Saturn -50091-08-25 12:13 J -16574078.13 -16574077.99 -16574077.86 0.0276 0.0069

Saturn -50091-11-22 00:28 J -16573989.61 -16573989.48 -16573989.34 0.0277 0.0028

Saturn -50090-02-18 12:57 J -16573901.09 -16573900.96 -16573900.84 0.0277 0.0122

Jupiter -50090-02-19 00:13 J -16573900.62 -16573900.49 -16573900.35 0.0540 0.0070

Saturn -50090-05-18 00:57 J -16573812.54 -16573812.46 -16573812.37 0.0278 0.0216

Earth -50090-08-12 13:25 J -16573726.04 -16573725.94 -16573725.83 0.2668 0.1044

Moon -50090-08-12 14:23 J -16573726.01 -16573725.90 -16573725.80 0.2670 0.1164 *

Mars -50086-03-22 20:37 J -16572407.77 -16572407.64 -16572407.51 0.1671 0.0030

Jupiter -50084-01-04 09:06 J -16571754.28 -16571754.12 -16571753.95 0.0488 0.0096

Moon -50083-08-05 07:25 J -16571176.28 -16571176.19 -16571176.09 0.2668 0.1578

Earth -50083-08-05 08:09 J -16571176.26 -16571176.16 -16571176.07 0.2663 0.1540 *

Moon -50080-02-05 02:52 J -16570261.52 -16570261.38 -16570261.24 0.2671 0.0551

Earth -50080-02-05 03:49 J -16570261.49 -16570261.34 -16570261.21 0.2666 0.0544 *

Jupiter -50079-12-08 03:35 J -16569590.48 -16569590.35 -16569590.21 0.0540 0.0087

Saturn -50077-03-24 01:11 J -16569118.55 -16569118.45 -16569118.34 0.0284 0.0222

Saturn -50077-06-20 20:52 J -16569029.79 -16569029.63 -16569029.46 0.0284 0.0097

Mars -50077-08-12 05:45 J -16568977.38 -16568977.26 -16568977.14 0.1665 0.0649

Earth -50077-08-14 08:37 J -16568975.22 -16568975.14 -16568975.06 0.2670 0.1918

Moon -50077-08-14 09:21 J -16568975.19 -16568975.11 -16568975.03 0.2666 0.1925 *

Saturn -50077-09-17 17:01 J -16568940.96 -16568940.79 -16568940.62 0.0283 0.0030

Saturn -50077-12-15 13:11 J -16568852.09 -16568851.95 -16568851.80 0.0282 0.0158

Neptune -50076-05-03 00:13 J -16568713.53 -16568713.49 -16568713.44 0.0088 0.0084

Neptune -50076-07-30 01:54 J -16568625.48 -16568625.42 -16568625.34 0.0088 0.0078

Neptune -50076-10-26 03:49 J -16568537.42 -16568537.34 -16568537.25 0.0088 0.0071

Neptune -50075-01-22 05:30 J -16568449.36 -16568449.27 -16568449.16 0.0088 0.0064

Neptune -50075-04-20 07:25 J -16568361.30 -16568361.19 -16568361.08 0.0088 0.0058

Neptune -50075-07-17 09:06 J -16568273.23 -16568273.12 -16568273.00 0.0088 0.0051

Neptune -50075-10-13 10:33 J -16568185.17 -16568185.06 -16568184.92 0.0089 0.0046

Neptune -50074-01-09 12:28 J -16568097.10 -16568096.98 -16568096.84 0.0089 0.0039

Neptune -50074-04-07 14:09 J -16568009.04 -16568008.91 -16568008.77 0.0089 0.0033

Mars -50074-05-12 00:42 J -16567974.56 -16567974.47 -16567974.38 0.1856 0.1461

Neptune -50074-07-04 16:04 J -16567920.97 -16567920.83 -16567920.69 0.0089 0.0026

Neptune -50074-09-30 17:45 J -16567832.90 -16567832.76 -16567832.62 0.0089 0.0019

Neptune -50074-12-27 19:25 J -16567744.83 -16567744.69 -16567744.55 0.0089 0.0013

Neptune -50073-03-24 21:06 J -16567656.76 -16567656.62 -16567656.47 0.0089 0.0007

Neptune -50073-06-20 22:47 J -16567568.69 -16567568.55 -16567568.40 0.0089 0.0001

Neptune -50073-09-17 00:28 J -16567480.62 -16567480.48 -16567480.33 0.0089 0.0006

Jupiter -50073-10-23 09:06 J -16567444.29 -16567444.12 -16567443.95 0.0488 0.0059

Neptune -50073-12-14 02:09 J -16567392.55 -16567392.41 -16567392.27 0.0089 0.0012

Neptune -50072-03-12 03:49 J -16567304.48 -16567304.34 -16567304.20 0.0089 0.0018

Neptune -50072-06-08 05:16 J -16567216.41 -16567216.28 -16567216.13 0.0089 0.0025

Neptune -50072-09-04 06:57 J -16567128.34 -16567128.21 -16567128.07 0.0089 0.0031

Neptune -50072-12-01 08:37 J -16567040.26 -16567040.14 -16567040.01 0.0089 0.0037

Neptune -50071-02-27 10:18 J -16566952.19 -16566952.07 -16566951.94 0.0089 0.0043

Neptune -50071-05-26 11:45 J -16566864.12 -16566864.01 -16566863.88 0.0089 0.0050

Neptune -50071-08-22 13:25 J -16566776.04 -16566775.94 -16566775.82 0.0089 0.0056

Neptune -50071-11-18 15:06 J -16566687.97 -16566687.87 -16566687.76 0.0089 0.0062

Neptune -50070-02-14 16:33 J -16566599.89 -16566599.81 -16566599.71 0.0089 0.0068

Neptune -50070-05-13 18:13 J -16566511.81 -16566511.74 -16566511.65 0.0089 0.0074

Moon -50070-08-08 03:35 J -16566425.46 -16566425.35 -16566425.23 0.2672 0.0667

Earth -50070-08-08 03:49 J -16566425.46 -16566425.34 -16566425.23 0.2665 0.0610 *

Neptune -50070-08-09 19:54 J -16566423.72 -16566423.67 -16566423.60 0.0089 0.0080

Neptune -50070-11-05 21:21 J -16566335.63 -16566335.61 -16566335.56 0.0089 0.0086

Mars -50067-01-02 14:52 J -16565546.96 -16565546.88 -16565546.80 0.1659 0.1273

Earth -50067-02-08 06:13 J -16565510.34 -16565510.24 -16565510.14 0.2664 0.1929

Moon -50067-02-08 06:28 J -16565510.33 -16565510.23 -16565510.13 0.2671 0.1853 *

Jupiter -50067-09-26 06:28 J -16565280.35 -16565280.23 -16565280.11 0.0539 0.0248

Jupiter -50067-12-24 17:30 J -16565190.85 -16565190.77 -16565190.68 0.0540 0.0402

Mars -50066-12-09 02:09 J -16564841.48 -16564841.41 -16564841.33 0.1683 0.1305

Mars -50065-10-01 00:42 J -16564544.61 -16564544.47 -16564544.32 0.1864 0.0241

Saturn -50062-10-16 00:42 J -16563434.57 -16563434.47 -16563434.38 0.0276 0.0200

Saturn -50061-01-12 13:11 J -16563346.08 -16563345.95 -16563345.81 0.0277 0.0104

Saturn -50061-04-10 01:40 J -16563257.57 -16563257.43 -16563257.29 0.0277 0.0012

Saturn -50061-07-07 14:09 J -16563169.04 -16563168.91 -16563168.78 0.0278 0.0088

Jupiter -50061-08-11 09:06 J -16563134.27 -16563134.12 -16563133.96 0.0488 0.0210

Saturn -50061-10-04 02:09 J -16563080.50 -16563080.41 -16563080.30 0.0279 0.0184

Jupiter -50061-11-09 08:37 J -16563044.23 -16563044.14 -16563044.06 0.0488 0.0419

Saturn -50061-12-31 14:23 J -16562991.91 -16562991.90 -16562991.88 0.0279 0.0277

Moon -50060-01-31 04:18 J -16562961.41 -16562961.32 -16562961.22 0.2667 0.1929

Earth -50060-01-31 05:30 J -16562961.36 -16562961.27 -16562961.17 0.2669 0.1891 *

Earth -50057-08-09 23:16 J -16561674.65 -16561674.53 -16561674.41 0.2666 0.0307

Moon -50057-08-09 23:45 J -16561674.62 -16561674.51 -16561674.39 0.2671 0.0422 *

Mars -50056-04-30 11:30 J -16561411.14 -16561411.02 -16561410.91 0.1677 0.0681

Mars -50055-02-21 01:25 J -16561114.57 -16561114.44 -16561114.32 0.1872 0.0970

Jupiter -50055-07-15 08:52 J -16560970.21 -16560970.13 -16560970.04 0.0539 0.0416

Jupiter -50055-10-12 20:23 J -16560880.77 -16560880.65 -16560880.53 0.0539 0.0241

Uranus -50054-05-11 11:45 J -16560670.11 -16560670.01 -16560669.89 0.0147 0.0117

Uranus -50054-08-07 19:11 J -16560581.84 -16560581.70 -16560581.55 0.0147 0.0085

Venus -50054-10-01 19:54 J -16560526.74 -16560526.67 -16560526.59 0.3734 0.2390

Uranus -50054-11-04 02:52 J -16560493.55 -16560493.38 -16560493.21 0.0147 0.0053

Uranus -50053-01-31 10:33 J -16560405.24 -16560405.06 -16560404.88 0.0147 0.0022

Uranus -50053-04-28 17:59 J -16560316.93 -16560316.75 -16560316.56 0.0147 0.0012

Uranus -50053-07-26 01:40 J -16560228.60 -16560228.43 -16560228.25 0.0146 0.0043

Uranus -50053-10-22 09:35 J -16560140.26 -16560140.10 -16560139.95 0.0146 0.0076

Uranus -50052-01-18 17:01 J -16560051.90 -16560051.79 -16560051.66 0.0146 0.0109

Uranus -50052-04-17 00:57 J -16559963.50 -16559963.46 -16559963.41 0.0146 0.0141

Moon -50050-08-03 16:33 J -16559124.86 -16559124.81 -16559124.77 0.2662 0.2416

Earth -50050-08-03 17:16 J -16559124.83 -16559124.78 -16559124.72 0.2662 0.2309 *

Jupiter -50049-05-30 09:35 J -16558824.22 -16558824.10 -16558823.99 0.0488 0.0356

Jupiter -50049-08-28 08:23 J -16558734.29 -16558734.15 -16558734.01 0.0488 0.0265

Venus -50048-04-16 12:13 J -16558503.09 -16558502.99 -16558502.89 0.3739 0.0179

Saturn -50048-08-11 01:25 J -16558386.51 -16558386.44 -16558386.37 0.0284 0.0258

Saturn -50048-11-07 20:52 J -16558297.78 -16558297.63 -16558297.48 0.0284 0.0133

Moon -50047-02-03 06:13 J -16558210.38 -16558210.24 -16558210.11 0.2670 0.0668

Earth -50047-02-03 07:25 J -16558210.33 -16558210.19 -16558210.05 0.2667 0.0576 *

Saturn -50047-02-04 16:47 J -16558208.97 -16558208.80 -16558208.62 0.0283 0.0009

Saturn -50047-05-04 12:57 J -16558120.11 -16558119.96 -16558119.80 0.0282 0.0121

Saturn -50047-08-01 09:35 J -16558031.18 -16558031.10 -16558031.02 0.0282 0.0250

Mars -50047-09-20 20:37 J -16557980.77 -16557980.64 -16557980.51 0.1671 0.0059

Earth -50044-08-12 18:28 J -16556923.83 -16556923.73 -16556923.62 0.2668 0.1202

Moon -50044-08-12 19:25 J -16556923.80 -16556923.69 -16556923.59 0.2670 0.1199 *

Jupiter -50043-07-31 22:47 J -16556570.68 -16556570.55 -16556570.42 0.0540 0.0071

Venus -50043-10-31 04:18 J -16556479.41 -16556479.32 -16556479.23 0.3743 0.1998

Mars -50037-02-11 05:45 J -16554550.38 -16554550.26 -16554550.14 0.1665 0.0563

Jupiter -50037-06-16 08:23 J -16554424.31 -16554424.15 -16554423.98 0.0488 0.0116

Moon -50037-08-05 12:42 J -16554374.07 -16554373.97 -16554373.87 0.2669 0.1398

Earth -50037-08-05 13:11 J -16554374.05 -16554373.95 -16554373.85 0.2663 0.1364 *

Mars -50035-11-10 00:57 J -16553547.53 -16553547.46 -16553547.38 0.1856 0.1590

Moon -50034-02-06 09:06 J -16553459.26 -16553459.12 -16553458.98 0.2671 0.0688

Earth -50034-02-06 09:35 J -16553459.23 -16553459.10 -16553458.96 0.2665 0.0783 *

Venus -50034-02-14 04:33 J -16553451.46 -16553451.31 -16553451.16 0.3639 0.0720

Saturn -50032-03-04 02:37 J -16552702.47 -16552702.39 -16552702.31 0.0275 0.0228

Saturn -50032-05-31 15:21 J -16552613.98 -16552613.86 -16552613.74 0.0275 0.0131

Saturn -50032-08-28 03:49 J -16552525.48 -16552525.34 -16552525.20 0.0276 0.0036

Saturn -50032-11-24 16:04 J -16552436.96 -16552436.83 -16552436.69 0.0277 0.0060

Saturn -50031-02-21 04:18 J -16552348.43 -16552348.32 -16552348.20 0.0277 0.0154

Jupiter -50031-05-20 02:09 J -16552260.55 -16552260.41 -16552260.28 0.0540 0.0086

Saturn -50031-05-20 16:33 J -16552259.87 -16552259.81 -16552259.75 0.0278 0.0247

Earth -50031-08-15 13:40 J -16552173.00 -16552172.93 -16552172.86 0.2670 0.2074

Moon -50031-08-15 14:23 J -16552172.97 -16552172.90 -16552172.83 0.2665 0.2171 *

Mars -50028-07-03 14:52 J -16551119.97 -16551119.88 -16551119.79 0.1660 0.1184

Mars -50026-06-09 02:23 J -16550414.47 -16550414.40 -16550414.33 0.1683 0.1390

Mars -50025-04-01 01:11 J -16550117.59 -16550117.45 -16550117.30 0.1864 0.0368

Jupiter -50025-04-04 08:09 J -16550114.33 -16550114.16 -16550113.99 0.0488 0.0043

Moon -50024-08-08 08:52 J -16549623.25 -16549623.13 -16549623.02 0.2672 0.0412

Earth -50024-08-08 08:52 J -16549623.25 -16549623.13 -16549623.02 0.2665 0.0441 *

Earth -50021-02-09 12:13 J -16548708.07 -16548707.99 -16548707.91 0.2663 0.2174

Moon -50021-02-09 12:28 J -16548708.05 -16548707.98 -16548707.91 0.2670 0.2286 *

Jupiter -50019-03-08 05:16 J -16547950.40 -16547950.28 -16547950.16 0.0540 0.0238

Jupiter -50019-06-05 16:33 J -16547860.89 -16547860.81 -16547860.73 0.0540 0.0413

Saturn -50018-03-27 17:45 J -16547565.88 -16547565.76 -16547565.62 0.0284 0.0187

Saturn -50018-06-24 13:40 J -16547477.09 -16547476.93 -16547476.76 0.0284 0.0061

Saturn -50018-09-21 09:49 J -16547388.26 -16547388.09 -16547387.92 0.0283 0.0067

Saturn -50018-12-19 05:59 J -16547299.37 -16547299.25 -16547299.12 0.0282 0.0195

Mars -50017-10-29 11:30 J -16546984.13 -16546984.02 -16546983.90 0.1677 0.0769

Mars -50016-08-22 01:40 J -16546687.56 -16546687.43 -16546687.30 0.1872 0.0843

Moon -50014-02-01 10:18 J -16546159.17 -16546159.07 -16546158.97 0.2668 0.1825

Earth -50014-02-01 11:30 J -16546159.13 -16546159.02 -16546158.91 0.2669 0.1656 *

Jupiter -50013-01-22 08:23 J -16545804.31 -16545804.15 -16545804.00 0.0488 0.0193

Jupiter -50013-04-21 07:40 J -16545714.26 -16545714.18 -16545714.11 0.0488 0.0435

Uranus -50012-03-02 14:37 J -16545398.90 -16545398.89 -16545398.85 0.0132 0.0130

Uranus -50012-05-29 18:13 J -16545310.81 -16545310.74 -16545310.66 0.0132 0.0111

Uranus -50012-08-25 21:35 J -16545222.69 -16545222.60 -16545222.49 0.0132 0.0093

Uranus -50012-11-22 00:57 J -16545134.57 -16545134.46 -16545134.34 0.0132 0.0075

Uranus -50011-02-18 04:18 J -16545046.44 -16545046.32 -16545046.19 0.0132 0.0057

Uranus -50011-05-17 07:40 J -16544958.31 -16544958.18 -16544958.05 0.0132 0.0039

Earth -50011-08-11 04:18 J -16544872.44 -16544872.32 -16544872.20 0.2667 0.0471

Moon -50011-08-11 05:01 J -16544872.41 -16544872.29 -16544872.18 0.2672 0.0471 *

Uranus -50011-08-13 11:01 J -16544870.18 -16544870.04 -16544869.91 0.0132 0.0021

Uranus -50011-11-09 14:09 J -16544782.05 -16544781.91 -16544781.77 0.0132 0.0004

Uranus -50010-02-05 17:30 J -16544693.91 -16544693.77 -16544693.63 0.0132 0.0016

Uranus -50010-05-04 20:37 J -16544605.77 -16544605.64 -16544605.50 0.0132 0.0033

Uranus -50010-07-31 23:45 J -16544517.63 -16544517.51 -16544517.38 0.0132 0.0051

Uranus -50010-10-28 02:52 J -16544429.49 -16544429.38 -16544429.25 0.0132 0.0069

Uranus -50009-01-24 06:13 J -16544341.34 -16544341.24 -16544341.13 0.0132 0.0086

Uranus -50009-04-21 09:21 J -16544253.19 -16544253.11 -16544253.02 0.0132 0.0104

Uranus -50009-07-18 12:28 J -16544165.02 -16544164.98 -16544164.92 0.0132 0.0122

Jupiter -50008-12-25 08:09 J -16543640.25 -16543640.16 -16543640.07 0.0539 0.0401

Mars -50007-03-21 20:52 J -16543553.76 -16543553.63 -16543553.51 0.1671 0.0153

Jupiter -50007-03-24 19:40 J -16543550.80 -16543550.68 -16543550.57 0.0540 0.0256

Moon -50004-08-03 21:35 J -16542322.67 -16542322.60 -16542322.53 0.2663 0.2152

Earth -50004-08-03 22:33 J -16542322.63 -16542322.56 -16542322.49 0.2662 0.2136 *

Saturn -50003-07-22 03:21 J -16541970.39 -16541970.36 -16541970.31 0.0275 0.0264

Saturn -50003-10-18 16:18 J -16541881.93 -16541881.82 -16541881.71 0.0276 0.0167

Saturn -50002-01-15 04:47 J -16541793.43 -16541793.30 -16541793.16 0.0276 0.0071

Saturn -50002-04-13 17:16 J -16541704.92 -16541704.78 -16541704.64 0.0277 0.0025

Saturn -50002-07-11 05:30 J -16541616.39 -16541616.27 -16541616.14 0.0278 0.0120

Saturn -50002-10-07 17:30 J -16541527.85 -16541527.77 -16541527.67 0.0279 0.0215

Jupiter -50002-11-10 08:23 J -16541494.27 -16541494.15 -16541494.03 0.0488 0.0344

Moon -50001-02-04 12:13 J -16541408.13 -16541407.99 -16541407.86 0.2670 0.0434

Earth -50001-02-04 13:25 J -16541408.08 -16541407.94 -16541407.80 0.2667 0.0346 *

Jupiter -50001-02-08 07:11 J -16541404.34 -16541404.20 -16541404.06 0.0488 0.0278

50TH MILLENNIUM BCE

This is a list of transits of Mercury in the 50th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Mars	**-49998-08-12 05:59 J**		**-16540123.38**	**-16540123.25**	**-16540123.13**	**0.1665**	**0.0482**	
Earth	**-49998-08-13 23:30 J**		**-16540121.62**	**-16540121.52**	**-16540121.42**	**0.2669**	**0.1362**	
Moon	**-49998-08-14 00:28 J**		**-16540121.58**	**-16540121.48**	**-16540121.39**	**0.2668**	**0.1490**	*
Venus	**-49997-05-07 17:30 J**		**-16539853.86**	**-16539853.77**	**-16539853.67**	**0.3735**	**0.1567**	
Jupiter	**-49995-01-10 22:18 J**		**-16539240.70**	**-16539240.57**	**-16539240.43**	**0.0539**	**0.0095**	
Mars	**-49995-05-11 01:11 J**		**-16539120.50**	**-16539120.45**	**-16539120.39**	**0.1856**	**0.1702**	
Neptune	**-49994-07-23 06:57 J**		**-16538682.25**	**-16538682.21**	**-16538682.14**	**0.0089**	**0.0084**	
Neptune	**-49994-10-19 09:49 J**		**-16538594.17**	**-16538594.09**	**-16538594.00**	**0.0089**	**0.0076**	
Neptune	**-49993-01-15 12:13 J**		**-16538506.08**	**-16538505.99**	**-16538505.87**	**0.0089**	**0.0069**	
Neptune	**-49993-04-12 15:21 J**		**-16538417.98**	**-16538417.86**	**-16538417.74**	**0.0089**	**0.0061**	
Neptune	**-49993-07-09 17:45 J**		**-16538329.88**	**-16538329.76**	**-16538329.61**	**0.0089**	**0.0054**	
Neptune	**-49993-10-05 20:23 J**		**-16538241.78**	**-16538241.65**	**-16538241.49**	**0.0089**	**0.0047**	
Neptune	**-49992-01-01 23:16 J**		**-16538153.68**	**-16538153.53**	**-16538153.37**	**0.0089**	**0.0039**	
Neptune	**-49992-03-31 02:09 J**		**-16538065.57**	**-16538065.41**	**-16538065.25**	**0.0089**	**0.0031**	
Neptune	**-49992-06-27 04:47 J**		**-16537977.46**	**-16537977.30**	**-16537977.13**	**0.0089**	**0.0024**	
Neptune	**-49992-09-23 07:40 J**		**-16537889.35**	**-16537889.18**	**-16537889.01**	**0.0089**	**0.0016**	
Venus	**-49992-11-21 09:49 J**		**-16537830.19**	**-16537830.09**	**-16537829.99**	**0.3740**	**0.0642**	
Neptune	**-49992-12-20 10:18 J**		**-16537801.24**	**-16537801.07**	**-16537800.89**	**0.0089**	**0.0009**	
Neptune	**-49991-03-18 13:11 J**		**-16537713.12**	**-16537712.95**	**-16537712.78**	**0.0089**	**0.0001**	
Neptune	**-49991-06-14 16:04 J**		**-16537625.01**	**-16537624.83**	**-16537624.66**	**0.0089**	**0.0007**	

Moon -49991-08-06 17:45 J -16537571.86 -16537571.76 -16537571.65 0.2670 0.1261

Earth -49991-08-06 18:13 J -16537571.84 -16537571.74 -16537571.63 0.2664 0.1191 *

Neptune -49991-09-10 18:42 J -16537536.89 -16537536.72 -16537536.55 0.0089 0.0015

Neptune -49991-12-07 21:21 J -16537448.77 -16537448.61 -16537448.43 0.0089 0.0023

Neptune -49990-03-06 00:28 J -16537360.65 -16537360.48 -16537360.32 0.0089 0.0030

Neptune -49990-06-02 03:06 J -16537272.52 -16537272.37 -16537272.21 0.0089 0.0038

Neptune -49990-08-29 05:59 J -16537184.40 -16537184.25 -16537184.10 0.0089 0.0046

Jupiter -49990-08-29 08:52 J -16537184.13 -16537184.13 -16537184.12 0.0488 0.0488 *

Neptune -49990-11-25 08:37 J -16537096.27 -16537096.14 -16537095.99 0.0089 0.0054

Jupiter -49990-11-27 07:25 J -16537094.36 -16537094.19 -16537094.03 0.0488 0.0128

Neptune -49989-02-21 11:30 J -16537008.13 -16537008.02 -16537007.88 0.0089 0.0062

Neptune -49989-05-19 14:23 J -16536919.99 -16536919.90 -16536919.78 0.0089 0.0070

Saturn -49989-08-13 17:45 J -16536833.86 -16536833.76 -16536833.65 0.0284 0.0223

Neptune -49989-08-15 17:01 J -16536831.85 -16536831.79 -16536831.68 0.0089 0.0078

Saturn -49989-11-10 13:25 J -16536745.10 -16536744.94 -16536744.78 0.0284 0.0098

Neptune -49989-11-11 20:23 J -16536743.69 -16536743.65 -16536743.60 0.0089 0.0085

Mars -49988-01-01 15:06 J -16536692.97 -16536692.87 -16536692.78 0.1660 0.1099

Moon -49988-02-06 15:21 J -16536656.99 -16536656.86 -16536656.73 0.2672 0.1021

Earth -49988-02-06 15:35 J -16536656.98 -16536656.85 -16536656.72 0.2665 0.1019 *

Saturn -49988-02-07 09:21 J -16536656.28 -16536656.11 -16536655.93 0.0283 0.0030

Saturn -49988-05-07 05:45 J -16536567.40 -16536567.26 -16536567.11 0.0282 0.0157

Mars -49987-12-08 02:23 J -16535987.46 -16535987.40 -16535987.34 0.1683 0.1469

Venus -49986-06-07 01:54 J -16535806.49 -16535806.42 -16535806.36 0.3744 0.2801

Mars -49986-10-01 01:40 J -16535690.57 -16535690.43 -16535690.28 0.1864 0.0502

Earth -49985-08-15 18:42 J -16535370.78 -16535370.72 -16535370.66 0.2670 0.2229

Moon -49985-08-15 19:25 J -16535370.76 -16535370.69 -16535370.63 0.2666 0.2214 *

Jupiter -49984-10-30 00:28 J -16534930.61 -16534930.48 -16534930.34 0.0540 0.0082

Venus -49983-03-06 23:30 J -16534802.61 -16534802.52 -16534802.44 0.3644 0.2943

Earth -49978-08-09 13:54 J -16532821.04 -16532820.92 -16532820.80 0.2665 0.0269

Moon -49978-08-09 14:09 J -16532821.03 -16532820.91 -16532820.79 0.2672 0.0257 *

Jupiter -49978-09-15 07:40 J -16532784.35 -16532784.18 -16532784.01 0.0488 0.0024

Venus -49978-09-21 05:59 J -16532778.35 -16532778.25 -16532778.15 0.3637 0.2691

Mars -49977-04-29 11:45 J -16532557.12 -16532557.01 -16532556.91 0.1677 0.0853

Mars -49976-02-20 02:09 J -16532260.55 -16532260.41 -16532260.27 0.1872 0.0717

Earth -49975-02-09 18:28 J -16531905.79 -16531905.73 -16531905.68 0.2663 0.2425

Moon -49975-02-09 18:42 J -16531905.78 -16531905.72 -16531905.66 0.2669 0.2390 *

Saturn -49973-03-06 18:28 J -16531149.82 -16531149.73 -16531149.62 0.0275 0.0193

Saturn -49973-06-03 07:11 J -16531061.33 -16531061.20 -16531061.07 0.0276 0.0097

Saturn -49973-08-30 19:40 J -16530972.82 -16530972.68 -16530972.54 0.0276 0.0002

Saturn -49973-11-27 07:54 J -16530884.30 -16530884.17 -16530884.04 0.0277 0.0094

Saturn -49972-02-23 20:09 J -16530795.76 -16530795.66 -16530795.56 0.0278 0.0187

Jupiter -49972-08-18 03:35 J -16530620.47 -16530620.35 -16530620.23 0.0540 0.0239

Jupiter -49972-11-15 14:52 J -16530530.96 -16530530.88 -16530530.80 0.0540 0.0414

Uranus -49970-03-04 11:01 J -16530057.07 -16530057.04 -16530056.99 0.0147 0.0143

Uranus -49970-05-31 18:42 J -16529968.84 -16529968.72 -16529968.61 0.0147 0.0111

Uranus -49970-08-28 01:54 J -16529880.56 -16529880.42 -16529880.26 0.0147 0.0080

Uranus -49970-11-24 09:35 J -16529792.27 -16529792.10 -16529791.93 0.0147 0.0048

Uranus -49969-02-20 17:16 J -16529703.96 -16529703.78 -16529703.60 0.0147 0.0016

Uranus -49969-05-19 00:57 J -16529615.64 -16529615.46 -16529615.28 0.0146 0.0017

Uranus -49969-08-15 08:23 J -16529527.32 -16529527.15 -16529526.97 0.0146 0.0049

Uranus -49969-11-11 16:04 J -16529438.97 -16529438.83 -16529438.67 0.0146 0.0082

Moon -49968-02-01 16:04 J -16529356.95 -16529356.83 -16529356.71 0.2669 0.1436

Earth -49968-02-01 17:30 J -16529356.89 -16529356.77 -16529356.66 0.2669 0.1428 *

Uranus -49968-02-07 23:45 J -16529350.61 -16529350.51 -16529350.39 0.0146 0.0115

Mars -49968-09-19 20:52 J -16529126.75 -16529126.63 -16529126.50 0.1671 0.0233

Jupiter -49966-07-04 07:25 J -16528474.35 -16528474.19 -16528474.04 0.0488 0.0178

Jupiter -49966-10-02 06:28 J -16528384.29 -16528384.23 -16528384.16 0.0487 0.0450

Earth -49965-08-11 09:21 J -16528070.22 -16528070.11 -16528070.00 0.2667 0.0634

Moon -49965-08-11 10:04 J -16528070.20 -16528070.08 -16528069.97 0.2672 0.0739 *

Jupiter -49960-06-06 06:42 J -16526310.31 -16526310.22 -16526310.12 0.0539 0.0394

Jupiter -49960-09-03 18:28 J -16526220.85 -16526220.73 -16526220.62 0.0540 0.0265

Saturn -49960-12-31 15:06 J -16526101.91 -16526101.87 -16526101.82 0.0285 0.0273

Saturn -49959-03-30 10:47 J -16526013.19 -16526013.05 -16526012.91 0.0284 0.0149

Saturn -49959-06-27 06:42 J -16525924.40 -16525924.22 -16525924.05 0.0283 0.0024

Saturn -49959-09-24 02:37 J -16525835.55 -16525835.39 -16525835.22 0.0283 0.0105

Saturn -49959-12-21 23:01 J -16525746.63 -16525746.54 -16525746.44 0.0282 0.0234

Mars -49958-02-10 05:59 J -16525696.37 -16525696.25 -16525696.12 0.1665 0.0390

Moon -49958-08-05 02:52 J -16525520.45 -16525520.38 -16525520.31 0.2665 0.2090

Earth -49958-08-05 03:35 J -16525520.43 -16525520.35 -16525520.27 0.2662 0.1958 *

Mars -49956-11-09 01:40 J -16524693.45 -16524693.43 -16524693.41 0.1856 0.1834

Moon -49955-02-04 18:13 J -16524605.88 -16524605.74 -16524605.60 0.2670 0.0228

Earth -49955-02-04 19:25 J -16524605.83 -16524605.69 -16524605.55 0.2667 0.0115 *

Jupiter -49954-04-22 07:25 J -16524164.31 -16524164.19 -16524164.06 0.0488 0.0328

Jupiter -49954-07-21 06:13 J -16524074.37 -16524074.24 -16524074.10 0.0488 0.0294

Earth -49952-08-14 04:33 J -16523319.40 -16523319.31 -16523319.21 0.2669 0.1519

Moon -49952-08-14 05:30 J -16523319.37 -16523319.27 -16523319.18 0.2667 0.1520 *

Mars -49949-07-02 15:06 J -16522265.97 -16522265.87 -16522265.77 0.1660 0.1009

Jupiter -49948-06-22 21:21 J -16521910.74 -16521910.61 -16521910.47 0.0540 0.0108

Mars -49947-06-08 02:23 J -16521560.44 -16521560.40 -16521560.35 0.1683 0.1557

Mars -49946-04-01 01:54 J -16521263.56 -16521263.42 -16521263.28 0.1864 0.0615

Venus -49946-05-29 23:01 J -16521204.61 -16521204.54 -16521204.48 0.3732 0.2957

Moon -49945-08-06 23:01 J -16520769.65 -16520769.54 -16520769.44 0.2670 0.1026

Earth -49945-08-06 23:16 J -16520769.64 -16520769.53 -16520769.42 0.2664 0.1026 *

Saturn -49944-07-24 19:25 J -16520417.77 -16520417.69 -16520417.61 0.0275 0.0229

Pluto -49944-08-26 08:23 J -16520385.19 -16520385.15 -16520385.07 0.0063 0.0059

Saturn -49944-10-21 08:09 J -16520329.28 -16520329.16 -16520329.04 0.0276 0.0133

Pluto -49944-11-22 09:35 J -16520297.17 -16520297.10 -16520297.00 0.0063 0.0054

Saturn -49943-01-17 20:37 J -16520240.78 -16520240.64 -16520240.50 0.0277 0.0037

Pluto -49943-02-18 10:33 J -16520209.14 -16520209.06 -16520208.93 0.0063 0.0050

Saturn -49943-04-16 09:06 J -16520152.26 -16520152.12 -16520151.99 0.0277 0.0059

Pluto -49943-05-17 11:45 J -16520121.11 -16520121.01 -16520120.87 0.0063 0.0045

Saturn -49943-07-13 21:21 J -16520063.73 -16520063.61 -16520063.50 0.0278 0.0153

Pluto -49943-08-13 13:11 J -16520033.08 -16520032.95 -16520032.82 0.0063 0.0040

Saturn -49943-10-10 09:21 J -16519975.17 -16519975.11 -16519975.05 0.0279 0.0247

Pluto -49943-11-09 13:54 J -16519945.04 -16519944.92 -16519944.76 0.0063 0.0037

Pluto -49942-02-05 15:21 J -16519857.00 -16519856.86 -16519856.70 0.0063 0.0031

Moon -49942-02-07 21:21 J -16519854.74 -16519854.61 -16519854.49 0.2672 0.1228

Earth -49942-02-07 21:35 J -16519854.72 -16519854.60 -16519854.47 0.2665 0.1261 *

Jupiter -49942-02-08 07:40 J -16519854.21 -16519854.18 -16519854.15 0.0489 0.0477

Pluto -49942-05-04 16:33 J -16519768.96 -16519768.81 -16519768.65 0.0063 0.0027

Jupiter -49942-05-09 05:59 J -16519764.41 -16519764.25 -16519764.08 0.0488 0.0138

Pluto -49942-07-31 17:45 J -16519680.92 -16519680.76 -16519680.60 0.0063 0.0022

Pluto -49942-10-27 18:42 J -16519592.87 -16519592.72 -16519592.54 0.0063 0.0018

Pluto -49941-01-23 19:54 J -16519504.83 -16519504.67 -16519504.49 0.0064 0.0013

Pluto -49941-04-20 21:21 J -16519416.78 -16519416.61 -16519416.44 0.0064 0.0008

Pluto -49941-07-17 22:33 J -16519328.73 -16519328.56 -16519328.39 0.0064 0.0003

Pluto -49941-10-13 23:45 J -16519240.68 -16519240.51 -16519240.34 0.0064 0.0002

Venus -49941-12-12 15:06 J -16519180.97 -16519180.87 -16519180.77 0.3737 0.0747

Pluto -49940-01-10 00:57 J -16519152.63 -16519152.46 -16519152.29 0.0064 0.0007

Pluto -49940-04-08 01:54 J -16519064.58 -16519064.42 -16519064.24 0.0064 0.0012

Pluto -49940-07-05 03:06 J -16518976.53 -16518976.37 -16518976.19 0.0064 0.0017

Pluto -49940-10-01 04:18 J -16518888.47 -16518888.32 -16518888.15 0.0064 0.0022

Mars -49940-11-22 23:59 J -16518835.51 -16518835.50 -16518835.48 0.1654 0.1635

Pluto -49940-12-28 05:30 J -16518800.41 -16518800.27 -16518800.10 0.0064 0.0027

Pluto -49939-03-26 06:42 J -16518712.35 -16518712.22 -16518712.05 0.0064 0.0033

Pluto -49939-06-22 07:54 J -16518624.29 -16518624.17 -16518624.01 0.0064 0.0038

Earth -49939-08-16 23:45 J -16518568.56 -16518568.51 -16518568.46 0.2671 0.2384

Moon -49939-08-17 00:13 J -16518568.53 -16518568.49 -16518568.45 0.2666 0.2480 *

Pluto -49939-09-18 09:21 J -16518536.23 -16518536.11 -16518535.97 0.0065 0.0043

Pluto -49939-12-15 10:33 J -16518448.16 -16518448.06 -16518447.93 0.0065 0.0048

Pluto -49938-03-13 11:59 J -16518360.09 -16518360.00 -16518359.89 0.0065 0.0053

Pluto -49938-06-09 13:11 J -16518272.01 -16518271.95 -16518271.86 0.0065 0.0058

Pluto -49938-09-05 14:09 J -16518183.92 -16518183.91 -16518183.85 0.0065 0.0064

Mars -49938-10-29 11:45 J -16518130.11 -16518130.01 -16518129.91 0.1677 0.0935

Mars -49937-08-21 02:23 J -16517833.54 -16517833.40 -16517833.26 0.1872 0.0602

Jupiter -49936-04-11 00:13 J -16517600.63 -16517600.49 -16517600.36 0.0539 0.0059

Moon -49935-01-30 20:37 J -16517305.69 -16517305.64 -16517305.59 0.2667 0.2471

Earth -49935-01-30 21:49 J -16517305.64 -16517305.59 -16517305.54 0.2670 0.2477 *

Venus -49935-06-28 07:11 J -16517157.29 -16517157.20 -16517157.10 0.3741 0.1444

Earth -49932-08-09 18:57 J -16516018.83 -16516018.71 -16516018.59 0.2666 0.0107

Moon -49932-08-09 19:25 J -16516018.81 -16516018.69 -16516018.58 0.2672 0.0128 *

Jupiter -49930-02-25 06:13 J -16515454.41 -16515454.24 -16515454.07 0.0488 0.0011

Saturn -49930-08-17 10:18 J -16515281.19 -16515281.07 -16515280.94 0.0284 0.0187

Saturn -49930-11-14 06:13 J -16515192.41 -16515192.24 -16515192.07 0.0284 0.0061

Venus -49929-01-11 23:16 J -16515133.55 -16515133.53 -16515133.50 0.3745 0.3614

Saturn -49929-02-11 02:23 J -16515103.57 -16515103.40 -16515103.24 0.0283 0.0066

Saturn -49929-05-09 22:33 J -16515014.68 -16515014.56 -16515014.43 0.0282 0.0195

Mars -49928-03-20 20:52 J -16514699.75 -16514699.63 -16514699.50 0.1671 0.0316

Uranus -49928-03-22 22:04 J -16514697.62 -16514697.58 -16514697.54 0.0132 0.0125

Uranus -49928-06-19 01:11 J -16514609.52 -16514609.45 -16514609.36 0.0132 0.0107

Uranus -49928-09-15 04:33 J -16514521.40 -16514521.31 -16514521.20 0.0132 0.0089

Uranus -49928-12-12 07:54 J -16514433.28 -16514433.17 -16514433.05 0.0132 0.0071

Mars -49927-01-11 03:21 J -16514403.40 -16514403.36 -16514403.32 0.1879 0.1783

Uranus -49927-03-10 11:16 J -16514345.15 -16514345.03 -16514344.90 0.0132 0.0053

Uranus -49927-06-06 14:37 J -16514257.02 -16514256.89 -16514256.75 0.0132 0.0034

Uranus -49927-09-02 17:59 J -16514168.89 -16514168.75 -16514168.61 0.0132 0.0016

Venus -49927-10-12 00:57 J -16514129.61 -16514129.46 -16514129.32 0.3642 0.1011

Uranus -49927-11-29 21:06 J -16514080.75 -16514080.62 -16514080.48 0.0132 0.0005

Uranus -49926-02-26 00:28 J -16513992.62 -16513992.48 -16513992.34 0.0132 0.0020

Uranus -49926-05-25 03:35 J -16513904.48 -16513904.35 -16513904.21 0.0132 0.0038

Uranus -49926-08-21 06:57 J -16513816.34 -16513816.21 -16513816.09 0.0132 0.0055

Uranus -49926-11-17 10:04 J -16513728.19 -16513728.08 -16513727.96 0.0132 0.0073

Uranus -49925-02-13 13:25 J -16513640.04 -16513639.94 -16513639.85 0.0132 0.0091

Uranus -49925-05-11 16:18 J -16513551.89 -16513551.82 -16513551.74 0.0132 0.0108

Uranus -49925-08-07 19:40 J -16513463.72 -16513463.68 -16513463.64 0.0132 0.0126

Jupiter -49924-01-28 01:54 J -16513290.54 -16513290.42 -16513290.29 0.0539 0.0237

Jupiter -49924-04-27 13:11 J -16513201.03 -16513200.95 -16513200.86 0.0540 0.0417

Moon -49922-02-02 21:49 J -16512554.70 -16512554.59 -16512554.47 0.2668 0.1391

Earth -49922-02-02 23:16 J -16512554.65 -16512554.53 -16512554.40 0.2668 0.1195 *

Mars -49919-08-11 06:13 J -16511269.37 -16511269.24 -16511269.12 0.1666 0.0302

Earth -49919-08-12 14:23 J -16511268.01 -16511267.90 -16511267.79 0.2667 0.0799

Moon -49919-08-12 15:06 J -16511267.98 -16511267.87 -16511267.76 0.2671 0.0830 *

Jupiter -49919-12-14 06:28 J -16511144.39 -16511144.23 -16511144.06 0.0488 0.0160

Jupiter -49918-03-14 05:45 J -16511054.30 -16511054.26 -16511054.21 0.0487 0.0469

Saturn -49915-12-11 21:49 J -16509685.63 -16509685.59 -16509685.53 0.0275 0.0253

Saturn -49914-03-10 10:47 J -16509597.17 -16509597.05 -16509596.93 0.0275 0.0156

Saturn -49914-06-06 23:16 J -16509508.66 -16509508.53 -16509508.39 0.0276 0.0061

Saturn -49914-09-03 11:45 J -16509420.15 -16509420.01 -16509419.87 0.0276 0.0035

Saturn -49914-11-30 23:59 J -16509331.62 -16509331.50 -16509331.38 0.0277 0.0129

Saturn -49913-02-27 11:59 J -16509243.07 -16509243.00 -16509242.91 0.0278 0.0223

Jupiter -49913-11-16 04:47 J -16508980.39 -16508980.30 -16508980.20 0.0539 0.0398

Jupiter -49912-02-13 16:33 J -16508890.93 -16508890.81 -16508890.69 0.0540 0.0262

Moon -49912-08-05 07:54 J -16508718.26 -16508718.17 -16508718.08 0.2667 0.1780

Earth -49912-08-05 08:37 J -16508718.22 -16508718.14 -16508718.05 0.2662 0.1789 *

Neptune -49912-10-31 21:49 J -16508630.60 -16508630.59 -16508630.55 0.0088 0.0087

Neptune -49911-01-27 23:45 J -16508542.56 -16508542.51 -16508542.44 0.0088 0.0081

Neptune -49911-04-26 01:25 J -16508454.51 -16508454.44 -16508454.35 0.0088 0.0074

Neptune -49911-07-23 03:21 J -16508366.45 -16508366.36 -16508366.26 0.0088 0.0068

Neptune -49911-10-19 05:01 J -16508278.38 -16508278.29 -16508278.17 0.0088 0.0061

Neptune -49910-01-15 06:57 J -16508190.32 -16508190.21 -16508190.09 0.0088 0.0055

Neptune -49910-04-13 08:37 J -16508102.26 -16508102.14 -16508102.01 0.0088 0.0048

Neptune -49910-07-10 10:33 J -16508014.19 -16508014.06 -16508013.93 0.0088 0.0042

Neptune -49910-10-06 11:59 J -16507926.12 -16507926.00 -16507925.86 0.0088 0.0036

Mars -49909-01-01 15:21 J -16507838.97 -16507838.86 -16507838.76 0.1660 0.0924

Neptune -49909-01-02 13:54 J -16507838.06 -16507837.92 -16507837.78 0.0088 0.0029

Moon -49909-02-06 00:28 J -16507803.62 -16507803.48 -16507803.34 0.2671 0.0149

Earth -49909-02-06 01:11 J -16507803.59 -16507803.45 -16507803.30 0.2666 0.0151 *

Neptune -49909-03-30 15:35 J -16507749.99 -16507749.85 -16507749.71 0.0089 0.0023

Neptune -49909-06-26 17:16 J -16507661.92 -16507661.78 -16507661.63 0.0089 0.0016

Neptune -49909-09-22 18:57 J -16507573.85 -16507573.71 -16507573.56 0.0089 0.0010

Neptune -49909-12-19 20:37 J -16507485.78 -16507485.64 -16507485.49 0.0089 0.0005

Neptune -49908-03-17 22:33 J -16507397.71 -16507397.56 -16507397.42 0.0089 0.0004

Neptune -49908-06-13 23:59 J -16507309.64 -16507309.50 -16507309.35 0.0089 0.0010

Neptune -49908-09-10 01:40 J -16507221.57 -16507221.43 -16507221.28 0.0089 0.0016

Neptune -49908-12-07 03:21 J -16507133.49 -16507133.36 -16507133.22 0.0089 0.0022

Mars -49908-12-07 02:37 J -16507133.42 -16507133.39 -16507133.37 0.1684 0.1640 *

Neptune -49907-03-05 05:01 J -16507045.42 -16507045.29 -16507045.15 0.0089 0.0028

Neptune -49907-06-01 06:28 J -16506957.35 -16506957.23 -16506957.09 0.0089 0.0035

Neptune -49907-08-28 08:09 J -16506869.28 -16506869.16 -16506869.02 0.0089 0.0041

Mars -49907-09-30 02:23 J -16506836.54 -16506836.40 -16506836.27 0.1864 0.0734

Jupiter -49907-10-02 06:28 J -16506834.36 -16506834.23 -16506834.10 0.0488 0.0314

Neptune -49907-11-24 09:49 J -16506781.20 -16506781.09 -16506780.96 0.0089 0.0047

Jupiter -49907-12-31 05:01 J -16506744.42 -16506744.29 -16506744.15 0.0487 0.0308

Neptune -49906-02-20 11:30 J -16506693.13 -16506693.02 -16506692.90 0.0089 0.0053

Neptune -49906-05-19 13:11 J -16506605.05 -16506604.95 -16506604.84 0.0089 0.0059

Earth -49906-08-15 09:35 J -16506517.19 -16506517.10 -16506517.01 0.2669 0.1678

Moon -49906-08-15 10:33 J -16506517.15 -16506517.06 -16506516.98 0.2667 0.1799 *

Neptune -49906-08-15 14:52 J -16506516.97 -16506516.88 -16506516.78 0.0089 0.0065

Neptune -49906-11-11 16:33 J -16506428.89 -16506428.81 -16506428.73 0.0089 0.0071

Neptune -49905-02-07 17:45 J -16506340.81 -16506340.76 -16506340.68 0.0089 0.0078

Neptune -49905-05-05 19:25 J -16506252.72 -16506252.69 -16506252.63 0.0089 0.0083

Jupiter -49901-12-02 19:54 J -16504580.80 -16504580.67 -16504580.53 0.0540 0.0113

Saturn -49900-01-03 08:23 J -16504549.24 -16504549.15 -16504549.05 0.0285 0.0234

Saturn -49900-04-02 04:04 J -16504460.49 -16504460.33 -16504460.17 0.0284 0.0109

Mars -49900-05-24 00:13 J -16504408.53 -16504408.49 -16504408.44 0.1655 0.1543

Saturn -49900-06-29 23:59 J -16504371.67 -16504371.50 -16504371.33 0.0283 0.0018

Saturn -49900-09-26 20:09 J -16504282.81 -16504282.66 -16504282.51 0.0283 0.0145

Saturn -49900-12-24 16:33 J -16504193.84 -16504193.81 -16504193.77 0.0282 0.0274

Moon -49899-08-08 04:18 J -16503967.43 -16503967.32 -16503967.21 0.2670 0.0928

Earth -49899-08-08 04:33 J -16503967.43 -16503967.31 -16503967.20 0.2664 0.0852 *

Mars -49898-04-29 11:45 J -16503703.11 -16503703.01 -16503702.91 0.1677 0.1020

Mars -49897-02-20 02:52 J -16503406.52 -16503406.38 -16503406.24 0.1872 0.0474

Moon -49896-02-08 03:21 J -16503052.47 -16503052.36 -16503052.24 0.2671 0.1479

Earth -49896-02-08 03:35 J -16503052.46 -16503052.35 -16503052.23 0.2664 0.1506 *

Jupiter -49895-07-21 06:28 J -16502524.27 -16502524.23 -16502524.17 0.0488 0.0464

Jupiter -49895-10-19 05:01 J -16502434.46 -16502434.29 -16502434.13 0.0488 0.0152

Earth -49893-08-17 04:47 J -16501766.33 -16501766.30 -16501766.27 0.2671 0.2541

Moon -49893-08-17 05:01 J -16501766.32 -16501766.29 -16501766.25 0.2665 0.2500 *

Venus -49889-01-03 20:37 J -16500531.73 -16500531.64 -16500531.56 0.3733 0.2134

Moon -49889-02-01 02:23 J -16500503.46 -16500503.40 -16500503.34 0.2667 0.2389

Earth -49889-02-01 03:35 J -16500503.42 -16500503.35 -16500503.28 0.2670 0.2249 *

Mars -49889-09-18 21:06 J -16500272.74 -16500272.62 -16500272.50 0.1671 0.0404

Jupiter -49889-09-20 23:01 J -16500270.67 -16500270.54 -16500270.41 0.0539 0.0047

Mars -49888-07-12 03:21 J -16499976.42 -16499976.36 -16499976.29 0.1879 0.1679

Uranus -49886-03-24 18:13 J -16499355.79 -16499355.74 -16499355.66 0.0147 0.0135

Uranus -49886-06-21 01:54 J -16499267.54 -16499267.42 -16499267.29 0.0147 0.0103

Earth -49886-08-10 23:59 J -16499216.62 -16499216.50 -16499216.38 0.2666 0.0084

Moon -49886-08-11 00:28 J -16499216.60 -16499216.48 -16499216.36 0.2672 0.0132 *

Uranus -49886-09-17 09:21 J -16499179.26 -16499179.11 -16499178.95 0.0147 0.0072

Uranus -49886-12-14 17:01 J -16499090.96 -16499090.79 -16499090.62 0.0147 0.0040

Uranus -49885-03-12 00:28 J -16499002.66 -16499002.48 -16499002.30 0.0147 0.0008

Uranus -49885-06-08 08:09 J -16498914.34 -16498914.16 -16498913.98 0.0147 0.0025

Saturn -49885-07-27 11:45 J -16498865.11 -16498865.01 -16498864.91 0.0275 0.0192

Uranus -49885-09-04 15:49 J -16498826.01 -16498825.84 -16498825.67 0.0146 0.0057

Saturn -49885-10-24 00:13 J -16498776.62 -16498776.49 -16498776.35 0.0276 0.0096

Uranus -49885-12-01 23:16 J -16498737.66 -16498737.53 -16498737.37 0.0146 0.0091

Saturn -49884-01-20 12:42 J -16498688.11 -16498687.97 -16498687.83 0.0277 0.0008

Uranus -49884-02-28 07:11 J -16498649.29 -16498649.20 -16498649.09 0.0146 0.0123

Saturn -49884-04-19 01:11 J -16498599.58 -16498599.45 -16498599.32 0.0277 0.0095

Saturn -49884-07-16 13:11 J -16498511.04 -16498510.95 -16498510.84 0.0278 0.0189

Venus -49884-07-19 12:42 J -16498508.07 -16498507.97 -16498507.87 0.3738 0.0073

Jupiter -49883-08-07 04:47 J -16498124.47 -16498124.30 -16498124.13 0.0488 0.0006

Mars -49879-02-09 06:13 J -16496842.37 -16496842.24 -16496842.12 0.1665 0.0220

Moon -49879-08-03 17:01 J -16496666.81 -16496666.79 -16496666.76 0.2661 0.2583

Earth -49879-08-03 17:59 J -16496666.78 -16496666.75 -16496666.72 0.2661 0.2564 *

Venus -49878-02-02 04:47 J -16496484.38 -16496484.30 -16496484.22 0.3742 0.2252

Jupiter -49877-07-10 01:40 J -16495960.56 -16495960.43 -16495960.31 0.0539 0.0214

Jupiter -49877-10-07 12:42 J -16495871.04 -16495870.97 -16495870.89 0.0540 0.0438

Moon -49876-02-03 03:49 J -16495752.47 -16495752.34 -16495752.20 0.2669 0.0969

Earth -49876-02-03 05:16 J -16495752.41 -16495752.28 -16495752.15 0.2668 0.0962 *

Earth -49873-08-12 19:25 J -16494465.80 -16494465.69 -16494465.58 0.2668 0.0959

Moon -49873-08-12 20:09 J -16494465.77 -16494465.66 -16494465.55 0.2669 0.1020 *

Saturn -49871-05-23 08:09 J -16493817.21 -16493817.16 -16493817.11 0.0285 0.0271

Jupiter -49871-05-26 05:01 J -16493814.45 -16493814.29 -16493814.12 0.0488 0.0151

Saturn -49871-08-20 03:35 J -16493728.49 -16493728.35 -16493728.20 0.0284 0.0147

Jupiter -49871-08-24 04:18 J -16493724.35 -16493724.32 -16493724.29 0.0487 0.0478

Saturn -49871-11-16 23:30 J -16493639.69 -16493639.52 -16493639.35 0.0283 0.0021

Saturn -49870-02-13 19:40 J -16493550.84 -16493550.68 -16493550.52 0.0283 0.0107

Saturn -49870-05-13 16:04 J -16493461.92 -16493461.83 -16493461.73 0.0282 0.0236

Venus -49870-05-19 02:23 J -16493456.55 -16493456.40 -16493456.26 0.3641 0.0933

Mars -49870-07-02 15:21 J -16493411.97 -16493411.86 -16493411.75 0.1660 0.0836

Mars -49867-03-31 02:52 J -16492409.51 -16492409.38 -16492409.25 0.1864 0.0877

Moon -49866-08-06 13:11 J -16491916.04 -16491915.95 -16491915.87 0.2667 0.1749

Earth -49866-08-06 13:54 J -16491916.02 -16491915.92 -16491915.83 0.2663 0.1614 *

Jupiter -49865-04-28 03:21 J -16491650.45 -16491650.36 -16491650.27 0.0539 0.0396

Jupiter -49865-07-26 14:52 J -16491560.99 -16491560.88 -16491560.76 0.0540 0.0263

Moon -49863-02-06 06:28 J -16491001.37 -16491001.23 -16491001.09 0.2672 0.0225

Earth -49863-02-06 07:11 J -16491001.34 -16491001.20 -16491001.06 0.2666 0.0377 *

Mars -49861-11-22 00:28 J -16489981.54 -16489981.48 -16489981.42 0.1655 0.1455

Earth -49860-08-15 14:37 J -16489714.97 -16489714.89 -16489714.80 0.2670 0.1839

Moon -49860-08-15 15:35 J -16489714.94 -16489714.85 -16489714.77 0.2667 0.1854 *

Jupiter -49859-03-14 05:30 J -16489504.40 -16489504.27 -16489504.14 0.0488 0.0298

Jupiter -49859-06-12 04:18 J -16489414.45 -16489414.32 -16489414.19 0.0487 0.0324

Mars -49859-10-28 11:59 J -16489276.09 -16489276.00 -16489275.91 0.1678 0.1107

Mars -49858-08-21 03:06 J -16488979.51 -16488979.37 -16488979.22 0.1871 0.0355

Saturn -49856-12-14 14:37 J -16488132.98 -16488132.89 -16488132.80 0.0275 0.0213

Saturn -49855-03-13 03:06 J -16488044.49 -16488044.37 -16488044.23 0.0276 0.0118

Saturn -49855-06-09 15:49 J -16487955.98 -16487955.84 -16487955.70 0.0276 0.0022

Saturn -49855-09-06 04:04 J -16487867.46 -16487867.33 -16487867.19 0.0277 0.0074

Saturn -49855-12-03 16:18 J -16487778.93 -16487778.82 -16487778.71 0.0277 0.0168

Saturn -49854-03-02 04:18 J -16487690.36 -16487690.32 -16487690.27 0.0278 0.0261

Pluto -49854-05-25 07:25 J -16487606.21 -16487606.19 -16487606.13 0.0082 0.0079

Pluto -49854-08-21 09:06 J -16487518.18 -16487518.12 -16487518.02 0.0081 0.0070

Pluto -49854-11-17 11:01 J -16487430.13 -16487430.04 -16487429.93 0.0081 0.0060

Pluto -49853-02-13 12:42 J -16487342.08 -16487341.97 -16487341.85 0.0081 0.0051

Pluto -49853-05-11 14:23 J -16487254.02 -16487253.90 -16487253.77 0.0081 0.0043

Jupiter -49853-05-14 17:59 J -16487250.88 -16487250.75 -16487250.62 0.0540 0.0106

Pluto -49853-08-07 15:49 J -16487165.97 -16487165.84 -16487165.70 0.0081 0.0034

Moon -49853-08-08 09:35 J -16487165.22 -16487165.10 -16487164.99 0.2671 0.0636

Earth -49853-08-08 09:35 J -16487165.22 -16487165.10 -16487164.99 0.2664 0.0685 *

Pluto -49853-11-03 17:30 J -16487077.91 -16487077.77 -16487077.63 0.0081 0.0025

Pluto -49852-01-30 19:11 J -16486989.85 -16486989.70 -16486989.56 0.0081 0.0017

Pluto -49852-04-28 20:37 J -16486901.78 -16486901.64 -16486901.49 0.0081 0.0008

Pluto -49852-07-25 22:18 J -16486813.72 -16486813.57 -16486813.43 0.0080 0.0002

Pluto -49852-10-21 23:45 J -16486725.66 -16486725.51 -16486725.37 0.0080 0.0009

Pluto -49851-01-18 01:11 J -16486637.59 -16486637.45 -16486637.31 0.0080 0.0017

Pluto -49851-04-16 02:37 J -16486549.52 -16486549.39 -16486549.25 0.0080 0.0025

Pluto -49851-07-13 04:04 J -16486461.46 -16486461.33 -16486461.19 0.0080 0.0033

Pluto -49851-10-09 05:30 J -16486373.39 -16486373.27 -16486373.14 0.0080 0.0041

Pluto -49850-01-05 06:57 J -16486285.32 -16486285.21 -16486285.09 0.0080 0.0049

Earth -49850-02-09 09:35 J -16486250.21 -16486250.10 -16486249.99 0.2664 0.1744

Moon -49850-02-09 09:35 J -16486250.20 -16486250.10 -16486249.99 0.2670 0.1789 *

Pluto -49850-04-03 08:23 J -16486197.25 -16486197.15 -16486197.05 0.0079 0.0057

Pluto -49850-06-30 09:49 J -16486109.17 -16486109.09 -16486109.00 0.0079 0.0065

Pluto -49850-09-26 11:01 J -16486021.08 -16486021.04 -16486020.97 0.0079 0.0072

Mars -49849-03-19 21:06 J -16485845.74 -16485845.62 -16485845.50 0.1671 0.0489

Mars -49848-01-10 03:49 J -16485549.42 -16485549.34 -16485549.26 0.1879 0.1553

Jupiter -49848-12-31 05:16 J -16485194.34 -16485194.28 -16485194.21 0.0488 0.0452

Jupiter -49847-03-31 03:35 J -16485104.51 -16485104.35 -16485104.19 0.0487 0.0163

Uranus -49844-04-12 05:01 J -16483996.34 -16483996.29 -16483996.23 0.0132 0.0120

Uranus -49844-07-09 08:23 J -16483908.23 -16483908.15 -16483908.05 0.0132 0.0102

Uranus -49844-10-05 11:45 J -16483820.11 -16483820.01 -16483819.89 0.0132 0.0084

Uranus -49843-01-01 15:21 J -16483731.98 -16483731.86 -16483731.74 0.0132 0.0065

Moon -49843-02-01 08:09 J -16483701.24 -16483701.16 -16483701.07 0.2667 0.2060

Earth -49843-02-01 09:35 J -16483701.19 -16483701.10 -16483701.01 0.2670 0.2019 *

Uranus -49843-03-30 18:28 J -16483643.85 -16483643.73 -16483643.59 0.0132 0.0047

Uranus -49843-06-26 21:49 J -16483555.72 -16483555.59 -16483555.45 0.0132 0.0029

Uranus -49843-09-23 01:11 J -16483467.59 -16483467.45 -16483467.31 0.0132 0.0011

Uranus -49843-12-20 04:18 J -16483379.45 -16483379.32 -16483379.18 0.0132 0.0008

Uranus -49842-03-18 07:40 J -16483291.31 -16483291.18 -16483291.04 0.0132 0.0025

Uranus -49842-06-14 10:47 J -16483203.17 -16483203.05 -16483202.91 0.0132 0.0043

Uranus -49842-09-10 14:09 J -16483115.03 -16483114.91 -16483114.79 0.0132 0.0061

Uranus -49842-12-07 17:16 J -16483026.89 -16483026.78 -16483026.67 0.0132 0.0078

Saturn -49841-01-07 02:09 J -16482996.53 -16482996.41 -16482996.28 0.0284 0.0190

Jupiter -49841-03-02 21:21 J -16482940.74 -16482940.61 -16482940.47 0.0540 0.0047

Uranus -49841-03-04 20:23 J -16482938.74 -16482938.65 -16482938.55 0.0132 0.0096

Saturn -49841-04-04 22:04 J -16482907.75 -16482907.58 -16482907.42 0.0284 0.0065

Uranus -49841-05-31 23:45 J -16482850.58 -16482850.51 -16482850.44 0.0132 0.0113

Saturn -49841-07-02 17:59 J -16482818.92 -16482818.75 -16482818.58 0.0283 0.0062

Uranus -49841-08-28 02:37 J -16482762.39 -16482762.39 -16482762.36 0.0132 0.0131

Saturn -49841-09-29 14:09 J -16482730.03 -16482729.91 -16482729.78 0.0282 0.0190

Mars -49840-08-10 06:28 J -16482415.36 -16482415.23 -16482415.11 0.1666 0.0140

Earth -49840-08-11 05:01 J -16482414.40 -16482414.29 -16482414.17 0.2666 0.0240

Moon -49840-08-11 05:30 J -16482414.39 -16482414.27 -16482414.15 0.2672 0.0220 *

Venus -49838-01-25 01:54 J -16481882.45 -16481882.42 -16481882.39 0.3730 0.3527

Jupiter -49835-01-17 03:35 J -16480794.52 -16480794.35 -16480794.18 0.0488 0.0012

Moon -49833-08-03 22:04 J -16479864.62 -16479864.58 -16479864.54 0.2662 0.2488

Earth -49833-08-03 23:01 J -16479864.59 -16479864.54 -16479864.49 0.2661 0.2389 *

Venus -49833-08-09 18:13 J -16479858.84 -16479858.74 -16479858.65 0.3734 0.1315

Mars -49831-12-31 15:21 J -16478984.97 -16478984.86 -16478984.74 0.1660 0.0751

Moon -49830-02-04 10:04 J -16478950.22 -16478950.08 -16478949.95 0.2670 0.0899

Earth -49830-02-04 11:16 J -16478950.17 -16478950.03 -16478949.90 0.2668 0.0730 *

Jupiter -49830-12-21 00:13 J -16478630.61 -16478630.49 -16478630.36 0.0539 0.0207

Neptune -49829-01-21 03:21 J -16478599.38 -16478599.36 -16478599.32 0.0089 0.0087

Jupiter -49829-03-19 11:30 J -16478541.09 -16478541.02 -16478540.94 0.0540 0.0445

Neptune -49829-04-18 05:59 J -16478511.31 -16478511.25 -16478511.17 0.0089 0.0080

Neptune -49829-07-15 08:23 J -16478423.23 -16478423.15 -16478423.03 0.0089 0.0073

Neptune -49829-10-11 11:30 J -16478335.13 -16478335.02 -16478334.90 0.0089 0.0065

Neptune -49828-01-07 13:54 J -16478247.04 -16478246.92 -16478246.78 0.0089 0.0058

Neptune -49828-04-05 16:47 J -16478158.94 -16478158.80 -16478158.66 0.0089 0.0050

Neptune -49828-07-02 19:25 J -16478070.84 -16478070.69 -16478070.54 0.0089 0.0043

Neptune -49828-09-28 21:49 J -16477982.73 -16477982.59 -16477982.42 0.0089 0.0036

Mars -49828-09-29 03:06 J -16477982.50 -16477982.37 -16477982.25 0.1863 0.0981 *

Neptune -49828-12-26 00:42 J -16477894.62 -16477894.47 -16477894.30 0.0089 0.0028

Venus -49827-02-23 10:18 J -16477835.17 -16477835.07 -16477834.97 0.3739 0.0889

Neptune -49827-03-24 03:35 J -16477806.52 -16477806.35 -16477806.18 0.0089 0.0020

Neptune -49827-06-20 06:13 J -16477718.40 -16477718.24 -16477718.06 0.0089 0.0013

Earth -49827-08-14 00:28 J -16477663.58 -16477663.48 -16477663.37 0.2668 0.1122

Moon -49827-08-14 01:25 J -16477663.55 -16477663.44 -16477663.34 0.2669 0.1216 *

Neptune -49827-09-16 09:06 J -16477630.29 -16477630.12 -16477629.94 0.0089 0.0005

Neptune -49827-12-13 11:59 J -16477542.18 -16477542.00 -16477541.83 0.0089 0.0003

Neptune -49826-03-11 14:37 J -16477454.06 -16477453.89 -16477453.71 0.0089 0.0010

Saturn -49826-05-03 15:35 J -16477400.91 -16477400.85 -16477400.79 0.0275 0.0248

Neptune -49826-06-07 17:30 J -16477365.94 -16477365.77 -16477365.60 0.0089 0.0018

Saturn -49826-07-31 04:18 J -16477312.44 -16477312.32 -16477312.20 0.0276 0.0152

Neptune -49826-09-03 20:09 J -16477277.82 -16477277.66 -16477277.49 0.0089 0.0026

Saturn -49826-10-27 16:47 J -16477223.93 -16477223.80 -16477223.66 0.0276 0.0057

Neptune -49826-11-30 22:47 J -16477189.70 -16477189.55 -16477189.38 0.0089 0.0034

Saturn -49825-01-24 05:16 J -16477135.42 -16477135.28 -16477135.14 0.0277 0.0040

Neptune -49825-02-27 01:40 J -16477101.57 -16477101.43 -16477101.27 0.0089 0.0042

Saturn -49825-04-21 17:30 J -16477046.89 -16477046.77 -16477046.65 0.0278 0.0134

Neptune -49825-05-25 04:47 J -16477013.45 -16477013.30 -16477013.16 0.0089 0.0049

Saturn -49825-07-19 05:45 J -16476958.34 -16476958.26 -16476958.18 0.0278 0.0228

Neptune -49825-08-21 07:25 J -16476925.32 -16476925.19 -16476925.05 0.0089 0.0057

Neptune -49825-11-17 10:18 J -16476837.18 -16476837.07 -16476836.94 0.0089 0.0065

Neptune -49824-02-13 12:57 J -16476749.04 -16476748.96 -16476748.84 0.0089 0.0073

Neptune -49824-05-12 15:49 J -16476660.89 -16476660.84 -16476660.75 0.0089 0.0081

Neptune -49824-08-08 18:57 J -16476572.71 -16476572.71 -16476572.70 0.0089 0.0089

Jupiter -49824-11-05 03:21 J -16476484.52 -16476484.36 -16476484.20 0.0488 0.0146

Jupiter -49823-02-03 02:37 J -16476394.41 -16476394.39 -16476394.37 0.0488 0.0483

Venus -49822-09-09 02:23 J -16475811.46 -16475811.40 -16475811.34 0.3743 0.3067

Mars -49821-05-23 00:28 J -16475554.55 -16475554.48 -16475554.41 0.1655 0.1370

Moon -49820-08-06 18:13 J -16475113.84 -16475113.74 -16475113.64 0.2667 0.1437

Earth -49820-08-06 18:57 J -16475113.81 -16475113.71 -16475113.61 0.2663 0.1441 *

Mars -49819-04-28 11:59 J -16474849.09 -16474849.00 -16474848.91 0.1677 0.1187

Venus -49819-06-08 21:21 J -16474807.71 -16474807.61 -16474807.52 0.3645 0.2731

Mars -49818-02-19 03:35 J -16474552.50 -16474552.35 -16474552.21 0.1872 0.0233

Jupiter -49818-10-09 02:52 J -16474320.48 -16474320.38 -16474320.29 0.0539 0.0375

Jupiter -49817-01-06 14:23 J -16474231.01 -16474230.90 -16474230.79 0.0540 0.0283

Moon -49817-02-07 12:28 J -16474199.12 -16474198.98 -16474198.85 0.2672 0.0643

Earth -49817-02-07 13:11 J -16474199.09 -16474198.95 -16474198.81 0.2666 0.0608 *

Earth -49814-08-16 19:40 J -16472912.75 -16472912.68 -16472912.60 0.2670 0.1995

Moon -49814-08-16 20:23 J -16472912.72 -16472912.65 -16472912.58 0.2667 0.2071 *

Venus -49814-12-24 03:35 J -16472783.44 -16472783.35 -16472783.26 0.3639 0.2849

Saturn -49812-05-26 02:09 J -16472264.51 -16472264.41 -16472264.31 0.0284 0.0226

Saturn -49812-08-22 21:49 J -16472175.75 -16472175.59 -16472175.43 0.0284 0.0102

Jupiter -49812-08-24 03:49 J -16472174.48 -16472174.34 -16472174.21 0.0488 0.0293

Saturn -49812-11-19 17:45 J -16472086.94 -16472086.76 -16472086.59 0.0283 0.0025

Jupiter -49812-11-22 02:23 J -16472084.52 -16472084.40 -16472084.27 0.0488 0.0331

Saturn -49811-02-16 13:54 J -16471998.07 -16471997.92 -16471997.77 0.0282 0.0153

Saturn -49811-05-16 10:18 J -16471909.07 -16471909.07 -16471909.06 0.0282 0.0282

Mars -49810-09-18 21:21 J -16471418.73 -16471418.61 -16471418.50 0.1672 0.0574

Mars -49809-07-11 04:18 J -16471122.41 -16471122.32 -16471122.22 0.1879 0.1420

Moon -49807-08-09 14:37 J -16470363.00 -16470362.89 -16470362.77 0.2672 0.0586

Earth -49807-08-09 14:37 J -16470363.00 -16470362.89 -16470362.77 0.2665 0.0514 *

Jupiter -49806-10-25 16:18 J -16469920.95 -16469920.82 -16469920.69 0.0540 0.0105

Earth -49804-02-09 15:35 J -16469447.94 -16469447.85 -16469447.75 0.2664 0.1994

Moon -49804-02-09 16:04 J -16469447.93 -16469447.83 -16469447.74 0.2670 0.1954 *

Uranus -49802-04-14 02:09 J -16468654.50 -16468654.41 -16468654.31 0.0147 0.0125

Uranus -49802-07-11 09:35 J -16468566.23 -16468566.10 -16468565.96 0.0147 0.0093

Uranus -49802-10-07 17:01 J -16468477.95 -16468477.79 -16468477.62 0.0147 0.0062

Uranus -49801-01-04 00:42 J -16468389.65 -16468389.47 -16468389.29 0.0147 0.0030

Uranus -49801-04-01 08:23 J -16468301.33 -16468301.15 -16468300.97 0.0147 0.0003

Uranus -49801-06-28 15:49 J -16468213.01 -16468212.84 -16468212.66 0.0146 0.0035

Uranus -49801-09-24 23:30 J -16468124.68 -16468124.52 -16468124.35 0.0146 0.0067

Uranus -49801-12-22 07:25 J -16468036.32 -16468036.19 -16468036.06 0.0146 0.0100

Mars -49800-02-08 06:28 J -16467988.36 -16467988.23 -16467988.10 0.1666 0.0043

Uranus -49800-03-20 15:06 J -16467947.94 -16467947.87 -16467947.79 0.0146 0.0133

Jupiter -49800-06-12 04:18 J -16467864.39 -16467864.32 -16467864.25 0.0488 0.0440

Jupiter -49800-09-10 02:23 J -16467774.55 -16467774.40 -16467774.23 0.0488 0.0177

Moon -49797-02-02 14:09 J -16466899.01 -16466898.91 -16466898.81 0.2667 0.1908

Earth -49797-02-02 15:21 J -16466898.96 -16466898.86 -16466898.76 0.2669 0.1789 *

Saturn -49797-09-19 18:42 J -16466668.75 -16466668.72 -16466668.69 0.0275 0.0268

Saturn -49797-12-17 07:25 J -16466580.30 -16466580.19 -16466580.08 0.0275 0.0172

Saturn -49796-03-15 20:09 J -16466491.80 -16466491.66 -16466491.53 0.0276 0.0075

Saturn -49796-06-12 08:37 J -16466403.28 -16466403.14 -16466403.00 0.0277 0.0020

Saturn -49796-09-08 20:52 J -16466314.76 -16466314.63 -16466314.50 0.0277 0.0115

Saturn -49796-12-06 08:52 J -16466226.21 -16466226.13 -16466226.03 0.0278 0.0209

Earth -49794-08-12 10:04 J -16465612.19 -16465612.08 -16465611.96 0.2666 0.0400

Moon -49794-08-12 10:47 J -16465612.17 -16465612.05 -16465611.94 0.2671 0.0502 *

Jupiter -49794-08-13 19:11 J -16465610.83 -16465610.70 -16465610.57 0.0540 0.0056

Mars -49791-07-01 15:35 J -16464557.97 -16464557.85 -16464557.73 0.1660 0.0661

Mars -49788-03-30 03:35 J -16463555.47 -16463555.35 -16463555.23 0.1863 0.1111

Jupiter -49788-06-29 01:54 J -16463464.59 -16463464.42 -16463464.25 0.0488 0.0016

Moon -49787-08-05 03:21 J -16463062.42 -16463062.36 -16463062.30 0.2663 0.2277

Earth -49787-08-05 04:04 J -16463062.39 -16463062.33 -16463062.26 0.2662 0.2215 *

Moon -49784-02-04 16:04 J -16462147.97 -16462147.83 -16462147.70 0.2671 0.0515

Earth -49784-02-04 17:16 J -16462147.92 -16462147.78 -16462147.65 0.2667 0.0498 *

Saturn -49783-10-13 01:25 J -16461532.49 -16461532.44 -16461532.37 0.0285 0.0264

Saturn -49782-01-09 21:06 J -16461443.77 -16461443.62 -16461443.47 0.0284 0.0140

Saturn -49782-04-08 16:47 J -16461354.97 -16461354.80 -16461354.62 0.0283 0.0016

Jupiter -49782-06-01 22:18 J -16461300.69 -16461300.57 -16461300.44 0.0540 0.0212

Saturn -49782-07-06 12:57 J -16461266.12 -16461265.96 -16461265.80 0.0283 0.0113

Jupiter -49782-08-30 09:35 J -16461211.17 -16461211.10 -16461211.02 0.0540 0.0442

Venus -49782-08-31 23:30 J -16461209.59 -16461209.52 -16461209.45 0.3731 0.2693

Saturn -49782-10-03 09:21 J -16461177.20 -16461177.11 -16461177.02 0.0282 0.0241

Mars -49782-11-22 00:42 J -16461127.55 -16461127.47 -16461127.39 0.1655 0.1280

Earth -49781-08-14 05:30 J -16460861.37 -16460861.27 -16460861.17 0.2668 0.1282

Moon -49781-08-14 06:28 J -16460861.34 -16460861.23 -16460861.13 0.2669 0.1319 *

Mars -49780-10-27 11:59 J -16460422.08 -16460422.00 -16460421.91 0.1678 0.1275

Mars -49779-08-20 03:49 J -16460125.48 -16460125.34 -16460125.19 0.1871 0.0117

Venus -49776-03-16 15:35 J -16459185.95 -16459185.85 -16459185.74 0.3735 0.0499

Jupiter -49776-04-17 01:54 J -16459154.58 -16459154.42 -16459154.26 0.0488 0.0138

Moon -49774-08-07 23:30 J -16458311.62 -16458311.52 -16458311.42 0.2668 0.1360

Earth -49774-08-07 23:59 J -16458311.60 -16458311.50 -16458311.39 0.2663 0.1272 *

Moon -49771-02-07 18:28 J -16457396.86 -16457396.73 -16457396.59 0.2671 0.0723

Earth -49771-02-07 19:11 J -16457396.83 -16457396.70 -16457396.56 0.2665 0.0854 *

Venus -49771-09-30 07:54 J -16457162.26 -16457162.17 -16457162.08 0.3740 0.1711

Mars -49770-03-19 21:21 J -16456991.73 -16456991.61 -16456991.49 0.1672 0.0658

Jupiter -49770-03-21 01:11 J -16456990.55 -16456990.45 -16456990.35 0.0539 0.0372

Jupiter -49770-06-18 12:57 J -16456901.07 -16456900.96 -16456900.85 0.0540 0.0287

Mars -49769-01-10 04:18 J -16456695.42 -16456695.32 -16456695.21 0.1879 0.1320

Earth -49768-08-17 00:42 J -16456110.53 -16456110.47 -16456110.40 0.2670 0.2152

Moon -49768-08-17 01:25 J -16456110.51 -16456110.44 -16456110.38 0.2665 0.2195 *

Saturn -49767-05-06 08:37 J -16455848.23 -16455848.14 -16455848.04 0.0275 0.0205

Saturn -49767-08-02 21:21 J -16455759.74 -16455759.61 -16455759.48 0.0276 0.0109

Saturn -49767-10-30 09:49 J -16455671.23 -16455671.09 -16455670.95 0.0277 0.0014

Saturn -49766-01-26 22:18 J -16455582.71 -16455582.57 -16455582.44 0.0277 0.0082

Saturn -49766-04-25 10:33 J -16455494.17 -16455494.06 -16455493.96 0.0278 0.0176

Saturn -49766-07-22 22:18 J -16455405.59 -16455405.57 -16455405.53 0.0279 0.0270

Jupiter -49764-02-03 01:40 J -16454844.56 -16454844.43 -16454844.29 0.0488 0.0292

Jupiter -49764-05-04 00:28 J -16454754.60 -16454754.48 -16454754.35 0.0488 0.0331

Venus -49762-01-13 22:33 J -16454134.71 -16454134.56 -16454134.42 0.3643 0.0840

Mars -49761-08-09 06:28 J -16453561.35 -16453561.23 -16453561.10 0.1666 0.0049

Moon -49761-08-09 19:40 J -16453560.79 -16453560.68 -16453560.56 0.2672 0.0295

Earth -49761-08-09 19:40 J -16453560.79 -16453560.68 -16453560.56 0.2665 0.0354 *

Uranus -49760-05-02 12:13 J -16453295.05 -16453294.99 -16453294.92 0.0132 0.0115

Uranus -49760-07-29 15:35 J -16453206.94 -16453206.85 -16453206.75 0.0132 0.0097

Uranus -49760-10-25 19:11 J -16453118.82 -16453118.70 -16453118.59 0.0132 0.0078

Uranus -49759-01-21 22:18 J -16453030.69 -16453030.57 -16453030.44 0.0132 0.0060

Uranus -49759-04-20 01:40 J -16452942.56 -16452942.43 -16452942.29 0.0132 0.0042

Uranus -49759-07-17 05:01 J -16452854.43 -16452854.29 -16452854.15 0.0132 0.0024

Uranus -49759-10-13 08:23 J -16452766.29 -16452766.15 -16452766.01 0.0132 0.0006

Uranus -49758-01-09 11:30 J -16452678.15 -16452678.02 -16452677.88 0.0132 0.0013

Earth -49758-02-10 21:49 J -16452645.67 -16452645.59 -16452645.52 0.2664 0.2233

Moon -49758-02-10 22:04 J -16452645.64 -16452645.58 -16452645.51 0.2670 0.2362 *

Jupiter -49758-04-06 15:35 J -16452590.98 -16452590.85 -16452590.72 0.0540 0.0123

Uranus -49758-04-07 14:52 J -16452590.01 -16452589.88 -16452589.75 0.0132 0.0030

Uranus -49758-07-04 17:59 J -16452501.87 -16452501.75 -16452501.62 0.0132 0.0048

Uranus -49758-09-30 21:21 J -16452413.73 -16452413.61 -16452413.49 0.0132 0.0066

Uranus -49758-12-28 00:28 J -16452325.58 -16452325.48 -16452325.37 0.0132 0.0083

Uranus -49757-03-25 03:35 J -16452237.43 -16452237.35 -16452237.26 0.0132 0.0101

Uranus -49757-06-21 06:42 J -16452149.27 -16452149.22 -16452149.15 0.0132 0.0119

Saturn -49753-05-28 20:52 J -16450711.76 -16450711.63 -16450711.49 0.0284 0.0176

Saturn -49753-08-25 16:33 J -16450622.97 -16450622.81 -16450622.64 0.0283 0.0052

Jupiter -49753-11-22 02:09 J -16450534.48 -16450534.41 -16450534.33 0.0488 0.0438

Saturn -49753-11-22 12:42 J -16450534.14 -16450533.97 -16450533.80 0.0283 0.0076

Saturn -49752-02-19 08:52 J -16450445.24 -16450445.13 -16450445.00 0.0282 0.0204

Jupiter -49752-02-20 00:28 J -16450444.64 -16450444.48 -16450444.32 0.0488 0.0180

Mars -49752-12-30 15:35 J -16450130.97 -16450130.85 -16450130.73 0.1660 0.0578

Moon -49751-02-02 19:54 J -16450096.78 -16450096.67 -16450096.56 0.2668 0.1651

Earth -49751-02-02 21:21 J -16450096.73 -16450096.61 -16450096.50 0.2669 0.1566 *

Mars -49749-09-28 04:04 J -16449128.44 -16449128.33 -16449128.22 0.1863 0.1245

Earth -49748-08-12 15:21 J -16448809.98 -16448809.86 -16448809.75 0.2667 0.0568

Moon -49748-08-12 15:49 J -16448809.95 -16448809.84 -16448809.72 0.2670 0.0554 *

Neptune -49747-07-28 21:06 J -16448459.65 -16448459.62 -16448459.57 0.0088 0.0085

Neptune -49747-10-24 22:47 J -16448371.60 -16448371.55 -16448371.46 0.0088 0.0079

Neptune -49746-01-21 00:42 J -16448283.54 -16448283.47 -16448283.37 0.0088 0.0072

Jupiter -49746-01-23 17:30 J -16448280.91 -16448280.77 -16448280.64 0.0539 0.0060

Neptune -49746-04-19 02:52 J -16448195.48 -16448195.38 -16448195.29 0.0088 0.0065

Neptune -49746-07-16 04:18 J -16448107.42 -16448107.32 -16448107.20 0.0088 0.0059

Neptune -49746-10-12 05:59 J -16448019.35 -16448019.25 -16448019.12 0.0088 0.0053

Neptune -49745-01-08 07:54 J -16447931.29 -16447931.17 -16447931.04 0.0088 0.0046

Neptune -49745-04-05 09:35 J -16447843.22 -16447843.10 -16447842.96 0.0088 0.0039

Neptune -49745-07-02 11:30 J -16447755.15 -16447755.02 -16447754.88 0.0088 0.0033

Neptune -49745-09-28 13:11 J -16447667.09 -16447666.95 -16447666.81 0.0088 0.0026

Neptune -49745-12-25 15:06 J -16447579.02 -16447578.87 -16447578.73 0.0089 0.0020

Neptune -49744-03-23 16:47 J -16447490.95 -16447490.80 -16447490.66 0.0089 0.0013

Neptune -49744-06-19 18:28 J -16447402.88 -16447402.73 -16447402.59 0.0089 0.0007

Neptune -49744-09-15 20:09 J -16447314.81 -16447314.66 -16447314.52 0.0089 0.0001

Neptune -49744-12-12 21:49 J -16447226.74 -16447226.59 -16447226.45 0.0089 0.0006

Neptune -49743-03-10 23:30 J -16447138.66 -16447138.52 -16447138.38 0.0089 0.0012

Neptune -49743-06-07 00:57 J -16447050.59 -16447050.46 -16447050.31 0.0089 0.0019

Neptune -49743-09-03 02:37 J -16446962.52 -16446962.39 -16446962.24 0.0089 0.0025

Neptune -49743-11-30 04:33 J -16446874.45 -16446874.31 -16446874.18 0.0089 0.0031

Neptune -49742-02-26 06:13 J -16446786.37 -16446786.24 -16446786.11 0.0089 0.0037

Mars -49742-05-23 00:42 J -16446700.56 -16446700.47 -16446700.38 0.1655 0.1193

Neptune -49742-05-25 07:40 J -16446698.30 -16446698.18 -16446698.05 0.0089 0.0043

Neptune -49742-08-21 09:06 J -16446610.23 -16446610.12 -16446609.99 0.0089 0.0050

Neptune -49742-11-17 10:47 J -16446522.15 -16446522.05 -16446521.93 0.0089 0.0056

Neptune -49741-02-13 12:28 J -16446434.07 -16446433.98 -16446433.87 0.0089 0.0062

Neptune -49741-05-11 14:09 J -16446345.99 -16446345.91 -16446345.81 0.0089 0.0068

Moon -49741-08-05 08:23 J -16446260.22 -16446260.15 -16446260.08 0.2663 0.2113

Earth -49741-08-05 09:21 J -16446260.19 -16446260.11 -16446260.04 0.2662 0.2040 *

Neptune -49741-08-07 15:49 J -16446257.91 -16446257.84 -16446257.76 0.0089 0.0074

Neptune -49741-11-03 17:30 J -16446169.83 -16446169.77 -16446169.71 0.0089 0.0080

Jupiter -49741-12-09 00:28 J -16446134.65 -16446134.48 -16446134.31 0.0488 0.0028

Neptune -49740-01-30 19:11 J -16446081.73 -16446081.70 -16446081.67 0.0089 0.0086

Mars -49740-04-27 12:13 J -16445995.06 -16445994.99 -16445994.92 0.1678 0.1356

Mars -49739-02-18 04:18 J -16445698.47 -16445698.32 -16445698.17 0.1871 0.0024

Moon -49738-02-05 21:49 J -16445345.73 -16445345.59 -16445345.45 0.2671 0.0397

Earth -49738-02-05 23:01 J -16445345.68 -16445345.54 -16445345.40 0.2667 0.0257 *

Saturn -49738-09-23 11:59 J -16445116.08 -16445116.00 -16445115.92 0.0275 0.0223

Saturn -49738-12-21 00:42 J -16445027.59 -16445027.47 -16445027.34 0.0276 0.0127

Saturn -49737-03-18 13:11 J -16444939.08 -16444938.95 -16444938.80 0.0276 0.0033

Saturn -49737-06-15 01:40 J -16444850.56 -16444850.43 -16444850.29 0.0277 0.0064

Saturn -49737-09-11 13:54 J -16444762.03 -16444761.92 -16444761.80 0.0278 0.0159

Saturn -49737-12-09 01:54 J -16444673.47 -16444673.42 -16444673.36 0.0278 0.0253

Earth -49735-08-15 10:33 J -16444059.16 -16444059.06 -16444058.96 0.2669 0.1442

Moon -49735-08-15 11:16 J -16444059.12 -16444059.03 -16444058.93 0.2669 0.1554 *

Jupiter -49735-11-11 20:09 J -16443970.79 -16443970.66 -16443970.54 0.0539 0.0223

Jupiter -49734-02-09 07:25 J -16443881.27 -16443881.19 -16443881.11 0.0540 0.0430

Mars -49731-09-17 21:21 J -16442564.72 -16442564.61 -16442564.49 0.1672 0.0745

Mars -49730-07-11 04:47 J -16442268.41 -16442268.30 -16442268.18 0.1879 0.1188

Jupiter -49729-09-26 23:59 J -16441824.66 -16441824.50 -16441824.33 0.0488 0.0134

Moon -49728-08-08 04:47 J -16441509.41 -16441509.30 -16441509.19 0.2670 0.1110

Earth -49728-08-08 05:16 J -16441509.39 -16441509.28 -16441509.18 0.2664 0.1105 *

Moon -49725-02-09 00:57 J -16440594.59 -16440594.46 -16440594.34 0.2671 0.1148

Earth -49725-02-09 01:11 J -16440594.58 -16440594.45 -16440594.32 0.2665 0.1094 *

Venus -49725-04-06 21:06 J -16440536.71 -16440536.62 -16440536.53 0.3732 0.1864

Saturn -49724-10-15 21:06 J -16439979.73 -16439979.62 -16439979.50 0.0284 0.0210

Saturn -49723-01-12 16:47 J -16439890.96 -16439890.80 -16439890.64 0.0284 0.0085

Saturn -49723-04-11 12:42 J -16439802.14 -16439801.97 -16439801.80 0.0283 0.0041

Saturn -49723-07-09 08:52 J -16439713.27 -16439713.13 -16439712.99 0.0282 0.0169

Jupiter -49723-08-30 23:01 J -16439660.63 -16439660.54 -16439660.44 0.0539 0.0381

Jupiter -49723-11-28 10:47 J -16439571.16 -16439571.05 -16439570.93 0.0540 0.0280

Earth -49722-08-18 05:45 J -16439308.32 -16439308.26 -16439308.20 0.2670 0.2308

Moon -49722-08-18 06:13 J -16439308.29 -16439308.24 -16439308.18 0.2665 0.2317 *

Mars -49721-02-08 06:42 J -16439134.35 -16439134.22 -16439134.09 0.1666 0.0128

Venus -49720-10-21 13:11 J -16438513.05 -16438512.95 -16438512.84 0.3736 0.0355

Earth -49718-02-01 01:40 J -16438045.46 -16438045.43 -16438045.40 0.2671 0.2603

Uranus -49718-02-05 02:37 J -16438041.40 -16438041.39 -16438041.37 0.0147 0.0146

Uranus -49718-05-04 10:04 J -16437953.19 -16437953.08 -16437952.97 0.0147 0.0115

Uranus -49718-07-31 17:16 J -16437864.91 -16437864.78 -16437864.62 0.0147 0.0084

Uranus -49718-10-28 00:57 J -16437776.62 -16437776.46 -16437776.29 0.0147 0.0052

Uranus -49717-01-24 08:37 J -16437688.32 -16437688.14 -16437687.96 0.0147 0.0020

Uranus -49717-04-21 16:04 J -16437600.00 -16437599.83 -16437599.64 0.0147 0.0013

Jupiter -49717-07-15 23:59 J -16437514.63 -16437514.50 -16437514.36 0.0488 0.0287

Uranus -49717-07-18 23:45 J -16437511.68 -16437511.51 -16437511.33 0.0147 0.0045

Jupiter -49717-10-13 22:47 J -16437424.68 -16437424.55 -16437424.43 0.0487 0.0335

Uranus -49717-10-15 07:25 J -16437423.34 -16437423.19 -16437423.03 0.0146 0.0078

Uranus -49716-01-11 15:06 J -16437334.98 -16437334.87 -16437334.74 0.0146 0.0111

Uranus -49716-04-09 22:47 J -16437246.57 -16437246.55 -16437246.50 0.0146 0.0144

Moon -49715-08-11 00:57 J -16436758.58 -16436758.46 -16436758.34 0.2672 0.0225

Earth -49715-08-11 00:42 J -16436758.58 -16436758.47 -16436758.35 0.2665 0.0197 *

Venus -49714-05-07 05:30 J -16436489.35 -16436489.27 -16436489.20 0.3741 0.2527

Earth -49712-02-11 03:49 J -16435843.39 -16435843.34 -16435843.29 0.2663 0.2486

Moon -49712-02-11 04:18 J -16435843.37 -16435843.32 -16435843.26 0.2670 0.2438 *

Mars -49712-06-30 15:49 J -16435703.96 -16435703.84 -16435703.72 0.1660 0.0489

Jupiter -49711-09-16 13:54 J -16435261.05 -16435260.92 -16435260.79 0.0540 0.0123

Mars -49709-03-29 04:18 J -16434701.42 -16434701.32 -16434701.22 0.1863 0.1356

Saturn -49708-02-09 12:57 J -16434384.00 -16434383.96 -16434383.90 0.0275 0.0257

Saturn -49708-05-09 01:54 J -16434295.53 -16434295.42 -16434295.30 0.0276 0.0160

Saturn -49708-08-05 14:37 J -16434207.03 -16434206.89 -16434206.75 0.0276 0.0064

Saturn -49708-11-02 03:06 J -16434118.51 -16434118.37 -16434118.23 0.0277 0.0032

Saturn -49707-01-29 15:21 J -16434029.98 -16434029.86 -16434029.73 0.0278 0.0127

Saturn -49707-04-28 03:35 J -16433941.43 -16433941.35 -16433941.27 0.0278 0.0220

Venus -49706-08-20 23:59 J -16433461.65 -16433461.50 -16433461.36 0.3642 0.1101

Moon -49705-02-04 01:54 J -16433294.54 -16433294.42 -16433294.30 0.2669 0.1395

Earth -49705-02-04 03:06 J -16433294.49 -16433294.37 -16433294.25 0.2669 0.1336 *

Jupiter -49705-05-03 23:59 J -16433204.57 -16433204.50 -16433204.43 0.0488 0.0439

Jupiter -49705-08-01 22:18 J -16433114.73 -16433114.57 -16433114.41 0.0488 0.0177

Mars -49703-11-21 00:42 J -16432273.56 -16432273.47 -16432273.37 0.1655 0.1110

Earth -49702-08-13 20:09 J -16432007.77 -16432007.66 -16432007.54 0.2667 0.0723

Moon -49702-08-13 21:06 J -16432007.74 -16432007.62 -16432007.51 0.2671 0.0854 *

Mars -49701-10-26 12:13 J -16431568.05 -16431567.99 -16431567.93 0.1678 0.1438

Mars -49700-08-19 04:33 J -16431271.45 -16431271.31 -16431271.16 0.1871 0.0149

Jupiter -49699-07-05 16:33 J -16430950.94 -16430950.81 -16430950.67 0.0539 0.0043

Pluto -49697-12-31 18:13 J -16430040.75 -16430040.74 -16430040.70 0.0063 0.0062

Pluto -49696-03-29 19:11 J -16429952.74 -16429952.70 -16429952.61 0.0063 0.0058

Pluto -49696-06-25 20:37 J -16429864.72 -16429864.64 -16429864.54 0.0063 0.0053

Pluto -49696-09-21 22:04 J -16429776.69 -16429776.58 -16429776.48 0.0063 0.0048

Pluto -49696-12-18 22:47 J -16429688.66 -16429688.55 -16429688.42 0.0063 0.0044

Pluto -49695-03-16 23:59 J -16429600.62 -16429600.50 -16429600.36 0.0063 0.0040

Pluto -49695-06-13 00:57 J -16429512.58 -16429512.46 -16429512.30 0.0063 0.0035

Moon -49695-08-06 13:40 J -16429458.01 -16429457.93 -16429457.85 0.2664 0.1950

Earth -49695-08-06 14:23 J -16429457.98 -16429457.90 -16429457.81 0.2662 0.1866 *

Pluto -49695-09-09 02:09 J -16429424.54 -16429424.41 -16429424.24 0.0063 0.0031

Pluto -49695-12-06 03:35 J -16429336.50 -16429336.35 -16429336.19 0.0063 0.0025

Pluto -49694-03-04 04:47 J -16429248.46 -16429248.30 -16429248.14 0.0063 0.0021

Saturn -49694-03-04 21:06 J -16429247.69 -16429247.62 -16429247.53 0.0284 0.0245

Pluto -49694-05-31 05:59 J -16429160.41 -16429160.25 -16429160.08 0.0064 0.0016

Saturn -49694-06-01 16:47 J -16429158.95 -16429158.80 -16429158.64 0.0284 0.0120

Pluto -49694-08-27 06:57 J -16429072.37 -16429072.21 -16429072.03 0.0064 0.0012

Saturn -49694-08-29 12:42 J -16429070.14 -16429069.97 -16429069.80 0.0283 0.0007

Pluto -49694-11-23 08:23 J -16428984.32 -16428984.15 -16428983.98 0.0064 0.0006

Saturn -49694-11-26 08:37 J -16428981.29 -16428981.14 -16428980.98 0.0282 0.0133

Pluto -49693-02-19 09:35 J -16428896.27 -16428896.10 -16428895.93 0.0064 0.0002

Saturn -49693-02-23 05:01 J -16428892.34 -16428892.29 -16428892.22 0.0282 0.0262

Pluto -49693-05-17 10:47 J -16428808.22 -16428808.05 -16428807.88 0.0064 0.0003

Jupiter -49693-05-20 22:18 J -16428804.74 -16428804.57 -16428804.40 0.0488 0.0027

Pluto -49693-08-13 11:59 J -16428720.17 -16428720.00 -16428719.83 0.0064 0.0008

Pluto -49693-11-09 13:11 J -16428632.12 -16428631.95 -16428631.78 0.0064 0.0013

Pluto -49692-02-05 14:23 J -16428544.06 -16428543.90 -16428543.73 0.0064 0.0018

Moon -49692-02-06 03:49 J -16428543.48 -16428543.34 -16428543.20 0.2671 0.0072

Earth -49692-02-06 05:01 J -16428543.43 -16428543.29 -16428543.15 0.2667 0.0039 *

Pluto -49692-05-04 15:21 J -16428456.01 -16428455.86 -16428455.69 0.0064 0.0024

Pluto -49692-07-31 16:33 J -16428367.95 -16428367.81 -16428367.64 0.0064 0.0029

Pluto -49692-10-27 17:59 J -16428279.89 -16428279.75 -16428279.59 0.0064 0.0033

Pluto -49691-01-23 19:11 J -16428191.83 -16428191.70 -16428191.55 0.0065 0.0039

Mars -49691-03-18 21:35 J -16428137.71 -16428137.60 -16428137.49 0.1672 0.0826

Pluto -49691-04-21 20:23 J -16428103.76 -16428103.65 -16428103.51 0.0065 0.0044

Pluto -49691-07-18 21:49 J -16428015.69 -16428015.59 -16428015.47 0.0065 0.0049

Pluto -49691-10-14 23:01 J -16427927.62 -16427927.54 -16427927.43 0.0065 0.0054

Mars -49690-01-09 05:16 J -16427841.40 -16427841.28 -16427841.16 0.1878 0.1058

Pluto -49690-01-10 23:59 J -16427839.54 -16427839.50 -16427839.41 0.0065 0.0060

Pluto -49690-04-09 01:40 J -16427751.43 -16427751.43 -16427751.41 0.0065 0.0065

Earth -49689-08-15 15:35 J -16427256.94 -16427256.85 -16427256.76 0.2669 0.1601

Moon -49689-08-15 16:18 J -16427256.91 -16427256.82 -16427256.72 0.2668 0.1604 *

Jupiter -49687-04-23 18:13 J -16426640.86 -16426640.74 -16426640.62 0.0539 0.0225

Jupiter -49687-07-22 05:30 J -16426551.35 -16426551.27 -16426551.19 0.0540 0.0427

Mars -49682-08-09 06:42 J -16424707.34 -16424707.22 -16424707.09 0.1666 0.0220

Moon -49682-08-09 09:49 J -16424707.20 -16424707.09 -16424706.98 0.2671 0.0974 *

Earth -49682-08-09 10:18 J -16424707.18 -16424707.07 -16424706.96 0.2664 0.0933 *

Jupiter -49681-03-08 22:18 J -16424494.73 -16424494.57 -16424494.40 0.0488 0.0129

Moon -49679-02-09 06:57 J -16423792.33 -16423792.21 -16423792.08 0.2672 0.1263

Earth -49679-02-09 07:11 J -16423792.32 -16423792.20 -16423792.08 0.2665 0.1330 *

Saturn -49679-06-29 16:33 J -16423651.81 -16423651.81 -16423651.79 0.0275 0.0274

Saturn -49679-09-26 05:30 J -16423563.38 -16423563.27 -16423563.16 0.0276 0.0177

Saturn -49679-12-23 18:13 J -16423474.87 -16423474.74 -16423474.60 0.0276 0.0081

Saturn -49678-03-22 06:42 J -16423386.36 -16423386.22 -16423386.08 0.0277 0.0016

Saturn -49678-06-18 19:11 J -16423297.83 -16423297.70 -16423297.58 0.0278 0.0110

Saturn -49678-09-15 07:25 J -16423209.29 -16423209.19 -16423209.10 0.0278 0.0204

Uranus -49676-02-23 16:18 J -16422681.85 -16422681.82 -16422681.78 0.0132 0.0127

Uranus -49676-05-22 19:40 J -16422593.75 -16422593.68 -16422593.60 0.0132 0.0109

Earth -49676-08-18 10:47 J -16422506.09 -16422506.05 -16422506.01 0.2671 0.2464

Moon -49676-08-18 11:16 J -16422506.06 -16422506.03 -16422506.00 0.2665 0.2529 *

Uranus -49676-08-18 23:01 J -16422505.64 -16422505.54 -16422505.43 0.0132 0.0091

Uranus -49676-11-15 02:23 J -16422417.51 -16422417.40 -16422417.28 0.0132 0.0072

Jupiter -49675-02-09 20:37 J -16422330.73 -16422330.64 -16422330.54 0.0539 0.0394

Uranus -49675-02-11 05:45 J -16422329.38 -16422329.26 -16422329.13 0.0132 0.0054

Jupiter -49675-05-10 08:23 J -16422241.26 -16422241.15 -16422241.03 0.0540 0.0267

Uranus -49675-05-10 09:06 J -16422241.25 -16422241.12 -16422240.99 0.0132 0.0036 *

Uranus -49675-08-06 12:28 J -16422153.12 -16422152.98 -16422152.84 0.0132 0.0018

Uranus -49675-11-02 15:49 J -16422064.98 -16422064.84 -16422064.71 0.0132 0.0004

Uranus -49674-01-29 18:57 J -16421976.85 -16421976.71 -16421976.57 0.0132 0.0018

Uranus -49674-04-27 22:04 J -16421888.71 -16421888.58 -16421888.44 0.0132 0.0036

Venus -49674-04-29 02:23 J -16421887.45 -16421887.40 -16421887.35 0.3729 0.3259

Uranus -49674-07-25 01:25 J -16421800.56 -16421800.44 -16421800.31 0.0132 0.0054

Uranus -49674-10-21 04:33 J -16421712.42 -16421712.31 -16421712.19 0.0132 0.0072

Uranus -49673-01-17 07:40 J -16421624.27 -16421624.18 -16421624.07 0.0132 0.0089

Uranus -49673-04-14 11:01 J -16421536.12 -16421536.04 -16421535.96 0.0132 0.0107

Uranus -49673-07-11 14:09 J -16421447.95 -16421447.91 -16421447.86 0.0132 0.0124

Mars -49673-12-29 15:49 J -16421276.96 -16421276.84 -16421276.71 0.1660 0.0406

Moon -49672-02-01 06:28 J -16421243.29 -16421243.23 -16421243.17 0.2666 0.2361

Earth -49672-02-01 07:25 J -16421243.25 -16421243.19 -16421243.13 0.2670 0.2379 *

Mars -49670-09-28 04:33 J -16420274.40 -16420274.31 -16420274.22 0.1863 0.1479

Jupiter -49670-12-26 22:04 J -16420184.72 -16420184.58 -16420184.45 0.0488 0.0286

Jupiter -49669-03-25 20:37 J -16420094.77 -16420094.64 -16420094.52 0.0487 0.0336

Earth -49669-08-11 05:45 J -16419956.37 -16419956.26 -16419956.14 0.2666 0.0102

Moon -49669-08-11 06:13 J -16419956.36 -16419956.24 -16419956.12 0.2672 0.0058 *

Venus -49669-11-11 18:42 J -16419863.82 -16419863.72 -16419863.62 0.3733 0.1040

Saturn -49665-07-21 22:18 J -16418515.61 -16418515.57 -16418515.52 0.0285 0.0273

Neptune -49665-10-17 02:09 J -16418428.46 -16418428.41 -16418428.35 0.0089 0.0084

Saturn -49665-10-18 17:45 J -16418426.90 -16418426.76 -16418426.62 0.0284 0.0149

Neptune -49664-01-13 04:33 J -16418340.38 -16418340.31 -16418340.21 0.0089 0.0077

Saturn -49664-01-15 13:25 J -16418338.11 -16418337.94 -16418337.77 0.0283 0.0024

Neptune -49664-04-11 07:11 J -16418252.29 -16418252.20 -16418252.08 0.0089 0.0070

Saturn -49664-04-14 09:21 J -16418249.27 -16418249.11 -16418248.95 0.0283 0.0103

Neptune -49664-07-08 10:04 J -16418164.20 -16418164.08 -16418163.96 0.0089 0.0062

Saturn -49664-07-12 05:45 J -16418160.36 -16418160.26 -16418160.16 0.0282 0.0230

Neptune -49664-10-04 12:28 J -16418076.10 -16418075.98 -16418075.83 0.0089 0.0055

Neptune -49664-12-31 15:21 J -16417988.00 -16417987.86 -16417987.71 0.0089 0.0047

Jupiter -49663-02-26 11:45 J -16417931.14 -16417931.01 -16417930.88 0.0540 0.0113

Neptune -49663-03-29 17:59 J -16417899.90 -16417899.75 -16417899.59 0.0089 0.0040

Mars -49663-05-22 00:57 J -16417846.56 -16417846.46 -16417846.36 0.1655 0.1018

Venus -49663-05-28 10:47 J -16417840.15 -16417840.05 -16417839.95 0.3738 0.1155

Neptune -49663-06-25 20:52 J -16417811.79 -16417811.63 -16417811.47 0.0089 0.0032

Neptune -49663-09-21 23:16 J -16417723.69 -16417723.53 -16417723.35 0.0089 0.0025

Neptune -49663-12-19 02:09 J -16417635.58 -16417635.41 -16417635.24 0.0089 0.0017

Neptune -49662-03-17 04:47 J -16417547.46 -16417547.30 -16417547.12 0.0089 0.0010

Neptune -49662-06-13 07:40 J -16417459.35 -16417459.18 -16417459.01 0.0089 0.0002

Earth -49662-08-04 23:30 J -16417406.53 -16417406.52 -16417406.51 0.2661 0.2644

Neptune -49662-09-09 10:33 J -16417371.24 -16417371.06 -16417370.89 0.0089 0.0006

Neptune -49662-12-06 13:11 J -16417283.12 -16417282.95 -16417282.78 0.0089 0.0013

Neptune -49661-03-03 16:04 J -16417195.00 -16417194.83 -16417194.66 0.0089 0.0021

Mars -49661-04-26 12:13 J -16417141.03 -16417140.99 -16417140.93 0.1678 0.1524

Neptune -49661-05-30 18:42 J -16417106.88 -16417106.72 -16417106.55 0.0089 0.0029

Neptune -49661-08-26 21:21 J -16417018.76 -16417018.61 -16417018.44 0.0089 0.0037

Neptune -49661-11-22 23:59 J -16416930.63 -16416930.50 -16416930.33 0.0089 0.0045

Mars -49660-02-17 05:01 J -16416844.44 -16416844.29 -16416844.14 0.1871 0.0265

Neptune -49660-02-19 03:06 J -16416842.51 -16416842.37 -16416842.22 0.0089 0.0052

Neptune -49660-05-18 05:59 J -16416754.38 -16416754.25 -16416754.12 0.0089 0.0060

Neptune -49660-08-14 08:37 J -16416666.24 -16416666.14 -16416666.02 0.0089 0.0068

Neptune -49660-11-10 11:30 J -16416578.10 -16416578.02 -16416577.92 0.0089 0.0076

Moon -49659-02-04 07:40 J -16416492.30 -16416492.18 -16416492.06 0.2670 0.1265

Earth -49659-02-04 09:06 J -16416492.25 -16416492.12 -16416492.00 0.2668 0.1109 *

Neptune -49659-02-06 14:09 J -16416489.94 -16416489.91 -16416489.83 0.0089 0.0084

Jupiter -49658-10-14 22:04 J -16415874.65 -16415874.58 -16415874.50 0.0488 0.0436

Venus -49658-12-12 02:52 J -16415816.42 -16415816.38 -16415816.33 0.3742 0.3338

Jupiter -49657-01-12 20:23 J -16415784.81 -16415784.65 -16415784.49 0.0488 0.0179

Earth -49656-08-14 01:25 J -16415205.55 -16415205.44 -16415205.33 0.2667 0.0886

Moon -49656-08-14 02:09 J -16415205.52 -16415205.41 -16415205.30 0.2671 0.0876 *

Venus -49655-09-10 18:57 J -16414812.81 -16414812.71 -16414812.60 0.3646 0.2530

Mars -49654-10-12 10:04 J -16414416.10 -16414416.08 -16414416.07 0.1650 0.1637

Mars -49652-09-16 21:35 J -16413710.70 -16413710.60 -16413710.49 0.1672 0.0913

Jupiter -49652-12-15 14:37 J -16413621.02 -16413620.89 -16413620.75 0.0540 0.0047

Mars -49651-07-10 05:30 J -16413414.40 -16413414.27 -16413414.15 0.1878 0.0952

Saturn -49649-02-13 06:57 J -16412831.30 -16412831.21 -16412831.12 0.0275 0.0209

Venus -49649-03-27 01:11 J -16412788.53 -16412788.45 -16412788.37 0.3640 0.3052

Saturn -49649-05-11 19:40 J -16412742.81 -16412742.68 -16412742.55 0.0276 0.0113

Moon -49649-08-06 18:57 J -16412655.80 -16412655.71 -16412655.62 0.2666 0.1707

Earth -49649-08-06 19:40 J -16412655.77 -16412655.68 -16412655.59 0.2663 0.1693 *

Saturn -49649-08-08 08:23 J -16412654.29 -16412654.15 -16412654.01 0.0277 0.0019

Saturn -49649-11-04 20:37 J -16412565.77 -16412565.64 -16412565.50 0.0277 0.0079

Saturn -49648-02-01 08:52 J -16412477.23 -16412477.13 -16412477.02 0.0278 0.0173

Saturn -49648-04-30 21:06 J -16412388.66 -16412388.62 -16412388.58 0.0279 0.0267

Moon -49646-02-07 09:49 J -16411741.23 -16411741.09 -16411740.95 0.2671 0.0140

Earth -49646-02-07 10:47 J -16411741.19 -16411741.05 -16411740.90 0.2666 0.0217 *

Jupiter -49646-10-31 19:54 J -16411474.84 -16411474.67 -16411474.50 0.0488 0.0021

Earth -49643-08-16 20:37 J -16410454.73 -16410454.64 -16410454.55 0.2669 0.1758

Moon -49643-08-16 21:21 J -16410454.69 -16410454.61 -16410454.53 0.2666 0.1880 *

Mars -49642-02-07 06:42 J -16410280.34 -16410280.22 -16410280.09 0.1666 0.0301

Jupiter -49640-10-03 17:16 J -16409310.91 -16409310.78 -16409310.66 0.0539 0.0213

Jupiter -49639-01-01 04:33 J -16409221.38 -16409221.31 -16409221.23 0.0540 0.0440

Moon -49636-08-09 15:06 J -16407904.98 -16407904.87 -16407904.76 0.2671 0.0791

Earth -49636-08-09 15:21 J -16407904.97 -16407904.86 -16407904.74 0.2664 0.0761 *

Saturn -49635-03-07 17:30 J -16407694.89 -16407694.77 -16407694.64 0.0284 0.0185

Saturn -49635-06-04 13:11 J -16407606.11 -16407605.95 -16407605.78 0.0283 0.0061

Saturn -49635-09-01 09:06 J -16407517.28 -16407517.12 -16407516.95 0.0283 0.0067

Saturn -49635-11-29 05:30 J -16407428.39 -16407428.27 -16407428.14 0.0282 0.0194

Uranus -49634-02-25 10:18 J -16407340.13 -16407340.07 -16407340.00 0.0147 0.0137

Uranus -49634-05-24 17:30 J -16407251.88 -16407251.77 -16407251.63 0.0147 0.0106

Jupiter -49634-08-19 20:09 J -16407164.83 -16407164.66 -16407164.50 0.0488 0.0131

Uranus -49634-08-21 01:11 J -16407163.60 -16407163.45 -16407163.29 0.0147 0.0074

Uranus -49634-11-17 08:52 J -16407075.31 -16407075.13 -16407074.96 0.0147 0.0042

Moon -49633-02-10 13:11 J -16406990.06 -16406989.95 -16406989.84 0.2672 0.1627

Earth -49633-02-10 13:11 J -16406990.06 -16406989.95 -16406989.83 0.2665 0.1572 *

Uranus -49633-02-13 16:18 J -16406987.00 -16406986.82 -16406986.64 0.0147 0.0010

Uranus -49633-05-11 23:59 J -16406898.68 -16406898.50 -16406898.32 0.0147 0.0022

Mars -49633-06-29 16:04 J -16406849.96 -16406849.83 -16406849.70 0.1661 0.0315

Uranus -49633-08-08 07:40 J -16406810.35 -16406810.18 -16406810.01 0.0147 0.0055

Uranus -49633-11-04 15:06 J -16406722.01 -16406721.87 -16406721.72 0.0146 0.0088

Uranus -49632-01-31 22:47 J -16406633.64 -16406633.55 -16406633.43 0.0146 0.0121

Mars -49630-03-29 05:16 J -16405847.35 -16405847.28 -16405847.21 0.1863 0.1623

Earth -49630-08-19 15:49 J -16405703.86 -16405703.84 -16405703.82 0.2671 0.2616

Moon -49630-08-19 16:04 J -16405703.85 -16405703.83 -16405703.80 0.2665 0.2598 *

Jupiter -49628-07-22 18:57 J -16405000.80 -16405000.71 -16405000.62 0.0539 0.0396

Jupiter -49628-10-20 06:42 J -16404911.34 -16404911.22 -16404911.11 0.0539 0.0264

Moon -49626-02-02 12:13 J -16404441.06 -16404440.99 -16404440.92 0.2667 0.2312

Earth -49626-02-02 13:25 J -16404441.02 -16404440.94 -16404440.86 0.2670 0.2153 *

Mars -49624-11-20 01:11 J -16403419.56 -16403419.45 -16403419.35 0.1655 0.0930

Earth -49623-08-12 11:01 J -16403154.16 -16403154.04 -16403153.93 0.2666 0.0169

Moon -49623-08-12 11:30 J -16403154.14 -16403154.02 -16403153.91 0.2672 0.0187 *

Jupiter -49622-06-07 20:09 J -16402854.80 -16402854.66 -16402854.52 0.0488 0.0282

Jupiter -49622-09-05 18:42 J -16402764.84 -16402764.72 -16402764.59 0.0488 0.0341

Mars -49622-10-26 12:28 J -16402714.01 -16402713.98 -16402713.95 0.1678 0.1608

Mars -49621-08-18 05:30 J -16402417.42 -16402417.27 -16402417.13 0.1870 0.0391

Saturn -49620-07-02 10:18 J -16402099.14 -16402099.07 -16402098.99 0.0276 0.0227

Saturn -49620-09-28 23:01 J -16402010.66 -16402010.54 -16402010.41 0.0276 0.0130

Saturn -49620-12-26 11:45 J -16401922.15 -16401922.01 -16401921.87 0.0277 0.0034

Saturn -49619-03-25 00:13 J -16401833.62 -16401833.49 -16401833.35 0.0277 0.0062

Saturn -49619-06-21 12:28 J -16401745.09 -16401744.98 -16401744.86 0.0278 0.0157

Saturn -49619-09-18 00:42 J -16401656.53 -16401656.47 -16401656.41 0.0279 0.0251

Venus -49618-12-03 23:59 J -16401214.58 -16401214.50 -16401214.42 0.3730 0.2431

Moon -49616-08-05 03:49 J -16400604.38 -16400604.34 -16400604.30 0.2660 0.2465

Earth -49616-08-05 04:47 J -16400604.34 -16400604.30 -16400604.26 0.2661 0.2468 *

Jupiter -49616-08-08 09:21 J -16400601.24 -16400601.11 -16400600.98 0.0539 0.0099

Mars -49614-04-12 10:04 J -16399989.12 -16399989.08 -16399989.03 0.1650 0.1548

Moon -49613-02-05 13:40 J -16399690.07 -16399689.93 -16399689.80 0.2669 0.0907

Earth -49613-02-05 14:52 J -16399690.01 -16399689.88 -16399689.75 0.2668 0.0877 *

Mars -49612-03-17 21:49 J -16399283.69 -16399283.59 -16399283.49 0.1672 0.0996

Venus -49612-06-18 16:04 J -16399190.93 -16399190.83 -16399190.72 0.3734 0.0276

Mars -49611-01-08 05:59 J -16398987.38 -16398987.25 -16398987.12 0.1878 0.0825

Jupiter -49610-03-26 19:54 J -16398544.74 -16398544.67 -16398544.60 0.0488 0.0438

Jupiter -49610-06-24 17:59 J -16398454.91 -16398454.75 -16398454.59 0.0488 0.0176

Earth -49610-08-15 06:28 J -16398403.34 -16398403.23 -16398403.13 0.2668 0.1045

Moon -49610-08-15 07:11 J -16398403.31 -16398403.20 -16398403.10 0.2670 0.1161 *

Pluto -49607-12-26 19:40 J -16397173.72 -16397173.68 -16397173.60 0.0081 0.0074

Venus -49606-01-02 08:23 J -16397167.24 -16397167.15 -16397167.06 0.3739 0.1971

Pluto -49606-03-24 21:21 J -16397085.68 -16397085.61 -16397085.51 0.0081 0.0065

Pluto -49606-06-20 23:16 J -16396997.63 -16396997.53 -16396997.42 0.0081 0.0055

Saturn -49606-07-25 19:25 J -16396962.80 -16396962.69 -16396962.58 0.0284 0.0209

Pluto -49606-09-17 00:42 J -16396909.58 -16396909.47 -16396909.34 0.0081 0.0047

Saturn -49606-10-22 14:52 J -16396874.04 -16396873.88 -16396873.72 0.0284 0.0085

Pluto -49606-12-14 02:23 J -16396821.52 -16396821.40 -16396821.26 0.0081 0.0038

Saturn -49605-01-19 10:47 J -16396785.22 -16396785.05 -16396784.88 0.0283 0.0041

Pluto -49605-03-11 04:04 J -16396733.47 -16396733.33 -16396733.19 0.0081 0.0029

Saturn -49605-04-17 06:42 J -16396696.35 -16396696.22 -16396696.07 0.0282 0.0168

Pluto -49605-06-07 05:30 J -16396645.41 -16396645.27 -16396645.12 0.0081 0.0021

Pluto -49605-09-03 07:11 J -16396557.34 -16396557.20 -16396557.05 0.0081 0.0012

Pluto -49605-11-30 08:37 J -16396469.28 -16396469.14 -16396468.99 0.0080 0.0004

Pluto -49604-02-26 10:18 J -16396381.22 -16396381.07 -16396380.93 0.0080 0.0005

Pluto -49604-05-25 11:45 J -16396293.15 -16396293.01 -16396292.87 0.0080 0.0013

Jupiter -49604-05-27 12:13 J -16396291.12 -16396290.99 -16396290.85 0.0540 0.0061

Pluto -49604-08-21 13:11 J -16396205.09 -16396204.95 -16396204.81 0.0080 0.0021

Pluto -49604-11-17 14:37 J -16396117.02 -16396116.89 -16396116.75 0.0080 0.0029

Pluto -49603-02-13 16:04 J -16396028.95 -16396028.83 -16396028.70 0.0080 0.0037

Pluto -49603-05-12 17:30 J -16395940.88 -16395940.77 -16395940.65 0.0080 0.0045

Moon -49603-08-07 23:59 J -16395853.59 -16395853.50 -16395853.40 0.2668 0.1640

Earth -49603-08-08 00:42 J -16395853.57 -16395853.47 -16395853.37 0.2663 0.1520 *

Mars -49603-08-08 06:57 J -16395853.33 -16395853.21 -16395853.08 0.1666 0.0385

Pluto -49603-08-08 18:57 J -16395852.81 -16395852.71 -16395852.60 0.0079 0.0053

Pluto -49603-11-04 20:23 J -16395764.74 -16395764.65 -16395764.55 0.0079 0.0061

Pluto -49602-01-31 21:35 J -16395676.66 -16395676.60 -16395676.52 0.0079 0.0069

Pluto -49602-04-29 23:01 J -16395588.57 -16395588.54 -16395588.49 0.0079 0.0076

Moon -49600-02-07 16:04 J -16394938.97 -16394938.83 -16394938.69 0.2672 0.0370

Earth -49600-02-07 16:47 J -16394938.94 -16394938.80 -16394938.66 0.2666 0.0449 *

Jupiter -49598-04-12 17:45 J -16394144.93 -16394144.76 -16394144.58 0.0488 0.0025

Venus -49598-04-17 20:23 J -16394139.80 -16394139.65 -16394139.50 0.3645 0.0625

Earth -49597-08-17 01:40 J -16393652.51 -16393652.43 -16393652.35 0.2670 0.1916

Moon -49597-08-17 02:23 J -16393652.48 -16393652.40 -16393652.32 0.2666 0.1900 *

Mars -49594-12-29 16:04 J -16392422.95 -16392422.83 -16392422.70 0.1661 0.0235

Jupiter -49592-03-15 15:21 J -16391980.99 -16391980.86 -16391980.74 0.0539 0.0218

Uranus -49592-03-15 23:30 J -16391980.56 -16391980.52 -16391980.46 0.0132 0.0122

Uranus -49592-06-12 03:06 J -16391892.46 -16391892.37 -16391892.28 0.0132 0.0103

Jupiter -49592-06-13 02:37 J -16391891.46 -16391891.39 -16391891.31 0.0540 0.0436

Uranus -49592-09-08 06:28 J -16391804.34 -16391804.23 -16391804.12 0.0132 0.0085

Uranus -49592-12-05 09:35 J -16391716.21 -16391716.10 -16391715.97 0.0132 0.0067

Uranus -49591-03-03 12:57 J -16391628.08 -16391627.96 -16391627.82 0.0132 0.0049

Uranus -49591-05-30 16:18 J -16391539.95 -16391539.82 -16391539.68 0.0132 0.0031

Uranus -49591-08-26 19:40 J -16391451.81 -16391451.68 -16391451.54 0.0132 0.0013

Mars -49591-09-27 05:16 J -16391420.33 -16391420.28 -16391420.22 0.1862 0.1726

Saturn -49591-11-19 11:45 J -16391367.05 -16391367.01 -16391366.96 0.0275 0.0258

Uranus -49591-11-22 23:01 J -16391363.68 -16391363.54 -16391363.40 0.0132 0.0006

Saturn -49590-02-16 00:42 J -16391278.58 -16391278.47 -16391278.35 0.0276 0.0161

Uranus -49590-02-19 02:09 J -16391275.54 -16391275.41 -16391275.27 0.0132 0.0024

Saturn -49590-05-15 13:25 J -16391190.08 -16391189.94 -16391189.80 0.0276 0.0065

Uranus -49590-05-18 05:30 J -16391187.40 -16391187.27 -16391187.14 0.0132 0.0041

Moon -49590-08-10 20:23 J -16391102.77 -16391102.65 -16391102.54 0.2671 0.0590

Earth -49590-08-10 20:23 J -16391102.76 -16391102.65 -16391102.53 0.2664 0.0598 *

Saturn -49590-08-12 01:54 J -16391101.56 -16391101.42 -16391101.28 0.0277 0.0031

Uranus -49590-08-14 08:37 J -16391099.26 -16391099.14 -16391099.01 0.0132 0.0059

Saturn -49590-11-08 14:09 J -16391013.03 -16391012.91 -16391012.78 0.0278 0.0126

Uranus -49590-11-10 11:45 J -16391011.11 -16391011.01 -16391010.89 0.0132 0.0077

Saturn -49589-02-05 02:23 J -16390924.48 -16390924.40 -16390924.31 0.0278 0.0220

Uranus -49589-02-06 15:06 J -16390922.96 -16390922.87 -16390922.77 0.0132 0.0094

Uranus -49589-05-04 18:13 J -16390834.80 -16390834.74 -16390834.66 0.0132 0.0112

Uranus -49589-07-31 21:21 J -16390746.63 -16390746.61 -16390746.58 0.0132 0.0130

Moon -49587-02-10 19:11 J -16390187.80 -16390187.70 -16390187.60 0.2671 0.1783

Earth -49587-02-10 19:11 J -16390187.80 -16390187.70 -16390187.59 0.2664 0.1812 *

Jupiter -49586-01-29 17:30 J -16389834.93 -16389834.77 -16389834.60 0.0488 0.0136

Mars -49584-05-21 01:11 J -16388992.56 -16388992.45 -16388992.34 0.1655 0.0847

Neptune -49582-04-24 20:09 J -16388288.69 -16388288.66 -16388288.59 0.0088 0.0083

Neptune -49582-07-21 22:18 J -16388200.64 -16388200.57 -16388200.49 0.0088 0.0076

Neptune -49582-10-17 23:45 J -16388112.58 -16388112.51 -16388112.40 0.0088 0.0070

Neptune -49581-01-14 01:54 J -16388024.52 -16388024.42 -16388024.32 0.0088 0.0063

Mars -49581-02-17 05:45 J -16387990.40 -16387990.26 -16387990.12 0.1871 0.0512

Neptune -49581-04-11 03:21 J -16387936.46 -16387936.36 -16387936.23 0.0088 0.0057

Neptune -49581-07-08 05:16 J -16387848.39 -16387848.28 -16387848.15 0.0088 0.0050

Neptune -49581-10-04 06:57 J -16387760.33 -16387760.21 -16387760.07 0.0088 0.0044

Neptune -49581-12-31 08:52 J -16387672.26 -16387672.13 -16387671.99 0.0088 0.0037

Jupiter -49580-01-01 17:45 J -16387670.85 -16387670.76 -16387670.66 0.0539 0.0385

Moon -49580-02-02 17:59 J -16387638.85 -16387638.75 -16387638.65 0.2668 0.1931

Earth -49580-02-02 19:11 J -16387638.79 -16387638.70 -16387638.60 0.2670 0.1929 *

Neptune -49580-03-29 10:33 J -16387584.19 -16387584.06 -16387583.91 0.0088 0.0031

Jupiter -49580-04-01 05:30 J -16387581.38 -16387581.27 -16387581.15 0.0540 0.0275

Neptune -49580-06-25 12:28 J -16387496.12 -16387495.98 -16387495.84 0.0089 0.0024

Neptune -49580-09-21 14:09 J -16387408.05 -16387407.91 -16387407.77 0.0089 0.0017

Neptune -49580-12-18 15:49 J -16387319.98 -16387319.84 -16387319.69 0.0089 0.0011

Neptune -49579-03-16 17:30 J -16387231.91 -16387231.77 -16387231.62 0.0089 0.0006

Neptune -49579-06-12 19:25 J -16387143.84 -16387143.69 -16387143.55 0.0089 0.0003

Neptune -49579-09-08 21:06 J -16387055.77 -16387055.62 -16387055.48 0.0089 0.0008

Neptune -49579-12-05 22:33 J -16386967.70 -16386967.56 -16386967.41 0.0089 0.0015

Neptune -49578-03-04 00:28 J -16386879.62 -16386879.48 -16386879.34 0.0089 0.0021

Neptune -49578-05-31 02:09 J -16386791.55 -16386791.41 -16386791.28 0.0089 0.0027

Neptune -49578-08-27 03:35 J -16386703.48 -16386703.35 -16386703.21 0.0089 0.0033

Neptune -49578-11-23 05:16 J -16386615.40 -16386615.28 -16386615.15 0.0089 0.0040

Neptune -49577-02-19 06:57 J -16386527.33 -16386527.21 -16386527.08 0.0089 0.0046

Neptune -49577-05-17 08:37 J -16386439.25 -16386439.14 -16386439.02 0.0089 0.0052

Earth -49577-08-12 16:04 J -16386351.95 -16386351.83 -16386351.71 0.2666 0.0316

Moon -49577-08-12 16:33 J -16386351.92 -16386351.81 -16386351.69 0.2672 0.0364 *

Neptune -49577-08-13 10:04 J -16386351.17 -16386351.08 -16386350.96 0.0089 0.0059

Neptune -49577-11-09 11:45 J -16386263.10 -16386263.01 -16386262.90 0.0089 0.0064

Saturn -49577-12-11 18:57 J -16386230.78 -16386230.71 -16386230.62 0.0284 0.0247

Neptune -49576-02-05 13:25 J -16386175.02 -16386174.94 -16386174.85 0.0089 0.0070

Saturn -49576-03-10 14:37 J -16386142.05 -16386141.89 -16386141.74 0.0284 0.0123

Neptune -49576-05-04 14:52 J -16386086.93 -16386086.88 -16386086.80 0.0089 0.0077

Saturn -49576-06-07 10:18 J -16386053.24 -16386053.07 -16386052.90 0.0283 0.0003

Neptune -49576-07-31 16:33 J -16385998.85 -16385998.81 -16385998.75 0.0089 0.0083

Saturn -49576-09-04 06:13 J -16385964.39 -16385964.24 -16385964.08 0.0282 0.0130

Neptune -49576-10-27 18:28 J -16385910.73 -16385910.73 -16385910.73 0.0089 0.0089

Saturn -49576-12-02 02:52 J -16385875.45 -16385875.38 -16385875.32 0.0282 0.0258

Mars -49575-10-11 10:18 J -16385562.13 -16385562.07 -16385562.01 0.1650 0.1458

Jupiter -49575-11-17 17:45 J -16385524.89 -16385524.76 -16385524.62 0.0488 0.0286

Jupiter -49574-02-15 16:18 J -16385434.94 -16385434.82 -16385434.69 0.0488 0.0337

Mars -49573-09-15 21:49 J -16384856.69 -16384856.59 -16384856.50 0.1672 0.1078

Mars -49572-07-09 06:28 J -16384560.37 -16384560.23 -16384560.10 0.1878 0.0691

Moon -49570-08-06 09:06 J -16383802.17 -16383802.12 -16383802.08 0.2661 0.2430

Earth -49570-08-06 09:49 J -16383802.15 -16383802.09 -16383802.03 0.2661 0.2294 *

Jupiter -49568-01-18 07:25 J -16383271.32 -16383271.19 -16383271.05 0.0539 0.0099

Moon -49567-02-05 19:25 J -16382887.82 -16382887.69 -16382887.55 0.2669 0.0822

Earth -49567-02-05 20:52 J -16382887.77 -16382887.63 -16382887.50 0.2668 0.0650 *

Earth -49564-08-15 11:30 J -16381601.13 -16381601.02 -16381600.92 0.2668 0.1206

Moon -49564-08-15 12:13 J -16381601.09 -16381600.99 -16381600.89 0.2669 0.1233 *

Mars -49563-02-06 07:11 J -16381426.32 -16381426.20 -16381426.08 0.1666 0.0471

Jupiter -49563-09-05 17:59 J -16381214.82 -16381214.75 -16381214.68 0.0489 0.0437

Jupiter -49563-12-04 16:04 J -16381124.99 -16381124.83 -16381124.67 0.0488 0.0180

Saturn -49561-07-05 04:04 J -16380546.43 -16380546.33 -16380546.22 0.0276 0.0179

Venus -49561-07-09 21:35 J -16380541.70 -16380541.60 -16380541.51 0.3731 0.1618

Saturn -49561-10-01 16:47 J -16380457.93 -16380457.80 -16380457.66 0.0277 0.0082

Saturn -49561-12-29 05:30 J -16380369.41 -16380369.27 -16380369.13 0.0277 0.0015

Saturn -49560-03-27 17:45 J -16380280.88 -16380280.76 -16380280.63 0.0278 0.0110

Saturn -49560-06-24 05:59 J -16380192.34 -16380192.25 -16380192.15 0.0278 0.0204

Moon -49557-08-08 05:16 J -16379051.39 -16379051.28 -16379051.18 0.2668 0.1338

Earth -49557-08-08 05:45 J -16379051.36 -16379051.26 -16379051.15 0.2663 0.1353 *

Jupiter -49557-11-06 10:04 J -16378961.22 -16378961.08 -16378960.95 0.0539 0.0070

Venus -49555-01-23 13:40 J -16378518.03 -16378517.93 -16378517.82 0.3735 0.0609

Moon -49554-02-08 22:18 J -16378136.71 -16378136.57 -16378136.44 0.2672 0.0701

Earth -49554-02-08 22:47 J -16378136.69 -16378136.55 -16378136.41 0.2666 0.0684 *

Mars -49554-06-29 16:18 J -16377995.95 -16377995.82 -16377995.69 0.1661 0.0144

Mars -49551-03-28 05:59 J -16376993.26 -16376993.25 -16376993.25 0.1862 0.1858

Earth -49551-08-18 06:42 J -16376850.29 -16376850.22 -16376850.15 0.2670 0.2072

Moon -49551-08-18 07:25 J -16376850.26 -16376850.19 -16376850.13 0.2666 0.2190 *

Jupiter -49551-09-22 15:21 J -16376815.03 -16376814.86 -16376814.69 0.0488 0.0020

Uranus -49550-03-17 17:30 J -16376638.84 -16376638.77 -16376638.68 0.0147 0.0129

Uranus -49550-06-14 00:57 J -16376550.58 -16376550.46 -16376550.32 0.0147 0.0098

Venus -49550-08-09 05:59 J -16376494.32 -16376494.25 -16376494.19 0.3740 0.2788

Uranus -49550-09-10 08:23 J -16376462.30 -16376462.15 -16376461.98 0.0147 0.0066

Uranus -49550-12-07 16:04 J -16376374.00 -16376373.83 -16376373.65 0.0147 0.0034

Uranus -49549-03-04 23:45 J -16376285.69 -16376285.51 -16376285.33 0.0147 0.0003

Uranus -49549-06-01 07:11 J -16376197.37 -16376197.20 -16376197.02 0.0147 0.0031

Uranus -49549-08-28 14:52 J -16376109.04 -16376108.88 -16376108.71 0.0147 0.0063

Uranus -49549-11-24 22:33 J -16376020.69 -16376020.56 -16376020.42 0.0147 0.0096

Uranus -49548-02-21 06:13 J -16375932.31 -16375932.24 -16375932.14 0.0147 0.0129

Saturn -49547-04-30 21:06 J -16375498.67 -16375498.62 -16375498.56 0.0285 0.0269

Saturn -49547-07-28 16:33 J -16375409.95 -16375409.81 -16375409.66 0.0284 0.0146

Saturn -49547-10-25 12:13 J -16375321.16 -16375320.99 -16375320.82 0.0283 0.0021

Saturn -49546-01-22 08:09 J -16375232.32 -16375232.16 -16375232.00 0.0283 0.0106

Saturn -49546-04-21 04:18 J -16375143.41 -16375143.32 -16375143.22 0.0282 0.0234

Jupiter -49545-08-25 12:42 J -16374651.09 -16374650.97 -16374650.84 0.0539 0.0233

Mars -49545-11-19 01:25 J -16374565.56 -16374565.44 -16374565.33 0.1655 0.0757

Jupiter -49545-11-23 00:13 J -16374561.57 -16374561.49 -16374561.40 0.0540 0.0424

Moon -49544-08-11 01:40 J -16374300.55 -16374300.43 -16374300.32 0.2671 0.0472

Earth -49544-08-11 01:25 J -16374300.55 -16374300.44 -16374300.32 0.2665 0.0437 *

Mars -49542-08-18 06:13 J -16373563.38 -16373563.24 -16373563.10 0.1870 0.0636

Venus -49542-11-22 21:35 J -16373466.74 -16373466.60 -16373466.46 0.3644 0.1287

Earth -49541-02-12 01:11 J -16373385.54 -16373385.45 -16373385.36 0.2664 0.2057

Moon -49541-02-12 01:25 J -16373385.53 -16373385.44 -16373385.35 0.2670 0.2083 *

Jupiter -49539-07-11 15:35 J -16372505.02 -16372504.85 -16372504.69 0.0488 0.0135

Mars -49535-04-11 10:18 J -16371135.14 -16371135.07 -16371135.00 0.1650 0.1375

Moon -49534-02-03 23:45 J -16370836.61 -16370836.51 -16370836.41 0.2668 0.1874

Earth -49534-02-04 01:11 J -16370836.56 -16370836.45 -16370836.35 0.2669 0.1702 *

Mars -49533-03-16 21:49 J -16370429.67 -16370429.59 -16370429.50 0.1672 0.1166

Jupiter -49533-06-13 15:35 J -16370340.94 -16370340.85 -16370340.75 0.0539 0.0392

Jupiter -49533-09-11 03:35 J -16370251.47 -16370251.35 -16370251.24 0.0540 0.0270

Mars -49532-01-07 06:28 J -16370133.37 -16370133.23 -16370133.09 0.1878 0.0588

Saturn -49532-11-22 05:30 J -16369814.35 -16369814.27 -16369814.17 0.0275 0.0210

Saturn -49531-02-18 18:28 J -16369725.86 -16369725.73 -16369725.60 0.0276 0.0114

Saturn -49531-05-18 06:57 J -16369637.35 -16369637.21 -16369637.07 0.0277 0.0019

Earth -49531-08-13 21:06 J -16369549.74 -16369549.62 -16369549.50 0.2666 0.0478

Moon -49531-08-13 21:35 J -16369549.71 -16369549.60 -16369549.48 0.2672 0.0536 *

Saturn -49531-08-14 19:25 J -16369548.82 -16369548.69 -16369548.55 0.0277 0.0078

Saturn -49531-11-11 07:40 J -16369460.28 -16369460.18 -16369460.07 0.0278 0.0172

Saturn -49530-02-07 19:54 J -16369371.71 -16369371.67 -16369371.63 0.0279 0.0266

Jupiter -49527-04-29 15:21 J -16368194.99 -16368194.86 -16368194.73 0.0488 0.0290

Jupiter -49527-07-28 13:40 J -16368105.05 -16368104.93 -16368104.80 0.0488 0.0332

Moon -49524-08-06 14:09 J -16366999.98 -16366999.91 -16366999.84 0.2664 0.2133

Earth -49524-08-06 15:06 J -16366999.94 -16366999.87 -16366999.80 0.2662 0.2120 *

Mars -49524-08-07 07:11 J -16366999.32 -16366999.20 -16366999.08 0.1666 0.0551

Mars -49523-05-30 07:40 J -16366703.23 -16366703.18 -16366703.13 0.1885 0.1758

Moon -49521-02-07 01:40 J -16366085.57 -16366085.43 -16366085.29 0.2670 0.0413

Earth -49521-02-07 02:52 J -16366085.52 -16366085.38 -16366085.25 0.2667 0.0420 *

Jupiter -49521-06-30 06:28 J -16365941.37 -16365941.23 -16365941.10 0.0540 0.0109

Earth -49518-08-16 16:33 J -16364798.91 -16364798.81 -16364798.71 0.2668 0.1364

Moon -49518-08-16 17:16 J -16364798.88 -16364798.78 -16364798.68 0.2668 0.1442 *

Saturn -49518-12-15 15:49 J -16364677.96 -16364677.84 -16364677.71 0.0284 0.0185

Saturn -49517-03-13 11:30 J -16364589.18 -16364589.02 -16364588.85 0.0283 0.0060

Saturn -49517-06-10 07:25 J -16364500.35 -16364500.19 -16364500.02 0.0283 0.0067

Saturn -49517-09-07 03:35 J -16364411.47 -16364411.35 -16364411.22 0.0282 0.0194

Jupiter -49515-02-15 15:35 J -16363884.92 -16363884.85 -16363884.78 0.0489 0.0439

Jupiter -49515-05-16 13:40 J -16363795.09 -16363794.93 -16363794.77 0.0488 0.0177

Mars -49515-12-28 16:18 J -16363568.94 -16363568.82 -16363568.69 0.1661 0.0071

Moon -49511-08-09 10:18 J -16362249.17 -16362249.07 -16362248.96 0.2668 0.1297

Earth -49511-08-09 11:01 J -16362249.15 -16362249.04 -16362248.94 0.2663 0.1184 *

Venus -49510-08-01 02:52 J -16361892.44 -16361892.38 -16361892.32 0.3727 0.3005

Jupiter -49509-04-18 08:23 J -16361631.29 -16361631.15 -16361631.02 0.0539 0.0069

Moon -49508-02-09 04:18 J -16361334.46 -16361334.32 -16361334.19 0.2672 0.0815

Earth -49508-02-09 04:47 J -16361334.43 -16361334.30 -16361334.17 0.2665 0.0921 *

Uranus -49508-04-05 07:11 J -16361279.26 -16361279.20 -16361279.13 0.0132 0.0115

Uranus -49508-07-02 10:33 J -16361191.15 -16361191.06 -16361190.96 0.0132 0.0097

Uranus -49508-09-28 13:54 J -16361103.03 -16361102.92 -16361102.80 0.0132 0.0078

Uranus -49508-12-25 17:16 J -16361014.90 -16361014.78 -16361014.65 0.0132 0.0060

Uranus -49507-03-23 20:37 J -16360926.77 -16360926.64 -16360926.51 0.0132 0.0042

Uranus -49507-06-19 23:59 J -16360838.64 -16360838.50 -16360838.36 0.0132 0.0024

Uranus -49507-09-16 03:21 J -16360750.50 -16360750.36 -16360750.22 0.0132 0.0007

Uranus -49507-12-13 06:28 J -16360662.37 -16360662.23 -16360662.09 0.0132 0.0012

Uranus -49506-03-11 09:49 J -16360574.23 -16360574.09 -16360573.96 0.0132 0.0030

Uranus -49506-06-07 12:57 J -16360486.09 -16360485.96 -16360485.83 0.0132 0.0048

Uranus -49506-09-03 16:18 J -16360397.94 -16360397.82 -16360397.70 0.0132 0.0065

Uranus -49506-11-30 19:25 J -16360309.79 -16360309.69 -16360309.58 0.0132 0.0083

Uranus -49505-02-26 22:33 J -16360221.64 -16360221.56 -16360221.47 0.0132 0.0100

Mars -49505-05-20 01:25 J -16360138.55 -16360138.44 -16360138.32 0.1656 0.0671

Uranus -49505-05-25 01:40 J -16360133.48 -16360133.43 -16360133.36 0.0132 0.0118

Earth -49505-08-18 11:45 J -16360048.07 -16360048.01 -16360047.95 0.2670 0.2231

Moon -49505-08-18 12:13 J -16360048.05 -16360047.99 -16360047.92 0.2666 0.2224 *

Venus -49504-02-13 19:11 J -16359868.80 -16359868.70 -16359868.60 0.3732 0.0790

Jupiter -49503-03-04 13:25 J -16359485.11 -16359484.94 -16359484.77 0.0488 0.0024

Mars -49502-02-16 06:28 J -16359136.36 -16359136.23 -16359136.09 0.1870 0.0757

Saturn -49502-04-11 08:52 J -16359082.21 -16359082.13 -16359082.05 0.0276 0.0230

Saturn -49502-07-08 21:35 J -16358993.72 -16358993.60 -16358993.47 0.0276 0.0133

Saturn -49502-10-05 10:18 J -16358905.21 -16358905.07 -16358904.93 0.0277 0.0036

Saturn -49501-01-01 22:47 J -16358816.69 -16358816.55 -16358816.41 0.0278 0.0059

Saturn -49501-03-30 11:01 J -16358728.15 -16358728.04 -16358727.92 0.0278 0.0155

Saturn -49501-06-26 23:16 J -16358639.59 -16358639.53 -16358639.47 0.0279 0.0248

Neptune -49500-07-14 00:13 J -16358257.53 -16358257.49 -16358257.41 0.0089 0.0082

Neptune -49500-10-10 03:21 J -16358169.45 -16358169.36 -16358169.27 0.0089 0.0074

Neptune -49499-01-06 05:45 J -16358081.36 -16358081.26 -16358081.14 0.0089 0.0067

Neptune -49499-04-04 08:09 J -16357993.27 -16357993.16 -16357993.02 0.0089 0.0060

Neptune -49499-07-01 11:01 J -16357905.17 -16357905.04 -16357904.89 0.0089 0.0052

Venus -49499-08-30 11:16 J -16357845.12 -16357845.03 -16357844.93 0.3736 0.1427

Neptune -49499-09-27 13:40 J -16357817.07 -16357816.93 -16357816.77 0.0089 0.0045

Neptune -49499-12-24 16:33 J -16357728.97 -16357728.81 -16357728.66 0.0089 0.0037

Neptune -49498-03-22 18:57 J -16357640.86 -16357640.71 -16357640.54 0.0089 0.0030

Neptune -49498-06-18 21:49 J -16357552.75 -16357552.59 -16357552.42 0.0089 0.0022

Earth -49498-08-12 06:42 J -16357498.34 -16357498.22 -16357498.11 0.2665 0.0277

Moon -49498-08-12 06:42 J -16357498.33 -16357498.22 -16357498.10 0.2672 0.0203 *

Neptune -49498-09-15 00:28 J -16357464.65 -16357464.48 -16357464.30 0.0089 0.0015

Neptune -49498-12-12 03:21 J -16357376.53 -16357376.36 -16357376.19 0.0089 0.0007

Jupiter -49497-02-05 10:47 J -16357321.17 -16357321.05 -16357320.93 0.0539 0.0239

Neptune -49497-03-09 05:59 J -16357288.42 -16357288.25 -16357288.08 0.0089 0.0001

Jupiter -49497-05-04 22:18 J -16357231.66 -16357231.57 -16357231.49 0.0540 0.0415

Neptune -49497-06-05 08:37 J -16357200.31 -16357200.14 -16357199.96 0.0089 0.0009

Neptune -49497-09-01 11:30 J -16357112.19 -16357112.02 -16357111.85 0.0089 0.0016

Neptune -49497-11-28 14:09 J -16357024.07 -16357023.91 -16357023.74 0.0089 0.0024

Neptune -49496-02-24 16:47 J -16356935.95 -16356935.80 -16356935.63 0.0089 0.0032

Neptune -49496-05-23 19:40 J -16356847.83 -16356847.68 -16356847.52 0.0089 0.0039

Neptune -49496-08-19 22:18 J -16356759.71 -16356759.57 -16356759.41 0.0089 0.0047

Mars -49496-10-10 10:33 J -16356708.14 -16356708.06 -16356707.98 0.1650 0.1282

Neptune -49496-11-16 01:11 J -16356671.58 -16356671.45 -16356671.30 0.0089 0.0055

Neptune -49495-02-12 03:49 J -16356583.45 -16356583.34 -16356583.20 0.0089 0.0063

Earth -49495-02-12 07:11 J -16356583.27 -16356583.20 -16356583.13 0.2664 0.2297 *

Moon -49495-02-12 07:40 J -16356583.24 -16356583.18 -16356583.11 0.2670 0.2375 *

Neptune -49495-05-11 07:11 J -16356495.31 -16356495.20 -16356495.10 0.0089 0.0070

Neptune -49495-08-07 09:49 J -16356407.17 -16356407.09 -16356407.00 0.0089 0.0078

Neptune -49495-11-03 12:28 J -16356319.01 -16356318.98 -16356318.93 0.0089 0.0086

Mars -49494-09-15 22:04 J -16356002.66 -16356002.58 -16356002.50 0.1672 0.1248

Venus -49493-03-15 03:21 J -16355821.38 -16355821.36 -16355821.33 0.3741 0.3601

Mars -49493-07-08 06:57 J -16355706.35 -16355706.21 -16355706.06 0.1878 0.0456

Jupiter -49492-12-21 13:11 J -16355175.12 -16355174.95 -16355174.79 0.0488 0.0138

Venus -49491-12-13 16:47 J -16354817.92 -16354817.80 -16354817.69 0.3648 0.2354

Moon -49488-02-04 05:30 J -16354034.38 -16354034.27 -16354034.15 0.2668 0.1500

Earth -49488-02-04 06:57 J -16354034.33 -16354034.21 -16354034.09 0.2669 0.1474 *

Saturn -49488-05-03 18:13 J -16353945.85 -16353945.74 -16353945.63 0.0284 0.0206

Saturn -49488-07-31 13:40 J -16353857.09 -16353856.93 -16353856.76 0.0284 0.0082

Saturn -49488-10-28 09:35 J -16353768.27 -16353768.10 -16353767.93 0.0283 0.0044

Saturn -49487-01-25 05:30 J -16353679.40 -16353679.27 -16353679.13 0.0282 0.0171

Jupiter -49486-11-24 13:11 J -16353011.03 -16353010.95 -16353010.86 0.0539 0.0405

Jupiter -49485-02-22 01:11 J -16352921.57 -16352921.45 -16352921.33 0.0540 0.0258

Venus -49485-06-28 23:01 J -16352793.61 -16352793.54 -16352793.48 0.3642 0.3242

Earth -49485-08-14 02:09 J -16352747.52 -16352747.41 -16352747.29 0.2667 0.0641

Moon -49485-08-14 02:52 J -16352747.50 -16352747.38 -16352747.27 0.2671 0.0662 *

Mars -49484-02-05 07:11 J -16352572.31 -16352572.20 -16352572.08 0.1667 0.0642

Mars -49484-11-28 07:40 J -16352276.24 -16352276.18 -16352276.11 0.1885 0.1654

Jupiter -49480-10-09 13:11 J -16350865.08 -16350864.95 -16350864.81 0.0488 0.0288

Jupiter -49479-01-07 11:45 J -16350775.13 -16350775.01 -16350774.88 0.0487 0.0333

Moon -49478-08-07 19:25 J -16350197.77 -16350197.69 -16350197.62 0.2665 0.2064

Earth -49478-08-07 20:09 J -16350197.74 -16350197.66 -16350197.58 0.2662 0.1947 *

Moon -49475-02-07 07:40 J -16349283.32 -16349283.18 -16349283.04 0.2672 0.0340

Earth -49475-02-07 08:37 J -16349283.28 -16349283.14 -16349283.00 0.2667 0.0180 *

Mars -49475-06-28 16:33 J -16349141.94 -16349141.81 -16349141.68 0.1661 0.0041

Jupiter -49474-12-11 04:18 J -16348611.45 -16348611.32 -16348611.18 0.0540 0.0104

Saturn -49473-08-28 10:18 J -16348350.11 -16348350.07 -16348350.02 0.0275 0.0260

Saturn -49473-11-24 23:16 J -16348261.64 -16348261.53 -16348261.41 0.0275 0.0163

Saturn -49472-02-21 11:59 J -16348173.14 -16348173.00 -16348172.86 0.0276 0.0067

Saturn -49472-05-21 00:28 J -16348084.62 -16348084.48 -16348084.34 0.0277 0.0028

Earth -49472-08-16 21:35 J -16347996.70 -16347996.60 -16347996.51 0.2669 0.1524

Moon -49472-08-16 22:18 J -16347996.66 -16347996.57 -16347996.47 0.2668 0.1590 *

Saturn -49472-08-17 12:42 J -16347996.09 -16347995.97 -16347995.84 0.0277 0.0124

Saturn -49472-11-14 00:57 J -16347907.54 -16347907.46 -16347907.37 0.0278 0.0217

Jupiter -49468-07-28 13:25 J -16346555.01 -16346554.94 -16346554.87 0.0488 0.0441

Jupiter -49468-10-26 11:16 J -16346465.19 -16346465.03 -16346464.87 0.0488 0.0174

Uranus -49466-04-07 00:57 J -16345937.55 -16345937.46 -16345937.36 0.0147 0.0121

Uranus -49466-07-04 08:23 J -16345849.29 -16345849.15 -16345849.01 0.0147 0.0090

Uranus -49466-09-30 15:49 J -16345761.00 -16345760.84 -16345760.67 0.0147 0.0058

Mars -49466-11-19 01:40 J -16345711.55 -16345711.43 -16345711.31 0.1656 0.0586

Uranus -49466-12-27 23:30 J -16345672.70 -16345672.52 -16345672.35 0.0147 0.0026

Uranus -49465-03-25 06:57 J -16345584.39 -16345584.21 -16345584.03 0.0147 0.0006

Uranus -49465-06-21 14:37 J -16345496.06 -16345495.89 -16345495.72 0.0147 0.0038

Moon -49465-08-09 15:35 J -16345446.96 -16345446.85 -16345446.74 0.2669 0.0985

Earth -49465-08-09 16:04 J -16345446.94 -16345446.83 -16345446.72 0.2664 0.1012 *

Uranus -49465-09-17 22:18 J -16345407.73 -16345407.57 -16345407.41 0.0147 0.0071

Uranus -49465-12-15 05:45 J -16345319.38 -16345319.26 -16345319.12 0.0147 0.0104

Uranus -49464-03-13 13:40 J -16345230.99 -16345230.93 -16345230.86 0.0147 0.0137

Mars -49463-08-17 06:57 J -16344709.34 -16344709.21 -16344709.08 0.1870 0.0887

Moon -49462-02-10 10:18 J -16344532.19 -16344532.07 -16344531.94 0.2672 0.1207

Earth -49462-02-10 10:47 J -16344532.18 -16344532.05 -16344531.92 0.2665 0.1161 *

Jupiter -49462-09-29 07:11 J -16344301.33 -16344301.20 -16344301.06 0.0539 0.0060

Earth -49459-08-19 16:47 J -16343245.85 -16343245.80 -16343245.75 0.2670 0.2383

Moon -49459-08-19 17:16 J -16343245.83 -16343245.78 -16343245.74 0.2665 0.2445 *

Saturn -49459-09-20 17:01 J -16343213.87 -16343213.79 -16343213.71 0.0285 0.0248

Saturn -49459-12-18 12:28 J -16343125.13 -16343124.98 -16343124.82 0.0284 0.0125

Saturn -49458-03-17 08:23 J -16343036.33 -16343036.15 -16343035.98 0.0283 0.0007

Saturn -49458-06-14 04:18 J -16342947.47 -16342947.32 -16342947.16 0.0283 0.0128

Saturn -49458-09-11 00:42 J -16342858.54 -16342858.47 -16342858.40 0.0282 0.0256

Mars -49456-04-10 10:47 J -16342281.14 -16342281.05 -16342280.97 0.1650 0.1196

Jupiter -49456-08-14 11:16 J -16342155.20 -16342155.03 -16342154.86 0.0488 0.0021

Moon -49455-02-02 10:18 J -16341983.10 -16341983.07 -16341983.04 0.2667 0.2596

Earth -49455-02-02 11:30 J -16341983.07 -16341983.02 -16341982.98 0.2671 0.2506 *

Mars -49454-03-16 22:04 J -16341575.65 -16341575.58 -16341575.50 0.1673 0.1330

Mars -49453-01-07 07:25 J -16341279.33 -16341279.19 -16341279.04 0.1877 0.0326

Venus -49453-03-07 00:28 J -16341219.56 -16341219.48 -16341219.40 0.3728 0.2175

Earth -49452-08-12 11:45 J -16340696.13 -16340696.01 -16340695.89 0.2665 0.0101

Moon -49452-08-12 11:59 J -16340696.12 -16340696.00 -16340695.88 0.2672 0.0150 *

Jupiter -49450-07-18 09:06 J -16339991.24 -16339991.12 -16339990.99 0.0539 0.0236

Jupiter -49450-10-15 20:37 J -16339901.72 -16339901.64 -16339901.55 0.0539 0.0419

Earth -49449-02-13 13:25 J -16339780.98 -16339780.94 -16339780.90 0.2663 0.2543

Moon -49449-02-13 14:09 J -16339780.95 -16339780.91 -16339780.88 0.2669 0.2549 *

Pluto -49449-08-04 05:59 J -16339608.28 -16339608.25 -16339608.17 0.0063 0.0059

Pluto -49449-10-31 07:25 J -16339520.26 -16339520.19 -16339520.09 0.0063 0.0054

Pluto -49448-01-27 08:23 J -16339432.23 -16339432.15 -16339432.03 0.0063 0.0050

Pluto -49448-04-25 09:35 J -16339344.20 -16339344.10 -16339343.97 0.0063 0.0045

Pluto -49448-07-22 10:47 J -16339256.17 -16339256.05 -16339255.91 0.0063 0.0041

Venus -49448-09-20 16:47 J -16339195.91 -16339195.80 -16339195.70 0.3733 0.0089

Pluto -49448-10-18 11:45 J -16339168.13 -16339168.01 -16339167.85 0.0063 0.0036

Pluto -49447-01-14 12:57 J -16339080.09 -16339079.96 -16339079.80 0.0063 0.0032

Pluto -49447-04-12 14:23 J -16338992.05 -16338991.90 -16338991.74 0.0064 0.0027

Pluto -49447-07-09 15:35 J -16338904.01 -16338903.85 -16338903.69 0.0064 0.0022

Pluto -49447-10-05 16:47 J -16338815.96 -16338815.80 -16338815.63 0.0064 0.0017

Pluto -49446-01-01 17:45 J -16338727.92 -16338727.76 -16338727.58 0.0064 0.0013

Pluto -49446-03-30 18:57 J -16338639.87 -16338639.71 -16338639.53 0.0064 0.0008

Pluto -49446-06-26 20:23 J -16338551.82 -16338551.65 -16338551.48 0.0064 0.0003

Pluto -49446-09-22 21:35 J -16338463.77 -16338463.60 -16338463.43 0.0064 0.0002

Pluto -49446-12-19 22:47 J -16338375.72 -16338375.55 -16338375.38 0.0064 0.0007

Pluto -49445-03-16 23:59 J -16338287.67 -16338287.50 -16338287.33 0.0064 0.0012

Pluto -49445-06-13 00:57 J -16338199.61 -16338199.46 -16338199.28 0.0064 0.0018

Mars -49445-08-06 07:25 J -16338145.30 -16338145.19 -16338145.08 0.1667 0.0724

Pluto -49445-09-09 02:09 J -16338111.56 -16338111.41 -16338111.23 0.0064 0.0023

Pluto -49445-12-06 03:21 J -16338023.50 -16338023.36 -16338023.19 0.0064 0.0028

Pluto -49444-03-04 04:47 J -16337935.44 -16337935.30 -16337935.14 0.0065 0.0032

Mars -49444-05-29 08:09 J -16337849.24 -16337849.16 -16337849.08 0.1885 0.1530

Pluto -49444-05-31 05:59 J -16337847.38 -16337847.25 -16337847.10 0.0065 0.0038

Jupiter -49444-06-02 11:16 J -16337845.19 -16337845.03 -16337844.87 0.0488 0.0134

Pluto -49444-08-27 07:11 J -16337759.31 -16337759.20 -16337759.06 0.0065 0.0043

Pluto -49444-11-23 08:37 J -16337671.25 -16337671.14 -16337671.02 0.0065 0.0048

Pluto -49443-02-19 09:49 J -16337583.17 -16337583.09 -16337582.98 0.0065 0.0053

Saturn -49443-04-14 01:54 J -16337529.52 -16337529.42 -16337529.31 0.0276 0.0186

Pluto -49443-05-18 10:47 J -16337495.10 -16337495.05 -16337494.95 0.0065 0.0059

Saturn -49443-07-11 14:52 J -16337441.01 -16337440.88 -16337440.75 0.0277 0.0089

Pluto -49443-08-14 12:13 J -16337407.00 -16337406.99 -16337406.94 0.0065 0.0064

Saturn -49443-10-08 03:21 J -16337352.50 -16337352.36 -16337352.22 0.0277 0.0009

Saturn -49442-01-04 15:49 J -16337263.97 -16337263.84 -16337263.71 0.0278 0.0102

Moon -49442-02-05 11:30 J -16337232.14 -16337232.02 -16337231.90 0.2668 0.1390

Earth -49442-02-05 12:42 J -16337232.09 -16337231.97 -16337231.84 0.2669 0.1249 *

Saturn -49442-04-03 04:04 J -16337175.42 -16337175.33 -16337175.23 0.0278 0.0197

Venus -49442-04-06 08:52 J -16337172.21 -16337172.13 -16337172.05 0.3738 0.2246

Earth -49439-08-15 07:11 J -16335945.31 -16335945.20 -16335945.09 0.2667 0.0802

Moon -49439-08-15 07:54 J -16335945.28 -16335945.17 -16335945.06 0.2670 0.0916 *

Jupiter -49438-05-06 11:30 J -16335681.11 -16335681.02 -16335680.93 0.0539 0.0406

Jupiter -49438-08-03 23:16 J -16335591.64 -16335591.53 -16335591.41 0.0539 0.0255

Mars -49436-12-27 16:33 J -16334714.93 -16334714.81 -16334714.68 0.1661 0.0118

Venus -49434-07-20 17:59 J -16334144.90 -16334144.75 -16334144.60 0.3646 0.0453

Jupiter -49432-03-21 11:01 J -16333535.17 -16333535.04 -16333534.90 0.0488 0.0289

Jupiter -49432-06-19 09:21 J -16333445.23 -16333445.11 -16333444.98 0.0488 0.0332

Moon -49432-08-08 00:28 J -16333395.57 -16333395.48 -16333395.39 0.2665 0.1810

Earth -49432-08-08 01:11 J -16333395.53 -16333395.45 -16333395.36 0.2662 0.1777 *

Saturn -49429-02-07 19:11 J -16332481.74 -16332481.70 -16332481.64 0.0285 0.0271

Moon -49429-02-08 13:40 J -16332481.07 -16332480.93 -16332480.79 0.2672 0.0069

Earth -49429-02-08 14:37 J -16332481.03 -16332480.89 -16332480.75 0.2667 0.0056 *

Saturn -49429-05-06 14:37 J -16332393.03 -16332392.89 -16332392.74 0.0284 0.0147

Saturn -49429-08-03 10:18 J -16332304.24 -16332304.07 -16332303.90 0.0283 0.0022

Saturn -49429-10-31 06:13 J -16332215.40 -16332215.24 -16332215.07 0.0283 0.0105

Saturn -49428-01-28 02:23 J -16332126.49 -16332126.40 -16332126.29 0.0282 0.0233

Mars -49426-05-20 01:40 J -16331284.55 -16331284.43 -16331284.30 0.1656 0.0499

Jupiter -49426-05-23 02:09 J -16331281.54 -16331281.41 -16331281.28 0.0540 0.0093

Earth -49426-08-18 02:37 J -16331194.48 -16331194.39 -16331194.30 0.2669 0.1680

Moon -49426-08-18 03:21 J -16331194.45 -16331194.36 -16331194.27 0.2668 0.1731 *

Uranus -49424-01-27 11:16 J -16330666.06 -16330666.03 -16330665.99 0.0132 0.0127

Uranus -49424-04-25 14:23 J -16330577.96 -16330577.90 -16330577.81 0.0132 0.0109

Uranus -49424-07-22 17:45 J -16330489.85 -16330489.76 -16330489.64 0.0132 0.0091

Uranus -49424-10-18 21:21 J -16330401.72 -16330401.61 -16330401.49 0.0132 0.0072

Uranus -49423-01-15 00:42 J -16330313.59 -16330313.47 -16330313.34 0.0132 0.0054

Mars -49423-02-15 07:11 J -16330282.32 -16330282.20 -16330282.07 0.1870 0.1010

Uranus -49423-04-13 04:04 J -16330225.46 -16330225.33 -16330225.19 0.0132 0.0036

Uranus -49423-07-10 07:25 J -16330137.33 -16330137.19 -16330137.05 0.0132 0.0018

Uranus -49423-10-06 10:47 J -16330049.19 -16330049.05 -16330048.91 0.0132 0.0003

Uranus -49422-01-02 13:54 J -16329961.06 -16329960.92 -16329960.78 0.0132 0.0018

Uranus -49422-03-31 17:16 J -16329872.92 -16329872.78 -16329872.65 0.0132 0.0036

Uranus -49422-06-27 20:23 J -16329784.77 -16329784.65 -16329784.52 0.0132 0.0054

Uranus -49422-09-23 23:30 J -16329696.63 -16329696.52 -16329696.40 0.0132 0.0071

Uranus -49422-12-21 02:37 J -16329608.48 -16329608.39 -16329608.28 0.0132 0.0089

Uranus -49421-03-18 05:59 J -16329520.33 -16329520.25 -16329520.17 0.0132 0.0106

Uranus -49421-06-14 08:52 J -16329432.16 -16329432.13 -16329432.07 0.0132 0.0124

Jupiter -49420-01-07 11:30 J -16329225.09 -16329225.02 -16329224.94 0.0488 0.0436

Jupiter -49420-04-07 09:21 J -16329135.27 -16329135.11 -16329134.95 0.0488 0.0178

Moon -49419-08-10 20:52 J -16328644.74 -16328644.63 -16328644.52 0.2670 0.0916

Earth -49419-08-10 21:06 J -16328644.73 -16328644.62 -16328644.51 0.2664 0.0844 *

Neptune -49418-10-23 17:16 J -16328205.79 -16328205.78 -16328205.74 0.0088 0.0088

Neptune -49417-01-19 19:11 J -16328117.75 -16328117.70 -16328117.63 0.0088 0.0081

Neptune -49417-04-16 20:52 J -16328029.69 -16328029.63 -16328029.53 0.0088 0.0075

Neptune -49417-07-13 22:47 J -16327941.63 -16327941.55 -16327941.45 0.0088 0.0068

Mars -49417-10-09 10:47 J -16327854.14 -16327854.05 -16327853.96 0.1650 0.1111

Neptune -49417-10-10 00:28 J -16327853.57 -16327853.48 -16327853.36 0.0088 0.0062

Neptune -49416-01-06 02:23 J -16327765.51 -16327765.40 -16327765.28 0.0088 0.0055

Moon -49416-02-10 16:33 J -16327729.93 -16327729.81 -16327729.68 0.2671 0.1311

Earth -49416-02-10 16:47 J -16327729.92 -16327729.80 -16327729.68 0.2665 0.1401 *

Neptune -49416-04-04 04:04 J -16327677.44 -16327677.33 -16327677.19 0.0088 0.0049

Neptune -49416-07-01 05:59 J -16327589.37 -16327589.25 -16327589.11 0.0088 0.0042

Neptune -49416-09-27 07:40 J -16327501.30 -16327501.18 -16327501.04 0.0088 0.0035

Neptune -49416-12-24 09:35 J -16327413.24 -16327413.10 -16327412.96 0.0088 0.0029

Neptune -49415-03-22 11:16 J -16327325.17 -16327325.03 -16327324.88 0.0088 0.0022

Neptune -49415-06-18 13:11 J -16327237.10 -16327236.95 -16327236.81 0.0088 0.0016

Neptune -49415-09-14 14:52 J -16327149.03 -16327148.88 -16327148.74 0.0089 0.0009

Mars -49415-09-14 22:18 J -16327148.64 -16327148.57 -16327148.51 0.1673 0.1416

Neptune -49415-12-11 16:33 J -16327060.95 -16327060.81 -16327060.66 0.0089 0.0003

Neptune -49414-03-09 18:13 J -16326972.88 -16326972.74 -16326972.59 0.0089 0.0004

Jupiter -49414-03-11 05:16 J -16326971.42 -16326971.28 -16326971.15 0.0540 0.0064

Neptune -49414-06-05 19:54 J -16326884.81 -16326884.67 -16326884.52 0.0089 0.0010

Mars -49414-07-08 07:40 J -16326852.33 -16326852.18 -16326852.04 0.1878 0.0219

Saturn -49414-09-01 03:49 J -16326797.43 -16326797.34 -16326797.26 0.0275 0.0216

Neptune -49414-09-01 21:35 J -16326796.74 -16326796.60 -16326796.45 0.0089 0.0016

Saturn -49414-11-28 16:33 J -16326708.94 -16326708.81 -16326708.68 0.0275 0.0120

Neptune -49414-11-28 23:16 J -16326708.66 -16326708.53 -16326708.39 0.0089 0.0023

Neptune -49413-02-25 00:57 J -16326620.59 -16326620.46 -16326620.32 0.0089 0.0029

Saturn -49413-02-25 05:01 J -16326620.43 -16326620.29 -16326620.15 0.0276 0.0025 *

Neptune -49413-05-23 02:37 J -16326532.52 -16326532.39 -16326532.25 0.0089 0.0035

Saturn -49413-05-23 17:30 J -16326531.90 -16326531.77 -16326531.63 0.0277 0.0071

Neptune -49413-08-19 04:18 J -16326444.44 -16326444.32 -16326444.19 0.0089 0.0041

Earth -49413-08-19 21:49 J -16326443.63 -16326443.59 -16326443.56 0.2671 0.2540

Moon -49413-08-19 22:04 J -16326443.61 -16326443.58 -16326443.55 0.2664 0.2547 *

Saturn -49413-08-20 05:45 J -16326443.37 -16326443.26 -16326443.15 0.0277 0.0165

Neptune -49413-11-15 05:59 J -16326356.37 -16326356.25 -16326356.13 0.0089 0.0048

Saturn -49413-11-16 17:59 J -16326354.80 -16326354.75 -16326354.70 0.0278 0.0259

Neptune -49412-02-11 07:40 J -16326268.29 -16326268.18 -16326268.06 0.0089 0.0054

Neptune -49412-05-10 09:21 J -16326180.21 -16326180.11 -16326180.00 0.0089 0.0060

Neptune -49412-08-06 10:47 J -16326092.13 -16326092.05 -16326091.95 0.0089 0.0066

Neptune -49412-11-02 12:28 J -16326004.05 -16326003.98 -16326003.89 0.0089 0.0073

Neptune -49411-01-29 14:09 J -16325915.97 -16325915.91 -16325915.84 0.0089 0.0079

Neptune -49411-04-27 15:35 J -16325827.87 -16325827.85 -16325827.80 0.0089 0.0085

Moon -49409-02-03 16:04 J -16325180.89 -16325180.83 -16325180.76 0.2667 0.2323

Earth -49409-02-03 17:16 J -16325180.85 -16325180.78 -16325180.71 0.2670 0.2283 *

Jupiter -49408-01-24 09:06 J -16324825.29 -16324825.12 -16324824.95 0.0488 0.0021

Earth -49406-08-13 16:47 J -16323893.92 -16323893.80 -16323893.68 0.2666 0.0070

Moon -49406-08-13 17:01 J -16323893.91 -16323893.79 -16323893.67 0.2672 0.0165 *

Mars -49405-02-05 07:25 J -16323718.30 -16323718.19 -16323718.08 0.1667 0.0805

Mars -49405-11-27 08:37 J -16323422.23 -16323422.14 -16323422.04 0.1885 0.1397

Jupiter -49403-12-28 08:09 J -16322661.29 -16322661.16 -16322661.04 0.0539 0.0226

Jupiter -49402-03-27 19:40 J -16322571.76 -16322571.68 -16322571.60 0.0540 0.0430

Venus -49402-03-29 05:45 J -16322570.28 -16322570.26 -16322570.23 0.3725 0.3570

Saturn -49400-09-23 12:57 J -16321661.08 -16321660.96 -16321660.83 0.0284 0.0193

Saturn -49400-12-21 08:37 J -16321572.31 -16321572.14 -16321571.98 0.0284 0.0068

Saturn -49399-03-20 04:33 J -16321483.48 -16321483.31 -16321483.14 0.0283 0.0059

Saturn -49399-06-17 00:28 J -16321394.60 -16321394.48 -16321394.34 0.0282 0.0187

Moon -49399-08-06 09:35 J -16321344.10 -16321344.10 -16321344.10 0.2661 0.2659

Earth -49399-08-06 10:18 J -16321344.10 -16321344.07 -16321344.03 0.2661 0.2551 *

Venus -49397-10-11 22:04 J -16320546.68 -16320546.58 -16320546.48 0.3730 0.1341

Jupiter -49397-11-12 09:21 J -16320515.28 -16320515.11 -16320514.95 0.0488 0.0132

Moon -49396-02-05 17:30 J -16320429.90 -16320429.77 -16320429.65 0.2670 0.1099

Earth -49396-02-05 18:42 J -16320429.85 -16320429.72 -16320429.59 0.2668 0.1023 *

Mars -49396-06-27 16:47 J -16320287.93 -16320287.80 -16320287.67 0.1661 0.0201

Earth -49393-08-15 12:13 J -16319143.10 -16319142.99 -16319142.88 0.2667 0.0966

Moon -49393-08-15 13:11 J -16319143.06 -16319142.95 -16319142.84 0.2669 0.0965 *

Venus -49391-04-27 14:23 J -16318523.00 -16318522.90 -16318522.80 0.3734 0.0880

Jupiter -49391-10-16 10:04 J -16318351.17 -16318351.08 -16318350.99 0.0538 0.0400

Jupiter -49390-01-13 22:04 J -16318261.70 -16318261.58 -16318261.46 0.0539 0.0261

Mars -49387-11-18 01:54 J -16316857.55 -16316857.42 -16316857.30 0.1656 0.0409

Moon -49386-08-09 05:45 J -16316593.36 -16316593.26 -16316593.17 0.2666 0.1688

Earth -49386-08-09 06:28 J -16316593.33 -16316593.23 -16316593.14 0.2663 0.1605 *

Venus -49386-11-11 06:28 J -16316499.29 -16316499.23 -16316499.17 0.3739 0.3060

Jupiter -49385-08-31 09:21 J -16316205.24 -16316205.11 -16316204.97 0.0489 0.0284

Jupiter -49385-11-29 07:40 J -16316115.30 -16316115.18 -16316115.05 0.0488 0.0338

Saturn -49384-01-18 05:59 J -16316065.31 -16316065.25 -16316065.18 0.0275 0.0241

Saturn -49384-04-16 18:57 J -16315976.83 -16315976.71 -16315976.59 0.0276 0.0144

Saturn -49384-07-14 07:40 J -16315888.32 -16315888.18 -16315888.04 0.0277 0.0048

Mars -49384-08-16 07:40 J -16315855.30 -16315855.18 -16315855.06 0.1870 0.1130

Saturn -49384-10-10 20:09 J -16315799.80 -16315799.66 -16315799.52 0.0277 0.0048

Saturn -49383-01-07 08:23 J -16315711.26 -16315711.15 -16315711.03 0.0278 0.0143

Moon -49383-02-08 19:40 J -16315678.82 -16315678.68 -16315678.54 0.2672 0.0155

Earth -49383-02-08 20:37 J -16315678.78 -16315678.64 -16315678.50 0.2666 0.0296 *

Saturn -49383-04-05 20:37 J -16315622.71 -16315622.64 -16315622.56 0.0279 0.0236

Uranus -49382-01-29 00:57 J -16315324.48 -16315324.46 -16315324.42 0.0147 0.0144

Uranus -49382-04-27 08:23 J -16315236.26 -16315236.15 -16315236.04 0.0147 0.0113

Uranus -49382-07-24 15:35 J -16315147.99 -16315147.85 -16315147.69 0.0147 0.0082

Uranus -49382-10-20 23:16 J -16315059.70 -16315059.53 -16315059.36 0.0147 0.0050

Uranus -49381-01-17 06:42 J -16314971.39 -16314971.22 -16314971.04 0.0147 0.0018

Uranus -49381-04-14 14:23 J -16314883.08 -16314882.90 -16314882.72 0.0147 0.0015

Uranus -49381-07-11 21:49 J -16314794.75 -16314794.59 -16314794.41 0.0147 0.0047

Uranus -49381-10-08 05:30 J -16314706.41 -16314706.27 -16314706.11 0.0147 0.0080

Uranus -49380-01-04 13:11 J -16314618.06 -16314617.95 -16314617.82 0.0147 0.0113

Uranus -49380-04-02 21:06 J -16314529.64 -16314529.62 -16314529.59 0.0147 0.0145

Earth -49380-08-18 07:40 J -16314392.27 -16314392.18 -16314392.10 0.2669 0.1838

Moon -49380-08-18 08:23 J -16314392.23 -16314392.15 -16314392.07 0.2667 0.1925 *

Jupiter -49379-11-02 00:42 J -16313951.61 -16313951.47 -16313951.34 0.0539 0.0097

Venus -49377-02-24 19:11 J -16313471.83 -16313471.70 -16313471.56 0.3645 0.1485

Mars -49377-04-09 11:01 J -16313427.14 -16313427.04 -16313426.94 0.1651 0.1022

Mars -49375-03-15 22:18 J -16312721.62 -16312721.57 -16312721.52 0.1673 0.1498

Mars -49374-01-06 08:09 J -16312425.31 -16312425.16 -16312425.02 0.1877 0.0090

Jupiter -49373-06-19 09:35 J -16311895.18 -16311895.10 -16311895.03 0.0488 0.0435

Moon -49373-08-11 02:09 J -16311842.53 -16311842.41 -16311842.30 0.2671 0.0649

Earth -49373-08-11 02:09 J -16311842.52 -16311842.41 -16311842.29 0.2664 0.0680 *

Jupiter -49373-09-17 07:11 J -16311805.35 -16311805.20 -16311805.03 0.0488 0.0180

Saturn -49370-02-10 14:52 J -16310928.98 -16310928.88 -16310928.77 0.0285 0.0217

Earth -49370-02-11 22:47 J -16310927.66 -16310927.55 -16310927.44 0.2664 0.1640

Moon -49370-02-11 22:47 J -16310927.65 -16310927.55 -16310927.44 0.2671 0.1741 *

Saturn -49370-05-10 10:18 J -16310840.23 -16310840.07 -16310839.91 0.0284 0.0093

Saturn -49370-08-07 06:13 J -16310751.41 -16310751.24 -16310751.07 0.0283 0.0033

Saturn -49370-11-04 02:23 J -16310662.54 -16310662.40 -16310662.26 0.0283 0.0161

Mars -49368-08-30 19:54 J -16309996.68 -16309996.67 -16309996.65 0.1646 0.1631

Jupiter -49367-08-21 03:06 J -16309641.50 -16309641.37 -16309641.23 0.0540 0.0071

Mars -49366-08-06 07:40 J -16309291.29 -16309291.18 -16309291.07 0.1667 0.0894

Mars -49365-05-28 08:52 J -16308995.24 -16308995.13 -16308995.03 0.1884 0.1285

Moon -49363-02-03 21:49 J -16308378.66 -16308378.59 -16308378.51 0.2666 0.2192

Earth -49363-02-03 23:01 J -16308378.63 -16308378.54 -16308378.45 0.2670 0.2063 *

Jupiter -49361-07-06 07:40 J -16307495.35 -16307495.18 -16307495.01 0.0488 0.0030

Earth -49360-08-13 21:49 J -16307091.71 -16307091.59 -16307091.47 0.2666 0.0236

Moon -49360-08-13 22:18 J -16307091.69 -16307091.57 -16307091.45 0.2671 0.0211 *

Pluto -49359-02-04 06:28 J -16306917.25 -16306917.23 -16306917.19 0.0082 0.0080

Pluto -49359-05-03 08:09 J -16306829.22 -16306829.16 -16306829.08 0.0081 0.0071

Pluto -49359-07-30 09:49 J -16306741.18 -16306741.09 -16306740.99 0.0081 0.0062

Pluto -49359-10-26 11:16 J -16306653.13 -16306653.03 -16306652.90 0.0081 0.0053

Pluto -49358-01-22 12:57 J -16306565.07 -16306564.96 -16306564.82 0.0081 0.0044

Pluto -49358-04-20 14:52 J -16306477.01 -16306476.88 -16306476.75 0.0081 0.0035

Pluto -49358-07-17 16:18 J -16306388.96 -16306388.82 -16306388.68 0.0081 0.0027

Pluto -49358-10-13 17:59 J -16306300.90 -16306300.75 -16306300.61 0.0081 0.0018

Pluto -49357-01-09 19:25 J -16306212.83 -16306212.69 -16306212.54 0.0080 0.0010

Pluto -49357-04-06 21:06 J -16306124.77 -16306124.62 -16306124.48 0.0080 0.0003

Pluto -49357-07-03 22:33 J -16306036.71 -16306036.56 -16306036.42 0.0080 0.0007

Pluto -49357-09-29 23:59 J -16305948.64 -16305948.50 -16305948.36 0.0080 0.0015

Mars -49357-12-26 16:47 J -16305860.92 -16305860.80 -16305860.67 0.1661 0.0284

Pluto -49357-12-27 01:25 J -16305860.58 -16305860.44 -16305860.30 0.0080 0.0023

Pluto -49356-03-25 02:37 J -16305772.51 -16305772.39 -16305772.24 0.0080 0.0032

Pluto -49356-06-21 04:04 J -16305684.44 -16305684.33 -16305684.19 0.0080 0.0040

Pluto -49356-09-17 05:30 J -16305596.37 -16305596.27 -16305596.14 0.0080 0.0048

Pluto -49356-12-14 06:57 J -16305508.30 -16305508.21 -16305508.09 0.0079 0.0055

Pluto -49355-03-12 08:37 J -16305420.22 -16305420.14 -16305420.05 0.0079 0.0063

Saturn -49355-06-07 07:40 J -16305333.19 -16305333.18 -16305333.15 0.0274 0.0271

Pluto -49355-06-08 10:04 J -16305332.14 -16305332.08 -16305332.01 0.0079 0.0070

Jupiter -49355-06-09 06:13 J -16305331.37 -16305331.24 -16305331.12 0.0540 0.0229

Saturn -49355-09-03 20:37 J -16305244.75 -16305244.64 -16305244.53 0.0275 0.0175

Pluto -49355-09-04 11:16 J -16305244.04 -16305244.03 -16305244.00 0.0079 0.0078

Jupiter -49355-09-06 17:45 J -16305241.84 -16305241.76 -16305241.68 0.0540 0.0429

Saturn -49355-12-01 09:21 J -16305156.25 -16305156.11 -16305155.97 0.0276 0.0079

Saturn -49354-02-27 21:49 J -16305067.73 -16305067.59 -16305067.45 0.0276 0.0017

Saturn -49354-05-27 10:18 J -16304979.20 -16304979.07 -16304978.95 0.0277 0.0111

Saturn -49354-08-23 22:18 J -16304890.65 -16304890.57 -16304890.47 0.0277 0.0205

Moon -49353-08-06 14:37 J -16304541.94 -16304541.89 -16304541.84 0.2661 0.2397

Earth -49353-08-06 15:35 J -16304541.90 -16304541.85 -16304541.80 0.2661 0.2374 *

Moon -49350-02-06 23:16 J -16303627.66 -16303627.53 -16303627.39 0.2671 0.0869

Earth -49350-02-07 00:42 J -16303627.61 -16303627.47 -16303627.34 0.2668 0.0796 *

Jupiter -49349-04-24 07:25 J -16303185.35 -16303185.19 -16303185.02 0.0488 0.0127

Mars -49347-05-19 01:54 J -16302430.54 -16302430.42 -16302430.29 0.1656 0.0329

Earth -49347-08-16 17:16 J -16302340.88 -16302340.78 -16302340.67 0.2668 0.1121

Moon -49347-08-16 18:13 J -16302340.85 -16302340.74 -16302340.64 0.2670 0.1261 *

Venus -49346-11-03 03:21 J -16301897.43 -16301897.36 -16301897.29 0.3726 0.2739

Mars -49344-02-14 08:09 J -16301428.27 -16301428.16 -16301428.05 0.1870 0.1261

Jupiter -49343-03-28 09:06 J -16301021.22 -16301021.12 -16301021.03 0.0539 0.0391

Jupiter -49343-06-25 20:52 J -16300931.74 -16300931.63 -16300931.51 0.0540 0.0273

Saturn -49341-06-29 12:42 J -16300197.02 -16300196.97 -16300196.91 0.0285 0.0265

Saturn -49341-09-26 08:09 J -16300108.31 -16300108.16 -16300108.01 0.0284 0.0142

Saturn -49341-12-24 03:49 J -16300019.51 -16300019.34 -16300019.17 0.0284 0.0016

Uranus -49340-02-16 18:42 J -16299964.77 -16299964.72 -16299964.65 0.0132 0.0120

Saturn -49340-03-22 23:45 J -16299930.66 -16299930.51 -16299930.35 0.0283 0.0111

Uranus -49340-05-15 22:04 J -16299876.66 -16299876.58 -16299876.48 0.0132 0.0102

Venus -49340-05-18 19:40 J -16299873.78 -16299873.68 -16299873.58 0.3731 0.0513

Saturn -49340-06-19 19:54 J -16299841.75 -16299841.67 -16299841.57 0.0282 0.0240

Moon -49340-08-09 11:01 J -16299791.14 -16299791.04 -16299790.95 0.2667 0.1496

Earth -49340-08-09 11:30 J -16299791.12 -16299791.02 -16299790.92 0.2663 0.1432 *

Uranus -49340-08-12 01:40 J -16299788.54 -16299788.43 -16299788.32 0.0132 0.0083

Uranus -49340-11-08 05:01 J -16299700.41 -16299700.29 -16299700.17 0.0132 0.0065

Uranus -49339-02-04 08:23 J -16299612.28 -16299612.15 -16299612.02 0.0132 0.0047

Uranus -49339-05-03 11:45 J -16299524.15 -16299524.01 -16299523.88 0.0132 0.0029

Uranus -49339-07-30 14:52 J -16299436.01 -16299435.88 -16299435.74 0.0132 0.0012

Uranus -49339-10-26 18:13 J -16299347.88 -16299347.74 -16299347.60 0.0132 0.0007

Uranus -49338-01-22 21:35 J -16299259.74 -16299259.60 -16299259.47 0.0132 0.0025

Uranus -49338-04-21 00:42 J -16299171.60 -16299171.47 -16299171.34 0.0132 0.0043

Uranus -49338-07-18 04:04 J -16299083.46 -16299083.33 -16299083.21 0.0132 0.0060

Mars -49338-10-09 11:01 J -16299000.14 -16299000.04 -16298999.93 0.1651 0.0933

Uranus -49338-10-14 07:11 J -16298995.31 -16298995.20 -16298995.09 0.0132 0.0078

Uranus -49337-01-10 10:04 J -16298907.16 -16298907.08 -16298906.97 0.0132 0.0096

Moon -49337-02-10 01:40 J -16298876.57 -16298876.43 -16298876.29 0.2671 0.0515

Earth -49337-02-10 02:23 J -16298876.53 -16298876.40 -16298876.26 0.2666 0.0529 *

Jupiter -49337-02-11 07:40 J -16298875.31 -16298875.18 -16298875.04 0.0488 0.0278

Uranus -49337-04-07 13:25 J -16298819.00 -16298818.94 -16298818.86 0.0132 0.0113

Jupiter -49337-05-11 05:59 J -16298785.37 -16298785.25 -16298785.13 0.0488 0.0343

Uranus -49337-07-04 16:47 J -16298730.82 -16298730.80 -16298730.78 0.0132 0.0130

Mars -49336-09-13 22:18 J -16298294.60 -16298294.57 -16298294.53 0.1673 0.1582

Neptune -49335-01-11 20:09 J -16298174.68 -16298174.66 -16298174.61 0.0089 0.0087

Neptune -49335-04-09 22:33 J -16298086.61 -16298086.56 -16298086.47 0.0089 0.0080

Neptune -49335-07-07 01:25 J -16297998.53 -16297998.44 -16297998.33 0.0089 0.0072

Mars -49335-07-07 08:37 J -16297998.29 -16297998.14 -16297997.99 0.1877 0.0048

Neptune -49335-10-03 03:49 J -16297910.44 -16297910.34 -16297910.21 0.0089 0.0065

Venus -49335-12-02 11:59 J -16297850.10 -16297850.00 -16297849.91 0.3735 0.1699

Neptune -49335-12-30 06:57 J -16297822.34 -16297822.21 -16297822.08 0.0089 0.0057

Neptune -49334-03-28 09:21 J -16297734.24 -16297734.11 -16297733.96 0.0089 0.0050

Neptune -49334-06-24 11:45 J -16297646.14 -16297646.01 -16297645.84 0.0089 0.0043

Earth -49334-08-19 12:42 J -16297590.05 -16297589.97 -16297589.90 0.2669 0.1996

Moon -49334-08-19 13:11 J -16297590.02 -16297589.95 -16297589.87 0.2666 0.1989 *

Neptune -49334-09-20 14:37 J -16297558.04 -16297557.89 -16297557.72 0.0089 0.0035

Neptune -49334-12-17 17:16 J -16297469.93 -16297469.78 -16297469.61 0.0089 0.0028

Neptune -49333-03-14 20:09 J -16297381.83 -16297381.66 -16297381.49 0.0089 0.0020

Neptune -49333-06-10 22:47 J -16297293.72 -16297293.55 -16297293.38 0.0089 0.0012

Neptune -49333-09-07 01:40 J -16297205.61 -16297205.43 -16297205.26 0.0089 0.0005

Neptune -49333-12-04 04:18 J -16297117.49 -16297117.32 -16297117.15 0.0089 0.0003

Neptune -49332-03-02 06:57 J -16297029.38 -16297029.21 -16297029.04 0.0089 0.0011

Neptune -49332-05-29 09:35 J -16296941.26 -16296941.10 -16296940.92 0.0089 0.0018

Neptune -49332-08-25 12:28 J -16296853.15 -16296852.98 -16296852.81 0.0089 0.0026

Neptune -49332-11-21 15:06 J -16296765.03 -16296764.87 -16296764.70 0.0089 0.0034

Neptune -49331-02-17 17:45 J -16296676.90 -16296676.76 -16296676.59 0.0089 0.0042

Jupiter -49331-04-13 23:30 J -16296621.66 -16296621.52 -16296621.39 0.0539 0.0106

Neptune -49331-05-16 20:37 J -16296588.78 -16296588.64 -16296588.49 0.0089 0.0049

Neptune -49331-08-12 23:16 J -16296500.65 -16296500.53 -16296500.38 0.0089 0.0057

Neptune -49331-11-09 02:09 J -16296412.52 -16296412.41 -16296412.28 0.0089 0.0065

Neptune -49330-02-05 04:47 J -16296324.38 -16296324.30 -16296324.18 0.0089 0.0073

Neptune -49330-05-04 07:40 J -16296236.24 -16296236.18 -16296236.09 0.0089 0.0081

Neptune -49330-07-31 10:47 J -16296148.06 -16296148.05 -16296148.03 0.0089 0.0088

Mars -49328-02-28 20:09 J -16295569.70 -16295569.66 -16295569.62 0.1646 0.1542

Moon -49327-08-12 07:11 J -16295040.31 -16295040.20 -16295040.08 0.2672 0.0547

Earth -49327-08-12 07:25 J -16295040.31 -16295040.19 -16295040.08 0.2665 0.0515 *

Mars -49326-02-04 07:40 J -16294864.28 -16294864.18 -16294864.07 0.1667 0.0980

Venus -49326-03-17 14:37 J -16294823.01 -16294822.89 -16294822.77 0.3649 0.2142

Mars -49326-11-27 09:06 J -16294568.23 -16294568.12 -16294568.00 0.1884 0.1167

Jupiter -49326-11-30 07:54 J -16294565.25 -16294565.17 -16294565.09 0.0489 0.0428

Saturn -49325-01-21 22:33 J -16294512.65 -16294512.56 -16294512.46 0.0275 0.0203

Jupiter -49325-02-28 05:45 J -16294475.41 -16294475.26 -16294475.10 0.0488 0.0187

Saturn -49325-04-19 11:30 J -16294424.15 -16294424.02 -16294423.89 0.0276 0.0106

Saturn -49325-07-16 23:59 J -16294335.64 -16294335.50 -16294335.36 0.0277 0.0011

Saturn -49325-10-13 12:28 J -16294247.11 -16294246.98 -16294246.85 0.0277 0.0085

Saturn -49324-01-10 00:42 J -16294158.57 -16294158.47 -16294158.36 0.0278 0.0179

Earth -49324-02-12 04:47 J -16294125.40 -16294125.30 -16294125.20 0.2664 0.1877

Moon -49324-02-12 05:01 J -16294125.39 -16294125.29 -16294125.19 0.2671 0.1821 *

Saturn -49324-04-08 12:57 J -16294069.99 -16294069.96 -16294069.94 0.0279 0.0272

Venus -49321-09-30 20:37 J -16292798.68 -16292798.64 -16292798.59 0.3643 0.3455

Jupiter -49319-01-31 01:54 J -16292311.55 -16292311.42 -16292311.28 0.0539 0.0063

Moon -49317-02-05 03:49 J -16291576.44 -16291576.34 -16291576.24 0.2667 0.1853

Earth -49317-02-05 04:47 J -16291576.40 -16291576.30 -16291576.20 0.2670 0.1842 *

Mars -49317-06-26 17:01 J -16291433.92 -16291433.79 -16291433.67 0.1661 0.0372

Earth -49314-08-15 02:52 J -16290289.49 -16290289.38 -16290289.26 0.2666 0.0401

Moon -49314-08-15 03:35 J -16290289.47 -16290289.35 -16290289.24 0.2671 0.0491 *

Jupiter -49314-12-17 05:45 J -16290165.43 -16290165.26 -16290165.09 0.0488 0.0033

Saturn -49311-02-13 09:35 J -16289376.23 -16289376.10 -16289375.96 0.0284 0.0169

Saturn -49311-05-13 05:16 J -16289287.45 -16289287.28 -16289287.11 0.0284 0.0044

Saturn -49311-08-10 01:11 J -16289198.61 -16289198.45 -16289198.28 0.0283 0.0083

Saturn -49311-11-06 21:21 J -16289109.72 -16289109.61 -16289109.49 0.0283 0.0211

Mars -49308-11-17 02:09 J -16288003.54 -16288003.41 -16288003.28 0.1656 0.0236

Jupiter -49308-11-19 04:18 J -16288001.45 -16288001.32 -16288001.20 0.0540 0.0233

Jupiter -49307-02-16 15:49 J -16287911.92 -16287911.84 -16287911.76 0.0540 0.0425

Moon -49307-08-07 19:54 J -16287739.73 -16287739.67 -16287739.62 0.2662 0.2336

Earth -49307-08-07 20:37 J -16287739.70 -16287739.64 -16287739.57 0.2661 0.2204 *

Mars -49305-08-15 08:23 J -16287001.24 -16287001.15 -16287001.05 0.1869 0.1384

Moon -49304-02-07 05:16 J -16286825.42 -16286825.28 -16286825.15 0.2671 0.0694

Earth -49304-02-07 06:28 J -16286825.37 -16286825.23 -16286825.09 0.2668 0.0565 *

Jupiter -49302-10-05 06:13 J -16285855.41 -16285855.24 -16285855.08 0.0488 0.0116

Earth -49301-08-16 22:18 J -16285538.67 -16285538.57 -16285538.47 0.2668 0.1285

Moon -49301-08-16 23:16 J -16285538.64 -16285538.53 -16285538.43 0.2670 0.1281 *

Uranus -49298-02-18 09:06 J -16284623.19 -16284623.12 -16284623.04 0.0147 0.0133

Mars -49298-04-09 11:16 J -16284573.14 -16284573.03 -16284572.92 0.1651 0.0850

Uranus -49298-05-17 16:18 J -16284534.94 -16284534.82 -16284534.68 0.0147 0.0102

Uranus -49298-08-13 23:59 J -16284446.66 -16284446.50 -16284446.34 0.0147 0.0070

Uranus -49298-11-10 07:25 J -16284358.36 -16284358.19 -16284358.02 0.0147 0.0039

Uranus -49297-02-06 14:52 J -16284270.06 -16284269.88 -16284269.70 0.0147 0.0007

Uranus -49297-05-04 22:33 J -16284181.74 -16284181.56 -16284181.38 0.0147 0.0026

Uranus -49297-08-01 05:59 J -16284093.41 -16284093.25 -16284093.08 0.0147 0.0058

Uranus -49297-10-28 13:40 J -16284005.07 -16284004.93 -16284004.78 0.0147 0.0091

Uranus -49296-01-24 21:06 J -16283916.70 -16283916.62 -16283916.51 0.0147 0.0124

Mars -49296-03-14 22:33 J -16283867.57 -16283867.56 -16283867.55 0.1673 0.1665

Saturn -49296-06-10 00:13 J -16283780.56 -16283780.49 -16283780.41 0.0274 0.0233

Saturn -49296-09-06 13:11 J -16283692.07 -16283691.95 -16283691.83 0.0275 0.0136

Jupiter -49296-09-07 07:11 J -16283691.29 -16283691.20 -16283691.11 0.0539 0.0392

Saturn -49296-12-04 01:40 J -16283603.57 -16283603.43 -16283603.29 0.0276 0.0042

Jupiter -49296-12-05 19:11 J -16283601.81 -16283601.70 -16283601.58 0.0540 0.0273

Mars -49295-01-05 08:37 J -16283571.28 -16283571.14 -16283570.99 0.1877 0.0159

Saturn -49295-03-02 14:09 J -16283515.05 -16283514.91 -16283514.77 0.0276 0.0054

Saturn -49295-05-30 02:23 J -16283426.51 -16283426.40 -16283426.28 0.0277 0.0148

Saturn -49295-08-26 14:37 J -16283337.96 -16283337.89 -16283337.82 0.0277 0.0241

Moon -49294-08-10 16:18 J -16282988.93 -16282988.82 -16282988.72 0.2669 0.1272

Earth -49294-08-10 16:47 J -16282988.91 -16282988.80 -16282988.70 0.2663 0.1264 *

Moon -49291-02-10 07:54 J -16282074.31 -16282074.17 -16282074.04 0.2672 0.0698

Earth -49291-02-10 08:23 J -16282074.29 -16282074.15 -16282074.01 0.2666 0.0755 *

Jupiter -49290-07-24 06:13 J -16281545.38 -16281545.24 -16281545.10 0.0488 0.0269

Jupiter -49290-10-22 04:18 J -16281455.43 -16281455.32 -16281455.20 0.0487 0.0351

Venus -49289-06-09 00:57 J -16281224.55 -16281224.46 -16281224.37 0.3727 0.1912

Mars -49289-08-29 20:09 J -16281142.71 -16281142.66 -16281142.60 0.1646 0.1457

Earth -49288-08-19 17:30 J -16280787.83 -16280787.77 -16280787.70 0.2670 0.2149

Moon -49288-08-19 18:13 J -16280787.80 -16280787.74 -16280787.68 0.2665 0.2255 *

Mars -49287-08-05 07:40 J -16280437.27 -16280437.18 -16280437.08 0.1667 0.1060

Mars -49286-05-28 09:49 J -16280141.21 -16280141.09 -16280140.97 0.1884 0.1028

Jupiter -49284-09-23 22:18 J -16279291.70 -16279291.57 -16279291.44 0.0540 0.0117

Venus -49284-12-23 17:16 J -16279200.88 -16279200.78 -16279200.68 0.3732 0.0316

Saturn -49282-07-03 06:57 J -16278644.31 -16278644.21 -16278644.10 0.0285 0.0220

Saturn -49282-09-30 02:37 J -16278555.55 -16278555.39 -16278555.23 0.0284 0.0096

Saturn -49282-12-27 22:18 J -16278466.74 -16278466.57 -16278466.40 0.0284 0.0031

Saturn -49281-03-25 18:28 J -16278377.87 -16278377.73 -16278377.59 0.0283 0.0158

Moon -49281-08-12 12:28 J -16278238.10 -16278237.98 -16278237.86 0.2671 0.0333

Earth -49281-08-12 12:28 J -16278238.10 -16278237.98 -16278237.86 0.2665 0.0340 *

Earth -49278-02-13 10:47 J -16277323.13 -16277323.05 -16277322.96 0.2664 0.2117

Moon -49278-02-13 11:01 J -16277323.12 -16277323.04 -16277322.96 0.2671 0.2219 *

Jupiter -49278-05-12 06:28 J -16277235.31 -16277235.23 -16277235.14 0.0488 0.0418

Venus -49278-07-09 09:21 J -16277177.18 -16277177.11 -16277177.03 0.3736 0.2502

Jupiter -49278-08-10 04:18 J -16277145.47 -16277145.32 -16277145.16 0.0488 0.0197

Mars -49278-12-26 17:01 J -16277006.91 -16277006.79 -16277006.67 0.1662 0.0457

Jupiter -49272-07-13 00:57 J -16274981.60 -16274981.46 -16274981.33 0.0539 0.0050

Moon -49271-02-05 09:35 J -16274774.20 -16274774.10 -16274774.00 0.2669 0.1789

Earth -49271-02-05 10:47 J -16274774.16 -16274774.05 -16274773.94 0.2669 0.1612 *

Venus -49270-10-22 15:49 J -16274149.99 -16274149.84 -16274149.69 0.3648 0.0236

Mars -49268-05-18 02:23 J -16273576.53 -16273576.40 -16273576.28 0.1656 0.0159

Earth -49268-08-15 07:54 J -16273487.28 -16273487.17 -16273487.05 0.2667 0.0567

Moon -49268-08-15 08:37 J -16273487.25 -16273487.14 -16273487.02 0.2671 0.0582 *

Saturn -49267-10-28 01:54 J -16273048.46 -16273048.42 -16273048.38 0.0275 0.0263

Saturn -49266-01-24 14:52 J -16272959.99 -16272959.88 -16272959.77 0.0275 0.0167

Saturn -49266-04-23 03:35 J -16272871.49 -16272871.35 -16272871.22 0.0276 0.0071

Jupiter -49266-05-29 04:18 J -16272835.49 -16272835.32 -16272835.15 0.0488 0.0043

Saturn -49266-07-20 16:04 J -16272782.97 -16272782.83 -16272782.69 0.0277 0.0025

Saturn -49266-10-17 04:18 J -16272694.44 -16272694.32 -16272694.19 0.0277 0.0119

Saturn -49265-01-13 16:33 J -16272605.90 -16272605.81 -16272605.72 0.0278 0.0212

Mars -49265-02-14 08:52 J -16272574.22 -16272574.13 -16272574.04 0.1869 0.1504

Moon -49261-08-08 00:57 J -16270937.53 -16270937.46 -16270937.38 0.2663 0.2033

Earth -49261-08-08 01:54 J -16270937.50 -16270937.42 -16270937.35 0.2662 0.2030 *

Jupiter -49260-05-01 03:21 J -16270671.48 -16270671.36 -16270671.24 0.0539 0.0218

Jupiter -49260-07-29 14:52 J -16270581.95 -16270581.88 -16270581.80 0.0540 0.0437

Mars -49259-10-08 11:30 J -16270146.14 -16270146.02 -16270145.91 0.1651 0.0760

Moon -49258-02-08 11:16 J -16270023.17 -16270023.03 -16270022.90 0.2670 0.0383

Earth -49258-02-08 12:28 J -16270023.12 -16270022.98 -16270022.84 0.2667 0.0338 *

Uranus -49257-12-10 23:01 J -16269351.55 -16269351.54 -16269351.52 0.0132 0.0131

Uranus -49256-03-09 02:23 J -16269263.46 -16269263.40 -16269263.32 0.0132 0.0113

Uranus -49256-06-05 05:45 J -16269175.35 -16269175.26 -16269175.15 0.0132 0.0095

Mars -49256-07-06 09:21 J -16269144.26 -16269144.11 -16269143.97 0.1877 0.0289

Uranus -49256-09-01 09:21 J -16269087.23 -16269087.11 -16269087.00 0.0132 0.0076

Uranus -49256-11-28 12:28 J -16268999.10 -16268998.98 -16268998.85 0.0132 0.0058

Uranus -49255-02-24 15:49 J -16268910.97 -16268910.84 -16268910.70 0.0132 0.0040

Uranus -49255-05-23 19:11 J -16268822.83 -16268822.70 -16268822.56 0.0132 0.0022

Earth -49255-08-18 03:21 J -16268736.46 -16268736.36 -16268736.26 0.2668 0.1440

Moon -49255-08-18 04:04 J -16268736.42 -16268736.33 -16268736.23 0.2668 0.1565 *

Uranus -49255-08-19 22:33 J -16268734.70 -16268734.56 -16268734.42 0.0132 0.0004

Uranus -49255-11-16 01:40 J -16268646.56 -16268646.43 -16268646.29 0.0132 0.0015

Uranus -49254-02-12 05:01 J -16268558.42 -16268558.29 -16268558.15 0.0132 0.0032

Jupiter -49254-03-17 04:33 J -16268525.48 -16268525.31 -16268525.15 0.0488 0.0109

Uranus -49254-05-11 08:09 J -16268470.28 -16268470.16 -16268470.02 0.0132 0.0050

Uranus -49254-08-07 11:30 J -16268382.14 -16268382.02 -16268381.90 0.0132 0.0067

Uranus -49254-11-03 14:37 J -16268293.99 -16268293.89 -16268293.78 0.0132 0.0085

Uranus -49253-01-30 17:59 J -16268205.84 -16268205.75 -16268205.67 0.0132 0.0102

Uranus -49253-04-27 20:52 J -16268117.67 -16268117.63 -16268117.56 0.0132 0.0120

Neptune -49253-07-19 16:04 J -16268034.85 -16268034.83 -16268034.79 0.0088 0.0086

Neptune -49253-10-15 17:59 J -16267946.80 -16267946.75 -16267946.68 0.0088 0.0080

Saturn -49253-11-19 07:54 J -16267912.24 -16267912.17 -16267912.09 0.0285 0.0251

Neptune -49252-01-11 19:54 J -16267858.75 -16267858.67 -16267858.58 0.0089 0.0073

Saturn -49252-02-16 03:21 J -16267823.51 -16267823.36 -16267823.21 0.0284 0.0127

Neptune -49252-04-09 21:35 J -16267770.69 -16267770.60 -16267770.50 0.0089 0.0066

Saturn -49252-05-15 23:16 J -16267734.71 -16267734.53 -16267734.36 0.0284 0.0007

Neptune -49252-07-06 23:30 J -16267682.63 -16267682.52 -16267682.41 0.0089 0.0060

Saturn -49252-08-12 19:11 J -16267645.85 -16267645.70 -16267645.54 0.0283 0.0127

Neptune -49252-10-03 01:11 J -16267594.56 -16267594.45 -16267594.33 0.0089 0.0053

Saturn -49252-11-09 15:35 J -16267556.92 -16267556.85 -16267556.78 0.0282 0.0256

Neptune -49252-12-30 03:06 J -16267506.49 -16267506.37 -16267506.24 0.0089 0.0047

Neptune -49251-03-28 04:47 J -16267418.43 -16267418.30 -16267418.17 0.0089 0.0040

Neptune -49251-06-24 06:42 J -16267330.36 -16267330.22 -16267330.09 0.0089 0.0034

Neptune -49251-09-20 08:09 J -16267242.29 -16267242.16 -16267242.01 0.0089 0.0028

Neptune -49251-12-17 10:04 J -16267154.22 -16267154.08 -16267153.93 0.0089 0.0021

Neptune -49250-03-15 11:45 J -16267066.15 -16267066.01 -16267065.86 0.0089 0.0015

Neptune -49250-06-11 13:25 J -16266978.08 -16266977.94 -16266977.79 0.0089 0.0009

Neptune -49250-09-07 15:21 J -16266890.01 -16266889.86 -16266889.72 0.0089 0.0002

Neptune -49250-12-04 17:01 J -16266801.93 -16266801.79 -16266801.64 0.0089 0.0005

Mars -49249-02-28 20:23 J -16266715.72 -16266715.65 -16266715.58 0.1646 0.1368

Neptune -49249-03-01 18:42 J -16266713.86 -16266713.72 -16266713.57 0.0089 0.0011

Neptune -49249-05-28 20:23 J -16266625.79 -16266625.65 -16266625.51 0.0089 0.0018

Neptune -49249-08-24 22:04 J -16266537.72 -16266537.58 -16266537.44 0.0089 0.0024

Neptune -49249-11-20 23:45 J -16266449.64 -16266449.51 -16266449.37 0.0089 0.0030

Neptune -49248-02-17 01:25 J -16266361.57 -16266361.44 -16266361.30 0.0089 0.0036

Jupiter -49248-02-17 05:16 J -16266361.37 -16266361.28 -16266361.18 0.0539 0.0394 *

Neptune -49248-05-16 03:06 J -16266273.49 -16266273.37 -16266273.24 0.0089 0.0043

Jupiter -49248-05-17 17:30 J -16266271.89 -16266271.77 -16266271.66 0.0540 0.0272

Moon -49248-08-10 21:21 J -16266186.72 -16266186.61 -16266186.51 0.2670 0.1185

Earth -49248-08-10 21:49 J -16266186.70 -16266186.59 -16266186.48 0.2663 0.1094 *

Neptune -49248-08-12 04:47 J -16266185.42 -16266185.30 -16266185.18 0.0089 0.0049

Neptune -49248-11-08 06:13 J -16266097.34 -16266097.24 -16266097.12 0.0089 0.0056

Mars -49247-02-03 07:54 J -16266010.26 -16266010.17 -16266010.08 0.1667 0.1146

Neptune -49247-02-04 07:54 J -16266009.26 -16266009.17 -16266009.06 0.0089 0.0062

Neptune -49247-05-03 09:35 J -16265921.18 -16265921.10 -16265921.00 0.0089 0.0068

Neptune -49247-07-30 11:16 J -16265833.10 -16265833.03 -16265832.94 0.0089 0.0074

Neptune -49247-10-26 12:57 J -16265745.01 -16265744.96 -16265744.89 0.0089 0.0080

Mars -49247-11-26 09:49 J -16265714.22 -16265714.09 -16265713.96 0.1884 0.0924

Neptune -49246-01-22 14:37 J -16265656.91 -16265656.89 -16265656.85 0.0089 0.0086

Moon -49245-02-11 14:09 J -16265272.05 -16265271.91 -16265271.78 0.2672 0.0960

Earth -49245-02-11 14:23 J -16265272.03 -16265271.90 -16265271.77 0.2665 0.0990 *

Jupiter -49242-01-03 05:01 J -16264215.43 -16264215.29 -16264215.14 0.0488 0.0255

Jupiter -49242-04-03 03:21 J -16264125.47 -16264125.36 -16264125.25 0.0487 0.0365

Earth -49242-08-20 22:33 J -16263985.61 -16263985.56 -16263985.50 0.2670 0.2306

Moon -49242-08-20 23:16 J -16263985.59 -16263985.53 -16263985.47 0.2665 0.2276 *

Earth -49238-02-03 15:21 J -16262722.88 -16262722.86 -16262722.84 0.2671 0.2627

Mars -49238-06-26 17:16 J -16262579.90 -16262579.78 -16262579.66 0.1662 0.0542

Venus -49238-07-01 06:13 J -16262575.28 -16262575.24 -16262575.19 0.3724 0.3321

Saturn -49237-06-12 16:33 J -16262227.91 -16262227.81 -16262227.71 0.0274 0.0196

Saturn -49237-09-09 05:16 J -16262139.41 -16262139.28 -16262139.15 0.0275 0.0101

Saturn -49237-12-06 17:45 J -16262050.90 -16262050.76 -16262050.62 0.0275 0.0008

Saturn -49236-03-05 06:13 J -16261962.37 -16261962.24 -16261962.11 0.0276 0.0088

Jupiter -49236-03-05 20:37 J -16261961.77 -16261961.64 -16261961.50 0.0540 0.0118

Saturn -49236-06-01 18:28 J -16261873.84 -16261873.73 -16261873.63 0.0277 0.0182

Saturn -49236-08-29 06:28 J -16261785.25 -16261785.23 -16261785.21 0.0277 0.0274

Earth -49235-08-13 17:30 J -16261435.89 -16261435.77 -16261435.65 0.2665 0.0178

Moon -49235-08-13 17:45 J -16261435.88 -16261435.76 -16261435.64 0.2671 0.0145 *

Venus -49232-01-13 22:33 J -16260551.66 -16260551.56 -16260551.46 0.3729 0.1079

Earth -49232-02-13 16:47 J -16260520.87 -16260520.80 -16260520.74 0.2664 0.2354

Moon -49232-02-13 17:16 J -16260520.85 -16260520.78 -16260520.72 0.2670 0.2347 *

Jupiter -49231-10-22 05:16 J -16259905.37 -16259905.28 -16259905.18 0.0488 0.0405

Jupiter -49230-01-20 03:06 J -16259815.52 -16259815.37 -16259815.22 0.0487 0.0208

Mars -49229-11-16 02:23 J -16259149.53 -16259149.40 -16259149.27 0.1656 0.0066

Venus -49227-07-30 14:52 J -16258527.98 -16258527.88 -16258527.78 0.3733 0.1136

Mars -49226-08-15 09:21 J -16258147.18 -16258147.11 -16258147.04 0.1869 0.1639

Moon -49225-02-06 15:21 J -16257971.98 -16257971.86 -16257971.74 0.2670 0.1393

Earth -49225-02-06 16:33 J -16257971.92 -16257971.81 -16257971.69 0.2669 0.1393 *

Jupiter -49225-12-22 23:45 J -16257651.64 -16257651.51 -16257651.37 0.0540 0.0041

Saturn -49223-07-06 00:28 J -16257091.61 -16257091.48 -16257091.35 0.0285 0.0179

Saturn -49223-10-02 20:09 J -16257002.83 -16257002.66 -16257002.49 0.0284 0.0054

Saturn -49223-12-30 16:04 J -16256914.00 -16256913.83 -16256913.67 0.0284 0.0073

Saturn -49222-03-29 12:13 J -16256825.11 -16256824.99 -16256824.87 0.0283 0.0201

Earth -49222-08-16 13:11 J -16256685.07 -16256684.95 -16256684.84 0.2667 0.0728

Moon -49222-08-16 13:40 J -16256685.04 -16256684.93 -16256684.81 0.2671 0.0808 *

Venus -49221-02-13 06:57 J -16256504.25 -16256504.21 -16256504.16 0.3738 0.3320

Mars -49219-04-08 11:30 J -16255719.14 -16255719.02 -16255718.90 0.1651 0.0672

Jupiter -49219-11-08 03:06 J -16255505.53 -16255505.37 -16255505.20 0.0488 0.0057

Mars -49216-01-04 09:49 J -16254717.24 -16254717.09 -16254716.95 0.1876 0.0418

Moon -49215-08-09 06:13 J -16254135.32 -16254135.24 -16254135.16 0.2665 0.1991

Earth -49215-08-09 06:57 J -16254135.29 -16254135.21 -16254135.12 0.2662 0.1858 *

Uranus -49214-03-10 17:16 J -16253921.88 -16253921.78 -16253921.68 0.0147 0.0122

Uranus -49214-06-07 00:28 J -16253833.61 -16253833.48 -16253833.33 0.0147 0.0091

Uranus -49214-09-03 07:54 J -16253745.33 -16253745.17 -16253745.00 0.0147 0.0059

Uranus -49214-11-30 15:35 J -16253657.03 -16253656.85 -16253656.68 0.0147 0.0027

Uranus -49213-02-26 23:01 J -16253568.72 -16253568.54 -16253568.36 0.0147 0.0005

Uranus -49213-05-25 06:42 J -16253480.40 -16253480.22 -16253480.05 0.0147 0.0037

Venus -49213-05-28 17:01 J -16253476.92 -16253476.79 -16253476.65 0.3646 0.1708

Uranus -49213-08-21 14:09 J -16253392.06 -16253391.91 -16253391.75 0.0147 0.0070

Jupiter -49213-10-11 02:23 J -16253341.52 -16253341.40 -16253341.27 0.0539 0.0204

Uranus -49213-11-17 21:49 J -16253303.72 -16253303.59 -16253303.46 0.0147 0.0102

Jupiter -49212-01-08 14:09 J -16253251.99 -16253251.91 -16253251.84 0.0540 0.0452

Moon -49212-02-08 17:16 J -16253220.92 -16253220.78 -16253220.64 0.2671 0.0245

Earth -49212-02-08 18:13 J -16253220.88 -16253220.74 -16253220.60 0.2667 0.0116 *

Uranus -49212-02-14 05:30 J -16253215.33 -16253215.27 -16253215.20 0.0147 0.0135

Mars -49210-08-29 20:37 J -16252288.72 -16252288.64 -16252288.56 0.1646 0.1279

Earth -49209-08-18 08:23 J -16251934.24 -16251934.15 -16251934.05 0.2669 0.1601

Moon -49209-08-18 09:21 J -16251934.21 -16251934.11 -16251934.02 0.2667 0.1616 *

Mars -49208-08-04 08:09 J -16251583.25 -16251583.16 -16251583.08 0.1667 0.1231

Saturn -49208-10-30 17:45 J -16251495.83 -16251495.76 -16251495.68 0.0275 0.0229

Saturn -49207-01-27 06:42 J -16251407.35 -16251407.22 -16251407.10 0.0275 0.0134

Saturn -49207-04-25 19:11 J -16251318.84 -16251318.70 -16251318.56 0.0276 0.0038

Mars -49207-05-27 10:18 J -16251287.20 -16251287.07 -16251286.94 0.1884 0.0797

Saturn -49207-07-23 07:40 J -16251230.32 -16251230.18 -16251230.04 0.0277 0.0057

Jupiter -49207-08-27 03:21 J -16251195.53 -16251195.36 -16251195.20 0.0488 0.0098

Saturn -49207-10-19 19:54 J -16251141.78 -16251141.67 -16251141.55 0.0277 0.0151

Saturn -49206-01-16 07:54 J -16251053.23 -16251053.17 -16251053.10 0.0278 0.0244

Moon -49202-08-12 02:23 J -16249384.51 -16249384.40 -16249384.28 0.2670 0.0908

Earth -49202-08-12 02:52 J -16249384.49 -16249384.38 -16249384.27 0.2664 0.0926 *

Pluto -49202-09-13 17:01 J -16249351.80 -16249351.79 -16249351.74 0.0063 0.0062

Pluto -49202-12-10 18:28 J -16249263.79 -16249263.73 -16249263.66 0.0063 0.0057

Pluto -49201-03-07 19:11 J -16249175.77 -16249175.70 -16249175.59 0.0063 0.0053

Pluto -49201-06-03 20:23 J -16249087.74 -16249087.65 -16249087.53 0.0063 0.0049

Jupiter -49201-07-30 04:47 J -16249031.40 -16249031.30 -16249031.20 0.0539 0.0373

Pluto -49201-08-30 21:49 J -16248999.71 -16248999.59 -16248999.47 0.0063 0.0044

Jupiter -49201-10-27 16:47 J -16248941.91 -16248941.80 -16248941.69 0.0540 0.0289

Pluto -49201-11-26 22:33 J -16248911.67 -16248911.56 -16248911.41 0.0063 0.0040

Pluto -49200-02-22 23:45 J -16248823.64 -16248823.51 -16248823.35 0.0063 0.0035

Pluto -49200-05-22 01:11 J -16248735.60 -16248735.45 -16248735.30 0.0064 0.0030

Pluto -49200-08-18 02:23 J -16248647.56 -16248647.40 -16248647.24 0.0064 0.0025

Pluto -49200-11-14 03:21 J -16248559.51 -16248559.36 -16248559.19 0.0064 0.0021

Pluto -49199-02-10 04:33 J -16248471.47 -16248471.31 -16248471.14 0.0064 0.0016

Moon -49199-02-11 20:09 J -16248469.79 -16248469.66 -16248469.54 0.2672 0.1246

Earth -49199-02-11 20:23 J -16248469.78 -16248469.65 -16248469.53 0.2665 0.1227 *

Pluto -49199-05-09 05:45 J -16248383.42 -16248383.26 -16248383.08 0.0064 0.0011

Pluto -49199-08-05 06:57 J -16248295.38 -16248295.21 -16248295.03 0.0064 0.0006

Pluto -49199-11-01 08:09 J -16248207.33 -16248207.16 -16248206.98 0.0064 0.0002

Mars -49199-12-25 17:16 J -16248152.90 -16248152.78 -16248152.66 0.1662 0.0627

Pluto -49198-01-28 09:21 J -16248119.28 -16248119.11 -16248118.93 0.0064 0.0005

Pluto -49198-04-26 10:33 J -16248031.22 -16248031.06 -16248030.88 0.0064 0.0009

Pluto -49198-07-23 11:45 J -16247943.17 -16247943.01 -16247942.83 0.0064 0.0014

Pluto -49198-10-19 13:11 J -16247855.11 -16247854.95 -16247854.79 0.0064 0.0019

Pluto -49197-01-15 14:23 J -16247767.06 -16247766.90 -16247766.74 0.0064 0.0024

Pluto -49197-04-12 15:21 J -16247679.00 -16247678.86 -16247678.69 0.0065 0.0030

Pluto -49197-07-09 16:33 J -16247590.94 -16247590.81 -16247590.65 0.0065 0.0035

Pluto -49197-10-05 17:45 J -16247502.88 -16247502.76 -16247502.60 0.0065 0.0040

Pluto -49196-01-01 19:11 J -16247414.81 -16247414.70 -16247414.56 0.0065 0.0045

Pluto -49196-03-30 20:23 J -16247326.74 -16247326.65 -16247326.52 0.0065 0.0050

Pluto -49196-06-26 21:49 J -16247238.67 -16247238.59 -16247238.49 0.0065 0.0055

Earth -49196-08-21 03:35 J -16247183.39 -16247183.35 -16247183.30 0.2670 0.2457

Moon -49196-08-21 04:18 J -16247183.35 -16247183.32 -16247183.29 0.2665 0.2557 *

Pluto -49196-09-22 23:16 J -16247150.58 -16247150.53 -16247150.46 0.0065 0.0060

Jupiter -49195-06-15 03:35 J -16246885.49 -16246885.35 -16246885.20 0.0488 0.0245

Jupiter -49195-09-13 01:54 J -16246795.53 -16246795.42 -16246795.31 0.0487 0.0376

Saturn -49194-11-23 00:57 J -16246359.57 -16246359.46 -16246359.35 0.0285 0.0212

Saturn -49193-02-19 20:37 J -16246270.80 -16246270.64 -16246270.48 0.0284 0.0088

Saturn -49193-05-18 16:18 J -16246181.98 -16246181.82 -16246181.64 0.0284 0.0040

Saturn -49193-08-15 12:28 J -16246093.11 -16246092.98 -16246092.83 0.0283 0.0168

Moon -49192-02-03 20:09 J -16245920.71 -16245920.66 -16245920.60 0.2667 0.2425

Earth -49192-02-03 21:06 J -16245920.67 -16245920.62 -16245920.56 0.2671 0.2413 *

Mars -49189-05-17 02:37 J -16244722.52 -16244722.39 -16244722.27 0.1656 0.0049

Earth -49189-08-13 22:33 J -16244633.68 -16244633.56 -16244633.44 0.2665 0.0045

Moon -49189-08-13 23:01 J -16244633.66 -16244633.54 -16244633.43 0.2672 0.0068 *

Jupiter -49189-08-15 18:57 J -16244631.84 -16244631.71 -16244631.57 0.0540 0.0120

Mars -49186-02-13 09:35 J -16243720.14 -16243720.10 -16243720.05 0.1869 0.1757

Earth -49186-02-14 22:47 J -16243718.58 -16243718.55 -16243718.52 0.2663 0.2596

Jupiter -49183-04-03 04:33 J -16242575.41 -16242575.31 -16242575.21 0.0488 0.0388

Jupiter -49183-07-02 02:09 J -16242485.56 -16242485.41 -16242485.25 0.0487 0.0226

Earth -49182-08-07 16:04 J -16242083.84 -16242083.83 -16242083.82 0.2661 0.2633

Venus -49181-02-05 03:49 J -16241902.41 -16241902.34 -16241902.26 0.3725 0.2481

Mars -49180-10-07 11:30 J -16241292.14 -16241292.02 -16241291.90 0.1651 0.0590

Moon -49179-02-06 21:06 J -16241169.74 -16241169.62 -16241169.50 0.2669 0.1353

Earth -49179-02-06 22:33 J -16241169.69 -16241169.56 -16241169.43 0.2669 0.1159 *

Saturn -49178-03-19 19:40 J -16240763.72 -16240763.68 -16240763.63 0.0274 0.0257

Saturn -49178-06-16 08:37 J -16240675.26 -16240675.14 -16240675.03 0.0274 0.0162

Saturn -49178-09-12 21:06 J -16240586.75 -16240586.62 -16240586.48 0.0275 0.0067

Saturn -49178-12-10 09:35 J -16240498.24 -16240498.10 -16240497.96 0.0275 0.0028

Saturn -49177-03-07 21:49 J -16240409.71 -16240409.59 -16240409.46 0.0276 0.0122

Jupiter -49177-06-03 22:04 J -16240321.71 -16240321.58 -16240321.44 0.0540 0.0041

Saturn -49177-06-04 10:04 J -16240321.16 -16240321.08 -16240320.99 0.0277 0.0214

Mars -49177-07-05 09:49 J -16240290.23 -16240290.09 -16240289.95 0.1877 0.0527

Earth -49176-08-16 17:59 J -16239882.86 -16239882.75 -16239882.63 0.2667 0.0888

Moon -49176-08-16 18:42 J -16239882.83 -16239882.72 -16239882.61 0.2671 0.0938 *

Venus -49176-08-20 20:09 J -16239878.76 -16239878.66 -16239878.55 0.3730 0.0247

Uranus -49173-12-31 06:42 J -16238650.26 -16238650.22 -16238650.17 0.0132 0.0124

Uranus -49172-03-29 10:18 J -16238562.15 -16238562.07 -16238561.99 0.0132 0.0105

Uranus -49172-06-25 13:25 J -16238474.03 -16238473.94 -16238473.82 0.0132 0.0087

Uranus -49172-09-21 16:47 J -16238385.91 -16238385.80 -16238385.67 0.0132 0.0069

Uranus -49172-12-18 20:09 J -16238297.78 -16238297.66 -16238297.52 0.0132 0.0051

Uranus -49171-03-16 23:30 J -16238209.65 -16238209.52 -16238209.38 0.0132 0.0033

Jupiter -49171-04-20 02:09 J -16238175.58 -16238175.41 -16238175.24 0.0487 0.0070

Uranus -49171-06-13 02:52 J -16238121.51 -16238121.38 -16238121.24 0.0132 0.0015

Uranus -49171-09-09 06:13 J -16238033.38 -16238033.24 -16238033.10 0.0132 0.0004

Neptune -49171-10-08 18:13 J -16238003.78 -16238003.74 -16238003.68 0.0089 0.0085

Uranus -49171-12-06 09:35 J -16237945.24 -16237945.10 -16237944.97 0.0132 0.0022

Neptune -49170-01-04 20:37 J -16237915.70 -16237915.64 -16237915.54 0.0089 0.0078

Mars -49170-02-27 20:37 J -16237861.72 -16237861.64 -16237861.55 0.1646 0.1192

Uranus -49170-03-04 12:42 J -16237857.10 -16237856.97 -16237856.83 0.0132 0.0039

Venus -49170-03-06 12:28 J -16237855.07 -16237854.98 -16237854.90 0.3734 0.1961

Neptune -49170-04-02 23:16 J -16237827.62 -16237827.53 -16237827.41 0.0089 0.0071

Uranus -49170-05-31 15:49 J -16237768.96 -16237768.84 -16237768.71 0.0132 0.0057

Neptune -49170-06-30 02:09 J -16237739.52 -16237739.41 -16237739.29 0.0089 0.0063

Uranus -49170-08-27 19:11 J -16237680.81 -16237680.70 -16237680.58 0.0132 0.0075

Neptune -49170-09-26 04:33 J -16237651.43 -16237651.31 -16237651.17 0.0089 0.0056

Uranus -49170-11-23 22:18 J -16237592.66 -16237592.57 -16237592.47 0.0132 0.0092

Neptune -49170-12-23 07:25 J -16237563.33 -16237563.19 -16237563.04 0.0089 0.0048

Uranus -49169-02-20 01:25 J -16237504.50 -16237504.44 -16237504.36 0.0132 0.0110

Neptune -49169-03-20 09:49 J -16237475.23 -16237475.09 -16237474.93 0.0089 0.0041

Uranus -49169-05-18 04:47 J -16237416.33 -16237416.30 -16237416.26 0.0132 0.0127

Neptune -49169-06-16 12:28 J -16237387.13 -16237386.98 -16237386.81 0.0089 0.0034

Moon -49169-08-09 11:16 J -16237333.12 -16237333.03 -16237332.93 0.2666 0.1686

Earth -49169-08-09 12:13 J -16237333.09 -16237332.99 -16237332.90 0.2662 0.1689 *

Neptune -49169-09-12 15:21 J -16237299.02 -16237298.86 -16237298.69 0.0089 0.0026

Neptune -49169-12-09 17:59 J -16237210.91 -16237210.75 -16237210.58 0.0089 0.0018

Mars -49168-02-02 08:09 J -16237156.24 -16237156.16 -16237156.08 0.1667 0.1310

Neptune -49168-03-07 20:52 J -16237122.80 -16237122.63 -16237122.46 0.0089 0.0011

Neptune -49168-06-03 23:30 J -16237034.69 -16237034.52 -16237034.35 0.0089 0.0003

Neptune -49168-08-31 02:09 J -16236946.58 -16236946.41 -16236946.23 0.0089 0.0005

Mars -49168-11-25 10:47 J -16236860.18 -16236860.05 -16236859.91 0.1884 0.0663

Neptune -49168-11-27 04:47 J -16236858.47 -16236858.30 -16236858.12 0.0089 0.0013

Neptune -49167-02-23 07:40 J -16236770.35 -16236770.18 -16236770.01 0.0089 0.0020

Neptune -49167-05-22 10:18 J -16236682.23 -16236682.07 -16236681.90 0.0089 0.0028

Neptune -49167-08-18 12:57 J -16236594.11 -16236593.96 -16236593.79 0.0089 0.0036

Neptune -49167-11-14 15:49 J -16236505.99 -16236505.84 -16236505.68 0.0089 0.0043

Moon -49166-02-09 23:30 J -16236418.66 -16236418.52 -16236418.38 0.2672 0.0163

Earth -49166-02-10 00:13 J -16236418.63 -16236418.49 -16236418.35 0.2667 0.0137 *

Neptune -49166-02-10 18:28 J -16236417.86 -16236417.73 -16236417.58 0.0089 0.0051

Neptune -49166-05-09 21:06 J -16236329.73 -16236329.62 -16236329.47 0.0089 0.0059

Neptune -49166-08-05 23:59 J -16236241.60 -16236241.50 -16236241.37 0.0089 0.0067

Neptune -49166-11-02 03:06 J -16236153.47 -16236153.37 -16236153.28 0.0089 0.0074

Neptune -49165-01-29 05:45 J -16236065.32 -16236065.26 -16236065.19 0.0089 0.0082

Jupiter -49165-03-23 01:25 J -16236011.57 -16236011.44 -16236011.32 0.0540 0.0194

Jupiter -49165-06-20 12:57 J -16235922.02 -16235921.96 -16235921.89 0.0541 0.0465

Saturn -49164-04-10 21:49 J -16235627.64 -16235627.59 -16235627.52 0.0286 0.0266

Saturn -49164-07-08 17:16 J -16235538.92 -16235538.78 -16235538.63 0.0285 0.0142

Saturn -49164-10-05 13:11 J -16235450.12 -16235449.95 -16235449.78 0.0284 0.0016

Saturn -49163-01-02 09:06 J -16235361.28 -16235361.12 -16235360.96 0.0284 0.0112

Saturn -49163-04-01 05:30 J -16235272.36 -16235272.27 -16235272.18 0.0283 0.0240

Earth -49163-08-19 13:25 J -16235132.02 -16235131.94 -16235131.85 0.2669 0.1758

Moon -49163-08-19 14:23 J -16235131.99 -16235131.90 -16235131.82 0.2666 0.1851 *

Venus -49162-06-19 12:13 J -16234828.11 -16234827.99 -16234827.86 0.3651 0.1934

Jupiter -49159-02-06 02:23 J -16233865.57 -16233865.40 -16233865.23 0.0488 0.0082

Mars -49159-06-25 17:30 J -16233725.89 -16233725.77 -16233725.66 0.1662 0.0713

Mars -49158-04-17 11:30 J -16233430.04 -16233430.02 -16233429.99 0.1891 0.1860

Venus -49156-01-02 18:13 J -16232803.75 -16232803.74 -16232803.72 0.3645 0.3620

Moon -49156-08-12 07:40 J -16232582.29 -16232582.18 -16232582.07 0.2670 0.0845

Earth -49156-08-12 07:54 J -16232582.28 -16232582.17 -16232582.05 0.2664 0.0761 *

Jupiter -49153-01-10 03:49 J -16231701.44 -16231701.34 -16231701.24 0.0539 0.0358

Moon -49153-02-13 02:09 J -16231667.53 -16231667.41 -16231667.29 0.2672 0.1405

Earth -49153-02-13 02:23 J -16231667.52 -16231667.40 -16231667.28 0.2665 0.1463 *

Jupiter -49153-04-08 15:49 J -16231611.95 -16231611.84 -16231611.73 0.0540 0.0305

Earth -49150-08-22 08:37 J -16230381.16 -16230381.14 -16230381.12 0.2671 0.2614

Moon -49150-08-22 09:06 J -16230381.15 -16230381.12 -16230381.09 0.2665 0.2578 *

Mars -49150-11-16 02:37 J -16230295.52 -16230295.39 -16230295.26 0.1656 0.0110

Saturn -49149-11-02 09:21 J -16229943.20 -16229943.11 -16229943.00 0.0275 0.0197

Saturn -49148-01-29 22:18 J -16229854.70 -16229854.57 -16229854.44 0.0275 0.0101

Saturn -49148-04-28 10:47 J -16229766.19 -16229766.05 -16229765.91 0.0276 0.0006

Saturn -49148-07-25 23:01 J -16229677.67 -16229677.54 -16229677.40 0.0277 0.0089

Saturn -49148-10-22 11:16 J -16229589.13 -16229589.03 -16229588.92 0.0277 0.0182

Jupiter -49148-11-25 02:23 J -16229555.54 -16229555.40 -16229555.25 0.0488 0.0234

Saturn -49147-01-18 23:30 J -16229500.54 -16229500.52 -16229500.50 0.0278 0.0274

Jupiter -49147-02-23 00:42 J -16229465.57 -16229465.47 -16229465.36 0.0488 0.0389

Moon -49146-02-05 01:54 J -16229118.49 -16229118.42 -16229118.35 0.2668 0.2295

Earth -49146-02-05 03:06 J -16229118.45 -16229118.37 -16229118.30 0.2670 0.2191 *

Earth -49143-08-15 03:35 J -16227831.46 -16227831.35 -16227831.23 0.2666 0.0170

Moon -49143-08-15 04:04 J -16227831.45 -16227831.33 -16227831.21 0.2672 0.0238 *

Jupiter -49142-10-29 06:13 J -16227391.26 -16227391.24 -16227391.22 0.0539 0.0528

Jupiter -49141-01-26 18:28 J -16227301.86 -16227301.73 -16227301.60 0.0540 0.0142

Mars -49140-04-07 11:45 J -16226865.13 -16226865.01 -16226864.89 0.1651 0.0499

Mars -49137-01-04 10:33 J -16225863.20 -16225863.06 -16225862.93 0.1876 0.0660

Moon -49136-08-07 20:23 J -16225281.69 -16225281.65 -16225281.61 0.2660 0.2500

Earth -49136-08-07 21:06 J -16225281.66 -16225281.62 -16225281.57 0.2661 0.2463 *

Jupiter -49136-09-13 03:06 J -16225245.47 -16225245.37 -16225245.26 0.0488 0.0377

Jupiter -49136-12-12 00:57 J -16225155.61 -16225155.46 -16225155.31 0.0487 0.0237

Saturn -49135-11-25 17:30 J -16224806.90 -16224806.77 -16224806.64 0.0285 0.0177

Saturn -49134-02-22 13:11 J -16224718.12 -16224717.95 -16224717.78 0.0284 0.0052

Saturn -49134-05-22 09:06 J -16224629.28 -16224629.12 -16224628.95 0.0284 0.0076

Saturn -49134-08-19 05:16 J -16224540.39 -16224540.28 -16224540.15 0.0283 0.0204

Moon -49133-02-08 03:06 J -16224367.50 -16224367.37 -16224367.24 0.2669 0.0949

Earth -49133-02-08 04:18 J -16224367.45 -16224367.32 -16224367.19 0.2668 0.0941 *

Mars -49131-08-28 20:52 J -16223434.72 -16223434.63 -16223434.53 0.1646 0.1103

Uranus -49130-01-01 18:13 J -16223308.78 -16223308.74 -16223308.68 0.0147 0.0141

Uranus -49130-03-31 01:25 J -16223220.54 -16223220.44 -16223220.31 0.0147 0.0110

Uranus -49130-06-27 09:06 J -16223132.27 -16223132.12 -16223131.97 0.0147 0.0078

Earth -49130-08-17 23:16 J -16223080.64 -16223080.53 -16223080.43 0.2667 0.1046

Moon -49130-08-17 23:59 J -16223080.61 -16223080.50 -16223080.39 0.2669 0.1079 *

Uranus -49130-09-23 16:18 J -16223043.98 -16223043.82 -16223043.64 0.0147 0.0047

Jupiter -49130-11-14 20:37 J -16222991.78 -16222991.64 -16222991.50 0.0540 0.0034

Uranus -49130-12-20 23:59 J -16222955.68 -16222955.50 -16222955.32 0.0147 0.0015

Uranus -49129-03-18 07:25 J -16222867.36 -16222867.19 -16222867.01 0.0147 0.0018

Uranus -49129-06-14 15:06 J -16222779.04 -16222778.87 -16222778.70 0.0147 0.0050

Mars -49129-08-03 08:23 J -16222729.22 -16222729.15 -16222729.09 0.1668 0.1399

Uranus -49129-09-10 22:33 J -16222690.70 -16222690.56 -16222690.40 0.0147 0.0083

Uranus -49129-12-08 06:28 J -16222602.34 -16222602.23 -16222602.12 0.0147 0.0115

Mars -49128-05-26 11:01 J -16222433.18 -16222433.04 -16222432.90 0.1883 0.0552

Venus -49125-09-11 01:25 J -16221229.53 -16221229.44 -16221229.34 0.3726 0.1641

Jupiter -49124-09-30 01:25 J -16220845.61 -16220845.44 -16220845.27 0.0487 0.0089

Moon -49123-08-10 16:33 J -16220530.90 -16220530.81 -16220530.72 0.2667 0.1637

Earth -49123-08-10 17:16 J -16220530.88 -16220530.78 -16220530.68 0.2663 0.1514 *

Moon -49120-02-10 05:30 J -16219616.41 -16219616.27 -16219616.13 0.2673 0.0223

Earth -49120-02-10 06:13 J -16219616.38 -16219616.24 -16219616.10 0.2666 0.0366 *

Mars -49120-12-24 17:30 J -16219298.88 -16219298.77 -16219298.66 0.1662 0.0793

Saturn -49119-03-22 11:30 J -16219211.10 -16219211.02 -16219210.93 0.0274 0.0224

Venus -49119-03-27 17:45 J -16219205.86 -16219205.76 -16219205.66 0.3731 0.0586

Saturn -49119-06-19 00:13 J -16219122.61 -16219122.49 -16219122.36 0.0274 0.0128

Saturn -49119-09-15 12:57 J -16219034.10 -16219033.96 -16219033.82 0.0275 0.0034

Mars -49119-10-16 11:59 J -16219003.06 -16219003.00 -16219002.95 0.1891 0.1745

Saturn -49119-12-13 01:11 J -16218945.58 -16218945.45 -16218945.31 0.0276 0.0061

Saturn -49118-03-11 13:25 J -16218857.05 -16218856.94 -16218856.82 0.0276 0.0154

Saturn -49118-06-08 01:25 J -16218768.49 -16218768.44 -16218768.37 0.0277 0.0246

Jupiter -49118-09-02 23:30 J -16218681.64 -16218681.52 -16218681.39 0.0540 0.0194

Jupiter -49118-12-01 11:16 J -16218592.09 -16218592.03 -16218591.96 0.0541 0.0467

Earth -49117-08-19 18:28 J -16218329.81 -16218329.73 -16218329.65 0.2669 0.1913

Moon -49117-08-19 19:25 J -16218329.77 -16218329.69 -16218329.62 0.2667 0.1950 *

Venus -49114-10-11 10:04 J -16217182.15 -16217182.08 -16217182.02 0.3735 0.2785

Pluto -49112-06-11 19:40 J -16216572.72 -16216572.68 -16216572.60 0.0081 0.0074

Jupiter -49112-07-19 01:25 J -16216535.61 -16216535.44 -16216535.27 0.0488 0.0066

Pluto -49112-09-07 21:21 J -16216484.68 -16216484.61 -16216484.51 0.0081 0.0065

Pluto -49112-12-04 23:01 J -16216396.64 -16216396.54 -16216396.42 0.0081 0.0056

Pluto -49111-03-03 00:42 J -16216308.58 -16216308.47 -16216308.34 0.0081 0.0047

Pluto -49111-05-30 02:09 J -16216220.53 -16216220.41 -16216220.27 0.0081 0.0039

Pluto -49111-08-26 03:49 J -16216132.47 -16216132.34 -16216132.20 0.0081 0.0030

Pluto -49111-11-22 05:30 J -16216044.41 -16216044.27 -16216044.13 0.0081 0.0021

Pluto -49110-02-18 06:57 J -16215956.35 -16215956.21 -16215956.06 0.0080 0.0013

Mars -49110-05-17 02:52 J -16215868.51 -16215868.38 -16215868.26 0.1657 0.0200

Pluto -49110-05-17 08:37 J -16215868.29 -16215868.14 -16215867.99 0.0080 0.0005 *

Pluto -49110-08-13 10:04 J -16215780.22 -16215780.08 -16215779.93 0.0080 0.0004

Moon -49110-08-13 12:57 J -16215780.07 -16215779.96 -16215779.84 0.2671 0.0541 *

Earth -49110-08-13 13:11 J -16215780.07 -16215779.95 -16215779.84 0.2664 0.0593 *

Pluto -49110-11-09 11:30 J -16215692.16 -16215692.02 -16215691.87 0.0080 0.0012

Pluto -49109-02-05 12:57 J -16215604.10 -16215603.96 -16215603.81 0.0080 0.0020

Pluto -49109-05-03 14:37 J -16215516.03 -16215515.89 -16215515.76 0.0080 0.0028

Pluto -49109-07-30 15:49 J -16215427.96 -16215427.84 -16215427.70 0.0080 0.0036

Pluto -49109-10-26 17:16 J -16215339.89 -16215339.78 -16215339.65 0.0080 0.0044

Pluto -49108-01-22 18:57 J -16215251.82 -16215251.71 -16215251.60 0.0079 0.0052

Pluto -49108-04-20 20:09 J -16215163.75 -16215163.66 -16215163.56 0.0079 0.0060

Pluto -49108-07-17 21:35 J -16215075.67 -16215075.60 -16215075.52 0.0079 0.0067

Pluto -49108-10-13 22:47 J -16214987.58 -16214987.55 -16214987.49 0.0079 0.0075

Earth -49107-02-13 08:23 J -16214865.26 -16214865.15 -16214865.04 0.2665 0.1703

Moon -49107-02-13 08:23 J -16214865.25 -16214865.15 -16214865.05 0.2671 0.1775 *

Jupiter -49106-06-22 02:37 J -16214371.49 -16214371.39 -16214371.28 0.0540 0.0350

Jupiter -49106-09-19 14:52 J -16214281.99 -16214281.88 -16214281.77 0.0540 0.0316

Venus -49105-01-24 13:25 J -16214155.09 -16214154.94 -16214154.79 0.3649 0.0105

Saturn -49105-04-13 14:52 J -16214074.98 -16214074.88 -16214074.78 0.0285 0.0229

Saturn -49105-07-11 10:04 J -16213986.23 -16213986.08 -16213985.91 0.0285 0.0105

Saturn -49105-10-08 05:59 J -16213897.42 -16213897.25 -16213897.08 0.0284 0.0022

Saturn -49104-01-05 02:09 J -16213808.56 -16213808.41 -16213808.26 0.0283 0.0150

Saturn -49104-04-03 22:18 J -16213719.58 -16213719.57 -16213719.53 0.0283 0.0279

Mars -49101-10-06 11:59 J -16212438.13 -16212438.00 -16212437.88 0.1651 0.0409

Moon -49100-02-05 07:40 J -16212316.27 -16212316.18 -16212316.10 0.2668 0.2053

Earth -49100-02-05 08:52 J -16212316.22 -16212316.13 -16212316.04 0.2670 0.1971 *

Jupiter -49100-05-07 01:40 J -16212225.58 -16212225.43 -16212225.28 0.0488 0.0216

Jupiter -49100-08-04 23:45 J -16212135.60 -16212135.51 -16212135.41 0.0487 0.0405

Mars -49098-07-05 11:01 J -16211436.18 -16211436.04 -16211435.91 0.1876 0.0791

Earth -49097-08-15 08:37 J -16211029.25 -16211029.14 -16211029.02 0.2666 0.0333

Moon -49097-08-15 09:06 J -16211029.23 -16211029.12 -16211029.00 0.2672 0.0297 *

Jupiter -49094-04-10 05:16 J -16210061.32 -16210061.28 -16210061.24 0.0539 0.0514

Jupiter -49094-07-08 17:45 J -16209971.89 -16209971.76 -16209971.63 0.0540 0.0156

Mars -49091-02-26 21:06 J -16209007.73 -16209007.62 -16209007.52 0.1646 0.1017

Moon -49090-08-09 01:25 J -16208479.49 -16208479.44 -16208479.38 0.2662 0.2357

Earth -49090-08-09 02:23 J -16208479.46 -16208479.40 -16208479.34 0.2661 0.2285 *

Saturn -49090-08-09 12:28 J -16208479.03 -16208478.98 -16208478.94 0.0274 0.0260

Saturn -49090-11-06 01:11 J -16208390.56 -16208390.45 -16208390.33 0.0275 0.0164

Mars -49089-02-02 08:23 J -16208302.21 -16208302.15 -16208302.09 0.1668 0.1481

Saturn -49089-02-02 13:54 J -16208302.06 -16208301.92 -16208301.79 0.0275 0.0069

Saturn -49089-05-01 02:23 J -16208213.54 -16208213.40 -16208213.26 0.0276 0.0026

Saturn -49089-07-28 14:37 J -16208125.01 -16208124.89 -16208124.76 0.0277 0.0120

Saturn -49089-10-25 02:52 J -16208036.47 -16208036.38 -16208036.29 0.0277 0.0212

Mars -49089-11-24 11:16 J -16208006.17 -16208006.03 -16208005.88 0.1884 0.0435

Uranus -49088-01-20 14:23 J -16207948.95 -16207948.90 -16207948.82 0.0132 0.0116

Jupiter -49088-02-23 01:54 J -16207915.52 -16207915.42 -16207915.31 0.0488 0.0366

Neptune -49088-04-15 14:37 J -16207863.91 -16207863.89 -16207863.84 0.0088 0.0085

Uranus -49088-04-18 17:45 J -16207860.84 -16207860.76 -16207860.65 0.0132 0.0098

Jupiter -49088-05-23 23:45 J -16207825.66 -16207825.51 -16207825.36 0.0488 0.0250

Neptune -49088-07-12 16:33 J -16207775.87 -16207775.81 -16207775.74 0.0088 0.0079

Uranus -49088-07-15 21:21 J -16207772.72 -16207772.61 -16207772.50 0.0132 0.0079

Neptune -49088-10-08 18:13 J -16207687.81 -16207687.74 -16207687.64 0.0088 0.0072

Uranus -49088-10-12 00:42 J -16207684.59 -16207684.47 -16207684.34 0.0132 0.0061

Neptune -49087-01-04 20:09 J -16207599.75 -16207599.66 -16207599.55 0.0088 0.0066

Uranus -49087-01-08 04:04 J -16207596.46 -16207596.33 -16207596.20 0.0132 0.0043

Moon -49087-02-08 09:06 J -16207565.25 -16207565.12 -16207564.99 0.2670 0.0858

Earth -49087-02-08 10:18 J -16207565.21 -16207565.07 -16207564.94 0.2668 0.0709 *

Neptune -49087-04-02 22:04 J -16207511.69 -16207511.58 -16207511.47 0.0089 0.0059

Uranus -49087-04-06 07:25 J -16207508.33 -16207508.19 -16207508.05 0.0132 0.0025

Neptune -49087-06-29 23:45 J -16207423.62 -16207423.51 -16207423.38 0.0089 0.0053

Uranus -49087-07-03 10:47 J -16207420.19 -16207420.05 -16207419.91 0.0132 0.0008

Neptune -49087-09-26 01:40 J -16207335.55 -16207335.43 -16207335.30 0.0089 0.0046

Uranus -49087-09-29 13:54 J -16207332.06 -16207331.92 -16207331.78 0.0132 0.0011

Neptune -49087-12-23 03:21 J -16207247.49 -16207247.36 -16207247.22 0.0089 0.0039

Uranus -49087-12-26 17:16 J -16207243.92 -16207243.78 -16207243.65 0.0132 0.0029

Neptune -49086-03-21 05:16 J -16207159.42 -16207159.28 -16207159.14 0.0089 0.0033

Uranus -49086-03-24 20:23 J -16207155.78 -16207155.65 -16207155.52 0.0132 0.0047

Neptune -49086-06-17 06:57 J -16207071.35 -16207071.21 -16207071.07 0.0089 0.0026

Uranus -49086-06-20 23:45 J -16207067.63 -16207067.51 -16207067.39 0.0132 0.0064

Neptune -49086-09-13 08:37 J -16206983.28 -16206983.14 -16206982.99 0.0089 0.0020

Uranus -49086-09-17 02:52 J -16206979.48 -16206979.38 -16206979.27 0.0132 0.0082

Neptune -49086-12-10 10:33 J -16206895.21 -16206895.06 -16206894.92 0.0089 0.0014

Uranus -49086-12-14 05:59 J -16206891.33 -16206891.25 -16206891.15 0.0132 0.0100

Neptune -49085-03-07 12:13 J -16206807.14 -16206806.99 -16206806.84 0.0089 0.0007

Uranus -49085-03-11 09:06 J -16206803.17 -16206803.12 -16206803.05 0.0132 0.0117

Neptune -49085-06-03 13:54 J -16206719.06 -16206718.92 -16206718.77 0.0089 0.0001

Neptune -49085-08-30 15:35 J -16206630.99 -16206630.85 -16206630.70 0.0089 0.0006

Neptune -49085-11-26 17:16 J -16206542.92 -16206542.78 -16206542.63 0.0089 0.0012

Neptune -49084-02-22 18:57 J -16206454.85 -16206454.71 -16206454.56 0.0089 0.0019

Neptune -49084-05-21 20:52 J -16206366.77 -16206366.63 -16206366.49 0.0089 0.0025

Neptune -49084-08-17 22:18 J -16206278.70 -16206278.57 -16206278.43 0.0089 0.0032

Earth -49084-08-18 04:18 J -16206278.43 -16206278.32 -16206278.22 0.2668 0.1202 *

Moon -49084-08-18 05:01 J -16206278.39 -16206278.29 -16206278.19 0.2668 0.1313 *

Neptune -49084-11-13 23:59 J -16206190.62 -16206190.50 -16206190.36 0.0089 0.0038

Neptune -49083-02-10 01:40 J -16206102.55 -16206102.43 -16206102.30 0.0089 0.0044

Neptune -49083-05-09 03:35 J -16206014.47 -16206014.35 -16206014.23 0.0089 0.0050

Neptune -49083-08-05 05:01 J -16205926.39 -16205926.29 -16205926.17 0.0089 0.0056

Neptune -49083-11-01 06:42 J -16205838.31 -16205838.22 -16205838.11 0.0089 0.0063

Neptune -49082-01-28 08:23 J -16205750.23 -16205750.15 -16205750.05 0.0089 0.0069

Neptune -49082-04-26 10:04 J -16205662.15 -16205662.08 -16205662.00 0.0089 0.0075

Jupiter -49082-04-26 20:23 J -16205661.79 -16205661.65 -16205661.52 0.0540 0.0018

Mars -49082-07-20 05:59 J -16205577.26 -16205577.25 -16205577.23 0.1642 0.1622

Neptune -49082-07-23 11:45 J -16205574.06 -16205574.01 -16205573.95 0.0089 0.0081

Neptune -49082-10-19 13:25 J -16205485.96 -16205485.94 -16205485.91 0.0089 0.0087

Mars -49080-06-24 17:45 J -16204871.87 -16204871.76 -16204871.66 0.1662 0.0881

Mars -49079-04-16 12:13 J -16204576.06 -16204575.99 -16204575.91 0.1890 0.1617

Moon -49077-08-10 21:35 J -16203728.70 -16203728.60 -16203728.49 0.2667 0.1358

Earth -49077-08-10 22:18 J -16203728.67 -16203728.57 -16203728.46 0.2663 0.1348 *

Jupiter -49076-03-11 23:59 J -16203515.66 -16203515.50 -16203515.33 0.0488 0.0102

Saturn -49076-08-31 14:37 J -16203342.95 -16203342.89 -16203342.83 0.0285 0.0266

Saturn -49076-11-28 10:04 J -16203254.23 -16203254.08 -16203253.94 0.0285 0.0142

Saturn -49075-02-25 05:45 J -16203165.43 -16203165.26 -16203165.09 0.0284 0.0016

Saturn -49075-05-25 01:40 J -16203076.58 -16203076.43 -16203076.27 0.0284 0.0111

Saturn -49075-08-21 22:04 J -16202987.67 -16202987.58 -16202987.49 0.0283 0.0240

Moon -49074-02-11 11:16 J -16202814.16 -16202814.03 -16202813.89 0.2672 0.0637

Earth -49074-02-11 11:59 J -16202814.13 -16202814.00 -16202813.86 0.2666 0.0598 *

Venus -49074-10-03 06:42 J -16202580.28 -16202580.22 -16202580.16 0.3723 0.3050

Earth -49071-08-20 23:30 J -16201527.59 -16201527.52 -16201527.45 0.2669 0.2067

Moon -49071-08-21 00:13 J -16201527.56 -16201527.49 -16201527.42 0.2667 0.2123 *

Mars -49071-11-15 02:52 J -16201441.50 -16201441.38 -16201441.25 0.1657 0.0283

Jupiter -49070-02-12 22:04 J -16201351.71 -16201351.58 -16201351.45 0.0540 0.0189

Jupiter -49070-05-13 09:49 J -16201262.15 -16201262.09 -16201262.02 0.0541 0.0470

Venus -49068-04-17 23:01 J -16200556.64 -16200556.54 -16200556.43 0.3727 0.0813

Jupiter -49065-12-29 00:42 J -16199205.64 -16199205.47 -16199205.30 0.0488 0.0047

Moon -49064-08-13 18:13 J -16198977.86 -16198977.74 -16198977.62 0.2672 0.0485

Earth -49064-08-13 18:13 J -16198977.86 -16198977.74 -16198977.62 0.2665 0.0426 *

Venus -49063-11-01 15:21 J -16198532.96 -16198532.86 -16198532.76 0.3732 0.1409

Earth -49061-02-14 14:23 J -16198063.00 -16198062.90 -16198062.81 0.2664 0.1939

Moon -49061-02-14 14:37 J -16198062.99 -16198062.89 -16198062.79 0.2671 0.1887 *

Mars -49061-04-06 11:59 J -16198011.13 -16198011.00 -16198010.87 0.1651 0.0328

Saturn -49060-03-25 03:35 J -16197658.45 -16197658.35 -16197658.25 0.0274 0.0189

Saturn -49060-06-21 16:18 J -16197569.96 -16197569.82 -16197569.69 0.0275 0.0094

Saturn -49060-09-18 04:47 J -16197481.44 -16197481.30 -16197481.16 0.0275 0.0003

Saturn -49060-12-15 17:01 J -16197392.92 -16197392.79 -16197392.66 0.0276 0.0094

Saturn -49059-03-14 05:16 J -16197304.38 -16197304.28 -16197304.18 0.0276 0.0187

Jupiter -49059-12-02 00:57 J -16197041.56 -16197041.46 -16197041.36 0.0540 0.0350

Mars -49058-01-03 11:01 J -16197009.17 -16197009.04 -16197008.91 0.1876 0.0898

Jupiter -49058-03-01 13:11 J -16196952.06 -16196951.95 -16196951.85 0.0541 0.0316

Venus -49057-05-17 07:25 J -16196509.21 -16196509.19 -16196509.16 0.3737 0.3601

Moon -49054-02-06 13:25 J -16195514.04 -16195513.94 -16195513.84 0.2667 0.1832

Earth -49054-02-06 14:37 J -16195513.99 -16195513.89 -16195513.78 0.2670 0.1752 *

Venus -49054-02-14 08:52 J -16195506.15 -16195506.13 -16195506.10 0.3654 0.3598

Jupiter -49053-10-17 00:42 J -16194895.62 -16194895.47 -16194895.31 0.0488 0.0200

Jupiter -49052-01-14 22:47 J -16194805.63 -16194805.55 -16194805.46 0.0487 0.0420

Mars -49052-08-27 21:06 J -16194580.72 -16194580.62 -16194580.51 0.1647 0.0930

Earth -49051-08-16 13:54 J -16194227.04 -16194226.92 -16194226.81 0.2666 0.0481

Moon -49051-08-16 14:23 J -16194227.02 -16194226.90 -16194226.79 0.2671 0.0585 *

Mars -49050-08-03 08:23 J -16193875.19 -16193875.15 -16193875.11 0.1668 0.1561

Mars -49049-05-25 11:59 J -16193579.14 -16193579.00 -16193578.86 0.1883 0.0291

Venus -49049-08-30 14:52 J -16193482.01 -16193481.88 -16193481.75 0.3648 0.1890

Jupiter -49047-09-20 03:49 J -16192731.38 -16192731.34 -16192731.29 0.0539 0.0508

Jupiter -49047-12-18 16:33 J -16192641.94 -16192641.81 -16192641.69 0.0540 0.0165

Uranus -49046-01-22 02:09 J -16192607.48 -16192607.41 -16192607.33 0.0147 0.0131

Saturn -49046-04-17 07:25 J -16192522.31 -16192522.19 -16192522.07 0.0285 0.0192

Uranus -49046-04-20 09:21 J -16192519.23 -16192519.11 -16192518.97 0.0147 0.0100

Saturn -49046-07-15 02:52 J -16192433.54 -16192433.38 -16192433.21 0.0285 0.0068

Uranus -49046-07-17 16:47 J -16192430.95 -16192430.80 -16192430.64 0.0147 0.0069

Saturn -49046-10-11 22:47 J -16192344.72 -16192344.55 -16192344.38 0.0284 0.0059

Uranus -49046-10-14 00:13 J -16192342.66 -16192342.49 -16192342.31 0.0147 0.0037

Saturn -49045-01-08 18:57 J -16192255.83 -16192255.71 -16192255.58 0.0283 0.0188

Uranus -49045-01-10 07:54 J -16192254.35 -16192254.17 -16192253.99 0.0147 0.0005

Uranus -49045-04-07 15:21 J -16192166.03 -16192165.86 -16192165.68 0.0147 0.0028

Uranus -49045-07-04 23:01 J -16192077.71 -16192077.54 -16192077.38 0.0147 0.0060

Uranus -49045-10-01 06:28 J -16191989.36 -16191989.23 -16191989.08 0.0147 0.0093

Uranus -49045-12-28 14:09 J -16191900.99 -16191900.91 -16191900.81 0.0147 0.0126

Moon -49044-08-09 06:42 J -16191677.29 -16191677.22 -16191677.16 0.2663 0.2206

Earth -49044-08-09 07:25 J -16191677.26 -16191677.19 -16191677.11 0.2661 0.2115 *

Mars -49042-01-18 06:13 J -16191150.28 -16191150.24 -16191150.20 0.1642 0.1533

Moon -49041-02-09 15:06 J -16190763.01 -16190762.87 -16190762.74 0.2672 0.0538

Earth -49041-02-09 16:04 J -16190762.97 -16190762.83 -16190762.69 0.2668 0.0490 *

Jupiter -49041-08-05 01:11 J -16190585.56 -16190585.45 -16190585.33 0.0488 0.0348

Jupiter -49041-11-02 22:47 J -16190495.69 -16190495.55 -16190495.40 0.0487 0.0266

Mars -49041-12-23 17:45 J -16190444.86 -16190444.76 -16190444.65 0.1662 0.0966

Mars -49040-10-15 12:42 J -16190149.06 -16190148.97 -16190148.89 0.1890 0.1500

Earth -49038-08-19 09:21 J -16189476.21 -16189476.11 -16189476.01 0.2668 0.1361

Moon -49038-08-19 10:04 J -16189476.18 -16189476.08 -16189475.98 0.2668 0.1374 *

Jupiter -49035-10-06 19:25 J -16188331.83 -16188331.69 -16188331.56 0.0540 0.0019

Mars -49031-05-16 03:06 J -16187014.50 -16187014.37 -16187014.25 0.1657 0.0366

Moon -49031-08-12 03:06 J -16186926.48 -16186926.37 -16186926.27 0.2668 0.1252

Earth -49031-08-12 03:35 J -16186926.46 -16186926.35 -16186926.25 0.2663 0.1177 *

Saturn -49031-08-12 04:04 J -16186926.40 -16186926.33 -16186926.24 0.0274 0.0226 *

Saturn -49031-11-08 17:01 J -16186837.92 -16186837.79 -16186837.67 0.0275 0.0130

Saturn -49030-02-05 05:30 J -16186749.41 -16186749.27 -16186749.13 0.0275 0.0036

Saturn -49030-05-04 17:59 J -16186660.89 -16186660.75 -16186660.61 0.0276 0.0058

Saturn -49030-08-01 06:13 J -16186572.36 -16186572.24 -16186572.12 0.0277 0.0152

Saturn -49030-10-28 18:13 J -16186483.80 -16186483.74 -16186483.67 0.0277 0.0244

Jupiter -49029-08-21 22:47 J -16186185.71 -16186185.55 -16186185.38 0.0488 0.0112

Moon -49028-02-11 17:30 J -16186011.91 -16186011.77 -16186011.64 0.2672 0.0704

Earth -49028-02-11 17:59 J -16186011.88 -16186011.75 -16186011.61 0.2666 0.0828 *

Earth -49025-08-21 04:33 J -16184725.37 -16184725.31 -16184725.25 0.2670 0.2221

Moon -49025-08-21 05:16 J -16184725.34 -16184725.28 -16184725.23 0.2665 0.2285 *

Jupiter -49023-07-25 21:49 J -16184021.72 -16184021.59 -16184021.46 0.0539 0.0164

Jupiter -49023-10-23 09:21 J -16183932.16 -16183932.11 -16183932.05 0.0540 0.0493

Mars -49022-10-06 12:13 J -16183584.12 -16183583.99 -16183583.86 0.1652 0.0238

Mars -49019-07-04 11:45 J -16182582.14 -16182582.01 -16182581.89 0.1876 0.1035

Earth -49018-08-14 23:16 J -16182175.65 -16182175.53 -16182175.41 0.2665 0.0260

Moon -49018-08-14 23:16 J -16182175.64 -16182175.53 -16182175.41 0.2672 0.0219 *

Venus -49017-05-09 04:18 J -16181907.40 -16181907.32 -16181907.23 0.3724 0.2208

Jupiter -49017-06-09 23:16 J -16181875.69 -16181875.53 -16181875.36 0.0488 0.0037

Saturn -49017-09-03 07:11 J -16181790.30 -16181790.20 -16181790.10 0.0285 0.0230

Saturn -49017-12-01 02:37 J -16181701.54 -16181701.39 -16181701.23 0.0285 0.0105

Saturn -49016-02-27 22:33 J -16181612.73 -16181612.56 -16181612.39 0.0284 0.0021

Saturn -49016-05-27 18:28 J -16181523.87 -16181523.73 -16181523.58 0.0283 0.0149

Saturn -49016-08-24 14:52 J -16181434.90 -16181434.88 -16181434.84 0.0283 0.0278

Earth -49015-02-14 20:23 J -16181260.73 -16181260.65 -16181260.57 0.2664 0.2175

Moon -49015-02-14 20:52 J -16181260.70 -16181260.63 -16181260.56 0.2670 0.2315 *

Mars -49012-02-25 21:21 J -16180153.72 -16180153.61 -16180153.50 0.1646 0.0843

Venus -49012-11-22 20:37 J -16179883.74 -16179883.64 -16179883.53 0.3728 0.0113

Jupiter -49011-05-13 23:16 J -16179711.63 -16179711.53 -16179711.42 0.0539 0.0348

Jupiter -49011-08-11 11:30 J -16179622.13 -16179622.02 -16179621.91 0.0540 0.0319

Mars -49010-02-01 08:37 J -16179448.16 -16179448.14 -16179448.13 0.1668 0.1647

Mars -49010-11-24 11:59 J -16179152.14 -16179152.00 -16179151.85 0.1883 0.0192

Moon -49008-02-06 19:11 J -16178711.81 -16178711.70 -16178711.59 0.2668 0.1648

Earth -49008-02-06 20:23 J -16178711.76 -16178711.65 -16178711.53 0.2669 0.1532 *

Venus -49006-06-08 12:57 J -16177860.04 -16177859.96 -16177859.88 0.3733 0.2231

Neptune -49006-07-05 16:04 J -16177832.87 -16177832.83 -16177832.76 0.0089 0.0084

Neptune -49006-10-01 18:57 J -16177744.79 -16177744.71 -16177744.62 0.0089 0.0076

Neptune -49006-12-28 21:21 J -16177656.70 -16177656.61 -16177656.49 0.0089 0.0069

Neptune -49005-03-25 23:59 J -16177568.61 -16177568.50 -16177568.37 0.0089 0.0062

Jupiter -49005-03-28 23:59 J -16177565.65 -16177565.50 -16177565.34 0.0488 0.0182

Neptune -49005-06-22 02:37 J -16177480.52 -16177480.39 -16177480.25 0.0089 0.0054

Jupiter -49005-06-26 22:04 J -16177475.65 -16177475.58 -16177475.50 0.0487 0.0440

Earth -49005-08-16 18:57 J -16177424.83 -16177424.71 -16177424.60 0.2667 0.0641

Moon -49005-08-16 19:40 J -16177424.80 -16177424.68 -16177424.57 0.2670 0.0636 *

Neptune -49005-09-18 05:16 J -16177392.42 -16177392.28 -16177392.13 0.0089 0.0047

Uranus -49005-11-13 18:57 J -16177335.74 -16177335.71 -16177335.67 0.0132 0.0126

Neptune -49005-12-15 08:09 J -16177304.32 -16177304.16 -16177304.01 0.0089 0.0039

Uranus -49004-02-09 22:18 J -16177247.64 -16177247.57 -16177247.48 0.0132 0.0108

Neptune -49004-03-13 10:33 J -16177216.21 -16177216.06 -16177215.89 0.0089 0.0032

Uranus -49004-05-09 01:40 J -16177159.52 -16177159.43 -16177159.32 0.0132 0.0090

Neptune -49004-06-09 13:25 J -16177128.11 -16177127.94 -16177127.78 0.0089 0.0024

Uranus -49004-08-05 05:16 J -16177071.40 -16177071.28 -16177071.16 0.0132 0.0071

Neptune -49004-09-05 16:04 J -16177040.00 -16177039.83 -16177039.66 0.0089 0.0017

Uranus -49004-11-01 08:37 J -16176983.27 -16176983.14 -16176983.01 0.0132 0.0053

Neptune -49004-12-02 18:42 J -16176951.89 -16176951.72 -16176951.55 0.0089 0.0009

Uranus -49003-01-28 11:59 J -16176895.14 -16176895.00 -16176894.87 0.0132 0.0035

Neptune -49003-02-28 21:21 J -16176863.78 -16176863.61 -16176863.43 0.0089 0.0002

Uranus -49003-04-26 15:06 J -16176807.00 -16176806.87 -16176806.73 0.0132 0.0018

Neptune -49003-05-27 23:59 J -16176775.67 -16176775.50 -16176775.32 0.0089 0.0007

Mars -49003-07-19 06:13 J -16176723.29 -16176723.24 -16176723.18 0.1642 0.1448

Uranus -49003-07-23 18:28 J -16176718.87 -16176718.73 -16176718.59 0.0132 0.0003

Neptune -49003-08-24 02:52 J -16176687.55 -16176687.38 -16176687.21 0.0089 0.0014

Uranus -49003-10-19 21:49 J -16176630.73 -16176630.59 -16176630.45 0.0132 0.0019

Neptune -49003-11-20 05:16 J -16176599.44 -16176599.28 -16176599.10 0.0089 0.0022

Uranus -49002-01-16 00:57 J -16176542.59 -16176542.46 -16176542.32 0.0132 0.0037

Neptune -49002-02-16 08:23 J -16176511.32 -16176511.15 -16176510.99 0.0089 0.0029

Uranus -49002-04-14 04:18 J -16176454.45 -16176454.32 -16176454.19 0.0132 0.0054

Neptune -49002-05-15 10:47 J -16176423.20 -16176423.05 -16176422.88 0.0089 0.0037

Uranus -49002-07-11 07:25 J -16176366.30 -16176366.19 -16176366.07 0.0132 0.0072

Neptune -49002-08-11 13:25 J -16176335.08 -16176334.94 -16176334.78 0.0089 0.0045

Uranus -49002-10-07 10:33 J -16176278.15 -16176278.06 -16176277.95 0.0132 0.0090

Neptune -49002-11-07 16:04 J -16176246.95 -16176246.83 -16176246.67 0.0089 0.0053

Saturn -49002-12-30 06:42 J -16176194.27 -16176194.22 -16176194.16 0.0274 0.0249

Uranus -49001-01-03 13:54 J -16176190.00 -16176189.92 -16176189.84 0.0132 0.0107

Neptune -49001-02-03 19:11 J -16176158.82 -16176158.70 -16176158.57 0.0089 0.0060

Saturn -49001-03-27 19:40 J -16176105.80 -16176105.68 -16176105.56 0.0274 0.0153

Uranus -49001-03-31 17:01 J -16176101.83 -16176101.79 -16176101.74 0.0132 0.0125

Neptune -49001-05-01 21:49 J -16176070.69 -16176070.59 -16176070.47 0.0089 0.0068

Mars -49001-06-23 17:59 J -16176017.85 -16176017.75 -16176017.66 0.1662 0.1049

Saturn -49001-06-24 08:09 J -16176017.29 -16176017.16 -16176017.02 0.0275 0.0059

Neptune -49001-07-29 00:42 J -16175982.55 -16175982.47 -16175982.37 0.0089 0.0076

Saturn -49001-09-20 20:37 J -16175928.78 -16175928.64 -16175928.50 0.0275 0.0035

Neptune -49001-10-25 03:21 J -16175894.40 -16175894.36 -16175894.29 0.0089 0.0084

Saturn -49001-12-18 08:52 J -16175840.25 -16175840.13 -16175840.00 0.0276 0.0129

49TH MILLENNIUM BCE

This is a list of transits of Mercury in the 49th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Saturn -49000-03-16 21:06 J -16175751.70 -16175751.62 -16175751.54 0.0276 0.0221

Mars -49000-04-15 12:57 J -16175722.05 -16175721.96 -16175721.86 0.1891 0.1374

Jupiter -48999-03-02 01:54 J -16175401.45 -16175401.42 -16175401.37 0.0539 0.0511

Jupiter -48999-05-30 14:37 J -16175312.02 -16175311.89 -16175311.76 0.0540 0.0161

Moon -48998-08-10 11:45 J -16174875.09 -16174875.01 -16174874.93 0.2663 0.1983

Earth -48998-08-10 12:42 J -16174875.05 -16174874.97 -16174874.89 0.2662 0.1940 *

Venus -48998-09-21 10:04 J -16174833.21 -16174833.08 -16174832.94 0.3652 0.1719

Moon -48995-02-09 20:52 J -16173960.76 -16173960.63 -16173960.49 0.2672 0.0359

Earth -48995-02-09 22:04 J -16173960.72 -16173960.58 -16173960.44 0.2667 0.0257 *

Jupiter -48993-01-16 00:13 J -16173255.61 -16173255.49 -16173255.37 0.0488 0.0334

Jupiter -48993-04-14 21:49 J -16173165.73 -16173165.59 -16173165.45 0.0487 0.0280

Earth -48992-08-19 14:23 J -16172674.00 -16172673.90 -16172673.81 0.2668 0.1516

Moon -48992-08-19 15:06 J -16172673.96 -16172673.87 -16172673.78 0.2669 0.1645 *

Mars -48992-11-14 03:06 J -16172587.49 -16172587.37 -16172587.25 0.1657 0.0449

Saturn -48987-01-21 05:01 J -16171058.32 -16171058.29 -16171058.24 0.0286 0.0277

Jupiter -48987-03-18 17:59 J -16171001.89 -16171001.75 -16171001.62 0.0540 0.0020

Saturn -48987-04-20 00:28 J -16170969.62 -16170969.48 -16170969.34 0.0285 0.0153

Saturn -48987-07-17 20:09 J -16170880.83 -16170880.66 -16170880.49 0.0285 0.0028

Saturn -48987-10-14 16:04 J -16170791.99 -16170791.83 -16170791.67 0.0284 0.0100

Saturn -48986-01-11 12:13 J -16170703.08 -16170702.99 -16170702.88 0.0283 0.0228

Moon -48985-08-12 08:23 J -16170124.26 -16170124.15 -16170124.05 0.2669 0.1044

Earth -48985-08-12 08:37 J -16170124.25 -16170124.14 -16170124.03 0.2663 0.1008 *

Moon -48982-02-12 23:30 J -16169209.64 -16169209.52 -16169209.39 0.2672 0.1092

Earth -48982-02-12 23:59 J -16169209.63 -16169209.50 -16169209.37 0.2665 0.1054 *

Mars -48982-04-06 12:13 J -16169157.11 -16169156.99 -16169156.86 0.1652 0.0164

Jupiter -48982-11-04 00:42 J -16168945.49 -16168945.47 -16168945.44 0.0488 0.0481

Jupiter -48981-02-01 21:49 J -16168855.75 -16168855.59 -16168855.42 0.0487 0.0127

Mars -48979-01-02 11:59 J -16168155.11 -16168155.00 -16168154.88 0.1876 0.1160

Earth -48979-08-22 09:35 J -16167923.15 -16167923.10 -16167923.05 0.2670 0.2377

Moon -48979-08-22 10:04 J -16167923.13 -16167923.08 -16167923.03 0.2664 0.2362 *

Jupiter -48975-01-04 20:37 J -16166691.77 -16166691.64 -16166691.50 0.0540 0.0153

Earth -48975-02-05 01:11 J -16166660.49 -16166660.45 -16166660.41 0.2671 0.2537

Jupiter -48975-04-04 08:23 J -16166602.19 -16166602.15 -16166602.10 0.0540 0.0504

Mars -48973-08-26 21:35 J -16165726.72 -16165726.60 -16165726.49 0.1647 0.0756

Saturn -48972-08-14 20:23 J -16165373.75 -16165373.65 -16165373.55 0.0274 0.0190

Earth -48972-08-15 04:18 J -16165373.44 -16165373.32 -16165373.20 0.2665 0.0116

Moon -48972-08-15 04:33 J -16165373.43 -16165373.31 -16165373.19 0.2672 0.0126 *

Saturn -48972-11-11 09:06 J -16165285.25 -16165285.12 -16165284.99 0.0275 0.0094

Saturn -48971-02-07 21:35 J -16165196.74 -16165196.60 -16165196.46 0.0276 0.0001

Saturn -48971-05-07 09:49 J -16165108.22 -16165108.09 -16165107.95 0.0276 0.0095

Saturn -48971-08-03 22:04 J -16165019.68 -16165019.58 -16165019.47 0.0277 0.0187

Mars -48970-05-25 12:28 J -16164725.12 -16164724.98 -16164724.83 0.1883 0.0078

Jupiter -48970-11-20 21:49 J -16164545.75 -16164545.59 -16164545.42 0.0488 0.0030

Earth -48969-02-16 02:23 J -16164458.46 -16164458.40 -16164458.35 0.2664 0.2414

Moon -48969-02-16 02:52 J -16164458.44 -16164458.38 -16164458.32 0.2670 0.2371 *

Venus -48966-05-31 09:35 J -16163258.12 -16163258.10 -16163258.08 0.3721 0.3625

Jupiter -48964-10-23 23:01 J -16162381.65 -16162381.54 -16162381.43 0.0539 0.0322

Mars -48963-01-17 06:28 J -16162296.30 -16162296.23 -16162296.16 0.1642 0.1357

Jupiter -48963-01-21 11:16 J -16162292.14 -16162292.03 -16162291.93 0.0540 0.0342

Moon -48962-02-08 01:11 J -16161909.57 -16161909.45 -16161909.33 0.2669 0.1339

Earth -48962-02-08 02:23 J -16161909.52 -16161909.40 -16161909.28 0.2669 0.1310 *

Uranus -48962-02-11 10:04 J -16161906.17 -16161906.08 -16161905.97 0.0147 0.0121

Uranus -48962-05-10 17:30 J -16161817.91 -16161817.77 -16161817.63 0.0147 0.0090

Uranus -48962-08-07 00:42 J -16161729.62 -16161729.47 -16161729.30 0.0147 0.0058

Uranus -48962-11-03 08:23 J -16161641.33 -16161641.15 -16161640.98 0.0147 0.0026

Mars -48962-12-23 17:59 J -16161590.84 -16161590.75 -16161590.66 0.1662 0.1133

Uranus -48961-01-30 15:49 J -16161553.02 -16161552.84 -16161552.66 0.0147 0.0006

Uranus -48961-04-27 23:16 J -16161464.70 -16161464.53 -16161464.35 0.0147 0.0039

Uranus -48961-07-25 06:57 J -16161376.36 -16161376.21 -16161376.05 0.0147 0.0071

Mars -48961-10-14 13:25 J -16161295.05 -16161294.94 -16161294.84 0.1890 0.1257

Uranus -48961-10-21 14:23 J -16161288.01 -16161287.90 -16161287.76 0.0147 0.0104

Venus -48961-12-14 01:54 J -16161234.51 -16161234.42 -16161234.32 0.3725 0.1377

Uranus -48960-01-17 22:04 J -16161199.63 -16161199.58 -16161199.50 0.0147 0.0137

Earth -48959-08-17 23:59 J -16160622.61 -16160622.50 -16160622.39 0.2667 0.0799

Moon -48959-08-18 00:42 J -16160622.58 -16160622.47 -16160622.36 0.2670 0.0921 *

Saturn -48958-09-07 00:13 J -16160237.61 -16160237.49 -16160237.37 0.0285 0.0191

Jupiter -48958-09-08 22:33 J -16160235.72 -16160235.56 -16160235.40 0.0488 0.0173

Saturn -48958-12-04 19:40 J -16160148.84 -16160148.68 -16160148.51 0.0285 0.0066

Jupiter -48958-12-07 20:37 J -16160145.70 -16160145.64 -16160145.57 0.0487 0.0450

Saturn -48957-03-02 15:35 J -16160060.02 -16160059.85 -16160059.68 0.0284 0.0061

Saturn -48957-05-30 11:45 J -16159971.13 -16159971.01 -16159970.88 0.0283 0.0189

Venus -48955-06-29 18:13 J -16159210.84 -16159210.74 -16159210.64 0.3730 0.0846

Pluto -48955-10-23 05:01 J -16159095.29 -16159095.29 -16159095.28 0.0063 0.0063

Pluto -48954-01-19 05:59 J -16159007.30 -16159007.25 -16159007.18 0.0063 0.0059

Pluto -48954-04-17 06:57 J -16158919.28 -16158919.21 -16158919.11 0.0063 0.0054

Pluto -48954-07-14 08:09 J -16158831.25 -16158831.16 -16158831.04 0.0063 0.0050

Pluto -48954-10-10 09:06 J -16158743.22 -16158743.12 -16158742.98 0.0063 0.0045

Pluto -48953-01-06 10:18 J -16158655.18 -16158655.07 -16158654.92 0.0063 0.0041

Pluto -48953-04-03 11:30 J -16158567.15 -16158567.02 -16158566.87 0.0064 0.0036

Pluto -48953-06-30 12:57 J -16158479.11 -16158478.96 -16158478.81 0.0064 0.0031

Pluto -48953-09-26 13:40 J -16158391.07 -16158390.93 -16158390.76 0.0064 0.0027

Pluto -48953-12-23 15:06 J -16158303.02 -16158302.87 -16158302.70 0.0064 0.0022

Pluto -48952-03-21 16:18 J -16158214.98 -16158214.82 -16158214.65 0.0064 0.0017

Mars -48952-05-15 03:21 J -16158160.48 -16158160.36 -16158160.24 0.1657 0.0535

Pluto -48952-06-17 17:30 J -16158126.93 -16158126.77 -16158126.60 0.0064 0.0012

Moon -48952-08-10 17:01 J -16158072.87 -16158072.79 -16158072.71 0.2664 0.1879

Earth -48952-08-10 17:45 J -16158072.85 -16158072.76 -16158072.67 0.2662 0.1771 *

Jupiter -48952-08-12 00:28 J -16158071.52 -16158071.48 -16158071.43 0.0539 0.0508

Pluto -48952-09-13 18:42 J -16158038.89 -16158038.72 -16158038.54 0.0064 0.0007

Jupiter -48952-11-09 12:57 J -16157982.09 -16157981.96 -16157981.83 0.0540 0.0164

Pluto -48952-12-10 19:54 J -16157950.84 -16157950.67 -16157950.49 0.0064 0.0003

Pluto -48951-03-08 21:06 J -16157862.79 -16157862.62 -16157862.44 0.0064 0.0003

Pluto -48951-06-04 22:18 J -16157774.74 -16157774.57 -16157774.39 0.0064 0.0008

Pluto -48951-08-31 23:45 J -16157686.68 -16157686.51 -16157686.35 0.0064 0.0013

Pluto -48951-11-28 00:57 J -16157598.63 -16157598.46 -16157598.30 0.0064 0.0018

Pluto -48950-02-24 02:09 J -16157510.57 -16157510.41 -16157510.25 0.0065 0.0023

Pluto -48950-05-23 03:21 J -16157422.51 -16157422.36 -16157422.20 0.0065 0.0028

Pluto -48950-08-19 04:33 J -16157334.45 -16157334.31 -16157334.16 0.0065 0.0033

Pluto -48950-11-15 05:30 J -16157246.39 -16157246.27 -16157246.11 0.0065 0.0039

Venus -48949-01-13 10:33 J -16157187.12 -16157187.06 -16157187.01 0.3734 0.3054

Moon -48949-02-11 02:52 J -16157158.52 -16157158.38 -16157158.24 0.2671 0.0123

Earth -48949-02-11 03:49 J -16157158.48 -16157158.34 -16157158.20 0.2667 0.0059 *

Pluto -48949-02-11 06:42 J -16157158.33 -16157158.22 -16157158.07 0.0065 0.0044 *

Pluto -48949-05-09 08:09 J -16157070.26 -16157070.16 -16157070.03 0.0065 0.0049

Pluto -48949-08-05 09:35 J -16156982.18 -16156982.10 -16156982.00 0.0065 0.0054

Pluto -48949-11-01 11:01 J -16156894.10 -16156894.04 -16156893.97 0.0065 0.0060

Pluto -48948-01-28 12:13 J -16156805.99 -16156805.99 -16156805.97 0.0065 0.0065

Jupiter -48946-06-27 23:16 J -16155925.66 -16155925.53 -16155925.40 0.0488 0.0318

Earth -48946-08-20 19:25 J -16155871.78 -16155871.69 -16155871.60 0.2669 0.1675

Moon -48946-08-20 20:09 J -16155871.75 -16155871.66 -16155871.57 0.2668 0.1669 *

Jupiter -48946-09-25 20:52 J -16155835.76 -16155835.63 -16155835.49 0.0487 0.0298

Mars -48943-10-05 12:28 J -16154730.11 -16154729.98 -16154729.85 0.1652 0.0072

Saturn -48942-01-01 23:16 J -16154641.62 -16154641.53 -16154641.44 0.0274 0.0211

Saturn -48942-03-31 11:59 J -16154553.13 -16154553.00 -16154552.87 0.0274 0.0116

Saturn -48942-06-28 00:28 J -16154464.62 -16154464.48 -16154464.34 0.0275 0.0022

Saturn -48942-09-24 12:57 J -16154376.10 -16154375.96 -16154375.83 0.0276 0.0072

Saturn -48942-12-22 01:11 J -16154287.56 -16154287.45 -16154287.34 0.0276 0.0165

Saturn -48941-03-19 13:11 J -16154199.00 -16154198.95 -16154198.90 0.0277 0.0257

Venus -48941-04-27 11:30 J -16154160.17 -16154160.02 -16154159.87 0.3651 0.0207

Mars -48940-07-03 12:28 J -16153728.09 -16153727.98 -16153727.88 0.1876 0.1277

Jupiter -48940-08-28 15:49 J -16153671.97 -16153671.84 -16153671.70 0.0540 0.0013

Moon -48939-08-13 13:25 J -16153322.05 -16153321.94 -16153321.83 0.2671 0.0846

Earth -48939-08-13 13:40 J -16153322.04 -16153321.93 -16153321.81 0.2664 0.0844 *

Moon -48936-02-13 05:45 J -16152407.38 -16152407.26 -16152407.13 0.2672 0.1259

Earth -48936-02-13 05:59 J -16152407.38 -16152407.25 -16152407.13 0.2665 0.1291 *

Jupiter -48934-04-15 23:30 J -16151615.56 -16151615.52 -16151615.48 0.0488 0.0469

Jupiter -48934-07-14 20:37 J -16151525.80 -16151525.64 -16151525.48 0.0487 0.0139

Mars -48933-02-25 21:35 J -16151299.72 -16151299.60 -16151299.48 0.1647 0.0667

Earth -48933-08-22 14:37 J -16151120.92 -16151120.89 -16151120.86 0.2670 0.2526

Moon -48933-08-22 15:06 J -16151120.89 -16151120.87 -16151120.85 0.2664 0.2610 *

Mars -48931-11-23 13:11 J -16150298.10 -16150297.95 -16150297.81 0.1883 0.0095

Moon -48929-02-06 05:59 J -16149858.32 -16149858.25 -16149858.18 0.2666 0.2296

Earth -48929-02-06 06:57 J -16149858.27 -16149858.21 -16149858.14 0.2671 0.2322 *

Saturn -48928-01-23 22:47 J -16149505.64 -16149505.55 -16149505.45 0.0286 0.0234

Saturn -48928-04-22 18:13 J -16149416.89 -16149416.74 -16149416.58 0.0285 0.0110

Jupiter -48928-06-16 18:57 J -16149361.84 -16149361.71 -16149361.58 0.0540 0.0153

Saturn -48928-07-20 13:54 J -16149328.09 -16149327.92 -16149327.74 0.0284 0.0018

Jupiter -48928-09-14 06:42 J -16149272.26 -16149272.22 -16149272.17 0.0541 0.0507

Saturn -48928-10-17 10:04 J -16149239.23 -16149239.08 -16149238.93 0.0284 0.0144

Saturn -48927-01-14 06:28 J -16149150.27 -16149150.23 -16149150.19 0.0283 0.0272

Earth -48926-08-16 09:35 J -16148571.22 -16148571.10 -16148570.99 0.2665 0.0118

Moon -48926-08-16 09:49 J -16148571.21 -16148571.09 -16148570.97 0.2671 0.0115 *

Mars -48924-07-18 06:42 J -16147869.30 -16147869.22 -16147869.14 0.1642 0.1270

Neptune -48923-01-10 13:11 J -16147692.99 -16147692.95 -16147692.91 0.0088 0.0085

Earth -48923-02-16 08:23 J -16147656.16 -16147656.15 -16147656.14 0.2663 0.2650

Neptune -48923-04-08 14:52 J -16147604.94 -16147604.88 -16147604.80 0.0089 0.0078

Neptune -48923-07-05 16:47 J -16147516.88 -16147516.80 -16147516.71 0.0089 0.0072

Neptune -48923-10-01 18:42 J -16147428.82 -16147428.72 -16147428.62 0.0089 0.0065

Neptune -48923-12-28 20:23 J -16147340.75 -16147340.65 -16147340.53 0.0089 0.0058

Neptune -48922-03-26 22:18 J -16147252.69 -16147252.57 -16147252.45 0.0089 0.0052

Jupiter -48922-05-02 20:52 J -16147215.80 -16147215.63 -16147215.46 0.0488 0.0014

Neptune -48922-06-22 23:59 J -16147164.62 -16147164.50 -16147164.37 0.0089 0.0045

Mars -48922-06-23 18:13 J -16147163.83 -16147163.74 -16147163.66 0.1663 0.1218

Neptune -48922-09-19 01:54 J -16147076.55 -16147076.42 -16147076.29 0.0089 0.0039

Neptune -48922-12-16 03:35 J -16146988.48 -16146988.35 -16146988.21 0.0089 0.0032

Neptune -48921-03-13 05:30 J -16146900.41 -16146900.27 -16146900.13 0.0089 0.0026

Mars -48921-04-14 13:40 J -16146868.04 -16146867.93 -16146867.81 0.1890 0.1132

Neptune -48921-06-09 07:11 J -16146812.34 -16146812.20 -16146812.06 0.0089 0.0019

Neptune -48921-09-05 08:52 J -16146724.27 -16146724.13 -16146723.98 0.0089 0.0013

Neptune -48921-12-02 10:33 J -16146636.20 -16146636.06 -16146635.91 0.0089 0.0007

Uranus -48921-12-04 02:52 J -16146634.44 -16146634.38 -16146634.32 0.0132 0.0118

Neptune -48920-02-28 12:28 J -16146548.13 -16146547.98 -16146547.84 0.0089 0.0002

Uranus -48920-03-02 06:13 J -16146546.33 -16146546.24 -16146546.15 0.0132 0.0100

Neptune -48920-05-27 14:09 J -16146460.06 -16146459.91 -16146459.77 0.0089 0.0006

Uranus -48920-05-29 09:35 J -16146458.20 -16146458.10 -16146457.98 0.0132 0.0081

Neptune -48920-08-23 15:49 J -16146371.98 -16146371.84 -16146371.70 0.0089 0.0013

Uranus -48920-08-25 12:57 J -16146370.08 -16146369.96 -16146369.83 0.0132 0.0063

Neptune -48920-11-19 17:30 J -16146283.91 -16146283.77 -16146283.63 0.0089 0.0019

Uranus -48920-11-21 16:18 J -16146281.95 -16146281.82 -16146281.68 0.0132 0.0045

Neptune -48919-02-15 19:11 J -16146195.84 -16146195.70 -16146195.56 0.0089 0.0025

Uranus -48919-02-17 19:40 J -16146193.81 -16146193.68 -16146193.54 0.0132 0.0027

Neptune -48919-05-14 20:52 J -16146107.76 -16146107.63 -16146107.49 0.0089 0.0032

Uranus -48919-05-16 23:01 J -16146105.68 -16146105.54 -16146105.40 0.0132 0.0009

Earth -48919-08-09 02:52 J -16146021.41 -16146021.38 -16146021.35 0.2661 0.2544

Neptune -48919-08-10 22:18 J -16146019.69 -16146019.57 -16146019.42 0.0089 0.0039

Uranus -48919-08-13 02:23 J -16146017.54 -16146017.40 -16146017.26 0.0132 0.0009

Neptune -48919-11-07 00:13 J -16145931.61 -16145931.49 -16145931.36 0.0089 0.0044

Uranus -48919-11-09 05:30 J -16145929.40 -16145929.27 -16145929.13 0.0132 0.0027

Neptune -48918-02-03 01:54 J -16145843.53 -16145843.42 -16145843.30 0.0089 0.0051

Uranus -48918-02-05 08:52 J -16145841.26 -16145841.13 -16145841.00 0.0132 0.0045

Neptune -48918-05-02 03:35 J -16145755.45 -16145755.35 -16145755.24 0.0089 0.0057

Uranus -48918-05-04 11:59 J -16145753.12 -16145753.00 -16145752.87 0.0132 0.0063

Neptune -48918-07-29 05:16 J -16145667.38 -16145667.28 -16145667.18 0.0089 0.0063

Uranus -48918-07-31 15:21 J -16145664.97 -16145664.86 -16145664.75 0.0132 0.0080

Neptune -48918-10-25 06:42 J -16145579.29 -16145579.22 -16145579.12 0.0089 0.0070

Uranus -48918-10-27 18:28 J -16145576.82 -16145576.73 -16145576.63 0.0132 0.0098

Neptune -48917-01-21 08:23 J -16145491.21 -16145491.15 -16145491.06 0.0089 0.0076

Uranus -48917-01-23 21:35 J -16145488.66 -16145488.60 -16145488.53 0.0132 0.0115

Neptune -48917-04-18 10:04 J -16145403.12 -16145403.08 -16145403.02 0.0089 0.0082

Neptune -48917-07-15 11:45 J -16145315.02 -16145315.01 -16145314.98 0.0089 0.0088

Moon -48916-02-08 06:57 J -16145107.33 -16145107.21 -16145107.09 0.2671 0.1258

Earth -48916-02-08 08:09 J -16145107.28 -16145107.16 -16145107.03 0.2669 0.1084 *

Jupiter -48916-04-04 21:49 J -16145051.70 -16145051.59 -16145051.48 0.0539 0.0314

Jupiter -48916-07-03 09:49 J -16144962.19 -16144962.09 -16144961.98 0.0540 0.0351

Saturn -48913-05-20 23:59 J -16143909.56 -16143909.50 -16143909.44 0.0274 0.0247

Saturn -48913-08-17 12:42 J -16143821.08 -16143820.97 -16143820.84 0.0275 0.0152

Earth -48913-08-18 05:01 J -16143820.40 -16143820.29 -16143820.18 0.2667 0.0960

Moon -48913-08-18 05:45 J -16143820.37 -16143820.26 -16143820.15 0.2670 0.0971 *

Mars -48913-11-13 03:21 J -16143733.47 -16143733.36 -16143733.24 0.1657 0.0621

Saturn -48913-11-14 01:25 J -16143732.58 -16143732.44 -16143732.30 0.0275 0.0057

Saturn -48912-02-10 13:54 J -16143644.06 -16143643.92 -16143643.78 0.0276 0.0038

Saturn -48912-05-10 02:09 J -16143555.53 -16143555.41 -16143555.28 0.0276 0.0132

Saturn -48912-08-06 14:23 J -16143466.98 -16143466.90 -16143466.82 0.0277 0.0224

Jupiter -48910-02-18 20:52 J -16142905.79 -16142905.63 -16142905.47 0.0488 0.0167

Jupiter -48910-05-19 18:57 J -16142815.76 -16142815.71 -16142815.65 0.0487 0.0456

Venus -48909-01-05 07:11 J -16142585.26 -16142585.20 -16142585.13 0.3722 0.2781

Moon -48906-08-11 22:18 J -16141270.67 -16141270.57 -16141270.48 0.2666 0.1601

Earth -48906-08-11 23:01 J -16141270.64 -16141270.54 -16141270.45 0.2662 0.1601 *

Jupiter -48904-01-21 23:59 J -16140741.55 -16140741.50 -16140741.44 0.0539 0.0485

Jupiter -48904-04-21 12:28 J -16140652.10 -16140651.98 -16140651.85 0.0540 0.0187

Venus -48904-07-20 23:30 J -16140561.62 -16140561.52 -16140561.41 0.3726 0.0549

Moon -48903-02-11 08:52 J -16140356.27 -16140356.13 -16140355.99 0.2671 0.0155

Earth -48903-02-11 09:49 J -16140356.23 -16140356.09 -16140355.95 0.2667 0.0198 *

Mars -48903-04-05 12:42 J -16140303.10 -16140302.97 -16140302.84 0.1652 0.0045

Mars -48900-01-01 12:57 J -16139301.06 -16139300.96 -16139300.87 0.1875 0.1407

Earth -48900-08-21 00:28 J -16139069.57 -16139069.48 -16139069.40 0.2669 0.1829

Moon -48900-08-21 01:11 J -16139069.53 -16139069.45 -16139069.37 0.2666 0.1947 *

Saturn -48899-06-12 22:33 J -16138773.60 -16138773.56 -16138773.50 0.0285 0.0271

Saturn -48899-09-09 17:45 J -16138684.89 -16138684.76 -16138684.61 0.0285 0.0148

Saturn -48899-12-07 13:40 J -16138596.10 -16138595.93 -16138595.76 0.0284 0.0022

Jupiter -48899-12-07 21:35 J -16138595.73 -16138595.60 -16138595.47 0.0488 0.0312

Venus -48898-02-03 15:49 J -16138537.93 -16138537.84 -16138537.75 0.3731 0.1677

Saturn -48898-03-06 09:35 J -16138507.26 -16138507.10 -16138506.94 0.0284 0.0105

Jupiter -48898-03-07 19:11 J -16138505.83 -16138505.70 -16138505.56 0.0487 0.0305

Saturn -48898-06-03 05:45 J -16138418.35 -16138418.26 -16138418.16 0.0283 0.0234

Mars -48894-08-26 21:49 J -16136872.71 -16136872.59 -16136872.47 0.1647 0.0584

Moon -48893-08-13 18:28 J -16136519.84 -16136519.73 -16136519.61 0.2671 0.0738

Earth -48893-08-13 18:57 J -16136519.83 -16136519.71 -16136519.60 0.2664 0.0682 *

Jupiter -48892-02-07 14:09 J -16136342.04 -16136341.91 -16136341.77 0.0540 0.0019

Mars -48891-05-24 13:11 J -16135871.09 -16135870.95 -16135870.80 0.1883 0.0187

Moon -48890-02-14 11:59 J -16135605.12 -16135605.00 -16135604.89 0.2672 0.1544

Earth -48890-02-14 11:45 J -16135605.12 -16135605.01 -16135604.89 0.2665 0.1523 *

Venus -48890-05-19 06:57 J -16135511.27 -16135511.21 -16135511.16 0.3655 0.3370

Moon -48887-08-23 20:09 J -16134318.67 -16134318.66 -16134318.65 0.2665 0.2647

Jupiter -48887-09-25 22:18 J -16134285.62 -16134285.57 -16134285.51 0.0489 0.0457

Jupiter -48887-12-24 19:40 J -16134195.84 -16134195.68 -16134195.52 0.0488 0.0153

Venus -48885-12-02 12:28 J -16133487.10 -16133486.98 -16133486.86 0.3649 0.2080

Mars -48884-01-16 06:42 J -16133442.31 -16133442.22 -16133442.13 0.1642 0.1185

Saturn -48884-10-08 03:06 J -16133177.40 -16133177.37 -16133177.34 0.0274 0.0266

Saturn -48883-01-04 16:04 J -16133088.94 -16133088.83 -16133088.72 0.0274 0.0171

Moon -48883-02-06 11:45 J -16133056.08 -16133056.01 -16133055.94 0.2667 0.2255

Earth -48883-02-06 12:42 J -16133056.05 -16133055.97 -16133055.88 0.2670 0.2102 *

Saturn -48883-04-03 04:47 J -16133000.44 -16133000.30 -16133000.17 0.0275 0.0076

Saturn -48883-06-30 17:16 J -16132911.92 -16132911.78 -16132911.64 0.0275 0.0019

Saturn -48883-09-27 05:30 J -16132823.40 -16132823.27 -16132823.14 0.0276 0.0112

Mars -48883-12-22 18:13 J -16132736.82 -16132736.74 -16132736.66 0.1662 0.1298

Saturn -48883-12-24 17:45 J -16132734.85 -16132734.76 -16132734.67 0.0276 0.0205

Mars -48882-10-14 14:09 J -16132441.03 -16132440.91 -16132440.79 0.1890 0.1012

Jupiter -48881-11-26 16:47 J -16132031.93 -16132031.80 -16132031.66 0.0540 0.0162

Jupiter -48880-02-24 04:47 J -16131942.35 -16131942.30 -16131942.25 0.0541 0.0499

Earth -48880-08-16 14:37 J -16131769.01 -16131768.89 -16131768.77 0.2666 0.0237

Moon -48880-08-16 15:06 J -16131768.99 -16131768.87 -16131768.75 0.2671 0.0285 *

Uranus -48879-12-05 10:04 J -16131293.10 -16131293.08 -16131293.04 0.0147 0.0144

Uranus -48878-03-03 17:16 J -16131204.88 -16131204.78 -16131204.66 0.0147 0.0113

Uranus -48878-05-31 00:57 J -16131116.61 -16131116.46 -16131116.32 0.0147 0.0081

Uranus -48878-08-27 08:09 J -16131028.32 -16131028.16 -16131027.99 0.0147 0.0050

Uranus -48878-11-23 15:35 J -16130940.02 -16130939.85 -16130939.67 0.0147 0.0018

Uranus -48877-02-19 23:16 J -16130851.71 -16130851.53 -16130851.35 0.0147 0.0015

Uranus -48877-05-18 06:42 J -16130763.39 -16130763.22 -16130763.05 0.0147 0.0047

Uranus -48877-08-14 14:09 J -16130675.05 -16130674.91 -16130674.75 0.0147 0.0080

Uranus -48877-11-10 22:04 J -16130586.69 -16130586.58 -16130586.46 0.0147 0.0112

Uranus -48876-02-07 05:45 J -16130498.28 -16130498.26 -16130498.23 0.0147 0.0145

Jupiter -48875-10-12 19:25 J -16129885.86 -16129885.69 -16129885.52 0.0488 0.0010

Mars -48873-05-14 03:35 J -16129306.47 -16129306.35 -16129306.24 0.1657 0.0704

Moon -48873-08-09 07:11 J -16129219.26 -16129219.20 -16129219.15 0.2660 0.2372

Earth -48873-08-09 07:54 J -16129219.22 -16129219.17 -16129219.11 0.2661 0.2375 *

Moon -48870-02-09 12:42 J -16128305.10 -16128304.97 -16128304.84 0.2671 0.0865

Earth -48870-02-09 14:09 J -16128305.04 -16128304.91 -16128304.78 0.2668 0.0861 *

Saturn -48869-01-27 17:16 J -16127952.90 -16127952.78 -16127952.65 0.0285 0.0186

Saturn -48869-04-25 12:42 J -16127864.13 -16127863.97 -16127863.80 0.0285 0.0062

Saturn -48869-07-23 08:37 J -16127775.31 -16127775.14 -16127774.97 0.0284 0.0065

Jupiter -48869-09-14 19:54 J -16127721.78 -16127721.67 -16127721.56 0.0540 0.0318

Saturn -48869-10-20 04:47 J -16127686.43 -16127686.30 -16127686.17 0.0283 0.0193

Jupiter -48869-12-13 08:09 J -16127632.26 -16127632.16 -16127632.06 0.0541 0.0348

Earth -48867-08-19 10:04 J -16127018.18 -16127018.08 -16127017.97 0.2667 0.1120

Moon -48867-08-19 10:47 J -16127018.15 -16127018.05 -16127017.94 0.2670 0.1225 *

Pluto -48865-04-24 07:11 J -16126404.21 -16126404.20 -16126404.16 0.0081 0.0080

Pluto -48865-07-21 08:52 J -16126316.19 -16126316.13 -16126316.05 0.0081 0.0071

Pluto -48865-10-17 10:33 J -16126228.14 -16126228.06 -16126227.96 0.0081 0.0062

Pluto -48864-01-13 12:13 J -16126140.09 -16126139.99 -16126139.87 0.0081 0.0053

Pluto -48864-04-11 13:40 J -16126052.04 -16126051.93 -16126051.80 0.0081 0.0045

Pluto -48864-07-08 15:21 J -16125963.99 -16125963.86 -16125963.72 0.0081 0.0036

Mars -48864-10-04 12:42 J -16125876.10 -16125875.97 -16125875.84 0.1652 0.0110

Pluto -48864-10-04 16:47 J -16125875.93 -16125875.80 -16125875.65 0.0081 0.0028 *

Pluto -48864-12-31 18:42 J -16125787.87 -16125787.72 -16125787.58 0.0081 0.0019

Pluto -48863-03-29 20:09 J -16125699.81 -16125699.66 -16125699.51 0.0080 0.0010

Pluto -48863-06-25 21:35 J -16125611.74 -16125611.60 -16125611.45 0.0080 0.0003

Jupiter -48863-07-31 19:40 J -16125575.84 -16125575.68 -16125575.52 0.0488 0.0156

Pluto -48863-09-21 23:01 J -16125523.68 -16125523.54 -16125523.39 0.0080 0.0007

Jupiter -48863-10-29 17:30 J -16125485.81 -16125485.77 -16125485.71 0.0487 0.0465

Pluto -48863-12-19 00:42 J -16125435.62 -16125435.47 -16125435.33 0.0080 0.0014

Pluto -48862-03-17 01:54 J -16125347.55 -16125347.42 -16125347.27 0.0080 0.0023

Pluto -48862-06-13 03:21 J -16125259.48 -16125259.36 -16125259.22 0.0080 0.0031

Pluto -48862-09-09 04:47 J -16125171.42 -16125171.30 -16125171.16 0.0080 0.0039

Pluto -48862-12-06 06:13 J -16125083.35 -16125083.24 -16125083.11 0.0079 0.0047

Pluto -48861-03-03 07:40 J -16124995.28 -16124995.18 -16124995.07 0.0079 0.0054

Pluto -48861-05-30 08:52 J -16124907.20 -16124907.13 -16124907.02 0.0079 0.0063

Mars -48861-07-02 13:25 J -16124874.03 -16124873.94 -16124873.86 0.1875 0.1537

Pluto -48861-08-26 10:47 J -16124819.12 -16124819.05 -16124818.99 0.0079 0.0069

Pluto -48861-11-22 11:45 J -16124731.02 -16124731.01 -16124730.97 0.0079 0.0077

Moon -48860-08-12 03:35 J -16124468.45 -16124468.35 -16124468.26 0.2668 0.1556

Earth -48860-08-12 04:04 J -16124468.43 -16124468.33 -16124468.23 0.2663 0.1431 *

Moon -48857-02-12 15:06 J -16123554.01 -16123553.87 -16123553.73 0.2672 0.0327

Earth -48857-02-12 15:49 J -16123553.98 -16123553.84 -16123553.70 0.2667 0.0431 *

Jupiter -48857-07-03 22:33 J -16123411.62 -16123411.56 -16123411.50 0.0539 0.0481

Jupiter -48857-10-01 11:01 J -16123322.16 -16123322.04 -16123321.91 0.0540 0.0191

Mars -48854-02-24 21:49 J -16122445.71 -16122445.59 -16122445.46 0.1647 0.0496

Saturn -48854-05-24 17:01 J -16122356.89 -16122356.79 -16122356.70 0.0274 0.0205

Saturn -48854-08-21 05:45 J -16122268.39 -16122268.26 -16122268.13 0.0275 0.0110

Earth -48854-08-22 05:30 J -16122267.35 -16122267.27 -16122267.20 0.2669 0.1987

Moon -48854-08-22 06:13 J -16122267.32 -16122267.24 -16122267.16 0.2665 0.1979 *

Saturn -48854-11-17 18:13 J -16122179.88 -16122179.74 -16122179.60 0.0275 0.0016

Saturn -48853-02-14 06:42 J -16122091.35 -16122091.22 -16122091.09 0.0276 0.0079

Saturn -48853-05-12 18:57 J -16122002.82 -16122002.71 -16122002.60 0.0277 0.0171

Saturn -48853-08-09 06:57 J -16121914.24 -16121914.21 -16121914.17 0.0277 0.0264

Venus -48853-08-11 04:47 J -16121912.38 -16121912.30 -16121912.21 0.3723 0.1941

Mars -48852-11-22 13:40 J -16121444.08 -16121443.93 -16121443.79 0.1883 0.0309

Jupiter -48851-05-19 19:40 J -16121265.80 -16121265.68 -16121265.55 0.0488 0.0309

Jupiter -48851-08-17 17:16 J -16121175.91 -16121175.78 -16121175.64 0.0487 0.0308

Venus -48847-02-24 21:06 J -16119888.72 -16119888.62 -16119888.51 0.3727 0.0306

Moon -48847-08-14 23:45 J -16119717.62 -16119717.51 -16119717.39 0.2671 0.0480

Earth -48847-08-14 23:59 J -16119717.62 -16119717.50 -16119717.38 0.2664 0.0508 *

Mars -48845-07-17 06:57 J -16119015.30 -16119015.21 -16119015.11 0.1642 0.1094

Jupiter -48845-07-20 13:40 J -16119012.07 -16119011.93 -16119011.79 0.0540 0.0024

Moon -48844-02-14 17:59 J -16118802.86 -16118802.75 -16118802.65 0.2672 0.1778

Earth -48844-02-14 17:59 J -16118802.86 -16118802.75 -16118802.65 0.2665 0.1761 *

Mars -48843-06-22 18:28 J -16118309.80 -16118309.73 -16118309.66 0.1663 0.1385

Mars -48842-04-14 14:23 J -16118014.02 -16118013.90 -16118013.77 0.1889 0.0887

Venus -48842-09-10 13:25 J -16117865.02 -16117864.94 -16117864.86 0.3732 0.2508

Neptune -48841-03-31 14:09 J -16117661.96 -16117661.91 -16117661.84 0.0089 0.0082

Neptune -48841-06-27 16:33 J -16117573.88 -16117573.81 -16117573.71 0.0089 0.0075

Neptune -48841-09-23 19:11 J -16117485.80 -16117485.70 -16117485.58 0.0089 0.0068

Neptune -48841-12-20 22:04 J -16117397.70 -16117397.58 -16117397.46 0.0089 0.0060

Neptune -48840-03-19 00:28 J -16117309.61 -16117309.48 -16117309.34 0.0089 0.0053

Neptune -48840-06-15 02:52 J -16117221.51 -16117221.38 -16117221.22 0.0089 0.0046

Saturn -48840-06-15 17:01 J -16117220.89 -16117220.79 -16117220.68 0.0285 0.0223

Neptune -48840-09-11 05:45 J -16117133.41 -16117133.26 -16117133.10 0.0089 0.0038

Saturn -48840-09-12 12:28 J -16117132.13 -16117131.98 -16117131.82 0.0285 0.0099

Neptune -48840-12-08 08:23 J -16117045.30 -16117045.15 -16117044.98 0.0089 0.0031

Saturn -48840-12-10 08:23 J -16117043.32 -16117043.15 -16117042.98 0.0284 0.0028

Neptune -48839-03-06 11:01 J -16116957.20 -16116957.04 -16116956.87 0.0089 0.0023

Jupiter -48839-03-07 20:23 J -16116955.70 -16116955.65 -16116955.58 0.0489 0.0454

Saturn -48839-03-09 04:18 J -16116954.46 -16116954.32 -16116954.17 0.0283 0.0155

Neptune -48839-06-02 13:40 J -16116869.09 -16116868.93 -16116868.75 0.0089 0.0016

Jupiter -48839-06-05 17:45 J -16116865.92 -16116865.76 -16116865.60 0.0488 0.0157

Neptune -48839-08-29 16:33 J -16116780.98 -16116780.81 -16116780.64 0.0089 0.0008

Neptune -48839-11-25 19:11 J -16116692.87 -16116692.70 -16116692.53 0.0089 0.0001

Neptune -48838-02-21 21:49 J -16116604.76 -16116604.59 -16116604.42 0.0089 0.0007

Neptune -48838-05-21 00:28 J -16116516.65 -16116516.48 -16116516.31 0.0089 0.0015

Neptune -48838-08-17 03:06 J -16116428.53 -16116428.37 -16116428.20 0.0089 0.0023

Neptune -48838-11-13 05:45 J -16116340.41 -16116340.26 -16116340.09 0.0089 0.0031

Moon -48837-02-07 17:16 J -16116253.87 -16116253.78 -16116253.68 0.2669 0.1909

Earth -48837-02-07 18:28 J -16116253.82 -16116253.73 -16116253.63 0.2670 0.1888 *

Neptune -48837-02-09 08:37 J -16116252.29 -16116252.14 -16116251.98 0.0089 0.0038

Neptune -48837-05-07 11:16 J -16116164.17 -16116164.03 -16116163.87 0.0089 0.0046

Neptune -48837-08-03 13:54 J -16116076.04 -16116075.92 -16116075.77 0.0089 0.0054

Uranus -48837-09-27 07:25 J -16116021.22 -16116021.19 -16116021.16 0.0132 0.0128

Neptune -48837-10-30 16:33 J -16115987.91 -16115987.81 -16115987.67 0.0089 0.0062

Uranus -48837-12-24 10:33 J -16115933.12 -16115933.06 -16115932.97 0.0132 0.0110

Neptune -48836-01-26 19:40 J -16115899.78 -16115899.68 -16115899.57 0.0089 0.0069

Uranus -48836-03-22 13:54 J -16115845.01 -16115844.92 -16115844.81 0.0132 0.0092

Neptune -48836-04-24 22:18 J -16115811.64 -16115811.57 -16115811.47 0.0089 0.0077

Uranus -48836-06-18 17:30 J -16115756.88 -16115756.77 -16115756.65 0.0132 0.0073

Neptune -48836-07-22 01:11 J -16115723.49 -16115723.45 -16115723.39 0.0089 0.0085

Uranus -48836-09-14 20:52 J -16115668.75 -16115668.63 -16115668.50 0.0132 0.0055

Uranus -48836-12-12 00:13 J -16115580.62 -16115580.49 -16115580.35 0.0132 0.0037

Uranus -48835-03-10 03:35 J -16115492.49 -16115492.35 -16115492.21 0.0132 0.0019

Uranus -48835-06-06 06:57 J -16115404.35 -16115404.21 -16115404.07 0.0132 0.0001

Uranus -48835-09-02 10:04 J -16115316.21 -16115316.08 -16115315.94 0.0132 0.0018

Uranus -48835-11-29 13:25 J -16115228.07 -16115227.94 -16115227.80 0.0132 0.0035

Uranus -48834-02-25 16:47 J -16115139.93 -16115139.80 -16115139.67 0.0132 0.0053

Uranus -48834-05-24 19:54 J -16115051.78 -16115051.67 -16115051.55 0.0132 0.0071

Earth -48834-08-17 19:40 J -16114966.80 -16114966.68 -16114966.56 0.2666 0.0395

Moon -48834-08-17 20:09 J -16114966.77 -16114966.66 -16114966.54 0.2671 0.0417 *

Uranus -48834-08-20 23:16 J -16114963.63 -16114963.53 -16114963.43 0.0132 0.0088

Mars -48834-11-13 03:35 J -16114879.46 -16114879.35 -16114879.23 0.1657 0.0791

Uranus -48834-11-17 02:09 J -16114875.48 -16114875.41 -16114875.32 0.0132 0.0106

Venus -48834-12-24 07:54 J -16114838.30 -16114838.17 -16114838.03 0.3654 0.1525

Uranus -48833-02-13 05:30 J -16114787.31 -16114787.27 -16114787.22 0.0132 0.0123

Jupiter -48833-05-08 15:06 J -16114702.00 -16114701.87 -16114701.73 0.0539 0.0161

Jupiter -48833-08-06 02:52 J -16114612.42 -16114612.38 -16114612.32 0.0540 0.0499

Jupiter -48827-03-24 17:59 J -16112555.92 -16112555.75 -16112555.58 0.0488 0.0008

Moon -48827-08-10 12:13 J -16112417.04 -16112416.99 -16112416.93 0.2661 0.2328

Earth -48827-08-10 13:11 J -16112417.02 -16112416.95 -16112416.88 0.2661 0.2198 *

Saturn -48825-10-10 20:09 J -16111624.74 -16111624.66 -16111624.57 0.0274 0.0224

Saturn -48824-01-07 09:06 J -16111536.25 -16111536.12 -16111536.00 0.0275 0.0128

Moon -48824-02-09 18:42 J -16111502.85 -16111502.72 -16111502.59 0.2670 0.0815

Earth -48824-02-09 19:54 J -16111502.80 -16111502.67 -16111502.53 0.2668 0.0633 *

Mars -48824-04-04 12:42 J -16111449.09 -16111448.97 -16111448.84 0.1652 0.0195

Saturn -48824-04-05 21:35 J -16111447.74 -16111447.60 -16111447.45 0.0275 0.0034

Saturn -48824-07-03 10:04 J -16111359.21 -16111359.08 -16111358.94 0.0276 0.0061

Saturn -48824-09-29 22:18 J -16111270.68 -16111270.57 -16111270.45 0.0276 0.0155

Saturn -48824-12-27 10:33 J -16111182.12 -16111182.06 -16111182.00 0.0277 0.0246

Mars -48821-01-01 13:25 J -16110447.00 -16110446.94 -16110446.87 0.1875 0.1649

Jupiter -48821-02-25 17:45 J -16110391.87 -16110391.76 -16110391.65 0.0539 0.0328

Jupiter -48821-05-25 05:45 J -16110302.36 -16110302.26 -16110302.15 0.0540 0.0338

Earth -48821-08-19 15:06 J -16110215.97 -16110215.87 -16110215.77 0.2668 0.1277

Moon -48821-08-19 15:49 J -16110215.94 -16110215.84 -16110215.73 0.2669 0.1329 *

Jupiter -48815-01-10 17:45 J -16108245.91 -16108245.76 -16108245.60 0.0488 0.0152

Jupiter -48815-04-10 15:49 J -16108155.88 -16108155.84 -16108155.79 0.0487 0.0470

Mars -48815-08-25 22:04 J -16108018.71 -16108018.58 -16108018.46 0.1647 0.0407

Moon -48814-08-13 08:37 J -16107666.25 -16107666.14 -16107666.04 0.2668 0.1240

Earth -48814-08-13 09:06 J -16107666.22 -16107666.12 -16107666.01 0.2663 0.1265 *

Mars -48812-05-23 14:23 J -16107017.05 -16107016.90 -16107016.76 0.1882 0.0454

Moon -48811-02-12 21:21 J -16106751.75 -16106751.61 -16106751.48 0.2673 0.0710

Earth -48811-02-12 21:49 J -16106751.73 -16106751.59 -16106751.46 0.2666 0.0663 *

Saturn -48811-11-02 17:16 J -16106488.84 -16106488.78 -16106488.70 0.0285 0.0256

Saturn -48810-01-30 12:42 J -16106400.12 -16106399.97 -16106399.82 0.0285 0.0133

Saturn -48810-04-29 08:23 J -16106311.32 -16106311.15 -16106310.98 0.0284 0.0010

Saturn -48810-07-27 04:04 J -16106222.48 -16106222.33 -16106222.17 0.0284 0.0120

Saturn -48810-10-24 00:28 J -16106133.56 -16106133.48 -16106133.40 0.0283 0.0247

Jupiter -48810-12-14 20:23 J -16106081.70 -16106081.65 -16106081.59 0.0539 0.0489

Jupiter -48809-03-13 09:06 J -16105992.25 -16105992.12 -16105992.00 0.0540 0.0184

Earth -48808-08-22 10:33 J -16105465.13 -16105465.06 -16105464.99 0.2670 0.2141

Moon -48808-08-22 11:16 J -16105465.09 -16105465.03 -16105464.97 0.2666 0.2242 *

Mars -48805-01-16 07:11 J -16104588.30 -16104588.20 -16104588.10 0.1642 0.1007

Jupiter -48804-10-29 18:13 J -16103935.87 -16103935.74 -16103935.61 0.0488 0.0301

Mars -48804-12-21 18:28 J -16103882.78 -16103882.73 -16103882.67 0.1663 0.1469

Jupiter -48803-01-27 15:49 J -16103845.97 -16103845.84 -16103845.71 0.0487 0.0314

Mars -48803-10-13 14:37 J -16103587.02 -16103586.89 -16103586.75 0.1889 0.0772

Venus -48802-09-02 10:04 J -16103263.12 -16103263.08 -16103263.03 0.3719 0.3352

Earth -48801-08-15 05:01 J -16102915.41 -16102915.29 -16102915.17 0.2665 0.0344

Moon -48801-08-15 05:01 J -16102915.40 -16102915.29 -16102915.17 0.2671 0.0404 *

Earth -48798-02-15 23:45 J -16102000.60 -16102000.51 -16102000.41 0.2664 0.1998

Moon -48798-02-15 23:59 J -16102000.59 -16102000.50 -16102000.40 0.2671 0.1992 *

Jupiter -48798-12-31 11:59 J -16101682.14 -16101682.00 -16101681.86 0.0540 0.0025

Venus -48796-03-18 02:23 J -16101239.50 -16101239.40 -16101239.30 0.3724 0.1109

Mars -48796-06-07 16:04 J -16101157.85 -16101157.83 -16101157.81 0.1638 0.1609

Saturn -48795-02-27 21:21 J -16100892.65 -16100892.61 -16100892.56 0.0274 0.0257

Saturn -48795-05-27 10:04 J -16100804.19 -16100804.08 -16100803.96 0.0275 0.0162

Saturn -48795-08-23 23:01 J -16100715.68 -16100715.54 -16100715.41 0.0275 0.0066

Saturn -48795-11-20 11:30 J -16100627.16 -16100627.02 -16100626.88 0.0276 0.0028

Uranus -48795-12-25 18:28 J -16100591.80 -16100591.73 -16100591.65 0.0147 0.0132

Saturn -48794-02-16 23:45 J -16100538.63 -16100538.51 -16100538.38 0.0276 0.0122

Uranus -48794-03-24 01:40 J -16100503.55 -16100503.43 -16100503.30 0.0147 0.0101

Mars -48794-05-14 03:49 J -16100452.45 -16100452.34 -16100452.23 0.1657 0.0873

Saturn -48794-05-16 11:59 J -16100450.08 -16100450.00 -16100449.91 0.0277 0.0215

Uranus -48794-06-20 08:52 J -16100415.27 -16100415.13 -16100414.96 0.0147 0.0070

Uranus -48794-09-16 16:33 J -16100326.98 -16100326.81 -16100326.64 0.0147 0.0038

Uranus -48794-12-13 23:59 J -16100238.68 -16100238.50 -16100238.32 0.0147 0.0006

Uranus -48793-03-11 07:25 J -16100150.36 -16100150.19 -16100150.01 0.0147 0.0027

Uranus -48793-06-07 15:06 J -16100062.03 -16100061.87 -16100061.70 0.0147 0.0059

Uranus -48793-09-03 22:33 J -16099973.69 -16099973.56 -16099973.41 0.0147 0.0092

Uranus -48793-12-01 05:59 J -16099885.32 -16099885.25 -16099885.14 0.0147 0.0125

Jupiter -48792-08-17 18:28 J -16099625.79 -16099625.73 -16099625.67 0.0489 0.0453

Jupiter -48792-11-15 15:35 J -16099536.01 -16099535.85 -16099535.69 0.0488 0.0156

Moon -48791-02-07 23:01 J -16099451.64 -16099451.54 -16099451.44 0.2669 0.1809

Earth -48791-02-08 00:28 J -16099451.59 -16099451.48 -16099451.37 0.2670 0.1666 *

Venus -48791-10-01 18:42 J -16099215.82 -16099215.72 -16099215.62 0.3729 0.1134

Earth -48788-08-18 00:42 J -16098164.58 -16098164.47 -16098164.35 0.2666 0.0555

Moon -48788-08-18 01:11 J -16098164.56 -16098164.45 -16098164.33 0.2672 0.0649 *

Jupiter -48786-10-19 14:23 J -16097372.03 -16097371.90 -16097371.77 0.0539 0.0144

Jupiter -48785-01-17 02:09 J -16097282.44 -16097282.41 -16097282.37 0.0540 0.0515

Venus -48785-04-16 11:01 J -16097192.08 -16097192.04 -16097192.00 0.3733 0.3335

Mars -48785-10-03 12:57 J -16097022.08 -16097021.96 -16097021.83 0.1652 0.0280

Mars -48782-07-02 14:09 J -16096019.95 -16096019.91 -16096019.87 0.1875 0.1783

Saturn -48781-06-18 12:28 J -16095668.11 -16095667.98 -16095667.84 0.0285 0.0170

Moon -48781-08-10 17:30 J -16095614.84 -16095614.77 -16095614.70 0.2663 0.2058

Earth -48781-08-10 18:13 J -16095614.81 -16095614.74 -16095614.66 0.2662 0.2031 *

Saturn -48781-09-15 07:54 J -16095579.33 -16095579.17 -16095579.00 0.0284 0.0046

Saturn -48781-12-13 03:49 J -16095490.50 -16095490.34 -16095490.17 0.0284 0.0082

Saturn -48780-03-11 23:59 J -16095401.61 -16095401.50 -16095401.38 0.0283 0.0210

Jupiter -48780-09-03 16:04 J -16095226.00 -16095225.83 -16095225.67 0.0488 0.0013

Moon -48778-02-11 00:42 J -16094700.61 -16094700.47 -16094700.33 0.2671 0.0412

Earth -48778-02-11 01:54 J -16094700.56 -16094700.42 -16094700.29 0.2668 0.0422 *

Venus -48777-07-30 09:06 J -16094165.27 -16094165.12 -16094164.97 0.3652 0.0362

Mars -48775-02-23 22:04 J -16093591.70 -16093591.58 -16093591.45 0.1647 0.0326

Earth -48775-08-20 20:09 J -16093413.76 -16093413.66 -16093413.56 0.2668 0.1436

Moon -48775-08-20 21:06 J -16093413.72 -16093413.62 -16093413.53 0.2667 0.1486 *

Jupiter -48774-08-07 15:49 J -16093061.95 -16093061.84 -16093061.73 0.0539 0.0329

Jupiter -48774-11-05 04:04 J -16092972.43 -16092972.33 -16092972.22 0.0540 0.0336

Mars -48773-11-21 14:23 J -16092590.04 -16092589.90 -16092589.76 0.1882 0.0553

Jupiter -48768-06-22 16:18 J -16090915.98 -16090915.82 -16090915.66 0.0488 0.0145

Moon -48768-08-13 13:54 J -16090864.03 -16090863.92 -16090863.82 0.2669 0.1210

Earth -48768-08-13 14:23 J -16090864.01 -16090863.90 -16090863.79 0.2663 0.1092 *

Jupiter -48768-09-20 14:23 J -16090825.93 -16090825.90 -16090825.87 0.0487 0.0478

Mars -48766-07-17 07:11 J -16090161.30 -16090161.20 -16090161.09 0.1642 0.0923

Saturn -48766-10-14 13:40 J -16090072.03 -16090071.93 -16090071.82 0.0275 0.0179

Saturn -48765-01-11 02:23 J -16089983.53 -16089983.40 -16089983.26 0.0275 0.0083

Moon -48765-02-14 03:06 J -16089949.50 -16089949.37 -16089949.23 0.2673 0.0777

Earth -48765-02-14 03:35 J -16089949.48 -16089949.35 -16089949.21 0.2666 0.0893 *

Saturn -48765-04-08 15:06 J -16089895.01 -16089894.87 -16089894.73 0.0276 0.0013

Saturn -48765-07-06 03:21 J -16089806.49 -16089806.36 -16089806.23 0.0276 0.0106

Saturn -48765-10-02 15:35 J -16089717.94 -16089717.85 -16089717.75 0.0277 0.0198

Mars -48764-06-21 18:28 J -16089455.77 -16089455.73 -16089455.68 0.1663 0.1548

Mars -48763-04-13 15:21 J -16089160.00 -16089159.86 -16089159.73 0.1890 0.0640

Jupiter -48762-05-26 18:13 J -16088751.79 -16088751.74 -16088751.69 0.0539 0.0500

Earth -48762-08-23 15:35 J -16088662.91 -16088662.85 -16088662.80 0.2670 0.2294

Moon -48762-08-23 16:04 J -16088662.88 -16088662.83 -16088662.77 0.2666 0.2301 *

Jupiter -48762-08-24 06:42 J -16088662.35 -16088662.22 -16088662.09 0.0540 0.0172

Neptune -48759-10-07 11:16 J -16087522.06 -16087522.03 -16087521.97 0.0088 0.0085

Neptune -48758-01-03 13:25 J -16087434.01 -16087433.94 -16087433.87 0.0088 0.0078

Earth -48758-02-06 05:01 J -16087400.29 -16087400.29 -16087400.28 0.2671 0.2668

Neptune -48758-04-01 14:52 J -16087345.95 -16087345.88 -16087345.78 0.0088 0.0072

Neptune -48758-06-28 16:47 J -16087257.89 -16087257.80 -16087257.69 0.0089 0.0065

Neptune -48758-09-24 18:57 J -16087169.82 -16087169.71 -16087169.60 0.0089 0.0058

Neptune -48758-12-21 20:23 J -16087081.76 -16087081.65 -16087081.52 0.0089 0.0052

Neptune -48757-03-18 22:33 J -16086993.69 -16086993.56 -16086993.44 0.0089 0.0045

Neptune -48757-06-14 23:59 J -16086905.62 -16086905.50 -16086905.35 0.0089 0.0039

Neptune -48757-09-11 01:54 J -16086817.55 -16086817.42 -16086817.28 0.0089 0.0032

Mars -48757-12-06 16:18 J -16086730.87 -16086730.82 -16086730.78 0.1638 0.1522

Neptune -48757-12-08 03:35 J -16086729.48 -16086729.35 -16086729.20 0.0089 0.0026

Neptune -48756-03-06 05:30 J -16086641.41 -16086641.27 -16086641.12 0.0089 0.0019

Jupiter -48756-04-10 16:04 J -16086605.95 -16086605.83 -16086605.69 0.0488 0.0300

Neptune -48756-06-02 07:11 J -16086553.34 -16086553.20 -16086553.05 0.0089 0.0013

Jupiter -48756-07-09 13:40 J -16086516.05 -16086515.93 -16086515.80 0.0487 0.0316

Neptune -48756-08-29 09:06 J -16086465.27 -16086465.12 -16086464.97 0.0089 0.0006

Neptune -48756-11-25 10:47 J -16086377.19 -16086377.05 -16086376.90 0.0089 0.0001

Neptune -48755-02-21 12:28 J -16086289.12 -16086288.98 -16086288.83 0.0089 0.0007

Neptune -48755-05-20 14:09 J -16086201.05 -16086200.91 -16086200.76 0.0089 0.0014

Earth -48755-08-16 10:04 J -16086113.19 -16086113.08 -16086112.96 0.2665 0.0198

Moon -48755-08-16 10:18 J -16086113.19 -16086113.07 -16086112.95 0.2671 0.0112 *

Neptune -48755-08-16 15:49 J -16086112.97 -16086112.84 -16086112.69 0.0089 0.0020 *

Mars -48755-11-12 03:49 J -16086025.44 -16086025.34 -16086025.23 0.1658 0.0957

Neptune -48755-11-12 17:45 J -16086024.90 -16086024.76 -16086024.62 0.0089 0.0026

Neptune -48754-02-08 19:11 J -16085936.83 -16085936.70 -16085936.56 0.0089 0.0033

Neptune -48754-05-07 20:52 J -16085848.75 -16085848.63 -16085848.49 0.0089 0.0039

Neptune -48754-08-03 22:47 J -16085760.67 -16085760.55 -16085760.43 0.0089 0.0045

Mars -48754-09-03 16:04 J -16085729.86 -16085729.83 -16085729.79 0.1896 0.1830

Neptune -48754-10-31 00:13 J -16085672.60 -16085672.49 -16085672.36 0.0089 0.0052

Neptune -48753-01-27 01:54 J -16085584.52 -16085584.42 -16085584.30 0.0089 0.0058

Neptune -48753-04-24 03:35 J -16085496.44 -16085496.35 -16085496.24 0.0089 0.0064

Neptune -48753-07-21 05:16 J -16085408.36 -16085408.28 -16085408.18 0.0089 0.0070

Neptune -48753-10-17 07:11 J -16085320.27 -16085320.20 -16085320.13 0.0089 0.0076

Uranus -48753-10-17 15:06 J -16085319.92 -16085319.87 -16085319.80 0.0132 0.0120

Neptune -48752-01-13 08:23 J -16085232.18 -16085232.15 -16085232.08 0.0089 0.0083

Uranus -48752-01-13 18:42 J -16085231.81 -16085231.72 -16085231.63 0.0132 0.0101

Earth -48752-02-16 05:59 J -16085198.33 -16085198.25 -16085198.18 0.2664 0.2234

Moon -48752-02-16 06:28 J -16085198.30 -16085198.23 -16085198.17 0.2670 0.2340 *

Neptune -48752-04-11 10:18 J -16085144.07 -16085144.07 -16085144.06 0.0089 0.0088

Uranus -48752-04-11 22:04 J -16085143.69 -16085143.58 -16085143.47 0.0132 0.0083

Uranus -48752-07-09 01:25 J -16085055.56 -16085055.44 -16085055.31 0.0132 0.0065

Uranus -48752-10-05 04:47 J -16084967.43 -16084967.30 -16084967.17 0.0132 0.0046

Saturn -48752-11-05 13:25 J -16084936.06 -16084935.94 -16084935.82 0.0285 0.0199

Uranus -48751-01-01 08:09 J -16084879.29 -16084879.16 -16084879.02 0.0132 0.0028

Saturn -48751-02-02 08:52 J -16084847.30 -16084847.13 -16084846.97 0.0285 0.0075

Uranus -48751-03-30 11:30 J -16084791.16 -16084791.02 -16084790.88 0.0132 0.0010

Saturn -48751-05-02 04:33 J -16084758.48 -16084758.31 -16084758.14 0.0284 0.0051

Uranus -48751-06-26 14:52 J -16084703.02 -16084702.88 -16084702.74 0.0132 0.0008

Saturn -48751-07-30 00:28 J -16084669.61 -16084669.48 -16084669.34 0.0283 0.0178

Uranus -48751-09-22 17:59 J -16084614.88 -16084614.75 -16084614.61 0.0132 0.0026

Uranus -48751-12-19 21:21 J -16084526.74 -16084526.61 -16084526.48 0.0132 0.0043

Uranus -48750-03-18 00:42 J -16084438.59 -16084438.47 -16084438.35 0.0132 0.0061

Jupiter -48750-06-12 09:49 J -16084352.23 -16084352.09 -16084351.96 0.0540 0.0020

Uranus -48750-06-14 03:49 J -16084350.45 -16084350.34 -16084350.23 0.0132 0.0079

Uranus -48750-09-10 06:57 J -16084262.29 -16084262.21 -16084262.11 0.0132 0.0097

Uranus -48750-12-07 10:18 J -16084174.13 -16084174.07 -16084174.00 0.0132 0.0114

Uranus -48749-03-04 13:25 J -16084085.94 -16084085.94 -16084085.93 0.0132 0.0131

Moon -48745-02-09 05:01 J -16082649.41 -16082649.29 -16082649.18 0.2669 0.1507

Earth -48745-02-09 06:13 J -16082649.36 -16082649.24 -16082649.12 0.2669 0.1447 *

Mars -48745-04-03 13:11 J -16082595.08 -16082594.95 -16082594.83 0.1652 0.0363

Venus -48745-04-08 07:40 J -16082590.25 -16082590.18 -16082590.10 0.3720 0.2505

Jupiter -48744-01-27 16:33 J -16082295.86 -16082295.81 -16082295.74 0.0488 0.0449

Jupiter -48744-04-27 13:40 J -16082206.09 -16082205.93 -16082205.76 0.0487 0.0161

Earth -48742-08-19 05:45 J -16081362.37 -16081362.26 -16081362.14 0.2667 0.0717

Moon -48742-08-19 06:28 J -16081362.35 -16081362.23 -16081362.12 0.2671 0.0717 *

Venus -48740-10-23 00:13 J -16080566.60 -16080566.49 -16080566.39 0.3725 0.0310

Jupiter -48738-03-31 12:28 J -16080042.11 -16080041.98 -16080041.84 0.0540 0.0147

Jupiter -48738-06-29 00:28 J -16079952.52 -16079952.48 -16079952.44 0.0541 0.0513

Saturn -48736-03-02 14:52 J -16079339.96 -16079339.88 -16079339.78 0.0274 0.0211

Saturn -48736-05-30 03:49 J -16079251.47 -16079251.34 -16079251.21 0.0275 0.0115

Mars -48736-08-24 22:18 J -16079164.70 -16079164.57 -16079164.44 0.1647 0.0235

Saturn -48736-08-26 16:33 J -16079162.96 -16079162.81 -16079162.67 0.0275 0.0022

Saturn -48736-11-23 04:47 J -16079074.43 -16079074.30 -16079074.16 0.0276 0.0074

Saturn -48735-02-19 17:16 J -16078985.89 -16078985.78 -16078985.67 0.0277 0.0167

Saturn -48735-05-19 05:16 J -16078897.32 -16078897.28 -16078897.23 0.0277 0.0259

Moon -48735-08-11 22:47 J -16078812.64 -16078812.55 -16078812.47 0.2665 0.1942

Earth -48735-08-11 23:30 J -16078812.61 -16078812.52 -16078812.44 0.2662 0.1854 *

Venus -48734-05-08 16:18 J -16078542.90 -16078542.82 -16078542.73 0.3730 0.1965

Mars -48733-05-22 14:52 J -16078163.02 -16078162.88 -16078162.74 0.1882 0.0684

Moon -48732-02-11 06:42 J -16077898.36 -16077898.22 -16077898.08 0.2672 0.0328

Earth -48732-02-11 07:40 J -16077898.32 -16077898.18 -16077898.04 0.2667 0.0188 *

Jupiter -48732-02-13 13:40 J -16077896.10 -16077895.93 -16077895.76 0.0488 0.0004

Earth -48729-08-21 01:11 J -16076611.54 -16076611.45 -16076611.35 0.2668 0.1590

Moon -48729-08-21 02:09 J -16076611.50 -16076611.41 -16076611.32 0.2667 0.1684 *

Mars -48726-01-15 07:25 J -16075734.30 -16075734.19 -16075734.08 0.1642 0.0833

Jupiter -48726-01-17 14:52 J -16075731.99 -16075731.88 -16075731.76 0.0539 0.0315

Jupiter -48726-04-17 03:06 J -16075642.47 -16075642.37 -16075642.27 0.0540 0.0351

Venus -48726-08-21 04:47 J -16075516.37 -16075516.30 -16075516.23 0.3657 0.3171

Mars -48725-12-20 18:42 J -16075028.74 -16075028.72 -16075028.70 0.1663 0.1632

Mars -48724-10-12 15:21 J -16074732.99 -16074732.86 -16074732.72 0.1889 0.0530

Saturn -48722-03-25 13:11 J -16074204.04 -16074203.95 -16074203.86 0.0285 0.0236

Saturn -48722-06-22 08:23 J -16074115.30 -16074115.15 -16074114.99 0.0285 0.0113

Moon -48722-08-14 18:57 J -16074061.82 -16074061.71 -16074061.60 0.2669 0.0912

Earth -48722-08-14 19:25 J -16074061.80 -16074061.69 -16074061.58 0.2663 0.0927 *

Saturn -48722-09-19 04:18 J -16074026.49 -16074026.32 -16074026.15 0.0284 0.0015

Saturn -48722-12-17 00:13 J -16073937.64 -16073937.49 -16073937.34 0.0283 0.0140

Saturn -48721-03-14 20:23 J -16073848.69 -16073848.65 -16073848.59 0.0283 0.0269

Jupiter -48721-12-02 14:09 J -16073586.07 -16073585.91 -16073585.75 0.0488 0.0146

Jupiter -48720-03-02 11:59 J -16073496.03 -16073496.00 -16073495.96 0.0487 0.0477

Venus -48720-03-06 10:18 J -16073492.19 -16073492.07 -16073491.95 0.3651 0.2283

Moon -48719-02-14 09:06 J -16073147.24 -16073147.12 -16073146.99 0.2672 0.1186

Earth -48719-02-14 09:35 J -16073147.23 -16073147.10 -16073146.97 0.2665 0.1119 *

Mars -48717-06-06 16:18 J -16072303.88 -16072303.82 -16072303.76 0.1638 0.1437

Earth -48716-08-23 20:37 J -16071860.69 -16071860.64 -16071860.60 0.2670 0.2447

Moon -48716-08-23 21:06 J -16071860.66 -16071860.62 -16071860.58 0.2665 0.2490 *

Mars -48715-05-13 04:04 J -16071598.43 -16071598.33 -16071598.23 0.1658 0.1040

Jupiter -48715-11-05 16:18 J -16071421.86 -16071421.82 -16071421.77 0.0538 0.0500

Jupiter -48714-02-03 05:01 J -16071332.42 -16071332.29 -16071332.16 0.0540 0.0171

Mars -48714-03-04 16:18 J -16071302.88 -16071302.82 -16071302.76 0.1896 0.1722

Moon -48712-02-06 09:49 J -16070598.12 -16070598.09 -16070598.05 0.2668 0.2574

Earth -48712-02-06 11:01 J -16070598.10 -16070598.04 -16070597.99 0.2671 0.2450 *

Uranus -48710-01-15 02:09 J -16069890.49 -16069890.41 -16069890.30 0.0147 0.0122

Uranus -48710-04-13 09:49 J -16069802.23 -16069802.09 -16069801.95 0.0147 0.0090

Uranus -48710-07-10 17:01 J -16069713.95 -16069713.79 -16069713.62 0.0147 0.0059

Uranus -48710-10-07 00:28 J -16069625.65 -16069625.48 -16069625.30 0.0147 0.0027

Uranus -48709-01-03 08:09 J -16069537.34 -16069537.16 -16069536.98 0.0147 0.0006

Uranus -48709-03-31 15:21 J -16069449.02 -16069448.86 -16069448.68 0.0147 0.0038

Uranus -48709-06-27 23:01 J -16069360.69 -16069360.54 -16069360.38 0.0147 0.0070

Earth -48709-08-16 15:21 J -16069310.98 -16069310.86 -16069310.74 0.2665 0.0074

Moon -48709-08-16 15:35 J -16069310.97 -16069310.85 -16069310.73 0.2672 0.0072 *

Jupiter -48709-09-20 14:23 J -16069276.03 -16069275.90 -16069275.77 0.0489 0.0296

Uranus -48709-09-24 06:28 J -16069272.34 -16069272.23 -16069272.09 0.0147 0.0103

Jupiter -48709-12-19 11:59 J -16069186.13 -16069186.00 -16069185.87 0.0488 0.0320

Uranus -48709-12-21 14:09 J -16069183.96 -16069183.91 -16069183.83 0.0147 0.0136

Pluto -48708-12-01 17:45 J -16068838.79 -16068838.76 -16068838.72 0.0063 0.0061

Pluto -48707-02-27 18:28 J -16068750.78 -16068750.73 -16068750.64 0.0063 0.0057

Pluto -48707-05-26 19:40 J -16068662.76 -16068662.68 -16068662.57 0.0063 0.0053

Saturn -48707-07-20 18:13 J -16068607.81 -16068607.74 -16068607.65 0.0275 0.0229

Pluto -48707-08-22 20:37 J -16068574.73 -16068574.64 -16068574.51 0.0063 0.0049

Saturn -48707-10-17 07:11 J -16068519.32 -16068519.20 -16068519.07 0.0275 0.0133

Pluto -48707-11-18 21:49 J -16068486.69 -16068486.59 -16068486.45 0.0063 0.0044

Saturn -48706-01-13 19:54 J -16068430.81 -16068430.67 -16068430.53 0.0276 0.0038

Pluto -48706-02-14 23:16 J -16068398.66 -16068398.53 -16068398.39 0.0064 0.0039

Earth -48706-02-17 11:45 J -16068396.06 -16068396.01 -16068395.96 0.2664 0.2467

Moon -48706-02-17 12:42 J -16068396.03 -16068395.97 -16068395.92 0.2669 0.2451 *

Saturn -48706-04-12 08:23 J -16068342.28 -16068342.15 -16068342.01 0.0276 0.0058

Pluto -48706-05-14 00:28 J -16068310.62 -16068310.48 -16068310.33 0.0064 0.0034

Saturn -48706-07-09 20:52 J -16068253.75 -16068253.63 -16068253.51 0.0277 0.0151

Pluto -48706-08-10 01:25 J -16068222.58 -16068222.44 -16068222.28 0.0064 0.0030

Mars -48706-10-03 13:11 J -16068168.07 -16068167.95 -16068167.82 0.1652 0.0445

Saturn -48706-10-06 09:06 J -16068165.19 -16068165.12 -16068165.06 0.0277 0.0243

Pluto -48706-11-06 02:37 J -16068134.54 -16068134.39 -16068134.22 0.0064 0.0025

Pluto -48705-02-02 03:49 J -16068046.49 -16068046.34 -16068046.17 0.0064 0.0020

Pluto -48705-04-30 05:01 J -16067958.45 -16067958.29 -16067958.12 0.0064 0.0015

Pluto -48705-07-27 06:28 J -16067870.40 -16067870.23 -16067870.06 0.0064 0.0010

Pluto -48705-10-23 07:40 J -16067782.35 -16067782.18 -16067782.01 0.0064 0.0005

Pluto -48704-01-19 08:52 J -16067694.30 -16067694.13 -16067693.96 0.0064 0.0001

Pluto -48704-04-17 10:04 J -16067606.25 -16067606.08 -16067605.91 0.0064 0.0005

Pluto -48704-07-14 11:16 J -16067518.20 -16067518.03 -16067517.86 0.0064 0.0010

Pluto -48704-10-10 12:28 J -16067430.15 -16067429.98 -16067429.81 0.0065 0.0015

Pluto -48703-01-06 13:40 J -16067342.09 -16067341.93 -16067341.76 0.0065 0.0020

Pluto -48703-04-04 14:52 J -16067254.03 -16067253.88 -16067253.72 0.0065 0.0025

Pluto -48703-07-01 16:04 J -16067165.98 -16067165.83 -16067165.67 0.0065 0.0030

Pluto -48703-09-27 17:16 J -16067077.91 -16067077.78 -16067077.63 0.0065 0.0035

Jupiter -48703-11-22 07:25 J -16067022.33 -16067022.19 -16067022.05 0.0540 0.0003

Pluto -48703-12-24 18:42 J -16066989.85 -16066989.72 -16066989.58 0.0065 0.0040

Pluto -48702-03-22 19:40 J -16066901.79 -16066901.68 -16066901.54 0.0065 0.0046

Pluto -48702-06-18 20:52 J -16066813.72 -16066813.63 -16066813.50 0.0065 0.0051

Earth -48702-08-10 08:23 J -16066761.16 -16066761.15 -16066761.13 0.2660 0.2633

Pluto -48702-09-14 22:18 J -16066725.64 -16066725.57 -16066725.47 0.0065 0.0057

Pluto -48702-12-11 23:45 J -16066637.55 -16066637.51 -16066637.45 0.0065 0.0062

Moon -48699-02-09 10:47 J -16065847.17 -16065847.05 -16065846.93 0.2669 0.1339

Earth -48699-02-09 11:59 J -16065847.12 -16065847.00 -16065846.87 0.2669 0.1230 *

Jupiter -48697-07-09 14:23 J -16064965.96 -16064965.90 -16064965.83 0.0489 0.0450

Jupiter -48697-10-07 11:30 J -16064876.18 -16064876.02 -16064875.86 0.0488 0.0159

Mars -48696-02-22 22:33 J -16064737.69 -16064737.56 -16064737.43 0.1648 0.0155

Earth -48696-08-19 10:47 J -16064560.16 -16064560.05 -16064559.93 0.2667 0.0880

Moon -48696-08-19 11:30 J -16064560.12 -16064560.02 -16064559.91 0.2670 0.1002 *

Mars -48694-11-21 15:21 J -16063735.99 -16063735.86 -16063735.73 0.1882 0.0816

Saturn -48693-08-11 14:52 J -16063471.94 -16063471.88 -16063471.81 0.0285 0.0261

Saturn -48693-11-08 10:04 J -16063383.22 -16063383.08 -16063382.93 0.0285 0.0138

Saturn -48692-02-05 05:45 J -16063294.43 -16063294.26 -16063294.09 0.0284 0.0014

Saturn -48692-05-05 01:25 J -16063205.59 -16063205.44 -16063205.28 0.0284 0.0114

Saturn -48692-08-01 21:49 J -16063116.68 -16063116.59 -16063116.50 0.0283 0.0241

Jupiter -48691-09-10 10:04 J -16062712.21 -16062712.08 -16062711.94 0.0540 0.0160

Jupiter -48691-12-08 22:04 J -16062622.62 -16062622.58 -16062622.53 0.0541 0.0502

Moon -48689-08-12 03:49 J -16062010.43 -16062010.34 -16062010.25 0.2665 0.1750

Earth -48689-08-12 04:33 J -16062010.40 -16062010.31 -16062010.21 0.2662 0.1688 *

Venus -48689-11-13 05:30 J -16061917.37 -16061917.27 -16061917.18 0.3722 0.1664

Mars -48687-07-16 07:40 J -16061307.30 -16061307.18 -16061307.07 0.1643 0.0748

Moon -48686-02-12 12:42 J -16061096.11 -16061095.97 -16061095.83 0.2673 0.0035

Earth -48686-02-12 13:40 J -16061096.07 -16061095.93 -16061095.79 0.2667 0.0061 *

Jupiter -48685-07-26 11:45 J -16060566.18 -16060566.01 -16060565.84 0.0488 0.0007

Mars -48684-04-12 15:49 J -16060305.98 -16060305.84 -16060305.70 0.1889 0.0402

Venus -48683-05-29 21:35 J -16059893.70 -16059893.60 -16059893.49 0.3726 0.0593

Earth -48683-08-22 06:13 J -16059809.32 -16059809.24 -16059809.15 0.2669 0.1748

Moon -48683-08-22 07:11 J -16059809.29 -16059809.20 -16059809.12 0.2667 0.1772 *

Jupiter -48679-06-29 12:57 J -16058402.07 -16058401.96 -16058401.85 0.0539 0.0320

Jupiter -48679-09-27 01:11 J -16058312.55 -16058312.45 -16058312.35 0.0540 0.0346

Mars -48678-12-06 16:33 J -16057876.88 -16057876.81 -16057876.74 0.1638 0.1346

Saturn -48678-12-07 19:40 J -16057875.71 -16057875.68 -16057875.63 0.0274 0.0260

Venus -48678-12-13 13:54 J -16057869.99 -16057869.92 -16057869.85 0.3731 0.2788

Saturn -48677-03-05 08:52 J -16057787.25 -16057787.13 -16057787.02 0.0275 0.0164

Saturn -48677-06-01 21:35 J -16057698.74 -16057698.60 -16057698.47 0.0275 0.0069

Saturn -48677-08-29 10:04 J -16057610.22 -16057610.08 -16057609.94 0.0276 0.0026

Neptune -48677-09-29 09:35 J -16057579.11 -16057579.10 -16057579.08 0.0089 0.0088

Saturn -48677-11-25 22:18 J -16057521.69 -16057521.57 -16057521.44 0.0276 0.0121

Neptune -48677-12-26 11:59 J -16057491.06 -16057491.00 -16057490.93 0.0089 0.0081

Saturn -48676-02-22 10:33 J -16057433.14 -16057433.06 -16057432.97 0.0277 0.0213

Neptune -48676-03-24 14:23 J -16057402.98 -16057402.90 -16057402.80 0.0089 0.0074

Neptune -48676-06-20 16:47 J -16057314.89 -16057314.80 -16057314.67 0.0089 0.0067

Moon -48676-08-15 00:28 J -16057259.60 -16057259.48 -16057259.37 0.2670 0.0814

Earth -48676-08-15 00:42 J -16057259.59 -16057259.47 -16057259.36 0.2664 0.0762 *

Neptune -48676-09-16 19:40 J -16057226.80 -16057226.68 -16057226.55 0.0089 0.0059

Mars -48676-11-11 04:04 J -16057171.42 -16057171.33 -16057171.23 0.1658 0.1126

Neptune -48676-12-13 22:04 J -16057138.70 -16057138.58 -16057138.43 0.0089 0.0052

Neptune -48675-03-12 00:42 J -16057050.60 -16057050.47 -16057050.31 0.0089 0.0045

Neptune -48675-06-08 03:35 J -16056962.50 -16056962.35 -16056962.19 0.0089 0.0037

Mars -48675-09-02 16:47 J -16056875.88 -16056875.80 -16056875.72 0.1896 0.1595

Neptune -48675-09-04 05:59 J -16056874.40 -16056874.25 -16056874.08 0.0089 0.0030

Neptune -48675-12-01 08:52 J -16056786.30 -16056786.13 -16056785.96 0.0089 0.0022

Neptune -48674-02-27 11:30 J -16056698.19 -16056698.02 -16056697.85 0.0089 0.0014

Neptune -48674-05-26 14:09 J -16056610.08 -16056609.91 -16056609.74 0.0089 0.0007

Neptune -48674-08-22 16:47 J -16056521.97 -16056521.80 -16056521.63 0.0089 0.0001

Neptune -48674-11-18 19:25 J -16056433.86 -16056433.69 -16056433.51 0.0089 0.0009

Neptune -48673-02-14 22:18 J -16056345.74 -16056345.57 -16056345.40 0.0089 0.0016

Moon -48673-02-15 15:21 J -16056344.98 -16056344.86 -16056344.73 0.2672 0.1267

Earth -48673-02-15 15:35 J -16056344.97 -16056344.85 -16056344.73 0.2665 0.1354 *

Neptune -48673-05-13 00:42 J -16056257.63 -16056257.47 -16056257.30 0.0089 0.0024

Jupiter -48673-05-14 11:45 J -16056256.17 -16056256.01 -16056255.85 0.0488 0.0150

Neptune -48673-08-09 03:21 J -16056169.51 -16056169.36 -16056169.19 0.0089 0.0032

Jupiter -48673-08-12 09:35 J -16056166.14 -16056166.10 -16056166.06 0.0487 0.0472

Neptune -48673-11-05 06:13 J -16056081.39 -16056081.24 -16056081.08 0.0089 0.0039

Neptune -48672-02-01 08:52 J -16055993.27 -16055993.13 -16055992.97 0.0089 0.0047

Neptune -48672-04-30 11:30 J -16055905.14 -16055905.02 -16055904.87 0.0089 0.0055

Neptune -48672-07-27 14:09 J -16055817.01 -16055816.91 -16055816.77 0.0089 0.0063

Neptune -48672-10-23 17:16 J -16055728.88 -16055728.78 -16055728.67 0.0089 0.0070

Neptune -48671-01-19 19:54 J -16055640.74 -16055640.67 -16055640.58 0.0089 0.0078

Neptune -48671-04-17 22:47 J -16055552.58 -16055552.55 -16055552.50 0.0089 0.0086

Earth -48670-08-25 01:40 J -16055058.46 -16055058.43 -16055058.41 0.2670 0.2598

Moon -48670-08-25 01:54 J -16055058.43 -16055058.42 -16055058.40 0.2664 0.2630 *

Venus -48669-03-27 05:45 J -16054843.39 -16054843.26 -16054843.12 0.3655 0.1303

Uranus -48669-08-10 19:40 J -16054706.70 -16054706.68 -16054706.65 0.0132 0.0129

Uranus -48669-11-06 23:16 J -16054618.60 -16054618.53 -16054618.46 0.0132 0.0111

Uranus -48668-02-03 02:23 J -16054530.49 -16054530.40 -16054530.29 0.0132 0.0093

Uranus -48668-05-02 05:59 J -16054442.36 -16054442.25 -16054442.13 0.0132 0.0074

Uranus -48668-07-29 09:21 J -16054354.23 -16054354.11 -16054353.98 0.0132 0.0056

Uranus -48668-10-25 12:42 J -16054266.10 -16054265.97 -16054265.83 0.0132 0.0038

Uranus -48667-01-21 16:04 J -16054177.97 -16054177.83 -16054177.69 0.0132 0.0020

Jupiter -48667-04-17 15:21 J -16054091.92 -16054091.86 -16054091.81 0.0539 0.0490

Uranus -48667-04-19 19:25 J -16054089.83 -16054089.69 -16054089.55 0.0132 0.0003

Jupiter -48667-07-16 03:49 J -16054002.46 -16054002.34 -16054002.21 0.0540 0.0183

Uranus -48667-07-16 22:47 J -16054001.69 -16054001.55 -16054001.41 0.0132 0.0016

Uranus -48667-10-13 01:54 J -16053913.55 -16053913.42 -16053913.28 0.0132 0.0035

Uranus -48666-01-09 05:16 J -16053825.40 -16053825.28 -16053825.15 0.0132 0.0052

Moon -48666-02-07 15:35 J -16053795.93 -16053795.85 -16053795.78 0.2668 0.2248

Earth -48666-02-07 16:47 J -16053795.88 -16053795.80 -16053795.73 0.2671 0.2241 *

Mars -48666-04-03 13:25 J -16053741.06 -16053740.94 -16053740.82 0.1652 0.0531

Uranus -48666-04-07 08:23 J -16053737.26 -16053737.15 -16053737.02 0.0132 0.0070

Uranus -48666-07-04 11:45 J -16053649.11 -16053649.01 -16053648.90 0.0132 0.0087

Uranus -48666-09-30 14:52 J -16053560.95 -16053560.88 -16053560.79 0.0132 0.0105

Uranus -48666-12-27 17:59 J -16053472.78 -16053472.75 -16053472.69 0.0132 0.0123

Saturn -48663-03-28 09:35 J -16052651.23 -16052651.10 -16052650.97 0.0285 0.0176

Saturn -48663-06-25 05:01 J -16052562.45 -16052562.29 -16052562.12 0.0284 0.0052

Earth -48663-08-17 20:23 J -16052508.77 -16052508.65 -16052508.53 0.2665 0.0151

Moon -48663-08-17 20:37 J -16052508.76 -16052508.64 -16052508.52 0.2672 0.0237 *

Saturn -48663-09-22 00:57 J -16052473.63 -16052473.46 -16052473.29 0.0284 0.0074

Saturn -48663-12-19 21:06 J -16052384.74 -16052384.62 -16052384.50 0.0283 0.0202

Jupiter -48661-03-02 12:13 J -16051946.12 -16051945.99 -16051945.86 0.0489 0.0299

Jupiter -48661-05-31 09:35 J -16051856.22 -16051856.10 -16051855.97 0.0488 0.0318

Mars -48657-08-23 22:33 J -16050310.69 -16050310.56 -16050310.43 0.1647 0.0068

Moon -48656-08-10 12:42 J -16049958.99 -16049958.97 -16049958.94 0.2661 0.2584

Earth -48656-08-10 13:40 J -16049958.97 -16049958.93 -16049958.89 0.2661 0.2456 *

Jupiter -48655-05-04 05:45 J -16049692.40 -16049692.26 -16049692.13 0.0539 0.0014

Mars -48654-05-22 15:35 J -16049308.98 -16049308.85 -16049308.73 0.1882 0.0925

Moon -48653-02-10 16:47 J -16049044.93 -16049044.80 -16049044.68 0.2670 0.1111

Earth -48653-02-10 17:59 J -16049044.88 -16049044.75 -16049044.62 0.2669 0.1007 *

Earth -48650-08-20 15:49 J -16047757.94 -16047757.84 -16047757.73 0.2667 0.1038

Moon -48650-08-20 16:47 J -16047757.91 -16047757.80 -16047757.69 0.2669 0.1029 *

Jupiter -48650-12-20 12:28 J -16047636.04 -16047635.98 -16047635.91 0.0489 0.0448

Jupiter -48649-03-19 09:35 J -16047546.26 -16047546.10 -16047545.94 0.0488 0.0162

Saturn -48648-07-23 11:59 J -16047055.10 -16047055.00 -16047054.89 0.0275 0.0182

Saturn -48648-10-20 00:57 J -16046966.60 -16046966.46 -16046966.33 0.0276 0.0086

Mars -48647-01-14 07:40 J -16046880.30 -16046880.18 -16046880.06 0.1643 0.0662

Saturn -48647-01-16 13:25 J -16046878.08 -16046877.94 -16046877.79 0.0276 0.0012

Saturn -48647-04-15 01:54 J -16046789.55 -16046789.42 -16046789.29 0.0277 0.0103

Saturn -48647-07-12 14:23 J -16046701.00 -16046700.90 -16046700.81 0.0277 0.0196

Mars -48645-10-11 16:18 J -16045878.96 -16045878.82 -16045878.68 0.1889 0.0275

Jupiter -48643-02-20 07:54 J -16045382.30 -16045382.17 -16045382.04 0.0539 0.0168

Jupiter -48643-05-20 19:54 J -16045292.73 -16045292.67 -16045292.62 0.0540 0.0491

Moon -48643-08-13 09:06 J -16045208.22 -16045208.12 -16045208.03 0.2666 0.1574

Earth -48643-08-13 09:49 J -16045208.19 -16045208.09 -16045207.99 0.2662 0.1516 *

Moon -48640-02-12 18:42 J -16044293.86 -16044293.72 -16044293.58 0.2672 0.0171

Earth -48640-02-12 19:25 J -16044293.83 -16044293.69 -16044293.55 0.2667 0.0278 *

Mars -48638-06-06 16:47 J -16043449.88 -16043449.80 -16043449.72 0.1638 0.1258

Venus -48638-12-05 10:33 J -16043268.11 -16043268.06 -16043268.00 0.3718 0.3078

Jupiter -48637-01-06 09:21 J -16043236.28 -16043236.11 -16043235.94 0.0488 0.0004

Earth -48637-08-22 11:16 J -16043007.11 -16043007.03 -16043006.95 0.2669 0.1904

Moon -48637-08-22 12:13 J -16043007.07 -16043006.99 -16043006.92 0.2667 0.2012 *

Mars -48636-05-12 04:18 J -16042744.41 -16042744.32 -16042744.24 0.1658 0.1207

Mars -48635-03-03 17:16 J -16042448.87 -16042448.78 -16042448.69 0.1895 0.1468

Saturn -48634-08-15 11:45 J -16041919.12 -16041919.01 -16041918.89 0.0285 0.0199

Saturn -48634-11-12 07:11 J -16041830.36 -16041830.20 -16041830.04 0.0284 0.0075

Saturn -48633-02-09 02:52 J -16041741.55 -16041741.38 -16041741.21 0.0284 0.0051

Saturn -48633-05-07 22:47 J -16041652.68 -16041652.55 -16041652.41 0.0283 0.0178

Venus -48632-06-20 02:52 J -16041244.48 -16041244.38 -16041244.27 0.3723 0.0841

Jupiter -48632-12-09 10:33 J -16041072.17 -16041072.06 -16041071.96 0.0539 0.0334

Jupiter -48631-03-08 22:47 J -16040982.65 -16040982.55 -16040982.44 0.0540 0.0334

Moon -48630-08-16 05:30 J -16040457.38 -16040457.27 -16040457.15 0.2671 0.0595

Earth -48630-08-16 05:45 J -16040457.38 -16040457.26 -16040457.15 0.2664 0.0594 *

Earth -48627-02-15 21:21 J -16039542.72 -16039542.61 -16039542.49 0.2665 0.1584

Moon -48627-02-15 21:35 J -16039542.71 -16039542.60 -16039542.49 0.2671 0.1665 *

Mars -48627-10-02 13:25 J -16039314.05 -16039313.94 -16039313.82 0.1653 0.0618

Uranus -48627-11-08 03:49 J -16039277.38 -16039277.34 -16039277.27 0.0147 0.0139

Venus -48626-01-03 19:11 J -16039220.79 -16039220.70 -16039220.60 0.3728 0.1414

Uranus -48626-02-04 11:01 J -16039189.14 -16039189.04 -16039188.91 0.0147 0.0108

Uranus -48626-05-03 18:42 J -16039100.87 -16039100.72 -16039100.57 0.0147 0.0076

Uranus -48626-07-31 01:54 J -16039012.58 -16039012.42 -16039012.24 0.0147 0.0045

Jupiter -48626-10-25 09:35 J -16038926.26 -16038926.10 -16038925.94 0.0488 0.0148

Uranus -48626-10-27 09:21 J -16038924.28 -16038924.11 -16038923.93 0.0147 0.0013

Jupiter -48625-01-23 07:25 J -16038836.22 -16038836.19 -16038836.15 0.0487 0.0473

Uranus -48625-01-23 17:01 J -16038835.97 -16038835.79 -16038835.61 0.0147 0.0020

Uranus -48625-04-21 00:28 J -16038747.65 -16038747.48 -16038747.31 0.0147 0.0052

Uranus -48625-07-18 07:54 J -16038659.31 -16038659.17 -16038659.01 0.0147 0.0085

Uranus -48625-10-14 15:49 J -16038570.95 -16038570.84 -16038570.74 0.0147 0.0117

Venus -48621-07-19 11:30 J -16037197.04 -16037197.02 -16037197.00 0.3732 0.3599

Moon -48620-02-07 21:21 J -16036993.69 -16036993.61 -16036993.53 0.2667 0.2176

Earth -48620-02-07 22:33 J -16036993.65 -16036993.56 -16036993.47 0.2670 0.2017 *

Jupiter -48620-09-27 13:11 J -16036762.00 -16036761.95 -16036761.90 0.0539 0.0497

Jupiter -48620-12-26 01:54 J -16036672.55 -16036672.42 -16036672.29 0.0540 0.0177

Saturn -48619-12-10 13:40 J -16036323.02 -16036322.93 -16036322.84 0.0274 0.0213

Saturn -48618-03-09 02:23 J -16036234.52 -16036234.40 -16036234.27 0.0275 0.0117

Pluto -48618-06-03 21:06 J -16036147.66 -16036147.62 -16036147.55 0.0081 0.0075

Saturn -48618-06-05 15:06 J -16036146.01 -16036145.87 -16036145.73 0.0275 0.0022

Pluto -48618-08-30 23:01 J -16036059.62 -16036059.54 -16036059.45 0.0081 0.0065

Saturn -48618-09-02 03:35 J -16036057.48 -16036057.35 -16036057.21 0.0276 0.0072

Pluto -48618-11-27 00:28 J -16035971.57 -16035971.48 -16035971.36 0.0081 0.0057

Saturn -48618-11-29 15:49 J -16035968.94 -16035968.84 -16035968.72 0.0277 0.0166

Mars -48617-02-22 22:47 J -16035883.68 -16035883.55 -16035883.42 0.1648 0.0037

Pluto -48617-02-23 02:09 J -16035883.52 -16035883.41 -16035883.28 0.0081 0.0048 *

Saturn -48617-02-26 04:04 J -16035880.37 -16035880.33 -16035880.28 0.0277 0.0258

Pluto -48617-05-21 03:49 J -16035795.47 -16035795.34 -16035795.21 0.0081 0.0039

Pluto -48617-08-17 05:16 J -16035707.41 -16035707.28 -16035707.13 0.0081 0.0031

Earth -48617-08-18 01:25 J -16035706.56 -16035706.44 -16035706.32 0.2666 0.0312

Moon -48617-08-18 01:54 J -16035706.54 -16035706.42 -16035706.30 0.2671 0.0298 *

Pluto -48617-11-13 06:57 J -16035619.35 -16035619.21 -16035619.07 0.0080 0.0022

Pluto -48616-02-09 08:23 J -16035531.29 -16035531.15 -16035531.00 0.0080 0.0014

Pluto -48616-05-08 10:04 J -16035443.23 -16035443.08 -16035442.93 0.0080 0.0005

Pluto -48616-08-04 11:30 J -16035355.16 -16035355.02 -16035354.87 0.0080 0.0003

Pluto -48616-10-31 12:57 J -16035267.10 -16035266.96 -16035266.81 0.0080 0.0011

Pluto -48615-01-27 14:37 J -16035179.04 -16035178.89 -16035178.75 0.0080 0.0019

Pluto -48615-04-25 15:49 J -16035090.97 -16035090.84 -16035090.70 0.0080 0.0027

Pluto -48615-07-22 17:16 J -16035002.90 -16035002.78 -16035002.64 0.0080 0.0035

Pluto -48615-10-18 18:42 J -16034914.83 -16034914.72 -16034914.59 0.0079 0.0043

Mars -48615-11-20 15:49 J -16034881.96 -16034881.84 -16034881.71 0.1882 0.1052

Pluto -48614-01-14 20:23 J -16034826.76 -16034826.65 -16034826.54 0.0079 0.0051

Pluto -48614-04-12 21:35 J -16034738.69 -16034738.60 -16034738.50 0.0079 0.0059

Pluto -48614-07-09 22:47 J -16034650.61 -16034650.55 -16034650.46 0.0079 0.0066

Jupiter -48614-08-13 09:49 J -16034616.22 -16034616.09 -16034615.96 0.0488 0.0302

Pluto -48614-10-06 00:13 J -16034562.53 -16034562.49 -16034562.43 0.0079 0.0074

Jupiter -48614-11-11 07:11 J -16034526.33 -16034526.20 -16034526.07 0.0487 0.0313

Venus -48613-11-01 06:57 J -16034170.36 -16034170.21 -16034170.06 0.3654 0.0588

Moon -48610-08-11 17:45 J -16033156.81 -16033156.76 -16033156.70 0.2662 0.2294

Earth -48610-08-11 18:42 J -16033156.78 -16033156.72 -16033156.66 0.2661 0.2289 *

Mars -48608-07-15 07:54 J -16032453.29 -16032453.17 -16032453.05 0.1643 0.0573

Jupiter -48608-10-14 04:33 J -16032362.45 -16032362.31 -16032362.18 0.0540 0.0015

Moon -48607-02-10 22:33 J -16032242.69 -16032242.56 -16032242.43 0.2671 0.0822

Earth -48607-02-10 23:45 J -16032242.64 -16032242.51 -16032242.38 0.2668 0.0786 *

Mars -48605-04-11 16:33 J -16031451.95 -16031451.81 -16031451.66 0.1889 0.0160

Saturn -48604-01-01 11:01 J -16031187.12 -16031187.04 -16031186.94 0.0285 0.0238

Saturn -48604-03-31 06:28 J -16031098.38 -16031098.23 -16031098.08 0.0285 0.0115

Saturn -48604-06-28 02:09 J -16031009.58 -16031009.41 -16031009.24 0.0284 0.0012

Earth -48604-08-20 21:06 J -16030955.73 -16030955.62 -16030955.52 0.2668 0.1198

Moon -48604-08-20 21:49 J -16030955.69 -16030955.59 -16030955.49 0.2669 0.1333 *

Saturn -48604-09-24 22:04 J -16030920.73 -16030920.58 -16030920.43 0.0283 0.0138

Saturn -48604-12-22 18:13 J -16030831.79 -16030831.74 -16030831.68 0.0283 0.0266

Jupiter -48602-06-01 10:18 J -16030306.13 -16030306.07 -16030306.01 0.0489 0.0449

Jupiter -48602-08-30 07:25 J -16030216.35 -16030216.19 -16030216.03 0.0488 0.0160

Mars -48599-12-05 16:47 J -16029022.89 -16029022.80 -16029022.71 0.1638 0.1176

Moon -48597-08-13 14:23 J -16028406.00 -16028405.90 -16028405.80 0.2667 0.1432

Earth -48597-08-13 14:52 J -16028405.98 -16028405.88 -16028405.77 0.2663 0.1346 *

Mars -48597-11-10 04:18 J -16028317.40 -16028317.32 -16028317.24 0.1658 0.1290

Jupiter -48596-08-02 06:13 J -16028052.37 -16028052.24 -16028052.11 0.0539 0.0167

Mars -48596-09-01 17:16 J -16028021.88 -16028021.78 -16028021.68 0.1896 0.1365

Jupiter -48596-10-30 18:13 J -16027962.79 -16027962.74 -16027962.69 0.0540 0.0491

Moon -48594-02-14 00:42 J -16027491.61 -16027491.47 -16027491.34 0.2672 0.0465

Earth -48594-02-14 01:25 J -16027491.58 -16027491.44 -16027491.30 0.2667 0.0495 *

Neptune -48594-07-04 09:35 J -16027351.13 -16027351.10 -16027351.05 0.0088 0.0084

Neptune -48594-09-30 11:30 J -16027263.08 -16027263.02 -16027262.94 0.0088 0.0078

Neptune -48594-12-27 13:25 J -16027175.02 -16027174.94 -16027174.85 0.0088 0.0071

Neptune -48593-03-24 15:06 J -16027086.96 -16027086.87 -16027086.76 0.0088 0.0065

Neptune -48593-06-20 17:01 J -16026998.90 -16026998.79 -16026998.67 0.0088 0.0058

Neptune -48593-09-16 18:42 J -16026910.83 -16026910.72 -16026910.59 0.0088 0.0052

Neptune -48593-12-13 20:37 J -16026822.76 -16026822.64 -16026822.51 0.0089 0.0045

Neptune -48592-03-11 22:18 J -16026734.69 -16026734.57 -16026734.43 0.0089 0.0039

Neptune -48592-06-08 00:13 J -16026646.62 -16026646.49 -16026646.35 0.0089 0.0032

Neptune -48592-09-04 02:09 J -16026558.55 -16026558.41 -16026558.27 0.0089 0.0025

Neptune -48592-12-01 03:49 J -16026470.48 -16026470.34 -16026470.19 0.0089 0.0019

Neptune -48591-02-27 05:30 J -16026382.41 -16026382.27 -16026382.12 0.0089 0.0013

Neptune -48591-05-26 07:25 J -16026294.34 -16026294.19 -16026294.04 0.0089 0.0006

Neptune -48591-08-22 09:06 J -16026206.26 -16026206.12 -16026205.97 0.0089 0.0002

Earth -48591-08-23 16:18 J -16026204.89 -16026204.82 -16026204.74 0.2669 0.2059

Moon -48591-08-23 17:01 J -16026204.86 -16026204.79 -16026204.71 0.2666 0.2042 *

Neptune -48591-11-18 10:47 J -16026118.19 -16026118.05 -16026117.90 0.0089 0.0008

Neptune -48590-02-14 12:42 J -16026030.12 -16026029.97 -16026029.83 0.0089 0.0014

Neptune -48590-05-13 14:23 J -16025942.04 -16025941.90 -16025941.76 0.0089 0.0020

Jupiter -48590-06-18 07:25 J -16025906.36 -16025906.19 -16025906.02 0.0488 0.0007

Neptune -48590-08-09 16:04 J -16025853.97 -16025853.83 -16025853.69 0.0089 0.0026

Neptune -48590-11-05 17:45 J -16025765.89 -16025765.76 -16025765.62 0.0089 0.0033

Neptune -48589-02-01 19:11 J -16025677.82 -16025677.70 -16025677.56 0.0089 0.0040

Saturn -48589-04-28 16:47 J -16025590.87 -16025590.80 -16025590.72 0.0275 0.0232

Neptune -48589-04-29 20:52 J -16025589.74 -16025589.63 -16025589.49 0.0089 0.0046

Saturn -48589-07-26 05:45 J -16025502.39 -16025502.26 -16025502.14 0.0275 0.0136

Neptune -48589-07-26 22:47 J -16025501.66 -16025501.55 -16025501.43 0.0089 0.0052

Saturn -48589-10-22 18:28 J -16025413.87 -16025413.73 -16025413.59 0.0276 0.0041

Neptune -48589-10-23 00:28 J -16025413.58 -16025413.48 -16025413.37 0.0089 0.0058

Neptune -48588-01-19 01:54 J -16025325.50 -16025325.42 -16025325.31 0.0089 0.0065

Saturn -48588-01-19 06:57 J -16025325.35 -16025325.21 -16025325.07 0.0276 0.0054 *

Neptune -48588-04-17 03:35 J -16025237.42 -16025237.35 -16025237.25 0.0089 0.0071

Saturn -48588-04-17 19:25 J -16025236.81 -16025236.69 -16025236.58 0.0277 0.0148

Neptune -48588-07-14 05:16 J -16025149.34 -16025149.28 -16025149.20 0.0089 0.0077

Saturn -48588-07-15 07:25 J -16025148.25 -16025148.19 -16025148.12 0.0278 0.0241

Neptune -48588-10-10 06:57 J -16025061.25 -16025061.21 -16025061.15 0.0089 0.0083

Mars -48587-04-02 13:40 J -16024887.05 -16024886.93 -16024886.82 0.1653 0.0697

Uranus -48585-08-31 03:35 J -16024005.40 -16024005.35 -16024005.29 0.0132 0.0121

Uranus -48585-11-27 06:57 J -16023917.29 -16023917.21 -16023917.11 0.0132 0.0103

Uranus -48584-02-23 10:33 J -16023829.16 -16023829.06 -16023828.95 0.0132 0.0084

Jupiter -48584-05-21 08:23 J -16023742.25 -16023742.15 -16023742.04 0.0539 0.0340

Uranus -48584-05-22 13:54 J -16023741.04 -16023740.92 -16023740.79 0.0132 0.0066

Moon -48584-08-16 10:47 J -16023655.17 -16023655.05 -16023654.93 0.2672 0.0434

Earth -48584-08-16 10:47 J -16023655.17 -16023655.05 -16023654.93 0.2664 0.0428 *

Uranus -48584-08-18 17:16 J -16023652.91 -16023652.78 -16023652.64 0.0132 0.0048

Jupiter -48584-08-18 20:37 J -16023652.74 -16023652.64 -16023652.53 0.0540 0.0326 *

Uranus -48584-11-14 20:37 J -16023564.77 -16023564.64 -16023564.50 0.0132 0.0030

Uranus -48583-02-11 00:13 J -16023476.63 -16023476.49 -16023476.35 0.0132 0.0012

Uranus -48583-05-10 03:21 J -16023388.50 -16023388.36 -16023388.22 0.0132 0.0008

Uranus -48583-08-06 06:42 J -16023300.36 -16023300.22 -16023300.08 0.0132 0.0025

Uranus -48583-11-02 10:04 J -16023212.21 -16023212.08 -16023211.95 0.0132 0.0043

Uranus -48582-01-29 13:11 J -16023124.07 -16023123.95 -16023123.82 0.0132 0.0061

Uranus -48582-04-27 16:33 J -16023035.92 -16023035.81 -16023035.70 0.0132 0.0078

Uranus -48582-07-24 19:40 J -16022947.77 -16022947.68 -16022947.58 0.0132 0.0096

Uranus -48582-10-20 23:01 J -16022859.61 -16022859.54 -16022859.47 0.0132 0.0113

Uranus -48581-01-17 01:54 J -16022771.42 -16022771.42 -16022771.39 0.0132 0.0131

Earth -48581-02-17 03:21 J -16022740.46 -16022740.36 -16022740.25 0.2665 0.1820

Moon -48581-02-17 03:49 J -16022740.44 -16022740.34 -16022740.24 0.2671 0.1798 *

Venus -48581-07-11 08:09 J -16022595.24 -16022595.16 -16022595.07 0.3719 0.2245

Jupiter -48578-04-06 07:11 J -16021596.35 -16021596.20 -16021596.04 0.0488 0.0151

Jupiter -48578-07-05 05:01 J -16021506.33 -16021506.29 -16021506.24 0.0487 0.0470

Mars -48578-08-23 22:47 J -16021456.67 -16021456.55 -16021456.42 0.1648 0.0120

Venus -48575-01-25 00:28 J -16020571.58 -16020571.48 -16020571.37 0.3724 0.0170

Saturn -48575-05-21 13:25 J -16020455.00 -16020454.94 -16020454.87 0.0285 0.0259

Mars -48575-05-21 16:33 J -16020454.92 -16020454.81 -16020454.70 0.1881 0.1189 *

Saturn -48575-08-18 08:37 J -16020366.28 -16020366.14 -16020365.99 0.0285 0.0137

Saturn -48575-11-15 04:18 J -16020277.49 -16020277.32 -16020277.15 0.0284 0.0013

Moon -48574-02-09 03:06 J -16020191.47 -16020191.37 -16020191.26 0.2668 0.1798

Earth -48574-02-09 04:18 J -16020191.42 -16020191.32 -16020191.22 0.2670 0.1801 *

Saturn -48574-02-11 23:59 J -16020188.65 -16020188.50 -16020188.34 0.0284 0.0115

Saturn -48574-05-11 20:09 J -16020099.74 -16020099.66 -16020099.57 0.0283 0.0243

Jupiter -48572-03-09 10:33 J -16019432.10 -16019432.06 -16019432.01 0.0539 0.0511

Jupiter -48572-06-06 23:30 J -16019342.65 -16019342.52 -16019342.39 0.0540 0.0165

Earth -48571-08-19 06:28 J -16018904.34 -16018904.23 -16018904.11 0.2666 0.0475

Moon -48571-08-19 07:11 J -16018904.32 -16018904.20 -16018904.09 0.2670 0.0547 *

Venus -48570-08-10 16:47 J -16018547.88 -16018547.80 -16018547.71 0.3728 0.2235

Mars -48568-01-13 07:54 J -16018026.29 -16018026.17 -16018026.04 0.1643 0.0490

Jupiter -48566-01-23 07:40 J -16017286.30 -16017286.18 -16017286.04 0.0488 0.0300

Jupiter -48566-04-23 05:01 J -16017196.41 -16017196.29 -16017196.16 0.0487 0.0315

Mars -48566-10-11 16:47 J -16017024.94 -16017024.80 -16017024.65 0.1888 0.0068

Moon -48564-08-11 23:01 J -16016354.60 -16016354.54 -16016354.48 0.2662 0.2260

Earth -48564-08-11 23:59 J -16016354.57 -16016354.50 -16016354.43 0.2661 0.2112 *

Venus -48562-11-23 02:37 J -16015521.47 -16015521.39 -16015521.30 0.3659 0.2946

Moon -48561-02-12 04:33 J -16015440.44 -16015440.31 -16015440.18 0.2672 0.0713

Earth -48561-02-12 05:45 J -16015440.40 -16015440.26 -16015440.12 0.2668 0.0557 *

Jupiter -48560-03-26 02:23 J -16015032.54 -16015032.40 -16015032.26 0.0540 0.0009

Saturn -48560-09-15 18:28 J -16014858.77 -16014858.73 -16014858.69 0.0274 0.0262

Saturn -48560-12-13 07:11 J -16014770.31 -16014770.20 -16014770.08 0.0274 0.0167

Saturn -48559-03-11 20:09 J -16014681.80 -16014681.66 -16014681.52 0.0275 0.0071

Mars -48559-06-05 17:01 J -16014595.89 -16014595.79 -16014595.69 0.1638 0.1086

Saturn -48559-06-08 08:37 J -16014593.28 -16014593.14 -16014593.00 0.0276 0.0024

Saturn -48559-09-04 21:06 J -16014504.75 -16014504.62 -16014504.49 0.0276 0.0117

Saturn -48559-12-02 09:21 J -16014416.20 -16014416.11 -16014416.02 0.0277 0.0210

Earth -48558-08-22 02:09 J -16014153.51 -16014153.41 -16014153.31 0.2668 0.1354

Moon -48558-08-22 02:52 J -16014153.48 -16014153.38 -16014153.28 0.2669 0.1352 *

Mars -48557-05-11 04:33 J -16013890.38 -16013890.31 -16013890.24 0.1658 0.1372

Mars -48556-03-02 17:45 J -16013594.87 -16013594.76 -16013594.65 0.1895 0.1234

Venus -48556-06-08 08:09 J -16013497.27 -16013497.16 -16013497.05 0.3652 0.2499

Jupiter -48555-11-11 08:09 J -16012976.22 -16012976.16 -16012976.10 0.0489 0.0451

Jupiter -48554-02-09 05:01 J -16012886.45 -16012886.29 -16012886.13 0.0488 0.0157

Moon -48551-08-14 19:25 J -16011603.79 -16011603.69 -16011603.58 0.2668 0.1173

Earth -48551-08-14 20:09 J -16011603.77 -16011603.66 -16011603.56 0.2663 0.1184 *

Jupiter -48548-01-12 05:01 J -16010722.42 -16010722.29 -16010722.16 0.0539 0.0159

Moon -48548-02-14 06:42 J -16010689.35 -16010689.22 -16010689.08 0.2672 0.0705

Earth -48548-02-14 07:25 J -16010689.33 -16010689.19 -16010689.06 0.2666 0.0728 *

Jupiter -48548-04-11 17:01 J -16010632.84 -16010632.79 -16010632.74 0.0540 0.0502

Mars -48548-10-01 13:40 J -16010460.04 -16010459.93 -16010459.81 0.1653 0.0786

Saturn -48545-01-05 07:25 J -16009634.31 -16009634.19 -16009634.05 0.0285 0.0179

Saturn -48545-04-03 03:06 J -16009545.54 -16009545.37 -16009545.21 0.0284 0.0054

Saturn -48545-06-30 22:47 J -16009456.71 -16009456.55 -16009456.38 0.0284 0.0072

Earth -48545-08-23 21:21 J -16009402.67 -16009402.61 -16009402.54 0.2670 0.2213

Moon -48545-08-23 22:04 J -16009402.64 -16009402.58 -16009402.52 0.2665 0.2319 *

Saturn -48545-09-27 18:57 J -16009367.83 -16009367.71 -16009367.59 0.0283 0.0199

Jupiter -48543-11-28 05:16 J -16008576.45 -16008576.28 -16008576.11 0.0488 0.0009

Uranus -48543-11-28 11:59 J -16008576.07 -16008576.00 -16008575.90 0.0147 0.0128

Uranus -48542-02-24 19:11 J -16008487.82 -16008487.70 -16008487.56 0.0147 0.0097

Uranus -48542-05-24 02:37 J -16008399.54 -16008399.39 -16008399.22 0.0147 0.0065

Uranus -48542-08-20 10:04 J -16008311.25 -16008311.08 -16008310.90 0.0147 0.0034

Uranus -48542-11-16 17:30 J -16008222.94 -16008222.77 -16008222.59 0.0147 0.0004

Uranus -48541-02-13 00:57 J -16008134.63 -16008134.46 -16008134.28 0.0147 0.0031

Uranus -48541-05-11 08:37 J -16008046.30 -16008046.14 -16008045.98 0.0147 0.0063

Uranus -48541-08-07 16:04 J -16007957.96 -16007957.83 -16007957.69 0.0147 0.0096

Uranus -48541-11-03 23:45 J -16007869.59 -16007869.51 -16007869.42 0.0147 0.0129

Mars -48538-02-21 23:01 J -16007029.67 -16007029.54 -16007029.41 0.1648 0.0192

Moon -48538-08-17 15:49 J -16006852.95 -16006852.84 -16006852.72 0.2671 0.0295

Earth -48538-08-17 15:49 J -16006852.95 -16006852.84 -16006852.72 0.2665 0.0279 *

Jupiter -48537-10-31 06:57 J -16006412.32 -16006412.21 -16006412.11 0.0539 0.0337

Jupiter -48536-01-28 19:11 J -16006322.81 -16006322.70 -16006322.59 0.0540 0.0329

Mars -48536-11-19 16:33 J -16006027.91 -16006027.81 -16006027.70 0.1881 0.1289

Earth -48535-02-17 09:21 J -16005938.20 -16005938.11 -16005938.02 0.2664 0.2047

Moon -48535-02-17 09:49 J -16005938.18 -16005938.09 -16005938.01 0.2671 0.2123 *

Jupiter -48531-09-16 05:16 J -16004266.44 -16004266.28 -16004266.12 0.0488 0.0149

Jupiter -48531-12-15 03:06 J -16004176.40 -16004176.37 -16004176.33 0.0488 0.0473

Saturn -48530-05-02 10:04 J -16004038.18 -16004038.08 -16004037.97 0.0275 0.0188

Saturn -48530-07-29 23:01 J -16003949.68 -16003949.54 -16003949.41 0.0276 0.0093

Venus -48530-08-02 13:25 J -16003945.95 -16003945.94 -16003945.92 0.3716 0.3658

Saturn -48530-10-26 11:30 J -16003861.16 -16003861.02 -16003860.88 0.0276 0.0006

Saturn -48529-01-22 23:59 J -16003772.63 -16003772.50 -16003772.37 0.0277 0.0097

Saturn -48529-04-20 12:13 J -16003684.08 -16003683.99 -16003683.88 0.0277 0.0191

Mars -48529-07-14 08:09 J -16003599.29 -16003599.16 -16003599.04 0.1643 0.0405

Moon -48528-02-09 08:52 J -16003389.23 -16003389.13 -16003389.02 0.2669 0.1757

Earth -48528-02-09 10:04 J -16003389.19 -16003389.08 -16003388.96 0.2670 0.1586 *

Mars -48526-04-11 17:30 J -16002597.92 -16002597.77 -16002597.63 0.1889 0.0099

Jupiter -48525-08-19 08:52 J -16002102.17 -16002102.13 -16002102.09 0.0538 0.0511

Earth -48525-08-19 11:30 J -16002102.13 -16002102.02 -16002101.90 0.2666 0.0643 *

Moon -48525-08-19 12:13 J -16002102.10 -16002101.99 -16002101.87 0.2671 0.0688 *

Jupiter -48525-11-16 21:35 J -16002012.73 -16002012.60 -16002012.47 0.0540 0.0161

Venus -48524-02-15 05:45 J -16001922.35 -16001922.26 -16001922.16 0.3720 0.1402

Mars -48520-12-04 17:16 J -16000168.89 -16000168.78 -16000168.68 0.1639 0.0999

Jupiter -48519-07-05 05:30 J -15999956.40 -15999956.27 -15999956.14 0.0488 0.0301

Venus -48519-08-31 22:18 J -15999898.68 -15999898.57 -15999898.47 0.3725 0.0865

Jupiter -48519-10-03 02:37 J -15999866.51 -15999866.39 -15999866.25 0.0487 0.0314

Moon -48518-08-13 04:18 J -15999552.40 -15999552.32 -15999552.24 0.2663 0.1943

Earth -48518-08-13 05:01 J -15999552.37 -15999552.29 -15999552.21 0.2662 0.1946 *

Mars -48518-11-10 04:33 J -15999463.37 -15999463.31 -15999463.25 0.1658 0.1455

Mars -48517-08-31 18:13 J -15999167.86 -15999167.74 -15999167.63 0.1895 0.1111

Saturn -48516-05-24 10:04 J -15998902.20 -15998902.08 -15998901.96 0.0285 0.0200

Saturn -48516-08-21 05:16 J -15998813.44 -15998813.28 -15998813.11 0.0285 0.0077

Saturn -48516-11-18 01:11 J -15998724.62 -15998724.45 -15998724.29 0.0284 0.0050

Moon -48515-02-12 10:18 J -15998638.21 -15998638.07 -15998637.93 0.2671 0.0347

Earth -48515-02-12 11:30 J -15998638.16 -15998638.02 -15998637.88 0.2668 0.0337 *

Saturn -48515-02-14 20:52 J -15998635.75 -15998635.63 -15998635.49 0.0283 0.0178

Venus -48513-03-16 14:23 J -15997874.95 -15997874.90 -15997874.84 0.3729 0.3062

Jupiter -48513-09-04 23:59 J -15997702.63 -15997702.50 -15997702.36 0.0540 0.0014

Neptune -48512-06-26 07:11 J -15997408.22 -15997408.20 -15997408.15 0.0089 0.0087

Earth -48512-08-22 07:11 J -15997351.30 -15997351.20 -15997351.11 0.2668 0.1509

Moon -48512-08-22 07:54 J -15997351.26 -15997351.17 -15997351.08 0.2668 0.1619 *

Neptune -48512-09-22 09:35 J -15997320.15 -15997320.10 -15997320.01 0.0089 0.0080

Neptune -48512-12-19 12:13 J -15997232.07 -15997231.99 -15997231.88 0.0089 0.0073

Neptune -48511-03-17 15:06 J -15997143.98 -15997143.87 -15997143.76 0.0089 0.0065

Neptune -48511-06-13 17:30 J -15997055.89 -15997055.77 -15997055.64 0.0089 0.0058

Neptune -48511-09-09 19:54 J -15996967.79 -15996967.67 -15996967.52 0.0089 0.0051

Neptune -48511-12-06 22:47 J -15996879.70 -15996879.55 -15996879.40 0.0089 0.0043

Neptune -48510-03-05 01:11 J -15996791.59 -15996791.45 -15996791.28 0.0089 0.0036

Mars -48510-04-27 02:09 J -15996738.43 -15996738.41 -15996738.38 0.1634 0.1598

Neptune -48510-06-01 04:04 J -15996703.49 -15996703.33 -15996703.17 0.0089 0.0028

Neptune -48510-08-28 06:28 J -15996615.39 -15996615.23 -15996615.06 0.0089 0.0021

Neptune -48510-11-24 09:21 J -15996527.28 -15996527.11 -15996526.94 0.0089 0.0013

Neptune -48509-02-20 11:59 J -15996439.17 -15996439.00 -15996438.83 0.0089 0.0006

Neptune -48509-05-18 14:37 J -15996351.06 -15996350.89 -15996350.72 0.0089 0.0002

Neptune -48509-08-14 17:16 J -15996262.95 -15996262.78 -15996262.61 0.0089 0.0010

Neptune -48509-11-10 19:54 J -15996174.84 -15996174.67 -15996174.50 0.0089 0.0017

Neptune -48508-02-06 22:33 J -15996086.72 -15996086.56 -15996086.39 0.0089 0.0025

Mars -48508-04-01 13:54 J -15996033.03 -15996032.92 -15996032.81 0.1653 0.0867

Neptune -48508-05-06 01:11 J -15995998.60 -15995998.45 -15995998.28 0.0089 0.0033

Neptune -48508-08-02 03:49 J -15995910.48 -15995910.34 -15995910.18 0.0089 0.0041

Neptune -48508-10-29 06:42 J -15995822.36 -15995822.22 -15995822.07 0.0089 0.0048

Neptune -48507-01-25 09:21 J -15995734.24 -15995734.11 -15995733.97 0.0089 0.0056

Jupiter -48507-04-23 06:13 J -15995646.30 -15995646.24 -15995646.17 0.0489 0.0446

Neptune -48507-04-23 11:59 J -15995646.11 -15995646.00 -15995645.87 0.0089 0.0064

Neptune -48507-07-20 14:37 J -15995557.97 -15995557.89 -15995557.77 0.0089 0.0072

Jupiter -48507-07-22 03:06 J -15995556.53 -15995556.37 -15995556.21 0.0487 0.0161

Neptune -48507-10-16 17:16 J -15995469.83 -15995469.78 -15995469.68 0.0089 0.0080

Neptune -48506-01-12 20:37 J -15995381.67 -15995381.64 -15995381.61 0.0089 0.0087

Venus -48505-06-29 03:35 J -15994848.49 -15994848.35 -15994848.21 0.3657 0.1095

Moon -48505-08-15 00:42 J -15994801.58 -15994801.47 -15994801.36 0.2670 0.1117

Earth -48505-08-15 01:11 J -15994801.56 -15994801.45 -15994801.34 0.2663 0.1011 *

Moon -48502-02-15 12:57 J -15993887.09 -15993886.96 -15993886.82 0.2673 0.0901

Earth -48502-02-15 13:25 J -15993887.08 -15993886.94 -15993886.81 0.2666 0.0961 *

Jupiter -48501-06-24 02:52 J -15993392.51 -15993392.38 -15993392.25 0.0540 0.0165

Uranus -48501-06-24 08:09 J -15993392.17 -15993392.16 -15993392.14 0.0132 0.0131

Saturn -48501-09-18 11:45 J -15993306.09 -15993306.01 -15993305.92 0.0274 0.0218

Uranus -48501-09-20 11:45 J -15993304.08 -15993304.01 -15993303.94 0.0132 0.0112

Jupiter -48501-09-21 14:52 J -15993302.92 -15993302.88 -15993302.82 0.0541 0.0498

Saturn -48501-12-16 00:42 J -15993217.60 -15993217.47 -15993217.34 0.0274 0.0122

Uranus -48501-12-17 15:06 J -15993215.97 -15993215.87 -15993215.77 0.0132 0.0094

Saturn -48500-03-14 13:25 J -15993129.08 -15993128.94 -15993128.80 0.0275 0.0027

Uranus -48500-03-15 18:28 J -15993127.84 -15993127.73 -15993127.61 0.0132 0.0075

Saturn -48500-06-11 01:54 J -15993040.56 -15993040.42 -15993040.28 0.0276 0.0067

Uranus -48500-06-11 21:49 J -15993039.71 -15993039.59 -15993039.46 0.0132 0.0057

Saturn -48500-09-07 14:09 J -15992952.02 -15992951.91 -15992951.79 0.0276 0.0160

Uranus -48500-09-08 01:25 J -15992951.58 -15992951.44 -15992951.31 0.0132 0.0039

Saturn -48500-12-05 02:23 J -15992863.45 -15992863.40 -15992863.34 0.0277 0.0252

Uranus -48500-12-05 04:47 J -15992863.44 -15992863.30 -15992863.16 0.0132 0.0021 *

Uranus -48499-03-03 08:09 J -15992775.30 -15992775.16 -15992775.02 0.0132 0.0004

Uranus -48499-05-30 11:16 J -15992687.16 -15992687.03 -15992686.89 0.0132 0.0016

Mars -48499-08-22 23:01 J -15992602.66 -15992602.54 -15992602.41 0.1648 0.0280

Earth -48499-08-25 02:23 J -15992600.45 -15992600.40 -15992600.34 0.2670 0.2366

Moon -48499-08-25 03:06 J -15992600.42 -15992600.37 -15992600.32 0.2665 0.2335 *

Uranus -48499-08-26 14:37 J -15992599.02 -15992598.89 -15992598.75 0.0132 0.0033

Uranus -48499-11-22 17:59 J -15992510.88 -15992510.75 -15992510.62 0.0132 0.0051

Uranus -48498-02-18 21:06 J -15992422.73 -15992422.62 -15992422.50 0.0132 0.0069

Uranus -48498-05-18 00:13 J -15992334.58 -15992334.49 -15992334.38 0.0132 0.0087

Uranus -48498-08-14 03:35 J -15992246.43 -15992246.35 -15992246.26 0.0132 0.0104

Uranus -48498-11-10 06:57 J -15992158.26 -15992158.21 -15992158.16 0.0132 0.0121

Mars -48496-05-20 17:01 J -15991600.88 -15991600.79 -15991600.69 0.1881 0.1424

Earth -48495-02-07 14:52 J -15991337.91 -15991337.88 -15991337.84 0.2671 0.2579

Jupiter -48495-05-10 03:06 J -15991246.54 -15991246.37 -15991246.20 0.0488 0.0008

Earth -48492-08-17 21:06 J -15990050.74 -15990050.62 -15990050.50 0.2665 0.0124

Moon -48492-08-17 21:06 J -15990050.73 -15990050.62 -15990050.50 0.2671 0.0087 *

Mars -48489-01-13 08:23 J -15989172.28 -15989172.15 -15989172.03 0.1643 0.0322

Earth -48489-02-18 15:21 J -15989135.93 -15989135.86 -15989135.79 0.2664 0.2287

Moon -48489-02-18 15:49 J -15989135.91 -15989135.84 -15989135.77 0.2670 0.2313 *

Jupiter -48489-04-12 05:30 J -15989082.38 -15989082.27 -15989082.16 0.0539 0.0329

Jupiter -48489-07-10 17:59 J -15988992.85 -15988992.75 -15988992.65 0.0540 0.0339

Mars -48487-10-10 17:30 J -15988170.91 -15988170.77 -15988170.62 0.1888 0.0208

Saturn -48487-10-11 08:23 J -15988170.23 -15988170.15 -15988170.06 0.0285 0.0245

Saturn -48486-01-08 03:35 J -15988081.50 -15988081.35 -15988081.19 0.0285 0.0122

Saturn -48486-04-06 23:16 J -15987992.70 -15987992.53 -15987992.36 0.0284 0.0005

Saturn -48486-07-04 19:11 J -15987903.85 -15987903.70 -15987903.55 0.0284 0.0131

Saturn -48486-10-01 15:21 J -15987814.92 -15987814.86 -15987814.79 0.0283 0.0259

Jupiter -48483-02-26 03:21 J -15986936.52 -15986936.36 -15986936.20 0.0488 0.0147

Jupiter -48483-05-27 01:11 J -15986846.49 -15986846.45 -15986846.41 0.0487 0.0474

Moon -48482-02-10 14:37 J -15986587.00 -15986586.89 -15986586.77 0.2670 0.1380

Earth -48482-02-10 16:04 J -15986586.95 -15986586.83 -15986586.71 0.2669 0.1367 *

Mars -48480-06-04 17:16 J -15985741.89 -15985741.78 -15985741.67 0.1638 0.0916

Earth -48479-08-20 16:33 J -15985299.92 -15985299.81 -15985299.69 0.2667 0.0798

Moon -48479-08-20 17:16 J -15985299.89 -15985299.78 -15985299.66 0.2671 0.0849 *

Mars -48478-05-11 04:47 J -15985036.35 -15985036.30 -15985036.26 0.1658 0.1537

Jupiter -48477-01-30 07:25 J -15984772.23 -15984772.19 -15984772.14 0.0538 0.0505

Mars -48477-03-01 18:28 J -15984740.86 -15984740.73 -15984740.61 0.1895 0.1003

Jupiter -48477-04-28 20:09 J -15984682.79 -15984682.66 -15984682.53 0.0539 0.0168

Venus -48473-03-08 11:01 J -15983273.10 -15983273.04 -15983272.97 0.3717 0.2809

Moon -48472-08-13 09:35 J -15982750.19 -15982750.10 -15982750.02 0.2664 0.1900

Earth -48472-08-13 10:18 J -15982750.16 -15982750.07 -15982749.98 0.2662 0.1771 *

Jupiter -48472-12-15 03:35 J -15982626.48 -15982626.35 -15982626.21 0.0489 0.0298

Saturn -48471-02-05 14:09 J -15982573.97 -15982573.91 -15982573.84 0.0275 0.0243

Jupiter -48471-03-15 00:57 J -15982536.58 -15982536.46 -15982536.33 0.0488 0.0318

Saturn -48471-05-05 03:06 J -15982485.49 -15982485.37 -15982485.24 0.0275 0.0147

Saturn -48471-08-01 15:49 J -15982396.97 -15982396.84 -15982396.70 0.0276 0.0052

Mars -48471-10-26 02:23 J -15982311.45 -15982311.40 -15982311.35 0.1634 0.1510

Saturn -48471-10-29 04:33 J -15982308.45 -15982308.31 -15982308.17 0.0276 0.0044

Saturn -48470-01-25 16:47 J -15982219.91 -15982219.80 -15982219.67 0.0277 0.0138

Saturn -48470-04-24 05:01 J -15982131.36 -15982131.29 -15982131.21 0.0277 0.0231

Moon -48469-02-13 16:18 J -15981835.95 -15981835.82 -15981835.68 0.2671 0.0280

Earth -48469-02-13 17:30 J -15981835.91 -15981835.77 -15981835.63 0.2667 0.0119 *

Mars -48469-09-30 13:54 J -15981606.02 -15981605.92 -15981605.81 0.1653 0.0947

Venus -48468-09-22 03:35 J -15981249.46 -15981249.35 -15981249.25 0.3722 0.0561

Earth -48466-08-23 12:13 J -15980549.08 -15980548.99 -15980548.90 0.2668 0.1665

Moon -48466-08-23 12:57 J -15980549.05 -15980548.96 -15980548.87 0.2667 0.1699 *

Jupiter -48465-02-15 22:33 J -15980372.70 -15980372.56 -15980372.42 0.0539 0.0003

Venus -48462-04-07 19:54 J -15979225.77 -15979225.67 -15979225.58 0.3726 0.1693

Pluto -48461-10-14 05:59 J -15978670.26 -15978670.25 -15978670.22 0.0063 0.0063

Pluto -48460-01-10 06:42 J -15978582.26 -15978582.22 -15978582.13 0.0063 0.0059

Pluto -48460-04-08 08:09 J -15978494.24 -15978494.16 -15978494.06 0.0063 0.0054

Pluto -48460-07-05 08:52 J -15978406.21 -15978406.13 -15978406.00 0.0063 0.0050

Pluto -48460-10-01 10:18 J -15978318.18 -15978318.07 -15978317.94 0.0064 0.0045

Jupiter -48460-10-03 04:04 J -15978316.39 -15978316.33 -15978316.26 0.0489 0.0446

Pluto -48460-12-28 11:30 J -15978230.14 -15978230.02 -15978229.88 0.0064 0.0040

Jupiter -48459-01-01 00:57 J -15978226.62 -15978226.46 -15978226.30 0.0488 0.0161

Mars -48459-02-20 23:16 J -15978175.66 -15978175.53 -15978175.40 0.1648 0.0360

Pluto -48459-03-26 12:57 J -15978142.10 -15978141.96 -15978141.82 0.0064 0.0035

Pluto -48459-06-22 13:40 J -15978054.06 -15978053.93 -15978053.76 0.0064 0.0031

Moon -48459-08-16 05:59 J -15977999.37 -15977999.25 -15977999.14 0.2670 0.0815

Earth -48459-08-16 06:13 J -15977999.35 -15977999.24 -15977999.12 0.2664 0.0848 *

Pluto -48459-09-18 14:52 J -15977966.02 -15977965.88 -15977965.71 0.0064 0.0026

Uranus -48459-09-21 13:11 J -15977962.95 -15977962.95 -15977962.93 0.0147 0.0147

Pluto -48459-12-15 16:18 J -15977877.98 -15977877.82 -15977877.65 0.0064 0.0021

Uranus -48459-12-18 20:23 J -15977874.75 -15977874.65 -15977874.53 0.0147 0.0116

Pluto -48458-03-13 17:30 J -15977789.93 -15977789.77 -15977789.60 0.0064 0.0016

Uranus -48458-03-17 03:49 J -15977786.48 -15977786.34 -15977786.19 0.0147 0.0084

Pluto -48458-06-09 18:42 J -15977701.88 -15977701.72 -15977701.55 0.0064 0.0011

Uranus -48458-06-13 11:01 J -15977698.20 -15977698.04 -15977697.87 0.0147 0.0053

Pluto -48458-09-05 19:54 J -15977613.84 -15977613.67 -15977613.50 0.0064 0.0007

Uranus -48458-09-09 18:42 J -15977609.90 -15977609.72 -15977609.55 0.0147 0.0021

Pluto -48458-12-02 21:06 J -15977525.79 -15977525.62 -15977525.44 0.0064 0.0002

Uranus -48458-12-07 02:09 J -15977521.59 -15977521.41 -15977521.24 0.0147 0.0011

Saturn -48457-02-28 10:33 J -15977438.11 -15977438.06 -15977438.00 0.0286 0.0268

Pluto -48457-02-28 22:33 J -15977437.74 -15977437.56 -15977437.39 0.0064 0.0004

Uranus -48457-03-04 09:35 J -15977433.27 -15977433.10 -15977432.93 0.0147 0.0043

Pluto -48457-05-26 23:30 J -15977349.68 -15977349.52 -15977349.34 0.0064 0.0009

Saturn -48457-05-27 05:45 J -15977349.40 -15977349.26 -15977349.11 0.0285 0.0145 *

Uranus -48457-05-31 17:01 J -15977344.94 -15977344.79 -15977344.63 0.0147 0.0076

Pluto -48457-08-23 00:42 J -15977261.63 -15977261.47 -15977261.29 0.0065 0.0014

Saturn -48457-08-24 01:25 J -15977260.61 -15977260.44 -15977260.27 0.0284 0.0021

Uranus -48457-08-28 00:28 J -15977256.59 -15977256.48 -15977256.35 0.0147 0.0109

Mars -48457-11-18 17:30 J -15977173.85 -15977173.77 -15977173.69 0.1881 0.1552

Pluto -48457-11-19 01:54 J -15977173.57 -15977173.42 -15977173.24 0.0065 0.0019

Saturn -48457-11-20 21:06 J -15977171.78 -15977171.62 -15977171.46 0.0284 0.0107

Uranus -48457-11-24 08:23 J -15977168.20 -15977168.15 -15977168.10 0.0147 0.0141

Pluto -48456-02-15 03:06 J -15977085.52 -15977085.37 -15977085.20 0.0065 0.0024

Moon -48456-02-15 18:57 J -15977084.83 -15977084.71 -15977084.58 0.2673 0.1246

Earth -48456-02-15 19:11 J -15977084.83 -15977084.70 -15977084.57 0.2666 0.1183 *

Saturn -48456-02-17 17:16 J -15977082.87 -15977082.78 -15977082.68 0.0283 0.0235

Pluto -48456-05-14 04:33 J -15976997.46 -15976997.31 -15976997.15 0.0065 0.0029

Pluto -48456-08-10 05:45 J -15976909.40 -15976909.26 -15976909.10 0.0065 0.0034

Pluto -48456-11-06 06:57 J -15976821.33 -15976821.21 -15976821.06 0.0065 0.0039

Pluto -48455-02-02 08:23 J -15976733.27 -15976733.15 -15976733.02 0.0065 0.0045

Pluto -48455-05-01 09:21 J -15976645.20 -15976645.11 -15976644.98 0.0065 0.0050

Pluto -48455-07-28 10:47 J -15976557.12 -15976557.05 -15976556.94 0.0065 0.0055

Pluto -48455-10-24 12:13 J -15976469.04 -15976468.99 -15976468.92 0.0065 0.0061

Jupiter -48454-12-05 00:42 J -15976062.60 -15976062.47 -15976062.34 0.0540 0.0173

Jupiter -48453-03-03 12:57 J -15975973.02 -15975972.96 -15975972.91 0.0541 0.0490

Earth -48453-08-25 07:25 J -15975798.22 -15975798.19 -15975798.15 0.2670 0.2517

Moon -48453-08-25 08:09 J -15975798.18 -15975798.16 -15975798.14 0.2665 0.2611 *

Mars -48450-07-14 08:23 J -15974745.28 -15974745.15 -15974745.02 0.1643 0.0232

Moon -48449-02-08 19:54 J -15974535.73 -15974535.67 -15974535.62 0.2667 0.2402

Earth -48449-02-08 20:52 J -15974535.70 -15974535.63 -15974535.57 0.2671 0.2365 *

Venus -48448-02-03 04:47 J -15974175.44 -15974175.30 -15974175.16 0.3655 0.0791

Jupiter -48448-10-20 01:25 J -15973916.61 -15973916.44 -15973916.27 0.0488 0.0012

Mars -48447-04-10 17:59 J -15973743.89 -15973743.75 -15973743.60 0.1888 0.0330

Earth -48446-08-19 02:09 J -15973248.53 -15973248.41 -15973248.29 0.2665 0.0069

Moon -48446-08-19 02:23 J -15973248.51 -15973248.40 -15973248.28 0.2671 0.0087 *

Earth -48443-02-18 21:21 J -15972333.65 -15972333.61 -15972333.56 0.2664 0.2524

Moon -48443-02-18 22:04 J -15972333.61 -15972333.58 -15972333.54 0.2669 0.2565 *

Saturn -48442-06-25 15:49 J -15971841.85 -15971841.84 -15971841.82 0.0273 0.0272

Saturn -48442-09-22 04:47 J -15971753.40 -15971753.30 -15971753.18 0.0274 0.0176

Jupiter -48442-09-23 03:35 J -15971752.46 -15971752.35 -15971752.24 0.0539 0.0334

Saturn -48442-12-19 17:45 J -15971664.90 -15971664.76 -15971664.63 0.0275 0.0081

Jupiter -48442-12-21 16:04 J -15971662.94 -15971662.83 -15971662.73 0.0541 0.0336

Saturn -48441-03-17 06:13 J -15971576.38 -15971576.24 -15971576.10 0.0275 0.0014

Saturn -48441-06-13 18:42 J -15971487.85 -15971487.72 -15971487.59 0.0276 0.0107

Saturn -48441-09-10 06:57 J -15971399.30 -15971399.21 -15971399.12 0.0276 0.0200

Mars -48441-12-03 17:30 J -15971314.88 -15971314.77 -15971314.66 0.1639 0.0826

Moon -48439-08-11 18:28 J -15970698.74 -15970698.73 -15970698.73 0.2658 0.2643

Earth -48439-08-11 19:11 J -15970698.73 -15970698.70 -15970698.67 0.2660 0.2547 *

Mars -48439-11-09 04:47 J -15970609.32 -15970609.30 -15970609.28 0.1658 0.1619

Mars -48438-08-31 18:42 J -15970313.84 -15970313.72 -15970313.59 0.1895 0.0876

Moon -48436-02-10 20:37 J -15969784.76 -15969784.64 -15969784.52 0.2670 0.1320

Earth -48436-02-10 21:49 J -15969784.72 -15969784.59 -15969784.46 0.2669 0.1148 *

Jupiter -48436-08-08 01:25 J -15969606.59 -15969606.44 -15969606.27 0.0488 0.0143

Jupiter -48436-11-05 23:16 J -15969516.56 -15969516.53 -15969516.50 0.0487 0.0477

Earth -48433-08-20 21:49 J -15968497.70 -15968497.59 -15968497.48 0.2667 0.0953

Moon -48433-08-20 22:33 J -15968497.67 -15968497.56 -15968497.45 0.2671 0.1031 *

Mars -48431-04-26 02:23 J -15967884.46 -15967884.40 -15967884.34 0.1634 0.1426

Jupiter -48430-07-12 06:13 J -15967442.29 -15967442.24 -15967442.19 0.0539 0.0498

Jupiter -48430-10-09 18:57 J -15967352.84 -15967352.71 -15967352.58 0.0540 0.0177

Neptune -48429-03-30 08:09 J -15967180.20 -15967180.16 -15967180.12 0.0088 0.0084

Mars -48429-03-31 14:09 J -15967179.01 -15967178.91 -15967178.81 0.1653 0.1032

Neptune -48429-06-26 09:35 J -15967092.15 -15967092.10 -15967092.01 0.0088 0.0078

Neptune -48429-09-22 11:45 J -15967004.09 -15967004.01 -15967003.92 0.0088 0.0071

Neptune -48429-12-19 13:40 J -15966916.03 -15966915.93 -15966915.83 0.0088 0.0064

Neptune -48428-03-17 15:21 J -15966827.97 -15966827.86 -15966827.74 0.0088 0.0057

Neptune -48428-06-13 17:16 J -15966739.90 -15966739.78 -15966739.66 0.0088 0.0051

Neptune -48428-09-09 18:57 J -15966651.83 -15966651.71 -15966651.57 0.0088 0.0044

Saturn -48428-10-14 03:49 J -15966617.46 -15966617.34 -15966617.21 0.0285 0.0192

Neptune -48428-12-06 20:52 J -15966563.76 -15966563.63 -15966563.49 0.0089 0.0038

Saturn -48427-01-10 23:16 J -15966528.69 -15966528.53 -15966528.37 0.0285 0.0068

Neptune -48427-03-04 22:47 J -15966475.69 -15966475.55 -15966475.41 0.0089 0.0031

Saturn -48427-04-09 18:57 J -15966439.88 -15966439.71 -15966439.54 0.0284 0.0058

Neptune -48427-06-01 00:28 J -15966387.62 -15966387.48 -15966387.34 0.0089 0.0025

Saturn -48427-07-07 15:06 J -15966351.00 -15966350.87 -15966350.74 0.0284 0.0186

Neptune -48427-08-28 02:09 J -15966299.55 -15966299.41 -15966299.26 0.0089 0.0018

Neptune -48427-11-24 04:04 J -15966211.48 -15966211.33 -15966211.18 0.0089 0.0011

Neptune -48426-02-20 05:45 J -15966123.40 -15966123.26 -15966123.11 0.0089 0.0005

Neptune -48426-05-19 07:40 J -15966035.33 -15966035.18 -15966035.04 0.0089 0.0002

Moon -48426-08-14 14:52 J -15965947.98 -15965947.88 -15965947.79 0.2666 0.1615

Earth -48426-08-14 15:21 J -15965947.95 -15965947.86 -15965947.76 0.2662 0.1606 *

Neptune -48426-08-15 09:21 J -15965947.26 -15965947.11 -15965946.96 0.0089 0.0008

Neptune -48426-11-11 11:01 J -15965859.18 -15965859.04 -15965858.89 0.0089 0.0014

Neptune -48425-02-07 12:42 J -15965771.11 -15965770.97 -15965770.83 0.0089 0.0021

Neptune -48425-05-05 14:23 J -15965683.03 -15965682.90 -15965682.76 0.0089 0.0027

Neptune -48425-08-01 16:04 J -15965594.96 -15965594.83 -15965594.69 0.0089 0.0034

Neptune -48425-10-28 17:45 J -15965506.88 -15965506.76 -15965506.62 0.0089 0.0040

Neptune -48424-01-24 19:40 J -15965418.81 -15965418.68 -15965418.56 0.0089 0.0046

Neptune -48424-04-22 21:06 J -15965330.73 -15965330.62 -15965330.50 0.0089 0.0053

Jupiter -48424-05-27 02:09 J -15965296.55 -15965296.41 -15965296.28 0.0488 0.0292

Neptune -48424-07-19 22:47 J -15965242.65 -15965242.55 -15965242.43 0.0089 0.0059

Jupiter -48424-08-24 23:16 J -15965206.66 -15965206.53 -15965206.40 0.0488 0.0323

Neptune -48424-10-16 00:28 J -15965154.57 -15965154.48 -15965154.37 0.0089 0.0065

Neptune -48423-01-12 02:23 J -15965066.49 -15965066.40 -15965066.32 0.0089 0.0071

Moon -48423-02-13 22:33 J -15965033.70 -15965033.56 -15965033.43 0.2672 0.0158

Earth -48423-02-13 23:16 J -15965033.67 -15965033.53 -15965033.39 0.2667 0.0109 *

Neptune -48423-04-10 03:35 J -15964978.40 -15964978.35 -15964978.26 0.0089 0.0078

Neptune -48423-07-07 05:16 J -15964890.31 -15964890.28 -15964890.22 0.0089 0.0084

Mars -48420-08-21 23:16 J -15963748.65 -15963748.53 -15963748.40 0.1648 0.0442

Earth -48420-08-23 17:16 J -15963746.87 -15963746.78 -15963746.70 0.2669 0.1819

Moon -48420-08-23 17:59 J -15963746.83 -15963746.75 -15963746.67 0.2666 0.1883 *

Jupiter -48418-07-28 21:21 J -15963042.75 -15963042.61 -15963042.48 0.0539 0.0011

Mars -48417-05-19 17:45 J -15962746.83 -15962746.76 -15962746.69 0.1881 0.1661

Uranus -48417-07-14 16:18 J -15962690.87 -15962690.82 -15962690.77 0.0132 0.0122

Uranus -48417-10-10 19:25 J -15962602.76 -15962602.69 -15962602.59 0.0132 0.0104

Venus -48417-10-13 08:37 J -15962600.22 -15962600.14 -15962600.05 0.3718 0.1965

Uranus -48416-01-06 22:47 J -15962514.64 -15962514.55 -15962514.43 0.0132 0.0086

Uranus -48416-04-05 02:23 J -15962426.51 -15962426.40 -15962426.27 0.0132 0.0067

Uranus -48416-07-02 05:59 J -15962338.38 -15962338.25 -15962338.12 0.0132 0.0049

Uranus -48416-09-28 09:21 J -15962250.25 -15962250.11 -15962249.98 0.0132 0.0030

Uranus -48416-12-25 12:42 J -15962162.11 -15962161.97 -15962161.83 0.0132 0.0013

Uranus -48415-03-23 16:04 J -15962073.97 -15962073.83 -15962073.69 0.0132 0.0007

Uranus -48415-06-19 19:11 J -15961985.83 -15961985.70 -15961985.56 0.0132 0.0024

Uranus -48415-09-15 22:33 J -15961897.69 -15961897.56 -15961897.43 0.0132 0.0041

Uranus -48415-12-13 01:54 J -15961809.55 -15961809.42 -15961809.30 0.0132 0.0059

Uranus -48414-03-11 05:01 J -15961721.40 -15961721.29 -15961721.17 0.0132 0.0077

Uranus -48414-06-07 08:09 J -15961633.25 -15961633.16 -15961633.06 0.0132 0.0095

Uranus -48414-09-03 11:30 J -15961545.09 -15961545.02 -15961544.95 0.0132 0.0112

Uranus -48414-11-30 14:52 J -15961456.91 -15961456.88 -15961456.86 0.0132 0.0129

Moon -48413-08-16 11:16 J -15961197.15 -15961197.03 -15961196.92 0.2670 0.0775

Earth -48413-08-16 11:30 J -15961197.14 -15961197.02 -15961196.91 0.2664 0.0678 *

Saturn -48412-02-08 06:57 J -15961021.30 -15961021.21 -15961021.11 0.0275 0.0203

Jupiter -48412-03-15 02:23 J -15960986.47 -15960986.40 -15960986.33 0.0489 0.0441

Saturn -48412-05-07 19:54 J -15960932.80 -15960932.67 -15960932.54 0.0275 0.0108

Jupiter -48412-06-12 23:16 J -15960896.69 -15960896.53 -15960896.37 0.0488 0.0167

Saturn -48412-08-04 08:23 J -15960844.29 -15960844.15 -15960844.00 0.0276 0.0014

Saturn -48412-10-31 20:52 J -15960755.76 -15960755.63 -15960755.49 0.0276 0.0082

Saturn -48411-01-28 09:21 J -15960667.22 -15960667.11 -15960667.00 0.0277 0.0175

Saturn -48411-04-26 21:21 J -15960578.64 -15960578.61 -15960578.57 0.0277 0.0267

Venus -48411-04-29 01:11 J -15960576.56 -15960576.45 -15960576.35 0.3723 0.0309

Mars -48410-01-12 08:37 J -15960318.27 -15960318.14 -15960318.02 0.1643 0.0156

Moon -48410-02-17 00:57 J -15960282.58 -15960282.46 -15960282.34 0.2672 0.1339

Earth -48410-02-17 01:11 J -15960282.57 -15960282.45 -15960282.33 0.2665 0.1417 *

Mars -48408-10-09 18:28 J -15959316.87 -15959316.73 -15959316.59 0.1888 0.0456

Earth -48407-08-26 12:28 J -15958995.98 -15958995.98 -15958995.98 0.2670 0.2667

Moon -48407-08-26 12:57 J -15958995.97 -15958995.96 -15958995.95 0.2665 0.2646

Jupiter -48406-05-16 23:30 J -15958732.65 -15958732.52 -15958732.39 0.0539 0.0164

Jupiter -48406-08-14 11:30 J -15958643.07 -15958643.02 -15958642.97 0.0540 0.0497

Venus -48406-11-12 17:30 J -15958552.85 -15958552.77 -15958552.70 0.3727 0.2523

Moon -48403-02-09 01:25 J -15957733.52 -15957733.44 -15957733.37 0.2668 0.2217

Earth -48403-02-09 02:37 J -15957733.47 -15957733.39 -15957733.31 0.2671 0.2151 *

Mars -48401-06-03 17:45 J -15956887.88 -15956887.76 -15956887.65 0.1639 0.0743

Jupiter -48400-03-31 23:30 J -15956586.69 -15956586.52 -15956586.35 0.0488 0.0016

Earth -48400-08-19 07:11 J -15956446.32 -15956446.20 -15956446.08 0.2665 0.0226

Moon -48400-08-19 07:40 J -15956446.30 -15956446.18 -15956446.06 0.2672 0.0329 *

Mars -48398-03-01 19:11 J -15955886.83 -15955886.70 -15955886.57 0.1895 0.0752

Saturn -48398-03-03 05:30 J -15955885.37 -15955885.27 -15955885.16 0.0285 0.0218

Saturn -48398-05-31 00:57 J -15955796.62 -15955796.46 -15955796.30 0.0285 0.0094

Saturn -48398-08-27 20:37 J -15955707.81 -15955707.64 -15955707.47 0.0284 0.0032

Saturn -48398-11-24 16:33 J -15955618.95 -15955618.81 -15955618.67 0.0284 0.0159

Venus -48397-02-25 00:28 J -15955526.57 -15955526.48 -15955526.38 0.3660 0.2730

Jupiter -48394-03-05 01:25 J -15954422.54 -15954422.44 -15954422.33 0.0539 0.0340

Jupiter -48394-06-02 13:54 J -15954333.02 -15954332.92 -15954332.81 0.0541 0.0331

Moon -48393-08-11 23:30 J -15953896.56 -15953896.52 -15953896.47 0.2660 0.2432

Earth -48393-08-12 00:28 J -15953896.53 -15953896.48 -15953896.43 0.2661 0.2372 *

Venus -48392-09-10 05:59 J -15953502.35 -15953502.25 -15953502.15 0.3653 0.2697

Mars -48392-10-25 02:37 J -15953457.46 -15953457.39 -15953457.32 0.1634 0.1337

Moon -48390-02-12 02:23 J -15952982.53 -15952982.40 -15952982.27 0.2670 0.0960

Earth -48390-02-12 03:35 J -15952982.48 -15952982.35 -15952982.21 0.2669 0.0932 *

Mars -48390-09-30 14:09 J -15952752.00 -15952751.91 -15952751.81 0.1653 0.1116

Jupiter -48388-01-18 00:13 J -15952276.65 -15952276.49 -15952276.33 0.0488 0.0132

Earth -48387-08-22 02:52 J -15951695.49 -15951695.38 -15951695.27 0.2667 0.1110

Moon -48387-08-22 03:35 J -15951695.46 -15951695.35 -15951695.24 0.2669 0.1126 *

Saturn -48383-06-28 08:52 J -15950289.20 -15950289.13 -15950289.05 0.0273 0.0231

Saturn -48383-09-24 21:35 J -15950200.72 -15950200.60 -15950200.47 0.0274 0.0136

Jupiter -48383-12-22 04:04 J -15950112.37 -15950112.33 -15950112.28 0.0539 0.0502

Saturn -48383-12-22 10:18 J -15950112.21 -15950112.07 -15950111.93 0.0275 0.0042

Saturn -48382-03-20 22:47 J -15950023.68 -15950023.55 -15950023.41 0.0275 0.0053

Jupiter -48382-03-21 17:01 J -15950022.91 -15950022.79 -15950022.66 0.0540 0.0176

Saturn -48382-06-17 11:16 J -15949935.15 -15949935.03 -15949934.91 0.0276 0.0145

Saturn -48382-09-13 23:16 J -15949846.59 -15949846.53 -15949846.45 0.0276 0.0238

Mars -48380-02-19 23:30 J -15949321.64 -15949321.52 -15949321.40 0.1648 0.0528

Moon -48380-08-14 19:54 J -15949145.77 -15949145.67 -15949145.57 0.2667 0.1530

Earth -48380-08-14 20:37 J -15949145.74 -15949145.64 -15949145.54 0.2662 0.1431 *

Mars -48378-11-18 18:13 J -15948319.78 -15948319.74 -15948319.70 0.1881 0.1787

Moon -48377-02-15 04:33 J -15948231.45 -15948231.31 -15948231.17 0.2673 0.0210

Earth -48377-02-15 05:16 J -15948231.42 -15948231.28 -15948231.14 0.2667 0.0343 *

Jupiter -48377-11-06 00:28 J -15947966.61 -15947966.48 -15947966.35 0.0488 0.0284

Jupiter -48376-02-03 21:35 J -15947876.72 -15947876.60 -15947876.47 0.0487 0.0330

Uranus -48375-10-11 20:23 J -15947261.69 -15947261.65 -15947261.57 0.0147 0.0140

Uranus -48374-01-08 04:04 J -15947173.45 -15947173.33 -15947173.21 0.0147 0.0108

Uranus -48374-04-06 11:16 J -15947085.18 -15947085.03 -15947084.88 0.0147 0.0076

Uranus -48374-07-03 18:28 J -15946996.89 -15946996.73 -15946996.55 0.0147 0.0045

Earth -48374-08-24 22:18 J -15946944.65 -15946944.57 -15946944.49 0.2669 0.1973

Moon -48374-08-24 23:01 J -15946944.61 -15946944.54 -15946944.46 0.2666 0.2037 *

Uranus -48374-09-30 01:54 J -15946908.59 -15946908.42 -15946908.24 0.0147 0.0013

Uranus -48374-12-27 09:21 J -15946820.28 -15946820.11 -15946819.93 0.0147 0.0020

Uranus -48373-03-24 16:47 J -15946731.96 -15946731.80 -15946731.63 0.0147 0.0052

Uranus -48373-06-21 00:28 J -15946643.62 -15946643.48 -15946643.33 0.0147 0.0084

Uranus -48373-09-17 07:54 J -15946555.27 -15946555.17 -15946555.05 0.0147 0.0117

Pluto -48371-01-18 09:21 J -15946067.11 -15946067.11 -15946067.09 0.0081 0.0081

Pluto -48371-04-16 10:47 J -15945979.10 -15945979.05 -15945978.97 0.0081 0.0072

Mars -48371-07-13 08:37 J -15945891.27 -15945891.14 -15945891.01 0.1643 0.0067

Pluto -48371-07-13 12:28 J -15945891.06 -15945890.98 -15945890.87 0.0081 0.0063 *

Pluto -48371-10-09 14:23 J -15945803.01 -15945802.90 -15945802.79 0.0081 0.0054

Pluto -48370-01-05 15:49 J -15945714.95 -15945714.84 -15945714.71 0.0081 0.0046

Jupiter -48370-01-07 20:09 J -15945712.80 -15945712.66 -15945712.53 0.0540 0.0018

Pluto -48370-04-03 17:30 J -15945626.90 -15945626.77 -15945626.63 0.0081 0.0037

Pluto -48370-06-30 18:57 J -15945538.84 -15945538.71 -15945538.56 0.0081 0.0029

Pluto -48370-09-26 20:37 J -15945450.78 -15945450.64 -15945450.49 0.0080 0.0020

Pluto -48370-12-23 22:18 J -15945362.72 -15945362.57 -15945362.43 0.0080 0.0012

Pluto -48369-03-20 23:45 J -15945274.65 -15945274.51 -15945274.36 0.0080 0.0003

Pluto -48369-06-17 01:11 J -15945186.59 -15945186.45 -15945186.30 0.0080 0.0006

Saturn -48369-07-20 03:21 J -15945153.42 -15945153.36 -15945153.30 0.0286 0.0267

Pluto -48369-09-13 02:52 J -15945098.53 -15945098.38 -15945098.24 0.0080 0.0013

Saturn -48369-10-16 22:33 J -15945064.71 -15945064.56 -15945064.42 0.0285 0.0144

Pluto -48369-12-10 04:18 J -15945010.46 -15945010.32 -15945010.18 0.0080 0.0021

Saturn -48368-01-13 17:59 J -15944975.92 -15944975.75 -15944975.58 0.0285 0.0019

Pluto -48368-03-08 05:30 J -15944922.40 -15944922.27 -15944922.12 0.0080 0.0030

Mars -48368-04-09 18:42 J -15944889.86 -15944889.72 -15944889.58 0.1888 0.0570

Saturn -48368-04-12 13:40 J -15944887.08 -15944886.93 -15944886.76 0.0284 0.0108

Pluto -48368-06-04 06:57 J -15944834.33 -15944834.21 -15944834.07 0.0079 0.0037

Saturn -48368-07-10 10:04 J -15944798.18 -15944798.08 -15944797.99 0.0284 0.0236

Pluto -48368-08-31 08:23 J -15944746.26 -15944746.15 -15944746.02 0.0079 0.0045

Pluto -48368-11-27 10:04 J -15944658.19 -15944658.08 -15944657.97 0.0079 0.0053

Pluto -48367-02-23 11:16 J -15944570.12 -15944570.03 -15944569.93 0.0079 0.0060

Pluto -48367-05-22 12:28 J -15944482.04 -15944481.98 -15944481.89 0.0079 0.0068

Moon -48367-08-17 16:33 J -15944394.93 -15944394.81 -15944394.70 0.2670 0.0475

Earth -48367-08-17 16:33 J -15944394.93 -15944394.81 -15944394.69 0.2664 0.0514 *

Pluto -48367-08-18 13:54 J -15944393.95 -15944393.92 -15944393.87 0.0079 0.0076

Venus -48366-11-04 13:54 J -15943950.96 -15943950.92 -15943950.88 0.3715 0.3377

Jupiter -48365-08-25 01:11 J -15943656.53 -15943656.45 -15943656.38 0.0489 0.0431

Jupiter -48365-11-22 21:49 J -15943566.75 -15943566.59 -15943566.43 0.0488 0.0176

Earth -48364-02-17 07:11 J -15943480.32 -15943480.20 -15943480.09 0.2665 0.1643

Moon -48364-02-17 07:11 J -15943480.31 -15943480.20 -15943480.10 0.2671 0.1733 *

Mars -48362-12-03 17:45 J -15942460.88 -15942460.76 -15942460.64 0.1639 0.0660

Venus -48360-05-20 06:28 J -15941927.33 -15941927.23 -15941927.13 0.3719 0.1119

Mars -48359-08-30 19:25 J -15941459.83 -15941459.69 -15941459.56 0.1895 0.0648

Jupiter -48359-10-26 22:18 J -15941402.70 -15941402.57 -15941402.43 0.0539 0.0154

Jupiter -48358-01-24 10:33 J -15941313.10 -15941313.06 -15941313.02 0.0540 0.0508

Moon -48357-02-10 07:11 J -15940931.29 -15940931.20 -15940931.12 0.2669 0.2058

Earth -48357-02-10 08:23 J -15940931.25 -15940931.15 -15940931.06 0.2670 0.1936 *

Venus -48355-12-03 22:47 J -15939903.65 -15939903.55 -15939903.45 0.3724 0.1138

Earth -48354-08-20 12:13 J -15939644.10 -15939643.99 -15939643.87 0.2666 0.0402

Moon -48354-08-20 12:42 J -15939644.08 -15939643.97 -15939643.85 0.2672 0.0365 *

Saturn -48354-11-15 10:18 J -15939557.10 -15939557.07 -15939557.03 0.0274 0.0262

Saturn -48353-02-11 23:16 J -15939468.64 -15939468.53 -15939468.41 0.0275 0.0166

Saturn -48353-05-10 11:59 J -15939380.13 -15939380.00 -15939379.86 0.0275 0.0071

Saturn -48353-08-07 00:42 J -15939291.61 -15939291.47 -15939291.33 0.0276 0.0024

Jupiter -48353-09-10 22:04 J -15939256.75 -15939256.58 -15939256.42 0.0488 0.0025

Saturn -48353-11-03 12:57 J -15939203.08 -15939202.96 -15939202.83 0.0276 0.0117

Saturn -48352-01-31 01:11 J -15939114.53 -15939114.45 -15939114.35 0.0277 0.0210

Mars -48352-04-25 02:52 J -15939030.47 -15939030.38 -15939030.30 0.1635 0.1252

Mars -48350-03-31 14:23 J -15938324.99 -15938324.90 -15938324.82 0.1653 0.1195

Mars -48349-01-20 20:37 J -15938029.68 -15938029.64 -15938029.60 0.1901 0.1812

Venus -48349-06-18 14:52 J -15937879.92 -15937879.88 -15937879.83 0.3729 0.3339

Neptune -48347-03-23 05:01 J -15937237.31 -15937237.29 -15937237.23 0.0089 0.0086

Neptune -48347-06-19 07:54 J -15937149.24 -15937149.17 -15937149.09 0.0089 0.0078

Moon -48347-08-13 04:47 J -15937094.37 -15937094.30 -15937094.24 0.2662 0.2247

Earth -48347-08-13 05:30 J -15937094.33 -15937094.27 -15937094.20 0.2661 0.2203 *

Jupiter -48347-08-15 00:28 J -15937092.58 -15937092.48 -15937092.36 0.0539 0.0325

Neptune -48347-09-15 10:18 J -15937061.16 -15937061.07 -15937060.96 0.0089 0.0071

Jupiter -48347-11-12 12:57 J -15937003.06 -15937002.96 -15937002.85 0.0540 0.0344

Neptune -48347-12-12 12:42 J -15936973.07 -15936972.97 -15936972.84 0.0089 0.0064

Neptune -48346-03-10 15:06 J -15936884.98 -15936884.87 -15936884.72 0.0089 0.0057

Neptune -48346-06-06 17:59 J -15936796.89 -15936796.75 -15936796.61 0.0089 0.0049

Neptune -48346-09-02 20:23 J -15936708.79 -15936708.65 -15936708.49 0.0089 0.0042

Neptune -48346-11-29 23:16 J -15936620.69 -15936620.53 -15936620.38 0.0089 0.0034

Neptune -48345-02-26 01:40 J -15936532.58 -15936532.43 -15936532.26 0.0089 0.0027

Neptune -48345-05-24 04:18 J -15936444.48 -15936444.32 -15936444.15 0.0089 0.0020

Neptune -48345-08-20 06:57 J -15936356.37 -15936356.21 -15936356.04 0.0089 0.0012

Neptune -48345-11-16 09:35 J -15936268.27 -15936268.10 -15936267.93 0.0089 0.0005

Moon -48344-02-12 08:23 J -15936180.28 -15936180.15 -15936180.02 0.2670 0.0832

Earth -48344-02-12 09:35 J -15936180.24 -15936180.10 -15936179.97 0.2668 0.0713 *

Neptune -48344-02-12 12:13 J -15936180.16 -15936179.99 -15936179.82 0.0089 0.0004 *

Neptune -48344-05-11 14:52 J -15936092.05 -15936091.88 -15936091.71 0.0089 0.0011

Neptune -48344-08-07 17:30 J -15936003.93 -15936003.77 -15936003.60 0.0089 0.0019

Neptune -48344-11-03 20:23 J -15935915.82 -15935915.65 -15935915.49 0.0089 0.0026

Neptune -48343-01-30 22:47 J -15935827.70 -15935827.55 -15935827.38 0.0089 0.0034

Neptune -48343-04-29 01:25 J -15935739.58 -15935739.44 -15935739.28 0.0089 0.0042

Neptune -48343-07-26 04:04 J -15935651.46 -15935651.33 -15935651.17 0.0089 0.0050

Neptune -48343-10-22 07:11 J -15935563.33 -15935563.20 -15935563.07 0.0089 0.0057

Neptune -48342-01-18 09:35 J -15935475.20 -15935475.10 -15935474.97 0.0089 0.0065

Neptune -48342-04-16 12:13 J -15935387.07 -15935386.99 -15935386.87 0.0089 0.0073

Neptune -48342-07-13 15:06 J -15935298.93 -15935298.87 -15935298.78 0.0089 0.0081

Neptune -48342-10-09 17:59 J -15935210.75 -15935210.75 -15935210.72 0.0089 0.0088

Jupiter -48341-06-29 22:18 J -15934946.73 -15934946.57 -15934946.40 0.0488 0.0127

Mars -48341-08-20 23:45 J -15934894.63 -15934894.51 -15934894.40 0.1648 0.0615

Earth -48341-08-22 07:54 J -15934893.27 -15934893.17 -15934893.07 0.2668 0.1268

Moon -48341-08-22 08:37 J -15934893.23 -15934893.14 -15934893.04 0.2668 0.1398 *

Venus -48341-10-01 01:40 J -15934853.58 -15934853.43 -15934853.29 0.3658 0.0864

Saturn -48339-03-05 23:30 J -15934332.64 -15934332.52 -15934332.38 0.0285 0.0174

Saturn -48339-06-02 19:11 J -15934243.87 -15934243.70 -15934243.53 0.0285 0.0048

Saturn -48339-08-30 14:52 J -15934155.04 -15934154.88 -15934154.71 0.0284 0.0078

Saturn -48339-11-27 11:01 J -15934066.15 -15934066.04 -15934065.92 0.0284 0.0206

Jupiter -48335-06-03 02:23 J -15932782.45 -15932782.40 -15932782.36 0.0539 0.0504

Jupiter -48335-08-31 15:21 J -15932692.99 -15932692.86 -15932692.73 0.0540 0.0173

Moon -48334-08-16 01:11 J -15932343.56 -15932343.45 -15932343.35 0.2667 0.1299

Earth -48334-08-16 01:40 J -15932343.53 -15932343.43 -15932343.32 0.2663 0.1267 *

Uranus -48333-08-03 23:59 J -15931989.56 -15931989.50 -15931989.43 0.0132 0.0114

Uranus -48333-10-31 03:21 J -15931901.45 -15931901.36 -15931901.25 0.0132 0.0096

Uranus -48332-01-27 06:42 J -15931813.32 -15931813.22 -15931813.09 0.0132 0.0078

Uranus -48332-04-25 10:18 J -15931725.19 -15931725.07 -15931724.94 0.0132 0.0059

Uranus -48332-07-22 13:40 J -15931637.06 -15931636.93 -15931636.79 0.0132 0.0041

Uranus -48332-10-18 17:01 J -15931548.92 -15931548.79 -15931548.65 0.0132 0.0023

Mars -48331-01-11 08:52 J -15931464.26 -15931464.13 -15931464.00 0.1644 0.0047

Uranus -48331-01-14 20:23 J -15931460.79 -15931460.65 -15931460.51 0.0132 0.0005

Moon -48331-02-15 10:33 J -15931429.20 -15931429.06 -15931428.93 0.2673 0.0597

Earth -48331-02-15 11:01 J -15931429.17 -15931429.04 -15931428.90 0.2666 0.0566 *

Uranus -48331-04-12 23:45 J -15931372.65 -15931372.51 -15931372.37 0.0132 0.0013

Uranus -48331-07-10 03:06 J -15931284.51 -15931284.37 -15931284.24 0.0132 0.0031

Uranus -48331-10-06 06:13 J -15931196.36 -15931196.24 -15931196.10 0.0132 0.0049

Uranus -48330-01-02 09:35 J -15931108.22 -15931108.10 -15931107.98 0.0132 0.0067

Uranus -48330-03-31 12:42 J -15931020.07 -15931019.97 -15931019.86 0.0132 0.0085

Uranus -48330-06-27 16:04 J -15930931.91 -15930931.83 -15930931.74 0.0132 0.0102

Uranus -48330-09-23 19:11 J -15930843.75 -15930843.70 -15930843.64 0.0132 0.0120

Jupiter -48329-04-17 23:16 J -15930636.67 -15930636.53 -15930636.39 0.0488 0.0270

Jupiter -48329-07-16 20:23 J -15930546.77 -15930546.65 -15930546.53 0.0487 0.0343

Mars -48329-10-08 18:57 J -15930462.84 -15930462.71 -15930462.57 0.1888 0.0686

Earth -48328-08-25 03:21 J -15930142.43 -15930142.36 -15930142.29 0.2669 0.2128

Moon -48328-08-25 04:04 J -15930142.40 -15930142.33 -15930142.26 0.2666 0.2161 *

Saturn -48324-07-01 01:11 J -15928736.54 -15928736.45 -15928736.34 0.0273 0.0194

Saturn -48324-09-27 14:09 J -15928648.05 -15928647.91 -15928647.78 0.0274 0.0099

Saturn -48324-12-25 02:37 J -15928559.53 -15928559.39 -15928559.25 0.0274 0.0006

Saturn -48323-03-23 15:06 J -15928471.00 -15928470.87 -15928470.74 0.0275 0.0089

Jupiter -48323-06-19 18:13 J -15928382.87 -15928382.74 -15928382.60 0.0540 0.0017

Saturn -48323-06-20 03:21 J -15928382.46 -15928382.36 -15928382.26 0.0276 0.0181

Saturn -48323-09-16 15:21 J -15928293.87 -15928293.86 -15928293.83 0.0276 0.0272

Mars -48322-06-03 17:59 J -15928033.87 -15928033.75 -15928033.63 0.1639 0.0571

Moon -48321-08-17 21:49 J -15927592.71 -15927592.59 -15927592.48 0.2671 0.0392

Earth -48321-08-17 21:35 J -15927592.71 -15927592.60 -15927592.48 0.2664 0.0356 *

Mars -48319-02-28 19:40 J -15927032.81 -15927032.68 -15927032.54 0.1894 0.0519

Earth -48318-02-18 13:11 J -15926678.05 -15926677.95 -15926677.85 0.2665 0.1877

Moon -48318-02-18 13:25 J -15926678.04 -15926677.94 -15926677.84 0.2671 0.1825 *

Jupiter -48317-02-04 23:45 J -15926326.59 -15926326.51 -15926326.42 0.0488 0.0420

Jupiter -48317-05-04 20:23 J -15926236.80 -15926236.65 -15926236.49 0.0487 0.0187

Mars -48313-10-24 02:52 J -15924603.47 -15924603.38 -15924603.29 0.1634 0.1165

Moon -48311-02-10 12:57 J -15924129.07 -15924128.96 -15924128.86 0.2668 0.1763

Earth -48311-02-10 14:09 J -15924129.01 -15924128.91 -15924128.81 0.2670 0.1721 *

Jupiter -48311-04-07 21:06 J -15924072.75 -15924072.62 -15924072.48 0.0540 0.0145

Jupiter -48311-07-06 09:21 J -15923983.14 -15923983.11 -15923983.07 0.0541 0.0520

Mars -48311-09-29 14:23 J -15923897.98 -15923897.90 -15923897.82 0.1653 0.1281

Mars -48310-07-21 20:37 J -15923602.70 -15923602.64 -15923602.58 0.1901 0.1711

Saturn -48310-07-23 21:06 J -15923600.72 -15923600.62 -15923600.52 0.0286 0.0224

Saturn -48310-10-20 16:18 J -15923511.97 -15923511.82 -15923511.66 0.0285 0.0101

Saturn -48309-01-17 11:59 J -15923423.17 -15923423.00 -15923422.83 0.0285 0.0025

Saturn -48309-04-15 07:54 J -15923334.31 -15923334.17 -15923334.02 0.0284 0.0153

Venus -48309-06-10 11:30 J -15923278.09 -15923278.02 -15923277.94 0.3716 0.2535

Saturn -48309-07-13 04:04 J -15923245.34 -15923245.33 -15923245.30 0.0283 0.0282

Earth -48308-08-20 17:30 J -15922841.89 -15922841.77 -15922841.66 0.2666 0.0554

Moon -48308-08-20 17:59 J -15922841.87 -15922841.75 -15922841.64 0.2671 0.0658 *

Jupiter -48305-02-21 20:52 J -15921926.80 -15921926.63 -15921926.46 0.0488 0.0036

Venus -48304-12-25 04:04 J -15921254.44 -15921254.33 -15921254.23 0.3721 0.0285

Mars -48301-02-19 23:45 J -15920467.63 -15920467.51 -15920467.40 0.1648 0.0691

Moon -48301-08-13 09:49 J -15920292.16 -15920292.09 -15920292.02 0.2663 0.2147

Earth -48301-08-13 10:47 J -15920292.13 -15920292.05 -15920291.97 0.2661 0.2028 *

Jupiter -48299-01-24 23:30 J -15919762.63 -15919762.52 -15919762.40 0.0539 0.0311

Jupiter -48299-04-24 11:59 J -15919673.10 -15919673.00 -15919672.89 0.0540 0.0358

Moon -48298-02-13 14:23 J -15919378.04 -15919377.90 -15919377.77 0.2672 0.0566

Earth -48298-02-13 15:21 J -15919378.00 -15919377.86 -15919377.72 0.2668 0.0487 *

Venus -48298-07-10 20:23 J -15919230.74 -15919230.65 -15919230.57 0.3725 0.1963

Earth -48295-08-23 12:57 J -15918091.06 -15918090.96 -15918090.86 0.2668 0.1426

Moon -48295-08-23 13:54 J -15918091.02 -15918090.92 -15918090.82 0.2668 0.1422 *

Saturn -48295-11-18 02:37 J -15918004.47 -15918004.39 -15918004.31 0.0274 0.0226

Saturn -48294-02-14 15:21 J -15917915.98 -15917915.86 -15917915.73 0.0274 0.0131

Saturn -48294-05-14 04:04 J -15917827.47 -15917827.33 -15917827.19 0.0275 0.0036

Saturn -48294-08-10 16:33 J -15917738.95 -15917738.81 -15917738.67 0.0276 0.0058

Saturn -48294-11-07 05:01 J -15917650.41 -15917650.29 -15917650.18 0.0276 0.0151

Jupiter -48294-12-10 21:06 J -15917616.78 -15917616.62 -15917616.46 0.0488 0.0117

Saturn -48293-02-03 17:01 J -15917561.85 -15917561.79 -15917561.72 0.0277 0.0242

Mars -48292-07-12 08:52 J -15917037.26 -15917037.13 -15917037.00 0.1644 0.0107

Uranus -48291-11-01 04:47 J -15916560.38 -15916560.30 -15916560.22 0.0147 0.0128

Uranus -48290-01-28 11:59 J -15916472.13 -15916472.00 -15916471.87 0.0147 0.0097

Uranus -48290-04-26 19:11 J -15916383.86 -15916383.70 -15916383.54 0.0147 0.0066

Uranus -48290-07-24 02:37 J -15916295.57 -15916295.39 -15916295.22 0.0147 0.0034

Uranus -48290-10-20 09:49 J -15916207.26 -15916207.09 -15916206.91 0.0147 0.0004

Uranus -48289-01-16 17:16 J -15916118.95 -15916118.78 -15916118.60 0.0147 0.0030

Mars -48289-04-08 19:40 J -15916035.81 -15916035.68 -15916035.55 0.1888 0.0825

Uranus -48289-04-14 00:42 J -15916030.63 -15916030.47 -15916030.30 0.0147 0.0062

Uranus -48289-07-11 08:23 J -15915942.29 -15915942.15 -15915942.01 0.0147 0.0094

Uranus -48289-10-07 15:49 J -15915853.92 -15915853.84 -15915853.74 0.0147 0.0127

Moon -48288-08-16 06:13 J -15915541.34 -15915541.24 -15915541.13 0.2668 0.1152

Earth -48288-08-16 06:57 J -15915541.32 -15915541.21 -15915541.10 0.2663 0.1097 *

Jupiter -48288-11-13 01:40 J -15915452.49 -15915452.43 -15915452.37 0.0538 0.0484

Jupiter -48287-02-10 14:37 J -15915363.02 -15915362.89 -15915362.76 0.0540 0.0191

Moon -48285-02-16 16:18 J -15914626.95 -15914626.82 -15914626.68 0.2672 0.0696

Earth -48285-02-16 17:01 J -15914626.93 -15914626.79 -15914626.66 0.2666 0.0789 *

Venus -48284-05-08 02:37 J -15914180.53 -15914180.39 -15914180.25 0.3657 0.1019

Mars -48283-12-02 17:59 J -15913606.87 -15913606.75 -15913606.62 0.1639 0.0486

Earth -48282-08-26 08:23 J -15913340.21 -15913340.15 -15913340.09 0.2670 0.2281

Moon -48282-08-26 08:52 J -15913340.18 -15913340.13 -15913340.07 0.2666 0.2365 *

Jupiter -48282-09-28 21:49 J -15913306.73 -15913306.59 -15913306.45 0.0488 0.0262

Jupiter -48282-12-27 18:57 J -15913216.83 -15913216.71 -15913216.59 0.0487 0.0352

Saturn -48281-12-09 21:49 J -15912868.66 -15912868.59 -15912868.52 0.0286 0.0256

Saturn -48280-03-08 17:01 J -15912779.94 -15912779.79 -15912779.64 0.0285 0.0133

Saturn -48280-06-05 12:42 J -15912691.14 -15912690.97 -15912690.80 0.0285 0.0009

Mars -48280-08-29 20:09 J -15912605.80 -15912605.66 -15912605.52 0.1894 0.0396

Saturn -48280-09-02 08:23 J -15912602.30 -15912602.15 -15912601.99 0.0284 0.0120

Saturn -48280-11-30 04:33 J -15912513.38 -15912513.31 -15912513.22 0.0284 0.0249

Jupiter -48276-11-29 16:33 J -15911052.95 -15911052.81 -15911052.67 0.0540 0.0016

Moon -48275-08-19 02:52 J -15910790.50 -15910790.38 -15910790.26 0.2672 0.0144

Earth -48275-08-19 02:52 J -15910790.50 -15910790.38 -15910790.26 0.2665 0.0205 *

Mars -48273-04-24 03:06 J -15910176.47 -15910176.37 -15910176.27 0.1635 0.1079

Earth -48272-02-18 18:57 J -15909875.79 -15909875.71 -15909875.62 0.2664 0.2104

Moon -48272-02-18 19:40 J -15909875.76 -15909875.68 -15909875.61 0.2671 0.2236 *

Mars -48271-03-30 14:37 J -15909470.96 -15909470.89 -15909470.82 0.1654 0.1361

Mars -48270-01-19 21:06 J -15909175.70 -15909175.62 -15909175.55 0.1901 0.1592

Jupiter -48270-07-17 22:47 J -15908996.64 -15908996.55 -15908996.46 0.0488 0.0404

Jupiter -48270-10-15 19:25 J -15908906.84 -15908906.69 -15908906.53 0.0487 0.0204

Moon -48265-02-11 18:42 J -15907326.83 -15907326.72 -15907326.61 0.2668 0.1650

Earth -48265-02-11 19:54 J -15907326.78 -15907326.67 -15907326.55 0.2670 0.1503 *

Saturn -48265-04-06 04:33 J -15907272.36 -15907272.31 -15907272.25 0.0273 0.0253

Saturn -48265-07-03 17:30 J -15907183.89 -15907183.77 -15907183.65 0.0273 0.0158

Saturn -48265-09-30 06:13 J -15907095.38 -15907095.24 -15907095.10 0.0274 0.0063

Neptune -48265-12-25 06:13 J -15907009.28 -15907009.24 -15907009.18 0.0088 0.0083

Saturn -48265-12-27 18:42 J -15907006.86 -15907006.72 -15907006.58 0.0274 0.0030

Neptune -48264-03-23 08:09 J -15906921.22 -15906921.16 -15906921.08 0.0088 0.0077

Saturn -48264-03-26 06:57 J -15906918.33 -15906918.21 -15906918.08 0.0275 0.0123

Neptune -48264-06-19 10:18 J -15906833.16 -15906833.07 -15906832.98 0.0088 0.0070

Saturn -48264-06-22 19:11 J -15906829.78 -15906829.70 -15906829.61 0.0276 0.0214

Neptune -48264-09-15 11:45 J -15906745.10 -15906745.01 -15906744.89 0.0088 0.0064

Jupiter -48264-09-17 19:25 J -15906742.82 -15906742.69 -15906742.56 0.0540 0.0144

Neptune -48264-12-12 13:40 J -15906657.03 -15906656.93 -15906656.81 0.0088 0.0057

Jupiter -48264-12-16 07:40 J -15906653.21 -15906653.18 -15906653.15 0.0541 0.0520

Neptune -48263-03-10 15:21 J -15906568.97 -15906568.86 -15906568.72 0.0088 0.0051

Neptune -48263-06-06 17:30 J -15906480.90 -15906480.77 -15906480.64 0.0088 0.0043

Neptune -48263-09-02 19:25 J -15906392.83 -15906392.69 -15906392.56 0.0088 0.0037

Neptune -48263-11-29 21:06 J -15906304.76 -15906304.62 -15906304.48 0.0088 0.0030

Neptune -48262-02-25 23:01 J -15906216.68 -15906216.54 -15906216.40 0.0088 0.0024

Neptune -48262-05-25 00:42 J -15906128.61 -15906128.47 -15906128.32 0.0088 0.0017

Mars -48262-08-20 23:45 J -15906040.62 -15906040.51 -15906040.39 0.1649 0.0779

Neptune -48262-08-21 02:37 J -15906040.54 -15906040.39 -15906040.25 0.0088 0.0011 *

Earth -48262-08-21 22:33 J -15906039.68 -15906039.56 -15906039.45 0.2666 0.0710

Moon -48262-08-21 23:16 J -15906039.65 -15906039.53 -15906039.42 0.2670 0.0712 *

Neptune -48262-11-17 04:18 J -15905952.47 -15905952.32 -15905952.17 0.0089 0.0004

Neptune -48261-02-13 05:59 J -15905864.39 -15905864.25 -15905864.10 0.0089 0.0004

Neptune -48261-05-11 07:54 J -15905776.32 -15905776.17 -15905776.03 0.0089 0.0009

Neptune -48261-08-07 09:35 J -15905688.24 -15905688.10 -15905687.96 0.0089 0.0015

Neptune -48261-11-03 11:16 J -15905600.17 -15905600.03 -15905599.88 0.0089 0.0022

Neptune -48260-01-30 12:57 J -15905512.09 -15905511.96 -15905511.82 0.0089 0.0028

Neptune -48260-04-28 14:37 J -15905424.02 -15905423.89 -15905423.75 0.0089 0.0035

Neptune -48260-07-25 16:18 J -15905335.94 -15905335.82 -15905335.68 0.0089 0.0041

Neptune -48260-10-21 18:13 J -15905247.86 -15905247.74 -15905247.62 0.0089 0.0047

Neptune -48259-01-17 19:40 J -15905159.78 -15905159.68 -15905159.55 0.0089 0.0054

Neptune -48259-04-15 21:21 J -15905071.71 -15905071.61 -15905071.49 0.0089 0.0060

Neptune -48259-07-12 23:16 J -15904983.62 -15904983.53 -15904983.43 0.0089 0.0066

Neptune -48259-10-09 00:57 J -15904895.54 -15904895.46 -15904895.38 0.0089 0.0072

Neptune -48258-01-05 02:23 J -15904807.45 -15904807.40 -15904807.32 0.0089 0.0079

Neptune -48258-04-03 04:04 J -15904719.36 -15904719.33 -15904719.28 0.0089 0.0085

Jupiter -48258-08-03 19:40 J -15904596.85 -15904596.68 -15904596.51 0.0488 0.0049

Moon -48255-08-14 15:06 J -15903489.96 -15903489.87 -15903489.79 0.2664 0.1876

Earth -48255-08-14 16:04 J -15903489.92 -15903489.83 -15903489.75 0.2662 0.1862 *

Mars -48252-01-10 09:06 J -15902610.25 -15902610.12 -15902609.99 0.1644 0.0192

Venus -48252-01-15 09:06 J -15902605.21 -15902605.12 -15902605.02 0.3717 0.1687

Moon -48252-02-13 20:09 J -15902575.79 -15902575.66 -15902575.52 0.2673 0.0316

Earth -48252-02-13 21:21 J -15902575.75 -15902575.61 -15902575.48 0.2668 0.0279 *

Jupiter -48252-07-06 22:18 J -15902432.68 -15902432.57 -15902432.45 0.0539 0.0303

Jupiter -48252-10-04 11:01 J -15902343.14 -15902343.04 -15902342.95 0.0541 0.0368

Saturn -48251-07-26 14:09 J -15902048.03 -15902047.91 -15902047.78 0.0286 0.0185

Saturn -48251-10-23 09:35 J -15901959.26 -15901959.10 -15901958.93 0.0285 0.0061

Saturn -48250-01-20 05:16 J -15901870.44 -15901870.28 -15901870.11 0.0285 0.0066

Saturn -48250-04-19 01:11 J -15901781.56 -15901781.45 -15901781.31 0.0284 0.0195

Mars -48250-10-08 19:40 J -15901608.81 -15901608.68 -15901608.55 0.1887 0.0928

Uranus -48249-05-28 04:18 J -15901376.36 -15901376.32 -15901376.27 0.0132 0.0125

Earth -48249-08-23 17:59 J -15901288.84 -15901288.75 -15901288.65 0.2668 0.1582

Moon -48249-08-23 18:57 J -15901288.80 -15901288.71 -15901288.62 0.2668 0.1719 *

Uranus -48249-08-24 07:54 J -15901288.25 -15901288.17 -15901288.09 0.0132 0.0106

Uranus -48249-11-20 11:16 J -15901200.13 -15901200.03 -15901199.92 0.0132 0.0088

Uranus -48248-02-16 14:37 J -15901112.00 -15901111.89 -15901111.76 0.0132 0.0070

Uranus -48248-05-15 18:13 J -15901023.87 -15901023.74 -15901023.61 0.0132 0.0051

Uranus -48248-08-11 21:35 J -15900935.74 -15900935.60 -15900935.47 0.0132 0.0033

Uranus -48248-11-08 00:57 J -15900847.60 -15900847.46 -15900847.32 0.0132 0.0015

Uranus -48247-02-04 04:18 J -15900759.46 -15900759.32 -15900759.18 0.0132 0.0005

Uranus -48247-05-03 07:25 J -15900671.32 -15900671.19 -15900671.05 0.0132 0.0022

Uranus -48247-07-30 10:47 J -15900583.18 -15900583.05 -15900582.91 0.0132 0.0039

Venus -48247-08-01 01:40 J -15900581.54 -15900581.43 -15900581.33 0.3722 0.0582

Uranus -48247-10-26 14:09 J -15900495.04 -15900494.91 -15900494.79 0.0132 0.0057

Uranus -48246-01-22 17:16 J -15900406.89 -15900406.78 -15900406.66 0.0132 0.0075

Uranus -48246-04-20 20:37 J -15900318.74 -15900318.64 -15900318.54 0.0132 0.0092

Jupiter -48246-05-22 20:09 J -15900286.82 -15900286.66 -15900286.50 0.0488 0.0101

Uranus -48246-07-17 23:45 J -15900230.58 -15900230.51 -15900230.43 0.0132 0.0110

Uranus -48246-10-14 02:52 J -15900142.40 -15900142.38 -15900142.34 0.0132 0.0127

Mars -48243-06-02 18:13 J -15899179.87 -15899179.74 -15899179.62 0.1639 0.0406

Moon -48242-08-17 11:45 J -15898739.12 -15898739.01 -15898738.90 0.2669 0.0986

Earth -48242-08-17 11:59 J -15898739.11 -15898739.00 -15898738.89 0.2663 0.0929 *

Venus -48241-02-14 17:59 J -15898557.82 -15898557.75 -15898557.69 0.3726 0.2795

Mars -48240-02-27 20:23 J -15898178.79 -15898178.65 -15898178.51 0.1894 0.0285

Jupiter -48240-04-25 00:42 J -15898122.53 -15898122.47 -15898122.40 0.0539 0.0469

Jupiter -48240-07-23 13:40 J -15898033.05 -15898032.93 -15898032.80 0.0540 0.0206

Moon -48239-02-16 22:33 J -15897824.69 -15897824.56 -15897824.43 0.2672 0.1027

Earth -48239-02-16 23:01 J -15897824.68 -15897824.54 -15897824.41 0.2666 0.1020 *

Earth -48236-08-26 13:26 J -15896537.99 -15896537.94 -15896537.90 0.2670 0.2433

Moon -48236-08-26 13:54 J -15896537.97 -15896537.92 -15896537.87 0.2664 0.2402 *

Saturn -48236-11-20 18:28 J -15896451.83 -15896451.73 -15896451.63 0.0274 0.0192

Saturn -48235-02-17 07:11 J -15896363.33 -15896363.20 -15896363.06 0.0274 0.0098

Saturn -48235-05-16 19:54 J -15896274.81 -15896274.67 -15896274.53 0.0275 0.0006

Saturn -48235-08-13 08:09 J -15896186.29 -15896186.16 -15896186.02 0.0276 0.0090

Saturn -48235-11-09 20:23 J -15896097.75 -15896097.65 -15896097.54 0.0276 0.0183

Saturn -48234-02-06 08:38 J -15896009.16 -15896009.14 -15896009.12 0.0277 0.0273

Jupiter -48234-03-10 20:38 J -15895976.79 -15895976.64 -15895976.50 0.0488 0.0251

Jupiter -48234-06-08 17:45 J -15895886.87 -15895886.76 -15895886.65 0.0487 0.0364

Mars -48234-10-24 03:06 J -15895749.47 -15895749.37 -15895749.26 0.1635 0.0995

Venus -48233-05-28 22:33 J -15895531.67 -15895531.56 -15895531.46 0.3661 0.2495

Moon -48232-02-08 23:45 J -15895275.52 -15895275.51 -15895275.49 0.2667 0.2642

Earth -48232-02-09 00:57 J -15895275.51 -15895275.46 -15895275.42 0.2671 0.2487 *

Mars -48232-09-28 14:38 J -15895043.95 -15895043.89 -15895043.83 0.1654 0.1440

Mars -48231-07-20 21:35 J -15894748.69 -15894748.60 -15894748.51 0.1900 0.1460

Earth -48229-08-19 07:54 J -15893988.29 -15893988.17 -15893988.05 0.2665 0.0023

Moon -48229-08-19 08:09 J -15893988.28 -15893988.16 -15893988.05 0.2672 0.0094 *

Jupiter -48228-05-11 16:04 J -15893722.96 -15893722.83 -15893722.69 0.0540 0.0040

Venus -48228-12-13 03:35 J -15893507.43 -15893507.35 -15893507.26 0.3655 0.2895

Earth -48226-02-20 00:57 J -15893073.52 -15893073.46 -15893073.39 0.2664 0.2338

Moon -48226-02-20 01:40 J -15893073.50 -15893073.43 -15893073.36 0.2670 0.2320 *

Mars -48224-03-15 12:14 J -15892319.02 -15892318.99 -15892318.97 0.1630 0.1587

Jupiter -48223-12-27 21:21 J -15891666.70 -15891666.61 -15891666.51 0.0489 0.0394

Mars -48222-02-18 23:59 J -15891613.61 -15891613.50 -15891613.39 0.1649 0.0860

Jupiter -48222-03-27 17:59 J -15891576.89 -15891576.75 -15891576.59 0.0487 0.0215

Moon -48222-08-12 23:59 J -15891438.51 -15891438.50 -15891438.49 0.2659 0.2632

Earth -48222-08-13 00:57 J -15891438.48 -15891438.46 -15891438.45 0.2660 0.2636

Saturn -48222-12-13 14:23 J -15891316.00 -15891315.90 -15891315.79 0.0286 0.0220

Saturn -48221-03-11 09:50 J -15891227.25 -15891227.09 -15891226.93 0.0285 0.0096

Saturn -48221-06-08 05:30 J -15891138.44 -15891138.27 -15891138.10 0.0285 0.0031

Saturn -48221-09-05 01:26 J -15891049.58 -15891049.44 -15891049.29 0.0284 0.0158

Moon -48219-02-12 00:42 J -15890524.59 -15890524.47 -15890524.35 0.2670 0.1295

Earth -48219-02-12 01:54 J -15890524.54 -15890524.42 -15890524.30 0.2669 0.1286 *

Jupiter -48216-02-27 17:45 J -15889412.89 -15889412.76 -15889412.62 0.0540 0.0143

Jupiter -48216-05-28 05:59 J -15889323.28 -15889323.25 -15889323.21 0.0541 0.0523

Earth -48216-08-22 03:35 J -15889237.46 -15889237.35 -15889237.24 0.2667 0.0867

Moon -48216-08-22 04:18 J -15889237.43 -15889237.32 -15889237.21 0.2669 0.0968 *

Pluto -48214-08-27 19:11 J -15888501.72 -15888501.70 -15888501.63 0.0063 0.0061

Pluto -48214-11-23 20:23 J -15888413.71 -15888413.65 -15888413.56 0.0063 0.0057

Pluto -48213-02-19 21:50 J -15888325.68 -15888325.59 -15888325.49 0.0063 0.0052

Pluto -48213-05-17 22:33 J -15888237.65 -15888237.56 -15888237.43 0.0064 0.0048

Mars -48213-07-11 09:06 J -15888183.24 -15888183.12 -15888182.99 0.1644 0.0276

Pluto -48213-08-13 23:59 J -15888149.61 -15888149.50 -15888149.36 0.0064 0.0043

Pluto -48213-11-10 01:11 J -15888061.58 -15888061.45 -15888061.31 0.0064 0.0038

Pluto -48212-02-06 02:38 J -15887973.54 -15887973.39 -15887973.25 0.0064 0.0033

Pluto -48212-05-05 03:21 J -15887885.50 -15887885.36 -15887885.19 0.0064 0.0029

Pluto -48212-08-01 04:33 J -15887797.45 -15887797.31 -15887797.14 0.0064 0.0024

Pluto -48212-10-28 05:59 J -15887709.41 -15887709.25 -15887709.08 0.0064 0.0019

Pluto -48211-01-24 07:11 J -15887621.36 -15887621.20 -15887621.03 0.0064 0.0014

Pluto -48211-04-22 08:23 J -15887533.32 -15887533.15 -15887532.98 0.0064 0.0009

Pluto -48211-07-19 09:35 J -15887445.27 -15887445.10 -15887444.93 0.0064 0.0005

Pluto -48211-10-15 10:47 J -15887357.22 -15887357.05 -15887356.87 0.0064 0.0002

Pluto -48210-01-11 11:59 J -15887269.17 -15887269.00 -15887268.82 0.0065 0.0006

Jupiter -48210-01-13 18:57 J -15887266.88 -15887266.71 -15887266.55 0.0488 0.0068

Mars -48210-04-08 20:09 J -15887181.78 -15887181.66 -15887181.54 0.1887 0.1054

Pluto -48210-04-09 13:11 J -15887181.11 -15887180.95 -15887180.77 0.0065 0.0011

Pluto -48210-07-06 14:23 J -15887093.06 -15887092.90 -15887092.72 0.0065 0.0016

Pluto -48210-10-02 15:35 J -15887005.00 -15887004.85 -15887004.68 0.0065 0.0021

Pluto -48210-12-29 16:47 J -15886916.94 -15886916.80 -15886916.63 0.0065 0.0026

Pluto -48209-03-26 18:14 J -15886828.88 -15886828.74 -15886828.58 0.0065 0.0031

Pluto -48209-06-22 19:26 J -15886740.82 -15886740.69 -15886740.54 0.0065 0.0036

Moon -48209-08-14 20:09 J -15886687.74 -15886687.66 -15886687.57 0.2664 0.1821

Earth -48209-08-14 21:06 J -15886687.71 -15886687.62 -15886687.53 0.2662 0.1688 *

Pluto -48209-09-18 20:52 J -15886652.76 -15886652.63 -15886652.49 0.0065 0.0042

Pluto -48209-12-15 21:50 J -15886564.69 -15886564.59 -15886564.45 0.0065 0.0047

Pluto -48208-03-13 23:02 J -15886476.62 -15886476.54 -15886476.41 0.0065 0.0053

Pluto -48208-06-10 00:28 J -15886388.54 -15886388.48 -15886388.38 0.0065 0.0058

Pluto -48208-09-06 02:09 J -15886300.45 -15886300.41 -15886300.36 0.0066 0.0063

Uranus -48207-11-21 12:14 J -15885859.08 -15885858.99 -15885858.88 0.0147 0.0119

Moon -48206-02-15 02:09 J -15885773.55 -15885773.41 -15885773.27 0.2672 0.0157

Earth -48206-02-15 03:06 J -15885773.51 -15885773.37 -15885773.23 0.2667 0.0061 *

Uranus -48206-02-17 19:26 J -15885770.82 -15885770.69 -15885770.54 0.0147 0.0088

Saturn -48206-04-09 20:38 J -15885719.72 -15885719.64 -15885719.55 0.0273 0.0218

Uranus -48206-05-17 02:38 J -15885682.55 -15885682.39 -15885682.22 0.0147 0.0057

Saturn -48206-07-07 09:21 J -15885631.23 -15885631.11 -15885630.98 0.0274 0.0124

Uranus -48206-08-13 10:04 J -15885594.25 -15885594.08 -15885593.90 0.0147 0.0025

Saturn -48206-10-03 22:04 J -15885542.72 -15885542.58 -15885542.44 0.0274 0.0029

Uranus -48206-11-09 17:30 J -15885505.95 -15885505.77 -15885505.59 0.0147 0.0006

Saturn -48206-12-31 10:33 J -15885454.20 -15885454.06 -15885453.92 0.0275 0.0064

Uranus -48205-02-06 00:57 J -15885417.63 -15885417.46 -15885417.29 0.0147 0.0038

Saturn -48205-03-28 22:47 J -15885365.66 -15885365.55 -15885365.43 0.0275 0.0156

Uranus -48205-05-04 08:09 J -15885329.31 -15885329.16 -15885328.99 0.0147 0.0071

Saturn -48205-06-25 11:02 J -15885277.10 -15885277.04 -15885276.98 0.0276 0.0247

Uranus -48205-07-31 15:50 J -15885240.96 -15885240.84 -15885240.71 0.0147 0.0103

Uranus -48205-10-27 23:16 J -15885152.59 -15885152.53 -15885152.46 0.0147 0.0136

Jupiter -48205-12-16 20:38 J -15885102.76 -15885102.64 -15885102.53 0.0540 0.0304

Jupiter -48204-03-16 09:06 J -15885013.21 -15885013.12 -15885013.02 0.0541 0.0368

Mars -48204-12-01 18:14 J -15884752.86 -15884752.74 -15884752.61 0.1639 0.0319

Earth -48203-08-24 23:02 J -15884486.63 -15884486.54 -15884486.45 0.2668 0.1737

Moon -48203-08-24 23:59 J -15884486.59 -15884486.50 -15884486.41 0.2668 0.1731 *

Venus -48201-02-06 14:23 J -15883955.95 -15883955.90 -15883955.84 0.3713 0.3108

Mars -48201-08-28 20:38 J -15883751.78 -15883751.64 -15883751.49 0.1894 0.0169

Jupiter -48199-11-01 19:11 J -15882956.87 -15882956.70 -15882956.54 0.0488 0.0086

Moon -48196-08-17 16:47 J -15881936.91 -15881936.80 -15881936.68 0.2670 0.0748

Earth -48196-08-17 17:02 J -15881936.90 -15881936.79 -15881936.67 0.2663 0.0772 *

Venus -48196-08-22 06:57 J -15881932.32 -15881932.21 -15881932.11 0.3718 0.0839

Mars -48194-04-24 03:21 J -15881322.47 -15881322.36 -15881322.25 0.1635 0.0910

Moon -48193-02-18 04:47 J -15881022.42 -15881022.30 -15881022.18 0.2672 0.1247

Earth -48193-02-18 04:47 J -15881022.42 -15881022.30 -15881022.17 0.2666 0.1245 *

Jupiter -48193-10-04 23:30 J -15880792.59 -15880792.52 -15880792.45 0.0539 0.0463

Jupiter -48192-01-02 12:28 J -15880703.10 -15880702.98 -15880702.86 0.0541 0.0215

Mars -48192-03-29 14:52 J -15880616.93 -15880616.88 -15880616.84 0.1654 0.1525

Saturn -48192-05-01 11:59 J -15880584.05 -15880584.00 -15880583.95 0.0286 0.0271

Saturn -48192-07-29 06:57 J -15880495.35 -15880495.21 -15880495.06 0.0286 0.0148

Saturn -48192-10-26 02:38 J -15880406.56 -15880406.39 -15880406.22 0.0285 0.0023

Mars -48191-01-18 21:35 J -15880321.70 -15880321.60 -15880321.51 0.1900 0.1363

Saturn -48191-01-22 22:18 J -15880317.73 -15880317.57 -15880317.41 0.0285 0.0104

Saturn -48191-04-21 18:28 J -15880228.82 -15880228.73 -15880228.63 0.0284 0.0233

Venus -48190-03-07 23:16 J -15879908.63 -15879908.53 -15879908.44 0.3723 0.1411

Earth -48190-08-27 18:28 J -15879735.76 -15879735.73 -15879735.70 0.2670 0.2585

Jupiter -48187-08-20 19:40 J -15878646.82 -15878646.68 -15878646.53 0.0488 0.0234

Jupiter -48187-11-18 16:47 J -15878556.90 -15878556.80 -15878556.69 0.0487 0.0380

Moon -48186-02-10 05:30 J -15878473.34 -15878473.27 -15878473.20 0.2667 0.2262

Earth -48186-02-10 06:42 J -15878473.29 -15878473.22 -15878473.15 0.2671 0.2278 *

Mars -48185-09-13 12:14 J -15877892.03 -15877891.99 -15877891.94 0.1631 0.1503

Venus -48185-09-20 15:35 J -15877884.87 -15877884.85 -15877884.83 0.3727 0.3629

Mars -48183-08-19 23:59 J -15877186.60 -15877186.50 -15877186.39 0.1649 0.0939

Earth -48183-08-20 12:57 J -15877186.08 -15877185.96 -15877185.84 0.2665 0.0155

Moon -48183-08-20 13:11 J -15877186.06 -15877185.95 -15877185.83 0.2671 0.0190 *

Neptune -48183-12-18 03:06 J -15877066.40 -15877066.37 -15877066.30 0.0089 0.0084

Neptune -48182-03-16 05:45 J -15876978.33 -15876978.26 -15876978.17 0.0089 0.0077

Neptune -48182-06-12 08:38 J -15876890.25 -15876890.14 -15876890.04 0.0089 0.0069

Neptune -48182-09-08 10:47 J -15876802.16 -15876802.05 -15876801.92 0.0089 0.0062

Neptune -48182-12-05 13:26 J -15876714.06 -15876713.94 -15876713.80 0.0089 0.0055

Neptune -48181-03-02 16:04 J -15876625.97 -15876625.83 -15876625.68 0.0089 0.0047

Neptune -48181-05-29 18:28 J -15876537.87 -15876537.73 -15876537.57 0.0089 0.0040

Neptune -48181-08-25 21:06 J -15876449.77 -15876449.62 -15876449.46 0.0089 0.0033

Jupiter -48181-10-21 15:06 J -15876393.00 -15876392.87 -15876392.73 0.0540 0.0056

Neptune -48181-11-21 23:45 J -15876361.67 -15876361.51 -15876361.34 0.0089 0.0025

Neptune -48180-02-18 02:23 J -15876273.56 -15876273.40 -15876273.23 0.0089 0.0018

Earth -48180-02-20 06:57 J -15876271.24 -15876271.21 -15876271.18 0.2664 0.2567

Neptune -48180-05-17 05:02 J -15876185.46 -15876185.29 -15876185.12 0.0089 0.0010

Neptune -48180-08-13 07:40 J -15876097.35 -15876097.18 -15876097.01 0.0089 0.0003

Neptune -48180-11-09 10:18 J -15876009.24 -15876009.07 -15876008.90 0.0089 0.0005

Neptune -48179-02-05 12:57 J -15875921.13 -15875920.96 -15875920.79 0.0089 0.0013

Neptune -48179-05-04 15:35 J -15875833.02 -15875832.85 -15875832.68 0.0089 0.0020

Neptune -48179-07-31 18:14 J -15875744.90 -15875744.74 -15875744.58 0.0089 0.0028

Neptune -48179-10-27 20:38 J -15875656.78 -15875656.64 -15875656.47 0.0089 0.0036

Neptune -48178-01-23 23:16 J -15875568.67 -15875568.53 -15875568.36 0.0089 0.0044

Neptune -48178-04-22 02:09 J -15875480.54 -15875480.41 -15875480.26 0.0089 0.0051

Neptune -48178-07-19 04:47 J -15875392.42 -15875392.30 -15875392.16 0.0089 0.0059

Neptune -48178-10-15 07:26 J -15875304.29 -15875304.19 -15875304.06 0.0089 0.0067

Neptune -48177-01-11 10:33 J -15875216.15 -15875216.06 -15875215.97 0.0089 0.0074

Neptune -48177-04-08 13:11 J -15875128.01 -15875127.95 -15875127.88 0.0089 0.0082

Saturn -48177-08-26 21:21 J -15874987.66 -15874987.61 -15874987.56 0.0273 0.0254

Saturn -48177-11-23 10:18 J -15874899.19 -15874899.07 -15874898.95 0.0274 0.0159

Venus -48176-01-02 23:30 J -15874858.67 -15874858.52 -15874858.38 0.3660 0.0676

Saturn -48176-02-19 23:02 J -15874810.68 -15874810.54 -15874810.40 0.0274 0.0064

Saturn -48176-05-19 11:30 J -15874722.16 -15874722.02 -15874721.88 0.0275 0.0030

Moon -48176-08-13 05:02 J -15874636.31 -15874636.29 -15874636.26 0.2660 0.2599

Earth -48176-08-13 05:59 J -15874636.29 -15874636.25 -15874636.20 0.2661 0.2461 *

Saturn -48176-08-15 23:45 J -15874633.63 -15874633.51 -15874633.38 0.0275 0.0123

Saturn -48176-11-12 11:59 J -15874545.08 -15874545.00 -15874544.91 0.0276 0.0214

Jupiter -48175-06-08 20:09 J -15874336.76 -15874336.66 -15874336.55 0.0489 0.0383

Jupiter -48175-09-06 16:47 J -15874246.94 -15874246.80 -15874246.65 0.0488 0.0226

Mars -48173-01-10 09:21 J -15873756.24 -15873756.11 -15873755.99 0.1644 0.0357

Moon -48173-02-13 06:28 J -15873722.35 -15873722.23 -15873722.11 0.2671 0.1248

Earth -48173-02-13 07:40 J -15873722.31 -15873722.18 -15873722.06 0.2669 0.1070 *

Mars -48171-10-07 20:38 J -15872754.75 -15872754.64 -15872754.53 0.1887 0.1182

Earth -48170-08-23 08:38 J -15872435.25 -15872435.14 -15872435.03 0.2667 0.1029

Moon -48170-08-23 09:35 J -15872435.21 -15872435.10 -15872435.00 0.2670 0.1064 *

Jupiter -48169-08-09 17:30 J -15872082.90 -15872082.77 -15872082.63 0.0539 0.0116

Uranus -48165-06-17 11:45 J -15870675.06 -15870675.01 -15870674.93 0.0132 0.0118

Uranus -48165-09-13 15:21 J -15870586.94 -15870586.86 -15870586.76 0.0132 0.0099

Uranus -48165-12-10 18:42 J -15870498.82 -15870498.72 -15870498.60 0.0132 0.0081

Uranus -48164-03-08 22:18 J -15870410.69 -15870410.57 -15870410.44 0.0132 0.0062

Mars -48164-06-01 18:28 J -15870325.86 -15870325.73 -15870325.60 0.1639 0.0231

Uranus -48164-06-05 01:40 J -15870322.56 -15870322.43 -15870322.29 0.0132 0.0044

Uranus -48164-09-01 05:16 J -15870234.42 -15870234.28 -15870234.14 0.0132 0.0026

Uranus -48164-11-28 08:38 J -15870146.28 -15870146.14 -15870146.00 0.0132 0.0008

Uranus -48163-02-24 11:59 J -15870058.14 -15870058.00 -15870057.86 0.0132 0.0011

Uranus -48163-05-23 15:06 J -15869970.00 -15869969.87 -15869969.73 0.0132 0.0029

Jupiter -48163-06-25 17:30 J -15869936.93 -15869936.77 -15869936.60 0.0488 0.0079

Moon -48163-08-16 01:26 J -15869885.53 -15869885.44 -15869885.34 0.2665 0.1517

Earth -48163-08-16 02:09 J -15869885.50 -15869885.41 -15869885.31 0.2662 0.1525 *

Uranus -48163-08-19 18:28 J -15869881.86 -15869881.73 -15869881.60 0.0132 0.0046

Uranus -48163-11-15 21:50 J -15869793.71 -15869793.59 -15869793.47 0.0132 0.0064

Saturn -48163-12-16 06:57 J -15869763.34 -15869763.21 -15869763.08 0.0286 0.0185

Uranus -48162-02-12 00:57 J -15869705.56 -15869705.46 -15869705.35 0.0132 0.0082

Saturn -48162-03-15 02:23 J -15869674.57 -15869674.40 -15869674.24 0.0285 0.0060

Uranus -48162-05-11 04:18 J -15869617.41 -15869617.32 -15869617.23 0.0132 0.0099

Saturn -48162-06-11 22:04 J -15869585.74 -15869585.58 -15869585.41 0.0285 0.0066

Uranus -48162-08-07 07:26 J -15869529.25 -15869529.19 -15869529.12 0.0132 0.0117

Saturn -48162-09-08 17:59 J -15869496.86 -15869496.75 -15869496.62 0.0284 0.0195

Mars -48161-02-27 21:06 J -15869324.77 -15869324.62 -15869324.48 0.1894 0.0044

Moon -48160-02-15 08:09 J -15868971.30 -15868971.16 -15868971.02 0.2672 0.0176

Earth -48160-02-15 09:06 J -15868971.26 -15868971.12 -15868970.98 0.2667 0.0192 *

Jupiter -48157-05-28 18:57 J -15867772.82 -15867772.71 -15867772.59 0.0539 0.0300

Earth -48157-08-25 04:04 J -15867684.41 -15867684.33 -15867684.25 0.2669 0.1891

Moon -48157-08-25 04:47 J -15867684.37 -15867684.30 -15867684.22 0.2666 0.2000 *

Jupiter -48157-08-26 07:40 J -15867683.28 -15867683.18 -15867683.08 0.0541 0.0371

Mars -48155-10-23 03:35 J -15866895.47 -15866895.35 -15866895.24 0.1635 0.0822

Mars -48153-09-27 14:52 J -15866189.91 -15866189.88 -15866189.85 0.1654 0.1605

Mars -48152-07-19 22:04 J -15865894.69 -15865894.58 -15865894.48 0.1900 0.1236

Jupiter -48151-04-13 18:28 J -15865626.90 -15865626.73 -15865626.57 0.0488 0.0068

Moon -48150-08-18 22:04 J -15865134.70 -15865134.58 -15865134.47 0.2671 0.0674

Earth -48150-08-18 22:18 J -15865134.69 -15865134.57 -15865134.45 0.2664 0.0598 *

Earth -48147-02-18 10:47 J -15864220.17 -15864220.05 -15864219.93 0.2665 0.1476

Moon -48147-02-18 11:02 J -15864220.16 -15864220.04 -15864219.93 0.2672 0.1464 *

Saturn -48147-04-12 12:42 J -15864167.07 -15864166.97 -15864166.86 0.0273 0.0183

Saturn -48147-07-10 01:26 J -15864078.57 -15864078.44 -15864078.30 0.0274 0.0089

Saturn -48147-10-06 13:54 J -15863990.06 -15863989.92 -15863989.77 0.0274 0.0010

Saturn -48146-01-03 02:23 J -15863901.53 -15863901.40 -15863901.27 0.0275 0.0097

Saturn -48146-04-01 14:38 J -15863812.99 -15863812.89 -15863812.79 0.0275 0.0189

Mars -48145-03-14 12:28 J -15863465.04 -15863464.98 -15863464.92 0.1631 0.1413

Jupiter -48145-03-16 21:35 J -15863462.67 -15863462.60 -15863462.53 0.0539 0.0464

Jupiter -48145-06-14 10:47 J -15863373.18 -15863373.05 -15863372.93 0.0541 0.0214

Venus -48145-09-12 11:59 J -15863283.08 -15863283.00 -15863282.91 0.3715 0.2251

Mars -48143-02-18 00:14 J -15862759.59 -15862759.49 -15862759.39 0.1649 0.1024

Moon -48140-02-10 11:16 J -15861671.10 -15861671.03 -15861670.95 0.2667 0.2206

Earth -48140-02-10 12:28 J -15861671.07 -15861670.98 -15861670.90 0.2671 0.2068 *

Jupiter -48139-01-30 18:42 J -15861316.87 -15861316.72 -15861316.57 0.0488 0.0218

Venus -48139-03-29 04:33 J -15861259.42 -15861259.31 -15861259.21 0.3719 0.0087

Jupiter -48139-04-30 15:50 J -15861226.94 -15861226.84 -15861226.74 0.0487 0.0396

Earth -48137-08-20 17:59 J -15860383.86 -15860383.75 -15860383.63 0.2665 0.0317

Moon -48137-08-20 18:28 J -15860383.84 -15860383.73 -15860383.61 0.2671 0.0382 *

Mars -48134-07-11 09:21 J -15859329.23 -15859329.11 -15859328.98 0.1644 0.0441

Venus -48134-10-12 20:52 J -15859235.71 -15859235.63 -15859235.55 0.3724 0.2249

Jupiter -48133-04-02 13:54 J -15859063.06 -15859062.92 -15859062.79 0.0540 0.0060

Saturn -48133-05-04 04:33 J -15859031.40 -15859031.31 -15859031.21 0.0286 0.0234

Saturn -48133-07-31 23:45 J -15858942.66 -15858942.51 -15858942.35 0.0286 0.0111

Saturn -48133-10-28 19:26 J -15858853.86 -15858853.69 -15858853.52 0.0285 0.0015

Saturn -48132-01-25 15:06 J -15858765.01 -15858764.87 -15858764.71 0.0285 0.0143

Saturn -48132-04-24 11:30 J -15858676.06 -15858676.02 -15858675.97 0.0284 0.0271

Mars -48131-04-07 20:52 J -15858327.74 -15858327.63 -15858327.53 0.1887 0.1293

Moon -48130-08-14 10:18 J -15857834.13 -15857834.07 -15857834.01 0.2660 0.2300

Earth -48130-08-14 11:16 J -15857834.09 -15857834.03 -15857833.97 0.2661 0.2288 *

Jupiter -48128-11-18 19:26 J -15857006.79 -15857006.69 -15857006.58 0.0488 0.0365

Moon -48127-02-13 12:14 J -15856920.12 -15856919.99 -15856919.86 0.2671 0.0849

Earth -48127-02-13 13:26 J -15856920.07 -15856919.94 -15856919.81 0.2669 0.0852 *

Jupiter -48127-02-16 16:04 J -15856916.97 -15856916.83 -15856916.68 0.0487 0.0243

Mars -48125-11-30 18:28 J -15855898.86 -15855898.73 -15855898.60 0.1639 0.0153

Pluto -48125-12-01 00:14 J -15855898.54 -15855898.49 -15855898.43 0.0081 0.0075

Pluto -48124-02-27 01:40 J -15855810.50 -15855810.43 -15855810.33 0.0081 0.0066

Pluto -48124-05-26 03:21 J -15855722.45 -15855722.36 -15855722.25 0.0081 0.0057

Pluto -48124-08-22 05:02 J -15855634.40 -15855634.29 -15855634.17 0.0081 0.0048

Earth -48124-08-23 13:40 J -15855633.03 -15855632.93 -15855632.82 0.2667 0.1184

Moon -48124-08-23 14:38 J -15855633.00 -15855632.89 -15855632.79 0.2670 0.1265 *

Pluto -48124-11-18 06:28 J -15855546.35 -15855546.23 -15855546.09 0.0081 0.0040

Pluto -48123-02-14 08:09 J -15855458.29 -15855458.16 -15855458.02 0.0081 0.0031

Pluto -48123-05-13 09:50 J -15855370.23 -15855370.09 -15855369.95 0.0080 0.0023

Pluto -48123-08-09 11:16 J -15855282.17 -15855282.03 -15855281.88 0.0080 0.0014

Uranus -48123-09-14 13:26 J -15855245.99 -15855245.94 -15855245.88 0.0147 0.0138

Pluto -48123-11-05 12:57 J -15855194.11 -15855193.96 -15855193.82 0.0080 0.0006

Uranus -48123-12-11 20:23 J -15855157.76 -15855157.65 -15855157.52 0.0147 0.0108

Pluto -48122-02-01 14:23 J -15855106.05 -15855105.90 -15855105.75 0.0080 0.0002

Uranus -48122-03-10 03:35 J -15855069.49 -15855069.35 -15855069.19 0.0147 0.0077

Pluto -48122-04-30 15:50 J -15855017.98 -15855017.84 -15855017.69 0.0080 0.0010

Uranus -48122-06-06 11:02 J -15854981.21 -15854981.04 -15854980.87 0.0147 0.0045

Pluto -48122-07-27 17:16 J -15854929.92 -15854929.78 -15854929.63 0.0080 0.0019

Mars -48122-08-28 21:21 J -15854897.76 -15854897.61 -15854897.47 0.1894 0.0075

Uranus -48122-09-02 18:14 J -15854892.91 -15854892.74 -15854892.56 0.0147 0.0014

Pluto -48122-10-23 18:42 J -15854841.85 -15854841.72 -15854841.58 0.0080 0.0027

Uranus -48122-11-30 01:40 J -15854804.60 -15854804.43 -15854804.25 0.0147 0.0018

Pluto -48121-01-19 20:09 J -15854753.78 -15854753.66 -15854753.52 0.0079 0.0034

Jupiter -48121-01-20 16:33 J -15854752.94 -15854752.81 -15854752.67 0.0540 0.0102

Uranus -48121-02-26 09:06 J -15854716.29 -15854716.12 -15854715.95 0.0147 0.0050

Pluto -48121-04-16 21:35 J -15854665.72 -15854665.60 -15854665.47 0.0079 0.0042

Uranus -48121-05-24 16:18 J -15854627.95 -15854627.82 -15854627.66 0.0147 0.0083

Pluto -48121-07-13 22:47 J -15854577.65 -15854577.55 -15854577.42 0.0079 0.0051

Uranus -48121-08-20 23:59 J -15854539.60 -15854539.50 -15854539.38 0.0147 0.0115

Pluto -48121-10-10 00:28 J -15854489.57 -15854489.48 -15854489.38 0.0079 0.0058

Pluto -48120-01-06 01:54 J -15854401.50 -15854401.42 -15854401.34 0.0079 0.0065

Pluto -48120-04-04 03:06 J -15854313.41 -15854313.37 -15854313.30 0.0079 0.0073

Venus -48120-08-10 00:28 J -15854185.62 -15854185.48 -15854185.34 0.3658 0.1197

Saturn -48118-08-30 13:26 J -15853435.03 -15853434.94 -15853434.86 0.0273 0.0220

Saturn -48118-11-27 02:09 J -15853346.54 -15853346.41 -15853346.28 0.0274 0.0125

Saturn -48117-02-23 14:52 J -15853258.02 -15853257.88 -15853257.74 0.0274 0.0031

Saturn -48117-05-22 03:21 J -15853169.50 -15853169.36 -15853169.23 0.0275 0.0062

Moon -48117-08-16 06:42 J -15853083.32 -15853083.22 -15853083.12 0.2667 0.1472

Earth -48117-08-16 07:26 J -15853083.29 -15853083.19 -15853083.09 0.2662 0.1350 *

Saturn -48117-08-18 15:35 J -15853080.97 -15853080.85 -15853080.74 0.0276 0.0154

Saturn -48117-11-15 03:35 J -15852992.40 -15852992.35 -15852992.28 0.0276 0.0246

Jupiter -48116-12-05 16:18 J -15852606.99 -15852606.82 -15852606.66 0.0488 0.0089

Mars -48115-04-23 03:35 J -15852468.46 -15852468.35 -15852468.23 0.1635 0.0738

Moon -48114-02-16 14:09 J -15852169.04 -15852168.91 -15852168.77 0.2672 0.0293

Earth -48114-02-16 14:52 J -15852169.02 -15852168.88 -15852168.74 0.2667 0.0406 *

Mars -48112-01-17 22:18 J -15851467.68 -15851467.57 -15851467.45 0.1900 0.1109

Earth -48111-08-26 09:06 J -15850882.19 -15850882.12 -15850882.04 0.2669 0.2049

Moon -48111-08-26 09:50 J -15850882.16 -15850882.09 -15850882.01 0.2665 0.2058 *

Jupiter -48110-11-08 18:42 J -15850442.83 -15850442.72 -15850442.59 0.0539 0.0274

Jupiter -48109-02-06 07:26 J -15850353.28 -15850353.19 -15850353.10 0.0540 0.0397

Mars -48106-09-13 12:42 J -15849038.05 -15849037.97 -15849037.90 0.1631 0.1329

Mars -48104-08-19 00:14 J -15848332.58 -15848332.49 -15848332.39 0.1649 0.1107

Moon -48104-08-19 03:06 J -15848332.48 -15848332.37 -15848332.25 0.2671 0.0402 *

Earth -48104-08-19 03:21 J -15848332.48 -15848332.36 -15848332.24 0.2664 0.0437 *

Saturn -48104-09-21 04:04 J -15848299.37 -15848299.33 -15848299.27 0.0286 0.0273

Jupiter -48104-09-23 17:02 J -15848296.95 -15848296.79 -15848296.62 0.0488 0.0057

Saturn -48104-12-18 23:30 J -15848210.66 -15848210.52 -15848210.38 0.0286 0.0149

Saturn -48103-03-17 18:57 J -15848121.88 -15848121.71 -15848121.54 0.0285 0.0024

Saturn -48103-06-14 14:52 J -15848033.04 -15848032.88 -15848032.72 0.0285 0.0103

Saturn -48103-09-11 10:47 J -15847944.14 -15847944.05 -15847943.94 0.0284 0.0232

Earth -48101-02-19 16:47 J -15847417.91 -15847417.80 -15847417.69 0.2665 0.1702

Moon -48101-02-19 16:47 J -15847417.90 -15847417.80 -15847417.69 0.2672 0.1766 *

Neptune -48100-09-21 04:47 J -15846838.34 -15846838.30 -15846838.24 0.0088 0.0082

Neptune -48100-12-18 06:42 J -15846750.29 -15846750.22 -15846750.14 0.0088 0.0076

Neptune -48099-03-16 08:38 J -15846662.23 -15846662.14 -15846662.04 0.0088 0.0069

Neptune -48099-06-12 10:18 J -15846574.16 -15846574.07 -15846573.95 0.0088 0.0063

Neptune -48099-09-08 12:14 J -15846486.10 -15846485.99 -15846485.87 0.0088 0.0056

Neptune -48099-12-05 13:54 J -15846398.03 -15846397.92 -15846397.78 0.0088 0.0050

Neptune -48098-03-03 15:50 J -15846309.96 -15846309.84 -15846309.70 0.0088 0.0043

Neptune -48098-05-30 17:59 J -15846221.89 -15846221.75 -15846221.62 0.0088 0.0036

Neptune -48098-08-26 19:40 J -15846133.82 -15846133.68 -15846133.54 0.0088 0.0029

Jupiter -48098-08-27 20:09 J -15846132.73 -15846132.66 -15846132.59 0.0539 0.0459

Neptune -48098-11-22 21:35 J -15846045.74 -15846045.60 -15846045.46 0.0088 0.0023

Jupiter -48098-11-25 09:06 J -15846043.24 -15846043.12 -15846042.99 0.0540 0.0219

Neptune -48097-02-18 23:16 J -15845957.67 -15845957.53 -15845957.38 0.0088 0.0016

Neptune -48097-05-17 01:11 J -15845869.60 -15845869.45 -15845869.31 0.0088 0.0010

Neptune -48097-08-13 02:52 J -15845781.53 -15845781.38 -15845781.23 0.0088 0.0003

Neptune -48097-11-09 04:33 J -15845693.45 -15845693.31 -15845693.16 0.0088 0.0005

Neptune -48096-02-05 06:28 J -15845605.38 -15845605.23 -15845605.08 0.0089 0.0010

Neptune -48096-05-04 08:09 J -15845517.30 -15845517.16 -15845517.01 0.0089 0.0016

Neptune -48096-07-31 09:50 J -15845429.23 -15845429.09 -15845428.94 0.0089 0.0023

Neptune -48096-10-27 11:30 J -15845341.15 -15845341.02 -15845340.87 0.0089 0.0030

Neptune -48095-01-23 13:26 J -15845253.07 -15845252.94 -15845252.81 0.0089 0.0036

Neptune -48095-04-21 15:06 J -15845165.00 -15845164.87 -15845164.74 0.0089 0.0042

Neptune -48095-07-18 16:33 J -15845076.92 -15845076.81 -15845076.68 0.0089 0.0049

Neptune -48095-10-14 18:28 J -15844988.84 -15844988.73 -15844988.61 0.0089 0.0055

Mars -48094-01-09 09:35 J -15844902.22 -15844902.10 -15844901.98 0.1644 0.0523

Neptune -48094-01-10 20:09 J -15844900.76 -15844900.66 -15844900.55 0.0089 0.0061

Moon -48094-02-11 17:02 J -15844868.89 -15844868.79 -15844868.70 0.2669 0.1897

Earth -48094-02-11 18:14 J -15844868.84 -15844868.74 -15844868.64 0.2670 0.1854 *

Neptune -48094-04-08 21:35 J -15844812.68 -15844812.60 -15844812.49 0.0089 0.0068

Neptune -48094-07-05 23:16 J -15844724.59 -15844724.53 -15844724.44 0.0089 0.0074

Neptune -48094-10-02 01:11 J -15844636.50 -15844636.45 -15844636.38 0.0089 0.0080

Venus -48094-10-04 17:16 J -15844633.79 -15844633.78 -15844633.77 0.3711 0.3681

Neptune -48094-12-29 02:52 J -15844548.41 -15844548.38 -15844548.34 0.0089 0.0086

Jupiter -48092-07-12 17:59 J -15843986.90 -15843986.75 -15843986.60 0.0488 0.0201

Mars -48092-10-06 21:06 J -15843900.72 -15843900.62 -15843900.53 0.1887 0.1410

Jupiter -48092-10-10 15:06 J -15843896.96 -15843896.87 -15843896.78 0.0487 0.0414

Earth -48091-08-21 23:16 J -15843581.65 -15843581.53 -15843581.42 0.2666 0.0466

Moon -48091-08-21 23:45 J -15843581.62 -15843581.51 -15843581.39 0.2671 0.0462 *

Saturn -48088-01-16 16:04 J -15842702.90 -15842702.83 -15842702.77 0.0273 0.0242

Saturn -48088-04-15 04:47 J -15842614.42 -15842614.30 -15842614.18 0.0273 0.0148

Venus -48088-04-19 09:50 J -15842610.19 -15842610.09 -15842610.00 0.3716 0.1400

Saturn -48088-07-12 17:30 J -15842525.91 -15842525.77 -15842525.63 0.0274 0.0054

Saturn -48088-10-09 05:59 J -15842437.39 -15842437.25 -15842437.11 0.0274 0.0040

Saturn -48087-01-05 18:14 J -15842348.86 -15842348.74 -15842348.61 0.0275 0.0132

Saturn -48087-04-04 06:28 J -15842260.31 -15842260.23 -15842260.15 0.0275 0.0223

Jupiter -48086-09-13 11:59 J -15841733.14 -15841733.00 -15841732.86 0.0540 0.0057

Mars -48085-05-31 18:42 J -15841471.85 -15841471.72 -15841471.59 0.1640 0.0065

Moon -48084-08-14 15:35 J -15841031.92 -15841031.85 -15841031.79 0.2661 0.2232

Earth -48084-08-14 16:18 J -15841031.89 -15841031.82 -15841031.74 0.2661 0.2119 *

Venus -48083-11-03 02:09 J -15840586.51 -15840586.41 -15840586.31 0.3720 0.0859

Mars -48082-02-26 21:50 J -15840470.74 -15840470.59 -15840470.45 0.1894 0.0207

Moon -48081-02-14 17:59 J -15840117.88 -15840117.75 -15840117.62 0.2671 0.0813

Earth -48081-02-14 19:11 J -15840117.83 -15840117.70 -15840117.56 0.2668 0.0638 *

Uranus -48081-04-10 16:04 J -15840061.85 -15840061.83 -15840061.79 0.0132 0.0129

Uranus -48081-07-07 19:40 J -15839973.75 -15839973.68 -15839973.60 0.0132 0.0110

Uranus -48081-10-03 23:02 J -15839885.63 -15839885.54 -15839885.43 0.0132 0.0092

Uranus -48081-12-31 02:38 J -15839797.51 -15839797.39 -15839797.27 0.0132 0.0073

Uranus -48080-03-29 05:59 J -15839709.37 -15839709.25 -15839709.12 0.0132 0.0055

Jupiter -48080-04-30 18:28 J -15839676.84 -15839676.73 -15839676.62 0.0488 0.0351

Uranus -48080-06-25 09:21 J -15839621.24 -15839621.11 -15839620.97 0.0132 0.0037

Jupiter -48080-07-29 15:06 J -15839587.01 -15839586.87 -15839586.73 0.0487 0.0258

Uranus -48080-09-21 12:42 J -15839533.10 -15839532.97 -15839532.82 0.0132 0.0019

Uranus -48080-12-18 16:18 J -15839444.96 -15839444.82 -15839444.68 0.0132 0.0003

Uranus -48079-03-16 19:26 J -15839356.82 -15839356.69 -15839356.55 0.0132 0.0018

Uranus -48079-06-12 22:47 J -15839268.68 -15839268.55 -15839268.41 0.0132 0.0036

Uranus -48079-09-09 02:09 J -15839180.54 -15839180.41 -15839180.28 0.0132 0.0054

Uranus -48079-12-06 05:16 J -15839092.39 -15839092.28 -15839092.16 0.0132 0.0072

Uranus -48078-03-04 08:38 J -15839004.24 -15839004.14 -15839004.03 0.0132 0.0089

Uranus -48078-05-31 11:45 J -15838916.08 -15838916.01 -15838915.92 0.0132 0.0107

Earth -48078-08-24 18:42 J -15838830.82 -15838830.72 -15838830.61 0.2668 0.1344

Moon -48078-08-24 19:40 J -15838830.78 -15838830.68 -15838830.58 0.2669 0.1410 *

Uranus -48078-08-27 15:06 J -15838827.91 -15838827.87 -15838827.82 0.0132 0.0124

Venus -48077-05-18 18:28 J -15838562.79 -15838562.73 -15838562.68 0.3725 0.3082

Mars -48076-10-22 03:50 J -15838041.46 -15838041.34 -15838041.22 0.1635 0.0655

Saturn -48074-05-07 21:21 J -15837478.73 -15837478.61 -15837478.49 0.0286 0.0197

Jupiter -48074-07-02 15:06 J -15837423.01 -15837422.87 -15837422.74 0.0540 0.0099

Saturn -48074-08-04 16:47 J -15837389.96 -15837389.80 -15837389.64 0.0286 0.0073

Saturn -48074-11-01 12:28 J -15837301.15 -15837300.98 -15837300.82 0.0285 0.0054

Saturn -48073-01-29 08:23 J -15837212.28 -15837212.15 -15837212.02 0.0284 0.0182

Mars -48073-07-18 22:33 J -15837040.68 -15837040.56 -15837040.44 0.1900 0.1010

Moon -48071-08-17 11:59 J -15836281.11 -15836281.00 -15836280.89 0.2668 0.1167

Earth -48071-08-17 12:42 J -15836281.08 -15836280.97 -15836280.87 0.2663 0.1186 *

Venus -48069-08-30 20:23 J -15835536.76 -15835536.65 -15835536.54 0.3663 0.2287

Moon -48068-02-16 20:23 J -15835366.79 -15835366.65 -15835366.52 0.2673 0.0685

Earth -48068-02-16 20:52 J -15835366.77 -15835366.63 -15835366.50 0.2667 0.0630 *

Jupiter -48068-05-17 15:21 J -15835277.02 -15835276.86 -15835276.69 0.0487 0.0106

Mars -48066-03-14 12:42 J -15834611.05 -15834610.97 -15834610.89 0.1631 0.1246

Earth -48065-08-26 14:09 J -15834079.97 -15834079.91 -15834079.84 0.2669 0.2198

Moon -48065-08-26 14:52 J -15834079.94 -15834079.88 -15834079.82 0.2665 0.2273 *

Mars -48064-02-17 00:14 J -15833905.57 -15833905.49 -15833905.40 0.1649 0.1185

Venus -48063-03-17 01:40 J -15833512.51 -15833512.43 -15833512.36 0.3657 0.3114

Jupiter -48062-04-20 17:45 J -15833112.88 -15833112.76 -15833112.64 0.0539 0.0261

Jupiter -48062-07-19 06:14 J -15833023.32 -15833023.24 -15833023.15 0.0541 0.0409

Saturn -48059-09-02 05:16 J -15831882.38 -15831882.28 -15831882.17 0.0274 0.0185

Saturn -48059-11-29 18:14 J -15831793.88 -15831793.74 -15831793.61 0.0274 0.0090

Saturn -48058-02-26 06:42 J -15831705.36 -15831705.22 -15831705.07 0.0275 0.0008

Saturn -48058-05-25 19:11 J -15831616.83 -15831616.70 -15831616.57 0.0275 0.0097

Moon -48058-08-20 08:38 J -15831530.26 -15831530.14 -15831530.02 0.2671 0.0335

Earth -48058-08-20 08:38 J -15831530.26 -15831530.14 -15831530.02 0.2664 0.0277 *

Saturn -48058-08-22 07:26 J -15831528.29 -15831528.19 -15831528.09 0.0276 0.0188

Jupiter -48056-03-05 15:35 J -15830967.01 -15830966.85 -15830966.68 0.0488 0.0048

Earth -48055-02-19 22:47 J -15830615.65 -15830615.55 -15830615.46 0.2665 0.1934

Moon -48055-02-19 23:02 J -15830615.64 -15830615.54 -15830615.45 0.2671 0.1900 *

Mars -48055-07-10 09:35 J -15830475.22 -15830475.10 -15830474.98 0.1644 0.0606

Mars -48052-04-06 21:35 J -15829473.68 -15829473.60 -15829473.51 0.1887 0.1551

Jupiter -48050-02-06 19:54 J -15828802.75 -15828802.67 -15828802.59 0.0539 0.0433

Jupiter -48050-05-07 08:52 J -15828713.25 -15828713.13 -15828713.01 0.0540 0.0243

Moon -48048-02-11 22:47 J -15828066.66 -15828066.55 -15828066.45 0.2670 0.1741

Earth -48048-02-11 23:59 J -15828066.61 -15828066.50 -15828066.39 0.2670 0.1638 *

Mars -48046-11-30 18:57 J -15827044.84 -15827044.71 -15827044.58 0.1640 0.0055

Earth -48045-08-22 04:18 J -15826779.44 -15826779.32 -15826779.21 0.2666 0.0623

Moon -48045-08-22 04:47 J -15826779.41 -15826779.30 -15826779.18 0.2671 0.0737 *

Saturn -48045-09-23 21:06 J -15826746.71 -15826746.62 -15826746.53 0.0286 0.0234

Saturn -48045-12-21 16:18 J -15826657.97 -15826657.82 -15826657.66 0.0285 0.0111

Jupiter -48045-12-22 16:33 J -15826656.96 -15826656.81 -15826656.66 0.0488 0.0191

Saturn -48044-03-20 11:59 J -15826569.17 -15826569.00 -15826568.83 0.0285 0.0015

Jupiter -48044-03-22 13:40 J -15826567.01 -15826566.93 -15826566.85 0.0487 0.0424

Saturn -48044-06-17 07:40 J -15826480.32 -15826480.18 -15826480.02 0.0284 0.0143

Saturn -48044-09-14 04:04 J -15826391.38 -15826391.33 -15826391.28 0.0284 0.0271

Mars -48043-08-27 22:04 J -15826043.72 -15826043.58 -15826043.44 0.1893 0.0318

Uranus -48039-10-04 21:21 J -15824544.69 -15824544.61 -15824544.52 0.0147 0.0128

Uranus -48038-01-01 04:33 J -15824456.44 -15824456.31 -15824456.18 0.0147 0.0097

Jupiter -48038-02-23 10:33 J -15824403.20 -15824403.06 -15824402.93 0.0540 0.0061

Uranus -48038-03-30 11:45 J -15824368.17 -15824368.01 -15824367.85 0.0147 0.0066

Uranus -48038-06-26 18:57 J -15824279.88 -15824279.71 -15824279.54 0.0147 0.0035

Moon -48038-08-15 20:38 J -15824229.71 -15824229.64 -15824229.56 0.2663 0.1998

Earth -48038-08-15 21:35 J -15824229.68 -15824229.60 -15824229.52 0.2661 0.1946 *

Uranus -48038-09-23 02:09 J -15824191.58 -15824191.41 -15824191.23 0.0147 0.0005

Uranus -48038-12-20 09:35 J -15824103.27 -15824103.10 -15824102.92 0.0147 0.0029

Uranus -48037-03-17 17:02 J -15824014.95 -15824014.79 -15824014.63 0.0147 0.0061

Venus -48037-05-10 14:52 J -15823960.95 -15823960.88 -15823960.81 0.3712 0.2821

Uranus -48037-06-14 00:28 J -15823926.62 -15823926.48 -15823926.34 0.0147 0.0093

Uranus -48037-09-10 07:40 J -15823838.25 -15823838.18 -15823838.07 0.0147 0.0126

Mars -48036-04-22 03:50 J -15823614.46 -15823614.34 -15823614.21 0.1635 0.0570

Moon -48035-02-14 23:59 J -15823315.64 -15823315.50 -15823315.36 0.2671 0.0425

Earth -48035-02-15 01:11 J -15823315.59 -15823315.45 -15823315.31 0.2668 0.0417 *

Mars -48033-01-17 22:47 J -15822613.67 -15822613.55 -15822613.42 0.1900 0.0886

Jupiter -48033-10-10 17:30 J -15822346.89 -15822346.77 -15822346.65 0.0489 0.0335

Jupiter -48032-01-08 14:09 J -15822257.05 -15822256.91 -15822256.77 0.0487 0.0275

Earth -48032-08-24 23:45 J -15822028.60 -15822028.51 -15822028.41 0.2668 0.1500

Moon -48032-08-25 00:42 J -15822028.57 -15822028.47 -15822028.37 0.2667 0.1522 *

Venus -48032-11-24 07:26 J -15821937.30 -15821937.19 -15821937.09 0.3717 0.0550

Saturn -48029-01-20 08:09 J -15821150.25 -15821150.16 -15821150.06 0.0273 0.0206

Saturn -48029-04-17 21:06 J -15821061.75 -15821061.62 -15821061.49 0.0274 0.0111

Saturn -48029-07-15 09:35 J -15820973.24 -15820973.10 -15820972.95 0.0274 0.0019

Saturn -48029-10-11 22:04 J -15820884.71 -15820884.58 -15820884.44 0.0275 0.0076

Saturn -48028-01-08 10:18 J -15820796.17 -15820796.07 -15820795.95 0.0275 0.0168

Saturn -48028-04-06 22:33 J -15820707.60 -15820707.56 -15820707.51 0.0276 0.0258

Mars -48027-09-12 12:57 J -15820184.05 -15820183.96 -15820183.87 0.1631 0.1156

Jupiter -48027-12-12 13:11 J -15820093.09 -15820092.95 -15820092.82 0.0540 0.0104

Venus -48026-06-09 23:45 J -15819913.60 -15819913.51 -15819913.42 0.3722 0.1696

Moon -48025-08-17 17:16 J -15819478.89 -15819478.78 -15819478.68 0.2669 0.1121

Earth -48025-08-17 17:45 J -15819478.87 -15819478.76 -15819478.65 0.2663 0.1017 *

Mars -48025-08-18 00:28 J -15819478.56 -15819478.48 -15819478.40 0.1649 0.1269

Moon -48022-02-18 02:23 J -15818564.54 -15818564.40 -15818564.27 0.2673 0.0740

Earth -48022-02-18 02:38 J -15818564.52 -15818564.39 -15818564.25 0.2666 0.0852 *

Jupiter -48021-07-29 17:59 J -15818036.76 -15818036.75 -15818036.72 0.0489 0.0484

Jupiter -48021-10-27 14:09 J -15817947.07 -15817946.91 -15817946.74 0.0487 0.0119

Earth -48019-08-27 19:26 J -15817277.75 -15817277.69 -15817277.64 0.2670 0.2352

Moon -48019-08-27 19:54 J -15817277.72 -15817277.67 -15817277.62 0.2666 0.2381 *

Neptune -48018-09-14 01:26 J -15816895.49 -15816895.44 -15816895.37 0.0089 0.0082

Neptune -48018-12-11 03:50 J -15816807.41 -15816807.34 -15816807.24 0.0089 0.0075

Neptune -48017-03-08 06:14 J -15816719.33 -15816719.24 -15816719.11 0.0089 0.0068

Neptune -48017-06-04 09:06 J -15816631.24 -15816631.12 -15816630.99 0.0089 0.0060

Neptune -48017-08-31 11:30 J -15816543.15 -15816543.02 -15816542.88 0.0089 0.0053

Neptune -48017-11-27 13:54 J -15816455.05 -15816454.92 -15816454.76 0.0089 0.0046

Neptune -48016-02-23 16:47 J -15816366.95 -15816366.80 -15816366.65 0.0089 0.0038

Neptune -48016-05-22 19:11 J -15816278.85 -15816278.70 -15816278.53 0.0089 0.0031

Neptune -48016-08-18 21:50 J -15816190.75 -15816190.59 -15816190.42 0.0089 0.0023

Neptune -48016-11-15 00:28 J -15816102.64 -15816102.48 -15816102.31 0.0089 0.0016

Mars -48015-01-08 09:50 J -15816048.21 -15816048.09 -15816047.98 0.1644 0.0689

Moon -48015-02-10 04:04 J -15816015.35 -15816015.33 -15816015.30 0.2667 0.2615

Earth -48015-02-10 05:02 J -15816015.32 -15816015.29 -15816015.27 0.2672 0.2611 *

Saturn -48015-02-10 19:40 J -15816014.71 -15816014.68 -15816014.63 0.0286 0.0278

Neptune -48015-02-11 03:06 J -15816014.54 -15816014.37 -15816014.20 0.0089 0.0008

Neptune -48015-05-10 05:45 J -15815926.43 -15815926.26 -15815926.09 0.0089 0.0001

Saturn -48015-05-10 14:52 J -15815926.02 -15815925.88 -15815925.74 0.0286 0.0155

Neptune -48015-08-06 08:23 J -15815838.32 -15815838.15 -15815837.98 0.0089 0.0007

Saturn -48015-08-07 10:18 J -15815837.24 -15815837.07 -15815836.90 0.0285 0.0030

Jupiter -48015-09-30 16:04 J -15815782.95 -15815782.83 -15815782.71 0.0540 0.0262

Neptune -48015-11-02 10:47 J -15815750.21 -15815750.05 -15815749.87 0.0089 0.0015

Saturn -48015-11-04 05:59 J -15815748.41 -15815748.25 -15815748.09 0.0285 0.0097

Jupiter -48015-12-29 04:47 J -15815693.39 -15815693.30 -15815693.22 0.0541 0.0410

Neptune -48014-01-29 13:40 J -15815662.10 -15815661.93 -15815661.76 0.0089 0.0022

Saturn -48014-02-01 01:54 J -15815659.51 -15815659.42 -15815659.30 0.0284 0.0226

Neptune -48014-04-27 16:04 J -15815573.98 -15815573.83 -15815573.66 0.0089 0.0030

Neptune -48014-07-24 18:42 J -15815485.86 -15815485.72 -15815485.55 0.0089 0.0038

Neptune -48014-10-20 21:35 J -15815397.74 -15815397.60 -15815397.45 0.0089 0.0045

Neptune -48013-01-17 00:14 J -15815309.62 -15815309.49 -15815309.35 0.0089 0.0053

Neptune -48013-04-14 02:52 J -15815221.50 -15815221.38 -15815221.25 0.0089 0.0061

Neptune -48013-07-11 05:16 J -15815133.37 -15815133.28 -15815133.15 0.0089 0.0069

Mars -48013-10-05 21:50 J -15815046.66 -15815046.59 -15815046.52 0.1886 0.1650

Neptune -48013-10-07 08:23 J -15815045.23 -15815045.15 -15815045.06 0.0089 0.0076

Neptune -48012-01-03 11:02 J -15814957.08 -15814957.04 -15814956.98 0.0089 0.0084

Venus -48012-04-06 21:21 J -15814863.75 -15814863.61 -15814863.46 0.3661 0.0442

Earth -48012-08-20 13:40 J -15814728.05 -15814727.93 -15814727.81 0.2665 0.0107

Moon -48012-08-20 13:54 J -15814728.04 -15814727.92 -15814727.80 0.2671 0.0037 *

Earth -48009-02-21 04:33 J -15813813.39 -15813813.31 -15813813.23 0.2664 0.2157

Moon -48009-02-21 05:02 J -15813813.36 -15813813.29 -15813813.22 0.2670 0.2280 *

Jupiter -48009-08-15 14:38 J -15813637.05 -15813636.89 -15813636.72 0.0488 0.0033

Mars -48006-05-31 18:57 J -15812617.84 -15812617.71 -15812617.58 0.1640 0.0102

Mars -48003-02-25 22:18 J -15811616.71 -15811616.57 -15811616.43 0.1894 0.0434

Jupiter -48003-07-19 18:42 J -15811472.81 -15811472.72 -15811472.64 0.0539 0.0425

Jupiter -48003-10-17 07:40 J -15811383.30 -15811383.18 -15811383.06 0.0540 0.0252

Moon -48002-02-13 04:33 J -15811264.43 -15811264.31 -15811264.20 0.2670 0.1527

Earth -48002-02-13 05:45 J -15811264.38 -15811264.26 -15811264.14 0.2670 0.1427 *

48TH MILLENNIUM BCE

This is a list of transits of Mercury in the 48th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Saturn -48000-06-08 08:52 J -15810418.19 -15810418.13 -15810418.06 0.0273 0.0242

Saturn -48000-09-04 21:50 J -15810329.71 -15810329.59 -15810329.47 0.0274 0.0147

Saturn -48000-12-02 10:33 J -15810241.20 -15810241.06 -15810240.92 0.0274 0.0053

Saturn -47999-02-28 23:02 J -15810152.68 -15810152.54 -15810152.40 0.0275 0.0040

Saturn -47999-05-28 11:16 J -15810064.15 -15810064.03 -15810063.90 0.0275 0.0133

Earth -47999-08-23 09:21 J -15809977.22 -15809977.11 -15809976.99 0.2666 0.0787

Moon -47999-08-23 10:04 J -15809977.19 -15809977.08 -15809976.97 0.2671 0.0771 *

Saturn -47999-08-24 23:30 J -15809975.59 -15809975.52 -15809975.44 0.0276 0.0224

Uranus -47997-04-30 23:30 J -15809360.56 -15809360.52 -15809360.46 0.0132 0.0122

Jupiter -47997-06-03 15:06 J -15809327.03 -15809326.87 -15809326.72 0.0488 0.0184

Uranus -47997-07-28 03:21 J -15809272.45 -15809272.36 -15809272.28 0.0132 0.0103

Jupiter -47997-09-01 11:59 J -15809237.07 -15809237.00 -15809236.92 0.0487 0.0432

Mars -47997-10-21 04:04 J -15809187.45 -15809187.33 -15809187.21 0.1635 0.0482

Uranus -47997-10-24 06:42 J -15809184.33 -15809184.22 -15809184.11 0.0132 0.0085

Uranus -47996-01-20 10:04 J -15809096.20 -15809096.08 -15809095.95 0.0132 0.0066

Uranus -47996-04-18 13:40 J -15809008.06 -15809007.93 -15809007.80 0.0132 0.0048

Uranus -47996-07-15 17:02 J -15808919.93 -15808919.79 -15808919.65 0.0132 0.0030

Uranus -47996-10-11 20:23 J -15808831.79 -15808831.65 -15808831.51 0.0132 0.0012

Uranus -47995-01-07 23:45 J -15808743.65 -15808743.51 -15808743.37 0.0132 0.0007

Uranus -47995-04-06 03:06 J -15808655.51 -15808655.37 -15808655.23 0.0132 0.0025

Uranus -47995-07-03 06:14 J -15808567.36 -15808567.24 -15808567.10 0.0132 0.0043

Uranus -47995-09-29 09:35 J -15808479.22 -15808479.10 -15808478.97 0.0132 0.0061

Uranus -47995-12-26 12:57 J -15808391.07 -15808390.96 -15808390.85 0.0132 0.0078

Uranus -47994-03-24 16:04 J -15808302.91 -15808302.83 -15808302.73 0.0132 0.0096

Uranus -47994-06-20 19:11 J -15808214.75 -15808214.70 -15808214.62 0.0132 0.0114

Mars -47994-07-18 23:16 J -15808186.66 -15808186.53 -15808186.40 0.1899 0.0755

Uranus -47994-09-16 22:33 J -15808126.56 -15808126.56 -15808126.54 0.0132 0.0131

Moon -47992-08-16 01:54 J -15807427.51 -15807427.42 -15807427.33 0.2665 0.1834

Earth -47992-08-16 02:38 J -15807427.47 -15807427.39 -15807427.30 0.2662 0.1780 *

Jupiter -47991-08-05 10:04 J -15807073.21 -15807073.08 -15807072.94 0.0540 0.0086

Moon -47989-02-16 05:59 J -15806513.39 -15806513.25 -15806513.11 0.2672 0.0310

Earth -47989-02-16 06:57 J -15806513.35 -15806513.21 -15806513.07 0.2668 0.0195 *

Mars -47987-03-13 13:11 J -15805757.05 -15805756.95 -15805756.86 0.1631 0.1073

Earth -47986-08-26 05:02 J -15805226.38 -15805226.29 -15805226.20 0.2668 0.1653

Moon -47986-08-26 05:45 J -15805226.35 -15805226.26 -15805226.17 0.2667 0.1768 *

Saturn -47986-09-27 14:38 J -15805194.02 -15805193.89 -15805193.77 0.0286 0.0193

Saturn -47986-12-25 09:50 J -15805105.25 -15805105.09 -15805104.93 0.0285 0.0069

Mars -47985-02-17 00:42 J -15805051.54 -15805051.47 -15805051.40 0.1649 0.1352

Jupiter -47985-03-22 16:04 J -15805016.95 -15805016.83 -15805016.71 0.0489 0.0328

Saturn -47985-03-23 05:30 J -15805016.44 -15805016.27 -15805016.10 0.0285 0.0057

Saturn -47985-06-20 01:26 J -15804927.57 -15804927.44 -15804927.31 0.0284 0.0185

Jupiter -47985-06-20 12:28 J -15804927.11 -15804926.98 -15804926.84 0.0487 0.0283

Venus -47981-12-15 12:28 J -15803288.07 -15803287.98 -15803287.89 0.3714 0.1970

Jupiter -47979-05-24 11:30 J -15802763.15 -15802763.02 -15802762.88 0.0540 0.0101

Moon -47979-08-18 22:18 J -15802676.68 -15802676.57 -15802676.45 0.2669 0.0854

Earth -47979-08-18 22:47 J -15802676.66 -15802676.55 -15802676.43 0.2663 0.0853 *

Moon -47976-02-18 08:23 J -15801762.28 -15801762.15 -15801762.03 0.2673 0.1147

Earth -47976-02-18 08:38 J -15801762.27 -15801762.14 -15801762.01 0.2666 0.1077 *

Mars -47976-07-09 09:50 J -15801621.20 -15801621.09 -15801620.97 0.1644 0.0771

Venus -47975-07-01 05:02 J -15801264.40 -15801264.29 -15801264.19 0.3718 0.0314

Jupiter -47973-01-09 17:02 J -15800706.83 -15800706.79 -15800706.75 0.0489 0.0471

Mars -47973-04-05 22:18 J -15800619.62 -15800619.57 -15800619.53 0.1886 0.1777

Jupiter -47973-04-08 13:11 J -15800617.11 -15800616.95 -15800616.79 0.0488 0.0133

Earth -47973-08-28 00:28 J -15800475.52 -15800475.48 -15800475.45 0.2670 0.2503

Moon -47973-08-28 00:57 J -15800475.50 -15800475.46 -15800475.43 0.2665 0.2528 *

Saturn -47971-10-26 11:45 J -15799686.04 -15799686.01 -15799685.96 0.0273 0.0262

Saturn -47970-01-23 00:57 J -15799597.58 -15799597.46 -15799597.35 0.0274 0.0167

Saturn -47970-04-21 13:40 J -15799509.07 -15799508.93 -15799508.79 0.0274 0.0072

Saturn -47970-07-19 02:09 J -15799420.55 -15799420.41 -15799420.27 0.0274 0.0022

Saturn -47970-10-15 14:38 J -15799332.02 -15799331.89 -15799331.76 0.0275 0.0114

Saturn -47969-01-12 02:52 J -15799243.47 -15799243.38 -15799243.29 0.0275 0.0205

Venus -47969-01-14 21:21 J -15799240.69 -15799240.61 -15799240.54 0.3723 0.2532

Moon -47969-02-11 09:35 J -15799213.13 -15799213.10 -15799213.06 0.2668 0.2544

Earth -47969-02-11 10:47 J -15799213.11 -15799213.05 -15799213.00 0.2671 0.2403 *

Jupiter -47967-03-12 13:54 J -15798453.04 -15798452.92 -15798452.80 0.0539 0.0268

Pluto -47967-04-13 08:23 J -15798421.16 -15798421.15 -15798421.10 0.0063 0.0063

Jupiter -47967-06-10 02:38 J -15798363.48 -15798363.39 -15798363.30 0.0541 0.0403

Pluto -47967-07-10 09:35 J -15798333.15 -15798333.10 -15798333.02 0.0064 0.0058

Pluto -47967-10-06 11:02 J -15798245.13 -15798245.04 -15798244.95 0.0064 0.0053

Mars -47967-11-29 19:11 J -15798190.83 -15798190.70 -15798190.57 0.1640 0.0192

Pluto -47966-01-02 11:45 J -15798157.10 -15798157.01 -15798156.88 0.0064 0.0049

Pluto -47966-03-31 12:57 J -15798069.07 -15798068.96 -15798068.82 0.0064 0.0044

Pluto -47966-06-27 14:23 J -15797981.03 -15797980.90 -15797980.76 0.0064 0.0039

Earth -47966-08-21 18:42 J -15797925.84 -15797925.72 -15797925.60 0.2665 0.0076

Moon -47966-08-21 19:11 J -15797925.82 -15797925.70 -15797925.59 0.2672 0.0106 *

Pluto -47966-09-23 15:35 J -15797892.99 -15797892.85 -15797892.71 0.0064 0.0034

Pluto -47966-12-20 16:18 J -15797804.95 -15797804.82 -15797804.65 0.0064 0.0031

Pluto -47965-03-17 17:45 J -15797716.91 -15797716.76 -15797716.59 0.0064 0.0025

Pluto -47965-06-13 18:57 J -15797628.86 -15797628.71 -15797628.54 0.0064 0.0020

Pluto -47965-09-09 20:09 J -15797540.82 -15797540.66 -15797540.49 0.0064 0.0015

Pluto -47965-12-06 21:21 J -15797452.77 -15797452.61 -15797452.43 0.0064 0.0011

Pluto -47964-03-04 22:47 J -15797364.72 -15797364.55 -15797364.38 0.0064 0.0005

Pluto -47964-05-31 23:59 J -15797276.67 -15797276.50 -15797276.33 0.0065 0.0001

Mars -47964-08-26 22:47 J -15797189.69 -15797189.55 -15797189.42 0.1893 0.0559

Pluto -47964-08-28 01:11 J -15797188.62 -15797188.45 -15797188.28 0.0065 0.0005

Pluto -47964-11-24 02:23 J -15797100.57 -15797100.40 -15797100.23 0.0065 0.0010

Pluto -47963-02-20 03:35 J -15797012.51 -15797012.35 -15797012.18 0.0065 0.0015

Earth -47963-02-21 10:33 J -15797011.12 -15797011.06 -15797011.00 0.2664 0.2392

Moon -47963-02-21 11:30 J -15797011.09 -15797011.02 -15797010.96 0.2669 0.2370 *

Pluto -47963-05-19 04:47 J -15796924.46 -15796924.30 -15796924.13 0.0065 0.0020

Pluto -47963-08-15 05:59 J -15796836.40 -15796836.25 -15796836.08 0.0065 0.0025

Pluto -47963-11-11 07:11 J -15796748.34 -15796748.20 -15796748.04 0.0065 0.0030

Pluto -47962-02-07 08:38 J -15796660.28 -15796660.14 -15796659.99 0.0065 0.0035

Pluto -47962-05-06 10:04 J -15796572.21 -15796572.08 -15796571.95 0.0065 0.0041

Pluto -47962-08-02 10:47 J -15796484.15 -15796484.05 -15796483.90 0.0065 0.0047

Pluto -47962-10-29 12:14 J -15796396.08 -15796395.99 -15796395.86 0.0065 0.0052

Pluto -47961-01-25 13:40 J -15796308.00 -15796307.93 -15796307.83 0.0065 0.0057

Jupiter -47961-01-26 13:11 J -15796307.11 -15796306.95 -15796306.78 0.0488 0.0026

Pluto -47961-04-22 15:21 J -15796219.91 -15796219.86 -15796219.81 0.0066 0.0062

Moon -47959-08-14 10:47 J -15795376.08 -15795376.05 -15795376.02 0.2658 0.2560

Earth -47959-08-14 11:45 J -15795376.05 -15795376.01 -15795375.98 0.2660 0.2552 *

Mars -47957-04-21 04:04 J -15794760.45 -15794760.33 -15794760.20 0.1635 0.0403

Moon -47956-02-13 10:18 J -15794462.19 -15794462.07 -15794461.95 0.2669 0.1280

Earth -47956-02-13 11:30 J -15794462.14 -15794462.02 -15794461.89 0.2669 0.1211 *

Saturn -47956-02-13 13:54 J -15794462.01 -15794461.92 -15794461.82 0.0286 0.0232 *

Saturn -47956-05-13 09:06 J -15794373.28 -15794373.12 -15794372.97 0.0286 0.0109

Saturn -47956-08-10 04:33 J -15794284.48 -15794284.31 -15794284.14 0.0285 0.0017

Saturn -47956-11-07 00:28 J -15794195.63 -15794195.48 -15794195.33 0.0285 0.0144

Venus -47956-11-11 22:18 J -15794190.70 -15794190.57 -15794190.43 0.3660 0.1441

Jupiter -47956-12-29 16:47 J -15794142.88 -15794142.80 -15794142.72 0.0539 0.0429

Saturn -47955-02-03 20:38 J -15794106.68 -15794106.64 -15794106.59 0.0284 0.0272

Jupiter -47955-03-29 05:45 J -15794053.38 -15794053.26 -15794053.14 0.0541 0.0249

Uranus -47955-10-25 05:30 J -15793843.38 -15793843.27 -15793843.17 0.0147 0.0117

Mars -47954-01-16 23:16 J -15793759.66 -15793759.53 -15793759.39 0.1900 0.0659

Uranus -47954-01-21 12:14 J -15793755.12 -15793754.99 -15793754.83 0.0147 0.0087

Uranus -47954-04-19 19:40 J -15793666.84 -15793666.68 -15793666.51 0.0147 0.0055

Uranus -47954-07-17 02:52 J -15793578.55 -15793578.38 -15793578.20 0.0147 0.0024

Uranus -47954-10-13 10:18 J -15793490.25 -15793490.07 -15793489.89 0.0147 0.0008

Uranus -47953-01-09 17:30 J -15793401.93 -15793401.77 -15793401.59 0.0147 0.0040

Uranus -47953-04-07 00:57 J -15793313.61 -15793313.46 -15793313.30 0.0147 0.0072

Uranus -47953-07-04 08:38 J -15793225.27 -15793225.14 -15793225.02 0.0147 0.0104

Earth -47953-08-23 14:23 J -15793175.01 -15793174.90 -15793174.79 0.2667 0.0943

Moon -47953-08-23 15:06 J -15793174.97 -15793174.87 -15793174.76 0.2670 0.1064 *

Uranus -47953-09-30 15:50 J -15793136.89 -15793136.84 -15793136.76 0.0147 0.0137

Jupiter -47950-11-14 13:54 J -15791997.08 -15791996.92 -15791996.77 0.0488 0.0172

Jupiter -47949-02-12 10:47 J -15791907.11 -15791907.05 -15791906.98 0.0487 0.0443

Mars -47948-09-11 13:11 J -15791330.05 -15791329.95 -15791329.85 0.1631 0.0988

Moon -47946-08-17 07:11 J -15790625.30 -15790625.20 -15790625.11 0.2665 0.1702

Earth -47946-08-17 07:54 J -15790625.27 -15790625.17 -15790625.07 0.2662 0.1607 *

Mars -47946-08-18 00:42 J -15790624.53 -15790624.47 -15790624.41 0.1649 0.1428

Mars -47945-06-08 00:42 J -15790329.51 -15790329.47 -15790329.43 0.1906 0.1817

Jupiter -47943-01-15 08:38 J -15789743.27 -15789743.14 -15789743.00 0.0540 0.0091

Moon -47943-02-16 11:59 J -15789711.14 -15789711.00 -15789710.86 0.2673 0.0065

Earth -47943-02-16 12:57 J -15789711.10 -15789710.96 -15789710.82 0.2667 0.0062 *

Saturn -47941-06-11 01:40 J -15788865.53 -15788865.43 -15788865.34 0.0273 0.0202

Saturn -47941-09-07 14:23 J -15788777.03 -15788776.90 -15788776.76 0.0274 0.0108

Saturn -47941-12-05 03:06 J -15788688.51 -15788688.37 -15788688.23 0.0274 0.0014

Saturn -47940-03-03 15:35 J -15788599.99 -15788599.85 -15788599.72 0.0275 0.0079

Saturn -47940-05-31 03:50 J -15788511.45 -15788511.34 -15788511.23 0.0275 0.0172

Earth -47940-08-26 10:04 J -15788424.17 -15788424.08 -15788424.00 0.2668 0.1809

Moon -47940-08-26 10:47 J -15788424.13 -15788424.05 -15788423.96 0.2667 0.1816 *

Saturn -47940-08-27 16:04 J -15788422.87 -15788422.83 -15788422.79 0.0276 0.0262

Mars -47938-02-01 22:04 J -15787899.60 -15787899.58 -15787899.55 0.1627 0.1578

Jupiter -47938-09-02 14:09 J -15787687.03 -15787686.91 -15787686.78 0.0489 0.0323

Jupiter -47938-12-01 10:47 J -15787597.18 -15787597.05 -15787596.91 0.0487 0.0286

Mars -47936-01-07 10:04 J -15787194.19 -15787194.08 -15787193.97 0.1645 0.0852

Neptune -47935-03-22 01:40 J -15786755.44 -15786755.43 -15786755.40 0.0088 0.0087

Neptune -47935-06-18 03:35 J -15786667.40 -15786667.35 -15786667.28 0.0088 0.0081

Neptune -47935-09-14 05:45 J -15786579.34 -15786579.26 -15786579.18 0.0088 0.0074

Neptune -47935-12-11 07:11 J -15786491.28 -15786491.20 -15786491.09 0.0088 0.0068

Neptune -47934-03-09 09:21 J -15786403.21 -15786403.11 -15786403.00 0.0088 0.0060

Neptune -47934-06-05 11:16 J -15786315.15 -15786315.03 -15786314.91 0.0088 0.0054

Neptune -47934-09-01 12:57 J -15786227.08 -15786226.96 -15786226.83 0.0088 0.0047

Neptune -47934-11-28 14:52 J -15786139.01 -15786138.88 -15786138.75 0.0088 0.0041

Neptune -47933-02-24 16:33 J -15786050.94 -15786050.81 -15786050.66 0.0088 0.0034

Neptune -47933-05-22 18:28 J -15785962.87 -15785962.73 -15785962.58 0.0088 0.0028

Neptune -47933-08-18 20:23 J -15785874.79 -15785874.65 -15785874.51 0.0088 0.0021

Moon -47933-08-19 03:50 J -15785874.46 -15785874.34 -15785874.23 0.2670 0.0727

Earth -47933-08-19 04:04 J -15785874.45 -15785874.33 -15785874.22 0.2664 0.0688 *

Neptune -47933-11-14 22:04 J -15785786.72 -15785786.58 -15785786.43 0.0088 0.0015

Neptune -47932-02-10 23:59 J -15785698.65 -15785698.50 -15785698.35 0.0088 0.0008

Neptune -47932-05-10 01:40 J -15785610.57 -15785610.43 -15785610.28 0.0088 0.0003

Neptune -47932-08-06 03:35 J -15785522.50 -15785522.35 -15785522.20 0.0088 0.0005

Neptune -47932-11-02 05:16 J -15785434.42 -15785434.28 -15785434.13 0.0088 0.0012

Jupiter -47932-11-03 11:02 J -15785433.18 -15785433.04 -15785432.90 0.0540 0.0079

Neptune -47931-01-29 06:57 J -15785346.35 -15785346.21 -15785346.06 0.0088 0.0018

Neptune -47931-04-27 08:52 J -15785258.27 -15785258.13 -15785257.99 0.0088 0.0025

Neptune -47931-07-24 10:18 J -15785170.20 -15785170.07 -15785169.92 0.0089 0.0032

Neptune -47931-10-20 12:14 J -15785082.12 -15785081.99 -15785081.85 0.0089 0.0037

Neptune -47930-01-16 13:54 J -15784994.04 -15784993.92 -15784993.79 0.0089 0.0044

Moon -47930-02-19 14:23 J -15784960.03 -15784959.90 -15784959.78 0.2672 0.1229

Earth -47930-02-19 14:23 J -15784960.02 -15784959.90 -15784959.77 0.2666 0.1303 *

Neptune -47930-04-14 15:35 J -15784905.96 -15784905.85 -15784905.72 0.0089 0.0050

Neptune -47930-07-11 17:16 J -15784817.88 -15784817.78 -15784817.66 0.0089 0.0057

Neptune -47930-10-07 19:11 J -15784729.80 -15784729.70 -15784729.60 0.0089 0.0063

Neptune -47929-01-03 20:52 J -15784641.72 -15784641.63 -15784641.54 0.0089 0.0069

Venus -47929-01-06 17:45 J -15784638.80 -15784638.76 -15784638.72 0.3710 0.3403

Neptune -47929-03-31 22:18 J -15784553.63 -15784553.57 -15784553.48 0.0089 0.0076

Neptune -47929-06-27 23:59 J -15784465.54 -15784465.50 -15784465.43 0.0089 0.0082

Neptune -47929-09-24 01:40 J -15784377.43 -15784377.43 -15784377.40 0.0089 0.0088

Mars -47927-05-30 19:11 J -15783763.83 -15783763.70 -15783763.57 0.1640 0.0272

Saturn -47927-07-03 13:40 J -15783729.98 -15783729.93 -15783729.87 0.0286 0.0269

Earth -47927-08-29 05:30 J -15783673.28 -15783673.27 -15783673.26 0.2670 0.2654

Saturn -47927-09-30 08:38 J -15783641.28 -15783641.14 -15783640.99 0.0286 0.0147

Saturn -47927-12-28 04:18 J -15783552.49 -15783552.32 -15783552.16 0.0285 0.0023

Saturn -47926-03-26 23:59 J -15783463.66 -15783463.50 -15783463.34 0.0284 0.0105

Jupiter -47926-06-21 15:06 J -15783376.91 -15783376.87 -15783376.82 0.0489 0.0467

Saturn -47926-06-23 20:09 J -15783374.76 -15783374.66 -15783374.57 0.0284 0.0233

Jupiter -47926-09-19 11:30 J -15783287.18 -15783287.02 -15783286.86 0.0488 0.0138

Mars -47924-02-24 23:02 J -15782762.68 -15782762.54 -15782762.40 0.1893 0.0676

Venus -47924-07-22 10:04 J -15782615.18 -15782615.08 -15782614.98 0.3715 0.1131

Moon -47923-02-11 15:21 J -15782410.94 -15782410.86 -15782410.78 0.2668 0.2183

Earth -47923-02-11 16:33 J -15782410.89 -15782410.81 -15782410.74 0.2671 0.2192 *

Earth -47920-08-21 23:45 J -15781123.62 -15781123.51 -15781123.39 0.2665 0.0241

Moon -47920-08-22 00:14 J -15781123.61 -15781123.49 -15781123.37 0.2672 0.0294 *

Jupiter -47920-08-22 12:14 J -15781123.10 -15781122.99 -15781122.86 0.0539 0.0266

Jupiter -47920-11-20 00:57 J -15781033.54 -15781033.46 -15781033.37 0.0540 0.0405

Venus -47918-02-05 02:38 J -15780591.49 -15780591.39 -15780591.29 0.3719 0.1138

Mars -47918-10-21 04:18 J -15780333.45 -15780333.32 -15780333.19 0.1635 0.0314

Earth -47917-02-22 16:33 J -15780208.83 -15780208.81 -15780208.79 0.2664 0.2621

Mars -47915-07-17 23:45 J -15779332.64 -15779332.51 -15779332.37 0.1899 0.0530

Jupiter -47914-07-08 11:59 J -15778977.17 -15778977.00 -15778976.83 0.0488 0.0012

Uranus -47913-05-21 07:11 J -15778659.26 -15778659.20 -15778659.12 0.0132 0.0115

Moon -47913-08-14 15:50 J -15778573.87 -15778573.84 -15778573.80 0.2660 0.2516

Earth -47913-08-14 16:47 J -15778573.85 -15778573.80 -15778573.75 0.2661 0.2379 *

Uranus -47913-08-17 10:47 J -15778571.14 -15778571.05 -15778570.95 0.0132 0.0096

Venus -47913-08-20 18:57 J -15778567.75 -15778567.71 -15778567.67 0.3724 0.3368

Uranus -47913-11-13 14:09 J -15778483.02 -15778482.91 -15778482.79 0.0132 0.0078

Uranus -47912-02-09 17:30 J -15778394.89 -15778394.77 -15778394.63 0.0132 0.0060

Uranus -47912-05-08 21:06 J -15778306.75 -15778306.62 -15778306.48 0.0132 0.0041

Uranus -47912-08-05 00:28 J -15778218.61 -15778218.48 -15778218.34 0.0132 0.0023

Saturn -47912-10-29 04:47 J -15778133.38 -15778133.30 -15778133.21 0.0274 0.0221

Uranus -47912-11-01 03:50 J -15778130.48 -15778130.34 -15778130.19 0.0132 0.0007

Saturn -47911-01-25 17:45 J -15778044.89 -15778044.76 -15778044.63 0.0274 0.0126

Uranus -47911-01-28 07:11 J -15778042.33 -15778042.20 -15778042.06 0.0132 0.0014

Saturn -47911-04-24 06:28 J -15777956.37 -15777956.23 -15777956.09 0.0274 0.0032

Uranus -47911-04-26 10:33 J -15777954.19 -15777954.06 -15777953.92 0.0132 0.0032

Saturn -47911-07-21 18:57 J -15777867.85 -15777867.71 -15777867.57 0.0275 0.0062

Uranus -47911-07-23 13:54 J -15777866.05 -15777865.92 -15777865.79 0.0132 0.0049

Saturn -47911-10-18 07:11 J -15777779.31 -15777779.20 -15777779.08 0.0275 0.0155

Uranus -47911-10-19 17:16 J -15777777.90 -15777777.78 -15777777.66 0.0132 0.0067

Saturn -47910-01-14 19:26 J -15777690.75 -15777690.69 -15777690.62 0.0276 0.0245

Uranus -47910-01-15 20:23 J -15777689.75 -15777689.65 -15777689.54 0.0132 0.0085

Moon -47910-02-14 16:18 J -15777659.95 -15777659.82 -15777659.70 0.2670 0.1126

Earth -47910-02-14 17:30 J -15777659.90 -15777659.77 -15777659.65 0.2669 0.0995 *

Uranus -47910-04-13 23:45 J -15777601.59 -15777601.51 -15777601.42 0.0132 0.0103

Uranus -47910-07-11 03:06 J -15777513.42 -15777513.37 -15777513.32 0.0132 0.0120

Mars -47908-03-12 13:26 J -15776903.05 -15776902.94 -15776902.83 0.1631 0.0901

Jupiter -47908-06-10 14:38 J -15776812.97 -15776812.89 -15776812.81 0.0539 0.0437

Jupiter -47908-09-08 03:35 J -15776723.47 -15776723.35 -15776723.23 0.0540 0.0241

Earth -47907-08-24 19:40 J -15776372.79 -15776372.68 -15776372.58 0.2667 0.1105

Moon -47907-08-24 20:23 J -15776372.76 -15776372.65 -15776372.54 0.2669 0.1101 *

Mars -47906-02-16 00:42 J -15776197.51 -15776197.47 -15776197.42 0.1649 0.1513

Mars -47906-12-08 00:57 J -15775902.52 -15775902.46 -15775902.40 0.1905 0.1713

Venus -47905-12-02 18:14 J -15775541.86 -15775541.74 -15775541.62 0.3664 0.2072

Jupiter -47902-04-26 12:14 J -15774667.15 -15774666.99 -15774666.84 0.0488 0.0166

Jupiter -47902-07-25 09:06 J -15774577.18 -15774577.12 -15774577.05 0.0487 0.0449

Moon -47900-08-17 12:14 J -15773823.09 -15773822.99 -15773822.89 0.2666 0.1468

Earth -47900-08-17 13:11 J -15773823.05 -15773822.95 -15773822.85 0.2662 0.1441 *

Venus -47899-06-18 23:30 J -15773517.58 -15773517.52 -15773517.46 0.3658 0.3331

Mars -47899-08-02 22:18 J -15773472.62 -15773472.57 -15773472.52 0.1627 0.1494

Saturn -47897-02-17 08:52 J -15772909.26 -15772909.13 -15772909.00 0.0286 0.0181

Moon -47897-02-17 17:59 J -15772908.89 -15772908.75 -15772908.61 0.2673 0.0196

Earth -47897-02-17 18:42 J -15772908.86 -15772908.72 -15772908.58 0.2667 0.0249 *

Saturn -47897-05-16 04:04 J -15772820.49 -15772820.33 -15772820.16 0.0285 0.0057

Mars -47897-07-08 10:04 J -15772767.18 -15772767.08 -15772766.97 0.1645 0.0935

Saturn -47897-08-12 23:45 J -15772731.67 -15772731.51 -15772731.34 0.0285 0.0069

Saturn -47897-11-09 19:40 J -15772642.80 -15772642.68 -15772642.55 0.0284 0.0196

Jupiter -47896-06-27 06:28 J -15772413.36 -15772413.23 -15772413.09 0.0540 0.0086

Earth -47894-08-27 15:06 J -15771621.95 -15771621.87 -15771621.79 0.2669 0.1960

Moon -47894-08-27 15:50 J -15771621.91 -15771621.84 -15771621.77 0.2667 0.2083 *

Jupiter -47890-02-12 12:42 J -15770357.09 -15770356.97 -15770356.84 0.0488 0.0314

Jupiter -47890-05-13 09:21 J -15770267.24 -15770267.11 -15770266.98 0.0487 0.0295

Mars -47888-11-28 19:11 J -15769336.82 -15769336.70 -15769336.57 0.1640 0.0357

Moon -47887-08-20 09:06 J -15769072.24 -15769072.12 -15769072.01 0.2671 0.0543

Earth -47887-08-20 09:06 J -15769072.24 -15769072.12 -15769072.00 0.2664 0.0521 *

Mars -47885-08-25 23:16 J -15768335.66 -15768335.53 -15768335.40 0.1893 0.0796

Earth -47884-02-19 20:23 J -15768157.76 -15768157.65 -15768157.53 0.2665 0.1534

Moon -47884-02-19 20:38 J -15768157.75 -15768157.64 -15768157.53 0.2672 0.1590 *

Jupiter -47884-04-15 09:21 J -15768103.24 -15768103.11 -15768102.97 0.0540 0.0077

Saturn -47882-03-18 05:45 J -15767401.30 -15767401.26 -15767401.21 0.0273 0.0255

Saturn -47882-06-14 18:42 J -15767312.83 -15767312.72 -15767312.60 0.0274 0.0160

Saturn -47882-09-11 07:40 J -15767224.32 -15767224.18 -15767224.04 0.0274 0.0066

Saturn -47882-12-08 20:09 J -15767135.80 -15767135.66 -15767135.52 0.0275 0.0029

Saturn -47881-03-06 08:38 J -15767047.27 -15767047.14 -15767047.02 0.0275 0.0121

Saturn -47881-06-02 20:52 J -15766958.72 -15766958.63 -15766958.54 0.0276 0.0213

Jupiter -47879-12-01 13:26 J -15766046.99 -15766046.94 -15766046.90 0.0489 0.0464

Jupiter -47878-03-01 09:21 J -15765957.27 -15765957.11 -15765956.95 0.0488 0.0139

Mars -47878-04-21 04:33 J -15765906.44 -15765906.31 -15765906.18 0.1636 0.0234

Pluto -47878-07-18 14:52 J -15765817.94 -15765817.88 -15765817.82 0.0081 0.0072

Pluto -47878-10-14 16:04 J -15765729.90 -15765729.83 -15765729.72 0.0081 0.0064

Pluto -47877-01-10 17:45 J -15765641.85 -15765641.76 -15765641.64 0.0081 0.0055

Moon -47877-02-12 21:06 J -15765608.70 -15765608.62 -15765608.54 0.2668 0.2153

Earth -47877-02-12 22:18 J -15765608.66 -15765608.57 -15765608.48 0.2671 0.1981 *

Pluto -47877-04-07 19:40 J -15765553.80 -15765553.68 -15765553.56 0.0081 0.0046

Pluto -47877-07-04 21:06 J -15765465.75 -15765465.62 -15765465.48 0.0081 0.0038

Pluto -47877-09-30 22:33 J -15765377.69 -15765377.56 -15765377.41 0.0080 0.0030

Pluto -47877-12-28 00:14 J -15765289.63 -15765289.49 -15765289.34 0.0080 0.0021

Pluto -47876-03-26 01:54 J -15765201.57 -15765201.42 -15765201.28 0.0080 0.0012

Pluto -47876-06-22 03:21 J -15765113.51 -15765113.36 -15765113.21 0.0080 0.0004

Pluto -47876-09-18 04:47 J -15765025.44 -15765025.30 -15765025.15 0.0080 0.0005

Pluto -47876-12-15 06:14 J -15764937.38 -15764937.24 -15764937.09 0.0080 0.0013

Mars -47875-01-16 00:14 J -15764905.63 -15764905.49 -15764905.35 0.1899 0.0403

Pluto -47875-03-13 07:40 J -15764849.31 -15764849.18 -15764849.03 0.0080 0.0021

Pluto -47875-06-09 09:06 J -15764761.25 -15764761.12 -15764760.98 0.0079 0.0028

Pluto -47875-09-05 10:33 J -15764673.18 -15764673.06 -15764672.92 0.0079 0.0036

Pluto -47875-12-02 11:59 J -15764585.11 -15764585.00 -15764584.87 0.0079 0.0044

Pluto -47874-02-28 13:40 J -15764497.04 -15764496.93 -15764496.82 0.0079 0.0052

Pluto -47874-05-27 14:52 J -15764408.97 -15764408.88 -15764408.78 0.0079 0.0059

Earth -47874-08-23 05:02 J -15764321.41 -15764321.29 -15764321.17 0.2665 0.0382

Moon -47874-08-23 05:16 J -15764321.39 -15764321.28 -15764321.16 0.2671 0.0392 *

Pluto -47874-08-23 16:04 J -15764320.89 -15764320.83 -15764320.74 0.0079 0.0067

Pluto -47874-11-19 17:45 J -15764232.80 -15764232.76 -15764232.71 0.0079 0.0074

Venus -47873-08-12 15:21 J -15763965.94 -15763965.86 -15763965.78 0.3711 0.2541

Jupiter -47872-02-01 11:45 J -15763793.14 -15763793.01 -15763792.89 0.0539 0.0247

Jupiter -47872-05-02 00:14 J -15763703.57 -15763703.49 -15763703.40 0.0540 0.0423

Uranus -47871-08-18 05:30 J -15763230.31 -15763230.27 -15763230.21 0.0147 0.0140

Uranus -47871-11-14 12:42 J -15763142.08 -15763141.97 -15763141.85 0.0147 0.0109

Uranus -47870-02-10 19:54 J -15763053.81 -15763053.67 -15763053.52 0.0147 0.0078

Uranus -47870-05-10 03:06 J -15762965.53 -15762965.37 -15762965.20 0.0147 0.0047

Uranus -47870-08-06 10:18 J -15762877.24 -15762877.07 -15762876.89 0.0147 0.0016

Uranus -47870-11-02 17:45 J -15762788.94 -15762788.76 -15762788.58 0.0147 0.0016

Uranus -47869-01-30 00:57 J -15762700.62 -15762700.46 -15762700.28 0.0147 0.0049

Uranus -47869-04-27 08:23 J -15762612.29 -15762612.15 -15762611.99 0.0147 0.0081

Uranus -47869-07-24 15:50 J -15762523.94 -15762523.84 -15762523.72 0.0147 0.0113

Mars -47869-09-10 13:26 J -15762476.05 -15762475.94 -15762475.82 0.1631 0.0818

Uranus -47869-10-20 23:16 J -15762435.54 -15762435.53 -15762435.49 0.0147 0.0146

Saturn -47868-07-06 08:23 J -15762177.25 -15762177.15 -15762177.03 0.0286 0.0219

Saturn -47868-10-03 03:50 J -15762088.50 -15762088.34 -15762088.18 0.0285 0.0095

Saturn -47868-12-30 23:16 J -15761999.70 -15761999.53 -15761999.36 0.0285 0.0031

Venus -47867-02-26 07:54 J -15761942.28 -15761942.17 -15761942.07 0.3716 0.0304

Saturn -47867-03-29 19:11 J -15761910.84 -15761910.70 -15761910.56 0.0284 0.0158

Moon -47867-08-15 21:06 J -15761771.69 -15761771.62 -15761771.56 0.2662 0.2205

Earth -47867-08-15 22:04 J -15761771.65 -15761771.58 -15761771.52 0.2661 0.2208 *

Mars -47867-08-17 00:57 J -15761770.49 -15761770.46 -15761770.43 0.1650 0.1594

Jupiter -47867-12-18 10:04 J -15761647.25 -15761647.08 -15761646.91 0.0488 0.0011

Mars -47866-06-08 01:11 J -15761475.52 -15761475.45 -15761475.37 0.1905 0.1595

Moon -47864-02-14 22:04 J -15760857.71 -15760857.58 -15760857.45 0.2672 0.0788

Earth -47864-02-14 23:16 J -15760857.66 -15760857.53 -15760857.40 0.2669 0.0777 *

Venus -47862-09-12 00:14 J -15759918.58 -15759918.49 -15759918.40 0.3720 0.1984

Earth -47861-08-25 00:42 J -15759570.58 -15759570.47 -15759570.37 0.2667 0.1257

Moon -47861-08-25 01:26 J -15759570.54 -15759570.44 -15759570.34 0.2669 0.1381 *

Jupiter -47861-11-20 12:42 J -15759483.04 -15759482.97 -15759482.88 0.0538 0.0436

Jupiter -47860-02-18 01:54 J -15759393.54 -15759393.42 -15759393.30 0.0540 0.0242

Mars -47859-01-31 22:33 J -15759045.63 -15759045.56 -15759045.50 0.1627 0.1404

Mars -47857-01-07 10:18 J -15758340.17 -15758340.07 -15758339.97 0.1645 0.1017

Jupiter -47855-10-06 10:33 J -15757337.21 -15757337.06 -15757336.90 0.0488 0.0159

Jupiter -47854-01-04 07:40 J -15757247.23 -15757247.18 -15757247.12 0.0487 0.0458

Moon -47854-08-18 17:30 J -15757020.87 -15757020.77 -15757020.67 0.2666 0.1376

Earth -47854-08-18 18:14 J -15757020.85 -15757020.74 -15757020.63 0.2663 0.1272 *

Neptune -47853-03-13 21:21 J -15756812.63 -15756812.61 -15756812.57 0.0089 0.0087

Neptune -47853-06-09 23:45 J -15756724.57 -15756724.51 -15756724.43 0.0089 0.0080

Saturn -47853-08-04 09:06 J -15756669.12 -15756669.12 -15756669.12 0.0274 0.0273

Neptune -47853-09-06 02:09 J -15756636.49 -15756636.41 -15756636.30 0.0089 0.0073

Saturn -47853-10-31 22:04 J -15756580.69 -15756580.58 -15756580.47 0.0274 0.0178

Neptune -47853-12-03 04:47 J -15756548.40 -15756548.30 -15756548.18 0.0089 0.0065

Saturn -47852-01-28 10:47 J -15756492.18 -15756492.05 -15756491.91 0.0274 0.0084

Neptune -47852-03-01 07:11 J -15756460.31 -15756460.20 -15756460.06 0.0089 0.0058

Saturn -47852-04-26 23:30 J -15756403.66 -15756403.52 -15756403.37 0.0275 0.0013

Neptune -47852-05-28 09:35 J -15756372.22 -15756372.10 -15756371.94 0.0089 0.0051

Saturn -47852-07-24 11:59 J -15756315.13 -15756315.00 -15756314.87 0.0275 0.0104

Neptune -47852-08-24 12:28 J -15756284.12 -15756283.98 -15756283.83 0.0089 0.0043

Saturn -47852-10-21 00:14 J -15756226.58 -15756226.49 -15756226.39 0.0276 0.0196

Neptune -47852-11-20 14:52 J -15756196.02 -15756195.88 -15756195.72 0.0089 0.0036

Neptune -47851-02-16 17:45 J -15756107.92 -15756107.76 -15756107.60 0.0089 0.0028

Moon -47851-02-17 23:59 J -15756106.64 -15756106.50 -15756106.37 0.2672 0.0409

Earth -47851-02-18 00:42 J -15756106.61 -15756106.47 -15756106.34 0.2667 0.0476 *

Neptune -47851-05-15 20:09 J -15756019.82 -15756019.66 -15756019.49 0.0089 0.0021

Neptune -47851-08-11 22:47 J -15755931.72 -15755931.55 -15755931.38 0.0089 0.0013

Neptune -47851-11-08 01:26 J -15755843.61 -15755843.44 -15755843.27 0.0089 0.0006

Neptune -47850-02-04 04:04 J -15755755.50 -15755755.33 -15755755.16 0.0089 0.0002

Neptune -47850-05-03 06:28 J -15755667.39 -15755667.23 -15755667.05 0.0089 0.0010

Neptune -47850-07-30 09:06 J -15755579.28 -15755579.12 -15755578.95 0.0089 0.0017

Neptune -47850-10-26 11:45 J -15755491.17 -15755491.01 -15755490.84 0.0089 0.0025

Neptune -47849-01-22 14:38 J -15755403.05 -15755402.89 -15755402.73 0.0089 0.0032

Neptune -47849-04-19 17:02 J -15755314.94 -15755314.79 -15755314.63 0.0089 0.0040

Neptune -47849-07-16 19:40 J -15755226.82 -15755226.68 -15755226.53 0.0089 0.0048

Neptune -47849-10-12 22:33 J -15755138.69 -15755138.56 -15755138.43 0.0089 0.0055

Jupiter -47849-12-07 04:18 J -15755083.45 -15755083.32 -15755083.18 0.0540 0.0074

Neptune -47848-01-09 01:11 J -15755050.57 -15755050.45 -15755050.33 0.0089 0.0063

Neptune -47848-04-07 03:35 J -15754962.44 -15754962.35 -15754962.23 0.0089 0.0071

Mars -47848-05-29 19:26 J -15754909.81 -15754909.69 -15754909.56 0.1640 0.0439

Neptune -47848-07-04 06:14 J -15754874.30 -15754874.24 -15754874.14 0.0089 0.0079

Venus -47848-07-09 19:11 J -15754868.84 -15754868.70 -15754868.55 0.3663 0.0241

Earth -47848-08-27 20:09 J -15754819.73 -15754819.66 -15754819.59 0.2669 0.2115

Moon -47848-08-27 20:52 J -15754819.70 -15754819.63 -15754819.56 0.2666 0.2098 *

Neptune -47848-09-30 08:52 J -15754786.14 -15754786.13 -15754786.07 0.0089 0.0087

Mars -47845-02-24 23:45 J -15753908.64 -15753908.51 -15753908.39 0.1893 0.0916

Jupiter -47843-07-25 10:47 J -15753027.17 -15753027.05 -15753026.92 0.0489 0.0312

Jupiter -47843-10-23 07:26 J -15752937.32 -15752937.19 -15752937.06 0.0487 0.0298

Moon -47841-08-20 14:09 J -15752270.03 -15752269.91 -15752269.79 0.2671 0.0339

Earth -47841-08-20 14:09 J -15752270.02 -15752269.91 -15752269.79 0.2664 0.0370 *

Mars -47839-10-20 04:33 J -15751479.44 -15751479.31 -15751479.18 0.1636 0.0149

Saturn -47839-11-23 09:35 J -15751445.18 -15751445.10 -15751445.01 0.0286 0.0247

Saturn -47838-02-20 04:47 J -15751356.45 -15751356.30 -15751356.15 0.0285 0.0125

Earth -47838-02-21 02:23 J -15751355.51 -15751355.40 -15751355.29 0.2665 0.1758

Moon -47838-02-21 02:52 J -15751355.49 -15751355.38 -15751355.28 0.2672 0.1779 *

Saturn -47838-05-20 00:14 J -15751267.66 -15751267.49 -15751267.32 0.0285 0.0006

Saturn -47838-08-16 19:54 J -15751178.82 -15751178.67 -15751178.52 0.0284 0.0127

Saturn -47838-11-13 15:50 J -15751089.91 -15751089.84 -15751089.76 0.0284 0.0255

Jupiter -47837-09-25 07:11 J -15750773.34 -15750773.20 -15750773.07 0.0540 0.0088

Mars -47836-07-17 00:14 J -15750478.63 -15750478.49 -15750478.35 0.1899 0.0305

Moon -47831-02-13 02:52 J -15748806.48 -15748806.38 -15748806.28 0.2668 0.1766

Earth -47831-02-13 04:04 J -15748806.43 -15748806.33 -15748806.23 0.2670 0.1775 *

Jupiter -47831-05-13 11:45 J -15748717.07 -15748717.01 -15748716.96 0.0489 0.0458

Jupiter -47831-08-11 07:40 J -15748627.34 -15748627.18 -15748627.02 0.0488 0.0145

Mars -47829-03-11 13:40 J -15748049.05 -15748048.93 -15748048.81 0.1632 0.0733

Uranus -47829-03-14 11:02 J -15748046.06 -15748046.04 -15748046.00 0.0132 0.0128

Uranus -47829-06-10 14:38 J -15747957.96 -15747957.89 -15747957.80 0.0132 0.0109

Uranus -47829-09-06 18:14 J -15747869.84 -15747869.74 -15747869.64 0.0132 0.0090

Uranus -47829-12-03 21:35 J -15747781.71 -15747781.60 -15747781.48 0.0132 0.0072

Uranus -47828-03-02 01:11 J -15747693.58 -15747693.45 -15747693.32 0.0132 0.0053

Uranus -47828-05-29 04:33 J -15747605.44 -15747605.31 -15747605.17 0.0132 0.0035

Earth -47828-08-23 10:04 J -15747519.20 -15747519.08 -15747518.96 0.2666 0.0539

Moon -47828-08-23 10:33 J -15747519.17 -15747519.06 -15747518.94 0.2671 0.0594 *

Uranus -47828-08-25 07:54 J -15747517.31 -15747517.17 -15747517.03 0.0132 0.0017

Uranus -47828-11-21 11:16 J -15747429.17 -15747429.03 -15747428.89 0.0132 0.0004

Uranus -47827-02-17 14:38 J -15747341.03 -15747340.89 -15747340.75 0.0132 0.0020

Uranus -47827-05-16 17:59 J -15747252.88 -15747252.75 -15747252.61 0.0132 0.0038

Uranus -47827-08-12 21:21 J -15747164.73 -15747164.61 -15747164.48 0.0132 0.0056

Uranus -47827-11-09 00:42 J -15747076.58 -15747076.47 -15747076.35 0.0132 0.0073

Mars -47827-12-07 01:40 J -15747048.52 -15747048.43 -15747048.34 0.1905 0.1470

Uranus -47826-02-05 03:50 J -15746988.43 -15746988.34 -15746988.23 0.0132 0.0091

Uranus -47826-05-04 07:11 J -15746900.27 -15746900.20 -15746900.12 0.0132 0.0109

Uranus -47826-07-31 10:33 J -15746812.10 -15746812.06 -15746812.02 0.0132 0.0126

Jupiter -47825-07-14 09:50 J -15746463.21 -15746463.09 -15746462.97 0.0539 0.0250

Jupiter -47825-10-11 22:33 J -15746373.64 -15746373.56 -15746373.48 0.0541 0.0422

Saturn -47823-03-20 23:16 J -15745848.62 -15745848.53 -15745848.44 0.0273 0.0211

Saturn -47823-06-17 12:14 J -15745760.12 -15745759.99 -15745759.86 0.0274 0.0116

Saturn -47823-09-14 00:57 J -15745671.60 -15745671.46 -15745671.32 0.0274 0.0022

Saturn -47823-12-11 13:26 J -15745583.08 -15745582.94 -15745582.80 0.0275 0.0072

Saturn -47822-03-10 01:40 J -15745494.54 -15745494.43 -15745494.31 0.0275 0.0165

Saturn -47822-06-06 13:54 J -15745405.97 -15745405.92 -15745405.87 0.0276 0.0256

Moon -47821-08-16 02:09 J -15744969.47 -15744969.41 -15744969.34 0.2662 0.2187

Earth -47821-08-16 03:06 J -15744969.44 -15744969.37 -15744969.29 0.2661 0.2037 *

Mars -47820-08-01 22:47 J -15744618.63 -15744618.55 -15744618.48 0.1628 0.1319

Jupiter -47819-05-30 07:54 J -15744317.34 -15744317.17 -15744317.00 0.0488 0.0012

Moon -47818-02-16 04:04 J -15744055.47 -15744055.33 -15744055.20 0.2672 0.0735

Earth -47818-02-16 05:02 J -15744055.43 -15744055.29 -15744055.15 0.2668 0.0561 *

Mars -47818-07-08 10:18 J -15743913.16 -15743913.07 -15743912.97 0.1645 0.1099

Venus -47816-03-19 12:57 J -15743293.05 -15743292.96 -15743292.86 0.3712 0.1689

Earth -47815-08-26 05:45 J -15742768.36 -15742768.26 -15742768.16 0.2668 0.1413

Moon -47815-08-26 06:42 J -15742768.32 -15742768.22 -15742768.13 0.2669 0.1432 *

Jupiter -47813-05-02 11:59 J -15742153.09 -15742153.00 -15742152.91 0.0539 0.0420

Jupiter -47813-07-31 00:57 J -15742063.57 -15742063.46 -15742063.34 0.0540 0.0257

Venus -47811-10-03 05:30 J -15741269.38 -15741269.27 -15741269.17 0.3717 0.0586

Saturn -47809-04-11 09:21 J -15740713.12 -15740713.11 -15740713.09 0.0286 0.0284

Saturn -47809-07-09 04:18 J -15740624.45 -15740624.32 -15740624.18 0.0286 0.0163

Saturn -47809-10-05 23:45 J -15740535.68 -15740535.51 -15740535.34 0.0285 0.0038

Mars -47809-11-27 19:40 J -15740482.81 -15740482.68 -15740482.56 0.1640 0.0521

Saturn -47808-01-02 19:11 J -15740446.85 -15740446.70 -15740446.53 0.0284 0.0089

Saturn -47808-04-01 15:21 J -15740357.97 -15740357.86 -15740357.75 0.0284 0.0216

Moon -47808-08-18 22:47 J -15740218.66 -15740218.55 -15740218.44 0.2668 0.1088

Earth -47808-08-18 23:30 J -15740218.63 -15740218.52 -15740218.41 0.2663 0.1110 *

Jupiter -47807-03-18 08:38 J -15740007.30 -15740007.14 -15740006.99 0.0488 0.0160

Jupiter -47807-06-16 05:30 J -15739917.32 -15739917.27 -15739917.21 0.0487 0.0457

Mars -47806-08-25 23:59 J -15739481.62 -15739481.50 -15739481.38 0.1892 0.1033

Moon -47805-02-19 05:59 J -15739304.38 -15739304.25 -15739304.12 0.2672 0.0699

Earth -47805-02-19 06:28 J -15739304.36 -15739304.23 -15739304.09 0.2666 0.0695 *

Venus -47805-04-17 21:50 J -15739245.66 -15739245.59 -15739245.52 0.3722 0.2827

Earth -47802-08-29 01:11 J -15738017.51 -15738017.45 -15738017.39 0.2669 0.2265

Moon -47802-08-29 01:40 J -15738017.48 -15738017.43 -15738017.37 0.2664 0.2369 *

Jupiter -47801-05-19 02:38 J -15737753.52 -15737753.39 -15737753.25 0.0539 0.0075

Mars -47799-04-20 04:47 J -15737052.43 -15737052.30 -15737052.17 0.1636 0.0070

Venus -47797-07-30 15:21 J -15736219.86 -15736219.86 -15736219.86 0.3667 0.3667

Mars -47796-01-15 00:42 J -15736051.61 -15736051.47 -15736051.33 0.1899 0.0177

Jupiter -47795-01-04 09:06 J -15735697.25 -15735697.12 -15735696.99 0.0489 0.0308

Jupiter -47795-04-04 05:45 J -15735607.39 -15735607.26 -15735607.13 0.0488 0.0303

Moon -47795-08-21 19:26 J -15735467.81 -15735467.69 -15735467.57 0.2671 0.0241

Earth -47795-08-21 19:26 J -15735467.81 -15735467.69 -15735467.57 0.2665 0.0200 *

Saturn -47794-08-08 02:38 J -15735116.47 -15735116.39 -15735116.31 0.0274 0.0228

Saturn -47794-11-04 15:35 J -15735027.97 -15735027.85 -15735027.72 0.0274 0.0133

Saturn -47793-02-01 04:18 J -15734939.46 -15734939.32 -15734939.17 0.0275 0.0039

Saturn -47793-04-29 17:02 J -15734850.93 -15734850.79 -15734850.65 0.0275 0.0056

Saturn -47793-07-27 05:16 J -15734762.39 -15734762.28 -15734762.16 0.0276 0.0149

Saturn -47793-10-23 17:30 J -15734673.83 -15734673.77 -15734673.70 0.0276 0.0240

Earth -47792-02-21 08:23 J -15734553.24 -15734553.15 -15734553.06 0.2665 0.1989

Moon -47792-02-21 08:52 J -15734553.22 -15734553.13 -15734553.04 0.2671 0.2029 *

Venus -47791-02-13 20:23 J -15734195.78 -15734195.65 -15734195.52 0.3661 0.1653

Mars -47790-09-10 13:54 J -15733622.04 -15733621.92 -15733621.80 0.1632 0.0646

Jupiter -47789-03-07 04:47 J -15733443.43 -15733443.30 -15733443.16 0.0539 0.0097

Mars -47787-06-07 01:54 J -15732621.52 -15732621.42 -15732621.33 0.1905 0.1360

Uranus -47787-09-07 12:57 J -15732529.03 -15732528.96 -15732528.88 0.0147 0.0132

Uranus -47787-12-04 20:09 J -15732440.78 -15732440.66 -15732440.53 0.0147 0.0101

Uranus -47786-03-03 03:21 J -15732352.52 -15732352.36 -15732352.21 0.0147 0.0070

Uranus -47786-05-30 10:33 J -15732264.23 -15732264.06 -15732263.89 0.0147 0.0039

Uranus -47786-08-26 17:45 J -15732175.94 -15732175.76 -15732175.58 0.0147 0.0008

Uranus -47786-11-23 00:57 J -15732087.63 -15732087.46 -15732087.28 0.0147 0.0025

Moon -47785-02-14 08:38 J -15732004.25 -15732004.14 -15732004.04 0.2669 0.1719

Earth -47785-02-14 09:50 J -15732004.20 -15732004.09 -15732003.98 0.2670 0.1561 *

Uranus -47785-02-19 08:09 J -15731999.31 -15731999.16 -15731998.98 0.0147 0.0057

Uranus -47785-05-17 15:35 J -15731910.98 -15731910.85 -15731910.70 0.0147 0.0089

Uranus -47785-08-13 23:16 J -15731822.62 -15731822.53 -15731822.42 0.0147 0.0121

Jupiter -47784-10-23 09:35 J -15731387.15 -15731387.10 -15731387.05 0.0489 0.0458

Jupiter -47783-01-21 05:30 J -15731297.43 -15731297.27 -15731297.11 0.0488 0.0145

Earth -47782-08-24 15:06 J -15730716.98 -15730716.87 -15730716.75 0.2666 0.0697

Moon -47782-08-24 15:50 J -15730716.95 -15730716.84 -15730716.73 0.2670 0.0771 *

Mars -47780-01-30 22:47 J -15730191.64 -15730191.55 -15730191.47 0.1627 0.1236

Saturn -47780-11-26 05:59 J -15729892.37 -15729892.25 -15729892.12 0.0286 0.0188

Saturn -47779-02-23 01:11 J -15729803.61 -15729803.45 -15729803.28 0.0285 0.0065

Saturn -47779-05-22 20:38 J -15729714.80 -15729714.64 -15729714.47 0.0285 0.0062

Saturn -47779-08-19 16:33 J -15729625.93 -15729625.81 -15729625.68 0.0284 0.0188

Mars -47778-01-06 10:33 J -15729486.15 -15729486.06 -15729485.98 0.1645 0.1180

Jupiter -47778-12-25 07:26 J -15729133.31 -15729133.19 -15729133.07 0.0539 0.0262

Jupiter -47777-03-23 20:09 J -15729043.75 -15729043.66 -15729043.57 0.0541 0.0410

Moon -47775-08-17 07:26 J -15728167.27 -15728167.19 -15728167.10 0.2662 0.1868

Earth -47775-08-17 08:23 J -15728167.23 -15728167.15 -15728167.06 0.2661 0.1865 *

Moon -47772-02-16 09:50 J -15727253.23 -15727253.09 -15727252.95 0.2672 0.0333

Earth -47772-02-16 11:02 J -15727253.18 -15727253.04 -15727252.91 0.2668 0.0352 *

Jupiter -47772-11-09 05:59 J -15726987.42 -15726987.25 -15726987.08 0.0488 0.0008

Neptune -47771-12-17 00:28 J -15726584.50 -15726584.48 -15726584.42 0.0088 0.0086

Neptune -47770-03-15 02:23 J -15726496.45 -15726496.40 -15726496.32 0.0088 0.0079

Neptune -47770-06-11 04:33 J -15726408.39 -15726408.31 -15726408.22 0.0088 0.0072

Neptune -47770-09-07 06:14 J -15726320.33 -15726320.24 -15726320.13 0.0088 0.0065

Neptune -47770-12-04 08:09 J -15726232.26 -15726232.16 -15726232.04 0.0088 0.0059

Neptune -47769-03-01 10:04 J -15726144.19 -15726144.08 -15726143.95 0.0088 0.0052

Neptune -47769-05-28 11:45 J -15726056.12 -15726056.01 -15726055.87 0.0088 0.0046

Mars -47769-05-28 19:40 J -15726055.80 -15726055.68 -15726055.56 0.1640 0.0600

Neptune -47769-08-24 13:40 J -15725968.05 -15725967.93 -15725967.79 0.0088 0.0039

Earth -47769-08-26 10:47 J -15725966.14 -15725966.05 -15725965.95 0.2668 0.1567

Moon -47769-08-26 11:30 J -15725966.11 -15725966.02 -15725965.92 0.2668 0.1666 *

Neptune -47769-11-20 15:50 J -15725879.98 -15725879.84 -15725879.70 0.0088 0.0032

Neptune -47768-02-16 17:30 J -15725791.91 -15725791.77 -15725791.63 0.0088 0.0025

Neptune -47768-05-15 19:26 J -15725703.84 -15725703.69 -15725703.55 0.0088 0.0019

Neptune -47768-08-11 21:06 J -15725615.76 -15725615.62 -15725615.47 0.0088 0.0012

Neptune -47768-11-07 23:02 J -15725527.69 -15725527.54 -15725527.39 0.0088 0.0006

Neptune -47767-02-04 00:42 J -15725439.62 -15725439.47 -15725439.32 0.0088 0.0001

Neptune -47767-05-03 02:38 J -15725351.54 -15725351.39 -15725351.25 0.0088 0.0008

Neptune -47767-07-30 04:18 J -15725263.47 -15725263.32 -15725263.17 0.0088 0.0014

Neptune -47767-10-26 05:59 J -15725175.39 -15725175.25 -15725175.10 0.0088 0.0021

Neptune -47766-01-22 07:54 J -15725087.31 -15725087.17 -15725087.03 0.0088 0.0027

Mars -47766-02-24 00:28 J -15725054.60 -15725054.48 -15725054.37 0.1893 0.1156

Neptune -47766-04-20 09:21 J -15724999.24 -15724999.11 -15724998.97 0.0088 0.0034

Neptune -47766-07-17 11:16 J -15724911.16 -15724911.03 -15724910.90 0.0088 0.0040

Jupiter -47766-10-13 09:50 J -15724823.17 -15724823.09 -15724823.00 0.0539 0.0426

Neptune -47766-10-13 12:42 J -15724823.08 -15724822.97 -15724822.83 0.0088 0.0047 *

Neptune -47765-01-09 14:38 J -15724735.00 -15724734.89 -15724734.77 0.0088 0.0053

Jupiter -47765-01-10 23:02 J -15724733.66 -15724733.54 -15724733.42 0.0540 0.0253

Neptune -47765-04-06 16:18 J -15724646.92 -15724646.82 -15724646.70 0.0089 0.0059

Venus -47765-04-09 18:14 J -15724643.80 -15724643.74 -15724643.69 0.3709 0.3112

Neptune -47765-07-03 18:14 J -15724558.84 -15724558.74 -15724558.64 0.0089 0.0065

Neptune -47765-09-29 19:40 J -15724470.75 -15724470.68 -15724470.58 0.0089 0.0072

Saturn -47765-12-25 03:50 J -15724384.37 -15724384.34 -15724384.29 0.0273 0.0260

Neptune -47765-12-26 21:21 J -15724382.66 -15724382.61 -15724382.53 0.0089 0.0078

Saturn -47764-03-23 16:47 J -15724295.91 -15724295.80 -15724295.68 0.0274 0.0165

Neptune -47764-03-24 23:16 J -15724294.57 -15724294.53 -15724294.48 0.0089 0.0084

Saturn -47764-06-20 05:45 J -15724207.40 -15724207.26 -15724207.12 0.0274 0.0070

Saturn -47764-09-16 18:28 J -15724118.87 -15724118.73 -15724118.59 0.0275 0.0024

Saturn -47764-12-14 06:57 J -15724030.34 -15724030.21 -15724030.08 0.0275 0.0117

Saturn -47763-03-12 19:11 J -15723941.79 -15723941.70 -15723941.61 0.0276 0.0209

Moon -47762-08-20 04:04 J -15723416.44 -15723416.33 -15723416.22 0.2669 0.1046

Earth -47762-08-20 04:33 J -15723416.42 -15723416.31 -15723416.20 0.2663 0.0937 *

Jupiter -47760-08-28 06:14 J -15722677.40 -15722677.24 -15722677.08 0.0488 0.0161

Mars -47760-10-19 04:47 J -15722625.43 -15722625.30 -15722625.17 0.1636 0.0055

Venus -47760-10-24 10:47 J -15722620.16 -15722620.05 -15722619.95 0.3713 0.0843

Jupiter -47760-11-26 03:06 J -15722587.43 -15722587.37 -15722587.31 0.0487 0.0454

Moon -47759-02-19 12:14 J -15722502.13 -15722501.99 -15722501.86 0.2673 0.0835

Earth -47759-02-19 12:28 J -15722502.12 -15722501.98 -15722501.85 0.2666 0.0917 *

Mars -47757-07-16 01:11 J -15721624.59 -15721624.45 -15721624.30 0.1899 0.0051

Earth -47756-08-29 06:14 J -15721215.29 -15721215.24 -15721215.19 0.2670 0.2419

Moon -47756-08-29 06:57 J -15721215.26 -15721215.21 -15721215.17 0.2664 0.2402 *

Venus -47754-05-10 03:06 J -15720596.47 -15720596.37 -15720596.27 0.3718 0.1434

Jupiter -47754-10-30 01:40 J -15720423.57 -15720423.43 -15720423.30 0.0540 0.0087

Moon -47752-02-11 13:54 J -15719952.95 -15719952.92 -15719952.90 0.2666 0.2606

Earth -47752-02-11 14:52 J -15719952.92 -15719952.88 -15719952.84 0.2671 0.2529 *

Mars -47750-03-11 13:54 J -15719195.04 -15719194.92 -15719194.79 0.1632 0.0562

Saturn -47750-04-15 05:30 J -15719160.36 -15719160.27 -15719160.17 0.0286 0.0226

Saturn -47750-07-13 00:42 J -15719071.63 -15719071.47 -15719071.31 0.0285 0.0103

Saturn -47750-10-09 20:09 J -15718982.83 -15718982.66 -15718982.49 0.0285 0.0022

Saturn -47749-01-06 15:50 J -15718893.98 -15718893.84 -15718893.69 0.0284 0.0149

Saturn -47749-04-04 12:14 J -15718805.03 -15718804.99 -15718804.96 0.0284 0.0277

Earth -47749-08-22 00:28 J -15718665.60 -15718665.48 -15718665.36 0.2665 0.0037

Moon -47749-08-22 00:42 J -15718665.59 -15718665.47 -15718665.36 0.2671 0.0087 *

Venus -47749-11-22 19:26 J -15718572.70 -15718572.69 -15718572.67 0.3723 0.3662

Jupiter -47748-06-16 06:57 J -15718367.34 -15718367.21 -15718367.08 0.0489 0.0309

Jupiter -47748-09-14 03:21 J -15718277.49 -15718277.36 -15718277.22 0.0488 0.0301

Mars -47748-12-06 02:09 J -15718194.52 -15718194.41 -15718194.31 0.1905 0.1249

Earth -47746-02-22 14:23 J -15717750.98 -15717750.90 -15717750.83 0.2664 0.2216

Moon -47746-02-22 14:52 J -15717750.95 -15717750.88 -15717750.81 0.2671 0.2282 *

Uranus -47745-04-03 18:42 J -15717344.77 -15717344.72 -15717344.67 0.0132 0.0121

Uranus -47745-06-30 22:04 J -15717256.66 -15717256.58 -15717256.49 0.0132 0.0103

Uranus -47745-09-27 01:40 J -15717168.54 -15717168.43 -15717168.32 0.0132 0.0084

Uranus -47745-12-24 05:02 J -15717080.41 -15717080.29 -15717080.16 0.0132 0.0066

Uranus -47744-03-22 08:38 J -15716992.27 -15716992.14 -15716992.01 0.0132 0.0047

Uranus -47744-06-18 11:59 J -15716904.14 -15716904.00 -15716903.86 0.0132 0.0029

Uranus -47744-09-14 15:21 J -15716816.00 -15716815.86 -15716815.72 0.0132 0.0011

Uranus -47744-12-11 18:42 J -15716727.86 -15716727.72 -15716727.58 0.0132 0.0008

Uranus -47743-03-09 22:04 J -15716639.71 -15716639.58 -15716639.44 0.0132 0.0026

Uranus -47743-06-06 01:26 J -15716551.57 -15716551.44 -15716551.31 0.0132 0.0044

Uranus -47743-09-02 04:47 J -15716463.42 -15716463.30 -15716463.18 0.0132 0.0062

Uranus -47743-11-29 07:54 J -15716375.27 -15716375.17 -15716375.05 0.0132 0.0080

Uranus -47742-02-25 11:30 J -15716287.12 -15716287.02 -15716286.93 0.0132 0.0097

Uranus -47742-05-24 14:38 J -15716198.95 -15716198.89 -15716198.82 0.0132 0.0115

Earth -47742-08-15 17:16 J -15716115.79 -15716115.78 -15716115.77 0.2660 0.2643

Jupiter -47742-08-18 03:06 J -15716113.50 -15716113.37 -15716113.23 0.0539 0.0096

Mars -47741-07-31 23:02 J -15715764.63 -15715764.54 -15715764.45 0.1628 0.1147

Venus -47740-03-06 16:18 J -15715546.95 -15715546.82 -15715546.70 0.3666 0.1843

Moon -47739-02-14 14:23 J -15715202.02 -15715201.90 -15715201.79 0.2671 0.1385

Earth -47739-02-14 15:35 J -15715201.97 -15715201.85 -15715201.73 0.2670 0.1351 *

Mars -47739-07-07 10:33 J -15715059.14 -15715059.06 -15715058.98 0.1645 0.1261

Jupiter -47736-04-04 07:26 J -15714057.24 -15714057.19 -15714057.13 0.0489 0.0458

Jupiter -47736-07-03 03:35 J -15713967.51 -15713967.35 -15713967.19 0.0488 0.0147

Earth -47736-08-24 20:23 J -15713914.77 -15713914.65 -15713914.54 0.2667 0.0863

Moon -47736-08-24 21:06 J -15713914.74 -15713914.62 -15713914.51 0.2671 0.0885 *

Saturn -47735-08-10 20:23 J -15713563.76 -15713563.65 -15713563.55 0.0274 0.0183

Venus -47735-09-20 21:21 J -15713522.64 -15713522.61 -15713522.58 0.3659 0.3543

Saturn -47735-11-07 09:06 J -15713475.25 -15713475.12 -15713474.98 0.0275 0.0088

Saturn -47734-02-03 21:50 J -15713386.73 -15713386.59 -15713386.44 0.0275 0.0009

Saturn -47734-05-03 10:18 J -15713298.20 -15713298.07 -15713297.93 0.0276 0.0101

Saturn -47734-07-30 22:47 J -15713209.65 -15713209.55 -15713209.45 0.0276 0.0193

Jupiter -47730-06-06 05:16 J -15711803.40 -15711803.28 -15711803.16 0.0539 0.0270

Jupiter -47730-09-03 17:59 J -15711713.84 -15711713.75 -15711713.66 0.0540 0.0401

Mars -47730-11-27 19:54 J -15711628.79 -15711628.67 -15711628.56 0.1640 0.0686

Moon -47729-08-17 12:42 J -15711365.05 -15711364.97 -15711364.88 0.2664 0.1813

Earth -47729-08-17 13:40 J -15711365.03 -15711364.93 -15711364.84 0.2662 0.1697 *

Mars -47727-08-25 00:42 J -15710627.57 -15710627.47 -15710627.36 0.1892 0.1276

Moon -47726-02-17 15:35 J -15710450.98 -15710450.85 -15710450.71 0.2672 0.0302

Earth -47726-02-17 16:47 J -15710450.94 -15710450.80 -15710450.66 0.2668 0.0141 *

Jupiter -47724-04-21 03:35 J -15709657.51 -15709657.35 -15709657.18 0.0488 0.0016

Earth -47723-08-27 15:50 J -15709163.93 -15709163.84 -15709163.75 0.2668 0.1722

Moon -47723-08-27 16:33 J -15709163.89 -15709163.81 -15709163.72 0.2667 0.1781 *

Saturn -47721-09-01 07:54 J -15708428.25 -15708428.17 -15708428.09 0.0286 0.0248

Pluto -47721-11-27 22:47 J -15708340.58 -15708340.55 -15708340.48 0.0064 0.0061

Saturn -47721-11-29 02:52 J -15708339.53 -15708339.38 -15708339.23 0.0285 0.0126

Pluto -47720-02-24 00:28 J -15708252.56 -15708252.48 -15708252.41 0.0064 0.0056

Saturn -47720-02-25 22:18 J -15708250.74 -15708250.57 -15708250.40 0.0285 0.0005

Mars -47720-04-19 05:02 J -15708198.42 -15708198.29 -15708198.16 0.1636 0.0107

Pluto -47720-05-23 00:57 J -15708164.54 -15708164.46 -15708164.34 0.0064 0.0052

Saturn -47720-05-25 17:45 J -15708161.91 -15708161.76 -15708161.60 0.0284 0.0126

Pluto -47720-08-19 02:23 J -15708076.50 -15708076.40 -15708076.28 0.0064 0.0047

Saturn -47720-08-22 13:54 J -15708072.99 -15708072.92 -15708072.84 0.0284 0.0253

Pluto -47720-11-15 03:35 J -15707988.47 -15707988.35 -15707988.22 0.0064 0.0042

Pluto -47719-02-11 04:33 J -15707900.43 -15707900.31 -15707900.16 0.0064 0.0038

Pluto -47719-05-10 05:45 J -15707812.39 -15707812.26 -15707812.10 0.0064 0.0033

Pluto -47719-08-06 06:57 J -15707724.35 -15707724.21 -15707724.05 0.0064 0.0028

Pluto -47719-11-02 08:09 J -15707636.31 -15707636.16 -15707635.99 0.0064 0.0024

Pluto -47718-01-29 09:21 J -15707548.26 -15707548.11 -15707547.94 0.0064 0.0019

Jupiter -47718-03-25 07:26 J -15707493.27 -15707493.19 -15707493.11 0.0539 0.0439

Pluto -47718-04-27 10:47 J -15707460.22 -15707460.05 -15707459.88 0.0064 0.0013

Jupiter -47718-06-22 20:38 J -15707403.76 -15707403.64 -15707403.52 0.0540 0.0240

Pluto -47718-07-24 11:59 J -15707372.17 -15707372.00 -15707371.83 0.0064 0.0009

Pluto -47718-10-20 13:11 J -15707284.12 -15707283.95 -15707283.78 0.0065 0.0004

Mars -47717-01-15 01:11 J -15707197.59 -15707197.45 -15707197.30 0.1899 0.0055

Pluto -47717-01-16 14:23 J -15707196.07 -15707195.90 -15707195.73 0.0065 0.0001

Pluto -47717-04-13 15:35 J -15707108.02 -15707107.85 -15707107.68 0.0065 0.0007

Pluto -47717-07-10 16:47 J -15707019.96 -15707019.80 -15707019.63 0.0065 0.0012

Pluto -47717-10-06 17:59 J -15706931.91 -15706931.75 -15706931.58 0.0065 0.0017

Pluto -47716-01-02 19:11 J -15706843.85 -15706843.70 -15706843.53 0.0065 0.0022

Pluto -47716-03-31 20:23 J -15706755.80 -15706755.65 -15706755.48 0.0065 0.0027

Pluto -47716-06-27 21:35 J -15706667.73 -15706667.60 -15706667.44 0.0065 0.0033

Moon -47716-08-20 09:21 J -15706614.23 -15706614.11 -15706614.00 0.2670 0.0734

Earth -47716-08-20 09:50 J -15706614.21 -15706614.09 -15706613.98 0.2663 0.0779 *

Pluto -47716-09-23 23:02 J -15706579.67 -15706579.54 -15706579.39 0.0065 0.0038

Pluto -47716-12-21 00:28 J -15706491.61 -15706491.48 -15706491.35 0.0065 0.0043

Pluto -47715-03-19 01:26 J -15706403.54 -15706403.44 -15706403.31 0.0065 0.0049

Pluto -47715-06-15 02:52 J -15706315.47 -15706315.38 -15706315.27 0.0066 0.0054

Pluto -47715-09-11 04:18 J -15706227.38 -15706227.32 -15706227.24 0.0066 0.0059

Pluto -47715-12-08 05:16 J -15706139.29 -15706139.28 -15706139.22 0.0066 0.0065

Moon -47713-02-20 18:14 J -15705699.86 -15705699.74 -15705699.62 0.2673 0.1224

Earth -47713-02-20 18:14 J -15705699.86 -15705699.74 -15705699.61 0.2666 0.1140 *

Jupiter -47712-02-07 04:18 J -15705347.48 -15705347.32 -15705347.16 0.0488 0.0158

Jupiter -47712-05-08 00:57 J -15705257.51 -15705257.46 -15705257.39 0.0487 0.0457

Mars -47711-09-09 14:09 J -15704768.04 -15704767.91 -15704767.79 0.1632 0.0479

Earth -47710-08-30 11:16 J -15704413.06 -15704413.03 -15704413.00 0.2670 0.2565

Moon -47710-08-30 11:45 J -15704413.02 -15704413.01 -15704413.00 0.2665 0.2645 *

Venus -47709-11-14 15:50 J -15703970.92 -15703970.84 -15703970.76 0.3710 0.2253

Mars -47708-06-06 02:38 J -15703767.51 -15703767.39 -15703767.28 0.1905 0.1116

Moon -47706-02-12 19:40 J -15703150.74 -15703150.68 -15703150.62 0.2667 0.2386

Earth -47706-02-12 20:38 J -15703150.71 -15703150.64 -15703150.58 0.2671 0.2321 *

Jupiter -47706-04-10 23:30 J -15703093.66 -15703093.52 -15703093.38 0.0540 0.0080

Saturn -47706-12-28 21:50 J -15702831.68 -15702831.59 -15702831.50 0.0273 0.0213

Saturn -47705-03-26 10:47 J -15702743.18 -15702743.05 -15702742.92 0.0274 0.0117

Saturn -47705-06-22 23:30 J -15702654.66 -15702654.52 -15702654.38 0.0274 0.0023

Saturn -47705-09-19 11:59 J -15702566.13 -15702566.00 -15702565.86 0.0275 0.0071

Saturn -47705-12-17 00:28 J -15702477.59 -15702477.48 -15702477.37 0.0275 0.0163

Saturn -47704-03-15 12:42 J -15702389.02 -15702388.97 -15702388.92 0.0276 0.0254

Venus -47703-05-31 08:23 J -15701947.26 -15701947.15 -15701947.05 0.3715 0.0100

Earth -47703-08-23 05:30 J -15701863.38 -15701863.27 -15701863.15 0.2665 0.0169

Moon -47703-08-23 05:59 J -15701863.37 -15701863.25 -15701863.13 0.2671 0.0096 *

Uranus -47703-09-27 19:54 J -15701827.75 -15701827.67 -15701827.57 0.0147 0.0125

Uranus -47703-12-25 03:06 J -15701739.49 -15701739.37 -15701739.23 0.0147 0.0094

Uranus -47702-03-23 10:18 J -15701651.22 -15701651.07 -15701650.90 0.0147 0.0063

Uranus -47702-06-19 17:30 J -15701562.94 -15701562.77 -15701562.59 0.0147 0.0032

Uranus -47702-09-16 00:57 J -15701474.64 -15701474.46 -15701474.28 0.0147 0.0001

Uranus -47702-12-13 08:09 J -15701386.33 -15701386.16 -15701385.98 0.0147 0.0032

Mars -47701-01-30 23:02 J -15701337.63 -15701337.54 -15701337.44 0.1628 0.1063

Uranus -47701-03-10 15:35 J -15701298.01 -15701297.85 -15701297.69 0.0147 0.0064

Uranus -47701-06-06 23:02 J -15701209.67 -15701209.54 -15701209.40 0.0147 0.0096

Uranus -47701-09-03 06:14 J -15701121.31 -15701121.24 -15701121.14 0.0147 0.0128

Jupiter -47701-11-26 04:33 J -15701037.43 -15701037.31 -15701037.18 0.0489 0.0311

Earth -47700-02-22 20:09 J -15700948.71 -15700948.66 -15700948.60 0.2664 0.2445

Moon -47700-02-22 20:52 J -15700948.68 -15700948.63 -15700948.57 0.2669 0.2455 *

Jupiter -47700-02-24 00:57 J -15700947.59 -15700947.46 -15700947.32 0.0487 0.0298

Mars -47699-01-05 10:47 J -15700632.13 -15700632.05 -15700631.98 0.1645 0.1343

Venus -47698-12-15 00:42 J -15699923.55 -15699923.47 -15699923.39 0.3719 0.2274

Moon -47696-08-15 21:35 J -15699313.64 -15699313.60 -15699313.57 0.2658 0.2537

Earth -47696-08-15 22:18 J -15699313.61 -15699313.57 -15699313.52 0.2660 0.2470 *

Jupiter -47694-01-28 01:54 J -15698783.55 -15698783.42 -15698783.28 0.0539 0.0087

Moon -47693-02-15 20:09 J -15698399.78 -15698399.66 -15698399.54 0.2671 0.1267

Earth -47693-02-15 21:21 J -15698399.73 -15698399.61 -15698399.48 0.2669 0.1135 *

Saturn -47691-04-18 01:54 J -15697607.55 -15697607.42 -15697607.28 0.0286 0.0167

Saturn -47691-07-15 21:21 J -15697518.77 -15697518.61 -15697518.44 0.0285 0.0042

Saturn -47691-10-12 17:02 J -15697429.95 -15697429.79 -15697429.63 0.0285 0.0084

Saturn -47690-01-09 12:57 J -15697341.07 -15697340.96 -15697340.85 0.0284 0.0211

Mars -47690-05-28 19:54 J -15697201.78 -15697201.67 -15697201.55 0.1641 0.0769

Earth -47690-08-26 01:26 J -15697112.55 -15697112.44 -15697112.33 0.2667 0.1015

Moon -47690-08-26 02:09 J -15697112.52 -15697112.41 -15697112.31 0.2671 0.1116 *

Jupiter -47689-09-14 05:16 J -15696727.33 -15696727.28 -15696727.22 0.0489 0.0459

Neptune -47689-12-08 19:26 J -15696641.71 -15696641.69 -15696641.62 0.0089 0.0085

Jupiter -47689-12-13 01:26 J -15696637.60 -15696637.44 -15696637.28 0.0488 0.0145

Neptune -47688-03-06 22:18 J -15696553.64 -15696553.57 -15696553.48 0.0089 0.0077

Neptune -47688-06-03 00:42 J -15696465.56 -15696465.47 -15696465.36 0.0089 0.0070

Neptune -47688-08-30 03:06 J -15696377.47 -15696377.37 -15696377.24 0.0089 0.0063

Neptune -47688-11-26 05:59 J -15696289.38 -15696289.25 -15696289.12 0.0089 0.0055

Neptune -47687-02-22 08:23 J -15696201.28 -15696201.15 -15696201.00 0.0089 0.0048

Mars -47687-02-23 00:57 J -15696200.55 -15696200.46 -15696200.36 0.1892 0.1395

Neptune -47687-05-21 10:47 J -15696113.19 -15696113.05 -15696112.89 0.0089 0.0041

Neptune -47687-08-17 13:26 J -15696025.09 -15696024.94 -15696024.78 0.0089 0.0033

Neptune -47687-11-13 16:04 J -15695936.99 -15695936.83 -15695936.66 0.0089 0.0026

Neptune -47686-02-09 18:42 J -15695848.88 -15695848.72 -15695848.55 0.0089 0.0018

Neptune -47686-05-08 21:21 J -15695760.78 -15695760.61 -15695760.44 0.0089 0.0011

Neptune -47686-08-04 23:59 J -15695672.67 -15695672.50 -15695672.33 0.0089 0.0003

Neptune -47686-11-01 02:38 J -15695584.56 -15695584.39 -15695584.22 0.0089 0.0005

Neptune -47685-01-28 05:02 J -15695496.45 -15695496.29 -15695496.12 0.0089 0.0012

Neptune -47685-04-25 07:40 J -15695408.34 -15695408.18 -15695408.01 0.0089 0.0020

Neptune -47685-07-22 10:18 J -15695320.23 -15695320.07 -15695319.90 0.0089 0.0028

Neptune -47685-10-18 12:57 J -15695232.11 -15695231.96 -15695231.80 0.0089 0.0035

Neptune -47684-01-14 15:35 J -15695143.99 -15695143.85 -15695143.69 0.0089 0.0043

Neptune -47684-04-12 17:59 J -15695055.87 -15695055.75 -15695055.59 0.0089 0.0051

Neptune -47684-07-09 21:06 J -15694967.75 -15694967.62 -15694967.49 0.0089 0.0058

Neptune -47684-10-05 23:30 J -15694879.62 -15694879.52 -15694879.39 0.0089 0.0066

Venus -47684-10-11 17:16 J -15694873.92 -15694873.78 -15694873.63 0.3664 0.0049

Neptune -47683-01-02 02:09 J -15694791.49 -15694791.41 -15694791.30 0.0089 0.0074

Neptune -47683-03-31 04:47 J -15694703.35 -15694703.30 -15694703.22 0.0089 0.0082

Moon -47683-08-18 17:59 J -15694562.85 -15694562.75 -15694562.65 0.2666 0.1559

Earth -47683-08-18 18:42 J -15694562.82 -15694562.72 -15694562.62 0.2662 0.1529 *

Jupiter -47683-11-16 03:35 J -15694473.47 -15694473.35 -15694473.23 0.0538 0.0268

Jupiter -47682-02-13 16:18 J -15694383.91 -15694383.82 -15694383.73 0.0540 0.0402

Mars -47681-10-18 05:02 J -15693771.41 -15693771.29 -15693771.16 0.1636 0.0198

Moon -47680-02-17 21:50 J -15693648.73 -15693648.59 -15693648.45 0.2672 0.0119

Earth -47680-02-17 22:33 J -15693648.70 -15693648.56 -15693648.42 0.2667 0.0096 *

Mars -47678-07-16 01:40 J -15692770.57 -15692770.43 -15692770.28 0.1899 0.0187

Earth -47677-08-27 20:52 J -15692361.71 -15692361.63 -15692361.54 0.2669 0.1877

Moon -47677-08-27 21:50 J -15692361.68 -15692361.59 -15692361.51 0.2666 0.1912 *

Jupiter -47677-10-01 01:40 J -15692327.60 -15692327.43 -15692327.26 0.0488 0.0009

Saturn -47676-05-17 00:42 J -15692099.53 -15692099.47 -15692099.38 0.0274 0.0233

Saturn -47676-08-13 13:54 J -15692011.04 -15692010.92 -15692010.79 0.0275 0.0137

Saturn -47676-11-10 02:38 J -15691922.53 -15691922.39 -15691922.24 0.0275 0.0043

Saturn -47675-02-06 15:21 J -15691834.00 -15691833.86 -15691833.72 0.0275 0.0052

Saturn -47675-05-06 03:50 J -15691745.46 -15691745.34 -15691745.22 0.0276 0.0145

Saturn -47675-08-02 16:04 J -15691656.90 -15691656.83 -15691656.76 0.0276 0.0237

Mars -47671-03-10 14:09 J -15690341.03 -15690340.91 -15690340.78 0.1632 0.0397

Jupiter -47671-09-04 05:16 J -15690163.35 -15690163.28 -15690163.20 0.0538 0.0444

Jupiter -47671-12-02 18:42 J -15690073.85 -15690073.72 -15690073.60 0.0540 0.0234

Moon -47670-08-21 14:23 J -15689812.01 -15689811.90 -15689811.78 0.2670 0.0704

Earth -47670-08-21 14:52 J -15689812.00 -15689811.88 -15689811.77 0.2664 0.0610 *

Mars -47669-12-05 02:38 J -15689340.51 -15689340.39 -15689340.27 0.1904 0.1014

Moon -47667-02-21 00:14 J -15688897.62 -15688897.49 -15688897.37 0.2673 0.1275

Earth -47667-02-21 00:14 J -15688897.61 -15688897.49 -15688897.37 0.2665 0.1362 *

Jupiter -47665-07-20 01:54 J -15688017.57 -15688017.42 -15688017.26 0.0488 0.0162

Jupiter -47665-10-17 22:33 J -15687927.61 -15687927.56 -15687927.49 0.0487 0.0454

Mars -47662-07-31 23:16 J -15686910.64 -15686910.53 -15686910.43 0.1628 0.0979

Saturn -47662-09-05 04:33 J -15686875.43 -15686875.31 -15686875.18 0.0286 0.0187

Saturn -47662-12-02 23:45 J -15686786.67 -15686786.51 -15686786.34 0.0285 0.0064

Saturn -47661-02-29 19:11 J -15686697.86 -15686697.70 -15686697.53 0.0285 0.0062

Uranus -47661-04-24 01:40 J -15686643.49 -15686643.43 -15686643.35 0.0132 0.0116

Saturn -47661-05-28 15:06 J -15686608.99 -15686608.87 -15686608.74 0.0284 0.0189

Uranus -47661-07-21 05:16 J -15686555.37 -15686555.28 -15686555.18 0.0132 0.0097

Uranus -47661-10-17 08:38 J -15686467.24 -15686467.14 -15686467.01 0.0132 0.0079

Uranus -47660-01-13 12:14 J -15686379.11 -15686378.99 -15686378.86 0.0132 0.0060

Moon -47660-02-13 01:11 J -15686348.53 -15686348.45 -15686348.37 0.2669 0.2147

Earth -47660-02-13 02:23 J -15686348.48 -15686348.40 -15686348.32 0.2671 0.2111 *

Uranus -47660-04-11 15:50 J -15686290.97 -15686290.84 -15686290.71 0.0132 0.0041

Mars -47660-07-06 10:47 J -15686205.11 -15686205.05 -15686204.99 0.1645 0.1423

Uranus -47660-07-08 19:11 J -15686202.84 -15686202.70 -15686202.56 0.0132 0.0023

Uranus -47660-10-04 22:33 J -15686114.70 -15686114.56 -15686114.41 0.0132 0.0006

Uranus -47659-01-01 01:54 J -15686026.55 -15686026.42 -15686026.27 0.0132 0.0014

Uranus -47659-03-30 05:16 J -15685938.41 -15685938.28 -15685938.14 0.0132 0.0032

Uranus -47659-06-26 08:38 J -15685850.26 -15685850.14 -15685850.00 0.0132 0.0050

Jupiter -47659-09-20 21:06 J -15685763.76 -15685763.62 -15685763.49 0.0540 0.0069

Uranus -47659-09-22 11:59 J -15685762.12 -15685762.00 -15685761.88 0.0132 0.0067

Uranus -47659-12-19 15:21 J -15685673.96 -15685673.86 -15685673.75 0.0132 0.0085

Uranus -47658-03-17 18:28 J -15685585.81 -15685585.73 -15685585.63 0.0132 0.0103

Uranus -47658-06-13 21:50 J -15685497.64 -15685497.59 -15685497.53 0.0132 0.0121

Venus -47658-12-06 20:52 J -15685321.63 -15685321.63 -15685321.62 0.3707 0.3697

Earth -47657-08-23 10:47 J -15685061.17 -15685061.05 -15685060.93 0.2665 0.0294

Moon -47657-08-23 11:16 J -15685061.15 -15685061.03 -15685060.91 0.2671 0.0401 *

Jupiter -47653-05-08 02:38 J -15683707.51 -15683707.39 -15683707.26 0.0489 0.0308

Jupiter -47653-08-05 23:02 J -15683617.67 -15683617.54 -15683617.41 0.0487 0.0300

Mars -47653-12-21 08:09 J -15683480.19 -15683480.16 -15683480.13 0.1624 0.1564

Venus -47652-06-21 13:26 J -15683298.04 -15683297.94 -15683297.84 0.3711 0.1405

Mars -47651-11-26 20:09 J -15682774.77 -15682774.66 -15682774.55 0.1641 0.0849

Moon -47650-08-17 02:38 J -15682511.44 -15682511.39 -15682511.34 0.2659 0.2384

Earth -47650-08-17 03:35 J -15682511.41 -15682511.35 -15682511.29 0.2661 0.2298 *

Mars -47648-08-24 01:26 J -15681773.52 -15681773.44 -15681773.35 0.1892 0.1518

Moon -47647-02-16 01:54 J -15681597.55 -15681597.42 -15681597.29 0.2671 0.0987

Earth -47647-02-16 03:06 J -15681597.50 -15681597.37 -15681597.24 0.2669 0.0925 *

Jupiter -47647-07-09 23:45 J -15681453.64 -15681453.51 -15681453.37 0.0540 0.0094

Saturn -47647-10-04 02:23 J -15681367.43 -15681367.40 -15681367.35 0.0273 0.0262

Saturn -47647-12-31 15:35 J -15681278.96 -15681278.85 -15681278.73 0.0274 0.0166

Venus -47646-01-05 05:59 J -15681274.35 -15681274.25 -15681274.15 0.3716 0.0874

Saturn -47646-03-30 04:18 J -15681190.45 -15681190.32 -15681190.17 0.0274 0.0073

Saturn -47646-06-26 17:02 J -15681101.93 -15681101.79 -15681101.64 0.0275 0.0024

Saturn -47646-09-23 05:30 J -15681013.39 -15681013.27 -15681013.14 0.0275 0.0116

Saturn -47646-12-20 17:45 J -15680924.84 -15680924.76 -15680924.66 0.0276 0.0208

Earth -47644-08-26 06:28 J -15680310.34 -15680310.23 -15680310.12 0.2667 0.1173

Moon -47644-08-26 07:11 J -15680310.30 -15680310.20 -15680310.09 0.2669 0.1176 *

Jupiter -47641-02-25 03:06 J -15679397.42 -15679397.37 -15679397.31 0.0489 0.0459

Mars -47641-04-18 05:16 J -15679344.41 -15679344.28 -15679344.15 0.1636 0.0272

Jupiter -47641-05-24 23:02 J -15679307.70 -15679307.54 -15679307.38 0.0488 0.0144

Venus -47641-07-20 22:18 J -15679250.63 -15679250.57 -15679250.52 0.3721 0.3104

Mars -47638-01-14 02:09 J -15678343.55 -15678343.41 -15678343.27 0.1898 0.0307

Moon -47637-08-18 23:16 J -15677760.63 -15677760.53 -15677760.43 0.2667 0.1430

Earth -47637-08-18 23:59 J -15677760.61 -15677760.50 -15677760.40 0.2662 0.1364 *

Jupiter -47635-04-28 02:09 J -15677143.53 -15677143.41 -15677143.29 0.0539 0.0261

Jupiter -47635-07-26 15:06 J -15677053.96 -15677053.87 -15677053.79 0.0540 0.0412

Moon -47634-02-19 03:50 J -15676846.48 -15676846.34 -15676846.20 0.2673 0.0219

Earth -47634-02-19 04:33 J -15676846.45 -15676846.31 -15676846.17 0.2667 0.0320 *

Venus -47633-11-01 13:26 J -15676224.99 -15676224.94 -15676224.89 0.3669 0.3420

Saturn -47632-01-22 03:35 J -15676143.45 -15676143.35 -15676143.25 0.0286 0.0229

Saturn -47632-04-20 22:33 J -15676054.71 -15676054.56 -15676054.40 0.0285 0.0106

Saturn -47632-07-18 17:59 J -15675965.91 -15675965.75 -15675965.58 0.0285 0.0020

Mars -47632-09-08 14:23 J -15675914.03 -15675913.90 -15675913.77 0.1632 0.0308

Saturn -47632-10-15 13:54 J -15675877.07 -15675876.92 -15675876.77 0.0284 0.0146

Pluto -47632-12-06 04:47 J -15675825.35 -15675825.30 -15675825.25 0.0081 0.0075

Saturn -47631-01-12 09:50 J -15675788.12 -15675788.09 -15675788.04 0.0284 0.0274

Pluto -47631-03-04 05:59 J -15675737.31 -15675737.25 -15675737.15 0.0081 0.0067

Pluto -47631-05-31 07:54 J -15675649.27 -15675649.17 -15675649.06 0.0081 0.0058

Pluto -47631-08-27 09:35 J -15675561.22 -15675561.10 -15675560.98 0.0081 0.0049

Earth -47631-08-29 01:54 J -15675559.49 -15675559.42 -15675559.34 0.2669 0.2031

Moon -47631-08-29 02:52 J -15675559.45 -15675559.38 -15675559.31 0.2666 0.2121 *

Pluto -47631-11-23 11:02 J -15675473.16 -15675473.04 -15675472.91 0.0081 0.0041

Pluto -47630-02-19 12:28 J -15675385.10 -15675384.98 -15675384.83 0.0080 0.0033

Pluto -47630-05-18 14:09 J -15675297.05 -15675296.91 -15675296.76 0.0080 0.0024

Pluto -47630-08-14 15:50 J -15675208.99 -15675208.84 -15675208.70 0.0080 0.0015

Pluto -47630-11-10 17:16 J -15675120.93 -15675120.78 -15675120.63 0.0080 0.0007

Pluto -47629-02-06 18:42 J -15675032.86 -15675032.72 -15675032.57 0.0080 0.0003

Jupiter -47629-03-12 23:30 J -15674997.68 -15674997.52 -15674997.35 0.0488 0.0012

Pluto -47629-05-04 20:09 J -15674944.80 -15674944.66 -15674944.51 0.0080 0.0010

Mars -47629-06-05 03:06 J -15674913.50 -15674913.37 -15674913.25 0.1904 0.0893

Pluto -47629-07-31 21:35 J -15674856.74 -15674856.60 -15674856.45 0.0080 0.0018

Pluto -47629-10-27 23:02 J -15674768.67 -15674768.54 -15674768.39 0.0079 0.0026

Pluto -47628-01-24 00:28 J -15674680.60 -15674680.48 -15674680.34 0.0079 0.0033

Pluto -47628-04-22 01:54 J -15674592.54 -15674592.42 -15674592.29 0.0079 0.0041

Pluto -47628-07-19 03:21 J -15674504.47 -15674504.36 -15674504.24 0.0079 0.0049

Pluto -47628-10-15 05:02 J -15674416.39 -15674416.29 -15674416.19 0.0079 0.0056

Pluto -47627-01-11 06:14 J -15674328.32 -15674328.24 -15674328.15 0.0079 0.0064

Pluto -47627-04-09 07:26 J -15674240.24 -15674240.19 -15674240.12 0.0079 0.0072

Venus -47627-05-18 18:14 J -15674200.86 -15674200.74 -15674200.61 0.3663 0.1880

Moon -47624-08-21 19:54 J -15673009.79 -15673009.67 -15673009.56 0.2670 0.0420

Earth -47624-08-21 19:54 J -15673009.79 -15673009.67 -15673009.55 0.2664 0.0446 *

Jupiter -47623-02-14 03:50 J -15672833.42 -15672833.34 -15672833.26 0.0538 0.0440

Jupiter -47623-05-14 17:02 J -15672743.91 -15672743.79 -15672743.67 0.0540 0.0237

Mars -47622-01-29 23:30 J -15672483.63 -15672483.52 -15672483.41 0.1628 0.0890

Earth -47621-02-22 06:14 J -15672095.36 -15672095.24 -15672095.13 0.2665 0.1588

Moon -47621-02-22 06:14 J -15672095.35 -15672095.24 -15672095.13 0.2672 0.1684 *

Mars -47620-01-04 11:02 J -15671778.09 -15671778.04 -15671777.99 0.1645 0.1505

Uranus -47619-07-21 20:23 J -15671214.65 -15671214.65 -15671214.63 0.0147 0.0147

Uranus -47619-10-18 03:35 J -15671126.45 -15671126.35 -15671126.24 0.0147 0.0116

Uranus -47618-01-14 10:47 J -15671038.19 -15671038.05 -15671037.91 0.0147 0.0085

Uranus -47618-04-12 17:59 J -15670949.92 -15670949.75 -15670949.59 0.0147 0.0054

Uranus -47618-07-10 01:11 J -15670861.63 -15670861.45 -15670861.28 0.0147 0.0023

Uranus -47618-10-06 08:23 J -15670773.33 -15670773.15 -15670772.97 0.0147 0.0009

Jupiter -47618-12-30 23:59 J -15670687.66 -15670687.50 -15670687.35 0.0489 0.0161

Uranus -47617-01-02 15:35 J -15670685.02 -15670684.85 -15670684.67 0.0147 0.0041

Jupiter -47617-03-29 20:38 J -15670597.69 -15670597.64 -15670597.58 0.0488 0.0456

Uranus -47617-03-30 22:47 J -15670596.69 -15670596.55 -15670596.38 0.0147 0.0073

Saturn -47617-05-19 18:28 J -15670546.83 -15670546.73 -15670546.62 0.0274 0.0188

Uranus -47617-06-27 06:14 J -15670508.35 -15670508.24 -15670508.10 0.0147 0.0105

Saturn -47617-08-16 07:26 J -15670458.33 -15670458.19 -15670458.06 0.0275 0.0093

Uranus -47617-09-23 13:54 J -15670419.98 -15670419.92 -15670419.86 0.0147 0.0137

Saturn -47617-11-12 20:09 J -15670369.80 -15670369.66 -15670369.52 0.0275 0.0003

Saturn -47616-02-09 08:38 J -15670281.27 -15670281.14 -15670281.01 0.0276 0.0096

Saturn -47616-05-08 20:52 J -15670192.72 -15670192.63 -15670192.52 0.0276 0.0189

Moon -47614-02-14 06:57 J -15669546.30 -15669546.21 -15669546.13 0.2669 0.2053

Earth -47614-02-14 08:09 J -15669546.26 -15669546.16 -15669546.07 0.2671 0.1902 *

Mars -47613-06-21 08:23 J -15669053.20 -15669053.15 -15669053.10 0.1624 0.1479

Jupiter -47611-03-02 19:11 J -15668433.84 -15668433.70 -15668433.56 0.0539 0.0066

Mars -47611-05-27 20:09 J -15668347.76 -15668347.66 -15668347.55 0.1641 0.0933

Earth -47611-08-24 15:50 J -15668258.96 -15668258.84 -15668258.72 0.2666 0.0452

Moon -47611-08-24 16:18 J -15668258.94 -15668258.82 -15668258.70 0.2672 0.0423 *

Mars -47608-02-22 01:40 J -15667346.50 -15667346.43 -15667346.35 0.1892 0.1637

Neptune -47606-09-12 23:45 J -15666413.55 -15666413.51 -15666413.44 0.0088 0.0083

Jupiter -47606-10-19 00:28 J -15666377.61 -15666377.48 -15666377.36 0.0489 0.0311

Neptune -47606-12-10 01:40 J -15666325.49 -15666325.43 -15666325.34 0.0088 0.0076

Jupiter -47605-01-16 20:38 J -15666287.77 -15666287.64 -15666287.50 0.0488 0.0298

Neptune -47605-03-07 03:50 J -15666237.43 -15666237.34 -15666237.24 0.0088 0.0069

Neptune -47605-06-03 05:30 J -15666149.36 -15666149.27 -15666149.15 0.0088 0.0062

Neptune -47605-08-30 07:26 J -15666061.30 -15666061.19 -15666061.06 0.0088 0.0056

Neptune -47605-11-26 09:21 J -15665973.23 -15665973.11 -15665972.98 0.0088 0.0049

Neptune -47604-02-22 11:02 J -15665885.16 -15665885.04 -15665884.90 0.0088 0.0043

Neptune -47604-05-21 12:57 J -15665797.09 -15665796.96 -15665796.81 0.0088 0.0036

Moon -47604-08-17 07:54 J -15665709.24 -15665709.17 -15665709.10 0.2661 0.2151

Earth -47604-08-17 08:52 J -15665709.20 -15665709.13 -15665709.06 0.2661 0.2128 *

Neptune -47604-08-17 15:06 J -15665709.01 -15665708.87 -15665708.73 0.0088 0.0029

Neptune -47604-11-13 16:47 J -15665620.94 -15665620.80 -15665620.65 0.0088 0.0022

Neptune -47603-02-09 18:42 J -15665532.87 -15665532.72 -15665532.58 0.0088 0.0016

Neptune -47603-05-08 20:23 J -15665444.80 -15665444.65 -15665444.50 0.0088 0.0009

Saturn -47603-06-11 05:59 J -15665411.32 -15665411.25 -15665411.16 0.0286 0.0250

Neptune -47603-08-04 22:18 J -15665356.72 -15665356.57 -15665356.43 0.0088 0.0003

Saturn -47603-09-08 01:11 J -15665322.60 -15665322.45 -15665322.30 0.0285 0.0127

Neptune -47603-10-31 23:59 J -15665268.65 -15665268.50 -15665268.35 0.0088 0.0004

Saturn -47603-12-05 20:23 J -15665233.81 -15665233.65 -15665233.48 0.0285 0.0007

Neptune -47602-01-28 01:40 J -15665180.57 -15665180.43 -15665180.28 0.0088 0.0011

Saturn -47602-03-04 16:04 J -15665144.98 -15665144.83 -15665144.67 0.0284 0.0124

Neptune -47602-04-26 03:35 J -15665092.50 -15665092.35 -15665092.21 0.0088 0.0017

Saturn -47602-06-01 11:59 J -15665056.07 -15665056.00 -15665055.91 0.0284 0.0252

Neptune -47602-07-23 05:16 J -15665004.42 -15665004.28 -15665004.14 0.0088 0.0023

Mars -47602-10-18 05:16 J -15664917.40 -15664917.28 -15664917.15 0.1636 0.0356

Neptune -47602-10-19 06:57 J -15664916.34 -15664916.21 -15664916.07 0.0088 0.0030

Neptune -47601-01-15 08:38 J -15664828.26 -15664828.14 -15664828.00 0.0088 0.0037

Moon -47601-02-17 07:54 J -15664795.30 -15664795.17 -15664795.04 0.2671 0.0790

Earth -47601-02-17 09:06 J -15664795.26 -15664795.12 -15664794.99 0.2669 0.0702 *

Neptune -47601-04-12 10:33 J -15664740.19 -15664740.06 -15664739.93 0.0089 0.0043

Neptune -47601-07-09 12:14 J -15664652.11 -15664651.99 -15664651.87 0.0089 0.0049

Venus -47601-07-12 18:28 J -15664648.79 -15664648.73 -15664648.66 0.3708 0.2846

Neptune -47601-10-05 13:54 J -15664564.03 -15664563.92 -15664563.80 0.0089 0.0055

Neptune -47600-01-01 15:35 J -15664475.94 -15664475.85 -15664475.74 0.0089 0.0062

Neptune -47600-03-30 17:30 J -15664387.86 -15664387.77 -15664387.68 0.0089 0.0068

Neptune -47600-06-26 18:57 J -15664299.78 -15664299.71 -15664299.62 0.0089 0.0074

Neptune -47600-09-22 20:38 J -15664211.69 -15664211.64 -15664211.57 0.0089 0.0081

Jupiter -47600-12-19 21:21 J -15664123.74 -15664123.61 -15664123.47 0.0540 0.0105

Neptune -47600-12-19 22:18 J -15664123.58 -15664123.57 -15664123.53 0.0089 0.0087 *

Mars -47599-07-15 02:09 J -15663916.55 -15663916.41 -15663916.26 0.1898 0.0416

Earth -47598-08-27 11:30 J -15663508.12 -15663508.02 -15663507.92 0.2667 0.1326

Moon -47598-08-27 12:28 J -15663508.08 -15663507.98 -15663507.89 0.2668 0.1459 *

Venus -47595-01-26 11:02 J -15662625.14 -15662625.04 -15662624.93 0.3712 0.0563

Jupiter -47594-08-07 01:26 J -15662067.50 -15662067.44 -15662067.38 0.0489 0.0454

Jupiter -47594-11-04 21:06 J -15661977.77 -15661977.62 -15661977.45 0.0488 0.0148

Mars -47592-03-09 14:38 J -15661487.02 -15661486.89 -15661486.76 0.1632 0.0227

Moon -47591-08-20 04:18 J -15660958.42 -15660958.32 -15660958.21 0.2667 0.1253

Earth -47591-08-20 05:02 J -15660958.40 -15660958.29 -15660958.18 0.2663 0.1194 *

Venus -47590-08-12 03:35 J -15660601.44 -15660601.35 -15660601.26 0.3717 0.1715

Mars -47590-12-05 03:35 J -15660486.48 -15660486.35 -15660486.22 0.1904 0.0767

Moon -47588-02-19 09:50 J -15660044.23 -15660044.09 -15660043.95 0.2674 0.0538

Earth -47588-02-19 10:18 J -15660044.20 -15660044.07 -15660043.93 0.2667 0.0535 *

Saturn -47588-10-06 20:09 J -15659814.74 -15659814.66 -15659814.57 0.0273 0.0216

Jupiter -47588-10-07 23:59 J -15659813.62 -15659813.50 -15659813.38 0.0539 0.0268

Saturn -47587-01-03 09:06 J -15659726.24 -15659726.12 -15659725.99 0.0274 0.0121

Jupiter -47587-01-05 12:57 J -15659724.05 -15659723.96 -15659723.87 0.0541 0.0406

Saturn -47587-04-01 22:04 J -15659637.73 -15659637.58 -15659637.44 0.0274 0.0028

Saturn -47587-06-29 10:33 J -15659549.20 -15659549.06 -15659548.92 0.0275 0.0067

Saturn -47587-09-25 22:47 J -15659460.66 -15659460.55 -15659460.43 0.0275 0.0159

Saturn -47587-12-23 11:16 J -15659372.09 -15659372.03 -15659371.98 0.0276 0.0250

Earth -47585-08-29 07:11 J -15658757.27 -15658757.20 -15658757.14 0.2669 0.2186

Moon -47585-08-29 07:54 J -15658757.24 -15658757.17 -15658757.11 0.2666 0.2194 *

Mars -47583-07-30 23:30 J -15658056.63 -15658056.52 -15658056.40 0.1628 0.0806

Jupiter -47582-08-23 21:21 J -15657667.77 -15657667.61 -15657667.44 0.0488 0.0016

Mars -47581-07-05 11:02 J -15657351.07 -15657351.04 -15657351.01 0.1646 0.1586

Moon -47578-08-23 01:11 J -15656207.57 -15656207.45 -15656207.33 0.2671 0.0302

Earth -47578-08-23 01:11 J -15656207.57 -15656207.45 -15656207.34 0.2664 0.0299 *

Uranus -47577-02-16 05:16 J -15656030.29 -15656030.28 -15656030.24 0.0132 0.0129

Uranus -47577-05-14 09:06 J -15655942.19 -15655942.12 -15655942.04 0.0132 0.0110

Uranus -47577-08-10 12:42 J -15655854.07 -15655853.97 -15655853.87 0.0132 0.0091

Uranus -47577-11-06 16:04 J -15655765.94 -15655765.83 -15655765.71 0.0132 0.0073

Uranus -47576-02-02 19:40 J -15655677.81 -15655677.68 -15655677.55 0.0132 0.0054

Uranus -47576-05-01 23:02 J -15655589.67 -15655589.54 -15655589.40 0.0132 0.0036

Venus -47576-06-08 14:23 J -15655552.03 -15655551.90 -15655551.77 0.3667 0.1594

Jupiter -47576-07-27 02:23 J -15655503.48 -15655503.40 -15655503.32 0.0539 0.0435

Uranus -47576-07-29 02:38 J -15655501.53 -15655501.39 -15655501.25 0.0132 0.0017

Jupiter -47576-10-24 15:50 J -15655413.96 -15655413.84 -15655413.72 0.0540 0.0245

Uranus -47576-10-25 05:59 J -15655413.39 -15655413.25 -15655413.11 0.0132 0.0001

Uranus -47575-01-21 09:21 J -15655325.25 -15655325.11 -15655324.97 0.0132 0.0019

Earth -47575-02-22 11:59 J -15655293.10 -15655293.00 -15655292.90 0.2665 0.1812

Moon -47575-02-22 12:28 J -15655293.09 -15655292.98 -15655292.88 0.2671 0.1775 *

Uranus -47575-04-19 12:42 J -15655237.10 -15655236.97 -15655236.83 0.0132 0.0037

Uranus -47575-07-16 16:04 J -15655148.96 -15655148.83 -15655148.70 0.0132 0.0055

Uranus -47575-10-12 19:26 J -15655060.81 -15655060.69 -15655060.57 0.0132 0.0073

Uranus -47574-01-08 22:33 J -15654972.65 -15654972.56 -15654972.45 0.0132 0.0091

Uranus -47574-04-07 01:54 J -15654884.49 -15654884.42 -15654884.34 0.0132 0.0109

Uranus -47574-07-04 05:16 J -15654796.31 -15654796.28 -15654796.24 0.0132 0.0126

Mars -47574-12-21 08:38 J -15654626.21 -15654626.14 -15654626.08 0.1624 0.1392

Saturn -47573-01-25 23:30 J -15654590.65 -15654590.52 -15654590.38 0.0286 0.0172

Saturn -47573-04-23 18:42 J -15654501.88 -15654501.72 -15654501.55 0.0285 0.0049

Saturn -47573-07-21 14:23 J -15654413.06 -15654412.90 -15654412.74 0.0285 0.0078

Saturn -47573-10-18 10:18 J -15654324.19 -15654324.07 -15654323.95 0.0284 0.0205

Mars -47572-11-25 20:23 J -15653920.75 -15653920.65 -15653920.55 0.1641 0.1014

Jupiter -47570-06-11 22:04 J -15653357.74 -15653357.58 -15653357.42 0.0488 0.0158

Jupiter -47570-09-09 18:42 J -15653267.77 -15653267.72 -15653267.66 0.0487 0.0457

Mars -47569-08-23 02:09 J -15652919.46 -15652919.41 -15652919.36 0.1892 0.1755

Moon -47568-02-14 12:28 J -15652744.08 -15652743.98 -15652743.87 0.2669 0.1707

Earth -47568-02-14 13:54 J -15652744.03 -15652743.92 -15652743.82 0.2670 0.1694 *

Earth -47565-08-24 20:52 J -15651456.74 -15651456.63 -15651456.51 0.2666 0.0616

Moon -47565-08-24 21:35 J -15651456.72 -15651456.60 -15651456.49 0.2671 0.0718 *

Jupiter -47564-08-12 17:45 J -15651103.89 -15651103.76 -15651103.62 0.0539 0.0072

Mars -47562-04-18 05:30 J -15650490.39 -15650490.27 -15650490.14 0.1636 0.0439

Mars -47559-01-13 02:38 J -15649489.52 -15649489.39 -15649489.25 0.1898 0.0542

Saturn -47558-02-23 22:33 J -15649082.62 -15649082.56 -15649082.49 0.0274 0.0241

Jupiter -47558-03-30 22:33 J -15649047.69 -15649047.56 -15649047.43 0.0489 0.0309

Saturn -47558-05-23 11:45 J -15648994.13 -15648994.01 -15648993.89 0.0274 0.0145

Jupiter -47558-06-28 18:42 J -15648957.85 -15648957.72 -15648957.58 0.0488 0.0301

Moon -47558-08-18 13:11 J -15648907.03 -15648906.95 -15648906.88 0.2663 0.2092

Earth -47558-08-18 13:54 J -15648907.00 -15648906.92 -15648906.84 0.2661 0.1958 *

Saturn -47558-08-20 00:28 J -15648905.62 -15648905.48 -15648905.34 0.0275 0.0051

Saturn -47558-11-16 13:11 J -15648817.09 -15648816.95 -15648816.81 0.0275 0.0044

Saturn -47557-02-13 01:40 J -15648728.55 -15648728.43 -15648728.31 0.0276 0.0137

Saturn -47557-05-11 13:54 J -15648639.99 -15648639.92 -15648639.84 0.0276 0.0229

Moon -47555-02-17 13:54 J -15647993.06 -15647992.92 -15647992.79 0.2672 0.0602

Earth -47555-02-17 14:52 J -15647993.02 -15647992.88 -15647992.74 0.2668 0.0491 *

Mars -47553-09-07 14:38 J -15647060.02 -15647059.89 -15647059.76 0.1632 0.0146

Jupiter -47552-05-31 19:54 J -15646793.81 -15646793.67 -15646793.54 0.0539 0.0102

Earth -47552-08-27 16:33 J -15646705.90 -15646705.81 -15646705.71 0.2668 0.1485

Moon -47552-08-27 17:30 J -15646705.87 -15646705.77 -15646705.67 0.2667 0.1477 *

Mars -47550-06-05 03:35 J -15646059.48 -15646059.35 -15646059.21 0.1904 0.0657

Jupiter -47546-01-16 23:16 J -15644737.59 -15644737.53 -15644737.47 0.0489 0.0455

Jupiter -47546-04-16 18:57 J -15644647.87 -15644647.71 -15644647.55 0.0488 0.0147

Moon -47545-08-20 09:35 J -15644156.21 -15644156.10 -15644155.99 0.2668 0.1057

Earth -47545-08-20 10:18 J -15644156.19 -15644156.07 -15644155.96 0.2663 0.1031 *

Venus -47544-02-16 16:18 J -15643975.91 -15643975.82 -15643975.73 0.3709 0.1976

Saturn -47544-06-14 01:54 J -15643858.54 -15643858.42 -15643858.30 0.0286 0.0194

Saturn -47544-09-10 21:06 J -15643769.78 -15643769.62 -15643769.46 0.0285 0.0071

Saturn -47544-12-08 16:33 J -15643680.97 -15643680.81 -15643680.64 0.0285 0.0055

Mars -47543-01-28 23:45 J -15643629.63 -15643629.51 -15643629.39 0.1628 0.0724

Saturn -47543-03-07 12:28 J -15643592.11 -15643591.98 -15643591.85 0.0284 0.0182

Moon -47542-02-20 15:50 J -15643241.98 -15643241.84 -15643241.71 0.2673 0.0701

Earth -47542-02-20 16:18 J -15643241.96 -15643241.82 -15643241.69 0.2666 0.0758 *

Mars -47541-10-25 04:47 J -15642629.33 -15642629.30 -15642629.26 0.1910 0.1835

Jupiter -47540-03-19 21:35 J -15642483.71 -15642483.60 -15642483.47 0.0539 0.0278

Jupiter -47540-06-17 10:47 J -15642394.14 -15642394.05 -15642393.96 0.0541 0.0397

Earth -47539-08-30 11:59 J -15641955.05 -15641955.00 -15641954.94 0.2669 0.2333

Moon -47539-08-30 12:42 J -15641955.01 -15641954.97 -15641954.92 0.2665 0.2428 *

Venus -47539-09-02 08:52 J -15641952.24 -15641952.13 -15641952.03 0.3714 0.0329

Moon -47535-02-12 17:59 J -15640692.76 -15640692.75 -15640692.73 0.2668 0.2635

Earth -47535-02-12 18:57 J -15640692.72 -15640692.71 -15640692.70 0.2672 0.2652

Uranus -47535-08-11 04:18 J -15640513.38 -15640513.32 -15640513.26 0.0147 0.0137

Uranus -47535-11-07 11:02 J -15640425.15 -15640425.04 -15640424.91 0.0147 0.0107

Jupiter -47534-02-02 19:40 J -15640337.84 -15640337.68 -15640337.51 0.0488 0.0011

Uranus -47534-02-03 18:14 J -15640336.88 -15640336.74 -15640336.58 0.0147 0.0076

Uranus -47534-05-03 01:26 J -15640248.60 -15640248.44 -15640248.27 0.0147 0.0045

Mars -47534-06-21 08:38 J -15640199.21 -15640199.14 -15640199.06 0.1624 0.1305

Uranus -47534-07-30 08:38 J -15640160.31 -15640160.14 -15640159.96 0.0147 0.0014

Uranus -47534-10-26 15:50 J -15640072.01 -15640071.84 -15640071.66 0.0147 0.0019

Uranus -47533-01-22 23:16 J -15639983.70 -15639983.53 -15639983.36 0.0147 0.0050

Venus -47533-03-18 01:11 J -15639928.52 -15639928.45 -15639928.38 0.3718 0.2560

Uranus -47533-04-20 06:28 J -15639895.37 -15639895.23 -15639895.08 0.0147 0.0082

Uranus -47533-07-17 13:54 J -15639807.02 -15639806.92 -15639806.80 0.0146 0.0114

Uranus -47533-10-13 21:21 J -15639718.61 -15639718.61 -15639718.59 0.0146 0.0146

Mars -47532-05-26 20:23 J -15639493.74 -15639493.65 -15639493.55 0.1641 0.1094

Earth -47532-08-23 06:14 J -15639405.36 -15639405.24 -15639405.12 0.2664 0.0119

Moon -47532-08-23 06:28 J -15639405.35 -15639405.23 -15639405.11 0.2672 0.0131 *

Mars -47529-02-22 02:38 J -15638492.40 -15638492.39 -15638492.38 0.1892 0.1883

Earth -47529-02-23 17:59 J -15638490.84 -15638490.75 -15638490.66 0.2665 0.2040

Moon -47529-02-23 18:42 J -15638490.80 -15638490.72 -15638490.64 0.2671 0.2148 *

Saturn -47529-07-13 00:28 J -15638350.50 -15638350.48 -15638350.45 0.0273 0.0268

Saturn -47529-10-09 13:26 J -15638262.04 -15638261.94 -15638261.82 0.0273 0.0174

Jupiter -47528-01-06 00:14 J -15638173.57 -15638173.49 -15638173.41 0.0539 0.0442

Saturn -47528-01-06 02:23 J -15638173.54 -15638173.40 -15638173.26 0.0274 0.0079 *

Saturn -47528-04-04 15:06 J -15638085.01 -15638084.87 -15638084.73 0.0274 0.0015

Jupiter -47528-04-05 13:40 J -15638084.05 -15638083.93 -15638083.81 0.0540 0.0240

Saturn -47528-07-02 03:35 J -15637996.48 -15637996.35 -15637996.22 0.0275 0.0108

Saturn -47528-09-28 15:50 J -15637907.93 -15637907.84 -15637907.74 0.0275 0.0200

Neptune -47524-06-08 16:04 J -15636558.83 -15636558.83 -15636558.81 0.0089 0.0089

Neptune -47524-09-04 18:42 J -15636470.78 -15636470.72 -15636470.66 0.0089 0.0081

Neptune -47524-12-01 21:06 J -15636382.71 -15636382.62 -15636382.53 0.0089 0.0074

Neptune -47523-02-27 23:16 J -15636294.62 -15636294.53 -15636294.41 0.0089 0.0067

Neptune -47523-05-27 01:54 J -15636206.53 -15636206.42 -15636206.29 0.0089 0.0060

Neptune -47523-08-23 04:33 J -15636118.44 -15636118.31 -15636118.17 0.0089 0.0052

Mars -47523-10-17 05:45 J -15636063.38 -15636063.26 -15636063.14 0.1637 0.0523

Neptune -47523-11-19 06:57 J -15636030.34 -15636030.21 -15636030.06 0.0089 0.0045

Jupiter -47523-11-21 20:09 J -15636027.82 -15636027.66 -15636027.50 0.0488 0.0154

Neptune -47522-02-15 09:21 J -15635942.25 -15635942.11 -15635941.94 0.0089 0.0038

Moon -47522-02-15 18:28 J -15635941.84 -15635941.73 -15635941.62 0.2669 0.1653

Earth -47522-02-15 19:40 J -15635941.79 -15635941.68 -15635941.57 0.2670 0.1482 *

Jupiter -47522-02-19 16:47 J -15635937.85 -15635937.80 -15635937.75 0.0487 0.0459

Neptune -47522-05-14 12:14 J -15635854.15 -15635853.99 -15635853.83 0.0089 0.0030

Neptune -47522-08-10 14:38 J -15635766.05 -15635765.89 -15635765.72 0.0089 0.0023

Neptune -47522-11-06 17:16 J -15635677.94 -15635677.78 -15635677.61 0.0089 0.0015

Neptune -47521-02-02 19:54 J -15635589.84 -15635589.67 -15635589.50 0.0089 0.0008

Neptune -47521-04-30 22:33 J -15635501.73 -15635501.56 -15635501.39 0.0089 0.0000

Neptune -47521-07-28 01:11 J -15635413.62 -15635413.45 -15635413.28 0.0089 0.0008

Neptune -47521-10-24 03:35 J -15635325.51 -15635325.35 -15635325.18 0.0089 0.0016

Neptune -47520-01-20 06:14 J -15635237.40 -15635237.24 -15635237.07 0.0089 0.0023

Neptune -47520-04-18 08:52 J -15635149.28 -15635149.13 -15635148.96 0.0089 0.0031

Mars -47520-07-14 03:06 J -15635062.50 -15635062.37 -15635062.23 0.1898 0.0670

Neptune -47520-07-15 11:45 J -15635061.17 -15635061.01 -15635060.86 0.0089 0.0038

Neptune -47520-10-11 14:09 J -15634973.05 -15634972.91 -15634972.76 0.0089 0.0046

Neptune -47519-01-07 16:47 J -15634884.93 -15634884.80 -15634884.66 0.0089 0.0054

Venus -47519-01-13 15:06 J -15634879.01 -15634878.87 -15634878.72 0.3666 0.0231

Neptune -47519-04-05 19:26 J -15634796.80 -15634796.69 -15634796.56 0.0089 0.0062

Neptune -47519-07-02 22:18 J -15634708.67 -15634708.57 -15634708.46 0.0089 0.0069

Earth -47519-08-26 02:09 J -15634654.53 -15634654.41 -15634654.30 0.2666 0.0775

Moon -47519-08-26 02:38 J -15634654.50 -15634654.39 -15634654.27 0.2670 0.0784 *

Neptune -47519-09-29 00:57 J -15634620.54 -15634620.46 -15634620.37 0.0089 0.0077

Neptune -47519-12-26 03:35 J -15634532.39 -15634532.35 -15634532.29 0.0089 0.0085

Jupiter -47516-01-22 16:18 J -15633773.95 -15633773.82 -15633773.68 0.0540 0.0081

Saturn -47515-11-01 00:14 J -15633126.58 -15633126.49 -15633126.40 0.0286 0.0241

Saturn -47514-01-28 19:11 J -15633037.85 -15633037.70 -15633037.55 0.0286 0.0118

Saturn -47514-04-27 14:38 J -15632949.06 -15632948.89 -15632948.72 0.0285 0.0008

Saturn -47514-07-25 10:18 J -15632860.22 -15632860.07 -15632859.92 0.0285 0.0133

Saturn -47514-10-22 06:14 J -15632771.30 -15632771.24 -15632771.17 0.0284 0.0262

Mars -47513-03-08 14:52 J -15632633.01 -15632632.88 -15632632.75 0.1632 0.0056

Moon -47512-08-18 18:14 J -15632104.83 -15632104.74 -15632104.65 0.2664 0.1786

Earth -47512-08-18 19:11 J -15632104.79 -15632104.70 -15632104.61 0.2662 0.1789 *

Jupiter -47511-09-09 20:52 J -15631717.76 -15631717.63 -15631717.50 0.0489 0.0303

Mars -47511-12-04 03:50 J -15631632.47 -15631632.34 -15631632.20 0.1904 0.0545

Jupiter -47511-12-08 17:02 J -15631627.92 -15631627.79 -15631627.66 0.0488 0.0306

Moon -47509-02-18 19:40 J -15631190.81 -15631190.68 -15631190.54 0.2673 0.0289

Earth -47509-02-18 20:38 J -15631190.78 -15631190.64 -15631190.50 0.2668 0.0279 *

Earth -47506-08-28 21:35 J -15629903.69 -15629903.60 -15629903.50 0.2668 0.1636

Moon -47506-08-28 22:33 J -15629903.65 -15629903.56 -15629903.47 0.2668 0.1770 *

Jupiter -47505-11-10 18:28 J -15629463.86 -15629463.73 -15629463.59 0.0539 0.0094

Mars -47504-07-29 23:59 J -15629202.62 -15629202.50 -15629202.38 0.1628 0.0635

Mars -47501-04-25 05:16 J -15628202.34 -15628202.28 -15628202.22 0.1910 0.1708

Saturn -47499-02-26 15:35 J -15627529.95 -15627529.85 -15627529.75 0.0274 0.0200

Saturn -47499-05-26 04:33 J -15627441.44 -15627441.31 -15627441.18 0.0274 0.0105

Jupiter -47499-06-28 21:21 J -15627407.66 -15627407.61 -15627407.55 0.0489 0.0452

Moon -47499-08-21 14:52 J -15627353.99 -15627353.88 -15627353.77 0.2669 0.0940

Earth -47499-08-21 15:21 J -15627353.97 -15627353.86 -15627353.75 0.2663 0.0864 *

Saturn -47499-08-22 17:16 J -15627352.92 -15627352.78 -15627352.64 0.0275 0.0011

Jupiter -47499-09-26 17:16 J -15627317.94 -15627317.78 -15627317.62 0.0488 0.0151

Saturn -47499-11-19 05:45 J -15627264.39 -15627264.26 -15627264.12 0.0275 0.0083

Saturn -47498-02-15 18:14 J -15627175.85 -15627175.74 -15627175.63 0.0276 0.0175

Saturn -47498-05-15 06:28 J -15627087.26 -15627087.23 -15627087.20 0.0276 0.0266

Moon -47496-02-20 21:50 J -15626439.72 -15626439.59 -15626439.46 0.2672 0.0956

Earth -47496-02-20 22:04 J -15626439.71 -15626439.58 -15626439.45 0.2666 0.0976 *

Mars -47495-12-20 08:52 J -15625772.22 -15625772.13 -15625772.05 0.1624 0.1220

Uranus -47493-03-07 12:28 J -15625329.02 -15625328.98 -15625328.92 0.0132 0.0124

Venus -47493-03-09 21:21 J -15625326.65 -15625326.61 -15625326.57 0.3705 0.3415

Uranus -47493-06-03 16:04 J -15625240.91 -15625240.83 -15625240.74 0.0132 0.0105

Jupiter -47493-08-29 20:38 J -15625153.76 -15625153.64 -15625153.52 0.0539 0.0268

Earth -47493-08-30 17:16 J -15625152.82 -15625152.78 -15625152.74 0.2670 0.2487

Moon -47493-08-30 17:45 J -15625152.81 -15625152.76 -15625152.72 0.2664 0.2450 *

Uranus -47493-08-30 19:40 J -15625152.78 -15625152.68 -15625152.57 0.0132 0.0086 *

Mars -47493-11-24 20:38 J -15625066.73 -15625066.64 -15625066.55 0.1641 0.1179

Uranus -47493-11-26 23:02 J -15625064.65 -15625064.54 -15625064.41 0.0132 0.0068

Jupiter -47493-11-27 09:21 J -15625064.19 -15625064.11 -15625064.02 0.0540 0.0405

Uranus -47492-02-23 02:38 J -15624976.52 -15624976.39 -15624976.25 0.0132 0.0049

Uranus -47492-05-22 06:14 J -15624888.38 -15624888.24 -15624888.10 0.0132 0.0031

Uranus -47492-08-18 09:35 J -15624800.24 -15624800.10 -15624799.96 0.0132 0.0013

Uranus -47492-11-14 13:11 J -15624712.10 -15624711.95 -15624711.81 0.0132 0.0007

Uranus -47491-02-10 16:33 J -15624623.95 -15624623.81 -15624623.67 0.0132 0.0024

Uranus -47491-05-09 19:54 J -15624535.81 -15624535.67 -15624535.54 0.0132 0.0042

Uranus -47491-08-05 23:16 J -15624447.66 -15624447.53 -15624447.41 0.0132 0.0060

Uranus -47491-11-02 02:23 J -15624359.50 -15624359.40 -15624359.28 0.0132 0.0078

Uranus -47490-01-29 05:45 J -15624271.35 -15624271.26 -15624271.16 0.0132 0.0096

Uranus -47490-04-27 08:52 J -15624183.19 -15624183.13 -15624183.05 0.0132 0.0114

Uranus -47490-07-24 12:28 J -15624094.99 -15624094.98 -15624094.97 0.0132 0.0131

Moon -47489-02-13 23:45 J -15623890.54 -15623890.51 -15623890.48 0.2668 0.2583

Earth -47489-02-14 00:42 J -15623890.52 -15623890.47 -15623890.42 0.2671 0.2444 *

Venus -47488-09-23 13:54 J -15623303.02 -15623302.92 -15623302.82 0.3710 0.1110

Jupiter -47487-07-15 17:45 J -15623007.93 -15623007.76 -15623007.59 0.0488 0.0001

Earth -47486-08-24 11:16 J -15622603.15 -15622603.03 -15622602.91 0.2665 0.0088

Moon -47486-08-24 11:30 J -15622603.14 -15622603.02 -15622602.90 0.2672 0.0069 *

Saturn -47485-03-20 02:09 J -15622394.47 -15622394.41 -15622394.35 0.0286 0.0265

Saturn -47485-06-16 20:52 J -15622305.77 -15622305.63 -15622305.48 0.0286 0.0144

Saturn -47485-09-13 16:18 J -15622216.99 -15622216.82 -15622216.65 0.0285 0.0019

Saturn -47485-12-11 11:59 J -15622128.16 -15622128.00 -15622127.84 0.0285 0.0108

Saturn -47484-03-10 07:54 J -15622039.26 -15622039.17 -15622039.07 0.0284 0.0236

Earth -47483-02-23 23:59 J -15621688.58 -15621688.50 -15621688.43 0.2664 0.2265

Moon -47483-02-24 00:42 J -15621688.54 -15621688.47 -15621688.40 0.2670 0.2286 *

Mars -47483-04-17 05:45 J -15621636.38 -15621636.26 -15621636.14 0.1636 0.0601

Venus -47482-04-09 06:28 J -15621279.33 -15621279.23 -15621279.13 0.3715 0.1168

Jupiter -47481-06-17 22:04 J -15620843.65 -15620843.58 -15620843.50 0.0539 0.0448

Jupiter -47481-09-15 11:30 J -15620754.14 -15620754.02 -15620753.89 0.0540 0.0234

Mars -47480-01-12 03:21 J -15620635.50 -15620635.36 -15620635.23 0.1898 0.0770

Moon -47479-08-17 03:06 J -15620053.40 -15620053.37 -15620053.34 0.2659 0.2569

Earth -47479-08-17 04:04 J -15620053.36 -15620053.33 -15620053.31 0.2660 0.2563 *

Venus -47477-10-22 22:47 J -15619255.59 -15619255.55 -15619255.51 0.3719 0.3405

Moon -47476-02-16 00:14 J -15619139.61 -15619139.49 -15619139.37 0.2670 0.1276

Earth -47476-02-16 01:26 J -15619139.56 -15619139.44 -15619139.32 0.2670 0.1276 *

Jupiter -47475-05-03 18:42 J -15618697.88 -15618697.72 -15618697.56 0.0488 0.0145

Jupiter -47475-08-01 15:21 J -15618607.90 -15618607.86 -15618607.82 0.0487 0.0468

Pluto -47474-04-18 12:28 J -15618347.99 -15618347.98 -15618347.94 0.0064 0.0063

Pluto -47474-07-15 13:54 J -15618259.99 -15618259.92 -15618259.85 0.0064 0.0058

Mars -47474-09-07 15:06 J -15618206.00 -15618205.87 -15618205.74 0.1632 0.0061

Pluto -47474-10-11 14:38 J -15618171.96 -15618171.89 -15618171.78 0.0064 0.0054

Pluto -47473-01-07 15:50 J -15618083.93 -15618083.84 -15618083.72 0.0064 0.0049

Pluto -47473-04-04 17:16 J -15617995.90 -15617995.78 -15617995.66 0.0064 0.0044

Pluto -47473-07-01 17:59 J -15617907.86 -15617907.75 -15617907.60 0.0064 0.0040

Earth -47473-08-26 07:11 J -15617852.31 -15617852.20 -15617852.09 0.2666 0.0928

Moon -47473-08-26 07:54 J -15617852.28 -15617852.17 -15617852.06 0.2669 0.1001 *

Pluto -47473-09-27 19:11 J -15617819.82 -15617819.70 -15617819.54 0.0064 0.0036

Pluto -47473-12-24 20:38 J -15617731.78 -15617731.64 -15617731.48 0.0064 0.0030

Pluto -47472-03-22 21:50 J -15617643.74 -15617643.59 -15617643.43 0.0064 0.0025

Pluto -47472-06-18 23:02 J -15617555.70 -15617555.54 -15617555.37 0.0064 0.0021

Pluto -47472-09-15 00:14 J -15617467.65 -15617467.49 -15617467.32 0.0064 0.0016

Pluto -47472-12-12 01:26 J -15617379.60 -15617379.44 -15617379.27 0.0065 0.0011

Pluto -47471-03-10 02:52 J -15617291.55 -15617291.38 -15617291.21 0.0065 0.0006

Mars -47471-06-04 04:33 J -15617205.45 -15617205.31 -15617205.17 0.1904 0.0409

Pluto -47471-06-06 04:04 J -15617203.50 -15617203.33 -15617203.16 0.0065 0.0001

Pluto -47471-09-02 05:16 J -15617115.45 -15617115.28 -15617115.11 0.0065 0.0004

Pluto -47471-11-29 06:28 J -15617027.40 -15617027.23 -15617027.06 0.0065 0.0009

Pluto -47470-02-25 07:26 J -15616939.34 -15616939.19 -15616939.01 0.0065 0.0015

Pluto -47470-05-24 08:38 J -15616851.29 -15616851.14 -15616850.96 0.0065 0.0020

Saturn -47470-07-16 17:30 J -15616797.84 -15616797.77 -15616797.69 0.0273 0.0227

Pluto -47470-08-20 10:04 J -15616763.23 -15616763.08 -15616762.91 0.0065 0.0025

Saturn -47470-10-13 06:28 J -15616709.35 -15616709.23 -15616709.10 0.0273 0.0132

Pluto -47470-11-16 11:16 J -15616675.17 -15616675.03 -15616674.87 0.0065 0.0030

Saturn -47469-01-09 19:26 J -15616620.84 -15616620.69 -15616620.55 0.0274 0.0039

Pluto -47469-02-12 12:28 J -15616587.11 -15616586.98 -15616586.82 0.0065 0.0036

Saturn -47469-04-07 07:54 J -15616532.31 -15616532.17 -15616532.03 0.0274 0.0055

Pluto -47469-05-10 13:54 J -15616499.05 -15616498.92 -15616498.78 0.0065 0.0041

Jupiter -47469-07-04 14:23 J -15616444.03 -15616443.90 -15616443.76 0.0540 0.0075

Saturn -47469-07-04 20:09 J -15616443.77 -15616443.66 -15616443.54 0.0275 0.0147 *

Pluto -47469-08-06 14:52 J -15616410.98 -15616410.88 -15616410.73 0.0066 0.0047

Saturn -47469-10-01 08:23 J -15616355.21 -15616355.15 -15616355.08 0.0275 0.0238

Pluto -47469-11-02 16:18 J -15616322.91 -15616322.82 -15616322.70 0.0066 0.0052

Pluto -47468-01-29 17:45 J -15616234.83 -15616234.76 -15616234.66 0.0066 0.0057

Venus -47468-02-03 11:30 J -15616230.09 -15616230.02 -15616229.95 0.3670 0.3188

Pluto -47468-04-27 18:42 J -15616146.74 -15616146.72 -15616146.64 0.0066 0.0063

Moon -47466-08-19 23:30 J -15615302.61 -15615302.52 -15615302.43 0.2664 0.1761

Earth -47466-08-20 00:14 J -15615302.58 -15615302.49 -15615302.39 0.2662 0.1621 *

Mars -47464-01-27 23:59 J -15614775.62 -15614775.50 -15614775.37 0.1628 0.0551

Moon -47463-02-19 01:40 J -15614388.57 -15614388.43 -15614388.29 0.2673 0.0204

Earth -47463-02-19 02:38 J -15614388.53 -15614388.39 -15614388.25 0.2668 0.0097 *

Jupiter -47463-02-19 19:11 J -15614387.83 -15614387.70 -15614387.57 0.0489 0.0295

Jupiter -47463-05-20 15:21 J -15614297.99 -15614297.86 -15614297.73 0.0487 0.0312

Venus -47463-08-20 16:04 J -15614205.95 -15614205.83 -15614205.71 0.3664 0.2071

Mars -47462-10-25 05:30 J -15613775.34 -15613775.27 -15613775.19 0.1909 0.1595

Earth -47460-08-29 02:52 J -15613101.47 -15613101.38 -15613101.30 0.2668 0.1793

Moon -47460-08-29 03:35 J -15613101.44 -15613101.35 -15613101.26 0.2668 0.1792 *

Jupiter -47457-04-22 17:16 J -15612133.92 -15612133.78 -15612133.65 0.0540 0.0087

Saturn -47456-11-03 18:42 J -15611573.84 -15611573.72 -15611573.59 0.0286 0.0192

Saturn -47455-01-31 13:54 J -15611485.08 -15611484.92 -15611484.75 0.0286 0.0069

Saturn -47455-04-30 09:35 J -15611396.27 -15611396.10 -15611395.94 0.0285 0.0057

Mars -47455-06-20 09:06 J -15611345.22 -15611345.12 -15611345.03 0.1625 0.1132

Saturn -47455-07-28 05:16 J -15611307.40 -15611307.28 -15611307.15 0.0285 0.0185

Mars -47453-05-25 20:38 J -15610639.72 -15610639.64 -15610639.55 0.1641 0.1260

Moon -47453-08-21 20:09 J -15610551.77 -15610551.66 -15610551.54 0.2670 0.0665

Earth -47453-08-21 20:23 J -15610551.76 -15610551.65 -15610551.53 0.2663 0.0705 *

Jupiter -47452-12-08 19:54 J -15610077.73 -15610077.67 -15610077.59 0.0489 0.0443

Jupiter -47451-03-08 15:50 J -15609988.00 -15609987.84 -15609987.68 0.0488 0.0160

Uranus -47451-08-31 11:45 J -15609812.09 -15609812.01 -15609811.92 0.0146 0.0128

Uranus -47451-11-27 18:42 J -15609723.84 -15609723.72 -15609723.58 0.0146 0.0098

Moon -47450-02-22 04:04 J -15609637.46 -15609637.33 -15609637.21 0.2672 0.1236

Earth -47450-02-22 04:04 J -15609637.46 -15609637.33 -15609637.21 0.2666 0.1198 *

Uranus -47450-02-24 01:54 J -15609635.57 -15609635.42 -15609635.26 0.0146 0.0067

Uranus -47450-05-23 09:06 J -15609547.29 -15609547.12 -15609546.95 0.0146 0.0036

Uranus -47450-08-19 16:18 J -15609459.00 -15609458.82 -15609458.64 0.0146 0.0004

Uranus -47450-11-15 23:30 J -15609370.69 -15609370.52 -15609370.34 0.0146 0.0027

Uranus -47449-02-12 06:57 J -15609282.38 -15609282.21 -15609282.05 0.0146 0.0059

Uranus -47449-05-10 14:09 J -15609194.05 -15609193.91 -15609193.77 0.0146 0.0091

Uranus -47449-08-06 21:35 J -15609105.69 -15609105.60 -15609105.50 0.0146 0.0123

Earth -47447-08-31 22:18 J -15608350.59 -15608350.57 -15608350.56 0.2670 0.2633

Jupiter -47445-02-09 19:26 J -15607823.81 -15607823.69 -15607823.57 0.0539 0.0257

Jupiter -47445-05-09 08:23 J -15607734.24 -15607734.15 -15607734.07 0.0540 0.0415

Mars -47444-10-16 05:59 J -15607209.37 -15607209.25 -15607209.13 0.1637 0.0687

Moon -47443-02-14 05:16 J -15607088.35 -15607088.28 -15607088.21 0.2667 0.2255

Earth -47443-02-14 06:28 J -15607088.30 -15607088.23 -15607088.16 0.2671 0.2244 *

Neptune -47441-03-12 21:21 J -15606330.63 -15606330.61 -15606330.56 0.0088 0.0086

Neptune -47441-06-08 23:30 J -15606242.58 -15606242.52 -15606242.45 0.0088 0.0079

Mars -47441-07-13 03:50 J -15606208.47 -15606208.34 -15606208.22 0.1898 0.0901

Neptune -47441-09-05 01:11 J -15606154.52 -15606154.45 -15606154.35 0.0088 0.0072

Neptune -47441-12-02 03:06 J -15606066.46 -15606066.37 -15606066.26 0.0088 0.0066

Saturn -47441-12-02 18:57 J -15606065.75 -15606065.71 -15606065.66 0.0273 0.0258

Neptune -47440-02-28 05:02 J -15605978.39 -15605978.29 -15605978.17 0.0088 0.0059

Saturn -47440-03-01 08:09 J -15605977.27 -15605977.16 -15605977.04 0.0274 0.0163

Neptune -47440-05-27 07:11 J -15605890.32 -15605890.20 -15605890.08 0.0088 0.0052

Saturn -47440-05-28 20:52 J -15605888.76 -15605888.63 -15605888.49 0.0274 0.0069

Neptune -47440-08-23 08:38 J -15605802.25 -15605802.14 -15605802.00 0.0088 0.0046

Earth -47440-08-24 16:33 J -15605800.93 -15605800.81 -15605800.69 0.2665 0.0219

Moon -47440-08-24 16:47 J -15605800.92 -15605800.80 -15605800.68 0.2671 0.0204 *

Saturn -47440-08-25 09:35 J -15605800.24 -15605800.10 -15605799.96 0.0275 0.0026

Neptune -47440-11-19 10:47 J -15605714.18 -15605714.05 -15605713.92 0.0088 0.0039

Saturn -47440-11-21 22:04 J -15605711.70 -15605711.58 -15605711.45 0.0275 0.0119

Jupiter -47440-12-25 16:04 J -15605677.99 -15605677.83 -15605677.66 0.0488 0.0013

Neptune -47439-02-15 12:28 J -15605626.11 -15605625.98 -15605625.83 0.0088 0.0032

Saturn -47439-02-18 10:18 J -15605623.15 -15605623.07 -15605622.97 0.0276 0.0211

Neptune -47439-05-14 14:23 J -15605538.04 -15605537.90 -15605537.75 0.0088 0.0025

Neptune -47439-08-10 16:18 J -15605449.97 -15605449.82 -15605449.68 0.0088 0.0019

Neptune -47439-11-06 17:59 J -15605361.89 -15605361.75 -15605361.60 0.0088 0.0012

Neptune -47438-02-02 19:54 J -15605273.82 -15605273.67 -15605273.52 0.0088 0.0006

Neptune -47438-05-01 21:35 J -15605185.74 -15605185.60 -15605185.45 0.0088 0.0003

Neptune -47438-07-28 23:30 J -15605097.67 -15605097.52 -15605097.37 0.0088 0.0007

Neptune -47438-10-25 01:11 J -15605009.59 -15605009.45 -15605009.30 0.0088 0.0014

Neptune -47437-01-21 02:52 J -15604921.52 -15604921.38 -15604921.23 0.0088 0.0021

Earth -47437-02-25 05:45 J -15604886.30 -15604886.26 -15604886.21 0.2664 0.2492

Moon -47437-02-25 06:28 J -15604886.26 -15604886.23 -15604886.19 0.2670 0.2581 *

Neptune -47437-04-18 04:47 J -15604833.44 -15604833.30 -15604833.16 0.0088 0.0027

Neptune -47437-07-15 06:28 J -15604745.36 -15604745.23 -15604745.09 0.0088 0.0033

Neptune -47437-10-11 08:09 J -15604657.28 -15604657.16 -15604657.02 0.0088 0.0040

Venus -47437-10-14 19:11 J -15604653.78 -15604653.70 -15604653.63 0.3707 0.2550

Neptune -47436-01-07 10:04 J -15604569.20 -15604569.08 -15604568.96 0.0088 0.0046

Neptune -47436-04-05 11:30 J -15604481.12 -15604481.02 -15604480.89 0.0088 0.0053

Neptune -47436-07-02 13:26 J -15604393.04 -15604392.94 -15604392.83 0.0089 0.0059

Neptune -47436-09-28 14:52 J -15604304.96 -15604304.88 -15604304.77 0.0089 0.0066

Neptune -47436-12-25 16:47 J -15604216.88 -15604216.80 -15604216.71 0.0089 0.0071

Neptune -47435-03-23 18:28 J -15604128.79 -15604128.73 -15604128.65 0.0089 0.0078

Neptune -47435-06-19 20:23 J -15604040.69 -15604040.65 -15604040.60 0.0089 0.0084

Mars -47434-03-08 15:06 J -15603779.00 -15603778.87 -15603778.74 0.1632 0.0114

Jupiter -47434-11-28 21:21 J -15603513.69 -15603513.61 -15603513.53 0.0538 0.0432

Jupiter -47433-02-26 10:33 J -15603424.18 -15603424.06 -15603423.94 0.0540 0.0247

Moon -47433-08-17 08:09 J -15603251.19 -15603251.16 -15603251.12 0.2660 0.2505

Earth -47433-08-17 09:06 J -15603251.17 -15603251.12 -15603251.07 0.2660 0.2388 *

Mars -47432-12-03 04:33 J -15602778.45 -15602778.31 -15602778.17 0.1904 0.0305

Venus -47431-04-30 11:45 J -15602630.12 -15602630.01 -15602629.91 0.3711 0.0280

Moon -47430-02-17 05:59 J -15602337.37 -15602337.25 -15602337.12 0.2671 0.1227

Earth -47430-02-17 07:11 J -15602337.33 -15602337.20 -15602337.07 0.2669 0.1060 *

Jupiter -47428-10-13 16:47 J -15601367.95 -15601367.80 -15601367.64 0.0488 0.0141

Jupiter -47427-01-11 13:26 J -15601277.97 -15601277.94 -15601277.90 0.0487 0.0473

Earth -47427-08-27 12:14 J -15601050.10 -15601049.99 -15601049.88 0.2667 0.1082

Moon -47427-08-27 12:57 J -15601050.06 -15601049.96 -15601049.85 0.2669 0.1151 *

Saturn -47426-03-23 20:09 J -15600841.76 -15600841.66 -15600841.55 0.0286 0.0220

Saturn -47426-06-20 15:21 J -15600753.01 -15600752.86 -15600752.70 0.0286 0.0097

Saturn -47426-09-17 10:47 J -15600664.22 -15600664.05 -15600663.88 0.0285 0.0029

Venus -47426-11-14 04:04 J -15600606.42 -15600606.33 -15600606.24 0.3716 0.2013

Saturn -47426-12-15 06:42 J -15600575.37 -15600575.22 -15600575.08 0.0285 0.0156

Mars -47425-07-29 00:14 J -15600348.62 -15600348.49 -15600348.37 0.1628 0.0467

Mars -47422-04-25 05:45 J -15599348.34 -15599348.26 -15599348.17 0.1910 0.1480

Jupiter -47422-12-15 12:28 J -15599114.11 -15599113.98 -15599113.84 0.0540 0.0072

Moon -47420-08-20 04:47 J -15598500.40 -15598500.30 -15598500.20 0.2665 0.1445

Earth -47420-08-20 05:30 J -15598500.37 -15598500.27 -15598500.17 0.2662 0.1451 *

Moon -47417-02-20 07:26 J -15597586.32 -15597586.19 -15597586.05 0.2672 0.0186

Earth -47417-02-20 08:23 J -15597586.29 -15597586.15 -15597586.01 0.2667 0.0157 *

Jupiter -47416-08-01 17:59 J -15597057.88 -15597057.75 -15597057.62 0.0489 0.0283

Jupiter -47416-10-30 14:09 J -15596968.03 -15596967.91 -15596967.79 0.0487 0.0324

Mars -47416-12-19 09:06 J -15596918.22 -15596918.12 -15596918.02 0.1625 0.1049

Earth -47414-08-30 07:54 J -15596299.25 -15596299.17 -15596299.09 0.2669 0.1944

Moon -47414-08-30 08:38 J -15596299.22 -15596299.14 -15596299.07 0.2666 0.2037 *

Mars -47414-11-24 20:52 J -15596212.70 -15596212.63 -15596212.56 0.1641 0.1339

Venus -47412-09-10 12:28 J -15595557.12 -15595556.98 -15595556.85 0.3669 0.1374

Saturn -47411-07-19 10:04 J -15595245.18 -15595245.08 -15595244.97 0.0273 0.0189

Saturn -47411-10-15 23:02 J -15595156.67 -15595156.54 -15595156.40 0.0273 0.0094

Saturn -47410-01-12 11:45 J -15595068.15 -15595068.01 -15595067.87 0.0274 0.0004

Saturn -47410-04-11 00:14 J -15594979.62 -15594979.49 -15594979.35 0.0274 0.0092

Saturn -47410-07-08 12:28 J -15594891.08 -15594890.98 -15594890.87 0.0275 0.0184

Jupiter -47410-10-03 15:21 J -15594804.00 -15594803.86 -15594803.73 0.0540 0.0091

Saturn -47410-10-05 00:42 J -15594802.48 -15594802.47 -15594802.46 0.0275 0.0274

Uranus -47409-03-27 19:40 J -15594627.73 -15594627.68 -15594627.61 0.0132 0.0119

Uranus -47409-06-23 23:16 J -15594539.62 -15594539.53 -15594539.43 0.0132 0.0100

Uranus -47409-09-20 02:52 J -15594451.49 -15594451.38 -15594451.27 0.0132 0.0081

Uranus -47409-12-17 06:28 J -15594363.36 -15594363.23 -15594363.11 0.0132 0.0062

Uranus -47408-03-15 09:50 J -15594275.22 -15594275.09 -15594274.95 0.0132 0.0044

Uranus -47408-06-11 13:26 J -15594187.08 -15594186.94 -15594186.80 0.0132 0.0025

Uranus -47408-09-07 16:47 J -15594098.94 -15594098.80 -15594098.66 0.0132 0.0007

Uranus -47408-12-04 20:09 J -15594010.80 -15594010.66 -15594010.52 0.0132 0.0012

Uranus -47407-03-02 23:30 J -15593922.65 -15593922.52 -15593922.38 0.0132 0.0030

Uranus -47407-05-30 02:52 J -15593834.50 -15593834.38 -15593834.24 0.0132 0.0048

Moon -47407-08-23 01:26 J -15593749.55 -15593749.44 -15593749.32 0.2671 0.0620

Earth -47407-08-23 01:40 J -15593749.55 -15593749.43 -15593749.31 0.2664 0.0533 *

Uranus -47407-08-26 06:28 J -15593746.36 -15593746.23 -15593746.11 0.0132 0.0065

Uranus -47407-11-22 09:35 J -15593658.20 -15593658.10 -15593657.99 0.0132 0.0083

Uranus -47406-02-18 12:57 J -15593570.04 -15593569.96 -15593569.87 0.0132 0.0101

Uranus -47406-05-17 16:04 J -15593481.88 -15593481.83 -15593481.76 0.0132 0.0119

Earth -47404-02-22 09:50 J -15592835.21 -15592835.09 -15592834.97 0.2666 0.1417

Moon -47404-02-22 10:04 J -15592835.20 -15592835.08 -15592834.96 0.2672 0.1376 *

Mars -47404-04-16 05:59 J -15592782.36 -15592782.25 -15592782.13 0.1637 0.0772

Jupiter -47404-05-20 18:42 J -15592747.79 -15592747.72 -15592747.64 0.0489 0.0431

Jupiter -47404-08-18 14:23 J -15592658.06 -15592657.90 -15592657.74 0.0488 0.0170

Mars -47401-01-12 04:04 J -15591781.45 -15591781.33 -15591781.20 0.1897 0.1027

Jupiter -47398-07-22 17:59 J -15590493.87 -15590493.75 -15590493.63 0.0539 0.0251

Jupiter -47398-10-20 06:57 J -15590404.29 -15590404.21 -15590404.12 0.0541 0.0424

Moon -47397-02-15 11:02 J -15590286.12 -15590286.04 -15590285.96 0.2668 0.2149

Earth -47397-02-15 12:14 J -15590286.08 -15590285.99 -15590285.90 0.2671 0.2033 *

Saturn -47397-08-09 17:45 J -15590109.80 -15590109.76 -15590109.70 0.0287 0.0270

Saturn -47397-11-06 12:42 J -15590021.11 -15590020.97 -15590020.82 0.0286 0.0148

Saturn -47396-02-03 08:09 J -15589932.33 -15589932.16 -15589931.99 0.0286 0.0024

Saturn -47396-05-03 03:35 J -15589843.50 -15589843.35 -15589843.19 0.0285 0.0103

Saturn -47396-07-30 23:30 J -15589754.61 -15589754.52 -15589754.41 0.0284 0.0231

Mars -47395-09-06 15:21 J -15589351.99 -15589351.86 -15589351.73 0.1633 0.0198

Earth -47394-08-25 21:35 J -15588998.72 -15588998.60 -15588998.48 0.2665 0.0363

Moon -47394-08-25 22:04 J -15588998.70 -15588998.58 -15588998.46 0.2671 0.0448 *

Mars -47392-06-03 05:02 J -15588351.44 -15588351.29 -15588351.15 0.1903 0.0186

Jupiter -47392-06-06 14:52 J -15588348.04 -15588347.88 -15588347.71 0.0488 0.0023

Moon -47387-08-18 13:26 J -15586449.00 -15586448.94 -15586448.88 0.2660 0.2259

Earth -47387-08-18 14:23 J -15586448.97 -15586448.90 -15586448.84 0.2661 0.2221 *

Jupiter -47386-05-10 20:09 J -15586183.74 -15586183.66 -15586183.57 0.0538 0.0420

Jupiter -47386-08-08 09:35 J -15586094.22 -15586094.10 -15586093.98 0.0540 0.0260

Mars -47385-01-28 00:28 J -15585921.61 -15585921.48 -15585921.36 0.1629 0.0382

Pluto -47385-04-25 19:40 J -15585832.74 -15585832.68 -15585832.63 0.0081 0.0074

Pluto -47385-07-22 20:52 J -15585744.70 -15585744.63 -15585744.53 0.0081 0.0066

Pluto -47385-10-18 22:47 J -15585656.65 -15585656.55 -15585656.44 0.0081 0.0057

Pluto -47384-01-15 00:14 J -15585568.60 -15585568.49 -15585568.36 0.0081 0.0049

Moon -47384-02-17 11:45 J -15585535.14 -15585535.01 -15585534.88 0.2672 0.0866

Earth -47384-02-17 12:57 J -15585535.09 -15585534.96 -15585534.83 0.2669 0.0854 *

Pluto -47384-04-13 01:54 J -15585480.54 -15585480.42 -15585480.29 0.0080 0.0040

Pluto -47384-07-10 03:35 J -15585392.49 -15585392.35 -15585392.21 0.0080 0.0031

Pluto -47384-10-06 05:02 J -15585304.43 -15585304.29 -15585304.14 0.0080 0.0023

Pluto -47383-01-02 06:28 J -15585216.37 -15585216.23 -15585216.08 0.0080 0.0015

Pluto -47383-03-31 08:09 J -15585128.31 -15585128.16 -15585128.01 0.0080 0.0007

Pluto -47383-06-27 09:35 J -15585040.24 -15585040.10 -15585039.95 0.0080 0.0002

Pluto -47383-09-23 11:02 J -15584952.18 -15584952.04 -15584951.89 0.0080 0.0010

Mars -47383-10-24 06:14 J -15584921.34 -15584921.24 -15584921.15 0.1909 0.1364

Pluto -47383-12-20 12:28 J -15584864.12 -15584863.98 -15584863.83 0.0080 0.0018

Pluto -47382-03-18 13:54 J -15584776.05 -15584775.92 -15584775.78 0.0079 0.0026

Pluto -47382-06-14 15:21 J -15584687.99 -15584687.86 -15584687.72 0.0079 0.0034

Pluto -47382-09-10 16:47 J -15584599.92 -15584599.80 -15584599.67 0.0079 0.0041

Saturn -47382-12-06 11:30 J -15584513.11 -15584513.02 -15584512.94 0.0273 0.0221

Pluto -47382-12-07 18:14 J -15584511.85 -15584511.74 -15584511.62 0.0079 0.0049

Saturn -47381-03-04 00:14 J -15584424.61 -15584424.49 -15584424.36 0.0274 0.0127

Pluto -47381-03-04 19:26 J -15584423.78 -15584423.69 -15584423.58 0.0079 0.0057

Saturn -47381-05-31 13:11 J -15584336.09 -15584335.95 -15584335.81 0.0274 0.0032

Pluto -47381-05-31 21:06 J -15584335.70 -15584335.62 -15584335.54 0.0079 0.0064

Earth -47381-08-27 17:16 J -15584247.88 -15584247.78 -15584247.67 0.2667 0.1242

Moon -47381-08-27 18:14 J -15584247.85 -15584247.74 -15584247.64 0.2670 0.1295 *

Pluto -47381-08-27 22:18 J -15584247.62 -15584247.57 -15584247.50 0.0079 0.0072

Saturn -47381-08-28 01:40 J -15584247.57 -15584247.43 -15584247.29 0.0275 0.0061 *

Saturn -47381-11-24 14:09 J -15584159.03 -15584158.91 -15584158.79 0.0275 0.0153

Saturn -47380-02-21 02:09 J -15584070.46 -15584070.41 -15584070.34 0.0276 0.0245

Jupiter -47380-03-25 15:21 J -15584038.02 -15584037.86 -15584037.70 0.0489 0.0132

Venus -47380-05-21 16:47 J -15583980.90 -15583980.80 -15583980.71 0.3708 0.1678

Jupiter -47380-06-23 11:59 J -15583948.02 -15583948.00 -15583947.98 0.0487 0.0483

Mars -47376-06-19 09:21 J -15582491.21 -15582491.11 -15582491.00 0.1625 0.0964

Venus -47375-12-05 09:21 J -15581957.22 -15581957.11 -15581957.01 0.3712 0.0615

Mars -47374-05-25 21:06 J -15581785.69 -15581785.62 -15581785.56 0.1641 0.1424

Jupiter -47374-05-27 11:45 J -15581784.14 -15581784.01 -15581783.87 0.0540 0.0092

Moon -47374-08-21 10:04 J -15581698.18 -15581698.08 -15581697.98 0.2667 0.1390

Earth -47374-08-21 10:47 J -15581698.16 -15581698.05 -15581697.95 0.2662 0.1285 *

Moon -47371-02-20 13:26 J -15580784.07 -15580783.94 -15580783.80 0.2672 0.0256

Earth -47371-02-20 14:09 J -15580784.05 -15580783.91 -15580783.77 0.2667 0.0375 *

Venus -47369-06-20 01:40 J -15579933.50 -15579933.43 -15579933.36 0.3717 0.2852

Jupiter -47368-01-11 16:18 J -15579727.95 -15579727.82 -15579727.68 0.0489 0.0277

Jupiter -47368-04-11 12:28 J -15579638.10 -15579637.98 -15579637.86 0.0487 0.0332

Earth -47368-08-30 12:57 J -15579497.03 -15579496.96 -15579496.89 0.2669 0.2096

Moon -47368-08-30 13:40 J -15579497.00 -15579496.93 -15579496.86 0.2665 0.2129 *

Saturn -47367-03-26 13:40 J -15579289.06 -15579288.93 -15579288.80 0.0286 0.0179

Saturn -47367-06-23 08:52 J -15579200.29 -15579200.13 -15579199.96 0.0286 0.0055

Saturn -47367-09-20 04:33 J -15579111.48 -15579111.31 -15579111.15 0.0285 0.0072

Uranus -47367-09-20 19:11 J -15579110.79 -15579110.70 -15579110.60 0.0146 0.0120

Mars -47367-11-09 18:14 J -15579060.77 -15579060.74 -15579060.70 0.1621 0.1547

Saturn -47367-12-18 00:14 J -15579022.60 -15579022.49 -15579022.36 0.0285 0.0200

Uranus -47367-12-18 02:09 J -15579022.54 -15579022.41 -15579022.26 0.0146 0.0089 *

Uranus -47366-03-16 09:21 J -15578934.27 -15578934.11 -15578933.95 0.0146 0.0058

Uranus -47366-06-12 16:33 J -15578845.98 -15578845.81 -15578845.64 0.0146 0.0027

Uranus -47366-09-08 23:45 J -15578757.69 -15578757.51 -15578757.34 0.0146 0.0004

Uranus -47366-12-06 06:57 J -15578669.38 -15578669.21 -15578669.04 0.0146 0.0035

Uranus -47365-03-03 14:09 J -15578581.06 -15578580.91 -15578580.75 0.0146 0.0067

Uranus -47365-05-30 21:21 J -15578492.73 -15578492.61 -15578492.47 0.0146 0.0100

Uranus -47365-08-27 04:47 J -15578404.37 -15578404.30 -15578404.21 0.0146 0.0131

Mars -47365-10-15 06:14 J -15578355.35 -15578355.24 -15578355.13 0.1637 0.0850

Jupiter -47362-03-15 13:26 J -15577474.07 -15577473.94 -15577473.80 0.0540 0.0090

Mars -47362-07-13 04:18 J -15577354.43 -15577354.32 -15577354.20 0.1898 0.1134

Moon -47361-08-23 06:42 J -15576947.34 -15576947.22 -15576947.10 0.2671 0.0319

Earth -47361-08-23 06:42 J -15576947.34 -15576947.22 -15576947.10 0.2664 0.0380 *

Neptune -47359-03-05 14:52 J -15576387.91 -15576387.88 -15576387.82 0.0089 0.0085

Neptune -47359-06-01 17:16 J -15576299.84 -15576299.78 -15576299.68 0.0089 0.0078

Neptune -47359-08-28 20:09 J -15576211.76 -15576211.66 -15576211.56 0.0089 0.0070

Neptune -47359-11-24 22:33 J -15576123.67 -15576123.56 -15576123.44 0.0089 0.0063

Neptune -47358-02-21 00:57 J -15576035.58 -15576035.46 -15576035.32 0.0089 0.0056

Earth -47358-02-23 15:50 J -15576032.95 -15576032.84 -15576032.73 0.2665 0.1640

Moon -47358-02-23 16:04 J -15576032.94 -15576032.83 -15576032.73 0.2672 0.1742 *

Neptune -47358-05-20 03:21 J -15575947.49 -15575947.36 -15575947.21 0.0089 0.0049

Neptune -47358-08-16 05:59 J -15575859.39 -15575859.25 -15575859.09 0.0089 0.0041

Neptune -47358-11-12 08:23 J -15575771.29 -15575771.15 -15575770.98 0.0089 0.0034

Neptune -47357-02-08 11:16 J -15575683.19 -15575683.03 -15575682.87 0.0089 0.0026

Neptune -47357-05-06 13:40 J -15575595.09 -15575594.93 -15575594.76 0.0089 0.0019

Neptune -47357-08-02 16:18 J -15575506.99 -15575506.82 -15575506.65 0.0089 0.0011

Neptune -47357-10-29 18:57 J -15575418.88 -15575418.71 -15575418.54 0.0089 0.0004

Jupiter -47357-10-30 17:45 J -15575417.84 -15575417.76 -15575417.68 0.0489 0.0417

Neptune -47356-01-25 21:35 J -15575330.77 -15575330.60 -15575330.43 0.0089 0.0004

Jupiter -47356-01-28 13:26 J -15575328.10 -15575327.94 -15575327.79 0.0488 0.0185

Neptune -47356-04-23 23:59 J -15575242.66 -15575242.50 -15575242.33 0.0089 0.0012

Neptune -47356-07-21 02:38 J -15575154.55 -15575154.39 -15575154.22 0.0089 0.0019

Neptune -47356-10-17 05:16 J -15575066.44 -15575066.28 -15575066.12 0.0089 0.0027

Neptune -47355-01-13 07:40 J -15574978.32 -15574978.18 -15574978.01 0.0089 0.0035

Mars -47355-03-07 15:21 J -15574924.98 -15574924.86 -15574924.73 0.1633 0.0284

Neptune -47355-04-11 10:33 J -15574890.21 -15574890.06 -15574889.91 0.0089 0.0042

Venus -47355-04-17 13:11 J -15574884.09 -15574883.95 -15574883.81 0.3667 0.0458

Neptune -47355-07-08 12:57 J -15574802.09 -15574801.96 -15574801.81 0.0089 0.0050

Neptune -47355-10-04 15:35 J -15574713.97 -15574713.85 -15574713.71 0.0089 0.0058

Neptune -47355-12-31 18:14 J -15574625.84 -15574625.74 -15574625.61 0.0089 0.0066

Neptune -47354-03-29 21:06 J -15574537.71 -15574537.62 -15574537.52 0.0089 0.0073

Neptune -47354-06-25 23:45 J -15574449.57 -15574449.51 -15574449.43 0.0089 0.0081

Neptune -47354-09-22 02:38 J -15574361.39 -15574361.39 -15574361.38 0.0089 0.0089

Mars -47353-12-02 05:30 J -15573924.42 -15573924.27 -15573924.13 0.1903 0.0069

Saturn -47352-04-24 13:26 J -15573780.99 -15573780.94 -15573780.88 0.0272 0.0247

Saturn -47352-07-22 02:23 J -15573692.51 -15573692.40 -15573692.27 0.0273 0.0153

Saturn -47352-10-18 15:21 J -15573604.00 -15573603.86 -15573603.72 0.0273 0.0058

Saturn -47351-01-15 03:50 J -15573515.48 -15573515.34 -15573515.20 0.0274 0.0035

Moon -47351-02-15 16:47 J -15573483.89 -15573483.80 -15573483.70 0.2669 0.1896

Earth -47351-02-15 17:59 J -15573483.85 -15573483.75 -15573483.65 0.2671 0.1824 *

Saturn -47351-04-13 16:18 J -15573426.94 -15573426.82 -15573426.69 0.0274 0.0127

Saturn -47351-07-11 04:33 J -15573338.39 -15573338.31 -15573338.22 0.0275 0.0217

Jupiter -47350-01-01 16:04 J -15573163.95 -15573163.83 -15573163.71 0.0539 0.0253

Jupiter -47350-04-01 05:16 J -15573074.36 -15573074.28 -15573074.20 0.0541 0.0423

Earth -47348-08-26 02:38 J -15572196.50 -15572196.39 -15572196.27 0.2666 0.0527

Moon -47348-08-26 03:21 J -15572196.48 -15572196.36 -15572196.25 0.2670 0.0508 *

Mars -47346-07-29 00:28 J -15571494.61 -15571494.48 -15571494.35 0.1629 0.0299

Jupiter -47345-11-16 13:54 J -15571018.09 -15571017.92 -15571017.76 0.0488 0.0035

Mars -47343-04-24 06:28 J -15570494.34 -15570494.23 -15570494.12 0.1909 0.1242

Moon -47341-08-18 18:42 J -15569646.79 -15569646.72 -15569646.65 0.2661 0.2142

Earth -47341-08-18 19:26 J -15569646.76 -15569646.69 -15569646.61 0.2661 0.2051 *

Jupiter -47339-10-20 18:42 J -15568853.80 -15568853.72 -15568853.63 0.0539 0.0414

Jupiter -47338-01-18 08:23 J -15568764.27 -15568764.15 -15568764.03 0.0541 0.0268

Moon -47338-02-18 17:45 J -15568732.90 -15568732.76 -15568732.63 0.2672 0.0789

Earth -47338-02-18 18:57 J -15568732.85 -15568732.71 -15568732.58 0.2669 0.0640 *

Saturn -47338-08-13 11:02 J -15568557.13 -15568557.04 -15568556.93 0.0287 0.0230

Saturn -47338-11-10 06:14 J -15568468.39 -15568468.24 -15568468.08 0.0286 0.0106

Saturn -47337-02-07 01:40 J -15568379.60 -15568379.43 -15568379.26 0.0286 0.0019

Saturn -47337-05-05 21:21 J -15568290.75 -15568290.61 -15568290.46 0.0285 0.0146

Saturn -47337-08-02 17:30 J -15568201.81 -15568201.77 -15568201.73 0.0284 0.0274

Mars -47337-12-18 09:35 J -15568064.21 -15568064.10 -15568063.99 0.1625 0.0875

Earth -47335-08-28 22:18 J -15567445.67 -15567445.57 -15567445.47 0.2667 0.1397

Moon -47335-08-28 23:16 J -15567445.63 -15567445.53 -15567445.43 0.2669 0.1487 *

Mars -47335-11-23 21:06 J -15567358.67 -15567358.62 -15567358.57 0.1641 0.1504

Jupiter -47333-09-04 14:23 J -15566708.05 -15566707.90 -15566707.73 0.0488 0.0118

Venus -47329-06-11 21:50 J -15565331.64 -15565331.59 -15565331.54 0.3704 0.3129

Moon -47328-08-21 15:21 J -15564895.97 -15564895.86 -15564895.75 0.2668 0.1123

Earth -47328-08-21 15:50 J -15564895.95 -15564895.84 -15564895.73 0.2663 0.1119 *

Mars -47327-05-10 18:28 J -15564633.78 -15564633.73 -15564633.67 0.1621 0.1458

Jupiter -47327-11-06 10:47 J -15564454.18 -15564454.05 -15564453.91 0.0540 0.0106

Moon -47325-02-21 19:40 J -15563981.82 -15563981.68 -15563981.55 0.2673 0.0645

Earth -47325-02-21 19:54 J -15563981.80 -15563981.67 -15563981.53 0.2667 0.0596 *

Mars -47325-04-15 06:28 J -15563928.34 -15563928.23 -15563928.13 0.1637 0.0936

Uranus -47325-04-17 02:38 J -15563926.45 -15563926.39 -15563926.31 0.0132 0.0114

Uranus -47325-07-14 06:28 J -15563838.33 -15563838.23 -15563838.13 0.0132 0.0095

Uranus -47325-10-10 09:50 J -15563750.20 -15563750.09 -15563749.97 0.0132 0.0077

Uranus -47324-01-06 13:26 J -15563662.07 -15563661.94 -15563661.81 0.0132 0.0058

Uranus -47324-04-04 16:47 J -15563573.93 -15563573.80 -15563573.66 0.0132 0.0040

Uranus -47324-07-01 20:23 J -15563485.79 -15563485.65 -15563485.51 0.0132 0.0021

Uranus -47324-09-27 23:45 J -15563397.65 -15563397.51 -15563397.37 0.0132 0.0004

Uranus -47324-12-25 03:06 J -15563309.51 -15563309.37 -15563309.23 0.0132 0.0016

Venus -47324-12-26 14:23 J -15563308.00 -15563307.90 -15563307.79 0.3709 0.0820

Uranus -47323-03-23 06:28 J -15563221.36 -15563221.23 -15563221.09 0.0132 0.0034

Uranus -47323-06-19 09:50 J -15563133.21 -15563133.09 -15563132.95 0.0132 0.0052

Uranus -47323-09-15 13:11 J -15563045.06 -15563044.95 -15563044.83 0.0132 0.0070

Saturn -47323-12-09 03:21 J -15562960.46 -15562960.36 -15562960.25 0.0273 0.0187

Uranus -47323-12-12 16:33 J -15562956.91 -15562956.81 -15562956.70 0.0132 0.0088

Mars -47322-01-11 04:47 J -15562927.41 -15562927.30 -15562927.19 0.1897 0.1260

Saturn -47322-03-07 16:18 J -15562871.95 -15562871.82 -15562871.68 0.0274 0.0092

Uranus -47322-03-10 19:54 J -15562868.75 -15562868.67 -15562868.58 0.0132 0.0105

Saturn -47322-06-04 05:02 J -15562783.43 -15562783.29 -15562783.15 0.0274 0.0002

Uranus -47322-06-06 23:02 J -15562780.58 -15562780.54 -15562780.48 0.0132 0.0123

Saturn -47322-08-31 17:30 J -15562694.90 -15562694.77 -15562694.64 0.0275 0.0094

Earth -47322-08-31 17:59 J -15562694.81 -15562694.75 -15562694.69 0.2669 0.2248 *

Moon -47322-08-31 18:42 J -15562694.78 -15562694.72 -15562694.66 0.2665 0.2292 *

Saturn -47322-11-28 05:45 J -15562606.36 -15562606.26 -15562606.15 0.0275 0.0186

Jupiter -47321-06-23 15:06 J -15562398.01 -15562397.87 -15562397.73 0.0489 0.0266

Jupiter -47321-09-21 11:16 J -15562308.15 -15562308.03 -15562307.91 0.0488 0.0343

Venus -47318-07-12 06:57 J -15561284.31 -15561284.21 -15561284.12 0.3714 0.1450

Mars -47316-09-05 15:35 J -15560497.98 -15560497.85 -15560497.72 0.1633 0.0363

Moon -47315-08-24 11:59 J -15560145.12 -15560145.00 -15560144.88 0.2671 0.0277

Earth -47315-08-24 11:59 J -15560145.12 -15560145.00 -15560144.88 0.2664 0.0215 *

Jupiter -47315-08-25 13:11 J -15560144.09 -15560143.95 -15560143.82 0.0539 0.0068

Mars -47313-06-02 05:30 J -15559497.41 -15559497.27 -15559497.12 0.1903 0.0065

Venus -47312-01-24 23:16 J -15559260.54 -15559260.53 -15559260.52 0.3718 0.3696

Earth -47312-02-23 21:35 J -15559230.70 -15559230.60 -15559230.50 0.2665 0.1861

Moon -47312-02-23 21:50 J -15559230.69 -15559230.59 -15559230.48 0.2672 0.1811 *

Jupiter -47309-04-11 16:18 J -15558087.91 -15558087.82 -15558087.73 0.0489 0.0408

Jupiter -47309-07-10 11:59 J -15557998.16 -15557998.00 -15557997.85 0.0488 0.0194

Saturn -47309-12-30 11:45 J -15557825.07 -15557825.01 -15557824.95 0.0286 0.0263

Saturn -47308-03-29 06:42 J -15557736.37 -15557736.22 -15557736.08 0.0286 0.0140

Saturn -47308-06-26 01:54 J -15557647.59 -15557647.42 -15557647.25 0.0286 0.0016

Saturn -47308-09-22 21:35 J -15557558.75 -15557558.60 -15557558.44 0.0285 0.0111

Saturn -47308-12-20 17:30 J -15557469.85 -15557469.77 -15557469.67 0.0285 0.0240

Mars -47306-01-27 00:42 J -15557067.60 -15557067.47 -15557067.34 0.1629 0.0215

Moon -47305-02-16 22:33 J -15556681.67 -15556681.56 -15556681.46 0.2670 0.1678

Earth -47305-02-16 23:45 J -15556681.62 -15556681.51 -15556681.40 0.2670 0.1618 *

Venus -47304-05-08 09:35 J -15556235.18 -15556235.10 -15556235.01 0.3672 0.2929

Mars -47304-10-23 06:42 J -15556067.33 -15556067.22 -15556067.10 0.1909 0.1129

Jupiter -47303-06-13 14:23 J -15555834.02 -15555833.90 -15555833.77 0.0539 0.0251

Jupiter -47303-09-11 03:35 J -15555744.43 -15555744.35 -15555744.27 0.0541 0.0425

Earth -47302-08-27 07:54 J -15555394.29 -15555394.17 -15555394.06 0.2666 0.0687

Moon -47302-08-27 08:23 J -15555394.26 -15555394.15 -15555394.03 0.2671 0.0806 *

Venus -47299-11-22 14:09 J -15554211.03 -15554210.91 -15554210.80 0.3666 0.2305

Jupiter -47297-04-28 12:57 J -15553688.13 -15553687.96 -15553687.80 0.0488 0.0049

Mars -47297-06-18 09:50 J -15553637.21 -15553637.09 -15553636.98 0.1625 0.0790

Mars -47295-05-24 21:06 J -15552931.64 -15552931.62 -15552931.58 0.1642 0.1585

Moon -47295-08-19 23:45 J -15552844.59 -15552844.51 -15552844.42 0.2662 0.1956

Earth -47295-08-20 00:42 J -15552844.55 -15552844.47 -15552844.38 0.2661 0.1881 *

Saturn -47293-04-27 05:45 J -15552228.35 -15552228.26 -15552228.17 0.0273 0.0211

Saturn -47293-07-24 18:42 J -15552139.85 -15552139.72 -15552139.59 0.0273 0.0117

Saturn -47293-10-21 07:26 J -15552051.33 -15552051.19 -15552051.05 0.0273 0.0024

Saturn -47292-01-17 19:54 J -15551962.81 -15551962.67 -15551962.53 0.0274 0.0069

Moon -47292-02-18 23:30 J -15551930.65 -15551930.52 -15551930.38 0.2672 0.0456

Earth -47292-02-19 00:42 J -15551930.61 -15551930.47 -15551930.34 0.2668 0.0425 *

Saturn -47292-04-16 08:09 J -15551874.27 -15551874.16 -15551874.04 0.0274 0.0161

Saturn -47292-07-13 20:23 J -15551785.70 -15551785.65 -15551785.59 0.0275 0.0251

Jupiter -47291-04-01 17:02 J -15551523.88 -15551523.79 -15551523.70 0.0539 0.0416

Jupiter -47291-06-30 06:28 J -15551434.35 -15551434.23 -15551434.11 0.0541 0.0267

Earth -47289-08-29 03:35 J -15550643.45 -15550643.35 -15550643.26 0.2668 0.1553

Moon -47289-08-29 04:18 J -15550643.41 -15550643.32 -15550643.22 0.2667 0.1559 *

Mars -47288-11-08 18:42 J -15550206.79 -15550206.72 -15550206.65 0.1621 0.1373

Mars -47286-10-15 06:28 J -15549501.33 -15549501.23 -15549501.13 0.1637 0.1018

Jupiter -47285-02-15 13:26 J -15549378.10 -15549377.94 -15549377.78 0.0488 0.0102

Mars -47283-07-12 05:16 J -15548500.38 -15548500.28 -15548500.18 0.1897 0.1388

Uranus -47283-07-14 18:57 J -15548497.73 -15548497.71 -15548497.66 0.0146 0.0144

Uranus -47283-10-11 01:54 J -15548409.51 -15548409.42 -15548409.30 0.0146 0.0114

Uranus -47282-01-07 09:06 J -15548321.26 -15548321.12 -15548320.97 0.0146 0.0083

Uranus -47282-04-05 16:18 J -15548232.98 -15548232.82 -15548232.65 0.0146 0.0052

Uranus -47282-07-02 23:30 J -15548144.70 -15548144.52 -15548144.35 0.0146 0.0021

Moon -47282-08-22 20:23 J -15548093.76 -15548093.65 -15548093.54 0.2669 0.1031

Earth -47282-08-22 21:06 J -15548093.74 -15548093.62 -15548093.51 0.2663 0.0957 *

Uranus -47282-09-29 06:42 J -15548056.40 -15548056.22 -15548056.05 0.0146 0.0011

Uranus -47282-12-26 13:54 J -15547968.09 -15547967.92 -15547967.75 0.0146 0.0042

Uranus -47281-03-23 21:06 J -15547879.77 -15547879.62 -15547879.46 0.0146 0.0074

Uranus -47281-06-20 04:18 J -15547791.43 -15547791.32 -15547791.19 0.0146 0.0106

Uranus -47281-09-16 11:45 J -15547703.06 -15547703.01 -15547702.94 0.0146 0.0138

Moon -47279-02-22 01:40 J -15547179.56 -15547179.43 -15547179.30 0.2674 0.0726

Earth -47279-02-22 01:54 J -15547179.55 -15547179.42 -15547179.29 0.2667 0.0813 *

Jupiter -47279-04-18 09:35 J -15547124.24 -15547124.10 -15547123.97 0.0540 0.0112

Saturn -47279-08-16 04:04 J -15547004.45 -15547004.33 -15547004.20 0.0286 0.0191

Saturn -47279-11-12 23:16 J -15546915.69 -15546915.53 -15546915.37 0.0286 0.0068

Saturn -47278-02-09 18:42 J -15546826.88 -15546826.72 -15546826.55 0.0285 0.0058

Saturn -47278-05-09 14:23 J -15546738.02 -15546737.90 -15546737.76 0.0285 0.0186

Neptune -47277-09-10 19:26 J -15546247.69 -15546247.69 -15546247.69 0.0088 0.0088

Neptune -47277-12-07 21:06 J -15546159.67 -15546159.62 -15546159.56 0.0088 0.0082

Neptune -47276-03-05 23:16 J -15546071.61 -15546071.53 -15546071.45 0.0088 0.0075

Mars -47276-03-06 15:50 J -15546070.97 -15546070.84 -15546070.72 0.1633 0.0448

Neptune -47276-06-02 00:42 J -15545983.55 -15545983.47 -15545983.36 0.0088 0.0069

Neptune -47276-08-29 02:38 J -15545895.48 -15545895.39 -15545895.27 0.0088 0.0062

Earth -47276-08-31 23:02 J -15545892.59 -15545892.54 -15545892.49 0.2669 0.2398

Moon -47276-08-31 23:45 J -15545892.55 -15545892.51 -15545892.47 0.2665 0.2455 *

Neptune -47276-11-25 04:47 J -15545807.42 -15545807.30 -15545807.18 0.0088 0.0055

Neptune -47275-02-21 06:28 J -15545719.35 -15545719.23 -15545719.10 0.0088 0.0048

Neptune -47275-05-20 08:23 J -15545631.27 -15545631.15 -15545631.01 0.0088 0.0042

Neptune -47275-08-16 10:18 J -15545543.20 -15545543.07 -15545542.93 0.0088 0.0035

Neptune -47275-11-12 11:59 J -15545455.13 -15545455.00 -15545454.85 0.0088 0.0029

Neptune -47274-02-08 13:54 J -15545367.06 -15545366.92 -15545366.77 0.0088 0.0022

Neptune -47274-05-07 15:50 J -15545278.98 -15545278.84 -15545278.69 0.0088 0.0015

Neptune -47274-08-03 17:45 J -15545190.91 -15545190.76 -15545190.61 0.0088 0.0008

Neptune -47274-10-30 19:26 J -15545102.84 -15545102.69 -15545102.54 0.0088 0.0002

Mars -47274-12-02 05:59 J -15545070.40 -15545070.25 -15545070.11 0.1903 0.0177

Jupiter -47274-12-04 14:23 J -15545068.04 -15545067.90 -15545067.76 0.0489 0.0249

Neptune -47273-01-26 21:21 J -15545014.76 -15545014.61 -15545014.46 0.0088 0.0005

Jupiter -47273-03-03 10:18 J -15544978.18 -15544978.07 -15544977.95 0.0487 0.0359

Neptune -47273-04-23 23:02 J -15544926.68 -15544926.54 -15544926.39 0.0088 0.0011

Neptune -47273-07-21 00:57 J -15544838.61 -15544838.46 -15544838.32 0.0088 0.0018

Neptune -47273-10-17 02:23 J -15544750.53 -15544750.40 -15544750.25 0.0088 0.0025

Neptune -47272-01-13 04:18 J -15544662.45 -15544662.32 -15544662.18 0.0088 0.0031

Venus -47272-01-16 19:26 J -15544658.77 -15544658.69 -15544658.60 0.3706 0.2261

Moon -47272-02-14 04:04 J -15544630.37 -15544630.33 -15544630.30 0.2667 0.2553

Earth -47272-02-14 04:47 J -15544630.33 -15544630.30 -15544630.26 0.2672 0.2572 *

Neptune -47272-04-11 05:59 J -15544574.38 -15544574.25 -15544574.11 0.0089 0.0037

Neptune -47272-07-08 07:40 J -15544486.30 -15544486.18 -15544486.04 0.0089 0.0044

Neptune -47272-10-04 09:35 J -15544398.22 -15544398.10 -15544397.98 0.0089 0.0050

Neptune -47272-12-31 11:02 J -15544310.14 -15544310.04 -15544309.91 0.0089 0.0057

Neptune -47271-03-29 12:57 J -15544222.05 -15544221.96 -15544221.85 0.0089 0.0063

Neptune -47271-06-25 14:52 J -15544133.97 -15544133.88 -15544133.79 0.0089 0.0069

Neptune -47271-09-21 16:18 J -15544045.88 -15544045.82 -15544045.73 0.0089 0.0075

Neptune -47271-12-18 17:59 J -15543957.79 -15543957.75 -15543957.68 0.0089 0.0082

Neptune -47270-03-16 19:40 J -15543869.68 -15543869.68 -15543869.65 0.0089 0.0088

Earth -47269-08-24 17:02 J -15543342.91 -15543342.79 -15543342.67 0.2664 0.0048

Moon -47269-08-24 17:16 J -15543342.90 -15543342.78 -15543342.66 0.2671 0.0033 *

Jupiter -47267-02-04 12:14 J -15542814.13 -15542813.99 -15542813.86 0.0539 0.0054

Mars -47267-07-28 00:57 J -15542640.59 -15542640.46 -15542640.33 0.1629 0.0129

Venus -47267-08-02 11:59 J -15542635.10 -15542635.00 -15542634.89 0.3710 0.0113

Earth -47266-02-25 03:35 J -15542428.44 -15542428.35 -15542428.26 0.2665 0.2086

Moon -47266-02-25 04:04 J -15542428.40 -15542428.33 -15542428.25 0.2670 0.2216 *

Mars -47264-04-23 07:11 J -15541640.32 -15541640.20 -15541640.08 0.1909 0.1005

Saturn -47264-09-14 06:14 J -15541496.29 -15541496.24 -15541496.18 0.0273 0.0248

Saturn -47264-12-11 19:11 J -15541407.81 -15541407.70 -15541407.57 0.0273 0.0154

Saturn -47263-03-10 08:09 J -15541319.30 -15541319.16 -15541319.02 0.0274 0.0059

Saturn -47263-06-06 20:38 J -15541230.78 -15541230.64 -15541230.49 0.0274 0.0035

Saturn -47263-09-03 09:06 J -15541142.24 -15541142.12 -15541141.99 0.0275 0.0126

Saturn -47263-11-30 21:21 J -15541053.69 -15541053.61 -15541053.52 0.0275 0.0217

Earth -47262-08-18 09:21 J -15540793.11 -15540793.11 -15540793.10 0.2660 0.2656

Jupiter -47262-09-22 14:52 J -15540757.97 -15540757.88 -15540757.78 0.0489 0.0397

Jupiter -47262-12-21 10:33 J -15540668.21 -15540668.06 -15540667.90 0.0488 0.0206

Venus -47261-02-16 04:33 J -15540611.39 -15540611.31 -15540611.23 0.3715 0.2301

Moon -47259-02-17 04:18 J -15539879.43 -15539879.32 -15539879.21 0.2670 0.1546

Earth -47259-02-17 05:30 J -15539879.39 -15539879.27 -15539879.15 0.2670 0.1407 *

Mars -47258-12-18 09:50 J -15539210.21 -15539210.09 -15539209.97 0.1625 0.0707

Earth -47256-08-27 12:57 J -15538592.08 -15538591.96 -15538591.85 0.2666 0.0841

Moon -47256-08-27 13:26 J -15538592.05 -15538591.94 -15538591.82 0.2671 0.0823 *

Jupiter -47256-11-23 14:09 J -15538504.03 -15538503.91 -15538503.78 0.0539 0.0224

Jupiter -47255-02-21 03:21 J -15538414.44 -15538414.36 -15538414.29 0.0540 0.0450

Jupiter -47250-10-09 11:30 J -15536358.18 -15536358.02 -15536357.85 0.0488 0.0060

Saturn -47249-01-03 04:04 J -15536272.42 -15536272.33 -15536272.22 0.0286 0.0227

Saturn -47249-03-31 23:16 J -15536183.68 -15536183.53 -15536183.37 0.0286 0.0104

Saturn -47249-06-28 18:42 J -15536094.89 -15536094.72 -15536094.55 0.0285 0.0021

Moon -47249-08-20 05:02 J -15536042.38 -15536042.29 -15536042.20 0.2665 0.1743

Earth -47249-08-20 05:59 J -15536042.35 -15536042.25 -15536042.16 0.2662 0.1713 *

Saturn -47249-09-25 14:23 J -15536006.04 -15536005.90 -15536005.75 0.0285 0.0149

Saturn -47249-12-23 10:33 J -15535917.09 -15535917.06 -15535917.02 0.0284 0.0277

Mars -47248-05-09 18:42 J -15535779.79 -15535779.72 -15535779.64 0.1622 0.1289

Venus -47248-12-13 10:18 J -15535562.21 -15535562.07 -15535561.93 0.3670 0.1155

Moon -47246-02-20 05:30 J -15535128.40 -15535128.27 -15535128.13 0.2672 0.0293

Earth -47246-02-20 06:28 J -15535128.37 -15535128.23 -15535128.09 0.2668 0.0208 *

Mars -47246-04-15 06:42 J -15535074.32 -15535074.22 -15535074.13 0.1637 0.1096

Jupiter -47244-09-11 15:21 J -15534193.94 -15534193.86 -15534193.77 0.0539 0.0411

Jupiter -47244-12-10 05:02 J -15534104.41 -15534104.29 -15534104.17 0.0540 0.0271

Mars -47243-01-10 05:16 J -15534073.36 -15534073.28 -15534073.19 0.1897 0.1494

Earth -47243-08-30 08:38 J -15533841.23 -15533841.14 -15533841.05 0.2668 0.1704

Moon -47243-08-30 09:21 J -15533841.19 -15533841.11 -15533841.02 0.2666 0.1833 *

Uranus -47241-02-09 06:14 J -15533313.26 -15533313.24 -15533313.20 0.0132 0.0128

Uranus -47241-05-07 09:50 J -15533225.16 -15533225.09 -15533225.01 0.0132 0.0109

Uranus -47241-08-03 13:11 J -15533137.04 -15533136.95 -15533136.83 0.0132 0.0091

Uranus -47241-10-30 16:47 J -15533048.91 -15533048.80 -15533048.67 0.0132 0.0072

Uranus -47240-01-26 20:23 J -15532960.78 -15532960.65 -15532960.51 0.0132 0.0054

Uranus -47240-04-24 23:59 J -15532872.64 -15532872.50 -15532872.36 0.0132 0.0035

Uranus -47240-07-22 03:21 J -15532784.50 -15532784.36 -15532784.22 0.0132 0.0017

Uranus -47240-10-18 06:57 J -15532696.36 -15532696.21 -15532696.07 0.0132 0.0004

Uranus -47239-01-14 10:18 J -15532608.21 -15532608.07 -15532607.93 0.0132 0.0020

Uranus -47239-04-12 13:40 J -15532520.07 -15532519.93 -15532519.80 0.0132 0.0038

Uranus -47239-07-09 17:02 J -15532431.92 -15532431.79 -15532431.66 0.0132 0.0056

Uranus -47239-10-05 20:23 J -15532343.77 -15532343.65 -15532343.54 0.0132 0.0074

Uranus -47238-01-01 23:30 J -15532255.61 -15532255.52 -15532255.41 0.0132 0.0092

Uranus -47238-03-31 02:52 J -15532167.45 -15532167.38 -15532167.30 0.0132 0.0110

Uranus -47238-06-27 06:14 J -15532079.27 -15532079.24 -15532079.20 0.0132 0.0127

Jupiter -47238-07-28 12:42 J -15532048.13 -15532047.97 -15532047.81 0.0488 0.0084

Mars -47237-09-04 15:50 J -15531643.96 -15531643.84 -15531643.71 0.1633 0.0532

Moon -47236-08-23 01:40 J -15531291.54 -15531291.43 -15531291.32 0.2669 0.0811

Earth -47236-08-23 02:09 J -15531291.53 -15531291.41 -15531291.30 0.2663 0.0789 *

Saturn -47234-02-01 08:38 J -15530764.14 -15530764.14 -15530764.13 0.0272 0.0272

Saturn -47234-04-30 21:50 J -15530675.70 -15530675.59 -15530675.48 0.0273 0.0177

Mars -47234-06-02 06:28 J -15530643.37 -15530643.23 -15530643.09 0.1903 0.0311

Saturn -47234-07-28 10:33 J -15530587.19 -15530587.06 -15530586.92 0.0273 0.0083

Saturn -47234-10-24 23:16 J -15530498.67 -15530498.53 -15530498.39 0.0273 0.0011

Saturn -47233-01-21 11:45 J -15530410.14 -15530410.01 -15530409.88 0.0274 0.0103

Moon -47233-02-23 07:40 J -15530377.31 -15530377.18 -15530377.06 0.2673 0.1085

Earth -47233-02-23 07:40 J -15530377.30 -15530377.18 -15530377.05 0.2666 0.1035 *

Saturn -47233-04-18 23:59 J -15530321.60 -15530321.50 -15530321.40 0.0274 0.0194

Jupiter -47232-09-28 07:40 J -15529794.31 -15529794.18 -15529794.04 0.0540 0.0111

Earth -47230-09-02 04:04 J -15529090.36 -15529090.33 -15529090.30 0.2670 0.2550

Moon -47230-09-02 04:33 J -15529090.34 -15529090.31 -15529090.27 0.2665 0.2558 *

Pluto -47228-09-06 02:38 J -15528355.40 -15528355.39 -15528355.34 0.0064 0.0063

Pluto -47228-12-03 04:04 J -15528267.39 -15528267.33 -15528267.26 0.0064 0.0058

Mars -47227-01-26 00:57 J -15528213.59 -15528213.46 -15528213.32 0.1629 0.0064

Pluto -47227-03-01 04:47 J -15528179.37 -15528179.30 -15528179.19 0.0064 0.0054

Pluto -47227-05-28 05:59 J -15528091.34 -15528091.25 -15528091.12 0.0064 0.0049

Pluto -47227-08-24 07:26 J -15528003.30 -15528003.19 -15528003.06 0.0064 0.0044

Pluto -47227-11-20 08:38 J -15527915.27 -15527915.14 -15527915.00 0.0064 0.0040

Moon -47226-02-15 09:35 J -15527828.14 -15527828.10 -15527828.06 0.2668 0.2512

Earth -47226-02-15 10:33 J -15527828.12 -15527828.06 -15527828.00 0.2671 0.2365 *

Pluto -47226-02-16 09:35 J -15527827.23 -15527827.10 -15527826.94 0.0064 0.0035

Pluto -47226-05-15 10:47 J -15527739.18 -15527739.05 -15527738.88 0.0064 0.0030

Jupiter -47226-05-16 13:26 J -15527738.09 -15527737.94 -15527737.80 0.0488 0.0233

Pluto -47226-08-11 11:59 J -15527651.14 -15527651.00 -15527650.83 0.0064 0.0026

Jupiter -47226-08-14 09:21 J -15527648.21 -15527648.11 -15527648.00 0.0487 0.0375

Pluto -47226-11-07 13:26 J -15527563.10 -15527562.94 -15527562.77 0.0064 0.0020

Pluto -47225-02-03 14:38 J -15527475.05 -15527474.89 -15527474.72 0.0065 0.0016

Pluto -47225-05-01 15:50 J -15527387.00 -15527386.84 -15527386.67 0.0065 0.0011

Pluto -47225-07-28 17:02 J -15527298.95 -15527298.79 -15527298.61 0.0065 0.0006

Mars -47225-10-22 07:26 J -15527213.32 -15527213.19 -15527213.07 0.1908 0.0893

Pluto -47225-10-24 18:28 J -15527210.90 -15527210.73 -15527210.56 0.0065 0.0001

Pluto -47224-01-20 19:40 J -15527122.85 -15527122.68 -15527122.51 0.0065 0.0005

Pluto -47224-04-18 20:52 J -15527034.80 -15527034.63 -15527034.46 0.0065 0.0010

Pluto -47224-07-15 22:04 J -15526946.74 -15526946.58 -15526946.41 0.0065 0.0015

Pluto -47224-10-11 23:16 J -15526858.69 -15526858.53 -15526858.36 0.0065 0.0020

Pluto -47223-01-08 00:28 J -15526770.63 -15526770.48 -15526770.31 0.0065 0.0025

Pluto -47223-04-06 01:40 J -15526682.57 -15526682.43 -15526682.26 0.0065 0.0031

Pluto -47223-07-03 03:06 J -15526594.50 -15526594.37 -15526594.22 0.0065 0.0036

Earth -47223-08-25 22:04 J -15526540.70 -15526540.58 -15526540.46 0.2665 0.0138

Moon -47223-08-25 22:33 J -15526540.68 -15526540.56 -15526540.44 0.2671 0.0112 *

Pluto -47223-09-29 04:33 J -15526506.44 -15526506.31 -15526506.17 0.0066 0.0041

Pluto -47223-12-26 05:30 J -15526418.37 -15526418.27 -15526418.13 0.0066 0.0047

Pluto -47222-03-24 06:57 J -15526330.30 -15526330.21 -15526330.09 0.0066 0.0052

Pluto -47222-06-20 08:23 J -15526242.22 -15526242.15 -15526242.06 0.0066 0.0057

Pluto -47222-09-16 09:21 J -15526154.13 -15526154.11 -15526154.03 0.0066 0.0063

Earth -47220-02-25 09:35 J -15525626.17 -15525626.10 -15525626.03 0.2664 0.2315

Moon -47220-02-25 10:18 J -15525626.14 -15525626.07 -15525626.00 0.2670 0.2301 *

Saturn -47220-05-22 01:54 J -15525540.45 -15525540.42 -15525540.37 0.0287 0.0276

Jupiter -47220-07-17 10:47 J -15525484.19 -15525484.05 -15525483.92 0.0540 0.0050

Saturn -47220-08-18 20:52 J -15525451.77 -15525451.63 -15525451.49 0.0286 0.0154

Saturn -47220-11-15 16:04 J -15525362.99 -15525362.83 -15525362.66 0.0286 0.0030

Saturn -47219-02-12 11:45 J -15525274.17 -15525274.01 -15525273.85 0.0285 0.0097

Saturn -47219-05-12 07:40 J -15525185.28 -15525185.18 -15525185.08 0.0285 0.0225

Mars -47218-06-18 10:04 J -15524783.20 -15524783.08 -15524782.96 0.1625 0.0619

Moon -47216-08-18 13:54 J -15523990.97 -15523990.92 -15523990.88 0.2658 0.2482

Earth -47216-08-18 14:38 J -15523990.93 -15523990.89 -15523990.85 0.2660 0.2486 *

Venus -47216-08-23 17:16 J -15523985.88 -15523985.78 -15523985.68 0.3707 0.1387

Jupiter -47214-03-04 14:09 J -15523428.00 -15523427.91 -15523427.80 0.0489 0.0379

Jupiter -47214-06-02 09:50 J -15523338.23 -15523338.09 -15523337.94 0.0487 0.0224

Moon -47213-02-18 10:04 J -15523077.21 -15523077.08 -15523076.96 0.2670 0.1240

Earth -47213-02-18 11:16 J -15523077.15 -15523077.03 -15523076.91 0.2669 0.1203 *

Venus -47210-03-09 09:50 J -15521962.20 -15521962.09 -15521961.99 0.3711 0.0903

Earth -47210-08-28 17:59 J -15521789.86 -15521789.75 -15521789.64 0.2667 0.0995

Moon -47210-08-28 18:42 J -15521789.83 -15521789.72 -15521789.61 0.2670 0.1113 *

Mars -47209-11-07 18:57 J -15521352.79 -15521352.71 -15521352.62 0.1622 0.1200

Jupiter -47208-05-05 13:11 J -15521174.08 -15521173.95 -15521173.82 0.0539 0.0210

Jupiter -47208-08-03 02:23 J -15521084.47 -15521084.40 -15521084.33 0.0541 0.0464

Mars -47207-10-14 06:42 J -15520647.30 -15520647.22 -15520647.13 0.1637 0.1184

Saturn -47205-09-16 22:18 J -15519943.66 -15519943.57 -15519943.48 0.0273 0.0214

Venus -47205-09-22 02:09 J -15519938.46 -15519938.41 -15519938.35 0.3716 0.3154

Saturn -47205-12-14 11:16 J -15519855.16 -15519855.03 -15519854.90 0.0273 0.0119

Saturn -47204-03-12 23:59 J -15519766.64 -15519766.50 -15519766.36 0.0274 0.0025

Saturn -47204-06-09 12:28 J -15519678.11 -15519677.98 -15519677.84 0.0274 0.0068

Mars -47204-07-11 05:59 J -15519646.32 -15519646.25 -15519646.18 0.1897 0.1626

Saturn -47204-09-06 00:57 J -15519589.57 -15519589.46 -15519589.35 0.0275 0.0159

Saturn -47204-12-03 13:11 J -15519501.01 -15519500.95 -15519500.89 0.0275 0.0249

Moon -47203-08-21 10:18 J -15519240.16 -15519240.07 -15519239.98 0.2666 0.1660

Earth -47203-08-21 11:02 J -15519240.13 -15519240.04 -15519239.94 0.2662 0.1544 *

Jupiter -47202-03-21 10:18 J -15519028.23 -15519028.07 -15519027.91 0.0488 0.0071

Moon -47200-02-20 11:30 J -15518326.16 -15518326.02 -15518325.88 0.2673 0.0070

Earth -47200-02-20 12:14 J -15518326.13 -15518325.99 -15518325.85 0.2668 0.0006 *

Uranus -47199-08-04 01:54 J -15517796.47 -15517796.42 -15517796.35 0.0146 0.0138

Uranus -47199-10-31 08:52 J -15517708.24 -15517708.13 -15517708.01 0.0146 0.0108

Uranus -47198-01-27 16:04 J -15517619.98 -15517619.83 -15517619.68 0.0146 0.0077

Uranus -47198-04-25 23:02 J -15517531.70 -15517531.54 -15517531.37 0.0146 0.0046

Uranus -47198-07-23 06:14 J -15517443.42 -15517443.24 -15517443.07 0.0146 0.0015

Uranus -47198-10-19 13:26 J -15517355.12 -15517354.94 -15517354.77 0.0146 0.0016

Uranus -47197-01-15 20:38 J -15517266.81 -15517266.64 -15517266.47 0.0146 0.0048

Mars -47197-03-05 16:04 J -15517216.95 -15517216.83 -15517216.71 0.1633 0.0613

Uranus -47197-04-13 03:35 J -15517178.49 -15517178.35 -15517178.19 0.0146 0.0080

Uranus -47197-07-10 10:47 J -15517090.15 -15517090.05 -15517089.92 0.0146 0.0112

Earth -47197-08-30 13:40 J -15517039.01 -15517038.93 -15517038.85 0.2668 0.1858

Moon -47197-08-30 14:23 J -15517038.98 -15517038.90 -15517038.81 0.2666 0.1850 *

Uranus -47197-10-06 18:14 J -15517001.76 -15517001.74 -15517001.69 0.0146 0.0144

Jupiter -47196-02-21 15:21 J -15516863.96 -15516863.86 -15516863.76 0.0539 0.0383

Jupiter -47196-05-22 04:47 J -15516774.41 -15516774.30 -15516774.19 0.0540 0.0298

Neptune -47195-09-03 11:45 J -15516305.02 -15516305.01 -15516304.98 0.0089 0.0088

Neptune -47195-11-30 14:09 J -15516216.97 -15516216.91 -15516216.83 0.0089 0.0081

Mars -47195-12-01 06:28 J -15516216.37 -15516216.23 -15516216.09 0.1903 0.0409

Neptune -47194-02-26 16:33 J -15516128.89 -15516128.81 -15516128.71 0.0089 0.0074

Neptune -47194-05-25 19:11 J -15516040.80 -15516040.70 -15516040.59 0.0089 0.0066

Neptune -47194-08-21 21:35 J -15515952.72 -15515952.60 -15515952.47 0.0089 0.0059

Neptune -47194-11-17 23:59 J -15515864.62 -15515864.50 -15515864.35 0.0089 0.0052

Neptune -47193-02-14 02:23 J -15515776.53 -15515776.40 -15515776.24 0.0089 0.0045

Neptune -47193-05-12 05:02 J -15515688.43 -15515688.29 -15515688.13 0.0089 0.0037

Neptune -47193-08-08 07:40 J -15515600.33 -15515600.18 -15515600.02 0.0089 0.0030

Neptune -47193-11-04 10:18 J -15515512.23 -15515512.07 -15515511.91 0.0089 0.0022

Neptune -47192-01-31 12:42 J -15515424.13 -15515423.97 -15515423.80 0.0089 0.0015

Neptune -47192-04-29 15:21 J -15515336.03 -15515335.86 -15515335.69 0.0089 0.0007

Neptune -47192-07-26 17:59 J -15515247.92 -15515247.75 -15515247.58 0.0089 0.0000

Neptune -47192-10-22 20:38 J -15515159.81 -15515159.64 -15515159.47 0.0089 0.0008

Neptune -47191-01-18 23:02 J -15515071.70 -15515071.54 -15515071.37 0.0089 0.0016

Neptune -47191-04-17 01:40 J -15514983.59 -15514983.43 -15514983.26 0.0089 0.0023

Neptune -47191-07-14 04:18 J -15514895.48 -15514895.32 -15514895.16 0.0089 0.0031

Venus -47191-07-20 11:02 J -15514889.18 -15514889.04 -15514888.89 0.3669 0.0675

Neptune -47191-10-10 06:42 J -15514807.36 -15514807.22 -15514807.05 0.0089 0.0039

Saturn -47190-01-05 20:38 J -15514719.76 -15514719.64 -15514719.52 0.0286 0.0191

Neptune -47190-01-06 09:35 J -15514719.24 -15514719.10 -15514718.95 0.0089 0.0046

Jupiter -47190-01-07 11:16 J -15514718.19 -15514718.03 -15514717.86 0.0488 0.0074

Neptune -47190-04-04 12:14 J -15514631.12 -15514630.99 -15514630.85 0.0089 0.0054

Saturn -47190-04-04 15:50 J -15514631.00 -15514630.84 -15514630.68 0.0286 0.0068 *

Neptune -47190-07-01 14:38 J -15514543.00 -15514542.89 -15514542.75 0.0089 0.0062

Saturn -47190-07-02 11:16 J -15514542.19 -15514542.03 -15514541.86 0.0285 0.0058

Moon -47190-08-24 06:57 J -15514489.32 -15514489.21 -15514489.09 0.2669 0.0643

Earth -47190-08-24 07:11 J -15514489.31 -15514489.20 -15514489.08 0.2664 0.0633 *

Neptune -47190-09-27 17:16 J -15514454.87 -15514454.78 -15514454.66 0.0089 0.0070

Saturn -47190-09-29 07:11 J -15514453.33 -15514453.20 -15514453.07 0.0285 0.0186

Neptune -47190-12-24 20:23 J -15514366.73 -15514366.65 -15514366.57 0.0089 0.0077

Neptune -47189-03-21 22:47 J -15514278.59 -15514278.55 -15514278.49 0.0089 0.0085

Mars -47188-07-27 01:11 J -15513786.58 -15513786.45 -15513786.32 0.1629 0.0044

Moon -47187-02-23 13:40 J -15513575.06 -15513574.93 -15513574.81 0.2673 0.1211

Earth -47187-02-23 13:40 J -15513575.05 -15513574.93 -15513574.81 0.2666 0.1255 *

Mars -47185-04-22 07:54 J -15512786.30 -15512786.17 -15512786.05 0.1909 0.0773

Jupiter -47184-03-10 06:14 J -15512464.37 -15512464.24 -15512464.10 0.0540 0.0115

Moon -47180-02-15 15:06 J -15511025.95 -15511025.87 -15511025.79 0.2669 0.2155

Earth -47180-02-15 16:18 J -15511025.90 -15511025.82 -15511025.74 0.2671 0.2163 *

Jupiter -47179-10-26 12:28 J -15510408.12 -15510407.98 -15510407.83 0.0489 0.0216

Mars -47179-12-17 10:18 J -15510356.20 -15510356.07 -15510355.95 0.1625 0.0535

Jupiter -47178-01-24 08:23 J -15510318.24 -15510318.15 -15510318.04 0.0487 0.0394

Earth -47177-08-26 03:21 J -15509738.48 -15509738.36 -15509738.24 0.2665 0.0281

Moon -47177-08-26 03:35 J -15509738.47 -15509738.35 -15509738.23 0.2672 0.0330 *

Saturn -47175-02-04 00:42 J -15509211.53 -15509211.47 -15509211.39 0.0272 0.0237

Saturn -47175-05-03 13:54 J -15509123.04 -15509122.92 -15509122.80 0.0273 0.0142

Saturn -47175-07-31 02:38 J -15509034.53 -15509034.39 -15509034.25 0.0273 0.0048

Saturn -47175-10-27 15:21 J -15508946.00 -15508945.86 -15508945.72 0.0274 0.0045

Saturn -47174-01-24 03:35 J -15508857.47 -15508857.35 -15508857.22 0.0274 0.0137

Earth -47174-02-26 15:35 J -15508823.89 -15508823.85 -15508823.81 0.2664 0.2539

Saturn -47174-04-22 15:50 J -15508768.91 -15508768.84 -15508768.76 0.0274 0.0227

Jupiter -47173-12-27 08:52 J -15508154.27 -15508154.13 -15508153.99 0.0540 0.0050

Moon -47170-08-19 18:57 J -15507188.75 -15507188.71 -15507188.66 0.2660 0.2449

Earth -47170-08-19 19:54 J -15507188.73 -15507188.67 -15507188.61 0.2661 0.2310 *

Mars -47169-05-08 19:11 J -15506925.79 -15506925.70 -15506925.60 0.1622 0.1114

Moon -47167-02-18 15:50 J -15506274.96 -15506274.84 -15506274.71 0.2670 0.1146

Earth -47167-02-18 17:02 J -15506274.92 -15506274.79 -15506274.66 0.2669 0.0991 *

Mars -47167-04-14 06:57 J -15506220.29 -15506220.21 -15506220.13 0.1637 0.1263

Jupiter -47167-08-14 13:11 J -15506098.05 -15506097.95 -15506097.84 0.0489 0.0364

Jupiter -47167-11-12 08:52 J -15506008.27 -15506008.13 -15506007.98 0.0487 0.0238

Venus -47165-09-13 22:18 J -15505336.64 -15505336.57 -15505336.50 0.3703 0.2832

Mars -47164-01-09 06:14 J -15505219.29 -15505219.24 -15505219.18 0.1896 0.1749

Earth -47164-08-28 23:02 J -15504987.64 -15504987.54 -15504987.43 0.2667 0.1152

Moon -47164-08-28 23:59 J -15504987.61 -15504987.50 -15504987.40 0.2668 0.1169 *

Saturn -47161-05-24 18:57 J -15503987.80 -15503987.71 -15503987.62 0.0287 0.0238

Saturn -47161-08-21 13:54 J -15503899.07 -15503898.92 -15503898.77 0.0286 0.0116

Jupiter -47161-10-15 11:45 J -15503844.14 -15503844.01 -15503843.88 0.0540 0.0208

Saturn -47161-11-18 09:06 J -15503810.29 -15503810.12 -15503809.95 0.0286 0.0010

Jupiter -47160-01-13 00:42 J -15503754.53 -15503754.47 -15503754.40 0.0541 0.0468

Saturn -47160-02-15 04:47 J -15503721.45 -15503721.30 -15503721.15 0.0285 0.0136

Saturn -47160-05-15 00:42 J -15503632.52 -15503632.47 -15503632.40 0.0285 0.0265

Venus -47159-03-30 14:52 J -15503312.98 -15503312.88 -15503312.77 0.3708 0.0524

Mars -47158-09-04 16:18 J -15502789.94 -15502789.82 -15502789.71 0.1633 0.0699

Uranus -47157-02-29 13:11 J -15502611.99 -15502611.95 -15502611.90 0.0132 0.0125

Uranus -47157-05-27 16:33 J -15502523.89 -15502523.81 -15502523.72 0.0132 0.0106

Moon -47157-08-21 15:35 J -15502437.96 -15502437.85 -15502437.75 0.2666 0.1383

Earth -47157-08-21 16:18 J -15502437.92 -15502437.82 -15502437.72 0.2662 0.1377 *

Uranus -47157-08-23 20:09 J -15502435.76 -15502435.66 -15502435.55 0.0132 0.0087

Uranus -47157-11-19 23:45 J -15502347.63 -15502347.51 -15502347.39 0.0132 0.0068

Uranus -47156-02-16 03:06 J -15502259.49 -15502259.37 -15502259.23 0.0132 0.0050

Uranus -47156-05-15 06:42 J -15502171.35 -15502171.22 -15502171.08 0.0132 0.0031

Uranus -47156-08-11 10:18 J -15502083.21 -15502083.07 -15502082.93 0.0132 0.0013

Uranus -47156-11-07 13:40 J -15501995.07 -15501994.93 -15501994.79 0.0132 0.0006

Uranus -47155-02-03 17:02 J -15501906.93 -15501906.79 -15501906.65 0.0132 0.0024

Uranus -47155-05-02 20:23 J -15501818.78 -15501818.65 -15501818.51 0.0132 0.0042

Mars -47155-06-01 06:57 J -15501789.35 -15501789.21 -15501789.07 0.1903 0.0535

Uranus -47155-07-29 23:45 J -15501730.63 -15501730.51 -15501730.38 0.0132 0.0060

Jupiter -47155-08-31 09:35 J -15501698.27 -15501698.10 -15501697.94 0.0488 0.0089

Uranus -47155-10-26 03:06 J -15501642.48 -15501642.37 -15501642.25 0.0132 0.0078

Uranus -47154-01-22 06:14 J -15501554.32 -15501554.24 -15501554.13 0.0132 0.0096

Moon -47154-02-21 17:30 J -15501523.91 -15501523.77 -15501523.64 0.2674 0.0229

Earth -47154-02-21 17:59 J -15501523.88 -15501523.75 -15501523.61 0.2667 0.0232 *

Uranus -47154-04-20 09:50 J -15501466.16 -15501466.09 -15501466.02 0.0132 0.0113

Uranus -47154-07-17 12:57 J -15501377.97 -15501377.96 -15501377.94 0.0132 0.0131

Venus -47154-10-14 07:26 J -15501289.28 -15501289.19 -15501289.10 0.3712 0.1751

Earth -47151-08-31 18:42 J -15500236.80 -15500236.72 -15500236.64 0.2669 0.2007

Moon -47151-08-31 19:26 J -15500236.75 -15500236.69 -15500236.62 0.2667 0.2139 *

Jupiter -47149-08-03 14:09 J -15499534.01 -15499533.91 -15499533.81 0.0539 0.0372

Jupiter -47149-11-01 03:35 J -15499444.46 -15499444.35 -15499444.23 0.0540 0.0310

Mars -47148-01-25 01:26 J -15499359.57 -15499359.44 -15499359.31 0.1629 0.0130

Saturn -47146-09-20 14:23 J -15498391.01 -15498390.90 -15498390.79 0.0273 0.0179

Mars -47146-10-22 07:54 J -15498359.30 -15498359.17 -15498359.03 0.1908 0.0661

Saturn -47146-12-18 03:21 J -15498302.50 -15498302.36 -15498302.23 0.0273 0.0085

Saturn -47145-03-15 16:04 J -15498213.98 -15498213.83 -15498213.69 0.0274 0.0011

Saturn -47145-06-12 04:33 J -15498125.44 -15498125.31 -15498125.18 0.0274 0.0101

Saturn -47145-09-08 16:47 J -15498036.90 -15498036.80 -15498036.70 0.0275 0.0192

Moon -47144-08-24 12:14 J -15497687.10 -15497686.99 -15497686.87 0.2670 0.0517

Earth -47144-08-24 12:28 J -15497687.10 -15497686.98 -15497686.86 0.2664 0.0463 *

Jupiter -47143-06-19 10:04 J -15497388.25 -15497388.08 -15497387.92 0.0488 0.0064

Earth -47141-02-24 19:26 J -15496772.80 -15496772.69 -15496772.57 0.2666 0.1473

Moon -47141-02-24 19:40 J -15496772.79 -15496772.68 -15496772.56 0.2672 0.1498 *

Venus -47140-08-10 07:26 J -15496240.28 -15496240.19 -15496240.09 0.3673 0.2729

Mars -47139-06-17 10:18 J -15495929.19 -15495929.07 -15495928.94 0.1625 0.0453

Pluto -47139-06-18 09:06 J -15495928.12 -15495928.12 -15495928.08 0.0081 0.0080

Pluto -47139-09-14 11:02 J -15495840.10 -15495840.04 -15495839.97 0.0081 0.0071

Pluto -47139-12-11 12:28 J -15495752.06 -15495751.98 -15495751.88 0.0081 0.0063

Pluto -47138-03-09 14:09 J -15495664.01 -15495663.91 -15495663.79 0.0081 0.0054

Pluto -47138-06-05 15:35 J -15495575.96 -15495575.85 -15495575.72 0.0080 0.0046

Pluto -47138-09-01 17:16 J -15495487.90 -15495487.78 -15495487.64 0.0080 0.0037

Pluto -47138-11-28 18:57 J -15495399.84 -15495399.71 -15495399.57 0.0080 0.0028

Pluto -47137-02-24 20:23 J -15495311.79 -15495311.65 -15495311.50 0.0080 0.0020

Pluto -47137-05-22 22:04 J -15495223.73 -15495223.58 -15495223.43 0.0080 0.0012

Pluto -47137-08-18 23:30 J -15495135.66 -15495135.52 -15495135.37 0.0080 0.0004

Jupiter -47137-08-20 05:59 J -15495134.38 -15495134.25 -15495134.12 0.0540 0.0142

Pluto -47137-11-15 01:11 J -15495047.60 -15495047.45 -15495047.31 0.0080 0.0005

Pluto -47136-02-11 02:23 J -15494959.54 -15494959.40 -15494959.25 0.0080 0.0013

Mars -47136-03-13 09:21 J -15494929.15 -15494929.11 -15494929.08 0.1914 0.1831

Pluto -47136-05-10 03:50 J -15494871.47 -15494871.34 -15494871.19 0.0079 0.0021

Pluto -47136-08-06 05:16 J -15494783.41 -15494783.28 -15494783.13 0.0079 0.0029

Pluto -47136-11-02 06:42 J -15494695.34 -15494695.22 -15494695.08 0.0079 0.0036

Pluto -47135-01-29 08:09 J -15494607.27 -15494607.16 -15494607.03 0.0079 0.0044

Pluto -47135-04-27 09:50 J -15494519.20 -15494519.09 -15494518.98 0.0079 0.0051

Pluto -47135-07-24 11:02 J -15494431.13 -15494431.04 -15494430.94 0.0079 0.0059

Pluto -47135-10-20 12:14 J -15494343.05 -15494342.99 -15494342.90 0.0079 0.0067

Pluto -47134-01-16 13:40 J -15494254.97 -15494254.93 -15494254.87 0.0078 0.0074

Moon -47134-02-16 20:52 J -15494223.71 -15494223.63 -15494223.55 0.2668 0.2126

Earth -47134-02-16 22:04 J -15494223.67 -15494223.58 -15494223.49 0.2671 0.1958 *

Venus -47134-02-24 11:59 J -15494216.10 -15494216.00 -15494215.90 0.3667 0.2519

Saturn -47132-10-11 18:28 J -15493255.77 -15493255.73 -15493255.68 0.0287 0.0276

Saturn -47131-01-08 13:26 J -15493167.08 -15493166.94 -15493166.80 0.0286 0.0154

Saturn -47131-04-07 08:38 J -15493078.31 -15493078.14 -15493077.97 0.0286 0.0030

Jupiter -47131-04-07 11:02 J -15493078.19 -15493078.04 -15493077.89 0.0489 0.0207 *

Saturn -47131-07-05 04:04 J -15492989.48 -15492989.33 -15492989.16 0.0285 0.0097

Jupiter -47131-07-06 07:11 J -15492988.29 -15492988.20 -15492988.11 0.0487 0.0403

Earth -47131-08-27 08:23 J -15492936.27 -15492936.15 -15492936.03 0.2665 0.0435

Moon -47131-08-27 08:52 J -15492936.25 -15492936.13 -15492936.02 0.2672 0.0460 *

Saturn -47131-10-01 23:59 J -15492900.60 -15492900.50 -15492900.39 0.0285 0.0225

Mars -47130-11-07 19:26 J -15492498.79 -15492498.69 -15492498.59 0.1622 0.1029

Mars -47128-10-13 06:57 J -15491793.28 -15491793.21 -15491793.13 0.1637 0.1343

Jupiter -47125-06-08 07:26 J -15490824.33 -15490824.19 -15490824.05 0.0539 0.0044

Mars -47125-07-10 06:28 J -15490792.25 -15490792.23 -15490792.20 0.1897 0.1861

Moon -47124-08-20 00:14 J -15490386.56 -15490386.49 -15490386.42 0.2662 0.2147

Earth -47124-08-20 01:11 J -15490386.52 -15490386.45 -15490386.38 0.2661 0.2146 *

Moon -47121-02-19 21:35 J -15489472.73 -15489472.60 -15489472.46 0.2672 0.0784

Earth -47121-02-19 22:47 J -15489472.68 -15489472.55 -15489472.42 0.2669 0.0785 *

Mars -47120-03-30 04:18 J -15489068.33 -15489068.32 -15489068.32 0.1618 0.1612

Jupiter -47119-01-24 12:14 J -15488768.10 -15488767.99 -15488767.87 0.0489 0.0349

Jupiter -47119-04-24 07:54 J -15488678.31 -15488678.17 -15488678.02 0.0488 0.0255

Mars -47118-03-05 16:18 J -15488362.93 -15488362.82 -15488362.71 0.1633 0.0778

Earth -47118-08-30 04:18 J -15488185.43 -15488185.32 -15488185.22 0.2667 0.1311

Moon -47118-08-30 05:02 J -15488185.39 -15488185.29 -15488185.19 0.2668 0.1408 *

Saturn -47116-02-06 17:16 J -15487658.88 -15487658.78 -15487658.68 0.0273 0.0200

Saturn -47116-05-06 06:14 J -15487570.37 -15487570.24 -15487570.11 0.0273 0.0105

Saturn -47116-08-02 18:57 J -15487481.86 -15487481.71 -15487481.57 0.0273 0.0013

Saturn -47116-10-30 07:26 J -15487393.33 -15487393.19 -15487393.05 0.0274 0.0081

Mars -47116-11-30 07:26 J -15487362.32 -15487362.19 -15487362.05 0.1902 0.0663

Saturn -47115-01-26 19:40 J -15487304.78 -15487304.68 -15487304.57 0.0274 0.0172

Saturn -47115-04-25 07:54 J -15487216.21 -15487216.17 -15487216.13 0.0275 0.0262

Uranus -47115-08-24 08:23 J -15487095.20 -15487095.15 -15487095.06 0.0146 0.0133

Uranus -47115-11-20 15:21 J -15487006.97 -15487006.86 -15487006.72 0.0146 0.0103

Uranus -47114-02-16 22:33 J -15486918.70 -15486918.56 -15486918.40 0.0146 0.0072

Uranus -47114-05-16 05:45 J -15486830.43 -15486830.26 -15486830.09 0.0146 0.0041

Uranus -47114-08-12 12:42 J -15486742.14 -15486741.97 -15486741.79 0.0146 0.0011

Uranus -47114-11-08 19:54 J -15486653.84 -15486653.67 -15486653.49 0.0146 0.0021

Uranus -47113-02-05 03:06 J -15486565.53 -15486565.37 -15486565.20 0.0146 0.0053

Jupiter -47113-03-27 09:50 J -15486514.22 -15486514.09 -15486513.97 0.0539 0.0211

Uranus -47113-05-03 10:18 J -15486477.21 -15486477.07 -15486476.92 0.0146 0.0085

Jupiter -47113-06-24 22:47 J -15486424.61 -15486424.55 -15486424.48 0.0541 0.0465

Uranus -47113-07-30 17:30 J -15486388.86 -15486388.77 -15486388.65 0.0146 0.0117

Neptune -47112-06-07 18:42 J -15486076.75 -15486076.72 -15486076.66 0.0088 0.0085

Neptune -47112-09-03 20:52 J -15485988.69 -15485988.63 -15485988.55 0.0088 0.0077

Neptune -47112-11-30 22:47 J -15485900.63 -15485900.55 -15485900.46 0.0088 0.0071

Neptune -47111-02-27 00:28 J -15485812.57 -15485812.48 -15485812.36 0.0088 0.0064

Neptune -47111-05-26 02:23 J -15485724.50 -15485724.40 -15485724.27 0.0088 0.0058

Neptune -47111-08-22 04:33 J -15485636.43 -15485636.31 -15485636.18 0.0088 0.0050

Moon -47111-08-22 20:52 J -15485635.74 -15485635.63 -15485635.53 0.2666 0.1332

Earth -47111-08-22 21:35 J -15485635.71 -15485635.60 -15485635.50 0.2662 0.1214 *

Neptune -47111-11-18 06:28 J -15485548.36 -15485548.23 -15485548.10 0.0088 0.0044

Neptune -47110-02-14 08:09 J -15485460.29 -15485460.16 -15485460.02 0.0088 0.0037

Neptune -47110-05-13 10:04 J -15485372.22 -15485372.08 -15485371.93 0.0088 0.0031

Neptune -47110-08-09 11:59 J -15485284.14 -15485284.00 -15485283.85 0.0088 0.0024

Neptune -47110-11-05 13:40 J -15485196.07 -15485195.93 -15485195.78 0.0088 0.0018

Neptune -47109-02-01 15:35 J -15485107.99 -15485107.85 -15485107.70 0.0088 0.0011

Neptune -47109-04-29 17:30 J -15485019.92 -15485019.77 -15485019.62 0.0088 0.0004

Mars -47109-07-26 01:26 J -15484932.57 -15484932.44 -15484932.31 0.1629 0.0213

Neptune -47109-07-26 19:11 J -15484931.84 -15484931.70 -15484931.55 0.0088 0.0004

Neptune -47109-10-22 21:06 J -15484843.77 -15484843.62 -15484843.47 0.0088 0.0009

Neptune -47108-01-18 22:47 J -15484755.69 -15484755.55 -15484755.40 0.0088 0.0016

Moon -47108-02-21 23:16 J -15484721.67 -15484721.53 -15484721.39 0.2673 0.0336

Earth -47108-02-21 23:59 J -15484721.64 -15484721.50 -15484721.36 0.2667 0.0437 *

Neptune -47108-04-17 00:28 J -15484667.61 -15484667.48 -15484667.33 0.0088 0.0023

Venus -47108-04-20 19:54 J -15484663.76 -15484663.67 -15484663.58 0.3704 0.1960

Neptune -47108-07-14 02:23 J -15484579.54 -15484579.40 -15484579.26 0.0088 0.0029

Neptune -47108-10-10 04:04 J -15484491.46 -15484491.33 -15484491.19 0.0089 0.0035

Neptune -47107-01-06 05:45 J -15484403.38 -15484403.26 -15484403.12 0.0089 0.0042

Jupiter -47107-02-10 08:23 J -15484368.31 -15484368.15 -15484367.99 0.0488 0.0102

Neptune -47107-04-04 07:40 J -15484315.30 -15484315.18 -15484315.05 0.0089 0.0048

Neptune -47107-07-01 09:06 J -15484227.22 -15484227.12 -15484226.99 0.0089 0.0055

Neptune -47107-09-27 11:02 J -15484139.14 -15484139.04 -15484138.93 0.0089 0.0061

Neptune -47107-12-24 12:57 J -15484051.05 -15484050.96 -15484050.86 0.0089 0.0067

Neptune -47106-03-22 14:23 J -15483962.97 -15483962.90 -15483962.81 0.0089 0.0074

Mars -47106-04-22 08:23 J -15483932.29 -15483932.15 -15483932.01 0.1908 0.0535

Neptune -47106-06-18 16:04 J -15483874.88 -15483874.83 -15483874.75 0.0089 0.0080

Neptune -47106-09-14 17:59 J -15483786.78 -15483786.75 -15483786.71 0.0089 0.0086

Earth -47105-08-31 23:45 J -15483434.58 -15483434.51 -15483434.44 0.2669 0.2161

Moon -47105-09-01 00:28 J -15483434.55 -15483434.48 -15483434.41 0.2666 0.2149 *

Venus -47103-11-04 12:28 J -15482640.08 -15482639.98 -15482639.87 0.3709 0.0365

Saturn -47102-05-28 11:59 J -15482435.11 -15482435.00 -15482434.88 0.0286 0.0198

Saturn -47102-08-25 07:11 J -15482346.36 -15482346.20 -15482346.04 0.0286 0.0075

Saturn -47102-11-22 02:38 J -15482257.56 -15482257.39 -15482257.23 0.0286 0.0051

Jupiter -47101-01-14 12:28 J -15482204.08 -15482203.98 -15482203.88 0.0539 0.0372

Saturn -47101-02-18 22:18 J -15482168.70 -15482168.57 -15482168.44 0.0285 0.0178

Jupiter -47101-04-13 01:54 J -15482114.53 -15482114.42 -15482114.30 0.0541 0.0311

Mars -47100-12-16 10:33 J -15481502.19 -15481502.06 -15481501.93 0.1625 0.0365

Moon -47098-08-25 17:30 J -15480884.89 -15480884.77 -15480884.65 0.2671 0.0255

Earth -47098-08-25 17:30 J -15480884.89 -15480884.77 -15480884.65 0.2664 0.0307 *

Venus -47097-05-20 05:02 J -15480616.36 -15480616.29 -15480616.22 0.3714 0.2605

Mars -47097-09-11 09:35 J -15480502.16 -15480502.10 -15480502.04 0.1913 0.1709

Jupiter -47096-11-29 09:06 J -15480058.28 -15480058.12 -15480057.95 0.0488 0.0047

Earth -47095-02-25 01:26 J -15479970.55 -15479970.44 -15479970.33 0.2665 0.1693

Moon -47095-02-25 01:54 J -15479970.52 -15479970.42 -15479970.32 0.2671 0.1754 *

Mars -47090-05-08 19:26 J -15478071.79 -15478071.69 -15478071.58 0.1622 0.0945

Jupiter -47090-11-02 14:52 J -15477893.89 -15477893.88 -15477893.87 0.0538 0.0536

Jupiter -47089-01-31 04:47 J -15477804.43 -15477804.30 -15477804.17 0.0540 0.0151

Moon -47088-02-17 02:38 J -15477421.49 -15477421.39 -15477421.29 0.2668 0.1759

Earth -47088-02-17 03:50 J -15477421.44 -15477421.34 -15477421.24 0.2670 0.1755 *

Mars -47088-04-13 07:11 J -15477366.26 -15477366.20 -15477366.14 0.1638 0.1425

Saturn -47087-06-26 17:45 J -15476926.83 -15476926.76 -15476926.69 0.0273 0.0237

Saturn -47087-09-23 06:42 J -15476838.34 -15476838.22 -15476838.09 0.0273 0.0142

Saturn -47087-12-20 19:40 J -15476749.83 -15476749.68 -15476749.54 0.0273 0.0048

Saturn -47086-03-19 08:09 J -15476661.30 -15476661.16 -15476661.02 0.0274 0.0045

Saturn -47086-06-15 20:38 J -15476572.76 -15476572.64 -15476572.52 0.0274 0.0137

Saturn -47086-09-12 08:38 J -15476484.21 -15476484.14 -15476484.05 0.0275 0.0228

Earth -47085-08-27 13:26 J -15476134.05 -15476133.94 -15476133.82 0.2666 0.0596

Moon -47085-08-27 14:09 J -15476134.03 -15476133.91 -15476133.80 0.2671 0.0621 *

Jupiter -47084-09-17 09:35 J -15475748.25 -15475748.10 -15475747.95 0.0489 0.0199

Jupiter -47084-12-16 05:45 J -15475658.35 -15475658.26 -15475658.17 0.0487 0.0411

Venus -47083-03-17 08:23 J -15475567.29 -15475567.15 -15475567.01 0.3672 0.0921

Mars -47081-09-28 04:18 J -15474641.36 -15474641.32 -15474641.28 0.1618 0.1527

Mars -47079-09-03 16:33 J -15473935.92 -15473935.81 -15473935.70 0.1633 0.0861

Moon -47078-08-21 05:16 J -15473584.35 -15473584.28 -15473584.20 0.2662 0.2110

Earth -47078-08-21 06:14 J -15473584.32 -15473584.24 -15473584.16 0.2661 0.1973 *

Jupiter -47078-11-19 07:11 J -15473494.34 -15473494.20 -15473494.06 0.0539 0.0022

Mars -47076-05-31 07:40 J -15472935.31 -15472935.18 -15472935.05 0.1902 0.0769

Moon -47075-02-20 03:35 J -15472670.48 -15472670.35 -15472670.22 0.2673 0.0735

Earth -47075-02-20 04:33 J -15472670.44 -15472670.31 -15472670.17 0.2669 0.0572 *

Uranus -47073-03-20 20:09 J -15471910.72 -15471910.66 -15471910.61 0.0132 0.0121

Uranus -47073-06-16 23:16 J -15471822.60 -15471822.53 -15471822.42 0.0132 0.0103

Uranus -47073-09-13 03:06 J -15471734.48 -15471734.37 -15471734.26 0.0132 0.0083

Saturn -47073-10-14 11:30 J -15471703.10 -15471703.02 -15471702.92 0.0286 0.0237

Uranus -47073-12-10 06:42 J -15471646.35 -15471646.22 -15471646.10 0.0132 0.0064

Saturn -47072-01-11 06:28 J -15471614.38 -15471614.23 -15471614.07 0.0286 0.0114

Uranus -47072-03-08 10:04 J -15471558.21 -15471558.08 -15471557.94 0.0132 0.0046

Saturn -47072-04-10 01:54 J -15471525.59 -15471525.42 -15471525.25 0.0286 0.0011

Uranus -47072-06-04 13:40 J -15471470.07 -15471469.93 -15471469.79 0.0132 0.0027

Jupiter -47072-07-06 10:47 J -15471438.16 -15471438.05 -15471437.93 0.0489 0.0341

Saturn -47072-07-07 21:35 J -15471436.75 -15471436.60 -15471436.45 0.0285 0.0138

Earth -47072-08-30 09:21 J -15471383.21 -15471383.11 -15471383.01 0.2668 0.1463

Moon -47072-08-30 10:04 J -15471383.17 -15471383.08 -15471382.98 0.2669 0.1507 *

Uranus -47072-08-31 17:02 J -15471381.93 -15471381.79 -15471381.64 0.0132 0.0009

Jupiter -47072-10-04 06:28 J -15471348.37 -15471348.23 -15471348.09 0.0488 0.0263

Saturn -47072-10-04 17:30 J -15471347.82 -15471347.77 -15471347.71 0.0285 0.0267

Uranus -47072-11-27 20:38 J -15471293.78 -15471293.64 -15471293.50 0.0132 0.0010

Uranus -47071-02-23 23:59 J -15471205.64 -15471205.50 -15471205.36 0.0132 0.0028

Uranus -47071-05-23 03:21 J -15471117.49 -15471117.36 -15471117.23 0.0132 0.0046

Uranus -47071-08-19 06:42 J -15471029.34 -15471029.22 -15471029.10 0.0132 0.0064

Uranus -47071-11-15 09:50 J -15470941.19 -15470941.09 -15470940.97 0.0132 0.0082

Uranus -47070-02-11 13:26 J -15470853.03 -15470852.94 -15470852.85 0.0132 0.0100

Uranus -47070-05-10 16:33 J -15470764.86 -15470764.81 -15470764.74 0.0132 0.0118

Mars -47069-01-25 01:40 J -15470505.56 -15470505.43 -15470505.30 0.1629 0.0291

Mars -47067-10-21 08:52 J -15469505.27 -15469505.13 -15469505.00 0.1908 0.0422

Jupiter -47066-09-07 08:09 J -15469184.28 -15469184.16 -15469184.03 0.0539 0.0207

Jupiter -47066-12-05 21:21 J -15469094.67 -15469094.61 -15469094.54 0.0541 0.0469

Moon -47065-08-23 02:09 J -15468833.52 -15468833.41 -15468833.30 0.2668 0.1025

Earth -47065-08-23 02:38 J -15468833.50 -15468833.39 -15468833.28 0.2663 0.1046 *

Moon -47062-02-23 05:16 J -15467919.41 -15467919.28 -15467919.15 0.2673 0.0681

Earth -47062-02-23 05:45 J -15467919.39 -15467919.26 -15467919.12 0.2667 0.0649 *

Jupiter -47060-04-24 11:59 J -15467128.02 -15467128.00 -15467127.97 0.0490 0.0483

Mars -47060-06-16 10:47 J -15467075.18 -15467075.05 -15467074.92 0.1626 0.0280

Jupiter -47060-07-23 07:26 J -15467038.36 -15467038.19 -15467038.03 0.0488 0.0116

Earth -47059-09-02 04:47 J -15466632.35 -15466632.30 -15466632.24 0.2669 0.2312

Moon -47059-09-02 05:30 J -15466632.32 -15466632.27 -15466632.22 0.2665 0.2397 *

Saturn -47058-11-13 20:38 J -15466194.68 -15466194.64 -15466194.59 0.0273 0.0257

Saturn -47057-02-10 09:35 J -15466106.21 -15466106.10 -15466105.98 0.0273 0.0162

Mars -47057-03-12 10:04 J -15466075.15 -15466075.08 -15466075.00 0.1913 0.1582

Saturn -47057-05-08 22:33 J -15466017.70 -15466017.56 -15466017.42 0.0273 0.0068

Venus -47057-05-12 00:57 J -15466014.49 -15466014.46 -15466014.42 0.3701 0.3416

Saturn -47057-08-05 11:16 J -15465929.17 -15465929.03 -15465928.89 0.0274 0.0026

Saturn -47057-11-01 23:45 J -15465840.64 -15465840.51 -15465840.38 0.0274 0.0118

Saturn -47056-01-29 11:59 J -15465752.09 -15465752.00 -15465751.91 0.0275 0.0209

Jupiter -47054-06-26 10:33 J -15464874.16 -15464874.06 -15464873.97 0.0539 0.0377

Jupiter -47054-09-23 23:59 J -15464784.61 -15464784.50 -15464784.39 0.0540 0.0305

Moon -47052-08-25 22:47 J -15464082.67 -15464082.55 -15464082.43 0.2671 0.0201

Earth -47052-08-25 22:47 J -15464082.67 -15464082.55 -15464082.43 0.2664 0.0151 *

Venus -47052-11-25 17:45 J -15463990.86 -15463990.76 -15463990.66 0.3705 0.1089

Mars -47051-11-06 19:40 J -15463644.79 -15463644.68 -15463644.57 0.1622 0.0858

Earth -47049-02-26 07:26 J -15463168.29 -15463168.19 -15463168.10 0.2665 0.1915

Moon -47049-02-26 07:54 J -15463168.27 -15463168.17 -15463168.07 0.2672 0.1918 *

Mars -47049-10-12 07:26 J -15462939.24 -15462939.19 -15462939.14 0.1638 0.1507

Jupiter -47048-05-11 07:40 J -15462728.34 -15462728.18 -15462728.01 0.0488 0.0039

Venus -47046-06-11 10:18 J -15461967.17 -15461967.07 -15461966.97 0.3710 0.1200

Saturn -47043-03-03 11:02 J -15460971.08 -15460971.04 -15460970.99 0.0287 0.0275

Saturn -47043-05-31 05:59 J -15460882.39 -15460882.25 -15460882.11 0.0286 0.0153

Saturn -47043-08-28 01:11 J -15460793.62 -15460793.45 -15460793.29 0.0286 0.0030

Saturn -47043-11-24 20:38 J -15460704.80 -15460704.64 -15460704.48 0.0285 0.0096

Moon -47042-02-18 08:23 J -15460619.26 -15460619.15 -15460619.04 0.2669 0.1683

Earth -47042-02-18 09:35 J -15460619.21 -15460619.10 -15460618.99 0.2670 0.1547 *

Saturn -47042-02-21 16:33 J -15460615.92 -15460615.81 -15460615.71 0.0285 0.0224

Jupiter -47042-07-13 02:52 J -15460474.51 -15460474.38 -15460474.24 0.0540 0.0149

Mars -47041-03-29 04:33 J -15460214.37 -15460214.31 -15460214.25 0.1618 0.1437

Venus -47041-12-25 02:38 J -15459943.42 -15459943.39 -15459943.35 0.3715 0.3453

Mars -47039-03-04 16:33 J -15459508.91 -15459508.81 -15459508.70 0.1633 0.0945

Earth -47039-08-28 18:42 J -15459331.84 -15459331.72 -15459331.61 0.2666 0.0751

Moon -47039-08-28 19:26 J -15459331.81 -15459331.69 -15459331.58 0.2670 0.0851 *

Mars -47037-11-29 07:54 J -15458508.29 -15458508.17 -15458508.04 0.1902 0.0893

Jupiter -47036-02-27 08:38 J -15458418.29 -15458418.14 -15458417.99 0.0488 0.0185

Jupiter -47036-05-28 04:33 J -15458328.39 -15458328.31 -15458328.23 0.0487 0.0424

Moon -47032-08-21 10:33 J -15456782.15 -15456782.06 -15456781.97 0.2663 0.1824

Earth -47032-08-21 11:30 J -15456782.11 -15456782.02 -15456781.93 0.2661 0.1806 *

Uranus -47031-09-13 15:35 J -15456393.93 -15456393.85 -15456393.76 0.0146 0.0126

Uranus -47031-12-10 22:33 J -15456305.69 -15456305.56 -15456305.42 0.0146 0.0095

Uranus -47030-03-09 05:30 J -15456217.42 -15456217.27 -15456217.11 0.0146 0.0065

Jupiter -47030-05-01 05:45 J -15456164.40 -15456164.26 -15456164.13 0.0540 0.0021

Neptune -47030-05-31 11:16 J -15456134.08 -15456134.03 -15456133.97 0.0089 0.0083

Uranus -47030-06-05 12:42 J -15456129.14 -15456128.97 -15456128.80 0.0146 0.0034

Mars -47030-07-26 01:54 J -15456078.55 -15456078.42 -15456078.30 0.1630 0.0378

Neptune -47030-08-27 13:40 J -15456046.01 -15456045.93 -15456045.84 0.0089 0.0076

Uranus -47030-09-01 19:40 J -15456040.85 -15456040.68 -15456040.50 0.0146 0.0005

Neptune -47030-11-23 16:04 J -15455957.92 -15455957.83 -15455957.72 0.0089 0.0069

Uranus -47030-11-29 02:52 J -15455952.55 -15455952.38 -15455952.21 0.0146 0.0028

Neptune -47029-02-19 18:28 J -15455869.84 -15455869.73 -15455869.60 0.0089 0.0062

Moon -47029-02-21 09:21 J -15455868.25 -15455868.11 -15455867.98 0.2673 0.0352

Earth -47029-02-21 10:18 J -15455868.21 -15455868.07 -15455867.93 0.2668 0.0366 *

Uranus -47029-02-25 10:04 J -15455864.24 -15455864.08 -15455863.92 0.0146 0.0059

Neptune -47029-05-17 21:06 J -15455781.75 -15455781.62 -15455781.49 0.0089 0.0054

Uranus -47029-05-23 17:02 J -15455775.91 -15455775.79 -15455775.64 0.0146 0.0092

Neptune -47029-08-13 23:30 J -15455693.65 -15455693.52 -15455693.37 0.0089 0.0047

Uranus -47029-08-20 00:42 J -15455687.57 -15455687.47 -15455687.38 0.0146 0.0123

Neptune -47029-11-10 01:54 J -15455605.56 -15455605.42 -15455605.26 0.0089 0.0040

Neptune -47028-02-06 04:33 J -15455517.46 -15455517.31 -15455517.15 0.0089 0.0032

Neptune -47028-05-05 06:57 J -15455429.36 -15455429.21 -15455429.04 0.0089 0.0025

Saturn -47028-06-29 10:18 J -15455374.16 -15455374.07 -15455373.97 0.0273 0.0198

Neptune -47028-08-01 09:35 J -15455341.26 -15455341.10 -15455340.93 0.0089 0.0017

Saturn -47028-09-25 23:16 J -15455285.66 -15455285.53 -15455285.39 0.0273 0.0104

Neptune -47028-10-28 12:14 J -15455253.16 -15455252.99 -15455252.83 0.0089 0.0010

Saturn -47028-12-23 12:14 J -15455197.14 -15455196.99 -15455196.85 0.0274 0.0011

Neptune -47027-01-24 14:38 J -15455165.05 -15455164.89 -15455164.72 0.0089 0.0003

Saturn -47027-03-22 00:42 J -15455108.61 -15455108.47 -15455108.34 0.0274 0.0083

Mars -47027-04-21 09:06 J -15455078.26 -15455078.12 -15455077.98 0.1908 0.0298

Neptune -47027-04-22 17:16 J -15455076.95 -15455076.78 -15455076.61 0.0089 0.0005

Saturn -47027-06-18 12:57 J -15455020.06 -15455019.96 -15455019.85 0.0275 0.0175

Neptune -47027-07-19 19:40 J -15454988.84 -15454988.68 -15454988.51 0.0089 0.0013

Saturn -47027-09-15 01:11 J -15454931.48 -15454931.45 -15454931.41 0.0275 0.0265

Neptune -47027-10-15 22:18 J -15454900.73 -15454900.57 -15454900.40 0.0089 0.0020

Venus -47027-10-22 09:06 J -15454894.26 -15454894.12 -15454893.98 0.3670 0.0921

Neptune -47026-01-12 00:57 J -15454812.62 -15454812.46 -15454812.30 0.0089 0.0028

Neptune -47026-04-10 03:21 J -15454724.50 -15454724.36 -15454724.19 0.0089 0.0036

Neptune -47026-07-07 06:14 J -15454636.39 -15454636.24 -15454636.09 0.0089 0.0043

Earth -47026-08-31 14:23 J -15454580.99 -15454580.90 -15454580.81 0.2668 0.1617

Moon -47026-08-31 15:06 J -15454580.96 -15454580.87 -15454580.77 0.2668 0.1691 *

Neptune -47026-10-03 08:38 J -15454548.27 -15454548.14 -15454547.99 0.0089 0.0051

Neptune -47026-12-30 11:16 J -15454460.15 -15454460.03 -15454459.89 0.0089 0.0059

Neptune -47025-03-27 13:40 J -15454372.02 -15454371.93 -15454371.80 0.0089 0.0067

Neptune -47025-06-23 16:47 J -15454283.89 -15454283.80 -15454283.71 0.0089 0.0074

Neptune -47025-09-19 19:11 J -15454195.75 -15454195.70 -15454195.62 0.0089 0.0082

Jupiter -47025-12-16 09:06 J -15454108.23 -15454108.12 -15454108.00 0.0489 0.0335

Jupiter -47024-03-16 04:47 J -15454018.44 -15454018.30 -15454018.16 0.0488 0.0269

Mars -47021-12-15 10:47 J -15452648.18 -15452648.05 -15452647.92 0.1626 0.0203

Moon -47019-08-24 07:26 J -15452031.30 -15452031.19 -15452031.08 0.2669 0.0976

Earth -47019-08-24 07:40 J -15452031.29 -15452031.18 -15452031.06 0.2663 0.0884 *

Jupiter -47018-02-17 07:54 J -15451854.30 -15451854.17 -15451854.04 0.0539 0.0183

Jupiter -47018-05-17 20:52 J -15451764.68 -15451764.63 -15451764.57 0.0541 0.0491

Mars -47018-09-11 10:04 J -15451648.16 -15451648.08 -15451647.99 0.1913 0.1487

Moon -47016-02-23 11:30 J -15451117.16 -15451117.02 -15451116.89 0.2673 0.0781

Earth -47016-02-23 11:30 J -15451117.15 -15451117.02 -15451116.88 0.2666 0.0874 *

Saturn -47014-10-18 05:30 J -15450150.39 -15450150.27 -15450150.15 0.0286 0.0192

Saturn -47013-01-15 00:28 J -15450061.64 -15450061.48 -15450061.31 0.0286 0.0069

Saturn -47013-04-12 19:54 J -15449972.83 -15449972.67 -15449972.50 0.0285 0.0057

Saturn -47013-07-10 15:50 J -15449883.97 -15449883.84 -15449883.71 0.0285 0.0184

Earth -47013-09-02 09:50 J -15449830.13 -15449830.09 -15449830.04 0.2669 0.2461

Moon -47013-09-02 10:33 J -15449830.11 -15449830.06 -15449830.02 0.2664 0.2463 *

Jupiter -47013-10-04 10:18 J -15449798.10 -15449798.07 -15449798.03 0.0490 0.0477

Jupiter -47012-01-02 05:30 J -15449708.43 -15449708.27 -15449708.10 0.0488 0.0122

Mars -47011-05-07 19:54 J -15449217.79 -15449217.67 -15449217.55 0.1622 0.0773

Moon -47009-02-16 13:54 J -15448567.96 -15448567.92 -15448567.88 0.2667 0.2531

Earth -47009-02-16 14:52 J -15448567.93 -15448567.88 -15448567.84 0.2672 0.2490 *

Mars -47009-04-12 07:26 J -15448512.22 -15448512.19 -15448512.16 0.1638 0.1584

Jupiter -47007-12-06 08:52 J -15447544.23 -15447544.13 -15447544.03 0.0538 0.0372

Jupiter -47006-03-05 22:33 J -15447454.68 -15447454.56 -15447454.45 0.0540 0.0309

Earth -47006-08-27 03:50 J -15447280.46 -15447280.34 -15447280.22 0.2665 0.0030

Moon -47006-08-27 04:04 J -15447280.45 -15447280.33 -15447280.22 0.2671 0.0131 *

Earth -47003-02-26 13:11 J -15446366.03 -15446365.95 -15446365.86 0.2665 0.2136

Moon -47003-02-26 13:54 J -15446366.00 -15446365.92 -15446365.85 0.2671 0.2243 *

Mars -47002-09-28 04:47 J -15445787.37 -15445787.30 -15445787.23 0.1619 0.1351

Jupiter -47001-10-21 06:28 J -15445398.39 -15445398.23 -15445398.06 0.0489 0.0026

Venus -47001-12-16 22:47 J -15445341.63 -15445341.55 -15445341.47 0.3702 0.2537

47TH MILLENNIUM BCE

This is a list of transits of Mercury in the 47th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Mars	-47000-09-02 16:47	J	-15445081.90	-15445081.80	-15445081.70	0.1634	0.1026	
Earth	-46999-08-19 20:09	J	-15444730.68	-15444730.66	-15444730.63	0.2660	0.2580	
Saturn	-46999-11-16 13:26	J	-15444642.02	-15444641.94	-15444641.85	0.0273	0.0217	
Saturn	-46998-02-13 02:38	J	-15444553.52	-15444553.39	-15444553.26	0.0273	0.0122	
Saturn	-46998-05-12 15:21	J	-15444465.00	-15444464.86	-15444464.72	0.0274	0.0028	
Saturn	-46998-08-09 04:04	J	-15444376.47	-15444376.33	-15444376.19	0.0274	0.0065	
Saturn	-46998-11-05 16:18	J	-15444287.93	-15444287.82	-15444287.70	0.0275	0.0157	
Saturn	-46997-02-02 04:47	J	-15444199.36	-15444199.30	-15444199.25	0.0275	0.0247	
Mars	-46997-05-30 08:38	J	-15444081.26	-15444081.14	-15444081.02	0.1902	0.1027	
Moon	-46996-02-18 14:09	J	-15443817.03	-15443816.91	-15443816.79	0.2671	0.1401	
Earth	-46996-02-18 15:21	J	-15443816.98	-15443816.86	-15443816.74	0.2670	0.1338	*
Venus	-46995-07-02 15:21	J	-15443317.97	-15443317.86	-15443317.76	0.3707	0.0238	
Jupiter	-46995-12-23 00:57	J	-15443144.60	-15443144.46	-15443144.33	0.0540	0.0143	
Earth	-46993-08-28 23:45	J	-15442529.62	-15442529.51	-15442529.40	0.2666	0.0908	
Moon	-46993-08-29 00:28	J	-15442529.59	-15442529.48	-15442529.37	0.2670	0.0910	*
Mars	-46990-01-24 01:54	J	-15441651.54	-15441651.42	-15441651.29	0.1630	0.0460	
Venus	-46989-01-16 07:54	J	-15441294.26	-15441294.17	-15441294.08	0.3711	0.2050	
Uranus	-46989-04-10 02:38	J	-15441209.45	-15441209.39	-15441209.32	0.0132	0.0117	
Uranus	-46989-07-07 06:14	J	-15441121.33	-15441121.24	-15441121.14	0.0132	0.0098	
Jupiter	-46989-08-09 06:57	J	-15441088.36	-15441088.21	-15441088.05	0.0489	0.0178	
Uranus	-46989-10-03 09:35	J	-15441033.20	-15441033.10	-15441032.98	0.0132	0.0080	
Jupiter	-46989-11-07 03:06	J	-15440998.45	-15440998.37	-15440998.30	0.0487	0.0432	

Uranus -46989-12-30 13:11 J -15440945.07 -15440944.95 -15440944.82 0.0132 0.0061

Uranus -46988-03-28 16:47 J -15440856.93 -15440856.80 -15440856.66 0.0132 0.0043

Uranus -46988-06-24 20:23 J -15440768.79 -15440768.65 -15440768.51 0.0132 0.0024

Uranus -46988-09-20 23:45 J -15440680.65 -15440680.51 -15440680.36 0.0132 0.0006

Mars -46988-10-20 09:21 J -15440651.25 -15440651.11 -15440650.97 0.1908 0.0187

Uranus -46988-12-18 03:21 J -15440592.50 -15440592.36 -15440592.22 0.0132 0.0013

Uranus -46987-03-16 06:42 J -15440504.36 -15440504.22 -15440504.08 0.0132 0.0031

Uranus -46987-06-12 10:04 J -15440416.21 -15440416.08 -15440415.95 0.0132 0.0049

Uranus -46987-09-08 13:26 J -15440328.06 -15440327.94 -15440327.82 0.0132 0.0067

Uranus -46987-12-05 16:47 J -15440239.90 -15440239.80 -15440239.69 0.0132 0.0085

Uranus -46986-03-03 19:54 J -15440151.74 -15440151.67 -15440151.57 0.0132 0.0104

Uranus -46986-05-30 23:16 J -15440063.57 -15440063.53 -15440063.47 0.0132 0.0121

Moon -46986-08-22 15:50 J -15439979.93 -15439979.84 -15439979.75 0.2664 0.1738

Earth -46986-08-22 16:33 J -15439979.90 -15439979.81 -15439979.71 0.2662 0.1641 *

Saturn -46984-03-06 05:30 J -15439418.36 -15439418.27 -15439418.16 0.0286 0.0227

Saturn -46984-06-03 00:28 J -15439329.63 -15439329.48 -15439329.32 0.0286 0.0105

Saturn -46984-08-30 19:54 J -15439240.84 -15439240.67 -15439240.51 0.0286 0.0021

Saturn -46984-11-27 15:21 J -15439152.00 -15439151.86 -15439151.71 0.0285 0.0147

Moon -46983-02-21 15:21 J -15439066.00 -15439065.86 -15439065.73 0.2672 0.0300

Earth -46983-02-21 16:18 J -15439065.96 -15439065.82 -15439065.68 0.2668 0.0153 *

Saturn -46983-02-24 11:16 J -15439063.06 -15439063.03 -15439062.98 0.0285 0.0275

Jupiter -46983-10-11 03:35 J -15438834.49 -15438834.35 -15438834.21 0.0540 0.0019

Pluto -46981-01-25 17:02 J -15438362.80 -15438362.79 -15438362.75 0.0064 0.0063

Pluto -46981-04-22 17:59 J -15438274.79 -15438274.75 -15438274.66 0.0064 0.0059

Mars -46981-06-15 11:02 J -15438221.17 -15438221.04 -15438220.91 0.1626 0.0119

Pluto -46981-07-19 19:11 J -15438186.77 -15438186.70 -15438186.59 0.0064 0.0054

Pluto -46981-10-15 20:23 J -15438098.74 -15438098.65 -15438098.53 0.0064 0.0049

Pluto -46980-01-11 21:50 J -15438010.71 -15438010.59 -15438010.47 0.0064 0.0044

Pluto -46980-04-09 22:33 J -15437922.67 -15437922.56 -15437922.41 0.0064 0.0040

Pluto -46980-07-06 23:45 J -15437834.63 -15437834.51 -15437834.35 0.0064 0.0036

Earth -46980-08-31 19:26 J -15437778.78 -15437778.69 -15437778.60 0.2668 0.1769

Moon -46980-08-31 20:09 J -15437778.74 -15437778.66 -15437778.57 0.2667 0.1849 *

Pluto -46980-10-03 01:11 J -15437746.59 -15437746.45 -15437746.29 0.0064 0.0030

Pluto -46980-12-30 02:23 J -15437658.55 -15437658.40 -15437658.24 0.0064 0.0025

Pluto -46979-03-28 03:35 J -15437570.50 -15437570.35 -15437570.18 0.0065 0.0021

Pluto -46979-06-24 04:47 J -15437482.46 -15437482.30 -15437482.13 0.0065 0.0016

Pluto -46979-09-20 06:14 J -15437394.41 -15437394.24 -15437394.07 0.0065 0.0011

Pluto -46979-12-17 07:26 J -15437306.36 -15437306.19 -15437306.02 0.0065 0.0006

Mars -46978-03-12 10:33 J -15437221.15 -15437221.06 -15437220.96 0.1913 0.1358

Pluto -46978-03-15 08:38 J -15437218.31 -15437218.14 -15437217.97 0.0065 0.0001

Pluto -46978-06-11 09:50 J -15437130.26 -15437130.09 -15437129.91 0.0065 0.0005

Pluto -46978-09-07 11:02 J -15437042.20 -15437042.04 -15437041.86 0.0065 0.0010

Pluto -46978-12-04 12:28 J -15436954.15 -15436953.98 -15436953.81 0.0065 0.0015

Pluto -46977-03-01 13:26 J -15436866.09 -15436865.94 -15436865.76 0.0065 0.0020

Jupiter -46977-05-28 07:54 J -15436778.29 -15436778.17 -15436778.05 0.0489 0.0324

Pluto -46977-05-28 14:38 J -15436778.03 -15436777.89 -15436777.72 0.0065 0.0026

Pluto -46977-08-24 16:04 J -15436689.97 -15436689.83 -15436689.67 0.0065 0.0030

Jupiter -46977-08-26 03:21 J -15436688.49 -15436688.36 -15436688.22 0.0488 0.0280

Pluto -46977-11-20 17:16 J -15436601.91 -15436601.78 -15436601.62 0.0065 0.0036

Pluto -46976-02-16 18:42 J -15436513.84 -15436513.72 -15436513.58 0.0066 0.0041

Pluto -46976-05-15 19:40 J -15436425.78 -15436425.68 -15436425.53 0.0066 0.0047

Pluto -46976-08-11 21:06 J -15436337.70 -15436337.62 -15436337.49 0.0066 0.0052

Pluto -46976-11-07 22:47 J -15436249.63 -15436249.55 -15436249.46 0.0066 0.0057

Venus -46976-11-12 05:45 J -15436245.37 -15436245.26 -15436245.16 0.3675 0.2473

Pluto -46975-02-03 23:45 J -15436161.54 -15436161.51 -15436161.44 0.0066 0.0063

Moon -46973-08-24 12:28 J -15435229.09 -15435228.98 -15435228.86 0.2670 0.0694

Earth -46973-08-24 12:57 J -15435229.08 -15435228.96 -15435228.85 0.2663 0.0720 *

Mars -46972-11-05 20:09 J -15434790.78 -15434790.66 -15434790.54 0.1622 0.0687

Jupiter -46971-07-30 06:14 J -15434524.37 -15434524.24 -15434524.11 0.0539 0.0181

Jupiter -46971-10-27 19:26 J -15434434.74 -15434434.69 -15434434.64 0.0541 0.0494

Earth -46970-02-24 17:30 J -15434314.90 -15434314.77 -15434314.64 0.2666 0.1084

Moon -46970-02-24 17:30 J -15434314.89 -15434314.77 -15434314.65 0.2673 0.1176 *

Venus -46970-05-29 10:04 J -15434221.17 -15434221.08 -15434220.99 0.3668 0.2764

Saturn -46969-04-04 14:23 J -15433909.95 -15433909.90 -15433909.85 0.0273 0.0252

Saturn -46969-07-02 03:21 J -15433821.47 -15433821.36 -15433821.24 0.0273 0.0157

Saturn -46969-09-28 16:18 J -15433732.96 -15433732.82 -15433732.68 0.0273 0.0062

Saturn -46969-12-26 05:02 J -15433644.43 -15433644.29 -15433644.15 0.0274 0.0031

Saturn -46968-03-24 17:30 J -15433555.90 -15433555.77 -15433555.64 0.0274 0.0123

Saturn -46968-06-21 05:45 J -15433467.34 -15433467.26 -15433467.17 0.0275 0.0215

Earth -46967-09-03 14:52 J -15433027.90 -15433027.88 -15433027.85 0.2670 0.2613

Moon -46967-09-03 15:35 J -15433027.85 -15433027.85 -15433027.85 0.2664 0.2664 *

Jupiter -46965-03-16 08:38 J -15432468.18 -15432468.14 -15432468.10 0.0489 0.0473

Jupiter -46965-06-14 03:50 J -15432378.50 -15432378.34 -15432378.18 0.0488 0.0125

Moon -46963-02-16 19:40 J -15431765.74 -15431765.68 -15431765.63 0.2667 0.2389

Earth -46963-02-16 20:38 J -15431765.71 -15431765.64 -15431765.58 0.2671 0.2289 *

Mars -46962-03-29 05:02 J -15431360.37 -15431360.29 -15431360.21 0.1619 0.1268

Mars -46960-03-03 16:47 J -15430654.89 -15430654.80 -15430654.70 0.1634 0.1107

Earth -46960-08-27 09:06 J -15430478.24 -15430478.12 -15430478.00 0.2665 0.0208

Moon -46960-08-27 09:21 J -15430478.23 -15430478.11 -15430477.99 0.2671 0.0148 *

Jupiter -46959-05-18 08:09 J -15430214.26 -15430214.16 -15430214.05 0.0539 0.0353

Jupiter -46959-08-15 21:50 J -15430124.70 -15430124.59 -15430124.48 0.0540 0.0329

Mars -46958-11-29 08:38 J -15429654.26 -15429654.14 -15429654.03 0.1902 0.1124

Earth -46957-02-27 19:11 J -15429563.77 -15429563.70 -15429563.64 0.2664 0.2357

Moon -46957-02-27 19:54 J -15429563.74 -15429563.67 -15429563.61 0.2670 0.2344 *

Saturn -46955-07-24 05:02 J -15428686.34 -15428686.29 -15428686.22 0.0286 0.0266

Saturn -46955-10-20 23:59 J -15428597.64 -15428597.50 -15428597.35 0.0286 0.0144

Saturn -46954-01-17 19:11 J -15428508.86 -15428508.70 -15428508.53 0.0286 0.0020

Saturn -46954-04-16 14:52 J -15428420.04 -15428419.88 -15428419.73 0.0285 0.0107

Saturn -46954-07-14 10:47 J -15428331.15 -15428331.05 -15428330.96 0.0285 0.0235

Jupiter -46953-04-02 04:33 J -15428068.47 -15428068.31 -15428068.14 0.0488 0.0025

Moon -46953-08-20 00:28 J -15427928.53 -15427928.48 -15427928.44 0.2659 0.2447

Earth -46953-08-20 01:26 J -15427928.49 -15427928.44 -15427928.39 0.2660 0.2410 *

Mars -46951-07-25 02:09 J -15427224.53 -15427224.41 -15427224.29 0.1630 0.0540

Moon -46950-02-19 19:54 J -15427014.79 -15427014.67 -15427014.55 0.2672 0.1220

Earth -46950-02-19 21:06 J -15427014.75 -15427014.62 -15427014.50 0.2669 0.1133 *

Mars -46948-04-20 09:50 J -15426224.23 -15426224.09 -15426223.95 0.1908 0.0060

Neptune -46948-12-06 16:47 J -15425993.82 -15425993.80 -15425993.77 0.0088 0.0087

Neptune -46947-03-04 18:28 J -15425905.78 -15425905.73 -15425905.65 0.0088 0.0080

Neptune -46947-05-31 20:23 J -15425817.72 -15425817.65 -15425817.55 0.0088 0.0074

Jupiter -46947-06-03 23:16 J -15425814.66 -15425814.53 -15425814.40 0.0539 0.0145

Neptune -46947-08-27 22:18 J -15425729.65 -15425729.57 -15425729.46 0.0088 0.0067

Earth -46947-08-30 04:47 J -15425727.41 -15425727.30 -15425727.19 0.2667 0.1066

Moon -46947-08-30 05:30 J -15425727.37 -15425727.27 -15425727.16 0.2670 0.1192 *

Uranus -46947-10-03 22:47 J -15425692.65 -15425692.55 -15425692.45 0.0146 0.0119

Neptune -46947-11-24 00:28 J -15425641.59 -15425641.48 -15425641.37 0.0088 0.0060

Uranus -46947-12-31 05:30 J -15425604.40 -15425604.27 -15425604.13 0.0146 0.0089

Neptune -46946-02-20 02:23 J -15425553.52 -15425553.40 -15425553.28 0.0088 0.0053

Uranus -46946-03-29 12:28 J -15425516.13 -15425515.98 -15425515.81 0.0146 0.0058

Neptune -46946-05-19 04:04 J -15425465.45 -15425465.33 -15425465.19 0.0088 0.0047

Uranus -46946-06-25 19:40 J -15425427.85 -15425427.68 -15425427.51 0.0146 0.0028

Neptune -46946-08-15 05:59 J -15425377.37 -15425377.25 -15425377.11 0.0088 0.0040

Uranus -46946-09-22 02:38 J -15425339.56 -15425339.39 -15425339.21 0.0146 0.0005

Neptune -46946-11-11 08:09 J -15425289.30 -15425289.16 -15425289.02 0.0088 0.0033

Uranus -46946-12-19 09:50 J -15425251.26 -15425251.09 -15425250.92 0.0146 0.0035

Neptune -46945-02-07 09:50 J -15425201.23 -15425201.09 -15425200.94 0.0088 0.0026

Uranus -46945-03-16 16:47 J -15425162.95 -15425162.80 -15425162.63 0.0146 0.0067

Neptune -46945-05-05 11:45 J -15425113.15 -15425113.01 -15425112.86 0.0088 0.0019

Uranus -46945-06-13 00:14 J -15425074.62 -15425074.49 -15425074.36 0.0146 0.0098

Neptune -46945-08-01 13:40 J -15425025.08 -15425024.93 -15425024.78 0.0088 0.0013

Uranus -46945-09-09 07:26 J -15424986.26 -15424986.19 -15424986.10 0.0146 0.0130

Neptune -46945-10-28 15:21 J -15424937.00 -15424936.86 -15424936.71 0.0088 0.0007

Neptune -46944-01-24 17:16 J -15424848.93 -15424848.78 -15424848.63 0.0088 0.0001

Neptune -46944-04-22 19:11 J -15424760.85 -15424760.70 -15424760.55 0.0088 0.0007

Neptune -46944-07-19 20:52 J -15424672.77 -15424672.63 -15424672.48 0.0088 0.0014

Venus -46944-07-23 20:23 J -15424668.74 -15424668.65 -15424668.55 0.3703 0.1674

Neptune -46944-10-15 22:33 J -15424584.70 -15424584.56 -15424584.41 0.0088 0.0020

Neptune -46943-01-12 00:28 J -15424496.62 -15424496.48 -15424496.34 0.0088 0.0027

Neptune -46943-04-10 02:09 J -15424408.54 -15424408.41 -15424408.27 0.0088 0.0033

Neptune -46943-07-07 03:50 J -15424320.46 -15424320.34 -15424320.20 0.0088 0.0040

Neptune -46943-10-03 05:45 J -15424232.38 -15424232.26 -15424232.13 0.0089 0.0046

Neptune -46943-12-30 07:26 J -15424144.30 -15424144.19 -15424144.07 0.0089 0.0052

Neptune -46942-03-28 09:06 J -15424056.22 -15424056.12 -15424056.00 0.0089 0.0059

Neptune -46942-06-24 10:47 J -15423968.13 -15423968.05 -15423967.94 0.0089 0.0065

Neptune -46942-09-20 12:28 J -15423880.05 -15423879.98 -15423879.88 0.0089 0.0072

Mars -46942-12-15 11:16 J -15423794.16 -15423794.03 -15423793.90 0.1626 0.0028

Neptune -46942-12-17 14:23 J -15423791.96 -15423791.90 -15423791.83 0.0089 0.0078

Jupiter -46941-01-20 05:30 J -15423758.42 -15423758.27 -15423758.12 0.0489 0.0171

Neptune -46941-03-14 16:18 J -15423703.86 -15423703.82 -15423703.78 0.0089 0.0084

Jupiter -46941-04-19 01:26 J -15423668.50 -15423668.44 -15423668.37 0.0488 0.0440

Saturn -46940-08-22 17:16 J -15423177.78 -15423177.78 -15423177.75 0.0273 0.0272

Moon -46940-08-22 21:06 J -15423177.72 -15423177.62 -15423177.52 0.2666 0.1526

Earth -46940-08-22 21:50 J -15423177.69 -15423177.59 -15423177.49 0.2662 0.1472 *

Saturn -46940-11-19 06:42 J -15423089.33 -15423089.22 -15423089.11 0.0273 0.0175

Saturn -46939-02-15 19:40 J -15423000.82 -15423000.68 -15423000.54 0.0274 0.0080

Saturn -46939-05-15 08:23 J -15422912.29 -15422912.15 -15422912.01 0.0274 0.0014

Saturn -46939-08-11 20:52 J -15422823.76 -15422823.63 -15422823.50 0.0275 0.0106

Mars -46939-09-10 11:02 J -15422794.15 -15422794.04 -15422793.93 0.1913 0.1236

Saturn -46939-11-08 09:21 J -15422735.21 -15422735.11 -15422735.01 0.0275 0.0198

Venus -46938-02-06 12:57 J -15422645.06 -15422644.96 -15422644.85 0.3708 0.0634

Moon -46937-02-22 21:21 J -15422263.75 -15422263.61 -15422263.48 0.2673 0.0088

Earth -46937-02-22 22:04 J -15422263.72 -15422263.58 -15422263.44 0.2668 0.0070 *

Jupiter -46935-03-23 01:26 J -15421504.58 -15421504.44 -15421504.30 0.0539 0.0026

Earth -46934-09-02 00:28 J -15420976.56 -15420976.48 -15420976.40 0.2668 0.1923

Moon -46934-09-02 01:11 J -15420976.53 -15420976.45 -15420976.37 0.2665 0.1934 *

Venus -46933-08-22 05:30 J -15420621.33 -15420621.27 -15420621.21 0.3712 0.2899

Mars -46932-05-06 20:09 J -15420363.78 -15420363.66 -15420363.53 0.1622 0.0604

Jupiter -46930-11-08 05:59 J -15419448.37 -15419448.25 -15419448.12 0.0489 0.0321

Jupiter -46929-02-06 01:40 J -15419358.57 -15419358.43 -15419358.30 0.0488 0.0283

Moon -46927-08-25 17:45 J -15418426.88 -15418426.76 -15418426.64 0.2670 0.0626

Earth -46927-08-25 17:59 J -15418426.86 -15418426.75 -15418426.63 0.2664 0.0558 *

Saturn -46925-03-09 00:57 J -15417865.59 -15417865.46 -15417865.32 0.0286 0.0174

Saturn -46925-06-05 20:09 J -15417776.83 -15417776.66 -15417776.50 0.0286 0.0050

Saturn -46925-09-02 15:21 J -15417688.02 -15417687.86 -15417687.69 0.0285 0.0076

Saturn -46925-11-30 11:02 J -15417599.15 -15417599.04 -15417598.91 0.0285 0.0203

Moon -46924-02-24 23:30 J -15417512.64 -15417512.52 -15417512.40 0.2673 0.1232

Earth -46924-02-24 23:30 J -15417512.64 -15417512.52 -15417512.40 0.2666 0.1310 *

Jupiter -46923-01-09 03:50 J -15417194.47 -15417194.34 -15417194.21 0.0539 0.0191

Jupiter -46923-04-08 17:02 J -15417104.84 -15417104.79 -15417104.73 0.0541 0.0486

Mars -46923-09-27 05:16 J -15416933.37 -15416933.28 -15416933.19 0.1619 0.1179

Mars -46921-09-01 17:02 J -15416227.88 -15416227.79 -15416227.70 0.1634 0.1189

Venus -46919-06-19 06:28 J -15415572.37 -15415572.23 -15415572.09 0.3673 0.0674

Mars -46918-05-30 09:06 J -15415227.23 -15415227.12 -15415227.01 0.1902 0.1253

Jupiter -46918-08-27 07:11 J -15415138.25 -15415138.20 -15415138.15 0.0489 0.0465

Jupiter -46918-11-25 02:09 J -15415048.57 -15415048.41 -15415048.25 0.0488 0.0133

Moon -46917-02-18 01:11 J -15414963.54 -15414963.45 -15414963.37 0.2669 0.2100

Earth -46917-02-18 02:09 J -15414963.49 -15414963.41 -15414963.32 0.2671 0.2090 *

Earth -46914-08-28 14:09 J -15413676.03 -15413675.91 -15413675.79 0.2665 0.0344

Moon -46914-08-28 14:38 J -15413676.01 -15413675.89 -15413675.77 0.2671 0.0441 *

Jupiter -46912-10-28 06:28 J -15412884.34 -15412884.23 -15412884.13 0.0539 0.0355

Mars -46911-01-23 02:23 J -15412797.52 -15412797.40 -15412797.28 0.1630 0.0627

Jupiter -46911-01-25 19:54 J -15412794.77 -15412794.67 -15412794.56 0.0540 0.0328

Earth -46911-02-28 01:11 J -15412761.48 -15412761.45 -15412761.42 0.2664 0.2581

Saturn -46910-04-08 07:40 J -15412357.27 -15412357.18 -15412357.08 0.0273 0.0208

Saturn -46910-07-05 20:38 J -15412268.76 -15412268.64 -15412268.50 0.0273 0.0114

Saturn -46910-10-02 09:35 J -15412180.24 -15412180.10 -15412179.96 0.0274 0.0019

Saturn -46910-12-29 22:04 J -15412091.71 -15412091.58 -15412091.44 0.0274 0.0075

Saturn -46909-03-27 10:33 J -15412003.17 -15412003.06 -15412002.94 0.0275 0.0166

Saturn -46909-06-23 22:47 J -15411914.59 -15411914.55 -15411914.50 0.0275 0.0257

Mars -46909-10-19 10:04 J -15411797.23 -15411797.08 -15411796.94 0.1907 0.0067

Moon -46907-08-21 05:45 J -15411126.32 -15411126.26 -15411126.21 0.2659 0.2349

Earth -46907-08-21 06:42 J -15411126.29 -15411126.22 -15411126.16 0.2661 0.2238 *

Jupiter -46906-09-13 02:38 J -15410738.56 -15410738.39 -15410738.23 0.0488 0.0022

Uranus -46905-04-30 09:06 J -15410508.17 -15410508.12 -15410508.03 0.0132 0.0115

Uranus -46905-07-27 12:57 J -15410420.05 -15410419.96 -15410419.86 0.0132 0.0095

Uranus -46905-10-23 16:33 J -15410331.92 -15410331.81 -15410331.69 0.0132 0.0076

Uranus -46904-01-19 20:09 J -15410243.79 -15410243.66 -15410243.53 0.0132 0.0057

Moon -46904-02-20 01:40 J -15410212.56 -15410212.43 -15410212.31 0.2671 0.1027

Earth -46904-02-20 02:52 J -15410212.51 -15410212.38 -15410212.25 0.2669 0.0922 *

Uranus -46904-04-17 23:30 J -15410155.65 -15410155.52 -15410155.38 0.0132 0.0039

Uranus -46904-07-15 03:06 J -15410067.51 -15410067.37 -15410067.23 0.0132 0.0020

Uranus -46904-10-11 06:42 J -15409979.37 -15409979.22 -15409979.08 0.0132 0.0004

Uranus -46903-01-07 10:04 J -15409891.22 -15409891.08 -15409890.94 0.0132 0.0017

Uranus -46903-04-05 13:26 J -15409803.07 -15409802.94 -15409802.80 0.0132 0.0035

Uranus -46903-07-02 16:47 J -15409714.92 -15409714.80 -15409714.67 0.0132 0.0053

Uranus -46903-09-28 20:09 J -15409626.77 -15409626.66 -15409626.54 0.0132 0.0071

Uranus -46903-12-25 23:30 J -15409538.62 -15409538.52 -15409538.41 0.0132 0.0089

Uranus -46902-03-24 02:52 J -15409450.45 -15409450.38 -15409450.29 0.0132 0.0107

Mars -46902-06-15 11:16 J -15409367.16 -15409367.03 -15409366.89 0.1626 0.0081

Uranus -46902-06-20 05:59 J -15409362.28 -15409362.25 -15409362.19 0.0132 0.0125

Earth -46901-08-30 10:04 J -15408925.19 -15408925.08 -15408924.98 0.2667 0.1223

Moon -46901-08-30 10:47 J -15408925.16 -15408925.05 -15408924.95 0.2670 0.1211 *

Jupiter -46900-08-16 08:23 J -15408574.17 -15408574.15 -15408574.12 0.0538 0.0527

Jupiter -46900-11-13 22:18 J -15408484.70 -15408484.57 -15408484.43 0.0540 0.0161

Mars -46899-03-11 11:02 J -15408367.15 -15408367.04 -15408366.92 0.1913 0.1135

Saturn -46896-07-27 00:28 J -15407133.59 -15407133.48 -15407133.37 0.0286 0.0213

Saturn -46896-10-23 19:26 J -15407044.85 -15407044.69 -15407044.53 0.0286 0.0090

Saturn -46895-01-20 14:38 J -15406956.05 -15406955.89 -15406955.72 0.0285 0.0036

Saturn -46895-04-19 10:18 J -15406867.20 -15406867.07 -15406866.93 0.0285 0.0162

Jupiter -46894-07-02 03:21 J -15406428.51 -15406428.36 -15406428.20 0.0489 0.0170

Moon -46894-08-24 02:23 J -15406375.51 -15406375.40 -15406375.30 0.2667 0.1340

Earth -46894-08-24 03:06 J -15406375.48 -15406375.37 -15406375.27 0.2662 0.1307 *

Jupiter -46894-09-29 23:30 J -15406338.59 -15406338.52 -15406338.45 0.0488 0.0441

Venus -46893-08-14 01:26 J -15406019.49 -15406019.44 -15406019.38 0.3700 0.3123

Mars -46893-11-04 20:23 J -15405936.77 -15405936.65 -15405936.52 0.1623 0.0517

Pluto -46893-11-06 00:57 J -15405935.50 -15405935.46 -15405935.41 0.0081 0.0076

Pluto -46892-02-02 02:23 J -15405847.47 -15405847.40 -15405847.31 0.0081 0.0068

Pluto -46892-05-01 04:04 J -15405759.42 -15405759.33 -15405759.22 0.0081 0.0059

Pluto -46892-07-28 05:30 J -15405671.37 -15405671.27 -15405671.14 0.0081 0.0051

Pluto -46892-10-24 07:26 J -15405583.32 -15405583.19 -15405583.07 0.0080 0.0042

Pluto -46891-01-20 08:52 J -15405495.26 -15405495.13 -15405494.99 0.0080 0.0033

Moon -46891-02-23 03:21 J -15405461.50 -15405461.36 -15405461.22 0.2673 0.0216

Earth -46891-02-23 03:50 J -15405461.48 -15405461.34 -15405461.20 0.2667 0.0285 *

Pluto -46891-04-18 10:18 J -15405407.20 -15405407.07 -15405406.92 0.0080 0.0025

Pluto -46891-07-15 11:59 J -15405319.14 -15405319.00 -15405318.85 0.0080 0.0017

Pluto -46891-10-11 13:26 J -15405231.08 -15405230.94 -15405230.79 0.0080 0.0009

Pluto -46890-01-07 14:52 J -15405143.02 -15405142.88 -15405142.73 0.0080 0.0003

Pluto -46890-04-05 16:33 J -15405054.96 -15405054.81 -15405054.67 0.0080 0.0008

Pluto -46890-07-02 17:59 J -15404966.89 -15404966.75 -15404966.61 0.0079 0.0016

Pluto -46890-09-28 19:26 J -15404878.83 -15404878.69 -15404878.55 0.0079 0.0024

Pluto -46890-12-25 20:52 J -15404790.76 -15404790.63 -15404790.50 0.0079 0.0031

Pluto -46889-03-22 22:04 J -15404702.70 -15404702.58 -15404702.44 0.0079 0.0039

Pluto -46889-06-18 23:30 J -15404614.63 -15404614.52 -15404614.39 0.0079 0.0047

Pluto -46889-09-15 00:42 J -15404526.56 -15404526.47 -15404526.35 0.0079 0.0055

Pluto -46889-12-12 02:23 J -15404438.48 -15404438.40 -15404438.31 0.0079 0.0062

Pluto -46888-03-10 03:35 J -15404350.40 -15404350.35 -15404350.27 0.0078 0.0070

Pluto -46888-06-06 05:02 J -15404262.31 -15404262.29 -15404262.25 0.0078 0.0077

Jupiter -46888-09-01 23:45 J -15404174.65 -15404174.51 -15404174.37 0.0539 0.0024

Earth -46888-09-02 05:30 J -15404174.34 -15404174.27 -15404174.19 0.2669 0.2076

Moon -46888-09-02 06:28 J -15404174.30 -15404174.23 -15404174.17 0.2665 0.2187 *

Venus -46887-02-27 18:14 J -15403995.85 -15403995.74 -15403995.64 0.3704 0.0818

Mars -46883-03-28 05:16 J -15402506.37 -15402506.28 -15402506.18 0.1619 0.1095

Jupiter -46882-04-20 04:18 J -15402118.44 -15402118.32 -15402118.20 0.0490 0.0317

Jupiter -46882-07-18 23:59 J -15402028.64 -15402028.50 -15402028.37 0.0488 0.0288

Venus -46882-09-13 10:47 J -15401972.15 -15401972.05 -15401971.96 0.3709 0.1503

Mars -46881-03-02 17:16 J -15401800.86 -15401800.78 -15401800.70 0.1634 0.1271

Saturn -46881-08-25 11:02 J -15401625.12 -15401625.04 -15401624.96 0.0273 0.0227

Moon -46881-08-25 23:02 J -15401624.66 -15401624.54 -15401624.42 0.2670 0.0380

Earth -46881-08-25 23:16 J -15401624.65 -15401624.53 -15401624.41 0.2664 0.0395 *

Saturn -46881-11-21 23:59 J -15401536.62 -15401536.50 -15401536.37 0.0274 0.0131

Saturn -46880-02-18 12:57 J -15401448.10 -15401447.96 -15401447.82 0.0274 0.0037

Saturn -46880-05-18 01:40 J -15401359.57 -15401359.43 -15401359.29 0.0275 0.0057

Saturn -46880-08-14 14:09 J -15401271.03 -15401270.91 -15401270.79 0.0275 0.0149

Saturn -46880-11-11 02:23 J -15401182.46 -15401182.40 -15401182.33 0.0275 0.0240

Mars -46879-11-28 09:35 J -15400800.20 -15400800.10 -15400800.00 0.1901 0.1381

Earth -46878-02-26 05:16 J -15400710.39 -15400710.28 -15400710.17 0.2666 0.1525

Moon -46878-02-26 05:16 J -15400710.38 -15400710.28 -15400710.17 0.2672 0.1618 *

Jupiter -46876-06-21 01:40 J -15399864.56 -15399864.43 -15399864.30 0.0539 0.0198

Jupiter -46876-09-18 14:52 J -15399774.94 -15399774.88 -15399774.81 0.0540 0.0477

Mars -46872-07-24 02:23 J -15398370.51 -15398370.40 -15398370.28 0.1630 0.0709

Moon -46871-02-18 06:42 J -15398161.30 -15398161.22 -15398161.13 0.2670 0.2049

Earth -46871-02-18 07:54 J -15398161.26 -15398161.17 -15398161.07 0.2671 0.1884 *

Jupiter -46870-02-06 05:02 J -15397808.33 -15397808.29 -15397808.24 0.0490 0.0465

Jupiter -46870-05-07 00:14 J -15397718.65 -15397718.49 -15397718.33 0.0488 0.0133

Mars -46869-04-19 10:18 J -15397370.21 -15397370.07 -15397369.93 0.1907 0.0177

Earth -46868-08-28 19:11 J -15396873.82 -15396873.70 -15396873.58 0.2666 0.0505

Moon -46868-08-28 19:40 J -15396873.79 -15396873.68 -15396873.56 0.2671 0.0501 *

Saturn -46867-12-14 02:23 J -15396401.49 -15396401.40 -15396401.31 0.0286 0.0238

Saturn -46866-03-12 21:06 J -15396312.77 -15396312.62 -15396312.47 0.0286 0.0116

Saturn -46866-06-09 16:18 J -15396223.99 -15396223.82 -15396223.65 0.0285 0.0009

Saturn -46866-09-06 11:45 J -15396135.16 -15396135.01 -15396134.86 0.0285 0.0135

Neptune -46866-11-29 08:09 J -15396051.18 -15396051.16 -15396051.10 0.0089 0.0086

Saturn -46866-12-04 07:40 J -15396046.24 -15396046.18 -15396046.11 0.0284 0.0262

Neptune -46865-02-25 11:02 J -15395963.12 -15395963.04 -15395962.97 0.0089 0.0078

Neptune -46865-05-23 13:11 J -15395875.04 -15395874.95 -15395874.85 0.0089 0.0071

Neptune -46865-08-19 15:35 J -15395786.95 -15395786.85 -15395786.73 0.0089 0.0064

Neptune -46865-11-15 17:59 J -15395698.87 -15395698.75 -15395698.61 0.0089 0.0057

Neptune -46864-02-11 20:38 J -15395610.77 -15395610.64 -15395610.50 0.0089 0.0049

Jupiter -46864-04-09 03:50 J -15395554.44 -15395554.34 -15395554.23 0.0539 0.0367

Neptune -46864-05-10 23:02 J -15395522.68 -15395522.54 -15395522.39 0.0089 0.0042

Jupiter -46864-07-07 17:30 J -15395464.87 -15395464.77 -15395464.65 0.0540 0.0317

Neptune -46864-08-07 01:26 J -15395434.58 -15395434.44 -15395434.28 0.0089 0.0035

Neptune -46864-11-03 04:04 J -15395346.49 -15395346.33 -15395346.17 0.0089 0.0027

Neptune -46863-01-30 06:28 J -15395258.39 -15395258.23 -15395258.06 0.0089 0.0020

Neptune -46863-04-28 09:06 J -15395170.28 -15395170.12 -15395169.95 0.0089 0.0012

Neptune -46863-07-25 11:45 J -15395082.18 -15395082.01 -15395081.85 0.0089 0.0005

Uranus -46863-07-27 22:47 J -15395079.58 -15395079.55 -15395079.50 0.0146 0.0142

Neptune -46863-10-21 14:09 J -15394994.08 -15394993.91 -15394993.74 0.0089 0.0003

Uranus -46863-10-24 05:45 J -15394991.37 -15394991.26 -15394991.15 0.0146 0.0112

Mars -46863-12-14 11:30 J -15394940.15 -15394940.02 -15394939.89 0.1626 0.0146

Neptune -46862-01-17 16:47 J -15394905.97 -15394905.80 -15394905.63 0.0089 0.0010

Uranus -46862-01-20 12:42 J -15394903.11 -15394902.97 -15394902.83 0.0146 0.0082

Venus -46862-01-24 07:11 J -15394899.34 -15394899.20 -15394899.06 0.3671 0.1125

Neptune -46862-04-15 19:11 J -15394817.86 -15394817.70 -15394817.53 0.0089 0.0018

Uranus -46862-04-18 19:40 J -15394814.84 -15394814.68 -15394814.52 0.0146 0.0051

Neptune -46862-07-12 21:50 J -15394729.75 -15394729.59 -15394729.43 0.0089 0.0025

Uranus -46862-07-16 02:38 J -15394726.56 -15394726.39 -15394726.21 0.0146 0.0021

Neptune -46862-10-09 00:14 J -15394641.64 -15394641.49 -15394641.32 0.0089 0.0033

Uranus -46862-10-12 09:50 J -15394638.27 -15394638.09 -15394637.92 0.0146 0.0011

Neptune -46861-01-05 02:52 J -15394553.52 -15394553.38 -15394553.22 0.0089 0.0041

Uranus -46861-01-08 16:47 J -15394549.96 -15394549.80 -15394549.62 0.0146 0.0042

Neptune -46861-04-02 05:45 J -15394465.40 -15394465.26 -15394465.12 0.0089 0.0048

Uranus -46861-04-05 23:59 J -15394461.65 -15394461.50 -15394461.34 0.0146 0.0074

Neptune -46861-06-29 08:09 J -15394377.28 -15394377.16 -15394377.02 0.0089 0.0056

Uranus -46861-07-03 07:11 J -15394373.31 -15394373.20 -15394373.07 0.0146 0.0105

Moon -46861-08-21 11:02 J -15394324.12 -15394324.04 -15394323.97 0.2661 0.2079

Earth -46861-08-21 11:45 J -15394324.08 -15394324.01 -15394323.93 0.2661 0.2071 *

Neptune -46861-09-25 10:33 J -15394289.16 -15394289.06 -15394288.93 0.0089 0.0064

Uranus -46861-09-29 14:23 J -15394284.95 -15394284.90 -15394284.83 0.0146 0.0137

Neptune -46861-12-22 13:11 J -15394201.03 -15394200.95 -15394200.83 0.0089 0.0072

Neptune -46860-03-20 16:04 J -15394112.90 -15394112.83 -15394112.75 0.0089 0.0079

Neptune -46860-06-16 18:42 J -15394024.74 -15394024.72 -15394024.68 0.0089 0.0087

Mars -46860-09-09 11:30 J -15393940.14 -15393940.02 -15393939.90 0.1913 0.1011

Moon -46858-02-21 07:26 J -15393410.32 -15393410.19 -15393410.06 0.2671 0.0769

Earth -46858-02-21 08:38 J -15393410.27 -15393410.14 -15393410.01 0.2669 0.0718 *

Jupiter -46858-02-23 00:57 J -15393408.63 -15393408.46 -15393408.30 0.0488 0.0019

Earth -46855-08-31 15:06 J -15392122.97 -15392122.87 -15392122.77 0.2667 0.1374

Moon -46855-08-31 15:50 J -15392122.94 -15392122.84 -15392122.74 0.2668 0.1501 *

Mars -46853-05-05 20:38 J -15391509.77 -15391509.64 -15391509.51 0.1622 0.0433

Jupiter -46852-01-26 06:14 J -15391244.25 -15391244.24 -15391244.22 0.0538 0.0532

Jupiter -46852-04-25 20:23 J -15391154.78 -15391154.65 -15391154.52 0.0540 0.0157

Saturn -46851-01-12 11:59 J -15390893.03 -15390893.00 -15390892.95 0.0273 0.0259

Saturn -46851-04-11 01:26 J -15390804.56 -15390804.44 -15390804.33 0.0273 0.0163

Saturn -46851-07-08 14:23 J -15390716.04 -15390715.90 -15390715.76 0.0274 0.0069

Saturn -46851-10-05 03:06 J -15390627.52 -15390627.37 -15390627.23 0.0274 0.0026

Saturn -46850-01-01 15:35 J -15390538.98 -15390538.85 -15390538.72 0.0274 0.0118

Saturn -46850-03-31 03:50 J -15390450.42 -15390450.34 -15390450.25 0.0275 0.0209

Moon -46848-08-24 07:40 J -15389573.29 -15389573.18 -15389573.08 0.2668 0.1227

Earth -46848-08-24 08:09 J -15389573.27 -15389573.16 -15389573.05 0.2663 0.1139 *

Jupiter -46847-12-12 01:26 J -15389098.60 -15389098.44 -15389098.29 0.0489 0.0170

Jupiter -46846-03-11 21:06 J -15389008.68 -15389008.62 -15389008.54 0.0487 0.0440

Moon -46845-02-24 09:21 J -15388659.25 -15388659.11 -15388658.98 0.2674 0.0472

Earth -46845-02-24 09:35 J -15388659.23 -15388659.10 -15388658.96 0.2667 0.0502 *

Mars -46844-09-26 05:30 J -15388079.37 -15388079.27 -15388079.17 0.1619 0.1010

Mars -46842-09-01 17:16 J -15387373.85 -15387373.78 -15387373.71 0.1634 0.1350

Earth -46842-09-03 10:33 J -15387372.12 -15387372.06 -15387371.99 0.2669 0.2225

Moon -46842-09-03 11:30 J -15387372.09 -15387372.02 -15387371.96 0.2666 0.2214 *

Jupiter -46840-02-11 22:47 J -15386844.69 -15386844.55 -15386844.41 0.0539 0.0016

Mars -46839-05-29 09:50 J -15386373.18 -15386373.09 -15386373.01 0.1901 0.1488

Saturn -46837-05-02 01:40 J -15385669.46 -15385669.43 -15385669.38 0.0286 0.0276

Saturn -46837-07-29 20:23 J -15385580.78 -15385580.65 -15385580.50 0.0286 0.0155

Saturn -46837-10-26 15:35 J -15385492.01 -15385491.85 -15385491.68 0.0286 0.0031

Saturn -46836-01-23 11:02 J -15385403.20 -15385403.04 -15385402.88 0.0285 0.0094

Venus -46836-03-20 23:16 J -15385346.62 -15385346.53 -15385346.45 0.3701 0.2247

Saturn -46836-04-22 06:57 J -15385314.32 -15385314.21 -15385314.11 0.0285 0.0222

Earth -46835-08-27 04:18 J -15384822.44 -15384822.32 -15384822.20 0.2664 0.0239

Moon -46835-08-27 04:33 J -15384822.43 -15384822.31 -15384822.20 0.2671 0.0246 *

Jupiter -46835-09-30 02:09 J -15384788.53 -15384788.41 -15384788.28 0.0489 0.0317

Jupiter -46835-12-28 21:50 J -15384698.73 -15384698.59 -15384698.46 0.0488 0.0288

Mars -46834-02-16 14:23 J -15384648.92 -15384648.90 -15384648.88 0.1616 0.1586

Mars -46832-01-22 02:38 J -15383943.51 -15383943.39 -15383943.28 0.1630 0.0789

Earth -46832-02-26 11:16 J -15383908.14 -15383908.03 -15383907.93 0.2665 0.1748

Moon -46832-02-26 11:30 J -15383908.12 -15383908.02 -15383907.91 0.2671 0.1728 *

Venus -46831-10-04 15:50 J -15383322.95 -15383322.84 -15383322.73 0.3705 0.0070

Mars -46830-10-19 10:47 J -15382943.19 -15382943.05 -15382942.91 0.1907 0.0296

Jupiter -46829-11-30 23:59 J -15382534.63 -15382534.50 -15382534.37 0.0538 0.0196

Jupiter -46828-02-28 13:11 J -15382445.01 -15382444.95 -15382444.88 0.0540 0.0479

Moon -46825-02-19 12:28 J -15381359.09 -15381358.98 -15381358.88 0.2670 0.1678

Earth -46825-02-19 13:40 J -15381359.03 -15381358.93 -15381358.82 0.2670 0.1681 *

Venus -46825-04-19 08:23 J -15381299.23 -15381299.15 -15381299.07 0.3710 0.2356

Mars -46823-06-14 11:45 J -15380513.14 -15380513.01 -15380512.88 0.1626 0.0223

Jupiter -46823-07-19 03:06 J -15380478.42 -15380478.37 -15380478.32 0.0490 0.0464

Jupiter -46823-10-16 22:18 J -15380388.73 -15380388.57 -15380388.41 0.0488 0.0135

Saturn -46822-08-29 04:33 J -15380072.42 -15380072.31 -15380072.20 0.0274 0.0182

Earth -46822-08-30 00:14 J -15380071.60 -15380071.49 -15380071.37 0.2666 0.0667

Moon -46822-08-30 00:57 J -15380071.58 -15380071.46 -15380071.35 0.2671 0.0747 *

Saturn -46822-11-25 17:30 J -15379983.90 -15379983.77 -15379983.63 0.0274 0.0087

Saturn -46821-02-22 06:28 J -15379895.38 -15379895.23 -15379895.09 0.0275 0.0009

Uranus -46821-02-22 12:28 J -15379895.00 -15379894.98 -15379894.95 0.0132 0.0130

Uranus -46821-05-20 15:50 J -15379806.90 -15379806.84 -15379806.75 0.0132 0.0111

Saturn -46821-05-20 18:57 J -15379806.84 -15379806.71 -15379806.58 0.0275 0.0101 *

Uranus -46821-08-16 19:26 J -15379718.78 -15379718.69 -15379718.57 0.0132 0.0092

Saturn -46821-08-17 07:26 J -15379718.29 -15379718.19 -15379718.09 0.0275 0.0193

Uranus -46821-11-12 23:02 J -15379630.65 -15379630.54 -15379630.41 0.0132 0.0074

Uranus -46820-02-09 02:52 J -15379542.51 -15379542.38 -15379542.25 0.0132 0.0054

Mars -46820-03-10 11:59 J -15379513.13 -15379513.00 -15379512.88 0.1912 0.0888

Uranus -46820-05-08 06:14 J -15379454.37 -15379454.24 -15379454.10 0.0132 0.0036

Uranus -46820-08-04 09:50 J -15379366.23 -15379366.09 -15379365.95 0.0132 0.0017

Uranus -46820-10-31 13:11 J -15379278.09 -15379277.95 -15379277.80 0.0132 0.0004

Uranus -46819-01-27 16:47 J -15379189.94 -15379189.80 -15379189.66 0.0132 0.0020

Uranus -46819-04-25 20:09 J -15379101.79 -15379101.66 -15379101.52 0.0132 0.0038

Uranus -46819-07-22 23:30 J -15379013.64 -15379013.52 -15379013.39 0.0132 0.0056

Uranus -46819-10-19 02:52 J -15378925.49 -15378925.38 -15378925.26 0.0132 0.0074

Uranus -46818-01-15 06:14 J -15378837.33 -15378837.24 -15378837.14 0.0132 0.0092

Uranus -46818-04-13 09:35 J -15378749.17 -15378749.10 -15378749.02 0.0132 0.0110

Uranus -46818-07-10 12:42 J -15378660.99 -15378660.97 -15378660.92 0.0132 0.0129

Jupiter -46817-09-19 01:54 J -15378224.52 -15378224.42 -15378224.32 0.0538 0.0372

Jupiter -46817-12-17 15:35 J -15378134.96 -15378134.85 -15378134.74 0.0540 0.0309

Moon -46815-08-22 16:04 J -15377521.90 -15377521.83 -15377521.75 0.2663 0.2040

Earth -46815-08-22 17:02 J -15377521.87 -15377521.79 -15377521.71 0.2661 0.1898 *

Mars -46814-11-04 20:52 J -15377082.76 -15377082.63 -15377082.51 0.1623 0.0351

Moon -46812-02-21 13:26 J -15376608.07 -15376607.94 -15376607.81 0.2672 0.0635

Earth -46812-02-21 14:23 J -15376608.03 -15376607.90 -15376607.76 0.2668 0.0506 *

Venus -46811-02-14 03:50 J -15376250.46 -15376250.34 -15376250.23 0.3676 0.2235

Jupiter -46811-08-04 22:33 J -15376078.72 -15376078.56 -15376078.39 0.0489 0.0019

Earth -46809-08-31 20:09 J -15375320.76 -15375320.66 -15375320.56 0.2667 0.1527

Moon -46809-08-31 20:52 J -15375320.72 -15375320.63 -15375320.53 0.2667 0.1534 *

Saturn -46808-12-16 22:33 J -15374848.68 -15374848.56 -15374848.42 0.0286 0.0178

Saturn -46807-03-15 17:45 J -15374759.93 -15374759.76 -15374759.60 0.0285 0.0055

Saturn -46807-06-12 12:57 J -15374671.12 -15374670.96 -15374670.79 0.0285 0.0071

Saturn -46807-09-09 08:38 J -15374582.26 -15374582.14 -15374582.01 0.0285 0.0197

Venus -46806-08-31 07:54 J -15374226.25 -15374226.17 -15374226.08 0.3670 0.2974

Jupiter -46805-10-05 17:59 J -15373824.89 -15373824.75 -15373824.62 0.0540 0.0144

Mars -46804-03-27 05:45 J -15373652.37 -15373652.26 -15373652.15 0.1619 0.0922

Mars -46802-03-02 17:30 J -15372946.83 -15372946.77 -15372946.71 0.1634 0.1433

Moon -46802-08-25 12:42 J -15372771.08 -15372770.97 -15372770.86 0.2668 0.0981

Earth -46802-08-25 13:26 J -15372771.05 -15372770.94 -15372770.83 0.2663 0.0975 *

Mars -46800-11-27 10:04 J -15371946.15 -15371946.08 -15371946.00 0.1901 0.1610

Moon -46799-02-24 15:06 J -15371857.00 -15371856.87 -15371856.74 0.2674 0.0697

Earth -46799-02-24 15:35 J -15371856.99 -15371856.85 -15371856.72 0.2667 0.0709 *

Jupiter -46799-05-23 23:30 J -15371768.67 -15371768.52 -15371768.37 0.0489 0.0166

Jupiter -46799-08-21 19:26 J -15371678.76 -15371678.69 -15371678.63 0.0487 0.0443

Earth -46796-09-03 15:50 J -15370569.89 -15370569.84 -15370569.79 0.2669 0.2374

Moon -46796-09-03 16:18 J -15370569.86 -15370569.82 -15370569.78 0.2665 0.2483 *

Mars -46795-08-17 14:38 J -15370221.94 -15370221.89 -15370221.85 0.1616 0.1504

Mars -46793-07-23 02:38 J -15369516.49 -15369516.39 -15369516.28 0.1630 0.0874

Jupiter -46793-07-24 20:38 J -15369514.78 -15369514.64 -15369514.50 0.0540 0.0020

Saturn -46792-01-15 05:59 J -15369340.34 -15369340.25 -15369340.16 0.0273 0.0212

Moon -46792-02-16 17:59 J -15369307.77 -15369307.75 -15369307.72 0.2668 0.2616

Earth -46792-02-16 18:57 J -15369307.73 -15369307.71 -15369307.68 0.2672 0.2615 *

Saturn -46792-04-13 18:57 J -15369251.83 -15369251.71 -15369251.57 0.0273 0.0118

Saturn -46792-07-11 07:54 J -15369163.31 -15369163.17 -15369163.02 0.0274 0.0023

Saturn -46792-10-07 20:38 J -15369074.78 -15369074.64 -15369074.50 0.0274 0.0071

Saturn -46791-01-04 09:06 J -15368986.23 -15368986.12 -15368986.01 0.0275 0.0163

Saturn -46791-04-02 21:21 J -15368897.66 -15368897.61 -15368897.56 0.0275 0.0253

Mars -46790-04-19 11:02 J -15368516.18 -15368516.04 -15368515.90 0.1907 0.0409

Earth -46789-08-27 09:35 J -15368020.22 -15368020.10 -15368019.98 0.2664 0.0072

Moon -46789-08-27 09:50 J -15368020.21 -15368020.09 -15368019.97 0.2671 0.0110 *

Jupiter -46787-03-11 23:59 J -15367458.62 -15367458.50 -15367458.37 0.0489 0.0318

Jupiter -46787-06-09 19:26 J -15367368.82 -15367368.69 -15367368.55 0.0488 0.0286

Earth -46786-02-27 17:02 J -15367105.88 -15367105.79 -15367105.70 0.2665 0.1961

Moon -46786-02-27 17:30 J -15367105.85 -15367105.77 -15367105.68 0.2671 0.2037 *

Mars -46784-12-13 11:45 J -15366086.13 -15366086.01 -15366085.88 0.1626 0.0307

Neptune -46783-09-02 16:18 J -15365822.86 -15365822.82 -15365822.75 0.0088 0.0083

Neptune -46783-11-29 18:28 J -15365734.80 -15365734.73 -15365734.64 0.0088 0.0075

Neptune -46782-02-25 20:23 J -15365646.74 -15365646.65 -15365646.55 0.0088 0.0069

Neptune -46782-05-24 22:18 J -15365558.67 -15365558.57 -15365558.45 0.0088 0.0062

Neptune -46782-08-20 23:59 J -15365470.60 -15365470.50 -15365470.36 0.0088 0.0056

Neptune -46782-11-17 02:09 J -15365382.53 -15365382.41 -15365382.28 0.0088 0.0048

Neptune -46781-02-13 04:04 J -15365294.46 -15365294.33 -15365294.19 0.0088 0.0042

Neptune -46781-05-11 05:59 J -15365206.38 -15365206.25 -15365206.11 0.0088 0.0035

Jupiter -46781-05-12 22:47 J -15365204.68 -15365204.55 -15365204.42 0.0539 0.0187

Neptune -46781-08-07 07:40 J -15365118.31 -15365118.18 -15365118.03 0.0088 0.0029

Jupiter -46781-08-10 11:59 J -15365115.05 -15365115.00 -15365114.94 0.0540 0.0489

Mars -46781-09-08 11:59 J -15365086.13 -15365086.00 -15365085.87 0.1912 0.0788

Neptune -46781-11-03 09:50 J -15365030.24 -15365030.09 -15365029.94 0.0088 0.0021

Neptune -46780-01-30 11:45 J -15364942.16 -15364942.01 -15364941.87 0.0088 0.0015

Neptune -46780-04-28 13:26 J -15364854.08 -15364853.94 -15364853.79 0.0088 0.0009

Neptune -46780-07-25 15:21 J -15364766.01 -15364765.86 -15364765.71 0.0088 0.0002

Neptune -46780-10-21 17:16 J -15364677.93 -15364677.78 -15364677.63 0.0088 0.0005

Venus -46780-10-25 20:52 J -15364673.73 -15364673.63 -15364673.53 0.3702 0.1368

Neptune -46779-01-17 18:57 J -15364589.85 -15364589.71 -15364589.56 0.0088 0.0012

Moon -46779-02-19 18:14 J -15364556.85 -15364556.74 -15364556.64 0.2669 0.1657

Earth -46779-02-19 19:26 J -15364556.80 -15364556.69 -15364556.58 0.2670 0.1477 *

Neptune -46779-04-15 20:52 J -15364501.78 -15364501.63 -15364501.49 0.0088 0.0018

Neptune -46779-07-12 22:33 J -15364413.70 -15364413.56 -15364413.41 0.0088 0.0025

Uranus -46779-08-17 05:45 J -15364378.32 -15364378.26 -15364378.20 0.0146 0.0136

Neptune -46779-10-09 00:14 J -15364325.62 -15364325.49 -15364325.34 0.0088 0.0032

Uranus -46779-11-13 12:14 J -15364290.09 -15364289.99 -15364289.85 0.0146 0.0107

Neptune -46778-01-05 02:09 J -15364237.54 -15364237.41 -15364237.27 0.0088 0.0038

Uranus -46778-02-09 19:26 J -15364201.83 -15364201.69 -15364201.54 0.0146 0.0076

Neptune -46778-04-03 03:50 J -15364149.46 -15364149.34 -15364149.20 0.0089 0.0044

Saturn -46778-05-05 21:50 J -15364116.69 -15364116.59 -15364116.48 0.0286 0.0218

Uranus -46778-05-09 02:23 J -15364113.56 -15364113.40 -15364113.23 0.0146 0.0045

Neptune -46778-06-30 05:45 J -15364061.38 -15364061.26 -15364061.14 0.0089 0.0051

Saturn -46778-08-02 16:47 J -15364027.95 -15364027.80 -15364027.64 0.0286 0.0096

Uranus -46778-08-05 09:35 J -15364025.28 -15364025.10 -15364024.93 0.0146 0.0014

Neptune -46778-09-26 07:11 J -15363973.30 -15363973.20 -15363973.07 0.0089 0.0058

Saturn -46778-10-30 12:14 J -15363939.16 -15363938.99 -15363938.83 0.0285 0.0030

Uranus -46778-11-01 16:33 J -15363936.98 -15363936.81 -15363936.63 0.0146 0.0017

Neptune -46778-12-23 09:06 J -15363885.21 -15363885.12 -15363885.01 0.0089 0.0064

Saturn -46777-01-27 07:40 J -15363850.32 -15363850.18 -15363850.04 0.0285 0.0156

Uranus -46777-01-28 23:45 J -15363848.67 -15363848.51 -15363848.34 0.0146 0.0048

Neptune -46777-03-20 11:02 J -15363797.13 -15363797.04 -15363796.95 0.0089 0.0070

Saturn -46777-04-25 03:35 J -15363761.35 -15363761.35 -15363761.34 0.0284 0.0284

Uranus -46777-04-26 06:57 J -15363760.36 -15363760.21 -15363760.06 0.0146 0.0080

Neptune -46777-06-16 12:28 J -15363709.04 -15363708.98 -15363708.89 0.0089 0.0077

Uranus -46777-07-23 14:09 J -15363672.02 -15363671.91 -15363671.79 0.0146 0.0111

Neptune -46777-09-12 14:09 J -15363620.94 -15363620.91 -15363620.84 0.0089 0.0083

Uranus -46777-10-19 21:21 J -15363583.63 -15363583.61 -15363583.57 0.0146 0.0143

Earth -46776-08-30 05:30 J -15363269.38 -15363269.27 -15363269.16 0.2666 0.0819

Moon -46776-08-30 06:14 J -15363269.36 -15363269.24 -15363269.13 0.2670 0.0855 *

Jupiter -46776-12-29 00:57 J -15363148.50 -15363148.46 -15363148.40 0.0490 0.0464

Jupiter -46775-03-28 20:09 J -15363058.82 -15363058.66 -15363058.50 0.0488 0.0135

Mars -46774-05-05 20:52 J -15362655.76 -15362655.63 -15362655.50 0.1623 0.0265

Venus -46774-05-11 13:26 J -15362650.04 -15362649.94 -15362649.83 0.3707 0.0945

Jupiter -46769-03-01 00:14 J -15360894.59 -15360894.49 -15360894.39 0.0538 0.0369

Jupiter -46769-05-29 13:54 J -15360805.03 -15360804.92 -15360804.81 0.0540 0.0312

Moon -46769-08-22 21:21 J -15360719.70 -15360719.61 -15360719.52 0.2664 0.1728

Earth -46769-08-22 22:18 J -15360719.67 -15360719.57 -15360719.48 0.2661 0.1736 *

Venus -46769-11-24 05:59 J -15360626.30 -15360626.25 -15360626.20 0.3711 0.3206

Moon -46766-02-22 19:26 J -15359805.83 -15359805.69 -15359805.56 0.2673 0.0288

Earth -46766-02-22 20:09 J -15359805.80 -15359805.66 -15359805.52 0.2668 0.0301 *

Mars -46765-09-25 05:59 J -15359225.37 -15359225.25 -15359225.14 0.1619 0.0838

Jupiter -46763-01-14 20:38 J -15358748.81 -15358748.64 -15358748.48 0.0489 0.0019

Saturn -46763-06-04 09:06 J -15358608.20 -15358608.12 -15358608.05 0.0274 0.0233

Mars -46763-08-31 17:30 J -15358519.81 -15358519.77 -15358519.72 0.1634 0.1514

Saturn -46763-08-31 22:04 J -15358519.70 -15358519.58 -15358519.45 0.0274 0.0137

Earth -46763-09-02 01:11 J -15358518.54 -15358518.45 -15358518.36 0.2668 0.1680

Moon -46763-09-02 02:09 J -15358518.50 -15358518.41 -15358518.33 0.2667 0.1800 *

Saturn -46763-11-28 11:02 J -15358431.18 -15358431.04 -15358430.90 0.0274 0.0042

Saturn -46762-02-24 23:45 J -15358342.65 -15358342.51 -15358342.37 0.0275 0.0052

Saturn -46762-05-24 12:28 J -15358254.10 -15358253.98 -15358253.86 0.0275 0.0145

Saturn -46762-08-21 00:42 J -15358165.54 -15358165.47 -15358165.40 0.0276 0.0236

Mars -46760-05-28 10:33 J -15357519.11 -15357519.06 -15357519.00 0.1901 0.1744

Jupiter -46757-03-17 15:50 J -15356494.97 -15356494.84 -15356494.70 0.0539 0.0140

Moon -46756-08-25 18:14 J -15355968.86 -15355968.74 -15355968.63 0.2668 0.0902

Earth -46756-08-25 18:28 J -15355968.84 -15355968.73 -15355968.61 0.2663 0.0812 *

Mars -46755-02-15 14:52 J -15355794.95 -15355794.88 -15355794.82 0.1616 0.1415

Venus -46755-09-21 04:33 J -15355577.45 -15355577.31 -15355577.17 0.3674 0.0442

Mars -46753-01-22 02:52 J -15355089.48 -15355089.38 -15355089.27 0.1630 0.0953

Moon -46753-02-25 21:06 J -15355054.75 -15355054.62 -15355054.49 0.2673 0.0874

Earth -46753-02-25 21:21 J -15355054.74 -15355054.61 -15355054.48 0.2666 0.0926 *

Jupiter -46752-11-02 21:06 J -15354438.77 -15354438.62 -15354438.47 0.0489 0.0169

Jupiter -46751-01-31 17:02 J -15354348.86 -15354348.79 -15354348.72 0.0488 0.0440

Mars -46751-10-18 11:16 J -15354089.17 -15354089.03 -15354088.89 0.1907 0.0521

Earth -46750-09-04 20:52 J -15353767.67 -15353767.63 -15353767.60 0.2669 0.2524

Moon -46750-09-04 21:21 J -15353767.65 -15353767.61 -15353767.57 0.2664 0.2491 *

Saturn -46749-09-22 00:42 J -15353384.56 -15353384.47 -15353384.38 0.0286 0.0238

Saturn -46749-12-19 19:26 J -15353295.84 -15353295.69 -15353295.54 0.0286 0.0116

Saturn -46748-03-18 14:38 J -15353207.06 -15353206.89 -15353206.72 0.0285 0.0008

Saturn -46748-06-15 10:04 J -15353118.23 -15353118.08 -15353117.93 0.0285 0.0134

Saturn -46748-09-12 05:59 J -15353029.31 -15353029.25 -15353029.18 0.0284 0.0262

Moon -46746-02-17 23:30 J -15352505.56 -15352505.52 -15352505.47 0.2669 0.2524

Earth -46746-02-18 00:42 J -15352505.53 -15352505.47 -15352505.41 0.2672 0.2415 *

Jupiter -46745-01-04 17:59 J -15352184.89 -15352184.75 -15352184.61 0.0539 0.0033

Mars -46744-06-13 11:59 J -15351659.12 -15351659.00 -15351658.87 0.1626 0.0392

Earth -46743-08-28 14:38 J -15351218.01 -15351217.89 -15351217.77 0.2665 0.0103

Moon -46743-08-28 14:52 J -15351218.00 -15351217.88 -15351217.76 0.2672 0.0147 *

Mars -46741-03-09 12:28 J -15350659.11 -15350658.98 -15350658.85 0.1912 0.0658

Earth -46740-02-27 23:02 J -15350303.62 -15350303.54 -15350303.47 0.2665 0.2184

Moon -46740-02-27 23:45 J -15350303.58 -15350303.51 -15350303.44 0.2670 0.2248 *

Jupiter -46740-08-21 22:04 J -15350128.70 -15350128.58 -15350128.45 0.0489 0.0315

Jupiter -46740-11-19 17:30 J -15350038.90 -15350038.77 -15350038.64 0.0488 0.0289

Uranus -46737-03-13 19:11 J -15349193.73 -15349193.70 -15349193.65 0.0132 0.0126

Uranus -46737-06-09 22:47 J -15349105.63 -15349105.55 -15349105.46 0.0132 0.0107

Uranus -46737-09-06 02:23 J -15349017.50 -15349017.40 -15349017.29 0.0132 0.0088

Uranus -46737-12-03 05:59 J -15348929.37 -15348929.25 -15348929.12 0.0132 0.0069

Uranus -46736-03-01 09:35 J -15348841.23 -15348841.10 -15348840.97 0.0132 0.0051

Uranus -46736-05-28 13:11 J -15348753.09 -15348752.95 -15348752.81 0.0132 0.0032

Moon -46736-08-21 05:59 J -15348668.28 -15348668.25 -15348668.21 0.2658 0.2527

Earth -46736-08-21 06:57 J -15348668.25 -15348668.21 -15348668.17 0.2660 0.2505 *

Uranus -46736-08-24 16:33 J -15348664.95 -15348664.81 -15348664.66 0.0132 0.0014

Uranus -46736-11-20 20:09 J -15348576.80 -15348576.66 -15348576.52 0.0132 0.0005

Uranus -46735-02-16 23:30 J -15348488.66 -15348488.52 -15348488.38 0.0132 0.0024

Uranus -46735-05-16 02:52 J -15348400.51 -15348400.38 -15348400.24 0.0132 0.0042

Pluto -46735-06-15 07:54 J -15348370.19 -15348370.17 -15348370.11 0.0064 0.0062

Uranus -46735-08-12 06:14 J -15348312.36 -15348312.24 -15348312.11 0.0132 0.0060

Pluto -46735-09-11 09:06 J -15348282.18 -15348282.12 -15348282.03 0.0064 0.0057

Mars -46735-11-03 21:06 J -15348228.75 -15348228.62 -15348228.49 0.1623 0.0180

Uranus -46735-11-08 09:35 J -15348224.20 -15348224.10 -15348223.98 0.0132 0.0078

Pluto -46735-12-08 10:33 J -15348194.15 -15348194.06 -15348193.96 0.0064 0.0052

Uranus -46734-02-04 12:57 J -15348136.04 -15348135.96 -15348135.85 0.0132 0.0096

Pluto -46734-03-06 11:16 J -15348106.12 -15348106.03 -15348105.90 0.0064 0.0048

Uranus -46734-05-03 16:18 J -15348047.88 -15348047.82 -15348047.74 0.0132 0.0114

Pluto -46734-06-02 12:28 J -15348018.09 -15348017.98 -15348017.84 0.0064 0.0044

Uranus -46734-07-30 19:54 J -15347959.68 -15347959.67 -15347959.66 0.0132 0.0131

Pluto -46734-08-29 13:40 J -15347930.05 -15347929.93 -15347929.78 0.0064 0.0039

Saturn -46734-10-22 10:33 J -15347876.09 -15347876.06 -15347876.01 0.0273 0.0262

Jupiter -46734-10-23 20:38 J -15347874.77 -15347874.64 -15347874.51 0.0539 0.0195

Pluto -46734-11-25 15:06 J -15347842.01 -15347841.87 -15347841.72 0.0064 0.0034

Saturn -46733-01-18 23:45 J -15347787.62 -15347787.51 -15347787.39 0.0273 0.0166

Jupiter -46733-01-21 09:50 J -15347785.14 -15347785.09 -15347785.02 0.0541 0.0483

Moon -46733-02-20 23:59 J -15347754.62 -15347754.50 -15347754.38 0.2670 0.1271

Earth -46733-02-21 01:11 J -15347754.57 -15347754.45 -15347754.33 0.2670 0.1270 *

Pluto -46733-02-21 16:18 J -15347753.97 -15347753.82 -15347753.67 0.0064 0.0029

Saturn -46733-04-16 12:42 J -15347699.10 -15347698.97 -15347698.83 0.0273 0.0072

Pluto -46733-05-19 17:30 J -15347665.93 -15347665.77 -15347665.61 0.0065 0.0024

Saturn -46733-07-14 01:40 J -15347610.58 -15347610.43 -15347610.29 0.0274 0.0023

Pluto -46733-08-15 18:42 J -15347577.88 -15347577.72 -15347577.56 0.0065 0.0019

Saturn -46733-10-10 14:09 J -15347522.04 -15347521.91 -15347521.78 0.0274 0.0115

Pluto -46733-11-11 19:54 J -15347489.83 -15347489.67 -15347489.50 0.0065 0.0014

Saturn -46732-01-07 02:38 J -15347433.48 -15347433.39 -15347433.30 0.0275 0.0207

Pluto -46732-02-07 21:06 J -15347401.79 -15347401.62 -15347401.45 0.0065 0.0009

Pluto -46732-05-06 22:18 J -15347313.74 -15347313.57 -15347313.40 0.0065 0.0004

Mars -46732-07-30 13:54 J -15347228.96 -15347228.92 -15347228.88 0.1917 0.1826

Pluto -46732-08-02 23:30 J -15347225.69 -15347225.52 -15347225.34 0.0065 0.0002

Pluto -46732-10-30 00:42 J -15347137.63 -15347137.47 -15347137.29 0.0065 0.0007

Pluto -46731-01-26 02:09 J -15347049.58 -15347049.41 -15347049.24 0.0065 0.0011

Pluto -46731-04-24 03:21 J -15346961.53 -15346961.36 -15346961.19 0.0065 0.0016

Pluto -46731-07-21 04:33 J -15346873.47 -15346873.31 -15346873.14 0.0065 0.0022

Pluto -46731-10-17 05:59 J -15346785.41 -15346785.25 -15346785.10 0.0065 0.0027

Pluto -46730-01-13 06:57 J -15346697.35 -15346697.21 -15346697.05 0.0066 0.0032

Pluto -46730-04-11 08:09 J -15346609.28 -15346609.16 -15346609.00 0.0066 0.0038

Pluto -46730-07-08 09:35 J -15346521.22 -15346521.10 -15346520.96 0.0066 0.0043

Earth -46730-08-31 10:33 J -15346467.17 -15346467.06 -15346466.95 0.2666 0.0974

Moon -46730-08-31 11:16 J -15346467.14 -15346467.03 -15346466.92 0.2669 0.1023 *

Pluto -46730-10-04 11:02 J -15346433.15 -15346433.04 -15346432.92 0.0066 0.0048

Pluto -46730-12-31 11:59 J -15346345.08 -15346345.00 -15346344.88 0.0066 0.0054

Pluto -46729-03-28 13:40 J -15346257.00 -15346256.93 -15346256.85 0.0066 0.0059

Pluto -46729-06-24 14:38 J -15346168.90 -15346168.89 -15346168.83 0.0066 0.0065

Venus -46729-11-16 01:54 J -15346024.49 -15346024.42 -15346024.35 0.3698 0.2819

Jupiter -46728-06-09 22:47 J -15345818.59 -15345818.55 -15345818.49 0.0490 0.0464

Jupiter -46728-09-07 17:45 J -15345728.92 -15345728.76 -15345728.60 0.0488 0.0133

Mars -46725-03-26 05:59 J -15344798.37 -15344798.25 -15344798.13 0.1619 0.0756

Mars -46723-03-01 17:45 J -15344092.79 -15344092.76 -15344092.74 0.1634 0.1590

Venus -46723-06-01 18:28 J -15344000.83 -15344000.73 -15344000.62 0.3703 0.0523

Moon -46723-08-24 02:38 J -15343917.49 -15343917.39 -15343917.30 0.2664 0.1707

Earth -46723-08-24 03:21 J -15343917.46 -15343917.36 -15343917.26 0.2662 0.1564 *

Jupiter -46722-08-11 22:47 J -15343564.65 -15343564.55 -15343564.45 0.0538 0.0363

Jupiter -46722-11-09 12:28 J -15343475.09 -15343474.98 -15343474.87 0.0540 0.0320

Mars -46721-11-26 10:33 J -15343092.09 -15343092.06 -15343092.02 0.1901 0.1840

Moon -46720-02-23 01:11 J -15343003.59 -15343003.45 -15343003.31 0.2673 0.0235

Earth -46720-02-23 01:54 J -15343003.55 -15343003.42 -15343003.28 0.2668 0.0122 *

Saturn -46719-02-08 23:30 J -15342652.54 -15342652.52 -15342652.47 0.0286 0.0280

Saturn -46719-05-08 18:28 J -15342563.87 -15342563.73 -15342563.59 0.0286 0.0158

Saturn -46719-08-05 13:26 J -15342475.10 -15342474.94 -15342474.77 0.0286 0.0035

Saturn -46719-11-02 08:52 J -15342386.29 -15342386.13 -15342385.97 0.0285 0.0091

Saturn -46718-01-30 04:33 J -15342297.42 -15342297.31 -15342297.20 0.0285 0.0218

Venus -46718-12-16 11:16 J -15341977.13 -15341977.03 -15341976.94 0.3708 0.1804

Earth -46717-09-02 06:14 J -15341716.32 -15341716.24 -15341716.15 0.2668 0.1837

Moon -46717-09-02 07:11 J -15341716.28 -15341716.20 -15341716.12 0.2668 0.1854 *

Jupiter -46716-06-26 18:28 J -15341418.89 -15341418.73 -15341418.56 0.0489 0.0019

Mars -46716-08-16 14:52 J -15341367.95 -15341367.88 -15341367.80 0.1616 0.1330

Mars -46714-07-23 03:06 J -15340662.47 -15340662.37 -15340662.28 0.1630 0.1035

Mars -46711-04-18 11:45 J -15339662.14 -15339662.01 -15339661.87 0.1907 0.0656

Moon -46710-08-26 23:30 J -15339166.64 -15339166.52 -15339166.41 0.2670 0.0602

Earth -46710-08-26 23:45 J -15339166.63 -15339166.51 -15339166.39 0.2663 0.0647 *

Jupiter -46710-08-28 14:23 J -15339165.03 -15339164.90 -15339164.77 0.0539 0.0143

Moon -46707-02-26 03:06 J -15338252.49 -15338252.37 -15338252.24 0.2672 0.1198

Earth -46707-02-26 03:06 J -15338252.49 -15338252.37 -15338252.24 0.2666 0.1139 *

Mars -46705-12-12 12:14 J -15337232.12 -15337231.99 -15337231.87 0.1627 0.0473

Jupiter -46704-04-14 19:11 J -15337108.86 -15337108.70 -15337108.55 0.0489 0.0170

Saturn -46704-06-07 02:38 J -15337055.49 -15337055.39 -15337055.28 0.0274 0.0188

Jupiter -46704-07-13 14:52 J -15337018.95 -15337018.88 -15337018.81 0.0488 0.0441

Saturn -46704-09-03 15:50 J -15336966.98 -15336966.84 -15336966.71 0.0274 0.0093

Saturn -46704-12-01 04:33 J -15336878.45 -15336878.31 -15336878.17 0.0275 0.0003

Saturn -46703-02-27 17:16 J -15336789.92 -15336789.78 -15336789.65 0.0275 0.0096

Saturn -46703-05-27 05:45 J -15336701.36 -15336701.26 -15336701.16 0.0275 0.0188

Mars -46702-09-08 12:42 J -15336232.10 -15336231.97 -15336231.83 0.1912 0.0542

Neptune -46701-05-29 05:16 J -15335968.28 -15335968.28 -15335968.24 0.0089 0.0088

Neptune -46701-08-25 07:40 J -15335880.23 -15335880.18 -15335880.09 0.0089 0.0081

Neptune -46701-11-21 10:33 J -15335792.15 -15335792.06 -15335791.97 0.0089 0.0073

Neptune -46700-02-17 12:42 J -15335704.07 -15335703.97 -15335703.85 0.0089 0.0066

Moon -46700-02-18 05:16 J -15335703.35 -15335703.28 -15335703.21 0.2668 0.2260

Earth -46700-02-18 06:28 J -15335703.30 -15335703.23 -15335703.16 0.2671 0.2211 *

Neptune -46700-05-16 15:06 J -15335615.98 -15335615.87 -15335615.74 0.0089 0.0059

Neptune -46700-08-12 17:30 J -15335527.89 -15335527.77 -15335527.62 0.0089 0.0052

Neptune -46700-11-08 20:09 J -15335439.80 -15335439.66 -15335439.51 0.0089 0.0044

Neptune -46699-02-04 22:33 J -15335351.70 -15335351.56 -15335351.40 0.0089 0.0037

Neptune -46699-05-04 00:57 J -15335263.61 -15335263.46 -15335263.29 0.0089 0.0030

Neptune -46699-07-31 03:35 J -15335175.51 -15335175.35 -15335175.18 0.0089 0.0022

Neptune -46699-10-27 05:59 J -15335087.41 -15335087.25 -15335087.08 0.0089 0.0015

Neptune -46698-01-23 08:38 J -15334999.30 -15334999.14 -15334998.97 0.0089 0.0007

Neptune -46698-04-21 11:16 J -15334911.20 -15334911.03 -15334910.86 0.0089 0.0001

Venus -46698-04-28 05:16 J -15334904.41 -15334904.28 -15334904.15 0.3673 0.1380

Jupiter -46698-06-16 16:18 J -15334854.96 -15334854.82 -15334854.68 0.0539 0.0031

Neptune -46698-07-18 13:40 J -15334823.10 -15334822.93 -15334822.76 0.0089 0.0008

Neptune -46698-10-14 16:18 J -15334734.99 -15334734.82 -15334734.66 0.0089 0.0015

Neptune -46697-01-10 18:42 J -15334646.88 -15334646.72 -15334646.55 0.0089 0.0023

Neptune -46697-04-07 21:06 J -15334558.77 -15334558.62 -15334558.45 0.0089 0.0031

Neptune -46697-07-04 23:45 J -15334470.65 -15334470.51 -15334470.35 0.0089 0.0038

Earth -46697-08-28 19:54 J -15334415.79 -15334415.67 -15334415.55 0.2665 0.0268

Moon -46697-08-28 20:09 J -15334415.78 -15334415.66 -15334415.54 0.2671 0.0234 *

Neptune -46697-10-01 02:23 J -15334382.54 -15334382.40 -15334382.25 0.0089 0.0046

Neptune -46697-12-28 04:47 J -15334294.42 -15334294.30 -15334294.15 0.0089 0.0054

Neptune -46696-03-26 07:40 J -15334206.30 -15334206.18 -15334206.05 0.0089 0.0061

Neptune -46696-06-22 10:04 J -15334118.17 -15334118.08 -15334117.96 0.0089 0.0069

Neptune -46696-09-18 12:42 J -15334030.04 -15334029.97 -15334029.87 0.0089 0.0077

Neptune -46696-12-15 15:35 J -15333941.90 -15333941.85 -15333941.80 0.0089 0.0084

Mars -46695-05-04 21:21 J -15333801.75 -15333801.61 -15333801.48 0.1623 0.0108

Uranus -46695-09-06 12:28 J -15333677.06 -15333676.98 -15333676.91 0.0146 0.0131

Uranus -46695-12-03 19:11 J -15333588.82 -15333588.70 -15333588.57 0.0146 0.0101

Earth -46694-03-01 04:47 J -15333501.36 -15333501.30 -15333501.24 0.2664 0.2405

Moon -46694-03-01 05:45 J -15333501.32 -15333501.26 -15333501.21 0.2670 0.2457 *

Uranus -46694-03-02 02:09 J -15333500.56 -15333500.41 -15333500.26 0.0146 0.0070

Uranus -46694-05-29 09:06 J -15333412.28 -15333412.12 -15333411.95 0.0146 0.0040

Uranus -46694-08-25 16:18 J -15333324.00 -15333323.82 -15333323.65 0.0146 0.0009

Uranus -46694-11-21 23:16 J -15333235.70 -15333235.53 -15333235.35 0.0146 0.0022

Uranus -46693-02-18 06:28 J -15333147.39 -15333147.23 -15333147.07 0.0146 0.0053

Uranus -46693-05-16 13:26 J -15333059.07 -15333058.94 -15333058.79 0.0146 0.0085

Uranus -46693-08-12 20:52 J -15332970.73 -15332970.63 -15332970.52 0.0146 0.0117

Mars -46692-01-28 14:09 J -15332801.97 -15332801.91 -15332801.85 0.1917 0.1711

Jupiter -46692-01-31 19:54 J -15332798.79 -15332798.67 -15332798.55 0.0489 0.0317

Jupiter -46692-05-01 15:06 J -15332709.00 -15332708.87 -15332708.73 0.0488 0.0286

Moon -46690-08-22 11:16 J -15331866.08 -15331866.03 -15331865.99 0.2660 0.2426

Earth -46690-08-22 11:59 J -15331866.05 -15331866.00 -15331865.94 0.2660 0.2338 *

Saturn -46690-09-25 21:06 J -15331831.75 -15331831.62 -15331831.49 0.0286 0.0178

Saturn -46690-12-23 16:04 J -15331742.99 -15331742.83 -15331742.67 0.0286 0.0055

Saturn -46689-03-21 11:16 J -15331654.19 -15331654.03 -15331653.86 0.0285 0.0070

Saturn -46689-06-18 06:57 J -15331565.33 -15331565.21 -15331565.08 0.0285 0.0197

Moon -46687-02-21 05:45 J -15330952.38 -15330952.26 -15330952.14 0.2671 0.1209

Earth -46687-02-21 06:57 J -15330952.34 -15330952.21 -15330952.08 0.2669 0.1063 *

Jupiter -46686-04-04 18:14 J -15330544.87 -15330544.74 -15330544.62 0.0539 0.0207

Jupiter -46686-07-03 07:26 J -15330455.25 -15330455.19 -15330455.12 0.0541 0.0471

Mars -46686-09-25 06:14 J -15330371.36 -15330371.24 -15330371.12 0.1619 0.0668

Earth -46684-08-31 15:35 J -15329664.95 -15329664.85 -15329664.74 0.2667 0.1135

Moon -46684-08-31 16:33 J -15329664.92 -15329664.81 -15329664.71 0.2669 0.1224 *

Jupiter -46681-11-19 21:06 J -15328488.67 -15328488.62 -15328488.57 0.0490 0.0460

Jupiter -46680-02-17 16:04 J -15328398.99 -15328398.83 -15328398.68 0.0488 0.0137

Moon -46677-08-24 07:54 J -15327115.28 -15327115.17 -15327115.07 0.2665 0.1400

Earth -46677-08-24 08:38 J -15327115.24 -15327115.14 -15327115.04 0.2662 0.1398 *

Mars -46676-02-14 15:06 J -15326940.95 -15326940.87 -15326940.79 0.1616 0.1245

Saturn -46675-10-25 04:18 J -15326323.40 -15326323.32 -15326323.22 0.0273 0.0216

Mars -46674-01-21 03:06 J -15326235.46 -15326235.37 -15326235.27 0.1630 0.1117

Saturn -46674-01-21 17:30 J -15326234.90 -15326234.77 -15326234.64 0.0273 0.0120

Jupiter -46674-01-21 20:23 J -15326234.74 -15326234.65 -15326234.54 0.0539 0.0373 *

Moon -46674-02-24 06:57 J -15326201.34 -15326201.21 -15326201.07 0.2673 0.0163

Earth -46674-02-24 07:54 J -15326201.31 -15326201.17 -15326201.03 0.2668 0.0142 *

Saturn -46674-04-20 06:28 J -15326146.38 -15326146.23 -15326146.09 0.0274 0.0026

Jupiter -46674-04-21 10:18 J -15326145.18 -15326145.07 -15326144.96 0.0540 0.0313

Saturn -46674-07-17 18:57 J -15326057.84 -15326057.71 -15326057.57 0.0274 0.0068

Saturn -46674-10-14 07:26 J -15325969.30 -15325969.19 -15325969.07 0.0274 0.0159

Saturn -46673-01-10 19:40 J -15325880.73 -15325880.68 -15325880.61 0.0275 0.0250

Venus -46672-06-22 23:30 J -15325351.61 -15325351.52 -15325351.43 0.3700 0.1955

Mars -46672-10-17 11:59 J -15325235.13 -15325235.00 -15325234.87 0.1906 0.0760

Earth -46671-09-03 11:16 J -15324914.10 -15324914.03 -15324913.95 0.2668 0.1989

Moon -46671-09-03 12:14 J -15324914.07 -15324913.99 -15324913.92 0.2667 0.2062 *

Jupiter -46669-12-06 16:18 J -15324088.98 -15324088.82 -15324088.65 0.0488 0.0021

Venus -46666-01-06 16:18 J -15323327.93 -15323327.82 -15323327.72 0.3704 0.0373

Mars -46665-06-12 12:14 J -15322805.11 -15322804.99 -15322804.86 0.1627 0.0552

Moon -46664-08-27 04:47 J -15322364.42 -15322364.30 -15322364.18 0.2671 0.0568

Earth -46664-08-27 04:47 J -15322364.41 -15322364.30 -15322364.18 0.2664 0.0490 *

Jupiter -46662-02-07 12:57 J -15321835.09 -15321834.96 -15321834.83 0.0540 0.0149

Mars -46662-03-09 12:57 J -15321805.10 -15321804.96 -15321804.82 0.1912 0.0436

Earth -46661-02-27 09:06 J -15321450.24 -15321450.12 -15321450.00 0.2666 0.1359

Moon -46661-02-27 09:21 J -15321450.23 -15321450.11 -15321449.99 0.2672 0.1302 *

Venus -46661-07-22 08:52 J -15321304.21 -15321304.13 -15321304.06 0.3709 0.2646

Saturn -46660-02-11 19:54 J -15321099.77 -15321099.67 -15321099.57 0.0286 0.0222

Saturn -46660-05-11 14:38 J -15321011.04 -15321010.89 -15321010.73 0.0286 0.0100

Saturn -46660-08-08 09:50 J -15320922.25 -15320922.09 -15320921.92 0.0285 0.0025

Saturn -46660-11-05 05:16 J -15320833.42 -15320833.28 -15320833.13 0.0285 0.0152

Saturn -46659-02-02 01:11 J -15320744.47 -15320744.45 -15320744.41 0.0285 0.0280

Jupiter -46657-09-24 17:16 J -15319778.94 -15319778.78 -15319778.63 0.0489 0.0166

Jupiter -46657-12-23 12:57 J -15319689.03 -15319688.96 -15319688.89 0.0488 0.0442

Mars -46656-11-02 21:21 J -15319374.74 -15319374.61 -15319374.48 0.1623 0.0034

Moon -46654-02-19 11:02 J -15318901.12 -15318901.04 -15318900.96 0.2668 0.2091

Earth -46654-02-19 12:14 J -15318901.08 -15318900.99 -15318900.90 0.2671 0.2010 *

Uranus -46653-04-03 01:40 J -15318492.47 -15318492.43 -15318492.37 0.0132 0.0123

Uranus -46653-06-30 05:30 J -15318404.35 -15318404.27 -15318404.18 0.0132 0.0104

Mars -46653-07-29 14:38 J -15318374.97 -15318374.89 -15318374.81 0.1917 0.1582

Uranus -46653-09-26 09:06 J -15318316.22 -15318316.12 -15318316.01 0.0132 0.0085

Uranus -46653-12-23 12:42 J -15318228.09 -15318227.97 -15318227.84 0.0132 0.0066

Uranus -46652-03-21 16:18 J -15318139.95 -15318139.82 -15318139.69 0.0132 0.0047

Uranus -46652-06-17 19:40 J -15318051.81 -15318051.68 -15318051.53 0.0132 0.0030

Uranus -46652-09-13 23:16 J -15317963.67 -15317963.53 -15317963.39 0.0132 0.0011

Uranus -46652-12-11 02:52 J -15317875.52 -15317875.38 -15317875.24 0.0132 0.0008

Uranus -46651-03-09 06:14 J -15317787.38 -15317787.24 -15317787.10 0.0132 0.0027

Uranus -46651-06-05 09:35 J -15317699.23 -15317699.10 -15317698.96 0.0132 0.0045

Earth -46651-08-30 00:57 J -15317613.58 -15317613.46 -15317613.34 0.2665 0.0412

Moon -46651-08-30 01:26 J -15317613.56 -15317613.44 -15317613.33 0.2671 0.0510 *

Uranus -46651-09-01 12:57 J -15317611.08 -15317610.96 -15317610.83 0.0132 0.0063

Jupiter -46651-11-26 14:52 J -15317525.02 -15317524.88 -15317524.74 0.0539 0.0028

Uranus -46651-11-28 16:18 J -15317522.92 -15317522.82 -15317522.70 0.0132 0.0081

Uranus -46650-02-24 19:40 J -15317434.76 -15317434.68 -15317434.58 0.0132 0.0099

Uranus -46650-05-23 23:02 J -15317346.59 -15317346.54 -15317346.47 0.0132 0.0117

Earth -46648-03-01 10:47 J -15316699.07 -15316699.05 -15316699.03 0.2664 0.2623

Venus -46647-05-19 01:54 J -15316255.54 -15316255.42 -15316255.30 0.3678 0.1979

Pluto -46647-12-29 15:06 J -15316030.87 -15316030.87 -15316030.85 0.0081 0.0081

Mars -46646-03-26 06:28 J -15315944.36 -15315944.23 -15315944.11 0.1620 0.0584

Pluto -46646-03-27 16:47 J -15315942.86 -15315942.80 -15315942.73 0.0081 0.0072

Pluto -46646-06-23 18:28 J -15315854.82 -15315854.73 -15315854.63 0.0081 0.0063

Pluto -46646-09-19 19:54 J -15315766.77 -15315766.67 -15315766.55 0.0081 0.0055

Pluto -46646-12-16 21:21 J -15315678.71 -15315678.61 -15315678.47 0.0080 0.0047

Saturn -46645-03-13 06:42 J -15315591.28 -15315591.22 -15315591.15 0.0273 0.0241

Pluto -46645-03-13 23:16 J -15315590.66 -15315590.53 -15315590.40 0.0080 0.0037

Saturn -46645-06-09 19:54 J -15315502.79 -15315502.67 -15315502.54 0.0274 0.0145

Pluto -46645-06-10 00:42 J -15315502.60 -15315502.47 -15315502.33 0.0080 0.0029 *

Jupiter -46645-07-13 17:45 J -15315468.88 -15315468.76 -15315468.63 0.0490 0.0317

Pluto -46645-09-06 02:09 J -15315414.54 -15315414.41 -15315414.26 0.0080 0.0021

Saturn -46645-09-06 08:52 J -15315414.27 -15315414.13 -15315413.98 0.0274 0.0050 *

Jupiter -46645-10-11 13:11 J -15315379.08 -15315378.95 -15315378.82 0.0488 0.0287

Pluto -46645-12-03 03:50 J -15315326.48 -15315326.34 -15315326.19 0.0080 0.0013

Saturn -46645-12-03 21:35 J -15315325.74 -15315325.60 -15315325.45 0.0275 0.0046

Pluto -46644-03-01 05:16 J -15315238.42 -15315238.28 -15315238.13 0.0080 0.0005

Saturn -46644-03-02 10:18 J -15315237.19 -15315237.07 -15315236.95 0.0275 0.0137

Pluto -46644-05-28 06:42 J -15315150.36 -15315150.22 -15315150.07 0.0080 0.0005

Saturn -46644-05-29 22:33 J -15315148.63 -15315148.56 -15315148.48 0.0276 0.0229

Moon -46644-08-22 16:18 J -15315063.88 -15315063.82 -15315063.75 0.2661 0.2236

Earth -46644-08-22 17:16 J -15315063.85 -15315063.78 -15315063.71 0.2661 0.2165 *

Pluto -46644-08-24 08:23 J -15315062.30 -15315062.15 -15315062.01 0.0079 0.0012

Pluto -46644-11-20 09:50 J -15314974.23 -15314974.09 -15314973.95 0.0079 0.0020

Pluto -46643-02-16 11:16 J -15314886.17 -15314886.03 -15314885.89 0.0079 0.0028

Pluto -46643-05-15 12:42 J -15314798.10 -15314797.97 -15314797.84 0.0079 0.0035

Pluto -46643-08-11 13:54 J -15314710.03 -15314709.92 -15314709.79 0.0079 0.0043

Pluto -46643-11-07 15:21 J -15314621.96 -15314621.86 -15314621.74 0.0079 0.0051

Pluto -46642-02-03 16:33 J -15314533.89 -15314533.81 -15314533.70 0.0079 0.0059

Pluto -46642-05-02 17:59 J -15314445.82 -15314445.75 -15314445.66 0.0078 0.0066

Pluto -46642-07-29 19:11 J -15314357.73 -15314357.70 -15314357.63 0.0078 0.0074

Venus -46642-12-03 05:59 J -15314231.32 -15314231.25 -15314231.18 0.3671 0.3199

Moon -46641-02-22 11:45 J -15314150.14 -15314150.01 -15314149.89 0.2672 0.0895

Earth -46641-02-22 12:42 J -15314150.10 -15314149.97 -15314149.84 0.2669 0.0855 *

Jupiter -46639-09-14 16:33 J -15313214.94 -15313214.81 -15313214.68 0.0538 0.0202

Jupiter -46639-12-13 05:59 J -15313125.31 -15313125.25 -15313125.19 0.0540 0.0473

Earth -46638-09-01 20:52 J -15312862.74 -15312862.63 -15312862.53 0.2667 0.1287

Moon -46638-09-01 21:35 J -15312862.70 -15312862.60 -15312862.50 0.2669 0.1310 *

Mars -46637-08-15 15:21 J -15312513.95 -15312513.86 -15312513.77 0.1616 0.1157

Mars -46635-07-22 03:21 J -15311808.45 -15311808.36 -15311808.27 0.1631 0.1197

Jupiter -46633-05-01 18:42 J -15311158.76 -15311158.72 -15311158.66 0.0490 0.0462

Jupiter -46633-07-30 13:40 J -15311069.09 -15311068.93 -15311068.77 0.0488 0.0135

Mars -46632-04-17 12:14 J -15310808.11 -15310807.99 -15310807.86 0.1906 0.0880

Saturn -46631-07-01 22:18 J -15310367.65 -15310367.57 -15310367.48 0.0286 0.0243

Moon -46631-08-25 13:11 J -15310313.06 -15310312.95 -15310312.85 0.2666 0.1327

Earth -46631-08-25 13:40 J -15310313.03 -15310312.93 -15310312.82 0.2662 0.1237 *

Saturn -46631-09-28 17:16 J -15310278.93 -15310278.78 -15310278.63 0.0286 0.0121

Saturn -46631-12-26 12:14 J -15310190.15 -15310189.99 -15310189.82 0.0285 0.0006

Saturn -46630-03-25 07:40 J -15310101.33 -15310101.18 -15310101.02 0.0285 0.0129

Saturn -46630-06-22 03:35 J -15310012.42 -15310012.35 -15310012.28 0.0285 0.0257

Moon -46628-02-24 12:57 J -15309399.09 -15309398.96 -15309398.82 0.2673 0.0226

Earth -46628-02-24 13:40 J -15309399.07 -15309398.93 -15309398.79 0.2667 0.0342 *

Jupiter -46627-07-03 18:14 J -15308904.84 -15308904.74 -15308904.64 0.0538 0.0382

Jupiter -46627-10-01 08:09 J -15308815.28 -15308815.16 -15308815.05 0.0540 0.0303

Mars -46626-12-12 12:28 J -15308378.10 -15308377.98 -15308377.86 0.1627 0.0636

Earth -46625-09-03 16:33 J -15308111.88 -15308111.81 -15308111.74 0.2669 0.2137

Moon -46625-09-03 17:16 J -15308111.85 -15308111.78 -15308111.72 0.2665 0.2194 *

Mars -46623-09-07 13:26 J -15307378.08 -15307377.94 -15307377.80 0.1912 0.0316

Jupiter -46621-05-18 14:38 J -15306759.05 -15306758.89 -15306758.72 0.0488 0.0013

Venus -46621-07-14 04:33 J -15306702.35 -15306702.31 -15306702.27 0.3696 0.3417

Neptune -46618-03-03 14:23 J -15305739.93 -15305739.90 -15305739.85 0.0088 0.0084

Neptune -46618-05-30 16:18 J -15305651.88 -15305651.82 -15305651.74 0.0088 0.0078

Neptune -46618-08-26 18:28 J -15305563.82 -15305563.73 -15305563.64 0.0088 0.0071

Moon -46618-08-28 09:50 J -15305562.21 -15305562.09 -15305561.97 0.2671 0.0273

Earth -46618-08-28 10:04 J -15305562.20 -15305562.08 -15305561.96 0.2664 0.0323 *

Neptune -46618-11-22 20:23 J -15305475.75 -15305475.65 -15305475.54 0.0088 0.0064

Neptune -46617-02-18 22:04 J -15305387.68 -15305387.58 -15305387.45 0.0088 0.0057

Neptune -46617-05-16 23:59 J -15305299.61 -15305299.50 -15305299.36 0.0088 0.0051

Neptune -46617-08-13 02:09 J -15305211.54 -15305211.41 -15305211.28 0.0088 0.0044

Neptune -46617-11-09 04:04 J -15305123.47 -15305123.33 -15305123.19 0.0088 0.0037

Neptune -46616-02-05 05:45 J -15305035.39 -15305035.26 -15305035.11 0.0088 0.0030

Mars -46616-05-03 21:35 J -15304947.73 -15304947.60 -15304947.47 0.1623 0.0071

Neptune -46616-05-04 07:40 J -15304947.32 -15304947.18 -15304947.03 0.0088 0.0024

Neptune -46616-07-31 09:35 J -15304859.24 -15304859.10 -15304858.95 0.0088 0.0017

Saturn -46616-07-31 08:38 J -15304859.16 -15304859.14 -15304859.10 0.0272 0.0267 *

Neptune -46616-10-27 11:30 J -15304771.17 -15304771.02 -15304770.87 0.0088 0.0010

Saturn -46616-10-27 22:04 J -15304770.69 -15304770.58 -15304770.47 0.0273 0.0171

Neptune -46615-01-23 13:26 J -15304683.09 -15304682.94 -15304682.79 0.0088 0.0003

Saturn -46615-01-24 11:02 J -15304682.18 -15304682.04 -15304681.90 0.0273 0.0076

Venus -46615-01-27 21:21 J -15304678.71 -15304678.61 -15304678.51 0.3701 0.1072

Earth -46615-02-27 14:52 J -15304647.99 -15304647.88 -15304647.76 0.2666 0.1573

Moon -46615-02-27 15:21 J -15304647.97 -15304647.86 -15304647.76 0.2673 0.1695 *

Neptune -46615-04-21 15:06 J -15304595.01 -15304594.87 -15304594.72 0.0088 0.0005

Saturn -46615-04-22 23:45 J -15304593.65 -15304593.51 -15304593.37 0.0274 0.0018

Neptune -46615-07-18 17:02 J -15304506.94 -15304506.79 -15304506.64 0.0088 0.0010

Jupiter -46615-07-20 10:47 J -15304505.18 -15304505.05 -15304504.92 0.0540 0.0142

Saturn -46615-07-20 12:28 J -15304505.11 -15304504.98 -15304504.85 0.0274 0.0110 *

Neptune -46615-10-14 18:57 J -15304418.86 -15304418.71 -15304418.56 0.0088 0.0016

Saturn -46615-10-17 00:42 J -15304416.56 -15304416.47 -15304416.37 0.0274 0.0201

Neptune -46614-01-10 20:38 J -15304330.78 -15304330.64 -15304330.49 0.0088 0.0023

Neptune -46614-04-08 22:33 J -15304242.70 -15304242.56 -15304242.42 0.0088 0.0029

Neptune -46614-07-06 00:14 J -15304154.62 -15304154.49 -15304154.35 0.0088 0.0036

Neptune -46614-10-02 01:54 J -15304066.54 -15304066.42 -15304066.28 0.0088 0.0043

Neptune -46614-12-29 04:04 J -15303978.46 -15303978.33 -15303978.21 0.0088 0.0049

Mars -46613-01-28 14:38 J -15303947.98 -15303947.89 -15303947.80 0.1916 0.1486

Neptune -46613-03-26 05:30 J -15303890.37 -15303890.27 -15303890.15 0.0088 0.0056

Neptune -46613-06-22 07:26 J -15303802.29 -15303802.19 -15303802.08 0.0088 0.0062

Neptune -46613-09-18 08:52 J -15303714.20 -15303714.13 -15303714.02 0.0089 0.0069

Neptune -46613-12-15 10:47 J -15303626.12 -15303626.05 -15303625.96 0.0089 0.0075

Neptune -46612-03-13 12:42 J -15303538.02 -15303537.97 -15303537.91 0.0089 0.0081

Neptune -46612-06-09 14:09 J -15303449.92 -15303449.91 -15303449.87 0.0089 0.0088

Uranus -46611-09-26 18:42 J -15302975.79 -15302975.72 -15302975.62 0.0146 0.0126

Uranus -46611-12-24 01:40 J -15302887.55 -15302887.43 -15302887.29 0.0146 0.0096

Uranus -46610-03-22 08:38 J -15302799.29 -15302799.14 -15302798.98 0.0146 0.0066

Uranus -46610-06-18 15:35 J -15302711.01 -15302710.85 -15302710.68 0.0146 0.0035

Venus -46610-08-13 13:54 J -15302655.02 -15302654.92 -15302654.82 0.3705 0.1234

Uranus -46610-09-14 22:47 J -15302622.73 -15302622.55 -15302622.38 0.0146 0.0005

Uranus -46610-12-12 05:45 J -15302534.43 -15302534.26 -15302534.09 0.0146 0.0027

Jupiter -46609-03-06 15:21 J -15302449.02 -15302448.86 -15302448.71 0.0489 0.0163

Uranus -46609-03-09 12:42 J -15302446.12 -15302445.97 -15302445.80 0.0146 0.0059

Jupiter -46609-06-04 11:02 J -15302359.11 -15302359.04 -15302358.98 0.0487 0.0445

Uranus -46609-06-05 20:09 J -15302357.80 -15302357.66 -15302357.52 0.0146 0.0090

Uranus -46609-09-02 03:06 J -15302269.45 -15302269.37 -15302269.26 0.0146 0.0122

Moon -46608-02-19 16:47 J -15302098.90 -15302098.80 -15302098.71 0.2669 0.1909

Earth -46608-02-19 17:45 J -15302098.85 -15302098.76 -15302098.66 0.2671 0.1813 *

Mars -46607-09-24 06:28 J -15301517.35 -15301517.23 -15301517.10 0.1620 0.0503

Earth -46605-08-30 05:59 J -15300811.36 -15300811.25 -15300811.13 0.2665 0.0576

Moon -46605-08-30 06:42 J -15300811.34 -15300811.22 -15300811.11 0.2670 0.0550 *

Venus -46604-02-26 06:28 J -15300631.26 -15300631.23 -15300631.20 0.3710 0.3499

Jupiter -46603-05-08 13:26 J -15300195.08 -15300194.94 -15300194.80 0.0539 0.0026

Saturn -46601-02-15 15:21 J -15299546.99 -15299546.86 -15299546.72 0.0286 0.0167

Saturn -46601-05-14 10:18 J -15299458.23 -15299458.07 -15299457.90 0.0286 0.0045

Saturn -46601-08-11 05:45 J -15299369.42 -15299369.26 -15299369.10 0.0285 0.0082

Saturn -46601-11-08 01:26 J -15299280.55 -15299280.44 -15299280.32 0.0285 0.0209

Moon -46598-08-23 21:35 J -15298261.68 -15298261.60 -15298261.52 0.2661 0.2061

Earth -46598-08-23 22:33 J -15298261.64 -15298261.56 -15298261.48 0.2661 0.1997 *

Jupiter -46598-12-24 16:18 J -15298138.95 -15298138.82 -15298138.70 0.0489 0.0311

Mars -46597-02-14 15:21 J -15298086.95 -15298086.86 -15298086.76 0.1617 0.1075

Jupiter -46597-03-23 11:30 J -15298049.15 -15298049.02 -15298048.89 0.0488 0.0292

Mars -46595-01-20 03:21 J -15297381.44 -15297381.36 -15297381.28 0.1631 0.1276

Moon -46595-02-22 17:16 J -15297347.91 -15297347.78 -15297347.65 0.2672 0.0761

Earth -46595-02-22 18:28 J -15297347.86 -15297347.73 -15297347.60 0.2669 0.0648 *

Mars -46593-10-16 12:42 J -15296381.09 -15296380.97 -15296380.85 0.1906 0.1003

Earth -46592-09-02 01:54 J -15296060.52 -15296060.42 -15296060.32 0.2667 0.1439

Moon -46592-09-02 02:38 J -15296060.48 -15296060.39 -15296060.29 0.2669 0.1555 *

Jupiter -46591-02-24 15:06 J -15295884.99 -15295884.87 -15295884.73 0.0538 0.0196

Jupiter -46591-05-25 04:33 J -15295795.36 -15295795.31 -15295795.25 0.0540 0.0481

Venus -46591-12-24 02:38 J -15295582.54 -15295582.39 -15295582.25 0.3676 0.0246

Saturn -46586-03-16 23:59 J -15294038.60 -15294038.50 -15294038.40 0.0273 0.0198

Mars -46586-06-12 12:42 J -15293951.09 -15293950.97 -15293950.86 0.1627 0.0719

Saturn -46586-06-13 13:11 J -15293950.09 -15293949.95 -15293949.82 0.0274 0.0103

Saturn -46586-09-10 01:54 J -15293861.56 -15293861.42 -15293861.27 0.0274 0.0010

Jupiter -46586-10-12 17:02 J -15293828.84 -15293828.79 -15293828.74 0.0490 0.0459

Saturn -46586-12-07 14:38 J -15293773.03 -15293772.89 -15293772.76 0.0275 0.0085

Jupiter -46585-01-10 11:45 J -15293739.16 -15293739.01 -15293738.85 0.0489 0.0139

Saturn -46585-03-05 03:06 J -15293684.48 -15293684.37 -15293684.26 0.0275 0.0177

Saturn -46585-06-01 15:21 J -15293595.89 -15293595.86 -15293595.83 0.0276 0.0267

Moon -46585-08-25 18:28 J -15293510.84 -15293510.73 -15293510.62 0.2668 0.1093

Earth -46585-08-25 18:57 J -15293510.82 -15293510.71 -15293510.60 0.2663 0.1068 *

Mars -46583-03-08 13:40 J -15292951.07 -15292950.93 -15292950.79 0.1911 0.0193

Moon -46582-02-25 19:11 J -15292596.84 -15292596.70 -15292596.57 0.2673 0.0594

Earth -46582-02-25 19:26 J -15292596.82 -15292596.69 -15292596.55 0.2667 0.0558 *

Jupiter -46580-12-13 17:02 J -15291574.89 -15291574.79 -15291574.69 0.0538 0.0372

Jupiter -46579-03-13 06:42 J -15291485.33 -15291485.22 -15291485.10 0.0540 0.0311

Earth -46579-09-04 21:35 J -15291309.66 -15291309.60 -15291309.54 0.2669 0.2288

Moon -46579-09-04 22:18 J -15291309.63 -15291309.57 -15291309.52 0.2664 0.2302 *

Mars -46577-11-01 21:50 J -15290520.72 -15290520.59 -15290520.46 0.1623 0.0159

Mars -46574-07-29 15:06 J -15289520.97 -15289520.87 -15289520.78 0.1916 0.1367

Jupiter -46574-10-29 12:28 J -15289429.14 -15289428.98 -15289428.81 0.0489 0.0017

Saturn -46572-07-04 17:30 J -15288814.89 -15288814.77 -15288814.64 0.0286 0.0191

Moon -46572-08-28 15:06 J -15288759.99 -15288759.87 -15288759.75 0.2671 0.0218

Earth -46572-08-28 15:06 J -15288759.99 -15288759.87 -15288759.75 0.2664 0.0167 *

Saturn -46572-10-01 12:28 J -15288726.14 -15288725.98 -15288725.82 0.0286 0.0068

Saturn -46572-12-29 07:54 J -15288637.34 -15288637.17 -15288637.01 0.0285 0.0058

Saturn -46571-03-28 03:21 J -15288548.48 -15288548.36 -15288548.23 0.0285 0.0185

Earth -46569-02-28 20:52 J -15287845.73 -15287845.63 -15287845.53 0.2665 0.1796

Moon -46569-02-28 21:21 J -15287845.72 -15287845.61 -15287845.51 0.2672 0.1741 *

Uranus -46569-04-23 08:38 J -15287791.19 -15287791.14 -15287791.07 0.0132 0.0119

Uranus -46569-07-20 12:14 J -15287703.08 -15287702.99 -15287702.89 0.0132 0.0100

Uranus -46569-10-16 15:50 J -15287614.95 -15287614.84 -15287614.72 0.0132 0.0082

Uranus -46568-01-12 19:40 J -15287526.81 -15287526.68 -15287526.56 0.0132 0.0063

Uranus -46568-04-10 23:02 J -15287438.67 -15287438.54 -15287438.40 0.0132 0.0044

Uranus -46568-07-08 02:38 J -15287350.53 -15287350.39 -15287350.25 0.0132 0.0025

Uranus -46568-10-04 06:14 J -15287262.39 -15287262.24 -15287262.10 0.0132 0.0007

Jupiter -46568-12-30 08:38 J -15287175.28 -15287175.14 -15287175.01 0.0540 0.0135

Uranus -46568-12-31 09:35 J -15287174.24 -15287174.10 -15287173.96 0.0132 0.0012

Mars -46567-03-25 06:42 J -15287090.35 -15287090.22 -15287090.09 0.1620 0.0416

Uranus -46567-03-29 13:11 J -15287086.09 -15287085.95 -15287085.82 0.0132 0.0030

Uranus -46567-06-25 16:33 J -15286997.94 -15286997.81 -15286997.68 0.0132 0.0048

Uranus -46567-09-21 19:54 J -15286909.79 -15286909.67 -15286909.55 0.0132 0.0067

Uranus -46567-12-18 23:02 J -15286821.63 -15286821.54 -15286821.42 0.0132 0.0086

Uranus -46566-03-17 02:23 J -15286733.47 -15286733.40 -15286733.30 0.0132 0.0103

Uranus -46566-06-13 05:59 J -15286645.30 -15286645.25 -15286645.19 0.0132 0.0121

Venus -46564-02-18 02:23 J -15286029.48 -15286029.40 -15286029.33 0.3697 0.2531

Moon -46562-02-20 22:18 J -15285296.67 -15285296.57 -15285296.46 0.2671 0.1639

Earth -46562-02-20 23:30 J -15285296.62 -15285296.52 -15285296.41 0.2670 0.1610 *

Jupiter -46562-08-17 13:40 J -15285119.08 -15285118.93 -15285118.77 0.0489 0.0156

Jupiter -46562-11-15 09:21 J -15285029.17 -15285029.11 -15285029.05 0.0487 0.0453

Earth -46559-08-31 11:16 J -15284009.15 -15284009.03 -15284008.92 0.2666 0.0731

Moon -46559-08-31 11:45 J -15284009.12 -15284009.01 -15284008.89 0.2671 0.0851 *

Venus -46559-09-03 18:57 J -15284005.81 -15284005.71 -15284005.60 0.3702 0.0233

Mars -46558-08-15 15:35 J -15283659.95 -15283659.85 -15283659.74 0.1616 0.0991

Saturn -46557-08-03 02:09 J -15283306.49 -15283306.41 -15283306.33 0.0272 0.0224

Saturn -46557-10-30 15:06 J -15283217.99 -15283217.87 -15283217.74 0.0273 0.0129

Saturn -46556-01-27 04:04 J -15283129.47 -15283129.33 -15283129.19 0.0273 0.0035

Saturn -46556-04-25 16:47 J -15283040.94 -15283040.80 -15283040.66 0.0274 0.0058

Mars -46556-07-21 03:35 J -15282954.42 -15282954.35 -15282954.28 0.1631 0.1358

Saturn -46556-07-23 05:16 J -15282952.40 -15282952.28 -15282952.16 0.0274 0.0150

Jupiter -46556-10-18 11:16 J -15282865.17 -15282865.03 -15282864.89 0.0540 0.0029

Saturn -46556-10-19 17:30 J -15282863.83 -15282863.77 -15282863.70 0.0274 0.0241

Venus -46553-03-19 11:30 J -15281982.10 -15281982.02 -15281981.93 0.3707 0.2101

Mars -46553-04-16 12:57 J -15281954.08 -15281953.96 -15281953.85 0.1906 0.1114

Moon -46552-08-24 02:52 J -15281459.46 -15281459.38 -15281459.30 0.2662 0.1922

Earth -46552-08-24 03:50 J -15281459.43 -15281459.34 -15281459.25 0.2661 0.1826 *

Jupiter -46550-06-05 14:38 J -15280809.02 -15280808.89 -15280808.77 0.0489 0.0304

Jupiter -46550-09-03 09:50 J -15280719.22 -15280719.09 -15280718.96 0.0488 0.0298

Moon -46549-02-23 23:16 J -15280545.67 -15280545.53 -15280545.40 0.2672 0.0508

Earth -46549-02-24 00:14 J -15280545.62 -15280545.49 -15280545.35 0.2668 0.0442 *

Mars -46548-01-05 00:28 J -15280229.51 -15280229.48 -15280229.45 0.1614 0.1567

Mars -46547-12-11 12:42 J -15279524.08 -15279523.97 -15279523.86 0.1627 0.0796

Earth -46546-09-03 06:57 J -15279258.30 -15279258.21 -15279258.11 0.2667 0.1595

Moon -46546-09-03 07:54 J -15279258.27 -15279258.17 -15279258.08 0.2668 0.1592 *

Jupiter -46544-08-06 13:40 J -15278555.06 -15278554.93 -15278554.80 0.0539 0.0191

Mars -46544-09-06 13:54 J -15278524.06 -15278523.92 -15278523.78 0.1912 0.0096

Jupiter -46544-11-04 03:21 J -15278465.42 -15278465.36 -15278465.31 0.0541 0.0488

Saturn -46543-11-21 15:50 J -15278082.93 -15278082.84 -15278082.75 0.0287 0.0238

Saturn -46542-02-18 10:33 J -15277994.21 -15277994.06 -15277993.91 0.0286 0.0116

Saturn -46542-05-18 05:30 J -15277905.43 -15277905.27 -15277905.10 0.0286 0.0010

Saturn -46542-08-15 00:57 J -15277816.60 -15277816.46 -15277816.31 0.0285 0.0135

Saturn -46542-11-11 20:38 J -15277727.69 -15277727.64 -15277727.56 0.0285 0.0263

Venus -46539-01-13 23:16 J -15276933.56 -15276933.53 -15276933.49 0.3681 0.3517

Moon -46539-08-26 23:45 J -15276708.63 -15276708.51 -15276708.40 0.2669 0.0950

Earth -46539-08-27 00:14 J -15276708.61 -15276708.49 -15276708.38 0.2663 0.0905 *

Jupiter -46538-03-24 15:35 J -15276498.91 -15276498.85 -15276498.79 0.0490 0.0450

Jupiter -46538-06-22 10:18 J -15276409.22 -15276409.07 -15276408.91 0.0488 0.0147

Mars -46537-05-02 21:50 J -15276093.72 -15276093.59 -15276093.46 0.1623 0.0238

Neptune -46536-02-23 05:02 J -15275797.33 -15275797.29 -15275797.22 0.0089 0.0083

Moon -46536-02-26 01:11 J -15275794.59 -15275794.45 -15275794.32 0.2674 0.0714

Earth -46536-02-26 01:11 J -15275794.58 -15275794.45 -15275794.31 0.2667 0.0768 *

Neptune -46536-05-22 07:26 J -15275709.26 -15275709.19 -15275709.09 0.0089 0.0076

Neptune -46536-08-18 10:04 J -15275621.18 -15275621.08 -15275620.97 0.0089 0.0068

Neptune -46536-11-14 12:28 J -15275533.09 -15275532.98 -15275532.86 0.0089 0.0061

Neptune -46535-02-10 14:38 J -15275445.00 -15275444.89 -15275444.74 0.0089 0.0054

Neptune -46535-05-09 17:30 J -15275356.91 -15275356.77 -15275356.63 0.0089 0.0046

Neptune -46535-08-05 19:40 J -15275268.82 -15275268.68 -15275268.52 0.0089 0.0039

Neptune -46535-11-01 22:04 J -15275180.72 -15275180.58 -15275180.41 0.0089 0.0032

Mars -46534-01-27 15:21 J -15275093.96 -15275093.86 -15275093.75 0.1916 0.1242

Neptune -46534-01-29 00:42 J -15275092.62 -15275092.47 -15275092.30 0.0089 0.0024

Neptune -46534-04-27 03:21 J -15275004.52 -15275004.36 -15275004.20 0.0089 0.0017

Neptune -46534-07-24 05:45 J -15274916.42 -15274916.26 -15274916.09 0.0089 0.0010

Venus -46534-07-31 03:21 J -15274909.49 -15274909.36 -15274909.23 0.3674 0.1595

Neptune -46534-10-20 08:23 J -15274828.32 -15274828.15 -15274827.98 0.0089 0.0002

Neptune -46533-01-16 10:47 J -15274740.21 -15274740.05 -15274739.88 0.0089 0.0006

Neptune -46533-04-13 13:26 J -15274652.11 -15274651.94 -15274651.78 0.0089 0.0013

Neptune -46533-07-10 15:50 J -15274564.00 -15274563.84 -15274563.67 0.0089 0.0021

Earth -46533-09-05 02:38 J -15274507.43 -15274507.39 -15274507.34 0.2669 0.2437

Moon -46533-09-05 03:21 J -15274507.40 -15274507.36 -15274507.33 0.2665 0.2520 *

Neptune -46533-10-06 18:28 J -15274475.89 -15274475.73 -15274475.57 0.0089 0.0028

Neptune -46532-01-02 20:52 J -15274387.78 -15274387.63 -15274387.47 0.0089 0.0036

Neptune -46532-03-31 23:16 J -15274299.66 -15274299.53 -15274299.37 0.0089 0.0044

Jupiter -46532-05-25 15:50 J -15274244.95 -15274244.84 -15274244.74 0.0538 0.0362

Neptune -46532-06-28 02:09 J -15274211.55 -15274211.41 -15274211.27 0.0089 0.0051

Jupiter -46532-08-23 05:30 J -15274155.38 -15274155.27 -15274155.16 0.0540 0.0321

Neptune -46532-09-24 04:33 J -15274123.43 -15274123.31 -15274123.17 0.0089 0.0059

Neptune -46532-12-21 06:57 J -15274035.30 -15274035.21 -15274035.08 0.0089 0.0067

Neptune -46531-03-19 10:04 J -15273947.17 -15273947.08 -15273946.99 0.0089 0.0074

Neptune -46531-06-15 12:28 J -15273859.04 -15273858.98 -15273858.91 0.0089 0.0082

Moon -46529-02-19 04:04 J -15273245.37 -15273245.33 -15273245.28 0.2667 0.2506

Earth -46529-02-19 05:02 J -15273245.33 -15273245.29 -15273245.25 0.2672 0.2538 *

Mars -46528-09-23 06:57 J -15272663.34 -15272663.21 -15272663.08 0.1620 0.0333

Saturn -46528-12-21 03:35 J -15272574.40 -15272574.35 -15272574.29 0.0273 0.0254

Saturn -46527-03-19 16:47 J -15272485.91 -15272485.80 -15272485.68 0.0273 0.0159

Saturn -46527-06-16 05:45 J -15272397.40 -15272397.26 -15272397.12 0.0274 0.0064

Saturn -46527-09-12 18:42 J -15272308.87 -15272308.72 -15272308.58 0.0274 0.0031

Uranus -46527-10-17 01:40 J -15272274.53 -15272274.43 -15272274.34 0.0146 0.0121

Saturn -46527-12-10 07:11 J -15272220.33 -15272220.20 -15272220.07 0.0275 0.0123

Uranus -46526-01-13 08:23 J -15272186.28 -15272186.15 -15272186.01 0.0146 0.0091

Saturn -46526-03-08 19:26 J -15272131.77 -15272131.69 -15272131.60 0.0275 0.0214

Jupiter -46526-04-10 10:47 J -15272099.21 -15272099.05 -15272098.88 0.0489 0.0013

Uranus -46526-04-11 15:21 J -15272098.02 -15272097.86 -15272097.70 0.0146 0.0060

Uranus -46526-07-08 22:18 J -15272009.74 -15272009.57 -15272009.40 0.0146 0.0030

Moon -46526-08-29 20:23 J -15271957.77 -15271957.65 -15271957.53 0.2671 0.0092

Earth -46526-08-29 20:23 J -15271957.77 -15271957.65 -15271957.53 0.2664 0.0070 *

Uranus -46526-10-05 05:16 J -15271921.45 -15271921.28 -15271921.10 0.0146 0.0004

Uranus -46525-01-01 12:28 J -15271833.15 -15271832.98 -15271832.81 0.0146 0.0032

Uranus -46525-03-29 19:26 J -15271744.84 -15271744.69 -15271744.53 0.0146 0.0064

Uranus -46525-06-26 02:38 J -15271656.52 -15271656.39 -15271656.25 0.0146 0.0095

Uranus -46525-09-22 10:04 J -15271568.17 -15271568.08 -15271567.99 0.0146 0.0127

Earth -46523-03-01 02:38 J -15271043.48 -15271043.39 -15271043.29 0.2665 0.2015

Moon -46523-03-01 03:21 J -15271043.44 -15271043.36 -15271043.28 0.2671 0.2139 *

Jupiter -46520-06-11 07:40 J -15269845.31 -15269845.18 -15269845.05 0.0539 0.0149

Earth -46519-08-22 12:28 J -15269408.01 -15269407.98 -15269407.96 0.2660 0.2603

Mars -46518-02-13 15:50 J -15269232.95 -15269232.84 -15269232.73 0.1617 0.0903

Mars -46516-01-19 03:35 J -15268527.40 -15268527.35 -15268527.29 0.1631 0.1439

Moon -46516-02-21 04:04 J -15268494.44 -15268494.33 -15268494.22 0.2671 0.1568

Earth -46516-02-21 05:16 J -15268494.39 -15268494.28 -15268494.16 0.2670 0.1406 *

Jupiter -46514-01-27 11:45 J -15267789.16 -15267789.01 -15267788.85 0.0489 0.0153

Jupiter -46514-04-27 07:26 J -15267699.24 -15267699.19 -15267699.13 0.0488 0.0456

Mars -46514-10-16 13:11 J -15267527.06 -15267526.95 -15267526.84 0.1906 0.1227

Saturn -46513-04-09 17:16 J -15267350.83 -15267350.78 -15267350.71 0.0287 0.0264

Saturn -46513-07-07 11:59 J -15267262.14 -15267262.00 -15267261.85 0.0286 0.0143

Earth -46513-08-31 16:18 J -15267206.93 -15267206.82 -15267206.71 0.2666 0.0885

Moon -46513-08-31 17:02 J -15267206.90 -15267206.79 -15267206.68 0.2671 0.0871 *

Saturn -46513-10-04 07:11 J -15267173.37 -15267173.20 -15267173.03 0.0286 0.0019

Saturn -46512-01-01 02:23 J -15267084.55 -15267084.40 -15267084.24 0.0285 0.0108

Saturn -46512-03-30 22:18 J -15266995.66 -15266995.57 -15266995.47 0.0285 0.0235

Mars -46509-07-06 00:42 J -15265802.52 -15265802.47 -15265802.42 0.1614 0.1480

Jupiter -46508-03-30 09:06 J -15265535.26 -15265535.12 -15265534.98 0.0539 0.0034

Venus -46508-09-24 23:59 J -15265356.59 -15265356.50 -15265356.40 0.3698 0.1646

Mars -46507-06-11 12:57 J -15265097.07 -15265096.96 -15265096.85 0.1627 0.0881

Moon -46506-08-25 08:09 J -15264657.25 -15264657.16 -15264657.06 0.2664 0.1670

Earth -46506-08-25 09:06 J -15264657.22 -15264657.12 -15264657.03 0.2661 0.1661 *

Mars -46504-03-07 14:23 J -15264097.05 -15264096.90 -15264096.76 0.1911 0.0073

Moon -46503-02-24 05:02 J -15263743.42 -15263743.29 -15263743.15 0.2672 0.0291

Earth -46503-02-24 05:59 J -15263743.39 -15263743.25 -15263743.11 0.2668 0.0236 *

Jupiter -46503-11-15 13:11 J -15263479.08 -15263478.95 -15263478.82 0.0489 0.0293

Jupiter -46502-02-13 08:23 J -15263389.28 -15263389.15 -15263389.02 0.0488 0.0309

Venus -46502-04-10 16:47 J -15263332.91 -15263332.80 -15263332.70 0.3703 0.0683

Earth -46500-09-03 11:59 J -15262456.08 -15262456.00 -15262455.91 0.2668 0.1746

Moon -46500-09-03 12:57 J -15262456.05 -15262455.96 -15262455.88 0.2666 0.1874 *

Saturn -46498-08-06 18:57 J -15261753.81 -15261753.71 -15261753.60 0.0272 0.0184

Mars -46498-11-01 22:04 J -15261666.71 -15261666.58 -15261666.45 0.1623 0.0318

Saturn -46498-11-03 08:09 J -15261665.30 -15261665.16 -15261665.03 0.0273 0.0089

Saturn -46497-01-30 20:52 J -15261576.77 -15261576.63 -15261576.49 0.0273 0.0005

Saturn -46497-04-28 09:21 J -15261488.24 -15261488.11 -15261487.97 0.0274 0.0097

Saturn -46497-07-25 21:50 J -15261399.69 -15261399.59 -15261399.49 0.0274 0.0188

Venus -46497-10-24 09:21 J -15261309.17 -15261309.11 -15261309.05 0.3708 0.2958

Jupiter -46496-01-16 11:45 J -15261225.14 -15261225.01 -15261224.88 0.0539 0.0196

Jupiter -46496-04-16 01:11 J -15261135.50 -15261135.45 -15261135.39 0.0541 0.0484

Mars -46495-07-28 15:21 J -15260666.97 -15260666.86 -15260666.74 0.1916 0.1146

Moon -46493-08-27 04:47 J -15259906.41 -15259906.30 -15259906.18 0.2669 0.0791

Earth -46493-08-27 05:16 J -15259906.39 -15259906.28 -15259906.16 0.2663 0.0741 *

Jupiter -46491-09-03 14:09 J -15259168.97 -15259168.91 -15259168.84 0.0490 0.0440

Jupiter -46491-12-02 08:52 J -15259079.28 -15259079.13 -15259078.97 0.0488 0.0156

Moon -46490-02-27 06:57 J -15258992.33 -15258992.21 -15258992.08 0.2674 0.1004

Earth -46490-02-27 07:11 J -15258992.33 -15258992.20 -15258992.07 0.2666 0.0981 *

Pluto -46489-11-02 22:33 J -15258377.59 -15258377.56 -15258377.48 0.0064 0.0061

Pluto -46488-01-29 23:45 J -15258289.57 -15258289.51 -15258289.41 0.0064 0.0056

Mars -46488-03-24 06:57 J -15258236.34 -15258236.21 -15258236.08 0.1620 0.0255

Pluto -46488-04-28 01:11 J -15258201.54 -15258201.45 -15258201.34 0.0064 0.0051

Pluto -46488-07-25 02:23 J -15258113.51 -15258113.40 -15258113.28 0.0064 0.0047

Pluto -46488-10-21 03:21 J -15258025.47 -15258025.36 -15258025.22 0.0064 0.0042

Pluto -46487-01-17 04:33 J -15257937.43 -15257937.31 -15257937.16 0.0064 0.0037

Pluto -46487-04-15 05:45 J -15257849.39 -15257849.26 -15257849.10 0.0064 0.0033

Pluto -46487-07-12 06:57 J -15257761.35 -15257761.21 -15257761.04 0.0065 0.0028

Earth -46487-09-06 07:40 J -15257705.20 -15257705.18 -15257705.15 0.2669 0.2585

Moon -46487-09-06 08:23 J -15257705.18 -15257705.15 -15257705.13 0.2665 0.2574 *

Pluto -46487-10-08 08:09 J -15257673.31 -15257673.16 -15257672.99 0.0065 0.0023

Pluto -46486-01-04 09:35 J -15257585.26 -15257585.10 -15257584.93 0.0065 0.0018

Pluto -46486-04-02 10:47 J -15257497.21 -15257497.05 -15257496.88 0.0065 0.0013

Pluto -46486-06-29 11:59 J -15257409.16 -15257409.00 -15257408.82 0.0065 0.0008

Pluto -46486-09-25 13:26 J -15257321.11 -15257320.94 -15257320.77 0.0065 0.0003

Pluto -46486-12-22 14:38 J -15257233.06 -15257232.89 -15257232.72 0.0065 0.0003

Pluto -46485-03-19 15:50 J -15257145.01 -15257144.84 -15257144.67 0.0065 0.0008

Uranus -46485-05-13 15:06 J -15257089.92 -15257089.87 -15257089.79 0.0132 0.0117

Pluto -46485-06-15 16:47 J -15257056.96 -15257056.80 -15257056.62 0.0065 0.0014

Uranus -46485-08-09 18:57 J -15257001.80 -15257001.71 -15257001.61 0.0132 0.0097

Pluto -46485-09-11 18:14 J -15256968.90 -15256968.74 -15256968.57 0.0065 0.0018

Jupiter -46485-11-04 14:09 J -15256915.01 -15256914.91 -15256914.80 0.0538 0.0358

Uranus -46485-11-05 22:33 J -15256913.67 -15256913.56 -15256913.44 0.0132 0.0078

Pluto -46485-12-08 19:26 J -15256880.84 -15256880.69 -15256880.52 0.0065 0.0023

Uranus -46484-02-02 02:09 J -15256825.53 -15256825.41 -15256825.28 0.0132 0.0059

Jupiter -46484-02-02 04:04 J -15256825.43 -15256825.33 -15256825.22 0.0540 0.0328 *

Pluto -46484-03-06 20:38 J -15256792.78 -15256792.64 -15256792.47 0.0066 0.0029

Uranus -46484-05-01 05:45 J -15256737.39 -15256737.26 -15256737.12 0.0132 0.0041

Pluto -46484-06-02 22:04 J -15256704.72 -15256704.58 -15256704.43 0.0066 0.0034

Uranus -46484-07-28 09:21 J -15256649.25 -15256649.11 -15256648.97 0.0132 0.0022

Pluto -46484-08-29 23:30 J -15256616.66 -15256616.52 -15256616.38 0.0066 0.0039

Uranus -46484-10-24 12:57 J -15256561.11 -15256560.96 -15256560.82 0.0132 0.0005

Saturn -46484-11-24 09:50 J -15256530.21 -15256530.09 -15256529.97 0.0287 0.0192

Pluto -46484-11-26 00:28 J -15256528.59 -15256528.48 -15256528.34 0.0066 0.0045

Uranus -46483-01-20 16:18 J -15256472.96 -15256472.82 -15256472.68 0.0132 0.0015

Moon -46483-02-19 09:35 J -15256443.14 -15256443.10 -15256443.05 0.2668 0.2481

Earth -46483-02-19 10:33 J -15256443.12 -15256443.06 -15256442.99 0.2672 0.2339 *

Saturn -46483-02-21 04:47 J -15256441.46 -15256441.30 -15256441.14 0.0286 0.0070

Pluto -46483-02-22 01:54 J -15256440.52 -15256440.42 -15256440.30 0.0066 0.0050

Uranus -46483-04-18 19:40 J -15256384.81 -15256384.68 -15256384.54 0.0132 0.0034

Saturn -46483-05-20 23:59 J -15256352.66 -15256352.50 -15256352.33 0.0286 0.0056

Pluto -46483-05-21 03:35 J -15256352.44 -15256352.35 -15256352.26 0.0066 0.0055 *

Uranus -46483-07-15 23:02 J -15256296.66 -15256296.54 -15256296.40 0.0132 0.0052

Pluto -46483-08-17 04:18 J -15256264.36 -15256264.32 -15256264.23 0.0066 0.0062

Saturn -46483-08-17 19:40 J -15256263.81 -15256263.68 -15256263.55 0.0285 0.0183

Venus -46483-08-20 23:59 J -15256260.63 -15256260.50 -15256260.38 0.3679 0.1767

Uranus -46483-10-12 02:38 J -15256208.51 -15256208.39 -15256208.27 0.0132 0.0070

Uranus -46482-01-08 05:59 J -15256120.35 -15256120.25 -15256120.14 0.0132 0.0088

Uranus -46482-04-06 09:06 J -15256032.19 -15256032.12 -15256032.02 0.0132 0.0107

Uranus -46482-07-03 12:28 J -15255944.01 -15255943.98 -15255943.92 0.0132 0.0124

Earth -46480-08-30 01:26 J -15255155.56 -15255155.44 -15255155.32 0.2665 0.0165

Moon -46480-08-30 01:54 J -15255155.54 -15255155.42 -15255155.30 0.2671 0.0198 *

Mars -46479-08-14 16:04 J -15254805.95 -15254805.83 -15254805.72 0.1617 0.0820

Jupiter -46479-09-20 09:50 J -15254769.26 -15254769.09 -15254768.93 0.0488 0.0014

Earth -46477-03-01 08:38 J -15254241.21 -15254241.14 -15254241.06 0.2665 0.2232

Moon -46477-03-01 09:21 J -15254241.18 -15254241.11 -15254241.03 0.2669 0.2238 *

Venus -46477-03-06 04:04 J -15254236.38 -15254236.33 -15254236.28 0.3673 0.3424

Mars -46477-07-20 03:50 J -15254100.38 -15254100.34 -15254100.30 0.1631 0.1517

Mars -46474-04-16 13:40 J -15253100.03 -15253099.93 -15253099.83 0.1906 0.1362

Moon -46473-08-22 16:47 J -15252605.85 -15252605.80 -15252605.75 0.2658 0.2419

Earth -46473-08-22 17:30 J -15252605.81 -15252605.77 -15252605.72 0.2660 0.2433 *

Jupiter -46473-08-23 16:18 J -15252604.84 -15252604.82 -15252604.80 0.0537 0.0529

Jupiter -46473-11-21 06:28 J -15252515.36 -15252515.23 -15252515.09 0.0539 0.0162

Moon -46470-02-22 09:50 J -15251692.21 -15251692.09 -15251691.97 0.2671 0.1209

Earth -46470-02-22 11:02 J -15251692.16 -15251692.04 -15251691.92 0.2670 0.1202 *

Mars -46469-01-05 00:42 J -15251375.53 -15251375.47 -15251375.40 0.1614 0.1396

Saturn -46469-12-23 20:09 J -15251021.74 -15251021.66 -15251021.57 0.0273 0.0216

Saturn -46468-03-22 09:21 J -15250933.24 -15250933.11 -15250932.98 0.0273 0.0121

Saturn -46468-06-18 22:18 J -15250844.72 -15250844.57 -15250844.43 0.0274 0.0028

Saturn -46468-09-15 10:47 J -15250756.18 -15250756.05 -15250755.91 0.0274 0.0067

Mars -46468-12-10 12:57 J -15250670.06 -15250669.96 -15250669.85 0.1627 0.0963

Saturn -46468-12-12 23:16 J -15250667.64 -15250667.53 -15250667.41 0.0275 0.0158

Saturn -46467-03-11 11:30 J -15250579.07 -15250579.02 -15250578.95 0.0275 0.0249

Jupiter -46467-07-09 10:18 J -15250459.22 -15250459.07 -15250458.91 0.0489 0.0145

Earth -46467-09-01 21:21 J -15250404.72 -15250404.61 -15250404.50 0.2666 0.1040

Moon -46467-09-01 22:04 J -15250404.69 -15250404.58 -15250404.47 0.2670 0.1147 *

Jupiter -46467-10-07 05:45 J -15250369.30 -15250369.26 -15250369.20 0.0488 0.0465

Mars -46465-09-05 14:38 J -15249670.03 -15249669.89 -15249669.75 0.1911 0.0158

Jupiter -46461-09-09 08:38 J -15248205.28 -15248205.14 -15248205.00 0.0539 0.0016

Moon -46460-08-25 13:26 J -15247855.04 -15247854.94 -15247854.85 0.2666 0.1623

Earth -46460-08-25 14:09 J -15247855.01 -15247854.91 -15247854.81 0.2662 0.1491 *

Mars -46458-05-02 22:18 J -15247239.70 -15247239.57 -15247239.45 0.1623 0.0404

Moon -46457-02-25 11:02 J -15246941.17 -15246941.04 -15246940.90 0.2673 0.0142

Earth -46457-02-25 11:45 J -15246941.15 -15246941.01 -15246940.87 0.2668 0.0060 *

Venus -46457-10-16 05:02 J -15246707.34 -15246707.29 -15246707.23 0.3695 0.3108

Mars -46455-01-26 15:50 J -15246239.96 -15246239.84 -15246239.72 0.1916 0.1028

Jupiter -46455-04-27 11:30 J -15246149.15 -15246149.02 -15246148.89 0.0489 0.0288

Jupiter -46455-07-26 06:42 J -15246059.35 -15246059.22 -15246059.09 0.0488 0.0315

Saturn -46454-04-13 11:02 J -15245798.14 -15245798.04 -15245797.94 0.0286 0.0222

Saturn -46454-07-11 05:45 J -15245709.41 -15245709.26 -15245709.10 0.0286 0.0100

Neptune -46454-09-01 12:14 J -15245657.00 -15245656.99 -15245656.95 0.0088 0.0087

Earth -46454-09-04 17:16 J -15245653.87 -15245653.78 -15245653.70 0.2668 0.1899

Moon -46454-09-04 17:59 J -15245653.83 -15245653.75 -15245653.67 0.2666 0.1887 *

Saturn -46454-10-08 00:57 J -15245620.62 -15245620.46 -15245620.29 0.0286 0.0025

Neptune -46454-11-28 14:23 J -15245568.96 -15245568.90 -15245568.83 0.0088 0.0080

Saturn -46453-01-04 20:23 J -15245531.79 -15245531.65 -15245531.50 0.0285 0.0152

Neptune -46453-02-24 16:18 J -15245480.90 -15245480.82 -15245480.73 0.0088 0.0073

Saturn -46453-04-02 16:33 J -15245442.84 -15245442.81 -15245442.79 0.0285 0.0280

Neptune -46453-05-22 18:28 J -15245392.83 -15245392.73 -15245392.63 0.0088 0.0066

Neptune -46453-08-18 19:54 J -15245304.76 -15245304.67 -15245304.54 0.0088 0.0060

Neptune -46453-11-14 22:04 J -15245216.69 -15245216.58 -15245216.45 0.0088 0.0052

Neptune -46452-02-10 23:59 J -15245128.62 -15245128.50 -15245128.36 0.0088 0.0046

Neptune -46452-05-10 02:09 J -15245040.55 -15245040.41 -15245040.28 0.0088 0.0039

Neptune -46452-08-06 03:50 J -15244952.48 -15244952.34 -15244952.20 0.0088 0.0032

Neptune -46452-11-02 05:45 J -15244864.40 -15244864.26 -15244864.11 0.0088 0.0025

Neptune -46451-01-29 07:40 J -15244776.33 -15244776.18 -15244776.03 0.0088 0.0019

Neptune -46451-04-27 09:35 J -15244688.25 -15244688.10 -15244687.95 0.0088 0.0012

Venus -46451-05-01 21:50 J -15244683.70 -15244683.59 -15244683.49 0.3700 0.0762

Neptune -46451-07-24 11:30 J -15244600.17 -15244600.02 -15244599.87 0.0088 0.0006

Neptune -46451-10-20 13:11 J -15244512.10 -15244511.95 -15244511.80 0.0088 0.0002

Neptune -46450-01-16 15:06 J -15244424.02 -15244423.87 -15244423.72 0.0088 0.0008

Neptune -46450-04-14 17:02 J -15244335.94 -15244335.79 -15244335.65 0.0088 0.0015

Neptune -46450-07-11 18:42 J -15244247.86 -15244247.72 -15244247.57 0.0088 0.0021

Neptune -46450-10-07 20:38 J -15244159.78 -15244159.64 -15244159.50 0.0088 0.0028

Neptune -46449-01-03 22:18 J -15244071.70 -15244071.57 -15244071.43 0.0088 0.0034

Neptune -46449-04-01 00:14 J -15243983.62 -15243983.49 -15243983.36 0.0088 0.0041

Neptune -46449-06-28 01:40 J -15243895.54 -15243895.43 -15243895.29 0.0088 0.0048

Jupiter -46449-06-28 09:50 J -15243895.22 -15243895.09 -15243894.96 0.0539 0.0196

Mars -46449-09-22 07:11 J -15243809.33 -15243809.20 -15243809.07 0.1620 0.0167

Neptune -46449-09-24 03:35 J -15243807.46 -15243807.35 -15243807.22 0.0088 0.0054

Jupiter -46449-09-25 23:30 J -15243805.58 -15243805.52 -15243805.46 0.0541 0.0483

Neptune -46449-12-21 05:16 J -15243719.37 -15243719.28 -15243719.16 0.0088 0.0061

Neptune -46448-03-19 07:11 J -15243631.29 -15243631.20 -15243631.10 0.0088 0.0067

Neptune -46448-06-15 09:06 J -15243543.20 -15243543.12 -15243543.04 0.0089 0.0073

Neptune -46448-09-11 10:33 J -15243455.11 -15243455.06 -15243454.98 0.0089 0.0080

Neptune -46448-12-08 12:28 J -15243367.01 -15243366.98 -15243366.94 0.0089 0.0086

Moon -46447-08-28 10:04 J -15243104.19 -15243104.08 -15243103.96 0.2669 0.0581

Earth -46447-08-28 10:33 J -15243104.18 -15243104.06 -15243103.94 0.2663 0.0578 *

Venus -46446-11-15 14:23 J -15242659.99 -15242659.90 -15242659.80 0.3704 0.1545

Moon -46444-02-27 12:57 J -15242190.09 -15242189.96 -15242189.84 0.2673 0.1183

Earth -46444-02-27 12:57 J -15242190.08 -15242189.96 -15242189.83 0.2666 0.1192 *

Jupiter -46443-02-13 13:11 J -15241839.03 -15241838.95 -15241838.88 0.0490 0.0427

Jupiter -46443-05-14 07:40 J -15241749.33 -15241749.18 -15241749.02 0.0488 0.0170

Uranus -46443-08-10 01:26 J -15241661.45 -15241661.44 -15241661.40 0.0146 0.0145

Uranus -46443-11-06 08:23 J -15241573.25 -15241573.15 -15241573.04 0.0146 0.0114

Uranus -46442-02-02 15:21 J -15241485.00 -15241484.86 -15241484.72 0.0146 0.0084

Uranus -46442-05-01 22:04 J -15241396.73 -15241396.58 -15241396.41 0.0146 0.0054

Uranus -46442-07-29 05:16 J -15241308.45 -15241308.28 -15241308.11 0.0146 0.0023

Uranus -46442-10-25 12:14 J -15241220.16 -15241219.99 -15241219.81 0.0146 0.0008

Uranus -46441-01-21 19:26 J -15241131.86 -15241131.69 -15241131.52 0.0146 0.0039

Uranus -46441-04-19 02:09 J -15241043.55 -15241043.41 -15241043.24 0.0146 0.0071

Uranus -46441-07-16 09:35 J -15240955.22 -15240955.10 -15240954.97 0.0146 0.0101

Uranus -46441-10-12 16:33 J -15240866.87 -15240866.81 -15240866.72 0.0146 0.0134

Mars -46439-02-12 16:04 J -15240378.94 -15240378.83 -15240378.71 0.1617 0.0738

Saturn -46439-05-12 22:33 J -15240289.63 -15240289.56 -15240289.49 0.0272 0.0240

Saturn -46439-08-09 11:30 J -15240201.14 -15240201.02 -15240200.89 0.0273 0.0146

Saturn -46439-11-06 00:28 J -15240112.62 -15240112.48 -15240112.33 0.0273 0.0052

Saturn -46438-02-02 13:11 J -15240024.09 -15240023.95 -15240023.80 0.0273 0.0042

Saturn -46438-05-02 01:40 J -15239935.55 -15239935.43 -15239935.30 0.0274 0.0134

Saturn -46438-07-29 13:54 J -15239846.99 -15239846.92 -15239846.83 0.0274 0.0224

Mars -46437-01-19 04:04 J -15239673.36 -15239673.33 -15239673.31 0.1631 0.1598

Moon -46437-02-20 15:21 J -15239640.94 -15239640.86 -15239640.78 0.2669 0.2145

Earth -46437-02-20 16:18 J -15239640.90 -15239640.82 -15239640.74 0.2671 0.2141 *

Jupiter -46437-04-16 12:14 J -15239585.09 -15239584.99 -15239584.89 0.0539 0.0362

Jupiter -46437-07-15 02:09 J -15239495.52 -15239495.41 -15239495.30 0.0540 0.0325

Mars -46435-10-15 13:54 J -15238673.02 -15238672.92 -15238672.83 0.1905 0.1462

Earth -46434-08-31 06:42 J -15238353.34 -15238353.22 -15238353.10 0.2665 0.0328

Moon -46434-08-31 06:57 J -15238353.32 -15238353.21 -15238353.09 0.2672 0.0359 *

Jupiter -46431-03-02 08:23 J -15237439.31 -15237439.15 -15237438.98 0.0488 0.0022

Earth -46431-03-02 14:38 J -15237438.95 -15237438.89 -15237438.84 0.2664 0.2450

Moon -46431-03-02 15:35 J -15237438.89 -15237438.85 -15237438.82 0.2669 0.2571 *

Mars -46430-07-06 00:57 J -15236948.53 -15236948.46 -15236948.38 0.1614 0.1311

Mars -46428-06-10 13:11 J -15236243.05 -15236242.95 -15236242.85 0.1627 0.1039

Moon -46427-08-23 22:04 J -15235803.64 -15235803.58 -15235803.53 0.2659 0.2395

Earth -46427-08-23 22:47 J -15235803.61 -15235803.55 -15235803.49 0.2660 0.2261 *

Venus -46426-03-28 00:42 J -15235587.61 -15235587.47 -15235587.33 0.3677 0.0036

Jupiter -46425-02-03 14:38 J -15235274.91 -15235274.89 -15235274.86 0.0538 0.0526

Mars -46425-03-06 14:38 J -15235243.03 -15235242.89 -15235242.74 0.1911 0.0268

Jupiter -46425-05-03 05:02 J -15235185.42 -15235185.29 -15235185.15 0.0540 0.0167

Saturn -46425-08-30 08:52 J -15235066.18 -15235066.13 -15235066.08 0.0287 0.0271

Saturn -46425-11-27 03:21 J -15234977.50 -15234977.36 -15234977.22 0.0287 0.0150

Moon -46424-02-22 15:35 J -15234889.97 -15234889.85 -15234889.73 0.2671 0.1167

Earth -46424-02-22 16:47 J -15234889.93 -15234889.80 -15234889.67 0.2669 0.0997 *

Saturn -46424-02-23 22:18 J -15234888.73 -15234888.57 -15234888.40 0.0286 0.0028

Saturn -46424-05-23 17:45 J -15234799.92 -15234799.76 -15234799.60 0.0286 0.0099

Saturn -46424-08-20 13:26 J -15234711.04 -15234710.94 -15234710.83 0.0285 0.0227

Earth -46421-09-02 02:38 J -15233602.50 -15233602.39 -15233602.29 0.2667 0.1199

Moon -46421-09-02 03:21 J -15233602.46 -15233602.36 -15233602.25 0.2669 0.1228 *

Jupiter -46420-12-19 09:21 J -15233129.26 -15233129.11 -15233128.95 0.0489 0.0130

Jupiter -46419-03-19 05:02 J -15233039.32 -15233039.29 -15233039.26 0.0487 0.0479

Mars -46419-10-31 22:18 J -15232812.69 -15232812.57 -15232812.44 0.1624 0.0482

Mars -46416-07-27 16:18 J -15231812.94 -15231812.82 -15231812.70 0.1916 0.0897

Moon -46414-08-26 18:28 J -15231052.83 -15231052.73 -15231052.62 0.2666 0.1320

Earth -46414-08-26 19:26 J -15231052.80 -15231052.69 -15231052.59 0.2662 0.1328 *

Jupiter -46413-02-20 07:26 J -15230875.33 -15230875.19 -15230875.05 0.0539 0.0012

Moon -46411-02-25 17:02 J -15230138.93 -15230138.79 -15230138.65 0.2674 0.0215

Earth -46411-02-25 17:30 J -15230138.90 -15230138.77 -15230138.63 0.2668 0.0207 *

Saturn -46410-12-27 12:28 J -15229469.08 -15229468.98 -15229468.87 0.0273 0.0180

Mars -46409-03-23 07:26 J -15229382.32 -15229382.19 -15229382.06 0.1620 0.0083

Saturn -46409-03-25 01:40 J -15229380.57 -15229380.43 -15229380.30 0.0273 0.0086

Saturn -46409-06-21 14:23 J -15229292.05 -15229291.90 -15229291.76 0.0274 0.0009

Saturn -46409-09-18 02:52 J -15229203.51 -15229203.38 -15229203.25 0.0274 0.0101

Saturn -46409-12-15 15:21 J -15229114.96 -15229114.86 -15229114.76 0.0274 0.0192

Earth -46408-09-04 22:18 J -15228851.65 -15228851.57 -15228851.50 0.2668 0.2049

Moon -46408-09-04 23:02 J -15228851.60 -15228851.54 -15228851.47 0.2666 0.2174 *

Jupiter -46408-10-07 10:04 J -15228819.21 -15228819.08 -15228818.94 0.0490 0.0279

Jupiter -46407-01-05 05:16 J -15228729.40 -15228729.28 -15228729.15 0.0488 0.0325

Jupiter -46402-12-09 09:21 J -15226565.24 -15226565.11 -15226564.97 0.0539 0.0173

Uranus -46401-03-06 18:28 J -15226476.74 -15226476.73 -15226476.71 0.0132 0.0131

Jupiter -46401-03-07 23:02 J -15226475.59 -15226475.54 -15226475.50 0.0540 0.0505

Uranus -46401-06-02 22:04 J -15226388.65 -15226388.58 -15226388.50 0.0132 0.0112

Moon -46401-08-28 15:35 J -15226301.97 -15226301.85 -15226301.73 0.2670 0.0475

Earth -46401-08-28 15:35 J -15226301.97 -15226301.85 -15226301.73 0.2664 0.0416 *

Uranus -46401-08-30 01:40 J -15226300.52 -15226300.43 -15226300.32 0.0132 0.0093

Uranus -46401-11-26 05:30 J -15226212.39 -15226212.27 -15226212.15 0.0132 0.0074

Uranus -46400-02-22 09:06 J -15226124.25 -15226124.12 -15226123.99 0.0132 0.0055

Pluto -46400-05-19 06:57 J -15226038.24 -15226038.21 -15226038.14 0.0081 0.0076

Uranus -46400-05-21 12:28 J -15226036.11 -15226035.98 -15226035.84 0.0132 0.0037

Venus -46400-05-23 02:52 J -15226034.47 -15226034.38 -15226034.30 0.3696 0.2224

Mars -46400-08-13 16:18 J -15225951.94 -15225951.82 -15225951.70 0.1617 0.0651

Pluto -46400-08-15 08:52 J -15225950.21 -15225950.13 -15225950.04 0.0081 0.0067

Uranus -46400-08-17 16:04 J -15225947.97 -15225947.83 -15225947.69 0.0132 0.0018

Pluto -46400-11-11 10:18 J -15225862.16 -15225862.07 -15225861.96 0.0081 0.0059

Uranus -46400-11-13 19:40 J -15225859.82 -15225859.68 -15225859.54 0.0132 0.0000

Pluto -46399-02-07 12:14 J -15225774.11 -15225773.99 -15225773.88 0.0080 0.0050

Uranus -46399-02-09 23:02 J -15225771.68 -15225771.54 -15225771.39 0.0132 0.0019

Pluto -46399-05-06 13:40 J -15225686.05 -15225685.93 -15225685.80 0.0080 0.0041

Uranus -46399-05-09 02:38 J -15225683.53 -15225683.39 -15225683.25 0.0132 0.0037

Pluto -46399-08-02 15:06 J -15225598.00 -15225597.87 -15225597.73 0.0080 0.0033

Uranus -46399-08-05 05:59 J -15225595.38 -15225595.25 -15225595.12 0.0132 0.0055

Pluto -46399-10-29 16:33 J -15225509.94 -15225509.81 -15225509.66 0.0080 0.0025

Uranus -46399-11-01 09:35 J -15225507.22 -15225507.10 -15225506.99 0.0132 0.0074

Pluto -46398-01-25 18:14 J -15225421.88 -15225421.74 -15225421.59 0.0080 0.0017

Uranus -46398-01-28 12:57 J -15225419.06 -15225418.96 -15225418.86 0.0132 0.0092

Earth -46398-02-28 18:57 J -15225387.83 -15225387.71 -15225387.60 0.2666 0.1411

Moon -46398-02-28 18:57 J -15225387.82 -15225387.71 -15225387.59 0.2672 0.1407 *

Pluto -46398-04-23 19:54 J -15225333.82 -15225333.67 -15225333.52 0.0080 0.0008

Uranus -46398-04-26 16:18 J -15225330.90 -15225330.82 -15225330.74 0.0132 0.0110

Pluto -46398-07-20 21:21 J -15225245.76 -15225245.61 -15225245.46 0.0080 0.0000

Uranus -46398-07-23 19:26 J -15225242.72 -15225242.69 -15225242.65 0.0132 0.0128

Pluto -46398-10-16 22:47 J -15225157.70 -15225157.55 -15225157.40 0.0079 0.0008

Pluto -46397-01-13 00:14 J -15225069.63 -15225069.49 -15225069.34 0.0079 0.0016

Pluto -46397-04-10 01:40 J -15224981.57 -15224981.43 -15224981.29 0.0079 0.0024

Pluto -46397-07-07 02:52 J -15224893.50 -15224893.38 -15224893.23 0.0079 0.0032

Pluto -46397-10-03 04:33 J -15224805.44 -15224805.31 -15224805.18 0.0079 0.0039

Pluto -46397-12-30 05:45 J -15224717.37 -15224717.26 -15224717.13 0.0079 0.0047

Pluto -46396-03-28 07:11 J -15224629.30 -15224629.20 -15224629.09 0.0079 0.0055

Pluto -46396-06-24 08:52 J -15224541.22 -15224541.13 -15224541.05 0.0079 0.0062

Jupiter -46396-07-26 11:30 J -15224509.10 -15224509.02 -15224508.94 0.0490 0.0420

Pluto -46396-09-20 09:50 J -15224453.14 -15224453.09 -15224453.01 0.0078 0.0070

Jupiter -46396-10-24 06:14 J -15224419.39 -15224419.24 -15224419.09 0.0488 0.0177

Pluto -46396-12-17 11:30 J -15224365.05 -15224365.02 -15224365.00 0.0078 0.0077

Mars -46395-04-15 14:09 J -15224245.99 -15224245.91 -15224245.83 0.1905 0.1581

Saturn -46395-04-16 03:50 J -15224245.46 -15224245.34 -15224245.21 0.0286 0.0184

Saturn -46395-07-13 22:47 J -15224156.71 -15224156.55 -15224156.38 0.0286 0.0061

Saturn -46395-10-10 18:14 J -15224067.91 -15224067.74 -15224067.58 0.0286 0.0065

Venus -46395-12-06 19:26 J -15224010.79 -15224010.69 -15224010.58 0.3701 0.0153

Saturn -46394-01-07 13:54 J -15223979.05 -15223978.92 -15223978.80 0.0285 0.0193

Moon -46391-02-20 20:52 J -15222838.71 -15222838.63 -15222838.55 0.2669 0.2082

Earth -46391-02-20 22:04 J -15222838.67 -15222838.58 -15222838.49 0.2671 0.1937 *

Mars -46390-01-04 01:11 J -15222521.54 -15222521.45 -15222521.36 0.1614 0.1226

Jupiter -46390-09-27 10:33 J -15222255.16 -15222255.06 -15222254.96 0.0538 0.0360

Jupiter -46390-12-26 00:28 J -15222165.58 -15222165.48 -15222165.37 0.0540 0.0327

Venus -46389-06-21 11:59 J -15221987.08 -15221987.00 -15221986.92 0.3706 0.2403

Mars -46389-12-09 13:26 J -15221816.04 -15221815.94 -15221815.85 0.1627 0.1123

Earth -46388-08-31 11:45 J -15221551.13 -15221551.01 -15221550.89 0.2665 0.0479

Moon -46388-08-31 12:14 J -15221551.11 -15221550.99 -15221550.88 0.2671 0.0532 *

Mars -46386-09-05 15:06 J -15220816.01 -15220815.87 -15220815.73 0.1911 0.0383

Jupiter -46384-08-12 07:26 J -15220109.35 -15220109.19 -15220109.02 0.0488 0.0035

Moon -46381-08-24 03:06 J -15219001.44 -15219001.37 -15219001.29 0.2661 0.2110

Earth -46381-08-24 04:04 J -15219001.40 -15219001.33 -15219001.26 0.2661 0.2092 *

Saturn -46380-05-15 14:52 J -15218736.97 -15218736.88 -15218736.78 0.0272 0.0204

Saturn -46380-08-12 03:50 J -15218648.47 -15218648.34 -15218648.20 0.0273 0.0109

Saturn -46380-11-08 16:47 J -15218559.94 -15218559.80 -15218559.66 0.0273 0.0016

Saturn -46379-02-05 05:16 J -15218471.41 -15218471.28 -15218471.14 0.0273 0.0078

Mars -46379-05-01 22:33 J -15218385.69 -15218385.56 -15218385.44 0.1624 0.0563

Saturn -46379-05-04 17:45 J -15218382.87 -15218382.76 -15218382.65 0.0274 0.0168

Saturn -46379-08-01 05:59 J -15218294.29 -15218294.25 -15218294.20 0.0274 0.0258

Moon -46378-02-23 21:35 J -15218087.73 -15218087.60 -15218087.47 0.2672 0.0785

Earth -46378-02-23 22:33 J -15218087.69 -15218087.56 -15218087.43 0.2669 0.0791 *

Jupiter -46378-07-16 12:42 J -15217944.99 -15217944.97 -15217944.94 0.0538 0.0528

Jupiter -46378-10-14 03:06 J -15217855.50 -15217855.37 -15217855.23 0.0540 0.0166

Mars -46376-01-25 16:18 J -15217385.95 -15217385.82 -15217385.70 0.1916 0.0805

Venus -46375-04-17 21:35 J -15216938.66 -15216938.60 -15216938.54 0.3682 0.3256

Earth -46375-09-03 07:40 J -15216800.28 -15216800.18 -15216800.08 0.2667 0.1351

Moon -46375-09-03 08:38 J -15216800.24 -15216800.14 -15216800.04 0.2668 0.1424 *

Jupiter -46372-05-31 08:23 J -15215799.31 -15215799.15 -15215798.99 0.0489 0.0115

Neptune -46372-08-24 02:09 J -15215714.44 -15215714.41 -15215714.35 0.0089 0.0085

Neptune -46372-11-20 04:33 J -15215626.37 -15215626.31 -15215626.22 0.0089 0.0078

Neptune -46371-02-16 06:57 J -15215538.29 -15215538.21 -15215538.10 0.0089 0.0071

Neptune -46371-05-15 09:35 J -15215450.21 -15215450.10 -15215449.98 0.0089 0.0063

Neptune -46371-08-11 11:59 J -15215362.12 -15215362.00 -15215361.87 0.0089 0.0056

Neptune -46371-11-07 14:23 J -15215274.03 -15215273.90 -15215273.76 0.0089 0.0049

Neptune -46370-02-03 17:02 J -15215185.94 -15215185.79 -15215185.65 0.0089 0.0041

Neptune -46370-05-02 19:11 J -15215097.84 -15215097.70 -15215097.54 0.0089 0.0034

Neptune -46370-07-29 21:50 J -15215009.74 -15215009.59 -15215009.43 0.0089 0.0027

Mars -46370-09-22 07:26 J -15214955.32 -15214955.19 -15214955.05 0.1620 0.0047

Neptune -46370-10-26 00:28 J -15214921.65 -15214921.48 -15214921.32 0.0089 0.0019

Venus -46370-11-02 01:26 J -15214914.56 -15214914.44 -15214914.32 0.3676 0.1842

Neptune -46369-01-22 02:52 J -15214833.55 -15214833.38 -15214833.22 0.0089 0.0012

Neptune -46369-04-19 05:16 J -15214745.44 -15214745.28 -15214745.11 0.0089 0.0005

Neptune -46369-07-16 07:54 J -15214657.34 -15214657.17 -15214657.01 0.0089 0.0004

Neptune -46369-10-12 10:18 J -15214569.23 -15214569.07 -15214568.90 0.0089 0.0011

Neptune -46368-01-08 12:42 J -15214481.13 -15214480.97 -15214480.80 0.0089 0.0019

Neptune -46368-04-06 15:21 J -15214393.02 -15214392.86 -15214392.70 0.0089 0.0026

Neptune -46368-07-03 17:45 J -15214304.91 -15214304.76 -15214304.59 0.0089 0.0034

Moon -46368-08-26 23:45 J -15214250.61 -15214250.51 -15214250.40 0.2666 0.1292

Earth -46368-08-27 00:28 J -15214250.59 -15214250.48 -15214250.37 0.2662 0.1162 *

Neptune -46368-09-29 20:23 J -15214216.79 -15214216.65 -15214216.49 0.0089 0.0041

Neptune -46368-12-26 22:47 J -15214128.68 -15214128.55 -15214128.40 0.0089 0.0049

Neptune -46367-03-25 01:26 J -15214040.56 -15214040.44 -15214040.30 0.0089 0.0057

Neptune -46367-06-21 04:18 J -15213952.44 -15213952.32 -15213952.20 0.0089 0.0064

Neptune -46367-09-17 06:42 J -15213864.31 -15213864.22 -15213864.11 0.0089 0.0072

Neptune -46367-12-14 09:06 J -15213776.18 -15213776.12 -15213776.03 0.0089 0.0080

Neptune -46366-03-12 11:45 J -15213688.02 -15213688.01 -15213687.97 0.0089 0.0088

Jupiter -46366-08-02 05:59 J -15213545.39 -15213545.25 -15213545.11 0.0540 0.0010

Saturn -46366-09-03 01:40 J -15213513.52 -15213513.43 -15213513.33 0.0287 0.0233

Saturn -46366-11-30 20:23 J -15213424.80 -15213424.65 -15213424.49 0.0286 0.0111

Moon -46365-02-26 22:47 J -15213336.68 -15213336.55 -15213336.41 0.2674 0.0280

Earth -46365-02-26 23:30 J -15213336.66 -15213336.52 -15213336.39 0.2667 0.0401 *

Saturn -46365-02-27 15:35 J -15213336.02 -15213335.85 -15213335.68 0.0286 0.0014

Saturn -46365-05-26 11:02 J -15213247.18 -15213247.04 -15213246.89 0.0286 0.0140

Saturn -46365-08-23 06:42 J -15213158.27 -15213158.22 -15213158.16 0.0285 0.0269

Earth -46362-09-06 03:21 J -15212049.42 -15212049.36 -15212049.29 0.2669 0.2203

Moon -46362-09-06 04:04 J -15212049.39 -15212049.33 -15212049.26 0.2666 0.2202 *

Mars -46360-02-11 16:33 J -15211524.94 -15211524.81 -15211524.69 0.1617 0.0568

Jupiter -46360-03-19 09:21 J -15211489.24 -15211489.11 -15211488.97 0.0489 0.0261

Jupiter -46360-06-17 04:33 J -15211399.43 -15211399.31 -15211399.19 0.0488 0.0342

Uranus -46359-08-30 08:38 J -15210960.19 -15210960.14 -15210960.08 0.0146 0.0137

Uranus -46359-11-26 15:21 J -15210871.97 -15210871.86 -15210871.73 0.0146 0.0108

Uranus -46358-02-22 22:18 J -15210783.71 -15210783.57 -15210783.42 0.0146 0.0077

Uranus -46358-05-22 05:16 J -15210695.44 -15210695.28 -15210695.11 0.0146 0.0047

Uranus -46358-08-18 12:14 J -15210607.16 -15210606.99 -15210606.82 0.0146 0.0016

Uranus -46358-11-14 19:11 J -15210518.87 -15210518.70 -15210518.52 0.0146 0.0015

Uranus -46357-02-11 02:23 J -15210430.57 -15210430.40 -15210430.23 0.0146 0.0046

Uranus -46357-05-09 09:21 J -15210342.25 -15210342.11 -15210341.95 0.0146 0.0077

Uranus -46357-08-05 16:33 J -15210253.92 -15210253.81 -15210253.69 0.0146 0.0108

Uranus -46357-11-01 23:30 J -15210165.55 -15210165.52 -15210165.45 0.0146 0.0141

Mars -46356-10-14 14:38 J -15209818.95 -15209818.89 -15209818.83 0.1905 0.1708

Moon -46355-08-29 20:52 J -15209499.75 -15209499.63 -15209499.51 0.2671 0.0193

Earth -46355-08-29 20:52 J -15209499.75 -15209499.63 -15209499.51 0.2664 0.0259 *

Jupiter -46354-05-21 08:23 J -15209235.28 -15209235.15 -15209235.01 0.0539 0.0159

Jupiter -46354-08-18 22:04 J -15209145.62 -15209145.58 -15209145.55 0.0540 0.0519

Earth -46352-03-01 00:42 J -15208585.58 -15208585.47 -15208585.36 0.2666 0.1624

Moon -46352-03-01 01:11 J -15208585.56 -15208585.45 -15208585.35 0.2672 0.1714 *

Mars -46351-07-05 01:26 J -15208094.54 -15208094.44 -15208094.35 0.1614 0.1140

Saturn -46351-10-02 15:21 J -15208004.92 -15208004.86 -15208004.79 0.0273 0.0241

Saturn -46351-12-30 04:33 J -15207916.43 -15207916.31 -15207916.19 0.0273 0.0145

Saturn -46350-03-28 17:30 J -15207827.91 -15207827.77 -15207827.63 0.0273 0.0051

Saturn -46350-06-25 06:14 J -15207739.38 -15207739.24 -15207739.10 0.0274 0.0042

Saturn -46350-09-21 18:42 J -15207650.84 -15207650.72 -15207650.60 0.0274 0.0134

Saturn -46350-12-19 06:57 J -15207562.28 -15207562.21 -15207562.12 0.0274 0.0225

Mars -46349-06-09 13:26 J -15207389.02 -15207388.94 -15207388.85 0.1627 0.1203

Jupiter -46348-01-05 10:18 J -15207179.16 -15207179.07 -15207178.98 0.0490 0.0409

Jupiter -46348-04-05 05:02 J -15207089.44 -15207089.29 -15207089.14 0.0488 0.0189

Mars -46346-03-06 15:35 J -15206388.99 -15206388.85 -15206388.72 0.1910 0.0505

Moon -46345-02-22 02:38 J -15206036.49 -15206036.39 -15206036.29 0.2669 0.1768

Earth -46345-02-22 03:50 J -15206036.44 -15206036.34 -15206036.24 0.2671 0.1738 *

Venus -46344-12-28 00:28 J -15205361.58 -15205361.48 -15205361.38 0.3697 0.1340

Jupiter -46342-03-09 10:18 J -15204925.18 -15204925.07 -15204924.96 0.0538 0.0332

Jupiter -46342-06-07 00:14 J -15204835.59 -15204835.49 -15204835.38 0.0540 0.0352

Earth -46342-09-01 16:47 J -15204748.91 -15204748.80 -15204748.68 0.2666 0.0645

Moon -46342-09-01 17:30 J -15204748.89 -15204748.77 -15204748.66 0.2671 0.0645 *

Mars -46340-10-30 22:33 J -15203958.68 -15203958.56 -15203958.44 0.1624 0.0647

Venus -46338-07-13 17:02 J -15203337.89 -15203337.79 -15203337.68 0.3702 0.0986

Mars -46337-07-26 16:33 J -15202958.94 -15202958.81 -15202958.68 0.1916 0.0686

Saturn -46336-01-20 01:54 J -15202781.47 -15202781.42 -15202781.36 0.0287 0.0268

Jupiter -46336-01-22 05:59 J -15202779.41 -15202779.25 -15202779.08 0.0489 0.0045

Saturn -46336-04-18 20:38 J -15202692.78 -15202692.64 -15202692.50 0.0286 0.0146

Saturn -46336-07-16 15:35 J -15202604.01 -15202603.85 -15202603.68 0.0286 0.0023

Saturn -46336-10-13 11:02 J -15202515.20 -15202515.04 -15202514.88 0.0286 0.0103

Saturn -46335-01-10 06:42 J -15202426.31 -15202426.22 -15202426.12 0.0285 0.0231

Moon -46335-08-25 08:23 J -15202199.23 -15202199.15 -15202199.07 0.2663 0.2036

Earth -46335-08-25 09:21 J -15202199.20 -15202199.11 -15202199.03 0.2661 0.1924 *

Venus -46332-01-26 09:50 J -15201314.14 -15201314.09 -15201314.05 0.3707 0.3262

Moon -46332-02-24 03:21 J -15201285.49 -15201285.36 -15201285.23 0.2673 0.0730

Earth -46332-02-24 04:18 J -15201285.45 -15201285.32 -15201285.19 0.2669 0.0584 *

Jupiter -46331-12-26 11:16 J -15200615.06 -15200615.03 -15200615.00 0.0538 0.0523

Mars -46330-03-23 07:40 J -15200528.31 -15200528.18 -15200528.05 0.1620 0.0085

Jupiter -46330-03-26 01:40 J -15200525.56 -15200525.43 -15200525.30 0.0540 0.0169

Earth -46329-09-03 12:42 J -15199998.07 -15199997.97 -15199997.87 0.2667 0.1505

Moon -46329-09-03 13:40 J -15199998.03 -15199997.93 -15199997.84 0.2668 0.1578 *

Mars -46328-12-16 18:14 J -15199528.78 -15199528.74 -15199528.70 0.1920 0.1834

Jupiter -46325-11-10 07:26 J -15198469.35 -15198469.19 -15198469.03 0.0489 0.0099

Moon -46322-08-28 05:16 J -15197448.40 -15197448.28 -15197448.17 0.2667 0.0982

Earth -46322-08-28 05:45 J -15197448.37 -15197448.26 -15197448.15 0.2663 0.0996 *

Saturn -46321-02-19 17:45 J -15197272.79 -15197272.76 -15197272.72 0.0272 0.0264

Saturn -46321-05-18 06:57 J -15197184.32 -15197184.21 -15197184.09 0.0272 0.0169

Mars -46321-08-12 16:33 J -15197097.93 -15197097.81 -15197097.68 0.1617 0.0488

Saturn -46321-08-14 19:54 J -15197095.80 -15197095.67 -15197095.52 0.0273 0.0075

Saturn -46321-11-11 08:52 J -15197007.28 -15197007.13 -15197006.99 0.0273 0.0020

Saturn -46320-02-07 21:21 J -15196918.74 -15196918.61 -15196918.48 0.0273 0.0111

Saturn -46320-05-07 09:35 J -15196830.19 -15196830.10 -15196830.00 0.0274 0.0202

Moon -46319-02-27 04:47 J -15196534.43 -15196534.30 -15196534.17 0.2673 0.0661

Earth -46319-02-27 05:16 J -15196534.41 -15196534.28 -15196534.14 0.2667 0.0611 *

Venus -46319-11-22 22:18 J -15196265.70 -15196265.57 -15196265.45 0.3681 0.1507

Jupiter -46318-01-12 04:18 J -15196215.46 -15196215.32 -15196215.18 0.0540 0.0018

Uranus -46317-03-27 00:57 J -15195775.48 -15195775.46 -15195775.41 0.0132 0.0129

Uranus -46317-06-23 04:47 J -15195687.37 -15195687.30 -15195687.21 0.0132 0.0109

Uranus -46317-09-19 08:23 J -15195599.25 -15195599.15 -15195599.04 0.0132 0.0090

Uranus -46317-12-16 11:59 J -15195511.11 -15195511.00 -15195510.87 0.0132 0.0071

Uranus -46316-03-14 15:35 J -15195422.98 -15195422.85 -15195422.71 0.0132 0.0053

Mars -46316-04-14 14:52 J -15195391.92 -15195391.88 -15195391.84 0.1905 0.1816

Uranus -46316-06-10 19:11 J -15195334.83 -15195334.70 -15195334.56 0.0132 0.0034

Earth -46316-09-06 08:23 J -15195247.20 -15195247.15 -15195247.09 0.2669 0.2349

Moon -46316-09-06 09:06 J -15195247.17 -15195247.12 -15195247.07 0.2665 0.2419 *

Uranus -46316-09-06 22:47 J -15195246.69 -15195246.55 -15195246.41 0.0132 0.0015

Uranus -46316-12-04 02:23 J -15195158.55 -15195158.40 -15195158.26 0.0132 0.0004

Uranus -46315-03-02 05:45 J -15195070.40 -15195070.26 -15195070.12 0.0132 0.0022

Uranus -46315-05-29 09:21 J -15194982.25 -15194982.11 -15194981.98 0.0132 0.0040

Uranus -46315-08-25 12:42 J -15194894.10 -15194893.97 -15194893.84 0.0132 0.0059

Uranus -46315-11-21 15:50 J -15194805.94 -15194805.84 -15194805.71 0.0132 0.0078

Uranus -46314-02-17 19:11 J -15194717.78 -15194717.70 -15194717.59 0.0132 0.0096

Uranus -46314-05-16 23:02 J -15194629.61 -15194629.54 -15194629.47 0.0132 0.0113

Uranus -46314-08-13 02:09 J -15194541.42 -15194541.41 -15194541.38 0.0132 0.0131

Venus -46313-06-08 02:09 J -15194241.41 -15194241.41 -15194241.41 0.3674 0.3670

Jupiter -46313-08-29 08:23 J -15194159.29 -15194159.15 -15194159.01 0.0489 0.0246

Jupiter -46313-11-27 03:21 J -15194069.47 -15194069.36 -15194069.24 0.0488 0.0357

Earth -46312-02-19 09:21 J -15193985.12 -15193985.11 -15193985.10 0.2672 0.2656

Mars -46311-01-03 01:26 J -15193667.54 -15193667.44 -15193667.34 0.1614 0.1057

Mars -46310-12-09 13:26 J -15192962.01 -15192961.94 -15192961.86 0.1627 0.1282

Earth -46309-08-30 01:54 J -15192697.54 -15192697.42 -15192697.30 0.2664 0.0109

Moon -46309-08-30 02:09 J -15192697.53 -15192697.41 -15192697.30 0.2671 0.0187 *

Mars -46307-09-04 15:35 J -15191961.98 -15191961.85 -15191961.71 0.1911 0.0608

Saturn -46307-09-05 18:28 J -15191960.85 -15191960.73 -15191960.61 0.0287 0.0196

Jupiter -46307-10-31 06:57 J -15191905.35 -15191905.21 -15191905.08 0.0539 0.0155

Saturn -46307-12-03 13:11 J -15191872.11 -15191871.95 -15191871.78 0.0286 0.0073

Jupiter -46306-01-28 20:23 J -15191815.67 -15191815.65 -15191815.61 0.0541 0.0525

Earth -46306-03-02 06:42 J -15191783.32 -15191783.22 -15191783.12 0.2665 0.1846

Saturn -46306-03-02 08:23 J -15191783.31 -15191783.15 -15191782.98 0.0286 0.0053 *

Moon -46306-03-02 07:11 J -15191783.30 -15191783.20 -15191783.10 0.2672 0.1822 *

Saturn -46306-05-30 03:50 J -15191694.46 -15191694.34 -15191694.20 0.0286 0.0180

Jupiter -46301-06-17 09:35 J -15189849.19 -15189849.10 -15189849.00 0.0490 0.0390

Jupiter -46301-09-15 04:18 J -15189759.47 -15189759.32 -15189759.17 0.0488 0.0207

Mars -46300-04-30 22:47 J -15189531.67 -15189531.55 -15189531.43 0.1624 0.0725

Moon -46299-02-22 08:23 J -15189234.26 -15189234.15 -15189234.05 0.2669 0.1645

Earth -46299-02-22 09:35 J -15189234.21 -15189234.10 -15189233.99 0.2670 0.1536 *

Mars -46297-01-25 17:02 J -15188531.92 -15188531.79 -15188531.65 0.1915 0.0560

Earth -46296-09-01 22:04 J -15187946.70 -15187946.58 -15187946.47 0.2666 0.0795

Moon -46296-09-01 22:47 J -15187946.67 -15187946.55 -15187946.44 0.2670 0.0909 *

Jupiter -46295-08-19 09:21 J -15187595.22 -15187595.11 -15187595.00 0.0538 0.0320

Jupiter -46295-11-16 23:16 J -15187505.63 -15187505.53 -15187505.43 0.0540 0.0365

Venus -46292-01-18 05:30 J -15186712.34 -15186712.27 -15186712.20 0.3694 0.2809

Saturn -46292-10-05 07:26 J -15186452.28 -15186452.19 -15186452.09 0.0273 0.0206

Saturn -46291-01-01 20:38 J -15186363.77 -15186363.64 -15186363.51 0.0273 0.0111

Saturn -46291-03-31 09:21 J -15186275.25 -15186275.11 -15186274.96 0.0273 0.0018

Saturn -46291-06-27 22:04 J -15186186.72 -15186186.58 -15186186.44 0.0274 0.0075

Mars -46291-09-21 07:54 J -15186101.30 -15186101.17 -15186101.04 0.1620 0.0166

Saturn -46291-09-24 10:33 J -15186098.17 -15186098.06 -15186097.95 0.0274 0.0167

Saturn -46291-12-21 22:47 J -15186009.59 -15186009.55 -15186009.50 0.0274 0.0257

Neptune -46289-05-28 12:14 J -15185486.04 -15185485.99 -15185485.92 0.0088 0.0082

Jupiter -46289-07-04 04:47 J -15185449.46 -15185449.30 -15185449.13 0.0489 0.0055

Neptune -46289-08-24 14:23 J -15185397.98 -15185397.90 -15185397.82 0.0088 0.0075

Moon -46289-08-25 13:26 J -15185397.02 -15185396.94 -15185396.85 0.2663 0.1803

Earth -46289-08-25 14:23 J -15185396.99 -15185396.90 -15185396.80 0.2661 0.1758 *

Neptune -46289-11-20 16:18 J -15185309.91 -15185309.82 -15185309.72 0.0088 0.0068

Neptune -46288-02-16 17:59 J -15185221.85 -15185221.75 -15185221.63 0.0088 0.0061

Neptune -46288-05-15 19:54 J -15185133.78 -15185133.67 -15185133.54 0.0088 0.0055

Mars -46288-06-16 18:28 J -15185101.79 -15185101.73 -15185101.67 0.1920 0.1722

Neptune -46288-08-11 22:04 J -15185045.71 -15185045.58 -15185045.45 0.0088 0.0048

Neptune -46288-11-07 23:59 J -15184957.63 -15184957.50 -15184957.36 0.0088 0.0041

Neptune -46287-02-04 01:40 J -15184869.56 -15184869.43 -15184869.28 0.0088 0.0035

Neptune -46287-05-03 03:35 J -15184781.48 -15184781.35 -15184781.20 0.0088 0.0028

Neptune -46287-07-30 05:45 J -15184693.41 -15184693.26 -15184693.11 0.0088 0.0021

Venus -46287-08-03 22:18 J -15184688.68 -15184688.57 -15184688.47 0.3698 0.0494

Neptune -46287-10-26 07:26 J -15184605.33 -15184605.19 -15184605.03 0.0088 0.0014

Neptune -46286-01-22 09:21 J -15184517.25 -15184517.11 -15184516.96 0.0088 0.0008

Moon -46286-02-25 09:06 J -15184483.25 -15184483.12 -15184482.98 0.2673 0.0382

Earth -46286-02-25 10:04 J -15184483.21 -15184483.08 -15184482.94 0.2668 0.0380 *

Neptune -46286-04-20 11:16 J -15184429.18 -15184429.03 -15184428.88 0.0088 0.0002

Neptune -46286-07-17 13:11 J -15184341.10 -15184340.95 -15184340.80 0.0088 0.0006

Neptune -46286-10-13 15:06 J -15184253.02 -15184252.87 -15184252.73 0.0088 0.0013

Neptune -46285-01-09 16:47 J -15184164.94 -15184164.80 -15184164.65 0.0088 0.0019

Neptune -46285-04-06 18:42 J -15184076.86 -15184076.72 -15184076.58 0.0088 0.0026

Neptune -46285-07-03 20:23 J -15183988.78 -15183988.65 -15183988.51 0.0088 0.0033

Neptune -46285-09-29 22:18 J -15183900.70 -15183900.57 -15183900.44 0.0088 0.0039

Neptune -46285-12-26 23:59 J -15183812.62 -15183812.50 -15183812.37 0.0088 0.0046

Neptune -46284-03-25 01:54 J -15183724.54 -15183724.42 -15183724.30 0.0088 0.0052

Neptune -46284-06-21 03:35 J -15183636.45 -15183636.35 -15183636.23 0.0088 0.0058

Neptune -46284-09-17 05:30 J -15183548.37 -15183548.27 -15183548.17 0.0088 0.0065

Neptune -46284-12-14 06:57 J -15183460.28 -15183460.21 -15183460.11 0.0088 0.0072

Neptune -46283-03-12 08:52 J -15183372.19 -15183372.13 -15183372.05 0.0089 0.0078

Jupiter -46283-06-07 11:02 J -15183285.09 -15183285.04 -15183284.98 0.0538 0.0494

Neptune -46283-06-08 10:47 J -15183284.09 -15183284.05 -15183284.00 0.0089 0.0084

Earth -46283-09-04 17:45 J -15183195.85 -15183195.76 -15183195.66 0.2668 0.1660

Moon -46283-09-04 18:42 J -15183195.81 -15183195.72 -15183195.63 0.2668 0.1703 *

Jupiter -46283-09-05 01:26 J -15183195.56 -15183195.44 -15183195.31 0.0540 0.0197

Mars -46281-02-11 16:47 J -15182670.93 -15182670.80 -15182670.67 0.1617 0.0401

Venus -46281-02-17 14:52 J -15182664.97 -15182664.88 -15182664.79 0.3703 0.1842

Saturn -46277-01-23 18:14 J -15181228.83 -15181228.74 -15181228.64 0.0287 0.0233

Saturn -46277-04-21 13:11 J -15181140.11 -15181139.95 -15181139.80 0.0286 0.0111

Jupiter -46277-04-22 05:59 J -15181139.41 -15181139.25 -15181139.09 0.0489 0.0090

Saturn -46277-07-19 08:09 J -15181051.33 -15181051.16 -15181050.99 0.0286 0.0014

Saturn -46277-10-16 03:35 J -15180962.49 -15180962.35 -15180962.20 0.0285 0.0141

Saturn -46276-01-12 23:16 J -15180873.57 -15180873.53 -15180873.47 0.0285 0.0269

Moon -46276-08-28 10:33 J -15180646.17 -15180646.06 -15180645.95 0.2669 0.0917

Earth -46276-08-28 10:47 J -15180646.16 -15180646.05 -15180645.93 0.2663 0.0839 *

Uranus -46275-09-19 15:35 J -15180258.91 -15180258.85 -15180258.76 0.0146 0.0131

Uranus -46275-12-16 22:33 J -15180170.68 -15180170.56 -15180170.43 0.0146 0.0101

Uranus -46274-03-15 05:30 J -15180082.42 -15180082.27 -15180082.12 0.0146 0.0070

Uranus -46274-06-11 12:14 J -15179994.15 -15179993.99 -15179993.82 0.0146 0.0041

Uranus -46274-09-07 19:26 J -15179905.87 -15179905.69 -15179905.52 0.0146 0.0010

Uranus -46274-12-05 02:23 J -15179817.57 -15179817.40 -15179817.23 0.0146 0.0021

Moon -46273-02-28 10:47 J -15179732.18 -15179732.05 -15179731.91 0.2673 0.0739

Earth -46273-02-28 11:02 J -15179732.17 -15179732.04 -15179731.90 0.2667 0.0826 *

Uranus -46273-03-02 09:21 J -15179729.27 -15179729.11 -15179728.94 0.0146 0.0053

Uranus -46273-05-29 16:18 J -15179640.95 -15179640.82 -15179640.67 0.0146 0.0084

Uranus -46273-08-25 23:30 J -15179552.62 -15179552.52 -15179552.40 0.0146 0.0116

Mars -46272-07-04 01:40 J -15179240.53 -15179240.43 -15179240.32 0.1614 0.0972

Jupiter -46271-06-24 02:38 J -15178885.53 -15178885.39 -15178885.25 0.0539 0.0019

Mars -46270-06-09 13:40 J -15178535.00 -15178534.93 -15178534.86 0.1628 0.1363

Earth -46270-09-07 13:26 J -15178444.97 -15178444.94 -15178444.90 0.2669 0.2502

Moon -46270-09-07 14:09 J -15178444.95 -15178444.91 -15178444.88 0.2664 0.2527 *

Mars -46267-03-05 16:04 J -15177534.96 -15177534.83 -15177534.70 0.1910 0.0730

Moon -46266-02-20 13:54 J -15177182.97 -15177182.92 -15177182.87 0.2667 0.2470

Earth -46266-02-20 14:52 J -15177182.93 -15177182.88 -15177182.83 0.2672 0.2462 *

Jupiter -46265-02-09 07:26 J -15176829.33 -15176829.19 -15176829.04 0.0489 0.0230

Jupiter -46265-05-09 02:38 J -15176739.49 -15176739.39 -15176739.28 0.0488 0.0374

Moon -46263-08-31 07:11 J -15175895.32 -15175895.20 -15175895.08 0.2671 0.0157

Earth -46263-08-31 07:11 J -15175895.32 -15175895.20 -15175895.08 0.2665 0.0078 *

Mars -46263-11-24 10:18 J -15175810.10 -15175810.07 -15175810.03 0.1611 0.1551

Saturn -46262-02-22 10:04 J -15175720.16 -15175720.08 -15175720.00 0.0272 0.0228

Saturn -46262-05-21 23:02 J -15175631.66 -15175631.54 -15175631.41 0.0273 0.0134

Venus -46262-06-29 22:47 J -15175592.69 -15175592.55 -15175592.41 0.3679 0.0281

Saturn -46262-08-18 11:59 J -15175543.14 -15175543.00 -15175542.85 0.0273 0.0040

Saturn -46262-11-15 00:42 J -15175454.61 -15175454.47 -15175454.33 0.0273 0.0053

Saturn -46261-02-11 13:11 J -15175366.07 -15175365.95 -15175365.83 0.0274 0.0145

Saturn -46261-05-10 01:26 J -15175277.50 -15175277.44 -15175277.36 0.0274 0.0235

Mars -46261-10-29 22:47 J -15175104.66 -15175104.55 -15175104.43 0.1624 0.0806

Earth -46260-03-02 12:28 J -15174981.07 -15174980.98 -15174980.89 0.2665 0.2059

Moon -46260-03-02 13:11 J -15174981.03 -15174980.95 -15174980.88 0.2671 0.2197 *

Jupiter -46259-04-12 05:02 J -15174575.42 -15174575.29 -15174575.16 0.0539 0.0157

Jupiter -46259-07-10 18:42 J -15174485.75 -15174485.72 -15174485.69 0.0541 0.0522

Mars -46258-07-26 17:02 J -15174104.93 -15174104.79 -15174104.65 0.1915 0.0464

Moon -46256-08-23 22:18 J -15173345.58 -15173345.57 -15173345.56 0.2658 0.2643

Earth -46256-08-23 23:02 J -15173345.57 -15173345.54 -15173345.50 0.2660 0.2529 *

Jupiter -46254-11-28 08:38 J -15172519.24 -15172519.14 -15172519.04 0.0490 0.0376

Moon -46253-02-23 14:09 J -15172432.03 -15172431.91 -15172431.80 0.2671 0.1431

Earth -46253-02-23 15:06 J -15172431.98 -15172431.87 -15172431.75 0.2670 0.1340 *

Jupiter -46253-02-26 03:06 J -15172429.51 -15172429.37 -15172429.22 0.0488 0.0222

Mars -46251-03-22 07:54 J -15171674.30 -15171674.17 -15171674.04 0.1621 0.0248

Earth -46250-09-03 03:06 J -15171144.48 -15171144.37 -15171144.26 0.2666 0.0953

Moon -46250-09-03 03:50 J -15171144.45 -15171144.34 -15171144.22 0.2670 0.0946 *

Mars -46249-12-15 18:42 J -15170674.79 -15170674.72 -15170674.64 0.1920 0.1607

Saturn -46248-06-11 16:33 J -15170496.84 -15170496.81 -15170496.76 0.0287 0.0278

Saturn -46248-09-08 11:16 J -15170408.16 -15170408.03 -15170407.89 0.0287 0.0157

Saturn -46248-12-06 06:14 J -15170319.40 -15170319.24 -15170319.07 0.0286 0.0034

Jupiter -46247-01-29 07:40 J -15170265.29 -15170265.18 -15170265.07 0.0539 0.0318

Saturn -46247-03-05 01:26 J -15170230.59 -15170230.44 -15170230.28 0.0286 0.0092

Jupiter -46247-04-28 21:35 J -15170175.69 -15170175.60 -15170175.50 0.0541 0.0369

Saturn -46247-06-01 21:06 J -15170141.72 -15170141.62 -15170141.51 0.0285 0.0219

Moon -46243-08-26 18:57 J -15168594.81 -15168594.71 -15168594.62 0.2663 0.1671

Earth -46243-08-26 19:40 J -15168594.78 -15168594.68 -15168594.58 0.2662 0.1590 *

Pluto -46243-12-26 13:40 J -15168472.96 -15168472.93 -15168472.87 0.0064 0.0061

Pluto -46242-03-24 15:06 J -15168384.94 -15168384.87 -15168384.79 0.0064 0.0057

Pluto -46242-06-20 15:50 J -15168296.92 -15168296.84 -15168296.72 0.0064 0.0052

Mars -46242-08-12 17:02 J -15168243.92 -15168243.79 -15168243.66 0.1617 0.0318

Pluto -46242-09-16 17:02 J -15168208.88 -15168208.79 -15168208.66 0.0064 0.0048

Pluto -46242-12-13 18:28 J -15168120.85 -15168120.73 -15168120.60 0.0064 0.0043

Jupiter -46242-12-15 04:04 J -15168119.49 -15168119.33 -15168119.17 0.0488 0.0073

Pluto -46241-03-10 19:40 J -15168032.81 -15168032.68 -15168032.54 0.0064 0.0038

Pluto -46241-06-06 20:52 J -15167944.77 -15167944.63 -15167944.48 0.0065 0.0033

Pluto -46241-09-02 22:18 J -15167856.73 -15167856.57 -15167856.42 0.0065 0.0028

Pluto -46241-11-29 23:02 J -15167768.68 -15167768.54 -15167768.36 0.0065 0.0024

Moon -46240-02-25 14:52 J -15167681.01 -15167680.88 -15167680.74 0.2673 0.0299

Earth -46240-02-25 15:50 J -15167680.97 -15167680.84 -15167680.70 0.2668 0.0179 *

Pluto -46240-02-26 00:28 J -15167680.64 -15167680.48 -15167680.31 0.0065 0.0018

Pluto -46240-05-25 01:54 J -15167592.59 -15167592.42 -15167592.26 0.0065 0.0013

Pluto -46240-08-21 03:06 J -15167504.54 -15167504.37 -15167504.20 0.0065 0.0008

Pluto -46240-11-17 04:18 J -15167416.49 -15167416.32 -15167416.15 0.0065 0.0003

Pluto -46239-02-13 05:30 J -15167328.44 -15167328.27 -15167328.10 0.0065 0.0002

Pluto -46239-05-12 06:42 J -15167240.39 -15167240.22 -15167240.04 0.0065 0.0007

Pluto -46239-08-08 07:54 J -15167152.33 -15167152.17 -15167151.99 0.0065 0.0012

Pluto -46239-11-04 09:06 J -15167064.27 -15167064.12 -15167063.94 0.0065 0.0018

Pluto -46238-01-31 10:33 J -15166976.22 -15166976.06 -15166975.89 0.0066 0.0023

Pluto -46238-04-29 11:45 J -15166888.16 -15166888.01 -15166887.85 0.0066 0.0028

Pluto -46238-07-26 13:11 J -15166800.10 -15166799.95 -15166799.80 0.0066 0.0033

Pluto -46238-10-22 14:09 J -15166712.03 -15166711.91 -15166711.75 0.0066 0.0039

Pluto -46237-01-18 15:35 J -15166623.96 -15166623.85 -15166623.71 0.0066 0.0044

Pluto -46237-04-15 17:02 J -15166535.89 -15166535.79 -15166535.67 0.0066 0.0049

Pluto -46237-07-12 18:14 J -15166447.82 -15166447.74 -15166447.63 0.0066 0.0055

Earth -46237-09-04 23:02 J -15166393.63 -15166393.54 -15166393.46 0.2668 0.1811

Moon -46237-09-04 23:45 J -15166393.59 -15166393.51 -15166393.43 0.2667 0.1907 *

Pluto -46237-10-08 19:40 J -15166359.74 -15166359.68 -15166359.60 0.0066 0.0061

Pluto -46236-01-04 21:06 J -15166271.62 -15166271.62 -15166271.60 0.0066 0.0066

Venus -46236-08-25 03:06 J -15166039.46 -15166039.37 -15166039.28 0.3695 0.1921

Jupiter -46236-11-17 10:04 J -15165955.14 -15165955.08 -15165955.02 0.0538 0.0483

Jupiter -46235-02-15 00:28 J -15165865.61 -15165865.48 -15165865.35 0.0540 0.0209

Uranus -46233-04-16 07:54 J -15165074.21 -15165074.17 -15165074.11 0.0132 0.0124

Saturn -46233-07-11 10:18 J -15164988.09 -15164988.07 -15164988.04 0.0272 0.0266

Uranus -46233-07-13 11:30 J -15164986.09 -15164986.02 -15164985.92 0.0132 0.0105

Saturn -46233-10-07 23:30 J -15164899.63 -15164899.52 -15164899.40 0.0273 0.0171

Uranus -46233-10-09 15:21 J -15164897.97 -15164897.86 -15164897.75 0.0132 0.0086

Mars -46232-01-02 01:54 J -15164813.53 -15164813.42 -15164813.31 0.1614 0.0888

Saturn -46232-01-04 12:28 J -15164811.11 -15164810.98 -15164810.84 0.0273 0.0077

Uranus -46232-01-05 18:57 J -15164809.83 -15164809.71 -15164809.58 0.0132 0.0067

Saturn -46232-04-03 01:26 J -15164722.59 -15164722.44 -15164722.30 0.0273 0.0018

Uranus -46232-04-03 22:33 J -15164721.69 -15164721.56 -15164721.42 0.0132 0.0048

Saturn -46232-06-30 13:54 J -15164634.05 -15164633.92 -15164633.79 0.0274 0.0109

Uranus -46232-07-01 02:09 J -15164633.55 -15164633.41 -15164633.27 0.0132 0.0030

Saturn -46232-09-27 02:09 J -15164545.50 -15164545.41 -15164545.31 0.0274 0.0200

Uranus -46232-09-27 05:45 J -15164545.41 -15164545.26 -15164545.12 0.0132 0.0011 *

Uranus -46232-12-24 09:06 J -15164457.26 -15164457.12 -15164456.98 0.0132 0.0008

Uranus -46231-03-22 12:28 J -15164369.11 -15164368.98 -15164368.83 0.0132 0.0027

Uranus -46231-06-18 16:04 J -15164280.96 -15164280.83 -15164280.69 0.0132 0.0044

Uranus -46231-09-14 19:26 J -15164192.81 -15164192.69 -15164192.56 0.0132 0.0062

Mars -46231-12-08 13:54 J -15164107.98 -15164107.92 -15164107.86 0.1628 0.1441

Uranus -46231-12-11 22:47 J -15164104.65 -15164104.55 -15164104.43 0.0132 0.0081

Uranus -46230-03-10 02:09 J -15164016.49 -15164016.41 -15164016.31 0.0132 0.0099

Venus -46230-03-10 19:54 J -15164015.78 -15164015.67 -15164015.56 0.3700 0.0412

Uranus -46230-06-06 05:30 J -15163928.32 -15163928.27 -15163928.20 0.0132 0.0117

Moon -46230-08-29 15:50 J -15163843.96 -15163843.84 -15163843.73 0.2670 0.0661

Earth -46230-08-29 16:04 J -15163843.95 -15163843.83 -15163843.71 0.2663 0.0669 *

Jupiter -46230-10-03 04:47 J -15163809.46 -15163809.30 -15163809.14 0.0489 0.0078

Mars -46228-09-03 16:18 J -15163107.95 -15163107.82 -15163107.69 0.1910 0.0843

Moon -46227-02-28 17:02 J -15162929.92 -15162929.79 -15162929.67 0.2673 0.1117

Earth -46227-02-28 17:02 J -15162929.92 -15162929.79 -15162929.66 0.2666 0.1037 *

Venus -46225-09-23 12:28 J -15161992.05 -15161991.98 -15161991.91 0.3704 0.2716

Earth -46224-09-07 18:28 J -15161642.74 -15161642.73 -15161642.71 0.2669 0.2649

Jupiter -46224-12-04 02:38 J -15161555.53 -15161555.39 -15161555.25 0.0539 0.0040

Mars -46223-05-25 10:47 J -15161383.11 -15161383.05 -15161383.00 0.1612 0.1462

Mars -46221-04-29 23:02 J -15160677.65 -15160677.54 -15160677.43 0.1624 0.0888

Moon -46220-02-20 19:40 J -15160380.74 -15160380.68 -15160380.63 0.2667 0.2394

Earth -46220-02-20 20:38 J -15160380.71 -15160380.64 -15160380.57 0.2671 0.2266 *

Mars -46218-01-24 17:30 J -15159677.91 -15159677.77 -15159677.63 0.1915 0.0346

Saturn -46218-01-26 10:47 J -15159676.16 -15159676.05 -15159675.93 0.0287 0.0196

Saturn -46218-04-25 05:45 J -15159587.42 -15159587.26 -15159587.10 0.0286 0.0073

Jupiter -46218-07-22 05:59 J -15159499.39 -15159499.25 -15159499.10 0.0489 0.0221

Saturn -46218-07-23 00:57 J -15159498.63 -15159498.46 -15159498.30 0.0286 0.0052

Saturn -46218-10-19 20:23 J -15159409.78 -15159409.65 -15159409.51 0.0285 0.0179

Jupiter -46218-10-20 01:11 J -15159409.55 -15159409.45 -15159409.35 0.0488 0.0384 *

Earth -46217-08-31 12:14 J -15159093.11 -15159092.99 -15159092.87 0.2665 0.0232

Moon -46217-08-31 12:28 J -15159093.10 -15159092.98 -15159092.86 0.2671 0.0212 *

Earth -46214-03-03 18:28 J -15158178.80 -15158178.73 -15158178.66 0.2665 0.2282

Moon -46214-03-03 19:11 J -15158178.78 -15158178.70 -15158178.63 0.2670 0.2255 *

Mars -46212-09-20 08:09 J -15157247.29 -15157247.16 -15157247.03 0.1621 0.0330

Jupiter -46212-09-22 03:35 J -15157245.48 -15157245.35 -15157245.21 0.0539 0.0150

Jupiter -46212-12-20 17:16 J -15157155.80 -15157155.78 -15157155.75 0.0540 0.0528

Venus -46211-07-20 19:40 J -15156943.76 -15156943.68 -15156943.60 0.3684 0.3019

Moon -46210-08-25 03:21 J -15156543.41 -15156543.36 -15156543.30 0.2659 0.2370

Earth -46210-08-25 04:18 J -15156543.37 -15156543.32 -15156543.26 0.2660 0.2358 *

Mars -46209-06-15 18:57 J -15156247.79 -15156247.71 -15156247.62 0.1919 0.1497

Neptune -46207-02-21 23:30 J -15155631.54 -15155631.52 -15155631.48 0.0089 0.0087

Moon -46207-02-23 19:54 J -15155629.80 -15155629.67 -15155629.55 0.2672 0.1181

Earth -46207-02-23 20:52 J -15155629.75 -15155629.63 -15155629.50 0.2670 0.1136 *

Neptune -46207-05-21 01:54 J -15155543.48 -15155543.42 -15155543.34 0.0089 0.0080

Neptune -46207-08-17 04:04 J -15155455.41 -15155455.33 -15155455.22 0.0089 0.0073

Neptune -46207-11-13 06:28 J -15155367.32 -15155367.23 -15155367.10 0.0089 0.0066

Neptune -46206-02-09 09:06 J -15155279.24 -15155279.12 -15155278.99 0.0089 0.0058

Neptune -46206-05-08 11:30 J -15155191.15 -15155191.02 -15155190.88 0.0089 0.0051

Jupiter -46206-05-10 07:40 J -15155189.29 -15155189.18 -15155189.07 0.0490 0.0361

Neptune -46206-08-04 13:54 J -15155103.06 -15155102.92 -15155102.77 0.0089 0.0044

Jupiter -46206-08-08 02:09 J -15155099.55 -15155099.41 -15155099.26 0.0488 0.0238

Neptune -46206-10-31 16:33 J -15155014.96 -15155014.81 -15155014.66 0.0089 0.0036

Neptune -46205-01-27 18:57 J -15154926.87 -15154926.71 -15154926.55 0.0089 0.0029

Venus -46205-02-03 23:30 J -15154919.64 -15154919.52 -15154919.41 0.3677 0.2065

Neptune -46205-04-24 21:21 J -15154838.77 -15154838.61 -15154838.45 0.0089 0.0022

Neptune -46205-07-21 23:59 J -15154750.67 -15154750.50 -15154750.34 0.0089 0.0014

Neptune -46205-10-18 02:23 J -15154662.57 -15154662.40 -15154662.24 0.0089 0.0007

Neptune -46204-01-14 04:47 J -15154574.46 -15154574.30 -15154574.13 0.0089 0.0002

Neptune -46204-04-12 07:11 J -15154486.36 -15154486.20 -15154486.03 0.0089 0.0009

Neptune -46204-07-09 09:50 J -15154398.25 -15154398.09 -15154397.92 0.0089 0.0016

Earth -46204-09-03 08:09 J -15154342.26 -15154342.16 -15154342.05 0.2666 0.1108

Moon -46204-09-03 09:06 J -15154342.23 -15154342.12 -15154342.02 0.2670 0.1240 *

Neptune -46204-10-05 12:14 J -15154310.15 -15154309.99 -15154309.82 0.0089 0.0024

Neptune -46203-01-01 14:52 J -15154222.04 -15154221.88 -15154221.72 0.0089 0.0031

Saturn -46203-02-25 02:09 J -15154167.50 -15154167.41 -15154167.30 0.0272 0.0193

Neptune -46203-03-30 17:16 J -15154133.92 -15154133.78 -15154133.62 0.0089 0.0039

Saturn -46203-05-24 15:21 J -15154078.99 -15154078.86 -15154078.72 0.0273 0.0098

Neptune -46203-06-26 19:40 J -15154045.81 -15154045.68 -15154045.52 0.0089 0.0047

Saturn -46203-08-21 04:18 J -15153990.47 -15153990.32 -15153990.18 0.0273 0.0007

Neptune -46203-09-22 22:18 J -15153957.69 -15153957.57 -15153957.42 0.0089 0.0054

Saturn -46203-11-17 16:47 J -15153901.93 -15153901.80 -15153901.66 0.0273 0.0089

Neptune -46203-12-20 00:57 J -15153869.57 -15153869.46 -15153869.33 0.0089 0.0062

Mars -46202-02-10 17:02 J -15153816.92 -15153816.79 -15153816.66 0.1617 0.0241

Saturn -46202-02-14 05:16 J -15153813.38 -15153813.28 -15153813.17 0.0274 0.0179

Neptune -46202-03-18 03:21 J -15153781.45 -15153781.36 -15153781.24 0.0089 0.0070

Saturn -46202-05-13 17:30 J -15153724.79 -15153724.77 -15153724.74 0.0274 0.0269

Neptune -46202-06-14 06:14 J -15153693.32 -15153693.24 -15153693.15 0.0089 0.0077

Neptune -46202-09-10 08:38 J -15153605.17 -15153605.14 -15153605.08 0.0089 0.0085

Jupiter -46200-07-11 05:45 J -15152935.37 -15152935.26 -15152935.15 0.0538 0.0320

Jupiter -46200-10-08 19:54 J -15152845.77 -15152845.67 -15152845.57 0.0540 0.0366

Moon -46197-08-27 00:14 J -15151792.59 -15151792.49 -15151792.39 0.2665 0.1498

Earth -46197-08-27 00:57 J -15151792.56 -15151792.46 -15151792.36 0.2662 0.1421 *

Moon -46194-02-26 20:52 J -15150878.77 -15150878.63 -15150878.49 0.2673 0.0025

Earth -46194-02-26 21:35 J -15150878.73 -15150878.60 -15150878.46 0.2668 0.0096 *

Jupiter -46194-05-27 02:52 J -15150789.54 -15150789.38 -15150789.21 0.0488 0.0088

Mars -46193-07-03 02:09 J -15150386.53 -15150386.41 -15150386.30 0.1615 0.0806

Mars -46191-06-08 13:54 J -15149680.96 -15149680.92 -15149680.87 0.1628 0.1518

Earth -46191-09-06 04:04 J -15149591.41 -15149591.33 -15149591.25 0.2668 0.1963

Moon -46191-09-06 04:47 J -15149591.38 -15149591.30 -15149591.22 0.2666 0.1958 *

Uranus -46191-10-09 22:33 J -15149557.64 -15149557.56 -15149557.46 0.0146 0.0125

Uranus -46190-01-06 05:30 J -15149469.40 -15149469.27 -15149469.14 0.0146 0.0094

Uranus -46190-04-04 12:14 J -15149381.14 -15149380.99 -15149380.83 0.0146 0.0065

Uranus -46190-07-01 19:11 J -15149292.86 -15149292.70 -15149292.53 0.0146 0.0034

Uranus -46190-09-28 02:09 J -15149204.58 -15149204.41 -15149204.23 0.0146 0.0005

Uranus -46190-12-25 09:21 J -15149116.29 -15149116.11 -15149115.94 0.0146 0.0028

Uranus -46189-03-22 16:18 J -15149027.98 -15149027.82 -15149027.66 0.0146 0.0059

Saturn -46189-06-14 09:35 J -15148944.18 -15148944.10 -15148944.00 0.0287 0.0239

Uranus -46189-06-18 23:16 J -15148939.66 -15148939.53 -15148939.38 0.0146 0.0090

Saturn -46189-09-11 04:18 J -15148855.47 -15148855.32 -15148855.16 0.0286 0.0118

Uranus -46189-09-15 06:28 J -15148851.32 -15148851.23 -15148851.13 0.0146 0.0122

Saturn -46189-12-08 23:30 J -15148766.69 -15148766.52 -15148766.36 0.0286 0.0008

Mars -46188-03-04 16:33 J -15148680.93 -15148680.81 -15148680.69 0.1910 0.0956

Saturn -46188-03-07 18:42 J -15148677.86 -15148677.72 -15148677.57 0.0286 0.0133

Jupiter -46188-04-29 08:09 J -15148625.22 -15148625.16 -15148625.10 0.0538 0.0484

Saturn -46188-06-04 14:38 J -15148588.96 -15148588.89 -15148588.82 0.0285 0.0261

Jupiter -46188-07-27 22:47 J -15148535.68 -15148535.55 -15148535.43 0.0540 0.0210

Venus -46185-09-15 08:09 J -15147390.20 -15147390.16 -15147390.12 0.3691 0.3392

Moon -46184-08-29 20:52 J -15147041.74 -15147041.63 -15147041.51 0.2670 0.0563

Earth -46184-08-29 21:21 J -15147041.73 -15147041.61 -15147041.49 0.2663 0.0510 *

Mars -46184-11-23 10:47 J -15146956.12 -15146956.05 -15146955.98 0.1612 0.1377

Jupiter -46182-03-15 04:04 J -15146479.49 -15146479.33 -15146479.17 0.0489 0.0061

Mars -46182-10-29 23:16 J -15146250.64 -15146250.53 -15146250.43 0.1624 0.0969

Moon -46181-02-29 23:02 J -15146127.67 -15146127.54 -15146127.42 0.2673 0.1203

Earth -46181-02-29 22:47 J -15146127.67 -15146127.55 -15146127.43 0.2666 0.1248 *

Venus -46179-04-01 00:57 J -15145366.56 -15145366.46 -15145366.36 0.3696 0.1035

Mars -46179-07-25 17:59 J -15145250.89 -15145250.75 -15145250.61 0.1915 0.0221

Jupiter -46176-05-16 01:26 J -15144225.58 -15144225.44 -15144225.30 0.0539 0.0050

Moon -46174-02-22 01:11 J -15143578.53 -15143578.45 -15143578.36 0.2668 0.2061

Earth -46174-02-22 02:23 J -15143578.49 -15143578.40 -15143578.32 0.2671 0.2070 *

Saturn -46174-07-15 02:38 J -15143435.47 -15143435.39 -15143435.31 0.0272 0.0230

Saturn -46174-10-11 15:50 J -15143346.97 -15143346.84 -15143346.72 0.0273 0.0135

Venus -46174-10-15 17:45 J -15143342.86 -15143342.76 -15143342.66 0.3701 0.1296

Saturn -46173-01-08 04:47 J -15143258.45 -15143258.30 -15143258.16 0.0273 0.0042

Saturn -46173-04-05 17:30 J -15143169.91 -15143169.77 -15143169.63 0.0273 0.0052

Saturn -46173-07-03 05:59 J -15143081.37 -15143081.25 -15143081.13 0.0274 0.0144

Saturn -46173-09-29 18:14 J -15142992.81 -15142992.74 -15142992.66 0.0274 0.0234

Mars -46172-03-21 08:23 J -15142820.28 -15142820.15 -15142820.03 0.1621 0.0412

Earth -46171-09-01 17:30 J -15142290.89 -15142290.77 -15142290.65 0.2665 0.0392

Moon -46171-09-01 17:59 J -15142290.87 -15142290.75 -15142290.64 0.2671 0.0471 *

Jupiter -46170-01-01 04:47 J -15142169.45 -15142169.30 -15142169.16 0.0489 0.0211

Jupiter -46170-03-31 23:45 J -15142079.60 -15142079.51 -15142079.41 0.0488 0.0393

Mars -46170-12-15 19:11 J -15141820.79 -15141820.70 -15141820.61 0.1919 0.1391

Earth -46168-03-04 00:14 J -15141376.53 -15141376.49 -15141376.44 0.2664 0.2499

Moon -46168-03-04 01:11 J -15141376.46 -15141376.45 -15141376.44 0.2669 0.2654 *

Venus -46168-04-30 10:18 J -15141319.10 -15141319.07 -15141319.05 0.3706 0.3578

Jupiter -46164-03-04 03:21 J -15139915.49 -15139915.36 -15139915.22 0.0539 0.0123

Moon -46164-08-25 08:38 J -15139741.20 -15139741.14 -15139741.08 0.2659 0.2324

Earth -46164-08-25 09:35 J -15139741.17 -15139741.10 -15139741.03 0.2661 0.2189 *

Mars -46163-08-11 17:16 J -15139389.91 -15139389.78 -15139389.65 0.1618 0.0155

Moon -46161-02-25 01:26 J -15138827.56 -15138827.44 -15138827.31 0.2672 0.1072

Earth -46161-02-25 02:38 J -15138827.52 -15138827.39 -15138827.26 0.2669 0.0933 *

Saturn -46160-11-01 09:21 J -15138212.15 -15138212.11 -15138212.07 0.0287 0.0277

Saturn -46159-01-29 03:50 J -15138123.47 -15138123.34 -15138123.20 0.0286 0.0157

Saturn -46159-04-27 22:47 J -15138034.71 -15138034.55 -15138034.38 0.0286 0.0033

Saturn -46159-07-25 18:14 J -15137945.90 -15137945.74 -15137945.58 0.0286 0.0093

Jupiter -46159-10-20 06:14 J -15137859.35 -15137859.24 -15137859.13 0.0490 0.0353

Saturn -46159-10-22 13:40 J -15137857.03 -15137856.93 -15137856.82 0.0285 0.0220

Jupiter -46158-01-18 00:42 J -15137769.61 -15137769.47 -15137769.32 0.0488 0.0246

Earth -46158-09-04 13:26 J -15137540.05 -15137539.94 -15137539.84 0.2667 0.1263

Moon -46158-09-04 14:09 J -15137540.01 -15137539.91 -15137539.80 0.2670 0.1251 *

Venus -46154-02-24 20:23 J -15136270.78 -15136270.65 -15136270.52 0.3682 0.1256

Pluto -46154-07-11 22:47 J -15136133.59 -15136133.55 -15136133.49 0.0081 0.0075

Pluto -46154-10-08 00:28 J -15136045.56 -15136045.48 -15136045.39 0.0081 0.0066

Mars -46153-01-02 02:09 J -15135959.53 -15135959.41 -15135959.29 0.1614 0.0721

Pluto -46153-01-04 01:54 J -15135957.51 -15135957.42 -15135957.30 0.0080 0.0058

Pluto -46153-04-01 03:50 J -15135869.46 -15135869.34 -15135869.22 0.0080 0.0049

Pluto -46153-06-28 05:16 J -15135781.40 -15135781.28 -15135781.15 0.0080 0.0040

Pluto -46153-09-24 06:42 J -15135693.35 -15135693.22 -15135693.08 0.0080 0.0032

Jupiter -46153-12-21 04:18 J -15135605.43 -15135605.32 -15135605.20 0.0538 0.0313

Pluto -46153-12-21 08:23 J -15135605.29 -15135605.15 -15135605.01 0.0080 0.0024 *

Pluto -46152-03-19 09:50 J -15135517.23 -15135517.09 -15135516.94 0.0080 0.0016

Jupiter -46152-03-20 18:14 J -15135515.83 -15135515.74 -15135515.63 0.0540 0.0372

Pluto -46152-06-15 11:30 J -15135429.17 -15135429.02 -15135428.88 0.0080 0.0007

Pluto -46152-09-11 12:57 J -15135341.11 -15135340.96 -15135340.81 0.0079 0.0001

Mars -46152-12-07 14:09 J -15135253.93 -15135253.91 -15135253.89 0.1628 0.1600

Pluto -46152-12-08 14:23 J -15135253.04 -15135252.90 -15135252.75 0.0079 0.0009

Pluto -46151-03-06 15:50 J -15135164.98 -15135164.84 -15135164.69 0.0079 0.0017

Pluto -46151-06-02 17:16 J -15135076.92 -15135076.78 -15135076.64 0.0079 0.0024

Moon -46151-08-28 05:30 J -15134990.38 -15134990.27 -15134990.17 0.2667 0.1265

Earth -46151-08-28 06:14 J -15134990.35 -15134990.24 -15134990.14 0.2662 0.1257 *

Pluto -46151-08-29 18:42 J -15134988.85 -15134988.72 -15134988.58 0.0079 0.0032

Pluto -46151-11-25 19:54 J -15134900.78 -15134900.67 -15134900.53 0.0079 0.0040

Pluto -46150-02-21 21:21 J -15134812.71 -15134812.61 -15134812.48 0.0079 0.0048

Pluto -46150-05-20 23:02 J -15134724.64 -15134724.54 -15134724.44 0.0079 0.0055

Pluto -46150-08-17 00:14 J -15134636.57 -15134636.49 -15134636.40 0.0078 0.0062

Pluto -46150-11-13 01:40 J -15134548.49 -15134548.43 -15134548.36 0.0078 0.0070

Pluto -46149-02-09 02:52 J -15134460.39 -15134460.38 -15134460.35 0.0078 0.0077

Uranus -46149-05-06 14:52 J -15134372.93 -15134372.88 -15134372.82 0.0132 0.0120

Uranus -46149-08-02 18:28 J -15134284.82 -15134284.73 -15134284.63 0.0132 0.0101

Mars -46149-09-02 17:02 J -15134253.91 -15134253.79 -15134253.68 0.1910 0.1077

Uranus -46149-10-29 22:18 J -15134196.69 -15134196.57 -15134196.46 0.0132 0.0083

Uranus -46148-01-26 01:40 J -15134108.55 -15134108.43 -15134108.30 0.0132 0.0064

Moon -46148-02-27 02:52 J -15134076.51 -15134076.38 -15134076.24 0.2673 0.0214

Earth -46148-02-27 03:35 J -15134076.49 -15134076.35 -15134076.22 0.2668 0.0262 *

Uranus -46148-04-24 05:16 J -15134020.41 -15134020.28 -15134020.14 0.0132 0.0045

Uranus -46148-07-21 08:52 J -15133932.27 -15133932.13 -15133931.99 0.0132 0.0026

Uranus -46148-10-17 12:28 J -15133844.13 -15133843.98 -15133843.84 0.0132 0.0008

Uranus -46147-01-13 15:50 J -15133755.98 -15133755.84 -15133755.69 0.0132 0.0011

Uranus -46147-04-11 19:26 J -15133667.83 -15133667.69 -15133667.55 0.0132 0.0029

Uranus -46147-07-08 22:47 J -15133579.68 -15133579.55 -15133579.42 0.0132 0.0047

Uranus -46147-10-05 02:09 J -15133491.53 -15133491.41 -15133491.28 0.0132 0.0066

Jupiter -46147-11-06 01:54 J -15133459.58 -15133459.42 -15133459.26 0.0489 0.0100

Uranus -46146-01-01 05:45 J -15133403.37 -15133403.26 -15133403.15 0.0132 0.0084

Uranus -46146-03-30 09:06 J -15133315.21 -15133315.12 -15133315.03 0.0132 0.0101

Uranus -46146-06-26 12:28 J -15133227.04 -15133226.98 -15133226.92 0.0132 0.0119

Earth -46145-09-06 09:06 J -15132789.19 -15132789.12 -15132789.05 0.2668 0.2110

Moon -46145-09-06 09:50 J -15132789.15 -15132789.09 -15132789.02 0.2665 0.2233 *

Saturn -46145-12-01 05:30 J -15132703.32 -15132703.27 -15132703.21 0.0272 0.0251

Saturn -46144-02-27 18:42 J -15132614.84 -15132614.72 -15132614.60 0.0273 0.0155

Mars -46144-05-24 11:02 J -15132529.12 -15132529.04 -15132528.96 0.1612 0.1294

Saturn -46144-05-27 07:40 J -15132526.32 -15132526.18 -15132526.04 0.0273 0.0061

Saturn -46144-08-23 20:38 J -15132437.79 -15132437.64 -15132437.50 0.0273 0.0034

Saturn -46144-11-20 09:06 J -15132349.25 -15132349.12 -15132348.99 0.0274 0.0124

Saturn -46143-02-16 21:21 J -15132260.69 -15132260.61 -15132260.52 0.0274 0.0215

Mars -46142-04-29 23:16 J -15131823.63 -15131823.53 -15131823.43 0.1624 0.1046

Jupiter -46141-10-09 06:14 J -15131295.30 -15131295.24 -15131295.18 0.0538 0.0486

Jupiter -46140-01-06 20:38 J -15131205.76 -15131205.64 -15131205.51 0.0540 0.0206

Mars -46139-01-23 17:45 J -15130823.90 -15130823.76 -15130823.62 0.1915 0.0134

Moon -46138-08-31 02:23 J -15130239.52 -15130239.40 -15130239.29 0.2670 0.0367

Earth -46138-08-31 02:23 J -15130239.52 -15130239.40 -15130239.28 0.2664 0.0352 *

Earth -46135-03-02 04:33 J -15129325.42 -15129325.31 -15129325.19 0.2666 0.1465

Moon -46135-03-02 04:47 J -15129325.41 -15129325.30 -15129325.19 0.2673 0.1533 *

Jupiter -46135-08-25 02:38 J -15129149.55 -15129149.39 -15129149.23 0.0489 0.0050

Mars -46133-09-19 08:23 J -15128393.27 -15128393.15 -15128393.02 0.1621 0.0490

Mars -46130-06-15 19:40 J -15127393.78 -15127393.68 -15127393.58 0.1920 0.1267

Saturn -46130-06-18 03:21 J -15127391.48 -15127391.36 -15127391.24 0.0287 0.0196

Saturn -46130-09-14 22:04 J -15127302.74 -15127302.58 -15127302.42 0.0286 0.0074

Saturn -46130-12-12 17:16 J -15127213.95 -15127213.78 -15127213.62 0.0286 0.0051

Saturn -46129-03-10 12:42 J -15127125.10 -15127124.97 -15127124.84 0.0285 0.0178

Jupiter -46129-10-25 23:30 J -15126895.66 -15126895.52 -15126895.38 0.0540 0.0047

Moon -46128-02-22 06:57 J -15126776.30 -15126776.21 -15126776.13 0.2670 0.2031

Earth -46128-02-22 08:09 J -15126776.26 -15126776.16 -15126776.07 0.2671 0.1868 *

Venus -46128-04-22 05:59 J -15126717.33 -15126717.25 -15126717.18 0.3693 0.2497

Earth -46125-09-01 22:33 J -15125488.68 -15125488.56 -15125488.44 0.2665 0.0548

Moon -46125-09-01 23:02 J -15125488.65 -15125488.54 -15125488.42 0.2671 0.0568 *

Neptune -46125-11-26 10:18 J -15125403.12 -15125403.07 -15125403.03 0.0088 0.0084

Neptune -46124-02-22 11:45 J -15125315.06 -15125315.01 -15125314.92 0.0088 0.0078

Neptune -46124-05-21 13:54 J -15125227.00 -15125226.92 -15125226.82 0.0088 0.0070

Neptune -46124-08-17 15:50 J -15125138.93 -15125138.84 -15125138.72 0.0088 0.0064

Neptune -46124-11-13 17:45 J -15125050.86 -15125050.76 -15125050.63 0.0088 0.0057

Mars -46123-02-09 17:30 J -15124962.90 -15124962.77 -15124962.64 0.1618 0.0072

Neptune -46123-02-09 19:54 J -15124962.79 -15124962.67 -15124962.54 0.0088 0.0050 *

Neptune -46123-05-08 21:35 J -15124874.72 -15124874.60 -15124874.45 0.0088 0.0044

Jupiter -46123-06-13 03:50 J -15124839.49 -15124839.34 -15124839.19 0.0489 0.0196

Neptune -46123-08-04 23:30 J -15124786.65 -15124786.52 -15124786.37 0.0088 0.0037

Jupiter -46123-09-10 22:47 J -15124749.64 -15124749.55 -15124749.46 0.0488 0.0408

Neptune -46123-11-01 01:40 J -15124698.57 -15124698.43 -15124698.29 0.0088 0.0029

Venus -46123-11-05 22:33 J -15124693.66 -15124693.56 -15124693.45 0.3697 0.0216

Neptune -46122-01-28 03:35 J -15124610.50 -15124610.35 -15124610.20 0.0088 0.0023

Neptune -46122-04-26 05:16 J -15124522.42 -15124522.28 -15124522.12 0.0088 0.0017

Neptune -46122-07-23 07:26 J -15124434.34 -15124434.19 -15124434.04 0.0088 0.0009

Neptune -46122-10-19 09:21 J -15124346.26 -15124346.11 -15124345.96 0.0088 0.0004

Neptune -46121-01-15 11:02 J -15124258.19 -15124258.04 -15124257.89 0.0088 0.0004

Neptune -46121-04-12 12:57 J -15124170.11 -15124169.96 -15124169.81 0.0088 0.0011

Neptune -46121-07-09 14:38 J -15124082.03 -15124081.89 -15124081.74 0.0088 0.0018

Neptune -46121-10-05 16:33 J -15123993.95 -15123993.81 -15123993.66 0.0088 0.0024

Neptune -46120-01-01 18:14 J -15123905.87 -15123905.74 -15123905.59 0.0088 0.0031

Neptune -46120-03-30 20:23 J -15123817.79 -15123817.65 -15123817.52 0.0088 0.0037

Neptune -46120-06-26 21:50 J -15123729.71 -15123729.59 -15123729.45 0.0088 0.0044

Neptune -46120-09-22 23:59 J -15123641.62 -15123641.50 -15123641.38 0.0088 0.0050

Neptune -46120-12-20 01:26 J -15123553.54 -15123553.44 -15123553.31 0.0088 0.0057

Neptune -46119-03-18 03:21 J -15123465.46 -15123465.36 -15123465.25 0.0088 0.0063

Neptune -46119-06-14 05:02 J -15123377.37 -15123377.29 -15123377.19 0.0088 0.0069

Neptune -46119-09-10 06:57 J -15123289.28 -15123289.21 -15123289.13 0.0088 0.0076

Neptune -46119-12-07 08:52 J -15123201.18 -15123201.13 -15123201.08 0.0088 0.0082

Neptune -46118-03-05 10:33 J -15123113.06 -15123113.06 -15123113.05 0.0089 0.0088

Moon -46118-08-26 13:54 J -15122939.00 -15122938.92 -15122938.84 0.2660 0.2019

Earth -46118-08-26 14:52 J -15122938.96 -15122938.88 -15122938.81 0.2661 0.2022 *

Venus -46117-05-21 15:21 J -15122669.95 -15122669.86 -15122669.78 0.3702 0.2160

Jupiter -46117-08-14 01:54 J -15122585.56 -15122585.42 -15122585.28 0.0539 0.0117

Moon -46115-02-25 07:11 J -15122025.33 -15122025.20 -15122025.06 0.2671 0.0752

Earth -46115-02-25 08:23 J -15122025.28 -15122025.15 -15122025.01 0.2669 0.0729 *

Saturn -46115-07-17 19:11 J -15121882.80 -15121882.70 -15121882.59 0.0273 0.0192

Saturn -46115-10-14 08:23 J -15121794.29 -15121794.15 -15121794.02 0.0273 0.0097

Saturn -46114-01-10 21:06 J -15121705.76 -15121705.62 -15121705.47 0.0273 0.0009

Saturn -46114-04-09 09:50 J -15121617.22 -15121617.09 -15121616.95 0.0274 0.0089

Mars -46114-07-03 02:23 J -15121532.52 -15121532.40 -15121532.28 0.1615 0.0636

Saturn -46114-07-06 22:18 J -15121528.67 -15121528.57 -15121528.46 0.0274 0.0181

Saturn -46114-10-03 10:33 J -15121440.08 -15121440.06 -15121440.04 0.0274 0.0270

Earth -46112-09-04 18:28 J -15120737.83 -15120737.73 -15120737.63 0.2667 0.1414

Moon -46112-09-04 19:11 J -15120737.79 -15120737.70 -15120737.60 0.2668 0.1536 *

Jupiter -46111-04-01 04:33 J -15120529.42 -15120529.31 -15120529.19 0.0490 0.0345

Jupiter -46111-06-29 23:16 J -15120439.67 -15120439.53 -15120439.39 0.0488 0.0253

Mars -46109-03-03 17:16 J -15119826.89 -15119826.78 -15119826.67 0.1910 0.1191

Uranus -46107-10-30 05:30 J -15118856.37 -15118856.27 -15118856.17 0.0146 0.0119

Uranus -46106-01-26 11:59 J -15118768.12 -15118768.00 -15118767.85 0.0146 0.0090

Uranus -46106-04-24 19:11 J -15118679.86 -15118679.70 -15118679.54 0.0146 0.0059

Uranus -46106-07-22 01:54 J -15118591.58 -15118591.42 -15118591.24 0.0146 0.0029

Uranus -46106-10-18 08:52 J -15118503.30 -15118503.13 -15118502.95 0.0146 0.0005

Uranus -46105-01-14 15:50 J -15118415.00 -15118414.84 -15118414.66 0.0146 0.0034

Uranus -46105-04-11 23:02 J -15118326.70 -15118326.54 -15118326.38 0.0146 0.0064

Jupiter -46105-06-02 03:50 J -15118275.45 -15118275.34 -15118275.22 0.0538 0.0290

Uranus -46105-07-09 05:59 J -15118238.37 -15118238.25 -15118238.11 0.0146 0.0096

Moon -46105-08-28 10:33 J -15118188.16 -15118188.06 -15118187.95 0.2668 0.1205

Earth -46105-08-28 11:16 J -15118188.14 -15118188.03 -15118187.92 0.2662 0.1091 *

Jupiter -46105-08-30 17:59 J -15118185.84 -15118185.75 -15118185.66 0.0540 0.0396

Uranus -46105-10-05 13:11 J -15118150.03 -15118149.95 -15118149.86 0.0146 0.0127

Mars -46105-11-22 11:16 J -15118102.12 -15118102.03 -15118101.95 0.1612 0.1208

Mars -46103-10-28 23:30 J -15117396.61 -15117396.52 -15117396.43 0.1624 0.1128

Moon -46102-02-28 08:52 J -15117274.26 -15117274.13 -15117273.99 0.2674 0.0396

Earth -46102-02-28 09:21 J -15117274.25 -15117274.11 -15117273.98 0.2667 0.0461 *

Saturn -46101-11-04 02:38 J -15116659.47 -15116659.39 -15116659.29 0.0287 0.0236

Saturn -46100-01-31 21:21 J -15116570.76 -15116570.61 -15116570.45 0.0286 0.0114

Saturn -46100-04-30 16:33 J -15116481.98 -15116481.81 -15116481.64 0.0286 0.0011

Mars -46100-07-24 18:14 J -15116396.88 -15116396.74 -15116396.60 0.1915 0.0029

Saturn -46100-07-28 11:59 J -15116393.15 -15116393.00 -15116392.85 0.0285 0.0137

Saturn -46100-10-25 07:26 J -15116304.24 -15116304.19 -15116304.12 0.0285 0.0265

Jupiter -46099-01-18 05:59 J -15116219.26 -15116219.25 -15116219.23 0.0490 0.0487

Jupiter -46099-04-18 00:14 J -15116129.65 -15116129.49 -15116129.33 0.0489 0.0107

Earth -46099-09-07 14:09 J -15115986.97 -15115986.91 -15115986.85 0.2669 0.2265

Moon -46099-09-07 15:06 J -15115986.94 -15115986.87 -15115986.81 0.2665 0.2244 *

Venus -46098-10-01 20:52 J -15115597.77 -15115597.63 -15115597.48 0.3680 0.0536

Mars -46093-03-20 08:38 J -15113966.26 -15113966.14 -15113966.02 0.1621 0.0573

Jupiter -46093-03-21 04:47 J -15113965.36 -15113965.30 -15113965.24 0.0537 0.0480

Jupiter -46093-06-18 19:11 J -15113875.82 -15113875.70 -15113875.57 0.0539 0.0211

Moon -46092-08-31 07:40 J -15113437.30 -15113437.18 -15113437.06 0.2670 0.0163

Earth -46092-08-31 07:40 J -15113437.30 -15113437.18 -15113437.06 0.2664 0.0185 *

Mars -46091-12-14 19:40 J -15112966.79 -15112966.68 -15112966.57 0.1919 0.1164

Earth -46089-03-02 10:33 J -15112523.17 -15112523.06 -15112522.96 0.2665 0.1676

Moon -46089-03-02 10:47 J -15112523.16 -15112523.05 -15112522.94 0.2672 0.1680 *

Jupiter -46087-02-04 01:26 J -15111819.60 -15111819.44 -15111819.28 0.0489 0.0039

Saturn -46086-12-04 22:18 J -15111150.66 -15111150.57 -15111150.48 0.0273 0.0212

Saturn -46085-03-02 11:30 J -15111062.15 -15111062.02 -15111061.89 0.0273 0.0117

Saturn -46085-05-30 00:14 J -15110973.63 -15110973.49 -15110973.34 0.0273 0.0024

Saturn -46085-08-26 12:57 J -15110885.09 -15110884.96 -15110884.82 0.0274 0.0071

Saturn -46085-11-23 01:40 J -15110796.55 -15110796.43 -15110796.32 0.0274 0.0162

Saturn -46084-02-19 13:54 J -15110707.97 -15110707.92 -15110707.87 0.0274 0.0252

Mars -46084-08-10 17:30 J -15110535.90 -15110535.77 -15110535.63 0.1618 0.0045

Moon -46082-02-23 12:28 J -15109974.08 -15109973.98 -15109973.87 0.2670 0.1669

Earth -46082-02-23 13:40 J -15109974.03 -15109973.93 -15109973.82 0.2671 0.1670 *

Jupiter -46081-04-06 21:21 J -15109565.75 -15109565.61 -15109565.47 0.0539 0.0042

Earth -46079-09-03 03:50 J -15108686.46 -15108686.34 -15108686.23 0.2666 0.0710

Moon -46079-09-03 04:18 J -15108686.43 -15108686.32 -15108686.21 0.2671 0.0769 *

Jupiter -46076-11-23 02:09 J -15107509.55 -15107509.41 -15107509.26 0.0489 0.0189

Jupiter -46075-02-20 21:21 J -15107419.70 -15107419.61 -15107419.53 0.0488 0.0416

Mars -46074-01-01 02:38 J -15107105.52 -15107105.39 -15107105.27 0.1615 0.0554

Moon -46072-08-26 19:11 J -15106136.78 -15106136.70 -15106136.62 0.2663 0.1992

Earth -46072-08-26 19:54 J -15106136.75 -15106136.67 -15106136.58 0.2661 0.1855 *

Venus -46072-11-27 03:35 J -15106044.44 -15106044.35 -15106044.25 0.3694 0.1610

Saturn -46071-03-24 03:06 J -15105927.42 -15105927.37 -15105927.31 0.0287 0.0269

Saturn -46071-06-20 21:35 J -15105838.73 -15105838.60 -15105838.45 0.0286 0.0149

Saturn -46071-09-17 16:33 J -15105749.98 -15105749.81 -15105749.64 0.0286 0.0026

Saturn -46071-12-15 11:45 J -15105661.17 -15105661.01 -15105660.85 0.0286 0.0100

Saturn -46070-03-14 07:11 J -15105572.29 -15105572.20 -15105572.09 0.0285 0.0228

Mars -46070-09-02 17:30 J -15105399.87 -15105399.77 -15105399.67 0.1910 0.1303

Jupiter -46069-01-24 23:45 J -15105255.64 -15105255.51 -15105255.37 0.0539 0.0124

Moon -46069-02-26 13:11 J -15105223.08 -15105222.95 -15105222.82 0.2672 0.0667

Earth -46069-02-26 14:09 J -15105223.04 -15105222.91 -15105222.77 0.2669 0.0523 *

Venus -46066-06-12 20:23 J -15104020.76 -15104020.65 -15104020.55 0.3699 0.0724

Earth -46066-09-05 23:30 J -15103935.61 -15103935.52 -15103935.42 0.2667 0.1572

Moon -46066-09-06 00:28 J -15103935.57 -15103935.48 -15103935.38 0.2667 0.1590 *

Mars -46065-05-23 11:16 J -15103675.12 -15103675.03 -15103674.93 0.1612 0.1125

Uranus -46065-05-26 21:35 J -15103671.66 -15103671.60 -15103671.52 0.0132 0.0117

Uranus -46065-08-23 01:26 J -15103583.54 -15103583.44 -15103583.34 0.0132 0.0097

Uranus -46065-11-19 05:02 J -15103495.40 -15103495.29 -15103495.17 0.0132 0.0078

Uranus -46064-02-15 08:23 J -15103407.27 -15103407.15 -15103407.01 0.0132 0.0060

Uranus -46064-05-14 12:14 J -15103319.13 -15103318.99 -15103318.85 0.0132 0.0041

Uranus -46064-08-10 15:50 J -15103230.98 -15103230.84 -15103230.70 0.0132 0.0022

Jupiter -46064-09-11 03:21 J -15103199.47 -15103199.36 -15103199.24 0.0490 0.0333

Uranus -46064-11-06 19:11 J -15103142.84 -15103142.70 -15103142.55 0.0132 0.0005

Jupiter -46064-12-09 22:04 J -15103109.72 -15103109.58 -15103109.44 0.0488 0.0265

Uranus -46063-02-02 22:47 J -15103054.69 -15103054.55 -15103054.41 0.0132 0.0015

Mars -46063-04-28 23:30 J -15102969.60 -15102969.52 -15102969.43 0.1625 0.1208

Uranus -46063-05-02 02:09 J -15102966.54 -15102966.41 -15102966.27 0.0132 0.0033

Uranus -46063-07-29 05:45 J -15102878.39 -15102878.26 -15102878.13 0.0132 0.0051

Uranus -46063-10-25 09:06 J -15102790.24 -15102790.12 -15102790.00 0.0132 0.0069

Uranus -46062-01-21 12:28 J -15102702.08 -15102701.98 -15102701.87 0.0132 0.0088

Uranus -46062-04-19 15:50 J -15102613.92 -15102613.84 -15102613.75 0.0132 0.0106

Uranus -46062-07-16 19:11 J -15102525.74 -15102525.70 -15102525.64 0.0132 0.0123

Venus -46061-12-26 12:57 J -15101997.02 -15101996.96 -15101996.90 0.3703 0.3026

Mars -46060-01-22 18:42 J -15101969.86 -15101969.72 -15101969.58 0.1914 0.0124

Moon -46059-08-29 15:50 J -15101385.95 -15101385.84 -15101385.72 0.2668 0.0915

Earth -46059-08-29 16:33 J -15101385.93 -15101385.81 -15101385.70 0.2663 0.0927 *

Jupiter -46058-11-13 02:23 J -15100945.52 -15100945.40 -15100945.28 0.0538 0.0287

Jupiter -46057-02-10 16:18 J -15100855.91 -15100855.82 -15100855.72 0.0540 0.0399

Moon -46056-02-28 14:52 J -15100472.02 -15100471.88 -15100471.75 0.2674 0.0702

Earth -46056-02-28 15:06 J -15100472.00 -15100471.87 -15100471.74 0.2667 0.0666 *

Saturn -46056-04-22 22:47 J -15100418.60 -15100418.55 -15100418.48 0.0272 0.0247

Saturn -46056-07-20 11:59 J -15100330.11 -15100330.00 -15100329.87 0.0273 0.0152

Saturn -46056-10-17 01:11 J -15100241.59 -15100241.45 -15100241.31 0.0273 0.0057

Saturn -46055-01-13 13:54 J -15100153.06 -15100152.92 -15100152.78 0.0273 0.0036

Saturn -46055-04-12 02:23 J -15100064.52 -15100064.40 -15100064.27 0.0274 0.0129

Saturn -46055-07-09 14:52 J -15099975.96 -15099975.88 -15099975.79 0.0274 0.0219

Mars -46054-09-19 08:38 J -15099539.25 -15099539.14 -15099539.01 0.1621 0.0658

Earth -46053-09-07 19:26 J -15099184.74 -15099184.69 -15099184.65 0.2669 0.2413

Moon -46053-09-07 19:54 J -15099184.70 -15099184.67 -15099184.63 0.2665 0.2526 *

Jupiter -46052-06-30 04:18 J -15098889.34 -15098889.32 -15098889.29 0.0490 0.0481

Jupiter -46052-09-27 22:33 J -15098799.72 -15098799.56 -15098799.40 0.0489 0.0112

Mars -46051-06-14 20:09 J -15098539.78 -15098539.66 -15098539.55 0.1919 0.1051

Moon -46049-02-21 18:28 J -15097922.76 -15097922.73 -15097922.71 0.2668 0.2604

Earth -46049-02-21 19:11 J -15097922.73 -15097922.70 -15097922.67 0.2672 0.2583 *

Venus -46047-10-22 17:59 J -15096948.84 -15096948.75 -15096948.65 0.3685 0.2739

Jupiter -46046-09-01 04:04 J -15096635.40 -15096635.33 -15096635.25 0.0538 0.0460

Earth -46046-09-01 12:42 J -15096635.09 -15096634.97 -15096634.85 0.2664 0.0063

Moon -46046-09-01 12:57 J -15096635.08 -15096634.96 -15096634.84 0.2671 0.0055 *

Jupiter -46046-11-29 18:42 J -15096545.84 -15096545.72 -15096545.59 0.0540 0.0232

Mars -46044-02-08 17:45 J -15096108.89 -15096108.76 -15096108.62 0.1618 0.0103

Earth -46043-03-03 16:18 J -15095720.92 -15095720.82 -15095720.72 0.2665 0.1891

Moon -46043-03-03 17:02 J -15095720.89 -15095720.79 -15095720.70 0.2671 0.1932 *

Neptune -46043-11-18 22:47 J -15095460.59 -15095460.55 -15095460.48 0.0089 0.0083

Neptune -46042-02-15 01:26 J -15095372.52 -15095372.44 -15095372.35 0.0089 0.0075

Neptune -46042-05-14 03:35 J -15095284.44 -15095284.35 -15095284.24 0.0089 0.0068

Neptune -46042-08-10 05:59 J -15095196.36 -15095196.25 -15095196.12 0.0089 0.0061

Neptune -46042-11-06 08:23 J -15095108.27 -15095108.15 -15095108.01 0.0089 0.0054

Saturn -46042-11-07 21:06 J -15095106.74 -15095106.62 -15095106.50 0.0286 0.0188

Neptune -46041-02-02 11:02 J -15095020.18 -15095020.04 -15095019.90 0.0089 0.0046

Saturn -46041-02-04 15:50 J -15095018.00 -15095017.84 -15095017.68 0.0286 0.0066

Neptune -46041-04-30 13:26 J -15094932.09 -15094931.94 -15094931.79 0.0089 0.0039

Saturn -46041-05-03 11:02 J -15094929.20 -15094929.04 -15094928.88 0.0286 0.0059

Venus -46041-05-07 21:35 J -15094924.71 -15094924.60 -15094924.49 0.3679 0.2318

Neptune -46041-07-27 15:35 J -15094843.99 -15094843.85 -15094843.68 0.0089 0.0032

Saturn -46041-07-31 06:28 J -15094840.35 -15094840.23 -15094840.10 0.0285 0.0186

Neptune -46041-10-23 18:14 J -15094755.89 -15094755.74 -15094755.58 0.0089 0.0024

Neptune -46040-01-19 20:38 J -15094667.80 -15094667.64 -15094667.47 0.0089 0.0017

Neptune -46040-04-17 23:16 J -15094579.70 -15094579.53 -15094579.37 0.0089 0.0009

Neptune -46040-07-15 01:40 J -15094491.59 -15094491.43 -15094491.26 0.0089 0.0002

Jupiter -46040-07-16 23:45 J -15094489.68 -15094489.51 -15094489.35 0.0489 0.0037

Neptune -46040-10-11 04:18 J -15094403.49 -15094403.32 -15094403.16 0.0089 0.0006

Neptune -46039-01-07 06:42 J -15094315.39 -15094315.22 -15094315.05 0.0089 0.0013

Neptune -46039-04-05 09:06 J -15094227.28 -15094227.12 -15094226.95 0.0089 0.0021

Neptune -46039-07-02 11:45 J -15094139.17 -15094139.01 -15094138.85 0.0089 0.0028

Earth -46039-08-25 04:33 J -15094085.33 -15094085.31 -15094085.29 0.2660 0.2628

Neptune -46039-09-28 14:09 J -15094051.06 -15094050.91 -15094050.75 0.0089 0.0036

Neptune -46039-12-25 16:33 J -15093962.94 -15093962.81 -15093962.65 0.0089 0.0044

Neptune -46038-03-23 19:11 J -15093874.83 -15093874.70 -15093874.56 0.0089 0.0051

Neptune -46038-06-19 21:35 J -15093786.71 -15093786.60 -15093786.46 0.0089 0.0059

Neptune -46038-09-16 00:14 J -15093698.59 -15093698.49 -15093698.37 0.0089 0.0067

Neptune -46038-12-13 03:06 J -15093610.46 -15093610.37 -15093610.28 0.0089 0.0074

Neptune -46037-03-10 05:30 J -15093522.32 -15093522.27 -15093522.20 0.0089 0.0082

Moon -46036-02-23 18:14 J -15093171.85 -15093171.74 -15093171.63 0.2670 0.1633

Earth -46036-02-23 19:26 J -15093171.80 -15093171.69 -15093171.57 0.2670 0.1464 *

Mars -46035-07-02 02:38 J -15092678.51 -15092678.39 -15092678.26 0.1615 0.0473

Jupiter -46034-09-17 19:54 J -15092235.81 -15092235.67 -15092235.53 0.0539 0.0046

Earth -46033-09-03 08:52 J -15091884.25 -15091884.13 -15091884.02 0.2666 0.0860

Moon -46033-09-03 09:21 J -15091884.22 -15091884.11 -15091883.99 0.2671 0.0913 *

Mars -46030-03-03 17:45 J -15090972.85 -15090972.76 -15090972.66 0.1910 0.1422

Jupiter -46028-05-05 00:42 J -15090179.62 -15090179.47 -15090179.32 0.0490 0.0181

Jupiter -46028-08-02 19:40 J -15090089.75 -15090089.68 -15090089.59 0.0488 0.0425

Saturn -46027-09-10 01:54 J -15089686.44 -15089686.42 -15089686.39 0.0273 0.0267

Saturn -46027-12-07 15:21 J -15089597.97 -15089597.86 -15089597.75 0.0273 0.0171

Saturn -46026-03-06 04:18 J -15089509.46 -15089509.32 -15089509.18 0.0273 0.0076

Saturn -46026-06-02 17:16 J -15089420.92 -15089420.78 -15089420.64 0.0274 0.0018

Moon -46026-08-28 00:28 J -15089334.58 -15089334.48 -15089334.39 0.2664 0.1691

Earth -46026-08-28 01:11 J -15089334.54 -15089334.45 -15089334.35 0.2661 0.1687 *

Saturn -46026-08-30 05:59 J -15089332.38 -15089332.25 -15089332.12 0.0274 0.0111

Mars -46026-11-22 11:30 J -15089248.12 -15089248.02 -15089247.92 0.1612 0.1041

Saturn -46026-11-26 18:14 J -15089243.83 -15089243.74 -15089243.64 0.0274 0.0203

Mars -46024-10-27 23:45 J -15088542.59 -15088542.51 -15088542.43 0.1624 0.1286

Moon -46023-02-26 19:11 J -15088420.84 -15088420.70 -15088420.56 0.2673 0.0289

Earth -46023-02-26 20:09 J -15088420.80 -15088420.66 -15088420.53 0.2668 0.0324 *

Uranus -46023-08-23 05:16 J -15088243.30 -15088243.28 -15088243.24 0.0146 0.0144

Uranus -46023-11-19 12:14 J -15088155.10 -15088154.99 -15088154.89 0.0146 0.0114

Uranus -46022-02-15 18:57 J -15088066.85 -15088066.71 -15088066.57 0.0146 0.0084

Uranus -46022-05-15 01:40 J -15087978.59 -15087978.43 -15087978.26 0.0146 0.0054

Jupiter -46022-07-06 21:50 J -15087925.73 -15087925.59 -15087925.45 0.0538 0.0128

Uranus -46022-08-11 08:38 J -15087890.31 -15087890.14 -15087889.97 0.0146 0.0023

Uranus -46022-11-07 15:35 J -15087802.02 -15087801.85 -15087801.68 0.0146 0.0007

Uranus -46021-02-03 22:33 J -15087713.73 -15087713.56 -15087713.39 0.0146 0.0038

Uranus -46021-05-02 05:30 J -15087625.42 -15087625.27 -15087625.11 0.0146 0.0070

Mars -46021-07-23 18:42 J -15087542.86 -15087542.72 -15087542.58 0.1914 0.0220

Uranus -46021-07-29 12:42 J -15087537.09 -15087536.97 -15087536.84 0.0146 0.0101

Uranus -46021-10-25 19:40 J -15087448.74 -15087448.68 -15087448.60 0.0146 0.0133

Venus -46021-12-18 08:38 J -15087395.20 -15087395.14 -15087395.09 0.3690 0.3087

Earth -46020-09-06 04:47 J -15087133.39 -15087133.30 -15087133.21 0.2668 0.1723

Moon -46020-09-06 05:30 J -15087133.35 -15087133.27 -15087133.18 0.2667 0.1819 *

Jupiter -46016-02-21 01:40 J -15085869.55 -15085869.43 -15085869.31 0.0490 0.0328

Jupiter -46016-05-21 20:09 J -15085779.79 -15085779.66 -15085779.52 0.0488 0.0271

Venus -46015-07-04 01:26 J -15085371.55 -15085371.44 -15085371.34 0.3695 0.0747

Mars -46014-03-20 08:52 J -15085112.25 -15085112.13 -15085112.01 0.1621 0.0735

Moon -46013-08-29 21:06 J -15084583.73 -15084583.62 -15084583.50 0.2668 0.0872

Earth -46013-08-29 21:35 J -15084583.71 -15084583.60 -15084583.48 0.2663 0.0768 *

Saturn -46012-03-26 22:04 J -15084374.68 -15084374.58 -15084374.47 0.0286 0.0218

Saturn -46012-06-23 16:47 J -15084285.96 -15084285.80 -15084285.65 0.0286 0.0097

Saturn -46012-09-20 11:45 J -15084197.18 -15084197.01 -15084196.84 0.0286 0.0027

Mars -46012-12-13 20:23 J -15084112.77 -15084112.65 -15084112.53 0.1919 0.0931

Saturn -46012-12-18 06:57 J -15084108.34 -15084108.21 -15084108.06 0.0285 0.0154

Saturn -46011-03-17 02:52 J -15084019.40 -15084019.38 -15084019.36 0.0285 0.0281

Moon -46010-03-01 20:38 J -15083669.77 -15083669.64 -15083669.51 0.2673 0.0799

Earth -46010-03-01 20:52 J -15083669.76 -15083669.63 -15083669.50 0.2667 0.0877 *

Jupiter -46010-04-24 23:59 J -15083615.62 -15083615.50 -15083615.38 0.0538 0.0295

Jupiter -46010-07-23 14:09 J -15083526.00 -15083525.91 -15083525.81 0.0540 0.0391

Venus -46009-01-17 17:59 J -15083347.84 -15083347.75 -15083347.65 0.3700 0.1600

Earth -46007-09-09 00:28 J -15082382.51 -15082382.48 -15082382.45 0.2669 0.2563

Moon -46007-09-09 00:57 J -15082382.49 -15082382.46 -15082382.43 0.2665 0.2541 *

Mars -46005-08-09 17:59 J -15081681.88 -15081681.75 -15081681.62 0.1618 0.0178

Jupiter -46005-12-10 03:06 J -15081559.41 -15081559.37 -15081559.33 0.0490 0.0471

Jupiter -46004-03-09 21:06 J -15081469.78 -15081469.62 -15081469.46 0.0488 0.0121

Moon -46003-02-21 23:59 J -15081120.55 -15081120.50 -15081120.45 0.2669 0.2457

Earth -46003-02-22 00:57 J -15081120.52 -15081120.46 -15081120.40 0.2672 0.2385 *

46TH MILLENNIUM BCE

This is a list of transits of Mercury in the 46th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Earth	**-46000-09-01 17:59**	**J**	**-15079832.87**	**-15079832.75**	**-15079832.63**	**0.2665**	**0.0144**	
Moon	**-46000-09-01 18:14**	**J**	**-15079832.86**	**-15079832.74**	**-15079832.62**	**0.2672**	**0.0219**	*****
Jupiter	**-45998-02-11 02:23**	**J**	**-15079305.47**	**-15079305.40**	**-15079305.33**	**0.0538**	**0.0461**	
Jupiter	**-45998-05-11 16:47**	**J**	**-15079215.92**	**-15079215.80**	**-15079215.67**	**0.0540**	**0.0232**	
Earth	**-45997-03-03 22:18**	**J**	**-15078918.66**	**-15078918.57**	**-15078918.49**	**0.2665**	**0.2109**	
Moon	**-45997-03-03 23:02**	**J**	**-15078918.62**	**-15078918.54**	**-15078918.46**	**0.2670**	**0.2212**	*****
Saturn	**-45997-04-25 16:04**	**J**	**-15078865.92**	**-15078865.83**	**-15078865.73**	**0.0273**	**0.0205**	
Saturn	**-45997-07-23 05:16**	**J**	**-15078777.41**	**-15078777.28**	**-15078777.14**	**0.0273**	**0.0110**	
Saturn	**-45997-10-19 18:14**	**J**	**-15078688.88**	**-15078688.74**	**-15078688.59**	**0.0273**	**0.0017**	
Saturn	**-45996-01-16 06:57**	**J**	**-15078600.34**	**-15078600.21**	**-15078600.07**	**0.0274**	**0.0078**	
Pluto	**-45996-02-17 04:18**	**J**	**-15078568.33**	**-15078568.32**	**-15078568.25**	**0.0064**	**0.0063**	
Saturn	**-45996-04-14 19:26**	**J**	**-15078511.79**	**-15078511.69**	**-15078511.57**	**0.0274**	**0.0170**	
Pluto	**-45996-05-16 05:45**	**J**	**-15078480.32**	**-15078480.26**	**-15078480.17**	**0.0064**	**0.0057**	
Saturn	**-45996-07-12 07:54**	**J**	**-15078423.21**	**-15078423.17**	**-15078423.13**	**0.0274**	**0.0260**	
Pluto	**-45996-08-12 06:57**	**J**	**-15078392.29**	**-15078392.21**	**-15078392.10**	**0.0064**	**0.0053**	
Pluto	**-45996-11-08 08:23**	**J**	**-15078304.26**	**-15078304.15**	**-15078304.04**	**0.0064**	**0.0048**	
Mars	**-45996-12-31 02:52**	**J**	**-15078251.51**	**-15078251.38**	**-15078251.25**	**0.1615**	**0.0387**	
Pluto	**-45995-02-04 09:06**	**J**	**-15078216.23**	**-15078216.12**	**-15078215.98**	**0.0064**	**0.0044**	
Pluto	**-45995-05-03 10:18**	**J**	**-15078128.19**	**-15078128.07**	**-15078127.92**	**0.0065**	**0.0039**	
Pluto	**-45995-07-30 11:30**	**J**	**-15078040.15**	**-15078040.02**	**-15078039.86**	**0.0065**	**0.0034**	
Pluto	**-45995-10-26 12:42**	**J**	**-15077952.11**	**-15077951.97**	**-15077951.80**	**0.0065**	**0.0029**	
Pluto	**-45994-01-22 14:09**	**J**	**-15077864.06**	**-15077863.91**	**-15077863.75**	**0.0065**	**0.0024**	

Pluto -45994-04-20 15:21 J -15077776.02 -15077775.86 -15077775.69 0.0065 0.0019

Pluto -45994-07-17 16:33 J -15077687.97 -15077687.81 -15077687.64 0.0065 0.0014

Pluto -45994-10-13 17:45 J -15077599.92 -15077599.76 -15077599.58 0.0065 0.0009

Pluto -45993-01-09 19:11 J -15077511.87 -15077511.70 -15077511.53 0.0065 0.0004

Pluto -45993-04-06 20:23 J -15077423.82 -15077423.65 -15077423.48 0.0065 0.0002

Pluto -45993-07-03 21:35 J -15077335.77 -15077335.60 -15077335.42 0.0065 0.0007

Moon -45993-08-25 08:52 J -15077283.17 -15077283.13 -15077283.09 0.2658 0.2500

Earth -45993-08-25 09:50 J -15077283.14 -15077283.09 -15077283.05 0.2660 0.2460 *

Pluto -45993-09-29 23:02 J -15077247.71 -15077247.54 -15077247.37 0.0065 0.0012

Jupiter -45993-12-26 21:50 J -15077159.76 -15077159.59 -15077159.43 0.0489 0.0033

Pluto -45993-12-27 00:14 J -15077159.65 -15077159.49 -15077159.32 0.0065 0.0017 *

Pluto -45992-03-25 01:11 J -15077071.60 -15077071.45 -15077071.27 0.0066 0.0023

Pluto -45992-06-21 02:38 J -15076983.54 -15076983.39 -15076983.22 0.0066 0.0028

Pluto -45992-09-17 03:50 J -15076895.47 -15076895.34 -15076895.18 0.0066 0.0033

Pluto -45992-12-14 05:16 J -15076807.41 -15076807.28 -15076807.13 0.0066 0.0038

Pluto -45991-03-12 06:28 J -15076719.34 -15076719.23 -15076719.09 0.0066 0.0044

Pluto -45991-06-08 07:54 J -15076631.27 -15076631.17 -15076631.04 0.0066 0.0049

Mars -45991-09-01 17:59 J -15076545.83 -15076545.75 -15076545.66 0.1909 0.1538

Pluto -45991-09-04 09:21 J -15076543.20 -15076543.11 -15076543.01 0.0066 0.0055

Pluto -45991-12-01 10:18 J -15076455.12 -15076455.07 -15076454.98 0.0066 0.0061

Moon -45990-02-24 23:59 J -15076369.62 -15076369.50 -15076369.38 0.2670 0.1283

Earth -45990-02-25 01:11 J -15076369.57 -15076369.45 -15076369.33 0.2670 0.1268 *

Pluto -45990-02-27 11:59 J -15076367.01 -15076367.00 -15076366.97 0.0066 0.0066

Venus -45990-05-29 18:42 J -15076275.86 -15076275.72 -15076275.59 0.3683 0.1003

Earth -45987-09-04 13:54 J -15075082.03 -15075081.92 -15075081.81 0.2666 0.1019

Moon -45987-09-04 14:38 J -15075082.00 -15075081.89 -15075081.78 0.2669 0.1045 *

Jupiter -45986-02-27 19:11 J -15074905.84 -15074905.70 -15074905.56 0.0539 0.0064

Mars -45986-05-23 11:45 J -15074821.12 -15074821.01 -15074820.90 0.1612 0.0954

Mars -45984-04-27 23:59 J -15074115.57 -15074115.50 -15074115.44 0.1625 0.1369

Saturn -45983-08-13 21:35 J -15073642.67 -15073642.60 -15073642.53 0.0287 0.0258

Saturn -45983-11-10 16:04 J -15073553.97 -15073553.83 -15073553.68 0.0286 0.0137

Saturn -45982-02-07 11:02 J -15073465.21 -15073465.04 -15073464.87 0.0286 0.0014

Saturn -45982-05-07 06:14 J -15073376.39 -15073376.24 -15073376.08 0.0285 0.0112

Saturn -45982-08-04 01:40 J -15073287.51 -15073287.43 -15073287.33 0.0285 0.0241

Mars -45981-01-22 19:11 J -15073115.84 -15073115.70 -15073115.56 0.1914 0.0344

Uranus -45981-03-20 00:57 J -15073058.47 -15073058.46 -15073058.45 0.0132 0.0132

Uranus -45981-06-16 04:33 J -15072970.38 -15072970.31 -15072970.23 0.0132 0.0113

Uranus -45981-09-12 08:09 J -15072882.26 -15072882.16 -15072882.06 0.0132 0.0094

Jupiter -45981-10-14 22:47 J -15072849.70 -15072849.55 -15072849.40 0.0490 0.0179

Uranus -45981-12-09 11:45 J -15072794.12 -15072794.01 -15072793.89 0.0132 0.0075

Jupiter -45980-01-12 17:45 J -15072759.83 -15072759.76 -15072759.68 0.0488 0.0427

Uranus -45980-03-07 15:21 J -15072705.99 -15072705.86 -15072705.73 0.0132 0.0056

Uranus -45980-06-03 18:57 J -15072617.85 -15072617.71 -15072617.57 0.0132 0.0037

Moon -45980-08-28 05:30 J -15072532.36 -15072532.27 -15072532.17 0.2665 0.1646

Earth -45980-08-28 06:28 J -15072532.33 -15072532.23 -15072532.13 0.2662 0.1517 *

Uranus -45980-08-30 22:33 J -15072529.70 -15072529.56 -15072529.42 0.0132 0.0019

Uranus -45980-11-27 02:09 J -15072441.56 -15072441.41 -15072441.27 0.0132 0.0003

Uranus -45979-02-23 05:30 J -15072353.41 -15072353.27 -15072353.13 0.0132 0.0018

Uranus -45979-05-22 08:52 J -15072265.26 -15072265.13 -15072264.99 0.0132 0.0037

Uranus -45979-08-18 12:28 J -15072177.11 -15072176.98 -15072176.85 0.0132 0.0055

Uranus -45979-11-14 15:50 J -15072088.95 -15072088.84 -15072088.72 0.0132 0.0073

Uranus -45978-02-10 19:11 J -15072000.79 -15072000.70 -15072000.59 0.0132 0.0091

Uranus -45978-05-09 22:33 J -15071912.63 -15071912.56 -15071912.47 0.0132 0.0109

Uranus -45978-08-06 01:54 J -15071824.45 -15071824.42 -15071824.37 0.0132 0.0127

Moon -45977-02-28 00:57 J -15071618.59 -15071618.46 -15071618.32 0.2674 0.0253

Earth -45977-02-28 01:40 J -15071618.56 -15071618.43 -15071618.29 0.2668 0.0130 *

Mars -45977-10-12 20:23 J -15071390.69 -15071390.65 -15071390.61 0.1609 0.1531

Mars -45975-09-18 09:06 J -15070685.24 -15070685.12 -15070685.01 0.1621 0.0816

Jupiter -45975-12-16 20:23 J -15070595.79 -15070595.65 -15070595.52 0.0538 0.0124

Earth -45974-09-07 09:50 J -15070331.17 -15070331.09 -15070331.01 0.2668 0.1873

Moon -45974-09-07 10:47 J -15070331.14 -15070331.05 -15070330.97 0.2667 0.1920 *

Mars -45972-06-13 20:38 J -15069685.77 -15069685.64 -15069685.52 0.1919 0.0825

Jupiter -45969-08-02 23:59 J -15068539.62 -15068539.50 -15068539.38 0.0490 0.0325

Jupiter -45969-10-31 18:28 J -15068449.86 -15068449.73 -15068449.59 0.0489 0.0276

Saturn -45968-09-12 19:11 J -15068133.77 -15068133.70 -15068133.61 0.0273 0.0224

Saturn -45968-12-10 08:38 J -15068045.27 -15068045.14 -15068045.01 0.0273 0.0128

Saturn -45967-03-08 21:35 J -15067956.74 -15067956.60 -15067956.46 0.0274 0.0033

Saturn -45967-06-05 10:18 J -15067868.21 -15067868.07 -15067867.93 0.0274 0.0061

Moon -45967-08-31 02:38 J -15067781.51 -15067781.39 -15067781.27 0.2669 0.0558

Earth -45967-08-31 02:52 J -15067781.50 -15067781.38 -15067781.26 0.2663 0.0601 *

Saturn -45967-09-01 23:02 J -15067779.66 -15067779.54 -15067779.42 0.0274 0.0153

Saturn -45967-11-29 11:16 J -15067691.09 -15067691.03 -15067690.96 0.0275 0.0244

Mars -45965-02-08 17:59 J -15067254.88 -15067254.75 -15067254.62 0.1618 0.0259

Moon -45964-03-02 02:38 J -15066867.51 -15066867.39 -15066867.26 0.2673 0.1170

Earth -45964-03-02 02:52 J -15066867.51 -15066867.38 -15066867.26 0.2666 0.1094 *

Venus -45964-07-25 06:14 J -15066722.32 -15066722.24 -15066722.15 0.3691 0.2202

Jupiter -45963-10-04 22:04 J -15066285.70 -15066285.58 -15066285.47 0.0538 0.0300

Jupiter -45962-01-02 11:59 J -15066196.09 -15066196.00 -15066195.90 0.0540 0.0385

Neptune -45960-05-27 07:40 J -15065320.19 -15065320.18 -15065320.14 0.0088 0.0087

Neptune -45960-08-23 09:50 J -15065232.15 -15065232.09 -15065232.02 0.0088 0.0080

Neptune -45960-11-19 11:45 J -15065144.09 -15065144.01 -15065143.92 0.0088 0.0073

Neptune -45959-02-15 13:54 J -15065056.02 -15065055.92 -15065055.82 0.0088 0.0066

Neptune -45959-05-14 15:50 J -15064967.95 -15064967.84 -15064967.73 0.0088 0.0059

Neptune -45959-08-10 17:30 J -15064879.88 -15064879.77 -15064879.63 0.0088 0.0052

Neptune -45959-11-06 19:26 J -15064791.81 -15064791.69 -15064791.55 0.0088 0.0046

Neptune -45958-02-02 21:35 J -15064703.73 -15064703.60 -15064703.46 0.0088 0.0038

Venus -45958-02-07 23:02 J -15064698.65 -15064698.54 -15064698.43 0.3696 0.0164

Neptune -45958-05-01 23:30 J -15064615.66 -15064615.52 -15064615.38 0.0088 0.0032

Neptune -45958-07-29 01:26 J -15064527.58 -15064527.44 -15064527.29 0.0088 0.0025

Neptune -45958-10-25 03:21 J -15064439.51 -15064439.36 -15064439.21 0.0088 0.0018

Neptune -45957-01-21 05:16 J -15064351.43 -15064351.28 -15064351.13 0.0088 0.0011

Moon -45957-02-23 05:30 J -15064318.34 -15064318.27 -15064318.20 0.2669 0.2278

Earth -45957-02-23 06:42 J -15064318.30 -15064318.22 -15064318.15 0.2671 0.2190 *

Neptune -45957-04-18 07:11 J -15064263.35 -15064263.20 -15064263.05 0.0088 0.0005

Jupiter -45957-05-22 00:57 J -15064229.50 -15064229.46 -15064229.42 0.0491 0.0471

Neptune -45957-07-15 09:06 J -15064175.27 -15064175.12 -15064174.97 0.0088 0.0003

Jupiter -45957-08-19 19:11 J -15064139.86 -15064139.70 -15064139.54 0.0489 0.0123

Neptune -45957-10-11 10:47 J -15064087.20 -15064087.05 -15064086.90 0.0088 0.0009

Neptune -45956-01-07 12:42 J -15063999.12 -15063998.97 -15063998.82 0.0088 0.0015

Neptune -45956-04-05 14:38 J -15063911.04 -15063910.89 -15063910.75 0.0088 0.0022

Mars -45956-07-01 03:06 J -15063824.50 -15063824.37 -15063824.24 0.1615 0.0304

Neptune -45956-07-02 16:18 J -15063822.96 -15063822.82 -15063822.67 0.0088 0.0028

Neptune -45956-09-28 18:14 J -15063734.88 -15063734.74 -15063734.60 0.0088 0.0035

Neptune -45956-12-25 19:54 J -15063646.79 -15063646.67 -15063646.53 0.0088 0.0042

Neptune -45955-03-23 21:50 J -15063558.71 -15063558.59 -15063558.46 0.0089 0.0048

Neptune -45955-06-19 23:30 J -15063470.63 -15063470.52 -15063470.40 0.0089 0.0055

Neptune -45955-09-16 01:26 J -15063382.54 -15063382.44 -15063382.33 0.0089 0.0061

Neptune -45955-12-13 02:52 J -15063294.46 -15063294.38 -15063294.27 0.0089 0.0068

Neptune -45954-03-11 04:47 J -15063206.37 -15063206.30 -15063206.21 0.0089 0.0074

Neptune -45954-06-07 06:28 J -15063118.27 -15063118.23 -15063118.15 0.0089 0.0081

Earth -45954-09-02 23:02 J -15063030.66 -15063030.54 -15063030.42 0.2665 0.0299

Moon -45954-09-02 23:16 J -15063030.65 -15063030.53 -15063030.41 0.2671 0.0264 *

Neptune -45954-09-03 08:23 J -15063030.17 -15063030.15 -15063030.11 0.0089 0.0087

Saturn -45954-12-31 23:16 J -15062910.54 -15062910.53 -15062910.50 0.0286 0.0283

Saturn -45953-03-29 17:45 J -15062821.89 -15062821.76 -15062821.62 0.0286 0.0163

Saturn -45953-06-26 12:28 J -15062733.14 -15062732.98 -15062732.81 0.0286 0.0041

Venus -45953-08-23 15:50 J -15062674.92 -15062674.84 -15062674.76 0.3701 0.2467

Saturn -45953-09-23 07:40 J -15062644.34 -15062644.18 -15062644.02 0.0285 0.0085

Saturn -45953-12-21 03:21 J -15062555.48 -15062555.36 -15062555.25 0.0285 0.0211

Mars -45951-03-02 18:28 J -15062118.80 -15062118.73 -15062118.66 0.1910 0.1654

Earth -45951-03-05 04:04 J -15062116.39 -15062116.33 -15062116.26 0.2665 0.2326

Moon -45951-03-05 05:02 J -15062116.36 -15062116.29 -15062116.23 0.2670 0.2342 *

Jupiter -45951-07-23 23:59 J -15061975.57 -15061975.50 -15061975.44 0.0538 0.0472

Jupiter -45951-10-21 14:23 J -15061886.02 -15061885.90 -15061885.77 0.0540 0.0222

Moon -45947-08-26 14:09 J -15060480.97 -15060480.91 -15060480.86 0.2660 0.2348

Earth -45947-08-26 15:06 J -15060480.93 -15060480.87 -15060480.81 0.2660 0.2288 *

Mars -45947-11-21 11:59 J -15060394.11 -15060394.00 -15060393.89 0.1612 0.0872

Jupiter -45945-06-07 20:09 J -15059829.82 -15059829.66 -15059829.50 0.0489 0.0025

Mars -45945-10-26 23:59 J -15059688.55 -15059688.50 -15059688.44 0.1625 0.1447

Moon -45944-02-25 05:45 J -15059567.38 -15059567.26 -15059567.14 0.2671 0.1185

Earth -45944-02-25 06:57 J -15059567.34 -15059567.21 -15059567.09 0.2670 0.1064 *

Mars -45942-07-23 19:40 J -15058688.82 -15058688.68 -15058688.55 0.1914 0.0471

Earth -45941-09-04 19:11 J -15058279.81 -15058279.70 -15058279.60 0.2666 0.1173

Moon -45941-09-04 19:54 J -15058279.77 -15058279.67 -15058279.57 0.2669 0.1284 *

Jupiter -45939-08-09 17:02 J -15057575.93 -15057575.79 -15057575.65 0.0539 0.0060

Uranus -45939-09-12 11:59 J -15057542.04 -15057542.00 -15057541.93 0.0147 0.0138

Uranus -45939-12-09 18:57 J -15057453.82 -15057453.71 -15057453.59 0.0147 0.0108

Saturn -45938-01-30 20:38 J -15057401.69 -15057401.64 -15057401.60 0.0273 0.0256

Uranus -45938-03-08 01:40 J -15057365.57 -15057365.43 -15057365.28 0.0147 0.0078

Saturn -45938-04-29 09:50 J -15057313.21 -15057313.09 -15057312.97 0.0273 0.0160

Uranus -45938-06-04 08:38 J -15057277.30 -15057277.14 -15057276.97 0.0147 0.0047

Saturn -45938-07-26 22:47 J -15057224.69 -15057224.55 -15057224.41 0.0273 0.0065

Uranus -45938-08-31 15:35 J -15057189.02 -15057188.85 -15057188.68 0.0147 0.0017

Saturn -45938-10-23 11:45 J -15057136.15 -15057136.01 -15057135.87 0.0273 0.0029

Uranus -45938-11-27 22:33 J -15057100.74 -15057100.56 -15057100.39 0.0146 0.0014

Saturn -45937-01-20 00:14 J -15057047.61 -15057047.49 -15057047.36 0.0274 0.0122

Uranus -45937-02-24 05:30 J -15057012.44 -15057012.27 -15057012.11 0.0146 0.0045

Mars -45937-04-12 20:38 J -15056963.70 -15056963.64 -15056963.58 0.1610 0.1444

Saturn -45937-04-17 12:57 J -15056959.05 -15056958.96 -15056958.88 0.0274 0.0213

Uranus -45937-05-22 12:28 J -15056924.13 -15056923.98 -15056923.83 0.0146 0.0076

Uranus -45937-08-18 19:26 J -15056835.80 -15056835.69 -15056835.56 0.0146 0.0108

Uranus -45937-11-15 02:52 J -15056747.43 -15056747.38 -15056747.33 0.0146 0.0139

Mars -45935-03-19 09:06 J -15056258.23 -15056258.12 -15056258.01 0.1621 0.0897

Moon -45934-08-29 10:47 J -15055730.15 -15055730.05 -15055729.94 0.2665 0.1371

Earth -45934-08-29 11:45 J -15055730.12 -15055730.01 -15055729.91 0.2662 0.1356 *

Venus -45933-01-03 18:57 J -15055602.85 -15055602.71 -15055602.57 0.3682 0.0747

Jupiter -45933-03-26 20:52 J -15055519.78 -15055519.63 -15055519.48 0.0489 0.0177

Jupiter -45933-06-24 15:50 J -15055429.92 -15055429.84 -15055429.76 0.0488 0.0427

Mars -45933-12-12 20:52 J -15055258.76 -15055258.63 -15055258.51 0.1919 0.0720

Moon -45931-02-28 06:42 J -15054816.35 -15054816.22 -15054816.08 0.2674 0.0140

Earth -45931-02-28 07:26 J -15054816.32 -15054816.19 -15054816.05 0.2668 0.0133 *

Earth -45928-09-07 14:52 J -15053528.95 -15053528.88 -15053528.80 0.2668 0.2025

Moon -45928-09-07 15:50 J -15053528.92 -15053528.84 -15053528.77 0.2667 0.2083 *

Jupiter -45927-05-28 19:11 J -15053265.84 -15053265.70 -15053265.56 0.0538 0.0111

Mars -45926-08-09 18:14 J -15052827.87 -15052827.74 -15052827.61 0.1618 0.0343

Saturn -45924-08-16 17:02 J -15052089.90 -15052089.79 -15052089.67 0.0286 0.0203

Saturn -45924-11-13 11:45 J -15052001.17 -15052001.01 -15052000.85 0.0286 0.0081

Saturn -45923-02-10 06:57 J -15051912.38 -15051912.21 -15051912.05 0.0286 0.0044

Mars -45923-05-04 22:33 J -15051828.59 -15051828.56 -15051828.52 0.1923 0.1849

Saturn -45923-05-10 02:09 J -15051823.54 -15051823.41 -15051823.27 0.0285 0.0170

Jupiter -45921-01-13 22:04 J -15051209.70 -15051209.58 -15051209.46 0.0490 0.0323

Jupiter -45921-04-12 16:33 J -15051119.95 -15051119.81 -15051119.67 0.0488 0.0276

Moon -45921-08-31 07:54 J -15050979.29 -15050979.17 -15050979.05 0.2671 0.0512

Earth -45921-08-31 08:09 J -15050979.28 -15050979.16 -15050979.04 0.2664 0.0447 *

Earth -45918-03-03 08:38 J -15050065.26 -15050065.14 -15050065.02 0.2666 0.1303

Moon -45918-03-03 08:52 J -15050065.25 -15050065.13 -15050065.01 0.2672 0.1243 *

Mars -45917-12-30 03:21 J -15049397.50 -15049397.36 -15049397.23 0.1615 0.0227

Jupiter -45915-03-16 20:23 J -15048955.77 -15048955.65 -15048955.53 0.0537 0.0296

Jupiter -45915-06-14 10:33 J -15048866.16 -15048866.06 -15048865.97 0.0539 0.0388

Venus -45913-08-15 11:16 J -15048073.04 -15048073.03 -15048073.03 0.3688 0.3686

Mars -45912-08-31 18:42 J -15047691.77 -15047691.72 -15047691.67 0.1909 0.1770

Moon -45911-02-23 11:16 J -15047516.12 -15047516.03 -15047515.95 0.2668 0.2043

Earth -45911-02-23 12:14 J -15047516.07 -15047515.99 -15047515.90 0.2671 0.1996 *

Jupiter -45910-11-01 23:02 J -15046899.58 -15046899.54 -15046899.50 0.0491 0.0470

Jupiter -45909-01-30 17:16 J -15046809.94 -15046809.78 -15046809.62 0.0489 0.0125

Saturn -45909-09-15 12:57 J -15046581.07 -15046580.96 -15046580.85 0.0273 0.0179

Saturn -45909-12-13 02:09 J -15046492.55 -15046492.41 -15046492.27 0.0274 0.0084

Saturn -45908-03-11 15:06 J -15046404.02 -15046403.87 -15046403.73 0.0274 0.0013

Saturn -45908-06-08 03:35 J -15046315.48 -15046315.35 -15046315.21 0.0274 0.0104

Pluto -45908-09-02 14:38 J -15046228.93 -15046228.89 -15046228.81 0.0081 0.0073

Earth -45908-09-03 04:18 J -15046228.44 -15046228.32 -15046228.20 0.2665 0.0458

Moon -45908-09-03 04:33 J -15046228.42 -15046228.31 -15046228.19 0.2671 0.0556 *

Saturn -45908-09-04 16:18 J -15046226.92 -15046226.82 -15046226.72 0.0275 0.0196

Pluto -45908-11-29 16:33 J -15046140.89 -15046140.81 -15046140.72 0.0080 0.0064

Pluto -45907-02-25 17:59 J -15046052.85 -15046052.75 -15046052.63 0.0080 0.0055

Venus -45907-03-01 04:04 J -15046049.43 -15046049.33 -15046049.23 0.3693 0.1311

Mars -45907-05-22 11:59 J -15045967.11 -15045967.00 -15045966.88 0.1612 0.0790

Pluto -45907-05-24 19:54 J -15045964.79 -15045964.67 -15045964.55 0.0080 0.0047

Pluto -45907-08-20 21:21 J -15045876.74 -15045876.61 -15045876.48 0.0080 0.0038

Pluto -45907-11-16 22:47 J -15045788.68 -15045788.55 -15045788.41 0.0080 0.0030

Pluto -45906-02-13 00:14 J -15045700.62 -15045700.49 -15045700.34 0.0080 0.0022

Pluto -45906-05-12 01:54 J -15045612.56 -15045612.42 -15045612.27 0.0080 0.0013

Pluto -45906-08-08 03:21 J -15045524.50 -15045524.36 -15045524.21 0.0079 0.0006

Pluto -45906-11-04 05:02 J -15045436.44 -15045436.29 -15045436.15 0.0079 0.0003

Pluto -45905-01-31 06:28 J -15045348.38 -15045348.23 -15045348.09 0.0079 0.0011

Earth -45905-03-05 10:04 J -15045314.12 -15045314.08 -15045314.04 0.2664 0.2543

Mars -45905-04-26 23:59 J -15045261.54 -15045261.50 -15045261.45 0.1625 0.1524

Pluto -45905-04-28 07:54 J -15045260.31 -15045260.17 -15045260.03 0.0079 0.0018

Pluto -45905-07-25 09:21 J -15045172.25 -15045172.11 -15045171.97 0.0079 0.0026

Pluto -45905-10-21 10:33 J -15045084.18 -15045084.06 -15045083.92 0.0079 0.0034

Pluto -45904-01-17 11:59 J -15044996.12 -15044996.00 -15044995.87 0.0079 0.0042

Pluto -45904-04-15 13:11 J -15044908.05 -15044907.95 -15044907.82 0.0079 0.0050

Pluto -45904-07-12 14:38 J -15044819.98 -15044819.89 -15044819.78 0.0078 0.0057

Pluto -45904-10-08 15:50 J -15044731.90 -15044731.84 -15044731.74 0.0078 0.0065

Jupiter -45903-01-02 21:50 J -15044645.65 -15044645.59 -15044645.52 0.0537 0.0475

Pluto -45903-01-04 17:30 J -15044643.82 -15044643.77 -15044643.70 0.0078 0.0071

Jupiter -45903-04-02 12:28 J -15044556.11 -15044555.98 -15044555.85 0.0539 0.0216

Mars -45902-01-21 19:26 J -15044261.82 -15044261.69 -15044261.55 0.1914 0.0561

Venus -45902-09-14 20:52 J -15044025.73 -15044025.63 -15044025.53 0.3697 0.1040

Moon -45901-08-26 19:11 J -15043678.76 -15043678.70 -15043678.63 0.2661 0.2223

Earth -45901-08-26 20:23 J -15043678.73 -15043678.65 -15043678.58 0.2661 0.2121 *

Moon -45898-02-26 11:30 J -15042765.15 -15042765.02 -15042764.89 0.2673 0.0934

Earth -45898-02-26 12:42 J -15042765.10 -15042764.97 -15042764.84 0.2669 0.0868 *

Mars -45898-10-12 20:52 J -15042536.70 -15042536.63 -15042536.56 0.1610 0.1360

Jupiter -45898-11-18 17:59 J -15042499.92 -15042499.75 -15042499.59 0.0489 0.0028

Uranus -45897-04-09 07:40 J -15042357.21 -15042357.18 -15042357.14 0.0132 0.0127

Uranus -45897-07-06 11:16 J -15042269.10 -15042269.03 -15042268.94 0.0132 0.0108

Uranus -45897-10-02 15:06 J -15042180.97 -15042180.87 -15042180.76 0.0132 0.0089

Uranus -45897-12-29 18:42 J -15042092.84 -15042092.72 -15042092.59 0.0132 0.0070

Uranus -45896-03-27 22:18 J -15042004.70 -15042004.57 -15042004.43 0.0132 0.0051

Venus -45896-03-30 13:26 J -15042001.98 -15042001.94 -15042001.90 0.3702 0.3333

Uranus -45896-06-24 01:54 J -15041916.56 -15041916.42 -15041916.28 0.0132 0.0033

Mars -45896-09-17 09:21 J -15041831.21 -15041831.11 -15041831.01 0.1622 0.0976

Uranus -45896-09-20 05:30 J -15041828.41 -15041828.27 -15041828.13 0.0132 0.0014

Uranus -45896-12-17 09:06 J -15041740.27 -15041740.12 -15041739.98 0.0132 0.0005

Uranus -45895-03-15 12:28 J -15041652.12 -15041651.98 -15041651.84 0.0132 0.0023

Uranus -45895-06-11 16:04 J -15041563.97 -15041563.83 -15041563.70 0.0132 0.0041

Earth -45895-09-06 00:14 J -15041477.59 -15041477.49 -15041477.39 0.2667 0.1326

Moon -45895-09-06 01:11 J -15041477.56 -15041477.45 -15041477.35 0.2669 0.1331 *

Uranus -45895-09-07 19:26 J -15041475.81 -15041475.69 -15041475.56 0.0132 0.0059

Uranus -45895-12-04 23:02 J -15041387.66 -15041387.54 -15041387.43 0.0132 0.0078

Saturn -45894-01-03 19:26 J -15041357.79 -15041357.69 -15041357.59 0.0286 0.0225

Uranus -45894-03-03 02:23 J -15041299.50 -15041299.40 -15041299.30 0.0132 0.0096

Saturn -45894-04-02 14:09 J -15041269.07 -15041268.91 -15041268.76 0.0286 0.0104

Uranus -45894-05-30 05:45 J -15041211.33 -15041211.26 -15041211.19 0.0132 0.0114

Saturn -45894-06-30 08:52 J -15041180.29 -15041180.13 -15041179.96 0.0286 0.0021

Uranus -45894-08-26 09:06 J -15041123.13 -15041123.12 -15041123.11 0.0132 0.0131

Saturn -45894-09-27 04:18 J -15041091.47 -15041091.32 -15041091.18 0.0285 0.0145

Saturn -45894-12-24 23:45 J -15041002.55 -15041002.51 -15041002.46 0.0285 0.0273

Mars -45893-06-12 21:21 J -15040831.75 -15040831.61 -15040831.48 0.1919 0.0591

Jupiter -45891-01-19 14:38 J -15040246.03 -15040245.89 -15040245.75 0.0539 0.0047

Moon -45888-08-29 16:18 J -15038927.93 -15038927.82 -15038927.72 0.2666 0.1267

Earth -45888-08-29 16:47 J -15038927.90 -15038927.80 -15038927.69 0.2662 0.1190 *

Mars -45886-02-07 18:28 J -15038400.86 -15038400.73 -15038400.60 0.1618 0.0423

Jupiter -45886-09-06 18:57 J -15038189.86 -15038189.71 -15038189.55 0.0490 0.0173

Jupiter -45886-12-05 13:54 J -15038099.99 -15038099.92 -15038099.84 0.0488 0.0431

Moon -45885-02-29 12:42 J -15038014.11 -15038013.97 -15038013.83 0.2673 0.0198

Earth -45885-02-29 13:26 J -15038014.08 -15038013.94 -15038013.81 0.2667 0.0313 *

Mars -45884-11-02 22:47 J -15037401.60 -15037401.55 -15037401.49 0.1922 0.1739

Venus -45882-01-24 16:18 J -15036953.93 -15036953.82 -15036953.72 0.3686 0.2507

Earth -45882-09-08 19:54 J -15036726.73 -15036726.67 -15036726.60 0.2668 0.2175

Moon -45882-09-08 20:38 J -15036726.70 -15036726.64 -15036726.57 0.2665 0.2253 *

Jupiter -45880-11-07 17:02 J -15035935.93 -15035935.79 -15035935.65 0.0539 0.0117

Saturn -45879-02-02 14:23 J -15035848.99 -15035848.90 -15035848.81 0.0273 0.0210

Saturn -45879-05-02 03:35 J -15035760.48 -15035760.35 -15035760.22 0.0273 0.0114

Saturn -45879-07-29 16:33 J -15035671.95 -15035671.81 -15035671.67 0.0273 0.0020

Saturn -45879-10-26 05:16 J -15035583.42 -15035583.28 -15035583.14 0.0274 0.0074

Saturn -45878-01-22 17:45 J -15035494.87 -15035494.76 -15035494.64 0.0274 0.0166

Saturn -45878-04-21 06:14 J -15035406.28 -15035406.24 -15035406.19 0.0274 0.0256

Neptune -45878-05-19 19:54 J -15035377.71 -15035377.67 -15035377.62 0.0089 0.0085

Neptune -45878-08-15 22:18 J -15035289.64 -15035289.57 -15035289.49 0.0089 0.0078

Neptune -45878-11-12 00:28 J -15035201.56 -15035201.48 -15035201.37 0.0089 0.0071

Neptune -45877-02-08 02:52 J -15035113.48 -15035113.38 -15035113.26 0.0089 0.0064

Neptune -45877-05-06 05:16 J -15035025.40 -15035025.28 -15035025.15 0.0089 0.0057

Mars -45877-06-30 03:21 J -15034970.49 -15034970.36 -15034970.22 0.1615 0.0143

Neptune -45877-08-02 07:54 J -15034937.31 -15034937.17 -15034937.04 0.0089 0.0049

Venus -45877-08-09 19:40 J -15034929.78 -15034929.68 -15034929.58 0.3680 0.2522

Neptune -45877-10-29 10:04 J -15034849.22 -15034849.08 -15034848.93 0.0089 0.0042

Neptune -45876-01-25 12:28 J -15034761.12 -15034760.98 -15034760.82 0.0089 0.0035

Neptune -45876-04-23 15:06 J -15034673.03 -15034672.87 -15034672.71 0.0089 0.0027

Neptune -45876-07-20 17:30 J -15034584.93 -15034584.77 -15034584.61 0.0089 0.0020

Neptune -45876-10-16 19:54 J -15034496.83 -15034496.67 -15034496.50 0.0089 0.0013

Neptune -45875-01-12 22:18 J -15034408.73 -15034408.57 -15034408.40 0.0089 0.0006

Neptune -45875-04-11 00:57 J -15034320.63 -15034320.46 -15034320.30 0.0089 0.0003

Neptune -45875-07-08 03:21 J -15034232.52 -15034232.36 -15034232.19 0.0089 0.0010

Moon -45875-09-01 13:11 J -15034177.07 -15034176.95 -15034176.83 0.2671 0.0243

Earth -45875-09-01 13:11 J -15034177.07 -15034176.95 -15034176.83 0.2664 0.0279 *

Neptune -45875-10-04 05:45 J -15034144.42 -15034144.26 -15034144.09 0.0089 0.0018

Neptune -45875-12-31 08:23 J -15034056.31 -15034056.15 -15034055.99 0.0089 0.0025

Neptune -45874-03-29 10:47 J -15033968.20 -15033968.05 -15033967.89 0.0089 0.0033

Neptune -45874-06-25 13:26 J -15033880.09 -15033879.94 -15033879.79 0.0089 0.0040

Jupiter -45874-06-25 19:54 J -15033879.79 -15033879.67 -15033879.55 0.0490 0.0323 *

Neptune -45874-09-21 15:50 J -15033791.98 -15033791.84 -15033791.69 0.0089 0.0048

Jupiter -45874-09-23 14:23 J -15033790.04 -15033789.90 -15033789.77 0.0488 0.0275

Neptune -45874-12-18 18:14 J -15033703.86 -15033703.74 -15033703.60 0.0089 0.0056

Neptune -45873-03-15 20:52 J -15033615.74 -15033615.63 -15033615.50 0.0089 0.0063

Neptune -45873-06-11 23:16 J -15033527.61 -15033527.53 -15033527.41 0.0089 0.0071

Neptune -45873-09-08 01:54 J -15033439.48 -15033439.42 -15033439.33 0.0089 0.0079

Neptune -45873-12-05 04:18 J -15033351.33 -15033351.32 -15033351.26 0.0089 0.0087

Mars -45872-03-01 18:57 J -15033264.73 -15033264.71 -15033264.69 0.1909 0.1884

Earth -45872-03-03 14:23 J -15033263.01 -15033262.90 -15033262.78 0.2666 0.1514

Moon -45872-03-03 14:52 J -15033262.99 -15033262.88 -15033262.77 0.2672 0.1635 *

Jupiter -45868-08-26 19:11 J -15031625.82 -15031625.70 -15031625.58 0.0538 0.0288

Mars -45868-11-20 12:14 J -15031540.11 -15031539.99 -15031539.87 0.1612 0.0704

Jupiter -45868-11-24 09:21 J -15031536.20 -15031536.11 -15031536.02 0.0540 0.0398

Mars -45866-10-27 00:14 J -15030834.50 -15030834.49 -15030834.47 0.1625 0.1606

Moon -45865-02-24 16:47 J -15030713.89 -15030713.80 -15030713.70 0.2669 0.1921

Earth -45865-02-24 17:59 J -15030713.85 -15030713.75 -15030713.65 0.2671 0.1797 *

Saturn -45865-05-22 18:42 J -15030625.77 -15030625.72 -15030625.66 0.0286 0.0266

Saturn -45865-08-19 13:11 J -15030537.09 -15030536.95 -15030536.81 0.0286 0.0145

Saturn -45865-11-16 08:09 J -15030448.33 -15030448.16 -15030448.00 0.0286 0.0023

Saturn -45864-02-13 03:06 J -15030359.52 -15030359.37 -15030359.21 0.0285 0.0103

Saturn -45864-05-12 22:47 J -15030270.65 -15030270.55 -15030270.45 0.0285 0.0230

Mars -45863-07-22 19:54 J -15029834.80 -15029834.67 -15029834.53 0.1914 0.0688

Jupiter -45862-04-13 21:06 J -15029569.66 -15029569.62 -15029569.57 0.0491 0.0468

Jupiter -45862-07-12 15:06 J -15029480.03 -15029479.87 -15029479.71 0.0489 0.0125

Earth -45862-09-04 09:21 J -15029426.23 -15029426.11 -15029425.99 0.2665 0.0611

Moon -45862-09-04 09:50 J -15029426.20 -15029426.09 -15029425.97 0.2670 0.0601 *

Mars -45858-04-12 20:52 J -15028109.71 -15028109.63 -15028109.55 0.1610 0.1278

Mars -45856-03-18 09:35 J -15027404.20 -15027404.10 -15027404.01 0.1621 0.1059

Venus -45856-03-22 08:52 J -15027400.20 -15027400.13 -15027400.06 0.3689 0.2783

Jupiter -45856-06-14 20:23 J -15027315.72 -15027315.65 -15027315.59 0.0537 0.0471

Jupiter -45856-09-12 10:47 J -15027226.17 -15027226.05 -15027225.92 0.0539 0.0220

Moon -45855-08-28 00:28 J -15026876.56 -15026876.48 -15026876.40 0.2661 0.1985

Earth -45855-08-28 01:26 J -15026876.52 -15026876.44 -15026876.35 0.2661 0.1952 *

Uranus -45855-10-02 19:11 J -15026840.76 -15026840.70 -15026840.61 0.0146 0.0131

Uranus -45855-12-30 01:54 J -15026752.53 -15026752.42 -15026752.29 0.0146 0.0101

Uranus -45854-03-28 08:52 J -15026664.28 -15026664.13 -15026663.98 0.0147 0.0071

Uranus -45854-06-24 15:35 J -15026576.01 -15026575.85 -15026575.68 0.0146 0.0041

Uranus -45854-09-20 22:33 J -15026487.73 -15026487.56 -15026487.38 0.0146 0.0010

Mars -45854-12-12 21:21 J -15026404.75 -15026404.61 -15026404.48 0.1918 0.0488

Uranus -45854-12-18 05:30 J -15026399.44 -15026399.27 -15026399.10 0.0146 0.0021

Uranus -45853-03-15 12:28 J -15026311.14 -15026310.98 -15026310.81 0.0146 0.0052

Uranus -45853-06-11 19:26 J -15026222.83 -15026222.69 -15026222.54 0.0146 0.0083

Uranus -45853-09-08 02:38 J -15026134.49 -15026134.39 -15026134.28 0.0146 0.0115

Uranus -45853-12-05 09:50 J -15026046.09 -15026046.09 -15026046.08 0.0146 0.0146

Moon -45852-02-26 17:16 J -15025962.91 -15025962.78 -15025962.65 0.2673 0.0726

Earth -45852-02-26 18:28 J -15025962.87 -15025962.73 -15025962.60 0.2669 0.0663 *

Venus -45851-10-06 01:40 J -15025376.53 -15025376.43 -15025376.32 0.3694 0.0445

Jupiter -45850-04-30 15:50 J -15025170.00 -15025169.84 -15025169.68 0.0490 0.0027

Saturn -45850-06-22 17:16 J -15025116.86 -15025116.78 -15025116.70 0.0273 0.0231

Saturn -45850-09-19 06:28 J -15025028.35 -15025028.23 -15025028.10 0.0274 0.0135

Saturn -45850-12-16 19:40 J -15024939.83 -15024939.68 -15024939.54 0.0274 0.0040

Saturn -45849-03-14 08:23 J -15024851.29 -15024851.15 -15024851.01 0.0274 0.0055

Saturn -45849-06-10 21:06 J -15024762.74 -15024762.62 -15024762.50 0.0275 0.0147

Earth -45849-09-06 05:16 J -15024675.38 -15024675.28 -15024675.18 0.2667 0.1479

Moon -45849-09-06 06:14 J -15024675.34 -15024675.24 -15024675.15 0.2669 0.1609 *

Saturn -45849-09-07 09:35 J -15024674.17 -15024674.10 -15024674.03 0.0275 0.0238

Mars -45847-08-08 18:28 J -15023973.85 -15023973.73 -15023973.60 0.1618 0.0504

Venus -45845-04-20 18:28 J -15023352.82 -15023352.73 -15023352.64 0.3699 0.1917

Mars -45844-05-03 23:02 J -15022974.61 -15022974.54 -15022974.47 0.1923 0.1634

Jupiter -45844-07-01 12:42 J -15022916.11 -15022915.97 -15022915.83 0.0538 0.0044

Moon -45842-08-30 21:35 J -15022125.71 -15022125.60 -15022125.49 0.2668 0.1073

Earth -45842-08-30 22:04 J -15022125.69 -15022125.58 -15022125.47 0.2662 0.1022 *

Moon -45839-03-01 18:42 J -15021211.85 -15021211.72 -15021211.59 0.2673 0.0524

Earth -45839-03-01 19:11 J -15021211.84 -15021211.70 -15021211.57 0.2667 0.0515 *

Jupiter -45838-02-16 16:47 J -15020859.95 -15020859.80 -15020859.65 0.0490 0.0176

Jupiter -45838-05-17 11:30 J -15020770.09 -15020770.02 -15020769.94 0.0488 0.0429

Mars -45838-12-30 03:35 J -15020543.48 -15020543.35 -15020543.22 0.1615 0.0056

Earth -45836-09-09 01:11 J -15019924.51 -15019924.45 -15019924.40 0.2669 0.2326

Moon -45836-09-09 01:40 J -15019924.48 -15019924.43 -15019924.37 0.2664 0.2317 *

Saturn -45836-10-09 21:35 J -15019893.61 -15019893.60 -15019893.59 0.0286 0.0285

Saturn -45835-01-06 15:50 J -15019804.97 -15019804.84 -15019804.70 0.0286 0.0165

Saturn -45835-04-05 10:33 J -15019716.22 -15019716.06 -15019715.89 0.0286 0.0043

Saturn -45835-07-03 05:45 J -15019627.42 -15019627.26 -15019627.10 0.0285 0.0082

Saturn -45835-09-30 01:11 J -15019538.56 -15019538.45 -15019538.34 0.0285 0.0208

Jupiter -45832-04-19 14:38 J -15018606.03 -15018605.89 -15018605.76 0.0538 0.0131

Moon -45829-09-01 18:28 J -15017374.85 -15017374.73 -15017374.61 0.2671 0.0188

Earth -45829-09-01 18:28 J -15017374.85 -15017374.73 -15017374.61 0.2664 0.0131 *

Mars -45828-05-21 12:28 J -15017113.10 -15017112.98 -15017112.86 0.1613 0.0620

Jupiter -45827-12-05 17:59 J -15016549.87 -15016549.75 -15016549.63 0.0490 0.0319

Earth -45826-03-04 20:09 J -15016460.76 -15016460.66 -15016460.55 0.2665 0.1729

Moon -45826-03-04 20:38 J -15016460.74 -15016460.64 -15016460.53 0.2672 0.1686 *

Jupiter -45826-03-05 12:28 J -15016460.11 -15016459.98 -15016459.85 0.0488 0.0279

Venus -45826-08-31 16:47 J -15016280.94 -15016280.80 -15016280.67 0.3685 0.0777

Mars -45823-01-20 20:23 J -15015407.78 -15015407.65 -15015407.52 0.1914 0.0809

Saturn -45821-11-08 18:42 J -15014384.75 -15014384.72 -15014384.67 0.0273 0.0260

Saturn -45820-02-05 08:09 J -15014296.27 -15014296.16 -15014296.04 0.0273 0.0163

Jupiter -45820-02-05 16:47 J -15014295.92 -15014295.80 -15014295.68 0.0538 0.0296

Saturn -45820-05-04 21:21 J -15014207.75 -15014207.61 -15014207.47 0.0273 0.0068

Jupiter -45820-05-06 07:11 J -15014206.30 -15014206.20 -15014206.11 0.0540 0.0391

Saturn -45820-08-01 10:18 J -15014119.22 -15014119.07 -15014118.93 0.0273 0.0026

Saturn -45820-10-28 22:47 J -15014030.67 -15014030.55 -15014030.42 0.0274 0.0119

Saturn -45819-01-25 11:16 J -15013942.11 -15013942.03 -15013941.93 0.0274 0.0210

Moon -45819-02-24 22:33 J -15013911.67 -15013911.56 -15013911.45 0.2671 0.1609

Earth -45819-02-24 23:45 J -15013911.62 -15013911.51 -15013911.41 0.2670 0.1602 *

Mars -45819-10-11 21:21 J -15013682.70 -15013682.61 -15013682.52 0.1610 0.1189

Mars -45817-09-16 09:35 J -15012977.19 -15012977.10 -15012977.01 0.1622 0.1138

Earth -45816-09-04 14:38 J -15012624.01 -15012623.89 -15012623.78 0.2666 0.0773

Moon -45816-09-04 15:06 J -15012623.98 -15012623.87 -15012623.75 0.2670 0.0885 *

Jupiter -45815-09-23 18:57 J -15012239.75 -15012239.71 -15012239.66 0.0491 0.0468

Jupiter -45815-12-22 12:57 J -15012150.12 -15012149.96 -15012149.80 0.0489 0.0125

Mars -45814-06-12 21:35 J -15011977.74 -15011977.60 -15011977.46 0.1918 0.0374

Uranus -45813-04-29 14:23 J -15011655.93 -15011655.90 -15011655.83 0.0132 0.0124

Uranus -45813-07-26 18:14 J -15011567.82 -15011567.74 -15011567.64 0.0132 0.0104

Uranus -45813-10-22 21:50 J -15011479.69 -15011479.59 -15011479.47 0.0132 0.0085

Uranus -45812-01-19 01:40 J -15011391.55 -15011391.43 -15011391.30 0.0132 0.0066

Uranus -45812-04-17 05:16 J -15011303.41 -15011303.28 -15011303.14 0.0132 0.0047

Uranus -45812-07-14 08:52 J -15011215.27 -15011215.13 -15011214.99 0.0132 0.0028

Uranus -45812-10-10 12:28 J -15011127.13 -15011126.98 -15011126.84 0.0132 0.0010

Uranus -45811-01-06 15:50 J -15011038.98 -15011038.84 -15011038.69 0.0132 0.0010

Uranus -45811-04-04 19:26 J -15010950.83 -15010950.69 -15010950.55 0.0132 0.0027

Uranus -45811-07-01 22:47 J -15010862.68 -15010862.55 -15010862.41 0.0132 0.0046

Uranus -45811-09-28 02:09 J -15010774.52 -15010774.41 -15010774.28 0.0132 0.0064

Uranus -45811-12-25 05:45 J -15010686.37 -15010686.26 -15010686.15 0.0132 0.0082

Uranus -45810-03-23 09:06 J -15010598.20 -15010598.12 -15010598.02 0.0132 0.0100

Uranus -45810-06-19 12:28 J -15010510.03 -15010509.98 -15010509.91 0.0132 0.0118

Moon -45809-08-28 05:45 J -15010074.34 -15010074.26 -15010074.17 0.2662 0.1903

Earth -45809-08-28 06:42 J -15010074.31 -15010074.22 -15010074.13 0.2661 0.1782 *

Jupiter -45809-11-24 18:42 J -15009985.78 -15009985.72 -15009985.65 0.0537 0.0467

Jupiter -45808-02-22 09:35 J -15009896.23 -15009896.10 -15009895.98 0.0539 0.0227

Mars -45807-02-06 18:42 J -15009546.84 -15009546.72 -15009546.60 0.1618 0.0586

Moon -45806-02-27 23:02 J -15009160.67 -15009160.54 -15009160.41 0.2673 0.0562

Earth -45806-02-27 23:59 J -15009160.63 -15009160.50 -15009160.36 0.2669 0.0465 *

Saturn -45806-05-26 14:52 J -15009072.99 -15009072.88 -15009072.77 0.0286 0.0208

Saturn -45806-08-23 09:35 J -15008984.26 -15008984.10 -15008983.95 0.0286 0.0086

Saturn -45806-11-20 04:33 J -15008895.48 -15008895.31 -15008895.15 0.0286 0.0039

Saturn -45805-02-16 23:45 J -15008806.64 -15008806.51 -15008806.37 0.0285 0.0164

Mars -45805-11-01 23:16 J -15008547.61 -15008547.53 -15008547.44 0.1922 0.1520

Earth -45803-09-07 10:33 J -15007873.16 -15007873.06 -15007872.97 0.2667 0.1635

Moon -45803-09-07 11:16 J -15007873.12 -15007873.03 -15007872.94 0.2668 0.1625 *

Jupiter -45803-10-10 13:54 J -15007840.08 -15007839.92 -15007839.76 0.0489 0.0025

Venus -45800-10-27 06:42 J -15006727.31 -15006727.22 -15006727.13 0.3690 0.1884

Mars -45798-06-30 03:50 J -15006116.48 -15006116.34 -15006116.21 0.1615 0.0050

Jupiter -45797-12-11 11:02 J -15005586.18 -15005586.04 -15005585.90 0.0538 0.0051

Moon -45796-08-31 02:52 J -15005323.50 -15005323.38 -15005323.27 0.2669 0.0871

Earth -45796-08-31 03:21 J -15005323.48 -15005323.36 -15005323.25 0.2663 0.0860 *

Neptune -45795-02-21 07:11 J -15005149.24 -15005149.20 -15005149.14 0.0088 0.0083

Neptune -45795-05-20 09:21 J -15005061.18 -15005061.11 -15005061.03 0.0088 0.0076

Neptune -45795-08-16 11:16 J -15004973.12 -15004973.03 -15004972.93 0.0088 0.0069

Neptune -45795-11-12 13:26 J -15004885.05 -15004884.94 -15004884.83 0.0088 0.0062

Neptune -45794-02-08 15:21 J -15004796.98 -15004796.86 -15004796.74 0.0088 0.0055

Neptune -45794-05-07 17:02 J -15004708.90 -15004708.79 -15004708.65 0.0088 0.0049

Venus -45794-05-12 23:30 J -15004703.62 -15004703.52 -15004703.41 0.3695 0.0477

Neptune -45794-08-03 19:11 J -15004620.83 -15004620.70 -15004620.56 0.0088 0.0041

Neptune -45794-10-30 21:06 J -15004532.75 -15004532.62 -15004532.48 0.0088 0.0035

Neptune -45793-01-26 23:02 J -15004444.68 -15004444.54 -15004444.39 0.0088 0.0028

Moon -45793-03-02 00:42 J -15004409.60 -15004409.47 -15004409.34 0.2674 0.0708

Earth -45793-03-02 00:57 J -15004409.59 -15004409.46 -15004409.33 0.2667 0.0723 *

Neptune -45793-04-24 00:57 J -15004356.60 -15004356.46 -15004356.31 0.0088 0.0021

Neptune -45793-07-21 02:52 J -15004268.53 -15004268.38 -15004268.23 0.0088 0.0014

Neptune -45793-10-17 04:47 J -15004180.45 -15004180.30 -15004180.15 0.0088 0.0008

Neptune -45792-01-13 06:42 J -15004092.37 -15004092.22 -15004092.07 0.0088 0.0001

Neptune -45792-04-11 08:38 J -15004004.29 -15004004.14 -15004003.99 0.0088 0.0006

Neptune -45792-07-08 10:33 J -15003916.21 -15003916.06 -15003915.91 0.0088 0.0013

Neptune -45792-10-04 12:14 J -15003828.13 -15003827.99 -15003827.84 0.0088 0.0019

Neptune -45792-12-31 14:09 J -15003740.05 -15003739.91 -15003739.77 0.0088 0.0026

Neptune -45791-03-29 15:50 J -15003651.97 -15003651.84 -15003651.69 0.0088 0.0033

Saturn -45791-06-25 11:02 J -15003564.15 -15003564.04 -15003563.94 0.0274 0.0186

Neptune -45791-06-25 17:30 J -15003563.89 -15003563.77 -15003563.62 0.0088 0.0040

Jupiter -45791-07-29 14:38 J -15003530.04 -15003529.89 -15003529.74 0.0490 0.0176

Neptune -45791-09-21 19:26 J -15003475.81 -15003475.69 -15003475.55 0.0088 0.0046

Saturn -45791-09-22 00:14 J -15003475.63 -15003475.49 -15003475.36 0.0274 0.0090 *

Jupiter -45791-10-27 09:35 J -15003440.18 -15003440.10 -15003440.03 0.0488 0.0429

Neptune -45791-12-18 21:06 J -15003387.72 -15003387.62 -15003387.48 0.0088 0.0053

Saturn -45791-12-19 13:11 J -15003387.10 -15003386.95 -15003386.81 0.0274 0.0007

Neptune -45790-03-16 23:02 J -15003299.64 -15003299.54 -15003299.42 0.0088 0.0059

Saturn -45790-03-18 01:54 J -15003298.55 -15003298.42 -15003298.29 0.0274 0.0098

Neptune -45790-06-13 01:11 J -15003211.55 -15003211.45 -15003211.35 0.0089 0.0065

Saturn -45790-06-14 14:23 J -15003210.00 -15003209.90 -15003209.80 0.0275 0.0190

Neptune -45790-09-09 02:38 J -15003123.46 -15003123.39 -15003123.29 0.0089 0.0072

Earth -45790-09-10 06:14 J -15003122.28 -15003122.24 -15003122.20 0.2669 0.2471

Moon -45790-09-10 06:42 J -15003122.24 -15003122.22 -15003122.19 0.2664 0.2574 *

Neptune -45790-12-06 04:33 J -15003035.37 -15003035.31 -15003035.24 0.0089 0.0078

Neptune -45789-03-03 05:59 J -15002947.27 -15002947.25 -15002947.19 0.0089 0.0085

Mars -45789-11-19 12:42 J -15002686.10 -15002685.97 -15002685.85 0.1613 0.0539

Venus -45789-11-25 16:18 J -15002679.89 -15002679.82 -15002679.75 0.3700 0.2786

Moon -45786-02-23 04:33 J -15001860.36 -15001860.31 -15001860.27 0.2667 0.2474

Earth -45786-02-23 05:16 J -15001860.32 -15001860.28 -15001860.23 0.2672 0.2505 *

Jupiter -45785-09-29 12:42 J -15001276.10 -15001275.97 -15001275.83 0.0538 0.0129

Mars -45784-07-21 20:23 J -15000980.77 -15000980.65 -15000980.52 0.1914 0.0909

Earth -45783-09-02 23:30 J -15000572.64 -15000572.52 -15000572.40 0.2664 0.0068

Moon -45783-09-02 23:45 J -15000572.63 -15000572.51 -15000572.39 0.2671 0.0080 *

Earth -45780-03-05 02:09 J -14999658.51 -14999658.41 -14999658.32 0.2665 0.1938

Moon -45780-03-05 02:38 J -14999658.48 -14999658.39 -14999658.30 0.2671 0.2048 *

Mars -45779-04-11 21:21 J -14999255.70 -14999255.61 -14999255.51 0.1610 0.1106

Jupiter -45779-05-17 15:35 J -14999219.96 -14999219.85 -14999219.73 0.0490 0.0323

Jupiter -45779-08-15 10:04 J -14999130.21 -14999130.08 -14999129.94 0.0489 0.0276

Mars -45777-03-17 09:50 J -14998550.18 -14998550.09 -14998550.01 0.1622 0.1217

Saturn -45777-10-12 17:45 J -14998340.86 -14998340.76 -14998340.66 0.0286 0.0227

Saturn -45776-01-09 12:14 J -14998252.14 -14998251.99 -14998251.84 0.0286 0.0106

Saturn -45776-04-08 07:11 J -14998163.37 -14998163.20 -14998163.04 0.0286 0.0018

Saturn -45776-07-06 02:23 J -14998074.54 -14998074.40 -14998074.25 0.0285 0.0144

Earth -45776-08-26 15:21 J -14998022.89 -14998022.86 -14998022.83 0.2660 0.2559

Saturn -45776-10-02 22:04 J -14997985.63 -14997985.58 -14997985.53 0.0285 0.0271

Mars -45775-12-11 22:04 J -14997550.72 -14997550.58 -14997550.44 0.1918 0.0252

Moon -45773-02-26 04:18 J -14997109.43 -14997109.32 -14997109.21 0.2672 0.1570

Earth -45773-02-26 05:30 J -14997109.39 -14997109.27 -14997109.16 0.2670 0.1398 *

Jupiter -45773-07-18 14:09 J -14996966.02 -14996965.91 -14996965.79 0.0538 0.0309

Jupiter -45773-10-16 04:33 J -14996876.40 -14996876.31 -14996876.21 0.0540 0.0380

Uranus -45771-10-23 02:23 J -14996139.48 -14996139.40 -14996139.29 0.0147 0.0123

Uranus -45770-01-19 09:21 J -14996051.24 -14996051.11 -14996050.97 0.0147 0.0093

Uranus -45770-04-17 16:04 J -14995962.98 -14995962.83 -14995962.67 0.0147 0.0063

Uranus -45770-07-14 23:02 J -14995874.71 -14995874.54 -14995874.37 0.0147 0.0032

Earth -45770-09-05 19:40 J -14995821.79 -14995821.68 -14995821.57 0.2666 0.0925

Moon -45770-09-05 20:23 J -14995821.76 -14995821.65 -14995821.54 0.2671 0.0929 *

Uranus -45770-10-11 05:59 J -14995786.42 -14995786.25 -14995786.08 0.0146 0.0002

Uranus -45769-01-07 12:57 J -14995698.13 -14995697.96 -14995697.79 0.0146 0.0029

Uranus -45769-04-04 19:54 J -14995609.83 -14995609.67 -14995609.51 0.0146 0.0060

Venus -45769-04-06 17:16 J -14995607.92 -14995607.78 -14995607.64 0.3683 0.0993

Uranus -45769-07-02 02:52 J -14995521.51 -14995521.38 -14995521.24 0.0146 0.0092

Uranus -45769-09-28 09:50 J -14995433.17 -14995433.09 -14995432.98 0.0146 0.0124

Mars -45768-08-07 18:57 J -14995119.83 -14995119.71 -14995119.59 0.1619 0.0667

Jupiter -45767-03-05 17:16 J -14994909.83 -14994909.78 -14994909.73 0.0491 0.0464

Jupiter -45767-06-03 11:02 J -14994820.19 -14994820.04 -14994819.88 0.0489 0.0129

Mars -45765-05-02 23:45 J -14994120.61 -14994120.51 -14994120.42 0.1922 0.1402

Moon -45763-08-29 11:02 J -14993272.13 -14993272.04 -14993271.94 0.2664 0.1618

Earth -45763-08-29 11:59 J -14993272.10 -14993272.00 -14993271.90 0.2661 0.1617 *

Saturn -45762-11-12 12:42 J -14992832.06 -14992831.97 -14992831.88 0.0273 0.0213

Saturn -45761-02-09 01:54 J -14992743.55 -14992743.42 -14992743.28 0.0273 0.0118

Jupiter -45761-05-06 16:18 J -14992655.88 -14992655.82 -14992655.75 0.0537 0.0477

Saturn -45761-05-07 15:06 J -14992655.02 -14992654.87 -14992654.73 0.0273 0.0023

Saturn -45761-08-04 03:50 J -14992566.48 -14992566.34 -14992566.20 0.0274 0.0071

Jupiter -45761-08-04 07:11 J -14992566.33 -14992566.20 -14992566.07 0.0540 0.0218 *

Saturn -45761-10-31 16:18 J -14992477.93 -14992477.82 -14992477.70 0.0274 0.0163

Saturn -45760-01-28 04:47 J -14992389.35 -14992389.30 -14992389.25 0.0274 0.0253

Moon -45760-02-28 05:02 J -14992358.43 -14992358.29 -14992358.16 0.2672 0.0285

Earth -45760-02-28 05:45 J -14992358.39 -14992358.26 -14992358.12 0.2668 0.0270 *

Mars -45759-12-29 03:50 J -14991689.47 -14991689.34 -14991689.20 0.1616 0.0123

Earth -45757-09-07 15:35 J -14991070.94 -14991070.85 -14991070.76 0.2668 0.1783

Moon -45757-09-07 16:18 J -14991070.90 -14991070.82 -14991070.73 0.2666 0.1907 *

Jupiter -45755-03-22 11:45 J -14990510.17 -14990510.01 -14990509.84 0.0489 0.0026

Pluto -45750-04-11 20:38 J -14988663.68 -14988663.64 -14988663.58 0.0064 0.0061

Pluto -45750-07-08 22:04 J -14988575.66 -14988575.58 -14988575.50 0.0064 0.0056

Moon -45750-09-01 07:54 J -14988521.28 -14988521.17 -14988521.05 0.2669 0.0775

Earth -45750-09-01 08:23 J -14988521.27 -14988521.15 -14988521.03 0.2663 0.0697 *

Pluto -45750-10-04 22:33 J -14988487.64 -14988487.56 -14988487.43 0.0064 0.0052

Pluto -45750-12-31 23:59 J -14988399.60 -14988399.50 -14988399.37 0.0064 0.0047

Pluto -45749-03-29 01:11 J -14988311.57 -14988311.45 -14988311.31 0.0065 0.0042

Mars -45749-05-20 12:57 J -14988259.09 -14988258.96 -14988258.84 0.1613 0.0454

Jupiter -45749-05-23 09:35 J -14988256.24 -14988256.10 -14988255.96 0.0539 0.0053

Pluto -45749-06-25 02:23 J -14988223.53 -14988223.40 -14988223.25 0.0065 0.0037

Pluto -45749-09-21 03:35 J -14988135.49 -14988135.35 -14988135.19 0.0065 0.0032

Venus -45749-11-17 11:30 J -14988078.06 -14988078.02 -14988077.98 0.3687 0.3368

Pluto -45749-12-18 04:47 J -14988047.44 -14988047.30 -14988047.14 0.0065 0.0027

Pluto -45748-03-16 05:59 J -14987959.40 -14987959.25 -14987959.08 0.0065 0.0022

Pluto -45748-06-12 07:11 J -14987871.35 -14987871.20 -14987871.02 0.0065 0.0017

Pluto -45748-09-08 08:38 J -14987783.31 -14987783.14 -14987782.97 0.0065 0.0012

Pluto -45748-12-05 09:50 J -14987695.26 -14987695.09 -14987694.92 0.0065 0.0007

Saturn -45747-03-01 16:33 J -14987608.86 -14987608.81 -14987608.75 0.0287 0.0270

Moon -45747-03-03 06:42 J -14987607.35 -14987607.22 -14987607.10 0.2674 0.0919

Earth -45747-03-03 06:42 J -14987607.35 -14987607.22 -14987607.09 0.2667 0.0928 *

Pluto -45747-03-03 11:02 J -14987607.21 -14987607.04 -14987606.86 0.0065 0.0003 *

Saturn -45747-05-29 11:02 J -14987520.18 -14987520.04 -14987519.90 0.0286 0.0149

Pluto -45747-05-30 12:28 J -14987519.15 -14987518.98 -14987518.81 0.0065 0.0003

Saturn -45747-08-26 05:45 J -14987431.42 -14987431.26 -14987431.09 0.0286 0.0027

Pluto -45747-08-26 13:40 J -14987431.10 -14987430.93 -14987430.76 0.0065 0.0009 *

Pluto -45747-11-22 14:52 J -14987343.04 -14987342.88 -14987342.71 0.0066 0.0014

Saturn -45747-11-23 00:57 J -14987342.62 -14987342.46 -14987342.30 0.0285 0.0098

Pluto -45746-02-18 16:18 J -14987254.99 -14987254.82 -14987254.66 0.0066 0.0019

Saturn -45746-02-19 20:23 J -14987253.75 -14987253.65 -14987253.55 0.0285 0.0225

Pluto -45746-05-17 17:16 J -14987166.93 -14987166.78 -14987166.61 0.0066 0.0025

Pluto -45746-08-13 18:28 J -14987078.87 -14987078.73 -14987078.56 0.0066 0.0030

Pluto -45746-11-09 19:54 J -14986990.80 -14986990.67 -14986990.51 0.0066 0.0035

Pluto -45745-02-05 21:21 J -14986902.74 -14986902.61 -14986902.47 0.0066 0.0040

Pluto -45745-05-03 22:18 J -14986814.67 -14986814.57 -14986814.42 0.0066 0.0047

Pluto -45745-07-30 23:59 J -14986726.60 -14986726.50 -14986726.38 0.0066 0.0051

Pluto -45745-10-27 00:57 J -14986638.52 -14986638.46 -14986638.35 0.0066 0.0058

Mars -45744-01-19 20:52 J -14986553.75 -14986553.63 -14986553.51 0.1914 0.1030

Pluto -45744-01-23 02:38 J -14986550.43 -14986550.39 -14986550.32 0.0066 0.0063

Earth -45744-09-10 11:16 J -14986320.05 -14986320.03 -14986320.01 0.2669 0.2623

Moon -45744-09-10 11:59 J -14986320.03 -14986320.00 -14986319.98 0.2665 0.2597 *

Jupiter -45743-01-08 12:57 J -14986200.12 -14986199.96 -14986199.81 0.0490 0.0173

Jupiter -45743-04-08 07:26 J -14986110.26 -14986110.19 -14986110.11 0.0488 0.0432

Venus -45743-06-03 04:33 J -14986054.42 -14986054.31 -14986054.21 0.3692 0.0998

Moon -45740-02-23 10:04 J -14985058.13 -14985058.08 -14985058.03 0.2668 0.2440

Earth -45740-02-23 11:02 J -14985058.11 -14985058.04 -14985057.98 0.2672 0.2310 *

Mars -45740-10-10 21:35 J -14984828.70 -14984828.60 -14984828.50 0.1610 0.1023

Mars -45738-09-16 09:50 J -14984123.16 -14984123.09 -14984123.01 0.1622 0.1298

Venus -45738-12-17 21:21 J -14984030.71 -14984030.61 -14984030.51 0.3696 0.1359

Jupiter -45737-03-11 11:16 J -14983946.17 -14983946.03 -14983945.89 0.0538 0.0123

Earth -45737-09-03 04:47 J -14983770.42 -14983770.30 -14983770.18 0.2665 0.0209

Moon -45737-09-03 05:02 J -14983770.41 -14983770.29 -14983770.17 0.2671 0.0247 *

Mars -45735-06-11 22:04 J -14983123.72 -14983123.58 -14983123.44 0.1918 0.0158

Earth -45734-03-06 07:54 J -14982856.25 -14982856.17 -14982856.09 0.2665 0.2152

Moon -45734-03-06 08:38 J -14982856.22 -14982856.14 -14982856.06 0.2670 0.2180 *

Saturn -45732-03-31 14:52 J -14982099.94 -14982099.88 -14982099.80 0.0273 0.0239

Saturn -45732-06-28 04:18 J -14982011.44 -14982011.32 -14982011.19 0.0274 0.0142

Venus -45732-07-02 13:54 J -14982006.94 -14982006.92 -14982006.91 0.3701 0.3645

Saturn -45732-09-24 17:30 J -14981922.91 -14981922.77 -14981922.63 0.0274 0.0046

Jupiter -45732-10-27 13:40 J -14981890.05 -14981889.93 -14981889.81 0.0491 0.0323

Saturn -45732-12-22 06:28 J -14981834.37 -14981834.23 -14981834.09 0.0274 0.0048

Jupiter -45731-01-25 07:54 J -14981800.30 -14981800.17 -14981800.03 0.0489 0.0277

Saturn -45731-03-20 18:57 J -14981745.83 -14981745.71 -14981745.58 0.0275 0.0141

Saturn -45731-06-17 07:26 J -14981657.26 -14981657.19 -14981657.11 0.0275 0.0232

Mars -45730-03-03 06:14 J -14981398.25 -14981398.24 -14981398.22 0.1608 0.1594

Moon -45730-08-27 19:26 J -14981220.74 -14981220.69 -14981220.63 0.2658 0.2386

Earth -45730-08-27 20:23 J -14981220.70 -14981220.65 -14981220.59 0.2660 0.2391 *

Uranus -45729-05-19 21:35 J -14980954.65 -14980954.60 -14980954.53 0.0132 0.0118

Uranus -45729-08-16 01:11 J -14980866.53 -14980866.45 -14980866.34 0.0132 0.0099

Uranus -45729-11-12 05:02 J -14980778.40 -14980778.29 -14980778.17 0.0132 0.0080

Mars -45728-02-05 18:57 J -14980692.82 -14980692.71 -14980692.59 0.1619 0.0747

Uranus -45728-02-08 08:38 J -14980690.26 -14980690.14 -14980690.01 0.0132 0.0061

Uranus -45728-05-07 12:14 J -14980602.12 -14980601.99 -14980601.85 0.0132 0.0042

Uranus -45728-08-03 15:50 J -14980513.98 -14980513.84 -14980513.69 0.0132 0.0024

Uranus -45728-10-30 19:26 J -14980425.83 -14980425.69 -14980425.54 0.0132 0.0005

Uranus -45727-01-26 23:02 J -14980337.68 -14980337.54 -14980337.40 0.0132 0.0014

Moon -45727-02-26 09:50 J -14980307.21 -14980307.09 -14980306.97 0.2671 0.1197

Earth -45727-02-26 11:02 J -14980307.16 -14980307.04 -14980306.92 0.2670 0.1203 *

Uranus -45727-04-25 02:38 J -14980249.53 -14980249.39 -14980249.26 0.0132 0.0032

Uranus -45727-07-22 05:59 J -14980161.38 -14980161.25 -14980161.12 0.0132 0.0051

Uranus -45727-10-18 09:21 J -14980073.22 -14980073.11 -14980072.98 0.0132 0.0069

Uranus -45726-01-14 12:42 J -14979985.07 -14979984.97 -14979984.85 0.0132 0.0087

Uranus -45726-04-12 16:04 J -14979896.90 -14979896.83 -14979896.73 0.0132 0.0105

Uranus -45726-07-09 19:26 J -14979808.72 -14979808.69 -14979808.63 0.0132 0.0124

Mars -45726-11-01 23:45 J -14979693.61 -14979693.51 -14979693.41 0.1922 0.1300

Jupiter -45726-12-29 12:42 J -14979636.08 -14979635.97 -14979635.85 0.0537 0.0303

Jupiter -45725-03-28 03:06 J -14979546.47 -14979546.37 -14979546.27 0.0539 0.0383

Earth -45724-09-06 00:42 J -14979019.57 -14979019.47 -14979019.36 0.2666 0.1085

Moon -45724-09-06 01:26 J -14979019.54 -14979019.44 -14979019.33 0.2670 0.1175 *

Jupiter -45720-08-15 14:52 J -14977579.92 -14977579.88 -14977579.83 0.0491 0.0467

Jupiter -45720-11-13 08:52 J -14977490.29 -14977490.13 -14977489.97 0.0489 0.0126

Mars -45719-06-29 04:04 J -14977262.46 -14977262.33 -14977262.20 0.1616 0.0194

Venus -45718-04-28 14:38 J -14976959.01 -14976958.89 -14976958.78 0.3688 0.2241

Saturn -45718-10-16 13:40 J -14976788.06 -14976787.93 -14976787.80 0.0286 0.0170

Saturn -45717-01-13 08:23 J -14976699.32 -14976699.15 -14976698.99 0.0286 0.0048

Saturn -45717-04-11 03:21 J -14976610.52 -14976610.36 -14976610.20 0.0285 0.0077

Saturn -45717-07-08 22:47 J -14976521.67 -14976521.55 -14976521.43 0.0285 0.0204

Moon -45717-08-29 16:18 J -14976469.91 -14976469.82 -14976469.72 0.2666 0.1588

Earth -45717-08-29 17:16 J -14976469.89 -14976469.78 -14976469.68 0.2662 0.1453 *

Moon -45714-03-01 11:02 J -14975556.18 -14975556.04 -14975555.91 0.2673 0.0167

Earth -45714-03-01 11:45 J -14975556.15 -14975556.01 -14975555.88 0.2668 0.0075 *

Jupiter -45714-10-17 13:54 J -14975325.97 -14975325.92 -14975325.86 0.0537 0.0487

Neptune -45714-11-17 16:47 J -14975294.81 -14975294.80 -14975294.78 0.0089 0.0088

Jupiter -45713-01-15 04:47 J -14975236.43 -14975236.30 -14975236.17 0.0539 0.0208

Neptune -45713-02-13 19:11 J -14975206.76 -14975206.70 -14975206.63 0.0089 0.0081

Neptune -45713-05-11 21:21 J -14975118.69 -14975118.61 -14975118.51 0.0089 0.0074

Neptune -45713-08-07 23:45 J -14975030.61 -14975030.51 -14975030.39 0.0089 0.0067

Neptune -45713-11-04 01:54 J -14974942.52 -14974942.42 -14974942.28 0.0089 0.0060

Venus -45713-11-11 17:45 J -14974934.85 -14974934.76 -14974934.66 0.3682 0.2786

Neptune -45712-01-31 04:18 J -14974854.44 -14974854.32 -14974854.17 0.0089 0.0053

Neptune -45712-04-29 06:57 J -14974766.35 -14974766.21 -14974766.07 0.0089 0.0045

Neptune -45712-07-26 09:21 J -14974678.25 -14974678.11 -14974677.96 0.0089 0.0038

Neptune -45712-10-22 11:30 J -14974590.16 -14974590.02 -14974589.85 0.0089 0.0031

Neptune -45711-01-18 14:09 J -14974502.06 -14974501.91 -14974501.75 0.0089 0.0023

Neptune -45711-04-16 16:33 J -14974413.97 -14974413.81 -14974413.64 0.0089 0.0016

Neptune -45711-07-13 18:57 J -14974325.87 -14974325.71 -14974325.54 0.0089 0.0009

Earth -45711-09-08 20:38 J -14974268.72 -14974268.64 -14974268.56 0.2668 0.1936

Moon -45711-09-08 21:35 J -14974268.68 -14974268.60 -14974268.52 0.2665 0.1938 *

Neptune -45711-10-09 21:35 J -14974237.77 -14974237.60 -14974237.44 0.0089 0.0001

Neptune -45710-01-05 23:59 J -14974149.66 -14974149.50 -14974149.33 0.0089 0.0007

Neptune -45710-04-04 02:23 J -14974061.56 -14974061.40 -14974061.23 0.0089 0.0014

Neptune -45710-07-01 04:47 J -14973973.45 -14973973.30 -14973973.13 0.0089 0.0022

Neptune -45710-09-27 07:26 J -14973885.35 -14973885.19 -14973885.03 0.0089 0.0029

Mars -45710-11-19 12:57 J -14973832.09 -14973831.96 -14973831.83 0.1613 0.0370

Neptune -45710-12-24 09:50 J -14973797.24 -14973797.09 -14973796.93 0.0089 0.0037

Neptune -45709-03-21 12:28 J -14973709.12 -14973708.98 -14973708.83 0.0089 0.0044

Neptune -45709-06-17 14:52 J -14973621.01 -14973620.88 -14973620.74 0.0089 0.0052

Neptune -45709-09-13 17:16 J -14973532.89 -14973532.78 -14973532.64 0.0089 0.0060

Neptune -45709-12-10 20:09 J -14973444.77 -14973444.66 -14973444.55 0.0089 0.0067

Neptune -45708-03-08 22:33 J -14973356.64 -14973356.56 -14973356.47 0.0089 0.0075

Neptune -45708-06-05 00:57 J -14973268.50 -14973268.46 -14973268.39 0.0089 0.0083

Jupiter -45708-09-01 10:04 J -14973180.24 -14973180.08 -14973179.92 0.0489 0.0020

Mars -45705-07-20 21:21 J -14972126.72 -14972126.61 -14972126.50 0.1913 0.1156

Moon -45704-09-01 13:11 J -14971719.06 -14971718.95 -14971718.83 0.2669 0.0517

Earth -45704-09-01 13:40 J -14971719.05 -14971718.93 -14971718.81 0.2663 0.0534 *

Saturn -45703-08-18 17:02 J -14971367.82 -14971367.79 -14971367.75 0.0272 0.0264

Saturn -45703-11-15 06:28 J -14971279.34 -14971279.23 -14971279.11 0.0273 0.0167

Saturn -45702-02-11 19:40 J -14971190.82 -14971190.68 -14971190.54 0.0273 0.0072

Saturn -45702-05-11 08:38 J -14971102.29 -14971102.14 -14971102.00 0.0273 0.0023

Saturn -45702-08-07 21:06 J -14971013.74 -14971013.62 -14971013.49 0.0274 0.0115

Jupiter -45702-11-03 07:26 J -14970926.33 -14970926.19 -14970926.05 0.0539 0.0048

Saturn -45702-11-04 09:35 J -14970925.19 -14970925.10 -14970925.00 0.0274 0.0206

Moon -45701-03-03 12:28 J -14970805.10 -14970804.98 -14970804.85 0.2673 0.1174

Earth -45701-03-03 12:28 J -14970805.10 -14970804.98 -14970804.85 0.2666 0.1143 *

Mars -45700-04-10 21:50 J -14970401.70 -14970401.59 -14970401.48 0.1610 0.0935

Mars -45698-03-17 10:04 J -14969696.15 -14969696.08 -14969696.01 0.1622 0.1377

Jupiter -45696-06-20 11:02 J -14968870.19 -14968870.04 -14968869.89 0.0490 0.0170

Jupiter -45696-09-18 05:30 J -14968780.34 -14968780.27 -14968780.19 0.0488 0.0433

Mars -45696-12-10 22:18 J -14968696.71 -14968696.57 -14968696.42 0.1918 0.0074

Moon -45694-02-24 15:35 J -14968255.93 -14968255.85 -14968255.78 0.2670 0.2148

Earth -45694-02-24 16:33 J -14968255.89 -14968255.81 -14968255.73 0.2671 0.2119 *

Venus -45692-06-24 09:21 J -14967405.19 -14967405.11 -14967405.03 0.3688 0.2476

Mars -45691-09-01 06:28 J -14966971.27 -14966971.23 -14966971.19 0.1608 0.1508

Earth -45691-09-04 09:50 J -14966968.21 -14966968.09 -14966967.97 0.2665 0.0363

Moon -45691-09-04 10:18 J -14966968.19 -14966968.07 -14966967.95 0.2671 0.0362 *

Jupiter -45690-08-22 09:35 J -14966616.23 -14966616.10 -14966615.96 0.0538 0.0122

Mars -45689-08-06 19:11 J -14966265.81 -14966265.70 -14966265.58 0.1619 0.0831

Saturn -45688-03-04 12:14 J -14966056.10 -14966055.99 -14966055.88 0.0286 0.0215

Earth -45688-03-06 13:40 J -14966053.99 -14966053.93 -14966053.86 0.2665 0.2369

Moon -45688-03-06 14:52 J -14966053.94 -14966053.88 -14966053.83 0.2669 0.2450 *

Saturn -45688-06-01 06:42 J -14965967.37 -14965967.22 -14965967.06 0.0286 0.0094

Saturn -45688-08-29 01:40 J -14965878.60 -14965878.43 -14965878.26 0.0286 0.0030

Saturn -45688-11-25 20:52 J -14965789.77 -14965789.63 -14965789.49 0.0285 0.0156

Saturn -45687-02-22 16:33 J -14965700.82 -14965700.81 -14965700.80 0.0285 0.0284

Uranus -45687-08-16 03:06 J -14965526.39 -14965526.37 -14965526.33 0.0146 0.0144

Uranus -45687-11-12 09:50 J -14965438.19 -14965438.09 -14965437.98 0.0146 0.0115

Venus -45686-01-08 02:09 J -14965381.51 -14965381.41 -14965381.30 0.3693 0.0138

Uranus -45686-02-08 16:47 J -14965349.94 -14965349.80 -14965349.66 0.0146 0.0085

Mars -45686-05-03 00:14 J -14965266.60 -14965266.49 -14965266.38 0.1922 0.1179

Uranus -45686-05-07 23:30 J -14965261.68 -14965261.52 -14965261.36 0.0146 0.0055

Uranus -45686-08-04 06:14 J -14965173.40 -14965173.24 -14965173.06 0.0146 0.0025

Uranus -45686-10-31 13:11 J -14965085.12 -14965084.95 -14965084.77 0.0146 0.0008

Uranus -45685-01-27 20:09 J -14964996.82 -14964996.66 -14964996.49 0.0146 0.0038

Uranus -45685-04-25 03:06 J -14964908.52 -14964908.37 -14964908.21 0.0146 0.0069

Uranus -45685-07-22 10:04 J -14964820.19 -14964820.08 -14964819.94 0.0146 0.0101

Uranus -45685-10-18 17:16 J -14964731.84 -14964731.78 -14964731.69 0.0146 0.0132

Jupiter -45684-04-08 11:59 J -14964560.12 -14964560.00 -14964559.87 0.0490 0.0317

Jupiter -45684-07-07 06:14 J -14964470.37 -14964470.24 -14964470.10 0.0489 0.0282

Moon -45684-08-28 00:57 J -14964418.52 -14964418.46 -14964418.41 0.2659 0.2342

Earth -45684-08-28 01:40 J -14964418.49 -14964418.43 -14964418.36 0.2660 0.2219 *

Moon -45681-02-27 15:35 J -14963504.97 -14963504.85 -14963504.72 0.2671 0.1170

Earth -45681-02-27 16:47 J -14963504.92 -14963504.80 -14963504.67 0.2670 0.0998 *

Venus -45681-07-23 18:57 J -14963357.80 -14963357.71 -14963357.63 0.3697 0.2215

Mars -45680-12-28 04:18 J -14962835.45 -14962835.32 -14962835.19 0.1616 0.0276

Jupiter -45678-06-10 11:30 J -14962306.14 -14962306.02 -14962305.91 0.0537 0.0296

Earth -45678-09-07 05:59 J -14962217.36 -14962217.25 -14962217.15 0.2667 0.1235

Moon -45678-09-07 06:42 J -14962217.32 -14962217.22 -14962217.12 0.2669 0.1285 *

Jupiter -45678-09-08 01:40 J -14962216.52 -14962216.43 -14962216.33 0.0539 0.0390

Saturn -45673-04-03 08:23 J -14960547.25 -14960547.15 -14960547.05 0.0273 0.0195

Saturn -45673-06-30 21:35 J -14960458.73 -14960458.60 -14960458.46 0.0274 0.0099

Saturn -45673-09-27 10:33 J -14960370.20 -14960370.06 -14960369.91 0.0274 0.0007

Saturn -45673-12-24 23:16 J -14960281.66 -14960281.53 -14960281.39 0.0274 0.0089

Jupiter -45672-01-25 12:57 J -14960250.00 -14960249.96 -14960249.91 0.0491 0.0465

Saturn -45672-03-23 11:59 J -14960193.11 -14960193.00 -14960192.89 0.0275 0.0181

Jupiter -45672-04-25 06:57 J -14960160.37 -14960160.21 -14960160.05 0.0489 0.0128

Saturn -45672-06-20 00:28 J -14960104.50 -14960104.48 -14960104.46 0.0275 0.0271

Moon -45671-08-30 21:35 J -14959667.71 -14959667.60 -14959667.49 0.2666 0.1271

Earth -45671-08-30 22:18 J -14959667.67 -14959667.57 -14959667.46 0.2662 0.1287 *

Mars -45670-05-20 13:11 J -14959405.08 -14959404.95 -14959404.82 0.1613 0.0288

Moon -45668-03-01 16:47 J -14958753.93 -14958753.80 -14958753.66 0.2674 0.0216

Earth -45668-03-01 17:30 J -14958753.91 -14958753.77 -14958753.64 0.2668 0.0168 *

Jupiter -45666-03-29 12:42 J -14957996.03 -14957995.97 -14957995.90 0.0537 0.0476

Jupiter -45666-06-27 03:35 J -14957906.48 -14957906.35 -14957906.22 0.0539 0.0217

Mars -45665-01-19 21:21 J -14957699.72 -14957699.61 -14957699.50 0.1913 0.1252

Earth -45665-09-09 01:40 J -14957466.50 -14957466.43 -14957466.35 0.2668 0.2089

Moon -45665-09-09 02:38 J -14957466.46 -14957466.39 -14957466.32 0.2666 0.2194 *

Pluto -45662-07-30 06:42 J -14956412.27 -14956412.22 -14956412.17 0.0081 0.0075

Pluto -45662-10-26 07:54 J -14956324.24 -14956324.17 -14956324.07 0.0080 0.0067

Venus -45662-12-03 14:52 J -14956286.02 -14956285.88 -14956285.74 0.3686 0.0521

Pluto -45661-01-22 09:50 J -14956236.19 -14956236.09 -14956235.99 0.0080 0.0058

Pluto -45661-04-19 11:16 J -14956148.14 -14956148.03 -14956147.91 0.0080 0.0049

Pluto -45661-07-16 12:42 J -14956060.09 -14956059.97 -14956059.83 0.0080 0.0041

Mars -45661-10-09 22:04 J -14955974.70 -14955974.58 -14955974.47 0.1610 0.0852

Pluto -45661-10-12 14:23 J -14955972.03 -14955971.90 -14955971.76 0.0080 0.0033

Pluto -45660-01-08 15:50 J -14955883.97 -14955883.84 -14955883.69 0.0080 0.0025

Jupiter -45660-02-11 07:54 J -14955850.33 -14955850.17 -14955850.01 0.0489 0.0020

Pluto -45660-04-06 17:30 J -14955795.91 -14955795.77 -14955795.62 0.0080 0.0016

Pluto -45660-07-03 18:57 J -14955707.85 -14955707.71 -14955707.56 0.0079 0.0008

Pluto -45660-09-29 20:23 J -14955619.79 -14955619.65 -14955619.50 0.0079 0.0002

Pluto -45660-12-26 21:50 J -14955531.73 -14955531.59 -14955531.44 0.0079 0.0008

Pluto -45659-03-24 23:16 J -14955443.67 -14955443.53 -14955443.38 0.0079 0.0016

Pluto -45659-06-21 00:42 J -14955355.60 -14955355.47 -14955355.32 0.0079 0.0024

Saturn -45659-07-22 14:38 J -14955323.98 -14955323.89 -14955323.80 0.0286 0.0237

Mars -45659-09-15 10:18 J -14955269.13 -14955269.07 -14955269.02 0.1622 0.1457

Pluto -45659-09-17 02:09 J -14955267.54 -14955267.41 -14955267.27 0.0079 0.0031

Saturn -45659-10-19 09:06 J -14955235.27 -14955235.12 -14955234.97 0.0286 0.0116

Pluto -45659-12-14 03:35 J -14955179.47 -14955179.35 -14955179.22 0.0079 0.0039

Saturn -45658-01-16 03:50 J -14955146.50 -14955146.34 -14955146.17 0.0286 0.0011

Pluto -45658-03-12 04:47 J -14955091.40 -14955091.30 -14955091.17 0.0079 0.0047

Saturn -45658-04-14 23:02 J -14955057.68 -14955057.54 -14955057.39 0.0285 0.0134

Pluto -45658-06-08 06:14 J -14955003.33 -14955003.24 -14955003.13 0.0078 0.0054

Saturn -45658-07-12 18:42 J -14954968.78 -14954968.72 -14954968.65 0.0285 0.0261

Moon -45658-09-02 18:42 J -14954916.84 -14954916.72 -14954916.60 0.2670 0.0449

Earth -45658-09-02 18:42 J -14954916.84 -14954916.72 -14954916.60 0.2664 0.0380 *

Pluto -45658-09-04 07:40 J -14954915.26 -14954915.18 -14954915.08 0.0078 0.0062

Pluto -45658-12-01 08:52 J -14954827.18 -14954827.13 -14954827.05 0.0078 0.0069

Pluto -45657-02-27 10:18 J -14954739.09 -14954739.07 -14954739.03 0.0078 0.0076

Mars -45656-06-10 23:02 J -14954269.68 -14954269.54 -14954269.40 0.1918 0.0101

Moon -45655-03-04 18:28 J -14954002.85 -14954002.73 -14954002.61 0.2673 0.1322

Earth -45655-03-04 18:28 J -14954002.85 -14954002.73 -14954002.61 0.2666 0.1355 *

Jupiter -45654-04-15 05:02 J -14953596.43 -14953596.29 -14953596.15 0.0539 0.0038

Mars -45651-03-02 06:42 J -14952544.28 -14952544.22 -14952544.16 0.1608 0.1421

Mars -45649-02-05 19:26 J -14951838.80 -14951838.69 -14951838.58 0.1619 0.0910

Jupiter -45649-11-30 09:21 J -14951540.26 -14951540.11 -14951539.96 0.0490 0.0163

Moon -45648-02-24 21:06 J -14951453.71 -14951453.62 -14951453.54 0.2670 0.2032

Earth -45648-02-24 22:18 J -14951453.66 -14951453.57 -14951453.48 0.2671 0.1923 *

Jupiter -45648-02-28 04:04 J -14951450.40 -14951450.33 -14951450.26 0.0488 0.0440

Mars -45647-11-01 00:28 J -14950839.60 -14950839.48 -14950839.37 0.1921 0.1071

Uranus -45645-03-13 01:11 J -14950341.45 -14950341.45 -14950341.45 0.0132 0.0132

Uranus -45645-06-09 04:33 J -14950253.37 -14950253.31 -14950253.22 0.0132 0.0113

Earth -45645-09-04 15:06 J -14950165.99 -14950165.87 -14950165.75 0.2665 0.0521

Moon -45645-09-04 15:35 J -14950165.97 -14950165.85 -14950165.74 0.2672 0.0604 *

Uranus -45645-09-05 08:23 J -14950165.24 -14950165.15 -14950165.04 0.0132 0.0094

Uranus -45645-12-02 11:59 J -14950077.11 -14950077.00 -14950076.87 0.0132 0.0075

Uranus -45644-02-28 15:50 J -14949988.97 -14949988.84 -14949988.71 0.0132 0.0056

Uranus -45644-05-27 19:26 J -14949900.83 -14949900.69 -14949900.55 0.0132 0.0037

Saturn -45644-08-21 10:33 J -14949815.14 -14949815.06 -14949814.97 0.0272 0.0220

Uranus -45644-08-23 23:02 J -14949812.68 -14949812.54 -14949812.40 0.0132 0.0018

Saturn -45644-11-17 23:45 J -14949726.63 -14949726.51 -14949726.37 0.0273 0.0125

Uranus -45644-11-20 02:38 J -14949724.54 -14949724.39 -14949724.25 0.0132 0.0002

Saturn -45643-02-14 12:57 J -14949638.11 -14949637.96 -14949637.82 0.0273 0.0030

Uranus -45643-02-16 05:59 J -14949636.39 -14949636.25 -14949636.10 0.0132 0.0019

Saturn -45643-05-14 01:40 J -14949549.57 -14949549.43 -14949549.29 0.0273 0.0064

Uranus -45643-05-15 09:35 J -14949548.24 -14949548.10 -14949547.96 0.0132 0.0037

Saturn -45643-08-10 14:09 J -14949461.02 -14949460.91 -14949460.79 0.0274 0.0156

Uranus -45643-08-11 13:11 J -14949460.08 -14949459.95 -14949459.83 0.0132 0.0055

Saturn -45643-11-07 02:38 J -14949372.45 -14949372.39 -14949372.33 0.0274 0.0246

Uranus -45643-11-07 16:18 J -14949371.93 -14949371.82 -14949371.69 0.0132 0.0074

Jupiter -45642-02-01 07:26 J -14949286.33 -14949286.19 -14949286.05 0.0539 0.0129

Uranus -45642-02-03 19:54 J -14949283.77 -14949283.67 -14949283.56 0.0132 0.0092

Earth -45642-03-07 19:40 J -14949251.71 -14949251.68 -14949251.65 0.2664 0.2587

Uranus -45642-05-02 23:16 J -14949195.60 -14949195.53 -14949195.45 0.0132 0.0110

Uranus -45642-07-30 02:52 J -14949107.41 -14949107.38 -14949107.35 0.0132 0.0127

Mars -45640-06-28 04:33 J -14948408.44 -14948408.31 -14948408.18 0.1616 0.0361

Moon -45638-08-29 05:59 J -14947616.32 -14947616.25 -14947616.17 0.2661 0.2089

Earth -45638-08-29 06:57 J -14947616.29 -14947616.21 -14947616.13 0.2661 0.2051 *

Jupiter -45637-09-18 10:18 J -14947230.19 -14947230.07 -14947229.94 0.0490 0.0311

Jupiter -45637-12-17 04:33 J -14947140.44 -14947140.31 -14947140.18 0.0488 0.0286

Venus -45635-01-29 07:11 J -14946732.30 -14946732.20 -14946732.11 0.3689 0.1580

Moon -45635-02-27 21:21 J -14946702.74 -14946702.61 -14946702.48 0.2672 0.0808

Earth -45635-02-27 22:33 J -14946702.69 -14946702.56 -14946702.43 0.2669 0.0803 *

Earth -45632-09-07 11:02 J -14945415.14 -14945415.04 -14945414.94 0.2667 0.1389

Moon -45632-09-07 11:59 J -14945415.10 -14945415.00 -14945414.90 0.2668 0.1434 *

Neptune -45631-08-22 04:47 J -14945066.33 -14945066.30 -14945066.27 0.0088 0.0086

Neptune -45631-11-18 06:28 J -14944978.28 -14944978.23 -14944978.15 0.0088 0.0079

Mars -45631-11-18 13:26 J -14944978.07 -14944977.94 -14944977.81 0.1613 0.0204

Jupiter -45631-11-20 09:50 J -14944976.21 -14944976.09 -14944975.98 0.0538 0.0294

Neptune -45630-02-14 08:23 J -14944890.22 -14944890.15 -14944890.04 0.0088 0.0073

Jupiter -45630-02-18 00:14 J -14944886.59 -14944886.49 -14944886.40 0.0540 0.0394

Neptune -45630-05-13 10:33 J -14944802.15 -14944802.06 -14944801.95 0.0088 0.0065

Neptune -45630-08-09 12:28 J -14944714.08 -14944713.98 -14944713.85 0.0088 0.0059

Venus -45630-08-14 23:59 J -14944708.61 -14944708.50 -14944708.40 0.3694 0.0784

Neptune -45630-11-05 14:38 J -14944626.01 -14944625.89 -14944625.76 0.0088 0.0051

Saturn -45630-12-09 12:57 J -14944591.98 -14944591.96 -14944591.94 0.0287 0.0283

Neptune -45629-02-01 16:33 J -14944537.93 -14944537.81 -14944537.67 0.0088 0.0045

Saturn -45629-03-07 07:11 J -14944503.33 -14944503.20 -14944503.06 0.0286 0.0163

Neptune -45629-04-29 18:42 J -14944449.86 -14944449.72 -14944449.58 0.0088 0.0038

Saturn -45629-06-04 01:54 J -14944414.58 -14944414.42 -14944414.25 0.0286 0.0041

Neptune -45629-07-26 20:38 J -14944361.78 -14944361.64 -14944361.50 0.0088 0.0031

Saturn -45629-08-31 20:52 J -14944325.78 -14944325.63 -14944325.46 0.0286 0.0085

Neptune -45629-10-22 22:18 J -14944273.71 -14944273.57 -14944273.41 0.0088 0.0025

Saturn -45629-11-28 16:18 J -14944236.93 -14944236.82 -14944236.70 0.0285 0.0211

Neptune -45628-01-19 00:28 J -14944185.63 -14944185.48 -14944185.33 0.0088 0.0017

Neptune -45628-04-17 02:23 J -14944097.55 -14944097.40 -14944097.25 0.0088 0.0010

Neptune -45628-07-14 04:18 J -14944009.47 -14944009.32 -14944009.17 0.0088 0.0004

Neptune -45628-10-10 06:14 J -14943921.39 -14943921.24 -14943921.09 0.0088 0.0003

Neptune -45627-01-06 08:09 J -14943833.31 -14943833.16 -14943833.01 0.0088 0.0010

Neptune -45627-04-04 09:50 J -14943745.23 -14943745.09 -14943744.94 0.0088 0.0017

Neptune -45627-07-01 11:45 J -14943657.15 -14943657.01 -14943656.86 0.0088 0.0023

Neptune -45627-09-27 13:40 J -14943569.07 -14943568.93 -14943568.79 0.0088 0.0030

Neptune -45627-12-24 15:21 J -14943480.99 -14943480.86 -14943480.72 0.0088 0.0036

Neptune -45626-03-22 17:16 J -14943392.91 -14943392.78 -14943392.65 0.0088 0.0043

Neptune -45626-06-18 18:57 J -14943304.82 -14943304.71 -14943304.58 0.0089 0.0050

Mars -45626-07-20 21:50 J -14943272.69 -14943272.59 -14943272.49 0.1913 0.1382

Neptune -45626-09-14 20:52 J -14943216.74 -14943216.63 -14943216.51 0.0089 0.0056

Neptune -45626-12-11 22:33 J -14943128.65 -14943128.56 -14943128.45 0.0089 0.0062

Neptune -45625-03-09 00:28 J -14943040.57 -14943040.48 -14943040.38 0.0089 0.0069

Neptune -45625-06-05 01:54 J -14942952.48 -14942952.42 -14942952.32 0.0089 0.0076

Jupiter -45625-07-07 11:30 J -14942920.07 -14942920.02 -14942919.96 0.0491 0.0456

Moon -45625-08-31 02:52 J -14942865.49 -14942865.38 -14942865.27 0.2667 0.1244

Earth -45625-08-31 03:35 J -14942865.46 -14942865.35 -14942865.24 0.2662 0.1118 *

Neptune -45625-09-01 03:50 J -14942864.38 -14942864.34 -14942864.27 0.0089 0.0082

Jupiter -45625-10-05 05:30 J -14942830.43 -14942830.27 -14942830.11 0.0489 0.0136

Neptune -45625-11-28 05:59 J -14942776.26 -14942776.25 -14942776.24 0.0089 0.0088

Venus -45624-02-27 16:33 J -14942684.86 -14942684.81 -14942684.75 0.3699 0.3093

Moon -45622-03-02 22:47 J -14941951.69 -14941951.55 -14941951.42 0.2674 0.0254

Earth -45622-03-02 23:16 J -14941951.67 -14941951.53 -14941951.40 0.2667 0.0371 *

Mars -45621-04-09 22:04 J -14941547.69 -14941547.58 -14941547.46 0.1610 0.0771

Mars -45619-03-16 10:18 J -14940842.11 -14940842.07 -14940842.03 0.1622 0.1537

Jupiter -45619-09-08 11:30 J -14940666.09 -14940666.02 -14940665.95 0.0537 0.0466

Earth -45619-09-10 06:57 J -14940664.28 -14940664.21 -14940664.15 0.2668 0.2237

Moon -45619-09-10 07:40 J -14940664.24 -14940664.18 -14940664.12 0.2666 0.2253 *

Jupiter -45619-12-07 02:23 J -14940576.53 -14940576.40 -14940576.28 0.0539 0.0226

Mars -45617-12-09 23:02 J -14939842.68 -14939842.54 -14939842.40 0.1917 0.0195

Saturn -45614-01-08 11:59 J -14939083.05 -14939083.00 -14939082.94 0.0273 0.0250

Saturn -45614-04-07 01:26 J -14938994.56 -14938994.44 -14938994.32 0.0273 0.0154

Saturn -45614-07-04 14:38 J -14938906.03 -14938905.89 -14938905.75 0.0274 0.0059

Saturn -45614-10-01 03:21 J -14938817.50 -14938817.36 -14938817.21 0.0274 0.0036

Saturn -45614-12-28 16:04 J -14938728.95 -14938728.83 -14938728.70 0.0274 0.0128

Saturn -45613-03-26 04:33 J -14938640.39 -14938640.31 -14938640.22 0.0275 0.0219

Jupiter -45613-07-24 06:14 J -14938520.41 -14938520.24 -14938520.08 0.0490 0.0021

Mars -45612-08-31 06:57 J -14938117.29 -14938117.21 -14938117.14 0.1608 0.1338

Moon -45612-09-02 23:59 J -14938114.62 -14938114.50 -14938114.38 0.2671 0.0142

Earth -45612-09-02 23:59 J -14938114.62 -14938114.50 -14938114.38 0.2664 0.0212 *

Mars -45610-08-06 19:26 J -14937411.79 -14937411.69 -14937411.58 0.1619 0.0989

Earth -45609-03-05 00:14 J -14937200.60 -14937200.49 -14937200.38 0.2666 0.1565

Moon -45609-03-05 00:42 J -14937200.58 -14937200.47 -14937200.37 0.2672 0.1673 *

Mars -45607-05-02 00:42 J -14936412.59 -14936412.47 -14936412.35 0.1922 0.0959

Jupiter -45607-09-25 04:04 J -14936266.47 -14936266.33 -14936266.19 0.0538 0.0053

Venus -45605-07-09 15:21 J -14935612.99 -14935612.86 -14935612.72 0.3685 0.1240

Uranus -45603-09-05 10:33 J -14934825.12 -14934825.06 -14934825.00 0.0147 0.0137

Uranus -45603-12-02 17:16 J -14934736.89 -14934736.78 -14934736.66 0.0147 0.0107

Moon -45602-02-26 02:52 J -14934651.48 -14934651.38 -14934651.29 0.2669 0.1796

Earth -45602-02-26 04:04 J -14934651.44 -14934651.33 -14934651.23 0.2671 0.1729 *

Uranus -45602-02-28 23:45 J -14934648.64 -14934648.51 -14934648.35 0.0147 0.0078

Uranus -45602-05-28 06:42 J -14934560.38 -14934560.22 -14934560.05 0.0147 0.0047

Uranus -45602-08-24 13:40 J -14934472.10 -14934471.93 -14934471.76 0.0147 0.0016

Uranus -45602-11-20 20:38 J -14934383.81 -14934383.64 -14934383.47 0.0147 0.0014

Uranus -45601-02-17 03:35 J -14934295.51 -14934295.35 -14934295.18 0.0147 0.0045

Jupiter -45601-05-12 07:26 J -14934210.35 -14934210.19 -14934210.04 0.0490 0.0162

Uranus -45601-05-15 10:33 J -14934207.20 -14934207.06 -14934206.91 0.0147 0.0077

Jupiter -45601-08-10 01:54 J -14934120.48 -14934120.42 -14934120.35 0.0488 0.0442

Uranus -45601-08-11 17:30 J -14934118.88 -14934118.77 -14934118.64 0.0147 0.0108

Uranus -45601-11-08 00:42 J -14934030.51 -14934030.47 -14934030.41 0.0146 0.0140

Mars -45601-12-27 04:33 J -14933981.43 -14933981.31 -14933981.18 0.1616 0.0440

Saturn -45600-07-25 09:06 J -14933771.24 -14933771.12 -14933771.00 0.0286 0.0188

Saturn -45600-10-22 03:50 J -14933682.50 -14933682.34 -14933682.18 0.0286 0.0066

Saturn -45599-01-18 22:47 J -14933593.71 -14933593.55 -14933593.39 0.0286 0.0058

Saturn -45599-04-17 17:59 J -14933504.87 -14933504.75 -14933504.62 0.0285 0.0185

Earth -45599-09-05 20:09 J -14933363.78 -14933363.66 -14933363.54 0.2665 0.0676

Moon -45599-09-05 20:38 J -14933363.75 -14933363.64 -14933363.52 0.2671 0.0661 *

Jupiter -45595-07-14 05:16 J -14931956.41 -14931956.28 -14931956.14 0.0538 0.0134

Moon -45592-08-29 11:16 J -14930814.11 -14930814.03 -14930813.95 0.2663 0.1963

Earth -45592-08-29 12:14 J -14930814.08 -14930813.99 -14930813.90 0.2661 0.1881 *

Mars -45591-05-19 13:40 J -14930551.07 -14930550.93 -14930550.80 0.1613 0.0132

Moon -45589-02-29 03:21 J -14929900.49 -14929900.36 -14929900.23 0.2673 0.0718

Earth -45589-02-29 04:18 J -14929900.45 -14929900.32 -14929900.19 0.2669 0.0599 *

Jupiter -45589-02-29 08:52 J -14929900.25 -14929900.13 -14929900.00 0.0490 0.0302 *

Jupiter -45589-05-29 03:06 J -14929810.50 -14929810.37 -14929810.24 0.0488 0.0296

Mars -45586-01-18 22:04 J -14928845.66 -14928845.58 -14928845.49 0.1913 0.1502

Earth -45586-09-08 16:04 J -14928612.92 -14928612.83 -14928612.73 0.2667 0.1541

Moon -45586-09-08 17:02 J -14928612.88 -14928612.79 -14928612.70 0.2668 0.1642 *

Saturn -45585-08-24 03:35 J -14928262.45 -14928262.35 -14928262.23 0.0272 0.0178

Saturn -45585-11-20 16:47 J -14928173.94 -14928173.80 -14928173.66 0.0273 0.0083

Saturn -45584-02-17 05:45 J -14928085.40 -14928085.26 -14928085.11 0.0273 0.0011

Venus -45584-02-19 11:59 J -14928083.06 -14928083.00 -14928082.94 0.3686 0.3067

Saturn -45584-05-16 18:28 J -14927996.86 -14927996.73 -14927996.60 0.0273 0.0103

Saturn -45584-08-13 06:57 J -14927908.31 -14927908.21 -14927908.11 0.0274 0.0194

Jupiter -45583-05-02 07:26 J -14927646.30 -14927646.19 -14927646.07 0.0538 0.0301

Jupiter -45583-07-30 22:04 J -14927556.67 -14927556.58 -14927556.48 0.0540 0.0389

Mars -45582-10-09 22:18 J -14927120.69 -14927120.57 -14927120.44 0.1610 0.0683

Mars -45580-09-14 10:33 J -14926415.07 -14926415.06 -14926415.05 0.1622 0.1616

Moon -45579-09-01 08:09 J -14926063.27 -14926063.16 -14926063.05 0.2667 0.0951

Earth -45579-09-01 08:52 J -14926063.25 -14926063.13 -14926063.02 0.2663 0.0960 *

Venus -45579-09-05 04:47 J -14926059.40 -14926059.30 -14926059.19 0.3690 0.0687

Jupiter -45578-12-18 10:18 J -14925590.14 -14925590.07 -14925590.01 0.0491 0.0447

Jupiter -45577-03-17 04:04 J -14925500.49 -14925500.33 -14925500.18 0.0489 0.0145

Mars -45577-06-09 23:16 J -14925415.67 -14925415.53 -14925415.39 0.1917 0.0315

Moon -45576-03-03 04:33 J -14925149.44 -14925149.31 -14925149.18 0.2674 0.0623

Earth -45576-03-03 05:02 J -14925149.43 -14925149.29 -14925149.16 0.2667 0.0570 *

Venus -45573-03-20 21:35 J -14924035.69 -14924035.60 -14924035.50 0.3695 0.1664

Earth -45573-09-10 11:59 J -14923862.05 -14923862.00 -14923861.95 0.2669 0.2385

Moon -45573-09-10 12:42 J -14923862.02 -14923861.97 -14923861.93 0.2665 0.2438 *

Mars -45572-03-01 06:57 J -14923690.29 -14923690.21 -14923690.12 0.1608 0.1254

Jupiter -45571-02-18 09:50 J -14923336.16 -14923336.09 -14923336.02 0.0537 0.0466

Jupiter -45571-05-19 00:42 J -14923246.59 -14923246.47 -14923246.34 0.0540 0.0230

Saturn -45571-12-12 07:11 J -14923039.28 -14923039.20 -14923039.10 0.0287 0.0236

Mars -45570-02-04 19:40 J -14922984.77 -14922984.68 -14922984.58 0.1619 0.1072

Saturn -45570-03-11 01:40 J -14922950.58 -14922950.43 -14922950.27 0.0286 0.0115

Saturn -45570-06-07 20:38 J -14922861.81 -14922861.64 -14922861.48 0.0286 0.0009

Saturn -45570-09-04 15:50 J -14922772.99 -14922772.84 -14922772.69 0.0286 0.0135

Saturn -45570-12-02 11:16 J -14922684.09 -14922684.03 -14922683.96 0.0285 0.0262

Earth -45569-02-24 09:35 J -14922600.12 -14922600.10 -14922600.08 0.2672 0.2625

Mars -45568-10-31 00:57 J -14921985.59 -14921985.46 -14921985.34 0.1921 0.0846

Earth -45566-09-04 05:16 J -14921312.41 -14921312.28 -14921312.16 0.2664 0.0094

Moon -45566-09-04 05:16 J -14921312.40 -14921312.28 -14921312.16 0.2671 0.0114 *

Jupiter -45565-01-04 05:02 J -14921190.45 -14921190.29 -14921190.13 0.0489 0.0007

Earth -45563-03-06 05:59 J -14920398.35 -14920398.25 -14920398.15 0.2665 0.1774

Moon -45563-03-06 06:42 J -14920398.33 -14920398.22 -14920398.12 0.2671 0.1741 *

Uranus -45561-04-02 08:23 J -14919640.19 -14919640.15 -14919640.11 0.0132 0.0126

Mars -45561-06-27 04:47 J -14919554.43 -14919554.30 -14919554.18 0.1616 0.0519

Uranus -45561-06-29 11:59 J -14919552.08 -14919552.00 -14919551.91 0.0132 0.0107

Uranus -45561-09-25 15:35 J -14919463.95 -14919463.85 -14919463.73 0.0132 0.0088

Uranus -45561-12-22 19:26 J -14919375.81 -14919375.69 -14919375.56 0.0132 0.0069

Uranus -45560-03-20 23:02 J -14919287.67 -14919287.54 -14919287.40 0.0132 0.0050

Uranus -45560-06-17 02:38 J -14919199.53 -14919199.39 -14919199.25 0.0132 0.0031

Uranus -45560-09-13 06:14 J -14919111.38 -14919111.24 -14919111.09 0.0132 0.0013

Uranus -45560-12-10 09:50 J -14919023.23 -14919023.09 -14919022.95 0.0132 0.0006

Jupiter -45559-03-07 02:52 J -14918936.52 -14918936.38 -14918936.24 0.0539 0.0064

Uranus -45559-03-08 13:11 J -14918935.08 -14918934.95 -14918934.80 0.0132 0.0025

Uranus -45559-06-04 16:47 J -14918846.93 -14918846.80 -14918846.66 0.0132 0.0043

Uranus -45559-08-31 20:23 J -14918758.78 -14918758.65 -14918758.53 0.0132 0.0061

Uranus -45559-11-27 23:45 J -14918670.62 -14918670.51 -14918670.39 0.0132 0.0079

Uranus -45558-02-24 03:06 J -14918582.46 -14918582.37 -14918582.27 0.0132 0.0097

Uranus -45558-05-23 06:28 J -14918494.29 -14918494.23 -14918494.15 0.0132 0.0115

Moon -45556-02-26 08:23 J -14917849.26 -14917849.15 -14917849.04 0.2669 0.1611

Earth -45556-02-26 09:35 J -14917849.21 -14917849.10 -14917848.99 0.2670 0.1534 *

Saturn -45555-01-11 04:47 J -14917530.39 -14917530.30 -14917530.21 0.0273 0.0211

Saturn -45555-04-09 17:59 J -14917441.88 -14917441.75 -14917441.61 0.0273 0.0116

Saturn -45555-07-07 07:11 J -14917353.35 -14917353.20 -14917353.06 0.0273 0.0021

Saturn -45555-10-03 19:54 J -14917264.81 -14917264.67 -14917264.53 0.0274 0.0073

Saturn -45555-12-31 08:38 J -14917176.26 -14917176.14 -14917176.03 0.0274 0.0165

Saturn -45554-03-29 20:52 J -14917087.68 -14917087.63 -14917087.58 0.0274 0.0255

Venus -45554-07-31 12:42 J -14916964.09 -14916963.97 -14916963.85 0.3689 0.2003

Jupiter -45554-10-23 05:45 J -14916880.41 -14916880.26 -14916880.11 0.0490 0.0155

Jupiter -45553-01-21 00:28 J -14916790.54 -14916790.48 -14916790.42 0.0488 0.0449

Earth -45553-09-06 01:26 J -14916561.56 -14916561.44 -14916561.33 0.2666 0.0837

Moon -45553-09-06 01:54 J -14916561.53 -14916561.42 -14916561.31 0.2670 0.0950 *

Mars -45552-11-17 13:40 J -14916124.06 -14916123.93 -14916123.79 0.1613 0.0044

Neptune -45549-08-13 15:35 J -14915123.88 -14915123.85 -14915123.79 0.0089 0.0085

Neptune -45549-11-09 17:59 J -14915035.81 -14915035.75 -14915035.66 0.0089 0.0078

Neptune -45548-02-05 20:38 J -14914947.74 -14914947.64 -14914947.54 0.0089 0.0070

Venus -45548-02-13 16:04 J -14914939.91 -14914939.83 -14914939.75 0.3683 0.3025

Neptune -45548-05-04 22:47 J -14914859.66 -14914859.55 -14914859.43 0.0089 0.0063

Neptune -45548-08-01 01:11 J -14914771.57 -14914771.45 -14914771.32 0.0089 0.0056

Neptune -45548-10-28 03:21 J -14914683.48 -14914683.36 -14914683.21 0.0089 0.0049

Jupiter -45548-12-24 04:47 J -14914626.44 -14914626.30 -14914626.16 0.0538 0.0113

Neptune -45547-01-24 05:45 J -14914595.39 -14914595.26 -14914595.11 0.0089 0.0042

Neptune -45547-04-22 08:23 J -14914507.30 -14914507.15 -14914507.00 0.0089 0.0034

Neptune -45547-07-19 10:33 J -14914419.21 -14914419.06 -14914418.90 0.0089 0.0027

Mars -45547-07-19 22:18 J -14914418.64 -14914418.57 -14914418.49 0.1913 0.1603

Neptune -45547-10-15 12:57 J -14914331.11 -14914330.96 -14914330.79 0.0089 0.0020

Neptune -45546-01-11 15:35 J -14914243.02 -14914242.85 -14914242.69 0.0089 0.0012

Neptune -45546-04-09 17:59 J -14914154.92 -14914154.75 -14914154.59 0.0089 0.0005

Neptune -45546-07-06 20:23 J -14914066.81 -14914066.65 -14914066.48 0.0089 0.0003

Moon -45546-08-30 16:33 J -14914011.90 -14914011.81 -14914011.72 0.2663 0.1792

Earth -45546-08-30 17:30 J -14914011.87 -14914011.77 -14914011.68 0.2661 0.1717 *

Neptune -45546-10-02 22:47 J -14913978.71 -14913978.55 -14913978.38 0.0089 0.0010

Neptune -45546-12-30 01:11 J -14913890.61 -14913890.45 -14913890.28 0.0089 0.0018

Neptune -45545-03-27 03:50 J -14913802.50 -14913802.34 -14913802.18 0.0089 0.0025

Neptune -45545-06-23 05:59 J -14913714.39 -14913714.25 -14913714.08 0.0089 0.0033

Neptune -45545-09-19 08:52 J -14913626.28 -14913626.13 -14913625.99 0.0089 0.0040

Neptune -45545-12-16 11:02 J -14913538.17 -14913538.04 -14913537.89 0.0089 0.0048

Neptune -45544-03-14 13:26 J -14913450.05 -14913449.94 -14913449.79 0.0089 0.0056

Neptune -45544-06-10 16:18 J -14913361.94 -14913361.82 -14913361.70 0.0089 0.0063

Neptune -45544-09-06 18:42 J -14913273.81 -14913273.72 -14913273.61 0.0089 0.0071

Neptune -45544-12-03 21:06 J -14913185.68 -14913185.62 -14913185.53 0.0089 0.0079

Moon -45543-03-01 09:06 J -14913098.25 -14913098.12 -14913097.99 0.2674 0.0431

Earth -45543-03-01 10:04 J -14913098.22 -14913098.08 -14913097.95 0.2669 0.0401 *

Neptune -45543-03-01 23:59 J -14913097.54 -14913097.50 -14913097.46 0.0089 0.0086

Mars -45542-04-09 22:33 J -14912693.68 -14912693.56 -14912693.44 0.1611 0.0600

Jupiter -45542-08-11 07:11 J -14912570.33 -14912570.20 -14912570.07 0.0490 0.0298

Jupiter -45542-11-09 01:26 J -14912480.57 -14912480.44 -14912480.31 0.0489 0.0300

Saturn -45541-04-30 08:38 J -14912307.20 -14912307.14 -14912307.08 0.0287 0.0264

Saturn -45541-07-28 03:06 J -14912218.52 -14912218.37 -14912218.23 0.0286 0.0144

Saturn -45541-10-24 21:50 J -14912129.76 -14912129.59 -14912129.43 0.0286 0.0021

Saturn -45540-01-21 16:47 J -14912040.95 -14912040.80 -14912040.64 0.0286 0.0105

Saturn -45540-04-20 12:14 J -14911952.08 -14911951.99 -14911951.89 0.0285 0.0232

Earth -45540-09-08 21:21 J -14911810.70 -14911810.61 -14911810.52 0.2667 0.1695

Moon -45540-09-08 22:04 J -14911810.67 -14911810.58 -14911810.49 0.2668 0.1716 *

Mars -45538-12-09 23:45 J -14910988.65 -14910988.51 -14910988.37 0.1917 0.0436

Jupiter -45536-10-12 05:45 J -14910316.38 -14910316.26 -14910316.14 0.0538 0.0301

Jupiter -45535-01-09 20:09 J -14910226.75 -14910226.66 -14910226.56 0.0540 0.0388

Mars -45533-08-30 07:11 J -14909263.29 -14909263.20 -14909263.10 0.1608 0.1168

Moon -45533-09-01 13:40 J -14909261.05 -14909260.93 -14909260.82 0.2668 0.0857

Earth -45533-09-01 13:54 J -14909261.03 -14909260.92 -14909260.80 0.2663 0.0797 *

Mars -45531-08-05 19:54 J -14908557.76 -14908557.67 -14908557.58 0.1619 0.1152

Moon -45530-03-04 10:33 J -14908347.19 -14908347.06 -14908346.93 0.2673 0.0695

Earth -45530-03-04 10:47 J -14908347.18 -14908347.05 -14908346.92 0.2667 0.0777 *

Jupiter -45530-05-30 08:52 J -14908260.20 -14908260.13 -14908260.06 0.0491 0.0436

Jupiter -45530-08-28 02:38 J -14908170.54 -14908170.39 -14908170.23 0.0489 0.0157

Mars -45528-05-01 01:11 J -14907558.57 -14907558.45 -14907558.32 0.1921 0.0728

Venus -45528-09-26 09:50 J -14907410.18 -14907410.09 -14907410.01 0.3687 0.2159

Earth -45527-09-11 17:02 J -14907059.82 -14907059.79 -14907059.76 0.2669 0.2532

Moon -45527-09-11 17:30 J -14907059.79 -14907059.77 -14907059.74 0.2664 0.2583 *

Saturn -45526-05-31 07:11 J -14906798.27 -14906798.20 -14906798.12 0.0272 0.0234

Saturn -45526-08-27 20:38 J -14906709.77 -14906709.64 -14906709.52 0.0272 0.0139

Saturn -45526-11-24 09:35 J -14906621.24 -14906621.10 -14906620.96 0.0273 0.0044

Saturn -45525-02-20 22:18 J -14906532.71 -14906532.57 -14906532.42 0.0273 0.0050

Saturn -45525-05-19 11:02 J -14906444.16 -14906444.04 -14906443.92 0.0273 0.0141

Saturn -45525-08-15 23:16 J -14906355.59 -14906355.53 -14906355.45 0.0274 0.0232

Jupiter -45524-07-31 07:40 J -14906006.24 -14906006.18 -14906006.11 0.0537 0.0471

Jupiter -45524-10-28 22:47 J -14905916.68 -14905916.55 -14905916.43 0.0540 0.0225

Moon -45523-02-24 14:09 J -14905797.96 -14905797.91 -14905797.85 0.2668 0.2424

Earth -45523-02-24 15:21 J -14905797.92 -14905797.86 -14905797.81 0.2672 0.2439 *

Venus -45522-04-12 02:38 J -14905386.50 -14905386.39 -14905386.28 0.3692 0.0216

Mars -45522-12-27 05:02 J -14905127.41 -14905127.29 -14905127.17 0.1616 0.0604

Earth -45520-09-04 10:18 J -14904510.19 -14904510.07 -14904509.95 0.2664 0.0111

Moon -45520-09-04 10:33 J -14904510.18 -14904510.06 -14904509.94 0.2671 0.0200 *

Mars -45519-09-21 03:06 J -14904128.40 -14904128.37 -14904128.34 0.1925 0.1865

Uranus -45519-09-25 17:30 J -14904123.84 -14904123.77 -14904123.68 0.0147 0.0130

Uranus -45519-12-23 00:28 J -14904035.60 -14904035.48 -14904035.36 0.0147 0.0100

Uranus -45518-03-21 07:11 J -14903947.35 -14903947.20 -14903947.05 0.0147 0.0070

Jupiter -45518-06-16 03:35 J -14903860.51 -14903860.35 -14903860.18 0.0489 0.0012

Uranus -45518-06-17 13:54 J -14903859.08 -14903858.92 -14903858.75 0.0147 0.0040

Uranus -45518-09-13 20:52 J -14903770.80 -14903770.63 -14903770.46 0.0147 0.0009

Uranus -45518-12-11 03:50 J -14903682.51 -14903682.34 -14903682.17 0.0147 0.0022

Earth -45517-03-06 11:45 J -14903596.10 -14903596.01 -14903595.91 0.2665 0.1988

Moon -45517-03-06 12:28 J -14903596.06 -14903595.98 -14903595.90 0.2671 0.2137 *

Uranus -45517-03-08 10:47 J -14903594.21 -14903594.05 -14903593.89 0.0147 0.0053

Uranus -45517-06-04 17:30 J -14903505.90 -14903505.77 -14903505.61 0.0147 0.0085

Uranus -45517-09-01 00:42 J -14903417.57 -14903417.47 -14903417.36 0.0147 0.0116

Venus -45517-10-25 19:26 J -14903362.77 -14903362.69 -14903362.61 0.3696 0.2541

Moon -45513-08-28 00:57 J -14901960.47 -14901960.46 -14901960.44 0.2658 0.2617

Earth -45513-08-28 01:54 J -14901960.46 -14901960.42 -14901960.38 0.2660 0.2488 *

Mars -45512-05-18 13:54 J -14901697.05 -14901696.92 -14901696.79 0.1613 0.0046

Jupiter -45512-08-17 01:26 J -14901606.58 -14901606.44 -14901606.30 0.0539 0.0066

Saturn -45512-12-15 00:57 J -14901486.58 -14901486.46 -14901486.34 0.0287 0.0192

Saturn -45511-03-13 19:26 J -14901397.84 -14901397.69 -14901397.53 0.0286 0.0071

Saturn -45511-06-10 14:23 J -14901309.06 -14901308.90 -14901308.73 0.0286 0.0054

Saturn -45511-09-07 09:35 J -14901220.22 -14901220.10 -14901219.96 0.0286 0.0181

Moon -45510-02-27 14:09 J -14901047.02 -14901046.91 -14901046.80 0.2671 0.1450

Earth -45510-02-27 15:21 J -14901046.98 -14901046.86 -14901046.74 0.2670 0.1334 *

Mars -45507-01-17 22:47 J -14899991.61 -14899991.55 -14899991.49 0.1913 0.1726

Earth -45507-09-07 06:28 J -14899759.34 -14899759.23 -14899759.12 0.2666 0.0987

Moon -45507-09-07 07:11 J -14899759.31 -14899759.20 -14899759.09 0.2669 0.0976 *

Jupiter -45506-04-04 04:47 J -14899550.45 -14899550.30 -14899550.14 0.0490 0.0140

Jupiter -45506-07-02 23:30 J -14899460.57 -14899460.52 -14899460.47 0.0488 0.0463

Pluto -45504-06-03 12:14 J -14898759.04 -14898758.99 -14898758.92 0.0064 0.0060

Pluto -45504-08-30 13:11 J -14898671.02 -14898670.95 -14898670.84 0.0064 0.0055

Pluto -45504-11-26 14:23 J -14898582.99 -14898582.90 -14898582.78 0.0064 0.0051

Pluto -45503-02-22 15:35 J -14898494.95 -14898494.85 -14898494.71 0.0065 0.0046

Pluto -45503-05-21 16:47 J -14898406.91 -14898406.80 -14898406.65 0.0065 0.0041

Pluto -45503-08-17 18:14 J -14898318.87 -14898318.74 -14898318.59 0.0065 0.0036

Mars -45503-10-08 22:47 J -14898266.68 -14898266.55 -14898266.43 0.1611 0.0518

Pluto -45503-11-13 19:26 J -14898230.83 -14898230.69 -14898230.54 0.0065 0.0031

Pluto -45502-02-09 20:38 J -14898142.79 -14898142.64 -14898142.48 0.0065 0.0026

Pluto -45502-05-08 21:50 J -14898054.74 -14898054.59 -14898054.42 0.0065 0.0021

Pluto -45502-08-04 23:02 J -14897966.70 -14897966.54 -14897966.37 0.0065 0.0016

Pluto -45502-11-01 00:14 J -14897878.65 -14897878.49 -14897878.31 0.0065 0.0011

Pluto -45501-01-28 01:40 J -14897790.60 -14897790.43 -14897790.26 0.0065 0.0006

Pluto -45501-04-25 02:52 J -14897702.55 -14897702.38 -14897702.21 0.0065 0.0001

Pluto -45501-07-22 04:04 J -14897614.50 -14897614.33 -14897614.15 0.0065 0.0005

Pluto -45501-10-18 05:16 J -14897526.44 -14897526.28 -14897526.10 0.0066 0.0010

Pluto -45500-01-14 06:42 J -14897438.39 -14897438.22 -14897438.05 0.0066 0.0015

Pluto -45500-04-12 07:54 J -14897350.33 -14897350.17 -14897350.00 0.0066 0.0020

Jupiter -45500-06-05 03:35 J -14897296.49 -14897296.35 -14897296.21 0.0538 0.0101

Pluto -45500-07-09 09:06 J -14897262.27 -14897262.12 -14897261.95 0.0066 0.0026

Moon -45500-08-30 21:50 J -14897209.69 -14897209.59 -14897209.50 0.2663 0.1602

Earth -45500-08-30 22:33 J -14897209.65 -14897209.56 -14897209.46 0.2661 0.1551 *

Pluto -45500-10-05 10:18 J -14897174.21 -14897174.07 -14897173.91 0.0066 0.0031

Pluto -45499-01-01 11:45 J -14897086.15 -14897086.01 -14897085.86 0.0066 0.0036

Pluto -45499-03-30 12:42 J -14896998.08 -14896997.97 -14896997.81 0.0066 0.0043

Pluto -45499-06-26 14:23 J -14896910.01 -14896909.90 -14896909.77 0.0066 0.0047

Pluto -45499-09-22 15:50 J -14896821.94 -14896821.84 -14896821.73 0.0066 0.0053

Pluto -45499-12-19 16:47 J -14896733.86 -14896733.80 -14896733.70 0.0066 0.0059

Pluto -45498-03-17 18:42 J -14896645.76 -14896645.72 -14896645.68 0.0067 0.0064

Mars -45498-06-09 23:59 J -14896561.64 -14896561.50 -14896561.37 0.1917 0.0542

Moon -45497-03-01 14:52 J -14896296.02 -14896295.88 -14896295.75 0.2673 0.0277

Earth -45497-03-01 15:50 J -14896295.98 -14896295.84 -14896295.71 0.2668 0.0205 *

Venus -45497-03-06 13:11 J -14896291.09 -14896290.95 -14896290.81 0.3688 0.0271

Saturn -45497-10-17 07:54 J -14896066.18 -14896066.17 -14896066.15 0.0272 0.0270

Saturn -45496-01-13 21:21 J -14895977.72 -14895977.61 -14895977.50 0.0273 0.0174

Saturn -45496-04-12 10:18 J -14895889.20 -14895889.07 -14895888.92 0.0273 0.0079

Saturn -45496-07-09 23:30 J -14895800.67 -14895800.52 -14895800.38 0.0273 0.0017

Saturn -45496-10-06 11:59 J -14895712.13 -14895712.00 -14895711.86 0.0274 0.0108

Saturn -45495-01-03 00:42 J -14895623.57 -14895623.47 -14895623.38 0.0274 0.0199

Jupiter -45494-01-21 05:45 J -14895240.39 -14895240.26 -14895240.13 0.0490 0.0289

Jupiter -45494-04-20 23:59 J -14895150.63 -14895150.50 -14895150.38 0.0489 0.0309

Earth -45494-09-10 02:23 J -14895008.48 -14895008.40 -14895008.31 0.2668 0.1845

Moon -45494-09-10 03:21 J -14895008.44 -14895008.36 -14895008.29 0.2668 0.1965 *

Mars -45493-02-29 07:26 J -14894836.29 -14894836.19 -14894836.09 0.1608 0.1082

Mars -45491-02-03 19:54 J -14894130.75 -14894130.67 -14894130.58 0.1619 0.1232

Mars -45489-10-30 01:26 J -14893131.57 -14893131.44 -14893131.31 0.1921 0.0621

Jupiter -45488-03-24 05:16 J -14892986.40 -14892986.28 -14892986.16 0.0537 0.0277

Jupiter -45488-06-21 19:40 J -14892896.76 -14892896.68 -14892896.59 0.0540 0.0410

Moon -45487-09-02 18:57 J -14892458.83 -14892458.71 -14892458.60 0.2670 0.0649

Earth -45487-09-02 19:11 J -14892458.82 -14892458.70 -14892458.58 0.2663 0.0630 *

Earth -45484-03-04 16:33 J -14891544.94 -14891544.81 -14891544.68 0.2667 0.0981

Moon -45484-03-04 16:33 J -14891544.93 -14891544.81 -14891544.68 0.2673 0.1038 *

Jupiter -45483-11-09 07:11 J -14890930.27 -14890930.20 -14890930.12 0.0491 0.0430

Jupiter -45482-02-07 01:11 J -14890840.61 -14890840.45 -14890840.30 0.0489 0.0163

Saturn -45482-05-04 01:40 J -14890754.52 -14890754.43 -14890754.32 0.0287 0.0224

Mars -45482-06-27 05:02 J -14890700.41 -14890700.29 -14890700.17 0.1616 0.0685

Saturn -45482-07-31 20:23 J -14890665.81 -14890665.65 -14890665.50 0.0286 0.0103

Saturn -45482-10-28 15:06 J -14890577.03 -14890576.87 -14890576.70 0.0286 0.0022

Saturn -45481-01-25 10:18 J -14890488.21 -14890488.07 -14890487.92 0.0286 0.0148

Saturn -45481-04-23 05:59 J -14890399.29 -14890399.25 -14890399.21 0.0285 0.0276

Mars -45479-03-22 03:35 J -14889701.41 -14889701.35 -14889701.30 0.1925 0.1742

Moon -45477-02-25 19:54 J -14888995.73 -14888995.67 -14888995.61 0.2668 0.2388

Earth -45477-02-25 20:52 J -14888995.70 -14888995.63 -14888995.56 0.2672 0.2241 *

Uranus -45477-04-22 15:35 J -14888938.90 -14888938.85 -14888938.79 0.0132 0.0120

Uranus -45477-07-19 19:11 J -14888850.78 -14888850.70 -14888850.60 0.0132 0.0101

Uranus -45477-10-15 23:02 J -14888762.65 -14888762.54 -14888762.43 0.0132 0.0082

Venus -45477-10-17 14:38 J -14888760.90 -14888760.89 -14888760.88 0.3683 0.3655

Jupiter -45476-01-10 05:59 J -14888676.31 -14888676.25 -14888676.18 0.0537 0.0468

Uranus -45476-01-12 02:38 J -14888674.51 -14888674.39 -14888674.26 0.0132 0.0063

Jupiter -45476-04-09 21:06 J -14888586.75 -14888586.62 -14888586.50 0.0539 0.0227

Uranus -45476-04-10 06:14 J -14888586.37 -14888586.24 -14888586.10 0.0132 0.0045

Uranus -45476-07-07 09:50 J -14888498.23 -14888498.09 -14888497.94 0.0132 0.0026

Uranus -45476-10-03 13:26 J -14888410.08 -14888409.94 -14888409.79 0.0132 0.0007

Uranus -45476-12-30 17:02 J -14888321.93 -14888321.79 -14888321.65 0.0132 0.0011

Uranus -45475-03-28 20:38 J -14888233.78 -14888233.64 -14888233.50 0.0132 0.0030

Uranus -45475-06-24 23:59 J -14888145.63 -14888145.50 -14888145.36 0.0132 0.0048

Uranus -45475-09-21 03:35 J -14888057.47 -14888057.35 -14888057.23 0.0132 0.0066

Uranus -45475-12-18 06:42 J -14887969.31 -14887969.22 -14887969.10 0.0132 0.0085

Uranus -45474-03-16 10:18 J -14887881.15 -14887881.07 -14887880.98 0.0132 0.0103

Uranus -45474-06-12 13:54 J -14887792.98 -14887792.92 -14887792.86 0.0132 0.0120

Earth -45474-09-05 15:35 J -14887707.97 -14887707.85 -14887707.73 0.2665 0.0276

Moon -45474-09-05 15:50 J -14887707.96 -14887707.84 -14887707.72 0.2671 0.0247 *

Mars -45473-11-16 14:09 J -14887270.05 -14887269.91 -14887269.78 0.1613 0.0132

Earth -45471-03-07 17:45 J -14886793.84 -14886793.76 -14886793.68 0.2665 0.2201

Moon -45471-03-07 18:28 J -14886793.81 -14886793.73 -14886793.65 0.2671 0.2174 *

Venus -45471-05-03 07:40 J -14886737.29 -14886737.18 -14886737.08 0.3688 0.1260

Jupiter -45471-11-26 02:38 J -14886530.55 -14886530.39 -14886530.23 0.0489 0.0021

Mars -45468-07-18 23:16 J -14885564.57 -14885564.53 -14885564.50 0.1912 0.1852

Saturn -45467-06-02 23:45 J -14885245.61 -14885245.51 -14885245.41 0.0272 0.0196

Moon -45467-08-29 06:14 J -14885158.30 -14885158.24 -14885158.18 0.2659 0.2320

Earth -45467-08-29 07:11 J -14885158.26 -14885158.20 -14885158.14 0.2660 0.2323 *

Saturn -45467-08-30 12:57 J -14885157.09 -14885156.96 -14885156.82 0.0272 0.0101

Saturn -45467-11-27 01:54 J -14885068.56 -14885068.42 -14885068.27 0.0273 0.0008

Saturn -45466-02-23 14:38 J -14884980.02 -14884979.89 -14884979.75 0.0273 0.0085

Neptune -45466-05-19 04:04 J -14884895.38 -14884895.33 -14884895.28 0.0088 0.0083

Saturn -45466-05-23 03:21 J -14884891.47 -14884891.36 -14884891.26 0.0273 0.0177

Neptune -45466-08-15 05:59 J -14884807.33 -14884807.25 -14884807.17 0.0088 0.0076

Saturn -45466-08-19 15:21 J -14884802.88 -14884802.86 -14884802.82 0.0274 0.0267

Neptune -45466-11-11 07:40 J -14884719.26 -14884719.18 -14884719.07 0.0088 0.0069

Venus -45466-11-17 00:28 J -14884713.59 -14884713.48 -14884713.38 0.3693 0.1109

Neptune -45465-02-07 09:35 J -14884631.19 -14884631.10 -14884630.98 0.0088 0.0063

Neptune -45465-05-05 11:45 J -14884543.12 -14884543.01 -14884542.88 0.0088 0.0055

Neptune -45465-08-01 13:40 J -14884455.05 -14884454.93 -14884454.79 0.0088 0.0049

Neptune -45465-10-28 15:50 J -14884366.97 -14884366.84 -14884366.70 0.0088 0.0041

Neptune -45464-01-24 17:45 J -14884278.89 -14884278.76 -14884278.61 0.0088 0.0035

Jupiter -45464-01-26 23:30 J -14884276.66 -14884276.52 -14884276.38 0.0539 0.0064

Moon -45464-02-27 19:54 J -14884244.79 -14884244.67 -14884244.55 0.2672 0.1154

Earth -45464-02-27 21:06 J -14884244.75 -14884244.62 -14884244.50 0.2670 0.1142 *

Neptune -45464-04-22 19:40 J -14884190.82 -14884190.68 -14884190.53 0.0088 0.0028

Neptune -45464-07-19 21:50 J -14884102.74 -14884102.59 -14884102.44 0.0088 0.0021

Neptune -45464-10-15 23:30 J -14884014.66 -14884014.52 -14884014.36 0.0088 0.0015

Neptune -45463-01-12 01:40 J -14883926.58 -14883926.43 -14883926.28 0.0088 0.0007

Mars -45463-04-08 23:02 J -14883839.67 -14883839.54 -14883839.41 0.1611 0.0430

Neptune -45463-04-10 03:35 J -14883838.50 -14883838.35 -14883838.20 0.0088 0.0001

Neptune -45463-07-07 05:30 J -14883750.42 -14883750.27 -14883750.12 0.0088 0.0006

Neptune -45463-10-03 07:11 J -14883662.34 -14883662.20 -14883662.04 0.0088 0.0013

Neptune -45463-12-30 09:06 J -14883574.26 -14883574.12 -14883573.97 0.0088 0.0020

Neptune -45462-03-28 11:02 J -14883486.18 -14883486.04 -14883485.89 0.0088 0.0026

Neptune -45462-06-24 12:57 J -14883398.10 -14883397.96 -14883397.82 0.0088 0.0033

Neptune -45462-09-20 14:38 J -14883310.02 -14883309.89 -14883309.75 0.0088 0.0040

Neptune -45462-12-17 16:18 J -14883221.93 -14883221.82 -14883221.68 0.0088 0.0047

Neptune -45461-03-14 18:28 J -14883133.85 -14883133.73 -14883133.61 0.0088 0.0053

Neptune -45461-06-10 19:54 J -14883045.76 -14883045.67 -14883045.54 0.0088 0.0060

Neptune -45461-09-06 22:04 J -14882957.67 -14882957.58 -14882957.48 0.0089 0.0066

Earth -45461-09-07 11:30 J -14882957.12 -14882957.02 -14882956.91 0.2666 0.1146

Moon -45461-09-07 12:28 J -14882957.09 -14882956.98 -14882956.88 0.2670 0.1277 *

Neptune -45461-12-03 23:30 J -14882869.58 -14882869.52 -14882869.42 0.0089 0.0073

Neptune -45460-03-02 01:26 J -14882781.49 -14882781.44 -14882781.36 0.0089 0.0079

Neptune -45460-05-29 03:35 J -14882693.39 -14882693.35 -14882693.31 0.0089 0.0085

Venus -45460-06-01 17:02 J -14882689.82 -14882689.79 -14882689.75 0.3698 0.3419

Jupiter -45459-09-14 03:35 J -14882220.50 -14882220.35 -14882220.19 0.0490 0.0127

Mars -45459-12-09 00:14 J -14882134.62 -14882134.49 -14882134.36 0.1917 0.0654

Jupiter -45459-12-12 22:18 J -14882130.60 -14882130.57 -14882130.54 0.0488 0.0476

Mars -45454-08-30 07:40 J -14880409.28 -14880409.18 -14880409.07 0.1608 0.0997

Moon -45454-09-01 03:06 J -14880407.47 -14880407.37 -14880407.27 0.2665 0.1480

Earth -45454-09-01 03:50 J -14880407.44 -14880407.34 -14880407.23 0.2662 0.1383 *

Saturn -45453-09-19 23:45 J -14880022.55 -14880022.51 -14880022.45 0.0287 0.0272

Jupiter -45453-11-15 01:54 J -14879966.56 -14879966.42 -14879966.28 0.0539 0.0099

Saturn -45453-12-17 18:14 J -14879933.88 -14879933.74 -14879933.60 0.0287 0.0152

Saturn -45452-03-16 12:57 J -14879845.13 -14879844.96 -14879844.80 0.0286 0.0029

Saturn -45452-06-13 07:54 J -14879756.33 -14879756.17 -14879756.01 0.0286 0.0096

Mars -45452-08-04 20:09 J -14879703.73 -14879703.66 -14879703.58 0.1619 0.1314

Saturn -45452-09-10 03:06 J -14879667.46 -14879667.37 -14879667.25 0.0286 0.0224

Moon -45451-03-02 20:38 J -14879493.77 -14879493.64 -14879493.50 0.2673 0.0064

Earth -45451-03-02 21:21 J -14879493.74 -14879493.61 -14879493.47 0.2668 0.0093 *

Mars -45449-04-30 01:54 J -14878704.56 -14878704.42 -14878704.29 0.1921 0.0504

Earth -45448-09-10 07:26 J -14878206.27 -14878206.19 -14878206.11 0.2668 0.1997

Moon -45448-09-10 08:23 J -14878206.23 -14878206.15 -14878206.08 0.2666 0.1986 *

Jupiter -45447-07-03 05:02 J -14877910.42 -14877910.29 -14877910.16 0.0490 0.0271

Jupiter -45447-09-30 23:02 J -14877820.66 -14877820.54 -14877820.41 0.0488 0.0327

Venus -45446-03-28 10:33 J -14877642.10 -14877642.06 -14877642.01 0.3692 0.3440

Mars -45444-01-19 16:18 J -14876978.84 -14876978.82 -14876978.80 0.1606 0.1570

Mars -45443-12-26 05:16 J -14876273.40 -14876273.28 -14876273.17 0.1616 0.0763

Moon -45441-09-03 00:14 J -14875656.61 -14875656.49 -14875656.38 0.2670 0.0493

Earth -45441-09-03 00:28 J -14875656.60 -14875656.48 -14875656.36 0.2663 0.0472 *

Jupiter -45441-09-03 04:18 J -14875656.45 -14875656.32 -14875656.20 0.0538 0.0265 *

Venus -45441-10-11 13:40 J -14875618.06 -14875617.93 -14875617.80 0.3686 0.1505

Jupiter -45441-12-01 18:42 J -14875566.80 -14875566.72 -14875566.64 0.0540 0.0423

Mars -45440-09-20 03:21 J -14875274.42 -14875274.36 -14875274.29 0.1924 0.1652

Earth -45438-03-05 22:18 J -14874742.69 -14874742.57 -14874742.44 0.2666 0.1193

Moon -45438-03-05 22:33 J -14874742.68 -14874742.56 -14874742.44 0.2673 0.1183 *

Saturn -45438-10-21 00:14 J -14874513.56 -14874513.49 -14874513.41 0.0272 0.0233

Saturn -45437-01-17 13:26 J -14874425.06 -14874424.94 -14874424.81 0.0273 0.0138

Saturn -45437-04-15 02:38 J -14874336.53 -14874336.39 -14874336.25 0.0273 0.0043

Saturn -45437-07-12 15:21 J -14874248.00 -14874247.86 -14874247.71 0.0273 0.0052

Saturn -45437-10-09 04:04 J -14874159.45 -14874159.33 -14874159.21 0.0274 0.0143

Saturn -45436-01-05 16:33 J -14874070.88 -14874070.81 -14874070.74 0.0274 0.0233

Jupiter -45435-04-21 05:59 J -14873600.33 -14873600.25 -14873600.17 0.0491 0.0419

Jupiter -45435-07-19 23:45 J -14873510.66 -14873510.51 -14873510.36 0.0489 0.0174

Uranus -45435-10-16 00:42 J -14873422.55 -14873422.47 -14873422.37 0.0147 0.0123

Uranus -45434-01-12 07:26 J -14873334.31 -14873334.19 -14873334.05 0.0147 0.0093

Uranus -45434-04-10 14:09 J -14873246.05 -14873245.91 -14873245.74 0.0147 0.0063

Uranus -45434-07-07 21:06 J -14873157.78 -14873157.62 -14873157.45 0.0147 0.0032

Uranus -45434-10-04 04:04 J -14873069.50 -14873069.33 -14873069.16 0.0147 0.0002

Uranus -45434-12-31 11:02 J -14872981.21 -14872981.04 -14872980.87 0.0147 0.0029

Uranus -45433-03-28 17:45 J -14872892.91 -14872892.76 -14872892.59 0.0147 0.0061

Mars -45433-05-17 14:09 J -14872843.04 -14872842.91 -14872842.77 0.1614 0.0219

Uranus -45433-06-25 00:57 J -14872804.59 -14872804.46 -14872804.32 0.0147 0.0092

Uranus -45433-09-21 07:54 J -14872716.25 -14872716.17 -14872716.07 0.0147 0.0124

Moon -45431-02-26 01:40 J -14872193.52 -14872193.43 -14872193.35 0.2668 0.2033

Earth -45431-02-26 02:38 J -14872193.47 -14872193.39 -14872193.31 0.2671 0.2048 *

Jupiter -45429-06-22 05:45 J -14871346.33 -14871346.26 -14871346.17 0.0537 0.0441

Jupiter -45429-09-19 20:38 J -14871256.76 -14871256.64 -14871256.51 0.0539 0.0254

Earth -45428-09-05 20:38 J -14870905.76 -14870905.64 -14870905.52 0.2665 0.0425

Moon -45428-09-05 21:06 J -14870905.74 -14870905.62 -14870905.50 0.2670 0.0480 *

Earth -45425-03-07 23:30 J -14869991.57 -14869991.52 -14869991.46 0.2664 0.2410

Moon -45425-03-08 00:28 J -14869991.52 -14869991.48 -14869991.44 0.2669 0.2551 *

Mars -45424-10-07 23:16 J -14869412.66 -14869412.53 -14869412.40 0.1611 0.0349

Saturn -45423-05-06 18:28 J -14869201.85 -14869201.73 -14869201.61 0.0287 0.0186

Jupiter -45423-05-08 01:11 J -14869200.62 -14869200.45 -14869200.29 0.0489 0.0030

Saturn -45423-08-03 12:57 J -14869113.12 -14869112.96 -14869112.79 0.0286 0.0065

Saturn -45423-10-31 07:54 J -14869024.33 -14869024.17 -14869024.00 0.0286 0.0061

Saturn -45422-01-28 03:21 J -14868935.48 -14868935.36 -14868935.23 0.0286 0.0187

Moon -45421-08-29 11:30 J -14868356.08 -14868356.02 -14868355.96 0.2659 0.2301

Earth -45421-08-29 12:28 J -14868356.05 -14868355.98 -14868355.91 0.2660 0.2152 *

Venus -45420-05-24 12:28 J -14868088.05 -14868087.98 -14868087.91 0.3685 0.2749

Mars -45419-06-09 00:42 J -14867707.60 -14867707.47 -14867707.34 0.1917 0.0786

Moon -45418-03-01 01:40 J -14867442.55 -14867442.43 -14867442.31 0.2673 0.1097

Earth -45418-03-01 02:52 J -14867442.51 -14867442.38 -14867442.26 0.2669 0.0937 *

Jupiter -45417-07-08 21:50 J -14866946.73 -14866946.59 -14866946.45 0.0539 0.0067

Pluto -45416-06-24 21:35 J -14866595.62 -14866595.60 -14866595.56 0.0081 0.0079

Pluto -45416-09-20 23:30 J -14866507.59 -14866507.52 -14866507.45 0.0080 0.0070

Pluto -45416-12-18 00:57 J -14866419.55 -14866419.46 -14866419.36 0.0080 0.0061

Pluto -45415-03-16 02:23 J -14866331.50 -14866331.40 -14866331.28 0.0080 0.0053

Pluto -45415-06-12 04:04 J -14866243.45 -14866243.33 -14866243.20 0.0080 0.0044

Pluto -45415-09-08 05:45 J -14866155.39 -14866155.26 -14866155.13 0.0080 0.0036

Earth -45415-09-08 16:47 J -14866154.91 -14866154.80 -14866154.70 0.2667 0.1298

Moon -45415-09-08 17:30 J -14866154.87 -14866154.77 -14866154.67 0.2670 0.1294 *

Pluto -45415-12-05 07:11 J -14866067.33 -14866067.20 -14866067.06 0.0080 0.0028

Venus -45415-12-08 05:16 J -14866064.39 -14866064.28 -14866064.17 0.3689 0.0363

Mars -45414-02-28 07:54 J -14865982.28 -14865982.17 -14865982.06 0.1608 0.0911

Pluto -45414-03-03 08:38 J -14865979.28 -14865979.14 -14865978.99 0.0080 0.0020

Pluto -45414-05-30 10:18 J -14865891.21 -14865891.07 -14865890.92 0.0079 0.0011

Pluto -45414-08-26 11:45 J -14865803.15 -14865803.01 -14865802.86 0.0079 0.0004

Pluto -45414-11-22 13:11 J -14865715.09 -14865714.95 -14865714.80 0.0079 0.0005

Pluto -45413-02-18 14:38 J -14865627.03 -14865626.89 -14865626.74 0.0079 0.0013

Pluto -45413-05-16 16:04 J -14865538.97 -14865538.83 -14865538.68 0.0079 0.0020

Pluto -45413-08-12 17:30 J -14865450.90 -14865450.77 -14865450.63 0.0079 0.0028

Pluto -45413-11-08 18:57 J -14865362.84 -14865362.71 -14865362.58 0.0079 0.0036

Mars -45412-02-02 20:23 J -14865276.72 -14865276.65 -14865276.59 0.1619 0.1392

Pluto -45412-02-04 20:09 J -14865274.77 -14865274.66 -14865274.53 0.0079 0.0044

Pluto -45412-05-03 21:50 J -14865186.70 -14865186.59 -14865186.48 0.0078 0.0051

Pluto -45412-07-30 22:47 J -14865098.63 -14865098.55 -14865098.44 0.0078 0.0059

Pluto -45412-10-27 00:28 J -14865010.55 -14865010.48 -14865010.40 0.0078 0.0065

Pluto -45411-01-23 01:26 J -14864922.47 -14864922.44 -14864922.37 0.0078 0.0073

Jupiter -45411-02-24 02:38 J -14864890.54 -14864890.39 -14864890.23 0.0490 0.0112

Mars -45410-10-30 01:54 J -14864277.55 -14864277.42 -14864277.28 0.1921 0.0398

Venus -45409-06-22 22:04 J -14864040.67 -14864040.58 -14864040.49 0.3694 0.1978

Saturn -45408-03-09 02:52 J -14863781.43 -14863781.38 -14863781.33 0.0272 0.0255

Saturn -45408-06-05 16:04 J -14863692.94 -14863692.83 -14863692.71 0.0272 0.0160

Moon -45408-09-01 08:23 J -14863605.26 -14863605.15 -14863605.04 0.2667 0.1213

Earth -45408-09-01 09:06 J -14863605.23 -14863605.12 -14863605.01 0.2662 0.1221 *

Saturn -45408-09-02 05:16 J -14863604.42 -14863604.28 -14863604.14 0.0273 0.0065

Saturn -45408-11-29 18:14 J -14863515.89 -14863515.74 -14863515.60 0.0273 0.0029

Saturn -45407-02-26 06:42 J -14863427.34 -14863427.22 -14863427.09 0.0273 0.0121

Saturn -45407-05-25 19:11 J -14863338.78 -14863338.70 -14863338.61 0.0273 0.0211

Moon -45405-03-03 02:38 J -14862691.52 -14862691.39 -14862691.25 0.2673 0.0215

Earth -45405-03-03 03:21 J -14862691.50 -14862691.36 -14862691.23 0.2668 0.0222 *

Jupiter -45405-04-26 23:59 J -14862636.64 -14862636.50 -14862636.36 0.0538 0.0102

Mars -45405-07-20 16:33 J -14862551.86 -14862551.81 -14862551.76 0.1606 0.1482

Mars -45403-06-26 05:30 J -14861846.38 -14861846.27 -14861846.16 0.1616 0.0848

Earth -45402-09-11 12:42 J -14861404.04 -14861403.97 -14861403.90 0.2668 0.2147

Moon -45402-09-11 13:26 J -14861404.00 -14861403.94 -14861403.88 0.2665 0.2267 *

Mars -45400-03-21 03:50 J -14860847.42 -14860847.34 -14860847.25 0.1924 0.1528

Jupiter -45400-12-13 04:04 J -14860580.47 -14860580.33 -14860580.20 0.0490 0.0258

Jupiter -45399-03-12 22:04 J -14860490.70 -14860490.58 -14860490.46 0.0488 0.0341

Moon -45395-09-04 05:16 J -14858854.40 -14858854.28 -14858854.16 0.2670 0.0355

Earth -45395-09-04 05:30 J -14858854.39 -14858854.27 -14858854.15 0.2664 0.0313 *

Saturn -45394-09-23 16:33 J -14858469.90 -14858469.81 -14858469.71 0.0287 0.0234

Mars -45394-11-16 14:23 J -14858416.03 -14858415.90 -14858415.77 0.1614 0.0299

Saturn -45394-12-21 11:02 J -14858381.19 -14858381.04 -14858380.89 0.0287 0.0113

Jupiter -45393-02-14 02:38 J -14858326.52 -14858326.39 -14858326.27 0.0538 0.0263

Saturn -45393-03-19 05:45 J -14858292.42 -14858292.26 -14858292.09 0.0286 0.0012

Uranus -45393-05-12 22:47 J -14858237.61 -14858237.55 -14858237.47 0.0132 0.0114

Jupiter -45393-05-13 17:02 J -14858236.87 -14858236.79 -14858236.70 0.0540 0.0427

Saturn -45393-06-16 00:57 J -14858203.60 -14858203.46 -14858203.31 0.0286 0.0136

Uranus -45393-08-09 02:38 J -14858149.48 -14858149.39 -14858149.28 0.0132 0.0095

Saturn -45393-09-12 20:38 J -14858114.70 -14858114.64 -14858114.58 0.0286 0.0264

Uranus -45393-11-05 06:14 J -14858061.35 -14858061.24 -14858061.11 0.0132 0.0076

Uranus -45392-02-01 10:04 J -14857973.21 -14857973.08 -14857972.95 0.0132 0.0057

Earth -45392-03-06 04:04 J -14857940.45 -14857940.33 -14857940.21 0.2666 0.1398

Moon -45392-03-06 04:18 J -14857940.43 -14857940.32 -14857940.20 0.2673 0.1437 *

Uranus -45392-04-30 13:40 J -14857885.07 -14857884.93 -14857884.79 0.0132 0.0038

Uranus -45392-07-27 17:16 J -14857796.92 -14857796.78 -14857796.64 0.0132 0.0019

Uranus -45392-10-23 20:52 J -14857708.77 -14857708.63 -14857708.49 0.0132 0.0001

Uranus -45391-01-20 00:28 J -14857620.62 -14857620.48 -14857620.34 0.0132 0.0018

Uranus -45391-04-18 04:04 J -14857532.47 -14857532.33 -14857532.20 0.0132 0.0036

Uranus -45391-07-15 07:26 J -14857444.32 -14857444.19 -14857444.06 0.0132 0.0054

Uranus -45391-10-11 10:47 J -14857356.16 -14857356.05 -14857355.92 0.0132 0.0073

Uranus -45390-01-07 14:09 J -14857268.00 -14857267.91 -14857267.80 0.0132 0.0091

Uranus -45390-04-05 17:30 J -14857179.83 -14857179.77 -14857179.68 0.0132 0.0109

Uranus -45390-07-02 21:21 J -14857091.65 -14857091.61 -14857091.58 0.0132 0.0126

Venus -45390-11-02 11:02 J -14856969.16 -14856969.04 -14856968.92 0.3691 0.1728

Jupiter -45388-10-01 05:16 J -14856270.37 -14856270.28 -14856270.18 0.0491 0.0400

Jupiter -45388-12-29 23:02 J -14856180.69 -14856180.54 -14856180.39 0.0489 0.0192

Moon -45385-02-27 07:11 J -14855391.29 -14855391.20 -14855391.11 0.2670 0.2007

Earth -45385-02-27 08:09 J -14855391.25 -14855391.16 -14855391.06 0.2671 0.1857 *

Neptune -45384-02-11 12:28 J -14855040.99 -14855040.98 -14855040.96 0.0089 0.0088

Mars -45384-04-07 23:16 J -14854985.66 -14854985.53 -14854985.40 0.1611 0.0267

Neptune -45384-05-10 14:52 J -14854952.94 -14854952.88 -14854952.82 0.0089 0.0081

Venus -45384-05-18 14:09 J -14854944.97 -14854944.91 -14854944.84 0.3684 0.3282

Neptune -45384-08-06 17:02 J -14854864.87 -14854864.79 -14854864.70 0.0089 0.0074

Neptune -45384-11-02 19:11 J -14854776.79 -14854776.70 -14854776.58 0.0089 0.0067

Neptune -45383-01-29 21:35 J -14854688.71 -14854688.60 -14854688.47 0.0089 0.0060

Neptune -45383-04-27 23:59 J -14854600.62 -14854600.50 -14854600.36 0.0089 0.0053

Neptune -45383-07-25 02:09 J -14854512.53 -14854512.41 -14854512.25 0.0089 0.0046

Neptune -45383-10-21 04:47 J -14854424.44 -14854424.30 -14854424.15 0.0089 0.0038

Neptune -45382-01-17 07:11 J -14854336.35 -14854336.20 -14854336.04 0.0089 0.0031

Neptune -45382-04-15 09:21 J -14854248.26 -14854248.11 -14854247.94 0.0089 0.0024

Neptune -45382-07-12 11:59 J -14854160.16 -14854160.00 -14854159.84 0.0089 0.0016

Earth -45382-09-07 01:54 J -14854103.54 -14854103.42 -14854103.31 0.2665 0.0589

Moon -45382-09-07 02:23 J -14854103.52 -14854103.40 -14854103.28 0.2671 0.0627 *

Neptune -45382-10-08 14:23 J -14854072.06 -14854071.90 -14854071.74 0.0089 0.0009

Jupiter -45382-12-03 04:47 J -14854016.39 -14854016.30 -14854016.22 0.0537 0.0429

Neptune -45381-01-04 16:47 J -14853983.96 -14853983.80 -14853983.63 0.0089 0.0001

Jupiter -45381-03-01 19:40 J -14853926.80 -14853926.68 -14853926.56 0.0539 0.0266

Neptune -45381-04-01 19:11 J -14853895.86 -14853895.70 -14853895.53 0.0089 0.0006

Neptune -45381-06-28 21:35 J -14853807.76 -14853807.60 -14853807.43 0.0089 0.0014

Neptune -45381-09-24 23:59 J -14853719.66 -14853719.50 -14853719.33 0.0089 0.0021

Neptune -45381-12-22 02:23 J -14853631.55 -14853631.40 -14853631.24 0.0089 0.0029

Neptune -45380-03-20 05:02 J -14853543.44 -14853543.29 -14853543.14 0.0089 0.0036

Neptune -45380-06-16 07:11 J -14853455.33 -14853455.20 -14853455.04 0.0089 0.0044

Neptune -45380-09-12 09:50 J -14853367.22 -14853367.09 -14853366.95 0.0089 0.0051

Mars -45380-12-08 00:42 J -14853280.59 -14853280.47 -14853280.34 0.1916 0.0880

Neptune -45380-12-09 12:14 J -14853279.10 -14853278.99 -14853278.85 0.0089 0.0059

Neptune -45379-03-07 14:38 J -14853190.98 -14853190.89 -14853190.76 0.0089 0.0067

Earth -45379-03-09 05:30 J -14853189.29 -14853189.27 -14853189.25 0.2664 0.2628

Moon -45379-03-09 06:28 J -14853189.23 -14853189.23 -14853189.22 0.2667 0.2664

Neptune -45379-06-03 17:16 J -14853102.86 -14853102.78 -14853102.68 0.0089 0.0074

Neptune -45379-08-30 19:40 J -14853014.72 -14853014.68 -14853014.60 0.0089 0.0082

Saturn -45379-10-23 16:33 J -14852960.91 -14852960.81 -14852960.71 0.0272 0.0198

Saturn -45378-01-20 05:45 J -14852872.40 -14852872.26 -14852872.13 0.0273 0.0102

Saturn -45378-04-18 18:42 J -14852783.87 -14852783.72 -14852783.58 0.0273 0.0008

Saturn -45378-07-16 07:26 J -14852695.32 -14852695.19 -14852695.05 0.0273 0.0085

Saturn -45378-10-12 19:54 J -14852606.77 -14852606.67 -14852606.56 0.0274 0.0176

Saturn -45377-01-09 08:23 J -14852518.18 -14852518.15 -14852518.12 0.0274 0.0266

Jupiter -45376-10-17 23:45 J -14851870.67 -14851870.51 -14851870.34 0.0489 0.0042

Mars -45375-08-29 08:09 J -14851555.28 -14851555.16 -14851555.05 0.1609 0.0828

Moon -45375-08-30 16:47 J -14851553.89 -14851553.80 -14851553.72 0.2660 0.1983

Earth -45375-08-30 17:30 J -14851553.85 -14851553.77 -14851553.68 0.2661 0.1989 *

Mars -45373-08-03 20:23 J -14850849.70 -14850849.65 -14850849.59 0.1620 0.1471

Moon -45372-03-01 07:26 J -14850640.32 -14850640.19 -14850640.06 0.2672 0.0738

Earth -45372-03-01 08:23 J -14850640.28 -14850640.15 -14850640.02 0.2669 0.0741 *

Mars -45370-04-30 02:23 J -14849850.54 -14849850.40 -14849850.26 0.1921 0.0275

Jupiter -45370-12-19 21:50 J -14849616.73 -14849616.59 -14849616.46 0.0539 0.0097

Earth -45369-09-08 21:50 J -14849352.69 -14849352.59 -14849352.49 0.2667 0.1450

Moon -45369-09-08 22:33 J -14849352.65 -14849352.56 -14849352.46 0.2669 0.1560 *

Mars -45365-01-19 16:47 J -14848124.86 -14848124.80 -14848124.74 0.1606 0.1396

Saturn -45364-02-09 16:33 J -14847737.86 -14847737.81 -14847737.75 0.0287 0.0270

Saturn -45364-05-09 10:47 J -14847649.18 -14847649.05 -14847648.90 0.0286 0.0151

Jupiter -45364-08-06 01:11 J -14847560.60 -14847560.45 -14847560.29 0.0490 0.0104

Saturn -45364-08-06 05:45 J -14847560.43 -14847560.26 -14847560.10 0.0286 0.0028 *

Saturn -45364-11-03 00:42 J -14847471.63 -14847471.47 -14847471.31 0.0286 0.0098

Mars -45364-12-25 05:45 J -14847419.37 -14847419.26 -14847419.16 0.1617 0.0930

Venus -45364-12-29 10:04 J -14847415.17 -14847415.08 -14847414.98 0.3686 0.1843

Saturn -45363-01-30 20:09 J -14847382.76 -14847382.66 -14847382.56 0.0286 0.0225

Moon -45362-09-02 13:40 J -14846803.04 -14846802.93 -14846802.82 0.2668 0.1176

Earth -45362-09-02 14:23 J -14846803.02 -14846802.90 -14846802.79 0.2662 0.1056 *

Mars -45361-09-19 04:18 J -14846420.41 -14846420.32 -14846420.23 0.1924 0.1409

Moon -45359-03-04 08:52 J -14845889.27 -14845889.13 -14845889.00 0.2674 0.0348

Earth -45359-03-04 09:06 J -14845889.26 -14845889.12 -14845888.99 0.2667 0.0421 *

Venus -45358-07-15 03:06 J -14845391.48 -14845391.37 -14845391.27 0.3691 0.0542

Jupiter -45358-10-07 22:33 J -14845306.70 -14845306.56 -14845306.42 0.0538 0.0095

Earth -45356-09-11 17:45 J -14844601.82 -14844601.76 -14844601.70 0.2668 0.2297

Moon -45356-09-11 18:28 J -14844601.79 -14844601.73 -14844601.67 0.2665 0.2277 *

Mars -45354-05-17 14:38 J -14843989.02 -14843988.89 -14843988.76 0.1614 0.0377

Venus -45352-01-27 19:54 J -14843367.74 -14843367.67 -14843367.61 0.3695 0.2862

Jupiter -45352-05-25 02:52 J -14843250.51 -14843250.38 -14843250.24 0.0490 0.0243

Jupiter -45352-08-22 21:06 J -14843160.73 -14843160.62 -14843160.51 0.0489 0.0357

Uranus -45351-08-09 01:26 J -14842809.46 -14842809.44 -14842809.39 0.0147 0.0144

Uranus -45351-11-05 08:23 J -14842721.25 -14842721.15 -14842721.04 0.0147 0.0114

Uranus -45350-02-01 15:06 J -14842633.01 -14842632.87 -14842632.73 0.0147 0.0084

Uranus -45350-04-30 21:50 J -14842544.75 -14842544.59 -14842544.43 0.0147 0.0054

Uranus -45350-07-28 04:33 J -14842456.47 -14842456.31 -14842456.13 0.0147 0.0024

Uranus -45350-10-24 11:30 J -14842368.19 -14842368.02 -14842367.84 0.0147 0.0008

Uranus -45349-01-20 18:28 J -14842279.90 -14842279.73 -14842279.56 0.0147 0.0038

Saturn -45349-03-11 19:11 J -14842228.79 -14842228.70 -14842228.62 0.0272 0.0219

Uranus -45349-04-18 01:11 J -14842191.59 -14842191.45 -14842191.29 0.0147 0.0070

Saturn -45349-06-08 08:23 J -14842140.28 -14842140.15 -14842140.02 0.0272 0.0124

Uranus -45349-07-15 08:23 J -14842103.27 -14842103.15 -14842103.02 0.0147 0.0101

Moon -45349-09-04 10:47 J -14842052.17 -14842052.05 -14842051.93 0.2670 0.0134

Earth -45349-09-04 10:47 J -14842052.17 -14842052.05 -14842051.93 0.2664 0.0156 *

Saturn -45349-09-04 21:21 J -14842051.75 -14842051.61 -14842051.46 0.0273 0.0030

Uranus -45349-10-11 15:35 J -14842014.92 -14842014.85 -14842014.78 0.0147 0.0132

Saturn -45349-12-02 10:18 J -14841963.21 -14841963.07 -14841962.93 0.0273 0.0063

Saturn -45348-02-28 22:47 J -14841874.66 -14841874.55 -14841874.43 0.0273 0.0155

Saturn -45348-05-28 11:16 J -14841786.09 -14841786.03 -14841785.97 0.0274 0.0245

Earth -45346-03-07 10:04 J -14841138.19 -14841138.08 -14841137.97 0.2666 0.1613

Moon -45346-03-07 10:18 J -14841138.17 -14841138.07 -14841137.96 0.2672 0.1653 *

Jupiter -45346-07-27 00:42 J -14840996.59 -14840996.47 -14840996.35 0.0538 0.0264

Jupiter -45346-10-24 15:06 J -14840906.95 -14840906.87 -14840906.78 0.0540 0.0425

Mars -45345-10-06 23:30 J -14840558.65 -14840558.52 -14840558.38 0.1611 0.0182

Jupiter -45340-03-13 04:18 J -14838940.42 -14838940.32 -14838940.22 0.0491 0.0386

Mars -45340-06-08 01:11 J -14838853.57 -14838853.45 -14838853.33 0.1916 0.1003

Jupiter -45340-06-10 22:04 J -14838850.73 -14838850.58 -14838850.43 0.0489 0.0207

Moon -45339-02-27 12:42 J -14838589.07 -14838588.97 -14838588.87 0.2671 0.1680

Earth -45339-02-27 13:54 J -14838589.02 -14838588.92 -14838588.81 0.2671 0.1661 *

Earth -45336-09-07 06:57 J -14837301.33 -14837301.21 -14837301.09 0.2665 0.0737

Moon -45336-09-07 07:26 J -14837301.30 -14837301.19 -14837301.07 0.2671 0.0779 *

Mars -45335-02-27 08:23 J -14837128.27 -14837128.15 -14837128.03 0.1609 0.0744

Saturn -45335-09-26 09:21 J -14836917.22 -14836917.11 -14836916.99 0.0287 0.0196

Saturn -45335-12-24 03:50 J -14836828.49 -14836828.34 -14836828.18 0.0286 0.0075

Saturn -45334-03-22 22:47 J -14836739.71 -14836739.55 -14836739.38 0.0286 0.0050

Jupiter -45334-05-15 02:52 J -14836686.46 -14836686.38 -14836686.29 0.0537 0.0429

Saturn -45334-06-19 17:59 J -14836650.88 -14836650.75 -14836650.61 0.0286 0.0176

Jupiter -45334-08-12 17:59 J -14836596.87 -14836596.75 -14836596.63 0.0540 0.0268

Mars -45333-02-02 20:38 J -14836422.67 -14836422.64 -14836422.60 0.1620 0.1553

Venus -45333-06-08 11:30 J -14836296.16 -14836296.02 -14836295.88 0.3689 0.0023

Mars -45331-10-29 02:38 J -14835423.53 -14835423.39 -14835423.25 0.1920 0.0164

Moon -45329-08-30 22:04 J -14834751.66 -14834751.58 -14834751.50 0.2662 0.1945

Earth -45329-08-30 22:47 J -14834751.63 -14834751.55 -14834751.46 0.2661 0.1818 *

Jupiter -45328-03-29 23:16 J -14834540.69 -14834540.53 -14834540.37 0.0489 0.0060

Moon -45326-03-02 13:11 J -14833838.08 -14833837.95 -14833837.82 0.2672 0.0691

Earth -45326-03-02 14:09 J -14833838.04 -14833837.91 -14833837.77 0.2669 0.0538 *

Mars -45326-07-20 17:02 J -14833697.87 -14833697.79 -14833697.72 0.1607 0.1312

Mars -45324-06-25 05:45 J -14832992.36 -14832992.26 -14832992.16 0.1616 0.1007

Earth -45323-09-10 02:52 J -14832550.47 -14832550.38 -14832550.28 0.2667 0.1607

Moon -45323-09-10 03:50 J -14832550.43 -14832550.34 -14832550.25 0.2667 0.1646 *

Jupiter -45322-05-31 20:38 J -14832286.78 -14832286.64 -14832286.50 0.0539 0.0107

Mars -45321-03-20 04:18 J -14831993.42 -14831993.32 -14831993.22 0.1924 0.1313

Saturn -45320-07-29 19:11 J -14831496.74 -14831496.70 -14831496.65 0.0272 0.0258

Saturn -45320-10-26 08:38 J -14831408.26 -14831408.14 -14831408.02 0.0272 0.0162

Saturn -45319-01-22 21:50 J -14831319.73 -14831319.59 -14831319.45 0.0273 0.0067

Saturn -45319-04-21 10:47 J -14831231.20 -14831231.05 -14831230.91 0.0273 0.0027

Saturn -45319-07-18 23:16 J -14831142.65 -14831142.53 -14831142.39 0.0273 0.0119

Saturn -45319-10-15 11:59 J -14831054.09 -14831054.00 -14831053.91 0.0274 0.0210

Jupiter -45316-01-15 23:59 J -14830230.66 -14830230.50 -14830230.34 0.0490 0.0092

Moon -45316-09-02 18:57 J -14830000.83 -14830000.71 -14830000.60 0.2668 0.0867

Earth -45316-09-02 19:26 J -14830000.80 -14830000.69 -14830000.57 0.2663 0.0895 *

Mars -45315-11-15 14:52 J -14829562.01 -14829561.88 -14829561.76 0.1614 0.0459

Moon -45313-03-04 14:38 J -14829087.02 -14829086.89 -14829086.76 0.2674 0.0688

Earth -45313-03-04 14:52 J -14829087.02 -14829086.88 -14829086.75 0.2667 0.0624 *

Venus -45312-01-19 14:52 J -14828765.92 -14828765.88 -14828765.83 0.3682 0.3345

Jupiter -45310-03-19 22:33 J -14827976.70 -14827976.56 -14827976.42 0.0538 0.0065

Earth -45310-09-12 22:47 J -14827799.59 -14827799.55 -14827799.50 0.2669 0.2444

Moon -45310-09-12 23:30 J -14827799.55 -14827799.52 -14827799.49 0.2665 0.2551 *

Uranus -45309-03-06 02:38 J -14827624.42 -14827624.39 -14827624.35 0.0132 0.0126

Uranus -45309-06-02 06:28 J -14827536.31 -14827536.23 -14827536.15 0.0132 0.0107

Uranus -45309-08-29 10:04 J -14827448.18 -14827448.08 -14827447.97 0.0132 0.0088

Uranus -45309-11-25 13:54 J -14827360.05 -14827359.92 -14827359.80 0.0132 0.0069

Uranus -45308-02-21 17:16 J -14827271.91 -14827271.78 -14827271.64 0.0132 0.0051

Uranus -45308-05-20 21:06 J -14827183.76 -14827183.62 -14827183.48 0.0132 0.0032

Uranus -45308-08-17 00:42 J -14827095.62 -14827095.47 -14827095.33 0.0132 0.0013

Uranus -45308-11-13 04:18 J -14827007.47 -14827007.32 -14827007.18 0.0132 0.0006

Uranus -45307-02-09 07:40 J -14826919.32 -14826919.18 -14826919.03 0.0132 0.0024

Uranus -45307-05-08 11:16 J -14826831.16 -14826831.03 -14826830.89 0.0132 0.0042

Uranus -45307-08-04 14:38 J -14826743.01 -14826742.89 -14826742.76 0.0132 0.0061

Venus -45307-08-05 07:54 J -14826742.27 -14826742.17 -14826742.07 0.3687 0.0946

Uranus -45307-10-31 17:59 J -14826654.85 -14826654.75 -14826654.63 0.0132 0.0079

Uranus -45306-01-27 21:35 J -14826566.69 -14826566.60 -14826566.50 0.0132 0.0097

Moon -45306-02-25 18:42 J -14826537.74 -14826537.72 -14826537.69 0.2668 0.2602

Earth -45306-02-25 19:40 J -14826537.72 -14826537.68 -14826537.64 0.2672 0.2556 *

Uranus -45306-04-26 00:57 J -14826478.52 -14826478.46 -14826478.38 0.0132 0.0115

Saturn -45305-02-13 09:06 J -14826185.21 -14826185.12 -14826185.03 0.0287 0.0235

Mars -45305-04-06 23:45 J -14826131.64 -14826131.51 -14826131.38 0.1611 0.0097

Saturn -45305-05-12 03:21 J -14826096.50 -14826096.36 -14826096.20 0.0286 0.0114

Saturn -45305-08-08 22:18 J -14826007.74 -14826007.57 -14826007.41 0.0286 0.0010

Jupiter -45305-11-04 01:40 J -14825920.57 -14825920.43 -14825920.29 0.0490 0.0234

Saturn -45305-11-05 17:16 J -14825918.92 -14825918.78 -14825918.63 0.0286 0.0136

Jupiter -45304-02-01 19:40 J -14825830.78 -14825830.68 -14825830.57 0.0489 0.0366

Saturn -45304-02-02 12:57 J -14825830.02 -14825829.96 -14825829.90 0.0285 0.0263

Earth -45303-09-05 15:50 J -14825249.96 -14825249.84 -14825249.72 0.2664 0.0061

Moon -45303-09-05 16:04 J -14825249.95 -14825249.83 -14825249.71 0.2671 0.0038 *

Neptune -45302-11-17 00:28 J -14824812.48 -14824812.48 -14824812.44 0.0088 0.0088

Neptune -45301-02-13 02:38 J -14824724.44 -14824724.39 -14824724.32 0.0088 0.0081

Venus -45301-02-19 00:42 J -14824718.57 -14824718.47 -14824718.37 0.3692 0.1415

Neptune -45301-05-11 04:33 J -14824636.38 -14824636.31 -14824636.21 0.0088 0.0074

Neptune -45301-08-07 06:42 J -14824548.31 -14824548.22 -14824548.11 0.0088 0.0067

Neptune -45301-11-03 08:38 J -14824460.24 -14824460.14 -14824460.02 0.0088 0.0060

Mars -45301-12-07 01:40 J -14824426.54 -14824426.43 -14824426.32 0.1916 0.1129

Neptune -45300-01-30 10:47 J -14824372.17 -14824372.05 -14824371.92 0.0088 0.0053

Earth -45300-03-07 15:50 J -14824335.94 -14824335.84 -14824335.74 0.2665 0.1825

Moon -45300-03-07 16:33 J -14824335.91 -14824335.81 -14824335.72 0.2671 0.1836 *

Neptune -45300-04-28 12:42 J -14824284.09 -14824283.97 -14824283.83 0.0088 0.0046

Neptune -45300-07-25 14:52 J -14824196.02 -14824195.88 -14824195.74 0.0088 0.0039

Neptune -45300-10-21 16:33 J -14824107.94 -14824107.81 -14824107.66 0.0088 0.0033

Neptune -45299-01-17 18:42 J -14824019.86 -14824019.72 -14824019.57 0.0088 0.0025

Neptune -45299-04-15 20:38 J -14823931.79 -14823931.64 -14823931.49 0.0088 0.0018

Neptune -45299-07-12 22:33 J -14823843.71 -14823843.56 -14823843.41 0.0088 0.0012

Neptune -45299-10-09 00:28 J -14823755.63 -14823755.48 -14823755.32 0.0088 0.0005

Neptune -45298-01-05 02:23 J -14823667.55 -14823667.40 -14823667.24 0.0088 0.0003

Jupiter -45298-01-05 23:16 J -14823666.65 -14823666.53 -14823666.40 0.0537 0.0256

Neptune -45298-04-03 04:18 J -14823579.47 -14823579.32 -14823579.17 0.0088 0.0009

Jupiter -45298-04-05 13:54 J -14823577.00 -14823576.92 -14823576.84 0.0540 0.0431

Neptune -45298-06-30 06:14 J -14823491.39 -14823491.24 -14823491.09 0.0088 0.0016

Neptune -45298-09-26 08:09 J -14823403.30 -14823403.16 -14823403.01 0.0088 0.0022

Neptune -45298-12-23 10:04 J -14823315.22 -14823315.08 -14823314.94 0.0088 0.0029

Neptune -45297-03-20 11:45 J -14823227.14 -14823227.01 -14823226.86 0.0088 0.0036

Neptune -45297-06-16 13:40 J -14823139.05 -14823138.93 -14823138.79 0.0088 0.0042

Neptune -45297-09-12 15:35 J -14823050.97 -14823050.85 -14823050.72 0.0088 0.0049

Neptune -45297-12-09 17:16 J -14822962.88 -14822962.78 -14822962.65 0.0088 0.0056

Neptune -45296-03-07 19:11 J -14822874.80 -14822874.70 -14822874.59 0.0088 0.0062

Neptune -45296-06-03 20:52 J -14822786.71 -14822786.63 -14822786.52 0.0088 0.0069

Mars -45296-08-28 08:38 J -14822701.27 -14822701.14 -14822701.02 0.1609 0.0658

Earth -45296-08-29 07:11 J -14822700.22 -14822700.20 -14822700.17 0.2660 0.2595

Neptune -45296-08-30 23:02 J -14822698.62 -14822698.54 -14822698.46 0.0089 0.0075

Neptune -45296-11-27 00:28 J -14822610.52 -14822610.48 -14822610.41 0.0089 0.0082

Neptune -45295-02-23 02:23 J -14822522.40 -14822522.40 -14822522.37 0.0089 0.0088

Moon -45293-02-28 18:28 J -14821786.84 -14821786.73 -14821786.63 0.2671 0.1611

Earth -45293-02-28 19:40 J -14821786.80 -14821786.68 -14821786.57 0.2670 0.1469 *

Jupiter -45293-08-23 03:06 J -14821610.46 -14821610.37 -14821610.26 0.0491 0.0373

Jupiter -45293-11-20 21:06 J -14821520.77 -14821520.62 -14821520.48 0.0489 0.0222

Mars -45291-04-29 02:52 J -14820996.52 -14820996.38 -14820996.24 0.1920 0.0066

Saturn -45290-03-15 11:16 J -14820676.13 -14820676.03 -14820675.92 0.0272 0.0184

Saturn -45290-06-12 00:28 J -14820587.61 -14820587.48 -14820587.34 0.0273 0.0089

Earth -45290-09-08 11:59 J -14820499.11 -14820499.00 -14820498.88 0.2666 0.0900

Moon -45290-09-08 12:42 J -14820499.08 -14820498.97 -14820498.86 0.2671 0.0971 *

Saturn -45290-09-08 13:40 J -14820499.08 -14820498.93 -14820498.79 0.0273 0.0007 *

Saturn -45290-12-06 02:23 J -14820410.53 -14820410.40 -14820410.27 0.0273 0.0098

Saturn -45289-03-03 14:52 J -14820321.98 -14820321.88 -14820321.78 0.0273 0.0190

Jupiter -45287-10-25 01:11 J -14819356.54 -14819356.45 -14819356.37 0.0537 0.0429

Mars -45286-01-18 17:16 J -14819270.87 -14819270.78 -14819270.70 0.1607 0.1224

Jupiter -45286-01-22 16:04 J -14819266.95 -14819266.83 -14819266.70 0.0539 0.0267

Mars -45285-12-24 05:59 J -14818565.35 -14818565.25 -14818565.15 0.1617 0.1090

Moon -45283-09-01 03:21 J -14817949.46 -14817949.36 -14817949.27 0.2664 0.1670

Earth -45283-09-01 04:04 J -14817949.42 -14817949.33 -14817949.23 0.2661 0.1651 *

Venus -45282-06-30 08:52 J -14817647.19 -14817647.13 -14817647.06 0.3694 0.3171

Mars -45282-09-19 04:33 J -14817566.41 -14817566.31 -14817566.20 0.1924 0.1197

Jupiter -45281-09-08 22:04 J -14817210.74 -14817210.58 -14817210.42 0.0489 0.0073

Moon -45280-03-02 18:57 J -14817035.84 -14817035.71 -14817035.57 0.2673 0.0334

Earth -45280-03-02 19:54 J -14817035.81 -14817035.67 -14817035.54 0.2669 0.0342 *

Earth -45277-09-10 08:09 J -14815748.25 -14815748.16 -14815748.07 0.2667 0.1755

Moon -45277-09-10 08:52 J -14815748.21 -14815748.13 -14815748.04 0.2666 0.1817 *

Venus -45276-01-13 11:45 J -14815623.13 -14815623.01 -14815622.88 0.3688 0.1733

Saturn -45276-07-02 08:09 J -14815453.20 -14815453.16 -14815453.12 0.0287 0.0277

Saturn -45276-09-29 02:09 J -14815364.54 -14815364.41 -14815364.26 0.0287 0.0158

Saturn -45276-12-26 20:52 J -14815275.79 -14815275.63 -14815275.46 0.0286 0.0036

Saturn -45275-03-25 15:50 J -14815186.99 -14815186.84 -14815186.68 0.0286 0.0090

Mars -45275-05-16 15:06 J -14815135.00 -14815134.87 -14815134.75 0.1614 0.0542

Saturn -45275-06-22 11:16 J -14815098.14 -14815098.03 -14815097.92 0.0286 0.0217

Jupiter -45275-11-10 18:42 J -14814956.85 -14814956.72 -14814956.58 0.0539 0.0107

Moon -45270-09-04 00:14 J -14813198.60 -14813198.49 -14813198.37 0.2668 0.0834

Earth -45270-09-04 00:42 J -14813198.59 -14813198.47 -14813198.35 0.2663 0.0727 *

Jupiter -45269-06-27 23:16 J -14812900.69 -14812900.53 -14812900.37 0.0490 0.0073

Moon -45267-03-05 20:23 J -14812284.78 -14812284.65 -14812284.52 0.2674 0.0738

Earth -45267-03-05 20:38 J -14812284.77 -14812284.64 -14812284.51 0.2667 0.0832 *

Uranus -45267-08-29 09:06 J -14812108.17 -14812108.12 -14812108.04 0.0147 0.0135

Uranus -45267-11-25 15:50 J -14812019.95 -14812019.84 -14812019.72 0.0147 0.0105

Uranus -45266-02-21 22:33 J -14811931.70 -14811931.56 -14811931.41 0.0147 0.0075

Uranus -45266-05-21 05:16 J -14811843.44 -14811843.28 -14811843.11 0.0147 0.0045

Uranus -45266-08-17 12:14 J -14811755.16 -14811754.99 -14811754.82 0.0147 0.0014

Mars -45266-10-06 23:59 J -14811704.64 -14811704.50 -14811704.37 0.1611 0.0049

Uranus -45266-11-13 19:11 J -14811666.87 -14811666.70 -14811666.53 0.0147 0.0017

Uranus -45265-02-10 01:54 J -14811578.58 -14811578.42 -14811578.25 0.0147 0.0048

Uranus -45265-05-08 08:52 J -14811490.27 -14811490.13 -14811489.98 0.0147 0.0079

Uranus -45265-08-04 16:04 J -14811401.94 -14811401.83 -14811401.71 0.0147 0.0110

Uranus -45265-10-31 23:02 J -14811313.57 -14811313.54 -14811313.49 0.0147 0.0142

Earth -45264-09-13 03:50 J -14810997.36 -14810997.34 -14810997.31 0.2669 0.2592

Moon -45264-09-13 04:33 J -14810997.34 -14810997.31 -14810997.29 0.2665 0.2585 *

Jupiter -45263-08-29 21:21 J -14810646.76 -14810646.61 -14810646.47 0.0538 0.0058

Mars -45261-06-07 01:40 J -14809999.53 -14809999.43 -14809999.32 0.1916 0.1231

Saturn -45261-08-01 11:30 J -14809944.10 -14809944.02 -14809943.93 0.0272 0.0222

Saturn -45261-10-29 00:57 J -14809855.59 -14809855.46 -14809855.33 0.0273 0.0126

Saturn -45260-01-25 13:54 J -14809767.06 -14809766.92 -14809766.77 0.0273 0.0032

Moon -45260-02-26 00:14 J -14809735.55 -14809735.49 -14809735.43 0.2669 0.2402

Earth -45260-02-26 01:11 J -14809735.51 -14809735.45 -14809735.39 0.2672 0.2367 *

Saturn -45260-04-24 02:52 J -14809678.52 -14809678.38 -14809678.24 0.0273 0.0062

Saturn -45260-07-21 15:35 J -14809589.97 -14809589.85 -14809589.74 0.0273 0.0154

Saturn -45260-10-18 03:50 J -14809501.40 -14809501.34 -14809501.27 0.0274 0.0244

Pluto -45258-04-30 03:21 J -14808942.39 -14808942.36 -14808942.30 0.0064 0.0062

Pluto -45258-07-27 04:33 J -14808854.38 -14808854.31 -14808854.22 0.0064 0.0057

Pluto -45258-10-23 05:59 J -14808766.35 -14808766.25 -14808766.15 0.0065 0.0052

Pluto -45257-01-19 06:42 J -14808678.31 -14808678.22 -14808678.09 0.0065 0.0048

Jupiter -45257-04-16 00:14 J -14808590.63 -14808590.49 -14808590.35 0.0490 0.0223

Pluto -45257-04-16 07:54 J -14808590.28 -14808590.17 -14808590.02 0.0065 0.0043

Pluto -45257-07-13 09:06 J -14808502.24 -14808502.12 -14808501.96 0.0065 0.0038

Jupiter -45257-07-14 18:28 J -14808500.83 -14808500.73 -14808500.63 0.0488 0.0377

Earth -45257-09-05 21:06 J -14808447.74 -14808447.62 -14808447.50 0.2664 0.0174

Moon -45257-09-05 21:21 J -14808447.73 -14808447.61 -14808447.49 0.2671 0.0263 *

Pluto -45257-10-09 10:18 J -14808414.20 -14808414.07 -14808413.91 0.0065 0.0033

Pluto -45256-01-05 11:45 J -14808326.15 -14808326.01 -14808325.85 0.0065 0.0028

Mars -45256-02-26 08:38 J -14808274.26 -14808274.14 -14808274.01 0.1609 0.0576

Pluto -45256-04-03 12:57 J -14808238.11 -14808237.96 -14808237.79 0.0065 0.0023

Pluto -45256-06-30 14:09 J -14808150.06 -14808149.91 -14808149.74 0.0065 0.0018

Venus -45256-08-26 12:42 J -14808093.05 -14808092.97 -14808092.89 0.3684 0.2432

Pluto -45256-09-26 15:21 J -14808062.01 -14808061.86 -14808061.68 0.0065 0.0014

Pluto -45256-12-23 16:47 J -14807973.96 -14807973.80 -14807973.63 0.0065 0.0008

Pluto -45255-03-21 18:14 J -14807885.91 -14807885.74 -14807885.57 0.0065 0.0003

Pluto -45255-06-17 19:26 J -14807797.86 -14807797.69 -14807797.52 0.0066 0.0003

Pluto -45255-09-13 20:38 J -14807709.81 -14807709.64 -14807709.47 0.0066 0.0008

Pluto -45255-12-10 21:50 J -14807621.75 -14807621.59 -14807621.42 0.0066 0.0013

Earth -45254-03-08 21:35 J -14807533.69 -14807533.60 -14807533.51 0.2665 0.2033

Pluto -45254-03-08 23:16 J -14807533.69 -14807533.53 -14807533.37 0.0066 0.0018 *

Moon -45254-03-08 22:33 J -14807533.64 -14807533.56 -14807533.48 0.2670 0.2167 *

Pluto -45254-06-05 00:14 J -14807445.64 -14807445.49 -14807445.32 0.0066 0.0024

Pluto -45254-09-01 01:40 J -14807357.57 -14807357.43 -14807357.27 0.0066 0.0029

Pluto -45254-11-28 03:06 J -14807269.51 -14807269.37 -14807269.22 0.0066 0.0034

Pluto -45253-02-24 04:04 J -14807181.45 -14807181.33 -14807181.17 0.0066 0.0041

Pluto -45253-05-22 05:30 J -14807093.38 -14807093.27 -14807093.13 0.0066 0.0046

Pluto -45253-08-18 07:11 J -14807005.31 -14807005.20 -14807005.09 0.0066 0.0051

Pluto -45253-11-14 08:09 J -14806917.23 -14806917.16 -14806917.05 0.0066 0.0057

Pluto -45252-02-10 09:21 J -14806829.14 -14806829.11 -14806829.02 0.0067 0.0063

Mars -45252-10-28 03:06 J -14806569.50 -14806569.37 -14806569.23 0.1921 0.0091

Jupiter -45251-06-17 23:02 J -14806336.66 -14806336.54 -14806336.41 0.0538 0.0229

Jupiter -45251-09-15 13:40 J -14806247.00 -14806246.93 -14806246.86 0.0540 0.0459

Venus -45250-03-12 05:45 J -14806069.37 -14806069.26 -14806069.15 0.3688 0.0108

Moon -45250-08-30 11:45 J -14805898.05 -14805898.01 -14805897.97 0.2658 0.2486

Earth -45250-08-30 12:28 J -14805898.02 -14805897.98 -14805897.93 0.2660 0.2424 *

Moon -45247-02-28 23:59 J -14804984.61 -14804984.50 -14804984.38 0.2670 0.1317

Earth -45247-03-01 01:11 J -14804984.56 -14804984.45 -14804984.33 0.2670 0.1275 *

Mars -45247-07-19 17:30 J -14804843.87 -14804843.77 -14804843.68 0.1607 0.1142

Saturn -45246-02-16 01:54 J -14804632.54 -14804632.42 -14804632.30 0.0287 0.0197

Saturn -45246-05-15 20:23 J -14804543.81 -14804543.65 -14804543.49 0.0286 0.0075

Saturn -45246-08-12 15:06 J -14804455.03 -14804454.87 -14804454.70 0.0286 0.0050

Saturn -45246-11-09 10:18 J -14804366.19 -14804366.07 -14804365.93 0.0286 0.0176

Jupiter -45245-02-03 01:54 J -14804280.53 -14804280.42 -14804280.32 0.0491 0.0364

Jupiter -45245-05-02 19:40 J -14804190.83 -14804190.68 -14804190.54 0.0489 0.0230

Mars -45245-06-24 06:14 J -14804138.33 -14804138.24 -14804138.15 0.1617 0.1171

Venus -45245-09-24 22:33 J -14804045.64 -14804045.56 -14804045.48 0.3693 0.2305

Earth -45244-09-08 17:16 J -14803696.89 -14803696.78 -14803696.67 0.2666 0.1050

Moon -45244-09-08 17:59 J -14803696.86 -14803696.75 -14803696.64 0.2670 0.1055 *

Mars -45242-03-20 05:02 J -14803139.40 -14803139.29 -14803139.17 0.1924 0.1073

Jupiter -45239-04-05 23:45 J -14802026.59 -14802026.51 -14802026.42 0.0537 0.0421

Jupiter -45239-07-04 14:52 J -14801937.00 -14801936.88 -14801936.76 0.0539 0.0273

Moon -45237-09-01 08:23 J -14801147.24 -14801147.15 -14801147.05 0.2665 0.1585

Earth -45237-09-01 09:21 J -14801147.21 -14801147.11 -14801147.01 0.2661 0.1483 *

Mars -45236-11-14 15:06 J -14800707.99 -14800707.87 -14800707.74 0.1614 0.0624

Moon -45234-03-04 00:57 J -14800233.59 -14800233.46 -14800233.32 0.2674 0.0252

Earth -45234-03-04 01:40 J -14800233.57 -14800233.43 -14800233.29 0.2668 0.0138 *

Jupiter -45233-02-19 20:52 J -14799880.79 -14799880.63 -14799880.47 0.0490 0.0086

Saturn -45232-12-19 14:23 J -14799211.96 -14799211.90 -14799211.83 0.0272 0.0243

Saturn -45231-03-18 03:50 J -14799123.46 -14799123.34 -14799123.22 0.0273 0.0147

Saturn -45231-06-14 17:02 J -14799034.93 -14799034.79 -14799034.65 0.0273 0.0052

Saturn -45231-09-11 05:59 J -14798946.40 -14798946.25 -14798946.11 0.0273 0.0042

Earth -45231-09-11 13:11 J -14798946.03 -14798945.95 -14798945.87 0.2668 0.1904

Moon -45231-09-11 14:09 J -14798945.99 -14798945.91 -14798945.83 0.2667 0.1981 *

Saturn -45231-12-08 18:28 J -14798857.85 -14798857.73 -14798857.60 0.0273 0.0135

Saturn -45230-03-07 07:11 J -14798769.28 -14798769.20 -14798769.12 0.0274 0.0225

Jupiter -45227-04-22 16:47 J -14797626.93 -14797626.80 -14797626.66 0.0539 0.0106

Mars -45226-04-07 00:14 J -14797277.63 -14797277.49 -14797277.36 0.1611 0.0078

Venus -45225-02-04 09:21 J -14796974.24 -14796974.11 -14796973.99 0.3692 0.1486

Uranus -45225-03-26 10:18 J -14796923.13 -14796923.07 -14796923.01 0.0132 0.0119

Uranus -45225-06-22 13:54 J -14796835.01 -14796834.92 -14796834.82 0.0132 0.0100

Uranus -45225-09-18 17:45 J -14796746.88 -14796746.76 -14796746.65 0.0132 0.0081

Uranus -45225-12-15 21:21 J -14796658.74 -14796658.61 -14796658.48 0.0132 0.0062

Uranus -45224-03-14 00:57 J -14796570.60 -14796570.46 -14796570.32 0.0132 0.0043

Uranus -45224-06-10 04:33 J -14796482.45 -14796482.31 -14796482.17 0.0132 0.0025

Moon -45224-09-04 05:30 J -14796396.38 -14796396.27 -14796396.15 0.2669 0.0544

Earth -45224-09-04 05:59 J -14796396.37 -14796396.25 -14796396.13 0.2663 0.0569 *

Uranus -45224-09-06 08:09 J -14796394.30 -14796394.16 -14796394.02 0.0132 0.0006

Uranus -45224-12-03 11:45 J -14796306.15 -14796306.01 -14796305.87 0.0132 0.0012

Uranus -45223-03-01 15:06 J -14796218.00 -14796217.87 -14796217.72 0.0132 0.0031

Uranus -45223-05-28 18:42 J -14796129.85 -14796129.72 -14796129.58 0.0132 0.0049

Uranus -45223-08-24 22:18 J -14796041.69 -14796041.57 -14796041.45 0.0132 0.0067

Uranus -45223-11-21 01:40 J -14795953.54 -14795953.43 -14795953.32 0.0132 0.0085

Uranus -45222-02-17 05:02 J -14795865.37 -14795865.29 -14795865.20 0.0132 0.0103

Uranus -45222-05-16 08:23 J -14795777.19 -14795777.15 -14795777.09 0.0132 0.0121

Mars -45222-12-07 02:09 J -14795572.51 -14795572.41 -14795572.31 0.1916 0.1347

Jupiter -45222-12-08 22:04 J -14795570.74 -14795570.58 -14795570.42 0.0490 0.0062

Moon -45221-03-06 02:23 J -14795482.53 -14795482.40 -14795482.28 0.2673 0.1116

Earth -45221-03-06 02:23 J -14795482.53 -14795482.40 -14795482.27 0.2666 0.1032 *

Venus -45220-08-20 12:14 J -14794950.03 -14794949.99 -14794949.94 0.3686 0.3487

Neptune -45220-11-08 10:47 J -14794870.07 -14794870.05 -14794869.99 0.0089 0.0086

Neptune -45219-02-04 13:11 J -14794782.01 -14794781.95 -14794781.86 0.0089 0.0079

Neptune -45219-05-03 15:21 J -14794693.94 -14794693.86 -14794693.75 0.0089 0.0072

Neptune -45219-07-30 17:59 J -14794605.85 -14794605.75 -14794605.63 0.0089 0.0064

Neptune -45219-10-26 20:23 J -14794517.77 -14794517.65 -14794517.52 0.0089 0.0057

Neptune -45218-01-22 22:33 J -14794429.68 -14794429.56 -14794429.42 0.0089 0.0050

Neptune -45218-04-21 00:57 J -14794341.60 -14794341.46 -14794341.31 0.0089 0.0043

Neptune -45218-07-18 03:06 J -14794253.50 -14794253.37 -14794253.21 0.0089 0.0036

Neptune -45218-10-14 05:45 J -14794165.41 -14794165.26 -14794165.10 0.0089 0.0028

Neptune -45217-01-10 08:09 J -14794077.32 -14794077.16 -14794077.00 0.0089 0.0021

Neptune -45217-04-07 10:33 J -14793989.22 -14793989.06 -14793988.90 0.0089 0.0013

Neptune -45217-07-04 12:57 J -14793901.12 -14793900.96 -14793900.79 0.0089 0.0006

Saturn -45217-07-05 01:26 J -14793900.53 -14793900.44 -14793900.35 0.0287 0.0236

Mars -45217-08-27 08:52 J -14793847.26 -14793847.13 -14793847.00 0.1609 0.0492

Neptune -45217-09-30 15:21 J -14793813.02 -14793812.86 -14793812.69 0.0089 0.0002

Saturn -45217-10-01 19:40 J -14793811.83 -14793811.68 -14793811.53 0.0286 0.0116

Neptune -45217-12-27 17:45 J -14793724.92 -14793724.76 -14793724.59 0.0089 0.0009

Saturn -45217-12-29 14:23 J -14793723.06 -14793722.90 -14793722.73 0.0286 0.0009

Neptune -45216-03-25 20:09 J -14793636.82 -14793636.66 -14793636.49 0.0089 0.0016

Saturn -45216-03-28 09:35 J -14793634.25 -14793634.10 -14793633.95 0.0286 0.0133

Neptune -45216-06-21 22:33 J -14793548.71 -14793548.56 -14793548.39 0.0089 0.0024

Saturn -45216-06-25 04:47 J -14793545.36 -14793545.30 -14793545.22 0.0286 0.0261

Neptune -45216-09-18 00:57 J -14793460.61 -14793460.46 -14793460.30 0.0089 0.0032

Neptune -45216-12-15 03:21 J -14793372.50 -14793372.36 -14793372.20 0.0089 0.0039

Jupiter -45215-02-08 19:26 J -14793316.83 -14793316.69 -14793316.55 0.0538 0.0060

Neptune -45215-03-13 05:45 J -14793284.39 -14793284.26 -14793284.10 0.0089 0.0047

Neptune -45215-06-09 08:23 J -14793196.27 -14793196.15 -14793196.01 0.0089 0.0054

Neptune -45215-09-05 10:47 J -14793108.16 -14793108.05 -14793107.92 0.0089 0.0062

Neptune -45215-12-02 13:26 J -14793020.04 -14793019.94 -14793019.83 0.0089 0.0069

Moon -45214-02-27 05:45 J -14792933.32 -14792933.26 -14792933.19 0.2669 0.2301

Earth -45214-02-27 06:57 J -14792933.29 -14792933.21 -14792933.13 0.2672 0.2175 *

Neptune -45214-02-28 15:50 J -14792931.91 -14792931.84 -14792931.75 0.0089 0.0077

Neptune -45214-05-27 18:14 J -14792843.77 -14792843.74 -14792843.68 0.0089 0.0085

Mars -45212-04-28 03:35 J -14792142.49 -14792142.35 -14792142.21 0.1920 0.0182

Earth -45211-09-07 02:09 J -14791645.53 -14791645.41 -14791645.28 0.2665 0.0349

Moon -45211-09-07 02:38 J -14791645.51 -14791645.39 -14791645.27 0.2672 0.0286 *

Jupiter -45210-09-26 23:30 J -14791260.67 -14791260.52 -14791260.38 0.0490 0.0207

Jupiter -45210-12-25 17:30 J -14791170.87 -14791170.77 -14791170.67 0.0488 0.0393

Earth -45208-03-09 03:35 J -14790731.43 -14790731.35 -14790731.28 0.2665 0.2246

Moon -45208-03-09 04:18 J -14790731.39 -14790731.32 -14790731.24 0.2670 0.2238 *

Mars -45207-01-17 17:30 J -14790416.87 -14790416.77 -14790416.66 0.1607 0.1058

Mars -45206-12-24 06:14 J -14789711.32 -14789711.24 -14789711.16 0.1617 0.1248

Moon -45204-08-30 16:47 J -14789095.86 -14789095.80 -14789095.74 0.2660 0.2291

Earth -45204-08-30 17:45 J -14789095.82 -14789095.76 -14789095.69 0.2660 0.2256 *

Jupiter -45204-11-27 21:35 J -14789006.73 -14789006.60 -14789006.47 0.0538 0.0223

Jupiter -45203-02-25 12:14 J -14788917.06 -14788916.99 -14788916.92 0.0540 0.0466

Mars -45203-09-18 05:02 J -14788712.41 -14788712.29 -14788712.17 0.1924 0.0980

Saturn -45202-08-05 04:04 J -14788391.43 -14788391.33 -14788391.22 0.0272 0.0184

Saturn -45202-11-01 17:30 J -14788302.91 -14788302.77 -14788302.64 0.0273 0.0089

Saturn -45201-01-29 06:28 J -14788214.38 -14788214.23 -14788214.09 0.0273 0.0007

Moon -45201-03-01 05:45 J -14788182.38 -14788182.26 -14788182.14 0.2671 0.1168

Earth -45201-03-01 06:57 J -14788182.33 -14788182.21 -14788182.09 0.2670 0.1076 *

Saturn -45201-04-26 19:11 J -14788125.83 -14788125.70 -14788125.57 0.0273 0.0098

Saturn -45201-07-24 07:40 J -14788037.28 -14788037.18 -14788037.07 0.0274 0.0190

Venus -45199-04-02 10:33 J -14787420.16 -14787420.06 -14787419.96 0.3685 0.1522

Jupiter -45198-07-16 00:28 J -14786950.59 -14786950.48 -14786950.37 0.0491 0.0355

Earth -45198-09-09 22:18 J -14786894.67 -14786894.57 -14786894.46 0.2666 0.1206

Moon -45198-09-09 23:16 J -14786894.64 -14786894.53 -14786894.43 0.2668 0.1333 *

Jupiter -45198-10-13 18:14 J -14786860.88 -14786860.74 -14786860.60 0.0489 0.0239

Mars -45196-05-15 15:21 J -14786280.98 -14786280.86 -14786280.74 0.1614 0.0704

Venus -45194-10-17 03:21 J -14785396.46 -14785396.36 -14785396.25 0.3689 0.0863

Jupiter -45192-09-15 23:30 J -14784696.62 -14784696.52 -14784696.42 0.0537 0.0395

Jupiter -45192-12-14 14:23 J -14784607.01 -14784606.90 -14784606.78 0.0539 0.0299

Moon -45191-09-02 13:40 J -14784345.03 -14784344.93 -14784344.82 0.2665 0.1365

Earth -45191-09-02 14:38 J -14784345.00 -14784344.89 -14784344.79 0.2662 0.1319 *

Moon -45188-03-04 06:42 J -14783431.36 -14783431.22 -14783431.08 0.2674 0.0074

Earth -45188-03-04 07:26 J -14783431.33 -14783431.19 -14783431.05 0.2668 0.0070 *

Venus -45188-05-01 20:23 J -14783372.71 -14783372.65 -14783372.60 0.3694 0.3191

Saturn -45188-11-22 00:42 J -14783168.50 -14783168.47 -14783168.42 0.0287 0.0276

Saturn -45187-02-18 19:11 J -14783079.84 -14783079.70 -14783079.57 0.0286 0.0156

Saturn -45187-05-18 13:40 J -14782991.09 -14782990.93 -14782990.76 0.0286 0.0033

Saturn -45187-08-15 08:38 J -14782902.29 -14782902.14 -14782901.98 0.0286 0.0092

Mars -45187-10-06 00:14 J -14782850.62 -14782850.49 -14782850.35 0.1612 0.0157

Saturn -45187-11-12 04:04 J -14782813.44 -14782813.33 -14782813.22 0.0285 0.0219

Jupiter -45186-08-01 19:26 J -14782550.85 -14782550.69 -14782550.53 0.0490 0.0093

Earth -45185-09-11 18:14 J -14782143.81 -14782143.74 -14782143.66 0.2668 0.2056

Moon -45185-09-11 19:11 J -14782143.77 -14782143.70 -14782143.63 0.2667 0.2088 *

Uranus -45183-09-18 16:47 J -14781406.87 -14781406.80 -14781406.69 0.0147 0.0125

Uranus -45183-12-15 23:45 J -14781318.63 -14781318.51 -14781318.38 0.0147 0.0095

Uranus -45182-03-14 06:28 J -14781230.38 -14781230.23 -14781230.07 0.0147 0.0065

Mars -45182-06-07 02:38 J -14781145.48 -14781145.39 -14781145.30 0.1916 0.1479

Uranus -45182-06-10 13:11 J -14781142.11 -14781141.95 -14781141.78 0.0147 0.0035

Uranus -45182-09-06 20:09 J -14781053.83 -14781053.66 -14781053.49 0.0147 0.0004

Uranus -45182-12-04 03:06 J -14780965.54 -14780965.37 -14780965.20 0.0147 0.0027

Uranus -45181-03-01 09:50 J -14780877.24 -14780877.09 -14780876.93 0.0147 0.0058

Uranus -45181-05-28 16:47 J -14780788.93 -14780788.80 -14780788.66 0.0147 0.0089

Uranus -45181-08-24 23:45 J -14780700.60 -14780700.51 -14780700.40 0.0147 0.0121

Jupiter -45180-10-02 15:35 J -14780296.99 -14780296.85 -14780296.71 0.0538 0.0112

Moon -45178-09-05 11:02 J -14779594.16 -14779594.04 -14779593.92 0.2670 0.0456

Earth -45178-09-05 11:02 J -14779594.16 -14779594.04 -14779593.92 0.2663 0.0409 *

Mars -45177-02-26 09:06 J -14779420.25 -14779420.12 -14779419.99 0.1609 0.0406

Earth -45175-03-07 08:09 J -14778680.28 -14778680.16 -14778680.04 0.2666 0.1243

Moon -45175-03-07 08:23 J -14778680.27 -14778680.15 -14778680.03 0.2672 0.1194 *

Jupiter -45174-05-20 20:38 J -14778240.80 -14778240.64 -14778240.48 0.0490 0.0053

Mars -45173-10-27 03:50 J -14777715.48 -14777715.34 -14777715.20 0.1920 0.0293

Saturn -45173-12-22 06:57 J -14777659.30 -14777659.21 -14777659.11 0.0273 0.0205

Saturn -45172-03-20 20:23 J -14777570.78 -14777570.65 -14777570.52 0.0273 0.0109

Saturn -45172-06-17 09:21 J -14777482.25 -14777482.11 -14777481.96 0.0273 0.0017

Saturn -45172-09-13 22:18 J -14777393.71 -14777393.57 -14777393.43 0.0273 0.0079

Saturn -45172-12-11 11:02 J -14777305.15 -14777305.04 -14777304.93 0.0274 0.0171

Saturn -45171-03-09 23:30 J -14777216.56 -14777216.52 -14777216.48 0.0274 0.0261

Pluto -45170-05-21 13:54 J -14776778.94 -14776778.92 -14776778.88 0.0080 0.0079

Pluto -45170-08-17 15:21 J -14776690.92 -14776690.86 -14776690.78 0.0080 0.0070

Pluto -45170-11-13 17:02 J -14776602.87 -14776602.79 -14776602.69 0.0080 0.0062

Pluto -45169-02-09 18:28 J -14776514.83 -14776514.73 -14776514.60 0.0080 0.0053

Pluto -45169-05-07 20:09 J -14776426.77 -14776426.66 -14776426.53 0.0080 0.0045

Pluto -45169-08-03 21:35 J -14776338.72 -14776338.60 -14776338.45 0.0080 0.0037

Venus -45169-09-10 09:50 J -14776301.23 -14776301.09 -14776300.96 0.3690 0.0269

Pluto -45169-10-30 23:30 J -14776250.66 -14776250.52 -14776250.38 0.0080 0.0028

Pluto -45168-01-27 00:57 J -14776162.60 -14776162.46 -14776162.32 0.0079 0.0020

Moon -45168-02-27 11:30 J -14776131.11 -14776131.02 -14776130.94 0.2669 0.1997

Earth -45168-02-27 12:28 J -14776131.06 -14776130.98 -14776130.89 0.2671 0.1985 *

Pluto -45168-04-25 02:23 J -14776074.54 -14776074.40 -14776074.25 0.0079 0.0012

Mars -45168-07-18 17:59 J -14775989.86 -14775989.75 -14775989.65 0.1607 0.0970

Jupiter -45168-07-21 17:30 J -14775986.92 -14775986.77 -14775986.63 0.0538 0.0063

Pluto -45168-07-22 03:50 J -14775986.48 -14775986.34 -14775986.19 0.0079 0.0004

Pluto -45168-10-18 05:30 J -14775898.42 -14775898.27 -14775898.13 0.0079 0.0005

Pluto -45167-01-14 06:57 J -14775810.36 -14775810.21 -14775810.07 0.0079 0.0012

Pluto -45167-04-12 08:09 J -14775722.30 -14775722.16 -14775722.01 0.0079 0.0020

Pluto -45167-07-09 09:35 J -14775634.23 -14775634.10 -14775633.96 0.0079 0.0028

Pluto -45167-10-05 11:16 J -14775546.16 -14775546.03 -14775545.90 0.0079 0.0035

Pluto -45166-01-01 12:28 J -14775458.10 -14775457.98 -14775457.85 0.0078 0.0043

Pluto -45166-03-30 13:40 J -14775370.03 -14775369.93 -14775369.81 0.0078 0.0050

Mars -45166-06-24 06:28 J -14775284.30 -14775284.23 -14775284.16 0.1617 0.1332

Pluto -45166-06-26 15:06 J -14775281.96 -14775281.87 -14775281.76 0.0078 0.0058

Pluto -45166-09-22 16:18 J -14775193.88 -14775193.82 -14775193.72 0.0078 0.0065

Pluto -45166-12-19 17:45 J -14775105.80 -14775105.76 -14775105.69 0.0078 0.0072

Earth -45165-09-07 07:26 J -14774843.31 -14774843.19 -14774843.07 0.2665 0.0487

Moon -45165-09-07 07:54 J -14774843.29 -14774843.17 -14774843.06 0.2671 0.0591 *

Mars -45163-03-19 05:30 J -14774285.39 -14774285.27 -14774285.14 0.1924 0.0855

Jupiter -45162-03-08 21:50 J -14773930.73 -14773930.59 -14773930.44 0.0490 0.0198

Earth -45162-03-10 09:21 J -14773929.16 -14773929.11 -14773929.06 0.2664 0.2453

Moon -45162-03-10 10:18 J -14773929.10 -14773929.07 -14773929.05 0.2669 0.2616 *

Jupiter -45162-06-06 16:04 J -14773840.92 -14773840.83 -14773840.74 0.0488 0.0401

Mars -45159-12-09 02:23 J -14772559.43 -14772559.40 -14772559.37 0.1605 0.1543

Saturn -45158-07-08 19:26 J -14772347.81 -14772347.69 -14772347.57 0.0286 0.0190

Moon -45158-08-31 22:04 J -14772293.64 -14772293.58 -14772293.51 0.2661 0.2213

Earth -45158-08-31 23:02 J -14772293.61 -14772293.54 -14772293.46 0.2660 0.2086 *

Saturn -45158-10-05 13:54 J -14772259.08 -14772258.92 -14772258.76 0.0286 0.0069

Saturn -45157-01-02 08:38 J -14772170.30 -14772170.14 -14772169.97 0.0286 0.0055

Saturn -45157-03-31 03:50 J -14772081.47 -14772081.34 -14772081.21 0.0286 0.0181

Mars -45157-11-13 15:35 J -14771853.97 -14771853.85 -14771853.74 0.1614 0.0786

Jupiter -45156-05-09 19:40 J -14771676.81 -14771676.68 -14771676.55 0.0538 0.0227

Jupiter -45156-08-07 10:18 J -14771587.14 -14771587.07 -14771587.00 0.0540 0.0461

Moon -45155-03-02 11:45 J -14771380.14 -14771380.01 -14771379.89 0.2673 0.0976

Earth -45155-03-02 12:42 J -14771380.10 -14771379.97 -14771379.84 0.2669 0.0876 *

Earth -45152-09-10 03:35 J -14770092.45 -14770092.35 -14770092.25 0.2667 0.1359

Moon -45152-09-10 04:33 J -14770092.42 -14770092.31 -14770092.21 0.2668 0.1354 *

Jupiter -45151-12-25 23:16 J -14769620.64 -14769620.53 -14769620.41 0.0491 0.0341

Jupiter -45150-03-25 17:02 J -14769530.93 -14769530.79 -14769530.65 0.0489 0.0253

Venus -45148-04-23 15:21 J -14768770.92 -14768770.86 -14768770.80 0.3681 0.3019

Mars -45147-04-06 00:28 J -14768423.61 -14768423.48 -14768423.35 0.1611 0.0232

Moon -45145-09-02 18:57 J -14767542.81 -14767542.71 -14767542.60 0.2666 0.1213

Earth -45145-09-02 19:54 J -14767542.79 -14767542.67 -14767542.56 0.2662 0.1158 *

Jupiter -45144-02-25 21:50 J -14767366.69 -14767366.59 -14767366.49 0.0537 0.0393

Jupiter -45144-05-26 12:57 J -14767277.08 -14767276.96 -14767276.85 0.0539 0.0302

Saturn -45143-05-11 07:26 J -14766927.25 -14766927.19 -14766927.12 0.0272 0.0241

Saturn -45143-08-07 20:52 J -14766838.75 -14766838.63 -14766838.50 0.0273 0.0145

Saturn -45143-11-04 10:04 J -14766750.22 -14766750.08 -14766749.93 0.0273 0.0050

Venus -45143-11-07 08:23 J -14766747.26 -14766747.15 -14766747.05 0.3686 0.0622

Mars -45143-12-06 02:38 J -14766718.47 -14766718.39 -14766718.31 0.1916 0.1572

Saturn -45142-01-31 23:02 J -14766661.68 -14766661.54 -14766661.40 0.0273 0.0044

Moon -45142-03-05 12:28 J -14766629.11 -14766628.98 -14766628.84 0.2674 0.0188

Earth -45142-03-05 13:11 J -14766629.09 -14766628.95 -14766628.82 0.2668 0.0273 *

Saturn -45142-04-30 11:45 J -14766573.13 -14766573.01 -14766572.88 0.0273 0.0137

Saturn -45142-07-28 00:14 J -14766484.56 -14766484.49 -14766484.41 0.0274 0.0228

Uranus -45141-01-18 14:09 J -14766309.92 -14766309.91 -14766309.90 0.0132 0.0131

Uranus -45141-04-15 17:45 J -14766221.83 -14766221.76 -14766221.68 0.0132 0.0112

Uranus -45141-07-12 21:21 J -14766133.71 -14766133.61 -14766133.50 0.0132 0.0093

Uranus -45141-10-09 01:11 J -14766045.57 -14766045.45 -14766045.33 0.0132 0.0074

Uranus -45140-01-05 04:33 J -14765957.43 -14765957.31 -14765957.17 0.0132 0.0056

Uranus -45140-04-03 08:23 J -14765869.29 -14765869.15 -14765869.01 0.0132 0.0037

Uranus -45140-06-30 11:59 J -14765781.14 -14765781.00 -14765780.85 0.0132 0.0018

Uranus -45140-09-26 15:35 J -14765692.99 -14765692.85 -14765692.70 0.0132 0.0002

Uranus -45140-12-23 19:11 J -14765604.84 -14765604.70 -14765604.56 0.0132 0.0019

Uranus -45139-03-21 22:33 J -14765516.69 -14765516.56 -14765516.42 0.0132 0.0038

Uranus -45139-06-18 02:09 J -14765428.54 -14765428.41 -14765428.28 0.0132 0.0056

Earth -45139-09-12 23:30 J -14765341.59 -14765341.52 -14765341.46 0.2668 0.2207

Moon -45139-09-13 00:14 J -14765341.55 -14765341.49 -14765341.43 0.2666 0.2303 *

Uranus -45139-09-14 05:30 J -14765340.38 -14765340.27 -14765340.15 0.0132 0.0074

Jupiter -45139-10-14 00:28 J -14765310.49 -14765310.48 -14765310.46 0.0491 0.0489

Uranus -45139-12-11 08:52 J -14765252.22 -14765252.13 -14765252.02 0.0132 0.0092

Jupiter -45138-01-11 17:45 J -14765220.92 -14765220.76 -14765220.60 0.0489 0.0100

Uranus -45138-03-09 12:28 J -14765164.05 -14765163.98 -14765163.90 0.0132 0.0110

Uranus -45138-06-05 15:50 J -14765075.87 -14765075.84 -14765075.80 0.0132 0.0128

Mars -45138-08-27 09:21 J -14764993.24 -14764993.11 -14764992.98 0.1609 0.0322

Venus -45137-05-23 01:11 J -14764723.54 -14764723.45 -14764723.35 0.3691 0.1744

Neptune -45137-08-12 23:16 J -14764641.55 -14764641.53 -14764641.48 0.0088 0.0086

Neptune -45137-11-09 01:26 J -14764553.50 -14764553.44 -14764553.36 0.0088 0.0078

Neptune -45136-02-05 03:21 J -14764465.43 -14764465.36 -14764465.26 0.0088 0.0072

Neptune -45136-05-04 05:30 J -14764377.37 -14764377.27 -14764377.16 0.0088 0.0064

Neptune -45136-07-31 07:26 J -14764289.29 -14764289.19 -14764289.06 0.0088 0.0058

Neptune -45136-10-27 09:35 J -14764201.22 -14764201.10 -14764200.97 0.0088 0.0050

Neptune -45135-01-23 11:30 J -14764113.14 -14764113.02 -14764112.88 0.0088 0.0044

Neptune -45135-04-21 13:40 J -14764025.07 -14764024.93 -14764024.79 0.0088 0.0037

Neptune -45135-07-18 15:35 J -14763936.99 -14763936.85 -14763936.70 0.0088 0.0030

Neptune -45135-10-14 17:30 J -14763848.91 -14763848.77 -14763848.62 0.0088 0.0023

Neptune -45134-01-10 19:26 J -14763760.84 -14763760.69 -14763760.54 0.0088 0.0016

Neptune -45134-04-08 21:21 J -14763672.76 -14763672.61 -14763672.45 0.0088 0.0010

Neptune -45134-07-05 23:30 J -14763584.68 -14763584.52 -14763584.37 0.0088 0.0003

Neptune -45134-10-02 01:26 J -14763496.60 -14763496.44 -14763496.29 0.0088 0.0005

Neptune -45134-12-29 03:06 J -14763408.51 -14763408.37 -14763408.21 0.0088 0.0011

Neptune -45133-03-26 05:16 J -14763320.43 -14763320.28 -14763320.14 0.0088 0.0018

Mars -45133-04-27 04:18 J -14763288.46 -14763288.32 -14763288.19 0.1920 0.0417

Neptune -45133-06-22 06:57 J -14763232.35 -14763232.21 -14763232.06 0.0088 0.0025

Neptune -45133-09-18 08:38 J -14763144.27 -14763144.14 -14763143.99 0.0088 0.0032

Neptune -45133-12-15 10:47 J -14763056.18 -14763056.05 -14763055.91 0.0088 0.0038

Neptune -45132-03-13 12:28 J -14762968.10 -14762967.98 -14762967.84 0.0088 0.0045

Jupiter -45132-03-14 14:52 J -14762967.01 -14762966.88 -14762966.74 0.0539 0.0134

Neptune -45132-06-09 14:09 J -14762880.01 -14762879.91 -14762879.77 0.0088 0.0052

Moon -45132-09-05 16:18 J -14762791.94 -14762791.82 -14762791.70 0.2671 0.0240

Earth -45132-09-05 16:18 J -14762791.94 -14762791.82 -14762791.70 0.2664 0.0246 *

Neptune -45132-09-05 16:18 J -14762791.93 -14762791.82 -14762791.70 0.0088 0.0058 *

Neptune -45132-12-02 17:59 J -14762703.84 -14762703.75 -14762703.64 0.0088 0.0064

Neptune -45131-02-28 19:54 J -14762615.75 -14762615.67 -14762615.57 0.0089 0.0071

Neptune -45131-05-27 21:35 J -14762527.66 -14762527.60 -14762527.51 0.0089 0.0078

Neptune -45131-08-23 23:30 J -14762439.55 -14762439.52 -14762439.46 0.0089 0.0084

Earth -45129-03-07 13:54 J -14761878.03 -14761877.92 -14761877.80 0.2666 0.1448

Moon -45129-03-07 14:23 J -14761878.01 -14761877.90 -14761877.79 0.2672 0.1551 *

Saturn -45129-11-24 18:42 J -14761615.81 -14761615.72 -14761615.62 0.0286 0.0231

Mars -45128-01-16 17:59 J -14761562.86 -14761562.75 -14761562.63 0.1607 0.0886

Saturn -45128-02-21 12:57 J -14761527.11 -14761526.96 -14761526.80 0.0286 0.0111

Saturn -45128-05-21 07:40 J -14761438.34 -14761438.18 -14761438.01 0.0286 0.0015

Saturn -45128-08-18 02:52 J -14761349.52 -14761349.38 -14761349.23 0.0286 0.0139

Saturn -45128-11-14 22:18 J -14761260.62 -14761260.57 -14761260.51 0.0285 0.0266

Jupiter -45127-10-30 19:11 J -14760910.87 -14760910.70 -14760910.54 0.0490 0.0048

Mars -45127-12-23 06:42 J -14760857.28 -14760857.22 -14760857.16 0.1617 0.1411

Mars -45124-09-17 05:45 J -14759858.38 -14759858.26 -14759858.13 0.1923 0.0741

Moon -45122-02-28 17:02 J -14759328.88 -14759328.79 -14759328.69 0.2669 0.1937

Earth -45122-02-28 18:14 J -14759328.84 -14759328.74 -14759328.64 0.2671 0.1787 *

Jupiter -45121-12-31 16:04 J -14758656.98 -14758656.83 -14758656.69 0.0538 0.0056

Mars -45119-06-09 02:38 J -14758132.44 -14758132.39 -14758132.33 0.1605 0.1454

Earth -45119-09-08 12:42 J -14758041.09 -14758040.97 -14758040.86 0.2665 0.0654

Moon -45119-09-08 13:11 J -14758041.07 -14758040.95 -14758040.83 0.2670 0.0639 *

Venus -45118-10-02 07:26 J -14757652.28 -14757652.19 -14757652.11 0.3695 0.2901

Mars -45117-05-14 15:35 J -14757426.96 -14757426.85 -14757426.73 0.1614 0.0869

Moon -45116-03-10 16:18 J -14757126.83 -14757126.82 -14757126.82 0.2668 0.2661

Jupiter -45115-08-18 20:23 J -14756600.80 -14756600.65 -14756600.50 0.0491 0.0191

Jupiter -45115-11-16 14:38 J -14756510.98 -14756510.89 -14756510.81 0.0489 0.0410

Mars -45114-02-07 07:40 J -14756428.21 -14756428.18 -14756428.15 0.1927 0.1870

Saturn -45114-09-28 10:18 J -14756195.10 -14756195.07 -14756195.02 0.0273 0.0262

Saturn -45114-12-25 23:59 J -14756106.62 -14756106.50 -14756106.38 0.0273 0.0165

Saturn -45113-03-23 13:11 J -14756018.09 -14756017.95 -14756017.81 0.0273 0.0069

Saturn -45113-06-20 02:23 J -14755929.55 -14755929.40 -14755929.26 0.0274 0.0027

Saturn -45113-09-16 15:06 J -14755841.00 -14755840.87 -14755840.74 0.0274 0.0119

Saturn -45113-12-14 03:35 J -14755752.44 -14755752.35 -14755752.26 0.0274 0.0210

Venus -45112-04-17 10:04 J -14755628.19 -14755628.08 -14755627.96 0.3689 0.1985

Moon -45112-09-01 03:21 J -14755491.44 -14755491.36 -14755491.28 0.2662 0.1929

Earth -45112-09-01 04:18 J -14755491.40 -14755491.32 -14755491.23 0.2661 0.1920 *

Moon -45109-03-02 17:16 J -14754577.91 -14754577.78 -14754577.65 0.2674 0.0706

Earth -45109-03-02 18:28 J -14754577.87 -14754577.73 -14754577.60 0.2669 0.0684 *

Jupiter -45109-10-19 17:45 J -14754346.89 -14754346.76 -14754346.64 0.0537 0.0230

Jupiter -45108-01-17 08:09 J -14754257.23 -14754257.16 -14754257.08 0.0539 0.0457

Mars -45108-10-05 00:42 J -14753996.60 -14753996.47 -14753996.34 0.1612 0.0319

Earth -45106-09-11 08:38 J -14753290.24 -14753290.14 -14753290.04 0.2667 0.1511

Moon -45106-09-11 09:35 J -14753290.20 -14753290.10 -14753290.01 0.2669 0.1651 *

Mars -45103-06-06 03:06 J -14752291.43 -14752291.37 -14752291.31 0.1916 0.1699

Jupiter -45103-06-06 21:35 J -14752290.71 -14752290.60 -14752290.48 0.0491 0.0336

Jupiter -45103-09-04 15:21 J -14752201.00 -14752200.86 -14752200.72 0.0489 0.0258

Saturn -45099-04-13 19:40 J -14750883.73 -14750883.68 -14750883.60 0.0286 0.0261

Saturn -45099-07-11 13:54 J -14750795.05 -14750794.92 -14750794.77 0.0286 0.0141

Uranus -45099-07-12 17:59 J -14750793.76 -14750793.75 -14750793.71 0.0147 0.0145

Moon -45099-09-04 00:28 J -14750740.59 -14750740.48 -14750740.37 0.2667 0.1063

Earth -45099-09-04 00:57 J -14750740.57 -14750740.46 -14750740.34 0.2662 0.0991 *

Saturn -45099-10-08 08:38 J -14750706.30 -14750706.14 -14750705.97 0.0286 0.0019

Uranus -45099-10-09 00:42 J -14750705.57 -14750705.47 -14750705.36 0.0147 0.0115

Saturn -45098-01-05 03:35 J -14750617.50 -14750617.35 -14750617.20 0.0286 0.0106

Uranus -45098-01-05 07:11 J -14750617.32 -14750617.20 -14750617.05 0.0147 0.0086 *

Mars -45098-02-25 09:35 J -14750566.24 -14750566.10 -14750565.97 0.1609 0.0241

Uranus -45098-04-03 13:54 J -14750529.07 -14750528.92 -14750528.75 0.0147 0.0056

Saturn -45098-04-03 22:47 J -14750528.64 -14750528.55 -14750528.45 0.0285 0.0233

Uranus -45098-06-30 20:52 J -14750440.80 -14750440.63 -14750440.46 0.0147 0.0025

Uranus -45098-09-27 03:50 J -14750352.51 -14750352.34 -14750352.17 0.0147 0.0006

Uranus -45098-12-24 10:33 J -14750264.22 -14750264.06 -14750263.89 0.0147 0.0037

Uranus -45097-03-21 17:30 J -14750175.92 -14750175.77 -14750175.61 0.0147 0.0067

Uranus -45097-06-18 00:28 J -14750087.60 -14750087.48 -14750087.35 0.0147 0.0099

Jupiter -45097-08-07 19:26 J -14750036.78 -14750036.69 -14750036.59 0.0537 0.0401

Uranus -45097-09-14 07:40 J -14749999.26 -14749999.18 -14749999.10 0.0147 0.0130

Jupiter -45097-11-05 10:33 J -14749947.17 -14749947.06 -14749946.94 0.0539 0.0296

Moon -45096-03-05 18:28 J -14749826.86 -14749826.73 -14749826.59 0.2674 0.0458

Earth -45096-03-05 18:57 J -14749826.85 -14749826.71 -14749826.58 0.2667 0.0473 *

Mars -45094-10-27 04:18 J -14748861.45 -14748861.32 -14748861.18 0.1919 0.0520

Earth -45093-09-13 04:33 J -14748539.36 -14748539.31 -14748539.26 0.2669 0.2354

Moon -45093-09-13 05:16 J -14748539.34 -14748539.28 -14748539.23 0.2664 0.2331 *

Venus -45092-11-28 13:11 J -14748098.04 -14748097.95 -14748097.86 0.3682 0.2107

Jupiter -45091-03-25 23:16 J -14747980.56 -14747980.53 -14747980.50 0.0491 0.0478

Jupiter -45091-06-23 16:33 J -14747890.97 -14747890.81 -14747890.66 0.0489 0.0111

Earth -45089-02-26 23:59 J -14747277.50 -14747277.50 -14747277.50 0.2672 0.2672

Mars -45089-07-17 18:14 J -14747135.86 -14747135.74 -14747135.62 0.1607 0.0802

Mars -45087-06-23 06:42 J -14746430.27 -14746430.22 -14746430.17 0.1617 0.1487

Venus -45086-06-14 05:59 J -14746074.35 -14746074.25 -14746074.14 0.3687 0.0312

Moon -45086-09-06 21:21 J -14745989.73 -14745989.61 -14745989.49 0.2671 0.0130

Earth -45086-09-06 21:35 J -14745989.73 -14745989.60 -14745989.48 0.2664 0.0129 *

Jupiter -45085-08-24 13:11 J -14745637.09 -14745636.95 -14745636.82 0.0539 0.0133

Mars -45084-03-18 05:59 J -14745431.38 -14745431.25 -14745431.12 0.1923 0.0642

Saturn -45084-05-14 00:42 J -14745374.57 -14745374.47 -14745374.37 0.0273 0.0200

Saturn -45084-08-10 13:54 J -14745286.05 -14745285.92 -14745285.78 0.0273 0.0104

Saturn -45084-11-07 03:06 J -14745197.51 -14745197.37 -14745197.22 0.0273 0.0009

Saturn -45083-02-03 16:04 J -14745108.97 -14745108.83 -14745108.70 0.0273 0.0085

Earth -45083-03-08 19:40 J -14745075.78 -14745075.68 -14745075.57 0.2666 0.1659

Moon -45083-03-08 20:23 J -14745075.76 -14745075.65 -14745075.55 0.2672 0.1649 *

Saturn -45083-05-03 04:33 J -14745020.41 -14745020.31 -14745020.20 0.0274 0.0177

Saturn -45083-07-30 17:02 J -14744931.81 -14744931.79 -14744931.76 0.0274 0.0267

Venus -45081-12-27 23:02 J -14744050.62 -14744050.54 -14744050.47 0.3692 0.2631

Mars -45080-12-08 02:52 J -14743705.45 -14743705.38 -14743705.31 0.1605 0.1370

Jupiter -45079-04-11 17:16 J -14743580.94 -14743580.78 -14743580.62 0.0490 0.0042

Mars -45078-11-13 15:50 J -14742999.94 -14742999.84 -14742999.73 0.1614 0.0948

Moon -45076-02-28 22:47 J -14742526.66 -14742526.55 -14742526.44 0.2670 0.1590

Earth -45076-02-28 23:59 J -14742526.61 -14742526.50 -14742526.39 0.2671 0.1595 *

Mars -45075-08-08 08:09 J -14742001.21 -14742001.16 -14742001.10 0.1926 0.1746

Jupiter -45073-06-12 15:06 J -14741327.01 -14741326.87 -14741326.72 0.0538 0.0039

Earth -45073-09-08 17:45 J -14741238.88 -14741238.76 -14741238.65 0.2666 0.0801

Moon -45073-09-08 18:28 J -14741238.84 -14741238.73 -14741238.62 0.2670 0.0889 *

Saturn -45070-11-28 13:26 J -14740063.06 -14740062.94 -14740062.81 0.0286 0.0181

Saturn -45069-02-25 07:54 J -14739974.33 -14739974.17 -14739974.01 0.0286 0.0060

Saturn -45069-05-24 02:38 J -14739885.55 -14739885.39 -14739885.22 0.0286 0.0065

Saturn -45069-08-20 21:50 J -14739796.71 -14739796.59 -14739796.46 0.0285 0.0191

Mars -45068-04-05 00:57 J -14739569.59 -14739569.46 -14739569.33 0.1612 0.0401

Jupiter -45067-01-28 18:42 J -14739270.87 -14739270.72 -14739270.58 0.0491 0.0187

Jupiter -45067-04-28 12:42 J -14739181.05 -14739180.97 -14739180.88 0.0489 0.0413

Moon -45066-09-02 08:38 J -14738689.23 -14738689.14 -14738689.06 0.2662 0.1891

Earth -45066-09-02 09:35 J -14738689.19 -14738689.10 -14738689.01 0.2661 0.1752 *

Mars -45064-12-05 03:35 J -14737864.39 -14737864.35 -14737864.31 0.1915 0.1823

Moon -45063-03-03 23:02 J -14737775.67 -14737775.54 -14737775.40 0.2673 0.0616

Earth -45063-03-04 00:14 J -14737775.63 -14737775.49 -14737775.36 0.2669 0.0482 *

Jupiter -45061-03-31 16:04 J -14737016.96 -14737016.83 -14737016.70 0.0537 0.0224

Venus -45061-05-08 07:40 J -14736979.31 -14736979.18 -14736979.05 0.3693 0.1203

Jupiter -45061-06-29 06:42 J -14736927.29 -14736927.22 -14736927.15 0.0539 0.0462

Earth -45060-09-11 13:40 J -14736488.02 -14736487.93 -14736487.83 0.2667 0.1665

Moon -45060-09-11 14:38 J -14736487.98 -14736487.89 -14736487.80 0.2668 0.1657 *

Mars -45059-08-26 09:50 J -14736139.23 -14736139.09 -14736138.96 0.1609 0.0157

Uranus -45057-02-07 21:35 J -14735608.64 -14735608.60 -14735608.55 0.0132 0.0124

Uranus -45057-05-06 01:11 J -14735520.53 -14735520.45 -14735520.35 0.0132 0.0105

Uranus -45057-08-02 05:02 J -14735432.39 -14735432.29 -14735432.17 0.0132 0.0086

Uranus -45057-10-29 08:38 J -14735344.26 -14735344.14 -14735344.01 0.0132 0.0067

Uranus -45056-01-25 12:28 J -14735256.11 -14735255.98 -14735255.84 0.0132 0.0048

Uranus -45056-04-23 16:04 J -14735167.97 -14735167.83 -14735167.69 0.0132 0.0029

Uranus -45056-07-20 19:40 J -14735079.82 -14735079.68 -14735079.54 0.0132 0.0011

Uranus -45056-10-16 23:16 J -14734991.67 -14734991.53 -14734991.39 0.0132 0.0008

Jupiter -45056-11-16 19:54 J -14734960.79 -14734960.67 -14734960.55 0.0491 0.0333

Uranus -45055-01-13 02:38 J -14734903.52 -14734903.39 -14734903.24 0.0132 0.0027

Jupiter -45055-02-14 13:40 J -14734871.07 -14734870.93 -14734870.79 0.0489 0.0263

Uranus -45055-04-11 06:14 J -14734815.37 -14734815.24 -14734815.10 0.0132 0.0045

Uranus -45055-07-08 09:50 J -14734727.22 -14734727.09 -14734726.97 0.0132 0.0063

Neptune -45055-08-05 09:35 J -14734699.15 -14734699.10 -14734699.04 0.0089 0.0083

Saturn -45055-10-01 03:35 J -14734642.43 -14734642.35 -14734642.26 0.0273 0.0220

Uranus -45055-10-04 13:11 J -14734639.06 -14734638.95 -14734638.83 0.0132 0.0081

Neptune -45055-11-01 11:59 J -14734611.08 -14734611.00 -14734610.92 0.0089 0.0076

Saturn -45055-12-28 17:02 J -14734553.92 -14734553.79 -14734553.65 0.0273 0.0123

Uranus -45055-12-31 16:33 J -14734550.89 -14734550.81 -14734550.71 0.0132 0.0099

Neptune -45054-01-28 14:09 J -14734523.00 -14734522.91 -14734522.80 0.0089 0.0069

Saturn -45054-03-27 06:14 J -14734465.38 -14734465.24 -14734465.09 0.0274 0.0029

Uranus -45054-03-29 19:54 J -14734462.72 -14734462.67 -14734462.59 0.0132 0.0117

Neptune -45054-04-26 16:18 J -14734434.92 -14734434.82 -14734434.69 0.0089 0.0062

Mars -45054-04-27 04:47 J -14734434.44 -14734434.30 -14734434.17 0.1919 0.0637

Saturn -45054-06-23 19:11 J -14734376.84 -14734376.70 -14734376.56 0.0274 0.0067

Neptune -45054-07-23 18:42 J -14734346.84 -14734346.72 -14734346.58 0.0089 0.0055

Saturn -45054-09-20 07:54 J -14734288.28 -14734288.17 -14734288.05 0.0274 0.0159

Neptune -45054-10-19 20:52 J -14734258.75 -14734258.63 -14734258.48 0.0089 0.0048

Saturn -45054-12-17 20:23 J -14734199.70 -14734199.65 -14734199.59 0.0274 0.0250

Neptune -45053-01-15 23:30 J -14734170.66 -14734170.52 -14734170.37 0.0089 0.0040

Neptune -45053-04-13 01:54 J -14734082.57 -14734082.42 -14734082.27 0.0089 0.0033

Neptune -45053-07-10 04:04 J -14733994.48 -14733994.33 -14733994.17 0.0089 0.0026

Moon -45053-09-04 05:45 J -14733938.38 -14733938.26 -14733938.14 0.2669 0.0812

Earth -45053-09-04 06:14 J -14733938.36 -14733938.24 -14733938.12 0.2663 0.0830 *

Neptune -45053-10-06 06:28 J -14733906.38 -14733906.23 -14733906.06 0.0089 0.0019

Neptune -45052-01-02 09:06 J -14733818.29 -14733818.12 -14733817.96 0.0089 0.0011

Neptune -45052-03-31 11:30 J -14733730.19 -14733730.02 -14733729.86 0.0089 0.0004

Neptune -45052-06-27 13:40 J -14733642.09 -14733641.93 -14733641.76 0.0089 0.0005

Neptune -45052-09-23 16:04 J -14733553.99 -14733553.83 -14733553.66 0.0089 0.0012

Neptune -45052-12-20 18:28 J -14733465.89 -14733465.73 -14733465.56 0.0089 0.0019

Neptune -45051-03-18 21:06 J -14733377.78 -14733377.62 -14733377.46 0.0089 0.0026

Neptune -45051-06-14 23:16 J -14733289.67 -14733289.53 -14733289.37 0.0089 0.0034

Neptune -45051-09-11 01:54 J -14733201.56 -14733201.42 -14733201.27 0.0089 0.0041

Neptune -45051-12-08 04:18 J -14733113.45 -14733113.32 -14733113.18 0.0089 0.0049

Neptune -45050-03-06 06:28 J -14733025.34 -14733025.23 -14733025.08 0.0089 0.0057

Moon -45050-03-07 00:28 J -14733024.61 -14733024.48 -14733024.35 0.2674 0.0698

Earth -45050-03-07 00:42 J -14733024.60 -14733024.47 -14733024.34 0.2667 0.0675 *

Neptune -45050-06-02 09:06 J -14732937.22 -14732937.12 -14732936.99 0.0089 0.0064

Neptune -45050-08-29 11:30 J -14732849.10 -14732849.02 -14732848.91 0.0089 0.0072

Neptune -45050-11-25 14:23 J -14732760.97 -14732760.90 -14732760.83 0.0089 0.0079

Mars -45049-01-16 18:28 J -14732708.85 -14732708.73 -14732708.61 0.1607 0.0716

Jupiter -45049-01-18 17:30 J -14732706.86 -14732706.77 -14732706.67 0.0536 0.0402

Neptune -45049-02-21 16:33 J -14732672.83 -14732672.81 -14732672.76 0.0089 0.0087

Jupiter -45049-04-17 08:38 J -14732617.26 -14732617.14 -14732617.02 0.0539 0.0291

Mars -45048-12-22 06:57 J -14732003.24 -14732003.21 -14732003.18 0.1617 0.1570

Earth -45047-09-14 09:35 J -14731737.14 -14731737.10 -14731737.06 0.2669 0.2503

Moon -45047-09-14 10:18 J -14731737.09 -14731737.07 -14731737.05 0.2664 0.2612 *

Mars -45045-09-16 06:14 J -14731004.37 -14731004.24 -14731004.10 0.1923 0.0524

Jupiter -45044-09-04 21:06 J -14730650.65 -14730650.62 -14730650.58 0.0492 0.0477

Jupiter -45044-12-03 14:23 J -14730561.05 -14730560.90 -14730560.74 0.0490 0.0113

Moon -45043-02-27 04:47 J -14730475.35 -14730475.30 -14730475.25 0.2667 0.2471

Earth -45043-02-27 05:45 J -14730475.31 -14730475.26 -14730475.22 0.2672 0.2486 *

Venus -45041-12-19 17:59 J -14729448.77 -14729448.75 -14729448.74 0.3679 0.3623

Saturn -45040-04-16 15:06 J -14729330.98 -14729330.87 -14729330.75 0.0286 0.0207

Mars -45040-06-08 03:06 J -14729278.45 -14729278.37 -14729278.29 0.1605 0.1286

Saturn -45040-07-14 09:35 J -14729242.26 -14729242.10 -14729241.95 0.0286 0.0086

Earth -45040-09-07 02:38 J -14729187.51 -14729187.39 -14729187.27 0.2664 0.0086

Moon -45040-09-07 02:52 J -14729187.50 -14729187.38 -14729187.26 0.2671 0.0105 *

Saturn -45040-10-11 04:18 J -14729153.49 -14729153.32 -14729153.16 0.0286 0.0037

Saturn -45039-01-07 23:16 J -14729064.67 -14729064.53 -14729064.39 0.0285 0.0162

Mars -45038-05-14 16:04 J -14728572.93 -14728572.83 -14728572.73 0.1614 0.1028

Jupiter -45037-02-04 10:47 J -14728307.19 -14728307.05 -14728306.91 0.0539 0.0124

Earth -45037-03-09 01:40 J -14728273.53 -14728273.43 -14728273.34 0.2665 0.1866

Moon -45037-03-09 02:09 J -14728273.50 -14728273.41 -14728273.32 0.2672 0.1948 *

Mars -45035-02-06 08:09 J -14727574.22 -14727574.16 -14727574.09 0.1926 0.1649

Venus -45035-07-05 10:47 J -14727425.15 -14727425.05 -14727424.94 0.3684 0.1220

Moon -45033-08-30 17:02 J -14726637.79 -14726637.79 -14726637.79 0.2658 0.2657

Earth -45033-08-30 17:59 J -14726637.79 -14726637.75 -14726637.72 0.2660 0.2529 *

Jupiter -45032-09-21 15:50 J -14726251.00 -14726250.84 -14726250.68 0.0490 0.0035

Moon -45030-03-02 04:18 J -14725724.42 -14725724.32 -14725724.21 0.2672 0.1569

Earth -45030-03-02 05:30 J -14725724.38 -14725724.27 -14725724.15 0.2670 0.1403 *

Venus -45029-01-19 03:50 J -14725401.44 -14725401.34 -14725401.24 0.3688 0.1170

Mars -45029-10-04 00:57 J -14725142.58 -14725142.46 -14725142.33 0.1612 0.0481

Earth -45027-09-09 22:47 J -14724436.66 -14724436.55 -14724436.43 0.2666 0.0962

Moon -45027-09-09 23:45 J -14724436.63 -14724436.51 -14724436.40 0.2670 0.0995 *

Jupiter -45026-11-23 13:11 J -14723997.09 -14723996.95 -14723996.81 0.0538 0.0040

Saturn -45025-02-18 04:33 J -14723910.35 -14723910.31 -14723910.25 0.0273 0.0253

Saturn -45025-05-16 18:14 J -14723821.86 -14723821.74 -14723821.62 0.0273 0.0155

Saturn -45025-08-13 07:26 J -14723733.33 -14723733.19 -14723733.05 0.0273 0.0060

Saturn -45025-11-09 20:23 J -14723644.79 -14723644.65 -14723644.50 0.0273 0.0035

Saturn -45024-02-06 09:21 J -14723556.24 -14723556.11 -14723555.99 0.0273 0.0127

Saturn -45024-05-05 21:50 J -14723467.67 -14723467.59 -14723467.50 0.0274 0.0219

Venus -45024-08-03 20:38 J -14723377.67 -14723377.64 -14723377.61 0.3693 0.3498

Jupiter -45020-07-10 16:47 J -14721940.95 -14721940.80 -14721940.65 0.0490 0.0185

Moon -45020-09-02 13:54 J -14721887.02 -14721886.92 -14721886.82 0.2663 0.1582

Earth -45020-09-02 14:52 J -14721886.98 -14721886.88 -14721886.79 0.2661 0.1589 *

Jupiter -45020-10-08 10:47 J -14721851.14 -14721851.05 -14721850.97 0.0489 0.0415

Mars -45019-02-24 09:50 J -14721712.22 -14721712.09 -14721711.95 0.1609 0.0087

Moon -45017-03-04 05:02 J -14720973.43 -14720973.29 -14720973.16 0.2673 0.0282

Earth -45017-03-04 05:45 J -14720973.39 -14720973.26 -14720973.12 0.2669 0.0289 *

Uranus -45015-08-02 01:54 J -14720092.48 -14720092.42 -14720092.35 0.0147 0.0135

Mars -45015-10-26 05:02 J -14720007.42 -14720007.29 -14720007.16 0.1920 0.0752

Uranus -45015-10-29 08:23 J -14720004.25 -14720004.15 -14720004.02 0.0147 0.0106

Uranus -45014-01-25 15:06 J -14719916.01 -14719915.87 -14719915.72 0.0147 0.0076

Uranus -45014-04-23 21:50 J -14719827.74 -14719827.59 -14719827.42 0.0147 0.0046

Uranus -45014-07-21 04:47 J -14719739.47 -14719739.30 -14719739.13 0.0147 0.0015

Jupiter -45014-09-11 15:06 J -14719687.00 -14719686.87 -14719686.74 0.0537 0.0211

Earth -45014-09-12 18:57 J -14719685.80 -14719685.71 -14719685.63 0.2667 0.1814

Moon -45014-09-12 19:40 J -14719685.76 -14719685.68 -14719685.60 0.2666 0.1924 *

Uranus -45014-10-17 11:30 J -14719651.19 -14719651.02 -14719650.84 0.0147 0.0016

Jupiter -45014-12-10 05:45 J -14719597.32 -14719597.26 -14719597.20 0.0540 0.0476

Uranus -45013-01-13 18:28 J -14719562.89 -14719562.73 -14719562.56 0.0147 0.0046

Uranus -45013-04-11 01:11 J -14719474.59 -14719474.45 -14719474.29 0.0147 0.0078

Uranus -45013-07-08 08:09 J -14719386.26 -14719386.16 -14719386.03 0.0147 0.0109

Uranus -45013-10-04 15:35 J -14719297.90 -14719297.85 -14719297.80 0.0147 0.0140

Pluto -45012-03-25 18:14 J -14719125.74 -14719125.74 -14719125.71 0.0064 0.0064

Pluto -45012-06-21 19:26 J -14719037.74 -14719037.69 -14719037.61 0.0064 0.0060

Pluto -45012-09-17 20:38 J -14718949.72 -14718949.64 -14718949.54 0.0065 0.0055

Pluto -45012-12-14 21:50 J -14718861.69 -14718861.59 -14718861.48 0.0065 0.0050

Pluto -45011-03-12 23:16 J -14718773.65 -14718773.53 -14718773.41 0.0065 0.0045

Pluto -45011-06-09 00:28 J -14718685.61 -14718685.48 -14718685.35 0.0065 0.0040

Saturn -45011-09-03 14:23 J -14718598.97 -14718598.90 -14718598.81 0.0286 0.0248

Pluto -45011-09-05 01:11 J -14718597.57 -14718597.45 -14718597.29 0.0065 0.0036

Saturn -45011-12-01 08:38 J -14718510.28 -14718510.14 -14718509.99 0.0286 0.0128

Pluto -45011-12-02 02:23 J -14718509.53 -14718509.40 -14718509.23 0.0065 0.0031

Saturn -45010-02-28 03:21 J -14718421.53 -14718421.36 -14718421.19 0.0286 0.0005

Pluto -45010-02-28 04:04 J -14718421.49 -14718421.33 -14718421.18 0.0065 0.0026 *

Pluto -45010-05-27 05:16 J -14718333.44 -14718333.28 -14718333.12 0.0065 0.0021

Saturn -45010-05-27 22:18 J -14718332.72 -14718332.57 -14718332.42 0.0286 0.0120

Mars -45010-07-17 18:42 J -14718281.84 -14718281.72 -14718281.60 0.1607 0.0632

Pluto -45010-08-23 06:28 J -14718245.39 -14718245.23 -14718245.06 0.0065 0.0016

Saturn -45010-08-24 17:30 J -14718243.84 -14718243.77 -14718243.68 0.0285 0.0248

Pluto -45010-11-19 07:40 J -14718157.35 -14718157.18 -14718157.01 0.0065 0.0011

Pluto -45009-02-15 08:52 J -14718069.29 -14718069.13 -14718068.95 0.0065 0.0006

Pluto -45009-05-13 10:18 J -14717981.24 -14717981.07 -14717980.90 0.0066 0.0001

Pluto -45009-08-09 11:30 J -14717893.19 -14717893.02 -14717892.85 0.0066 0.0005

Pluto -45009-11-05 12:42 J -14717805.13 -14717804.97 -14717804.80 0.0066 0.0010

Pluto -45008-02-01 13:54 J -14717717.08 -14717716.92 -14717716.74 0.0066 0.0016

Jupiter -45008-04-28 17:59 J -14717630.86 -14717630.75 -14717630.63 0.0491 0.0330

Pluto -45008-04-30 15:06 J -14717629.02 -14717628.87 -14717628.69 0.0066 0.0021

Jupiter -45008-07-27 11:45 J -14717541.15 -14717541.01 -14717540.87 0.0489 0.0265

Pluto -45008-07-27 16:33 J -14717540.96 -14717540.81 -14717540.64 0.0066 0.0026 *

Pluto -45008-10-23 17:59 J -14717452.90 -14717452.75 -14717452.60 0.0066 0.0032

Pluto -45007-01-19 18:57 J -14717364.83 -14717364.71 -14717364.55 0.0066 0.0038

Pluto -45007-04-17 20:38 J -14717276.77 -14717276.64 -14717276.50 0.0066 0.0042

Pluto -45007-07-14 21:35 J -14717188.70 -14717188.60 -14717188.46 0.0066 0.0049

Moon -45007-09-05 11:02 J -14717136.16 -14717136.04 -14717135.92 0.2669 0.0761

Earth -45007-09-05 11:30 J -14717136.14 -14717136.02 -14717135.91 0.2663 0.0668 *

Pluto -45007-10-10 23:16 J -14717100.62 -14717100.53 -14717100.42 0.0066 0.0054

Pluto -45006-01-07 00:14 J -14717012.54 -14717012.49 -14717012.39 0.0067 0.0060

Pluto -45006-04-05 01:54 J -14716924.44 -14716924.42 -14716924.37 0.0067 0.0065

Mars -45005-03-17 06:42 J -14716577.36 -14716577.22 -14716577.08 0.1923 0.0399

Venus -45005-12-13 07:54 J -14716306.31 -14716306.17 -14716306.03 0.3692 0.0497

Moon -45004-03-07 06:28 J -14716222.36 -14716222.23 -14716222.10 0.2674 0.0841

Earth -45004-03-07 06:28 J -14716222.36 -14716222.23 -14716222.10 0.2667 0.0883 *

Jupiter -45002-06-30 16:04 J -14715376.92 -14715376.83 -14715376.73 0.0536 0.0397

Jupiter -45002-09-28 07:11 J -14715287.32 -14715287.20 -14715287.09 0.0538 0.0296

Earth -45001-09-14 14:38 J -14714934.90 -14714934.89 -14714934.88 0.2669 0.2651

Moon -45001-09-14 15:21 J -14714934.88 -14714934.86 -14714934.84 0.2664 0.2615 *

Mars -45001-12-07 03:21 J -14714851.45 -14714851.36 -14714851.27 0.1605 0.1197

45TH MILLENNIUM BCE

This is a list of transits of Mercury in the 45th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Mars -44999-11-12 16:18 J -14714145.92 -14714145.82 -14714145.73 0.1615 0.1110

Moon -44997-02-28 10:18 J -14713673.12 -14713673.07 -14713673.01 0.2668 0.2406

Earth -44997-02-28 11:16 J -14713673.09 -14713673.03 -14713672.96 0.2672 0.2297 *

Jupiter -44996-02-14 19:11 J -14713320.73 -14713320.70 -14713320.66 0.0492 0.0476

Jupiter -44996-05-15 12:28 J -14713231.13 -14713230.98 -14713230.82 0.0490 0.0116

Mars -44996-08-07 08:38 J -14713147.22 -14713147.14 -14713147.06 0.1926 0.1538

Saturn -44996-10-03 21:06 J -14713089.73 -14713089.62 -14713089.51 0.0273 0.0176

Saturn -44996-12-31 10:33 J -14713001.20 -14713001.06 -14713000.92 0.0274 0.0080

Saturn -44995-03-29 23:30 J -14712912.66 -14712912.52 -14712912.37 0.0274 0.0016

Saturn -44995-06-26 12:28 J -14712824.11 -14712823.98 -14712823.85 0.0274 0.0109

Saturn -44995-09-23 01:11 J -14712735.55 -14712735.45 -14712735.36 0.0274 0.0201

Earth -44994-09-08 07:54 J -14712385.29 -14712385.17 -14712385.05 0.2665 0.0246

Moon -44994-09-08 08:09 J -14712385.28 -14712385.16 -14712385.04 0.2671 0.0294 *

Earth -44991-03-10 07:26 J -14711471.28 -14711471.19 -14711471.10 0.2665 0.2077

Moon -44991-03-10 08:09 J -14711471.24 -14711471.16 -14711471.08 0.2670 0.2135 *

Jupiter -44990-07-17 08:52 J -14710977.27 -14710977.13 -14710976.99 0.0538 0.0121

Mars -44989-04-04 01:11 J -14710715.57 -14710715.45 -14710715.32 0.1612 0.0564

Moon -44987-08-31 22:18 J -14709835.62 -14709835.57 -14709835.52 0.2658 0.2371

Earth -44987-08-31 23:16 J -14709835.59 -14709835.53 -14709835.48 0.2660 0.2358 *

Moon -44984-03-02 10:04 J -14708922.20 -14708922.08 -14708921.96 0.2672 0.1209

Earth -44984-03-02 11:16 J -14708922.15 -14708922.03 -14708921.91 0.2670 0.1207 *

Jupiter -44984-03-03 13:40 J -14708921.09 -14708920.93 -14708920.77 0.0490 0.0035

Venus -44984-07-26 15:35 J -14708775.92 -14708775.85 -14708775.77 0.3680 0.2714

Saturn -44981-01-21 17:02 J -14707866.84 -14707866.79 -14707866.74 0.0286 0.0268

Saturn -44981-04-19 11:02 J -14707778.17 -14707778.04 -14707777.90 0.0286 0.0150

Saturn -44981-07-17 05:30 J -14707689.43 -14707689.27 -14707689.10 0.0286 0.0029

Earth -44981-09-10 04:04 J -14707634.44 -14707634.33 -14707634.22 0.2666 0.1110

Moon -44981-09-10 04:47 J -14707634.41 -14707634.30 -14707634.19 0.2670 0.1176 *

Saturn -44981-10-14 00:28 J -14707600.64 -14707600.48 -14707600.32 0.0285 0.0097

Saturn -44980-01-10 19:40 J -14707511.78 -14707511.68 -14707511.57 0.0285 0.0223

Mars -44980-08-25 10:04 J -14707285.21 -14707285.08 -14707284.94 0.1609 0.0017

Venus -44978-02-09 08:38 J -14706752.25 -14706752.14 -14706752.03 0.3685 0.0316

Jupiter -44978-05-05 10:47 J -14706667.20 -14706667.05 -14706666.91 0.0538 0.0054

Mars -44975-04-26 05:16 J -14705580.40 -14705580.28 -14705580.15 0.1919 0.0866

Moon -44974-09-03 19:11 J -14705084.80 -14705084.70 -14705084.60 0.2665 0.1548

Earth -44974-09-03 20:09 J -14705084.77 -14705084.66 -14705084.56 0.2662 0.1422 *

Uranus -44973-02-28 05:16 J -14704907.34 -14704907.28 -14704907.21 0.0132 0.0116

Uranus -44973-05-26 09:06 J -14704819.22 -14704819.12 -14704819.02 0.0132 0.0097

Uranus -44973-08-22 12:42 J -14704731.08 -14704730.97 -14704730.85 0.0132 0.0078

Venus -44973-08-25 01:40 J -14704728.52 -14704728.43 -14704728.34 0.3689 0.2063

Uranus -44973-11-18 16:18 J -14704642.94 -14704642.82 -14704642.68 0.0132 0.0059

Jupiter -44973-12-20 14:52 J -14704611.02 -14704610.88 -14704610.73 0.0491 0.0180

Uranus -44972-02-14 19:54 J -14704554.80 -14704554.67 -14704554.52 0.0132 0.0041

Jupiter -44972-03-20 08:52 J -14704521.20 -14704521.13 -14704521.04 0.0489 0.0421

Neptune -44972-05-09 22:04 J -14704470.62 -14704470.58 -14704470.53 0.0088 0.0084

Uranus -44972-05-13 23:45 J -14704466.65 -14704466.51 -14704466.37 0.0132 0.0022

Neptune -44972-08-05 23:59 J -14704382.57 -14704382.50 -14704382.42 0.0088 0.0077

Uranus -44972-08-10 03:21 J -14704378.51 -14704378.36 -14704378.22 0.0132 0.0004

Neptune -44972-11-02 02:09 J -14704294.50 -14704294.41 -14704294.31 0.0088 0.0070

Uranus -44972-11-06 06:42 J -14704290.36 -14704290.22 -14704290.07 0.0132 0.0016

Neptune -44971-01-29 04:04 J -14704206.43 -14704206.33 -14704206.22 0.0088 0.0063

Uranus -44971-02-02 10:18 J -14704202.21 -14704202.07 -14704201.93 0.0132 0.0034

Moon -44971-03-05 10:47 J -14704171.18 -14704171.05 -14704170.91 0.2673 0.0220

Earth -44971-03-05 11:30 J -14704171.15 -14704171.02 -14704170.88 0.2668 0.0091 *

Neptune -44971-04-27 06:14 J -14704118.36 -14704118.24 -14704118.12 0.0088 0.0056

Uranus -44971-05-01 13:54 J -14704114.05 -14704113.92 -14704113.79 0.0132 0.0052

Neptune -44971-07-24 08:09 J -14704030.28 -14704030.16 -14704030.03 0.0088 0.0049

Uranus -44971-07-28 17:16 J -14704025.89 -14704025.78 -14704025.65 0.0132 0.0070

Neptune -44971-10-20 09:50 J -14703942.21 -14703942.09 -14703941.94 0.0088 0.0043

Uranus -44971-10-24 20:52 J -14703937.73 -14703937.63 -14703937.52 0.0132 0.0088

Mars -44970-01-15 18:57 J -14703854.84 -14703854.71 -14703854.59 0.1607 0.0550

Neptune -44970-01-16 11:59 J -14703854.13 -14703854.00 -14703853.85 0.0088 0.0035

Uranus -44970-01-21 00:14 J -14703849.57 -14703849.49 -14703849.40 0.0132 0.0106

Neptune -44970-04-14 13:54 J -14703766.05 -14703765.92 -14703765.76 0.0088 0.0029

Uranus -44970-04-19 03:35 J -14703761.39 -14703761.35 -14703761.30 0.0132 0.0124

Neptune -44970-07-11 16:04 J -14703677.98 -14703677.83 -14703677.68 0.0088 0.0021

Neptune -44970-10-07 17:59 J -14703589.90 -14703589.75 -14703589.60 0.0088 0.0015

Neptune -44969-01-03 19:54 J -14703501.82 -14703501.67 -14703501.51 0.0088 0.0008

Neptune -44969-03-31 22:04 J -14703413.74 -14703413.58 -14703413.43 0.0088 0.0003

Neptune -44969-06-27 23:45 J -14703325.66 -14703325.51 -14703325.35 0.0088 0.0007

Neptune -44969-09-24 01:54 J -14703237.57 -14703237.42 -14703237.27 0.0088 0.0013

Neptune -44969-12-21 03:35 J -14703149.49 -14703149.35 -14703149.20 0.0088 0.0020

Neptune -44968-03-19 05:30 J -14703061.41 -14703061.27 -14703061.12 0.0088 0.0026

Neptune -44968-06-15 07:26 J -14702973.33 -14702973.19 -14702973.05 0.0088 0.0033

Neptune -44968-09-11 09:21 J -14702885.24 -14702885.11 -14702884.97 0.0088 0.0039

Earth -44968-09-12 23:59 J -14702883.58 -14702883.50 -14702883.42 0.2668 0.1966

Moon -44968-09-13 00:57 J -14702883.54 -14702883.46 -14702883.39 0.2665 0.1990 *

Neptune -44968-12-08 11:02 J -14702797.16 -14702797.04 -14702796.90 0.0088 0.0046

Neptune -44967-03-06 12:57 J -14702709.07 -14702708.96 -14702708.83 0.0088 0.0053

Neptune -44967-06-02 14:38 J -14702620.98 -14702620.89 -14702620.76 0.0088 0.0060

Neptune -44967-08-29 16:47 J -14702532.89 -14702532.80 -14702532.70 0.0088 0.0066

Neptune -44967-11-25 18:28 J -14702444.80 -14702444.73 -14702444.63 0.0088 0.0073

Saturn -44966-02-20 22:33 J -14702357.65 -14702357.56 -14702357.46 0.0273 0.0207

Jupiter -44966-02-21 12:57 J -14702357.09 -14702356.96 -14702356.83 0.0537 0.0218

Neptune -44966-02-21 20:23 J -14702356.71 -14702356.65 -14702356.58 0.0088 0.0079

Saturn -44966-05-20 11:59 J -14702269.14 -14702269.00 -14702268.87 0.0273 0.0110

Neptune -44966-05-20 22:04 J -14702268.60 -14702268.58 -14702268.53 0.0089 0.0086

Jupiter -44966-05-22 03:35 J -14702267.41 -14702267.35 -14702267.28 0.0540 0.0471

Saturn -44966-08-17 00:57 J -14702180.60 -14702180.46 -14702180.31 0.0273 0.0017

Mars -44966-09-16 06:42 J -14702150.36 -14702150.22 -14702150.08 0.1923 0.0306

Saturn -44966-11-13 13:54 J -14702092.05 -14702091.92 -14702091.78 0.0273 0.0079

Saturn -44965-02-10 02:38 J -14702003.50 -14702003.39 -14702003.28 0.0274 0.0171

Saturn -44965-05-08 15:06 J -14701914.90 -14701914.87 -14701914.83 0.0274 0.0262

Mars -44961-06-07 03:35 J -14700424.45 -14700424.35 -14700424.26 0.1605 0.1114

Moon -44961-09-05 16:18 J -14700333.94 -14700333.82 -14700333.70 0.2669 0.0470

Earth -44961-09-05 16:33 J -14700333.93 -14700333.81 -14700333.69 0.2663 0.0507 *

Jupiter -44961-10-08 16:04 J -14700300.95 -14700300.83 -14700300.71 0.0491 0.0328

Jupiter -44960-01-06 09:35 J -14700211.23 -14700211.10 -14700210.96 0.0489 0.0266

Mars -44959-05-13 16:18 J -14699718.90 -14699718.82 -14699718.73 0.1615 0.1190

Earth -44958-03-08 12:14 J -14699420.12 -14699419.99 -14699419.87 0.2666 0.1084

Moon -44958-03-08 12:14 J -14699420.11 -14699419.99 -14699419.87 0.2674 0.1155 *

Mars -44956-02-05 08:52 J -14698720.22 -14698720.13 -14698720.04 0.1926 0.1417

Jupiter -44955-12-10 14:52 J -14698046.98 -14698046.88 -14698046.79 0.0537 0.0389

Jupiter -44954-03-10 05:59 J -14697957.37 -14697957.25 -14697957.14 0.0539 0.0306

Venus -44953-01-04 05:30 J -14697657.36 -14697657.27 -14697657.17 0.3696 0.2660

Saturn -44952-09-06 10:18 J -14697046.19 -14697046.07 -14697045.95 0.0286 0.0191

Saturn -44952-12-04 04:33 J -14696957.46 -14696957.31 -14696957.15 0.0286 0.0070

Moon -44951-02-28 15:50 J -14696870.92 -14696870.84 -14696870.76 0.2670 0.2162

Earth -44951-02-28 17:02 J -14696870.87 -14696870.79 -14696870.71 0.2671 0.2108 *

Saturn -44951-03-02 23:16 J -14696868.69 -14696868.53 -14696868.36 0.0286 0.0055

Saturn -44951-05-30 18:28 J -14696779.86 -14696779.73 -14696779.60 0.0285 0.0180

Mars -44950-10-04 01:26 J -14696288.56 -14696288.44 -14696288.32 0.1612 0.0644

Jupiter -44949-07-27 17:30 J -14695990.81 -14695990.77 -14695990.73 0.0492 0.0473

Jupiter -44949-10-25 10:47 J -14695901.21 -14695901.05 -14695900.90 0.0490 0.0117

Venus -44948-07-20 08:23 J -14695633.26 -14695633.15 -14695633.04 0.3690 0.2225

Earth -44948-09-08 12:57 J -14695583.08 -14695582.96 -14695582.84 0.2665 0.0396

Moon -44948-09-08 13:26 J -14695583.06 -14695582.94 -14695582.82 0.2671 0.0373 *

Earth -44945-03-10 13:11 J -14694669.01 -14694668.95 -14694668.88 0.2665 0.2291

Moon -44945-03-10 14:09 J -14694668.97 -14694668.91 -14694668.84 0.2669 0.2336 *

Jupiter -44943-12-27 07:11 J -14693647.33 -14693647.20 -14693647.06 0.0538 0.0127

Moon -44941-09-01 03:35 J -14693033.41 -14693033.35 -14693033.29 0.2659 0.2294

Earth -44941-09-01 04:33 J -14693033.38 -14693033.31 -14693033.24 0.2660 0.2190 *

Mars -44940-02-23 10:18 J -14692858.20 -14692858.07 -14692857.93 0.1610 0.0096

Moon -44938-03-03 15:50 J -14692119.96 -14692119.84 -14692119.72 0.2672 0.1172

Earth -44938-03-03 17:02 J -14692119.92 -14692119.79 -14692119.67 0.2670 0.1017 *

Saturn -44937-07-10 01:11 J -14691625.52 -14691625.45 -14691625.36 0.0273 0.0229

Jupiter -44937-08-13 11:30 J -14691591.18 -14691591.02 -14691590.86 0.0491 0.0035

Saturn -44937-10-06 14:52 J -14691537.01 -14691536.88 -14691536.75 0.0274 0.0131

Saturn -44936-01-03 04:04 J -14691448.47 -14691448.33 -14691448.19 0.0274 0.0035

Saturn -44936-04-01 17:02 J -14691359.93 -14691359.79 -14691359.65 0.0274 0.0059

Saturn -44936-06-29 05:45 J -14691271.37 -14691271.26 -14691271.14 0.0274 0.0152

Saturn -44936-09-25 18:28 J -14691182.79 -14691182.73 -14691182.67 0.0275 0.0244

Mars -44936-10-25 05:30 J -14691153.39 -14691153.27 -14691153.15 0.1919 0.0974

Earth -44935-09-11 09:06 J -14690832.22 -14690832.12 -14690832.01 0.2666 0.1265

Moon -44935-09-11 09:50 J -14690832.19 -14690832.09 -14690831.98 0.2669 0.1341 *

Mars -44931-07-16 19:11 J -14689427.83 -14689427.70 -14689427.57 0.1607 0.0464

Uranus -44931-08-22 09:21 J -14689391.19 -14689391.11 -14689391.02 0.0147 0.0127

Jupiter -44931-10-15 08:52 J -14689337.27 -14689337.13 -14689336.99 0.0537 0.0052

Uranus -44931-11-18 15:50 J -14689302.96 -14689302.84 -14689302.71 0.0147 0.0098

Uranus -44930-02-14 22:33 J -14689214.71 -14689214.56 -14689214.40 0.0147 0.0068

Uranus -44930-05-14 05:16 J -14689126.44 -14689126.28 -14689126.11 0.0147 0.0038

Uranus -44930-08-10 12:14 J -14689038.16 -14689037.99 -14689037.82 0.0147 0.0007

Uranus -44930-11-06 18:57 J -14688949.88 -14688949.71 -14688949.54 0.0147 0.0024

Uranus -44929-02-03 01:40 J -14688861.58 -14688861.43 -14688861.26 0.0147 0.0055

Uranus -44929-05-01 08:38 J -14688773.27 -14688773.14 -14688772.99 0.0147 0.0086

Uranus -44929-07-28 15:50 J -14688684.94 -14688684.84 -14688684.74 0.0147 0.0117

Moon -44928-09-04 00:28 J -14688282.58 -14688282.48 -14688282.37 0.2667 0.1252

Earth -44928-09-04 01:11 J -14688282.55 -14688282.45 -14688282.34 0.2662 0.1257 *

Venus -44927-03-02 13:26 J -14688103.03 -14688102.94 -14688102.84 0.3681 0.1798

Mars -44926-03-17 07:11 J -14687723.34 -14687723.20 -14687723.06 0.1923 0.0181

Moon -44925-03-05 16:47 J -14687368.94 -14687368.80 -14687368.66 0.2674 0.0169

Earth -44925-03-05 17:16 J -14687368.92 -14687368.78 -14687368.64 0.2668 0.0120 *

Jupiter -44925-06-01 12:42 J -14687281.12 -14687280.97 -14687280.82 0.0491 0.0182

Jupiter -44925-08-30 06:42 J -14687191.30 -14687191.22 -14687191.14 0.0489 0.0418

Pluto -44924-07-13 06:57 J -14686874.26 -14686874.21 -14686874.13 0.0080 0.0073

Pluto -44924-10-09 08:52 J -14686786.22 -14686786.13 -14686786.04 0.0080 0.0064

Pluto -44923-01-05 10:18 J -14686698.17 -14686698.07 -14686697.96 0.0080 0.0055

Pluto -44923-04-03 11:45 J -14686610.12 -14686610.01 -14686609.88 0.0080 0.0047

Pluto -44923-06-30 13:11 J -14686522.07 -14686521.95 -14686521.81 0.0080 0.0039

Pluto -44923-09-26 14:52 J -14686434.01 -14686433.88 -14686433.74 0.0080 0.0030

Pluto -44923-12-23 16:33 J -14686345.95 -14686345.81 -14686345.67 0.0079 0.0022

Saturn -44922-01-24 12:57 J -14686314.06 -14686313.96 -14686313.85 0.0286 0.0211

Pluto -44922-03-21 17:59 J -14686257.89 -14686257.75 -14686257.60 0.0079 0.0014

Saturn -44922-04-23 07:11 J -14686225.35 -14686225.20 -14686225.04 0.0286 0.0091

Pluto -44922-06-17 19:26 J -14686169.83 -14686169.69 -14686169.54 0.0079 0.0006

Saturn -44922-07-21 01:54 J -14686136.58 -14686136.42 -14686136.25 0.0286 0.0033

Pluto -44922-09-13 21:06 J -14686081.77 -14686081.62 -14686081.48 0.0079 0.0003

Earth -44922-09-14 05:02 J -14686081.36 -14686081.29 -14686081.22 0.2668 0.2114

Moon -44922-09-14 05:59 J -14686081.32 -14686081.25 -14686081.19 0.2665 0.2192 *

Venus -44922-09-16 06:28 J -14686079.34 -14686079.23 -14686079.12 0.3686 0.0605

Saturn -44922-10-17 20:52 J -14686047.76 -14686047.63 -14686047.48 0.0285 0.0158

Mars -44922-12-07 03:35 J -14685997.45 -14685997.35 -14685997.24 0.1605 0.1033

Pluto -44922-12-10 22:33 J -14685993.71 -14685993.56 -14685993.42 0.0079 0.0010

Pluto -44921-03-07 23:45 J -14685905.65 -14685905.51 -14685905.36 0.0079 0.0018

Pluto -44921-06-04 01:11 J -14685817.58 -14685817.45 -14685817.30 0.0079 0.0026

Pluto -44921-08-31 02:23 J -14685729.52 -14685729.40 -14685729.25 0.0079 0.0034

Pluto -44921-11-27 04:04 J -14685641.45 -14685641.33 -14685641.20 0.0078 0.0041

Pluto -44920-02-23 05:16 J -14685553.38 -14685553.28 -14685553.15 0.0078 0.0048

Pluto -44920-05-22 06:57 J -14685465.31 -14685465.21 -14685465.11 0.0078 0.0055

Pluto -44920-08-18 07:54 J -14685377.24 -14685377.17 -14685377.07 0.0078 0.0063

Mars -44920-11-11 16:33 J -14685291.89 -14685291.81 -14685291.73 0.1615 0.1268

Pluto -44920-11-14 09:21 J -14685289.16 -14685289.11 -14685289.04 0.0078 0.0070

Pluto -44919-02-10 11:02 J -14685201.06 -14685201.04 -14685201.03 0.0078 0.0077

Jupiter -44919-08-03 10:18 J -14685027.20 -14685027.07 -14685026.94 0.0537 0.0230

Jupiter -44919-11-01 01:11 J -14684937.52 -14684937.45 -14684937.38 0.0540 0.0459

Mars -44917-08-06 08:52 J -14684293.22 -14684293.13 -14684293.03 0.1926 0.1321

Venus -44916-03-31 23:16 J -14684055.59 -14684055.53 -14684055.46 0.3691 0.2952

Moon -44915-09-06 21:35 J -14683531.72 -14683531.60 -14683531.48 0.2670 0.0426

Earth -44915-09-06 21:50 J -14683531.71 -14683531.59 -14683531.47 0.2663 0.0340 *

Jupiter -44913-03-20 14:23 J -14682971.02 -14682970.90 -14682970.79 0.0491 0.0325

Jupiter -44913-06-18 07:40 J -14682881.31 -14682881.18 -14682881.04 0.0489 0.0270

Earth -44912-03-08 17:59 J -14682617.87 -14682617.75 -14682617.63 0.2666 0.1293

Moon -44912-03-08 18:14 J -14682617.86 -14682617.74 -14682617.62 0.2673 0.1239 *

Mars -44912-04-28 12:14 J -14682566.99 -14682566.99 -14682566.99 0.1604 0.1601

Mars -44910-04-04 01:40 J -14681861.55 -14681861.43 -14681861.32 0.1612 0.0725

Saturn -44908-11-27 02:52 J -14680893.42 -14680893.38 -14680893.33 0.0273 0.0257

Saturn -44907-02-23 16:33 J -14680804.93 -14680804.81 -14680804.69 0.0273 0.0160

Jupiter -44907-05-22 12:28 J -14680717.08 -14680716.98 -14680716.89 0.0537 0.0398

Saturn -44907-05-23 05:45 J -14680716.40 -14680716.26 -14680716.12 0.0273 0.0064

Saturn -44907-08-19 18:42 J -14680627.86 -14680627.72 -14680627.57 0.0273 0.0031

Jupiter -44907-08-20 03:35 J -14680627.46 -14680627.35 -14680627.23 0.0539 0.0298

Saturn -44907-11-16 07:40 J -14680539.31 -14680539.18 -14680539.05 0.0273 0.0124

Saturn -44906-02-12 20:09 J -14680450.74 -14680450.66 -14680450.57 0.0274 0.0215

Moon -44905-02-29 21:21 J -14680068.70 -14680068.61 -14680068.52 0.2670 0.1984

Earth -44905-02-29 22:33 J -14680068.65 -14680068.56 -14680068.47 0.2671 0.1915 *

Earth -44902-09-09 18:14 J -14678780.86 -14678780.74 -14678780.62 0.2665 0.0551

Moon -44902-09-09 18:42 J -14678780.84 -14678780.72 -14678780.61 0.2671 0.0653 *

Jupiter -44901-01-07 15:21 J -14678660.89 -14678660.86 -14678660.81 0.0492 0.0472

Jupiter -44901-04-06 08:38 J -14678571.30 -14678571.14 -14678570.98 0.0490 0.0117

Mars -44901-08-24 10:33 J -14678431.19 -14678431.06 -14678430.93 0.1610 0.0176

Earth -44899-03-11 18:57 J -14677866.75 -14677866.71 -14677866.66 0.2664 0.2498

Moon -44899-03-11 20:09 J -14677866.68 -14677866.66 -14677866.64 0.2668 0.2634 *

Venus -44897-08-10 05:59 J -14676984.39 -14676984.25 -14676984.12 0.3695 0.0967

Mars -44896-04-25 05:59 J -14676726.36 -14676726.25 -14676726.13 0.1919 0.1101

Jupiter -44895-06-08 05:45 J -14676317.39 -14676317.26 -14676317.12 0.0538 0.0133

Moon -44895-09-02 08:52 J -14676231.21 -14676231.13 -14676231.06 0.2661 0.2080

Earth -44895-09-02 09:50 J -14676231.17 -14676231.09 -14676231.02 0.2661 0.2023 *

Saturn -44893-06-12 12:14 J -14675582.06 -14675581.99 -14675581.91 0.0286 0.0252

Saturn -44893-09-09 06:14 J -14675493.38 -14675493.24 -14675493.09 0.0286 0.0133

Saturn -44893-12-07 00:57 J -14675404.63 -14675404.46 -14675404.30 0.0286 0.0011

Moon -44892-03-03 21:35 J -14675317.73 -14675317.60 -14675317.47 0.2672 0.0838

Earth -44892-03-03 22:33 J -14675317.69 -14675317.56 -14675317.43 0.2669 0.0819 *

Saturn -44892-03-05 19:40 J -14675315.83 -14675315.68 -14675315.52 0.0286 0.0115

Saturn -44892-06-02 15:06 J -14675226.96 -14675226.87 -14675226.78 0.0285 0.0241

Mars -44891-01-14 19:11 J -14675000.83 -14675000.70 -14675000.56 0.1608 0.0385

Neptune -44890-02-03 05:45 J -14674616.27 -14674616.26 -14674616.24 0.0089 0.0088

Neptune -44890-05-02 07:54 J -14674528.22 -14674528.17 -14674528.10 0.0089 0.0081

Neptune -44890-07-29 10:18 J -14674440.15 -14674440.07 -14674439.98 0.0089 0.0074

Neptune -44890-10-25 12:28 J -14674352.08 -14674351.98 -14674351.87 0.0089 0.0067

Uranus -44890-12-22 09:21 J -14674294.14 -14674294.11 -14674294.07 0.0132 0.0127

Neptune -44889-01-21 14:38 J -14674263.99 -14674263.89 -14674263.76 0.0089 0.0060

Jupiter -44889-01-24 09:35 J -14674261.26 -14674261.10 -14674260.94 0.0490 0.0034

Uranus -44889-03-19 12:57 J -14674206.03 -14674205.96 -14674205.87 0.0132 0.0108

Neptune -44889-04-18 17:02 J -14674175.91 -14674175.79 -14674175.65 0.0089 0.0053

Uranus -44889-06-15 16:47 J -14674117.90 -14674117.80 -14674117.69 0.0132 0.0089

Neptune -44889-07-15 19:11 J -14674087.82 -14674087.70 -14674087.54 0.0089 0.0046

Earth -44889-09-11 14:23 J -14674030.01 -14674029.90 -14674029.80 0.2667 0.1420

Moon -44889-09-11 15:06 J -14674029.97 -14674029.87 -14674029.77 0.2668 0.1436 *

Uranus -44889-09-11 20:38 J -14674029.77 -14674029.64 -14674029.52 0.0132 0.0070 *

Neptune -44889-10-11 21:50 J -14673999.73 -14673999.59 -14673999.44 0.0089 0.0038

Uranus -44889-12-09 00:14 J -14673941.62 -14673941.49 -14673941.36 0.0132 0.0051

Neptune -44888-01-08 00:14 J -14673911.64 -14673911.49 -14673911.34 0.0089 0.0031

Uranus -44888-03-07 03:50 J -14673853.48 -14673853.34 -14673853.20 0.0132 0.0033

Neptune -44888-04-06 02:23 J -14673823.55 -14673823.40 -14673823.23 0.0089 0.0024

Uranus -44888-06-03 07:26 J -14673765.33 -14673765.19 -14673765.04 0.0132 0.0014

Neptune -44888-07-03 05:02 J -14673735.45 -14673735.29 -14673735.13 0.0089 0.0016

Uranus -44888-08-30 11:02 J -14673677.18 -14673677.04 -14673676.90 0.0132 0.0005

Neptune -44888-09-29 07:26 J -14673647.36 -14673647.19 -14673647.03 0.0089 0.0009

Uranus -44888-11-26 14:38 J -14673589.03 -14673588.89 -14673588.75 0.0132 0.0023

Neptune -44888-12-26 09:35 J -14673559.26 -14673559.10 -14673558.93 0.0089 0.0003

Uranus -44887-02-22 17:59 J -14673500.88 -14673500.75 -14673500.61 0.0132 0.0042

Neptune -44887-03-24 11:59 J -14673471.16 -14673471.00 -14673470.83 0.0089 0.0006

Uranus -44887-05-21 21:35 J -14673412.72 -14673412.60 -14673412.47 0.0132 0.0060

Neptune -44887-06-20 14:23 J -14673383.06 -14673382.90 -14673382.73 0.0089 0.0014

Uranus -44887-08-18 00:57 J -14673324.57 -14673324.46 -14673324.34 0.0132 0.0078

Mars -44887-09-15 07:26 J -14673296.33 -14673296.19 -14673296.05 0.1922 0.0070

Neptune -44887-09-16 16:47 J -14673294.95 -14673294.80 -14673294.63 0.0089 0.0021

Uranus -44887-11-14 04:33 J -14673236.40 -14673236.31 -14673236.21 0.0132 0.0096

Neptune -44887-12-13 19:11 J -14673206.85 -14673206.70 -14673206.54 0.0089 0.0029

Uranus -44886-02-10 07:54 J -14673148.23 -14673148.17 -14673148.09 0.0132 0.0114

Neptune -44886-03-11 21:35 J -14673118.74 -14673118.60 -14673118.44 0.0089 0.0036

Uranus -44886-05-09 11:16 J -14673060.03 -14673060.03 -14673060.01 0.0132 0.0132

Neptune -44886-06-07 23:59 J -14673030.63 -14673030.50 -14673030.35 0.0089 0.0044

Neptune -44886-09-04 02:38 J -14672942.52 -14672942.39 -14672942.25 0.0089 0.0051

Neptune -44886-12-01 04:47 J -14672854.41 -14672854.30 -14672854.16 0.0089 0.0059

Neptune -44885-02-27 07:40 J -14672766.29 -14672766.18 -14672766.07 0.0089 0.0066

Neptune -44885-05-25 09:50 J -14672678.17 -14672678.09 -14672677.99 0.0089 0.0074

Neptune -44885-08-21 12:14 J -14672590.04 -14672589.99 -14672589.91 0.0089 0.0082

Jupiter -44883-03-27 07:11 J -14672007.34 -14672007.20 -14672007.05 0.0537 0.0049

Mars -44882-06-07 04:04 J -14671570.44 -14671570.33 -14671570.22 0.1606 0.0944

Moon -44882-09-05 05:45 J -14671480.37 -14671480.26 -14671480.15 0.2667 0.1199

Earth -44882-09-05 06:28 J -14671480.34 -14671480.23 -14671480.12 0.2662 0.1090 *

Mars -44880-05-12 16:47 J -14670864.87 -14670864.80 -14670864.73 0.1615 0.1349

Moon -44879-03-06 22:33 J -14670566.69 -14670566.56 -14670566.42 0.2674 0.0215

Earth -44879-03-06 23:02 J -14670566.68 -14670566.54 -14670566.41 0.2668 0.0321 *

Saturn -44878-07-13 18:57 J -14670072.81 -14670072.71 -14670072.60 0.0274 0.0183

Saturn -44878-10-10 08:23 J -14669984.29 -14669984.15 -14669984.01 0.0274 0.0087

Jupiter -44878-11-12 10:33 J -14669951.21 -14669951.06 -14669950.91 0.0491 0.0183

Saturn -44877-01-06 21:35 J -14669895.75 -14669895.60 -14669895.46 0.0274 0.0009

Mars -44877-02-05 09:21 J -14669866.22 -14669866.11 -14669866.01 0.1926 0.1209

Jupiter -44877-02-10 04:33 J -14669861.39 -14669861.31 -14669861.23 0.0489 0.0418

Saturn -44877-04-04 10:18 J -14669807.20 -14669807.07 -14669806.93 0.0274 0.0103

Saturn -44877-07-01 23:02 J -14669718.63 -14669718.54 -14669718.43 0.0275 0.0196

Venus -44876-03-23 18:14 J -14669453.79 -14669453.74 -14669453.70 0.3678 0.3306

Earth -44876-09-14 10:18 J -14669279.13 -14669279.07 -14669279.01 0.2669 0.2265

Moon -44876-09-14 11:02 J -14669279.10 -14669279.04 -14669278.98 0.2666 0.2309 *

Mars -44873-10-27 12:28 J -14668140.02 -14668139.98 -14668139.94 0.1604 0.1515

Jupiter -44871-01-13 08:38 J -14667697.27 -14667697.14 -14667697.01 0.0537 0.0227

Jupiter -44871-04-12 23:30 J -14667607.59 -14667607.52 -14667607.45 0.0539 0.0460

Mars -44871-10-03 01:54 J -14667434.54 -14667434.42 -14667434.31 0.1612 0.0809

Venus -44871-10-07 11:16 J -14667430.13 -14667430.03 -14667429.92 0.3683 0.0882

Moon -44869-09-07 03:06 J -14666729.49 -14666729.37 -14666729.25 0.2670 0.0121

Earth -44869-09-07 03:06 J -14666729.49 -14666729.37 -14666729.25 0.2664 0.0186 *

Earth -44866-03-09 23:45 J -14665815.62 -14665815.51 -14665815.40 0.2666 0.1493

Moon -44866-03-10 00:14 J -14665815.60 -14665815.49 -14665815.38 0.2672 0.1609 *

Jupiter -44866-08-31 11:45 J -14665641.12 -14665641.01 -14665640.89 0.0491 0.0329

Jupiter -44866-11-29 05:30 J -14665551.41 -14665551.27 -14665551.14 0.0489 0.0266

Venus -44865-04-22 04:18 J -14665406.42 -14665406.32 -14665406.22 0.3687 0.1502

Saturn -44864-10-30 15:21 J -14664849.91 -14664849.86 -14664849.81 0.0286 0.0271

Saturn -44863-01-27 09:06 J -14664761.25 -14664761.12 -14664760.97 0.0286 0.0152

Saturn -44863-04-26 03:50 J -14664672.51 -14664672.34 -14664672.18 0.0286 0.0031

Saturn -44863-07-23 22:33 J -14664583.72 -14664583.56 -14664583.40 0.0285 0.0094

Saturn -44863-10-20 17:45 J -14664494.86 -14664494.76 -14664494.65 0.0285 0.0221

Mars -44861-02-23 10:47 J -14664004.19 -14664004.05 -14664003.92 0.1610 0.0262

Jupiter -44860-11-01 09:50 J -14663387.18 -14663387.09 -14663387.00 0.0536 0.0409

Jupiter -44859-01-30 01:11 J -14663297.57 -14663297.45 -14663297.33 0.0539 0.0287

Moon -44859-03-02 03:06 J -14663266.47 -14663266.37 -14663266.28 0.2670 0.1835

Earth -44859-03-02 04:18 J -14663266.42 -14663266.32 -14663266.22 0.2671 0.1726 *

Mars -44857-10-24 06:14 J -14662299.35 -14662299.24 -14662299.14 0.1919 0.1203

Earth -44856-09-09 23:16 J -14661978.64 -14661978.53 -14661978.41 0.2665 0.0713

Moon -44856-09-09 23:59 J -14661978.62 -14661978.50 -14661978.39 0.2671 0.0686 *

Jupiter -44854-06-19 13:40 J -14661330.98 -14661330.93 -14661330.89 0.0492 0.0468

Jupiter -44854-09-17 06:42 J -14661241.38 -14661241.22 -14661241.06 0.0490 0.0120

Mars -44852-07-15 19:26 J -14660573.82 -14660573.69 -14660573.56 0.1608 0.0300

Moon -44849-09-02 14:09 J -14659429.00 -14659428.91 -14659428.83 0.2663 0.1907

Earth -44849-09-02 14:52 J -14659428.96 -14659428.88 -14659428.79 0.2661 0.1857 *

Saturn -44849-11-29 20:52 J -14659340.72 -14659340.63 -14659340.53 0.0273 0.0210

Saturn -44848-02-26 10:18 J -14659252.20 -14659252.07 -14659251.93 0.0273 0.0113

Saturn -44848-05-25 23:30 J -14659163.66 -14659163.52 -14659163.37 0.0273 0.0018

Saturn -44848-08-22 12:28 J -14659075.12 -14659074.98 -14659074.84 0.0273 0.0076

Jupiter -44848-11-18 03:35 J -14658987.49 -14658987.35 -14658987.22 0.0539 0.0123

Saturn -44848-11-19 01:11 J -14658986.56 -14658986.45 -14658986.34 0.0274 0.0169

Saturn -44847-02-15 13:40 J -14658897.97 -14658897.93 -14658897.88 0.0274 0.0259

Mars -44847-03-16 07:40 J -14658869.32 -14658869.18 -14658869.04 0.1923 0.0063

Uranus -44847-06-15 10:47 J -14658778.06 -14658778.05 -14658778.04 0.0147 0.0146

Uranus -44847-09-11 17:02 J -14658689.88 -14658689.79 -14658689.68 0.0147 0.0117

Uranus -44847-12-08 23:45 J -14658601.64 -14658601.51 -14658601.37 0.0147 0.0087

Moon -44846-03-05 03:21 J -14658515.49 -14658515.36 -14658515.23 0.2673 0.0709

Earth -44846-03-05 04:18 J -14658515.45 -14658515.32 -14658515.19 0.2669 0.0619 *

Uranus -44846-03-07 06:28 J -14658513.38 -14658513.23 -14658513.07 0.0147 0.0057

Uranus -44846-06-03 13:11 J -14658425.11 -14658424.95 -14658424.78 0.0147 0.0027

Uranus -44846-08-30 20:09 J -14658336.83 -14658336.66 -14658336.49 0.0147 0.0004

Uranus -44846-11-27 02:52 J -14658248.55 -14658248.38 -14658248.21 0.0147 0.0034

Uranus -44845-02-23 09:50 J -14658160.25 -14658160.09 -14658159.94 0.0147 0.0065

Uranus -44845-05-21 16:33 J -14658071.93 -14658071.81 -14658071.67 0.0147 0.0097

Uranus -44845-08-17 23:30 J -14657983.59 -14657983.52 -14657983.42 0.0147 0.0128

Earth -44843-09-12 19:26 J -14657227.79 -14657227.69 -14657227.59 0.2667 0.1570

Moon -44843-09-12 20:23 J -14657227.74 -14657227.65 -14657227.56 0.2667 0.1696 *

Mars -44843-12-06 04:04 J -14657143.44 -14657143.33 -14657143.21 0.1606 0.0861

Jupiter -44842-07-06 07:40 J -14656931.34 -14656931.18 -14656931.02 0.0490 0.0031

Mars -44841-11-10 16:47 J -14656437.85 -14656437.80 -14656437.74 0.1615 0.1429

Venus -44840-03-17 06:14 J -14656311.37 -14656311.24 -14656311.10 0.3693 0.0749

Mars -44838-08-06 09:50 J -14655439.21 -14655439.09 -14655438.98 0.1925 0.1083

Moon -44836-09-05 11:02 J -14654678.15 -14654678.04 -14654677.92 0.2667 0.0941

Earth -44836-09-05 11:45 J -14654678.13 -14654678.01 -14654677.90 0.2662 0.0926 *

Jupiter -44836-09-06 05:45 J -14654677.40 -14654677.26 -14654677.12 0.0538 0.0045

Saturn -44834-06-16 08:09 J -14654029.28 -14654029.16 -14654029.04 0.0286 0.0195

Saturn -44834-09-13 02:23 J -14653940.55 -14653940.40 -14653940.24 0.0286 0.0074

Saturn -44834-12-10 21:06 J -14653851.78 -14653851.62 -14653851.45 0.0286 0.0050

Moon -44833-03-07 04:18 J -14653764.45 -14653764.32 -14653764.18 0.2674 0.0571

Earth -44833-03-07 04:47 J -14653764.44 -14653764.30 -14653764.17 0.2667 0.0523 *

Saturn -44833-03-08 16:04 J -14653762.95 -14653762.83 -14653762.69 0.0285 0.0176

Mars -44833-04-27 12:42 J -14653713.03 -14653712.97 -14653712.91 0.1604 0.1428

Mars -44831-04-03 01:54 J -14653007.53 -14653007.42 -14653007.31 0.1612 0.0887

Jupiter -44830-04-24 08:52 J -14652621.28 -14652621.13 -14652620.98 0.0491 0.0179

Jupiter -44830-07-23 02:38 J -14652531.47 -14652531.39 -14652531.30 0.0489 0.0421

Earth -44830-09-15 15:21 J -14652476.91 -14652476.86 -14652476.81 0.2669 0.2413

Moon -44830-09-15 16:04 J -14652476.88 -14652476.83 -14652476.79 0.2665 0.2445 *

Earth -44826-02-28 10:04 J -14651215.10 -14651215.08 -14651215.05 0.2672 0.2602

Jupiter -44824-06-25 07:11 J -14650367.33 -14650367.20 -14650367.07 0.0537 0.0221

Jupiter -44824-09-22 21:50 J -14650277.65 -14650277.59 -14650277.52 0.0539 0.0465

Earth -44823-09-08 08:09 J -14649927.28 -14649927.16 -14649927.04 0.2664 0.0055

Moon -44823-09-08 08:23 J -14649927.27 -14649927.15 -14649927.03 0.2671 0.0078 *

Mars -44822-08-24 10:47 J -14649577.18 -14649577.05 -14649576.91 0.1610 0.0343

Earth -44820-03-10 05:30 J -14649013.37 -14649013.27 -14649013.16 0.2666 0.1705

Moon -44820-03-10 06:14 J -14649013.34 -14649013.24 -14649013.13 0.2671 0.1676 *

Venus -44820-10-28 16:04 J -14648780.91 -14648780.83 -14648780.75 0.3679 0.2381

Saturn -44819-04-18 23:02 J -14648608.60 -14648608.54 -14648608.46 0.0273 0.0236

Saturn -44819-07-16 12:42 J -14648520.10 -14648519.97 -14648519.84 0.0274 0.0138

Saturn -44819-10-13 01:54 J -14648431.56 -14648431.42 -14648431.27 0.0274 0.0042

Saturn -44818-01-09 15:06 J -14648343.02 -14648342.87 -14648342.73 0.0274 0.0053

Jupiter -44818-02-10 09:50 J -14648311.21 -14648311.09 -14648310.97 0.0492 0.0329

Saturn -44818-04-08 03:50 J -14648254.46 -14648254.34 -14648254.22 0.0274 0.0146

Jupiter -44818-05-11 03:21 J -14648221.50 -14648221.36 -14648221.22 0.0490 0.0266

Saturn -44818-07-05 16:18 J -14648165.88 -14648165.82 -14648165.74 0.0275 0.0238

Mars -44817-04-24 06:28 J -14647872.33 -14647872.23 -14647872.13 0.1919 0.1317

Moon -44816-08-31 22:33 J -14647377.58 -14647377.56 -14647377.55 0.2656 0.2629

Earth -44816-08-31 23:16 J -14647377.54 -14647377.53 -14647377.52 0.2660 0.2634

Venus -44814-05-14 09:06 J -14646757.23 -14646757.12 -14646757.01 0.3684 0.0057

Moon -44813-03-02 08:52 J -14646464.24 -14646464.13 -14646464.03 0.2670 0.1573

Earth -44813-03-02 09:50 J -14646464.19 -14646464.09 -14646463.98 0.2671 0.1532 *

Mars -44812-01-13 19:40 J -14646146.81 -14646146.68 -14646146.54 0.1608 0.0216

Jupiter -44812-04-13 08:23 J -14646057.24 -14646057.15 -14646057.05 0.0536 0.0402

Jupiter -44812-07-11 23:45 J -14645967.63 -14645967.51 -14645967.40 0.0538 0.0291

Earth -44810-09-11 04:33 J -14645176.43 -14645176.31 -14645176.20 0.2666 0.0862

Moon -44810-09-11 05:02 J -14645176.40 -14645176.29 -14645176.17 0.2670 0.0979 *

Venus -44809-11-27 02:09 J -14644733.49 -14644733.41 -14644733.33 0.3688 0.2397

Mars -44808-09-14 07:54 J -14644442.31 -14644442.17 -14644442.03 0.1922 0.0157

Neptune -44807-02-03 20:09 J -14644299.70 -14644299.66 -14644299.59 0.0088 0.0083

Neptune -44807-05-02 22:18 J -14644211.64 -14644211.57 -14644211.48 0.0088 0.0076

Neptune -44807-07-30 00:28 J -14644123.57 -14644123.48 -14644123.38 0.0088 0.0069

Neptune -44807-10-26 02:23 J -14644035.50 -14644035.40 -14644035.28 0.0088 0.0062

Jupiter -44807-11-29 11:16 J -14644001.07 -14644001.03 -14644000.99 0.0492 0.0472

Neptune -44806-01-22 04:33 J -14643947.43 -14643947.31 -14643947.19 0.0088 0.0055

Jupiter -44806-02-27 04:18 J -14643911.47 -14643911.32 -14643911.16 0.0490 0.0117

Neptune -44806-04-20 06:28 J -14643859.35 -14643859.23 -14643859.09 0.0088 0.0048

Neptune -44806-07-17 08:38 J -14643771.28 -14643771.14 -14643771.00 0.0088 0.0041

Neptune -44806-10-13 10:33 J -14643683.20 -14643683.06 -14643682.92 0.0088 0.0034

Neptune -44805-01-09 12:28 J -14643595.12 -14643594.98 -14643594.83 0.0088 0.0027

Uranus -44805-01-11 17:02 J -14643592.84 -14643592.79 -14643592.72 0.0132 0.0119

Neptune -44805-04-06 14:23 J -14643507.04 -14643506.90 -14643506.74 0.0088 0.0020

Uranus -44805-04-08 20:52 J -14643504.72 -14643504.63 -14643504.53 0.0132 0.0100

Neptune -44805-07-03 16:18 J -14643418.96 -14643418.82 -14643418.66 0.0088 0.0014

Uranus -44805-07-06 00:28 J -14643416.59 -14643416.48 -14643416.36 0.0132 0.0081

Neptune -44805-09-29 18:28 J -14643330.88 -14643330.73 -14643330.58 0.0088 0.0006

Uranus -44805-10-02 04:18 J -14643328.45 -14643328.32 -14643328.19 0.0132 0.0062

Saturn -44805-11-02 11:02 J -14643297.15 -14643297.04 -14643296.94 0.0286 0.0214

Neptune -44805-12-26 20:23 J -14643242.80 -14643242.65 -14643242.50 0.0088 0.0000

Uranus -44805-12-29 07:54 J -14643240.30 -14643240.17 -14643240.03 0.0132 0.0043

Saturn -44804-01-30 05:16 J -14643208.44 -14643208.28 -14643208.13 0.0286 0.0094

Neptune -44804-03-24 22:18 J -14643154.72 -14643154.57 -14643154.42 0.0088 0.0007

Uranus -44804-03-27 11:30 J -14643152.16 -14643152.02 -14643151.87 0.0132 0.0025

Saturn -44804-04-28 23:45 J -14643119.67 -14643119.51 -14643119.34 0.0286 0.0030

Neptune -44804-06-21 00:14 J -14643066.64 -14643066.49 -14643066.34 0.0088 0.0014

Uranus -44804-06-23 15:06 J -14643064.01 -14643063.87 -14643063.72 0.0132 0.0007

Saturn -44804-07-26 18:42 J -14643030.85 -14643030.72 -14643030.57 0.0285 0.0155

Neptune -44804-09-17 02:09 J -14642978.56 -14642978.41 -14642978.26 0.0088 0.0021

Uranus -44804-09-19 18:42 J -14642975.86 -14642975.72 -14642975.57 0.0132 0.0013

Saturn -44804-10-23 14:09 J -14642941.93 -14642941.91 -14642941.88 0.0285 0.0282

Neptune -44804-12-14 03:50 J -14642890.47 -14642890.34 -14642890.19 0.0088 0.0028

Uranus -44804-12-16 22:18 J -14642887.71 -14642887.57 -14642887.43 0.0132 0.0031

Neptune -44803-03-12 05:45 J -14642802.39 -14642802.26 -14642802.11 0.0088 0.0034

Uranus -44803-03-15 01:40 J -14642799.55 -14642799.43 -14642799.29 0.0132 0.0050

Mars -44803-06-06 04:18 J -14642716.44 -14642716.32 -14642716.20 0.1606 0.0778

Neptune -44803-06-08 07:40 J -14642714.31 -14642714.18 -14642714.04 0.0089 0.0041

Uranus -44803-06-11 05:16 J -14642711.40 -14642711.28 -14642711.15 0.0132 0.0068

Moon -44803-09-03 19:11 J -14642626.79 -14642626.70 -14642626.61 0.2663 0.1798

Earth -44803-09-03 20:09 J -14642626.75 -14642626.66 -14642626.56 0.2661 0.1688 *

Neptune -44803-09-04 09:35 J -14642626.22 -14642626.10 -14642625.97 0.0089 0.0047

Uranus -44803-09-07 08:38 J -14642623.24 -14642623.14 -14642623.02 0.0132 0.0086

Neptune -44803-12-01 11:16 J -14642538.13 -14642538.03 -14642537.90 0.0089 0.0055

Uranus -44803-12-04 12:14 J -14642535.07 -14642534.99 -14642534.90 0.0132 0.0104

Neptune -44802-02-27 13:11 J -14642450.05 -14642449.95 -14642449.83 0.0089 0.0061

Uranus -44802-03-02 15:35 J -14642446.89 -14642446.85 -14642446.79 0.0132 0.0122

Neptune -44802-05-26 15:06 J -14642361.96 -14642361.87 -14642361.76 0.0089 0.0067

Neptune -44802-08-22 17:02 J -14642273.86 -14642273.79 -14642273.70 0.0089 0.0074

Neptune -44802-11-18 18:42 J -14642185.77 -14642185.72 -14642185.65 0.0089 0.0081

Neptune -44801-02-14 20:38 J -14642097.66 -14642097.64 -14642097.60 0.0089 0.0087

Mars -44801-05-11 17:02 J -14642010.83 -14642010.79 -14642010.74 0.1615 0.1507

Moon -44800-03-05 09:21 J -14641713.25 -14641713.11 -14641712.98 0.2674 0.0494

Earth -44800-03-05 10:04 J -14641713.22 -14641713.08 -14641712.95 0.2669 0.0421 *

Jupiter -44800-04-30 01:11 J -14641657.59 -14641657.45 -14641657.31 0.0538 0.0113

Mars -44798-02-04 09:35 J -14641012.21 -14641012.10 -14641011.98 0.1925 0.0993

Earth -44797-09-13 00:42 J -14640425.57 -14640425.47 -14640425.38 0.2667 0.1728

Moon -44797-09-13 01:26 J -14640425.53 -14640425.44 -14640425.35 0.2668 0.1726 *

Jupiter -44795-12-16 05:45 J -14639601.42 -14639601.26 -14639601.09 0.0490 0.0030

Mars -44794-10-27 12:57 J -14639286.03 -14639285.96 -14639285.89 0.1604 0.1345

Mars -44792-10-02 02:09 J -14638580.52 -14638580.41 -14638580.31 0.1612 0.0966

Saturn -44790-09-06 01:26 J -14637876.48 -14637876.44 -14637876.40 0.0272 0.0260

Moon -44790-09-06 16:33 J -14637875.93 -14637875.81 -14637875.70 0.2668 0.0811

Earth -44790-09-06 17:02 J -14637875.91 -14637875.79 -14637875.68 0.2663 0.0769 *

Saturn -44790-12-03 14:52 J -14637788.00 -14637787.88 -14637787.76 0.0273 0.0163

Saturn -44789-03-01 04:04 J -14637699.47 -14637699.33 -14637699.18 0.0273 0.0067

Venus -44789-04-07 04:04 J -14637662.43 -14637662.33 -14637662.22 0.3698 0.2374

Saturn -44789-05-28 17:16 J -14637610.93 -14637610.78 -14637610.64 0.0273 0.0028

Saturn -44789-08-25 05:59 J -14637522.37 -14637522.25 -14637522.12 0.0273 0.0121

Saturn -44789-11-21 18:42 J -14637433.81 -14637433.72 -14637433.63 0.0274 0.0212

Jupiter -44788-02-16 03:21 J -14637347.50 -14637347.36 -14637347.22 0.0538 0.0055

Moon -44787-03-08 10:18 J -14636962.20 -14636962.07 -14636961.94 0.2674 0.0664

Earth -44787-03-08 10:33 J -14636962.20 -14636962.06 -14636961.93 0.2667 0.0727 *

Earth -44784-09-15 20:23 J -14635674.68 -14635674.65 -14635674.62 0.2669 0.2563

Moon -44784-09-15 21:06 J -14635674.64 -14635674.62 -14635674.61 0.2664 0.2634 *

Venus -44784-10-22 06:42 J -14635638.32 -14635638.22 -14635638.12 0.3692 0.2494

Jupiter -44783-10-04 06:57 J -14635291.36 -14635291.21 -14635291.06 0.0491 0.0176

Jupiter -44782-01-02 00:42 J -14635201.55 -14635201.47 -14635201.39 0.0489 0.0422

Mars -44782-02-22 11:02 J -14635150.17 -14635150.04 -14635149.91 0.1610 0.0422

Moon -44780-02-28 14:38 J -14634412.94 -14634412.89 -14634412.83 0.2669 0.2395

Earth -44780-02-28 15:50 J -14634412.90 -14634412.84 -14634412.79 0.2672 0.2415 *

Mars -44778-10-24 06:42 J -14633445.31 -14633445.22 -14633445.12 0.1919 0.1440

Moon -44777-09-08 13:26 J -14633125.06 -14633124.94 -14633124.81 0.2671 0.0220

Earth -44777-09-08 13:26 J -14633125.06 -14633124.94 -14633124.82 0.2664 0.0140 *

Jupiter -44777-12-05 05:30 J -14633037.40 -14633037.27 -14633037.14 0.0537 0.0221

Jupiter -44776-03-04 20:23 J -14632947.72 -14632947.65 -14632947.59 0.0539 0.0469

Saturn -44775-03-22 09:35 J -14632565.16 -14632565.10 -14632565.02 0.0286 0.0259

Saturn -44775-06-19 03:50 J -14632476.48 -14632476.34 -14632476.20 0.0286 0.0139

Saturn -44775-09-15 22:18 J -14632387.73 -14632387.57 -14632387.40 0.0286 0.0017

Saturn -44775-12-13 17:16 J -14632298.94 -14632298.78 -14632298.63 0.0286 0.0108

Earth -44774-03-11 11:16 J -14632211.12 -14632211.03 -14632210.93 0.2665 0.1914

Moon -44774-03-11 12:14 J -14632211.08 -14632210.99 -14632210.91 0.2671 0.2056 *

Saturn -44774-03-12 12:14 J -14632210.08 -14632209.99 -14632209.89 0.0285 0.0235

Mars -44773-07-14 19:54 J -14631719.80 -14631719.67 -14631719.54 0.1608 0.0132

Jupiter -44771-07-23 08:09 J -14630981.27 -14630981.16 -14630981.03 0.0491 0.0323

Jupiter -44771-10-21 01:40 J -14630891.56 -14630891.43 -14630891.29 0.0489 0.0271

Moon -44770-09-02 03:35 J -14630575.37 -14630575.35 -14630575.32 0.2658 0.2601

Earth -44770-09-02 04:33 J -14630575.35 -14630575.31 -14630575.27 0.2660 0.2465 *

Mars -44768-03-15 08:23 J -14630015.29 -14630015.15 -14630015.02 0.1922 0.0275

Moon -44767-03-03 14:23 J -14629662.01 -14629661.90 -14629661.79 0.2671 0.1476

Earth -44767-03-03 15:35 J -14629661.97 -14629661.85 -14629661.73 0.2670 0.1337 *

Pluto -44766-05-18 11:02 J -14629221.07 -14629221.04 -14629220.96 0.0065 0.0061

Pluto -44766-08-14 12:28 J -14629133.05 -14629132.98 -14629132.89 0.0065 0.0056

Pluto -44766-11-10 13:40 J -14629045.02 -14629044.93 -14629044.82 0.0065 0.0051

Pluto -44765-02-06 14:52 J -14628956.99 -14628956.88 -14628956.76 0.0065 0.0046

Pluto -44765-05-04 16:04 J -14628868.95 -14628868.83 -14628868.69 0.0065 0.0041

Pluto -44765-07-31 17:16 J -14628780.91 -14628780.78 -14628780.63 0.0065 0.0036

Jupiter -44765-09-23 06:57 J -14628727.30 -14628727.21 -14628727.11 0.0536 0.0396

Pluto -44765-10-27 18:28 J -14628692.87 -14628692.73 -14628692.58 0.0065 0.0031

Jupiter -44765-12-21 22:18 J -14628637.69 -14628637.57 -14628637.46 0.0538 0.0298

Pluto -44764-01-23 19:40 J -14628604.83 -14628604.68 -14628604.52 0.0065 0.0027

Pluto -44764-04-21 20:52 J -14628516.78 -14628516.63 -14628516.46 0.0065 0.0022

Pluto -44764-07-18 22:04 J -14628428.74 -14628428.58 -14628428.41 0.0065 0.0017

Earth -44764-09-11 09:35 J -14628374.21 -14628374.10 -14628373.99 0.2666 0.1020

Moon -44764-09-11 10:18 J -14628374.18 -14628374.07 -14628373.95 0.2669 0.1022 *

Pluto -44764-10-14 23:16 J -14628340.69 -14628340.53 -14628340.35 0.0065 0.0012

Mars -44764-12-05 04:33 J -14628289.43 -14628289.31 -14628289.19 0.1606 0.0691

Pluto -44763-01-11 00:42 J -14628252.64 -14628252.47 -14628252.30 0.0066 0.0006

Pluto -44763-04-09 01:54 J -14628164.59 -14628164.42 -14628164.24 0.0066 0.0002

Venus -44763-06-04 13:54 J -14628108.02 -14628107.92 -14628107.82 0.3680 0.1467

Uranus -44763-07-05 18:14 J -14628076.79 -14628076.74 -14628076.68 0.0147 0.0137

Pluto -44763-07-06 03:06 J -14628076.53 -14628076.37 -14628076.19 0.0066 0.0005

Uranus -44763-10-02 00:42 J -14627988.58 -14627988.47 -14627988.35 0.0147 0.0108

Pluto -44763-10-02 04:33 J -14627988.48 -14627988.31 -14627988.14 0.0066 0.0010 *

Pluto -44763-12-29 05:45 J -14627900.42 -14627900.26 -14627900.09 0.0066 0.0015

Uranus -44763-12-29 07:26 J -14627900.33 -14627900.19 -14627900.04 0.0147 0.0078 *

Pluto -44762-03-27 06:57 J -14627812.36 -14627812.21 -14627812.04 0.0066 0.0020

Uranus -44762-03-27 14:09 J -14627812.07 -14627811.91 -14627811.75 0.0147 0.0048 *

Pluto -44762-06-23 08:09 J -14627724.30 -14627724.16 -14627723.99 0.0066 0.0026

Uranus -44762-06-23 20:52 J -14627723.80 -14627723.63 -14627723.46 0.0147 0.0018

Pluto -44762-09-19 09:35 J -14627636.24 -14627636.10 -14627635.94 0.0066 0.0031

Uranus -44762-09-20 03:35 J -14627635.52 -14627635.35 -14627635.17 0.0147 0.0014

Mars -44762-11-10 17:16 J -14627583.80 -14627583.78 -14627583.76 0.1615 0.1586

Pluto -44762-12-16 11:02 J -14627548.18 -14627548.04 -14627547.89 0.0066 0.0037

Uranus -44762-12-17 10:33 J -14627547.22 -14627547.06 -14627546.89 0.0147 0.0044

Pluto -44761-03-13 11:59 J -14627460.11 -14627460.00 -14627459.85 0.0066 0.0043

Uranus -44761-03-14 17:30 J -14627458.92 -14627458.77 -14627458.62 0.0147 0.0075

Pluto -44761-06-09 13:26 J -14627372.04 -14627371.94 -14627371.80 0.0066 0.0048

Uranus -44761-06-11 00:28 J -14627370.60 -14627370.48 -14627370.36 0.0147 0.0106

Pluto -44761-09-05 14:38 J -14627283.97 -14627283.89 -14627283.76 0.0067 0.0054

Uranus -44761-09-07 07:11 J -14627282.24 -14627282.20 -14627282.13 0.0147 0.0138

Pluto -44761-12-02 16:18 J -14627195.89 -14627195.82 -14627195.73 0.0067 0.0059

Pluto -44760-02-28 17:30 J -14627107.79 -14627107.77 -14627107.71 0.0067 0.0065

Saturn -44760-04-21 16:33 J -14627055.91 -14627055.81 -14627055.70 0.0273 0.0192

Saturn -44760-07-19 05:59 J -14626967.38 -14626967.25 -14626967.11 0.0274 0.0095

Saturn -44760-10-15 19:11 J -14626878.84 -14626878.70 -14626878.55 0.0274 0.0008

Saturn -44759-01-12 08:09 J -14626790.29 -14626790.16 -14626790.02 0.0274 0.0095

Saturn -44759-04-10 20:52 J -14626701.73 -14626701.63 -14626701.52 0.0274 0.0188

Jupiter -44759-05-11 09:21 J -14626671.15 -14626671.11 -14626671.07 0.0492 0.0471

Mars -44759-08-05 10:04 J -14626585.20 -14626585.08 -14626584.96 0.1925 0.0877

Jupiter -44759-08-09 02:23 J -14626581.56 -14626581.40 -14626581.24 0.0490 0.0118

Venus -44758-12-19 06:57 J -14626084.32 -14626084.21 -14626084.11 0.3685 0.0932

Moon -44757-09-04 00:28 J -14625824.58 -14625824.48 -14625824.38 0.2664 0.1547

Earth -44757-09-04 01:26 J -14625824.54 -14625824.44 -14625824.34 0.2661 0.1522 *

Moon -44754-03-06 14:52 J -14624911.01 -14624910.88 -14624910.74 0.2674 0.0261

Earth -44754-03-06 15:50 J -14624910.98 -14624910.84 -14624910.71 0.2669 0.0231 *

Mars -44754-04-27 13:11 J -14624859.04 -14624858.95 -14624858.87 0.1604 0.1262

Jupiter -44753-10-09 23:45 J -14624327.64 -14624327.51 -14624327.37 0.0538 0.0123

Mars -44752-04-02 02:23 J -14624153.50 -14624153.40 -14624153.30 0.1612 0.1048

Venus -44752-07-03 23:45 J -14624060.56 -14624060.51 -14624060.46 0.3690 0.3272

Earth -44751-09-14 05:45 J -14623623.35 -14623623.26 -14623623.18 0.2668 0.1874

Moon -44751-09-14 06:28 J -14623623.30 -14623623.23 -14623623.15 0.2667 0.2006 *

Jupiter -44747-05-28 03:35 J -14622271.51 -14622271.35 -14622271.19 0.0490 0.0029

Saturn -44746-08-09 12:14 J -14621833.02 -14621832.99 -14621832.95 0.0286 0.0279

Saturn -44746-11-06 06:14 J -14621744.37 -14621744.24 -14621744.10 0.0286 0.0161

Saturn -44745-02-03 00:42 J -14621655.63 -14621655.47 -14621655.31 0.0286 0.0039

Saturn -44745-05-01 19:26 J -14621566.84 -14621566.69 -14621566.53 0.0286 0.0086

Saturn -44745-07-29 14:38 J -14621478.00 -14621477.89 -14621477.77 0.0285 0.0212

Moon -44744-09-06 21:50 J -14621073.71 -14621073.59 -14621073.47 0.2669 0.0645

Earth -44744-09-06 22:04 J -14621073.70 -14621073.58 -14621073.46 0.2663 0.0606 *

Mars -44743-08-23 11:16 J -14620723.16 -14620723.03 -14620722.91 0.1610 0.0501

Earth -44741-03-08 16:18 J -14620159.95 -14620159.82 -14620159.69 0.2667 0.0933

Moon -44741-03-08 16:18 J -14620159.94 -14620159.82 -14620159.69 0.2673 0.0964 *

Jupiter -44741-07-29 00:57 J -14620017.60 -14620017.46 -14620017.32 0.0538 0.0062

Mars -44738-04-24 06:57 J -14619018.29 -14619018.21 -14619018.12 0.1918 0.1548

Jupiter -44735-03-16 05:16 J -14617961.43 -14617961.28 -14617961.13 0.0491 0.0171

Jupiter -44735-06-13 23:02 J -14617871.61 -14617871.54 -14617871.46 0.0489 0.0428

Moon -44734-03-01 20:23 J -14617610.71 -14617610.65 -14617610.59 0.2668 0.2380

Earth -44734-03-01 21:21 J -14617610.68 -14617610.61 -14617610.54 0.2672 0.2225 *

Mars -44733-01-13 20:09 J -14617292.80 -14617292.66 -14617292.53 0.1608 0.0059

Venus -44733-11-12 04:18 J -14616989.45 -14616989.32 -14616989.18 0.3696 0.0691

Saturn -44731-09-08 18:57 J -14616323.79 -14616323.71 -14616323.62 0.0272 0.0215

Earth -44731-09-09 18:28 J -14616322.85 -14616322.73 -14616322.60 0.2664 0.0308

Moon -44731-09-09 18:42 J -14616322.84 -14616322.72 -14616322.60 0.2671 0.0304 *

Saturn -44731-12-06 08:23 J -14616235.28 -14616235.15 -14616235.01 0.0273 0.0118

Saturn -44730-03-04 21:35 J -14616146.74 -14616146.60 -14616146.45 0.0273 0.0024

Saturn -44730-06-01 10:33 J -14616058.20 -14616058.06 -14616057.92 0.0273 0.0071

Saturn -44730-08-28 23:16 J -14615969.64 -14615969.53 -14615969.41 0.0273 0.0163

Saturn -44730-11-25 11:59 J -14615881.05 -14615881.00 -14615880.95 0.0274 0.0254

Jupiter -44729-05-17 03:06 J -14615707.50 -14615707.37 -14615707.24 0.0537 0.0230

Jupiter -44729-08-14 17:59 J -14615617.82 -14615617.75 -14615617.68 0.0540 0.0461

Mars -44729-09-13 08:23 J -14615588.29 -14615588.15 -14615588.01 0.1922 0.0368

Earth -44728-03-11 17:16 J -14615408.86 -14615408.78 -14615408.70 0.2665 0.2121

Moon -44728-03-11 17:59 J -14615408.83 -14615408.75 -14615408.67 0.2671 0.2112 *

Neptune -44726-10-31 03:35 J -14614445.36 -14614445.35 -14614445.30 0.0089 0.0087

Neptune -44725-01-27 05:59 J -14614357.31 -14614357.25 -14614357.17 0.0089 0.0080

Neptune -44725-04-24 08:09 J -14614269.23 -14614269.16 -14614269.05 0.0089 0.0073

Neptune -44725-07-21 10:47 J -14614181.16 -14614181.05 -14614180.94 0.0089 0.0065

Neptune -44725-10-17 12:57 J -14614093.07 -14614092.96 -14614092.83 0.0089 0.0058

Neptune -44724-01-13 15:21 J -14614004.99 -14614004.86 -14614004.73 0.0089 0.0051

Neptune -44724-04-11 17:30 J -14613916.90 -14613916.77 -14613916.62 0.0089 0.0044

Mars -44724-06-05 04:47 J -14613862.43 -14613862.30 -14613862.18 0.1606 0.0610

Neptune -44724-07-08 19:54 J -14613828.81 -14613828.67 -14613828.52 0.0089 0.0037

Moon -44724-09-02 08:52 J -14613773.19 -14613773.13 -14613773.07 0.2660 0.2289

Earth -44724-09-02 09:50 J -14613773.15 -14613773.09 -14613773.03 0.2660 0.2295 *

Neptune -44724-10-04 22:18 J -14613740.72 -14613740.57 -14613740.41 0.0089 0.0029

Neptune -44723-01-01 00:42 J -14613652.63 -14613652.47 -14613652.31 0.0089 0.0022

Jupiter -44723-01-02 06:28 J -14613651.34 -14613651.23 -14613651.10 0.0491 0.0317

Neptune -44723-03-30 02:52 J -14613564.53 -14613564.38 -14613564.21 0.0089 0.0015

Jupiter -44723-04-01 23:59 J -14613561.64 -14613561.50 -14613561.37 0.0489 0.0276

Neptune -44723-06-26 05:16 J -14613476.44 -14613476.28 -14613476.11 0.0089 0.0008

Neptune -44723-09-22 07:40 J -14613388.34 -14613388.18 -14613388.01 0.0089 0.0002

Neptune -44723-12-19 10:04 J -14613300.24 -14613300.08 -14613299.91 0.0089 0.0008

Neptune -44722-03-17 12:28 J -14613212.14 -14613211.98 -14613211.81 0.0089 0.0015

Neptune -44722-06-13 14:52 J -14613124.04 -14613123.88 -14613123.72 0.0089 0.0023

Neptune -44722-09-09 17:16 J -14613035.93 -14613035.78 -14613035.62 0.0089 0.0030

Uranus -44722-11-04 21:06 J -14612979.63 -14612979.62 -14612979.59 0.0132 0.0130

Neptune -44722-12-06 19:40 J -14612947.82 -14612947.68 -14612947.52 0.0089 0.0038

Uranus -44721-02-01 00:42 J -14612891.53 -14612891.47 -14612891.38 0.0132 0.0111

Moon -44721-03-03 20:09 J -14612859.78 -14612859.66 -14612859.54 0.2672 0.1140

Earth -44721-03-03 21:21 J -14612859.74 -14612859.61 -14612859.49 0.2670 0.1146 *

Neptune -44721-03-03 22:04 J -14612859.71 -14612859.58 -14612859.43 0.0089 0.0045 *

Uranus -44721-04-29 04:47 J -14612803.40 -14612803.30 -14612803.19 0.0132 0.0091

Neptune -44721-05-31 00:28 J -14612771.60 -14612771.48 -14612771.34 0.0089 0.0053

Uranus -44721-07-26 08:23 J -14612715.27 -14612715.15 -14612715.02 0.0132 0.0072

Neptune -44721-08-27 03:06 J -14612683.49 -14612683.37 -14612683.25 0.0089 0.0060

Uranus -44721-10-22 11:59 J -14612627.12 -14612627.00 -14612626.86 0.0132 0.0054

Neptune -44721-11-23 05:16 J -14612595.37 -14612595.28 -14612595.16 0.0089 0.0068

Uranus -44720-01-18 15:50 J -14612538.98 -14612538.84 -14612538.70 0.0132 0.0035

Neptune -44720-02-19 07:40 J -14612507.25 -14612507.18 -14612507.08 0.0089 0.0076

Uranus -44720-04-16 19:26 J -14612450.83 -14612450.69 -14612450.54 0.0132 0.0016

Neptune -44720-05-18 10:18 J -14612419.11 -14612419.07 -14612419.00 0.0089 0.0083

Uranus -44720-07-13 23:02 J -14612362.68 -14612362.54 -14612362.39 0.0132 0.0003

Uranus -44720-10-10 02:38 J -14612274.53 -14612274.39 -14612274.25 0.0132 0.0021

Uranus -44719-01-06 06:14 J -14612186.38 -14612186.24 -14612186.10 0.0132 0.0040

Mars -44719-02-03 10:33 J -14612158.19 -14612158.06 -14612157.94 0.1925 0.0758

Uranus -44719-04-04 09:35 J -14612098.22 -14612098.10 -14612097.96 0.0132 0.0058

Uranus -44719-07-01 13:11 J -14612010.06 -14612009.95 -14612009.83 0.0132 0.0076

Uranus -44719-09-27 16:47 J -14611921.90 -14611921.80 -14611921.70 0.0132 0.0094

Uranus -44719-12-24 20:09 J -14611833.73 -14611833.66 -14611833.58 0.0132 0.0112

Uranus -44718-03-22 23:30 J -14611745.53 -14611745.52 -14611745.49 0.0132 0.0130

Earth -44718-09-12 14:52 J -14611571.99 -14611571.88 -14611571.78 0.2666 0.1173

Moon -44718-09-12 15:35 J -14611571.95 -14611571.85 -14611571.74 0.2669 0.1287 *

Jupiter -44717-03-05 05:02 J -14611397.38 -14611397.29 -14611397.19 0.0537 0.0397

Jupiter -44717-06-02 20:38 J -14611307.76 -14611307.64 -14611307.53 0.0539 0.0300

Saturn -44716-03-25 04:47 J -14611012.41 -14611012.30 -14611012.19 0.0286 0.0206

Saturn -44716-06-21 23:02 J -14610923.69 -14610923.54 -14610923.38 0.0286 0.0086

Saturn -44716-09-18 17:45 J -14610834.93 -14610834.76 -14610834.60 0.0286 0.0038

Saturn -44716-12-16 12:42 J -14610746.11 -14610745.97 -14610745.83 0.0286 0.0163

Mars -44715-10-26 13:26 J -14610432.03 -14610431.94 -14610431.85 0.1604 0.1175

Mars -44713-10-01 02:23 J -14609726.49 -14609726.40 -14609726.30 0.1613 0.1128

Venus -44712-06-25 18:28 J -14609458.79 -14609458.73 -14609458.66 0.3677 0.2988

Jupiter -44712-10-21 08:09 J -14609341.21 -14609341.16 -14609341.11 0.0492 0.0461

Jupiter -44711-01-19 00:57 J -14609251.61 -14609251.46 -14609251.30 0.0490 0.0127

Moon -44711-09-05 05:59 J -14609022.36 -14609022.25 -14609022.15 0.2664 0.1478

Earth -44711-09-05 06:42 J -14609022.33 -14609022.22 -14609022.11 0.2662 0.1356 *

Mars -44710-06-26 12:28 J -14608728.01 -14608727.98 -14608727.95 0.1928 0.1870

Moon -44708-03-06 20:38 J -14608108.77 -14608108.64 -14608108.50 0.2674 0.0136

Earth -44708-03-06 21:35 J -14608108.74 -14608108.60 -14608108.47 0.2668 0.0093 *

Venus -44706-01-09 11:45 J -14607435.12 -14607435.01 -14607434.90 0.3682 0.0560

Jupiter -44705-03-21 22:33 J -14606997.70 -14606997.56 -14606997.42 0.0538 0.0131

Earth -44705-09-14 10:47 J -14606821.12 -14606821.05 -14606820.97 0.2668 0.2027

Moon -44705-09-14 11:45 J -14606821.09 -14606821.01 -14606820.94 0.2666 0.2015 *

Mars -44703-02-21 11:30 J -14606296.15 -14606296.02 -14606295.90 0.1610 0.0585

Saturn -44701-01-26 20:23 J -14605591.71 -14605591.65 -14605591.58 0.0273 0.0245

Saturn -44701-04-24 10:04 J -14605503.21 -14605503.08 -14605502.96 0.0273 0.0148

Saturn -44701-07-21 23:16 J -14605414.67 -14605414.53 -14605414.39 0.0273 0.0052

Venus -44701-07-25 04:33 J -14605411.40 -14605411.31 -14605411.21 0.3686 0.1821

Saturn -44701-10-18 12:14 J -14605326.13 -14605325.99 -14605325.84 0.0274 0.0043

Saturn -44700-01-15 01:11 J -14605237.57 -14605237.45 -14605237.33 0.0274 0.0136

Saturn -44700-04-13 13:40 J -14605149.00 -14605148.93 -14605148.85 0.0274 0.0227

Jupiter -44700-11-07 01:54 J -14604941.58 -14604941.42 -14604941.26 0.0491 0.0028

Mars -44699-10-23 07:11 J -14604591.27 -14604591.20 -14604591.13 0.1918 0.1654

Moon -44698-09-08 03:06 J -14604271.49 -14604271.37 -14604271.25 0.2670 0.0423

Earth -44698-09-08 03:21 J -14604271.48 -14604271.36 -14604271.24 0.2663 0.0441 *

Earth -44695-03-09 22:04 J -14603357.70 -14603357.58 -14603357.46 0.2666 0.1135

Moon -44695-03-09 22:18 J -14603357.69 -14603357.57 -14603357.45 0.2673 0.1170 *

Mars -44694-07-14 20:09 J -14602865.79 -14602865.66 -14602865.52 0.1608 0.0065

Jupiter -44693-01-08 23:59 J -14602687.64 -14602687.50 -14602687.35 0.0537 0.0049

Mars -44689-03-14 08:52 J -14601161.27 -14601161.13 -14601161.00 0.1922 0.0492

Moon -44688-03-02 01:54 J -14600808.50 -14600808.42 -14600808.33 0.2669 0.2030

Earth -44688-03-02 02:52 J -14600808.46 -14600808.38 -14600808.29 0.2671 0.2044 *

Jupiter -44688-08-26 03:06 J -14600631.51 -14600631.37 -14600631.22 0.0491 0.0171

Jupiter -44688-11-23 20:52 J -14600541.70 -14600541.63 -14600541.55 0.0489 0.0429

Saturn -44687-08-12 06:42 J -14600280.30 -14600280.22 -14600280.12 0.0286 0.0231

Saturn -44687-11-09 00:57 J -14600191.60 -14600191.46 -14600191.30 0.0286 0.0110

Saturn -44686-02-05 19:40 J -14600102.85 -14600102.68 -14600102.52 0.0286 0.0013

Saturn -44686-05-05 14:23 J -14600014.04 -14600013.90 -14600013.75 0.0286 0.0139

Saturn -44686-08-02 09:50 J -14599925.14 -14599925.09 -14599925.03 0.0285 0.0265

Earth -44685-09-09 23:45 J -14599520.63 -14599520.51 -14599520.39 0.2665 0.0455

Moon -44685-09-10 00:14 J -14599520.61 -14599520.49 -14599520.37 0.2670 0.0485 *

Mars -44685-12-04 05:02 J -14599435.42 -14599435.29 -14599435.17 0.1606 0.0530

Earth -44682-03-12 23:02 J -14598606.60 -14598606.54 -14598606.47 0.2665 0.2333

Moon -44682-03-12 23:59 J -14598606.55 -14598606.50 -14598606.45 0.2669 0.2452 *

Jupiter -44682-10-28 00:57 J -14598377.59 -14598377.46 -14598377.33 0.0537 0.0234

Jupiter -44681-01-25 15:50 J -14598287.91 -14598287.84 -14598287.76 0.0539 0.0456

Mars -44680-08-04 10:33 J -14597731.19 -14597731.06 -14597730.93 0.1925 0.0662

Uranus -44679-07-26 02:38 J -14597375.47 -14597375.39 -14597375.30 0.0147 0.0125

Uranus -44679-10-22 08:52 J -14597287.24 -14597287.13 -14597286.99 0.0147 0.0096

Uranus -44678-01-18 15:35 J -14597198.99 -14597198.85 -14597198.69 0.0147 0.0066

Pluto -44678-03-12 22:04 J -14597145.58 -14597145.58 -14597145.54 0.0080 0.0080

Uranus -44678-04-16 22:33 J -14597110.73 -14597110.56 -14597110.40 0.0147 0.0036

Pluto -44678-06-08 23:59 J -14597057.57 -14597057.50 -14597057.43 0.0080 0.0071

Uranus -44678-07-14 05:16 J -14597022.45 -14597022.28 -14597022.11 0.0147 0.0005

Moon -44678-09-03 14:09 J -14596970.97 -14596970.91 -14596970.85 0.2660 0.2273

Earth -44678-09-03 15:06 J -14596970.94 -14596970.87 -14596970.80 0.2660 0.2125 *

Pluto -44678-09-05 01:26 J -14596969.52 -14596969.44 -14596969.34 0.0080 0.0062

Uranus -44678-10-10 11:59 J -14596934.16 -14596934.00 -14596933.83 0.0147 0.0026

Pluto -44678-12-02 02:52 J -14596881.48 -14596881.38 -14596881.26 0.0080 0.0054

Uranus -44677-01-06 18:42 J -14596845.87 -14596845.72 -14596845.55 0.0147 0.0057

Pluto -44677-02-28 04:47 J -14596793.42 -14596793.30 -14596793.18 0.0080 0.0045

Uranus -44677-04-04 01:40 J -14596757.56 -14596757.43 -14596757.28 0.0147 0.0088

Pluto -44677-05-26 06:14 J -14596705.37 -14596705.24 -14596705.11 0.0080 0.0037

Uranus -44677-07-01 08:52 J -14596669.23 -14596669.13 -14596669.03 0.0147 0.0119

Pluto -44677-08-22 07:40 J -14596617.31 -14596617.18 -14596617.04 0.0079 0.0029

Pluto -44677-11-18 09:21 J -14596529.26 -14596529.11 -14596528.97 0.0079 0.0021

Pluto -44676-02-14 10:47 J -14596441.20 -14596441.05 -14596440.91 0.0079 0.0013

Pluto -44676-05-13 12:14 J -14596353.14 -14596352.99 -14596352.84 0.0079 0.0005

Jupiter -44676-06-14 05:02 J -14596321.41 -14596321.29 -14596321.17 0.0491 0.0310

Venus -44676-06-19 04:47 J -14596316.44 -14596316.30 -14596316.17 0.3695 0.1024

Pluto -44676-08-09 13:40 J -14596265.08 -14596264.93 -14596264.78 0.0079 0.0003

Jupiter -44676-09-11 22:18 J -14596231.70 -14596231.57 -14596231.43 0.0489 0.0285

Pluto -44676-11-05 15:06 J -14596177.01 -14596176.87 -14596176.72 0.0079 0.0011

Pluto -44675-02-01 16:33 J -14596088.95 -14596088.81 -14596088.67 0.0079 0.0019

Moon -44675-03-05 01:54 J -14596057.54 -14596057.42 -14596057.30 0.2673 0.1118

Earth -44675-03-05 02:52 J -14596057.50 -14596057.38 -14596057.25 0.2670 0.0950 *

Mars -44675-04-26 13:26 J -14596005.03 -14596004.94 -14596004.84 0.1604 0.1092

Pluto -44675-04-30 17:45 J -14596000.89 -14596000.76 -14596000.61 0.0079 0.0027

Pluto -44675-07-27 19:11 J -14595912.82 -14595912.70 -14595912.56 0.0078 0.0034

Pluto -44675-10-23 20:52 J -14595824.76 -14595824.63 -14595824.51 0.0078 0.0042

Pluto -44674-01-19 21:50 J -14595736.69 -14595736.59 -14595736.46 0.0078 0.0050

Pluto -44674-04-17 23:30 J -14595648.62 -14595648.52 -14595648.42 0.0078 0.0056

Pluto -44674-07-15 00:28 J -14595560.54 -14595560.48 -14595560.38 0.0078 0.0064

Pluto -44674-10-11 02:09 J -14595472.46 -14595472.41 -14595472.35 0.0078 0.0071

Mars -44673-04-01 02:38 J -14595299.48 -14595299.39 -14595299.31 0.1613 0.1205

Saturn -44672-06-14 22:47 J -14594859.57 -14594859.55 -14594859.53 0.0272 0.0268

Saturn -44672-09-11 12:14 J -14594771.10 -14594770.99 -14594770.87 0.0272 0.0172

Earth -44672-09-12 19:54 J -14594769.77 -14594769.67 -14594769.56 0.2666 0.1327

Moon -44672-09-12 20:52 J -14594769.74 -14594769.63 -14594769.53 0.2669 0.1346 *

Saturn -44672-12-09 01:40 J -14594682.57 -14594682.43 -14594682.29 0.0273 0.0076

Saturn -44671-03-07 14:52 J -14594594.03 -14594593.88 -14594593.74 0.0273 0.0020

Saturn -44671-06-04 03:35 J -14594505.48 -14594505.35 -14594505.22 0.0273 0.0112

Saturn -44671-08-31 16:18 J -14594416.91 -14594416.82 -14594416.73 0.0273 0.0204

Mars -44671-12-25 12:42 J -14594301.02 -14594300.97 -14594300.91 0.1928 0.1764

Jupiter -44670-08-16 02:52 J -14594067.47 -14594067.38 -14594067.29 0.0536 0.0405

Jupiter -44670-11-13 18:14 J -14593977.85 -14593977.74 -14593977.62 0.0539 0.0293

Moon -44665-09-05 11:16 J -14592220.14 -14592220.03 -14592219.92 0.2666 0.1175

Earth -44665-09-05 11:59 J -14592220.11 -14592220.00 -14592219.89 0.2662 0.1192 *

Jupiter -44664-04-02 06:28 J -14592011.28 -14592011.23 -14592011.17 0.0492 0.0454

Jupiter -44664-06-30 23:30 J -14591921.68 -14591921.52 -14591921.37 0.0490 0.0134

Mars -44664-08-22 11:30 J -14591869.14 -14591869.02 -14591868.89 0.1610 0.0666

Moon -44662-03-08 02:38 J -14591306.52 -14591306.39 -14591306.25 0.2673 0.0198

Earth -44662-03-08 03:06 J -14591306.50 -14591306.37 -14591306.23 0.2668 0.0197 *

Mars -44659-04-23 07:40 J -14590164.22 -14590164.18 -14590164.13 0.1918 0.1783

Earth -44659-09-15 15:50 J -14590018.90 -14590018.84 -14590018.77 0.2668 0.2176

Moon -44659-09-15 16:47 J -14590018.86 -14590018.80 -14590018.74 0.2665 0.2284 *

Jupiter -44658-09-01 20:52 J -14589667.77 -14589667.63 -14589667.50 0.0538 0.0132

Saturn -44658-12-30 05:16 J -14589548.31 -14589548.28 -14589548.23 0.0287 0.0276

Saturn -44657-03-27 23:16 J -14589459.66 -14589459.53 -14589459.39 0.0286 0.0157

Saturn -44657-06-24 17:45 J -14589370.92 -14589370.76 -14589370.60 0.0286 0.0035

Saturn -44657-09-21 12:28 J -14589282.14 -14589281.98 -14589281.82 0.0286 0.0089

Saturn -44657-12-19 07:26 J -14589193.29 -14589193.19 -14589193.07 0.0286 0.0216

Venus -44655-01-30 16:18 J -14588785.90 -14588785.82 -14588785.73 0.3678 0.2068

Mars -44654-01-12 20:23 J -14588438.78 -14588438.65 -14588438.51 0.1608 0.0118

Jupiter -44652-04-19 00:42 J -14587611.63 -14587611.47 -14587611.31 0.0490 0.0015

Moon -44652-09-08 08:23 J -14587469.27 -14587469.15 -14587469.03 0.2670 0.0343

Earth -44652-09-08 08:38 J -14587469.27 -14587469.14 -14587469.02 0.2664 0.0290 *

Venus -44650-08-16 09:35 J -14586762.21 -14586762.10 -14586762.00 0.3683 0.0376

Mars -44650-09-13 09:06 J -14586734.26 -14586734.12 -14586733.99 0.1921 0.0603

Earth -44649-03-10 03:50 J -14586555.46 -14586555.34 -14586555.22 0.2666 0.1344

Moon -44649-03-10 04:18 J -14586555.44 -14586555.32 -14586555.21 0.2673 0.1348 *

Jupiter -44646-06-20 22:47 J -14585357.69 -14585357.55 -14585357.41 0.0537 0.0037

Mars -44645-06-04 05:16 J -14585008.41 -14585008.28 -14585008.15 0.1606 0.0442

Venus -44644-03-01 02:23 J -14584738.47 -14584738.40 -14584738.33 0.3687 0.2712

Neptune -44643-10-31 18:28 J -14584128.78 -14584128.73 -14584128.66 0.0088 0.0082

Neptune -44642-01-27 20:38 J -14584040.72 -14584040.64 -14584040.55 0.0088 0.0075

Saturn -44642-01-29 13:26 J -14584039.03 -14584038.94 -14584038.84 0.0273 0.0204

Moon -44642-03-03 07:26 J -14584006.27 -14584006.19 -14584006.10 0.2670 0.1982

Earth -44642-03-03 08:38 J -14584006.24 -14584006.14 -14584006.04 0.2671 0.1849 *

Neptune -44642-04-25 22:33 J -14583952.65 -14583952.56 -14583952.45 0.0088 0.0068

Saturn -44642-04-28 02:52 J -14583950.51 -14583950.38 -14583950.24 0.0273 0.0108

Neptune -44642-07-23 00:42 J -14583864.58 -14583864.47 -14583864.35 0.0088 0.0061

Saturn -44642-07-25 16:04 J -14583861.98 -14583861.83 -14583861.68 0.0273 0.0013

Neptune -44642-10-19 02:38 J -14583776.50 -14583776.39 -14583776.26 0.0088 0.0054

Saturn -44642-10-22 05:02 J -14583773.43 -14583773.29 -14583773.15 0.0274 0.0081

Neptune -44641-01-15 04:47 J -14583688.43 -14583688.30 -14583688.17 0.0088 0.0047

Saturn -44641-01-18 17:45 J -14583684.87 -14583684.76 -14583684.65 0.0274 0.0174

Neptune -44641-04-12 06:42 J -14583600.35 -14583600.22 -14583600.08 0.0088 0.0040

Saturn -44641-04-16 06:14 J -14583596.27 -14583596.24 -14583596.20 0.0274 0.0265

Neptune -44641-07-09 08:52 J -14583512.27 -14583512.13 -14583511.99 0.0088 0.0033

Neptune -44641-10-05 10:33 J -14583424.19 -14583424.06 -14583423.90 0.0088 0.0027

Neptune -44640-01-01 12:42 J -14583336.12 -14583335.97 -14583335.82 0.0088 0.0019

Mars -44640-02-02 10:47 J -14583304.18 -14583304.05 -14583303.92 0.1925 0.0548

Jupiter -44640-02-05 01:40 J -14583301.58 -14583301.43 -14583301.28 0.0491 0.0165

Neptune -44640-03-30 14:38 J -14583248.04 -14583247.89 -14583247.73 0.0088 0.0013

Jupiter -44640-05-05 19:26 J -14583211.76 -14583211.69 -14583211.62 0.0489 0.0435

Neptune -44640-06-26 16:47 J -14583159.95 -14583159.80 -14583159.65 0.0088 0.0006

Neptune -44640-09-22 18:42 J -14583071.87 -14583071.72 -14583071.57 0.0088 0.0002

Neptune -44640-12-19 20:38 J -14582983.79 -14582983.64 -14582983.49 0.0088 0.0008

Neptune -44639-03-17 22:33 J -14582895.71 -14582895.56 -14582895.41 0.0088 0.0015

Neptune -44639-06-14 00:28 J -14582807.63 -14582807.48 -14582807.33 0.0088 0.0022

Neptune -44639-09-10 02:09 J -14582719.54 -14582719.41 -14582719.26 0.0088 0.0029

Earth -44639-09-11 04:47 J -14582718.41 -14582718.30 -14582718.18 0.2665 0.0617

Moon -44639-09-11 05:30 J -14582718.39 -14582718.27 -14582718.15 0.2670 0.0682 *

Neptune -44639-12-07 04:04 J -14582631.46 -14582631.33 -14582631.18 0.0088 0.0035

Neptune -44638-03-05 06:14 J -14582543.37 -14582543.24 -14582543.11 0.0088 0.0042

Neptune -44638-06-01 07:54 J -14582455.29 -14582455.17 -14582455.04 0.0089 0.0049

Neptune -44638-08-28 09:35 J -14582367.20 -14582367.10 -14582366.97 0.0089 0.0056

Neptune -44638-11-24 11:45 J -14582279.11 -14582279.01 -14582278.90 0.0089 0.0062

Uranus -44638-11-25 05:02 J -14582278.34 -14582278.29 -14582278.23 0.0132 0.0121

Neptune -44637-02-20 13:26 J -14582191.02 -14582190.94 -14582190.83 0.0089 0.0069

Uranus -44637-02-21 08:52 J -14582190.22 -14582190.13 -14582190.03 0.0132 0.0102

Neptune -44637-05-18 15:21 J -14582102.93 -14582102.86 -14582102.77 0.0089 0.0075

Uranus -44637-05-19 12:28 J -14582102.08 -14582101.98 -14582101.86 0.0132 0.0083

Neptune -44637-08-14 17:02 J -14582014.83 -14582014.79 -14582014.72 0.0089 0.0082

Uranus -44637-08-15 16:18 J -14582013.94 -14582013.82 -14582013.69 0.0132 0.0064

Neptune -44637-11-10 19:11 J -14581926.71 -14581926.70 -14581926.68 0.0089 0.0088

Uranus -44637-11-11 19:54 J -14581925.80 -14581925.67 -14581925.53 0.0132 0.0045

Uranus -44636-02-07 23:45 J -14581837.65 -14581837.51 -14581837.37 0.0132 0.0026

Earth -44636-03-13 04:47 J -14581804.33 -14581804.30 -14581804.26 0.2664 0.2544

Moon -44636-03-13 05:59 J -14581804.27 -14581804.25 -14581804.22 0.2667 0.2610 *

Uranus -44636-05-07 03:21 J -14581749.50 -14581749.36 -14581749.21 0.0132 0.0007

Uranus -44636-08-03 06:57 J -14581661.35 -14581661.21 -14581661.07 0.0132 0.0011

Mars -44636-10-25 13:40 J -14581578.03 -14581577.93 -14581577.82 0.1604 0.1008

Uranus -44636-10-30 10:33 J -14581573.20 -14581573.06 -14581572.92 0.0132 0.0030

Uranus -44635-01-26 14:09 J -14581485.05 -14581484.91 -14581484.78 0.0132 0.0048

Uranus -44635-04-24 17:30 J -14581396.89 -14581396.77 -14581396.64 0.0132 0.0066

Uranus -44635-07-21 20:52 J -14581308.73 -14581308.63 -14581308.51 0.0132 0.0085

Uranus -44635-10-18 00:28 J -14581220.56 -14581220.48 -14581220.39 0.0132 0.0103

Uranus -44634-01-14 03:50 J -14581132.38 -14581132.34 -14581132.27 0.0132 0.0121

Jupiter -44634-04-09 00:14 J -14581047.62 -14581047.49 -14581047.36 0.0537 0.0215

Jupiter -44634-07-07 15:21 J -14580957.93 -14580957.86 -14580957.80 0.0539 0.0474

Mars -44634-10-01 02:52 J -14580872.46 -14580872.38 -14580872.30 0.1613 0.1287

Moon -44632-09-03 19:26 J -14580168.77 -14580168.69 -14580168.61 0.2660 0.1960

Earth -44632-09-03 20:23 J -14580168.73 -14580168.65 -14580168.57 0.2661 0.1957 *

Mars -44631-06-25 12:57 J -14579874.03 -14579873.96 -14579873.89 0.1927 0.1655

Moon -44629-03-05 07:26 J -14579255.32 -14579255.19 -14579255.06 0.2673 0.0748

Earth -44629-03-05 08:38 J -14579255.27 -14579255.14 -14579255.01 0.2669 0.0756 *

Jupiter -44629-11-24 03:06 J -14578991.49 -14578991.37 -14578991.24 0.0492 0.0307

Jupiter -44628-02-21 20:23 J -14578901.77 -14578901.65 -14578901.51 0.0490 0.0288

Saturn -44628-08-15 00:42 J -14578727.59 -14578727.47 -14578727.34 0.0286 0.0185

Saturn -44628-11-11 19:11 J -14578638.86 -14578638.70 -14578638.54 0.0286 0.0064

Saturn -44627-02-08 13:40 J -14578550.09 -14578549.93 -14578549.76 0.0286 0.0061

Saturn -44627-05-08 08:38 J -14578461.25 -14578461.14 -14578461.00 0.0286 0.0187

Mars -44626-03-17 22:04 J -14578147.59 -14578147.58 -14578147.56 0.1603 0.1580

Earth -44626-09-14 01:11 J -14577967.55 -14577967.45 -14577967.35 0.2667 0.1480

Moon -44626-09-14 01:54 J -14577967.51 -14577967.42 -14577967.32 0.2669 0.1566 *

Venus -44625-07-10 02:23 J -14577667.51 -14577667.40 -14577667.28 0.3699 0.2109

Mars -44624-02-20 11:45 J -14577442.13 -14577442.01 -14577441.89 0.1610 0.0742

Jupiter -44622-01-26 00:57 J -14576737.55 -14576737.46 -14576737.37 0.0536 0.0406

Jupiter -44622-04-25 16:18 J -14576647.93 -14576647.82 -14576647.70 0.0539 0.0292

Mars -44620-10-22 07:54 J -14575737.20 -14575737.17 -14575737.15 0.1918 0.1880

Venus -44619-01-24 04:47 J -14575643.39 -14575643.30 -14575643.20 0.3693 0.2721

Moon -44619-09-06 16:33 J -14575417.92 -14575417.81 -14575417.70 0.2668 0.1147

Earth -44619-09-06 17:16 J -14575417.90 -14575417.78 -14575417.67 0.2662 0.1028 *

Jupiter -44617-09-12 05:16 J -14574681.35 -14574681.28 -14574681.22 0.0492 0.0444

Jupiter -44617-12-10 22:04 J -14574591.73 -14574591.58 -14574591.42 0.0490 0.0144

Moon -44616-03-08 08:38 J -14574504.27 -14574504.14 -14574504.01 0.2674 0.0281

Earth -44616-03-08 08:52 J -14574504.26 -14574504.13 -14574503.99 0.2668 0.0378 *

Mars -44615-07-13 20:38 J -14574011.77 -14574011.64 -14574011.51 0.1608 0.0196

Saturn -44613-06-17 15:50 J -14573306.91 -14573306.84 -14573306.75 0.0272 0.0227

Saturn -44613-09-14 05:16 J -14573218.40 -14573218.28 -14573218.15 0.0272 0.0131

Earth -44613-09-15 21:06 J -14573216.68 -14573216.62 -14573216.57 0.2668 0.2325

Moon -44613-09-15 21:50 J -14573216.65 -14573216.59 -14573216.53 0.2664 0.2320 *

Saturn -44613-12-11 18:42 J -14573129.87 -14573129.72 -14573129.58 0.0273 0.0036

Saturn -44612-03-10 07:40 J -14573041.32 -14573041.18 -14573041.04 0.0273 0.0059

Saturn -44612-06-06 20:23 J -14572952.77 -14572952.65 -14572952.53 0.0273 0.0151

Saturn -44612-09-03 08:52 J -14572864.19 -14572864.13 -14572864.06 0.0273 0.0242

Jupiter -44610-02-11 18:42 J -14572337.86 -14572337.72 -14572337.58 0.0538 0.0126

Mars -44610-03-14 09:06 J -14572307.25 -14572307.12 -14572306.99 0.1922 0.0709

Moon -44606-09-09 13:40 J -14570667.05 -14570666.93 -14570666.81 0.2670 0.0069

Earth -44606-09-09 13:40 J -14570667.05 -14570666.93 -14570666.80 0.2664 0.0136 *

Mars -44606-12-04 05:16 J -14570581.41 -14570581.28 -14570581.14 0.1606 0.0363

Jupiter -44605-09-28 23:16 J -14570281.69 -14570281.53 -14570281.37 0.0490 0.0005

Venus -44604-02-20 21:06 J -14570136.64 -14570136.62 -14570136.60 0.3675 0.3590

Earth -44603-03-11 09:35 J -14569753.21 -14569753.10 -14569752.99 0.2666 0.1548

Moon -44603-03-11 10:04 J -14569753.19 -14569753.08 -14569752.97 0.2672 0.1625 *

Mars -44601-08-03 11:16 J -14568877.17 -14568877.03 -14568876.90 0.1925 0.0426

Venus -44599-09-06 14:09 J -14568113.01 -14568112.91 -14568112.80 0.3679 0.1148

Jupiter -44599-11-30 21:06 J -14568027.76 -14568027.62 -14568027.48 0.0538 0.0037

Saturn -44598-01-01 23:02 J -14567995.63 -14567995.54 -14567995.44 0.0287 0.0232

Saturn -44598-03-31 17:16 J -14567906.93 -14567906.78 -14567906.63 0.0286 0.0112

Saturn -44598-06-28 11:45 J -14567818.17 -14567818.01 -14567817.84 0.0286 0.0011

Saturn -44598-09-25 06:42 J -14567729.37 -14567729.22 -14567729.08 0.0286 0.0136

Saturn -44598-12-23 01:54 J -14567640.48 -14567640.42 -14567640.35 0.0286 0.0263

Moon -44596-03-03 13:11 J -14567204.06 -14567203.95 -14567203.85 0.2671 0.1712

Earth -44596-03-03 14:09 J -14567204.01 -14567203.91 -14567203.80 0.2671 0.1663 *

Mars -44596-04-25 13:54 J -14567151.03 -14567150.92 -14567150.81 0.1604 0.0923

Uranus -44595-05-19 03:35 J -14566762.36 -14566762.35 -14566762.31 0.0147 0.0145

Uranus -44595-08-15 10:18 J -14566674.16 -14566674.07 -14566673.96 0.0147 0.0115

Uranus -44595-11-11 16:47 J -14566585.92 -14566585.80 -14566585.65 0.0147 0.0086

Uranus -44594-02-07 23:30 J -14566497.67 -14566497.52 -14566497.35 0.0147 0.0056

Mars -44594-04-01 02:52 J -14566445.45 -14566445.38 -14566445.31 0.1613 0.1364

Uranus -44594-05-07 06:28 J -14566409.40 -14566409.23 -14566409.06 0.0147 0.0025

Uranus -44594-08-03 13:11 J -14566321.12 -14566320.95 -14566320.78 0.0147 0.0005

Uranus -44594-10-30 19:54 J -14566232.83 -14566232.67 -14566232.50 0.0147 0.0036

Uranus -44593-01-27 02:52 J -14566144.53 -14566144.38 -14566144.23 0.0147 0.0067

Venus -44593-03-22 07:11 J -14566089.30 -14566089.20 -14566089.09 0.3684 0.1258

Uranus -44593-04-24 09:35 J -14566056.22 -14566056.10 -14566055.96 0.0147 0.0099

Jupiter -44593-07-18 00:42 J -14565971.62 -14565971.47 -14565971.32 0.0491 0.0149

Uranus -44593-07-21 16:33 J -14565967.88 -14565967.81 -14565967.72 0.0147 0.0130

Earth -44593-09-11 10:04 J -14565916.19 -14565916.08 -14565915.96 0.2666 0.0769

Moon -44593-09-11 10:47 J -14565916.17 -14565916.05 -14565915.94 0.2671 0.0777 *

Jupiter -44593-10-15 18:28 J -14565881.80 -14565881.73 -14565881.67 0.0489 0.0449

Mars -44592-12-24 13:11 J -14565447.03 -14565446.95 -14565446.87 0.1927 0.1552

Venus -44588-10-06 00:14 J -14564065.51 -14564065.49 -14564065.47 0.3688 0.3608

Mars -44587-09-15 22:33 J -14563720.61 -14563720.56 -14563720.52 0.1603 0.1493

Jupiter -44587-09-18 23:02 J -14563717.67 -14563717.54 -14563717.40 0.0537 0.0204

Jupiter -44587-12-17 14:09 J -14563627.97 -14563627.91 -14563627.86 0.0539 0.0485

Moon -44586-09-05 00:42 J -14563366.55 -14563366.47 -14563366.38 0.2662 0.1904

Earth -44586-09-05 01:40 J -14563366.52 -14563366.43 -14563366.34 0.2661 0.1788 *

Mars -44585-08-21 11:59 J -14563015.11 -14563015.00 -14563014.89 0.1610 0.0826

Saturn -44584-11-04 16:33 J -14562574.85 -14562574.81 -14562574.77 0.0273 0.0263

Saturn -44583-02-01 05:59 J -14562486.36 -14562486.25 -14562486.13 0.0273 0.0166

Moon -44583-03-06 13:11 J -14562453.08 -14562452.95 -14562452.82 0.2673 0.0714

Earth -44583-03-06 14:09 J -14562453.04 -14562452.91 -14562452.77 0.2669 0.0567 *

Saturn -44583-04-30 19:26 J -14562397.83 -14562397.69 -14562397.55 0.0273 0.0070

Saturn -44583-07-28 08:23 J -14562309.29 -14562309.15 -14562309.00 0.0273 0.0026

Saturn -44583-10-24 21:21 J -14562220.74 -14562220.61 -14562220.48 0.0274 0.0118

Saturn -44582-01-21 10:04 J -14562132.17 -14562132.08 -14562131.99 0.0274 0.0210

Jupiter -44581-05-06 01:40 J -14561661.55 -14561661.43 -14561661.30 0.0492 0.0299

Jupiter -44581-08-03 18:57 J -14561571.83 -14561571.71 -14561571.58 0.0490 0.0295

Earth -44580-09-14 06:14 J -14561165.33 -14561165.24 -14561165.15 0.2667 0.1631

Moon -44580-09-14 07:11 J -14561165.30 -14561165.20 -14561165.11 0.2667 0.1700 *

Mars -44575-01-11 20:52 J -14559584.76 -14559584.63 -14559584.50 0.1608 0.0279

Jupiter -44575-07-08 00:28 J -14559407.57 -14559407.48 -14559407.37 0.0536 0.0382

Jupiter -44575-10-05 16:04 J -14559317.95 -14559317.83 -14559317.72 0.0538 0.0315

Moon -44573-09-06 21:50 J -14558615.70 -14558615.59 -14558615.47 0.2668 0.0836

Earth -44573-09-06 22:33 J -14558615.68 -14558615.56 -14558615.45 0.2662 0.0868 *

Mars -44571-09-12 09:35 J -14557880.23 -14557880.10 -14557879.98 0.1921 0.0823

Moon -44570-03-09 14:38 J -14557702.03 -14557701.89 -14557701.76 0.2674 0.0661

Earth -44570-03-09 14:38 J -14557702.02 -14557701.89 -14557701.75 0.2667 0.0580 *

Jupiter -44569-02-23 03:35 J -14557351.42 -14557351.35 -14557351.28 0.0492 0.0439

Saturn -44569-05-21 00:14 J -14557263.55 -14557263.49 -14557263.43 0.0286 0.0262

Jupiter -44569-05-22 20:23 J -14557261.80 -14557261.65 -14557261.50 0.0490 0.0150

Saturn -44569-08-17 18:14 J -14557174.88 -14557174.74 -14557174.60 0.0286 0.0143

Saturn -44569-11-14 12:42 J -14557086.14 -14557085.97 -14557085.81 0.0286 0.0021

Saturn -44568-02-11 07:26 J -14556997.34 -14556997.19 -14556997.03 0.0286 0.0104

Venus -44568-02-14 02:38 J -14556994.52 -14556994.39 -14556994.25 0.3698 0.0440

Saturn -44568-05-11 02:38 J -14556908.49 -14556908.39 -14556908.29 0.0285 0.0231

Earth -44567-09-17 02:09 J -14556414.45 -14556414.41 -14556414.37 0.2669 0.2470

Moon -44567-09-17 02:52 J -14556414.41 -14556414.38 -14556414.35 0.2665 0.2556 *

Mars -44566-06-04 05:30 J -14556154.40 -14556154.27 -14556154.14 0.1606 0.0279

Moon -44563-03-01 19:26 J -14555152.72 -14555152.69 -14555152.67 0.2668 0.2606

Earth -44563-03-01 20:09 J -14555152.70 -14555152.66 -14555152.62 0.2672 0.2533 *

Jupiter -44563-07-24 17:02 J -14555007.93 -14555007.79 -14555007.66 0.0538 0.0128

Mars -44561-02-02 11:02 J -14554450.17 -14554450.04 -14554449.90 0.1924 0.0340

Neptune -44561-07-27 01:54 J -14554274.45 -14554274.42 -14554274.36 0.0089 0.0085

Neptune -44561-10-23 04:18 J -14554186.39 -14554186.32 -14554186.24 0.0089 0.0078

Neptune -44560-01-19 06:28 J -14554098.31 -14554098.23 -14554098.12 0.0089 0.0071

Neptune -44560-04-17 08:38 J -14554010.24 -14554010.14 -14554010.01 0.0089 0.0064

Neptune -44560-07-14 11:02 J -14553922.15 -14553922.04 -14553921.91 0.0089 0.0057

Earth -44560-09-09 18:57 J -14553864.83 -14553864.71 -14553864.59 0.2664 0.0043

Moon -44560-09-09 19:11 J -14553864.82 -14553864.70 -14553864.58 0.2670 0.0056 *

Neptune -44560-10-10 13:11 J -14553834.07 -14553833.95 -14553833.80 0.0089 0.0050

Neptune -44559-01-06 15:50 J -14553745.98 -14553745.84 -14553745.70 0.0089 0.0042

Neptune -44559-04-04 17:59 J -14553657.89 -14553657.75 -14553657.59 0.0089 0.0035

Neptune -44559-07-01 20:23 J -14553569.80 -14553569.65 -14553569.49 0.0089 0.0028

Neptune -44559-09-27 22:33 J -14553481.71 -14553481.56 -14553481.39 0.0089 0.0021

Neptune -44559-12-25 01:11 J -14553393.61 -14553393.45 -14553393.29 0.0089 0.0013

Neptune -44558-03-23 03:35 J -14553305.52 -14553305.35 -14553305.19 0.0089 0.0006

Neptune -44558-06-19 05:45 J -14553217.42 -14553217.26 -14553217.09 0.0089 0.0003

Neptune -44558-09-15 08:09 J -14553129.32 -14553129.16 -14553128.99 0.0089 0.0009

Neptune -44558-12-12 10:33 J -14553041.22 -14553041.06 -14553040.90 0.0089 0.0017

Neptune -44557-03-09 12:57 J -14552953.11 -14552952.96 -14552952.80 0.0089 0.0024

Jupiter -44557-03-10 22:04 J -14552951.74 -14552951.58 -14552951.42 0.0490 0.0011

Earth -44557-03-11 15:21 J -14552950.96 -14552950.86 -14552950.75 0.2666 0.1756

Moon -44557-03-11 16:04 J -14552950.93 -14552950.83 -14552950.73 0.2671 0.1738 *

Neptune -44557-06-05 15:21 J -14552865.01 -14552864.86 -14552864.70 0.0089 0.0032

Neptune -44557-09-01 17:45 J -14552776.90 -14552776.76 -14552776.61 0.0089 0.0039

Mars -44557-10-24 14:09 J -14552724.02 -14552723.91 -14552723.79 0.1605 0.0840

Neptune -44557-11-28 19:54 J -14552688.80 -14552688.67 -14552688.51 0.0089 0.0047

Neptune -44556-02-24 22:33 J -14552600.68 -14552600.56 -14552600.42 0.0089 0.0054

Neptune -44556-05-24 00:57 J -14552512.57 -14552512.46 -14552512.33 0.0089 0.0062

Neptune -44556-08-20 03:06 J -14552424.45 -14552424.37 -14552424.25 0.0089 0.0070

Neptune -44556-11-16 05:59 J -14552336.33 -14552336.25 -14552336.16 0.0089 0.0077

Neptune -44555-02-12 08:09 J -14552248.19 -14552248.16 -14552248.09 0.0089 0.0085

Mars -44555-09-30 03:06 J -14552018.43 -14552018.37 -14552018.31 0.1613 0.1442

Saturn -44554-06-21 08:38 J -14551754.24 -14551754.14 -14551754.03 0.0272 0.0188

Saturn -44554-09-17 22:04 J -14551665.72 -14551665.58 -14551665.44 0.0273 0.0092

Uranus -44554-09-18 09:21 J -14551665.12 -14551665.11 -14551665.10 0.0132 0.0131

Saturn -44554-12-15 11:16 J -14551577.18 -14551577.03 -14551576.89 0.0273 0.0009

Uranus -44554-12-15 12:57 J -14551577.03 -14551576.96 -14551576.87 0.0132 0.0112 *

Uranus -44553-03-12 16:47 J -14551488.90 -14551488.80 -14551488.69 0.0132 0.0093

Saturn -44553-03-12 23:59 J -14551488.63 -14551488.50 -14551488.36 0.0273 0.0096

Uranus -44553-06-08 20:38 J -14551400.76 -14551400.64 -14551400.52 0.0132 0.0074

Saturn -44553-06-09 12:42 J -14551400.07 -14551399.97 -14551399.87 0.0273 0.0188

Moon -44553-09-02 09:06 J -14551315.14 -14551315.12 -14551315.11 0.2656 0.2619

Earth -44553-09-02 09:50 J -14551315.11 -14551315.09 -14551315.06 0.2660 0.2570 *

Uranus -44553-09-05 00:14 J -14551312.62 -14551312.49 -14551312.35 0.0132 0.0055

Uranus -44553-12-02 04:04 J -14551224.47 -14551224.33 -14551224.19 0.0132 0.0036

Uranus -44552-02-28 07:40 J -14551136.32 -14551136.18 -14551136.04 0.0132 0.0017

Uranus -44552-05-27 11:16 J -14551048.17 -14551048.03 -14551047.88 0.0132 0.0002

Mars -44552-06-24 13:26 J -14551020.03 -14551019.94 -14551019.85 0.1928 0.1438

Uranus -44552-08-23 14:52 J -14550960.02 -14550959.88 -14550959.74 0.0132 0.0020

Uranus -44552-11-19 18:28 J -14550871.87 -14550871.73 -14550871.59 0.0132 0.0039

Uranus -44551-02-15 22:04 J -14550783.71 -14550783.58 -14550783.45 0.0132 0.0057

Jupiter -44551-05-12 18:57 J -14550697.85 -14550697.71 -14550697.56 0.0538 0.0043

Uranus -44551-05-15 01:40 J -14550695.55 -14550695.43 -14550695.32 0.0132 0.0075

Uranus -44551-08-11 05:02 J -14550607.39 -14550607.29 -14550607.19 0.0132 0.0093

Uranus -44551-11-07 08:38 J -14550519.22 -14550519.14 -14550519.07 0.0132 0.0111

Uranus -44550-02-03 11:59 J -14550431.02 -14550431.00 -14550430.97 0.0132 0.0129

Moon -44550-03-04 18:42 J -14550401.83 -14550401.72 -14550401.61 0.2671 0.1568

Earth -44550-03-04 19:54 J -14550401.78 -14550401.67 -14550401.56 0.2670 0.1467 *

Venus -44548-09-27 18:57 J -14549463.78 -14549463.71 -14549463.63 0.3676 0.2653

Mars -44547-03-16 22:33 J -14549293.62 -14549293.56 -14549293.49 0.1603 0.1409

Earth -44547-09-12 15:21 J -14549113.98 -14549113.86 -14549113.75 0.2666 0.0926

Moon -44547-09-12 15:50 J -14549113.95 -14549113.84 -14549113.73 0.2671 0.1028 *

Jupiter -44546-12-28 23:30 J -14548641.67 -14548641.52 -14548641.37 0.0491 0.0137

Mars -44545-02-20 12:14 J -14548588.10 -14548587.99 -14548587.89 0.1611 0.0907

Jupiter -44545-03-27 17:02 J -14548551.84 -14548551.79 -14548551.73 0.0489 0.0461

Venus -44542-04-13 11:59 J -14547440.10 -14547440.00 -14547439.89 0.3680 0.0262

Moon -44540-09-05 05:59 J -14546564.34 -14546564.25 -14546564.15 0.2664 0.1669

Earth -44540-09-05 06:57 J -14546564.31 -14546564.21 -14546564.12 0.2661 0.1624 *

Saturn -44539-01-04 16:18 J -14546442.93 -14546442.82 -14546442.70 0.0287 0.0191

Jupiter -44539-02-28 21:21 J -14546387.74 -14546387.61 -14546387.48 0.0537 0.0203

Saturn -44539-04-03 10:33 J -14546354.21 -14546354.06 -14546353.90 0.0286 0.0070

Jupiter -44539-05-29 12:28 J -14546298.04 -14546297.98 -14546297.92 0.0540 0.0488

Saturn -44539-07-01 05:16 J -14546265.44 -14546265.28 -14546265.12 0.0286 0.0054

Saturn -44539-09-28 00:14 J -14546176.62 -14546176.49 -14546176.36 0.0286 0.0180

Moon -44537-03-06 19:11 J -14545650.84 -14545650.70 -14545650.57 0.2673 0.0362

Earth -44537-03-06 19:54 J -14545650.80 -14545650.67 -14545650.53 0.2669 0.0367 *

Venus -44537-10-27 05:02 J -14545416.37 -14545416.29 -14545416.20 0.3685 0.2155

Mars -44536-07-12 21:06 J -14545157.75 -14545157.62 -14545157.49 0.1608 0.0362

Earth -44534-09-15 11:16 J -14544363.11 -14544363.03 -14544362.94 0.2668 0.1785

Moon -44534-09-15 12:14 J -14544363.08 -14544362.99 -14544362.90 0.2666 0.1813 *

Jupiter -44534-10-17 00:57 J -14544331.59 -14544331.46 -14544331.33 0.0491 0.0281

Jupiter -44533-01-14 18:14 J -14544241.86 -14544241.74 -14544241.62 0.0489 0.0312

Mars -44531-03-13 09:50 J -14543453.21 -14543453.09 -14543452.97 0.1921 0.0937

Jupiter -44528-12-17 23:16 J -14542077.63 -14542077.53 -14542077.42 0.0536 0.0371

Jupiter -44527-03-17 14:52 J -14541987.99 -14541987.88 -14541987.77 0.0539 0.0326

Moon -44527-09-08 03:06 J -14541813.49 -14541813.37 -14541813.25 0.2668 0.0801

Earth -44527-09-08 03:35 J -14541813.47 -14541813.35 -14541813.23 0.2663 0.0701 *

Mars -44527-12-03 05:45 J -14541727.39 -14541727.26 -14541727.13 0.1606 0.0194

Saturn -44525-11-07 08:52 J -14541022.20 -14541022.13 -14541022.04 0.0273 0.0226

Saturn -44524-02-03 22:33 J -14540933.69 -14540933.56 -14540933.43 0.0273 0.0129

Moon -44524-03-09 20:23 J -14540899.79 -14540899.65 -14540899.52 0.2674 0.0691

Earth -44524-03-09 20:23 J -14540899.78 -14540899.65 -14540899.52 0.2667 0.0778 *

Saturn -44524-05-03 11:45 J -14540845.15 -14540845.01 -14540844.86 0.0273 0.0033

Saturn -44524-07-31 00:42 J -14540756.61 -14540756.47 -14540756.33 0.0273 0.0061

Saturn -44524-10-27 13:26 J -14540668.05 -14540667.94 -14540667.82 0.0273 0.0154

Saturn -44523-01-24 01:54 J -14540579.47 -14540579.42 -14540579.35 0.0274 0.0245

Mars -44522-08-03 11:30 J -14540023.16 -14540023.02 -14540022.88 0.1924 0.0218

Jupiter -44522-08-05 02:09 J -14540021.48 -14540021.41 -14540021.33 0.0492 0.0429

Jupiter -44522-11-02 18:57 J -14539931.86 -14539931.71 -14539931.55 0.0490 0.0160

Earth -44521-09-17 07:11 J -14539612.22 -14539612.20 -14539612.18 0.2669 0.2622

Moon -44521-09-17 07:54 J -14539612.18 -14539612.17 -14539612.16 0.2665 0.2635 *

Pluto -44520-04-13 02:52 J -14539404.42 -14539404.38 -14539404.34 0.0065 0.0062

Pluto -44520-07-10 03:35 J -14539316.41 -14539316.35 -14539316.26 0.0065 0.0058

Pluto -44520-10-06 04:47 J -14539228.38 -14539228.30 -14539228.19 0.0065 0.0053

Pluto -44519-01-02 05:59 J -14539140.35 -14539140.25 -14539140.12 0.0065 0.0048

Pluto -44519-03-31 07:11 J -14539052.31 -14539052.20 -14539052.06 0.0065 0.0043

Pluto -44519-06-27 08:23 J -14538964.27 -14538964.15 -14538964.00 0.0065 0.0038

Pluto -44519-09-23 09:35 J -14538876.23 -14538876.10 -14538875.94 0.0065 0.0034

Pluto -44519-12-20 11:02 J -14538788.19 -14538788.04 -14538787.88 0.0065 0.0028

Pluto -44518-03-18 12:14 J -14538700.14 -14538699.99 -14538699.82 0.0065 0.0023

Pluto -44518-06-14 13:26 J -14538612.09 -14538611.94 -14538611.77 0.0065 0.0018

Pluto -44518-09-10 14:52 J -14538524.05 -14538523.88 -14538523.71 0.0066 0.0013

Pluto -44518-12-07 16:04 J -14538436.00 -14538435.83 -14538435.66 0.0066 0.0008

Moon -44517-03-02 00:57 J -14538350.52 -14538350.46 -14538350.40 0.2669 0.2357

Earth -44517-03-02 01:54 J -14538350.48 -14538350.42 -14538350.36 0.2672 0.2347 *

Pluto -44517-03-04 17:30 J -14538347.94 -14538347.77 -14538347.60 0.0066 0.0003

Venus -44517-03-07 00:42 J -14538345.51 -14538345.47 -14538345.43 0.3702 0.3487

Mars -44517-04-24 14:23 J -14538297.02 -14538296.90 -14538296.78 0.1605 0.0757

Pluto -44517-05-31 18:42 J -14538259.89 -14538259.72 -14538259.55 0.0066 0.0003

Pluto -44517-08-27 19:54 J -14538171.84 -14538171.67 -14538171.50 0.0066 0.0008

Pluto -44517-11-23 21:06 J -14538083.78 -14538083.62 -14538083.45 0.0066 0.0013

Pluto -44516-02-19 22:33 J -14537995.72 -14537995.56 -14537995.40 0.0066 0.0019

Pluto -44516-05-18 23:30 J -14537907.66 -14537907.52 -14537907.35 0.0066 0.0025

Pluto -44516-08-15 00:57 J -14537819.60 -14537819.46 -14537819.30 0.0066 0.0030

Pluto -44516-11-11 02:09 J -14537731.54 -14537731.41 -14537731.25 0.0066 0.0035

Jupiter -44515-01-03 16:47 J -14537677.94 -14537677.80 -14537677.67 0.0538 0.0155

Pluto -44515-02-07 03:35 J -14537643.47 -14537643.35 -14537643.20 0.0066 0.0041

Mars -44515-03-31 03:21 J -14537591.40 -14537591.36 -14537591.32 0.1613 0.1523

Pluto -44515-05-06 05:16 J -14537555.41 -14537555.28 -14537555.16 0.0067 0.0046

Pluto -44515-08-02 06:14 J -14537467.33 -14537467.24 -14537467.12 0.0067 0.0052

Pluto -44515-10-29 07:54 J -14537379.25 -14537379.17 -14537379.08 0.0067 0.0057

Pluto -44514-01-25 09:06 J -14537291.17 -14537291.12 -14537291.06 0.0067 0.0063

Earth -44514-09-11 00:14 J -14537062.61 -14537062.49 -14537062.37 0.2664 0.0211

Moon -44514-09-11 00:28 J -14537062.60 -14537062.48 -14537062.36 0.2671 0.0294 *

Mars -44513-12-23 13:40 J -14536593.03 -14536592.93 -14536592.83 0.1927 0.1334

Venus -44512-09-21 02:52 J -14536321.51 -14536321.38 -14536321.25 0.3696 0.1269

Earth -44511-03-12 21:06 J -14536148.71 -14536148.62 -14536148.52 0.2665 0.1959

Moon -44511-03-12 22:04 J -14536148.66 -14536148.58 -14536148.50 0.2670 0.2104 *

Uranus -44511-06-08 12:14 J -14536061.05 -14536060.99 -14536060.91 0.0147 0.0132

Uranus -44511-09-04 18:42 J -14535972.83 -14535972.72 -14535972.59 0.0147 0.0103

Uranus -44511-12-02 01:26 J -14535884.58 -14535884.44 -14535884.29 0.0147 0.0073

Uranus -44510-02-28 08:09 J -14535796.32 -14535796.16 -14535796.00 0.0147 0.0043

Saturn -44510-05-24 16:47 J -14535710.89 -14535710.80 -14535710.70 0.0286 0.0224

Uranus -44510-05-27 14:52 J -14535708.05 -14535707.88 -14535707.71 0.0147 0.0013

Saturn -44510-08-21 11:02 J -14535622.19 -14535622.04 -14535621.89 0.0286 0.0104

Jupiter -44510-08-21 20:38 J -14535621.80 -14535621.64 -14535621.48 0.0490 0.0018

Uranus -44510-08-23 21:35 J -14535619.77 -14535619.60 -14535619.43 0.0147 0.0018

Saturn -44510-11-18 05:30 J -14535533.43 -14535533.27 -14535533.10 0.0286 0.0020

Uranus -44510-11-20 04:33 J -14535531.47 -14535531.31 -14535531.15 0.0147 0.0049

Saturn -44509-02-15 00:28 J -14535444.62 -14535444.48 -14535444.34 0.0286 0.0144

Uranus -44509-02-16 11:16 J -14535443.17 -14535443.03 -14535442.88 0.0147 0.0080

Saturn -44509-05-13 19:40 J -14535355.72 -14535355.68 -14535355.63 0.0285 0.0272

Uranus -44509-05-14 18:14 J -14535354.85 -14535354.74 -14535354.62 0.0147 0.0111

Uranus -44509-08-11 01:11 J -14535266.48 -14535266.45 -14535266.40 0.0147 0.0143

Mars -44508-09-14 22:47 J -14534866.62 -14534866.55 -14534866.47 0.1603 0.1324

Moon -44507-09-03 14:23 J -14534512.94 -14534512.90 -14534512.86 0.2657 0.2491

Earth -44507-09-03 15:06 J -14534512.92 -14534512.87 -14534512.82 0.2660 0.2402 *

Mars -44506-08-21 12:14 J -14534161.09 -14534160.99 -14534160.88 0.1611 0.0983

Moon -44504-03-05 00:28 J -14533599.60 -14533599.48 -14533599.37 0.2671 0.1359

Earth -44504-03-05 01:40 J -14533599.55 -14533599.43 -14533599.32 0.2670 0.1278 *

Jupiter -44504-10-22 17:30 J -14533367.91 -14533367.77 -14533367.63 0.0537 0.0035

Earth -44501-09-12 20:23 J -14532311.76 -14532311.65 -14532311.54 0.2666 0.1082

Moon -44501-09-12 21:06 J -14532311.73 -14532311.62 -14532311.51 0.2670 0.1073 *

Jupiter -44498-06-09 22:18 J -14531311.72 -14531311.57 -14531311.41 0.0491 0.0124

Jupiter -44498-09-07 16:04 J -14531221.86 -14531221.83 -14531221.79 0.0489 0.0475

Mars -44496-01-10 21:06 J -14530730.75 -14530730.62 -14530730.49 0.1609 0.0439

Saturn -44495-03-27 11:30 J -14530290.08 -14530290.02 -14530289.96 0.0272 0.0248

Saturn -44495-06-24 01:11 J -14530201.58 -14530201.45 -14530201.33 0.0272 0.0151

Saturn -44495-09-20 14:23 J -14530113.04 -14530112.90 -14530112.76 0.0273 0.0055

Saturn -44495-12-18 03:21 J -14530024.50 -14530024.36 -14530024.21 0.0273 0.0039

Saturn -44494-03-16 16:04 J -14529935.95 -14529935.83 -14529935.70 0.0273 0.0132

Saturn -44494-06-13 04:47 J -14529847.38 -14529847.30 -14529847.22 0.0273 0.0223

Moon -44494-09-06 11:16 J -14529762.13 -14529762.03 -14529761.93 0.2665 0.1524

Earth -44494-09-06 12:14 J -14529762.10 -14529761.99 -14529761.89 0.2661 0.1460 *

Jupiter -44492-08-10 19:26 J -14529057.82 -14529057.69 -14529057.56 0.0537 0.0205

Mars -44492-09-11 10:04 J -14529026.20 -14529026.08 -14529025.97 0.1921 0.1040

Jupiter -44492-11-08 10:33 J -14528968.12 -14528968.06 -14528968.00 0.0539 0.0485

Moon -44491-03-08 01:11 J -14528848.59 -14528848.45 -14528848.32 0.2674 0.0258

Earth -44491-03-08 01:40 J -14528848.56 -14528848.43 -14528848.29 0.2669 0.0167 *

Venus -44491-05-04 16:47 J -14528790.89 -14528790.80 -14528790.70 0.3677 0.1726

Earth -44488-09-15 16:33 J -14527560.89 -14527560.81 -14527560.73 0.2668 0.1934

Moon -44488-09-15 17:30 J -14527560.85 -14527560.77 -14527560.70 0.2666 0.2041 *

Mars -44487-06-03 05:59 J -14527300.39 -14527300.25 -14527300.12 0.1607 0.0115

Jupiter -44486-03-28 23:45 J -14527001.64 -14527001.51 -14527001.37 0.0491 0.0268

Jupiter -44486-06-26 17:02 J -14526911.91 -14526911.79 -14526911.67 0.0489 0.0326

Venus -44486-11-18 09:50 J -14526767.19 -14526767.09 -14526766.98 0.3682 0.0690

Mars -44482-02-01 11:59 J -14525596.14 -14525596.00 -14525595.87 0.1924 0.0114

Moon -44481-09-08 08:23 J -14525011.26 -14525011.15 -14525011.03 0.2669 0.0532

Earth -44481-09-08 08:52 J -14525011.25 -14525011.13 -14525011.01 0.2663 0.0538 *

Saturn -44481-10-10 15:21 J -14524978.91 -14524978.86 -14524978.80 0.0287 0.0270

Saturn -44480-01-07 09:21 J -14524890.24 -14524890.11 -14524889.97 0.0286 0.0151

Saturn -44480-04-06 03:50 J -14524801.51 -14524801.34 -14524801.18 0.0286 0.0030

Jupiter -44480-05-29 21:35 J -14524747.70 -14524747.60 -14524747.49 0.0537 0.0370

Venus -44480-06-03 02:52 J -14524743.44 -14524743.38 -14524743.32 0.3686 0.3050

Saturn -44480-07-03 22:33 J -14524712.72 -14524712.56 -14524712.41 0.0286 0.0095

Jupiter -44480-08-27 13:11 J -14524658.06 -14524657.95 -14524657.84 0.0539 0.0328

Saturn -44480-09-30 17:30 J -14524623.87 -14524623.77 -14524623.66 0.0286 0.0222

Earth -44478-03-11 02:09 J -14524097.54 -14524097.41 -14524097.28 0.2667 0.0983

Moon -44478-03-11 02:09 J -14524097.53 -14524097.41 -14524097.28 0.2673 0.1061 *

Neptune -44478-05-01 14:38 J -14524045.89 -14524045.89 -14524045.88 0.0088 0.0088

Neptune -44478-07-28 16:18 J -14523957.86 -14523957.82 -14523957.74 0.0088 0.0082

Mars -44478-10-24 14:38 J -14523870.01 -14523869.89 -14523869.77 0.1605 0.0670

Neptune -44478-10-24 18:28 J -14523869.80 -14523869.73 -14523869.63 0.0088 0.0075 *

Neptune -44477-01-20 20:38 J -14523781.73 -14523781.64 -14523781.53 0.0088 0.0067

Neptune -44477-04-17 22:33 J -14523693.66 -14523693.56 -14523693.43 0.0088 0.0061

Neptune -44477-07-15 00:42 J -14523605.58 -14523605.47 -14523605.34 0.0088 0.0053

Neptune -44477-10-11 02:38 J -14523517.51 -14523517.39 -14523517.24 0.0088 0.0047

Neptune -44476-01-07 04:47 J -14523429.43 -14523429.30 -14523429.15 0.0088 0.0039

Neptune -44476-04-05 06:42 J -14523341.35 -14523341.22 -14523341.07 0.0088 0.0033

Neptune -44476-07-02 08:52 J -14523253.27 -14523253.13 -14523252.98 0.0088 0.0025

Neptune -44476-09-28 10:47 J -14523165.19 -14523165.05 -14523164.89 0.0088 0.0019

Mars -44476-09-29 03:21 J -14523164.37 -14523164.36 -14523164.34 0.1613 0.1601

Neptune -44476-12-25 12:57 J -14523077.11 -14523076.96 -14523076.81 0.0088 0.0012

Neptune -44475-03-23 14:52 J -14522989.03 -14522988.88 -14522988.73 0.0088 0.0005

Neptune -44475-06-19 16:47 J -14522900.95 -14522900.80 -14522900.64 0.0088 0.0002

Neptune -44475-09-15 18:42 J -14522812.87 -14522812.72 -14522812.57 0.0088 0.0009

Neptune -44475-12-12 20:38 J -14522724.79 -14522724.64 -14522724.49 0.0088 0.0016

Jupiter -44474-01-15 01:26 J -14522691.52 -14522691.44 -14522691.35 0.0492 0.0410

Neptune -44474-03-10 22:33 J -14522636.70 -14522636.56 -14522636.41 0.0088 0.0023

Jupiter -44474-04-14 18:28 J -14522601.88 -14522601.73 -14522601.58 0.0490 0.0179

Neptune -44474-06-07 00:28 J -14522548.62 -14522548.48 -14522548.33 0.0088 0.0029

Neptune -44474-09-03 02:23 J -14522460.53 -14522460.40 -14522460.26 0.0089 0.0036

Neptune -44474-11-30 04:18 J -14522372.45 -14522372.32 -14522372.18 0.0089 0.0043

Neptune -44473-02-26 05:59 J -14522284.36 -14522284.25 -14522284.11 0.0089 0.0050

Neptune -44473-05-24 08:09 J -14522196.27 -14522196.16 -14522196.04 0.0089 0.0056

Mars -44473-06-23 13:54 J -14522166.03 -14522165.92 -14522165.82 0.1927 0.1225

Neptune -44473-08-20 09:50 J -14522108.19 -14522108.09 -14522107.97 0.0089 0.0063

Neptune -44473-11-16 11:59 J -14522020.09 -14522020.00 -14522019.91 0.0089 0.0069

Neptune -44472-02-12 13:40 J -14521932.00 -14521931.93 -14521931.85 0.0089 0.0076

Neptune -44472-05-11 15:21 J -14521843.90 -14521843.86 -14521843.79 0.0089 0.0082

Moon -44471-03-03 06:14 J -14521548.30 -14521548.24 -14521548.17 0.2670 0.2308

Earth -44471-03-03 07:26 J -14521548.27 -14521548.19 -14521548.11 0.2672 0.2158 *

Uranus -44470-10-08 17:16 J -14520963.83 -14520963.78 -14520963.72 0.0132 0.0122

Uranus -44469-01-04 21:06 J -14520875.71 -14520875.62 -14520875.53 0.0132 0.0103

Uranus -44469-04-02 00:42 J -14520787.57 -14520787.47 -14520787.35 0.0132 0.0084

Uranus -44469-06-29 04:33 J -14520699.43 -14520699.31 -14520699.18 0.0132 0.0065

Uranus -44469-09-25 08:23 J -14520611.29 -14520611.15 -14520611.01 0.0132 0.0046

Uranus -44469-12-22 11:59 J -14520523.14 -14520523.00 -14520522.86 0.0132 0.0027

Mars -44468-03-15 23:02 J -14520439.62 -14520439.54 -14520439.45 0.1603 0.1238

Uranus -44468-03-20 15:35 J -14520434.99 -14520434.85 -14520434.70 0.0132 0.0009

Jupiter -44468-06-15 15:35 J -14520347.99 -14520347.85 -14520347.72 0.0538 0.0166

Uranus -44468-06-16 19:11 J -14520346.84 -14520346.70 -14520346.55 0.0132 0.0011

Earth -44468-09-11 05:16 J -14520260.40 -14520260.28 -14520260.16 0.2665 0.0361

Moon -44468-09-11 05:45 J -14520260.38 -14520260.26 -14520260.14 0.2671 0.0326 *

Uranus -44468-09-12 22:47 J -14520258.69 -14520258.55 -14520258.40 0.0132 0.0029

Uranus -44468-12-10 02:23 J -14520170.53 -14520170.40 -14520170.26 0.0132 0.0047

Uranus -44467-03-08 05:59 J -14520082.37 -14520082.25 -14520082.12 0.0132 0.0066

Uranus -44467-06-04 09:35 J -14519994.21 -14519994.10 -14519993.99 0.0132 0.0084

Uranus -44467-08-31 12:57 J -14519906.04 -14519905.96 -14519905.87 0.0132 0.0102

Uranus -44467-11-27 16:18 J -14519817.87 -14519817.82 -14519817.75 0.0132 0.0120

Mars -44466-02-19 12:28 J -14519734.08 -14519733.98 -14519733.88 0.1611 0.1066

Saturn -44466-11-11 01:11 J -14519469.55 -14519469.45 -14519469.34 0.0273 0.0189

Saturn -44465-02-07 14:38 J -14519381.03 -14519380.89 -14519380.75 0.0273 0.0093

Earth -44465-03-13 03:06 J -14519346.45 -14519346.37 -14519346.29 0.2665 0.2167

Moon -44465-03-13 04:04 J -14519346.41 -14519346.33 -14519346.25 0.2670 0.2152 *

Saturn -44465-05-06 03:50 J -14519292.48 -14519292.34 -14519292.19 0.0273 0.0003

Saturn -44465-08-02 16:47 J -14519203.93 -14519203.80 -14519203.66 0.0273 0.0095

Saturn -44465-10-30 05:30 J -14519115.37 -14519115.27 -14519115.17 0.0273 0.0187

Jupiter -44462-01-31 19:26 J -14518291.85 -14518291.69 -14518291.53 0.0490 0.0030

Moon -44461-09-03 19:40 J -14517710.75 -14517710.68 -14517710.62 0.2659 0.2246

Earth -44461-09-03 20:23 J -14517710.71 -14517710.65 -14517710.58 0.2660 0.2233 *

Venus -44461-10-12 00:57 J -14517672.58 -14517672.46 -14517672.34 0.3700 0.1830

Moon -44458-03-06 06:14 J -14516797.36 -14516797.24 -14516797.12 0.2671 0.1140

Earth -44458-03-06 07:11 J -14516797.32 -14516797.20 -14516797.07 0.2670 0.1082 *

Mars -44457-07-11 21:21 J -14516303.74 -14516303.61 -14516303.48 0.1609 0.0520

Jupiter -44456-04-03 17:16 J -14516037.92 -14516037.78 -14516037.63 0.0537 0.0016

Venus -44455-04-28 03:21 J -14515648.44 -14515648.36 -14515648.28 0.3694 0.2984

Earth -44455-09-14 01:40 J -14515509.54 -14515509.43 -14515509.33 0.2666 0.1234

Moon -44455-09-14 02:23 J -14515509.50 -14515509.40 -14515509.30 0.2668 0.1363 *

Mars -44452-03-12 10:18 J -14514599.18 -14514599.07 -14514598.96 0.1921 0.1158

Saturn -44451-05-27 09:21 J -14514158.23 -14514158.11 -14514157.99 0.0286 0.0188

Saturn -44451-08-24 03:35 J -14514069.51 -14514069.35 -14514069.19 0.0286 0.0067

Jupiter -44451-11-19 20:52 J -14513981.78 -14513981.63 -14513981.47 0.0491 0.0116

Saturn -44451-11-20 22:18 J -14513980.73 -14513980.57 -14513980.41 0.0286 0.0057

Jupiter -44450-02-17 14:38 J -14513891.91 -14513891.89 -14513891.87 0.0489 0.0484

Saturn -44450-02-17 17:16 J -14513891.91 -14513891.78 -14513891.65 0.0286 0.0183 *

Moon -44448-09-06 16:33 J -14512959.91 -14512959.81 -14512959.71 0.2665 0.1370

Earth -44448-09-06 17:16 J -14512959.88 -14512959.78 -14512959.67 0.2662 0.1297 *

Mars -44448-12-02 05:59 J -14512873.38 -14512873.25 -14512873.11 0.1607 0.0062

Moon -44445-03-08 06:57 J -14512046.35 -14512046.21 -14512046.08 0.2675 0.0069

Earth -44445-03-08 07:26 J -14512046.33 -14512046.19 -14512046.05 0.2668 0.0036 *

Jupiter -44444-01-20 17:59 J -14511727.88 -14511727.75 -14511727.62 0.0537 0.0198

Jupiter -44444-04-20 09:06 J -14511638.18 -14511638.12 -14511638.07 0.0539 0.0492

Mars -44443-08-02 11:59 J -14511169.14 -14511169.00 -14511168.86 0.1924 0.0043

Earth -44442-09-16 21:35 J -14510758.67 -14510758.60 -14510758.52 0.2668 0.2088

Moon -44442-09-16 22:33 J -14510758.63 -14510758.56 -14510758.49 0.2666 0.2095 *

Venus -44440-05-25 21:21 J -14510141.65 -14510141.61 -14510141.56 0.3674 0.3259

Jupiter -44439-09-07 22:47 J -14509671.68 -14509671.55 -14509671.41 0.0492 0.0254

Jupiter -44439-12-06 16:04 J -14509581.94 -14509581.83 -14509581.71 0.0490 0.0341

Mars -44438-04-24 14:52 J -14509443.01 -14509442.88 -14509442.76 0.1605 0.0590

Saturn -44436-03-30 04:04 J -14508737.43 -14508737.33 -14508737.24 0.0272 0.0211

Saturn -44436-06-26 17:16 J -14508648.91 -14508648.78 -14508648.64 0.0273 0.0115

Saturn -44436-09-23 06:42 J -14508560.37 -14508560.22 -14508560.08 0.0273 0.0020

Saturn -44436-12-20 19:40 J -14508471.82 -14508471.68 -14508471.54 0.0273 0.0075

Saturn -44435-03-19 08:09 J -14508383.26 -14508383.16 -14508383.04 0.0273 0.0168

Saturn -44435-06-15 20:52 J -14508294.67 -14508294.63 -14508294.58 0.0273 0.0257

Moon -44435-09-09 13:54 J -14508209.04 -14508208.92 -14508208.80 0.2670 0.0406

Earth -44435-09-09 14:09 J -14508209.04 -14508208.91 -14508208.79 0.2663 0.0388 *

Venus -44435-12-09 14:38 J -14508118.00 -14508117.89 -14508117.78 0.3678 0.0809

Mars -44434-12-23 14:09 J -14507739.02 -14507738.91 -14507738.80 0.1927 0.1116

Jupiter -44433-11-08 19:40 J -14507417.78 -14507417.68 -14507417.57 0.0536 0.0371

Pluto -44432-02-05 14:23 J -14507328.91 -14507328.90 -14507328.88 0.0080 0.0080

Jupiter -44432-02-06 11:16 J -14507328.14 -14507328.03 -14507327.92 0.0539 0.0327

Earth -44432-03-11 07:54 J -14507295.29 -14507295.17 -14507295.04 0.2667 0.1188

Moon -44432-03-11 08:09 J -14507295.28 -14507295.16 -14507295.03 0.2673 0.1156 *

Pluto -44432-05-04 15:50 J -14507240.89 -14507240.84 -14507240.76 0.0080 0.0071

Pluto -44432-07-31 17:16 J -14507152.85 -14507152.78 -14507152.67 0.0080 0.0063

Pluto -44432-10-27 19:11 J -14507064.80 -14507064.70 -14507064.59 0.0080 0.0054

Pluto -44431-01-23 20:38 J -14506976.75 -14506976.64 -14506976.51 0.0080 0.0046

Pluto -44431-04-21 22:18 J -14506888.70 -14506888.57 -14506888.44 0.0080 0.0038

Pluto -44431-07-18 23:45 J -14506800.64 -14506800.51 -14506800.36 0.0079 0.0030

Pluto -44431-10-15 01:26 J -14506712.58 -14506712.44 -14506712.30 0.0079 0.0021

Pluto -44430-01-11 02:52 J -14506624.52 -14506624.38 -14506624.23 0.0079 0.0013

Pluto -44430-04-09 04:18 J -14506536.46 -14506536.32 -14506536.17 0.0079 0.0006

Pluto -44430-07-06 05:45 J -14506448.40 -14506448.26 -14506448.11 0.0079 0.0003

Pluto -44430-10-02 07:11 J -14506360.34 -14506360.20 -14506360.05 0.0079 0.0011

Pluto -44430-12-29 08:38 J -14506272.28 -14506272.14 -14506271.99 0.0079 0.0018

Pluto -44429-03-26 10:04 J -14506184.21 -14506184.08 -14506183.94 0.0078 0.0026

Pluto -44429-06-22 11:30 J -14506096.15 -14506096.02 -14506095.89 0.0078 0.0033

Venus -44429-06-24 07:40 J -14506094.28 -14506094.18 -14506094.08 0.3683 0.1583

Mars -44429-09-13 23:16 J -14506012.62 -14506012.53 -14506012.44 0.1603 0.1155

Pluto -44429-09-18 12:42 J -14506008.08 -14506007.97 -14506007.84 0.0078 0.0041

Pluto -44429-12-15 14:09 J -14505920.02 -14505919.91 -14505919.79 0.0078 0.0048

Pluto -44428-03-13 15:21 J -14505831.95 -14505831.86 -14505831.74 0.0078 0.0056

Pluto -44428-06-09 16:47 J -14505743.87 -14505743.80 -14505743.70 0.0078 0.0063

Pluto -44428-09-05 18:14 J -14505655.79 -14505655.74 -14505655.67 0.0078 0.0070

Pluto -44428-12-02 19:26 J -14505567.69 -14505567.69 -14505567.67 0.0078 0.0077

Jupiter -44427-06-27 00:28 J -14505361.57 -14505361.48 -14505361.39 0.0492 0.0396

Uranus -44427-06-28 19:54 J -14505359.75 -14505359.67 -14505359.57 0.0147 0.0123

Mars -44427-08-20 12:42 J -14505307.07 -14505306.97 -14505306.88 0.1611 0.1144

Jupiter -44427-09-24 17:16 J -14505271.93 -14505271.78 -14505271.63 0.0490 0.0192

Uranus -44427-09-25 02:38 J -14505271.52 -14505271.39 -14505271.26 0.0147 0.0093

Uranus -44427-12-22 09:06 J -14505183.27 -14505183.12 -14505182.96 0.0147 0.0064

Uranus -44426-03-20 15:50 J -14505095.00 -14505094.84 -14505094.67 0.0147 0.0034

Uranus -44426-06-16 22:33 J -14505006.73 -14505006.56 -14505006.39 0.0147 0.0004

Uranus -44426-09-13 05:16 J -14504918.44 -14504918.28 -14504918.11 0.0147 0.0028

Uranus -44426-12-10 11:59 J -14504830.15 -14504830.00 -14504829.83 0.0147 0.0059

Moon -44425-03-03 11:45 J -14504746.09 -14504746.01 -14504745.92 0.2669 0.1968

Earth -44425-03-03 12:57 J -14504746.04 -14504745.96 -14504745.87 0.2671 0.1974 *

Uranus -44425-03-07 18:57 J -14504741.84 -14504741.71 -14504741.57 0.0147 0.0090

Uranus -44425-06-04 01:54 J -14504653.51 -14504653.42 -14504653.31 0.0147 0.0121

Earth -44422-09-12 10:33 J -14503458.18 -14503458.06 -14503457.94 0.2665 0.0516

Moon -44422-09-12 10:47 J -14503458.16 -14503458.05 -14503457.93 0.2671 0.0612 *

Saturn -44422-10-14 07:54 J -14503426.25 -14503426.17 -14503426.07 0.0287 0.0233

Saturn -44421-01-11 02:09 J -14503337.56 -14503337.41 -14503337.26 0.0286 0.0113

Saturn -44421-04-08 20:38 J -14503248.80 -14503248.64 -14503248.48 0.0286 0.0010

Saturn -44421-07-06 15:21 J -14503160.00 -14503159.86 -14503159.71 0.0286 0.0135

Saturn -44421-10-03 10:33 J -14503071.12 -14503071.06 -14503070.99 0.0286 0.0262

Jupiter -44421-11-25 13:54 J -14503018.06 -14503017.92 -14503017.79 0.0538 0.0167

Earth -44419-03-14 08:52 J -14502544.19 -14502544.13 -14502544.07 0.2665 0.2374

Moon -44419-03-14 09:50 J -14502544.13 -14502544.09 -14502544.05 0.2669 0.2544 *

Mars -44417-01-10 21:35 J -14501876.73 -14501876.60 -14501876.48 0.1609 0.0602

Jupiter -44415-07-13 18:42 J -14500961.88 -14500961.72 -14500961.56 0.0490 0.0047

Moon -44415-09-05 00:42 J -14500908.53 -14500908.47 -14500908.40 0.2661 0.2206

Earth -44415-09-05 01:40 J -14500908.50 -14500908.43 -14500908.35 0.2661 0.2064 *

Mars -44413-09-10 10:33 J -14500172.16 -14500172.06 -14500171.95 0.1921 0.1271

Moon -44412-03-06 11:59 J -14499995.13 -14499995.00 -14499994.88 0.2673 0.1012

Earth -44412-03-06 12:57 J -14499995.09 -14499994.96 -14499994.83 0.2670 0.0889 *

Jupiter -44409-09-13 16:04 J -14498707.97 -14498707.83 -14498707.68 0.0538 0.0013

Earth -44409-09-14 06:42 J -14498707.32 -14498707.22 -14498707.12 0.2667 0.1388

Moon -44409-09-14 07:40 J -14498707.28 -14498707.18 -14498707.08 0.2668 0.1382 *

Mars -44408-06-02 06:28 J -14498446.37 -14498446.23 -14498446.10 0.1607 0.0075

Saturn -44407-08-17 03:50 J -14498005.39 -14498005.34 -14498005.28 0.0272 0.0251

Saturn -44407-11-13 17:30 J -14497916.89 -14497916.77 -14497916.65 0.0273 0.0153

Saturn -44406-02-10 06:57 J -14497828.36 -14497828.21 -14497828.07 0.0273 0.0058

Saturn -44406-05-09 19:54 J -14497739.81 -14497739.67 -14497739.53 0.0273 0.0037

Saturn -44406-08-06 08:38 J -14497651.26 -14497651.14 -14497651.01 0.0273 0.0130

Saturn -44406-11-02 21:21 J -14497562.69 -14497562.61 -14497562.52 0.0273 0.0221

Venus -44404-05-19 01:11 J -14496999.59 -14496999.45 -14496999.31 0.3699 0.0165

Mars -44403-01-31 12:14 J -14496742.13 -14496741.99 -14496741.85 0.1924 0.0111

Jupiter -44403-05-01 19:40 J -14496651.83 -14496651.68 -14496651.52 0.0491 0.0104

Moon -44402-09-07 21:50 J -14496157.70 -14496157.59 -14496157.48 0.2666 0.1160

Earth -44402-09-07 22:33 J -14496157.67 -14496157.56 -14496157.44 0.2662 0.1130 *

Moon -44399-03-09 12:42 J -14495244.11 -14495243.97 -14495243.84 0.2674 0.0206

Earth -44399-03-09 13:11 J -14495244.09 -14495243.95 -14495243.81 0.2668 0.0236 *

Mars -44399-10-23 14:52 J -14495016.01 -14495015.88 -14495015.75 0.1605 0.0510

Jupiter -44397-07-02 17:59 J -14494397.89 -14494397.75 -14494397.62 0.0537 0.0169

Jupiter -44397-09-30 08:52 J -14494308.16 -14494308.13 -14494308.09 0.0539 0.0520

Neptune -44396-04-22 23:59 J -14494103.54 -14494103.50 -14494103.43 0.0089 0.0084

Neptune -44396-07-20 02:09 J -14494015.47 -14494015.41 -14494015.31 0.0089 0.0077

Earth -44396-09-17 02:38 J -14493956.45 -14493956.39 -14493956.32 0.2668 0.2235

Moon -44396-09-17 03:35 J -14493956.41 -14493956.35 -14493956.30 0.2666 0.2346 *

Neptune -44396-10-16 04:18 J -14493927.40 -14493927.32 -14493927.20 0.0089 0.0070

Neptune -44395-01-12 06:57 J -14493839.32 -14493839.21 -14493839.09 0.0089 0.0062

Neptune -44395-04-10 09:06 J -14493751.24 -14493751.12 -14493750.99 0.0089 0.0055

Neptune -44395-07-07 11:30 J -14493663.15 -14493663.02 -14493662.88 0.0089 0.0048

Neptune -44395-10-03 13:40 J -14493575.06 -14493574.93 -14493574.78 0.0089 0.0041

Neptune -44395-12-30 16:04 J -14493486.98 -14493486.83 -14493486.68 0.0089 0.0034

Neptune -44394-03-28 18:28 J -14493398.88 -14493398.73 -14493398.57 0.0089 0.0026

Mars -44394-06-23 14:23 J -14493312.02 -14493311.90 -14493311.79 0.1927 0.1011

Neptune -44394-06-24 20:52 J -14493310.79 -14493310.63 -14493310.47 0.0089 0.0019

Neptune -44394-09-20 23:02 J -14493222.70 -14493222.54 -14493222.37 0.0089 0.0012

Neptune -44394-12-18 01:26 J -14493134.60 -14493134.44 -14493134.28 0.0089 0.0004

Neptune -44393-03-15 03:50 J -14493046.50 -14493046.34 -14493046.18 0.0089 0.0003

Neptune -44393-06-11 06:14 J -14492958.40 -14492958.24 -14492958.08 0.0089 0.0010

Neptune -44393-09-07 08:38 J -14492870.30 -14492870.14 -14492869.98 0.0089 0.0018

Neptune -44393-12-04 10:47 J -14492782.20 -14492782.05 -14492781.89 0.0089 0.0026

Saturn -44392-03-02 07:54 J -14492694.22 -14492694.17 -14492694.12 0.0287 0.0270

Neptune -44392-03-02 13:11 J -14492694.10 -14492693.95 -14492693.79 0.0089 0.0033

Neptune -44392-05-29 15:35 J -14492605.99 -14492605.85 -14492605.70 0.0089 0.0041

Saturn -44392-05-30 01:54 J -14492605.56 -14492605.42 -14492605.28 0.0286 0.0151

Neptune -44392-08-25 17:59 J -14492517.88 -14492517.75 -14492517.60 0.0089 0.0048

Saturn -44392-08-26 20:09 J -14492516.82 -14492516.66 -14492516.49 0.0286 0.0030

Neptune -44392-11-21 20:23 J -14492429.77 -14492429.65 -14492429.51 0.0089 0.0056

Saturn -44392-11-23 14:52 J -14492428.03 -14492427.88 -14492427.72 0.0286 0.0095

Jupiter -44391-02-17 21:21 J -14492341.74 -14492341.61 -14492341.47 0.0492 0.0246

Neptune -44391-02-17 23:02 J -14492341.65 -14492341.54 -14492341.42 0.0089 0.0063 *

Saturn -44391-02-20 10:04 J -14492339.18 -14492339.08 -14492338.98 0.0286 0.0222

Neptune -44391-05-17 01:11 J -14492253.54 -14492253.45 -14492253.34 0.0089 0.0071

Jupiter -44391-05-18 14:38 J -14492252.00 -14492251.89 -14492251.77 0.0490 0.0350

Neptune -44391-08-13 03:35 J -14492165.41 -14492165.35 -14492165.26 0.0089 0.0079

Neptune -44391-11-09 06:14 J -14492077.27 -14492077.24 -14492077.19 0.0089 0.0086

Mars -44389-03-14 23:30 J -14491585.62 -14491585.52 -14491585.42 0.1603 0.1072

Moon -44389-09-09 19:11 J -14491406.82 -14491406.70 -14491406.58 0.2671 0.0227

Earth -44389-09-09 19:11 J -14491406.82 -14491406.70 -14491406.57 0.2664 0.0228 *

Mars -44387-02-18 12:42 J -14490880.05 -14490879.97 -14490879.88 0.1611 0.1220

Earth -44386-03-12 13:40 J -14490493.04 -14490492.93 -14490492.81 0.2666 0.1396

Moon -44386-03-12 14:23 J -14490493.02 -14490492.90 -14490492.79 0.2672 0.1468 *

Uranus -44386-10-29 01:11 J -14490262.51 -14490262.45 -14490262.36 0.0132 0.0113

Uranus -44385-01-25 05:02 J -14490174.38 -14490174.29 -14490174.18 0.0132 0.0094

Jupiter -44385-04-20 18:28 J -14490087.84 -14490087.73 -14490087.62 0.0536 0.0361

Uranus -44385-04-22 08:52 J -14490086.25 -14490086.13 -14490086.01 0.0132 0.0075

Jupiter -44385-07-19 09:50 J -14489998.19 -14489998.09 -14489997.98 0.0539 0.0335

Uranus -44385-07-19 12:28 J -14489998.10 -14489997.98 -14489997.84 0.0132 0.0056 *

Uranus -44385-10-15 16:18 J -14489909.96 -14489909.82 -14489909.68 0.0132 0.0037

Uranus -44384-01-11 19:54 J -14489821.81 -14489821.67 -14489821.52 0.0132 0.0018

Uranus -44384-04-09 23:45 J -14489733.66 -14489733.51 -14489733.37 0.0132 0.0002

Uranus -44384-07-07 03:21 J -14489645.50 -14489645.36 -14489645.22 0.0132 0.0019

Uranus -44384-10-03 06:57 J -14489557.35 -14489557.21 -14489557.07 0.0132 0.0038

Uranus -44384-12-30 10:18 J -14489469.19 -14489469.07 -14489468.93 0.0132 0.0056

Venus -44384-12-30 19:26 J -14489468.78 -14489468.69 -14489468.61 0.3675 0.2331

Uranus -44383-03-28 13:54 J -14489381.03 -14489380.92 -14489380.80 0.0132 0.0075

Uranus -44383-06-24 17:16 J -14489292.87 -14489292.78 -14489292.67 0.0132 0.0093

Uranus -44383-09-20 20:52 J -14489204.70 -14489204.63 -14489204.55 0.0132 0.0111

Uranus -44383-12-18 00:14 J -14489116.51 -14489116.49 -14489116.45 0.0132 0.0129

Jupiter -44380-12-06 23:16 J -14488031.62 -14488031.53 -14488031.43 0.0492 0.0384

Moon -44379-03-04 17:30 J -14487943.86 -14487943.77 -14487943.68 0.2669 0.1944

Earth -44379-03-04 18:42 J -14487943.82 -14487943.72 -14487943.62 0.2671 0.1781 *

Jupiter -44379-03-06 16:18 J -14487941.97 -14487941.82 -14487941.68 0.0490 0.0207

Mars -44378-07-11 21:35 J -14487449.72 -14487449.60 -14487449.47 0.1609 0.0684

Venus -44378-07-16 12:28 J -14487445.09 -14487444.98 -14487444.87 0.3679 0.0118

Saturn -44377-01-04 06:28 J -14487273.23 -14487273.23 -14487273.22 0.0272 0.0272

Saturn -44377-04-01 20:09 J -14487184.77 -14487184.66 -14487184.54 0.0273 0.0175

Saturn -44377-06-29 09:35 J -14487096.24 -14487096.10 -14487095.96 0.0273 0.0079

Saturn -44377-09-25 22:47 J -14487007.70 -14487007.55 -14487007.40 0.0273 0.0016

Saturn -44377-12-23 11:45 J -14486919.14 -14486919.01 -14486918.88 0.0273 0.0110

Saturn -44376-03-22 00:14 J -14486830.58 -14486830.49 -14486830.39 0.0273 0.0202

Earth -44376-09-12 15:35 J -14486655.96 -14486655.85 -14486655.73 0.2665 0.0678

Moon -44376-09-12 16:18 J -14486655.94 -14486655.82 -14486655.71 0.2670 0.0685 *

Mars -44373-03-11 10:47 J -14485745.15 -14485745.05 -14485744.95 0.1921 0.1376

Earth -44373-03-14 14:38 J -14485741.92 -14485741.89 -14485741.86 0.2664 0.2584

Moon -44373-03-14 15:50 J -14485741.88 -14485741.84 -14485741.81 0.2668 0.2582 *

Jupiter -44373-05-07 11:59 J -14485688.14 -14485688.00 -14485687.87 0.0538 0.0166

Venus -44372-01-29 05:30 J -14485421.35 -14485421.27 -14485421.19 0.3684 0.2483

Moon -44369-09-05 05:59 J -14484106.33 -14484106.25 -14484106.16 0.2662 0.1891

Earth -44369-09-05 06:57 J -14484106.29 -14484106.21 -14484106.12 0.2661 0.1896 *

Mars -44369-12-01 06:28 J -14484019.36 -14484019.23 -14484019.09 0.1607 0.0133

Jupiter -44368-12-23 17:30 J -14483631.93 -14483631.77 -14483631.61 0.0490 0.0060

Moon -44366-03-07 17:45 J -14483192.89 -14483192.76 -14483192.63 0.2674 0.0689

Earth -44366-03-07 18:42 J -14483192.85 -14483192.72 -14483192.59 0.2669 0.0698 *

Mars -44364-08-01 12:42 J -14482315.11 -14482314.97 -14482314.84 0.1924 0.0236

Earth -44363-09-15 11:59 J -14481905.10 -14481905.00 -14481904.91 0.2667 0.1541

Moon -44363-09-15 12:42 J -14481905.06 -14481904.97 -14481904.87 0.2668 0.1673 *

Saturn -44363-10-17 00:57 J -14481873.58 -14481873.46 -14481873.34 0.0286 0.0194

Saturn -44362-01-13 19:11 J -14481784.86 -14481784.70 -14481784.54 0.0286 0.0073

Saturn -44362-04-12 13:40 J -14481696.09 -14481695.93 -14481695.77 0.0286 0.0050

Saturn -44362-07-10 08:38 J -14481607.27 -14481607.14 -14481607.01 0.0286 0.0176

Jupiter -44361-02-24 14:23 J -14481378.05 -14481377.90 -14481377.76 0.0538 0.0011

Mars -44359-04-23 15:06 J -14480589.00 -14480588.87 -14480588.74 0.1605 0.0425

Moon -44356-09-08 03:21 J -14479355.48 -14479355.36 -14479355.25 0.2667 0.1061

Earth -44356-09-08 03:50 J -14479355.45 -14479355.34 -14479355.22 0.2662 0.0965 *

Jupiter -44356-10-11 18:57 J -14479321.86 -14479321.71 -14479321.55 0.0491 0.0085

Mars -44355-12-22 14:23 J -14478885.02 -14478884.90 -14478884.78 0.1926 0.0908

Moon -44353-03-09 18:28 J -14478441.86 -14478441.73 -14478441.60 0.2674 0.0387

Earth -44353-03-09 18:57 J -14478441.85 -14478441.71 -14478441.58 0.2667 0.0436 *

Venus -44353-06-08 23:16 J -14478350.60 -14478350.53 -14478350.47 0.3703 0.3205

Mars -44350-09-13 23:45 J -14477158.62 -14477158.51 -14477158.40 0.1603 0.0986

Earth -44350-09-18 07:54 J -14477154.22 -14477154.17 -14477154.12 0.2669 0.2385

Moon -44350-09-18 08:38 J -14477154.20 -14477154.14 -14477154.09 0.2664 0.2358 *

Jupiter -44350-12-13 16:33 J -14477067.94 -14477067.81 -14477067.67 0.0537 0.0160

Jupiter -44349-03-12 07:40 J -14476978.20 -14476978.18 -14476978.16 0.0539 0.0530

Mars -44348-08-19 12:57 J -14476453.04 -14476452.96 -14476452.88 0.1611 0.1303

Saturn -44348-08-19 20:23 J -14476452.74 -14476452.65 -14476452.56 0.0272 0.0214

Saturn -44348-11-16 09:50 J -14476364.22 -14476364.09 -14476363.96 0.0273 0.0117

Venus -44348-12-24 01:11 J -14476326.57 -14476326.45 -14476326.32 0.3698 0.1508

Saturn -44347-02-12 23:02 J -14476275.68 -14476275.54 -14476275.39 0.0273 0.0022

Saturn -44347-05-12 11:59 J -14476187.13 -14476187.00 -14476186.86 0.0273 0.0073

Saturn -44347-08-09 00:42 J -14476098.58 -14476098.47 -14476098.35 0.0273 0.0165

Saturn -44347-11-05 13:26 J -14476009.99 -14476009.94 -14476009.89 0.0273 0.0255

Earth -44346-03-03 00:42 J -14475892.48 -14475892.47 -14475892.46 0.2672 0.2649

Jupiter -44344-07-30 20:09 J -14475011.80 -14475011.66 -14475011.52 0.0491 0.0234

Jupiter -44344-10-28 13:26 J -14474922.05 -14474921.94 -14474921.83 0.0489 0.0361

Uranus -44343-04-21 21:35 J -14474746.63 -14474746.60 -14474746.55 0.0147 0.0141

Uranus -44343-07-19 04:04 J -14474658.43 -14474658.33 -14474658.21 0.0147 0.0112

Moon -44343-09-11 00:28 J -14474604.60 -14474604.48 -14474604.36 0.2671 0.0041

Earth -44343-09-11 00:28 J -14474604.60 -14474604.48 -14474604.36 0.2664 0.0059 *

Uranus -44343-10-15 10:47 J -14474570.19 -14474570.05 -14474569.91 0.0147 0.0082

Uranus -44342-01-11 17:30 J -14474481.93 -14474481.77 -14474481.61 0.0147 0.0052

Uranus -44342-04-10 00:14 J -14474393.66 -14474393.49 -14474393.33 0.0147 0.0022

Uranus -44342-07-07 06:57 J -14474305.38 -14474305.21 -14474305.04 0.0147 0.0009

Uranus -44342-10-03 13:40 J -14474217.10 -14474216.93 -14474216.77 0.0147 0.0039

Uranus -44342-12-30 20:23 J -14474128.80 -14474128.65 -14474128.49 0.0147 0.0070

Uranus -44341-03-28 03:06 J -14474040.48 -14474040.37 -14474040.23 0.0147 0.0102

Uranus -44341-06-24 10:04 J -14473952.14 -14473952.08 -14473952.00 0.0147 0.0133

Mars -44340-02-03 08:09 J -14473728.19 -14473728.16 -14473728.13 0.1602 0.1559

Earth -44340-03-12 19:26 J -14473690.80 -14473690.69 -14473690.58 0.2666 0.1597

Moon -44340-03-12 20:09 J -14473690.77 -14473690.66 -14473690.55 0.2672 0.1629 *

Mars -44338-01-09 21:50 J -14473022.71 -14473022.59 -14473022.47 0.1609 0.0762

Jupiter -44338-10-01 18:14 J -14472757.85 -14472757.74 -14472757.63 0.0536 0.0333

Jupiter -44338-12-30 09:50 J -14472668.20 -14472668.09 -14472667.99 0.0539 0.0362

Mars -44334-09-10 11:02 J -14471318.12 -14471318.04 -14471317.95 0.1921 0.1490

Moon -44333-03-04 23:16 J -14471141.64 -14471141.53 -14471141.43 0.2670 0.1594

Earth -44333-03-05 00:14 J -14471141.59 -14471141.49 -14471141.38 0.2671 0.1598 *

Saturn -44333-03-05 00:28 J -14471141.57 -14471141.48 -14471141.39 0.0286 0.0233 *

Saturn -44333-06-01 18:28 J -14471052.88 -14471052.73 -14471052.58 0.0286 0.0114

Saturn -44333-08-29 12:57 J -14470964.12 -14470963.96 -14470963.79 0.0286 0.0009

Saturn -44333-11-26 07:40 J -14470875.32 -14470875.18 -14470875.03 0.0286 0.0135

Saturn -44332-02-23 02:52 J -14470786.44 -14470786.38 -14470786.31 0.0286 0.0262

Jupiter -44332-05-18 21:50 J -14470701.68 -14470701.59 -14470701.48 0.0492 0.0375

Jupiter -44332-08-16 14:52 J -14470612.02 -14470611.88 -14470611.74 0.0490 0.0216

Earth -44330-09-13 20:52 J -14469853.75 -14469853.63 -14469853.51 0.2666 0.0829

Moon -44330-09-13 21:35 J -14469853.71 -14469853.60 -14469853.49 0.2670 0.0890 *

Mars -44329-06-01 06:42 J -14469592.36 -14469592.22 -14469592.09 0.1607 0.0213

Venus -44327-08-06 17:02 J -14468795.89 -14468795.79 -14468795.69 0.3676 0.1416

Jupiter -44326-07-20 18:42 J -14468447.74 -14468447.72 -14468447.70 0.0535 0.0526

Jupiter -44326-10-18 10:33 J -14468358.19 -14468358.06 -14468357.92 0.0538 0.0176

Mars -44324-01-30 12:28 J -14467888.11 -14467887.98 -14467887.84 0.1924 0.0326

Moon -44323-09-06 11:16 J -14467304.11 -14467304.03 -14467303.94 0.2662 0.1877

Earth -44323-09-06 12:14 J -14467304.08 -14467303.99 -14467303.89 0.2661 0.1728 *

Venus -44321-02-20 10:18 J -14466772.18 -14466772.07 -14466771.97 0.3680 0.1012

Moon -44320-03-07 23:16 J -14466390.66 -14466390.53 -14466390.40 0.2674 0.0654

Earth -44320-03-08 00:14 J -14466390.62 -14466390.49 -14466390.35 0.2669 0.0501 *

Jupiter -44320-06-04 16:18 J -14466301.98 -14466301.82 -14466301.66 0.0491 0.0073

Mars -44320-10-22 15:21 J -14466161.99 -14466161.86 -14466161.73 0.1605 0.0341

Saturn -44318-01-06 23:02 J -14465720.61 -14465720.54 -14465720.46 0.0273 0.0235

Saturn -44318-04-05 12:42 J -14465632.10 -14465631.97 -14465631.84 0.0273 0.0138

Saturn -44318-07-03 01:54 J -14465543.56 -14465543.42 -14465543.27 0.0273 0.0042

Saturn -44318-09-29 15:06 J -14465455.02 -14465454.87 -14465454.73 0.0273 0.0053

Saturn -44318-12-27 03:50 J -14465366.46 -14465366.34 -14465366.22 0.0273 0.0145

Saturn -44317-03-24 16:18 J -14465277.88 -14465277.82 -14465277.74 0.0274 0.0237

Earth -44317-09-15 17:02 J -14465102.88 -14465102.79 -14465102.70 0.2667 0.1691

Moon -44317-09-15 17:59 J -14465102.85 -14465102.75 -14465102.66 0.2668 0.1699 *

Venus -44316-09-05 03:21 J -14464748.40 -14464748.36 -14464748.32 0.3685 0.3381

Mars -44315-06-22 14:52 J -14464458.00 -14464457.88 -14464457.75 0.1927 0.0788

Jupiter -44314-08-06 12:28 J -14464048.12 -14464047.98 -14464047.83 0.0537 0.0009

Neptune -44313-01-26 12:28 J -14463874.99 -14463874.98 -14463874.96 0.0088 0.0088

Neptune -44313-04-23 14:38 J -14463786.94 -14463786.89 -14463786.82 0.0088 0.0081

Neptune -44313-07-20 16:47 J -14463698.88 -14463698.80 -14463698.71 0.0088 0.0074

Neptune -44313-10-16 18:42 J -14463610.81 -14463610.72 -14463610.61 0.0088 0.0067

Neptune -44312-01-12 20:52 J -14463522.74 -14463522.63 -14463522.51 0.0088 0.0059

Neptune -44312-04-10 22:47 J -14463434.66 -14463434.55 -14463434.42 0.0088 0.0053

Neptune -44312-07-08 00:57 J -14463346.59 -14463346.46 -14463346.32 0.0088 0.0046

Neptune -44312-10-04 02:52 J -14463258.51 -14463258.38 -14463258.23 0.0088 0.0039

Neptune -44312-12-31 05:02 J -14463170.43 -14463170.29 -14463170.14 0.0088 0.0032

Neptune -44311-03-29 06:57 J -14463082.35 -14463082.21 -14463082.05 0.0088 0.0025

Neptune -44311-06-25 09:06 J -14462994.27 -14462994.12 -14462993.97 0.0088 0.0018

Neptune -44311-09-21 11:02 J -14462906.19 -14462906.04 -14462905.88 0.0088 0.0011

Neptune -44311-12-18 13:11 J -14462818.11 -14462817.95 -14462817.80 0.0088 0.0004

Mars -44310-03-14 23:59 J -14462731.61 -14462731.50 -14462731.39 0.1603 0.0903

Neptune -44310-03-16 15:06 J -14462730.03 -14462729.87 -14462729.72 0.0088 0.0003

Neptune -44310-06-12 17:02 J -14462641.94 -14462641.79 -14462641.64 0.0088 0.0010

Neptune -44310-09-08 18:57 J -14462553.86 -14462553.71 -14462553.56 0.0088 0.0017

Moon -44310-09-09 08:38 J -14462553.25 -14462553.14 -14462553.02 0.2669 0.0769

Earth -44310-09-09 09:06 J -14462553.24 -14462553.12 -14462553.00 0.2663 0.0800 *

Neptune -44310-12-05 20:52 J -14462465.78 -14462465.63 -14462465.48 0.0088 0.0023

Neptune -44309-03-02 22:33 J -14462377.69 -14462377.56 -14462377.41 0.0088 0.0031

Neptune -44309-05-30 00:42 J -14462289.61 -14462289.47 -14462289.33 0.0088 0.0037

Neptune -44309-08-26 02:23 J -14462201.52 -14462201.40 -14462201.26 0.0089 0.0044

Neptune -44309-11-22 04:18 J -14462113.43 -14462113.32 -14462113.19 0.0089 0.0051

Mars -44308-02-17 13:11 J -14462026.02 -14462025.95 -14462025.89 0.1611 0.1381

Neptune -44308-02-18 06:28 J -14462025.34 -14462025.23 -14462025.12 0.0089 0.0057

Jupiter -44308-03-23 17:45 J -14461991.92 -14461991.76 -14461991.60 0.0491 0.0074

Neptune -44308-05-17 08:09 J -14461937.26 -14461937.16 -14461937.05 0.0089 0.0064

Neptune -44308-08-13 09:50 J -14461849.16 -14461849.09 -14461848.98 0.0089 0.0071

Neptune -44308-11-09 11:45 J -14461761.07 -14461761.01 -14461760.92 0.0089 0.0077

Neptune -44307-02-05 13:26 J -14461672.97 -14461672.94 -14461672.87 0.0089 0.0084

Moon -44307-03-11 00:28 J -14461639.61 -14461639.48 -14461639.35 0.2674 0.0679

Earth -44307-03-11 00:42 J -14461639.61 -14461639.47 -14461639.34 0.2667 0.0635 *

Mars -44306-11-12 17:16 J -14461027.81 -14461027.78 -14461027.76 0.1928 0.1888

Saturn -44304-07-23 00:14 J -14460409.53 -14460409.49 -14460409.44 0.0286 0.0271

Earth -44304-09-18 12:57 J -14460351.99 -14460351.96 -14460351.92 0.2669 0.2530

Moon -44304-09-18 13:40 J -14460351.95 -14460351.93 -14460351.92 0.2664 0.2634 *

Saturn -44304-10-19 17:59 J -14460320.88 -14460320.75 -14460320.61 0.0286 0.0153

Saturn -44303-01-16 12:28 J -14460232.14 -14460231.98 -14460231.82 0.0286 0.0031

Saturn -44303-04-15 06:57 J -14460143.36 -14460143.21 -14460143.05 0.0286 0.0093

Saturn -44303-07-13 02:09 J -14460054.52 -14460054.41 -14460054.30 0.0286 0.0219

Jupiter -44302-05-25 14:38 J -14459738.03 -14459737.89 -14459737.75 0.0537 0.0162

Uranus -44302-08-22 05:30 J -14459649.31 -14459649.27 -14459649.21 0.0132 0.0123

Jupiter -44302-08-23 05:45 J -14459648.28 -14459648.26 -14459648.23 0.0540 0.0528

Uranus -44302-11-18 09:21 J -14459561.19 -14459561.11 -14459561.02 0.0132 0.0104

Uranus -44301-02-14 12:57 J -14459473.06 -14459472.96 -14459472.84 0.0132 0.0085

Uranus -44301-05-12 16:47 J -14459384.92 -14459384.80 -14459384.67 0.0132 0.0066

Mars -44301-08-04 08:23 J -14459301.20 -14459301.15 -14459301.10 0.1602 0.1471

Uranus -44301-08-08 20:38 J -14459296.77 -14459296.64 -14459296.50 0.0132 0.0046

Uranus -44301-11-05 00:14 J -14459208.63 -14459208.49 -14459208.34 0.0132 0.0028

Uranus -44300-02-01 04:04 J -14459120.48 -14459120.33 -14459120.19 0.0132 0.0009

Moon -44300-03-03 05:16 J -14459090.32 -14459090.28 -14459090.23 0.2668 0.2484

Earth -44300-03-03 06:14 J -14459090.29 -14459090.24 -14459090.19 0.2672 0.2468 *

Uranus -44300-04-30 07:40 J -14459032.33 -14459032.18 -14459032.04 0.0132 0.0010

Uranus -44300-07-27 11:16 J -14458944.17 -14458944.03 -14458943.89 0.0132 0.0028

Uranus -44300-10-23 14:52 J -14458856.01 -14458855.88 -14458855.75 0.0132 0.0047

Uranus -44299-01-19 18:28 J -14458767.86 -14458767.73 -14458767.61 0.0132 0.0065

Uranus -44299-04-17 21:50 J -14458679.69 -14458679.59 -14458679.47 0.0132 0.0083

Mars -44299-07-10 22:04 J -14458595.69 -14458595.58 -14458595.47 0.1609 0.0841

Uranus -44299-07-15 01:26 J -14458591.53 -14458591.44 -14458591.35 0.0132 0.0101

Uranus -44299-10-11 05:02 J -14458503.35 -14458503.29 -14458503.23 0.0132 0.0119

Earth -44297-09-11 05:45 J -14457802.39 -14457802.26 -14457802.14 0.2664 0.0123

Moon -44297-09-11 05:45 J -14457802.38 -14457802.26 -14457802.14 0.2671 0.0079 *

Jupiter -44296-01-09 19:26 J -14457681.83 -14457681.69 -14457681.55 0.0491 0.0217

Venus -44296-01-13 23:16 J -14457677.65 -14457677.53 -14457677.41 0.3702 0.1584

Jupiter -44296-04-09 12:28 J -14457592.07 -14457591.98 -14457591.87 0.0489 0.0379

Mars -44294-03-11 11:16 J -14456891.10 -14456891.03 -14456890.95 0.1920 0.1604

Earth -44294-03-14 01:11 J -14456888.55 -14456888.45 -14456888.34 0.2665 0.1803

Moon -44294-03-14 01:54 J -14456888.52 -14456888.42 -14456888.32 0.2672 0.1851 *

Venus -44291-07-31 01:40 J -14455653.50 -14455653.43 -14455653.37 0.3696 0.3233

Jupiter -44290-03-13 16:47 J -14455427.91 -14455427.80 -14455427.69 0.0536 0.0327

Jupiter -44290-06-11 08:23 J -14455338.25 -14455338.15 -14455338.05 0.0539 0.0370

Moon -44290-09-04 19:40 J -14455252.70 -14455252.68 -14455252.66 0.2658 0.2608

Earth -44290-09-04 20:38 J -14455252.68 -14455252.64 -14455252.60 0.2660 0.2504 *

Mars -44290-12-01 06:57 J -14455165.34 -14455165.21 -14455165.08 0.1607 0.0297

Saturn -44289-08-22 12:42 J -14454900.08 -14454899.97 -14454899.85 0.0273 0.0177

Saturn -44289-11-19 02:09 J -14454811.55 -14454811.41 -14454811.26 0.0273 0.0080

Saturn -44288-02-15 15:21 J -14454723.00 -14454722.86 -14454722.71 0.0273 0.0017

Saturn -44288-05-15 04:18 J -14454634.45 -14454634.32 -14454634.18 0.0273 0.0109

Saturn -44288-08-11 17:02 J -14454545.88 -14454545.79 -14454545.69 0.0273 0.0201

Moon -44287-03-06 04:47 J -14454339.41 -14454339.30 -14454339.19 0.2672 0.1549

Earth -44287-03-06 05:59 J -14454339.36 -14454339.25 -14454339.14 0.2670 0.1402 *

Mars -44285-07-31 12:57 J -14453461.09 -14453460.96 -14453460.82 0.1924 0.0441

Jupiter -44285-10-28 20:38 J -14453371.74 -14453371.64 -14453371.53 0.0492 0.0364

Jupiter -44284-01-26 13:26 J -14453282.08 -14453281.94 -14453281.79 0.0490 0.0226

Earth -44284-09-14 01:54 J -14453051.53 -14453051.42 -14453051.30 0.2666 0.0988

Moon -44284-09-14 02:52 J -14453051.49 -14453051.38 -14453051.27 0.2670 0.1052 *

Mars -44280-04-22 15:35 J -14451734.99 -14451734.85 -14451734.72 0.1605 0.0261

Jupiter -44279-12-30 18:28 J -14451117.78 -14451117.73 -14451117.68 0.0535 0.0501

Jupiter -44278-03-30 10:18 J -14451028.20 -14451028.07 -14451027.94 0.0538 0.0201

Moon -44277-09-06 16:33 J -14450501.90 -14450501.81 -14450501.71 0.2663 0.1560

Earth -44277-09-06 17:30 J -14450501.87 -14450501.77 -14450501.67 0.2661 0.1561 *

Venus -44276-08-27 21:50 J -14450146.66 -14450146.59 -14450146.53 0.3672 0.2933

Mars -44276-12-21 14:52 J -14450031.00 -14450030.88 -14450030.75 0.1926 0.0691

Saturn -44274-03-08 17:30 J -14449588.89 -14449588.77 -14449588.65 0.0286 0.0194

Moon -44274-03-09 05:02 J -14449588.42 -14449588.29 -14449588.15 0.2673 0.0290

Earth -44274-03-09 05:59 J -14449588.38 -14449588.25 -14449588.11 0.2669 0.0306 *

Pluto -44274-03-09 18:14 J -14449587.76 -14449587.74 -14449587.67 0.0065 0.0063

Saturn -44274-06-05 11:45 J -14449500.17 -14449500.01 -14449499.86 0.0286 0.0073

Pluto -44274-06-05 19:26 J -14449499.74 -14449499.69 -14449499.59 0.0065 0.0058

Pluto -44274-09-01 20:38 J -14449411.71 -14449411.64 -14449411.52 0.0065 0.0053

Saturn -44274-09-02 06:14 J -14449411.40 -14449411.24 -14449411.08 0.0286 0.0050

Pluto -44274-11-28 22:04 J -14449323.68 -14449323.58 -14449323.46 0.0065 0.0048

Saturn -44274-11-30 00:57 J -14449322.58 -14449322.46 -14449322.32 0.0286 0.0177

Pluto -44273-02-24 23:16 J -14449235.64 -14449235.53 -14449235.39 0.0065 0.0043

Pluto -44273-05-23 00:28 J -14449147.60 -14449147.48 -14449147.33 0.0065 0.0038

Pluto -44273-08-19 01:40 J -14449059.56 -14449059.43 -14449059.27 0.0065 0.0033

Jupiter -44273-11-14 14:52 J -14448972.04 -14448971.88 -14448971.72 0.0491 0.0080

Pluto -44273-11-15 02:52 J -14448971.52 -14448971.38 -14448971.21 0.0065 0.0029

Pluto -44272-02-11 04:04 J -14448883.47 -14448883.33 -14448883.16 0.0065 0.0024

Pluto -44272-05-10 05:30 J -14448795.43 -14448795.27 -14448795.10 0.0066 0.0018

Pluto -44272-08-06 06:57 J -14448707.38 -14448707.21 -14448707.04 0.0066 0.0013

Pluto -44272-11-02 08:09 J -14448619.33 -14448619.16 -14448618.99 0.0066 0.0008

Pluto -44271-01-29 09:21 J -14448531.28 -14448531.11 -14448530.93 0.0066 0.0003

Pluto -44271-04-27 10:47 J -14448443.22 -14448443.05 -14448442.88 0.0066 0.0003

Pluto -44271-07-24 11:59 J -14448355.17 -14448355.00 -14448354.83 0.0066 0.0008

Mars -44271-09-12 23:59 J -14448304.61 -14448304.50 -14448304.38 0.1604 0.0822

Earth -44271-09-16 22:04 J -14448300.66 -14448300.58 -14448300.49 0.2668 0.1845

Moon -44271-09-16 23:02 J -14448300.62 -14448300.54 -14448300.46 0.2667 0.1937 *

Pluto -44271-10-20 13:11 J -14448267.11 -14448266.95 -14448266.78 0.0066 0.0014

Pluto -44270-01-16 14:38 J -14448179.05 -14448178.89 -14448178.72 0.0066 0.0019

Venus -44270-03-13 14:52 J -14448122.98 -14448122.88 -14448122.77 0.3677 0.0510

Pluto -44270-04-14 15:50 J -14448090.99 -14448090.84 -14448090.67 0.0066 0.0024

Pluto -44270-07-11 17:02 J -14448002.93 -14448002.79 -14448002.62 0.0066 0.0030

Pluto -44270-10-07 18:42 J -14447914.87 -14447914.72 -14447914.58 0.0066 0.0035

Pluto -44269-01-03 19:40 J -14447826.80 -14447826.68 -14447826.53 0.0067 0.0041

Pluto -44269-03-31 21:21 J -14447738.73 -14447738.61 -14447738.48 0.0067 0.0046

Pluto -44269-06-27 22:18 J -14447650.66 -14447650.57 -14447650.44 0.0067 0.0052

Mars -44269-08-18 13:11 J -14447599.00 -14447598.95 -14447598.89 0.1611 0.1456

Pluto -44269-09-23 23:30 J -14447562.58 -14447562.52 -14447562.41 0.0067 0.0058

Pluto -44269-12-21 01:11 J -14447474.49 -14447474.45 -14447474.38 0.0067 0.0063

Jupiter -44266-01-16 11:16 J -14446718.18 -14446718.03 -14446717.89 0.0537 0.0016

Mars -44266-05-13 17:16 J -14446600.83 -14446600.78 -14446600.73 0.1929 0.1791

Venus -44265-09-26 08:09 J -14446099.25 -14446099.16 -14446099.07 0.3682 0.1922

Moon -44264-09-09 13:54 J -14445751.03 -14445750.92 -14445750.80 0.2669 0.0743

Earth -44264-09-09 14:23 J -14445751.02 -14445750.90 -14445750.78 0.2663 0.0638 *

Mars -44261-02-03 08:38 J -14444874.21 -14444874.14 -14444874.08 0.1602 0.1389

Earth -44261-03-11 06:14 J -14444837.37 -14444837.24 -14444837.11 0.2667 0.0836

Moon -44261-03-11 06:28 J -14444837.36 -14444837.23 -14444837.10 0.2674 0.0770 *

Jupiter -44261-09-02 16:33 J -14444661.97 -14444661.81 -14444661.66 0.0491 0.0065

Mars -44259-01-08 22:18 J -14444168.68 -14444168.57 -14444168.47 0.1609 0.0922

Saturn -44259-01-09 15:35 J -14444167.95 -14444167.85 -14444167.74 0.0273 0.0198

Saturn -44259-04-08 05:16 J -14444079.42 -14444079.28 -14444079.15 0.0273 0.0100

Uranus -44259-05-12 05:16 J -14444045.34 -14444045.28 -14444045.20 0.0147 0.0132

Saturn -44259-07-05 18:28 J -14443990.88 -14443990.73 -14443990.58 0.0273 0.0005

Uranus -44259-08-08 11:59 J -14443957.12 -14443957.00 -14443956.88 0.0147 0.0102

Saturn -44259-10-02 07:26 J -14443902.32 -14443902.19 -14443902.05 0.0273 0.0089

Uranus -44259-11-04 18:14 J -14443868.87 -14443868.74 -14443868.58 0.0147 0.0073

Saturn -44259-12-29 20:09 J -14443813.76 -14443813.66 -14443813.55 0.0274 0.0182

Uranus -44258-02-01 00:57 J -14443780.61 -14443780.46 -14443780.29 0.0147 0.0043

Saturn -44258-03-28 08:38 J -14443725.14 -14443725.14 -14443725.12 0.0274 0.0273

Uranus -44258-04-30 07:40 J -14443692.34 -14443692.18 -14443692.00 0.0147 0.0013

Uranus -44258-07-27 14:38 J -14443604.06 -14443603.89 -14443603.72 0.0147 0.0018

Moon -44258-09-19 18:42 J -14443549.73 -14443549.72 -14443549.71 0.2664 0.2649

Uranus -44258-10-23 21:06 J -14443515.77 -14443515.62 -14443515.45 0.0147 0.0049

Uranus -44257-01-20 04:04 J -14443427.47 -14443427.33 -14443427.18 0.0147 0.0080

Uranus -44257-04-17 10:47 J -14443339.15 -14443339.05 -14443338.93 0.0147 0.0111

Uranus -44257-07-14 17:59 J -14443250.79 -14443250.75 -14443250.71 0.0147 0.0142

Mars -44255-09-09 11:30 J -14442464.08 -14442464.02 -14442463.95 0.1921 0.1710

Jupiter -44255-11-04 12:42 J -14442408.10 -14442407.97 -14442407.83 0.0536 0.0163

Jupiter -44254-02-02 03:50 J -14442318.36 -14442318.34 -14442318.31 0.0539 0.0527

Moon -44254-03-04 11:02 J -14442288.10 -14442288.04 -14442287.98 0.2668 0.2361

Earth -44254-03-04 11:59 J -14442288.07 -14442288.00 -14442287.94 0.2672 0.2280 *

Earth -44251-09-12 10:47 J -14441000.17 -14441000.05 -14440999.92 0.2665 0.0280

Moon -44251-09-12 11:16 J -14441000.15 -14441000.03 -14440999.91 0.2671 0.0344 *

Mars -44250-06-01 06:57 J -14440738.34 -14440738.21 -14440738.07 0.1607 0.0380

Jupiter -44249-06-21 17:45 J -14440351.90 -14440351.76 -14440351.61 0.0492 0.0209

Jupiter -44249-09-19 11:02 J -14440262.13 -14440262.04 -14440261.94 0.0489 0.0388

Earth -44248-03-14 07:11 J -14440086.29 -14440086.20 -14440086.11 0.2665 0.2007

Moon -44248-03-14 07:54 J -14440086.26 -14440086.17 -14440086.09 0.2670 0.2092 *

Mars -44245-01-30 13:26 J -14439034.08 -14439033.94 -14439033.81 0.1923 0.0562

Saturn -44245-07-25 17:45 J -14438856.85 -14438856.76 -14438856.66 0.0286 0.0228

Saturn -44245-10-22 11:45 J -14438768.15 -14438768.01 -14438767.85 0.0286 0.0109

Saturn -44244-01-19 06:14 J -14438679.40 -14438679.24 -14438679.07 0.0286 0.0015

Saturn -44244-04-18 00:57 J -14438590.60 -14438590.46 -14438590.31 0.0286 0.0139

Saturn -44244-07-15 20:09 J -14438501.72 -14438501.66 -14438501.60 0.0285 0.0265

Moon -44244-09-05 00:57 J -14438450.52 -14438450.46 -14438450.41 0.2658 0.2382

Earth -44244-09-05 01:54 J -14438450.48 -14438450.42 -14438450.37 0.2660 0.2338 *

Jupiter -44243-08-23 14:38 J -14438098.00 -14438097.89 -14438097.77 0.0536 0.0331

Jupiter -44243-11-21 06:14 J -14438008.34 -14438008.24 -14438008.13 0.0539 0.0366

Moon -44241-03-06 10:18 J -14437537.18 -14437537.07 -14437536.95 0.2673 0.1244

Earth -44241-03-06 11:30 J -14437537.14 -14437537.02 -14437536.90 0.2670 0.1217 *

Mars -44241-10-21 15:50 J -14437307.98 -14437307.84 -14437307.71 0.1605 0.0175

Venus -44240-08-20 23:30 J -14437004.66 -14437004.52 -14437004.39 0.3700 0.0127

Earth -44238-09-15 07:11 J -14436249.31 -14436249.20 -14436249.09 0.2666 0.1140

Moon -44238-09-15 07:54 J -14436249.28 -14436249.17 -14436249.06 0.2670 0.1179 *

Jupiter -44237-04-09 19:40 J -14436041.79 -14436041.68 -14436041.57 0.0492 0.0350

Jupiter -44237-07-08 12:28 J -14435952.12 -14435951.98 -14435951.84 0.0490 0.0240

Mars -44236-06-21 15:06 J -14435604.00 -14435603.87 -14435603.74 0.1926 0.0582

Neptune -44232-10-21 20:23 J -14434020.65 -14434020.65 -14434020.65 0.0089 0.0089

Neptune -44231-01-17 22:18 J -14433932.62 -14433932.57 -14433932.50 0.0089 0.0082

Mars -44231-03-14 00:14 J -14433877.61 -14433877.49 -14433877.37 0.1604 0.0738

Neptune -44231-04-16 00:28 J -14433844.55 -14433844.48 -14433844.38 0.0089 0.0075

Jupiter -44231-06-11 16:47 J -14433787.85 -14433787.80 -14433787.75 0.0536 0.0498

Neptune -44231-07-13 02:38 J -14433756.48 -14433756.39 -14433756.27 0.0089 0.0068

Moon -44231-09-07 22:04 J -14433699.68 -14433699.58 -14433699.48 0.2665 0.1507

Earth -44231-09-07 22:47 J -14433699.65 -14433699.55 -14433699.44 0.2662 0.1393 *

Jupiter -44231-09-09 08:38 J -14433698.27 -14433698.14 -14433698.00 0.0538 0.0206

Neptune -44231-10-09 05:02 J -14433668.40 -14433668.29 -14433668.17 0.0089 0.0061

Neptune -44230-01-05 07:11 J -14433580.32 -14433580.20 -14433580.06 0.0089 0.0054

Neptune -44230-04-03 09:21 J -14433492.23 -14433492.11 -14433491.96 0.0089 0.0047

Saturn -44230-05-29 16:04 J -14433435.90 -14433435.83 -14433435.76 0.0273 0.0235

Neptune -44230-06-30 11:59 J -14433404.14 -14433404.00 -14433403.86 0.0089 0.0039

Saturn -44230-08-26 05:30 J -14433347.39 -14433347.27 -14433347.14 0.0273 0.0138

Neptune -44230-09-26 14:09 J -14433316.06 -14433315.91 -14433315.76 0.0089 0.0032

Saturn -44230-11-22 18:57 J -14433258.85 -14433258.71 -14433258.56 0.0273 0.0041

Neptune -44230-12-23 16:18 J -14433227.97 -14433227.82 -14433227.66 0.0089 0.0025

Mars -44229-02-17 13:26 J -14433171.98 -14433171.94 -14433171.90 0.1611 0.1538

Saturn -44229-02-19 08:09 J -14433170.30 -14433170.16 -14433170.02 0.0273 0.0054

Neptune -44229-03-20 18:42 J -14433139.87 -14433139.72 -14433139.56 0.0089 0.0018

Saturn -44229-05-17 20:52 J -14433081.75 -14433081.63 -14433081.51 0.0273 0.0147

Neptune -44229-06-16 21:06 J -14433051.78 -14433051.62 -14433051.46 0.0089 0.0010

Saturn -44229-08-14 09:35 J -14432993.17 -14432993.10 -14432993.03 0.0273 0.0238

Neptune -44229-09-12 23:30 J -14432963.68 -14432963.52 -14432963.36 0.0089 0.0003

Neptune -44229-12-10 01:54 J -14432875.59 -14432875.42 -14432875.26 0.0089 0.0005

Neptune -44228-03-08 04:04 J -14432787.49 -14432787.33 -14432787.16 0.0089 0.0012

Moon -44228-03-09 11:02 J -14432786.18 -14432786.04 -14432785.91 0.2673 0.0240

Earth -44228-03-09 11:45 J -14432786.15 -14432786.01 -14432785.88 0.2668 0.0130 *

Neptune -44228-06-04 06:14 J -14432699.39 -14432699.24 -14432699.07 0.0089 0.0020

Neptune -44228-08-31 08:52 J -14432611.28 -14432611.13 -14432610.97 0.0089 0.0027

Neptune -44228-11-27 11:16 J -14432523.18 -14432523.03 -14432522.88 0.0089 0.0034

Neptune -44227-02-23 13:26 J -14432435.07 -14432434.94 -14432434.78 0.0089 0.0042

Neptune -44227-05-22 16:04 J -14432346.97 -14432346.83 -14432346.69 0.0089 0.0049

Neptune -44227-08-18 18:14 J -14432258.85 -14432258.74 -14432258.60 0.0089 0.0057

Mars -44227-11-11 17:30 J -14432173.83 -14432173.77 -14432173.71 0.1928 0.1681

Neptune -44227-11-14 20:38 J -14432170.74 -14432170.64 -14432170.51 0.0089 0.0065

Neptune -44226-02-10 23:16 J -14432082.62 -14432082.53 -14432082.43 0.0089 0.0072

Neptune -44226-05-10 01:26 J -14431994.49 -14431994.44 -14431994.35 0.0089 0.0080

Neptune -44226-08-06 04:18 J -14431906.35 -14431906.32 -14431906.29 0.0089 0.0087

Jupiter -44225-04-26 13:26 J -14431642.10 -14431641.94 -14431641.78 0.0490 0.0088

Earth -44225-09-17 03:21 J -14431498.44 -14431498.36 -14431498.28 0.2668 0.1994

Moon -44225-09-17 04:04 J -14431498.40 -14431498.33 -14431498.25 0.2665 0.2040 *

Mars -44222-08-04 08:38 J -14430447.21 -14430447.14 -14430447.06 0.1602 0.1307

Mars -44220-07-09 22:18 J -14429741.67 -14429741.57 -14429741.46 0.1609 0.1001

Venus -44219-04-03 19:40 J -14429473.77 -14429473.68 -14429473.59 0.3673 0.1998

Jupiter -44219-06-28 10:47 J -14429388.20 -14429388.05 -14429387.91 0.0537 0.0039

Moon -44218-09-10 19:11 J -14428948.82 -14428948.70 -14428948.58 0.2670 0.0431

Earth -44218-09-10 19:40 J -14428948.80 -14428948.68 -14428948.56 0.2663 0.0481 *

Uranus -44218-09-11 13:26 J -14428948.00 -14428947.94 -14428947.86 0.0132 0.0114

Uranus -44218-12-08 17:16 J -14428859.87 -14428859.78 -14428859.67 0.0132 0.0095

Uranus -44217-03-05 21:06 J -14428771.74 -14428771.62 -14428771.50 0.0132 0.0076

Uranus -44217-06-02 00:42 J -14428683.59 -14428683.47 -14428683.33 0.0132 0.0057

Uranus -44217-08-29 04:33 J -14428595.45 -14428595.31 -14428595.17 0.0132 0.0038

Uranus -44217-11-25 08:23 J -14428507.30 -14428507.15 -14428507.01 0.0132 0.0019

Uranus -44216-02-21 11:59 J -14428419.15 -14428419.00 -14428418.85 0.0132 0.0000

Uranus -44216-05-20 15:35 J -14428330.99 -14428330.85 -14428330.70 0.0132 0.0019

Uranus -44216-08-16 19:11 J -14428242.84 -14428242.70 -14428242.56 0.0132 0.0037

Uranus -44216-11-12 22:33 J -14428154.68 -14428154.56 -14428154.42 0.0132 0.0056

Saturn -44216-12-12 17:02 J -14428124.83 -14428124.79 -14428124.73 0.0286 0.0269

Uranus -44215-02-09 02:09 J -14428066.52 -14428066.41 -14428066.28 0.0132 0.0074

Mars -44215-03-10 11:59 J -14428037.04 -14428037.00 -14428036.96 0.1920 0.1826

Saturn -44215-03-11 11:02 J -14428036.17 -14428036.04 -14428035.90 0.0286 0.0150

Earth -44215-03-12 12:14 J -14428035.12 -14428034.99 -14428034.87 0.2667 0.1038

Moon -44215-03-12 12:14 J -14428035.11 -14428034.99 -14428034.87 0.2674 0.1132 *

Uranus -44215-05-08 05:45 J -14427978.36 -14427978.26 -14427978.15 0.0132 0.0092

Saturn -44215-06-08 05:16 J -14427947.44 -14427947.28 -14427947.11 0.0286 0.0029

Uranus -44215-08-04 09:06 J -14427890.19 -14427890.12 -14427890.03 0.0132 0.0110

Saturn -44215-09-04 23:59 J -14427858.66 -14427858.50 -14427858.34 0.0286 0.0095

Uranus -44215-10-31 12:42 J -14427802.00 -14427801.97 -14427801.93 0.0132 0.0128

Saturn -44215-12-02 18:57 J -14427769.81 -14427769.71 -14427769.60 0.0286 0.0222

Venus -44214-10-18 12:42 J -14427450.07 -14427449.97 -14427449.86 0.3678 0.0462

Jupiter -44213-02-13 14:52 J -14427332.04 -14427331.88 -14427331.72 0.0491 0.0057

Mars -44211-11-30 07:11 J -14426311.33 -14426311.20 -14426311.07 0.1607 0.0456

Moon -44208-03-04 16:33 J -14425485.89 -14425485.81 -14425485.74 0.2670 0.2169

Earth -44208-03-04 17:30 J -14425485.85 -14425485.77 -14425485.69 0.2672 0.2090 *

Venus -44208-05-03 05:59 J -14425426.32 -14425426.25 -14425426.19 0.3683 0.2827

Jupiter -44207-04-16 11:30 J -14425078.16 -14425078.02 -14425077.88 0.0536 0.0153

Jupiter -44207-07-15 02:38 J -14424988.41 -14424988.39 -14424988.38 0.0539 0.0534

Mars -44206-07-31 13:26 J -14424607.07 -14424606.94 -14424606.81 0.1923 0.0655

Earth -44205-09-12 16:04 J -14424197.95 -14424197.83 -14424197.71 0.2665 0.0422

Moon -44205-09-12 16:33 J -14424197.93 -14424197.81 -14424197.69 0.2670 0.0389 *

Earth -44202-03-15 12:57 J -14423284.04 -14423283.96 -14423283.89 0.2665 0.2211

Moon -44202-03-15 13:54 J -14423284.00 -14423283.92 -14423283.85 0.2669 0.2226 *

Jupiter -44202-12-02 16:18 J -14423021.96 -14423021.82 -14423021.67 0.0492 0.0201

Jupiter -44201-03-01 09:35 J -14422932.19 -14422932.10 -14422932.00 0.0490 0.0396

Mars -44201-04-21 15:50 J -14422880.97 -14422880.84 -14422880.70 0.1605 0.0110

Saturn -44201-10-15 18:42 J -14422703.76 -14422703.72 -14422703.66 0.0273 0.0256

Saturn -44200-01-12 08:23 J -14422615.26 -14422615.15 -14422615.02 0.0273 0.0158

Saturn -44200-04-10 22:04 J -14422526.73 -14422526.58 -14422526.44 0.0273 0.0062

Saturn -44200-07-08 11:16 J -14422438.18 -14422438.03 -14422437.89 0.0274 0.0035

Saturn -44200-10-04 23:59 J -14422349.62 -14422349.50 -14422349.37 0.0274 0.0128

Saturn -44199-01-01 12:42 J -14422261.05 -14422260.97 -14422260.88 0.0274 0.0220

Moon -44198-09-06 06:14 J -14421648.31 -14421648.24 -14421648.18 0.2659 0.2248

Earth -44198-09-06 07:11 J -14421648.27 -14421648.20 -14421648.13 0.2660 0.2168 *

Mars -44197-12-20 15:35 J -14421176.99 -14421176.85 -14421176.72 0.1926 0.0470

Jupiter -44195-02-02 12:57 J -14420768.07 -14420767.96 -14420767.85 0.0536 0.0331

Moon -44195-03-07 16:04 J -14420734.95 -14420734.83 -14420734.71 0.2672 0.1146

Earth -44195-03-07 17:16 J -14420734.90 -14420734.78 -14420734.65 0.2670 0.1019 *

Jupiter -44195-05-03 04:18 J -14420678.42 -14420678.32 -14420678.21 0.0538 0.0365

Mars -44192-09-12 00:28 J -14419450.60 -14419450.48 -14419450.35 0.1604 0.0654

Earth -44192-09-15 12:28 J -14419447.09 -14419446.98 -14419446.88 0.2666 0.1297

Moon -44192-09-15 13:11 J -14419447.05 -14419446.95 -14419446.85 0.2670 0.1389 *

Jupiter -44190-09-20 17:59 J -14418711.86 -14418711.75 -14418711.64 0.0492 0.0345

Jupiter -44190-12-19 10:47 J -14418622.19 -14418622.05 -14418621.91 0.0490 0.0246

Venus -44189-09-10 21:35 J -14418355.68 -14418355.60 -14418355.52 0.3705 0.2949

Mars -44187-05-12 17:45 J -14417746.83 -14417746.76 -14417746.68 0.1928 0.1566

Pluto -44186-01-02 07:26 J -14417512.22 -14417512.19 -14417512.14 0.0080 0.0076

Pluto -44186-03-31 08:52 J -14417424.19 -14417424.13 -14417424.04 0.0080 0.0068

Pluto -44186-06-27 10:47 J -14417336.15 -14417336.05 -14417335.95 0.0080 0.0059

Saturn -44186-07-29 12:14 J -14417304.11 -14417303.99 -14417303.86 0.0286 0.0180

Pluto -44186-09-23 12:14 J -14417248.10 -14417247.99 -14417247.87 0.0080 0.0051

Saturn -44186-10-26 06:14 J -14417215.39 -14417215.24 -14417215.07 0.0286 0.0061

Pluto -44186-12-20 13:40 J -14417160.05 -14417159.93 -14417159.80 0.0080 0.0043

Saturn -44185-01-23 00:42 J -14417126.62 -14417126.47 -14417126.30 0.0286 0.0064

Pluto -44185-03-17 15:21 J -14417071.99 -14417071.86 -14417071.72 0.0079 0.0034

Saturn -44185-04-20 19:40 J -14417037.80 -14417037.68 -14417037.55 0.0285 0.0189

Pluto -44185-06-13 16:47 J -14416983.93 -14416983.80 -14416983.66 0.0079 0.0026

Moon -44185-09-08 03:21 J -14416897.47 -14416897.36 -14416897.25 0.2667 0.1249

Earth -44185-09-08 04:04 J -14416897.44 -14416897.33 -14416897.22 0.2662 0.1231 *

Pluto -44185-09-09 18:14 J -14416895.88 -14416895.74 -14416895.59 0.0079 0.0019

Pluto -44185-12-06 19:54 J -14416807.82 -14416807.67 -14416807.52 0.0079 0.0010

Pluto -44184-03-04 21:21 J -14416719.76 -14416719.61 -14416719.46 0.0079 0.0002

Pluto -44184-05-31 22:47 J -14416631.70 -14416631.55 -14416631.40 0.0079 0.0005

Pluto -44184-08-28 00:14 J -14416543.63 -14416543.49 -14416543.34 0.0079 0.0013

Jupiter -44184-11-21 14:23 J -14416457.94 -14416457.90 -14416457.85 0.0535 0.0504

Pluto -44184-11-24 01:40 J -14416455.57 -14416455.43 -14416455.29 0.0078 0.0021

Jupiter -44183-02-19 06:28 J -14416368.36 -14416368.23 -14416368.09 0.0538 0.0199

Pluto -44183-02-20 02:52 J -14416367.51 -14416367.38 -14416367.23 0.0078 0.0029

Venus -44183-03-27 23:45 J -14416331.63 -14416331.51 -14416331.39 0.3699 0.1776

Pluto -44183-05-19 04:18 J -14416279.44 -14416279.32 -14416279.18 0.0078 0.0036

Pluto -44183-08-15 05:45 J -14416191.38 -14416191.26 -14416191.13 0.0078 0.0043

Pluto -44183-11-11 06:57 J -14416103.31 -14416103.21 -14416103.09 0.0078 0.0051

Mars -44182-02-02 09:06 J -14416020.21 -14416020.12 -14416020.04 0.1602 0.1217

Pluto -44182-02-07 08:23 J -14416015.24 -14416015.15 -14416015.04 0.0078 0.0058

Moon -44182-03-10 16:47 J -14415983.93 -14415983.80 -14415983.66 0.2674 0.0149

Earth -44182-03-10 17:16 J -14415983.91 -14415983.78 -14415983.64 0.2668 0.0113 *

Pluto -44182-05-06 09:35 J -14415927.16 -14415927.10 -14415927.01 0.0078 0.0066

Pluto -44182-08-02 11:02 J -14415839.08 -14415839.04 -14415838.98 0.0078 0.0073

Mars -44180-01-07 22:33 J -14415314.66 -14415314.56 -14415314.46 0.1609 0.1081

Earth -44179-09-18 08:23 J -14414696.22 -14414696.15 -14414696.08 0.2668 0.2146

Moon -44179-09-18 09:21 J -14414696.18 -14414696.11 -14414696.05 0.2665 0.2191 *

Jupiter -44178-07-09 19:40 J -14414401.70 -14414401.68 -14414401.65 0.0493 0.0485

Jupiter -44178-10-07 12:14 J -14414312.15 -14414311.99 -14414311.83 0.0490 0.0100

Uranus -44175-06-01 13:26 J -14413344.02 -14413343.94 -14413343.83 0.0147 0.0120

Uranus -44175-08-28 20:09 J -14413255.78 -14413255.66 -14413255.52 0.0147 0.0090

Uranus -44175-11-25 02:38 J -14413167.53 -14413167.39 -14413167.23 0.0147 0.0061

Uranus -44174-02-21 09:21 J -14413079.27 -14413079.11 -14413078.94 0.0147 0.0031

Uranus -44174-05-20 16:04 J -14412991.00 -14412990.83 -14412990.66 0.0147 0.0002

Uranus -44174-08-16 22:47 J -14412902.71 -14412902.55 -14412902.38 0.0147 0.0030

Uranus -44174-11-13 05:30 J -14412814.42 -14412814.27 -14412814.11 0.0147 0.0061

Uranus -44173-02-09 12:28 J -14412726.11 -14412725.98 -14412725.85 0.0147 0.0092

Uranus -44173-05-07 19:26 J -14412637.78 -14412637.69 -14412637.60 0.0147 0.0123

Moon -44172-09-11 00:28 J -14412146.60 -14412146.48 -14412146.35 0.2670 0.0406

Earth -44172-09-11 00:42 J -14412146.59 -14412146.47 -14412146.34 0.2663 0.0322 *

Jupiter -44172-12-08 08:52 J -14412058.27 -14412058.13 -14412057.99 0.0538 0.0035

Mars -44171-05-31 07:26 J -14411884.32 -14411884.19 -14411884.06 0.1607 0.0539

Saturn -44171-06-01 09:06 J -14411883.22 -14411883.12 -14411883.01 0.0273 0.0193

Saturn -44171-08-28 22:33 J -14411794.69 -14411794.56 -14411794.42 0.0273 0.0097

Saturn -44171-11-25 11:59 J -14411706.15 -14411706.00 -14411705.86 0.0273 0.0004

Saturn -44170-02-22 00:57 J -14411617.59 -14411617.46 -14411617.32 0.0273 0.0094

Saturn -44170-05-21 13:40 J -14411529.03 -14411528.93 -14411528.82 0.0273 0.0186

Earth -44169-03-12 17:45 J -14411232.88 -14411232.76 -14411232.64 0.2666 0.1234

Moon -44169-03-12 17:59 J -14411232.87 -14411232.75 -14411232.63 0.2673 0.1168 *

Venus -44168-04-25 00:14 J -14410824.51 -14410824.49 -14410824.46 0.3670 0.3532

Mars -44166-01-29 13:40 J -14410180.06 -14410179.93 -14410179.80 0.1923 0.0767

Jupiter -44166-07-26 13:11 J -14410002.11 -14410001.95 -14410001.79 0.0491 0.0051

Venus -44163-11-08 17:30 J -14408800.87 -14408800.77 -14408800.66 0.3675 0.1071

Moon -44162-03-05 22:04 J -14408683.67 -14408683.58 -14408683.49 0.2671 0.1939

Earth -44162-03-05 23:02 J -14408683.63 -14408683.54 -14408683.44 0.2671 0.1908 *

Mars -44162-10-21 16:04 J -14408453.96 -14408453.83 -14408453.69 0.1605 0.0023

Jupiter -44160-09-26 10:47 J -14407748.19 -14407748.05 -14407747.91 0.0537 0.0136

Earth -44159-09-13 21:21 J -14407395.73 -14407395.61 -14407395.49 0.2665 0.0583

Moon -44159-09-13 21:50 J -14407395.71 -14407395.59 -14407395.48 0.2671 0.0694 *

Venus -44157-05-24 10:47 J -14406777.16 -14406777.05 -14406776.95 0.3680 0.1358

Mars -44157-06-20 15:35 J -14406749.98 -14406749.85 -14406749.71 0.1926 0.0365

Saturn -44157-12-15 11:16 J -14406572.12 -14406572.03 -14406571.92 0.0286 0.0222

Saturn -44156-03-14 05:30 J -14406483.42 -14406483.27 -14406483.12 0.0286 0.0102

Earth -44156-03-15 18:42 J -14406481.78 -14406481.72 -14406481.66 0.2665 0.2419

Moon -44156-03-15 19:54 J -14406481.70 -14406481.67 -14406481.64 0.2668 0.2583 *

Saturn -44156-06-10 23:45 J -14406394.67 -14406394.51 -14406394.34 0.0286 0.0022

Saturn -44156-09-07 18:28 J -14406305.87 -14406305.73 -14406305.58 0.0286 0.0146

Saturn -44156-12-05 13:40 J -14406216.97 -14406216.93 -14406216.88 0.0285 0.0272

Jupiter -44154-05-14 14:52 J -14405692.03 -14405691.88 -14405691.74 0.0492 0.0196

Jupiter -44154-08-12 07:54 J -14405602.26 -14405602.17 -14405602.08 0.0490 0.0401

Mars -44152-03-13 00:42 J -14405023.60 -14405023.47 -14405023.34 0.1604 0.0570

Moon -44152-09-06 11:30 J -14404846.10 -14404846.02 -14404845.95 0.2660 0.2083

Earth -44152-09-06 12:28 J -14404846.06 -14404845.98 -14404845.90 0.2661 0.2002 *

Moon -44149-03-07 21:50 J -14403932.71 -14403932.59 -14403932.46 0.2672 0.0876

Earth -44149-03-07 23:02 J -14403932.67 -14403932.54 -14403932.41 0.2670 0.0826 *

Neptune -44149-10-22 10:18 J -14403704.07 -14403704.07 -14403704.03 0.0088 0.0088

Neptune -44148-01-18 12:28 J -14403616.03 -14403615.98 -14403615.90 0.0088 0.0080

Neptune -44148-04-16 14:23 J -14403527.97 -14403527.90 -14403527.79 0.0088 0.0074

Neptune -44148-07-13 16:33 J -14403439.90 -14403439.81 -14403439.69 0.0088 0.0067

Jupiter -44148-07-15 11:30 J -14403438.14 -14403438.02 -14403437.91 0.0535 0.0323

Neptune -44148-10-09 18:57 J -14403351.82 -14403351.71 -14403351.59 0.0088 0.0059

Jupiter -44148-10-13 03:06 J -14403348.47 -14403348.37 -14403348.27 0.0538 0.0371

Mars -44148-11-10 17:45 J -14403319.84 -14403319.76 -14403319.67 0.1928 0.1475

Neptune -44147-01-05 21:06 J -14403263.75 -14403263.62 -14403263.50 0.0088 0.0052

Neptune -44147-04-03 23:02 J -14403175.67 -14403175.54 -14403175.40 0.0088 0.0045

Neptune -44147-07-01 01:11 J -14403087.59 -14403087.45 -14403087.31 0.0088 0.0038

Neptune -44147-09-27 03:06 J -14402999.51 -14402999.37 -14402999.22 0.0088 0.0031

Neptune -44147-12-24 05:16 J -14402911.43 -14402911.28 -14402911.13 0.0088 0.0024

Neptune -44146-03-22 07:11 J -14402823.35 -14402823.20 -14402823.05 0.0088 0.0017

Neptune -44146-06-18 09:06 J -14402735.27 -14402735.12 -14402734.96 0.0088 0.0010

Neptune -44146-09-14 11:16 J -14402647.19 -14402647.03 -14402646.88 0.0088 0.0003

Earth -44146-09-16 17:30 J -14402644.87 -14402644.77 -14402644.67 0.2667 0.1448

Moon -44146-09-16 18:28 J -14402644.83 -14402644.73 -14402644.63 0.2668 0.1454 *

Neptune -44146-12-11 13:11 J -14402559.10 -14402558.95 -14402558.80 0.0088 0.0004

Neptune -44145-03-08 15:06 J -14402471.02 -14402470.87 -14402470.71 0.0088 0.0011

Neptune -44145-06-04 17:02 J -14402382.93 -14402382.79 -14402382.64 0.0088 0.0018

Neptune -44145-08-31 18:57 J -14402294.85 -14402294.71 -14402294.56 0.0088 0.0024

Neptune -44145-11-27 20:52 J -14402206.77 -14402206.63 -14402206.48 0.0088 0.0031

Neptune -44144-02-23 22:47 J -14402118.68 -14402118.55 -14402118.41 0.0088 0.0038

Neptune -44144-05-23 00:42 J -14402030.59 -14402030.47 -14402030.33 0.0088 0.0045

Neptune -44144-08-19 02:23 J -14401942.51 -14401942.40 -14401942.26 0.0088 0.0052

Neptune -44144-11-15 04:33 J -14401854.42 -14401854.31 -14401854.19 0.0088 0.0058

Neptune -44143-02-11 06:14 J -14401766.33 -14401766.24 -14401766.12 0.0088 0.0065

Neptune -44143-05-10 08:09 J -14401678.23 -14401678.16 -14401678.06 0.0089 0.0071

Mars -44143-08-03 09:06 J -14401593.21 -14401593.12 -14401593.02 0.1603 0.1136

Neptune -44143-08-06 10:04 J -14401590.14 -14401590.08 -14401590.00 0.0089 0.0078

Neptune -44143-11-02 11:45 J -14401502.03 -14401502.01 -14401501.95 0.0089 0.0085

Jupiter -44142-03-02 16:04 J -14401381.94 -14401381.83 -14401381.71 0.0493 0.0341

Jupiter -44142-05-31 09:06 J -14401292.26 -14401292.12 -14401291.98 0.0491 0.0252

Saturn -44142-10-19 11:59 J -14401151.09 -14401151.00 -14401150.91 0.0273 0.0215

Saturn -44141-01-16 01:40 J -14401062.56 -14401062.43 -14401062.30 0.0274 0.0117

Saturn -44141-04-13 15:06 J -14400974.02 -14400973.87 -14400973.73 0.0274 0.0022

Mars -44141-07-08 22:47 J -14400887.64 -14400887.55 -14400887.46 0.1609 0.1160

Saturn -44141-07-11 04:04 J -14400885.47 -14400885.33 -14400885.19 0.0274 0.0075

Saturn -44141-10-07 17:02 J -14400796.90 -14400796.79 -14400796.68 0.0274 0.0168

Saturn -44140-01-04 05:30 J -14400708.31 -14400708.27 -14400708.22 0.0274 0.0260

Moon -44139-09-09 08:38 J -14400095.25 -14400095.14 -14400095.03 0.2667 0.1144

Earth -44139-09-09 09:21 J -14400095.22 -14400095.11 -14400095.00 0.2662 0.1064 *

Moon -44136-03-10 22:47 J -14399181.68 -14399181.55 -14399181.42 0.2675 0.0212

Earth -44136-03-10 23:02 J -14399181.67 -14399181.54 -14399181.40 0.2668 0.0301 *

Jupiter -44136-05-03 12:42 J -14399128.02 -14399127.97 -14399127.92 0.0535 0.0503

Jupiter -44136-08-01 04:33 J -14399038.44 -14399038.31 -14399038.17 0.0537 0.0198

Uranus -44134-07-05 17:45 J -14398334.80 -14398334.76 -14398334.71 0.0132 0.0124

Uranus -44134-10-01 21:35 J -14398246.69 -14398246.60 -14398246.51 0.0132 0.0105

Uranus -44134-12-29 01:11 J -14398158.55 -14398158.45 -14398158.33 0.0132 0.0086

Uranus -44133-03-26 05:02 J -14398070.41 -14398070.29 -14398070.16 0.0132 0.0067

Uranus -44133-06-22 08:52 J -14397982.27 -14397982.13 -14397981.99 0.0132 0.0048

Uranus -44133-09-18 12:28 J -14397894.12 -14397893.98 -14397893.83 0.0132 0.0029

Earth -44133-09-18 13:40 J -14397893.99 -14397893.93 -14397893.87 0.2668 0.2295 *

Moon -44133-09-18 14:23 J -14397893.95 -14397893.90 -14397893.85 0.2665 0.2368 *

Uranus -44133-12-15 16:18 J -14397805.97 -14397805.82 -14397805.68 0.0132 0.0010

Uranus -44132-03-13 19:54 J -14397717.82 -14397717.67 -14397717.53 0.0132 0.0009

Venus -44132-04-17 21:50 J -14397682.72 -14397682.59 -14397682.47 0.3703 0.1309

Uranus -44132-06-09 23:30 J -14397629.66 -14397629.52 -14397629.38 0.0132 0.0027

Uranus -44132-09-06 03:06 J -14397541.51 -14397541.37 -14397541.23 0.0132 0.0046

Mars -44132-11-29 07:40 J -14397457.31 -14397457.18 -14397457.06 0.1607 0.0619

Uranus -44132-12-03 06:42 J -14397453.35 -14397453.22 -14397453.10 0.0132 0.0064

Uranus -44131-03-01 10:18 J -14397365.19 -14397365.07 -14397364.96 0.0132 0.0082

Uranus -44131-05-28 13:40 J -14397277.02 -14397276.93 -14397276.84 0.0132 0.0100

Uranus -44131-08-24 17:16 J -14397188.84 -14397188.78 -14397188.72 0.0132 0.0118

Jupiter -44131-12-19 17:45 J -14397071.78 -14397071.76 -14397071.73 0.0493 0.0483

Jupiter -44130-03-19 10:18 J -14396982.23 -14396982.07 -14396981.92 0.0491 0.0103

Saturn -44127-05-04 13:26 J -14395840.02 -14395839.94 -14395839.86 0.0286 0.0247

Mars -44127-07-30 14:09 J -14395753.04 -14395752.91 -14395752.79 0.1923 0.0890

Saturn -44127-08-01 07:11 J -14395751.34 -14395751.20 -14395751.05 0.0286 0.0129

Saturn -44127-10-29 01:26 J -14395662.60 -14395662.44 -14395662.28 0.0286 0.0007

Venus -44127-11-01 23:59 J -14395658.54 -14395658.50 -14395658.46 0.3697 0.3503

Saturn -44126-01-25 19:54 J -14395573.81 -14395573.67 -14395573.51 0.0285 0.0117

Saturn -44126-04-24 14:52 J -14395484.96 -14395484.88 -14395484.79 0.0285 0.0243

Moon -44126-09-12 05:59 J -14395344.37 -14395344.25 -14395344.13 0.2670 0.0108

Earth -44126-09-12 05:59 J -14395344.37 -14395344.25 -14395344.13 0.2664 0.0154 *

Jupiter -44124-05-20 06:28 J -14394728.37 -14394728.23 -14394728.08 0.0537 0.0029

Earth -44123-03-13 23:30 J -14394430.63 -14394430.52 -14394430.40 0.2666 0.1440

Moon -44123-03-13 23:59 J -14394430.61 -14394430.50 -14394430.39 0.2672 0.1550 *

Mars -44122-04-21 16:18 J -14394026.95 -14394026.82 -14394026.68 0.1605 0.0078

Jupiter -44118-01-05 11:45 J -14392672.17 -14392672.01 -14392671.85 0.0491 0.0042

Mars -44118-12-20 15:50 J -14392322.98 -14392322.84 -14392322.70 0.1926 0.0258

Moon -44116-03-06 03:35 J -14391881.45 -14391881.35 -14391881.26 0.2671 0.1857

Earth -44116-03-06 04:47 J -14391881.40 -14391881.30 -14391881.20 0.2671 0.1714 *

Mars -44113-09-11 00:57 J -14390596.59 -14390596.46 -14390596.33 0.1604 0.0487

Earth -44113-09-14 02:23 J -14390593.52 -14390593.40 -14390593.28 0.2665 0.0734

Moon -44113-09-14 02:52 J -14390593.49 -14390593.38 -14390593.26 0.2671 0.0707 *

Saturn -44112-03-07 12:57 J -14390419.02 -14390418.96 -14390418.90 0.0273 0.0248

Jupiter -44112-03-08 08:38 J -14390418.28 -14390418.14 -14390418.00 0.0537 0.0139

Saturn -44112-06-04 02:38 J -14390330.51 -14390330.39 -14390330.27 0.0273 0.0150

Saturn -44112-08-31 16:04 J -14390241.98 -14390241.83 -14390241.69 0.0273 0.0053

Saturn -44112-11-28 05:16 J -14390153.43 -14390153.28 -14390153.14 0.0273 0.0042

Venus -44112-11-29 22:04 J -14390151.65 -14390151.58 -14390151.50 0.3671 0.2597

Saturn -44111-02-24 18:14 J -14390064.87 -14390064.74 -14390064.62 0.0273 0.0136

Saturn -44111-05-24 06:57 J -14389976.29 -14389976.21 -14389976.13 0.0274 0.0228

Earth -44110-03-17 00:28 J -14389679.50 -14389679.48 -14389679.46 0.2664 0.2626

Moon -44110-03-17 01:40 J -14389679.45 -14389679.43 -14389679.41 0.2668 0.2626

Mars -44108-05-11 18:14 J -14388892.84 -14388892.74 -14388892.65 0.1928 0.1357

Jupiter -44107-10-24 12:57 J -14388362.10 -14388361.96 -14388361.81 0.0492 0.0192

Jupiter -44106-01-22 06:14 J -14388272.33 -14388272.24 -14388272.15 0.0490 0.0404

Venus -44106-06-15 15:21 J -14388127.97 -14388127.86 -14388127.75 0.3676 0.0151

Moon -44106-09-07 16:47 J -14388043.89 -14388043.80 -14388043.71 0.2663 0.1856

Earth -44106-09-07 17:45 J -14388043.85 -14388043.76 -14388043.67 0.2661 0.1833 *

Mars -44103-02-01 09:21 J -14387166.21 -14387166.11 -14387166.01 0.1603 0.1053

Moon -44103-03-09 03:50 J -14387130.47 -14387130.34 -14387130.21 0.2673 0.0696

Earth -44103-03-09 04:33 J -14387130.44 -14387130.31 -14387130.17 0.2669 0.0637 *

Mars -44101-01-07 22:47 J -14386460.63 -14386460.55 -14386460.46 0.1609 0.1237

Jupiter -44101-12-25 10:18 J -14386108.18 -14386108.07 -14386107.95 0.0536 0.0311

Venus -44101-12-29 08:23 J -14386104.23 -14386104.15 -14386104.06 0.3681 0.2260

Jupiter -44100-03-25 01:54 J -14386018.51 -14386018.42 -14386018.32 0.0538 0.0386

Earth -44100-09-16 22:47 J -14385842.65 -14385842.55 -14385842.46 0.2667 0.1603

Moon -44100-09-16 23:30 J -14385842.61 -14385842.52 -14385842.43 0.2667 0.1736 *

Saturn -44098-12-19 06:28 J -14385019.36 -14385019.23 -14385019.10 0.0286 0.0170

Saturn -44097-03-17 00:28 J -14384930.64 -14384930.48 -14384930.32 0.0286 0.0050

Saturn -44097-06-13 18:57 J -14384841.87 -14384841.71 -14384841.55 0.0286 0.0074

Saturn -44097-09-10 13:54 J -14384753.04 -14384752.92 -14384752.80 0.0285 0.0200

Jupiter -44095-08-12 14:23 J -14384052.01 -14384051.90 -14384051.78 0.0492 0.0337

Jupiter -44095-11-10 07:11 J -14383962.33 -14383962.20 -14383962.06 0.0490 0.0255

Moon -44093-09-09 13:54 J -14383293.03 -14383292.92 -14383292.81 0.2667 0.0943

Earth -44093-09-09 14:38 J -14383293.01 -14383292.89 -14383292.78 0.2662 0.0905 *

Mars -44092-05-30 07:40 J -14383030.30 -14383030.18 -14383030.06 0.1607 0.0699

Uranus -44091-03-25 14:52 J -14382730.92 -14382730.88 -14382730.81 0.0147 0.0139

Uranus -44091-06-21 21:21 J -14382642.71 -14382642.61 -14382642.49 0.0147 0.0110

Uranus -44091-09-18 04:04 J -14382554.47 -14382554.33 -14382554.19 0.0147 0.0080

Uranus -44091-12-15 10:33 J -14382466.21 -14382466.06 -14382465.90 0.0147 0.0051

Moon -44090-03-12 04:33 J -14382379.44 -14382379.31 -14382379.18 0.2674 0.0510

Earth -44090-03-12 04:47 J -14382379.43 -14382379.30 -14382379.16 0.2667 0.0486 *

Uranus -44090-03-13 17:16 J -14382377.95 -14382377.78 -14382377.61 0.0147 0.0020

Uranus -44090-06-09 23:59 J -14382289.67 -14382289.50 -14382289.33 0.0147 0.0010

Uranus -44090-09-06 06:42 J -14382201.39 -14382201.22 -14382201.06 0.0147 0.0040

Uranus -44090-12-03 13:26 J -14382113.09 -14382112.94 -14382112.79 0.0147 0.0071

Uranus -44089-02-29 20:09 J -14382024.78 -14382024.66 -14382024.53 0.0147 0.0102

Uranus -44089-05-28 03:06 J -14381936.44 -14381936.37 -14381936.30 0.0147 0.0133

Jupiter -44089-10-13 11:16 J -14381798.08 -14381798.03 -14381797.98 0.0534 0.0496

Jupiter -44088-01-11 03:06 J -14381708.50 -14381708.37 -14381708.23 0.0537 0.0204

Mars -44087-01-28 14:09 J -14381326.03 -14381325.91 -14381325.80 0.1923 0.0982

Earth -44087-09-19 18:42 J -14381091.76 -14381091.72 -14381091.67 0.2669 0.2444

Moon -44087-09-19 19:26 J -14381091.73 -14381091.69 -14381091.65 0.2665 0.2455 *

Earth -44083-03-04 10:47 J -14379830.08 -14379830.05 -14379830.02 0.2672 0.2579

Jupiter -44083-05-31 15:50 J -14379741.86 -14379741.84 -14379741.80 0.0493 0.0482

Saturn -44083-07-25 15:35 J -14379686.87 -14379686.85 -14379686.83 0.0274 0.0271

Jupiter -44083-08-29 08:23 J -14379652.31 -14379652.15 -14379651.99 0.0491 0.0105

Mars -44083-10-20 16:33 J -14379599.95 -14379599.81 -14379599.68 0.1606 0.0152

Saturn -44083-10-22 05:16 J -14379598.39 -14379598.28 -14379598.16 0.0274 0.0172

Saturn -44082-01-18 18:57 J -14379509.85 -14379509.71 -14379509.57 0.0274 0.0074

Saturn -44082-04-17 08:09 J -14379421.30 -14379421.16 -14379421.01 0.0274 0.0022

Saturn -44082-07-14 21:21 J -14379332.74 -14379332.61 -14379332.48 0.0274 0.0116

Saturn -44082-10-11 09:50 J -14379244.17 -14379244.09 -14379243.99 0.0274 0.0210

Earth -44080-09-12 11:16 J -14378542.16 -14378542.03 -14378541.91 0.2664 0.0067

Moon -44080-09-12 11:16 J -14378542.15 -14378542.03 -14378541.91 0.2671 0.0074 *

Mars -44078-06-20 16:18 J -14377895.96 -14377895.82 -14377895.68 0.1926 0.0139

Earth -44077-03-14 05:30 J -14377628.38 -14377628.27 -14377628.17 0.2666 0.1648

Moon -44077-03-14 06:14 J -14377628.35 -14377628.24 -14377628.14 0.2671 0.1637 *

Jupiter -44077-10-30 04:47 J -14377398.45 -14377398.30 -14377398.16 0.0537 0.0029

Venus -44076-11-22 21:50 J -14377009.72 -14377009.59 -14377009.45 0.3702 0.0368

Mars -44073-03-12 01:11 J -14376169.58 -14376169.45 -14376169.32 0.1604 0.0404

Moon -44073-09-05 00:57 J -14375992.48 -14375992.46 -14375992.43 0.2656 0.2598

Earth -44073-09-05 01:54 J -14375992.44 -14375992.42 -14375992.40 0.2660 0.2615 *

Jupiter -44071-06-17 09:35 J -14375342.25 -14375342.10 -14375341.94 0.0491 0.0044

Moon -44070-03-07 09:06 J -14375079.23 -14375079.12 -14375079.01 0.2670 0.1544

Earth -44070-03-07 10:18 J -14375079.18 -14375079.07 -14375078.96 0.2671 0.1532 *

Mars -44069-11-09 18:28 J -14374465.84 -14374465.73 -14374465.63 0.1928 0.1253

Saturn -44068-05-07 08:52 J -14374287.25 -14374287.13 -14374287.01 0.0286 0.0192

Saturn -44068-08-04 02:52 J -14374198.54 -14374198.38 -14374198.22 0.0286 0.0072

Saturn -44068-10-31 21:21 J -14374109.78 -14374109.61 -14374109.45 0.0285 0.0051

Saturn -44067-01-28 16:04 J -14374020.96 -14374020.83 -14374020.70 0.0285 0.0175

Neptune -44067-07-18 18:28 J -14373849.75 -14373849.73 -14373849.70 0.0089 0.0087

Earth -44067-09-15 07:40 J -14373791.30 -14373791.18 -14373791.07 0.2666 0.0891

Moon -44067-09-15 08:09 J -14373791.27 -14373791.16 -14373791.05 0.2670 0.1000 *

Neptune -44067-10-14 20:38 J -14373761.70 -14373761.64 -14373761.57 0.0089 0.0080

Neptune -44066-01-10 22:47 J -14373673.63 -14373673.55 -14373673.46 0.0089 0.0073

Neptune -44066-04-09 00:57 J -14373585.56 -14373585.46 -14373585.35 0.0089 0.0066

Neptune -44066-07-06 03:06 J -14373497.48 -14373497.37 -14373497.24 0.0089 0.0059

Neptune -44066-10-02 05:30 J -14373409.39 -14373409.27 -14373409.14 0.0089 0.0052

Neptune -44066-12-29 07:40 J -14373321.31 -14373321.18 -14373321.03 0.0089 0.0045

Neptune -44065-03-26 09:50 J -14373233.22 -14373233.09 -14373232.93 0.0089 0.0038

Neptune -44065-06-22 12:14 J -14373145.13 -14373144.99 -14373144.83 0.0089 0.0031

Jupiter -44065-08-18 06:14 J -14373088.38 -14373088.24 -14373088.10 0.0536 0.0148

Neptune -44065-09-18 14:38 J -14373057.04 -14373056.89 -14373056.73 0.0089 0.0023

Neptune -44065-12-15 17:02 J -14372968.95 -14372968.79 -14372968.63 0.0089 0.0016

Neptune -44064-03-13 19:11 J -14372880.86 -14372880.70 -14372880.53 0.0089 0.0009

Neptune -44064-06-09 21:35 J -14372792.76 -14372792.60 -14372792.44 0.0089 0.0001

Mars -44064-08-02 09:35 J -14372739.21 -14372739.10 -14372738.99 0.1603 0.0967

Neptune -44064-09-05 23:45 J -14372704.67 -14372704.51 -14372704.34 0.0089 0.0007

Neptune -44064-12-03 02:09 J -14372616.57 -14372616.41 -14372616.24 0.0089 0.0014

Neptune -44063-03-01 04:33 J -14372528.47 -14372528.31 -14372528.15 0.0089 0.0021

Neptune -44063-05-28 06:42 J -14372440.36 -14372440.22 -14372440.05 0.0089 0.0029

Neptune -44063-08-24 09:06 J -14372352.26 -14372352.12 -14372351.96 0.0089 0.0036

Neptune -44063-11-20 11:30 J -14372264.15 -14372264.02 -14372263.87 0.0089 0.0044

Neptune -44062-02-16 13:54 J -14372176.05 -14372175.92 -14372175.78 0.0089 0.0051

Neptune -44062-05-15 16:04 J -14372087.93 -14372087.83 -14372087.69 0.0089 0.0059

Mars -44062-07-08 23:02 J -14372033.61 -14372033.54 -14372033.46 0.1610 0.1318

Neptune -44062-08-11 18:42 J -14371999.82 -14371999.72 -14371999.60 0.0089 0.0066

Neptune -44062-11-07 21:06 J -14371911.70 -14371911.62 -14371911.52 0.0089 0.0074

Neptune -44061-02-03 23:45 J -14371823.57 -14371823.51 -14371823.44 0.0089 0.0081

Moon -44060-09-07 22:04 J -14371241.67 -14371241.58 -14371241.49 0.2664 0.1795

Earth -44060-09-07 23:02 J -14371241.64 -14371241.54 -14371241.45 0.2661 0.1663 *

Jupiter -44059-04-05 11:16 J -14371032.17 -14371032.03 -14371031.88 0.0492 0.0186

Jupiter -44059-07-04 04:18 J -14370942.40 -14370942.32 -14370942.23 0.0490 0.0411

Moon -44057-03-09 09:35 J -14370328.24 -14370328.10 -14370327.97 0.2674 0.0539

Earth -44057-03-09 10:18 J -14370328.21 -14370328.07 -14370327.94 0.2669 0.0442 *

Venus -44055-07-06 19:54 J -14369478.76 -14369478.67 -14369478.57 0.3673 0.1676

Mars -44055-12-23 17:59 J -14369308.79 -14369308.75 -14369308.72 0.1601 0.1538

Earth -44054-09-18 03:50 J -14369040.43 -14369040.34 -14369040.25 0.2667 0.1752

Moon -44054-09-18 04:47 J -14369040.39 -14369040.30 -14369040.21 0.2667 0.1742 *

Saturn -44053-03-10 06:42 J -14368866.32 -14368866.22 -14368866.12 0.0273 0.0202

Jupiter -44053-06-06 08:09 J -14368778.27 -14368778.16 -14368778.04 0.0536 0.0317

Saturn -44053-06-06 20:09 J -14368777.79 -14368777.66 -14368777.52 0.0273 0.0105

Saturn -44053-09-03 09:35 J -14368689.25 -14368689.10 -14368688.95 0.0273 0.0009

Jupiter -44053-09-03 23:45 J -14368688.60 -14368688.51 -14368688.41 0.0539 0.0380

Mars -44053-11-28 07:54 J -14368603.28 -14368603.17 -14368603.05 0.1607 0.0781

Saturn -44053-11-30 22:33 J -14368600.69 -14368600.56 -14368600.42 0.0273 0.0087

Saturn -44052-02-27 11:30 J -14368512.13 -14368512.02 -14368511.91 0.0274 0.0179

Saturn -44052-05-27 00:14 J -14368423.51 -14368423.49 -14368423.47 0.0274 0.0270

Uranus -44050-07-26 01:26 J -14367633.50 -14367633.44 -14367633.36 0.0132 0.0116

Uranus -44050-10-22 05:16 J -14367545.37 -14367545.28 -14367545.17 0.0132 0.0097

Uranus -44049-01-18 08:52 J -14367457.24 -14367457.13 -14367457.00 0.0132 0.0078

Venus -44049-01-20 13:11 J -14367455.06 -14367454.95 -14367454.84 0.3677 0.0767

Uranus -44049-04-15 12:42 J -14367369.09 -14367368.97 -14367368.83 0.0132 0.0059

Uranus -44049-07-12 16:33 J -14367280.94 -14367280.81 -14367280.66 0.0132 0.0040

Uranus -44049-10-08 20:23 J -14367192.80 -14367192.65 -14367192.51 0.0132 0.0021

Uranus -44048-01-04 23:59 J -14367104.64 -14367104.50 -14367104.35 0.0132 0.0002

Uranus -44048-04-03 03:35 J -14367016.49 -14367016.35 -14367016.20 0.0132 0.0017

Uranus -44048-06-30 07:11 J -14366928.34 -14366928.20 -14366928.06 0.0132 0.0035

Mars -44048-07-29 14:23 J -14366899.01 -14366898.90 -14366898.78 0.1923 0.1104

Uranus -44048-09-26 10:47 J -14366840.18 -14366840.05 -14366839.91 0.0132 0.0054

Uranus -44048-12-23 14:23 J -14366752.02 -14366751.90 -14366751.78 0.0132 0.0072

Jupiter -44047-01-22 12:42 J -14366722.09 -14366721.97 -14366721.86 0.0492 0.0334

Uranus -44047-03-21 17:59 J -14366663.85 -14366663.75 -14366663.65 0.0132 0.0090

Jupiter -44047-04-22 05:16 J -14366632.41 -14366632.28 -14366632.14 0.0490 0.0257

Uranus -44047-06-17 21:35 J -14366575.68 -14366575.60 -14366575.52 0.0132 0.0108

Moon -44047-09-10 19:26 J -14366490.81 -14366490.69 -14366490.58 0.2668 0.0768

Earth -44047-09-10 19:54 J -14366490.79 -14366490.67 -14366490.56 0.2663 0.0742 *

Uranus -44047-09-14 00:57 J -14366487.49 -14366487.46 -14366487.42 0.0132 0.0126

Moon -44044-03-12 10:18 J -14365577.20 -14365577.07 -14365576.94 0.2674 0.0658

Earth -44044-03-12 10:33 J -14365577.19 -14365577.06 -14365576.93 0.2667 0.0689 *

Venus -44044-08-05 06:14 J -14365431.29 -14365431.24 -14365431.19 0.3682 0.3144

Mars -44043-04-20 16:47 J -14365172.94 -14365172.80 -14365172.67 0.1606 0.0235

Jupiter -44041-03-25 09:50 J -14364468.14 -14364468.09 -14364468.03 0.0535 0.0489

Jupiter -44041-06-23 01:54 J -14364378.55 -14364378.42 -14364378.29 0.0538 0.0214

Earth -44041-09-19 23:45 J -14364289.53 -14364289.51 -14364289.48 0.2669 0.2590

Saturn -44039-09-24 07:54 J -14363555.25 -14363555.17 -14363555.07 0.0286 0.0234

Mars -44039-12-19 16:18 J -14363468.96 -14363468.82 -14363468.68 0.1925 0.0046

Saturn -44039-12-22 01:54 J -14363466.57 -14363466.42 -14363466.27 0.0286 0.0115

Saturn -44038-03-20 20:09 J -14363377.82 -14363377.66 -14363377.50 0.0286 0.0007

Saturn -44038-06-17 14:38 J -14363289.03 -14363288.89 -14363288.74 0.0285 0.0132

Saturn -44038-09-14 09:50 J -14363200.16 -14363200.09 -14363200.02 0.0285 0.0258

Moon -44037-03-04 15:21 J -14363027.92 -14363027.86 -14363027.80 0.2669 0.2386

Earth -44037-03-04 16:18 J -14363027.87 -14363027.82 -14363027.76 0.2672 0.2399 *

Jupiter -44036-11-10 14:09 J -14362411.94 -14362411.91 -14362411.87 0.0493 0.0478

Jupiter -44035-02-08 06:28 J -14362322.38 -14362322.23 -14362322.07 0.0491 0.0109

Mars -44034-09-11 01:26 J -14361742.58 -14361742.44 -14361742.31 0.1604 0.0327

Earth -44034-09-13 16:18 J -14361739.94 -14361739.82 -14361739.69 0.2664 0.0176

Moon -44034-09-13 16:33 J -14361739.93 -14361739.81 -14361739.69 0.2671 0.0198 *

Earth -44031-03-15 11:16 J -14360826.13 -14360826.03 -14360825.93 0.2665 0.1849

Moon -44031-03-15 11:59 J -14360826.09 -14360826.00 -14360825.91 0.2671 0.1968 *

Jupiter -44029-04-11 03:06 J -14360068.51 -14360068.37 -14360068.22 0.0536 0.0034

Mars -44029-05-10 18:28 J -14360038.83 -14360038.73 -14360038.62 0.1928 0.1151

Pluto -44028-02-02 09:50 J -14359771.10 -14359771.09 -14359771.05 0.0065 0.0064

Pluto -44028-05-01 11:16 J -14359683.09 -14359683.03 -14359682.96 0.0065 0.0059

Pluto -44028-07-28 12:28 J -14359595.07 -14359594.98 -14359594.88 0.0065 0.0054

Pluto -44028-10-24 13:40 J -14359507.03 -14359506.93 -14359506.82 0.0065 0.0049

Pluto -44027-01-20 14:52 J -14359419.00 -14359418.88 -14359418.75 0.0065 0.0045

Pluto -44027-04-18 16:04 J -14359330.96 -14359330.83 -14359330.69 0.0065 0.0040

Pluto -44027-07-15 17:16 J -14359242.92 -14359242.78 -14359242.63 0.0065 0.0035

Moon -44027-09-06 06:14 J -14359190.26 -14359190.24 -14359190.21 0.2658 0.2575

Earth -44027-09-06 07:11 J -14359190.25 -14359190.20 -14359190.15 0.2660 0.2441 *

Pluto -44027-10-11 18:28 J -14359154.88 -14359154.73 -14359154.57 0.0065 0.0030

Pluto -44026-01-07 19:40 J -14359066.83 -14359066.68 -14359066.52 0.0065 0.0025

Pluto -44026-04-05 20:52 J -14358978.78 -14358978.63 -14358978.46 0.0066 0.0020

Pluto -44026-07-02 22:04 J -14358890.74 -14358890.58 -14358890.40 0.0066 0.0015

Pluto -44026-09-28 23:30 J -14358802.69 -14358802.52 -14358802.35 0.0066 0.0009

Pluto -44026-12-26 00:57 J -14358714.63 -14358714.46 -14358714.29 0.0066 0.0004

Pluto -44025-03-23 02:09 J -14358626.58 -14358626.41 -14358626.24 0.0066 0.0001

Pluto -44025-06-19 03:21 J -14358538.53 -14358538.36 -14358538.19 0.0066 0.0007

Pluto -44025-09-15 04:33 J -14358450.47 -14358450.31 -14358450.13 0.0066 0.0012

Pluto -44025-12-12 05:59 J -14358362.41 -14358362.25 -14358362.08 0.0066 0.0017

Venus -44025-12-13 20:09 J -14358360.75 -14358360.66 -14358360.57 0.3706 0.2676

Mars -44024-01-31 09:50 J -14358312.20 -14358312.09 -14358311.97 0.1603 0.0883

Moon -44024-03-07 14:52 J -14358276.99 -14358276.88 -14358276.77 0.2671 0.1494

Earth -44024-03-07 16:04 J -14358276.95 -14358276.83 -14358276.72 0.2670 0.1338 *

Pluto -44024-03-10 07:11 J -14358274.35 -14358274.20 -14358274.03 0.0066 0.0023

Pluto -44024-06-06 08:23 J -14358186.29 -14358186.15 -14358185.98 0.0066 0.0028

Saturn -44024-07-28 09:06 J -14358134.19 -14358134.12 -14358134.03 0.0274 0.0226

Pluto -44024-09-02 09:50 J -14358098.23 -14358098.09 -14358097.93 0.0067 0.0034

Saturn -44024-10-24 23:02 J -14358045.67 -14358045.54 -14358045.41 0.0274 0.0127

Jupiter -44024-11-27 07:40 J -14358012.34 -14358012.18 -14358012.02 0.0492 0.0043

Pluto -44024-11-29 11:02 J -14358010.16 -14358010.04 -14358009.89 0.0067 0.0040

Saturn -44023-01-21 12:28 J -14357957.13 -14357956.98 -14357956.84 0.0274 0.0030

Pluto -44023-02-25 12:28 J -14357922.09 -14357921.98 -14357921.84 0.0067 0.0045

Saturn -44023-04-20 01:40 J -14357868.57 -14357868.43 -14357868.29 0.0274 0.0066

Pluto -44023-05-24 13:40 J -14357834.02 -14357833.93 -14357833.80 0.0067 0.0051

Saturn -44023-07-17 14:23 J -14357780.01 -14357779.90 -14357779.78 0.0274 0.0160

Pluto -44023-08-20 15:06 J -14357745.94 -14357745.87 -14357745.76 0.0067 0.0056

Saturn -44023-10-14 03:06 J -14357691.42 -14357691.37 -14357691.31 0.0275 0.0252

Pluto -44023-11-16 16:18 J -14357657.86 -14357657.82 -14357657.73 0.0067 0.0062

Mars -44022-01-06 23:16 J -14357606.60 -14357606.53 -14357606.47 0.1610 0.1397

Earth -44021-09-15 12:42 J -14356989.08 -14356988.97 -14356988.86 0.2666 0.1046

Moon -44021-09-15 13:26 J -14356989.05 -14356988.94 -14356988.83 0.2669 0.1062 *

Venus -44019-06-29 22:04 J -14356336.69 -14356336.58 -14356336.46 0.3700 0.2051

Jupiter -44017-01-29 04:33 J -14355758.45 -14355758.31 -14355758.17 0.0536 0.0147

Mars -44015-06-23 18:14 J -14354881.80 -14354881.74 -14354881.68 0.1602 0.1451

Moon -44014-09-09 03:21 J -14354439.46 -14354439.36 -14354439.26 0.2664 0.1500

Earth -44014-09-09 04:18 J -14354439.42 -14354439.32 -14354439.22 0.2661 0.1500 *

Mars -44013-05-29 08:09 J -14354176.27 -14354176.16 -14354176.05 0.1608 0.0859

Jupiter -44012-09-15 09:06 J -14353702.27 -14353702.12 -14353701.98 0.0492 0.0189

Jupiter -44012-12-14 02:09 J -14353612.50 -14353612.41 -14353612.32 0.0490 0.0408

Moon -44011-03-10 15:06 J -14353526.00 -14353525.87 -14353525.73 0.2674 0.0255

Earth -44011-03-10 16:04 J -14353525.97 -14353525.83 -14353525.70 0.2669 0.0262 *

Saturn -44009-02-11 10:47 J -14352823.11 -14352823.05 -14352822.97 0.0286 0.0253

Saturn -44009-05-10 04:47 J -14352734.44 -14352734.30 -14352734.16 0.0286 0.0135

Saturn -44009-08-06 23:02 J -14352645.71 -14352645.54 -14352645.38 0.0285 0.0016

Saturn -44009-11-03 17:30 J -14352556.92 -14352556.77 -14352556.62 0.0285 0.0110

Mars -44008-01-27 14:52 J -14352471.99 -14352471.88 -14352471.78 0.1923 0.1219

Saturn -44008-01-31 12:14 J -14352468.07 -14352467.99 -14352467.89 0.0285 0.0236

Earth -44008-09-18 08:52 J -14352238.21 -14352238.13 -14352238.04 0.2668 0.1903

Moon -44008-09-18 09:50 J -14352238.16 -14352238.09 -14352238.01 0.2667 0.2038 *

Uranus -44007-04-14 23:30 J -14352029.60 -14352029.52 -14352029.44 0.0147 0.0127

Uranus -44007-07-12 05:45 J -14351941.38 -14351941.26 -14351941.13 0.0147 0.0098

Uranus -44007-10-08 12:14 J -14351853.13 -14351852.99 -14351852.83 0.0147 0.0069

Uranus -44006-01-04 18:57 J -14351764.87 -14351764.71 -14351764.55 0.0147 0.0039

Uranus -44006-04-03 01:26 J -14351676.60 -14351676.44 -14351676.27 0.0147 0.0010

Uranus -44006-06-30 08:09 J -14351588.33 -14351588.16 -14351587.99 0.0147 0.0022

Uranus -44006-09-26 14:52 J -14351500.04 -14351499.88 -14351499.72 0.0147 0.0052

Jupiter -44006-11-17 05:45 J -14351448.38 -14351448.26 -14351448.15 0.0536 0.0327

Uranus -44006-12-23 21:35 J -14351411.73 -14351411.60 -14351411.45 0.0147 0.0083

Jupiter -44005-02-14 21:21 J -14351358.71 -14351358.61 -14351358.51 0.0538 0.0369

Uranus -44005-03-21 04:18 J -14351323.42 -14351323.32 -14351323.20 0.0147 0.0114

Uranus -44005-06-17 11:30 J -14351235.04 -14351235.02 -14351235.00 0.0147 0.0145

Venus -44004-07-28 00:28 J -14350829.53 -14350829.48 -14350829.43 0.3669 0.3217

Mars -44004-10-19 17:02 J -14350745.93 -14350745.79 -14350745.66 0.1606 0.0318

Moon -44001-09-11 00:42 J -14349688.59 -14349688.47 -14349688.35 0.2669 0.0642

Earth -44001-09-11 00:57 J -14349688.58 -14349688.46 -14349688.34 0.2663 0.0581 *

44TH MILLENNIUM BCE

This is a list of transits of Mercury in the 44th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Jupiter -44000-07-04 10:47 J -14349392.16 -14349392.05 -14349391.93 0.0493 0.0330

Jupiter -44000-10-02 03:35 J -14349302.49 -14349302.35 -14349302.22 0.0490 0.0261

Mars -43999-06-19 16:33 J -14349041.95 -14349041.81 -14349041.67 0.1925 0.0073

Venus -43998-02-10 17:45 J -14348805.86 -14348805.76 -14348805.65 0.3674 0.0753

Moon -43998-03-13 16:18 J -14348774.95 -14348774.82 -14348774.69 0.2673 0.0881

Earth -43998-03-13 16:18 J -14348774.95 -14348774.82 -14348774.69 0.2667 0.0885 *

Saturn -43995-12-15 10:47 J -14347402.10 -14347402.05 -14347402.00 0.0273 0.0254

Mars -43994-03-12 01:40 J -14347315.57 -14347315.43 -14347315.30 0.1604 0.0245

Saturn -43994-03-14 00:28 J -14347313.60 -14347313.48 -14347313.35 0.0273 0.0156

Saturn -43994-06-10 13:54 J -14347225.06 -14347224.92 -14347224.77 0.0273 0.0060

Jupiter -43994-09-05 07:26 J -14347138.24 -14347138.19 -14347138.14 0.0535 0.0498

Saturn -43994-09-07 03:21 J -14347136.51 -14347136.36 -14347136.22 0.0273 0.0037

Jupiter -43994-12-03 23:30 J -14347048.65 -14347048.52 -14347048.38 0.0538 0.0206

Saturn -43994-12-04 16:18 J -14347047.95 -14347047.82 -14347047.70 0.0273 0.0131

Saturn -43993-03-02 05:02 J -14346959.37 -14346959.29 -14346959.21 0.0274 0.0223

Venus -43993-08-26 11:02 J -14346782.14 -14346782.04 -14346781.94 0.3678 0.1678

Moon -43991-03-05 20:52 J -14346225.69 -14346225.63 -14346225.57 0.2669 0.2355

Earth -43991-03-05 22:04 J -14346225.66 -14346225.58 -14346225.51 0.2672 0.2213 *

Mars -43990-11-09 18:42 J -14345611.83 -14345611.72 -14345611.60 0.1928 0.1042

Jupiter -43988-04-22 12:14 J -14345082.02 -14345081.99 -14345081.95 0.0493 0.0476

Jupiter -43988-07-21 04:33 J -14344992.47 -14344992.31 -14344992.15 0.0491 0.0109

Earth -43988-09-13 21:35 J -14344937.72 -14344937.60 -14344937.48 0.2665 0.0325

Moon -43988-09-13 21:50 J -14344937.71 -14344937.59 -14344937.47 0.2671 0.0341 *

Earth -43985-03-15 17:02 J -14344023.88 -14344023.79 -14344023.71 0.2665 0.2055

Moon -43985-03-15 17:45 J -14344023.84 -14344023.76 -14344023.67 0.2671 0.2079 *

Mars -43985-08-01 10:04 J -14343885.20 -14343885.08 -14343884.96 0.1603 0.0801

Neptune -43984-07-19 08:38 J -14343533.16 -14343533.14 -14343533.10 0.0088 0.0086

Neptune -43984-10-15 10:33 J -14343445.11 -14343445.06 -14343444.97 0.0088 0.0080

Neptune -43983-01-11 12:42 J -14343357.04 -14343356.97 -14343356.86 0.0088 0.0072

Neptune -43983-04-09 15:06 J -14343268.97 -14343268.87 -14343268.76 0.0088 0.0065

Neptune -43983-07-06 17:16 J -14343180.90 -14343180.78 -14343180.66 0.0088 0.0058

Mars -43983-07-07 23:30 J -14343179.58 -14343179.52 -14343179.47 0.1610 0.1475

Neptune -43983-10-02 19:11 J -14343092.82 -14343092.70 -14343092.57 0.0088 0.0051

Neptune -43983-12-29 21:21 J -14343004.74 -14343004.61 -14343004.47 0.0088 0.0044

Neptune -43982-03-27 23:16 J -14342916.66 -14342916.53 -14342916.38 0.0088 0.0037

Neptune -43982-06-24 01:26 J -14342828.58 -14342828.44 -14342828.29 0.0088 0.0030

Neptune -43982-09-20 03:35 J -14342740.50 -14342740.35 -14342740.20 0.0088 0.0023

Jupiter -43982-09-22 01:40 J -14342738.57 -14342738.43 -14342738.29 0.0537 0.0038

Neptune -43982-12-17 05:30 J -14342652.42 -14342652.27 -14342652.12 0.0088 0.0016

Neptune -43981-03-14 07:26 J -14342564.34 -14342564.19 -14342564.03 0.0088 0.0009

Neptune -43981-06-10 09:35 J -14342476.26 -14342476.10 -14342475.95 0.0088 0.0002

Neptune -43981-09-06 11:30 J -14342388.17 -14342388.02 -14342387.87 0.0088 0.0005

Moon -43981-09-06 11:30 J -14342388.08 -14342388.02 -14342387.96 0.2660 0.2279 *

Earth -43981-09-06 12:28 J -14342388.04 -14342387.98 -14342387.92 0.2660 0.2274 *

Neptune -43981-12-03 13:26 J -14342300.09 -14342299.94 -14342299.79 0.0088 0.0012

Neptune -43980-03-01 15:21 J -14342212.00 -14342211.86 -14342211.71 0.0088 0.0019

Neptune -43980-05-28 17:16 J -14342123.92 -14342123.78 -14342123.63 0.0088 0.0026

Neptune -43980-08-24 19:11 J -14342035.83 -14342035.70 -14342035.55 0.0088 0.0033

Saturn -43980-09-27 03:50 J -14342002.46 -14342002.34 -14342002.21 0.0286 0.0177

Neptune -43980-11-20 21:06 J -14341947.75 -14341947.62 -14341947.47 0.0088 0.0039

Saturn -43980-12-24 21:50 J -14341913.75 -14341913.59 -14341913.43 0.0286 0.0057

Neptune -43979-02-16 23:16 J -14341859.66 -14341859.53 -14341859.40 0.0088 0.0046

Saturn -43979-03-23 16:18 J -14341824.98 -14341824.82 -14341824.66 0.0286 0.0067

Neptune -43979-05-16 00:57 J -14341771.57 -14341771.46 -14341771.33 0.0088 0.0053

Saturn -43979-06-20 11:02 J -14341736.16 -14341736.04 -14341735.91 0.0285 0.0192

Neptune -43979-08-12 02:52 J -14341683.48 -14341683.38 -14341683.26 0.0088 0.0059

Neptune -43979-11-08 04:47 J -14341595.39 -14341595.30 -14341595.19 0.0088 0.0066

Neptune -43978-02-04 06:28 J -14341507.30 -14341507.23 -14341507.13 0.0088 0.0073

Moon -43978-03-08 20:38 J -14341474.76 -14341474.64 -14341474.52 0.2672 0.1146

Earth -43978-03-08 21:35 J -14341474.72 -14341474.60 -14341474.48 0.2670 0.1153 *

Neptune -43978-05-03 08:38 J -14341419.20 -14341419.14 -14341419.07 0.0089 0.0079

Neptune -43978-07-30 10:18 J -14341331.09 -14341331.07 -14341331.02 0.0089 0.0086

Jupiter -43976-05-09 05:45 J -14340682.41 -14340682.26 -14340682.10 0.0491 0.0042

Mars -43976-12-22 18:28 J -14340454.80 -14340454.73 -14340454.66 0.1602 0.1368

Earth -43975-09-16 17:59 J -14340186.86 -14340186.75 -14340186.64 0.2666 0.1200

Moon -43975-09-16 18:42 J -14340186.82 -14340186.72 -14340186.61 0.2669 0.1293 *

Mars -43974-11-28 08:23 J -14339749.26 -14339749.15 -14339749.05 0.1608 0.0939

Jupiter -43970-07-11 02:52 J -14338428.52 -14338428.38 -14338428.24 0.0536 0.0142

Mars -43969-07-28 14:52 J -14338044.98 -14338044.88 -14338044.78 0.1923 0.1314

Venus -43968-07-20 20:09 J -14337687.79 -14337687.66 -14337687.53 0.3705 0.1043

Moon -43968-09-09 08:38 J -14337637.24 -14337637.14 -14337637.04 0.2664 0.1466

Earth -43968-09-09 09:35 J -14337637.21 -14337637.10 -14337637.00 0.2662 0.1332 *

Uranus -43966-05-19 05:30 J -14337020.30 -14337020.27 -14337020.23 0.0132 0.0127

Uranus -43966-08-15 09:06 J -14336932.19 -14336932.12 -14336932.02 0.0132 0.0108

Uranus -43966-11-11 13:11 J -14336844.06 -14336843.95 -14336843.84 0.0132 0.0088

Uranus -43965-02-07 17:02 J -14336755.92 -14336755.79 -14336755.67 0.0132 0.0069

Moon -43965-03-10 20:52 J -14336723.76 -14336723.63 -14336723.49 0.2674 0.0182

Earth -43965-03-10 21:35 J -14336723.73 -14336723.60 -14336723.46 0.2668 0.0080 *

Uranus -43965-05-05 20:38 J -14336667.77 -14336667.64 -14336667.50 0.0132 0.0050

Saturn -43965-07-31 03:06 J -14336581.48 -14336581.37 -14336581.26 0.0274 0.0180

Uranus -43965-08-02 00:28 J -14336579.62 -14336579.48 -14336579.34 0.0132 0.0031

Saturn -43965-10-27 16:33 J -14336492.95 -14336492.81 -14336492.67 0.0274 0.0082

Uranus -43965-10-29 04:04 J -14336491.47 -14336491.33 -14336491.18 0.0132 0.0013

Saturn -43964-01-24 05:59 J -14336404.40 -14336404.25 -14336404.11 0.0274 0.0015

Uranus -43964-01-25 07:54 J -14336403.32 -14336403.17 -14336403.03 0.0132 0.0007

Jupiter -43964-02-25 06:57 J -14336372.36 -14336372.21 -14336372.06 0.0492 0.0189

Mars -43964-04-19 17:02 J -14336318.92 -14336318.79 -14336318.66 0.1606 0.0396

Saturn -43964-04-22 18:57 J -14336315.84 -14336315.71 -14336315.57 0.0274 0.0109

Uranus -43964-04-23 11:30 J -14336315.16 -14336315.02 -14336314.88 0.0132 0.0025

Jupiter -43964-05-25 23:59 J -14336282.58 -14336282.50 -14336282.41 0.0490 0.0408

Saturn -43964-07-20 07:54 J -14336227.27 -14336227.17 -14336227.08 0.0274 0.0202

Uranus -43964-07-20 14:52 J -14336227.01 -14336226.88 -14336226.73 0.0132 0.0044

Uranus -43964-10-16 18:28 J -14336138.85 -14336138.73 -14336138.59 0.0132 0.0062

Uranus -43963-01-12 22:18 J -14336050.69 -14336050.57 -14336050.46 0.0132 0.0080

Uranus -43963-04-11 01:40 J -14335962.52 -14335962.43 -14335962.33 0.0132 0.0098

Uranus -43963-07-08 05:16 J -14335874.34 -14335874.28 -14335874.21 0.0132 0.0116

Earth -43962-09-19 14:09 J -14335435.99 -14335435.91 -14335435.84 0.2668 0.2054

Moon -43962-09-19 14:52 J -14335435.95 -14335435.88 -14335435.80 0.2667 0.2048 *

Mars -43960-12-18 17:02 J -14334614.93 -14334614.79 -14334614.66 0.1925 0.0196

Jupiter -43958-04-29 04:04 J -14334118.44 -14334118.33 -14334118.21 0.0535 0.0323

Jupiter -43958-07-27 19:40 J -14334028.78 -14334028.68 -14334028.58 0.0538 0.0372

Mars -43955-09-10 01:40 J -14332888.56 -14332888.43 -14332888.29 0.1604 0.0163

Moon -43955-09-12 05:59 J -14332886.37 -14332886.25 -14332886.13 0.2670 0.0375

Earth -43955-09-12 06:14 J -14332886.36 -14332886.24 -14332886.12 0.2663 0.0415 *

Jupiter -43953-12-14 08:23 J -14332062.26 -14332062.15 -14332062.03 0.0493 0.0334

Earth -43952-03-13 22:04 J -14331972.71 -14331972.58 -14331972.46 0.2667 0.1086

Moon -43952-03-13 22:18 J -14331972.69 -14331972.57 -14331972.45 0.2673 0.1153 *

Jupiter -43952-03-14 01:11 J -14331972.59 -14331972.45 -14331972.31 0.0491 0.0257 *

Saturn -43950-02-14 06:42 J -14331270.33 -14331270.22 -14331270.10 0.0286 0.0196

Mars -43950-05-10 19:11 J -14331184.82 -14331184.70 -14331184.58 0.1927 0.0926

Saturn -43950-05-14 00:42 J -14331181.62 -14331181.47 -14331181.31 0.0285 0.0076

Saturn -43950-08-10 19:11 J -14331092.86 -14331092.70 -14331092.54 0.0285 0.0047

Saturn -43950-11-07 13:54 J -14331004.05 -14331003.92 -14331003.79 0.0285 0.0172

Venus -43947-03-03 22:18 J -14330156.65 -14330156.57 -14330156.48 0.3670 0.2280

Jupiter -43946-02-15 05:02 J -14329808.33 -14329808.29 -14329808.25 0.0535 0.0508

Jupiter -43946-05-15 21:06 J -14329718.75 -14329718.62 -14329718.48 0.0538 0.0195

Mars -43945-01-31 10:18 J -14329458.19 -14329458.07 -14329457.95 0.1603 0.0714

Moon -43945-03-06 02:38 J -14329423.48 -14329423.39 -14329423.31 0.2669 0.2036

Earth -43945-03-06 03:35 J -14329423.43 -14329423.35 -14329423.26 0.2672 0.2027 *

Mars -43943-01-05 23:30 J -14328752.55 -14328752.52 -14328752.49 0.1610 0.1555

Earth -43942-09-15 02:52 J -14328135.50 -14328135.38 -14328135.26 0.2665 0.0486

Moon -43942-09-15 03:06 J -14328135.49 -14328135.37 -14328135.25 0.2671 0.0492 *

Venus -43942-09-17 15:50 J -14328132.95 -14328132.84 -14328132.73 0.3675 0.0239

Jupiter -43941-10-02 10:33 J -14327752.10 -14327752.06 -14327752.02 0.0493 0.0473

Pluto -43941-11-27 23:45 J -14327695.55 -14327695.51 -14327695.46 0.0080 0.0076

Jupiter -43941-12-31 02:38 J -14327662.54 -14327662.39 -14327662.23 0.0491 0.0113

Pluto -43940-02-24 01:11 J -14327607.52 -14327607.45 -14327607.36 0.0080 0.0068

Pluto -43940-05-23 02:38 J -14327519.47 -14327519.39 -14327519.28 0.0080 0.0060

Pluto -43940-08-19 04:04 J -14327431.42 -14327431.33 -14327431.20 0.0080 0.0052

Pluto -43940-11-15 05:59 J -14327343.37 -14327343.25 -14327343.12 0.0079 0.0043

Pluto -43939-02-11 07:26 J -14327255.32 -14327255.19 -14327255.05 0.0079 0.0035

Earth -43939-03-16 22:47 J -14327221.62 -14327221.55 -14327221.48 0.2665 0.2258

Moon -43939-03-16 23:45 J -14327221.58 -14327221.51 -14327221.45 0.2670 0.2350 *

Pluto -43939-05-10 09:06 J -14327167.26 -14327167.12 -14327166.98 0.0079 0.0027

Pluto -43939-08-06 10:33 J -14327079.20 -14327079.06 -14327078.92 0.0079 0.0019

Pluto -43939-11-02 11:59 J -14326991.15 -14326991.00 -14326990.85 0.0079 0.0011

Pluto -43938-01-29 13:26 J -14326903.09 -14326902.94 -14326902.79 0.0079 0.0003

Pluto -43938-04-27 14:52 J -14326815.03 -14326814.88 -14326814.73 0.0079 0.0005

Pluto -43938-07-24 16:18 J -14326726.96 -14326726.82 -14326726.67 0.0079 0.0013

Pluto -43938-10-20 17:45 J -14326638.90 -14326638.76 -14326638.62 0.0078 0.0021

Pluto -43937-01-16 18:57 J -14326550.84 -14326550.71 -14326550.56 0.0078 0.0029

Pluto -43937-04-13 20:38 J -14326462.77 -14326462.64 -14326462.51 0.0078 0.0036

Pluto -43937-07-10 21:50 J -14326374.71 -14326374.59 -14326374.46 0.0078 0.0043

Pluto -43937-10-06 23:02 J -14326286.64 -14326286.54 -14326286.42 0.0078 0.0051

Pluto -43936-01-03 00:28 J -14326198.57 -14326198.48 -14326198.37 0.0078 0.0058

Pluto -43936-04-01 01:54 J -14326110.49 -14326110.42 -14326110.34 0.0078 0.0065

Venus -43936-04-02 08:52 J -14326109.21 -14326109.13 -14326109.06 0.3679 0.2587

Mars -43936-06-22 18:42 J -14326027.80 -14326027.72 -14326027.64 0.1602 0.1286

Pluto -43936-06-28 03:21 J -14326022.41 -14326022.36 -14326022.31 0.0077 0.0072

Saturn -43936-12-18 05:02 J -14325849.39 -14325849.29 -14325849.20 0.0273 0.0206

Saturn -43935-03-16 18:28 J -14325760.86 -14325760.73 -14325760.59 0.0273 0.0109

Saturn -43935-06-13 07:54 J -14325672.32 -14325672.17 -14325672.02 0.0273 0.0012

Moon -43935-09-07 16:47 J -14325585.87 -14325585.80 -14325585.74 0.2660 0.2235

Earth -43935-09-07 17:45 J -14325585.83 -14325585.76 -14325585.68 0.2660 0.2103 *

Saturn -43935-09-09 21:06 J -14325583.76 -14325583.62 -14325583.48 0.0273 0.0083

Saturn -43935-12-07 09:50 J -14325495.19 -14325495.09 -14325494.97 0.0274 0.0176

Jupiter -43934-03-03 23:16 J -14325408.67 -14325408.53 -14325408.39 0.0537 0.0028

Saturn -43934-03-05 22:33 J -14325406.58 -14325406.56 -14325406.53 0.0274 0.0267

Mars -43934-05-29 08:23 J -14325322.25 -14325322.15 -14325322.04 0.1608 0.1021

Moon -43932-03-09 02:23 J -14324672.53 -14324672.40 -14324672.28 0.2673 0.1116

Earth -43932-03-09 03:21 J -14324672.49 -14324672.36 -14324672.24 0.2670 0.0960 *

Mars -43929-01-27 15:06 J -14323617.96 -14323617.87 -14323617.77 0.1922 0.1433

Earth -43929-09-16 23:02 J -14323384.64 -14323384.54 -14323384.43 0.2667 0.1357

Moon -43929-09-16 23:59 J -14323384.60 -14323384.50 -14323384.40 0.2669 0.1402 *

Jupiter -43929-10-19 03:50 J -14323352.50 -14323352.34 -14323352.18 0.0491 0.0038

Mars -43925-10-18 17:16 J -14321891.91 -14321891.78 -14321891.65 0.1606 0.0475

Uranus -43923-02-06 00:57 J -14321416.46 -14321416.46 -14321416.46 0.0147 0.0147

Uranus -43923-05-05 06:57 J -14321328.30 -14321328.21 -14321328.10 0.0147 0.0118

Uranus -43923-08-01 13:26 J -14321240.06 -14321239.94 -14321239.80 0.0147 0.0089

Uranus -43923-10-28 20:09 J -14321151.82 -14321151.66 -14321151.51 0.0147 0.0059

Jupiter -43923-12-21 01:11 J -14321098.59 -14321098.45 -14321098.31 0.0536 0.0140

Uranus -43922-01-25 02:38 J -14321063.55 -14321063.39 -14321063.22 0.0147 0.0029

Uranus -43922-04-23 09:21 J -14320975.28 -14320975.11 -14320974.94 0.0147 0.0004

Uranus -43922-07-20 15:50 J -14320887.00 -14320886.84 -14320886.67 0.0147 0.0031

Moon -43922-09-10 13:54 J -14320835.03 -14320834.92 -14320834.80 0.2666 0.1157

Earth -43922-09-10 14:38 J -14320835.00 -14320834.89 -14320834.77 0.2662 0.1171 *

Uranus -43922-10-16 22:33 J -14320798.71 -14320798.56 -14320798.40 0.0147 0.0062

Uranus -43921-01-13 05:16 J -14320710.41 -14320710.28 -14320710.14 0.0147 0.0093

Uranus -43921-04-10 11:59 J -14320622.08 -14320622.00 -14320621.90 0.0147 0.0124

Saturn -43921-07-03 05:45 J -14320538.34 -14320538.26 -14320538.16 0.0286 0.0238

Saturn -43921-09-29 23:45 J -14320449.66 -14320449.51 -14320449.36 0.0286 0.0119

Saturn -43921-12-27 17:59 J -14320360.92 -14320360.75 -14320360.59 0.0286 0.0004

Saturn -43920-03-26 12:28 J -14320272.12 -14320271.98 -14320271.83 0.0285 0.0127

Mars -43920-06-18 17:02 J -14320187.92 -14320187.79 -14320187.65 0.1925 0.0291

Saturn -43920-06-23 07:26 J -14320183.26 -14320183.19 -14320183.11 0.0285 0.0253

Moon -43919-03-12 02:52 J -14319921.52 -14319921.38 -14319921.25 0.2674 0.0199

Earth -43919-03-12 03:21 J -14319921.50 -14319921.36 -14319921.23 0.2668 0.0143 *

Jupiter -43917-08-07 05:16 J -14319042.42 -14319042.28 -14319042.13 0.0492 0.0185

Jupiter -43917-11-04 22:18 J -14318952.65 -14318952.57 -14318952.48 0.0490 0.0411

Earth -43916-09-19 19:11 J -14318633.76 -14318633.70 -14318633.63 0.2668 0.2204

Moon -43916-09-19 19:54 J -14318633.73 -14318633.67 -14318633.61 0.2665 0.2297 *

Mars -43915-03-11 01:54 J -14318461.55 -14318461.42 -14318461.28 0.1604 0.0080

Venus -43911-02-24 20:23 J -14317014.79 -14317014.65 -14317014.52 0.3703 0.0628

Jupiter -43911-10-09 02:23 J -14316788.51 -14316788.40 -14316788.28 0.0535 0.0318

Mars -43911-11-08 19:11 J -14316757.82 -14316757.70 -14316757.58 0.1928 0.0830

Jupiter -43910-01-06 18:14 J -14316698.84 -14316698.74 -14316698.64 0.0538 0.0377

Moon -43909-09-12 11:16 J -14316084.15 -14316084.03 -14316083.91 0.2670 0.0334

Earth -43909-09-12 11:30 J -14316084.14 -14316084.02 -14316083.90 0.2663 0.0255 *

Earth -43906-03-15 03:50 J -14315170.46 -14315170.34 -14315170.22 0.2666 0.1288

Moon -43906-03-15 04:04 J -14315170.44 -14315170.33 -14315170.21 0.2673 0.1265 *

Saturn -43906-05-07 06:42 J -14315117.28 -14315117.22 -14315117.13 0.0274 0.0234

Mars -43906-08-01 10:33 J -14315031.19 -14315031.06 -14315030.94 0.1603 0.0633

Saturn -43906-08-03 20:38 J -14315028.77 -14315028.64 -14315028.51 0.0274 0.0135

Saturn -43906-10-31 10:04 J -14314940.22 -14314940.08 -14314939.93 0.0274 0.0038

Saturn -43905-01-27 23:16 J -14314851.67 -14314851.53 -14314851.38 0.0274 0.0059

Saturn -43905-04-25 12:28 J -14314763.10 -14314762.98 -14314762.86 0.0274 0.0153

Jupiter -43905-05-26 06:28 J -14314732.35 -14314732.23 -14314732.12 0.0493 0.0335

Saturn -43905-07-23 01:11 J -14314674.51 -14314674.45 -14314674.39 0.0275 0.0245

Jupiter -43905-08-23 23:02 J -14314642.67 -14314642.54 -14314642.40 0.0491 0.0257

Neptune -43902-04-14 16:18 J -14313678.84 -14313678.82 -14313678.76 0.0089 0.0086

Neptune -43902-07-11 18:28 J -14313590.78 -14313590.73 -14313590.64 0.0089 0.0079

Neptune -43902-10-07 20:52 J -14313502.71 -14313502.63 -14313502.53 0.0089 0.0072

Neptune -43901-01-03 23:02 J -14313414.64 -14313414.54 -14313414.42 0.0089 0.0065

Mars -43901-03-30 22:04 J -14313327.60 -14313327.58 -14313327.56 0.1929 0.1895

Neptune -43901-04-01 01:11 J -14313326.56 -14313326.45 -14313326.31 0.0089 0.0058

Neptune -43901-06-28 03:50 J -14313238.47 -14313238.34 -14313238.21 0.0089 0.0050

Neptune -43901-09-24 05:59 J -14313150.39 -14313150.25 -14313150.11 0.0089 0.0043

Neptune -43901-12-21 08:09 J -14313062.30 -14313062.16 -14313062.01 0.0089 0.0036

Neptune -43900-03-19 10:18 J -14312974.21 -14312974.07 -14312973.91 0.0089 0.0029

Neptune -43900-06-15 12:42 J -14312886.12 -14312885.97 -14312885.81 0.0089 0.0022

Neptune -43900-09-11 15:06 J -14312798.03 -14312797.87 -14312797.71 0.0089 0.0014

Neptune -43900-12-08 17:30 J -14312709.94 -14312709.77 -14312709.61 0.0089 0.0007

Neptune -43899-03-06 19:40 J -14312621.84 -14312621.68 -14312621.52 0.0089 0.0001

Moon -43899-03-07 08:09 J -14312621.25 -14312621.16 -14312621.07 0.2670 0.1948

Earth -43899-03-07 09:06 J -14312621.21 -14312621.12 -14312621.02 0.2671 0.1842 *

Neptune -43899-06-02 22:04 J -14312533.74 -14312533.58 -14312533.42 0.0089 0.0008

Jupiter -43899-07-28 03:35 J -14312478.40 -14312478.35 -14312478.30 0.0534 0.0500

Neptune -43899-08-30 00:14 J -14312445.64 -14312445.49 -14312445.32 0.0089 0.0016

Jupiter -43899-10-25 19:40 J -14312388.81 -14312388.68 -14312388.55 0.0537 0.0201

Neptune -43899-11-26 02:38 J -14312357.55 -14312357.39 -14312357.23 0.0089 0.0023

Neptune -43898-02-22 05:02 J -14312269.44 -14312269.29 -14312269.14 0.0089 0.0030

Neptune -43898-05-21 07:11 J -14312181.34 -14312181.20 -14312181.04 0.0089 0.0038

Neptune -43898-08-17 09:35 J -14312093.23 -14312093.10 -14312092.95 0.0089 0.0045

Neptune -43898-11-13 11:45 J -14312005.12 -14312005.01 -14312004.86 0.0089 0.0053

Neptune -43897-02-09 14:23 J -14311917.01 -14311916.90 -14311916.77 0.0089 0.0060

Neptune -43897-05-07 16:33 J -14311828.90 -14311828.81 -14311828.69 0.0089 0.0068

Neptune -43897-08-03 19:11 J -14311740.78 -14311740.70 -14311740.61 0.0089 0.0075

Neptune -43897-10-30 21:35 J -14311652.65 -14311652.60 -14311652.53 0.0089 0.0083

Mars -43897-12-21 18:57 J -14311600.80 -14311600.71 -14311600.62 0.1602 0.1197

Earth -43896-09-15 07:54 J -14311333.28 -14311333.17 -14311333.05 0.2665 0.0645

Moon -43896-09-15 08:38 J -14311333.26 -14311333.14 -14311333.03 0.2670 0.0732 *

Mars -43895-11-27 08:38 J -14310895.23 -14310895.14 -14310895.04 0.1608 0.1099

Jupiter -43893-03-14 07:54 J -14310422.20 -14310422.17 -14310422.12 0.0494 0.0478

Earth -43893-03-17 04:33 J -14310419.36 -14310419.31 -14310419.26 0.2665 0.2465

Moon -43893-03-17 05:45 J -14310419.30 -14310419.26 -14310419.23 0.2668 0.2560 *

Jupiter -43893-06-12 00:14 J -14310332.64 -14310332.49 -14310332.33 0.0491 0.0109

Saturn -43892-11-20 08:52 J -14309806.19 -14309806.13 -14309806.06 0.0286 0.0256

Saturn -43891-02-17 02:38 J -14309717.53 -14309717.39 -14309717.24 0.0286 0.0138

Saturn -43891-05-16 20:52 J -14309628.79 -14309628.63 -14309628.47 0.0285 0.0016

Saturn -43891-08-13 15:21 J -14309540.01 -14309539.86 -14309539.71 0.0285 0.0107

Venus -43891-10-08 20:23 J -14309483.75 -14309483.65 -14309483.55 0.3671 0.1334

Saturn -43891-11-10 10:18 J -14309451.16 -14309451.07 -14309450.98 0.0285 0.0233

Mars -43890-07-28 15:35 J -14309190.93 -14309190.85 -14309190.77 0.1922 0.1554

Moon -43889-09-07 22:04 J -14308783.66 -14308783.58 -14308783.50 0.2660 0.1961

Earth -43889-09-07 23:02 J -14308783.62 -14308783.54 -14308783.45 0.2661 0.1938 *

Jupiter -43887-08-13 20:52 J -14308078.77 -14308078.63 -14308078.49 0.0537 0.0019

Moon -43886-03-10 07:54 J -14307870.30 -14307870.17 -14307870.04 0.2673 0.0770

Earth -43886-03-10 08:52 J -14307870.26 -14307870.13 -14307870.00 0.2670 0.0772 *

Mars -43885-04-18 17:30 J -14307464.90 -14307464.77 -14307464.64 0.1606 0.0559

Venus -43885-04-23 13:40 J -14307460.04 -14307459.93 -14307459.83 0.3676 0.1116

Earth -43883-09-18 04:18 J -14306582.42 -14306582.32 -14306582.22 0.2667 0.1508

Moon -43883-09-18 05:02 J -14306582.38 -14306582.29 -14306582.19 0.2669 0.1574 *

Uranus -43882-06-08 13:11 J -14306319.00 -14306318.95 -14306318.88 0.0132 0.0119

Uranus -43882-09-04 17:02 J -14306230.88 -14306230.79 -14306230.69 0.0132 0.0100

Uranus -43882-12-01 20:38 J -14306142.74 -14306142.64 -14306142.51 0.0132 0.0081

Uranus -43881-02-28 00:28 J -14306054.60 -14306054.48 -14306054.34 0.0132 0.0062

Jupiter -43881-03-31 02:09 J -14306022.57 -14306022.41 -14306022.26 0.0492 0.0036

Uranus -43881-05-26 04:18 J -14305966.45 -14305966.32 -14305966.17 0.0132 0.0043

Uranus -43881-08-22 08:09 J -14305878.30 -14305878.16 -14305878.02 0.0132 0.0024

Uranus -43881-11-18 11:45 J -14305790.15 -14305790.01 -14305789.86 0.0132 0.0006

Mars -43881-12-17 17:16 J -14305760.92 -14305760.78 -14305760.64 0.1925 0.0396

Uranus -43880-02-14 15:35 J -14305702.00 -14305701.85 -14305701.71 0.0132 0.0014

Uranus -43880-05-13 19:11 J -14305613.84 -14305613.70 -14305613.56 0.0132 0.0033

Uranus -43880-08-09 22:47 J -14305525.68 -14305525.55 -14305525.42 0.0132 0.0051

Uranus -43880-11-06 02:09 J -14305437.52 -14305437.41 -14305437.28 0.0132 0.0070

Venus -43880-11-07 06:42 J -14305436.25 -14305436.22 -14305436.19 0.3681 0.3492

Uranus -43879-02-02 05:45 J -14305349.36 -14305349.26 -14305349.15 0.0132 0.0088

Uranus -43879-05-01 09:21 J -14305261.19 -14305261.11 -14305261.02 0.0132 0.0106

Uranus -43879-07-28 12:42 J -14305173.00 -14305172.97 -14305172.91 0.0132 0.0124

Saturn -43877-09-23 08:52 J -14304385.16 -14304385.13 -14304385.07 0.0273 0.0258

Saturn -43877-12-20 22:47 J -14304296.67 -14304296.55 -14304296.43 0.0273 0.0159

Saturn -43876-03-19 12:28 J -14304208.13 -14304207.98 -14304207.84 0.0273 0.0062

Saturn -43876-06-16 01:40 J -14304119.58 -14304119.43 -14304119.29 0.0273 0.0034

Mars -43876-09-09 02:09 J -14304034.54 -14304034.41 -14304034.27 0.1604 0.0014

Moon -43876-09-10 19:26 J -14304032.80 -14304032.69 -14304032.58 0.2668 0.1110

Earth -43876-09-10 19:54 J -14304032.78 -14304032.67 -14304032.55 0.2662 0.1005 *

Saturn -43876-09-12 14:38 J -14304031.02 -14304030.89 -14304030.76 0.0273 0.0128

Saturn -43876-12-10 03:21 J -14303942.44 -14303942.36 -14303942.27 0.0274 0.0220

Jupiter -43875-06-01 22:47 J -14303768.69 -14303768.55 -14303768.41 0.0536 0.0151

Moon -43873-03-12 08:52 J -14303119.27 -14303119.13 -14303119.00 0.2674 0.0261

Earth -43873-03-12 09:06 J -14303119.26 -14303119.12 -14303118.99 0.2668 0.0347 *

Mars -43871-05-09 19:40 J -14302330.81 -14302330.68 -14302330.56 0.1927 0.0716

Earth -43870-09-21 00:28 J -14301831.54 -14301831.48 -14301831.43 0.2668 0.2354

Moon -43870-09-21 01:11 J -14301831.51 -14301831.45 -14301831.40 0.2664 0.2372 *

Jupiter -43869-01-18 03:21 J -14301712.50 -14301712.36 -14301712.21 0.0492 0.0182

Jupiter -43869-04-16 20:23 J -14301622.74 -14301622.65 -14301622.57 0.0490 0.0413

Mars -43866-01-30 10:47 J -14300604.18 -14300604.05 -14300603.93 0.1603 0.0552

Jupiter -43863-03-21 00:42 J -14299458.59 -14299458.47 -14299458.36 0.0536 0.0319

Jupiter -43863-06-18 16:33 J -14299368.91 -14299368.81 -14299368.71 0.0538 0.0379

Moon -43863-09-13 16:33 J -14299281.93 -14299281.81 -14299281.69 0.2670 0.0055

Earth -43863-09-13 16:47 J -14299281.93 -14299281.80 -14299281.68 0.2664 0.0130 *

Saturn -43862-07-07 01:40 J -14298985.56 -14298985.43 -14298985.31 0.0286 0.0181

Mars -43862-09-29 21:50 J -14298900.63 -14298900.59 -14298900.54 0.1929 0.1810

Saturn -43862-10-03 19:26 J -14298896.84 -14298896.69 -14298896.53 0.0286 0.0062

Saturn -43862-12-31 13:54 J -14298808.08 -14298807.92 -14298807.76 0.0286 0.0061

Saturn -43861-03-29 08:38 J -14298719.26 -14298719.14 -14298719.01 0.0285 0.0187

Earth -43860-03-15 09:35 J -14298368.22 -14298368.10 -14298367.99 0.2666 0.1488

Moon -43860-03-15 10:04 J -14298368.19 -14298368.08 -14298367.98 0.2673 0.1597 *

Venus -43860-03-17 18:42 J -14298365.83 -14298365.72 -14298365.62 0.3707 0.2401

Jupiter -43858-11-06 04:47 J -14297402.41 -14297402.30 -14297402.18 0.0493 0.0328

Jupiter -43857-02-03 21:35 J -14297312.74 -14297312.60 -14297312.47 0.0490 0.0263

Mars -43857-06-21 19:11 J -14297173.80 -14297173.70 -14297173.61 0.1602 0.1114

Mars -43855-05-28 08:52 J -14296468.22 -14296468.13 -14296468.04 0.1608 0.1178

Venus -43855-10-01 20:38 J -14296341.75 -14296341.64 -14296341.54 0.3701 0.2307

Moon -43853-03-07 13:40 J -14295819.03 -14295818.93 -14295818.83 0.2671 0.1728

Earth -43853-03-07 14:52 J -14295818.98 -14295818.88 -14295818.78 0.2671 0.1651 *

Jupiter -43851-01-07 01:54 J -14295148.47 -14295148.42 -14295148.36 0.0534 0.0495

Jupiter -43851-04-06 18:14 J -14295058.87 -14295058.74 -14295058.61 0.0537 0.0207

Mars -43850-01-26 15:35 J -14294763.92 -14294763.85 -14294763.78 0.1922 0.1646

Earth -43850-09-16 13:11 J -14294531.07 -14294530.95 -14294530.83 0.2665 0.0796

Moon -43850-09-16 13:54 J -14294531.04 -14294530.92 -14294530.81 0.2670 0.0785 *

Saturn -43847-05-10 00:28 J -14293564.58 -14293564.48 -14293564.36 0.0274 0.0188

Saturn -43847-08-06 14:09 J -14293476.04 -14293475.91 -14293475.76 0.0274 0.0090

Saturn -43847-11-03 03:35 J -14293387.49 -14293387.35 -14293387.20 0.0274 0.0009

Saturn -43846-01-30 16:47 J -14293298.93 -14293298.80 -14293298.67 0.0274 0.0102

Saturn -43846-04-29 05:30 J -14293210.36 -14293210.27 -14293210.16 0.0274 0.0196

Jupiter -43846-08-25 06:14 J -14293092.28 -14293092.24 -14293092.21 0.0494 0.0477

Mars -43846-10-18 17:45 J -14293037.89 -14293037.76 -14293037.64 0.1606 0.0639

Jupiter -43846-11-22 22:18 J -14293002.72 -14293002.57 -14293002.41 0.0491 0.0109

Moon -43843-09-09 03:21 J -14291981.45 -14291981.36 -14291981.27 0.2661 0.1867

Earth -43843-09-09 04:18 J -14291981.41 -14291981.32 -14291981.23 0.2661 0.1770 *

Mars -43841-06-17 17:45 J -14291333.89 -14291333.76 -14291333.63 0.1925 0.0520

Moon -43840-03-10 13:40 J -14291068.06 -14291067.93 -14291067.80 0.2673 0.0707

Earth -43840-03-10 14:38 J -14291068.02 -14291067.89 -14291067.76 0.2669 0.0573 *

Venus -43840-10-30 00:57 J -14290834.53 -14290834.46 -14290834.40 0.3668 0.2873

Jupiter -43839-01-23 19:40 J -14290748.83 -14290748.68 -14290748.54 0.0536 0.0030

Uranus -43839-02-26 08:38 J -14290715.19 -14290715.14 -14290715.08 0.0147 0.0137

Uranus -43839-05-25 14:52 J -14290626.98 -14290626.88 -14290626.76 0.0147 0.0108

Uranus -43839-08-21 21:21 J -14290538.75 -14290538.61 -14290538.46 0.0147 0.0079

Uranus -43839-11-18 03:50 J -14290450.49 -14290450.34 -14290450.18 0.0147 0.0049

Uranus -43838-02-14 10:33 J -14290362.23 -14290362.06 -14290361.89 0.0147 0.0019

Uranus -43838-05-13 17:02 J -14290273.96 -14290273.79 -14290273.62 0.0147 0.0011

Uranus -43838-08-09 23:45 J -14290185.67 -14290185.51 -14290185.35 0.0147 0.0041

Uranus -43838-11-06 06:28 J -14290097.38 -14290097.23 -14290097.08 0.0147 0.0072

Uranus -43837-02-02 13:11 J -14290009.07 -14290008.95 -14290008.82 0.0147 0.0103

Uranus -43837-04-30 19:54 J -14289920.73 -14289920.67 -14289920.59 0.0147 0.0134

Earth -43837-09-18 09:21 J -14289780.20 -14289780.11 -14289780.01 0.2667 0.1661

Moon -43837-09-18 10:18 J -14289780.16 -14289780.07 -14289779.98 0.2668 0.1746 *

Mars -43836-03-10 02:23 J -14289607.54 -14289607.40 -14289607.26 0.1605 0.0091

Venus -43834-05-15 18:14 J -14288810.85 -14288810.74 -14288810.63 0.3673 0.0395

Jupiter -43834-09-10 23:45 J -14288692.67 -14288692.51 -14288692.35 0.0492 0.0038

Saturn -43833-11-23 04:04 J -14288253.43 -14288253.33 -14288253.21 0.0286 0.0202

Saturn -43832-02-19 22:04 J -14288164.73 -14288164.58 -14288164.42 0.0286 0.0082

Saturn -43832-05-19 16:33 J -14288075.98 -14288075.81 -14288075.65 0.0285 0.0041

Saturn -43832-08-16 11:02 J -14287987.17 -14287987.04 -14287986.90 0.0285 0.0165

Mars -43832-11-07 19:40 J -14287903.81 -14287903.68 -14287903.55 0.1927 0.0610

Moon -43830-09-12 00:42 J -14287230.59 -14287230.47 -14287230.36 0.2668 0.0831

Earth -43830-09-12 01:11 J -14287230.57 -14287230.45 -14287230.33 0.2662 0.0843 *

Venus -43829-11-28 11:30 J -14286787.11 -14286787.02 -14286786.93 0.3677 0.2028

Jupiter -43828-11-11 20:23 J -14286438.78 -14286438.65 -14286438.51 0.0536 0.0158

Jupiter -43827-02-09 11:45 J -14286349.02 -14286349.01 -14286348.99 0.0539 0.0533

Moon -43827-03-13 14:38 J -14286317.02 -14286316.89 -14286316.76 0.2674 0.0612

Earth -43827-03-13 14:52 J -14286317.02 -14286316.88 -14286316.75 0.2667 0.0545 *

Mars -43827-07-31 11:02 J -14286177.17 -14286177.04 -14286176.91 0.1603 0.0464

Earth -43824-09-21 05:30 J -14285029.31 -14285029.27 -14285029.23 0.2669 0.2502

Moon -43824-09-21 06:14 J -14285029.27 -14285029.24 -14285029.21 0.2664 0.2560 *

Mars -43822-03-30 22:18 J -14284473.63 -14284473.57 -14284473.51 0.1929 0.1692

Jupiter -43822-06-30 01:40 J -14284382.58 -14284382.43 -14284382.28 0.0492 0.0178

Jupiter -43822-09-27 18:28 J -14284292.81 -14284292.73 -14284292.64 0.0490 0.0418

Moon -43820-03-05 20:09 J -14283767.68 -14283767.66 -14283767.64 0.2668 0.2611

Earth -43820-03-05 20:52 J -14283767.67 -14283767.63 -14283767.58 0.2672 0.2512 *

Neptune -43819-04-15 07:11 J -14283362.24 -14283362.20 -14283362.16 0.0088 0.0085

Neptune -43819-07-12 09:06 J -14283274.18 -14283274.12 -14283274.04 0.0088 0.0078

Neptune -43819-10-08 11:16 J -14283186.11 -14283186.03 -14283185.93 0.0088 0.0071

Neptune -43818-01-04 13:26 J -14283098.04 -14283097.94 -14283097.83 0.0088 0.0063

Neptune -43818-04-02 15:21 J -14283009.97 -14283009.86 -14283009.73 0.0088 0.0057

Neptune -43818-06-29 17:30 J -14282921.89 -14282921.77 -14282921.63 0.0088 0.0049

Neptune -43818-09-25 19:40 J -14282833.81 -14282833.68 -14282833.54 0.0088 0.0042

Saturn -43818-09-27 02:52 J -14282832.47 -14282832.38 -14282832.28 0.0273 0.0211

Mars -43818-12-21 19:11 J -14282746.80 -14282746.70 -14282746.59 0.1602 0.1032

Neptune -43818-12-22 21:35 J -14282745.73 -14282745.60 -14282745.45 0.0088 0.0036

Saturn -43818-12-24 16:33 J -14282743.94 -14282743.81 -14282743.67 0.0273 0.0113

Neptune -43817-03-19 23:45 J -14282657.65 -14282657.51 -14282657.36 0.0088 0.0028

Saturn -43817-03-22 05:59 J -14282655.39 -14282655.25 -14282655.10 0.0273 0.0017

Neptune -43817-06-16 01:54 J -14282569.57 -14282569.42 -14282569.27 0.0088 0.0021

Saturn -43817-06-18 19:11 J -14282566.84 -14282566.70 -14282566.56 0.0273 0.0078

Neptune -43817-09-12 03:50 J -14282481.49 -14282481.34 -14282481.18 0.0088 0.0014

Earth -43817-09-13 21:50 J -14282479.71 -14282479.59 -14282479.46 0.2664 0.0104

Moon -43817-09-13 22:04 J -14282479.70 -14282479.58 -14282479.46 0.2670 0.0018 *

Saturn -43817-09-15 08:09 J -14282478.27 -14282478.16 -14282478.05 0.0273 0.0172

Neptune -43817-12-09 05:59 J -14282393.41 -14282393.25 -14282393.10 0.0088 0.0007

Saturn -43817-12-12 20:52 J -14282389.67 -14282389.63 -14282389.60 0.0274 0.0263

Neptune -43816-03-07 07:54 J -14282305.32 -14282305.17 -14282305.01 0.0088 0.0001

Neptune -43816-06-03 09:50 J -14282217.24 -14282217.09 -14282216.93 0.0088 0.0007

Neptune -43816-08-30 11:59 J -14282129.15 -14282129.00 -14282128.85 0.0088 0.0013

Jupiter -43816-08-30 22:18 J -14282128.69 -14282128.57 -14282128.46 0.0536 0.0329

Mars -43816-11-26 09:06 J -14282041.20 -14282041.12 -14282041.04 0.1608 0.1259

Neptune -43816-11-26 13:54 J -14282041.07 -14282040.92 -14282040.77 0.0088 0.0020 *

Jupiter -43816-11-28 14:09 J -14282039.01 -14282038.91 -14282038.81 0.0538 0.0369

Neptune -43815-02-22 15:50 J -14281952.98 -14281952.84 -14281952.69 0.0088 0.0027

Neptune -43815-05-21 17:30 J -14281864.90 -14281864.77 -14281864.61 0.0088 0.0035

Neptune -43815-08-17 19:40 J -14281776.81 -14281776.68 -14281776.54 0.0088 0.0041

Neptune -43815-11-13 21:35 J -14281688.72 -14281688.60 -14281688.46 0.0088 0.0048

Neptune -43814-02-09 23:30 J -14281600.63 -14281600.52 -14281600.39 0.0088 0.0054

Earth -43814-03-16 15:21 J -14281565.97 -14281565.86 -14281565.76 0.2666 0.1692

Moon -43814-03-16 15:50 J -14281565.95 -14281565.84 -14281565.73 0.2672 0.1659 *

Neptune -43814-05-09 01:26 J -14281512.54 -14281512.44 -14281512.32 0.0088 0.0061

Neptune -43814-08-05 03:21 J -14281424.45 -14281424.36 -14281424.26 0.0088 0.0068

Neptune -43814-11-01 05:02 J -14281336.35 -14281336.29 -14281336.19 0.0088 0.0075

Neptune -43813-01-28 07:11 J -14281248.25 -14281248.20 -14281248.13 0.0088 0.0081

Neptune -43813-04-25 08:52 J -14281160.14 -14281160.13 -14281160.09 0.0088 0.0088

Mars -43811-07-27 16:04 J -14280336.88 -14280336.83 -14280336.78 0.1922 0.1768

Jupiter -43810-04-18 03:06 J -14280072.48 -14280072.37 -14280072.25 0.0493 0.0323

Jupiter -43810-07-16 19:40 J -14279982.81 -14279982.68 -14279982.54 0.0490 0.0266

Moon -43810-09-07 11:30 J -14279930.05 -14279930.02 -14279929.99 0.2657 0.2573

Earth -43810-09-07 12:28 J -14279930.01 -14279929.98 -14279929.95 0.2660 0.2553 *

Moon -43807-03-08 19:11 J -14279016.81 -14279016.70 -14279016.59 0.2672 0.1527

Earth -43807-03-08 20:23 J -14279016.76 -14279016.65 -14279016.54 0.2671 0.1467 *

Mars -43806-04-18 17:45 J -14278610.88 -14278610.76 -14278610.64 0.1606 0.0717

Jupiter -43804-06-18 23:59 J -14277818.55 -14277818.50 -14277818.44 0.0535 0.0498

Jupiter -43804-09-16 16:18 J -14277728.95 -14277728.82 -14277728.68 0.0538 0.0207

Earth -43804-09-16 18:28 J -14277728.85 -14277728.73 -14277728.62 0.2666 0.0955 *

Moon -43804-09-16 18:57 J -14277728.82 -14277728.71 -14277728.60 0.2671 0.1075 *

Venus -43804-10-22 18:42 J -14277692.85 -14277692.72 -14277692.58 0.3706 0.0752

Saturn -43803-04-12 03:06 J -14277521.45 -14277521.37 -14277521.29 0.0286 0.0246

Saturn -43803-07-09 20:52 J -14277432.77 -14277432.63 -14277432.49 0.0286 0.0127

Saturn -43803-10-06 15:06 J -14277344.04 -14277343.87 -14277343.71 0.0286 0.0009

Saturn -43802-01-03 09:21 J -14277255.25 -14277255.11 -14277254.95 0.0286 0.0119

Saturn -43802-04-02 04:18 J -14277166.40 -14277166.32 -14277166.23 0.0285 0.0244

Mars -43802-12-17 17:45 J -14276906.89 -14276906.76 -14276906.63 0.1924 0.0612

Jupiter -43798-02-04 04:47 J -14275762.34 -14275762.30 -14275762.25 0.0493 0.0467

Uranus -43798-04-01 17:02 J -14275705.80 -14275705.79 -14275705.77 0.0132 0.0131

Jupiter -43798-05-04 20:52 J -14275672.78 -14275672.63 -14275672.47 0.0491 0.0118

Uranus -43798-06-28 21:06 J -14275617.70 -14275617.62 -14275617.55 0.0132 0.0111

Uranus -43798-09-25 00:42 J -14275529.57 -14275529.47 -14275529.36 0.0132 0.0092

Uranus -43798-12-22 04:33 J -14275441.43 -14275441.31 -14275441.18 0.0132 0.0073

Uranus -43797-03-19 08:23 J -14275353.28 -14275353.15 -14275353.01 0.0132 0.0054

Uranus -43797-06-15 11:59 J -14275265.13 -14275265.00 -14275264.85 0.0132 0.0035

Mars -43797-09-08 02:38 J -14275180.53 -14275180.39 -14275180.26 0.1605 0.0173

Moon -43797-09-09 08:38 J -14275179.23 -14275179.14 -14275179.04 0.2664 0.1676

Earth -43797-09-09 09:35 J -14275179.20 -14275179.10 -14275179.00 0.2661 0.1605 *

Uranus -43797-09-11 15:50 J -14275176.98 -14275176.84 -14275176.69 0.0132 0.0016

Uranus -43797-12-08 19:26 J -14275088.83 -14275088.69 -14275088.54 0.0132 0.0005

Uranus -43796-03-06 23:16 J -14275000.68 -14275000.53 -14275000.39 0.0132 0.0022

Uranus -43796-06-03 02:52 J -14274912.52 -14274912.38 -14274912.24 0.0132 0.0040

Uranus -43796-08-30 06:14 J -14274824.36 -14274824.24 -14274824.10 0.0132 0.0059

Uranus -43796-11-26 10:04 J -14274736.20 -14274736.08 -14274735.96 0.0132 0.0077

Uranus -43795-02-22 13:40 J -14274648.03 -14274647.93 -14274647.83 0.0132 0.0095

Uranus -43795-05-21 17:16 J -14274559.86 -14274559.78 -14274559.71 0.0132 0.0113

Uranus -43795-08-17 20:38 J -14274471.65 -14274471.64 -14274471.63 0.0132 0.0131

Moon -43794-03-11 19:26 J -14274265.82 -14274265.69 -14274265.55 0.2673 0.0403

Earth -43794-03-11 20:23 J -14274265.79 -14274265.65 -14274265.52 0.2669 0.0383 *

Mars -43792-05-08 19:54 J -14273476.80 -14273476.67 -14273476.53 0.1927 0.0503

Jupiter -43792-07-05 18:14 J -14273418.88 -14273418.74 -14273418.60 0.0536 0.0036

Earth -43791-09-19 14:38 J -14272977.98 -14272977.89 -14272977.80 0.2667 0.1813

Moon -43791-09-19 15:21 J -14272977.94 -14272977.86 -14272977.77 0.2666 0.1822 *

Saturn -43788-02-13 04:18 J -14272100.38 -14272100.32 -14272100.25 0.0273 0.0242

Saturn -43788-05-12 17:59 J -14272011.87 -14272011.75 -14272011.62 0.0273 0.0144

Saturn -43788-08-09 07:40 J -14271923.33 -14271923.18 -14271923.04 0.0274 0.0046

Saturn -43788-11-05 20:52 J -14271834.77 -14271834.63 -14271834.49 0.0274 0.0050

Mars -43787-01-29 11:16 J -14271750.17 -14271750.03 -14271749.90 0.1603 0.0384

Saturn -43787-02-02 09:50 J -14271746.21 -14271746.09 -14271745.97 0.0274 0.0144

Saturn -43787-05-01 22:33 J -14271657.63 -14271657.56 -14271657.48 0.0274 0.0236

Jupiter -43786-02-20 21:50 J -14271362.74 -14271362.59 -14271362.43 0.0492 0.0036

Moon -43784-09-12 05:59 J -14270428.37 -14270428.25 -14270428.13 0.2669 0.0760

Earth -43784-09-12 06:28 J -14270428.35 -14270428.23 -14270428.11 0.2663 0.0677 *

Venus -43783-06-05 22:47 J -14270161.64 -14270161.55 -14270161.46 0.3669 0.1934

Mars -43783-09-28 22:33 J -14270046.63 -14270046.56 -14270046.48 0.1929 0.1581

Pluto -43782-03-28 02:23 J -14269866.43 -14269866.40 -14269866.32 0.0065 0.0061

Pluto -43782-06-24 03:35 J -14269778.41 -14269778.35 -14269778.24 0.0065 0.0056

Pluto -43782-09-20 04:47 J -14269690.38 -14269690.30 -14269690.17 0.0065 0.0052

Pluto -43782-12-17 05:59 J -14269602.35 -14269602.25 -14269602.11 0.0065 0.0047

Moon -43781-03-13 20:23 J -14269514.78 -14269514.65 -14269514.51 0.2674 0.0675

Earth -43781-03-13 20:38 J -14269514.77 -14269514.64 -14269514.51 0.2667 0.0745 *

Pluto -43781-03-14 07:26 J -14269514.31 -14269514.19 -14269514.05 0.0065 0.0041

Pluto -43781-06-10 08:38 J -14269426.27 -14269426.14 -14269425.99 0.0065 0.0036

Pluto -43781-09-06 09:50 J -14269338.23 -14269338.09 -14269337.93 0.0065 0.0031

Pluto -43781-12-03 11:16 J -14269250.18 -14269250.03 -14269249.87 0.0066 0.0026

Pluto -43780-03-01 12:28 J -14269162.13 -14269161.98 -14269161.81 0.0066 0.0021

Jupiter -43780-04-23 19:26 J -14269108.82 -14269108.69 -14269108.55 0.0536 0.0143

Pluto -43780-05-28 13:40 J -14269074.09 -14269073.93 -14269073.76 0.0066 0.0016

Pluto -43780-08-24 14:52 J -14268986.04 -14268985.88 -14268985.70 0.0066 0.0011

Pluto -43780-11-20 16:18 J -14268897.99 -14268897.82 -14268897.65 0.0066 0.0005

Pluto -43779-02-16 17:30 J -14268809.93 -14268809.77 -14268809.59 0.0066 0.0002

Pluto -43779-05-15 18:57 J -14268721.88 -14268721.71 -14268721.54 0.0066 0.0005

Pluto -43779-08-11 20:09 J -14268633.83 -14268633.66 -14268633.49 0.0066 0.0011

Pluto -43779-11-07 21:21 J -14268545.77 -14268545.61 -14268545.44 0.0066 0.0016

Pluto -43778-02-03 22:47 J -14268457.71 -14268457.55 -14268457.39 0.0066 0.0022

Pluto -43778-05-03 00:14 J -14268369.65 -14268369.49 -14268369.34 0.0066 0.0027

Mars -43778-06-21 19:40 J -14268319.79 -14268319.68 -14268319.57 0.1602 0.0943

Pluto -43778-07-30 01:11 J -14268281.58 -14268281.45 -14268281.29 0.0067 0.0033

Earth -43778-09-22 10:33 J -14268227.07 -14268227.06 -14268227.05 0.2669 0.2649

Pluto -43778-10-26 02:52 J -14268193.52 -14268193.38 -14268193.24 0.0067 0.0038

Venus -43778-12-20 16:04 J -14268137.94 -14268137.83 -14268137.72 0.3674 0.0530

Pluto -43777-01-22 03:50 J -14268105.45 -14268105.34 -14268105.19 0.0067 0.0044

Pluto -43777-04-19 05:30 J -14268017.38 -14268017.27 -14268017.15 0.0067 0.0049

Pluto -43777-07-16 06:42 J -14267929.30 -14267929.22 -14267929.11 0.0067 0.0055

Pluto -43777-10-12 07:54 J -14267841.22 -14267841.17 -14267841.08 0.0067 0.0061

Pluto -43776-01-08 09:35 J -14267753.11 -14267753.10 -14267753.07 0.0067 0.0067

Mars -43776-05-27 09:06 J -14267614.19 -14267614.12 -14267614.04 0.1608 0.1338

Jupiter -43775-12-09 23:30 J -14267052.67 -14267052.52 -14267052.37 0.0492 0.0179

Moon -43774-03-07 01:26 J -14266965.50 -14266965.44 -14266965.37 0.2669 0.2324

Earth -43774-03-07 02:23 J -14266965.46 -14266965.40 -14266965.33 0.2672 0.2334 *

Jupiter -43774-03-09 16:33 J -14266962.90 -14266962.81 -14266962.73 0.0490 0.0417

Saturn -43774-08-30 05:16 J -14266789.33 -14266789.28 -14266789.22 0.0286 0.0268

Saturn -43774-11-26 23:02 J -14266700.67 -14266700.54 -14266700.40 0.0286 0.0150

Saturn -43773-02-23 17:02 J -14266611.95 -14266611.79 -14266611.62 0.0286 0.0030

Saturn -43773-05-22 11:30 J -14266523.17 -14266523.02 -14266522.86 0.0285 0.0094

Saturn -43773-08-19 06:14 J -14266434.34 -14266434.24 -14266434.13 0.0285 0.0220

Venus -43772-07-05 09:06 J -14266114.18 -14266114.12 -14266114.05 0.3679 0.2924

Mars -43771-01-25 16:18 J -14265909.84 -14265909.82 -14265909.79 0.1922 0.1883

Earth -43771-09-15 03:06 J -14265677.49 -14265677.37 -14265677.25 0.2664 0.0224

Moon -43771-09-15 03:21 J -14265677.48 -14265677.36 -14265677.24 0.2671 0.0310 *

Mars -43769-11-11 03:50 J -14264889.38 -14264889.34 -14264889.30 0.1601 0.1517

Jupiter -43768-02-09 20:09 J -14264798.77 -14264798.66 -14264798.55 0.0535 0.0333

Earth -43768-03-16 21:06 J -14264763.72 -14264763.62 -14264763.53 0.2665 0.1895

Moon -43768-03-16 21:50 J -14264763.67 -14264763.59 -14264763.50 0.2670 0.2039 *

Jupiter -43768-05-10 11:59 J -14264709.10 -14264709.00 -14264708.90 0.0538 0.0364

Mars -43767-10-17 17:59 J -14264183.86 -14264183.75 -14264183.63 0.1606 0.0802

Moon -43764-09-07 16:47 J -14263127.84 -14263127.80 -14263127.76 0.2657 0.2499

Earth -43764-09-07 17:45 J -14263127.81 -14263127.76 -14263127.70 0.2660 0.2381 *

Jupiter -43763-09-28 01:26 J -14262742.55 -14262742.44 -14262742.32 0.0493 0.0318

Jupiter -43763-12-26 17:59 J -14262652.88 -14262652.75 -14262652.61 0.0491 0.0273

Mars -43762-06-17 17:59 J -14262479.87 -14262479.75 -14262479.62 0.1925 0.0731

Moon -43761-03-09 00:57 J -14262214.58 -14262214.46 -14262214.35 0.2672 0.1394

Earth -43761-03-09 02:09 J -14262214.53 -14262214.41 -14262214.30 0.2670 0.1277 *

Saturn -43759-07-03 06:57 J -14261368.25 -14261368.21 -14261368.18 0.0273 0.0264

Saturn -43759-09-29 20:38 J -14261279.76 -14261279.64 -14261279.52 0.0273 0.0165

Saturn -43759-12-27 10:04 J -14261191.22 -14261191.08 -14261190.93 0.0273 0.0069

Saturn -43758-03-25 23:30 J -14261102.67 -14261102.52 -14261102.38 0.0273 0.0028

Saturn -43758-06-22 12:28 J -14261014.11 -14261013.98 -14261013.85 0.0273 0.0121

Earth -43758-09-17 23:30 J -14260926.63 -14260926.52 -14260926.41 0.2666 0.1106

Moon -43758-09-18 00:14 J -14260926.60 -14260926.49 -14260926.38 0.2670 0.1088 *

Saturn -43758-09-19 01:26 J -14260925.53 -14260925.44 -14260925.36 0.0273 0.0214

Mars -43757-03-09 02:52 J -14260753.52 -14260753.38 -14260753.25 0.1605 0.0257

Jupiter -43757-11-28 21:35 J -14260488.64 -14260488.60 -14260488.55 0.0535 0.0507

Jupiter -43756-02-26 14:09 J -14260399.04 -14260398.91 -14260398.78 0.0538 0.0198

Uranus -43755-03-18 15:50 J -14260013.90 -14260013.84 -14260013.75 0.0147 0.0129

Uranus -43755-06-14 22:18 J -14259925.68 -14259925.57 -14259925.44 0.0147 0.0100

Uranus -43755-09-11 05:02 J -14259837.44 -14259837.29 -14259837.15 0.0147 0.0070

Uranus -43755-12-08 11:16 J -14259749.19 -14259749.03 -14259748.86 0.0147 0.0041

Uranus -43754-03-06 17:59 J -14259660.92 -14259660.75 -14259660.58 0.0147 0.0011

Uranus -43754-06-03 00:28 J -14259572.64 -14259572.48 -14259572.31 0.0147 0.0020

Uranus -43754-08-30 07:11 J -14259484.36 -14259484.20 -14259484.04 0.0147 0.0050

Uranus -43754-11-26 13:40 J -14259396.06 -14259395.93 -14259395.77 0.0147 0.0081

Uranus -43753-02-22 20:23 J -14259307.74 -14259307.65 -14259307.52 0.0147 0.0112

Uranus -43753-05-21 03:21 J -14259219.39 -14259219.36 -14259219.31 0.0147 0.0143

Mars -43753-11-06 20:09 J -14259049.79 -14259049.66 -14259049.52 0.1927 0.0395

Jupiter -43751-07-17 03:06 J -14258432.42 -14258432.37 -14258432.31 0.0493 0.0461

Moon -43751-09-10 13:54 J -14258377.02 -14258376.92 -14258376.81 0.2665 0.1474

Earth -43751-09-10 14:52 J -14258376.98 -14258376.88 -14258376.78 0.2661 0.1438 *

Jupiter -43751-10-14 19:11 J -14258342.85 -14258342.70 -14258342.54 0.0491 0.0125

Moon -43748-03-12 01:26 J -14257463.58 -14257463.44 -14257463.31 0.2674 0.0244

Earth -43748-03-12 01:54 J -14257463.55 -14257463.42 -14257463.28 0.2668 0.0196 *

Mars -43748-07-30 11:16 J -14257323.16 -14257323.03 -14257322.89 0.1603 0.0303

Venus -43747-05-29 18:57 J -14257019.85 -14257019.71 -14257019.58 0.3704 0.0910

Earth -43745-09-19 19:40 J -14256175.76 -14256175.68 -14256175.60 0.2668 0.1964

Moon -43745-09-19 20:38 J -14256175.71 -14256175.64 -14256175.57 0.2666 0.2088 *

Jupiter -43745-12-15 16:18 J -14256088.96 -14256088.82 -14256088.68 0.0537 0.0035

Saturn -43744-04-14 21:35 J -14255968.71 -14255968.60 -14255968.48 0.0286 0.0196

Saturn -43744-07-12 15:35 J -14255880.01 -14255879.85 -14255879.69 0.0286 0.0076

Saturn -43744-10-09 09:50 J -14255791.25 -14255791.09 -14255790.93 0.0286 0.0046

Saturn -43743-01-06 04:18 J -14255702.44 -14255702.32 -14255702.18 0.0286 0.0172

Mars -43743-03-29 22:33 J -14255619.64 -14255619.56 -14255619.47 0.1928 0.1489

Jupiter -43739-08-02 20:52 J -14254032.79 -14254032.63 -14254032.48 0.0491 0.0026

Mars -43739-12-20 19:40 J -14253892.79 -14253892.68 -14253892.56 0.1602 0.0863

Moon -43738-09-13 11:16 J -14253626.15 -14253626.03 -14253625.91 0.2669 0.0524

Earth -43738-09-13 11:45 J -14253626.13 -14253626.01 -14253625.89 0.2663 0.0520 *

Neptune -43737-01-09 14:52 J -14253507.92 -14253507.88 -14253507.82 0.0089 0.0084

Neptune -43737-04-06 17:02 J -14253419.86 -14253419.79 -14253419.70 0.0089 0.0077

Neptune -43737-07-03 19:11 J -14253331.78 -14253331.70 -14253331.59 0.0089 0.0070

Neptune -43737-09-29 21:21 J -14253243.71 -14253243.61 -14253243.48 0.0089 0.0063

Mars -43737-11-25 09:21 J -14253187.17 -14253187.11 -14253187.05 0.1608 0.1415

Neptune -43737-12-26 23:59 J -14253155.63 -14253155.50 -14253155.38 0.0089 0.0055

Neptune -43736-03-25 02:09 J -14253067.54 -14253067.41 -14253067.27 0.0089 0.0048

Neptune -43736-06-21 04:18 J -14252979.46 -14252979.32 -14252979.17 0.0089 0.0041

Neptune -43736-09-17 06:28 J -14252891.37 -14252891.23 -14252891.07 0.0089 0.0034

Neptune -43736-12-14 08:38 J -14252803.28 -14252803.14 -14252802.97 0.0089 0.0027

Neptune -43735-03-12 11:16 J -14252715.19 -14252715.03 -14252714.88 0.0089 0.0019

Moon -43735-03-15 02:09 J -14252712.53 -14252712.41 -14252712.28 0.2674 0.1004

Earth -43735-03-15 02:09 J -14252712.53 -14252712.41 -14252712.28 0.2667 0.0941 *

Neptune -43735-06-08 13:26 J -14252627.10 -14252626.94 -14252626.78 0.0089 0.0012

Neptune -43735-09-04 15:50 J -14252539.00 -14252538.84 -14252538.68 0.0089 0.0005

Neptune -43735-12-01 17:59 J -14252450.91 -14252450.75 -14252450.58 0.0089 0.0003

Neptune -43734-02-27 20:23 J -14252362.81 -14252362.65 -14252362.49 0.0089 0.0010

Neptune -43734-05-26 22:33 J -14252274.71 -14252274.56 -14252274.39 0.0089 0.0018

Neptune -43734-08-23 00:57 J -14252186.61 -14252186.46 -14252186.30 0.0089 0.0025

Neptune -43734-11-19 03:21 J -14252098.51 -14252098.36 -14252098.21 0.0089 0.0032

Neptune -43733-02-15 05:30 J -14252010.41 -14252010.27 -14252010.11 0.0089 0.0040

Neptune -43733-05-13 08:09 J -14251922.30 -14251922.16 -14251922.02 0.0089 0.0047

Neptune -43733-08-09 10:18 J -14251834.19 -14251834.07 -14251833.93 0.0089 0.0055

Jupiter -43733-10-03 18:14 J -14251778.88 -14251778.74 -14251778.60 0.0536 0.0135

Neptune -43733-11-05 12:57 J -14251746.08 -14251745.96 -14251745.85 0.0089 0.0062

Neptune -43732-02-01 15:06 J -14251657.96 -14251657.87 -14251657.76 0.0089 0.0070

Neptune -43732-04-30 17:16 J -14251569.84 -14251569.78 -14251569.68 0.0089 0.0078

Venus -43732-06-27 03:21 J -14251512.39 -14251512.36 -14251512.33 0.3666 0.3492

Neptune -43732-07-27 19:54 J -14251481.71 -14251481.67 -14251481.62 0.0089 0.0085

Saturn -43729-02-16 21:35 J -14250547.70 -14250547.60 -14250547.50 0.0273 0.0199

Mars -43729-05-12 04:04 J -14250462.39 -14250462.33 -14250462.27 0.1601 0.1431

Saturn -43729-05-15 11:16 J -14250459.17 -14250459.03 -14250458.89 0.0273 0.0101

Saturn -43729-08-12 00:42 J -14250370.62 -14250370.47 -14250370.33 0.0274 0.0006

Saturn -43729-11-08 13:40 J -14250282.06 -14250281.93 -14250281.79 0.0274 0.0091

Saturn -43728-02-05 02:38 J -14250193.49 -14250193.39 -14250193.28 0.0274 0.0184

Moon -43728-03-07 06:57 J -14250163.27 -14250163.21 -14250163.14 0.2670 0.2302

Earth -43728-03-07 08:09 J -14250163.24 -14250163.16 -14250163.09 0.2672 0.2147 *

Mars -43727-04-17 18:14 J -14249756.85 -14249756.74 -14249756.63 0.1606 0.0880

Jupiter -43727-05-21 21:50 J -14249722.74 -14249722.59 -14249722.44 0.0492 0.0174

Jupiter -43727-08-19 14:52 J -14249632.96 -14249632.88 -14249632.80 0.0490 0.0422

Venus -43726-01-10 20:38 J -14249488.74 -14249488.64 -14249488.53 0.3671 0.0998

Earth -43725-09-15 08:23 J -14248875.27 -14248875.15 -14248875.03 0.2665 0.0388

Moon -43725-09-15 08:38 J -14248875.26 -14248875.14 -14248875.02 0.2671 0.0370 *

Mars -43723-12-16 18:28 J -14248052.85 -14248052.73 -14248052.61 0.1924 0.0848

Earth -43722-03-18 02:52 J -14247961.46 -14247961.38 -14247961.30 0.2665 0.2103

Moon -43722-03-18 03:50 J -14247961.42 -14247961.34 -14247961.25 0.2669 0.2099 *

Jupiter -43721-07-22 19:26 J -14247468.81 -14247468.69 -14247468.57 0.0535 0.0313

Venus -43721-07-26 13:54 J -14247465.02 -14247464.92 -14247464.82 0.3675 0.1436

Jupiter -43721-10-20 11:16 J -14247379.13 -14247379.03 -14247378.93 0.0538 0.0383

Mars -43718-09-08 03:06 J -14246326.51 -14246326.37 -14246326.24 0.1605 0.0339

Moon -43718-09-08 22:04 J -14246325.64 -14246325.58 -14246325.51 0.2659 0.2214

Earth -43718-09-08 23:02 J -14246325.60 -14246325.54 -14246325.47 0.2660 0.2214 *

Jupiter -43715-03-09 23:30 J -14245412.63 -14245412.52 -14245412.40 0.0493 0.0317

Moon -43715-03-10 06:28 J -14245412.35 -14245412.23 -14245412.11 0.2671 0.1123

Earth -43715-03-10 07:40 J -14245412.30 -14245412.18 -14245412.06 0.2670 0.1092 *

Jupiter -43715-06-07 16:04 J -14245322.96 -14245322.83 -14245322.70 0.0491 0.0274

Saturn -43715-09-01 23:16 J -14245236.62 -14245236.53 -14245236.42 0.0286 0.0222

Saturn -43715-11-29 17:16 J -14245147.93 -14245147.78 -14245147.63 0.0286 0.0103

Saturn -43714-02-26 11:30 J -14245059.19 -14245059.02 -14245058.86 0.0286 0.0020

Uranus -43714-04-22 00:28 J -14245004.52 -14245004.48 -14245004.42 0.0132 0.0124

Saturn -43714-05-26 05:59 J -14244970.39 -14244970.25 -14244970.11 0.0285 0.0144

Uranus -43714-07-19 04:33 J -14244916.40 -14244916.31 -14244916.22 0.0132 0.0104

Saturn -43714-08-23 00:57 J -14244881.50 -14244881.46 -14244881.40 0.0285 0.0270

Uranus -43714-10-15 08:09 J -14244828.26 -14244828.16 -14244828.04 0.0132 0.0085

Uranus -43713-01-11 11:59 J -14244740.12 -14244740.00 -14244739.87 0.0132 0.0066

Uranus -43713-04-08 15:50 J -14244651.97 -14244651.84 -14244651.70 0.0132 0.0047

Mars -43713-05-07 20:38 J -14244622.78 -14244622.64 -14244622.51 0.1926 0.0288

Uranus -43713-07-05 19:40 J -14244563.82 -14244563.68 -14244563.54 0.0132 0.0028

Uranus -43713-10-01 23:16 J -14244475.67 -14244475.53 -14244475.38 0.0132 0.0010

Uranus -43713-12-29 03:06 J -14244387.52 -14244387.37 -14244387.23 0.0132 0.0010

Uranus -43712-03-27 06:42 J -14244299.36 -14244299.22 -14244299.08 0.0132 0.0029

Uranus -43712-06-23 10:18 J -14244211.20 -14244211.07 -14244210.93 0.0132 0.0047

Earth -43712-09-18 04:47 J -14244124.41 -14244124.30 -14244124.20 0.2666 0.1262

Moon -43712-09-18 05:30 J -14244124.37 -14244124.27 -14244124.17 0.2669 0.1383 *

Uranus -43712-09-19 13:54 J -14244123.04 -14244122.92 -14244122.79 0.0132 0.0066

Uranus -43712-12-16 17:30 J -14244034.88 -14244034.77 -14244034.66 0.0132 0.0084

Uranus -43711-03-14 21:06 J -14243946.71 -14243946.62 -14243946.53 0.0132 0.0102

Uranus -43711-06-11 00:42 J -14243858.53 -14243858.47 -14243858.41 0.0132 0.0120

Jupiter -43709-05-10 19:40 J -14243158.72 -14243158.68 -14243158.63 0.0534 0.0508

Jupiter -43709-08-08 12:14 J -14243069.13 -14243068.99 -14243068.86 0.0537 0.0197

Mars -43708-01-28 11:30 J -14242896.15 -14242896.02 -14242895.88 0.1603 0.0221

Moon -43705-09-10 19:26 J -14241574.80 -14241574.69 -14241574.59 0.2666 0.1380

Earth -43705-09-10 20:09 J -14241574.77 -14241574.66 -14241574.55 0.2662 0.1270 *

Mars -43704-09-27 22:47 J -14241192.64 -14241192.55 -14241192.45 0.1928 0.1380

Jupiter -43704-12-27 01:40 J -14241102.48 -14241102.43 -14241102.36 0.0494 0.0453

Jupiter -43703-03-26 17:59 J -14241012.91 -14241012.75 -14241012.60 0.0491 0.0133

Moon -43702-03-13 07:11 J -14240661.34 -14240661.20 -14240661.07 0.2675 0.0060

Earth -43702-03-13 07:40 J -14240661.32 -14240661.18 -14240661.05 0.2668 0.0013 *

Saturn -43700-07-06 00:14 J -14239815.58 -14239815.49 -14239815.40 0.0273 0.0221

Saturn -43700-10-02 13:54 J -14239727.05 -14239726.92 -14239726.79 0.0273 0.0123

Saturn -43700-12-30 03:21 J -14239638.51 -14239638.36 -14239638.22 0.0273 0.0026

Saturn -43699-03-28 16:33 J -14239549.95 -14239549.81 -14239549.67 0.0273 0.0069

Mars -43699-06-20 19:54 J -14239465.79 -14239465.67 -14239465.55 0.1602 0.0780

Saturn -43699-06-25 05:16 J -14239461.39 -14239461.28 -14239461.16 0.0273 0.0162

Earth -43699-09-21 00:57 J -14239373.54 -14239373.46 -14239373.39 0.2668 0.2113

Moon -43699-09-21 01:40 J -14239373.50 -14239373.43 -14239373.35 0.2666 0.2104 *

Saturn -43699-09-21 17:59 J -14239372.79 -14239372.75 -14239372.69 0.0273 0.0254

Mars -43697-05-26 09:35 J -14238760.14 -14238760.10 -14238760.05 0.1608 0.1496

Jupiter -43697-05-27 14:09 J -14238759.05 -14238758.91 -14238758.77 0.0537 0.0028

Venus -43696-06-19 17:16 J -14238370.89 -14238370.78 -14238370.67 0.3709 0.2112

Pluto -43695-10-24 16:18 J -14237878.86 -14237878.82 -14237878.76 0.0080 0.0075

Pluto -43694-01-20 17:45 J -14237790.83 -14237790.76 -14237790.67 0.0080 0.0067

Pluto -43694-04-18 19:11 J -14237702.78 -14237702.70 -14237702.58 0.0080 0.0059

Pluto -43694-07-15 20:52 J -14237614.73 -14237614.63 -14237614.50 0.0079 0.0050

Pluto -43694-10-11 22:47 J -14237526.68 -14237526.55 -14237526.43 0.0079 0.0042

Pluto -43693-01-08 00:14 J -14237438.63 -14237438.49 -14237438.36 0.0079 0.0034

Pluto -43693-04-05 01:40 J -14237350.57 -14237350.43 -14237350.29 0.0079 0.0026

Pluto -43693-07-02 03:06 J -14237262.51 -14237262.37 -14237262.22 0.0079 0.0018

Pluto -43693-09-28 04:33 J -14237174.45 -14237174.31 -14237174.16 0.0079 0.0010

Pluto -43693-12-25 05:59 J -14237086.39 -14237086.25 -14237086.10 0.0079 0.0003

Pluto -43692-03-23 07:26 J -14236998.33 -14236998.19 -14236998.04 0.0079 0.0006

Pluto -43692-06-19 08:52 J -14236910.27 -14236910.13 -14236909.98 0.0078 0.0014

Moon -43692-09-13 16:47 J -14236823.92 -14236823.80 -14236823.68 0.2670 0.0361

Earth -43692-09-13 17:02 J -14236823.92 -14236823.79 -14236823.67 0.2663 0.0361 *

Pluto -43692-09-15 10:18 J -14236822.21 -14236822.07 -14236821.93 0.0078 0.0021

Pluto -43692-12-12 11:30 J -14236734.15 -14236734.02 -14236733.87 0.0078 0.0029

Jupiter -43691-01-12 19:26 J -14236702.85 -14236702.69 -14236702.54 0.0491 0.0018

Pluto -43691-03-10 13:11 J -14236646.08 -14236645.95 -14236645.82 0.0078 0.0036

Pluto -43691-06-06 14:23 J -14236558.01 -14236557.90 -14236557.77 0.0078 0.0044

Pluto -43691-09-02 15:50 J -14236469.95 -14236469.84 -14236469.73 0.0078 0.0051

Pluto -43691-11-29 17:02 J -14236381.88 -14236381.79 -14236381.69 0.0078 0.0059

Venus -43690-01-03 18:57 J -14236346.81 -14236346.71 -14236346.62 0.3703 0.2546

Pluto -43690-02-25 18:14 J -14236293.80 -14236293.74 -14236293.65 0.0077 0.0066

Pluto -43690-05-24 19:40 J -14236205.72 -14236205.68 -14236205.62 0.0077 0.0073

Mars -43690-11-11 04:18 J -14236035.39 -14236035.32 -14236035.25 0.1601 0.1346

Earth -43689-03-15 07:54 J -14235910.29 -14235910.17 -14235910.04 0.2666 0.1141

Moon -43689-03-15 08:09 J -14235910.28 -14235910.16 -14235910.04 0.2673 0.1128 *

Mars -43688-10-16 18:28 J -14235329.84 -14235329.73 -14235329.62 0.1607 0.0959

Saturn -43685-01-19 22:04 J -14234504.63 -14234504.58 -14234504.52 0.0286 0.0267

Jupiter -43685-03-15 16:18 J -14234448.96 -14234448.82 -14234448.68 0.0536 0.0136

Saturn -43685-04-17 15:50 J -14234415.98 -14234415.84 -14234415.71 0.0286 0.0150

Saturn -43685-07-15 09:50 J -14234327.25 -14234327.09 -14234326.93 0.0286 0.0029

Saturn -43685-10-12 04:04 J -14234238.48 -14234238.33 -14234238.17 0.0286 0.0095

Saturn -43684-01-08 23:02 J -14234149.65 -14234149.54 -14234149.44 0.0286 0.0221

Mars -43683-06-16 18:28 J -14233625.85 -14233625.73 -14233625.61 0.1924 0.0948

Moon -43682-03-08 12:28 J -14233361.07 -14233360.98 -14233360.89 0.2670 0.1954

Earth -43682-03-08 13:40 J -14233361.02 -14233360.93 -14233360.84 0.2671 0.1964 *

Jupiter -43680-10-31 20:52 J -14232392.78 -14232392.63 -14232392.48 0.0492 0.0159

Jupiter -43679-01-29 13:40 J -14232303.00 -14232302.93 -14232302.85 0.0490 0.0436

Earth -43679-09-16 13:26 J -14232073.06 -14232072.94 -14232072.82 0.2665 0.0543

Moon -43679-09-16 13:54 J -14232073.04 -14232072.92 -14232072.80 0.2671 0.0609 *

Mars -43678-03-09 03:06 J -14231899.50 -14231899.37 -14231899.24 0.1605 0.0421

Earth -43676-03-18 08:38 J -14231159.21 -14231159.14 -14231159.07 0.2665 0.2302

Moon -43676-03-18 09:35 J -14231159.15 -14231159.10 -14231159.05 0.2669 0.2460 *

Venus -43675-02-01 01:11 J -14230839.53 -14230839.45 -14230839.37 0.3667 0.2543

Mars -43674-11-06 20:38 J -14230195.77 -14230195.64 -14230195.50 0.1927 0.0180

Jupiter -43673-01-02 18:14 J -14230138.86 -14230138.74 -14230138.63 0.0535 0.0305

Jupiter -43673-04-01 10:04 J -14230049.18 -14230049.08 -14230048.99 0.0538 0.0393

Moon -43672-09-09 03:21 J -14229523.43 -14229523.36 -14229523.29 0.2661 0.2188

Earth -43672-09-09 04:18 J -14229523.40 -14229523.32 -14229523.24 0.2660 0.2043 *

Uranus -43671-04-07 23:45 J -14229312.60 -14229312.51 -14229312.41 0.0147 0.0119

Uranus -43671-07-05 05:59 J -14229224.37 -14229224.25 -14229224.11 0.0147 0.0090

Uranus -43671-10-01 12:28 J -14229136.12 -14229135.98 -14229135.82 0.0147 0.0061

Saturn -43671-11-23 00:42 J -14229083.51 -14229083.47 -14229083.42 0.0273 0.0257

Uranus -43671-12-28 19:11 J -14229047.87 -14229047.70 -14229047.54 0.0147 0.0031

Saturn -43670-02-19 14:38 J -14228995.01 -14228994.89 -14228994.77 0.0273 0.0158

Uranus -43670-03-27 01:40 J -14228959.60 -14228959.43 -14228959.26 0.0147 0.0002

Saturn -43670-05-19 04:04 J -14228906.47 -14228906.33 -14228906.18 0.0273 0.0061

Uranus -43670-06-23 08:09 J -14228871.32 -14228871.16 -14228870.99 0.0147 0.0030

Saturn -43670-08-15 17:16 J -14228817.92 -14228817.78 -14228817.63 0.0273 0.0036

Venus -43670-08-17 18:28 J -14228815.84 -14228815.73 -14228815.62 0.3671 0.0110

Uranus -43670-09-19 14:52 J -14228783.03 -14228782.88 -14228782.72 0.0147 0.0060

Saturn -43670-11-12 06:14 J -14228729.36 -14228729.24 -14228729.10 0.0274 0.0130

Uranus -43670-12-16 21:35 J -14228694.73 -14228694.60 -14228694.46 0.0147 0.0091

Saturn -43669-02-08 19:11 J -14228640.78 -14228640.70 -14228640.61 0.0274 0.0222

Moon -43669-03-10 12:28 J -14228610.11 -14228609.98 -14228609.86 0.2672 0.1041

Earth -43669-03-10 13:26 J -14228610.07 -14228609.94 -14228609.82 0.2670 0.0901 *

Uranus -43669-03-14 04:18 J -14228606.40 -14228606.32 -14228606.22 0.0147 0.0122

Mars -43669-07-29 11:45 J -14228469.14 -14228469.01 -14228468.87 0.1604 0.0136

Jupiter -43668-08-19 22:04 J -14228082.70 -14228082.58 -14228082.46 0.0493 0.0309

Jupiter -43668-11-17 14:38 J -14227993.02 -14227992.89 -14227992.76 0.0491 0.0282

Earth -43666-09-19 09:50 J -14227322.19 -14227322.09 -14227321.99 0.2667 0.1412

Moon -43666-09-19 10:47 J -14227322.15 -14227322.05 -14227321.95 0.2668 0.1420 *

Venus -43664-03-02 11:45 J -14226792.09 -14226792.01 -14226791.93 0.3676 0.2352

Mars -43664-03-28 23:16 J -14226765.63 -14226765.53 -14226765.43 0.1928 0.1259

Jupiter -43662-10-21 19:11 J -14225828.75 -14225828.70 -14225828.63 0.0534 0.0484

Jupiter -43661-01-19 11:45 J -14225739.14 -14225739.01 -14225738.88 0.0537 0.0220

Mars -43660-12-19 20:23 J -14225038.78 -14225038.65 -14225038.53 0.1602 0.0691

Moon -43659-09-12 00:42 J -14224772.59 -14224772.47 -14224772.36 0.2666 0.1120

Earth -43659-09-12 01:26 J -14224772.55 -14224772.44 -14224772.33 0.2662 0.1109 *

Mars -43658-11-25 09:50 J -14224333.12 -14224333.09 -14224333.07 0.1608 0.1574

Moon -43656-03-13 12:42 J -14223859.10 -14223858.97 -14223858.83 0.2675 0.0220

Earth -43656-03-13 13:26 J -14223859.08 -14223858.94 -14223858.81 0.2668 0.0214 *

Jupiter -43656-06-07 23:59 J -14223772.56 -14223772.50 -14223772.44 0.0494 0.0449

Saturn -43656-09-04 16:47 J -14223683.92 -14223683.80 -14223683.67 0.0286 0.0179

Jupiter -43656-09-05 16:04 J -14223682.98 -14223682.83 -14223682.67 0.0491 0.0137

Saturn -43656-12-02 10:47 J -14223595.21 -14223595.05 -14223594.89 0.0286 0.0059

Saturn -43655-03-01 05:02 J -14223506.45 -14223506.29 -14223506.13 0.0286 0.0064

Saturn -43655-05-28 23:45 J -14223417.63 -14223417.51 -14223417.38 0.0285 0.0189

Neptune -43654-01-10 05:45 J -14223191.31 -14223191.26 -14223191.20 0.0088 0.0083

Neptune -43654-04-08 07:40 J -14223103.25 -14223103.18 -14223103.09 0.0088 0.0076

Neptune -43654-07-05 09:50 J -14223015.18 -14223015.09 -14223014.98 0.0088 0.0069

Neptune -43654-10-01 11:59 J -14222927.10 -14222927.00 -14222926.88 0.0088 0.0061

Neptune -43654-12-28 13:54 J -14222839.03 -14222838.92 -14222838.78 0.0088 0.0055

Neptune -43653-03-25 16:04 J -14222750.95 -14222750.83 -14222750.69 0.0088 0.0048

Neptune -43653-06-21 18:14 J -14222662.87 -14222662.74 -14222662.59 0.0088 0.0040

Neptune -43653-09-17 20:09 J -14222574.79 -14222574.66 -14222574.50 0.0088 0.0034

Earth -43653-09-21 05:59 J -14222571.31 -14222571.25 -14222571.19 0.2668 0.2261

Moon -43653-09-21 06:42 J -14222571.27 -14222571.22 -14222571.16 0.2666 0.2386 *

Neptune -43653-12-14 22:18 J -14222486.71 -14222486.57 -14222486.41 0.0088 0.0026

Neptune -43652-03-13 00:28 J -14222398.63 -14222398.48 -14222398.33 0.0088 0.0019

Neptune -43652-06-09 02:23 J -14222310.55 -14222310.40 -14222310.24 0.0088 0.0013

Neptune -43652-09-05 04:33 J -14222222.46 -14222222.31 -14222222.15 0.0088 0.0005

Neptune -43652-12-02 06:42 J -14222134.38 -14222134.22 -14222134.07 0.0088 0.0003

Neptune -43651-02-28 08:38 J -14222046.29 -14222046.14 -14222045.99 0.0088 0.0009

Neptune -43651-05-27 10:33 J -14221958.21 -14221958.06 -14221957.91 0.0088 0.0016

Neptune -43651-08-23 12:28 J -14221870.12 -14221869.98 -14221869.83 0.0088 0.0022

Neptune -43651-11-19 14:23 J -14221782.04 -14221781.90 -14221781.75 0.0088 0.0029

Neptune -43650-02-15 16:18 J -14221693.95 -14221693.82 -14221693.67 0.0088 0.0036

Mars -43650-05-12 04:33 J -14221608.39 -14221608.31 -14221608.22 0.1601 0.1260

Neptune -43650-05-14 18:28 J -14221605.86 -14221605.73 -14221605.60 0.0088 0.0043

Neptune -43650-08-10 20:09 J -14221517.77 -14221517.66 -14221517.52 0.0088 0.0050

Neptune -43650-11-06 22:04 J -14221429.68 -14221429.58 -14221429.45 0.0088 0.0057

Jupiter -43650-11-07 12:28 J -14221429.13 -14221428.98 -14221428.84 0.0537 0.0034

Neptune -43649-02-03 00:14 J -14221341.59 -14221341.49 -14221341.38 0.0088 0.0063

Neptune -43649-05-01 01:54 J -14221253.50 -14221253.42 -14221253.32 0.0088 0.0070

Neptune -43649-07-28 03:50 J -14221165.40 -14221165.34 -14221165.25 0.0088 0.0077

Neptune -43649-10-24 05:59 J -14221077.30 -14221077.25 -14221077.20 0.0088 0.0083

Mars -43648-04-16 18:42 J -14220902.82 -14220902.72 -14220902.62 0.1607 0.1042

Moon -43646-09-14 22:04 J -14220021.70 -14220021.58 -14220021.45 0.2671 0.0242

Earth -43646-09-14 22:18 J -14220021.70 -14220021.57 -14220021.45 0.2664 0.0217 *

Jupiter -43644-06-24 17:59 J -14219372.91 -14219372.75 -14219372.59 0.0492 0.0007

Mars -43644-12-15 18:42 J -14219198.83 -14219198.72 -14219198.60 0.1924 0.1058

Earth -43643-03-16 13:40 J -14219108.05 -14219107.93 -14219107.81 0.2666 0.1335

Moon -43643-03-16 14:09 J -14219108.03 -14219107.91 -14219107.79 0.2672 0.1375 *

Saturn -43641-07-08 17:02 J -14218262.89 -14218262.79 -14218262.67 0.0273 0.0180

Saturn -43641-10-05 06:42 J -14218174.36 -14218174.22 -14218174.08 0.0273 0.0082

Saturn -43640-01-01 20:09 J -14218085.81 -14218085.66 -14218085.51 0.0273 0.0014

Saturn -43640-03-31 09:06 J -14217997.25 -14217997.12 -14217996.98 0.0273 0.0108

Saturn -43640-06-27 22:04 J -14217908.68 -14217908.58 -14217908.48 0.0273 0.0200

Venus -43639-01-24 17:16 J -14217697.92 -14217697.78 -14217697.65 0.3707 0.0501

Mars -43639-09-07 03:21 J -14217472.49 -14217472.36 -14217472.23 0.1605 0.0499

Jupiter -43638-08-26 14:09 J -14217119.05 -14217118.91 -14217118.77 0.0536 0.0141

Moon -43636-03-08 17:59 J -14216558.84 -14216558.75 -14216558.66 0.2670 0.1943

Earth -43636-03-08 19:11 J -14216558.80 -14216558.70 -14216558.60 0.2671 0.1780 *

Mars -43634-05-07 21:06 J -14215768.76 -14215768.62 -14215768.49 0.1926 0.0081

Earth -43633-09-16 18:42 J -14215270.84 -14215270.72 -14215270.60 0.2665 0.0700

Moon -43633-09-16 19:11 J -14215270.81 -14215270.70 -14215270.58 0.2671 0.0724 *

Jupiter -43632-04-12 19:40 J -14215062.83 -14215062.68 -14215062.53 0.0492 0.0148

Jupiter -43632-07-11 12:28 J -14214973.04 -14214972.98 -14214972.92 0.0490 0.0446

Earth -43630-03-19 14:23 J -14214356.94 -14214356.90 -14214356.85 0.2665 0.2512

Moon -43630-03-19 15:35 J -14214356.90 -14214356.85 -14214356.81 0.2669 0.2529 *

Uranus -43630-05-12 08:09 J -14214303.22 -14214303.16 -14214303.09 0.0132 0.0117

Uranus -43630-08-08 11:59 J -14214215.10 -14214215.00 -14214214.90 0.0132 0.0097

Uranus -43630-11-04 15:35 J -14214126.96 -14214126.85 -14214126.72 0.0132 0.0079

Mars -43629-01-28 11:59 J -14214042.13 -14214042.00 -14214041.86 0.1604 0.0054

Uranus -43629-01-31 19:40 J -14214038.81 -14214038.68 -14214038.55 0.0132 0.0059

Uranus -43629-04-28 23:30 J -14213950.66 -14213950.52 -14213950.38 0.0132 0.0039

Uranus -43629-07-26 03:06 J -14213862.51 -14213862.37 -14213862.22 0.0132 0.0021

Uranus -43629-10-22 06:57 J -14213774.36 -14213774.21 -14213774.06 0.0132 0.0001

Uranus -43628-01-18 10:33 J -14213686.20 -14213686.06 -14213685.91 0.0132 0.0018

Uranus -43628-04-16 14:23 J -14213598.04 -14213597.90 -14213597.76 0.0132 0.0036

Uranus -43628-07-13 17:45 J -14213509.88 -14213509.76 -14213509.62 0.0132 0.0055

Uranus -43628-10-09 21:35 J -14213421.72 -14213421.60 -14213421.48 0.0132 0.0073

Uranus -43627-01-06 01:11 J -14213333.55 -14213333.45 -14213333.35 0.0132 0.0091

Uranus -43627-04-04 04:33 J -14213245.38 -14213245.31 -14213245.22 0.0132 0.0110

Uranus -43627-07-01 07:54 J -14213157.19 -14213157.17 -14213157.12 0.0132 0.0128

Saturn -43626-01-22 15:21 J -14212951.95 -14212951.86 -14212951.76 0.0286 0.0226

Saturn -43626-04-21 09:06 J -14212863.27 -14212863.12 -14212862.97 0.0286 0.0107

Jupiter -43626-06-14 16:18 J -14212808.94 -14212808.82 -14212808.70 0.0536 0.0306

Saturn -43626-07-19 03:21 J -14212774.52 -14212774.36 -14212774.20 0.0286 0.0015

Moon -43626-09-10 08:38 J -14212721.23 -14212721.14 -14212721.05 0.2662 0.1875

Earth -43626-09-10 09:35 J -14212721.19 -14212721.10 -14212721.01 0.2661 0.1879 *

Jupiter -43626-09-12 08:09 J -14212719.25 -14212719.16 -14212719.06 0.0538 0.0393

Saturn -43626-10-15 21:50 J -14212685.73 -14212685.59 -14212685.45 0.0286 0.0140

Saturn -43625-01-12 16:33 J -14212596.86 -14212596.81 -14212596.74 0.0286 0.0267

Mars -43625-09-26 23:16 J -14212338.64 -14212338.53 -14212338.42 0.1928 0.1172

Moon -43623-03-11 17:59 J -14211807.88 -14211807.75 -14211807.62 0.2674 0.0694

Earth -43623-03-11 18:57 J -14211807.84 -14211807.71 -14211807.58 0.2669 0.0711 *

Jupiter -43620-01-29 21:21 J -14210752.73 -14210752.61 -14210752.48 0.0493 0.0291

Jupiter -43620-04-29 13:40 J -14210663.05 -14210662.93 -14210662.80 0.0490 0.0299

Mars -43620-06-19 20:23 J -14210611.77 -14210611.65 -14210611.52 0.1603 0.0610

Earth -43620-09-19 15:06 J -14210519.97 -14210519.87 -14210519.78 0.2667 0.1567

Moon -43620-09-19 15:50 J -14210519.93 -14210519.84 -14210519.74 0.2668 0.1684 *

Venus -43619-09-07 23:02 J -14210166.64 -14210166.54 -14210166.44 0.3668 0.1600

Jupiter -43614-04-02 17:59 J -14208498.81 -14208498.75 -14208498.68 0.0535 0.0474

Jupiter -43614-07-01 10:33 J -14208409.19 -14208409.06 -14208408.94 0.0537 0.0230

Venus -43613-03-23 16:18 J -14208142.92 -14208142.82 -14208142.71 0.3673 0.0868

Moon -43613-09-12 05:59 J -14207970.36 -14207970.25 -14207970.14 0.2667 0.1052

Earth -43613-09-12 06:42 J -14207970.34 -14207970.22 -14207970.11 0.2662 0.0943 *

Saturn -43612-11-25 17:30 J -14207530.86 -14207530.77 -14207530.68 0.0273 0.0217

Saturn -43611-02-22 07:11 J -14207442.33 -14207442.20 -14207442.06 0.0273 0.0119

Saturn -43611-05-21 20:38 J -14207353.79 -14207353.64 -14207353.49 0.0273 0.0023

Saturn -43611-08-18 09:50 J -14207265.23 -14207265.09 -14207264.95 0.0273 0.0073

Mars -43611-11-10 04:47 J -14207181.39 -14207181.30 -14207181.21 0.1602 0.1175

Saturn -43611-11-14 22:47 J -14207176.66 -14207176.55 -14207176.44 0.0273 0.0166

Saturn -43610-02-11 11:30 J -14207088.06 -14207088.02 -14207087.97 0.0274 0.0257

Moon -43610-03-14 18:42 J -14207056.86 -14207056.72 -14207056.59 0.2674 0.0325

Earth -43610-03-14 18:57 J -14207056.84 -14207056.71 -14207056.57 0.2668 0.0404 *

Mars -43609-10-15 18:42 J -14206475.81 -14206475.72 -14206475.62 0.1607 0.1122

Jupiter -43609-11-17 22:33 J -14206442.62 -14206442.56 -14206442.48 0.0494 0.0440

Jupiter -43608-02-15 14:52 J -14206353.04 -14206352.88 -14206352.73 0.0491 0.0147

Venus -43608-10-07 09:35 J -14206119.15 -14206119.10 -14206119.05 0.3677 0.3271

Earth -43607-09-22 11:02 J -14205769.08 -14205769.04 -14205768.99 0.2668 0.2412

Moon -43607-09-22 11:45 J -14205769.06 -14205769.01 -14205768.96 0.2665 0.2390 *

Mars -43604-06-15 19:26 J -14204771.80 -14204771.69 -14204771.59 0.1924 0.1184

Earth -43603-03-07 01:26 J -14204507.46 -14204507.44 -14204507.42 0.2673 0.2629

Jupiter -43602-04-19 11:59 J -14204099.14 -14204099.00 -14204098.85 0.0537 0.0058

Moon -43600-09-15 03:21 J -14203219.48 -14203219.36 -14203219.24 0.2671 0.0044

Earth -43600-09-15 03:21 J -14203219.48 -14203219.36 -14203219.24 0.2664 0.0046 *

Mars -43599-03-08 03:35 J -14203045.47 -14203045.35 -14203045.22 0.1605 0.0583

Earth -43597-03-16 19:26 J -14202305.80 -14202305.69 -14202305.58 0.2666 0.1537

Moon -43597-03-16 20:09 J -14202305.77 -14202305.66 -14202305.56 0.2672 0.1611 *

Saturn -43597-06-10 15:50 J -14202219.89 -14202219.84 -14202219.76 0.0286 0.0259

Saturn -43597-09-07 09:35 J -14202131.23 -14202131.10 -14202130.95 0.0286 0.0140

Jupiter -43597-12-04 16:18 J -14202042.97 -14202042.82 -14202042.66 0.0492 0.0014

Saturn -43597-12-05 03:50 J -14202042.50 -14202042.34 -14202042.18 0.0286 0.0019

Saturn -43596-03-03 22:18 J -14201953.72 -14201953.57 -14201953.42 0.0286 0.0105

Saturn -43596-05-31 17:02 J -14201864.88 -14201864.79 -14201864.69 0.0285 0.0232

Mars -43595-11-05 21:06 J -14201341.75 -14201341.62 -14201341.48 0.1926 0.0066

Jupiter -43590-02-05 12:42 J -14199789.11 -14199788.97 -14199788.83 0.0536 0.0136

Moon -43590-03-09 23:45 J -14199756.61 -14199756.51 -14199756.40 0.2670 0.1594

Earth -43590-03-10 00:57 J -14199756.57 -14199756.46 -14199756.35 0.2671 0.1590 *

Mars -43590-07-29 12:14 J -14199615.12 -14199614.99 -14199614.85 0.1604 0.0041

Venus -43588-02-14 15:50 J -14199048.89 -14199048.84 -14199048.80 0.3711 0.3445

Uranus -43587-01-30 00:57 J -14198699.50 -14198699.46 -14198699.40 0.0146 0.0138

Uranus -43587-04-28 07:11 J -14198611.30 -14198611.20 -14198611.08 0.0146 0.0110

Uranus -43587-07-25 13:40 J -14198523.06 -14198522.93 -14198522.78 0.0147 0.0081

Earth -43587-09-17 23:59 J -14198468.62 -14198468.50 -14198468.39 0.2665 0.0858

Moon -43587-09-18 00:28 J -14198468.59 -14198468.48 -14198468.36 0.2670 0.0892 *

Uranus -43587-10-21 20:09 J -14198434.81 -14198434.66 -14198434.50 0.0147 0.0051

Uranus -43586-01-18 02:38 J -14198346.55 -14198346.39 -14198346.22 0.0147 0.0022

Uranus -43586-04-16 09:21 J -14198258.28 -14198258.11 -14198257.94 0.0147 0.0009

Uranus -43586-07-13 15:50 J -14198170.00 -14198169.84 -14198169.67 0.0147 0.0039

Uranus -43586-10-09 22:33 J -14198081.71 -14198081.56 -14198081.41 0.0147 0.0069

Uranus -43585-01-06 05:16 J -14197993.40 -14197993.28 -14197993.15 0.0147 0.0100

Mars -43585-03-27 23:45 J -14197911.63 -14197911.51 -14197911.40 0.1928 0.1055

Uranus -43585-04-03 11:59 J -14197905.07 -14197905.00 -14197904.92 0.0147 0.0131

Jupiter -43585-09-22 18:28 J -14197732.88 -14197732.73 -14197732.58 0.0492 0.0137

Jupiter -43585-12-21 11:16 J -14197643.08 -14197643.03 -14197642.97 0.0490 0.0459

Venus -43583-08-31 17:16 J -14197024.91 -14197024.78 -14197024.65 0.3706 0.1142

Saturn -43582-04-14 20:09 J -14196798.73 -14196798.66 -14196798.59 0.0273 0.0239

Saturn -43582-07-12 09:50 J -14196710.21 -14196710.09 -14196709.96 0.0273 0.0141

Saturn -43582-10-08 23:16 J -14196621.67 -14196621.53 -14196621.38 0.0273 0.0045

Saturn -43581-01-05 12:42 J -14196533.12 -14196532.97 -14196532.83 0.0273 0.0052

Saturn -43581-04-03 01:40 J -14196444.55 -14196444.43 -14196444.31 0.0273 0.0145

Saturn -43581-06-30 14:09 J -14196355.97 -14196355.91 -14196355.83 0.0273 0.0238

Mars -43581-12-18 20:38 J -14196184.77 -14196184.64 -14196184.51 0.1602 0.0527

Moon -43580-09-10 13:54 J -14195919.01 -14195918.92 -14195918.83 0.2662 0.1855

Earth -43580-09-10 14:52 J -14195918.97 -14195918.88 -14195918.78 0.2661 0.1709 *

Jupiter -43579-11-24 14:09 J -14195479.02 -14195478.91 -14195478.79 0.0535 0.0308

Jupiter -43578-02-22 06:14 J -14195389.33 -14195389.24 -14195389.14 0.0538 0.0390

Moon -43577-03-11 23:45 J -14195005.64 -14195005.51 -14195005.38 0.2674 0.0668

Earth -43577-03-12 00:42 J -14195005.61 -14195005.47 -14195005.34 0.2669 0.0520 *

Earth -43574-09-20 20:09 J -14193717.75 -14193717.66 -14193717.57 0.2667 0.1721

Moon -43574-09-20 21:06 J -14193717.71 -14193717.62 -14193717.53 0.2668 0.1746 *

Neptune -43573-07-09 11:16 J -14193425.03 -14193425.03 -14193425.01 0.0089 0.0089

Jupiter -43573-07-11 20:09 J -14193422.79 -14193422.66 -14193422.53 0.0493 0.0279

Neptune -43573-10-05 13:11 J -14193336.99 -14193336.95 -14193336.87 0.0089 0.0082

Jupiter -43573-10-09 12:28 J -14193333.10 -14193332.98 -14193332.85 0.0490 0.0312

Neptune -43572-01-01 15:21 J -14193248.93 -14193248.86 -14193248.76 0.0089 0.0075

Neptune -43572-03-30 17:59 J -14193160.85 -14193160.75 -14193160.65 0.0089 0.0067

Neptune -43572-06-26 20:09 J -14193072.77 -14193072.66 -14193072.54 0.0089 0.0060

Neptune -43572-09-22 22:18 J -14192984.69 -14192984.57 -14192984.44 0.0089 0.0053

Neptune -43572-12-20 00:28 J -14192896.61 -14192896.48 -14192896.34 0.0089 0.0046

Neptune -43571-03-18 02:38 J -14192808.52 -14192808.39 -14192808.24 0.0089 0.0039

Mars -43571-05-11 05:02 J -14192754.39 -14192754.29 -14192754.19 0.1602 0.1091

Neptune -43571-06-14 04:47 J -14192720.44 -14192720.30 -14192720.14 0.0089 0.0032

Neptune -43571-09-10 07:26 J -14192632.35 -14192632.19 -14192632.04 0.0089 0.0024

Neptune -43571-12-07 09:35 J -14192544.26 -14192544.10 -14192543.94 0.0089 0.0017

Neptune -43570-03-05 11:45 J -14192456.16 -14192456.01 -14192455.84 0.0089 0.0010

Neptune -43570-06-01 14:09 J -14192368.07 -14192367.91 -14192367.75 0.0089 0.0003

Neptune -43570-08-28 16:33 J -14192279.97 -14192279.81 -14192279.65 0.0089 0.0005

Neptune -43570-11-24 18:42 J -14192191.88 -14192191.72 -14192191.56 0.0089 0.0013

Neptune -43569-02-20 21:06 J -14192103.78 -14192103.62 -14192103.46 0.0089 0.0020

Mars -43569-04-15 18:57 J -14192048.80 -14192048.71 -14192048.62 0.1607 0.1198

Neptune -43569-05-18 23:30 J -14192015.68 -14192015.52 -14192015.37 0.0089 0.0027

Neptune -43569-08-15 01:40 J -14191927.57 -14191927.43 -14191927.27 0.0089 0.0035

Neptune -43569-11-11 04:04 J -14191839.47 -14191839.33 -14191839.18 0.0089 0.0042

Neptune -43568-02-07 06:14 J -14191751.36 -14191751.24 -14191751.09 0.0089 0.0050

Neptune -43568-05-06 08:52 J -14191663.25 -14191663.13 -14191663.00 0.0089 0.0057

Neptune -43568-08-02 11:02 J -14191575.14 -14191575.04 -14191574.92 0.0089 0.0065

Venus -43568-09-29 03:35 J -14191517.40 -14191517.35 -14191517.29 0.3665 0.3147

Neptune -43568-10-29 13:40 J -14191487.02 -14191486.93 -14191486.84 0.0089 0.0072

Saturn -43567-01-25 08:23 J -14191399.27 -14191399.15 -14191399.03 0.0286 0.0185

Neptune -43567-01-25 15:50 J -14191398.90 -14191398.84 -14191398.76 0.0089 0.0080

Neptune -43567-04-23 17:59 J -14191310.75 -14191310.75 -14191310.70 0.0089 0.0088

Saturn -43567-04-24 02:09 J -14191310.56 -14191310.41 -14191310.25 0.0286 0.0066

Saturn -43567-07-21 20:23 J -14191221.80 -14191221.65 -14191221.48 0.0286 0.0058

Jupiter -43567-09-12 16:04 J -14191168.89 -14191168.83 -14191168.76 0.0535 0.0475

Moon -43567-09-13 11:30 J -14191168.14 -14191168.02 -14191167.91 0.2668 0.0751

Earth -43567-09-13 11:59 J -14191168.12 -14191168.00 -14191167.89 0.2663 0.0787 *

Saturn -43567-10-18 15:06 J -14191132.99 -14191132.87 -14191132.74 0.0286 0.0182

Jupiter -43567-12-11 08:38 J -14191079.27 -14191079.14 -14191079.01 0.0538 0.0230

Mars -43565-12-14 19:11 J -14190344.80 -14190344.70 -14190344.59 0.1924 0.1276

Moon -43564-03-15 00:28 J -14190254.61 -14190254.48 -14190254.35 0.2674 0.0650

Earth -43564-03-15 00:42 J -14190254.60 -14190254.47 -14190254.34 0.2667 0.0590 *

Venus -43562-04-14 21:06 J -14189493.73 -14189493.62 -14189493.52 0.3669 0.0666

Jupiter -43561-04-29 22:04 J -14189112.66 -14189112.58 -14189112.50 0.0493 0.0420

Jupiter -43561-07-28 14:09 J -14189023.06 -14189022.91 -14189022.76 0.0491 0.0165

Earth -43561-09-22 16:18 J -14188966.85 -14188966.82 -14188966.79 0.2669 0.2559

Moon -43561-09-22 16:47 J -14188966.80 -14188966.80 -14188966.79 0.2664 0.2649 *

Mars -43560-09-06 03:50 J -14188618.46 -14188618.34 -14188618.22 0.1605 0.0662

Moon -43557-03-07 05:59 J -14187705.29 -14187705.25 -14187705.20 0.2668 0.2501

Earth -43557-03-07 07:11 J -14187705.26 -14187705.20 -14187705.15 0.2672 0.2447 *

Venus -43557-10-28 14:23 J -14187470.00 -14187469.90 -14187469.81 0.3674 0.1790

Mars -43555-05-06 21:35 J -14186914.74 -14186914.60 -14186914.47 0.1926 0.0158

Jupiter -43555-09-29 10:47 J -14186769.19 -14186769.05 -14186768.90 0.0537 0.0068

Moon -43554-09-16 08:38 J -14186417.26 -14186417.14 -14186417.02 0.2671 0.0090

Earth -43554-09-16 08:38 J -14186417.26 -14186417.14 -14186417.02 0.2664 0.0129 *

Saturn -43553-11-28 09:50 J -14185978.19 -14185978.09 -14185977.97 0.0273 0.0180

Saturn -43552-02-24 23:30 J -14185889.66 -14185889.52 -14185889.37 0.0273 0.0082

Saturn -43552-05-24 12:57 J -14185801.11 -14185800.96 -14185800.81 0.0273 0.0014

Saturn -43552-08-21 02:09 J -14185712.55 -14185712.41 -14185712.28 0.0273 0.0109

Saturn -43552-11-17 14:52 J -14185623.97 -14185623.88 -14185623.78 0.0273 0.0201

Earth -43551-03-18 01:11 J -14185503.55 -14185503.45 -14185503.35 0.2666 0.1739

Moon -43551-03-18 01:54 J -14185503.52 -14185503.42 -14185503.32 0.2672 0.1756 *

Mars -43550-01-27 12:28 J -14185188.11 -14185187.98 -14185187.84 0.1604 0.0116

Jupiter -43549-05-16 15:06 J -14184713.02 -14184712.87 -14184712.71 0.0492 0.0017

Moon -43547-09-08 22:04 J -14183867.61 -14183867.58 -14183867.55 0.2658 0.2569

Earth -43547-09-08 23:02 J -14183867.58 -14183867.54 -14183867.50 0.2660 0.2494 *

Uranus -43546-03-05 11:16 J -14183690.04 -14183690.03 -14183689.99 0.0132 0.0130

Uranus -43546-06-01 15:21 J -14183601.93 -14183601.86 -14183601.77 0.0132 0.0110

Uranus -43546-08-28 19:11 J -14183513.80 -14183513.70 -14183513.59 0.0132 0.0091

Mars -43546-09-26 23:59 J -14183484.62 -14183484.50 -14183484.38 0.1928 0.0942

Uranus -43546-11-24 23:16 J -14183425.66 -14183425.53 -14183425.41 0.0132 0.0071

Uranus -43545-02-21 02:52 J -14183337.51 -14183337.38 -14183337.24 0.0132 0.0052

Uranus -43545-05-19 06:42 J -14183249.36 -14183249.22 -14183249.07 0.0132 0.0033

Uranus -43545-08-15 10:33 J -14183161.21 -14183161.06 -14183160.91 0.0132 0.0014

Uranus -43545-11-11 14:23 J -14183073.05 -14183072.90 -14183072.76 0.0132 0.0006

Uranus -43544-02-07 17:59 J -14182984.89 -14182984.75 -14182984.61 0.0132 0.0024

Moon -43544-03-10 05:30 J -14182954.38 -14182954.27 -14182954.16 0.2672 0.1528

Earth -43544-03-10 06:28 J -14182954.34 -14182954.23 -14182954.11 0.2671 0.1405 *

Uranus -43544-05-06 21:35 J -14182896.73 -14182896.60 -14182896.46 0.0132 0.0043

Uranus -43544-08-03 01:11 J -14182808.57 -14182808.45 -14182808.32 0.0132 0.0061

Uranus -43544-10-30 04:47 J -14182720.41 -14182720.30 -14182720.18 0.0132 0.0080

Uranus -43543-01-26 08:23 J -14182632.24 -14182632.15 -14182632.05 0.0132 0.0098

Uranus -43543-04-24 11:59 J -14182544.06 -14182544.00 -14182543.93 0.0132 0.0116

Jupiter -43543-07-18 12:28 J -14182459.12 -14182458.98 -14182458.84 0.0536 0.0107

Mars -43541-06-18 20:52 J -14181757.76 -14181757.63 -14181757.49 0.1603 0.0443

Earth -43541-09-18 05:02 J -14181666.40 -14181666.29 -14181666.18 0.2666 0.1011

Moon -43541-09-18 05:45 J -14181666.37 -14181666.26 -14181666.15 0.2669 0.1110 *

Saturn -43538-06-14 08:38 J -14180667.24 -14180667.14 -14180667.04 0.0286 0.0222

Saturn -43538-09-11 02:09 J -14180578.55 -14180578.41 -14180578.25 0.0286 0.0103

Saturn -43538-12-08 20:23 J -14180489.81 -14180489.65 -14180489.48 0.0286 0.0021

Jupiter -43537-03-04 17:02 J -14180402.94 -14180402.79 -14180402.64 0.0492 0.0129

Saturn -43537-03-06 14:52 J -14180401.01 -14180400.88 -14180400.73 0.0286 0.0145

Jupiter -43537-06-02 09:50 J -14180313.13 -14180313.09 -14180313.04 0.0490 0.0467

Saturn -43537-06-03 09:50 J -14180312.13 -14180312.09 -14180312.03 0.0285 0.0271

Pluto -43536-02-20 17:16 J -14180049.79 -14180049.78 -14180049.75 0.0065 0.0064

Pluto -43536-05-19 18:28 J -14179961.79 -14179961.73 -14179961.65 0.0065 0.0059

Pluto -43536-08-15 19:40 J -14179873.76 -14179873.68 -14179873.58 0.0065 0.0055

Pluto -43536-11-11 21:06 J -14179785.73 -14179785.62 -14179785.51 0.0065 0.0050

Pluto -43535-02-07 22:18 J -14179697.69 -14179697.57 -14179697.45 0.0065 0.0045

Pluto -43535-05-06 23:30 J -14179609.65 -14179609.52 -14179609.39 0.0065 0.0040

Pluto -43535-08-03 00:42 J -14179521.61 -14179521.47 -14179521.33 0.0065 0.0035

Pluto -43535-10-30 01:54 J -14179433.57 -14179433.42 -14179433.27 0.0066 0.0030

Pluto -43534-01-26 03:06 J -14179345.52 -14179345.37 -14179345.21 0.0066 0.0025

Pluto -43534-04-24 04:18 J -14179257.48 -14179257.32 -14179257.15 0.0066 0.0020

Pluto -43534-07-21 05:30 J -14179169.43 -14179169.27 -14179169.10 0.0066 0.0015

Moon -43534-09-11 19:11 J -14179116.80 -14179116.70 -14179116.60 0.2663 0.1554

Earth -43534-09-11 20:09 J -14179116.76 -14179116.66 -14179116.56 0.2661 0.1545 *

Pluto -43534-10-17 06:57 J -14179081.38 -14179081.21 -14179081.04 0.0066 0.0009

Pluto -43533-01-13 08:09 J -14178993.33 -14178993.16 -14178992.99 0.0066 0.0004

Pluto -43533-04-10 09:35 J -14178905.27 -14178905.10 -14178904.93 0.0066 0.0002

Pluto -43533-07-07 10:47 J -14178817.22 -14178817.05 -14178816.88 0.0066 0.0007

Pluto -43533-10-03 11:59 J -14178729.16 -14178729.00 -14178728.83 0.0066 0.0012

Pluto -43533-12-30 13:26 J -14178641.10 -14178640.94 -14178640.77 0.0066 0.0017

Pluto -43532-03-28 14:52 J -14178553.04 -14178552.88 -14178552.72 0.0066 0.0023

Pluto -43532-06-24 15:50 J -14178464.98 -14178464.84 -14178464.67 0.0067 0.0029

Pluto -43532-09-20 17:30 J -14178376.92 -14178376.77 -14178376.62 0.0067 0.0034

Venus -43532-09-21 15:50 J -14178375.96 -14178375.84 -14178375.73 0.3710 0.1837

Mars -43532-11-09 05:16 J -14178327.38 -14178327.28 -14178327.17 0.1602 0.1005

Pluto -43532-12-17 18:28 J -14178288.85 -14178288.73 -14178288.58 0.0067 0.0040

Moon -43531-03-13 05:30 J -14178203.41 -14178203.27 -14178203.14 0.2674 0.0306

Earth -43531-03-13 06:14 J -14178203.37 -14178203.24 -14178203.10 0.2669 0.0331 *

Pluto -43531-03-15 20:09 J -14178200.78 -14178200.66 -14178200.53 0.0067 0.0045

Jupiter -43531-05-06 12:42 J -14178149.08 -14178148.97 -14178148.84 0.0535 0.0301

Pluto -43531-06-11 21:21 J -14178112.71 -14178112.61 -14178112.49 0.0067 0.0051

Jupiter -43531-08-04 04:47 J -14178059.39 -14178059.30 -14178059.20 0.0538 0.0397

Pluto -43531-09-07 22:33 J -14178024.63 -14178024.56 -14178024.45 0.0067 0.0057

Pluto -43531-12-05 00:14 J -14177936.54 -14177936.49 -14177936.42 0.0067 0.0063

Mars -43530-10-15 19:11 J -14177621.78 -14177621.70 -14177621.62 0.1607 0.1283

Earth -43528-09-21 01:26 J -14176915.53 -14176915.44 -14176915.36 0.2667 0.1871

Moon -43528-09-21 02:09 J -14176915.49 -14176915.41 -14176915.33 0.2667 0.1946 *

Venus -43526-04-07 17:16 J -14176351.86 -14176351.78 -14176351.69 0.3704 0.2815

Jupiter -43526-12-22 18:57 J -14176092.84 -14176092.71 -14176092.58 0.0493 0.0267

Jupiter -43525-03-21 11:30 J -14176003.14 -14176003.02 -14176002.90 0.0491 0.0325

Mars -43525-06-14 19:40 J -14175917.77 -14175917.68 -14175917.58 0.1924 0.1394

Saturn -43523-04-17 12:42 J -14175246.07 -14175245.97 -14175245.87 0.0273 0.0201

Saturn -43523-07-15 02:23 J -14175157.54 -14175157.40 -14175157.26 0.0273 0.0103

Saturn -43523-10-11 15:50 J -14175068.99 -14175068.84 -14175068.70 0.0273 0.0008

Saturn -43522-01-08 05:02 J -14174980.43 -14174980.29 -14174980.16 0.0273 0.0088

Mars -43522-04-01 13:26 J -14174896.96 -14174896.94 -14174896.92 0.1601 0.1579

Saturn -43522-04-06 17:45 J -14174891.86 -14174891.76 -14174891.65 0.0273 0.0181

Saturn -43522-07-04 06:28 J -14174803.24 -14174803.23 -14174803.22 0.0273 0.0272

Moon -43521-09-13 16:47 J -14174365.92 -14174365.80 -14174365.68 0.2669 0.0717

Earth -43521-09-13 17:02 J -14174365.91 -14174365.79 -14174365.66 0.2663 0.0624 *

Mars -43520-03-07 04:04 J -14174191.45 -14174191.33 -14174191.21 0.1605 0.0743

Jupiter -43519-02-22 14:23 J -14173838.97 -14173838.90 -14173838.84 0.0534 0.0475

Jupiter -43519-05-23 06:42 J -14173749.35 -14173749.22 -14173749.09 0.0537 0.0229

Moon -43518-03-16 06:28 J -14173452.36 -14173452.23 -14173452.10 0.2674 0.0726

Earth -43518-03-16 06:28 J -14173452.36 -14173452.23 -14173452.10 0.2667 0.0792 *

Mars -43516-11-04 21:35 J -14172487.73 -14172487.60 -14172487.46 0.1926 0.0269

Jupiter -43514-10-10 20:52 J -14171782.71 -14171782.63 -14171782.54 0.0493 0.0408

Jupiter -43513-01-08 12:57 J -14171693.11 -14171692.96 -14171692.81 0.0491 0.0178

Moon -43511-03-08 11:45 J -14170903.08 -14170903.01 -14170902.95 0.2668 0.2312

Earth -43511-03-08 12:42 J -14170903.04 -14170902.97 -14170902.90 0.2672 0.2263 *

Venus -43511-05-06 01:26 J -14170844.52 -14170844.44 -14170844.35 0.3666 0.2201

Mars -43511-07-28 12:42 J -14170761.11 -14170760.97 -14170760.84 0.1604 0.0198

Saturn -43509-10-31 07:40 J -14169935.24 -14169935.18 -14169935.12 0.0286 0.0264

Saturn -43508-01-28 01:11 J -14169846.59 -14169846.45 -14169846.31 0.0286 0.0147

Saturn -43508-04-26 19:11 J -14169757.86 -14169757.70 -14169757.54 0.0286 0.0026

Saturn -43508-07-24 13:26 J -14169669.09 -14169668.94 -14169668.78 0.0286 0.0098

Earth -43508-09-16 13:54 J -14169615.05 -14169614.92 -14169614.80 0.2664 0.0302

Moon -43508-09-16 14:09 J -14169615.03 -14169614.91 -14169614.79 0.2670 0.0380 *

Saturn -43508-10-21 08:09 J -14169580.26 -14169580.16 -14169580.05 0.0286 0.0223

Jupiter -43507-03-11 09:06 J -14169439.27 -14169439.12 -14169438.98 0.0537 0.0068

Mars -43506-03-27 23:59 J -14169057.62 -14169057.50 -14169057.38 0.1928 0.0849

Venus -43506-11-19 18:57 J -14168820.82 -14168820.71 -14168820.60 0.3670 0.0285

Earth -43505-03-18 06:57 J -14168701.30 -14168701.21 -14168701.12 0.2665 0.1937

Moon -43505-03-18 07:40 J -14168701.27 -14168701.18 -14168701.10 0.2671 0.2050 *

Uranus -43503-02-19 08:52 J -14167998.21 -14167998.13 -14167998.05 0.0146 0.0129

Uranus -43503-05-18 14:52 J -14167909.99 -14167909.88 -14167909.75 0.0146 0.0101

Uranus -43503-08-14 21:35 J -14167821.75 -14167821.60 -14167821.46 0.0146 0.0071

Uranus -43503-11-11 03:50 J -14167733.49 -14167733.34 -14167733.17 0.0146 0.0042

Uranus -43502-02-07 10:33 J -14167645.23 -14167645.06 -14167644.89 0.0147 0.0012

Uranus -43502-05-06 17:02 J -14167556.96 -14167556.79 -14167556.62 0.0147 0.0018

Uranus -43502-08-02 23:30 J -14167468.67 -14167468.52 -14167468.35 0.0147 0.0049

Jupiter -43502-10-27 14:38 J -14167383.05 -14167382.89 -14167382.74 0.0492 0.0035

Uranus -43502-10-30 06:14 J -14167380.38 -14167380.24 -14167380.09 0.0147 0.0079

Mars -43502-12-18 21:06 J -14167330.75 -14167330.62 -14167330.48 0.1603 0.0359

Uranus -43501-01-26 12:57 J -14167292.07 -14167291.96 -14167291.84 0.0147 0.0110

Uranus -43501-04-23 19:40 J -14167203.72 -14167203.68 -14167203.62 0.0147 0.0141

Moon -43501-09-09 03:21 J -14167065.41 -14167065.36 -14167065.31 0.2659 0.2402

Earth -43501-09-09 04:18 J -14167065.38 -14167065.32 -14167065.26 0.2660 0.2323 *

Venus -43500-06-04 12:14 J -14166797.07 -14166796.99 -14166796.92 0.3675 0.2705

Moon -43498-03-11 11:02 J -14166152.15 -14166152.04 -14166151.92 0.2673 0.1270

Earth -43498-03-11 12:14 J -14166152.11 -14166151.99 -14166151.87 0.2670 0.1215 *

Mars -43497-08-17 02:52 J -14165627.40 -14165627.38 -14165627.36 0.1929 0.1901

Jupiter -43496-12-28 11:16 J -14165129.18 -14165129.03 -14165128.89 0.0536 0.0098

Earth -43495-09-19 10:18 J -14164864.18 -14164864.07 -14164863.96 0.2666 0.1167

Moon -43495-09-19 11:02 J -14164864.15 -14164864.04 -14164863.93 0.2670 0.1176 *

Saturn -43494-09-04 12:28 J -14164514.04 -14164513.98 -14164513.91 0.0273 0.0242

Saturn -43494-12-02 02:23 J -14164425.53 -14164425.40 -14164425.28 0.0273 0.0143

Saturn -43493-02-28 15:50 J -14164336.98 -14164336.84 -14164336.69 0.0273 0.0046

Saturn -43493-05-27 05:02 J -14164248.43 -14164248.29 -14164248.14 0.0273 0.0050

Saturn -43493-08-23 18:14 J -14164159.86 -14164159.74 -14164159.62 0.0273 0.0144

Saturn -43493-11-20 06:57 J -14164071.28 -14164071.21 -14164071.14 0.0273 0.0236

Mars -43492-05-10 05:30 J -14163900.38 -14163900.27 -14163900.16 0.1602 0.0919

Mars -43490-04-15 19:26 J -14163194.76 -14163194.69 -14163194.62 0.1607 0.1360

Neptune -43490-07-11 02:09 J -14163108.41 -14163108.41 -14163108.36 0.0088 0.0088

Jupiter -43490-08-15 15:50 J -14163072.99 -14163072.84 -14163072.69 0.0492 0.0117

Neptune -43490-10-07 04:47 J -14163020.37 -14163020.30 -14163020.23 0.0088 0.0080

Jupiter -43490-11-13 08:38 J -14162983.17 -14162983.14 -14162983.11 0.0490 0.0479

Neptune -43489-01-03 06:42 J -14162932.30 -14162932.22 -14162932.12 0.0088 0.0073

Neptune -43489-03-31 08:52 J -14162844.23 -14162844.13 -14162844.02 0.0088 0.0066

Neptune -43489-06-27 10:47 J -14162756.15 -14162756.05 -14162755.92 0.0088 0.0059

Neptune -43489-09-23 12:57 J -14162668.08 -14162667.96 -14162667.82 0.0088 0.0052

Neptune -43489-12-20 15:06 J -14162580.00 -14162579.87 -14162579.73 0.0088 0.0044

Neptune -43488-03-18 17:16 J -14162491.92 -14162491.78 -14162491.64 0.0088 0.0037

Neptune -43488-06-14 19:11 J -14162403.84 -14162403.70 -14162403.54 0.0088 0.0031

Neptune -43488-09-10 21:21 J -14162315.76 -14162315.61 -14162315.46 0.0088 0.0023

Moon -43488-09-12 00:42 J -14162314.57 -14162314.47 -14162314.37 0.2665 0.1477

Earth -43488-09-12 01:26 J -14162314.54 -14162314.44 -14162314.33 0.2662 0.1378 *

Neptune -43488-12-07 23:30 J -14162227.67 -14162227.52 -14162227.37 0.0088 0.0016

Neptune -43487-03-06 01:26 J -14162139.59 -14162139.44 -14162139.28 0.0088 0.0010

Neptune -43487-06-02 03:35 J -14162051.51 -14162051.35 -14162051.20 0.0088 0.0002

Neptune -43487-08-29 05:30 J -14161963.42 -14161963.27 -14161963.11 0.0088 0.0005

Neptune -43487-11-25 07:40 J -14161875.34 -14161875.18 -14161875.03 0.0088 0.0012

Neptune -43486-02-21 09:35 J -14161787.25 -14161787.10 -14161786.95 0.0088 0.0018

Neptune -43486-05-20 11:30 J -14161699.16 -14161699.02 -14161698.87 0.0088 0.0025

Neptune -43486-08-16 13:26 J -14161611.08 -14161610.94 -14161610.79 0.0088 0.0032

Neptune -43486-11-12 15:35 J -14161522.99 -14161522.85 -14161522.72 0.0088 0.0039

Mars -43486-12-14 20:09 J -14161490.75 -14161490.66 -14161490.58 0.1924 0.1513

Neptune -43485-02-08 17:16 J -14161434.90 -14161434.78 -14161434.64 0.0088 0.0046

Moon -43485-03-13 11:16 J -14161401.16 -14161401.03 -14161400.90 0.2674 0.0250

Earth -43485-03-13 11:59 J -14161401.14 -14161401.00 -14161400.87 0.2668 0.0130 *

Neptune -43485-05-06 19:11 J -14161346.81 -14161346.70 -14161346.57 0.0088 0.0053

Neptune -43485-08-02 21:06 J -14161258.72 -14161258.62 -14161258.50 0.0088 0.0059

Neptune -43485-10-29 23:16 J -14161170.63 -14161170.53 -14161170.43 0.0088 0.0066

Neptune -43484-01-26 00:57 J -14161082.53 -14161082.46 -14161082.36 0.0088 0.0073

Neptune -43484-04-24 02:38 J -14160994.43 -14160994.39 -14160994.30 0.0088 0.0080

Neptune -43484-07-21 04:47 J -14160906.32 -14160906.30 -14160906.26 0.0088 0.0086

Jupiter -43484-10-16 12:42 J -14160819.09 -14160818.97 -14160818.84 0.0535 0.0271

Jupiter -43483-01-14 04:33 J -14160729.39 -14160729.31 -14160729.22 0.0538 0.0426

Mars -43483-09-30 13:40 J -14160469.97 -14160469.93 -14160469.88 0.1601 0.1491

Earth -43482-09-22 06:28 J -14160113.31 -14160113.23 -14160113.15 0.2668 0.2021

Moon -43482-09-22 07:26 J -14160113.27 -14160113.19 -14160113.12 0.2666 0.2094 *

Mars -43481-09-05 04:18 J -14159764.44 -14159764.32 -14159764.21 0.1605 0.0825

Saturn -43479-06-17 00:57 J -14159114.58 -14159114.46 -14159114.34 0.0286 0.0185

Saturn -43479-09-13 18:42 J -14159025.87 -14159025.72 -14159025.56 0.0286 0.0066

Saturn -43479-12-11 12:57 J -14158937.11 -14158936.96 -14158936.79 0.0286 0.0059

Saturn -43478-03-10 07:40 J -14158848.30 -14158848.18 -14158848.05 0.0286 0.0183

Jupiter -43478-06-03 17:45 J -14158762.90 -14158762.76 -14158762.63 0.0493 0.0258

Jupiter -43478-09-01 10:04 J -14158673.19 -14158673.08 -14158672.96 0.0491 0.0334

Mars -43476-05-05 22:04 J -14158060.72 -14158060.58 -14158060.45 0.1926 0.0375

Venus -43475-04-28 15:50 J -14157702.98 -14157702.84 -14157702.71 0.3708 0.0234

Moon -43475-09-14 22:04 J -14157563.70 -14157563.58 -14157563.46 0.2670 0.0418

Earth -43475-09-14 22:18 J -14157563.69 -14157563.57 -14157563.45 0.2663 0.0461 *

Earth -43472-03-16 12:14 J -14156650.12 -14156649.99 -14156649.87 0.2667 0.0988

Moon -43472-03-16 12:14 J -14156650.11 -14156649.99 -14156649.86 0.2674 0.1097 *

Jupiter -43472-08-04 12:57 J -14156509.03 -14156508.96 -14156508.89 0.0534 0.0465

Jupiter -43472-11-02 05:30 J -14156419.40 -14156419.27 -14156419.14 0.0537 0.0238

Mars -43471-01-26 12:57 J -14156334.09 -14156333.96 -14156333.83 0.1604 0.0281

Mars -43467-09-26 00:14 J -14154630.61 -14154630.49 -14154630.36 0.1928 0.0736

Jupiter -43466-03-22 19:40 J -14154452.77 -14154452.68 -14154452.59 0.0494 0.0396

Jupiter -43466-06-20 11:45 J -14154363.15 -14154363.01 -14154362.86 0.0491 0.0192

Moon -43465-03-08 17:16 J -14154100.86 -14154100.78 -14154100.71 0.2669 0.2186

Earth -43465-03-08 18:14 J -14154100.82 -14154100.74 -14154100.66 0.2672 0.2083 *

Saturn -43464-01-21 15:06 J -14153781.90 -14153781.87 -14153781.83 0.0273 0.0264

Saturn -43464-04-20 05:02 J -14153693.41 -14153693.29 -14153693.17 0.0273 0.0164

Saturn -43464-07-17 18:42 J -14153604.86 -14153604.72 -14153604.58 0.0273 0.0067

Saturn -43464-10-14 07:54 J -14153516.31 -14153516.17 -14153516.02 0.0273 0.0030

Saturn -43463-01-10 21:06 J -14153427.75 -14153427.62 -14153427.49 0.0273 0.0123

Saturn -43463-04-09 09:50 J -14153339.17 -14153339.09 -14153339.00 0.0273 0.0216

Uranus -43462-03-25 18:57 J -14152988.76 -14152988.71 -14152988.66 0.0132 0.0123

Mars -43462-06-18 21:21 J -14152903.74 -14152903.61 -14152903.47 0.1603 0.0276

Uranus -43462-06-21 22:33 J -14152900.64 -14152900.56 -14152900.45 0.0132 0.0104

Earth -43462-09-17 18:57 J -14152812.83 -14152812.71 -14152812.59 0.2665 0.0449

Moon -43462-09-17 19:26 J -14152812.81 -14152812.69 -14152812.57 0.2670 0.0412 *

Uranus -43462-09-18 02:38 J -14152812.50 -14152812.39 -14152812.27 0.0132 0.0084

Uranus -43462-12-15 06:28 J -14152724.35 -14152724.23 -14152724.10 0.0132 0.0065

Uranus -43461-03-12 10:18 J -14152636.20 -14152636.07 -14152635.93 0.0132 0.0046

Uranus -43461-06-08 14:09 J -14152548.05 -14152547.91 -14152547.76 0.0132 0.0026

Uranus -43461-09-04 17:59 J -14152459.90 -14152459.75 -14152459.60 0.0132 0.0007

Uranus -43461-12-01 21:35 J -14152371.74 -14152371.60 -14152371.45 0.0132 0.0012

Uranus -43460-02-28 01:26 J -14152283.58 -14152283.44 -14152283.30 0.0132 0.0030

Uranus -43460-05-27 05:02 J -14152195.42 -14152195.29 -14152195.15 0.0132 0.0049

Jupiter -43460-08-21 07:11 J -14152109.34 -14152109.20 -14152109.06 0.0536 0.0068

Uranus -43460-08-23 08:38 J -14152107.26 -14152107.14 -14152107.01 0.0132 0.0068

Uranus -43460-11-19 12:14 J -14152019.09 -14152018.99 -14152018.88 0.0132 0.0086

Uranus -43459-02-15 16:04 J -14151930.92 -14151930.83 -14151930.75 0.0132 0.0104

Earth -43459-03-19 12:42 J -14151899.05 -14151898.97 -14151898.89 0.2665 0.2145

Moon -43459-03-19 13:40 J -14151899.01 -14151898.93 -14151898.85 0.2669 0.2141 *

Uranus -43459-05-14 19:11 J -14151842.73 -14151842.70 -14151842.63 0.0132 0.0123

Mars -43457-02-16 03:06 J -14151200.42 -14151200.37 -14151200.33 0.1929 0.1805

Moon -43455-09-10 08:38 J -14150263.21 -14150263.14 -14150263.07 0.2659 0.2205

Earth -43455-09-10 09:35 J -14150263.17 -14150263.10 -14150263.03 0.2660 0.2155 *

Venus -43455-12-10 23:30 J -14150171.63 -14150171.52 -14150171.42 0.3667 0.1253

Jupiter -43454-04-08 13:26 J -14150053.10 -14150052.94 -14150052.78 0.0492 0.0047

Mars -43453-11-08 05:45 J -14149473.37 -14149473.26 -14149473.14 0.1602 0.0836

Moon -43452-03-11 16:33 J -14149349.93 -14149349.81 -14149349.69 0.2673 0.1115

Earth -43452-03-11 17:45 J -14149349.88 -14149349.76 -14149349.64 0.2670 0.1028 *

Mars -43451-10-14 19:40 J -14148767.74 -14148767.68 -14148767.63 0.1607 0.1438

Saturn -43450-11-04 00:14 J -14148382.58 -14148382.49 -14148382.39 0.0286 0.0227

Saturn -43449-01-31 17:59 J -14148293.90 -14148293.75 -14148293.60 0.0286 0.0108

Saturn -43449-04-29 11:59 J -14148205.16 -14148205.00 -14148204.83 0.0286 0.0014

Venus -43449-06-25 16:47 J -14148147.91 -14148147.80 -14148147.70 0.3672 0.1203

Saturn -43449-07-27 06:28 J -14148116.37 -14148116.23 -14148116.08 0.0286 0.0138

Pluto -43449-09-19 07:11 J -14148062.20 -14148062.20 -14148062.18 0.0080 0.0080

Earth -43449-09-19 15:21 J -14148061.96 -14148061.86 -14148061.75 0.2666 0.1320

Moon -43449-09-19 16:18 J -14148061.92 -14148061.82 -14148061.72 0.2670 0.1437 *

Saturn -43449-10-24 01:26 J -14148027.50 -14148027.44 -14148027.38 0.0285 0.0264

Pluto -43449-12-16 08:52 J -14147974.19 -14147974.13 -14147974.06 0.0080 0.0071

Pluto -43448-03-14 10:18 J -14147886.15 -14147886.07 -14147885.97 0.0080 0.0063

Jupiter -43448-06-09 09:21 J -14147799.25 -14147799.11 -14147798.97 0.0536 0.0098

Pluto -43448-06-10 11:45 J -14147798.10 -14147798.01 -14147797.89 0.0079 0.0055

Pluto -43448-09-06 13:26 J -14147710.05 -14147709.94 -14147709.81 0.0079 0.0046

Pluto -43448-12-03 14:52 J -14147622.00 -14147621.88 -14147621.74 0.0079 0.0038

Pluto -43447-03-01 16:33 J -14147533.94 -14147533.81 -14147533.67 0.0079 0.0030

Pluto -43447-05-28 17:59 J -14147445.89 -14147445.75 -14147445.60 0.0079 0.0022

Pluto -43447-08-24 19:40 J -14147357.83 -14147357.68 -14147357.54 0.0079 0.0014

Pluto -43447-11-20 21:06 J -14147269.77 -14147269.62 -14147269.47 0.0079 0.0006

Pluto -43446-02-16 22:33 J -14147181.71 -14147181.56 -14147181.41 0.0079 0.0002

Pluto -43446-05-15 23:59 J -14147093.65 -14147093.50 -14147093.35 0.0078 0.0010

Mars -43446-06-14 20:09 J -14147063.73 -14147063.66 -14147063.58 0.1923 0.1610

Pluto -43446-08-12 01:11 J -14147005.59 -14147005.45 -14147005.30 0.0078 0.0018

Pluto -43446-11-08 02:38 J -14146917.52 -14146917.39 -14146917.24 0.0078 0.0025

Pluto -43445-02-04 04:04 J -14146829.46 -14146829.33 -14146829.19 0.0078 0.0032

Pluto -43445-05-02 05:16 J -14146741.39 -14146741.28 -14146741.14 0.0078 0.0040

Pluto -43445-07-29 06:57 J -14146653.33 -14146653.21 -14146653.10 0.0078 0.0047

Pluto -43445-10-25 07:54 J -14146565.26 -14146565.17 -14146565.05 0.0078 0.0055

Pluto -43444-01-21 09:21 J -14146477.19 -14146477.11 -14146477.01 0.0077 0.0062

Pluto -43444-04-19 10:47 J -14146389.11 -14146389.05 -14146388.98 0.0077 0.0069

Pluto -43444-07-16 12:14 J -14146301.01 -14146300.99 -14146300.96 0.0077 0.0076

Venus -43443-01-09 10:04 J -14146124.10 -14146124.08 -14146124.07 0.3676 0.3617

Mars -43443-03-31 13:54 J -14146042.98 -14146042.92 -14146042.85 0.1601 0.1408

Jupiter -43442-01-25 15:06 J -14145743.02 -14145742.87 -14145742.72 0.0492 0.0097

Moon -43442-09-13 05:59 J -14145512.36 -14145512.25 -14145512.14 0.2667 0.1258

Earth -43442-09-13 06:42 J -14145512.33 -14145512.22 -14145512.11 0.2662 0.1213 *

Mars -43441-03-06 04:33 J -14145337.42 -14145337.31 -14145337.20 0.1606 0.0906

Moon -43439-03-14 17:16 J -14144598.92 -14144598.78 -14144598.65 0.2674 0.0094

Earth -43439-03-14 17:45 J -14144598.90 -14144598.76 -14144598.63 0.2668 0.0087 *

Mars -43437-11-03 22:18 J -14143633.71 -14143633.57 -14143633.44 0.1926 0.0482

Jupiter -43436-03-28 11:16 J -14143489.15 -14143489.03 -14143488.90 0.0535 0.0263

Jupiter -43436-06-26 03:21 J -14143399.44 -14143399.36 -14143399.28 0.0538 0.0435

Earth -43436-09-22 11:30 J -14143311.08 -14143311.02 -14143310.95 0.2668 0.2174

Moon -43436-09-22 12:28 J -14143311.05 -14143310.98 -14143310.91 0.2665 0.2186 *

Saturn -43435-09-07 04:47 J -14142961.39 -14142961.30 -14142961.19 0.0273 0.0205

Saturn -43435-12-04 18:42 J -14142872.86 -14142872.72 -14142872.58 0.0273 0.0106

Saturn -43434-03-03 08:09 J -14142784.31 -14142784.16 -14142784.01 0.0273 0.0010

Saturn -43434-05-30 21:21 J -14142695.75 -14142695.61 -14142695.47 0.0273 0.0086

Saturn -43434-08-27 10:18 J -14142607.18 -14142607.07 -14142606.96 0.0273 0.0179

Saturn -43434-11-23 23:02 J -14142518.56 -14142518.54 -14142518.52 0.0273 0.0270

Mars -43432-07-27 13:11 J -14141907.08 -14141906.95 -14141906.82 0.1604 0.0363

Jupiter -43431-11-13 16:33 J -14141432.95 -14141432.81 -14141432.68 0.0493 0.0246

Jupiter -43430-02-11 08:52 J -14141343.24 -14141343.13 -14141343.02 0.0491 0.0345

Moon -43429-09-15 03:21 J -14140761.48 -14140761.36 -14140761.24 0.2670 0.0365

Earth -43429-09-15 03:35 J -14140761.47 -14140761.35 -14140761.23 0.2663 0.0294 *

Mars -43427-03-27 00:42 J -14140203.60 -14140203.47 -14140203.34 0.1927 0.0616

Earth -43426-03-17 17:59 J -14139847.88 -14139847.75 -14139847.63 0.2666 0.1191

Moon -43426-03-17 18:14 J -14139847.86 -14139847.74 -14139847.62 0.2673 0.1130 *

Jupiter -43424-01-14 12:42 J -14139179.05 -14139178.97 -14139178.88 0.0534 0.0437

Jupiter -43424-04-14 05:16 J -14139089.40 -14139089.28 -14139089.16 0.0537 0.0266

Venus -43424-05-19 14:23 J -14139053.97 -14139053.90 -14139053.83 0.3713 0.3143

Mars -43423-12-17 21:35 J -14138476.73 -14138476.60 -14138476.46 0.1603 0.0194

Saturn -43420-03-22 23:45 J -14137650.56 -14137650.51 -14137650.45 0.0286 0.0266

Saturn -43420-06-19 17:30 J -14137561.91 -14137561.77 -14137561.64 0.0286 0.0148

Saturn -43420-09-16 11:30 J -14137473.19 -14137473.02 -14137472.86 0.0286 0.0028

Saturn -43420-12-14 05:45 J -14137384.41 -14137384.26 -14137384.10 0.0286 0.0096

Moon -43419-03-09 22:47 J -14137298.65 -14137298.55 -14137298.46 0.2671 0.1908

Earth -43419-03-09 23:45 J -14137298.60 -14137298.51 -14137298.42 0.2671 0.1899 *

Uranus -43419-03-11 16:33 J -14137296.91 -14137296.81 -14137296.72 0.0146 0.0120

Saturn -43419-03-13 00:28 J -14137295.58 -14137295.48 -14137295.37 0.0285 0.0222

Uranus -43419-06-07 22:33 J -14137208.68 -14137208.56 -14137208.42 0.0146 0.0091

Jupiter -43419-09-01 18:28 J -14137122.83 -14137122.73 -14137122.64 0.0494 0.0387

Uranus -43419-09-04 05:16 J -14137120.44 -14137120.28 -14137120.13 0.0146 0.0062

Jupiter -43419-11-30 10:33 J -14137033.21 -14137033.06 -14137032.92 0.0491 0.0201

Uranus -43419-12-01 11:30 J -14137032.18 -14137032.02 -14137031.85 0.0146 0.0033

Venus -43419-12-03 15:50 J -14137029.97 -14137029.84 -14137029.72 0.3707 0.1421

Uranus -43418-02-27 17:59 J -14136943.91 -14136943.75 -14136943.58 0.0146 0.0005

Uranus -43418-05-27 00:42 J -14136855.64 -14136855.47 -14136855.31 0.0146 0.0027

Mars -43418-08-17 03:06 J -14136773.43 -14136773.37 -14136773.30 0.1929 0.1702

Uranus -43418-08-23 07:11 J -14136767.35 -14136767.20 -14136767.04 0.0146 0.0058

Uranus -43418-11-19 13:40 J -14136679.05 -14136678.93 -14136678.78 0.0146 0.0089

Uranus -43417-02-15 20:38 J -14136590.74 -14136590.64 -14136590.54 0.0146 0.0119

Earth -43416-09-18 00:14 J -14136010.61 -14136010.49 -14136010.37 0.2665 0.0599

Moon -43416-09-18 00:42 J -14136010.59 -14136010.47 -14136010.35 0.2671 0.0709 *

Earth -43413-03-19 18:28 J -14135096.79 -14135096.73 -14135096.67 0.2665 0.2346

Moon -43413-03-19 19:40 J -14135096.73 -14135096.68 -14135096.64 0.2668 0.2516 *

Mars -43413-05-09 05:59 J -14135046.37 -14135046.25 -14135046.13 0.1602 0.0752

Jupiter -43412-01-31 05:59 J -14134779.39 -14134779.25 -14134779.11 0.0536 0.0077

Mars -43411-04-14 19:54 J -14134340.71 -14134340.67 -14134340.63 0.1607 0.1519

Moon -43409-09-10 13:54 J -14133460.99 -14133460.92 -14133460.84 0.2660 0.2092

Earth -43409-09-10 14:52 J -14133460.96 -14133460.88 -14133460.79 0.2661 0.1986 *

Neptune -43408-04-05 09:50 J -14133254.11 -14133254.09 -14133254.04 0.0089 0.0086

Neptune -43408-07-02 11:59 J -14133166.06 -14133166.00 -14133165.92 0.0089 0.0079

Neptune -43408-09-28 14:09 J -14133077.99 -14133077.91 -14133077.80 0.0089 0.0072

Neptune -43408-12-25 16:18 J -14132989.91 -14132989.82 -14132989.70 0.0089 0.0065

Neptune -43407-03-23 18:28 J -14132901.83 -14132901.73 -14132901.59 0.0089 0.0058

Neptune -43407-06-19 21:06 J -14132813.75 -14132813.62 -14132813.49 0.0089 0.0050

Neptune -43407-09-15 23:16 J -14132725.67 -14132725.53 -14132725.39 0.0089 0.0043

Jupiter -43407-09-18 12:14 J -14132723.15 -14132722.99 -14132722.83 0.0492 0.0058

Neptune -43407-12-13 01:26 J -14132637.58 -14132637.44 -14132637.29 0.0089 0.0036

Mars -43407-12-13 20:23 J -14132636.71 -14132636.65 -14132636.59 0.1923 0.1723

Neptune -43406-03-11 03:35 J -14132549.49 -14132549.35 -14132549.19 0.0089 0.0029

Moon -43406-03-12 22:18 J -14132547.69 -14132547.57 -14132547.44 0.2672 0.0922

Earth -43406-03-12 23:30 J -14132547.65 -14132547.52 -14132547.40 0.2670 0.0843 *

Neptune -43406-06-07 05:59 J -14132461.40 -14132461.25 -14132461.09 0.0089 0.0022

Neptune -43406-09-03 08:23 J -14132373.31 -14132373.15 -14132373.00 0.0089 0.0014

Neptune -43406-11-30 10:33 J -14132285.22 -14132285.06 -14132284.90 0.0089 0.0007

Saturn -43405-01-25 07:26 J -14132229.26 -14132229.19 -14132229.10 0.0273 0.0227

Neptune -43405-02-26 12:57 J -14132197.12 -14132196.96 -14132196.80 0.0089 0.0002

Saturn -43405-04-22 21:21 J -14132140.74 -14132140.61 -14132140.48 0.0273 0.0128

Neptune -43405-05-24 15:06 J -14132109.03 -14132108.87 -14132108.71 0.0089 0.0008

Saturn -43405-07-20 11:02 J -14132052.19 -14132052.04 -14132051.90 0.0273 0.0032

Neptune -43405-08-20 17:30 J -14132020.93 -14132020.77 -14132020.61 0.0089 0.0015

Saturn -43405-10-17 00:14 J -14131963.63 -14131963.49 -14131963.35 0.0273 0.0065

Neptune -43405-11-16 19:40 J -14131932.83 -14131932.68 -14131932.52 0.0089 0.0023

Saturn -43404-01-13 13:11 J -14131875.07 -14131874.95 -14131874.83 0.0274 0.0159

Neptune -43404-02-12 22:04 J -14131844.73 -14131844.58 -14131844.43 0.0089 0.0030

Saturn -43404-04-12 01:54 J -14131786.47 -14131786.42 -14131786.36 0.0274 0.0251

Neptune -43404-05-12 00:14 J -14131756.63 -14131756.49 -14131756.33 0.0089 0.0038

Neptune -43404-08-08 02:38 J -14131668.52 -14131668.39 -14131668.24 0.0089 0.0045

Mars -43404-09-29 14:09 J -14131615.98 -14131615.91 -14131615.83 0.1601 0.1322

Neptune -43404-11-04 04:47 J -14131580.42 -14131580.30 -14131580.15 0.0089 0.0053

Venus -43403-01-01 03:50 J -14131522.41 -14131522.34 -14131522.27 0.3664 0.2813

Neptune -43403-01-31 07:26 J -14131492.31 -14131492.19 -14131492.07 0.0089 0.0060

Neptune -43403-04-29 09:35 J -14131404.19 -14131404.10 -14131403.98 0.0089 0.0068

Neptune -43403-07-26 12:14 J -14131316.07 -14131315.99 -14131315.90 0.0089 0.0075

Earth -43403-09-20 20:38 J -14131259.74 -14131259.64 -14131259.54 0.2667 0.1473

Moon -43403-09-20 21:21 J -14131259.71 -14131259.61 -14131259.51 0.2668 0.1469 *

Neptune -43403-10-22 14:23 J -14131227.94 -14131227.90 -14131227.83 0.0089 0.0083

Mars -43402-09-05 04:33 J -14130910.41 -14130910.31 -14130910.20 0.1606 0.0986

Jupiter -43401-11-19 07:40 J -14130469.33 -14130469.18 -14130469.04 0.0536 0.0097

Venus -43398-07-17 21:21 J -14129498.72 -14129498.61 -14129498.50 0.3668 0.0326

Mars -43397-05-04 22:33 J -14129206.69 -14129206.56 -14129206.43 0.1925 0.0594

Moon -43396-09-13 11:16 J -14128710.14 -14128710.03 -14128709.92 0.2667 0.1094

Earth -43396-09-13 11:59 J -14128710.11 -14128710.00 -14128709.89 0.2662 0.1048 *

Jupiter -43395-07-07 13:54 J -14128413.08 -14128412.92 -14128412.77 0.0492 0.0087

Moon -43393-03-14 23:02 J -14127796.67 -14127796.54 -14127796.41 0.2675 0.0212

Earth -43393-03-14 23:16 J -14127796.66 -14127796.53 -14127796.39 0.2668 0.0254 *

Mars -43392-01-25 13:26 J -14127480.07 -14127479.94 -14127479.81 0.1604 0.0446

Venus -43392-01-30 14:38 J -14127474.98 -14127474.89 -14127474.80 0.3673 0.2123

Saturn -43391-11-06 17:16 J -14126829.90 -14126829.78 -14126829.65 0.0286 0.0186

Saturn -43390-02-03 11:02 J -14126741.19 -14126741.04 -14126740.88 0.0286 0.0067

Saturn -43390-05-03 05:16 J -14126652.44 -14126652.28 -14126652.12 0.0286 0.0056

Saturn -43390-07-30 23:45 J -14126563.63 -14126563.51 -14126563.38 0.0285 0.0181

Earth -43390-09-23 16:47 J -14126508.86 -14126508.80 -14126508.74 0.2668 0.2320

Moon -43390-09-23 17:30 J -14126508.81 -14126508.77 -14126508.72 0.2665 0.2423 *

Jupiter -43389-09-07 09:21 J -14126159.23 -14126159.11 -14126158.98 0.0535 0.0264

Jupiter -43389-12-06 01:26 J -14126069.52 -14126069.44 -14126069.36 0.0538 0.0433

Mars -43388-09-25 00:42 J -14125776.60 -14125776.47 -14125776.34 0.1927 0.0532

Jupiter -43383-04-25 15:35 J -14124102.98 -14124102.85 -14124102.71 0.0493 0.0228

Mars -43383-06-17 21:50 J -14124049.72 -14124049.59 -14124049.45 0.1603 0.0110

Jupiter -43383-07-24 07:54 J -14124013.27 -14124013.17 -14124013.06 0.0491 0.0364

Moon -43383-09-16 08:52 J -14123959.26 -14123959.13 -14123959.01 0.2670 0.0141

Earth -43383-09-16 08:52 J -14123959.26 -14123959.13 -14123959.01 0.2664 0.0145 *

Earth -43380-03-17 23:30 J -14123045.63 -14123045.52 -14123045.40 0.2666 0.1389

Moon -43380-03-17 23:59 J -14123045.61 -14123045.50 -14123045.39 0.2672 0.1486 *

Mars -43378-02-15 03:35 J -14122346.42 -14122346.35 -14122346.28 0.1929 0.1586

Uranus -43378-04-15 02:09 J -14122287.47 -14122287.41 -14122287.34 0.0132 0.0117

Uranus -43378-07-12 05:45 J -14122199.34 -14122199.26 -14122199.15 0.0132 0.0099

Uranus -43378-10-08 09:50 J -14122111.20 -14122111.09 -14122110.96 0.0132 0.0078

Uranus -43377-01-04 13:40 J -14122023.06 -14122022.93 -14122022.79 0.0132 0.0059

Uranus -43377-04-01 17:30 J -14121934.91 -14121934.77 -14121934.62 0.0132 0.0040

Jupiter -43377-06-26 11:16 J -14121849.11 -14121849.03 -14121848.94 0.0535 0.0431

Uranus -43377-06-28 21:21 J -14121846.75 -14121846.61 -14121846.46 0.0132 0.0021

Jupiter -43377-09-24 03:50 J -14121759.46 -14121759.34 -14121759.22 0.0537 0.0273

Uranus -43377-09-25 01:11 J -14121758.60 -14121758.45 -14121758.30 0.0132 0.0001

Uranus -43377-12-22 04:47 J -14121670.44 -14121670.30 -14121670.15 0.0132 0.0018

Uranus -43376-03-20 08:38 J -14121582.28 -14121582.14 -14121582.00 0.0132 0.0036

Saturn -43376-06-13 07:26 J -14121497.21 -14121497.19 -14121497.16 0.0273 0.0267

Uranus -43376-06-16 12:14 J -14121494.12 -14121493.99 -14121493.85 0.0132 0.0055

Saturn -43376-09-09 21:21 J -14121408.72 -14121408.61 -14121408.49 0.0273 0.0167

Uranus -43376-09-12 15:50 J -14121405.95 -14121405.84 -14121405.71 0.0132 0.0074

Saturn -43376-12-07 11:02 J -14121320.18 -14121320.04 -14121319.90 0.0273 0.0069

Uranus -43376-12-09 19:26 J -14121317.79 -14121317.69 -14121317.58 0.0132 0.0092

Saturn -43375-03-06 00:28 J -14121231.63 -14121231.48 -14121231.33 0.0273 0.0027

Uranus -43375-03-07 23:02 J -14121229.61 -14121229.54 -14121229.45 0.0132 0.0110

Saturn -43375-06-02 13:40 J -14121143.06 -14121142.93 -14121142.80 0.0273 0.0122

Uranus -43375-06-04 02:38 J -14121141.41 -14121141.39 -14121141.35 0.0132 0.0128

Saturn -43375-08-30 02:23 J -14121054.48 -14121054.40 -14121054.31 0.0273 0.0214

Mars -43374-11-08 06:14 J -14120619.36 -14120619.24 -14120619.11 0.1602 0.0667

Moon -43373-03-10 04:18 J -14120496.42 -14120496.32 -14120496.23 0.2671 0.1878

Earth -43373-03-10 05:16 J -14120496.38 -14120496.28 -14120496.18 0.2671 0.1717 *

Mars -43372-10-13 19:54 J -14119913.68 -14119913.67 -14119913.65 0.1607 0.1598

Jupiter -43371-02-11 17:02 J -14119792.88 -14119792.79 -14119792.69 0.0494 0.0376

Jupiter -43371-05-12 09:06 J -14119703.26 -14119703.12 -14119702.98 0.0491 0.0211

Earth -43370-09-19 05:30 J -14119208.39 -14119208.27 -14119208.16 0.2665 0.0765

Moon -43370-09-19 05:59 J -14119208.37 -14119208.25 -14119208.13 0.2671 0.0736 *

Venus -43368-12-24 14:09 J -14118381.03 -14118380.91 -14118380.78 0.3711 0.1573

Earth -43367-03-21 00:14 J -14118294.52 -14118294.49 -14118294.45 0.2665 0.2556

Moon -43367-03-21 01:26 J -14118294.47 -14118294.44 -14118294.40 0.2667 0.2552 *

Mars -43367-06-13 20:52 J -14118209.66 -14118209.63 -14118209.59 0.1923 0.1852

Jupiter -43365-07-13 05:45 J -14117449.40 -14117449.26 -14117449.12 0.0537 0.0104

Mars -43364-03-30 14:38 J -14117188.98 -14117188.89 -14117188.81 0.1601 0.1233

Moon -43363-09-11 19:26 J -14116658.78 -14116658.69 -14116658.60 0.2662 0.1825

Earth -43363-09-11 20:23 J -14116658.74 -14116658.65 -14116658.56 0.2661 0.1819 *

Mars -43362-03-06 04:47 J -14116483.39 -14116483.30 -14116483.20 0.1606 0.1069

Venus -43362-07-10 15:50 J -14116356.91 -14116356.84 -14116356.77 0.3706 0.3080

Saturn -43361-03-25 16:33 J -14116097.90 -14116097.81 -14116097.71 0.0286 0.0228

Saturn -43361-06-22 10:18 J -14116009.22 -14116009.07 -14116008.92 0.0286 0.0109

Saturn -43361-09-19 04:18 J -14115920.48 -14115920.32 -14115920.15 0.0286 0.0014

Saturn -43361-12-16 22:47 J -14115831.69 -14115831.55 -14115831.40 0.0285 0.0137

Moon -43360-03-13 04:04 J -14115745.46 -14115745.33 -14115745.20 0.2673 0.0687

Earth -43360-03-13 05:02 J -14115745.42 -14115745.29 -14115745.16 0.2669 0.0654 *

Saturn -43360-03-15 17:30 J -14115742.82 -14115742.77 -14115742.70 0.0285 0.0264

Jupiter -43359-02-28 10:47 J -14115393.21 -14115393.05 -14115392.89 0.0492 0.0067

Mars -43358-11-03 22:47 J -14114779.68 -14114779.55 -14114779.42 0.1925 0.0699

Earth -43357-09-21 01:40 J -14114457.52 -14114457.43 -14114457.33 0.2667 0.1624

Moon -43357-09-21 02:38 J -14114457.48 -14114457.39 -14114457.30 0.2667 0.1757 *

Jupiter -43353-05-01 06:14 J -14113139.38 -14113139.24 -14113139.09 0.0535 0.0086

Mars -43353-07-26 13:40 J -14113053.06 -14113052.93 -14113052.81 0.1604 0.0528

Moon -43350-09-14 16:33 J -14111907.92 -14111907.81 -14111907.69 0.2667 0.0956

Earth -43350-09-14 17:16 J -14111907.90 -14111907.78 -14111907.66 0.2662 0.0883 *

Mars -43348-03-26 00:57 J -14111349.59 -14111349.46 -14111349.32 0.1927 0.0414

Jupiter -43348-12-17 12:28 J -14111083.13 -14111082.98 -14111082.82 0.0493 0.0077

Moon -43347-03-16 04:47 J -14110994.43 -14110994.30 -14110994.17 0.2675 0.0442

Earth -43347-03-16 05:02 J -14110994.42 -14110994.29 -14110994.16 0.2668 0.0451 *

Venus -43347-08-08 01:54 J -14110849.52 -14110849.42 -14110849.33 0.3665 0.1873

Saturn -43346-01-27 23:59 J -14110676.60 -14110676.50 -14110676.38 0.0273 0.0190

Saturn -43346-04-26 13:54 J -14110588.06 -14110587.92 -14110587.78 0.0274 0.0091

Saturn -43346-07-24 03:21 J -14110499.51 -14110499.36 -14110499.21 0.0274 0.0007

Saturn -43346-10-20 16:33 J -14110410.94 -14110410.81 -14110410.67 0.0274 0.0102

Saturn -43345-01-17 05:30 J -14110322.37 -14110322.27 -14110322.17 0.0274 0.0195

Earth -43344-09-23 21:50 J -14109706.63 -14109706.59 -14109706.54 0.2669 0.2469

Moon -43344-09-23 22:33 J -14109706.60 -14109706.56 -14109706.51 0.2665 0.2463 *

Mars -43344-12-16 22:04 J -14109622.72 -14109622.58 -14109622.44 0.1603 0.0026

Jupiter -43341-02-18 07:40 J -14108829.31 -14108829.18 -14108829.05 0.0535 0.0262

Venus -43341-02-21 19:11 J -14108825.81 -14108825.70 -14108825.59 0.3669 0.0617

Jupiter -43341-05-17 23:45 J -14108739.59 -14108739.51 -14108739.43 0.0538 0.0434

Earth -43340-03-08 11:30 J -14108445.05 -14108445.02 -14108444.98 0.2673 0.2563

Mars -43339-08-16 03:35 J -14107919.43 -14107919.35 -14107919.26 0.1928 0.1490

Earth -43337-09-16 14:09 J -14107157.04 -14107156.91 -14107156.79 0.2664 0.0094

Moon -43337-09-16 14:09 J -14107157.03 -14107156.91 -14107156.79 0.2671 0.0053 *

Venus -43336-09-06 12:28 J -14106802.04 -14106801.98 -14106801.92 0.3674 0.3045

Jupiter -43336-10-05 14:09 J -14106773.05 -14106772.91 -14106772.77 0.0493 0.0220

Uranus -43335-01-02 17:16 J -14106683.81 -14106683.78 -14106683.72 0.0146 0.0141

Jupiter -43335-01-03 06:42 J -14106683.32 -14106683.22 -14106683.12 0.0491 0.0373

Uranus -43335-03-31 23:45 J -14106595.61 -14106595.51 -14106595.40 0.0146 0.0112

Uranus -43335-06-28 06:14 J -14106507.37 -14106507.24 -14106507.10 0.0146 0.0082

Uranus -43335-09-24 12:28 J -14106419.13 -14106418.98 -14106418.82 0.0146 0.0054

Uranus -43335-12-21 18:57 J -14106330.87 -14106330.71 -14106330.54 0.0146 0.0024

Earth -43334-03-19 05:16 J -14106243.39 -14106243.28 -14106243.17 0.2666 0.1586

Moon -43334-03-19 05:59 J -14106243.36 -14106243.25 -14106243.14 0.2671 0.1594 *

Uranus -43334-03-20 01:40 J -14106242.60 -14106242.43 -14106242.26 0.0146 0.0006

Mars -43334-05-09 06:28 J -14106192.36 -14106192.23 -14106192.10 0.1602 0.0583

Uranus -43334-06-16 08:09 J -14106154.32 -14106154.16 -14106154.00 0.0146 0.0036

Uranus -43334-09-12 14:38 J -14106066.04 -14106065.89 -14106065.73 0.0146 0.0066

Uranus -43334-12-09 21:21 J -14105977.73 -14105977.61 -14105977.48 0.0146 0.0097

Uranus -43333-03-07 03:50 J -14105889.41 -14105889.34 -14105889.24 0.0146 0.0128

Saturn -43332-08-12 17:16 J -14105365.84 -14105365.78 -14105365.72 0.0286 0.0261

Saturn -43332-11-09 10:47 J -14105277.19 -14105277.05 -14105276.91 0.0286 0.0144

Saturn -43331-02-06 04:47 J -14105188.47 -14105188.30 -14105188.14 0.0286 0.0024

Saturn -43331-05-05 22:47 J -14105099.70 -14105099.55 -14105099.39 0.0285 0.0101

Saturn -43331-08-02 17:30 J -14105010.86 -14105010.77 -14105010.66 0.0285 0.0226

Moon -43330-09-10 03:21 J -14104607.38 -14104607.36 -14104607.33 0.2656 0.2583

Earth -43330-09-10 04:18 J -14104607.34 -14104607.32 -14104607.30 0.2660 0.2603 *

Jupiter -43330-12-07 09:21 J -14104519.20 -14104519.11 -14104519.03 0.0534 0.0434

Jupiter -43329-03-06 01:54 J -14104429.55 -14104429.42 -14104429.30 0.0537 0.0270

Moon -43327-03-11 09:50 J -14103694.20 -14103694.09 -14103693.98 0.2671 0.1526

Earth -43327-03-11 11:02 J -14103694.15 -14103694.04 -14103693.93 0.2671 0.1531 *

Neptune -43325-04-06 01:40 J -14102937.48 -14102937.43 -14102937.38 0.0088 0.0084

Neptune -43325-07-03 03:35 J -14102849.42 -14102849.35 -14102849.26 0.0088 0.0077

Mars -43325-09-28 14:52 J -14102761.98 -14102761.88 -14102761.79 0.1601 0.1151

Neptune -43325-09-29 05:45 J -14102761.35 -14102761.26 -14102761.15 0.0088 0.0069

Neptune -43325-12-26 07:54 J -14102673.27 -14102673.17 -14102673.05 0.0088 0.0062

Neptune -43324-03-24 09:50 J -14102585.20 -14102585.09 -14102584.95 0.0088 0.0056

Neptune -43324-06-20 11:59 J -14102497.12 -14102497.00 -14102496.86 0.0088 0.0048

Jupiter -43324-07-24 16:18 J -14102462.93 -14102462.82 -14102462.72 0.0494 0.0360

Neptune -43324-09-16 14:09 J -14102409.04 -14102408.91 -14102408.76 0.0088 0.0041

Earth -43324-09-19 10:33 J -14102406.17 -14102406.06 -14102405.94 0.2666 0.0912

Moon -43324-09-19 11:16 J -14102406.15 -14102406.03 -14102405.92 0.2671 0.1011 *

Jupiter -43324-10-22 08:09 J -14102373.30 -14102373.16 -14102373.02 0.0491 0.0227

Neptune -43324-12-13 16:18 J -14102320.96 -14102320.82 -14102320.67 0.0088 0.0034

Neptune -43323-03-11 18:14 J -14102232.88 -14102232.74 -14102232.58 0.0088 0.0028

Neptune -43323-06-07 20:23 J -14102144.79 -14102144.65 -14102144.49 0.0088 0.0020

Neptune -43323-09-03 22:33 J -14102056.71 -14102056.56 -14102056.40 0.0088 0.0013

Mars -43323-09-04 05:02 J -14102056.38 -14102056.29 -14102056.20 0.1606 0.1147

Neptune -43323-12-01 00:42 J -14101968.63 -14101968.47 -14101968.32 0.0088 0.0006

Neptune -43322-02-27 02:38 J -14101880.54 -14101880.39 -14101880.23 0.0088 0.0001

Neptune -43322-05-26 04:33 J -14101792.46 -14101792.31 -14101792.15 0.0088 0.0008

Neptune -43322-08-22 06:42 J -14101704.37 -14101704.22 -14101704.07 0.0088 0.0015

Neptune -43322-11-18 08:38 J -14101616.29 -14101616.14 -14101615.99 0.0088 0.0022

Neptune -43321-02-14 10:33 J -14101528.20 -14101528.06 -14101527.91 0.0088 0.0029

Neptune -43321-05-12 12:28 J -14101440.11 -14101439.98 -14101439.83 0.0088 0.0036

Neptune -43321-08-08 14:23 J -14101352.03 -14101351.90 -14101351.76 0.0088 0.0042

Neptune -43321-11-04 16:33 J -14101263.94 -14101263.81 -14101263.68 0.0088 0.0049

Neptune -43320-01-31 18:28 J -14101175.85 -14101175.73 -14101175.61 0.0088 0.0056

Neptune -43320-04-29 20:09 J -14101087.75 -14101087.66 -14101087.54 0.0088 0.0063

Neptune -43320-07-26 22:04 J -14100999.66 -14100999.58 -14100999.47 0.0088 0.0069

Neptune -43320-10-23 00:14 J -14100911.56 -14100911.49 -14100911.41 0.0088 0.0076

Neptune -43319-01-19 01:54 J -14100823.46 -14100823.42 -14100823.35 0.0088 0.0083

Mars -43318-05-04 23:02 J -14100352.66 -14100352.54 -14100352.41 0.1926 0.0817

Jupiter -43318-12-24 04:04 J -14100119.47 -14100119.33 -14100119.19 0.0537 0.0108

Saturn -43317-06-16 00:14 J -14099944.57 -14099944.49 -14099944.41 0.0273 0.0228

Moon -43317-09-12 00:42 J -14099856.56 -14099856.47 -14099856.38 0.2664 0.1794

Earth -43317-09-12 01:26 J -14099856.53 -14099856.44 -14099856.34 0.2661 0.1651 *

Saturn -43317-09-12 14:09 J -14099856.04 -14099855.91 -14099855.78 0.0273 0.0129

Saturn -43317-12-10 03:35 J -14099767.49 -14099767.35 -14099767.20 0.0273 0.0032

Saturn -43316-03-08 17:02 J -14099678.93 -14099678.79 -14099678.65 0.0273 0.0065

Saturn -43316-06-05 05:59 J -14099590.36 -14099590.25 -14099590.13 0.0273 0.0159

Saturn -43316-09-01 18:57 J -14099501.77 -14099501.71 -14099501.66 0.0273 0.0251

Moon -43314-03-14 09:50 J -14098943.22 -14098943.09 -14098942.96 0.2674 0.0578

Earth -43314-03-14 10:33 J -14098943.19 -14098943.06 -14098942.92 0.2669 0.0467 *

Mars -43313-01-25 13:40 J -14098626.05 -14098625.93 -14098625.80 0.1604 0.0608

Jupiter -43312-08-10 09:21 J -14098063.26 -14098063.11 -14098062.95 0.0492 0.0076

Venus -43311-07-31 14:09 J -14097708.04 -14097707.91 -14097707.77 0.3710 0.0106

Earth -43311-09-22 06:57 J -14097655.30 -14097655.21 -14097655.12 0.2667 0.1777

Moon -43311-09-22 07:54 J -14097655.26 -14097655.17 -14097655.08 0.2667 0.1771 *

Mars -43309-09-24 01:26 J -14096922.58 -14096922.44 -14096922.31 0.1927 0.0302

Jupiter -43306-10-12 05:45 J -14095809.40 -14095809.26 -14095809.11 0.0536 0.0064

Mars -43304-06-16 22:18 J -14095195.70 -14095195.57 -14095195.43 0.1603 0.0071

Moon -43304-09-14 22:04 J -14095105.70 -14095105.58 -14095105.47 0.2668 0.0731

Earth -43304-09-14 22:33 J -14095105.68 -14095105.56 -14095105.44 0.2663 0.0721 *

Saturn -43302-03-29 09:50 J -14094545.20 -14094545.09 -14094544.96 0.0286 0.0186

Saturn -43302-06-26 03:50 J -14094456.50 -14094456.34 -14094456.18 0.0286 0.0066

Saturn -43302-09-22 22:04 J -14094367.74 -14094367.58 -14094367.42 0.0286 0.0057

Saturn -43302-12-20 16:33 J -14094278.94 -14094278.81 -14094278.68 0.0285 0.0182

Moon -43301-03-16 10:33 J -14094192.19 -14094192.06 -14094191.93 0.2674 0.0645

Earth -43301-03-16 10:33 J -14094192.19 -14094192.06 -14094191.92 0.2667 0.0647 *

Jupiter -43300-05-29 11:02 J -14093753.19 -14093753.04 -14093752.88 0.0493 0.0069

Mars -43299-02-14 03:50 J -14093492.43 -14093492.34 -14093492.25 0.1928 0.1384

Earth -43298-09-25 03:06 J -14092904.39 -14092904.37 -14092904.35 0.2669 0.2617

Venus -43296-08-29 06:14 J -14092200.28 -14092200.24 -14092200.20 0.3662 0.3433

Mars -43295-11-07 06:42 J -14091765.35 -14091765.22 -14091765.09 0.1602 0.0499

Uranus -43294-02-06 05:16 J -14091674.28 -14091674.28 -14091674.25 0.0132 0.0131

Moon -43294-03-09 16:18 J -14091642.88 -14091642.82 -14091642.77 0.2669 0.2390

Earth -43294-03-09 17:16 J -14091642.84 -14091642.78 -14091642.72 0.2672 0.2382 *

Uranus -43294-05-05 09:21 J -14091586.18 -14091586.11 -14091586.02 0.0132 0.0111

Jupiter -43294-07-31 06:28 J -14091499.36 -14091499.23 -14091499.10 0.0534 0.0251

Uranus -43294-08-01 13:26 J -14091498.05 -14091497.94 -14091497.83 0.0132 0.0092

Uranus -43294-10-28 17:16 J -14091409.90 -14091409.78 -14091409.65 0.0132 0.0072

Jupiter -43294-10-28 22:18 J -14091409.64 -14091409.57 -14091409.49 0.0537 0.0443

Uranus -43293-01-24 21:06 J -14091321.75 -14091321.62 -14091321.48 0.0132 0.0053

Uranus -43293-04-22 00:57 J -14091233.60 -14091233.46 -14091233.32 0.0132 0.0033

Uranus -43293-07-19 04:47 J -14091145.45 -14091145.30 -14091145.15 0.0132 0.0014

Uranus -43293-10-15 08:23 J -14091057.29 -14091057.15 -14091057.00 0.0132 0.0006

Uranus -43292-01-11 12:14 J -14090969.13 -14090968.99 -14090968.85 0.0132 0.0024

Uranus -43292-04-09 15:50 J -14090880.97 -14090880.84 -14090880.70 0.0132 0.0043

Uranus -43292-07-06 19:26 J -14090792.81 -14090792.69 -14090792.55 0.0132 0.0061

Uranus -43292-10-02 23:16 J -14090704.64 -14090704.53 -14090704.41 0.0132 0.0079

Uranus -43292-12-30 02:38 J -14090616.47 -14090616.39 -14090616.28 0.0132 0.0098

Uranus -43291-03-28 06:28 J -14090528.29 -14090528.23 -14090528.16 0.0132 0.0116

Earth -43291-09-17 19:11 J -14090354.82 -14090354.70 -14090354.57 0.2664 0.0209

Moon -43291-09-17 19:26 J -14090354.81 -14090354.69 -14090354.56 0.2671 0.0207 *

Venus -43290-03-14 23:45 J -14090176.62 -14090176.51 -14090176.40 0.3666 0.0918

Pluto -43290-04-15 08:52 J -14090145.16 -14090145.13 -14090145.08 0.0065 0.0063

Pluto -43290-07-12 10:04 J -14090057.14 -14090057.08 -14090057.00 0.0065 0.0058

Pluto -43290-10-08 11:16 J -14089969.11 -14089969.03 -14089968.93 0.0065 0.0054

Pluto -43289-01-04 12:28 J -14089881.08 -14089880.98 -14089880.86 0.0065 0.0049

Pluto -43289-04-01 13:40 J -14089793.04 -14089792.93 -14089792.80 0.0065 0.0044

Pluto -43289-06-28 14:52 J -14089705.00 -14089704.88 -14089704.73 0.0065 0.0039

Pluto -43289-09-24 16:04 J -14089616.96 -14089616.83 -14089616.67 0.0066 0.0034

Pluto -43289-12-21 17:16 J -14089528.92 -14089528.78 -14089528.62 0.0066 0.0029

Jupiter -43288-03-17 12:42 J -14089443.11 -14089442.97 -14089442.83 0.0494 0.0212

Earth -43288-03-19 11:02 J -14089441.14 -14089441.04 -14089440.94 0.2666 0.1785

Moon -43288-03-19 11:59 J -14089441.10 -14089441.00 -14089440.91 0.2671 0.1870 *

Pluto -43288-03-19 18:28 J -14089440.87 -14089440.73 -14089440.56 0.0066 0.0024

Jupiter -43288-06-15 05:16 J -14089353.38 -14089353.28 -14089353.18 0.0491 0.0381

Pluto -43288-06-15 19:54 J -14089352.83 -14089352.67 -14089352.50 0.0066 0.0018

Pluto -43288-09-11 21:21 J -14089264.78 -14089264.61 -14089264.44 0.0066 0.0013

Saturn -43288-11-03 02:52 J -14089212.43 -14089212.38 -14089212.32 0.0274 0.0250

Pluto -43288-12-08 22:33 J -14089176.73 -14089176.56 -14089176.39 0.0066 0.0008

Saturn -43287-01-30 16:47 J -14089123.92 -14089123.80 -14089123.67 0.0274 0.0151

Pluto -43287-03-06 23:59 J -14089088.67 -14089088.50 -14089088.33 0.0066 0.0003

Saturn -43287-04-29 06:28 J -14089035.37 -14089035.23 -14089035.08 0.0274 0.0053

Pluto -43287-06-03 01:11 J -14089000.62 -14089000.45 -14089000.28 0.0066 0.0003

Saturn -43287-07-26 19:54 J -14088946.81 -14088946.67 -14088946.52 0.0274 0.0044

Pluto -43287-08-30 02:23 J -14088912.56 -14088912.40 -14088912.23 0.0066 0.0008

Saturn -43287-10-23 09:06 J -14088858.25 -14088858.12 -14088858.00 0.0274 0.0139

Pluto -43287-11-26 03:50 J -14088824.51 -14088824.34 -14088824.17 0.0066 0.0013

Saturn -43286-01-19 21:50 J -14088769.66 -14088769.59 -14088769.51 0.0274 0.0232

Pluto -43286-02-22 05:02 J -14088736.45 -14088736.29 -14088736.12 0.0066 0.0019

Pluto -43286-05-21 06:14 J -14088648.39 -14088648.24 -14088648.07 0.0067 0.0025

Pluto -43286-08-17 07:40 J -14088560.33 -14088560.18 -14088560.02 0.0067 0.0030

Pluto -43286-11-13 08:52 J -14088472.26 -14088472.13 -14088471.97 0.0067 0.0036

Pluto -43285-02-09 10:18 J -14088384.19 -14088384.07 -14088383.92 0.0067 0.0041

Mars -43285-03-29 14:52 J -14088334.98 -14088334.88 -14088334.77 0.1601 0.1067

Pluto -43285-05-07 11:30 J -14088296.12 -14088296.02 -14088295.88 0.0067 0.0047

Pluto -43285-08-03 13:11 J -14088208.05 -14088207.95 -14088207.84 0.0067 0.0053

Venus -43285-09-27 17:02 J -14088152.89 -14088152.79 -14088152.69 0.3671 0.1554

Pluto -43285-10-30 14:23 J -14088119.97 -14088119.90 -14088119.80 0.0067 0.0058

Pluto -43284-01-26 15:35 J -14088031.88 -14088031.85 -14088031.78 0.0067 0.0065

Moon -43284-09-10 08:38 J -14087805.17 -14087805.14 -14087805.11 0.2657 0.2561

Earth -43284-09-10 09:35 J -14087805.15 -14087805.10 -14087805.05 0.2660 0.2433 *

Mars -43283-03-05 05:16 J -14087629.37 -14087629.28 -14087629.20 0.1606 0.1225

Jupiter -43282-05-19 07:26 J -14087189.27 -14087189.19 -14087189.10 0.0534 0.0431

Jupiter -43282-08-16 23:59 J -14087099.62 -14087099.50 -14087099.37 0.0537 0.0271

Moon -43281-03-11 15:21 J -14086891.97 -14086891.86 -14086891.75 0.2671 0.1508

Earth -43281-03-11 16:33 J -14086891.92 -14086891.81 -14086891.70 0.2671 0.1344 *

Mars -43279-11-02 23:16 J -14085925.65 -14085925.53 -14085925.41 0.1925 0.0917

Earth -43278-09-20 15:50 J -14085603.95 -14085603.84 -14085603.73 0.2666 0.1070

Moon -43278-09-20 16:33 J -14085603.92 -14085603.81 -14085603.70 0.2669 0.1101 *

Jupiter -43276-01-03 14:23 J -14085133.00 -14085132.90 -14085132.79 0.0494 0.0355

Jupiter -43276-04-03 06:28 J -14085043.37 -14085043.23 -14085043.09 0.0491 0.0234

Mars -43274-07-26 13:54 J -14084199.04 -14084198.92 -14084198.80 0.1605 0.0687

Saturn -43273-08-15 11:16 J -14083813.13 -14083813.03 -14083812.93 0.0285 0.0215

Saturn -43273-11-12 04:47 J -14083724.45 -14083724.30 -14083724.14 0.0285 0.0097

Saturn -43272-02-08 22:47 J -14083635.71 -14083635.55 -14083635.38 0.0285 0.0026

Saturn -43272-05-08 17:16 J -14083546.92 -14083546.78 -14083546.64 0.0285 0.0149

Saturn -43272-08-05 11:59 J -14083458.04 -14083458.00 -14083457.95 0.0285 0.0275

Moon -43271-09-13 05:59 J -14083054.36 -14083054.25 -14083054.15 0.2664 0.1478

Earth -43271-09-13 06:42 J -14083054.32 -14083054.22 -14083054.11 0.2661 0.1489 *

Jupiter -43270-06-05 01:54 J -14082789.56 -14082789.42 -14082789.28 0.0536 0.0103

Mars -43269-03-25 01:26 J -14082495.58 -14082495.44 -14082495.31 0.1927 0.0204

Moon -43268-03-14 15:35 J -14082140.98 -14082140.85 -14082140.72 0.2675 0.0240

Earth -43268-03-14 16:18 J -14082140.95 -14082140.82 -14082140.69 0.2669 0.0271 *

Earth -43265-09-22 11:59 J -14080853.08 -14080853.00 -14080852.91 0.2667 0.1928

Moon -43265-09-22 12:57 J -14080853.03 -14080852.96 -14080852.88 0.2667 0.2057 *

Jupiter -43265-10-22 16:33 J -14080822.81 -14080822.81 -14080822.80 0.0494 0.0493

Mars -43265-12-15 22:33 J -14080768.70 -14080768.56 -14080768.42 0.1603 0.0141

Jupiter -43264-01-20 08:09 J -14080733.31 -14080733.16 -14080733.00 0.0492 0.0089

Mars -43260-08-15 04:18 J -14079065.42 -14079065.32 -14079065.22 0.1928 0.1266

Venus -43260-08-21 12:57 J -14079059.04 -14079058.96 -14079058.88 0.3714 0.2883

Jupiter -43258-03-24 04:04 J -14078479.48 -14078479.33 -14078479.19 0.0536 0.0064

Saturn -43258-06-19 17:16 J -14078391.88 -14078391.78 -14078391.67 0.0273 0.0187

Moon -43258-09-16 03:21 J -14078303.48 -14078303.36 -14078303.24 0.2669 0.0643

Earth -43258-09-16 03:50 J -14078303.46 -14078303.34 -14078303.22 0.2663 0.0559 *

Saturn -43258-09-16 07:11 J -14078303.34 -14078303.20 -14078303.06 0.0273 0.0088 *

Saturn -43258-12-13 20:38 J -14078214.79 -14078214.64 -14078214.49 0.0273 0.0009

Saturn -43257-03-11 09:50 J -14078126.22 -14078126.09 -14078125.96 0.0273 0.0104

Saturn -43257-06-07 22:47 J -14078037.65 -14078037.55 -14078037.45 0.0274 0.0198

Earth -43255-03-17 16:18 J -14077389.95 -14077389.82 -14077389.69 0.2667 0.0843

Moon -43255-03-17 16:18 J -14077389.94 -14077389.82 -14077389.69 0.2673 0.0813 *

Mars -43255-05-08 06:57 J -14077338.34 -14077338.21 -14077338.07 0.1602 0.0415

Venus -43254-03-07 14:23 J -14077035.03 -14077034.90 -14077034.78 0.3708 0.1692

Jupiter -43253-11-08 09:35 J -14076423.26 -14076423.10 -14076422.95 0.0492 0.0062

Uranus -43251-01-23 00:42 J -14075982.53 -14075982.47 -14075982.39 0.0146 0.0133

Uranus -43251-04-21 07:11 J -14075894.31 -14075894.20 -14075894.08 0.0146 0.0104

Uranus -43251-07-18 13:40 J -14075806.08 -14075805.93 -14075805.79 0.0146 0.0075

Uranus -43251-10-14 19:54 J -14075717.83 -14075717.67 -14075717.51 0.0146 0.0045

Uranus -43250-01-11 02:23 J -14075629.57 -14075629.40 -14075629.23 0.0146 0.0016

Uranus -43250-04-09 08:52 J -14075541.30 -14075541.13 -14075540.96 0.0146 0.0014

Uranus -43250-07-06 15:21 J -14075453.02 -14075452.86 -14075452.69 0.0146 0.0044

Uranus -43250-10-02 22:04 J -14075364.73 -14075364.58 -14075364.43 0.0146 0.0074

Uranus -43250-12-30 04:33 J -14075276.42 -14075276.31 -14075276.18 0.0146 0.0105

Uranus -43249-03-27 11:02 J -14075188.09 -14075188.04 -14075187.96 0.0146 0.0136

Moon -43248-03-09 21:35 J -14074840.66 -14074840.60 -14074840.53 0.2669 0.2314

Earth -43248-03-09 22:47 J -14074840.62 -14074840.55 -14074840.48 0.2672 0.2198 *

Jupiter -43246-01-10 05:30 J -14074169.40 -14074169.27 -14074169.13 0.0535 0.0234

Jupiter -43246-04-09 21:35 J -14074079.67 -14074079.60 -14074079.52 0.0538 0.0463

Mars -43246-09-28 15:21 J -14073907.97 -14073907.86 -14073907.75 0.1601 0.0979

Earth -43245-09-18 00:28 J -14073552.60 -14073552.48 -14073552.36 0.2664 0.0344

Moon -43245-09-18 00:42 J -14073552.59 -14073552.47 -14073552.35 0.2671 0.0388 *

Mars -43244-09-03 05:30 J -14073202.35 -14073202.27 -14073202.20 0.1606 0.1307

Neptune -43244-12-31 08:38 J -14073083.18 -14073083.14 -14073083.07 0.0089 0.0083

Saturn -43243-01-02 10:33 J -14073081.13 -14073081.06 -14073080.99 0.0286 0.0257

Neptune -43243-03-29 10:47 J -14072995.11 -14072995.05 -14072994.95 0.0089 0.0076

Saturn -43243-04-01 04:04 J -14072992.47 -14072992.33 -14072992.19 0.0286 0.0140

Neptune -43243-06-25 12:57 J -14072907.04 -14072906.96 -14072906.84 0.0089 0.0069

Saturn -43243-06-28 21:50 J -14072903.75 -14072903.59 -14072903.43 0.0285 0.0019

Neptune -43243-09-21 15:35 J -14072818.96 -14072818.85 -14072818.74 0.0089 0.0061

Saturn -43243-09-25 16:04 J -14072814.98 -14072814.83 -14072814.67 0.0285 0.0105

Neptune -43243-12-18 17:45 J -14072730.88 -14072730.76 -14072730.63 0.0089 0.0054

Saturn -43243-12-23 10:47 J -14072726.14 -14072726.05 -14072725.95 0.0285 0.0230

Neptune -43242-03-16 19:54 J -14072642.80 -14072642.67 -14072642.53 0.0089 0.0047

Earth -43242-03-20 16:47 J -14072638.89 -14072638.80 -14072638.71 0.2665 0.1985

Moon -43242-03-20 17:45 J -14072638.85 -14072638.76 -14072638.68 0.2671 0.2049 *

Neptune -43242-06-12 22:04 J -14072554.72 -14072554.58 -14072554.43 0.0089 0.0040

Neptune -43242-09-09 00:14 J -14072466.63 -14072466.49 -14072466.33 0.0089 0.0033

Neptune -43242-12-06 02:23 J -14072378.54 -14072378.40 -14072378.24 0.0089 0.0026

Neptune -43241-03-03 04:47 J -14072290.45 -14072290.30 -14072290.14 0.0089 0.0018

Neptune -43241-05-30 07:11 J -14072202.36 -14072202.20 -14072202.04 0.0089 0.0011

Neptune -43241-08-26 09:21 J -14072114.27 -14072114.11 -14072113.94 0.0089 0.0004

Jupiter -43241-08-27 11:16 J -14072113.17 -14072113.03 -14072112.89 0.0493 0.0206

Neptune -43241-11-22 11:45 J -14072026.17 -14072026.01 -14072025.85 0.0089 0.0004

Jupiter -43241-11-25 03:35 J -14072023.45 -14072023.35 -14072023.25 0.0491 0.0387

Neptune -43240-02-18 13:54 J -14071938.08 -14071937.92 -14071937.76 0.0089 0.0011

Neptune -43240-05-17 16:18 J -14071849.98 -14071849.82 -14071849.66 0.0089 0.0019

Neptune -43240-08-13 18:28 J -14071761.88 -14071761.73 -14071761.57 0.0089 0.0026

Neptune -43240-11-09 20:38 J -14071673.78 -14071673.64 -14071673.48 0.0089 0.0034

Neptune -43239-02-05 23:16 J -14071585.67 -14071585.53 -14071585.38 0.0089 0.0041

Venus -43239-04-05 04:18 J -14071527.41 -14071527.32 -14071527.24 0.3663 0.2477

Mars -43239-05-03 23:30 J -14071498.63 -14071498.52 -14071498.40 0.1925 0.1030

Neptune -43239-05-05 01:26 J -14071497.57 -14071497.44 -14071497.30 0.0089 0.0049

Neptune -43239-08-01 03:50 J -14071409.46 -14071409.34 -14071409.21 0.0089 0.0056

Neptune -43239-10-28 05:59 J -14071321.35 -14071321.25 -14071321.12 0.0089 0.0064

Neptune -43238-01-24 08:38 J -14071233.23 -14071233.14 -14071233.04 0.0089 0.0071

Neptune -43238-04-22 10:47 J -14071145.11 -14071145.05 -14071144.96 0.0089 0.0079

Neptune -43238-07-19 12:57 J -14071056.97 -14071056.96 -14071056.90 0.0089 0.0087

Moon -43238-09-11 13:54 J -14071002.98 -14071002.92 -14071002.85 0.2659 0.2287

Earth -43238-09-11 14:52 J -14071002.94 -14071002.88 -14071002.81 0.2660 0.2265 *

Mars -43236-02-17 23:16 J -14070477.56 -14070477.53 -14070477.50 0.1601 0.1554

Moon -43235-03-12 21:06 J -14070089.74 -14070089.62 -14070089.50 0.2672 0.1154

Earth -43235-03-12 22:18 J -14070089.69 -14070089.57 -14070089.45 0.2670 0.1157 *

Jupiter -43235-10-29 06:14 J -14069859.33 -14069859.24 -14069859.15 0.0534 0.0421

Mars -43234-01-24 14:09 J -14069772.03 -14069771.91 -14069771.79 0.1605 0.0771

Jupiter -43234-01-26 22:47 J -14069769.68 -14069769.55 -14069769.43 0.0536 0.0280

Venus -43234-10-19 21:35 J -14069503.71 -14069503.60 -14069503.49 0.3667 0.0105

Earth -43232-09-20 21:06 J -14068801.73 -14068801.62 -14068801.52 0.2666 0.1228

Moon -43232-09-20 21:50 J -14068801.69 -14068801.59 -14068801.48 0.2668 0.1285 *

Mars -43230-09-24 01:40 J -14068068.56 -14068068.43 -14068068.29 0.1927 0.0102

Jupiter -43229-06-15 12:42 J -14067803.07 -14067802.97 -14067802.86 0.0494 0.0351

Jupiter -43229-09-13 04:47 J -14067713.43 -14067713.30 -14067713.16 0.0492 0.0239

Saturn -43229-11-05 19:54 J -14067659.76 -14067659.67 -14067659.57 0.0274 0.0210

Saturn -43228-02-02 09:50 J -14067571.22 -14067571.09 -14067570.95 0.0274 0.0110

Saturn -43228-05-01 23:30 J -14067482.67 -14067482.52 -14067482.38 0.0274 0.0013

Venus -43228-05-04 14:52 J -14067479.95 -14067479.88 -14067479.80 0.3672 0.2482

Saturn -43228-07-29 12:42 J -14067394.11 -14067393.97 -14067393.83 0.0274 0.0084

Saturn -43228-10-26 01:54 J -14067305.53 -14067305.42 -14067305.31 0.0274 0.0179

Saturn -43227-01-22 14:38 J -14067216.91 -14067216.89 -14067216.87 0.0274 0.0271

Mars -43225-06-15 22:47 J -14066341.69 -14066341.55 -14066341.42 0.1603 0.0223

Moon -43225-09-13 11:16 J -14066252.14 -14066252.03 -14066251.93 0.2664 0.1460

Earth -43225-09-13 11:59 J -14066252.10 -14066252.00 -14066251.89 0.2661 0.1321 *

Jupiter -43223-11-15 00:14 J -14065459.63 -14065459.49 -14065459.35 0.0536 0.0105

Moon -43222-03-15 21:21 J -14065338.75 -14065338.61 -14065338.48 0.2675 0.0213

Earth -43222-03-15 22:04 J -14065338.72 -14065338.58 -14065338.45 0.2668 0.0122 *

Mars -43220-02-13 04:18 J -14064638.43 -14064638.32 -14064638.21 0.1928 0.1173

Earth -43219-09-23 17:16 J -14064050.85 -14064050.78 -14064050.71 0.2668 0.2081

Moon -43219-09-23 18:14 J -14064050.82 -14064050.74 -14064050.67 0.2667 0.2091 *

Jupiter -43217-04-03 14:38 J -14063492.90 -14063492.89 -14063492.87 0.0495 0.0491

Jupiter -43217-07-02 06:14 J -14063403.39 -14063403.24 -14063403.08 0.0492 0.0093

Mars -43216-11-06 07:11 J -14062911.33 -14062911.20 -14062911.07 0.1602 0.0332

Saturn -43214-05-22 12:28 J -14062349.00 -14062348.98 -14062348.95 0.0285 0.0282

Saturn -43214-08-19 05:45 J -14062260.38 -14062260.26 -14062260.12 0.0285 0.0166

Saturn -43214-11-15 23:30 J -14062171.67 -14062171.52 -14062171.35 0.0285 0.0047

Saturn -43213-02-12 17:45 J -14062082.92 -14062082.76 -14062082.60 0.0285 0.0077

Saturn -43213-05-11 12:14 J -14061994.10 -14061993.99 -14061993.87 0.0285 0.0202

Moon -43212-09-16 08:52 J -14061501.25 -14061501.13 -14061501.01 0.2670 0.0347

Earth -43212-09-16 09:06 J -14061501.25 -14061501.12 -14061501.00 0.2663 0.0409 *

Jupiter -43211-09-03 01:40 J -14061149.57 -14061149.43 -14061149.28 0.0536 0.0069

Uranus -43210-02-26 12:42 J -14060973.02 -14060972.97 -14060972.93 0.0132 0.0126

Uranus -43210-05-25 16:18 J -14060884.90 -14060884.82 -14060884.72 0.0132 0.0106

Uranus -43210-08-21 20:23 J -14060796.76 -14060796.65 -14060796.53 0.0132 0.0086

Uranus -43210-11-18 00:14 J -14060708.61 -14060708.49 -14060708.36 0.0132 0.0067

Uranus -43209-02-14 04:18 J -14060620.46 -14060620.32 -14060620.19 0.0132 0.0048

Earth -43209-03-17 22:04 J -14060587.71 -14060587.58 -14060587.45 0.2667 0.1036

Moon -43209-03-17 22:18 J -14060587.69 -14060587.57 -14060587.45 0.2673 0.1125 *

Uranus -43209-05-12 07:54 J -14060532.31 -14060532.17 -14060532.02 0.0132 0.0029

Uranus -43209-08-08 11:45 J -14060444.15 -14060444.01 -14060443.86 0.0132 0.0009

Uranus -43209-11-04 15:35 J -14060356.00 -14060355.85 -14060355.70 0.0132 0.0010

Uranus -43208-01-31 19:11 J -14060267.84 -14060267.70 -14060267.55 0.0132 0.0029

Uranus -43208-04-29 23:02 J -14060179.68 -14060179.54 -14060179.41 0.0132 0.0047

Uranus -43208-07-27 02:38 J -14060091.51 -14060091.39 -14060091.26 0.0132 0.0066

Uranus -43208-10-23 05:59 J -14060003.35 -14060003.25 -14060003.13 0.0132 0.0085

Uranus -43207-01-19 09:50 J -14059915.17 -14059915.09 -14059915.00 0.0132 0.0103

Uranus -43207-04-17 13:26 J -14059826.99 -14059826.94 -14059826.88 0.0132 0.0121

Mars -43206-03-29 15:35 J -14059480.97 -14059480.85 -14059480.74 0.1602 0.0896

Jupiter -43205-04-20 08:09 J -14059093.32 -14059093.16 -14059093.01 0.0493 0.0052

Mars -43204-03-04 05:45 J -14058775.33 -14058775.26 -14058775.20 0.1606 0.1386

Venus -43203-03-28 12:57 J -14058386.09 -14058385.96 -14058385.84 0.3713 0.1296

Pluto -43203-11-11 23:59 J -14058157.55 -14058157.50 -14058157.45 0.0080 0.0075

Pluto -43202-02-08 01:11 J -14058069.52 -14058069.45 -14058069.36 0.0080 0.0067

Moon -43202-03-11 03:21 J -14058038.45 -14058038.36 -14058038.28 0.2669 0.2057

Earth -43202-03-11 04:18 J -14058038.40 -14058038.32 -14058038.23 0.2672 0.2018 *

Pluto -43202-05-07 02:52 J -14057981.47 -14057981.38 -14057981.27 0.0079 0.0059

Pluto -43202-08-03 04:18 J -14057893.42 -14057893.32 -14057893.19 0.0079 0.0050

Pluto -43202-10-30 05:45 J -14057805.37 -14057805.26 -14057805.12 0.0079 0.0043

Pluto -43201-01-26 07:26 J -14057717.32 -14057717.19 -14057717.05 0.0079 0.0034

Pluto -43201-04-23 08:52 J -14057629.26 -14057629.13 -14057628.98 0.0079 0.0026

Pluto -43201-07-20 10:33 J -14057541.20 -14057541.06 -14057540.91 0.0079 0.0018

Pluto -43201-10-16 11:59 J -14057453.14 -14057453.00 -14057452.85 0.0079 0.0010

Pluto -43200-01-12 13:26 J -14057365.08 -14057364.94 -14057364.79 0.0079 0.0003

Pluto -43200-04-10 14:52 J -14057277.02 -14057276.88 -14057276.73 0.0078 0.0006

Pluto -43200-07-07 16:18 J -14057188.96 -14057188.82 -14057188.67 0.0078 0.0013

Pluto -43200-10-03 17:45 J -14057100.90 -14057100.76 -14057100.62 0.0078 0.0021

Mars -43200-11-01 23:45 J -14057071.62 -14057071.51 -14057071.40 0.1925 0.1144

Pluto -43200-12-30 19:11 J -14057012.84 -14057012.70 -14057012.56 0.0078 0.0028

Saturn -43199-03-25 20:38 J -14056927.70 -14056927.64 -14056927.57 0.0273 0.0244

Pluto -43199-03-28 20:23 J -14056924.77 -14056924.65 -14056924.51 0.0078 0.0036

Jupiter -43199-06-22 03:35 J -14056839.48 -14056839.35 -14056839.22 0.0535 0.0236

Saturn -43199-06-22 10:47 J -14056839.18 -14056839.05 -14056838.93 0.0273 0.0144

Pluto -43199-06-24 22:04 J -14056836.70 -14056836.58 -14056836.46 0.0078 0.0043

Saturn -43199-09-19 00:28 J -14056750.63 -14056750.48 -14056750.34 0.0273 0.0046

Earth -43199-09-19 05:45 J -14056750.38 -14056750.26 -14056750.14 0.2665 0.0505 *

Moon -43199-09-19 05:59 J -14056750.37 -14056750.25 -14056750.13 0.2671 0.0494 *

Jupiter -43199-09-19 19:40 J -14056749.75 -14056749.68 -14056749.61 0.0538 0.0460

Pluto -43199-09-20 23:02 J -14056748.64 -14056748.54 -14056748.42 0.0078 0.0051

Saturn -43199-12-16 13:40 J -14056662.07 -14056661.93 -14056661.78 0.0273 0.0052

Pluto -43199-12-18 00:28 J -14056660.57 -14056660.48 -14056660.37 0.0077 0.0058

Saturn -43198-03-15 02:52 J -14056573.50 -14056573.38 -14056573.26 0.0274 0.0146

Pluto -43198-03-16 01:54 J -14056572.49 -14056572.42 -14056572.34 0.0077 0.0065

Saturn -43198-06-11 15:50 J -14056484.91 -14056484.84 -14056484.77 0.0274 0.0239

Pluto -43198-06-12 02:52 J -14056484.41 -14056484.38 -14056484.31 0.0077 0.0073

Venus -43198-10-12 14:23 J -14056361.96 -14056361.90 -14056361.85 0.3707 0.3348

Mars -43197-08-18 23:45 J -14056050.57 -14056050.51 -14056050.46 0.1601 0.1464

Earth -43196-03-20 22:33 J -14055836.63 -14055836.56 -14055836.48 0.2665 0.2189

Moon -43196-03-20 23:30 J -14055836.59 -14055836.52 -14055836.45 0.2670 0.2246 *

Mars -43195-07-25 14:23 J -14055345.01 -14055344.90 -14055344.79 0.1605 0.0850

Jupiter -43193-02-07 09:35 J -14054783.24 -14054783.10 -14054782.96 0.0493 0.0200

Jupiter -43193-05-07 01:54 J -14054693.52 -14054693.42 -14054693.33 0.0491 0.0392

Moon -43192-09-11 19:11 J -14054200.77 -14054200.70 -14054200.63 0.2661 0.2200

Earth -43192-09-11 20:09 J -14054200.73 -14054200.66 -14054200.58 0.2660 0.2096 *

Mars -43190-03-25 02:09 J -14053641.55 -14053641.41 -14053641.28 0.1926 0.0044

Moon -43189-03-13 02:52 J -14053287.50 -14053287.38 -14053287.26 0.2674 0.1100

Earth -43189-03-13 03:50 J -14053287.47 -14053287.34 -14053287.22 0.2670 0.0970 *

Jupiter -43187-04-10 05:16 J -14052529.38 -14052529.28 -14052529.19 0.0534 0.0408

Jupiter -43187-07-08 21:35 J -14052439.71 -14052439.60 -14052439.48 0.0537 0.0295

Earth -43186-09-22 02:09 J -14051999.51 -14051999.41 -14051999.31 0.2666 0.1378

Moon -43186-09-22 03:06 J -14051999.47 -14051999.37 -14051999.27 0.2669 0.1460 *

Mars -43186-12-15 23:02 J -14051914.67 -14051914.54 -14051914.41 0.1603 0.0307

Saturn -43184-01-05 05:02 J -14051528.40 -14051528.29 -14051528.18 0.0286 0.0208

Saturn -43184-04-03 22:33 J -14051439.71 -14051439.56 -14051439.40 0.0285 0.0089

Saturn -43184-07-01 16:47 J -14051350.97 -14051350.80 -14051350.64 0.0285 0.0033

Saturn -43184-09-28 11:02 J -14051262.17 -14051262.04 -14051261.90 0.0285 0.0157

Saturn -43184-12-26 05:59 J -14051173.26 -14051173.25 -14051173.24 0.0285 0.0283

Venus -43183-11-10 02:09 J -14050854.51 -14050854.41 -14050854.31 0.3664 0.1515

Jupiter -43182-11-26 11:16 J -14050473.14 -14050473.03 -14050472.92 0.0494 0.0344

Jupiter -43181-02-24 03:06 J -14050383.50 -14050383.37 -14050383.23 0.0492 0.0244

Mars -43181-08-14 04:33 J -14050211.42 -14050211.31 -14050211.20 0.1928 0.1067

Moon -43179-09-14 16:33 J -14049449.92 -14049449.81 -14049449.70 0.2666 0.1147

Earth -43179-09-14 17:16 J -14049449.89 -14049449.78 -14049449.66 0.2662 0.1157 *

Venus -43177-05-25 19:40 J -14048830.79 -14048830.68 -14048830.58 0.3669 0.0975

Moon -43176-03-16 03:06 J -14048536.50 -14048536.37 -14048536.24 0.2674 0.0160

Earth -43176-03-16 03:35 J -14048536.48 -14048536.35 -14048536.21 0.2668 0.0132 *

Mars -43176-05-07 07:26 J -14048484.32 -14048484.19 -14048484.05 0.1602 0.0249

Jupiter -43175-04-26 22:47 J -14048129.69 -14048129.55 -14048129.41 0.0536 0.0112

Earth -43173-09-23 22:18 J -14047248.63 -14047248.57 -14047248.50 0.2668 0.2229

Moon -43173-09-23 23:16 J -14047248.59 -14047248.53 -14047248.48 0.2665 0.2305 *

Venus -43172-12-09 12:57 J -14046807.00 -14046806.96 -14046806.92 0.3673 0.3399

Saturn -43170-08-12 23:16 J -14046195.55 -14046195.53 -14046195.49 0.0274 0.0267

Jupiter -43170-09-14 12:42 J -14046162.98 -14046162.97 -14046162.95 0.0495 0.0490

Saturn -43170-11-09 13:26 J -14046107.06 -14046106.94 -14046106.82 0.0274 0.0167

Jupiter -43170-12-13 04:33 J -14046073.47 -14046073.31 -14046073.16 0.0493 0.0095

Saturn -43169-02-06 03:06 J -14046018.51 -14046018.37 -14046018.22 0.0274 0.0068

Saturn -43169-05-04 16:33 J -14045929.95 -14045929.81 -14045929.66 0.0274 0.0031

Saturn -43169-08-01 05:45 J -14045841.38 -14045841.26 -14045841.13 0.0274 0.0126

Saturn -43169-10-28 18:42 J -14045752.80 -14045752.72 -14045752.63 0.0274 0.0220

Uranus -43167-02-12 07:54 J -14045281.24 -14045281.17 -14045281.07 0.0146 0.0125

Uranus -43167-05-11 14:23 J -14045193.02 -14045192.90 -14045192.77 0.0146 0.0096

Uranus -43167-08-07 20:38 J -14045104.78 -14045104.64 -14045104.49 0.0146 0.0068

Mars -43167-09-27 15:50 J -14045053.96 -14045053.84 -14045053.73 0.1602 0.0812

Uranus -43167-11-04 03:06 J -14045016.53 -14045016.37 -14045016.21 0.0146 0.0038

Uranus -43166-01-31 09:35 J -14044928.27 -14044928.10 -14044927.93 0.0146 0.0009

Uranus -43166-04-29 16:04 J -14044840.00 -14044839.83 -14044839.66 0.0146 0.0021

Uranus -43166-07-26 22:33 J -14044751.72 -14044751.56 -14044751.40 0.0146 0.0051

Moon -43166-09-17 14:09 J -14044699.03 -14044698.91 -14044698.79 0.2670 0.0323

Earth -43166-09-17 14:09 J -14044699.03 -14044698.91 -14044698.78 0.2663 0.0250 *

Uranus -43166-10-23 05:02 J -14044663.42 -14044663.29 -14044663.14 0.0146 0.0081

Uranus -43165-01-19 11:45 J -14044575.11 -14044575.01 -14044574.90 0.0146 0.0112

Uranus -43165-04-16 18:14 J -14044486.76 -14044486.74 -14044486.69 0.0146 0.0143

Mars -43165-09-02 05:45 J -14044348.31 -14044348.26 -14044348.20 0.1606 0.1464

Jupiter -43163-02-12 23:59 J -14043819.64 -14043819.50 -14043819.36 0.0535 0.0066

Earth -43163-03-19 03:50 J -14043785.46 -14043785.34 -14043785.22 0.2666 0.1238

Moon -43163-03-19 04:18 J -14043785.44 -14043785.32 -14043785.20 0.2673 0.1195 *

Neptune -43161-10-04 22:33 J -14042854.57 -14042854.56 -14042854.52 0.0088 0.0087

Neptune -43160-01-01 00:57 J -14042766.52 -14042766.46 -14042766.39 0.0088 0.0080

Neptune -43160-03-30 03:06 J -14042678.45 -14042678.37 -14042678.28 0.0088 0.0073

Mars -43160-05-02 23:59 J -14042644.60 -14042644.50 -14042644.39 0.1925 0.1253

Neptune -43160-06-26 05:02 J -14042590.38 -14042590.29 -14042590.17 0.0088 0.0066

Neptune -43160-09-22 07:11 J -14042502.31 -14042502.20 -14042502.07 0.0088 0.0059

Neptune -43160-12-19 09:21 J -14042414.23 -14042414.11 -14042413.97 0.0088 0.0051

Neptune -43159-03-17 11:30 J -14042326.15 -14042326.02 -14042325.88 0.0088 0.0044

Neptune -43159-06-13 13:26 J -14042238.07 -14042237.94 -14042237.78 0.0088 0.0038

Neptune -43159-09-09 15:50 J -14042149.99 -14042149.84 -14042149.69 0.0088 0.0030

Neptune -43159-12-06 17:45 J -14042061.90 -14042061.76 -14042061.60 0.0088 0.0023

Neptune -43158-03-04 19:54 J -14041973.82 -14041973.67 -14041973.52 0.0088 0.0016

Neptune -43158-05-31 21:50 J -14041885.74 -14041885.59 -14041885.43 0.0088 0.0010

Neptune -43158-08-27 23:59 J -14041797.65 -14041797.50 -14041797.34 0.0088 0.0002

Jupiter -43158-10-01 05:59 J -14041763.40 -14041763.25 -14041763.09 0.0493 0.0052

Neptune -43158-11-24 02:09 J -14041709.57 -14041709.41 -14041709.26 0.0088 0.0005

Mars -43157-02-17 23:59 J -14041623.57 -14041623.50 -14041623.43 0.1601 0.1381

Neptune -43157-02-20 04:04 J -14041621.48 -14041621.33 -14041621.18 0.0088 0.0012

Neptune -43157-05-18 05:59 J -14041533.40 -14041533.25 -14041533.10 0.0088 0.0019

Neptune -43157-08-14 08:09 J -14041445.31 -14041445.16 -14041445.02 0.0088 0.0026

Neptune -43157-11-10 10:04 J -14041357.22 -14041357.08 -14041356.94 0.0088 0.0033

Neptune -43156-02-06 11:45 J -14041269.14 -14041269.01 -14041268.86 0.0088 0.0040

Moon -43156-03-11 08:52 J -14041236.22 -14041236.13 -14041236.04 0.2670 0.1914

Earth -43156-03-11 09:50 J -14041236.18 -14041236.09 -14041235.99 0.2671 0.1836 *

Neptune -43156-05-05 13:40 J -14041181.05 -14041180.93 -14041180.79 0.0088 0.0047

Neptune -43156-08-01 15:35 J -14041092.96 -14041092.85 -14041092.71 0.0088 0.0054

Neptune -43156-10-28 17:45 J -14041004.86 -14041004.76 -14041004.64 0.0088 0.0060

Mars -43155-01-23 14:38 J -14040918.00 -14040917.89 -14040917.78 0.1605 0.0930

Neptune -43155-01-24 19:40 J -14040916.77 -14040916.68 -14040916.57 0.0088 0.0066

Neptune -43155-04-22 21:21 J -14040828.68 -14040828.61 -14040828.51 0.0088 0.0074

Saturn -43155-05-25 07:26 J -14040796.28 -14040796.19 -14040796.09 0.0285 0.0229

Neptune -43155-07-19 23:30 J -14040740.57 -14040740.52 -14040740.45 0.0088 0.0080

Saturn -43155-08-22 01:11 J -14040707.60 -14040707.45 -14040707.31 0.0285 0.0112

Neptune -43155-10-16 01:11 J -14040652.46 -14040652.45 -14040652.40 0.0088 0.0087

Saturn -43155-11-18 18:57 J -14040618.87 -14040618.71 -14040618.55 0.0285 0.0010

Saturn -43154-02-15 13:11 J -14040530.09 -14040529.95 -14040529.80 0.0285 0.0133

Saturn -43154-05-15 07:54 J -14040441.23 -14040441.17 -14040441.10 0.0285 0.0258

Earth -43153-09-19 10:47 J -14039948.16 -14039948.05 -14039947.93 0.2665 0.0664

Moon -43153-09-19 11:30 J -14039948.14 -14039948.02 -14039947.91 0.2670 0.0764 *

Jupiter -43152-12-02 01:11 J -14039509.58 -14039509.45 -14039509.32 0.0535 0.0245

Jupiter -43151-03-01 17:16 J -14039419.85 -14039419.78 -14039419.70 0.0538 0.0452

Mars -43151-09-23 02:09 J -14039214.55 -14039214.41 -14039214.28 0.1927 0.0127

Earth -43150-03-22 04:18 J -14039034.38 -14039034.32 -14039034.26 0.2665 0.2389

Moon -43150-03-22 05:16 J -14039034.32 -14039034.28 -14039034.23 0.2668 0.2508 *

Venus -43147-11-02 12:57 J -14037713.10 -14037712.96 -14037712.83 0.3711 0.0348

Mars -43146-06-15 23:16 J -14037487.66 -14037487.53 -14037487.40 0.1604 0.0388

Jupiter -43146-07-20 07:54 J -14037453.31 -14037453.17 -14037453.03 0.0493 0.0194

Moon -43146-09-13 00:28 J -14037398.56 -14037398.48 -14037398.40 0.2661 0.1982

Earth -43146-09-13 01:26 J -14037398.52 -14037398.44 -14037398.35 0.2661 0.1929 *

Jupiter -43146-10-18 00:14 J -14037363.58 -14037363.49 -14037363.40 0.0491 0.0399

Moon -43143-03-14 08:23 J -14036485.27 -14036485.15 -14036485.02 0.2674 0.0805

Earth -43143-03-14 09:21 J -14036485.23 -14036485.11 -14036484.98 0.2669 0.0785 *

Mars -43141-02-13 05:02 J -14035784.41 -14035784.29 -14035784.18 0.1928 0.0952

Saturn -43140-03-28 14:38 J -14035374.99 -14035374.89 -14035374.79 0.0273 0.0198

Saturn -43140-06-25 04:18 J -14035286.46 -14035286.32 -14035286.18 0.0273 0.0099

Jupiter -43140-09-20 02:52 J -14035199.47 -14035199.38 -14035199.29 0.0534 0.0415

Saturn -43140-09-21 17:59 J -14035197.90 -14035197.75 -14035197.60 0.0273 0.0004

Earth -43140-09-22 07:26 J -14035197.29 -14035197.19 -14035197.10 0.2667 0.1534

Moon -43140-09-22 08:09 J -14035197.25 -14035197.16 -14035197.06 0.2669 0.1568 *

Jupiter -43140-12-18 19:26 J -14035109.81 -14035109.69 -14035109.57 0.0537 0.0289

Saturn -43140-12-19 07:11 J -14035109.34 -14035109.20 -14035109.06 0.0274 0.0095

Saturn -43139-03-17 20:09 J -14035020.76 -14035020.66 -14035020.55 0.0274 0.0189

Mars -43137-11-05 07:40 J -14034057.31 -14034057.18 -14034057.04 0.1603 0.0165

Jupiter -43134-05-08 09:21 J -14033143.22 -14033143.11 -14033142.99 0.0494 0.0341

Jupiter -43134-08-06 01:26 J -14033053.58 -14033053.44 -14033053.31 0.0491 0.0247

Moon -43133-09-14 22:04 J -14032647.69 -14032647.58 -14032647.47 0.2667 0.1083

Earth -43133-09-14 22:33 J -14032647.67 -14032647.56 -14032647.44 0.2662 0.0991 *

Venus -43132-12-01 06:28 J -14032205.28 -14032205.23 -14032205.17 0.3661 0.3087

Moon -43130-03-17 09:06 J -14031734.26 -14031734.12 -14031733.99 0.2674 0.0235

Earth -43130-03-17 09:21 J -14031734.25 -14031734.11 -14031733.98 0.2668 0.0311 *

Jupiter -43128-10-06 21:21 J -14030799.75 -14030799.61 -14030799.46 0.0536 0.0122

Mars -43127-03-28 16:04 J -14030626.95 -14030626.83 -14030626.71 0.1602 0.0724

Earth -43127-09-25 03:35 J -14030446.40 -14030446.35 -14030446.30 0.2668 0.2380

Moon -43127-09-25 04:18 J -14030446.37 -14030446.32 -14030446.28 0.2664 0.2425 *

Uranus -43126-03-18 19:26 J -14030271.73 -14030271.69 -14030271.61 0.0132 0.0121

Uranus -43126-06-14 23:30 J -14030183.61 -14030183.52 -14030183.42 0.0132 0.0101

Venus -43126-06-16 23:59 J -14030181.61 -14030181.50 -14030181.39 0.3665 0.0579

Uranus -43126-09-11 03:21 J -14030095.47 -14030095.36 -14030095.23 0.0132 0.0081

Saturn -43126-10-12 06:42 J -14030064.26 -14030064.22 -14030064.17 0.0286 0.0271

Uranus -43126-12-08 07:26 J -14030007.32 -14030007.19 -14030007.05 0.0132 0.0061

Saturn -43125-01-09 00:14 J -14029975.62 -14029975.49 -14029975.36 0.0285 0.0154

Mars -43125-03-03 05:59 J -14029921.28 -14029921.25 -14029921.21 0.1606 0.1546

Uranus -43125-03-05 11:16 J -14029919.17 -14029919.03 -14029918.89 0.0132 0.0042

Saturn -43125-04-06 17:59 J -14029886.91 -14029886.75 -14029886.59 0.0285 0.0034

Uranus -43125-06-01 15:06 J -14029831.01 -14029830.87 -14029830.72 0.0132 0.0023

Saturn -43125-07-04 12:14 J -14029798.15 -14029797.99 -14029797.84 0.0285 0.0089

Uranus -43125-08-28 18:57 J -14029742.86 -14029742.71 -14029742.56 0.0132 0.0004

Saturn -43125-10-01 06:42 J -14029709.33 -14029709.22 -14029709.11 0.0285 0.0214

Uranus -43125-11-24 22:47 J -14029654.70 -14029654.55 -14029654.41 0.0132 0.0016

Uranus -43124-02-21 02:23 J -14029566.54 -14029566.40 -14029566.26 0.0132 0.0034

Uranus -43124-05-20 05:59 J -14029478.38 -14029478.25 -14029478.11 0.0132 0.0053

Uranus -43124-08-16 09:50 J -14029390.21 -14029390.09 -14029389.97 0.0132 0.0071

Uranus -43124-11-12 13:11 J -14029302.04 -14029301.95 -14029301.83 0.0132 0.0090

Uranus -43123-02-08 17:02 J -14029213.87 -14029213.79 -14029213.71 0.0132 0.0108

Moon -43123-03-09 15:21 J -14029184.86 -14029184.86 -14029184.85 0.2668 0.2660

Uranus -43123-05-07 20:38 J -14029125.68 -14029125.64 -14029125.60 0.0132 0.0126

Jupiter -43122-02-24 11:16 J -14028833.06 -14028833.03 -14028833.00 0.0495 0.0484

Jupiter -43122-05-25 02:52 J -14028743.54 -14028743.38 -14028743.23 0.0492 0.0099

Mars -43121-11-01 00:14 J -14028217.59 -14028217.49 -14028217.39 0.1924 0.1354

Venus -43121-12-30 17:30 J -14028157.87 -14028157.77 -14028157.68 0.3670 0.1899

Moon -43120-09-17 19:26 J -14027896.81 -14027896.69 -14027896.57 0.2671 0.0030

Earth -43120-09-17 19:26 J -14027896.81 -14027896.69 -14027896.56 0.2664 0.0095 *

Mars -43118-08-18 23:59 J -14027196.57 -14027196.50 -14027196.42 0.1601 0.1299

Earth -43117-03-19 09:35 J -14026983.22 -14026983.10 -14026982.99 0.2666 0.1434

Moon -43117-03-19 10:04 J -14026983.19 -14026983.08 -14026982.97 0.2673 0.1561 *

Mars -43116-07-24 14:52 J -14026490.99 -14026490.88 -14026490.78 0.1605 0.1011

Jupiter -43116-07-25 22:33 J -14026489.71 -14026489.56 -14026489.42 0.0535 0.0060

Mars -43111-03-24 02:23 J -14024787.53 -14024787.40 -14024787.26 0.1926 0.0247

Saturn -43111-08-15 17:02 J -14024642.88 -14024642.79 -14024642.70 0.0274 0.0222

Saturn -43111-11-12 06:57 J -14024554.34 -14024554.21 -14024554.08 0.0274 0.0122

Saturn -43110-02-08 20:38 J -14024465.79 -14024465.64 -14024465.50 0.0274 0.0024

Moon -43110-03-12 14:23 J -14024434.00 -14024433.90 -14024433.80 0.2671 0.1755

Earth -43110-03-12 15:21 J -14024433.96 -14024433.86 -14024433.75 0.2671 0.1657 *

Jupiter -43110-03-13 04:04 J -14024433.49 -14024433.33 -14024433.18 0.0493 0.0052

Saturn -43110-05-08 10:04 J -14024377.22 -14024377.08 -14024376.94 0.0274 0.0074

Saturn -43110-08-04 23:02 J -14024288.65 -14024288.54 -14024288.42 0.0275 0.0168

Saturn -43110-11-01 11:59 J -14024200.04 -14024200.00 -14024199.96 0.0275 0.0261

Earth -43107-09-20 16:04 J -14023145.94 -14023145.83 -14023145.71 0.2665 0.0818

Moon -43107-09-20 16:47 J -14023145.91 -14023145.80 -14023145.68 0.2670 0.0796 *

Mars -43107-12-14 23:30 J -14023060.65 -14023060.52 -14023060.39 0.1604 0.0469

Earth -43104-03-22 10:04 J -14022232.10 -14022232.08 -14022232.05 0.2665 0.2601

Moon -43104-03-22 11:16 J -14022232.05 -14022232.03 -14022232.00 0.2666 0.2615 *

Jupiter -43104-05-13 23:30 J -14022179.65 -14022179.52 -14022179.39 0.0534 0.0240

Jupiter -43104-08-11 15:35 J -14022089.92 -14022089.85 -14022089.77 0.0537 0.0454

Mars -43102-08-14 05:02 J -14021357.41 -14021357.29 -14021357.17 0.1927 0.0856

Moon -43100-09-13 05:45 J -14020596.34 -14020596.26 -14020596.17 0.2661 0.1836

Earth -43100-09-13 06:57 J -14020596.31 -14020596.21 -14020596.12 0.2661 0.1761 *

Jupiter -43099-12-30 05:45 J -14020123.41 -14020123.26 -14020123.12 0.0494 0.0197

Jupiter -43098-03-29 21:50 J -14020033.67 -14020033.59 -14020033.49 0.0491 0.0397

Moon -43097-03-14 14:09 J -14019683.04 -14019682.91 -14019682.78 0.2673 0.0695

Earth -43097-03-14 15:06 J -14019683.00 -14019682.87 -14019682.74 0.2669 0.0592 *

Mars -43097-05-06 07:54 J -14019630.31 -14019630.17 -14019630.03 0.1603 0.0081

Saturn -43096-05-28 03:06 J -14019243.50 -14019243.37 -14019243.24 0.0285 0.0173

Saturn -43096-08-24 20:38 J -14019154.79 -14019154.64 -14019154.47 0.0285 0.0055

Saturn -43096-11-21 14:52 J -14019066.04 -14019065.88 -14019065.72 0.0285 0.0068

Venus -43096-11-23 11:30 J -14019064.11 -14019064.02 -14019063.92 0.3715 0.2588

Saturn -43095-02-18 09:21 J -14018977.23 -14018977.11 -14018976.99 0.0285 0.0192

Earth -43094-09-23 12:28 J -14018395.07 -14018394.98 -14018394.89 0.2667 0.1682

Moon -43094-09-23 13:26 J -14018395.03 -14018394.94 -14018394.86 0.2668 0.1791 *

Mars -43092-01-03 07:54 J -14017927.18 -14017927.17 -14017927.15 0.1929 0.1909

Jupiter -43092-03-02 00:28 J -14017869.57 -14017869.48 -14017869.39 0.0534 0.0423

Jupiter -43092-05-30 17:02 J -14017779.91 -14017779.79 -14017779.66 0.0537 0.0280

Venus -43090-06-09 12:57 J -14017040.08 -14017039.96 -14017039.85 0.3710 0.1969

Mars -43088-09-26 16:18 J -14016199.95 -14016199.82 -14016199.70 0.1602 0.0644

Moon -43087-09-16 03:21 J -14015845.48 -14015845.36 -14015845.24 0.2669 0.0836

Earth -43087-09-16 03:50 J -14015845.46 -14015845.34 -14015845.22 0.2662 0.0827 *

Jupiter -43087-10-18 07:40 J -14015813.29 -14015813.18 -14015813.07 0.0494 0.0336

Jupiter -43086-01-15 23:30 J -14015723.65 -14015723.52 -14015723.38 0.0492 0.0252

Moon -43084-03-17 14:52 J -14014932.01 -14014931.88 -14014931.75 0.2674 0.0561

Earth -43084-03-17 15:06 J -14014932.01 -14014931.87 -14014931.74 0.2667 0.0509 *

Uranus -43084-12-06 09:06 J -14014668.13 -14014668.12 -14014668.10 0.0146 0.0146

Uranus -43083-03-04 15:21 J -14014579.95 -14014579.86 -14014579.76 0.0146 0.0117

Uranus -43083-05-31 21:35 J -14014491.73 -14014491.60 -14014491.46 0.0146 0.0089

Uranus -43083-08-28 03:50 J -14014403.49 -14014403.34 -14014403.18 0.0146 0.0060

Uranus -43083-11-24 10:18 J -14014315.23 -14014315.07 -14014314.91 0.0146 0.0031

Uranus -43082-02-20 16:47 J -14014226.97 -14014226.80 -14014226.63 0.0146 0.0002

Uranus -43082-05-19 23:16 J -14014138.70 -14014138.53 -14014138.37 0.0146 0.0029

Uranus -43082-08-16 05:45 J -14014050.41 -14014050.26 -14014050.10 0.0146 0.0058

Uranus -43082-11-12 12:14 J -14013962.12 -14013961.99 -14013961.85 0.0146 0.0089

Saturn -43081-01-02 18:28 J -14013910.78 -14013910.73 -14013910.67 0.0273 0.0251

Uranus -43081-02-08 18:42 J -14013873.81 -14013873.72 -14013873.61 0.0146 0.0119

Saturn -43081-03-31 08:23 J -14013822.27 -14013822.15 -14013822.02 0.0273 0.0151

Mars -43081-05-02 00:42 J -14013790.56 -14013790.47 -14013790.38 0.1925 0.1475

Saturn -43081-06-27 22:18 J -14013733.72 -14013733.57 -14013733.43 0.0273 0.0052

Saturn -43081-09-24 11:45 J -14013645.16 -14013645.01 -14013644.87 0.0274 0.0045

Earth -43081-09-25 08:38 J -14013644.17 -14013644.14 -14013644.10 0.2669 0.2527

Moon -43081-09-25 09:21 J -14013644.14 -14013644.11 -14013644.08 0.2664 0.2553 *

Saturn -43081-12-22 00:42 J -14013556.59 -14013556.47 -14013556.34 0.0274 0.0141

Jupiter -43080-03-18 19:11 J -14013469.84 -14013469.70 -14013469.56 0.0536 0.0114

Saturn -43080-03-20 13:40 J -14013468.00 -14013467.93 -14013467.85 0.0274 0.0234

Neptune -43079-07-01 05:45 J -14013000.28 -14013000.26 -14013000.21 0.0089 0.0086

Neptune -43079-09-27 07:54 J -14012912.23 -14012912.17 -14012912.09 0.0089 0.0079

Neptune -43079-12-24 10:04 J -14012824.16 -14012824.08 -14012823.98 0.0089 0.0072

Mars -43078-02-17 00:28 J -14012769.57 -14012769.48 -14012769.39 0.1601 0.1208

Neptune -43078-03-22 12:14 J -14012736.09 -14012735.99 -14012735.87 0.0089 0.0065

Neptune -43078-06-18 14:23 J -14012648.01 -14012647.90 -14012647.77 0.0089 0.0058

Neptune -43078-09-14 16:33 J -14012559.93 -14012559.81 -14012559.67 0.0089 0.0051

Neptune -43078-12-11 18:57 J -14012471.84 -14012471.71 -14012471.57 0.0089 0.0043

Neptune -43077-03-08 21:06 J -14012383.76 -14012383.62 -14012383.47 0.0089 0.0036

Moon -43077-03-09 20:52 J -14012382.65 -14012382.63 -14012382.61 0.2668 0.2619

Earth -43077-03-09 21:50 J -14012382.64 -14012382.59 -14012382.55 0.2672 0.2498 *

Neptune -43077-06-04 23:16 J -14012295.67 -14012295.53 -14012295.37 0.0089 0.0029

Neptune -43077-09-01 01:40 J -14012207.58 -14012207.43 -14012207.27 0.0089 0.0022

Neptune -43077-11-28 03:50 J -14012119.49 -14012119.34 -14012119.18 0.0089 0.0015

Mars -43076-01-22 15:06 J -14012063.97 -14012063.87 -14012063.78 0.1605 0.1092

Neptune -43076-02-24 06:14 J -14012031.40 -14012031.24 -14012031.08 0.0089 0.0007

Neptune -43076-05-23 08:23 J -14011943.31 -14011943.15 -14011942.99 0.0089 0.0001

Neptune -43076-08-19 10:47 J -14011855.21 -14011855.05 -14011854.89 0.0089 0.0008

Neptune -43076-11-15 12:57 J -14011767.12 -14011766.96 -14011766.80 0.0089 0.0015

Neptune -43075-02-11 15:21 J -14011679.02 -14011678.86 -14011678.70 0.0089 0.0022

Neptune -43075-05-10 17:30 J -14011590.92 -14011590.77 -14011590.61 0.0089 0.0030

Venus -43075-07-08 04:33 J -14011532.40 -14011532.31 -14011532.22 0.3662 0.2135

Jupiter -43075-08-06 09:21 J -14011503.14 -14011503.11 -14011503.08 0.0495 0.0481

Neptune -43075-08-06 19:54 J -14011502.82 -14011502.67 -14011502.52 0.0089 0.0037

Neptune -43075-11-02 22:04 J -14011414.71 -14011414.58 -14011414.43 0.0089 0.0045

Jupiter -43075-11-04 00:57 J -14011413.62 -14011413.46 -14011413.31 0.0492 0.0101

Neptune -43074-01-30 00:28 J -14011326.60 -14011326.48 -14011326.34 0.0089 0.0052

Neptune -43074-04-28 02:38 J -14011238.49 -14011238.39 -14011238.26 0.0089 0.0060

Neptune -43074-07-25 05:16 J -14011150.38 -14011150.28 -14011150.17 0.0089 0.0067

Moon -43074-09-19 00:42 J -14011094.59 -14011094.47 -14011094.34 0.2670 0.0076

Earth -43074-09-19 00:42 J -14011094.59 -14011094.47 -14011094.35 0.2664 0.0086 *

Neptune -43074-10-21 07:26 J -14011062.26 -14011062.19 -14011062.09 0.0089 0.0075

Neptune -43073-01-17 09:35 J -14010974.14 -14010974.10 -14010974.02 0.0089 0.0083

Mars -43072-09-22 02:52 J -14010360.52 -14010360.38 -14010360.25 0.1926 0.0354

Earth -43071-03-20 15:21 J -14010180.97 -14010180.86 -14010180.76 0.2666 0.1637

Moon -43071-03-20 15:50 J -14010180.95 -14010180.84 -14010180.73 0.2672 0.1598 *

Venus -43069-01-21 22:04 J -14009508.69 -14009508.58 -14009508.47 0.3666 0.0393

Jupiter -43068-01-04 20:52 J -14009159.77 -14009159.63 -14009159.48 0.0535 0.0056

Mars -43067-06-14 23:45 J -14008633.64 -14008633.51 -14008633.38 0.1604 0.0554

Moon -43067-09-11 13:54 J -14008544.95 -14008544.92 -14008544.89 0.2657 0.2543

Earth -43067-09-11 14:52 J -14008544.91 -14008544.88 -14008544.85 0.2660 0.2544 *

Saturn -43067-10-15 02:23 J -14008511.51 -14008511.40 -14008511.30 0.0285 0.0216

Saturn -43066-01-11 19:54 J -14008422.82 -14008422.67 -14008422.52 0.0285 0.0098

Saturn -43066-04-10 13:40 J -14008334.09 -14008333.93 -14008333.76 0.0285 0.0024

Saturn -43066-07-08 08:09 J -14008245.30 -14008245.16 -14008245.02 0.0285 0.0147

Saturn -43066-10-05 02:52 J -14008156.43 -14008156.38 -14008156.34 0.0285 0.0273

Moon -43064-03-12 19:54 J -14007631.78 -14007631.67 -14007631.56 0.2672 0.1493

Earth -43064-03-12 21:06 J -14007631.73 -14007631.62 -14007631.51 0.2671 0.1469 *

Venus -43064-08-06 15:21 J -14007484.93 -14007484.86 -14007484.79 0.3671 0.2814

Jupiter -43063-08-23 02:23 J -14007103.56 -14007103.40 -14007103.24 0.0493 0.0047

Mars -43062-02-12 05:16 J -14006930.41 -14006930.28 -14006930.16 0.1928 0.0749

Earth -43061-09-20 21:21 J -14006343.73 -14006343.61 -14006343.50 0.2666 0.0971

Moon -43061-09-20 22:04 J -14006343.69 -14006343.58 -14006343.47 0.2671 0.1101 *

Mars -43058-11-05 08:09 J -14005203.30 -14005203.16 -14005203.02 0.1603 0.0007

Jupiter -43057-10-23 22:04 J -14004849.71 -14004849.58 -14004849.45 0.0534 0.0234

Jupiter -43056-01-21 14:09 J -14004759.98 -14004759.91 -14004759.84 0.0537 0.0460

Moon -43054-09-14 11:16 J -14003794.13 -14003794.03 -14003793.93 0.2663 0.1682

Earth -43054-09-14 12:14 J -14003794.09 -14003793.99 -14003793.89 0.2661 0.1593 *

Mars -43053-07-04 08:09 J -14003500.20 -14003500.16 -14003500.11 0.1928 0.1800

Saturn -43052-08-18 10:47 J -14003090.16 -14003090.05 -14003089.94 0.0274 0.0176

Saturn -43052-11-15 00:42 J -14003001.62 -14003001.47 -14003001.33 0.0274 0.0077

Saturn -43051-02-11 14:09 J -14002913.06 -14002912.91 -14002912.76 0.0274 0.0021

Moon -43051-03-15 19:54 J -14002880.80 -14002880.67 -14002880.54 0.2673 0.0454

Earth -43051-03-15 20:38 J -14002880.77 -14002880.64 -14002880.50 0.2669 0.0410 *

Saturn -43051-05-11 03:21 J -14002824.49 -14002824.36 -14002824.22 0.0275 0.0118

Jupiter -43051-06-11 03:35 J -14002793.49 -14002793.35 -14002793.21 0.0494 0.0197

Saturn -43051-08-07 16:33 J -14002735.90 -14002735.81 -14002735.72 0.0275 0.0212

Jupiter -43051-09-08 19:54 J -14002703.76 -14002703.67 -14002703.58 0.0492 0.0396

Mars -43048-03-27 16:33 J -14001772.94 -14001772.81 -14001772.69 0.1602 0.0562

Earth -43048-09-23 17:45 J -14001592.85 -14001592.76 -14001592.68 0.2667 0.1838

Moon -43048-09-23 18:28 J -14001592.81 -14001592.73 -14001592.64 0.2666 0.1833 *

Jupiter -43045-08-11 23:02 J -14000539.63 -14000539.54 -14000539.45 0.0533 0.0417

Jupiter -43045-11-09 15:35 J -14000449.97 -14000449.85 -14000449.73 0.0536 0.0284

Pluto -43044-06-06 23:59 J -14000240.52 -14000240.50 -14000240.45 0.0065 0.0063

Pluto -43044-09-03 01:26 J -14000152.51 -14000152.44 -14000152.37 0.0065 0.0059

Pluto -43044-11-30 02:38 J -14000064.48 -14000064.39 -14000064.30 0.0065 0.0054

Pluto -43043-02-26 03:50 J -13999976.45 -13999976.34 -13999976.23 0.0065 0.0049

Pluto -43043-05-25 04:47 J -13999888.42 -13999888.30 -13999888.17 0.0065 0.0044

Pluto -43043-08-21 05:59 J -13999800.38 -13999800.25 -13999800.11 0.0065 0.0039

Pluto -43043-11-17 07:11 J -13999712.33 -13999712.20 -13999712.05 0.0066 0.0034

Pluto -43042-02-13 08:23 J -13999624.29 -13999624.15 -13999623.99 0.0066 0.0029

Uranus -43042-04-08 02:38 J -13999570.46 -13999570.39 -13999570.32 0.0132 0.0116

Pluto -43042-05-12 09:35 J -13999536.24 -13999536.10 -13999535.93 0.0066 0.0024

Uranus -43042-07-05 06:14 J -13999482.33 -13999482.24 -13999482.12 0.0132 0.0097

Pluto -43042-08-08 10:47 J -13999448.20 -13999448.05 -13999447.87 0.0066 0.0019

Uranus -43042-10-01 10:18 J -13999394.18 -13999394.07 -13999393.94 0.0132 0.0077

Mars -43042-11-01 00:42 J -13999363.54 -13999363.47 -13999363.39 0.1924 0.1575

Pluto -43042-11-04 12:28 J -13999360.15 -13999359.98 -13999359.82 0.0066 0.0013

Uranus -43042-12-28 14:09 J -13999306.03 -13999305.91 -13999305.77 0.0132 0.0057

Pluto -43041-01-31 13:40 J -13999272.10 -13999271.93 -13999271.76 0.0066 0.0008

Uranus -43041-03-25 18:14 J -13999217.88 -13999217.74 -13999217.60 0.0132 0.0037

Pluto -43041-04-28 14:52 J -13999184.04 -13999183.88 -13999183.70 0.0066 0.0003

Uranus -43041-06-21 22:04 J -13999129.73 -13999129.58 -13999129.43 0.0132 0.0018

Pluto -43041-07-25 16:18 J -13999095.99 -13999095.82 -13999095.65 0.0066 0.0003

Moon -43041-09-16 08:38 J -13999043.26 -13999043.14 -13999043.02 0.2669 0.0718

Earth -43041-09-16 09:06 J -13999043.24 -13999043.12 -13999043.00 0.2663 0.0663 *

Uranus -43041-09-18 01:54 J -13999041.57 -13999041.42 -13999041.28 0.0132 0.0003

Pluto -43041-10-21 17:30 J -13999007.94 -13999007.77 -13999007.60 0.0066 0.0008

Uranus -43041-12-15 05:30 J -13998953.41 -13998953.27 -13998953.12 0.0132 0.0020

Pluto -43040-01-17 18:42 J -13998919.88 -13998919.72 -13998919.54 0.0066 0.0014

Uranus -43040-03-13 09:21 J -13998865.25 -13998865.11 -13998864.97 0.0132 0.0039

Pluto -43040-04-15 20:09 J -13998831.82 -13998831.66 -13998831.49 0.0067 0.0019

Uranus -43040-06-09 12:57 J -13998777.09 -13998776.96 -13998776.83 0.0132 0.0057

Pluto -43040-07-12 21:21 J -13998743.76 -13998743.61 -13998743.44 0.0067 0.0025

Uranus -43040-09-05 16:33 J -13998688.92 -13998688.81 -13998688.69 0.0132 0.0076

Pluto -43040-10-08 22:47 J -13998655.70 -13998655.55 -13998655.39 0.0067 0.0030

Uranus -43040-12-02 20:09 J -13998600.75 -13998600.66 -13998600.55 0.0132 0.0095

Pluto -43039-01-04 23:59 J -13998567.63 -13998567.50 -13998567.34 0.0067 0.0036

Uranus -43039-02-28 23:45 J -13998512.57 -13998512.51 -13998512.43 0.0132 0.0113

Jupiter -43039-03-30 05:16 J -13998483.39 -13998483.28 -13998483.16 0.0494 0.0341

Pluto -43039-04-03 01:26 J -13998479.56 -13998479.44 -13998479.29 0.0067 0.0041

Uranus -43039-05-28 03:21 J -13998424.37 -13998424.36 -13998424.34 0.0132 0.0131

Jupiter -43039-06-27 21:06 J -13998393.75 -13998393.62 -13998393.48 0.0492 0.0248

Pluto -43039-06-30 02:38 J -13998391.49 -13998391.39 -13998391.25 0.0067 0.0047

Venus -43039-06-30 11:30 J -13998391.15 -13998391.02 -13998390.89 0.3714 0.1000

Mars -43039-08-18 00:42 J -13998342.57 -13998342.47 -13998342.37 0.1601 0.1126

Pluto -43039-09-26 04:18 J -13998303.42 -13998303.32 -13998303.21 0.0067 0.0053

Pluto -43039-12-23 05:30 J -13998215.34 -13998215.27 -13998215.17 0.0067 0.0059

Moon -43038-03-18 20:38 J -13998129.77 -13998129.64 -13998129.51 0.2675 0.0656

Earth -43038-03-18 20:38 J -13998129.77 -13998129.64 -13998129.51 0.2667 0.0697 *

Pluto -43038-03-21 06:42 J -13998127.24 -13998127.22 -13998127.15 0.0067 0.0065

Saturn -43037-03-03 05:16 J -13997779.36 -13997779.28 -13997779.19 0.0285 0.0234

Saturn -43037-05-30 22:47 J -13997690.70 -13997690.55 -13997690.40 0.0285 0.0116

Mars -43037-07-23 15:06 J -13997636.96 -13997636.87 -13997636.78 0.1605 0.1171

Saturn -43037-08-27 16:33 J -13997601.97 -13997601.81 -13997601.64 0.0285 0.0010

Saturn -43037-11-24 10:47 J -13997513.19 -13997513.05 -13997512.90 0.0285 0.0128

Saturn -43036-02-21 05:30 J -13997424.34 -13997424.27 -13997424.19 0.0285 0.0253

Venus -43033-01-14 12:42 J -13996367.00 -13996366.97 -13996366.94 0.3708 0.3597

Jupiter -43033-08-28 16:33 J -13996139.95 -13996139.81 -13996139.66 0.0536 0.0105

Mars -43032-03-23 02:52 J -13995933.51 -13995933.38 -13995933.25 0.1926 0.0446

Moon -43031-03-11 02:23 J -13995580.47 -13995580.40 -13995580.34 0.2669 0.2298

Earth -43031-03-11 03:21 J -13995580.42 -13995580.36 -13995580.30 0.2672 0.2319 *

Earth -43028-09-19 05:59 J -13994292.37 -13994292.25 -13994292.13 0.2664 0.0246

Moon -43028-09-19 06:14 J -13994292.36 -13994292.24 -13994292.12 0.2671 0.0305 *

Mars -43028-12-13 23:59 J -13994206.63 -13994206.50 -13994206.38 0.1604 0.0634

Jupiter -43027-01-16 07:26 J -13994173.22 -13994173.19 -13994173.15 0.0495 0.0479

Jupiter -43027-04-15 23:02 J -13994083.69 -13994083.54 -13994083.39 0.0492 0.0104

Earth -43025-03-20 21:06 J -13993378.72 -13993378.62 -13993378.53 0.2666 0.1836

Moon -43025-03-20 21:50 J -13993378.68 -13993378.59 -13993378.50 0.2670 0.1967 *

Mars -43023-08-13 05:30 J -13992503.39 -13992503.27 -13992503.14 0.1927 0.0633

Saturn -43022-01-05 12:28 J -13992358.07 -13992357.98 -13992357.87 0.0273 0.0203

Saturn -43022-04-04 02:38 J -13992269.53 -13992269.39 -13992269.25 0.0273 0.0103

Saturn -43022-07-01 16:04 J -13992180.97 -13992180.83 -13992180.68 0.0274 0.0008

Saturn -43022-09-28 05:30 J -13992092.41 -13992092.27 -13992092.13 0.0274 0.0091

Saturn -43022-12-25 18:28 J -13992003.83 -13992003.73 -13992003.62 0.0274 0.0186

Jupiter -43021-06-16 18:28 J -13991829.87 -13991829.73 -13991829.58 0.0535 0.0065

Moon -43021-09-11 19:11 J -13991742.74 -13991742.70 -13991742.66 0.2657 0.2512

Earth -43021-09-11 20:09 J -13991742.71 -13991742.66 -13991742.60 0.2660 0.2374 *

Venus -43018-02-12 02:23 J -13990859.50 -13990859.40 -13990859.29 0.3663 0.1177

Moon -43018-03-14 01:26 J -13990829.55 -13990829.44 -13990829.33 0.2672 0.1433

Earth -43018-03-14 02:38 J -13990829.51 -13990829.39 -13990829.27 0.2670 0.1286 *

Mars -43018-05-06 08:23 J -13990776.29 -13990776.15 -13990776.01 0.1603 0.0084

Jupiter -43015-02-02 00:28 J -13989773.64 -13989773.48 -13989773.33 0.0493 0.0046

Earth -43015-09-22 02:23 J -13989541.51 -13989541.40 -13989541.29 0.2666 0.1131

Moon -43015-09-22 03:06 J -13989541.48 -13989541.37 -13989541.26 0.2670 0.1113 *

Mars -43013-01-03 08:23 J -13989073.21 -13989073.15 -13989073.09 0.1928 0.1700

Venus -43013-08-27 19:54 J -13988835.77 -13988835.67 -13988835.57 0.3667 0.1308

Jupiter -43009-04-04 20:09 J -13987519.79 -13987519.66 -13987519.52 0.0535 0.0234

Jupiter -43009-07-03 12:28 J -13987430.05 -13987429.98 -13987429.91 0.0537 0.0463

Mars -43009-09-25 16:47 J -13987345.93 -13987345.80 -13987345.67 0.1602 0.0474

Saturn -43008-07-21 04:33 J -13987047.34 -13987047.31 -13987047.26 0.0285 0.0275

Moon -43008-09-14 16:33 J -13986991.91 -13986991.81 -13986991.70 0.2665 0.1435

Earth -43008-09-14 17:30 J -13986991.88 -13986991.77 -13986991.67 0.2661 0.1425 *

Saturn -43008-10-17 22:04 J -13986958.72 -13986958.58 -13986958.45 0.0285 0.0159

Saturn -43007-01-14 15:35 J -13986870.01 -13986869.85 -13986869.69 0.0285 0.0040

Saturn -43007-04-13 09:50 J -13986781.25 -13986781.09 -13986780.94 0.0285 0.0083

Saturn -43007-07-11 04:04 J -13986692.43 -13986692.33 -13986692.21 0.0285 0.0208

Moon -43005-03-16 01:40 J -13986078.56 -13986078.43 -13986078.30 0.2674 0.0239

Earth -43005-03-16 02:23 J -13986078.54 -13986078.40 -13986078.27 0.2669 0.0219 *

Jupiter -43004-11-21 02:09 J -13985463.56 -13985463.41 -13985463.27 0.0494 0.0192

Jupiter -43003-02-18 18:14 J -13985373.83 -13985373.74 -13985373.65 0.0491 0.0401

Mars -43002-05-02 01:11 J -13984936.52 -13984936.45 -13984936.39 0.1924 0.1688

Earth -43002-09-24 22:47 J -13984790.63 -13984790.55 -13984790.47 0.2668 0.1984

Moon -43002-09-24 23:45 J -13984790.58 -13984790.51 -13984790.44 0.2666 0.2119 *

43RD MILLENNIUM BCE

This is a list of transits of Mercury in the 43rd millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Uranus -43000-12-26 16:18 J -13983966.87 -13983966.82 -13983966.77 0.0146 0.0138

Mars -42999-02-16 00:57 J -13983915.57 -13983915.46 -13983915.36 0.1601 0.1041

Uranus -42999-03-24 22:18 J -13983878.67 -13983878.57 -13983878.45 0.0146 0.0111

Uranus -42999-06-21 04:47 J -13983790.44 -13983790.30 -13983790.16 0.0146 0.0082

Uranus -42999-09-17 11:02 J -13983702.19 -13983702.04 -13983701.88 0.0146 0.0053

Uranus -42999-12-14 17:30 J -13983613.94 -13983613.77 -13983613.61 0.0146 0.0024

Uranus -42998-03-12 23:45 J -13983525.67 -13983525.51 -13983525.34 0.0146 0.0006

Uranus -42998-06-09 06:14 J -13983437.40 -13983437.24 -13983437.07 0.0146 0.0036

Uranus -42998-09-05 12:42 J -13983349.12 -13983348.97 -13983348.81 0.0146 0.0066

Uranus -42998-12-02 19:26 J -13983260.82 -13983260.69 -13983260.56 0.0146 0.0096

Mars -42997-01-22 15:21 J -13983209.94 -13983209.86 -13983209.77 0.1605 0.1251

Jupiter -42997-01-22 21:21 J -13983209.70 -13983209.61 -13983209.52 0.0533 0.0412

Uranus -42997-02-29 01:40 J -13983172.50 -13983172.43 -13983172.33 0.0146 0.0127

Jupiter -42997-04-21 13:54 J -13983120.04 -13983119.92 -13983119.80 0.0536 0.0290

Neptune -42996-07-01 22:18 J -13982683.62 -13982683.57 -13982683.52 0.0088 0.0083

Neptune -42996-09-28 00:14 J -13982595.56 -13982595.49 -13982595.40 0.0088 0.0076

Neptune -42996-12-25 02:23 J -13982507.49 -13982507.40 -13982507.29 0.0088 0.0069

Neptune -42995-03-23 04:33 J -13982419.41 -13982419.31 -13982419.19 0.0088 0.0061

Neptune -42995-06-19 06:42 J -13982331.34 -13982331.22 -13982331.09 0.0088 0.0054

Neptune -42995-09-15 09:06 J -13982243.26 -13982243.12 -13982242.99 0.0088 0.0047

Moon -42995-09-17 13:54 J -13982241.04 -13982240.92 -13982240.80 0.2669 0.0538

Earth -42995-09-17 14:23 J -13982241.02 -13982240.90 -13982240.78 0.2663 0.0499 *

Neptune -42995-12-12 11:02 J -13982155.17 -13982155.04 -13982154.89 0.0088 0.0040

Neptune -42994-03-10 13:11 J -13982067.09 -13982066.95 -13982066.80 0.0088 0.0033

Neptune -42994-06-06 15:21 J -13981979.01 -13981978.86 -13981978.71 0.0088 0.0026

Neptune -42994-09-02 17:16 J -13981890.93 -13981890.78 -13981890.62 0.0088 0.0019

Neptune -42994-11-29 19:26 J -13981802.84 -13981802.69 -13981802.53 0.0088 0.0011

Neptune -42993-02-25 21:35 J -13981714.76 -13981714.60 -13981714.45 0.0088 0.0005

Neptune -42993-05-23 23:30 J -13981626.67 -13981626.52 -13981626.36 0.0088 0.0003

Saturn -42993-05-24 14:38 J -13981625.97 -13981625.89 -13981625.81 0.0274 0.0230

Neptune -42993-08-20 01:40 J -13981538.59 -13981538.43 -13981538.28 0.0088 0.0010

Saturn -42993-08-21 04:33 J -13981537.44 -13981537.31 -13981537.18 0.0274 0.0130

Mars -42993-09-21 03:06 J -13981506.50 -13981506.37 -13981506.24 0.1926 0.0561

Neptune -42993-11-16 03:35 J -13981450.50 -13981450.35 -13981450.20 0.0088 0.0016

Saturn -42993-11-17 18:14 J -13981448.88 -13981448.74 -13981448.59 0.0274 0.0031

Neptune -42992-02-12 05:30 J -13981362.42 -13981362.27 -13981362.12 0.0088 0.0023

Saturn -42992-02-14 07:40 J -13981360.32 -13981360.18 -13981360.04 0.0274 0.0067

Earth -42992-03-19 02:23 J -13981327.53 -13981327.40 -13981327.27 0.2667 0.0893

Moon -42992-03-19 02:23 J -13981327.52 -13981327.40 -13981327.27 0.2674 0.0931 *

Neptune -42992-05-11 07:26 J -13981274.33 -13981274.19 -13981274.04 0.0088 0.0030

Saturn -42992-05-13 20:52 J -13981271.74 -13981271.63 -13981271.51 0.0275 0.0162

Neptune -42992-08-07 09:21 J -13981186.24 -13981186.11 -13981185.96 0.0088 0.0037

Saturn -42992-08-10 09:50 J -13981183.14 -13981183.09 -13981183.04 0.0275 0.0255

Jupiter -42992-09-09 03:06 J -13981153.47 -13981153.37 -13981153.25 0.0495 0.0343

Neptune -42992-11-03 11:30 J -13981098.15 -13981098.02 -13981097.88 0.0088 0.0044

Jupiter -42992-12-07 19:11 J -13981063.84 -13981063.70 -13981063.56 0.0492 0.0246

Neptune -42991-01-30 13:26 J -13981010.06 -13981009.94 -13981009.81 0.0088 0.0051

Neptune -42991-04-28 15:21 J -13980921.97 -13980921.86 -13980921.74 0.0088 0.0057

Neptune -42991-07-25 17:02 J -13980833.88 -13980833.79 -13980833.67 0.0088 0.0065

Neptune -42991-10-21 19:26 J -13980745.78 -13980745.69 -13980745.60 0.0088 0.0071

Neptune -42990-01-17 21:06 J -13980657.68 -13980657.62 -13980657.54 0.0088 0.0078

Neptune -42990-04-15 22:47 J -13980569.57 -13980569.55 -13980569.48 0.0088 0.0085

Mars -42988-06-13 23:59 J -13979779.62 -13979779.50 -13979779.38 0.1604 0.0712

Jupiter -42985-02-08 15:21 J -13978810.01 -13978809.86 -13978809.72 0.0535 0.0112

Moon -42985-03-11 07:54 J -13978778.24 -13978778.17 -13978778.10 0.2670 0.2281

Earth -42985-03-11 08:52 J -13978778.21 -13978778.13 -13978778.05 0.2672 0.2135 *

Mars -42983-02-11 05:30 J -13978076.40 -13978076.27 -13978076.14 0.1927 0.0543

Venus -42982-02-04 11:16 J -13977718.16 -13977718.03 -13977717.89 0.3712 0.0597

Earth -42982-09-20 11:16 J -13977490.16 -13977490.03 -13977489.91 0.2665 0.0414

Moon -42982-09-20 11:30 J -13977490.14 -13977490.02 -13977489.90 0.2671 0.0414 *

Jupiter -42980-06-28 05:02 J -13976843.31 -13976843.29 -13976843.25 0.0495 0.0484

Jupiter -42980-09-25 20:38 J -13976753.79 -13976753.64 -13976753.48 0.0493 0.0099

Earth -42979-03-22 02:38 J -13976576.47 -13976576.39 -13976576.30 0.2665 0.2035

Moon -42979-03-22 03:50 J -13976576.43 -13976576.34 -13976576.26 0.2669 0.2050 *

Mars -42979-11-04 08:38 J -13976349.28 -13976349.14 -13976349.01 0.1603 0.0167

Saturn -42978-03-07 00:57 J -13976226.58 -13976226.46 -13976226.33 0.0285 0.0177

Saturn -42978-06-03 18:42 J -13976137.88 -13976137.72 -13976137.57 0.0285 0.0058

Saturn -42978-08-31 12:42 J -13976049.13 -13976048.97 -13976048.81 0.0285 0.0064

Saturn -42978-11-28 06:57 J -13975960.33 -13975960.21 -13975960.08 0.0285 0.0189

Moon -42975-09-13 00:28 J -13974940.55 -13974940.48 -13974940.41 0.2658 0.2197

Earth -42975-09-13 01:26 J -13974940.51 -13974940.44 -13974940.37 0.2660 0.2206 *

Mars -42974-07-04 08:38 J -13974646.21 -13974646.14 -13974646.07 0.1928 0.1594

Jupiter -42974-11-27 16:04 J -13974499.97 -13974499.83 -13974499.69 0.0535 0.0074

Moon -42972-03-14 07:11 J -13974027.32 -13974027.20 -13974027.08 0.2672 0.1105

Earth -42972-03-14 08:09 J -13974027.28 -13974027.16 -13974027.03 0.2670 0.1103 *

Mars -42969-03-26 17:02 J -13972918.93 -13972918.79 -13972918.66 0.1602 0.0393

Earth -42969-09-22 07:40 J -13972739.29 -13972739.18 -13972739.07 0.2666 0.1281

Moon -42969-09-22 08:23 J -13972739.25 -13972739.15 -13972739.04 0.2669 0.1396 *

Jupiter -42968-07-14 22:33 J -13972443.72 -13972443.56 -13972443.40 0.0493 0.0043

Venus -42967-03-05 06:42 J -13972210.29 -13972210.22 -13972210.14 0.3660 0.2753

Saturn -42964-10-11 16:33 J -13970893.85 -13970893.81 -13970893.75 0.0273 0.0255

Saturn -42963-01-08 06:42 J -13970805.34 -13970805.22 -13970805.09 0.0273 0.0154

Saturn -42963-04-06 20:38 J -13970716.79 -13970716.64 -13970716.50 0.0274 0.0055

Saturn -42963-07-04 10:04 J -13970628.23 -13970628.08 -13970627.94 0.0274 0.0042

Saturn -42963-09-30 23:16 J -13970539.66 -13970539.53 -13970539.41 0.0274 0.0138

Mars -42963-10-31 01:26 J -13970509.48 -13970509.44 -13970509.39 0.1924 0.1801

Saturn -42963-12-28 12:14 J -13970451.06 -13970450.99 -13970450.91 0.0274 0.0231

Jupiter -42962-09-15 17:45 J -13970189.89 -13970189.76 -13970189.63 0.0534 0.0245

Moon -42962-09-15 21:50 J -13970189.69 -13970189.59 -13970189.48 0.2666 0.1388 *

Earth -42962-09-15 22:47 J -13970189.66 -13970189.55 -13970189.44 0.2662 0.1262 *

Venus -42962-09-19 00:28 J -13970186.60 -13970186.48 -13970186.37 0.3664 0.0260

Jupiter -42962-12-14 10:04 J -13970100.16 -13970100.08 -13970100.01 0.0537 0.0452

Mars -42960-08-17 01:11 J -13969488.56 -13969488.45 -13969488.34 0.1602 0.0953

Moon -42959-03-17 07:26 J -13969276.32 -13969276.19 -13969276.05 0.2675 0.0118

Earth -42959-03-17 07:54 J -13969276.30 -13969276.17 -13969276.03 0.2668 0.0045 *

Uranus -42958-01-30 05:30 J -13968957.29 -13968957.27 -13968957.24 0.0132 0.0131

Uranus -42958-04-28 09:35 J -13968869.18 -13968869.10 -13968869.02 0.0132 0.0111

Mars -42958-07-23 15:35 J -13968782.92 -13968782.85 -13968782.78 0.1605 0.1330

Uranus -42958-07-25 13:26 J -13968781.04 -13968780.94 -13968780.83 0.0132 0.0091

Uranus -42958-10-21 17:16 J -13968692.90 -13968692.78 -13968692.65 0.0132 0.0072

Uranus -42957-01-17 21:06 J -13968604.75 -13968604.62 -13968604.48 0.0132 0.0053

Uranus -42957-04-15 00:57 J -13968516.60 -13968516.46 -13968516.31 0.0132 0.0033

Uranus -42957-07-12 05:02 J -13968428.44 -13968428.29 -13968428.15 0.0132 0.0014

Uranus -42957-10-08 08:38 J -13968340.28 -13968340.14 -13968339.99 0.0132 0.0007

Pluto -42956-01-03 15:35 J -13968252.89 -13968252.85 -13968252.80 0.0080 0.0075

Uranus -42956-01-04 12:28 J -13968252.12 -13968251.98 -13968251.83 0.0132 0.0025

Pluto -42956-04-01 17:02 J -13968164.86 -13968164.79 -13968164.70 0.0080 0.0067

Uranus -42956-04-02 16:18 J -13968163.96 -13968163.82 -13968163.68 0.0132 0.0043

Venus -42956-04-03 17:45 J -13968162.85 -13968162.76 -13968162.67 0.3668 0.2242

Jupiter -42956-05-03 00:14 J -13968133.64 -13968133.49 -13968133.35 0.0493 0.0190

Pluto -42956-06-28 18:28 J -13968076.82 -13968076.73 -13968076.62 0.0079 0.0059

Uranus -42956-06-29 19:54 J -13968075.80 -13968075.67 -13968075.54 0.0132 0.0062

Jupiter -42956-07-31 16:18 J -13968043.91 -13968043.82 -13968043.73 0.0491 0.0402

Pluto -42956-09-24 19:54 J -13967988.77 -13967988.67 -13967988.54 0.0079 0.0051

Earth -42956-09-25 04:04 J -13967988.40 -13967988.33 -13967988.26 0.2668 0.2140

Moon -42956-09-25 04:47 J -13967988.37 -13967988.30 -13967988.22 0.2666 0.2125 *

Uranus -42956-09-25 23:45 J -13967987.63 -13967987.51 -13967987.40 0.0132 0.0081

Pluto -42956-12-21 21:35 J -13967900.72 -13967900.60 -13967900.47 0.0079 0.0042

Uranus -42956-12-23 03:06 J -13967899.46 -13967899.37 -13967899.27 0.0132 0.0099

Pluto -42955-03-19 23:02 J -13967812.66 -13967812.54 -13967812.40 0.0079 0.0034

Uranus -42955-03-21 06:42 J -13967811.28 -13967811.22 -13967811.15 0.0132 0.0118

Pluto -42955-06-16 00:42 J -13967724.61 -13967724.47 -13967724.33 0.0079 0.0026

Pluto -42955-09-12 02:09 J -13967636.55 -13967636.41 -13967636.26 0.0079 0.0018

Pluto -42955-12-09 03:35 J -13967548.49 -13967548.35 -13967548.20 0.0079 0.0010

Pluto -42954-03-07 05:02 J -13967460.43 -13967460.29 -13967460.14 0.0078 0.0003

Pluto -42954-06-03 06:28 J -13967372.37 -13967372.23 -13967372.08 0.0078 0.0006

Pluto -42954-08-30 07:54 J -13967284.31 -13967284.17 -13967284.02 0.0078 0.0013

Pluto -42954-11-26 09:06 J -13967196.25 -13967196.12 -13967195.97 0.0078 0.0021

Pluto -42953-02-22 10:47 J -13967108.19 -13967108.05 -13967107.91 0.0078 0.0028

Mars -42953-03-22 03:35 J -13967079.48 -13967079.35 -13967079.23 0.1926 0.0674

Pluto -42953-05-20 11:59 J -13967020.12 -13967020.00 -13967019.86 0.0078 0.0036

Pluto -42953-08-16 13:26 J -13966932.06 -13966931.94 -13966931.82 0.0078 0.0043

Pluto -42953-11-12 14:38 J -13966843.99 -13966843.89 -13966843.77 0.0077 0.0050

Pluto -42952-02-08 16:04 J -13966755.92 -13966755.83 -13966755.73 0.0077 0.0058

Pluto -42952-05-07 17:30 J -13966667.85 -13966667.77 -13966667.69 0.0077 0.0065

Pluto -42952-08-03 18:28 J -13966579.77 -13966579.73 -13966579.66 0.0077 0.0072

Mars -42950-01-07 09:06 J -13966058.15 -13966058.12 -13966058.08 0.1601 0.1531

Jupiter -42950-07-04 19:26 J -13965879.78 -13965879.69 -13965879.60 0.0534 0.0415

Jupiter -42950-10-02 12:14 J -13965790.11 -13965789.99 -13965789.87 0.0537 0.0289

Saturn -42949-07-24 00:14 J -13965494.59 -13965494.49 -13965494.39 0.0285 0.0220

Moon -42949-09-17 19:26 J -13965438.81 -13965438.69 -13965438.57 0.2669 0.0328

Earth -42949-09-17 19:40 J -13965438.80 -13965438.68 -13965438.56 0.2663 0.0337 *

Saturn -42949-10-20 17:30 J -13965405.92 -13965405.77 -13965405.62 0.0285 0.0102

Mars -42949-12-13 00:14 J -13965352.60 -13965352.49 -13965352.37 0.1604 0.0795

Saturn -42948-01-17 11:30 J -13965317.19 -13965317.02 -13965316.86 0.0285 0.0020

Saturn -42948-04-16 05:45 J -13965228.40 -13965228.26 -13965228.12 0.0285 0.0142

Saturn -42948-07-14 00:14 J -13965139.54 -13965139.49 -13965139.43 0.0285 0.0268

Earth -42946-03-20 07:54 J -13964525.29 -13964525.17 -13964525.04 0.2667 0.1090

Moon -42946-03-20 08:09 J -13964525.28 -13964525.16 -13964525.03 0.2673 0.1100 *

Jupiter -42944-02-19 01:54 J -13963823.53 -13963823.42 -13963823.31 0.0494 0.0334

Jupiter -42944-05-19 17:30 J -13963733.90 -13963733.77 -13963733.63 0.0492 0.0254

Mars -42944-08-12 05:59 J -13963649.39 -13963649.25 -13963649.12 0.1927 0.0436

Moon -42939-03-12 13:26 J -13961976.03 -13961975.94 -13961975.86 0.2671 0.1960

Earth -42939-03-12 14:23 J -13961975.99 -13961975.90 -13961975.81 0.2672 0.1958 *

Mars -42939-05-05 08:52 J -13961922.27 -13961922.13 -13961922.00 0.1603 0.0249

Jupiter -42938-07-21 13:40 J -13961480.07 -13961479.93 -13961479.79 0.0535 0.0118

Earth -42936-09-20 16:18 J -13960687.94 -13960687.82 -13960687.70 0.2665 0.0568

Moon -42936-09-20 16:47 J -13960687.92 -13960687.80 -13960687.68 0.2671 0.0607 *

Mars -42934-01-02 08:38 J -13960219.22 -13960219.14 -13960219.05 0.1928 0.1493

Saturn -42934-05-28 08:23 J -13960073.26 -13960073.15 -13960073.04 0.0274 0.0183

Saturn -42934-08-24 22:18 J -13959984.71 -13959984.57 -13959984.43 0.0274 0.0083

Saturn -42934-11-21 11:59 J -13959896.15 -13959896.00 -13959895.86 0.0274 0.0016

Saturn -42933-02-18 01:11 J -13959807.58 -13959807.45 -13959807.31 0.0274 0.0111

Earth -42933-03-22 08:38 J -13959774.22 -13959774.14 -13959774.07 0.2665 0.2237

Moon -42933-03-22 09:35 J -13959774.16 -13959774.10 -13959774.04 0.2669 0.2364 *

Saturn -42933-05-16 14:23 J -13959719.00 -13959718.90 -13959718.81 0.0274 0.0206

Jupiter -42933-12-08 03:06 J -13959513.39 -13959513.37 -13959513.34 0.0495 0.0484

Jupiter -42932-03-07 18:42 J -13959423.88 -13959423.72 -13959423.57 0.0493 0.0100

Venus -42931-02-25 10:18 J -13959069.18 -13959069.07 -13959068.97 0.3717 0.2310

Mars -42930-09-25 17:16 J -13958491.92 -13958491.78 -13958491.65 0.1602 0.0312

Moon -42929-09-13 05:45 J -13958138.33 -13958138.26 -13958138.19 0.2661 0.2178

Earth -42929-09-13 06:42 J -13958138.30 -13958138.22 -13958138.14 0.2660 0.2038 *

Moon -42926-03-15 12:57 J -13957225.08 -13957224.96 -13957224.84 0.2673 0.1059

Earth -42926-03-15 13:54 J -13957225.05 -13957224.92 -13957224.80 0.2670 0.0909 *

Jupiter -42926-05-09 14:52 J -13957170.02 -13957169.88 -13957169.73 0.0535 0.0063

Venus -42926-09-11 11:16 J -13957045.13 -13957045.03 -13957044.92 0.3711 0.2216

Mars -42923-05-01 01:40 J -13956082.45 -13956082.43 -13956082.42 0.1924 0.1905

Earth -42923-09-23 12:57 J -13955937.06 -13955936.96 -13955936.86 0.2666 0.1439

Moon -42923-09-23 13:40 J -13955937.03 -13955936.93 -13955936.83 0.2668 0.1466 *

Jupiter -42921-12-24 20:09 J -13955113.81 -13955113.66 -13955113.50 0.0493 0.0049

Mars -42920-02-15 01:26 J -13955061.56 -13955061.44 -13955061.33 0.1602 0.0872

Saturn -42920-12-11 02:52 J -13954762.46 -13954762.38 -13954762.29 0.0285 0.0239

Saturn -42919-03-09 20:23 J -13954673.80 -13954673.65 -13954673.51 0.0285 0.0121

Saturn -42919-06-06 14:09 J -13954585.07 -13954584.91 -13954584.75 0.0285 0.0001

Saturn -42919-09-03 08:23 J -13954496.30 -13954496.15 -13954496.00 0.0285 0.0122

Saturn -42919-12-01 02:52 J -13954407.46 -13954407.38 -13954407.30 0.0285 0.0247

Mars -42918-01-21 15:50 J -13954355.90 -13954355.84 -13954355.78 0.1605 0.1408

Moon -42916-09-16 03:06 J -13953387.48 -13953387.37 -13953387.25 0.2666 0.1087

Earth -42916-09-16 04:04 J -13953387.45 -13953387.33 -13953387.22 0.2662 0.1096 *

Uranus -42915-01-15 23:30 J -13953265.59 -13953265.52 -13953265.45 0.0146 0.0131

Uranus -42915-04-14 05:30 J -13953177.38 -13953177.27 -13953177.15 0.0146 0.0103

Uranus -42915-07-11 11:59 J -13953089.14 -13953089.00 -13953088.86 0.0146 0.0074

Uranus -42915-10-07 18:14 J -13953000.90 -13953000.74 -13953000.58 0.0146 0.0046

Neptune -42915-12-30 03:21 J -13952917.37 -13952917.36 -13952917.35 0.0089 0.0088

Uranus -42914-01-04 00:28 J -13952912.64 -13952912.48 -13952912.31 0.0146 0.0017

Jupiter -42914-02-25 15:21 J -13952859.99 -13952859.86 -13952859.73 0.0534 0.0253

Neptune -42914-03-28 05:30 J -13952829.33 -13952829.27 -13952829.21 0.0089 0.0081

Uranus -42914-04-02 06:57 J -13952824.38 -13952824.21 -13952824.04 0.0146 0.0013

Jupiter -42914-05-26 07:40 J -13952770.25 -13952770.18 -13952770.10 0.0537 0.0445

Neptune -42914-06-24 07:40 J -13952741.27 -13952741.18 -13952741.10 0.0089 0.0075

Uranus -42914-06-29 13:26 J -13952736.10 -13952735.94 -13952735.78 0.0146 0.0043

Neptune -42914-09-20 09:50 J -13952653.19 -13952653.09 -13952652.99 0.0089 0.0067

Mars -42914-09-21 03:35 J -13952652.48 -13952652.35 -13952652.23 0.1926 0.0767

Uranus -42914-09-25 19:54 J -13952647.81 -13952647.67 -13952647.52 0.0146 0.0073

Neptune -42914-12-17 11:45 J -13952565.12 -13952565.01 -13952564.89 0.0089 0.0060

Uranus -42914-12-23 02:09 J -13952559.51 -13952559.41 -13952559.27 0.0146 0.0104

Neptune -42913-03-14 13:54 J -13952477.04 -13952476.92 -13952476.79 0.0089 0.0053

Moon -42913-03-17 13:11 J -13952474.08 -13952473.95 -13952473.82 0.2675 0.0206

Earth -42913-03-17 13:40 J -13952474.07 -13952473.93 -13952473.80 0.2668 0.0170 *

Uranus -42913-03-20 08:52 J -13952471.19 -13952471.13 -13952471.05 0.0146 0.0134

Neptune -42913-06-10 16:04 J -13952388.96 -13952388.83 -13952388.69 0.0089 0.0046

Neptune -42913-09-06 18:14 J -13952300.87 -13952300.74 -13952300.59 0.0089 0.0039

Neptune -42913-12-03 20:23 J -13952212.79 -13952212.65 -13952212.49 0.0089 0.0032

Neptune -42912-03-01 22:33 J -13952124.70 -13952124.56 -13952124.40 0.0089 0.0025

Neptune -42912-05-29 00:57 J -13952036.61 -13952036.46 -13952036.30 0.0089 0.0017

Neptune -42912-08-25 03:21 J -13951948.52 -13951948.36 -13951948.20 0.0089 0.0010

Neptune -42912-11-21 05:30 J -13951860.43 -13951860.27 -13951860.11 0.0089 0.0003

Neptune -42911-02-17 07:40 J -13951772.34 -13951772.18 -13951772.02 0.0089 0.0005

Neptune -42911-05-16 10:04 J -13951684.24 -13951684.08 -13951683.92 0.0089 0.0012

Mars -42911-07-08 09:21 J -13951631.16 -13951631.11 -13951631.05 0.1601 0.1446

Neptune -42911-08-12 12:14 J -13951596.14 -13951595.99 -13951595.83 0.0089 0.0019

Venus -42911-10-10 04:47 J -13951537.40 -13951537.30 -13951537.20 0.3661 0.1779

Neptune -42911-11-08 14:23 J -13951508.04 -13951507.90 -13951507.74 0.0089 0.0027

Neptune -42910-02-04 16:47 J -13951419.94 -13951419.80 -13951419.65 0.0089 0.0034

Neptune -42910-05-03 18:57 J -13951331.84 -13951331.71 -13951331.56 0.0089 0.0042

Neptune -42910-07-30 21:21 J -13951243.74 -13951243.61 -13951243.47 0.0089 0.0049

Earth -42910-09-26 09:06 J -13951186.18 -13951186.12 -13951186.06 0.2668 0.2287

Moon -42910-09-26 10:04 J -13951186.13 -13951186.08 -13951186.04 0.2666 0.2414 *

Neptune -42910-10-26 23:30 J -13951155.63 -13951155.52 -13951155.38 0.0089 0.0057

Neptune -42909-01-23 02:09 J -13951067.52 -13951067.41 -13951067.29 0.0089 0.0064

Neptune -42909-04-20 04:18 J -13950979.40 -13950979.32 -13950979.21 0.0089 0.0072

Mars -42909-06-13 00:28 J -13950925.59 -13950925.48 -13950925.37 0.1604 0.0874

Neptune -42909-07-17 06:57 J -13950891.28 -13950891.21 -13950891.14 0.0089 0.0079

Jupiter -42909-10-12 22:18 J -13950803.71 -13950803.57 -13950803.42 0.0494 0.0186

Neptune -42909-10-13 09:06 J -13950803.14 -13950803.12 -13950803.08 0.0089 0.0087

Jupiter -42908-01-10 14:23 J -13950713.98 -13950713.90 -13950713.81 0.0491 0.0406

Venus -42905-04-24 22:18 J -13949513.68 -13949513.57 -13949513.46 0.3665 0.0725

Saturn -42905-10-14 10:47 J -13949341.14 -13949341.05 -13949340.95 0.0273 0.0206

Saturn -42904-01-11 00:42 J -13949252.61 -13949252.47 -13949252.33 0.0273 0.0106

Mars -42904-02-10 06:14 J -13949222.37 -13949222.24 -13949222.11 0.1927 0.0315

Saturn -42904-04-09 14:23 J -13949164.05 -13949163.90 -13949163.75 0.0274 0.0009

Saturn -42904-07-07 03:35 J -13949075.48 -13949075.35 -13949075.21 0.0274 0.0089

Saturn -42904-10-03 16:47 J -13948986.91 -13948986.80 -13948986.69 0.0274 0.0183

Earth -42903-09-19 00:57 J -13948636.59 -13948636.46 -13948636.34 0.2663 0.0181

Moon -42903-09-19 00:57 J -13948636.58 -13948636.46 -13948636.34 0.2670 0.0237 *

Jupiter -42903-12-14 16:47 J -13948549.88 -13948549.80 -13948549.71 0.0534 0.0426

Jupiter -42902-03-14 09:35 J -13948460.22 -13948460.10 -13948459.97 0.0537 0.0279

Earth -42900-03-20 13:40 J -13947723.05 -13947722.93 -13947722.81 0.2666 0.1287

Moon -42900-03-20 14:09 J -13947723.02 -13947722.91 -13947722.79 0.2672 0.1296 *

Mars -42900-11-03 09:06 J -13947495.26 -13947495.12 -13947494.99 0.1603 0.0332

Venus -42900-11-08 15:35 J -13947489.90 -13947489.85 -13947489.79 0.3670 0.3172

Jupiter -42897-07-31 23:59 J -13946493.61 -13946493.50 -13946493.38 0.0494 0.0331

Jupiter -42897-10-29 15:50 J -13946403.98 -13946403.84 -13946403.71 0.0492 0.0256

Mars -42895-07-03 08:52 J -13945792.22 -13945792.13 -13945792.03 0.1928 0.1387

Moon -42893-03-12 18:57 J -13945173.80 -13945173.71 -13945173.62 0.2670 0.1915

Earth -42893-03-12 20:09 J -13945173.76 -13945173.66 -13945173.57 0.2671 0.1771 *

Jupiter -42891-12-31 11:45 J -13944150.15 -13944150.01 -13944149.87 0.0536 0.0115

Mars -42890-03-26 17:30 J -13944064.91 -13944064.77 -13944064.64 0.1602 0.0228

Saturn -42890-04-30 01:54 J -13944030.43 -13944030.42 -13944030.39 0.0286 0.0282

Saturn -42890-07-27 19:11 J -13943941.82 -13943941.70 -13943941.56 0.0285 0.0166

Earth -42890-09-21 21:35 J -13943885.72 -13943885.60 -13943885.48 0.2665 0.0718

Moon -42890-09-21 22:04 J -13943885.70 -13943885.58 -13943885.46 0.2671 0.0764 *

Saturn -42890-10-24 12:57 J -13943853.12 -13943852.96 -13943852.80 0.0285 0.0046

Saturn -42889-01-21 06:57 J -13943764.37 -13943764.21 -13943764.05 0.0285 0.0076

Saturn -42889-04-19 01:11 J -13943675.56 -13943675.45 -13943675.32 0.0285 0.0202

Earth -42887-03-23 14:09 J -13942971.96 -13942971.91 -13942971.85 0.2665 0.2436

Moon -42887-03-23 15:21 J -13942971.91 -13942971.86 -13942971.81 0.2669 0.2483 *

Jupiter -42885-05-20 01:54 J -13942183.46 -13942183.42 -13942183.38 0.0495 0.0474

Jupiter -42885-08-17 17:16 J -13942093.93 -13942093.78 -13942093.63 0.0492 0.0108

Moon -42883-09-14 11:02 J -13941336.12 -13941336.04 -13941335.95 0.2662 0.1881

Earth -42883-09-14 11:59 J -13941336.08 -13941336.00 -13941335.91 0.2661 0.1872 *

Mars -42881-08-16 01:40 J -13940634.55 -13940634.43 -13940634.31 0.1602 0.0790

Moon -42880-03-15 18:42 J -13940422.85 -13940422.72 -13940422.59 0.2674 0.0704

Earth -42880-03-15 19:26 J -13940422.81 -13940422.69 -13940422.56 0.2669 0.0728 *

Mars -42879-07-22 16:04 J -13939928.88 -13939928.83 -13939928.79 0.1605 0.1487

Jupiter -42879-10-19 13:26 J -13939840.09 -13939839.94 -13939839.80 0.0535 0.0057

Earth -42877-09-23 17:59 J -13939134.84 -13939134.75 -13939134.65 0.2667 0.1592

Moon -42877-09-23 18:57 J -13939134.80 -13939134.71 -13939134.61 0.2667 0.1680 *

Saturn -42875-03-03 11:59 J -13938609.07 -13938609.00 -13938608.92 0.0274 0.0238

Saturn -42875-05-31 02:09 J -13938520.54 -13938520.41 -13938520.28 0.0274 0.0137

Saturn -42875-08-27 15:50 J -13938431.99 -13938431.84 -13938431.69 0.0274 0.0038

Venus -42875-10-02 10:04 J -13938396.21 -13938396.08 -13938395.95 0.3715 0.0724

Saturn -42875-11-24 05:16 J -13938343.42 -13938343.28 -13938343.14 0.0274 0.0059

Uranus -42874-02-19 12:14 J -13938256.03 -13938255.99 -13938255.94 0.0132 0.0127

Saturn -42874-02-20 18:28 J -13938254.85 -13938254.73 -13938254.61 0.0274 0.0154

Mars -42874-03-22 03:50 J -13938225.46 -13938225.34 -13938225.21 0.1926 0.0887

Uranus -42874-05-18 16:04 J -13938167.91 -13938167.83 -13938167.73 0.0132 0.0107

Saturn -42874-05-20 07:26 J -13938166.25 -13938166.19 -13938166.13 0.0274 0.0248

Uranus -42874-08-14 20:09 J -13938079.77 -13938079.66 -13938079.54 0.0132 0.0087

Uranus -42874-11-11 00:14 J -13937991.62 -13937991.49 -13937991.37 0.0132 0.0068

Uranus -42873-02-07 03:50 J -13937903.47 -13937903.34 -13937903.19 0.0132 0.0049

Uranus -42873-05-05 07:40 J -13937815.32 -13937815.18 -13937815.03 0.0132 0.0030

Jupiter -42873-06-05 18:14 J -13937783.89 -13937783.74 -13937783.58 0.0493 0.0048

Uranus -42873-08-01 11:45 J -13937727.16 -13937727.01 -13937726.87 0.0132 0.0010

Uranus -42873-10-28 15:21 J -13937639.00 -13937638.86 -13937638.71 0.0132 0.0010

Uranus -42872-01-24 19:11 J -13937550.84 -13937550.70 -13937550.55 0.0132 0.0028

Uranus -42872-04-22 22:47 J -13937462.68 -13937462.55 -13937462.41 0.0132 0.0048

Uranus -42872-07-20 02:23 J -13937374.51 -13937374.40 -13937374.26 0.0132 0.0067

Uranus -42872-10-16 06:14 J -13937286.35 -13937286.24 -13937286.12 0.0132 0.0084

Mars -42871-01-06 09:35 J -13937204.17 -13937204.10 -13937204.02 0.1601 0.1361

Uranus -42871-01-12 09:50 J -13937198.17 -13937198.09 -13937197.99 0.0132 0.0103

Uranus -42871-04-10 13:26 J -13937109.99 -13937109.94 -13937109.88 0.0132 0.0121

Moon -42870-09-17 08:38 J -13936585.26 -13936585.14 -13936585.03 0.2667 0.1052

Earth -42870-09-17 09:21 J -13936585.23 -13936585.11 -13936585.00 0.2662 0.0934 *

Mars -42870-12-13 00:42 J -13936498.58 -13936498.47 -13936498.36 0.1604 0.0953

Moon -42867-03-18 18:57 J -13935671.84 -13935671.71 -13935671.58 0.2674 0.0267

Earth -42867-03-18 19:26 J -13935671.83 -13935671.69 -13935671.56 0.2668 0.0374 *

Jupiter -42867-08-07 14:23 J -13935530.03 -13935529.90 -13935529.77 0.0534 0.0237

Jupiter -42867-11-05 06:42 J -13935440.29 -13935440.22 -13935440.15 0.0537 0.0459

Mars -42865-08-11 06:14 J -13934795.37 -13934795.24 -13934795.10 0.1927 0.0223

Earth -42864-09-26 14:23 J -13934383.95 -13934383.90 -13934383.86 0.2668 0.2440

Moon -42864-09-26 15:06 J -13934383.92 -13934383.87 -13934383.83 0.2665 0.2429 *

Jupiter -42861-03-24 20:09 J -13933473.80 -13933473.66 -13933473.52 0.0494 0.0189

Jupiter -42861-06-22 12:14 J -13933384.08 -13933383.99 -13933383.90 0.0491 0.0404

Saturn -42861-12-13 21:35 J -13933209.71 -13933209.60 -13933209.48 0.0285 0.0188

Moon -42860-03-11 01:26 J -13933122.45 -13933122.44 -13933122.42 0.2669 0.2651

Earth -42860-03-11 02:23 J -13933122.42 -13933122.40 -13933122.37 0.2673 0.2609 *

Saturn -42860-03-12 15:06 J -13933121.02 -13933120.87 -13933120.71 0.0285 0.0069

Mars -42860-05-04 09:21 J -13933068.25 -13933068.11 -13933067.98 0.1603 0.0414

Saturn -42860-06-09 09:06 J -13933032.28 -13933032.12 -13933031.96 0.0285 0.0053

Saturn -42860-09-06 03:35 J -13932943.48 -13932943.35 -13932943.22 0.0285 0.0177

Venus -42860-10-31 09:06 J -13932888.16 -13932888.12 -13932888.08 0.3657 0.3368

Earth -42857-09-19 06:14 J -13931834.37 -13931834.24 -13931834.12 0.2664 0.0078

Moon -42857-09-19 06:14 J -13931834.36 -13931834.24 -13931834.12 0.2671 0.0064 *

Mars -42855-01-01 09:06 J -13931365.22 -13931365.12 -13931365.02 0.1928 0.1285

Jupiter -42855-05-26 14:38 J -13931219.97 -13931219.89 -13931219.80 0.0533 0.0430

Jupiter -42855-08-24 07:26 J -13931130.31 -13931130.19 -13931130.06 0.0536 0.0275

Earth -42854-03-21 19:26 J -13930920.80 -13930920.69 -13930920.57 0.2666 0.1486

Moon -42854-03-21 20:09 J -13930920.77 -13930920.66 -13930920.55 0.2672 0.1591 *

Venus -42854-05-17 02:52 J -13930864.49 -13930864.38 -13930864.28 0.3662 0.0830

Mars -42851-09-24 17:30 J -13929637.90 -13929637.77 -13929637.63 0.1602 0.0151

Jupiter -42849-01-11 22:18 J -13929163.68 -13929163.57 -13929163.45 0.0495 0.0327

Jupiter -42849-04-10 14:09 J -13929074.04 -13929073.91 -13929073.78 0.0492 0.0261

Venus -42849-11-29 20:09 J -13928840.76 -13928840.66 -13928840.56 0.3666 0.1668

Moon -42847-03-14 00:28 J -13928371.58 -13928371.48 -13928371.38 0.2670 0.1614

Earth -42847-03-14 01:40 J -13928371.54 -13928371.43 -13928371.33 0.2671 0.1592 *

Saturn -42846-07-21 14:38 J -13927876.93 -13927876.89 -13927876.84 0.0273 0.0259

Saturn -42846-10-18 04:33 J -13927788.43 -13927788.31 -13927788.18 0.0273 0.0159

Saturn -42845-01-14 18:28 J -13927699.88 -13927699.73 -13927699.59 0.0273 0.0060

Saturn -42845-04-12 07:54 J -13927611.31 -13927611.17 -13927611.02 0.0273 0.0037

Saturn -42845-07-09 21:06 J -13927522.74 -13927522.62 -13927522.49 0.0274 0.0133

Saturn -42845-10-06 10:04 J -13927434.15 -13927434.08 -13927433.99 0.0274 0.0226

Earth -42844-09-22 02:52 J -13927083.50 -13927083.38 -13927083.27 0.2665 0.0880

Moon -42844-09-22 03:21 J -13927083.47 -13927083.36 -13927083.24 0.2670 0.0892 *

Jupiter -42843-06-12 09:21 J -13926820.25 -13926820.11 -13926819.97 0.0536 0.0105

Mars -42841-02-15 01:54 J -13926207.54 -13926207.42 -13926207.29 0.1602 0.0700

Earth -42841-03-23 20:09 J -13926169.68 -13926169.66 -13926169.65 0.2664 0.2641

Mars -42839-01-20 16:04 J -13925501.85 -13925501.83 -13925501.80 0.1606 0.1568

Jupiter -42838-10-31 00:14 J -13924853.53 -13924853.49 -13924853.44 0.0495 0.0468

Jupiter -42837-01-28 15:35 J -13924764.00 -13924763.85 -13924763.70 0.0492 0.0114

Moon -42837-09-14 16:33 J -13924533.90 -13924533.81 -13924533.72 0.2663 0.1828

Earth -42837-09-14 17:30 J -13924533.87 -13924533.77 -13924533.68 0.2661 0.1700 *

Mars -42835-09-20 04:18 J -13923798.44 -13923798.32 -13923798.21 0.1925 0.0996

Moon -42834-03-17 00:14 J -13923620.61 -13923620.49 -13923620.36 0.2675 0.0671

Earth -42834-03-17 01:11 J -13923620.58 -13923620.45 -13923620.32 0.2669 0.0535 *

Mars -42832-07-07 09:50 J -13922777.17 -13922777.09 -13922777.00 0.1601 0.1276

Neptune -42832-12-30 19:26 J -13922600.71 -13922600.69 -13922600.64 0.0088 0.0086

Uranus -42831-02-05 06:14 J -13922564.31 -13922564.24 -13922564.14 0.0146 0.0125

Neptune -42831-03-28 21:35 J -13922512.66 -13922512.60 -13922512.51 0.0088 0.0078

Jupiter -42831-03-31 11:16 J -13922510.17 -13922510.03 -13922509.88 0.0535 0.0062

Saturn -42831-05-02 20:38 J -13922477.73 -13922477.64 -13922477.54 0.0286 0.0231

Uranus -42831-05-04 12:28 J -13922476.09 -13922475.98 -13922475.85 0.0146 0.0097

Neptune -42831-06-24 23:45 J -13922424.59 -13922424.51 -13922424.40 0.0088 0.0071

Saturn -42831-07-30 14:09 J -13922389.06 -13922388.91 -13922388.76 0.0285 0.0114

Uranus -42831-07-31 18:42 J -13922387.86 -13922387.72 -13922387.57 0.0146 0.0068

Neptune -42831-09-21 02:09 J -13922336.52 -13922336.41 -13922336.30 0.0088 0.0064

Earth -42831-09-24 23:16 J -13922332.62 -13922332.53 -13922332.44 0.2667 0.1744

Moon -42831-09-25 00:14 J -13922332.58 -13922332.49 -13922332.41 0.2668 0.1800 *

Saturn -42831-10-27 07:54 J -13922300.33 -13922300.17 -13922300.01 0.0285 0.0007

Uranus -42831-10-28 01:11 J -13922299.61 -13922299.45 -13922299.29 0.0146 0.0039

Neptune -42831-12-18 04:18 J -13922248.44 -13922248.32 -13922248.20 0.0088 0.0056

Saturn -42830-01-24 01:54 J -13922211.56 -13922211.42 -13922211.27 0.0285 0.0131

Uranus -42830-01-24 07:26 J -13922211.35 -13922211.19 -13922211.02 0.0146 0.0011 *

Neptune -42830-03-16 06:14 J -13922160.36 -13922160.24 -13922160.10 0.0088 0.0050

Uranus -42830-04-22 13:54 J -13922123.09 -13922122.92 -13922122.75 0.0146 0.0019

Saturn -42830-04-22 20:23 J -13922122.71 -13922122.65 -13922122.57 0.0285 0.0256

Neptune -42830-06-12 08:23 J -13922072.28 -13922072.15 -13922072.00 0.0088 0.0043

Mars -42830-06-13 00:57 J -13922071.56 -13922071.46 -13922071.36 0.1604 0.1036

Uranus -42830-07-19 20:09 J -13922034.81 -13922034.66 -13922034.49 0.0146 0.0050

Neptune -42830-09-08 10:33 J -13921984.20 -13921984.06 -13921983.91 0.0088 0.0035

Uranus -42830-10-16 02:38 J -13921946.52 -13921946.39 -13921946.24 0.0146 0.0080

Neptune -42830-12-05 12:42 J -13921896.11 -13921895.97 -13921895.82 0.0088 0.0028

Uranus -42829-01-12 09:21 J -13921858.22 -13921858.11 -13921857.99 0.0146 0.0109

Neptune -42829-03-02 14:52 J -13921808.03 -13921807.88 -13921807.73 0.0088 0.0021

Uranus -42829-04-09 16:04 J -13921769.88 -13921769.83 -13921769.78 0.0146 0.0140

Neptune -42829-05-29 17:02 J -13921719.94 -13921719.79 -13921719.64 0.0088 0.0014

Neptune -42829-08-25 18:57 J -13921631.86 -13921631.71 -13921631.55 0.0088 0.0007

Neptune -42829-11-21 21:06 J -13921543.77 -13921543.62 -13921543.46 0.0088 0.0001

Neptune -42828-02-17 23:16 J -13921455.69 -13921455.53 -13921455.38 0.0088 0.0008

Neptune -42828-05-17 01:11 J -13921367.60 -13921367.45 -13921367.30 0.0088 0.0014

Neptune -42828-08-13 03:06 J -13921279.51 -13921279.37 -13921279.21 0.0088 0.0021

Neptune -42828-11-09 05:02 J -13921191.43 -13921191.29 -13921191.13 0.0088 0.0028

Neptune -42827-02-05 07:11 J -13921103.34 -13921103.20 -13921103.06 0.0088 0.0035

Neptune -42827-05-04 09:06 J -13921015.25 -13921015.12 -13921014.98 0.0088 0.0042

Neptune -42827-07-31 11:02 J -13920927.16 -13920927.04 -13920926.90 0.0088 0.0049

Neptune -42827-10-27 12:57 J -13920839.07 -13920838.96 -13920838.83 0.0088 0.0056

Neptune -42826-01-23 14:52 J -13920750.97 -13920750.88 -13920750.76 0.0088 0.0062

Neptune -42826-04-21 17:02 J -13920662.88 -13920662.79 -13920662.69 0.0088 0.0069

Neptune -42826-07-18 18:57 J -13920574.78 -13920574.71 -13920574.63 0.0088 0.0076

Neptune -42826-10-14 20:38 J -13920486.68 -13920486.64 -13920486.57 0.0088 0.0083

Jupiter -42826-11-16 17:16 J -13920453.94 -13920453.78 -13920453.63 0.0493 0.0033

Mars -42825-02-10 06:28 J -13920368.36 -13920368.23 -13920368.09 0.1927 0.0117

Moon -42824-09-17 14:09 J -13919783.03 -13919782.91 -13919782.80 0.2668 0.0743

Earth -42824-09-17 14:38 J -13919783.01 -13919782.89 -13919782.78 0.2663 0.0771 *

Venus -42824-10-23 09:06 J -13919747.15 -13919747.12 -13919747.09 0.3719 0.3563

Moon -42821-03-19 00:57 J -13918869.59 -13918869.46 -13918869.33 0.2674 0.0629

Earth -42821-03-19 00:57 J -13918869.59 -13918869.46 -13918869.32 0.2668 0.0565 *

Mars -42821-11-02 09:21 J -13918641.24 -13918641.11 -13918640.98 0.1603 0.0490

Jupiter -42819-01-17 12:57 J -13918200.09 -13918199.96 -13918199.83 0.0534 0.0230

Jupiter -42819-04-17 05:16 J -13918110.34 -13918110.28 -13918110.21 0.0537 0.0467

Venus -42818-05-09 10:04 J -13917723.21 -13917723.08 -13917722.95 0.3714 0.0878

Earth -42818-09-27 19:26 J -13917581.72 -13917581.69 -13917581.66 0.2669 0.2585

Moon -42818-09-27 20:09 J -13917581.67 -13917581.66 -13917581.66 0.2664 0.2657 *

Saturn -42816-03-06 05:16 J -13917056.38 -13917056.28 -13917056.17 0.0274 0.0194

Saturn -42816-06-02 19:26 J -13916967.83 -13916967.69 -13916967.55 0.0274 0.0094

Mars -42816-07-02 09:21 J -13916938.21 -13916938.11 -13916938.00 0.1927 0.1180

Saturn -42816-08-30 09:06 J -13916879.27 -13916879.12 -13916878.98 0.0274 0.0009

Saturn -42816-11-26 22:18 J -13916790.70 -13916790.57 -13916790.43 0.0274 0.0101

Saturn -42815-02-23 11:30 J -13916702.12 -13916702.02 -13916701.92 0.0274 0.0195

Moon -42814-03-12 06:57 J -13916320.25 -13916320.21 -13916320.17 0.2669 0.2523

Earth -42814-03-12 07:54 J -13916320.22 -13916320.17 -13916320.12 0.2672 0.2431 *

Jupiter -42814-09-04 18:28 J -13916143.87 -13916143.73 -13916143.59 0.0494 0.0185

Jupiter -42814-12-03 10:33 J -13916054.15 -13916054.06 -13916053.97 0.0491 0.0408

Mars -42811-03-25 17:45 J -13915210.89 -13915210.76 -13915210.62 0.1602 0.0076

Earth -42811-09-20 11:16 J -13915032.15 -13915032.03 -13915031.90 0.2664 0.0167

Moon -42811-09-20 11:30 J -13915032.14 -13915032.02 -13915031.90 0.2671 0.0096 *

Earth -42808-03-22 01:11 J -13914118.55 -13914118.45 -13914118.34 0.2666 0.1685

Moon -42808-03-22 01:54 J -13914118.52 -13914118.42 -13914118.31 0.2672 0.1674 *

Jupiter -42808-11-05 13:54 J -13913890.01 -13913889.92 -13913889.82 0.0533 0.0410

Jupiter -42807-02-03 06:42 J -13913800.33 -13913800.22 -13913800.10 0.0536 0.0293

Moon -42804-09-13 00:28 J -13912482.51 -13912482.48 -13912482.44 0.2658 0.2533

Earth -42804-09-13 01:26 J -13912482.48 -13912482.44 -13912482.40 0.2660 0.2486 *

Venus -42803-06-07 07:11 J -13912215.29 -13912215.20 -13912215.12 0.3659 0.2399

Jupiter -42802-06-23 20:23 J -13911833.77 -13911833.65 -13911833.54 0.0495 0.0327

Mars -42802-08-16 02:09 J -13911780.54 -13911780.41 -13911780.28 0.1602 0.0620

Saturn -42802-09-19 22:33 J -13911745.62 -13911745.56 -13911745.49 0.0285 0.0256

Jupiter -42802-09-21 11:59 J -13911744.13 -13911744.00 -13911743.86 0.0492 0.0262

Saturn -42802-12-17 15:50 J -13911656.97 -13911656.84 -13911656.69 0.0285 0.0139

Moon -42801-03-14 06:14 J -13911569.35 -13911569.24 -13911569.13 0.2671 0.1504

Earth -42801-03-14 07:11 J -13911569.31 -13911569.20 -13911569.09 0.2671 0.1406 *

Saturn -42801-03-15 09:35 J -13911568.26 -13911568.10 -13911567.93 0.0285 0.0020

Saturn -42801-06-12 03:50 J -13911479.49 -13911479.34 -13911479.19 0.0285 0.0104

Saturn -42801-09-08 22:18 J -13911390.67 -13911390.57 -13911390.47 0.0285 0.0229

Pluto -42798-07-30 15:06 J -13910335.88 -13910335.87 -13910335.82 0.0065 0.0064

Earth -42798-09-23 07:54 J -13910281.28 -13910281.17 -13910281.05 0.2666 0.1031

Moon -42798-09-23 08:38 J -13910281.24 -13910281.14 -13910281.03 0.2669 0.1151 *

Pluto -42798-10-26 16:18 J -13910247.87 -13910247.82 -13910247.73 0.0065 0.0059

Venus -42798-12-22 00:42 J -13910191.58 -13910191.47 -13910191.36 0.3663 0.0131

Pluto -42797-01-22 17:30 J -13910159.84 -13910159.77 -13910159.66 0.0065 0.0055

Pluto -42797-04-19 18:42 J -13910071.81 -13910071.72 -13910071.59 0.0065 0.0050

Pluto -42797-07-16 19:54 J -13909983.77 -13909983.67 -13909983.52 0.0065 0.0045

Pluto -42797-10-12 21:35 J -13909895.73 -13909895.60 -13909895.46 0.0066 0.0039

Pluto -42796-01-08 22:47 J -13909807.69 -13909807.55 -13909807.40 0.0066 0.0034

Pluto -42796-04-06 23:59 J -13909719.65 -13909719.50 -13909719.34 0.0066 0.0029

Pluto -42796-07-04 01:11 J -13909631.60 -13909631.45 -13909631.28 0.0066 0.0024

Pluto -42796-09-30 02:23 J -13909543.55 -13909543.40 -13909543.23 0.0066 0.0019

Jupiter -42796-11-22 07:26 J -13909490.33 -13909490.19 -13909490.05 0.0536 0.0103

Pluto -42796-12-27 03:50 J -13909455.50 -13909455.34 -13909455.17 0.0066 0.0013

Mars -42795-03-21 04:18 J -13909371.43 -13909371.32 -13909371.21 0.1926 0.1092

Pluto -42795-03-25 05:02 J -13909367.45 -13909367.29 -13909367.12 0.0066 0.0008

Pluto -42795-06-21 06:28 J -13909279.40 -13909279.23 -13909279.06 0.0066 0.0003

Pluto -42795-09-17 07:40 J -13909191.35 -13909191.18 -13909191.01 0.0066 0.0003

Pluto -42795-12-14 08:52 J -13909103.29 -13909103.13 -13909102.95 0.0066 0.0009

Pluto -42794-03-12 10:18 J -13909015.24 -13909015.07 -13909014.90 0.0067 0.0014

Pluto -42794-06-08 11:45 J -13908927.18 -13908927.01 -13908926.85 0.0067 0.0019

Pluto -42794-09-04 12:42 J -13908839.12 -13908838.97 -13908838.80 0.0067 0.0025

Pluto -42794-12-01 14:23 J -13908751.05 -13908750.90 -13908750.75 0.0067 0.0030

Pluto -42793-02-27 15:21 J -13908662.99 -13908662.86 -13908662.70 0.0067 0.0036

Pluto -42793-05-25 17:02 J -13908574.92 -13908574.79 -13908574.65 0.0067 0.0042

Pluto -42793-08-21 18:14 J -13908486.85 -13908486.74 -13908486.61 0.0067 0.0047

Pluto -42793-11-17 19:26 J -13908398.77 -13908398.69 -13908398.57 0.0067 0.0053

Mars -42792-01-05 10:18 J -13908350.17 -13908350.07 -13908349.98 0.1602 0.1190

Pluto -42792-02-13 21:21 J -13908310.69 -13908310.61 -13908310.53 0.0067 0.0059

Pluto -42792-05-12 22:33 J -13908222.60 -13908222.56 -13908222.51 0.0067 0.0065

Venus -42792-07-06 17:59 J -13908167.82 -13908167.75 -13908167.67 0.3668 0.2595

Moon -42791-09-15 21:50 J -13907731.69 -13907731.59 -13907731.49 0.2663 0.1564

Earth -42791-09-15 22:47 J -13907731.65 -13907731.55 -13907731.45 0.2661 0.1535 *

Mars -42791-12-12 00:57 J -13907644.55 -13907644.46 -13907644.36 0.1604 0.1114

Uranus -42790-03-11 18:57 J -13907554.75 -13907554.71 -13907554.64 0.0132 0.0123

Jupiter -42790-04-11 22:47 J -13907523.60 -13907523.55 -13907523.50 0.0495 0.0462

Uranus -42790-06-07 23:02 J -13907466.63 -13907466.54 -13907466.44 0.0132 0.0103

Jupiter -42790-07-10 14:09 J -13907434.07 -13907433.91 -13907433.76 0.0493 0.0121

Uranus -42790-09-04 02:52 J -13907378.49 -13907378.38 -13907378.25 0.0132 0.0083

Uranus -42790-12-01 06:57 J -13907290.34 -13907290.21 -13907290.08 0.0132 0.0063

Uranus -42789-02-27 10:47 J -13907202.19 -13907202.05 -13907201.91 0.0132 0.0044

Uranus -42789-05-25 14:38 J -13907114.03 -13907113.89 -13907113.74 0.0132 0.0025

Uranus -42789-08-21 18:28 J -13907025.87 -13907025.73 -13907025.58 0.0132 0.0006

Uranus -42789-11-17 22:18 J -13906937.72 -13906937.57 -13906937.42 0.0132 0.0014

Uranus -42788-02-14 02:09 J -13906849.55 -13906849.41 -13906849.27 0.0132 0.0033

Moon -42788-03-17 05:59 J -13906818.38 -13906818.25 -13906818.12 0.2674 0.0337

Earth -42788-03-17 06:42 J -13906818.35 -13906818.22 -13906818.08 0.2669 0.0348 *

Uranus -42788-05-13 05:45 J -13906761.39 -13906761.26 -13906761.12 0.0132 0.0052

Uranus -42788-08-09 09:21 J -13906673.22 -13906673.11 -13906672.98 0.0132 0.0071

Uranus -42788-11-05 13:11 J -13906585.05 -13906584.95 -13906584.84 0.0132 0.0089

Uranus -42787-02-01 16:47 J -13906496.88 -13906496.80 -13906496.71 0.0132 0.0107

Uranus -42787-04-30 20:23 J -13906408.69 -13906408.65 -13906408.60 0.0132 0.0126

Saturn -42787-07-24 08:09 J -13906324.25 -13906324.16 -13906324.07 0.0273 0.0214

Saturn -42787-10-20 22:04 J -13906235.71 -13906235.58 -13906235.44 0.0273 0.0115

Saturn -42786-01-17 11:45 J -13906147.16 -13906147.01 -13906146.86 0.0273 0.0016

Saturn -42786-04-16 01:11 J -13906058.59 -13906058.45 -13906058.31 0.0273 0.0080

Saturn -42786-07-13 14:09 J -13905970.01 -13905969.91 -13905969.79 0.0274 0.0175

Mars -42786-08-11 06:57 J -13905941.35 -13905941.21 -13905941.08 0.1927 0.0032

Saturn -42786-10-10 03:06 J -13905881.39 -13905881.37 -13905881.34 0.0274 0.0267

Earth -42785-09-25 04:18 J -13905530.40 -13905530.32 -13905530.23 0.2667 0.1897

Moon -42785-09-25 05:16 J -13905530.36 -13905530.28 -13905530.20 0.2668 0.1950 *

Jupiter -42784-09-10 09:06 J -13905180.27 -13905180.12 -13905179.98 0.0535 0.0067

Mars -42781-05-03 09:35 J -13904214.22 -13904214.10 -13904213.97 0.1603 0.0576

Jupiter -42778-04-28 15:50 J -13903124.00 -13903123.84 -13903123.69 0.0493 0.0028

Moon -42778-09-18 19:26 J -13902980.81 -13902980.69 -13902980.57 0.2669 0.0688

Earth -42778-09-18 19:40 J -13902980.80 -13902980.68 -13902980.55 0.2663 0.0611 *

Mars -42777-12-31 09:35 J -13902511.21 -13902511.10 -13902510.99 0.1927 0.1081

Moon -42775-03-20 06:42 J -13902067.35 -13902067.22 -13902067.09 0.2674 0.0688

Earth -42775-03-20 06:42 J -13902067.35 -13902067.22 -13902067.09 0.2667 0.0752 *

Saturn -42772-05-05 14:52 J -13900925.00 -13900924.88 -13900924.76 0.0286 0.0184

Jupiter -42772-06-29 11:02 J -13900870.17 -13900870.04 -13900869.91 0.0534 0.0234

Saturn -42772-08-02 08:23 J -13900836.31 -13900836.15 -13900836.00 0.0285 0.0065

Mars -42772-09-23 17:59 J -13900783.88 -13900783.75 -13900783.61 0.1603 0.0055

Jupiter -42772-09-27 03:21 J -13900780.43 -13900780.36 -13900780.29 0.0537 0.0465

Saturn -42772-10-30 02:09 J -13900747.57 -13900747.41 -13900747.25 0.0285 0.0057

Saturn -42771-01-26 20:23 J -13900658.77 -13900658.65 -13900658.52 0.0285 0.0181

Moon -42768-03-12 12:28 J -13899518.05 -13899517.98 -13899517.91 0.2668 0.2272

Earth -42768-03-12 13:26 J -13899518.01 -13899517.94 -13899517.87 0.2672 0.2255 *

Venus -42767-05-30 08:52 J -13899074.24 -13899074.13 -13899074.02 0.3718 0.2010

Jupiter -42766-02-14 17:30 J -13898813.92 -13898813.77 -13898813.62 0.0494 0.0169

Jupiter -42766-05-15 09:35 J -13898724.18 -13898724.10 -13898724.02 0.0491 0.0422

Earth -42765-09-20 16:33 J -13898229.93 -13898229.81 -13898229.69 0.2664 0.0308

Moon -42765-09-20 16:47 J -13898229.92 -13898229.80 -13898229.68 0.2671 0.0389 *

Mars -42762-02-14 02:23 J -13897353.53 -13897353.40 -13897353.27 0.1602 0.0538

Earth -42762-03-23 06:57 J -13897316.30 -13897316.21 -13897316.11 0.2666 0.1884

Moon -42762-03-23 07:40 J -13897316.26 -13897316.18 -13897316.09 0.2671 0.2020 *

Venus -42762-12-14 09:50 J -13897050.18 -13897050.09 -13897049.99 0.3712 0.2496

Jupiter -42760-04-17 12:42 J -13896560.07 -13896559.97 -13896559.88 0.0533 0.0403

Jupiter -42760-07-16 05:30 J -13896470.39 -13896470.27 -13896470.15 0.0536 0.0301

Moon -42758-09-14 05:45 J -13895680.31 -13895680.26 -13895680.21 0.2659 0.2427

Earth -42758-09-14 06:42 J -13895680.28 -13895680.22 -13895680.16 0.2660 0.2316 *

Saturn -42758-12-11 08:38 J -13895592.20 -13895592.14 -13895592.08 0.0274 0.0251

Saturn -42757-03-08 22:33 J -13895503.68 -13895503.56 -13895503.43 0.0274 0.0151

Saturn -42757-06-05 12:28 J -13895415.12 -13895414.98 -13895414.83 0.0274 0.0051

Saturn -42757-09-02 01:54 J -13895326.56 -13895326.42 -13895326.27 0.0274 0.0046

Saturn -42757-11-29 15:06 J -13895237.99 -13895237.87 -13895237.74 0.0274 0.0142

Saturn -42756-02-26 04:04 J -13895149.39 -13895149.33 -13895149.25 0.0274 0.0235

Mars -42756-09-19 04:33 J -13894944.41 -13894944.31 -13894944.20 0.1925 0.1203

Moon -42755-03-15 11:45 J -13894767.13 -13894767.01 -13894766.90 0.2673 0.1308

Earth -42755-03-15 12:42 J -13894767.09 -13894766.97 -13894766.85 0.2670 0.1224 *

Jupiter -42755-12-03 18:57 J -13894503.83 -13894503.71 -13894503.60 0.0495 0.0320

Jupiter -42754-03-03 10:33 J -13894414.19 -13894414.06 -13894413.93 0.0492 0.0268

Mars -42753-07-06 10:18 J -13893923.16 -13893923.07 -13893922.97 0.1602 0.1108

Earth -42752-09-23 13:11 J -13893479.06 -13893478.95 -13893478.84 0.2666 0.1188

Moon -42752-09-23 14:09 J -13893479.02 -13893478.91 -13893478.81 0.2669 0.1185 *

Mars -42751-06-12 01:11 J -13893217.54 -13893217.45 -13893217.36 0.1604 0.1191

Neptune -42750-09-26 02:23 J -13892746.43 -13892746.40 -13892746.33 0.0089 0.0084

Neptune -42750-12-23 04:33 J -13892658.37 -13892658.31 -13892658.22 0.0089 0.0077

Neptune -42749-03-20 06:42 J -13892570.30 -13892570.22 -13892570.11 0.0089 0.0070

Neptune -42749-06-16 08:52 J -13892482.23 -13892482.13 -13892482.01 0.0089 0.0063

Neptune -42749-09-12 11:02 J -13892394.15 -13892394.04 -13892393.90 0.0089 0.0056

Neptune -42749-12-09 13:11 J -13892306.07 -13892305.95 -13892305.81 0.0089 0.0049

Neptune -42748-03-07 15:21 J -13892217.99 -13892217.86 -13892217.71 0.0089 0.0042

Jupiter -42748-05-04 06:57 J -13892160.35 -13892160.21 -13892160.07 0.0535 0.0126

Neptune -42748-06-03 17:45 J -13892129.90 -13892129.76 -13892129.61 0.0089 0.0034

Neptune -42748-08-30 19:54 J -13892041.81 -13892041.67 -13892041.51 0.0089 0.0027

Neptune -42748-11-26 22:04 J -13891953.73 -13891953.58 -13891953.42 0.0089 0.0020

Neptune -42747-02-23 00:28 J -13891865.64 -13891865.48 -13891865.32 0.0089 0.0013

Uranus -42747-02-25 13:11 J -13891863.03 -13891862.95 -13891862.84 0.0146 0.0119

Neptune -42747-05-22 02:38 J -13891777.55 -13891777.39 -13891777.23 0.0089 0.0006

Uranus -42747-05-24 19:40 J -13891774.81 -13891774.68 -13891774.55 0.0146 0.0090

Neptune -42747-08-18 05:02 J -13891689.45 -13891689.29 -13891689.13 0.0089 0.0003

Uranus -42747-08-21 01:40 J -13891686.57 -13891686.43 -13891686.27 0.0146 0.0062

Neptune -42747-11-14 07:11 J -13891601.36 -13891601.20 -13891601.04 0.0089 0.0009

Uranus -42747-11-17 08:09 J -13891598.32 -13891598.16 -13891598.00 0.0146 0.0033

Venus -42746-01-12 05:02 J -13891542.39 -13891542.29 -13891542.19 0.3660 0.1435

Mars -42746-02-09 06:57 J -13891514.35 -13891514.21 -13891514.08 0.1926 0.0111

Neptune -42746-02-10 09:21 J -13891513.26 -13891513.11 -13891512.95 0.0089 0.0017

Uranus -42746-02-13 14:23 J -13891510.06 -13891509.90 -13891509.73 0.0146 0.0005

Neptune -42746-05-09 11:30 J -13891425.17 -13891425.02 -13891424.86 0.0089 0.0024

Uranus -42746-05-12 20:52 J -13891421.79 -13891421.63 -13891421.46 0.0146 0.0026

Neptune -42746-08-05 13:40 J -13891337.07 -13891336.93 -13891336.77 0.0089 0.0032

Uranus -42746-08-09 03:21 J -13891333.52 -13891333.36 -13891333.20 0.0146 0.0056

Neptune -42746-11-01 16:04 J -13891248.97 -13891248.83 -13891248.68 0.0089 0.0039

Uranus -42746-11-05 09:50 J -13891245.23 -13891245.09 -13891244.95 0.0146 0.0086

Neptune -42745-01-28 18:28 J -13891160.86 -13891160.73 -13891160.59 0.0089 0.0046

Uranus -42745-02-01 16:04 J -13891156.92 -13891156.83 -13891156.71 0.0146 0.0117

Neptune -42745-04-25 20:38 J -13891072.76 -13891072.64 -13891072.50 0.0089 0.0054

Uranus -42745-04-29 23:02 J -13891068.54 -13891068.54 -13891068.54 0.0146 0.0146

Neptune -42745-07-22 23:16 J -13890984.65 -13890984.53 -13890984.41 0.0089 0.0061

Moon -42745-09-16 03:06 J -13890929.47 -13890929.37 -13890929.26 0.2664 0.1448

Earth -42745-09-16 04:04 J -13890929.44 -13890929.33 -13890929.22 0.2662 0.1365 *

Neptune -42745-10-19 01:11 J -13890896.53 -13890896.45 -13890896.33 0.0089 0.0069

Neptune -42744-01-15 03:35 J -13890808.42 -13890808.35 -13890808.26 0.0089 0.0077

Neptune -42744-04-13 05:59 J -13890720.29 -13890720.25 -13890720.19 0.0089 0.0084

Jupiter -42743-09-21 20:52 J -13890193.68 -13890193.63 -13890193.57 0.0495 0.0460

Saturn -42743-09-22 16:04 J -13890192.93 -13890192.83 -13890192.72 0.0285 0.0212

Saturn -42743-12-20 09:35 J -13890104.25 -13890104.10 -13890103.95 0.0285 0.0094

Jupiter -42743-12-20 12:14 J -13890104.14 -13890103.99 -13890103.84 0.0493 0.0123 *

Moon -42742-03-18 11:45 J -13890016.14 -13890016.01 -13890015.88 0.2674 0.0256

Earth -42742-03-18 12:28 J -13890016.12 -13890015.98 -13890015.85 0.2669 0.0158 *

Saturn -42742-03-19 03:21 J -13890015.52 -13890015.36 -13890015.20 0.0285 0.0028

Saturn -42742-06-15 21:35 J -13889926.74 -13889926.60 -13889926.46 0.0285 0.0151

Saturn -42742-09-12 16:04 J -13889837.85 -13889837.83 -13889837.78 0.0285 0.0277

Mars -42742-11-02 09:50 J -13889787.21 -13889787.09 -13889786.96 0.1604 0.0654

Venus -42741-07-27 22:33 J -13889518.67 -13889518.56 -13889518.45 0.3664 0.1063

Earth -42739-09-26 09:35 J -13888728.18 -13888728.10 -13888728.03 0.2668 0.2045

Moon -42739-09-26 10:18 J -13888728.14 -13888728.07 -13888728.00 0.2666 0.2139 *

Mars -42737-07-01 09:50 J -13888084.21 -13888084.09 -13888083.97 0.1928 0.0969

Jupiter -42736-02-20 07:11 J -13887850.34 -13887850.20 -13887850.05 0.0535 0.0067

Venus -42735-02-10 16:04 J -13887494.86 -13887494.83 -13887494.81 0.3669 0.3520

Mars -42732-03-24 18:14 J -13886356.87 -13886356.74 -13886356.60 0.1603 0.0111

Moon -42732-09-19 00:42 J -13886178.59 -13886178.47 -13886178.35 0.2670 0.0415

Earth -42732-09-19 00:57 J -13886178.58 -13886178.46 -13886178.33 0.2663 0.0447 *

Jupiter -42731-10-08 14:23 J -13885794.06 -13885793.90 -13885793.75 0.0493 0.0019

Earth -42729-03-20 12:28 J -13885265.11 -13885264.98 -13885264.86 0.2667 0.0949

Moon -42729-03-20 12:42 J -13885265.10 -13885264.97 -13885264.85 0.2674 0.1044 *

Saturn -42728-04-29 11:16 J -13884860.04 -13884860.03 -13884860.02 0.0273 0.0272

Saturn -42728-07-27 01:26 J -13884771.56 -13884771.44 -13884771.33 0.0273 0.0172

Saturn -42728-10-23 15:06 J -13884683.01 -13884682.87 -13884682.72 0.0273 0.0073

Saturn -42727-01-20 04:47 J -13884594.45 -13884594.30 -13884594.16 0.0273 0.0025

Saturn -42727-04-18 17:59 J -13884505.88 -13884505.75 -13884505.62 0.0273 0.0121

Saturn -42727-07-16 06:57 J -13884417.29 -13884417.21 -13884417.12 0.0274 0.0214

Jupiter -42725-12-09 08:52 J -13883540.26 -13883540.13 -13883540.00 0.0534 0.0239

Jupiter -42724-03-09 01:11 J -13883450.52 -13883450.45 -13883450.37 0.0537 0.0460

Mars -42723-08-15 02:38 J -13882926.52 -13882926.39 -13882926.26 0.1602 0.0451

Moon -42722-03-13 17:59 J -13882715.82 -13882715.75 -13882715.67 0.2669 0.2196

Earth -42722-03-13 18:57 J -13882715.79 -13882715.71 -13882715.62 0.2672 0.2073 *

Jupiter -42719-07-27 16:04 J -13881483.97 -13881483.83 -13881483.68 0.0494 0.0160

Earth -42719-09-21 21:50 J -13881427.71 -13881427.59 -13881427.47 0.2665 0.0463

Moon -42719-09-21 22:18 J -13881427.69 -13881427.57 -13881427.45 0.2670 0.0437 *

Jupiter -42719-10-25 08:09 J -13881394.23 -13881394.16 -13881394.09 0.0491 0.0432

Mars -42716-03-20 04:47 J -13880517.39 -13880517.30 -13880517.20 0.1925 0.1316

Earth -42716-03-23 12:42 J -13880514.05 -13880513.97 -13880513.89 0.2665 0.2083

Moon -42716-03-23 13:40 J -13880514.02 -13880513.93 -13880513.85 0.2669 0.2070 *

Mars -42713-01-05 10:47 J -13879496.16 -13879496.05 -13879495.95 0.1602 0.1022

Saturn -42713-02-09 14:52 J -13879460.94 -13879460.88 -13879460.80 0.0286 0.0257

Saturn -42713-05-08 08:23 J -13879372.29 -13879372.15 -13879372.01 0.0286 0.0139

Saturn -42713-08-05 02:09 J -13879283.57 -13879283.41 -13879283.25 0.0285 0.0020

Jupiter -42713-09-27 10:33 J -13879230.15 -13879230.06 -13879229.96 0.0534 0.0406

Saturn -42713-11-01 20:09 J -13879194.81 -13879194.66 -13879194.51 0.0285 0.0103

Jupiter -42713-12-26 03:35 J -13879140.47 -13879140.35 -13879140.23 0.0537 0.0299

Saturn -42712-01-29 14:38 J -13879105.99 -13879105.89 -13879105.79 0.0285 0.0229

Moon -42712-09-14 11:02 J -13878878.11 -13878878.04 -13878877.97 0.2659 0.2168

Earth -42712-09-14 11:59 J -13878878.07 -13878878.00 -13878877.92 0.2660 0.2147 *

Mars -42712-12-11 01:26 J -13878790.52 -13878790.44 -13878790.36 0.1605 0.1274

Venus -42710-01-04 08:38 J -13878401.27 -13878401.14 -13878401.01 0.3717 0.0466

Pluto -42710-02-26 07:40 J -13878348.23 -13878348.18 -13878348.11 0.0079 0.0072

Pluto -42710-05-25 09:06 J -13878260.19 -13878260.12 -13878260.02 0.0079 0.0064

Pluto -42710-08-21 11:02 J -13878172.15 -13878172.04 -13878171.94 0.0079 0.0056

Pluto -42710-11-17 12:28 J -13878084.10 -13878083.98 -13878083.86 0.0079 0.0047

Pluto -42709-02-13 13:54 J -13877996.04 -13877995.92 -13877995.79 0.0079 0.0039

Moon -42709-03-15 17:16 J -13877964.90 -13877964.78 -13877964.66 0.2673 0.1081

Earth -42709-03-15 18:28 J -13877964.86 -13877964.73 -13877964.61 0.2670 0.1039 *

Pluto -42709-05-11 15:35 J -13877907.99 -13877907.85 -13877907.72 0.0079 0.0031

Pluto -42709-08-07 16:47 J -13877819.93 -13877819.80 -13877819.65 0.0079 0.0024

Pluto -42709-11-03 18:28 J -13877731.88 -13877731.73 -13877731.59 0.0079 0.0015

Pluto -42708-01-30 19:54 J -13877643.82 -13877643.67 -13877643.52 0.0078 0.0008

Pluto -42708-04-28 21:21 J -13877555.76 -13877555.61 -13877555.46 0.0078 0.0000

Pluto -42708-07-25 22:47 J -13877467.70 -13877467.55 -13877467.40 0.0078 0.0008

Pluto -42708-10-21 23:59 J -13877379.64 -13877379.50 -13877379.35 0.0078 0.0016

Pluto -42707-01-18 01:26 J -13877291.58 -13877291.44 -13877291.29 0.0078 0.0023

Pluto -42707-04-16 02:38 J -13877203.51 -13877203.39 -13877203.24 0.0078 0.0031

Jupiter -42707-05-15 17:59 J -13877173.87 -13877173.75 -13877173.62 0.0494 0.0302

Pluto -42707-07-13 04:18 J -13877115.45 -13877115.32 -13877115.19 0.0078 0.0038

Mars -42707-08-10 07:11 J -13877087.34 -13877087.20 -13877087.07 0.1926 0.0203

Jupiter -42707-08-13 09:35 J -13877084.22 -13877084.10 -13877083.97 0.0492 0.0285

Pluto -42707-10-09 05:16 J -13877027.38 -13877027.28 -13877027.15 0.0077 0.0046

Pluto -42706-01-05 06:42 J -13876939.31 -13876939.22 -13876939.10 0.0077 0.0053

Uranus -42706-04-01 01:54 J -13876853.49 -13876853.42 -13876853.36 0.0132 0.0119

Pluto -42706-04-03 08:23 J -13876851.24 -13876851.15 -13876851.06 0.0077 0.0060

Uranus -42706-06-28 05:30 J -13876765.35 -13876765.27 -13876765.16 0.0132 0.0100

Pluto -42706-06-30 09:21 J -13876763.17 -13876763.11 -13876763.03 0.0077 0.0067

Uranus -42706-09-24 09:35 J -13876677.21 -13876677.10 -13876676.97 0.0132 0.0080

Earth -42706-09-24 18:28 J -13876676.84 -13876676.73 -13876676.63 0.2666 0.1343

Moon -42706-09-24 19:11 J -13876676.80 -13876676.70 -13876676.60 0.2670 0.1475 *

Pluto -42706-09-26 10:33 J -13876675.08 -13876675.06 -13876675.00 0.0077 0.0074

Uranus -42706-12-21 13:40 J -13876589.06 -13876588.93 -13876588.80 0.0132 0.0060

Uranus -42705-03-18 17:30 J -13876500.91 -13876500.77 -13876500.63 0.0132 0.0040

Uranus -42705-06-14 21:21 J -13876412.75 -13876412.61 -13876412.46 0.0132 0.0021

Uranus -42705-09-11 01:11 J -13876324.60 -13876324.45 -13876324.30 0.0132 0.0002

Uranus -42705-12-08 05:02 J -13876236.44 -13876236.29 -13876236.14 0.0132 0.0017

Uranus -42704-03-06 08:38 J -13876148.27 -13876148.14 -13876147.99 0.0132 0.0037

Mars -42704-05-27 18:42 J -13876065.73 -13876065.72 -13876065.72 0.1602 0.1600

Uranus -42704-06-02 12:28 J -13876060.11 -13876059.98 -13876059.84 0.0132 0.0055

Uranus -42704-08-29 16:04 J -13875971.94 -13875971.83 -13875971.70 0.0132 0.0074

Uranus -42704-11-25 19:54 J -13875883.77 -13875883.67 -13875883.57 0.0132 0.0092

Uranus -42703-02-21 23:16 J -13875795.59 -13875795.53 -13875795.44 0.0132 0.0111

Uranus -42703-05-21 03:06 J -13875707.39 -13875707.37 -13875707.34 0.0132 0.0129

Mars -42702-05-03 10:04 J -13875360.20 -13875360.08 -13875359.96 0.1603 0.0733

Jupiter -42701-10-14 05:30 J -13874830.41 -13874830.27 -13874830.13 0.0536 0.0136

Moon -42699-09-17 08:38 J -13874127.25 -13874127.14 -13874127.03 0.2666 0.1270

Earth -42699-09-17 09:21 J -13874127.22 -13874127.11 -13874127.00 0.2662 0.1200 *

Saturn -42699-12-14 01:26 J -13874039.53 -13874039.44 -13874039.34 0.0273 0.0210

Saturn -42698-03-12 15:21 J -13873950.99 -13873950.86 -13873950.72 0.0273 0.0111

Saturn -42698-06-09 05:16 J -13873862.43 -13873862.28 -13873862.14 0.0274 0.0013

Saturn -42698-09-05 18:28 J -13873773.86 -13873773.73 -13873773.59 0.0274 0.0085

Saturn -42698-12-03 07:40 J -13873685.29 -13873685.18 -13873685.07 0.0274 0.0179

Mars -42698-12-31 09:50 J -13873657.21 -13873657.09 -13873656.97 0.1927 0.0873

Saturn -42697-02-29 20:38 J -13873596.65 -13873596.64 -13873596.63 0.0274 0.0272

Moon -42696-03-18 17:30 J -13873213.90 -13873213.77 -13873213.64 0.2674 0.0032

Earth -42696-03-18 17:59 J -13873213.88 -13873213.75 -13873213.61 0.2668 0.0045 *

Venus -42695-02-02 09:21 J -13872893.17 -13872893.11 -13872893.05 0.3657 0.3025

Jupiter -42695-03-03 19:40 J -13872863.74 -13872863.68 -13872863.62 0.0495 0.0451

Jupiter -42695-06-01 10:47 J -13872774.20 -13872774.05 -13872773.90 0.0493 0.0132

Mars -42693-09-22 18:28 J -13871929.86 -13871929.73 -13871929.59 0.1603 0.0186

Earth -42693-09-26 14:38 J -13871925.95 -13871925.89 -13871925.82 0.2668 0.2200

Moon -42693-09-26 15:35 J -13871925.92 -13871925.85 -13871925.78 0.2665 0.2192 *

Venus -42690-08-19 03:06 J -13870869.49 -13870869.37 -13870869.26 0.3661 0.0502

Jupiter -42689-08-02 06:57 J -13870520.35 -13870520.21 -13870520.06 0.0535 0.0040

Mars -42688-05-22 12:57 J -13870226.97 -13870226.96 -13870226.95 0.1928 0.1917

Moon -42686-09-20 05:59 J -13869376.37 -13869376.25 -13869376.13 0.2670 0.0335

Earth -42686-09-20 06:14 J -13869376.36 -13869376.24 -13869376.11 0.2663 0.0286 *

Venus -42684-03-03 20:23 J -13868845.74 -13868845.65 -13868845.55 0.3665 0.2016

Saturn -42684-09-25 09:06 J -13868640.24 -13868640.12 -13868639.99 0.0285 0.0172

Saturn -42684-12-23 02:38 J -13868551.54 -13868551.39 -13868551.23 0.0285 0.0053

Mars -42683-02-13 02:52 J -13868499.52 -13868499.38 -13868499.25 0.1602 0.0371

Jupiter -42683-03-20 12:42 J -13868464.13 -13868463.97 -13868463.82 0.0493 0.0013

Earth -42683-03-21 17:59 J -13868462.87 -13868462.75 -13868462.62 0.2667 0.1145

Moon -42683-03-21 18:28 J -13868462.86 -13868462.73 -13868462.61 0.2674 0.1105 *

Saturn -42683-03-21 20:38 J -13868462.80 -13868462.64 -13868462.48 0.0285 0.0070 *

Saturn -42683-06-18 15:06 J -13868373.99 -13868373.87 -13868373.75 0.0285 0.0194

Jupiter -42677-05-21 07:11 J -13866210.33 -13866210.20 -13866210.07 0.0534 0.0233

Jupiter -42677-08-18 23:45 J -13866120.58 -13866120.51 -13866120.44 0.0537 0.0464

Mars -42677-09-18 05:02 J -13866090.38 -13866090.29 -13866090.20 0.1925 0.1413

Moon -42676-03-13 23:30 J -13865913.61 -13865913.52 -13865913.43 0.2671 0.1888

Earth -42676-03-14 00:42 J -13865913.57 -13865913.47 -13865913.38 0.2671 0.1896 *

Mars -42674-07-06 11:02 J -13865069.15 -13865069.04 -13865068.93 0.1602 0.0936

Earth -42673-09-22 03:06 J -13864625.49 -13864625.37 -13864625.25 0.2665 0.0623

Moon -42673-09-22 03:35 J -13864625.47 -13864625.35 -13864625.23 0.2670 0.0719 *

Mars -42672-06-11 01:40 J -13864363.50 -13864363.43 -13864363.36 0.1605 0.1350

Jupiter -42671-01-06 14:52 J -13864154.03 -13864153.88 -13864153.73 0.0494 0.0150

Jupiter -42671-04-06 06:57 J -13864064.28 -13864064.21 -13864064.14 0.0492 0.0443

Earth -42670-03-24 18:28 J -13863711.80 -13863711.73 -13863711.66 0.2665 0.2282

Moon -42670-03-24 19:26 J -13863711.74 -13863711.69 -13863711.63 0.2668 0.2444 *

Saturn -42669-05-02 04:18 J -13863307.40 -13863307.32 -13863307.24 0.0273 0.0231

Saturn -42669-07-29 18:14 J -13863218.87 -13863218.74 -13863218.61 0.0273 0.0131

Saturn -42669-10-26 07:54 J -13863130.31 -13863130.17 -13863130.02 0.0273 0.0033

Saturn -42668-01-22 21:21 J -13863041.75 -13863041.61 -13863041.46 0.0273 0.0065

Saturn -42668-04-21 10:33 J -13862953.17 -13862953.06 -13862952.94 0.0274 0.0159

Saturn -42668-07-18 23:30 J -13862864.57 -13862864.52 -13862864.46 0.0274 0.0252

Mars -42667-02-08 07:26 J -13862660.32 -13862660.19 -13862660.05 0.1926 0.0319

Neptune -42667-06-30 17:16 J -13862517.80 -13862517.78 -13862517.77 0.0088 0.0088

Neptune -42667-09-26 19:11 J -13862429.75 -13862429.70 -13862429.63 0.0088 0.0081

Neptune -42667-12-23 21:21 J -13862341.69 -13862341.61 -13862341.51 0.0088 0.0073

Neptune -42666-03-21 23:30 J -13862253.61 -13862253.52 -13862253.41 0.0088 0.0066

Neptune -42666-06-18 01:54 J -13862165.54 -13862165.42 -13862165.30 0.0088 0.0059

Neptune -42666-09-14 04:04 J -13862077.46 -13862077.33 -13862077.20 0.0088 0.0052

Moon -42666-09-15 16:18 J -13862075.89 -13862075.82 -13862075.74 0.2660 0.2108

Earth -42666-09-15 17:30 J -13862075.86 -13862075.77 -13862075.69 0.2660 0.1978 *

Neptune -42666-12-11 05:59 J -13861989.38 -13861989.25 -13861989.11 0.0088 0.0045

Neptune -42665-03-08 08:09 J -13861901.30 -13861901.16 -13861901.01 0.0088 0.0037

Jupiter -42665-03-09 08:38 J -13861900.23 -13861900.14 -13861900.05 0.0533 0.0408

Neptune -42665-06-04 10:18 J -13861813.21 -13861813.07 -13861812.92 0.0088 0.0030

Jupiter -42665-06-07 01:26 J -13861810.55 -13861810.44 -13861810.32 0.0536 0.0297

Neptune -42665-08-31 12:28 J -13861725.13 -13861724.98 -13861724.82 0.0088 0.0023

Mars -42665-11-25 18:57 J -13861638.75 -13861638.71 -13861638.67 0.1602 0.1512

Neptune -42665-11-27 14:38 J -13861637.04 -13861636.89 -13861636.73 0.0088 0.0016

Neptune -42664-02-23 16:33 J -13861548.96 -13861548.81 -13861548.65 0.0088 0.0010

Neptune -42664-05-22 18:42 J -13861460.87 -13861460.72 -13861460.56 0.0088 0.0003

Neptune -42664-08-18 20:52 J -13861372.78 -13861372.63 -13861372.47 0.0088 0.0005

Neptune -42664-11-14 22:47 J -13861284.70 -13861284.55 -13861284.39 0.0088 0.0013

Uranus -42664-12-19 14:09 J -13861249.95 -13861249.91 -13861249.87 0.0146 0.0141

Neptune -42663-02-11 00:57 J -13861196.61 -13861196.46 -13861196.31 0.0088 0.0019

Moon -42663-03-16 22:47 J -13861162.67 -13861162.55 -13861162.42 0.2673 0.0973

Earth -42663-03-16 23:59 J -13861162.63 -13861162.50 -13861162.38 0.2670 0.0854 *

Uranus -42663-03-17 20:09 J -13861161.76 -13861161.66 -13861161.55 0.0146 0.0113

Neptune -42663-05-10 02:52 J -13861108.52 -13861108.38 -13861108.23 0.0088 0.0026

Uranus -42663-06-14 02:09 J -13861073.53 -13861073.41 -13861073.27 0.0146 0.0085

Neptune -42663-08-06 04:47 J -13861020.43 -13861020.30 -13861020.15 0.0088 0.0034

Uranus -42663-09-10 08:38 J -13860985.29 -13860985.14 -13860984.99 0.0146 0.0056

Mars -42663-11-01 10:18 J -13860933.19 -13860933.07 -13860932.95 0.1604 0.0815

Neptune -42663-11-02 06:42 J -13860932.34 -13860932.22 -13860932.07 0.0088 0.0041

Uranus -42663-12-07 14:52 J -13860897.04 -13860896.88 -13860896.72 0.0146 0.0027

Neptune -42662-01-29 09:06 J -13860844.25 -13860844.12 -13860843.99 0.0088 0.0047

Uranus -42662-03-05 21:21 J -13860808.78 -13860808.61 -13860808.45 0.0146 0.0004

Neptune -42662-04-27 11:02 J -13860756.16 -13860756.04 -13860755.92 0.0088 0.0054

Uranus -42662-06-02 03:35 J -13860720.51 -13860720.35 -13860720.18 0.0146 0.0031

Neptune -42662-07-24 12:57 J -13860668.07 -13860667.96 -13860667.84 0.0088 0.0060

Uranus -42662-08-29 10:04 J -13860632.23 -13860632.08 -13860631.93 0.0146 0.0061

Neptune -42662-10-20 14:38 J -13860579.97 -13860579.89 -13860579.77 0.0088 0.0068

Uranus -42662-11-25 16:33 J -13860543.94 -13860543.81 -13860543.68 0.0146 0.0091

Neptune -42661-01-16 17:02 J -13860491.87 -13860491.79 -13860491.71 0.0088 0.0074

Uranus -42661-02-21 23:02 J -13860455.62 -13860455.54 -13860455.44 0.0146 0.0122

Neptune -42661-04-13 18:42 J -13860403.77 -13860403.72 -13860403.65 0.0088 0.0081

Neptune -42661-07-10 20:38 J -13860315.65 -13860315.64 -13860315.61 0.0088 0.0088

Earth -42660-09-24 23:30 J -13859874.62 -13859874.52 -13859874.42 0.2667 0.1498

Moon -42660-09-25 00:28 J -13859874.58 -13859874.48 -13859874.38 0.2669 0.1487 *

Jupiter -42660-10-25 16:47 J -13859843.92 -13859843.80 -13859843.67 0.0494 0.0291

Jupiter -42659-01-23 08:23 J -13859754.27 -13859754.15 -13859754.02 0.0492 0.0296

Venus -42659-01-25 07:40 J -13859752.24 -13859752.18 -13859752.12 0.3721 0.3296

Mars -42658-07-01 10:04 J -13859230.20 -13859230.08 -13859229.96 0.1927 0.0768

Saturn -42654-02-12 08:09 J -13857908.26 -13857908.16 -13857908.06 0.0286 0.0216

Saturn -42654-05-12 01:26 J -13857819.59 -13857819.44 -13857819.28 0.0285 0.0098

Saturn -42654-08-08 19:11 J -13857730.86 -13857730.70 -13857730.53 0.0285 0.0025

Venus -42654-08-11 08:38 J -13857728.27 -13857728.14 -13857728.02 0.3715 0.1143

Saturn -42654-11-05 13:26 J -13857642.08 -13857641.94 -13857641.80 0.0285 0.0147

Saturn -42653-02-02 07:54 J -13857553.21 -13857553.17 -13857553.12 0.0285 0.0273

Mars -42653-03-23 18:42 J -13857502.85 -13857502.72 -13857502.58 0.1603 0.0268

Jupiter -42653-03-26 03:35 J -13857500.49 -13857500.35 -13857500.21 0.0536 0.0134

Moon -42653-09-17 13:54 J -13857325.03 -13857324.92 -13857324.80 0.2667 0.1047

Earth -42653-09-17 14:38 J -13857325.01 -13857324.89 -13857324.78 0.2662 0.1034 *

Moon -42650-03-19 23:30 J -13856411.66 -13856411.52 -13856411.39 0.2675 0.0226

Earth -42650-03-19 23:45 J -13856411.65 -13856411.51 -13856411.38 0.2668 0.0230 *

Mars -42649-11-20 13:11 J -13855799.99 -13855799.95 -13855799.91 0.1927 0.1810

Jupiter -42648-08-13 18:57 J -13855533.78 -13855533.71 -13855533.64 0.0495 0.0431

Jupiter -42648-11-11 10:04 J -13855444.23 -13855444.08 -13855443.93 0.0492 0.0151

Earth -42647-09-27 19:54 J -13855123.73 -13855123.67 -13855123.62 0.2668 0.2345

Moon -42647-09-27 20:38 J -13855123.68 -13855123.64 -13855123.60 0.2665 0.2464 *

Mars -42644-08-14 03:06 J -13854072.51 -13854072.37 -13854072.24 0.1602 0.0292

Jupiter -42641-01-13 05:45 J -13853190.41 -13853190.26 -13853190.12 0.0535 0.0032

Saturn -42640-09-19 04:04 J -13852575.34 -13852575.33 -13852575.32 0.0273 0.0272

Moon -42640-09-20 11:30 J -13852574.14 -13852574.02 -13852573.90 0.2670 0.0119

Earth -42640-09-20 11:30 J -13852574.14 -13852574.02 -13852573.89 0.2663 0.0121 *

Saturn -42640-12-16 18:14 J -13852486.85 -13852486.74 -13852486.62 0.0273 0.0171

Saturn -42639-03-15 08:09 J -13852398.31 -13852398.16 -13852398.02 0.0273 0.0071

Saturn -42639-06-11 21:35 J -13852309.74 -13852309.60 -13852309.45 0.0273 0.0027

Saturn -42639-09-08 10:47 J -13852221.17 -13852221.05 -13852220.91 0.0274 0.0123

Venus -42639-09-09 07:26 J -13852220.28 -13852220.19 -13852220.10 0.3658 0.2052

Saturn -42639-12-05 23:59 J -13852132.58 -13852132.50 -13852132.41 0.0274 0.0216

Mars -42637-03-19 05:16 J -13851663.36 -13851663.28 -13851663.19 0.1925 0.1528

Earth -42637-03-21 23:45 J -13851660.63 -13851660.51 -13851660.39 0.2666 0.1336

Moon -42637-03-22 00:14 J -13851660.61 -13851660.49 -13851660.38 0.2673 0.1416 *

Jupiter -42636-08-30 11:30 J -13851134.18 -13851134.02 -13851133.87 0.0493 0.0011

Mars -42634-01-04 11:16 J -13850642.15 -13850642.03 -13850641.92 0.1602 0.0854

Venus -42633-03-25 00:57 J -13850196.57 -13850196.46 -13850196.35 0.3662 0.0472

Mars -42633-12-10 01:54 J -13849936.48 -13849936.42 -13849936.36 0.1605 0.1428

Moon -42630-03-15 05:02 J -13849111.38 -13849111.29 -13849111.19 0.2672 0.1870

Earth -42630-03-15 06:14 J -13849111.34 -13849111.24 -13849111.14 0.2671 0.1707 *

Jupiter -42630-11-01 06:57 J -13848880.34 -13848880.21 -13848880.07 0.0534 0.0206

Jupiter -42629-01-29 23:30 J -13848790.58 -13848790.52 -13848790.47 0.0537 0.0491

Mars -42628-08-09 07:26 J -13848233.32 -13848233.19 -13848233.06 0.1926 0.0406

Venus -42628-10-08 18:28 J -13848172.79 -13848172.73 -13848172.67 0.3667 0.2950

Earth -42627-09-23 08:23 J -13847823.27 -13847823.15 -13847823.04 0.2665 0.0786

Moon -42627-09-23 08:52 J -13847823.25 -13847823.13 -13847823.01 0.2671 0.0780 *

Mars -42625-05-26 19:11 J -13847211.76 -13847211.70 -13847211.64 0.1602 0.1430

Saturn -42625-07-01 08:23 J -13847176.22 -13847176.15 -13847176.07 0.0285 0.0251

Saturn -42625-09-28 01:40 J -13847087.57 -13847087.43 -13847087.29 0.0285 0.0134

Saturn -42625-12-25 19:26 J -13846998.85 -13846998.69 -13846998.53 0.0285 0.0013

Saturn -42624-03-24 13:26 J -13846910.09 -13846909.94 -13846909.79 0.0285 0.0110

Earth -42624-03-25 00:14 J -13846909.54 -13846909.49 -13846909.45 0.2665 0.2483

Moon -42624-03-25 01:26 J -13846909.49 -13846909.44 -13846909.40 0.2667 0.2493 *

Jupiter -42624-06-18 13:26 J -13846824.09 -13846823.94 -13846823.79 0.0494 0.0143

Saturn -42624-06-21 07:54 J -13846821.26 -13846821.17 -13846821.07 0.0285 0.0235

Jupiter -42624-09-16 05:16 J -13846734.34 -13846734.28 -13846734.21 0.0492 0.0450

Mars -42623-05-02 10:33 J -13846506.18 -13846506.06 -13846505.95 0.1604 0.0894

Uranus -42622-04-21 08:38 J -13846152.21 -13846152.14 -13846152.07 0.0132 0.0115

Uranus -42622-07-18 12:14 J -13846064.08 -13846063.99 -13846063.87 0.0132 0.0096

Uranus -42622-10-14 16:18 J -13845975.93 -13845975.82 -13845975.69 0.0132 0.0076

Uranus -42621-01-10 20:23 J -13845887.78 -13845887.65 -13845887.51 0.0132 0.0056

Uranus -42621-04-08 00:14 J -13845799.63 -13845799.49 -13845799.34 0.0132 0.0036

Uranus -42621-07-05 04:04 J -13845711.47 -13845711.33 -13845711.18 0.0132 0.0017

Uranus -42621-10-01 07:54 J -13845623.31 -13845623.17 -13845623.02 0.0132 0.0005

Uranus -42621-12-28 11:45 J -13845535.15 -13845535.01 -13845534.86 0.0132 0.0022

Uranus -42620-03-26 15:35 J -13845446.99 -13845446.85 -13845446.71 0.0132 0.0040

Uranus -42620-06-22 19:11 J -13845358.82 -13845358.70 -13845358.56 0.0132 0.0060

Moon -42620-09-15 21:50 J -13845273.68 -13845273.59 -13845273.50 0.2662 0.1809

Earth -42620-09-15 22:47 J -13845273.64 -13845273.55 -13845273.46 0.2661 0.1812 *

Uranus -42620-09-18 22:47 J -13845270.66 -13845270.55 -13845270.42 0.0132 0.0079

Uranus -42620-12-16 02:38 J -13845182.48 -13845182.39 -13845182.29 0.0132 0.0097

Uranus -42619-03-14 06:14 J -13845094.30 -13845094.24 -13845094.16 0.0132 0.0115

Mars -42619-12-30 10:18 J -13844803.19 -13844803.07 -13844802.94 0.1927 0.0663

Jupiter -42618-08-20 07:11 J -13844570.30 -13844570.20 -13844570.10 0.0533 0.0399

Jupiter -42618-11-17 23:59 J -13844480.61 -13844480.50 -13844480.38 0.0536 0.0304

Moon -42617-03-17 04:33 J -13844360.43 -13844360.31 -13844360.18 0.2673 0.0678

Earth -42617-03-17 05:30 J -13844360.40 -13844360.27 -13844360.14 0.2669 0.0668 *

Mars -42614-09-22 18:57 J -13843075.84 -13843075.71 -13843075.58 0.1603 0.0349

Earth -42614-09-26 04:47 J -13843072.39 -13843072.30 -13843072.21 0.2667 0.1649

Moon -42614-09-26 05:45 J -13843072.35 -13843072.26 -13843072.17 0.2667 0.1776 *

Jupiter -42612-04-06 15:35 J -13842513.98 -13842513.85 -13842513.72 0.0495 0.0281

Jupiter -42612-07-05 07:11 J -13842424.32 -13842424.20 -13842424.07 0.0492 0.0308

Saturn -42610-05-05 20:52 J -13841754.73 -13841754.63 -13841754.52 0.0273 0.0192

Saturn -42610-08-02 10:47 J -13841666.19 -13841666.05 -13841665.91 0.0273 0.0093

Saturn -42610-10-30 00:28 J -13841577.63 -13841577.48 -13841577.33 0.0273 0.0006

Saturn -42609-01-26 13:54 J -13841489.06 -13841488.92 -13841488.78 0.0274 0.0102

Saturn -42609-04-24 02:52 J -13841400.47 -13841400.38 -13841400.27 0.0274 0.0196

Mars -42609-05-21 13:26 J -13841373.00 -13841372.94 -13841372.88 0.1927 0.1700

Moon -42607-09-18 19:11 J -13840522.81 -13840522.70 -13840522.58 0.2668 0.0970

Earth -42607-09-18 19:54 J -13840522.79 -13840522.67 -13840522.55 0.2662 0.0871 *

Jupiter -42606-09-06 01:40 J -13840170.57 -13840170.43 -13840170.28 0.0535 0.0135

Mars -42604-02-12 03:21 J -13839645.50 -13839645.36 -13839645.22 0.1602 0.0202

Moon -42604-03-20 05:02 J -13839609.42 -13839609.29 -13839609.15 0.2675 0.0385

Earth -42604-03-20 05:16 J -13839609.41 -13839609.28 -13839609.14 0.2668 0.0417 *

Venus -42603-09-01 07:26 J -13839079.30 -13839079.19 -13839079.07 0.3719 0.1754

Earth -42601-09-28 00:57 J -13838321.50 -13838321.46 -13838321.42 0.2669 0.2500

Moon -42601-09-28 01:54 J -13838321.47 -13838321.42 -13838321.38 0.2665 0.2479 *

Jupiter -42600-01-23 17:30 J -13838203.84 -13838203.77 -13838203.68 0.0495 0.0421

Jupiter -42600-04-23 08:52 J -13838114.28 -13838114.13 -13838113.98 0.0493 0.0163

Mars -42598-09-18 05:30 J -13837236.34 -13837236.27 -13837236.20 0.1925 0.1633

Moon -42597-03-12 11:45 J -13837060.02 -13837060.01 -13837059.99 0.2668 0.2646

Earth -42597-03-12 12:42 J -13837060.01 -13837059.97 -13837059.94 0.2672 0.2541 *

Venus -42597-03-17 08:23 J -13837055.23 -13837055.15 -13837055.06 0.3714 0.2765

Saturn -42595-02-15 00:57 J -13836355.58 -13836355.46 -13836355.34 0.0285 0.0177

Saturn -42595-05-14 18:28 J -13836266.89 -13836266.73 -13836266.57 0.0285 0.0058

Mars -42595-07-05 11:30 J -13836215.15 -13836215.02 -13836214.90 0.1602 0.0772

Saturn -42595-08-11 12:14 J -13836178.14 -13836177.99 -13836177.83 0.0285 0.0064

Saturn -42595-11-08 06:28 J -13836089.35 -13836089.23 -13836089.10 0.0285 0.0189

Jupiter -42594-06-25 03:50 J -13835860.49 -13835860.34 -13835860.20 0.0535 0.0032

Moon -42594-09-21 17:02 J -13835771.92 -13835771.79 -13835771.67 0.2670 0.0105

Earth -42594-09-21 16:47 J -13835771.92 -13835771.80 -13835771.68 0.2664 0.0050 *

Mars -42593-06-10 02:09 J -13835509.46 -13835509.41 -13835509.37 0.1605 0.1508

Earth -42591-03-23 05:30 J -13834858.38 -13834858.27 -13834858.16 0.2666 0.1534

Moon -42591-03-23 05:59 J -13834858.36 -13834858.25 -13834858.14 0.2671 0.1567 *

Mars -42588-02-07 07:40 J -13833806.31 -13833806.18 -13833806.04 0.1926 0.0518

Jupiter -42588-02-09 10:47 J -13833804.21 -13833804.05 -13833803.89 0.0493 0.0020

Venus -42588-09-30 11:30 J -13833571.02 -13833571.02 -13833571.01 0.3654 0.3652

Moon -42587-09-14 05:45 J -13833222.29 -13833222.26 -13833222.24 0.2656 0.2591

Earth -42587-09-14 06:28 J -13833222.25 -13833222.23 -13833222.20 0.2659 0.2604 *

Mars -42586-11-25 19:26 J -13832784.77 -13832784.69 -13832784.62 0.1602 0.1346

Neptune -42585-03-25 23:59 J -13832663.52 -13832663.50 -13832663.45 0.0089 0.0086

Neptune -42585-06-22 02:09 J -13832575.47 -13832575.41 -13832575.33 0.0089 0.0079

Neptune -42585-09-18 04:18 J -13832487.40 -13832487.32 -13832487.22 0.0089 0.0072

Neptune -42585-12-15 06:28 J -13832399.32 -13832399.23 -13832399.11 0.0089 0.0065

Neptune -42584-03-13 08:38 J -13832311.25 -13832311.14 -13832311.01 0.0089 0.0058

Moon -42584-03-15 10:33 J -13832309.17 -13832309.06 -13832308.95 0.2672 0.1522

Earth -42584-03-15 11:45 J -13832309.12 -13832309.01 -13832308.90 0.2671 0.1528 *

Neptune -42584-06-09 10:47 J -13832223.17 -13832223.05 -13832222.91 0.0089 0.0051

Neptune -42584-09-05 13:11 J -13832135.09 -13832134.95 -13832134.81 0.0089 0.0044

Mars -42584-10-31 10:33 J -13832079.16 -13832079.06 -13832078.95 0.1604 0.0972

Neptune -42584-12-02 15:21 J -13832047.00 -13832046.86 -13832046.72 0.0089 0.0036

Neptune -42583-02-28 17:30 J -13831958.92 -13831958.77 -13831958.62 0.0089 0.0029

Neptune -42583-05-27 19:40 J -13831870.83 -13831870.68 -13831870.52 0.0089 0.0022

Neptune -42583-08-23 21:50 J -13831782.74 -13831782.59 -13831782.43 0.0089 0.0015

Neptune -42583-11-19 23:59 J -13831694.65 -13831694.50 -13831694.34 0.0089 0.0008

Neptune -42582-02-16 02:23 J -13831606.56 -13831606.40 -13831606.24 0.0089 0.0001

Jupiter -42582-04-13 05:45 J -13831550.40 -13831550.26 -13831550.13 0.0534 0.0196

Venus -42582-04-16 05:16 J -13831547.38 -13831547.28 -13831547.17 0.3659 0.1086

Neptune -42582-05-15 04:33 J -13831518.47 -13831518.31 -13831518.15 0.0089 0.0007

Jupiter -42582-07-11 22:18 J -13831460.62 -13831460.57 -13831460.53 0.0537 0.0501

Neptune -42582-08-11 06:42 J -13831430.37 -13831430.22 -13831430.06 0.0089 0.0015

Neptune -42582-11-07 08:52 J -13831342.28 -13831342.13 -13831341.97 0.0089 0.0022

Neptune -42581-02-03 11:16 J -13831254.18 -13831254.03 -13831253.88 0.0089 0.0029

Neptune -42581-05-01 13:26 J -13831166.08 -13831165.94 -13831165.79 0.0089 0.0037

Neptune -42581-07-28 15:35 J -13831077.98 -13831077.85 -13831077.70 0.0089 0.0044

Saturn -42581-09-21 20:38 J -13831022.71 -13831022.64 -13831022.56 0.0273 0.0233

Earth -42581-09-23 13:26 J -13831021.05 -13831020.94 -13831020.82 0.2665 0.0939

Moon -42581-09-23 14:09 J -13831021.02 -13831020.91 -13831020.80 0.2671 0.1013 *

Neptune -42581-10-24 17:45 J -13830989.87 -13830989.76 -13830989.61 0.0089 0.0052

Saturn -42581-12-19 10:47 J -13830934.18 -13830934.05 -13830933.92 0.0273 0.0133

Neptune -42580-01-20 20:09 J -13830901.77 -13830901.66 -13830901.53 0.0089 0.0059

Saturn -42580-03-18 00:28 J -13830845.62 -13830845.48 -13830845.33 0.0273 0.0034

Neptune -42580-04-18 22:18 J -13830813.66 -13830813.57 -13830813.44 0.0089 0.0067

Saturn -42580-06-14 13:54 J -13830757.06 -13830756.92 -13830756.77 0.0273 0.0064

Neptune -42580-07-16 00:57 J -13830725.54 -13830725.46 -13830725.37 0.0089 0.0074

Saturn -42580-09-11 03:06 J -13830668.48 -13830668.37 -13830668.25 0.0274 0.0159

Neptune -42580-10-12 03:06 J -13830637.42 -13830637.37 -13830637.29 0.0089 0.0082

Saturn -42580-12-08 16:04 J -13830579.87 -13830579.83 -13830579.77 0.0274 0.0252

Uranus -42579-01-08 21:06 J -13830548.68 -13830548.62 -13830548.57 0.0146 0.0136

Uranus -42579-04-07 03:06 J -13830460.48 -13830460.37 -13830460.26 0.0146 0.0107

Mars -42579-06-30 10:33 J -13830376.19 -13830376.06 -13830375.93 0.1927 0.0560

Uranus -42579-07-04 09:06 J -13830372.25 -13830372.12 -13830371.98 0.0146 0.0079

Uranus -42579-09-30 15:21 J -13830284.01 -13830283.86 -13830283.70 0.0146 0.0050

Uranus -42579-12-27 21:50 J -13830195.76 -13830195.59 -13830195.43 0.0146 0.0021

Uranus -42578-03-26 04:04 J -13830107.50 -13830107.33 -13830107.16 0.0146 0.0008

Uranus -42578-06-22 10:33 J -13830019.22 -13830019.06 -13830018.90 0.0146 0.0038

Uranus -42578-09-18 16:47 J -13829930.94 -13829930.80 -13829930.64 0.0146 0.0068

Uranus -42578-12-15 23:16 J -13829842.65 -13829842.53 -13829842.40 0.0146 0.0098

Uranus -42577-03-13 05:59 J -13829754.33 -13829754.25 -13829754.17 0.0146 0.0128

Venus -42577-10-29 23:02 J -13829523.65 -13829523.54 -13829523.44 0.3663 0.1434

Jupiter -42577-11-28 12:14 J -13829494.14 -13829493.99 -13829493.84 0.0494 0.0131

Jupiter -42576-02-26 04:04 J -13829404.38 -13829404.33 -13829404.27 0.0491 0.0462

Mars -42574-03-23 19:11 J -13828648.83 -13828648.70 -13828648.57 0.1603 0.0430

Moon -42574-09-17 03:06 J -13828471.46 -13828471.37 -13828471.28 0.2664 0.1785

Earth -42574-09-17 04:04 J -13828471.43 -13828471.33 -13828471.23 0.2661 0.1642 *

Moon -42571-03-18 10:33 J -13827558.19 -13827558.06 -13827557.93 0.2674 0.0600

Earth -42571-03-18 11:16 J -13827558.16 -13827558.03 -13827557.90 0.2669 0.0472 *

Jupiter -42570-01-30 06:57 J -13827240.31 -13827240.21 -13827240.10 0.0533 0.0371

Jupiter -42570-04-29 23:59 J -13827150.61 -13827150.50 -13827150.39 0.0536 0.0332

Mars -42570-11-20 13:26 J -13826946.01 -13826945.94 -13826945.87 0.1927 0.1615

Earth -42568-09-26 09:50 J -13826270.17 -13826270.09 -13826270.00 0.2667 0.1807

Moon -42568-09-26 10:47 J -13826270.13 -13826270.05 -13826269.96 0.2666 0.1816 *

Saturn -42566-07-05 00:42 J -13825623.57 -13825623.47 -13825623.36 0.0285 0.0215

Saturn -42566-10-01 18:14 J -13825534.89 -13825534.74 -13825534.59 0.0285 0.0097

Saturn -42566-12-29 11:59 J -13825446.16 -13825446.00 -13825445.84 0.0285 0.0025

Saturn -42565-03-27 06:14 J -13825357.38 -13825357.24 -13825357.10 0.0285 0.0148

Saturn -42565-06-24 00:42 J -13825268.51 -13825268.47 -13825268.43 0.0285 0.0274

Mars -42565-08-13 03:35 J -13825218.49 -13825218.35 -13825218.22 0.1603 0.0131

Jupiter -42565-09-16 14:09 J -13825184.04 -13825183.91 -13825183.78 0.0495 0.0272

Jupiter -42565-12-15 05:45 J -13825094.38 -13825094.26 -13825094.14 0.0492 0.0317

Moon -42561-09-19 00:28 J -13823720.59 -13823720.48 -13823720.36 0.2668 0.0698

Earth -42561-09-19 01:11 J -13823720.57 -13823720.45 -13823720.33 0.2663 0.0707 *

Jupiter -42558-02-16 00:28 J -13822840.62 -13822840.48 -13822840.34 0.0535 0.0143

Mars -42558-03-19 05:45 J -13822809.32 -13822809.26 -13822809.20 0.1925 0.1736

Moon -42558-03-21 10:47 J -13822807.17 -13822807.05 -13822806.92 0.2674 0.0655

Earth -42558-03-21 11:02 J -13822807.17 -13822807.04 -13822806.91 0.2667 0.0612 *

Mars -42555-01-03 11:45 J -13821788.14 -13821788.01 -13821787.89 0.1602 0.0687

Earth -42555-09-29 06:14 J -13821519.25 -13821519.24 -13821519.23 0.2669 0.2644

Mars -42554-12-10 02:09 J -13821082.42 -13821082.41 -13821082.39 0.1605 0.1585

Jupiter -42553-07-05 16:33 J -13820873.90 -13820873.81 -13820873.73 0.0496 0.0410

Jupiter -42553-10-03 07:40 J -13820784.32 -13820784.18 -13820784.03 0.0493 0.0176

Pluto -42552-09-21 06:14 J -13820431.24 -13820431.24 -13820431.22 0.0065 0.0065

Pluto -42552-12-18 07:11 J -13820343.24 -13820343.20 -13820343.12 0.0065 0.0061

Saturn -42551-02-08 23:16 J -13820290.57 -13820290.53 -13820290.47 0.0274 0.0256

Moon -42551-03-13 17:16 J -13820257.84 -13820257.78 -13820257.73 0.2670 0.2399

Earth -42551-03-13 18:14 J -13820257.80 -13820257.74 -13820257.68 0.2672 0.2366 *

Pluto -42551-03-16 08:23 J -13820255.22 -13820255.15 -13820255.04 0.0065 0.0056

Saturn -42551-05-08 13:26 J -13820202.06 -13820201.94 -13820201.81 0.0274 0.0155

Pluto -42551-06-12 09:35 J -13820167.19 -13820167.10 -13820166.98 0.0065 0.0051

Saturn -42551-08-05 03:21 J -13820113.51 -13820113.36 -13820113.22 0.0274 0.0055

Pluto -42551-09-08 10:47 J -13820079.15 -13820079.05 -13820078.91 0.0066 0.0046

Saturn -42551-11-01 16:47 J -13820024.94 -13820024.80 -13820024.65 0.0274 0.0043

Pluto -42551-12-05 11:59 J -13819991.11 -13819991.00 -13819990.85 0.0066 0.0041

Saturn -42550-01-29 05:59 J -13819936.37 -13819936.25 -13819936.12 0.0274 0.0139

Pluto -42550-03-03 13:11 J -13819903.07 -13819902.95 -13819902.79 0.0066 0.0036

Saturn -42550-04-27 19:11 J -13819847.77 -13819847.70 -13819847.62 0.0274 0.0232

Pluto -42550-05-30 14:52 J -13819815.03 -13819814.88 -13819814.73 0.0066 0.0030

Pluto -42550-08-26 16:04 J -13819726.98 -13819726.83 -13819726.67 0.0066 0.0025

Pluto -42550-11-22 17:16 J -13819638.93 -13819638.78 -13819638.61 0.0066 0.0020

Pluto -42549-02-18 18:42 J -13819550.88 -13819550.72 -13819550.55 0.0066 0.0015

Pluto -42549-05-16 19:54 J -13819462.83 -13819462.67 -13819462.50 0.0066 0.0009

Mars -42549-08-08 08:09 J -13819379.29 -13819379.16 -13819379.03 0.1926 0.0633

Pluto -42549-08-12 21:21 J -13819374.78 -13819374.61 -13819374.44 0.0066 0.0004

Pluto -42549-11-08 22:33 J -13819286.73 -13819286.56 -13819286.39 0.0066 0.0002

Pluto -42548-02-04 23:59 J -13819198.67 -13819198.50 -13819198.33 0.0066 0.0007

Pluto -42548-05-04 01:11 J -13819110.62 -13819110.45 -13819110.28 0.0067 0.0012

Pluto -42548-07-31 02:23 J -13819022.56 -13819022.40 -13819022.23 0.0067 0.0018

Earth -42548-09-21 22:04 J -13818969.70 -13818969.58 -13818969.46 0.2664 0.0208

Moon -42548-09-21 22:18 J -13818969.69 -13818969.57 -13818969.45 0.2671 0.0185 *

Pluto -42548-10-27 03:35 J -13818934.50 -13818934.35 -13818934.18 0.0067 0.0024

Pluto -42547-01-23 05:02 J -13818846.43 -13818846.29 -13818846.13 0.0067 0.0029

Pluto -42547-04-21 06:14 J -13818758.37 -13818758.24 -13818758.08 0.0067 0.0035

Pluto -42547-07-18 07:54 J -13818670.30 -13818670.17 -13818670.03 0.0067 0.0040

Pluto -42547-10-14 09:06 J -13818582.23 -13818582.12 -13818581.99 0.0067 0.0046

Jupiter -42547-12-05 01:54 J -13818530.56 -13818530.42 -13818530.27 0.0535 0.0032

Pluto -42546-01-10 10:18 J -13818494.16 -13818494.07 -13818493.94 0.0067 0.0052

Venus -42546-04-08 07:26 J -13818406.33 -13818406.19 -13818406.06 0.3718 0.0195

Pluto -42546-04-08 11:59 J -13818406.08 -13818406.00 -13818405.91 0.0067 0.0058 *

Mars -42546-05-26 19:40 J -13818357.76 -13818357.68 -13818357.59 0.1602 0.1257

Pluto -42546-07-05 13:11 J -13818317.99 -13818317.95 -13818317.88 0.0067 0.0064

Earth -42545-03-23 11:02 J -13818056.14 -13818056.04 -13818055.93 0.2666 0.1734

Moon -42545-03-23 11:59 J -13818056.10 -13818056.00 -13818055.90 0.2671 0.1779 *

Mars -42544-05-01 10:47 J -13817652.15 -13817652.05 -13817651.94 0.1604 0.1057

Jupiter -42541-07-22 09:35 J -13816474.26 -13816474.10 -13816473.95 0.0493 0.0031

Moon -42541-09-14 11:02 J -13816420.07 -13816420.04 -13816420.00 0.2657 0.2541

Earth -42541-09-14 11:59 J -13816420.05 -13816420.00 -13816419.95 0.2660 0.2428 *

Mars -42540-12-29 10:33 J -13815949.19 -13815949.06 -13815948.92 0.1927 0.0464

Uranus -42538-02-12 10:47 J -13815539.05 -13815539.05 -13815539.02 0.0132 0.0132

Moon -42538-03-16 16:18 J -13815506.93 -13815506.82 -13815506.71 0.2671 0.1500

Earth -42538-03-16 17:16 J -13815506.89 -13815506.78 -13815506.66 0.2671 0.1342 *

Uranus -42538-05-11 14:52 J -13815450.94 -13815450.88 -13815450.79 0.0132 0.0112

Uranus -42538-08-07 18:57 J -13815362.81 -13815362.71 -13815362.59 0.0132 0.0092

Uranus -42538-11-03 23:02 J -13815274.66 -13815274.54 -13815274.41 0.0132 0.0072

Uranus -42537-01-31 02:52 J -13815186.51 -13815186.38 -13815186.23 0.0132 0.0053

Uranus -42537-04-28 06:57 J -13815098.35 -13815098.21 -13815098.06 0.0132 0.0033

Uranus -42537-07-25 10:47 J -13815010.20 -13815010.05 -13815009.90 0.0132 0.0013

Uranus -42537-10-21 14:38 J -13814922.04 -13814921.89 -13814921.74 0.0132 0.0006

Saturn -42537-11-21 00:28 J -13814891.55 -13814891.48 -13814891.41 0.0285 0.0255

Uranus -42536-01-17 18:28 J -13814833.87 -13814833.73 -13814833.58 0.0132 0.0025

Saturn -42536-02-17 17:30 J -13814802.90 -13814802.77 -13814802.62 0.0285 0.0139

Uranus -42536-04-15 22:04 J -13814745.71 -13814745.58 -13814745.43 0.0132 0.0045

Saturn -42536-05-17 11:16 J -13814714.19 -13814714.03 -13814713.87 0.0285 0.0018

Uranus -42536-07-13 01:54 J -13814657.54 -13814657.42 -13814657.29 0.0132 0.0063

Saturn -42536-08-14 05:16 J -13814625.43 -13814625.28 -13814625.13 0.0285 0.0104

Uranus -42536-10-09 05:45 J -13814569.37 -13814569.26 -13814569.15 0.0132 0.0081

Saturn -42536-11-10 23:45 J -13814536.61 -13814536.51 -13814536.42 0.0285 0.0229

Uranus -42535-01-05 09:21 J -13814481.20 -13814481.11 -13814481.01 0.0132 0.0100

Uranus -42535-04-03 12:57 J -13814393.01 -13814392.96 -13814392.89 0.0132 0.0119

Mars -42535-09-21 19:26 J -13814221.82 -13814221.69 -13814221.56 0.1603 0.0512

Jupiter -42535-09-23 03:50 J -13814220.48 -13814220.34 -13814220.21 0.0534 0.0197

Earth -42535-09-24 18:42 J -13814218.83 -13814218.72 -13814218.61 0.2666 0.1092

Moon -42535-09-24 19:26 J -13814218.80 -13814218.69 -13814218.58 0.2670 0.1143 *

Jupiter -42535-12-21 20:23 J -13814130.70 -13814130.65 -13814130.60 0.0537 0.0501

Venus -42531-05-07 09:35 J -13812898.17 -13812898.10 -13812898.02 0.3655 0.2668

Mars -42530-05-21 13:40 J -13812519.01 -13812518.93 -13812518.84 0.1927 0.1504

Jupiter -42529-05-10 11:30 J -13812164.17 -13812164.02 -13812163.87 0.0494 0.0111

Jupiter -42529-08-08 03:21 J -13812074.38 -13812074.36 -13812074.33 0.0491 0.0482

Moon -42528-09-17 08:23 J -13811669.25 -13811669.15 -13811669.05 0.2664 0.1469

Earth -42528-09-17 09:21 J -13811669.22 -13811669.11 -13811669.01 0.2661 0.1476 *

Venus -42526-11-21 03:21 J -13810874.47 -13810874.36 -13810874.25 0.3660 0.0125

Mars -42525-02-12 03:35 J -13810791.48 -13810791.35 -13810791.21 0.1602 0.0060

Moon -42525-03-18 16:18 J -13810755.96 -13810755.82 -13810755.69 0.2675 0.0254

Earth -42525-03-18 16:47 J -13810755.93 -13810755.80 -13810755.66 0.2669 0.0294 *

Jupiter -42523-07-12 05:30 J -13809910.37 -13809910.27 -13809910.16 0.0533 0.0363

Jupiter -42523-10-09 22:33 J -13809820.67 -13809820.56 -13809820.45 0.0536 0.0341

Saturn -42522-09-25 13:11 J -13809470.05 -13809469.95 -13809469.84 0.0273 0.0195

Earth -42522-09-27 15:06 J -13809467.95 -13809467.87 -13809467.79 0.2667 0.1956

Moon -42522-09-27 16:04 J -13809467.91 -13809467.83 -13809467.75 0.2667 0.2065 *

Saturn -42522-12-23 03:06 J -13809381.51 -13809381.37 -13809381.23 0.0273 0.0096

Saturn -42521-03-20 16:47 J -13809292.94 -13809292.80 -13809292.65 0.0273 0.0008

Saturn -42521-06-17 06:14 J -13809204.37 -13809204.24 -13809204.10 0.0273 0.0100

Saturn -42521-09-13 19:26 J -13809115.79 -13809115.69 -13809115.59 0.0274 0.0194

Venus -42520-06-05 20:52 J -13808850.71 -13808850.63 -13808850.55 0.3664 0.2370

Mars -42519-09-17 05:59 J -13808382.29 -13808382.25 -13808382.21 0.1924 0.1845

Jupiter -42517-02-27 12:57 J -13807854.09 -13807853.96 -13807853.82 0.0495 0.0260

Jupiter -42517-05-27 04:33 J -13807764.42 -13807764.31 -13807764.19 0.0492 0.0329

Mars -42516-07-04 11:59 J -13807361.13 -13807361.00 -13807360.88 0.1602 0.0605

Moon -42515-09-20 05:59 J -13806918.37 -13806918.25 -13806918.13 0.2669 0.0638

Earth -42515-09-20 06:28 J -13806918.35 -13806918.23 -13806918.11 0.2663 0.0546 *

Moon -42512-03-21 16:47 J -13806004.93 -13806004.80 -13806004.67 0.2674 0.0753

Earth -42512-03-21 16:47 J -13806004.93 -13806004.80 -13806004.67 0.2667 0.0809 *

Jupiter -42511-07-29 00:14 J -13805510.62 -13805510.49 -13805510.35 0.0535 0.0171

Mars -42509-02-07 08:09 J -13804952.29 -13804952.16 -13804952.04 0.1926 0.0721

Saturn -42507-07-07 17:02 J -13804070.91 -13804070.79 -13804070.66 0.0285 0.0179

Saturn -42507-10-04 10:33 J -13803982.21 -13803982.06 -13803981.90 0.0285 0.0060

Mars -42507-11-24 19:54 J -13803930.76 -13803930.67 -13803930.58 0.1602 0.1175

Saturn -42506-01-01 04:33 J -13803893.47 -13803893.31 -13803893.15 0.0285 0.0063

Saturn -42506-03-30 22:47 J -13803804.67 -13803804.55 -13803804.42 0.0285 0.0187

Jupiter -42506-12-16 15:06 J -13803543.96 -13803543.87 -13803543.78 0.0495 0.0400

Moon -42505-03-13 22:33 J -13803455.63 -13803455.56 -13803455.49 0.2670 0.2266

Earth -42505-03-13 23:45 J -13803455.59 -13803455.51 -13803455.44 0.2672 0.2187 *

Jupiter -42505-03-15 06:28 J -13803454.38 -13803454.23 -13803454.09 0.0493 0.0184

Mars -42505-10-30 11:02 J -13803225.13 -13803225.04 -13803224.94 0.1604 0.1132

Neptune -42502-03-27 16:47 J -13802346.85 -13802346.80 -13802346.74 0.0088 0.0083

Neptune -42502-06-23 18:57 J -13802258.78 -13802258.71 -13802258.62 0.0088 0.0076

Neptune -42502-09-19 21:06 J -13802170.71 -13802170.62 -13802170.51 0.0088 0.0068

Earth -42502-09-23 03:21 J -13802167.48 -13802167.36 -13802167.24 0.2664 0.0367

Moon -42502-09-23 03:35 J -13802167.47 -13802167.35 -13802167.23 0.2671 0.0436 *

Neptune -42502-12-16 23:02 J -13802082.64 -13802082.54 -13802082.41 0.0088 0.0062

Neptune -42501-03-14 01:40 J -13801994.56 -13801994.43 -13801994.31 0.0088 0.0054

Neptune -42501-06-10 03:35 J -13801906.48 -13801906.35 -13801906.21 0.0088 0.0047

Neptune -42501-09-06 05:45 J -13801818.39 -13801818.26 -13801818.11 0.0088 0.0040

Neptune -42501-12-03 07:54 J -13801730.31 -13801730.17 -13801730.02 0.0088 0.0032

Neptune -42500-03-01 10:04 J -13801642.23 -13801642.08 -13801641.93 0.0088 0.0025

Neptune -42500-05-28 12:14 J -13801554.14 -13801553.99 -13801553.84 0.0088 0.0018

Mars -42500-06-29 11:02 J -13801522.17 -13801522.04 -13801521.91 0.1927 0.0348

Neptune -42500-08-24 14:09 J -13801466.06 -13801465.91 -13801465.75 0.0088 0.0012

Neptune -42500-11-20 16:33 J -13801377.97 -13801377.81 -13801377.66 0.0088 0.0005

Neptune -42499-02-16 18:28 J -13801289.88 -13801289.73 -13801289.57 0.0088 0.0003

Earth -42499-03-24 17:02 J -13801253.89 -13801253.79 -13801253.70 0.2666 0.1934

Moon -42499-03-24 17:45 J -13801253.84 -13801253.76 -13801253.67 0.2670 0.2040 *

Neptune -42499-05-15 20:38 J -13801201.80 -13801201.64 -13801201.49 0.0088 0.0010

Jupiter -42499-05-17 00:42 J -13801200.61 -13801200.47 -13801200.32 0.0534 0.0020

Neptune -42499-08-11 22:33 J -13801113.71 -13801113.56 -13801113.40 0.0088 0.0017

Neptune -42499-11-08 00:28 J -13801025.62 -13801025.48 -13801025.32 0.0088 0.0025

Neptune -42498-02-04 02:38 J -13800937.53 -13800937.39 -13800937.24 0.0088 0.0031

Neptune -42498-05-03 04:33 J -13800849.44 -13800849.31 -13800849.16 0.0088 0.0038

Neptune -42498-07-30 06:28 J -13800761.35 -13800761.23 -13800761.08 0.0088 0.0046

Neptune -42498-10-26 08:52 J -13800673.26 -13800673.13 -13800673.01 0.0088 0.0052

Neptune -42497-01-22 10:47 J -13800585.16 -13800585.05 -13800584.93 0.0088 0.0059

Neptune -42497-04-19 12:42 J -13800497.07 -13800496.97 -13800496.86 0.0088 0.0066

Neptune -42497-07-16 14:23 J -13800408.97 -13800408.90 -13800408.80 0.0088 0.0073

Neptune -42497-10-12 16:18 J -13800320.87 -13800320.82 -13800320.73 0.0088 0.0080

Neptune -42496-01-08 18:42 J -13800232.75 -13800232.72 -13800232.68 0.0088 0.0086

Uranus -42495-01-29 03:35 J -13799847.41 -13799847.35 -13799847.27 0.0146 0.0130

Mars -42495-03-22 19:40 J -13799794.81 -13799794.68 -13799794.56 0.1603 0.0593

Uranus -42495-04-27 09:35 J -13799759.20 -13799759.10 -13799758.97 0.0146 0.0102

Venus -42495-04-29 06:28 J -13799757.31 -13799757.23 -13799757.15 0.3722 0.2997

Uranus -42495-07-24 16:04 J -13799670.97 -13799670.83 -13799670.69 0.0146 0.0073

Moon -42495-09-15 16:18 J -13799617.88 -13799617.82 -13799617.76 0.2659 0.2301

Earth -42495-09-15 17:16 J -13799617.84 -13799617.78 -13799617.71 0.2660 0.2259 *

Uranus -42495-10-20 22:18 J -13799582.73 -13799582.57 -13799582.41 0.0146 0.0044

Uranus -42494-01-17 04:33 J -13799494.47 -13799494.31 -13799494.14 0.0146 0.0015

Uranus -42494-04-15 11:02 J -13799406.21 -13799406.04 -13799405.88 0.0146 0.0014

Uranus -42494-07-12 17:16 J -13799317.94 -13799317.78 -13799317.62 0.0146 0.0044

Uranus -42494-10-08 23:45 J -13799229.65 -13799229.51 -13799229.36 0.0146 0.0073

Jupiter -42493-01-02 08:23 J -13799144.31 -13799144.15 -13799144.00 0.0494 0.0044

Uranus -42493-01-05 06:14 J -13799141.35 -13799141.24 -13799141.12 0.0146 0.0103

Uranus -42493-04-02 12:57 J -13799053.03 -13799052.96 -13799052.90 0.0146 0.0134

Saturn -42492-02-11 15:50 J -13798737.93 -13798737.84 -13798737.75 0.0274 0.0218

Moon -42492-03-16 21:50 J -13798704.71 -13798704.59 -13798704.47 0.2672 0.1173

Earth -42492-03-16 22:47 J -13798704.66 -13798704.55 -13798704.43 0.2670 0.1166 *

Saturn -42492-05-11 05:45 J -13798649.39 -13798649.26 -13798649.12 0.0274 0.0118

Saturn -42492-08-07 19:40 J -13798560.83 -13798560.68 -13798560.53 0.0274 0.0018

Saturn -42492-11-04 09:06 J -13798472.26 -13798472.12 -13798471.98 0.0274 0.0079

Saturn -42491-01-31 22:18 J -13798383.68 -13798383.57 -13798383.45 0.0274 0.0174

Saturn -42491-04-30 11:16 J -13798295.05 -13798295.03 -13798295.00 0.0274 0.0267

Mars -42491-11-19 13:54 J -13798092.01 -13798091.92 -13798091.83 0.1927 0.1401

Venus -42490-11-13 07:11 J -13797733.32 -13797733.20 -13797733.07 0.3716 0.1435

Earth -42489-09-24 23:59 J -13797416.61 -13797416.50 -13797416.40 0.2666 0.1251

Moon -42489-09-25 00:42 J -13797416.58 -13797416.47 -13797416.36 0.2668 0.1282 *

Jupiter -42487-03-05 02:09 J -13796890.55 -13796890.41 -13796890.28 0.0534 0.0194

Jupiter -42487-06-02 18:42 J -13796800.77 -13796800.72 -13796800.68 0.0537 0.0502

Mars -42486-08-13 04:04 J -13796364.47 -13796364.33 -13796364.20 0.1603 0.0062

Moon -42482-09-18 13:40 J -13794867.03 -13794866.93 -13794866.82 0.2665 0.1442

Earth -42482-09-18 14:38 J -13794867.00 -13794866.89 -13794866.78 0.2662 0.1305 *

Jupiter -42482-10-21 10:18 J -13794834.23 -13794834.07 -13794833.92 0.0494 0.0101

Moon -42479-03-19 21:50 J -13793953.72 -13793953.59 -13793953.45 0.2675 0.0230

Earth -42479-03-19 22:33 J -13793953.70 -13793953.56 -13793953.43 0.2669 0.0106 *

Saturn -42478-11-24 17:16 J -13793338.88 -13793338.78 -13793338.68 0.0285 0.0216

Saturn -42477-02-21 10:33 J -13793250.21 -13793250.06 -13793249.91 0.0285 0.0098

Saturn -42477-05-20 04:18 J -13793161.48 -13793161.32 -13793161.16 0.0285 0.0023

Saturn -42477-08-16 22:18 J -13793072.71 -13793072.57 -13793072.43 0.0285 0.0146

Saturn -42477-11-13 16:47 J -13792983.84 -13792983.80 -13792983.75 0.0285 0.0272

Mars -42476-01-02 12:14 J -13792934.13 -13792933.99 -13792933.86 0.1602 0.0522

Earth -42476-09-27 20:23 J -13792665.73 -13792665.65 -13792665.58 0.2668 0.2108

Moon -42476-09-27 21:06 J -13792665.69 -13792665.62 -13792665.55 0.2667 0.2137 *

Jupiter -42476-12-22 03:35 J -13792580.45 -13792580.35 -13792580.24 0.0533 0.0364

Jupiter -42475-03-21 20:38 J -13792490.75 -13792490.64 -13792490.53 0.0536 0.0340

Venus -42475-12-12 07:40 J -13792225.28 -13792225.18 -13792225.08 0.3657 0.1695

Mars -42470-08-08 08:23 J -13790525.27 -13790525.15 -13790525.03 0.1926 0.0834

Jupiter -42470-08-09 12:14 J -13790524.12 -13790523.99 -13790523.85 0.0495 0.0241

Jupiter -42470-11-07 03:50 J -13790434.45 -13790434.34 -13790434.23 0.0492 0.0348

Venus -42469-06-27 01:11 J -13790201.56 -13790201.45 -13790201.34 0.3661 0.0831

Moon -42469-09-20 11:30 J -13790116.14 -13790116.02 -13790115.90 0.2670 0.0326

Earth -42469-09-20 11:45 J -13790116.14 -13790116.01 -13790115.89 0.2663 0.0385 *

Mars -42467-05-25 20:09 J -13789503.76 -13789503.66 -13789503.56 0.1602 0.1091

Earth -42466-03-22 22:18 J -13789202.69 -13789202.57 -13789202.44 0.2667 0.1003

Moon -42466-03-22 22:47 J -13789202.68 -13789202.55 -13789202.43 0.2673 0.1101 *

Mars -42465-04-30 11:16 J -13788798.12 -13788798.03 -13788797.94 0.1604 0.1209

Pluto -42464-04-19 23:02 J -13788443.59 -13788443.54 -13788443.47 0.0079 0.0073

Pluto -42464-07-17 00:42 J -13788355.55 -13788355.47 -13788355.38 0.0079 0.0064

Jupiter -42464-10-10 05:16 J -13788270.28 -13788270.28 -13788270.27 0.0532 0.0532

Pluto -42464-10-13 02:09 J -13788267.51 -13788267.41 -13788267.30 0.0079 0.0056

Jupiter -42463-01-07 22:47 J -13788180.69 -13788180.55 -13788180.41 0.0536 0.0178

Pluto -42463-01-09 03:35 J -13788179.46 -13788179.35 -13788179.22 0.0079 0.0048

Venus -42463-01-10 18:42 J -13788177.76 -13788177.72 -13788177.67 0.3666 0.3306

Pluto -42463-04-07 05:16 J -13788091.40 -13788091.28 -13788091.15 0.0079 0.0040

Saturn -42463-07-01 15:35 J -13788005.89 -13788005.85 -13788005.80 0.0273 0.0259

Pluto -42463-07-04 06:42 J -13788003.35 -13788003.22 -13788003.08 0.0079 0.0032

Saturn -42463-09-28 05:45 J -13787917.38 -13787917.26 -13787917.13 0.0273 0.0157

Pluto -42463-09-30 08:23 J -13787915.29 -13787915.15 -13787915.01 0.0079 0.0024

Saturn -42463-12-25 19:40 J -13787828.82 -13787828.68 -13787828.53 0.0273 0.0058

Pluto -42463-12-27 09:35 J -13787827.24 -13787827.10 -13787826.95 0.0078 0.0017

Saturn -42462-03-24 09:21 J -13787740.26 -13787740.11 -13787739.97 0.0273 0.0040

Pluto -42462-03-25 11:16 J -13787739.18 -13787739.03 -13787738.88 0.0078 0.0008

Saturn -42462-06-20 22:33 J -13787651.68 -13787651.56 -13787651.43 0.0274 0.0136

Pluto -42462-06-21 12:42 J -13787651.12 -13787650.97 -13787650.82 0.0078 0.0001

Saturn -42462-09-17 11:45 J -13787563.09 -13787563.01 -13787562.93 0.0274 0.0230

Pluto -42462-09-17 14:09 J -13787563.06 -13787562.91 -13787562.76 0.0078 0.0007 *

Pluto -42462-12-14 15:21 J -13787475.00 -13787474.86 -13787474.71 0.0078 0.0015

Pluto -42461-03-11 17:02 J -13787386.93 -13787386.79 -13787386.65 0.0078 0.0022

Pluto -42461-06-07 18:14 J -13787298.87 -13787298.74 -13787298.60 0.0078 0.0030

Pluto -42461-09-03 19:40 J -13787210.81 -13787210.68 -13787210.55 0.0078 0.0037

Pluto -42461-11-30 20:52 J -13787122.74 -13787122.63 -13787122.50 0.0077 0.0044

Mars -42461-12-28 11:02 J -13787095.17 -13787095.04 -13787094.91 0.1926 0.0255

Pluto -42460-02-26 22:18 J -13787034.67 -13787034.57 -13787034.46 0.0077 0.0051

Pluto -42460-05-25 23:45 J -13786946.60 -13786946.51 -13786946.42 0.0077 0.0059

Pluto -42460-08-22 00:42 J -13786858.53 -13786858.47 -13786858.38 0.0077 0.0066

Pluto -42460-11-18 01:54 J -13786770.45 -13786770.42 -13786770.36 0.0077 0.0073

Moon -42459-03-15 04:04 J -13786653.41 -13786653.33 -13786653.25 0.2669 0.2083

Earth -42459-03-15 05:16 J -13786653.37 -13786653.28 -13786653.20 0.2672 0.2007 *

Jupiter -42458-05-28 13:54 J -13786214.01 -13786213.92 -13786213.82 0.0495 0.0388

Jupiter -42458-08-26 05:02 J -13786124.43 -13786124.29 -13786124.14 0.0493 0.0197

Mars -42456-09-20 19:40 J -13785367.80 -13785367.68 -13785367.55 0.1603 0.0673

Earth -42456-09-23 08:23 J -13785365.27 -13785365.15 -13785365.02 0.2665 0.0531

Moon -42456-09-23 08:52 J -13785365.25 -13785365.13 -13785365.01 0.2671 0.0490 *

Uranus -42454-03-04 17:30 J -13784837.79 -13784837.77 -13784837.71 0.0132 0.0128

Uranus -42454-05-31 21:50 J -13784749.67 -13784749.59 -13784749.50 0.0132 0.0107

Uranus -42454-08-28 01:40 J -13784661.53 -13784661.43 -13784661.31 0.0132 0.0088

Uranus -42454-11-24 05:45 J -13784573.38 -13784573.26 -13784573.13 0.0132 0.0068

Uranus -42453-02-20 09:35 J -13784485.23 -13784485.10 -13784484.95 0.0132 0.0049

Earth -42453-03-24 22:33 J -13784451.64 -13784451.56 -13784451.48 0.2665 0.2133

Moon -42453-03-24 23:30 J -13784451.60 -13784451.52 -13784451.44 0.2670 0.2157 *

Uranus -42453-05-18 13:40 J -13784397.07 -13784396.93 -13784396.78 0.0132 0.0029

Uranus -42453-08-14 17:30 J -13784308.91 -13784308.77 -13784308.62 0.0132 0.0010

Uranus -42453-11-10 21:21 J -13784220.75 -13784220.61 -13784220.46 0.0132 0.0011

Uranus -42452-02-07 01:11 J -13784132.59 -13784132.45 -13784132.30 0.0132 0.0029

Uranus -42452-05-06 05:02 J -13784044.43 -13784044.29 -13784044.15 0.0132 0.0048

Uranus -42452-08-02 08:38 J -13783956.26 -13783956.14 -13783956.01 0.0132 0.0067

Jupiter -42452-10-27 00:28 J -13783870.63 -13783870.48 -13783870.33 0.0535 0.0007

Uranus -42452-10-29 12:28 J -13783868.09 -13783867.98 -13783867.87 0.0132 0.0086

Uranus -42451-01-25 16:04 J -13783779.91 -13783779.83 -13783779.73 0.0132 0.0104

Uranus -42451-04-23 19:54 J -13783691.72 -13783691.67 -13783691.62 0.0132 0.0123

Mars -42451-05-20 13:54 J -13783665.01 -13783664.92 -13783664.82 0.1927 0.1309

Moon -42449-09-15 21:35 J -13782815.67 -13782815.60 -13782815.53 0.2661 0.2160

Earth -42449-09-15 22:33 J -13782815.63 -13782815.56 -13782815.48 0.2660 0.2088 *

Saturn -42448-04-12 16:33 J -13782606.87 -13782606.81 -13782606.74 0.0285 0.0257

Saturn -42448-07-10 09:50 J -13782518.23 -13782518.09 -13782517.95 0.0285 0.0141

Saturn -42448-10-07 03:21 J -13782429.52 -13782429.36 -13782429.20 0.0285 0.0021

Saturn -42447-01-03 21:21 J -13782340.76 -13782340.61 -13782340.46 0.0285 0.0102

Saturn -42447-04-02 15:35 J -13782251.94 -13782251.85 -13782251.75 0.0285 0.0228

Mars -42446-02-11 04:04 J -13781937.46 -13781937.33 -13781937.19 0.1603 0.0132

Moon -42446-03-18 03:35 J -13781902.47 -13781902.35 -13781902.23 0.2673 0.1078

Earth -42446-03-18 04:33 J -13781902.43 -13781902.31 -13781902.19 0.2670 0.0975 *

Jupiter -42446-06-14 06:57 J -13781814.36 -13781814.21 -13781814.05 0.0493 0.0052

Earth -42443-09-26 05:02 J -13780614.39 -13780614.29 -13780614.18 0.2666 0.1401

Moon -42443-09-26 05:59 J -13780614.35 -13780614.25 -13780614.15 0.2668 0.1510 *

Jupiter -42440-08-15 00:57 J -13779560.60 -13779560.46 -13779560.32 0.0533 0.0182

Jupiter -42440-11-12 17:16 J -13779470.81 -13779470.78 -13779470.74 0.0536 0.0513

Venus -42439-12-04 06:14 J -13779084.36 -13779084.24 -13779084.12 0.3721 0.1457

Mars -42437-07-03 12:28 J -13778507.12 -13778506.98 -13778506.85 0.1602 0.0436

Moon -42436-09-18 19:11 J -13778064.81 -13778064.70 -13778064.59 0.2665 0.1151

Earth -42436-09-18 19:54 J -13778064.78 -13778064.67 -13778064.56 0.2662 0.1142 *

Jupiter -42434-04-02 08:52 J -13777504.28 -13777504.13 -13777503.98 0.0494 0.0091

Saturn -42433-02-15 08:23 J -13777185.26 -13777185.15 -13777185.03 0.0274 0.0180

Moon -42433-03-20 03:35 J -13777151.48 -13777151.35 -13777151.22 0.2674 0.0134

Earth -42433-03-20 04:04 J -13777151.46 -13777151.33 -13777151.19 0.2668 0.0092 *

Saturn -42433-05-13 22:18 J -13777096.71 -13777096.57 -13777096.42 0.0274 0.0080

Venus -42433-06-19 07:11 J -13777060.28 -13777060.20 -13777060.13 0.3715 0.3043

Saturn -42433-08-10 12:14 J -13777008.14 -13777007.99 -13777007.85 0.0274 0.0020

Saturn -42433-11-07 01:26 J -13776919.57 -13776919.44 -13776919.30 0.0274 0.0116

Saturn -42432-02-03 14:38 J -13776830.98 -13776830.89 -13776830.80 0.0274 0.0210

Mars -42430-02-06 08:38 J -13776098.25 -13776098.14 -13776098.02 0.1925 0.0947

Earth -42430-09-29 01:26 J -13775863.50 -13775863.44 -13775863.38 0.2668 0.2258

Moon -42430-09-29 02:23 J -13775863.46 -13775863.40 -13775863.35 0.2666 0.2318 *

Jupiter -42428-06-03 01:54 J -13775250.52 -13775250.42 -13775250.31 0.0533 0.0360

Jupiter -42428-08-31 18:57 J -13775160.82 -13775160.71 -13775160.60 0.0536 0.0342

Mars -42428-11-23 20:23 J -13775076.76 -13775076.65 -13775076.54 0.1602 0.1005

Mars -42426-10-30 11:30 J -13774371.10 -13774371.02 -13774370.94 0.1604 0.1291

Venus -42423-01-02 11:59 J -13773576.05 -13773576.00 -13773575.96 0.3654 0.3300

Moon -42423-09-21 16:47 J -13773313.92 -13773313.80 -13773313.68 0.2671 0.0301

Earth -42423-09-21 17:02 J -13773313.92 -13773313.79 -13773313.67 0.2663 0.0222 *

Jupiter -42422-01-19 10:47 J -13773194.18 -13773194.05 -13773193.91 0.0495 0.0233

Jupiter -42422-04-19 02:23 J -13773104.50 -13773104.40 -13773104.29 0.0492 0.0357

Mars -42421-06-28 11:16 J -13772668.16 -13772668.03 -13772667.90 0.1926 0.0148

Neptune -42421-09-23 21:35 J -13772580.61 -13772580.60 -13772580.56 0.0089 0.0088

Neptune -42421-12-20 23:45 J -13772492.56 -13772492.51 -13772492.44 0.0089 0.0081

Neptune -42420-03-19 01:54 J -13772404.50 -13772404.42 -13772404.33 0.0089 0.0074

Earth -42420-03-23 04:04 J -13772400.45 -13772400.33 -13772400.21 0.2667 0.1194

Moon -42420-03-23 04:33 J -13772400.43 -13772400.31 -13772400.19 0.2673 0.1148 *

Neptune -42420-06-15 04:04 J -13772316.42 -13772316.33 -13772316.22 0.0089 0.0067

Neptune -42420-09-11 05:59 J -13772228.35 -13772228.25 -13772228.12 0.0089 0.0060

Neptune -42420-12-08 08:09 J -13772140.27 -13772140.16 -13772140.02 0.0089 0.0053

Neptune -42419-03-06 10:18 J -13772052.19 -13772052.07 -13772051.92 0.0089 0.0046

Neptune -42419-06-02 12:42 J -13771964.11 -13771963.97 -13771963.82 0.0089 0.0038

Neptune -42419-08-29 14:52 J -13771876.02 -13771875.88 -13771875.73 0.0089 0.0031

Neptune -42419-11-25 17:02 J -13771787.94 -13771787.79 -13771787.63 0.0089 0.0024

Saturn -42419-11-27 10:33 J -13771786.18 -13771786.06 -13771785.94 0.0285 0.0174

Neptune -42418-02-21 19:11 J -13771699.85 -13771699.70 -13771699.54 0.0089 0.0017

Saturn -42418-02-24 03:50 J -13771697.49 -13771697.34 -13771697.18 0.0285 0.0056

Mars -42418-04-16 04:04 J -13771646.34 -13771646.33 -13771646.31 0.1602 0.1589

Neptune -42418-05-20 21:35 J -13771611.76 -13771611.60 -13771611.44 0.0089 0.0010

Saturn -42418-05-23 21:50 J -13771608.75 -13771608.59 -13771608.44 0.0285 0.0066

Venus -42418-07-19 05:30 J -13771552.38 -13771552.27 -13771552.16 0.3658 0.0746

Neptune -42418-08-16 23:45 J -13771523.67 -13771523.51 -13771523.35 0.0089 0.0002

Saturn -42418-08-20 15:50 J -13771519.96 -13771519.84 -13771519.71 0.0285 0.0190

Neptune -42418-11-13 01:54 J -13771435.58 -13771435.42 -13771435.26 0.0089 0.0006

Neptune -42417-02-09 04:04 J -13771347.48 -13771347.33 -13771347.16 0.0089 0.0013

Neptune -42417-05-07 06:28 J -13771259.39 -13771259.23 -13771259.07 0.0089 0.0020

Neptune -42417-08-03 08:38 J -13771171.29 -13771171.14 -13771170.98 0.0089 0.0027

Neptune -42417-10-30 10:47 J -13771083.19 -13771083.05 -13771082.89 0.0089 0.0035

Neptune -42416-01-26 13:11 J -13770995.09 -13770994.95 -13770994.81 0.0089 0.0042

Mars -42416-03-21 19:54 J -13770940.79 -13770940.67 -13770940.55 0.1603 0.0755

Neptune -42416-04-24 15:35 J -13770906.99 -13770906.85 -13770906.72 0.0089 0.0049

Jupiter -42416-06-19 20:52 J -13770850.77 -13770850.63 -13770850.49 0.0535 0.0176

Neptune -42416-07-21 17:30 J -13770818.88 -13770818.77 -13770818.63 0.0089 0.0057

Neptune -42416-10-17 20:09 J -13770730.77 -13770730.66 -13770730.55 0.0089 0.0064

Neptune -42415-01-13 22:04 J -13770642.66 -13770642.58 -13770642.47 0.0089 0.0072

Neptune -42415-04-12 00:42 J -13770554.54 -13770554.47 -13770554.40 0.0089 0.0079

Neptune -42415-07-09 02:52 J -13770466.40 -13770466.38 -13770466.34 0.0089 0.0087

Moon -42413-03-15 09:35 J -13769851.19 -13769851.10 -13769851.00 0.2670 0.1881

Earth -42413-03-15 10:47 J -13769851.15 -13769851.05 -13769850.96 0.2671 0.1830 *

Venus -42412-01-31 23:16 J -13769528.63 -13769528.53 -13769528.44 0.3662 0.1779

Mars -42412-11-18 14:23 J -13769238.01 -13769237.90 -13769237.80 0.1927 0.1202

Uranus -42411-02-18 10:18 J -13769146.14 -13769146.07 -13769145.97 0.0146 0.0124

Uranus -42411-05-17 16:47 J -13769057.92 -13769057.80 -13769057.67 0.0146 0.0095

Uranus -42411-08-13 22:47 J -13768969.69 -13768969.55 -13768969.39 0.0146 0.0067

Jupiter -42411-11-07 12:57 J -13768884.06 -13768883.96 -13768883.86 0.0495 0.0372

Uranus -42411-11-10 05:16 J -13768881.44 -13768881.28 -13768881.12 0.0146 0.0038

Jupiter -42410-02-05 04:18 J -13768794.46 -13768794.32 -13768794.18 0.0493 0.0212

Uranus -42410-02-06 11:30 J -13768793.19 -13768793.02 -13768792.85 0.0146 0.0009

Uranus -42410-05-05 17:45 J -13768704.92 -13768704.76 -13768704.59 0.0146 0.0020

Uranus -42410-08-01 23:59 J -13768616.65 -13768616.50 -13768616.33 0.0146 0.0051

Earth -42410-09-24 13:40 J -13768563.05 -13768562.93 -13768562.81 0.2665 0.0684

Moon -42410-09-24 14:09 J -13768563.02 -13768562.91 -13768562.79 0.2670 0.0792 *

Uranus -42410-10-29 06:42 J -13768528.36 -13768528.22 -13768528.08 0.0146 0.0080

Uranus -42409-01-25 13:11 J -13768440.06 -13768439.95 -13768439.84 0.0146 0.0110

Uranus -42409-04-22 19:26 J -13768351.72 -13768351.69 -13768351.63 0.0146 0.0140

Earth -42407-03-26 04:18 J -13767649.38 -13767649.32 -13767649.25 0.2665 0.2336

Moon -42407-03-26 05:30 J -13767649.32 -13767649.27 -13767649.23 0.2669 0.2474 *

Mars -42407-08-12 04:18 J -13767510.45 -13767510.32 -13767510.18 0.1603 0.0204

Jupiter -42404-04-07 22:47 J -13766540.69 -13766540.55 -13766540.40 0.0535 0.0012

Saturn -42404-07-04 08:23 J -13766453.24 -13766453.15 -13766453.06 0.0274 0.0220

Saturn -42404-09-30 22:33 J -13766364.70 -13766364.56 -13766364.43 0.0274 0.0119

Saturn -42404-12-28 12:14 J -13766276.14 -13766275.99 -13766275.84 0.0274 0.0020

Saturn -42403-03-27 01:40 J -13766187.56 -13766187.43 -13766187.28 0.0274 0.0079

Saturn -42403-06-23 15:06 J -13766098.98 -13766098.87 -13766098.76 0.0274 0.0173

Moon -42403-09-17 02:52 J -13766013.46 -13766013.38 -13766013.30 0.2661 0.2009

Earth -42403-09-17 03:50 J -13766013.42 -13766013.34 -13766013.25 0.2661 0.1922 *

Saturn -42403-09-20 04:04 J -13766010.36 -13766010.33 -13766010.30 0.0274 0.0267

Moon -42400-03-18 09:06 J -13765100.24 -13765100.12 -13765099.99 0.2674 0.0846

Earth -42400-03-18 10:04 J -13765100.21 -13765100.08 -13765099.95 0.2670 0.0791 *

Jupiter -42399-11-24 05:45 J -13764484.42 -13764484.26 -13764484.11 0.0493 0.0063

Mars -42397-01-02 12:28 J -13764080.11 -13764079.98 -13764079.84 0.1602 0.0357

Earth -42397-09-26 10:18 J -13763812.17 -13763812.07 -13763811.97 0.2667 0.1557

Moon -42397-09-26 11:16 J -13763812.13 -13763812.03 -13763811.94 0.2669 0.1570 *

Jupiter -42392-01-25 00:28 J -13762230.62 -13762230.48 -13762230.34 0.0534 0.0160

Jupiter -42392-04-24 17:02 J -13762140.80 -13762140.79 -13762140.79 0.0537 0.0536

Mars -42391-08-07 08:38 J -13761671.25 -13761671.14 -13761671.02 0.1925 0.1037

Moon -42390-09-20 00:42 J -13761262.59 -13761262.47 -13761262.36 0.2667 0.1052

Earth -42390-09-20 01:11 J -13761262.56 -13761262.45 -13761262.33 0.2662 0.0974 *

Saturn -42389-04-15 09:35 J -13761054.20 -13761054.10 -13761053.99 0.0285 0.0217

Saturn -42389-07-13 02:52 J -13760965.52 -13760965.38 -13760965.22 0.0285 0.0099

Saturn -42389-10-09 20:38 J -13760876.80 -13760876.64 -13760876.48 0.0285 0.0022

Saturn -42388-01-06 14:38 J -13760788.02 -13760787.89 -13760787.74 0.0285 0.0145

Saturn -42388-04-05 09:06 J -13760699.16 -13760699.12 -13760699.07 0.0285 0.0271

Mars -42388-05-24 20:38 J -13760649.75 -13760649.64 -13760649.53 0.1602 0.0922

Moon -42387-03-21 09:21 J -13760349.24 -13760349.11 -13760348.97 0.2674 0.0212

Earth -42387-03-21 09:50 J -13760349.23 -13760349.09 -13760348.96 0.2668 0.0286 *

Jupiter -42387-09-12 07:26 J -13760174.34 -13760174.19 -13760174.03 0.0494 0.0083

Mars -42386-04-30 11:45 J -13759944.08 -13759944.01 -13759943.95 0.1604 0.1369

Earth -42384-09-29 06:42 J -13759061.27 -13759061.22 -13759061.17 0.2668 0.2407

Moon -42384-09-29 07:26 J -13759061.24 -13759061.19 -13759061.15 0.2664 0.2477 *

Venus -42382-07-11 05:59 J -13758411.38 -13758411.25 -13758411.11 0.3719 0.0152

Mars -42382-12-28 11:30 J -13758241.15 -13758241.02 -13758240.88 0.1926 0.0044

Jupiter -42381-11-13 00:42 J -13757920.58 -13757920.47 -13757920.35 0.0532 0.0348

Jupiter -42380-02-10 17:45 J -13757830.87 -13757830.76 -13757830.65 0.0536 0.0353

Moon -42380-03-13 16:33 J -13757799.83 -13757799.81 -13757799.80 0.2668 0.2627

Earth -42380-03-13 17:16 J -13757799.79 -13757799.78 -13757799.77 0.2673 0.2655

Mars -42379-10-15 04:33 J -13757219.36 -13757219.31 -13757219.26 0.1602 0.1497

Mars -42377-09-19 20:09 J -13756513.77 -13756513.66 -13756513.54 0.1604 0.0834

Moon -42377-09-21 22:04 J -13756511.70 -13756511.58 -13756511.46 0.2671 0.0038

Earth -42377-09-21 22:18 J -13756511.70 -13756511.57 -13756511.45 0.2664 0.0104 *

Jupiter -42375-07-01 09:21 J -13755864.25 -13755864.11 -13755863.97 0.0495 0.0226

Jupiter -42375-09-29 00:57 J -13755774.56 -13755774.46 -13755774.35 0.0493 0.0365

Saturn -42375-11-21 11:02 J -13755721.11 -13755721.04 -13755720.97 0.0274 0.0243

Saturn -42374-02-18 01:11 J -13755632.58 -13755632.45 -13755632.32 0.0274 0.0142

Earth -42374-03-24 09:50 J -13755598.21 -13755598.09 -13755597.98 0.2666 0.1390

Moon -42374-03-24 10:18 J -13755598.18 -13755598.07 -13755597.96 0.2673 0.1518 *

Saturn -42374-05-17 15:06 J -13755544.02 -13755543.87 -13755543.73 0.0274 0.0042

Saturn -42374-08-14 04:33 J -13755455.45 -13755455.31 -13755455.16 0.0274 0.0057

Saturn -42374-11-10 17:59 J -13755366.87 -13755366.75 -13755366.63 0.0274 0.0153

Saturn -42373-02-07 06:57 J -13755278.26 -13755278.21 -13755278.14 0.0274 0.0248

Mars -42372-05-19 14:38 J -13754811.00 -13754810.89 -13754810.78 0.1926 0.1093

Uranus -42370-03-25 00:28 J -13754136.53 -13754136.48 -13754136.43 0.0132 0.0124

Uranus -42370-06-21 04:33 J -13754048.40 -13754048.31 -13754048.22 0.0132 0.0104

Uranus -42370-09-17 08:23 J -13753960.26 -13753960.15 -13753960.03 0.0132 0.0084

Uranus -42370-12-14 12:28 J -13753872.11 -13753871.98 -13753871.85 0.0132 0.0064

Uranus -42369-03-11 16:18 J -13753783.96 -13753783.82 -13753783.67 0.0132 0.0045

Uranus -42369-06-07 20:23 J -13753695.80 -13753695.65 -13753695.51 0.0132 0.0025

Jupiter -42369-09-01 01:40 J -13753610.44 -13753610.43 -13753610.41 0.0532 0.0528

Uranus -42369-09-04 00:14 J -13753607.64 -13753607.49 -13753607.34 0.0132 0.0006

Jupiter -42369-11-29 19:11 J -13753520.84 -13753520.70 -13753520.56 0.0535 0.0179

Uranus -42369-12-01 04:04 J -13753519.48 -13753519.33 -13753519.18 0.0132 0.0013

Uranus -42368-02-27 07:54 J -13753431.31 -13753431.17 -13753431.03 0.0132 0.0033

Uranus -42368-05-26 11:45 J -13753343.15 -13753343.01 -13753342.88 0.0132 0.0052

Uranus -42368-08-22 15:21 J -13753254.98 -13753254.86 -13753254.73 0.0132 0.0070

Uranus -42368-11-18 18:57 J -13753166.81 -13753166.71 -13753166.59 0.0132 0.0089

Mars -42367-02-10 04:33 J -13753083.44 -13753083.31 -13753083.17 0.1603 0.0293

Uranus -42367-02-14 22:47 J -13753078.63 -13753078.55 -13753078.46 0.0132 0.0108

Moon -42367-03-16 15:21 J -13753048.96 -13753048.86 -13753048.76 0.2671 0.1767

Earth -42367-03-16 16:18 J -13753048.92 -13753048.82 -13753048.72 0.2671 0.1645 *

Uranus -42367-05-14 02:23 J -13752990.43 -13752990.40 -13752990.35 0.0132 0.0126

Venus -42367-08-09 09:50 J -13752903.17 -13752903.09 -13752903.00 0.3654 0.2329

Earth -42364-09-24 18:57 J -13751760.83 -13751760.71 -13751760.59 0.2665 0.0839

Moon -42364-09-24 19:40 J -13751760.80 -13751760.68 -13751760.57 0.2670 0.0820 *

Jupiter -42363-04-19 11:16 J -13751554.13 -13751554.03 -13751553.92 0.0496 0.0367

Jupiter -42363-07-18 02:38 J -13751464.53 -13751464.39 -13751464.25 0.0493 0.0219

Venus -42361-02-23 03:35 J -13750879.46 -13750879.35 -13750879.24 0.3659 0.0226

Earth -42361-03-26 10:04 J -13750847.12 -13750847.08 -13750847.04 0.2665 0.2532

Moon -42361-03-26 11:16 J -13750847.07 -13750847.03 -13750846.99 0.2667 0.2532 *

Saturn -42360-09-02 11:02 J -13750322.11 -13750322.04 -13750321.96 0.0285 0.0246

Saturn -42360-11-30 04:04 J -13750233.46 -13750233.33 -13750233.18 0.0285 0.0130

Saturn -42359-02-26 21:50 J -13750144.75 -13750144.59 -13750144.43 0.0285 0.0011

Saturn -42359-05-26 15:35 J -13750056.00 -13750055.85 -13750055.70 0.0285 0.0113

Saturn -42359-08-23 09:50 J -13749967.17 -13749967.09 -13749966.99 0.0285 0.0237

Mars -42358-07-03 12:42 J -13749653.10 -13749652.97 -13749652.83 0.1602 0.0275

Moon -42357-09-17 08:09 J -13749211.25 -13749211.16 -13749211.06 0.2661 0.1798

Earth -42357-09-17 09:21 J -13749211.21 -13749211.11 -13749211.02 0.2661 0.1751 *

Jupiter -42357-09-17 20:38 J -13749210.78 -13749210.64 -13749210.49 0.0535 0.0012

Venus -42356-09-07 21:06 J -13748855.69 -13748855.62 -13748855.55 0.3663 0.2721

Moon -42354-03-19 14:52 J -13748298.01 -13748297.88 -13748297.76 0.2674 0.0676

Earth -42354-03-19 15:35 J -13748297.98 -13748297.85 -13748297.72 0.2669 0.0612 *

Mars -42351-02-05 09:06 J -13747244.23 -13747244.12 -13747244.01 0.1925 0.1148

Jupiter -42351-05-06 04:33 J -13747154.47 -13747154.31 -13747154.16 0.0493 0.0076

Earth -42351-09-27 15:35 J -13747009.95 -13747009.85 -13747009.76 0.2667 0.1713

Moon -42351-09-27 16:18 J -13747009.90 -13747009.82 -13747009.73 0.2668 0.1836 *

Mars -42349-11-22 20:52 J -13746222.75 -13746222.63 -13746222.51 0.1602 0.0838

Mars -42347-10-29 11:45 J -13745517.06 -13745517.01 -13745516.95 0.1604 0.1446

Jupiter -42345-07-06 22:33 J -13744900.70 -13744900.56 -13744900.42 0.0534 0.0158

Saturn -42345-07-07 01:26 J -13744900.55 -13744900.44 -13744900.32 0.0274 0.0178 *

Saturn -42345-10-03 15:21 J -13744812.00 -13744811.86 -13744811.71 0.0274 0.0078

Saturn -42345-12-31 05:16 J -13744723.43 -13744723.28 -13744723.14 0.0274 0.0022

Saturn -42344-03-29 18:28 J -13744634.86 -13744634.73 -13744634.59 0.0274 0.0118

Saturn -42344-06-26 07:40 J -13744546.26 -13744546.18 -13744546.08 0.0274 0.0213

Moon -42344-09-20 05:59 J -13744460.37 -13744460.25 -13744460.13 0.2668 0.0849

Earth -42344-09-20 06:28 J -13744460.35 -13744460.23 -13744460.11 0.2662 0.0811 *

Mars -42342-06-28 11:45 J -13743814.15 -13743814.01 -13743813.88 0.1926 0.0072

Moon -42341-03-21 15:21 J -13743546.99 -13743546.86 -13743546.73 0.2674 0.0501

Earth -42341-03-21 15:21 J -13743546.99 -13743546.86 -13743546.73 0.2668 0.0471 *

Jupiter -42339-02-22 05:59 J -13742844.40 -13742844.25 -13742844.09 0.0494 0.0074

Mars -42339-04-15 04:47 J -13742792.37 -13742792.30 -13742792.24 0.1602 0.1415

Neptune -42338-09-25 14:23 J -13742263.94 -13742263.90 -13742263.85 0.0088 0.0085

Earth -42338-09-30 11:45 J -13742259.04 -13742259.01 -13742258.98 0.2669 0.2558

Moon -42338-09-30 12:28 J -13742259.01 -13742258.98 -13742258.95 0.2664 0.2555 *

Neptune -42338-12-22 16:33 J -13742175.88 -13742175.81 -13742175.73 0.0088 0.0078

Neptune -42337-03-19 18:42 J -13742087.81 -13742087.72 -13742087.61 0.0088 0.0070

Mars -42337-03-20 20:23 J -13742086.76 -13742086.65 -13742086.54 0.1604 0.0913

Neptune -42337-06-15 20:38 J -13741999.73 -13741999.64 -13741999.51 0.0088 0.0064

Neptune -42337-09-11 23:16 J -13741911.65 -13741911.53 -13741911.41 0.0088 0.0056

Neptune -42337-12-09 01:11 J -13741823.57 -13741823.45 -13741823.31 0.0088 0.0049

Neptune -42336-03-07 03:21 J -13741735.49 -13741735.36 -13741735.21 0.0088 0.0042

Neptune -42336-06-03 05:30 J -13741647.41 -13741647.27 -13741647.11 0.0088 0.0034

Neptune -42336-08-30 07:40 J -13741559.32 -13741559.18 -13741559.02 0.0088 0.0027

Neptune -42336-11-26 09:50 J -13741471.24 -13741471.09 -13741470.93 0.0088 0.0020

Neptune -42335-02-22 11:59 J -13741383.15 -13741383.00 -13741382.84 0.0088 0.0013

Neptune -42335-05-21 14:09 J -13741295.06 -13741294.91 -13741294.75 0.0088 0.0006

Neptune -42335-08-17 16:18 J -13741206.98 -13741206.82 -13741206.66 0.0088 0.0002

Neptune -42335-11-13 18:14 J -13741118.89 -13741118.74 -13741118.58 0.0088 0.0009

Neptune -42334-02-09 20:23 J -13741030.80 -13741030.65 -13741030.49 0.0088 0.0016

Moon -42334-03-14 22:04 J -13740997.61 -13740997.58 -13740997.56 0.2668 0.2609

Earth -42334-03-14 22:47 J -13740997.59 -13740997.55 -13740997.50 0.2673 0.2475 *

Neptune -42334-05-08 22:33 J -13740942.71 -13740942.56 -13740942.41 0.0088 0.0023

Neptune -42334-08-05 00:28 J -13740854.62 -13740854.48 -13740854.33 0.0088 0.0030

Neptune -42334-11-01 02:23 J -13740766.53 -13740766.40 -13740766.25 0.0088 0.0037

Neptune -42333-01-28 04:33 J -13740678.44 -13740678.31 -13740678.17 0.0088 0.0043

Jupiter -42333-04-24 23:59 J -13740590.61 -13740590.50 -13740590.38 0.0533 0.0330

Neptune -42333-04-25 06:28 J -13740590.35 -13740590.23 -13740590.10 0.0088 0.0050

Neptune -42333-07-22 08:23 J -13740502.25 -13740502.15 -13740502.02 0.0088 0.0058

Jupiter -42333-07-23 17:02 J -13740500.89 -13740500.79 -13740500.69 0.0536 0.0372

Neptune -42333-10-18 10:18 J -13740414.16 -13740414.07 -13740413.95 0.0088 0.0065

Mars -42333-11-17 14:23 J -13740384.01 -13740383.90 -13740383.78 0.1927 0.1008

Neptune -42332-01-14 12:28 J -13740326.06 -13740325.98 -13740325.88 0.0088 0.0071

Neptune -42332-04-12 14:23 J -13740237.96 -13740237.90 -13740237.82 0.0088 0.0078

Neptune -42332-07-09 16:18 J -13740149.85 -13740149.82 -13740149.76 0.0088 0.0085

Venus -42331-08-01 05:16 J -13739762.37 -13739762.28 -13739762.20 0.3723 0.2719

Moon -42331-09-23 03:35 J -13739709.48 -13739709.35 -13739709.23 0.2670 0.0088

Earth -42331-09-23 03:35 J -13739709.48 -13739709.35 -13739709.23 0.2664 0.0146 *

Saturn -42330-04-19 03:21 J -13739501.49 -13739501.36 -13739501.23 0.0285 0.0172

Saturn -42330-07-16 20:38 J -13739412.79 -13739412.64 -13739412.48 0.0285 0.0054

Saturn -42330-10-13 14:38 J -13739324.05 -13739323.89 -13739323.74 0.0285 0.0068

Saturn -42329-01-10 08:38 J -13739235.26 -13739235.14 -13739235.02 0.0285 0.0192

Earth -42328-03-24 15:35 J -13738795.96 -13738795.85 -13738795.75 0.2666 0.1590

Moon -42328-03-24 16:04 J -13738795.94 -13738795.83 -13738795.72 0.2672 0.1557 *

Mars -42328-08-11 04:47 J -13738656.43 -13738656.30 -13738656.17 0.1603 0.0366

Jupiter -42328-12-11 07:54 J -13738534.31 -13738534.17 -13738534.03 0.0495 0.0217

Uranus -42328-12-12 11:16 J -13738533.03 -13738533.03 -13738533.01 0.0146 0.0146

Uranus -42327-03-10 17:16 J -13738444.86 -13738444.78 -13738444.67 0.0146 0.0118

Jupiter -42327-03-10 23:30 J -13738444.62 -13738444.52 -13738444.42 0.0492 0.0373

Uranus -42327-06-06 23:45 J -13738356.64 -13738356.51 -13738356.38 0.0146 0.0089

Uranus -42327-09-03 05:45 J -13738268.40 -13738268.26 -13738268.10 0.0146 0.0061

Uranus -42327-11-30 11:59 J -13738180.16 -13738180.00 -13738179.83 0.0146 0.0032

Uranus -42326-02-26 18:28 J -13738091.90 -13738091.73 -13738091.57 0.0146 0.0004

Uranus -42326-05-26 00:42 J -13738003.63 -13738003.47 -13738003.31 0.0146 0.0026

Uranus -42326-08-22 06:57 J -13737915.36 -13737915.21 -13737915.05 0.0146 0.0056

Uranus -42326-11-18 13:26 J -13737827.07 -13737826.94 -13737826.80 0.0146 0.0086

Uranus -42325-02-14 19:40 J -13737738.76 -13737738.68 -13737738.56 0.0146 0.0117

Venus -42325-02-15 05:45 J -13737738.37 -13737738.26 -13737738.14 0.3717 0.1695

Uranus -42325-05-13 02:38 J -13737650.39 -13737650.39 -13737650.38 0.0146 0.0146

Moon -42324-09-15 16:04 J -13737159.86 -13737159.83 -13737159.79 0.2657 0.2534

Earth -42324-09-15 17:02 J -13737159.82 -13737159.79 -13737159.75 0.2660 0.2546 *

Jupiter -42321-02-12 00:28 J -13736280.51 -13736280.48 -13736280.45 0.0531 0.0516

Moon -42321-03-16 20:52 J -13736246.74 -13736246.63 -13736246.52 0.2672 0.1470

Earth -42321-03-16 21:50 J -13736246.70 -13736246.59 -13736246.48 0.2671 0.1468 *

Jupiter -42321-05-11 17:59 J -13736190.89 -13736190.75 -13736190.62 0.0535 0.0190

Mars -42318-01-01 13:11 J -13735226.09 -13735225.95 -13735225.82 0.1603 0.0192

Earth -42318-09-26 00:14 J -13734958.61 -13734958.49 -13734958.38 0.2666 0.0997

Moon -42318-09-26 00:57 J -13734958.57 -13734958.46 -13734958.35 0.2670 0.1121 *

Jupiter -42316-09-29 09:35 J -13734224.20 -13734224.10 -13734223.99 0.0496 0.0363

Saturn -42316-11-24 03:50 J -13734168.44 -13734168.34 -13734168.24 0.0275 0.0203

Jupiter -42316-12-28 00:57 J -13734134.60 -13734134.46 -13734134.32 0.0493 0.0224

Saturn -42315-02-20 17:59 J -13734079.89 -13734079.75 -13734079.61 0.0275 0.0102

Saturn -42315-05-20 07:54 J -13733991.32 -13733991.17 -13733991.02 0.0275 0.0006

Saturn -42315-08-16 21:21 J -13733902.75 -13733902.61 -13733902.47 0.0275 0.0096

Saturn -42315-11-13 10:33 J -13733814.16 -13733814.06 -13733813.95 0.0275 0.0192

Mars -42312-08-06 09:21 J -13732817.21 -13732817.11 -13732817.00 0.1925 0.1266

Moon -42311-09-18 13:40 J -13732409.02 -13732408.93 -13732408.83 0.2663 0.1694

Earth -42311-09-18 14:38 J -13732408.99 -13732408.89 -13732408.79 0.2661 0.1580 *

Venus -42310-03-16 07:54 J -13732230.28 -13732230.17 -13732230.07 0.3656 0.1352

Jupiter -42309-02-28 19:11 J -13731880.85 -13731880.70 -13731880.56 0.0534 0.0019

Mars -42309-05-23 21:06 J -13731795.74 -13731795.62 -13731795.50 0.1602 0.0752

Moon -42308-03-19 20:23 J -13731495.78 -13731495.65 -13731495.52 0.2674 0.0499

Earth -42308-03-19 21:21 J -13731495.74 -13731495.61 -13731495.48 0.2669 0.0420 *

Mars -42307-04-29 11:59 J -13731090.03 -13731090.00 -13731089.96 0.1604 0.1529

Pluto -42305-02-09 21:35 J -13730438.62 -13730438.60 -13730438.53 0.0065 0.0063

Pluto -42305-05-07 22:47 J -13730350.61 -13730350.55 -13730350.45 0.0065 0.0058

Pluto -42305-08-04 00:14 J -13730262.58 -13730262.49 -13730262.38 0.0066 0.0053

Earth -42305-09-27 20:38 J -13730207.72 -13730207.64 -13730207.55 0.2667 0.1864

Moon -42305-09-27 21:35 J -13730207.69 -13730207.60 -13730207.52 0.2667 0.1854 *

Venus -42305-09-29 01:40 J -13730206.54 -13730206.43 -13730206.33 0.3660 0.1197

Pluto -42305-10-31 01:26 J -13730174.54 -13730174.44 -13730174.31 0.0066 0.0048

Pluto -42304-01-27 02:38 J -13730086.50 -13730086.39 -13730086.25 0.0066 0.0043

Pluto -42304-04-25 04:18 J -13729998.46 -13729998.32 -13729998.18 0.0066 0.0037

Pluto -42304-07-22 05:16 J -13729910.42 -13729910.28 -13729910.12 0.0066 0.0032

Jupiter -42304-10-16 02:38 J -13729824.54 -13729824.39 -13729824.23 0.0494 0.0080

Pluto -42304-10-18 06:28 J -13729822.37 -13729822.23 -13729822.07 0.0066 0.0027

Pluto -42303-01-14 07:40 J -13729734.33 -13729734.18 -13729734.01 0.0066 0.0022

Pluto -42303-04-12 09:21 J -13729646.28 -13729646.11 -13729645.95 0.0066 0.0017

Pluto -42303-07-09 10:33 J -13729558.23 -13729558.06 -13729557.89 0.0066 0.0011

Pluto -42303-10-05 11:45 J -13729470.17 -13729470.01 -13729469.84 0.0066 0.0006

Mars -42303-12-27 11:45 J -13729387.14 -13729387.01 -13729386.87 0.1926 0.0162

Pluto -42302-01-01 13:11 J -13729382.12 -13729381.95 -13729381.78 0.0066 0.0001

Pluto -42302-03-30 14:23 J -13729294.07 -13729293.90 -13729293.73 0.0067 0.0005

Pluto -42302-06-26 15:35 J -13729206.01 -13729205.85 -13729205.67 0.0067 0.0011

Pluto -42302-09-22 17:02 J -13729117.95 -13729117.79 -13729117.62 0.0067 0.0016

Pluto -42302-12-19 18:28 J -13729029.89 -13729029.73 -13729029.57 0.0067 0.0021

Pluto -42301-03-16 19:40 J -13728941.83 -13728941.68 -13728941.52 0.0067 0.0027

Pluto -42301-06-12 20:52 J -13728853.76 -13728853.63 -13728853.47 0.0067 0.0033

Saturn -42301-09-05 05:16 J -13728769.39 -13728769.28 -13728769.16 0.0285 0.0198

Pluto -42301-09-08 22:18 J -13728765.70 -13728765.57 -13728765.42 0.0067 0.0039

Saturn -42301-12-02 22:33 J -13728680.71 -13728680.56 -13728680.40 0.0285 0.0080

Pluto -42301-12-05 23:30 J -13728677.63 -13728677.52 -13728677.37 0.0067 0.0045

Saturn -42300-03-01 16:18 J -13728591.98 -13728591.82 -13728591.66 0.0285 0.0041

Pluto -42300-03-04 01:26 J -13728589.56 -13728589.44 -13728589.33 0.0067 0.0050

Saturn -42300-05-29 10:18 J -13728503.20 -13728503.07 -13728502.94 0.0285 0.0164

Pluto -42300-05-31 02:38 J -13728501.48 -13728501.39 -13728501.29 0.0067 0.0056

Pluto -42300-08-27 03:50 J -13728413.39 -13728413.34 -13728413.25 0.0068 0.0062

Mars -42300-10-14 05:02 J -13728365.37 -13728365.29 -13728365.22 0.1602 0.1332

Pluto -42300-11-23 05:30 J -13728325.27 -13728325.27 -13728325.25 0.0068 0.0067

Venus -42299-04-14 18:57 J -13728182.71 -13728182.71 -13728182.70 0.3664 0.3662

Mars -42298-09-19 20:38 J -13727659.75 -13727659.64 -13727659.53 0.1604 0.0992

Moon -42298-09-21 11:16 J -13727658.15 -13727658.03 -13727657.91 0.2669 0.0668

Earth -42298-09-21 11:45 J -13727658.13 -13727658.01 -13727657.89 0.2663 0.0646 *

Jupiter -42298-12-17 20:23 J -13727570.79 -13727570.65 -13727570.51 0.0534 0.0163

Jupiter -42297-03-16 12:57 J -13727480.97 -13727480.96 -13727480.95 0.0537 0.0532

Moon -42295-03-22 21:06 J -13726744.75 -13726744.62 -13726744.49 0.2674 0.0663

Earth -42295-03-22 21:06 J -13726744.75 -13726744.62 -13726744.49 0.2667 0.0667 *

Mars -42293-05-18 14:52 J -13725957.00 -13725956.88 -13725956.76 0.1926 0.0892

Jupiter -42292-08-04 04:47 J -13725514.46 -13725514.30 -13725514.15 0.0494 0.0064

Mars -42288-02-09 05:02 J -13724229.42 -13724229.29 -13724229.16 0.1603 0.0447

Moon -42288-03-15 03:35 J -13724195.42 -13724195.35 -13724195.29 0.2669 0.2276

Earth -42288-03-15 04:18 J -13724195.38 -13724195.32 -13724195.25 0.2672 0.2299 *

Saturn -42286-04-13 04:33 J -13723436.38 -13723436.31 -13723436.24 0.0274 0.0238

Uranus -42286-04-14 07:11 J -13723435.26 -13723435.20 -13723435.13 0.0132 0.0120

Saturn -42286-07-10 18:42 J -13723347.85 -13723347.72 -13723347.59 0.0274 0.0136

Uranus -42286-07-11 11:16 J -13723347.13 -13723347.03 -13723346.93 0.0132 0.0100

Jupiter -42286-10-05 22:04 J -13723260.70 -13723260.58 -13723260.47 0.0533 0.0332

Saturn -42286-10-07 08:38 J -13723259.29 -13723259.14 -13723258.99 0.0274 0.0036

Uranus -42286-10-07 15:21 J -13723258.98 -13723258.86 -13723258.74 0.0132 0.0080

Jupiter -42285-01-03 15:06 J -13723170.97 -13723170.87 -13723170.77 0.0536 0.0371

Uranus -42285-01-03 19:11 J -13723170.83 -13723170.70 -13723170.56 0.0132 0.0060 *

Saturn -42285-01-03 22:18 J -13723170.72 -13723170.57 -13723170.43 0.0274 0.0062 *

Uranus -42285-03-31 23:16 J -13723082.67 -13723082.53 -13723082.39 0.0132 0.0041

Saturn -42285-04-01 11:30 J -13723082.13 -13723082.02 -13723081.90 0.0274 0.0159

Uranus -42285-06-28 03:06 J -13722994.52 -13722994.37 -13722994.22 0.0132 0.0021

Saturn -42285-06-29 00:42 J -13722993.52 -13722993.47 -13722993.42 0.0274 0.0253

Earth -42285-09-23 08:38 J -13722907.26 -13722907.14 -13722907.01 0.2664 0.0269

Moon -42285-09-23 08:52 J -13722907.25 -13722907.13 -13722907.00 0.2670 0.0310 *

Uranus -42285-09-24 06:57 J -13722906.36 -13722906.21 -13722906.06 0.0132 0.0002

Uranus -42285-12-21 10:47 J -13722818.19 -13722818.05 -13722817.90 0.0132 0.0018

Uranus -42284-03-19 14:38 J -13722730.03 -13722729.89 -13722729.75 0.0132 0.0037

Uranus -42284-06-15 18:28 J -13722641.86 -13722641.73 -13722641.60 0.0132 0.0055

Uranus -42284-09-11 22:04 J -13722553.69 -13722553.58 -13722553.45 0.0132 0.0074

Mars -42284-10-08 17:59 J -13722526.75 -13722526.75 -13722526.75 0.1926 0.1925

Uranus -42284-12-09 01:40 J -13722465.52 -13722465.43 -13722465.31 0.0132 0.0094

Uranus -42283-03-07 05:30 J -13722377.34 -13722377.27 -13722377.19 0.0132 0.0112

Uranus -42283-06-03 09:06 J -13722289.13 -13722289.12 -13722289.09 0.0132 0.0130

Earth -42282-03-25 21:06 J -13721993.72 -13721993.62 -13721993.52 0.2666 0.1781

Moon -42282-03-25 21:50 J -13721993.68 -13721993.59 -13721993.49 0.2671 0.1894 *

Jupiter -42280-05-23 06:28 J -13721204.37 -13721204.23 -13721204.10 0.0495 0.0211

Jupiter -42280-08-20 21:50 J -13721114.69 -13721114.59 -13721114.49 0.0492 0.0379

Mars -42279-07-02 13:11 J -13720799.08 -13720798.95 -13720798.81 0.1603 0.0114

Moon -42278-09-16 21:35 J -13720357.64 -13720357.60 -13720357.57 0.2657 0.2519

Earth -42278-09-16 22:33 J -13720357.62 -13720357.56 -13720357.51 0.2660 0.2370 *

Moon -42275-03-18 02:23 J -13719444.51 -13719444.40 -13719444.29 0.2673 0.1442

Earth -42275-03-18 03:35 J -13719444.47 -13719444.35 -13719444.24 0.2670 0.1280 *

Venus -42274-03-08 05:02 J -13719089.42 -13719089.29 -13719089.17 0.3722 0.1166

Jupiter -42274-07-24 23:30 J -13718950.57 -13718950.52 -13718950.48 0.0532 0.0504

Jupiter -42274-10-22 16:47 J -13718860.93 -13718860.80 -13718860.66 0.0535 0.0204

Mars -42272-02-04 09:21 J -13718390.21 -13718390.11 -13718390.01 0.1925 0.1350

Earth -42272-09-26 05:16 J -13718156.39 -13718156.28 -13718156.17 0.2666 0.1156

Moon -42272-09-26 06:14 J -13718156.35 -13718156.24 -13718156.13 0.2670 0.1150 *

Saturn -42271-01-23 04:18 J -13718037.39 -13718037.32 -13718037.23 0.0285 0.0241

Saturn -42271-04-21 21:35 J -13717948.74 -13717948.60 -13717948.45 0.0285 0.0124

Saturn -42271-07-19 15:06 J -13717860.03 -13717859.87 -13717859.71 0.0285 0.0006

Saturn -42271-10-16 08:52 J -13717771.27 -13717771.13 -13717770.97 0.0285 0.0119

Saturn -42270-01-13 03:06 J -13717682.44 -13717682.37 -13717682.27 0.0285 0.0244

Mars -42270-11-22 21:21 J -13717368.74 -13717368.61 -13717368.48 0.1603 0.0671

Venus -42269-09-21 05:45 J -13717065.32 -13717065.26 -13717065.20 0.3716 0.3293

Jupiter -42268-03-11 08:09 J -13716894.26 -13716894.16 -13716894.05 0.0496 0.0355

Jupiter -42268-06-08 23:30 J -13716804.66 -13716804.52 -13716804.38 0.0493 0.0231

Mars -42268-10-28 12:14 J -13716662.99 -13716662.99 -13716662.99 0.1605 0.1603

Moon -42265-09-18 18:57 J -13715606.81 -13715606.71 -13715606.60 0.2665 0.1415

Earth -42265-09-18 19:54 J -13715606.78 -13715606.67 -13715606.57 0.2661 0.1417 *

Mars -42263-06-27 12:14 J -13714960.13 -13714959.99 -13714959.86 0.1926 0.0277

Moon -42262-03-21 02:23 J -13714693.54 -13714693.40 -13714693.27 0.2674 0.0243

Earth -42262-03-21 02:52 J -13714693.51 -13714693.38 -13714693.24 0.2669 0.0237 *

Jupiter -42262-08-10 17:45 J -13714550.91 -13714550.76 -13714550.61 0.0534 0.0022

Mars -42260-04-14 05:16 J -13713938.37 -13713938.28 -13713938.19 0.1602 0.1243

Venus -42259-04-06 11:59 J -13713581.06 -13713581.00 -13713580.93 0.3652 0.2955

Earth -42259-09-29 01:54 J -13713405.50 -13713405.42 -13713405.34 0.2668 0.2016

Moon -42259-09-29 02:38 J -13713405.46 -13713405.39 -13713405.31 0.2665 0.2147 *

Mars -42258-03-20 20:52 J -13713232.73 -13713232.63 -13713232.53 0.1604 0.1072

Saturn -42257-08-30 06:42 J -13712704.25 -13712704.22 -13712704.17 0.0275 0.0264

Saturn -42257-11-26 21:06 J -13712615.74 -13712615.62 -13712615.50 0.0275 0.0161

Saturn -42256-02-23 11:16 J -13712527.18 -13712527.03 -13712526.89 0.0275 0.0060

Jupiter -42256-03-28 00:57 J -13712494.62 -13712494.46 -13712494.31 0.0494 0.0082

Saturn -42256-05-23 00:57 J -13712438.61 -13712438.46 -13712438.31 0.0275 0.0040

Neptune -42256-06-20 21:21 J -13712409.65 -13712409.61 -13712409.54 0.0089 0.0083

Saturn -42256-08-19 14:23 J -13712350.03 -13712349.90 -13712349.77 0.0275 0.0137

Neptune -42256-09-16 23:30 J -13712321.59 -13712321.52 -13712321.43 0.0089 0.0076

Saturn -42256-11-16 03:21 J -13712261.43 -13712261.36 -13712261.27 0.0275 0.0233

Neptune -42256-12-14 01:26 J -13712233.52 -13712233.44 -13712233.33 0.0089 0.0069

Neptune -42255-03-12 03:35 J -13712145.45 -13712145.35 -13712145.22 0.0089 0.0062

Neptune -42255-06-08 05:45 J -13712057.37 -13712057.26 -13712057.12 0.0089 0.0055

Neptune -42255-09-04 07:54 J -13711969.29 -13711969.17 -13711969.03 0.0089 0.0048

Neptune -42255-12-01 10:18 J -13711881.21 -13711881.07 -13711880.93 0.0089 0.0040

Neptune -42254-02-27 12:28 J -13711793.12 -13711792.98 -13711792.83 0.0089 0.0033

Neptune -42254-05-26 14:38 J -13711705.04 -13711704.89 -13711704.74 0.0089 0.0026

Neptune -42254-08-22 16:47 J -13711616.95 -13711616.80 -13711616.64 0.0089 0.0019

Venus -42254-10-21 05:59 J -13711557.37 -13711557.25 -13711557.14 0.3657 0.0395

Mars -42254-11-17 15:06 J -13711530.00 -13711529.87 -13711529.75 0.1926 0.0793

Neptune -42254-11-18 18:57 J -13711528.86 -13711528.71 -13711528.55 0.0089 0.0012

Neptune -42253-02-14 21:06 J -13711440.77 -13711440.62 -13711440.46 0.0089 0.0005

Neptune -42253-05-12 23:30 J -13711352.68 -13711352.52 -13711352.36 0.0089 0.0003

Neptune -42253-08-09 01:40 J -13711264.59 -13711264.43 -13711264.27 0.0089 0.0010

Neptune -42253-11-05 03:50 J -13711176.49 -13711176.34 -13711176.18 0.0089 0.0018

Neptune -42252-02-01 05:59 J -13711088.40 -13711088.25 -13711088.09 0.0089 0.0025

Neptune -42252-04-30 08:23 J -13711000.30 -13711000.15 -13711000.00 0.0089 0.0032

Neptune -42252-07-27 10:33 J -13710912.20 -13710912.06 -13710911.91 0.0089 0.0040

Moon -42252-09-21 16:33 J -13710855.93 -13710855.81 -13710855.69 0.2669 0.0549

Earth -42252-09-21 17:02 J -13710855.91 -13710855.79 -13710855.67 0.2663 0.0483 *

Neptune -42252-10-23 12:57 J -13710824.10 -13710823.96 -13710823.83 0.0089 0.0047

Neptune -42251-01-19 14:52 J -13710735.99 -13710735.88 -13710735.74 0.0089 0.0055

Neptune -42251-04-17 17:16 J -13710647.89 -13710647.78 -13710647.66 0.0089 0.0062

Neptune -42251-07-14 19:26 J -13710559.78 -13710559.69 -13710559.58 0.0089 0.0070

Neptune -42251-10-10 21:50 J -13710471.66 -13710471.59 -13710471.50 0.0089 0.0077

Neptune -42250-01-06 23:59 J -13710383.53 -13710383.50 -13710383.44 0.0089 0.0085

Jupiter -42250-05-29 18:42 J -13710240.86 -13710240.72 -13710240.58 0.0533 0.0158

Jupiter -42250-08-27 11:16 J -13710151.03 -13710151.03 -13710151.03 0.0536 0.0535

Moon -42249-03-23 02:52 J -13709942.51 -13709942.38 -13709942.26 0.2674 0.0864

Earth -42249-03-23 02:38 J -13709942.51 -13709942.39 -13709942.26 0.2667 0.0859 *

Mars -42249-08-10 05:16 J -13709802.41 -13709802.28 -13709802.15 0.1603 0.0532

Venus -42248-05-05 23:30 J -13709533.61 -13709533.52 -13709533.43 0.3661 0.2141

Jupiter -42244-01-14 02:38 J -13708184.54 -13708184.39 -13708184.23 0.0495 0.0063

Mars -42244-04-08 18:14 J -13708099.78 -13708099.74 -13708099.69 0.1926 0.1818

Uranus -42243-01-01 18:14 J -13707831.77 -13707831.74 -13707831.69 0.0146 0.0140

Uranus -42243-03-31 00:14 J -13707743.58 -13707743.49 -13707743.37 0.0146 0.0112

Uranus -42243-06-27 06:28 J -13707655.36 -13707655.23 -13707655.09 0.0146 0.0084

Uranus -42243-09-23 12:42 J -13707567.12 -13707566.97 -13707566.82 0.0146 0.0055

Uranus -42243-12-20 18:57 J -13707478.87 -13707478.71 -13707478.55 0.0146 0.0026

Moon -42242-03-16 08:52 J -13707393.20 -13707393.13 -13707393.06 0.2670 0.2251

Earth -42242-03-16 09:50 J -13707393.17 -13707393.09 -13707393.01 0.2672 0.2122 *

Uranus -42242-03-19 01:11 J -13707390.61 -13707390.45 -13707390.28 0.0146 0.0004

Saturn -42242-06-12 06:57 J -13707305.26 -13707305.21 -13707305.14 0.0284 0.0262

Uranus -42242-06-15 07:40 J -13707302.35 -13707302.18 -13707302.02 0.0146 0.0032

Saturn -42242-09-09 00:14 J -13707216.63 -13707216.49 -13707216.36 0.0284 0.0146

Uranus -42242-09-11 13:54 J -13707214.07 -13707213.92 -13707213.77 0.0146 0.0062

Saturn -42242-12-06 17:30 J -13707127.93 -13707127.77 -13707127.61 0.0284 0.0027

Uranus -42242-12-08 20:23 J -13707125.78 -13707125.65 -13707125.52 0.0146 0.0092

Saturn -42241-03-04 11:16 J -13707039.18 -13707039.03 -13707038.87 0.0284 0.0095

Uranus -42241-03-06 02:38 J -13707037.47 -13707037.39 -13707037.29 0.0146 0.0122

Saturn -42241-06-01 05:30 J -13706950.37 -13706950.27 -13706950.16 0.0284 0.0219

Mars -42240-12-31 13:26 J -13706372.07 -13706371.94 -13706371.80 0.1603 0.0043

Earth -42239-09-24 13:54 J -13706105.04 -13706104.92 -13706104.80 0.2664 0.0427

Moon -42239-09-24 14:23 J -13706105.02 -13706104.90 -13706104.78 0.2671 0.0464 *

Jupiter -42238-03-17 19:40 J -13705930.79 -13705930.68 -13705930.57 0.0533 0.0339

Jupiter -42238-06-15 12:42 J -13705841.07 -13705840.97 -13705840.86 0.0536 0.0364

Earth -42236-03-26 02:52 J -13705191.47 -13705191.38 -13705191.29 0.2665 0.1983

Moon -42236-03-26 03:50 J -13705191.43 -13705191.34 -13705191.25 0.2669 0.2027 *

Mars -42233-08-05 09:50 J -13703963.18 -13703963.09 -13703963.01 0.1925 0.1467

Jupiter -42233-11-02 04:47 J -13703874.44 -13703874.30 -13703874.16 0.0495 0.0204

Jupiter -42232-01-30 20:09 J -13703784.75 -13703784.66 -13703784.56 0.0492 0.0387

Moon -42232-09-17 02:52 J -13703555.45 -13703555.38 -13703555.31 0.2658 0.2194

Earth -42232-09-17 03:50 J -13703555.41 -13703555.34 -13703555.27 0.2660 0.2203 *

Mars -42230-05-23 21:35 J -13702941.73 -13702941.60 -13702941.47 0.1603 0.0588

Moon -42229-03-18 07:54 J -13702642.29 -13702642.17 -13702642.05 0.2672 0.1091

Earth -42229-03-18 09:06 J -13702642.24 -13702642.12 -13702642.00 0.2670 0.1099 *

Saturn -42227-04-15 22:04 J -13701883.68 -13701883.58 -13701883.47 0.0274 0.0193

Saturn -42227-07-13 12:14 J -13701795.13 -13701794.99 -13701794.85 0.0274 0.0091

Saturn -42227-10-10 02:09 J -13701706.56 -13701706.41 -13701706.27 0.0274 0.0011

Jupiter -42226-01-03 21:06 J -13701620.66 -13701620.62 -13701620.58 0.0532 0.0510

Saturn -42226-01-06 15:35 J -13701617.99 -13701617.85 -13701617.71 0.0274 0.0106

Jupiter -42226-04-03 14:38 J -13701531.02 -13701530.89 -13701530.75 0.0535 0.0199

Saturn -42226-04-05 04:47 J -13701529.39 -13701529.30 -13701529.20 0.0274 0.0201

Earth -42226-09-27 10:33 J -13701354.16 -13701354.06 -13701353.95 0.2666 0.1309

Moon -42226-09-27 11:16 J -13701354.13 -13701354.03 -13701353.92 0.2669 0.1410 *

Mars -42224-12-26 12:14 J -13700533.12 -13700532.99 -13700532.86 0.1925 0.0368

Jupiter -42221-08-21 06:28 J -13699564.33 -13699564.23 -13699564.12 0.0496 0.0350

Mars -42221-10-13 05:30 J -13699511.37 -13699511.27 -13699511.18 0.1603 0.1161

Jupiter -42221-11-18 21:35 J -13699474.73 -13699474.60 -13699474.46 0.0493 0.0235

Mars -42219-09-18 21:06 J -13698805.72 -13698805.62 -13698805.53 0.1604 0.1151

Moon -42219-09-20 00:28 J -13698804.59 -13698804.48 -13698804.38 0.2666 0.1385

Earth -42219-09-20 01:11 J -13698804.56 -13698804.45 -13698804.34 0.2662 0.1247 *

Pluto -42218-06-12 14:38 J -13698538.94 -13698538.89 -13698538.83 0.0079 0.0073

Pluto -42218-09-08 16:04 J -13698450.90 -13698450.83 -13698450.73 0.0079 0.0065

Venus -42218-10-13 04:47 J -13698416.43 -13698416.30 -13698416.17 0.3720 0.0402

Pluto -42218-12-05 17:45 J -13698362.86 -13698362.76 -13698362.65 0.0079 0.0056

Pluto -42217-03-02 19:11 J -13698274.81 -13698274.70 -13698274.57 0.0079 0.0048

Pluto -42217-05-29 20:38 J -13698186.76 -13698186.64 -13698186.50 0.0079 0.0040

Pluto -42217-08-25 22:18 J -13698098.70 -13698098.57 -13698098.43 0.0079 0.0032

Pluto -42217-11-21 23:30 J -13698010.65 -13698010.52 -13698010.37 0.0079 0.0025

Pluto -42216-02-18 01:11 J -13697922.59 -13697922.45 -13697922.30 0.0078 0.0016

Moon -42216-03-21 08:09 J -13697891.29 -13697891.16 -13697891.03 0.2675 0.0139

Earth -42216-03-21 08:38 J -13697891.28 -13697891.14 -13697891.01 0.2668 0.0042 *

Pluto -42216-05-17 02:38 J -13697834.53 -13697834.39 -13697834.24 0.0078 0.0009

Pluto -42216-08-13 04:04 J -13697746.47 -13697746.33 -13697746.18 0.0078 0.0002

Pluto -42216-11-09 05:30 J -13697658.41 -13697658.27 -13697658.12 0.0078 0.0007

Pluto -42215-02-05 06:57 J -13697570.35 -13697570.21 -13697570.06 0.0078 0.0015

Pluto -42215-05-04 08:23 J -13697482.29 -13697482.15 -13697482.01 0.0078 0.0022

Pluto -42215-07-31 09:35 J -13697394.23 -13697394.10 -13697393.96 0.0078 0.0030

Pluto -42215-10-27 11:02 J -13697306.17 -13697306.04 -13697305.91 0.0077 0.0037

Jupiter -42214-01-20 16:18 J -13697220.96 -13697220.82 -13697220.67 0.0534 0.0035

Pluto -42214-01-23 12:14 J -13697218.10 -13697217.99 -13697217.86 0.0077 0.0044

Pluto -42214-04-21 13:40 J -13697130.03 -13697129.93 -13697129.81 0.0077 0.0051

Mars -42214-05-18 15:06 J -13697102.99 -13697102.87 -13697102.74 0.1926 0.0693

Pluto -42214-07-18 15:06 J -13697041.96 -13697041.87 -13697041.77 0.0077 0.0058

Pluto -42214-10-14 16:33 J -13696953.89 -13696953.81 -13696953.74 0.0077 0.0065

Pluto -42213-01-10 17:16 J -13696865.80 -13696865.78 -13696865.71 0.0077 0.0073

Earth -42213-09-29 06:57 J -13696603.28 -13696603.21 -13696603.14 0.2668 0.2169

Moon -42213-09-29 07:54 J -13696603.24 -13696603.17 -13696603.10 0.2665 0.2159 *

Saturn -42212-01-25 23:30 J -13696484.64 -13696484.52 -13696484.41 0.0285 0.0188

Saturn -42212-04-24 16:33 J -13696395.96 -13696395.81 -13696395.65 0.0285 0.0071

Saturn -42212-07-22 10:18 J -13696307.23 -13696307.07 -13696306.91 0.0285 0.0050

Saturn -42212-10-19 04:18 J -13696218.45 -13696218.32 -13696218.19 0.0285 0.0174

Mars -42209-02-09 05:30 J -13695375.40 -13695375.27 -13695375.15 0.1603 0.0611

Jupiter -42209-06-09 08:23 J -13695254.16 -13695254.15 -13695254.13 0.0497 0.0493

Jupiter -42209-09-06 23:16 J -13695164.68 -13695164.53 -13695164.37 0.0494 0.0088

Moon -42206-09-22 22:04 J -13694053.70 -13694053.58 -13694053.46 0.2669 0.0297

Earth -42206-09-22 22:18 J -13694053.69 -13694053.57 -13694053.45 0.2663 0.0321 *

Mars -42205-10-07 18:28 J -13693672.78 -13693672.73 -13693672.67 0.1926 0.1711

Earth -42203-03-24 08:23 J -13693140.27 -13693140.15 -13693140.02 0.2667 0.1056

Moon -42203-03-24 08:38 J -13693140.26 -13693140.14 -13693140.02 0.2673 0.1098 *

Jupiter -42203-11-08 17:16 J -13692910.92 -13692910.78 -13692910.64 0.0533 0.0150

Venus -42203-11-11 10:04 J -13692908.17 -13692908.08 -13692907.98 0.3653 0.1968

Uranus -42202-05-04 13:40 J -13692733.99 -13692733.93 -13692733.85 0.0132 0.0116

Uranus -42202-07-31 17:45 J -13692645.85 -13692645.76 -13692645.65 0.0132 0.0096

Uranus -42202-10-27 21:50 J -13692557.71 -13692557.59 -13692557.46 0.0132 0.0076

Uranus -42201-01-24 01:54 J -13692469.55 -13692469.42 -13692469.28 0.0132 0.0057

Uranus -42201-04-21 05:45 J -13692381.40 -13692381.26 -13692381.11 0.0132 0.0037

Uranus -42201-07-18 09:50 J -13692293.24 -13692293.09 -13692292.94 0.0132 0.0018

Uranus -42201-10-14 13:40 J -13692205.08 -13692204.93 -13692204.78 0.0132 0.0002

Uranus -42200-01-10 17:30 J -13692116.92 -13692116.77 -13692116.62 0.0132 0.0021

Uranus -42200-04-08 21:21 J -13692028.75 -13692028.61 -13692028.47 0.0132 0.0040

Mars -42200-07-01 13:40 J -13691945.06 -13691944.93 -13691944.79 0.1603 0.0078

Uranus -42200-07-06 00:57 J -13691940.58 -13691940.46 -13691940.32 0.0132 0.0059

Uranus -42200-10-02 04:47 J -13691852.41 -13691852.30 -13691852.18 0.0132 0.0078

Uranus -42200-12-29 08:38 J -13691764.24 -13691764.14 -13691764.04 0.0132 0.0096

Uranus -42199-03-27 11:59 J -13691676.06 -13691676.00 -13691675.92 0.0132 0.0116

Saturn -42198-09-03 00:14 J -13691151.57 -13691151.49 -13691151.39 0.0275 0.0219

Saturn -42198-11-30 14:38 J -13691063.03 -13691062.89 -13691062.76 0.0275 0.0116

Saturn -42197-02-27 04:33 J -13690974.46 -13690974.31 -13690974.16 0.0275 0.0016

Saturn -42197-05-25 18:14 J -13690885.88 -13690885.74 -13690885.60 0.0275 0.0083

Venus -42197-05-27 03:50 J -13690884.45 -13690884.34 -13690884.23 0.3658 0.0599

Jupiter -42197-06-26 00:42 J -13690854.62 -13690854.47 -13690854.32 0.0495 0.0063

Saturn -42197-08-22 07:26 J -13690797.30 -13690797.19 -13690797.08 0.0275 0.0180

Saturn -42197-11-18 20:38 J -13690708.65 -13690708.64 -13690708.63 0.0275 0.0274

Moon -42196-03-16 14:23 J -13690590.99 -13690590.90 -13690590.82 0.2671 0.1969

Earth -42196-03-16 15:21 J -13690590.94 -13690590.86 -13690590.77 0.2672 0.1944 *

Mars -42193-02-04 10:04 J -13689536.16 -13689536.08 -13689536.01 0.1925 0.1578

Earth -42193-09-24 19:11 J -13689302.82 -13689302.70 -13689302.58 0.2665 0.0583

Moon -42193-09-24 19:40 J -13689302.80 -13689302.68 -13689302.56 0.2671 0.0598 *

Venus -42192-12-10 21:35 J -13688860.66 -13688860.60 -13688860.55 0.3662 0.3090

Jupiter -42191-08-27 18:14 J -13688600.86 -13688600.74 -13688600.63 0.0532 0.0332

Mars -42191-11-21 21:50 J -13688514.72 -13688514.59 -13688514.46 0.1603 0.0503

Jupiter -42191-11-25 11:16 J -13688511.14 -13688511.03 -13688510.93 0.0535 0.0368

Earth -42190-03-27 08:38 J -13688389.22 -13688389.14 -13688389.06 0.2665 0.2180

Moon -42190-03-27 09:35 J -13688389.16 -13688389.10 -13688389.03 0.2669 0.2270 *

Moon -42186-09-18 08:09 J -13686753.23 -13686753.16 -13686753.08 0.2660 0.2158

Earth -42186-09-18 09:06 J -13686753.20 -13686753.12 -13686753.04 0.2660 0.2030 *

Jupiter -42185-04-14 02:38 J -13686544.53 -13686544.39 -13686544.25 0.0495 0.0207

Jupiter -42185-07-12 18:14 J -13686454.84 -13686454.74 -13686454.65 0.0493 0.0384

Mars -42184-06-26 12:28 J -13686106.11 -13686105.98 -13686105.85 0.1925 0.0477

Moon -42183-03-19 13:40 J -13685840.05 -13685839.93 -13685839.81 0.2672 0.1065

Earth -42183-03-19 14:38 J -13685840.01 -13685839.89 -13685839.76 0.2670 0.0913 *

Saturn -42183-06-15 02:09 J -13685752.51 -13685752.41 -13685752.30 0.0284 0.0208

Saturn -42183-09-11 19:26 J -13685663.84 -13685663.69 -13685663.54 0.0284 0.0090

Saturn -42183-12-09 12:57 J -13685575.12 -13685574.96 -13685574.80 0.0284 0.0030

Saturn -42182-03-08 06:57 J -13685486.35 -13685486.21 -13685486.07 0.0284 0.0153

Saturn -42182-06-05 01:11 J -13685397.48 -13685397.45 -13685397.41 0.0284 0.0278

Mars -42181-04-13 05:45 J -13685084.36 -13685084.26 -13685084.16 0.1603 0.1076

Earth -42180-09-27 15:50 J -13684551.94 -13684551.84 -13684551.74 0.2666 0.1464

Moon -42180-09-27 16:47 J -13684551.90 -13684551.80 -13684551.70 0.2668 0.1516 *

Mars -42179-03-19 21:21 J -13684378.70 -13684378.61 -13684378.53 0.1604 0.1232

Jupiter -42179-06-15 18:42 J -13684290.75 -13684290.72 -13684290.69 0.0532 0.0517

Jupiter -42179-09-13 12:14 J -13684201.12 -13684200.99 -13684200.85 0.0535 0.0191

Mars -42175-11-16 15:21 J -13682675.99 -13682675.86 -13682675.73 0.1926 0.0588

Jupiter -42173-02-01 04:47 J -13682234.41 -13682234.30 -13682234.19 0.0496 0.0346

Neptune -42173-03-25 11:59 J -13682181.02 -13682181.00 -13682180.97 0.0088 0.0087

Jupiter -42173-04-30 19:54 J -13682144.80 -13682144.67 -13682144.53 0.0493 0.0240

Neptune -42173-06-21 14:09 J -13682092.97 -13682092.91 -13682092.84 0.0088 0.0080

Neptune -42173-09-17 16:04 J -13682004.90 -13682004.83 -13682004.72 0.0088 0.0073

Moon -42173-09-20 05:45 J -13682002.38 -13682002.26 -13682002.15 0.2666 0.1066

Earth -42173-09-20 06:28 J -13682002.34 -13682002.23 -13682002.12 0.2662 0.1084 *

Neptune -42173-12-14 18:14 J -13681916.83 -13681916.74 -13681916.61 0.0088 0.0066

Neptune -42172-03-12 20:52 J -13681828.75 -13681828.63 -13681828.51 0.0088 0.0058

Neptune -42172-06-08 22:47 J -13681740.67 -13681740.55 -13681740.41 0.0088 0.0051

Neptune -42172-09-05 00:57 J -13681652.59 -13681652.46 -13681652.31 0.0088 0.0044

Neptune -42172-12-02 03:06 J -13681564.50 -13681564.37 -13681564.22 0.0088 0.0036

Neptune -42171-02-28 05:30 J -13681476.42 -13681476.27 -13681476.12 0.0088 0.0029

Neptune -42171-05-27 07:40 J -13681388.33 -13681388.18 -13681388.03 0.0088 0.0022

Neptune -42171-08-23 09:50 J -13681300.25 -13681300.09 -13681299.94 0.0088 0.0015

Neptune -42171-11-19 11:45 J -13681212.16 -13681212.01 -13681211.85 0.0088 0.0008

Neptune -42170-02-15 13:54 J -13681124.08 -13681123.92 -13681123.76 0.0088 0.0001

Moon -42170-03-22 13:54 J -13681089.06 -13681088.92 -13681088.79 0.2675 0.0220

Earth -42170-03-22 14:09 J -13681089.04 -13681088.91 -13681088.77 0.2668 0.0150 *

Neptune -42170-05-14 16:04 J -13681035.99 -13681035.83 -13681035.67 0.0088 0.0007

Mars -42170-08-10 05:45 J -13680948.39 -13680948.26 -13680948.14 0.1603 0.0691

Neptune -42170-08-10 18:14 J -13680947.90 -13680947.74 -13680947.59 0.0088 0.0014

Neptune -42170-11-06 20:09 J -13680859.81 -13680859.66 -13680859.51 0.0088 0.0021

Neptune -42169-02-02 22:18 J -13680771.72 -13680771.57 -13680771.42 0.0088 0.0028

Neptune -42169-05-01 00:14 J -13680683.63 -13680683.49 -13680683.34 0.0088 0.0035

Neptune -42169-07-28 02:23 J -13680595.54 -13680595.40 -13680595.26 0.0088 0.0042

Neptune -42169-10-24 04:18 J -13680507.44 -13680507.32 -13680507.19 0.0088 0.0049

Saturn -42168-01-20 01:54 J -13680419.48 -13680419.42 -13680419.36 0.0274 0.0248

Neptune -42168-01-20 06:14 J -13680419.35 -13680419.24 -13680419.11 0.0088 0.0056

Neptune -42168-04-18 08:09 J -13680331.26 -13680331.16 -13680331.04 0.0088 0.0063

Saturn -42168-04-18 16:04 J -13680330.95 -13680330.83 -13680330.70 0.0274 0.0145

Neptune -42168-07-15 10:04 J -13680243.16 -13680243.08 -13680242.97 0.0088 0.0070

Saturn -42168-07-16 05:59 J -13680242.39 -13680242.25 -13680242.10 0.0274 0.0045

Neptune -42168-10-11 12:28 J -13680155.06 -13680154.98 -13680154.90 0.0088 0.0076

Saturn -42168-10-12 19:40 J -13680153.82 -13680153.68 -13680153.53 0.0274 0.0055

Neptune -42167-01-07 14:23 J -13680066.95 -13680066.90 -13680066.84 0.0088 0.0083

Saturn -42167-01-09 09:06 J -13680065.24 -13680065.12 -13680064.99 0.0274 0.0151

Saturn -42167-04-07 22:18 J -13679976.63 -13679976.57 -13679976.50 0.0274 0.0246

Jupiter -42167-07-02 14:09 J -13679891.06 -13679890.91 -13679890.77 0.0534 0.0026

Earth -42167-09-30 12:14 J -13679801.05 -13679800.99 -13679800.93 0.2668 0.2319

Moon -42167-09-30 13:11 J -13679801.00 -13679800.95 -13679800.91 0.2666 0.2437 *

Venus -42167-11-03 04:04 J -13679767.43 -13679767.33 -13679767.23 0.3724 0.2405

Mars -42165-04-07 18:28 J -13679245.80 -13679245.73 -13679245.66 0.1926 0.1623

Jupiter -42162-11-20 06:42 J -13677924.24 -13677924.22 -13677924.20 0.0497 0.0490

Jupiter -42161-02-17 21:21 J -13677834.76 -13677834.61 -13677834.45 0.0494 0.0092

Venus -42161-05-19 04:33 J -13677743.42 -13677743.31 -13677743.20 0.3719 0.1979

Mars -42161-12-30 13:54 J -13677518.06 -13677517.92 -13677517.78 0.1603 0.0142

Earth -42160-09-23 03:35 J -13677251.48 -13677251.35 -13677251.23 0.2664 0.0161

Moon -42160-09-23 03:35 J -13677251.47 -13677251.35 -13677251.23 0.2670 0.0232 *

Uranus -42159-01-22 01:11 J -13677130.51 -13677130.45 -13677130.38 0.0146 0.0134

Uranus -42159-04-20 07:11 J -13677042.30 -13677042.20 -13677042.08 0.0146 0.0106

Uranus -42159-07-17 13:11 J -13676954.08 -13676953.95 -13676953.80 0.0146 0.0078

Uranus -42159-10-13 19:40 J -13676865.84 -13676865.68 -13676865.53 0.0146 0.0049

Uranus -42158-01-10 01:40 J -13676777.59 -13676777.43 -13676777.26 0.0146 0.0021

Uranus -42158-04-08 08:09 J -13676689.33 -13676689.16 -13676689.00 0.0146 0.0009

Uranus -42158-07-05 14:23 J -13676601.06 -13676600.90 -13676600.74 0.0146 0.0038

Uranus -42158-10-01 20:52 J -13676512.78 -13676512.63 -13676512.48 0.0146 0.0068

Uranus -42158-12-29 03:06 J -13676424.49 -13676424.37 -13676424.24 0.0146 0.0098

Earth -42157-03-24 14:09 J -13676338.03 -13676337.91 -13676337.79 0.2667 0.1251

Moon -42157-03-24 14:38 J -13676338.01 -13676337.89 -13676337.77 0.2672 0.1236 *

Uranus -42157-03-26 09:35 J -13676336.17 -13676336.10 -13676336.01 0.0146 0.0128

Jupiter -42155-04-20 15:35 J -13675580.99 -13675580.85 -13675580.70 0.0533 0.0147

Mars -42154-08-05 10:04 J -13675109.15 -13675109.08 -13675109.02 0.1925 0.1670

Saturn -42154-11-02 01:40 J -13675020.50 -13675020.43 -13675020.36 0.0285 0.0249

Saturn -42153-01-29 18:28 J -13674931.86 -13674931.73 -13674931.58 0.0285 0.0134

Saturn -42153-04-27 11:59 J -13674843.16 -13674843.00 -13674842.84 0.0285 0.0015

Saturn -42153-07-25 05:45 J -13674754.41 -13674754.26 -13674754.10 0.0285 0.0108

Saturn -42153-10-21 23:59 J -13674665.59 -13674665.50 -13674665.40 0.0285 0.0232

Venus -42152-12-02 14:23 J -13674258.92 -13674258.90 -13674258.89 0.3650 0.3583

Mars -42151-05-22 22:04 J -13674087.71 -13674087.58 -13674087.44 0.1603 0.0420

Moon -42150-03-17 19:40 J -13673788.77 -13673788.68 -13673788.58 0.2671 0.1883

Earth -42150-03-17 20:52 J -13673788.72 -13673788.63 -13673788.53 0.2671 0.1767 *

Jupiter -42150-12-06 23:16 J -13673524.69 -13673524.53 -13673524.38 0.0494 0.0058

Earth -42147-09-26 00:28 J -13672500.60 -13672500.48 -13672500.36 0.2665 0.0744

Moon -42147-09-26 00:57 J -13672500.58 -13672500.46 -13672500.35 0.2671 0.0815 *

Venus -42146-06-18 08:09 J -13672235.27 -13672235.16 -13672235.05 0.3655 0.0993

Mars -42145-12-25 12:42 J -13671679.09 -13671678.97 -13671678.84 0.1926 0.0591

Earth -42144-03-27 14:23 J -13671586.96 -13671586.90 -13671586.84 0.2665 0.2383

Moon -42144-03-27 15:35 J -13671586.90 -13671586.85 -13671586.80 0.2669 0.2472 *

Jupiter -42143-02-06 16:33 J -13671270.92 -13671270.81 -13671270.69 0.0532 0.0325

Jupiter -42143-05-07 09:35 J -13671181.20 -13671181.10 -13671180.99 0.0535 0.0375

Mars -42142-10-13 05:59 J -13670657.36 -13670657.25 -13670657.14 0.1603 0.0989

Venus -42140-01-01 01:54 J -13670211.52 -13670211.42 -13670211.32 0.3659 0.1549

Mars -42140-09-17 21:21 J -13669951.68 -13669951.61 -13669951.53 0.1604 0.1311

Moon -42140-09-18 13:40 J -13669951.02 -13669950.93 -13669950.85 0.2662 0.1893

Earth -42140-09-18 14:38 J -13669950.98 -13669950.89 -13669950.80 0.2661 0.1861 *

Saturn -42139-09-05 18:14 J -13669598.86 -13669598.74 -13669598.63 0.0275 0.0172

Saturn -42139-12-03 08:09 J -13669510.30 -13669510.16 -13669510.01 0.0275 0.0071

Saturn -42138-03-01 22:04 J -13669421.73 -13669421.58 -13669421.43 0.0275 0.0029

Saturn -42138-05-29 11:30 J -13669333.15 -13669333.02 -13669332.89 0.0275 0.0127

Saturn -42138-08-26 00:42 J -13669244.55 -13669244.47 -13669244.38 0.0275 0.0223

Jupiter -42138-09-25 00:28 J -13669214.62 -13669214.48 -13669214.34 0.0496 0.0208

Jupiter -42138-12-23 16:04 J -13669124.93 -13669124.83 -13669124.73 0.0493 0.0384

Moon -42137-03-19 19:26 J -13669037.82 -13669037.69 -13669037.57 0.2674 0.0730

Earth -42137-03-19 20:09 J -13669037.79 -13669037.66 -13669037.53 0.2670 0.0734 *

Mars -42135-05-17 15:35 J -13668248.98 -13668248.85 -13668248.72 0.1926 0.0481

Earth -42134-09-28 20:52 J -13667749.72 -13667749.63 -13667749.53 0.2667 0.1620

Moon -42134-09-28 21:50 J -13667749.68 -13667749.59 -13667749.49 0.2667 0.1674 *

Mars -42132-03-04 13:40 J -13667226.95 -13667226.93 -13667226.90 0.1603 0.1574

Jupiter -42132-11-25 17:16 J -13666960.82 -13666960.78 -13666960.74 0.0531 0.0509

Jupiter -42131-02-23 10:47 J -13666871.18 -13666871.05 -13666870.91 0.0534 0.0197

Mars -42130-02-08 05:59 J -13666521.37 -13666521.25 -13666521.13 0.1603 0.0774

Moon -42127-09-21 11:02 J -13665200.15 -13665200.04 -13665199.92 0.2667 0.1042

Earth -42127-09-21 11:45 J -13665200.12 -13665200.01 -13665199.89 0.2662 0.0917 *

Jupiter -42126-07-14 02:23 J -13664904.50 -13664904.40 -13664904.29 0.0496 0.0351

Mars -42126-10-07 18:42 J -13664818.80 -13664818.72 -13664818.64 0.1926 0.1520

Jupiter -42126-10-11 17:30 J -13664814.90 -13664814.77 -13664814.63 0.0493 0.0236

Saturn -42124-03-21 04:47 J -13664288.35 -13664288.30 -13664288.24 0.0284 0.0266

Moon -42124-03-22 19:26 J -13664286.82 -13664286.69 -13664286.55 0.2675 0.0250

Earth -42124-03-22 19:54 J -13664286.81 -13664286.67 -13664286.54 0.2668 0.0345 *

Saturn -42124-06-17 21:50 J -13664199.72 -13664199.59 -13664199.46 0.0284 0.0151

Saturn -42124-09-14 15:06 J -13664111.03 -13664110.87 -13664110.71 0.0284 0.0032

Saturn -42124-12-12 08:52 J -13664022.28 -13664022.13 -13664021.98 0.0284 0.0089

Saturn -42123-03-11 02:52 J -13663933.48 -13663933.38 -13663933.27 0.0284 0.0213

Mars -42121-06-30 14:09 J -13663091.04 -13663090.91 -13663090.77 0.1603 0.0223

Earth -42121-09-30 17:16 J -13662998.82 -13662998.78 -13662998.73 0.2668 0.2469

Moon -42121-09-30 18:14 J -13662998.79 -13662998.74 -13662998.70 0.2665 0.2476 *

Jupiter -42120-12-12 11:45 J -13662561.16 -13662561.01 -13662560.87 0.0534 0.0020

Uranus -42118-02-25 16:33 J -13662120.82 -13662120.81 -13662120.80 0.0132 0.0132

Uranus -42118-05-24 20:38 J -13662032.72 -13662032.64 -13662032.56 0.0132 0.0112

Uranus -42118-08-21 00:28 J -13661944.58 -13661944.48 -13661944.36 0.0132 0.0092

Uranus -42118-11-17 04:33 J -13661856.43 -13661856.31 -13661856.18 0.0132 0.0072

Uranus -42117-02-13 08:38 J -13661768.27 -13661768.14 -13661768.00 0.0132 0.0053

Moon -42117-03-15 02:38 J -13661737.41 -13661737.39 -13661737.36 0.2669 0.2600

Earth -42117-03-15 03:35 J -13661737.38 -13661737.35 -13661737.32 0.2673 0.2588 *

Uranus -42117-05-11 12:28 J -13661680.12 -13661679.98 -13661679.83 0.0132 0.0034

Uranus -42117-08-07 16:33 J -13661591.96 -13661591.81 -13661591.66 0.0132 0.0013

Uranus -42117-11-03 20:23 J -13661503.80 -13661503.65 -13661503.50 0.0132 0.0006

Uranus -42116-01-31 00:14 J -13661415.63 -13661415.49 -13661415.34 0.0132 0.0025

Uranus -42116-04-29 04:04 J -13661327.47 -13661327.33 -13661327.19 0.0132 0.0044

Uranus -42116-07-26 07:40 J -13661239.30 -13661239.18 -13661239.04 0.0132 0.0063

Uranus -42116-10-22 11:45 J -13661151.13 -13661151.01 -13661150.90 0.0132 0.0082

Uranus -42115-01-18 15:21 J -13661062.95 -13661062.86 -13661062.76 0.0132 0.0100

Uranus -42115-04-16 19:11 J -13660974.76 -13660974.70 -13660974.64 0.0132 0.0119

Mars -42114-02-03 10:18 J -13660682.11 -13660682.07 -13660682.02 0.1925 0.1786

Jupiter -42114-05-02 04:47 J -13660594.32 -13660594.30 -13660594.27 0.0497 0.0488

Jupiter -42114-07-30 19:40 J -13660504.84 -13660504.68 -13660504.53 0.0494 0.0093

Earth -42114-09-24 08:52 J -13660449.26 -13660449.13 -13660449.01 0.2664 0.0049

Moon -42114-09-24 08:52 J -13660449.25 -13660449.13 -13660449.01 0.2671 0.0084 *

Mars -42112-11-20 22:18 J -13659660.71 -13659660.57 -13659660.43 0.1603 0.0337

Earth -42111-03-25 19:54 J -13659535.79 -13659535.67 -13659535.56 0.2666 0.1445

Moon -42111-03-25 20:23 J -13659535.75 -13659535.65 -13659535.54 0.2672 0.1569 *

Venus -42110-06-10 03:50 J -13659094.47 -13659094.34 -13659094.22 0.3723 0.0868

Saturn -42109-01-23 19:54 J -13658866.77 -13658866.67 -13658866.56 0.0274 0.0199

Saturn -42109-04-21 10:04 J -13658778.22 -13658778.08 -13658777.94 0.0274 0.0097

Saturn -42109-07-18 23:59 J -13658689.65 -13658689.50 -13658689.35 0.0274 0.0003

Saturn -42109-10-15 13:40 J -13658601.07 -13658600.93 -13658600.80 0.0274 0.0101

Saturn -42108-01-12 02:52 J -13658512.48 -13658512.38 -13658512.28 0.0274 0.0197

Jupiter -42108-09-30 13:11 J -13658251.09 -13658250.95 -13658250.81 0.0533 0.0156

Earth -42107-09-16 22:18 J -13657899.57 -13657899.57 -13657899.57 0.2659 0.2655

Mars -42105-06-25 12:57 J -13657252.09 -13657251.96 -13657251.84 0.1925 0.0686

Venus -42105-12-24 04:18 J -13657070.36 -13657070.32 -13657070.29 0.3717 0.3560

Moon -42104-03-18 01:26 J -13656986.54 -13656986.44 -13656986.34 0.2670 0.1638

Earth -42104-03-18 02:38 J -13656986.50 -13656986.39 -13656986.29 0.2671 0.1587 *

Mars -42102-04-13 06:14 J -13656230.35 -13656230.24 -13656230.12 0.1603 0.0907

Jupiter -42102-05-18 21:21 J -13656194.77 -13656194.61 -13656194.46 0.0494 0.0056

Earth -42101-09-26 05:30 J -13655698.38 -13655698.27 -13655698.15 0.2665 0.0902

Moon -42101-09-26 06:14 J -13655698.36 -13655698.24 -13655698.13 0.2670 0.0891 *

Mars -42100-03-18 21:35 J -13655524.66 -13655524.60 -13655524.53 0.1604 0.1388

Earth -42098-03-28 20:09 J -13654784.69 -13654784.66 -13654784.63 0.2665 0.2582

Moon -42098-03-28 21:06 J -13654784.63 -13654784.62 -13654784.60 0.2668 0.2639 *

Jupiter -42096-07-19 14:38 J -13653941.00 -13653940.89 -13653940.77 0.0533 0.0326

Jupiter -42096-10-17 07:54 J -13653851.27 -13653851.17 -13653851.07 0.0536 0.0377

Mars -42096-11-15 15:35 J -13653821.98 -13653821.85 -13653821.72 0.1926 0.0391

Venus -42095-07-09 12:14 J -13653586.06 -13653585.99 -13653585.91 0.3651 0.2604

Saturn -42095-11-04 21:06 J -13653467.73 -13653467.62 -13653467.50 0.0285 0.0193

Saturn -42094-02-01 14:23 J -13653379.06 -13653378.90 -13653378.75 0.0285 0.0076

Saturn -42094-05-01 07:54 J -13653290.33 -13653290.17 -13653290.01 0.0285 0.0045

Saturn -42094-07-29 01:40 J -13653201.56 -13653201.43 -13653201.29 0.0285 0.0168

Moon -42094-09-19 18:57 J -13653148.81 -13653148.71 -13653148.62 0.2663 0.1790

Earth -42094-09-19 19:54 J -13653148.77 -13653148.67 -13653148.58 0.2661 0.1692 *

Mars -42093-09-02 14:09 J -13652799.96 -13652799.91 -13652799.86 0.1603 0.1487

Neptune -42092-12-19 18:57 J -13652326.74 -13652326.71 -13652326.65 0.0089 0.0085

Neptune -42091-03-17 20:52 J -13652238.68 -13652238.63 -13652238.54 0.0089 0.0078

Moon -42091-03-21 00:57 J -13652235.58 -13652235.46 -13652235.33 0.2675 0.0657

Earth -42091-03-21 01:54 J -13652235.55 -13652235.42 -13652235.29 0.2669 0.0550 *

Neptune -42091-06-13 23:02 J -13652150.62 -13652150.54 -13652150.43 0.0089 0.0071

Mars -42091-08-09 05:59 J -13652094.36 -13652094.25 -13652094.13 0.1604 0.0853

Neptune -42091-09-10 01:11 J -13652062.54 -13652062.45 -13652062.33 0.0089 0.0064

Neptune -42091-12-07 03:21 J -13651974.47 -13651974.36 -13651974.23 0.0089 0.0057

Neptune -42090-03-05 05:30 J -13651886.39 -13651886.27 -13651886.13 0.0089 0.0050

Jupiter -42090-03-06 23:02 J -13651884.68 -13651884.54 -13651884.40 0.0495 0.0200

Neptune -42090-06-01 07:54 J -13651798.31 -13651798.17 -13651798.03 0.0089 0.0042

Jupiter -42090-06-04 14:23 J -13651794.99 -13651794.90 -13651794.80 0.0493 0.0389

Neptune -42090-08-28 10:04 J -13651710.22 -13651710.08 -13651709.94 0.0089 0.0035

Neptune -42090-11-24 11:59 J -13651622.14 -13651622.00 -13651621.84 0.0089 0.0028

Venus -42089-01-23 06:14 J -13651562.36 -13651562.24 -13651562.13 0.3656 0.0107

Neptune -42089-02-20 14:09 J -13651534.05 -13651533.91 -13651533.75 0.0089 0.0021

Neptune -42089-05-18 16:33 J -13651445.97 -13651445.81 -13651445.65 0.0089 0.0014

Neptune -42089-08-14 18:42 J -13651357.88 -13651357.72 -13651357.56 0.0089 0.0006

Neptune -42089-11-10 20:52 J -13651269.79 -13651269.63 -13651269.47 0.0089 0.0002

Neptune -42088-02-06 23:02 J -13651181.69 -13651181.54 -13651181.38 0.0089 0.0009

Neptune -42088-05-06 01:11 J -13651093.60 -13651093.45 -13651093.29 0.0089 0.0016

Neptune -42088-08-02 03:35 J -13651005.50 -13651005.35 -13651005.20 0.0089 0.0023

Earth -42088-09-29 02:09 J -13650947.50 -13650947.41 -13650947.32 0.2667 0.1770

Moon -42088-09-29 03:06 J -13650947.45 -13650947.37 -13650947.28 0.2668 0.1859 *

Neptune -42088-10-29 05:45 J -13650917.41 -13650917.26 -13650917.11 0.0089 0.0030

Neptune -42087-01-25 07:54 J -13650829.31 -13650829.17 -13650829.02 0.0089 0.0038

Neptune -42087-04-23 10:18 J -13650741.21 -13650741.07 -13650740.93 0.0089 0.0045

Neptune -42087-07-20 12:14 J -13650653.10 -13650652.99 -13650652.85 0.0089 0.0053

Neptune -42087-10-16 14:38 J -13650565.00 -13650564.89 -13650564.76 0.0089 0.0060

Neptune -42086-01-12 16:47 J -13650476.89 -13650476.80 -13650476.68 0.0089 0.0068

Mars -42086-04-07 19:11 J -13650391.79 -13650391.70 -13650391.61 0.1926 0.1405

Neptune -42086-04-10 19:11 J -13650388.77 -13650388.70 -13650388.61 0.0089 0.0075

Neptune -42086-07-07 21:21 J -13650300.65 -13650300.61 -13650300.54 0.0089 0.0083

Jupiter -42084-05-07 15:35 J -13649630.89 -13649630.85 -13649630.80 0.0531 0.0504

Jupiter -42084-08-05 09:21 J -13649541.25 -13649541.11 -13649540.98 0.0534 0.0203

Venus -42084-08-07 23:45 J -13649538.59 -13649538.51 -13649538.43 0.3660 0.2488

Mars -42082-12-30 14:23 J -13648664.03 -13648663.90 -13648663.76 0.1603 0.0310

Moon -42081-09-21 16:33 J -13648397.93 -13648397.81 -13648397.69 0.2668 0.0736

Earth -42081-09-21 17:02 J -13648397.91 -13648397.79 -13648397.67 0.2662 0.0755 *

Saturn -42080-06-11 21:35 J -13648134.67 -13648134.60 -13648134.51 0.0275 0.0228

Saturn -42080-09-08 11:59 J -13648046.13 -13648046.00 -13648045.86 0.0275 0.0125

Saturn -42080-12-06 01:54 J -13647957.56 -13647957.42 -13647957.27 0.0275 0.0025

Saturn -42079-03-04 15:35 J -13647868.99 -13647868.85 -13647868.70 0.0275 0.0076

Saturn -42079-06-01 05:02 J -13647780.40 -13647780.29 -13647780.17 0.0275 0.0172

Saturn -42079-08-28 18:14 J -13647691.77 -13647691.74 -13647691.70 0.0275 0.0267

Jupiter -42079-12-24 00:28 J -13647574.59 -13647574.48 -13647574.37 0.0496 0.0352

Jupiter -42078-03-23 15:35 J -13647484.99 -13647484.85 -13647484.71 0.0494 0.0235

Moon -42078-03-24 01:11 J -13647484.58 -13647484.45 -13647484.32 0.2674 0.0596

Earth -42078-03-24 01:26 J -13647484.57 -13647484.44 -13647484.31 0.2668 0.0527 *

Uranus -42075-02-11 07:54 J -13646429.24 -13646429.17 -13646429.09 0.0146 0.0129

Uranus -42075-05-10 13:54 J -13646341.03 -13646340.92 -13646340.79 0.0146 0.0101

Mars -42075-08-04 10:47 J -13646255.07 -13646255.05 -13646255.03 0.1924 0.1899

Uranus -42075-08-06 20:09 J -13646252.80 -13646252.66 -13646252.52 0.0146 0.0072

Earth -42075-10-01 22:33 J -13646196.58 -13646196.56 -13646196.54 0.2669 0.2618

Uranus -42075-11-03 02:09 J -13646164.56 -13646164.41 -13646164.24 0.0146 0.0045

Uranus -42074-01-30 08:38 J -13646076.31 -13646076.14 -13646075.98 0.0146 0.0015

Uranus -42074-04-28 14:52 J -13645988.05 -13645987.88 -13645987.72 0.0146 0.0014

Uranus -42074-07-25 21:06 J -13645899.78 -13645899.62 -13645899.46 0.0146 0.0043

Uranus -42074-10-22 03:21 J -13645811.50 -13645811.36 -13645811.21 0.0146 0.0073

Uranus -42073-01-18 09:50 J -13645723.20 -13645723.09 -13645722.97 0.0146 0.0103

Uranus -42073-04-15 16:04 J -13645634.88 -13645634.83 -13645634.75 0.0146 0.0134

Mars -42072-05-21 22:33 J -13645233.69 -13645233.56 -13645233.42 0.1603 0.0254

Jupiter -42072-05-24 10:18 J -13645231.22 -13645231.07 -13645230.92 0.0533 0.0024

Moon -42071-03-16 08:09 J -13644935.20 -13644935.16 -13644935.13 0.2669 0.2536

Earth -42071-03-16 09:06 J -13644935.18 -13644935.12 -13644935.07 0.2672 0.2413 *

Earth -42068-09-24 14:09 J -13643647.04 -13643646.91 -13643646.79 0.2664 0.0171

Moon -42068-09-24 14:09 J -13643647.03 -13643646.91 -13643646.78 0.2671 0.0121 *

Jupiter -42067-10-12 02:23 J -13643264.41 -13643264.40 -13643264.38 0.0497 0.0494

Jupiter -42066-01-09 17:16 J -13643174.93 -13643174.78 -13643174.63 0.0494 0.0088

Mars -42066-12-25 12:57 J -13642825.08 -13642824.96 -13642824.83 0.1925 0.0788

Saturn -42065-03-24 00:14 J -13642735.59 -13642735.49 -13642735.39 0.0284 0.0211

Earth -42065-03-26 01:26 J -13642733.54 -13642733.44 -13642733.33 0.2666 0.1641

Moon -42065-03-26 02:09 J -13642733.51 -13642733.41 -13642733.30 0.2672 0.1617 *

Saturn -42065-06-20 17:16 J -13642646.93 -13642646.78 -13642646.63 0.0284 0.0094

Saturn -42065-09-17 10:47 J -13642558.21 -13642558.05 -13642557.89 0.0284 0.0026

Saturn -42065-12-15 04:33 J -13642469.44 -13642469.31 -13642469.16 0.0284 0.0149

Saturn -42064-03-13 23:02 J -13642380.58 -13642380.54 -13642380.50 0.0284 0.0274

Mars -42063-10-12 06:28 J -13641803.35 -13641803.23 -13641803.11 0.1603 0.0824

Mars -42061-09-16 21:50 J -13641097.64 -13641097.59 -13641097.54 0.1604 0.1467

Moon -42061-09-17 02:38 J -13641097.42 -13641097.39 -13641097.35 0.2658 0.2509

Earth -42061-09-17 03:35 J -13641097.39 -13641097.35 -13641097.30 0.2660 0.2486 *

Jupiter -42060-03-12 10:47 J -13640921.19 -13640921.05 -13640920.91 0.0533 0.0164

Jupiter -42060-06-10 03:35 J -13640831.36 -13640831.35 -13640831.33 0.0536 0.0531

Pluto -42059-06-30 13:26 J -13640446.00 -13640445.94 -13640445.88 0.0065 0.0061

Venus -42059-07-01 03:06 J -13640445.39 -13640445.37 -13640445.34 0.3727 0.3634

Pluto -42059-09-26 14:23 J -13640357.98 -13640357.90 -13640357.81 0.0066 0.0056

Pluto -42059-12-23 15:35 J -13640269.95 -13640269.85 -13640269.74 0.0066 0.0051

Moon -42058-03-19 06:57 J -13640184.32 -13640184.21 -13640184.10 0.2671 0.1474

Earth -42058-03-19 08:09 J -13640184.28 -13640184.16 -13640184.05 0.2671 0.1408 *

Pluto -42058-03-21 16:47 J -13640181.91 -13640181.80 -13640181.67 0.0066 0.0046

Pluto -42058-06-17 17:59 J -13640093.87 -13640093.75 -13640093.61 0.0066 0.0041

Pluto -42058-09-13 19:11 J -13640005.83 -13640005.70 -13640005.55 0.0066 0.0036

Pluto -42058-12-10 20:23 J -13639917.79 -13639917.65 -13639917.49 0.0066 0.0031

Pluto -42057-03-07 21:50 J -13639829.74 -13639829.59 -13639829.43 0.0066 0.0025

Pluto -42057-06-03 23:02 J -13639741.69 -13639741.54 -13639741.37 0.0066 0.0020

Pluto -42057-08-31 00:14 J -13639653.64 -13639653.49 -13639653.31 0.0066 0.0015

Pluto -42057-11-27 01:40 J -13639565.59 -13639565.43 -13639565.26 0.0066 0.0010

Pluto -42056-02-23 03:06 J -13639477.54 -13639477.37 -13639477.20 0.0066 0.0004

Mars -42056-05-16 16:04 J -13639394.97 -13639394.83 -13639394.70 0.1926 0.0277

Pluto -42056-05-22 04:18 J -13639389.49 -13639389.32 -13639389.15 0.0067 0.0002

Pluto -42056-08-18 05:45 J -13639301.43 -13639301.26 -13639301.09 0.0067 0.0007

Pluto -42056-11-14 06:57 J -13639213.37 -13639213.21 -13639213.04 0.0067 0.0012

Pluto -42055-02-10 08:09 J -13639125.31 -13639125.16 -13639124.99 0.0067 0.0018

Pluto -42055-05-09 09:35 J -13639037.25 -13639037.10 -13639036.93 0.0067 0.0023

Pluto -42055-08-05 10:47 J -13638949.19 -13638949.05 -13638948.88 0.0067 0.0029

Earth -42055-09-27 10:47 J -13638896.16 -13638896.05 -13638895.93 0.2666 0.1058

Moon -42055-09-27 11:30 J -13638896.12 -13638896.02 -13638895.91 0.2669 0.1185 *

Jupiter -42055-10-28 19:26 J -13638864.85 -13638864.69 -13638864.54 0.0495 0.0053

Pluto -42055-11-01 12:28 J -13638861.13 -13638860.98 -13638860.83 0.0067 0.0034

Pluto -42054-01-28 13:40 J -13638773.06 -13638772.93 -13638772.78 0.0067 0.0040

Pluto -42054-04-26 14:52 J -13638684.99 -13638684.88 -13638684.74 0.0067 0.0046

Pluto -42054-07-23 16:33 J -13638596.91 -13638596.81 -13638596.70 0.0067 0.0052

Pluto -42054-10-19 17:45 J -13638508.83 -13638508.76 -13638508.66 0.0068 0.0058

Venus -42053-01-15 03:21 J -13638421.49 -13638421.36 -13638421.23 0.3721 0.0657

Pluto -42053-01-15 19:11 J -13638420.74 -13638420.70 -13638420.63 0.0068 0.0064

Mars -42053-03-03 14:23 J -13638372.97 -13638372.90 -13638372.84 0.1603 0.1401

Mars -42051-02-07 06:14 J -13637667.35 -13637667.24 -13637667.13 0.1604 0.0933

Saturn -42051-10-29 23:59 J -13637402.56 -13637402.50 -13637402.44 0.0274 0.0252

Saturn -42050-01-26 14:09 J -13637314.03 -13637313.91 -13637313.78 0.0274 0.0149

Saturn -42050-04-25 04:18 J -13637225.47 -13637225.32 -13637225.17 0.0274 0.0048

Saturn -42050-07-22 17:59 J -13637136.89 -13637136.75 -13637136.60 0.0274 0.0051

Saturn -42050-10-19 07:26 J -13637048.31 -13637048.19 -13637048.07 0.0274 0.0148

Saturn -42049-01-15 20:38 J -13636959.70 -13636959.64 -13636959.57 0.0274 0.0243

Jupiter -42049-12-29 12:14 J -13636611.11 -13636610.99 -13636610.88 0.0532 0.0337

Jupiter -42048-03-29 05:30 J -13636521.38 -13636521.27 -13636521.17 0.0536 0.0366

Moon -42048-09-20 00:14 J -13636346.59 -13636346.49 -13636346.39 0.2663 0.1584

Earth -42048-09-20 01:11 J -13636346.55 -13636346.45 -13636346.35 0.2661 0.1524 *

Mars -42047-10-06 18:57 J -13635964.80 -13635964.71 -13635964.61 0.1925 0.1324

Moon -42045-03-21 06:42 J -13635433.35 -13635433.22 -13635433.09 0.2675 0.0374

Earth -42045-03-21 07:26 J -13635433.32 -13635433.19 -13635433.06 0.2669 0.0358 *

Jupiter -42043-08-16 21:06 J -13634554.76 -13634554.62 -13634554.48 0.0495 0.0199

Jupiter -42043-11-14 12:28 J -13634465.07 -13634464.98 -13634464.88 0.0493 0.0391

Mars -42042-06-30 14:38 J -13634237.02 -13634236.89 -13634236.75 0.1603 0.0387

Earth -42042-09-30 07:26 J -13634145.28 -13634145.19 -13634145.11 0.2667 0.1925

Moon -42042-09-30 08:23 J -13634145.24 -13634145.15 -13634145.07 0.2668 0.1955 *

Venus -42038-02-13 10:18 J -13632913.17 -13632913.07 -13632912.97 0.3653 0.1619

Jupiter -42037-10-17 13:40 J -13632300.97 -13632300.93 -13632300.89 0.0532 0.0508

Jupiter -42036-01-15 07:26 J -13632211.33 -13632211.19 -13632211.06 0.0535 0.0202

Saturn -42036-08-10 23:30 J -13632003.58 -13632003.52 -13632003.44 0.0285 0.0252

Saturn -42036-11-07 16:33 J -13631914.95 -13631914.81 -13631914.67 0.0285 0.0137

Saturn -42035-02-04 09:50 J -13631826.25 -13631826.09 -13631825.93 0.0285 0.0019

Saturn -42035-05-04 03:35 J -13631737.50 -13631737.35 -13631737.20 0.0285 0.0104

Saturn -42035-07-31 21:35 J -13631648.69 -13631648.60 -13631648.50 0.0285 0.0229

Moon -42035-09-22 22:04 J -13631595.70 -13631595.58 -13631595.46 0.2669 0.0651

Earth -42035-09-22 22:18 J -13631595.69 -13631595.57 -13631595.45 0.2663 0.0588 *

Uranus -42034-03-17 23:02 J -13631419.56 -13631419.54 -13631419.49 0.0132 0.0129

Uranus -42034-06-14 03:06 J -13631331.44 -13631331.37 -13631331.27 0.0132 0.0109

Uranus -42034-09-10 07:11 J -13631243.30 -13631243.20 -13631243.08 0.0132 0.0089

Uranus -42034-12-07 11:16 J -13631155.15 -13631155.03 -13631154.89 0.0132 0.0069

Uranus -42033-03-04 15:21 J -13631067.00 -13631066.86 -13631066.72 0.0132 0.0049

Uranus -42033-05-31 19:11 J -13630978.84 -13630978.70 -13630978.55 0.0132 0.0030

Uranus -42033-08-27 23:16 J -13630890.68 -13630890.53 -13630890.38 0.0132 0.0010

Venus -42033-08-29 04:04 J -13630889.44 -13630889.33 -13630889.22 0.3657 0.0945

Mars -42033-11-19 22:47 J -13630806.69 -13630806.55 -13630806.41 0.1603 0.0171

Uranus -42033-11-24 03:06 J -13630802.52 -13630802.37 -13630802.22 0.0132 0.0009

Uranus -42032-02-20 06:57 J -13630714.35 -13630714.21 -13630714.06 0.0132 0.0029

Moon -42032-03-24 07:11 J -13630682.33 -13630682.20 -13630682.07 0.2674 0.0671

Earth -42032-03-24 07:11 J -13630682.33 -13630682.20 -13630682.07 0.2667 0.0723 *

Uranus -42032-05-19 10:47 J -13630626.19 -13630626.05 -13630625.91 0.0132 0.0047

Uranus -42032-08-15 14:23 J -13630538.02 -13630537.90 -13630537.77 0.0132 0.0067

Uranus -42032-11-11 18:14 J -13630449.85 -13630449.74 -13630449.63 0.0132 0.0085

Uranus -42031-02-07 22:04 J -13630361.67 -13630361.58 -13630361.49 0.0132 0.0104

Uranus -42031-05-07 01:26 J -13630273.48 -13630273.44 -13630273.37 0.0132 0.0123

Jupiter -42031-06-04 23:02 J -13630244.65 -13630244.54 -13630244.43 0.0496 0.0343

Jupiter -42031-09-02 14:09 J -13630155.05 -13630154.91 -13630154.78 0.0493 0.0242

Venus -42027-03-14 21:50 J -13628865.63 -13628865.59 -13628865.56 0.3661 0.3436

Mars -42026-06-25 13:26 J -13628398.06 -13628397.94 -13628397.82 0.1925 0.0907

Moon -42025-03-16 13:40 J -13628133.00 -13628132.93 -13628132.86 0.2669 0.2229

Earth -42025-03-16 14:38 J -13628132.96 -13628132.89 -13628132.82 0.2672 0.2235 *

Jupiter -42025-11-03 08:38 J -13627901.28 -13627901.14 -13627900.99 0.0534 0.0033

Mars -42023-04-12 06:57 J -13627376.34 -13627376.21 -13627376.09 0.1603 0.0736

Earth -42022-09-25 19:26 J -13626844.82 -13626844.69 -13626844.57 0.2664 0.0334

Moon -42022-09-25 19:26 J -13626844.81 -13626844.69 -13626844.56 0.2671 0.0414 *

Mars -42021-03-17 22:04 J -13626670.61 -13626670.58 -13626670.55 0.1604 0.1548

Saturn -42021-06-14 15:50 J -13626581.96 -13626581.84 -13626581.73 0.0275 0.0179

Saturn -42021-09-11 05:45 J -13626493.40 -13626493.26 -13626493.11 0.0275 0.0078

Saturn -42021-12-08 19:40 J -13626404.82 -13626404.68 -13626404.53 0.0275 0.0023

Saturn -42020-03-07 09:21 J -13626316.24 -13626316.11 -13626315.98 0.0275 0.0121

Saturn -42020-06-03 22:33 J -13626227.64 -13626227.56 -13626227.47 0.0275 0.0217

Jupiter -42019-03-24 00:28 J -13625934.49 -13625934.48 -13625934.46 0.0497 0.0494

Earth -42019-03-27 07:11 J -13625931.30 -13625931.20 -13625931.10 0.2666 0.1833

Moon -42019-03-27 07:54 J -13625931.26 -13625931.17 -13625931.08 0.2671 0.1982 *

Jupiter -42019-06-21 15:06 J -13625845.02 -13625844.87 -13625844.71 0.0494 0.0089

Mars -42017-11-14 16:04 J -13624967.96 -13624967.83 -13624967.69 0.1925 0.0183

Moon -42015-09-18 08:09 J -13624295.21 -13624295.16 -13624295.12 0.2659 0.2448

Earth -42015-09-18 09:06 J -13624295.18 -13624295.12 -13624295.06 0.2660 0.2312 *

Mars -42014-09-02 14:38 J -13623945.97 -13623945.89 -13623945.81 0.1603 0.1316

Jupiter -42013-08-22 09:35 J -13623591.24 -13623591.10 -13623590.96 0.0533 0.0152

Moon -42012-03-19 12:42 J -13623382.09 -13623381.97 -13623381.86 0.2673 0.1331

Earth -42012-03-19 13:40 J -13623382.05 -13623381.93 -13623381.81 0.2670 0.1219 *

Mars -42012-08-08 06:28 J -13623240.33 -13623240.23 -13623240.12 0.1604 0.1016

Earth -42009-09-27 16:04 J -13622093.94 -13622093.83 -13622093.72 0.2666 0.1215

Moon -42009-09-27 17:02 J -13622093.90 -13622093.79 -13622093.68 0.2669 0.1202 *

Neptune -42009-12-20 11:45 J -13622010.06 -13622010.01 -13622009.95 0.0088 0.0082

Neptune -42008-03-18 13:40 J -13621922.00 -13621921.93 -13621921.83 0.0088 0.0075

Neptune -42008-06-14 16:18 J -13621833.92 -13621833.82 -13621833.72 0.0088 0.0067

Neptune -42008-09-10 18:14 J -13621745.85 -13621745.74 -13621745.61 0.0088 0.0060

Neptune -42008-12-07 20:23 J -13621657.77 -13621657.65 -13621657.51 0.0088 0.0053

Neptune -42007-03-05 22:33 J -13621569.68 -13621569.56 -13621569.41 0.0088 0.0046

Mars -42007-04-06 19:26 J -13621537.79 -13621537.69 -13621537.59 0.1925 0.1214

Jupiter -42007-04-09 17:02 J -13621534.94 -13621534.79 -13621534.64 0.0495 0.0058

Neptune -42007-06-02 00:42 J -13621481.60 -13621481.47 -13621481.32 0.0088 0.0038

Neptune -42007-08-29 03:06 J -13621393.52 -13621393.37 -13621393.22 0.0088 0.0031

Neptune -42007-11-25 05:16 J -13621305.43 -13621305.28 -13621305.13 0.0088 0.0024

Saturn -42007-12-29 02:38 J -13621271.44 -13621271.39 -13621271.35 0.0284 0.0271

Neptune -42006-02-21 07:26 J -13621217.35 -13621217.19 -13621217.04 0.0088 0.0016

Saturn -42006-03-27 19:26 J -13621182.82 -13621182.69 -13621182.56 0.0284 0.0155

Neptune -42006-05-20 09:35 J -13621129.26 -13621129.10 -13621128.95 0.0088 0.0009

Saturn -42006-06-24 12:42 J -13621094.13 -13621093.97 -13621093.81 0.0284 0.0037

Neptune -42006-08-16 11:30 J -13621041.17 -13621041.02 -13621040.86 0.0088 0.0004

Saturn -42006-09-21 06:28 J -13621005.39 -13621005.23 -13621005.08 0.0284 0.0084

Neptune -42006-11-12 13:40 J -13620953.08 -13620952.93 -13620952.77 0.0088 0.0005

Saturn -42006-12-19 00:28 J -13620916.59 -13620916.48 -13620916.37 0.0284 0.0208

Neptune -42005-02-08 15:50 J -13620865.00 -13620864.84 -13620864.68 0.0088 0.0012

Neptune -42005-05-06 17:45 J -13620776.91 -13620776.76 -13620776.60 0.0088 0.0019

Neptune -42005-08-02 19:54 J -13620688.82 -13620688.67 -13620688.52 0.0088 0.0026

Neptune -42005-10-29 21:50 J -13620600.72 -13620600.59 -13620600.44 0.0088 0.0033

Neptune -42004-01-25 23:45 J -13620512.63 -13620512.51 -13620512.36 0.0088 0.0041

Neptune -42004-04-24 02:09 J -13620424.54 -13620424.41 -13620424.28 0.0088 0.0047

Neptune -42004-07-21 04:04 J -13620336.45 -13620336.33 -13620336.20 0.0088 0.0054

Neptune -42004-10-17 05:59 J -13620248.35 -13620248.25 -13620248.13 0.0088 0.0061

Neptune -42003-01-13 07:54 J -13620160.25 -13620160.17 -13620160.06 0.0088 0.0068

Neptune -42003-04-11 09:50 J -13620072.15 -13620072.09 -13620071.99 0.0088 0.0075

Neptune -42003-07-08 11:45 J -13619984.05 -13619984.01 -13619983.93 0.0088 0.0082

Neptune -42003-10-04 14:09 J -13619895.92 -13619895.91 -13619895.89 0.0088 0.0088

Mars -42003-12-29 14:52 J -13619810.01 -13619809.88 -13619809.75 0.1603 0.0467

Venus -42002-02-05 02:38 J -13619772.49 -13619772.39 -13619772.28 0.3725 0.2133

Moon -42002-09-21 05:30 J -13619544.37 -13619544.27 -13619544.16 0.2664 0.1415

Earth -42002-09-21 06:28 J -13619544.34 -13619544.23 -13619544.12 0.2661 0.1357 *

Jupiter -42001-06-10 09:50 J -13619281.20 -13619281.09 -13619280.98 0.0532 0.0344

Jupiter -42001-09-08 03:06 J -13619191.47 -13619191.37 -13619191.26 0.0535 0.0359

42ND MILLENNIUM BCE

This is a list of transits of Mercury in the 42nd millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Moon	**-41999-03-22 12:14 J**		**-13618631.12**	**-13618630.99**	**-13618630.85**	**0.2674**	**0.0254**	
Earth	**-41999-03-22 12:57 J**		**-13618631.09**	**-13618630.96**	**-13618630.82**	**0.2669**	**0.0180**	*
Venus	**-41997-08-21 03:06 J**		**-13617748.47**	**-13617748.37**	**-13617748.26**	**0.3720**	**0.2231**	
Earth	**-41996-09-30 12:28 J**		**-13617343.05**	**-13617342.98**	**-13617342.90**	**0.2668**	**0.2079**	
Moon	**-41996-09-30 13:26 J**		**-13617343.01**	**-13617342.94**	**-13617342.87**	**0.2666**	**0.2187**	*
Jupiter	**-41995-01-26 19:11 J**		**-13617224.84**	**-13617224.70**	**-13617224.55**	**0.0496**	**0.0198**	
Jupiter	**-41995-04-26 10:47 J**		**-13617135.15**	**-13617135.05**	**-13617134.96**	**0.0493**	**0.0393**	
Mars	**-41993-05-20 23:02 J**		**-13616379.68**	**-13616379.54**	**-13616379.40**	**0.1603**	**0.0089**	
Saturn	**-41992-11-01 18:14 J**		**-13615849.84**	**-13615849.74**	**-13615849.64**	**0.0274**	**0.0201**	
Saturn	**-41991-01-29 08:23 J**		**-13615761.29**	**-13615761.15**	**-13615761.01**	**0.0274**	**0.0100**	
Uranus	**-41991-03-03 14:38 J**		**-13615727.96**	**-13615727.89**	**-13615727.79**	**0.0146**	**0.0124**	
Saturn	**-41991-04-27 22:18 J**		**-13615672.72**	**-13615672.57**	**-13615672.42**	**0.0274**	**0.0001**	
Uranus	**-41991-05-30 20:52 J**		**-13615639.75**	**-13615639.63**	**-13615639.50**	**0.0146**	**0.0095**	
Saturn	**-41991-07-25 11:45 J**		**-13615584.14**	**-13615584.01**	**-13615583.87**	**0.0274**	**0.0099**	
Uranus	**-41991-08-27 03:06 J**		**-13615551.52**	**-13615551.37**	**-13615551.23**	**0.0146**	**0.0067**	
Saturn	**-41991-10-22 01:11 J**		**-13615495.55**	**-13615495.45**	**-13615495.35**	**0.0274**	**0.0195**	
Uranus	**-41991-11-23 09:06 J**		**-13615463.27**	**-13615463.12**	**-13615462.96**	**0.0146**	**0.0038**	
Uranus	**-41990-02-19 15:21 J**		**-13615375.02**	**-13615374.86**	**-13615374.69**	**0.0146**	**0.0010**	
Uranus	**-41990-05-18 21:35 J**		**-13615286.76**	**-13615286.60**	**-13615286.43**	**0.0146**	**0.0020**	
Uranus	**-41990-08-15 03:50 J**		**-13615198.49**	**-13615198.34**	**-13615198.18**	**0.0146**	**0.0050**	

Uranus -41990-11-11 10:04 J -13615110.21 -13615110.08 -13615109.93 0.0146 0.0080

Uranus -41989-02-07 16:47 J -13615021.91 -13615021.80 -13615021.69 0.0146 0.0109

Jupiter -41989-03-29 11:02 J -13614971.07 -13614971.04 -13614971.01 0.0531 0.0519

Uranus -41989-05-05 23:16 J -13614933.58 -13614933.53 -13614933.48 0.0146 0.0139

Jupiter -41989-06-27 04:47 J -13614881.43 -13614881.30 -13614881.16 0.0535 0.0190

Moon -41989-09-23 03:21 J -13614793.48 -13614793.36 -13614793.24 0.2670 0.0426

Earth -41989-09-23 03:35 J -13614793.47 -13614793.35 -13614793.22 0.2663 0.0426 *

Venus -41987-03-06 14:23 J -13614263.95 -13614263.90 -13614263.85 0.3649 0.3242

Mars -41987-12-24 13:26 J -13613971.05 -13613970.94 -13613970.82 0.1925 0.0996

Earth -41986-03-25 12:42 J -13613880.09 -13613879.97 -13613879.84 0.2667 0.0914

Moon -41986-03-25 13:11 J -13613880.08 -13613879.95 -13613879.83 0.2674 0.0990 *

Mars -41984-10-11 06:57 J -13612949.33 -13612949.21 -13612949.08 0.1603 0.0655

Jupiter -41984-11-14 21:21 J -13612914.72 -13612914.61 -13612914.50 0.0496 0.0340

Jupiter -41983-02-12 12:14 J -13612825.12 -13612824.99 -13612824.85 0.0493 0.0245

Venus -41982-09-20 08:23 J -13612240.26 -13612240.15 -13612240.04 0.3654 0.0635

Moon -41979-03-17 19:11 J -13611330.78 -13611330.70 -13611330.63 0.2669 0.2198

Earth -41979-03-17 20:09 J -13611330.74 -13611330.66 -13611330.58 0.2672 0.2056 *

Jupiter -41977-04-15 06:42 J -13610571.37 -13610571.22 -13610571.08 0.0534 0.0027

Mars -41977-05-15 16:18 J -13610540.95 -13610540.82 -13610540.68 0.1926 0.0077

Saturn -41977-08-13 18:42 J -13610450.83 -13610450.72 -13610450.61 0.0285 0.0198

Saturn -41977-11-10 11:45 J -13610362.16 -13610362.01 -13610361.85 0.0285 0.0081

Saturn -41976-02-07 05:16 J -13610273.44 -13610273.28 -13610273.12 0.0285 0.0040

Venus -41976-04-05 02:09 J -13610216.51 -13610216.41 -13610216.32 0.3658 0.1901

Saturn -41976-05-06 23:02 J -13610184.66 -13610184.54 -13610184.40 0.0285 0.0163

Earth -41976-09-26 00:42 J -13610042.60 -13610042.47 -13610042.35 0.2665 0.0496

Moon -41976-09-26 00:57 J -13610042.58 -13610042.46 -13610042.34 0.2670 0.0470 *

Mars -41974-03-03 14:52 J -13609518.97 -13609518.88 -13609518.79 0.1603 0.1229

Earth -41973-03-27 12:57 J -13609129.05 -13609128.96 -13609128.88 0.2665 0.2034

Moon -41973-03-27 13:40 J -13609129.01 -13609128.93 -13609128.84 0.2670 0.2021 *

Mars -41972-02-06 06:42 J -13608813.32 -13608813.22 -13608813.12 0.1604 0.1093

Pluto -41972-08-04 04:47 J -13608634.32 -13608634.30 -13608634.26 0.0079 0.0078

Jupiter -41972-09-02 23:16 J -13608604.56 -13608604.53 -13608604.50 0.0497 0.0483

Pluto -41972-10-31 06:14 J -13608546.29 -13608546.24 -13608546.15 0.0079 0.0069

Jupiter -41972-12-01 13:54 J -13608515.07 -13608514.92 -13608514.77 0.0494 0.0097

Pluto -41971-01-27 07:54 J -13608458.25 -13608458.17 -13608458.06 0.0079 0.0061

Pluto -41971-04-25 09:21 J -13608370.21 -13608370.11 -13608369.99 0.0079 0.0053

Pluto -41971-07-22 10:47 J -13608282.16 -13608282.05 -13608281.91 0.0079 0.0045

Pluto -41971-10-18 12:28 J -13608194.10 -13608193.98 -13608193.84 0.0079 0.0037

Pluto -41970-01-14 13:54 J -13608106.05 -13608105.92 -13608105.77 0.0078 0.0029

Pluto -41970-04-12 15:35 J -13608017.99 -13608017.85 -13608017.71 0.0078 0.0020

Pluto -41970-07-09 17:02 J -13607929.94 -13607929.79 -13607929.64 0.0078 0.0013

Pluto -41970-10-05 18:28 J -13607841.88 -13607841.73 -13607841.58 0.0078 0.0005

Pluto -41969-01-01 19:54 J -13607753.82 -13607753.67 -13607753.52 0.0078 0.0003

Pluto -41969-03-29 21:06 J -13607665.76 -13607665.62 -13607665.47 0.0078 0.0011

Pluto -41969-06-25 22:33 J -13607577.70 -13607577.56 -13607577.41 0.0078 0.0018

Moon -41969-09-18 13:26 J -13607493.02 -13607492.94 -13607492.87 0.2659 0.2146

Earth -41969-09-18 14:23 J -13607492.97 -13607492.90 -13607492.83 0.2660 0.2144 *

Pluto -41969-09-21 23:59 J -13607489.64 -13607489.50 -13607489.36 0.0078 0.0025

Pluto -41969-12-19 01:26 J -13607401.57 -13607401.44 -13607401.31 0.0077 0.0033

Pluto -41968-03-17 02:38 J -13607313.51 -13607313.39 -13607313.26 0.0077 0.0040

Pluto -41968-06-13 03:50 J -13607225.44 -13607225.34 -13607225.21 0.0077 0.0048

Pluto -41968-09-09 05:16 J -13607137.37 -13607137.28 -13607137.17 0.0077 0.0054

Mars -41968-10-05 19:40 J -13607110.79 -13607110.68 -13607110.57 0.1925 0.1106

Pluto -41968-12-06 06:42 J -13607049.30 -13607049.22 -13607049.13 0.0077 0.0061

Pluto -41967-03-04 07:40 J -13606961.23 -13606961.18 -13606961.10 0.0077 0.0069

Pluto -41967-05-31 08:52 J -13606873.13 -13606873.13 -13606873.09 0.0077 0.0076

Moon -41966-03-20 18:14 J -13606579.86 -13606579.74 -13606579.62 0.2674 0.1049

Earth -41966-03-20 19:11 J -13606579.82 -13606579.70 -13606579.58 0.2670 0.1039 *

Jupiter -41965-02-02 08:09 J -13606261.31 -13606261.16 -13606261.02 0.0533 0.0147

Mars -41963-06-29 15:06 J -13605383.00 -13605382.87 -13605382.74 0.1603 0.0552

Earth -41963-09-28 21:21 J -13605291.72 -13605291.61 -13605291.51 0.2666 0.1369

Moon -41963-09-28 22:04 J -13605291.68 -13605291.58 -13605291.48 0.2669 0.1509 *

Saturn -41962-03-21 19:11 J -13605117.77 -13605117.70 -13605117.62 0.0275 0.0234

Saturn -41962-06-18 09:35 J -13605029.23 -13605029.10 -13605028.97 0.0275 0.0132

Saturn -41962-09-14 23:30 J -13604940.66 -13604940.52 -13604940.37 0.0275 0.0032

Saturn -41962-12-12 13:26 J -13604852.09 -13604851.94 -13604851.80 0.0275 0.0069

Saturn -41961-03-10 02:52 J -13604763.50 -13604763.38 -13604763.27 0.0275 0.0166

Saturn -41961-06-06 15:50 J -13604674.87 -13604674.84 -13604674.79 0.0275 0.0261

Jupiter -41960-09-19 15:06 J -13604205.02 -13604204.87 -13604204.72 0.0495 0.0057

Moon -41956-09-21 11:02 J -13602742.15 -13602742.04 -13602741.93 0.2666 0.1282

Earth -41956-09-21 11:45 J -13602742.12 -13602742.01 -13602741.90 0.2662 0.1189 *

Mars -41954-11-19 23:16 J -13601952.67 -13601952.53 -13601952.39 0.1603 0.0027

Jupiter -41954-11-21 08:52 J -13601951.24 -13601951.13 -13601951.01 0.0532 0.0328

Jupiter -41953-02-19 02:09 J -13601861.51 -13601861.41 -13601861.31 0.0535 0.0373

Moon -41953-03-22 18:14 J -13601828.87 -13601828.74 -13601828.61 0.2674 0.0048

Earth -41953-03-22 18:42 J -13601828.85 -13601828.72 -13601828.59 0.2669 0.0027 *

Uranus -41950-04-07 05:59 J -13600718.29 -13600718.25 -13600718.19 0.0132 0.0124

Uranus -41950-07-04 10:04 J -13600630.17 -13600630.08 -13600629.98 0.0132 0.0104

Uranus -41950-09-30 14:09 J -13600542.02 -13600541.91 -13600541.79 0.0132 0.0084

Earth -41950-10-01 17:45 J -13600540.82 -13600540.76 -13600540.70 0.2668 0.2228

Moon -41950-10-01 18:28 J -13600540.79 -13600540.73 -13600540.66 0.2665 0.2211 *

Uranus -41950-12-27 17:59 J -13600453.87 -13600453.75 -13600453.61 0.0132 0.0065

Uranus -41949-03-24 22:04 J -13600365.72 -13600365.58 -13600365.43 0.0132 0.0045

Uranus -41949-06-21 02:09 J -13600277.56 -13600277.41 -13600277.26 0.0132 0.0025

Uranus -41949-09-17 05:59 J -13600189.40 -13600189.25 -13600189.10 0.0132 0.0006

Uranus -41949-12-14 09:50 J -13600101.24 -13600101.09 -13600100.94 0.0132 0.0014

Uranus -41948-03-12 13:40 J -13600013.07 -13600012.93 -13600012.78 0.0132 0.0033

Uranus -41948-06-08 17:30 J -13599924.90 -13599924.77 -13599924.63 0.0132 0.0052

Jupiter -41948-07-08 17:02 J -13599894.93 -13599894.79 -13599894.65 0.0496 0.0201

Uranus -41948-09-04 21:21 J -13599836.73 -13599836.61 -13599836.49 0.0132 0.0070

Jupiter -41948-10-06 08:23 J -13599805.24 -13599805.15 -13599805.05 0.0493 0.0390

Uranus -41948-12-02 00:57 J -13599748.56 -13599748.46 -13599748.35 0.0132 0.0089

Saturn -41948-12-31 21:06 J -13599718.71 -13599718.62 -13599718.51 0.0284 0.0219

Uranus -41947-02-28 04:33 J -13599660.38 -13599660.31 -13599660.22 0.0132 0.0108

Saturn -41947-03-30 14:23 J -13599630.05 -13599629.90 -13599629.75 0.0284 0.0103

Uranus -41947-05-27 08:23 J -13599572.18 -13599572.15 -13599572.10 0.0132 0.0126

Mars -41947-06-24 13:54 J -13599544.04 -13599543.92 -13599543.81 0.1925 0.1108

Saturn -41947-06-27 07:40 J -13599541.34 -13599541.18 -13599541.02 0.0284 0.0018

Saturn -41947-09-24 01:26 J -13599452.57 -13599452.44 -13599452.29 0.0284 0.0140

Saturn -41947-12-21 19:54 J -13599363.73 -13599363.67 -13599363.62 0.0284 0.0265

Venus -41946-09-12 02:23 J -13599099.53 -13599099.40 -13599099.27 0.3724 0.0608

Mars -41944-04-11 07:11 J -13598522.33 -13598522.20 -13598522.07 0.1603 0.0573

Moon -41943-09-24 08:38 J -13597991.26 -13597991.14 -13597991.02 0.2670 0.0288

Earth -41943-09-24 08:52 J -13597991.25 -13597991.13 -13597991.00 0.2663 0.0264 *

Jupiter -41942-09-09 08:52 J -13597641.15 -13597641.13 -13597641.11 0.0531 0.0523

Jupiter -41942-12-08 02:38 J -13597551.53 -13597551.39 -13597551.25 0.0534 0.0186

Earth -41940-03-25 18:28 J -13597077.85 -13597077.73 -13597077.61 0.2667 0.1107

Moon -41940-03-25 18:42 J -13597077.84 -13597077.72 -13597077.59 0.2674 0.1106 *

Mars -41938-11-14 16:33 J -13596113.94 -13596113.81 -13596113.68 0.1925 0.0031

Jupiter -41936-04-26 19:26 J -13595584.80 -13595584.69 -13595584.58 0.0496 0.0338

Jupiter -41936-07-25 10:33 J -13595495.20 -13595495.06 -13595494.93 0.0494 0.0248

Mars -41935-09-01 15:06 J -13595091.97 -13595091.87 -13595091.77 0.1603 0.1146

Moon -41933-03-18 00:42 J -13594528.57 -13594528.47 -13594528.38 0.2670 0.1870

Earth -41933-03-18 01:40 J -13594528.52 -13594528.43 -13594528.34 0.2672 0.1879 *

Mars -41933-08-07 06:57 J -13594386.30 -13594386.21 -13594386.12 0.1604 0.1170

Saturn -41933-08-07 21:50 J -13594385.64 -13594385.59 -13594385.53 0.0274 0.0256

Saturn -41933-11-04 12:14 J -13594297.11 -13594296.99 -13594296.86 0.0274 0.0153

Saturn -41932-02-01 02:23 J -13594208.55 -13594208.40 -13594208.26 0.0274 0.0052

Saturn -41932-04-30 16:04 J -13594119.98 -13594119.83 -13594119.68 0.0274 0.0048

Saturn -41932-07-28 05:30 J -13594031.39 -13594031.27 -13594031.14 0.0274 0.0145

Saturn -41932-10-24 18:42 J -13593942.78 -13593942.72 -13593942.65 0.0274 0.0240

Venus -41931-10-11 12:28 J -13593591.06 -13593590.98 -13593590.89 0.3650 0.2242

Jupiter -41930-09-26 04:18 J -13593241.47 -13593241.32 -13593241.18 0.0534 0.0022

Earth -41930-09-27 05:45 J -13593240.38 -13593240.26 -13593240.14 0.2665 0.0645

Moon -41930-09-27 06:28 J -13593240.35 -13593240.23 -13593240.12 0.2670 0.0719 *

Mars -41928-04-05 19:40 J -13592683.79 -13592683.68 -13592683.57 0.1925 0.1018

Earth -41927-03-28 18:28 J -13592326.80 -13592326.73 -13592326.65 0.2665 0.2227

Moon -41927-03-28 19:40 J -13592326.74 -13592326.68 -13592326.62 0.2668 0.2369 *

Neptune -41927-06-19 16:18 J -13592243.83 -13592243.82 -13592243.77 0.0089 0.0087

Neptune -41927-09-15 18:28 J -13592155.78 -13592155.73 -13592155.65 0.0089 0.0080

Neptune -41927-12-12 20:38 J -13592067.72 -13592067.64 -13592067.54 0.0089 0.0073

Neptune -41926-03-10 22:47 J -13591979.65 -13591979.55 -13591979.44 0.0089 0.0066

Neptune -41926-06-07 00:42 J -13591891.57 -13591891.47 -13591891.34 0.0089 0.0059

Neptune -41926-09-03 02:52 J -13591803.49 -13591803.38 -13591803.24 0.0089 0.0052

Neptune -41926-11-30 05:02 J -13591715.41 -13591715.29 -13591715.14 0.0089 0.0045

Neptune -41925-02-26 07:11 J -13591627.33 -13591627.20 -13591627.05 0.0089 0.0038

Venus -41925-04-26 06:28 J -13591567.34 -13591567.23 -13591567.12 0.3655 0.0349

Neptune -41925-05-24 09:35 J -13591539.25 -13591539.10 -13591538.95 0.0089 0.0030

Neptune -41925-08-20 11:45 J -13591451.16 -13591451.01 -13591450.86 0.0089 0.0023

Neptune -41925-11-16 13:54 J -13591363.08 -13591362.92 -13591362.77 0.0089 0.0016

Neptune -41924-02-12 16:04 J -13591274.99 -13591274.83 -13591274.67 0.0089 0.0009

Jupiter -41924-02-12 21:35 J -13591274.64 -13591274.60 -13591274.56 0.0497 0.0478

Neptune -41924-05-11 18:14 J -13591186.90 -13591186.74 -13591186.58 0.0089 0.0002

Jupiter -41924-05-13 12:14 J -13591185.14 -13591184.99 -13591184.84 0.0494 0.0102

Neptune -41924-08-07 20:23 J -13591098.81 -13591098.65 -13591098.49 0.0089 0.0006

Neptune -41924-11-03 22:33 J -13591010.71 -13591010.56 -13591010.40 0.0089 0.0013

Mars -41924-12-28 15:21 J -13590955.99 -13590955.86 -13590955.73 0.1604 0.0631

Neptune -41923-01-31 00:42 J -13590922.62 -13590922.47 -13590922.31 0.0089 0.0021

Neptune -41923-04-29 02:52 J -13590834.52 -13590834.38 -13590834.22 0.0089 0.0028

Neptune -41923-07-26 05:16 J -13590746.42 -13590746.28 -13590746.13 0.0089 0.0035

Moon -41923-09-19 18:42 J -13590690.80 -13590690.72 -13590690.65 0.2660 0.2120

Earth -41923-09-19 19:40 J -13590690.76 -13590690.68 -13590690.60 0.2660 0.1973 *

Neptune -41923-10-22 07:26 J -13590658.32 -13590658.19 -13590658.04 0.0089 0.0043

Neptune -41922-01-18 09:50 J -13590570.22 -13590570.09 -13590569.96 0.0089 0.0050

Neptune -41922-04-16 11:45 J -13590482.12 -13590482.01 -13590481.88 0.0089 0.0058

Neptune -41922-07-13 14:09 J -13590394.01 -13590393.91 -13590393.79 0.0089 0.0065

Neptune -41922-10-09 16:18 J -13590305.90 -13590305.82 -13590305.72 0.0089 0.0073

Neptune -41921-01-05 18:42 J -13590217.78 -13590217.72 -13590217.64 0.0089 0.0080

Neptune -41921-04-02 20:52 J -13590129.64 -13590129.63 -13590129.59 0.0089 0.0088

Moon -41920-03-20 23:45 J -13589777.63 -13589777.51 -13589777.39 0.2673 0.0995

Earth -41920-03-21 00:42 J -13589777.59 -13589777.47 -13589777.34 0.2670 0.0855 *

Venus -41920-11-09 23:59 J -13589543.56 -13589543.50 -13589543.43 0.3659 0.2861

Saturn -41918-05-20 20:38 J -13588986.70 -13588986.64 -13588986.58 0.0285 0.0261

Jupiter -41918-07-15 05:59 J -13588931.39 -13588931.25 -13588931.11 0.0533 0.0152

Saturn -41918-08-17 13:26 J -13588898.07 -13588897.94 -13588897.80 0.0285 0.0146

Saturn -41918-11-14 06:42 J -13588809.38 -13588809.22 -13588809.06 0.0285 0.0027

Saturn -41917-02-11 00:28 J -13588720.63 -13588720.48 -13588720.33 0.0285 0.0094

Saturn -41917-05-09 18:14 J -13588631.83 -13588631.74 -13588631.63 0.0285 0.0219

Earth -41917-09-29 02:23 J -13588489.50 -13588489.40 -13588489.30 0.2666 0.1526

Moon -41917-09-29 03:21 J -13588489.46 -13588489.36 -13588489.26 0.2669 0.1517 *

Mars -41914-05-20 23:30 J -13587525.66 -13587525.52 -13587525.38 0.1603 0.0083

Jupiter -41912-03-01 13:54 J -13586875.07 -13586874.92 -13586874.76 0.0495 0.0046

Moon -41910-09-22 16:18 J -13585939.93 -13585939.82 -13585939.70 0.2667 0.1019

Earth -41910-09-22 17:02 J -13585939.90 -13585939.79 -13585939.67 0.2662 0.1027 *

Mars -41908-12-23 14:09 J -13585117.02 -13585116.91 -13585116.81 0.1925 0.1219

Uranus -41908-12-25 15:35 J -13585114.86 -13585114.85 -13585114.82 0.0146 0.0145

Uranus -41907-03-23 21:35 J -13585026.69 -13585026.60 -13585026.50 0.0146 0.0117

Moon -41907-03-23 23:59 J -13585026.63 -13585026.50 -13585026.37 0.2675 0.0229 *

Earth -41907-03-24 00:14 J -13585026.62 -13585026.49 -13585026.35 0.2668 0.0213 *

Uranus -41907-06-20 03:35 J -13584938.47 -13584938.35 -13584938.21 0.0146 0.0090

Uranus -41907-09-16 09:50 J -13584850.24 -13584850.09 -13584849.94 0.0146 0.0061

Uranus -41907-12-13 16:04 J -13584761.99 -13584761.83 -13584761.67 0.0146 0.0032

Uranus -41906-03-11 22:18 J -13584673.74 -13584673.57 -13584673.41 0.0146 0.0004

Jupiter -41906-05-03 07:11 J -13584621.31 -13584621.20 -13584621.08 0.0532 0.0323

Uranus -41906-06-08 04:18 J -13584585.48 -13584585.32 -13584585.15 0.0146 0.0027

Jupiter -41906-08-01 00:42 J -13584531.57 -13584531.47 -13584531.37 0.0535 0.0380

Uranus -41906-09-04 10:47 J -13584497.20 -13584497.05 -13584496.90 0.0146 0.0055

Uranus -41906-12-01 16:47 J -13584408.92 -13584408.80 -13584408.65 0.0146 0.0086

Uranus -41905-02-27 23:30 J -13584320.62 -13584320.52 -13584320.41 0.0146 0.0115

Uranus -41905-05-26 05:59 J -13584232.27 -13584232.25 -13584232.23 0.0146 0.0145

Mars -41905-10-10 07:40 J -13584095.32 -13584095.18 -13584095.05 0.1603 0.0484

Earth -41904-10-01 22:47 J -13583738.60 -13583738.55 -13583738.49 0.2668 0.2381

Moon -41904-10-01 23:45 J -13583738.55 -13583738.51 -13583738.47 0.2664 0.2503 *

Saturn -41903-03-24 12:57 J -13583565.06 -13583564.96 -13583564.85 0.0274 0.0188

Saturn -41903-06-21 03:06 J -13583476.51 -13583476.37 -13583476.22 0.0274 0.0086

Saturn -41903-09-17 17:02 J -13583387.94 -13583387.79 -13583387.64 0.0274 0.0016

Saturn -41903-12-15 06:42 J -13583299.35 -13583299.22 -13583299.09 0.0275 0.0113

Saturn -41902-03-13 20:09 J -13583210.76 -13583210.66 -13583210.57 0.0275 0.0209

Jupiter -41901-12-18 15:21 J -13582565.00 -13582564.86 -13582564.72 0.0496 0.0197

Jupiter -41900-03-18 06:42 J -13582475.31 -13582475.22 -13582475.13 0.0493 0.0393

Mars -41898-05-15 16:47 J -13581686.93 -13581686.80 -13581686.66 0.1925 0.0139

Moon -41897-09-24 14:09 J -13581189.04 -13581188.91 -13581188.79 0.2670 0.0131

Earth -41897-09-24 14:09 J -13581189.03 -13581188.91 -13581188.78 0.2664 0.0110 *

Mars -41895-03-02 15:21 J -13580664.96 -13580664.86 -13580664.75 0.1603 0.1060

Venus -41895-10-03 01:54 J -13580450.47 -13580450.42 -13580450.36 0.3728 0.3334

Jupiter -41894-02-19 08:09 J -13580311.20 -13580311.16 -13580311.12 0.0531 0.0504

Earth -41894-03-27 00:14 J -13580275.61 -13580275.49 -13580275.38 0.2667 0.1303

Moon -41894-03-27 00:28 J -13580275.59 -13580275.48 -13580275.36 0.2673 0.1351 *

Jupiter -41894-05-20 01:54 J -13580221.56 -13580221.42 -13580221.29 0.0534 0.0204

Mars -41893-02-06 07:11 J -13579959.28 -13579959.20 -13579959.11 0.1604 0.1254

Venus -41889-04-18 02:09 J -13578426.54 -13578426.41 -13578426.28 0.3723 0.0947

Mars -41889-10-04 19:54 J -13578256.79 -13578256.67 -13578256.55 0.1925 0.0911

Jupiter -41889-10-06 17:16 J -13578254.88 -13578254.78 -13578254.66 0.0496 0.0340

Saturn -41888-01-03 15:21 J -13578165.98 -13578165.86 -13578165.73 0.0285 0.0170

Jupiter -41888-01-04 08:23 J -13578165.28 -13578165.15 -13578165.02 0.0494 0.0247

Saturn -41888-04-02 08:38 J -13578077.29 -13578077.14 -13578076.98 0.0284 0.0052

Saturn -41888-06-30 02:09 J -13577988.56 -13577988.41 -13577988.25 0.0284 0.0070

Saturn -41888-09-26 20:09 J -13577899.77 -13577899.66 -13577899.53 0.0284 0.0193

Moon -41887-03-19 05:59 J -13577726.34 -13577726.25 -13577726.15 0.2672 0.1852

Earth -41887-03-19 07:11 J -13577726.30 -13577726.20 -13577726.10 0.2671 0.1702 *

Mars -41884-06-28 15:35 J -13576528.97 -13576528.85 -13576528.73 0.1603 0.0711

Earth -41884-09-27 11:02 J -13576438.16 -13576438.04 -13576437.92 0.2665 0.0803

Moon -41884-09-27 11:45 J -13576438.13 -13576438.01 -13576437.90 0.2671 0.0836 *

Jupiter -41882-03-08 02:09 J -13575911.56 -13575911.41 -13575911.26 0.0533 0.0015

Earth -41881-03-29 00:14 J -13575524.54 -13575524.49 -13575524.43 0.2665 0.2431

Moon -41881-03-29 01:26 J -13575524.49 -13575524.44 -13575524.39 0.2667 0.2468 *

Mars -41879-02-24 23:30 J -13574826.53 -13574826.52 -13574826.51 0.1924 0.1916

Jupiter -41877-07-25 19:54 J -13573944.71 -13573944.67 -13573944.63 0.0497 0.0475

Moon -41877-09-19 23:59 J -13573888.59 -13573888.50 -13573888.40 0.2661 0.1802

Earth -41877-09-20 00:57 J -13573888.55 -13573888.46 -13573888.36 0.2661 0.1807 *

Jupiter -41877-10-23 10:33 J -13573855.21 -13573855.06 -13573854.91 0.0494 0.0106

Mars -41875-11-18 23:45 J -13573098.65 -13573098.51 -13573098.37 0.1603 0.0161

Moon -41874-03-22 05:30 J -13572975.40 -13572975.27 -13572975.15 0.2673 0.0662

Earth -41874-03-22 06:28 J -13572975.36 -13572975.23 -13572975.10 0.2670 0.0671 *

Venus -41874-05-18 10:33 J -13572918.16 -13572918.06 -13572917.95 0.3652 0.1255

Saturn -41874-08-11 15:50 J -13572832.94 -13572832.84 -13572832.74 0.0274 0.0208

Saturn -41874-11-08 05:59 J -13572744.39 -13572744.25 -13572744.11 0.0274 0.0106

Saturn -41873-02-04 19:54 J -13572655.82 -13572655.67 -13572655.52 0.0274 0.0007

Saturn -41873-05-03 09:35 J -13572567.24 -13572567.10 -13572566.96 0.0274 0.0093

Saturn -41873-07-30 22:47 J -13572478.65 -13572478.55 -13572478.44 0.0274 0.0189

Earth -41871-09-30 07:40 J -13571687.27 -13571687.18 -13571687.09 0.2667 0.1677

Moon -41871-09-30 08:38 J -13571687.23 -13571687.14 -13571687.05 0.2667 0.1789 *

Jupiter -41871-12-25 03:35 J -13571601.49 -13571601.35 -13571601.21 0.0533 0.0160

Venus -41869-12-01 04:33 J -13570894.42 -13570894.31 -13570894.21 0.3656 0.1318

Mars -41868-06-23 14:09 J -13570690.01 -13570689.91 -13570689.81 0.1924 0.1314

Uranus -41866-04-27 12:42 J -13570017.03 -13570016.97 -13570016.90 0.0132 0.0120

Uranus -41866-07-24 16:47 J -13569928.89 -13569928.80 -13569928.70 0.0132 0.0100

Uranus -41866-10-20 20:38 J -13569840.75 -13569840.64 -13569840.51 0.0132 0.0081

Uranus -41865-01-17 00:42 J -13569752.60 -13569752.47 -13569752.33 0.0132 0.0061

Mars -41865-04-10 07:54 J -13569668.31 -13569668.17 -13569668.04 0.1603 0.0405

Uranus -41865-04-14 04:47 J -13569664.44 -13569664.30 -13569664.15 0.0132 0.0041

Uranus -41865-07-11 08:52 J -13569576.28 -13569576.13 -13569575.98 0.0132 0.0021

Jupiter -41865-08-11 12:28 J -13569545.14 -13569544.98 -13569544.83 0.0495 0.0038

Uranus -41865-10-07 12:42 J -13569488.12 -13569487.97 -13569487.82 0.0132 0.0002

Uranus -41864-01-03 16:33 J -13569399.96 -13569399.81 -13569399.66 0.0132 0.0017

Uranus -41864-04-01 20:23 J -13569311.79 -13569311.65 -13569311.51 0.0132 0.0036

Uranus -41864-06-29 00:14 J -13569223.62 -13569223.49 -13569223.36 0.0132 0.0055

Moon -41864-09-22 21:50 J -13569137.71 -13569137.59 -13569137.48 0.2668 0.0978

Earth -41864-09-22 22:18 J -13569137.69 -13569137.57 -13569137.45 0.2662 0.0858 *

Uranus -41864-09-25 03:50 J -13569135.45 -13569135.34 -13569135.21 0.0132 0.0075

Uranus -41864-12-22 07:40 J -13569047.28 -13569047.18 -13569047.07 0.0132 0.0093

Uranus -41863-03-20 11:30 J -13568959.10 -13568959.02 -13568958.94 0.0132 0.0111

Uranus -41863-06-16 14:52 J -13568870.89 -13568870.88 -13568870.84 0.0132 0.0131

Moon -41861-03-24 05:45 J -13568224.39 -13568224.26 -13568224.12 0.2675 0.0341

Earth -41861-03-24 05:59 J -13568224.38 -13568224.25 -13568224.12 0.2668 0.0400 *

Saturn -41859-05-23 14:38 J -13567433.99 -13567433.89 -13567433.78 0.0285 0.0213

Saturn -41859-08-20 07:40 J -13567345.33 -13567345.18 -13567345.03 0.0285 0.0097

Jupiter -41859-10-13 05:02 J -13567291.40 -13567291.29 -13567291.17 0.0532 0.0329

Mars -41859-11-13 17:02 J -13567259.93 -13567259.79 -13567259.66 0.1925 0.0242

Saturn -41859-11-17 01:11 J -13567256.61 -13567256.45 -13567256.29 0.0285 0.0024

Jupiter -41858-01-10 22:33 J -13567201.66 -13567201.56 -13567201.46 0.0535 0.0376

Saturn -41858-02-13 18:57 J -13567167.85 -13567167.71 -13567167.57 0.0285 0.0146

Saturn -41858-05-13 13:11 J -13567079.00 -13567078.95 -13567078.90 0.0285 0.0271

Earth -41858-10-03 04:04 J -13566936.37 -13566936.33 -13566936.29 0.2668 0.2529

Moon -41858-10-03 04:47 J -13566936.34 -13566936.30 -13566936.26 0.2665 0.2505 *

Mars -41856-08-31 15:50 J -13566237.95 -13566237.84 -13566237.73 0.1604 0.0973

Moon -41854-03-17 12:57 J -13565674.98 -13565674.96 -13565674.93 0.2668 0.2604

Earth -41854-03-17 13:40 J -13565674.97 -13565674.93 -13565674.89 0.2673 0.2524 *

Mars -41854-08-07 07:26 J -13565532.26 -13565532.19 -13565532.12 0.1604 0.1332

Jupiter -41853-05-30 14:23 J -13565235.04 -13565234.90 -13565234.76 0.0495 0.0182

Jupiter -41853-08-28 05:45 J -13565145.35 -13565145.26 -13565145.18 0.0493 0.0407

Moon -41851-09-25 19:26 J -13564386.81 -13564386.69 -13564386.56 0.2670 0.0144

Earth -41851-09-25 19:26 J -13564386.81 -13564386.69 -13564386.57 0.2664 0.0062 *

Mars -41849-04-04 20:23 J -13563829.78 -13563829.65 -13563829.53 0.1925 0.0798

Earth -41848-03-27 05:45 J -13563473.37 -13563473.26 -13563473.15 0.2666 0.1497

Moon -41848-03-27 06:28 J -13563473.34 -13563473.23 -13563473.13 0.2672 0.1556 *

Jupiter -41847-08-01 06:42 J -13562981.27 -13562981.22 -13562981.17 0.0531 0.0498

Jupiter -41847-10-30 00:28 J -13562891.62 -13562891.48 -13562891.35 0.0534 0.0211

Mars -41846-01-21 23:30 J -13562807.55 -13562807.52 -13562807.49 0.1604 0.1557

Mars -41845-12-27 15:50 J -13562101.96 -13562101.84 -13562101.72 0.1604 0.0796

Saturn -41845-12-28 16:04 J -13562100.89 -13562100.83 -13562100.76 0.0274 0.0245

Saturn -41844-03-27 06:28 J -13562012.36 -13562012.23 -13562012.10 0.0274 0.0142

Neptune -41844-06-20 09:21 J -13561927.16 -13561927.11 -13561927.06 0.0088 0.0084

Saturn -41844-06-23 20:38 J -13561923.79 -13561923.64 -13561923.49 0.0274 0.0042

Neptune -41844-09-16 11:16 J -13561839.10 -13561839.03 -13561838.94 0.0088 0.0077

Moon -41844-09-18 07:54 J -13561837.19 -13561837.17 -13561837.15 0.2656 0.2613

Earth -41844-09-18 08:52 J -13561837.15 -13561837.13 -13561837.11 0.2659 0.2600 *

Saturn -41844-09-20 10:18 J -13561835.21 -13561835.07 -13561834.92 0.0274 0.0058

Neptune -41844-12-13 13:26 J -13561751.02 -13561750.94 -13561750.83 0.0088 0.0070

Saturn -41844-12-17 23:45 J -13561746.63 -13561746.51 -13561746.39 0.0274 0.0155

Neptune -41843-03-11 16:04 J -13561662.95 -13561662.83 -13561662.72 0.0088 0.0062

Saturn -41843-03-16 12:57 J -13561658.01 -13561657.96 -13561657.90 0.0274 0.0250

Neptune -41843-06-07 17:59 J -13561574.87 -13561574.75 -13561574.62 0.0088 0.0055

Neptune -41843-09-03 20:09 J -13561486.79 -13561486.66 -13561486.52 0.0088 0.0047

Neptune -41843-11-30 22:18 J -13561398.70 -13561398.57 -13561398.42 0.0088 0.0040

Neptune -41842-02-27 00:42 J -13561310.62 -13561310.47 -13561310.32 0.0088 0.0033

Neptune -41842-05-26 02:52 J -13561222.53 -13561222.38 -13561222.23 0.0088 0.0026

Neptune -41842-08-22 05:02 J -13561134.45 -13561134.29 -13561134.14 0.0088 0.0018

Neptune -41842-11-18 07:11 J -13561046.36 -13561046.20 -13561046.05 0.0088 0.0011

Neptune -41841-02-14 09:21 J -13560958.27 -13560958.11 -13560957.96 0.0088 0.0004

Jupiter -41841-03-18 15:50 J -13560924.95 -13560924.84 -13560924.72 0.0496 0.0333

Moon -41841-03-19 11:30 J -13560924.12 -13560924.02 -13560923.91 0.2672 0.1532

Earth -41841-03-19 12:42 J -13560924.08 -13560923.97 -13560923.86 0.2671 0.1521 *

Neptune -41841-05-12 11:16 J -13560870.18 -13560870.03 -13560869.87 0.0088 0.0004

Jupiter -41841-06-16 06:42 J -13560835.35 -13560835.22 -13560835.08 0.0494 0.0253

Neptune -41841-08-08 13:26 J -13560782.09 -13560781.94 -13560781.78 0.0088 0.0010

Neptune -41841-11-04 15:21 J -13560694.00 -13560693.86 -13560693.70 0.0088 0.0018

Neptune -41840-01-31 17:30 J -13560605.91 -13560605.77 -13560605.61 0.0088 0.0024

Neptune -41840-04-29 19:40 J -13560517.82 -13560517.68 -13560517.53 0.0088 0.0031

Neptune -41840-07-26 21:35 J -13560429.73 -13560429.60 -13560429.45 0.0088 0.0038

Mars -41840-08-25 23:30 J -13560399.56 -13560399.52 -13560399.48 0.1924 0.1820

Neptune -41840-10-22 23:30 J -13560341.64 -13560341.52 -13560341.37 0.0088 0.0046

Neptune -41839-01-19 01:40 J -13560253.54 -13560253.43 -13560253.29 0.0088 0.0052

Neptune -41839-04-17 04:04 J -13560165.45 -13560165.33 -13560165.22 0.0088 0.0059

Neptune -41839-07-14 05:59 J -13560077.35 -13560077.25 -13560077.15 0.0088 0.0066

Neptune -41839-10-10 07:54 J -13559989.25 -13559989.17 -13559989.08 0.0088 0.0073

Neptune -41838-01-06 09:50 J -13559901.15 -13559901.09 -13559901.02 0.0088 0.0079

Neptune -41838-04-04 11:45 J -13559813.03 -13559813.01 -13559812.97 0.0088 0.0086

Venus -41838-05-10 01:40 J -13559777.55 -13559777.43 -13559777.32 0.3726 0.1835

Earth -41838-09-28 16:18 J -13559635.94 -13559635.82 -13559635.71 0.2665 0.0959

Moon -41838-09-28 17:02 J -13559635.91 -13559635.79 -13559635.68 0.2671 0.1012 *

Earth -41835-03-30 05:59 J -13558722.27 -13558722.25 -13558722.23 0.2665 0.2627

Mars -41835-05-19 23:59 J -13558671.63 -13558671.50 -13558671.36 0.1603 0.0244

Jupiter -41835-08-18 01:40 J -13558581.58 -13558581.43 -13558581.28 0.0533 0.0035

Venus -41833-11-23 01:54 J -13557753.52 -13557753.42 -13557753.32 0.3721 0.2522

Moon -41831-09-21 05:30 J -13557086.36 -13557086.27 -13557086.18 0.2663 0.1768

Earth -41831-09-21 06:28 J -13557086.33 -13557086.23 -13557086.14 0.2661 0.1635 *

Saturn -41830-10-10 16:04 J -13556701.90 -13556701.83 -13556701.74 0.0285 0.0241

Jupiter -41829-01-05 17:59 J -13556614.79 -13556614.75 -13556614.70 0.0497 0.0473

Saturn -41829-01-07 09:06 J -13556613.26 -13556613.12 -13556612.97 0.0285 0.0125

Jupiter -41829-04-04 08:38 J -13556525.29 -13556525.14 -13556524.99 0.0494 0.0108

Saturn -41829-04-05 02:38 J -13556524.55 -13556524.39 -13556524.23 0.0285 0.0008

Saturn -41829-07-02 20:09 J -13556435.80 -13556435.66 -13556435.51 0.0285 0.0117

Saturn -41829-09-29 14:23 J -13556346.98 -13556346.90 -13556346.81 0.0285 0.0241

Mars -41829-12-22 14:23 J -13556262.99 -13556262.90 -13556262.81 0.1924 0.1419

Moon -41828-03-22 11:16 J -13556173.16 -13556173.03 -13556172.90 0.2674 0.0619

Earth -41828-03-22 11:59 J -13556173.13 -13556173.00 -13556172.87 0.2669 0.0485 *

Mars -41826-10-10 08:09 J -13555241.30 -13555241.16 -13555241.03 0.1603 0.0320

Earth -41825-09-30 12:57 J -13554885.05 -13554884.96 -13554884.88 0.2667 0.1833

Moon -41825-09-30 13:54 J -13554885.01 -13554884.92 -13554884.84 0.2666 0.1869 *

Uranus -41823-01-14 22:33 J -13554413.60 -13554413.56 -13554413.50 0.0146 0.0139

Uranus -41823-04-13 04:33 J -13554325.41 -13554325.31 -13554325.20 0.0146 0.0111

Jupiter -41823-06-06 01:40 J -13554271.57 -13554271.43 -13554271.28 0.0533 0.0159

Venus -41823-06-08 14:38 J -13554268.95 -13554268.89 -13554268.82 0.3649 0.2878

Uranus -41823-07-10 10:33 J -13554237.19 -13554237.06 -13554236.92 0.0146 0.0083

Uranus -41823-10-06 16:33 J -13554148.95 -13554148.81 -13554148.65 0.0146 0.0056

Uranus -41822-01-02 23:02 J -13554060.71 -13554060.54 -13554060.38 0.0146 0.0026

Uranus -41822-04-01 05:02 J -13553972.45 -13553972.29 -13553972.12 0.0146 0.0005

Uranus -41822-06-28 11:16 J -13553884.19 -13553884.03 -13553883.86 0.0146 0.0032

Uranus -41822-09-24 17:45 J -13553795.91 -13553795.76 -13553795.61 0.0146 0.0061

Uranus -41822-12-21 23:59 J -13553707.63 -13553707.50 -13553707.37 0.0146 0.0091

Uranus -41821-03-19 06:14 J -13553619.32 -13553619.24 -13553619.14 0.0146 0.0121

Mars -41819-05-14 17:16 J -13552832.91 -13552832.78 -13552832.65 0.1925 0.0348

Moon -41818-09-24 03:06 J -13552335.49 -13552335.37 -13552335.25 0.2668 0.0668

Earth -41818-09-24 03:35 J -13552335.47 -13552335.35 -13552335.23 0.2663 0.0697 *

Venus -41818-12-23 08:38 J -13552245.25 -13552245.14 -13552245.03 0.3653 0.0273

Jupiter -41817-01-22 11:02 J -13552215.20 -13552215.04 -13552214.89 0.0495 0.0034

Mars -41816-03-01 16:04 J -13551810.95 -13551810.83 -13551810.72 0.1604 0.0889

Moon -41815-03-25 11:30 J -13551422.15 -13551422.02 -13551421.89 0.2675 0.0655

Earth -41815-03-25 11:30 J -13551422.15 -13551422.02 -13551421.89 0.2668 0.0586 *

Saturn -41815-05-17 18:57 J -13551368.74 -13551368.71 -13551368.68 0.0274 0.0266

Saturn -41815-08-14 09:21 J -13551280.23 -13551280.11 -13551279.99 0.0274 0.0163

Saturn -41815-11-10 23:16 J -13551191.67 -13551191.53 -13551191.38 0.0274 0.0062

Mars -41814-02-05 07:40 J -13551105.24 -13551105.18 -13551105.12 0.1604 0.1411

Saturn -41814-02-07 13:11 J -13551103.10 -13551102.95 -13551102.80 0.0274 0.0038

Saturn -41814-05-07 02:38 J -13551014.51 -13551014.39 -13551014.26 0.0274 0.0135

Saturn -41814-08-03 15:50 J -13550925.91 -13550925.84 -13550925.76 0.0274 0.0231

Pluto -41813-11-18 04:04 J -13550453.39 -13550453.33 -13550453.27 0.0066 0.0061

Pluto -41812-02-14 05:16 J -13550365.37 -13550365.28 -13550365.20 0.0066 0.0056

Pluto -41812-05-13 06:14 J -13550277.33 -13550277.24 -13550277.13 0.0066 0.0051

Venus -41812-07-08 02:23 J -13550221.49 -13550221.40 -13550221.31 0.3657 0.2262

Pluto -41812-08-09 07:26 J -13550189.30 -13550189.19 -13550189.06 0.0066 0.0046

Pluto -41812-11-05 08:38 J -13550101.26 -13550101.14 -13550101.00 0.0066 0.0041

Pluto -41811-02-01 09:50 J -13550013.22 -13550013.09 -13550012.94 0.0066 0.0036

Jupiter -41811-03-25 02:52 J -13549961.49 -13549961.38 -13549961.26 0.0532 0.0334

Pluto -41811-04-30 11:16 J -13549925.17 -13549925.03 -13549924.88 0.0066 0.0031

Jupiter -41811-06-22 20:23 J -13549871.75 -13549871.65 -13549871.55 0.0535 0.0370

Pluto -41811-07-27 12:28 J -13549837.13 -13549836.98 -13549836.82 0.0066 0.0025

Pluto -41811-10-23 13:40 J -13549749.08 -13549748.93 -13549748.76 0.0066 0.0020

Pluto -41810-01-19 15:06 J -13549661.03 -13549660.87 -13549660.70 0.0066 0.0015

Pluto -41810-04-17 16:18 J -13549572.98 -13549572.82 -13549572.64 0.0066 0.0010

Pluto -41810-07-14 17:45 J -13549484.93 -13549484.76 -13549484.59 0.0067 0.0004

Mars -41810-10-04 20:09 J -13549402.78 -13549402.66 -13549402.54 0.1925 0.0715

Pluto -41810-10-10 18:57 J -13549396.87 -13549396.71 -13549396.53 0.0067 0.0003

Pluto -41809-01-06 20:23 J -13549308.82 -13549308.65 -13549308.48 0.0067 0.0007

Pluto -41809-04-03 21:35 J -13549220.76 -13549220.60 -13549220.43 0.0067 0.0013

Pluto -41809-06-30 23:02 J -13549132.70 -13549132.54 -13549132.37 0.0067 0.0018

Pluto -41809-09-27 00:14 J -13549044.64 -13549044.49 -13549044.32 0.0067 0.0024

Pluto -41809-12-24 01:40 J -13548956.58 -13548956.43 -13548956.27 0.0067 0.0029

Moon -41808-03-17 18:14 J -13548872.79 -13548872.74 -13548872.68 0.2669 0.2407

Earth -41808-03-17 19:11 J -13548872.76 -13548872.70 -13548872.64 0.2672 0.2349 *

Pluto -41808-03-22 02:52 J -13548868.51 -13548868.38 -13548868.22 0.0067 0.0035

Pluto -41808-06-18 04:04 J -13548780.45 -13548780.33 -13548780.17 0.0067 0.0042

Pluto -41808-09-14 05:45 J -13548692.37 -13548692.26 -13548692.13 0.0067 0.0047

Pluto -41808-12-11 06:57 J -13548604.30 -13548604.21 -13548604.09 0.0068 0.0053

Pluto -41807-03-09 08:23 J -13548516.22 -13548516.15 -13548516.05 0.0068 0.0059

Pluto -41807-06-05 09:35 J -13548428.12 -13548428.10 -13548428.02 0.0068 0.0065

Mars -41807-07-22 23:30 J -13548380.57 -13548380.52 -13548380.46 0.1604 0.1474

Jupiter -41806-11-10 12:57 J -13547905.10 -13547904.96 -13547904.82 0.0496 0.0173

Jupiter -41805-02-08 04:18 J -13547815.40 -13547815.32 -13547815.24 0.0493 0.0416

Mars -41805-06-27 16:04 J -13547674.95 -13547674.83 -13547674.72 0.1604 0.0874

Earth -41805-09-26 00:42 J -13547584.59 -13547584.47 -13547584.35 0.2664 0.0225

Moon -41805-09-26 00:57 J -13547584.58 -13547584.46 -13547584.34 0.2671 0.0188 *

Earth -41802-03-28 11:30 J -13546671.12 -13546671.02 -13546670.92 0.2666 0.1693

Moon -41802-03-28 12:14 J -13546671.09 -13546670.99 -13546670.88 0.2670 0.1711 *

Mars -41800-02-23 23:59 J -13545972.56 -13545972.50 -13545972.45 0.1924 0.1712

Saturn -41800-02-26 15:35 J -13545969.86 -13545969.85 -13545969.84 0.0285 0.0283

Saturn -41800-05-26 08:23 J -13545881.28 -13545881.15 -13545881.02 0.0285 0.0168

Saturn -41800-08-23 01:26 J -13545792.59 -13545792.44 -13545792.28 0.0285 0.0051

Saturn -41800-11-19 18:57 J -13545703.86 -13545703.71 -13545703.55 0.0285 0.0071

Jupiter -41799-01-11 04:18 J -13545651.36 -13545651.32 -13545651.27 0.0531 0.0503

Saturn -41799-02-16 12:57 J -13545615.07 -13545614.96 -13545614.84 0.0285 0.0194

Jupiter -41799-04-10 22:18 J -13545561.70 -13545561.57 -13545561.43 0.0535 0.0208

Moon -41798-09-19 13:11 J -13545034.98 -13545034.95 -13545034.91 0.2657 0.2521

Earth -41798-09-19 14:09 J -13545034.96 -13545034.91 -13545034.86 0.2660 0.2428 *

Mars -41796-11-18 00:14 J -13544244.62 -13544244.49 -13544244.35 0.1604 0.0327

Moon -41795-03-20 17:02 J -13544121.90 -13544121.79 -13544121.68 0.2672 0.1481

Earth -41795-03-20 18:14 J -13544121.85 -13544121.74 -13544121.63 0.2671 0.1342 *

Jupiter -41794-08-29 15:06 J -13543594.99 -13543594.87 -13543594.75 0.0496 0.0315

Jupiter -41794-11-27 05:59 J -13543505.38 -13543505.25 -13543505.12 0.0493 0.0269

Earth -41792-09-28 21:35 J -13542833.72 -13542833.60 -13542833.49 0.2666 0.1120

Moon -41792-09-28 22:04 J -13542833.68 -13542833.58 -13542833.47 0.2670 0.1193 *

Mars -41789-06-22 14:52 J -13541835.96 -13541835.88 -13541835.80 0.1924 0.1542

Jupiter -41787-01-28 00:14 J -13541251.64 -13541251.49 -13541251.34 0.0534 0.0043

Mars -41786-04-10 08:23 J -13540814.29 -13540814.15 -13540814.01 0.1603 0.0231

Saturn -41785-01-01 09:21 J -13540548.21 -13540548.11 -13540548.01 0.0274 0.0202

Saturn -41785-03-29 23:30 J -13540459.66 -13540459.52 -13540459.38 0.0274 0.0100

Saturn -41785-06-26 13:26 J -13540371.08 -13540370.94 -13540370.79 0.0274 0.0008

Moon -41785-09-21 10:47 J -13540284.15 -13540284.05 -13540283.94 0.2665 0.1476

Earth -41785-09-21 11:45 J -13540284.12 -13540284.01 -13540283.91 0.2661 0.1465 *

Saturn -41785-09-23 03:06 J -13540282.50 -13540282.37 -13540282.23 0.0274 0.0099

Saturn -41785-12-20 16:33 J -13540193.91 -13540193.81 -13540193.71 0.0274 0.0195

Moon -41782-03-23 17:02 J -13539370.92 -13539370.79 -13539370.66 0.2675 0.0271

Earth -41782-03-23 17:30 J -13539370.90 -13539370.77 -13539370.64 0.2669 0.0303 *

Uranus -41782-05-17 19:26 J -13539315.75 -13539315.69 -13539315.61 0.0132 0.0116

Jupiter -41782-06-17 16:47 J -13539284.85 -13539284.80 -13539284.75 0.0497 0.0464

Uranus -41782-08-13 23:30 J -13539227.62 -13539227.52 -13539227.41 0.0132 0.0096

Jupiter -41782-09-15 07:11 J -13539195.35 -13539195.20 -13539195.05 0.0494 0.0117

Uranus -41782-11-10 03:35 J -13539139.47 -13539139.35 -13539139.22 0.0132 0.0076

Venus -41782-12-15 01:11 J -13539104.58 -13539104.45 -13539104.32 0.3725 0.0317

Uranus -41781-02-06 07:40 J -13539051.31 -13539051.18 -13539051.04 0.0132 0.0056

Uranus -41781-05-04 11:45 J -13538963.16 -13538963.01 -13538962.87 0.0132 0.0036

Uranus -41781-07-31 15:35 J -13538875.00 -13538874.85 -13538874.70 0.0132 0.0017

Uranus -41781-10-27 19:26 J -13538786.83 -13538786.69 -13538786.54 0.0132 0.0004

Uranus -41780-01-23 23:16 J -13538698.67 -13538698.53 -13538698.38 0.0132 0.0022

Uranus -41780-04-22 03:06 J -13538610.50 -13538610.37 -13538610.22 0.0132 0.0041

Uranus -41780-07-19 06:57 J -13538522.34 -13538522.21 -13538522.07 0.0132 0.0060

Uranus -41780-10-15 10:47 J -13538434.16 -13538434.05 -13538433.93 0.0132 0.0079

Mars -41780-11-12 17:16 J -13538405.91 -13538405.78 -13538405.64 0.1924 0.0451

Uranus -41779-01-11 14:23 J -13538345.99 -13538345.90 -13538345.79 0.0132 0.0098

Uranus -41779-04-09 17:59 J -13538257.80 -13538257.75 -13538257.66 0.0132 0.0117

Earth -41779-10-01 17:59 J -13538082.83 -13538082.75 -13538082.67 0.2667 0.1983

Moon -41779-10-01 18:57 J -13538082.78 -13538082.71 -13538082.63 0.2666 0.2061 *

Mars -41777-08-30 16:18 J -13537383.94 -13537383.82 -13537383.70 0.1604 0.0805

Jupiter -41776-11-16 01:26 J -13536941.58 -13536941.44 -13536941.30 0.0533 0.0133

Mars -41775-08-06 07:54 J -13536678.22 -13536678.17 -13536678.12 0.1604 0.1492

Moon -41772-09-24 08:38 J -13535533.26 -13535533.14 -13535533.02 0.2668 0.0628

Earth -41772-09-24 08:52 J -13535533.25 -13535533.13 -13535533.00 0.2663 0.0536 *

Saturn -41771-10-13 09:06 J -13535149.22 -13535149.12 -13535149.00 0.0285 0.0200

Saturn -41770-01-10 02:23 J -13535060.55 -13535060.40 -13535060.25 0.0285 0.0082

Mars -41770-04-04 20:38 J -13534975.77 -13534975.64 -13534975.52 0.1925 0.0605

Saturn -41770-04-08 19:40 J -13534971.83 -13534971.68 -13534971.52 0.0285 0.0039

Jupiter -41770-07-04 09:06 J -13534885.27 -13534885.12 -13534884.96 0.0495 0.0031

Saturn -41770-07-06 13:26 J -13534883.06 -13534882.94 -13534882.80 0.0285 0.0162

Moon -41769-03-25 17:16 J -13534619.91 -13534619.78 -13534619.65 0.2674 0.0707

Earth -41769-03-25 17:16 J -13534619.91 -13534619.78 -13534619.65 0.2667 0.0780 *

Mars -41767-01-20 23:59 J -13533953.57 -13533953.50 -13533953.43 0.1604 0.1387

Venus -41766-01-13 12:42 J -13533596.06 -13533595.97 -13533595.87 0.3650 0.1887

Mars -41766-12-27 16:18 J -13533247.93 -13533247.82 -13533247.71 0.1604 0.0954

Jupiter -41764-09-04 01:26 J -13532631.56 -13532631.44 -13532631.32 0.0532 0.0328

Jupiter -41764-12-02 18:42 J -13532541.82 -13532541.72 -13532541.61 0.0535 0.0375

Neptune -41763-12-18 14:23 J -13532160.90 -13532160.90 -13532160.90 0.0089 0.0089

Neptune -41762-03-16 16:04 J -13532072.87 -13532072.83 -13532072.76 0.0089 0.0082

Moon -41762-03-18 23:45 J -13532070.58 -13532070.51 -13532070.44 0.2670 0.2213

Earth -41762-03-19 00:42 J -13532070.54 -13532070.47 -13532070.39 0.2672 0.2172 *

Neptune -41762-06-12 18:14 J -13531984.81 -13531984.74 -13531984.65 0.0089 0.0075

Neptune -41762-09-08 20:23 J -13531896.74 -13531896.65 -13531896.55 0.0089 0.0068

Neptune -41762-12-05 22:18 J -13531808.67 -13531808.57 -13531808.45 0.0089 0.0061

Neptune -41761-03-03 00:28 J -13531720.59 -13531720.48 -13531720.35 0.0089 0.0054

Neptune -41761-05-30 02:38 J -13531632.52 -13531632.39 -13531632.25 0.0089 0.0047

Venus -41761-07-29 06:42 J -13531572.33 -13531572.22 -13531572.11 0.3654 0.0698

Mars -41761-08-24 23:59 J -13531545.57 -13531545.50 -13531545.43 0.1924 0.1617

Neptune -41761-08-26 04:47 J -13531544.44 -13531544.30 -13531544.16 0.0089 0.0040

Neptune -41761-11-22 06:42 J -13531456.35 -13531456.22 -13531456.06 0.0089 0.0033

Neptune -41760-02-18 08:52 J -13531368.27 -13531368.13 -13531367.97 0.0089 0.0026

Neptune -41760-05-17 11:16 J -13531280.18 -13531280.03 -13531279.88 0.0089 0.0018

Neptune -41760-08-13 13:26 J -13531192.10 -13531191.94 -13531191.78 0.0089 0.0011

Neptune -41760-11-09 15:35 J -13531104.01 -13531103.85 -13531103.69 0.0089 0.0004

Neptune -41759-02-05 17:45 J -13531015.92 -13531015.76 -13531015.60 0.0089 0.0003

Neptune -41759-05-04 19:54 J -13530927.83 -13530927.67 -13530927.51 0.0089 0.0011

Neptune -41759-07-31 22:04 J -13530839.73 -13530839.58 -13530839.42 0.0089 0.0018

Earth -41759-09-27 05:59 J -13530782.37 -13530782.25 -13530782.13 0.2664 0.0384

Moon -41759-09-27 06:14 J -13530782.36 -13530782.24 -13530782.12 0.2671 0.0479 *

Neptune -41759-10-28 00:14 J -13530751.64 -13530751.49 -13530751.33 0.0089 0.0026

Neptune -41758-01-24 02:23 J -13530663.54 -13530663.40 -13530663.24 0.0089 0.0033

Neptune -41758-04-22 04:47 J -13530575.44 -13530575.30 -13530575.16 0.0089 0.0040

Jupiter -41758-04-22 11:30 J -13530575.16 -13530575.02 -13530574.87 0.0496 0.0166 *

Neptune -41758-07-19 06:42 J -13530487.34 -13530487.22 -13530487.07 0.0089 0.0048

Jupiter -41758-07-21 02:52 J -13530485.46 -13530485.38 -13530485.30 0.0493 0.0425

Neptune -41758-10-15 09:06 J -13530399.24 -13530399.12 -13530398.99 0.0089 0.0055

Neptune -41757-01-11 11:16 J -13530311.13 -13530311.03 -13530310.91 0.0089 0.0063

Neptune -41757-04-08 13:40 J -13530223.02 -13530222.93 -13530222.83 0.0089 0.0070

Neptune -41757-07-05 15:50 J -13530134.90 -13530134.84 -13530134.75 0.0089 0.0078

Neptune -41757-10-01 18:14 J -13530046.78 -13530046.74 -13530046.69 0.0089 0.0085

Earth -41756-03-28 17:02 J -13529868.88 -13529868.79 -13529868.69 0.2666 0.1886

Moon -41756-03-28 17:59 J -13529868.83 -13529868.75 -13529868.66 0.2670 0.2023 *

Mars -41756-05-19 00:28 J -13529817.61 -13529817.48 -13529817.34 0.1604 0.0410

Saturn -41756-05-20 11:59 J -13529816.08 -13529816.00 -13529815.91 0.0274 0.0224

Saturn -41756-08-17 02:23 J -13529727.53 -13529727.40 -13529727.26 0.0274 0.0121

Saturn -41756-11-13 16:18 J -13529638.96 -13529638.82 -13529638.67 0.0274 0.0021

Saturn -41755-02-10 05:59 J -13529550.39 -13529550.25 -13529550.10 0.0274 0.0079

Venus -41755-02-12 00:28 J -13529548.54 -13529548.48 -13529548.43 0.3658 0.3217

Saturn -41755-05-09 19:26 J -13529461.80 -13529461.69 -13529461.57 0.0274 0.0176

Saturn -41755-08-06 08:38 J -13529373.16 -13529373.14 -13529373.11 0.0274 0.0270

Jupiter -41752-06-23 02:23 J -13528321.44 -13528321.40 -13528321.35 0.0531 0.0504

Moon -41752-09-19 18:28 J -13528232.78 -13528232.73 -13528232.67 0.2659 0.2324

Earth -41752-09-19 19:26 J -13528232.75 -13528232.69 -13528232.62 0.2660 0.2258 *

Jupiter -41752-09-20 20:23 J -13528231.79 -13528231.65 -13528231.52 0.0534 0.0205

Mars -41750-12-22 14:52 J -13527408.95 -13527408.88 -13527408.81 0.1924 0.1629

Moon -41749-03-20 22:47 J -13527319.67 -13527319.55 -13527319.43 0.2672 0.1194

Earth -41749-03-20 23:45 J -13527319.63 -13527319.51 -13527319.39 0.2670 0.1161 *

Mars -41747-10-09 08:38 J -13526387.28 -13526387.14 -13526387.00 0.1604 0.0151

Jupiter -41746-02-08 13:40 J -13526265.05 -13526264.93 -13526264.81 0.0496 0.0306

Jupiter -41746-05-09 04:33 J -13526175.43 -13526175.31 -13526175.18 0.0494 0.0280

Earth -41746-09-30 02:38 J -13526031.49 -13526031.39 -13526031.28 0.2666 0.1274

Moon -41746-09-30 03:35 J -13526031.46 -13526031.35 -13526031.25 0.2669 0.1284 *

Saturn -41741-03-01 08:38 J -13524417.22 -13524417.14 -13524417.06 0.0285 0.0242

Saturn -41741-05-29 01:26 J -13524328.58 -13524328.44 -13524328.29 0.0285 0.0126

Saturn -41741-08-25 18:42 J -13524239.88 -13524239.72 -13524239.55 0.0285 0.0010

Saturn -41741-11-22 12:28 J -13524151.13 -13524150.98 -13524150.83 0.0285 0.0115

Saturn -41740-02-19 06:28 J -13524062.31 -13524062.23 -13524062.14 0.0285 0.0240

Mars -41740-05-13 17:45 J -13523978.89 -13523978.76 -13523978.63 0.1925 0.0556

Jupiter -41740-07-09 22:04 J -13523921.72 -13523921.58 -13523921.43 0.0534 0.0043

Uranus -41739-02-04 05:30 J -13523712.33 -13523712.27 -13523712.20 0.0146 0.0133

Uranus -41739-05-03 11:30 J -13523624.13 -13523624.02 -13523623.90 0.0146 0.0105

Uranus -41739-07-30 17:30 J -13523535.90 -13523535.77 -13523535.63 0.0146 0.0077

Moon -41739-09-22 16:04 J -13523481.93 -13523481.83 -13523481.72 0.2665 0.1413

Earth -41739-09-22 17:02 J -13523481.90 -13523481.79 -13523481.68 0.2661 0.1298 *

Uranus -41739-10-26 23:30 J -13523447.67 -13523447.52 -13523447.36 0.0146 0.0049

Uranus -41738-01-23 05:45 J -13523359.42 -13523359.26 -13523359.09 0.0146 0.0020

Uranus -41738-04-21 11:59 J -13523271.16 -13523271.00 -13523270.83 0.0146 0.0009

Uranus -41738-07-18 18:14 J -13523182.90 -13523182.74 -13523182.58 0.0146 0.0038

Uranus -41738-10-15 00:28 J -13523094.62 -13523094.48 -13523094.33 0.0146 0.0068

Uranus -41737-01-11 06:42 J -13523006.33 -13523006.22 -13523006.08 0.0146 0.0098

Mars -41737-02-29 16:33 J -13522956.93 -13522956.81 -13522956.68 0.1604 0.0717

Uranus -41737-04-08 13:11 J -13522918.02 -13522917.95 -13522917.86 0.0146 0.0128

Moon -41736-03-23 22:33 J -13522568.69 -13522568.56 -13522568.43 0.2675 0.0225

Earth -41736-03-23 23:02 J -13522568.67 -13522568.54 -13522568.40 0.2669 0.0139 *

Mars -41735-02-04 08:09 J -13522251.19 -13522251.16 -13522251.14 0.1604 0.1570

Jupiter -41735-11-27 16:04 J -13521954.90 -13521954.83 -13521954.77 0.0497 0.0445

Jupiter -41734-02-25 06:28 J -13521865.38 -13521865.23 -13521865.08 0.0494 0.0135

Earth -41733-10-01 23:16 J -13521280.60 -13521280.53 -13521280.46 0.2668 0.2137

Moon -41733-10-02 00:14 J -13521280.56 -13521280.49 -13521280.43 0.2667 0.2197 *

Mars -41731-10-03 20:52 J -13520548.76 -13520548.63 -13520548.50 0.1924 0.0495

Venus -41730-01-05 00:42 J -13520455.54 -13520455.47 -13520455.40 0.3729 0.3055

Jupiter -41728-04-27 23:59 J -13519611.64 -13519611.50 -13519611.36 0.0533 0.0125

Mars -41728-07-22 00:14 J -13519526.57 -13519526.49 -13519526.41 0.1604 0.1299

Saturn -41727-10-07 11:45 J -13519084.04 -13519084.01 -13519083.97 0.0274 0.0265

Saturn -41726-01-04 02:09 J -13518995.53 -13518995.41 -13518995.29 0.0274 0.0162

Saturn -41726-04-02 16:18 J -13518906.96 -13518906.82 -13518906.67 0.0274 0.0060

Mars -41726-06-27 16:33 J -13518820.91 -13518820.81 -13518820.70 0.1604 0.1039

Saturn -41726-06-30 06:14 J -13518818.39 -13518818.24 -13518818.09 0.0274 0.0040

Moon -41726-09-25 14:09 J -13518731.04 -13518730.91 -13518730.79 0.2669 0.0326

Earth -41726-09-25 14:23 J -13518731.03 -13518730.90 -13518730.78 0.2663 0.0377 *

Saturn -41726-09-26 19:40 J -13518729.80 -13518729.68 -13518729.55 0.0274 0.0138

Pluto -41726-12-23 20:38 J -13518641.68 -13518641.64 -13518641.58 0.0079 0.0074

Saturn -41726-12-24 08:52 J -13518641.20 -13518641.13 -13518641.05 0.0274 0.0233

Pluto -41725-03-20 22:04 J -13518553.65 -13518553.58 -13518553.48 0.0079 0.0066

Pluto -41725-06-16 23:30 J -13518465.60 -13518465.52 -13518465.40 0.0079 0.0058

Venus -41725-07-21 00:57 J -13518431.59 -13518431.46 -13518431.34 0.3724 0.1232

Pluto -41725-09-13 01:11 J -13518377.55 -13518377.45 -13518377.32 0.0079 0.0050

Pluto -41725-12-10 02:38 J -13518289.50 -13518289.39 -13518289.25 0.0079 0.0042

Pluto -41724-03-08 04:18 J -13518201.45 -13518201.32 -13518201.18 0.0078 0.0033

Pluto -41724-06-04 05:45 J -13518113.40 -13518113.26 -13518113.11 0.0078 0.0026

Pluto -41724-08-31 07:26 J -13518025.34 -13518025.19 -13518025.05 0.0078 0.0018

Pluto -41724-11-27 08:38 J -13517937.28 -13517937.14 -13517936.99 0.0078 0.0010

Pluto -41723-02-23 10:04 J -13517849.22 -13517849.08 -13517848.93 0.0078 0.0003

Earth -41723-03-26 22:47 J -13517817.68 -13517817.55 -13517817.42 0.2667 0.0964

Moon -41723-03-26 23:02 J -13517817.66 -13517817.54 -13517817.42 0.2673 0.1061 *

Pluto -41723-05-22 11:30 J -13517761.16 -13517761.02 -13517760.87 0.0078 0.0006

Pluto -41723-08-18 12:57 J -13517673.10 -13517672.96 -13517672.81 0.0078 0.0013

Pluto -41723-11-14 14:09 J -13517585.04 -13517584.91 -13517584.76 0.0078 0.0021

Jupiter -41723-12-14 07:54 J -13517555.32 -13517555.17 -13517555.01 0.0495 0.0018

Pluto -41722-02-10 15:35 J -13517496.98 -13517496.85 -13517496.71 0.0077 0.0028

Pluto -41722-05-09 16:47 J -13517408.92 -13517408.80 -13517408.66 0.0077 0.0036

Pluto -41722-08-05 18:28 J -13517320.85 -13517320.73 -13517320.61 0.0077 0.0043

Pluto -41722-11-01 19:26 J -13517232.79 -13517232.69 -13517232.57 0.0077 0.0050

Pluto -41721-01-28 20:52 J -13517144.72 -13517144.63 -13517144.52 0.0077 0.0057

Mars -41721-02-24 00:14 J -13517118.57 -13517118.49 -13517118.41 0.1924 0.1518

Pluto -41721-04-25 22:04 J -13517056.65 -13517056.58 -13517056.49 0.0077 0.0064

Pluto -41721-07-22 23:30 J -13516968.57 -13516968.52 -13516968.46 0.0077 0.0071

Mars -41717-11-17 00:42 J -13515390.60 -13515390.47 -13515390.34 0.1604 0.0492

Jupiter -41716-02-14 01:11 J -13515301.57 -13515301.45 -13515301.33 0.0532 0.0301

Moon -41716-03-19 05:16 J -13515268.36 -13515268.28 -13515268.20 0.2670 0.2110

Earth -41716-03-19 06:14 J -13515268.32 -13515268.24 -13515268.15 0.2672 0.1996 *

Jupiter -41716-05-14 18:28 J -13515211.82 -13515211.73 -13515211.63 0.0535 0.0402

Venus -41715-02-03 16:47 J -13514946.82 -13514946.80 -13514946.77 0.3647 0.3526

Earth -41713-09-27 11:16 J -13513980.15 -13513980.03 -13513979.91 0.2665 0.0547

Moon -41713-09-27 11:30 J -13513980.14 -13513980.02 -13513979.90 0.2671 0.0507 *

Saturn -41712-07-19 09:06 J -13513685.15 -13513685.12 -13513685.08 0.0285 0.0276

Saturn -41712-10-16 01:54 J -13513596.55 -13513596.42 -13513596.29 0.0285 0.0161

Saturn -41711-01-12 19:11 J -13513507.86 -13513507.70 -13513507.54 0.0285 0.0042

Saturn -41711-04-11 12:42 J -13513419.12 -13513418.97 -13513418.81 0.0285 0.0079

Saturn -41711-07-09 06:42 J -13513330.33 -13513330.22 -13513330.11 0.0285 0.0203

Jupiter -41711-10-02 10:04 J -13513245.23 -13513245.08 -13513244.94 0.0496 0.0159

Jupiter -41711-12-31 01:11 J -13513155.52 -13513155.45 -13513155.37 0.0493 0.0431

Earth -41710-03-29 22:47 J -13513066.63 -13513066.55 -13513066.46 0.2665 0.2086

Moon -41710-03-29 23:45 J -13513066.59 -13513066.51 -13513066.42 0.2670 0.2085 *

Mars -41710-06-22 15:06 J -13512981.92 -13512981.87 -13512981.81 0.1924 0.1741

Venus -41710-08-20 10:47 J -13512923.16 -13512923.05 -13512922.94 0.3651 0.0902

Mars -41707-04-09 08:52 J -13511960.27 -13511960.13 -13511959.99 0.1604 0.0069

Moon -41706-09-20 23:59 J -13511430.58 -13511430.50 -13511430.43 0.2661 0.2132

Earth -41706-09-21 00:57 J -13511430.54 -13511430.46 -13511430.39 0.2660 0.2089 *

Jupiter -41705-12-03 00:57 J -13510991.51 -13510991.46 -13510991.41 0.0531 0.0496

Jupiter -41704-03-02 18:57 J -13510901.85 -13510901.71 -13510901.58 0.0534 0.0212

Venus -41704-03-05 04:33 J -13510899.41 -13510899.31 -13510899.21 0.3655 0.1670

Moon -41703-03-22 04:18 J -13510517.44 -13510517.32 -13510517.20 0.2673 0.1054

Earth -41703-03-22 05:16 J -13510517.40 -13510517.28 -13510517.15 0.2670 0.0980 *

Mars -41701-11-11 17:45 J -13509551.88 -13509551.76 -13509551.63 0.1924 0.0658

Earth -41700-09-30 07:54 J -13509229.27 -13509229.17 -13509229.07 0.2666 0.1428

Moon -41700-09-30 08:52 J -13509229.23 -13509229.13 -13509229.03 0.2668 0.1559 *

Jupiter -41699-07-21 12:28 J -13508935.10 -13508934.98 -13508934.86 0.0497 0.0297

Jupiter -41699-10-19 03:21 J -13508845.49 -13508845.36 -13508845.23 0.0494 0.0290

Uranus -41698-03-10 22:04 J -13508702.58 -13508702.58 -13508702.55 0.0132 0.0131

Uranus -41698-06-07 02:09 J -13508614.48 -13508614.41 -13508614.32 0.0132 0.0112

Mars -41698-08-30 16:47 J -13508529.93 -13508529.80 -13508529.67 0.1604 0.0635

Uranus -41698-09-03 06:14 J -13508526.34 -13508526.24 -13508526.12 0.0132 0.0092

Uranus -41698-11-30 10:18 J -13508438.19 -13508438.07 -13508437.93 0.0132 0.0072

Uranus -41697-02-26 14:23 J -13508350.03 -13508349.90 -13508349.76 0.0132 0.0052

Saturn -41697-05-23 04:47 J -13508263.40 -13508263.30 -13508263.18 0.0274 0.0184

Uranus -41697-05-24 18:28 J -13508261.87 -13508261.73 -13508261.58 0.0132 0.0032

Saturn -41697-08-19 19:11 J -13508174.84 -13508174.70 -13508174.56 0.0274 0.0081

Uranus -41697-08-20 22:18 J -13508173.71 -13508173.57 -13508173.42 0.0132 0.0013

Saturn -41697-11-16 09:06 J -13508086.27 -13508086.12 -13508085.97 0.0274 0.0020

Uranus -41697-11-17 02:23 J -13508085.55 -13508085.40 -13508085.25 0.0132 0.0007

Saturn -41696-02-12 22:33 J -13507997.69 -13507997.56 -13507997.42 0.0274 0.0118

Uranus -41696-02-13 06:14 J -13507997.39 -13507997.24 -13507997.09 0.0132 0.0026

Uranus -41696-05-12 10:04 J -13507909.22 -13507909.08 -13507908.94 0.0132 0.0045

Saturn -41696-05-12 11:59 J -13507909.09 -13507909.00 -13507908.91 0.0274 0.0213 *

Uranus -41696-08-08 13:40 J -13507821.05 -13507820.93 -13507820.79 0.0132 0.0064

Uranus -41696-11-04 17:45 J -13507732.88 -13507732.76 -13507732.65 0.0132 0.0083

Uranus -41695-01-31 21:21 J -13507644.70 -13507644.61 -13507644.51 0.0132 0.0101

Uranus -41695-04-30 00:57 J -13507556.51 -13507556.46 -13507556.39 0.0132 0.0120

Moon -41693-09-22 21:35 J -13506679.71 -13506679.60 -13506679.49 0.2665 0.1163

Earth -41693-09-22 22:18 J -13506679.68 -13506679.57 -13506679.45 0.2662 0.1131 *

Jupiter -41693-12-19 20:23 J -13506591.80 -13506591.65 -13506591.51 0.0533 0.0041

Mars -41691-04-03 20:52 J -13506121.76 -13506121.63 -13506121.50 0.1924 0.0406

Moon -41690-03-25 04:18 J -13505766.45 -13505766.32 -13505766.19 0.2675 0.0109

Earth -41690-03-25 04:47 J -13505766.44 -13505766.30 -13505766.17 0.2668 0.0081 *

Mars -41688-01-20 00:28 J -13505099.57 -13505099.48 -13505099.39 0.1604 0.1213

Jupiter -41687-05-09 14:38 J -13504624.96 -13504624.89 -13504624.81 0.0497 0.0435

Jupiter -41687-08-07 05:16 J -13504535.43 -13504535.28 -13504535.13 0.0494 0.0146

Earth -41687-10-03 04:18 J -13504478.38 -13504478.32 -13504478.25 0.2668 0.2290

Moon -41687-10-03 05:16 J -13504478.34 -13504478.28 -13504478.22 0.2666 0.2324 *

Mars -41687-12-26 16:47 J -13504393.90 -13504393.80 -13504393.70 0.1604 0.1117

Saturn -41682-03-05 01:26 J -13502864.55 -13502864.44 -13502864.33 0.0285 0.0202

Saturn -41682-06-01 18:28 J -13502775.88 -13502775.73 -13502775.58 0.0285 0.0085

Mars -41682-08-25 00:28 J -13502691.57 -13502691.48 -13502691.39 0.1924 0.1409

Saturn -41682-08-29 11:45 J -13502687.17 -13502687.01 -13502686.85 0.0285 0.0035

Saturn -41682-11-26 05:30 J -13502598.40 -13502598.27 -13502598.13 0.0285 0.0158

Saturn -41681-02-22 23:45 J -13502509.52 -13502509.51 -13502509.49 0.0285 0.0283

Jupiter -41681-10-07 22:04 J -13502281.73 -13502281.58 -13502281.44 0.0533 0.0127

Moon -41680-09-25 19:26 J -13501928.81 -13501928.69 -13501928.57 0.2670 0.0259

Earth -41680-09-25 19:26 J -13501928.81 -13501928.69 -13501928.56 0.2663 0.0212 *

Neptune -41680-12-19 06:28 J -13501844.25 -13501844.23 -13501844.20 0.0088 0.0087

Neptune -41679-03-17 08:23 J -13501756.20 -13501756.15 -13501756.06 0.0088 0.0080

Neptune -41679-06-13 11:02 J -13501668.13 -13501668.04 -13501667.95 0.0088 0.0072

Neptune -41679-09-09 12:57 J -13501580.05 -13501579.96 -13501579.84 0.0088 0.0065

Neptune -41679-12-06 15:06 J -13501491.97 -13501491.87 -13501491.73 0.0088 0.0058

Neptune -41678-03-04 17:45 J -13501403.89 -13501403.76 -13501403.63 0.0088 0.0050

Neptune -41678-05-31 19:40 J -13501315.81 -13501315.68 -13501315.53 0.0088 0.0043

Neptune -41678-08-27 21:50 J -13501227.72 -13501227.59 -13501227.43 0.0088 0.0036

Neptune -41678-11-23 23:59 J -13501139.64 -13501139.50 -13501139.34 0.0088 0.0029

Neptune -41677-02-20 02:23 J -13501051.55 -13501051.40 -13501051.24 0.0088 0.0021

Earth -41677-03-27 04:33 J -13501015.43 -13501015.31 -13501015.19 0.2667 0.1161

Moon -41677-03-27 05:02 J -13501015.41 -13501015.29 -13501015.17 0.2673 0.1127 *

Mars -41677-05-18 00:57 J -13500963.59 -13500963.46 -13500963.33 0.1604 0.0574

Neptune -41677-05-18 04:33 J -13500963.47 -13500963.31 -13500963.15 0.0088 0.0014 *

Neptune -41677-08-14 06:42 J -13500875.38 -13500875.22 -13500875.06 0.0088 0.0006

Neptune -41677-11-10 08:52 J -13500787.29 -13500787.13 -13500786.97 0.0088 0.0001

Neptune -41676-02-06 10:47 J -13500699.20 -13500699.05 -13500698.89 0.0088 0.0009

Neptune -41676-05-05 12:57 J -13500611.11 -13500610.96 -13500610.80 0.0088 0.0015

Neptune -41676-08-01 15:06 J -13500523.02 -13500522.87 -13500522.72 0.0088 0.0022

Neptune -41676-10-28 17:02 J -13500434.93 -13500434.79 -13500434.63 0.0088 0.0029

Neptune -41675-01-24 19:11 J -13500346.84 -13500346.70 -13500346.55 0.0088 0.0036

Neptune -41675-04-22 21:21 J -13500258.74 -13500258.61 -13500258.47 0.0088 0.0043

Jupiter -41675-05-26 07:11 J -13500225.35 -13500225.20 -13500225.04 0.0495 0.0015

Neptune -41675-07-19 23:30 J -13500170.65 -13500170.52 -13500170.39 0.0088 0.0050

Neptune -41675-10-16 01:26 J -13500082.55 -13500082.44 -13500082.32 0.0088 0.0057

Neptune -41674-01-12 03:21 J -13499994.46 -13499994.36 -13499994.25 0.0088 0.0064

Neptune -41674-04-10 05:16 J -13499906.36 -13499906.28 -13499906.18 0.0088 0.0071

Neptune -41674-07-07 07:11 J -13499818.26 -13499818.20 -13499818.11 0.0088 0.0078

Venus -41674-08-12 00:14 J -13499782.60 -13499782.49 -13499782.37 0.3728 0.1558

Neptune -41674-10-03 09:21 J -13499730.14 -13499730.11 -13499730.05 0.0088 0.0084

Mars -41671-12-21 15:35 J -13498554.88 -13498554.85 -13498554.82 0.1924 0.1856

Moon -41670-03-20 10:47 J -13498466.14 -13498466.05 -13498465.96 0.2670 0.1833

Earth -41670-03-20 11:45 J -13498466.10 -13498466.01 -13498465.91 0.2672 0.1817 *

Jupiter -41669-07-26 23:45 J -13497971.63 -13497971.51 -13497971.39 0.0532 0.0293

Jupiter -41669-10-24 17:16 J -13497881.88 -13497881.78 -13497881.69 0.0535 0.0411

Venus -41668-02-25 00:42 J -13497758.56 -13497758.47 -13497758.39 0.3722 0.2798

Mars -41668-10-08 09:06 J -13497533.26 -13497533.12 -13497532.98 0.1604 0.0028

Saturn -41668-10-10 04:33 J -13497531.39 -13497531.31 -13497531.22 0.0274 0.0225

Saturn -41667-01-06 18:57 J -13497442.85 -13497442.71 -13497442.58 0.0274 0.0122

Saturn -41667-04-05 08:52 J -13497354.28 -13497354.13 -13497353.98 0.0274 0.0022

Saturn -41667-07-02 22:47 J -13497265.70 -13497265.55 -13497265.41 0.0274 0.0078

Earth -41667-09-28 16:33 J -13497177.93 -13497177.81 -13497177.70 0.2665 0.0707

Moon -41667-09-28 17:02 J -13497177.91 -13497177.79 -13497177.68 0.2670 0.0810 *

Saturn -41667-09-29 11:59 J -13497177.10 -13497177.00 -13497176.88 0.0274 0.0175

Saturn -41667-12-27 01:11 J -13497088.46 -13497088.45 -13497088.42 0.0274 0.0270

Earth -41664-03-30 04:33 J -13496264.38 -13496264.31 -13496264.24 0.2665 0.2276

Moon -41664-03-30 05:30 J -13496264.32 -13496264.27 -13496264.22 0.2669 0.2433 *

Jupiter -41663-03-14 08:52 J -13495915.28 -13495915.13 -13495914.98 0.0496 0.0146

Jupiter -41663-06-12 00:14 J -13495825.56 -13495825.49 -13495825.43 0.0493 0.0443

Mars -41661-05-12 17:59 J -13495124.87 -13495124.75 -13495124.62 0.1924 0.0767

Moon -41660-09-21 05:16 J -13494628.36 -13494628.28 -13494628.20 0.2661 0.2040

Earth -41660-09-21 06:14 J -13494628.33 -13494628.24 -13494628.15 0.2660 0.1916 *

Venus -41659-09-10 14:52 J -13494273.96 -13494273.88 -13494273.80 0.3647 0.2521

Mars -41658-02-28 17:02 J -13494102.92 -13494102.79 -13494102.66 0.1604 0.0550

Moon -41657-03-22 10:04 J -13493715.20 -13493715.08 -13493714.95 0.2674 0.0880

Earth -41657-03-22 11:02 J -13493715.17 -13493715.04 -13493714.92 0.2670 0.0795 *

Jupiter -41657-05-15 00:42 J -13493661.53 -13493661.47 -13493661.40 0.0531 0.0468

Jupiter -41657-08-12 18:42 J -13493571.85 -13493571.72 -13493571.59 0.0534 0.0240

Uranus -41655-02-24 12:14 J -13493011.05 -13493010.99 -13493010.90 0.0146 0.0128

Uranus -41655-05-23 18:28 J -13492922.84 -13492922.73 -13492922.61 0.0146 0.0099

Uranus -41655-08-20 00:28 J -13492834.62 -13492834.48 -13492834.33 0.0146 0.0071

Uranus -41655-11-16 06:42 J -13492746.38 -13492746.22 -13492746.06 0.0146 0.0042

Uranus -41654-02-12 12:42 J -13492658.13 -13492657.97 -13492657.80 0.0146 0.0015

Uranus -41654-05-11 18:57 J -13492569.87 -13492569.71 -13492569.54 0.0146 0.0016

Uranus -41654-08-08 01:11 J -13492481.60 -13492481.45 -13492481.29 0.0146 0.0045

Earth -41654-10-01 13:11 J -13492427.05 -13492426.95 -13492426.85 0.2667 0.1586

Moon -41654-10-01 14:09 J -13492427.01 -13492426.91 -13492426.81 0.2668 0.1580 *

Uranus -41654-11-04 07:40 J -13492393.32 -13492393.18 -13492393.04 0.0146 0.0074

Uranus -41653-01-31 13:54 J -13492305.03 -13492304.92 -13492304.80 0.0146 0.0104

Venus -41653-03-26 08:52 J -13492250.24 -13492250.13 -13492250.02 0.3652 0.0086

Uranus -41653-04-28 20:09 J -13492216.71 -13492216.66 -13492216.58 0.0146 0.0135

Saturn -41653-07-22 01:26 J -13492132.52 -13492132.44 -13492132.36 0.0285 0.0240

Saturn -41653-10-18 18:14 J -13492043.88 -13492043.74 -13492043.59 0.0285 0.0124

Saturn -41652-01-15 11:30 J -13491955.18 -13491955.02 -13491954.86 0.0285 0.0008

Saturn -41652-04-14 05:16 J -13491866.43 -13491866.28 -13491866.13 0.0285 0.0118

Saturn -41652-07-11 23:16 J -13491777.61 -13491777.53 -13491777.44 0.0285 0.0243

Mars -41652-10-02 21:06 J -13491694.75 -13491694.62 -13491694.49 0.1924 0.0296

Jupiter -41652-12-31 11:02 J -13491605.16 -13491605.04 -13491604.92 0.0497 0.0288

Jupiter -41651-03-31 01:54 J -13491515.54 -13491515.42 -13491515.30 0.0494 0.0298

Mars -41649-07-21 00:42 J -13490672.57 -13490672.47 -13490672.37 0.1604 0.1129

Venus -41648-10-10 02:38 J -13490226.46 -13490226.39 -13490226.31 0.3656 0.2632

Mars -41647-06-26 17:02 J -13489966.88 -13489966.79 -13489966.70 0.1604 0.1196

Moon -41647-09-24 02:52 J -13489877.49 -13489877.38 -13489877.26 0.2666 0.1023

Earth -41647-09-24 03:35 J -13489877.46 -13489877.35 -13489877.23 0.2662 0.0967 *

Jupiter -41645-05-31 18:57 J -13489261.85 -13489261.71 -13489261.56 0.0533 0.0052

Moon -41644-03-25 10:04 J -13488964.22 -13488964.08 -13488963.95 0.2674 0.0215

Earth -41644-03-25 10:18 J -13488964.20 -13488964.07 -13488963.94 0.2668 0.0261 *

Mars -41642-02-23 00:28 J -13488264.57 -13488264.48 -13488264.38 0.1923 0.1317

Earth -41641-10-03 09:35 J -13487676.14 -13487676.10 -13487676.05 0.2668 0.2440

Moon -41641-10-03 10:18 J -13487676.10 -13487676.07 -13487676.03 0.2665 0.2531 *

Jupiter -41640-10-19 13:26 J -13487295.01 -13487294.94 -13487294.86 0.0498 0.0426

Jupiter -41639-01-17 04:04 J -13487205.48 -13487205.33 -13487205.19 0.0495 0.0157

Saturn -41638-02-27 07:11 J -13486799.26 -13486799.20 -13486799.14 0.0274 0.0248

Saturn -41638-05-26 21:35 J -13486710.73 -13486710.60 -13486710.47 0.0274 0.0144

Saturn -41638-08-23 11:45 J -13486622.16 -13486622.01 -13486621.87 0.0274 0.0043

Mars -41638-11-17 01:11 J -13486536.57 -13486536.45 -13486536.32 0.1604 0.0653

Saturn -41638-11-20 01:26 J -13486533.58 -13486533.44 -13486533.29 0.0274 0.0057

Saturn -41637-02-16 14:52 J -13486445.00 -13486444.88 -13486444.75 0.0274 0.0155

Moon -41637-03-17 17:45 J -13486414.79 -13486414.76 -13486414.74 0.2669 0.2604

Earth -41637-03-17 18:28 J -13486414.75 -13486414.73 -13486414.71 0.2673 0.2631 *

Saturn -41637-05-15 04:18 J -13486356.38 -13486356.32 -13486356.26 0.0274 0.0250

Moon -41634-09-27 00:42 J -13485126.59 -13485126.47 -13485126.35 0.2671 0.0028

Earth -41634-09-27 00:42 J -13485126.59 -13485126.47 -13485126.34 0.2664 0.0084 *

Jupiter -41633-03-19 20:09 J -13484951.80 -13484951.66 -13484951.51 0.0532 0.0125

Earth -41631-03-28 10:04 J -13484213.19 -13484213.08 -13484212.96 0.2666 0.1353

Moon -41631-03-28 10:47 J -13484213.16 -13484213.05 -13484212.94 0.2673 0.1468 *

Mars -41628-04-08 09:21 J -13483106.25 -13483106.11 -13483105.97 0.1604 0.0102

Jupiter -41628-11-05 05:59 J -13482895.40 -13482895.25 -13482895.09 0.0495 0.0015

Moon -41624-03-20 16:18 J -13481663.92 -13481663.82 -13481663.72 0.2671 0.1777

Earth -41624-03-20 17:16 J -13481663.88 -13481663.78 -13481663.67 0.2671 0.1639 *

Saturn -41624-12-09 01:26 J -13481400.47 -13481400.44 -13481400.41 0.0284 0.0278

Saturn -41623-03-07 17:59 J -13481311.87 -13481311.75 -13481311.61 0.0284 0.0164

Saturn -41623-06-04 11:16 J -13481223.19 -13481223.03 -13481222.87 0.0285 0.0045

Saturn -41623-09-01 04:47 J -13481134.46 -13481134.30 -13481134.14 0.0285 0.0076

Saturn -41623-11-28 22:33 J -13481045.67 -13481045.56 -13481045.44 0.0285 0.0199

Mars -41622-11-11 18:14 J -13480697.86 -13480697.74 -13480697.62 0.1924 0.0869

Jupiter -41621-01-06 21:50 J -13480641.72 -13480641.59 -13480641.47 0.0532 0.0294

Jupiter -41621-04-05 15:06 J -13480551.96 -13480551.87 -13480551.77 0.0535 0.0410

Earth -41621-09-28 21:35 J -13480375.71 -13480375.60 -13480375.48 0.2665 0.0866

Moon -41621-09-28 22:18 J -13480375.68 -13480375.57 -13480375.45 0.2670 0.0858 *

Mars -41619-08-29 17:16 J -13479675.91 -13479675.78 -13479675.64 0.1604 0.0465

Earth -41618-03-31 10:18 J -13479462.12 -13479462.07 -13479462.02 0.2665 0.2479

Moon -41618-03-31 11:30 J -13479462.07 -13479462.02 -13479461.98 0.2667 0.2477 *

Venus -41617-03-17 23:59 J -13479109.63 -13479109.50 -13479109.37 0.3726 0.0038

Jupiter -41616-08-24 08:09 J -13478585.31 -13478585.16 -13478585.01 0.0496 0.0127

Jupiter -41616-11-21 23:16 J -13478495.57 -13478495.53 -13478495.47 0.0493 0.0463

Uranus -41614-03-31 05:02 J -13478001.32 -13478001.29 -13478001.24 0.0132 0.0127

Uranus -41614-06-27 09:06 J -13477913.20 -13477913.12 -13477913.02 0.0132 0.0107

Moon -41614-09-22 10:33 J -13477826.15 -13477826.06 -13477825.97 0.2662 0.1765

Earth -41614-09-22 11:30 J -13477826.11 -13477826.02 -13477825.92 0.2661 0.1748 *

Uranus -41614-09-23 13:11 J -13477825.05 -13477824.95 -13477824.82 0.0132 0.0087

Uranus -41614-12-20 17:30 J -13477736.90 -13477736.77 -13477736.64 0.0132 0.0066

Uranus -41613-03-17 21:21 J -13477648.74 -13477648.61 -13477648.46 0.0132 0.0047

Uranus -41613-06-14 01:26 J -13477560.59 -13477560.44 -13477560.29 0.0132 0.0027

Uranus -41613-09-10 05:30 J -13477472.42 -13477472.27 -13477472.12 0.0132 0.0008

Uranus -41613-12-07 09:21 J -13477384.26 -13477384.11 -13477383.96 0.0132 0.0012

Uranus -41612-03-05 13:11 J -13477296.09 -13477295.95 -13477295.80 0.0132 0.0031

Mars -41612-04-02 21:21 J -13477267.74 -13477267.61 -13477267.47 0.1924 0.0190

Uranus -41612-06-01 17:02 J -13477207.93 -13477207.79 -13477207.65 0.0132 0.0050

Uranus -41612-08-28 20:38 J -13477119.75 -13477119.64 -13477119.50 0.0132 0.0069

Uranus -41612-11-25 00:42 J -13477031.58 -13477031.47 -13477031.36 0.0132 0.0088

Uranus -41611-02-21 04:18 J -13476943.40 -13476943.32 -13476943.23 0.0132 0.0106

Moon -41611-03-23 15:35 J -13476912.98 -13476912.85 -13476912.72 0.2675 0.0632

Earth -41611-03-23 16:33 J -13476912.94 -13476912.81 -13476912.68 0.2670 0.0611 *

Uranus -41611-05-20 07:54 J -13476855.20 -13476855.17 -13476855.11 0.0132 0.0125

Jupiter -41610-10-25 23:16 J -13476331.60 -13476331.53 -13476331.45 0.0531 0.0461

Mars -41609-01-20 01:11 J -13476245.56 -13476245.45 -13476245.35 0.1604 0.1042

Jupiter -41609-01-23 17:16 J -13476241.91 -13476241.78 -13476241.65 0.0534 0.0248

Saturn -41609-10-12 21:06 J -13475978.73 -13475978.62 -13475978.51 0.0274 0.0186

Saturn -41608-01-09 11:30 J -13475890.17 -13475890.02 -13475889.88 0.0274 0.0084

Saturn -41608-04-08 01:26 J -13475801.59 -13475801.44 -13475801.29 0.0274 0.0017

Saturn -41608-07-05 14:52 J -13475713.01 -13475712.88 -13475712.74 0.0274 0.0115

Earth -41608-10-01 18:14 J -13475624.83 -13475624.74 -13475624.64 0.2667 0.1739

Moon -41608-10-01 19:11 J -13475624.78 -13475624.70 -13475624.61 0.2668 0.1876 *

Saturn -41608-10-02 04:18 J -13475624.41 -13475624.32 -13475624.22 0.0274 0.0211

Mars -41608-12-25 17:16 J -13475539.86 -13475539.78 -13475539.70 0.1604 0.1278

Jupiter -41604-06-12 09:50 J -13474275.21 -13474275.09 -13474274.96 0.0496 0.0275

Jupiter -41604-09-10 00:42 J -13474185.59 -13474185.47 -13474185.35 0.0494 0.0311

Mars -41603-08-24 00:42 J -13473837.57 -13473837.47 -13473837.37 0.1923 0.1217

Venus -41602-04-17 12:57 J -13473601.06 -13473600.96 -13473600.85 0.3649 0.1524

Moon -41601-09-24 08:23 J -13473075.26 -13473075.15 -13473075.03 0.2668 0.0868

Earth -41601-09-24 08:52 J -13473075.25 -13473075.13 -13473075.01 0.2662 0.0803 *

Moon -41598-03-26 15:50 J -13472161.97 -13472161.84 -13472161.71 0.2674 0.0459

Earth -41598-03-26 16:04 J -13472161.96 -13472161.83 -13472161.70 0.2668 0.0455 *

Mars -41598-05-18 01:26 J -13472109.56 -13472109.44 -13472109.31 0.1604 0.0736

Neptune -41598-09-14 13:26 J -13471989.97 -13471989.94 -13471989.88 0.0089 0.0085

Jupiter -41598-11-11 18:42 J -13471931.86 -13471931.72 -13471931.57 0.0533 0.0079

Neptune -41598-12-11 15:21 J -13471901.91 -13471901.86 -13471901.77 0.0089 0.0078

Neptune -41597-03-08 17:30 J -13471813.85 -13471813.77 -13471813.66 0.0089 0.0071

Neptune -41597-06-04 19:40 J -13471725.78 -13471725.68 -13471725.56 0.0089 0.0064

Neptune -41597-08-31 21:35 J -13471637.70 -13471637.60 -13471637.46 0.0089 0.0057

Venus -41597-10-31 06:57 J -13471577.32 -13471577.21 -13471577.10 0.3653 0.1066

Neptune -41597-11-27 23:45 J -13471549.63 -13471549.51 -13471549.37 0.0089 0.0050

Neptune -41596-02-24 01:54 J -13471461.55 -13471461.42 -13471461.27 0.0089 0.0043

Neptune -41596-05-23 04:18 J -13471373.46 -13471373.32 -13471373.18 0.0089 0.0035

Neptune -41596-08-19 06:28 J -13471285.38 -13471285.23 -13471285.09 0.0089 0.0028

Neptune -41596-11-15 08:23 J -13471197.30 -13471197.15 -13471196.99 0.0089 0.0021

Neptune -41595-02-11 10:33 J -13471109.21 -13471109.06 -13471108.90 0.0089 0.0014

Neptune -41595-05-10 12:42 J -13471021.12 -13471020.97 -13471020.81 0.0089 0.0007

Neptune -41595-08-06 14:52 J -13470933.03 -13470932.88 -13470932.72 0.0089 0.0002

Earth -41595-10-04 14:52 J -13470873.91 -13470873.88 -13470873.86 0.2668 0.2591

Moon -41595-10-04 15:35 J -13470873.88 -13470873.85 -13470873.82 0.2664 0.2566 *

Neptune -41595-11-02 17:02 J -13470844.94 -13470844.79 -13470844.63 0.0089 0.0008

Neptune -41594-01-29 19:11 J -13470756.85 -13470756.70 -13470756.54 0.0089 0.0015

Neptune -41594-04-27 21:21 J -13470668.76 -13470668.61 -13470668.45 0.0089 0.0023

Neptune -41594-07-24 23:30 J -13470580.66 -13470580.52 -13470580.36 0.0089 0.0030

Saturn -41594-07-25 17:45 J -13470579.87 -13470579.76 -13470579.65 0.0285 0.0204

Neptune -41594-10-21 01:54 J -13470492.57 -13470492.42 -13470492.28 0.0089 0.0037

Saturn -41594-10-22 10:33 J -13470491.20 -13470491.06 -13470490.90 0.0285 0.0088

Neptune -41593-01-17 03:50 J -13470404.47 -13470404.34 -13470404.19 0.0089 0.0045

Saturn -41593-01-19 04:04 J -13470402.49 -13470402.33 -13470402.17 0.0285 0.0033

Neptune -41593-04-14 06:14 J -13470316.36 -13470316.24 -13470316.11 0.0089 0.0052

Saturn -41593-04-16 21:50 J -13470313.72 -13470313.59 -13470313.45 0.0285 0.0156

Neptune -41593-07-11 08:09 J -13470228.26 -13470228.16 -13470228.02 0.0089 0.0060

Saturn -41593-07-14 16:04 J -13470224.85 -13470224.83 -13470224.81 0.0285 0.0282

Neptune -41593-10-07 10:33 J -13470140.15 -13470140.06 -13470139.94 0.0089 0.0067

Neptune -41592-01-03 12:42 J -13470052.04 -13470051.97 -13470051.87 0.0089 0.0075

Jupiter -41592-03-31 12:14 J -13469965.07 -13469964.99 -13469964.91 0.0497 0.0416

Neptune -41592-04-01 15:06 J -13469963.92 -13469963.87 -13469963.80 0.0089 0.0082

Jupiter -41592-06-29 02:38 J -13469875.53 -13469875.39 -13469875.24 0.0494 0.0166

Moon   -41591-03-18 23:02 J -13469612.56 -13469612.54 -13469612.51 0.2668 0.2590

Earth   -41591-03-18 23:59 J -13469612.55 -13469612.50 -13469612.45 0.2673 0.2455 *

Venus   -41591-05-17 00:42 J -13469553.49 -13469553.47 -13469553.45 0.3657 0.3589

Mars   -41589-10-07 09:35 J -13468679.24 -13468679.10 -13468678.96 0.1604 0.0183

Moon   -41588-09-27 05:59 J -13468324.37 -13468324.25 -13468324.12 0.2670 0.0130

Earth   -41588-09-27 05:59 J -13468324.37 -13468324.25 -13468324.12 0.2664 0.0130 *

Jupiter -41586-08-30 18:57 J -13467621.85 -13467621.71 -13467621.56 0.0532 0.0113

Earth   -41585-03-28 15:50 J -13467410.95 -13467410.84 -13467410.73 0.2666 0.1547

Moon   -41585-03-28 16:33 J -13467410.92 -13467410.81 -13467410.71 0.2672 0.1543 *

Mars   -41582-05-12 18:28 J -13466270.84 -13466270.73 -13466270.61 0.1924 0.0976

Moon   -41581-09-19 18:14 J -13465774.77 -13465774.74 -13465774.70 0.2658 0.2539

Earth   -41581-09-19 19:11 J -13465774.73 -13465774.70 -13465774.66 0.2660 0.2547 *

Jupiter -41580-04-17 04:47 J -13465565.46 -13465565.30 -13465565.15 0.0495 0.0025

Mars   -41579-02-27 17:30 J -13465248.90 -13465248.77 -13465248.63 0.1604 0.0383

Saturn   -41579-03-01 23:45 J -13465246.61 -13465246.51 -13465246.41 0.0275 0.0210

Saturn   -41579-05-29 14:09 J -13465158.05 -13465157.91 -13465157.77 0.0275 0.0107

Saturn   -41579-08-26 04:04 J -13465069.48 -13465069.33 -13465069.18 0.0275 0.0006

Saturn   -41579-11-22 17:45 J -13464980.90 -13464980.76 -13464980.62 0.0275 0.0094

Saturn   -41578-02-19 07:11 J -13464892.30 -13464892.20 -13464892.09 0.0274 0.0191

Moon   -41578-03-21 21:50 J -13464861.70 -13464861.59 -13464861.48 0.2672 0.1451

Earth   -41578-03-21 23:02 J -13464861.65 -13464861.54 -13464861.44 0.2671 0.1461 *

Earth   -41575-09-30 02:52 J -13463573.49 -13463573.38 -13463573.27 0.2665 0.1018

Moon   -41575-09-30 03:35 J -13463573.46 -13463573.35 -13463573.24 0.2670 0.1125 *

Jupiter -41574-06-18 20:09 J -13463311.78 -13463311.66 -13463311.54 0.0531 0.0288

Jupiter -41574-09-16 13:40 J -13463222.02 -13463221.93 -13463221.84 0.0535 0.0413

Mars   -41573-10-01 21:21 J -13462840.74 -13462840.61 -13462840.48 0.1924 0.0100

Uranus -41571-03-16 19:40 J -13462309.77 -13462309.68 -13462309.59 0.0146 0.0121

Uranus -41571-06-13 01:40 J -13462221.56 -13462221.43 -13462221.31 0.0146 0.0093

Uranus -41571-09-09 07:26 J -13462133.33 -13462133.19 -13462133.04 0.0146 0.0065

Uranus -41571-12-06 13:40 J -13462045.09 -13462044.93 -13462044.77 0.0146 0.0036

Uranus -41570-03-04 19:54 J -13461956.84 -13461956.67 -13461956.51 0.0146 0.0007

Uranus -41570-06-01 02:09 J -13461868.58 -13461868.41 -13461868.25 0.0146 0.0022

Mars -41570-07-21 01:26 J -13461818.56 -13461818.44 -13461818.33 0.1605 0.0958

Uranus -41570-08-28 08:23 J -13461780.31 -13461780.15 -13461780.00 0.0146 0.0051

Uranus -41570-11-24 14:38 J -13461692.02 -13461691.89 -13461691.75 0.0146 0.0081

Uranus -41569-02-20 20:52 J -13461603.73 -13461603.63 -13461603.51 0.0146 0.0111

Uranus -41569-05-19 03:06 J -13461515.39 -13461515.37 -13461515.31 0.0146 0.0142

Jupiter -41568-02-03 06:57 J -13461255.36 -13461255.21 -13461255.06 0.0496 0.0117

Jupiter -41568-05-03 22:04 J -13461165.62 -13461165.58 -13461165.54 0.0493 0.0474

Mars -41568-06-25 17:30 J -13461112.84 -13461112.77 -13461112.70 0.1604 0.1357

Moon -41568-09-22 16:04 J -13461023.93 -13461023.83 -13461023.74 0.2662 0.1715

Earth -41568-09-22 16:47 J -13461023.90 -13461023.80 -13461023.69 0.2661 0.1580 *

Pluto -41566-04-08 17:45 J -13460460.79 -13460460.76 -13460460.69 0.0066 0.0063

Venus -41566-04-08 23:30 J -13460460.60 -13460460.52 -13460460.43 0.3730 0.2760

Pluto -41566-07-05 18:57 J -13460372.77 -13460372.71 -13460372.61 0.0066 0.0058

Pluto -41566-10-01 20:38 J -13460284.74 -13460284.64 -13460284.54 0.0066 0.0052

Pluto -41566-12-28 21:35 J -13460196.70 -13460196.60 -13460196.47 0.0066 0.0047

Moon -41565-03-23 21:21 J -13460110.74 -13460110.61 -13460110.49 0.2674 0.0541

Earth -41565-03-23 22:04 J -13460110.71 -13460110.58 -13460110.45 0.2669 0.0426 *

Pluto -41565-03-25 22:47 J -13460108.67 -13460108.55 -13460108.41 0.0066 0.0042

Pluto -41565-06-21 23:59 J -13460020.62 -13460020.50 -13460020.35 0.0066 0.0037

Pluto -41565-09-18 01:11 J -13459932.58 -13459932.45 -13459932.29 0.0066 0.0032

Saturn -41565-12-11 18:14 J -13459847.83 -13459847.74 -13459847.66 0.0284 0.0240

Pluto -41565-12-15 02:52 J -13459844.54 -13459844.38 -13459844.23 0.0066 0.0027

Saturn -41564-03-10 10:47 J -13459759.19 -13459759.05 -13459758.90 0.0284 0.0124

Pluto -41564-03-13 03:50 J -13459756.49 -13459756.34 -13459756.17 0.0066 0.0022

Saturn -41564-06-07 04:04 J -13459670.49 -13459670.33 -13459670.17 0.0284 0.0007

Pluto -41564-06-09 05:16 J -13459668.44 -13459668.28 -13459668.11 0.0066 0.0016

Saturn -41564-09-03 21:50 J -13459581.74 -13459581.59 -13459581.45 0.0284 0.0117

Pluto -41564-09-05 06:42 J -13459580.39 -13459580.22 -13459580.05 0.0066 0.0011

Saturn -41564-12-01 15:35 J -13459492.93 -13459492.85 -13459492.76 0.0284 0.0241

Pluto -41564-12-02 07:54 J -13459492.34 -13459492.17 -13459492.00 0.0067 0.0005

Mars -41563-02-22 00:57 J -13459410.57 -13459410.46 -13459410.35 0.1924 0.1107

Pluto -41563-02-28 09:21 J -13459404.28 -13459404.11 -13459403.94 0.0067 0.0000

Pluto -41563-05-27 10:33 J -13459316.23 -13459316.06 -13459315.89 0.0067 0.0006

Pluto -41563-08-23 11:59 J -13459228.17 -13459228.00 -13459227.83 0.0067 0.0011

Pluto -41563-11-19 13:11 J -13459140.11 -13459139.95 -13459139.78 0.0067 0.0017

Pluto -41562-02-15 14:38 J -13459052.05 -13459051.89 -13459051.73 0.0067 0.0023

Jupiter -41562-04-06 21:21 J -13459001.68 -13459001.61 -13459001.54 0.0531 0.0461

Pluto -41562-05-14 15:50 J -13458963.99 -13458963.84 -13458963.68 0.0067 0.0028

Jupiter -41562-07-05 15:21 J -13458911.99 -13458911.86 -13458911.73 0.0534 0.0247

Pluto -41562-08-10 17:02 J -13458875.92 -13458875.79 -13458875.63 0.0067 0.0035

Earth -41562-10-02 23:30 J -13458822.60 -13458822.52 -13458822.43 0.2667 0.1894

Moon -41562-10-03 00:28 J -13458822.57 -13458822.48 -13458822.40 0.2667 0.1885 *

Pluto -41562-11-06 18:42 J -13458787.85 -13458787.72 -13458787.58 0.0067 0.0040

Pluto -41561-02-02 19:54 J -13458699.78 -13458699.67 -13458699.53 0.0067 0.0046

Pluto -41561-04-30 21:06 J -13458611.71 -13458611.62 -13458611.49 0.0068 0.0052

Pluto -41561-07-27 22:33 J -13458523.63 -13458523.56 -13458523.45 0.0068 0.0058

Venus -41561-10-22 23:45 J -13458436.63 -13458436.51 -13458436.39 0.3725 0.1522

Pluto -41561-10-23 23:59 J -13458435.54 -13458435.50 -13458435.42 0.0068 0.0064

Mars -41561-12-10 09:06 J -13458388.16 -13458388.12 -13458388.09 0.1605 0.1540

Mars -41559-11-16 01:40 J -13457682.54 -13457682.43 -13457682.31 0.1604 0.0819

Jupiter -41557-11-22 09:06 J -13456945.25 -13456945.12 -13456944.99 0.0497 0.0257

Jupiter -41556-02-19 23:59 J -13456855.61 -13456855.50 -13456855.38 0.0494 0.0330

Moon -41555-09-25 13:54 J -13456273.05 -13456272.92 -13456272.80 0.2669 0.0632

Earth -41555-09-25 14:09 J -13456273.03 -13456272.91 -13456272.78 0.2663 0.0641 *

Earth -41552-03-26 21:35 J -13455359.73 -13455359.60 -13455359.47 0.2668 0.0640

Moon -41552-03-26 21:50 J -13455359.72 -13455359.59 -13455359.47 0.2674 0.0682 *

Venus -41551-05-08 17:02 J -13454951.84 -13454951.79 -13454951.73 0.3645 0.3157

Jupiter -41550-04-23 17:16 J -13454601.92 -13454601.78 -13454601.63 0.0534 0.0084

Saturn -41550-07-19 23:16 J -13454514.59 -13454514.53 -13454514.47 0.0274 0.0251

Saturn -41550-10-16 13:40 J -13454426.05 -13454425.93 -13454425.80 0.0274 0.0148

Saturn -41549-01-13 03:50 J -13454337.48 -13454337.34 -13454337.19 0.0274 0.0046

Mars -41549-04-07 09:50 J -13454252.22 -13454252.09 -13454251.95 0.1604 0.0274

Saturn -41549-04-10 17:45 J -13454248.90 -13454248.76 -13454248.61 0.0274 0.0054

Saturn -41549-07-08 07:11 J -13454160.32 -13454160.20 -13454160.07 0.0274 0.0152

Saturn -41549-10-04 20:38 J -13454071.70 -13454071.64 -13454071.58 0.0274 0.0247

Venus -41546-11-22 11:02 J -13452928.15 -13452928.04 -13452927.93 0.3650 0.0534

Moon -41545-03-19 04:33 J -13452810.37 -13452810.31 -13452810.24 0.2669 0.2273

Earth -41545-03-19 05:30 J -13452810.34 -13452810.27 -13452810.20 0.2672 0.2285 *

Jupiter -41545-09-10 11:02 J -13452635.13 -13452635.04 -13452634.95 0.0497 0.0403

Jupiter -41545-12-09 01:26 J -13452545.58 -13452545.44 -13452545.29 0.0494 0.0179

Mars -41543-11-10 18:42 J -13451843.83 -13451843.72 -13451843.61 0.1924 0.1073

Earth -41542-09-28 11:16 J -13451522.15 -13451522.03 -13451521.90 0.2664 0.0286

Moon -41542-09-28 11:30 J -13451522.14 -13451522.02 -13451521.90 0.2670 0.0297 *

Venus -41540-06-07 05:02 J -13450904.39 -13450904.29 -13450904.20 0.3654 0.2039

Mars -41540-08-28 17:45 J -13450821.89 -13450821.76 -13450821.62 0.1604 0.0301

Earth -41539-03-29 21:35 J -13450608.70 -13450608.60 -13450608.50 0.2666 0.1745

Moon -41539-03-29 22:18 J -13450608.67 -13450608.57 -13450608.48 0.2671 0.1833 *

Jupiter -41538-02-09 18:42 J -13450291.86 -13450291.72 -13450291.57 0.0533 0.0087

Saturn -41535-04-30 17:30 J -13449115.79 -13449115.77 -13449115.75 0.0284 0.0281

Saturn -41535-07-28 10:04 J -13449027.20 -13449027.08 -13449026.95 0.0284 0.0167

Moon -41535-09-20 23:45 J -13448972.55 -13448972.51 -13448972.48 0.2658 0.2517

Earth -41535-09-21 00:42 J -13448972.53 -13448972.47 -13448972.42 0.2660 0.2372 *

Saturn -41535-10-25 03:21 J -13448938.52 -13448938.36 -13448938.20 0.0284 0.0048

Saturn -41534-01-21 20:52 J -13448849.79 -13448849.63 -13448849.48 0.0284 0.0073

Saturn -41534-04-20 14:38 J -13448761.00 -13448760.89 -13448760.77 0.0284 0.0196

Mars -41533-04-01 21:50 J -13448413.73 -13448413.59 -13448413.46 0.1924 0.0041

Jupiter -41533-09-27 03:35 J -13448235.51 -13448235.35 -13448235.20 0.0495 0.0037

Moon -41532-03-22 03:21 J -13448059.47 -13448059.36 -13448059.25 0.2673 0.1438

Earth -41532-03-22 04:18 J -13448059.43 -13448059.32 -13448059.20 0.2671 0.1282 *

Mars -41530-01-19 01:40 J -13447391.55 -13447391.43 -13447391.31 0.1605 0.0871

Uranus -41530-04-20 11:59 J -13447300.05 -13447300.00 -13447299.93 0.0132 0.0122

Uranus -41530-07-17 16:04 J -13447211.92 -13447211.83 -13447211.72 0.0132 0.0102

Uranus -41530-10-13 20:09 J -13447123.77 -13447123.66 -13447123.53 0.0132 0.0082

Uranus -41529-01-10 00:28 J -13447035.61 -13447035.48 -13447035.35 0.0132 0.0061

Uranus -41529-04-07 04:18 J -13446947.46 -13446947.32 -13446947.17 0.0132 0.0042

Uranus -41529-07-04 08:23 J -13446859.30 -13446859.15 -13446859.00 0.0132 0.0022

Earth -41529-09-30 08:09 J -13446771.27 -13446771.16 -13446771.05 0.2666 0.1176

Moon -41529-09-30 08:52 J -13446771.24 -13446771.13 -13446771.02 0.2670 0.1198 *

Uranus -41529-09-30 12:14 J -13446771.14 -13446770.99 -13446770.84 0.0132 0.0005 *

Mars -41529-12-24 17:45 J -13446685.82 -13446685.76 -13446685.71 0.1604 0.1436

Uranus -41529-12-27 16:18 J -13446682.97 -13446682.82 -13446682.67 0.0132 0.0016

Uranus -41528-03-25 20:09 J -13446594.80 -13446594.66 -13446594.52 0.0132 0.0036

Uranus -41528-06-21 23:45 J -13446506.63 -13446506.51 -13446506.36 0.0132 0.0055

Uranus -41528-09-18 03:50 J -13446418.46 -13446418.34 -13446418.22 0.0132 0.0073

Uranus -41528-12-15 07:26 J -13446330.29 -13446330.19 -13446330.08 0.0132 0.0093

Uranus -41527-03-13 11:16 J -13446242.10 -13446242.03 -13446241.95 0.0132 0.0111

Uranus -41527-06-09 15:06 J -13446153.89 -13446153.87 -13446153.84 0.0132 0.0129

Jupiter -41527-11-28 18:57 J -13445981.84 -13445981.71 -13445981.58 0.0531 0.0275

Jupiter -41526-02-26 12:28 J -13445892.07 -13445891.98 -13445891.90 0.0534 0.0425

Mars -41524-08-23 00:57 J -13444983.57 -13444983.46 -13444983.34 0.1923 0.1015

Moon -41522-09-23 21:21 J -13444221.71 -13444221.61 -13444221.50 0.2664 0.1400

Earth -41522-09-23 22:18 J -13444221.68 -13444221.57 -13444221.47 0.2661 0.1410 *

Mars -41521-06-10 09:06 J -13443961.17 -13443961.12 -13443961.06 0.1605 0.1458

Jupiter -41521-07-16 05:30 J -13443925.42 -13443925.27 -13443925.12 0.0496 0.0108

Jupiter -41521-10-13 20:38 J -13443835.66 -13443835.64 -13443835.61 0.0494 0.0485

Saturn -41520-03-04 16:18 J -13443693.94 -13443693.82 -13443693.70 0.0275 0.0172

Saturn -41520-06-01 06:28 J -13443605.37 -13443605.23 -13443605.08 0.0275 0.0069

Saturn -41520-08-28 20:23 J -13443516.80 -13443516.65 -13443516.50 0.0275 0.0032

Saturn -41520-11-25 10:04 J -13443428.21 -13443428.08 -13443427.95 0.0275 0.0131

Saturn -41519-02-21 23:30 J -13443339.60 -13443339.52 -13443339.44 0.0275 0.0227

Moon -41519-03-25 03:06 J -13443308.51 -13443308.37 -13443308.24 0.2674 0.0236

Earth -41519-03-25 03:35 J -13443308.48 -13443308.35 -13443308.21 0.2669 0.0252 *

Mars -41519-05-17 01:54 J -13443255.53 -13443255.42 -13443255.30 0.1604 0.0899

Earth -41516-10-03 04:47 J -13442020.38 -13442020.30 -13442020.23 0.2667 0.2044

Moon -41516-10-03 05:30 J -13442020.34 -13442020.27 -13442020.20 0.2665 0.2161 *

Neptune -41515-09-15 05:30 J -13441673.31 -13441673.27 -13441673.19 0.0088 0.0083

Jupiter -41515-09-16 19:54 J -13441671.75 -13441671.67 -13441671.60 0.0530 0.0454

Neptune -41515-12-12 08:09 J -13441585.24 -13441585.16 -13441585.07 0.0088 0.0075

Jupiter -41515-12-15 13:40 J -13441582.05 -13441581.93 -13441581.80 0.0534 0.0253

Neptune -41514-03-10 10:18 J -13441497.17 -13441497.07 -13441496.96 0.0088 0.0067

Neptune -41514-06-06 12:28 J -13441409.09 -13441408.98 -13441408.85 0.0088 0.0060

Neptune -41514-09-02 14:52 J -13441321.00 -13441320.88 -13441320.75 0.0088 0.0053

Neptune -41514-11-29 17:02 J -13441232.92 -13441232.79 -13441232.65 0.0088 0.0045

Neptune -41513-02-25 19:11 J -13441144.84 -13441144.70 -13441144.55 0.0088 0.0038

Neptune -41513-05-23 21:35 J -13441056.75 -13441056.60 -13441056.45 0.0088 0.0031

Neptune -41513-08-19 23:45 J -13440968.66 -13440968.51 -13440968.36 0.0088 0.0023

Neptune -41513-11-16 01:54 J -13440880.58 -13440880.42 -13440880.26 0.0088 0.0016

Neptune -41512-02-12 04:04 J -13440792.49 -13440792.33 -13440792.17 0.0088 0.0009

Neptune -41512-05-11 06:14 J -13440704.40 -13440704.24 -13440704.08 0.0088 0.0002

Neptune -41512-08-07 08:23 J -13440616.31 -13440616.15 -13440615.99 0.0088 0.0005

Neptune -41512-11-03 10:33 J -13440528.22 -13440528.06 -13440527.91 0.0088 0.0012

Neptune -41511-01-30 12:28 J -13440440.13 -13440439.98 -13440439.82 0.0088 0.0020

Neptune -41511-04-28 14:38 J -13440352.04 -13440351.89 -13440351.74 0.0088 0.0027

Neptune -41511-07-25 16:47 J -13440263.94 -13440263.80 -13440263.65 0.0088 0.0034

Neptune -41511-10-21 18:42 J -13440175.85 -13440175.72 -13440175.57 0.0088 0.0041

Neptune -41510-01-17 20:52 J -13440087.76 -13440087.63 -13440087.49 0.0088 0.0048

Neptune -41510-04-15 22:47 J -13439999.66 -13439999.55 -13439999.42 0.0088 0.0055

Neptune -41510-07-13 00:57 J -13439911.57 -13439911.46 -13439911.34 0.0088 0.0062

Mars -41510-10-07 10:04 J -13439825.21 -13439825.08 -13439824.94 0.1604 0.0349

Neptune -41510-10-09 02:52 J -13439823.47 -13439823.38 -13439823.27 0.0088 0.0069

Venus -41510-11-13 23:16 J -13439787.66 -13439787.53 -13439787.41 0.3729 0.1249

Neptune -41509-01-05 04:47 J -13439735.36 -13439735.30 -13439735.21 0.0088 0.0076

Neptune -41509-04-02 06:42 J -13439647.26 -13439647.22 -13439647.15 0.0088 0.0083

Jupiter -41509-05-04 07:40 J -13439615.31 -13439615.18 -13439615.05 0.0497 0.0249

Jupiter -41509-08-01 22:33 J -13439525.67 -13439525.56 -13439525.45 0.0494 0.0339

Moon -41509-09-25 19:11 J -13439470.82 -13439470.70 -13439470.58 0.2669 0.0562

Earth -41509-09-25 19:26 J -13439470.81 -13439470.69 -13439470.56 0.2663 0.0475 *

Earth -41506-03-28 03:21 J -13438557.49 -13438557.36 -13438557.24 0.2667 0.0836

Moon -41506-03-28 03:21 J -13438557.48 -13438557.36 -13438557.23 0.2674 0.0810 *

Saturn -41506-12-15 11:02 J -13438295.15 -13438295.04 -13438294.93 0.0284 0.0199

Saturn -41505-03-13 04:04 J -13438206.48 -13438206.33 -13438206.18 0.0284 0.0083

Saturn -41505-06-09 21:21 J -13438117.77 -13438117.61 -13438117.45 0.0284 0.0037

Saturn -41505-09-06 15:06 J -13438029.01 -13438028.87 -13438028.74 0.0284 0.0160

Venus -41504-05-29 23:16 J -13437763.60 -13437763.53 -13437763.45 0.3724 0.3090

Mars -41503-05-11 18:57 J -13437416.81 -13437416.71 -13437416.60 0.1924 0.1188

Jupiter -41503-10-03 15:21 J -13437272.01 -13437271.86 -13437271.72 0.0533 0.0083

Mars -41500-02-26 18:14 J -13436394.88 -13436394.74 -13436394.60 0.1604 0.0210

Moon -41499-03-20 10:04 J -13436008.15 -13436008.08 -13436008.01 0.2670 0.2214

Earth -41499-03-20 11:02 J -13436008.12 -13436008.04 -13436007.96 0.2672 0.2106 *

Jupiter -41497-02-21 10:04 J -13435305.17 -13435305.08 -13435304.98 0.0497 0.0387

Jupiter -41497-05-21 00:42 J -13435215.62 -13435215.47 -13435215.33 0.0494 0.0196

Earth -41496-09-28 16:33 J -13434719.93 -13434719.81 -13434719.69 0.2664 0.0441

Moon -41496-09-28 17:02 J -13434719.91 -13434719.79 -13434719.67 0.2670 0.0509 *

Venus -41495-12-13 15:06 J -13434278.96 -13434278.87 -13434278.78 0.3647 0.2155

Mars -41494-10-01 22:04 J -13433986.72 -13433986.58 -13433986.45 0.1924 0.0127

Earth -41493-03-30 03:06 J -13433806.46 -13433806.37 -13433806.28 0.2666 0.1939

Moon -41493-03-30 04:04 J -13433806.42 -13433806.33 -13433806.24 0.2669 0.2012 *

Mars -41491-07-20 01:54 J -13432964.54 -13432964.42 -13432964.30 0.1605 0.0784

Jupiter -41491-07-22 17:02 J -13432961.93 -13432961.79 -13432961.64 0.0533 0.0082

Saturn -41491-07-22 16:04 J -13432961.92 -13432961.83 -13432961.73 0.0274 0.0212 *

Saturn -41491-10-19 06:28 J -13432873.37 -13432873.23 -13432873.09 0.0274 0.0108

Saturn -41490-01-15 20:38 J -13432784.79 -13432784.64 -13432784.49 0.0274 0.0010

Saturn -41490-04-14 10:18 J -13432696.21 -13432696.07 -13432695.93 0.0274 0.0092

Saturn -41490-07-11 23:45 J -13432607.61 -13432607.51 -13432607.40 0.0274 0.0189

Mars -41489-06-24 17:59 J -13432258.79 -13432258.75 -13432258.71 0.1604 0.1519

Venus -41489-06-28 09:06 J -13432255.23 -13432255.12 -13432255.01 0.3651 0.0449

Moon -41489-09-21 05:02 J -13432170.36 -13432170.29 -13432170.22 0.2658 0.2205

Earth -41489-09-21 05:59 J -13432170.32 -13432170.25 -13432170.18 0.2660 0.2201 *

Uranus -41487-01-07 20:38 J -13431696.67 -13431696.64 -13431696.60 0.0146 0.0142

Uranus -41487-04-06 02:23 J -13431608.49 -13431608.40 -13431608.29 0.0146 0.0114

Uranus -41487-07-03 08:38 J -13431520.27 -13431520.14 -13431520.01 0.0146 0.0086

Uranus -41487-09-29 14:38 J -13431432.03 -13431431.89 -13431431.73 0.0146 0.0058

Uranus -41487-12-26 20:52 J -13431343.79 -13431343.63 -13431343.47 0.0146 0.0029

Moon -41486-03-23 08:52 J -13431257.25 -13431257.13 -13431257.01 0.2673 0.1094

Earth -41486-03-23 10:04 J -13431257.20 -13431257.08 -13431256.96 0.2670 0.1103 *

Uranus -41486-03-25 03:06 J -13431255.54 -13431255.37 -13431255.21 0.0146 0.0003

Uranus -41486-06-21 09:06 J -13431167.28 -13431167.12 -13431166.95 0.0146 0.0030

Uranus -41486-09-17 15:35 J -13431079.01 -13431078.85 -13431078.70 0.0146 0.0059

Uranus -41486-12-14 21:35 J -13430990.72 -13430990.60 -13430990.46 0.0146 0.0089

Jupiter -41485-03-09 02:09 J -13430905.56 -13430905.41 -13430905.25 0.0495 0.0047

Uranus -41485-03-12 04:04 J -13430902.42 -13430902.33 -13430902.23 0.0146 0.0118

Mars -41484-02-21 01:11 J -13430556.56 -13430556.45 -13430556.33 0.1923 0.0914

Venus -41483-01-12 02:52 J -13430231.44 -13430231.38 -13430231.31 0.3655 0.2999

Earth -41483-10-01 13:26 J -13429969.05 -13429968.94 -13429968.84 0.2666 0.1333

Moon -41483-10-01 14:09 J -13429969.01 -13429968.91 -13429968.81 0.2670 0.1411 *

Mars -41482-12-10 09:35 J -13429534.17 -13429534.10 -13429534.03 0.1605 0.1371

Mars -41480-11-15 02:09 J -13428828.52 -13428828.41 -13428828.30 0.1604 0.0979

Jupiter -41479-05-10 18:28 J -13428651.86 -13428651.73 -13428651.60 0.0532 0.0253

Pluto -41479-05-13 11:02 J -13428649.07 -13428649.04 -13428648.98 0.0079 0.0075

Jupiter -41479-08-08 11:59 J -13428562.08 -13428562.00 -13428561.93 0.0535 0.0448

Pluto -41479-08-09 12:28 J -13428561.04 -13428560.98 -13428560.88 0.0079 0.0067

Pluto -41479-11-05 14:09 J -13428473.00 -13428472.91 -13428472.80 0.0079 0.0059

Pluto -41478-02-01 15:35 J -13428384.95 -13428384.85 -13428384.72 0.0079 0.0051

Pluto -41478-04-30 17:16 J -13428296.90 -13428296.78 -13428296.65 0.0079 0.0042

Pluto -41478-07-27 18:42 J -13428208.84 -13428208.72 -13428208.58 0.0078 0.0035

Pluto -41478-10-23 20:23 J -13428120.79 -13428120.65 -13428120.51 0.0078 0.0026

Pluto -41477-01-19 21:50 J -13428032.73 -13428032.59 -13428032.44 0.0078 0.0019

Pluto -41477-04-16 23:16 J -13427944.67 -13427944.53 -13427944.38 0.0078 0.0011

Pluto -41477-07-14 00:42 J -13427856.62 -13427856.47 -13427856.32 0.0078 0.0003

Pluto -41477-10-10 02:09 J -13427768.56 -13427768.41 -13427768.26 0.0078 0.0004

Pluto -41476-01-06 03:35 J -13427680.50 -13427680.35 -13427680.21 0.0078 0.0012

Pluto -41476-04-04 04:47 J -13427592.44 -13427592.30 -13427592.15 0.0077 0.0020

Saturn -41476-05-03 10:18 J -13427563.15 -13427563.07 -13427562.99 0.0284 0.0242

Pluto -41476-07-01 05:59 J -13427504.37 -13427504.25 -13427504.10 0.0077 0.0028

Saturn -41476-07-31 03:06 J -13427474.51 -13427474.37 -13427474.23 0.0284 0.0127

Moon -41476-09-24 02:52 J -13427419.49 -13427419.38 -13427419.28 0.2666 0.1374

Earth -41476-09-24 03:35 J -13427419.46 -13427419.35 -13427419.24 0.2661 0.1240 *

Pluto -41476-09-27 07:26 J -13427416.31 -13427416.19 -13427416.05 0.0077 0.0034

Saturn -41476-10-27 20:09 J -13427385.82 -13427385.66 -13427385.50 0.0284 0.0011

Pluto -41476-12-24 08:52 J -13427328.25 -13427328.13 -13427328.00 0.0077 0.0041

Saturn -41475-01-24 13:40 J -13427297.07 -13427296.93 -13427296.78 0.0284 0.0115

Pluto -41475-03-22 10:04 J -13427240.18 -13427240.08 -13427239.96 0.0077 0.0049

Saturn -41475-04-23 07:40 J -13427208.26 -13427208.18 -13427208.09 0.0284 0.0239

Pluto -41475-06-18 11:16 J -13427152.11 -13427152.03 -13427151.91 0.0077 0.0056

Mars -41475-07-14 05:02 J -13427126.30 -13427126.29 -13427126.27 0.1922 0.1902

Pluto -41475-09-14 12:42 J -13427064.04 -13427063.97 -13427063.88 0.0077 0.0063

Pluto -41475-12-11 13:54 J -13426975.96 -13426975.92 -13426975.85 0.0077 0.0070

Jupiter -41474-12-27 04:18 J -13426595.47 -13426595.32 -13426595.17 0.0496 0.0098

Moon -41473-03-25 08:52 J -13426506.26 -13426506.13 -13426506.00 0.2675 0.0170

Earth -41473-03-25 09:06 J -13426506.25 -13426506.12 -13426505.98 0.2669 0.0111 *

Mars -41470-04-07 10:18 J -13425398.20 -13425398.07 -13425397.93 0.1604 0.0431

Earth -41470-10-04 09:50 J -13425218.15 -13425218.09 -13425218.02 0.2668 0.2201

Moon -41470-10-04 10:47 J -13425218.11 -13425218.05 -13425217.98 0.2665 0.2208 *

Jupiter -41467-02-26 18:42 J -13424341.80 -13424341.72 -13424341.64 0.0530 0.0441

Jupiter -41467-05-27 12:28 J -13424252.10 -13424251.98 -13424251.85 0.0534 0.0265

Mars -41464-11-09 19:11 J -13422989.80 -13422989.70 -13422989.60 0.1924 0.1286

Moon -41463-09-27 00:28 J -13422668.60 -13422668.48 -13422668.35 0.2669 0.0271

Earth -41463-09-27 00:42 J -13422668.59 -13422668.47 -13422668.34 0.2663 0.0320 *

Jupiter -41462-10-15 06:14 J -13422285.37 -13422285.24 -13422285.11 0.0497 0.0242

Saturn -41462-12-09 18:28 J -13422229.80 -13422229.73 -13422229.65 0.0275 0.0237

Jupiter -41461-01-12 21:06 J -13422195.73 -13422195.62 -13422195.51 0.0494 0.0347

Saturn -41461-03-07 08:52 J -13422141.26 -13422141.13 -13422141.00 0.0275 0.0133

Saturn -41461-06-03 23:02 J -13422052.69 -13422052.54 -13422052.39 0.0275 0.0031

Mars -41461-08-27 18:28 J -13421967.87 -13421967.73 -13421967.59 0.1604 0.0132

Saturn -41461-08-31 12:57 J -13421964.10 -13421963.96 -13421963.82 0.0275 0.0070

Saturn -41461-11-28 02:38 J -13421875.51 -13421875.39 -13421875.28 0.0275 0.0168

Saturn -41460-02-24 15:50 J -13421786.87 -13421786.84 -13421786.80 0.0275 0.0264

Earth -41460-03-28 08:52 J -13421755.25 -13421755.13 -13421755.00 0.2667 0.1023

Moon -41460-03-28 09:06 J -13421755.24 -13421755.12 -13421755.00 0.2674 0.1097 *

Jupiter -41455-03-15 13:40 J -13419942.07 -13419941.93 -13419941.78 0.0533 0.0091

Mars -41454-04-01 22:04 J -13419559.71 -13419559.58 -13419559.45 0.1924 0.0215

Moon -41453-03-20 15:21 J -13419205.94 -13419205.86 -13419205.77 0.2671 0.1990

Earth -41453-03-20 16:33 J -13419205.90 -13419205.81 -13419205.72 0.2672 0.1935 *

Venus -41453-06-19 22:47 J -13419114.68 -13419114.55 -13419114.42 0.3728 0.0269

Mars -41451-01-18 02:09 J -13418537.53 -13418537.41 -13418537.28 0.1605 0.0700

Jupiter -41450-08-03 08:23 J -13417975.24 -13417975.15 -13417975.05 0.0498 0.0382

Earth -41450-09-29 21:50 J -13417917.71 -13417917.59 -13417917.47 0.2665 0.0605

Moon -41450-09-29 22:18 J -13417917.69 -13417917.57 -13417917.45 0.2671 0.0594 *

Jupiter -41450-10-31 23:02 J -13417885.68 -13417885.54 -13417885.40 0.0495 0.0202

Mars -41450-12-24 18:14 J -13417831.75 -13417831.74 -13417831.73 0.1605 0.1596

Earth -41447-03-31 08:52 J -13417004.21 -13417004.13 -13417004.05 0.2665 0.2136

Moon -41447-03-31 10:04 J -13417004.16 -13417004.08 -13417004.01 0.2668 0.2187 *

Saturn -41447-09-20 11:45 J -13416831.05 -13416831.01 -13416830.96 0.0284 0.0271

Saturn -41447-12-18 04:33 J -13416742.44 -13416742.31 -13416742.18 0.0284 0.0156

Saturn -41446-03-16 21:35 J -13416653.76 -13416653.60 -13416653.44 0.0284 0.0038

Uranus -41446-05-10 19:11 J -13416598.76 -13416598.70 -13416598.62 0.0132 0.0116

Saturn -41446-06-13 14:52 J -13416565.03 -13416564.88 -13416564.72 0.0284 0.0082

Uranus -41446-08-06 23:16 J -13416510.63 -13416510.53 -13416510.42 0.0132 0.0096

Saturn -41446-09-10 08:38 J -13416476.25 -13416476.14 -13416476.02 0.0284 0.0206

Uranus -41446-11-03 03:35 J -13416422.48 -13416422.35 -13416422.23 0.0132 0.0076

Uranus -41445-01-30 07:26 J -13416334.32 -13416334.19 -13416334.05 0.0132 0.0056

Uranus -41445-04-27 11:30 J -13416246.16 -13416246.02 -13416245.87 0.0132 0.0036

Uranus -41445-07-24 15:35 J -13416158.00 -13416157.85 -13416157.70 0.0132 0.0017

Mars -41445-08-22 01:40 J -13416129.55 -13416129.43 -13416129.31 0.1923 0.0804

Uranus -41445-10-20 19:26 J -13416069.84 -13416069.69 -13416069.54 0.0132 0.0003

Uranus -41444-01-16 23:16 J -13415981.67 -13415981.53 -13415981.38 0.0132 0.0022

Uranus -41444-04-15 03:21 J -13415893.50 -13415893.36 -13415893.22 0.0132 0.0041

Uranus -41444-07-12 06:57 J -13415805.33 -13415805.21 -13415805.07 0.0132 0.0061

Uranus -41444-10-08 10:47 J -13415717.16 -13415717.05 -13415716.93 0.0132 0.0079

Jupiter -41443-01-01 15:06 J -13415632.02 -13415631.87 -13415631.73 0.0532 0.0085

Uranus -41443-01-04 14:38 J -13415628.98 -13415628.89 -13415628.79 0.0132 0.0098

Uranus -41443-04-02 18:28 J -13415540.79 -13415540.73 -13415540.66 0.0132 0.0116

Moon -41443-09-22 10:33 J -13415368.14 -13415368.06 -13415367.99 0.2660 0.2142

Earth -41443-09-22 11:30 J -13415368.10 -13415368.02 -13415367.94 0.2660 0.2030 *

Mars -41442-06-10 09:50 J -13415107.17 -13415107.09 -13415107.00 0.1605 0.1281

Moon -41440-03-23 14:23 J -13414455.02 -13414454.90 -13414454.78 0.2673 0.1064

Earth -41440-03-23 15:35 J -13414454.98 -13414454.85 -13414454.73 0.2670 0.0924 *

Mars -41440-05-16 02:23 J -13414401.50 -13414401.40 -13414401.29 0.1604 0.1061

Venus -41438-07-20 13:11 J -13413606.06 -13413605.95 -13413605.84 0.3648 0.1165

Jupiter -41438-08-20 01:11 J -13413575.61 -13413575.45 -13413575.30 0.0495 0.0060

Earth -41437-10-01 18:28 J -13413166.83 -13413166.73 -13413166.62 0.2666 0.1490

Moon -41437-10-01 19:26 J -13413166.79 -13413166.69 -13413166.59 0.2668 0.1560 *

Mars -41435-01-12 05:16 J -13412699.33 -13412699.28 -13412699.24 0.1922 0.1804

Neptune -41433-03-14 11:02 J -13411907.06 -13411907.04 -13411907.01 0.0089 0.0087

Neptune -41433-06-10 12:57 J -13411819.02 -13411818.96 -13411818.89 0.0089 0.0081

Neptune -41433-09-06 15:06 J -13411730.95 -13411730.87 -13411730.78 0.0089 0.0073

Neptune -41433-12-03 17:16 J -13411642.88 -13411642.78 -13411642.68 0.0089 0.0067

Venus -41432-02-02 07:11 J -13411582.31 -13411582.20 -13411582.10 0.3652 0.1428

Neptune -41432-03-01 18:57 J -13411554.81 -13411554.71 -13411554.58 0.0089 0.0060

Neptune -41432-05-28 21:21 J -13411466.74 -13411466.61 -13411466.49 0.0089 0.0052

Saturn -41432-07-25 09:06 J -13411409.24 -13411409.12 -13411409.00 0.0274 0.0171

Neptune -41432-08-24 23:30 J -13411378.66 -13411378.52 -13411378.39 0.0089 0.0045

Jupiter -41432-10-20 16:33 J -13411321.94 -13411321.81 -13411321.67 0.0532 0.0252

Saturn -41432-10-21 23:16 J -13411320.67 -13411320.53 -13411320.38 0.0274 0.0068

Neptune -41432-11-21 01:26 J -13411290.58 -13411290.44 -13411290.30 0.0089 0.0038

Jupiter -41431-01-18 10:04 J -13411232.15 -13411232.08 -13411232.00 0.0535 0.0450

Saturn -41431-01-18 13:26 J -13411232.09 -13411231.94 -13411231.80 0.0274 0.0033 *

Neptune -41431-02-17 03:35 J -13411202.50 -13411202.35 -13411202.20 0.0089 0.0031

Saturn -41431-04-17 03:06 J -13411143.50 -13411143.37 -13411143.24 0.0274 0.0132

Neptune -41431-05-16 05:30 J -13411114.41 -13411114.27 -13411114.11 0.0089 0.0024

Saturn -41431-07-14 16:18 J -13411054.89 -13411054.82 -13411054.73 0.0274 0.0228

Neptune -41431-08-12 07:40 J -13411026.33 -13411026.18 -13411026.02 0.0089 0.0017

Mars -41431-10-06 10:47 J -13410971.18 -13410971.05 -13410970.92 0.1604 0.0517

Neptune -41431-11-08 09:50 J -13410938.24 -13410938.09 -13410937.93 0.0089 0.0010

Neptune -41430-02-04 11:59 J -13410850.16 -13410850.00 -13410849.84 0.0089 0.0003

Neptune -41430-05-03 14:09 J -13410762.07 -13410761.91 -13410761.75 0.0089 0.0005

Neptune -41430-07-30 16:18 J -13410673.98 -13410673.82 -13410673.66 0.0089 0.0012

Moon -41430-09-25 08:09 J -13410617.28 -13410617.16 -13410617.05 0.2667 0.1061

Earth -41430-09-25 08:52 J -13410617.24 -13410617.13 -13410617.01 0.2662 0.1074 *

Neptune -41430-10-26 18:28 J -13410585.88 -13410585.73 -13410585.57 0.0089 0.0019

Neptune -41429-01-22 20:23 J -13410497.79 -13410497.65 -13410497.49 0.0089 0.0027

Neptune -41429-04-19 22:47 J -13410409.69 -13410409.55 -13410409.40 0.0089 0.0034

Neptune -41429-07-17 00:57 J -13410321.60 -13410321.46 -13410321.32 0.0089 0.0041

Neptune -41429-10-13 03:06 J -13410233.50 -13410233.37 -13410233.23 0.0089 0.0049

Neptune -41428-01-09 05:16 J -13410145.39 -13410145.28 -13410145.15 0.0089 0.0056

Neptune -41428-04-07 07:26 J -13410057.29 -13410057.19 -13410057.07 0.0089 0.0064

Neptune -41428-07-04 09:50 J -13409969.18 -13409969.09 -13409968.99 0.0089 0.0071

Neptune -41428-09-30 11:45 J -13409881.06 -13409881.01 -13409880.92 0.0089 0.0079

Neptune -41428-12-27 14:23 J -13409792.93 -13409792.90 -13409792.86 0.0089 0.0086

Moon -41427-03-26 14:38 J -13409704.02 -13409703.89 -13409703.76 0.2675 0.0201

Earth -41427-03-26 14:52 J -13409704.01 -13409703.88 -13409703.75 0.2668 0.0131 *

Jupiter -41426-06-08 02:52 J -13409265.53 -13409265.38 -13409265.23 0.0496 0.0088

Mars -41424-05-10 19:26 J -13408562.78 -13408562.69 -13408562.60 0.1923 0.1394

Earth -41424-10-04 15:06 J -13408415.93 -13408415.87 -13408415.81 0.2668 0.2347

Moon -41424-10-04 16:04 J -13408415.88 -13408415.83 -13408415.79 0.2665 0.2442 *

Mars -41421-02-26 18:42 J -13407540.86 -13407540.72 -13407540.58 0.1604 0.0050

Jupiter -41420-08-08 17:45 J -13407011.84 -13407011.76 -13407011.66 0.0531 0.0424

Jupiter -41420-11-06 11:59 J -13406922.13 -13406922.00 -13406921.88 0.0534 0.0284

Saturn -41417-05-06 03:35 J -13406010.46 -13406010.35 -13406010.24 0.0284 0.0200

Saturn -41417-08-02 20:23 J -13405921.80 -13405921.65 -13405921.49 0.0284 0.0084

Moon -41417-09-27 05:59 J -13405866.37 -13405866.25 -13405866.12 0.2670 0.0220

Earth -41417-09-27 05:59 J -13405866.37 -13405866.25 -13405866.12 0.2663 0.0170 *

Saturn -41417-10-30 13:40 J -13405833.08 -13405832.93 -13405832.77 0.0284 0.0038

Saturn -41416-01-27 07:26 J -13405744.32 -13405744.19 -13405744.05 0.0284 0.0159

Mars -41415-09-30 22:18 J -13405132.70 -13405132.57 -13405132.44 0.1924 0.0324

Jupiter -41414-03-27 05:02 J -13404955.43 -13404955.29 -13404955.16 0.0497 0.0232

Earth -41414-03-29 14:38 J -13404953.01 -13404952.89 -13404952.77 0.2667 0.1216

Moon -41414-03-29 14:52 J -13404953.00 -13404952.88 -13404952.76 0.2673 0.1180 *

Jupiter -41414-06-24 19:40 J -13404865.78 -13404865.68 -13404865.57 0.0494 0.0356

Mars -41412-07-19 02:23 J -13404110.53 -13404110.40 -13404110.27 0.1605 0.0617

Jupiter -41408-08-25 12:28 J -13402612.12 -13402611.98 -13402611.83 0.0533 0.0102

Moon -41407-03-21 20:52 J -13402403.72 -13402403.63 -13402403.53 0.2671 0.1830

Earth -41407-03-21 22:04 J -13402403.68 -13402403.58 -13402403.48 0.2671 0.1754 *

Mars -41405-02-21 01:40 J -13401702.56 -13401702.43 -13401702.31 0.1923 0.0713

Earth -41404-09-30 03:06 J -13401115.49 -13401115.37 -13401115.25 0.2665 0.0763

Moon -41404-09-30 03:35 J -13401115.47 -13401115.35 -13401115.23 0.2671 0.0860 *

Uranus -41403-01-28 03:50 J -13400995.39 -13400995.34 -13400995.27 0.0146 0.0134

Uranus -41403-04-26 09:50 J -13400907.20 -13400907.09 -13400906.98 0.0146 0.0107

Uranus -41403-07-23 15:50 J -13400818.97 -13400818.84 -13400818.70 0.0146 0.0078

Uranus -41403-10-19 21:50 J -13400730.74 -13400730.59 -13400730.43 0.0146 0.0050

Mars -41403-12-09 10:04 J -13400680.17 -13400680.08 -13400679.99 0.1606 0.1198

Saturn -41403-12-12 11:16 J -13400677.13 -13400677.03 -13400676.92 0.0275 0.0197

Jupiter -41402-01-13 06:42 J -13400645.31 -13400645.22 -13400645.12 0.0498 0.0377

Uranus -41402-01-16 04:04 J -13400642.49 -13400642.33 -13400642.17 0.0146 0.0021

Saturn -41402-03-11 01:40 J -13400588.57 -13400588.43 -13400588.28 0.0275 0.0093

Jupiter -41402-04-12 21:21 J -13400555.75 -13400555.61 -13400555.47 0.0495 0.0208

Uranus -41402-04-14 10:18 J -13400554.24 -13400554.07 -13400553.91 0.0146 0.0008

Saturn -41402-06-07 15:50 J -13400499.99 -13400499.84 -13400499.69 0.0275 0.0009

Uranus -41402-07-11 16:18 J -13400465.97 -13400465.82 -13400465.65 0.0146 0.0037

Venus -41402-07-11 22:33 J -13400465.66 -13400465.56 -13400465.47 0.3732 0.2455 *

Saturn -41402-09-04 05:30 J -13400411.40 -13400411.27 -13400411.13 0.0275 0.0110

Uranus -41402-10-07 22:33 J -13400377.70 -13400377.56 -13400377.40 0.0146 0.0067

Saturn -41402-12-01 19:11 J -13400322.80 -13400322.70 -13400322.61 0.0275 0.0207

Uranus -41401-01-04 05:02 J -13400289.41 -13400289.29 -13400289.16 0.0146 0.0096

Earth -41401-03-31 14:38 J -13400201.96 -13400201.89 -13400201.83 0.2665 0.2330

Moon -41401-03-31 15:35 J -13400201.90 -13400201.85 -13400201.80 0.2668 0.2460 *

Uranus -41401-04-01 11:16 J -13400201.11 -13400201.03 -13400200.94 0.0146 0.0126

Mars -41401-11-14 02:38 J -13399974.48 -13399974.39 -13399974.29 0.1604 0.1141

Moon -41397-09-22 15:50 J -13398565.93 -13398565.84 -13398565.76 0.2662 0.1918

Earth -41397-09-22 16:47 J -13398565.89 -13398565.80 -13398565.71 0.2660 0.1860 *

Venus -41396-01-24 22:18 J -13398441.68 -13398441.57 -13398441.45 0.3726 0.1786

Jupiter -41396-06-13 13:26 J -13398302.08 -13398301.94 -13398301.79 0.0532 0.0079

Mars -41396-07-13 05:16 J -13398272.33 -13398272.28 -13398272.22 0.1922 0.1707

Moon -41394-03-24 20:09 J -13397652.79 -13397652.66 -13397652.53 0.2673 0.0750

Earth -41394-03-24 21:06 J -13397652.75 -13397652.62 -13397652.50 0.2670 0.0739 *

Mars -41391-04-06 10:47 J -13396544.17 -13396544.05 -13396543.92 0.1604 0.0598

Earth -41391-10-02 23:45 J -13396364.60 -13396364.51 -13396364.41 0.2667 0.1645

Moon -41391-10-03 00:42 J -13396364.56 -13396364.47 -13396364.37 0.2667 0.1671 *

Jupiter -41390-01-29 23:16 J -13396245.68 -13396245.53 -13396245.37 0.0496 0.0064

Saturn -41388-09-23 05:30 J -13395278.35 -13395278.27 -13395278.17 0.0284 0.0225

Saturn -41388-12-20 22:33 J -13395189.71 -13395189.56 -13395189.42 0.0284 0.0109

Saturn -41387-03-19 15:35 J -13395101.01 -13395100.85 -13395100.69 0.0284 0.0010

Saturn -41387-06-16 09:06 J -13395012.26 -13395012.12 -13395011.98 0.0284 0.0131

Venus -41387-08-10 17:16 J -13394956.85 -13394956.78 -13394956.71 0.3645 0.2812

Saturn -41387-09-13 03:06 J -13394923.44 -13394923.37 -13394923.30 0.0284 0.0255

Mars -41385-11-08 19:40 J -13394135.76 -13394135.68 -13394135.59 0.1924 0.1499

Jupiter -41384-04-01 14:23 J -13393992.03 -13393991.90 -13393991.77 0.0531 0.0255

Jupiter -41384-06-30 07:54 J -13393902.24 -13393902.17 -13393902.09 0.0535 0.0446

Moon -41384-09-25 13:26 J -13393815.05 -13393814.94 -13393814.82 0.2667 0.1023

Earth -41384-09-25 14:09 J -13393815.03 -13393814.91 -13393814.79 0.2662 0.0908 *

Mars -41382-08-27 18:57 J -13393113.85 -13393113.71 -13393113.57 0.1605 0.0042

Venus -41381-02-24 11:16 J -13392933.14 -13392933.03 -13392932.92 0.3649 0.0173

Moon -41381-03-26 20:09 J -13392901.79 -13392901.66 -13392901.53 0.2675 0.0220

Earth -41381-03-26 20:23 J -13392901.78 -13392901.65 -13392901.52 0.2668 0.0317 *

Jupiter -41379-11-18 01:40 J -13391935.59 -13391935.43 -13391935.28 0.0496 0.0078

Earth -41378-10-05 20:23 J -13391613.69 -13391613.65 -13391613.62 0.2668 0.2502

Moon -41378-10-05 21:06 J -13391613.66 -13391613.62 -13391613.59 0.2665 0.2531 *

Venus -41376-09-09 05:16 J -13390909.37 -13390909.28 -13390909.20 0.3653 0.2399

Mars -41375-03-31 22:47 J -13390705.69 -13390705.55 -13390705.42 0.1923 0.0440

Moon -41374-03-20 04:04 J -13390352.37 -13390352.33 -13390352.30 0.2669 0.2557

Earth -41374-03-20 04:47 J -13390352.33 -13390352.30 -13390352.27 0.2673 0.2566 *

Saturn -41373-04-30 11:45 J -13389945.08 -13389945.01 -13389944.93 0.0275 0.0232

Saturn -41373-07-28 02:23 J -13389856.53 -13389856.40 -13389856.27 0.0275 0.0128

Saturn -41373-10-24 16:33 J -13389767.96 -13389767.81 -13389767.66 0.0275 0.0026

Mars -41372-01-17 02:52 J -13389683.52 -13389683.38 -13389683.25 0.1605 0.0532

Jupiter -41372-01-18 15:50 J -13389681.93 -13389681.84 -13389681.75 0.0531 0.0425

Saturn -41372-01-21 06:28 J -13389679.38 -13389679.23 -13389679.09 0.0274 0.0075

Jupiter -41372-04-18 09:50 J -13389592.21 -13389592.09 -13389591.96 0.0534 0.0283

Saturn -41372-04-19 19:54 J -13389590.78 -13389590.67 -13389590.55 0.0274 0.0173

Saturn -41372-07-17 09:21 J -13389502.14 -13389502.11 -13389502.08 0.0274 0.0268

Earth -41371-09-28 11:16 J -13389064.15 -13389064.03 -13389063.90 0.2664 0.0101

Moon -41371-09-28 11:30 J -13389064.14 -13389064.02 -13389063.90 0.2670 0.0099 *

Earth -41368-03-29 20:09 J -13388150.77 -13388150.66 -13388150.55 0.2666 0.1405

Moon -41368-03-29 20:52 J -13388150.74 -13388150.63 -13388150.52 0.2672 0.1536 *

Jupiter -41367-09-06 03:21 J -13387625.49 -13387625.36 -13387625.22 0.0497 0.0224

Jupiter -41367-12-04 18:14 J -13387535.84 -13387535.74 -13387535.63 0.0494 0.0363

Mars -41366-08-22 01:54 J -13387275.55 -13387275.42 -13387275.30 0.1923 0.0611

Mars -41363-06-09 10:18 J -13386253.17 -13386253.07 -13386252.97 0.1606 0.1113

Uranus -41362-03-03 22:18 J -13385985.59 -13385985.57 -13385985.54 0.0132 0.0130

Uranus -41362-05-31 02:23 J -13385897.48 -13385897.40 -13385897.31 0.0132 0.0110

Uranus -41362-08-27 06:28 J -13385809.34 -13385809.23 -13385809.11 0.0132 0.0090

Uranus -41362-11-23 10:33 J -13385721.18 -13385721.06 -13385720.93 0.0132 0.0070

Uranus -41361-02-19 14:38 J -13385633.03 -13385632.89 -13385632.75 0.0132 0.0050

Moon -41361-03-22 02:23 J -13385601.50 -13385601.40 -13385601.30 0.2671 0.1668

Earth -41361-03-22 03:35 J -13385601.46 -13385601.35 -13385601.25 0.2671 0.1577 *

Mars -41361-05-15 02:52 J -13385547.46 -13385547.38 -13385547.29 0.1604 0.1222

Uranus -41361-05-17 18:42 J -13385544.87 -13385544.72 -13385544.58 0.0132 0.0030

Uranus -41361-08-13 22:33 J -13385456.71 -13385456.56 -13385456.41 0.0132 0.0011

Uranus -41361-11-10 02:38 J -13385368.54 -13385368.39 -13385368.24 0.0132 0.0009

Jupiter -41360-02-04 11:30 J -13385282.16 -13385282.02 -13385281.87 0.0533 0.0115

Uranus -41360-02-06 06:28 J -13385280.38 -13385280.23 -13385280.08 0.0132 0.0028

Uranus -41360-05-05 10:18 J -13385192.21 -13385192.07 -13385191.93 0.0132 0.0047

Uranus -41360-08-01 14:09 J -13385104.03 -13385103.91 -13385103.78 0.0132 0.0066

Uranus -41360-10-28 17:45 J -13385015.86 -13385015.76 -13385015.63 0.0132 0.0085

Uranus -41359-01-24 21:50 J -13384927.68 -13384927.59 -13384927.50 0.0132 0.0103

Uranus -41359-04-23 01:26 J -13384839.49 -13384839.44 -13384839.38 0.0132 0.0122

Saturn -41358-02-10 04:47 J -13384546.34 -13384546.30 -13384546.24 0.0284 0.0268

Saturn -41358-05-09 21:35 J -13384457.73 -13384457.60 -13384457.47 0.0284 0.0153

Saturn -41358-08-06 14:38 J -13384369.05 -13384368.89 -13384368.73 0.0284 0.0036

Earth -41358-10-01 08:23 J -13384313.27 -13384313.15 -13384313.04 0.2665 0.0925

Moon -41358-10-01 08:52 J -13384313.24 -13384313.13 -13384313.01 0.2670 0.0904 *

Saturn -41358-11-03 07:54 J -13384280.32 -13384280.17 -13384280.01 0.0284 0.0085

Saturn -41357-01-31 01:40 J -13384191.54 -13384191.43 -13384191.32 0.0284 0.0209

Mars -41356-01-11 05:30 J -13383845.34 -13383845.27 -13383845.20 0.1922 0.1606

Earth -41355-04-01 20:23 J -13383399.69 -13383399.65 -13383399.61 0.2665 0.2531

Moon -41355-04-01 21:21 J -13383399.64 -13383399.61 -13383399.57 0.2668 0.2556 *

Jupiter -41355-06-25 05:30 J -13383315.37 -13383315.27 -13383315.17 0.0498 0.0367

Jupiter -41355-09-22 19:54 J -13383225.80 -13383225.67 -13383225.53 0.0495 0.0217

Mars -41352-10-05 11:02 J -13382117.16 -13382117.04 -13382116.91 0.1604 0.0678

Moon -41351-09-23 21:06 J -13381763.71 -13381763.62 -13381763.53 0.2663 0.1752

Earth -41351-09-23 22:04 J -13381763.68 -13381763.58 -13381763.48 0.2661 0.1691 *

Neptune -41350-03-16 02:52 J -13381590.42 -13381590.38 -13381590.35 0.0088 0.0086

Neptune -41350-06-12 04:47 J -13381502.36 -13381502.30 -13381502.22 0.0088 0.0079

Neptune -41350-09-08 06:57 J -13381414.29 -13381414.21 -13381414.10 0.0088 0.0071

Neptune -41350-12-05 09:21 J -13381326.21 -13381326.11 -13381325.99 0.0088 0.0064

Neptune -41349-03-02 11:30 J -13381238.13 -13381238.02 -13381237.88 0.0088 0.0057

Neptune -41349-05-29 13:40 J -13381150.05 -13381149.93 -13381149.78 0.0088 0.0050

Neptune -41349-08-25 16:04 J -13381061.96 -13381061.83 -13381061.68 0.0088 0.0042

Neptune -41349-11-21 18:14 J -13380973.88 -13380973.74 -13380973.58 0.0088 0.0035

Jupiter -41349-11-23 12:14 J -13380972.14 -13380971.99 -13380971.84 0.0532 0.0066

Neptune -41348-02-17 20:38 J -13380885.79 -13380885.64 -13380885.48 0.0088 0.0027

Moon -41348-03-25 01:54 J -13380850.55 -13380850.42 -13380850.29 0.2675 0.0622

Earth -41348-03-25 02:38 J -13380850.52 -13380850.39 -13380850.26 0.2670 0.0551 *

Neptune -41348-05-16 22:47 J -13380797.70 -13380797.55 -13380797.39 0.0088 0.0020

Neptune -41348-08-13 00:57 J -13380709.61 -13380709.46 -13380709.30 0.0088 0.0013

Neptune -41348-11-09 03:21 J -13380621.52 -13380621.36 -13380621.20 0.0088 0.0005

Neptune -41347-02-05 05:30 J -13380533.43 -13380533.27 -13380533.11 0.0088 0.0003

Neptune -41347-05-04 07:26 J -13380445.34 -13380445.19 -13380445.03 0.0088 0.0010

Neptune -41347-07-31 09:35 J -13380357.25 -13380357.10 -13380356.94 0.0088 0.0017

Neptune -41347-10-27 11:45 J -13380269.16 -13380269.01 -13380268.85 0.0088 0.0024

Neptune -41346-01-23 13:54 J -13380181.06 -13380180.92 -13380180.77 0.0088 0.0031

Neptune -41346-04-21 16:04 J -13380092.97 -13380092.83 -13380092.69 0.0088 0.0038

Neptune -41346-07-18 17:59 J -13380004.88 -13380004.75 -13380004.61 0.0088 0.0045

Neptune -41346-10-14 20:09 J -13379916.78 -13379916.66 -13379916.53 0.0088 0.0052

Neptune -41345-01-10 22:04 J -13379828.68 -13379828.58 -13379828.45 0.0088 0.0059

Venus -41345-02-15 22:04 J -13379792.71 -13379792.58 -13379792.46 0.3730 0.0976

Neptune -41345-04-08 00:14 J -13379740.59 -13379740.49 -13379740.38 0.0088 0.0066

Mars -41345-05-09 19:54 J -13379708.74 -13379708.67 -13379708.60 0.1923 0.1603

Neptune -41345-07-05 02:09 J -13379652.48 -13379652.41 -13379652.31 0.0088 0.0073

Neptune -41345-10-01 04:04 J -13379564.38 -13379564.33 -13379564.25 0.0088 0.0080

Earth -41345-10-03 05:02 J -13379562.38 -13379562.29 -13379562.20 0.2667 0.1798

Moon -41345-10-03 05:59 J -13379562.33 -13379562.25 -13379562.17 0.2667 0.1917 *

Neptune -41345-12-28 05:59 J -13379476.26 -13379476.25 -13379476.20 0.0088 0.0087

Saturn -41344-09-17 13:54 J -13379212.97 -13379212.92 -13379212.87 0.0276 0.0260

Saturn -41344-12-15 04:33 J -13379124.43 -13379124.31 -13379124.19 0.0275 0.0154

Saturn -41343-03-13 18:42 J -13379035.86 -13379035.72 -13379035.57 0.0275 0.0052

Saturn -41343-06-10 08:52 J -13378947.28 -13378947.13 -13378946.98 0.0275 0.0051

Jupiter -41343-07-11 21:35 J -13378915.75 -13378915.60 -13378915.45 0.0496 0.0067

Saturn -41343-09-06 22:33 J -13378858.68 -13378858.56 -13378858.44 0.0275 0.0150

Saturn -41343-12-04 11:59 J -13378770.06 -13378770.00 -13378769.94 0.0275 0.0247

Mars -41342-02-25 19:11 J -13378686.84 -13378686.70 -13378686.56 0.1605 0.0122

Venus -41340-08-31 22:04 J -13377768.64 -13377768.58 -13377768.53 0.3725 0.3333

Moon -41338-09-26 18:57 J -13377012.83 -13377012.71 -13377012.59 0.2667 0.0745

Earth -41338-09-26 19:26 J -13377012.81 -13377012.69 -13377012.57 0.2662 0.0743 *

Jupiter -41337-09-11 12:57 J -13376662.09 -13376661.96 -13376661.82 0.0531 0.0247

Jupiter -41337-12-10 06:28 J -13376572.30 -13376572.23 -13376572.15 0.0534 0.0452

Mars -41336-09-29 22:33 J -13376278.69 -13376278.56 -13376278.43 0.1923 0.0524

Moon -41335-03-28 01:54 J -13376099.55 -13376099.42 -13376099.29 0.2674 0.0563

Earth -41335-03-28 02:09 J -13376099.54 -13376099.41 -13376099.28 0.2668 0.0510 *

Mars -41333-07-18 03:06 J -13375256.51 -13375256.37 -13375256.24 0.1605 0.0446

Earth -41332-10-06 01:26 J -13374811.45 -13374811.44 -13374811.43 0.2669 0.2651

Jupiter -41331-04-29 23:30 J -13374605.67 -13374605.52 -13374605.37 0.0497 0.0078

Venus -41330-03-17 15:21 J -13374283.96 -13374283.86 -13374283.76 0.3646 0.1802

Saturn -41329-09-26 00:14 J -13373725.62 -13373725.49 -13373725.37 0.0284 0.0175

Saturn -41329-12-23 17:02 J -13373636.95 -13373636.79 -13373636.63 0.0284 0.0058

Moon -41328-03-20 09:21 J -13373550.15 -13373550.11 -13373550.07 0.2670 0.2530

Earth -41328-03-20 10:18 J -13373550.13 -13373550.07 -13373550.02 0.2673 0.2391 *

Saturn -41328-03-22 10:18 J -13373548.23 -13373548.07 -13373547.91 0.0284 0.0062

Saturn -41328-06-19 03:50 J -13373459.46 -13373459.34 -13373459.21 0.0284 0.0185

Mars -41326-02-20 02:09 J -13372848.54 -13372848.41 -13372848.28 0.1923 0.0498

Jupiter -41325-06-30 13:40 J -13372352.02 -13372351.93 -13372351.84 0.0530 0.0429

Jupiter -41325-09-28 07:40 J -13372262.30 -13372262.18 -13372262.06 0.0534 0.0277

Earth -41325-09-28 16:33 J -13372261.93 -13372261.81 -13372261.68 0.2664 0.0194

Moon -41325-09-28 16:47 J -13372261.92 -13372261.80 -13372261.68 0.2671 0.0128 *

Venus -41325-09-30 09:21 J -13372260.22 -13372260.11 -13372260.00 0.3650 0.0819

Mars -41324-12-08 10:47 J -13371826.16 -13371826.05 -13371825.94 0.1606 0.1022

Earth -41322-03-31 01:54 J -13371348.53 -13371348.42 -13371348.32 0.2666 0.1601

Moon -41322-03-31 02:38 J -13371348.50 -13371348.39 -13371348.28 0.2671 0.1577 *

Mars -41322-11-14 03:06 J -13371120.44 -13371120.37 -13371120.29 0.1605 0.1303

Pluto -41320-08-27 07:40 J -13370468.19 -13370468.18 -13370468.15 0.0066 0.0065

Pluto -41320-11-23 08:52 J -13370380.19 -13370380.13 -13370380.06 0.0066 0.0060

Jupiter -41319-02-16 01:54 J -13370295.56 -13370295.42 -13370295.28 0.0497 0.0217

Uranus -41319-02-17 11:02 J -13370294.11 -13370294.04 -13370293.95 0.0146 0.0127

Pluto -41319-02-19 10:04 J -13370292.16 -13370292.08 -13370291.98 0.0066 0.0055

Venus -41319-04-16 03:06 J -13370236.41 -13370236.37 -13370236.33 0.3654 0.3363

Jupiter -41319-05-16 16:47 J -13370205.90 -13370205.80 -13370205.70 0.0494 0.0371

Uranus -41319-05-16 17:02 J -13370205.90 -13370205.79 -13370205.67 0.0146 0.0099 *

Pluto -41319-05-18 11:02 J -13370204.13 -13370204.04 -13370203.91 0.0066 0.0050

Uranus -41319-08-12 23:02 J -13370117.68 -13370117.54 -13370117.39 0.0146 0.0071

Pluto -41319-08-14 12:14 J -13370116.09 -13370115.99 -13370115.85 0.0066 0.0045

Uranus -41319-11-09 05:16 J -13370029.44 -13370029.28 -13370029.13 0.0146 0.0042

Pluto -41319-11-10 13:26 J -13370028.05 -13370027.94 -13370027.79 0.0066 0.0040

Uranus -41318-02-05 11:16 J -13369941.19 -13369941.03 -13369940.86 0.0146 0.0014

Pluto -41318-02-06 15:06 J -13369940.01 -13369939.87 -13369939.72 0.0066 0.0035

Uranus -41318-05-04 17:30 J -13369852.93 -13369852.77 -13369852.61 0.0146 0.0015

Pluto -41318-05-05 16:18 J -13369851.97 -13369851.82 -13369851.66 0.0066 0.0029

Uranus -41318-07-31 23:45 J -13369764.67 -13369764.51 -13369764.35 0.0146 0.0045

Pluto -41318-08-01 17:30 J -13369763.92 -13369763.77 -13369763.60 0.0066 0.0024

Moon -41318-09-22 04:47 J -13369712.34 -13369712.30 -13369712.26 0.2657 0.2494

Earth -41318-09-22 05:45 J -13369712.30 -13369712.26 -13369712.22 0.2660 0.2491 *

Uranus -41318-10-28 05:45 J -13369676.39 -13369676.26 -13369676.11 0.0146 0.0075

Pluto -41318-10-28 18:57 J -13369675.87 -13369675.71 -13369675.54 0.0066 0.0019

Uranus -41317-01-24 12:14 J -13369588.10 -13369587.99 -13369587.87 0.0146 0.0104

Pluto -41317-01-24 20:09 J -13369587.82 -13369587.66 -13369587.49 0.0067 0.0014

Uranus -41317-04-21 18:42 J -13369499.78 -13369499.72 -13369499.65 0.0146 0.0134

Pluto -41317-04-21 21:35 J -13369499.77 -13369499.60 -13369499.43 0.0067 0.0008 *

Mars -41317-07-12 05:45 J -13369418.34 -13369418.26 -13369418.18 0.1922 0.1504

Pluto -41317-07-18 23:02 J -13369411.71 -13369411.54 -13369411.37 0.0067 0.0003

Pluto -41317-10-15 00:14 J -13369323.66 -13369323.49 -13369323.32 0.0067 0.0003

Pluto -41316-01-11 01:26 J -13369235.60 -13369235.44 -13369235.26 0.0067 0.0009

Pluto -41316-04-09 02:52 J -13369147.54 -13369147.38 -13369147.21 0.0067 0.0014

Pluto -41316-07-06 04:04 J -13369059.48 -13369059.33 -13369059.16 0.0067 0.0020

Pluto -41316-10-02 05:30 J -13368971.42 -13368971.27 -13368971.11 0.0067 0.0026

Pluto -41316-12-29 06:42 J -13368883.36 -13368883.22 -13368883.06 0.0067 0.0032

Moon -41315-03-23 07:54 J -13368799.28 -13368799.17 -13368799.06 0.2671 0.1439

Earth -41315-03-23 09:06 J -13368799.23 -13368799.12 -13368799.01 0.2671 0.1395 *

Pluto -41315-03-27 08:23 J -13368795.29 -13368795.15 -13368795.01 0.0067 0.0037

Pluto -41315-06-23 09:35 J -13368707.22 -13368707.10 -13368706.96 0.0068 0.0043

Pluto -41315-09-19 10:47 J -13368619.15 -13368619.05 -13368618.91 0.0068 0.0049

Pluto -41315-12-16 12:14 J -13368531.07 -13368530.99 -13368530.87 0.0068 0.0055

Pluto -41314-03-14 13:40 J -13368442.99 -13368442.93 -13368442.84 0.0068 0.0061

Saturn -41314-05-04 05:30 J -13368392.38 -13368392.27 -13368392.16 0.0275 0.0187

Pluto -41314-06-10 14:52 J -13368354.88 -13368354.88 -13368354.82 0.0068 0.0067

Saturn -41314-07-31 19:54 J -13368303.82 -13368303.67 -13368303.53 0.0275 0.0083

Saturn -41314-10-28 09:50 J -13368215.23 -13368215.09 -13368214.94 0.0275 0.0020

Saturn -41313-01-24 23:45 J -13368126.64 -13368126.51 -13368126.38 0.0275 0.0118

Saturn -41313-04-22 13:11 J -13368038.04 -13368037.95 -13368037.86 0.0275 0.0216

Jupiter -41313-07-17 09:21 J -13367952.25 -13367952.11 -13367951.96 0.0533 0.0111

Mars -41312-04-05 11:30 J -13367690.14 -13367690.02 -13367689.90 0.1604 0.0761

Earth -41312-10-01 13:40 J -13367511.05 -13367510.93 -13367510.82 0.2666 0.1083

Moon -41312-10-01 14:23 J -13367511.01 -13367510.90 -13367510.79 0.2669 0.1207 *

Jupiter -41308-12-05 03:50 J -13365985.44 -13365985.34 -13365985.23 0.0498 0.0362

Jupiter -41307-03-04 18:14 J -13365895.87 -13365895.74 -13365895.60 0.0495 0.0222

Mars -41306-11-08 20:09 J -13365281.72 -13365281.66 -13365281.60 0.1923 0.1704

Moon -41305-09-24 02:23 J -13364961.50 -13364961.40 -13364961.30 0.2663 0.1618

Earth -41305-09-24 03:21 J -13364961.46 -13364961.36 -13364961.25 0.2661 0.1522 *

Mars -41303-08-26 19:26 J -13364259.83 -13364259.69 -13364259.55 0.1605 0.0203

Moon -41302-03-26 07:40 J -13364048.31 -13364048.18 -13364048.05 0.2675 0.0425

Earth -41302-03-26 08:09 J -13364048.29 -13364048.16 -13364048.02 0.2669 0.0374 *

Jupiter -41301-05-05 10:47 J -13363642.19 -13363642.05 -13363641.90 0.0532 0.0060

Saturn -41299-02-12 23:16 J -13362993.62 -13362993.53 -13362993.43 0.0284 0.0218

Saturn -41299-05-12 16:04 J -13362904.97 -13362904.83 -13362904.68 0.0284 0.0102

Saturn -41299-08-09 09:21 J -13362816.27 -13362816.11 -13362815.95 0.0284 0.0018

Earth -41299-10-04 10:18 J -13362760.15 -13362760.07 -13362759.99 0.2667 0.1956

Moon -41299-10-04 11:16 J -13362760.11 -13362760.03 -13362759.95 0.2667 0.1962 *

Saturn -41299-11-06 02:38 J -13362727.52 -13362727.39 -13362727.24 0.0284 0.0139

Saturn -41298-02-02 20:38 J -13362638.70 -13362638.64 -13362638.58 0.0284 0.0263

Mars -41296-03-30 23:02 J -13361851.67 -13361851.54 -13361851.41 0.1923 0.0637

Jupiter -41296-12-21 20:09 J -13361585.81 -13361585.66 -13361585.51 0.0496 0.0075

Venus -41294-03-08 21:50 J -13361143.62 -13361143.59 -13361143.56 0.3734 0.3632

Mars -41293-01-17 03:21 J -13360829.50 -13360829.36 -13360829.23 0.1605 0.0361

Moon -41292-09-27 00:28 J -13360210.60 -13360210.48 -13360210.36 0.2669 0.0619

Earth -41292-09-27 00:42 J -13360210.59 -13360210.47 -13360210.34 0.2663 0.0581 *

Jupiter -41289-02-22 11:45 J -13359332.15 -13359332.01 -13359331.88 0.0531 0.0238

Earth -41289-03-28 07:40 J -13359297.31 -13359297.18 -13359297.05 0.2668 0.0699

Moon -41289-03-28 07:54 J -13359297.30 -13359297.17 -13359297.05 0.2674 0.0671 *

Jupiter -41289-05-22 05:02 J -13359242.36 -13359242.29 -13359242.21 0.0534 0.0461

Venus -41289-09-21 21:35 J -13359119.73 -13359119.60 -13359119.47 0.3729 0.0538

Mars -41287-08-21 02:09 J -13358421.54 -13358421.41 -13358421.28 0.1922 0.0408

Saturn -41285-09-20 07:26 J -13357660.28 -13357660.19 -13357660.09 0.0276 0.0215

Saturn -41285-12-17 22:04 J -13357571.72 -13357571.58 -13357571.44 0.0276 0.0110

Saturn -41284-03-16 12:14 J -13357483.14 -13357482.99 -13357482.84 0.0276 0.0007

Mars -41284-06-08 11:02 J -13357399.16 -13357399.04 -13357398.93 0.1606 0.0940

Saturn -41284-06-13 02:09 J -13357394.55 -13357394.41 -13357394.27 0.0276 0.0094

Saturn -41284-09-09 15:35 J -13357305.95 -13357305.85 -13357305.74 0.0276 0.0193

Jupiter -41284-10-09 21:35 J -13357275.75 -13357275.60 -13357275.45 0.0497 0.0077

Moon -41282-03-21 14:38 J -13356747.96 -13356747.89 -13356747.82 0.2669 0.2202

Earth -41282-03-21 15:50 J -13356747.91 -13356747.84 -13356747.77 0.2672 0.2222 *

Mars -41282-05-15 03:21 J -13356693.43 -13356693.36 -13356693.29 0.1605 0.1381

Venus -41279-04-07 19:11 J -13355634.73 -13355634.70 -13355634.66 0.3642 0.3457

Earth -41279-09-29 21:50 J -13355459.71 -13355459.59 -13355459.46 0.2664 0.0353

Moon -41279-09-29 22:04 J -13355459.70 -13355459.58 -13355459.46 0.2671 0.0415 *

Uranus -41278-03-24 05:30 J -13355284.32 -13355284.27 -13355284.21 0.0132 0.0123

Uranus -41278-06-20 09:35 J -13355196.19 -13355196.10 -13355196.00 0.0132 0.0103

Uranus -41278-09-16 13:40 J -13355108.04 -13355107.93 -13355107.81 0.0132 0.0083

Jupiter -41278-12-11 12:14 J -13355022.08 -13355021.99 -13355021.90 0.0530 0.0420

Uranus -41278-12-13 17:59 J -13355019.89 -13355019.75 -13355019.62 0.0132 0.0063

Mars -41277-01-11 05:45 J -13354991.34 -13354991.26 -13354991.17 0.1922 0.1412

Jupiter -41277-03-10 06:14 J -13354932.36 -13354932.24 -13354932.12 0.0533 0.0284

Uranus -41277-03-10 21:50 J -13354931.73 -13354931.59 -13354931.44 0.0132 0.0044

Uranus -41277-06-07 01:54 J -13354843.57 -13354843.42 -13354843.27 0.0132 0.0024

Uranus -41277-09-03 05:59 J -13354755.40 -13354755.25 -13354755.10 0.0132 0.0005

Uranus -41277-11-30 09:50 J -13354667.24 -13354667.09 -13354666.94 0.0132 0.0015

Uranus -41276-02-26 13:40 J -13354579.07 -13354578.93 -13354578.78 0.0132 0.0034

Earth -41276-03-31 07:26 J -13354546.28 -13354546.19 -13354546.09 0.2666 0.1797

Moon -41276-03-31 08:23 J -13354546.24 -13354546.15 -13354546.06 0.2671 0.1942 *

Uranus -41276-05-25 17:30 J -13354490.90 -13354490.77 -13354490.63 0.0132 0.0053

Uranus -41276-08-21 21:21 J -13354402.73 -13354402.61 -13354402.48 0.0132 0.0072

Uranus -41276-11-18 01:11 J -13354314.55 -13354314.45 -13354314.34 0.0132 0.0091

Uranus -41275-02-14 05:02 J -13354226.37 -13354226.29 -13354226.21 0.0132 0.0109

Uranus -41275-05-13 08:38 J -13354138.16 -13354138.14 -13354138.10 0.0132 0.0128

Mars -41275-10-29 18:28 J -13353968.77 -13353968.73 -13353968.69 0.1607 0.1529

Venus -41274-10-22 13:26 J -13353611.05 -13353610.94 -13353610.83 0.3647 0.0792

Mars -41273-10-04 11:30 J -13353263.13 -13353263.02 -13353262.90 0.1605 0.0841

Jupiter -41272-07-28 23:45 J -13352965.65 -13352965.51 -13352965.37 0.0497 0.0220

Moon -41272-09-22 10:04 J -13352910.12 -13352910.08 -13352910.03 0.2659 0.2464

Earth -41272-09-22 11:02 J -13352910.09 -13352910.04 -13352909.97 0.2660 0.2319 *

Jupiter -41272-10-26 14:23 J -13352875.99 -13352875.90 -13352875.79 0.0494 0.0370

Saturn -41270-07-03 02:23 J -13352261.48 -13352261.40 -13352261.32 0.0283 0.0236

Saturn -41270-09-29 18:57 J -13352172.85 -13352172.71 -13352172.56 0.0284 0.0122

Saturn -41270-12-27 11:59 J -13352084.16 -13352084.00 -13352083.84 0.0284 0.0005

Moon -41269-03-23 13:40 J -13351997.05 -13351996.93 -13351996.82 0.2673 0.1350

Earth -41269-03-23 14:38 J -13351997.01 -13351996.89 -13351996.78 0.2671 0.1219 *

Saturn -41269-03-25 05:30 J -13351995.42 -13351995.27 -13351995.12 0.0284 0.0118

Saturn -41269-06-21 23:16 J -13351906.61 -13351906.53 -13351906.44 0.0284 0.0241

Neptune -41269-12-09 09:50 J -13351736.12 -13351736.09 -13351736.02 0.0089 0.0084

Neptune -41268-03-07 11:59 J -13351648.06 -13351648.00 -13351647.91 0.0089 0.0077

Venus -41268-05-07 07:26 J -13351587.29 -13351587.19 -13351587.09 0.3651 0.1800

Neptune -41268-06-03 14:09 J -13351559.99 -13351559.91 -13351559.81 0.0089 0.0070

Neptune -41268-08-30 16:04 J -13351471.92 -13351471.83 -13351471.71 0.0089 0.0063

Neptune -41268-11-26 18:14 J -13351383.85 -13351383.74 -13351383.61 0.0089 0.0056

Neptune -41267-02-22 20:09 J -13351295.77 -13351295.66 -13351295.52 0.0089 0.0049

Neptune -41267-05-21 22:18 J -13351207.70 -13351207.57 -13351207.42 0.0089 0.0042

Neptune -41267-08-18 00:28 J -13351119.61 -13351119.48 -13351119.33 0.0089 0.0035

Neptune -41267-11-14 02:38 J -13351031.53 -13351031.39 -13351031.24 0.0089 0.0028

Neptune -41266-02-10 04:47 J -13350943.45 -13350943.30 -13350943.14 0.0089 0.0020

Neptune -41266-05-09 06:57 J -13350855.36 -13350855.21 -13350855.05 0.0089 0.0013

Mars -41266-05-09 20:23 J -13350854.69 -13350854.65 -13350854.60 0.1923 0.1821

Neptune -41266-08-05 09:06 J -13350767.28 -13350767.12 -13350766.96 0.0089 0.0006

Earth -41266-10-02 18:42 J -13350708.83 -13350708.72 -13350708.61 0.2666 0.1239

Moon -41266-10-02 19:40 J -13350708.79 -13350708.68 -13350708.57 0.2669 0.1232 *

Neptune -41266-11-01 11:16 J -13350679.19 -13350679.03 -13350678.88 0.0089 0.0002

Jupiter -41266-12-28 06:57 J -13350622.35 -13350622.21 -13350622.06 0.0533 0.0106

Neptune -41265-01-28 13:11 J -13350591.10 -13350590.95 -13350590.79 0.0089 0.0009

Neptune -41265-04-25 15:21 J -13350503.01 -13350502.86 -13350502.70 0.0089 0.0016

Neptune -41265-07-22 17:30 J -13350414.92 -13350414.77 -13350414.61 0.0089 0.0023

Neptune -41265-10-18 19:40 J -13350326.82 -13350326.68 -13350326.53 0.0089 0.0031

Neptune -41264-01-14 21:50 J -13350238.73 -13350238.59 -13350238.44 0.0089 0.0038

Neptune -41264-04-12 23:59 J -13350150.63 -13350150.50 -13350150.36 0.0089 0.0045

Neptune -41264-07-10 02:09 J -13350062.53 -13350062.41 -13350062.27 0.0089 0.0053

Neptune -41264-10-06 04:18 J -13349974.42 -13349974.32 -13349974.19 0.0089 0.0060

Neptune -41263-01-02 06:28 J -13349886.32 -13349886.23 -13349886.11 0.0089 0.0068

Mars -41263-02-24 19:40 J -13349832.81 -13349832.68 -13349832.54 0.1605 0.0296

Neptune -41263-03-31 08:52 J -13349798.21 -13349798.13 -13349798.04 0.0089 0.0075

Neptune -41263-06-27 10:47 J -13349710.09 -13349710.05 -13349709.97 0.0089 0.0083

Jupiter -41260-05-17 02:09 J -13348655.51 -13348655.41 -13348655.30 0.0498 0.0358

Jupiter -41260-08-14 16:33 J -13348565.94 -13348565.81 -13348565.67 0.0495 0.0226

Moon -41259-09-25 07:54 J -13348159.28 -13348159.17 -13348159.07 0.2664 0.1385

Earth -41259-09-25 08:38 J -13348159.24 -13348159.14 -13348159.03 0.2661 0.1356 *

Mars -41257-09-28 23:16 J -13347424.65 -13347424.53 -13347424.41 0.1923 0.0743

Moon -41256-03-26 13:11 J -13347246.08 -13347245.95 -13347245.82 0.2675 0.0210

Earth -41256-03-26 13:54 J -13347246.06 -13347245.92 -13347245.79 0.2669 0.0189 *

Saturn -41255-02-07 08:52 J -13346928.20 -13346928.13 -13346928.06 0.0275 0.0244

Saturn -41255-05-06 23:16 J -13346839.65 -13346839.53 -13346839.39 0.0275 0.0140

Saturn -41255-08-03 13:40 J -13346751.08 -13346750.93 -13346750.78 0.0275 0.0036

Saturn -41255-10-31 03:35 J -13346662.49 -13346662.35 -13346662.20 0.0275 0.0065

Saturn -41254-01-27 17:16 J -13346573.89 -13346573.78 -13346573.66 0.0275 0.0164

Saturn -41254-04-26 06:42 J -13346485.26 -13346485.22 -13346485.17 0.0275 0.0260

Mars -41254-07-18 03:35 J -13346402.49 -13346402.35 -13346402.21 0.1605 0.0277

Jupiter -41254-10-16 08:38 J -13346312.29 -13346312.14 -13346312.00 0.0532 0.0066

Earth -41253-10-04 15:21 J -13345957.93 -13345957.86 -13345957.78 0.2667 0.2105

Moon -41253-10-04 16:18 J -13345957.89 -13345957.82 -13345957.76 0.2667 0.2231 *

Jupiter -41248-06-02 18:14 J -13344255.89 -13344255.74 -13344255.58 0.0496 0.0079

Mars -41247-02-19 02:23 J -13343994.53 -13343994.40 -13343994.27 0.1922 0.0307

Moon -41246-09-28 05:45 J -13343408.38 -13343408.26 -13343408.13 0.2670 0.0450

Earth -41246-09-28 05:59 J -13343408.37 -13343408.25 -13343408.12 0.2663 0.0420 *

Mars -41245-12-07 11:16 J -13342972.15 -13342972.03 -13342971.91 0.1606 0.0856

Earth -41243-03-29 13:26 J -13342495.07 -13342494.94 -13342494.82 0.2667 0.0890

Moon -41243-03-29 13:40 J -13342495.05 -13342494.93 -13342494.81 0.2674 0.0930 *

Mars -41243-11-13 03:35 J -13342266.40 -13342266.35 -13342266.29 0.1605 0.1459

Jupiter -41242-08-04 09:50 J -13342002.22 -13342002.09 -13342001.95 0.0531 0.0236

Jupiter -41242-11-02 03:35 J -13341912.42 -13341912.35 -13341912.28 0.0535 0.0466

Saturn -41241-11-19 01:54 J -13341529.45 -13341529.42 -13341529.39 0.0284 0.0278

Saturn -41240-02-15 18:28 J -13341440.86 -13341440.73 -13341440.61 0.0284 0.0164

Saturn -41240-05-15 11:16 J -13341352.19 -13341352.03 -13341351.87 0.0284 0.0047

Saturn -41240-08-12 04:33 J -13341263.47 -13341263.31 -13341263.16 0.0284 0.0073

Saturn -41240-11-08 22:04 J -13341174.69 -13341174.58 -13341174.46 0.0284 0.0196

Mars -41238-07-12 05:59 J -13340564.34 -13340564.25 -13340564.15 0.1921 0.1307

Venus -41238-10-13 21:21 J -13340470.71 -13340470.61 -13340470.51 0.3732 0.2156

Jupiter -41236-03-21 20:09 J -13339945.81 -13339945.66 -13339945.50 0.0496 0.0070

Moon -41236-03-21 20:09 J -13339945.73 -13339945.66 -13339945.58 0.2669 0.2193 *

Earth -41236-03-21 21:21 J -13339945.70 -13339945.61 -13339945.53 0.2672 0.2044 *

Uranus -41235-03-09 18:14 J -13339592.82 -13339592.74 -13339592.64 0.0146 0.0120

Mars -41235-04-29 18:42 J -13339541.78 -13339541.72 -13339541.66 0.1607 0.1443

Uranus -41235-06-06 00:14 J -13339504.61 -13339504.49 -13339504.35 0.0146 0.0092

Uranus -41235-09-02 06:14 J -13339416.38 -13339416.24 -13339416.08 0.0146 0.0064

Uranus -41235-11-29 12:28 J -13339328.14 -13339327.98 -13339327.82 0.0146 0.0035

Uranus -41234-02-25 18:42 J -13339239.89 -13339239.72 -13339239.56 0.0146 0.0006

Uranus -41234-05-25 00:42 J -13339151.63 -13339151.47 -13339151.30 0.0146 0.0023

Uranus -41234-08-21 06:57 J -13339063.36 -13339063.21 -13339063.05 0.0146 0.0053

Uranus -41234-11-17 13:11 J -13338975.08 -13338974.95 -13338974.81 0.0146 0.0082

Uranus -41233-02-13 19:40 J -13338886.79 -13338886.68 -13338886.57 0.0147 0.0112

Mars -41233-04-04 11:59 J -13338836.12 -13338836.00 -13338835.89 0.1605 0.0922

Uranus -41233-05-12 01:54 J -13338798.45 -13338798.42 -13338798.37 0.0147 0.0142

Earth -41233-09-30 03:06 J -13338657.49 -13338657.37 -13338657.25 0.2664 0.0505

Moon -41233-09-30 03:35 J -13338657.47 -13338657.35 -13338657.23 0.2670 0.0503 *

Pluto -41233-10-01 01:26 J -13338656.46 -13338656.44 -13338656.39 0.0079 0.0076

Pluto -41233-12-28 03:06 J -13338568.44 -13338568.37 -13338568.29 0.0079 0.0068

Pluto -41232-03-26 04:33 J -13338480.40 -13338480.31 -13338480.20 0.0079 0.0060

Venus -41232-04-28 21:06 J -13338446.72 -13338446.62 -13338446.51 0.3727 0.2075

Pluto -41232-06-22 05:59 J -13338392.35 -13338392.25 -13338392.12 0.0079 0.0052

Pluto -41232-09-18 07:40 J -13338304.30 -13338304.18 -13338304.05 0.0078 0.0044

Pluto -41232-12-15 09:06 J -13338216.25 -13338216.12 -13338215.98 0.0078 0.0036

Pluto -41231-03-13 10:33 J -13338128.19 -13338128.06 -13338127.91 0.0078 0.0028

Pluto -41231-06-09 11:59 J -13338040.14 -13338040.00 -13338039.85 0.0078 0.0020

Pluto -41231-09-05 13:40 J -13337952.08 -13337951.93 -13337951.79 0.0078 0.0012

Pluto -41231-12-02 15:06 J -13337864.02 -13337863.87 -13337863.73 0.0078 0.0005

Pluto -41230-02-28 16:18 J -13337775.96 -13337775.82 -13337775.67 0.0078 0.0004

Earth -41230-04-01 13:11 J -13337744.04 -13337743.95 -13337743.86 0.2666 0.1991

Moon -41230-04-01 14:09 J -13337744.00 -13337743.91 -13337743.82 0.2670 0.1989 *

Jupiter -41230-05-23 10:47 J -13337692.14 -13337692.05 -13337691.96 0.0530 0.0413

Pluto -41230-05-27 17:45 J -13337687.90 -13337687.76 -13337687.61 0.0078 0.0011

Jupiter -41230-08-21 04:47 J -13337602.42 -13337602.30 -13337602.18 0.0533 0.0292

Pluto -41230-08-23 19:11 J -13337599.84 -13337599.70 -13337599.56 0.0077 0.0018

Pluto -41230-11-19 20:23 J -13337511.78 -13337511.65 -13337511.50 0.0077 0.0026

Pluto -41229-02-15 21:35 J -13337423.72 -13337423.60 -13337423.45 0.0077 0.0034

Pluto -41229-05-13 23:02 J -13337335.65 -13337335.54 -13337335.40 0.0077 0.0040

Pluto -41229-08-10 00:28 J -13337247.59 -13337247.48 -13337247.36 0.0077 0.0047

Pluto -41229-11-06 01:54 J -13337159.52 -13337159.42 -13337159.32 0.0077 0.0054

Pluto -41228-02-02 02:52 J -13337071.45 -13337071.38 -13337071.28 0.0077 0.0062

Pluto -41228-05-01 04:04 J -13336983.37 -13336983.33 -13336983.25 0.0076 0.0069

Pluto -41228-07-28 05:30 J -13336895.28 -13336895.27 -13336895.23 0.0076 0.0075

Mars -41227-11-07 20:38 J -13336427.65 -13336427.64 -13336427.63 0.1923 0.1915

Saturn -41226-06-27 10:33 J -13336196.07 -13336196.06 -13336196.05 0.0276 0.0274

Moon -41226-09-23 15:21 J -13336107.93 -13336107.86 -13336107.78 0.2660 0.2142

Earth -41226-09-23 16:33 J -13336107.88 -13336107.81 -13336107.74 0.2660 0.2146 *

Saturn -41226-09-24 01:11 J -13336107.57 -13336107.45 -13336107.33 0.0276 0.0168

Saturn -41226-12-21 15:35 J -13336019.00 -13336018.85 -13336018.70 0.0276 0.0064

Saturn -41225-03-19 05:45 J -13335930.41 -13335930.26 -13335930.11 0.0276 0.0038

Saturn -41225-06-15 19:26 J -13335841.81 -13335841.69 -13335841.56 0.0276 0.0138

Saturn -41225-09-12 09:06 J -13335753.20 -13335753.12 -13335753.05 0.0276 0.0236

Jupiter -41224-01-07 21:50 J -13335635.73 -13335635.59 -13335635.46 0.0498 0.0221

Jupiter -41224-04-07 12:28 J -13335546.08 -13335545.98 -13335545.87 0.0495 0.0369

Mars -41224-08-25 19:54 J -13335405.80 -13335405.67 -13335405.53 0.1605 0.0370

Moon -41223-03-24 19:11 J -13335194.82 -13335194.70 -13335194.58 0.2674 0.1027

Earth -41223-03-24 20:09 J -13335194.78 -13335194.66 -13335194.54 0.2670 0.1038 *

Venus -41223-11-12 17:30 J -13334961.86 -13334961.77 -13334961.69 0.3644 0.2441

Earth -41220-10-02 23:59 J -13333906.60 -13333906.50 -13333906.40 0.2666 0.1392

Moon -41220-10-03 00:57 J -13333906.56 -13333906.46 -13333906.36 0.2669 0.1523 *

Jupiter -41218-06-09 05:45 J -13333292.41 -13333292.26 -13333292.12 0.0532 0.0114

Mars -41217-03-29 23:16 J -13332997.65 -13332997.53 -13332997.41 0.1923 0.0835

Venus -41217-05-28 11:30 J -13332938.13 -13332938.02 -13332937.91 0.3648 0.0209

Mars -41214-01-16 03:50 J -13331975.48 -13331975.34 -13331975.20 0.1605 0.0193

Moon -41213-09-25 13:11 J -13331357.05 -13331356.95 -13331356.84 0.2665 0.1302

Earth -41213-09-25 14:09 J -13331357.03 -13331356.91 -13331356.80 0.2662 0.1187 *

Jupiter -41213-10-26 23:45 J -13331325.61 -13331325.51 -13331325.40 0.0498 0.0363

Jupiter -41212-01-24 14:23 J -13331236.04 -13331235.90 -13331235.76 0.0495 0.0222

Venus -41212-12-12 05:30 J -13330914.34 -13330914.27 -13330914.20 0.3652 0.2775

Saturn -41211-07-05 21:21 J -13330708.72 -13330708.61 -13330708.48 0.0283 0.0182

Saturn -41211-10-02 14:23 J -13330620.06 -13330619.90 -13330619.75 0.0283 0.0065

Saturn -41211-12-30 07:26 J -13330531.34 -13330531.19 -13330531.03 0.0284 0.0055

Moon -41210-03-27 18:57 J -13330443.85 -13330443.71 -13330443.58 0.2674 0.0095

Earth -41210-03-27 19:26 J -13330443.83 -13330443.69 -13330443.56 0.2669 0.0041 *

Saturn -41210-03-29 01:11 J -13330442.58 -13330442.45 -13330442.33 0.0284 0.0177

Mars -41208-08-20 02:52 J -13329567.52 -13329567.38 -13329567.25 0.1922 0.0205

Earth -41207-10-05 20:38 J -13329155.70 -13329155.64 -13329155.58 0.2668 0.2261

Moon -41207-10-05 21:21 J -13329155.67 -13329155.61 -13329155.54 0.2665 0.2243 *

Jupiter -41206-03-28 06:14 J -13328982.39 -13328982.24 -13328982.09 0.0532 0.0072

Mars -41205-06-07 11:30 J -13328545.14 -13328545.02 -13328544.89 0.1606 0.0767

Mars -41203-05-14 03:50 J -13327839.37 -13327839.34 -13327839.30 0.1605 0.1541

Jupiter -41201-11-12 16:33 J -13326925.96 -13326925.81 -13326925.66 0.0496 0.0080

Moon -41200-09-28 11:16 J -13326606.16 -13326606.03 -13326605.91 0.2670 0.0255

Earth -41200-09-28 11:16 J -13326606.15 -13326606.03 -13326605.90 0.2663 0.0268 *

Mars -41198-01-10 06:14 J -13326137.34 -13326137.24 -13326137.14 0.1921 0.1208

Earth -41197-03-29 18:57 J -13325692.83 -13325692.71 -13325692.59 0.2667 0.1078

Moon -41197-03-29 19:26 J -13325692.81 -13325692.69 -13325692.57 0.2674 0.1117 *

Saturn -41196-02-10 02:52 J -13325375.48 -13325375.38 -13325375.27 0.0275 0.0195

Saturn -41196-05-09 17:30 J -13325286.91 -13325286.77 -13325286.63 0.0275 0.0090

Saturn -41196-08-06 07:40 J -13325198.33 -13325198.18 -13325198.03 0.0275 0.0013

Mars -41196-10-28 18:57 J -13325114.78 -13325114.71 -13325114.63 0.1607 0.1357

Saturn -41196-11-02 21:21 J -13325109.74 -13325109.61 -13325109.47 0.0275 0.0112

Saturn -41195-01-30 11:02 J -13325021.13 -13325021.04 -13325020.95 0.0275 0.0210

Jupiter -41194-01-14 07:26 J -13324672.32 -13324672.19 -13324672.05 0.0531 0.0244

Uranus -41194-04-13 12:42 J -13324583.03 -13324582.97 -13324582.89 0.0132 0.0117

Jupiter -41194-04-14 01:11 J -13324582.52 -13324582.45 -13324582.38 0.0534 0.0457

Uranus -41194-07-10 16:47 J -13324494.89 -13324494.80 -13324494.69 0.0132 0.0097

Mars -41194-10-04 12:14 J -13324409.10 -13324408.99 -13324408.89 0.1605 0.1004

Uranus -41194-10-06 20:52 J -13324406.74 -13324406.63 -13324406.50 0.0132 0.0077

Uranus -41193-01-03 00:57 J -13324318.59 -13324318.46 -13324318.32 0.0132 0.0058

Uranus -41193-03-31 05:16 J -13324230.43 -13324230.28 -13324230.14 0.0132 0.0038

Uranus -41193-06-27 09:06 J -13324142.27 -13324142.12 -13324141.97 0.0132 0.0018

Uranus -41193-09-23 13:11 J -13324054.10 -13324053.95 -13324053.80 0.0132 0.0002

Uranus -41193-12-20 17:02 J -13323965.94 -13323965.79 -13323965.64 0.0132 0.0021

Uranus -41192-03-18 20:52 J -13323877.77 -13323877.63 -13323877.48 0.0132 0.0040

Uranus -41192-06-15 00:42 J -13323789.60 -13323789.47 -13323789.33 0.0132 0.0059

Uranus -41192-09-11 04:33 J -13323701.42 -13323701.31 -13323701.18 0.0132 0.0078

Uranus -41192-12-08 08:23 J -13323613.24 -13323613.15 -13323613.04 0.0132 0.0097

Uranus -41191-03-06 12:14 J -13323525.06 -13323524.99 -13323524.92 0.0132 0.0115

Moon -41190-03-23 01:40 J -13323143.52 -13323143.43 -13323143.34 0.2670 0.1866

Earth -41190-03-23 02:38 J -13323143.48 -13323143.39 -13323143.29 0.2672 0.1873 *

Jupiter -41189-08-31 18:28 J -13322615.88 -13322615.73 -13322615.58 0.0496 0.0067

Earth -41187-10-01 08:23 J -13321855.27 -13321855.15 -13321855.03 0.2665 0.0665

Moon -41187-10-01 09:06 J -13321855.24 -13321855.12 -13321855.01 0.2670 0.0714 *

Neptune -41186-12-11 01:26 J -13321419.48 -13321419.44 -13321419.37 0.0088 0.0083

Neptune -41185-03-08 03:35 J -13321331.41 -13321331.35 -13321331.24 0.0088 0.0076

Neptune -41185-06-04 06:14 J -13321243.34 -13321243.24 -13321243.13 0.0088 0.0068

Neptune -41185-08-31 08:23 J -13321155.26 -13321155.15 -13321155.02 0.0088 0.0060

Neptune -41185-11-27 10:47 J -13321067.18 -13321067.05 -13321066.92 0.0088 0.0053

Neptune -41184-02-23 12:57 J -13320979.09 -13320978.96 -13320978.82 0.0088 0.0045

Mars -41184-02-23 20:09 J -13320978.79 -13320978.66 -13320978.52 0.1605 0.0452

Earth -41184-04-01 18:57 J -13320941.79 -13320941.71 -13320941.64 0.2665 0.2189

Moon -41184-04-01 19:54 J -13320941.74 -13320941.67 -13320941.60 0.2668 0.2305 *

Neptune -41184-05-22 15:06 J -13320891.01 -13320890.87 -13320890.72 0.0088 0.0038

Neptune -41184-08-18 17:30 J -13320802.92 -13320802.77 -13320802.62 0.0088 0.0031

Neptune -41184-11-14 19:40 J -13320714.83 -13320714.68 -13320714.52 0.0088 0.0023

Neptune -41183-02-10 21:50 J -13320626.74 -13320626.59 -13320626.43 0.0088 0.0016

Neptune -41183-05-09 23:59 J -13320538.65 -13320538.50 -13320538.34 0.0088 0.0009

Neptune -41183-08-06 02:23 J -13320450.56 -13320450.40 -13320450.24 0.0088 0.0002

Neptune -41183-11-02 04:33 J -13320362.47 -13320362.31 -13320362.15 0.0088 0.0006

Jupiter -41183-11-02 08:52 J -13320362.22 -13320362.13 -13320362.04 0.0530 0.0415 *

Neptune -41182-01-29 06:42 J -13320274.38 -13320274.22 -13320274.07 0.0088 0.0013

Jupiter -41182-01-31 02:52 J -13320272.50 -13320272.38 -13320272.26 0.0534 0.0293

Neptune -41182-04-27 08:38 J -13320186.29 -13320186.14 -13320185.98 0.0088 0.0020

Neptune -41182-07-24 10:47 J -13320098.19 -13320098.05 -13320097.89 0.0088 0.0027

Neptune -41182-10-20 12:57 J -13320010.10 -13320009.96 -13320009.81 0.0088 0.0034

Saturn -41182-11-22 20:52 J -13319976.72 -13319976.63 -13319976.53 0.0284 0.0223

Neptune -41181-01-16 14:52 J -13319922.01 -13319921.88 -13319921.73 0.0088 0.0042

Saturn -41181-02-19 13:40 J -13319888.08 -13319887.93 -13319887.79 0.0284 0.0108

Neptune -41181-04-13 17:02 J -13319833.91 -13319833.79 -13319833.65 0.0088 0.0048

Saturn -41181-05-18 06:42 J -13319799.38 -13319799.22 -13319799.06 0.0284 0.0011

Venus -41181-05-19 20:52 J -13319797.76 -13319797.63 -13319797.50 0.3731 0.0671

Neptune -41181-07-10 19:11 J -13319745.81 -13319745.70 -13319745.57 0.0088 0.0055

Saturn -41181-08-14 23:59 J -13319710.64 -13319710.50 -13319710.35 0.0284 0.0132

Neptune -41181-10-06 21:06 J -13319657.72 -13319657.62 -13319657.50 0.0088 0.0063

Saturn -41181-11-11 17:59 J -13319621.82 -13319621.75 -13319621.68 0.0284 0.0255

Neptune -41180-01-02 23:16 J -13319569.62 -13319569.53 -13319569.42 0.0088 0.0069

Neptune -41180-04-01 01:11 J -13319481.51 -13319481.45 -13319481.36 0.0088 0.0077

Neptune -41180-06-28 03:35 J -13319393.40 -13319393.35 -13319393.30 0.0088 0.0083

Moon -41180-09-23 20:52 J -13319305.71 -13319305.63 -13319305.56 0.2660 0.2128

Earth -41180-09-23 21:50 J -13319305.67 -13319305.59 -13319305.50 0.2660 0.1974 *

Mars -41178-09-28 23:30 J -13318570.63 -13318570.52 -13318570.40 0.1923 0.0945

Moon -41177-03-25 00:42 J -13318392.59 -13318392.47 -13318392.35 0.2674 0.1009

Earth -41177-03-25 01:40 J -13318392.55 -13318392.43 -13318392.30 0.2670 0.0855 *

Jupiter -41177-06-19 20:23 J -13318305.79 -13318305.65 -13318305.51 0.0497 0.0212

Jupiter -41177-09-17 11:02 J -13318216.14 -13318216.04 -13318215.94 0.0494 0.0376

Venus -41176-12-03 20:52 J -13317773.66 -13317773.63 -13317773.60 0.3726 0.3624

Mars -41175-07-17 04:04 J -13317548.47 -13317548.33 -13317548.19 0.1605 0.0111

Earth -41174-10-04 05:16 J -13317104.38 -13317104.28 -13317104.18 0.2666 0.1550

Moon -41174-10-04 05:59 J -13317104.34 -13317104.25 -13317104.15 0.2669 0.1562 *

Jupiter -41171-11-19 04:04 J -13315962.47 -13315962.33 -13315962.18 0.0532 0.0119

Mars -41168-02-18 02:38 J -13315140.52 -13315140.39 -13315140.25 0.1922 0.0118

Saturn -41167-06-30 04:33 J -13314643.40 -13314643.31 -13314643.22 0.0276 0.0225

Saturn -41167-09-26 19:11 J -13314554.84 -13314554.70 -13314554.57 0.0276 0.0120

Moon -41167-09-26 18:42 J -13314554.83 -13314554.72 -13314554.60 0.2667 0.0995 *

Earth -41167-09-26 19:26 J -13314554.81 -13314554.69 -13314554.57 0.2662 0.1017 *

Saturn -41167-12-24 09:21 J -13314466.26 -13314466.11 -13314465.96 0.0276 0.0017

Saturn -41166-03-22 23:16 J -13314377.67 -13314377.53 -13314377.38 0.0276 0.0086

Saturn -41166-06-19 12:57 J -13314289.06 -13314288.96 -13314288.85 0.0276 0.0184

Venus -41166-06-19 15:35 J -13314288.96 -13314288.85 -13314288.75 0.3645 0.1430 *

Mars -41166-12-07 11:45 J -13314118.13 -13314118.01 -13314117.88 0.1606 0.0685

Jupiter -41165-04-07 21:50 J -13313995.69 -13313995.59 -13313995.49 0.0498 0.0364

Jupiter -41165-07-06 12:14 J -13313906.13 -13313905.99 -13313905.85 0.0495 0.0221

Moon -41164-03-28 00:42 J -13313641.60 -13313641.47 -13313641.34 0.2674 0.0231

Earth -41164-03-28 00:57 J -13313641.59 -13313641.46 -13313641.32 0.2668 0.0195 *

Earth -41161-10-06 01:40 J -13312353.47 -13312353.43 -13312353.38 0.2668 0.2411

Moon -41161-10-06 02:38 J -13312353.43 -13312353.39 -13312353.36 0.2664 0.2526 *

Venus -41160-01-02 09:35 J -13312265.21 -13312265.10 -13312264.99 0.3649 0.1191

Mars -41159-07-11 06:28 J -13311710.34 -13311710.23 -13311710.12 0.1922 0.1108

Jupiter -41159-09-07 05:02 J -13311652.44 -13311652.29 -13311652.15 0.0531 0.0062

Mars -41156-04-28 19:26 J -13310687.78 -13310687.69 -13310687.61 0.1607 0.1268

Mars -41154-04-04 12:28 J -13309982.08 -13309981.98 -13309981.88 0.1605 0.1083

Moon -41154-09-29 16:33 J -13309803.93 -13309803.81 -13309803.69 0.2670 0.0134

Earth -41154-09-29 16:33 J -13309803.93 -13309803.81 -13309803.68 0.2663 0.0130 *

Jupiter -41153-04-24 14:09 J -13309596.06 -13309595.91 -13309595.76 0.0496 0.0074

Saturn -41152-04-11 00:14 J -13309244.57 -13309244.49 -13309244.41 0.0283 0.0240

Saturn -41152-07-08 16:47 J -13309155.94 -13309155.80 -13309155.66 0.0283 0.0125

Saturn -41152-10-05 09:50 J -13309067.25 -13309067.09 -13309066.93 0.0284 0.0008

Uranus -41152-12-31 19:40 J -13308979.72 -13308979.68 -13308979.63 0.0146 0.0140

Saturn -41151-01-02 03:06 J -13308978.52 -13308978.37 -13308978.22 0.0284 0.0114

Uranus -41151-03-30 01:26 J -13308891.53 -13308891.44 -13308891.32 0.0146 0.0113

Earth -41151-03-31 00:42 J -13308890.59 -13308890.47 -13308890.36 0.2667 0.1273

Moon -41151-03-31 00:57 J -13308890.57 -13308890.46 -13308890.34 0.2673 0.1290 *

Saturn -41151-03-31 20:52 J -13308889.71 -13308889.63 -13308889.54 0.0284 0.0237

Uranus -41151-06-26 07:40 J -13308803.31 -13308803.18 -13308803.04 0.0146 0.0084

Uranus -41151-09-22 13:40 J -13308715.08 -13308714.93 -13308714.78 0.0146 0.0056

Uranus -41151-12-19 19:40 J -13308626.84 -13308626.68 -13308626.51 0.0146 0.0027

Uranus -41150-03-18 01:54 J -13308538.58 -13308538.42 -13308538.26 0.0146 0.0002

Uranus -41150-06-14 07:54 J -13308450.32 -13308450.17 -13308450.00 0.0146 0.0032

Uranus -41150-09-10 14:09 J -13308362.05 -13308361.91 -13308361.75 0.0147 0.0061

Uranus -41150-12-07 20:38 J -13308273.77 -13308273.64 -13308273.51 0.0147 0.0090

Uranus -41149-03-05 02:52 J -13308185.47 -13308185.38 -13308185.28 0.0147 0.0120

Jupiter -41147-06-26 05:02 J -13307342.42 -13307342.29 -13307342.15 0.0531 0.0251

Jupiter -41147-09-23 22:47 J -13307252.63 -13307252.55 -13307252.47 0.0534 0.0450

Mars -41145-08-24 20:23 J -13306551.78 -13306551.65 -13306551.52 0.1605 0.0538

Moon -41144-03-23 07:11 J -13306341.29 -13306341.20 -13306341.11 0.2672 0.1818

Earth -41144-03-23 08:09 J -13306341.26 -13306341.16 -13306341.06 0.2671 0.1692 *

Jupiter -41141-02-11 16:33 J -13305285.96 -13305285.81 -13305285.66 0.0497 0.0066

Earth -41141-10-01 13:40 J -13305053.05 -13305052.93 -13305052.81 0.2665 0.0822

Moon -41141-10-01 14:23 J -13305053.02 -13305052.90 -13305052.79 0.2670 0.0891 *

Mars -41138-03-29 23:59 J -13304143.62 -13304143.50 -13304143.39 0.1923 0.1054

Earth -41138-04-03 00:28 J -13304139.53 -13304139.48 -13304139.42 0.2665 0.2382

Moon -41138-04-03 01:40 J -13304139.48 -13304139.43 -13304139.38 0.2667 0.2452 *

Saturn -41138-11-17 06:42 J -13303911.28 -13303911.22 -13303911.16 0.0275 0.0250

Saturn -41137-02-13 21:21 J -13303822.74 -13303822.61 -13303822.48 0.0275 0.0144

Saturn -41137-05-12 11:30 J -13303734.16 -13303734.02 -13303733.87 0.0275 0.0041

Saturn -41137-08-09 01:40 J -13303645.58 -13303645.43 -13303645.29 0.0275 0.0061

Saturn -41137-11-05 15:21 J -13303556.98 -13303556.86 -13303556.74 0.0275 0.0160

Saturn -41136-02-02 04:47 J -13303468.35 -13303468.30 -13303468.25 0.0275 0.0257

Mars -41135-01-15 04:18 J -13303121.46 -13303121.32 -13303121.18 0.1605 0.0051

Jupiter -41135-04-14 06:14 J -13303032.33 -13303032.24 -13303032.15 0.0530 0.0426

Jupiter -41135-07-13 00:14 J -13302942.61 -13302942.49 -13302942.36 0.0533 0.0283

Moon -41134-09-25 02:09 J -13302503.50 -13302503.41 -13302503.31 0.2661 0.1805

Earth -41134-09-25 03:06 J -13302503.46 -13302503.37 -13302503.27 0.2660 0.1807 *

Moon -41131-03-26 06:14 J -13301590.36 -13301590.24 -13301590.11 0.2674 0.0663

Earth -41131-03-26 07:11 J -13301590.33 -13301590.20 -13301590.07 0.2670 0.0679 *

Venus -41130-06-10 20:52 J -13301148.69 -13301148.63 -13301148.58 0.3735 0.3318

Jupiter -41130-11-30 18:28 J -13300975.87 -13300975.73 -13300975.59 0.0497 0.0210

Jupiter -41129-02-28 09:06 J -13300886.22 -13300886.12 -13300886.02 0.0494 0.0377

Mars -41129-08-19 03:06 J -13300713.51 -13300713.37 -13300713.24 0.1922 0.0062

Earth -41128-10-04 10:33 J -13300302.16 -13300302.06 -13300301.97 0.2667 0.1708

Moon -41128-10-04 11:16 J -13300302.12 -13300302.03 -13300301.94 0.2668 0.1799 *

Mars -41126-06-07 11:59 J -13299691.13 -13299691.00 -13299690.87 0.1606 0.0601

Venus -41125-12-24 20:23 J -13299124.78 -13299124.65 -13299124.52 0.3730 0.0829

Jupiter -41123-05-01 02:09 J -13298632.56 -13298632.41 -13298632.27 0.0533 0.0117

Saturn -41123-08-28 23:45 J -13298512.52 -13298512.51 -13298512.48 0.0284 0.0281

Saturn -41123-11-25 16:18 J -13298423.95 -13298423.82 -13298423.69 0.0284 0.0167

Saturn -41122-02-22 09:06 J -13298335.27 -13298335.12 -13298334.96 0.0284 0.0050

Saturn -41122-05-22 02:23 J -13298246.56 -13298246.40 -13298246.25 0.0284 0.0070

Saturn -41122-08-18 19:54 J -13298157.79 -13298157.67 -13298157.55 0.0284 0.0192

Moon -41121-09-27 00:14 J -13297752.61 -13297752.49 -13297752.38 0.2668 0.0975

Earth -41121-09-27 00:42 J -13297752.59 -13297752.47 -13297752.35 0.2662 0.0849 *

Mars -41119-01-09 06:28 J -13297283.34 -13297283.23 -13297283.11 0.1921 0.1013

Moon -41118-03-29 06:28 J -13296839.36 -13296839.23 -13296839.10 0.2675 0.0298

Earth -41118-03-29 06:28 J -13296839.36 -13296839.23 -13296839.09 0.2668 0.0384 *

Jupiter -41118-09-18 20:38 J -13296665.75 -13296665.64 -13296665.54 0.0498 0.0354

Jupiter -41118-12-17 10:47 J -13296576.18 -13296576.05 -13296575.91 0.0495 0.0229

Mars -41117-10-27 19:40 J -13296260.78 -13296260.68 -13296260.59 0.1607 0.1186

Venus -41115-07-10 19:26 J -13295639.75 -13295639.69 -13295639.63 0.3642 0.3097

Mars -41115-10-03 12:28 J -13295555.07 -13295554.98 -13295554.88 0.1605 0.1162

Earth -41115-10-07 06:57 J -13295551.24 -13295551.21 -13295551.18 0.2668 0.2563

Moon -41115-10-07 07:40 J -13295551.21 -13295551.18 -13295551.14 0.2664 0.2549 *

Jupiter -41111-02-17 03:21 J -13294322.51 -13294322.36 -13294322.21 0.0531 0.0057

Moon -41111-03-21 14:09 J -13294289.94 -13294289.91 -13294289.87 0.2668 0.2554

Earth -41111-03-21 15:06 J -13294289.92 -13294289.87 -13294289.83 0.2673 0.2502 *

Uranus -41110-02-04 15:50 J -13293969.85 -13293969.84 -13293969.80 0.0132 0.0131

Uranus -41110-05-03 20:09 J -13293881.74 -13293881.66 -13293881.57 0.0132 0.0110

Uranus -41110-07-31 00:14 J -13293793.59 -13293793.49 -13293793.37 0.0132 0.0090

Uranus -41110-10-27 04:18 J -13293705.44 -13293705.32 -13293705.18 0.0132 0.0070

Uranus -41109-01-23 08:38 J -13293617.28 -13293617.14 -13293617.00 0.0132 0.0050

Venus -41109-01-24 13:40 J -13293616.04 -13293615.93 -13293615.82 0.3646 0.0429

Uranus -41109-04-20 12:28 J -13293529.12 -13293528.98 -13293528.83 0.0132 0.0031

Uranus -41109-07-17 16:33 J -13293440.96 -13293440.81 -13293440.66 0.0132 0.0011

Uranus -41109-10-13 20:38 J -13293352.79 -13293352.64 -13293352.49 0.0132 0.0008

Uranus -41108-01-10 00:28 J -13293264.62 -13293264.48 -13293264.33 0.0132 0.0028

Uranus -41108-04-08 04:18 J -13293176.46 -13293176.32 -13293176.18 0.0132 0.0047

Saturn -41108-07-02 22:33 J -13293090.67 -13293090.56 -13293090.44 0.0276 0.0176

Uranus -41108-07-05 08:09 J -13293088.28 -13293088.16 -13293088.03 0.0132 0.0066

Saturn -41108-09-29 12:57 J -13293002.10 -13293001.96 -13293001.81 0.0276 0.0072

Earth -41108-09-29 22:04 J -13293001.71 -13293001.58 -13293001.46 0.2664 0.0108

Moon -41108-09-29 22:04 J -13293001.70 -13293001.58 -13293001.46 0.2670 0.0142 *

Uranus -41108-10-01 12:14 J -13293000.11 -13292999.99 -13292999.88 0.0132 0.0084

Saturn -41108-12-27 03:06 J -13292913.51 -13292913.37 -13292913.22 0.0276 0.0033

Uranus -41108-12-28 15:50 J -13292911.93 -13292911.84 -13292911.74 0.0132 0.0103

Saturn -41107-03-25 17:02 J -13292824.92 -13292824.79 -13292824.66 0.0276 0.0132

Uranus -41107-03-26 19:26 J -13292823.73 -13292823.69 -13292823.62 0.0132 0.0122

Saturn -41107-06-22 06:42 J -13292736.30 -13292736.22 -13292736.14 0.0276 0.0230

Jupiter -41106-10-05 12:14 J -13292266.15 -13292265.99 -13292265.84 0.0496 0.0075

Mars -41105-02-23 20:38 J -13292124.76 -13292124.64 -13292124.51 0.1605 0.0618

Earth -41105-03-31 06:14 J -13292088.35 -13292088.24 -13292088.13 0.2666 0.1463

Moon -41105-03-31 06:42 J -13292088.32 -13292088.22 -13292088.11 0.2672 0.1552 *

Neptune -41104-06-09 07:11 J -13291653.22 -13291653.20 -13291653.17 0.0089 0.0087

Venus -41104-08-09 07:40 J -13291592.27 -13291592.18 -13291592.09 0.3650 0.2159

Neptune -41104-09-05 09:21 J -13291565.18 -13291565.11 -13291565.05 0.0089 0.0080

Neptune -41104-12-02 11:16 J -13291477.11 -13291477.03 -13291476.94 0.0089 0.0073

Neptune -41103-02-28 12:57 J -13291389.04 -13291388.96 -13291388.84 0.0089 0.0067

Neptune -41103-05-27 15:06 J -13291300.97 -13291300.87 -13291300.75 0.0089 0.0060

Neptune -41103-08-23 17:02 J -13291212.90 -13291212.79 -13291212.65 0.0089 0.0053

Neptune -41103-11-19 19:26 J -13291124.82 -13291124.69 -13291124.56 0.0089 0.0045

Neptune -41102-02-15 21:35 J -13291036.74 -13291036.60 -13291036.46 0.0089 0.0038

Neptune -41102-05-14 23:30 J -13290948.66 -13290948.52 -13290948.37 0.0089 0.0031

Neptune -41102-08-11 01:40 J -13290860.58 -13290860.43 -13290860.28 0.0089 0.0024

Neptune -41102-11-07 03:50 J -13290772.49 -13290772.34 -13290772.19 0.0089 0.0017

Neptune -41101-02-03 05:45 J -13290684.41 -13290684.26 -13290684.10 0.0089 0.0010

Neptune -41101-05-01 07:54 J -13290596.32 -13290596.17 -13290596.01 0.0089 0.0004

Neptune -41101-07-28 10:04 J -13290508.23 -13290508.08 -13290507.92 0.0089 0.0005

Earth -41101-09-22 10:47 J -13290452.07 -13290452.05 -13290452.03 0.2659 0.2609

Neptune -41101-10-24 12:14 J -13290420.14 -13290419.99 -13290419.83 0.0089 0.0012

Neptune -41100-01-20 14:23 J -13290332.05 -13290331.90 -13290331.75 0.0089 0.0019

Neptune -41100-04-18 16:18 J -13290243.96 -13290243.82 -13290243.66 0.0089 0.0027

Neptune -41100-07-15 18:28 J -13290155.87 -13290155.73 -13290155.57 0.0089 0.0034

Neptune -41100-10-11 20:52 J -13290067.77 -13290067.63 -13290067.49 0.0089 0.0041

Jupiter -41100-12-06 04:04 J -13290012.47 -13290012.33 -13290012.20 0.0530 0.0238

Neptune -41099-01-07 22:47 J -13289979.67 -13289979.55 -13289979.41 0.0089 0.0049

Jupiter -41099-03-05 21:35 J -13289922.67 -13289922.60 -13289922.53 0.0534 0.0461

Neptune -41099-04-06 00:57 J -13289891.57 -13289891.46 -13289891.32 0.0089 0.0056

Neptune -41099-07-03 03:21 J -13289803.47 -13289803.36 -13289803.24 0.0089 0.0063

Mars -41099-09-27 23:59 J -13289716.61 -13289716.50 -13289716.39 0.1923 0.1144

Neptune -41099-09-29 05:16 J -13289715.36 -13289715.28 -13289715.17 0.0089 0.0071

Neptune -41099-12-26 07:40 J -13289627.24 -13289627.18 -13289627.10 0.0089 0.0078

Neptune -41098-03-24 09:50 J -13289539.12 -13289539.09 -13289539.04 0.0089 0.0086

Moon -41098-03-24 12:42 J -13289539.08 -13289538.97 -13289538.87 0.2673 0.1557 *

Earth -41098-03-24 13:40 J -13289539.03 -13289538.93 -13289538.82 0.2671 0.1517 *

Mars -41096-07-16 04:33 J -13288694.45 -13288694.31 -13288694.17 0.1606 0.0077

Earth -41095-10-02 18:57 J -13288250.83 -13288250.71 -13288250.60 0.2665 0.0984

Moon -41095-10-02 19:40 J -13288250.80 -13288250.68 -13288250.57 0.2671 0.1006 *

Jupiter -41094-07-24 14:09 J -13287956.06 -13287955.91 -13287955.76 0.0497 0.0072

Saturn -41093-04-13 19:11 J -13287691.81 -13287691.70 -13287691.58 0.0283 0.0185

Saturn -41093-07-11 11:59 J -13287603.15 -13287603.00 -13287602.84 0.0283 0.0069

Saturn -41093-10-08 05:16 J -13287514.44 -13287514.28 -13287514.13 0.0284 0.0051

Saturn -41092-01-04 22:33 J -13287425.68 -13287425.56 -13287425.42 0.0284 0.0173

Earth -41092-04-03 06:14 J -13287337.27 -13287337.24 -13287337.21 0.2665 0.2581

Moon -41092-04-03 07:26 J -13287337.19 -13287337.19 -13287337.19 0.2666 0.2665

Mars -41089-02-18 03:21 J -13286286.50 -13286286.36 -13286286.23 0.1922 0.0114

Jupiter -41088-09-24 03:50 J -13285702.42 -13285702.34 -13285702.25 0.0530 0.0431

Moon -41088-09-25 07:40 J -13285701.27 -13285701.18 -13285701.08 0.2663 0.1749

Earth -41088-09-25 08:38 J -13285701.24 -13285701.14 -13285701.04 0.2661 0.1631 *

Jupiter -41088-12-22 22:04 J -13285612.70 -13285612.58 -13285612.45 0.0533 0.0276

Mars -41087-12-06 12:28 J -13285264.12 -13285263.98 -13285263.85 0.1606 0.0513

Moon -41085-03-26 11:59 J -13284788.13 -13284788.00 -13284787.87 0.2674 0.0620

Earth -41085-03-26 12:42 J -13284788.10 -13284787.97 -13284787.84 0.2669 0.0496 *

Jupiter -41082-05-12 16:33 J -13283645.95 -13283645.81 -13283645.67 0.0498 0.0210

Jupiter -41082-08-10 07:11 J -13283556.30 -13283556.20 -13283556.10 0.0495 0.0378

Earth -41082-10-05 15:35 J -13283499.93 -13283499.85 -13283499.76 0.2667 0.1860

Moon -41082-10-05 16:33 J -13283499.89 -13283499.81 -13283499.73 0.2666 0.1921 *

Mars -41080-07-10 06:42 J -13282856.33 -13282856.22 -13282856.10 0.1921 0.0910

Saturn -41079-11-20 00:57 J -13282358.56 -13282358.46 -13282358.35 0.0275 0.0198

Saturn -41078-02-16 15:35 J -13282269.99 -13282269.85 -13282269.71 0.0275 0.0093

Saturn -41078-05-16 05:45 J -13282181.41 -13282181.26 -13282181.11 0.0275 0.0010

Saturn -41078-08-12 19:40 J -13282092.82 -13282092.68 -13282092.54 0.0275 0.0110

Saturn -41078-11-09 09:06 J -13282004.21 -13282004.12 -13282004.02 0.0275 0.0208

Mars -41077-04-27 19:54 J -13281833.77 -13281833.67 -13281833.57 0.1607 0.1100

Jupiter -41076-10-10 23:30 J -13281302.66 -13281302.52 -13281302.37 0.0533 0.0105

Mars -41075-04-03 12:57 J -13281128.05 -13281127.96 -13281127.88 0.1605 0.1244

Moon -41075-09-28 05:30 J -13280950.39 -13280950.27 -13280950.15 0.2668 0.0650

Earth -41075-09-28 05:59 J -13280950.37 -13280950.25 -13280950.13 0.2662 0.0685 *

Venus -41073-01-15 20:09 J -13280475.77 -13280475.66 -13280475.55 0.3734 0.1886

Pluto -41073-04-12 21:35 J -13280387.62 -13280387.60 -13280387.54 0.0066 0.0064

Pluto -41073-07-09 22:47 J -13280299.60 -13280299.55 -13280299.46 0.0066 0.0059

Pluto -41073-10-05 23:59 J -13280211.57 -13280211.50 -13280211.38 0.0066 0.0054

Pluto -41072-01-02 01:11 J -13280123.54 -13280123.45 -13280123.32 0.0066 0.0049

Moon -41072-03-29 12:14 J -13280037.12 -13280036.99 -13280036.86 0.2675 0.0652

Earth -41072-03-29 12:14 J -13280037.12 -13280036.99 -13280036.86 0.2668 0.0565 *

Pluto -41072-03-31 02:52 J -13280035.50 -13280035.38 -13280035.25 0.0066 0.0043

Pluto -41072-06-27 04:04 J -13279947.46 -13279947.33 -13279947.19 0.0066 0.0038

Pluto -41072-09-23 05:16 J -13279859.42 -13279859.28 -13279859.13 0.0066 0.0033

Pluto -41072-12-20 06:42 J -13279771.37 -13279771.22 -13279771.07 0.0066 0.0028

Pluto -41071-03-18 07:54 J -13279683.32 -13279683.17 -13279683.01 0.0066 0.0023

Pluto -41071-06-14 09:06 J -13279595.27 -13279595.12 -13279594.95 0.0067 0.0017

Pluto -41071-09-10 10:33 J -13279507.22 -13279507.06 -13279506.89 0.0067 0.0012

Mars -41071-11-30 10:33 J -13279426.07 -13279426.06 -13279426.04 0.1920 0.1891

Pluto -41071-12-07 11:45 J -13279419.17 -13279419.01 -13279418.83 0.0067 0.0007

Jupiter -41070-02-28 18:42 J -13279335.82 -13279335.72 -13279335.61 0.0498 0.0352

Pluto -41070-03-05 13:11 J -13279331.12 -13279330.95 -13279330.78 0.0067 0.0001

Jupiter -41070-05-29 09:06 J -13279246.26 -13279246.12 -13279245.99 0.0495 0.0231

Pluto -41070-06-01 14:38 J -13279243.06 -13279242.89 -13279242.72 0.0067 0.0005

Pluto -41070-08-28 15:50 J -13279155.00 -13279154.84 -13279154.67 0.0067 0.0010

Pluto -41070-11-24 17:02 J -13279066.94 -13279066.79 -13279066.61 0.0067 0.0016

Pluto -41069-02-20 18:28 J -13278978.88 -13278978.73 -13278978.56 0.0067 0.0022

Pluto -41069-05-18 19:54 J -13278890.82 -13278890.67 -13278890.51 0.0067 0.0027

Pluto -41069-08-14 21:06 J -13278802.75 -13278802.62 -13278802.46 0.0067 0.0033

Pluto -41069-11-10 22:33 J -13278714.69 -13278714.56 -13278714.41 0.0068 0.0039

Pluto -41068-02-06 23:59 J -13278626.62 -13278626.50 -13278626.36 0.0068 0.0045

Pluto -41068-05-06 01:11 J -13278538.54 -13278538.45 -13278538.32 0.0068 0.0051

Venus -41068-07-31 19:54 J -13278451.77 -13278451.67 -13278451.57 0.3729 0.2349

Pluto -41068-08-02 02:38 J -13278450.46 -13278450.39 -13278450.28 0.0068 0.0057

Pluto -41068-10-29 04:33 J -13278362.37 -13278362.31 -13278362.24 0.0068 0.0062

Uranus -41067-01-21 03:06 J -13278278.43 -13278278.37 -13278278.29 0.0146 0.0132

Uranus -41067-04-19 09:06 J -13278190.23 -13278190.12 -13278190.00 0.0146 0.0104

Uranus -41067-07-16 15:06 J -13278102.00 -13278101.87 -13278101.73 0.0146 0.0076

Uranus -41067-10-12 21:06 J -13278013.77 -13278013.62 -13278013.46 0.0146 0.0047

Uranus -41066-01-09 03:21 J -13277925.52 -13277925.36 -13277925.20 0.0146 0.0019

Uranus -41066-04-07 09:21 J -13277837.27 -13277837.11 -13277836.94 0.0147 0.0010

Uranus -41066-07-04 15:35 J -13277749.01 -13277748.85 -13277748.69 0.0147 0.0039

Mars -41066-08-24 20:52 J -13277697.75 -13277697.63 -13277697.50 0.1605 0.0697

Uranus -41066-09-30 21:50 J -13277660.74 -13277660.59 -13277660.44 0.0147 0.0069

Uranus -41066-12-28 03:50 J -13277572.45 -13277572.34 -13277572.21 0.0147 0.0099

Moon -41065-03-21 19:40 J -13277487.73 -13277487.68 -13277487.63 0.2669 0.2407

Earth -41065-03-21 20:38 J -13277487.70 -13277487.64 -13277487.58 0.2673 0.2326 *

Uranus -41065-03-25 10:04 J -13277484.14 -13277484.08 -13277483.99 0.0147 0.0129

Jupiter -41064-07-30 01:11 J -13276992.60 -13276992.45 -13276992.31 0.0532 0.0064

Saturn -41064-08-31 18:57 J -13276959.80 -13276959.71 -13276959.62 0.0284 0.0226

Saturn -41064-11-28 11:30 J -13276871.16 -13276871.02 -13276870.87 0.0284 0.0111

Saturn -41063-02-25 04:33 J -13276782.47 -13276782.31 -13276782.15 0.0284 0.0008

Saturn -41063-05-24 21:50 J -13276693.73 -13276693.59 -13276693.45 0.0284 0.0128

Saturn -41063-08-21 15:35 J -13276604.92 -13276604.85 -13276604.78 0.0284 0.0252

Earth -41062-10-01 03:21 J -13276199.49 -13276199.36 -13276199.24 0.2664 0.0263

Moon -41062-10-01 03:35 J -13276199.48 -13276199.35 -13276199.23 0.2670 0.0202 *

Mars -41059-03-29 00:14 J -13275289.59 -13275289.49 -13275289.39 0.1922 0.1256

Earth -41059-04-01 11:59 J -13275286.11 -13275286.00 -13275285.90 0.2666 0.1655

Moon -41059-04-01 12:42 J -13275286.08 -13275285.97 -13275285.87 0.2671 0.1647 *

Jupiter -41059-12-17 20:52 J -13275025.64 -13275025.63 -13275025.61 0.0499 0.0494

Venus -41058-02-14 17:30 J -13274966.86 -13274966.77 -13274966.67 0.3643 0.2080

Jupiter -41058-03-17 10:47 J -13274936.20 -13274936.05 -13274935.89 0.0496 0.0085

Mars -41056-01-14 04:47 J -13274267.43 -13274267.30 -13274267.16 0.1606 0.0150

Moon -41055-09-23 15:21 J -13273649.90 -13273649.86 -13273649.82 0.2657 0.2500

Earth -41055-09-23 16:18 J -13273649.87 -13273649.82 -13273649.77 0.2660 0.2436 *

Venus -41053-08-30 11:45 J -13272943.12 -13272943.01 -13272942.90 0.3647 0.0567

Moon -41052-03-24 18:14 J -13272736.85 -13272736.74 -13272736.63 0.2672 0.1437

Earth -41052-03-24 19:26 J -13272736.81 -13272736.69 -13272736.58 0.2671 0.1335 *

Jupiter -41052-05-18 02:23 J -13272682.54 -13272682.40 -13272682.27 0.0531 0.0234

Jupiter -41052-08-15 19:54 J -13272592.73 -13272592.67 -13272592.60 0.0534 0.0467

Mars -41050-08-19 03:21 J -13271859.50 -13271859.36 -13271859.23 0.1922 0.0201

Saturn -41049-04-08 01:54 J -13271626.50 -13271626.42 -13271626.34 0.0275 0.0232

Saturn -41049-07-05 16:33 J -13271537.94 -13271537.81 -13271537.67 0.0275 0.0127

Saturn -41049-10-02 06:57 J -13271449.36 -13271449.21 -13271449.06 0.0275 0.0023

Earth -41049-10-03 00:14 J -13271448.60 -13271448.49 -13271448.38 0.2666 0.1141

Moon -41049-10-03 00:57 J -13271448.57 -13271448.46 -13271448.35 0.2670 0.1239 *

Saturn -41049-12-29 20:52 J -13271360.77 -13271360.63 -13271360.48 0.0275 0.0079

Saturn -41048-03-28 10:33 J -13271272.17 -13271272.06 -13271271.94 0.0275 0.0178

Saturn -41048-06-24 23:59 J -13271183.50 -13271183.50 -13271183.49 0.0275 0.0275

Venus -41047-03-16 05:45 J -13270919.32 -13270919.26 -13270919.21 0.3651 0.3137

Mars -41047-06-06 12:42 J -13270837.11 -13270836.97 -13270836.84 0.1606 0.0433

Jupiter -41046-01-03 12:14 J -13270626.14 -13270625.99 -13270625.84 0.0497 0.0070

Moon -41042-09-26 12:57 J -13268899.06 -13268898.96 -13268898.85 0.2665 0.1504

Earth -41042-09-26 13:54 J -13268899.02 -13268898.92 -13268898.81 0.2661 0.1465 *

Mars -41040-01-08 06:57 J -13268429.33 -13268429.21 -13268429.09 0.1921 0.0813

Jupiter -41040-03-06 02:52 J -13268372.47 -13268372.38 -13268372.28 0.0529 0.0416

Jupiter -41040-06-03 21:06 J -13268282.74 -13268282.62 -13268282.50 0.0533 0.0290

Moon -41039-03-27 17:45 J -13267985.89 -13267985.76 -13267985.63 0.2675 0.0295

Earth -41039-03-27 18:28 J -13267985.87 -13267985.73 -13267985.60 0.2669 0.0321 *

Mars -41038-10-27 20:09 J -13267406.77 -13267406.66 -13267406.55 0.1607 0.1011

Mars -41036-10-02 12:57 J -13266701.03 -13266700.96 -13266700.88 0.1605 0.1324

Earth -41036-10-05 20:52 J -13266697.71 -13266697.63 -13266697.55 0.2667 0.2017

Moon -41036-10-05 21:50 J -13266697.67 -13266697.59 -13266697.51 0.2666 0.2059 *

Jupiter -41035-10-22 14:23 J -13266316.04 -13266315.90 -13266315.77 0.0498 0.0215

Saturn -41034-01-18 21:35 J -13266227.67 -13266227.60 -13266227.52 0.0283 0.0246

Jupiter -41034-01-20 05:02 J -13266226.39 -13266226.29 -13266226.19 0.0495 0.0374

Saturn -41034-04-17 14:09 J -13266139.05 -13266138.91 -13266138.77 0.0284 0.0131

Saturn -41034-07-15 07:11 J -13266050.36 -13266050.20 -13266050.04 0.0284 0.0015

Saturn -41034-10-12 00:14 J -13265961.63 -13265961.49 -13265961.33 0.0284 0.0108

Saturn -41033-01-08 17:59 J -13265872.84 -13265872.75 -13265872.65 0.0284 0.0231

Mars -41031-05-31 11:02 J -13264999.09 -13264999.04 -13264999.00 0.1919 0.1782

Moon -41029-09-28 11:02 J -13264148.16 -13264148.04 -13264147.92 0.2668 0.0618

Earth -41029-09-28 11:16 J -13264148.15 -13264148.03 -13264147.90 0.2663 0.0523 *

Mars -41028-03-19 03:35 J -13263976.35 -13263976.35 -13263976.35 0.1608 0.1606

Jupiter -41028-03-22 21:21 J -13263972.76 -13263972.61 -13263972.46 0.0532 0.0101

Mars -41026-02-22 21:21 J -13263270.73 -13263270.61 -13263270.49 0.1605 0.0783

Uranus -41026-02-24 23:16 J -13263268.57 -13263268.53 -13263268.46 0.0132 0.0124

Moon -41026-03-30 17:45 J -13263234.89 -13263234.76 -13263234.63 0.2674 0.0678

Earth -41026-03-30 17:45 J -13263234.89 -13263234.76 -13263234.63 0.2667 0.0752 *

Uranus -41026-05-24 03:35 J -13263180.44 -13263180.35 -13263180.25 0.0132 0.0103

Uranus -41026-08-20 07:40 J -13263092.29 -13263092.18 -13263092.05 0.0132 0.0083

Uranus -41026-11-16 11:45 J -13263004.13 -13263004.01 -13263003.87 0.0132 0.0064

Uranus -41025-02-12 16:04 J -13262915.98 -13262915.83 -13262915.69 0.0132 0.0043

Uranus -41025-05-10 19:54 J -13262827.81 -13262827.67 -13262827.52 0.0132 0.0024

Uranus -41025-08-06 23:59 J -13262739.65 -13262739.50 -13262739.35 0.0132 0.0004

Uranus -41025-11-03 04:04 J -13262651.48 -13262651.33 -13262651.18 0.0132 0.0015

Uranus -41024-01-30 07:54 J -13262563.32 -13262563.17 -13262563.03 0.0132 0.0034

Uranus -41024-04-28 11:45 J -13262475.15 -13262475.01 -13262474.87 0.0132 0.0053

Uranus -41024-07-25 15:35 J -13262386.97 -13262386.85 -13262386.72 0.0132 0.0072

Uranus -41024-10-21 19:11 J -13262298.79 -13262298.70 -13262298.58 0.0132 0.0091

Uranus -41023-01-17 23:16 J -13262210.61 -13262210.53 -13262210.45 0.0132 0.0109

Uranus -41023-04-16 02:52 J -13262122.40 -13262122.38 -13262122.34 0.0132 0.0128

Jupiter -41023-08-10 16:47 J -13262005.90 -13262005.80 -13262005.69 0.0498 0.0352

Jupiter -41023-11-08 07:11 J -13261916.34 -13261916.20 -13261916.06 0.0495 0.0233

Neptune -41021-06-09 21:50 J -13261336.60 -13261336.59 -13261336.55 0.0088 0.0087

Neptune -41021-09-06 00:14 J -13261248.54 -13261248.49 -13261248.41 0.0088 0.0080

Neptune -41021-12-03 02:23 J -13261160.47 -13261160.40 -13261160.29 0.0088 0.0073

Neptune -41020-03-01 05:02 J -13261072.40 -13261072.29 -13261072.18 0.0088 0.0065

Neptune -41020-05-28 07:11 J -13260984.31 -13260984.20 -13260984.07 0.0088 0.0057

Neptune -41020-08-24 09:35 J -13260896.23 -13260896.10 -13260895.97 0.0088 0.0050

Saturn -41020-08-26 04:33 J -13260894.36 -13260894.31 -13260894.25 0.0275 0.0253

Mars -41020-09-27 00:28 J -13260862.57 -13260862.48 -13260862.39 0.1922 0.1358

Neptune -41020-11-20 11:45 J -13260808.15 -13260808.01 -13260807.86 0.0088 0.0043

Saturn -41020-11-22 19:26 J -13260805.82 -13260805.69 -13260805.57 0.0275 0.0147

Neptune -41019-02-16 13:54 J -13260720.06 -13260719.92 -13260719.76 0.0088 0.0035

Saturn -41019-02-19 09:35 J -13260717.24 -13260717.10 -13260716.95 0.0275 0.0044

Moon -41019-03-23 00:57 J -13260685.53 -13260685.46 -13260685.38 0.2671 0.2168

Earth -41019-03-23 01:54 J -13260685.49 -13260685.42 -13260685.34 0.2672 0.2157 *

Neptune -41019-05-15 16:18 J -13260631.97 -13260631.82 -13260631.67 0.0088 0.0028

Saturn -41019-05-18 23:45 J -13260628.66 -13260628.51 -13260628.36 0.0275 0.0058

Neptune -41019-08-11 18:28 J -13260543.88 -13260543.73 -13260543.57 0.0088 0.0021

Saturn -41019-08-15 13:26 J -13260540.06 -13260539.94 -13260539.82 0.0275 0.0157

Neptune -41019-11-07 20:38 J -13260455.79 -13260455.64 -13260455.48 0.0088 0.0013

Saturn -41019-11-12 02:52 J -13260451.43 -13260451.38 -13260451.32 0.0275 0.0254

Neptune -41018-02-03 22:47 J -13260367.70 -13260367.55 -13260367.38 0.0088 0.0007

Neptune -41018-05-03 01:11 J -13260279.61 -13260279.45 -13260279.29 0.0088 0.0002

Neptune -41018-07-30 03:21 J -13260191.52 -13260191.36 -13260191.20 0.0088 0.0009

Neptune -41018-10-26 05:30 J -13260103.43 -13260103.27 -13260103.12 0.0088 0.0016

Neptune -41017-01-22 07:26 J -13260015.33 -13260015.19 -13260015.03 0.0088 0.0023

Neptune -41017-04-19 09:35 J -13259927.24 -13259927.10 -13259926.94 0.0088 0.0030

Mars -41017-07-15 05:16 J -13259840.42 -13259840.28 -13259840.15 0.1606 0.0229

Neptune -41017-07-16 11:45 J -13259839.15 -13259839.01 -13259838.86 0.0088 0.0037

Venus -41017-08-21 19:40 J -13259802.81 -13259802.68 -13259802.55 0.3732 0.0396

Neptune -41017-10-12 13:54 J -13259751.05 -13259750.92 -13259750.78 0.0088 0.0044

Neptune -41016-01-08 15:50 J -13259662.95 -13259662.84 -13259662.70 0.0088 0.0052

Jupiter -41016-01-08 22:33 J -13259662.71 -13259662.56 -13259662.41 0.0532 0.0073 *

Neptune -41016-04-06 17:59 J -13259574.86 -13259574.75 -13259574.62 0.0088 0.0058

Neptune -41016-07-03 19:54 J -13259486.76 -13259486.67 -13259486.55 0.0088 0.0066

Neptune -41016-09-29 22:04 J -13259398.65 -13259398.58 -13259398.48 0.0088 0.0073

Earth -41016-10-01 08:38 J -13259397.27 -13259397.14 -13259397.02 0.2664 0.0416

Moon -41016-10-01 08:52 J -13259397.25 -13259397.13 -13259397.01 0.2671 0.0507 *

Neptune -41016-12-26 23:59 J -13259310.55 -13259310.50 -13259310.41 0.0088 0.0080

Neptune -41015-03-25 02:09 J -13259222.43 -13259222.41 -13259222.36 0.0088 0.0086

Earth -41013-04-01 17:30 J -13258483.86 -13258483.77 -13258483.67 0.2666 0.1848

Moon -41013-04-01 18:28 J -13258483.82 -13258483.73 -13258483.64 0.2670 0.2003 *

Jupiter -41011-05-29 19:11 J -13257695.72 -13257695.70 -13257695.68 0.0499 0.0491

Jupiter -41011-08-27 09:06 J -13257606.27 -13257606.12 -13257605.97 0.0496 0.0087

Mars -41010-02-17 03:35 J -13257432.48 -13257432.35 -13257432.22 0.1922 0.0303

Moon -41009-09-23 20:38 J -13256847.70 -13256847.64 -13256847.58 0.2658 0.2354

Earth -41009-09-23 21:35 J -13256847.66 -13256847.60 -13256847.53 0.2660 0.2263 *

Mars -41008-12-05 12:57 J -13256410.10 -13256409.96 -13256409.83 0.1606 0.0348

Moon -41006-03-25 23:45 J -13255934.62 -13255934.51 -13255934.39 0.2672 0.1218

Earth -41006-03-26 00:57 J -13255934.58 -13255934.46 -13255934.35 0.2671 0.1156 *

Saturn -41005-09-03 13:40 J -13255407.05 -13255406.93 -13255406.81 0.0284 0.0173

Jupiter -41005-10-27 23:59 J -13255352.63 -13255352.50 -13255352.36 0.0531 0.0241

Saturn -41005-12-01 06:28 J -13255318.39 -13255318.23 -13255318.08 0.0284 0.0057

Jupiter -41004-01-25 17:45 J -13255262.83 -13255262.76 -13255262.68 0.0534 0.0462

Saturn -41004-02-27 23:30 J -13255229.68 -13255229.52 -13255229.36 0.0284 0.0063

Saturn -41004-05-27 17:02 J -13255140.91 -13255140.79 -13255140.67 0.0284 0.0185

Earth -41003-10-04 05:30 J -13254646.38 -13254646.27 -13254646.17 0.2666 0.1303

Moon -41003-10-04 06:14 J -13254646.35 -13254646.24 -13254646.13 0.2669 0.1296 *

Venus -41002-09-21 15:50 J -13254293.95 -13254293.84 -13254293.74 0.3644 0.1072

Mars -41001-07-09 07:11 J -13254002.33 -13254002.20 -13254002.08 0.1921 0.0711

41ST MILLENNIUM BCE

This is a list of transits of Mercury in the 41st millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Jupiter	**-40999-06-15 11:02**	**J**	**-13253296.19**	**-13253296.04**	**-13253295.89**	**0.0497**	**0.0059**	
Mars	**-40998-04-27 20:23**	**J**	**-13252979.76**	**-13252979.65**	**-13252979.53**	**0.1607**	**0.0928**	
Mars	**-40996-04-02 13:11**	**J**	**-13252274.01**	**-13252273.95**	**-13252273.88**	**0.1605**	**0.1402**	
Venus	**-40996-04-06 09:50**	**J**	**-13252270.19**	**-13252270.09**	**-13252269.99**	**0.3648**	**0.1552**	
Moon	**-40996-09-26 18:28**	**J**	**-13252096.84**	**-13252096.73**	**-13252096.63**	**0.2665**	**0.1375**	
Earth	**-40996-09-26 19:11**	**J**	**-13252096.81**	**-13252096.70**	**-13252096.59**	**0.2661**	**0.1297**	*****
Moon	**-40993-03-27 23:30**	**J**	**-13251183.65**	**-13251183.52**	**-13251183.39**	**0.2675**	**0.0193**	
Earth	**-40993-03-27 23:59**	**J**	**-13251183.63**	**-13251183.50**	**-13251183.37**	**0.2669**	**0.0120**	*****
Jupiter	**-40993-08-16 01:11**	**J**	**-13251042.54**	**-13251042.45**	**-13251042.35**	**0.0530**	**0.0412**	
Jupiter	**-40993-11-13 19:26**	**J**	**-13250952.81**	**-13250952.69**	**-13250952.56**	**0.0533**	**0.0296**	
Mars	**-40992-11-29 10:47**	**J**	**-13250572.11**	**-13250572.05**	**-13250571.99**	**0.1919**	**0.1704**	
Saturn	**-40990-04-11 19:54**	**J**	**-13250073.78**	**-13250073.67**	**-13250073.55**	**0.0275**	**0.0183**	
Saturn	**-40990-07-09 10:33**	**J**	**-13249985.21**	**-13249985.06**	**-13249984.92**	**0.0275**	**0.0078**	
Saturn	**-40990-10-06 00:42**	**J**	**-13249896.62**	**-13249896.47**	**-13249896.32**	**0.0275**	**0.0025**	
Earth	**-40990-10-07 02:09**	**J**	**-13249895.48**	**-13249895.41**	**-13249895.34**	**0.2667**	**0.2169**	
Moon	**-40990-10-07 03:06**	**J**	**-13249895.44**	**-13249895.37**	**-13249895.31**	**0.2666**	**0.2263**	*****
Saturn	**-40989-01-02 14:23**	**J**	**-13249808.02**	**-13249807.90**	**-13249807.76**	**0.0275**	**0.0126**	
Saturn	**-40989-03-31 04:04**	**J**	**-13249719.41**	**-13249719.33**	**-13249719.24**	**0.0275**	**0.0223**	
Mars	**-40989-09-17 03:50**	**J**	**-13249549.38**	**-13249549.34**	**-13249549.30**	**0.1608**	**0.1522**	

Jupiter -40987-04-03 12:28 J -13248986.11 -13248985.98 -13248985.84 0.0498 0.0212

Jupiter -40987-07-02 03:06 J -13248896.47 -13248896.37 -13248896.27 0.0495 0.0377

Mars -40987-08-23 21:21 J -13248843.72 -13248843.61 -13248843.49 0.1605 0.0860

Pluto -40986-05-18 16:33 J -13248575.86 -13248575.81 -13248575.75 0.0079 0.0073

Pluto -40986-08-14 17:59 J -13248487.82 -13248487.75 -13248487.66 0.0079 0.0065

Pluto -40986-11-10 19:40 J -13248399.78 -13248399.68 -13248399.58 0.0079 0.0057

Pluto -40985-02-06 21:06 J -13248311.73 -13248311.62 -13248311.50 0.0078 0.0049

Pluto -40985-05-04 22:47 J -13248223.68 -13248223.55 -13248223.43 0.0078 0.0041

Pluto -40985-07-31 23:59 J -13248135.63 -13248135.50 -13248135.36 0.0078 0.0033

Pluto -40985-10-28 01:26 J -13248047.57 -13248047.44 -13248047.29 0.0078 0.0025

Pluto -40984-01-24 03:06 J -13247959.52 -13247959.37 -13247959.23 0.0078 0.0017

Pluto -40984-04-22 04:18 J -13247871.46 -13247871.32 -13247871.17 0.0078 0.0010

Pluto -40984-07-19 05:59 J -13247783.40 -13247783.25 -13247783.11 0.0078 0.0003

Pluto -40984-10-15 07:11 J -13247695.34 -13247695.20 -13247695.05 0.0077 0.0006

Pluto -40983-01-11 08:38 J -13247607.28 -13247607.14 -13247606.99 0.0077 0.0013

Uranus -40983-02-10 10:33 J -13247577.14 -13247577.06 -13247576.97 0.0146 0.0124

Pluto -40983-04-09 10:04 J -13247519.22 -13247519.08 -13247518.94 0.0077 0.0021

Uranus -40983-05-09 16:33 J -13247488.93 -13247488.81 -13247488.69 0.0146 0.0096

Pluto -40983-07-06 11:16 J -13247431.16 -13247431.03 -13247430.89 0.0077 0.0028

Uranus -40983-08-05 22:33 J -13247400.70 -13247400.56 -13247400.42 0.0147 0.0068

Moon -40983-09-29 16:18 J -13247345.94 -13247345.82 -13247345.69 0.2669 0.0339

Earth -40983-09-29 16:33 J -13247345.93 -13247345.81 -13247345.68 0.2663 0.0363 *

Pluto -40983-10-02 12:42 J -13247343.10 -13247342.97 -13247342.84 0.0077 0.0035

Uranus -40983-11-02 04:33 J -13247312.47 -13247312.31 -13247312.15 0.0147 0.0039

Pluto -40983-12-29 14:09 J -13247255.04 -13247254.91 -13247254.79 0.0077 0.0042

Uranus -40982-01-29 10:33 J -13247224.22 -13247224.06 -13247223.89 0.0147 0.0011

Pluto -40982-03-27 15:06 J -13247166.97 -13247166.87 -13247166.75 0.0077 0.0050

Uranus -40982-04-27 16:47 J -13247135.96 -13247135.80 -13247135.64 0.0147 0.0018

Pluto -40982-06-23 16:18 J -13247078.90 -13247078.82 -13247078.71 0.0077 0.0057

Uranus -40982-07-24 22:47 J -13247047.70 -13247047.55 -13247047.39 0.0147 0.0048

Pluto -40982-09-19 17:45 J -13246990.83 -13246990.76 -13246990.67 0.0076 0.0063

Uranus -40982-10-21 05:02 J -13246959.42 -13246959.29 -13246959.14 0.0147 0.0077

Pluto -40982-12-16 18:57 J -13246902.75 -13246902.71 -13246902.64 0.0076 0.0070

Uranus -40981-01-17 11:16 J -13246871.13 -13246871.03 -13246870.91 0.0147 0.0107

Uranus -40981-04-14 17:30 J -13246782.82 -13246782.77 -13246782.70 0.0147 0.0137

Jupiter -40981-09-01 20:38 J -13246642.79 -13246642.64 -13246642.50 0.0532 0.0119

Mars -40980-03-28 00:28 J -13246435.56 -13246435.48 -13246435.39 0.1922 0.1456

Earth -40980-03-30 23:30 J -13246432.65 -13246432.52 -13246432.40 0.2667 0.0946

Moon -40980-03-30 23:45 J -13246432.64 -13246432.51 -13246432.39 0.2673 0.1036 *

Mars -40977-01-14 05:30 J -13245413.41 -13245413.27 -13245413.14 0.1606 0.0308

Jupiter -40975-01-20 14:38 J -13244675.99 -13244675.89 -13244675.78 0.0499 0.0354

Saturn -40975-01-21 15:50 J -13244674.95 -13244674.84 -13244674.73 0.0284 0.0196

Jupiter -40975-04-20 05:02 J -13244586.43 -13244586.29 -13244586.15 0.0496 0.0230

Saturn -40975-04-20 08:23 J -13244586.30 -13244586.15 -13244585.99 0.0284 0.0081 *

Saturn -40975-07-18 01:40 J -13244497.59 -13244497.43 -13244497.27 0.0284 0.0039

Saturn -40975-10-14 18:57 J -13244408.84 -13244408.71 -13244408.57 0.0284 0.0161

Moon -40973-03-23 06:28 J -13243883.31 -13243883.23 -13243883.15 0.2671 0.2119

Earth -40973-03-23 07:26 J -13243883.27 -13243883.19 -13243883.10 0.2672 0.1977 *

Mars -40971-08-18 03:50 J -13243005.47 -13243005.34 -13243005.21 0.1922 0.0416

Earth -40970-10-02 13:40 J -13242595.05 -13242594.93 -13242594.80 0.2664 0.0570

Moon -40970-10-02 14:09 J -13242595.03 -13242594.91 -13242594.79 0.2671 0.0521 *

Jupiter -40969-06-20 20:38 J -13242332.79 -13242332.64 -13242332.50 0.0531 0.0075

Mars -40968-06-05 13:11 J -13241983.09 -13241982.95 -13241982.81 0.1606 0.0260

Earth -40967-04-02 23:16 J -13241681.62 -13241681.53 -13241681.45 0.2665 0.2043

Moon -40967-04-03 00:14 J -13241681.58 -13241681.49 -13241681.41 0.2670 0.2030 *

Venus -40966-09-12 19:40 J -13241153.75 -13241153.68 -13241153.61 0.3736 0.3044

Jupiter -40964-11-08 17:30 J -13240365.80 -13240365.77 -13240365.75 0.0499 0.0489

Jupiter -40963-02-06 07:26 J -13240276.34 -13240276.19 -13240276.04 0.0496 0.0091

Moon -40963-09-25 01:54 J -13240045.49 -13240045.42 -13240045.34 0.2660 0.2109

Earth -40963-09-25 02:52 J -13240045.45 -13240045.38 -13240045.30 0.2660 0.2093 *

Mars -40961-01-08 07:11 J -13239575.32 -13239575.20 -13239575.07 0.1921 0.0616

Saturn -40961-08-28 22:47 J -13239341.65 -13239341.55 -13239341.45 0.0275 0.0203

Saturn -40961-11-25 13:11 J -13239253.08 -13239252.95 -13239252.80 0.0275 0.0099

Saturn -40960-02-22 03:35 J -13239164.50 -13239164.35 -13239164.20 0.0275 0.0005

Moon -40960-03-26 05:30 J -13239132.39 -13239132.27 -13239132.15 0.2673 0.1023

Earth -40960-03-26 06:28 J -13239132.36 -13239132.23 -13239132.11 0.2670 0.0976 *

Venus -40960-03-28 19:11 J -13239129.82 -13239129.70 -13239129.57 0.3731 0.1118

Saturn -40960-05-21 17:30 J -13239075.91 -13239075.77 -13239075.63 0.0275 0.0105

Saturn -40960-08-18 07:11 J -13238987.30 -13238987.20 -13238987.11 0.0275 0.0203

Mars -40959-10-26 20:38 J -13238552.76 -13238552.64 -13238552.52 0.1607 0.0845

Jupiter -40957-04-08 21:35 J -13238022.73 -13238022.60 -13238022.47 0.0531 0.0249

Jupiter -40957-07-07 15:35 J -13237932.93 -13237932.85 -13237932.78 0.0534 0.0453

Mars -40957-10-01 13:26 J -13237846.99 -13237846.94 -13237846.89 0.1605 0.1483

Earth -40957-10-04 10:33 J -13237844.16 -13237844.06 -13237843.95 0.2666 0.1459

Moon -40957-10-04 11:30 J -13237844.12 -13237844.02 -13237843.92 0.2668 0.1596 *

Mars -40952-05-30 11:02 J -13236145.11 -13236145.04 -13236144.96 0.1919 0.1598

Jupiter -40952-11-25 09:21 J -13235966.26 -13235966.11 -13235965.95 0.0497 0.0055

Venus -40951-10-12 19:40 J -13235644.76 -13235644.68 -13235644.61 0.3641 0.2723

Moon -40950-09-27 23:45 J -13235294.62 -13235294.51 -13235294.40 0.2665 0.1189

Earth -40950-09-28 00:28 J -13235294.59 -13235294.48 -13235294.36 0.2662 0.1132 *

Mars -40949-03-18 04:04 J -13235122.39 -13235122.33 -13235122.27 0.1608 0.1436

Mars -40947-02-21 21:35 J -13234416.71 -13234416.60 -13234416.49 0.1605 0.0940

Moon -40947-03-29 05:02 J -13234381.42 -13234381.29 -13234381.16 0.2675 0.0076

Earth -40947-03-29 05:30 J -13234381.40 -13234381.27 -13234381.14 0.2669 0.0064 *

Saturn -40946-06-10 15:21 J -13233942.94 -13233942.86 -13233942.77 0.0284 0.0238

Saturn -40946-09-07 07:54 J -13233854.31 -13233854.17 -13233854.02 0.0284 0.0123

Saturn -40946-12-05 00:57 J -13233765.62 -13233765.46 -13233765.30 0.0284 0.0006

Jupiter -40945-01-26 22:47 J -13233712.63 -13233712.55 -13233712.45 0.0530 0.0419

Saturn -40945-03-02 18:14 J -13233676.89 -13233676.74 -13233676.60 0.0284 0.0116

Jupiter -40945-04-25 17:16 J -13233622.90 -13233622.78 -13233622.66 0.0533 0.0290

Venus -40945-04-27 13:54 J -13233621.04 -13233620.92 -13233620.81 0.3645 0.0107

Saturn -40945-05-30 11:59 J -13233588.09 -13233588.00 -13233587.92 0.0284 0.0239

Earth -40944-10-07 07:11 J -13233093.25 -13233093.20 -13233093.14 0.2668 0.2326

Moon -40944-10-07 08:09 J -13233093.22 -13233093.16 -13233093.10 0.2666 0.2338 *

Uranus -40942-03-17 07:11 J -13232567.27 -13232567.20 -13232567.13 0.0132 0.0115

Uranus -40942-06-13 11:16 J -13232479.13 -13232479.03 -13232478.92 0.0132 0.0095

Uranus -40942-09-09 15:21 J -13232390.98 -13232390.86 -13232390.73 0.0132 0.0075

Uranus -40942-12-06 19:26 J -13232302.82 -13232302.69 -13232302.55 0.0132 0.0056

Uranus -40941-03-03 23:30 J -13232214.66 -13232214.52 -13232214.37 0.0132 0.0036

Uranus -40941-05-31 03:35 J -13232126.50 -13232126.35 -13232126.20 0.0132 0.0016

Uranus -40941-08-27 07:26 J -13232038.34 -13232038.19 -13232038.04 0.0132 0.0005

Mars -40941-09-26 00:57 J -13232008.54 -13232008.46 -13232008.39 0.1922 0.1562

Uranus -40941-11-23 11:30 J -13231950.17 -13231950.02 -13231949.87 0.0132 0.0022

Uranus -40940-02-19 15:21 J -13231862.00 -13231861.86 -13231861.72 0.0132 0.0041

Uranus -40940-05-18 19:11 J -13231773.83 -13231773.70 -13231773.56 0.0132 0.0060

Uranus -40940-08-14 23:02 J -13231685.65 -13231685.54 -13231685.42 0.0132 0.0079

Jupiter -40940-09-13 11:30 J -13231656.16 -13231656.02 -13231655.88 0.0497 0.0197

Uranus -40940-11-11 02:52 J -13231597.47 -13231597.38 -13231597.28 0.0132 0.0098

Venus -40940-11-11 07:54 J -13231597.25 -13231597.17 -13231597.09 0.3649 0.2540

Jupiter -40940-12-12 02:09 J -13231566.50 -13231566.41 -13231566.32 0.0494 0.0390

Uranus -40939-02-07 06:42 J -13231509.29 -13231509.22 -13231509.15 0.0132 0.0116

Neptune -40939-03-06 06:14 J -13231482.29 -13231482.24 -13231482.20 0.0089 0.0084

Neptune -40939-06-02 08:09 J -13231394.23 -13231394.16 -13231394.08 0.0089 0.0077

Neptune -40939-08-29 09:50 J -13231306.16 -13231306.09 -13231305.98 0.0089 0.0071

Neptune -40939-11-25 11:59 J -13231218.10 -13231218.00 -13231217.88 0.0089 0.0064

Neptune -40938-02-21 13:54 J -13231130.02 -13231129.92 -13231129.79 0.0089 0.0057

Neptune -40938-05-20 16:04 J -13231041.95 -13231041.83 -13231041.69 0.0089 0.0050

Mars -40938-07-15 05:45 J -13230986.40 -13230986.26 -13230986.13 0.1606 0.0389

Neptune -40938-08-16 17:59 J -13230953.87 -13230953.75 -13230953.60 0.0089 0.0043

Neptune -40938-11-12 20:23 J -13230865.79 -13230865.65 -13230865.51 0.0089 0.0035

Neptune -40937-02-08 22:33 J -13230777.71 -13230777.56 -13230777.42 0.0089 0.0028

Neptune -40937-05-07 00:28 J -13230689.63 -13230689.48 -13230689.32 0.0089 0.0021

Neptune -40937-08-03 02:38 J -13230601.54 -13230601.39 -13230601.23 0.0089 0.0014

Moon -40937-09-29 21:50 J -13230543.71 -13230543.59 -13230543.46 0.2670 0.0225

Earth -40937-09-29 21:50 J -13230543.71 -13230543.59 -13230543.46 0.2663 0.0212 *

Neptune -40937-10-30 04:47 J -13230513.46 -13230513.30 -13230513.15 0.0089 0.0007

Neptune -40936-01-26 06:57 J -13230425.37 -13230425.21 -13230425.06 0.0089 0.0002

Neptune -40936-04-24 08:52 J -13230337.28 -13230337.13 -13230336.97 0.0089 0.0008

Neptune -40936-07-21 11:02 J -13230249.19 -13230249.04 -13230248.88 0.0089 0.0015

Neptune -40936-10-17 13:11 J -13230161.10 -13230160.95 -13230160.80 0.0089 0.0022

Neptune -40935-01-13 15:06 J -13230073.01 -13230072.87 -13230072.71 0.0089 0.0030

Neptune -40935-04-11 17:16 J -13229984.91 -13229984.78 -13229984.63 0.0089 0.0037

Neptune -40935-07-08 19:40 J -13229896.82 -13229896.68 -13229896.54 0.0089 0.0044

Neptune -40935-10-04 21:35 J -13229808.72 -13229808.60 -13229808.46 0.0089 0.0052

Neptune -40935-12-31 23:59 J -13229720.61 -13229720.50 -13229720.38 0.0089 0.0059

Neptune -40934-03-30 01:54 J -13229632.51 -13229632.42 -13229632.30 0.0089 0.0067

Earth -40934-04-01 05:02 J -13229630.41 -13229630.29 -13229630.17 0.2667 0.1138

Moon -40934-04-01 05:30 J -13229630.39 -13229630.27 -13229630.15 0.2673 0.1127 *

Neptune -40934-06-26 04:04 J -13229544.40 -13229544.33 -13229544.23 0.0089 0.0074

Neptune -40934-09-22 06:42 J -13229456.28 -13229456.22 -13229456.16 0.0089 0.0081

Neptune -40934-12-19 08:52 J -13229368.13 -13229368.13 -13229368.12 0.0089 0.0089

Jupiter -40933-02-12 18:57 J -13229312.85 -13229312.71 -13229312.56 0.0532 0.0124

Saturn -40931-01-15 23:02 J -13228609.61 -13228609.54 -13228609.47 0.0275 0.0241

Mars -40931-02-16 03:50 J -13228578.47 -13228578.34 -13228578.21 0.1921 0.0499

Saturn -40931-04-14 13:40 J -13228521.06 -13228520.93 -13228520.80 0.0275 0.0136

Saturn -40931-07-12 04:04 J -13228432.48 -13228432.33 -13228432.18 0.0275 0.0032

Saturn -40931-10-08 17:59 J -13228343.89 -13228343.75 -13228343.60 0.0275 0.0070

Saturn -40930-01-05 07:40 J -13228255.29 -13228255.18 -13228255.06 0.0275 0.0169

Saturn -40930-04-03 21:21 J -13228166.64 -13228166.61 -13228166.58 0.0275 0.0266

Mars -40929-12-04 13:26 J -13227556.08 -13227555.94 -13227555.80 0.1607 0.0179

Jupiter -40928-07-02 13:11 J -13227346.05 -13227345.95 -13227345.84 0.0498 0.0348

Jupiter -40928-09-30 03:21 J -13227256.49 -13227256.36 -13227256.22 0.0495 0.0236

Moon -40927-03-24 11:59 J -13227081.10 -13227081.00 -13227080.91 0.2670 0.1805

Earth -40927-03-24 12:57 J -13227081.05 -13227080.96 -13227080.86 0.2672 0.1806 *

Earth -40924-10-02 18:57 J -13225792.83 -13225792.71 -13225792.59 0.2665 0.0728

Moon -40924-10-02 19:26 J -13225792.80 -13225792.69 -13225792.57 0.2670 0.0823 *

Mars -40922-07-09 07:26 J -13225148.32 -13225148.19 -13225148.06 0.1921 0.0512

Jupiter -40922-12-01 19:54 J -13225002.82 -13225002.67 -13225002.52 0.0531 0.0053

Earth -40921-04-03 05:02 J -13224879.36 -13224879.29 -13224879.22 0.2665 0.2240

Moon -40921-04-03 05:59 J -13224879.31 -13224879.25 -13224879.20 0.2669 0.2404 *

Mars -40919-04-26 21:06 J -13224125.75 -13224125.62 -13224125.50 0.1607 0.0755

Mars -40917-04-01 13:40 J -13223419.96 -13223419.93 -13223419.90 0.1605 0.1560

Moon -40917-09-25 07:26 J -13223243.27 -13223243.19 -13223243.11 0.2662 0.2062

Earth -40917-09-25 08:23 J -13223243.24 -13223243.15 -13223243.06 0.2660 0.1915 *

Saturn -40917-10-27 17:02 J -13223210.84 -13223210.79 -13223210.73 0.0284 0.0264

Saturn -40916-01-24 09:35 J -13223122.23 -13223122.10 -13223121.97 0.0284 0.0150

Jupiter -40916-04-20 15:21 J -13223035.88 -13223035.86 -13223035.82 0.0499 0.0490

Saturn -40916-04-23 02:23 J -13223033.56 -13223033.40 -13223033.24 0.0284 0.0033

Jupiter -40916-07-19 05:30 J -13222946.42 -13222946.27 -13222946.12 0.0496 0.0091

Saturn -40916-07-20 19:40 J -13222944.83 -13222944.68 -13222944.53 0.0284 0.0088

Saturn -40916-10-17 13:11 J -13222856.05 -13222855.95 -13222855.84 0.0284 0.0211

Moon -40914-03-27 11:02 J -13222330.16 -13222330.04 -13222329.92 0.2674 0.0905

Earth -40914-03-27 11:59 J -13222330.13 -13222330.00 -13222329.88 0.2670 0.0798 *

Mars -40913-11-28 11:16 J -13221718.11 -13221718.03 -13221717.95 0.1919 0.1496

Earth -40911-10-05 15:50 J -13221041.94 -13221041.84 -13221041.74 0.2666 0.1613

Moon -40911-10-05 16:47 J -13221041.90 -13221041.80 -13221041.70 0.2668 0.1603 *

Mars -40910-09-17 04:18 J -13220695.39 -13220695.32 -13220695.24 0.1608 0.1349

Jupiter -40910-09-19 19:54 J -13220692.81 -13220692.67 -13220692.54 0.0530 0.0247

Jupiter -40910-12-18 13:40 J -13220603.00 -13220602.93 -13220602.86 0.0534 0.0454

Venus -40909-04-18 19:11 J -13220480.82 -13220480.70 -13220480.59 0.3735 0.1579

Mars -40908-08-22 22:04 J -13219989.69 -13219989.58 -13219989.48 0.1606 0.1025

Jupiter -40904-05-07 07:54 J -13218636.33 -13218636.17 -13218636.02 0.0497 0.0050

Moon -40904-09-28 05:16 J -13218492.40 -13218492.28 -13218492.16 0.2666 0.0989

Earth -40904-09-28 05:59 J -13218492.37 -13218492.25 -13218492.13 0.2662 0.0958 *

Venus -40904-11-02 18:57 J -13218456.80 -13218456.71 -13218456.62 0.3730 0.2647

Saturn -40902-06-05 01:40 J -13217877.46 -13217877.43 -13217877.38 0.0275 0.0262

Saturn -40902-09-01 16:33 J -13217788.93 -13217788.81 -13217788.68 0.0275 0.0156

Saturn -40902-11-29 06:57 J -13217700.36 -13217700.21 -13217700.06 0.0275 0.0052

Saturn -40901-02-25 21:06 J -13217611.77 -13217611.62 -13217611.47 0.0275 0.0050

Mars -40901-03-27 01:11 J -13217581.52 -13217581.45 -13217581.39 0.1922 0.1669

Moon -40901-03-29 10:47 J -13217579.18 -13217579.05 -13217578.92 0.2675 0.0223

Earth -40901-03-29 11:02 J -13217579.17 -13217579.04 -13217578.90 0.2668 0.0267 *

Saturn -40901-05-24 10:47 J -13217523.17 -13217523.05 -13217522.92 0.0275 0.0150

Saturn -40901-08-21 00:14 J -13217434.54 -13217434.49 -13217434.42 0.0275 0.0247

Uranus -40900-12-04 12:14 J -13216964.01 -13216963.99 -13216963.94 0.0146 0.0143

Uranus -40899-03-02 18:14 J -13216875.83 -13216875.74 -13216875.64 0.0146 0.0115

Uranus -40899-05-30 00:14 J -13216787.62 -13216787.49 -13216787.36 0.0147 0.0087

Uranus -40899-08-26 06:14 J -13216699.39 -13216699.24 -13216699.09 0.0147 0.0059

Uranus -40899-11-22 12:14 J -13216611.15 -13216610.99 -13216610.83 0.0147 0.0030

Mars -40898-01-13 05:59 J -13216559.39 -13216559.25 -13216559.12 0.1606 0.0471

Uranus -40898-02-18 18:14 J -13216522.90 -13216522.74 -13216522.58 0.0147 0.0002

Uranus -40898-05-18 00:14 J -13216434.64 -13216434.49 -13216434.32 0.0147 0.0028

Jupiter -40898-07-08 20:38 J -13216382.72 -13216382.64 -13216382.55 0.0529 0.0424

Uranus -40898-08-14 06:28 J -13216346.38 -13216346.23 -13216346.07 0.0147 0.0057

Jupiter -40898-10-06 15:06 J -13216292.99 -13216292.87 -13216292.75 0.0533 0.0284

Earth -40898-10-08 12:28 J -13216291.02 -13216290.98 -13216290.94 0.2668 0.2474

Moon -40898-10-08 13:11 J -13216290.97 -13216290.95 -13216290.92 0.2665 0.2581 *

Uranus -40898-11-10 12:42 J -13216258.10 -13216257.97 -13216257.83 0.0147 0.0086

Uranus -40897-02-06 18:57 J -13216169.80 -13216169.71 -13216169.60 0.0147 0.0116

Uranus -40897-05-05 01:11 J -13216081.46 -13216081.45 -13216081.42 0.0147 0.0146

Moon -40894-03-22 18:57 J -13215029.73 -13215029.71 -13215029.68 0.2669 0.2595

Earth -40894-03-22 19:54 J -13215029.70 -13215029.67 -13215029.65 0.2673 0.2608 *

Venus -40894-05-19 17:45 J -13214971.86 -13214971.76 -13214971.66 0.3642 0.1699

Jupiter -40892-02-23 10:04 J -13214326.22 -13214326.08 -13214325.94 0.0498 0.0190

Jupiter -40892-05-24 00:42 J -13214236.56 -13214236.47 -13214236.38 0.0495 0.0398

Mars -40892-08-17 04:04 J -13214151.46 -13214151.33 -13214151.20 0.1921 0.0606

Moon -40891-10-01 03:06 J -13213741.49 -13213741.37 -13213741.24 0.2671 0.0089

Earth -40891-10-01 03:06 J -13213741.49 -13213741.37 -13213741.24 0.2663 0.0098 *

Mars -40889-06-04 13:40 J -13213129.07 -13213128.93 -13213128.79 0.1607 0.0097

Venus -40889-12-02 11:59 J -13212948.11 -13212948.00 -13212947.89 0.3646 0.0944

Earth -40888-04-01 10:47 J -13212828.17 -13212828.05 -13212827.94 0.2667 0.1327

Moon -40888-04-01 11:16 J -13212828.14 -13212828.03 -13212827.91 0.2672 0.1413 *

Saturn -40887-06-13 09:06 J -13212390.23 -13212390.12 -13212390.00 0.0284 0.0192

Saturn -40887-09-10 01:40 J -13212301.58 -13212301.43 -13212301.27 0.0284 0.0076

Saturn -40887-12-07 18:42 J -13212212.87 -13212212.72 -13212212.56 0.0284 0.0044

Saturn -40886-03-06 12:14 J -13212124.12 -13212123.99 -13212123.86 0.0284 0.0165

Jupiter -40886-07-25 16:47 J -13211982.95 -13211982.80 -13211982.66 0.0532 0.0119

Venus -40883-06-18 05:59 J -13210924.28 -13210924.25 -13210924.23 0.3650 0.3516

Mars -40882-01-07 07:40 J -13210721.31 -13210721.18 -13210721.06 0.1920 0.0422

Moon -40881-03-24 17:30 J -13210278.87 -13210278.77 -13210278.68 0.2671 0.1777

Earth -40881-03-24 18:28 J -13210278.83 -13210278.73 -13210278.63 0.2671 0.1626 *

Jupiter -40881-12-12 12:14 J -13210016.09 -13210015.99 -13210015.87 0.0498 0.0332

Jupiter -40880-03-12 02:38 J -13209926.53 -13209926.39 -13209926.26 0.0495 0.0252

Mars -40880-10-25 21:21 J -13209698.74 -13209698.61 -13209698.49 0.1607 0.0675

Earth -40878-10-04 00:14 J -13208990.61 -13208990.49 -13208990.37 0.2665 0.0884

Moon -40878-10-04 00:57 J -13208990.58 -13208990.46 -13208990.35 0.2670 0.0895 *

Earth -40875-04-04 10:33 J -13208077.11 -13208077.06 -13208077.01 0.2665 0.2439

Moon -40875-04-04 11:45 J -13208077.06 -13208077.01 -13208076.96 0.2667 0.2442 *

Jupiter -40874-05-13 18:28 J -13207672.88 -13207672.73 -13207672.58 0.0531 0.0048

Mars -40873-05-29 11:16 J -13207291.12 -13207291.03 -13207290.94 0.1919 0.1410

Saturn -40872-01-18 16:18 J -13207056.92 -13207056.82 -13207056.70 0.0275 0.0196

Saturn -40872-04-17 06:57 J -13206968.35 -13206968.21 -13206968.06 0.0275 0.0091

Saturn -40872-07-14 21:21 J -13206879.76 -13206879.61 -13206879.46 0.0275 0.0012

Saturn -40872-10-11 11:16 J -13206791.17 -13206791.03 -13206790.90 0.0275 0.0113

Saturn -40871-01-08 00:57 J -13206702.55 -13206702.46 -13206702.37 0.0275 0.0211

Moon -40871-09-26 12:42 J -13206441.07 -13206440.97 -13206440.88 0.2662 0.1746

Earth -40871-09-26 13:40 J -13206441.02 -13206440.93 -13206440.83 0.2661 0.1748 *

Mars -40870-03-18 04:47 J -13206268.39 -13206268.30 -13206268.22 0.1608 0.1262

Jupiter -40869-09-30 14:09 J -13205705.95 -13205705.91 -13205705.87 0.0499 0.0480

Jupiter -40869-12-29 04:04 J -13205616.48 -13205616.33 -13205616.18 0.0496 0.0099

Mars -40868-02-20 22:04 J -13205562.68 -13205562.58 -13205562.48 0.1606 0.1103

Moon -40868-03-27 16:33 J -13205527.93 -13205527.81 -13205527.68 0.2675 0.0605

Earth -40868-03-27 17:30 J -13205527.90 -13205527.77 -13205527.65 0.2670 0.0617 *

Earth -40865-10-05 21:06 J -13204239.71 -13204239.62 -13204239.53 0.2667 0.1767

Moon -40865-10-05 22:04 J -13204239.67 -13204239.58 -13204239.50 0.2668 0.1908 *

Jupiter -40862-03-01 19:26 J -13203362.83 -13203362.69 -13203362.56 0.0530 0.0223

Jupiter -40862-05-30 13:11 J -13203273.01 -13203272.95 -13203272.89 0.0534 0.0477

Mars -40862-09-26 01:11 J -13203154.50 -13203154.45 -13203154.40 0.1922 0.1762

Mars -40859-07-14 06:14 J -13202132.37 -13202132.24 -13202132.11 0.1606 0.0553

Uranus -40858-01-08 10:18 J -13201954.09 -13201954.07 -13201954.02 0.0132 0.0128

Uranus -40858-04-06 14:52 J -13201865.97 -13201865.88 -13201865.80 0.0132 0.0108

Uranus -40858-07-03 18:57 J -13201777.82 -13201777.71 -13201777.60 0.0132 0.0088

Moon -40858-09-29 10:47 J -13201690.17 -13201690.05 -13201689.93 0.2668 0.0878

Earth -40858-09-29 11:16 J -13201690.15 -13201690.03 -13201689.91 0.2662 0.0790 *

Uranus -40858-09-29 22:47 J -13201689.67 -13201689.55 -13201689.41 0.0132 0.0068

Saturn -40858-10-31 10:04 J -13201658.17 -13201658.08 -13201657.98 0.0284 0.0223

Uranus -40858-12-27 02:52 J -13201601.51 -13201601.38 -13201601.23 0.0132 0.0049

Saturn -40857-01-28 02:52 J -13201569.53 -13201569.38 -13201569.24 0.0284 0.0107

Uranus -40857-03-24 06:57 J -13201513.35 -13201513.21 -13201513.06 0.0132 0.0029

Saturn -40857-04-25 19:40 J -13201480.84 -13201480.68 -13201480.52 0.0284 0.0014

Uranus -40857-06-20 11:02 J -13201425.19 -13201425.04 -13201424.89 0.0132 0.0009

Saturn -40857-07-23 13:11 J -13201392.09 -13201391.95 -13201391.81 0.0284 0.0133

Uranus -40857-09-16 15:06 J -13201337.02 -13201336.87 -13201336.72 0.0132 0.0011

Jupiter -40857-10-17 05:59 J -13201306.40 -13201306.25 -13201306.09 0.0497 0.0047

Saturn -40857-10-20 06:57 J -13201303.28 -13201303.21 -13201303.15 0.0284 0.0257

Uranus -40857-12-13 18:57 J -13201248.85 -13201248.71 -13201248.56 0.0132 0.0030

Neptune -40856-03-06 20:38 J -13201165.68 -13201165.64 -13201165.59 0.0088 0.0085

Uranus -40856-03-11 22:47 J -13201160.68 -13201160.55 -13201160.41 0.0132 0.0049

Neptune -40856-06-02 22:47 J -13201077.62 -13201077.55 -13201077.46 0.0088 0.0077

Uranus -40856-06-08 02:38 J -13201072.51 -13201072.39 -13201072.26 0.0132 0.0068

Neptune -40856-08-30 01:11 J -13200989.54 -13200989.45 -13200989.34 0.0088 0.0070

Uranus -40856-09-04 06:42 J -13200984.33 -13200984.22 -13200984.11 0.0132 0.0086

Neptune -40856-11-26 03:21 J -13200901.46 -13200901.36 -13200901.23 0.0088 0.0063

Uranus -40856-12-01 10:18 J -13200896.15 -13200896.07 -13200895.98 0.0132 0.0105

Neptune -40855-02-22 05:59 J -13200813.38 -13200813.25 -13200813.13 0.0088 0.0055

Uranus -40855-02-27 13:54 J -13200807.96 -13200807.92 -13200807.86 0.0132 0.0124

Moon -40855-03-30 16:33 J -13200776.94 -13200776.81 -13200776.68 0.2674 0.0405

Earth -40855-03-30 16:47 J -13200776.94 -13200776.80 -13200776.67 0.2668 0.0443 *

Neptune -40855-05-21 07:54 J -13200725.30 -13200725.17 -13200725.02 0.0088 0.0048

Neptune -40855-08-17 10:04 J -13200637.21 -13200637.08 -13200636.92 0.0088 0.0041

Neptune -40855-11-13 12:42 J -13200549.12 -13200548.97 -13200548.82 0.0088 0.0033

Neptune -40854-02-09 14:52 J -13200461.03 -13200460.88 -13200460.73 0.0088 0.0025

Neptune -40854-05-08 17:02 J -13200372.94 -13200372.79 -13200372.63 0.0088 0.0018

Neptune -40854-08-04 19:11 J -13200284.85 -13200284.70 -13200284.54 0.0088 0.0011

Neptune -40854-10-31 21:35 J -13200196.76 -13200196.60 -13200196.44 0.0088 0.0004

Neptune -40853-01-27 23:45 J -13200108.67 -13200108.51 -13200108.35 0.0088 0.0004

Neptune -40853-04-25 01:40 J -13200020.58 -13200020.43 -13200020.26 0.0088 0.0012

Neptune -40853-07-22 03:50 J -13199932.49 -13199932.34 -13199932.18 0.0088 0.0019

Neptune -40853-10-18 05:59 J -13199844.39 -13199844.25 -13199844.09 0.0088 0.0026

Venus -40853-11-23 18:42 J -13199807.85 -13199807.72 -13199807.59 0.3733 0.0103

Neptune -40852-01-14 08:09 J -13199756.30 -13199756.16 -13199756.01 0.0088 0.0033

Mars -40852-02-15 04:18 J -13199724.44 -13199724.32 -13199724.19 0.1921 0.0716

Neptune -40852-04-12 10:18 J -13199668.20 -13199668.07 -13199667.92 0.0088 0.0040

Neptune -40852-07-09 12:28 J -13199580.11 -13199579.98 -13199579.84 0.0088 0.0047

Neptune -40852-10-05 14:38 J -13199492.01 -13199491.89 -13199491.76 0.0088 0.0054

Earth -40852-10-08 17:45 J -13199488.78 -13199488.76 -13199488.75 0.2668 0.2628

Moon -40852-10-08 18:14 J -13199488.76 -13199488.74 -13199488.71 0.2664 0.2595 *

Neptune -40851-01-01 16:47 J -13199403.91 -13199403.80 -13199403.69 0.0088 0.0061

Neptune -40851-03-30 18:42 J -13199315.81 -13199315.72 -13199315.61 0.0088 0.0068

Neptune -40851-06-26 20:52 J -13199227.71 -13199227.63 -13199227.54 0.0088 0.0075

Neptune -40851-09-22 22:47 J -13199139.60 -13199139.55 -13199139.48 0.0088 0.0082

Jupiter -40851-12-18 19:11 J -13199052.79 -13199052.70 -13199052.61 0.0529 0.0418

Jupiter -40850-03-18 13:26 J -13198963.06 -13198962.94 -13198962.82 0.0533 0.0288

Mars -40850-12-04 13:54 J -13198702.06 -13198701.92 -13198701.78 0.1607 0.0031

Moon -40848-03-23 00:28 J -13198227.52 -13198227.48 -13198227.45 0.2669 0.2553

Earth -40848-03-23 01:11 J -13198227.49 -13198227.45 -13198227.39 0.2673 0.2439 *

Jupiter -40845-08-05 08:38 J -13196996.28 -13196996.14 -13196996.00 0.0498 0.0184

Moon -40845-10-01 08:38 J -13196939.27 -13196939.14 -13196939.02 0.2671 0.0157

Earth -40845-10-01 08:38 J -13196939.27 -13196939.14 -13196939.02 0.2664 0.0162 *

Jupiter -40845-11-02 23:02 J -13196906.62 -13196906.54 -13196906.45 0.0495 0.0405

Saturn -40843-06-07 19:26 J -13196324.78 -13196324.69 -13196324.60 0.0275 0.0217

Venus -40843-06-09 21:35 J -13196322.64 -13196322.60 -13196322.56 0.3639 0.3385

Mars -40843-07-08 07:40 J -13196294.31 -13196294.18 -13196294.05 0.1920 0.0320

Saturn -40843-09-04 10:04 J -13196236.22 -13196236.08 -13196235.95 0.0275 0.0112

Saturn -40843-12-02 00:14 J -13196147.64 -13196147.49 -13196147.34 0.0275 0.0008

Saturn -40842-02-28 14:09 J -13196059.05 -13196058.91 -13196058.77 0.0275 0.0093

Earth -40842-04-02 16:18 J -13196025.93 -13196025.82 -13196025.71 0.2666 0.1520

Moon -40842-04-02 17:02 J -13196025.90 -13196025.79 -13196025.68 0.2672 0.1550 *

Saturn -40842-05-28 03:50 J -13195970.44 -13195970.34 -13195970.23 0.0275 0.0192

Mars -40840-04-25 21:35 J -13195271.73 -13195271.60 -13195271.47 0.1607 0.0589

Jupiter -40838-01-04 14:38 J -13194653.03 -13194652.89 -13194652.74 0.0532 0.0117

Moon -40838-09-24 20:23 J -13194389.68 -13194389.65 -13194389.62 0.2658 0.2560

Earth -40838-09-24 21:21 J -13194389.64 -13194389.61 -13194389.58 0.2659 0.2553 *

Venus -40838-12-24 15:50 J -13194298.95 -13194298.84 -13194298.72 0.3643 0.0697

Moon -40835-03-25 23:02 J -13193476.65 -13193476.54 -13193476.43 0.2672 0.1447

Earth -40835-03-25 23:59 J -13193476.61 -13193476.50 -13193476.39 0.2671 0.1452 *

Mars -40834-11-28 11:30 J -13192864.11 -13192864.02 -13192863.92 0.1919 0.1307

Jupiter -40833-05-24 11:02 J -13192686.16 -13192686.04 -13192685.93 0.0499 0.0323

Jupiter -40833-08-22 01:11 J -13192596.58 -13192596.45 -13192596.32 0.0495 0.0261

Venus -40832-07-09 10:04 J -13192275.18 -13192275.08 -13192274.99 0.3647 0.1926

Earth -40832-10-04 05:30 J -13192188.38 -13192188.27 -13192188.15 0.2665 0.1045

Moon -40832-10-04 06:14 J -13192188.35 -13192188.24 -13192188.12 0.2669 0.1125 *

Mars -40831-09-16 05:02 J -13191841.39 -13191841.29 -13191841.20 0.1608 0.1177

Earth -40829-04-04 16:18 J -13191274.83 -13191274.82 -13191274.80 0.2665 0.2636

Mars -40829-08-21 22:18 J -13191135.66 -13191135.57 -13191135.48 0.1606 0.1180

Saturn -40828-03-19 09:50 J -13190926.14 -13190926.09 -13190926.03 0.0284 0.0263

Saturn -40828-06-16 02:23 J -13190837.53 -13190837.40 -13190837.27 0.0284 0.0149

Saturn -40828-09-12 19:11 J -13190748.86 -13190748.70 -13190748.54 0.0284 0.0032

Saturn -40828-12-10 12:14 J -13190660.14 -13190659.99 -13190659.83 0.0284 0.0089

Saturn -40827-03-09 05:45 J -13190571.36 -13190571.26 -13190571.15 0.0284 0.0212

Jupiter -40827-10-23 16:18 J -13190342.97 -13190342.82 -13190342.67 0.0532 0.0051

Pluto -40827-11-28 11:16 J -13190307.04 -13190307.03 -13190306.99 0.0066 0.0065

Pluto -40826-02-24 12:28 J -13190219.03 -13190218.98 -13190218.90 0.0066 0.0060

Pluto -40826-05-23 13:40 J -13190131.00 -13190130.93 -13190130.82 0.0066 0.0055

Pluto -40826-08-19 14:52 J -13190042.97 -13190042.88 -13190042.75 0.0066 0.0050

Pluto -40826-11-15 16:33 J -13189954.93 -13189954.81 -13189954.69 0.0066 0.0045

Pluto -40825-02-11 17:30 J -13189866.89 -13189866.77 -13189866.62 0.0066 0.0040

Pluto -40825-05-09 18:42 J -13189778.85 -13189778.72 -13189778.56 0.0066 0.0035

Pluto -40825-08-05 20:23 J -13189690.80 -13189690.65 -13189690.50 0.0066 0.0029

Moon -40825-09-26 18:14 J -13189638.84 -13189638.74 -13189638.65 0.2662 0.1723

Earth -40825-09-26 19:11 J -13189638.80 -13189638.70 -13189638.60 0.2661 0.1574 *

Pluto -40825-11-01 21:21 J -13189602.76 -13189602.61 -13189602.44 0.0067 0.0024

Pluto -40824-01-28 22:33 J -13189514.71 -13189514.56 -13189514.38 0.0067 0.0019

Pluto -40824-04-26 23:59 J -13189426.66 -13189426.50 -13189426.33 0.0067 0.0013

Pluto -40824-07-24 01:26 J -13189338.61 -13189338.44 -13189338.27 0.0067 0.0007

Pluto -40824-10-20 02:52 J -13189250.55 -13189250.38 -13189250.21 0.0067 0.0002

Pluto -40823-01-16 04:04 J -13189162.50 -13189162.33 -13189162.16 0.0067 0.0004

Pluto -40823-04-14 05:30 J -13189074.44 -13189074.27 -13189074.10 0.0067 0.0009

Pluto -40823-07-11 06:42 J -13188986.38 -13188986.22 -13188986.05 0.0067 0.0015

Pluto -40823-10-07 08:09 J -13188898.32 -13188898.16 -13188898.00 0.0067 0.0021

Pluto -40822-01-03 09:21 J -13188810.26 -13188810.11 -13188809.94 0.0067 0.0027

Mars -40822-03-27 01:26 J -13188727.46 -13188727.44 -13188727.41 0.1922 0.1871

Moon -40822-03-28 22:18 J -13188725.70 -13188725.57 -13188725.45 0.2674 0.0564

Earth -40822-03-28 23:02 J -13188725.67 -13188725.54 -13188725.41 0.2669 0.0429 *

Pluto -40822-04-01 10:33 J -13188722.19 -13188722.06 -13188721.89 0.0068 0.0033

Pluto -40822-06-28 12:14 J -13188634.12 -13188633.99 -13188633.84 0.0068 0.0038

Pluto -40822-09-24 13:40 J -13188546.05 -13188545.93 -13188545.80 0.0068 0.0044

Pluto -40822-12-21 14:52 J -13188457.98 -13188457.88 -13188457.75 0.0068 0.0050

Jupiter -40821-03-12 13:26 J -13188375.99 -13188375.94 -13188375.89 0.0499 0.0462

Pluto -40821-03-18 16:18 J -13188369.90 -13188369.82 -13188369.71 0.0068 0.0056

Jupiter -40821-06-10 03:06 J -13188286.51 -13188286.37 -13188286.22 0.0496 0.0118

Pluto -40821-06-14 17:30 J -13188281.81 -13188281.77 -13188281.67 0.0068 0.0062

Pluto -40821-09-10 19:11 J -13188193.70 -13188193.70 -13188193.67 0.0068 0.0068

Mars -40819-01-12 06:28 J -13187705.36 -13187705.23 -13187705.11 0.1606 0.0633

Earth -40819-10-07 02:23 J -13187437.49 -13187437.40 -13187437.32 0.2667 0.1925

Moon -40819-10-07 03:06 J -13187437.45 -13187437.37 -13187437.28 0.2667 0.1926 *

Uranus -40816-12-24 19:40 J -13186262.73 -13186262.68 -13186262.61 0.0147 0.0135

Uranus -40815-03-23 01:40 J -13186174.54 -13186174.43 -13186174.32 0.0147 0.0107

Uranus -40815-06-19 07:40 J -13186086.32 -13186086.18 -13186086.05 0.0147 0.0079

Jupiter -40815-08-11 17:45 J -13186032.89 -13186032.76 -13186032.62 0.0531 0.0217

Uranus -40815-09-15 13:26 J -13185998.08 -13185997.94 -13185997.78 0.0147 0.0051

Jupiter -40815-11-09 11:45 J -13185943.07 -13185943.01 -13185942.95 0.0534 0.0485

Uranus -40815-12-12 19:40 J -13185909.84 -13185909.68 -13185909.52 0.0147 0.0022

Uranus -40814-03-11 01:40 J -13185821.59 -13185821.43 -13185821.27 0.0147 0.0007

Uranus -40814-06-07 07:40 J -13185733.33 -13185733.18 -13185733.01 0.0147 0.0036

Uranus -40814-09-03 13:54 J -13185645.06 -13185644.92 -13185644.77 0.0147 0.0065

Saturn -40814-10-25 18:57 J -13185592.76 -13185592.71 -13185592.66 0.0275 0.0258

Uranus -40814-11-30 20:09 J -13185556.78 -13185556.66 -13185556.53 0.0147 0.0095

Saturn -40813-01-22 09:35 J -13185504.22 -13185504.10 -13185503.97 0.0275 0.0153

Uranus -40813-02-27 02:09 J -13185468.48 -13185468.41 -13185468.31 0.0147 0.0125

Saturn -40813-04-20 00:14 J -13185415.64 -13185415.49 -13185415.34 0.0275 0.0049

Saturn -40813-07-17 14:09 J -13185327.05 -13185326.91 -13185326.76 0.0275 0.0055

Mars -40813-08-16 04:18 J -13185297.44 -13185297.32 -13185297.20 0.1921 0.0802

Saturn -40813-10-14 04:04 J -13185238.45 -13185238.33 -13185238.21 0.0275 0.0154

Saturn -40812-01-10 17:45 J -13185149.82 -13185149.76 -13185149.71 0.0275 0.0251

Moon -40812-09-29 16:04 J -13184887.95 -13184887.83 -13184887.70 0.2669 0.0595

Earth -40812-09-29 16:33 J -13184887.93 -13184887.81 -13184887.69 0.2662 0.0624 *

Mars -40810-06-04 14:09 J -13184275.05 -13184274.91 -13184274.77 0.1607 0.0077

Jupiter -40809-03-29 04:47 J -13183976.45 -13183976.30 -13183976.15 0.0497 0.0035

Earth -40809-03-30 22:18 J -13183974.70 -13183974.57 -13183974.44 0.2668 0.0623

Moon -40809-03-30 22:33 J -13183974.69 -13183974.56 -13183974.44 0.2674 0.0691 *

Mars -40803-01-06 07:54 J -13181867.30 -13181867.17 -13181867.04 0.1920 0.0218

Jupiter -40803-05-30 18:42 J -13181722.82 -13181722.72 -13181722.62 0.0530 0.0393

Jupiter -40803-08-28 13:11 J -13181633.07 -13181632.95 -13181632.83 0.0533 0.0314

Moon -40802-03-24 05:59 J -13181425.32 -13181425.25 -13181425.19 0.2669 0.2275

Earth -40802-03-24 06:42 J -13181425.28 -13181425.22 -13181425.15 0.2673 0.2264 *

Venus -40802-12-15 18:42 J -13181158.81 -13181158.72 -13181158.64 0.3737 0.2743

Mars -40801-10-24 21:50 J -13180844.72 -13180844.59 -13180844.45 0.1608 0.0502

Earth -40799-10-02 13:54 J -13180137.05 -13180136.92 -13180136.80 0.2664 0.0313

Moon -40799-10-02 13:54 J -13180137.04 -13180136.92 -13180136.79 0.2670 0.0305 *

Saturn -40799-11-03 02:52 J -13180105.50 -13180105.38 -13180105.26 0.0284 0.0183

Saturn -40798-01-30 19:40 J -13180016.84 -13180016.68 -13180016.53 0.0284 0.0067

Saturn -40798-04-29 12:42 J -13179928.13 -13179927.97 -13179927.82 0.0284 0.0053

Saturn -40798-07-27 05:59 J -13179839.37 -13179839.25 -13179839.12 0.0284 0.0176

Jupiter -40797-01-16 06:57 J -13179666.35 -13179666.21 -13179666.07 0.0498 0.0178

Jupiter -40797-04-14 21:35 J -13179576.69 -13179576.60 -13179576.52 0.0495 0.0410

Earth -40796-04-02 22:04 J -13179223.69 -13179223.58 -13179223.48 0.2666 0.1712

Moon -40796-04-02 22:47 J -13179223.65 -13179223.55 -13179223.46 0.2671 0.1770 *

Venus -40796-06-30 18:14 J -13179134.86 -13179134.74 -13179134.62 0.3732 0.1410

Mars -40794-05-29 11:45 J -13178437.11 -13178437.01 -13178436.91 0.1919 0.1203

Moon -40792-09-25 01:40 J -13177587.47 -13177587.43 -13177587.39 0.2658 0.2499

Earth -40792-09-25 02:38 J -13177587.44 -13177587.39 -13177587.33 0.2660 0.2378 *

Mars -40791-03-17 05:16 J -13177414.38 -13177414.28 -13177414.18 0.1608 0.1091

Jupiter -40791-06-16 13:11 J -13177323.09 -13177322.95 -13177322.80 0.0532 0.0125

Mars -40789-02-20 22:33 J -13176708.64 -13176708.56 -13176708.47 0.1606 0.1265

Moon -40789-03-26 04:33 J -13176674.42 -13176674.31 -13176674.20 0.2673 0.1413

Earth -40789-03-26 05:30 J -13176674.38 -13176674.27 -13176674.15 0.2671 0.1271 *

Venus -40786-01-14 19:40 J -13175649.76 -13175649.68 -13175649.59 0.3640 0.2359

Earth -40786-10-05 10:47 J -13175386.16 -13175386.05 -13175385.94 0.2666 0.1204

Moon -40786-10-05 11:45 J -13175386.12 -13175386.01 -13175385.91 0.2670 0.1261 *

Jupiter -40786-11-04 09:35 J -13175356.22 -13175356.10 -13175355.99 0.0499 0.0316

Jupiter -40785-02-01 23:45 J -13175266.64 -13175266.51 -13175266.38 0.0496 0.0269

Saturn -40784-06-10 12:28 J -13174772.09 -13174771.98 -13174771.86 0.0275 0.0174

Saturn -40784-09-07 02:52 J -13174683.52 -13174683.38 -13174683.23 0.0275 0.0070

Saturn -40784-12-04 17:16 J -13174594.93 -13174594.78 -13174594.63 0.0275 0.0034

Saturn -40783-03-03 06:57 J -13174506.33 -13174506.21 -13174506.08 0.0275 0.0134

Saturn -40783-05-30 20:38 J -13174417.72 -13174417.64 -13174417.56 0.0275 0.0232

Venus -40781-07-30 13:54 J -13173626.03 -13173625.92 -13173625.80 0.3644 0.0321

Mars -40780-07-13 06:42 J -13173278.35 -13173278.22 -13173278.10 0.1606 0.0714

Jupiter -40779-04-04 14:23 J -13173013.05 -13173012.90 -13173012.75 0.0531 0.0050

Moon -40779-09-27 23:30 J -13172836.62 -13172836.52 -13172836.41 0.2664 0.1399

Earth -40779-09-28 00:28 J -13172836.59 -13172836.48 -13172836.37 0.2661 0.1406 *

Moon -40776-03-29 03:50 J -13171923.47 -13171923.34 -13171923.21 0.2674 0.0221

Earth -40776-03-29 04:33 J -13171923.44 -13171923.31 -13171923.18 0.2669 0.0252 *

Venus -40775-02-13 08:09 J -13171602.23 -13171602.16 -13171602.10 0.3648 0.2910

Neptune -40775-09-04 02:52 J -13171399.38 -13171399.38 -13171399.38 0.0089 0.0089

Neptune -40775-12-01 04:33 J -13171311.35 -13171311.31 -13171311.24 0.0089 0.0082

Uranus -40774-01-28 18:14 J -13171252.80 -13171252.74 -13171252.67 0.0132 0.0120

Neptune -40774-02-27 06:42 J -13171223.29 -13171223.22 -13171223.13 0.0089 0.0075

Uranus -40774-04-26 22:18 J -13171164.66 -13171164.57 -13171164.46 0.0132 0.0100

Neptune -40774-05-26 08:38 J -13171135.23 -13171135.14 -13171135.03 0.0089 0.0068

Uranus -40774-07-24 02:38 J -13171076.51 -13171076.39 -13171076.27 0.0132 0.0080

Neptune -40774-08-22 10:47 J -13171047.16 -13171047.05 -13171046.93 0.0089 0.0061

Jupiter -40774-08-23 11:59 J -13171046.06 -13171046.00 -13171045.94 0.0499 0.0453

Uranus -40774-10-20 06:28 J -13170988.36 -13170988.23 -13170988.08 0.0132 0.0060

Neptune -40774-11-18 12:42 J -13170959.08 -13170958.97 -13170958.84 0.0089 0.0054

Jupiter -40774-11-21 01:54 J -13170956.57 -13170956.42 -13170956.27 0.0496 0.0127

Uranus -40773-01-16 10:47 J -13170900.20 -13170900.05 -13170899.91 0.0132 0.0040

Neptune -40773-02-14 14:52 J -13170871.01 -13170870.88 -13170870.75 0.0089 0.0047

Mars -40773-02-15 04:33 J -13170870.42 -13170870.31 -13170870.19 0.1921 0.0909

Uranus -40773-04-13 14:38 J -13170812.03 -13170811.89 -13170811.73 0.0132 0.0021

Neptune -40773-05-12 16:47 J -13170782.93 -13170782.80 -13170782.65 0.0089 0.0040

Uranus -40773-07-10 18:42 J -13170723.87 -13170723.72 -13170723.57 0.0132 0.0002

Neptune -40773-08-08 18:57 J -13170694.85 -13170694.71 -13170694.56 0.0089 0.0033

Uranus -40773-10-06 22:47 J -13170635.70 -13170635.55 -13170635.40 0.0132 0.0018

Earth -40773-10-07 07:26 J -13170635.26 -13170635.19 -13170635.11 0.2667 0.2081

Moon -40773-10-07 08:23 J -13170635.22 -13170635.15 -13170635.08 0.2666 0.2176 *

Neptune -40773-11-04 21:06 J -13170606.77 -13170606.62 -13170606.47 0.0089 0.0026

Uranus -40772-01-03 02:38 J -13170547.53 -13170547.39 -13170547.24 0.0132 0.0037

Neptune -40772-01-31 23:02 J -13170518.68 -13170518.54 -13170518.38 0.0089 0.0019

Uranus -40772-04-01 06:28 J -13170459.36 -13170459.23 -13170459.09 0.0132 0.0057

Neptune -40772-04-30 01:11 J -13170430.60 -13170430.45 -13170430.29 0.0089 0.0012

Uranus -40772-06-28 10:33 J -13170371.19 -13170371.06 -13170370.94 0.0132 0.0075

Neptune -40772-07-27 03:21 J -13170342.52 -13170342.36 -13170342.20 0.0089 0.0004

Uranus -40772-09-24 14:09 J -13170283.01 -13170282.91 -13170282.80 0.0132 0.0094

Neptune -40772-10-23 05:30 J -13170254.43 -13170254.27 -13170254.12 0.0089 0.0003

Uranus -40772-12-21 17:45 J -13170194.82 -13170194.76 -13170194.67 0.0132 0.0113

Neptune -40771-01-19 07:40 J -13170166.34 -13170166.18 -13170166.03 0.0089 0.0010

Uranus -40771-03-19 21:50 J -13170106.60 -13170106.59 -13170106.58 0.0132 0.0131

Neptune -40771-04-17 09:35 J -13170078.25 -13170078.10 -13170077.94 0.0089 0.0018

Neptune -40771-07-14 11:45 J -13169990.16 -13169990.01 -13169989.86 0.0089 0.0025

Neptune -40771-10-10 13:54 J -13169902.06 -13169901.92 -13169901.77 0.0089 0.0032

Mars -40771-12-03 14:23 J -13169848.04 -13169847.90 -13169847.76 0.1607 0.0157

Neptune -40770-01-06 16:04 J -13169813.97 -13169813.83 -13169813.69 0.0089 0.0039

Neptune -40770-04-04 17:59 J -13169725.87 -13169725.75 -13169725.60 0.0089 0.0047

Neptune -40770-07-01 20:23 J -13169637.77 -13169637.65 -13169637.52 0.0089 0.0054

Neptune -40770-09-27 22:18 J -13169549.67 -13169549.57 -13169549.44 0.0089 0.0062

Neptune -40770-12-25 00:42 J -13169461.56 -13169461.47 -13169461.37 0.0089 0.0069

Saturn -40769-03-22 02:38 J -13169373.48 -13169373.39 -13169373.29 0.0284 0.0223

Neptune -40769-03-22 03:06 J -13169373.45 -13169373.37 -13169373.29 0.0089 0.0076 *

Neptune -40769-06-18 05:02 J -13169285.33 -13169285.29 -13169285.23 0.0089 0.0084

Saturn -40769-06-18 19:11 J -13169284.84 -13169284.70 -13169284.55 0.0284 0.0108

Saturn -40769-09-15 12:14 J -13169196.15 -13169195.99 -13169195.83 0.0284 0.0011

Saturn -40769-12-13 05:16 J -13169107.41 -13169107.28 -13169107.13 0.0284 0.0132

Saturn -40768-03-11 23:02 J -13169018.60 -13169018.54 -13169018.47 0.0284 0.0255

Jupiter -40767-01-21 15:50 J -13168702.98 -13168702.84 -13168702.71 0.0531 0.0219

Jupiter -40767-04-21 09:35 J -13168613.15 -13168613.10 -13168613.03 0.0534 0.0483

Moon -40766-09-30 21:35 J -13168085.72 -13168085.60 -13168085.48 0.2669 0.0563

Earth -40766-09-30 21:50 J -13168085.71 -13168085.59 -13168085.46 0.2663 0.0460 *

Mars -40764-07-07 08:09 J -13167440.29 -13167440.16 -13167440.03 0.1920 0.0120

Earth -40763-04-01 03:50 J -13167172.46 -13167172.34 -13167172.21 0.2667 0.0816

Moon -40763-04-01 04:04 J -13167172.45 -13167172.33 -13167172.20 0.2674 0.0768 *

Jupiter -40762-09-09 04:04 J -13166646.48 -13166646.33 -13166646.18 0.0497 0.0017

Mars -40761-04-24 22:04 J -13166417.71 -13166417.58 -13166417.44 0.1608 0.0421

Moon -40756-03-24 11:16 J -13164623.10 -13164623.03 -13164622.95 0.2670 0.2171

Earth -40756-03-24 12:14 J -13164623.07 -13164622.99 -13164622.91 0.2672 0.2089 *

Jupiter -40756-11-09 17:16 J -13164392.88 -13164392.78 -13164392.68 0.0530 0.0386

Jupiter -40755-02-07 11:30 J -13164303.13 -13164303.02 -13164302.90 0.0533 0.0323

Saturn -40755-10-28 11:45 J -13164040.09 -13164040.01 -13164039.91 0.0275 0.0217

Mars -40755-11-27 11:45 J -13164010.12 -13164010.01 -13164009.91 0.1919 0.1123

Saturn -40754-01-25 02:38 J -13163951.53 -13163951.39 -13163951.25 0.0275 0.0111

Saturn -40754-04-23 17:02 J -13163862.94 -13163862.79 -13163862.64 0.0275 0.0010

Saturn -40754-07-21 06:57 J -13163774.35 -13163774.21 -13163774.07 0.0275 0.0094

Saturn -40754-10-17 20:38 J -13163685.74 -13163685.64 -13163685.53 0.0275 0.0193

Earth -40753-10-02 19:11 J -13163334.83 -13163334.70 -13163334.58 0.2664 0.0469

Moon -40753-10-02 19:26 J -13163334.81 -13163334.69 -13163334.56 0.2670 0.0558 *

Mars -40752-09-15 05:30 J -13162987.38 -13162987.27 -13162987.16 0.1609 0.1007

Earth -40750-04-04 03:35 J -13162421.44 -13162421.35 -13162421.25 0.2666 0.1906

Moon -40750-04-04 04:33 J -13162421.40 -13162421.31 -13162421.22 0.2670 0.2004 *

Jupiter -40750-06-28 05:45 J -13162336.40 -13162336.26 -13162336.11 0.0498 0.0166

Mars -40750-08-21 22:47 J -13162281.62 -13162281.55 -13162281.48 0.1606 0.1340

Jupiter -40750-09-25 20:23 J -13162246.73 -13162246.65 -13162246.57 0.0495 0.0422

Moon -40746-09-26 07:11 J -13160785.27 -13160785.20 -13160785.14 0.2658 0.2239

Earth -40746-09-26 08:09 J -13160785.23 -13160785.16 -13160785.09 0.2660 0.2205 *

Venus -40745-07-21 17:59 J -13160485.87 -13160485.75 -13160485.63 0.3736 0.1280

Jupiter -40744-11-26 12:57 J -13159993.10 -13159992.96 -13159992.81 0.0532 0.0151

Moon -40743-03-27 10:04 J -13159872.20 -13159872.08 -13159871.97 0.2674 0.1111

Earth -40743-03-27 11:02 J -13159872.16 -13159872.04 -13159871.92 0.2671 0.1095 *

Mars -40742-02-05 12:57 J -13159556.97 -13159556.96 -13159556.95 0.1610 0.1601

Mars -40740-01-11 06:57 J -13158851.33 -13158851.21 -13158851.09 0.1606 0.0797

Saturn -40740-08-09 02:38 J -13158641.44 -13158641.39 -13158641.32 0.0284 0.0261

Earth -40740-10-05 16:04 J -13158583.94 -13158583.83 -13158583.73 0.2666 0.1362

Moon -40740-10-05 16:47 J -13158583.90 -13158583.80 -13158583.69 0.2670 0.1415 *

Saturn -40740-11-05 19:11 J -13158552.83 -13158552.70 -13158552.56 0.0284 0.0146

Pluto -40739-01-02 06:57 J -13158495.26 -13158495.21 -13158495.14 0.0079 0.0072

Saturn -40739-02-02 11:59 J -13158464.15 -13158464.00 -13158463.84 0.0284 0.0029

Venus -40739-02-04 17:30 J -13158461.85 -13158461.77 -13158461.69 0.3731 0.2905

Pluto -40739-03-31 08:23 J -13158407.22 -13158407.15 -13158407.05 0.0079 0.0064

Saturn -40739-05-02 05:16 J -13158375.43 -13158375.28 -13158375.13 0.0284 0.0092

Pluto -40739-06-27 10:04 J -13158319.18 -13158319.08 -13158318.97 0.0078 0.0056

Saturn -40739-07-29 22:47 J -13158286.65 -13158286.55 -13158286.44 0.0284 0.0215

Pluto -40739-09-23 11:30 J -13158231.13 -13158231.02 -13158230.90 0.0078 0.0048

Pluto -40739-12-20 13:11 J -13158143.08 -13158142.95 -13158142.82 0.0078 0.0040

Pluto -40738-03-18 14:23 J -13158055.03 -13158054.90 -13158054.76 0.0078 0.0032

Jupiter -40738-04-16 08:09 J -13158026.28 -13158026.16 -13158026.04 0.0499 0.0307

Pluto -40738-06-14 15:50 J -13157966.97 -13157966.84 -13157966.69 0.0078 0.0024

Jupiter -40738-07-14 22:18 J -13157936.70 -13157936.57 -13157936.44 0.0496 0.0277

Pluto -40738-09-10 17:30 J -13157878.92 -13157878.77 -13157878.63 0.0078 0.0016

Pluto -40738-12-07 18:42 J -13157790.86 -13157790.72 -13157790.57 0.0078 0.0009

Pluto -40737-03-04 20:09 J -13157702.80 -13157702.66 -13157702.51 0.0078 0.0002

Pluto -40737-05-31 21:35 J -13157614.75 -13157614.60 -13157614.45 0.0077 0.0007

Pluto -40737-08-27 23:02 J -13157526.69 -13157526.54 -13157526.40 0.0077 0.0014

Pluto -40737-11-24 00:14 J -13157438.63 -13157438.49 -13157438.34 0.0077 0.0022

Pluto -40736-02-20 01:26 J -13157350.57 -13157350.44 -13157350.29 0.0077 0.0029

Pluto -40736-05-19 02:52 J -13157262.50 -13157262.38 -13157262.24 0.0077 0.0036

Pluto -40736-08-15 04:04 J -13157174.44 -13157174.33 -13157174.20 0.0077 0.0044

Pluto -40736-11-11 05:16 J -13157086.37 -13157086.28 -13157086.15 0.0077 0.0051

Pluto -40735-02-07 06:42 J -13156998.30 -13156998.22 -13156998.11 0.0076 0.0058

Pluto -40735-05-06 07:54 J -13156910.23 -13156910.17 -13156910.08 0.0076 0.0065

Pluto -40735-08-02 09:21 J -13156822.15 -13156822.11 -13156822.05 0.0076 0.0071

Mars -40734-08-16 05:02 J -13156443.40 -13156443.29 -13156443.18 0.1921 0.1020

Moon -40733-09-28 05:02 J -13156034.40 -13156034.29 -13156034.18 0.2666 0.1352

Earth -40733-09-28 05:45 J -13156034.37 -13156034.26 -13156034.15 0.2661 0.1235 *

Jupiter -40732-09-14 13:11 J -13155683.10 -13155682.95 -13155682.80 0.0531 0.0041

Uranus -40731-01-14 03:35 J -13155561.43 -13155561.35 -13155561.27 0.0147 0.0125

Uranus -40731-04-12 09:21 J -13155473.22 -13155473.11 -13155472.98 0.0147 0.0097

Mars -40731-06-03 14:52 J -13155421.02 -13155420.88 -13155420.75 0.1607 0.0243

Uranus -40731-07-09 15:21 J -13155385.00 -13155384.86 -13155384.72 0.0147 0.0069

Uranus -40731-10-05 21:21 J -13155296.77 -13155296.61 -13155296.45 0.0147 0.0041

Uranus -40730-01-02 03:21 J -13155208.52 -13155208.36 -13155208.20 0.0147 0.0012

Moon -40730-03-30 09:35 J -13155121.23 -13155121.10 -13155120.96 0.2675 0.0187

Earth -40730-03-30 10:04 J -13155121.21 -13155121.08 -13155120.95 0.2669 0.0071 *

Uranus -40730-03-31 09:21 J -13155120.27 -13155120.11 -13155119.94 0.0147 0.0017

Uranus -40730-06-27 15:35 J -13155032.01 -13155031.85 -13155031.69 0.0147 0.0046

Venus -40730-08-21 17:59 J -13154976.86 -13154976.75 -13154976.65 0.3641 0.1348

Uranus -40730-09-23 21:50 J -13154943.73 -13154943.59 -13154943.45 0.0147 0.0075

Uranus -40730-12-21 03:50 J -13154855.44 -13154855.34 -13154855.22 0.0147 0.0105

Uranus -40729-03-18 10:04 J -13154767.13 -13154767.08 -13154767.00 0.0147 0.0135

Earth -40727-10-08 12:42 J -13153833.03 -13153832.97 -13153832.90 0.2668 0.2233

Moon -40727-10-08 13:40 J -13153832.99 -13153832.93 -13153832.87 0.2665 0.2270 *

Jupiter -40726-02-02 10:33 J -13153716.12 -13153716.06 -13153715.99 0.0500 0.0445

Jupiter -40726-05-03 00:28 J -13153626.62 -13153626.48 -13153626.33 0.0497 0.0136

Saturn -40725-03-16 14:23 J -13153307.97 -13153307.90 -13153307.82 0.0275 0.0240

Saturn -40725-06-13 05:16 J -13153219.41 -13153219.28 -13153219.15 0.0275 0.0134

Saturn -40725-09-09 19:40 J -13153130.83 -13153130.68 -13153130.53 0.0275 0.0030

Saturn -40725-12-07 09:50 J -13153042.24 -13153042.09 -13153041.95 0.0275 0.0073

Mars -40724-01-05 08:09 J -13153013.29 -13153013.16 -13153013.03 0.1920 0.0029

Saturn -40724-03-05 23:30 J -13152953.63 -13152953.52 -13152953.40 0.0275 0.0172

Venus -40724-03-06 11:59 J -13152953.10 -13152953.00 -13152952.89 0.3645 0.1313

Saturn -40724-06-02 13:11 J -13152864.98 -13152864.95 -13152864.93 0.0275 0.0270

Mars -40722-10-24 22:18 J -13151990.71 -13151990.57 -13151990.43 0.1608 0.0338

Jupiter -40720-07-03 14:09 J -13151373.05 -13151372.91 -13151372.78 0.0530 0.0215

Moon -40720-10-01 02:52 J -13151283.50 -13151283.38 -13151283.25 0.2669 0.0244

Earth -40720-10-01 03:06 J -13151283.49 -13151283.37 -13151283.24 0.2663 0.0303 *

Jupiter -40720-10-01 07:54 J -13151283.22 -13151283.17 -13151283.11 0.0533 0.0485

Earth -40717-04-01 09:35 J -13150370.23 -13150370.10 -13150369.98 0.2667 0.1001

Moon -40717-04-01 09:50 J -13150370.21 -13150370.09 -13150369.97 0.2674 0.1100 *

Mars -40715-05-28 11:59 J -13149583.11 -13149583.00 -13149582.89 0.1919 0.1014

Jupiter -40714-02-19 02:52 J -13149316.54 -13149316.38 -13149316.23 0.0497 0.0012

Mars -40712-03-16 05:45 J -13148560.37 -13148560.26 -13148560.14 0.1609 0.0922

Mars -40710-02-19 23:02 J -13147854.60 -13147854.54 -13147854.48 0.1606 0.1419

Moon -40710-03-25 16:47 J -13147820.89 -13147820.80 -13147820.72 0.2671 0.1996

Earth -40710-03-25 17:45 J -13147820.85 -13147820.76 -13147820.67 0.2672 0.1912 *

Saturn -40710-03-25 19:26 J -13147820.81 -13147820.69 -13147820.57 0.0283 0.0184 *

Saturn -40710-06-22 11:59 J -13147732.15 -13147732.00 -13147731.84 0.0284 0.0068

Saturn -40710-09-19 05:02 J -13147643.45 -13147643.29 -13147643.13 0.0284 0.0051

Saturn -40710-12-16 22:18 J -13147554.69 -13147554.57 -13147554.44 0.0284 0.0173

Jupiter -40708-04-21 15:06 J -13147062.97 -13147062.87 -13147062.76 0.0529 0.0387

Jupiter -40708-07-20 09:35 J -13146973.21 -13146973.10 -13146972.98 0.0533 0.0321

Earth -40707-10-04 00:28 J -13146532.61 -13146532.48 -13146532.36 0.2665 0.0635

Moon -40707-10-04 00:57 J -13146532.58 -13146532.46 -13146532.34 0.2670 0.0600 *

Earth -40704-04-04 09:21 J -13145619.19 -13145619.11 -13145619.03 0.2665 0.2099

Moon -40704-04-04 10:18 J -13145619.15 -13145619.07 -13145618.99 0.2668 0.2116 *

Mars -40703-08-06 12:57 J -13145130.00 -13145129.96 -13145129.91 0.1610 0.1520

Jupiter -40703-12-08 05:02 J -13145006.43 -13145006.29 -13145006.14 0.0498 0.0147

Jupiter -40702-03-07 19:40 J -13144916.75 -13144916.68 -13144916.61 0.0495 0.0442

Mars -40701-07-12 07:11 J -13144424.32 -13144424.20 -13144424.09 0.1606 0.0876

Moon -40700-09-26 12:28 J -13143983.05 -13143982.98 -13143982.90 0.2659 0.2122

Earth -40700-09-26 13:26 J -13143983.02 -13143982.94 -13143982.86 0.2660 0.2033 *

Moon -40697-03-27 15:35 J -13143069.97 -13143069.85 -13143069.73 0.2673 0.1030

Earth -40697-03-27 16:33 J -13143069.93 -13143069.81 -13143069.69 0.2670 0.0911 *

Jupiter -40696-05-08 11:30 J -13142663.16 -13142663.02 -13142662.88 0.0532 0.0158

Saturn -40696-10-31 04:47 J -13142487.42 -13142487.30 -13142487.18 0.0275 0.0176

Saturn -40695-01-27 19:11 J -13142398.84 -13142398.70 -13142398.55 0.0275 0.0072

Saturn -40695-04-26 09:35 J -13142310.25 -13142310.10 -13142309.95 0.0275 0.0032

Saturn -40695-07-23 23:30 J -13142221.65 -13142221.52 -13142221.39 0.0275 0.0132

Saturn -40695-10-20 12:57 J -13142133.03 -13142132.96 -13142132.87 0.0275 0.0231

Mars -40694-02-14 04:47 J -13142016.41 -13142016.30 -13142016.19 0.1921 0.1101

Earth -40694-10-06 21:21 J -13141781.71 -13141781.61 -13141781.51 0.2666 0.1519

Moon -40694-10-06 22:04 J -13141781.67 -13141781.58 -13141781.48 0.2668 0.1615 *

Neptune -40692-12-01 18:57 J -13140994.76 -13140994.71 -13140994.65 0.0088 0.0083

Mars -40692-12-02 14:52 J -13140994.01 -13140993.88 -13140993.74 0.1607 0.0320

Neptune -40691-02-27 21:06 J -13140906.69 -13140906.62 -13140906.52 0.0088 0.0075

Neptune -40691-05-26 23:30 J -13140818.61 -13140818.52 -13140818.41 0.0088 0.0068

Neptune -40691-08-23 01:40 J -13140730.53 -13140730.43 -13140730.30 0.0088 0.0061

Jupiter -40691-09-26 06:57 J -13140696.32 -13140696.21 -13140696.08 0.0499 0.0294

Neptune -40691-11-19 04:18 J -13140642.45 -13140642.32 -13140642.19 0.0088 0.0053

Uranus -40691-11-21 21:50 J -13140639.60 -13140639.59 -13140639.58 0.0132 0.0132

Jupiter -40691-12-24 21:06 J -13140606.74 -13140606.62 -13140606.49 0.0495 0.0291

Neptune -40690-02-15 06:28 J -13140554.36 -13140554.23 -13140554.09 0.0088 0.0045

Uranus -40690-02-18 01:54 J -13140551.50 -13140551.42 -13140551.34 0.0132 0.0111

Neptune -40690-05-14 08:38 J -13140466.28 -13140466.14 -13140465.99 0.0088 0.0038

Uranus -40690-05-17 05:59 J -13140463.35 -13140463.25 -13140463.13 0.0132 0.0092

Neptune -40690-08-10 11:02 J -13140378.19 -13140378.04 -13140377.89 0.0088 0.0031

Uranus -40690-08-13 10:18 J -13140375.20 -13140375.07 -13140374.94 0.0132 0.0071

Neptune -40690-11-06 13:11 J -13140290.10 -13140289.95 -13140289.79 0.0088 0.0023

Uranus -40690-11-09 14:09 J -13140287.04 -13140286.91 -13140286.76 0.0132 0.0052

Neptune -40689-02-02 15:21 J -13140202.01 -13140201.86 -13140201.70 0.0088 0.0016

Uranus -40689-02-05 18:28 J -13140198.88 -13140198.73 -13140198.58 0.0132 0.0032

Neptune -40689-04-30 17:45 J -13140113.92 -13140113.76 -13140113.60 0.0088 0.0009

Uranus -40689-05-03 22:18 J -13140110.72 -13140110.57 -13140110.41 0.0132 0.0013

Neptune -40689-07-27 19:54 J -13140025.83 -13140025.67 -13140025.51 0.0088 0.0001

Uranus -40689-07-31 02:23 J -13140022.55 -13140022.40 -13140022.25 0.0132 0.0007

Neptune -40689-10-23 22:04 J -13139937.74 -13139937.58 -13139937.42 0.0088 0.0006

Uranus -40689-10-27 06:28 J -13139934.38 -13139934.23 -13139934.09 0.0132 0.0026

Neptune -40688-01-20 00:14 J -13139849.64 -13139849.49 -13139849.33 0.0088 0.0013

Uranus -40688-01-23 10:18 J -13139846.21 -13139846.07 -13139845.93 0.0132 0.0045

Venus -40688-02-25 17:30 J -13139812.90 -13139812.77 -13139812.64 0.3734 0.0195

Neptune -40688-04-18 02:23 J -13139761.55 -13139761.40 -13139761.24 0.0088 0.0020

Uranus -40688-04-21 14:09 J -13139758.04 -13139757.91 -13139757.78 0.0132 0.0064

Neptune -40688-07-15 04:33 J -13139673.46 -13139673.31 -13139673.16 0.0088 0.0027

Uranus -40688-07-18 17:59 J -13139669.86 -13139669.75 -13139669.63 0.0132 0.0083

Neptune -40688-10-11 06:42 J -13139585.36 -13139585.22 -13139585.07 0.0088 0.0035

Uranus -40688-10-14 21:50 J -13139581.68 -13139581.59 -13139581.49 0.0132 0.0102

Neptune -40687-01-07 08:52 J -13139497.27 -13139497.13 -13139496.99 0.0088 0.0042

Uranus -40687-01-11 01:26 J -13139493.48 -13139493.44 -13139493.37 0.0132 0.0121

Neptune -40687-04-05 11:02 J -13139409.17 -13139409.04 -13139408.91 0.0088 0.0049

Neptune -40687-07-02 13:11 J -13139321.07 -13139320.95 -13139320.83 0.0088 0.0056

Neptune -40687-09-28 15:06 J -13139232.97 -13139232.87 -13139232.75 0.0088 0.0063

Moon -40687-09-29 10:18 J -13139232.18 -13139232.07 -13139231.95 0.2667 0.1078

Earth -40687-09-29 11:02 J -13139232.15 -13139232.04 -13139231.92 0.2662 0.1072 *

Neptune -40687-12-25 17:16 J -13139144.87 -13139144.78 -13139144.68 0.0088 0.0070

Neptune -40686-03-23 19:26 J -13139056.76 -13139056.69 -13139056.61 0.0088 0.0077

Neptune -40686-06-19 21:21 J -13138968.65 -13138968.61 -13138968.55 0.0088 0.0084

Mars -40685-07-06 08:23 J -13138586.28 -13138586.15 -13138586.01 0.1920 0.0110

Jupiter -40684-02-24 12:57 J -13138353.11 -13138352.96 -13138352.82 0.0531 0.0021

Moon -40684-03-30 15:21 J -13138318.99 -13138318.86 -13138318.73 0.2675 0.0188

Earth -40684-03-30 15:35 J -13138318.98 -13138318.85 -13138318.71 0.2669 0.0144 *

Mars -40682-04-24 22:47 J -13137563.69 -13137563.55 -13137563.41 0.1608 0.0253

Saturn -40681-08-11 18:57 J -13137088.80 -13137088.71 -13137088.61 0.0284 0.0225

Earth -40681-10-08 17:59 J -13137030.80 -13137030.75 -13137030.70 0.2668 0.2387

Moon -40681-10-08 18:42 J -13137030.76 -13137030.72 -13137030.67 0.2665 0.2450 *

Saturn -40681-11-08 11:30 J -13137000.16 -13137000.02 -13136999.87 0.0284 0.0109

Saturn -40680-02-05 04:18 J -13136911.47 -13136911.32 -13136911.16 0.0284 0.0012

Saturn -40680-05-04 21:35 J -13136822.74 -13136822.60 -13136822.45 0.0284 0.0131

Saturn -40680-08-01 15:06 J -13136733.93 -13136733.87 -13136733.79 0.0284 0.0255

Jupiter -40679-07-15 09:21 J -13136386.18 -13136386.11 -13136386.03 0.0499 0.0435

Venus -40679-09-11 21:35 J -13136327.66 -13136327.60 -13136327.53 0.3638 0.3023

Jupiter -40679-10-12 23:16 J -13136296.68 -13136296.53 -13136296.38 0.0496 0.0146

Mars -40676-11-26 12:14 J -13135156.11 -13135155.99 -13135155.88 0.1918 0.0915

Moon -40674-10-02 08:23 J -13134481.27 -13134481.15 -13134481.02 0.2670 0.0203

Earth -40674-10-02 08:38 J -13134481.27 -13134481.14 -13134481.02 0.2663 0.0151 *

Venus -40673-03-27 16:04 J -13134303.94 -13134303.83 -13134303.72 0.3642 0.0325

Mars -40673-09-14 06:14 J -13134133.36 -13134133.24 -13134133.12 0.1609 0.0836

Jupiter -40673-12-13 12:57 J -13134043.10 -13134042.96 -13134042.82 0.0530 0.0202

Jupiter -40672-03-13 06:42 J -13133953.27 -13133953.22 -13133953.17 0.0533 0.0497

Earth -40671-04-02 15:06 J -13133567.99 -13133567.87 -13133567.75 0.2667 0.1193

Moon -40671-04-02 15:35 J -13133567.97 -13133567.85 -13133567.73 0.2673 0.1148 *

Mars -40671-08-20 23:16 J -13133427.57 -13133427.53 -13133427.48 0.1606 0.1502

Venus -40668-10-11 10:18 J -13132280.16 -13132280.07 -13132279.99 0.3646 0.2308

Jupiter -40667-08-01 01:26 J -13131986.59 -13131986.44 -13131986.29 0.0498 0.0005

Saturn -40666-03-20 07:11 J -13131755.30 -13131755.20 -13131755.09 0.0276 0.0201

Mars -40666-04-18 16:18 J -13131725.84 -13131725.82 -13131725.80 0.1917 0.1877

Saturn -40666-06-16 21:50 J -13131666.73 -13131666.59 -13131666.44 0.0276 0.0095

Saturn -40666-09-13 12:14 J -13131578.14 -13131577.99 -13131577.84 0.0275 0.0009

Saturn -40666-12-11 02:09 J -13131489.54 -13131489.41 -13131489.27 0.0275 0.0111

Saturn -40665-03-08 15:50 J -13131400.93 -13131400.84 -13131400.74 0.0275 0.0210

Moon -40664-03-25 22:04 J -13131018.67 -13131018.58 -13131018.48 0.2672 0.1777

Earth -40664-03-25 23:16 J -13131018.63 -13131018.53 -13131018.43 0.2672 0.1740 *

Mars -40663-02-04 13:26 J -13130703.00 -13130702.94 -13130702.88 0.1610 0.1432

Mars -40661-01-11 07:26 J -13129997.30 -13129997.19 -13129997.08 0.1606 0.0957

Jupiter -40661-10-01 13:40 J -13129733.03 -13129732.93 -13129732.82 0.0529 0.0380

Earth -40661-10-04 05:45 J -13129730.38 -13129730.26 -13129730.15 0.2665 0.0792

Moon -40661-10-04 06:14 J -13129730.36 -13129730.24 -13129730.12 0.2671 0.0905 *

Jupiter -40661-12-30 08:09 J -13129643.28 -13129643.16 -13129643.05 0.0532 0.0325

Earth -40658-04-05 14:52 J -13128816.94 -13128816.88 -13128816.81 0.2665 0.2296

Moon -40658-04-05 16:04 J -13128816.88 -13128816.83 -13128816.78 0.2668 0.2454 *

Jupiter -40655-05-20 03:50 J -13127676.49 -13127676.34 -13127676.20 0.0498 0.0137

Mars -40655-08-15 05:16 J -13127589.39 -13127589.28 -13127589.18 0.1921 0.1211

Jupiter -40655-08-17 18:14 J -13127586.79 -13127586.74 -13127586.67 0.0495 0.0453

Moon -40654-09-27 17:59 J -13127180.84 -13127180.75 -13127180.67 0.2662 0.1947

Earth -40654-09-27 18:57 J -13127180.80 -13127180.71 -13127180.62 0.2660 0.1863 *

Mars -40652-06-02 15:06 J -13126567.00 -13126566.87 -13126566.73 0.1607 0.0401

Saturn -40652-12-29 19:40 J -13126356.73 -13126356.68 -13126356.61 0.0283 0.0259

Saturn -40651-03-28 11:59 J -13126268.13 -13126268.00 -13126267.86 0.0283 0.0145

Moon -40651-03-28 21:21 J -13126267.74 -13126267.61 -13126267.49 0.2674 0.0772

Earth -40651-03-28 22:04 J -13126267.70 -13126267.58 -13126267.45 0.2670 0.0732 *

Saturn -40651-06-25 04:47 J -13126179.46 -13126179.30 -13126179.14 0.0283 0.0028

Saturn -40651-09-21 21:50 J -13126090.74 -13126090.59 -13126090.44 0.0284 0.0092

Saturn -40651-12-19 15:21 J -13126001.96 -13126001.86 -13126001.75 0.0284 0.0215

Jupiter -40649-10-18 09:35 J -13125333.24 -13125333.10 -13125332.96 0.0532 0.0158

Earth -40648-10-07 02:23 J -13124979.49 -13124979.40 -13124979.30 0.2666 0.1680

Moon -40648-10-07 03:21 J -13124979.45 -13124979.36 -13124979.26 0.2667 0.1683 *

Uranus -40648-11-07 05:02 J -13124948.30 -13124948.29 -13124948.26 0.0147 0.0144

Uranus -40647-02-03 11:02 J -13124860.13 -13124860.04 -13124859.94 0.0147 0.0117

Uranus -40647-05-02 16:47 J -13124771.92 -13124771.80 -13124771.67 0.0147 0.0089

Uranus -40647-07-29 22:47 J -13124683.70 -13124683.55 -13124683.40 0.0147 0.0061

Uranus -40647-10-26 04:47 J -13124595.46 -13124595.30 -13124595.14 0.0147 0.0032

Uranus -40646-01-22 10:47 J -13124507.21 -13124507.05 -13124506.89 0.0147 0.0004

Uranus -40646-04-20 16:47 J -13124418.96 -13124418.80 -13124418.63 0.0147 0.0026

Uranus -40646-07-17 23:02 J -13124330.69 -13124330.54 -13124330.39 0.0147 0.0055

Uranus -40646-10-14 05:16 J -13124242.41 -13124242.28 -13124242.14 0.0147 0.0084

Mars -40645-01-05 08:38 J -13124159.28 -13124159.14 -13124159.01 0.1920 0.0184

Uranus -40645-01-10 11:16 J -13124154.12 -13124154.03 -13124153.91 0.0147 0.0114

Uranus -40645-04-07 17:45 J -13124065.78 -13124065.76 -13124065.72 0.0147 0.0144

Jupiter -40643-03-08 06:14 J -13123366.36 -13123366.24 -13123366.11 0.0499 0.0276

Jupiter -40643-06-05 20:23 J -13123276.77 -13123276.65 -13123276.53 0.0496 0.0309

Mars -40643-10-23 22:47 J -13123136.69 -13123136.55 -13123136.40 0.1608 0.0178

Moon -40641-09-29 15:50 J -13122429.96 -13122429.84 -13122429.73 0.2667 0.0991

Earth -40641-09-29 16:33 J -13122429.93 -13122429.81 -13122429.70 0.2662 0.0902 *

Moon -40638-03-31 21:06 J -13121516.75 -13121516.62 -13121516.49 0.2675 0.0244

Earth -40638-03-31 21:21 J -13121516.74 -13121516.61 -13121516.48 0.2668 0.0313 *

Venus -40637-03-18 17:30 J -13121163.86 -13121163.77 -13121163.67 0.3738 0.2435

Saturn -40637-08-06 06:42 J -13121023.29 -13121023.22 -13121023.15 0.0275 0.0244

Jupiter -40637-08-06 11:16 J -13121023.18 -13121023.03 -13121022.88 0.0531 0.0007 *

Saturn -40637-11-02 21:21 J -13120934.74 -13120934.61 -13120934.47 0.0275 0.0137

Saturn -40636-01-30 11:59 J -13120846.15 -13120846.00 -13120845.85 0.0275 0.0033

Saturn -40636-04-29 01:54 J -13120757.56 -13120757.42 -13120757.27 0.0275 0.0070

Mars -40636-05-27 12:14 J -13120729.11 -13120728.99 -13120728.87 0.1919 0.0826

Saturn -40636-07-26 15:50 J -13120668.95 -13120668.84 -13120668.72 0.0275 0.0170

Saturn -40636-10-23 05:30 J -13120580.30 -13120580.27 -13120580.24 0.0275 0.0267

Earth -40635-10-09 23:02 J -13120228.57 -13120228.54 -13120228.50 0.2668 0.2541

Moon -40635-10-09 23:59 J -13120228.52 -13120228.50 -13120228.48 0.2665 0.2599 *

Mars -40633-03-15 06:28 J -13119706.36 -13119706.23 -13119706.11 0.1609 0.0750

Venus -40632-10-02 17:02 J -13119139.91 -13119139.79 -13119139.68 0.3733 0.1683

Jupiter -40632-12-25 08:23 J -13119056.23 -13119056.15 -13119056.07 0.0499 0.0421

Mars -40631-02-18 23:30 J -13119000.54 -13119000.52 -13119000.50 0.1606 0.1578

Moon -40631-03-24 05:16 J -13118967.32 -13118967.28 -13118967.24 0.2669 0.2519

Earth -40631-03-24 06:14 J -13118967.28 -13118967.24 -13118967.21 0.2673 0.2543 *

Jupiter -40631-03-24 22:04 J -13118966.72 -13118966.58 -13118966.43 0.0496 0.0159

Earth -40628-10-02 13:54 J -13117679.05 -13117678.92 -13117678.80 0.2663 0.0099

Moon -40628-10-02 13:54 J -13117679.04 -13117678.92 -13117678.80 0.2670 0.0099 *

Mars -40627-10-17 16:33 J -13117298.86 -13117298.81 -13117298.76 0.1917 0.1777

Earth -40625-04-02 20:52 J -13116765.75 -13116765.63 -13116765.52 0.2667 0.1385

Moon -40625-04-02 21:21 J -13116765.72 -13116765.61 -13116765.50 0.2672 0.1508 *

Jupiter -40625-05-25 12:28 J -13116713.12 -13116712.98 -13116712.84 0.0530 0.0178

Jupiter -40625-08-23 06:28 J -13116623.26 -13116623.23 -13116623.20 0.0534 0.0522

Mars -40624-08-05 13:40 J -13116276.00 -13116275.93 -13116275.85 0.1610 0.1344

Venus -40622-04-18 19:54 J -13115654.77 -13115654.67 -13115654.57 0.3639 0.1985

Mars -40622-07-12 07:40 J -13115570.29 -13115570.18 -13115570.08 0.1607 0.1038

Saturn -40622-08-15 11:30 J -13115536.14 -13115536.02 -13115535.91 0.0283 0.0188

Saturn -40622-11-12 04:04 J -13115447.48 -13115447.33 -13115447.18 0.0284 0.0071

Saturn -40621-02-08 20:52 J -13115358.78 -13115358.63 -13115358.47 0.0284 0.0049

Saturn -40621-05-07 14:23 J -13115270.03 -13115269.90 -13115269.77 0.0284 0.0170

Jupiter -40619-01-11 00:14 J -13114656.64 -13114656.49 -13114656.34 0.0497 0.0015

Moon -40618-03-27 03:35 J -13114216.45 -13114216.35 -13114216.25 0.2672 0.1689

Earth -40618-03-27 04:47 J -13114216.41 -13114216.30 -13114216.20 0.2671 0.1561 *

Venus -40617-11-01 14:09 J -13113631.02 -13113630.91 -13113630.79 0.3643 0.0692

Mars -40615-02-13 05:30 J -13113162.37 -13113162.27 -13113162.17 0.1921 0.1319

Earth -40615-10-05 11:02 J -13112928.16 -13112928.04 -13112927.93 0.2665 0.0953

Moon -40615-10-05 11:30 J -13112928.13 -13112928.02 -13112927.90 0.2670 0.0921 *

Jupiter -40613-03-13 12:28 J -13112403.08 -13112402.98 -13112402.87 0.0529 0.0366

Jupiter -40613-06-11 06:57 J -13112313.32 -13112313.21 -13112313.10 0.0532 0.0338

Mars -40613-12-01 15:35 J -13112139.99 -13112139.85 -13112139.72 0.1607 0.0485

Earth -40612-04-05 20:38 J -13112014.69 -13112014.64 -13112014.60 0.2665 0.2490

Moon -40612-04-05 21:50 J -13112014.64 -13112014.59 -13112014.55 0.2668 0.2494 *

Venus -40611-05-18 08:23 J -13111607.20 -13111607.15 -13111607.11 0.3647 0.3293

Neptune -40610-06-01 01:11 J -13111228.47 -13111228.45 -13111228.41 0.0089 0.0087

Neptune -40610-08-28 03:06 J -13111140.42 -13111140.37 -13111140.29 0.0089 0.0080

Neptune -40610-11-24 05:16 J -13111052.36 -13111052.28 -13111052.19 0.0089 0.0073

Neptune -40609-02-20 07:11 J -13110964.29 -13110964.20 -13110964.09 0.0089 0.0066

Neptune -40609-05-18 09:21 J -13110876.22 -13110876.11 -13110875.99 0.0089 0.0059

Neptune -40609-08-14 11:16 J -13110788.14 -13110788.03 -13110787.90 0.0089 0.0052

Neptune -40609-11-10 13:26 J -13110700.07 -13110699.94 -13110699.80 0.0089 0.0045

Neptune -40608-02-06 15:21 J -13110611.99 -13110611.86 -13110611.71 0.0089 0.0038

Neptune -40608-05-05 17:30 J -13110523.91 -13110523.77 -13110523.62 0.0089 0.0031

Neptune -40608-08-01 19:26 J -13110435.83 -13110435.69 -13110435.53 0.0089 0.0024

Moon -40608-09-27 23:16 J -13110378.63 -13110378.53 -13110378.43 0.2663 0.1718

Earth -40608-09-28 00:14 J -13110378.59 -13110378.49 -13110378.39 0.2661 0.1689 *

Neptune -40608-10-28 21:35 J -13110347.75 -13110347.60 -13110347.44 0.0089 0.0017

Jupiter -40608-10-30 02:23 J -13110346.55 -13110346.40 -13110346.25 0.0498 0.0129

Saturn -40608-12-24 08:52 J -13110291.16 -13110291.13 -13110291.10 0.0276 0.0270

Neptune -40607-01-24 23:45 J -13110259.66 -13110259.51 -13110259.35 0.0089 0.0009

Jupiter -40607-01-27 16:47 J -13110256.84 -13110256.80 -13110256.74 0.0495 0.0463

Saturn -40607-03-22 23:45 J -13110202.63 -13110202.51 -13110202.38 0.0276 0.0162

Neptune -40607-04-23 01:54 J -13110171.58 -13110171.42 -13110171.27 0.0089 0.0002

Saturn -40607-06-19 14:23 J -13110114.05 -13110113.90 -13110113.75 0.0276 0.0057

Neptune -40607-07-20 03:50 J -13110083.49 -13110083.34 -13110083.18 0.0089 0.0006

Saturn -40607-09-16 04:33 J -13110025.45 -13110025.31 -13110025.16 0.0276 0.0047

Neptune -40607-10-16 05:59 J -13109995.40 -13109995.25 -13109995.09 0.0089 0.0012

Uranus -40607-12-12 05:16 J -13109938.32 -13109938.28 -13109938.21 0.0132 0.0124

Saturn -40607-12-13 18:28 J -13109936.85 -13109936.73 -13109936.60 0.0276 0.0148

Neptune -40606-01-12 08:09 J -13109907.31 -13109907.16 -13109907.01 0.0089 0.0020

Uranus -40606-03-10 09:35 J -13109850.19 -13109850.10 -13109850.00 0.0132 0.0103

Saturn -40606-03-12 08:09 J -13109848.22 -13109848.16 -13109848.09 0.0275 0.0246

Neptune -40606-04-10 10:18 J -13109819.22 -13109819.07 -13109818.92 0.0089 0.0027

Uranus -40606-06-06 13:40 J -13109762.04 -13109761.93 -13109761.80 0.0132 0.0083

Mars -40606-07-06 08:38 J -13109732.27 -13109732.14 -13109732.00 0.1920 0.0287

Neptune -40606-07-07 12:28 J -13109731.13 -13109730.98 -13109730.84 0.0089 0.0034

Uranus -40606-09-02 17:59 J -13109673.88 -13109673.75 -13109673.61 0.0132 0.0063

Neptune -40606-10-03 14:23 J -13109643.03 -13109642.90 -13109642.75 0.0089 0.0042

Uranus -40606-11-29 22:04 J -13109585.72 -13109585.58 -13109585.43 0.0132 0.0043

Neptune -40606-12-30 16:33 J -13109554.93 -13109554.81 -13109554.67 0.0089 0.0049

Uranus -40605-02-26 02:09 J -13109497.56 -13109497.41 -13109497.26 0.0132 0.0024

Neptune -40605-03-27 18:57 J -13109466.83 -13109466.71 -13109466.59 0.0089 0.0056

Moon -40605-03-29 02:52 J -13109465.50 -13109465.38 -13109465.25 0.2675 0.0594

Earth -40605-03-29 03:35 J -13109465.48 -13109465.35 -13109465.22 0.2670 0.0553 *

Uranus -40605-05-24 06:14 J -13109409.39 -13109409.24 -13109409.09 0.0132 0.0004

Neptune -40605-06-23 20:52 J -13109378.73 -13109378.63 -13109378.51 0.0089 0.0064

Uranus -40605-08-20 10:18 J -13109321.22 -13109321.07 -13109320.92 0.0132 0.0016

Neptune -40605-09-19 23:02 J -13109290.62 -13109290.54 -13109290.44 0.0089 0.0071

Uranus -40605-11-16 14:09 J -13109233.05 -13109232.91 -13109232.76 0.0132 0.0035

Neptune -40605-12-17 00:57 J -13109202.51 -13109202.46 -13109202.37 0.0089 0.0079

Uranus -40604-02-12 17:59 J -13109144.88 -13109144.75 -13109144.61 0.0132 0.0054

Neptune -40604-03-15 03:21 J -13109114.38 -13109114.36 -13109114.31 0.0089 0.0086

Uranus -40604-05-11 21:50 J -13109056.71 -13109056.59 -13109056.46 0.0132 0.0073

Uranus -40604-08-08 01:40 J -13108968.53 -13108968.43 -13108968.31 0.0132 0.0092

Uranus -40604-11-04 05:45 J -13108880.34 -13108880.26 -13108880.18 0.0132 0.0110

Uranus -40603-01-31 09:21 J -13108792.13 -13108792.11 -13108792.07 0.0132 0.0129

Mars -40603-04-23 23:16 J -13108709.67 -13108709.53 -13108709.39 0.1608 0.0096

Earth -40602-10-08 07:40 J -13108177.26 -13108177.18 -13108177.09 0.2667 0.1834

Moon -40602-10-08 08:38 J -13108177.22 -13108177.14 -13108177.06 0.2666 0.1972 *

Jupiter -40601-03-30 08:09 J -13108003.30 -13108003.16 -13108003.02 0.0531 0.0165

Mars -40597-11-25 12:28 J -13106302.10 -13106301.98 -13106301.86 0.1918 0.0725

Jupiter -40596-08-18 04:47 J -13106036.42 -13106036.30 -13106036.17 0.0499 0.0268

Jupiter -40596-11-15 18:57 J -13105946.82 -13105946.71 -13105946.59 0.0496 0.0318

Moon -40595-09-30 21:06 J -13105627.74 -13105627.62 -13105627.50 0.2667 0.0763

Earth -40595-09-30 21:50 J -13105627.71 -13105627.59 -13105627.47 0.2662 0.0733 *

Mars -40594-09-14 06:42 J -13105279.35 -13105279.22 -13105279.09 0.1609 0.0667

Saturn -40592-01-01 12:28 J -13104804.07 -13104803.98 -13104803.88 0.0283 0.0219

Saturn -40592-03-31 04:47 J -13104715.44 -13104715.30 -13104715.15 0.0283 0.0105

Moon -40592-04-01 02:38 J -13104714.51 -13104714.39 -13104714.26 0.2675 0.0541

Earth -40592-04-01 02:52 J -13104714.51 -13104714.38 -13104714.25 0.2668 0.0497 *

Saturn -40592-06-27 21:50 J -13104626.75 -13104626.59 -13104626.43 0.0283 0.0015

Saturn -40592-09-24 14:52 J -13104538.02 -13104537.88 -13104537.74 0.0283 0.0134

Saturn -40592-12-22 08:23 J -13104449.21 -13104449.15 -13104449.08 0.0283 0.0258

Jupiter -40589-01-17 09:21 J -13103693.26 -13103693.11 -13103692.96 0.0531 0.0010

Mars -40587-04-17 16:33 J -13102871.87 -13102871.81 -13102871.75 0.1916 0.1690

Moon -40585-03-24 10:33 J -13102165.10 -13102165.06 -13102165.01 0.2670 0.2510

Earth -40585-03-24 11:30 J -13102165.07 -13102165.02 -13102164.96 0.2673 0.2371 *

Mars -40584-02-03 13:54 J -13101849.01 -13101848.92 -13101848.83 0.1610 0.1261

Jupiter -40584-06-06 07:26 J -13101726.28 -13101726.19 -13101726.10 0.0500 0.0406

Jupiter -40584-09-03 21:06 J -13101636.76 -13101636.62 -13101636.47 0.0496 0.0176

Mars -40582-01-10 07:54 J -13101143.27 -13101143.17 -13101143.08 0.1607 0.1117

Earth -40582-10-03 19:11 J -13100876.83 -13100876.70 -13100876.58 0.2664 0.0211

Moon -40582-10-03 19:26 J -13100876.82 -13100876.69 -13100876.57 0.2671 0.0193 *

Venus -40581-10-23 17:02 J -13100490.91 -13100490.79 -13100490.67 0.3737 0.0974

Pluto -40580-10-11 01:11 J -13100138.47 -13100138.45 -13100138.38 0.0066 0.0063

Pluto -40579-01-07 02:23 J -13100050.45 -13100050.40 -13100050.29 0.0066 0.0058

Earth -40579-04-04 02:23 J -13099963.50 -13099963.40 -13099963.29 0.2666 0.1581

Moon -40579-04-04 03:21 J -13099963.47 -13099963.36 -13099963.25 0.2671 0.1577 *

Pluto -40579-04-05 04:04 J -13099962.42 -13099962.33 -13099962.22 0.0066 0.0052

Pluto -40579-07-02 05:16 J -13099874.39 -13099874.28 -13099874.16 0.0066 0.0047

Pluto -40579-09-28 06:28 J -13099786.35 -13099786.23 -13099786.09 0.0066 0.0042

Pluto -40579-12-25 07:40 J -13099698.31 -13099698.18 -13099698.03 0.0066 0.0037

Pluto -40578-03-23 09:06 J -13099610.26 -13099610.12 -13099609.97 0.0066 0.0032

Pluto -40578-06-19 10:18 J -13099522.22 -13099522.07 -13099521.91 0.0067 0.0026

Saturn -40578-08-09 23:30 J -13099470.62 -13099470.52 -13099470.42 0.0275 0.0203

Pluto -40578-09-15 11:45 J -13099434.17 -13099434.01 -13099433.85 0.0067 0.0021

Jupiter -40578-11-05 10:47 J -13099383.19 -13099383.05 -13099382.91 0.0530 0.0173

Saturn -40578-11-06 14:09 J -13099382.05 -13099381.91 -13099381.77 0.0275 0.0097

Pluto -40578-12-12 12:57 J -13099346.12 -13099345.96 -13099345.79 0.0067 0.0016

Saturn -40577-02-03 04:33 J -13099293.46 -13099293.31 -13099293.16 0.0275 0.0007

Jupiter -40577-02-03 04:47 J -13099293.32 -13099293.30 -13099293.28 0.0534 0.0527 *

Pluto -40577-03-09 14:23 J -13099258.07 -13099257.90 -13099257.73 0.0067 0.0010

Saturn -40577-05-01 18:28 J -13099204.86 -13099204.73 -13099204.59 0.0275 0.0109

Pluto -40577-06-05 15:35 J -13099170.01 -13099169.85 -13099169.68 0.0067 0.0005

Saturn -40577-07-29 08:23 J -13099116.25 -13099116.15 -13099116.06 0.0275 0.0208

Pluto -40577-09-01 17:02 J -13099081.96 -13099081.79 -13099081.62 0.0067 0.0001

Pluto -40577-11-28 18:14 J -13098993.90 -13098993.74 -13098993.57 0.0067 0.0007

Pluto -40576-02-24 19:40 J -13098905.85 -13098905.68 -13098905.51 0.0067 0.0012

Pluto -40576-05-23 20:52 J -13098817.79 -13098817.63 -13098817.46 0.0067 0.0018

Mars -40576-08-14 05:30 J -13098735.36 -13098735.27 -13098735.18 0.1920 0.1405

Pluto -40576-08-19 22:18 J -13098729.72 -13098729.57 -13098729.41 0.0067 0.0024

Pluto -40576-11-15 23:30 J -13098641.66 -13098641.52 -13098641.35 0.0068 0.0030

Pluto -40575-02-12 00:57 J -13098553.59 -13098553.46 -13098553.30 0.0068 0.0036

Venus -40575-05-09 16:33 J -13098466.88 -13098466.81 -13098466.75 0.3732 0.3187

Pluto -40575-05-11 02:09 J -13098465.53 -13098465.41 -13098465.26 0.0068 0.0042

Pluto -40575-08-07 03:50 J -13098377.45 -13098377.34 -13098377.21 0.0068 0.0047

Moon -40575-09-26 06:57 J -13098327.25 -13098327.21 -13098327.17 0.2657 0.2486

Earth -40575-09-26 07:54 J -13098327.22 -13098327.17 -13098327.13 0.2659 0.2497 *

Pluto -40575-11-03 05:16 J -13098289.38 -13098289.28 -13098289.17 0.0068 0.0053

Pluto -40574-01-30 06:42 J -13098201.29 -13098201.22 -13098201.13 0.0068 0.0059

Pluto -40574-04-28 08:09 J -13098113.20 -13098113.16 -13098113.11 0.0068 0.0065

Mars -40573-06-01 15:50 J -13097712.97 -13097712.84 -13097712.71 0.1607 0.0566

Moon -40572-03-27 09:06 J -13097414.23 -13097414.12 -13097414.01 0.2672 0.1402

Earth -40572-03-27 10:18 J -13097414.18 -13097414.07 -13097413.96 0.2671 0.1390 *

Jupiter -40572-06-22 23:02 J -13097326.69 -13097326.54 -13097326.39 0.0497 0.0027

Earth -40569-10-05 16:04 J -13096125.94 -13096125.83 -13096125.71 0.2665 0.1109

Moon -40569-10-05 16:47 J -13096125.91 -13096125.80 -13096125.69 0.2669 0.1227 *

Mars -40566-01-04 08:52 J -13095305.26 -13095305.13 -13095305.00 0.1920 0.0385

Jupiter -40566-08-24 11:59 J -13095073.11 -13095073.00 -13095072.88 0.0529 0.0345

Jupiter -40566-11-22 06:28 J -13094983.34 -13094983.23 -13094983.12 0.0533 0.0361

Venus -40566-11-23 17:59 J -13094981.86 -13094981.75 -13094981.63 0.3640 0.0970

Mars -40564-10-22 23:30 J -13094282.66 -13094282.52 -13094282.38 0.1608 0.0004

Uranus -40564-11-27 12:57 J -13094247.01 -13094246.96 -13094246.89 0.0146 0.0134

Uranus -40563-02-23 18:42 J -13094158.82 -13094158.72 -13094158.60 0.0147 0.0107

Saturn -40563-05-21 11:45 J -13094072.06 -13094072.01 -13094071.95 0.0283 0.0263

Uranus -40563-05-23 00:42 J -13094070.60 -13094070.47 -13094070.33 0.0147 0.0079

Saturn -40563-08-18 04:04 J -13093983.46 -13093983.33 -13093983.20 0.0283 0.0149

Uranus -40563-08-19 06:42 J -13093982.37 -13093982.22 -13093982.07 0.0147 0.0050

Saturn -40563-11-14 20:52 J -13093894.79 -13093894.63 -13093894.48 0.0283 0.0032

Uranus -40563-11-15 12:42 J -13093894.13 -13093893.97 -13093893.81 0.0147 0.0022

Saturn -40562-02-11 13:54 J -13093806.08 -13093805.92 -13093805.77 0.0284 0.0089

Uranus -40562-02-11 18:42 J -13093805.88 -13093805.72 -13093805.55 0.0147 0.0008 *

Uranus -40562-05-11 00:57 J -13093717.62 -13093717.46 -13093717.30 0.0147 0.0036

Saturn -40562-05-11 07:11 J -13093717.30 -13093717.20 -13093717.09 0.0284 0.0211 *

Uranus -40562-08-07 06:57 J -13093629.35 -13093629.21 -13093629.06 0.0147 0.0065

Moon -40562-09-29 04:33 J -13093576.40 -13093576.31 -13093576.21 0.2664 0.1645

Earth -40562-09-29 05:30 J -13093576.37 -13093576.27 -13093576.16 0.2661 0.1517 *

Uranus -40562-11-03 13:11 J -13093541.07 -13093540.95 -13093540.82 0.0147 0.0095

Uranus -40561-01-30 19:26 J -13093452.77 -13093452.69 -13093452.60 0.0147 0.0125

Jupiter -40560-04-11 01:11 J -13093016.59 -13093016.45 -13093016.30 0.0498 0.0117

Venus -40560-06-08 12:14 J -13092958.09 -13092957.99 -13092957.88 0.3644 0.1696

Jupiter -40560-07-09 15:50 J -13092926.89 -13092926.84 -13092926.80 0.0495 0.0472

Moon -40559-03-30 08:38 J -13092663.27 -13092663.14 -13092663.01 0.2675 0.0446

Earth -40559-03-30 09:06 J -13092663.25 -13092663.12 -13092662.99 0.2669 0.0375 *

Mars -40557-05-26 12:42 J -13091875.10 -13091874.97 -13091874.85 0.1918 0.0621

Earth -40556-10-08 12:57 J -13091375.04 -13091374.96 -13091374.88 0.2667 0.1988

Moon -40556-10-08 13:54 J -13091375.00 -13091374.92 -13091374.84 0.2667 0.1979 *

Mars -40554-03-15 06:57 J -13090852.34 -13090852.21 -13090852.08 0.1609 0.0582

Jupiter -40554-09-10 06:57 J -13090673.35 -13090673.21 -13090673.07 0.0531 0.0178

Moon -40549-10-01 02:52 J -13088825.51 -13088825.38 -13088825.26 0.2668 0.0587

Earth -40549-10-01 03:06 J -13088825.49 -13088825.37 -13088825.25 0.2663 0.0563 *

Saturn -40549-12-27 01:26 J -13088738.51 -13088738.44 -13088738.35 0.0276 0.0231

Jupiter -40548-01-28 03:21 J -13088706.49 -13088706.36 -13088706.23 0.0499 0.0261

Saturn -40548-03-25 16:18 J -13088649.95 -13088649.82 -13088649.68 0.0276 0.0124

Jupiter -40548-04-27 17:30 J -13088616.88 -13088616.77 -13088616.65 0.0496 0.0326

Saturn -40548-06-22 06:57 J -13088561.36 -13088561.21 -13088561.06 0.0276 0.0019

Saturn -40548-09-18 20:52 J -13088472.77 -13088472.63 -13088472.48 0.0276 0.0085

Mars -40548-10-16 16:47 J -13088444.87 -13088444.80 -13088444.73 0.1916 0.1597

Saturn -40548-12-16 10:47 J -13088384.15 -13088384.05 -13088383.94 0.0276 0.0185

Moon -40546-04-02 08:38 J -13087912.27 -13087912.14 -13087912.02 0.2674 0.0680

Earth -40546-04-02 08:23 J -13087912.27 -13087912.15 -13087912.02 0.2668 0.0690 *

Mars -40545-08-04 14:09 J -13087422.00 -13087421.91 -13087421.81 0.1610 0.1175

Mars -40543-07-11 08:09 J -13086716.25 -13086716.16 -13086716.07 0.1607 0.1197

Jupiter -40542-06-29 07:54 J -13086363.32 -13086363.17 -13086363.02 0.0530 0.0002

Moon -40539-03-25 16:04 J -13085362.90 -13085362.83 -13085362.76 0.2670 0.2186

Earth -40539-03-25 17:02 J -13085362.86 -13085362.79 -13085362.72 0.2672 0.2199 *

Jupiter -40537-11-16 05:45 J -13084396.34 -13084396.26 -13084396.17 0.0500 0.0401

Mars -40536-02-12 05:45 J -13084308.34 -13084308.26 -13084308.18 0.1920 0.1512

Jupiter -40536-02-13 19:40 J -13084306.82 -13084306.68 -13084306.54 0.0497 0.0182

Earth -40536-10-04 00:28 J -13084074.61 -13084074.48 -13084074.36 0.2664 0.0372

Moon -40536-10-04 00:42 J -13084074.60 -13084074.47 -13084074.35 0.2671 0.0420 *

Mars -40534-12-01 16:04 J -13083285.96 -13083285.83 -13083285.71 0.1607 0.0647

Saturn -40533-01-05 05:45 J -13083251.38 -13083251.26 -13083251.14 0.0283 0.0177

Saturn -40533-04-02 22:18 J -13083162.73 -13083162.57 -13083162.42 0.0283 0.0061

Earth -40533-04-04 08:09 J -13083161.26 -13083161.16 -13083161.06 0.2666 0.1769

Moon -40533-04-04 08:52 J -13083161.22 -13083161.13 -13083161.03 0.2671 0.1896 *

Saturn -40533-06-30 15:06 J -13083074.02 -13083073.87 -13083073.71 0.0283 0.0058

Saturn -40533-09-27 08:23 J -13082985.27 -13082985.15 -13082985.02 0.0283 0.0179

Jupiter -40530-04-17 08:52 J -13082053.27 -13082053.13 -13082052.99 0.0530 0.0174

Jupiter -40530-07-16 02:52 J -13081963.40 -13081963.38 -13081963.36 0.0533 0.0525

Venus -40530-11-14 17:16 J -13081841.81 -13081841.78 -13081841.74 0.3741 0.3555

Moon -40529-09-26 12:14 J -13081525.04 -13081524.99 -13081524.95 0.2659 0.2465

Earth -40529-09-26 13:11 J -13081525.01 -13081524.95 -13081524.89 0.2660 0.2320 *

Mars -40527-07-05 09:06 J -13080878.25 -13080878.12 -13080877.99 0.1919 0.0476

Neptune -40527-08-28 16:47 J -13080823.85 -13080823.80 -13080823.72 0.0088 0.0082

Neptune -40527-11-24 18:57 J -13080735.78 -13080735.71 -13080735.60 0.0088 0.0075

Neptune -40526-02-20 21:35 J -13080647.70 -13080647.60 -13080647.49 0.0088 0.0066

Moon -40526-03-28 14:52 J -13080612.00 -13080611.88 -13080611.77 0.2673 0.1351

Earth -40526-03-28 15:50 J -13080611.96 -13080611.84 -13080611.73 0.2671 0.1208 *

Neptune -40526-05-19 23:45 J -13080559.62 -13080559.51 -13080559.38 0.0088 0.0059

Neptune -40526-08-16 02:09 J -13080471.53 -13080471.41 -13080471.27 0.0088 0.0052

Neptune -40526-11-12 04:18 J -13080383.45 -13080383.32 -13080383.17 0.0088 0.0045

Neptune -40525-02-08 06:42 J -13080295.36 -13080295.22 -13080295.07 0.0088 0.0037

Neptune -40525-05-06 09:06 J -13080207.27 -13080207.12 -13080206.97 0.0088 0.0029

Neptune -40525-08-02 11:16 J -13080119.18 -13080119.03 -13080118.87 0.0088 0.0022

Neptune -40525-10-29 13:40 J -13080031.09 -13080030.93 -13080030.77 0.0088 0.0015

Jupiter -40525-12-02 22:04 J -13079996.74 -13079996.58 -13079996.43 0.0497 0.0042

Neptune -40524-01-25 15:50 J -13079943.00 -13079942.84 -13079942.68 0.0088 0.0007

Mars -40524-04-22 23:45 J -13079855.65 -13079855.51 -13079855.37 0.1608 0.0086

Neptune -40524-04-23 17:59 J -13079854.91 -13079854.75 -13079854.59 0.0088 0.0001

Venus -40524-05-30 16:33 J -13079817.94 -13079817.81 -13079817.69 0.3736 0.0499

Neptune -40524-07-20 20:09 J -13079766.81 -13079766.66 -13079766.50 0.0088 0.0008

Neptune -40524-10-16 22:18 J -13079678.72 -13079678.57 -13079678.41 0.0088 0.0015

Neptune -40523-01-13 00:28 J -13079590.63 -13079590.48 -13079590.32 0.0088 0.0022

Neptune -40523-04-11 02:52 J -13079502.53 -13079502.38 -13079502.23 0.0088 0.0029

Neptune -40523-07-08 04:47 J -13079414.44 -13079414.30 -13079414.15 0.0088 0.0036

Neptune -40523-10-04 06:57 J -13079326.34 -13079326.21 -13079326.07 0.0088 0.0043

Earth -40523-10-06 21:21 J -13079323.72 -13079323.61 -13079323.50 0.2666 0.1266

Moon -40523-10-06 22:18 J -13079323.68 -13079323.57 -13079323.46 0.2668 0.1278 *

Neptune -40523-12-31 08:52 J -13079238.24 -13079238.13 -13079237.99 0.0088 0.0051

Uranus -40522-01-01 13:11 J -13079237.01 -13079236.95 -13079236.86 0.0132 0.0115

Neptune -40522-03-29 11:02 J -13079150.15 -13079150.04 -13079149.91 0.0088 0.0058

Uranus -40522-03-30 17:30 J -13079148.87 -13079148.77 -13079148.66 0.0132 0.0094

Neptune -40522-06-25 13:11 J -13079062.04 -13079061.95 -13079061.83 0.0088 0.0065

Uranus -40522-06-26 21:35 J -13079060.72 -13079060.60 -13079060.46 0.0132 0.0074

Neptune -40522-09-21 15:21 J -13078973.94 -13078973.86 -13078973.76 0.0088 0.0071

Uranus -40522-09-23 01:54 J -13078972.56 -13078972.42 -13078972.28 0.0132 0.0054

Neptune -40522-12-18 17:16 J -13078885.83 -13078885.78 -13078885.69 0.0088 0.0079

Uranus -40522-12-20 05:59 J -13078884.40 -13078884.25 -13078884.10 0.0132 0.0034

Neptune -40521-03-15 19:26 J -13078797.71 -13078797.69 -13078797.64 0.0088 0.0086

Uranus -40521-03-17 10:04 J -13078796.23 -13078796.08 -13078795.93 0.0132 0.0015

Uranus -40521-06-13 14:09 J -13078708.06 -13078707.91 -13078707.76 0.0132 0.0005

Uranus -40521-09-09 17:59 J -13078619.89 -13078619.75 -13078619.60 0.0132 0.0024

Uranus -40521-12-06 22:04 J -13078531.72 -13078531.58 -13078531.44 0.0132 0.0043

Uranus -40520-03-05 01:54 J -13078443.55 -13078443.42 -13078443.29 0.0132 0.0062

Uranus -40520-06-01 05:45 J -13078355.37 -13078355.26 -13078355.14 0.0132 0.0081

Uranus -40520-08-28 09:35 J -13078267.19 -13078267.10 -13078267.00 0.0132 0.0100

Uranus -40520-11-24 13:26 J -13078179.00 -13078178.94 -13078178.87 0.0132 0.0119

Saturn -40519-05-16 01:26 J -13078006.46 -13078006.44 -13078006.41 0.0276 0.0270

Saturn -40519-08-12 16:18 J -13077917.94 -13077917.82 -13077917.69 0.0275 0.0163

Saturn -40519-11-09 06:57 J -13077829.36 -13077829.21 -13077829.06 0.0275 0.0057

Jupiter -40518-02-03 10:18 J -13077743.19 -13077743.07 -13077742.96 0.0529 0.0342

Saturn -40518-02-05 21:21 J -13077740.76 -13077740.61 -13077740.47 0.0275 0.0047

Jupiter -40518-05-04 04:33 J -13077653.41 -13077653.31 -13077653.20 0.0533 0.0364

Saturn -40518-05-05 11:02 J -13077652.16 -13077652.04 -13077651.91 0.0275 0.0149

Saturn -40518-08-02 00:57 J -13077563.52 -13077563.46 -13077563.40 0.0275 0.0246

Mars -40518-11-25 12:42 J -13077448.10 -13077447.97 -13077447.85 0.1918 0.0539

Moon -40516-09-29 10:04 J -13076774.19 -13076774.08 -13076773.97 0.2664 0.1354

Earth -40516-09-29 11:02 J -13076774.15 -13076774.04 -13076773.93 0.2661 0.1349 *

Mars -40515-09-13 07:11 J -13076425.33 -13076425.20 -13076425.06 0.1609 0.0497

Venus -40515-12-14 21:50 J -13076332.67 -13076332.59 -13076332.51 0.3637 0.2642

Moon -40513-03-30 14:09 J -13075861.04 -13075860.91 -13075860.78 0.2675 0.0178

Earth -40513-03-30 14:38 J -13075861.02 -13075860.89 -13075860.75 0.2669 0.0206 *

Jupiter -40513-09-20 23:59 J -13075686.65 -13075686.50 -13075686.35 0.0498 0.0107

Jupiter -40513-12-19 14:23 J -13075596.93 -13075596.90 -13075596.87 0.0495 0.0483

Earth -40510-10-09 18:14 J -13074572.81 -13074572.74 -13074572.67 0.2667 0.2143

Moon -40510-10-09 19:11 J -13074572.77 -13074572.70 -13074572.64 0.2667 0.2280 *

Venus -40509-06-29 16:18 J -13074308.94 -13074308.82 -13074308.71 0.3641 0.0107

Mars -40508-04-16 17:02 J -13074017.87 -13074017.79 -13074017.71 0.1916 0.1486

Jupiter -40507-11-22 11:16 J -13073433.06 -13073433.03 -13073433.00 0.0528 0.0514

Jupiter -40506-02-20 06:14 J -13073343.38 -13073343.24 -13073343.10 0.0532 0.0197

Mars -40505-02-03 14:38 J -13072994.99 -13072994.89 -13072994.79 0.1610 0.1084

Saturn -40504-05-24 04:47 J -13072519.39 -13072519.30 -13072519.20 0.0283 0.0221

Saturn -40504-08-20 21:21 J -13072430.76 -13072430.61 -13072430.47 0.0283 0.0107

Saturn -40504-11-17 13:54 J -13072342.07 -13072341.92 -13072341.76 0.0283 0.0013

Mars -40503-01-09 08:23 J -13072289.23 -13072289.15 -13072289.07 0.1607 0.1279

Venus -40503-01-13 10:33 J -13072285.14 -13072285.06 -13072284.99 0.3645 0.2685

Saturn -40503-02-14 07:11 J -13072253.34 -13072253.20 -13072253.06 0.0283 0.0132

Saturn -40503-05-14 00:42 J -13072164.54 -13072164.47 -13072164.40 0.0283 0.0256

Moon -40503-10-02 08:09 J -13072023.28 -13072023.16 -13072023.03 0.2670 0.0464

Earth -40503-10-02 08:23 J -13072023.27 -13072023.15 -13072023.02 0.2663 0.0403 *

Jupiter -40501-07-10 02:09 J -13071376.54 -13071376.41 -13071376.28 0.0499 0.0250

Jupiter -40501-10-07 16:18 J -13071286.93 -13071286.82 -13071286.71 0.0496 0.0336

Earth -40500-04-02 14:09 J -13071110.04 -13071109.91 -13071109.79 0.2667 0.0876

Moon -40500-04-02 14:23 J -13071110.03 -13071109.90 -13071109.78 0.2674 0.0881 *

Mars -40497-08-13 05:59 J -13069881.32 -13069881.25 -13069881.18 0.1920 0.1624

Jupiter -40495-12-09 06:42 J -13069033.37 -13069033.22 -13069033.07 0.0530 0.0016

Mars -40494-06-01 16:18 J -13068858.95 -13068858.82 -13068858.70 0.1607 0.0728

Moon -40493-03-25 21:35 J -13068560.68 -13068560.60 -13068560.53 0.2670 0.2169

Earth -40493-03-25 22:33 J -13068560.64 -13068560.56 -13068560.48 0.2672 0.2025 *

Pluto -40493-08-18 20:09 J -13068414.69 -13068414.66 -13068414.61 0.0079 0.0075

Pluto -40493-11-14 21:35 J -13068326.66 -13068326.60 -13068326.51 0.0078 0.0067

Pluto -40492-02-10 23:16 J -13068238.62 -13068238.53 -13068238.43 0.0078 0.0059

Pluto -40492-05-10 00:42 J -13068150.58 -13068150.47 -13068150.35 0.0078 0.0051

Pluto -40492-08-06 02:23 J -13068062.53 -13068062.40 -13068062.28 0.0078 0.0043

Pluto -40492-11-02 03:35 J -13067974.47 -13067974.35 -13067974.21 0.0078 0.0035

Pluto -40491-01-29 05:02 J -13067886.42 -13067886.29 -13067886.14 0.0078 0.0027

Pluto -40491-04-27 06:42 J -13067798.36 -13067798.22 -13067798.08 0.0078 0.0019

Pluto -40491-07-24 08:09 J -13067710.31 -13067710.16 -13067710.01 0.0078 0.0011

Pluto -40491-10-20 09:35 J -13067622.25 -13067622.10 -13067621.95 0.0077 0.0004

Pluto -40490-01-16 10:47 J -13067534.19 -13067534.05 -13067533.90 0.0077 0.0004

Pluto -40490-04-14 12:14 J -13067446.13 -13067445.99 -13067445.84 0.0077 0.0011

Pluto -40490-07-11 13:40 J -13067358.08 -13067357.93 -13067357.79 0.0077 0.0019

Earth -40490-10-05 05:45 J -13067272.38 -13067272.26 -13067272.14 0.2664 0.0530

Moon -40490-10-05 05:59 J -13067272.37 -13067272.25 -13067272.13 0.2671 0.0551 *

Pluto -40490-10-07 14:52 J -13067270.01 -13067269.88 -13067269.74 0.0077 0.0026

Saturn -40490-12-30 18:28 J -13067185.84 -13067185.73 -13067185.62 0.0276 0.0190

Pluto -40489-01-03 16:18 J -13067181.95 -13067181.82 -13067181.69 0.0077 0.0033

Saturn -40489-03-28 09:06 J -13067097.26 -13067097.12 -13067096.97 0.0276 0.0083

Pluto -40489-03-31 17:16 J -13067093.89 -13067093.78 -13067093.64 0.0077 0.0041

Jupiter -40489-04-28 04:04 J -13067066.41 -13067066.33 -13067066.24 0.0500 0.0396

Saturn -40489-06-24 23:30 J -13067008.67 -13067008.52 -13067008.37 0.0276 0.0022

Pluto -40489-06-27 18:42 J -13067005.83 -13067005.72 -13067005.60 0.0077 0.0048

Jupiter -40489-07-26 17:59 J -13066976.89 -13066976.75 -13066976.61 0.0497 0.0188

Saturn -40489-09-21 13:40 J -13066920.06 -13066919.93 -13066919.80 0.0276 0.0124

Pluto -40489-09-23 19:54 J -13066917.76 -13066917.67 -13066917.56 0.0076 0.0055

Saturn -40489-12-19 03:21 J -13066831.44 -13066831.36 -13066831.27 0.0276 0.0224

Pluto -40489-12-20 21:21 J -13066829.69 -13066829.61 -13066829.52 0.0076 0.0061

Pluto -40488-03-18 22:33 J -13066741.61 -13066741.56 -13066741.49 0.0076 0.0068

Pluto -40488-06-14 23:45 J -13066653.52 -13066653.51 -13066653.48 0.0076 0.0075

Mars -40487-01-03 09:06 J -13066451.24 -13066451.12 -13066450.99 0.1919 0.0572

Earth -40487-04-05 13:40 J -13066359.02 -13066358.93 -13066358.84 0.2666 0.1967

Moon -40487-04-05 14:38 J -13066358.98 -13066358.89 -13066358.80 0.2670 0.1991 *

Mars -40485-10-21 23:59 J -13065428.64 -13065428.50 -13065428.36 0.1608 0.0164

Jupiter -40483-09-27 07:26 J -13064723.33 -13064723.19 -13064723.04 0.0529 0.0164

Moon -40483-09-27 17:30 J -13064722.84 -13064722.77 -13064722.70 0.2660 0.2151

Earth -40483-09-27 18:28 J -13064722.80 -13064722.73 -13064722.65 0.2660 0.2150 *

Moon -40480-03-28 20:23 J -13063809.77 -13063809.65 -13063809.53 0.2674 0.1014

Earth -40480-03-28 21:21 J -13063809.73 -13063809.61 -13063809.49 0.2670 0.1032 *

Uranus -40480-12-17 20:38 J -13063545.72 -13063545.64 -13063545.56 0.0147 0.0126

Uranus -40479-03-16 02:23 J -13063457.51 -13063457.40 -13063457.28 0.0147 0.0098

Uranus -40479-06-12 08:23 J -13063369.29 -13063369.15 -13063369.01 0.0147 0.0070

Uranus -40479-09-08 14:23 J -13063281.06 -13063280.90 -13063280.75 0.0147 0.0042

Uranus -40479-12-05 20:23 J -13063192.81 -13063192.65 -13063192.49 0.0147 0.0013

Uranus -40478-03-04 02:23 J -13063104.56 -13063104.40 -13063104.24 0.0147 0.0016

Mars -40478-05-26 12:57 J -13063021.09 -13063020.96 -13063020.83 0.1918 0.0429

Uranus -40478-05-31 08:38 J -13063016.30 -13063016.14 -13063015.99 0.0147 0.0045

Uranus -40478-08-27 14:38 J -13062928.03 -13062927.89 -13062927.75 0.0147 0.0074

Uranus -40478-11-23 20:52 J -13062839.74 -13062839.63 -13062839.51 0.0147 0.0104

Uranus -40477-02-20 03:06 J -13062751.43 -13062751.37 -13062751.30 0.0147 0.0134

Jupiter -40477-05-14 20:09 J -13062666.81 -13062666.66 -13062666.51 0.0498 0.0045

Earth -40477-10-07 02:38 J -13062521.49 -13062521.39 -13062521.29 0.2666 0.1425

Moon -40477-10-07 03:35 J -13062521.45 -13062521.35 -13062521.25 0.2668 0.1532 *

Mars -40475-03-14 07:26 J -13061998.32 -13061998.19 -13061998.05 0.1609 0.0414

Saturn -40475-10-11 06:57 J -13061787.28 -13061787.21 -13061787.13 0.0283 0.0245

Saturn -40474-01-07 23:16 J -13061698.66 -13061698.53 -13061698.39 0.0283 0.0132

Saturn -40474-04-06 16:04 J -13061609.99 -13061609.83 -13061609.68 0.0283 0.0016

Saturn -40474-07-04 08:52 J -13061521.27 -13061521.13 -13061520.98 0.0283 0.0105

Saturn -40474-10-01 02:23 J -13061432.49 -13061432.40 -13061432.30 0.0283 0.0227

Venus -40473-06-20 16:33 J -13061168.91 -13061168.81 -13061168.70 0.3739 0.2124

Jupiter -40471-07-16 08:09 J -13060413.27 -13060413.16 -13060413.05 0.0529 0.0344

Jupiter -40471-10-14 02:38 J -13060323.50 -13060323.39 -13060323.28 0.0532 0.0361

Moon -40470-09-30 15:35 J -13059971.96 -13059971.85 -13059971.74 0.2665 0.1305

Earth -40470-09-30 16:18 J -13059971.93 -13059971.82 -13059971.71 0.2661 0.1174 *

Mars -40469-10-15 16:47 J -13059590.88 -13059590.80 -13059590.71 0.1916 0.1409

Venus -40467-01-04 15:50 J -13059144.95 -13059144.84 -13059144.73 0.3734 0.1959

Moon -40467-03-31 19:54 J -13059058.80 -13059058.67 -13059058.54 0.2675 0.0115

Earth -40467-03-31 20:23 J -13059058.79 -13059058.65 -13059058.52 0.2669 0.0053 *

Mars -40466-08-04 14:52 J -13058567.99 -13058567.88 -13058567.77 0.1610 0.1005

Jupiter -40465-03-02 22:33 J -13058356.70 -13058356.56 -13058356.41 0.0498 0.0097

Jupiter -40465-05-31 13:11 J -13058266.96 -13058266.95 -13058266.94 0.0495 0.0494

Mars -40464-07-10 08:23 J -13057862.22 -13057862.15 -13057862.07 0.1607 0.1357

Earth -40464-10-09 23:16 J -13057770.58 -13057770.53 -13057770.47 0.2668 0.2300

Moon -40464-10-10 00:14 J -13057770.55 -13057770.49 -13057770.43 0.2665 0.2286 *

Saturn -40460-05-18 18:42 J -13056453.80 -13056453.72 -13056453.63 0.0276 0.0227

Saturn -40460-08-15 09:35 J -13056365.24 -13056365.10 -13056364.96 0.0276 0.0120

Saturn -40460-11-11 23:59 J -13056276.65 -13056276.50 -13056276.35 0.0275 0.0015

Saturn -40459-02-08 14:09 J -13056188.05 -13056187.91 -13056187.77 0.0275 0.0088

Jupiter -40459-05-04 09:21 J -13056103.14 -13056103.11 -13056103.08 0.0528 0.0515

Saturn -40459-05-08 04:04 J -13056099.43 -13056099.33 -13056099.22 0.0275 0.0188

Jupiter -40459-08-02 04:18 J -13056013.46 -13056013.32 -13056013.18 0.0532 0.0197

Venus -40458-07-21 20:09 J -13055659.77 -13055659.66 -13055659.56 0.3638 0.1627

Mars -40457-02-12 05:59 J -13055454.31 -13055454.25 -13055454.19 0.1920 0.1704

Moon -40457-10-02 13:40 J -13055221.06 -13055220.93 -13055220.81 0.2670 0.0201

Earth -40457-10-02 13:40 J -13055221.05 -13055220.93 -13055220.80 0.2663 0.0245 *

Mars -40457-12-24 22:04 J -13055137.59 -13055137.58 -13055137.57 0.1612 0.1603

Mars -40455-11-30 16:18 J -13054431.93 -13054431.82 -13054431.69 0.1608 0.0809

Earth -40454-04-03 19:40 J -13054307.80 -13054307.68 -13054307.56 0.2667 0.1061

Moon -40454-04-03 20:09 J -13054307.78 -13054307.66 -13054307.54 0.2673 0.1139 *

Jupiter -40454-12-21 00:42 J -13054046.60 -13054046.47 -13054046.34 0.0499 0.0241

Jupiter -40453-03-19 14:52 J -13053956.99 -13053956.88 -13053956.77 0.0496 0.0344

Venus -40452-02-03 14:23 J -13053636.01 -13053635.90 -13053635.79 0.3642 0.1059

Mars -40448-07-04 09:35 J -13052024.23 -13052024.10 -13052023.98 0.1919 0.0683

Moon -40447-03-27 03:06 J -13051758.46 -13051758.37 -13051758.28 0.2670 0.1857

Earth -40447-03-27 04:04 J -13051758.42 -13051758.33 -13051758.24 0.2672 0.1847 *

Jupiter -40447-05-21 05:45 J -13051703.41 -13051703.26 -13051703.11 0.0531 0.0029

Neptune -40445-02-25 23:45 J -13051057.54 -13051057.51 -13051057.46 0.0089 0.0085

Mars -40445-04-22 00:14 J -13051001.63 -13051001.49 -13051001.35 0.1608 0.0252

Neptune -40445-05-24 01:40 J -13050969.49 -13050969.43 -13050969.35 0.0089 0.0078

Saturn -40445-05-26 22:33 J -13050966.68 -13050966.56 -13050966.44 0.0283 0.0176

Neptune -40445-08-20 03:50 J -13050881.42 -13050881.34 -13050881.24 0.0089 0.0071

Saturn -40445-08-23 15:06 J -13050878.03 -13050877.87 -13050877.72 0.0283 0.0060

Neptune -40445-11-16 05:45 J -13050793.36 -13050793.26 -13050793.15 0.0089 0.0064

Saturn -40445-11-20 07:54 J -13050789.33 -13050789.17 -13050789.02 0.0283 0.0059

Neptune -40444-02-12 07:54 J -13050705.29 -13050705.17 -13050705.05 0.0089 0.0057

Saturn -40444-02-17 01:11 J -13050700.57 -13050700.45 -13050700.33 0.0283 0.0181

Neptune -40444-05-11 09:50 J -13050617.21 -13050617.09 -13050616.96 0.0089 0.0050

Neptune -40444-08-07 11:45 J -13050529.14 -13050529.01 -13050528.87 0.0089 0.0043

Earth -40444-10-05 11:02 J -13050470.16 -13050470.04 -13050469.92 0.2665 0.0691

Moon -40444-10-05 11:30 J -13050470.14 -13050470.02 -13050469.90 0.2670 0.0706 *

Neptune -40444-11-03 13:54 J -13050441.06 -13050440.92 -13050440.78 0.0089 0.0036

Neptune -40443-01-30 15:50 J -13050352.98 -13050352.84 -13050352.69 0.0089 0.0029

Neptune -40443-04-28 17:59 J -13050264.90 -13050264.75 -13050264.60 0.0089 0.0022

Neptune -40443-07-25 20:09 J -13050176.81 -13050176.66 -13050176.51 0.0089 0.0015

Neptune -40443-10-21 22:04 J -13050088.73 -13050088.58 -13050088.42 0.0089 0.0008

Neptune -40442-01-18 00:14 J -13050000.64 -13050000.49 -13050000.33 0.0089 0.0001

Neptune -40442-04-16 02:23 J -13049912.56 -13049912.40 -13049912.25 0.0089 0.0007

Neptune -40442-07-13 04:33 J -13049824.47 -13049824.31 -13049824.16 0.0089 0.0014

Jupiter -40442-10-09 03:06 J -13049736.47 -13049736.37 -13049736.28 0.0500 0.0384

Neptune -40442-10-09 06:28 J -13049736.38 -13049736.23 -13049736.07 0.0089 0.0022 *

Neptune -40441-01-05 08:38 J -13049648.29 -13049648.14 -13049647.99 0.0089 0.0029

Jupiter -40441-01-06 16:47 J -13049646.94 -13049646.80 -13049646.66 0.0497 0.0198

Neptune -40441-04-02 10:47 J -13049560.19 -13049560.05 -13049559.91 0.0089 0.0036

Earth -40441-04-05 19:26 J -13049556.77 -13049556.69 -13049556.62 0.2665 0.2155

Moon -40441-04-05 20:23 J -13049556.72 -13049556.65 -13049556.58 0.2669 0.2242 *

Neptune -40441-06-29 12:57 J -13049472.10 -13049471.96 -13049471.82 0.0089 0.0043

Neptune -40441-09-25 14:52 J -13049384.00 -13049383.88 -13049383.74 0.0089 0.0051

Neptune -40441-12-22 17:02 J -13049295.90 -13049295.79 -13049295.66 0.0089 0.0058

Neptune -40440-03-20 19:11 J -13049207.80 -13049207.70 -13049207.58 0.0089 0.0066

Neptune -40440-06-16 21:21 J -13049119.69 -13049119.61 -13049119.51 0.0089 0.0073

Neptune -40440-09-12 23:45 J -13049031.57 -13049031.51 -13049031.44 0.0089 0.0080

Neptune -40440-12-10 01:40 J -13048943.44 -13048943.43 -13048943.40 0.0089 0.0088

Uranus -40439-10-25 17:02 J -13048623.83 -13048623.79 -13048623.73 0.0132 0.0125

Mars -40439-11-24 13:11 J -13048594.08 -13048593.95 -13048593.82 0.1918 0.0334

Uranus -40438-01-21 21:21 J -13048535.70 -13048535.61 -13048535.51 0.0132 0.0105

Uranus -40438-04-20 01:26 J -13048447.55 -13048447.44 -13048447.31 0.0132 0.0085

Uranus -40438-07-17 05:30 J -13048359.39 -13048359.27 -13048359.13 0.0132 0.0066

Uranus -40438-10-13 09:50 J -13048271.23 -13048271.09 -13048270.94 0.0132 0.0045

Uranus -40437-01-09 13:54 J -13048183.07 -13048182.92 -13048182.77 0.0132 0.0025

Uranus -40437-04-06 17:59 J -13048094.90 -13048094.75 -13048094.60 0.0132 0.0006

Uranus -40437-07-03 22:04 J -13048006.73 -13048006.58 -13048006.43 0.0132 0.0014

Moon -40437-09-27 22:47 J -13047920.62 -13047920.55 -13047920.47 0.2660 0.2120

Earth -40437-09-27 23:59 J -13047920.59 -13047920.50 -13047920.42 0.2660 0.1974 *

Uranus -40437-09-30 01:54 J -13047918.56 -13047918.42 -13047918.27 0.0132 0.0033

Uranus -40437-12-27 05:59 J -13047830.39 -13047830.25 -13047830.11 0.0132 0.0052

Uranus -40436-03-25 09:50 J -13047742.21 -13047742.09 -13047741.96 0.0132 0.0071

Uranus -40436-06-21 13:40 J -13047654.03 -13047653.93 -13047653.82 0.0132 0.0090

Mars -40436-09-12 07:40 J -13047571.31 -13047571.18 -13047571.04 0.1609 0.0332

Uranus -40436-09-17 17:30 J -13047565.84 -13047565.77 -13047565.68 0.0132 0.0109

Uranus -40436-12-14 21:06 J -13047477.64 -13047477.62 -13047477.57 0.0132 0.0128

Jupiter -40435-03-09 06:14 J -13047393.38 -13047393.24 -13047393.09 0.0529 0.0152

Moon -40434-03-30 01:54 J -13047007.54 -13047007.42 -13047007.30 0.2675 0.0994

Earth -40434-03-30 02:52 J -13047007.51 -13047007.38 -13047007.26 0.2670 0.0850 *

Saturn -40431-10-05 20:23 J -13045721.70 -13045721.65 -13045721.59 0.0277 0.0257

Earth -40431-10-08 07:54 J -13045719.27 -13045719.17 -13045719.07 0.2666 0.1585

Moon -40431-10-08 08:52 J -13045719.23 -13045719.13 -13045719.03 0.2669 0.1622 *

Saturn -40430-01-02 11:16 J -13045633.15 -13045633.03 -13045632.89 0.0276 0.0149

Saturn -40430-04-01 02:09 J -13045544.56 -13045544.41 -13045544.26 0.0276 0.0042

Saturn -40430-06-28 16:18 J -13045455.96 -13045455.82 -13045455.67 0.0276 0.0063

Saturn -40430-09-25 06:28 J -13045367.35 -13045367.23 -13045367.11 0.0276 0.0164

Jupiter -40430-10-25 18:28 J -13045336.88 -13045336.73 -13045336.58 0.0498 0.0048

Saturn -40430-12-22 20:09 J -13045278.70 -13045278.66 -13045278.62 0.0276 0.0263

Mars -40429-04-15 17:02 J -13045163.88 -13045163.79 -13045163.69 0.1916 0.1308

Mars -40426-02-02 15:06 J -13044140.99 -13044140.87 -13044140.75 0.1610 0.0917

Mars -40424-01-08 08:38 J -13043435.20 -13043435.14 -13043435.08 0.1607 0.1435

Moon -40424-09-30 21:06 J -13043169.74 -13043169.62 -13043169.51 0.2667 0.0989

Earth -40424-09-30 21:35 J -13043169.71 -13043169.60 -13043169.48 0.2662 0.1009 *

Jupiter -40424-12-26 06:57 J -13043083.33 -13043083.21 -13043083.10 0.0528 0.0333

Jupiter -40423-03-26 01:11 J -13042993.55 -13042993.45 -13042993.34 0.0532 0.0370

Moon -40421-04-01 01:40 J -13042256.57 -13042256.43 -13042256.30 0.2675 0.0251

Earth -40421-04-01 01:54 J -13042256.56 -13042256.42 -13042256.29 0.2668 0.0191 *

Mars -40418-08-13 06:14 J -13041027.27 -13041027.24 -13041027.19 0.1920 0.1818

Jupiter -40418-08-13 20:38 J -13041026.78 -13041026.64 -13041026.49 0.0499 0.0096

Earth -40418-10-11 04:33 J -13040968.35 -13040968.31 -13040968.26 0.2668 0.2453

Moon -40418-10-11 05:16 J -13040968.31 -13040968.28 -13040968.24 0.2664 0.2550 *

Jupiter -40418-11-11 11:16 J -13040937.03 -13040937.03 -13040937.03 0.0496 0.0495

Mars -40417-06-24 22:18 J -13040710.62 -13040710.57 -13040710.53 0.1612 0.1521

Venus -40416-01-25 15:50 J -13040495.96 -13040495.84 -13040495.71 0.3738 0.0713

Saturn -40416-10-14 00:57 J -13040234.56 -13040234.46 -13040234.34 0.0283 0.0198

Saturn -40415-01-10 17:30 J -13040145.92 -13040145.77 -13040145.62 0.0283 0.0082

Saturn -40415-04-09 10:18 J -13040057.23 -13040057.07 -13040056.91 0.0283 0.0036

Mars -40415-05-31 16:47 J -13040004.92 -13040004.80 -13040004.69 0.1608 0.0889

Saturn -40415-07-07 03:21 J -13039968.49 -13039968.36 -13039968.22 0.0283 0.0156

Saturn -40415-10-03 20:52 J -13039879.65 -13039879.63 -13039879.60 0.0283 0.0280

Earth -40414-03-25 11:02 J -13039707.05 -13039707.04 -13039707.02 0.2673 0.2644

Jupiter -40412-10-14 07:11 J -13038773.23 -13038773.20 -13038773.17 0.0528 0.0517

Jupiter -40411-01-12 02:09 J -13038683.55 -13038683.41 -13038683.27 0.0531 0.0193

Venus -40411-08-11 15:21 J -13038471.90 -13038471.86 -13038471.81 0.3733 0.3465

Moon -40411-10-03 18:57 J -13038418.83 -13038418.71 -13038418.58 0.2670 0.0136

Earth -40411-10-03 19:11 J -13038418.83 -13038418.70 -13038418.58 0.2663 0.0112 *

Mars -40408-01-02 09:35 J -13037597.22 -13037597.10 -13037596.98 0.1919 0.0772

Earth -40408-04-04 01:11 J -13037505.56 -13037505.45 -13037505.33 0.2667 0.1256

Moon -40408-04-04 01:54 J -13037505.54 -13037505.42 -13037505.31 0.2673 0.1242 *

Venus -40407-08-11 23:45 J -13037010.55 -13037010.51 -13037010.47 0.3635 0.3325

Jupiter -40406-06-01 23:16 J -13036716.66 -13036716.53 -13036716.40 0.0499 0.0234

Jupiter -40406-08-30 13:26 J -13036627.05 -13036626.94 -13036626.83 0.0496 0.0352

Mars -40406-10-22 00:28 J -13036574.62 -13036574.48 -13036574.34 0.1608 0.0328

Venus -40401-02-25 18:14 J -13034986.85 -13034986.74 -13034986.63 0.3639 0.0596

Moon -40401-03-27 08:23 J -13034956.24 -13034956.15 -13034956.05 0.2672 0.1777

Earth -40401-03-27 09:35 J -13034956.20 -13034956.10 -13034956.00 0.2672 0.1674 *

Saturn -40401-05-21 12:14 J -13034901.10 -13034900.99 -13034900.87 0.0276 0.0182

Saturn -40401-08-18 03:06 J -13034812.52 -13034812.37 -13034812.23 0.0276 0.0075

Saturn -40401-11-14 17:30 J -13034723.92 -13034723.77 -13034723.62 0.0276 0.0030

Saturn -40400-02-11 07:26 J -13034635.32 -13034635.19 -13034635.06 0.0275 0.0132

Saturn -40400-05-10 21:06 J -13034546.69 -13034546.62 -13034546.53 0.0275 0.0232

Jupiter -40400-10-31 03:35 J -13034373.50 -13034373.35 -13034373.20 0.0531 0.0025

Mars -40399-05-25 13:11 J -13034167.08 -13034166.95 -13034166.82 0.1918 0.0241

Earth -40398-10-06 16:18 J -13033667.94 -13033667.82 -13033667.71 0.2665 0.0854

Moon -40398-10-06 17:02 J -13033667.91 -13033667.79 -13033667.68 0.2670 0.0954 *

Mars -40396-03-13 08:09 J -13033144.30 -13033144.16 -13033144.02 0.1609 0.0246

Venus -40396-09-10 12:28 J -13032963.07 -13032962.98 -13032962.89 0.3643 0.2061

Uranus -40396-10-10 23:02 J -13032932.57 -13032932.54 -13032932.50 0.0146 0.0142

Uranus -40395-01-07 04:47 J -13032844.39 -13032844.30 -13032844.20 0.0147 0.0114

Uranus -40395-04-05 10:33 J -13032756.18 -13032756.06 -13032755.93 0.0147 0.0087

Earth -40395-04-07 00:57 J -13032754.52 -13032754.46 -13032754.39 0.2665 0.2353

Moon -40395-04-07 02:09 J -13032754.46 -13032754.41 -13032754.36 0.2667 0.2454 *

Uranus -40395-07-02 16:33 J -13032667.96 -13032667.81 -13032667.66 0.0147 0.0059

Uranus -40395-09-28 22:33 J -13032579.72 -13032579.56 -13032579.40 0.0147 0.0030

Uranus -40395-12-26 04:33 J -13032491.47 -13032491.31 -13032491.15 0.0147 0.0002

Jupiter -40394-03-21 01:26 J -13032406.53 -13032406.44 -13032406.34 0.0500 0.0378

Uranus -40394-03-24 10:33 J -13032403.22 -13032403.06 -13032402.90 0.0147 0.0028

Jupiter -40394-06-18 15:06 J -13032317.01 -13032316.87 -13032316.73 0.0497 0.0204

Uranus -40394-06-20 16:33 J -13032314.95 -13032314.81 -13032314.65 0.0147 0.0057

Uranus -40394-09-16 22:47 J -13032226.68 -13032226.55 -13032226.41 0.0147 0.0086

Uranus -40394-12-14 05:02 J -13032138.38 -13032138.29 -13032138.18 0.0147 0.0116

Uranus -40393-03-11 11:16 J -13032050.04 -13032050.03 -13032050.00 0.0147 0.0146

Moon -40391-09-29 04:18 J -13031118.41 -13031118.32 -13031118.23 0.2661 0.1820

Earth -40391-09-29 05:16 J -13031118.37 -13031118.28 -13031118.18 0.2660 0.1803 *

Mars -40390-10-15 17:16 J -13030736.88 -13030736.78 -13030736.67 0.1916 0.1206

Moon -40388-03-30 07:26 J -13030205.32 -13030205.19 -13030205.06 0.2674 0.0657

Earth -40388-03-30 08:23 J -13030205.28 -13030205.15 -13030205.02 0.2670 0.0668 *

Jupiter -40388-08-19 04:47 J -13030063.44 -13030063.30 -13030063.15 0.0530 0.0144

Mars -40387-08-03 15:21 J -13029713.98 -13029713.86 -13029713.74 0.1610 0.0831

Saturn -40386-03-03 00:28 J -13029502.56 -13029502.48 -13029502.40 0.0283 0.0240

Saturn -40386-05-30 16:33 J -13029413.94 -13029413.81 -13029413.66 0.0283 0.0127

Saturn -40386-08-27 09:21 J -13029325.27 -13029325.11 -13029324.95 0.0283 0.0010

Saturn -40386-11-24 02:23 J -13029236.55 -13029236.40 -13029236.26 0.0283 0.0110

Saturn -40385-02-20 19:40 J -13029147.77 -13029147.68 -13029147.59 0.0283 0.0233

Mars -40385-07-09 09:06 J -13029008.17 -13029008.12 -13029008.08 0.1607 0.1517

Earth -40385-10-08 13:11 J -13028917.04 -13028916.95 -13028916.86 0.2667 0.1741

Moon -40385-10-08 14:09 J -13028917.00 -13028916.91 -13028916.82 0.2668 0.1813 *

Jupiter -40382-04-06 17:16 J -13028006.93 -13028006.78 -13028006.63 0.0498 0.0058

Moon -40378-10-02 02:23 J -13026367.51 -13026367.40 -13026367.28 0.2668 0.0952

Earth -40378-10-02 03:06 J -13026367.49 -13026367.37 -13026367.25 0.2662 0.0841 *

Mars -40378-12-24 22:33 J -13026283.62 -13026283.56 -13026283.50 0.1612 0.1432

Jupiter -40376-06-07 05:30 J -13025753.39 -13025753.27 -13025753.15 0.0528 0.0323

Jupiter -40376-09-04 23:59 J -13025663.61 -13025663.50 -13025663.40 0.0532 0.0380

Mars -40376-11-29 17:02 J -13025577.90 -13025577.79 -13025577.68 0.1608 0.0971

Moon -40375-04-02 07:26 J -13025454.32 -13025454.19 -13025454.06 0.2675 0.0296

Earth -40375-04-02 07:26 J -13025454.32 -13025454.19 -13025454.06 0.2668 0.0375 *

Saturn -40372-10-08 13:54 J -13024169.01 -13024168.92 -13024168.82 0.0277 0.0212

Earth -40372-10-11 09:50 J -13024166.11 -13024166.09 -13024166.07 0.2668 0.2606

Moon -40372-10-11 10:33 J -13024166.08 -13024166.06 -13024166.04 0.2664 0.2613 *

Saturn -40371-01-05 04:47 J -13024080.44 -13024080.30 -13024080.16 0.0277 0.0104

Saturn -40371-04-03 19:26 J -13023991.84 -13023991.69 -13023991.54 0.0276 0.0005

Saturn -40371-07-01 09:35 J -13023903.24 -13023903.10 -13023902.96 0.0276 0.0106

Saturn -40371-09-27 23:30 J -13023814.62 -13023814.52 -13023814.42 0.0276 0.0206

Jupiter -40370-01-23 18:42 J -13023696.86 -13023696.72 -13023696.57 0.0499 0.0095

Mars -40369-07-03 09:50 J -13023170.21 -13023170.09 -13023169.98 0.1919 0.0874

Moon -40368-03-25 15:35 J -13022904.89 -13022904.85 -13022904.80 0.2668 0.2495

Earth -40368-03-25 16:33 J -13022904.86 -13022904.81 -13022904.77 0.2673 0.2473 *

Mars -40366-04-22 00:42 J -13022147.60 -13022147.47 -13022147.33 0.1608 0.0411

Venus -40365-02-16 16:18 J -13021846.88 -13021846.82 -13021846.76 0.3741 0.3260

Moon -40365-10-04 00:28 J -13021616.61 -13021616.48 -13021616.36 0.2670 0.0176

Earth -40365-10-04 00:28 J -13021616.61 -13021616.48 -13021616.36 0.2664 0.0132 *

Jupiter -40364-03-26 05:45 J -13021443.29 -13021443.26 -13021443.21 0.0527 0.0505

Jupiter -40364-06-24 00:42 J -13021353.60 -13021353.47 -13021353.33 0.0531 0.0203

Neptune -40362-02-26 12:28 J -13020740.98 -13020740.98 -13020740.96 0.0088 0.0088

Earth -40362-04-05 06:57 J -13020703.32 -13020703.21 -13020703.10 0.2666 0.1441

Moon -40362-04-05 07:26 J -13020703.30 -13020703.19 -13020703.08 0.2672 0.1552 *

Neptune -40362-05-25 14:52 J -13020652.94 -13020652.88 -13020652.80 0.0088 0.0080

Neptune -40362-08-21 17:30 J -13020564.86 -13020564.77 -13020564.68 0.0088 0.0073

Neptune -40362-11-17 19:26 J -13020476.78 -13020476.69 -13020476.57 0.0088 0.0066

Neptune -40361-02-13 22:04 J -13020388.70 -13020388.58 -13020388.46 0.0088 0.0058

Neptune -40361-05-12 00:14 J -13020300.62 -13020300.49 -13020300.35 0.0088 0.0050

Neptune -40361-08-08 02:38 J -13020212.53 -13020212.39 -13020212.25 0.0088 0.0043

Neptune -40361-11-04 04:47 J -13020124.44 -13020124.30 -13020124.15 0.0088 0.0036

Neptune -40360-01-31 06:57 J -13020036.35 -13020036.21 -13020036.05 0.0088 0.0029

Neptune -40360-04-29 09:21 J -13019948.26 -13019948.11 -13019947.95 0.0088 0.0021

Neptune -40360-07-26 11:30 J -13019860.17 -13019860.02 -13019859.85 0.0088 0.0014

Venus -40360-09-01 15:21 J -13019822.99 -13019822.86 -13019822.74 0.3737 0.0760

Neptune -40360-10-22 13:54 J -13019772.08 -13019771.92 -13019771.76 0.0088 0.0006

Mars -40360-11-23 13:26 J -13019740.07 -13019739.94 -13019739.81 0.1918 0.0141

Neptune -40359-01-18 16:04 J -13019683.99 -13019683.83 -13019683.67 0.0088 0.0002

Neptune -40359-04-16 18:14 J -13019595.90 -13019595.74 -13019595.58 0.0088 0.0009

Neptune -40359-07-13 20:23 J -13019507.80 -13019507.65 -13019507.49 0.0088 0.0016

Neptune -40359-10-09 22:33 J -13019419.71 -13019419.56 -13019419.40 0.0088 0.0023

Jupiter -40359-11-11 21:06 J -13019386.75 -13019386.62 -13019386.49 0.0500 0.0237

Neptune -40358-01-06 00:42 J -13019331.61 -13019331.47 -13019331.31 0.0088 0.0030

Jupiter -40358-02-09 11:16 J -13019297.14 -13019297.03 -13019296.92 0.0496 0.0350

Neptune -40358-04-04 02:52 J -13019243.52 -13019243.38 -13019243.23 0.0088 0.0038

Neptune -40358-07-01 05:02 J -13019155.42 -13019155.29 -13019155.15 0.0088 0.0045

Neptune -40358-09-27 07:11 J -13019067.32 -13019067.20 -13019067.07 0.0088 0.0052

Earth -40358-09-27 12:42 J -13019066.99 -13019066.97 -13019066.95 0.2659 0.2616

Neptune -40358-12-24 09:21 J -13018979.22 -13018979.11 -13018978.99 0.0088 0.0059

Neptune -40357-03-21 11:30 J -13018891.12 -13018891.02 -13018890.91 0.0088 0.0066

Neptune -40357-06-17 13:26 J -13018803.02 -13018802.94 -13018802.84 0.0088 0.0073

Saturn -40357-07-20 03:21 J -13018770.41 -13018770.36 -13018770.29 0.0282 0.0259

Mars -40357-09-11 08:23 J -13018717.29 -13018717.15 -13018717.01 0.1609 0.0169

Neptune -40357-09-13 15:35 J -13018714.91 -13018714.85 -13018714.77 0.0088 0.0080

Saturn -40357-10-16 19:40 J -13018681.81 -13018681.68 -13018681.55 0.0282 0.0146

Neptune -40357-12-10 17:45 J -13018626.78 -13018626.76 -13018626.72 0.0088 0.0087

Saturn -40356-01-13 12:14 J -13018593.15 -13018592.99 -13018592.83 0.0283 0.0029

Saturn -40356-04-12 05:02 J -13018504.44 -13018504.29 -13018504.14 0.0283 0.0090

Saturn -40356-07-09 22:18 J -13018415.67 -13018415.57 -13018415.46 0.0283 0.0212

Moon -40355-03-28 13:54 J -13018154.02 -13018153.92 -13018153.81 0.2673 0.1569

Earth -40355-03-28 15:06 J -13018153.98 -13018153.87 -13018153.76 0.2671 0.1495 *

Uranus -40355-11-15 00:57 J -13017922.52 -13017922.46 -13017922.37 0.0132 0.0116

Uranus -40354-02-11 05:30 J -13017834.38 -13017834.27 -13017834.17 0.0132 0.0095

Uranus -40354-05-10 09:35 J -13017746.22 -13017746.10 -13017745.97 0.0132 0.0075

Uranus -40354-08-06 13:40 J -13017658.06 -13017657.93 -13017657.79 0.0132 0.0056

Uranus -40354-11-02 17:45 J -13017569.90 -13017569.76 -13017569.61 0.0132 0.0036

Uranus -40353-01-29 22:04 J -13017481.74 -13017481.58 -13017481.43 0.0132 0.0016

Uranus -40353-04-27 01:54 J -13017393.57 -13017393.42 -13017393.26 0.0132 0.0005

Uranus -40353-07-24 05:59 J -13017305.40 -13017305.25 -13017305.10 0.0132 0.0023

Uranus -40353-10-20 10:04 J -13017217.23 -13017217.08 -13017216.94 0.0132 0.0042

Uranus -40352-01-16 13:54 J -13017129.05 -13017128.92 -13017128.79 0.0132 0.0061

Jupiter -40352-04-12 01:26 J -13017043.59 -13017043.44 -13017043.29 0.0530 0.0026

Uranus -40352-04-14 17:30 J -13017040.87 -13017040.77 -13017040.64 0.0132 0.0081

Uranus -40352-07-11 21:50 J -13016952.69 -13016952.59 -13016952.50 0.0132 0.0099

Earth -40352-10-06 21:35 J -13016865.72 -13016865.60 -13016865.49 0.2665 0.1016

Moon -40352-10-06 22:18 J -13016865.69 -13016865.57 -13016865.46 0.2670 0.1010 *

Uranus -40352-10-08 01:26 J -13016864.50 -13016864.44 -13016864.37 0.0132 0.0118

Venus -40350-03-18 22:04 J -13016337.67 -13016337.58 -13016337.49 0.3636 0.2284

Mars -40350-04-15 17:16 J -13016309.88 -13016309.78 -13016309.67 0.1916 0.1120

Earth -40349-04-07 06:42 J -13015952.26 -13015952.22 -13015952.18 0.2665 0.2547

Moon -40349-04-07 07:54 J -13015952.20 -13015952.17 -13015952.14 0.2666 0.2589 *

Mars -40347-02-01 15:35 J -13015286.97 -13015286.85 -13015286.72 0.1611 0.0748

Jupiter -40347-08-30 23:45 J -13015076.61 -13015076.51 -13015076.41 0.0500 0.0375

Jupiter -40347-11-28 13:26 J -13014987.07 -13014986.94 -13014986.80 0.0497 0.0209

Mars -40345-01-08 09:06 J -13014581.13 -13014581.12 -13014581.10 0.1607 0.1595

Moon -40345-09-29 09:50 J -13014316.19 -13014316.09 -13014316.00 0.2663 0.1730

Earth -40345-09-29 10:47 J -13014316.15 -13014316.05 -13014315.95 0.2661 0.1633 *

Venus -40345-10-01 16:18 J -13014313.93 -13014313.82 -13014313.70 0.3640 0.0440

Saturn -40342-02-25 15:06 J -13013436.94 -13013436.87 -13013436.79 0.0276 0.0242

Moon -40342-03-31 13:11 J -13013403.08 -13013402.95 -13013402.83 0.2674 0.0600

Earth -40342-03-31 13:54 J -13013403.05 -13013402.92 -13013402.79 0.2670 0.0485 *

Saturn -40342-05-25 05:59 J -13013348.38 -13013348.25 -13013348.11 0.0276 0.0134

Saturn -40342-08-21 20:38 J -13013259.79 -13013259.64 -13013259.48 0.0276 0.0029

Saturn -40342-11-18 11:02 J -13013171.18 -13013171.04 -13013170.90 0.0276 0.0076

Saturn -40341-02-15 00:57 J -13013082.57 -13013082.46 -13013082.35 0.0276 0.0177

Jupiter -40340-01-29 02:38 J -13012733.54 -13012733.39 -13012733.25 0.0530 0.0150

Venus -40339-04-17 10:33 J -13012290.12 -13012290.06 -13012290.00 0.3644 0.3055

Earth -40339-10-09 18:28 J -13012114.82 -13012114.73 -13012114.65 0.2667 0.1899

Moon -40339-10-09 19:11 J -13012114.78 -13012114.70 -13012114.61 0.2666 0.1989 *

Mars -40338-06-24 22:47 J -13011856.62 -13011856.55 -13011856.47 0.1612 0.1343

Mars -40336-05-30 17:16 J -13011150.89 -13011150.78 -13011150.68 0.1608 0.1051

Jupiter -40335-09-16 15:21 J -13010677.01 -13010676.86 -13010676.70 0.0498 0.0063

Pluto -40333-08-23 13:54 J -13009969.94 -13009969.92 -13009969.86 0.0066 0.0064

Pluto -40333-11-19 15:06 J -13009881.92 -13009881.87 -13009881.77 0.0066 0.0059

Pluto -40332-02-15 16:18 J -13009793.89 -13009793.82 -13009793.70 0.0066 0.0054

Pluto -40332-05-14 17:59 J -13009705.86 -13009705.75 -13009705.63 0.0066 0.0048

Pluto -40332-08-10 19:11 J -13009617.82 -13009617.70 -13009617.57 0.0066 0.0043

Moon -40332-10-02 07:54 J -13009565.30 -13009565.17 -13009565.05 0.2668 0.0654

Earth -40332-10-02 08:23 J -13009565.27 -13009565.15 -13009565.03 0.2662 0.0672 *

Pluto -40332-11-06 20:09 J -13009529.78 -13009529.66 -13009529.50 0.0066 0.0039

Pluto -40331-02-02 21:50 J -13009441.73 -13009441.59 -13009441.44 0.0066 0.0033

Pluto -40331-05-01 23:02 J -13009353.69 -13009353.54 -13009353.38 0.0067 0.0028

Pluto -40331-07-29 00:28 J -13009265.64 -13009265.48 -13009265.32 0.0067 0.0022

Pluto -40331-10-25 01:40 J -13009177.59 -13009177.43 -13009177.26 0.0067 0.0017

Pluto -40330-01-21 03:06 J -13009089.54 -13009089.37 -13009089.20 0.0067 0.0011

Pluto -40330-04-19 04:18 J -13009001.48 -13009001.32 -13009001.15 0.0067 0.0006

Pluto -40330-07-16 05:45 J -13008913.43 -13008913.26 -13008913.09 0.0067 0.0000

Pluto -40330-10-12 06:57 J -13008825.37 -13008825.21 -13008825.03 0.0067 0.0006

Mars -40329-01-02 10:04 J -13008743.20 -13008743.08 -13008742.97 0.1919 0.0978

Pluto -40329-01-08 08:23 J -13008737.31 -13008737.15 -13008736.98 0.0067 0.0011

Earth -40329-04-02 12:57 J -13008652.09 -13008651.96 -13008651.83 0.2668 0.0561

Moon -40329-04-02 13:11 J -13008652.08 -13008651.95 -13008651.83 0.2675 0.0647 *

Pluto -40329-04-05 09:35 J -13008649.26 -13008649.10 -13008648.93 0.0067 0.0017

Pluto -40329-07-02 11:02 J -13008561.19 -13008561.04 -13008560.87 0.0067 0.0023

Pluto -40329-09-28 12:28 J -13008473.13 -13008472.98 -13008472.82 0.0068 0.0029

Jupiter -40329-11-17 03:50 J -13008423.46 -13008423.34 -13008423.22 0.0529 0.0320

Pluto -40329-12-25 13:40 J -13008385.06 -13008384.93 -13008384.77 0.0068 0.0035

Jupiter -40328-02-14 22:18 J -13008333.67 -13008333.57 -13008333.47 0.0532 0.0385

Pluto -40328-03-23 15:21 J -13008297.00 -13008296.86 -13008296.72 0.0068 0.0040

Pluto -40328-06-19 16:47 J -13008208.92 -13008208.80 -13008208.68 0.0068 0.0046

Pluto -40328-09-15 17:59 J -13008120.85 -13008120.75 -13008120.63 0.0068 0.0052

Pluto -40328-12-12 19:26 J -13008032.77 -13008032.69 -13008032.59 0.0068 0.0058

Saturn -40327-03-05 18:57 J -13007949.82 -13007949.71 -13007949.59 0.0283 0.0189

Pluto -40327-03-10 20:52 J -13007944.67 -13007944.63 -13007944.57 0.0068 0.0065

Saturn -40327-06-02 11:30 J -13007861.17 -13007861.02 -13007860.87 0.0283 0.0073

Saturn -40327-08-30 04:04 J -13007772.48 -13007772.33 -13007772.17 0.0283 0.0046

Mars -40327-10-21 00:57 J -13007720.59 -13007720.46 -13007720.32 0.1608 0.0498

Saturn -40327-11-26 21:21 J -13007683.74 -13007683.61 -13007683.48 0.0283 0.0166

Jupiter -40323-07-05 17:30 J -13006366.92 -13006366.77 -13006366.62 0.0498 0.0085

Moon -40322-03-26 21:06 J -13006102.67 -13006102.62 -13006102.57 0.2669 0.2408

Earth -40322-03-26 21:50 J -13006102.65 -13006102.59 -13006102.52 0.2673 0.2306 *

Mars -40320-05-24 13:40 J -13005313.06 -13005312.93 -13005312.80 0.1917 0.0040

Earth -40319-10-05 05:45 J -13004814.39 -13004814.26 -13004814.14 0.2664 0.0271

Moon -40319-10-05 05:59 J -13004814.37 -13004814.25 -13004814.13 0.2670 0.0219 *

Mars -40317-03-12 08:38 J -13004290.28 -13004290.14 -13004290.00 0.1609 0.0079

Jupiter -40317-09-05 04:18 J -13004113.36 -13004113.32 -13004113.27 0.0527 0.0497

Jupiter -40317-12-03 23:16 J -13004023.66 -13004023.53 -13004023.39 0.0531 0.0211

Earth -40316-04-05 12:28 J -13003901.08 -13003900.98 -13003900.87 0.2666 0.1640

Moon -40316-04-05 13:26 J -13003901.05 -13003900.94 -13003900.84 0.2671 0.1622 *

Saturn -40313-07-14 16:33 J -13002704.82 -13002704.81 -13002704.78 0.0277 0.0273

Saturn -40313-10-11 07:40 J -13002616.30 -13002616.18 -13002616.05 0.0277 0.0164

Saturn -40312-01-07 22:33 J -13002527.71 -13002527.56 -13002527.41 0.0277 0.0057

Saturn -40312-04-06 12:57 J -13002439.11 -13002438.96 -13002438.81 0.0277 0.0048

Saturn -40312-07-04 03:06 J -13002350.50 -13002350.37 -13002350.25 0.0276 0.0151

Moon -40312-09-27 17:16 J -13002264.83 -13002264.78 -13002264.74 0.2657 0.2475

Earth -40312-09-27 18:14 J -13002264.79 -13002264.74 -13002264.69 0.2660 0.2441 *

Saturn -40312-09-30 16:47 J -13002261.86 -13002261.80 -13002261.74 0.0276 0.0251

Uranus -40312-10-31 06:42 J -13002231.28 -13002231.22 -13002231.15 0.0146 0.0133

Uranus -40311-01-27 12:14 J -13002143.08 -13002142.99 -13002142.86 0.0147 0.0106

Jupiter -40311-04-23 19:11 J -13002056.83 -13002056.70 -13002056.57 0.0500 0.0237

Uranus -40311-04-25 18:14 J -13002054.87 -13002054.74 -13002054.60 0.0147 0.0078

Jupiter -40311-07-22 09:21 J -13001967.22 -13001967.11 -13001967.01 0.0497 0.0351

Uranus -40311-07-23 00:14 J -13001966.64 -13001966.49 -13001966.33 0.0147 0.0049

Mars -40311-10-14 17:30 J -13001882.88 -13001882.77 -13001882.66 0.1916 0.1021

Uranus -40311-10-19 06:14 J -13001878.40 -13001878.24 -13001878.08 0.0147 0.0021

Uranus -40310-01-15 12:14 J -13001790.15 -13001789.99 -13001789.83 0.0147 0.0008

Uranus -40310-04-13 18:14 J -13001701.89 -13001701.74 -13001701.58 0.0147 0.0037

Uranus -40310-07-11 00:14 J -13001613.62 -13001613.49 -13001613.33 0.0147 0.0067

Uranus -40310-10-07 06:28 J -13001525.34 -13001525.23 -13001525.10 0.0147 0.0096

Uranus -40309-01-03 12:42 J -13001437.04 -13001436.97 -13001436.88 0.0147 0.0126

Moon -40309-03-28 19:26 J -13001351.80 -13001351.69 -13001351.58 0.2673 0.1381

Earth -40309-03-28 20:38 J -13001351.76 -13001351.64 -13001351.53 0.2671 0.1322 *

Venus -40309-09-22 15:35 J -13001173.96 -13001173.85 -13001173.74 0.3740 0.1846

Mars -40308-08-02 16:04 J -13000859.96 -13000859.83 -13000859.71 0.1611 0.0663

Earth -40306-10-08 02:52 J -13000063.50 -13000063.38 -13000063.27 0.2665 0.1175

Moon -40306-10-08 03:35 J -13000063.46 -13000063.35 -13000063.25 0.2670 0.1295 *

Jupiter -40305-09-21 23:59 J -12999713.65 -12999713.50 -12999713.35 0.0530 0.0033

Venus -40303-04-08 14:52 J -12999149.99 -12999149.88 -12999149.78 0.3735 0.2248

Jupiter -40299-02-09 21:21 J -12997746.70 -12997746.61 -12997746.51 0.0501 0.0380

Jupiter -40299-05-10 11:16 J -12997657.17 -12997657.03 -12997656.89 0.0497 0.0204

Moon -40299-09-30 15:06 J -12997513.97 -12997513.87 -12997513.76 0.2665 0.1528

Earth -40299-09-30 16:04 J -12997513.93 -12997513.83 -12997513.72 0.2661 0.1458 *

Mars -40299-12-23 23:02 J -12997429.62 -12997429.54 -12997429.45 0.1612 0.1261

Saturn -40298-07-23 22:18 J -12997217.68 -12997217.57 -12997217.47 0.0282 0.0205

Saturn -40298-10-20 14:38 J -12997129.04 -12997128.89 -12997128.74 0.0282 0.0091

Saturn -40297-01-17 07:11 J -12997040.36 -12997040.20 -12997040.04 0.0283 0.0027

Saturn -40297-04-15 00:14 J -12996951.62 -12996951.49 -12996951.35 0.0283 0.0147

Saturn -40297-07-12 17:45 J -12996862.80 -12996862.76 -12996862.71 0.0283 0.0270

Mars -40297-11-28 17:30 J -12996723.87 -12996723.77 -12996723.68 0.1608 0.1131

Moon -40296-03-31 18:57 J -12996600.84 -12996600.71 -12996600.58 0.2675 0.0316

Earth -40296-03-31 19:26 J -12996600.82 -12996600.69 -12996600.56 0.2669 0.0302 *

Venus -40294-10-23 20:09 J -12995664.77 -12995664.66 -12995664.55 0.3637 0.1241

Jupiter -40293-07-11 00:14 J -12995403.63 -12995403.49 -12995403.34 0.0529 0.0156

Earth -40293-10-09 23:30 J -12995312.59 -12995312.52 -12995312.44 0.2667 0.2056

Moon -40293-10-10 00:28 J -12995312.55 -12995312.48 -12995312.40 0.2665 0.2067 *

Mars -40290-07-03 10:04 J -12994316.19 -12994316.08 -12994315.97 0.1918 0.1073

Venus -40288-05-08 14:38 J -12993641.00 -12993640.89 -12993640.79 0.3641 0.1446

Jupiter -40287-02-26 13:40 J -12993347.08 -12993346.93 -12993346.78 0.0498 0.0063

Mars -40287-04-21 01:11 J -12993293.58 -12993293.45 -12993293.32 0.1609 0.0575

Moon -40286-10-03 13:11 J -12992763.07 -12992762.95 -12992762.83 0.2669 0.0585

Earth -40286-10-03 13:40 J -12992763.06 -12992762.93 -12992762.81 0.2663 0.0504 *

Saturn -40283-02-28 09:21 J -12991884.21 -12991884.11 -12991883.99 0.0276 0.0191

Earth -40283-04-03 18:42 J -12991849.85 -12991849.72 -12991849.59 0.2668 0.0750

Moon -40283-04-03 18:42 J -12991849.84 -12991849.72 -12991849.59 0.2675 0.0690 *

Saturn -40283-05-28 00:14 J -12991795.63 -12991795.49 -12991795.34 0.0276 0.0084

Saturn -40283-08-24 14:38 J -12991707.03 -12991706.89 -12991706.73 0.0276 0.0023

Saturn -40283-11-21 04:47 J -12991618.43 -12991618.30 -12991618.16 0.0276 0.0124

Saturn -40282-02-17 18:42 J -12991529.80 -12991529.72 -12991529.63 0.0276 0.0224

Jupiter -40281-04-29 01:11 J -12991093.56 -12991093.45 -12991093.33 0.0529 0.0329

Jupiter -40281-07-27 19:54 J -12991003.77 -12991003.67 -12991003.57 0.0532 0.0376

Neptune -40281-11-21 22:18 J -12990886.62 -12990886.57 -12990886.51 0.0089 0.0083

Mars -40281-11-22 13:40 J -12990886.06 -12990885.93 -12990885.80 0.1918 0.0054

Neptune -40280-02-18 00:14 J -12990798.56 -12990798.49 -12990798.41 0.0089 0.0076

Neptune -40280-05-17 02:23 J -12990710.50 -12990710.40 -12990710.31 0.0089 0.0069

Neptune -40280-08-13 04:18 J -12990622.43 -12990622.32 -12990622.21 0.0089 0.0062

Neptune -40280-11-09 05:59 J -12990534.36 -12990534.25 -12990534.12 0.0089 0.0056

Neptune -40279-02-05 07:54 J -12990446.28 -12990446.17 -12990446.03 0.0089 0.0049

Neptune -40279-05-04 10:04 J -12990358.21 -12990358.08 -12990357.94 0.0089 0.0042

Neptune -40279-07-31 11:59 J -12990270.13 -12990270.00 -12990269.85 0.0089 0.0035

Neptune -40279-10-27 14:09 J -12990182.05 -12990181.91 -12990181.76 0.0089 0.0028

Neptune -40278-01-23 16:18 J -12990093.97 -12990093.82 -12990093.67 0.0089 0.0020

Neptune -40278-04-21 18:28 J -12990005.89 -12990005.73 -12990005.58 0.0089 0.0013

Neptune -40278-07-18 20:23 J -12989917.80 -12989917.65 -12989917.49 0.0089 0.0006

Mars -40278-09-11 08:52 J -12989863.27 -12989863.13 -12989862.99 0.1610 0.0016

Neptune -40278-10-14 22:33 J -12989829.72 -12989829.56 -12989829.41 0.0089 0.0001

Neptune -40277-01-11 00:28 J -12989741.63 -12989741.48 -12989741.32 0.0089 0.0009

Neptune -40277-04-08 02:38 J -12989653.54 -12989653.39 -12989653.23 0.0089 0.0016

Neptune -40277-07-05 04:47 J -12989565.45 -12989565.30 -12989565.15 0.0089 0.0023

Neptune -40277-10-01 06:57 J -12989477.36 -12989477.21 -12989477.06 0.0089 0.0030

Neptune -40277-12-28 08:52 J -12989389.27 -12989389.13 -12989388.98 0.0089 0.0038

Neptune -40276-03-26 11:02 J -12989301.17 -12989301.04 -12989300.90 0.0089 0.0045

Moon -40276-03-27 02:23 J -12989300.48 -12989300.40 -12989300.32 0.2671 0.2125

Earth -40276-03-27 03:21 J -12989300.43 -12989300.36 -12989300.28 0.2672 0.2131 *

Neptune -40276-06-22 13:11 J -12989213.07 -12989212.95 -12989212.82 0.0089 0.0052

Neptune -40276-09-18 15:06 J -12989124.97 -12989124.87 -12989124.74 0.0089 0.0060

Jupiter -40276-12-15 15:50 J -12989036.99 -12989036.84 -12989036.69 0.0498 0.0083

Neptune -40276-12-15 17:30 J -12989036.87 -12989036.77 -12989036.66 0.0089 0.0067 *

Neptune -40275-03-13 19:26 J -12988948.76 -12988948.69 -12988948.59 0.0089 0.0075

Neptune -40275-06-09 21:35 J -12988860.64 -12988860.60 -12988860.53 0.0089 0.0082

Earth -40273-10-05 11:02 J -12988012.17 -12988012.04 -12988011.92 0.2664 0.0431

Moon -40273-10-05 11:16 J -12988012.15 -12988012.03 -12988011.90 0.2671 0.0528 *

Mars -40271-04-14 17:59 J -12987455.87 -12987455.75 -12987455.64 0.1916 0.0915

Uranus -40271-09-08 05:02 J -12987309.33 -12987309.29 -12987309.24 0.0132 0.0126

Uranus -40271-12-05 09:06 J -12987221.20 -12987221.12 -12987221.02 0.0132 0.0106

Uranus -40270-03-03 13:11 J -12987133.05 -12987132.95 -12987132.82 0.0132 0.0087

Earth -40270-04-06 18:14 J -12987098.84 -12987098.74 -12987098.65 0.2666 0.1827

Moon -40270-04-06 19:11 J -12987098.79 -12987098.70 -12987098.61 0.2670 0.1981 *

Uranus -40270-05-30 17:30 J -12987044.89 -12987044.77 -12987044.63 0.0132 0.0066

Uranus -40270-08-26 21:50 J -12986956.73 -12986956.59 -12986956.44 0.0132 0.0046

Uranus -40270-11-23 01:54 J -12986868.57 -12986868.42 -12986868.27 0.0132 0.0026

Jupiter -40269-02-16 02:23 J -12986783.45 -12986783.40 -12986783.35 0.0528 0.0500

Uranus -40269-02-19 05:59 J -12986780.40 -12986780.25 -12986780.10 0.0132 0.0007

Jupiter -40269-05-15 21:21 J -12986693.74 -12986693.61 -12986693.47 0.0531 0.0211

Uranus -40269-05-17 10:04 J -12986692.23 -12986692.08 -12986691.93 0.0132 0.0013

Uranus -40269-08-13 13:54 J -12986604.06 -12986603.92 -12986603.77 0.0132 0.0033

Uranus -40269-11-09 17:59 J -12986515.89 -12986515.75 -12986515.61 0.0132 0.0052

Saturn -40269-12-09 21:50 J -12986485.66 -12986485.59 -12986485.51 0.0283 0.0247

Mars -40268-01-31 16:18 J -12986432.95 -12986432.82 -12986432.69 0.1611 0.0574

Uranus -40268-02-05 21:50 J -12986427.71 -12986427.59 -12986427.46 0.0132 0.0071

Saturn -40268-03-08 13:54 J -12986397.05 -12986396.92 -12986396.78 0.0283 0.0134

Uranus -40268-05-05 01:40 J -12986339.53 -12986339.43 -12986339.31 0.0132 0.0090

Saturn -40268-06-05 06:28 J -12986308.38 -12986308.23 -12986308.07 0.0283 0.0019

Uranus -40268-08-01 05:30 J -12986251.34 -12986251.27 -12986251.18 0.0132 0.0109

Saturn -40268-09-01 23:30 J -12986219.67 -12986219.52 -12986219.37 0.0283 0.0102

Uranus -40268-10-28 09:35 J -12986163.13 -12986163.10 -12986163.06 0.0132 0.0127

Saturn -40268-11-29 16:47 J -12986130.90 -12986130.80 -12986130.70 0.0283 0.0225

Moon -40266-09-28 22:33 J -12985462.61 -12985462.56 -12985462.50 0.2658 0.2384

Earth -40266-09-28 23:45 J -12985462.58 -12985462.51 -12985462.45 0.2660 0.2265 *

Jupiter -40264-10-03 17:59 J -12984726.89 -12984726.75 -12984726.62 0.0499 0.0227

Jupiter -40263-01-01 07:54 J -12984637.27 -12984637.17 -12984637.06 0.0496 0.0359

Moon -40263-03-30 00:57 J -12984549.57 -12984549.46 -12984549.34 0.2673 0.1243

Earth -40263-03-30 02:09 J -12984549.53 -12984549.41 -12984549.30 0.2671 0.1145 *

Mars -40262-09-04 22:04 J -12984025.61 -12984025.58 -12984025.56 0.1913 0.1869

Earth -40260-10-08 08:09 J -12983261.27 -12983261.16 -12983261.06 0.2666 0.1336

Moon -40260-10-08 08:52 J -12983261.24 -12983261.13 -12983261.02 0.2669 0.1320 *

Mars -40259-06-23 23:30 J -12983002.62 -12983002.52 -12983002.43 0.1612 0.1175

Jupiter -40257-03-03 22:33 J -12982383.71 -12982383.56 -12982383.41 0.0530 0.0038

Mars -40257-05-29 17:45 J -12982296.85 -12982296.76 -12982296.67 0.1608 0.1212

Saturn -40254-07-18 10:33 J -12981152.14 -12981152.06 -12981151.96 0.0277 0.0224

Saturn -40254-10-15 01:40 J -12981063.57 -12981063.43 -12981063.29 0.0277 0.0115

Saturn -40253-01-11 16:18 J -12980974.97 -12980974.82 -12980974.67 0.0277 0.0009

Saturn -40253-04-09 06:42 J -12980886.36 -12980886.22 -12980886.08 0.0276 0.0096

Saturn -40253-07-06 20:23 J -12980797.74 -12980797.65 -12980797.54 0.0276 0.0198

Moon -40253-09-30 20:38 J -12980711.75 -12980711.64 -12980711.53 0.2666 0.1329

Earth -40253-09-30 21:21 J -12980711.72 -12980711.61 -12980711.50 0.2661 0.1290 *

Venus -40252-04-29 14:52 J -12980501.00 -12980500.88 -12980500.75 0.3739 0.0413

Jupiter -40252-07-22 19:26 J -12980416.78 -12980416.69 -12980416.59 0.0501 0.0380

Jupiter -40252-10-20 09:06 J -12980327.25 -12980327.12 -12980326.98 0.0497 0.0204

Mars -40250-01-01 10:18 J -12979889.18 -12979889.07 -12979888.97 0.1919 0.1170

Moon -40250-04-02 00:28 J -12979798.61 -12979798.48 -12979798.35 0.2675 0.0167

Earth -40250-04-02 00:57 J -12979798.59 -12979798.46 -12979798.33 0.2669 0.0123 *

Mars -40248-10-20 01:26 J -12978866.56 -12978866.44 -12978866.31 0.1609 0.0658

Earth -40247-10-11 04:47 J -12978510.36 -12978510.30 -12978510.23 0.2667 0.2210

Moon -40247-10-11 05:45 J -12978510.32 -12978510.26 -12978510.20 0.2665 0.2330 *

Pluto -40246-07-02 09:35 J -12978246.13 -12978246.10 -12978246.03 0.0079 0.0074

Pluto -40246-09-28 11:16 J -12978158.10 -12978158.03 -12978157.94 0.0078 0.0066

Jupiter -40246-12-21 23:02 J -12978073.68 -12978073.54 -12978073.39 0.0529 0.0143

Pluto -40246-12-25 12:42 J -12978070.06 -12978069.97 -12978069.86 0.0078 0.0058

Pluto -40245-03-22 14:23 J -12977982.01 -12977981.90 -12977981.78 0.0078 0.0049

Pluto -40245-06-18 15:50 J -12977893.96 -12977893.84 -12977893.71 0.0078 0.0041

Pluto -40245-09-14 17:02 J -12977805.91 -12977805.79 -12977805.64 0.0078 0.0034

Pluto -40245-12-11 18:42 J -12977717.86 -12977717.72 -12977717.58 0.0078 0.0026

Pluto -40244-03-09 20:09 J -12977629.80 -12977629.66 -12977629.51 0.0078 0.0018

Pluto -40244-06-05 21:35 J -12977541.74 -12977541.60 -12977541.45 0.0077 0.0011

Pluto -40244-09-01 23:02 J -12977453.69 -12977453.54 -12977453.39 0.0077 0.0003

Pluto -40244-11-29 00:28 J -12977365.63 -12977365.48 -12977365.33 0.0077 0.0005

Pluto -40243-02-25 01:40 J -12977277.57 -12977277.43 -12977277.28 0.0077 0.0013

Pluto -40243-05-24 03:06 J -12977189.51 -12977189.37 -12977189.22 0.0077 0.0019

Pluto -40243-08-20 04:18 J -12977101.45 -12977101.32 -12977101.17 0.0077 0.0027

Venus -40243-11-13 23:59 J -12977015.57 -12977015.50 -12977015.44 0.3634 0.2945

Pluto -40243-11-16 05:45 J -12977013.39 -12977013.26 -12977013.12 0.0077 0.0034

Pluto -40242-02-12 07:11 J -12976925.32 -12976925.20 -12976925.08 0.0077 0.0041

Pluto -40242-05-11 08:09 J -12976837.26 -12976837.16 -12976837.03 0.0076 0.0049

Pluto -40242-08-07 09:35 J -12976749.19 -12976749.10 -12976748.99 0.0076 0.0055

Pluto -40242-11-03 10:47 J -12976661.12 -12976661.05 -12976660.95 0.0076 0.0062

Pluto -40241-01-30 11:59 J -12976573.04 -12976573.00 -12976572.93 0.0076 0.0069

Pluto -40241-04-27 13:26 J -12976484.94 -12976484.94 -12976484.92 0.0076 0.0076

Mars -40241-05-23 13:54 J -12976459.05 -12976458.92 -12976458.79 0.1917 0.0165

Jupiter -40240-08-08 11:16 J -12976017.18 -12976017.03 -12976016.88 0.0498 0.0057

Moon -40240-10-03 18:42 J -12975960.84 -12975960.72 -12975960.60 0.2669 0.0333

Earth -40240-10-03 18:57 J -12975960.83 -12975960.71 -12975960.58 0.2663 0.0337 *

Saturn -40239-04-29 01:11 J -12975753.50 -12975753.45 -12975753.40 0.0282 0.0263

Saturn -40239-07-26 17:16 J -12975664.91 -12975664.78 -12975664.65 0.0282 0.0150

Saturn -40239-10-23 09:50 J -12975576.25 -12975576.09 -12975575.94 0.0282 0.0035

Saturn -40238-01-20 02:38 J -12975487.54 -12975487.39 -12975487.24 0.0283 0.0085

Mars -40238-03-12 09:06 J -12975436.26 -12975436.12 -12975435.98 0.1610 0.0091

Saturn -40238-04-18 19:54 J -12975398.78 -12975398.67 -12975398.56 0.0283 0.0206

Earth -40237-04-04 00:14 J -12975047.61 -12975047.49 -12975047.37 0.2667 0.0935

Moon -40237-04-04 00:28 J -12975047.60 -12975047.48 -12975047.36 0.2674 0.1008 *

Venus -40237-05-29 18:28 J -12974991.85 -12974991.73 -12974991.62 0.3639 0.0221

Jupiter -40234-10-09 23:02 J -12973763.66 -12973763.54 -12973763.42 0.0528 0.0334

Jupiter -40233-01-07 17:30 J -12973673.87 -12973673.77 -12973673.66 0.0532 0.0370

Mars -40232-10-13 17:45 J -12973028.88 -12973028.76 -12973028.64 0.1915 0.0835

Venus -40232-12-13 12:42 J -12972968.05 -12972967.97 -12972967.89 0.3642 0.2447

Moon -40230-03-28 07:40 J -12972498.25 -12972498.18 -12972498.10 0.2671 0.2115

Earth -40230-03-28 08:52 J -12972498.22 -12972498.13 -12972498.04 0.2672 0.1958 *

Mars -40229-08-01 16:33 J -12972005.95 -12972005.81 -12972005.68 0.1611 0.0493

Jupiter -40228-05-27 13:40 J -12971707.07 -12971706.93 -12971706.78 0.0499 0.0084

Uranus -40228-11-20 15:06 J -12971529.96 -12971529.87 -12971529.78 0.0146 0.0121

Uranus -40227-02-16 20:38 J -12971441.75 -12971441.64 -12971441.51 0.0147 0.0094

Uranus -40227-05-16 02:38 J -12971353.53 -12971353.39 -12971353.24 0.0147 0.0065

Uranus -40227-08-12 08:38 J -12971265.30 -12971265.14 -12971264.98 0.0147 0.0037

Earth -40227-10-06 16:18 J -12971209.94 -12971209.82 -12971209.70 0.2664 0.0594

Moon -40227-10-06 16:47 J -12971209.92 -12971209.80 -12971209.68 0.2671 0.0572 *

Uranus -40227-11-08 14:38 J -12971177.05 -12971176.89 -12971176.73 0.0147 0.0009

Uranus -40226-02-04 20:38 J -12971088.80 -12971088.64 -12971088.48 0.0147 0.0020

Uranus -40226-05-04 02:38 J -12971000.54 -12971000.39 -12971000.23 0.0147 0.0049

Uranus -40226-07-31 08:38 J -12970912.27 -12970912.14 -12970911.99 0.0147 0.0079

Uranus -40226-10-27 14:52 J -12970823.98 -12970823.88 -12970823.76 0.0147 0.0108

Uranus -40225-01-23 21:06 J -12970735.67 -12970735.62 -12970735.56 0.0147 0.0138

Saturn -40225-12-04 12:42 J -12970420.03 -12970419.97 -12970419.90 0.0276 0.0248

Saturn -40224-03-03 03:50 J -12970331.47 -12970331.34 -12970331.21 0.0276 0.0139

Earth -40224-04-06 23:45 J -12970296.59 -12970296.51 -12970296.42 0.2666 0.2025

Moon -40224-04-07 00:57 J -12970296.55 -12970296.46 -12970296.38 0.2669 0.2020 *

Saturn -40224-05-30 18:28 J -12970242.88 -12970242.73 -12970242.58 0.0276 0.0033

Saturn -40224-08-27 08:52 J -12970154.27 -12970154.13 -12970153.98 0.0276 0.0071

Saturn -40224-11-23 22:47 J -12970065.66 -12970065.55 -12970065.43 0.0276 0.0173

Saturn -40223-02-20 12:28 J -12969976.99 -12969976.98 -12969976.95 0.0276 0.0273

Mars -40222-03-05 22:18 J -12969598.62 -12969598.57 -12969598.53 0.1914 0.1770

Jupiter -40222-07-28 23:45 J -12969453.54 -12969453.51 -12969453.47 0.0527 0.0510

Jupiter -40222-10-26 18:57 J -12969363.85 -12969363.71 -12969363.57 0.0531 0.0201

Moon -40220-09-29 04:04 J -12968660.41 -12968660.33 -12968660.25 0.2660 0.2092

Earth -40220-09-29 05:02 J -12968660.37 -12968660.29 -12968660.21 0.2660 0.2090 *

Mars -40220-12-22 23:45 J -12968575.61 -12968575.51 -12968575.40 0.1612 0.1083

Mars -40218-11-28 17:59 J -12967869.83 -12967869.75 -12967869.67 0.1608 0.1292

Moon -40217-03-30 06:28 J -12967747.35 -12967747.23 -12967747.11 0.2673 0.0989

Earth -40217-03-30 07:26 J -12967747.31 -12967747.19 -12967747.06 0.2670 0.0969 *

Jupiter -40216-03-15 16:04 J -12967396.96 -12967396.83 -12967396.70 0.0499 0.0226

Jupiter -40216-06-13 05:59 J -12967307.35 -12967307.25 -12967307.14 0.0496 0.0360

Earth -40214-10-09 13:11 J -12966459.05 -12966458.95 -12966458.85 0.2666 0.1489

Moon -40214-10-09 14:09 J -12966459.01 -12966458.91 -12966458.81 0.2667 0.1622 *

Mars -40211-07-02 10:33 J -12965462.15 -12965462.06 -12965461.96 0.1919 0.1286

Jupiter -40210-08-14 20:23 J -12965053.80 -12965053.65 -12965053.50 0.0530 0.0034

Saturn -40210-12-13 16:47 J -12964932.90 -12964932.80 -12964932.68 0.0283 0.0192

Saturn -40209-03-11 09:21 J -12964844.26 -12964844.11 -12964843.96 0.0283 0.0077

Saturn -40209-06-08 01:54 J -12964755.58 -12964755.42 -12964755.26 0.0283 0.0041

Saturn -40209-09-04 18:57 J -12964666.84 -12964666.71 -12964666.58 0.0283 0.0162

Mars -40208-04-20 01:54 J -12964439.55 -12964439.42 -12964439.30 0.1609 0.0744

Moon -40207-10-02 01:54 J -12963909.53 -12963909.42 -12963909.30 0.2666 0.1214

Earth -40207-10-02 02:52 J -12963909.50 -12963909.38 -12963909.27 0.2662 0.1116 *

Jupiter -40204-01-01 18:14 J -12963086.84 -12963086.74 -12963086.64 0.0500 0.0369

Jupiter -40204-04-01 07:54 J -12962997.31 -12962997.17 -12962997.03 0.0497 0.0213

Moon -40204-04-02 06:14 J -12962996.37 -12962996.24 -12962996.11 0.2676 0.0043

Earth -40204-04-02 06:28 J -12962996.36 -12962996.23 -12962996.10 0.2669 0.0082 *

Mars -40202-11-22 14:09 J -12962032.04 -12962031.91 -12962031.78 0.1917 0.0261

Venus -40201-05-20 15:21 J -12961851.94 -12961851.86 -12961851.78 0.3742 0.2949

Earth -40201-10-11 10:04 J -12961708.13 -12961708.08 -12961708.03 0.2668 0.2363

Moon -40201-10-11 11:02 J -12961708.10 -12961708.04 -12961707.99 0.2666 0.2357 *

Mars -40199-09-10 09:21 J -12961009.25 -12961009.11 -12961008.97 0.1610 0.0173

Jupiter -40198-06-02 21:21 J -12960743.75 -12960743.61 -12960743.46 0.0529 0.0139

Neptune -40198-11-23 10:04 J -12960570.08 -12960570.08 -12960570.04 0.0088 0.0088

Neptune -40197-02-19 12:42 J -12960482.03 -12960481.97 -12960481.90 0.0088 0.0080

Neptune -40197-05-17 14:52 J -12960393.96 -12960393.88 -12960393.77 0.0088 0.0072

Neptune -40197-08-13 17:16 J -12960305.88 -12960305.78 -12960305.66 0.0088 0.0065

Neptune -40197-11-09 19:26 J -12960217.80 -12960217.69 -12960217.55 0.0088 0.0058

Neptune -40196-02-05 22:04 J -12960129.71 -12960129.58 -12960129.44 0.0088 0.0050

Neptune -40196-05-05 00:14 J -12960041.62 -12960041.49 -12960041.34 0.0088 0.0042

Neptune -40196-08-01 02:38 J -12959953.53 -12959953.39 -12959953.24 0.0088 0.0035

Neptune -40196-10-28 04:47 J -12959865.44 -12959865.30 -12959865.14 0.0088 0.0028

Venus -40196-12-04 14:23 J -12959828.02 -12959827.90 -12959827.78 0.3738 0.1065

Neptune -40195-01-24 07:11 J -12959777.35 -12959777.20 -12959777.04 0.0088 0.0020

Neptune -40195-04-22 09:35 J -12959689.26 -12959689.10 -12959688.94 0.0088 0.0012

Neptune -40195-07-19 11:45 J -12959601.17 -12959601.01 -12959600.85 0.0088 0.0005

Saturn -40195-07-21 05:02 J -12959599.41 -12959599.29 -12959599.17 0.0277 0.0172

Neptune -40195-10-15 13:54 J -12959513.08 -12959512.92 -12959512.75 0.0088 0.0003

Saturn -40195-10-17 19:54 J -12959510.82 -12959510.67 -12959510.53 0.0276 0.0065

Neptune -40194-01-11 16:18 J -12959424.98 -12959424.82 -12959424.66 0.0088 0.0010

Saturn -40194-01-14 10:18 J -12959422.22 -12959422.07 -12959421.92 0.0276 0.0041

Neptune -40194-04-09 18:28 J -12959336.89 -12959336.73 -12959336.57 0.0088 0.0017

Saturn -40194-04-13 00:28 J -12959333.61 -12959333.48 -12959333.35 0.0276 0.0144

Neptune -40194-07-06 20:23 J -12959248.79 -12959248.65 -12959248.49 0.0088 0.0025

Saturn -40194-07-10 14:09 J -12959244.97 -12959244.91 -12959244.84 0.0276 0.0244

Neptune -40194-10-02 22:33 J -12959160.70 -12959160.56 -12959160.40 0.0088 0.0032

Moon -40194-10-05 00:14 J -12959158.61 -12959158.49 -12959158.36 0.2670 0.0170

Earth -40194-10-05 00:14 J -12959158.61 -12959158.49 -12959158.36 0.2663 0.0179 *

Neptune -40194-12-30 00:57 J -12959072.60 -12959072.46 -12959072.31 0.0088 0.0038

Neptune -40193-03-27 03:06 J -12958984.50 -12958984.37 -12958984.23 0.0088 0.0046

Neptune -40193-06-23 05:16 J -12958896.40 -12958896.28 -12958896.15 0.0088 0.0053

Neptune -40193-09-19 07:26 J -12958808.30 -12958808.19 -12958808.07 0.0088 0.0060

Neptune -40193-12-16 09:35 J -12958720.20 -12958720.10 -12958720.00 0.0088 0.0067

Jupiter -40192-01-18 09:21 J -12958687.26 -12958687.11 -12958686.96 0.0498 0.0057

Neptune -40192-03-14 11:45 J -12958632.09 -12958632.01 -12958631.92 0.0088 0.0074

Mars -40192-04-13 17:59 J -12958601.87 -12958601.75 -12958601.63 0.1915 0.0730

Neptune -40192-06-10 13:54 J -12958543.98 -12958543.92 -12958543.86 0.0088 0.0081

Neptune -40192-09-06 15:50 J -12958455.85 -12958455.84 -12958455.82 0.0088 0.0088

Earth -40191-04-05 05:45 J -12958245.38 -12958245.26 -12958245.14 0.2667 0.1123

Moon -40191-04-05 06:14 J -12958245.36 -12958245.24 -12958245.12 0.2673 0.1140 *

Mars -40189-01-31 16:47 J -12957578.94 -12957578.80 -12957578.66 0.1611 0.0407

Uranus -40187-09-28 13:11 J -12956608.02 -12956607.95 -12956607.88 0.0132 0.0116

Uranus -40187-12-25 17:16 J -12956519.88 -12956519.78 -12956519.67 0.0132 0.0096

Jupiter -40186-03-21 21:50 J -12956433.71 -12956433.59 -12956433.47 0.0528 0.0321

Uranus -40186-03-23 21:21 J -12956431.72 -12956431.61 -12956431.47 0.0132 0.0077

Jupiter -40186-06-19 16:33 J -12956343.92 -12956343.81 -12956343.71 0.0531 0.0383

Uranus -40186-06-20 01:40 J -12956343.56 -12956343.43 -12956343.29 0.0132 0.0056

Venus -40186-06-20 22:04 J -12956342.68 -12956342.58 -12956342.48 0.3636 0.1901

Uranus -40186-09-16 05:59 J -12956255.40 -12956255.25 -12956255.11 0.0132 0.0036

Uranus -40186-12-13 10:04 J -12956167.23 -12956167.08 -12956166.93 0.0132 0.0016

Uranus -40185-03-10 14:09 J -12956079.06 -12956078.91 -12956078.76 0.0132 0.0004

Uranus -40185-06-06 17:59 J -12955990.89 -12955990.75 -12955990.60 0.0132 0.0023

Uranus -40185-09-02 22:04 J -12955902.72 -12955902.58 -12955902.44 0.0132 0.0042

Uranus -40185-11-30 02:09 J -12955814.55 -12955814.41 -12955814.28 0.0132 0.0061

Uranus -40184-02-26 05:59 J -12955726.37 -12955726.25 -12955726.13 0.0132 0.0080

Moon -40184-03-28 13:11 J -12955696.04 -12955695.95 -12955695.85 0.2671 0.1774

Earth -40184-03-28 14:23 J -12955696.00 -12955695.90 -12955695.81 0.2672 0.1784 *

Uranus -40184-05-25 09:50 J -12955638.18 -12955638.09 -12955637.99 0.0132 0.0099

Uranus -40184-08-21 13:40 J -12955549.99 -12955549.93 -12955549.86 0.0132 0.0118

Mars -40183-09-03 22:18 J -12955171.63 -12955171.57 -12955171.51 0.1913 0.1678

Earth -40181-10-06 21:35 J -12954407.72 -12954407.60 -12954407.48 0.2665 0.0754

Moon -40181-10-06 22:04 J -12954407.70 -12954407.58 -12954407.46 0.2671 0.0833 *

Jupiter -40181-11-06 11:30 J -12954377.17 -12954377.02 -12954376.87 0.0499 0.0089

Venus -40180-01-03 16:33 J -12954318.92 -12954318.81 -12954318.70 0.3640 0.0812

Saturn -40180-05-01 19:54 J -12954200.77 -12954200.67 -12954200.56 0.0282 0.0209

Mars -40180-06-22 23:59 J -12954148.61 -12954148.50 -12954148.39 0.1612 0.1001

Saturn -40180-07-29 12:14 J -12954112.13 -12954111.99 -12954111.84 0.0282 0.0095

Saturn -40180-10-26 04:47 J -12954023.45 -12954023.30 -12954023.14 0.0283 0.0024

Saturn -40179-01-22 21:50 J -12953934.72 -12953934.59 -12953934.45 0.0283 0.0143

Saturn -40179-04-21 15:06 J -12953845.91 -12953845.87 -12953845.81 0.0283 0.0266

Earth -40178-04-08 05:30 J -12953494.35 -12953494.27 -12953494.20 0.2665 0.2214

Moon -40178-04-08 06:28 J -12953494.29 -12953494.23 -12953494.17 0.2669 0.2368 *

Mars -40178-05-29 18:14 J -12953442.81 -12953442.74 -12953442.67 0.1608 0.1372

Venus -40175-07-20 10:47 J -12952295.09 -12952295.05 -12952295.02 0.3644 0.3432

Jupiter -40174-01-07 21:21 J -12952123.63 -12952123.61 -12952123.57 0.0527 0.0515

Jupiter -40174-04-07 16:33 J -12952033.94 -12952033.81 -12952033.67 0.0531 0.0195

Moon -40174-09-30 09:21 J -12951858.19 -12951858.11 -12951858.03 0.2662 0.2070

Earth -40174-09-30 10:18 J -12951858.15 -12951858.07 -12951857.98 0.2660 0.1917 *

Mars -40172-12-31 10:33 J -12951035.15 -12951035.06 -12951034.97 0.1918 0.1370

Moon -40171-03-31 12:14 J -12950945.11 -12950944.99 -12950944.87 0.2674 0.0911

Earth -40171-03-31 12:57 J -12950945.08 -12950944.96 -12950944.83 0.2670 0.0787 *

Mars -40171-11-13 06:57 J -12950718.21 -12950718.21 -12950718.20 0.1614 0.1610

Jupiter -40169-08-25 14:09 J -12950067.05 -12950066.91 -12950066.78 0.0500 0.0227

Mars -40169-10-19 01:54 J -12950012.54 -12950012.42 -12950012.30 0.1609 0.0822

Jupiter -40169-11-23 04:04 J -12949977.43 -12949977.33 -12949977.23 0.0497 0.0360

Earth -40168-10-09 18:28 J -12949656.82 -12949656.73 -12949656.63 0.2666 0.1649

Moon -40168-10-09 19:26 J -12949656.78 -12949656.69 -12949656.59 0.2667 0.1652 *

Saturn -40166-12-08 07:26 J -12948867.29 -12948867.19 -12948867.08 0.0276 0.0194

Saturn -40165-03-05 22:18 J -12948778.71 -12948778.57 -12948778.42 0.0276 0.0087

Saturn -40165-06-02 12:57 J -12948690.11 -12948689.96 -12948689.81 0.0276 0.0020

Saturn -40165-08-30 03:06 J -12948601.51 -12948601.37 -12948601.24 0.0276 0.0122

Saturn -40165-11-26 16:47 J -12948512.88 -12948512.80 -12948512.71 0.0276 0.0223

Jupiter -40162-01-24 17:45 J -12947723.91 -12947723.76 -12947723.61 0.0530 0.0023

Mars -40162-05-23 14:09 J -12947605.04 -12947604.91 -12947604.78 0.1917 0.0355

Moon -40161-10-02 07:26 J -12947107.31 -12947107.19 -12947107.07 0.2666 0.0954

Earth -40161-10-02 08:09 J -12947107.28 -12947107.16 -12947107.04 0.2662 0.0948 *

Mars -40159-03-11 09:35 J -12946582.23 -12946582.10 -12946581.96 0.1610 0.0264

Moon -40158-04-03 11:45 J -12946194.14 -12946194.01 -12946193.88 0.2675 0.0255

Earth -40158-04-03 11:59 J -12946194.13 -12946194.00 -12946193.87 0.2668 0.0248 *

Jupiter -40157-06-13 16:18 J -12945756.91 -12945756.82 -12945756.71 0.0500 0.0369

Jupiter -40157-09-11 05:59 J -12945667.38 -12945667.25 -12945667.11 0.0497 0.0214

Earth -40155-10-12 15:21 J -12944905.90 -12944905.86 -12944905.83 0.2668 0.2519

Moon -40155-10-12 16:04 J -12944905.85 -12944905.83 -12944905.82 0.2665 0.2634 *

Mars -40153-10-12 18:14 J -12944174.86 -12944174.74 -12944174.61 0.1915 0.0626

Moon -40151-03-26 20:38 J -12943644.67 -12943644.64 -12943644.62 0.2670 0.2593

Earth -40151-03-26 21:21 J -12943644.64 -12943644.61 -12943644.58 0.2673 0.2579 *

Saturn -40151-09-18 19:54 J -12943468.74 -12943468.67 -12943468.60 0.0283 0.0249

Jupiter -40151-11-12 19:11 J -12943413.85 -12943413.70 -12943413.56 0.0529 0.0146

Saturn -40151-12-16 11:59 J -12943380.13 -12943380.00 -12943379.86 0.0283 0.0136

Saturn -40150-03-15 04:33 J -12943291.47 -12943291.31 -12943291.15 0.0283 0.0020

Saturn -40150-06-11 21:21 J -12943202.76 -12943202.61 -12943202.46 0.0283 0.0100

Mars -40150-08-01 17:16 J -12943151.92 -12943151.78 -12943151.65 0.1611 0.0323

Saturn -40150-09-08 14:23 J -12943113.99 -12943113.90 -12943113.79 0.0283 0.0222

Moon -40148-10-05 05:45 J -12942356.39 -12942356.26 -12942356.14 0.2671 0.0046

Earth -40148-10-05 05:45 J -12942356.39 -12942356.26 -12942356.14 0.2663 0.0094 *

Earth -40145-04-05 11:30 J -12941443.14 -12941443.02 -12941442.91 0.2667 0.1314

Moon -40145-04-05 11:59 J -12941443.11 -12941443.00 -12941442.88 0.2672 0.1365 *

Jupiter -40145-06-30 08:09 J -12941357.31 -12941357.16 -12941357.01 0.0498 0.0068

Venus -40145-12-25 14:38 J -12941179.01 -12941178.89 -12941178.78 0.3741 0.1547

Uranus -40144-09-13 16:47 J -12940916.84 -12940916.80 -12940916.74 0.0146 0.0139

Uranus -40144-12-10 22:33 J -12940828.65 -12940828.56 -12940828.45 0.0146 0.0112

Mars -40143-03-04 22:33 J -12940744.63 -12940744.56 -12940744.49 0.1913 0.1584

Uranus -40143-03-09 04:33 J -12940740.44 -12940740.31 -12940740.18 0.0147 0.0084

Uranus -40143-06-05 10:18 J -12940652.21 -12940652.07 -12940651.92 0.0147 0.0056

Uranus -40143-09-01 16:18 J -12940563.98 -12940563.82 -12940563.66 0.0147 0.0028

Uranus -40143-11-28 22:18 J -12940475.73 -12940475.57 -12940475.41 0.0147 0.0002

Uranus -40142-02-25 04:18 J -12940387.48 -12940387.32 -12940387.16 0.0147 0.0030

Uranus -40142-05-24 10:18 J -12940299.22 -12940299.07 -12940298.92 0.0147 0.0059

Uranus -40142-08-20 16:33 J -12940210.94 -12940210.81 -12940210.68 0.0147 0.0088

Uranus -40142-11-16 22:33 J -12940122.65 -12940122.56 -12940122.46 0.0147 0.0118

Mars -40141-12-22 00:14 J -12939721.60 -12939721.49 -12939721.37 0.1612 0.0916

Venus -40139-07-11 13:40 J -12939155.02 -12939154.93 -12939154.83 0.3737 0.2553

Jupiter -40139-08-31 20:09 J -12939103.78 -12939103.66 -12939103.54 0.0528 0.0317

Mars -40139-11-27 18:28 J -12939015.79 -12939015.73 -12939015.67 0.1608 0.1452

Jupiter -40139-11-29 14:52 J -12939013.98 -12939013.88 -12939013.78 0.0532 0.0387

Moon -40138-03-29 18:42 J -12938893.81 -12938893.72 -12938893.62 0.2671 0.1760

Earth -40138-03-29 19:54 J -12938893.78 -12938893.67 -12938893.57 0.2672 0.1609 *

Saturn -40136-04-26 08:09 J -12938135.24 -12938135.16 -12938135.07 0.0277 0.0230

Saturn -40136-07-23 23:02 J -12938046.67 -12938046.54 -12938046.40 0.0276 0.0122

Saturn -40136-10-20 13:54 J -12937958.07 -12937957.92 -12937957.77 0.0276 0.0015

Saturn -40135-01-17 04:04 J -12937869.47 -12937869.33 -12937869.18 0.0276 0.0090

Saturn -40135-04-15 18:14 J -12937780.84 -12937780.74 -12937780.63 0.0276 0.0191

Venus -40135-07-12 01:40 J -12937693.43 -12937693.43 -12937693.43 0.3633 0.3630

Earth -40135-10-08 02:52 J -12937605.50 -12937605.38 -12937605.26 0.2665 0.0916

Moon -40135-10-08 03:35 J -12937605.47 -12937605.35 -12937605.24 0.2669 0.0954 *

Jupiter -40133-04-18 09:35 J -12937047.25 -12937047.10 -12937046.95 0.0499 0.0088

Earth -40132-04-08 11:02 J -12936692.09 -12936692.04 -12936691.98 0.2665 0.2413

Moon -40132-04-08 12:14 J -12936692.04 -12936691.99 -12936691.94 0.2668 0.2434 *

Mars -40132-07-01 10:47 J -12936608.13 -12936608.05 -12936607.96 0.1918 0.1474

Mars -40131-05-14 07:26 J -12936291.24 -12936291.19 -12936291.15 0.1614 0.1522

Venus -40129-01-25 20:23 J -12935669.76 -12935669.65 -12935669.54 0.3637 0.0869

Mars -40129-04-19 02:09 J -12935585.52 -12935585.41 -12935585.29 0.1609 0.0903

Moon -40128-09-30 14:52 J -12935055.98 -12935055.88 -12935055.79 0.2662 0.1741

Earth -40128-09-30 15:50 J -12935055.94 -12935055.84 -12935055.75 0.2661 0.1745 *

Jupiter -40127-06-19 20:38 J -12934793.69 -12934793.64 -12934793.60 0.0527 0.0499

Jupiter -40127-09-17 15:35 J -12934703.98 -12934703.85 -12934703.71 0.0531 0.0210

Moon -40125-03-31 17:45 J -12934142.88 -12934142.76 -12934142.63 0.2675 0.0579

Earth -40125-03-31 18:28 J -12934142.85 -12934142.73 -12934142.60 0.2670 0.0610 *

Venus -40124-08-10 14:38 J -12933645.99 -12933645.89 -12933645.79 0.3641 0.1813

Mars -40123-11-21 14:23 J -12933178.03 -12933177.90 -12933177.77 0.1917 0.0453

Earth -40122-10-10 23:45 J -12932854.60 -12932854.51 -12932854.42 0.2667 0.1805

Moon -40122-10-11 00:42 J -12932854.55 -12932854.47 -12932854.39 0.2667 0.1933 *

Jupiter -40121-02-05 11:45 J -12932737.14 -12932737.01 -12932736.88 0.0500 0.0232

Saturn -40121-02-05 22:33 J -12932736.59 -12932736.56 -12932736.50 0.0282 0.0269

Saturn -40121-05-04 14:52 J -12932648.01 -12932647.88 -12932647.75 0.0282 0.0155

Jupiter -40121-05-05 01:40 J -12932647.53 -12932647.43 -12932647.32 0.0497 0.0355

Saturn -40121-08-01 07:11 J -12932559.36 -12932559.20 -12932559.04 0.0283 0.0040

Saturn -40121-10-28 23:59 J -12932470.65 -12932470.50 -12932470.35 0.0283 0.0079

Saturn -40120-01-25 17:02 J -12932381.90 -12932381.79 -12932381.67 0.0283 0.0201

Mars -40120-09-09 09:50 J -12932155.22 -12932155.09 -12932154.95 0.1610 0.0343

Neptune -40116-05-22 18:42 J -12930803.73 -12930803.72 -12930803.70 0.0089 0.0088

Neptune -40116-08-18 20:52 J -12930715.69 -12930715.63 -12930715.57 0.0089 0.0081

Neptune -40116-11-14 22:33 J -12930627.63 -12930627.56 -12930627.47 0.0089 0.0075

Neptune -40115-02-11 00:28 J -12930539.56 -12930539.48 -12930539.37 0.0089 0.0068

Neptune -40115-05-10 02:23 J -12930451.50 -12930451.40 -12930451.28 0.0089 0.0061

Jupiter -40115-07-06 15:35 J -12930394.00 -12930393.85 -12930393.70 0.0530 0.0019

Neptune -40115-08-06 04:33 J -12930363.42 -12930363.31 -12930363.18 0.0089 0.0054

Moon -40115-10-03 12:57 J -12930305.08 -12930304.96 -12930304.84 0.2667 0.0880

Earth -40115-10-03 13:26 J -12930305.06 -12930304.94 -12930304.82 0.2662 0.0778 *

Neptune -40115-11-02 06:28 J -12930275.35 -12930275.23 -12930275.09 0.0089 0.0047

Neptune -40114-01-29 08:23 J -12930187.27 -12930187.15 -12930187.00 0.0089 0.0040

Neptune -40114-04-27 10:33 J -12930099.20 -12930099.06 -12930098.91 0.0089 0.0033

Neptune -40114-07-24 12:28 J -12930011.12 -12930010.98 -12930010.82 0.0089 0.0026

Neptune -40114-10-20 14:38 J -12929923.04 -12929922.89 -12929922.74 0.0089 0.0019

Neptune -40113-01-16 16:47 J -12929834.95 -12929834.80 -12929834.65 0.0089 0.0012

Mars -40113-04-12 18:14 J -12929747.87 -12929747.74 -12929747.61 0.1915 0.0540

Neptune -40113-04-13 18:42 J -12929746.87 -12929746.72 -12929746.56 0.0089 0.0005

Neptune -40113-07-10 20:52 J -12929658.79 -12929658.63 -12929658.48 0.0089 0.0003

Neptune -40113-10-06 22:47 J -12929570.70 -12929570.55 -12929570.39 0.0089 0.0010

Neptune -40112-01-03 00:57 J -12929482.61 -12929482.46 -12929482.31 0.0089 0.0017

Neptune -40112-04-01 02:52 J -12929394.52 -12929394.38 -12929394.22 0.0089 0.0025

Moon -40112-04-03 17:30 J -12929391.90 -12929391.77 -12929391.64 0.2674 0.0378

Earth -40112-04-03 17:45 J -12929391.90 -12929391.76 -12929391.63 0.2668 0.0443 *

Neptune -40112-06-28 05:02 J -12929306.43 -12929306.29 -12929306.14 0.0089 0.0032

Neptune -40112-09-24 07:11 J -12929218.34 -12929218.20 -12929218.06 0.0089 0.0039

Neptune -40112-12-21 09:06 J -12929130.24 -12929130.12 -12929129.98 0.0089 0.0047

Neptune -40111-03-19 11:16 J -12929042.14 -12929042.03 -12929041.90 0.0089 0.0054

Neptune -40111-06-15 13:26 J -12928954.04 -12928953.94 -12928953.82 0.0089 0.0061

Neptune -40111-09-11 15:21 J -12928865.94 -12928865.86 -12928865.74 0.0089 0.0069

Neptune -40111-12-08 17:45 J -12928777.83 -12928777.76 -12928777.67 0.0089 0.0076

Mars -40110-01-30 17:30 J -12928724.91 -12928724.77 -12928724.63 0.1611 0.0240

Neptune -40110-03-06 20:09 J -12928689.71 -12928689.66 -12928689.61 0.0089 0.0083

Jupiter -40110-11-24 14:23 J -12928426.99 -12928426.90 -12928426.80 0.0501 0.0369

Jupiter -40109-02-22 04:04 J -12928337.47 -12928337.33 -12928337.19 0.0497 0.0214

Moon -40109-10-12 21:06 J -12928103.63 -12928103.62 -12928103.61 0.2664 0.2640

Saturn -40107-09-13 11:02 J -12927403.10 -12927403.04 -12927402.98 0.0276 0.0250

Saturn -40107-12-11 01:54 J -12927314.55 -12927314.42 -12927314.28 0.0276 0.0142

Saturn -40106-03-09 16:47 J -12927225.95 -12927225.80 -12927225.65 0.0276 0.0036

Saturn -40106-06-06 06:57 J -12927137.35 -12927137.21 -12927137.06 0.0276 0.0070

Saturn -40106-09-02 21:06 J -12927048.73 -12927048.62 -12927048.50 0.0276 0.0171

Saturn -40106-11-30 10:47 J -12926960.07 -12926960.05 -12926960.02 0.0276 0.0271

Moon -40105-03-27 01:54 J -12926842.46 -12926842.42 -12926842.38 0.2670 0.2489

Earth -40105-03-27 02:52 J -12926842.43 -12926842.38 -12926842.33 0.2673 0.2405 *

Mars -40104-09-02 22:33 J -12926317.64 -12926317.56 -12926317.48 0.1913 0.1487

Jupiter -40103-04-24 16:33 J -12926083.95 -12926083.81 -12926083.67 0.0529 0.0156

Uranus -40103-07-22 16:47 J -12925994.83 -12925994.80 -12925994.75 0.0132 0.0127

Uranus -40103-10-18 20:52 J -12925906.70 -12925906.63 -12925906.53 0.0132 0.0108

Uranus -40102-01-15 01:26 J -12925818.55 -12925818.44 -12925818.32 0.0132 0.0087

Uranus -40102-04-13 05:45 J -12925730.40 -12925730.26 -12925730.13 0.0132 0.0067

Uranus -40102-07-10 09:50 J -12925642.23 -12925642.09 -12925641.95 0.0132 0.0047

Moon -40102-10-06 11:02 J -12925554.17 -12925554.04 -12925553.92 0.2671 0.0208

Earth -40102-10-06 11:02 J -12925554.17 -12925554.04 -12925553.92 0.2664 0.0188 *

Uranus -40102-10-06 13:54 J -12925554.07 -12925553.92 -12925553.77 0.0132 0.0027 *

Uranus -40101-01-02 17:59 J -12925465.90 -12925465.75 -12925465.60 0.0132 0.0007

Uranus -40101-03-30 22:04 J -12925377.73 -12925377.58 -12925377.43 0.0132 0.0013

Mars -40101-06-22 00:42 J -12925294.59 -12925294.47 -12925294.35 0.1612 0.0825

Uranus -40101-06-27 02:09 J -12925289.56 -12925289.41 -12925289.26 0.0132 0.0032

Uranus -40101-09-23 06:14 J -12925201.38 -12925201.24 -12925201.10 0.0132 0.0051

Uranus -40101-12-20 10:04 J -12925113.21 -12925113.08 -12925112.95 0.0132 0.0070

Uranus -40100-03-18 13:54 J -12925025.02 -12925024.92 -12925024.81 0.0132 0.0089

Uranus -40100-06-14 17:45 J -12924936.83 -12924936.76 -12924936.67 0.0132 0.0108

Uranus -40100-09-10 21:35 J -12924848.63 -12924848.60 -12924848.55 0.0132 0.0127

Earth -40099-04-06 17:02 J -12924640.90 -12924640.79 -12924640.68 0.2666 0.1500

Moon -40099-04-06 17:45 J -12924640.87 -12924640.76 -12924640.65 0.2672 0.1578 *

Mars -40099-05-28 18:42 J -12924588.76 -12924588.72 -12924588.68 0.1608 0.1532

Jupiter -40098-12-11 06:14 J -12924027.39 -12924027.24 -12924027.09 0.0498 0.0070

Moon -40095-09-28 22:18 J -12923004.60 -12923004.57 -12923004.55 0.2657 0.2592

Earth -40095-09-28 23:16 J -12923004.56 -12923004.53 -12923004.50 0.2659 0.2560 *

Mars -40093-12-30 11:16 J -12922181.11 -12922181.03 -12922180.96 0.1918 0.1582

Moon -40092-03-30 00:14 J -12922091.59 -12922091.49 -12922091.38 0.2672 0.1438

Earth -40092-03-30 01:26 J -12922091.55 -12922091.44 -12922091.33 0.2671 0.1431 *

Saturn -40092-09-21 14:38 J -12921916.00 -12921915.89 -12921915.78 0.0283 0.0196

Mars -40092-11-12 07:40 J -12921864.24 -12921864.18 -12921864.12 0.1614 0.1434

Saturn -40092-12-19 06:42 J -12921827.37 -12921827.22 -12921827.07 0.0283 0.0082

Jupiter -40091-02-10 17:45 J -12921773.88 -12921773.76 -12921773.64 0.0528 0.0326

Saturn -40091-03-17 23:30 J -12921738.68 -12921738.52 -12921738.37 0.0283 0.0037

Jupiter -40091-05-11 12:28 J -12921684.08 -12921683.98 -12921683.88 0.0532 0.0380

Saturn -40091-06-14 16:18 J -12921649.95 -12921649.82 -12921649.68 0.0283 0.0157

Saturn -40091-09-11 09:50 J -12921561.11 -12921561.09 -12921561.07 0.0283 0.0280

Mars -40090-10-19 02:38 J -12921158.50 -12921158.39 -12921158.28 0.1609 0.0987

Earth -40089-10-08 08:09 J -12920803.27 -12920803.16 -12920803.05 0.2665 0.1077

Moon -40089-10-08 08:52 J -12920803.24 -12920803.13 -12920803.02 0.2669 0.1123 *

Venus -40088-08-01 13:54 J -12920506.05 -12920505.92 -12920505.79 0.3740 0.0111

Earth -40086-04-09 16:47 J -12919889.83 -12919889.80 -12919889.78 0.2665 0.2603

Jupiter -40086-09-29 08:23 J -12919717.30 -12919717.15 -12919717.00 0.0499 0.0076

Pluto -40086-10-03 03:06 J -12919713.41 -12919713.37 -12919713.30 0.0066 0.0062

Pluto -40086-12-30 04:18 J -12919625.39 -12919625.32 -12919625.22 0.0066 0.0057

Pluto -40085-03-27 05:30 J -12919537.36 -12919537.27 -12919537.15 0.0066 0.0052

Pluto -40085-06-23 06:42 J -12919449.32 -12919449.22 -12919449.09 0.0066 0.0047

Pluto -40085-09-19 08:09 J -12919361.28 -12919361.16 -12919361.02 0.0066 0.0042

Pluto -40085-12-16 09:21 J -12919273.24 -12919273.11 -12919272.96 0.0066 0.0037

Pluto -40084-03-14 11:02 J -12919185.19 -12919185.04 -12919184.90 0.0067 0.0031

Pluto -40084-06-10 11:59 J -12919097.15 -12919097.00 -12919096.83 0.0067 0.0026

Pluto -40084-09-06 13:11 J -12919009.10 -12919008.95 -12919008.77 0.0067 0.0021

Pluto -40084-12-03 14:38 J -12918921.05 -12918920.89 -12918920.72 0.0067 0.0015

Pluto -40083-03-01 16:04 J -12918832.99 -12918832.83 -12918832.66 0.0067 0.0009

Mars -40083-05-22 14:38 J -12918751.02 -12918750.89 -12918750.76 0.1917 0.0557

Pluto -40083-05-28 17:30 J -12918744.94 -12918744.77 -12918744.60 0.0067 0.0004

Pluto -40083-08-24 18:42 J -12918656.88 -12918656.72 -12918656.55 0.0067 0.0003

Pluto -40083-11-20 20:09 J -12918568.83 -12918568.66 -12918568.49 0.0067 0.0007

Pluto -40082-02-16 21:21 J -12918480.77 -12918480.61 -12918480.43 0.0067 0.0014

Pluto -40082-05-15 23:02 J -12918392.71 -12918392.54 -12918392.38 0.0067 0.0019

Pluto -40082-08-12 00:14 J -12918304.65 -12918304.49 -12918304.33 0.0068 0.0025

Moon -40082-10-01 20:09 J -12918253.75 -12918253.66 -12918253.56 0.2662 0.1721

Earth -40082-10-01 21:06 J -12918253.72 -12918253.62 -12918253.52 0.2661 0.1572 *

Pluto -40082-11-08 01:26 J -12918216.58 -12918216.44 -12918216.28 0.0068 0.0031

Pluto -40081-02-04 02:38 J -12918128.51 -12918128.39 -12918128.23 0.0068 0.0037

Pluto -40081-05-02 04:33 J -12918040.44 -12918040.31 -12918040.18 0.0068 0.0042

Pluto -40081-07-29 05:45 J -12917952.37 -12917952.26 -12917952.13 0.0068 0.0048

Pluto -40081-10-25 07:11 J -12917864.29 -12917864.20 -12917864.09 0.0068 0.0054

Pluto -40080-01-21 08:38 J -12917776.21 -12917776.14 -12917776.05 0.0068 0.0061

Mars -40080-03-10 10:18 J -12917728.21 -12917728.07 -12917727.94 0.1610 0.0425

Pluto -40080-04-19 10:04 J -12917688.10 -12917688.08 -12917688.04 0.0068 0.0067

Jupiter -40080-11-29 18:42 J -12917463.76 -12917463.72 -12917463.67 0.0527 0.0496

Jupiter -40079-02-27 13:54 J -12917374.05 -12917373.92 -12917373.78 0.0531 0.0214

Moon -40079-04-01 23:30 J -12917340.65 -12917340.52 -12917340.40 0.2675 0.0565

Earth -40079-04-01 23:59 J -12917340.63 -12917340.50 -12917340.37 0.2670 0.0432 *

Venus -40078-02-15 23:59 J -12917020.58 -12917020.50 -12917020.42 0.3634 0.2579

Saturn -40077-04-29 02:23 J -12916582.51 -12916582.40 -12916582.28 0.0276 0.0178

Saturn -40077-07-26 17:16 J -12916493.92 -12916493.78 -12916493.63 0.0276 0.0071

Saturn -40077-10-23 07:54 J -12916405.32 -12916405.17 -12916405.02 0.0276 0.0035

Saturn -40076-01-19 22:04 J -12916316.71 -12916316.58 -12916316.45 0.0276 0.0138

Saturn -40076-04-18 11:45 J -12916228.07 -12916228.01 -12916227.93 0.0276 0.0239

Earth -40076-10-11 05:02 J -12916052.37 -12916052.29 -12916052.21 0.2667 0.1965

Moon -40076-10-11 05:59 J -12916052.33 -12916052.25 -12916052.17 0.2667 0.1986 *

Jupiter -40074-07-18 10:04 J -12915407.21 -12915407.08 -12915406.95 0.0500 0.0229

Mars -40074-10-12 18:28 J -12915320.86 -12915320.73 -12915320.60 0.1915 0.0441

Jupiter -40074-10-15 23:59 J -12915317.61 -12915317.50 -12915317.40 0.0497 0.0357

Venus -40073-08-31 18:28 J -12914996.84 -12914996.73 -12914996.61 0.3638 0.0157

Mars -40071-07-31 17:45 J -12914297.90 -12914297.76 -12914297.62 0.1611 0.0155

Moon -40069-10-03 18:28 J -12913502.85 -12913502.73 -12913502.61 0.2669 0.0564

Earth -40069-10-03 18:42 J -12913502.84 -12913502.72 -12913502.59 0.2662 0.0619 *

Jupiter -40068-12-16 14:52 J -12913064.03 -12913063.88 -12913063.73 0.0530 0.0039

Venus -40067-03-17 12:57 J -12912973.04 -12912972.96 -12912972.89 0.3642 0.2821

Earth -40066-04-04 23:16 J -12912589.66 -12912589.53 -12912589.40 0.2668 0.0621

Moon -40066-04-04 23:16 J -12912589.65 -12912589.53 -12912589.40 0.2674 0.0704 *

Mars -40064-03-03 22:47 J -12911890.64 -12911890.55 -12911890.46 0.1913 0.1394

Saturn -40062-02-08 16:47 J -12911183.89 -12911183.80 -12911183.69 0.0282 0.0219

Jupiter -40062-05-06 12:14 J -12911097.08 -12911096.99 -12911096.89 0.0501 0.0373

Saturn -40062-05-08 09:06 J -12911095.26 -12911095.12 -12911094.97 0.0283 0.0104

Jupiter -40062-08-04 01:54 J -12911007.56 -12911007.42 -12911007.28 0.0498 0.0211

Saturn -40062-08-05 01:40 J -12911006.59 -12911006.43 -12911006.27 0.0283 0.0014

Saturn -40062-11-01 18:28 J -12910917.86 -12910917.73 -12910917.58 0.0283 0.0134

Mars -40062-12-22 00:57 J -12910867.59 -12910867.46 -12910867.33 0.1613 0.0743

Saturn -40061-01-29 11:59 J -12910829.06 -12910829.00 -12910828.93 0.0283 0.0256

Uranus -40060-10-04 01:11 J -12910215.52 -12910215.45 -12910215.37 0.0146 0.0128

Uranus -40060-12-31 06:42 J -12910127.33 -12910127.22 -12910127.10 0.0146 0.0101

Moon -40059-03-28 07:11 J -12910040.26 -12910040.20 -12910040.13 0.2669 0.2287

Earth -40059-03-28 08:09 J -12910040.22 -12910040.16 -12910040.09 0.2673 0.2238 *

Uranus -40059-03-29 12:42 J -12910039.11 -12910038.97 -12910038.83 0.0147 0.0073

Uranus -40059-06-25 18:28 J -12909950.88 -12909950.73 -12909950.57 0.0147 0.0045

Uranus -40059-09-22 00:28 J -12909862.64 -12909862.48 -12909862.32 0.0147 0.0016

Uranus -40059-12-19 06:28 J -12909774.39 -12909774.23 -12909774.07 0.0147 0.0012

Uranus -40058-03-17 12:28 J -12909686.13 -12909685.98 -12909685.82 0.0147 0.0041

Uranus -40058-06-13 18:28 J -12909597.87 -12909597.73 -12909597.58 0.0147 0.0071

Uranus -40058-09-10 00:28 J -12909509.59 -12909509.48 -12909509.35 0.0147 0.0100

Uranus -40058-12-07 06:42 J -12909421.29 -12909421.22 -12909421.13 0.0147 0.0130

Jupiter -40056-10-04 14:38 J -12908754.04 -12908753.89 -12908753.75 0.0529 0.0158

Earth -40056-10-06 16:18 J -12908751.95 -12908751.82 -12908751.70 0.2664 0.0334

Moon -40056-10-06 16:33 J -12908751.94 -12908751.81 -12908751.69 0.2670 0.0304 *

Earth -40053-04-06 22:33 J -12907838.66 -12907838.56 -12907838.45 0.2666 0.1696

Moon -40053-04-06 23:30 J -12907838.62 -12907838.52 -12907838.42 0.2671 0.1720 *

Mars -40053-06-30 11:16 J -12907754.09 -12907754.03 -12907753.97 0.1918 0.1675

Mars -40052-05-13 07:54 J -12907437.24 -12907437.17 -12907437.09 0.1614 0.1346

Mars -40050-04-19 02:52 J -12906731.49 -12906731.38 -12906731.28 0.1609 0.1066

Jupiter -40050-05-23 04:33 J -12906697.46 -12906697.31 -12906697.16 0.0498 0.0072

Moon -40049-09-29 03:35 J -12906202.39 -12906202.35 -12906202.31 0.2659 0.2473

Earth -40049-09-29 04:33 J -12906202.36 -12906202.31 -12906202.25 0.2660 0.2385 *

Saturn -40048-09-16 05:16 J -12905850.38 -12905850.28 -12905850.17 0.0276 0.0199

Saturn -40048-12-13 20:09 J -12905761.80 -12905761.66 -12905761.51 0.0276 0.0091

Saturn -40047-03-12 10:47 J -12905673.20 -12905673.05 -12905672.90 0.0276 0.0015

Saturn -40047-06-09 00:57 J -12905584.59 -12905584.46 -12905584.32 0.0276 0.0118

Saturn -40047-09-05 14:52 J -12905495.97 -12905495.88 -12905495.79 0.0276 0.0219

Moon -40046-03-31 05:45 J -12905289.37 -12905289.26 -12905289.15 0.2674 0.1367

Earth -40046-03-31 06:42 J -12905289.33 -12905289.22 -12905289.10 0.2671 0.1256 *

Jupiter -40044-07-23 15:21 J -12904443.98 -12904443.86 -12904443.74 0.0528 0.0334

Jupiter -40044-10-21 10:04 J -12904354.18 -12904354.08 -12904353.97 0.0532 0.0372

Mars -40044-11-20 14:38 J -12904324.01 -12904323.89 -12904323.76 0.1917 0.0653

Earth -40043-10-09 13:26 J -12904001.05 -12904000.94 -12904000.83 0.2666 0.1239

Moon -40043-10-09 14:09 J -12904001.01 -12904000.91 -12904000.80 0.2669 0.1331 *

Mars -40041-09-08 10:33 J -12903301.19 -12903301.06 -12903300.93 0.1610 0.0508

Jupiter -40038-03-11 06:42 J -12902387.37 -12902387.22 -12902387.07 0.0499 0.0072

Venus -40037-08-22 14:23 J -12901856.99 -12901856.90 -12901856.82 0.3744 0.2669

Moon -40036-10-02 01:40 J -12901451.54 -12901451.43 -12901451.32 0.2664 0.1404

Earth -40036-10-02 02:38 J -12901451.50 -12901451.39 -12901451.29 0.2661 0.1402 *

Mars -40034-04-12 18:42 J -12900893.85 -12900893.72 -12900893.59 0.1915 0.0334

Moon -40033-04-02 05:02 J -12900538.42 -12900538.29 -12900538.16 0.2675 0.0206

Earth -40033-04-02 05:45 J -12900538.39 -12900538.26 -12900538.13 0.2669 0.0247 *

Saturn -40033-06-27 16:47 J -12900451.85 -12900451.80 -12900451.73 0.0283 0.0258

Neptune -40033-08-19 08:09 J -12900399.19 -12900399.16 -12900399.13 0.0088 0.0087

Saturn -40033-09-24 08:52 J -12900363.26 -12900363.13 -12900362.99 0.0283 0.0145

Neptune -40033-11-15 10:04 J -12900311.13 -12900311.08 -12900310.99 0.0088 0.0080

Saturn -40033-12-22 01:26 J -12900274.60 -12900274.44 -12900274.29 0.0283 0.0029

Neptune -40032-02-11 12:42 J -12900223.06 -12900222.97 -12900222.87 0.0088 0.0072

Saturn -40032-03-20 17:59 J -12900185.89 -12900185.75 -12900185.59 0.0283 0.0091

Neptune -40032-05-10 14:52 J -12900134.98 -12900134.88 -12900134.75 0.0088 0.0064

Jupiter -40032-05-11 16:18 J -12900133.86 -12900133.82 -12900133.78 0.0527 0.0505

Saturn -40032-06-17 11:16 J -12900097.13 -12900097.03 -12900096.92 0.0283 0.0212

Neptune -40032-08-06 17:16 J -12900046.89 -12900046.78 -12900046.64 0.0088 0.0057

Jupiter -40032-08-09 11:30 J -12900044.15 -12900044.02 -12900043.88 0.0531 0.0207

Neptune -40032-11-02 19:40 J -12899958.80 -12899958.68 -12899958.53 0.0088 0.0049

Mars -40031-01-29 17:59 J -12899870.89 -12899870.75 -12899870.61 0.1611 0.0068

Neptune -40031-01-29 22:04 J -12899870.72 -12899870.58 -12899870.43 0.0088 0.0042 *

Venus -40031-03-08 13:11 J -12899833.06 -12899832.95 -12899832.83 0.3739 0.1359

Neptune -40031-04-28 00:14 J -12899782.63 -12899782.49 -12899782.33 0.0088 0.0035

Neptune -40031-07-25 02:38 J -12899694.54 -12899694.39 -12899694.23 0.0088 0.0027

Neptune -40031-10-21 05:02 J -12899606.44 -12899606.29 -12899606.13 0.0088 0.0019

Neptune -40030-01-17 07:26 J -12899518.35 -12899518.19 -12899518.03 0.0088 0.0012

Neptune -40030-04-15 09:35 J -12899430.26 -12899430.10 -12899429.94 0.0088 0.0004

Neptune -40030-07-12 11:59 J -12899342.17 -12899342.00 -12899341.84 0.0088 0.0004

Neptune -40030-10-08 14:09 J -12899254.07 -12899253.91 -12899253.75 0.0088 0.0010

Earth -40030-10-12 10:18 J -12899250.15 -12899250.07 -12899250.00 0.2667 0.2120

Moon -40030-10-12 11:02 J -12899250.10 -12899250.04 -12899249.97 0.2666 0.2194 *

Neptune -40029-01-04 16:18 J -12899165.98 -12899165.82 -12899165.66 0.0088 0.0018

Neptune -40029-04-01 18:28 J -12899077.88 -12899077.73 -12899077.57 0.0088 0.0025

Neptune -40029-06-28 20:38 J -12898989.78 -12898989.64 -12898989.49 0.0088 0.0032

Neptune -40029-09-24 22:47 J -12898901.69 -12898901.55 -12898901.40 0.0088 0.0040

Neptune -40029-12-22 00:57 J -12898813.59 -12898813.46 -12898813.32 0.0088 0.0047

Neptune -40028-03-20 03:06 J -12898725.49 -12898725.37 -12898725.24 0.0088 0.0054

Neptune -40028-06-16 05:16 J -12898637.39 -12898637.28 -12898637.16 0.0088 0.0061

Neptune -40028-09-12 07:40 J -12898549.28 -12898549.18 -12898549.08 0.0088 0.0068

Neptune -40028-12-09 09:50 J -12898461.18 -12898461.09 -12898461.01 0.0088 0.0075

Neptune -40027-03-07 11:45 J -12898373.06 -12898373.01 -12898372.95 0.0088 0.0082

Jupiter -40027-12-28 09:06 J -12898077.26 -12898077.12 -12898076.99 0.0500 0.0215

Jupiter -40026-03-27 22:47 J -12897987.64 -12897987.55 -12897987.44 0.0496 0.0371

Mars -40025-09-01 22:47 J -12897463.64 -12897463.55 -12897463.45 0.1913 0.1300

Moon -40023-10-04 23:45 J -12896700.63 -12896700.51 -12896700.38 0.2669 0.0550

Earth -40023-10-05 00:14 J -12896700.62 -12896700.49 -12896700.37 0.2663 0.0444 *

Mars -40022-06-22 01:11 J -12896440.58 -12896440.45 -12896440.32 0.1613 0.0658

Venus -40022-09-22 22:18 J -12896347.68 -12896347.57 -12896347.47 0.3635 0.1531

Earth -40020-04-05 04:47 J -12895787.43 -12895787.30 -12895787.17 0.2668 0.0808

Moon -40020-04-05 05:02 J -12895787.41 -12895787.29 -12895787.16 0.2674 0.0757 *

Jupiter -40020-05-28 13:11 J -12895734.10 -12895733.95 -12895733.80 0.0530 0.0042

Uranus -40019-08-12 00:57 J -12895293.52 -12895293.46 -12895293.39 0.0132 0.0118

Uranus -40019-11-08 05:16 J -12895205.38 -12895205.28 -12895205.18 0.0132 0.0097

Saturn -40018-02-03 05:16 J -12895118.35 -12895118.28 -12895118.20 0.0276 0.0238

Uranus -40018-02-04 09:21 J -12895117.23 -12895117.11 -12895116.98 0.0132 0.0077

Saturn -40018-05-02 20:23 J -12895029.78 -12895029.65 -12895029.51 0.0276 0.0129

Uranus -40018-05-03 13:40 J -12895029.07 -12895028.93 -12895028.79 0.0132 0.0057

Saturn -40018-07-30 11:02 J -12894941.19 -12894941.04 -12894940.88 0.0276 0.0023

Uranus -40018-07-30 17:45 J -12894940.90 -12894940.76 -12894940.61 0.0132 0.0037 *

Uranus -40018-10-26 22:04 J -12894852.73 -12894852.58 -12894852.43 0.0132 0.0017

Saturn -40018-10-27 01:26 J -12894852.58 -12894852.44 -12894852.29 0.0276 0.0082 *

Uranus -40017-01-23 02:09 J -12894764.57 -12894764.41 -12894764.26 0.0132 0.0004

Saturn -40017-01-23 15:35 J -12894763.96 -12894763.85 -12894763.74 0.0276 0.0184

Uranus -40017-04-20 05:59 J -12894676.39 -12894676.25 -12894676.09 0.0132 0.0022

Uranus -40017-07-17 10:04 J -12894588.22 -12894588.08 -12894587.93 0.0132 0.0041

Uranus -40017-10-13 14:09 J -12894500.04 -12894499.91 -12894499.78 0.0132 0.0060

Uranus -40016-01-09 17:45 J -12894411.86 -12894411.76 -12894411.63 0.0132 0.0080

Venus -40016-04-07 16:47 J -12894323.91 -12894323.80 -12894323.69 0.3639 0.1188

Uranus -40016-04-07 22:04 J -12894323.68 -12894323.58 -12894323.48 0.0132 0.0098

Uranus -40016-07-05 01:40 J -12894235.49 -12894235.43 -12894235.35 0.0132 0.0117

Jupiter -40015-10-16 10:47 J -12893767.15 -12893767.05 -12893766.95 0.0501 0.0366

Jupiter -40014-01-14 00:14 J -12893677.62 -12893677.49 -12893677.35 0.0497 0.0216

Mars -40014-12-30 11:30 J -12893327.07 -12893327.02 -12893326.98 0.1918 0.1775

Moon -40013-03-28 12:42 J -12893238.04 -12893237.97 -12893237.89 0.2670 0.2116

Earth -40013-03-28 13:40 J -12893238.01 -12893237.93 -12893237.85 0.2672 0.2064 *

Mars -40013-11-11 08:23 J -12893010.24 -12893010.15 -12893010.07 0.1614 0.1260

Mars -40011-10-18 03:06 J -12892304.47 -12892304.37 -12892304.28 0.1609 0.1146

Earth -40010-10-07 21:35 J -12891949.73 -12891949.60 -12891949.48 0.2664 0.0493

Moon -40010-10-07 21:50 J -12891949.71 -12891949.59 -12891949.46 0.2670 0.0593 *

Jupiter -40008-03-16 13:54 J -12891424.07 -12891423.92 -12891423.78 0.0529 0.0137

Earth -40007-04-08 04:18 J -12891036.42 -12891036.32 -12891036.23 0.2666 0.1884

Moon -40007-04-08 05:02 J -12891036.37 -12891036.29 -12891036.20 0.2670 0.2009 *

Mars -40004-05-21 15:06 J -12889897.00 -12889896.87 -12889896.75 0.1917 0.0756

Saturn -40003-02-11 10:33 J -12889631.18 -12889631.06 -12889630.93 0.0283 0.0172

Saturn -40003-05-11 03:06 J -12889542.53 -12889542.37 -12889542.22 0.0283 0.0056

Saturn -40003-08-07 19:40 J -12889453.83 -12889453.68 -12889453.52 0.0283 0.0063

Moon -40003-09-30 08:52 J -12889400.19 -12889400.13 -12889400.06 0.2659 0.2284

Earth -40003-09-30 10:04 J -12889400.15 -12889400.08 -12889400.01 0.2660 0.2209 *

Jupiter -40003-11-02 02:23 J -12889367.55 -12889367.40 -12889367.25 0.0498 0.0070

Saturn -40003-11-04 12:42 J -12889365.08 -12889364.97 -12889364.84 0.0283 0.0185

Mars -40001-03-09 10:47 J -12888874.18 -12888874.05 -12888873.92 0.1610 0.0588

40TH MILLENNIUM BCE

This is a list of transits of Mercury in the 40th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Moon	**-40000-03-31 11:16:**	**J**	**-12888487.15**	**-12888487.03**	**-12888486.91**	**0.2674**	**0.1122**	
Earth	**-40000-03-31 12:14:**	**J**	**-12888487.11**	**-12888486.99**	**-12888486.87**	**0.2670**	**0.1078**	*****
Pluto	**-39999-05-14 21:35:**	**J**	**-12888077.60**	**-12888077.60**	**-12888077.58**	**0.0079**	**0.0078**	
Pluto	**-39999-08-10 23:02:**	**J**	**-12887989.59**	**-12887989.54**	**-12887989.46**	**0.0078**	**0.0070**	
Pluto	**-39999-11-07 00:28:**	**J**	**-12887901.55**	**-12887901.48**	**-12887901.37**	**0.0078**	**0.0062**	
Pluto	**-39998-02-03 01:54:**	**J**	**-12887813.51**	**-12887813.42**	**-12887813.29**	**0.0078**	**0.0055**	
Pluto	**-39998-05-02 03:35:**	**J**	**-12887725.46**	**-12887725.35**	**-12887725.22**	**0.0078**	**0.0046**	
Pluto	**-39998-07-29 05:02:**	**J**	**-12887637.41**	**-12887637.29**	**-12887637.15**	**0.0078**	**0.0038**	
Pluto	**-39998-10-25 06:42:**	**J**	**-12887549.36**	**-12887549.22**	**-12887549.08**	**0.0078**	**0.0030**	
Pluto	**-39997-01-21 07:54:**	**J**	**-12887461.30**	**-12887461.17**	**-12887461.02**	**0.0078**	**0.0023**	
Pluto	**-39997-04-18 09:35:**	**J**	**-12887373.25**	**-12887373.10**	**-12887372.96**	**0.0077**	**0.0015**	
Pluto	**-39997-07-15 11:02:**	**J**	**-12887285.19**	**-12887285.04**	**-12887284.89**	**0.0077**	**0.0007**	
Earth	**-39997-10-09 18:42:**	**J**	**-12887198.83**	**-12887198.72**	**-12887198.62**	**0.2666**	**0.1398**	
Moon	**-39997-10-09 19:26:**	**J**	**-12887198.79**	**-12887198.69**	**-12887198.58**	**0.2669**	**0.1418**	*****
Pluto	**-39997-10-11 12:28:**	**J**	**-12887197.13**	**-12887196.98**	**-12887196.84**	**0.0077**	**0.0002**	
Jupiter	**-39996-01-02 13:26:**	**J**	**-12887114.06**	**-12887113.94**	**-12887113.82**	**0.0528**	**0.0332**	
Pluto	**-39996-01-07 13:40:**	**J**	**-12887109.07**	**-12887108.93**	**-12887108.78**	**0.0077**	**0.0008**	
Jupiter	**-39996-04-02 08:09:**	**J**	**-12887024.26**	**-12887024.16**	**-12887024.05**	**0.0531**	**0.0373**	
Pluto	**-39996-04-05 15:06:**	**J**	**-12887021.02**	**-12887020.87**	**-12887020.73**	**0.0077**	**0.0015**	
Pluto	**-39996-07-02 16:18:**	**J**	**-12886932.96**	**-12886932.82**	**-12886932.67**	**0.0077**	**0.0023**	

Pluto -39996-09-28 17:45 J -12886844.89 -12886844.76 -12886844.62 0.0077 0.0030

Pluto -39996-12-25 18:57 J -12886756.83 -12886756.71 -12886756.57 0.0076 0.0037

Pluto -39995-03-23 20:23 J -12886668.77 -12886668.65 -12886668.53 0.0076 0.0044

Pluto -39995-06-19 21:21 J -12886580.70 -12886580.61 -12886580.49 0.0076 0.0051

Pluto -39995-09-15 22:47 J -12886492.63 -12886492.55 -12886492.45 0.0076 0.0058

Mars -39995-10-11 18:42 J -12886466.85 -12886466.72 -12886466.59 0.1915 0.0254

Pluto -39995-12-12 23:59 J -12886404.56 -12886404.50 -12886404.41 0.0076 0.0065

Pluto -39994-03-11 01:11 J -12886316.48 -12886316.45 -12886316.39 0.0076 0.0072

Mars -39992-07-30 18:14 J -12885443.88 -12885443.74 -12885443.60 0.1611 0.0022

Jupiter -39991-08-21 05:02 J -12885057.44 -12885057.29 -12885057.14 0.0499 0.0069

Moon -39990-10-03 07:11 J -12884649.31 -12884649.20 -12884649.09 0.2666 0.1325

Earth -39990-10-03 07:54 J -12884649.28 -12884649.17 -12884649.06 0.2661 0.1230 *

Saturn -39989-06-22 08:09 J -12884386.20 -12884386.16 -12884386.10 0.0276 0.0258

Saturn -39989-09-18 23:16 J -12884297.65 -12884297.53 -12884297.40 0.0276 0.0149

Saturn -39989-12-16 14:09 J -12884209.06 -12884208.91 -12884208.76 0.0276 0.0042

Saturn -39988-03-15 04:33 J -12884120.46 -12884120.31 -12884120.16 0.0276 0.0063

Saturn -39988-06-11 18:28 J -12884031.84 -12884031.73 -12884031.60 0.0276 0.0166

Saturn -39988-09-08 08:23 J -12883943.18 -12883943.15 -12883943.11 0.0276 0.0265

Moon -39987-04-03 10:47 J -12883736.18 -12883736.05 -12883735.92 0.2675 0.0153

Earth -39987-04-03 11:16 J -12883736.17 -12883736.03 -12883735.90 0.2669 0.0109 *

Mars -39985-03-02 23:02 J -12883036.64 -12883036.54 -12883036.44 0.1913 0.1199

Jupiter -39985-10-21 13:54 J -12882803.95 -12882803.92 -12882803.88 0.0527 0.0510

Jupiter -39984-01-19 09:21 J -12882714.25 -12882714.11 -12882713.97 0.0531 0.0201

Earth -39984-10-12 15:21 J -12882447.92 -12882447.86 -12882447.79 0.2668 0.2278

Moon -39984-10-12 16:18 J -12882447.88 -12882447.82 -12882447.76 0.2664 0.2343 *

Mars -39983-12-21 01:40 J -12882013.56 -12882013.43 -12882013.30 0.1613 0.0566

Venus -39980-03-29 13:40 J -12881184.05 -12881183.93 -12881183.81 0.3742 0.1242

Jupiter -39979-06-09 07:26 J -12880747.32 -12880747.19 -12880747.05 0.0500 0.0209

Jupiter -39979-09-06 21:21 J -12880657.71 -12880657.61 -12880657.51 0.0497 0.0377

Moon -39977-10-05 05:16 J -12879898.41 -12879898.28 -12879898.16 0.2670 0.0229

Earth -39977-10-05 05:30 J -12879898.40 -12879898.27 -12879898.14 0.2663 0.0275 *

Uranus -39976-07-28 03:06 J -12879602.37 -12879602.37 -12879602.36 0.0146 0.0146

Uranus -39976-10-24 08:52 J -12879514.22 -12879514.13 -12879514.04 0.0146 0.0119

Uranus -39975-01-20 14:23 J -12879426.01 -12879425.90 -12879425.77 0.0146 0.0092

Uranus -39975-04-18 20:23 J -12879337.79 -12879337.65 -12879337.50 0.0146 0.0063

Uranus -39975-07-16 02:09 J -12879249.56 -12879249.41 -12879249.25 0.0147 0.0036

Uranus -39975-10-12 08:09 J -12879161.32 -12879161.16 -12879161.00 0.0147 0.0007

Venus -39975-10-13 12:42 J -12879160.05 -12879159.97 -12879159.89 0.3737 0.2830

Uranus -39974-01-08 14:09 J -12879073.07 -12879072.91 -12879072.75 0.0147 0.0022

Earth -39974-04-06 10:18 J -12878985.19 -12878985.07 -12878984.94 0.2667 0.0995

Moon -39974-04-06 10:47 J -12878985.17 -12878985.05 -12878984.93 0.2674 0.1109 *

Uranus -39974-04-06 20:09 J -12878984.81 -12878984.66 -12878984.51 0.0147 0.0050

Mars -39974-06-30 11:45 J -12878900.03 -12878900.01 -12878899.99 0.1918 0.1890

Saturn -39974-07-01 10:33 J -12878899.16 -12878899.06 -12878898.95 0.0283 0.0211

Uranus -39974-07-04 02:09 J -12878896.54 -12878896.41 -12878896.27 0.0147 0.0080

Saturn -39974-09-28 02:52 J -12878810.53 -12878810.38 -12878810.23 0.0283 0.0097

Uranus -39974-09-30 08:23 J -12878808.26 -12878808.15 -12878808.04 0.0147 0.0109

Saturn -39974-12-25 19:26 J -12878721.85 -12878721.69 -12878721.53 0.0283 0.0021

Uranus -39974-12-27 14:23 J -12878719.94 -12878719.90 -12878719.84 0.0147 0.0139

Saturn -39973-03-23 12:14 J -12878633.13 -12878632.99 -12878632.85 0.0283 0.0141

Mars -39973-05-12 08:38 J -12878583.24 -12878583.14 -12878583.04 0.1614 0.1172

Saturn -39973-06-20 05:30 J -12878544.32 -12878544.27 -12878544.21 0.0283 0.0264

Jupiter -39973-11-07 10:47 J -12878404.20 -12878404.05 -12878403.90 0.0530 0.0034

Mars -39971-04-18 03:21 J -12877877.45 -12877877.36 -12877877.27 0.1609 0.1231

Venus -39971-10-14 01:54 J -12877698.47 -12877698.42 -12877698.37 0.3632 0.3250

Jupiter -39967-03-28 09:50 J -12876437.19 -12876437.09 -12876436.98 0.0501 0.0351

Moon -39967-03-29 18:14 J -12876435.83 -12876435.74 -12876435.66 0.2671 0.2003

Earth -39967-03-29 19:11 J -12876435.79 -12876435.70 -12876435.61 0.2672 0.1892 *

Jupiter -39967-06-25 23:30 J -12876347.66 -12876347.52 -12876347.39 0.0497 0.0232

Venus -39965-04-28 20:23 J -12875674.76 -12875674.65 -12875674.53 0.3636 0.0493

Mars -39965-11-19 15:06 J -12875469.99 -12875469.87 -12875469.75 0.1916 0.0850

Earth -39964-10-08 02:52 J -12875147.50 -12875147.38 -12875147.26 0.2664 0.0656

Moon -39964-10-08 03:21 J -12875147.48 -12875147.36 -12875147.24 0.2670 0.0625 *

Mars -39962-09-08 11:02 J -12874447.17 -12874447.04 -12874446.91 0.1610 0.0670

Earth -39961-04-08 09:50 J -12874234.17 -12874234.09 -12874234.00 0.2666 0.2086

Moon -39961-04-08 11:02 J -12874234.12 -12874234.04 -12874233.96 0.2668 0.2083 *

Jupiter -39961-08-26 12:14 J -12874094.14 -12874093.99 -12874093.85 0.0529 0.0133

Venus -39960-11-12 14:52 J -12873650.97 -12873650.88 -12873650.79 0.3640 0.2202

Saturn -39959-02-05 23:02 J -12873565.64 -12873565.54 -12873565.42 0.0276 0.0190

Saturn -39959-05-05 14:09 J -12873477.06 -12873476.91 -12873476.77 0.0276 0.0082

Saturn -39959-08-02 04:33 J -12873388.46 -12873388.31 -12873388.16 0.0276 0.0025

Saturn -39959-10-29 18:42 J -12873299.85 -12873299.72 -12873299.58 0.0276 0.0128

Saturn -39958-01-26 08:52 J -12873211.21 -12873211.13 -12873211.05 0.0276 0.0228

Moon -39957-09-30 14:23 J -12872597.98 -12872597.90 -12872597.82 0.2659 0.2095

Earth -39957-09-30 15:21 J -12872597.94 -12872597.86 -12872597.77 0.2660 0.2037 *

Jupiter -39955-01-14 11:45 J -12872127.01 -12872127.01 -12872127.00 0.0501 0.0500

Mars -39955-04-11 18:57 J -12872039.84 -12872039.71 -12872039.58 0.1915 0.0147

Jupiter -39955-04-14 00:57 J -12872037.61 -12872037.46 -12872037.31 0.0498 0.0078

Moon -39954-04-01 16:47 J -12871684.92 -12871684.80 -12871684.68 0.2674 0.0981

Earth -39954-04-01 17:45 J -12871684.88 -12871684.76 -12871684.64 0.2670 0.0899 *

Mars -39952-01-28 18:42 J -12871016.87 -12871016.72 -12871016.58 0.1611 0.0113

Neptune -39951-02-16 17:02 J -12870632.81 -12870632.79 -12870632.75 0.0089 0.0087

Neptune -39951-05-15 18:57 J -12870544.76 -12870544.71 -12870544.64 0.0089 0.0080

Neptune -39951-08-11 20:52 J -12870456.70 -12870456.63 -12870456.54 0.0089 0.0073

Earth -39951-10-10 23:45 J -12870396.61 -12870396.51 -12870396.41 0.2666 0.1556

Moon -39951-10-11 00:42 J -12870396.56 -12870396.47 -12870396.37 0.2668 0.1672 *

Neptune -39951-11-07 23:02 J -12870368.64 -12870368.54 -12870368.44 0.0089 0.0066

Neptune -39950-02-04 00:57 J -12870280.57 -12870280.46 -12870280.34 0.0089 0.0059

Neptune -39950-05-03 02:52 J -12870192.50 -12870192.38 -12870192.25 0.0089 0.0052

Neptune -39950-07-30 05:02 J -12870104.42 -12870104.29 -12870104.16 0.0089 0.0045

Neptune -39950-10-26 06:57 J -12870016.35 -12870016.21 -12870016.07 0.0089 0.0038

Neptune -39949-01-22 08:52 J -12869928.27 -12869928.13 -12869927.98 0.0089 0.0031

Neptune -39949-04-19 11:02 J -12869840.19 -12869840.04 -12869839.89 0.0089 0.0024

Jupiter -39949-06-14 12:57 J -12869784.08 -12869783.96 -12869783.84 0.0528 0.0309

Neptune -39949-07-16 12:57 J -12869752.11 -12869751.96 -12869751.81 0.0089 0.0017

Jupiter -39949-09-12 07:40 J -12869694.28 -12869694.18 -12869694.08 0.0531 0.0395

Neptune -39949-10-12 15:06 J -12869664.03 -12869663.87 -12869663.72 0.0089 0.0010

Neptune -39948-01-08 17:02 J -12869575.94 -12869575.79 -12869575.64 0.0089 0.0003

Neptune -39948-04-06 18:57 J -12869487.86 -12869487.71 -12869487.55 0.0089 0.0005

Neptune -39948-07-03 21:06 J -12869399.77 -12869399.62 -12869399.46 0.0089 0.0011

Neptune -39948-09-29 23:02 J -12869311.68 -12869311.54 -12869311.38 0.0089 0.0019

Neptune -39948-12-27 01:11 J -12869223.60 -12869223.45 -12869223.30 0.0089 0.0026

Neptune -39947-03-25 03:21 J -12869135.50 -12869135.36 -12869135.22 0.0089 0.0033

Neptune -39947-06-21 05:16 J -12869047.41 -12869047.28 -12869047.13 0.0089 0.0041

Neptune -39947-09-17 07:26 J -12868959.32 -12868959.19 -12868959.05 0.0089 0.0048

Neptune -39947-12-14 09:35 J -12868871.22 -12868871.10 -12868870.97 0.0089 0.0055

Neptune -39946-03-12 11:30 J -12868783.12 -12868783.02 -12868782.90 0.0089 0.0063

Neptune -39946-06-08 13:40 J -12868695.01 -12868694.93 -12868694.82 0.0089 0.0070

Mars -39946-09-01 23:16 J -12868609.64 -12868609.53 -12868609.43 0.1912 0.1107

Neptune -39946-09-04 16:04 J -12868606.90 -12868606.83 -12868606.75 0.0089 0.0077

Neptune -39946-12-01 17:59 J -12868518.78 -12868518.75 -12868518.69 0.0089 0.0085

Saturn -39945-11-17 11:45 J -12868167.08 -12868167.01 -12868166.92 0.0283 0.0241

Saturn -39944-02-14 04:04 J -12868078.47 -12868078.33 -12868078.19 0.0283 0.0127

Saturn -39944-05-13 20:23 J -12867989.80 -12867989.65 -12867989.49 0.0283 0.0013

Saturn -39944-08-10 13:26 J -12867901.09 -12867900.94 -12867900.80 0.0283 0.0110

Moon -39944-10-03 12:28 J -12867847.09 -12867846.98 -12867846.86 0.2667 0.1098

Earth -39944-10-03 13:11 J -12867847.06 -12867846.95 -12867846.83 0.2662 0.1060 *

Saturn -39944-11-07 06:28 J -12867812.31 -12867812.23 -12867812.13 0.0283 0.0233

Jupiter -39943-01-31 03:21 J -12867727.51 -12867727.36 -12867727.22 0.0499 0.0069

Mars -39943-06-21 01:54 J -12867586.56 -12867586.42 -12867586.29 0.1613 0.0486

Moon -39941-04-03 16:33 J -12866933.94 -12866933.81 -12866933.68 0.2675 0.0155

Earth -39941-04-03 16:47 J -12866933.93 -12866933.80 -12866933.67 0.2669 0.0135 *

Earth -39938-10-13 20:38 J -12865645.69 -12865645.64 -12865645.59 0.2668 0.2430

Moon -39938-10-13 21:35 J -12865645.65 -12865645.60 -12865645.56 0.2664 0.2454 *

Jupiter -39937-04-02 12:14 J -12865474.02 -12865473.99 -12865473.94 0.0527 0.0505

Jupiter -39937-07-01 07:40 J -12865384.32 -12865384.18 -12865384.04 0.0530 0.0205

Uranus -39935-06-05 04:47 J -12864680.33 -12864680.30 -12864680.27 0.0132 0.0129

Uranus -39935-09-01 08:52 J -12864592.21 -12864592.13 -12864592.03 0.0132 0.0109

Uranus -39935-11-28 13:11 J -12864504.06 -12864503.95 -12864503.83 0.0132 0.0088

Uranus -39934-02-24 17:16 J -12864415.90 -12864415.78 -12864415.64 0.0132 0.0068

Uranus -39934-05-23 21:35 J -12864327.74 -12864327.60 -12864327.45 0.0132 0.0048

Uranus -39934-08-20 01:54 J -12864239.57 -12864239.42 -12864239.27 0.0132 0.0028

Mars -39934-11-11 08:52 J -12864156.23 -12864156.13 -12864156.02 0.1615 0.1085

Uranus -39934-11-16 05:59 J -12864151.40 -12864151.25 -12864151.10 0.0132 0.0008

Uranus -39933-02-12 10:04 J -12864063.23 -12864063.08 -12864062.93 0.0132 0.0011

Uranus -39933-05-10 14:09 J -12863975.06 -12863974.91 -12863974.76 0.0132 0.0031

Uranus -39933-08-06 17:59 J -12863886.88 -12863886.75 -12863886.61 0.0132 0.0050

Uranus -39933-11-02 22:04 J -12863798.71 -12863798.58 -12863798.45 0.0132 0.0069

Uranus -39932-01-30 01:54 J -12863710.53 -12863710.42 -12863710.30 0.0132 0.0088

Uranus -39932-04-28 05:45 J -12863622.34 -12863622.26 -12863622.17 0.0132 0.0107

Uranus -39932-07-25 09:35 J -12863534.13 -12863534.10 -12863534.05 0.0132 0.0126

Mars -39932-10-17 03:35 J -12863450.43 -12863450.35 -12863450.27 0.1609 0.1307

Jupiter -39932-11-19 05:45 J -12863417.39 -12863417.26 -12863417.12 0.0500 0.0205

Jupiter -39931-02-16 19:40 J -12863327.77 -12863327.68 -12863327.58 0.0497 0.0382

Moon -39931-10-06 10:47 J -12863096.18 -12863096.05 -12863095.93 0.2670 0.0184

Earth -39931-10-06 10:47 J -12863096.18 -12863096.05 -12863095.92 0.2663 0.0108 *

Saturn -39930-06-26 01:54 J -12862833.51 -12862833.42 -12862833.32 0.0276 0.0211

Saturn -39930-09-22 17:02 J -12862744.93 -12862744.79 -12862744.65 0.0276 0.0102

Saturn -39930-12-20 07:40 J -12862656.33 -12862656.18 -12862656.03 0.0276 0.0007

Saturn -39929-03-17 21:50 J -12862567.73 -12862567.59 -12862567.45 0.0276 0.0108

Saturn -39929-06-14 11:59 J -12862479.10 -12862479.00 -12862478.91 0.0276 0.0209

Earth -39928-04-06 16:04 J -12862182.95 -12862182.83 -12862182.72 0.2667 0.1188

Moon -39928-04-06 16:18 J -12862182.94 -12862182.82 -12862182.70 0.2673 0.1144 *

Jupiter -39925-04-19 08:38 J -12861074.29 -12861074.14 -12861073.99 0.0530 0.0033

Mars -39925-05-20 15:21 J -12861042.97 -12861042.86 -12861042.74 0.1917 0.0953

Venus -39924-11-03 12:57 J -12860511.09 -12860510.96 -12860510.83 0.3741 0.0204

Mars -39922-03-09 11:30 J -12860020.15 -12860020.02 -12860019.90 0.1610 0.0759

Moon -39921-03-29 23:30 J -12859633.61 -12859633.52 -12859633.42 0.2672 0.1726

Earth -39921-03-30 00:42 J -12859633.57 -12859633.47 -12859633.37 0.2672 0.1717 *

Jupiter -39920-09-07 08:23 J -12859107.25 -12859107.15 -12859107.04 0.0501 0.0344

Jupiter -39920-12-05 21:50 J -12859017.72 -12859017.59 -12859017.45 0.0498 0.0239

Earth -39918-10-09 08:09 J -12858345.28 -12858345.16 -12858345.04 0.2665 0.0816

Moon -39918-10-09 08:38 J -12858345.25 -12858345.14 -12858345.02 0.2670 0.0940 *

Mars -39916-10-10 19:11 J -12857612.83 -12857612.70 -12857612.57 0.1914 0.0053

Saturn -39915-04-06 11:59 J -12857435.02 -12857435.00 -12857434.98 0.0282 0.0279

Earth -39915-04-09 15:35 J -12857431.92 -12857431.85 -12857431.78 0.2665 0.2272

Moon -39915-04-09 16:47 J -12857431.85 -12857431.80 -12857431.75 0.2667 0.2445 *

Saturn -39915-07-04 04:04 J -12857346.46 -12857346.33 -12857346.21 0.0283 0.0167

Saturn -39915-09-30 20:09 J -12857257.81 -12857257.66 -12857257.50 0.0283 0.0052

Saturn -39915-12-28 12:57 J -12857169.12 -12857168.96 -12857168.81 0.0283 0.0067

Saturn -39914-03-27 05:45 J -12857080.37 -12857080.26 -12857080.13 0.0283 0.0189

Venus -39914-05-20 23:59 J -12857025.59 -12857025.50 -12857025.40 0.3633 0.2194

Jupiter -39913-02-06 09:50 J -12856764.23 -12856764.09 -12856763.94 0.0529 0.0138

Mars -39913-07-29 18:57 J -12856589.85 -12856589.71 -12856589.57 0.1611 0.0189

Moon -39911-10-01 19:54 J -12855795.76 -12855795.67 -12855795.59 0.2661 0.1969

Earth -39911-10-01 20:52 J -12855795.72 -12855795.63 -12855795.54 0.2660 0.1859 *

Venus -39909-12-03 18:42 J -12855001.84 -12855001.72 -12855001.61 0.3637 0.0550

Moon -39908-04-01 22:18 J -12854882.69 -12854882.57 -12854882.44 0.2674 0.0796

Earth -39908-04-01 23:16 J -12854882.65 -12854882.53 -12854882.40 0.2670 0.0722 *

Jupiter -39908-06-26 11:02 J -12854797.08 -12854797.04 -12854797.00 0.0501 0.0483

Jupiter -39908-09-24 00:14 J -12854707.64 -12854707.49 -12854707.34 0.0498 0.0095

Mars -39906-03-02 23:16 J -12854182.64 -12854182.53 -12854182.42 0.1912 0.1013

Earth -39905-10-11 05:02 J -12853594.38 -12853594.29 -12853594.19 0.2666 0.1717

Moon -39905-10-11 05:59 J -12853594.34 -12853594.25 -12853594.15 0.2667 0.1709 *

Mars -39904-12-20 02:09 J -12853159.55 -12853159.41 -12853159.27 0.1613 0.0400

Venus -39903-06-19 12:57 J -12852978.01 -12852977.96 -12852977.90 0.3641 0.3210

Jupiter -39902-11-25 11:16 J -12852454.15 -12852454.03 -12852453.90 0.0528 0.0304

Jupiter -39901-02-23 05:59 J -12852364.34 -12852364.25 -12852364.15 0.0532 0.0402

Saturn -39901-11-12 01:26 J -12852101.49 -12852101.44 -12852101.38 0.0276 0.0253

Saturn -39900-02-08 16:33 J -12852012.94 -12852012.81 -12852012.68 0.0276 0.0144

Saturn -39900-05-08 07:26 J -12851924.34 -12851924.19 -12851924.04 0.0276 0.0037

Saturn -39900-08-04 21:50 J -12851835.74 -12851835.59 -12851835.44 0.0276 0.0068

Saturn -39900-11-01 11:45 J -12851747.12 -12851747.01 -12851746.89 0.0276 0.0171

Saturn -39899-01-29 01:40 J -12851658.45 -12851658.43 -12851658.40 0.0276 0.0270

Moon -39898-10-04 17:59 J -12851044.87 -12851044.75 -12851044.63 0.2667 0.0941

Earth -39898-10-04 18:42 J -12851044.84 -12851044.72 -12851044.60 0.2662 0.0889 *

Jupiter -39896-07-13 01:54 J -12850397.57 -12850397.42 -12850397.27 0.0499 0.0057

Moon -39895-04-04 22:04 J -12850131.71 -12850131.58 -12850131.45 0.2676 0.0286

Earth -39895-04-04 22:18 J -12850131.70 -12850131.57 -12850131.44 0.2668 0.0314 *

Mars -39894-05-12 09:21 J -12849729.23 -12849729.11 -12849729.00 0.1615 0.0999

Mars -39892-04-17 03:50 J -12849023.41 -12849023.34 -12849023.27 0.1609 0.1389

Uranus -39892-08-17 11:02 J -12848901.08 -12848901.04 -12848900.97 0.0146 0.0136

Earth -39892-10-14 01:54 J -12848843.45 -12848843.42 -12848843.39 0.2668 0.2585

Uranus -39892-11-13 17:02 J -12848812.90 -12848812.79 -12848812.68 0.0146 0.0108

Uranus -39891-02-09 22:33 J -12848724.68 -12848724.56 -12848724.42 0.0146 0.0081

Uranus -39891-05-09 04:33 J -12848636.46 -12848636.31 -12848636.16 0.0147 0.0052

Uranus -39891-08-05 10:18 J -12848548.22 -12848548.07 -12848547.91 0.0147 0.0025

Uranus -39891-11-01 16:18 J -12848459.98 -12848459.82 -12848459.66 0.0147 0.0005

Uranus -39890-01-28 22:18 J -12848371.73 -12848371.57 -12848371.41 0.0147 0.0033

Uranus -39890-04-27 04:18 J -12848283.47 -12848283.32 -12848283.17 0.0147 0.0062

Uranus -39890-07-24 10:18 J -12848195.19 -12848195.07 -12848194.94 0.0147 0.0091

Jupiter -39890-09-13 11:59 J -12848144.06 -12848144.00 -12848143.94 0.0527 0.0480

Uranus -39890-10-20 16:18 J -12848106.90 -12848106.82 -12848106.72 0.0147 0.0121

Jupiter -39890-12-12 07:11 J -12848054.33 -12848054.20 -12848054.06 0.0531 0.0230

Moon -39888-03-28 06:57 J -12847582.26 -12847582.21 -12847582.17 0.2669 0.2484

Earth -39888-03-28 07:40 J -12847582.22 -12847582.18 -12847582.14 0.2673 0.2513 *

Mars -39886-11-19 15:35 J -12846615.96 -12846615.85 -12846615.74 0.1916 0.1051

Saturn -39886-11-21 04:33 J -12846614.41 -12846614.31 -12846614.20 0.0283 0.0201

Saturn -39885-02-17 20:52 J -12846525.78 -12846525.63 -12846525.48 0.0283 0.0086

Saturn -39885-05-16 13:26 J -12846437.10 -12846436.94 -12846436.78 0.0283 0.0032

Saturn -39885-08-13 06:28 J -12846348.37 -12846348.23 -12846348.10 0.0283 0.0153

Mars -39885-10-01 16:04 J -12846298.83 -12846298.83 -12846298.82 0.1616 0.1612

Moon -39885-10-06 16:18 J -12846293.95 -12846293.82 -12846293.70 0.2670 0.0101

Earth -39885-10-06 16:04 J -12846293.95 -12846293.83 -12846293.70 0.2663 0.0094 *

Saturn -39885-11-09 23:45 J -12846259.54 -12846259.51 -12846259.48 0.0283 0.0276

Jupiter -39884-05-01 04:18 J -12846087.46 -12846087.32 -12846087.18 0.0500 0.0200

Jupiter -39884-07-29 17:59 J -12845997.84 -12845997.75 -12845997.65 0.0497 0.0387

Mars -39883-09-07 11:30 J -12845593.14 -12845593.02 -12845592.90 0.1610 0.0837

Earth -39882-04-07 21:35 J -12845380.71 -12845380.60 -12845380.49 0.2667 0.1374

Moon -39882-04-07 22:18 J -12845380.68 -12845380.57 -12845380.47 0.2672 0.1483 *

Jupiter -39878-09-30 07:11 J -12843744.35 -12843744.20 -12843744.05 0.0529 0.0040

Mars -39876-04-10 19:11 J -12843185.83 -12843185.70 -12843185.57 0.1914 0.0044

Moon -39875-03-31 05:02 J -12842831.39 -12842831.29 -12842831.19 0.2672 0.1698

Earth -39875-03-31 05:59 J -12842831.35 -12842831.25 -12842831.14 0.2671 0.1546 *

Mars -39873-01-28 19:11 J -12842162.84 -12842162.70 -12842162.56 0.1612 0.0269

Venus -39873-11-24 13:26 J -12841862.03 -12841861.94 -12841861.84 0.3745 0.2350

Jupiter -39872-02-17 06:57 J -12841777.32 -12841777.21 -12841777.10 0.0501 0.0338

Jupiter -39872-05-17 20:23 J -12841687.78 -12841687.65 -12841687.52 0.0498 0.0246

Earth -39872-10-09 13:26 J -12841543.06 -12841542.94 -12841542.83 0.2665 0.0981

Moon -39872-10-09 13:54 J -12841543.03 -12841542.92 -12841542.80 0.2670 0.0961 *

Saturn -39871-04-01 04:04 J -12841369.33 -12841369.33 -12841369.32 0.0276 0.0276

Saturn -39871-06-28 19:11 J -12841280.81 -12841280.70 -12841280.57 0.0276 0.0167

Saturn -39871-09-25 10:04 J -12841192.22 -12841192.08 -12841191.93 0.0276 0.0059

Saturn -39871-12-23 00:42 J -12841103.62 -12841103.47 -12841103.32 0.0276 0.0047

Saturn -39870-03-21 14:52 J -12841015.00 -12841014.88 -12841014.75 0.0276 0.0150

Saturn -39870-06-18 04:33 J -12840926.36 -12840926.31 -12840926.24 0.0276 0.0251

Earth -39869-04-09 21:06 J -12840629.66 -12840629.62 -12840629.57 0.2665 0.2473

Moon -39869-04-09 22:18 J -12840629.61 -12840629.57 -12840629.52 0.2667 0.2469 *

Neptune -39868-05-16 05:59 J -12840228.28 -12840228.25 -12840228.21 0.0088 0.0086

Neptune -39868-08-12 08:09 J -12840140.22 -12840140.16 -12840140.08 0.0088 0.0078

Neptune -39868-11-08 10:33 J -12840052.15 -12840052.06 -12840051.95 0.0088 0.0071

Neptune -39867-02-04 12:42 J -12839964.07 -12839963.97 -12839963.84 0.0088 0.0064

Neptune -39867-05-03 15:21 J -12839875.98 -12839875.86 -12839875.73 0.0088 0.0055

Venus -39867-06-10 12:28 J -12839838.10 -12839837.98 -12839837.87 0.3740 0.1661

Neptune -39867-07-30 17:30 J -12839787.89 -12839787.77 -12839787.62 0.0088 0.0048

Mars -39867-08-31 23:30 J -12839755.63 -12839755.52 -12839755.40 0.1912 0.0911

Neptune -39867-10-26 19:54 J -12839699.81 -12839699.67 -12839699.52 0.0088 0.0041

Neptune -39866-01-22 22:04 J -12839611.72 -12839611.58 -12839611.41 0.0088 0.0034

Neptune -39866-04-21 00:42 J -12839523.62 -12839523.47 -12839523.31 0.0088 0.0025

Neptune -39866-07-18 02:52 J -12839435.53 -12839435.38 -12839435.21 0.0088 0.0018

Jupiter -39866-07-19 08:09 J -12839434.31 -12839434.16 -12839434.02 0.0528 0.0136

Neptune -39866-10-14 05:16 J -12839347.44 -12839347.28 -12839347.12 0.0088 0.0011

Neptune -39865-01-10 07:26 J -12839259.35 -12839259.19 -12839259.02 0.0088 0.0004

Neptune -39865-04-07 09:50 J -12839171.25 -12839171.09 -12839170.93 0.0088 0.0004

Neptune -39865-07-04 11:59 J -12839083.16 -12839083.00 -12839082.84 0.0088 0.0012

Neptune -39865-09-30 14:09 J -12838995.06 -12838994.91 -12838994.75 0.0088 0.0019

Moon -39865-10-02 01:11 J -12838993.54 -12838993.45 -12838993.35 0.2663 0.1694

Earth -39865-10-02 02:09 J -12838993.50 -12838993.41 -12838993.31 0.2661 0.1687 *

Neptune -39865-12-27 16:18 J -12838906.96 -12838906.82 -12838906.66 0.0088 0.0027

Neptune -39864-03-25 18:42 J -12838818.87 -12838818.72 -12838818.57 0.0088 0.0033

Mars -39864-06-20 02:38 J -12838732.53 -12838732.39 -12838732.25 0.1613 0.0314

Neptune -39864-06-21 20:52 J -12838730.77 -12838730.63 -12838730.48 0.0088 0.0041

Neptune -39864-09-17 23:16 J -12838642.67 -12838642.53 -12838642.40 0.0088 0.0048

Neptune -39864-12-15 00:57 J -12838554.57 -12838554.46 -12838554.32 0.0088 0.0056

Neptune -39863-03-13 03:06 J -12838466.46 -12838466.37 -12838466.24 0.0088 0.0063

Neptune -39863-06-09 05:16 J -12838378.36 -12838378.28 -12838378.17 0.0088 0.0070

Neptune -39863-09-05 07:26 J -12838290.25 -12838290.19 -12838290.10 0.0088 0.0077

Neptune -39863-12-02 09:35 J -12838202.13 -12838202.10 -12838202.03 0.0088 0.0084

Moon -39862-04-03 04:04 J -12838080.46 -12838080.33 -12838080.20 0.2675 0.0555

Earth -39862-04-03 04:47 J -12838080.43 -12838080.30 -12838080.17 0.2670 0.0541 *

Jupiter -39861-12-06 09:35 J -12837467.14 -12837467.10 -12837467.05 0.0502 0.0475

Jupiter -39860-03-05 22:47 J -12837377.70 -12837377.55 -12837377.40 0.0498 0.0104

Earth -39859-10-12 10:18 J -12836792.16 -12836792.07 -12836791.98 0.2667 0.1870

Moon -39859-10-12 11:16 J -12836792.11 -12836792.03 -12836791.95 0.2666 0.2011 *

Venus -39858-12-25 22:18 J -12836352.68 -12836352.57 -12836352.46 0.3634 0.1146

Mars -39857-01-22 04:04 J -12836325.36 -12836325.33 -12836325.30 0.1910 0.1842

Saturn -39856-04-09 04:47 J -12835882.37 -12835882.30 -12835882.21 0.0282 0.0238

Saturn -39856-07-06 20:52 J -12835793.76 -12835793.63 -12835793.49 0.0283 0.0125

Saturn -39856-10-03 13:26 J -12835705.10 -12835704.94 -12835704.79 0.0283 0.0009

Saturn -39856-12-31 05:59 J -12835616.39 -12835616.25 -12835616.10 0.0283 0.0112

Saturn -39855-03-29 23:02 J -12835527.62 -12835527.54 -12835527.44 0.0283 0.0234

Mars -39855-11-10 09:35 J -12835302.22 -12835302.10 -12835301.98 0.1615 0.0911

Jupiter -39854-05-07 09:06 J -12835124.24 -12835124.12 -12835124.00 0.0528 0.0307

Jupiter -39854-08-05 04:04 J -12835034.43 -12835034.33 -12835034.23 0.0532 0.0398

Mars -39853-10-16 04:04 J -12834596.38 -12834596.33 -12834596.27 0.1609 0.1474

Venus -39852-07-10 16:47 J -12834328.90 -12834328.80 -12834328.69 0.3638 0.1563

Moon -39852-10-04 23:30 J -12834242.64 -12834242.52 -12834242.40 0.2667 0.0779

Earth -39852-10-04 23:59 J -12834242.62 -12834242.50 -12834242.38 0.2662 0.0716 *

Uranus -39851-06-25 12:42 J -12833979.03 -12833978.97 -12833978.90 0.0132 0.0119

Uranus -39851-09-21 16:47 J -12833890.89 -12833890.80 -12833890.69 0.0132 0.0099

Uranus -39851-12-18 21:21 J -12833802.73 -12833802.61 -12833802.49 0.0132 0.0079

Uranus -39850-03-17 01:26 J -12833714.57 -12833714.44 -12833714.30 0.0132 0.0059

Uranus -39850-06-13 05:45 J -12833626.41 -12833626.26 -12833626.12 0.0132 0.0039

Uranus -39850-09-09 09:50 J -12833538.24 -12833538.09 -12833537.94 0.0132 0.0019

Uranus -39850-12-06 13:54 J -12833450.07 -12833449.92 -12833449.77 0.0132 0.0001

Uranus -39849-03-03 17:59 J -12833361.90 -12833361.75 -12833361.60 0.0132 0.0020

Moon -39849-04-05 03:50 J -12833329.47 -12833329.34 -12833329.21 0.2675 0.0505

Earth -39849-04-05 03:50 J -12833329.47 -12833329.34 -12833329.21 0.2668 0.0495 *

Uranus -39849-05-30 21:50 J -12833273.73 -12833273.59 -12833273.44 0.0132 0.0041

Uranus -39849-08-27 01:54 J -12833185.55 -12833185.42 -12833185.28 0.0132 0.0059

Uranus -39849-11-23 05:59 J -12833097.37 -12833097.25 -12833097.13 0.0132 0.0078

Jupiter -39849-12-23 01:11 J -12833067.60 -12833067.45 -12833067.30 0.0499 0.0038

Uranus -39848-02-19 09:50 J -12833009.19 -12833009.09 -12833008.99 0.0132 0.0097

Uranus -39848-05-18 13:40 J -12832920.99 -12832920.93 -12832920.85 0.0132 0.0116

Mars -39846-05-20 15:50 J -12832188.95 -12832188.84 -12832188.74 0.1916 0.1154

Mars -39845-04-01 16:33 J -12831871.86 -12831871.81 -12831871.77 0.1616 0.1523

Mars -39843-03-08 11:59 J -12831166.12 -12831166.00 -12831165.89 0.1610 0.0920

Jupiter -39842-02-23 10:18 J -12830814.13 -12830814.07 -12830814.00 0.0527 0.0475

Moon -39842-03-29 12:14 J -12830780.03 -12830779.99 -12830779.94 0.2670 0.2465

Earth -39842-03-29 13:11 J -12830780.01 -12830779.95 -12830779.89 0.2673 0.2338 *

Jupiter -39842-05-24 05:45 J -12830724.39 -12830724.26 -12830724.13 0.0531 0.0236

Saturn -39842-11-15 18:42 J -12830548.82 -12830548.72 -12830548.62 0.0276 0.0210

Saturn -39841-02-12 09:35 J -12830460.24 -12830460.10 -12830459.95 0.0276 0.0102

Saturn -39841-05-11 00:28 J -12830371.64 -12830371.48 -12830371.33 0.0276 0.0010

Saturn -39841-08-07 14:38 J -12830283.02 -12830282.89 -12830282.75 0.0276 0.0109

Saturn -39841-11-04 04:47 J -12830194.40 -12830194.30 -12830194.21 0.0276 0.0211

Earth -39839-10-07 21:21 J -12829491.73 -12829491.61 -12829491.48 0.2664 0.0242

Moon -39839-10-07 21:50 J -12829491.72 -12829491.59 -12829491.47 0.2670 0.0250 *

Pluto -39839-11-11 14:09 J -12829456.92 -12829456.91 -12829456.87 0.0066 0.0065

Pluto -39838-02-07 15:21 J -12829368.91 -12829368.86 -12829368.77 0.0066 0.0060

Pluto -39838-05-06 16:33 J -12829280.88 -12829280.81 -12829280.70 0.0066 0.0055

Pluto -39838-08-02 18:14 J -12829192.85 -12829192.74 -12829192.63 0.0066 0.0050

Pluto -39838-10-29 19:11 J -12829104.81 -12829104.70 -12829104.56 0.0066 0.0045

Pluto -39837-01-25 20:23 J -12829016.77 -12829016.65 -12829016.50 0.0066 0.0040

Pluto -39837-04-22 22:04 J -12828928.72 -12828928.58 -12828928.43 0.0067 0.0034

Pluto -39837-07-19 23:02 J -12828840.68 -12828840.54 -12828840.37 0.0067 0.0029

Mars -39837-10-09 19:26 J -12828758.82 -12828758.69 -12828758.56 0.1914 0.0146

Jupiter -39837-10-11 03:06 J -12828757.51 -12828757.37 -12828757.23 0.0500 0.0187

Pluto -39837-10-16 00:42 J -12828752.63 -12828752.47 -12828752.31 0.0067 0.0023

Jupiter -39836-01-08 16:47 J -12828667.88 -12828667.80 -12828667.70 0.0497 0.0399

Pluto -39836-01-12 01:40 J -12828664.58 -12828664.43 -12828664.25 0.0067 0.0018

Earth -39836-04-08 03:06 J -12828578.48 -12828578.37 -12828578.26 0.2666 0.1562

Moon -39836-04-08 04:04 J -12828578.44 -12828578.33 -12828578.23 0.2671 0.1589 *

Pluto -39836-04-10 03:21 J -12828576.53 -12828576.36 -12828576.20 0.0067 0.0012

Pluto -39836-07-07 04:33 J -12828488.48 -12828488.31 -12828488.14 0.0067 0.0007

Pluto -39836-10-03 05:59 J -12828400.42 -12828400.25 -12828400.08 0.0067 0.0001

Pluto -39836-12-30 07:11 J -12828312.36 -12828312.20 -12828312.03 0.0067 0.0005

Pluto -39835-03-28 08:38 J -12828224.31 -12828224.14 -12828223.97 0.0067 0.0010

Pluto -39835-06-24 09:50 J -12828136.25 -12828136.09 -12828135.92 0.0067 0.0016

Pluto -39835-09-20 11:16 J -12828048.18 -12828048.03 -12828047.86 0.0068 0.0022

Pluto -39835-12-17 12:42 J -12827960.12 -12827959.97 -12827959.81 0.0068 0.0028

Pluto -39834-03-15 13:54 J -12827872.05 -12827871.92 -12827871.76 0.0068 0.0034

Pluto -39834-06-11 15:06 J -12827783.99 -12827783.87 -12827783.71 0.0068 0.0040

Mars -39834-07-29 19:26 J -12827735.83 -12827735.69 -12827735.55 0.1612 0.0351

Pluto -39834-09-07 17:02 J -12827695.91 -12827695.79 -12827695.66 0.0068 0.0045

Pluto -39834-12-04 18:28 J -12827607.84 -12827607.73 -12827607.62 0.0068 0.0051

Pluto -39833-03-01 19:40 J -12827519.76 -12827519.68 -12827519.58 0.0068 0.0058

Pluto -39833-05-28 21:21 J -12827431.67 -12827431.61 -12827431.55 0.0068 0.0064

Moon -39832-09-30 08:38 J -12826942.18 -12826942.14 -12826942.10 0.2656 0.2490

Earth -39832-09-30 09:35 J -12826942.14 -12826942.10 -12826942.06 0.2659 0.2505 *

Jupiter -39830-03-12 06:57 J -12826414.36 -12826414.21 -12826414.06 0.0530 0.0065

Moon -39829-03-31 10:33 J -12826029.17 -12826029.06 -12826028.95 0.2672 0.1364

Earth -39829-03-31 11:30 J -12826029.13 -12826029.02 -12826028.91 0.2671 0.1369 *

Mars -39827-03-01 23:45 J -12825328.63 -12825328.51 -12825328.40 0.1912 0.0822

Saturn -39827-08-27 05:02 J -12825150.32 -12825150.29 -12825150.26 0.0282 0.0276

Saturn -39827-11-23 21:06 J -12825061.75 -12825061.62 -12825061.50 0.0283 0.0163

Saturn -39826-02-20 13:11 J -12824973.10 -12824972.95 -12824972.79 0.0283 0.0048

Saturn -39826-05-20 05:59 J -12824884.40 -12824884.25 -12824884.10 0.0283 0.0072

Saturn -39826-08-16 23:02 J -12824795.65 -12824795.54 -12824795.42 0.0283 0.0194

Earth -39826-10-10 18:42 J -12824740.83 -12824740.72 -12824740.61 0.2665 0.1140

Moon -39826-10-10 19:26 J -12824740.80 -12824740.69 -12824740.58 0.2669 0.1244 *

Jupiter -39825-07-30 05:30 J -12824447.38 -12824447.27 -12824447.16 0.0501 0.0330

Jupiter -39825-10-27 18:57 J -12824357.84 -12824357.71 -12824357.58 0.0498 0.0254

Mars -39825-12-19 02:52 J -12824305.53 -12824305.38 -12824305.24 0.1613 0.0234

Earth -39823-04-11 02:52 J -12823827.38 -12823827.38 -12823827.38 0.2665 0.2665

Moon -39819-10-03 06:42 J -12822191.32 -12822191.22 -12822191.12 0.2664 0.1660

Earth -39819-10-03 07:40 J -12822191.29 -12822191.18 -12822191.08 0.2661 0.1513 *

Jupiter -39819-12-29 06:42 J -12822104.36 -12822104.22 -12822104.07 0.0528 0.0125

Mars -39818-07-23 04:04 J -12821898.37 -12821898.33 -12821898.28 0.1910 0.1753

Moon -39816-04-03 09:50 J -12821278.22 -12821278.09 -12821277.97 0.2675 0.0468

Earth -39816-04-03 10:18 J -12821278.20 -12821278.07 -12821277.94 0.2669 0.0362 *

Venus -39816-07-01 12:42 J -12821189.09 -12821188.97 -12821188.85 0.3743 0.0940

Mars -39815-05-11 09:50 J -12820875.21 -12820875.09 -12820874.96 0.1615 0.0823

Mars -39813-04-16 04:18 J -12820169.35 -12820169.32 -12820169.28 0.1610 0.1550

Jupiter -39813-05-18 08:09 J -12820137.21 -12820137.16 -12820137.11 0.0502 0.0468

Jupiter -39813-08-15 21:21 J -12820047.76 -12820047.61 -12820047.46 0.0499 0.0112

Earth -39813-10-12 15:35 J -12819989.93 -12819989.85 -12819989.77 0.2667 0.2032

Moon -39813-10-12 16:33 J -12819989.89 -12819989.81 -12819989.73 0.2666 0.2022 *

Saturn -39812-04-03 21:06 J -12819816.69 -12819816.62 -12819816.53 0.0277 0.0234

Saturn -39812-07-01 12:14 J -12819728.12 -12819727.99 -12819727.85 0.0276 0.0124

Saturn -39812-09-28 03:06 J -12819639.52 -12819639.37 -12819639.22 0.0276 0.0017

Saturn -39812-12-25 17:30 J -12819550.91 -12819550.77 -12819550.63 0.0276 0.0088

Saturn -39811-03-24 07:40 J -12819462.29 -12819462.18 -12819462.08 0.0276 0.0190

Venus -39810-01-15 11:30 J -12819165.09 -12819165.02 -12819164.95 0.3739 0.3093

Uranus -39808-09-06 18:57 J -12818199.78 -12818199.71 -12818199.62 0.0146 0.0126

Uranus -39808-12-04 00:42 J -12818111.58 -12818111.47 -12818111.35 0.0146 0.0098

Uranus -39807-03-02 06:28 J -12818023.37 -12818023.23 -12818023.09 0.0146 0.0071

Uranus -39807-05-29 12:14 J -12817935.14 -12817934.99 -12817934.83 0.0146 0.0043

Uranus -39807-08-25 18:14 J -12817846.90 -12817846.74 -12817846.58 0.0147 0.0015

Jupiter -39807-10-17 07:26 J -12817794.31 -12817794.19 -12817794.06 0.0527 0.0302

Mars -39807-11-18 15:50 J -12817761.94 -12817761.84 -12817761.74 0.1916 0.1250

Uranus -39807-11-21 23:59 J -12817758.66 -12817758.50 -12817758.34 0.0147 0.0014

Jupiter -39806-01-15 02:23 J -12817704.50 -12817704.40 -12817704.31 0.0531 0.0401

Venus -39806-01-16 01:54 J -12817703.49 -12817703.42 -12817703.35 0.3631 0.2874

Uranus -39806-02-18 05:59 J -12817670.40 -12817670.25 -12817670.09 0.0147 0.0042

Uranus -39806-05-17 11:45 J -12817582.14 -12817582.01 -12817581.85 0.0147 0.0072

Uranus -39806-08-13 17:59 J -12817493.86 -12817493.75 -12817493.63 0.0147 0.0100

Mars -39806-10-01 16:47 J -12817444.86 -12817444.80 -12817444.73 0.1616 0.1433

Moon -39806-10-06 05:02 J -12817440.42 -12817440.29 -12817440.17 0.2668 0.0549

Earth -39806-10-06 05:16 J -12817440.40 -12817440.28 -12817440.15 0.2662 0.0552 *

Uranus -39806-11-09 23:59 J -12817405.56 -12817405.50 -12817405.41 0.0147 0.0130

Mars -39804-09-06 12:14 J -12816739.10 -12816738.99 -12816738.88 0.1611 0.1003

Earth -39803-04-06 09:21 J -12816527.24 -12816527.11 -12816526.98 0.2668 0.0678

Moon -39803-04-06 09:21 J -12816527.23 -12816527.11 -12816526.98 0.2674 0.0699 *

Jupiter -39801-06-03 23:45 J -12815737.66 -12815737.51 -12815737.36 0.0499 0.0031

Venus -39801-07-31 20:38 J -12815679.76 -12815679.64 -12815679.53 0.3635 0.0168

Mars -39797-04-09 19:40 J -12814331.81 -12814331.68 -12814331.54 0.1914 0.0263

Saturn -39797-04-11 21:21 J -12814329.71 -12814329.61 -12814329.49 0.0282 0.0200

Saturn -39797-07-09 13:40 J -12814241.08 -12814240.93 -12814240.78 0.0282 0.0085

Saturn -39797-10-06 06:14 J -12814152.40 -12814152.24 -12814152.09 0.0283 0.0033

Saturn -39796-01-02 23:02 J -12814063.67 -12814063.54 -12814063.41 0.0283 0.0153

Moon -39796-03-29 17:30 J -12813977.84 -12813977.77 -12813977.70 0.2671 0.2180

Earth -39796-03-29 18:42 J -12813977.80 -12813977.72 -12813977.65 0.2673 0.2173 *

Saturn -39796-04-01 16:18 J -12813974.85 -12813974.82 -12813974.79 0.0283 0.0276

Venus -39795-02-14 15:06 J -12813655.95 -12813655.87 -12813655.79 0.3639 0.2581

Jupiter -39795-08-05 08:23 J -12813484.21 -12813484.15 -12813484.09 0.0527 0.0476

Jupiter -39795-11-03 03:35 J -12813394.48 -12813394.35 -12813394.21 0.0531 0.0236

Mars -39794-01-27 19:40 J -12813308.81 -12813308.68 -12813308.54 0.1612 0.0439

Earth -39793-10-08 02:52 J -12812689.51 -12812689.38 -12812689.26 0.2664 0.0399

Moon -39793-10-08 03:06 J -12812689.49 -12812689.37 -12812689.25 0.2671 0.0413 *

Earth -39790-04-09 08:52 J -12811776.23 -12811776.13 -12811776.03 0.2666 0.1757

Moon -39790-04-09 09:50 J -12811776.19 -12811776.09 -12811776.00 0.2671 0.1851 *

Jupiter -39789-03-23 02:23 J -12811427.54 -12811427.40 -12811427.26 0.0500 0.0169

Jupiter -39789-06-20 16:04 J -12811337.90 -12811337.83 -12811337.74 0.0497 0.0418

Mars -39788-08-30 23:45 J -12810901.63 -12810901.51 -12810901.39 0.1912 0.0724

Neptune -39787-11-13 15:35 J -12810461.89 -12810461.85 -12810461.81 0.0089 0.0085

Neptune -39786-02-09 17:30 J -12810373.84 -12810373.77 -12810373.70 0.0089 0.0078

Neptune -39786-05-08 19:11 J -12810285.77 -12810285.70 -12810285.60 0.0089 0.0072

Neptune -39786-08-04 21:06 J -12810197.71 -12810197.62 -12810197.50 0.0089 0.0065

Moon -39786-10-01 14:09 J -12810139.96 -12810139.91 -12810139.87 0.2659 0.2466

Earth -39786-10-01 15:06 J -12810139.93 -12810139.87 -12810139.81 0.2660 0.2329 *

Neptune -39786-10-31 23:02 J -12810109.64 -12810109.54 -12810109.41 0.0089 0.0058

Neptune -39785-01-28 01:11 J -12810021.57 -12810021.45 -12810021.32 0.0089 0.0051

Neptune -39785-04-25 03:06 J -12809933.49 -12809933.37 -12809933.23 0.0089 0.0044

Mars -39785-06-19 03:06 J -12809878.51 -12809878.37 -12809878.23 0.1613 0.0144

Neptune -39785-07-22 05:02 J -12809845.42 -12809845.29 -12809845.14 0.0089 0.0037

Neptune -39785-10-18 07:11 J -12809757.34 -12809757.20 -12809757.05 0.0089 0.0030

Neptune -39784-01-14 09:06 J -12809669.26 -12809669.12 -12809668.96 0.0089 0.0023

Neptune -39784-04-12 11:16 J -12809581.18 -12809581.03 -12809580.88 0.0089 0.0016

Neptune -39784-07-09 13:11 J -12809493.10 -12809492.95 -12809492.79 0.0089 0.0009

Neptune -39784-10-05 15:21 J -12809405.01 -12809404.86 -12809404.70 0.0089 0.0002

Neptune -39783-01-01 17:30 J -12809316.93 -12809316.77 -12809316.62 0.0089 0.0006

Neptune -39783-03-30 19:26 J -12809228.84 -12809228.69 -12809228.54 0.0089 0.0013

Moon -39783-04-01 16:04 J -12809226.94 -12809226.83 -12809226.72 0.2673 0.1336

Earth -39783-04-01 17:02 J -12809226.90 -12809226.79 -12809226.67 0.2671 0.1189 *

Neptune -39783-06-26 21:35 J -12809140.75 -12809140.60 -12809140.45 0.0089 0.0020

Jupiter -39783-08-22 05:16 J -12809084.43 -12809084.28 -12809084.13 0.0530 0.0072

Neptune -39783-09-22 23:30 J -12809052.66 -12809052.52 -12809052.37 0.0089 0.0028

Saturn -39783-11-18 11:30 J -12808996.13 -12808996.02 -12808995.89 0.0276 0.0169

Neptune -39783-12-20 01:26 J -12808964.57 -12808964.44 -12808964.29 0.0089 0.0035

Saturn -39782-02-15 02:38 J -12808907.54 -12808907.39 -12808907.24 0.0276 0.0060

Neptune -39782-03-18 03:35 J -12808876.48 -12808876.35 -12808876.21 0.0089 0.0042

Saturn -39782-05-14 17:02 J -12808818.93 -12808818.79 -12808818.64 0.0276 0.0047

Neptune -39782-06-14 05:45 J -12808788.39 -12808788.26 -12808788.13 0.0089 0.0049

Saturn -39782-08-11 07:11 J -12808730.32 -12808730.20 -12808730.07 0.0276 0.0150

Neptune -39782-09-10 07:40 J -12808700.29 -12808700.18 -12808700.05 0.0089 0.0057

Saturn -39782-11-07 21:21 J -12808641.67 -12808641.61 -12808641.55 0.0276 0.0250

Neptune -39782-12-07 09:50 J -12808612.19 -12808612.09 -12808611.97 0.0089 0.0064

Neptune -39781-03-04 11:45 J -12808524.08 -12808524.01 -12808523.90 0.0089 0.0072

Neptune -39781-05-31 13:54 J -12808435.97 -12808435.92 -12808435.83 0.0089 0.0079

Neptune -39781-08-27 16:18 J -12808347.85 -12808347.82 -12808347.78 0.0089 0.0086

Earth -39780-10-10 23:59 J -12807938.61 -12807938.50 -12807938.39 0.2666 0.1303

Moon -39780-10-11 00:42 J -12807938.57 -12807938.47 -12807938.36 0.2668 0.1340 *

Mars -39778-01-21 04:18 J -12807471.38 -12807471.32 -12807471.26 0.1909 0.1657

Jupiter -39777-01-10 04:33 J -12807117.43 -12807117.31 -12807117.20 0.0501 0.0316

Jupiter -39777-04-08 17:59 J -12807027.88 -12807027.75 -12807027.62 0.0498 0.0267

Mars -39776-11-09 10:18 J -12806448.20 -12806448.07 -12806447.95 0.1615 0.0740

Moon -39773-10-03 11:59 J -12805389.11 -12805389.00 -12805388.89 0.2664 0.1334

Earth -39773-10-03 12:57 J -12805389.07 -12805388.96 -12805388.85 0.2661 0.1343 *

Jupiter -39771-06-10 06:28 J -12804774.38 -12804774.23 -12804774.08 0.0529 0.0100

Moon -39770-04-04 15:21 J -12804475.99 -12804475.86 -12804475.73 0.2676 0.0140

Earth -39770-04-04 15:50 J -12804475.97 -12804475.84 -12804475.71 0.2669 0.0180 *

Saturn -39768-08-29 21:21 J -12803597.69 -12803597.61 -12803597.53 0.0282 0.0240

Saturn -39768-11-26 13:11 J -12803509.08 -12803508.95 -12803508.81 0.0283 0.0126

Saturn -39767-02-23 05:45 J -12803420.42 -12803420.26 -12803420.11 0.0283 0.0011

Uranus -39767-04-18 16:04 J -12803365.84 -12803365.83 -12803365.80 0.0132 0.0131

Mars -39767-05-19 16:04 J -12803334.92 -12803334.83 -12803334.73 0.1916 0.1354

Saturn -39767-05-22 22:18 J -12803331.71 -12803331.57 -12803331.42 0.0283 0.0111

Uranus -39767-07-15 20:38 J -12803277.72 -12803277.64 -12803277.55 0.0132 0.0111

Saturn -39767-08-19 15:35 J -12803242.94 -12803242.85 -12803242.76 0.0283 0.0233

Uranus -39767-10-12 00:42 J -12803189.57 -12803189.47 -12803189.35 0.0132 0.0091

Earth -39767-10-13 20:52 J -12803187.70 -12803187.63 -12803187.56 0.2667 0.2186

Moon -39767-10-13 21:50 J -12803187.65 -12803187.59 -12803187.53 0.2666 0.2319 *

Uranus -39766-01-08 05:02 J -12803101.41 -12803101.29 -12803101.15 0.0132 0.0070

Mars -39766-04-01 17:02 J -12803017.86 -12803017.79 -12803017.71 0.1617 0.1348

Uranus -39766-04-06 09:06 J -12803013.25 -12803013.12 -12803012.97 0.0132 0.0051

Uranus -39766-07-03 13:26 J -12802925.08 -12802924.94 -12802924.79 0.0132 0.0030

Uranus -39766-09-29 17:45 J -12802836.92 -12802836.76 -12802836.61 0.0132 0.0010

Jupiter -39766-10-29 06:57 J -12802807.27 -12802807.21 -12802807.15 0.0502 0.0457

Uranus -39766-12-26 21:50 J -12802748.75 -12802748.59 -12802748.44 0.0132 0.0010

Jupiter -39765-01-26 20:09 J -12802717.81 -12802717.66 -12802717.51 0.0498 0.0122

Uranus -39765-03-24 01:40 J -12802660.57 -12802660.43 -12802660.28 0.0132 0.0030

Uranus -39765-06-20 05:45 J -12802572.40 -12802572.26 -12802572.11 0.0132 0.0049

Venus -39765-07-22 13:26 J -12802539.99 -12802539.94 -12802539.90 0.3747 0.3444

Uranus -39765-09-16 09:35 J -12802484.22 -12802484.10 -12802483.96 0.0132 0.0068

Uranus -39765-12-13 13:40 J -12802396.04 -12802395.93 -12802395.81 0.0132 0.0087

Mars -39764-03-07 12:28 J -12802312.08 -12802311.98 -12802311.88 0.1611 0.1082

Uranus -39764-03-11 17:30 J -12802307.85 -12802307.77 -12802307.67 0.0132 0.0106

Uranus -39764-06-07 21:35 J -12802219.64 -12802219.60 -12802219.55 0.0132 0.0124

Moon -39760-10-06 10:33 J -12800638.19 -12800638.06 -12800637.94 0.2669 0.0463

Earth -39760-10-06 10:33 J -12800638.18 -12800638.06 -12800637.93 0.2663 0.0390 *

Venus -39759-02-05 11:59 J -12800516.13 -12800516.00 -12800515.88 0.3742 0.0477

Jupiter -39759-03-29 06:14 J -12800464.36 -12800464.24 -12800464.11 0.0527 0.0289

Jupiter -39759-06-27 01:11 J -12800374.54 -12800374.45 -12800374.36 0.0531 0.0414

Mars -39758-10-09 19:40 J -12799904.81 -12799904.68 -12799904.55 0.1914 0.0336

Earth -39757-04-06 14:52 J -12799725.00 -12799724.88 -12799724.75 0.2667 0.0869

Moon -39757-04-06 15:21 J -12799724.99 -12799724.86 -12799724.74 0.2674 0.0855 *

Mars -39755-07-28 19:54 J -12798881.80 -12798881.67 -12798881.53 0.1612 0.0522

Jupiter -39754-11-14 22:18 J -12798407.72 -12798407.57 -12798407.41 0.0500 0.0026

Saturn -39753-04-06 14:09 J -12798264.02 -12798263.91 -12798263.80 0.0277 0.0193

Saturn -39753-07-04 05:02 J -12798175.43 -12798175.29 -12798175.14 0.0277 0.0084

Saturn -39753-09-30 19:40 J -12798086.83 -12798086.68 -12798086.53 0.0276 0.0023

Saturn -39753-12-28 09:50 J -12797998.21 -12797998.09 -12797997.95 0.0276 0.0128

Saturn -39752-03-26 23:59 J -12797909.58 -12797909.50 -12797909.42 0.0276 0.0229

Pluto -39752-09-19 11:02 J -12797733.09 -12797733.04 -12797732.98 0.0078 0.0072

Pluto -39752-12-16 12:28 J -12797645.05 -12797644.98 -12797644.89 0.0078 0.0064

Pluto -39751-03-14 13:54 J -12797557.01 -12797556.92 -12797556.80 0.0078 0.0056

Pluto -39751-06-10 15:35 J -12797468.96 -12797468.85 -12797468.73 0.0078 0.0048

Pluto -39751-09-06 16:47 J -12797380.91 -12797380.80 -12797380.66 0.0078 0.0041

Pluto -39751-12-03 18:28 J -12797292.86 -12797292.73 -12797292.59 0.0078 0.0033

Pluto -39750-03-01 19:54 J -12797204.81 -12797204.67 -12797204.52 0.0078 0.0025

Moon -39750-03-30 23:02 J -12797175.62 -12797175.54 -12797175.46 0.2670 0.2115

Earth -39750-03-30 23:59 J -12797175.58 -12797175.50 -12797175.41 0.2672 0.1996 *

Pluto -39750-05-28 21:21 J -12797116.75 -12797116.61 -12797116.46 0.0077 0.0017

Venus -39750-08-23 00:14 J -12797030.59 -12797030.49 -12797030.39 0.3632 0.1830

Pluto -39750-08-24 22:47 J -12797028.70 -12797028.55 -12797028.40 0.0077 0.0009

Pluto -39750-11-21 00:14 J -12796940.64 -12796940.49 -12796940.34 0.0077 0.0002

Pluto -39749-02-17 01:40 J -12796852.58 -12796852.43 -12796852.28 0.0077 0.0006

Pluto -39749-05-15 02:52 J -12796764.52 -12796764.38 -12796764.23 0.0077 0.0013

Pluto -39749-08-11 04:18 J -12796676.46 -12796676.32 -12796676.18 0.0077 0.0020

Pluto -39749-11-07 05:30 J -12796588.40 -12796588.27 -12796588.13 0.0077 0.0028

Pluto -39748-02-03 06:57 J -12796500.34 -12796500.21 -12796500.08 0.0076 0.0035

Mars -39748-02-28 23:59 J -12796474.62 -12796474.50 -12796474.37 0.1912 0.0623

Pluto -39748-05-02 08:09 J -12796412.28 -12796412.16 -12796412.03 0.0076 0.0042

Pluto -39748-07-29 09:35 J -12796324.21 -12796324.10 -12796323.99 0.0076 0.0049

Pluto -39748-10-25 10:33 J -12796236.14 -12796236.06 -12796235.95 0.0076 0.0056

Jupiter -39747-01-15 06:42 J -12796154.28 -12796154.22 -12796154.14 0.0526 0.0467

Pluto -39747-01-21 11:45 J -12796148.07 -12796148.01 -12796147.91 0.0076 0.0063

Jupiter -39747-04-15 02:09 J -12796064.54 -12796064.41 -12796064.28 0.0530 0.0241

Pluto -39747-04-19 13:26 J -12796060.00 -12796059.94 -12796059.88 0.0076 0.0069

Earth -39747-10-09 08:09 J -12795887.29 -12795887.16 -12795887.04 0.2664 0.0560

Moon -39747-10-09 08:23 J -12795887.27 -12795887.15 -12795887.03 0.2671 0.0600 *

Mars -39746-12-19 03:21 J -12795451.50 -12795451.36 -12795451.21 0.1613 0.0070

Venus -39744-03-07 18:42 J -12795006.83 -12795006.72 -12795006.61 0.3636 0.0925

Earth -39744-04-09 14:23 J -12794973.99 -12794973.90 -12794973.81 0.2666 0.1944

Moon -39744-04-09 15:21 J -12794973.95 -12794973.86 -12794973.78 0.2670 0.2007 *

Jupiter -39742-09-03 00:57 J -12794097.60 -12794097.46 -12794097.32 0.0500 0.0160

Jupiter -39742-12-01 14:52 J -12794007.96 -12794007.88 -12794007.81 0.0497 0.0427

Moon -39740-10-01 19:26 J -12793337.76 -12793337.69 -12793337.62 0.2660 0.2177

Earth -39740-10-01 20:23 J -12793337.72 -12793337.65 -12793337.57 0.2660 0.2154 *

Mars -39739-07-22 04:33 J -12793044.38 -12793044.31 -12793044.24 0.1909 0.1558

Venus -39739-09-21 13:11 J -12792982.97 -12792982.95 -12792982.93 0.3640 0.3586

Saturn -39738-01-16 22:18 J -12792865.61 -12792865.57 -12792865.53 0.0282 0.0272

Saturn -39738-04-15 14:09 J -12792777.04 -12792776.91 -12792776.78 0.0282 0.0160

Saturn -39738-07-13 06:14 J -12792688.39 -12792688.24 -12792688.08 0.0282 0.0045

Saturn -39738-10-09 22:47 J -12792599.70 -12792599.55 -12792599.39 0.0282 0.0074

Saturn -39737-01-06 15:50 J -12792510.95 -12792510.84 -12792510.72 0.0283 0.0194

Moon -39737-04-01 21:35 J -12792424.72 -12792424.60 -12792424.48 0.2674 0.1008

Earth -39737-04-01 22:33 J -12792424.68 -12792424.56 -12792424.44 0.2671 0.1013 *

Mars -39736-05-10 10:33 J -12792021.19 -12792021.06 -12792020.93 0.1615 0.0651

Jupiter -39735-02-01 03:21 J -12791754.51 -12791754.36 -12791754.21 0.0530 0.0071

Earth -39734-10-12 05:16 J -12791136.39 -12791136.28 -12791136.18 0.2666 0.1464

Moon -39734-10-12 06:14 J -12791136.34 -12791136.24 -12791136.14 0.2668 0.1540 *

Jupiter -39730-06-22 03:35 J -12789787.47 -12789787.35 -12789787.23 0.0501 0.0299

Jupiter -39730-09-19 17:02 J -12789697.91 -12789697.79 -12789697.66 0.0498 0.0285

Mars -39728-11-17 16:18 J -12788907.91 -12788907.82 -12788907.74 0.1916 0.1450

Mars -39727-09-30 17:30 J -12788590.86 -12788590.77 -12788590.68 0.1617 0.1260

Moon -39727-10-04 17:30 J -12788586.88 -12788586.77 -12788586.66 0.2665 0.1307

Earth -39727-10-04 18:28 J -12788586.85 -12788586.73 -12788586.62 0.2661 0.1173 *

Mars -39725-09-05 12:42 J -12787885.07 -12787884.97 -12787884.88 0.1611 0.1163

Moon -39724-04-04 20:52 J -12787673.76 -12787673.63 -12787673.50 0.2675 0.0110

Earth -39724-04-04 21:21 J -12787673.74 -12787673.61 -12787673.48 0.2669 0.0022 *

Uranus -39724-06-30 21:35 J -12787586.64 -12787586.60 -12787586.57 0.0146 0.0142

Saturn -39724-08-24 13:26 J -12787532.02 -12787531.94 -12787531.86 0.0276 0.0237

Uranus -39724-09-27 03:06 J -12787498.46 -12787498.37 -12787498.27 0.0146 0.0115

Jupiter -39724-11-20 04:47 J -12787444.45 -12787444.30 -12787444.15 0.0529 0.0094

Saturn -39724-11-21 04:33 J -12787443.45 -12787443.31 -12787443.18 0.0276 0.0127

Uranus -39724-12-24 08:52 J -12787410.26 -12787410.13 -12787410.00 0.0146 0.0087

Saturn -39723-02-17 19:11 J -12787354.85 -12787354.70 -12787354.54 0.0276 0.0021

Uranus -39723-03-22 14:38 J -12787322.04 -12787321.89 -12787321.75 0.0146 0.0060

Saturn -39723-05-17 09:50 J -12787266.24 -12787266.09 -12787265.95 0.0276 0.0086

Uranus -39723-06-18 20:23 J -12787233.81 -12787233.65 -12787233.49 0.0146 0.0032

Saturn -39723-08-13 23:45 J -12787177.61 -12787177.51 -12787177.40 0.0276 0.0189

Uranus -39723-09-15 02:09 J -12787145.57 -12787145.41 -12787145.24 0.0147 0.0006

Uranus -39723-12-12 08:09 J -12787057.32 -12787057.16 -12787057.00 0.0147 0.0025

Uranus -39722-03-10 14:09 J -12786969.06 -12786968.91 -12786968.76 0.0147 0.0053

Uranus -39722-06-06 19:54 J -12786880.79 -12786880.67 -12786880.52 0.0147 0.0083

Uranus -39722-09-03 02:09 J -12786792.51 -12786792.41 -12786792.30 0.0147 0.0112

Uranus -39722-11-30 08:09 J -12786704.19 -12786704.16 -12786704.11 0.0147 0.0142

Earth -39721-10-14 02:09 J -12786385.47 -12786385.41 -12786385.36 0.2668 0.2345

Moon -39721-10-14 02:52 J -12786385.43 -12786385.38 -12786385.32 0.2666 0.2349 *

Mars -39718-04-09 20:09 J -12785477.79 -12785477.66 -12785477.54 0.1914 0.0448

Jupiter -39718-04-10 05:59 J -12785477.32 -12785477.25 -12785477.19 0.0502 0.0444

Jupiter -39718-07-08 18:57 J -12785387.85 -12785387.71 -12785387.56 0.0498 0.0135

Mars -39715-01-26 20:23 J -12784454.78 -12784454.65 -12784454.52 0.1612 0.0605

Moon -39714-10-07 15:50 J -12783835.96 -12783835.84 -12783835.71 0.2670 0.0156

Earth -39714-10-07 16:04 J -12783835.96 -12783835.83 -12783835.71 0.2663 0.0223 *

Jupiter -39712-09-08 05:45 J -12783134.39 -12783134.26 -12783134.12 0.0528 0.0266

Jupiter -39712-12-07 00:42 J -12783044.55 -12783044.47 -12783044.39 0.0531 0.0438

Earth -39711-04-07 20:38 J -12782922.77 -12782922.64 -12782922.52 0.2667 0.1059

Moon -39711-04-07 21:06 J -12782922.74 -12782922.62 -12782922.50 0.2673 0.1163 *

Mars -39709-08-29 23:59 J -12782047.62 -12782047.50 -12782047.37 0.1912 0.0536

Saturn -39709-09-01 13:26 J -12782045.04 -12782044.94 -12782044.83 0.0282 0.0203

Saturn -39709-11-29 05:30 J -12781956.42 -12781956.27 -12781956.12 0.0282 0.0089

Saturn -39708-02-25 22:04 J -12781867.74 -12781867.58 -12781867.42 0.0283 0.0029

Venus -39708-02-26 12:28 J -12781867.08 -12781866.98 -12781866.87 0.3745 0.2056

Saturn -39708-05-25 14:52 J -12781779.01 -12781778.88 -12781778.74 0.0283 0.0149

Saturn -39708-08-22 08:09 J -12781690.20 -12781690.16 -12781690.12 0.0283 0.0272

Jupiter -39706-04-26 21:21 J -12781077.76 -12781077.61 -12781077.46 0.0499 0.0011

Mars -39706-06-19 03:35 J -12781024.49 -12781024.35 -12781024.21 0.1613 0.0040

Moon -39704-03-31 04:18 J -12780373.41 -12780373.32 -12780373.22 0.2670 0.1864

Earth -39704-03-31 05:30 J -12780373.36 -12780373.27 -12780373.18 0.2672 0.1827 *

Neptune -39703-02-10 03:50 J -12780057.38 -12780057.34 -12780057.29 0.0088 0.0085

Neptune -39703-05-09 05:59 J -12779969.32 -12779969.25 -12779969.16 0.0088 0.0077

Neptune -39703-08-05 08:23 J -12779881.24 -12779881.15 -12779881.04 0.0088 0.0070

Venus -39703-09-12 11:16 J -12779843.14 -12779843.03 -12779842.92 0.3741 0.1918

Neptune -39703-11-01 11:02 J -12779793.16 -12779793.04 -12779792.92 0.0088 0.0062

Neptune -39702-01-28 13:11 J -12779705.07 -12779704.95 -12779704.81 0.0088 0.0054

Neptune -39702-04-26 15:35 J -12779616.98 -12779616.85 -12779616.71 0.0088 0.0047

Neptune -39702-07-23 17:45 J -12779528.89 -12779528.76 -12779528.60 0.0088 0.0040

Neptune -39702-10-19 20:23 J -12779440.80 -12779440.65 -12779440.50 0.0088 0.0032

Neptune -39701-01-15 22:33 J -12779352.71 -12779352.56 -12779352.40 0.0088 0.0024

Neptune -39701-04-13 00:57 J -12779264.62 -12779264.46 -12779264.30 0.0088 0.0017

Neptune -39701-07-10 03:21 J -12779176.52 -12779176.36 -12779176.20 0.0088 0.0009

Neptune -39701-10-06 05:30 J -12779088.43 -12779088.27 -12779088.11 0.0088 0.0002

Earth -39701-10-09 13:26 J -12779085.06 -12779084.94 -12779084.82 0.2665 0.0723

Moon -39701-10-09 13:54 J -12779085.04 -12779084.92 -12779084.80 0.2670 0.0714 *

Neptune -39700-01-02 07:54 J -12779000.33 -12779000.17 -12779000.01 0.0088 0.0006

Neptune -39700-03-31 10:04 J -12778912.24 -12778912.08 -12778911.92 0.0088 0.0013

Jupiter -39700-06-27 05:45 J -12778824.33 -12778824.26 -12778824.18 0.0526 0.0452

Neptune -39700-06-27 12:14 J -12778824.14 -12778823.99 -12778823.83 0.0088 0.0020

Neptune -39700-09-23 14:23 J -12778736.05 -12778735.90 -12778735.74 0.0088 0.0028

Jupiter -39700-09-25 00:57 J -12778734.59 -12778734.46 -12778734.32 0.0530 0.0256

Neptune -39700-12-20 16:47 J -12778647.95 -12778647.80 -12778647.65 0.0088 0.0035

Mars -39699-01-20 04:33 J -12778617.39 -12778617.31 -12778617.23 0.1910 0.1472

Neptune -39699-03-18 18:42 J -12778559.85 -12778559.72 -12778559.57 0.0088 0.0042

Neptune -39699-06-14 20:52 J -12778471.75 -12778471.63 -12778471.48 0.0088 0.0050

Neptune -39699-09-10 23:16 J -12778383.65 -12778383.53 -12778383.40 0.0088 0.0056

Venus -39699-09-13 03:35 J -12778381.36 -12778381.35 -12778381.33 0.3629 0.3569

Neptune -39699-12-08 01:26 J -12778295.54 -12778295.44 -12778295.32 0.0088 0.0064

Neptune -39698-03-06 03:35 J -12778207.44 -12778207.35 -12778207.25 0.0088 0.0071

Earth -39698-04-10 20:09 J -12778171.74 -12778171.66 -12778171.59 0.2666 0.2142

Moon -39698-04-10 21:06 J -12778171.70 -12778171.62 -12778171.55 0.2669 0.2199 *

Neptune -39698-06-02 05:45 J -12778119.33 -12778119.26 -12778119.18 0.0088 0.0078

Neptune -39698-08-29 07:54 J -12778031.20 -12778031.17 -12778031.12 0.0088 0.0085

Mars -39697-11-08 10:47 J -12777594.18 -12777594.05 -12777593.91 0.1615 0.0565

Saturn -39694-01-11 15:21 J -12776799.90 -12776799.86 -12776799.81 0.0277 0.0264

Jupiter -39694-02-12 23:30 J -12776767.66 -12776767.52 -12776767.38 0.0501 0.0153

Saturn -39694-04-10 06:42 J -12776711.35 -12776711.22 -12776711.09 0.0277 0.0153

Jupiter -39694-05-13 13:26 J -12776678.01 -12776677.94 -12776677.87 0.0497 0.0436

Saturn -39694-07-07 21:35 J -12776622.75 -12776622.60 -12776622.45 0.0277 0.0045

Moon -39694-10-03 00:42 J -12776535.54 -12776535.47 -12776535.39 0.2661 0.2097

Earth -39694-10-03 01:54 J -12776535.51 -12776535.42 -12776535.34 0.2660 0.1976 *

Saturn -39694-10-04 12:14 J -12776534.14 -12776533.99 -12776533.84 0.0277 0.0062

Saturn -39693-01-01 02:23 J -12776445.52 -12776445.40 -12776445.28 0.0276 0.0165

Venus -39693-03-28 22:18 J -12776357.68 -12776357.57 -12776357.45 0.3633 0.0783

Saturn -39693-03-29 16:18 J -12776356.85 -12776356.82 -12776356.78 0.0276 0.0266

Moon -39691-04-03 03:06 J -12775622.49 -12775622.37 -12775622.25 0.2675 0.0958

Earth -39691-04-03 04:04 J -12775622.46 -12775622.33 -12775622.21 0.2670 0.0834 *

Mars -39688-05-18 16:33 J -12774480.88 -12774480.81 -12774480.73 0.1916 0.1557

Jupiter -39688-07-14 01:54 J -12774424.57 -12774424.42 -12774424.27 0.0529 0.0081

Earth -39688-10-12 10:33 J -12774334.16 -12774334.06 -12774333.97 0.2666 0.1624

Moon -39688-10-12 11:16 J -12774334.12 -12774334.03 -12774333.93 0.2668 0.1696 *

Venus -39688-10-12 17:02 J -12774333.89 -12774333.79 -12774333.69 0.3637 0.1953

Mars -39687-03-31 17:45 J -12774163.85 -12774163.76 -12774163.66 0.1616 0.1168

Mars -39685-03-06 12:57 J -12773458.04 -12773457.96 -12773457.87 0.1611 0.1250

Uranus -39683-05-08 23:59 J -12772664.55 -12772664.50 -12772664.43 0.0132 0.0122

Uranus -39683-08-05 04:18 J -12772576.41 -12772576.32 -12772576.21 0.0132 0.0102

Uranus -39683-11-01 08:38 J -12772488.25 -12772488.14 -12772488.01 0.0132 0.0081

Jupiter -39683-12-02 02:09 J -12772457.53 -12772457.41 -12772457.29 0.0501 0.0292

Uranus -39682-01-28 12:57 J -12772400.09 -12772399.96 -12772399.82 0.0132 0.0061

Jupiter -39682-03-01 15:35 J -12772367.97 -12772367.85 -12772367.72 0.0498 0.0293

Uranus -39682-04-26 17:02 J -12772311.93 -12772311.79 -12772311.64 0.0132 0.0042

Uranus -39682-07-23 21:21 J -12772223.76 -12772223.61 -12772223.46 0.0132 0.0021

Uranus -39682-10-20 01:26 J -12772135.59 -12772135.44 -12772135.28 0.0132 0.0003

Uranus -39681-01-16 05:30 J -12772047.42 -12772047.27 -12772047.11 0.0132 0.0019

Uranus -39681-04-13 09:35 J -12771959.24 -12771959.10 -12771958.95 0.0132 0.0038

Uranus -39681-07-10 13:40 J -12771871.07 -12771870.93 -12771870.79 0.0132 0.0057

Moon -39681-10-04 23:02 J -12771784.66 -12771784.54 -12771784.42 0.2666 0.0984

Earth -39681-10-04 23:45 J -12771784.63 -12771784.51 -12771784.39 0.2662 0.0999 *

Uranus -39681-10-06 17:30 J -12771782.88 -12771782.77 -12771782.64 0.0132 0.0077

Uranus -39680-01-02 21:35 J -12771694.70 -12771694.60 -12771694.49 0.0132 0.0095

Uranus -39680-04-01 01:26 J -12771606.51 -12771606.44 -12771606.36 0.0132 0.0114

Saturn -39679-01-19 14:52 J -12771312.97 -12771312.88 -12771312.80 0.0282 0.0234

Saturn -39679-04-18 06:42 J -12771224.36 -12771224.22 -12771224.08 0.0282 0.0121

Saturn -39679-07-15 23:02 J -12771135.70 -12771135.54 -12771135.38 0.0282 0.0005

Mars -39679-10-08 20:09 J -12771050.78 -12771050.66 -12771050.53 0.1914 0.0551

Saturn -39679-10-12 15:50 J -12771046.99 -12771046.84 -12771046.70 0.0282 0.0115

Saturn -39678-01-09 08:38 J -12770958.22 -12770958.14 -12770958.05 0.0282 0.0237

Moon -39678-04-06 02:38 J -12770871.52 -12770871.39 -12770871.26 0.2675 0.0247

Earth -39678-04-06 02:52 J -12770871.51 -12770871.38 -12770871.25 0.2669 0.0203 *

Jupiter -39676-05-02 02:52 J -12770114.53 -12770114.38 -12770114.23 0.0528 0.0093

Mars -39676-07-27 20:38 J -12770027.77 -12770027.64 -12770027.51 0.1612 0.0686

Earth -39675-10-15 07:26 J -12769583.23 -12769583.19 -12769583.15 0.2668 0.2500

Moon -39675-10-15 08:09 J -12769583.19 -12769583.16 -12769583.13 0.2664 0.2573 *

Earth -39671-03-29 12:42 J -12768322.00 -12768321.97 -12768321.95 0.2673 0.2613

Jupiter -39671-09-20 04:47 J -12768147.37 -12768147.30 -12768147.22 0.0502 0.0429

Jupiter -39671-12-18 17:59 J -12768057.89 -12768057.75 -12768057.60 0.0499 0.0153

Mars -39669-02-29 00:14 J -12767620.61 -12767620.49 -12767620.36 0.1912 0.0436

Moon -39668-10-07 21:06 J -12767033.74 -12767033.62 -12767033.49 0.2670 0.0158

Earth -39668-10-07 21:21 J -12767033.74 -12767033.61 -12767033.49 0.2663 0.0061 *

Mars -39667-12-18 03:50 J -12766597.48 -12766597.34 -12766597.19 0.1613 0.0121

Earth -39665-04-08 02:09 J -12766120.53 -12766120.41 -12766120.29 0.2667 0.1246

Moon -39665-04-08 02:38 J -12766120.50 -12766120.39 -12766120.27 0.2673 0.1217 *

Saturn -39665-08-27 06:14 J -12765979.34 -12765979.24 -12765979.13 0.0276 0.0196

Saturn -39665-11-23 21:21 J -12765890.76 -12765890.61 -12765890.47 0.0276 0.0086

Jupiter -39664-02-18 04:04 J -12765804.46 -12765804.33 -12765804.19 0.0528 0.0261

Saturn -39664-02-20 11:59 J -12765802.15 -12765802.00 -12765801.85 0.0276 0.0021

Jupiter -39664-05-18 23:02 J -12765714.62 -12765714.54 -12765714.46 0.0531 0.0443

Saturn -39664-05-20 02:23 J -12765713.53 -12765713.40 -12765713.27 0.0276 0.0125

Saturn -39664-08-16 16:18 J -12765624.90 -12765624.82 -12765624.73 0.0276 0.0227

Mars -39660-07-21 04:47 J -12764190.39 -12764190.30 -12764190.21 0.1909 0.1370

Jupiter -39659-10-06 20:09 J -12763747.81 -12763747.66 -12763747.51 0.0499 0.0004

Moon -39658-04-01 09:50 J -12763571.18 -12763571.09 -12763570.99 0.2672 0.1727

Earth -39658-04-01 11:02 J -12763571.14 -12763571.04 -12763570.94 0.2672 0.1652 *

Mars -39657-05-09 11:16 J -12763167.17 -12763167.03 -12763166.90 0.1615 0.0480

Earth -39655-10-10 18:42 J -12762282.84 -12762282.72 -12762282.61 0.2665 0.0882

Moon -39655-10-10 19:26 J -12762282.81 -12762282.69 -12762282.58 0.2669 0.0999 *

Jupiter -39653-12-07 05:16 J -12761494.37 -12761494.28 -12761494.20 0.0527 0.0432

Jupiter -39652-03-07 00:28 J -12761404.60 -12761404.48 -12761404.35 0.0530 0.0277

Earth -39652-04-11 01:40 J -12761369.49 -12761369.43 -12761369.37 0.2665 0.2334

Moon -39652-04-11 02:38 J -12761369.43 -12761369.39 -12761369.34 0.2667 0.2463 *

Venus -39652-10-03 11:45 J -12761194.13 -12761194.01 -12761193.89 0.3744 0.0652

Saturn -39650-06-08 14:09 J -12760580.93 -12760580.91 -12760580.89 0.0282 0.0277

Saturn -39650-09-05 05:59 J -12760492.38 -12760492.25 -12760492.13 0.0282 0.0165

Saturn -39650-12-02 22:04 J -12760403.73 -12760403.58 -12760403.42 0.0282 0.0050

Saturn -39649-02-29 14:38 J -12760315.04 -12760314.89 -12760314.73 0.0282 0.0068

Saturn -39649-05-28 07:26 J -12760226.30 -12760226.19 -12760226.06 0.0283 0.0190

Mars -39649-11-16 16:47 J -12760053.87 -12760053.80 -12760053.74 0.1915 0.1651

Mars -39648-09-29 17:59 J -12759736.85 -12759736.75 -12759736.64 0.1617 0.1085

Moon -39648-10-03 06:14 J -12759733.33 -12759733.24 -12759733.15 0.2661 0.1850

Earth -39648-10-03 07:11 J -12759733.29 -12759733.20 -12759733.10 0.2660 0.1804 *

Jupiter -39647-07-25 22:33 J -12759437.71 -12759437.56 -12759437.42 0.0500 0.0140

Jupiter -39647-10-23 12:14 J -12759348.05 -12759347.99 -12759347.92 0.0497 0.0448

Venus -39646-04-19 10:33 J -12759170.11 -12759170.06 -12759170.01 0.3740 0.3382

Mars -39646-09-05 13:11 J -12759031.03 -12759030.95 -12759030.87 0.1611 0.1326

Moon -39645-04-03 08:38 J -12758820.26 -12758820.14 -12758820.01 0.2675 0.0668

Earth -39645-04-03 09:35 J -12758820.23 -12758820.10 -12758819.98 0.2670 0.0658 *

Venus -39642-04-20 01:54 J -12757708.50 -12757708.42 -12757708.33 0.3630 0.2499

Earth -39642-10-13 15:50 J -12757531.94 -12757531.84 -12757531.75 0.2666 0.1783

Moon -39642-10-13 16:33 J -12757531.89 -12757531.81 -12757531.72 0.2668 0.1828 *

Jupiter -39641-12-24 00:57 J -12757094.61 -12757094.46 -12757094.31 0.0529 0.0095

Uranus -39640-07-21 05:16 J -12756885.34 -12756885.28 -12756885.22 0.0146 0.0133

Uranus -39640-10-17 10:47 J -12756797.15 -12756797.05 -12756796.94 0.0146 0.0106

Uranus -39639-01-13 16:18 J -12756708.94 -12756708.82 -12756708.68 0.0146 0.0079

Mars -39639-04-08 20:23 J -12756623.78 -12756623.65 -12756623.53 0.1914 0.0637

Uranus -39639-04-11 22:18 J -12756620.72 -12756620.57 -12756620.42 0.0146 0.0051

Uranus -39639-07-09 04:04 J -12756532.49 -12756532.33 -12756532.17 0.0146 0.0023

Uranus -39639-10-05 09:50 J -12756444.25 -12756444.09 -12756443.92 0.0146 0.0007

Uranus -39638-01-01 15:50 J -12756356.00 -12756355.84 -12756355.68 0.0147 0.0034

Uranus -39638-03-30 21:50 J -12756267.74 -12756267.59 -12756267.44 0.0147 0.0063

Uranus -39638-06-27 03:50 J -12756179.46 -12756179.34 -12756179.21 0.0147 0.0092

Uranus -39638-09-23 09:35 J -12756091.17 -12756091.10 -12756090.99 0.0147 0.0122

Venus -39637-11-02 20:38 J -12755684.75 -12755684.64 -12755684.52 0.3634 0.0291

Mars -39636-01-25 20:52 J -12755600.75 -12755600.63 -12755600.51 0.1612 0.0769

Saturn -39635-01-14 08:09 J -12755247.25 -12755247.16 -12755247.07 0.0277 0.0225

Saturn -39635-04-12 23:16 J -12755158.67 -12755158.53 -12755158.39 0.0277 0.0114

Jupiter -39635-05-14 00:42 J -12755127.59 -12755127.47 -12755127.35 0.0502 0.0285

Saturn -39635-07-10 14:09 J -12755070.06 -12755069.91 -12755069.76 0.0277 0.0006

Jupiter -39635-08-11 14:09 J -12755038.03 -12755037.91 -12755037.79 0.0498 0.0301

Moon -39635-10-06 04:33 J -12754982.43 -12754982.31 -12754982.19 0.2668 0.0919

Earth -39635-10-06 05:02 J -12754982.41 -12754982.29 -12754982.17 0.2662 0.0830 *

Saturn -39635-10-07 04:33 J -12754981.44 -12754981.31 -12754981.17 0.0277 0.0100

Saturn -39634-01-03 18:42 J -12754892.81 -12754892.72 -12754892.62 0.0277 0.0203

Moon -39632-04-06 08:23 J -12754069.28 -12754069.15 -12754069.02 0.2675 0.0307

Earth -39632-04-06 08:23 J -12754069.28 -12754069.15 -12754069.02 0.2668 0.0375 *

Venus -39631-05-19 15:06 J -12753660.93 -12753660.87 -12753660.80 0.3638 0.2973

Mars -39630-08-30 00:42 J -12753193.60 -12753193.47 -12753193.35 0.1912 0.0336

Jupiter -39629-10-12 01:40 J -12752784.58 -12752784.43 -12752784.28 0.0528 0.0083

Earth -39629-10-15 12:28 J -12752780.99 -12752780.98 -12752780.97 0.2668 0.2655

Mars -39627-06-18 04:18 J -12752170.46 -12752170.32 -12752170.18 0.1613 0.0200

Moon -39625-03-29 17:16 J -12751519.83 -12751519.78 -12751519.73 0.2669 0.2442

Earth -39625-03-29 17:59 J -12751519.80 -12751519.75 -12751519.70 0.2673 0.2448 *

Jupiter -39623-03-02 03:21 J -12750817.44 -12750817.36 -12750817.28 0.0502 0.0424

Jupiter -39623-05-30 16:33 J -12750727.95 -12750727.81 -12750727.67 0.0499 0.0158

Neptune -39622-08-10 13:40 J -12750290.96 -12750290.93 -12750290.87 0.0089 0.0084

Earth -39622-10-09 02:38 J -12750231.52 -12750231.39 -12750231.26 0.2664 0.0121

Moon -39622-10-09 02:38 J -12750231.51 -12750231.39 -12750231.26 0.2670 0.0196 *

Neptune -39622-11-06 15:50 J -12750202.91 -12750202.84 -12750202.76 0.0089 0.0077

Neptune -39621-02-02 17:45 J -12750114.84 -12750114.76 -12750114.66 0.0089 0.0070

Neptune -39621-04-30 19:40 J -12750026.78 -12750026.68 -12750026.57 0.0089 0.0063

Neptune -39621-07-27 21:35 J -12749938.71 -12749938.60 -12749938.47 0.0089 0.0056

Neptune -39621-10-23 23:45 J -12749850.63 -12749850.51 -12749850.38 0.0089 0.0049

Mars -39620-01-19 05:02 J -12749763.39 -12749763.29 -12749763.20 0.1909 0.1276

Neptune -39620-01-20 01:40 J -12749762.56 -12749762.43 -12749762.29 0.0089 0.0042

Saturn -39620-01-22 07:40 J -12749760.29 -12749760.18 -12749760.07 0.0282 0.0193

Neptune -39620-04-18 03:35 J -12749674.48 -12749674.35 -12749674.20 0.0089 0.0035

Saturn -39620-04-20 23:45 J -12749671.66 -12749671.51 -12749671.36 0.0282 0.0079

Neptune -39620-07-15 05:45 J -12749586.41 -12749586.26 -12749586.12 0.0089 0.0028

Saturn -39620-07-18 16:04 J -12749582.98 -12749582.83 -12749582.67 0.0282 0.0038

Neptune -39620-10-11 07:40 J -12749498.33 -12749498.18 -12749498.03 0.0089 0.0021

Saturn -39620-10-15 08:52 J -12749494.26 -12749494.13 -12749494.00 0.0282 0.0158

Neptune -39619-01-07 09:35 J -12749410.25 -12749410.10 -12749409.94 0.0089 0.0014

Saturn -39619-01-12 02:09 J -12749405.42 -12749405.41 -12749405.40 0.0282 0.0281

Neptune -39619-04-05 11:45 J -12749322.16 -12749322.01 -12749321.86 0.0089 0.0007

Earth -39619-04-09 07:40 J -12749318.29 -12749318.18 -12749318.07 0.2667 0.1438

Moon -39619-04-09 08:23 J -12749318.26 -12749318.15 -12749318.05 0.2673 0.1566 *

Neptune -39619-07-02 13:40 J -12749234.08 -12749233.93 -12749233.77 0.0089 0.0002

Neptune -39619-09-28 15:50 J -12749145.99 -12749145.84 -12749145.69 0.0089 0.0008

Neptune -39619-12-25 17:45 J -12749057.91 -12749057.76 -12749057.60 0.0089 0.0015

Neptune -39618-03-23 19:54 J -12748969.82 -12748969.67 -12748969.52 0.0089 0.0022

Neptune -39618-06-19 21:50 J -12748881.73 -12748881.59 -12748881.44 0.0089 0.0029

Neptune -39618-09-15 23:45 J -12748793.64 -12748793.51 -12748793.36 0.0089 0.0037

Mars -39618-11-08 11:30 J -12748740.16 -12748740.02 -12748739.88 0.1615 0.0393

Neptune -39618-12-13 01:54 J -12748705.55 -12748705.42 -12748705.28 0.0089 0.0044

Neptune -39617-03-10 04:04 J -12748617.45 -12748617.33 -12748617.20 0.0089 0.0051

Neptune -39617-06-06 05:59 J -12748529.35 -12748529.25 -12748529.12 0.0089 0.0059

Jupiter -39617-07-31 02:09 J -12748474.54 -12748474.41 -12748474.27 0.0527 0.0260

Neptune -39617-09-02 08:09 J -12748441.25 -12748441.16 -12748441.05 0.0089 0.0066

Jupiter -39617-10-28 21:06 J -12748384.70 -12748384.62 -12748384.54 0.0531 0.0443

Neptune -39617-11-29 10:18 J -12748353.15 -12748353.07 -12748352.98 0.0089 0.0073

Neptune -39616-02-25 12:14 J -12748265.04 -12748264.99 -12748264.91 0.0089 0.0081

Neptune -39616-05-24 14:38 J -12748176.90 -12748176.89 -12748176.87 0.0089 0.0088

Earth -39615-10-01 14:38 J -12747681.91 -12747681.89 -12747681.87 0.2659 0.2625

Moon -39612-04-01 15:21 J -12746768.96 -12746768.86 -12746768.76 0.2673 0.1578

Earth -39612-04-01 16:18 J -12746768.92 -12746768.82 -12746768.71 0.2671 0.1479 *

Jupiter -39611-03-18 18:57 J -12746417.86 -12746417.71 -12746417.56 0.0500 0.0023

Mars -39609-05-17 17:02 J -12745626.84 -12745626.79 -12745626.74 0.1915 0.1755

Earth -39609-10-10 23:59 J -12745480.62 -12745480.50 -12745480.39 0.2665 0.1045

Moon -39609-10-11 00:42 J -12745480.58 -12745480.47 -12745480.36 0.2670 0.1026 *

Mars -39608-03-30 18:28 J -12745309.84 -12745309.73 -12745309.62 0.1617 0.0996

Mars -39606-03-06 13:26 J -12744604.00 -12744603.94 -12744603.87 0.1611 0.1407

Earth -39606-04-12 07:26 J -12744567.23 -12744567.19 -12744567.16 0.2665 0.2532

Moon -39606-04-12 08:38 J -12744567.18 -12744567.14 -12744567.11 0.2666 0.2545 *

Saturn -39606-06-03 07:54 J -12744515.21 -12744515.17 -12744515.13 0.0277 0.0265

Saturn -39606-08-30 23:16 J -12744426.66 -12744426.53 -12744426.40 0.0277 0.0154

Saturn -39606-11-27 14:09 J -12744338.06 -12744337.91 -12744337.76 0.0276 0.0045

Saturn -39605-02-24 04:47 J -12744249.45 -12744249.30 -12744249.15 0.0276 0.0061

Jupiter -39605-05-19 03:21 J -12744164.45 -12744164.36 -12744164.27 0.0527 0.0429

Saturn -39605-05-22 18:57 J -12744160.82 -12744160.71 -12744160.59 0.0276 0.0165

Jupiter -39605-08-16 22:47 J -12744074.68 -12744074.55 -12744074.42 0.0530 0.0280

Saturn -39605-08-19 09:06 J -12744072.16 -12744072.12 -12744072.09 0.0276 0.0266

Moon -39602-10-04 11:45 J -12742931.11 -12742931.01 -12742930.91 0.2662 0.1702

Earth -39602-10-04 12:42 J -12742931.07 -12742930.97 -12742930.87 0.2661 0.1627 *

Venus -39601-10-24 12:28 J -12742545.05 -12742544.98 -12742544.91 0.3747 0.3130

Mars -39600-10-07 20:38 J -12742196.76 -12742196.64 -12742196.52 0.1914 0.0739

Jupiter -39599-01-04 21:21 J -12742107.76 -12742107.61 -12742107.47 0.0500 0.0129

Jupiter -39599-04-04 11:02 J -12742018.10 -12742018.04 -12742017.98 0.0497 0.0459

Moon -39599-04-04 14:23 J -12742018.03 -12742017.90 -12742017.78 0.2674 0.0568 *

Earth -39599-04-04 15:06 J -12742018.00 -12742017.87 -12742017.74 0.2670 0.0475 *

Uranus -39599-05-29 07:40 J -12741963.25 -12741963.18 -12741963.10 0.0133 0.0114

Mars -39599-08-21 01:11 J -12741879.46 -12741879.45 -12741879.45 0.1619 0.1616

Uranus -39599-08-25 11:59 J -12741875.10 -12741875.00 -12741874.88 0.0132 0.0094

Uranus -39599-11-21 16:18 J -12741786.94 -12741786.82 -12741786.69 0.0132 0.0073

Uranus -39598-02-17 20:38 J -12741698.78 -12741698.64 -12741698.50 0.0132 0.0053

Uranus -39598-05-17 00:42 J -12741610.61 -12741610.47 -12741610.31 0.0132 0.0033

Uranus -39598-08-13 05:02 J -12741522.44 -12741522.29 -12741522.14 0.0132 0.0013

Uranus -39598-11-09 09:06 J -12741434.27 -12741434.12 -12741433.97 0.0132 0.0007

Uranus -39597-02-05 13:11 J -12741346.10 -12741345.95 -12741345.80 0.0132 0.0026

Uranus -39597-05-03 17:16 J -12741257.92 -12741257.78 -12741257.63 0.0132 0.0046

Mars -39597-07-26 21:06 J -12741173.74 -12741173.62 -12741173.50 0.1612 0.0851

Uranus -39597-07-30 21:21 J -12741169.74 -12741169.61 -12741169.48 0.0132 0.0065

Uranus -39597-10-27 01:11 J -12741081.56 -12741081.45 -12741081.33 0.0132 0.0084

Uranus -39596-01-23 05:16 J -12740993.37 -12740993.28 -12740993.18 0.0132 0.0103

Uranus -39596-04-21 09:06 J -12740905.17 -12740905.12 -12740905.06 0.0132 0.0122

Earth -39596-10-13 20:52 J -12740729.71 -12740729.63 -12740729.54 0.2667 0.1939

Moon -39596-10-13 21:50 J -12740729.67 -12740729.59 -12740729.51 0.2666 0.2046 *

Venus -39595-05-10 11:02 J -12740521.16 -12740521.04 -12740520.92 0.3743 0.0775

Jupiter -39593-06-04 23:59 J -12739764.64 -12739764.50 -12739764.35 0.0529 0.0115

Pluto -39591-03-19 01:40 J -12739112.43 -12739112.43 -12739112.37 0.0066 0.0066

Saturn -39591-06-11 06:42 J -12739028.29 -12739028.22 -12739028.13 0.0282 0.0238

Pluto -39591-06-15 03:21 J -12739024.42 -12739024.36 -12739024.28 0.0066 0.0060

Saturn -39591-09-07 22:47 J -12738939.69 -12738939.55 -12738939.41 0.0282 0.0125

Pluto -39591-09-11 04:33 J -12738936.39 -12738936.31 -12738936.21 0.0066 0.0055

Saturn -39591-12-05 15:06 J -12738851.03 -12738850.87 -12738850.72 0.0282 0.0009

Pluto -39591-12-08 05:45 J -12738848.36 -12738848.26 -12738848.14 0.0066 0.0049

Mars -39590-02-28 00:42 J -12738766.60 -12738766.47 -12738766.34 0.1911 0.0249

Saturn -39590-03-04 07:40 J -12738762.33 -12738762.18 -12738762.03 0.0282 0.0111

Pluto -39590-03-06 06:42 J -12738760.32 -12738760.22 -12738760.07 0.0066 0.0045

Saturn -39590-06-01 00:42 J -12738673.56 -12738673.47 -12738673.38 0.0283 0.0233

Pluto -39590-06-02 08:23 J -12738672.28 -12738672.15 -12738672.01 0.0067 0.0039

Pluto -39590-08-29 09:35 J -12738584.24 -12738584.10 -12738583.95 0.0067 0.0034

Pluto -39590-11-25 11:02 J -12738496.19 -12738496.04 -12738495.88 0.0067 0.0028

Pluto -39589-02-21 12:14 J -12738408.14 -12738407.99 -12738407.82 0.0067 0.0023

Pluto -39589-05-19 13:40 J -12738320.09 -12738319.93 -12738319.77 0.0067 0.0017

Pluto -39589-08-15 14:52 J -12738232.04 -12738231.88 -12738231.71 0.0067 0.0012

Moon -39589-10-06 10:04 J -12738180.21 -12738180.08 -12738179.96 0.2669 0.0663

Earth -39589-10-06 10:33 J -12738180.19 -12738180.06 -12738179.94 0.2662 0.0662 *

Pluto -39589-11-11 16:18 J -12738143.99 -12738143.82 -12738143.65 0.0067 0.0006

Pluto -39588-02-07 17:45 J -12738055.93 -12738055.76 -12738055.59 0.0067 0.0001

Pluto -39588-05-06 18:57 J -12737967.87 -12737967.71 -12737967.54 0.0067 0.0006

Pluto -39588-08-02 20:09 J -12737879.82 -12737879.66 -12737879.48 0.0067 0.0012

Jupiter -39588-10-23 23:30 J -12737797.64 -12737797.52 -12737797.39 0.0501 0.0272

Pluto -39588-10-29 21:35 J -12737791.76 -12737791.60 -12737791.43 0.0068 0.0017

Mars -39588-12-17 04:33 J -12737743.45 -12737743.31 -12737743.17 0.1614 0.0280

Jupiter -39587-01-21 13:11 J -12737708.07 -12737707.95 -12737707.84 0.0498 0.0313

Pluto -39587-01-25 23:02 J -12737703.69 -12737703.54 -12737703.37 0.0068 0.0023

Pluto -39587-04-24 00:14 J -12737615.63 -12737615.49 -12737615.32 0.0068 0.0029

Pluto -39587-07-21 01:54 J -12737527.56 -12737527.42 -12737527.27 0.0068 0.0034

Pluto -39587-10-17 03:21 J -12737439.49 -12737439.36 -12737439.22 0.0068 0.0040

Pluto -39586-01-13 04:33 J -12737351.42 -12737351.31 -12737351.17 0.0068 0.0046

Moon -39586-04-07 14:09 J -12737267.04 -12737266.91 -12737266.78 0.2675 0.0628

Earth -39586-04-07 13:54 J -12737267.04 -12737266.92 -12737266.79 0.2668 0.0567 *

Pluto -39586-04-11 05:59 J -12737263.34 -12737263.25 -12737263.13 0.0068 0.0052

Pluto -39586-07-08 07:26 J -12737175.26 -12737175.19 -12737175.09 0.0068 0.0059

Pluto -39586-10-04 08:52 J -12737087.17 -12737087.13 -12737087.06 0.0068 0.0065

Venus -39586-11-25 00:14 J -12737035.60 -12737035.49 -12737035.38 0.3631 0.1439

Jupiter -39581-03-24 00:28 J -12735454.63 -12735454.48 -12735454.33 0.0528 0.0068

Mars -39581-07-20 05:02 J -12735336.39 -12735336.29 -12735336.19 0.1909 0.1184

Venus -39580-06-09 18:57 J -12735011.82 -12735011.71 -12735011.60 0.3635 0.1313

Moon -39579-03-30 22:33 J -12734717.61 -12734717.56 -12734717.50 0.2669 0.2396

Earth -39579-03-30 23:30 J -12734717.59 -12734717.52 -12734717.46 0.2673 0.2274 *

Mars -39578-05-09 11:45 J -12734313.15 -12734313.01 -12734312.87 0.1615 0.0307

Saturn -39576-01-17 00:57 J -12733694.57 -12733694.46 -12733694.34 0.0277 0.0184

Saturn -39576-04-15 16:04 J -12733605.98 -12733605.83 -12733605.68 0.0277 0.0073

Saturn -39576-07-13 06:42 J -12733517.36 -12733517.22 -12733517.06 0.0277 0.0036

Jupiter -39576-08-12 01:40 J -12733487.51 -12733487.43 -12733487.35 0.0503 0.0419

Earth -39576-10-09 07:54 J -12733429.29 -12733429.17 -12733429.04 0.2664 0.0289

Moon -39576-10-09 08:09 J -12733429.28 -12733429.16 -12733429.03 0.2670 0.0256 *

Saturn -39576-10-09 21:06 J -12733428.74 -12733428.62 -12733428.49 0.0277 0.0140

Jupiter -39576-11-09 14:52 J -12733398.02 -12733397.88 -12733397.73 0.0499 0.0164

Saturn -39575-01-06 11:16 J -12733340.10 -12733340.03 -12733339.96 0.0277 0.0242

Earth -39573-04-09 13:11 J -12732516.05 -12732515.95 -12732515.84 0.2666 0.1628

Moon -39573-04-09 14:09 J -12732516.02 -12732515.91 -12732515.81 0.2671 0.1607 *

Mars -39570-11-16 17:02 J -12731199.82 -12731199.79 -12731199.76 0.1916 0.1855

Jupiter -39569-01-11 00:57 J -12731144.59 -12731144.46 -12731144.32 0.0527 0.0247

Jupiter -39569-04-09 19:54 J -12731054.75 -12731054.67 -12731054.60 0.0530 0.0453

Mars -39569-09-28 18:42 J -12730882.84 -12730882.72 -12730882.60 0.1617 0.0908

Moon -39569-10-01 18:57 J -12730879.75 -12730879.71 -12730879.66 0.2657 0.2455

Earth -39569-10-01 20:09 J -12730879.71 -12730879.66 -12730879.62 0.2659 0.2449 *

Mars -39567-09-04 13:54 J -12730176.97 -12730176.92 -12730176.87 0.1611 0.1492

Moon -39566-04-02 20:52 J -12729966.74 -12729966.63 -12729966.52 0.2674 0.1328

Earth -39566-04-02 21:50 J -12729966.70 -12729966.59 -12729966.48 0.2671 0.1303 *

Jupiter -39564-08-28 17:16 J -12729087.93 -12729087.78 -12729087.63 0.0500 0.0023

Earth -39563-10-12 05:16 J -12728678.39 -12728678.28 -12728678.17 0.2665 0.1206

Moon -39563-10-12 05:59 J -12728678.36 -12728678.25 -12728678.14 0.2670 0.1340 *

Saturn -39562-10-29 09:21 J -12728296.17 -12728296.11 -12728296.06 0.0281 0.0261

Saturn -39561-01-26 00:57 J -12728207.59 -12728207.46 -12728207.33 0.0282 0.0149

Saturn -39561-04-23 17:02 J -12728118.94 -12728118.79 -12728118.63 0.0282 0.0035

Saturn -39561-07-21 09:35 J -12728030.25 -12728030.10 -12728029.95 0.0282 0.0084

Saturn -39561-10-18 02:23 J -12727941.50 -12727941.40 -12727941.28 0.0282 0.0205

Mars -39560-04-07 20:52 J -12727769.75 -12727769.63 -12727769.51 0.1913 0.0846

Mars -39559-02-19 01:26 J -12727452.48 -12727452.44 -12727452.39 0.1619 0.1525

Jupiter -39558-10-30 01:26 J -12726834.53 -12726834.44 -12726834.35 0.0526 0.0428

Mars -39557-01-25 21:21 J -12726746.72 -12726746.61 -12726746.49 0.1612 0.0937

Jupiter -39557-01-27 20:38 J -12726744.76 -12726744.64 -12726744.51 0.0530 0.0280

Uranus -39556-08-10 12:42 J -12726184.04 -12726183.97 -12726183.87 0.0146 0.0123

Moon -39556-10-04 17:16 J -12726128.89 -12726128.78 -12726128.68 0.2664 0.1549

Earth -39556-10-04 17:59 J -12726128.85 -12726128.75 -12726128.64 0.2661 0.1455 *

Uranus -39556-11-06 18:42 J -12726095.84 -12726095.72 -12726095.60 0.0146 0.0096

Uranus -39555-02-03 00:14 J -12726007.62 -12726007.49 -12726007.34 0.0146 0.0069

Uranus -39555-05-02 06:14 J -12725919.40 -12725919.24 -12725919.09 0.0146 0.0041

Uranus -39555-07-29 11:59 J -12725831.16 -12725831.00 -12725830.84 0.0146 0.0013

Uranus -39555-10-25 17:45 J -12725742.92 -12725742.76 -12725742.60 0.0146 0.0016

Uranus -39554-01-21 23:45 J -12725654.66 -12725654.51 -12725654.36 0.0146 0.0044

Uranus -39554-04-20 05:30 J -12725566.40 -12725566.27 -12725566.12 0.0146 0.0074

Uranus -39554-07-17 11:30 J -12725478.12 -12725478.02 -12725477.89 0.0147 0.0103

Uranus -39554-10-13 17:45 J -12725389.82 -12725389.76 -12725389.68 0.0147 0.0132

Moon -39553-04-04 19:54 J -12725215.80 -12725215.67 -12725215.54 0.2675 0.0336

Earth -39553-04-04 20:38 J -12725215.77 -12725215.64 -12725215.51 0.2669 0.0306 *

Jupiter -39552-06-16 19:54 J -12724777.81 -12724777.67 -12724777.52 0.0501 0.0119

Jupiter -39552-09-14 09:50 J -12724688.14 -12724688.09 -12724688.04 0.0497 0.0470

Mars -39551-08-29 00:42 J -12724339.60 -12724339.47 -12724339.34 0.1911 0.0153

Earth -39550-10-15 02:09 J -12723927.48 -12723927.41 -12723927.33 0.2667 0.2098

Moon -39550-10-15 03:06 J -12723927.44 -12723927.37 -12723927.29 0.2665 0.2091 *

Mars -39548-06-17 04:47 J -12723316.44 -12723316.30 -12723316.16 0.1614 0.0364

Saturn -39547-06-06 00:57 J -12722962.54 -12722962.46 -12722962.36 0.0277 0.0222

Saturn -39547-09-02 16:18 J -12722873.96 -12722873.82 -12722873.68 0.0277 0.0111

Saturn -39547-11-30 07:11 J -12722785.35 -12722785.20 -12722785.05 0.0277 0.0003

Saturn -39546-02-26 21:35 J -12722696.73 -12722696.60 -12722696.46 0.0276 0.0103

Saturn -39546-05-26 11:45 J -12722608.10 -12722608.01 -12722607.91 0.0276 0.0206

Jupiter -39546-11-15 22:04 J -12722434.72 -12722434.58 -12722434.43 0.0529 0.0114

Venus -39544-05-31 11:45 J -12721872.12 -12721872.01 -12721871.90 0.3746 0.1751

Moon -39543-10-07 15:21 J -12721377.98 -12721377.86 -12721377.74 0.2669 0.0545

Earth -39543-10-07 15:50 J -12721377.97 -12721377.84 -12721377.72 0.2662 0.0488 *

Mars -39541-01-19 05:16 J -12720909.39 -12720909.28 -12720909.18 0.1909 0.1089

Jupiter -39540-04-04 22:18 J -12720467.70 -12720467.57 -12720467.45 0.0501 0.0263

Earth -39540-04-07 19:40 J -12720464.81 -12720464.68 -12720464.56 0.2668 0.0749

Moon -39540-04-07 19:40 J -12720464.80 -12720464.68 -12720464.55 0.2675 0.0718 *

Jupiter -39540-07-03 11:45 J -12720378.13 -12720378.01 -12720377.90 0.0498 0.0322

Neptune -39539-11-07 02:09 J -12719886.46 -12719886.41 -12719886.35 0.0088 0.0083

Mars -39539-11-07 11:59 J -12719886.14 -12719886.00 -12719885.86 0.1615 0.0225

Venus -39539-12-15 10:18 J -12719848.17 -12719848.07 -12719847.97 0.3742 0.2214

Neptune -39538-02-03 04:04 J -12719798.39 -12719798.33 -12719798.22 0.0088 0.0076

Neptune -39538-05-02 06:42 J -12719710.32 -12719710.22 -12719710.11 0.0088 0.0068

Neptune -39538-07-29 08:52 J -12719622.23 -12719622.13 -12719621.99 0.0088 0.0061

Neptune -39538-10-25 11:30 J -12719534.15 -12719534.02 -12719533.88 0.0088 0.0052

Neptune -39537-01-21 13:54 J -12719446.06 -12719445.92 -12719445.78 0.0088 0.0045

Neptune -39537-04-18 16:04 J -12719357.97 -12719357.83 -12719357.67 0.0088 0.0038

Neptune -39537-07-15 18:42 J -12719269.88 -12719269.72 -12719269.57 0.0088 0.0030

Neptune -39537-10-11 20:52 J -12719181.78 -12719181.63 -12719181.47 0.0088 0.0022

Neptune -39536-01-07 23:16 J -12719093.69 -12719093.53 -12719093.37 0.0088 0.0015

Neptune -39536-04-06 01:40 J -12719005.60 -12719005.43 -12719005.27 0.0088 0.0008

Neptune -39536-07-03 03:50 J -12718917.50 -12718917.34 -12718917.18 0.0088 0.0001

Neptune -39536-09-29 05:59 J -12718829.41 -12718829.25 -12718829.08 0.0088 0.0008

Neptune -39536-12-26 08:09 J -12718741.31 -12718741.16 -12718740.99 0.0088 0.0016

Neptune -39535-03-24 10:33 J -12718653.21 -12718653.06 -12718652.90 0.0088 0.0022

Neptune -39535-06-20 12:42 J -12718565.11 -12718564.97 -12718564.81 0.0088 0.0030

Neptune -39535-09-16 15:06 J -12718477.02 -12718476.87 -12718476.72 0.0088 0.0037

Neptune -39535-12-13 17:02 J -12718388.92 -12718388.79 -12718388.64 0.0088 0.0044

Venus -39535-12-16 03:50 J -12718386.40 -12718386.34 -12718386.29 0.3628 0.3184

Neptune -39534-03-11 19:11 J -12718300.82 -12718300.70 -12718300.56 0.0088 0.0052

Neptune -39534-06-07 21:35 J -12718212.71 -12718212.60 -12718212.47 0.0088 0.0058

Jupiter -39534-09-03 23:30 J -12718124.67 -12718124.52 -12718124.37 0.0528 0.0055

Neptune -39534-09-03 23:45 J -12718124.61 -12718124.51 -12718124.40 0.0088 0.0066 *

Neptune -39534-12-01 01:54 J -12718036.50 -12718036.42 -12718036.32 0.0088 0.0073

Neptune -39533-02-27 04:04 J -12717948.39 -12717948.33 -12717948.26 0.0088 0.0080

Moon -39533-03-31 03:50 J -12717915.41 -12717915.34 -12717915.26 0.2671 0.2094

Earth -39533-03-31 04:47 J -12717915.37 -12717915.30 -12717915.22 0.2673 0.2108 *

Neptune -39533-05-25 06:28 J -12717860.26 -12717860.23 -12717860.21 0.0088 0.0087

Saturn -39532-06-14 00:14 J -12717475.60 -12717475.49 -12717475.38 0.0282 0.0194

Saturn -39532-09-10 16:18 J -12717386.97 -12717386.82 -12717386.67 0.0282 0.0080

Saturn -39532-12-08 08:38 J -12717298.30 -12717298.14 -12717297.99 0.0282 0.0038

Saturn -39531-03-07 01:26 J -12717209.58 -12717209.44 -12717209.31 0.0282 0.0158

Saturn -39531-06-03 18:14 J -12717120.75 -12717120.74 -12717120.71 0.0282 0.0281

Earth -39530-10-10 13:11 J -12716627.07 -12716626.95 -12716626.82 0.2664 0.0461

Moon -39530-10-10 13:40 J -12716627.05 -12716626.93 -12716626.81 0.2670 0.0533 *

Mars -39529-03-29 19:11 J -12716455.83 -12716455.70 -12716455.58 0.1617 0.0823

Venus -39529-06-30 22:33 J -12716362.68 -12716362.56 -12716362.45 0.3632 0.0388

Jupiter -39528-01-22 00:42 J -12716157.55 -12716157.47 -12716157.38 0.0502 0.0405

Jupiter -39528-04-21 13:54 J -12716068.06 -12716067.92 -12716067.78 0.0499 0.0176

Mars -39527-03-05 14:09 J -12715749.94 -12715749.91 -12715749.89 0.1611 0.1571

Earth -39527-04-10 18:57 J -12715713.81 -12715713.71 -12715713.61 0.2666 0.1816

Moon -39527-04-10 19:54 J -12715713.76 -12715713.67 -12715713.58 0.2669 0.1954 *

Venus -39523-01-14 17:02 J -12714338.87 -12714338.79 -12714338.70 0.3636 0.2343

Moon -39523-10-03 00:28 J -12714077.53 -12714077.48 -12714077.43 0.2658 0.2411

Earth -39523-10-03 01:26 J -12714077.50 -12714077.44 -12714077.37 0.2660 0.2270 *

Jupiter -39522-06-22 23:45 J -12713814.64 -12713814.51 -12713814.37 0.0527 0.0235

Jupiter -39522-09-20 18:42 J -12713724.79 -12713724.72 -12713724.65 0.0530 0.0466

Mars -39521-10-06 20:52 J -12713342.75 -12713342.63 -12713342.52 0.1914 0.0930

Moon -39520-04-03 02:09 J -12713164.52 -12713164.41 -12713164.29 0.2673 0.1262

Earth -39520-04-03 03:21 J -12713164.48 -12713164.36 -12713164.24 0.2671 0.1127 *

Mars -39520-08-20 01:54 J -12713025.48 -12713025.42 -12713025.36 0.1619 0.1432

Mars -39518-07-26 21:35 J -12712319.70 -12712319.60 -12712319.49 0.1612 0.1018

Saturn -39518-10-24 02:38 J -12712230.45 -12712230.39 -12712230.33 0.0278 0.0253

Saturn -39517-01-20 17:59 J -12712141.88 -12712141.75 -12712141.62 0.0278 0.0141

Saturn -39517-04-18 09:06 J -12712053.28 -12712053.12 -12712052.97 0.0277 0.0032

Saturn -39517-07-15 23:30 J -12711964.66 -12711964.52 -12711964.37 0.0277 0.0076

Earth -39517-10-12 10:33 J -12711876.17 -12711876.06 -12711875.96 0.2666 0.1369

Moon -39517-10-12 11:16 J -12711876.14 -12711876.03 -12711875.92 0.2669 0.1355 *

Saturn -39517-10-12 13:54 J -12711876.03 -12711875.92 -12711875.80 0.0277 0.0180 *

Jupiter -39516-02-07 15:35 J -12711758.00 -12711757.85 -12711757.70 0.0500 0.0026

Uranus -39515-03-22 11:02 J -12711350.08 -12711350.04 -12711349.99 0.0133 0.0127

Uranus -39515-06-18 15:35 J -12711261.94 -12711261.85 -12711261.76 0.0133 0.0106

Uranus -39515-09-14 19:40 J -12711173.79 -12711173.68 -12711173.55 0.0132 0.0086

Uranus -39515-12-11 23:59 J -12711085.63 -12711085.50 -12711085.36 0.0132 0.0065

Uranus -39514-03-10 04:18 J -12710997.46 -12710997.32 -12710997.17 0.0132 0.0045

Uranus -39514-06-06 08:23 J -12710909.29 -12710909.15 -12710908.99 0.0132 0.0026

Uranus -39514-09-02 12:42 J -12710821.12 -12710820.97 -12710820.82 0.0132 0.0005

Uranus -39514-11-29 16:47 J -12710732.95 -12710732.80 -12710732.65 0.0132 0.0015

Uranus -39513-02-25 20:52 J -12710644.77 -12710644.63 -12710644.48 0.0132 0.0034

Uranus -39513-05-24 00:57 J -12710556.60 -12710556.46 -12710556.32 0.0132 0.0054

Uranus -39513-08-20 05:02 J -12710468.41 -12710468.29 -12710468.16 0.0132 0.0073

Uranus -39513-11-16 08:52 J -12710380.23 -12710380.13 -12710380.02 0.0132 0.0092

Uranus -39512-02-12 12:57 J -12710292.04 -12710291.96 -12710291.88 0.0132 0.0111

Uranus -39512-05-11 16:47 J -12710203.81 -12710203.80 -12710203.77 0.0132 0.0130

Mars -39511-02-27 00:57 J -12709912.59 -12709912.46 -12709912.32 0.1911 0.0079

Jupiter -39510-04-11 00:14 J -12709504.58 -12709504.49 -12709504.40 0.0526 0.0415

Jupiter -39510-07-09 19:26 J -12709414.81 -12709414.69 -12709414.56 0.0529 0.0291

Moon -39510-10-05 22:33 J -12709326.67 -12709326.56 -12709326.45 0.2666 0.1292

Earth -39510-10-05 23:30 J -12709326.63 -12709326.52 -12709326.41 0.2661 0.1282 *

Mars -39509-12-16 05:16 J -12708889.42 -12708889.28 -12708889.15 0.1614 0.0452

Moon -39507-04-06 01:40 J -12708413.56 -12708413.43 -12708413.30 0.2675 0.0116

Earth -39507-04-06 02:09 J -12708413.54 -12708413.41 -12708413.28 0.2669 0.0127 *

Jupiter -39505-11-26 17:59 J -12707447.89 -12707447.75 -12707447.60 0.0501 0.0118

Pluto -39504-01-24 22:47 J -12707388.59 -12707388.55 -12707388.48 0.0078 0.0072

Jupiter -39504-02-24 07:54 J -12707358.22 -12707358.17 -12707358.12 0.0498 0.0472

Pluto -39504-04-23 00:14 J -12707300.56 -12707300.49 -12707300.39 0.0078 0.0065

Pluto -39504-07-20 01:54 J -12707212.51 -12707212.42 -12707212.31 0.0078 0.0056

Earth -39504-10-15 07:26 J -12707125.25 -12707125.19 -12707125.13 0.2667 0.2252

Moon -39504-10-15 08:23 J -12707125.20 -12707125.15 -12707125.10 0.2665 0.2388 *

Pluto -39504-10-16 03:21 J -12707124.47 -12707124.36 -12707124.23 0.0078 0.0048

Pluto -39503-01-12 05:02 J -12707036.42 -12707036.29 -12707036.16 0.0078 0.0040

Pluto -39503-04-10 06:14 J -12706948.36 -12706948.24 -12706948.09 0.0078 0.0033

Pluto -39503-07-07 07:40 J -12706860.31 -12706860.18 -12706860.03 0.0077 0.0025

Pluto -39503-10-03 09:21 J -12706772.26 -12706772.11 -12706771.97 0.0077 0.0017

Saturn -39503-11-01 02:52 J -12706743.48 -12706743.38 -12706743.28 0.0281 0.0215

Pluto -39503-12-30 10:33 J -12706684.20 -12706684.06 -12706683.91 0.0077 0.0010

Saturn -39502-01-28 18:42 J -12706654.86 -12706654.72 -12706654.57 0.0281 0.0102

Pluto -39502-03-28 11:59 J -12706596.14 -12706596.00 -12706595.85 0.0077 0.0002

Saturn -39502-04-27 11:02 J -12706566.20 -12706566.04 -12706565.88 0.0282 0.0014

Pluto -39502-06-24 13:26 J -12706508.09 -12706507.94 -12706507.79 0.0077 0.0006

Mars -39502-07-20 05:30 J -12706482.38 -12706482.27 -12706482.16 0.1909 0.0992

Saturn -39502-07-25 03:35 J -12706477.49 -12706477.35 -12706477.21 0.0282 0.0134

Pluto -39502-09-20 14:52 J -12706420.03 -12706419.88 -12706419.74 0.0077 0.0013

Saturn -39502-10-21 20:38 J -12706388.70 -12706388.64 -12706388.57 0.0282 0.0255

Pluto -39502-12-17 16:04 J -12706331.97 -12706331.83 -12706331.68 0.0077 0.0021

Pluto -39501-03-14 17:30 J -12706243.91 -12706243.77 -12706243.63 0.0076 0.0028

Pluto -39501-06-10 18:28 J -12706155.85 -12706155.73 -12706155.59 0.0076 0.0036

Pluto -39501-09-06 19:54 J -12706067.78 -12706067.67 -12706067.54 0.0076 0.0042

Pluto -39501-12-03 21:06 J -12705979.72 -12705979.62 -12705979.50 0.0076 0.0049

Pluto -39500-03-01 22:18 J -12705891.65 -12705891.57 -12705891.46 0.0076 0.0056

Pluto -39500-05-28 23:45 J -12705803.58 -12705803.51 -12705803.42 0.0076 0.0063

Pluto -39500-08-25 00:57 J -12705715.50 -12705715.46 -12705715.39 0.0076 0.0070

Mars -39499-05-08 12:28 J -12705459.13 -12705458.98 -12705458.84 0.1615 0.0141

Jupiter -39498-04-27 20:09 J -12705104.81 -12705104.66 -12705104.51 0.0529 0.0112

Moon -39497-10-07 20:52 J -12704575.75 -12704575.63 -12704575.51 0.2669 0.0340

Earth -39497-10-07 21:06 J -12704575.74 -12704575.62 -12704575.49 0.2663 0.0319 *

Earth -39494-04-09 01:11 J -12703662.58 -12703662.45 -12703662.33 0.2667 0.0931

Moon -39494-04-09 01:26 J -12703662.56 -12703662.44 -12703662.32 0.2674 0.0978 *

Jupiter -39493-09-14 20:38 J -12703137.76 -12703137.64 -12703137.51 0.0502 0.0257

Mars -39493-12-09 10:04 J -12703052.08 -12703052.08 -12703052.08 0.1906 0.1905

Jupiter -39493-12-13 10:18 J -12703048.19 -12703048.07 -12703047.96 0.0498 0.0330

Mars -39490-09-28 19:26 J -12702028.82 -12702028.69 -12702028.56 0.1617 0.0735

Saturn -39488-06-08 18:28 J -12701409.84 -12701409.73 -12701409.60 0.0277 0.0177

Saturn -39488-09-05 09:50 J -12701321.24 -12701321.09 -12701320.94 0.0277 0.0066

Saturn -39488-12-03 00:28 J -12701232.63 -12701232.48 -12701232.33 0.0277 0.0042

Venus -39487-01-05 10:47 J -12701199.17 -12701199.05 -12701198.92 0.3745 0.0359

Saturn -39487-03-01 14:52 J -12701144.00 -12701143.88 -12701143.75 0.0277 0.0147

Moon -39487-04-01 09:21 J -12701113.19 -12701113.11 -12701113.03 0.2672 0.2078

Earth -39487-04-01 10:18 J -12701113.15 -12701113.07 -12701112.98 0.2672 0.1930 *

Saturn -39487-05-29 05:02 J -12701055.35 -12701055.29 -12701055.23 0.0276 0.0249

Jupiter -39486-02-13 21:21 J -12700794.76 -12700794.61 -12700794.46 0.0528 0.0057

Earth -39484-10-10 18:28 J -12699824.85 -12699824.73 -12699824.60 0.2664 0.0625

Moon -39484-10-10 19:11 J -12699824.83 -12699824.70 -12699824.58 0.2671 0.0629 *

Venus -39482-07-22 09:35 J -12699175.12 -12699175.10 -12699175.08 0.3741 0.3675

Mars -39481-04-06 21:06 J -12698915.73 -12698915.62 -12698915.51 0.1913 0.1037

Earth -39481-04-11 00:28 J -12698911.57 -12698911.48 -12698911.39 0.2666 0.2006

Moon -39481-04-11 01:26 J -12698911.52 -12698911.44 -12698911.35 0.2669 0.2029 *

Jupiter -39481-07-03 23:16 J -12698827.62 -12698827.53 -12698827.44 0.0502 0.0399

Jupiter -39481-10-01 12:14 J -12698738.13 -12698737.99 -12698737.85 0.0499 0.0183

Mars -39480-02-18 02:09 J -12698598.49 -12698598.41 -12698598.33 0.1619 0.1349

Mars -39478-01-24 22:04 J -12697892.68 -12697892.58 -12697892.48 0.1612 0.1099

Venus -39478-07-23 01:54 J -12697713.51 -12697713.42 -12697713.32 0.3629 0.2129

Moon -39477-10-03 05:45 J -12697275.33 -12697275.26 -12697275.18 0.2659 0.2094

Earth -39477-10-03 06:57 J -12697275.29 -12697275.21 -12697275.14 0.2660 0.2098 *

Jupiter -39475-12-02 22:33 J -12696484.70 -12696484.56 -12696484.43 0.0527 0.0227

Jupiter -39474-03-02 17:16 J -12696394.84 -12696394.78 -12696394.71 0.0531 0.0476

Moon -39474-04-04 07:54 J -12696362.29 -12696362.17 -12696362.05 0.2673 0.0949

Earth -39474-04-04 08:52 J -12696362.25 -12696362.13 -12696362.01 0.2671 0.0948 *

Saturn -39473-03-20 02:23 J -12696011.46 -12696011.40 -12696011.34 0.0282 0.0257

Saturn -39473-06-16 17:59 J -12695922.88 -12695922.75 -12695922.61 0.0282 0.0146

Saturn -39473-09-13 10:18 J -12695834.23 -12695834.07 -12695833.92 0.0282 0.0031

Saturn -39473-12-11 02:38 J -12695745.54 -12695745.39 -12695745.24 0.0282 0.0088

Venus -39472-02-04 20:52 J -12695689.75 -12695689.63 -12695689.52 0.3633 0.0666

Saturn -39472-03-09 19:26 J -12695656.79 -12695656.69 -12695656.58 0.0282 0.0209

Uranus -39472-06-03 14:52 J -12695570.91 -12695570.88 -12695570.83 0.0146 0.0141

Mars -39472-08-28 01:11 J -12695485.59 -12695485.45 -12695485.32 0.1911 0.0079

Uranus -39472-08-30 20:23 J -12695482.74 -12695482.65 -12695482.54 0.0146 0.0114

Uranus -39472-11-27 02:09 J -12695394.53 -12695394.41 -12695394.28 0.0146 0.0087

Uranus -39471-02-23 07:54 J -12695306.31 -12695306.17 -12695306.02 0.0146 0.0059

Uranus -39471-05-22 13:40 J -12695218.08 -12695217.93 -12695217.77 0.0146 0.0032

Uranus -39471-08-18 19:26 J -12695129.85 -12695129.69 -12695129.52 0.0146 0.0006

Earth -39471-10-13 15:50 J -12695073.94 -12695073.84 -12695073.74 0.2666 0.1528

Moon -39471-10-13 16:33 J -12695073.90 -12695073.81 -12695073.71 0.2668 0.1652 *

Uranus -39471-11-15 01:26 J -12695041.60 -12695041.44 -12695041.28 0.0146 0.0025

Uranus -39470-02-11 07:11 J -12694953.34 -12694953.20 -12694953.04 0.0146 0.0054

Uranus -39470-05-10 13:11 J -12694865.08 -12694864.95 -12694864.81 0.0146 0.0082

Uranus -39470-08-06 19:11 J -12694776.80 -12694776.70 -12694776.59 0.0146 0.0111

Uranus -39470-11-03 01:26 J -12694688.48 -12694688.44 -12694688.39 0.0146 0.0141

Mars -39469-06-16 05:30 J -12694462.41 -12694462.27 -12694462.14 0.1614 0.0532

Jupiter -39469-07-20 14:23 J -12694428.05 -12694427.90 -12694427.75 0.0500 0.0039

Venus -39467-08-21 15:21 J -12693665.90 -12693665.86 -12693665.82 0.3637 0.3346

Moon -39464-10-06 04:04 J -12692524.44 -12692524.33 -12692524.22 0.2666 0.1235

Earth -39464-10-06 04:47 J -12692524.41 -12692524.30 -12692524.18 0.2661 0.1110 *

Jupiter -39463-09-20 22:47 J -12692174.64 -12692174.55 -12692174.45 0.0526 0.0404

Jupiter -39463-12-19 18:14 J -12692084.86 -12692084.74 -12692084.62 0.0529 0.0301

Mars -39462-01-18 05:30 J -12692055.38 -12692055.27 -12692055.16 0.1909 0.0900

Moon -39461-04-06 07:11 J -12691611.33 -12691611.20 -12691611.07 0.2676 0.0089

Earth -39461-04-06 07:40 J -12691611.32 -12691611.18 -12691611.05 0.2669 0.0105 *

Mars -39460-11-06 12:42 J -12691032.11 -12691031.97 -12691031.83 0.1615 0.0053

Saturn -39459-10-26 19:54 J -12690677.77 -12690677.67 -12690677.56 0.0278 0.0208

Saturn -39458-01-23 11:16 J -12690589.17 -12690589.03 -12690588.89 0.0278 0.0097

Saturn -39458-04-22 02:09 J -12690500.56 -12690500.41 -12690500.26 0.0278 0.0012

Saturn -39458-07-19 16:47 J -12690411.94 -12690411.80 -12690411.67 0.0277 0.0119

Saturn -39458-10-16 06:57 J -12690323.30 -12690323.21 -12690323.12 0.0277 0.0222

Earth -39458-10-16 12:42 J -12690323.02 -12690322.97 -12690322.92 0.2668 0.2413

Moon -39458-10-16 13:40 J -12690322.99 -12690322.93 -12690322.88 0.2665 0.2396 *

Neptune -39457-02-08 10:33 J -12690208.06 -12690208.06 -12690208.05 0.0089 0.0089

Neptune -39457-05-06 12:14 J -12690120.03 -12690119.99 -12690119.92 0.0089 0.0082

Jupiter -39457-05-08 16:18 J -12690117.97 -12690117.82 -12690117.68 0.0501 0.0116

Neptune -39457-08-02 14:23 J -12690031.97 -12690031.90 -12690031.82 0.0089 0.0075

Jupiter -39457-08-06 05:59 J -12690028.29 -12690028.25 -12690028.20 0.0498 0.0474

Neptune -39457-10-29 16:18 J -12689943.91 -12689943.82 -12689943.72 0.0089 0.0068

Neptune -39456-01-25 18:14 J -12689855.84 -12689855.74 -12689855.62 0.0089 0.0061

Neptune -39456-04-23 20:09 J -12689767.77 -12689767.66 -12689767.53 0.0089 0.0054

Neptune -39456-07-20 22:18 J -12689679.70 -12689679.57 -12689679.44 0.0089 0.0047

Neptune -39456-10-17 00:14 J -12689591.62 -12689591.49 -12689591.35 0.0089 0.0040

Neptune -39455-01-13 02:09 J -12689503.55 -12689503.41 -12689503.27 0.0089 0.0033

Neptune -39455-04-11 04:04 J -12689415.47 -12689415.33 -12689415.18 0.0089 0.0026

Neptune -39455-07-08 06:14 J -12689327.39 -12689327.24 -12689327.09 0.0089 0.0019

Neptune -39455-10-04 08:09 J -12689239.31 -12689239.16 -12689239.01 0.0089 0.0012

Neptune -39455-12-31 10:18 J -12689151.23 -12689151.07 -12689150.92 0.0089 0.0005

Neptune -39454-03-29 12:14 J -12689063.14 -12689062.99 -12689062.84 0.0089 0.0002

Neptune -39454-06-25 14:09 J -12688975.06 -12688974.91 -12688974.75 0.0089 0.0010

Neptune -39454-09-21 16:18 J -12688886.97 -12688886.82 -12688886.67 0.0089 0.0017

Neptune -39454-12-18 18:14 J -12688798.88 -12688798.74 -12688798.59 0.0089 0.0024

Neptune -39453-03-15 20:23 J -12688710.79 -12688710.65 -12688710.51 0.0089 0.0031

Mars -39453-06-09 10:18 J -12688625.10 -12688625.07 -12688625.03 0.1906 0.1803

Neptune -39453-06-11 22:18 J -12688622.70 -12688622.57 -12688622.42 0.0089 0.0039

Neptune -39453-09-08 00:14 J -12688534.61 -12688534.49 -12688534.35 0.0089 0.0046

Neptune -39453-12-05 02:23 J -12688446.52 -12688446.40 -12688446.27 0.0089 0.0053

Neptune -39452-03-03 04:18 J -12688358.42 -12688358.32 -12688358.19 0.0089 0.0061

Neptune -39452-05-30 06:28 J -12688270.32 -12688270.23 -12688270.12 0.0089 0.0068

Neptune -39452-08-26 08:52 J -12688182.21 -12688182.13 -12688182.05 0.0089 0.0075

Neptune -39452-11-22 10:33 J -12688094.09 -12688094.06 -12688093.98 0.0089 0.0083

Jupiter -39451-10-07 18:57 J -12687774.86 -12687774.71 -12687774.56 0.0528 0.0124

Moon -39451-10-09 02:23 J -12687773.52 -12687773.40 -12687773.27 0.2669 0.0133

Earth -39451-10-09 02:23 J -12687773.52 -12687773.40 -12687773.27 0.2663 0.0175 *

Mars -39450-03-29 19:40 J -12687601.81 -12687601.68 -12687601.55 0.1617 0.0647

Earth -39448-04-09 06:42 J -12686860.34 -12686860.22 -12686860.10 0.2667 0.1118

Moon -39448-04-09 07:11 J -12686860.32 -12686860.20 -12686860.08 0.2673 0.1160 *

Jupiter -39445-02-25 18:42 J -12685807.85 -12685807.72 -12685807.59 0.0502 0.0259

Jupiter -39445-05-25 08:09 J -12685718.27 -12685718.16 -12685718.05 0.0499 0.0328

Saturn -39444-08-07 05:30 J -12685279.30 -12685279.27 -12685279.24 0.0281 0.0275

Saturn -39444-11-03 21:06 J -12685190.74 -12685190.62 -12685190.49 0.0281 0.0164

Saturn -39443-01-31 13:11 J -12685102.10 -12685101.95 -12685101.80 0.0281 0.0050

Saturn -39443-04-30 05:30 J -12685013.42 -12685013.27 -12685013.11 0.0282 0.0068

Saturn -39443-07-27 22:18 J -12684924.69 -12684924.57 -12684924.45 0.0282 0.0188

Mars -39442-10-06 21:21 J -12684488.72 -12684488.61 -12684488.50 0.1913 0.1138

Moon -39441-04-01 14:38 J -12684310.98 -12684310.89 -12684310.79 0.2672 0.1759

Earth -39441-04-01 15:50 J -12684310.94 -12684310.84 -12684310.75 0.2672 0.1759 *

Mars -39441-08-19 02:23 J -12684171.49 -12684171.40 -12684171.31 0.1619 0.1263

Mars -39439-07-25 22:18 J -12683465.67 -12683465.57 -12683465.48 0.1612 0.1180

Jupiter -39439-07-26 19:11 J -12683464.85 -12683464.70 -12683464.55 0.0528 0.0060

Earth -39438-10-11 23:59 J -12683022.62 -12683022.50 -12683022.38 0.2665 0.0787

Moon -39438-10-12 00:28 J -12683022.60 -12683022.48 -12683022.36 0.2671 0.0842 *

Venus -39436-01-26 11:30 J -12682550.10 -12682550.02 -12682549.94 0.3748 0.2848

Earth -39435-04-12 06:14 J -12682109.32 -12682109.24 -12682109.17 0.2665 0.2201

Moon -39435-04-12 07:11 J -12682109.26 -12682109.20 -12682109.14 0.2669 0.2330 *

Jupiter -39434-12-14 21:35 J -12681497.69 -12681497.60 -12681497.51 0.0503 0.0396

Jupiter -39433-03-13 10:33 J -12681408.20 -12681408.06 -12681407.92 0.0499 0.0187

Mars -39432-02-26 01:11 J -12681058.58 -12681058.45 -12681058.32 0.1911 0.0157

Uranus -39431-04-11 18:28 J -12680648.79 -12680648.73 -12680648.66 0.0133 0.0119

Uranus -39431-07-08 22:47 J -12680560.64 -12680560.55 -12680560.44 0.0133 0.0099

Venus -39431-08-12 10:04 J -12680526.20 -12680526.08 -12680525.96 0.3744 0.1060

Moon -39431-10-04 11:16 J -12680473.11 -12680473.03 -12680472.95 0.2662 0.2068

Earth -39431-10-04 12:14 J -12680473.08 -12680472.99 -12680472.90 0.2660 0.1921 *

Uranus -39431-10-05 03:06 J -12680472.48 -12680472.37 -12680472.24 0.0132 0.0079

Uranus -39430-01-01 07:40 J -12680384.32 -12680384.18 -12680384.04 0.0132 0.0058

Uranus -39430-03-30 11:45 J -12680296.15 -12680296.01 -12680295.86 0.0132 0.0038

Uranus -39430-06-26 16:04 J -12680207.98 -12680207.83 -12680207.68 0.0132 0.0018

Uranus -39430-09-22 20:09 J -12680119.81 -12680119.66 -12680119.50 0.0132 0.0003

Mars -39430-12-16 05:45 J -12680035.39 -12680035.26 -12680035.13 0.1614 0.0614

Uranus -39430-12-20 00:14 J -12680031.64 -12680031.49 -12680031.33 0.0132 0.0023

Saturn -39429-03-14 21:06 J -12679945.69 -12679945.62 -12679945.54 0.0277 0.0240

Uranus -39429-03-17 04:18 J -12679943.46 -12679943.32 -12679943.17 0.0132 0.0042

Saturn -39429-06-11 12:28 J -12679857.12 -12679856.98 -12679856.84 0.0277 0.0128

Uranus -39429-06-13 08:23 J -12679855.28 -12679855.15 -12679855.01 0.0132 0.0061

Saturn -39429-09-08 03:21 J -12679768.51 -12679768.36 -12679768.21 0.0277 0.0019

Uranus -39429-09-09 12:28 J -12679767.09 -12679766.98 -12679766.86 0.0132 0.0080

Saturn -39429-12-05 17:59 J -12679679.89 -12679679.75 -12679679.60 0.0277 0.0088

Uranus -39429-12-06 16:33 J -12679678.91 -12679678.81 -12679678.71 0.0132 0.0099

Saturn -39428-03-04 08:09 J -12679591.26 -12679591.16 -12679591.05 0.0277 0.0193

Uranus -39428-03-04 20:38 J -12679590.71 -12679590.64 -12679590.58 0.0132 0.0118

Moon -39428-04-04 13:40 J -12679560.06 -12679559.93 -12679559.81 0.2674 0.0902

Earth -39428-04-04 14:23 J -12679560.03 -12679559.90 -12679559.78 0.2670 0.0765 *

Jupiter -39427-05-14 20:09 J -12679154.80 -12679154.66 -12679154.52 0.0527 0.0232

Jupiter -39427-08-12 15:06 J -12679064.93 -12679064.87 -12679064.80 0.0531 0.0470

Earth -39425-10-13 21:06 J -12678271.72 -12678271.62 -12678271.53 0.2666 0.1691

Moon -39425-10-13 22:04 J -12678271.68 -12678271.58 -12678271.49 0.2667 0.1714 *

Mars -39423-07-19 05:45 J -12677628.38 -12677628.26 -12677628.14 0.1908 0.0800

Jupiter -39422-12-31 12:42 J -12677098.11 -12677097.97 -12677097.82 0.0500 0.0043

Venus -39421-02-27 00:14 J -12677040.60 -12677040.49 -12677040.38 0.3631 0.1066

Mars -39420-05-07 12:57 J -12676605.10 -12676604.96 -12676604.82 0.1615 0.0043

Moon -39418-10-07 09:21 J -12675722.22 -12675722.11 -12675721.99 0.2666 0.0929

Earth -39418-10-07 10:04 J -12675722.19 -12675722.08 -12675721.96 0.2662 0.0943 *

Venus -39416-09-11 18:57 J -12675016.81 -12675016.71 -12675016.61 0.3634 0.1691

Jupiter -39415-03-02 21:06 J -12674844.72 -12674844.62 -12674844.52 0.0526 0.0402

Moon -39415-04-07 12:57 J -12674809.09 -12674808.96 -12674808.83 0.2675 0.0298

Earth -39415-04-07 13:11 J -12674809.08 -12674808.95 -12674808.82 0.2669 0.0255 *

Jupiter -39415-05-31 16:33 J -12674754.93 -12674754.81 -12674754.68 0.0530 0.0306

Saturn -39414-03-23 20:38 J -12674458.74 -12674458.64 -12674458.53 0.0281 0.0207

Saturn -39414-06-20 12:28 J -12674370.12 -12674369.98 -12674369.83 0.0282 0.0094

Saturn -39414-09-17 04:47 J -12674281.46 -12674281.30 -12674281.14 0.0282 0.0023

Mars -39414-12-09 10:18 J -12674198.12 -12674198.07 -12674198.02 0.1905 0.1727

Saturn -39414-12-14 21:21 J -12674192.75 -12674192.61 -12674192.47 0.0282 0.0142

Saturn -39413-03-12 14:23 J -12674103.95 -12674103.90 -12674103.85 0.0282 0.0263

Earth -39412-10-16 17:59 J -12673520.78 -12673520.75 -12673520.72 0.2668 0.2567

Mars -39411-09-27 19:54 J -12673174.80 -12673174.67 -12673174.53 0.1617 0.0565

Jupiter -39410-10-19 15:06 J -12672788.02 -12672787.87 -12672787.72 0.0501 0.0105

Jupiter -39409-01-17 04:47 J -12672698.33 -12672698.30 -12672698.27 0.0497 0.0484

Moon -39408-03-30 22:04 J -12672259.60 -12672259.58 -12672259.55 0.2670 0.2587

Earth -39408-03-30 23:02 J -12672259.58 -12672259.54 -12672259.51 0.2673 0.2546 *

Earth -39405-10-09 07:54 J -12670971.30 -12670971.17 -12670971.05 0.2663 0.0085

Moon -39405-10-09 07:54 J -12670971.29 -12670971.17 -12670971.04 0.2670 0.0028 *

Jupiter -39403-03-19 17:30 J -12670444.92 -12670444.77 -12670444.62 0.0528 0.0133

Mars -39402-04-06 21:21 J -12670061.71 -12670061.61 -12670061.51 0.1913 0.1228

Earth -39402-04-10 12:14 J -12670058.10 -12670057.99 -12670057.87 0.2667 0.1307

Moon -39402-04-10 12:57 J -12670058.07 -12670057.96 -12670057.85 0.2672 0.1325 *

Mars -39401-02-18 02:52 J -12669744.48 -12669744.38 -12669744.28 0.1619 0.1168

Saturn -39400-08-01 22:04 J -12669213.60 -12669213.58 -12669213.54 0.0278 0.0273

Saturn -39400-10-29 13:40 J -12669125.05 -12669124.93 -12669124.80 0.0278 0.0160

Mars -39399-01-23 22:33 J -12669038.65 -12669038.56 -12669038.47 0.1613 0.1263

Saturn -39399-01-26 04:47 J -12669036.45 -12669036.30 -12669036.15 0.0278 0.0050

Saturn -39399-04-24 19:40 J -12668947.83 -12668947.68 -12668947.53 0.0278 0.0059

Saturn -39399-07-22 10:04 J -12668859.20 -12668859.08 -12668858.96 0.0277 0.0164

Saturn -39399-10-18 23:59 J -12668770.52 -12668770.50 -12668770.45 0.0277 0.0268

Jupiter -39398-08-07 16:47 J -12668477.93 -12668477.80 -12668477.67 0.0502 0.0258

Jupiter -39398-11-05 06:14 J -12668388.35 -12668388.24 -12668388.13 0.0499 0.0328

Moon -39395-04-02 20:09 J -12667508.76 -12667508.66 -12667508.56 0.2671 0.1723

Earth -39395-04-02 21:21 J -12667508.72 -12667508.61 -12667508.51 0.2672 0.1582 *

Mars -39393-08-27 01:40 J -12666631.56 -12666631.43 -12666631.30 0.1911 0.0257

Earth -39392-10-12 05:16 J -12666220.40 -12666220.28 -12666220.17 0.2665 0.0949

Moon -39392-10-12 05:45 J -12666220.37 -12666220.26 -12666220.14 0.2670 0.1006 *

Jupiter -39391-01-05 17:59 J -12666134.90 -12666134.75 -12666134.60 0.0527 0.0047

Mars -39390-06-16 05:59 J -12665608.37 -12665608.25 -12665608.12 0.1614 0.0703

Earth -39389-04-12 11:45 J -12665307.07 -12665307.01 -12665306.96 0.2665 0.2391

Moon -39389-04-12 12:42 J -12665307.02 -12665306.97 -12665306.92 0.2668 0.2442 *

Uranus -39388-06-23 22:33 J -12664869.62 -12664869.56 -12664869.49 0.0146 0.0132

Uranus -39388-09-20 04:04 J -12664781.43 -12664781.33 -12664781.21 0.0146 0.0105

Uranus -39388-12-17 09:50 J -12664693.22 -12664693.09 -12664692.95 0.0146 0.0078

Uranus -39387-03-15 15:35 J -12664604.99 -12664604.85 -12664604.70 0.0146 0.0050

Uranus -39387-06-11 21:21 J -12664516.76 -12664516.61 -12664516.45 0.0146 0.0023

Uranus -39387-09-08 03:21 J -12664428.52 -12664428.36 -12664428.20 0.0146 0.0006

Uranus -39387-12-05 09:06 J -12664340.27 -12664340.12 -12664339.96 0.0146 0.0034

Uranus -39386-03-03 14:52 J -12664252.02 -12664251.88 -12664251.72 0.0146 0.0063

Jupiter -39386-05-26 19:11 J -12664167.78 -12664167.70 -12664167.61 0.0503 0.0401

Uranus -39386-05-30 21:06 J -12664163.75 -12664163.62 -12664163.49 0.0146 0.0092

Jupiter -39386-08-24 08:23 J -12664078.29 -12664078.15 -12664078.01 0.0500 0.0182

Uranus -39386-08-27 02:52 J -12664075.46 -12664075.38 -12664075.28 0.0146 0.0121

Saturn -39385-08-09 23:59 J -12663726.59 -12663726.50 -12663726.41 0.0281 0.0223

Moon -39385-10-04 16:33 J -12663670.90 -12663670.81 -12663670.71 0.2663 0.1754

Earth -39385-10-04 17:45 J -12663670.86 -12663670.76 -12663670.67 0.2660 0.1748 *

Saturn -39385-11-06 15:35 J -12663637.99 -12663637.85 -12663637.70 0.0281 0.0111

Saturn -39384-02-03 07:54 J -12663549.33 -12663549.17 -12663549.01 0.0281 0.0005

Saturn -39384-05-03 00:28 J -12663460.62 -12663460.48 -12663460.34 0.0282 0.0123

Saturn -39384-07-30 17:16 J -12663371.85 -12663371.78 -12663371.70 0.0282 0.0245

Mars -39383-01-17 05:45 J -12663201.38 -12663201.26 -12663201.14 0.1908 0.0709

Moon -39382-04-05 19:11 J -12662757.83 -12662757.70 -12662757.58 0.2675 0.0562

Earth -39382-04-05 19:54 J -12662757.80 -12662757.67 -12662757.55 0.2670 0.0595 *

Mars -39381-11-05 13:11 J -12662178.09 -12662177.95 -12662177.80 0.1615 0.0127

Venus -39380-09-02 10:47 J -12661877.17 -12661877.05 -12661876.94 0.3747 0.1465

Jupiter -39380-10-24 17:59 J -12661824.89 -12661824.75 -12661824.61 0.0527 0.0235

Jupiter -39379-01-22 12:57 J -12661735.03 -12661734.96 -12661734.89 0.0530 0.0466

Earth -39379-10-15 02:23 J -12661469.49 -12661469.40 -12661469.32 0.2667 0.1851

Moon -39379-10-15 03:21 J -12661469.45 -12661469.36 -12661469.28 0.2667 0.1952 *

Venus -39374-03-19 09:21 J -12659853.20 -12659853.11 -12659853.02 0.3743 0.2502

Neptune -39374-05-07 21:50 J -12659803.59 -12659803.59 -12659803.56 0.0088 0.0088

Mars -39374-06-09 10:33 J -12659771.12 -12659771.06 -12659770.99 0.1906 0.1624

Jupiter -39374-06-12 11:02 J -12659768.19 -12659768.04 -12659767.89 0.0500 0.0042

Neptune -39374-08-04 00:14 J -12659715.54 -12659715.49 -12659715.41 0.0088 0.0081

Neptune -39374-10-31 02:52 J -12659627.47 -12659627.38 -12659627.28 0.0088 0.0073

Neptune -39373-01-27 05:02 J -12659539.39 -12659539.29 -12659539.17 0.0088 0.0065

Neptune -39373-04-24 07:26 J -12659451.30 -12659451.19 -12659451.05 0.0088 0.0058

Neptune -39373-07-21 10:04 J -12659363.21 -12659363.08 -12659362.94 0.0088 0.0050

Neptune -39373-10-17 12:14 J -12659275.12 -12659274.99 -12659274.84 0.0088 0.0042

Neptune -39372-01-13 14:52 J -12659187.03 -12659186.88 -12659186.73 0.0088 0.0035

Neptune -39372-04-11 17:02 J -12659098.94 -12659098.79 -12659098.63 0.0088 0.0027

Neptune -39372-07-08 19:26 J -12659010.85 -12659010.69 -12659010.53 0.0088 0.0020

Neptune -39372-10-04 21:35 J -12658922.75 -12658922.60 -12658922.43 0.0088 0.0013

Moon -39372-10-07 14:52 J -12658919.99 -12658919.88 -12658919.76 0.2667 0.0885

Earth -39372-10-07 15:35 J -12658919.97 -12658919.85 -12658919.73 0.2662 0.0769 *

Neptune -39372-12-31 23:59 J -12658834.66 -12658834.50 -12658834.34 0.0088 0.0005

Mars -39371-03-28 20:23 J -12658747.79 -12658747.65 -12658747.52 0.1617 0.0476

Neptune -39371-03-30 02:23 J -12658746.56 -12658746.40 -12658746.24 0.0088 0.0003

Neptune -39371-06-26 04:33 J -12658658.47 -12658658.31 -12658658.15 0.0088 0.0010

Neptune -39371-09-22 06:42 J -12658570.37 -12658570.22 -12658570.05 0.0088 0.0018

Neptune -39371-12-19 09:06 J -12658482.27 -12658482.12 -12658481.96 0.0088 0.0025

Neptune -39370-03-17 11:16 J -12658394.18 -12658394.03 -12658393.88 0.0088 0.0032

Saturn -39370-03-18 15:21 J -12658392.97 -12658392.86 -12658392.75 0.0277 0.0188

Venus -39370-03-20 03:50 J -12658391.42 -12658391.34 -12658391.27 0.3628 0.2818

Neptune -39370-06-13 13:26 J -12658306.08 -12658305.94 -12658305.79 0.0088 0.0039

Saturn -39370-06-15 06:28 J -12658304.37 -12658304.23 -12658304.08 0.0277 0.0078

Neptune -39370-09-09 15:50 J -12658217.97 -12658217.84 -12658217.70 0.0088 0.0046

Saturn -39370-09-11 21:21 J -12658215.76 -12658215.61 -12658215.46 0.0277 0.0031

Neptune -39370-12-06 17:59 J -12658129.87 -12658129.75 -12658129.62 0.0088 0.0054

Saturn -39370-12-09 11:45 J -12658127.13 -12658127.01 -12658126.87 0.0277 0.0137

Neptune -39369-03-03 19:54 J -12658041.77 -12658041.67 -12658041.54 0.0088 0.0061

Saturn -39369-03-07 01:54 J -12658038.49 -12658038.42 -12658038.34 0.0277 0.0240

Moon -39369-04-07 18:28 J -12658006.85 -12658006.73 -12658006.60 0.2675 0.0379

Earth -39369-04-07 18:42 J -12658006.85 -12658006.72 -12658006.59 0.2668 0.0441 *

Neptune -39369-05-30 22:04 J -12657953.66 -12657953.58 -12657953.46 0.0088 0.0069

Neptune -39369-08-27 00:14 J -12657865.55 -12657865.49 -12657865.39 0.0088 0.0076

Neptune -39369-11-23 02:38 J -12657777.44 -12657777.39 -12657777.33 0.0088 0.0082

Jupiter -39368-08-12 18:42 J -12657514.82 -12657514.72 -12657514.63 0.0526 0.0410

Jupiter -39368-11-10 14:09 J -12657425.03 -12657424.91 -12657424.78 0.0530 0.0298

Venus -39365-10-02 22:33 J -12656367.67 -12656367.56 -12656367.44 0.3631 0.0080

Mars -39363-10-05 21:35 J -12655634.69 -12655634.60 -12655634.50 0.1913 0.1333

Jupiter -39362-03-31 13:11 J -12655458.09 -12655457.95 -12655457.80 0.0501 0.0103

Moon -39362-04-01 03:21 J -12655457.41 -12655457.36 -12655457.31 0.2670 0.2429

Earth -39362-04-01 04:18 J -12655457.37 -12655457.32 -12655457.26 0.2673 0.2380 *

Jupiter -39362-06-29 02:52 J -12655368.40 -12655368.38 -12655368.35 0.0497 0.0487

Mars -39362-08-19 03:06 J -12655317.47 -12655317.37 -12655317.26 0.1619 0.1086

Mars -39360-07-24 22:47 J -12654611.62 -12654611.55 -12654611.47 0.1613 0.1343

Venus -39359-04-18 17:16 J -12654343.86 -12654343.78 -12654343.71 0.3635 0.2718

Earth -39359-10-10 13:11 J -12654169.08 -12654168.95 -12654168.83 0.2664 0.0186

Moon -39359-10-10 13:11 J -12654169.07 -12654168.95 -12654168.82 0.2671 0.0270 *

Earth -39356-04-10 17:59 J -12653255.86 -12653255.75 -12653255.64 0.2667 0.1500

Moon -39356-04-10 18:42 J -12653255.83 -12653255.72 -12653255.62 0.2672 0.1613 *

Jupiter -39356-08-29 15:35 J -12653115.00 -12653114.85 -12653114.71 0.0529 0.0132

Saturn -39356-12-27 23:45 J -12652994.56 -12652994.51 -12652994.46 0.0281 0.0264

Saturn -39355-03-26 15:21 J -12652905.98 -12652905.86 -12652905.73 0.0282 0.0153

Saturn -39355-06-23 07:26 J -12652817.34 -12652817.19 -12652817.03 0.0282 0.0038

Saturn -39355-09-19 23:45 J -12652728.66 -12652728.51 -12652728.36 0.0282 0.0080

Saturn -39355-12-17 16:33 J -12652639.92 -12652639.81 -12652639.70 0.0282 0.0200

Mars -39353-02-26 01:40 J -12652204.56 -12652204.43 -12652204.31 0.1911 0.0343

Moon -39352-10-02 23:59 J -12651619.51 -12651619.50 -12651619.48 0.2657 0.2626

Earth -39352-10-03 00:57 J -12651619.49 -12651619.46 -12651619.43 0.2659 0.2570 *

Mars -39351-12-15 06:14 J -12651181.36 -12651181.24 -12651181.11 0.1614 0.0780

Jupiter -39350-01-17 15:35 J -12651147.98 -12651147.85 -12651147.72 0.0502 0.0247

Jupiter -39350-04-17 05:02 J -12651058.40 -12651058.29 -12651058.18 0.0498 0.0338

Moon -39349-04-03 01:40 J -12650706.54 -12650706.43 -12650706.32 0.2672 0.1436

Earth -39349-04-03 02:38 J -12650706.50 -12650706.39 -12650706.28 0.2671 0.1413 *

Uranus -39347-02-02 21:50 J -12650035.59 -12650035.59 -12650035.58 0.0133 0.0132

Uranus -39347-05-02 02:09 J -12649947.49 -12649947.41 -12649947.32 0.0133 0.0112

Uranus -39347-07-29 06:28 J -12649859.34 -12649859.23 -12649859.11 0.0133 0.0091

Uranus -39347-10-25 10:47 J -12649771.17 -12649771.05 -12649770.91 0.0133 0.0071

Uranus -39346-01-21 15:06 J -12649683.01 -12649682.87 -12649682.72 0.0132 0.0050

Uranus -39346-04-19 19:26 J -12649594.84 -12649594.69 -12649594.54 0.0132 0.0030

Uranus -39346-07-16 23:45 J -12649506.67 -12649506.51 -12649506.36 0.0132 0.0010

Uranus -39346-10-13 03:50 J -12649418.49 -12649418.34 -12649418.19 0.0132 0.0010

Earth -39346-10-13 10:33 J -12649418.18 -12649418.06 -12649417.95 0.2665 0.1112

Moon -39346-10-13 11:16 J -12649418.14 -12649418.03 -12649417.92 0.2669 0.1128 *

Uranus -39345-01-09 07:54 J -12649330.32 -12649330.17 -12649330.02 0.0132 0.0030

Uranus -39345-04-06 11:59 J -12649242.14 -12649242.00 -12649241.86 0.0132 0.0049

Uranus -39345-07-03 15:50 J -12649153.96 -12649153.84 -12649153.70 0.0132 0.0070

Uranus -39345-09-29 19:54 J -12649065.77 -12649065.67 -12649065.55 0.0132 0.0088

Uranus -39345-12-26 23:59 J -12648977.58 -12648977.50 -12648977.41 0.0132 0.0107

Uranus -39344-03-25 03:50 J -12648889.37 -12648889.34 -12648889.28 0.0132 0.0127

Jupiter -39344-06-17 16:33 J -12648804.97 -12648804.81 -12648804.66 0.0527 0.0043

Mars -39344-07-18 05:59 J -12648774.37 -12648774.25 -12648774.13 0.1909 0.0612

Pluto -39344-10-20 13:26 J -12648679.96 -12648679.94 -12648679.86 0.0066 0.0064

Pluto -39343-01-16 15:06 J -12648591.94 -12648591.87 -12648591.78 0.0066 0.0058

Earth -39343-04-13 17:30 J -12648504.80 -12648504.77 -12648504.75 0.2665 0.2591

Moon -39343-04-13 18:28 J -12648504.73 -12648504.73 -12648504.73 0.2666 0.2666

Pluto -39343-04-14 16:18 J -12648503.91 -12648503.82 -12648503.71 0.0066 0.0053

Pluto -39343-07-11 17:16 J -12648415.87 -12648415.78 -12648415.64 0.0066 0.0048

Pluto -39343-10-07 18:57 J -12648327.83 -12648327.71 -12648327.58 0.0067 0.0042

Pluto -39342-01-03 19:54 J -12648239.79 -12648239.67 -12648239.51 0.0067 0.0037

Pluto -39342-04-01 21:35 J -12648151.75 -12648151.60 -12648151.45 0.0067 0.0031

Pluto -39342-06-28 22:33 J -12648063.70 -12648063.56 -12648063.39 0.0067 0.0026

Pluto -39342-09-24 23:59 J -12647975.65 -12647975.50 -12647975.33 0.0067 0.0020

Pluto -39342-12-22 01:11 J -12647887.60 -12647887.45 -12647887.27 0.0067 0.0015

Pluto -39341-03-19 02:38 J -12647799.55 -12647799.39 -12647799.21 0.0067 0.0010

Mars -39341-05-06 13:40 J -12647751.07 -12647750.93 -12647750.79 0.1616 0.0206

Pluto -39341-06-15 04:04 J -12647711.50 -12647711.33 -12647711.16 0.0067 0.0004

Saturn -39341-08-04 16:18 J -12647660.91 -12647660.82 -12647660.72 0.0278 0.0222

Pluto -39341-09-11 05:30 J -12647623.44 -12647623.27 -12647623.10 0.0067 0.0002

Saturn -39341-11-01 07:40 J -12647572.32 -12647572.18 -12647572.04 0.0278 0.0110

Pluto -39341-12-08 06:42 J -12647535.38 -12647535.22 -12647535.05 0.0067 0.0008

Saturn -39340-01-28 22:47 J -12647483.71 -12647483.55 -12647483.40 0.0278 0.0007

Pluto -39340-03-06 08:09 J -12647447.32 -12647447.16 -12647446.99 0.0068 0.0014

Saturn -39340-04-27 13:11 J -12647395.08 -12647394.95 -12647394.81 0.0278 0.0107

Pluto -39340-06-02 09:21 J -12647359.26 -12647359.11 -12647358.94 0.0068 0.0020

Saturn -39340-07-25 03:35 J -12647306.44 -12647306.35 -12647306.25 0.0277 0.0211

Pluto -39340-08-29 10:47 J -12647271.20 -12647271.05 -12647270.88 0.0068 0.0026

Pluto -39340-11-25 12:14 J -12647183.13 -12647182.99 -12647182.83 0.0068 0.0031

Pluto -39339-02-21 13:40 J -12647095.07 -12647094.93 -12647094.78 0.0068 0.0037

Pluto -39339-05-20 14:52 J -12647007.00 -12647006.88 -12647006.73 0.0068 0.0044

Pluto -39339-08-16 16:18 J -12646918.92 -12646918.82 -12646918.69 0.0068 0.0050

Moon -39339-10-05 22:04 J -12646868.68 -12646868.58 -12646868.48 0.2663 0.1704

Earth -39339-10-05 23:02 J -12646868.64 -12646868.54 -12646868.43 0.2661 0.1569 *

Jupiter -39339-11-05 17:16 J -12646837.86 -12646837.78 -12646837.69 0.0503 0.0401

Pluto -39339-11-12 17:45 J -12646830.84 -12646830.76 -12646830.65 0.0068 0.0056

Jupiter -39338-02-03 06:28 J -12646748.37 -12646748.23 -12646748.09 0.0500 0.0182

Pluto -39338-02-08 19:11 J -12646742.76 -12646742.70 -12646742.61 0.0068 0.0062

Pluto -39338-05-07 20:52 J -12646654.64 -12646654.63 -12646654.60 0.0068 0.0068

Moon -39336-04-06 00:42 J -12645955.60 -12645955.47 -12645955.34 0.2676 0.0528

Earth -39336-04-06 01:26 J -12645955.57 -12645955.44 -12645955.31 0.2670 0.0414 *

Mars -39335-12-08 10:47 J -12645344.13 -12645344.05 -12645343.98 0.1905 0.1527

Earth -39333-10-15 07:26 J -12644667.27 -12644667.19 -12644667.11 0.2667 0.2008

Moon -39333-10-15 08:23 J -12644667.22 -12644667.15 -12644667.07 0.2667 0.2057 *

Jupiter -39332-04-05 16:47 J -12644494.94 -12644494.80 -12644494.66 0.0526 0.0222

Jupiter -39332-07-04 11:45 J -12644405.07 -12644405.01 -12644404.95 0.0530 0.0478

Mars -39332-09-26 20:38 J -12644320.78 -12644320.64 -12644320.50 0.1617 0.0389

Jupiter -39327-11-22 08:38 J -12642438.29 -12642438.14 -12642437.99 0.0500 0.0036

Saturn -39326-05-17 03:06 J -12642262.38 -12642262.37 -12642262.36 0.0281 0.0280

Saturn -39326-08-13 18:42 J -12642173.84 -12642173.72 -12642173.60 0.0281 0.0169

Moon -39326-10-08 20:38 J -12642117.77 -12642117.64 -12642117.52 0.2668 0.0559

Earth -39326-10-08 20:52 J -12642117.75 -12642117.63 -12642117.50 0.2662 0.0598 *

Saturn -39326-11-10 10:33 J -12642085.21 -12642085.06 -12642084.90 0.0281 0.0056

Saturn -39325-02-07 02:52 J -12641996.53 -12641996.38 -12641996.22 0.0281 0.0062

Saturn -39325-05-05 19:40 J -12641907.80 -12641907.68 -12641907.56 0.0282 0.0182

Mars -39323-04-05 21:50 J -12641207.67 -12641207.59 -12641207.50 0.1913 0.1439

Earth -39323-04-09 00:14 J -12641204.62 -12641204.49 -12641204.36 0.2668 0.0623

Moon -39323-04-09 00:28 J -12641204.61 -12641204.48 -12641204.36 0.2674 0.0714 *

Venus -39323-04-09 09:50 J -12641204.21 -12641204.09 -12641203.96 0.3746 0.0142

Mars -39322-02-17 03:35 J -12640890.47 -12640890.35 -12640890.24 0.1619 0.0997

Jupiter -39320-01-22 16:18 J -12640184.91 -12640184.82 -12640184.72 0.0526 0.0414

Mars -39320-01-22 23:02 J -12640184.60 -12640184.54 -12640184.47 0.1613 0.1425

Jupiter -39320-04-22 11:59 J -12640095.13 -12640095.00 -12640094.88 0.0529 0.0293

Moon -39316-04-01 08:52 J -12638655.19 -12638655.13 -12638655.07 0.2670 0.2294

Earth -39316-04-01 09:50 J -12638655.16 -12638655.09 -12638655.02 0.2673 0.2206 *

Jupiter -39315-09-10 11:16 J -12638128.17 -12638128.03 -12638127.88 0.0501 0.0104

Jupiter -39315-12-09 00:57 J -12638038.48 -12638038.46 -12638038.43 0.0498 0.0487

Mars -39314-08-27 01:40 J -12637777.55 -12637777.43 -12637777.30 0.1911 0.0442

Venus -39314-10-25 02:09 J -12637718.51 -12637718.41 -12637718.31 0.3629 0.1737

Earth -39313-10-10 18:28 J -12637366.86 -12637366.73 -12637366.61 0.2664 0.0352

Moon -39313-10-10 18:42 J -12637366.85 -12637366.72 -12637366.60 0.2670 0.0302 *

Saturn -39312-12-22 18:14 J -12636928.80 -12636928.74 -12636928.66 0.0277 0.0248

Saturn -39311-03-21 09:50 J -12636840.22 -12636840.09 -12636839.95 0.0277 0.0135

Mars -39311-06-15 06:28 J -12636754.34 -12636754.23 -12636754.11 0.1614 0.0864

Saturn -39311-06-18 00:57 J -12636751.61 -12636751.46 -12636751.31 0.0277 0.0025

Saturn -39311-09-14 15:35 J -12636662.99 -12636662.85 -12636662.71 0.0277 0.0082

Saturn -39311-12-12 05:59 J -12636574.36 -12636574.25 -12636574.14 0.0277 0.0187

Earth -39310-04-11 23:30 J -12636453.62 -12636453.52 -12636453.42 0.2666 0.1688

Moon -39310-04-12 00:14 J -12636453.59 -12636453.49 -12636453.39 0.2672 0.1685 *

Jupiter -39308-02-08 12:57 J -12635785.10 -12635784.96 -12635784.81 0.0529 0.0123

Venus -39308-05-09 20:52 J -12635694.74 -12635694.63 -12635694.52 0.3632 0.1050

Moon -39306-10-04 05:16 J -12634817.32 -12634817.28 -12634817.23 0.2659 0.2449

Earth -39306-10-04 06:28 J -12634817.29 -12634817.23 -12634817.18 0.2659 0.2392 *

Mars -39304-01-16 05:59 J -12634347.37 -12634347.25 -12634347.12 0.1908 0.0523

Uranus -39304-07-14 06:14 J -12634168.32 -12634168.24 -12634168.15 0.0146 0.0123

Uranus -39304-10-10 11:45 J -12634080.12 -12634080.01 -12634079.88 0.0146 0.0096

Uranus -39303-01-06 17:30 J -12633991.91 -12633991.77 -12633991.63 0.0146 0.0069

Moon -39303-04-04 07:11 J -12633904.31 -12633904.20 -12633904.09 0.2674 0.1317

Earth -39303-04-04 08:09 J -12633904.27 -12633904.16 -12633904.04 0.2671 0.1234 *

Uranus -39303-04-04 23:16 J -12633903.68 -12633903.53 -12633903.38 0.0146 0.0041

Jupiter -39303-06-29 13:40 J -12633818.05 -12633817.93 -12633817.80 0.0502 0.0246

Uranus -39303-07-02 05:02 J -12633815.45 -12633815.29 -12633815.13 0.0146 0.0013

Jupiter -39303-09-27 03:06 J -12633728.48 -12633728.37 -12633728.26 0.0498 0.0339

Uranus -39303-09-28 10:47 J -12633727.21 -12633727.05 -12633726.89 0.0146 0.0015

Uranus -39303-12-25 16:47 J -12633638.95 -12633638.80 -12633638.65 0.0146 0.0043

Uranus -39302-03-23 22:33 J -12633550.69 -12633550.56 -12633550.41 0.0146 0.0072

Uranus -39302-06-20 04:47 J -12633462.42 -12633462.30 -12633462.19 0.0146 0.0101

Uranus -39302-09-16 10:18 J -12633374.12 -12633374.07 -12633373.98 0.0146 0.0131

Mars -39302-11-05 13:54 J -12633324.06 -12633323.92 -12633323.78 0.1616 0.0288

Earth -39300-10-13 15:50 J -12632615.95 -12632615.84 -12632615.73 0.2665 0.1272

Moon -39300-10-13 16:33 J -12632615.91 -12632615.81 -12632615.70 0.2669 0.1393 *

Jupiter -39297-11-27 14:09 J -12631475.06 -12631474.91 -12631474.75 0.0528 0.0047

Saturn -39297-12-30 18:42 J -12631441.82 -12631441.72 -12631441.62 0.0281 0.0209

Saturn -39296-03-29 10:18 J -12631353.21 -12631353.07 -12631352.92 0.0282 0.0097

Saturn -39296-06-26 02:38 J -12631264.55 -12631264.39 -12631264.24 0.0282 0.0020

Saturn -39296-09-22 18:57 J -12631175.84 -12631175.71 -12631175.57 0.0282 0.0139

Saturn -39296-12-20 11:59 J -12631087.06 -12631087.00 -12631086.94 0.0282 0.0260

Mars -39295-06-08 10:47 J -12630917.14 -12630917.05 -12630916.97 0.1905 0.1445

Moon -39293-10-06 03:35 J -12630066.46 -12630066.35 -12630066.24 0.2663 0.1422

Earth -39293-10-06 04:33 J -12630066.42 -12630066.31 -12630066.20 0.2661 0.1397 *

Neptune -39293-11-04 08:52 J -12630037.14 -12630037.13 -12630037.08 0.0089 0.0088

Neptune -39292-01-31 11:02 J -12629949.09 -12629949.04 -12629948.96 0.0089 0.0080

Mars -39292-03-27 20:52 J -12629893.77 -12629893.63 -12629893.48 0.1617 0.0308

Neptune -39292-04-29 12:57 J -12629861.03 -12629860.96 -12629860.86 0.0089 0.0073

Neptune -39292-07-26 14:52 J -12629772.97 -12629772.88 -12629772.77 0.0089 0.0066

Neptune -39292-10-22 16:47 J -12629684.90 -12629684.80 -12629684.68 0.0089 0.0059

Neptune -39291-01-18 18:57 J -12629596.83 -12629596.71 -12629596.58 0.0089 0.0052

Neptune -39291-04-16 20:52 J -12629508.75 -12629508.63 -12629508.49 0.0089 0.0045

Jupiter -39291-04-17 16:04 J -12629507.91 -12629507.83 -12629507.73 0.0503 0.0390

Neptune -39291-07-13 22:47 J -12629420.68 -12629420.55 -12629420.41 0.0089 0.0038

Jupiter -39291-07-16 05:16 J -12629418.42 -12629418.28 -12629418.14 0.0499 0.0192

Neptune -39291-10-10 00:42 J -12629332.60 -12629332.47 -12629332.32 0.0089 0.0031

Neptune -39290-01-06 02:52 J -12629244.53 -12629244.38 -12629244.23 0.0089 0.0024

Neptune -39290-04-04 04:47 J -12629156.45 -12629156.30 -12629156.15 0.0089 0.0017

Moon -39290-04-07 06:14 J -12629153.37 -12629153.24 -12629153.11 0.2675 0.0214

Earth -39290-04-07 06:42 J -12629153.35 -12629153.22 -12629153.09 0.2669 0.0242 *

Neptune -39290-07-01 06:57 J -12629068.36 -12629068.21 -12629068.06 0.0089 0.0010

Neptune -39290-09-27 08:52 J -12628980.28 -12628980.13 -12628979.98 0.0089 0.0003

Neptune -39290-12-24 10:47 J -12628892.20 -12628892.05 -12628891.89 0.0089 0.0006

Neptune -39289-03-21 12:57 J -12628804.11 -12628803.96 -12628803.81 0.0089 0.0012

Neptune -39289-06-17 14:52 J -12628716.03 -12628715.88 -12628715.73 0.0089 0.0019

Neptune -39289-09-13 16:47 J -12628627.94 -12628627.80 -12628627.64 0.0089 0.0027

Neptune -39289-12-10 18:57 J -12628539.85 -12628539.71 -12628539.56 0.0089 0.0034

Neptune -39288-03-08 20:52 J -12628451.76 -12628451.63 -12628451.48 0.0089 0.0041

Neptune -39288-06-04 23:16 J -12628363.66 -12628363.53 -12628363.40 0.0089 0.0048

Neptune -39288-09-01 00:57 J -12628275.57 -12628275.46 -12628275.33 0.0089 0.0056

Neptune -39288-11-28 03:06 J -12628187.47 -12628187.37 -12628187.25 0.0089 0.0063

Neptune -39287-02-24 05:02 J -12628099.37 -12628099.29 -12628099.18 0.0089 0.0071

Neptune -39287-05-23 07:11 J -12628011.26 -12628011.20 -12628011.11 0.0089 0.0078

Neptune -39287-08-19 09:35 J -12627923.14 -12627923.10 -12627923.05 0.0089 0.0085

Earth -39287-10-16 12:42 J -12627865.04 -12627864.97 -12627864.90 0.2667 0.2167

Moon -39287-10-16 13:40 J -12627865.00 -12627864.93 -12627864.86 0.2666 0.2219 *

Jupiter -39285-09-15 15:06 J -12627165.01 -12627164.87 -12627164.73 0.0526 0.0218

Jupiter -39285-12-14 10:04 J -12627075.14 -12627075.08 -12627075.02 0.0530 0.0483

Mars -39284-10-04 21:50 J -12626780.66 -12626780.59 -12626780.51 0.1913 0.1523

Mars -39283-08-18 03:50 J -12626463.46 -12626463.34 -12626463.22 0.1619 0.0907

Saturn -39282-08-08 10:33 J -12626108.18 -12626108.06 -12626107.93 0.0278 0.0170

Saturn -39282-11-05 01:54 J -12626019.57 -12626019.42 -12626019.27 0.0278 0.0059

Saturn -39281-02-01 16:33 J -12625930.95 -12625930.81 -12625930.65 0.0277 0.0051

Saturn -39281-04-30 07:11 J -12625842.32 -12625842.20 -12625842.07 0.0277 0.0156

Mars -39281-07-23 23:16 J -12625757.57 -12625757.53 -12625757.48 0.1613 0.1505

Saturn -39281-07-27 21:21 J -12625753.66 -12625753.61 -12625753.56 0.0277 0.0259

Moon -39280-10-09 01:54 J -12625315.54 -12625315.42 -12625315.29 0.2669 0.0520

Earth -39280-10-09 02:23 J -12625315.53 -12625315.40 -12625315.28 0.2663 0.0430 *

Jupiter -39279-05-04 06:42 J -12625108.37 -12625108.22 -12625108.07 0.0500 0.0036

Earth -39277-04-09 05:45 J -12624402.39 -12624402.26 -12624402.14 0.2668 0.0809

Moon -39277-04-09 05:59 J -12624402.37 -12624402.25 -12624402.12 0.2674 0.0765 *

Mars -39274-02-25 02:09 J -12623350.54 -12623350.41 -12623350.29 0.1911 0.0545

Mars -39273-01-08 10:18 J -12623033.11 -12623033.07 -12623033.02 0.1621 0.1533

Jupiter -39273-07-04 15:21 J -12622854.96 -12622854.86 -12622854.76 0.0525 0.0399

Jupiter -39273-10-02 10:47 J -12622765.17 -12622765.05 -12622764.92 0.0529 0.0307

Venus -39272-04-30 10:47 J -12622555.14 -12622555.05 -12622554.96 0.3749 0.2534

Mars -39272-12-14 06:57 J -12622327.33 -12622327.21 -12622327.10 0.1614 0.0948

Moon -39270-04-02 14:09 J -12621852.99 -12621852.91 -12621852.83 0.2670 0.2064

Earth -39270-04-02 15:06 J -12621852.95 -12621852.87 -12621852.78 0.2672 0.2042 *

Jupiter -39267-02-20 08:52 J -12620798.27 -12620798.13 -12620797.98 0.0501 0.0111

Saturn -39267-05-19 21:50 J -12620709.68 -12620709.59 -12620709.50 0.0281 0.0226

Jupiter -39267-05-20 22:33 J -12620708.59 -12620708.56 -12620708.52 0.0498 0.0480

Saturn -39267-08-16 13:26 J -12620621.08 -12620620.94 -12620620.79 0.0281 0.0114

Earth -39267-10-11 23:45 J -12620564.63 -12620564.51 -12620564.38 0.2664 0.0519

Moon -39267-10-12 00:14 J -12620564.61 -12620564.49 -12620564.37 0.2670 0.0618 *

Saturn -39267-11-13 05:45 J -12620532.42 -12620532.26 -12620532.11 0.0281 0.0006

Venus -39267-11-14 09:06 J -12620531.23 -12620531.12 -12620531.00 0.3745 0.1373

Saturn -39266-02-09 22:04 J -12620443.72 -12620443.58 -12620443.43 0.0282 0.0120

Saturn -39266-05-09 14:52 J -12620354.95 -12620354.88 -12620354.79 0.0282 0.0241

Mars -39265-07-17 06:14 J -12619920.36 -12619920.24 -12619920.11 0.1908 0.0422

Earth -39264-04-12 05:02 J -12619651.38 -12619651.29 -12619651.20 0.2666 0.1881

Moon -39264-04-12 05:59 J -12619651.34 -12619651.25 -12619651.17 0.2670 0.2021 *

Uranus -39263-02-23 05:02 J -12619334.33 -12619334.29 -12619334.24 0.0133 0.0126

Uranus -39263-05-22 09:21 J -12619246.19 -12619246.11 -12619246.01 0.0133 0.0105

Uranus -39263-08-18 13:40 J -12619158.04 -12619157.93 -12619157.80 0.0133 0.0085

Uranus -39263-11-14 18:14 J -12619069.87 -12619069.74 -12619069.60 0.0133 0.0064

Venus -39263-11-15 05:30 J -12619069.30 -12619069.27 -12619069.25 0.3626 0.3509

Uranus -39262-02-10 22:33 J -12618981.71 -12618981.56 -12618981.41 0.0133 0.0043

Mars -39262-05-06 14:09 J -12618897.05 -12618896.91 -12618896.77 0.1616 0.0373

Uranus -39262-05-10 02:38 J -12618893.54 -12618893.39 -12618893.23 0.0132 0.0024

Uranus -39262-08-06 06:57 J -12618805.36 -12618805.21 -12618805.05 0.0132 0.0003

Uranus -39262-11-02 11:02 J -12618717.19 -12618717.04 -12618716.88 0.0132 0.0017

Uranus -39261-01-29 15:21 J -12618629.01 -12618628.86 -12618628.72 0.0132 0.0037

Uranus -39261-04-26 19:11 J -12618540.83 -12618540.70 -12618540.55 0.0132 0.0057

Jupiter -39261-07-21 10:47 J -12618455.20 -12618455.05 -12618454.90 0.0528 0.0118

Uranus -39261-07-23 23:30 J -12618452.64 -12618452.52 -12618452.40 0.0132 0.0075

Uranus -39261-10-20 03:35 J -12618364.46 -12618364.35 -12618364.25 0.0132 0.0095

Uranus -39260-01-16 07:11 J -12618276.26 -12618276.20 -12618276.11 0.0132 0.0114

Moon -39260-10-04 10:47 J -12618015.11 -12618015.05 -12618014.99 0.2659 0.2327

Earth -39260-10-04 11:45 J -12618015.08 -12618015.01 -12618014.94 0.2660 0.2216 *

Moon -39257-04-04 12:42 J -12617102.09 -12617101.97 -12617101.85 0.2675 0.1135

Earth -39257-04-04 13:40 J -12617102.05 -12617101.93 -12617101.81 0.2671 0.1057 *

Venus -39257-05-31 00:28 J -12617045.60 -12617045.48 -12617045.37 0.3630 0.0667

Pluto -39257-06-01 09:50 J -12617044.12 -12617044.09 -12617044.04 0.0078 0.0075

Pluto -39257-08-28 11:16 J -12616956.09 -12616956.03 -12616955.94 0.0078 0.0067

Pluto -39257-11-24 12:57 J -12616868.05 -12616867.96 -12616867.86 0.0078 0.0059

Pluto -39256-02-20 14:23 J -12616780.00 -12616779.90 -12616779.78 0.0078 0.0051

Pluto -39256-05-19 16:04 J -12616691.96 -12616691.83 -12616691.71 0.0078 0.0043

Pluto -39256-08-15 17:16 J -12616603.90 -12616603.78 -12616603.64 0.0078 0.0035

Pluto -39256-11-11 18:42 J -12616515.85 -12616515.72 -12616515.57 0.0077 0.0028

Mars -39256-12-07 11:02 J -12616490.13 -12616490.04 -12616489.95 0.1905 0.1348

Jupiter -39256-12-09 11:45 J -12616488.14 -12616488.01 -12616487.88 0.0502 0.0248

Pluto -39255-02-07 20:09 J -12616427.80 -12616427.66 -12616427.51 0.0077 0.0020

Jupiter -39255-03-09 00:57 J -12616398.56 -12616398.46 -12616398.34 0.0499 0.0339

Pluto -39255-05-06 21:35 J -12616339.74 -12616339.60 -12616339.45 0.0077 0.0012

Pluto -39255-08-02 23:02 J -12616251.69 -12616251.54 -12616251.39 0.0077 0.0005

Pluto -39255-10-30 00:28 J -12616163.63 -12616163.48 -12616163.33 0.0077 0.0003

Pluto -39254-01-26 01:40 J -12616075.57 -12616075.43 -12616075.28 0.0077 0.0011

Pluto -39254-04-24 03:06 J -12615987.51 -12615987.37 -12615987.23 0.0077 0.0018

Pluto -39254-07-21 04:33 J -12615899.45 -12615899.31 -12615899.17 0.0076 0.0025

Earth -39254-10-14 21:06 J -12615813.73 -12615813.62 -12615813.52 0.2666 0.1436

Moon -39254-10-14 21:50 J -12615813.69 -12615813.59 -12615813.48 0.2669 0.1435 *

Pluto -39254-10-17 05:30 J -12615811.39 -12615811.27 -12615811.13 0.0076 0.0032

Pluto -39253-01-13 06:57 J -12615723.33 -12615723.21 -12615723.08 0.0076 0.0039

Pluto -39253-04-10 08:09 J -12615635.27 -12615635.16 -12615635.03 0.0076 0.0046

Pluto -39253-07-07 09:35 J -12615547.20 -12615547.10 -12615546.99 0.0076 0.0053

Mars -39253-09-25 21:21 J -12615466.76 -12615466.61 -12615466.47 0.1617 0.0222

Pluto -39253-10-03 10:47 J -12615459.13 -12615459.05 -12615458.96 0.0076 0.0060

Saturn -39253-12-25 13:11 J -12615376.06 -12615375.95 -12615375.84 0.0277 0.0192

Pluto -39253-12-30 11:59 J -12615371.06 -12615371.00 -12615370.93 0.0076 0.0067

Saturn -39252-03-24 04:18 J -12615287.46 -12615287.32 -12615287.17 0.0277 0.0082

Pluto -39252-03-28 13:11 J -12615282.97 -12615282.95 -12615282.91 0.0076 0.0074

Saturn -39252-06-20 19:11 J -12615198.85 -12615198.70 -12615198.54 0.0277 0.0029

Saturn -39252-09-17 09:50 J -12615110.22 -12615110.09 -12615109.96 0.0277 0.0134

Venus -39252-12-14 19:11 J -12615021.80 -12615021.70 -12615021.61 0.3633 0.2087

Saturn -39252-12-14 23:59 J -12615021.57 -12615021.50 -12615021.42 0.0277 0.0237

Jupiter -39249-05-09 11:30 J -12614145.17 -12614145.02 -12614144.86 0.0527 0.0059

Moon -39247-10-07 09:06 J -12613264.23 -12613264.12 -12613264.01 0.2665 0.1292

Earth -39247-10-07 09:50 J -12613264.20 -12613264.09 -12613263.97 0.2661 0.1221 *

Mars -39244-04-04 22:18 J -12612353.64 -12612353.57 -12612353.50 0.1913 0.1629

Moon -39244-04-07 11:59 J -12612351.13 -12612351.00 -12612350.87 0.2675 0.0140

Earth -39244-04-07 12:14 J -12612351.12 -12612350.99 -12612350.85 0.2669 0.0099 *

Jupiter -39244-09-27 14:23 J -12612177.99 -12612177.90 -12612177.81 0.0503 0.0388

Jupiter -39244-12-26 03:21 J -12612088.50 -12612088.36 -12612088.22 0.0499 0.0193

Mars -39243-02-16 04:04 J -12612036.45 -12612036.33 -12612036.20 0.1619 0.0824

Mars -39241-01-22 23:30 J -12611330.54 -12611330.52 -12611330.50 0.1613 0.1585

Earth -39241-10-16 17:59 J -12611062.81 -12611062.75 -12611062.69 0.2667 0.2322

Moon -39241-10-16 18:57 J -12611062.76 -12611062.71 -12611062.66 0.2665 0.2415 *

Saturn -39238-10-06 21:50 J -12609977.63 -12609977.59 -12609977.54 0.0281 0.0265

Saturn -39237-01-03 13:26 J -12609889.06 -12609888.94 -12609888.81 0.0281 0.0154

Jupiter -39237-02-26 12:42 J -12609835.11 -12609834.97 -12609834.83 0.0527 0.0226

Saturn -39237-04-01 05:30 J -12609800.43 -12609800.27 -12609800.12 0.0282 0.0040

Jupiter -39237-05-26 07:54 J -12609745.24 -12609745.17 -12609745.11 0.0530 0.0477

Saturn -39237-06-28 21:50 J -12609711.74 -12609711.59 -12609711.44 0.0282 0.0078

Saturn -39237-09-25 14:23 J -12609623.01 -12609622.90 -12609622.78 0.0282 0.0198

Mars -39235-08-26 02:09 J -12608923.54 -12608923.41 -12608923.29 0.1910 0.0631

Mars -39234-07-09 10:47 J -12608606.11 -12608606.05 -12608605.99 0.1622 0.1443

Moon -39234-10-10 07:26 J -12608513.32 -12608513.19 -12608513.07 0.2670 0.0223

Earth -39234-10-10 07:40 J -12608513.31 -12608513.18 -12608513.06 0.2663 0.0257 *

Mars -39232-06-14 07:11 J -12607900.31 -12607900.20 -12607900.09 0.1614 0.1028

Jupiter -39232-10-14 05:30 J -12607778.42 -12607778.27 -12607778.12 0.0500 0.0047

Earth -39231-04-10 11:16 J -12607600.15 -12607600.03 -12607599.91 0.2667 0.0994

Moon -39231-04-10 11:45 J -12607600.13 -12607600.01 -12607599.89 0.2674 0.1101 *

Jupiter -39226-12-15 13:40 J -12605525.03 -12605524.93 -12605524.83 0.0526 0.0397

Mars -39225-01-16 06:28 J -12605493.36 -12605493.23 -12605493.10 0.1908 0.0329

Jupiter -39225-03-14 09:06 J -12605435.24 -12605435.12 -12605435.00 0.0529 0.0310

Moon -39224-04-02 19:40 J -12605050.76 -12605050.68 -12605050.59 0.2671 0.1989

Earth -39224-04-02 20:38 J -12605050.73 -12605050.64 -12605050.55 0.2672 0.1863 *

Saturn -39223-05-14 13:40 J -12604644.01 -12604643.93 -12604643.84 0.0278 0.0229

Saturn -39223-08-11 05:02 J -12604555.43 -12604555.29 -12604555.15 0.0278 0.0117

Mars -39223-11-04 14:38 J -12604470.03 -12604469.89 -12604469.76 0.1616 0.0461

Saturn -39223-11-07 20:09 J -12604466.81 -12604466.66 -12604466.51 0.0277 0.0007

Saturn -39222-02-04 10:47 J -12604378.19 -12604378.05 -12604377.91 0.0277 0.0101

Saturn -39222-05-04 01:11 J -12604289.55 -12604289.45 -12604289.35 0.0277 0.0205

Earth -39221-10-12 05:02 J -12603762.41 -12603762.29 -12603762.17 0.2664 0.0687

Moon -39221-10-12 05:45 J -12603762.38 -12603762.26 -12603762.14 0.2670 0.0663 *

Uranus -39220-05-07 08:09 J -12603555.18 -12603555.16 -12603555.11 0.0146 0.0141

Jupiter -39220-08-02 07:11 J -12603468.35 -12603468.20 -12603468.06 0.0501 0.0109

Uranus -39220-08-03 13:54 J -12603467.01 -12603466.92 -12603466.82 0.0146 0.0114

Uranus -39220-10-30 19:26 J -12603378.81 -12603378.69 -12603378.56 0.0146 0.0087

Jupiter -39220-10-30 20:38 J -12603378.67 -12603378.64 -12603378.60 0.0498 0.0480 *

Uranus -39219-01-27 01:11 J -12603290.59 -12603290.45 -12603290.30 0.0146 0.0060

Uranus -39219-04-25 06:57 J -12603202.36 -12603202.21 -12603202.05 0.0146 0.0032

Uranus -39219-07-22 12:42 J -12603114.13 -12603113.97 -12603113.81 0.0146 0.0004

Uranus -39219-10-18 18:28 J -12603025.88 -12603025.73 -12603025.57 0.0146 0.0024

Uranus -39218-01-15 00:28 J -12602937.63 -12602937.48 -12602937.33 0.0146 0.0052

Uranus -39218-04-13 06:14 J -12602849.37 -12602849.24 -12602849.10 0.0146 0.0081

Earth -39218-04-13 10:33 J -12602849.14 -12602849.06 -12602848.97 0.2666 0.2071 *

Moon -39218-04-13 11:45 J -12602849.10 -12602849.01 -12602848.93 0.2668 0.2066 *

Uranus -39218-07-10 12:14 J -12602761.09 -12602760.99 -12602760.88 0.0146 0.0110

Uranus -39218-10-06 18:14 J -12602672.78 -12602672.74 -12602672.68 0.0146 0.0139

Mars -39216-06-07 11:16 J -12602063.13 -12602063.03 -12602062.94 0.1905 0.1247

Venus -39216-12-05 09:50 J -12601882.20 -12601882.09 -12601881.97 0.3748 0.1151

Moon -39214-10-05 16:04 J -12601212.90 -12601212.83 -12601212.75 0.2659 0.2071

Earth -39214-10-05 17:16 J -12601212.86 -12601212.78 -12601212.70 0.2660 0.2038 *

Jupiter -39213-01-01 09:50 J -12601125.24 -12601125.09 -12601124.94 0.0528 0.0133

Mars -39213-03-26 21:35 J -12601039.74 -12601039.60 -12601039.46 0.1617 0.0132

Moon -39211-04-05 18:14 J -12600299.86 -12600299.74 -12600299.62 0.2674 0.0926

Earth -39211-04-05 19:11 J -12600299.83 -12600299.70 -12600299.58 0.2670 0.0885 *

Venus -39210-06-21 08:23 J -12599858.23 -12599858.15 -12599858.07 0.3744 0.2802

Neptune -39209-02-01 20:52 J -12599632.67 -12599632.63 -12599632.58 0.0088 0.0085

Neptune -39209-04-29 23:02 J -12599544.61 -12599544.54 -12599544.45 0.0088 0.0077

Neptune -39209-07-27 01:26 J -12599456.53 -12599456.44 -12599456.33 0.0088 0.0070

Neptune -39209-10-23 04:04 J -12599368.45 -12599368.33 -12599368.21 0.0088 0.0062

Neptune -39208-01-19 06:14 J -12599280.36 -12599280.24 -12599280.10 0.0088 0.0054

Neptune -39208-04-17 08:38 J -12599192.27 -12599192.14 -12599191.99 0.0088 0.0047

Jupiter -39208-05-21 09:21 J -12599158.23 -12599158.11 -12599157.98 0.0502 0.0255

Saturn -39208-05-22 16:18 J -12599156.94 -12599156.82 -12599156.70 0.0281 0.0173

Neptune -39208-07-14 11:02 J -12599104.18 -12599104.04 -12599103.89 0.0088 0.0039

Jupiter -39208-08-18 22:47 J -12599068.66 -12599068.55 -12599068.44 0.0499 0.0332

Saturn -39208-08-19 08:23 J -12599068.31 -12599068.15 -12599068.00 0.0281 0.0060

Neptune -39208-10-10 13:26 J -12599016.09 -12599015.94 -12599015.78 0.0088 0.0032

Earth -39208-10-15 02:23 J -12599011.50 -12599011.40 -12599011.30 0.2666 0.1597

Moon -39208-10-15 03:06 J -12599011.46 -12599011.37 -12599011.27 0.2669 0.1733 *

Saturn -39208-11-16 00:28 J -12598979.63 -12598979.48 -12598979.32 0.0282 0.0058

Neptune -39207-01-06 15:35 J -12598928.00 -12598927.85 -12598927.68 0.0088 0.0025

Saturn -39207-02-12 17:02 J -12598890.91 -12598890.79 -12598890.66 0.0282 0.0178

Neptune -39207-04-04 18:14 J -12598839.90 -12598839.74 -12598839.58 0.0088 0.0017

Neptune -39207-07-01 20:23 J -12598751.81 -12598751.65 -12598751.48 0.0088 0.0009

Neptune -39207-09-27 22:47 J -12598663.71 -12598663.55 -12598663.39 0.0088 0.0002

Neptune -39207-12-25 00:57 J -12598575.62 -12598575.46 -12598575.29 0.0088 0.0007

Neptune -39206-03-23 03:21 J -12598487.52 -12598487.36 -12598487.20 0.0088 0.0013

Neptune -39206-06-19 05:30 J -12598399.42 -12598399.27 -12598399.11 0.0088 0.0021

Venus -39206-06-22 03:50 J -12598396.43 -12598396.34 -12598396.25 0.3627 0.2428

Neptune -39206-09-15 07:40 J -12598311.32 -12598311.18 -12598311.02 0.0088 0.0028

Neptune -39206-12-12 10:04 J -12598223.22 -12598223.08 -12598222.93 0.0088 0.0035

Neptune -39205-03-09 12:14 J -12598135.12 -12598134.99 -12598134.84 0.0088 0.0043

Neptune -39205-06-05 14:38 J -12598047.02 -12598046.89 -12598046.76 0.0088 0.0050

Neptune -39205-09-01 16:33 J -12597958.92 -12597958.81 -12597958.68 0.0088 0.0057

Mars -39205-10-03 22:18 J -12597926.62 -12597926.57 -12597926.51 0.1912 0.1731

Neptune -39205-11-28 18:42 J -12597870.82 -12597870.72 -12597870.60 0.0088 0.0064

Neptune -39204-02-24 20:52 J -12597782.71 -12597782.63 -12597782.52 0.0088 0.0072

Neptune -39204-05-23 23:02 J -12597694.59 -12597694.54 -12597694.45 0.0088 0.0079

Mars -39204-08-17 04:33 J -12597609.44 -12597609.31 -12597609.19 0.1619 0.0739

Neptune -39204-08-20 01:26 J -12597606.47 -12597606.44 -12597606.40 0.0088 0.0085

Jupiter -39202-10-20 09:21 J -12596815.26 -12596815.11 -12596814.95 0.0527 0.0061

Moon -39201-10-07 14:38 J -12596462.01 -12596461.89 -12596461.78 0.2667 0.1115

Earth -39201-10-07 15:21 J -12596461.98 -12596461.86 -12596461.75 0.2661 0.1052 *

Venus -39200-01-04 22:47 J -12596372.67 -12596372.55 -12596372.44 0.3631 0.0400

Moon -39198-04-08 17:30 J -12595548.90 -12595548.77 -12595548.64 0.2675 0.0158

Earth -39198-04-08 17:45 J -12595548.89 -12595548.76 -12595548.63 0.2669 0.0140 *

Jupiter -39196-03-09 12:14 J -12594848.08 -12594847.99 -12594847.89 0.0503 0.0391

Jupiter -39196-06-07 01:26 J -12594758.58 -12594758.44 -12594758.31 0.0500 0.0192

Mars -39195-02-24 02:09 J -12594496.53 -12594496.41 -12594496.28 0.1910 0.0732

Venus -39195-07-21 17:16 J -12594348.84 -12594348.78 -12594348.72 0.3635 0.3105

Earth -39195-10-17 23:16 J -12594260.57 -12594260.53 -12594260.49 0.2668 0.2482

Moon -39195-10-17 23:59 J -12594260.54 -12594260.50 -12594260.45 0.2664 0.2477 *

Mars -39194-01-07 11:02 J -12594179.11 -12594179.04 -12594178.96 0.1622 0.1356

Saturn -39194-10-01 16:33 J -12593911.88 -12593911.81 -12593911.75 0.0277 0.0250

Saturn -39194-12-29 07:54 J -12593823.30 -12593823.17 -12593823.04 0.0277 0.0137

Saturn -39193-03-26 23:02 J -12593734.69 -12593734.54 -12593734.39 0.0277 0.0027

Saturn -39193-06-23 13:40 J -12593646.07 -12593645.93 -12593645.78 0.0277 0.0080

Saturn -39193-09-20 04:04 J -12593557.44 -12593557.33 -12593557.22 0.0277 0.0185

Mars -39193-12-13 07:26 J -12593473.29 -12593473.19 -12593473.09 0.1614 0.1110

Earth -39191-04-01 04:04 J -12592999.35 -12592999.33 -12592999.32 0.2674 0.2645

Jupiter -39190-08-08 10:04 J -12592505.21 -12592505.08 -12592504.94 0.0526 0.0235

Jupiter -39190-11-06 05:16 J -12592415.35 -12592415.28 -12592415.21 0.0530 0.0467

Moon -39188-10-10 12:57 J -12591711.09 -12591710.96 -12591710.84 0.2669 0.0143

Earth -39188-10-10 12:57 J -12591711.08 -12591710.96 -12591710.83 0.2663 0.0094 *

Mars -39186-07-17 06:28 J -12591066.36 -12591066.23 -12591066.10 0.1908 0.0239

Earth -39185-04-10 16:47 J -12590797.91 -12590797.80 -12590797.68 0.2667 0.1188

Moon -39185-04-10 17:16 J -12590797.89 -12590797.78 -12590797.66 0.2674 0.1162 *

Jupiter -39184-03-26 03:35 J -12590448.50 -12590448.35 -12590448.20 0.0500 0.0049

Mars -39183-05-05 14:52 J -12590043.02 -12590042.88 -12590042.75 0.1616 0.0541

Uranus -39179-03-15 12:14 J -12588633.04 -12588632.99 -12588632.90 0.0133 0.0119

Uranus -39179-06-11 16:47 J -12588544.89 -12588544.80 -12588544.69 0.0133 0.0098

Uranus -39179-09-07 21:21 J -12588456.73 -12588456.61 -12588456.48 0.0133 0.0077

Saturn -39179-10-09 16:18 J -12588424.91 -12588424.82 -12588424.71 0.0281 0.0213

Uranus -39179-12-05 01:40 J -12588368.57 -12588368.43 -12588368.29 0.0133 0.0056

Saturn -39178-01-06 08:09 J -12588336.30 -12588336.16 -12588336.01 0.0282 0.0100

Uranus -39178-03-03 05:45 J -12588280.40 -12588280.26 -12588280.10 0.0133 0.0037

Moon -39178-04-04 01:11 J -12588248.55 -12588248.45 -12588248.35 0.2673 0.1687

Earth -39178-04-04 02:09 J -12588248.51 -12588248.41 -12588248.31 0.2672 0.1692 *

Saturn -39178-04-05 00:28 J -12588247.64 -12588247.48 -12588247.33 0.0282 0.0018

Jupiter -39178-05-27 11:02 J -12588195.14 -12588195.04 -12588194.94 0.0526 0.0406

Uranus -39178-05-30 10:04 J -12588192.23 -12588192.08 -12588191.92 0.0132 0.0017

Saturn -39178-07-02 16:47 J -12588158.94 -12588158.80 -12588158.66 0.0282 0.0136

Jupiter -39178-08-25 06:42 J -12588105.34 -12588105.22 -12588105.10 0.0529 0.0302

Uranus -39178-08-26 14:23 J -12588104.05 -12588103.90 -12588103.74 0.0132 0.0005

Saturn -39178-09-29 09:35 J -12588070.16 -12588070.10 -12588070.03 0.0282 0.0257

Uranus -39178-11-22 18:28 J -12588015.87 -12588015.73 -12588015.57 0.0132 0.0025

Uranus -39177-02-18 22:47 J -12587927.70 -12587927.55 -12587927.41 0.0132 0.0044

Uranus -39177-05-17 02:38 J -12587839.51 -12587839.39 -12587839.25 0.0132 0.0064

Uranus -39177-08-13 06:57 J -12587751.33 -12587751.21 -12587751.09 0.0132 0.0083

Uranus -39177-11-09 10:47 J -12587663.14 -12587663.05 -12587662.95 0.0132 0.0102

Mars -39177-12-06 11:02 J -12587636.14 -12587636.04 -12587635.94 0.1905 0.1170

Uranus -39176-02-05 14:38 J -12587574.93 -12587574.89 -12587574.82 0.0132 0.0122

Earth -39175-10-13 10:18 J -12586960.18 -12586960.07 -12586959.95 0.2665 0.0853

Moon -39175-10-13 11:02 J -12586960.15 -12586960.04 -12586959.92 0.2670 0.0962 *

Mars -39174-09-25 21:50 J -12586612.73 -12586612.59 -12586612.45 0.1618 0.0051

Jupiter -39172-01-12 05:59 J -12586138.39 -12586138.25 -12586138.10 0.0501 0.0097

Jupiter -39172-04-11 19:26 J -12586048.70 -12586048.69 -12586048.66 0.0498 0.0492

Earth -39172-04-13 16:18 J -12586046.89 -12586046.82 -12586046.75 0.2665 0.2264

Moon -39172-04-13 17:30 J -12586046.83 -12586046.77 -12586046.72 0.2667 0.2428 *

Moon -39168-10-05 21:35 J -12584410.68 -12584410.60 -12584410.51 0.2661 0.1994

Earth -39168-10-05 22:47 J -12584410.64 -12584410.55 -12584410.46 0.2660 0.1861 *

Jupiter -39166-06-13 07:54 J -12583795.31 -12583795.17 -12583795.02 0.0528 0.0136

Mars -39165-04-03 22:33 J -12583499.60 -12583499.56 -12583499.52 0.1913 0.1821

Moon -39165-04-05 23:45 J -12583497.63 -12583497.51 -12583497.39 0.2674 0.0802

Earth -39165-04-06 00:42 J -12583497.60 -12583497.47 -12583497.35 0.2670 0.0707 *

Venus -39165-12-26 10:47 J -12583233.08 -12583233.05 -12583233.02 0.3752 0.3592

Mars -39164-02-15 04:47 J -12583182.43 -12583182.30 -12583182.16 0.1619 0.0646

Saturn -39164-05-17 08:09 J -12583091.28 -12583091.16 -12583091.04 0.0277 0.0175

Saturn -39164-08-13 23:30 J -12583002.67 -12583002.52 -12583002.37 0.0277 0.0064

Saturn -39164-11-10 14:23 J -12582914.05 -12582913.90 -12582913.75 0.0277 0.0045

Saturn -39163-02-07 04:47 J -12582825.42 -12582825.30 -12582825.17 0.0277 0.0151

Saturn -39163-05-06 19:11 J -12582736.76 -12582736.70 -12582736.65 0.0277 0.0254

Earth -39162-10-16 07:40 J -12582209.28 -12582209.18 -12582209.09 0.2666 0.1759

Moon -39162-10-16 08:23 J -12582209.24 -12582209.15 -12582209.05 0.2667 0.1751 *

Jupiter -39161-10-31 07:40 J -12581828.30 -12581828.18 -12581828.05 0.0502 0.0251

Jupiter -39160-01-28 20:52 J -12581738.74 -12581738.63 -12581738.51 0.0499 0.0335

Venus -39159-07-12 09:06 J -12581209.25 -12581209.12 -12581209.00 0.3747 0.0245

Mars -39156-08-25 02:38 J -12580069.51 -12580069.39 -12580069.27 0.1910 0.0835

Mars -39155-07-08 11:30 J -12579752.11 -12579752.02 -12579751.93 0.1622 0.1269

Moon -39155-10-08 19:54 J -12579659.78 -12579659.67 -12579659.55 0.2667 0.0895

Earth -39155-10-08 20:38 J -12579659.76 -12579659.64 -12579659.52 0.2662 0.0875 *

Jupiter -39154-04-01 08:38 J -12579485.29 -12579485.14 -12579484.99 0.0527 0.0042

Mars -39153-06-13 07:40 J -12579046.27 -12579046.18 -12579046.08 0.1614 0.1194

Moon -39152-04-08 23:16 J -12578746.66 -12578746.53 -12578746.40 0.2676 0.0331

Earth -39152-04-08 23:16 J -12578746.66 -12578746.53 -12578746.40 0.2668 0.0326 *

Venus -39149-01-27 02:09 J -12577723.52 -12577723.41 -12577723.30 0.3628 0.1353

Saturn -39149-02-26 18:57 J -12577692.79 -12577692.71 -12577692.62 0.0281 0.0234

Saturn -39149-05-25 10:47 J -12577604.19 -12577604.05 -12577603.91 0.0281 0.0122

Jupiter -39149-08-19 10:04 J -12577518.16 -12577518.08 -12577517.98 0.0503 0.0395

Saturn -39149-08-22 02:38 J -12577515.54 -12577515.39 -12577515.23 0.0282 0.0011

Earth -39149-10-18 04:33 J -12577458.32 -12577458.31 -12577458.30 0.2668 0.2638

Jupiter -39149-11-16 23:02 J -12577428.68 -12577428.54 -12577428.40 0.0500 0.0188

Saturn -39149-11-18 19:11 J -12577426.85 -12577426.70 -12577426.56 0.0282 0.0112

Saturn -39148-02-15 11:45 J -12577338.09 -12577338.01 -12577337.91 0.0282 0.0234

Mars -39146-01-15 06:42 J -12576639.35 -12576639.22 -12576639.09 0.1908 0.0145

Moon -39145-04-01 08:38 J -12576197.19 -12576197.14 -12576197.09 0.2669 0.2452

Earth -39145-04-01 09:21 J -12576197.15 -12576197.11 -12576197.06 0.2673 0.2477 *

Venus -39144-08-11 20:52 J -12575699.73 -12575699.63 -12575699.52 0.3632 0.1426

Mars -39144-11-03 15:06 J -12575616.00 -12575615.87 -12575615.74 0.1616 0.0622

Jupiter -39142-01-18 08:09 J -12575175.30 -12575175.16 -12575175.03 0.0526 0.0236

Jupiter -39142-04-18 03:21 J -12575085.43 -12575085.36 -12575085.29 0.0530 0.0465

Moon -39142-10-11 18:28 J -12574908.86 -12574908.73 -12574908.61 0.2670 0.0108

Earth -39142-10-11 18:14 J -12574908.86 -12574908.74 -12574908.61 0.2663 0.0102 *

Earth -39139-04-11 22:18 J -12573995.68 -12573995.57 -12573995.45 0.2667 0.1373

Moon -39139-04-11 23:02 J -12573995.65 -12573995.54 -12573995.43 0.2672 0.1453 *

Mars -39137-06-06 11:16 J -12573209.13 -12573209.03 -12573208.92 0.1905 0.1068

Jupiter -39137-09-05 01:40 J -12573118.58 -12573118.43 -12573118.28 0.0501 0.0049

Uranus -39136-05-27 15:50 J -12572853.89 -12572853.84 -12572853.76 0.0146 0.0132

Uranus -39136-08-23 21:35 J -12572765.70 -12572765.60 -12572765.49 0.0146 0.0105

Uranus -39136-11-20 03:06 J -12572677.50 -12572677.37 -12572677.23 0.0146 0.0078

Uranus -39135-02-16 08:52 J -12572589.28 -12572589.13 -12572588.98 0.0146 0.0051

Uranus -39135-05-15 14:38 J -12572501.05 -12572500.89 -12572500.73 0.0146 0.0023

Uranus -39135-08-11 20:23 J -12572412.81 -12572412.65 -12572412.49 0.0146 0.0005

Saturn -39135-10-04 11:02 J -12572359.14 -12572359.04 -12572358.92 0.0277 0.0195

Uranus -39135-11-08 02:09 J -12572324.57 -12572324.41 -12572324.25 0.0146 0.0033

Saturn -39134-01-01 02:23 J -12572270.54 -12572270.40 -12572270.25 0.0277 0.0084

Uranus -39134-02-04 08:09 J -12572236.31 -12572236.16 -12572236.02 0.0146 0.0062

Mars -39134-03-26 22:18 J -12572185.72 -12572185.57 -12572185.43 0.1618 0.0063

Saturn -39134-03-30 17:16 J -12572181.93 -12572181.78 -12572181.63 0.0277 0.0026

Uranus -39134-05-03 13:54 J -12572148.04 -12572147.92 -12572147.79 0.0146 0.0090

Saturn -39134-06-27 07:54 J -12572093.30 -12572093.17 -12572093.04 0.0277 0.0132

Uranus -39134-07-30 19:40 J -12572059.76 -12572059.68 -12572059.58 0.0146 0.0119

Saturn -39134-09-23 22:04 J -12572004.65 -12572004.58 -12572004.50 0.0277 0.0236

Moon -39132-04-04 06:28 J -12571446.33 -12571446.23 -12571446.13 0.2673 0.1674

Earth -39132-04-04 07:40 J -12571446.29 -12571446.18 -12571446.08 0.2672 0.1513 *

Jupiter -39131-11-06 08:38 J -12570865.23 -12570865.14 -12570865.05 0.0525 0.0414

Jupiter -39130-02-04 04:18 J -12570775.45 -12570775.32 -12570775.20 0.0529 0.0294

Earth -39129-10-13 15:35 J -12570157.96 -12570157.85 -12570157.73 0.2665 0.1018

Moon -39129-10-13 16:18 J -12570157.93 -12570157.82 -12570157.70 0.2670 0.1015 *

Neptune -39128-08-01 07:54 J -12569866.20 -12569866.17 -12569866.11 0.0089 0.0084

Neptune -39128-10-28 09:50 J -12569778.15 -12569778.09 -12569778.00 0.0089 0.0078

Neptune -39127-01-24 11:59 J -12569690.09 -12569690.00 -12569689.91 0.0089 0.0070

Neptune -39127-04-22 13:54 J -12569602.02 -12569601.92 -12569601.81 0.0089 0.0063

Neptune -39127-07-19 15:50 J -12569513.95 -12569513.84 -12569513.72 0.0089 0.0056

Neptune -39127-10-15 17:45 J -12569425.88 -12569425.76 -12569425.63 0.0089 0.0049

Neptune -39126-01-11 19:40 J -12569337.81 -12569337.68 -12569337.54 0.0089 0.0042

Neptune -39126-04-09 21:35 J -12569249.73 -12569249.60 -12569249.45 0.0089 0.0036

Earth -39126-04-14 21:50 J -12569244.64 -12569244.59 -12569244.54 0.2665 0.2459

Moon -39126-04-14 23:02 J -12569244.59 -12569244.54 -12569244.49 0.2667 0.2468 *

Neptune -39126-07-06 23:45 J -12569161.66 -12569161.51 -12569161.37 0.0089 0.0028

Neptune -39126-10-03 01:40 J -12569073.58 -12569073.43 -12569073.28 0.0089 0.0021

Neptune -39126-12-30 03:35 J -12568985.50 -12568985.35 -12568985.20 0.0089 0.0014

Neptune -39125-03-27 05:45 J -12568897.42 -12568897.26 -12568897.11 0.0089 0.0007

Neptune -39125-06-23 07:40 J -12568809.33 -12568809.18 -12568809.03 0.0089 0.0000

Jupiter -39125-06-24 04:18 J -12568808.47 -12568808.32 -12568808.18 0.0501 0.0095

Mars -39125-08-16 05:02 J -12568755.42 -12568755.29 -12568755.15 0.1620 0.0565

Neptune -39125-09-19 09:35 J -12568721.25 -12568721.10 -12568720.94 0.0089 0.0008

Jupiter -39125-09-21 17:45 J -12568718.77 -12568718.76 -12568718.74 0.0498 0.0494

Neptune -39125-12-16 11:30 J -12568633.16 -12568633.02 -12568632.86 0.0089 0.0015

Neptune -39124-03-14 13:40 J -12568545.08 -12568544.93 -12568544.78 0.0089 0.0022

Neptune -39124-06-10 15:35 J -12568456.99 -12568456.85 -12568456.70 0.0089 0.0029

Neptune -39124-09-06 17:30 J -12568368.90 -12568368.77 -12568368.62 0.0089 0.0037

Neptune -39124-12-03 19:40 J -12568280.81 -12568280.68 -12568280.54 0.0089 0.0044

Neptune -39123-03-01 21:50 J -12568192.71 -12568192.59 -12568192.46 0.0089 0.0051

Neptune -39123-05-28 23:59 J -12568104.61 -12568104.50 -12568104.38 0.0089 0.0058

Neptune -39123-08-25 01:54 J -12568016.51 -12568016.42 -12568016.31 0.0089 0.0066

Neptune -39123-11-21 04:04 J -12567928.41 -12567928.33 -12567928.24 0.0089 0.0073

Neptune -39122-02-17 05:59 J -12567840.30 -12567840.25 -12567840.17 0.0089 0.0081

Neptune -39122-05-16 08:09 J -12567752.17 -12567752.16 -12567752.13 0.0089 0.0088

Moon -39122-10-07 03:06 J -12567608.47 -12567608.37 -12567608.27 0.2663 0.1682

Earth -39122-10-07 04:04 J -12567608.43 -12567608.33 -12567608.23 0.2660 0.1687 *

Saturn -39120-07-15 19:11 J -12566960.73 -12566960.70 -12566960.66 0.0281 0.0272

Saturn -39120-10-12 10:47 J -12566872.17 -12566872.05 -12566871.92 0.0281 0.0161

Saturn -39119-01-09 02:38 J -12566783.54 -12566783.39 -12566783.23 0.0282 0.0047

Moon -39119-04-07 05:16 J -12566695.40 -12566695.28 -12566695.15 0.2675 0.0525

Earth -39119-04-07 05:59 J -12566695.37 -12566695.25 -12566695.12 0.2670 0.0530 *

Saturn -39119-04-07 18:57 J -12566694.86 -12566694.71 -12566694.56 0.0282 0.0071

Saturn -39119-07-05 11:30 J -12566606.13 -12566606.02 -12566605.90 0.0282 0.0191

Jupiter -39119-11-23 05:30 J -12566465.42 -12566465.27 -12566465.12 0.0528 0.0127

Mars -39116-02-23 02:23 J -12565642.51 -12565642.40 -12565642.28 0.1910 0.0916

Earth -39116-10-16 12:57 J -12565407.05 -12565406.96 -12565406.88 0.2667 0.1919

Moon -39116-10-16 13:54 J -12565407.00 -12565406.92 -12565406.85 0.2666 0.2051 *

Mars -39115-01-06 11:45 J -12565325.11 -12565325.01 -12565324.91 0.1622 0.1179

Mars -39114-12-13 07:54 J -12564619.25 -12564619.17 -12564619.08 0.1614 0.1272

Jupiter -39113-04-12 06:42 J -12564498.35 -12564498.22 -12564498.09 0.0502 0.0237

Jupiter -39113-07-10 19:54 J -12564408.78 -12564408.67 -12564408.56 0.0499 0.0348

Moon -39109-10-09 01:26 J -12562857.56 -12562857.44 -12562857.32 0.2668 0.0792

Earth -39109-10-09 02:09 J -12562857.54 -12562857.41 -12562857.29 0.2662 0.0709 *

Venus -39108-08-02 09:50 J -12562560.18 -12562560.09 -12562559.99 0.3750 0.2228

Mars -39107-07-16 06:57 J -12562212.34 -12562212.21 -12562212.08 0.1908 0.0047

Jupiter -39107-09-11 06:42 J -12562155.37 -12562155.22 -12562155.06 0.0527 0.0042

Earth -39106-04-10 04:47 J -12561944.43 -12561944.30 -12561944.17 0.2668 0.0507

Moon -39106-04-10 04:47 J -12561944.42 -12561944.30 -12561944.17 0.2676 0.0481 *

Saturn -39105-02-21 11:02 J -12561627.12 -12561627.04 -12561626.96 0.0277 0.0235

Saturn -39105-05-20 02:23 J -12561538.53 -12561538.40 -12561538.26 0.0277 0.0123

Saturn -39105-08-16 17:30 J -12561449.92 -12561449.77 -12561449.61 0.0277 0.0014

Saturn -39105-11-13 08:23 J -12561361.29 -12561361.15 -12561361.01 0.0277 0.0095

Saturn -39104-02-09 22:47 J -12561272.65 -12561272.55 -12561272.45 0.0277 0.0200

Mars -39104-05-04 15:21 J -12561188.98 -12561188.86 -12561188.73 0.1616 0.0709

Venus -39102-02-16 08:09 J -12560536.27 -12560536.16 -12560536.04 0.3746 0.1641

Jupiter -39101-01-30 08:38 J -12560188.23 -12560188.14 -12560188.05 0.0503 0.0389

Jupiter -39101-04-28 21:35 J -12560098.74 -12560098.60 -12560098.47 0.0500 0.0192

Moon -39099-04-02 13:54 J -12559394.97 -12559394.92 -12559394.87 0.2670 0.2414

Earth -39099-04-02 14:52 J -12559394.95 -12559394.88 -12559394.82 0.2673 0.2309 *

Venus -39098-02-17 05:30 J -12559074.33 -12559074.27 -12559074.22 0.3625 0.3141

Mars -39098-12-06 11:30 J -12558782.13 -12558782.02 -12558781.91 0.1905 0.0970

Pluto -39096-05-24 01:26 J -12558247.50 -12558247.44 -12558247.38 0.0066 0.0062

Pluto -39096-08-20 02:23 J -12558159.47 -12558159.40 -12558159.30 0.0066 0.0057

Earth -39096-10-11 23:45 J -12558106.64 -12558106.51 -12558106.39 0.2664 0.0263

Moon -39096-10-11 23:59 J -12558106.63 -12558106.50 -12558106.38 0.2670 0.0295 *

Pluto -39096-11-16 03:35 J -12558071.44 -12558071.35 -12558071.23 0.0066 0.0051

Pluto -39095-02-12 05:02 J -12557983.40 -12557983.29 -12557983.16 0.0067 0.0046

Uranus -39095-04-04 19:40 J -12557931.76 -12557931.68 -12557931.59 0.0133 0.0112

Pluto -39095-05-11 06:14 J -12557895.36 -12557895.24 -12557895.10 0.0067 0.0041

Jupiter -39095-06-30 07:11 J -12557845.33 -12557845.20 -12557845.05 0.0526 0.0218

Uranus -39095-07-01 23:59 J -12557843.60 -12557843.50 -12557843.38 0.0133 0.0092

Pluto -39095-08-07 07:40 J -12557807.32 -12557807.18 -12557807.04 0.0067 0.0035

Mars -39095-09-24 22:33 J -12557758.70 -12557758.56 -12557758.42 0.1618 0.0125

Jupiter -39095-09-28 02:23 J -12557755.45 -12557755.40 -12557755.34 0.0530 0.0484

Uranus -39095-09-28 04:33 J -12557755.44 -12557755.31 -12557755.18 0.0133 0.0071 *

Pluto -39095-11-03 08:52 J -12557719.28 -12557719.13 -12557718.97 0.0067 0.0030

Uranus -39095-12-25 08:38 J -12557667.27 -12557667.14 -12557666.99 0.0133 0.0051

Pluto -39094-01-30 10:18 J -12557631.23 -12557631.07 -12557630.91 0.0067 0.0024

Uranus -39094-03-23 13:11 J -12557579.10 -12557578.95 -12557578.80 0.0133 0.0030

Pluto -39094-04-28 11:16 J -12557543.18 -12557543.03 -12557542.86 0.0067 0.0019

Uranus -39094-06-19 17:16 J -12557490.93 -12557490.78 -12557490.62 0.0132 0.0011

Pluto -39094-07-25 12:42 J -12557455.13 -12557454.97 -12557454.80 0.0067 0.0014

Uranus -39094-09-15 21:35 J -12557402.75 -12557402.60 -12557402.45 0.0132 0.0010

Pluto -39094-10-21 14:09 J -12557367.08 -12557366.91 -12557366.74 0.0067 0.0008

Uranus -39094-12-13 01:40 J -12557314.57 -12557314.43 -12557314.28 0.0132 0.0030

Pluto -39093-01-17 15:35 J -12557279.02 -12557278.85 -12557278.68 0.0067 0.0002

Uranus -39093-03-10 05:59 J -12557226.39 -12557226.25 -12557226.11 0.0132 0.0050

Earth -39093-04-12 04:04 J -12557193.44 -12557193.33 -12557193.22 0.2667 0.1563

Moon -39093-04-12 04:47 J -12557193.40 -12557193.30 -12557193.19 0.2671 0.1622 *

Pluto -39093-04-14 16:47 J -12557190.96 -12557190.80 -12557190.63 0.0067 0.0004

Uranus -39093-06-06 09:50 J -12557138.21 -12557138.09 -12557137.95 0.0132 0.0070

Pluto -39093-07-11 18:14 J -12557102.91 -12557102.74 -12557102.57 0.0068 0.0009

Venus -39093-09-02 00:28 J -12557050.60 -12557050.48 -12557050.36 0.3629 0.0299

Uranus -39093-09-02 14:09 J -12557050.02 -12557049.91 -12557049.80 0.0132 0.0089

Pluto -39093-10-07 19:26 J -12557014.85 -12557014.69 -12557014.52 0.0068 0.0016

Uranus -39093-11-29 17:59 J -12556961.83 -12556961.75 -12556961.66 0.0132 0.0108

Pluto -39092-01-03 20:52 J -12556926.79 -12556926.63 -12556926.46 0.0068 0.0021

Uranus -39092-02-25 21:50 J -12556873.61 -12556873.59 -12556873.54 0.0132 0.0128

Pluto -39092-04-01 22:18 J -12556838.72 -12556838.57 -12556838.41 0.0068 0.0027

Pluto -39092-06-28 23:30 J -12556750.66 -12556750.52 -12556750.36 0.0068 0.0033

Pluto -39092-09-25 00:57 J -12556662.59 -12556662.46 -12556662.31 0.0068 0.0039

Pluto -39092-12-22 02:23 J -12556574.52 -12556574.40 -12556574.26 0.0068 0.0045

Pluto -39091-03-20 03:35 J -12556486.44 -12556486.35 -12556486.22 0.0068 0.0052

Pluto -39091-06-16 05:02 J -12556398.36 -12556398.29 -12556398.18 0.0068 0.0058

Pluto -39091-09-12 06:28 J -12556310.27 -12556310.23 -12556310.14 0.0068 0.0064

Saturn -39090-03-01 12:42 J -12556140.08 -12556139.97 -12556139.86 0.0281 0.0187

Saturn -39090-05-29 04:33 J -12556051.46 -12556051.31 -12556051.16 0.0282 0.0073

Saturn -39090-08-25 20:52 J -12555962.79 -12555962.63 -12555962.48 0.0282 0.0045

Saturn -39090-11-22 13:26 J -12555874.07 -12555873.94 -12555873.82 0.0282 0.0164

Jupiter -39089-02-15 23:45 J -12555788.66 -12555788.51 -12555788.36 0.0501 0.0046

Moon -39089-10-04 10:18 J -12555557.11 -12555557.07 -12555557.03 0.2656 0.2510

Earth -39089-10-04 11:16 J -12555557.07 -12555557.03 -12555556.99 0.2659 0.2517 *

Mars -39088-04-27 16:33 J -12555351.83 -12555351.81 -12555351.79 0.1901 0.1869

Venus -39087-03-18 19:11 J -12555026.78 -12555026.70 -12555026.62 0.3633 0.2463

Moon -39086-04-05 11:59 J -12554644.11 -12554644.00 -12554643.89 0.2673 0.1333

Earth -39086-04-05 12:57 J -12554644.07 -12554643.96 -12554643.84 0.2671 0.1344 *

Mars -39085-02-15 05:30 J -12554328.41 -12554328.27 -12554328.14 0.1620 0.0479

Jupiter -39083-04-18 06:42 J -12553535.31 -12553535.22 -12553535.13 0.0525 0.0412

Jupiter -39083-07-17 02:23 J -12553445.52 -12553445.40 -12553445.28 0.0529 0.0295

Earth -39083-10-14 21:06 J -12553355.74 -12553355.62 -12553355.51 0.2665 0.1181

Moon -39083-10-14 21:50 J -12553355.70 -12553355.59 -12553355.48 0.2669 0.1265 *

Earth -39080-04-15 03:35 J -12552442.36 -12552442.35 -12552442.34 0.2665 0.2651

Jupiter -39078-12-05 02:23 J -12551478.55 -12551478.40 -12551478.25 0.0502 0.0094

Jupiter -39077-03-03 15:50 J -12551388.84 -12551388.84 -12551388.82 0.0498 0.0497

Mars -39077-08-24 02:52 J -12551215.50 -12551215.38 -12551215.27 0.1910 0.1020

Mars -39076-07-07 11:59 J -12550898.10 -12550898.00 -12550897.89 0.1622 0.1095

Saturn -39076-07-10 13:54 J -12550894.97 -12550894.92 -12550894.85 0.0278 0.0256

Saturn -39076-10-07 05:30 J -12550806.40 -12550806.27 -12550806.14 0.0277 0.0143

Moon -39076-10-07 08:38 J -12550806.24 -12550806.14 -12550806.04 0.2664 0.1659 *

Earth -39076-10-07 09:35 J -12550806.21 -12550806.10 -12550806.00 0.2661 0.1510 *

Saturn -39075-01-03 20:38 J -12550717.79 -12550717.64 -12550717.49 0.0277 0.0032

Saturn -39075-04-02 11:30 J -12550629.17 -12550629.02 -12550628.88 0.0277 0.0076

Saturn -39075-06-30 01:54 J -12550540.53 -12550540.42 -12550540.31 0.0277 0.0181

Mars -39074-06-13 08:09 J -12550192.23 -12550192.16 -12550192.08 0.1614 0.1354

Moon -39073-04-07 11:02 J -12549893.16 -12549893.04 -12549892.91 0.2676 0.0456

Earth -39073-04-07 11:30 J -12549893.15 -12549893.02 -12549892.89 0.2670 0.0350 *

Jupiter -39071-05-05 03:21 J -12549135.51 -12549135.36 -12549135.22 0.0528 0.0122

Earth -39070-10-17 17:59 J -12548604.82 -12548604.75 -12548604.67 0.2667 0.2081

Moon -39070-10-17 19:11 J -12548604.78 -12548604.70 -12548604.63 0.2666 0.2084 *

Mars -39067-01-14 06:57 J -12547785.34 -12547785.21 -12547785.08 0.1907 0.0052

Jupiter -39066-09-23 05:02 J -12547168.42 -12547168.29 -12547168.16 0.0502 0.0233

Jupiter -39066-12-21 18:14 J -12547078.84 -12547078.74 -12547078.63 0.0499 0.0352

Mars -39065-11-02 15:35 J -12546761.97 -12546761.85 -12546761.73 0.1616 0.0788

Moon -39063-10-10 06:57 J -12546055.33 -12546055.21 -12546055.09 0.2668 0.0511

Earth -39063-10-10 07:26 J -12546055.32 -12546055.19 -12546055.07 0.2662 0.0537 *

Saturn -39061-07-18 12:57 J -12545408.05 -12545407.96 -12545407.86 0.0281 0.0224

Saturn -39061-10-15 04:47 J -12545319.44 -12545319.30 -12545319.16 0.0281 0.0112

Saturn -39060-01-11 20:38 J -12545230.79 -12545230.64 -12545230.48 0.0282 0.0009

Moon -39060-04-10 10:33 J -12545142.19 -12545142.06 -12545141.94 0.2675 0.0741

Earth -39060-04-10 10:33 J -12545142.19 -12545142.06 -12545141.94 0.2668 0.0694 *

Saturn -39060-04-10 13:11 J -12545142.09 -12545141.95 -12545141.81 0.0282 0.0123 *

Saturn -39060-07-08 05:45 J -12545053.33 -12545053.26 -12545053.17 0.0282 0.0244

Jupiter -39059-02-21 04:18 J -12544825.47 -12544825.32 -12544825.17 0.0527 0.0048

Mars -39058-06-06 11:30 J -12544355.13 -12544355.02 -12544354.91 0.1905 0.0888

Mars -39055-03-25 22:47 J -12543331.69 -12543331.55 -12543331.41 0.1618 0.0206

Jupiter -39054-07-12 07:40 J -12542858.28 -12542858.18 -12542858.08 0.0503 0.0374

Jupiter -39054-10-09 20:38 J -12542768.78 -12542768.64 -12542768.51 0.0500 0.0207

Moon -39053-04-02 19:11 J -12542592.77 -12542592.70 -12542592.63 0.2671 0.2177

Earth -39053-04-02 20:09 J -12542592.73 -12542592.66 -12542592.58 0.2673 0.2138 *

Uranus -39052-06-16 23:16 J -12542152.60 -12542152.53 -12542152.44 0.0146 0.0124

Uranus -39052-09-13 05:02 J -12542064.40 -12542064.29 -12542064.17 0.0146 0.0097

Uranus -39052-12-10 10:33 J -12541976.19 -12541976.06 -12541975.92 0.0146 0.0070

Uranus -39051-03-08 16:18 J -12541887.97 -12541887.82 -12541887.67 0.0146 0.0042

Venus -39051-03-09 09:06 J -12541887.24 -12541887.12 -12541887.00 0.3749 0.0855

Uranus -39051-06-04 22:04 J -12541799.74 -12541799.58 -12541799.42 0.0146 0.0015

Uranus -39051-09-01 03:50 J -12541711.50 -12541711.34 -12541711.18 0.0146 0.0013

Uranus -39051-11-28 09:35 J -12541623.25 -12541623.10 -12541622.95 0.0146 0.0041

Uranus -39050-02-24 15:21 J -12541535.00 -12541534.86 -12541534.71 0.0146 0.0070

Uranus -39050-05-23 21:21 J -12541446.73 -12541446.61 -12541446.49 0.0146 0.0098

Uranus -39050-08-20 03:06 J -12541358.44 -12541358.37 -12541358.28 0.0146 0.0128

Earth -39050-10-13 05:02 J -12541304.42 -12541304.29 -12541304.17 0.2664 0.0420

Moon -39050-10-13 05:16 J -12541304.40 -12541304.28 -12541304.15 0.2671 0.0408 *

Mars -39049-10-26 16:33 J -12540924.85 -12540924.81 -12540924.76 0.1902 0.1775

Jupiter -39048-12-10 05:30 J -12540515.41 -12540515.27 -12540515.13 0.0526 0.0215

Jupiter -39047-03-10 00:42 J -12540425.52 -12540425.47 -12540425.41 0.0530 0.0488

Earth -39047-04-13 09:35 J -12540391.20 -12540391.10 -12540391.00 0.2666 0.1753

Moon -39047-04-13 10:33 J -12540391.15 -12540391.06 -12540390.96 0.2670 0.1807 *

Saturn -39046-02-24 05:16 J -12540074.40 -12540074.28 -12540074.17 0.0277 0.0184

Saturn -39046-05-23 20:23 J -12539985.79 -12539985.65 -12539985.50 0.0277 0.0073

Mars -39046-08-16 05:45 J -12539901.40 -12539901.26 -12539901.12 0.1620 0.0389

Saturn -39046-08-20 11:30 J -12539897.17 -12539897.02 -12539896.87 0.0277 0.0037

Venus -39046-09-23 07:26 J -12539863.26 -12539863.19 -12539863.12 0.3745 0.3060

Saturn -39046-11-17 01:54 J -12539808.54 -12539808.42 -12539808.29 0.0277 0.0143

Saturn -39045-02-13 16:04 J -12539719.89 -12539719.83 -12539719.76 0.0277 0.0247

Neptune -39045-10-28 19:26 J -12539461.73 -12539461.69 -12539461.61 0.0088 0.0081

Neptune -39044-01-24 22:04 J -12539373.66 -12539373.58 -12539373.48 0.0088 0.0073

Neptune -39044-04-23 00:28 J -12539285.58 -12539285.48 -12539285.36 0.0088 0.0066

Neptune -39044-07-20 02:52 J -12539197.49 -12539197.38 -12539197.25 0.0088 0.0058

Neptune -39044-10-16 05:16 J -12539109.41 -12539109.28 -12539109.14 0.0088 0.0050

Neptune -39043-01-12 07:54 J -12539021.32 -12539021.17 -12539021.03 0.0088 0.0043

Neptune -39043-04-10 10:04 J -12538933.22 -12538933.08 -12538932.92 0.0088 0.0035

Neptune -39043-07-07 12:28 J -12538845.13 -12538844.98 -12538844.82 0.0088 0.0028

Neptune -39043-10-03 14:52 J -12538757.04 -12538756.88 -12538756.72 0.0088 0.0020

Moon -39043-10-05 15:50 J -12538754.89 -12538754.84 -12538754.79 0.2658 0.2454

Earth -39043-10-05 16:47 J -12538754.86 -12538754.80 -12538754.74 0.2659 0.2334 *

Neptune -39043-12-30 17:16 J -12538668.94 -12538668.78 -12538668.62 0.0088 0.0013

Neptune -39042-03-28 19:40 J -12538580.85 -12538580.68 -12538580.52 0.0088 0.0006

Neptune -39042-06-24 21:50 J -12538492.75 -12538492.59 -12538492.43 0.0088 0.0002

Jupiter -39042-07-28 22:18 J -12538458.72 -12538458.57 -12538458.42 0.0500 0.0053

Neptune -39042-09-20 23:59 J -12538404.66 -12538404.50 -12538404.33 0.0088 0.0010

Venus -39042-09-24 03:50 J -12538401.44 -12538401.34 -12538401.24 0.3626 0.2046

Neptune -39042-12-18 02:23 J -12538316.56 -12538316.40 -12538316.24 0.0088 0.0017

Neptune -39041-03-15 04:33 J -12538228.46 -12538228.31 -12538228.15 0.0088 0.0025

Neptune -39041-06-11 06:57 J -12538140.36 -12538140.21 -12538140.06 0.0088 0.0032

Neptune -39041-09-07 08:52 J -12538052.26 -12538052.13 -12538051.97 0.0088 0.0040

Neptune -39041-12-04 11:16 J -12537964.16 -12537964.03 -12537963.89 0.0088 0.0047

Neptune -39040-03-02 13:40 J -12537876.06 -12537875.93 -12537875.80 0.0088 0.0054

Moon -39040-04-05 17:30 J -12537841.88 -12537841.77 -12537841.66 0.2673 0.1309

Earth -39040-04-05 18:28 J -12537841.84 -12537841.73 -12537841.61 0.2671 0.1166 *

Neptune -39040-05-29 15:50 J -12537787.95 -12537787.84 -12537787.72 0.0088 0.0061

Neptune -39040-08-25 17:45 J -12537699.84 -12537699.76 -12537699.64 0.0088 0.0068

Neptune -39040-11-21 19:54 J -12537611.73 -12537611.67 -12537611.57 0.0088 0.0076

Neptune -39039-02-17 22:04 J -12537523.62 -12537523.58 -12537523.51 0.0088 0.0083

Mars -39037-02-23 03:06 J -12536788.48 -12536788.37 -12536788.27 0.1910 0.1124

Earth -39037-10-15 02:23 J -12536553.51 -12536553.40 -12536553.30 0.2665 0.1343

Moon -39037-10-15 03:06 J -12536553.47 -12536553.37 -12536553.26 0.2668 0.1405 *

Mars -39036-01-05 12:28 J -12536471.09 -12536470.98 -12536470.87 0.1622 0.1005

Venus -39036-04-08 22:47 J -12536377.67 -12536377.55 -12536377.44 0.3630 0.0772

Jupiter -39036-09-28 05:59 J -12536205.35 -12536205.25 -12536205.14 0.0525 0.0392

Jupiter -39036-12-27 01:40 J -12536115.54 -12536115.43 -12536115.30 0.0529 0.0316

Mars -39035-12-12 08:38 J -12535765.20 -12535765.14 -12535765.08 0.1614 0.1438

Saturn -39032-12-05 14:09 J -12534675.96 -12534675.91 -12534675.83 0.0281 0.0255

Saturn -39031-03-04 05:59 J -12534587.38 -12534587.25 -12534587.12 0.0281 0.0142

Saturn -39031-05-31 22:04 J -12534498.74 -12534498.58 -12534498.43 0.0282 0.0027

Saturn -39031-08-28 14:23 J -12534410.05 -12534409.90 -12534409.75 0.0282 0.0092

Venus -39031-10-23 17:30 J -12534353.80 -12534353.77 -12534353.74 0.3634 0.3505

Saturn -39031-11-25 06:57 J -12534321.31 -12534321.21 -12534321.10 0.0282 0.0213

Jupiter -39030-05-17 00:42 J -12534148.62 -12534148.47 -12534148.33 0.0501 0.0093

Jupiter -39030-08-14 14:09 J -12534058.92 -12534058.91 -12534058.90 0.0498 0.0497

Moon -39030-10-08 13:54 J -12534004.03 -12534003.92 -12534003.81 0.2665 0.1327

Earth -39030-10-08 14:52 J -12534003.99 -12534003.88 -12534003.77 0.2661 0.1337 *

Mars -39028-07-15 07:11 J -12533358.33 -12533358.20 -12533358.07 0.1907 0.0149

Moon -39027-04-08 16:33 J -12533090.94 -12533090.81 -12533090.68 0.2676 0.0125

Earth -39027-04-08 17:02 J -12533090.92 -12533090.79 -12533090.66 0.2669 0.0165 *

Mars -39025-05-03 15:50 J -12532334.96 -12532334.84 -12532334.72 0.1616 0.0871

Jupiter -39024-10-15 01:26 J -12531805.58 -12531805.44 -12531805.29 0.0528 0.0127

Earth -39024-10-17 23:16 J -12531802.59 -12531802.53 -12531802.46 0.2667 0.2239

Moon -39024-10-18 00:14 J -12531802.54 -12531802.49 -12531802.43 0.2666 0.2356 *

Mars -39019-12-05 11:45 J -12529928.13 -12529928.01 -12529927.89 0.1905 0.0791

Jupiter -39018-03-05 03:21 J -12529838.49 -12529838.36 -12529838.23 0.0503 0.0231

Jupiter -39018-06-02 16:33 J -12529748.91 -12529748.81 -12529748.70 0.0499 0.0356

Saturn -39017-07-13 08:09 J -12529342.26 -12529342.16 -12529342.06 0.0278 0.0205

Saturn -39017-10-09 23:30 J -12529253.67 -12529253.52 -12529253.38 0.0277 0.0093

Moon -39017-10-10 12:28 J -12529253.10 -12529252.98 -12529252.85 0.2669 0.0450

Earth -39017-10-10 12:42 J -12529253.10 -12529252.97 -12529252.84 0.2663 0.0363 *

Saturn -39016-01-06 14:23 J -12529165.05 -12529164.90 -12529164.74 0.0277 0.0018

Saturn -39016-04-05 05:02 J -12529076.42 -12529076.29 -12529076.15 0.0277 0.0124

Saturn -39016-07-02 19:26 J -12528987.77 -12528987.69 -12528987.61 0.0277 0.0228

Mars -39016-09-23 23:02 J -12528904.68 -12528904.54 -12528904.40 0.1618 0.0290

Earth -39014-04-11 16:04 J -12528339.96 -12528339.83 -12528339.71 0.2668 0.0880

Moon -39014-04-11 16:18 J -12528339.94 -12528339.82 -12528339.70 0.2674 0.0841 *

Jupiter -39012-08-03 02:23 J -12527495.56 -12527495.40 -12527495.25 0.0527 0.0052

Uranus -39011-01-26 22:18 J -12527318.60 -12527318.57 -12527318.51 0.0133 0.0127

Uranus -39011-04-25 02:52 J -12527230.47 -12527230.38 -12527230.28 0.0133 0.0106

Uranus -39011-07-22 07:26 J -12527142.31 -12527142.19 -12527142.07 0.0133 0.0085

Uranus -39011-10-18 11:30 J -12527054.14 -12527054.02 -12527053.87 0.0133 0.0065

Uranus -39010-01-14 16:04 J -12526965.97 -12526965.83 -12526965.68 0.0133 0.0044

Uranus -39010-04-12 20:23 J -12526877.80 -12526877.65 -12526877.50 0.0133 0.0023

Uranus -39010-07-10 00:42 J -12526789.63 -12526789.47 -12526789.32 0.0132 0.0004

Uranus -39010-10-06 04:47 J -12526701.45 -12526701.30 -12526701.14 0.0132 0.0017

Uranus -39009-01-02 09:06 J -12526613.27 -12526613.12 -12526612.98 0.0132 0.0036

Pluto -39009-01-03 21:35 J -12526611.64 -12526611.60 -12526611.54 0.0078 0.0073

Uranus -39009-03-30 12:57 J -12526525.09 -12526524.96 -12526524.81 0.0132 0.0057

Pluto -39009-03-31 23:02 J -12526523.61 -12526523.54 -12526523.45 0.0078 0.0065

Mars -39009-04-26 16:47 J -12526497.86 -12526497.80 -12526497.75 0.1901 0.1689

Uranus -39009-06-26 17:16 J -12526436.90 -12526436.78 -12526436.65 0.0132 0.0076

Pluto -39009-06-28 00:42 J -12526435.57 -12526435.47 -12526435.37 0.0078 0.0057

Uranus -39009-09-22 21:06 J -12526348.71 -12526348.62 -12526348.50 0.0132 0.0095

Pluto -39009-09-24 02:09 J -12526347.52 -12526347.41 -12526347.29 0.0078 0.0049

Uranus -39009-12-20 01:11 J -12526260.51 -12526260.45 -12526260.37 0.0132 0.0114

Pluto -39009-12-21 03:21 J -12526259.47 -12526259.36 -12526259.22 0.0077 0.0042

Pluto -39008-03-19 05:02 J -12526171.42 -12526171.29 -12526171.15 0.0077 0.0034

Pluto -39008-06-15 06:14 J -12526083.37 -12526083.24 -12526083.09 0.0077 0.0027

Pluto -39008-09-11 07:54 J -12525995.31 -12525995.17 -12525995.02 0.0077 0.0018

Pluto -39008-12-08 09:21 J -12525907.26 -12525907.11 -12525906.96 0.0077 0.0011

Pluto -39007-03-06 10:47 J -12525819.20 -12525819.05 -12525818.91 0.0077 0.0004

Moon -39007-04-04 00:28 J -12525790.56 -12525790.48 -12525790.40 0.2671 0.2055

Earth -39007-04-04 01:40 J -12525790.52 -12525790.43 -12525790.35 0.2672 0.1970 *

Pluto -39007-06-02 11:59 J -12525731.14 -12525731.00 -12525730.85 0.0077 0.0005

Pluto -39007-08-29 13:26 J -12525643.09 -12525642.94 -12525642.79 0.0077 0.0012

Pluto -39007-11-25 14:38 J -12525555.03 -12525554.89 -12525554.74 0.0076 0.0019

Jupiter -39007-12-22 05:59 J -12525528.34 -12525528.25 -12525528.15 0.0503 0.0369

Mars -39006-02-14 05:59 J -12525474.39 -12525474.25 -12525474.11 0.1620 0.0306

Pluto -39006-02-21 15:50 J -12525466.97 -12525466.84 -12525466.69 0.0076 0.0027

Jupiter -39006-03-21 18:57 J -12525438.84 -12525438.71 -12525438.57 0.0500 0.0213

Pluto -39006-05-20 17:16 J -12525378.91 -12525378.78 -12525378.64 0.0076 0.0033

Pluto -39006-08-16 18:42 J -12525290.85 -12525290.72 -12525290.60 0.0076 0.0040

Pluto -39006-11-12 19:40 J -12525202.78 -12525202.68 -12525202.55 0.0076 0.0048

Pluto -39005-02-08 20:52 J -12525114.72 -12525114.63 -12525114.51 0.0076 0.0055

Pluto -39005-05-06 22:04 J -12525026.65 -12525026.58 -12525026.48 0.0076 0.0062

Pluto -39005-08-02 23:16 J -12524938.57 -12524938.53 -12524938.45 0.0076 0.0069

Pluto -39005-10-30 00:57 J -12524850.47 -12524850.46 -12524850.44 0.0075 0.0075

Earth -39004-10-13 10:18 J -12524502.19 -12524502.07 -12524501.95 0.2664 0.0584

Moon -39004-10-13 10:33 J -12524502.18 -12524502.06 -12524501.93 0.2671 0.0666 *

Saturn -39002-07-22 06:14 J -12523855.35 -12523855.24 -12523855.12 0.0281 0.0180

Saturn -39002-10-18 22:04 J -12523766.73 -12523766.58 -12523766.43 0.0281 0.0066

Saturn -39001-01-15 14:23 J -12523678.06 -12523677.90 -12523677.75 0.0282 0.0051

Saturn -39001-04-13 06:42 J -12523589.34 -12523589.22 -12523589.09 0.0282 0.0171

Earth -39001-04-13 15:21 J -12523588.95 -12523588.86 -12523588.77 0.2666 0.1947

Moon -39001-04-13 16:18 J -12523588.91 -12523588.82 -12523588.74 0.2670 0.2052 *

39TH MILLENNIUM BCE

This is a list of transits of Mercury in the 39th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Venus -39000-03-30 10:04 J -12523238.14 -12523238.08 -12523238.02 0.3752 0.3271

Jupiter -39000-05-22 03:06 J -12523185.51 -12523185.37 -12523185.23 0.0526 0.0221

Jupiter -39000-08-19 22:33 J -12523095.62 -12523095.56 -12523095.50 0.0530 0.0482

Mars -38998-08-24 02:52 J -12522361.48 -12522361.38 -12522361.27 0.1910 0.1208

Mars -38997-07-06 12:42 J -12522044.08 -12522043.97 -12522043.85 0.1622 0.0917

Moon -38997-10-05 21:06 J -12521952.69 -12521952.62 -12521952.54 0.2660 0.2209

Earth -38997-10-05 22:18 J -12521952.65 -12521952.57 -12521952.50 0.2660 0.2155 *

Mars -38995-06-12 08:38 J -12521338.18 -12521338.14 -12521338.09 0.1615 0.1517

Venus -38995-10-14 08:09 J -12521214.28 -12521214.16 -12521214.03 0.3748 0.0540

Jupiter -38994-01-07 21:21 J -12521128.75 -12521128.61 -12521128.46 0.0500 0.0070

Moon -38994-04-06 23:02 J -12521039.66 -12521039.54 -12521039.42 0.2674 0.1001

Earth -38994-04-06 23:59 J -12521039.62 -12521039.50 -12521039.38 0.2671 0.0993 *

Earth -38991-10-16 07:40 J -12519751.29 -12519751.18 -12519751.08 0.2666 0.1505

Moon -38991-10-16 08:38 J -12519751.24 -12519751.14 -12519751.04 0.2667 0.1547 *

Mars -38988-01-13 07:11 J -12518931.33 -12518931.20 -12518931.07 0.1908 0.0248

Jupiter -38988-03-10 04:18 J -12518875.42 -12518875.32 -12518875.22 0.0525 0.0388

Jupiter -38988-06-08 00:14 J -12518785.61 -12518785.49 -12518785.38 0.0529 0.0321

Mars -38988-11-26 19:11 J -12518613.74 -12518613.70 -12518613.66 0.1624 0.1547

Saturn -38988-11-30 07:26 J -12518610.25 -12518610.19 -12518610.12 0.0277 0.0249

Saturn -38987-02-26 23:02 J -12518521.67 -12518521.54 -12518521.41 0.0277 0.0136

Saturn -38987-05-26 14:09 J -12518433.06 -12518432.91 -12518432.76 0.0277 0.0025

Saturn -38987-08-23 05:02 J -12518344.44 -12518344.29 -12518344.15 0.0277 0.0083

Saturn -38987-11-19 19:11 J -12518255.80 -12518255.70 -12518255.58 0.0277 0.0189

Mars -38986-11-02 16:18 J -12517907.94 -12517907.82 -12517907.71 0.1616 0.0956

Venus -38985-04-30 02:09 J -12517728.52 -12517728.41 -12517728.29 0.3627 0.0965

Moon -38984-10-08 19:26 J -12517201.80 -12517201.69 -12517201.58 0.2665 0.1293

Earth -38984-10-08 20:23 J -12517201.77 -12517201.65 -12517201.54 0.2661 0.1159 *

Jupiter -38983-10-26 23:16 J -12516818.67 -12516818.53 -12516818.38 0.0501 0.0083

Moon -38981-04-08 22:18 J -12516288.70 -12516288.57 -12516288.45 0.2676 0.0127

Earth -38981-04-08 22:33 J -12516288.69 -12516288.56 -12516288.43 0.2669 0.0049 *

Venus -38980-11-13 21:06 J -12515704.72 -12515704.62 -12515704.52 0.3631 0.1824

Mars -38979-06-05 11:59 J -12515501.12 -12515501.00 -12515500.88 0.1904 0.0690

Earth -38978-10-19 04:33 J -12515000.36 -12515000.31 -12515000.25 0.2667 0.2396

Moon -38978-10-19 05:30 J -12515000.32 -12515000.27 -12515000.22 0.2666 0.2420 *

Mars -38976-03-24 23:16 J -12514477.66 -12514477.53 -12514477.39 0.1618 0.0377

Jupiter -38976-03-27 00:57 J -12514475.60 -12514475.46 -12514475.31 0.0528 0.0149

Saturn -38973-12-08 07:11 J -12513123.30 -12513123.20 -12513123.10 0.0281 0.0213

Saturn -38972-03-06 22:47 J -12513034.69 -12513034.55 -12513034.40 0.0282 0.0100

Saturn -38972-06-03 14:52 J -12512946.03 -12512945.88 -12512945.72 0.0282 0.0017

Saturn -38972-08-31 07:26 J -12512857.33 -12512857.19 -12512857.05 0.0282 0.0136

Saturn -38972-11-27 23:59 J -12512768.55 -12512768.50 -12512768.43 0.0282 0.0258

Jupiter -38971-08-15 01:40 J -12512508.56 -12512508.43 -12512508.29 0.0502 0.0226

Moon -38971-10-11 17:59 J -12512450.87 -12512450.75 -12512450.62 0.2670 0.0123

Earth -38971-10-11 17:59 J -12512450.87 -12512450.75 -12512450.62 0.2663 0.0207 *

Jupiter -38971-11-12 14:52 J -12512418.98 -12512418.88 -12512418.77 0.0499 0.0360

Mars -38970-10-26 16:47 J -12512070.87 -12512070.80 -12512070.73 0.1901 0.1599

Uranus -38968-04-10 01:11 J -12511539.47 -12511539.45 -12511539.41 0.0146 0.0143

Earth -38968-04-11 21:35 J -12511537.72 -12511537.60 -12511537.48 0.2667 0.1062

Moon -38968-04-11 22:04 J -12511537.70 -12511537.58 -12511537.46 0.2673 0.1179 *

Uranus -38968-07-07 06:42 J -12511451.31 -12511451.22 -12511451.12 0.0146 0.0116

Uranus -38968-10-03 12:28 J -12511363.11 -12511362.98 -12511362.86 0.0146 0.0089

Uranus -38968-12-30 17:59 J -12511274.89 -12511274.75 -12511274.61 0.0146 0.0062

Uranus -38967-03-28 23:30 J -12511186.67 -12511186.52 -12511186.36 0.0146 0.0035

Uranus -38967-06-25 05:16 J -12511098.44 -12511098.28 -12511098.12 0.0146 0.0008

Mars -38967-08-15 06:14 J -12511047.38 -12511047.24 -12511047.09 0.1620 0.0227

Uranus -38967-09-21 11:02 J -12511010.20 -12511010.04 -12511009.88 0.0146 0.0021

Uranus -38967-12-18 16:47 J -12510921.95 -12510921.80 -12510921.64 0.0146 0.0049

Uranus -38966-03-16 22:47 J -12510833.69 -12510833.55 -12510833.41 0.0146 0.0077

Uranus -38966-06-13 04:33 J -12510745.41 -12510745.31 -12510745.19 0.0146 0.0106

Uranus -38966-09-09 10:33 J -12510657.11 -12510657.06 -12510657.00 0.0146 0.0135

Jupiter -38964-01-13 00:42 J -12510165.62 -12510165.47 -12510165.31 0.0527 0.0043

Neptune -38963-01-30 05:30 J -12509783.29 -12509783.27 -12509783.24 0.0089 0.0087

Neptune -38963-04-28 06:57 J -12509695.25 -12509695.21 -12509695.13 0.0089 0.0081

Neptune -38963-07-25 08:52 J -12509607.19 -12509607.13 -12509607.03 0.0089 0.0075

Neptune -38963-10-21 11:02 J -12509519.13 -12509519.04 -12509518.93 0.0089 0.0067

Neptune -38962-01-17 12:57 J -12509431.06 -12509430.96 -12509430.84 0.0089 0.0060

Neptune -38962-04-15 14:52 J -12509342.99 -12509342.88 -12509342.75 0.0089 0.0053

Neptune -38962-07-12 16:47 J -12509254.92 -12509254.80 -12509254.66 0.0089 0.0046

Neptune -38962-10-08 18:42 J -12509166.85 -12509166.72 -12509166.58 0.0089 0.0039

Neptune -38961-01-04 20:38 J -12509078.77 -12509078.64 -12509078.49 0.0089 0.0032

Neptune -38961-04-01 22:47 J -12508990.70 -12508990.55 -12508990.40 0.0089 0.0025

Moon -38961-04-04 05:59 J -12508988.34 -12508988.25 -12508988.16 0.2671 0.1865

Earth -38961-04-04 06:57 J -12508988.30 -12508988.21 -12508988.11 0.2672 0.1798 *

Neptune -38961-06-29 00:42 J -12508902.62 -12508902.47 -12508902.32 0.0089 0.0018

Neptune -38961-09-25 02:38 J -12508814.54 -12508814.39 -12508814.23 0.0089 0.0011

Neptune -38961-12-22 04:47 J -12508726.46 -12508726.30 -12508726.15 0.0089 0.0004

Neptune -38960-03-20 06:42 J -12508638.37 -12508638.22 -12508638.07 0.0089 0.0004

Neptune -38960-06-16 08:38 J -12508550.29 -12508550.14 -12508549.98 0.0089 0.0011

Neptune -38960-09-12 10:47 J -12508462.20 -12508462.05 -12508461.90 0.0089 0.0018

Neptune -38960-12-09 12:42 J -12508374.12 -12508373.97 -12508373.82 0.0089 0.0025

Neptune -38959-03-07 14:38 J -12508286.03 -12508285.89 -12508285.74 0.0089 0.0033

Jupiter -38959-06-03 04:33 J -12508198.41 -12508198.31 -12508198.21 0.0504 0.0365

Neptune -38959-06-03 16:33 J -12508197.94 -12508197.81 -12508197.66 0.0089 0.0040

Neptune -38959-08-30 18:42 J -12508109.84 -12508109.72 -12508109.58 0.0089 0.0047

Jupiter -38959-08-31 17:16 J -12508108.91 -12508108.78 -12508108.64 0.0500 0.0219

Neptune -38959-11-26 20:38 J -12508021.75 -12508021.64 -12508021.50 0.0089 0.0055

Mars -38958-02-22 03:06 J -12507934.46 -12507934.37 -12507934.27 0.1910 0.1307

Neptune -38958-02-22 22:47 J -12507933.65 -12507933.55 -12507933.43 0.0089 0.0062

Saturn -38958-04-19 10:04 J -12507878.10 -12507878.08 -12507878.05 0.0278 0.0272

Neptune -38958-05-22 00:57 J -12507845.55 -12507845.46 -12507845.36 0.0089 0.0069

Saturn -38958-07-17 01:40 J -12507789.55 -12507789.43 -12507789.30 0.0278 0.0158

Neptune -38958-08-18 02:52 J -12507757.44 -12507757.38 -12507757.29 0.0089 0.0077

Saturn -38958-10-13 17:02 J -12507700.94 -12507700.79 -12507700.64 0.0277 0.0047

Earth -38958-10-14 15:35 J -12507699.97 -12507699.85 -12507699.73 0.2664 0.0750

Moon -38958-10-14 16:04 J -12507699.95 -12507699.83 -12507699.71 0.2670 0.0728 *

Neptune -38958-11-14 05:02 J -12507669.33 -12507669.29 -12507669.23 0.0089 0.0084

Mars -38957-01-05 12:57 J -12507617.08 -12507616.96 -12507616.83 0.1622 0.0833

Saturn -38957-01-10 07:40 J -12507612.32 -12507612.18 -12507612.03 0.0277 0.0063

Saturn -38957-04-07 22:18 J -12507523.69 -12507523.57 -12507523.45 0.0277 0.0168

Saturn -38957-07-05 12:28 J -12507435.00 -12507434.98 -12507434.95 0.0277 0.0271

Mars -38956-12-11 09:06 J -12506911.14 -12506911.12 -12506911.11 0.1615 0.1596

Earth -38955-04-14 20:52 J -12506786.71 -12506786.63 -12506786.55 0.2666 0.2139

Moon -38955-04-14 21:50 J -12506786.67 -12506786.59 -12506786.52 0.2669 0.2166 *

Jupiter -38953-11-01 01:26 J -12505855.58 -12505855.44 -12505855.30 0.0526 0.0218

Jupiter -38952-01-29 20:38 J -12505765.70 -12505765.64 -12505765.58 0.0530 0.0483

Moon -38951-10-07 02:38 J -12505150.47 -12505150.39 -12505150.31 0.2661 0.2062

Earth -38951-10-07 03:35 J -12505150.43 -12505150.35 -12505150.26 0.2660 0.1979 *

Mars -38949-07-14 07:26 J -12504504.32 -12504504.19 -12504504.06 0.1907 0.0336

Moon -38948-04-07 04:33 J -12504237.43 -12504237.31 -12504237.19 0.2675 0.0903

Earth -38948-04-07 05:30 J -12504237.40 -12504237.27 -12504237.15 0.2670 0.0817 *

Mars -38948-05-27 19:26 J -12504186.75 -12504186.69 -12504186.63 0.1625 0.1462

Jupiter -38947-03-22 07:26 J -12503888.20 -12503888.19 -12503888.18 0.0504 0.0502

Jupiter -38947-06-19 19:54 J -12503798.82 -12503798.67 -12503798.52 0.0501 0.0077

Mars -38946-05-03 16:18 J -12503480.92 -12503480.82 -12503480.71 0.1616 0.1035

Earth -38945-10-16 12:57 J -12502949.06 -12502948.96 -12502948.87 0.2666 0.1666

Moon -38945-10-16 13:54 J -12502949.01 -12502948.92 -12502948.83 0.2668 0.1774 *

Venus -38944-11-04 09:06 J -12502565.22 -12502565.12 -12502565.01 0.3751 0.1912

Saturn -38943-04-27 07:40 J -12502391.24 -12502391.18 -12502391.10 0.0281 0.0249

Saturn -38943-07-24 23:16 J -12502302.66 -12502302.53 -12502302.39 0.0281 0.0137

Saturn -38943-10-21 15:21 J -12502214.02 -12502213.86 -12502213.71 0.0281 0.0023

Saturn -38942-01-18 07:26 J -12502125.33 -12502125.19 -12502125.04 0.0282 0.0096

Saturn -38942-04-16 23:59 J -12502036.59 -12502036.50 -12502036.39 0.0282 0.0217

Jupiter -38941-08-20 02:09 J -12501545.51 -12501545.41 -12501545.31 0.0525 0.0391

Jupiter -38941-11-17 21:50 J -12501455.71 -12501455.59 -12501455.47 0.0529 0.0317

Mars -38940-12-04 11:45 J -12501074.13 -12501074.01 -12501073.88 0.1904 0.0614

Venus -38938-05-21 07:26 J -12500541.30 -12500541.19 -12500541.09 0.3747 0.1936

Moon -38938-10-10 00:57 J -12500399.57 -12500399.46 -12500399.34 0.2666 0.0990

Earth -38938-10-10 01:40 J -12500399.55 -12500399.43 -12500399.31 0.2661 0.0988 *

Mars -38937-09-22 23:45 J -12500050.65 -12500050.51 -12500050.38 0.1618 0.0460

Jupiter -38935-04-07 22:33 J -12499488.71 -12499488.56 -12499488.41 0.0501 0.0065

Moon -38935-04-10 03:50 J -12499486.47 -12499486.34 -12499486.21 0.2675 0.0252

Earth -38935-04-10 04:04 J -12499486.46 -12499486.33 -12499486.20 0.2669 0.0201 *

Venus -38934-05-22 05:30 J -12499079.35 -12499079.27 -12499079.20 0.3625 0.2744

Earth -38932-10-19 09:50 J -12498198.12 -12498198.09 -12498198.06 0.2668 0.2553

Moon -38932-10-19 10:33 J -12498198.08 -12498198.06 -12498198.03 0.2664 0.2603 *

Mars -38930-04-26 17:02 J -12497643.87 -12497643.79 -12497643.71 0.1901 0.1497

Jupiter -38929-09-05 23:30 J -12497145.67 -12497145.52 -12497145.38 0.0528 0.0154

Saturn -38929-12-03 00:57 J -12497057.56 -12497057.46 -12497057.35 0.0277 0.0203

Venus -38929-12-05 00:28 J -12497055.60 -12497055.48 -12497055.36 0.3628 0.0118

Saturn -38928-03-01 16:18 J -12496968.96 -12496968.82 -12496968.67 0.0277 0.0090

Earth -38928-04-02 14:23 J -12496936.93 -12496936.90 -12496936.87 0.2674 0.2577

Saturn -38928-05-29 07:26 J -12496880.34 -12496880.19 -12496880.04 0.0277 0.0020

Saturn -38928-08-25 22:04 J -12496791.71 -12496791.58 -12496791.45 0.0277 0.0127

Saturn -38928-11-22 12:28 J -12496703.06 -12496702.98 -12496702.90 0.0277 0.0231

Mars -38927-02-13 06:42 J -12496620.36 -12496620.22 -12496620.08 0.1620 0.0131

Uranus -38927-02-16 05:30 J -12496617.33 -12496617.27 -12496617.21 0.0133 0.0121

Uranus -38927-05-15 09:50 J -12496529.18 -12496529.09 -12496528.98 0.0133 0.0100

Uranus -38927-08-11 14:09 J -12496441.02 -12496440.91 -12496440.77 0.0133 0.0080

Uranus -38927-11-07 18:42 J -12496352.86 -12496352.72 -12496352.58 0.0133 0.0059

Uranus -38926-02-03 23:02 J -12496264.69 -12496264.54 -12496264.39 0.0133 0.0039

Uranus -38926-05-03 03:21 J -12496176.51 -12496176.36 -12496176.21 0.0133 0.0018

Uranus -38926-07-30 07:40 J -12496088.34 -12496088.18 -12496088.03 0.0133 0.0003

Uranus -38926-10-26 11:45 J -12496000.16 -12496000.01 -12495999.86 0.0132 0.0022

Uranus -38925-01-22 16:04 J -12495911.98 -12495911.83 -12495911.69 0.0132 0.0042

Uranus -38925-04-19 19:54 J -12495823.80 -12495823.67 -12495823.53 0.0132 0.0062

Uranus -38925-07-17 00:14 J -12495735.61 -12495735.49 -12495735.37 0.0132 0.0081

Moon -38925-10-11 23:30 J -12495648.65 -12495648.52 -12495648.40 0.2670 0.0112

Earth -38925-10-11 23:30 J -12495648.65 -12495648.52 -12495648.39 0.2663 0.0036 *

Uranus -38925-10-13 04:04 J -12495647.42 -12495647.33 -12495647.22 0.0132 0.0100

Uranus -38924-01-09 08:09 J -12495559.21 -12495559.16 -12495559.09 0.0132 0.0119

Jupiter -38923-01-25 00:42 J -12495178.61 -12495178.47 -12495178.34 0.0502 0.0214

Jupiter -38923-04-24 13:40 J -12495089.02 -12495088.93 -12495088.83 0.0499 0.0372

Venus -38923-06-20 19:26 J -12495031.76 -12495031.69 -12495031.62 0.3632 0.2867

Earth -38922-04-13 03:06 J -12494735.49 -12494735.37 -12494735.25 0.2667 0.1253

Moon -38922-04-13 03:50 J -12494735.46 -12494735.34 -12494735.23 0.2673 0.1220 *

Mars -38919-08-23 03:35 J -12493507.44 -12493507.35 -12493507.27 0.1910 0.1413

Mars -38918-07-06 13:26 J -12493190.07 -12493189.94 -12493189.82 0.1622 0.0747

Jupiter -38917-06-25 00:28 J -12492835.64 -12492835.48 -12492835.33 0.0527 0.0023

Moon -38915-04-05 11:30 J -12492186.12 -12492186.02 -12492185.92 0.2672 0.1671

Earth -38915-04-05 12:28 J -12492186.08 -12492185.98 -12492185.88 0.2672 0.1624 *

Saturn -38914-12-11 23:30 J -12491570.64 -12491570.52 -12491570.40 0.0281 0.0175

Saturn -38913-03-09 15:21 J -12491482.01 -12491481.86 -12491481.71 0.0282 0.0061

Saturn -38913-06-06 07:26 J -12491393.34 -12491393.19 -12491393.03 0.0282 0.0057

Saturn -38913-09-02 23:59 J -12491304.62 -12491304.50 -12491304.37 0.0282 0.0177

Earth -38912-10-14 20:52 J -12490897.74 -12490897.63 -12490897.51 0.2665 0.0919

Moon -38912-10-14 21:35 J -12490897.71 -12490897.60 -12490897.48 0.2669 0.1041 *

Jupiter -38912-11-13 03:06 J -12490868.47 -12490868.37 -12490868.26 0.0503 0.0357

Jupiter -38911-02-10 16:04 J -12490778.97 -12490778.83 -12490778.70 0.0500 0.0226

Mars -38909-01-13 07:26 J -12490077.31 -12490077.19 -12490077.06 0.1907 0.0430

Earth -38909-04-15 02:23 J -12489984.46 -12489984.40 -12489984.33 0.2665 0.2332

Moon -38909-04-15 03:35 J -12489984.40 -12489984.35 -12489984.31 0.2667 0.2477 *

Mars -38909-11-25 19:54 J -12489759.75 -12489759.67 -12489759.60 0.1625 0.1373

Mars -38907-11-01 16:47 J -12489053.90 -12489053.80 -12489053.70 0.1616 0.1116

Jupiter -38905-04-12 23:59 J -12488525.64 -12488525.50 -12488525.36 0.0526 0.0207

Jupiter -38905-07-11 19:26 J -12488435.75 -12488435.69 -12488435.64 0.0529 0.0493

Moon -38905-10-07 08:09 J -12488348.25 -12488348.16 -12488348.08 0.2661 0.1887

Earth -38905-10-07 09:06 J -12488348.21 -12488348.12 -12488348.03 0.2660 0.1800 *

Moon -38902-04-08 10:04 J -12487435.20 -12487435.08 -12487434.95 0.2675 0.0676

Earth -38902-04-08 10:47 J -12487435.17 -12487435.05 -12487434.92 0.2670 0.0641 *

Mars -38900-06-04 12:14 J -12486647.12 -12486646.99 -12486646.87 0.1904 0.0510

Jupiter -38900-09-01 05:45 J -12486558.28 -12486558.26 -12486558.23 0.0505 0.0496

Jupiter -38900-11-29 18:28 J -12486468.88 -12486468.73 -12486468.58 0.0501 0.0084

Saturn -38899-04-22 03:35 J -12486325.44 -12486325.35 -12486325.26 0.0278 0.0227

Saturn -38899-07-19 18:57 J -12486236.85 -12486236.71 -12486236.57 0.0278 0.0114

Saturn -38899-10-16 10:04 J -12486148.23 -12486148.08 -12486147.93 0.0278 0.0003

Earth -38899-10-17 18:14 J -12486146.83 -12486146.74 -12486146.65 0.2666 0.1830

Moon -38899-10-17 19:11 J -12486146.79 -12486146.70 -12486146.62 0.2668 0.1848 *

Saturn -38898-01-13 00:42 J -12486059.60 -12486059.47 -12486059.33 0.0277 0.0105

Saturn -38898-04-11 15:06 J -12485970.96 -12485970.87 -12485970.77 0.0277 0.0211

Mars -38897-03-23 23:59 J -12485623.64 -12485623.50 -12485623.37 0.1618 0.0542

Jupiter -38893-01-31 00:28 J -12484215.58 -12484215.48 -12484215.37 0.0525 0.0385

Jupiter -38893-04-29 20:09 J -12484125.77 -12484125.66 -12484125.54 0.0529 0.0322

Moon -38892-10-10 06:28 J -12483597.35 -12483597.23 -12483597.11 0.2667 0.0880

Earth -38892-10-10 07:11 J -12483597.33 -12483597.20 -12483597.08 0.2662 0.0817 *

Mars -38891-10-25 17:02 J -12483216.88 -12483216.79 -12483216.71 0.1901 0.1421

Moon -38889-04-10 09:35 J -12482684.23 -12482684.10 -12482683.97 0.2675 0.0338

Earth -38889-04-10 09:35 J -12482684.23 -12482684.10 -12482683.97 0.2668 0.0390 *

Mars -38888-08-14 06:57 J -12482193.35 -12482193.21 -12482193.07 0.1620 0.0054

Jupiter -38888-09-17 21:06 J -12482158.77 -12482158.62 -12482158.47 0.0502 0.0057

Venus -38887-06-11 08:09 J -12481892.28 -12481892.16 -12481892.03 0.3750 0.0561

Saturn -38884-04-30 00:28 J -12480838.58 -12480838.48 -12480838.38 0.0281 0.0209

Uranus -38884-04-30 08:23 J -12480838.20 -12480838.15 -12480838.09 0.0146 0.0136

Uranus -38884-07-27 13:54 J -12480750.02 -12480749.92 -12480749.81 0.0146 0.0109

Saturn -38884-07-27 16:04 J -12480749.98 -12480749.83 -12480749.68 0.0281 0.0096 *

Uranus -38884-10-23 19:40 J -12480661.81 -12480661.68 -12480661.55 0.0146 0.0082

Saturn -38884-10-24 08:09 J -12480661.32 -12480661.16 -12480661.01 0.0281 0.0021

Uranus -38883-01-20 01:11 J -12480573.60 -12480573.45 -12480573.30 0.0146 0.0055

Saturn -38883-01-21 00:28 J -12480572.62 -12480572.48 -12480572.34 0.0282 0.0138

Uranus -38883-04-18 06:42 J -12480485.37 -12480485.22 -12480485.06 0.0146 0.0028

Saturn -38883-04-19 17:02 J -12480483.84 -12480483.79 -12480483.72 0.0282 0.0260

Uranus -38883-07-15 12:28 J -12480397.14 -12480396.98 -12480396.82 0.0146 0.0001

Uranus -38883-10-11 18:14 J -12480308.90 -12480308.74 -12480308.58 0.0146 0.0028

Uranus -38882-01-07 23:59 J -12480220.65 -12480220.50 -12480220.35 0.0146 0.0056

Moon -38882-04-03 18:57 J -12480134.77 -12480134.71 -12480134.66 0.2669 0.2385

Earth -38882-04-03 19:54 J -12480134.73 -12480134.67 -12480134.62 0.2673 0.2409 *

Uranus -38882-04-06 05:45 J -12480132.39 -12480132.26 -12480132.12 0.0146 0.0084

Uranus -38882-07-03 11:30 J -12480044.11 -12480044.02 -12480043.91 0.0146 0.0113

Uranus -38882-09-29 17:30 J -12479955.79 -12479955.77 -12479955.72 0.0146 0.0142

Venus -38882-12-26 06:28 J -12479868.28 -12479868.23 -12479868.17 0.3746 0.3359

Jupiter -38881-02-16 21:21 J -12479815.76 -12479815.61 -12479815.46 0.0528 0.0152

Neptune -38880-04-28 16:18 J -12479378.86 -12479378.82 -12479378.77 0.0088 0.0085

Neptune -38880-07-25 18:28 J -12479290.79 -12479290.73 -12479290.63 0.0088 0.0077

Neptune -38880-10-21 21:06 J -12479202.71 -12479202.62 -12479202.51 0.0088 0.0069

Neptune -38879-01-17 23:30 J -12479114.63 -12479114.52 -12479114.39 0.0088 0.0062

Mars -38879-02-21 03:21 J -12479080.44 -12479080.36 -12479080.28 0.1909 0.1492

Neptune -38879-04-16 02:09 J -12479026.54 -12479026.41 -12479026.28 0.0088 0.0054

Neptune -38879-07-13 04:18 J -12478938.45 -12478938.32 -12478938.17 0.0088 0.0047

Neptune -38879-10-09 06:57 J -12478850.36 -12478850.21 -12478850.06 0.0088 0.0039

Earth -38879-10-13 04:47 J -12478846.43 -12478846.30 -12478846.17 0.2663 0.0148

Moon -38879-10-13 04:47 J -12478846.42 -12478846.30 -12478846.17 0.2670 0.0216 *

Mars -38878-01-04 13:40 J -12478763.06 -12478762.93 -12478762.80 0.1622 0.0657

Neptune -38878-01-05 09:06 J -12478762.26 -12478762.12 -12478761.96 0.0088 0.0031

Neptune -38878-04-03 11:45 J -12478674.17 -12478674.01 -12478673.85 0.0088 0.0023

Neptune -38878-06-30 13:54 J -12478586.07 -12478585.92 -12478585.75 0.0088 0.0016

Neptune -38878-09-26 16:18 J -12478497.98 -12478497.82 -12478497.65 0.0088 0.0009

Neptune -38878-12-23 18:42 J -12478409.88 -12478409.72 -12478409.56 0.0088 0.0001

Venus -38878-12-27 03:50 J -12478406.44 -12478406.34 -12478406.23 0.3625 0.1655

Neptune -38877-03-20 21:06 J -12478321.79 -12478321.62 -12478321.46 0.0088 0.0007

Neptune -38877-06-16 23:16 J -12478233.69 -12478233.53 -12478233.37 0.0088 0.0014

Neptune -38877-09-13 01:40 J -12478145.59 -12478145.43 -12478145.27 0.0088 0.0021

Neptune -38877-12-10 03:50 J -12478057.49 -12478057.34 -12478057.18 0.0088 0.0029

Neptune -38876-03-08 05:59 J -12477969.39 -12477969.25 -12477969.10 0.0088 0.0036

Earth -38876-04-13 08:38 J -12477933.25 -12477933.14 -12477933.03 0.2667 0.1438

Moon -38876-04-13 09:21 J -12477933.22 -12477933.11 -12477933.01 0.2673 0.1572 *

Neptune -38876-06-04 08:09 J -12477881.29 -12477881.16 -12477881.01 0.0088 0.0044

Jupiter -38876-07-06 23:45 J -12477848.64 -12477848.51 -12477848.37 0.0502 0.0197

Neptune -38876-08-31 10:33 J -12477793.19 -12477793.06 -12477792.92 0.0088 0.0051

Jupiter -38876-10-04 12:57 J -12477759.05 -12477758.96 -12477758.87 0.0499 0.0390

Neptune -38876-11-27 12:28 J -12477705.08 -12477704.98 -12477704.84 0.0088 0.0059

Neptune -38875-02-23 14:52 J -12477616.98 -12477616.88 -12477616.76 0.0088 0.0065

Neptune -38875-05-22 17:02 J -12477528.87 -12477528.79 -12477528.69 0.0088 0.0073

Neptune -38875-08-18 19:11 J -12477440.75 -12477440.70 -12477440.62 0.0088 0.0080

Neptune -38875-11-14 21:35 J -12477352.62 -12477352.60 -12477352.57 0.0088 0.0087

Venus -38872-07-11 22:47 J -12476382.66 -12476382.55 -12476382.44 0.3629 0.1156

Earth -38872-10-05 16:18 J -12476296.83 -12476296.82 -12476296.81 0.2659 0.2634

Mars -38870-07-14 07:40 J -12475650.30 -12475650.18 -12475650.05 0.1907 0.0535

Saturn -38870-09-09 02:38 J -12475593.42 -12475593.39 -12475593.37 0.0277 0.0273

Jupiter -38870-12-05 22:47 J -12475505.71 -12475505.55 -12475505.40 0.0527 0.0017

Saturn -38870-12-06 17:59 J -12475504.87 -12475504.75 -12475504.62 0.0277 0.0159

Saturn -38869-03-04 09:21 J -12475416.26 -12475416.11 -12475415.96 0.0277 0.0047

Moon -38869-04-05 17:02 J -12475383.90 -12475383.79 -12475383.69 0.2673 0.1569

Earth -38869-04-05 17:59 J -12475383.86 -12475383.75 -12475383.64 0.2672 0.1446 *

Mars -38869-05-26 20:09 J -12475332.74 -12475332.66 -12475332.57 0.1625 0.1282

Saturn -38869-06-01 00:14 J -12475327.64 -12475327.49 -12475327.34 0.0277 0.0062

Saturn -38869-08-28 14:52 J -12475239.00 -12475238.88 -12475238.76 0.0277 0.0168

Saturn -38869-11-25 05:02 J -12475150.31 -12475150.29 -12475150.26 0.0277 0.0271

Mars -38867-05-02 17:02 J -12474626.88 -12474626.79 -12474626.70 0.1616 0.1203

Earth -38866-10-16 02:23 J -12474095.52 -12474095.40 -12474095.29 0.2665 0.1088

Moon -38866-10-16 03:06 J -12474095.48 -12474095.37 -12474095.26 0.2669 0.1067 *

Jupiter -38864-04-25 02:09 J -12473538.52 -12473538.41 -12473538.31 0.0503 0.0343

Jupiter -38864-07-23 14:52 J -12473449.01 -12473448.88 -12473448.75 0.0500 0.0239

Earth -38863-04-16 07:54 J -12473182.20 -12473182.17 -12473182.13 0.2665 0.2525

Moon -38863-04-16 09:06 J -12473182.16 -12473182.12 -12473182.08 0.2666 0.2522 *

Mars -38861-12-03 12:14 J -12472220.11 -12472219.99 -12472219.86 0.1904 0.0415

Moon -38859-10-08 13:26 J -12471546.04 -12471545.94 -12471545.84 0.2662 0.1675

Earth -38859-10-08 14:23 J -12471546.00 -12471545.90 -12471545.79 0.2660 0.1628 *

Mars -38858-09-23 00:14 J -12471196.62 -12471196.49 -12471196.36 0.1618 0.0624

Jupiter -38858-09-23 23:30 J -12471195.66 -12471195.52 -12471195.37 0.0526 0.0184

Jupiter -38858-12-22 18:57 J -12471105.74 -12471105.71 -12471105.68 0.0530 0.0517

Moon -38856-04-08 15:35 J -12470632.98 -12470632.85 -12470632.72 0.2675 0.0512

Earth -38856-04-08 16:18 J -12470632.95 -12470632.82 -12470632.69 0.2670 0.0458 *

Saturn -38855-09-17 00:14 J -12470106.55 -12470106.49 -12470106.42 0.0281 0.0249

Saturn -38855-12-14 15:50 J -12470017.97 -12470017.84 -12470017.71 0.0281 0.0137

Saturn -38854-03-13 07:40 J -12469929.33 -12469929.18 -12469929.02 0.0281 0.0023

Saturn -38854-06-09 23:59 J -12469840.65 -12469840.50 -12469840.35 0.0282 0.0096

Saturn -38854-09-06 16:33 J -12469751.91 -12469751.81 -12469751.71 0.0282 0.0217

Earth -38853-10-17 23:30 J -12469344.60 -12469344.52 -12469344.44 0.2667 0.1990

Moon -38853-10-18 00:28 J -12469344.56 -12469344.48 -12469344.41 0.2667 0.2118 *

Jupiter -38852-02-11 04:47 J -12469228.34 -12469228.30 -12469228.27 0.0504 0.0485

Jupiter -38852-05-11 17:16 J -12469138.93 -12469138.78 -12469138.64 0.0501 0.0094

Mars -38851-04-25 17:02 J -12468789.88 -12468789.79 -12468789.70 0.1901 0.1326

Pluto -38849-12-25 11:02 J -12467815.05 -12467815.04 -12467814.97 0.0066 0.0065

Mars -38848-02-12 07:11 J -12467766.34 -12467766.20 -12467766.05 0.1620 0.0043

Pluto -38848-03-23 12:42 J -12467727.04 -12467726.97 -12467726.89 0.0066 0.0059

Pluto -38848-06-19 13:54 J -12467639.01 -12467638.92 -12467638.81 0.0066 0.0054

Pluto -38848-09-15 14:52 J -12467550.97 -12467550.88 -12467550.74 0.0067 0.0049

Pluto -38848-12-12 16:33 J -12467462.93 -12467462.81 -12467462.68 0.0067 0.0043

Pluto -38847-03-10 17:30 J -12467374.89 -12467374.77 -12467374.61 0.0067 0.0038

Pluto -38847-06-06 18:57 J -12467286.84 -12467286.71 -12467286.55 0.0067 0.0032

Pluto -38847-09-02 20:09 J -12467198.80 -12467198.66 -12467198.49 0.0067 0.0027

Pluto -38847-11-29 21:35 J -12467110.75 -12467110.60 -12467110.43 0.0067 0.0021

Pluto -38846-02-25 23:02 J -12467022.70 -12467022.54 -12467022.37 0.0067 0.0016

Pluto -38846-05-25 00:14 J -12466934.65 -12466934.49 -12466934.31 0.0067 0.0011

Jupiter -38846-07-12 23:16 J -12466885.64 -12466885.53 -12466885.42 0.0525 0.0371

Pluto -38846-08-21 01:40 J -12466846.59 -12466846.43 -12466846.25 0.0067 0.0005

Jupiter -38846-10-10 18:57 J -12466795.82 -12466795.71 -12466795.59 0.0528 0.0334

Moon -38846-10-11 11:59 J -12466795.12 -12466795.00 -12466794.88 0.2668 0.0669

Earth -38846-10-11 12:28 J -12466795.10 -12466794.98 -12466794.86 0.2662 0.0641 *

Pluto -38846-11-17 03:06 J -12466758.54 -12466758.37 -12466758.20 0.0067 0.0002

Pluto -38845-02-13 04:33 J -12466670.48 -12466670.31 -12466670.14 0.0068 0.0007

Pluto -38845-05-11 05:45 J -12466582.42 -12466582.26 -12466582.09 0.0068 0.0013

Pluto -38845-08-07 07:11 J -12466494.36 -12466494.20 -12466494.03 0.0068 0.0019

Pluto -38845-11-03 08:23 J -12466406.30 -12466406.15 -12466405.98 0.0068 0.0025

Pluto -38844-01-30 09:50 J -12466318.23 -12466318.09 -12466317.93 0.0068 0.0031

Pluto -38844-04-28 11:16 J -12466230.16 -12466230.03 -12466229.88 0.0068 0.0037

Pluto -38844-07-25 12:28 J -12466142.09 -12466141.98 -12466141.83 0.0068 0.0044

Pluto -38844-10-21 13:54 J -12466054.02 -12466053.92 -12466053.78 0.0068 0.0050

Pluto -38843-01-17 15:21 J -12465965.94 -12465965.86 -12465965.74 0.0068 0.0056

Uranus -38843-03-08 12:28 J -12465916.05 -12465915.98 -12465915.90 0.0133 0.0116

Earth -38843-04-11 15:06 J -12465882.00 -12465881.87 -12465881.74 0.2668 0.0572

Moon -38843-04-11 15:21 J -12465881.99 -12465881.86 -12465881.74 0.2675 0.0614 *

Pluto -38843-04-15 16:47 J -12465877.85 -12465877.80 -12465877.71 0.0069 0.0062

Uranus -38843-06-04 16:47 J -12465827.90 -12465827.80 -12465827.68 0.0133 0.0095

Pluto -38843-07-12 18:28 J -12465789.74 -12465789.73 -12465789.70 0.0069 0.0068

Uranus -38843-08-31 21:21 J -12465739.73 -12465739.61 -12465739.47 0.0133 0.0074

Uranus -38843-11-28 01:40 J -12465651.56 -12465651.43 -12465651.28 0.0133 0.0054

Uranus -38842-02-24 06:14 J -12465563.39 -12465563.24 -12465563.09 0.0133 0.0033

Uranus -38842-05-23 10:33 J -12465475.22 -12465475.06 -12465474.91 0.0133 0.0013

Uranus -38842-08-19 14:38 J -12465387.04 -12465386.89 -12465386.73 0.0133 0.0008

Uranus -38842-11-15 18:57 J -12465298.86 -12465298.71 -12465298.56 0.0133 0.0027

Uranus -38841-02-11 23:02 J -12465210.68 -12465210.54 -12465210.39 0.0132 0.0047

Uranus -38841-05-10 03:06 J -12465122.50 -12465122.37 -12465122.23 0.0132 0.0067

Uranus -38841-08-06 07:11 J -12465034.31 -12465034.20 -12465034.08 0.0132 0.0086

Uranus -38841-11-02 11:16 J -12464946.12 -12464946.03 -12464945.94 0.0132 0.0106

Uranus -38840-01-29 15:21 J -12464857.90 -12464857.86 -12464857.81 0.0132 0.0125

Jupiter -38840-02-27 19:40 J -12464828.83 -12464828.68 -12464828.53 0.0502 0.0050

Saturn -38840-04-24 20:23 J -12464772.76 -12464772.65 -12464772.54 0.0278 0.0185

Saturn -38840-07-22 11:45 J -12464684.16 -12464684.01 -12464683.86 0.0278 0.0073

Mars -38840-08-22 03:35 J -12464653.42 -12464653.35 -12464653.27 0.1910 0.1598

Saturn -38840-10-19 02:38 J -12464595.54 -12464595.39 -12464595.23 0.0278 0.0039

Saturn -38839-01-15 17:16 J -12464506.90 -12464506.78 -12464506.64 0.0277 0.0146

Saturn -38839-04-14 07:40 J -12464418.24 -12464418.18 -12464418.11 0.0277 0.0250

Mars -38839-07-05 13:54 J -12464336.05 -12464335.92 -12464335.78 0.1622 0.0574

Moon -38836-04-04 00:14 J -12463332.54 -12463332.49 -12463332.43 0.2669 0.2372

Earth -38836-04-04 01:11 J -12463332.52 -12463332.45 -12463332.38 0.2673 0.2238 *

Venus -38836-07-02 09:21 J -12463243.19 -12463243.11 -12463243.04 0.3753 0.2957

Jupiter -38834-07-29 19:54 J -12462485.82 -12462485.67 -12462485.53 0.0527 0.0160

Earth -38833-10-13 10:04 J -12462044.20 -12462044.08 -12462043.95 0.2664 0.0327

Moon -38833-10-13 10:18 J -12462044.19 -12462044.07 -12462043.94 0.2670 0.0304 *

Mars -38830-01-12 07:54 J -12461223.30 -12461223.17 -12461223.05 0.1907 0.0620

Venus -38830-01-16 07:11 J -12461219.32 -12461219.20 -12461219.08 0.3749 0.0821

Earth -38830-04-14 14:09 J -12461131.01 -12461130.91 -12461130.80 0.2666 0.1633

Moon -38830-04-14 14:52 J -12461130.98 -12461130.88 -12461130.77 0.2672 0.1620 *

Mars -38830-11-25 20:23 J -12460905.74 -12460905.65 -12460905.55 0.1625 0.1198

Jupiter -38829-12-16 22:18 J -12460518.70 -12460518.57 -12460518.43 0.0503 0.0189

Jupiter -38828-03-16 11:30 J -12460429.11 -12460429.02 -12460428.93 0.0499 0.0398

Mars -38828-10-31 17:16 J -12460199.87 -12460199.78 -12460199.70 0.1617 0.1279

Venus -38826-01-17 07:11 J -12459757.24 -12459757.20 -12459757.17 0.3623 0.3464

Moon -38826-10-06 20:38 J -12459494.69 -12459494.64 -12459494.59 0.2657 0.2450

Earth -38826-10-06 21:50 J -12459494.64 -12459494.59 -12459494.55 0.2659 0.2458 *

Saturn -38825-05-02 16:47 J -12459285.92 -12459285.80 -12459285.67 0.0281 0.0170

Saturn -38825-07-30 08:38 J -12459197.29 -12459197.14 -12459196.99 0.0281 0.0057

Saturn -38825-10-27 00:42 J -12459108.62 -12459108.47 -12459108.32 0.0281 0.0060

Saturn -38824-01-23 17:02 J -12459019.91 -12459019.79 -12459019.66 0.0281 0.0180

Moon -38823-04-06 22:18 J -12458581.68 -12458581.57 -12458581.46 0.2674 0.1274

Earth -38823-04-06 23:16 J -12458581.64 -12458581.53 -12458581.41 0.2671 0.1277 *

Jupiter -38822-05-17 20:38 J -12458175.79 -12458175.64 -12458175.48 0.0527 0.0019

Mars -38821-06-03 12:14 J -12457793.12 -12457792.99 -12457792.86 0.1904 0.0331

Venus -38821-08-02 02:09 J -12457733.53 -12457733.41 -12457733.29 0.3626 0.0589

Earth -38820-10-16 07:26 J -12457293.30 -12457293.19 -12457293.07 0.2665 0.1250

Moon -38820-10-16 08:23 J -12457293.26 -12457293.15 -12457293.05 0.2669 0.1382 *

Mars -38818-03-24 00:28 J -12456769.61 -12456769.48 -12456769.35 0.1618 0.0708

Jupiter -38817-10-05 01:11 J -12456208.56 -12456208.45 -12456208.34 0.0503 0.0327

Jupiter -38816-01-02 14:09 J -12456119.04 -12456118.91 -12456118.79 0.0500 0.0256

Venus -38815-02-15 21:06 J -12455709.71 -12455709.62 -12455709.53 0.3630 0.2208

Moon -38813-10-08 18:57 J -12454743.81 -12454743.71 -12454743.60 0.2664 0.1566

Earth -38813-10-08 19:54 J -12454743.78 -12454743.67 -12454743.56 0.2661 0.1448 *

Mars -38812-10-24 17:16 J -12454362.87 -12454362.78 -12454362.68 0.1901 0.1228

Saturn -38811-09-11 19:40 J -12454040.77 -12454040.68 -12454040.60 0.0278 0.0230

Saturn -38811-12-09 11:02 J -12453952.18 -12453952.04 -12453951.90 0.0277 0.0117

Jupiter -38810-03-05 22:04 J -12453865.73 -12453865.58 -12453865.44 0.0526 0.0179

Saturn -38810-03-08 02:09 J -12453863.56 -12453863.41 -12453863.25 0.0277 0.0011

Moon -38810-04-09 21:21 J -12453830.74 -12453830.61 -12453830.48 0.2675 0.0336

Earth -38810-04-09 21:50 J -12453830.72 -12453830.59 -12453830.46 0.2670 0.0279 *

Jupiter -38810-06-03 17:16 J -12453775.80 -12453775.78 -12453775.76 0.0530 0.0523

Saturn -38810-06-04 17:02 J -12453774.93 -12453774.79 -12453774.65 0.0277 0.0103

Saturn -38810-09-01 07:26 J -12453686.28 -12453686.19 -12453686.09 0.0277 0.0209

Mars -38809-08-13 07:40 J -12453339.33 -12453339.18 -12453339.04 0.1620 0.0126

Earth -38807-10-19 04:47 J -12452542.38 -12452542.30 -12452542.23 0.2667 0.2151

Moon -38807-10-19 05:30 J -12452542.34 -12452542.27 -12452542.19 0.2665 0.2138 *

Jupiter -38805-07-24 03:35 J -12451898.39 -12451898.35 -12451898.30 0.0504 0.0471

Jupiter -38805-10-21 16:04 J -12451808.97 -12451808.83 -12451808.68 0.0501 0.0108

Mars -38800-02-20 04:04 J -12450226.39 -12450226.33 -12450226.28 0.1909 0.1701

Uranus -38800-05-20 15:35 J -12450136.91 -12450136.85 -12450136.77 0.0146 0.0129

Uranus -38800-08-16 21:06 J -12450048.72 -12450048.62 -12450048.50 0.0146 0.0102

Moon -38800-10-11 17:30 J -12449992.90 -12449992.77 -12449992.65 0.2669 0.0501

Earth -38800-10-11 17:45 J -12449992.88 -12449992.76 -12449992.63 0.2662 0.0474 *

Uranus -38800-11-13 02:38 J -12449960.52 -12449960.39 -12449960.25 0.0146 0.0075

Mars -38799-01-03 14:23 J -12449909.04 -12449908.90 -12449908.77 0.1622 0.0486

Uranus -38799-02-09 08:23 J -12449872.30 -12449872.15 -12449872.00 0.0146 0.0048

Uranus -38799-05-08 13:54 J -12449784.07 -12449783.92 -12449783.76 0.0146 0.0021

Uranus -38799-08-04 19:40 J -12449695.84 -12449695.68 -12449695.52 0.0146 0.0007

Neptune -38799-10-27 04:33 J -12449612.34 -12449612.31 -12449612.25 0.0089 0.0084

Uranus -38799-11-01 01:26 J -12449607.60 -12449607.44 -12449607.28 0.0146 0.0035

Jupiter -38799-12-22 22:47 J -12449555.66 -12449555.55 -12449555.43 0.0525 0.0349

Neptune -38798-01-23 06:28 J -12449524.29 -12449524.23 -12449524.15 0.0089 0.0077

Uranus -38798-01-28 07:11 J -12449519.34 -12449519.20 -12449519.05 0.0146 0.0063

Jupiter -38798-03-22 18:42 J -12449465.83 -12449465.72 -12449465.61 0.0529 0.0358

Neptune -38798-04-21 08:23 J -12449436.23 -12449436.15 -12449436.05 0.0089 0.0070

Uranus -38798-04-26 12:57 J -12449431.08 -12449430.96 -12449430.83 0.0146 0.0091

Neptune -38798-07-18 10:18 J -12449348.17 -12449348.07 -12449347.96 0.0089 0.0063

Uranus -38798-07-23 18:42 J -12449342.80 -12449342.72 -12449342.62 0.0146 0.0120

Neptune -38798-10-14 12:14 J -12449260.10 -12449259.99 -12449259.87 0.0089 0.0056

Neptune -38797-01-10 14:09 J -12449172.03 -12449171.91 -12449171.78 0.0089 0.0049

Neptune -38797-04-07 16:04 J -12449083.96 -12449083.83 -12449083.69 0.0089 0.0042

Earth -38797-04-11 20:38 J -12449079.76 -12449079.64 -12449079.51 0.2668 0.0759

Moon -38797-04-11 20:52 J -12449079.75 -12449079.63 -12449079.50 0.2675 0.0764 *

Neptune -38797-07-04 17:59 J -12448995.88 -12448995.75 -12448995.60 0.0089 0.0036

Neptune -38797-09-30 19:54 J -12448907.81 -12448907.67 -12448907.52 0.0089 0.0029

Neptune -38797-12-27 22:04 J -12448819.73 -12448819.58 -12448819.43 0.0089 0.0021

Neptune -38796-03-25 23:59 J -12448731.65 -12448731.50 -12448731.35 0.0089 0.0014

Neptune -38796-06-22 01:54 J -12448643.57 -12448643.42 -12448643.27 0.0089 0.0007

Neptune -38796-09-18 03:50 J -12448555.49 -12448555.34 -12448555.18 0.0089 0.0003

Saturn -38796-09-19 16:18 J -12448553.91 -12448553.82 -12448553.72 0.0281 0.0213

Neptune -38796-12-15 05:59 J -12448467.40 -12448467.25 -12448467.10 0.0089 0.0008

Saturn -38796-12-17 07:54 J -12448465.31 -12448465.17 -12448465.02 0.0281 0.0101

Neptune -38795-03-13 07:54 J -12448379.32 -12448379.17 -12448379.02 0.0089 0.0015

Saturn -38795-03-15 23:59 J -12448376.66 -12448376.50 -12448376.34 0.0281 0.0016

Neptune -38795-06-09 09:50 J -12448291.23 -12448291.09 -12448290.94 0.0089 0.0022

Saturn -38795-06-12 16:18 J -12448287.96 -12448287.82 -12448287.68 0.0282 0.0135

Neptune -38795-09-05 11:59 J -12448203.15 -12448203.00 -12448202.86 0.0089 0.0029

Saturn -38795-09-09 09:06 J -12448199.18 -12448199.12 -12448199.06 0.0282 0.0256

Neptune -38795-12-02 13:54 J -12448115.06 -12448114.92 -12448114.78 0.0089 0.0036

Neptune -38794-02-28 15:50 J -12448026.97 -12448026.84 -12448026.70 0.0089 0.0044

Neptune -38794-05-27 17:59 J -12447938.87 -12447938.75 -12447938.62 0.0089 0.0051

Neptune -38794-08-23 20:09 J -12447850.78 -12447850.66 -12447850.54 0.0089 0.0058

Neptune -38794-11-19 21:50 J -12447762.68 -12447762.59 -12447762.47 0.0089 0.0066

Neptune -38793-02-15 23:59 J -12447674.57 -12447674.50 -12447674.40 0.0089 0.0073

Neptune -38793-05-14 02:23 J -12447586.46 -12447586.40 -12447586.34 0.0089 0.0080

Jupiter -38793-08-09 18:28 J -12447498.87 -12447498.73 -12447498.58 0.0502 0.0040

Neptune -38793-08-10 04:04 J -12447498.33 -12447498.33 -12447498.29 0.0089 0.0088

Mars -38791-07-13 07:54 J -12446796.29 -12446796.17 -12446796.05 0.1907 0.0715

Moon -38790-04-05 05:45 J -12446530.34 -12446530.26 -12446530.18 0.2671 0.2057

Earth -38790-04-05 06:42 J -12446530.30 -12446530.22 -12446530.14 0.2673 0.2070 *

Mars -38790-05-26 20:52 J -12446478.74 -12446478.63 -12446478.53 0.1625 0.1109

Mars -38788-05-01 17:30 J -12445772.84 -12445772.77 -12445772.70 0.1616 0.1360

Earth -38787-10-14 15:21 J -12445241.98 -12445241.86 -12445241.73 0.2664 0.0494

Moon -38787-10-14 15:50 J -12445241.96 -12445241.84 -12445241.71 0.2670 0.0540 *

Jupiter -38786-01-08 18:42 J -12445155.86 -12445155.72 -12445155.57 0.0527 0.0175

Earth -38784-04-14 19:40 J -12444328.77 -12444328.68 -12444328.58 0.2666 0.1819

Moon -38784-04-14 20:38 J -12444328.73 -12444328.64 -12444328.55 0.2670 0.1932 *

Mars -38782-12-03 12:28 J -12443366.11 -12443365.98 -12443365.85 0.1904 0.0233

Saturn -38781-01-29 21:21 J -12443308.66 -12443308.61 -12443308.55 0.0278 0.0260

Saturn -38781-04-27 12:57 J -12443220.09 -12443219.96 -12443219.82 0.0278 0.0145

Jupiter -38781-05-28 20:52 J -12443188.76 -12443188.63 -12443188.49 0.0503 0.0182

Saturn -38781-07-25 04:18 J -12443131.47 -12443131.32 -12443131.17 0.0278 0.0033

Jupiter -38781-08-26 10:04 J -12443099.16 -12443099.08 -12443098.99 0.0500 0.0407

Saturn -38781-10-21 19:11 J -12443042.84 -12443042.70 -12443042.55 0.0278 0.0077

Saturn -38780-01-18 09:50 J -12442954.20 -12442954.09 -12442953.98 0.0278 0.0184

Moon -38780-10-07 02:09 J -12442692.46 -12442692.41 -12442692.36 0.2658 0.2432

Earth -38780-10-07 03:06 J -12442692.43 -12442692.37 -12442692.30 0.2659 0.2276 *

Venus -38779-02-06 08:23 J -12442570.27 -12442570.15 -12442570.04 0.3752 0.1636

Mars -38779-09-22 00:42 J -12442342.59 -12442342.47 -12442342.34 0.1618 0.0790

Moon -38777-04-07 03:50 J -12441779.45 -12441779.34 -12441779.23 0.2674 0.1245

Earth -38777-04-07 04:47 J -12441779.42 -12441779.30 -12441779.18 0.2671 0.1095 *

Jupiter -38775-10-27 19:26 J -12440845.84 -12440845.69 -12440845.54 0.0526 0.0004

Venus -38774-08-23 06:28 J -12440546.33 -12440546.23 -12440546.13 0.3748 0.2219

Earth -38774-10-17 12:57 J -12440491.07 -12440490.96 -12440490.86 0.2666 0.1415

Moon -38774-10-17 13:40 J -12440491.03 -12440490.93 -12440490.82 0.2669 0.1408 *

Mars -38772-04-24 17:16 J -12439935.88 -12439935.78 -12439935.68 0.1900 0.1145

Venus -38770-08-24 05:30 J -12439084.36 -12439084.27 -12439084.18 0.3624 0.2371

Mars -38769-02-12 07:54 J -12438912.31 -12438912.17 -12438912.03 0.1620 0.0205

Jupiter -38769-03-16 23:45 J -12438878.62 -12438878.51 -12438878.40 0.0504 0.0320

Jupiter -38769-06-14 12:28 J -12438789.10 -12438788.98 -12438788.85 0.0500 0.0265

Moon -38767-10-10 00:28 J -12437941.59 -12437941.48 -12437941.37 0.2665 0.1266

Earth -38767-10-10 01:26 J -12437941.56 -12437941.44 -12437941.33 0.2661 0.1279 *

Saturn -38766-02-06 17:45 J -12437821.82 -12437821.76 -12437821.67 0.0280 0.0243

Saturn -38766-05-06 09:21 J -12437733.24 -12437733.11 -12437732.97 0.0281 0.0131

Saturn -38766-08-03 01:11 J -12437644.60 -12437644.45 -12437644.29 0.0281 0.0017

Saturn -38766-10-30 17:16 J -12437555.92 -12437555.78 -12437555.63 0.0281 0.0102

Saturn -38765-01-27 09:50 J -12437467.18 -12437467.09 -12437466.99 0.0281 0.0222

Venus -38764-03-09 00:28 J -12437060.59 -12437060.48 -12437060.36 0.3627 0.0491

Moon -38764-04-10 03:06 J -12437028.50 -12437028.37 -12437028.25 0.2675 0.0114

Earth -38764-04-10 03:21 J -12437028.49 -12437028.36 -12437028.23 0.2669 0.0096 *

Jupiter -38763-08-15 20:09 J -12436535.81 -12436535.66 -12436535.52 0.0526 0.0177

Jupiter -38763-11-13 15:21 J -12436445.87 -12436445.86 -12436445.84 0.0530 0.0524

Pluto -38762-08-07 08:09 J -12436179.19 -12436179.16 -12436179.09 0.0078 0.0074

Pluto -38762-11-03 09:50 J -12436091.16 -12436091.09 -12436091.00 0.0078 0.0066

Pluto -38761-01-30 11:16 J -12436003.11 -12436003.03 -12436002.92 0.0078 0.0058

Pluto -38761-04-27 12:57 J -12435915.07 -12435914.96 -12435914.84 0.0078 0.0050

Pluto -38761-07-24 14:09 J -12435827.02 -12435826.91 -12435826.77 0.0077 0.0043

Mars -38761-08-21 03:50 J -12435799.38 -12435799.34 -12435799.29 0.1909 0.1782

Earth -38761-10-19 09:50 J -12435740.14 -12435740.09 -12435740.03 0.2667 0.2312

Moon -38761-10-19 10:47 J -12435740.09 -12435740.05 -12435740.00 0.2664 0.2445 *

Pluto -38761-10-20 15:50 J -12435738.97 -12435738.84 -12435738.70 0.0077 0.0034

Pluto -38760-01-16 17:16 J -12435650.92 -12435650.78 -12435650.64 0.0077 0.0026

Pluto -38760-04-14 18:42 J -12435562.86 -12435562.72 -12435562.57 0.0077 0.0019

Mars -38760-07-04 14:38 J -12435482.03 -12435481.89 -12435481.75 0.1622 0.0398

Pluto -38760-07-11 20:09 J -12435474.81 -12435474.66 -12435474.51 0.0077 0.0011

Pluto -38760-10-07 21:35 J -12435386.75 -12435386.60 -12435386.45 0.0077 0.0004

Uranus -38760-12-30 14:38 J -12435302.89 -12435302.89 -12435302.86 0.0133 0.0132

Pluto -38759-01-03 22:47 J -12435298.69 -12435298.55 -12435298.40 0.0077 0.0004

Uranus -38759-03-28 19:11 J -12435214.77 -12435214.70 -12435214.60 0.0133 0.0111

Pluto -38759-04-02 00:14 J -12435210.64 -12435210.49 -12435210.34 0.0076 0.0011

Uranus -38759-06-24 23:45 J -12435126.62 -12435126.51 -12435126.39 0.0133 0.0090

Pluto -38759-06-29 01:26 J -12435122.58 -12435122.44 -12435122.29 0.0076 0.0019

Uranus -38759-09-21 04:18 J -12435038.45 -12435038.32 -12435038.19 0.0133 0.0069

Venus -38759-09-22 19:26 J -12435036.74 -12435036.69 -12435036.64 0.3631 0.3254

Pluto -38759-09-25 02:52 J -12435034.52 -12435034.38 -12435034.24 0.0076 0.0025

Uranus -38759-12-18 08:38 J -12434950.28 -12434950.14 -12434949.99 0.0133 0.0049

Pluto -38759-12-22 03:50 J -12434946.46 -12434946.34 -12434946.19 0.0076 0.0033

Uranus -38758-03-16 12:57 J -12434862.11 -12434861.96 -12434861.81 0.0133 0.0028

Pluto -38758-03-20 05:16 J -12434858.39 -12434858.28 -12434858.14 0.0076 0.0040

Uranus -38758-06-12 17:16 J -12434773.94 -12434773.78 -12434773.63 0.0133 0.0008

Pluto -38758-06-16 06:28 J -12434770.33 -12434770.23 -12434770.10 0.0076 0.0047

Uranus -38758-09-08 21:21 J -12434685.76 -12434685.61 -12434685.45 0.0133 0.0013

Pluto -38758-09-12 07:40 J -12434682.27 -12434682.18 -12434682.06 0.0076 0.0054

Uranus -38758-12-06 01:40 J -12434597.58 -12434597.43 -12434597.28 0.0133 0.0032

Pluto -38758-12-09 08:52 J -12434594.20 -12434594.13 -12434594.03 0.0076 0.0061

Jupiter -38757-01-04 02:38 J -12434568.45 -12434568.39 -12434568.33 0.0505 0.0457

Uranus -38757-03-03 05:45 J -12434509.40 -12434509.26 -12434509.11 0.0133 0.0052

Pluto -38757-03-06 10:04 J -12434506.12 -12434506.08 -12434506.00 0.0075 0.0068

Jupiter -38757-04-02 15:06 J -12434479.01 -12434478.87 -12434478.72 0.0501 0.0124

Uranus -38757-05-30 09:50 J -12434421.21 -12434421.09 -12434420.95 0.0133 0.0072

Pluto -38757-06-02 11:16 J -12434418.03 -12434418.03 -12434417.98 0.0075 0.0075

Uranus -38757-08-26 14:09 J -12434333.02 -12434332.91 -12434332.80 0.0132 0.0091

Uranus -38757-11-22 17:59 J -12434244.82 -12434244.75 -12434244.66 0.0132 0.0110

Uranus -38756-02-18 21:50 J -12434156.60 -12434156.59 -12434156.54 0.0132 0.0130

Moon -38754-10-12 22:47 J -12433190.67 -12433190.55 -12433190.42 0.2669 0.0359

Earth -38754-10-12 23:16 J -12433190.66 -12433190.53 -12433190.41 0.2663 0.0299 *

Saturn -38752-09-14 12:14 J -12432488.09 -12432487.99 -12432487.87 0.0278 0.0189

Saturn -38752-12-12 03:50 J -12432399.49 -12432399.34 -12432399.19 0.0277 0.0076

Mars -38751-01-11 08:09 J -12432369.28 -12432369.16 -12432369.04 0.1907 0.0812

Saturn -38751-03-10 18:57 J -12432310.86 -12432310.71 -12432310.56 0.0277 0.0035

Earth -38751-04-13 02:09 J -12432277.53 -12432277.41 -12432277.28 0.2668 0.0948

Moon -38751-04-13 02:23 J -12432277.52 -12432277.40 -12432277.27 0.2675 0.0968 *

Jupiter -38751-06-03 21:06 J -12432225.74 -12432225.62 -12432225.50 0.0525 0.0344

Saturn -38751-06-07 09:35 J -12432222.23 -12432222.10 -12432221.97 0.0277 0.0143

Jupiter -38751-09-01 17:02 J -12432135.90 -12432135.79 -12432135.68 0.0529 0.0362

Saturn -38751-09-03 23:45 J -12432133.56 -12432133.51 -12432133.43 0.0277 0.0248

Mars -38751-11-24 21:06 J -12432051.73 -12432051.62 -12432051.51 0.1625 0.1021

Mars -38749-10-30 17:45 J -12431345.82 -12431345.76 -12431345.70 0.1617 0.1445

Jupiter -38745-01-20 17:30 J -12430168.92 -12430168.77 -12430168.62 0.0502 0.0025

Moon -38744-04-05 11:02 J -12429728.12 -12429728.04 -12429727.96 0.2672 0.2030

Earth -38744-04-05 11:59 J -12429728.09 -12429728.00 -12429727.91 0.2672 0.1898 *

Mars -38742-06-03 12:42 J -12428939.10 -12428938.97 -12428938.84 0.1904 0.0133

Earth -38741-10-14 20:52 J -12428439.75 -12428439.63 -12428439.51 0.2664 0.0655

Moon -38741-10-14 21:21 J -12428439.73 -12428439.61 -12428439.49 0.2670 0.0692 *

Jupiter -38739-03-22 21:50 J -12427915.61 -12427915.59 -12427915.56 0.0524 0.0516

Mars -38739-03-23 01:11 J -12427915.57 -12427915.45 -12427915.33 0.1618 0.0875 *

Jupiter -38739-06-20 18:14 J -12427825.88 -12427825.74 -12427825.60 0.0528 0.0196

Earth -38738-04-16 01:26 J -12427526.53 -12427526.44 -12427526.35 0.2666 0.2013

Moon -38738-04-16 02:23 J -12427526.48 -12427526.40 -12427526.31 0.2669 0.2066 *

Saturn -38737-09-22 08:38 J -12427001.25 -12427001.14 -12427001.02 0.0281 0.0176

Saturn -38737-12-20 00:28 J -12426912.63 -12426912.48 -12426912.33 0.0281 0.0062

Saturn -38736-03-18 16:18 J -12426823.97 -12426823.82 -12426823.66 0.0281 0.0056

Saturn -38736-06-15 08:52 J -12426735.25 -12426735.13 -12426735.01 0.0281 0.0174

Moon -38734-10-08 07:40 J -12425890.26 -12425890.18 -12425890.11 0.2659 0.2097

Earth -38734-10-08 08:38 J -12425890.22 -12425890.14 -12425890.06 0.2660 0.2099 *

Jupiter -38734-11-08 19:54 J -12425858.81 -12425858.67 -12425858.53 0.0503 0.0168

Jupiter -38733-02-06 09:06 J -12425769.20 -12425769.12 -12425769.04 0.0499 0.0419

Mars -38733-10-23 17:30 J -12425508.88 -12425508.77 -12425508.67 0.1901 0.1055

Moon -38731-04-08 09:21 J -12424977.23 -12424977.11 -12424976.99 0.2674 0.0908

Earth -38731-04-08 10:18 J -12424977.19 -12424977.07 -12424976.95 0.2671 0.0918 *

Mars -38730-08-13 08:09 J -12424485.30 -12424485.16 -12424485.02 0.1620 0.0288

Earth -38728-10-17 18:14 J -12423688.84 -12423688.74 -12423688.64 0.2666 0.1576

Moon -38728-10-17 18:57 J -12423688.80 -12423688.71 -12423688.61 0.2668 0.1679 *

Jupiter -38727-04-08 18:28 J -12423515.89 -12423515.73 -12423515.58 0.0526 0.0016

Venus -38723-09-13 07:26 J -12421897.32 -12421897.19 -12421897.07 0.3751 0.0282

Saturn -38722-02-01 14:09 J -12421756.00 -12421755.91 -12421755.82 0.0279 0.0219

Saturn -38722-05-01 05:45 J -12421667.41 -12421667.26 -12421667.12 0.0278 0.0105

Saturn -38722-07-28 20:52 J -12421578.78 -12421578.63 -12421578.48 0.0278 0.0007

Jupiter -38722-08-27 22:04 J -12421548.69 -12421548.58 -12421548.46 0.0504 0.0315

Saturn -38722-10-25 11:45 J -12421490.15 -12421490.01 -12421489.87 0.0278 0.0116

Jupiter -38722-11-25 11:02 J -12421459.16 -12421459.04 -12421458.91 0.0501 0.0272

Saturn -38721-01-22 02:09 J -12421401.49 -12421401.41 -12421401.32 0.0278 0.0223

Mars -38721-02-20 04:04 J -12421372.34 -12421372.33 -12421372.31 0.1909 0.1883

Moon -38721-10-10 05:59 J -12421139.36 -12421139.25 -12421139.14 0.2666 0.1237

Earth -38721-10-10 06:42 J -12421139.34 -12421139.22 -12421139.10 0.2661 0.1097 *

Mars -38720-01-02 14:52 J -12421055.02 -12421054.88 -12421054.74 0.1623 0.0316

Moon -38718-04-11 08:38 J -12420226.27 -12420226.14 -12420226.01 0.2676 0.0045

Earth -38718-04-11 08:52 J -12420226.26 -12420226.13 -12420226.00 0.2669 0.0099 *

Venus -38717-03-29 05:45 J -12419873.29 -12419873.26 -12419873.24 0.3747 0.3650

Uranus -38716-06-09 22:47 J -12419435.63 -12419435.55 -12419435.46 0.0146 0.0122

Uranus -38716-09-06 04:04 J -12419347.44 -12419347.33 -12419347.20 0.0146 0.0096

Neptune -38716-10-27 13:11 J -12419295.96 -12419295.95 -12419295.93 0.0088 0.0088

Uranus -38716-12-03 09:50 J -12419259.23 -12419259.09 -12419258.95 0.0146 0.0069

Neptune -38715-01-23 15:21 J -12419207.91 -12419207.86 -12419207.77 0.0088 0.0080

Jupiter -38715-01-25 18:57 J -12419205.86 -12419205.71 -12419205.57 0.0525 0.0163

Uranus -38715-03-01 15:21 J -12419171.01 -12419170.86 -12419170.70 0.0146 0.0042

Neptune -38715-04-21 17:59 J -12419119.83 -12419119.75 -12419119.64 0.0088 0.0072

Uranus -38715-05-28 21:06 J -12419082.78 -12419082.62 -12419082.46 0.0146 0.0014

Neptune -38715-07-18 20:38 J -12419031.75 -12419031.64 -12419031.52 0.0088 0.0064

Uranus -38715-08-25 02:38 J -12418994.54 -12418994.39 -12418994.23 0.0146 0.0014

Neptune -38715-10-14 23:02 J -12418943.66 -12418943.54 -12418943.41 0.0088 0.0057

Earth -38715-10-20 15:06 J -12418937.91 -12418937.87 -12418937.82 0.2667 0.2470

Moon -38715-10-20 16:04 J -12418937.87 -12418937.83 -12418937.78 0.2665 0.2455 *

Uranus -38715-11-21 08:23 J -12418906.30 -12418906.15 -12418905.99 0.0146 0.0041

Neptune -38714-01-11 01:11 J -12418855.57 -12418855.45 -12418855.30 0.0088 0.0050

Uranus -38714-02-17 14:09 J -12418818.05 -12418817.91 -12418817.76 0.0146 0.0070

Neptune -38714-04-09 03:50 J -12418767.48 -12418767.34 -12418767.19 0.0088 0.0041

Uranus -38714-05-16 19:54 J -12418729.78 -12418729.67 -12418729.54 0.0146 0.0098

Neptune -38714-07-06 06:28 J -12418679.39 -12418679.23 -12418679.08 0.0088 0.0034

Uranus -38714-08-13 01:54 J -12418641.49 -12418641.42 -12418641.34 0.0146 0.0127

Neptune -38714-10-02 08:38 J -12418591.29 -12418591.14 -12418590.98 0.0088 0.0026

Neptune -38714-12-29 11:02 J -12418503.20 -12418503.04 -12418502.87 0.0088 0.0019

Neptune -38713-03-26 13:26 J -12418415.10 -12418414.94 -12418414.77 0.0088 0.0011

Venus -38713-03-30 03:50 J -12418411.45 -12418411.34 -12418411.23 0.3625 0.1276

Neptune -38713-06-22 15:50 J -12418327.00 -12418326.84 -12418326.68 0.0088 0.0003

Neptune -38713-09-18 18:14 J -12418238.91 -12418238.74 -12418238.58 0.0088 0.0004

Neptune -38713-12-15 20:23 J -12418150.81 -12418150.65 -12418150.48 0.0088 0.0012

Neptune -38712-03-13 22:33 J -12418062.71 -12418062.56 -12418062.39 0.0088 0.0020

Neptune -38712-06-10 00:57 J -12417974.61 -12417974.46 -12417974.30 0.0088 0.0027

Mars -38712-07-12 08:23 J -12417942.27 -12417942.15 -12417942.04 0.1906 0.0906

Neptune -38712-09-06 03:21 J -12417886.51 -12417886.36 -12417886.21 0.0088 0.0034

Neptune -38712-12-03 05:30 J -12417798.41 -12417798.27 -12417798.12 0.0088 0.0041

Neptune -38711-03-01 07:40 J -12417710.30 -12417710.18 -12417710.04 0.0088 0.0049

Mars -38711-05-25 21:21 J -12417624.72 -12417624.61 -12417624.49 0.1625 0.0936

Neptune -38711-05-28 10:04 J -12417622.20 -12417622.08 -12417621.95 0.0088 0.0056

Neptune -38711-08-24 11:59 J -12417534.10 -12417534.00 -12417533.87 0.0088 0.0063

Neptune -38711-11-20 14:09 J -12417445.99 -12417445.91 -12417445.79 0.0088 0.0071

Neptune -38710-02-16 16:33 J -12417357.87 -12417357.81 -12417357.72 0.0088 0.0077

Neptune -38710-05-15 18:42 J -12417269.75 -12417269.72 -12417269.66 0.0088 0.0085

Jupiter -38710-06-16 00:57 J -12417238.52 -12417238.46 -12417238.39 0.0505 0.0452

Jupiter -38710-09-13 13:40 J -12417149.08 -12417148.93 -12417148.79 0.0501 0.0129

Mars -38709-04-30 17:59 J -12416918.79 -12416918.75 -12416918.70 0.1617 0.1522

Moon -38708-10-13 04:33 J -12416388.44 -12416388.31 -12416388.19 0.2669 0.0112

Earth -38708-10-13 04:33 J -12416388.44 -12416388.31 -12416388.18 0.2663 0.0127 *

Venus -38708-10-13 22:47 J -12416387.65 -12416387.55 -12416387.44 0.3628 0.1555

Saturn -38707-02-09 10:33 J -12416269.16 -12416269.06 -12416268.95 0.0280 0.0203

Saturn -38707-05-09 02:09 J -12416180.55 -12416180.41 -12416180.26 0.0281 0.0090

Saturn -38707-08-05 17:59 J -12416091.90 -12416091.75 -12416091.59 0.0281 0.0026

Saturn -38707-11-02 10:18 J -12416003.20 -12416003.07 -12416002.93 0.0281 0.0144

Saturn -38706-01-30 02:52 J -12415914.42 -12415914.38 -12415914.32 0.0281 0.0265

Earth -38705-04-13 07:40 J -12415475.29 -12415475.18 -12415475.06 0.2667 0.1136

Moon -38705-04-13 08:09 J -12415475.27 -12415475.16 -12415475.04 0.2673 0.1196 *

Jupiter -38704-11-13 19:11 J -12414895.81 -12414895.70 -12414895.58 0.0525 0.0342

Jupiter -38703-02-11 15:06 J -12414805.98 -12414805.87 -12414805.76 0.0528 0.0363

Mars -38703-12-02 12:42 J -12414512.10 -12414511.97 -12414511.84 0.1904 0.0069

Mars -38702-10-16 03:50 J -12414194.37 -12414194.34 -12414194.30 0.1627 0.1565

Mars -38700-09-21 01:26 J -12413488.56 -12413488.44 -12413488.33 0.1619 0.0957

Moon -38698-04-06 16:18 J -12412925.91 -12412925.82 -12412925.72 0.2672 0.1747

Earth -38698-04-06 17:30 J -12412925.87 -12412925.77 -12412925.68 0.2672 0.1725 *

Jupiter -38698-07-02 16:18 J -12412838.97 -12412838.82 -12412838.67 0.0502 0.0014

Earth -38695-10-16 02:09 J -12411637.53 -12411637.41 -12411637.29 0.2664 0.0819

Moon -38695-10-16 02:38 J -12411637.51 -12411637.39 -12411637.27 0.2671 0.0850 *

Mars -38693-04-23 17:45 J -12411081.87 -12411081.76 -12411081.65 0.1901 0.0953

Saturn -38693-06-20 13:40 J -12411023.98 -12411023.93 -12411023.88 0.0278 0.0261

Saturn -38693-09-17 05:16 J -12410935.41 -12410935.28 -12410935.14 0.0278 0.0146

Saturn -38693-12-14 20:38 J -12410846.79 -12410846.64 -12410846.48 0.0278 0.0034

Saturn -38692-03-13 11:30 J -12410758.16 -12410758.02 -12410757.87 0.0277 0.0077

Earth -38692-04-16 06:57 J -12410724.28 -12410724.21 -12410724.14 0.2666 0.2203

Moon -38692-04-16 08:09 J -12410724.23 -12410724.16 -12410724.10 0.2669 0.2299 *

Saturn -38692-06-10 02:09 J -12410669.52 -12410669.41 -12410669.29 0.0277 0.0183

Jupiter -38692-09-01 20:09 J -12410585.69 -12410585.66 -12410585.63 0.0524 0.0512

Jupiter -38692-11-30 16:18 J -12410495.95 -12410495.82 -12410495.67 0.0528 0.0200

Mars -38690-02-11 08:23 J -12410058.28 -12410058.15 -12410058.01 0.1620 0.0379

Moon -38688-10-08 12:57 J -12409088.04 -12409087.96 -12409087.88 0.2661 0.2054

Earth -38688-10-08 14:09 J -12409088.00 -12409087.91 -12409087.83 0.2660 0.1919 *

Jupiter -38686-04-20 18:42 J -12408528.86 -12408528.72 -12408528.58 0.0503 0.0156

Jupiter -38686-07-19 07:54 J -12408439.24 -12408439.17 -12408439.10 0.0499 0.0431

Moon -38685-04-08 14:52 J -12408175.00 -12408174.88 -12408174.76 0.2674 0.0878

Earth -38685-04-08 15:50 J -12408174.97 -12408174.84 -12408174.72 0.2670 0.0744 *

Mars -38684-09-13 22:47 J -12407651.58 -12407651.55 -12407651.52 0.1897 0.1840

Earth -38682-10-18 23:30 J -12406886.62 -12406886.52 -12406886.43 0.2666 0.1740

Moon -38682-10-19 00:28 J -12406886.57 -12406886.48 -12406886.39 0.2667 0.1790 *

Mars -38681-07-03 15:06 J -12406628.01 -12406627.87 -12406627.72 0.1623 0.0235

Jupiter -38680-09-18 17:30 J -12406185.92 -12406185.77 -12406185.61 0.0527 0.0034

Saturn -38678-06-29 10:04 J -12405537.15 -12405537.08 -12405537.01 0.0281 0.0247

Saturn -38678-09-26 01:11 J -12405448.58 -12405448.45 -12405448.31 0.0281 0.0136

Saturn -38678-12-23 17:02 J -12405359.94 -12405359.79 -12405359.63 0.0281 0.0022

Saturn -38677-03-21 09:21 J -12405271.26 -12405271.11 -12405270.97 0.0281 0.0097

Saturn -38677-06-18 01:40 J -12405182.53 -12405182.43 -12405182.33 0.0281 0.0217

Uranus -38675-01-19 21:35 J -12404601.63 -12404601.60 -12404601.54 0.0133 0.0127

Uranus -38675-04-18 02:09 J -12404513.49 -12404513.41 -12404513.31 0.0133 0.0106

Uranus -38675-07-15 06:42 J -12404425.34 -12404425.22 -12404425.10 0.0133 0.0085

Uranus -38675-10-11 11:16 J -12404337.17 -12404337.03 -12404336.90 0.0133 0.0064

Moon -38675-10-11 11:16 J -12404337.15 -12404337.03 -12404336.91 0.2666 0.0906 *

Earth -38675-10-11 12:14 J -12404337.11 -12404336.99 -12404336.87 0.2662 0.0928 *

Uranus -38674-01-07 15:21 J -12404249.00 -12404248.86 -12404248.70 0.0133 0.0044

Jupiter -38674-02-06 21:21 J -12404218.73 -12404218.61 -12404218.49 0.0504 0.0299

Uranus -38674-04-05 19:40 J -12404160.82 -12404160.68 -12404160.52 0.0133 0.0024

Jupiter -38674-05-07 10:04 J -12404129.20 -12404129.08 -12404128.95 0.0500 0.0285

Uranus -38674-07-03 00:14 J -12404072.65 -12404072.49 -12404072.34 0.0133 0.0004

Uranus -38674-09-29 04:18 J -12403984.47 -12403984.32 -12403984.16 0.0133 0.0017

Uranus -38674-12-26 08:38 J -12403896.29 -12403896.14 -12403895.99 0.0133 0.0037

Uranus -38673-03-23 12:42 J -12403808.11 -12403807.97 -12403807.83 0.0133 0.0057

Uranus -38673-06-19 16:47 J -12403719.92 -12403719.80 -12403719.67 0.0133 0.0076

Uranus -38673-09-15 20:52 J -12403631.73 -12403631.63 -12403631.52 0.0133 0.0096

Uranus -38673-12-13 01:11 J -12403543.53 -12403543.45 -12403543.38 0.0132 0.0115

Mars -38672-01-10 08:23 J -12403515.26 -12403515.15 -12403515.04 0.1906 0.0996

Moon -38672-04-11 14:09 J -12403424.04 -12403423.91 -12403423.78 0.2676 0.0338

Earth -38672-04-11 14:23 J -12403424.03 -12403423.90 -12403423.77 0.2669 0.0273 *

Venus -38672-10-04 08:23 J -12403248.23 -12403248.15 -12403248.06 0.3754 0.2671

Mars -38672-11-23 21:50 J -12403197.71 -12403197.59 -12403197.47 0.1625 0.0847

Mars -38670-10-30 18:14 J -12402491.75 -12402491.74 -12402491.72 0.1617 0.1603

Earth -38669-10-20 20:23 J -12402135.66 -12402135.65 -12402135.63 0.2668 0.2628

Jupiter -38668-07-07 17:45 J -12401875.90 -12401875.76 -12401875.61 0.0525 0.0148

Venus -38666-04-20 06:28 J -12401224.35 -12401224.23 -12401224.11 0.3750 0.1112

Moon -38665-04-03 23:59 J -12400874.53 -12400874.50 -12400874.47 0.2670 0.2569

Earth -38665-04-04 00:42 J -12400874.51 -12400874.47 -12400874.43 0.2673 0.2509 *

Saturn -38663-02-04 06:57 J -12400203.33 -12400203.21 -12400203.09 0.0279 0.0178

Saturn -38663-05-03 22:18 J -12400114.72 -12400114.57 -12400114.42 0.0279 0.0064

Mars -38663-06-02 12:57 J -12400085.09 -12400084.96 -12400084.83 0.1904 0.0054

Saturn -38663-07-31 13:26 J -12400026.09 -12400025.94 -12400025.79 0.0278 0.0047

Saturn -38663-10-28 04:18 J -12399937.45 -12399937.32 -12399937.20 0.0278 0.0156

Jupiter -38663-11-25 23:30 J -12399908.58 -12399908.52 -12399908.45 0.0505 0.0447

Saturn -38662-01-24 18:28 J -12399848.77 -12399848.73 -12399848.67 0.0278 0.0261

Jupiter -38662-02-23 11:59 J -12399819.14 -12399819.00 -12399818.85 0.0502 0.0136

Mars -38662-04-16 04:04 J -12399767.39 -12399767.33 -12399767.27 0.1628 0.1482

Venus -38662-04-21 06:57 J -12399762.27 -12399762.21 -12399762.15 0.3622 0.3082

Moon -38662-10-14 10:04 J -12399586.21 -12399586.08 -12399585.95 0.2670 0.0019

Earth -38662-10-14 09:50 J -12399586.21 -12399586.09 -12399585.96 0.2663 0.0104 *

Mars -38660-03-22 01:40 J -12399061.54 -12399061.43 -12399061.32 0.1618 0.1038

Earth -38659-04-14 13:26 J -12398673.06 -12398672.94 -12398672.83 0.2667 0.1324

Moon -38659-04-14 13:54 J -12398673.03 -12398672.92 -12398672.80 0.2672 0.1319 *

Venus -38657-11-04 02:09 J -12397738.52 -12397738.41 -12397738.29 0.3626 0.0225

Jupiter -38656-04-25 18:14 J -12397565.86 -12397565.74 -12397565.62 0.0524 0.0327

Jupiter -38656-07-24 13:54 J -12397476.02 -12397475.92 -12397475.81 0.0528 0.0376

Mars -38654-10-23 17:30 J -12396654.88 -12396654.77 -12396654.65 0.1900 0.0877

Moon -38652-04-06 21:50 J -12396123.69 -12396123.59 -12396123.49 0.2672 0.1671

Earth -38652-04-06 22:47 J -12396123.65 -12396123.55 -12396123.44 0.2672 0.1553 *

Venus -38651-05-20 21:06 J -12395714.70 -12395714.62 -12395714.54 0.3629 0.2614

Mars -38651-08-12 08:38 J -12395631.27 -12395631.14 -12395631.00 0.1621 0.0454

Jupiter -38651-12-12 14:38 J -12395509.04 -12395508.89 -12395508.74 0.0502 0.0010

Earth -38649-10-16 07:26 J -12394835.31 -12394835.19 -12394835.07 0.2665 0.0986

Moon -38649-10-16 08:09 J -12394835.28 -12394835.16 -12394835.05 0.2670 0.1069 *

Saturn -38649-11-15 12:14 J -12394805.02 -12394804.99 -12394804.95 0.0280 0.0270

Saturn -38648-02-12 03:35 J -12394716.47 -12394716.35 -12394716.22 0.0280 0.0160

Saturn -38648-05-11 19:11 J -12394627.85 -12394627.70 -12394627.54 0.0280 0.0047

Saturn -38648-08-08 11:16 J -12394539.18 -12394539.03 -12394538.88 0.0281 0.0070

Saturn -38648-11-05 03:35 J -12394450.46 -12394450.35 -12394450.23 0.0281 0.0189

Earth -38646-04-17 12:42 J -12393922.03 -12393921.97 -12393921.92 0.2665 0.2400

Moon -38646-04-17 13:40 J -12393921.97 -12393921.93 -12393921.88 0.2668 0.2483 *

Jupiter -38644-02-11 18:14 J -12393255.77 -12393255.74 -12393255.71 0.0523 0.0509

Mars -38644-03-14 22:47 J -12393224.59 -12393224.55 -12393224.50 0.1897 0.1751

Jupiter -38644-05-12 14:38 J -12393166.03 -12393165.89 -12393165.75 0.0527 0.0201

Moon -38642-10-09 18:28 J -12392285.82 -12392285.73 -12392285.63 0.2663 0.1769

Earth -38642-10-09 19:26 J -12392285.78 -12392285.69 -12392285.59 0.2660 0.1740 *

Mars -38641-01-02 15:35 J -12392200.99 -12392200.85 -12392200.71 0.1623 0.0140

Moon -38639-04-09 20:38 J -12391372.77 -12391372.64 -12391372.52 0.2675 0.0548

Earth -38639-04-09 21:21 J -12391372.74 -12391372.61 -12391372.49 0.2670 0.0569 *

Jupiter -38639-09-30 17:30 J -12391198.91 -12391198.77 -12391198.63 0.0503 0.0146

Jupiter -38639-12-29 06:42 J -12391109.29 -12391109.22 -12391109.15 0.0500 0.0442

Earth -38636-10-19 04:47 J -12390084.39 -12390084.30 -12390084.22 0.2666 0.1900

Moon -38636-10-19 05:45 J -12390084.34 -12390084.26 -12390084.18 0.2666 0.1968 *

Neptune -38634-04-27 02:23 J -12389529.43 -12389529.40 -12389529.36 0.0089 0.0086

Saturn -38634-06-24 06:42 J -12389471.31 -12389471.22 -12389471.12 0.0278 0.0218

Neptune -38634-07-24 04:18 J -12389441.38 -12389441.32 -12389441.25 0.0089 0.0079

Saturn -38634-09-20 22:33 J -12389382.71 -12389382.56 -12389382.42 0.0278 0.0103

Neptune -38634-10-20 06:14 J -12389353.32 -12389353.24 -12389353.15 0.0089 0.0073

Saturn -38634-12-18 13:40 J -12389294.08 -12389293.93 -12389293.78 0.0278 0.0009

Neptune -38633-01-16 07:40 J -12389265.26 -12389265.18 -12389265.06 0.0089 0.0067

Saturn -38633-03-16 04:33 J -12389205.45 -12389205.31 -12389205.17 0.0278 0.0118

Neptune -38633-04-13 09:50 J -12389177.19 -12389177.09 -12389176.97 0.0089 0.0059

Saturn -38633-06-12 18:57 J -12389116.79 -12389116.71 -12389116.62 0.0277 0.0225

Neptune -38633-07-10 11:45 J -12389089.12 -12389089.01 -12389088.88 0.0089 0.0052

Mars -38633-07-11 08:38 J -12389088.24 -12389088.14 -12389088.03 0.1907 0.1102

Neptune -38633-10-06 13:40 J -12389001.05 -12389000.93 -12389000.79 0.0089 0.0045

Neptune -38632-01-02 15:35 J -12388912.98 -12388912.85 -12388912.71 0.0089 0.0038

Jupiter -38632-02-28 15:35 J -12388856.00 -12388855.85 -12388855.69 0.0527 0.0037

Neptune -38632-03-31 17:30 J -12388824.91 -12388824.77 -12388824.62 0.0089 0.0031

Uranus -38632-04-03 00:28 J -12388822.50 -12388822.48 -12388822.44 0.0146 0.0141

Mars -38632-05-24 22:04 J -12388770.70 -12388770.58 -12388770.45 0.1625 0.0759

Neptune -38632-06-27 19:26 J -12388736.83 -12388736.69 -12388736.54 0.0089 0.0024

Uranus -38632-06-30 05:59 J -12388734.34 -12388734.25 -12388734.15 0.0146 0.0115

Neptune -38632-09-23 21:21 J -12388648.75 -12388648.61 -12388648.45 0.0089 0.0017

Uranus -38632-09-26 11:16 J -12388646.14 -12388646.03 -12388645.89 0.0146 0.0089

Neptune -38632-12-20 23:30 J -12388560.67 -12388560.52 -12388560.37 0.0089 0.0010

Uranus -38632-12-23 17:02 J -12388557.93 -12388557.79 -12388557.65 0.0146 0.0062

Neptune -38631-03-19 01:26 J -12388472.59 -12388472.44 -12388472.29 0.0089 0.0003

Uranus -38631-03-21 22:33 J -12388469.71 -12388469.56 -12388469.40 0.0146 0.0035

Neptune -38631-06-15 03:21 J -12388384.51 -12388384.36 -12388384.21 0.0089 0.0005

Uranus -38631-06-18 04:18 J -12388381.48 -12388381.32 -12388381.16 0.0146 0.0008

Neptune -38631-09-11 05:16 J -12388296.43 -12388296.28 -12388296.13 0.0089 0.0012

Uranus -38631-09-14 09:50 J -12388293.24 -12388293.09 -12388292.93 0.0146 0.0021

Neptune -38631-12-08 07:11 J -12388208.34 -12388208.20 -12388208.04 0.0089 0.0019

Uranus -38631-12-11 15:35 J -12388205.00 -12388204.85 -12388204.70 0.0146 0.0049

Neptune -38630-03-06 09:21 J -12388120.26 -12388120.11 -12388119.96 0.0089 0.0026

Uranus -38630-03-09 21:21 J -12388116.74 -12388116.61 -12388116.47 0.0146 0.0077

Neptune -38630-06-02 11:16 J -12388032.17 -12388032.03 -12388031.89 0.0089 0.0033

Uranus -38630-06-06 03:06 J -12388028.47 -12388028.37 -12388028.25 0.0146 0.0105

Neptune -38630-08-29 13:11 J -12387944.08 -12387943.95 -12387943.81 0.0089 0.0041

Uranus -38630-09-02 08:52 J -12387940.18 -12387940.13 -12387940.05 0.0146 0.0134

Neptune -38630-11-25 15:06 J -12387855.99 -12387855.87 -12387855.73 0.0089 0.0048

Neptune -38629-02-21 17:16 J -12387767.89 -12387767.78 -12387767.65 0.0089 0.0055

Neptune -38629-05-19 19:11 J -12387679.80 -12387679.70 -12387679.58 0.0089 0.0063

Neptune -38629-08-15 21:21 J -12387591.70 -12387591.61 -12387591.51 0.0089 0.0070

Moon -38629-10-11 17:02 J -12387534.91 -12387534.79 -12387534.67 0.2667 0.0864

Earth -38629-10-11 17:30 J -12387534.89 -12387534.77 -12387534.65 0.2662 0.0747 *

Neptune -38629-11-11 23:30 J -12387503.59 -12387503.52 -12387503.44 0.0089 0.0077

Neptune -38628-02-08 01:26 J -12387415.47 -12387415.44 -12387415.38 0.0089 0.0085

Jupiter -38627-07-19 19:54 J -12386888.78 -12386888.67 -12386888.55 0.0504 0.0289

Jupiter -38627-10-17 08:52 J -12386799.25 -12386799.13 -12386799.01 0.0500 0.0295

Moon -38626-04-12 19:54 J -12386621.80 -12386621.67 -12386621.55 0.2675 0.0385

Earth -38626-04-12 19:54 J -12386621.80 -12386621.67 -12386621.54 0.2668 0.0459 *

Mars -38624-12-01 12:57 J -12385658.09 -12385657.96 -12385657.83 0.1903 0.0146

Mars -38623-10-15 04:33 J -12385340.39 -12385340.31 -12385340.24 0.1628 0.1395

Mars -38621-09-20 01:54 J -12384634.52 -12384634.42 -12384634.32 0.1619 0.1119

Jupiter -38621-12-17 16:47 J -12384545.95 -12384545.80 -12384545.65 0.0526 0.0135

Moon -38619-04-05 05:16 J -12384072.34 -12384072.28 -12384072.22 0.2671 0.2357

Earth -38619-04-05 06:14 J -12384072.30 -12384072.24 -12384072.18 0.2673 0.2338 *

Saturn -38619-07-02 02:52 J -12383984.48 -12383984.38 -12383984.27 0.0280 0.0205

Saturn -38619-09-28 18:28 J -12383895.88 -12383895.73 -12383895.59 0.0281 0.0093

Saturn -38619-12-26 10:18 J -12383807.23 -12383807.07 -12383806.92 0.0281 0.0023

Saturn -38618-03-25 02:23 J -12383718.53 -12383718.40 -12383718.26 0.0281 0.0141

Saturn -38618-06-21 18:57 J -12383629.76 -12383629.71 -12383629.65 0.0281 0.0262

Earth -38616-10-14 15:21 J -12382783.99 -12382783.86 -12382783.74 0.2663 0.0222

Moon -38616-10-14 15:21 J -12382783.98 -12382783.86 -12382783.73 0.2670 0.0314 *

Jupiter -38615-05-07 22:33 J -12382578.63 -12382578.56 -12382578.48 0.0505 0.0432

Venus -38615-05-11 07:26 J -12382575.30 -12382575.19 -12382575.07 0.3753 0.1330

Jupiter -38615-08-05 11:02 J -12382489.18 -12382489.04 -12382488.89 0.0501 0.0150

Mars -38614-04-23 17:45 J -12382227.87 -12382227.76 -12382227.64 0.1900 0.0778

Earth -38613-04-14 18:57 J -12381870.82 -12381870.71 -12381870.61 0.2667 0.1507

Moon -38613-04-14 19:40 J -12381870.78 -12381870.68 -12381870.58 0.2672 0.1642 *

Mars -38611-02-10 09:06 J -12381204.26 -12381204.12 -12381203.99 0.1621 0.0541

Venus -38610-11-25 05:45 J -12380551.35 -12380551.26 -12380551.17 0.3749 0.2530

Jupiter -38609-10-05 17:02 J -12380235.91 -12380235.79 -12380235.67 0.0524 0.0313

Moon -38609-10-07 01:40 J -12380234.43 -12380234.43 -12380234.43 0.2656 0.2656

Earth -38609-10-07 02:38 J -12380234.42 -12380234.39 -12380234.36 0.2659 0.2577

Jupiter -38608-01-03 12:42 J -12380146.07 -12380145.97 -12380145.87 0.0528 0.0390

Moon -38606-04-08 03:21 J -12379321.47 -12379321.36 -12379321.26 0.2672 0.1427

Earth -38606-04-08 04:18 J -12379321.43 -12379321.32 -12379321.21 0.2671 0.1377 *

Venus -38606-11-26 05:30 J -12379089.37 -12379089.27 -12379089.17 0.3623 0.1974

Mars -38605-09-12 23:02 J -12378797.60 -12378797.54 -12378797.48 0.1897 0.1661

Saturn -38605-11-10 07:54 J -12378739.23 -12378739.17 -12378739.10 0.0279 0.0251

Saturn -38604-02-06 23:45 J -12378650.64 -12378650.51 -12378650.37 0.0279 0.0135

Saturn -38604-05-06 15:06 J -12378562.02 -12378561.87 -12378561.71 0.0279 0.0023

Saturn -38604-08-03 06:14 J -12378473.38 -12378473.24 -12378473.10 0.0278 0.0089

Saturn -38604-10-30 20:52 J -12378384.73 -12378384.63 -12378384.52 0.0278 0.0196

Jupiter -38603-05-24 12:57 J -12378179.11 -12378178.96 -12378178.81 0.0503 0.0011

Earth -38603-10-17 12:42 J -12378033.08 -12378032.97 -12378032.86 0.2665 0.1153

Moon -38603-10-17 13:26 J -12378033.05 -12378032.94 -12378032.82 0.2669 0.1155 *

Mars -38602-07-03 15:50 J -12377773.98 -12377773.84 -12377773.70 0.1623 0.0059

Pluto -38601-10-24 22:04 J -12377294.62 -12377294.58 -12377294.50 0.0066 0.0062

Pluto -38600-01-20 23:30 J -12377206.59 -12377206.52 -12377206.42 0.0066 0.0057

Earth -38600-04-17 18:14 J -12377119.77 -12377119.74 -12377119.71 0.2665 0.2594

Moon -38600-04-17 19:11 J -12377119.71 -12377119.70 -12377119.68 0.2666 0.2646 *

Pluto -38600-04-19 00:42 J -12377118.56 -12377118.47 -12377118.35 0.0067 0.0052

Venus -38600-06-11 00:42 J -12377065.59 -12377065.47 -12377065.36 0.3627 0.0892

Pluto -38600-07-16 01:54 J -12377030.52 -12377030.42 -12377030.28 0.0067 0.0047

Pluto -38600-10-12 03:21 J -12376942.48 -12376942.36 -12376942.22 0.0067 0.0041

Pluto -38599-01-08 04:33 J -12376854.44 -12376854.31 -12376854.16 0.0067 0.0036

Pluto -38599-04-06 05:59 J -12376766.39 -12376766.25 -12376766.09 0.0067 0.0030

Pluto -38599-07-03 07:26 J -12376678.35 -12376678.19 -12376678.03 0.0067 0.0024

Pluto -38599-09-29 08:38 J -12376590.30 -12376590.14 -12376589.97 0.0067 0.0019

Pluto -38599-12-26 10:04 J -12376502.24 -12376502.08 -12376501.91 0.0067 0.0013

Pluto -38598-03-24 11:30 J -12376414.19 -12376414.02 -12376413.86 0.0067 0.0008

Pluto -38598-06-20 12:42 J -12376326.14 -12376325.97 -12376325.80 0.0067 0.0002

Pluto -38598-09-16 14:09 J -12376238.08 -12376237.91 -12376237.74 0.0068 0.0004

Pluto -38598-12-13 15:21 J -12376150.02 -12376149.86 -12376149.69 0.0068 0.0010

Pluto -38597-03-10 16:47 J -12376061.96 -12376061.80 -12376061.63 0.0068 0.0016

Pluto -38597-06-06 17:59 J -12375973.90 -12375973.75 -12375973.58 0.0068 0.0022

Jupiter -38597-07-24 17:16 J -12375925.83 -12375925.78 -12375925.73 0.0523 0.0493

Pluto -38597-09-02 19:40 J -12375885.84 -12375885.68 -12375885.53 0.0068 0.0027

Jupiter -38597-10-22 13:26 J -12375836.08 -12375835.94 -12375835.80 0.0527 0.0214

Pluto -38597-11-29 20:52 J -12375797.77 -12375797.63 -12375797.47 0.0068 0.0034

Pluto -38596-02-25 22:18 J -12375709.70 -12375709.57 -12375709.42 0.0068 0.0040

Pluto -38596-05-24 23:45 J -12375621.63 -12375621.51 -12375621.38 0.0068 0.0046

Pluto -38596-08-21 01:11 J -12375533.55 -12375533.45 -12375533.33 0.0068 0.0052

Moon -38596-10-09 23:59 J -12375483.60 -12375483.50 -12375483.41 0.2663 0.1674

Earth -38596-10-10 00:57 J -12375483.57 -12375483.46 -12375483.36 0.2660 0.1562 *

Pluto -38596-11-17 02:52 J -12375445.47 -12375445.38 -12375445.29 0.0069 0.0058

Pluto -38595-02-13 03:50 J -12375357.38 -12375357.34 -12375357.26 0.0069 0.0065

Mars -38593-01-10 08:38 J -12374661.24 -12374661.14 -12374661.04 0.1906 0.1185

Moon -38593-04-10 02:09 J -12374570.54 -12374570.41 -12374570.29 0.2676 0.0484

Earth -38593-04-10 02:38 J -12374570.52 -12374570.39 -12374570.26 0.2670 0.0388 *

Mars -38593-11-22 22:18 J -12374343.70 -12374343.57 -12374343.43 0.1625 0.0676

Uranus -38591-02-09 04:33 J -12373900.37 -12373900.31 -12373900.25 0.0133 0.0122

Jupiter -38591-03-12 15:35 J -12373868.99 -12373868.85 -12373868.71 0.0503 0.0145

Uranus -38591-05-08 08:38 J -12373812.22 -12373812.14 -12373812.02 0.0133 0.0102

Jupiter -38591-06-10 04:47 J -12373779.37 -12373779.30 -12373779.23 0.0500 0.0444

Uranus -38591-08-04 13:11 J -12373724.06 -12373723.95 -12373723.81 0.0133 0.0081

Uranus -38591-10-31 17:45 J -12373635.89 -12373635.76 -12373635.62 0.0133 0.0060

Uranus -38590-01-27 22:04 J -12373547.72 -12373547.58 -12373547.43 0.0133 0.0040

Uranus -38590-04-26 02:23 J -12373459.55 -12373459.40 -12373459.24 0.0133 0.0020

Uranus -38590-07-23 06:42 J -12373371.37 -12373371.22 -12373371.06 0.0133 0.0004

Uranus -38590-10-19 11:02 J -12373283.19 -12373283.04 -12373282.89 0.0133 0.0021

Earth -38590-10-20 10:04 J -12373282.16 -12373282.08 -12373282.01 0.2667 0.2063

Moon -38590-10-20 11:02 J -12373282.11 -12373282.04 -12373281.97 0.2667 0.2143 *

Saturn -38590-11-19 05:30 J -12373252.35 -12373252.27 -12373252.17 0.0280 0.0226

Uranus -38589-01-15 15:06 J -12373195.01 -12373194.87 -12373194.72 0.0133 0.0042

Saturn -38589-02-15 21:06 J -12373163.76 -12373163.62 -12373163.48 0.0280 0.0114

Uranus -38589-04-12 19:26 J -12373106.82 -12373106.69 -12373106.55 0.0133 0.0061

Saturn -38589-05-14 12:42 J -12373075.12 -12373074.97 -12373074.81 0.0280 0.0007

Uranus -38589-07-09 23:30 J -12373018.64 -12373018.52 -12373018.39 0.0133 0.0081

Saturn -38589-08-11 05:02 J -12372986.44 -12372986.29 -12372986.15 0.0281 0.0118

Uranus -38589-10-06 03:50 J -12372930.44 -12372930.34 -12372930.24 0.0133 0.0100

Saturn -38589-11-07 21:21 J -12372897.69 -12372897.61 -12372897.52 0.0281 0.0238

Uranus -38588-01-02 07:40 J -12372842.24 -12372842.18 -12372842.11 0.0132 0.0119

Jupiter -38585-08-10 13:40 J -12371526.08 -12371525.93 -12371525.77 0.0526 0.0035

Mars -38584-06-01 13:11 J -12371231.08 -12371230.95 -12371230.83 0.1904 0.0240

Mars -38583-04-15 04:47 J -12370913.38 -12370913.30 -12370913.21 0.1628 0.1301

Moon -38583-10-12 22:33 J -12370732.68 -12370732.56 -12370732.44 0.2668 0.0546

Earth -38583-10-12 23:02 J -12370732.67 -12370732.54 -12370732.42 0.2662 0.0578 *

Mars -38581-03-21 02:09 J -12370207.50 -12370207.41 -12370207.31 0.1619 0.1203

Earth -38580-04-13 01:26 J -12369819.57 -12369819.44 -12369819.31 0.2668 0.0639

Moon -38580-04-13 01:26 J -12369819.56 -12369819.44 -12369819.31 0.2675 0.0719 *

Jupiter -38580-12-29 18:28 J -12369558.85 -12369558.73 -12369558.61 0.0504 0.0283

Jupiter -38579-03-29 07:26 J -12369469.31 -12369469.19 -12369469.07 0.0501 0.0302

Saturn -38575-06-27 00:14 J -12367918.61 -12367918.49 -12367918.36 0.0278 0.0171

Saturn -38575-09-23 15:50 J -12367829.99 -12367829.84 -12367829.69 0.0278 0.0058

Mars -38575-10-22 17:59 J -12367800.87 -12367800.75 -12367800.63 0.1900 0.0680

Saturn -38575-12-21 06:57 J -12367741.36 -12367741.21 -12367741.06 0.0278 0.0054

Saturn -38574-03-19 21:35 J -12367652.72 -12367652.60 -12367652.47 0.0278 0.0162

Saturn -38574-06-16 11:59 J -12367564.03 -12367564.00 -12367563.96 0.0277 0.0268

Moon -38573-04-05 10:33 J -12367270.12 -12367270.06 -12367269.99 0.2670 0.2288

Earth -38573-04-05 11:30 J -12367270.09 -12367270.02 -12367269.94 0.2673 0.2169 *

Jupiter -38573-05-29 14:38 J -12367216.04 -12367215.89 -12367215.74 0.0525 0.0136

Mars -38572-08-11 09:21 J -12366777.24 -12366777.11 -12366776.98 0.1621 0.0626

Earth -38570-10-15 20:38 J -12365981.76 -12365981.64 -12365981.51 0.2664 0.0389

Moon -38570-10-15 20:52 J -12365981.75 -12365981.63 -12365981.51 0.2670 0.0328 *

Jupiter -38568-10-17 21:06 J -12365248.69 -12365248.62 -12365248.54 0.0505 0.0424

Jupiter -38567-01-15 09:35 J -12365159.24 -12365159.10 -12365158.96 0.0501 0.0156

Earth -38567-04-16 00:28 J -12365068.58 -12365068.48 -12365068.38 0.2667 0.1700

Moon -38567-04-16 01:11 J -12365068.55 -12365068.45 -12365068.34 0.2672 0.1685 *

Mars -38565-03-13 23:02 J -12364370.61 -12364370.54 -12364370.47 0.1896 0.1571

Venus -38564-06-01 08:52 J -12363926.15 -12363926.13 -12363926.11 0.3756 0.3673

Moon -38563-10-08 06:57 J -12363432.26 -12363432.21 -12363432.16 0.2658 0.2428

Earth -38563-10-08 08:09 J -12363432.22 -12363432.16 -12363432.11 0.2659 0.2400 *

Mars -38562-01-01 16:04 J -12363346.97 -12363346.83 -12363346.68 0.1623 0.0045

Jupiter -38561-03-17 15:35 J -12362905.97 -12362905.85 -12362905.72 0.0525 0.0305

Jupiter -38561-06-15 11:30 J -12362816.12 -12362816.02 -12362815.92 0.0528 0.0399

Saturn -38560-04-07 05:16 J -12362520.32 -12362520.28 -12362520.24 0.0280 0.0269

Moon -38560-04-08 08:52 J -12362519.25 -12362519.13 -12362519.02 0.2674 0.1260

Earth -38560-04-08 09:50 J -12362519.21 -12362519.09 -12362518.98 0.2671 0.1202 *

Saturn -38560-07-04 20:23 J -12362431.77 -12362431.65 -12362431.52 0.0280 0.0159

Saturn -38560-10-01 11:59 J -12362343.15 -12362343.00 -12362342.84 0.0281 0.0046

Saturn -38560-12-29 04:04 J -12362254.48 -12362254.33 -12362254.18 0.0281 0.0071

Saturn -38559-03-27 20:23 J -12362165.77 -12362165.65 -12362165.54 0.0281 0.0190

Venus -38559-12-16 06:28 J -12361902.35 -12361902.23 -12361902.10 0.3752 0.0146

Earth -38557-10-17 17:59 J -12361230.86 -12361230.75 -12361230.64 0.2665 0.1319

Moon -38557-10-17 18:57 J -12361230.81 -12361230.71 -12361230.61 0.2668 0.1454 *

Jupiter -38556-11-03 11:59 J -12360849.15 -12360849.00 -12360848.85 0.0502 0.0011

Mars -38554-07-11 08:52 J -12360234.23 -12360234.13 -12360234.03 0.1906 0.1283

Mars -38553-05-23 22:47 J -12359916.69 -12359916.55 -12359916.42 0.1625 0.0587

Neptune -38551-07-24 12:42 J -12359125.02 -12359124.97 -12359124.91 0.0088 0.0083

Neptune -38551-10-20 14:52 J -12359036.95 -12359036.88 -12359036.78 0.0088 0.0075

Neptune -38550-01-16 17:30 J -12358948.87 -12358948.77 -12358948.66 0.0088 0.0067

Neptune -38550-04-14 19:54 J -12358860.78 -12358860.67 -12358860.54 0.0088 0.0060

Neptune -38550-07-11 22:33 J -12358772.69 -12358772.56 -12358772.43 0.0088 0.0052

Neptune -38550-10-08 00:42 J -12358684.60 -12358684.47 -12358684.32 0.0088 0.0044

Moon -38550-10-11 05:16 J -12358681.38 -12358681.28 -12358681.17 0.2663 0.1440

Earth -38550-10-11 06:14 J -12358681.34 -12358681.24 -12358681.13 0.2661 0.1388 *

Neptune -38549-01-04 03:21 J -12358596.51 -12358596.36 -12358596.21 0.0088 0.0036

Jupiter -38549-01-04 15:50 J -12358595.89 -12358595.84 -12358595.78 0.0523 0.0482

Neptune -38549-04-01 05:30 J -12358508.41 -12358508.27 -12358508.10 0.0088 0.0029

Jupiter -38549-04-03 12:14 J -12358506.13 -12358505.99 -12358505.85 0.0527 0.0226

Neptune -38549-06-28 08:09 J -12358420.32 -12358420.16 -12358420.00 0.0088 0.0021

Venus -38549-07-02 03:50 J -12358416.45 -12358416.34 -12358416.22 0.3624 0.0885

Neptune -38549-09-24 10:33 J -12358332.22 -12358332.06 -12358331.90 0.0088 0.0014

Neptune -38549-12-21 12:57 J -12358244.12 -12358243.96 -12358243.80 0.0088 0.0006

Neptune -38548-03-19 15:21 J -12358156.03 -12358155.86 -12358155.70 0.0088 0.0002

Uranus -38548-04-23 07:40 J -12358121.23 -12358121.18 -12358121.12 0.0146 0.0135

Neptune -38548-06-15 17:30 J -12358067.93 -12358067.77 -12358067.60 0.0088 0.0009

Uranus -38548-07-20 12:57 J -12358033.05 -12358032.96 -12358032.85 0.0146 0.0109

Neptune -38548-09-11 19:54 J -12357979.83 -12357979.67 -12357979.51 0.0088 0.0017

Uranus -38548-10-16 18:28 J -12357944.85 -12357944.73 -12357944.59 0.0146 0.0082

Neptune -38548-12-08 22:04 J -12357891.73 -12357891.58 -12357891.41 0.0088 0.0024

Uranus -38547-01-13 00:14 J -12357856.64 -12357856.49 -12357856.35 0.0146 0.0055

Neptune -38547-03-07 00:28 J -12357803.63 -12357803.48 -12357803.32 0.0088 0.0031

Uranus -38547-04-11 05:45 J -12357768.42 -12357768.26 -12357768.11 0.0146 0.0028

Moon -38547-04-11 07:40 J -12357768.31 -12357768.18 -12357768.05 0.2676 0.0215 *

Earth -38547-04-11 08:09 J -12357768.29 -12357768.16 -12357768.03 0.2670 0.0207 *

Neptune -38547-06-03 02:52 J -12357715.52 -12357715.38 -12357715.23 0.0088 0.0039

Uranus -38547-07-08 11:16 J -12357680.19 -12357680.03 -12357679.87 0.0146 0.0001

Neptune -38547-08-30 05:02 J -12357627.42 -12357627.29 -12357627.15 0.0088 0.0046

Uranus -38547-10-04 17:02 J -12357591.95 -12357591.79 -12357591.64 0.0146 0.0027

Neptune -38547-11-26 07:11 J -12357539.32 -12357539.20 -12357539.06 0.0088 0.0054

Uranus -38547-12-31 22:47 J -12357503.70 -12357503.55 -12357503.40 0.0146 0.0055

Neptune -38546-02-22 09:35 J -12357451.21 -12357451.10 -12357450.98 0.0088 0.0061

Uranus -38546-03-30 04:33 J -12357415.44 -12357415.31 -12357415.18 0.0146 0.0083

Neptune -38546-05-21 11:30 J -12357363.10 -12357363.02 -12357362.90 0.0088 0.0069

Uranus -38546-06-26 10:04 J -12357327.17 -12357327.08 -12357326.97 0.0146 0.0112

Neptune -38546-08-17 13:54 J -12357274.99 -12357274.92 -12357274.83 0.0088 0.0075

Uranus -38546-09-22 15:50 J -12357238.86 -12357238.84 -12357238.78 0.0146 0.0141

Neptune -38546-11-13 16:04 J -12357186.87 -12357186.83 -12357186.76 0.0088 0.0083

Saturn -38546-11-14 01:26 J -12357186.55 -12357186.44 -12357186.34 0.0279 0.0206

Saturn -38545-02-10 17:02 J -12357097.94 -12357097.79 -12357097.64 0.0279 0.0090

Saturn -38545-05-09 08:23 J -12357009.31 -12357009.15 -12357009.00 0.0279 0.0023

Saturn -38545-08-05 23:16 J -12356920.66 -12356920.53 -12356920.40 0.0279 0.0132

Saturn -38545-11-02 13:40 J -12356832.00 -12356831.93 -12356831.85 0.0278 0.0239

Mars -38545-11-30 13:11 J -12356804.08 -12356803.95 -12356803.82 0.1903 0.0329

Jupiter -38544-08-22 13:54 J -12356539.06 -12356538.92 -12356538.78 0.0503 0.0143

Mars -38544-10-14 05:02 J -12356486.38 -12356486.29 -12356486.19 0.1628 0.1218

Earth -38544-10-20 15:21 J -12356479.93 -12356479.86 -12356479.80 0.2667 0.2225

Moon -38544-10-20 16:04 J -12356479.89 -12356479.83 -12356479.76 0.2666 0.2257 *

Jupiter -38544-11-20 02:52 J -12356449.44 -12356449.38 -12356449.31 0.0500 0.0447

Venus -38543-01-15 23:02 J -12356392.64 -12356392.54 -12356392.44 0.3628 0.1952

Mars -38542-09-20 02:23 J -12355780.48 -12355780.40 -12355780.31 0.1619 0.1284

Jupiter -38537-01-21 12:42 J -12354196.12 -12354195.97 -12354195.82 0.0526 0.0048

Moon -38537-10-13 04:04 J -12353930.46 -12353930.33 -12353930.21 0.2669 0.0464

Earth -38537-10-13 04:18 J -12353930.45 -12353930.32 -12353930.19 0.2662 0.0401 *

Mars -38535-04-22 17:59 J -12353373.87 -12353373.75 -12353373.63 0.1900 0.0598

Earth -38534-04-14 06:57 J -12353017.34 -12353017.21 -12353017.09 0.2668 0.0826

Moon -38534-04-14 07:11 J -12353017.32 -12353017.20 -12353017.07 0.2674 0.0795 *

Mars -38532-02-09 09:35 J -12352350.23 -12352350.10 -12352349.97 0.1621 0.0706

Jupiter -38532-06-10 16:33 J -12352228.93 -12352228.81 -12352228.69 0.0504 0.0285

Jupiter -38532-09-08 05:16 J -12352139.40 -12352139.28 -12352139.16 0.0501 0.0301

Saturn -38531-11-21 23:30 J -12351699.64 -12351699.52 -12351699.40 0.0280 0.0177

Saturn -38530-02-18 14:52 J -12351611.03 -12351610.88 -12351610.73 0.0280 0.0065

Saturn -38530-05-18 06:42 J -12351522.37 -12351522.22 -12351522.06 0.0280 0.0052

Saturn -38530-08-14 23:02 J -12351433.66 -12351433.54 -12351433.41 0.0280 0.0169

Moon -38527-04-06 16:04 J -12350467.91 -12350467.83 -12350467.75 0.2670 0.1995

Earth -38527-04-06 17:02 J -12350467.87 -12350467.79 -12350467.71 0.2673 0.1995 *

Mars -38526-09-12 23:16 J -12349943.61 -12349943.53 -12349943.46 0.1897 0.1483

Jupiter -38526-11-09 12:42 J -12349886.12 -12349885.97 -12349885.82 0.0525 0.0137

Earth -38524-10-16 01:54 J -12349179.54 -12349179.42 -12349179.29 0.2664 0.0556

Moon -38524-10-16 02:23 J -12349179.52 -12349179.40 -12349179.28 0.2670 0.0649 *

Mars -38523-07-02 16:33 J -12348919.95 -12348919.81 -12348919.67 0.1623 0.0116

Earth -38521-04-16 05:59 J -12348266.34 -12348266.25 -12348266.16 0.2666 0.1885

Moon -38521-04-16 06:57 J -12348266.30 -12348266.21 -12348266.13 0.2671 0.2035 *

Jupiter -38520-03-29 19:26 J -12347918.77 -12347918.69 -12347918.61 0.0505 0.0422

Jupiter -38520-06-27 07:54 J -12347829.31 -12347829.17 -12347829.03 0.0502 0.0161

Moon -38517-10-08 12:28 J -12346630.04 -12346629.98 -12346629.92 0.2659 0.2359

Earth -38517-10-08 13:26 J -12346630.01 -12346629.94 -12346629.87 0.2659 0.2218 *

Saturn -38516-04-02 02:23 J -12346454.48 -12346454.40 -12346454.32 0.0279 0.0238

Saturn -38516-06-29 17:59 J -12346365.88 -12346365.75 -12346365.61 0.0278 0.0123

Saturn -38516-09-26 09:35 J -12346277.26 -12346277.10 -12346276.95 0.0278 0.0013

Saturn -38516-12-24 00:28 J -12346188.62 -12346188.48 -12346188.34 0.0278 0.0101

Saturn -38515-03-22 15:06 J -12346099.97 -12346099.87 -12346099.77 0.0278 0.0208

Mars -38514-01-09 09:06 J -12345807.21 -12345807.12 -12345807.03 0.1906 0.1384

Moon -38514-04-09 14:23 J -12345717.02 -12345716.90 -12345716.79 0.2675 0.1130

Earth -38514-04-09 15:06 J -12345716.98 -12345716.87 -12345716.75 0.2671 0.1028 *

Pluto -38514-06-06 19:54 J -12345658.73 -12345658.67 -12345658.60 0.0078 0.0070

Jupiter -38514-08-28 13:26 J -12345576.07 -12345575.94 -12345575.82 0.0524 0.0309

Pluto -38514-09-02 21:21 J -12345570.69 -12345570.61 -12345570.52 0.0078 0.0062

Mars -38514-11-22 23:02 J -12345489.67 -12345489.54 -12345489.40 0.1625 0.0500

Jupiter -38514-11-26 09:21 J -12345486.21 -12345486.11 -12345486.01 0.0528 0.0395

Pluto -38514-11-29 22:33 J -12345482.65 -12345482.56 -12345482.44 0.0077 0.0055

Pluto -38513-02-26 00:14 J -12345394.60 -12345394.49 -12345394.37 0.0077 0.0046

Pluto -38513-05-24 01:40 J -12345306.55 -12345306.43 -12345306.30 0.0077 0.0039

Pluto -38513-08-20 03:06 J -12345218.50 -12345218.37 -12345218.23 0.0077 0.0031

Pluto -38513-11-16 04:33 J -12345130.45 -12345130.31 -12345130.16 0.0077 0.0023

Pluto -38512-02-12 05:59 J -12345042.39 -12345042.25 -12345042.10 0.0077 0.0016

Pluto -38512-05-11 07:26 J -12344954.34 -12344954.19 -12344954.04 0.0077 0.0008

Pluto -38512-08-07 08:52 J -12344866.28 -12344866.13 -12344865.99 0.0077 0.0002

Pluto -38512-11-03 10:04 J -12344778.23 -12344778.08 -12344777.93 0.0076 0.0007

Pluto -38511-01-30 11:16 J -12344690.17 -12344690.03 -12344689.88 0.0076 0.0015

Pluto -38511-04-28 12:42 J -12344602.11 -12344601.97 -12344601.82 0.0076 0.0021

Pluto -38511-07-25 14:09 J -12344514.05 -12344513.91 -12344513.77 0.0076 0.0028

Earth -38511-10-18 23:30 J -12344428.63 -12344428.52 -12344428.42 0.2666 0.1488

Moon -38511-10-19 00:14 J -12344428.59 -12344428.49 -12344428.38 0.2668 0.1477 *

Pluto -38511-10-21 15:21 J -12344425.99 -12344425.86 -12344425.73 0.0076 0.0035

Pluto -38510-01-17 16:18 J -12344337.92 -12344337.82 -12344337.68 0.0076 0.0043

Pluto -38510-04-15 17:45 J -12344249.86 -12344249.76 -12344249.64 0.0076 0.0050

Pluto -38510-07-12 18:57 J -12344161.79 -12344161.71 -12344161.60 0.0076 0.0056

Pluto -38510-10-08 20:09 J -12344073.72 -12344073.66 -12344073.57 0.0075 0.0063

Pluto -38509-01-04 21:35 J -12343985.65 -12343985.60 -12343985.54 0.0075 0.0070

Jupiter -38508-04-15 10:18 J -12343519.21 -12343519.07 -12343518.92 0.0502 0.0019

Venus -38507-01-06 07:40 J -12343253.27 -12343253.18 -12343253.08 0.3755 0.2368

Uranus -38507-03-01 11:02 J -12343199.10 -12343199.04 -12343198.96 0.0133 0.0118

Uranus -38507-05-28 15:35 J -12343110.95 -12343110.85 -12343110.73 0.0133 0.0097

Uranus -38507-08-24 20:09 J -12343022.78 -12343022.66 -12343022.53 0.0133 0.0076

Uranus -38507-11-21 00:42 J -12342934.61 -12342934.47 -12342934.33 0.0133 0.0055

Uranus -38506-02-17 05:02 J -12342846.44 -12342846.29 -12342846.14 0.0133 0.0035

Uranus -38506-05-16 09:21 J -12342758.26 -12342758.11 -12342757.95 0.0133 0.0014

Uranus -38506-08-12 13:40 J -12342670.09 -12342669.93 -12342669.78 0.0133 0.0006

Uranus -38506-11-08 17:45 J -12342581.90 -12342581.76 -12342581.60 0.0133 0.0027

Uranus -38505-02-04 22:04 J -12342493.72 -12342493.58 -12342493.43 0.0133 0.0046

Uranus -38505-05-03 02:09 J -12342405.54 -12342405.41 -12342405.27 0.0133 0.0066

Mars -38505-05-31 13:26 J -12342377.06 -12342376.94 -12342376.81 0.1903 0.0428

Uranus -38505-07-30 06:14 J -12342317.35 -12342317.24 -12342317.11 0.0133 0.0086

Uranus -38505-10-26 10:33 J -12342229.15 -12342229.06 -12342228.97 0.0132 0.0105

Uranus -38504-01-22 14:38 J -12342140.94 -12342140.89 -12342140.84 0.0132 0.0124

Mars -38504-04-14 05:30 J -12342059.37 -12342059.27 -12342059.17 0.1628 0.1127

Moon -38504-10-11 10:47 J -12341879.16 -12341879.05 -12341878.93 0.2664 0.1267

Earth -38504-10-11 11:45 J -12341879.12 -12341879.01 -12341878.90 0.2661 0.1210 *

Mars -38502-03-21 02:38 J -12341353.46 -12341353.39 -12341353.31 0.1619 0.1367

Jupiter -38502-06-16 14:09 J -12341265.97 -12341265.91 -12341265.85 0.0523 0.0480

Venus -38502-07-23 05:45 J -12341229.38 -12341229.26 -12341229.15 0.3751 0.1422

Jupiter -38502-09-14 10:33 J -12341176.20 -12341176.06 -12341175.92 0.0527 0.0230

Saturn -38501-04-09 23:02 J -12340967.63 -12340967.54 -12340967.44 0.0280 0.0220

Moon -38501-04-11 13:11 J -12340966.08 -12340965.95 -12340965.82 0.2675 0.0075

Earth -38501-04-11 13:40 J -12340966.06 -12340965.93 -12340965.80 0.2669 0.0025 *

Saturn -38501-07-07 14:23 J -12340879.04 -12340878.90 -12340878.75 0.0280 0.0109

Saturn -38501-10-04 06:14 J -12340790.40 -12340790.24 -12340790.08 0.0281 0.0006

Saturn -38501-12-31 22:18 J -12340701.71 -12340701.57 -12340701.43 0.0281 0.0124

Saturn -38500-03-30 14:38 J -12340612.96 -12340612.89 -12340612.81 0.0281 0.0244

Venus -38498-07-24 06:57 J -12339767.29 -12339767.21 -12339767.13 0.3621 0.2698

Earth -38498-10-21 20:38 J -12339677.70 -12339677.64 -12339677.59 0.2667 0.2385

Moon -38498-10-21 21:21 J -12339677.65 -12339677.61 -12339677.57 0.2665 0.2495 *

Jupiter -38496-02-01 12:57 J -12339209.11 -12339208.96 -12339208.82 0.0503 0.0130

Jupiter -38496-05-02 01:54 J -12339119.48 -12339119.42 -12339119.36 0.0500 0.0458

Mars -38496-10-21 17:59 J -12338946.87 -12338946.75 -12338946.62 0.1900 0.0510

Mars -38493-08-10 09:50 J -12337923.21 -12337923.09 -12337922.96 0.1621 0.0789

Venus -38492-02-06 02:09 J -12337743.52 -12337743.41 -12337743.29 0.3625 0.0236

Moon -38491-10-14 09:21 J -12337128.23 -12337128.11 -12337127.98 0.2670 0.0232

Earth -38491-10-14 09:35 J -12337128.22 -12337128.10 -12337127.97 0.2663 0.0241 *

Jupiter -38490-07-03 11:16 J -12336866.18 -12336866.03 -12336865.88 0.0526 0.0058

Earth -38488-04-14 12:28 J -12336215.10 -12336214.98 -12336214.86 0.2668 0.1013

Moon -38488-04-14 12:57 J -12336215.08 -12336214.96 -12336214.84 0.2674 0.1099 *

Saturn -38487-08-20 03:06 J -12335722.39 -12335722.37 -12335722.34 0.0279 0.0274

Venus -38487-08-22 21:21 J -12335719.68 -12335719.61 -12335719.55 0.3629 0.2997

Saturn -38487-11-16 18:57 J -12335633.83 -12335633.71 -12335633.58 0.0279 0.0157

Saturn -38486-02-13 10:33 J -12335545.21 -12335545.06 -12335544.90 0.0279 0.0043

Mars -38486-03-13 23:16 J -12335516.61 -12335516.53 -12335516.44 0.1896 0.1392

Saturn -38486-05-13 01:40 J -12335456.57 -12335456.43 -12335456.28 0.0279 0.0070

Saturn -38486-08-09 16:33 J -12335367.92 -12335367.81 -12335367.69 0.0279 0.0178

Jupiter -38485-11-20 14:38 J -12334899.01 -12334898.89 -12334898.77 0.0504 0.0284

Jupiter -38484-02-18 03:35 J -12334809.47 -12334809.35 -12334809.24 0.0501 0.0302

Mars -38484-12-31 16:47 J -12334492.94 -12334492.80 -12334492.66 0.1623 0.0197

Moon -38481-04-06 21:21 J -12333665.69 -12333665.61 -12333665.52 0.2671 0.1964

Earth -38481-04-06 22:18 J -12333665.66 -12333665.57 -12333665.47 0.2672 0.1827 *

Jupiter -38478-04-21 11:30 J -12332556.17 -12332556.02 -12332555.87 0.0525 0.0122

Earth -38478-10-17 07:11 J -12332377.32 -12332377.20 -12332377.07 0.2664 0.0729

Moon -38478-10-17 07:54 J -12332377.29 -12332377.17 -12332377.05 0.2669 0.0717 *

Earth -38475-04-17 11:30 J -12331464.10 -12331464.02 -12331463.93 0.2666 0.2082

Moon -38475-04-17 12:28 J -12331464.06 -12331463.98 -12331463.89 0.2669 0.2080 *

Mars -38475-07-10 09:06 J -12331380.20 -12331380.12 -12331380.04 0.1906 0.1476

Mars -38474-05-23 23:30 J -12331062.66 -12331062.52 -12331062.38 0.1625 0.0413

Jupiter -38473-09-08 17:16 J -12330588.85 -12330588.78 -12330588.70 0.0505 0.0426

Jupiter -38473-12-07 05:45 J -12330499.40 -12330499.26 -12330499.12 0.0502 0.0156

Saturn -38472-08-28 02:23 J -12330235.48 -12330235.40 -12330235.32 0.0280 0.0236

Saturn -38472-11-24 17:45 J -12330146.90 -12330146.76 -12330146.62 0.0280 0.0126

Saturn -38471-02-21 09:21 J -12330058.27 -12330058.11 -12330057.95 0.0280 0.0012

Saturn -38471-05-21 01:26 J -12329969.59 -12329969.44 -12329969.30 0.0280 0.0105

Saturn -38471-08-17 17:45 J -12329880.85 -12329880.76 -12329880.67 0.0280 0.0225

Moon -38471-10-09 17:45 J -12329827.84 -12329827.76 -12329827.67 0.2659 0.2049

Earth -38471-10-09 18:57 J -12329827.79 -12329827.71 -12329827.63 0.2660 0.2038 *

Neptune -38470-10-26 00:14 J -12329446.50 -12329446.49 -12329446.47 0.0089 0.0089

Neptune -38469-01-22 01:40 J -12329358.47 -12329358.43 -12329358.35 0.0089 0.0083

Neptune -38469-04-19 03:35 J -12329270.41 -12329270.35 -12329270.25 0.0089 0.0076

Neptune -38469-07-16 05:30 J -12329182.35 -12329182.27 -12329182.16 0.0089 0.0069

Neptune -38469-10-12 07:40 J -12329094.28 -12329094.18 -12329094.07 0.0089 0.0061

Neptune -38468-01-08 09:35 J -12329006.22 -12329006.10 -12329005.98 0.0089 0.0054

Neptune -38468-04-06 11:30 J -12328918.14 -12328918.02 -12328917.89 0.0089 0.0047

Moon -38468-04-09 19:40 J -12328914.80 -12328914.68 -12328914.56 0.2675 0.0859

Earth -38468-04-09 20:38 J -12328914.76 -12328914.64 -12328914.52 0.2671 0.0848 *

Neptune -38468-07-03 13:26 J -12328830.07 -12328829.94 -12328829.81 0.0089 0.0040

Neptune -38468-09-29 15:21 J -12328742.00 -12328741.86 -12328741.72 0.0089 0.0033

Neptune -38468-12-26 17:16 J -12328653.92 -12328653.78 -12328653.63 0.0089 0.0026

Neptune -38467-03-24 19:11 J -12328565.85 -12328565.70 -12328565.55 0.0089 0.0019

Neptune -38467-06-20 21:06 J -12328477.77 -12328477.62 -12328477.47 0.0089 0.0012

Neptune -38467-09-16 23:02 J -12328389.69 -12328389.54 -12328389.39 0.0089 0.0005

Neptune -38467-12-14 00:57 J -12328301.61 -12328301.46 -12328301.30 0.0089 0.0004

Jupiter -38466-02-07 11:16 J -12328246.15 -12328246.03 -12328245.91 0.0524 0.0311

Neptune -38466-03-12 02:52 J -12328213.52 -12328213.38 -12328213.22 0.0089 0.0010

Jupiter -38466-05-08 07:11 J -12328156.30 -12328156.20 -12328156.10 0.0528 0.0393

Neptune -38466-06-08 04:47 J -12328125.44 -12328125.30 -12328125.14 0.0089 0.0017

Neptune -38466-09-04 06:57 J -12328037.36 -12328037.21 -12328037.06 0.0089 0.0024

Mars -38466-11-30 13:26 J -12327950.06 -12327949.94 -12327949.81 0.1903 0.0510

Neptune -38466-12-01 08:52 J -12327949.27 -12327949.13 -12327948.98 0.0089 0.0031

Neptune -38465-02-27 10:47 J -12327861.18 -12327861.05 -12327860.90 0.0089 0.0039

Neptune -38465-05-25 12:42 J -12327773.09 -12327772.97 -12327772.83 0.0089 0.0046

Neptune -38465-08-21 14:52 J -12327685.00 -12327684.88 -12327684.75 0.0089 0.0053

Mars -38465-10-13 05:45 J -12327632.37 -12327632.26 -12327632.14 0.1628 0.1038

Earth -38465-10-19 04:33 J -12327626.40 -12327626.31 -12327626.21 0.2666 0.1649

Moon -38465-10-19 05:30 J -12327626.36 -12327626.27 -12327626.18 0.2669 0.1791 *

Neptune -38465-11-17 16:47 J -12327596.90 -12327596.80 -12327596.68 0.0089 0.0060

Neptune -38464-02-13 19:11 J -12327508.80 -12327508.70 -12327508.61 0.0089 0.0068

Neptune -38464-05-12 20:52 J -12327420.70 -12327420.63 -12327420.54 0.0089 0.0075

Uranus -38464-05-13 14:38 J -12327419.95 -12327419.89 -12327419.81 0.0146 0.0129

Neptune -38464-08-08 23:02 J -12327332.59 -12327332.54 -12327332.48 0.0089 0.0082

Uranus -38464-08-09 19:54 J -12327331.77 -12327331.67 -12327331.55 0.0146 0.0103

Uranus -38464-11-06 01:26 J -12327243.57 -12327243.44 -12327243.30 0.0146 0.0076

Uranus -38463-02-02 07:11 J -12327155.35 -12327155.20 -12327155.05 0.0146 0.0049

Uranus -38463-05-01 12:42 J -12327067.13 -12327066.97 -12327066.81 0.0146 0.0021

Uranus -38463-07-28 18:14 J -12326978.89 -12326978.74 -12326978.58 0.0146 0.0007

Mars -38463-09-19 03:06 J -12326926.43 -12326926.37 -12326926.31 0.1619 0.1447

Uranus -38463-10-24 23:59 J -12326890.65 -12326890.50 -12326890.34 0.0146 0.0034

Uranus -38462-01-21 05:45 J -12326802.40 -12326802.26 -12326802.12 0.0146 0.0062

Uranus -38462-04-19 11:30 J -12326714.14 -12326714.02 -12326713.89 0.0146 0.0090

Uranus -38462-07-16 17:02 J -12326625.87 -12326625.79 -12326625.68 0.0146 0.0119

Jupiter -38461-09-25 08:38 J -12326189.29 -12326189.14 -12326188.99 0.0503 0.0019

Moon -38458-10-12 16:33 J -12325076.93 -12325076.81 -12325076.70 0.2666 0.1125

Earth -38458-10-12 17:16 J -12325076.90 -12325076.78 -12325076.67 0.2661 0.1036 *

Saturn -38457-04-04 20:23 J -12324901.76 -12324901.65 -12324901.53 0.0279 0.0187

Saturn -38457-07-02 12:14 J -12324813.14 -12324812.99 -12324812.84 0.0278 0.0072

Saturn -38457-09-29 03:21 J -12324724.51 -12324724.36 -12324724.21 0.0278 0.0041

Saturn -38457-12-26 18:14 J -12324635.86 -12324635.74 -12324635.61 0.0278 0.0150

Saturn -38456-03-25 08:52 J -12324547.19 -12324547.13 -12324547.08 0.0278 0.0256

Mars -38456-04-21 18:28 J -12324519.86 -12324519.73 -12324519.61 0.1900 0.0405

Moon -38455-04-12 18:57 J -12324163.84 -12324163.71 -12324163.58 0.2675 0.0137

Earth -38455-04-12 19:11 J -12324163.83 -12324163.70 -12324163.57 0.2669 0.0163 *

Jupiter -38455-11-26 11:45 J -12323936.06 -12323936.01 -12323935.95 0.0523 0.0486

Jupiter -38454-02-24 08:09 J -12323846.30 -12323846.16 -12323846.02 0.0527 0.0223

Mars -38453-02-09 10:18 J -12323496.19 -12323496.07 -12323495.95 0.1621 0.0876

Earth -38452-10-22 01:54 J -12322875.46 -12322875.42 -12322875.39 0.2668 0.2546

Moon -38452-10-22 02:38 J -12322875.43 -12322875.39 -12322875.35 0.2664 0.2523 *

Venus -38451-08-13 06:42 J -12322580.34 -12322580.22 -12322580.10 0.3754 0.1026

Jupiter -38449-07-14 11:02 J -12321879.18 -12321879.04 -12321878.90 0.0503 0.0127

Jupiter -38449-10-12 00:14 J -12321789.55 -12321789.49 -12321789.44 0.0500 0.0461

Earth -38448-04-05 05:45 J -12321614.28 -12321614.26 -12321614.23 0.2674 0.2603

Mars -38447-09-11 23:16 J -12321089.62 -12321089.53 -12321089.43 0.1896 0.1304

Venus -38445-02-27 04:47 J -12320556.38 -12320556.30 -12320556.22 0.3749 0.2800

Moon -38445-10-14 14:52 J -12320326.01 -12320325.88 -12320325.75 0.2669 0.0081

Earth -38445-10-14 15:06 J -12320326.00 -12320325.87 -12320325.75 0.2663 0.0092 *

Mars -38444-07-01 17:02 J -12320065.93 -12320065.79 -12320065.65 0.1623 0.0282

Jupiter -38443-12-13 09:21 J -12319536.27 -12319536.11 -12319535.96 0.0526 0.0058

Saturn -38442-01-15 02:09 J -12319503.42 -12319503.41 -12319503.38 0.0280 0.0277

Saturn -38442-04-13 17:30 J -12319414.89 -12319414.77 -12319414.64 0.0280 0.0167

Earth -38442-04-15 17:59 J -12319412.87 -12319412.75 -12319412.63 0.2667 0.1201

Moon -38442-04-15 18:28 J -12319412.85 -12319412.73 -12319412.61 0.2674 0.1202 *

Saturn -38442-07-11 09:06 J -12319326.27 -12319326.12 -12319325.97 0.0280 0.0054

Saturn -38442-10-08 00:57 J -12319237.61 -12319237.46 -12319237.31 0.0281 0.0062

Saturn -38441-01-04 17:02 J -12319148.91 -12319148.79 -12319148.66 0.0281 0.0180

Venus -38441-02-28 05:30 J -12319094.38 -12319094.27 -12319094.17 0.3622 0.1599

Jupiter -38437-05-02 13:40 J -12317569.06 -12317568.93 -12317568.81 0.0504 0.0271

Jupiter -38437-07-31 02:23 J -12317479.52 -12317479.40 -12317479.29 0.0501 0.0313

Venus -38436-09-13 00:28 J -12317070.59 -12317070.48 -12317070.36 0.3626 0.1273

Mars -38435-01-08 09:21 J -12316953.19 -12316953.11 -12316953.04 0.1906 0.1568

Moon -38435-04-08 02:52 J -12316863.48 -12316863.38 -12316863.28 0.2673 0.1645

Earth -38435-04-08 03:50 J -12316863.44 -12316863.34 -12316863.24 0.2672 0.1652 *

Mars -38435-11-21 23:45 J -12316635.65 -12316635.51 -12316635.37 0.1625 0.0327

Earth -38432-10-17 12:42 J -12315575.09 -12315574.97 -12315574.86 0.2664 0.0893

Moon -38432-10-17 13:11 J -12315575.06 -12315574.95 -12315574.83 0.2669 0.0984 *

Jupiter -38431-10-01 10:04 J -12315226.23 -12315226.08 -12315225.93 0.0525 0.0115

Earth -38429-04-17 17:16 J -12314661.85 -12314661.78 -12314661.72 0.2666 0.2273

Moon -38429-04-17 18:14 J -12314661.79 -12314661.74 -12314661.68 0.2667 0.2415 *

Saturn -38428-08-22 21:21 J -12314169.70 -12314169.61 -12314169.52 0.0279 0.0222

Saturn -38428-11-19 13:11 J -12314081.10 -12314080.95 -12314080.81 0.0279 0.0106

Saturn -38427-02-16 04:33 J -12313992.47 -12313992.31 -12313992.16 0.0279 0.0008

Saturn -38427-05-15 19:26 J -12313903.82 -12313903.69 -12313903.55 0.0279 0.0118

Saturn -38427-08-12 10:04 J -12313815.16 -12313815.08 -12313814.99 0.0279 0.0226

Mars -38426-05-31 13:40 J -12313523.05 -12313522.93 -12313522.80 0.1903 0.0612

Jupiter -38425-02-19 15:21 J -12313258.93 -12313258.86 -12313258.78 0.0505 0.0426

Mars -38425-04-13 06:14 J -12313205.36 -12313205.24 -12313205.13 0.1628 0.0954

Jupiter -38425-05-19 03:50 J -12313169.48 -12313169.34 -12313169.20 0.0502 0.0156

Moon -38425-10-09 23:16 J -12313025.61 -12313025.53 -12313025.44 0.2660 0.2009

Earth -38425-10-10 00:28 J -12313025.57 -12313025.48 -12313025.39 0.2660 0.1858 *

Mars -38423-03-20 03:21 J -12312499.41 -12312499.36 -12312499.32 0.1619 0.1527

Uranus -38423-03-21 17:45 J -12312497.83 -12312497.76 -12312497.67 0.0133 0.0114

Uranus -38423-06-17 22:18 J -12312409.68 -12312409.57 -12312409.45 0.0133 0.0093

Uranus -38423-09-14 02:52 J -12312321.51 -12312321.38 -12312321.25 0.0133 0.0072

Uranus -38423-12-11 07:11 J -12312233.34 -12312233.20 -12312233.05 0.0133 0.0051

Uranus -38422-03-09 11:30 J -12312145.17 -12312145.02 -12312144.86 0.0133 0.0031

Moon -38422-04-11 01:11 J -12312112.57 -12312112.45 -12312112.33 0.2674 0.0796

Earth -38422-04-11 02:09 J -12312112.54 -12312112.41 -12312112.29 0.2670 0.0671 *

Uranus -38422-06-05 15:50 J -12312056.99 -12312056.84 -12312056.68 0.0133 0.0011

Uranus -38422-09-01 20:09 J -12311968.81 -12311968.66 -12311968.50 0.0133 0.0010

Uranus -38422-11-29 00:28 J -12311880.63 -12311880.48 -12311880.33 0.0133 0.0030

Uranus -38421-02-25 04:47 J -12311792.44 -12311792.30 -12311792.16 0.0133 0.0050

Uranus -38421-05-23 08:52 J -12311704.26 -12311704.13 -12311704.00 0.0133 0.0070

Uranus -38421-08-19 12:57 J -12311616.07 -12311615.96 -12311615.84 0.0132 0.0089

Uranus -38421-11-15 17:02 J -12311527.87 -12311527.79 -12311527.70 0.0132 0.0109

Uranus -38420-02-11 21:21 J -12311439.65 -12311439.61 -12311439.57 0.0132 0.0128

Jupiter -38419-07-20 10:04 J -12310916.20 -12310916.08 -12310915.95 0.0524 0.0297

Jupiter -38419-10-18 05:59 J -12310826.34 -12310826.25 -12310826.15 0.0527 0.0406

Earth -38419-10-20 10:04 J -12310824.17 -12310824.08 -12310823.99 0.2666 0.1814

Moon -38419-10-20 10:47 J -12310824.14 -12310824.05 -12310823.95 0.2667 0.1812 *

Mars -38417-10-20 18:14 J -12310092.86 -12310092.74 -12310092.61 0.1900 0.0328

Mars -38416-09-03 12:14 J -12309775.01 -12309774.99 -12309774.96 0.1631 0.1594

Mars -38414-08-10 10:18 J -12309069.18 -12309069.07 -12309068.95 0.1621 0.0956

Jupiter -38413-03-07 06:14 J -12308859.39 -12308859.24 -12308859.09 0.0503 0.0012

Saturn -38413-08-30 20:52 J -12308682.74 -12308682.63 -12308682.52 0.0280 0.0184

Saturn -38413-11-27 12:14 J -12308594.14 -12308593.99 -12308593.84 0.0280 0.0071

Saturn -38412-02-24 04:04 J -12308505.48 -12308505.33 -12308505.18 0.0280 0.0044

Saturn -38412-05-23 20:09 J -12308416.78 -12308416.66 -12308416.53 0.0280 0.0162

Moon -38412-10-12 21:50 J -12308274.71 -12308274.59 -12308274.46 0.2667 0.0851

Earth -38412-10-12 22:33 J -12308274.68 -12308274.56 -12308274.44 0.2662 0.0859 *

Moon -38409-04-13 00:42 J -12307361.60 -12307361.47 -12307361.35 0.2676 0.0388

Earth -38409-04-13 00:42 J -12307361.60 -12307361.47 -12307361.34 0.2669 0.0345 *

Mars -38407-03-12 23:30 J -12306662.61 -12306662.52 -12306662.42 0.1896 0.1209

Jupiter -38407-05-08 09:35 J -12306606.15 -12306606.10 -12306606.05 0.0523 0.0488

Jupiter -38407-08-06 05:59 J -12306516.39 -12306516.25 -12306516.11 0.0527 0.0220

Mars -38405-12-30 17:30 J -12305638.91 -12305638.77 -12305638.63 0.1623 0.0372

Moon -38402-04-06 10:33 J -12304812.11 -12304812.06 -12304812.01 0.2669 0.2429

Earth -38402-04-06 11:16 J -12304812.08 -12304812.03 -12304811.98 0.2673 0.2438 *

Jupiter -38402-12-25 09:06 J -12304549.26 -12304549.12 -12304548.98 0.0504 0.0129

Jupiter -38401-03-23 22:18 J -12304459.63 -12304459.57 -12304459.52 0.0500 0.0460

Venus -38400-09-03 07:54 J -12303931.22 -12303931.17 -12303931.12 0.3757 0.3390

Earth -38399-10-15 20:23 J -12303523.78 -12303523.65 -12303523.52 0.2663 0.0114

Moon -38399-10-15 20:23 J -12303523.77 -12303523.65 -12303523.52 0.2669 0.0116 *

Saturn -38398-01-09 23:16 J -12303437.59 -12303437.53 -12303437.46 0.0279 0.0248

Saturn -38398-04-08 15:06 J -12303349.00 -12303348.87 -12303348.73 0.0279 0.0132

Saturn -38398-07-06 06:42 J -12303260.38 -12303260.22 -12303260.07 0.0278 0.0019

Saturn -38398-10-02 21:35 J -12303171.74 -12303171.60 -12303171.45 0.0278 0.0094

Saturn -38398-12-30 12:28 J -12303083.08 -12303082.98 -12303082.88 0.0278 0.0201

Earth -38396-04-15 23:30 J -12302610.63 -12302610.52 -12302610.40 0.2667 0.1395

Moon -38396-04-16 00:14 J -12302610.60 -12302610.49 -12302610.38 0.2673 0.1451 *

Mars -38396-07-09 09:35 J -12302526.16 -12302526.10 -12302526.04 0.1906 0.1674

Mars -38395-05-22 23:59 J -12302208.64 -12302208.50 -12302208.35 0.1625 0.0243

Jupiter -38395-05-25 06:42 J -12302206.37 -12302206.22 -12302206.06 0.0526 0.0049

Venus -38394-03-20 05:45 J -12301907.38 -12301907.26 -12301907.14 0.3753 0.0341

Venus -38390-03-21 08:23 J -12300445.18 -12300445.15 -12300445.11 0.3620 0.3428

Jupiter -38390-10-13 11:45 J -12300239.13 -12300239.01 -12300238.89 0.0504 0.0270

Jupiter -38389-01-11 00:28 J -12300149.60 -12300149.48 -12300149.36 0.0501 0.0314

Moon -38389-04-08 08:09 J -12300061.26 -12300061.16 -12300061.06 0.2673 0.1629

Earth -38389-04-08 09:21 J -12300061.22 -12300061.11 -12300061.01 0.2672 0.1480 *

Mars -38387-11-29 13:54 J -12299096.04 -12299095.92 -12299095.80 0.1903 0.0706

Neptune -38386-01-22 09:35 J -12299042.13 -12299042.10 -12299042.05 0.0088 0.0085

Neptune -38386-04-20 11:59 J -12298954.06 -12298954.00 -12298953.91 0.0088 0.0078

Neptune -38386-07-17 14:38 J -12298865.98 -12298865.89 -12298865.78 0.0088 0.0070

Mars -38386-10-13 06:28 J -12298778.35 -12298778.23 -12298778.11 0.1628 0.0866

Neptune -38386-10-13 16:47 J -12298777.90 -12298777.80 -12298777.66 0.0088 0.0063

Earth -38386-10-18 17:59 J -12298772.87 -12298772.75 -12298772.64 0.2665 0.1058

Moon -38386-10-18 18:42 J -12298772.83 -12298772.72 -12298772.61 0.2670 0.1086 *

Neptune -38385-01-09 19:26 J -12298689.81 -12298689.69 -12298689.55 0.0088 0.0054

Neptune -38385-04-06 22:04 J -12298601.72 -12298601.58 -12298601.44 0.0088 0.0046

Neptune -38385-07-04 00:28 J -12298513.62 -12298513.48 -12298513.33 0.0088 0.0039

Neptune -38385-09-30 02:52 J -12298425.53 -12298425.38 -12298425.22 0.0088 0.0031

Venus -38385-10-04 03:50 J -12298421.46 -12298421.34 -12298421.22 0.3623 0.0496

Neptune -38385-12-27 05:16 J -12298337.43 -12298337.28 -12298337.12 0.0088 0.0024

Neptune -38384-03-25 07:40 J -12298249.34 -12298249.18 -12298249.01 0.0088 0.0016

Neptune -38384-06-21 10:04 J -12298161.24 -12298161.08 -12298160.91 0.0088 0.0008

Neptune -38384-09-17 12:28 J -12298073.14 -12298072.98 -12298072.81 0.0088 0.0001

Mars -38384-09-18 03:35 J -12298072.36 -12298072.35 -12298072.34 0.1619 0.1608

Neptune -38384-12-14 14:52 J -12297985.04 -12297984.88 -12297984.72 0.0088 0.0007

Saturn -38383-01-17 20:52 J -12297950.71 -12297950.63 -12297950.53 0.0280 0.0223

Neptune -38383-03-12 17:16 J -12297896.94 -12297896.78 -12297896.62 0.0088 0.0014

Jupiter -38383-03-13 07:40 J -12297896.33 -12297896.18 -12297896.03 0.0525 0.0121

Saturn -38383-04-16 12:14 J -12297862.13 -12297861.99 -12297861.85 0.0280 0.0112

Earth -38383-04-18 22:47 J -12297859.60 -12297859.55 -12297859.50 0.2665 0.2469

Moon -38383-04-18 23:59 J -12297859.54 -12297859.50 -12297859.46 0.2667 0.2503 *

Neptune -38383-06-08 19:26 J -12297808.84 -12297808.69 -12297808.53 0.0088 0.0022

Saturn -38383-07-14 03:50 J -12297773.49 -12297773.34 -12297773.18 0.0280 0.0009

Neptune -38383-09-04 21:50 J -12297720.74 -12297720.59 -12297720.43 0.0088 0.0029

Saturn -38383-10-10 19:54 J -12297684.81 -12297684.67 -12297684.53 0.0281 0.0120

Neptune -38383-12-02 00:14 J -12297632.64 -12297632.49 -12297632.34 0.0088 0.0037

Saturn -38382-01-07 12:14 J -12297596.07 -12297595.99 -12297595.90 0.0281 0.0240

Neptune -38382-02-28 02:09 J -12297544.54 -12297544.41 -12297544.26 0.0088 0.0045

Neptune -38382-05-27 04:33 J -12297456.43 -12297456.31 -12297456.17 0.0088 0.0052

Neptune -38382-08-23 06:42 J -12297368.33 -12297368.22 -12297368.09 0.0088 0.0059

Neptune -38382-11-19 09:06 J -12297280.22 -12297280.12 -12297280.01 0.0088 0.0066

Neptune -38381-02-15 11:16 J -12297192.11 -12297192.03 -12297191.93 0.0088 0.0074

Neptune -38381-05-13 13:40 J -12297103.99 -12297103.93 -12297103.86 0.0088 0.0081

Neptune -38381-08-09 16:04 J -12297015.84 -12297015.83 -12297015.82 0.0088 0.0088

Uranus -38380-06-02 21:21 J -12296718.68 -12296718.61 -12296718.52 0.0145 0.0124

Uranus -38380-08-30 02:52 J -12296630.49 -12296630.38 -12296630.26 0.0146 0.0097

Uranus -38380-11-26 08:23 J -12296542.28 -12296542.15 -12296542.01 0.0146 0.0070

Uranus -38379-02-22 13:54 J -12296454.07 -12296453.92 -12296453.77 0.0146 0.0043

Venus -38379-04-19 23:02 J -12296397.63 -12296397.54 -12296397.45 0.3627 0.2339

Uranus -38379-05-21 19:26 J -12296365.84 -12296365.69 -12296365.53 0.0146 0.0017

Uranus -38379-08-18 01:11 J -12296277.61 -12296277.45 -12296277.29 0.0146 0.0011

Moon -38379-10-11 05:02 J -12296223.39 -12296223.29 -12296223.19 0.2662 0.1675

Earth -38379-10-11 05:59 J -12296223.35 -12296223.25 -12296223.15 0.2660 0.1680 *

Uranus -38379-11-14 06:42 J -12296189.37 -12296189.22 -12296189.06 0.0146 0.0040

Uranus -38378-02-10 12:28 J -12296101.12 -12296100.98 -12296100.83 0.0146 0.0067

Uranus -38378-05-09 18:14 J -12296012.85 -12296012.74 -12296012.61 0.0146 0.0096

Jupiter -38378-08-01 14:23 J -12295928.98 -12295928.90 -12295928.82 0.0505 0.0413

Uranus -38378-08-06 00:14 J -12295924.57 -12295924.49 -12295924.41 0.0146 0.0124

Jupiter -38378-10-30 02:38 J -12295839.52 -12295839.39 -12295839.24 0.0502 0.0168

Mars -38377-04-20 18:28 J -12295665.85 -12295665.73 -12295665.60 0.1900 0.0231

Mars -38376-03-04 12:42 J -12295348.03 -12295347.97 -12295347.92 0.1631 0.1505

Moon -38376-04-11 06:57 J -12295310.34 -12295310.21 -12295310.09 0.2675 0.0483

Earth -38376-04-11 07:40 J -12295310.31 -12295310.18 -12295310.06 0.2670 0.0498 *

Mars -38374-02-08 10:47 J -12294642.16 -12294642.05 -12294641.94 0.1621 0.1040

Earth -38373-10-20 15:21 J -12294021.95 -12294021.86 -12294021.78 0.2666 0.1974

Moon -38373-10-20 16:04 J -12294021.90 -12294021.83 -12294021.75 0.2666 0.2091 *

Jupiter -38372-12-30 08:23 J -12293586.27 -12293586.15 -12293586.02 0.0524 0.0293

Jupiter -38371-03-30 04:18 J -12293496.41 -12293496.32 -12293496.22 0.0528 0.0411

Saturn -38369-08-25 15:35 J -12292616.97 -12292616.85 -12292616.72 0.0279 0.0169

Saturn -38369-11-22 07:26 J -12292528.35 -12292528.19 -12292528.04 0.0279 0.0054

Saturn -38368-02-18 22:33 J -12292439.71 -12292439.56 -12292439.41 0.0279 0.0059

Saturn -38368-05-18 13:26 J -12292351.06 -12292350.94 -12292350.82 0.0279 0.0168

Saturn -38368-08-15 04:04 J -12292262.35 -12292262.33 -12292262.31 0.0278 0.0275

Mars -38368-09-10 23:30 J -12292235.62 -12292235.52 -12292235.41 0.1896 0.1124

Jupiter -38366-08-18 04:18 J -12291529.47 -12291529.32 -12291529.17 0.0503 0.0012

Moon -38366-10-14 03:21 J -12291472.48 -12291472.36 -12291472.24 0.2668 0.0794

Earth -38366-10-14 03:50 J -12291472.46 -12291472.34 -12291472.21 0.2662 0.0688 *

Mars -38365-06-30 17:45 J -12291211.90 -12291211.76 -12291211.63 0.1623 0.0451

Moon -38363-04-14 06:14 J -12290559.37 -12290559.24 -12290559.11 0.2676 0.0477

Earth -38363-04-14 06:14 J -12290559.37 -12290559.24 -12290559.11 0.2668 0.0530 *

Jupiter -38360-10-18 08:23 J -12289276.21 -12289276.15 -12289276.08 0.0523 0.0474

Jupiter -38359-01-16 04:47 J -12289186.43 -12289186.30 -12289186.16 0.0526 0.0235

Mars -38356-01-07 09:35 J -12288099.15 -12288099.10 -12288099.05 0.1905 0.1757

Moon -38356-04-06 15:50 J -12288009.90 -12288009.84 -12288009.78 0.2670 0.2350

Earth -38356-04-06 16:33 J -12288009.87 -12288009.81 -12288009.74 0.2673 0.2266 *

Mars -38356-11-21 00:28 J -12287781.63 -12287781.48 -12287781.34 0.1626 0.0161

Jupiter -38354-06-06 06:42 J -12287219.36 -12287219.22 -12287219.08 0.0504 0.0136

Saturn -38354-06-07 00:14 J -12287218.56 -12287218.49 -12287218.41 0.0280 0.0239

Saturn -38354-09-03 15:21 J -12287129.99 -12287129.86 -12287129.72 0.0280 0.0129

Jupiter -38354-09-03 19:54 J -12287129.73 -12287129.67 -12287129.61 0.0500 0.0453 *

Saturn -38354-12-01 07:11 J -12287041.36 -12287041.20 -12287041.05 0.0280 0.0017

Saturn -38353-02-27 23:02 J -12286952.68 -12286952.54 -12286952.39 0.0280 0.0102

Saturn -38353-05-26 15:21 J -12286863.95 -12286863.86 -12286863.76 0.0280 0.0221

Pluto -38353-08-24 07:54 J -12286774.20 -12286774.17 -12286774.11 0.0066 0.0064

Earth -38353-10-16 01:40 J -12286721.55 -12286721.43 -12286721.30 0.2663 0.0286

Moon -38353-10-16 01:54 J -12286721.54 -12286721.42 -12286721.29 0.2670 0.0356 *

Pluto -38353-11-20 08:52 J -12286686.18 -12286686.13 -12286686.03 0.0067 0.0059

Pluto -38352-02-16 10:33 J -12286598.15 -12286598.06 -12286597.95 0.0067 0.0053

Pluto -38352-05-15 11:45 J -12286510.12 -12286510.01 -12286509.88 0.0067 0.0048

Pluto -38352-08-11 13:11 J -12286422.08 -12286421.95 -12286421.82 0.0067 0.0042

Pluto -38352-11-07 14:09 J -12286334.03 -12286333.91 -12286333.75 0.0067 0.0037

Pluto -38351-02-03 15:50 J -12286245.99 -12286245.84 -12286245.69 0.0067 0.0031

Pluto -38351-05-02 16:47 J -12286157.94 -12286157.80 -12286157.63 0.0067 0.0027

Pluto -38351-07-29 18:14 J -12286069.89 -12286069.74 -12286069.57 0.0067 0.0021

Pluto -38351-10-25 19:54 J -12285981.84 -12285981.67 -12285981.51 0.0067 0.0015

Pluto -38350-01-21 21:06 J -12285893.79 -12285893.62 -12285893.45 0.0067 0.0009

Earth -38350-04-17 05:02 J -12285808.39 -12285808.29 -12285808.18 0.2667 0.1580

Moon -38350-04-17 05:59 J -12285808.36 -12285808.25 -12285808.15 0.2671 0.1661 *

Pluto -38350-04-19 22:33 J -12285805.73 -12285805.56 -12285805.39 0.0068 0.0003

Pluto -38350-07-16 23:45 J -12285717.67 -12285717.51 -12285717.34 0.0068 0.0003

Pluto -38350-10-13 01:11 J -12285629.62 -12285629.45 -12285629.28 0.0068 0.0008

Pluto -38349-01-09 02:38 J -12285541.56 -12285541.39 -12285541.22 0.0068 0.0014

Pluto -38349-04-06 03:50 J -12285453.49 -12285453.34 -12285453.17 0.0068 0.0020

Pluto -38349-07-03 05:16 J -12285365.43 -12285365.28 -12285365.12 0.0068 0.0026

Pluto -38349-09-29 06:28 J -12285277.36 -12285277.23 -12285277.06 0.0068 0.0033

Pluto -38349-12-26 07:54 J -12285189.30 -12285189.17 -12285189.01 0.0068 0.0039

Pluto -38348-03-24 09:21 J -12285101.22 -12285101.11 -12285100.97 0.0068 0.0045

Pluto -38348-06-20 10:47 J -12285013.15 -12285013.05 -12285012.92 0.0069 0.0051

Pluto -38348-09-16 12:14 J -12284925.07 -12284924.99 -12284924.88 0.0069 0.0057

Jupiter -38348-11-04 04:33 J -12284876.46 -12284876.31 -12284876.15 0.0526 0.0045

Pluto -38348-12-13 13:54 J -12284836.98 -12284836.92 -12284836.85 0.0069 0.0063

Mars -38347-05-30 13:54 J -12284669.04 -12284668.92 -12284668.80 0.1903 0.0798

Mars -38346-04-13 06:57 J -12284351.34 -12284351.21 -12284351.08 0.1628 0.0772

Moon -38346-10-09 11:59 J -12284172.04 -12284172.00 -12284171.97 0.2656 0.2532

Earth -38346-10-09 12:57 J -12284172.00 -12284171.96 -12284171.92 0.2659 0.2519 *

Moon -38343-04-09 13:40 J -12283259.04 -12283258.93 -12283258.82 0.2673 0.1311

Earth -38343-04-09 14:38 J -12283259.00 -12283258.89 -12283258.78 0.2671 0.1307 *

Venus -38343-04-10 06:57 J -12283258.31 -12283258.21 -12283258.11 0.3756 0.2058

Jupiter -38342-03-25 09:35 J -12282909.22 -12282909.10 -12282908.97 0.0505 0.0274

Jupiter -38342-06-22 22:18 J -12282819.68 -12282819.57 -12282819.45 0.0501 0.0313

Earth -38340-10-18 23:16 J -12281970.64 -12281970.53 -12281970.42 0.2665 0.1224

Moon -38340-10-18 23:59 J -12281970.61 -12281970.50 -12281970.39 0.2670 0.1286 *

Saturn -38339-01-12 18:14 J -12281884.85 -12281884.74 -12281884.63 0.0279 0.0191

Uranus -38339-01-12 19:40 J -12281884.69 -12281884.68 -12281884.64 0.0133 0.0131 *

Uranus -38339-04-11 00:14 J -12281796.56 -12281796.49 -12281796.39 0.0133 0.0110

Saturn -38339-04-11 09:50 J -12281796.24 -12281796.09 -12281795.94 0.0279 0.0076

Uranus -38339-07-08 04:47 J -12281708.40 -12281708.30 -12281708.17 0.0133 0.0089

Saturn -38339-07-09 01:11 J -12281707.60 -12281707.45 -12281707.30 0.0278 0.0037

Uranus -38339-10-04 09:21 J -12281620.23 -12281620.11 -12281619.97 0.0133 0.0068

Saturn -38339-10-05 16:04 J -12281618.96 -12281618.83 -12281618.70 0.0278 0.0146

Uranus -38339-12-31 13:54 J -12281532.06 -12281531.92 -12281531.77 0.0133 0.0047

Saturn -38338-01-02 06:42 J -12281530.28 -12281530.22 -12281530.16 0.0278 0.0253

Uranus -38338-03-29 18:14 J -12281443.89 -12281443.74 -12281443.58 0.0133 0.0027

Uranus -38338-06-25 22:47 J -12281355.71 -12281355.55 -12281355.40 0.0133 0.0007

Uranus -38338-09-22 02:52 J -12281267.53 -12281267.38 -12281267.22 0.0133 0.0015

Mars -38338-10-20 18:42 J -12281238.85 -12281238.72 -12281238.59 0.1900 0.0131

Venus -38338-10-25 04:47 J -12281234.41 -12281234.30 -12281234.19 0.3751 0.1719

Uranus -38338-12-19 07:11 J -12281179.35 -12281179.20 -12281179.05 0.0133 0.0034

Uranus -38337-03-16 11:16 J -12281091.16 -12281091.03 -12281090.88 0.0133 0.0055

Earth -38337-04-19 04:18 J -12281057.32 -12281057.32 -12281057.31 0.2665 0.2662

Uranus -38337-06-12 15:21 J -12281002.97 -12281002.86 -12281002.72 0.0132 0.0075

Mars -38337-09-02 12:57 J -12280921.03 -12280920.96 -12280920.89 0.1631 0.1417

Uranus -38337-09-08 19:40 J -12280914.78 -12280914.68 -12280914.56 0.0132 0.0094

Uranus -38337-12-05 23:59 J -12280826.58 -12280826.50 -12280826.42 0.0132 0.0113

Uranus -38336-03-04 04:04 J -12280738.33 -12280738.33 -12280738.32 0.0132 0.0132

Jupiter -38336-08-23 05:16 J -12280566.43 -12280566.28 -12280566.13 0.0525 0.0131

Mars -38335-08-09 11:02 J -12280215.14 -12280215.04 -12280214.94 0.1621 0.1123

Venus -38334-10-26 06:57 J -12279772.30 -12279772.21 -12279772.12 0.3621 0.2303

Moon -38333-10-11 10:18 J -12279421.17 -12279421.07 -12279420.97 0.2664 0.1641

Earth -38333-10-11 11:16 J -12279421.13 -12279421.03 -12279420.92 0.2660 0.1499 *

Jupiter -38330-01-11 12:28 J -12278599.06 -12278598.98 -12278598.90 0.0505 0.0414

Jupiter -38330-04-11 00:42 J -12278509.60 -12278509.47 -12278509.32 0.0502 0.0168

Moon -38330-04-12 12:28 J -12278508.11 -12278507.98 -12278507.85 0.2675 0.0427

Earth -38330-04-12 12:57 J -12278508.09 -12278507.96 -12278507.83 0.2670 0.0317 *

Mars -38328-03-11 23:45 J -12277808.62 -12277808.51 -12277808.40 0.1896 0.1032

Venus -38328-05-11 02:23 J -12277748.52 -12277748.40 -12277748.29 0.3624 0.0611

Earth -38327-10-21 20:38 J -12277219.72 -12277219.64 -12277219.57 0.2667 0.2138

Moon -38327-10-21 21:35 J -12277219.67 -12277219.60 -12277219.53 0.2665 0.2166 *

Mars -38326-12-30 17:59 J -12276784.89 -12276784.75 -12276784.62 0.1623 0.0535

Saturn -38325-10-24 00:42 J -12276486.49 -12276486.47 -12276486.46 0.0280 0.0277

Saturn -38324-01-20 15:35 J -12276397.97 -12276397.85 -12276397.72 0.0280 0.0168

Saturn -38324-04-19 07:11 J -12276309.35 -12276309.20 -12276309.05 0.0280 0.0055

Jupiter -38324-06-11 05:59 J -12276256.38 -12276256.25 -12276256.12 0.0524 0.0301

Saturn -38324-07-16 23:02 J -12276220.70 -12276220.54 -12276220.39 0.0280 0.0061

Jupiter -38324-09-09 01:54 J -12276166.51 -12276166.42 -12276166.32 0.0528 0.0404

Saturn -38324-10-13 15:06 J -12276131.99 -12276131.87 -12276131.75 0.0281 0.0179

Venus -38323-11-24 21:21 J -12275724.65 -12275724.61 -12275724.57 0.3628 0.3399

Moon -38320-10-14 08:52 J -12274670.25 -12274670.13 -12274670.01 0.2668 0.0476

Earth -38320-10-14 09:21 J -12274670.24 -12274670.11 -12274669.98 0.2662 0.0510 *

Jupiter -38318-01-28 03:06 J -12274199.51 -12274199.37 -12274199.22 0.0503 0.0027

Earth -38317-04-14 11:45 J -12273757.14 -12273757.01 -12273756.89 0.2668 0.0714

Moon -38317-04-14 11:45 J -12273757.13 -12273757.01 -12273756.89 0.2675 0.0786 *

Mars -38317-07-08 09:50 J -12273672.12 -12273672.09 -12273672.07 0.1906 0.1858

Mars -38316-05-22 00:42 J -12273354.61 -12273354.47 -12273354.33 0.1626 0.0068

Jupiter -38312-03-30 06:42 J -12271946.29 -12271946.22 -12271946.16 0.0523 0.0472

Jupiter -38312-06-28 03:06 J -12271856.50 -12271856.37 -12271856.23 0.0527 0.0237

Moon -38310-04-07 20:52 J -12271207.70 -12271207.63 -12271207.55 0.2671 0.2168

Earth -38310-04-07 22:04 J -12271207.66 -12271207.58 -12271207.51 0.2673 0.2100 *

Saturn -38310-06-01 18:28 J -12271152.81 -12271152.73 -12271152.64 0.0279 0.0229

Saturn -38310-08-29 10:18 J -12271064.21 -12271064.07 -12271063.93 0.0279 0.0113

Saturn -38310-11-26 01:40 J -12270975.58 -12270975.43 -12270975.27 0.0279 0.0008

Saturn -38309-02-22 16:47 J -12270886.94 -12270886.80 -12270886.66 0.0279 0.0112

Saturn -38309-05-21 07:26 J -12270798.27 -12270798.19 -12270798.09 0.0278 0.0220

Mars -38308-11-28 14:09 J -12270242.03 -12270241.91 -12270241.80 0.1903 0.0892

Mars -38307-10-12 07:11 J -12269924.33 -12269924.20 -12269924.07 0.1628 0.0690

Earth -38307-10-17 07:11 J -12269919.33 -12269919.20 -12269919.08 0.2664 0.0463

Moon -38307-10-17 07:26 J -12269919.31 -12269919.19 -12269919.06 0.2670 0.0427 *

Jupiter -38307-11-16 05:02 J -12269889.43 -12269889.29 -12269889.15 0.0504 0.0135

Jupiter -38306-02-13 17:59 J -12269799.81 -12269799.75 -12269799.69 0.0500 0.0453

Neptune -38305-07-21 23:30 J -12269275.55 -12269275.52 -12269275.45 0.0089 0.0085

Neptune -38305-10-18 01:26 J -12269187.50 -12269187.44 -12269187.35 0.0089 0.0078

Neptune -38304-01-14 03:35 J -12269099.44 -12269099.35 -12269099.26 0.0089 0.0070

Neptune -38304-04-12 05:30 J -12269011.37 -12269011.27 -12269011.16 0.0089 0.0063

Earth -38304-04-17 10:47 J -12269006.15 -12269006.05 -12269005.96 0.2666 0.1772

Moon -38304-04-17 11:45 J -12269006.11 -12269006.01 -12269005.92 0.2670 0.1796 *

Neptune -38304-07-09 07:11 J -12268923.30 -12268923.20 -12268923.07 0.0089 0.0057

Neptune -38304-10-05 09:06 J -12268835.24 -12268835.12 -12268834.99 0.0089 0.0050

Neptune -38303-01-01 11:02 J -12268747.16 -12268747.04 -12268746.90 0.0089 0.0043

Neptune -38303-03-30 13:11 J -12268659.09 -12268658.95 -12268658.81 0.0089 0.0035

Neptune -38303-06-26 14:52 J -12268571.02 -12268570.88 -12268570.73 0.0089 0.0029

Neptune -38303-09-22 16:47 J -12268482.94 -12268482.80 -12268482.65 0.0089 0.0022

Neptune -38303-12-19 18:57 J -12268394.86 -12268394.71 -12268394.56 0.0089 0.0014

Neptune -38302-03-17 20:52 J -12268306.78 -12268306.63 -12268306.48 0.0089 0.0007

Neptune -38302-06-13 22:47 J -12268218.70 -12268218.55 -12268218.40 0.0089 0.0000

Neptune -38302-09-10 00:42 J -12268130.62 -12268130.47 -12268130.32 0.0089 0.0007

Neptune -38302-12-07 02:38 J -12268042.54 -12268042.39 -12268042.24 0.0089 0.0014

Neptune -38301-03-04 04:33 J -12267954.45 -12267954.31 -12267954.16 0.0089 0.0022

Neptune -38301-05-31 06:28 J -12267866.37 -12267866.23 -12267866.08 0.0089 0.0029

Neptune -38301-08-27 08:23 J -12267778.28 -12267778.15 -12267778.00 0.0089 0.0036

Neptune -38301-11-23 10:33 J -12267690.19 -12267690.06 -12267689.92 0.0089 0.0043

Neptune -38300-02-19 12:14 J -12267602.10 -12267601.99 -12267601.85 0.0089 0.0051

Jupiter -38300-04-16 03:35 J -12267546.50 -12267546.35 -12267546.20 0.0526 0.0060

Neptune -38300-05-18 14:23 J -12267514.00 -12267513.90 -12267513.77 0.0089 0.0058

Neptune -38300-08-14 16:33 J -12267425.91 -12267425.81 -12267425.70 0.0089 0.0065

Moon -38300-10-09 17:30 J -12267369.82 -12267369.77 -12267369.72 0.2657 0.2437

Earth -38300-10-09 18:28 J -12267369.79 -12267369.73 -12267369.67 0.2659 0.2336 *

Neptune -38300-11-10 18:42 J -12267337.81 -12267337.72 -12267337.63 0.0089 0.0072

Neptune -38299-02-06 20:23 J -12267249.70 -12267249.65 -12267249.57 0.0089 0.0080

Neptune -38299-05-05 22:33 J -12267161.58 -12267161.56 -12267161.52 0.0089 0.0087

Mars -38298-04-20 18:42 J -12266811.85 -12266811.72 -12266811.59 0.1899 0.0049

Mars -38297-03-03 13:26 J -12266494.02 -12266493.94 -12266493.86 0.1631 0.1324

Moon -38297-04-09 18:57 J -12266456.82 -12266456.71 -12266456.59 0.2673 0.1266

Earth -38297-04-09 20:09 J -12266456.78 -12266456.66 -12266456.55 0.2671 0.1134 *

Uranus -38296-03-26 23:02 J -12266105.56 -12266105.54 -12266105.52 0.0145 0.0144

Uranus -38296-06-23 04:18 J -12266017.40 -12266017.32 -12266017.23 0.0145 0.0118

Uranus -38296-09-19 09:35 J -12265929.21 -12265929.10 -12265928.97 0.0146 0.0092

Uranus -38296-12-16 15:21 J -12265841.00 -12265840.86 -12265840.72 0.0146 0.0065

Mars -38295-02-07 11:16 J -12265788.12 -12265788.03 -12265787.93 0.1621 0.1204

Uranus -38295-03-14 20:52 J -12265752.78 -12265752.63 -12265752.48 0.0146 0.0038

Saturn -38295-06-09 18:42 J -12265665.83 -12265665.72 -12265665.61 0.0280 0.0186

Uranus -38295-06-11 02:23 J -12265664.56 -12265664.40 -12265664.24 0.0146 0.0010

Jupiter -38295-09-04 07:26 J -12265579.31 -12265579.19 -12265579.07 0.0505 0.0280

Saturn -38295-09-06 10:04 J -12265577.23 -12265577.08 -12265576.93 0.0280 0.0074

Uranus -38295-09-07 07:54 J -12265576.32 -12265576.17 -12265576.01 0.0146 0.0018

Jupiter -38295-12-02 20:09 J -12265489.78 -12265489.66 -12265489.54 0.0501 0.0305

Saturn -38295-12-04 01:54 J -12265488.58 -12265488.42 -12265488.27 0.0280 0.0042

Uranus -38295-12-04 13:40 J -12265488.08 -12265487.93 -12265487.78 0.0146 0.0045

Saturn -38294-03-02 17:59 J -12265399.88 -12265399.75 -12265399.62 0.0280 0.0160

Uranus -38294-03-02 19:26 J -12265399.83 -12265399.69 -12265399.55 0.0146 0.0073 *

Uranus -38294-05-30 01:11 J -12265311.56 -12265311.45 -12265311.33 0.0146 0.0101

Saturn -38294-05-30 10:33 J -12265311.06 -12265311.06 -12265311.06 0.0281 0.0280

Uranus -38294-08-26 06:57 J -12265223.27 -12265223.21 -12265223.13 0.0146 0.0130

Earth -38294-10-20 04:33 J -12265168.42 -12265168.31 -12265168.20 0.2665 0.1389

Moon -38294-10-20 05:30 J -12265168.38 -12265168.27 -12265168.17 0.2668 0.1476 *

Mars -38289-09-09 23:59 J -12263381.61 -12263381.50 -12263381.39 0.1896 0.0939

Jupiter -38288-02-02 03:06 J -12263236.52 -12263236.37 -12263236.22 0.0524 0.0133

Moon -38287-10-12 15:50 J -12262618.95 -12262618.84 -12262618.73 0.2665 0.1325

Earth -38287-10-12 16:47 J -12262618.91 -12262618.80 -12262618.69 0.2661 0.1322 *

Venus -38287-11-15 05:59 J -12262585.37 -12262585.25 -12262585.13 0.3755 0.0715

Mars -38286-06-30 18:28 J -12262357.87 -12262357.73 -12262357.60 0.1623 0.0625

Moon -38284-04-12 17:59 J -12261705.87 -12261705.75 -12261705.62 0.2676 0.0127

Earth -38284-04-12 18:28 J -12261705.86 -12261705.73 -12261705.60 0.2669 0.0136 *

Jupiter -38283-06-23 10:18 J -12261269.15 -12261269.07 -12261268.99 0.0506 0.0417

Jupiter -38283-09-20 22:47 J -12261179.69 -12261179.55 -12261179.41 0.0502 0.0165

Venus -38281-05-31 04:04 J -12260561.40 -12260561.33 -12260561.27 0.3750 0.3097

Saturn -38281-10-18 21:06 J -12260420.68 -12260420.62 -12260420.55 0.0279 0.0251

Earth -38281-10-22 01:54 J -12260417.49 -12260417.42 -12260417.36 0.2667 0.2298

Moon -38281-10-22 02:52 J -12260417.44 -12260417.38 -12260417.33 0.2666 0.2388 *

Saturn -38280-01-15 12:57 J -12260332.09 -12260331.96 -12260331.82 0.0279 0.0135

Saturn -38280-04-14 04:33 J -12260243.46 -12260243.31 -12260243.16 0.0279 0.0020

Saturn -38280-07-11 19:40 J -12260154.82 -12260154.68 -12260154.54 0.0278 0.0091

Saturn -38280-10-08 10:33 J -12260066.17 -12260066.06 -12260065.96 0.0278 0.0200

Mars -38279-01-31 05:16 J -12259951.32 -12259951.28 -12259951.25 0.1892 0.1803

Venus -38277-06-01 05:30 J -12259099.38 -12259099.27 -12259099.16 0.3622 0.1193

Mars -38277-11-20 00:57 J -12258927.60 -12258927.46 -12258927.31 0.1626 0.0052

Jupiter -38277-11-21 03:21 J -12258926.48 -12258926.36 -12258926.23 0.0524 0.0310

Jupiter -38276-02-18 23:30 J -12258836.62 -12258836.52 -12258836.42 0.0528 0.0394

Moon -38274-10-15 14:23 J -12257868.02 -12257867.90 -12257867.77 0.2668 0.0431

Earth -38274-10-15 14:38 J -12257868.01 -12257867.89 -12257867.76 0.2662 0.0345 *

Venus -38272-12-16 00:42 J -12257075.58 -12257075.47 -12257075.37 0.3625 0.1675

Earth -38271-04-15 17:16 J -12256954.91 -12256954.78 -12256954.66 0.2668 0.0898

Moon -38271-04-15 17:30 J -12256954.89 -12256954.77 -12256954.65 0.2674 0.0847 *

Jupiter -38271-07-10 01:26 J -12256869.59 -12256869.44 -12256869.30 0.0503 0.0025

Mars -38268-05-29 14:23 J -12255815.01 -12255814.90 -12255814.79 0.1902 0.0991

Mars -38267-04-12 07:26 J -12255497.32 -12255497.19 -12255497.05 0.1628 0.0602

Pluto -38266-01-08 04:47 J -12255226.30 -12255226.30 -12255226.29 0.0078 0.0078

Pluto -38266-04-06 05:59 J -12255138.30 -12255138.25 -12255138.17 0.0078 0.0070

Pluto -38266-07-03 07:40 J -12255050.26 -12255050.18 -12255050.08 0.0078 0.0062

Pluto -38266-09-29 09:06 J -12254962.22 -12254962.12 -12254962.00 0.0077 0.0054

Saturn -38266-10-27 19:11 J -12254933.79 -12254933.70 -12254933.61 0.0280 0.0223

Pluto -38266-12-26 10:33 J -12254874.17 -12254874.06 -12254873.93 0.0077 0.0046

Saturn -38265-01-24 10:33 J -12254845.20 -12254845.06 -12254844.92 0.0280 0.0112

Pluto -38265-03-23 11:59 J -12254786.12 -12254786.00 -12254785.86 0.0077 0.0038

Saturn -38265-04-22 02:09 J -12254756.57 -12254756.41 -12254756.26 0.0280 0.0007

Pluto -38265-06-19 13:40 J -12254698.07 -12254697.93 -12254697.79 0.0077 0.0030

Saturn -38265-07-19 17:59 J -12254667.89 -12254667.75 -12254667.61 0.0281 0.0119

Jupiter -38265-09-09 04:04 J -12254616.39 -12254616.33 -12254616.27 0.0523 0.0482

Pluto -38265-09-15 14:52 J -12254610.02 -12254609.88 -12254609.73 0.0077 0.0023

Saturn -38265-10-16 10:18 J -12254579.15 -12254579.07 -12254578.99 0.0281 0.0239

Jupiter -38265-12-08 00:42 J -12254526.61 -12254526.47 -12254526.34 0.0527 0.0228

Pluto -38265-12-12 16:18 J -12254521.96 -12254521.82 -12254521.67 0.0077 0.0015

Pluto -38264-03-10 17:45 J -12254433.91 -12254433.76 -12254433.61 0.0077 0.0008

Moon -38264-04-08 02:23 J -12254405.49 -12254405.40 -12254405.32 0.2672 0.1976

Earth -38264-04-08 03:21 J -12254405.44 -12254405.36 -12254405.27 0.2673 0.1926 *

Pluto -38264-06-06 19:11 J -12254345.85 -12254345.70 -12254345.55 0.0076 0.0001

Pluto -38264-09-02 20:23 J -12254257.79 -12254257.65 -12254257.50 0.0076 0.0007

Pluto -38264-11-29 21:50 J -12254169.74 -12254169.59 -12254169.44 0.0076 0.0014

Pluto -38263-02-25 23:02 J -12254081.68 -12254081.54 -12254081.39 0.0076 0.0022

Pluto -38263-05-25 00:14 J -12253993.62 -12253993.49 -12253993.34 0.0076 0.0029

Pluto -38263-08-21 01:40 J -12253905.56 -12253905.43 -12253905.30 0.0076 0.0036

Pluto -38263-11-17 02:52 J -12253817.49 -12253817.38 -12253817.25 0.0076 0.0043

Pluto -38262-02-13 04:04 J -12253729.43 -12253729.33 -12253729.21 0.0076 0.0050

Pluto -38262-05-12 05:16 J -12253641.36 -12253641.28 -12253641.17 0.0075 0.0057

Pluto -38262-08-08 06:28 J -12253553.29 -12253553.23 -12253553.14 0.0075 0.0064

Pluto -38262-11-04 07:40 J -12253465.21 -12253465.18 -12253465.11 0.0075 0.0070

Earth -38261-10-17 12:28 J -12253117.10 -12253116.98 -12253116.86 0.2664 0.0624

Moon -38261-10-17 12:57 J -12253117.09 -12253116.96 -12253116.84 0.2671 0.0728 *

Jupiter -38259-04-28 03:50 J -12252559.48 -12252559.34 -12252559.20 0.0503 0.0122

Jupiter -38259-07-26 16:47 J -12252469.85 -12252469.80 -12252469.75 0.0500 0.0465

Mars -38259-10-19 18:57 J -12252384.84 -12252384.71 -12252384.58 0.1899 0.0058

Earth -38258-04-18 16:18 J -12252203.91 -12252203.82 -12252203.74 0.2666 0.1959

Moon -38258-04-18 17:16 J -12252203.86 -12252203.78 -12252203.70 0.2670 0.2096 *

Mars -38258-09-02 13:40 J -12252067.02 -12252066.93 -12252066.84 0.1631 0.1240

Mars -38256-08-08 11:30 J -12251361.10 -12251361.02 -12251360.93 0.1621 0.1285

Uranus -38255-02-02 02:23 J -12251183.43 -12251183.40 -12251183.35 0.0133 0.0127

Uranus -38255-05-01 06:57 J -12251095.29 -12251095.21 -12251095.11 0.0133 0.0106

Uranus -38255-07-28 11:30 J -12251007.13 -12251007.02 -12251006.89 0.0133 0.0085

Uranus -38255-10-24 16:04 J -12250918.96 -12250918.83 -12250918.69 0.0133 0.0064

Uranus -38254-01-20 20:38 J -12250830.79 -12250830.64 -12250830.49 0.0133 0.0043

Uranus -38254-04-19 00:57 J -12250742.61 -12250742.46 -12250742.31 0.0133 0.0023

Uranus -38254-07-16 05:16 J -12250654.43 -12250654.28 -12250654.12 0.0133 0.0002

Moon -38254-10-10 22:47 J -12250567.62 -12250567.55 -12250567.48 0.2660 0.2234

Earth -38254-10-10 23:59 J -12250567.58 -12250567.50 -12250567.43 0.2659 0.2158 *

Uranus -38254-10-12 09:35 J -12250566.25 -12250566.10 -12250565.95 0.0133 0.0018

Uranus -38253-01-08 13:40 J -12250478.07 -12250477.93 -12250477.77 0.0133 0.0039

Uranus -38253-04-05 17:59 J -12250389.88 -12250389.75 -12250389.61 0.0133 0.0058

Uranus -38253-07-02 22:18 J -12250301.69 -12250301.57 -12250301.45 0.0132 0.0078

Jupiter -38253-09-26 01:40 J -12250216.58 -12250216.43 -12250216.28 0.0526 0.0061

Uranus -38253-09-29 02:23 J -12250213.50 -12250213.40 -12250213.29 0.0132 0.0097

Uranus -38253-12-26 06:28 J -12250125.29 -12250125.23 -12250125.15 0.0132 0.0117

Moon -38251-04-11 00:42 J -12249654.59 -12249654.47 -12249654.36 0.2674 0.0990

Earth -38251-04-11 01:26 J -12249654.56 -12249654.44 -12249654.32 0.2671 0.0959 *

Saturn -38251-06-04 13:11 J -12249600.07 -12249599.95 -12249599.83 0.0279 0.0174

Saturn -38251-09-01 04:47 J -12249511.45 -12249511.30 -12249511.15 0.0279 0.0058

Saturn -38251-11-28 20:09 J -12249422.81 -12249422.66 -12249422.51 0.0278 0.0054

Saturn -38250-02-25 11:02 J -12249334.16 -12249334.04 -12249333.92 0.0278 0.0164

Saturn -38250-05-25 01:26 J -12249245.46 -12249245.44 -12249245.40 0.0278 0.0271

Mars -38249-03-10 23:59 J -12248954.61 -12248954.50 -12248954.39 0.1896 0.0850

Earth -38248-10-20 09:50 J -12248366.19 -12248366.09 -12248365.99 0.2666 0.1558

Moon -38248-10-20 10:47 J -12248366.15 -12248366.05 -12248365.95 0.2667 0.1574 *

Jupiter -38247-02-14 05:45 J -12248249.38 -12248249.26 -12248249.14 0.0505 0.0277

Jupiter -38247-05-14 18:14 J -12248159.85 -12248159.74 -12248159.62 0.0501 0.0307

Mars -38247-12-29 18:42 J -12247930.85 -12247930.72 -12247930.60 0.1623 0.0705

Jupiter -38241-07-15 02:09 J -12245906.56 -12245906.41 -12245906.26 0.0525 0.0117

Moon -38241-10-12 21:21 J -12245816.73 -12245816.61 -12245816.50 0.2665 0.1265

Earth -38241-10-12 22:04 J -12245816.69 -12245816.58 -12245816.46 0.2661 0.1146 *

Mars -38240-08-01 05:16 J -12245524.33 -12245524.28 -12245524.23 0.1892 0.1722

Moon -38238-04-13 23:30 J -12244903.65 -12244903.52 -12244903.39 0.2676 0.0069

Earth -38238-04-13 23:59 J -12244903.63 -12244903.50 -12244903.37 0.2669 0.0064 *

Mars -38237-05-21 01:26 J -12244500.59 -12244500.44 -12244500.30 0.1626 0.0108

Saturn -38236-03-15 21:35 J -12244201.66 -12244201.60 -12244201.52 0.0280 0.0245

Saturn -38236-06-12 12:57 J -12244113.09 -12244112.96 -12244112.83 0.0280 0.0134

Saturn -38236-09-09 04:33 J -12244024.47 -12244024.31 -12244024.16 0.0280 0.0020

Jupiter -38236-12-03 08:09 J -12243939.23 -12243939.16 -12243939.08 0.0506 0.0422

Venus -38236-12-06 07:26 J -12243936.26 -12243936.19 -12243936.12 0.3758 0.3063

Saturn -38236-12-06 20:23 J -12243935.79 -12243935.65 -12243935.50 0.0280 0.0097

Jupiter -38235-03-02 20:38 J -12243849.78 -12243849.64 -12243849.50 0.0502 0.0160

Saturn -38235-03-05 12:42 J -12243847.07 -12243846.97 -12243846.87 0.0281 0.0216

Earth -38235-10-23 06:57 J -12243615.25 -12243615.21 -12243615.16 0.2667 0.2462

Moon -38235-10-23 07:54 J -12243615.21 -12243615.17 -12243615.13 0.2666 0.2512 *

Venus -38230-06-22 05:02 J -12241912.41 -12241912.29 -12241912.17 0.3753 0.0654

Jupiter -38229-05-03 01:11 J -12241596.57 -12241596.45 -12241596.32 0.0523 0.0311

Jupiter -38229-07-31 21:21 J -12241506.71 -12241506.61 -12241506.51 0.0527 0.0393

Mars -38229-11-27 14:23 J -12241388.01 -12241387.90 -12241387.79 0.1903 0.1078

Mars -38228-10-11 07:54 J -12241070.31 -12241070.17 -12241070.03 0.1628 0.0511

Moon -38228-10-15 20:09 J -12241065.79 -12241065.66 -12241065.54 0.2669 0.0130

Earth -38228-10-15 20:09 J -12241065.79 -12241065.66 -12241065.53 0.2663 0.0164 *

Venus -38226-06-23 08:23 J -12240450.21 -12240450.15 -12240450.08 0.3619 0.3033

Earth -38225-04-15 22:47 J -12240152.67 -12240152.55 -12240152.43 0.2668 0.1084

Moon -38225-04-15 23:16 J -12240152.65 -12240152.53 -12240152.42 0.2673 0.1198 *

Jupiter -38224-12-19 23:16 J -12239539.68 -12239539.53 -12239539.38 0.0503 0.0021

Neptune -38222-07-23 06:42 J -12238959.23 -12238959.22 -12238959.19 0.0088 0.0088

Neptune -38222-10-19 09:21 J -12238871.17 -12238871.11 -12238871.03 0.0088 0.0080

Saturn -38222-10-22 16:18 J -12238867.94 -12238867.82 -12238867.71 0.0279 0.0193

Neptune -38221-01-15 11:30 J -12238783.10 -12238783.02 -12238782.91 0.0088 0.0072

Saturn -38221-01-19 07:54 J -12238779.32 -12238779.17 -12238779.02 0.0279 0.0078

Neptune -38221-04-12 14:09 J -12238695.01 -12238694.91 -12238694.78 0.0088 0.0064

Saturn -38221-04-16 23:16 J -12238690.68 -12238690.53 -12238690.38 0.0278 0.0035

Neptune -38221-07-09 16:47 J -12238606.92 -12238606.80 -12238606.67 0.0088 0.0056

Saturn -38221-07-14 14:09 J -12238602.04 -12238601.91 -12238601.78 0.0278 0.0145

Neptune -38221-10-05 19:11 J -12238518.83 -12238518.70 -12238518.55 0.0088 0.0049

Saturn -38221-10-11 04:47 J -12238513.36 -12238513.30 -12238513.24 0.0278 0.0252

Neptune -38220-01-01 21:35 J -12238430.74 -12238430.60 -12238430.44 0.0088 0.0041

Venus -38220-01-06 03:50 J -12238426.46 -12238426.34 -12238426.22 0.3623 0.0120

Neptune -38220-03-30 23:59 J -12238342.64 -12238342.50 -12238342.34 0.0088 0.0034

Neptune -38220-06-27 02:38 J -12238254.55 -12238254.39 -12238254.23 0.0088 0.0025

Neptune -38220-09-23 04:47 J -12238166.45 -12238166.30 -12238166.13 0.0088 0.0019

Neptune -38220-12-20 07:26 J -12238078.35 -12238078.19 -12238078.03 0.0088 0.0010

Neptune -38219-03-18 09:50 J -12237990.26 -12237990.09 -12237989.93 0.0088 0.0003

Mars -38219-04-19 19:11 J -12237957.83 -12237957.70 -12237957.57 0.1899 0.0152

Neptune -38219-06-14 12:14 J -12237902.16 -12237901.99 -12237901.83 0.0088 0.0005

Neptune -38219-09-10 14:38 J -12237814.06 -12237813.89 -12237813.73 0.0088 0.0013

Neptune -38219-12-07 16:47 J -12237725.96 -12237725.80 -12237725.64 0.0088 0.0020

Mars -38218-03-03 14:09 J -12237640.02 -12237639.91 -12237639.81 0.1631 0.1149

Neptune -38218-03-05 19:11 J -12237637.85 -12237637.70 -12237637.54 0.0088 0.0027

Moon -38218-04-09 07:40 J -12237603.27 -12237603.18 -12237603.09 0.2671 0.1859

Earth -38218-04-09 08:52 J -12237603.23 -12237603.13 -12237603.04 0.2672 0.1754 *

Neptune -38218-06-01 21:21 J -12237549.75 -12237549.61 -12237549.45 0.0088 0.0035

Neptune -38218-08-28 23:45 J -12237461.65 -12237461.51 -12237461.36 0.0088 0.0042

Neptune -38218-11-25 02:09 J -12237373.54 -12237373.41 -12237373.27 0.0088 0.0050

Jupiter -38217-02-20 01:26 J -12237286.49 -12237286.44 -12237286.38 0.0523 0.0490

Neptune -38217-02-21 04:04 J -12237285.44 -12237285.33 -12237285.19 0.0088 0.0058

Neptune -38217-05-19 06:28 J -12237197.33 -12237197.23 -12237197.11 0.0088 0.0065

Jupiter -38217-05-19 22:04 J -12237196.71 -12237196.58 -12237196.44 0.0526 0.0220

Neptune -38217-08-15 08:52 J -12237109.22 -12237109.13 -12237109.03 0.0088 0.0072

Neptune -38217-11-11 10:47 J -12237021.10 -12237021.05 -12237020.96 0.0088 0.0080

Mars -38216-02-06 11:59 J -12236934.07 -12236934.00 -12236933.93 0.1621 0.1371

Neptune -38216-02-07 13:11 J -12236932.97 -12236932.95 -12236932.90 0.0088 0.0087

Venus -38215-07-22 23:02 J -12236402.62 -12236402.54 -12236402.47 0.3626 0.2731

Earth -38215-10-18 17:45 J -12236314.88 -12236314.76 -12236314.64 0.2664 0.0797

Moon -38215-10-18 18:14 J -12236314.86 -12236314.74 -12236314.62 0.2670 0.0764 *

Uranus -38212-04-16 05:45 J -12235404.30 -12235404.26 -12235404.21 0.0145 0.0139

Earth -38212-04-18 21:50 J -12235401.67 -12235401.59 -12235401.51 0.2666 0.2153

Moon -38212-04-18 22:47 J -12235401.62 -12235401.55 -12235401.47 0.2670 0.2158 *

Uranus -38212-07-13 11:02 J -12235316.13 -12235316.04 -12235315.93 0.0145 0.0113

Jupiter -38212-10-08 01:54 J -12235229.56 -12235229.42 -12235229.27 0.0504 0.0122

Uranus -38212-10-09 16:33 J -12235227.93 -12235227.81 -12235227.68 0.0146 0.0086

Jupiter -38211-01-05 14:52 J -12235139.93 -12235139.88 -12235139.83 0.0500 0.0467

Uranus -38211-01-05 22:04 J -12235139.72 -12235139.58 -12235139.43 0.0146 0.0059

Uranus -38211-04-04 03:35 J -12235051.50 -12235051.35 -12235051.19 0.0146 0.0032

Uranus -38211-07-01 09:21 J -12234963.27 -12234963.11 -12234962.96 0.0146 0.0006

Uranus -38211-09-27 14:52 J -12234875.04 -12234874.88 -12234874.72 0.0146 0.0023

Uranus -38211-12-24 20:23 J -12234786.79 -12234786.65 -12234786.49 0.0146 0.0051

Uranus -38210-03-23 02:09 J -12234698.54 -12234698.41 -12234698.27 0.0146 0.0079

Uranus -38210-06-19 07:54 J -12234610.27 -12234610.17 -12234610.05 0.0146 0.0107

Mars -38210-09-09 23:59 J -12234527.61 -12234527.50 -12234527.38 0.1896 0.0761

Uranus -38210-09-15 13:54 J -12234521.98 -12234521.92 -12234521.86 0.0146 0.0135

Moon -38208-10-11 04:18 J -12233765.40 -12233765.32 -12233765.24 0.2661 0.2027

Earth -38208-10-11 05:16 J -12233765.36 -12233765.28 -12233765.19 0.2660 0.1978 *

Mars -38207-06-29 18:57 J -12233503.84 -12233503.71 -12233503.59 0.1623 0.0788

Saturn -38207-10-30 13:26 J -12233381.06 -12233380.94 -12233380.82 0.0280 0.0171

Saturn -38206-01-27 04:47 J -12233292.45 -12233292.30 -12233292.15 0.0280 0.0059

Saturn -38206-04-25 20:38 J -12233203.79 -12233203.64 -12233203.49 0.0280 0.0057

Saturn -38206-07-23 12:42 J -12233115.09 -12233114.97 -12233114.85 0.0281 0.0175

Jupiter -38205-03-07 23:02 J -12232886.69 -12232886.54 -12232886.38 0.0526 0.0053

Moon -38205-04-11 06:14 J -12232852.36 -12232852.24 -12232852.12 0.2675 0.0834

Earth -38205-04-11 06:57 J -12232852.33 -12232852.21 -12232852.08 0.2671 0.0777 *

Earth -38202-10-21 15:06 J -12231563.96 -12231563.87 -12231563.77 0.2666 0.1722

Moon -38202-10-21 16:18 J -12231563.91 -12231563.82 -12231563.74 0.2667 0.1857 *

Mars -38200-01-30 05:30 J -12231097.34 -12231097.27 -12231097.21 0.1892 0.1631

Jupiter -38200-07-27 04:33 J -12230919.43 -12230919.31 -12230919.18 0.0504 0.0265

Jupiter -38200-10-24 17:16 J -12230829.89 -12230829.78 -12230829.67 0.0501 0.0320

Mars -38198-11-20 01:40 J -12230073.57 -12230073.43 -12230073.29 0.1626 0.0189

Moon -38195-10-14 02:52 J -12229014.50 -12229014.38 -12229014.26 0.2665 0.0994

Earth -38195-10-14 03:35 J -12229014.47 -12229014.35 -12229014.23 0.2661 0.0969 *

Jupiter -38194-12-26 00:14 J -12228576.64 -12228576.49 -12228576.34 0.0525 0.0116

Saturn -38192-03-10 15:50 J -12228135.92 -12228135.84 -12228135.75 0.0279 0.0235

Moon -38192-04-14 05:16 J -12228101.41 -12228101.28 -12228101.16 0.2675 0.0275

Earth -38192-04-14 05:30 J -12228101.40 -12228101.27 -12228101.14 0.2669 0.0233 *

Saturn -38192-06-07 07:40 J -12228047.32 -12228047.18 -12228047.03 0.0279 0.0119

Saturn -38192-09-03 23:16 J -12227958.68 -12227958.53 -12227958.38 0.0278 0.0005

Saturn -38192-12-01 14:23 J -12227870.04 -12227869.90 -12227869.76 0.0278 0.0107

Saturn -38191-02-28 05:02 J -12227781.38 -12227781.29 -12227781.19 0.0278 0.0215

Mars -38189-05-28 14:38 J -12226960.99 -12226960.89 -12226960.79 0.1902 0.1178

Earth -38189-10-23 12:14 J -12226813.00 -12226812.99 -12226812.97 0.2668 0.2622

Moon -38189-10-23 13:11 J -12226812.96 -12226812.95 -12226812.94 0.2665 0.2651

Mars -38188-04-11 08:09 J -12226643.30 -12226643.16 -12226643.02 0.1628 0.0427

Jupiter -38188-05-15 06:42 J -12226609.30 -12226609.22 -12226609.14 0.0505 0.0417

Jupiter -38188-08-12 18:57 J -12226519.85 -12226519.71 -12226519.57 0.0502 0.0164

Moon -38185-04-06 15:21 J -12225551.86 -12225551.86 -12225551.85 0.2670 0.2658

Earth -38185-04-06 16:18 J -12225551.86 -12225551.82 -12225551.78 0.2674 0.2529 *

Jupiter -38182-10-14 00:28 J -12224266.61 -12224266.48 -12224266.35 0.0524 0.0293

Earth -38182-10-17 01:26 J -12224263.57 -12224263.44 -12224263.31 0.2663 0.0036

Moon -38182-10-17 01:26 J -12224263.56 -12224263.44 -12224263.31 0.2670 0.0063 *

Jupiter -38181-01-11 20:38 J -12224176.73 -12224176.64 -12224176.55 0.0527 0.0410

Mars -38180-10-18 19:11 J -12223530.83 -12223530.70 -12223530.58 0.1899 0.0239

Earth -38179-04-17 04:18 J -12223350.44 -12223350.32 -12223350.21 0.2667 0.1272

Moon -38179-04-17 04:47 J -12223350.41 -12223350.30 -12223350.18 0.2673 0.1251 *

Venus -38179-07-13 06:14 J -12223263.34 -12223263.24 -12223263.13 0.3757 0.1753

Mars -38179-09-01 14:23 J -12223213.01 -12223212.90 -12223212.79 0.1631 0.1058

Saturn -38177-03-18 15:35 J -12222648.96 -12222648.85 -12222648.74 0.0280 0.0196

Saturn -38177-06-15 06:57 J -12222560.36 -12222560.21 -12222560.07 0.0280 0.0084

Mars -38177-08-07 12:14 J -12222507.05 -12222506.99 -12222506.93 0.1621 0.1450

Saturn -38177-09-11 22:33 J -12222471.71 -12222471.56 -12222471.40 0.0280 0.0032

Saturn -38177-12-09 14:38 J -12222383.02 -12222382.89 -12222382.76 0.0281 0.0150

Saturn -38176-03-08 06:57 J -12222294.24 -12222294.21 -12222294.16 0.0281 0.0271

Jupiter -38176-05-31 21:21 J -12222209.76 -12222209.61 -12222209.47 0.0503 0.0019

Venus -38173-01-27 04:04 J -12221239.44 -12221239.33 -12221239.23 0.3752 0.1984

Moon -38172-04-09 13:11 J -12220801.05 -12220800.95 -12220800.85 0.2671 0.1603

Earth -38172-04-09 14:09 J -12220801.01 -12220800.91 -12220800.80 0.2672 0.1582 *

Uranus -38171-02-22 09:06 J -12220482.17 -12220482.12 -12220482.05 0.0133 0.0123

Uranus -38171-05-21 13:54 J -12220394.02 -12220393.92 -12220393.82 0.0133 0.0101

Uranus -38171-08-17 18:14 J -12220305.86 -12220305.74 -12220305.61 0.0133 0.0081

Uranus -38171-11-13 22:47 J -12220217.69 -12220217.55 -12220217.41 0.0133 0.0060

Uranus -38170-02-10 03:06 J -12220129.51 -12220129.37 -12220129.21 0.0133 0.0039

Mars -38170-03-11 00:14 J -12220100.61 -12220100.49 -12220100.37 0.1896 0.0664

Uranus -38170-05-09 07:40 J -12220041.33 -12220041.18 -12220041.02 0.0133 0.0018

Jupiter -38170-08-01 23:45 J -12219956.57 -12219956.51 -12219956.46 0.0522 0.0488

Uranus -38170-08-05 11:59 J -12219953.15 -12219953.00 -12219952.84 0.0133 0.0003

Jupiter -38170-10-30 20:09 J -12219866.79 -12219866.66 -12219866.52 0.0526 0.0221

Uranus -38170-11-01 16:18 J -12219864.97 -12219864.82 -12219864.67 0.0133 0.0022

Venus -38169-01-28 06:57 J -12219777.31 -12219777.21 -12219777.11 0.3620 0.1916

Uranus -38169-01-28 20:38 J -12219776.79 -12219776.64 -12219776.49 0.0133 0.0042

Uranus -38169-04-26 00:42 J -12219688.60 -12219688.47 -12219688.33 0.0133 0.0063

Uranus -38169-07-23 04:47 J -12219600.41 -12219600.30 -12219600.17 0.0133 0.0083

Earth -38169-10-18 23:02 J -12219512.65 -12219512.54 -12219512.42 0.2665 0.0967

Moon -38169-10-18 23:45 J -12219512.62 -12219512.51 -12219512.39 0.2669 0.1082 *

Uranus -38169-10-19 09:06 J -12219512.21 -12219512.12 -12219512.02 0.0132 0.0102

Uranus -38168-01-15 13:11 J -12219424.00 -12219423.95 -12219423.88 0.0132 0.0121

Mars -38168-12-28 19:11 J -12219076.81 -12219076.70 -12219076.58 0.1623 0.0878

Earth -38166-04-20 03:21 J -12218599.42 -12218599.36 -12218599.30 0.2666 0.2340

Moon -38166-04-20 04:18 J -12218599.36 -12218599.32 -12218599.27 0.2668 0.2496 *

Jupiter -38164-03-19 23:59 J -12217899.64 -12217899.50 -12217899.35 0.0504 0.0123

Jupiter -38164-06-17 12:57 J -12217810.01 -12217809.96 -12217809.90 0.0501 0.0467

Venus -38164-08-13 02:09 J -12217753.52 -12217753.41 -12217753.29 0.3624 0.0982

Saturn -38163-07-28 18:57 J -12217403.77 -12217403.71 -12217403.65 0.0279 0.0255

Saturn -38163-10-25 10:47 J -12217315.18 -12217315.05 -12217314.91 0.0279 0.0138

Saturn -38162-01-22 02:23 J -12217226.56 -12217226.40 -12217226.25 0.0279 0.0024

Saturn -38162-04-20 17:30 J -12217137.91 -12217137.77 -12217137.62 0.0278 0.0088

Saturn -38162-07-18 08:09 J -12217049.26 -12217049.16 -12217049.05 0.0278 0.0197

Moon -38162-10-12 09:35 J -12216963.18 -12216963.10 -12216963.01 0.2661 0.1919

Earth -38162-10-12 10:47 J -12216963.15 -12216963.05 -12216962.96 0.2660 0.1797 *

Mars -38161-07-31 05:30 J -12216670.34 -12216670.27 -12216670.19 0.1892 0.1536

Moon -38159-04-12 11:45 J -12216050.14 -12216050.01 -12216049.89 0.2676 0.0673

Earth -38159-04-12 12:28 J -12216050.11 -12216049.98 -12216049.86 0.2670 0.0599 *

Mars -38158-05-21 01:54 J -12215646.56 -12215646.42 -12215646.27 0.1626 0.0279

Jupiter -38158-08-18 20:52 J -12215556.78 -12215556.63 -12215556.48 0.0525 0.0046

Earth -38156-10-21 20:23 J -12214761.73 -12214761.65 -12214761.56 0.2666 0.1891

Moon -38156-10-21 21:35 J -12214761.69 -12214761.60 -12214761.52 0.2668 0.1889 *

Jupiter -38152-01-06 02:52 J -12213589.50 -12213589.38 -12213589.25 0.0505 0.0262

Jupiter -38152-04-05 15:21 J -12213499.97 -12213499.86 -12213499.74 0.0501 0.0324

Mars -38150-11-27 14:38 J -12212533.98 -12212533.89 -12212533.79 0.1902 0.1273

Mars -38149-10-10 08:23 J -12212216.29 -12212216.15 -12212216.00 0.1628 0.0343

Moon -38149-10-14 08:23 J -12212212.27 -12212212.15 -12212212.03 0.2667 0.0835

Earth -38149-10-14 08:52 J -12212212.25 -12212212.13 -12212212.00 0.2661 0.0797 *

Saturn -38148-08-05 16:18 J -12211916.91 -12211916.82 -12211916.74 0.0280 0.0232

Saturn -38148-11-02 07:26 J -12211828.33 -12211828.19 -12211828.05 0.0280 0.0121

Saturn -38147-01-29 23:02 J -12211739.70 -12211739.54 -12211739.39 0.0280 0.0011

Saturn -38147-04-28 14:52 J -12211651.03 -12211650.88 -12211650.74 0.0280 0.0110

Saturn -38147-07-26 06:57 J -12211562.29 -12211562.21 -12211562.11 0.0281 0.0230

Moon -38146-04-15 11:02 J -12211299.17 -12211299.04 -12211298.92 0.2675 0.0398

Earth -38146-04-15 11:02 J -12211299.17 -12211299.04 -12211298.91 0.2669 0.0419 *

Jupiter -38146-06-06 21:35 J -12211246.75 -12211246.60 -12211246.45 0.0525 0.0124

Jupiter -38141-10-25 05:45 J -12209279.35 -12209279.26 -12209279.18 0.0506 0.0403

Neptune -38140-01-19 21:35 J -12209192.62 -12209192.60 -12209192.55 0.0089 0.0086

Jupiter -38140-01-22 17:59 J -12209189.89 -12209189.75 -12209189.61 0.0502 0.0178

Neptune -38140-04-17 23:30 J -12209104.57 -12209104.52 -12209104.44 0.0089 0.0079

Mars -38140-04-18 19:26 J -12209103.82 -12209103.69 -12209103.56 0.1899 0.0333

Neptune -38140-07-15 01:26 J -12209016.52 -12209016.44 -12209016.34 0.0089 0.0072

Neptune -38140-10-11 03:21 J -12208928.45 -12208928.36 -12208928.25 0.0089 0.0065

Neptune -38139-01-07 05:16 J -12208840.39 -12208840.28 -12208840.16 0.0089 0.0058

Mars -38139-03-02 14:52 J -12208786.00 -12208785.88 -12208785.77 0.1631 0.0972

Neptune -38139-04-05 07:11 J -12208752.32 -12208752.20 -12208752.08 0.0089 0.0051

Moon -38139-04-07 20:38 J -12208749.69 -12208749.64 -12208749.58 0.2670 0.2342

Earth -38139-04-07 21:35 J -12208749.65 -12208749.60 -12208749.54 0.2673 0.2366 *

Neptune -38139-07-02 09:06 J -12208664.25 -12208664.12 -12208663.99 0.0089 0.0044

Neptune -38139-09-28 11:02 J -12208576.18 -12208576.04 -12208575.90 0.0089 0.0037

Neptune -38139-12-25 12:57 J -12208488.10 -12208487.96 -12208487.82 0.0089 0.0030

Neptune -38138-03-23 14:52 J -12208400.03 -12208399.88 -12208399.74 0.0089 0.0023

Neptune -38138-06-19 16:47 J -12208311.95 -12208311.80 -12208311.65 0.0089 0.0016

Neptune -38138-09-15 18:42 J -12208223.87 -12208223.72 -12208223.57 0.0089 0.0009

Neptune -38138-12-12 20:38 J -12208135.79 -12208135.64 -12208135.49 0.0089 0.0002

Mars -38137-02-06 12:28 J -12208080.02 -12208079.98 -12208079.94 0.1621 0.1533

Neptune -38137-03-09 22:33 J -12208047.71 -12208047.56 -12208047.41 0.0089 0.0005

Neptune -38137-06-06 00:28 J -12207959.63 -12207959.48 -12207959.33 0.0089 0.0013

Neptune -38137-09-02 02:23 J -12207871.54 -12207871.40 -12207871.25 0.0089 0.0020

Neptune -38137-11-29 04:18 J -12207783.46 -12207783.32 -12207783.17 0.0089 0.0027

Neptune -38136-02-25 06:14 J -12207695.37 -12207695.24 -12207695.09 0.0089 0.0034

Neptune -38136-05-24 08:23 J -12207607.28 -12207607.15 -12207607.01 0.0089 0.0041

Neptune -38136-08-20 10:04 J -12207519.19 -12207519.08 -12207518.94 0.0089 0.0049

Moon -38136-10-17 06:57 J -12207461.34 -12207461.21 -12207461.09 0.2670 0.0237

Earth -38136-10-17 06:57 J -12207461.34 -12207461.21 -12207461.09 0.2663 0.0197 *

Neptune -38136-11-16 12:14 J -12207431.10 -12207430.99 -12207430.86 0.0089 0.0056

Neptune -38135-02-12 14:23 J -12207343.00 -12207342.90 -12207342.79 0.0089 0.0063

Neptune -38135-05-11 16:04 J -12207254.91 -12207254.83 -12207254.72 0.0089 0.0071

Neptune -38135-08-07 18:14 J -12207166.80 -12207166.74 -12207166.66 0.0089 0.0078

Neptune -38135-11-03 20:23 J -12207078.68 -12207078.65 -12207078.60 0.0089 0.0085

Jupiter -38134-03-25 22:33 J -12206936.69 -12206936.56 -12206936.43 0.0524 0.0292

Jupiter -38134-06-23 18:42 J -12206846.81 -12206846.72 -12206846.62 0.0528 0.0413

Saturn -38133-03-13 10:18 J -12206583.18 -12206583.07 -12206582.95 0.0279 0.0181

Earth -38133-04-17 09:50 J -12206548.20 -12206548.09 -12206547.98 0.2667 0.1461

Moon -38133-04-17 10:33 J -12206548.17 -12206548.06 -12206547.96 0.2673 0.1584 *

Saturn -38133-06-10 02:09 J -12206494.56 -12206494.41 -12206494.26 0.0278 0.0065

Saturn -38133-09-06 17:16 J -12206405.92 -12206405.78 -12206405.62 0.0278 0.0049

Saturn -38133-12-04 08:23 J -12206317.27 -12206317.15 -12206317.03 0.0278 0.0158

Saturn -38132-03-02 22:47 J -12206228.58 -12206228.55 -12206228.50 0.0278 0.0265

Mars -38131-09-09 00:14 J -12205673.61 -12205673.49 -12205673.36 0.1895 0.0580

Mars -38130-07-23 20:38 J -12205355.65 -12205355.64 -12205355.62 0.1634 0.1624

Earth -38129-10-09 17:45 J -12204911.77 -12204911.76 -12204911.75 0.2659 0.2642

Jupiter -38129-11-10 19:54 J -12204879.82 -12204879.67 -12204879.53 0.0503 0.0027

Uranus -38128-05-06 12:57 J -12204703.02 -12204702.96 -12204702.90 0.0145 0.0133

Mars -38128-06-28 19:26 J -12204649.80 -12204649.69 -12204649.57 0.1624 0.0955

Uranus -38128-08-02 18:14 J -12204614.84 -12204614.74 -12204614.63 0.0145 0.0107

Uranus -38128-10-29 23:30 J -12204526.64 -12204526.52 -12204526.38 0.0146 0.0080

Uranus -38127-01-26 05:02 J -12204438.43 -12204438.29 -12204438.14 0.0146 0.0053

Uranus -38127-04-24 10:33 J -12204350.21 -12204350.06 -12204349.90 0.0146 0.0026

Uranus -38127-07-21 16:04 J -12204261.98 -12204261.83 -12204261.67 0.0146 0.0005

Uranus -38127-10-17 21:50 J -12204173.75 -12204173.59 -12204173.44 0.0146 0.0029

Uranus -38126-01-14 03:21 J -12204085.50 -12204085.36 -12204085.21 0.0146 0.0057

Moon -38126-04-10 18:42 J -12203998.83 -12203998.72 -12203998.62 0.2673 0.1546

Earth -38126-04-10 19:40 J -12203998.79 -12203998.68 -12203998.57 0.2672 0.1410 *

Uranus -38126-04-12 08:52 J -12203997.25 -12203997.13 -12203996.99 0.0146 0.0085

Uranus -38126-07-09 14:52 J -12203908.97 -12203908.88 -12203908.77 0.0146 0.0113

Uranus -38126-10-05 20:52 J -12203820.67 -12203820.63 -12203820.59 0.0146 0.0141

Earth -38123-10-20 04:33 J -12202710.43 -12202710.31 -12202710.20 0.2665 0.1135

Moon -38123-10-20 05:16 J -12202710.39 -12202710.28 -12202710.17 0.2669 0.1127 *

Jupiter -38122-01-11 22:47 J -12202626.61 -12202626.55 -12202626.48 0.0523 0.0469

Venus -38122-02-17 05:16 J -12202590.40 -12202590.28 -12202590.16 0.3755 0.0426

Jupiter -38122-04-11 19:40 J -12202536.82 -12202536.68 -12202536.55 0.0526 0.0241

Mars -38121-01-30 05:30 J -12202243.35 -12202243.27 -12202243.19 0.1892 0.1456

Earth -38120-04-20 08:52 J -12201797.16 -12201797.13 -12201797.09 0.2665 0.2539

Moon -38120-04-20 10:04 J -12201797.12 -12201797.08 -12201797.04 0.2666 0.2537 *

Mars -38119-11-19 02:23 J -12201219.54 -12201219.40 -12201219.26 0.1626 0.0362

Saturn -38119-12-23 17:45 J -12201184.81 -12201184.76 -12201184.71 0.0280 0.0261

Saturn -38118-03-22 08:52 J -12201096.26 -12201096.13 -12201096.00 0.0280 0.0151

Saturn -38118-06-19 00:14 J -12201007.64 -12201007.49 -12201007.33 0.0280 0.0038

Saturn -38118-09-15 16:04 J -12200918.98 -12200918.83 -12200918.68 0.0281 0.0080

Saturn -38118-12-13 08:23 J -12200830.26 -12200830.15 -12200830.04 0.0281 0.0199

Jupiter -38117-08-29 22:18 J -12200569.71 -12200569.57 -12200569.43 0.0504 0.0122

Venus -38117-09-02 03:06 J -12200566.42 -12200566.37 -12200566.32 0.3751 0.3366

Jupiter -38117-11-27 11:02 J -12200480.09 -12200480.04 -12200479.98 0.0500 0.0467

Moon -38116-10-12 15:06 J -12200160.97 -12200160.87 -12200160.77 0.2662 0.1641

Earth -38116-10-12 16:18 J -12200160.93 -12200160.82 -12200160.72 0.2660 0.1618 *

Moon -38113-04-12 17:16 J -12199247.91 -12199247.78 -12199247.66 0.2675 0.0442

Earth -38113-04-12 17:59 J -12199247.88 -12199247.75 -12199247.62 0.2670 0.0421 *

Venus -38113-09-03 05:16 J -12199104.39 -12199104.28 -12199104.16 0.3621 0.0824

Jupiter -38110-01-28 19:11 J -12198226.86 -12198226.70 -12198226.55 0.0525 0.0052

Mars -38110-05-28 14:52 J -12198106.97 -12198106.88 -12198106.79 0.1903 0.1370

Earth -38110-10-23 01:40 J -12197959.50 -12197959.43 -12197959.35 0.2666 0.2050

Moon -38110-10-23 02:38 J -12197959.46 -12197959.39 -12197959.32 0.2667 0.2188 *

Mars -38109-04-10 08:52 J -12197789.27 -12197789.13 -12197788.98 0.1628 0.0249

Venus -38107-03-20 00:42 J -12197080.57 -12197080.47 -12197080.38 0.3625 0.2061

Jupiter -38105-06-18 00:57 J -12196259.58 -12196259.46 -12196259.33 0.0505 0.0262

Jupiter -38105-09-15 13:40 J -12196170.04 -12196169.93 -12196169.82 0.0502 0.0325

Pluto -38105-09-19 17:59 J -12196165.79 -12196165.75 -12196165.67 0.0067 0.0062

Pluto -38105-12-16 19:40 J -12196077.77 -12196077.68 -12196077.59 0.0067 0.0056

Pluto -38104-03-14 20:38 J -12195989.73 -12195989.64 -12195989.52 0.0067 0.0051

Pluto -38104-06-10 21:50 J -12195901.69 -12195901.59 -12195901.45 0.0067 0.0046

Saturn -38104-07-31 13:11 J -12195851.05 -12195850.95 -12195850.84 0.0279 0.0202

Pluto -38104-09-06 23:16 J -12195813.65 -12195813.53 -12195813.38 0.0067 0.0040

Saturn -38104-10-28 05:02 J -12195762.44 -12195762.29 -12195762.14 0.0279 0.0086

Pluto -38104-12-04 00:28 J -12195725.61 -12195725.48 -12195725.32 0.0067 0.0035

Saturn -38103-01-24 20:23 J -12195673.80 -12195673.65 -12195673.49 0.0279 0.0028

Pluto -38103-03-02 01:54 J -12195637.56 -12195637.42 -12195637.26 0.0067 0.0029

Saturn -38103-04-23 11:30 J -12195585.15 -12195585.02 -12195584.89 0.0278 0.0138

Pluto -38103-05-29 03:21 J -12195549.51 -12195549.36 -12195549.20 0.0067 0.0024

Saturn -38103-07-21 01:54 J -12195496.48 -12195496.42 -12195496.34 0.0278 0.0247

Pluto -38103-08-25 04:47 J -12195461.46 -12195461.30 -12195461.14 0.0067 0.0018

Moon -38103-10-15 13:54 J -12195410.04 -12195409.92 -12195409.80 0.2668 0.0676

Earth -38103-10-15 14:23 J -12195410.03 -12195409.90 -12195409.78 0.2662 0.0619 *

Pluto -38103-11-21 05:59 J -12195373.41 -12195373.25 -12195373.08 0.0067 0.0012

Pluto -38102-02-17 07:26 J -12195285.36 -12195285.19 -12195285.02 0.0068 0.0007

Pluto -38102-05-16 08:52 J -12195197.30 -12195197.13 -12195196.96 0.0068 0.0001

Pluto -38102-08-12 10:04 J -12195109.24 -12195109.08 -12195108.91 0.0068 0.0006

Pluto -38102-11-08 11:30 J -12195021.18 -12195021.02 -12195020.85 0.0068 0.0011

Pluto -38101-02-04 12:57 J -12194933.12 -12194932.96 -12194932.79 0.0068 0.0017

Pluto -38101-05-02 14:09 J -12194845.06 -12194844.91 -12194844.74 0.0068 0.0023

Pluto -38101-07-29 15:35 J -12194756.99 -12194756.85 -12194756.69 0.0068 0.0029

Mars -38101-10-17 19:26 J -12194676.81 -12194676.69 -12194676.56 0.1899 0.0434

Pluto -38101-10-25 16:47 J -12194668.93 -12194668.80 -12194668.64 0.0068 0.0036

Pluto -38100-01-21 18:14 J -12194580.86 -12194580.74 -12194580.59 0.0068 0.0042

Earth -38100-04-15 16:33 J -12194496.94 -12194496.81 -12194496.69 0.2668 0.0602

Moon -38100-04-15 16:33 J -12194496.93 -12194496.81 -12194496.68 0.2675 0.0619 *

Pluto -38100-04-19 19:40 J -12194492.78 -12194492.68 -12194492.54 0.0069 0.0048

Pluto -38100-07-16 21:06 J -12194404.71 -12194404.62 -12194404.50 0.0069 0.0054

Mars -38100-08-31 15:06 J -12194358.99 -12194358.87 -12194358.75 0.1631 0.0883

Pluto -38100-10-12 22:47 J -12194316.62 -12194316.55 -12194316.46 0.0069 0.0060

Pluto -38099-01-09 00:28 J -12194228.52 -12194228.48 -12194228.43 0.0069 0.0066

Jupiter -38099-11-16 19:26 J -12193916.84 -12193916.69 -12193916.53 0.0524 0.0127

Mars -38098-08-07 12:42 J -12193652.97 -12193652.97 -12193652.96 0.1621 0.1616

Jupiter -38093-04-06 04:04 J -12191949.42 -12191949.33 -12191949.24 0.0506 0.0399

Moon -38093-04-08 02:09 J -12191947.47 -12191947.41 -12191947.35 0.2669 0.2329

Earth -38093-04-08 03:06 J -12191947.44 -12191947.37 -12191947.30 0.2673 0.2195 *

Jupiter -38093-07-04 16:18 J -12191859.96 -12191859.82 -12191859.68 0.0502 0.0183

Mars -38091-03-10 00:28 J -12191246.60 -12191246.48 -12191246.36 0.1895 0.0486

Mars -38090-01-21 21:06 J -12190928.67 -12190928.62 -12190928.57 0.1634 0.1531

Earth -38090-10-18 12:14 J -12190659.12 -12190658.99 -12190658.87 0.2663 0.0355

Moon -38090-10-18 12:28 J -12190659.11 -12190658.98 -12190658.86 0.2670 0.0354 *

Saturn -38089-08-08 09:35 J -12190364.21 -12190364.10 -12190363.99 0.0280 0.0186

Saturn -38089-11-05 00:57 J -12190275.61 -12190275.46 -12190275.31 0.0280 0.0074

Mars -38089-12-27 19:54 J -12190222.78 -12190222.67 -12190222.56 0.1624 0.1039

Saturn -38088-02-01 16:33 J -12190186.96 -12190186.81 -12190186.66 0.0280 0.0041

Saturn -38088-05-01 08:38 J -12190098.27 -12190098.14 -12190098.01 0.0281 0.0159

Saturn -38088-07-29 00:57 J -12190009.46 -12190009.46 -12190009.45 0.0281 0.0280

Uranus -38087-03-14 15:35 J -12189780.91 -12189780.85 -12189780.77 0.0133 0.0119

Earth -38087-04-18 15:21 J -12189745.96 -12189745.86 -12189745.76 0.2667 0.1651

Moon -38087-04-18 16:04 J -12189745.93 -12189745.83 -12189745.73 0.2672 0.1655 *

Uranus -38087-06-10 20:09 J -12189692.75 -12189692.66 -12189692.54 0.0133 0.0098

Jupiter -38087-09-04 20:09 J -12189606.79 -12189606.66 -12189606.53 0.0524 0.0299

Uranus -38087-09-07 00:42 J -12189604.59 -12189604.47 -12189604.33 0.0133 0.0077

Jupiter -38087-12-03 16:18 J -12189516.91 -12189516.82 -12189516.72 0.0527 0.0406

Uranus -38087-12-04 05:16 J -12189516.42 -12189516.28 -12189516.13 0.0133 0.0056

Uranus -38086-03-02 09:50 J -12189428.24 -12189428.09 -12189427.94 0.0133 0.0035

Uranus -38086-05-29 14:09 J -12189340.06 -12189339.91 -12189339.75 0.0133 0.0015

Uranus -38086-08-25 18:42 J -12189251.88 -12189251.72 -12189251.57 0.0133 0.0007

Uranus -38086-11-21 22:47 J -12189163.70 -12189163.55 -12189163.39 0.0133 0.0027

Uranus -38085-02-18 03:06 J -12189075.51 -12189075.37 -12189075.22 0.0133 0.0046

Uranus -38085-05-16 07:11 J -12188987.32 -12188987.20 -12188987.05 0.0133 0.0067

Uranus -38085-08-12 11:45 J -12188899.13 -12188899.01 -12188898.90 0.0133 0.0086

Uranus -38085-11-08 15:35 J -12188810.93 -12188810.85 -12188810.75 0.0133 0.0106

Uranus -38084-02-04 19:54 J -12188722.71 -12188722.67 -12188722.62 0.0132 0.0125

Moon -38083-10-10 22:04 J -12188109.62 -12188109.58 -12188109.53 0.2658 0.2457

Earth -38083-10-10 23:16 J -12188109.58 -12188109.53 -12188109.48 0.2659 0.2461 *

Mars -38082-07-31 05:45 J -12187816.35 -12187816.26 -12187816.17 0.1892 0.1358

Jupiter -38081-04-22 18:57 J -12187549.86 -12187549.71 -12187549.56 0.0503 0.0040

Moon -38080-04-10 23:59 J -12187196.61 -12187196.50 -12187196.38 0.2674 0.1226

Earth -38080-04-11 00:57 J -12187196.57 -12187196.46 -12187196.34 0.2671 0.1237 *

Mars -38079-05-20 02:38 J -12186792.53 -12186792.39 -12186792.25 0.1626 0.0447

Earth -38077-10-20 09:50 J -12185908.20 -12185908.09 -12185907.98 0.2665 0.1296

Moon -38077-10-20 10:33 J -12185908.16 -12185908.06 -12185907.95 0.2669 0.1418 *

Jupiter -38075-06-23 21:06 J -12185296.69 -12185296.62 -12185296.56 0.0523 0.0467

Jupiter -38075-09-21 17:45 J -12185206.90 -12185206.76 -12185206.62 0.0527 0.0243

Saturn -38075-12-18 12:28 J -12185119.05 -12185118.98 -12185118.90 0.0279 0.0247

Saturn -38074-03-17 04:33 J -12185030.45 -12185030.31 -12185030.17 0.0278 0.0130

Saturn -38074-06-13 19:54 J -12184941.82 -12184941.67 -12184941.51 0.0278 0.0017

Saturn -38074-09-10 11:02 J -12184853.18 -12184853.04 -12184852.89 0.0278 0.0097

Saturn -38074-12-08 01:54 J -12184764.51 -12184764.42 -12184764.31 0.0278 0.0206

Venus -38071-03-10 06:42 J -12183941.30 -12183941.22 -12183941.14 0.3758 0.2760

Mars -38071-11-26 15:06 J -12183679.96 -12183679.87 -12183679.79 0.1902 0.1460

Mars -38070-10-10 09:06 J -12183362.26 -12183362.12 -12183361.97 0.1629 0.0167

Moon -38070-10-13 20:38 J -12183358.74 -12183358.64 -12183358.53 0.2663 0.1574

Earth -38070-10-13 21:35 J -12183358.71 -12183358.60 -12183358.49 0.2660 0.1438 *

Jupiter -38069-02-09 20:52 J -12183239.77 -12183239.63 -12183239.48 0.0504 0.0113

Jupiter -38069-05-09 09:50 J -12183150.13 -12183150.09 -12183150.05 0.0500 0.0475

Moon -38067-04-13 22:47 J -12182445.68 -12182445.55 -12182445.43 0.2675 0.0335

Earth -38067-04-13 23:16 J -12182445.66 -12182445.53 -12182445.40 0.2670 0.0248 *

Venus -38066-09-24 04:18 J -12181917.44 -12181917.32 -12181917.20 0.3754 0.0923

Earth -38064-10-23 06:57 J -12181157.27 -12181157.21 -12181157.14 0.2667 0.2216

Moon -38064-10-23 07:54 J -12181157.24 -12181157.17 -12181157.10 0.2665 0.2204 *

Jupiter -38063-07-10 18:28 J -12180896.88 -12180896.73 -12180896.58 0.0525 0.0071

Venus -38062-09-25 08:23 J -12180455.23 -12180455.15 -12180455.07 0.3618 0.2646

Mars -38061-04-17 19:26 J -12180249.81 -12180249.69 -12180249.56 0.1899 0.0514

Mars -38060-03-01 15:35 J -12179931.98 -12179931.85 -12179931.72 0.1631 0.0790

Saturn -38060-12-26 10:18 J -12179632.15 -12179632.07 -12179631.97 0.0280 0.0220

Saturn -38059-03-25 01:40 J -12179543.57 -12179543.43 -12179543.29 0.0280 0.0108

Saturn -38059-06-21 17:16 J -12179454.93 -12179454.78 -12179454.62 0.0280 0.0008

Saturn -38059-09-18 09:06 J -12179366.25 -12179366.12 -12179365.97 0.0281 0.0125

Saturn -38059-12-16 01:26 J -12179277.51 -12179277.44 -12179277.36 0.0281 0.0245

Jupiter -38058-11-28 23:30 J -12178929.64 -12178929.52 -12178929.39 0.0505 0.0257

Jupiter -38057-02-26 11:59 J -12178840.11 -12178840.00 -12178839.88 0.0501 0.0328

Neptune -38057-04-18 06:42 J -12178788.28 -12178788.22 -12178788.16 0.0088 0.0082

Neptune -38057-07-15 08:38 J -12178700.21 -12178700.14 -12178700.03 0.0088 0.0075

Neptune -38057-10-11 11:16 J -12178612.12 -12178612.03 -12178611.90 0.0088 0.0067

Moon -38057-10-15 19:26 J -12178607.82 -12178607.69 -12178607.57 0.2669 0.0436

Earth -38057-10-15 19:40 J -12178607.80 -12178607.68 -12178607.55 0.2662 0.0448 *

Neptune -38056-01-07 13:54 J -12178524.04 -12178523.92 -12178523.79 0.0088 0.0058

Neptune -38056-04-05 16:33 J -12178435.95 -12178435.81 -12178435.67 0.0088 0.0051

Venus -38056-04-10 03:50 J -12178431.46 -12178431.34 -12178431.22 0.3622 0.0290

Neptune -38056-07-02 18:42 J -12178347.85 -12178347.72 -12178347.56 0.0088 0.0043

Neptune -38056-09-28 21:21 J -12178259.76 -12178259.61 -12178259.45 0.0088 0.0035

Neptune -38056-12-25 23:45 J -12178171.66 -12178171.51 -12178171.35 0.0088 0.0028

Neptune -38055-03-24 02:09 J -12178083.57 -12178083.41 -12178083.24 0.0088 0.0020

Neptune -38055-06-20 04:33 J -12177995.47 -12177995.31 -12177995.14 0.0088 0.0013

Neptune -38055-09-16 06:57 J -12177907.37 -12177907.21 -12177907.04 0.0088 0.0005

Neptune -38055-12-13 09:21 J -12177819.27 -12177819.11 -12177818.94 0.0088 0.0004

Neptune -38054-03-11 11:45 J -12177731.17 -12177731.01 -12177730.84 0.0088 0.0011

Earth -38054-04-16 22:04 J -12177694.71 -12177694.58 -12177694.46 0.2668 0.0789

Moon -38054-04-16 22:18 J -12177694.70 -12177694.57 -12177694.45 0.2675 0.0833 *

Neptune -38054-06-07 14:09 J -12177643.07 -12177642.91 -12177642.75 0.0088 0.0018

Neptune -38054-09-03 16:33 J -12177554.97 -12177554.81 -12177554.65 0.0088 0.0026

Neptune -38054-11-30 18:42 J -12177466.86 -12177466.72 -12177466.56 0.0088 0.0033

Neptune -38053-02-26 21:06 J -12177378.76 -12177378.62 -12177378.47 0.0088 0.0041

Neptune -38053-05-24 23:16 J -12177290.66 -12177290.53 -12177290.38 0.0088 0.0048

Neptune -38053-08-21 01:40 J -12177202.55 -12177202.43 -12177202.30 0.0088 0.0055

Neptune -38053-11-17 04:04 J -12177114.44 -12177114.33 -12177114.21 0.0088 0.0063

Neptune -38052-02-13 05:59 J -12177026.33 -12177026.25 -12177026.13 0.0088 0.0071

Neptune -38052-05-12 08:23 J -12176938.21 -12176938.15 -12176938.06 0.0088 0.0078

Neptune -38052-08-08 10:47 J -12176850.09 -12176850.05 -12176850.00 0.0088 0.0085

Mars -38052-09-08 00:42 J -12176819.60 -12176819.47 -12176819.35 0.1896 0.0388

Jupiter -38051-04-28 17:59 J -12176586.90 -12176586.75 -12176586.60 0.0524 0.0118

Mars -38051-07-22 21:35 J -12176501.67 -12176501.60 -12176501.54 0.1634 0.1441

Venus -38051-10-24 23:02 J -12176407.60 -12176407.54 -12176407.48 0.3625 0.3137

Mars -38049-06-27 20:09 J -12175795.76 -12175795.66 -12175795.55 0.1624 0.1128

Moon -38047-04-09 07:26 J -12175145.27 -12175145.19 -12175145.11 0.2670 0.2026

Earth -38047-04-09 08:23 J -12175145.23 -12175145.15 -12175145.07 0.2673 0.2029 *

Jupiter -38046-09-17 02:23 J -12174619.49 -12174619.40 -12174619.31 0.0506 0.0397

Jupiter -38046-12-15 14:38 J -12174530.03 -12174529.89 -12174529.75 0.0503 0.0186

Saturn -38045-05-06 15:06 J -12174386.90 -12174386.87 -12174386.83 0.0279 0.0270

Saturn -38045-08-03 07:11 J -12174298.33 -12174298.20 -12174298.07 0.0279 0.0152

Saturn -38045-10-30 22:47 J -12174209.70 -12174209.55 -12174209.39 0.0279 0.0038

Saturn -38044-01-27 14:09 J -12174121.06 -12174120.91 -12174120.76 0.0279 0.0076

Saturn -38044-04-26 05:02 J -12174032.40 -12174032.29 -12174032.18 0.0278 0.0185

Uranus -38044-05-26 19:54 J -12174001.74 -12174001.67 -12174001.60 0.0145 0.0127

Uranus -38044-08-23 01:11 J -12173913.56 -12173913.45 -12173913.34 0.0146 0.0101

Earth -38044-10-18 17:30 J -12173856.89 -12173856.77 -12173856.64 0.2664 0.0526

Moon -38044-10-18 17:59 J -12173856.87 -12173856.75 -12173856.63 0.2670 0.0548 *

Uranus -38044-11-19 06:42 J -12173825.36 -12173825.22 -12173825.09 0.0146 0.0074

Uranus -38043-02-15 11:59 J -12173737.14 -12173737.00 -12173736.85 0.0146 0.0047

Uranus -38043-05-14 17:30 J -12173648.92 -12173648.77 -12173648.61 0.0146 0.0021

Uranus -38043-08-10 23:16 J -12173560.69 -12173560.53 -12173560.38 0.0146 0.0008

Uranus -38043-11-07 04:47 J -12173472.45 -12173472.30 -12173472.15 0.0146 0.0035

Mars -38042-01-29 05:59 J -12173389.35 -12173389.25 -12173389.16 0.1891 0.1269

Uranus -38042-02-03 10:18 J -12173384.21 -12173384.07 -12173383.92 0.0146 0.0063

Uranus -38042-05-02 16:04 J -12173295.95 -12173295.83 -12173295.70 0.0146 0.0091

Uranus -38042-07-29 21:50 J -12173207.68 -12173207.59 -12173207.49 0.0146 0.0119

Earth -38041-04-18 20:52 J -12172943.72 -12172943.63 -12172943.53 0.2666 0.1844

Moon -38041-04-18 21:50 J -12172943.68 -12172943.59 -12172943.50 0.2670 0.1932 *

Mars -38040-11-18 02:52 J -12172365.51 -12172365.38 -12172365.24 0.1626 0.0533

Jupiter -38039-02-14 18:14 J -12172276.86 -12172276.74 -12172276.61 0.0523 0.0296

Jupiter -38039-05-15 14:23 J -12172186.99 -12172186.90 -12172186.80 0.0527 0.0408

Moon -38037-10-11 03:35 J -12171307.40 -12171307.35 -12171307.30 0.2658 0.2434

Earth -38037-10-11 04:47 J -12171307.37 -12171307.30 -12171307.24 0.2659 0.2277 *

Moon -38034-04-12 05:30 J -12170394.38 -12170394.27 -12170394.16 0.2675 0.1210

Earth -38034-04-12 06:28 J -12170394.35 -12170394.23 -12170394.11 0.2671 0.1057 *

Jupiter -38034-10-03 17:16 J -12170219.92 -12170219.78 -12170219.63 0.0503 0.0046

Mars -38031-05-27 15:21 J -12169252.94 -12169252.86 -12169252.79 0.1902 0.1560

Earth -38031-10-21 15:06 J -12169105.98 -12169105.87 -12169105.77 0.2665 0.1463

Moon -38031-10-21 15:50 J -12169105.94 -12169105.84 -12169105.73 0.2669 0.1483 *

Mars -38030-04-10 09:35 J -12168935.25 -12168935.10 -12168934.96 0.1629 0.0086

Saturn -38030-05-15 11:30 J -12168900.08 -12168900.02 -12168899.96 0.0280 0.0254

Saturn -38030-08-12 02:23 J -12168811.52 -12168811.40 -12168811.26 0.0280 0.0144

Saturn -38030-11-08 17:59 J -12168722.90 -12168722.75 -12168722.60 0.0280 0.0030

Saturn -38029-02-05 09:50 J -12168634.24 -12168634.09 -12168633.95 0.0280 0.0087

Saturn -38029-05-04 01:54 J -12168545.53 -12168545.42 -12168545.31 0.0281 0.0205

Jupiter -38028-12-03 18:42 J -12167966.78 -12167966.72 -12167966.65 0.0522 0.0471

Jupiter -38027-03-03 15:21 J -12167876.99 -12167876.86 -12167876.72 0.0526 0.0240

Moon -38024-10-14 02:23 J -12166556.52 -12166556.40 -12166556.29 0.2665 0.1243

Earth -38024-10-14 03:06 J -12166556.48 -12166556.37 -12166556.26 0.2661 0.1259 *

Jupiter -38022-07-22 20:09 J -12165909.81 -12165909.66 -12165909.52 0.0504 0.0096

Mars -38022-10-17 19:40 J -12165822.80 -12165822.68 -12165822.55 0.1899 0.0613

Jupiter -38022-10-20 08:52 J -12165820.15 -12165820.13 -12165820.10 0.0500 0.0493

Moon -38021-04-14 04:33 J -12165643.44 -12165643.31 -12165643.19 0.2675 0.0088

Earth -38021-04-14 04:47 J -12165643.43 -12165643.30 -12165643.17 0.2669 0.0074 *

Mars -38021-08-30 15:50 J -12165504.97 -12165504.84 -12165504.71 0.1631 0.0707

Pluto -38018-02-03 15:21 J -12164617.89 -12164617.86 -12164617.80 0.0078 0.0074

Pluto -38018-05-02 16:47 J -12164529.86 -12164529.80 -12164529.71 0.0077 0.0066

Pluto -38018-07-29 18:28 J -12164441.82 -12164441.73 -12164441.63 0.0077 0.0058

Earth -38018-10-24 12:14 J -12164355.04 -12164354.99 -12164354.93 0.2667 0.2374

Moon -38018-10-24 13:11 J -12164354.99 -12164354.95 -12164354.91 0.2664 0.2494 *

Pluto -38018-10-25 19:54 J -12164353.78 -12164353.67 -12164353.55 0.0077 0.0050

Pluto -38017-01-21 21:06 J -12164265.73 -12164265.62 -12164265.48 0.0077 0.0042

Pluto -38017-04-18 22:47 J -12164177.68 -12164177.55 -12164177.41 0.0077 0.0034

Pluto -38017-07-15 23:59 J -12164089.63 -12164089.50 -12164089.35 0.0077 0.0027

Pluto -38017-10-12 01:40 J -12164001.57 -12164001.43 -12164001.29 0.0077 0.0019

Pluto -38016-01-08 02:52 J -12163913.52 -12163913.38 -12163913.23 0.0077 0.0012

Pluto -38016-04-06 04:18 J -12163825.46 -12163825.32 -12163825.17 0.0076 0.0004

Pluto -38016-07-03 05:45 J -12163737.41 -12163737.26 -12163737.11 0.0076 0.0003

Pluto -38016-09-29 06:57 J -12163649.35 -12163649.21 -12163649.06 0.0076 0.0011

Jupiter -38016-12-20 16:47 J -12163566.95 -12163566.80 -12163566.65 0.0526 0.0075

Saturn -38016-12-21 06:14 J -12163566.34 -12163566.24 -12163566.12 0.0279 0.0198

Pluto -38016-12-26 08:23 J -12163561.29 -12163561.15 -12163561.00 0.0076 0.0018

Saturn -38015-03-19 22:04 J -12163477.72 -12163477.58 -12163477.43 0.0278 0.0082

Pluto -38015-03-24 09:35 J -12163473.23 -12163473.10 -12163472.95 0.0076 0.0025

Saturn -38015-06-16 13:40 J -12163389.08 -12163388.93 -12163388.78 0.0278 0.0033

Pluto -38015-06-20 11:02 J -12163385.17 -12163385.04 -12163384.91 0.0076 0.0032

Saturn -38015-09-13 04:33 J -12163300.43 -12163300.31 -12163300.18 0.0278 0.0143

Pluto -38015-09-16 12:14 J -12163297.11 -12163296.99 -12163296.86 0.0076 0.0039

Venus -38015-10-15 05:30 J -12163268.38 -12163268.27 -12163268.15 0.3757 0.1455

Saturn -38015-12-10 19:11 J -12163211.75 -12163211.70 -12163211.63 0.0278 0.0251

Pluto -38015-12-13 13:40 J -12163209.05 -12163208.93 -12163208.82 0.0075 0.0046

Pluto -38014-03-11 14:52 J -12163120.98 -12163120.88 -12163120.78 0.0075 0.0053

Pluto -38014-06-07 16:04 J -12163032.92 -12163032.83 -12163032.74 0.0075 0.0060

Pluto -38014-09-03 17:02 J -12162944.84 -12162944.79 -12162944.71 0.0075 0.0067

Pluto -38014-11-30 18:14 J -12162856.76 -12162856.74 -12162856.69 0.0075 0.0073

Mars -38012-03-09 00:42 J -12162392.60 -12162392.47 -12162392.34 0.1895 0.0302

Mars -38011-01-20 21:50 J -12162074.67 -12162074.59 -12162074.51 0.1634 0.1350

Moon -38011-10-17 00:42 J -12161805.59 -12161805.47 -12161805.34 0.2669 0.0356

Earth -38011-10-17 01:11 J -12161805.58 -12161805.45 -12161805.32 0.2662 0.0270 *

Jupiter -38010-05-10 22:18 J -12161599.69 -12161599.57 -12161599.44 0.0505 0.0245

Jupiter -38010-08-08 10:47 J -12161510.15 -12161510.05 -12161509.94 0.0501 0.0340

Mars -38010-12-27 20:23 J -12161368.74 -12161368.65 -12161368.55 0.1624 0.1207

Venus -38009-04-30 03:21 J -12161244.46 -12161244.36 -12161244.27 0.3753 0.2283

Earth -38008-04-17 03:21 J -12160892.48 -12160892.36 -12160892.23 0.2668 0.0976

Moon -38008-04-17 03:50 J -12160892.46 -12160892.34 -12160892.22 0.2675 0.0960 *

Venus -38005-05-01 06:57 J -12159782.32 -12159782.21 -12159782.10 0.3619 0.1523

Jupiter -38004-10-08 17:30 J -12159256.92 -12159256.77 -12159256.62 0.0524 0.0097

Uranus -38003-04-03 22:33 J -12159079.63 -12159079.56 -12159079.48 0.0133 0.0114

Uranus -38003-07-01 03:06 J -12158991.48 -12158991.37 -12158991.25 0.0133 0.0093

Mars -38003-07-30 05:59 J -12158962.35 -12158962.25 -12158962.15 0.1892 0.1185

Uranus -38003-09-27 07:40 J -12158903.31 -12158903.18 -12158903.05 0.0133 0.0072

Uranus -38003-12-24 12:14 J -12158815.14 -12158814.99 -12158814.85 0.0133 0.0051

Uranus -38002-03-22 16:33 J -12158726.96 -12158726.81 -12158726.65 0.0133 0.0031

Uranus -38002-06-18 20:52 J -12158638.78 -12158638.63 -12158638.47 0.0133 0.0011

Uranus -38002-09-15 01:26 J -12158550.60 -12158550.44 -12158550.29 0.0133 0.0011

Uranus -38002-12-12 05:45 J -12158462.41 -12158462.26 -12158462.11 0.0133 0.0031

Uranus -38001-03-09 09:50 J -12158374.23 -12158374.09 -12158373.94 0.0133 0.0051

Moon -38001-04-09 12:42 J -12158343.05 -12158342.97 -12158342.88 0.2672 0.1963

Earth -38001-04-09 13:40 J -12158343.02 -12158342.93 -12158342.83 0.2673 0.1857 *

Uranus -38001-06-05 14:09 J -12158286.04 -12158285.91 -12158285.78 0.0133 0.0071

Uranus -38001-09-01 18:14 J -12158197.84 -12158197.74 -12158197.62 0.0133 0.0090

Uranus -38001-11-28 22:33 J -12158109.64 -12158109.56 -12158109.47 0.0133 0.0110

Saturn -38001-12-29 02:52 J -12158079.49 -12158079.38 -12158079.26 0.0280 0.0181

38TH MILLENNIUM BCE

This is a list of transits of Mercury in the 38th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Uranus -38000-02-25 02:23 J -12158021.41 -12158021.40 -12158021.35 0.0132 0.0130

Saturn -38000-03-27 18:14 J -12157990.89 -12157990.74 -12157990.59 0.0280 0.0068

Mars -38000-05-19 03:21 J -12157938.49 -12157938.36 -12157938.23 0.1626 0.0618

Saturn -38000-06-24 09:50 J -12157902.24 -12157902.09 -12157901.93 0.0280 0.0048

Saturn -38000-09-21 01:54 J -12157813.54 -12157813.42 -12157813.29 0.0281 0.0166

Venus -38000-11-15 02:23 J -12157758.51 -12157758.40 -12157758.29 0.3623 0.1392

Jupiter -37998-02-27 00:57 J -12157289.55 -12157289.46 -12157289.37 0.0506 0.0388

Jupiter -37998-05-27 13:11 J -12157200.08 -12157199.95 -12157199.81 0.0502 0.0193

Earth -37998-10-19 22:47 J -12157054.67 -12157054.55 -12157054.42 0.2664 0.0701

Moon -37998-10-19 23:30 J -12157054.64 -12157054.52 -12157054.40 0.2670 0.0769 *

Earth -37995-04-20 02:23 J -12156141.48 -12156141.40 -12156141.31 0.2666 0.2031

Moon -37995-04-20 03:21 J -12156141.43 -12156141.36 -12156141.28 0.2669 0.2117 *

Jupiter -37992-07-27 17:02 J -12154946.92 -12154946.79 -12154946.66 0.0523 0.0285

Jupiter -37992-10-25 13:11 J -12154857.04 -12154856.95 -12154856.86 0.0527 0.0417

Mars -37992-11-25 15:21 J -12154825.92 -12154825.86 -12154825.80 0.1902 0.1652

Mars -37991-10-09 09:50 J -12154508.23 -12154508.09 -12154507.94 0.1629 0.0027

Moon -37991-10-12 09:06 J -12154505.20 -12154505.12 -12154505.04 0.2659 0.2105

Earth -37991-10-12 10:18 J -12154505.15 -12154505.07 -12154505.00 0.2659 0.2098 *

Moon -37988-04-12 11:02 J -12153592.16 -12153592.04 -12153591.92 0.2674 0.0878

Earth -37988-04-12 11:59 J -12153592.13 -12153592.00 -12153591.88 0.2671 0.0888 *

Jupiter -37986-03-15 15:50 J -12152889.99 -12152889.84 -12152889.70 0.0504 0.0052

Saturn -37986-05-10 08:52 J -12152834.22 -12152834.13 -12152834.04 0.0279 0.0223

Saturn -37986-08-07 00:42 J -12152745.61 -12152745.47 -12152745.33 0.0279 0.0105

Saturn -37986-11-03 16:18 J -12152656.98 -12152656.82 -12152656.67 0.0279 0.0011

Saturn -37985-01-31 07:26 J -12152568.33 -12152568.19 -12152568.06 0.0279 0.0121

Saturn -37985-04-28 22:04 J -12152479.66 -12152479.58 -12152479.49 0.0278 0.0230

Earth -37985-10-21 20:23 J -12152303.75 -12152303.65 -12152303.55 0.2666 0.1630

Moon -37985-10-21 21:21 J -12152303.71 -12152303.61 -12152303.52 0.2668 0.1715 *

Mars -37982-04-17 20:09 J -12151395.78 -12151395.66 -12151395.54 0.1899 0.0715

Mars -37981-02-29 16:18 J -12151077.96 -12151077.82 -12151077.69 0.1631 0.0617

Jupiter -37980-05-15 17:16 J -12150636.85 -12150636.78 -12150636.71 0.0522 0.0463

Jupiter -37980-08-13 13:54 J -12150547.06 -12150546.92 -12150546.79 0.0526 0.0245

Moon -37978-10-15 07:40 J -12149754.29 -12149754.18 -12149754.06 0.2666 0.1220

Earth -37978-10-15 08:38 J -12149754.26 -12149754.14 -12149754.03 0.2661 0.1084 *

Neptune -37976-07-20 19:26 J -12149109.69 -12149109.69 -12149109.65 0.0089 0.0088

Neptune -37976-10-16 21:21 J -12149021.66 -12149021.61 -12149021.54 0.0089 0.0081

Neptune -37975-01-12 23:16 J -12148933.60 -12148933.53 -12148933.44 0.0089 0.0074

Neptune -37975-04-11 01:11 J -12148845.54 -12148845.45 -12148845.35 0.0089 0.0067

Moon -37975-04-15 10:04 J -12148841.21 -12148841.08 -12148840.95 0.2676 0.0037

Earth -37975-04-15 10:18 J -12148841.20 -12148841.07 -12148840.94 0.2669 0.0124 *

Neptune -37975-07-08 03:06 J -12148757.47 -12148757.37 -12148757.26 0.0089 0.0060

Neptune -37975-10-04 05:02 J -12148669.40 -12148669.29 -12148669.17 0.0089 0.0053

Neptune -37975-12-31 06:57 J -12148581.34 -12148581.21 -12148581.08 0.0089 0.0046

Jupiter -37974-01-01 18:28 J -12148579.87 -12148579.73 -12148579.58 0.0504 0.0091

Neptune -37974-03-29 08:52 J -12148493.26 -12148493.13 -12148493.00 0.0089 0.0039

Jupiter -37974-04-01 07:26 J -12148490.19 -12148490.19 -12148490.18 0.0501 0.0500

Neptune -37974-06-25 10:47 J -12148405.19 -12148405.05 -12148404.91 0.0089 0.0032

Neptune -37974-09-21 12:42 J -12148317.12 -12148316.97 -12148316.83 0.0089 0.0025

Neptune -37974-12-18 14:38 J -12148229.04 -12148228.89 -12148228.74 0.0089 0.0018

Neptune -37973-03-15 16:33 J -12148140.96 -12148140.81 -12148140.66 0.0089 0.0011

Neptune -37973-06-11 18:28 J -12148052.88 -12148052.73 -12148052.58 0.0089 0.0004

Mars -37973-09-07 00:42 J -12147965.59 -12147965.47 -12147965.34 0.1895 0.0222

Neptune -37973-09-07 20:23 J -12147964.80 -12147964.65 -12147964.50 0.0089 0.0003

Neptune -37973-12-04 22:18 J -12147876.72 -12147876.57 -12147876.42 0.0089 0.0010

Neptune -37972-03-03 00:14 J -12147788.64 -12147788.49 -12147788.34 0.0089 0.0018

Neptune -37972-05-30 02:09 J -12147700.55 -12147700.41 -12147700.26 0.0089 0.0025

Mars -37972-07-21 22:18 J -12147647.67 -12147647.57 -12147647.48 0.1634 0.1263

Neptune -37972-08-26 04:04 J -12147612.47 -12147612.33 -12147612.18 0.0089 0.0032

Earth -37972-10-24 17:30 J -12147552.80 -12147552.77 -12147552.73 0.2667 0.2539

Moon -37972-10-24 18:28 J -12147552.76 -12147552.73 -12147552.69 0.2664 0.2539 *

Neptune -37972-11-22 06:14 J -12147524.38 -12147524.24 -12147524.11 0.0089 0.0039

Neptune -37971-02-18 07:54 J -12147436.29 -12147436.17 -12147436.03 0.0089 0.0047

Neptune -37971-05-17 09:50 J -12147348.20 -12147348.09 -12147347.95 0.0089 0.0054

Saturn -37971-05-18 04:04 J -12147347.43 -12147347.33 -12147347.23 0.0280 0.0214

Neptune -37971-08-13 11:59 J -12147260.10 -12147260.00 -12147259.88 0.0089 0.0061

Saturn -37971-08-14 19:11 J -12147258.84 -12147258.70 -12147258.56 0.0280 0.0102

Neptune -37971-11-09 14:09 J -12147172.00 -12147171.91 -12147171.81 0.0089 0.0068

Saturn -37971-11-11 10:47 J -12147170.21 -12147170.05 -12147169.90 0.0280 0.0012

Neptune -37970-02-05 15:50 J -12147083.90 -12147083.84 -12147083.75 0.0089 0.0076

Saturn -37970-02-08 02:38 J -12147081.53 -12147081.39 -12147081.25 0.0280 0.0129

Neptune -37970-05-04 17:59 J -12146995.79 -12146995.75 -12146995.69 0.0089 0.0083

Saturn -37970-05-07 18:42 J -12146992.78 -12146992.72 -12146992.64 0.0280 0.0250

Mars -37970-06-27 20:38 J -12146941.72 -12146941.64 -12146941.55 0.1624 0.1290

Moon -37968-04-07 20:38 J -12146291.65 -12146291.64 -12146291.63 0.2669 0.2653

Earth -37968-04-07 21:21 J -12146291.63 -12146291.61 -12146291.59 0.2674 0.2628 *

Jupiter -37968-06-01 14:38 J -12146237.04 -12146236.89 -12146236.74 0.0525 0.0074

Moon -37965-10-17 06:28 J -12145003.36 -12145003.23 -12145003.10 0.2669 0.0045

Earth -37965-10-17 06:28 J -12145003.35 -12145003.23 -12145003.10 0.2663 0.0119 *

Venus -37964-11-05 07:11 J -12144619.21 -12144619.20 -12144619.19 0.3760 0.3739

Mars -37963-01-28 05:59 J -12144535.35 -12144535.25 -12144535.14 0.1891 0.1094

Jupiter -37963-10-20 21:21 J -12144269.73 -12144269.61 -12144269.48 0.0505 0.0229

Jupiter -37962-01-18 10:04 J -12144180.19 -12144180.08 -12144179.98 0.0501 0.0357

Earth -37962-04-18 09:06 J -12144090.24 -12144090.12 -12144090.01 0.2668 0.1160

Moon -37962-04-18 09:21 J -12144090.22 -12144090.11 -12144089.99 0.2674 0.1246 *

Mars -37961-11-17 03:35 J -12143511.48 -12143511.35 -12143511.22 0.1626 0.0701

Uranus -37960-06-16 02:52 J -12143300.46 -12143300.38 -12143300.30 0.0145 0.0121

Uranus -37960-09-12 08:09 J -12143212.27 -12143212.16 -12143212.04 0.0146 0.0095

Uranus -37960-12-09 13:26 J -12143124.07 -12143123.94 -12143123.80 0.0146 0.0068

Uranus -37959-03-07 18:57 J -12143035.86 -12143035.71 -12143035.56 0.0146 0.0042

Uranus -37959-06-04 00:28 J -12142947.63 -12142947.48 -12142947.32 0.0146 0.0015

Uranus -37959-08-31 05:59 J -12142859.40 -12142859.25 -12142859.09 0.0146 0.0014

Uranus -37959-11-27 11:45 J -12142771.16 -12142771.01 -12142770.86 0.0146 0.0041

Uranus -37958-02-23 17:16 J -12142682.91 -12142682.78 -12142682.63 0.0146 0.0069

Venus -37958-05-22 04:33 J -12142595.43 -12142595.31 -12142595.19 0.3756 0.0122

Uranus -37958-05-22 22:47 J -12142594.66 -12142594.55 -12142594.42 0.0146 0.0097

Uranus -37958-08-19 04:47 J -12142506.38 -12142506.30 -12142506.22 0.0146 0.0125

Saturn -37957-09-26 07:40 J -12142102.21 -12142102.18 -12142102.14 0.0279 0.0269

Saturn -37957-12-23 23:45 J -12142013.64 -12142013.51 -12142013.37 0.0279 0.0151

Jupiter -37956-03-20 15:35 J -12141927.00 -12141926.85 -12141926.69 0.0524 0.0094

Saturn -37956-03-22 15:35 J -12141925.01 -12141924.85 -12141924.70 0.0278 0.0036

Saturn -37956-06-19 06:42 J -12141836.36 -12141836.22 -12141836.07 0.0278 0.0078

Saturn -37956-09-15 21:35 J -12141747.70 -12141747.60 -12141747.48 0.0278 0.0187

Moon -37955-04-10 18:14 J -12141540.84 -12141540.74 -12141540.65 0.2673 0.1741

Earth -37955-04-10 19:11 J -12141540.80 -12141540.70 -12141540.60 0.2672 0.1684 *

Venus -37954-05-23 09:50 J -12141133.13 -12141133.09 -12141133.05 0.3617 0.3381

Venus -37953-12-05 02:23 J -12140571.42 -12140571.40 -12140571.38 0.3752 0.3666

Mars -37952-05-26 15:35 J -12140398.90 -12140398.85 -12140398.80 0.1902 0.1751

Earth -37952-10-20 04:18 J -12140252.44 -12140252.32 -12140252.20 0.2664 0.0868

Moon -37952-10-20 04:47 J -12140252.42 -12140252.30 -12140252.18 0.2670 0.0869 *

Mars -37951-04-09 10:18 J -12140081.22 -12140081.07 -12140080.93 0.1629 0.0108

Jupiter -37951-08-08 23:59 J -12139959.60 -12139959.50 -12139959.41 0.0506 0.0375

Jupiter -37951-11-06 11:59 J -12139870.13 -12139870.00 -12139869.86 0.0502 0.0207

Earth -37949-04-20 08:09 J -12139339.24 -12139339.16 -12139339.09 0.2666 0.2226

Moon -37949-04-20 09:06 J -12139339.18 -12139339.12 -12139339.05 0.2668 0.2280 *

Venus -37949-12-06 05:16 J -12139109.39 -12139109.28 -12139109.16 0.3620 0.0430

Moon -37945-10-12 14:38 J -12137702.97 -12137702.89 -12137702.81 0.2661 0.2027

Earth -37945-10-12 15:35 J -12137702.93 -12137702.85 -12137702.76 0.2660 0.1914 *

Jupiter -37944-01-06 16:18 J -12137616.95 -12137616.82 -12137616.68 0.0523 0.0264

Jupiter -37944-04-06 12:42 J -12137527.05 -12137526.97 -12137526.89 0.0527 0.0440

Venus -37943-06-22 00:42 J -12137085.56 -12137085.47 -12137085.39 0.3624 0.2465

Mars -37943-10-16 19:54 J -12136968.79 -12136968.67 -12136968.55 0.1899 0.0790

Moon -37942-04-13 16:33 J -12136789.93 -12136789.81 -12136789.69 0.2674 0.0829

Earth -37942-04-13 17:16 J -12136789.90 -12136789.78 -12136789.65 0.2671 0.0706 *

Mars -37942-08-30 16:33 J -12136650.95 -12136650.81 -12136650.67 0.1631 0.0525

Saturn -37942-10-05 04:04 J -12136615.39 -12136615.33 -12136615.27 0.0280 0.0254

Saturn -37941-01-01 18:57 J -12136526.83 -12136526.71 -12136526.57 0.0280 0.0144

Saturn -37941-03-30 10:33 J -12136438.22 -12136438.06 -12136437.91 0.0280 0.0030

Saturn -37941-06-27 02:09 J -12136349.55 -12136349.41 -12136349.26 0.0280 0.0087

Saturn -37941-09-23 18:14 J -12136260.84 -12136260.74 -12136260.63 0.0281 0.0207

Jupiter -37939-08-25 14:38 J -12135560.04 -12135559.89 -12135559.75 0.0503 0.0061

Earth -37939-10-23 01:40 J -12135501.52 -12135501.43 -12135501.34 0.2666 0.1795

Moon -37939-10-23 02:38 J -12135501.48 -12135501.39 -12135501.30 0.2666 0.1875 *

Mars -37933-03-08 01:11 J -12133538.58 -12133538.45 -12133538.33 0.1895 0.0130

Jupiter -37933-10-25 15:50 J -12133306.91 -12133306.84 -12133306.76 0.0522 0.0450

Mars -37932-01-19 22:33 J -12133220.66 -12133220.56 -12133220.46 0.1634 0.1170

Jupiter -37932-01-23 12:42 J -12133217.11 -12133216.97 -12133216.84 0.0526 0.0257

Moon -37932-10-15 13:11 J -12132952.07 -12132951.95 -12132951.83 0.2666 0.0883

Earth -37932-10-15 13:54 J -12132952.04 -12132951.92 -12132951.80 0.2661 0.0903 *

Mars -37931-12-26 21:06 J -12132514.69 -12132514.62 -12132514.55 0.1624 0.1376

Moon -37929-04-15 15:35 J -12132038.98 -12132038.85 -12132038.72 0.2676 0.0378

Earth -37929-04-15 15:50 J -12132038.97 -12132038.84 -12132038.71 0.2669 0.0306 *

Saturn -37927-05-13 01:54 J -12131281.54 -12131281.42 -12131281.30 0.0279 0.0178

Jupiter -37927-06-13 17:02 J -12131249.93 -12131249.79 -12131249.64 0.0505 0.0084

Saturn -37927-08-09 17:45 J -12131192.91 -12131192.76 -12131192.61 0.0279 0.0062

Saturn -37927-11-06 09:06 J -12131104.27 -12131104.12 -12131103.97 0.0279 0.0053

Saturn -37926-02-03 00:14 J -12131015.61 -12131015.49 -12131015.37 0.0279 0.0163

Saturn -37926-05-02 14:52 J -12130926.91 -12130926.88 -12130926.85 0.0279 0.0271

Mars -37924-07-29 06:14 J -12130108.35 -12130108.24 -12130108.13 0.1891 0.0997

Moon -37922-04-09 01:54 J -12129489.45 -12129489.42 -12129489.38 0.2670 0.2541

Earth -37922-04-09 02:38 J -12129489.43 -12129489.39 -12129489.34 0.2674 0.2460 *

Mars -37921-05-18 03:50 J -12129084.46 -12129084.34 -12129084.21 0.1626 0.0789

Jupiter -37921-11-11 13:11 J -12128907.10 -12128906.95 -12128906.80 0.0525 0.0083

Uranus -37919-01-26 00:42 J -12128466.49 -12128466.47 -12128466.45 0.0133 0.0131

Uranus -37919-04-24 05:02 J -12128378.37 -12128378.29 -12128378.19 0.0133 0.0110

Uranus -37919-07-21 09:35 J -12128290.21 -12128290.10 -12128289.97 0.0133 0.0089

Uranus -37919-10-17 14:09 J -12128202.04 -12128201.91 -12128201.77 0.0133 0.0068

Earth -37919-10-18 11:59 J -12128201.13 -12128201.00 -12128200.88 0.2663 0.0109

Moon -37919-10-18 11:59 J -12128201.12 -12128201.00 -12128200.87 0.2669 0.0039 *

Uranus -37918-01-13 18:42 J -12128113.86 -12128113.72 -12128113.57 0.0133 0.0047

Uranus -37918-04-11 23:16 J -12128025.68 -12128025.53 -12128025.38 0.0133 0.0027

Uranus -37918-07-09 03:35 J -12127937.50 -12127937.35 -12127937.19 0.0133 0.0006

Uranus -37918-10-05 07:54 J -12127849.32 -12127849.17 -12127849.01 0.0133 0.0015

Uranus -37917-01-01 12:14 J -12127761.14 -12127760.99 -12127760.84 0.0133 0.0035

Uranus -37917-03-29 16:33 J -12127672.95 -12127672.81 -12127672.67 0.0133 0.0054

Uranus -37917-06-25 20:38 J -12127584.76 -12127584.64 -12127584.50 0.0133 0.0075

Uranus -37917-09-22 00:57 J -12127496.56 -12127496.46 -12127496.35 0.0133 0.0094

Uranus -37917-12-19 05:02 J -12127408.36 -12127408.29 -12127408.21 0.0133 0.0114

Earth -37916-04-18 14:23 J -12127288.01 -12127287.90 -12127287.78 0.2667 0.1346

Moon -37916-04-18 15:06 J -12127287.98 -12127287.87 -12127287.76 0.2672 0.1322 *

Jupiter -37915-04-01 19:54 J -12126939.80 -12126939.67 -12126939.54 0.0505 0.0223

Jupiter -37915-06-30 08:23 J -12126850.24 -12126850.15 -12126850.04 0.0502 0.0365

Mars -37915-12-19 11:45 J -12126678.03 -12126678.01 -12126677.98 0.1887 0.1849

Mars -37913-11-24 15:50 J -12125971.87 -12125971.84 -12125971.82 0.1902 0.1844

Saturn -37912-05-20 20:23 J -12125794.77 -12125794.65 -12125794.53 0.0279 0.0175

Saturn -37912-08-17 11:45 J -12125706.16 -12125706.01 -12125705.86 0.0280 0.0063

Mars -37912-10-08 10:33 J -12125654.20 -12125654.06 -12125653.92 0.1629 0.0182

Saturn -37912-11-14 03:21 J -12125617.51 -12125617.36 -12125617.21 0.0280 0.0053

Saturn -37911-02-10 19:11 J -12125528.82 -12125528.70 -12125528.57 0.0280 0.0171

Moon -37909-04-10 23:30 J -12124738.62 -12124738.52 -12124738.42 0.2673 0.1589

Earth -37909-04-11 00:42 J -12124738.58 -12124738.47 -12124738.37 0.2672 0.1508 *

Jupiter -37909-08-30 13:40 J -12124597.08 -12124596.93 -12124596.77 0.0524 0.0092

Venus -37907-06-12 05:59 J -12123946.34 -12123946.25 -12123946.16 0.3759 0.2451

Earth -37906-10-21 09:35 J -12123450.22 -12123450.10 -12123449.98 0.2664 0.1034

Moon -37906-10-21 10:18 J -12123450.19 -12123450.07 -12123449.96 0.2670 0.1140 *

Jupiter -37903-01-18 23:02 J -12122629.64 -12122629.54 -12122629.44 0.0506 0.0360

Mars -37903-04-16 20:09 J -12122541.77 -12122541.66 -12122541.54 0.1899 0.0896

Jupiter -37903-04-18 11:16 J -12122540.16 -12122540.03 -12122539.90 0.0502 0.0223

Earth -37903-04-21 13:40 J -12122536.99 -12122536.93 -12122536.88 0.2666 0.2416

Moon -37903-04-21 14:38 J -12122536.92 -12122536.89 -12122536.85 0.2668 0.2539 *

Mars -37902-02-28 16:47 J -12122223.94 -12122223.80 -12122223.66 0.1632 0.0443

Venus -37902-12-27 03:35 J -12121922.47 -12121922.35 -12121922.24 0.3755 0.1220

Moon -37899-10-13 20:09 J -12120900.76 -12120900.66 -12120900.57 0.2662 0.1796

Earth -37899-10-13 21:06 J -12120900.72 -12120900.62 -12120900.52 0.2660 0.1735 *

Saturn -37898-09-30 00:57 J -12120549.55 -12120549.46 -12120549.36 0.0279 0.0224

Saturn -37898-12-27 17:02 J -12120460.93 -12120460.79 -12120460.65 0.0279 0.0107

Venus -37898-12-28 08:23 J -12120460.24 -12120460.15 -12120460.06 0.3618 0.2248

Saturn -37897-03-25 08:38 J -12120372.30 -12120372.14 -12120371.99 0.0278 0.0009

Jupiter -37897-06-18 14:38 J -12120287.02 -12120286.89 -12120286.75 0.0523 0.0259

Saturn -37897-06-21 23:45 J -12120283.65 -12120283.51 -12120283.37 0.0278 0.0120

Jupiter -37897-09-16 11:02 J -12120197.12 -12120197.04 -12120196.96 0.0527 0.0445

Saturn -37897-09-18 14:38 J -12120194.97 -12120194.89 -12120194.81 0.0278 0.0229

Moon -37896-04-13 22:04 J -12119987.70 -12119987.58 -12119987.45 0.2676 0.0535

Earth -37896-04-13 22:47 J -12119987.68 -12119987.55 -12119987.42 0.2670 0.0528 *

Mars -37894-09-07 01:11 J -12119111.58 -12119111.45 -12119111.33 0.1895 0.0062

Mars -37893-07-20 23:02 J -12118793.65 -12118793.54 -12118793.43 0.1635 0.1083

Neptune -37893-10-17 03:50 J -12118705.39 -12118705.34 -12118705.29 0.0088 0.0084

Earth -37893-10-23 06:57 J -12118699.29 -12118699.21 -12118699.12 0.2666 0.1964

Moon -37893-10-23 08:09 J -12118699.25 -12118699.16 -12118699.08 0.2666 0.1999 *

Neptune -37892-01-13 05:59 J -12118617.32 -12118617.25 -12118617.15 0.0088 0.0076

Neptune -37892-04-11 08:38 J -12118529.23 -12118529.14 -12118529.02 0.0088 0.0068

Neptune -37892-07-08 11:02 J -12118441.15 -12118441.04 -12118440.90 0.0088 0.0061

Venus -37892-07-13 03:50 J -12118436.46 -12118436.34 -12118436.22 0.3621 0.0686

Neptune -37892-10-04 13:40 J -12118353.06 -12118352.93 -12118352.79 0.0088 0.0053

Jupiter -37892-11-07 01:40 J -12118319.44 -12118319.43 -12118319.42 0.0507 0.0503

Neptune -37892-12-31 16:18 J -12118264.96 -12118264.82 -12118264.68 0.0088 0.0045

Jupiter -37891-02-04 13:26 J -12118230.08 -12118229.94 -12118229.79 0.0503 0.0076

Neptune -37891-03-29 18:28 J -12118176.87 -12118176.73 -12118176.57 0.0088 0.0038

Neptune -37891-06-25 21:06 J -12118088.77 -12118088.62 -12118088.46 0.0088 0.0029

Mars -37891-06-26 21:21 J -12118087.67 -12118087.61 -12118087.55 0.1624 0.1455

Neptune -37891-09-21 23:30 J -12118000.68 -12118000.52 -12118000.35 0.0088 0.0022

Neptune -37891-12-19 01:54 J -12117912.58 -12117912.42 -12117912.25 0.0088 0.0014

Neptune -37890-03-17 04:33 J -12117824.48 -12117824.31 -12117824.15 0.0088 0.0007

Neptune -37890-06-13 06:57 J -12117736.38 -12117736.21 -12117736.05 0.0088 0.0002

Neptune -37890-09-09 09:06 J -12117648.28 -12117648.12 -12117647.95 0.0088 0.0009

Neptune -37890-12-06 11:30 J -12117560.18 -12117560.02 -12117559.85 0.0088 0.0016

Neptune -37889-03-03 13:40 J -12117472.08 -12117471.93 -12117471.76 0.0088 0.0025

Neptune -37889-05-30 16:04 J -12117383.97 -12117383.83 -12117383.67 0.0088 0.0032

Neptune -37889-08-26 18:28 J -12117295.87 -12117295.73 -12117295.58 0.0088 0.0039

Neptune -37889-11-22 20:52 J -12117207.76 -12117207.63 -12117207.49 0.0088 0.0046

Neptune -37888-02-18 23:16 J -12117119.66 -12117119.53 -12117119.40 0.0088 0.0054

Neptune -37888-05-18 01:11 J -12117031.55 -12117031.45 -12117031.32 0.0088 0.0062

Neptune -37888-08-14 03:35 J -12116943.44 -12116943.35 -12116943.24 0.0088 0.0069

Neptune -37888-11-10 05:59 J -12116855.32 -12116855.25 -12116855.16 0.0088 0.0076

Neptune -37887-02-06 08:09 J -12116767.20 -12116767.16 -12116767.09 0.0088 0.0083

Venus -37886-01-26 23:02 J -12116412.56 -12116412.54 -12116412.52 0.3625 0.3535

Moon -37886-10-16 18:42 J -12116149.84 -12116149.72 -12116149.60 0.2667 0.0833

Earth -37886-10-16 19:26 J -12116149.82 -12116149.69 -12116149.57 0.2662 0.0726 *

Jupiter -37885-04-06 15:21 J -12115976.95 -12115976.86 -12115976.77 0.0522 0.0429

Jupiter -37885-07-05 12:14 J -12115887.12 -12115886.99 -12115886.86 0.0526 0.0280

Mars -37884-01-27 06:14 J -12115681.35 -12115681.24 -12115681.13 0.1891 0.0915

Moon -37883-04-16 21:06 J -12115236.75 -12115236.62 -12115236.49 0.2676 0.0407

Earth -37883-04-16 21:06 J -12115236.74 -12115236.62 -12115236.49 0.2669 0.0495 *

Saturn -37883-10-07 20:09 J -12115062.75 -12115062.66 -12115062.57 0.0280 0.0218

Saturn -37882-01-04 11:16 J -12114974.17 -12114974.03 -12114973.89 0.0280 0.0106

Saturn -37882-04-03 02:38 J -12114885.54 -12114885.39 -12114885.23 0.0280 0.0010

Saturn -37882-06-30 18:28 J -12114796.87 -12114796.73 -12114796.59 0.0280 0.0126

Saturn -37882-09-27 10:47 J -12114708.12 -12114708.05 -12114707.98 0.0281 0.0246

Mars -37882-11-17 04:18 J -12114657.44 -12114657.32 -12114657.20 0.1626 0.0873

Jupiter -37880-11-23 16:04 J -12113919.97 -12113919.83 -12113919.68 0.0504 0.0070

Uranus -37876-04-09 04:18 J -12112687.35 -12112687.32 -12112687.29 0.0145 0.0142

Moon -37876-04-09 07:11 J -12112687.26 -12112687.20 -12112687.14 0.2671 0.2290

Earth -37876-04-09 08:09 J -12112687.23 -12112687.16 -12112687.10 0.2673 0.2294 *

Uranus -37876-07-06 09:35 J -12112599.19 -12112599.10 -12112599.00 0.0146 0.0116

Uranus -37876-10-02 14:52 J -12112511.00 -12112510.88 -12112510.75 0.0146 0.0090

Uranus -37876-12-29 20:23 J -12112422.79 -12112422.65 -12112422.51 0.0146 0.0063

Uranus -37875-03-28 01:54 J -12112334.57 -12112334.42 -12112334.27 0.0146 0.0036

Mars -37875-06-19 11:59 J -12112251.04 -12112251.00 -12112250.95 0.1887 0.1752

Uranus -37875-06-24 07:26 J -12112246.35 -12112246.19 -12112246.03 0.0146 0.0009

Uranus -37875-09-20 12:57 J -12112158.12 -12112157.96 -12112157.80 0.0146 0.0018

Uranus -37875-12-17 18:28 J -12112069.88 -12112069.73 -12112069.58 0.0146 0.0046

Uranus -37874-03-15 23:59 J -12111981.63 -12111981.50 -12111981.35 0.0146 0.0074

Uranus -37874-06-12 05:45 J -12111893.37 -12111893.26 -12111893.14 0.0146 0.0102

Uranus -37874-09-08 11:45 J -12111805.08 -12111805.01 -12111804.94 0.0146 0.0130

Jupiter -37873-04-23 12:14 J -12111577.15 -12111576.99 -12111576.84 0.0525 0.0098

Earth -37873-10-18 17:16 J -12111398.91 -12111398.78 -12111398.65 0.2663 0.0253

Moon -37873-10-18 17:30 J -12111398.90 -12111398.77 -12111398.65 0.2670 0.0346 *

Mars -37872-04-08 11:02 J -12111227.19 -12111227.04 -12111226.90 0.1629 0.0276

Earth -37870-04-19 20:09 J -12110485.77 -12110485.66 -12110485.56 0.2667 0.1534

Moon -37870-04-19 20:52 J -12110485.73 -12110485.63 -12110485.53 0.2672 0.1676 *

Saturn -37868-02-16 02:38 J -12109817.45 -12109817.39 -12109817.32 0.0280 0.0255

Saturn -37868-05-15 18:42 J -12109728.85 -12109728.72 -12109728.58 0.0280 0.0137

Saturn -37868-08-12 10:33 J -12109640.22 -12109640.06 -12109639.91 0.0279 0.0021

Jupiter -37868-09-11 18:28 J -12109609.86 -12109609.73 -12109609.60 0.0506 0.0216

Saturn -37868-11-09 01:54 J -12109551.57 -12109551.42 -12109551.28 0.0279 0.0093

Jupiter -37868-12-10 06:57 J -12109520.30 -12109520.21 -12109520.10 0.0502 0.0372

Saturn -37867-02-05 16:33 J -12109462.90 -12109462.81 -12109462.70 0.0279 0.0204

Earth -37866-10-12 04:04 J -12108849.36 -12108849.33 -12108849.30 0.2659 0.2587

Mars -37864-10-15 20:23 J -12108114.76 -12108114.65 -12108114.54 0.1898 0.0992

Moon -37863-04-12 05:02 J -12107936.40 -12107936.29 -12107936.18 0.2673 0.1415

Earth -37863-04-12 05:59 J -12107936.36 -12107936.25 -12107936.14 0.2672 0.1334 *

Mars -37863-08-29 17:16 J -12107796.92 -12107796.78 -12107796.64 0.1632 0.0354

Jupiter -37861-02-10 12:28 J -12107267.13 -12107266.98 -12107266.82 0.0524 0.0079

Earth -37860-10-21 14:52 J -12106647.99 -12106647.88 -12106647.77 0.2665 0.1205

Moon -37860-10-21 15:35 J -12106647.96 -12106647.85 -12106647.73 0.2669 0.1194 *

Earth -37857-04-21 19:11 J -12105734.72 -12105734.70 -12105734.68 0.2665 0.2608

Moon -37857-04-21 20:09 J -12105734.67 -12105734.66 -12105734.64 0.2667 0.2633

Pluto -37857-10-16 03:35 J -12105557.40 -12105557.35 -12105557.29 0.0067 0.0062

Pluto -37856-01-12 04:33 J -12105469.38 -12105469.31 -12105469.21 0.0067 0.0057

Pluto -37856-04-10 06:14 J -12105381.35 -12105381.24 -12105381.13 0.0067 0.0051

Jupiter -37856-06-30 21:21 J -12105299.71 -12105299.61 -12105299.50 0.0506 0.0355

Pluto -37856-07-07 07:11 J -12105293.31 -12105293.20 -12105293.07 0.0067 0.0046

Jupiter -37856-09-28 09:50 J -12105210.22 -12105210.09 -12105209.96 0.0503 0.0230

Pluto -37856-10-03 08:52 J -12105205.27 -12105205.13 -12105205.00 0.0067 0.0040

Pluto -37856-12-30 09:50 J -12105117.22 -12105117.09 -12105116.94 0.0067 0.0035

Pluto -37855-03-28 11:16 J -12105029.18 -12105029.03 -12105028.87 0.0067 0.0029

Pluto -37855-06-24 12:28 J -12104941.13 -12104940.98 -12104940.81 0.0067 0.0024

Pluto -37855-09-20 13:54 J -12104853.08 -12104852.92 -12104852.75 0.0067 0.0018

Pluto -37855-12-17 15:21 J -12104765.02 -12104764.86 -12104764.69 0.0068 0.0013

Mars -37854-03-08 01:11 J -12104684.58 -12104684.45 -12104684.32 0.1895 0.0075

Pluto -37854-03-15 16:47 J -12104676.97 -12104676.80 -12104676.63 0.0068 0.0007

Pluto -37854-06-11 18:14 J -12104588.91 -12104588.74 -12104588.58 0.0068 0.0002

Pluto -37854-09-07 19:26 J -12104500.86 -12104500.69 -12104500.52 0.0068 0.0005

Pluto -37854-12-04 20:52 J -12104412.80 -12104412.63 -12104412.46 0.0068 0.0011

Mars -37853-01-19 23:16 J -12104366.64 -12104366.53 -12104366.41 0.1635 0.0991

Saturn -37853-02-24 21:50 J -12104330.66 -12104330.59 -12104330.52 0.0279 0.0246

Pluto -37853-03-01 22:04 J -12104324.74 -12104324.58 -12104324.41 0.0068 0.0017

Saturn -37853-05-23 12:57 J -12104242.10 -12104241.96 -12104241.83 0.0279 0.0136

Pluto -37853-05-28 23:30 J -12104236.67 -12104236.52 -12104236.35 0.0068 0.0023

Saturn -37853-08-20 04:18 J -12104153.48 -12104153.32 -12104153.17 0.0280 0.0024

Pluto -37853-08-25 01:11 J -12104148.61 -12104148.45 -12104148.30 0.0068 0.0029

Moon -37853-10-14 01:40 J -12104098.54 -12104098.43 -12104098.33 0.2663 0.1628

Earth -37853-10-14 02:38 J -12104098.50 -12104098.39 -12104098.29 0.2660 0.1555 *

Saturn -37853-11-16 19:54 J -12104064.82 -12104064.67 -12104064.52 0.0280 0.0094

Pluto -37853-11-21 02:38 J -12104060.54 -12104060.39 -12104060.25 0.0068 0.0035

Saturn -37852-02-13 11:59 J -12103976.10 -12103976.00 -12103975.90 0.0280 0.0212

Pluto -37852-02-17 04:04 J -12103972.47 -12103972.33 -12103972.20 0.0068 0.0041

Pluto -37852-05-16 05:02 J -12103884.39 -12103884.29 -12103884.15 0.0069 0.0048

Pluto -37852-08-12 06:28 J -12103796.32 -12103796.23 -12103796.10 0.0069 0.0054

Pluto -37852-11-08 07:54 J -12103708.23 -12103708.17 -12103708.07 0.0069 0.0060

Mars -37852-12-25 21:35 J -12103660.64 -12103660.60 -12103660.55 0.1624 0.1539

Pluto -37851-02-04 09:35 J -12103620.13 -12103620.10 -12103620.04 0.0069 0.0066

Venus -37850-01-17 04:47 J -12103273.41 -12103273.30 -12103273.18 0.3758 0.1160

Moon -37850-04-15 03:50 J -12103185.47 -12103185.34 -12103185.22 0.2676 0.0413

Earth -37850-04-15 04:18 J -12103185.45 -12103185.32 -12103185.19 0.2670 0.0346 *

Jupiter -37850-11-29 12:42 J -12102957.10 -12102956.97 -12102956.83 0.0523 0.0256

Jupiter -37849-02-27 09:06 J -12102867.20 -12102867.12 -12102867.04 0.0527 0.0447

Earth -37847-10-24 12:14 J -12101897.06 -12101896.99 -12101896.91 0.2666 0.2125

Moon -37847-10-24 13:11 J -12101897.01 -12101896.95 -12101896.88 0.2666 0.2242 *

Mars -37845-07-28 06:28 J -12101254.34 -12101254.23 -12101254.11 0.1891 0.0818

Venus -37845-08-02 02:38 J -12101249.48 -12101249.39 -12101249.31 0.3754 0.2582

Jupiter -37844-04-19 00:28 J -12100989.51 -12100989.48 -12100989.44 0.0507 0.0491

Jupiter -37844-07-17 12:28 J -12100900.12 -12100899.98 -12100899.83 0.0503 0.0090

Mars -37842-05-18 04:33 J -12100230.42 -12100230.31 -12100230.19 0.1626 0.0955

Venus -37841-08-03 06:42 J -12099787.33 -12099787.22 -12099787.10 0.3619 0.1146

Moon -37840-10-17 00:14 J -12099347.61 -12099347.49 -12099347.36 0.2668 0.0552

Earth -37840-10-17 00:42 J -12099347.59 -12099347.47 -12099347.34 0.2662 0.0552 *

Saturn -37839-10-02 17:59 J -12098996.86 -12098996.75 -12098996.63 0.0279 0.0181

Saturn -37839-12-30 09:50 J -12098908.24 -12098908.09 -12098907.94 0.0279 0.0064

Saturn -37838-03-29 01:26 J -12098819.59 -12098819.44 -12098819.29 0.0279 0.0050

Saturn -37838-06-25 16:33 J -12098730.94 -12098730.81 -12098730.69 0.0278 0.0162

Jupiter -37838-09-17 13:40 J -12098647.02 -12098646.93 -12098646.84 0.0522 0.0424

Saturn -37838-09-22 06:57 J -12098642.23 -12098642.21 -12098642.17 0.0278 0.0270

Jupiter -37838-12-16 10:18 J -12098557.19 -12098557.07 -12098556.94 0.0526 0.0284

Moon -37837-04-17 02:52 J -12098434.51 -12098434.38 -12098434.26 0.2675 0.0739

Earth -37837-04-17 02:52 J -12098434.51 -12098434.38 -12098434.26 0.2668 0.0678 *

Mars -37836-12-18 11:59 J -12097824.06 -12097824.00 -12097823.95 0.1887 0.1678

Uranus -37835-02-15 07:11 J -12097765.24 -12097765.20 -12097765.15 0.0133 0.0127

Venus -37835-02-17 02:09 J -12097763.51 -12097763.41 -12097763.30 0.3622 0.1781

Uranus -37835-05-14 11:45 J -12097677.09 -12097677.01 -12097676.91 0.0133 0.0106

Uranus -37835-08-10 16:18 J -12097588.93 -12097588.82 -12097588.69 0.0133 0.0085

Uranus -37835-11-06 20:52 J -12097500.76 -12097500.63 -12097500.48 0.0133 0.0064

Uranus -37834-02-03 01:26 J -12097412.59 -12097412.44 -12097412.29 0.0133 0.0043

Uranus -37834-05-02 05:45 J -12097324.41 -12097324.26 -12097324.10 0.0133 0.0023

Uranus -37834-07-29 10:18 J -12097236.23 -12097236.07 -12097235.91 0.0133 0.0002

Uranus -37834-10-25 14:38 J -12097148.04 -12097147.89 -12097147.73 0.0133 0.0019

Uranus -37833-01-21 18:57 J -12097059.86 -12097059.71 -12097059.56 0.0133 0.0039

Uranus -37833-04-18 23:16 J -12096971.67 -12096971.53 -12096971.39 0.0133 0.0059

Uranus -37833-07-16 03:21 J -12096883.48 -12096883.36 -12096883.23 0.0133 0.0079

Mars -37833-10-07 11:16 J -12096800.17 -12096800.03 -12096799.89 0.1629 0.0356

Uranus -37833-10-12 07:40 J -12096795.28 -12096795.18 -12096795.08 0.0133 0.0098

Uranus -37832-01-08 11:45 J -12096707.07 -12096707.01 -12096706.94 0.0132 0.0118

Jupiter -37832-05-05 14:52 J -12096590.02 -12096589.88 -12096589.73 0.0504 0.0059

Moon -37830-04-10 12:28 J -12095885.05 -12095884.98 -12095884.91 0.2671 0.2261

Earth -37830-04-10 13:26 J -12095885.01 -12095884.94 -12095884.86 0.2673 0.2120 *

Earth -37827-10-19 22:33 J -12094596.68 -12094596.56 -12094596.43 0.2663 0.0431

Moon -37827-10-19 22:47 J -12094596.67 -12094596.55 -12094596.42 0.2670 0.0384 *

Jupiter -37826-10-04 11:30 J -12094247.17 -12094247.02 -12094246.87 0.0525 0.0118

Mars -37824-04-15 20:23 J -12093687.75 -12093687.65 -12093687.54 0.1898 0.1076

Earth -37824-04-20 01:26 J -12093683.53 -12093683.44 -12093683.34 0.2667 0.1723

Moon -37824-04-20 02:23 J -12093683.50 -12093683.40 -12093683.30 0.2671 0.1704 *

Saturn -37824-10-10 12:14 J -12093510.10 -12093509.99 -12093509.87 0.0280 0.0181

Saturn -37823-01-07 03:21 J -12093421.50 -12093421.36 -12093421.21 0.0280 0.0069

Mars -37823-02-27 17:45 J -12093369.91 -12093369.76 -12093369.62 0.1632 0.0259

Saturn -37823-04-05 18:57 J -12093332.86 -12093332.71 -12093332.56 0.0280 0.0047

Saturn -37823-07-03 10:47 J -12093244.17 -12093244.05 -12093243.92 0.0280 0.0165

Jupiter -37820-02-21 17:30 J -12092279.90 -12092279.77 -12092279.63 0.0505 0.0201

Jupiter -37820-05-22 06:14 J -12092190.34 -12092190.24 -12092190.15 0.0502 0.0386

Moon -37820-10-12 08:23 J -12092047.20 -12092047.15 -12092047.09 0.2658 0.2413

Earth -37820-10-12 09:35 J -12092047.15 -12092047.10 -12092047.05 0.2659 0.2403 *

Moon -37817-04-12 10:33 J -12091134.18 -12091134.06 -12091133.95 0.2673 0.1194

Earth -37817-04-12 11:30 J -12091134.14 -12091134.02 -12091133.91 0.2671 0.1162 *

Mars -37815-09-06 01:26 J -12090257.56 -12090257.44 -12090257.31 0.1895 0.0176

Mars -37814-07-20 23:45 J -12089939.63 -12089939.51 -12089939.39 0.1635 0.0901

Jupiter -37814-07-23 11:30 J -12089937.17 -12089937.02 -12089936.86 0.0524 0.0063

Earth -37814-10-22 20:09 J -12089845.76 -12089845.66 -12089845.55 0.2665 0.1375

Moon -37814-10-22 21:06 J -12089845.72 -12089845.62 -12089845.52 0.2668 0.1512 *

Neptune -37811-04-16 19:11 J -12088938.73 -12088938.70 -12088938.63 0.0089 0.0083

Neptune -37811-07-13 21:06 J -12088850.68 -12088850.62 -12088850.53 0.0089 0.0076

Neptune -37811-10-09 23:02 J -12088762.62 -12088762.54 -12088762.44 0.0089 0.0069

Neptune -37810-01-06 00:57 J -12088674.56 -12088674.46 -12088674.35 0.0089 0.0062

Neptune -37810-04-04 02:52 J -12088586.49 -12088586.38 -12088586.26 0.0089 0.0055

Neptune -37810-07-01 04:47 J -12088498.42 -12088498.30 -12088498.17 0.0089 0.0048

Neptune -37810-09-27 06:42 J -12088410.35 -12088410.22 -12088410.09 0.0089 0.0041

Neptune -37810-12-24 08:38 J -12088322.28 -12088322.14 -12088322.00 0.0089 0.0034

Saturn -37809-02-19 19:26 J -12088264.79 -12088264.69 -12088264.59 0.0280 0.0213

Neptune -37809-03-21 10:33 J -12088234.20 -12088234.06 -12088233.92 0.0089 0.0027

Saturn -37809-05-18 11:30 J -12088176.17 -12088176.02 -12088175.87 0.0280 0.0095

Neptune -37809-06-17 12:28 J -12088146.13 -12088145.98 -12088145.84 0.0089 0.0020

Saturn -37809-08-15 03:06 J -12088087.52 -12088087.37 -12088087.22 0.0280 0.0021

Neptune -37809-09-13 14:23 J -12088058.05 -12088057.90 -12088057.75 0.0089 0.0013

Saturn -37809-11-11 18:14 J -12087998.87 -12087998.74 -12087998.60 0.0279 0.0134

Neptune -37809-12-10 16:18 J -12087969.97 -12087969.82 -12087969.67 0.0089 0.0006

Jupiter -37809-12-10 19:54 J -12087969.77 -12087969.67 -12087969.56 0.0507 0.0348 *

Saturn -37808-02-08 09:06 J -12087910.19 -12087910.12 -12087910.04 0.0279 0.0243

Neptune -37808-03-08 18:14 J -12087881.89 -12087881.74 -12087881.59 0.0089 0.0002

Jupiter -37808-03-10 08:23 J -12087880.28 -12087880.15 -12087880.02 0.0503 0.0237

Neptune -37808-06-04 20:09 J -12087793.81 -12087793.66 -12087793.51 0.0089 0.0008

Neptune -37808-08-31 22:04 J -12087705.73 -12087705.58 -12087705.43 0.0089 0.0015

Neptune -37808-11-27 23:45 J -12087617.65 -12087617.51 -12087617.35 0.0089 0.0023

Neptune -37807-02-24 01:54 J -12087529.56 -12087529.42 -12087529.28 0.0089 0.0030

Neptune -37807-05-23 03:50 J -12087441.47 -12087441.34 -12087441.20 0.0089 0.0037

Neptune -37807-08-19 05:45 J -12087353.39 -12087353.26 -12087353.12 0.0089 0.0045

Moon -37807-10-15 06:57 J -12087296.31 -12087296.21 -12087296.10 0.2663 0.1465

Earth -37807-10-15 07:54 J -12087296.28 -12087296.17 -12087296.06 0.2660 0.1377 *

Neptune -37807-11-15 07:40 J -12087265.29 -12087265.18 -12087265.05 0.0089 0.0052

Neptune -37806-02-11 09:35 J -12087177.20 -12087177.10 -12087176.97 0.0089 0.0059

Neptune -37806-05-10 11:45 J -12087089.11 -12087089.01 -12087088.90 0.0089 0.0066

Neptune -37806-08-06 13:26 J -12087001.00 -12087000.94 -12087000.84 0.0089 0.0074

Neptune -37806-11-02 15:35 J -12086912.90 -12086912.85 -12086912.78 0.0089 0.0081

Mars -37805-01-27 06:42 J -12086827.34 -12086827.22 -12086827.11 0.1891 0.0731

Neptune -37805-01-29 17:45 J -12086824.77 -12086824.76 -12086824.74 0.0089 0.0088

Mars -37805-12-10 05:30 J -12086509.31 -12086509.27 -12086509.23 0.1638 0.1560

Moon -37804-04-15 09:06 J -12086383.25 -12086383.12 -12086382.99 0.2676 0.0205

Earth -37804-04-15 09:35 J -12086383.23 -12086383.10 -12086382.97 0.2670 0.0183 *

Mars -37803-11-16 04:47 J -12085803.41 -12085803.30 -12085803.19 0.1626 0.1040

Jupiter -37802-05-11 11:45 J -12085627.15 -12085627.01 -12085626.87 0.0522 0.0240

Jupiter -37802-08-09 07:54 J -12085537.24 -12085537.17 -12085537.09 0.0526 0.0460

Earth -37801-10-24 17:30 J -12085094.83 -12085094.77 -12085094.70 0.2667 0.2293

Moon -37801-10-24 18:28 J -12085094.79 -12085094.73 -12085094.66 0.2666 0.2302 *

Venus -37799-02-07 06:28 J -12084624.28 -12084624.23 -12084624.19 0.3761 0.3451

Jupiter -37797-09-28 23:02 J -12083659.58 -12083659.54 -12083659.50 0.0508 0.0486

Jupiter -37797-12-27 11:02 J -12083570.19 -12083570.04 -12083569.90 0.0504 0.0095

Mars -37796-06-18 12:14 J -12083397.06 -12083396.99 -12083396.92 0.1887 0.1581

Saturn -37794-02-27 14:23 J -12082778.00 -12082777.90 -12082777.80 0.0279 0.0206

Saturn -37794-05-27 05:30 J -12082689.42 -12082689.27 -12082689.13 0.0279 0.0095

Saturn -37794-08-23 20:52 J -12082600.79 -12082600.63 -12082600.48 0.0279 0.0019

Venus -37794-08-24 03:50 J -12082600.46 -12082600.34 -12082600.22 0.3757 0.0170

Moon -37794-10-18 05:59 J -12082545.38 -12082545.25 -12082545.13 0.2669 0.0410

Earth -37794-10-18 06:14 J -12082545.37 -12082545.24 -12082545.12 0.2662 0.0384 *

Saturn -37794-11-20 12:28 J -12082512.11 -12082511.98 -12082511.84 0.0280 0.0136

Saturn -37793-02-17 04:47 J -12082423.36 -12082423.30 -12082423.24 0.0280 0.0255

Mars -37793-04-07 11:30 J -12082373.16 -12082373.02 -12082372.88 0.1629 0.0441

Uranus -37792-04-29 10:47 J -12081986.09 -12081986.05 -12081985.99 0.0145 0.0137

Uranus -37792-07-26 16:04 J -12081897.92 -12081897.83 -12081897.72 0.0146 0.0112

Uranus -37792-10-22 21:35 J -12081809.72 -12081809.60 -12081809.47 0.0146 0.0085

Uranus -37791-01-19 02:52 J -12081721.51 -12081721.38 -12081721.23 0.0146 0.0059

Uranus -37791-04-17 08:23 J -12081633.30 -12081633.15 -12081632.99 0.0146 0.0032

Earth -37791-04-18 08:23 J -12081632.28 -12081632.15 -12081632.03 0.2668 0.0864

Moon -37791-04-18 08:38 J -12081632.26 -12081632.14 -12081632.02 0.2674 0.0853 *

Uranus -37791-07-14 14:09 J -12081545.07 -12081544.91 -12081544.76 0.0146 0.0006

Uranus -37791-10-10 19:40 J -12081456.84 -12081456.68 -12081456.53 0.0146 0.0023

Uranus -37790-01-07 01:11 J -12081368.60 -12081368.45 -12081368.30 0.0146 0.0051

Jupiter -37790-02-27 11:45 J -12081317.10 -12081317.01 -12081316.91 0.0522 0.0421

Uranus -37790-04-05 06:42 J -12081280.35 -12081280.22 -12081280.08 0.0146 0.0079

Jupiter -37790-05-28 08:38 J -12081227.27 -12081227.14 -12081227.01 0.0526 0.0287

Uranus -37790-07-02 12:14 J -12081192.08 -12081191.99 -12081191.87 0.0146 0.0107

Venus -37790-08-25 09:35 J -12081138.16 -12081138.10 -12081138.03 0.3616 0.3006

Uranus -37790-09-28 18:14 J -12081103.79 -12081103.74 -12081103.68 0.0146 0.0135

Mars -37785-10-14 20:38 J -12079260.74 -12079260.64 -12079260.53 0.1898 0.1177

Jupiter -37785-10-15 13:54 J -12079260.07 -12079259.92 -12079259.78 0.0505 0.0044

Venus -37784-03-10 05:16 J -12079114.40 -12079114.28 -12079114.16 0.3620 0.0029

Moon -37784-04-10 17:45 J -12079082.84 -12079082.76 -12079082.67 0.2671 0.1942

Earth -37784-04-10 18:42 J -12079082.80 -12079082.72 -12079082.63 0.2673 0.1957 *

Mars -37784-08-28 17:59 J -12078942.90 -12078942.75 -12078942.61 0.1632 0.0178

Earth -37781-10-20 04:04 J -12077794.46 -12077794.33 -12077794.21 0.2664 0.0600

Moon -37781-10-20 04:18 J -12077794.44 -12077794.32 -12077794.20 0.2670 0.0677 *

Saturn -37780-07-08 18:42 J -12077532.77 -12077532.72 -12077532.66 0.0279 0.0258

Saturn -37780-10-05 11:02 J -12077444.18 -12077444.04 -12077443.91 0.0279 0.0138

Saturn -37779-01-02 02:38 J -12077355.54 -12077355.39 -12077355.23 0.0279 0.0023

Saturn -37779-03-31 17:59 J -12077266.89 -12077266.75 -12077266.60 0.0279 0.0092

Saturn -37779-06-28 09:06 J -12077178.22 -12077178.12 -12077178.02 0.0279 0.0202

Venus -37779-09-24 00:42 J -12077090.54 -12077090.47 -12077090.40 0.3623 0.2860

Jupiter -37778-03-16 09:50 J -12076917.24 -12076917.09 -12076916.94 0.0525 0.0122

Earth -37778-04-21 07:11 J -12076881.29 -12076881.20 -12076881.11 0.2666 0.1913

Moon -37778-04-21 07:54 J -12076881.25 -12076881.17 -12076881.08 0.2671 0.2063 *

Mars -37775-03-07 01:26 J -12075830.57 -12075830.44 -12075830.31 0.1894 0.0251

Mars -37774-01-18 23:59 J -12075512.62 -12075512.50 -12075512.37 0.1635 0.0813

Moon -37774-10-13 13:54 J -12075244.97 -12075244.92 -12075244.86 0.2659 0.2376

Earth -37774-10-13 15:06 J -12075244.94 -12075244.87 -12075244.80 0.2659 0.2216 *

Jupiter -37773-08-03 16:33 J -12074949.95 -12074949.81 -12074949.68 0.0505 0.0189

Jupiter -37773-11-01 05:02 J -12074860.38 -12074860.29 -12074860.20 0.0502 0.0398

Moon -37771-04-13 16:04 J -12074331.95 -12074331.83 -12074331.72 0.2675 0.1111

Earth -37771-04-13 16:47 J -12074331.92 -12074331.80 -12074331.68 0.2671 0.0985 *

Pluto -37770-03-02 01:40 J -12074009.48 -12074009.43 -12074009.37 0.0078 0.0072

Pluto -37770-05-29 03:06 J -12073921.45 -12073921.37 -12073921.28 0.0077 0.0064

Pluto -37770-08-25 04:18 J -12073833.41 -12073833.32 -12073833.20 0.0077 0.0056

Pluto -37770-11-21 05:45 J -12073745.36 -12073745.26 -12073745.13 0.0077 0.0049

Pluto -37769-02-17 07:26 J -12073657.31 -12073657.19 -12073657.06 0.0077 0.0040

Pluto -37769-05-15 08:38 J -12073569.26 -12073569.14 -12073568.99 0.0077 0.0033

Pluto -37769-08-11 10:18 J -12073481.21 -12073481.07 -12073480.93 0.0077 0.0025

Pluto -37769-11-07 11:30 J -12073393.16 -12073393.02 -12073392.87 0.0077 0.0018

Pluto -37768-02-03 12:57 J -12073305.10 -12073304.96 -12073304.81 0.0076 0.0010

Pluto -37768-05-02 14:23 J -12073217.05 -12073216.90 -12073216.75 0.0076 0.0003

Pluto -37768-07-29 15:50 J -12073128.99 -12073128.84 -12073128.69 0.0076 0.0005

Earth -37768-10-23 01:40 J -12073043.54 -12073043.43 -12073043.33 0.2665 0.1542

Moon -37768-10-23 02:38 J -12073043.50 -12073043.39 -12073043.29 0.2668 0.1534 *

Pluto -37768-10-25 17:02 J -12073040.93 -12073040.79 -12073040.64 0.0076 0.0012

Pluto -37767-01-21 18:28 J -12072952.88 -12072952.73 -12072952.59 0.0076 0.0019

Pluto -37767-04-19 19:26 J -12072864.82 -12072864.69 -12072864.54 0.0076 0.0027

Pluto -37767-07-16 20:52 J -12072776.76 -12072776.63 -12072776.49 0.0076 0.0033

Pluto -37767-10-12 22:04 J -12072688.70 -12072688.58 -12072688.45 0.0076 0.0041

Jupiter -37766-01-02 10:33 J -12072607.21 -12072607.06 -12072606.90 0.0524 0.0049

Pluto -37766-01-08 23:16 J -12072600.63 -12072600.53 -12072600.40 0.0075 0.0048

Pluto -37766-04-07 00:28 J -12072512.57 -12072512.48 -12072512.36 0.0075 0.0055

Pluto -37766-07-04 01:40 J -12072424.50 -12072424.43 -12072424.33 0.0075 0.0061

Mars -37766-07-28 06:42 J -12072400.34 -12072400.22 -12072400.10 0.1891 0.0639

Pluto -37766-09-30 02:52 J -12072336.42 -12072336.38 -12072336.30 0.0075 0.0068

Pluto -37766-12-27 04:18 J -12072248.33 -12072248.32 -12072248.30 0.0075 0.0074

Mars -37765-06-10 05:59 J -12072082.31 -12072082.25 -12072082.19 0.1638 0.1465

Saturn -37765-07-16 13:40 J -12072045.99 -12072045.93 -12072045.86 0.0279 0.0251

Saturn -37765-10-13 04:33 J -12071957.43 -12071957.31 -12071957.17 0.0279 0.0142

Saturn -37764-01-09 19:54 J -12071868.82 -12071868.67 -12071868.51 0.0280 0.0029

Saturn -37764-04-08 11:30 J -12071780.16 -12071780.02 -12071779.87 0.0280 0.0088

Saturn -37764-07-06 03:35 J -12071691.45 -12071691.35 -12071691.24 0.0280 0.0207

Mars -37763-05-17 05:16 J -12071376.38 -12071376.28 -12071376.18 0.1627 0.1126

Jupiter -37761-05-22 19:11 J -12070639.81 -12070639.70 -12070639.59 0.0506 0.0331

Jupiter -37761-08-20 07:26 J -12070550.32 -12070550.19 -12070550.06 0.0503 0.0252

Moon -37761-10-15 12:42 J -12070494.09 -12070493.97 -12070493.86 0.2664 0.1225

Earth -37761-10-15 13:26 J -12070494.05 -12070493.94 -12070493.82 0.2661 0.1194 *

Moon -37758-04-16 14:38 J -12069581.01 -12069580.89 -12069580.76 0.2676 0.0072

Earth -37758-04-16 15:06 J -12069581.00 -12069580.87 -12069580.74 0.2669 0.0053 *

Mars -37757-12-17 12:28 J -12068970.06 -12068969.98 -12068969.91 0.1887 0.1488

Jupiter -37755-10-21 10:47 J -12068297.19 -12068297.05 -12068296.91 0.0522 0.0224

Earth -37755-10-25 22:47 J -12068292.59 -12068292.55 -12068292.50 0.2667 0.2453

Moon -37755-10-25 23:45 J -12068292.54 -12068292.51 -12068292.48 0.2665 0.2576 *

Jupiter -37754-01-19 06:57 J -12068207.27 -12068207.21 -12068207.15 0.0526 0.0475

Mars -37754-10-07 11:59 J -12067946.14 -12067946.00 -12067945.87 0.1629 0.0530

Uranus -37751-03-07 13:40 J -12067063.97 -12067063.93 -12067063.86 0.0133 0.0123

Uranus -37751-06-03 18:28 J -12066975.83 -12066975.73 -12066975.62 0.0133 0.0102

Uranus -37751-08-30 23:02 J -12066887.66 -12066887.54 -12066887.41 0.0133 0.0081

Uranus -37751-11-27 03:35 J -12066799.49 -12066799.35 -12066799.21 0.0133 0.0060

Saturn -37750-02-22 12:14 J -12066712.11 -12066711.99 -12066711.87 0.0280 0.0172

Uranus -37750-02-23 08:09 J -12066711.31 -12066711.16 -12066711.01 0.0133 0.0039

Saturn -37750-05-22 04:04 J -12066623.48 -12066623.33 -12066623.18 0.0280 0.0054

Uranus -37750-05-22 12:28 J -12066623.13 -12066622.98 -12066622.82 0.0133 0.0019

Uranus -37750-08-18 17:02 J -12066534.95 -12066534.79 -12066534.64 0.0133 0.0004

Saturn -37750-08-18 19:40 J -12066534.83 -12066534.68 -12066534.53 0.0280 0.0061 *

Uranus -37750-11-14 21:06 J -12066446.77 -12066446.62 -12066446.46 0.0133 0.0023

Saturn -37750-11-15 10:47 J -12066446.17 -12066446.05 -12066445.93 0.0279 0.0173

Uranus -37749-02-11 01:26 J -12066358.58 -12066358.44 -12066358.29 0.0133 0.0043

Jupiter -37749-03-10 21:21 J -12066329.65 -12066329.61 -12066329.56 0.0508 0.0481

Uranus -37749-05-09 05:45 J -12066270.39 -12066270.26 -12066270.12 0.0133 0.0062

Jupiter -37749-06-08 09:21 J -12066240.25 -12066240.11 -12066239.96 0.0504 0.0102

Uranus -37749-08-05 09:50 J -12066182.20 -12066182.09 -12066181.96 0.0133 0.0083

Uranus -37749-11-01 14:09 J -12066094.00 -12066093.91 -12066093.81 0.0132 0.0102

Uranus -37748-01-28 18:14 J -12066005.79 -12066005.74 -12066005.67 0.0132 0.0121

Moon -37748-10-18 11:16 J -12065743.15 -12065743.03 -12065742.90 0.2669 0.0229

Earth -37748-10-18 11:30 J -12065743.15 -12065743.02 -12065742.89 0.2662 0.0200 *

Mars -37745-04-14 20:52 J -12064833.72 -12064833.63 -12064833.53 0.1898 0.1277

Earth -37745-04-18 13:40 J -12064830.05 -12064829.93 -12064829.81 0.2668 0.1045

Moon -37745-04-18 14:09 J -12064830.02 -12064829.91 -12064829.79 0.2674 0.1100 *

Mars -37744-02-26 18:14 J -12064515.88 -12064515.74 -12064515.59 0.1632 0.0095

Jupiter -37743-08-09 10:47 J -12063987.14 -12063987.05 -12063986.95 0.0521 0.0403

Venus -37743-09-14 05:16 J -12063951.38 -12063951.28 -12063951.18 0.3760 0.2161

Jupiter -37743-11-07 07:26 J -12063897.31 -12063897.19 -12063897.06 0.0525 0.0302

Moon -37738-04-11 23:16 J -12062280.62 -12062280.53 -12062280.44 0.2671 0.1925

Earth -37738-04-12 00:14 J -12062280.58 -12062280.49 -12062280.40 0.2673 0.1780 *

Jupiter -37737-03-27 12:14 J -12061930.14 -12061929.99 -12061929.85 0.0505 0.0042

Venus -37737-03-30 02:52 J -12061927.49 -12061927.38 -12061927.27 0.3756 0.1517

Mars -37736-09-05 01:40 J -12061403.56 -12061403.43 -12061403.30 0.1895 0.0343

Saturn -37736-12-03 16:04 J -12061313.85 -12061313.83 -12061313.80 0.0279 0.0274

Saturn -37735-03-02 06:57 J -12061225.33 -12061225.21 -12061225.08 0.0279 0.0165

Saturn -37735-05-29 22:18 J -12061136.72 -12061136.57 -12061136.42 0.0279 0.0053

Mars -37735-07-20 00:28 J -12061085.61 -12061085.48 -12061085.35 0.1635 0.0725

Saturn -37735-08-26 13:40 J -12061048.08 -12061047.93 -12061047.77 0.0279 0.0062

Earth -37735-10-21 09:21 J -12060992.23 -12060992.11 -12060991.99 0.2664 0.0767

Moon -37735-10-21 09:50 J -12060992.21 -12060992.09 -12060991.97 0.2669 0.0782 *

Saturn -37735-11-23 05:30 J -12060959.38 -12060959.27 -12060959.15 0.0279 0.0180

Venus -37733-03-31 08:09 J -12060465.26 -12060465.16 -12060465.05 0.3617 0.1870

Earth -37732-04-21 12:42 J -12060079.05 -12060078.97 -12060078.89 0.2666 0.2106

Moon -37732-04-21 13:40 J -12060079.01 -12060078.93 -12060078.85 0.2669 0.2117 *

Jupiter -37731-08-26 07:54 J -12059587.32 -12059587.17 -12059587.02 0.0525 0.0124

Neptune -37728-04-17 00:28 J -12058622.49 -12058622.48 -12058622.43 0.0088 0.0087

Neptune -37728-07-14 03:06 J -12058534.43 -12058534.37 -12058534.28 0.0088 0.0079

Neptune -37728-10-10 05:45 J -12058446.35 -12058446.26 -12058446.15 0.0088 0.0071

Moon -37728-10-13 19:26 J -12058442.77 -12058442.69 -12058442.61 0.2660 0.2032

Earth -37728-10-13 20:38 J -12058442.73 -12058442.64 -12058442.56 0.2659 0.2037 *

Venus -37728-10-15 03:50 J -12058441.46 -12058441.34 -12058441.23 0.3621 0.1087

Neptune -37727-01-06 08:23 J -12058358.26 -12058358.15 -12058358.03 0.0088 0.0063

Neptune -37727-04-04 11:02 J -12058270.17 -12058270.04 -12058269.91 0.0088 0.0055

Neptune -37727-07-01 13:11 J -12058182.08 -12058181.95 -12058181.80 0.0088 0.0047

Neptune -37727-09-27 15:50 J -12058093.99 -12058093.84 -12058093.69 0.0088 0.0039

Neptune -37727-12-24 18:14 J -12058005.89 -12058005.74 -12058005.58 0.0088 0.0032

Mars -37726-01-26 06:57 J -12057973.34 -12057973.21 -12057973.09 0.1891 0.0548

Neptune -37726-03-22 20:52 J -12057917.79 -12057917.63 -12057917.47 0.0088 0.0024

Neptune -37726-06-18 23:16 J -12057829.69 -12057829.53 -12057829.37 0.0088 0.0016

Neptune -37726-09-15 01:40 J -12057741.60 -12057741.43 -12057741.26 0.0088 0.0008

Mars -37726-12-10 06:14 J -12057655.32 -12057655.24 -12057655.16 0.1638 0.1380

Neptune -37726-12-12 04:04 J -12057653.50 -12057653.33 -12057653.16 0.0088 0.0001

Jupiter -37725-01-14 15:06 J -12057620.00 -12057619.87 -12057619.73 0.0506 0.0179

Neptune -37725-03-09 06:28 J -12057565.40 -12057565.23 -12057565.07 0.0088 0.0007

Jupiter -37725-04-13 03:35 J -12057530.43 -12057530.35 -12057530.26 0.0502 0.0409

Moon -37725-04-13 21:21 J -12057529.73 -12057529.61 -12057529.49 0.2675 0.0797

Earth -37725-04-13 22:18 J -12057529.69 -12057529.57 -12057529.45 0.2671 0.0811 *

Neptune -37725-06-05 08:52 J -12057477.29 -12057477.13 -12057476.97 0.0088 0.0014

Neptune -37725-09-01 11:02 J -12057389.19 -12057389.04 -12057388.87 0.0088 0.0022

Neptune -37725-11-28 13:26 J -12057301.09 -12057300.94 -12057300.78 0.0088 0.0030

Neptune -37724-02-24 15:35 J -12057212.98 -12057212.85 -12057212.69 0.0088 0.0038

Neptune -37724-05-23 18:14 J -12057124.88 -12057124.74 -12057124.60 0.0088 0.0044

Neptune -37724-08-19 20:23 J -12057036.77 -12057036.65 -12057036.51 0.0088 0.0052

Mars -37724-11-15 05:30 J -12056949.36 -12056949.27 -12056949.18 0.1627 0.1207

Neptune -37724-11-15 22:47 J -12056948.66 -12056948.55 -12056948.42 0.0088 0.0059

Neptune -37723-02-12 01:11 J -12056860.55 -12056860.45 -12056860.34 0.0088 0.0067

Neptune -37723-05-11 03:06 J -12056772.44 -12056772.37 -12056772.26 0.0088 0.0075

Neptune -37723-08-07 05:30 J -12056684.32 -12056684.27 -12056684.19 0.0088 0.0082

Earth -37722-10-24 06:57 J -12056241.31 -12056241.21 -12056241.12 0.2666 0.1705

Moon -37722-10-24 07:54 J -12056241.26 -12056241.17 -12056241.08 0.2668 0.1846 *

Saturn -37721-07-11 11:59 J -12055980.10 -12055980.00 -12055979.90 0.0280 0.0213

Saturn -37721-10-08 04:04 J -12055891.48 -12055891.33 -12055891.18 0.0279 0.0094

Saturn -37720-01-04 19:40 J -12055802.83 -12055802.68 -12055802.52 0.0279 0.0023

Saturn -37720-04-03 11:02 J -12055714.17 -12055714.04 -12055713.91 0.0279 0.0135

Saturn -37720-07-01 01:54 J -12055625.49 -12055625.42 -12055625.35 0.0279 0.0245

Jupiter -37719-06-14 08:52 J -12055277.29 -12055277.13 -12055276.98 0.0524 0.0045

Mars -37717-06-17 12:14 J -12054543.07 -12054542.99 -12054542.90 0.1886 0.1410

Moon -37715-10-16 18:14 J -12053691.86 -12053691.74 -12053691.62 0.2666 0.1126

Earth -37715-10-16 18:57 J -12053691.83 -12053691.71 -12053691.59 0.2661 0.1015 *

Mars -37714-04-07 12:14 J -12053519.12 -12053518.99 -12053518.86 0.1629 0.0612

Jupiter -37714-11-02 17:59 J -12053309.86 -12053309.75 -12053309.64 0.0506 0.0322

Jupiter -37713-01-31 05:59 J -12053220.37 -12053220.25 -12053220.12 0.0503 0.0263

Moon -37712-04-16 20:23 J -12052778.78 -12052778.65 -12052778.52 0.2675 0.0145

Earth -37712-04-16 20:38 J -12052778.77 -12052778.64 -12052778.51 0.2669 0.0197 *

Earth -37709-10-26 04:04 J -12051490.35 -12051490.33 -12051490.31 0.2667 0.2617

Moon -37709-10-26 05:02 J -12051490.32 -12051490.29 -12051490.27 0.2663 0.2591 *

Uranus -37708-05-19 17:30 J -12051284.82 -12051284.77 -12051284.69 0.0146 0.0133

Uranus -37708-08-15 22:47 J -12051196.64 -12051196.55 -12051196.43 0.0146 0.0107

Uranus -37708-11-12 04:18 J -12051108.44 -12051108.32 -12051108.19 0.0146 0.0080

Uranus -37707-02-08 09:50 J -12051020.23 -12051020.09 -12051019.94 0.0146 0.0053

Jupiter -37707-04-02 09:35 J -12050967.24 -12050967.10 -12050966.95 0.0523 0.0212

Uranus -37707-05-07 15:21 J -12050932.02 -12050931.86 -12050931.71 0.0146 0.0027

Jupiter -37707-07-01 05:45 J -12050877.31 -12050877.26 -12050877.20 0.0527 0.0490

Uranus -37707-08-03 20:52 J -12050843.79 -12050843.63 -12050843.48 0.0146 0.0004

Uranus -37707-10-31 02:23 J -12050755.56 -12050755.40 -12050755.25 0.0146 0.0028

Uranus -37706-01-27 07:54 J -12050667.32 -12050667.17 -12050667.02 0.0146 0.0056

Uranus -37706-04-25 13:26 J -12050579.06 -12050578.94 -12050578.80 0.0146 0.0084

Saturn -37706-07-20 06:28 J -12050493.32 -12050493.23 -12050493.13 0.0279 0.0209

Uranus -37706-07-22 18:57 J -12050490.80 -12050490.71 -12050490.59 0.0146 0.0112

Mars -37706-10-14 20:52 J -12050406.72 -12050406.63 -12050406.54 0.1898 0.1355

Saturn -37706-10-16 21:35 J -12050404.74 -12050404.60 -12050404.46 0.0279 0.0099

Uranus -37706-10-19 00:57 J -12050402.50 -12050402.46 -12050402.41 0.0146 0.0140

Saturn -37705-01-13 12:57 J -12050316.12 -12050315.96 -12050315.81 0.0279 0.0015

Moon -37705-04-09 06:57 J -12050229.22 -12050229.21 -12050229.20 0.2669 0.2646

Earth -37705-04-09 07:40 J -12050229.21 -12050229.18 -12050229.14 0.2674 0.2559 *

Saturn -37705-04-11 04:33 J -12050227.44 -12050227.31 -12050227.17 0.0280 0.0132

Saturn -37705-07-08 20:38 J -12050138.70 -12050138.64 -12050138.57 0.0280 0.0252

Mars -37705-08-27 18:42 J -12050088.86 -12050088.72 -12050088.57 0.1632 0.0005

Jupiter -37702-08-21 20:38 J -12048999.69 -12048999.64 -12048999.58 0.0507 0.0464

Moon -37702-10-19 16:47 J -12048940.93 -12048940.80 -12048940.67 0.2670 0.0023

Earth -37702-10-19 17:02 J -12048940.92 -12048940.79 -12048940.67 0.2663 0.0076 *

Jupiter -37702-11-19 08:38 J -12048910.28 -12048910.14 -12048910.00 0.0504 0.0117

Earth -37699-04-19 19:11 J -12048027.81 -12048027.70 -12048027.58 0.2668 0.1234

Moon -37699-04-19 19:54 J -12048027.79 -12048027.67 -12048027.56 0.2674 0.1277 *

Mars -37696-03-06 01:54 J -12046976.54 -12046976.42 -12046976.29 0.1895 0.0444

Mars -37695-01-18 00:42 J -12046658.60 -12046658.47 -12046658.33 0.1635 0.0635

Jupiter -37695-01-19 09:50 J -12046657.19 -12046657.09 -12046656.99 0.0521 0.0389

Jupiter -37695-04-19 06:28 J -12046567.35 -12046567.23 -12046567.11 0.0525 0.0316

Moon -37692-04-12 04:33 J -12045478.41 -12045478.31 -12045478.21 0.2673 0.1611

Earth -37692-04-12 05:30 J -12045478.37 -12045478.27 -12045478.17 0.2672 0.1612 *

Saturn -37692-11-28 12:42 J -12045248.03 -12045247.97 -12045247.89 0.0280 0.0249

Saturn -37691-02-25 05:02 J -12045159.43 -12045159.29 -12045159.15 0.0280 0.0129

Saturn -37691-05-24 20:52 J -12045070.79 -12045070.63 -12045070.48 0.0280 0.0012

Saturn -37691-08-21 12:14 J -12044982.13 -12044981.99 -12044981.85 0.0280 0.0103

Saturn -37691-11-18 03:06 J -12044893.45 -12044893.37 -12044893.26 0.0280 0.0215

Jupiter -37690-09-07 10:33 J -12044600.20 -12044600.06 -12044599.91 0.0505 0.0037

Earth -37689-10-21 14:38 J -12044190.01 -12044189.89 -12044189.77 0.2664 0.0940

Moon -37689-10-21 15:21 J -12044189.97 -12044189.86 -12044189.74 0.2669 0.0999 *

Mars -37687-07-27 06:57 J -12043546.33 -12043546.21 -12043546.08 0.1890 0.0456

Venus -37686-04-21 04:18 J -12043278.44 -12043278.32 -12043278.21 0.3759 0.0857

Earth -37686-04-22 18:14 J -12043276.80 -12043276.74 -12043276.67 0.2666 0.2298

Moon -37686-04-22 19:11 J -12043276.75 -12043276.70 -12043276.64 0.2667 0.2412 *

Mars -37686-06-10 06:42 J -12043228.31 -12043228.22 -12043228.13 0.1638 0.1287

Mars -37684-05-16 05:45 J -12042522.34 -12042522.26 -12042522.17 0.1627 0.1293

Jupiter -37683-02-05 06:57 J -12042257.36 -12042257.21 -12042257.06 0.0524 0.0140

Moon -37682-10-15 00:57 J -12041640.54 -12041640.46 -12041640.38 0.2660 0.2009

Earth -37682-10-15 01:54 J -12041640.51 -12041640.42 -12041640.32 0.2660 0.1852 *

Venus -37681-11-04 01:40 J -12041254.50 -12041254.43 -12041254.35 0.3755 0.2872

Moon -37679-04-15 02:52 J -12040727.50 -12040727.38 -12040727.26 0.2675 0.0770

Earth -37679-04-15 03:50 J -12040727.47 -12040727.34 -12040727.22 0.2671 0.0636 *

Jupiter -37678-06-26 13:26 J -12040290.08 -12040289.94 -12040289.81 0.0506 0.0179

Jupiter -37678-09-24 01:54 J -12040200.50 -12040200.42 -12040200.34 0.0502 0.0410

Mars -37678-12-17 12:28 J -12040116.07 -12040115.98 -12040115.89 0.1886 0.1318

Venus -37677-11-05 06:42 J -12039792.34 -12039792.22 -12039792.10 0.3618 0.0741

Saturn -37677-12-06 09:21 J -12039761.19 -12039761.11 -12039761.02 0.0278 0.0229

Saturn -37676-03-05 00:14 J -12039672.62 -12039672.49 -12039672.35 0.0279 0.0120

Saturn -37676-06-01 15:35 J -12039584.01 -12039583.85 -12039583.70 0.0279 0.0007

Saturn -37676-08-29 07:11 J -12039495.34 -12039495.20 -12039495.06 0.0279 0.0109

Earth -37676-10-24 12:14 J -12039439.08 -12039438.99 -12039438.90 0.2666 0.1872

Moon -37676-10-24 13:11 J -12039439.04 -12039438.95 -12039438.87 0.2667 0.1883 *

Saturn -37676-11-25 23:02 J -12039406.62 -12039406.54 -12039406.45 0.0279 0.0228

Mars -37675-10-06 12:28 J -12039092.11 -12039091.98 -12039091.85 0.1629 0.0697

Jupiter -37672-11-24 06:57 J -12037947.36 -12037947.21 -12037947.05 0.0523 0.0041

Venus -37671-05-22 02:09 J -12037768.50 -12037768.41 -12037768.31 0.3622 0.2186

Moon -37669-10-16 23:45 J -12036889.63 -12036889.51 -12036889.39 0.2667 0.0805

Earth -37669-10-17 00:14 J -12036889.61 -12036889.49 -12036889.36 0.2661 0.0839 *

Uranus -37667-03-27 20:38 J -12036362.70 -12036362.64 -12036362.56 0.0133 0.0118

Uranus -37667-06-24 01:11 J -12036274.55 -12036274.45 -12036274.34 0.0133 0.0097

Uranus -37667-09-20 05:45 J -12036186.38 -12036186.26 -12036186.13 0.0133 0.0076

Uranus -37667-12-17 10:18 J -12036098.21 -12036098.07 -12036097.92 0.0133 0.0055

Uranus -37666-03-15 14:52 J -12036010.03 -12036009.88 -12036009.73 0.0133 0.0034

Jupiter -37666-04-14 16:18 J -12035979.93 -12035979.82 -12035979.70 0.0507 0.0316

Mars -37666-04-14 21:06 J -12035979.70 -12035979.62 -12035979.53 0.1898 0.1462 *

Moon -37666-04-18 02:09 J -12035976.54 -12035976.41 -12035976.29 0.2676 0.0443

Earth -37666-04-18 02:09 J -12035976.54 -12035976.41 -12035976.28 0.2669 0.0380 *

Uranus -37666-06-11 19:11 J -12035921.85 -12035921.70 -12035921.54 0.0133 0.0014

Jupiter -37666-07-13 04:33 J -12035890.43 -12035890.31 -12035890.18 0.0503 0.0270

Uranus -37666-09-07 23:45 J -12035833.67 -12035833.51 -12035833.36 0.0133 0.0007

Uranus -37666-12-05 04:04 J -12035745.48 -12035745.33 -12035745.18 0.0133 0.0027

Mars -37665-02-26 18:57 J -12035661.85 -12035661.71 -12035661.56 0.1632 0.0085

Uranus -37665-03-02 08:23 J -12035657.30 -12035657.15 -12035657.01 0.0133 0.0047

Uranus -37665-05-29 12:28 J -12035569.11 -12035568.98 -12035568.84 0.0133 0.0067

Uranus -37665-08-25 16:47 J -12035480.91 -12035480.80 -12035480.68 0.0133 0.0086

Uranus -37665-11-21 20:52 J -12035392.71 -12035392.63 -12035392.53 0.0132 0.0106

Uranus -37664-02-18 00:57 J -12035304.49 -12035304.46 -12035304.40 0.0132 0.0126

Saturn -37662-07-15 05:16 J -12034427.40 -12034427.28 -12034427.15 0.0280 0.0167

Saturn -37662-10-11 21:21 J -12034338.76 -12034338.61 -12034338.46 0.0280 0.0049

Saturn -37661-01-08 12:42 J -12034250.11 -12034249.97 -12034249.82 0.0279 0.0067

Saturn -37661-04-06 03:50 J -12034161.45 -12034161.34 -12034161.22 0.0279 0.0179

Jupiter -37660-09-12 07:40 J -12033637.32 -12033637.18 -12033637.04 0.0523 0.0212

Jupiter -37660-12-11 04:04 J -12033547.39 -12033547.33 -12033547.28 0.0527 0.0489

Moon -37659-04-10 12:28 J -12033427.04 -12033426.98 -12033426.93 0.2669 0.2407

Earth -37659-04-10 13:11 J -12033427.01 -12033426.95 -12033426.90 0.2674 0.2387 *

Mars -37657-09-04 01:54 J -12032549.54 -12032549.42 -12032549.30 0.1894 0.0527

Mars -37656-07-19 01:11 J -12032231.59 -12032231.45 -12032231.31 0.1635 0.0545

Earth -37656-10-19 22:18 J -12032138.70 -12032138.57 -12032138.44 0.2663 0.0151

Moon -37656-10-19 22:18 J -12032138.69 -12032138.57 -12032138.44 0.2669 0.0124 *

Jupiter -37654-01-31 19:11 J -12031669.76 -12031669.70 -12031669.64 0.0507 0.0456

Jupiter -37654-05-01 07:11 J -12031580.34 -12031580.20 -12031580.06 0.0504 0.0124

Earth -37653-04-20 00:42 J -12031225.58 -12031225.47 -12031225.36 0.2667 0.1417

Moon -37653-04-20 01:26 J -12031225.55 -12031225.44 -12031225.34 0.2673 0.1446 *

Jupiter -37648-07-01 08:23 J -12029327.26 -12029327.15 -12029327.04 0.0522 0.0381

Jupiter -37648-09-29 05:02 J -12029237.41 -12029237.29 -12029237.17 0.0526 0.0326

Mars -37647-01-25 07:11 J -12029119.33 -12029119.20 -12029119.08 0.1891 0.0372

Saturn -37647-04-25 08:52 J -12029029.15 -12029029.13 -12029029.09 0.0279 0.0273

Saturn -37647-07-22 23:45 J -12028940.63 -12028940.51 -12028940.39 0.0279 0.0164

Neptune -37647-10-15 17:16 J -12028855.81 -12028855.78 -12028855.72 0.0089 0.0085

Saturn -37647-10-19 14:52 J -12028852.03 -12028851.88 -12028851.73 0.0279 0.0052

Mars -37647-12-09 07:11 J -12028801.30 -12028801.20 -12028801.10 0.1638 0.1194

Neptune -37646-01-11 19:11 J -12028767.76 -12028767.70 -12028767.62 0.0089 0.0078

Saturn -37646-01-16 06:28 J -12028763.39 -12028763.23 -12028763.08 0.0279 0.0063

Neptune -37646-04-09 20:52 J -12028679.70 -12028679.63 -12028679.53 0.0089 0.0072

Moon -37646-04-13 10:04 J -12028676.19 -12028676.08 -12028675.98 0.2674 0.1562

Earth -37646-04-13 11:02 J -12028676.15 -12028676.04 -12028675.93 0.2672 0.1436 *

Saturn -37646-04-14 22:18 J -12028674.69 -12028674.57 -12028674.46 0.0280 0.0180

Neptune -37646-07-06 22:47 J -12028591.64 -12028591.55 -12028591.44 0.0089 0.0064

Neptune -37646-10-03 00:42 J -12028503.58 -12028503.47 -12028503.35 0.0089 0.0057

Neptune -37646-12-30 02:38 J -12028415.51 -12028415.39 -12028415.26 0.0089 0.0050

Neptune -37645-03-27 04:33 J -12028327.44 -12028327.31 -12028327.18 0.0089 0.0043

Neptune -37645-06-23 06:28 J -12028239.37 -12028239.23 -12028239.09 0.0089 0.0036

Neptune -37645-09-19 08:23 J -12028151.29 -12028151.15 -12028151.01 0.0089 0.0029

Mars -37645-11-14 06:14 J -12028095.32 -12028095.24 -12028095.17 0.1627 0.1377

Neptune -37645-12-16 10:18 J -12028063.22 -12028063.07 -12028062.93 0.0089 0.0022

Neptune -37644-03-14 12:14 J -12027975.14 -12027974.99 -12027974.85 0.0089 0.0015

Neptune -37644-06-10 13:54 J -12027887.06 -12027886.92 -12027886.77 0.0089 0.0009

Neptune -37644-09-06 15:50 J -12027798.99 -12027798.84 -12027798.68 0.0089 0.0003

Neptune -37644-12-03 17:45 J -12027710.91 -12027710.76 -12027710.60 0.0089 0.0007

Neptune -37643-03-01 19:54 J -12027622.82 -12027622.67 -12027622.53 0.0089 0.0013

Neptune -37643-05-28 21:50 J -12027534.74 -12027534.59 -12027534.45 0.0089 0.0021

Neptune -37643-08-24 23:30 J -12027446.66 -12027446.52 -12027446.37 0.0089 0.0028

Earth -37643-10-22 20:09 J -12027387.78 -12027387.66 -12027387.55 0.2665 0.1111

Moon -37643-10-22 20:52 J -12027387.74 -12027387.63 -12027387.52 0.2669 0.1177 *

Neptune -37643-11-21 01:26 J -12027358.57 -12027358.44 -12027358.29 0.0089 0.0035

Neptune -37642-02-17 03:35 J -12027270.48 -12027270.35 -12027270.22 0.0089 0.0042

Jupiter -37642-02-17 09:35 J -12027270.24 -12027270.10 -12027269.95 0.0505 0.0027 *

Neptune -37642-05-16 05:30 J -12027182.39 -12027182.27 -12027182.14 0.0089 0.0049

Neptune -37642-08-12 07:11 J -12027094.30 -12027094.20 -12027094.07 0.0089 0.0057

Neptune -37642-11-08 09:21 J -12027006.21 -12027006.11 -12027006.00 0.0089 0.0064

Neptune -37641-02-04 11:30 J -12026918.11 -12026918.02 -12026917.93 0.0089 0.0071

Neptune -37641-05-02 13:11 J -12026830.00 -12026829.95 -12026829.86 0.0089 0.0079

Neptune -37641-07-29 15:21 J -12026741.88 -12026741.86 -12026741.81 0.0089 0.0086

Earth -37640-04-22 23:45 J -12026474.55 -12026474.51 -12026474.46 0.2666 0.2488

Moon -37640-04-23 00:57 J -12026474.49 -12026474.46 -12026474.43 0.2666 0.2559 *

Mars -37638-06-17 12:42 J -12025689.06 -12025688.97 -12025688.87 0.1886 0.1219

Jupiter -37636-07-18 05:45 J -12024927.41 -12024927.26 -12024927.11 0.0524 0.0153

Moon -37636-10-15 06:28 J -12024838.33 -12024838.23 -12024838.13 0.2662 0.1673

Earth -37636-10-15 07:26 J -12024838.29 -12024838.19 -12024838.09 0.2660 0.1671 *

Mars -37635-04-06 12:57 J -12024665.09 -12024664.96 -12024664.84 0.1629 0.0785

Venus -37635-05-12 05:59 J -12024629.32 -12024629.25 -12024629.19 0.3761 0.3139

Moon -37633-04-15 08:23 J -12023925.28 -12023925.15 -12023925.03 0.2675 0.0434

Earth -37633-04-15 09:06 J -12023925.25 -12023925.12 -12023924.99 0.2670 0.0457 *

Saturn -37633-12-01 05:59 J -12023695.35 -12023695.25 -12023695.14 0.0281 0.0203

Saturn -37632-02-27 22:04 J -12023606.72 -12023606.58 -12023606.43 0.0280 0.0084

Saturn -37632-05-27 13:54 J -12023518.07 -12023517.92 -12023517.77 0.0280 0.0033

Saturn -37632-08-24 05:16 J -12023429.41 -12023429.28 -12023429.15 0.0280 0.0147

Saturn -37632-11-20 20:09 J -12023340.71 -12023340.66 -12023340.60 0.0280 0.0257

Jupiter -37631-12-06 11:45 J -12022960.15 -12022960.01 -12022959.88 0.0506 0.0176

Jupiter -37630-03-06 00:14 J -12022870.57 -12022870.49 -12022870.41 0.0502 0.0414

Earth -37630-10-25 17:30 J -12022636.85 -12022636.77 -12022636.69 0.2666 0.2038

Moon -37630-10-25 18:28 J -12022636.80 -12022636.73 -12022636.66 0.2666 0.2132 *

Venus -37630-11-26 03:06 J -12022605.49 -12022605.37 -12022605.25 0.3758 0.0491

Mars -37627-10-13 21:21 J -12021552.68 -12021552.61 -12021552.54 0.1898 0.1557

Mars -37626-08-27 19:26 J -12021234.84 -12021234.69 -12021234.55 0.1632 0.0179

Venus -37626-11-27 09:35 J -12021143.18 -12021143.10 -12021143.02 0.3616 0.2604

Jupiter -37624-05-06 05:59 J -12020617.40 -12020617.25 -12020617.09 0.0523 0.0025

Uranus -37624-06-09 00:28 J -12020583.55 -12020583.48 -12020583.40 0.0146 0.0127

Uranus -37624-09-05 05:45 J -12020495.36 -12020495.26 -12020495.14 0.0146 0.0101

Uranus -37624-12-02 11:16 J -12020407.16 -12020407.03 -12020406.90 0.0146 0.0075

Uranus -37623-02-28 16:33 J -12020318.95 -12020318.81 -12020318.66 0.0146 0.0048

Uranus -37623-05-27 22:04 J -12020230.74 -12020230.58 -12020230.43 0.0146 0.0021

Uranus -37623-08-24 03:35 J -12020142.51 -12020142.35 -12020142.19 0.0146 0.0006

Moon -37623-10-18 05:16 J -12020087.41 -12020087.28 -12020087.16 0.2668 0.0785

Earth -37623-10-18 05:45 J -12020087.39 -12020087.26 -12020087.14 0.2662 0.0659 *

Uranus -37623-11-20 09:06 J -12020054.27 -12020054.12 -12020053.97 0.0146 0.0033

Uranus -37622-02-16 14:38 J -12019966.03 -12019965.89 -12019965.74 0.0146 0.0061

Uranus -37622-05-15 20:09 J -12019877.78 -12019877.66 -12019877.53 0.0146 0.0089

Uranus -37622-08-12 01:54 J -12019789.51 -12019789.42 -12019789.32 0.0146 0.0117

Uranus -37622-11-08 07:40 J -12019701.18 -12019701.18 -12019701.16 0.0146 0.0145

Moon -37620-04-18 07:40 J -12019174.31 -12019174.18 -12019174.05 0.2676 0.0496

Earth -37620-04-18 07:40 J -12019174.31 -12019174.18 -12019174.06 0.2669 0.0569 *

Venus -37620-06-12 05:16 J -12019119.40 -12019119.28 -12019119.16 0.3619 0.0386

Jupiter -37619-09-24 14:23 J -12018650.01 -12018649.90 -12018649.79 0.0507 0.0318

Jupiter -37619-12-23 02:38 J -12018560.51 -12018560.39 -12018560.26 0.0503 0.0268

Saturn -37618-12-10 02:52 J -12018208.49 -12018208.38 -12018208.27 0.0278 0.0183

Mars -37617-03-05 02:09 J -12018122.53 -12018122.41 -12018122.29 0.1894 0.0622

Saturn -37617-03-07 17:45 J -12018119.90 -12018119.76 -12018119.61 0.0279 0.0072

Saturn -37617-06-04 09:06 J -12018031.27 -12018031.12 -12018030.96 0.0279 0.0043

Saturn -37617-09-01 00:57 J -12017942.59 -12017942.46 -12017942.33 0.0279 0.0159

Saturn -37617-11-28 17:02 J -12017853.79 -12017853.79 -12017853.78 0.0279 0.0279

Mars -37616-01-17 01:26 J -12017804.58 -12017804.44 -12017804.30 0.1635 0.0458

Venus -37615-12-27 00:42 J -12017095.52 -12017095.47 -12017095.42 0.3622 0.3268

Moon -37613-04-10 17:45 J -12016624.83 -12016624.76 -12016624.70 0.2670 0.2277

Earth -37613-04-10 18:28 J -12016624.80 -12016624.73 -12016624.66 0.2673 0.2219 *

Jupiter -37612-02-22 05:45 J -12016307.40 -12016307.26 -12016307.12 0.0522 0.0210

Jupiter -37612-05-23 01:54 J -12016217.47 -12016217.42 -12016217.36 0.0526 0.0489

Earth -37610-10-21 03:50 J -12015336.47 -12015336.34 -12015336.22 0.2663 0.0339

Moon -37610-10-21 04:04 J -12015336.46 -12015336.33 -12015336.21 0.2669 0.0413 *

Pluto -37609-11-11 12:28 J -12014949.02 -12014948.98 -12014948.94 0.0067 0.0064

Pluto -37608-02-07 13:26 J -12014861.01 -12014860.94 -12014860.85 0.0067 0.0059

Pluto -37608-05-06 14:23 J -12014772.98 -12014772.90 -12014772.78 0.0067 0.0054

Mars -37608-07-26 07:11 J -12014692.32 -12014692.20 -12014692.07 0.1890 0.0278

Pluto -37608-08-02 15:50 J -12014684.94 -12014684.84 -12014684.71 0.0067 0.0048

Pluto -37608-10-29 17:02 J -12014596.90 -12014596.79 -12014596.64 0.0067 0.0043

Pluto -37607-01-25 18:28 J -12014508.86 -12014508.73 -12014508.58 0.0067 0.0037

Earth -37607-04-21 06:14 J -12014423.34 -12014423.24 -12014423.13 0.2667 0.1608

Moon -37607-04-21 06:57 J -12014423.30 -12014423.21 -12014423.11 0.2672 0.1712 *

Pluto -37607-04-23 19:54 J -12014420.81 -12014420.67 -12014420.51 0.0067 0.0032

Mars -37607-06-09 07:26 J -12014374.30 -12014374.19 -12014374.09 0.1638 0.1110

Jupiter -37607-07-13 17:30 J -12014339.83 -12014339.77 -12014339.70 0.0508 0.0454

Pluto -37607-07-20 21:06 J -12014332.76 -12014332.62 -12014332.45 0.0067 0.0026

Jupiter -37607-10-11 05:30 J -12014250.41 -12014250.27 -12014250.13 0.0504 0.0128

Pluto -37607-10-16 22:33 J -12014244.71 -12014244.56 -12014244.39 0.0067 0.0021

Pluto -37606-01-12 23:59 J -12014156.66 -12014156.50 -12014156.33 0.0068 0.0015

Pluto -37606-04-11 01:26 J -12014068.61 -12014068.44 -12014068.27 0.0068 0.0009

Pluto -37606-07-08 02:38 J -12013980.55 -12013980.39 -12013980.21 0.0068 0.0004

Pluto -37606-10-04 04:04 J -12013892.50 -12013892.33 -12013892.16 0.0068 0.0003

Pluto -37606-12-31 05:30 J -12013804.44 -12013804.27 -12013804.10 0.0068 0.0009

Pluto -37605-03-28 06:42 J -12013716.38 -12013716.22 -12013716.04 0.0068 0.0015

Mars -37605-05-15 06:28 J -12013668.29 -12013668.23 -12013668.17 0.1627 0.1457

Pluto -37605-06-24 08:23 J -12013628.31 -12013628.15 -12013627.99 0.0068 0.0021

Pluto -37605-09-20 09:50 J -12013540.25 -12013540.09 -12013539.94 0.0068 0.0027

Pluto -37605-12-17 11:16 J -12013452.18 -12013452.03 -12013451.88 0.0068 0.0033

Pluto -37604-03-15 12:42 J -12013364.11 -12013363.97 -12013363.83 0.0069 0.0039

Pluto -37604-06-11 13:40 J -12013276.04 -12013275.93 -12013275.78 0.0069 0.0046

Pluto -37604-09-07 15:06 J -12013187.96 -12013187.87 -12013187.74 0.0069 0.0052

Pluto -37604-12-04 16:47 J -12013099.88 -12013099.80 -12013099.70 0.0069 0.0058

Pluto -37603-03-02 18:14 J -12013011.79 -12013011.74 -12013011.67 0.0069 0.0064

Saturn -37603-04-20 06:57 J -12012963.29 -12012963.21 -12012963.13 0.0280 0.0238

Saturn -37603-07-17 23:02 J -12012874.68 -12012874.54 -12012874.40 0.0280 0.0118

Moon -37603-10-13 13:26 J -12012786.97 -12012786.94 -12012786.92 0.2656 0.2576

Earth -37603-10-13 14:23 J -12012786.94 -12012786.90 -12012786.86 0.2659 0.2526 *

Saturn -37603-10-14 14:52 J -12012786.03 -12012785.88 -12012785.72 0.0280 0.0002

Saturn -37602-01-11 06:14 J -12012697.38 -12012697.24 -12012697.10 0.0279 0.0114

Saturn -37602-04-09 21:21 J -12012608.70 -12012608.61 -12012608.52 0.0279 0.0225

Jupiter -37601-12-11 06:14 J -12011997.35 -12011997.24 -12011997.14 0.0522 0.0384

Jupiter -37600-03-11 02:52 J -12011907.50 -12011907.38 -12011907.25 0.0525 0.0323

Moon -37600-04-13 15:21 J -12011873.97 -12011873.86 -12011873.75 0.2674 0.1293

Earth -37600-04-13 16:18 J -12011873.93 -12011873.82 -12011873.70 0.2672 0.1265 *

Mars -37599-12-16 12:42 J -12011262.07 -12011261.97 -12011261.87 0.1886 0.1148

Earth -37597-10-23 01:26 J -12010585.55 -12010585.44 -12010585.33 0.2665 0.1279

Moon -37597-10-23 02:09 J -12010585.52 -12010585.41 -12010585.30 0.2669 0.1312 *

Mars -37596-10-05 13:11 J -12010238.07 -12010237.95 -12010237.83 0.1629 0.0867

Jupiter -37595-07-30 08:09 J -12009940.31 -12009940.16 -12009940.01 0.0505 0.0016

Moon -37590-10-16 11:59 J -12008036.10 -12008036.00 -12008035.90 0.2664 0.1607

Earth -37590-10-16 12:57 J -12008036.07 -12008035.96 -12008035.85 0.2660 0.1488 *

Jupiter -37589-12-28 04:04 J -12007597.48 -12007597.33 -12007597.18 0.0525 0.0157

Saturn -37588-04-28 02:38 J -12007476.47 -12007476.39 -12007476.30 0.0279 0.0225

Saturn -37588-07-25 17:30 J -12007387.91 -12007387.77 -12007387.63 0.0279 0.0115

Saturn -37588-10-22 08:52 J -12007299.29 -12007299.13 -12007298.98 0.0279 0.0004

Saturn -37587-01-19 00:14 J -12007210.62 -12007210.49 -12007210.34 0.0279 0.0115

Mars -37587-04-13 21:21 J -12007125.67 -12007125.61 -12007125.54 0.1898 0.1643

Moon -37587-04-16 14:09 J -12007123.04 -12007122.91 -12007122.79 0.2676 0.0386

Earth -37587-04-16 14:38 J -12007123.02 -12007122.89 -12007122.76 0.2670 0.0276 *

Saturn -37587-04-17 16:18 J -12007121.90 -12007121.82 -12007121.73 0.0280 0.0233

Mars -37586-02-25 19:54 J -12006807.82 -12006807.67 -12006807.53 0.1632 0.0270

Earth -37584-10-25 22:47 J -12005834.62 -12005834.55 -12005834.48 0.2667 0.2203

Moon -37584-10-25 23:45 J -12005834.57 -12005834.51 -12005834.45 0.2665 0.2262 *

Uranus -37583-04-17 03:21 J -12005661.44 -12005661.36 -12005661.28 0.0133 0.0114

Jupiter -37583-05-18 10:47 J -12005630.19 -12005630.05 -12005629.91 0.0506 0.0161

Uranus -37583-07-14 07:54 J -12005573.28 -12005573.17 -12005573.05 0.0133 0.0093

Jupiter -37583-08-15 23:16 J -12005540.61 -12005540.53 -12005540.46 0.0502 0.0427

Uranus -37583-10-10 12:28 J -12005485.11 -12005484.98 -12005484.84 0.0133 0.0072

Uranus -37582-01-06 17:02 J -12005396.93 -12005396.79 -12005396.64 0.0133 0.0051

Uranus -37582-04-04 21:21 J -12005308.76 -12005308.61 -12005308.45 0.0133 0.0031

Uranus -37582-07-02 01:54 J -12005220.58 -12005220.42 -12005220.26 0.0133 0.0010

Uranus -37582-09-28 06:14 J -12005132.39 -12005132.24 -12005132.08 0.0133 0.0011

Uranus -37582-12-25 10:47 J -12005044.21 -12005044.05 -12005043.90 0.0133 0.0031

Uranus -37581-03-22 15:06 J -12004956.02 -12004955.87 -12004955.73 0.0133 0.0051

Uranus -37581-06-18 19:11 J -12004867.83 -12004867.70 -12004867.57 0.0133 0.0071

Uranus -37581-09-14 23:30 J -12004779.63 -12004779.52 -12004779.41 0.0133 0.0091

Uranus -37581-12-12 03:35 J -12004691.43 -12004691.35 -12004691.26 0.0132 0.0110

Uranus -37580-03-10 07:40 J -12004603.20 -12004603.18 -12004603.14 0.0132 0.0130

Venus -37579-12-17 04:47 J -12003956.41 -12003956.30 -12003956.20 0.3761 0.1840

Mars -37578-09-04 02:23 J -12003695.52 -12003695.40 -12003695.28 0.1894 0.0723

Mars -37577-07-18 01:54 J -12003377.56 -12003377.42 -12003377.28 0.1635 0.0370

Jupiter -37577-10-16 04:33 J -12003287.46 -12003287.31 -12003287.15 0.0523 0.0019

Moon -37577-10-18 10:33 J -12003285.18 -12003285.06 -12003284.93 0.2668 0.0449

Earth -37577-10-18 11:02 J -12003285.16 -12003285.04 -12003284.91 0.2662 0.0489 *

Earth -37574-04-19 12:57 J -12002372.08 -12002371.96 -12002371.83 0.2668 0.0745

Moon -37574-04-19 13:11 J -12002372.07 -12002371.95 -12002371.83 0.2675 0.0835 *

Saturn -37574-09-07 07:26 J -12002231.22 -12002231.19 -12002231.17 0.0281 0.0276

Saturn -37574-12-04 23:45 J -12002142.64 -12002142.51 -12002142.38 0.0280 0.0155

Saturn -37573-03-02 15:35 J -12002054.00 -12002053.85 -12002053.69 0.0280 0.0036

Saturn -37573-05-30 07:11 J -12001965.34 -12001965.20 -12001965.05 0.0280 0.0080

Venus -37573-07-02 02:09 J -12001932.52 -12001932.41 -12001932.30 0.3757 0.1819

Saturn -37573-08-26 22:18 J -12001876.67 -12001876.57 -12001876.45 0.0280 0.0193

Jupiter -37571-03-06 12:42 J -12001320.08 -12001319.97 -12001319.86 0.0507 0.0316

Jupiter -37571-06-04 00:57 J -12001230.59 -12001230.46 -12001230.34 0.0503 0.0270

Venus -37569-07-03 08:09 J -12000470.27 -12000470.16 -12000470.05 0.3617 0.1470

Mars -37568-01-24 07:26 J -12000265.32 -12000265.19 -12000265.07 0.1890 0.0188

Mars -37568-12-08 07:40 J -11999947.29 -11999947.18 -11999947.06 0.1638 0.1019

Moon -37567-04-11 23:02 J -11999822.62 -11999822.54 -11999822.47 0.2672 0.2140

Earth -37567-04-11 23:59 J -11999822.58 -11999822.50 -11999822.42 0.2673 0.2048 *

Mars -37566-11-14 06:42 J -11999241.26 -11999241.22 -11999241.18 0.1627 0.1540

Jupiter -37565-08-04 04:47 J -11998977.45 -11998977.30 -11998977.16 0.0522 0.0194

Jupiter -37565-11-02 00:57 J -11998887.50 -11998887.46 -11998887.42 0.0526 0.0504

Earth -37564-10-21 09:06 J -11998534.25 -11998534.12 -11998534.00 0.2663 0.0500

Moon -37564-10-21 09:35 J -11998534.23 -11998534.10 -11998533.98 0.2670 0.0464 *

Neptune -37563-01-12 00:28 J -11998451.54 -11998451.48 -11998451.41 0.0088 0.0081

Venus -37563-01-17 03:50 J -11998446.45 -11998446.34 -11998446.23 0.3620 0.1492

Neptune -37563-04-10 02:38 J -11998363.47 -11998363.39 -11998363.28 0.0088 0.0073

Neptune -37563-07-07 05:16 J -11998275.38 -11998275.28 -11998275.15 0.0088 0.0065

Neptune -37563-10-03 07:40 J -11998187.29 -11998187.18 -11998187.03 0.0088 0.0058

Neptune -37563-12-30 10:18 J -11998099.20 -11998099.07 -11998098.92 0.0088 0.0050

Neptune -37562-03-28 12:57 J -11998011.10 -11998010.96 -11998010.81 0.0088 0.0041

Neptune -37562-06-24 15:35 J -11997923.01 -11997922.85 -11997922.70 0.0088 0.0034

Neptune -37562-09-20 17:45 J -11997834.91 -11997834.76 -11997834.59 0.0088 0.0026

Neptune -37562-12-17 20:23 J -11997746.81 -11997746.65 -11997746.48 0.0088 0.0018

Neptune -37561-03-14 22:47 J -11997658.71 -11997658.55 -11997658.38 0.0088 0.0011

Earth -37561-04-21 11:45 J -11997621.10 -11997621.01 -11997620.91 0.2667 0.1795

Moon -37561-04-21 12:42 J -11997621.07 -11997620.97 -11997620.87 0.2670 0.1796 *

Neptune -37561-06-11 01:11 J -11997570.61 -11997570.45 -11997570.28 0.0088 0.0004

Neptune -37561-09-07 03:35 J -11997482.51 -11997482.35 -11997482.18 0.0088 0.0006

Neptune -37561-12-04 05:59 J -11997394.41 -11997394.25 -11997394.08 0.0088 0.0013

Neptune -37560-03-02 08:23 J -11997306.31 -11997306.15 -11997305.98 0.0088 0.0020

Neptune -37560-05-29 10:47 J -11997218.20 -11997218.05 -11997217.89 0.0088 0.0028

Neptune -37560-08-25 12:57 J -11997130.10 -11997129.96 -11997129.80 0.0088 0.0036

Neptune -37560-11-21 15:35 J -11997041.99 -11997041.85 -11997041.71 0.0088 0.0043

Jupiter -37560-12-23 15:21 J -11997009.91 -11997009.86 -11997009.80 0.0508 0.0459

Neptune -37559-02-17 17:45 J -11996953.89 -11996953.76 -11996953.62 0.0088 0.0050

Jupiter -37559-03-23 03:21 J -11996920.50 -11996920.36 -11996920.22 0.0504 0.0124

Neptune -37559-05-16 20:09 J -11996865.78 -11996865.66 -11996865.53 0.0088 0.0057

Mars -37559-06-16 12:57 J -11996835.07 -11996834.96 -11996834.86 0.1886 0.1048

Neptune -37559-08-12 22:33 J -11996777.67 -11996777.56 -11996777.45 0.0088 0.0065

Saturn -37559-09-15 05:59 J -11996744.32 -11996744.25 -11996744.18 0.0278 0.0242

Neptune -37559-11-09 00:28 J -11996689.55 -11996689.48 -11996689.37 0.0088 0.0073

Saturn -37559-12-12 20:38 J -11996655.77 -11996655.64 -11996655.50 0.0278 0.0133

Neptune -37558-02-05 02:52 J -11996601.43 -11996601.38 -11996601.30 0.0088 0.0080

Saturn -37558-03-11 11:59 J -11996567.16 -11996567.00 -11996566.85 0.0279 0.0021

Neptune -37558-05-04 05:30 J -11996513.30 -11996513.27 -11996513.24 0.0088 0.0087

Saturn -37558-06-08 03:21 J -11996478.50 -11996478.36 -11996478.21 0.0279 0.0095

Saturn -37558-09-04 19:11 J -11996389.80 -11996389.70 -11996389.60 0.0279 0.0213

Moon -37557-10-13 18:42 J -11995984.77 -11995984.72 -11995984.66 0.2657 0.2418

Earth -37557-10-13 19:54 J -11995984.73 -11995984.67 -11995984.61 0.2659 0.2343 *

Mars -37556-04-05 13:26 J -11995811.05 -11995810.94 -11995810.82 0.1629 0.0955

Moon -37554-04-14 20:52 J -11995071.75 -11995071.63 -11995071.52 0.2674 0.1190

Earth -37554-04-14 21:50 J -11995071.71 -11995071.59 -11995071.47 0.2671 0.1085 *

Jupiter -37553-05-23 04:04 J -11994667.43 -11994667.33 -11994667.22 0.0521 0.0383

Jupiter -37553-08-21 00:57 J -11994577.58 -11994577.46 -11994577.34 0.0525 0.0322

Earth -37551-10-24 06:42 J -11993783.32 -11993783.22 -11993783.11 0.2665 0.1446

Moon -37551-10-24 07:26 J -11993783.29 -11993783.19 -11993783.08 0.2668 0.1556 *

Mars -37550-11-06 18:42 J -11993404.72 -11993404.72 -11993404.72 0.1882 0.1879

Mars -37548-10-12 21:35 J -11992698.65 -11992698.60 -11992698.55 0.1898 0.1742

Jupiter -37547-01-09 06:14 J -11992610.38 -11992610.24 -11992610.09 0.0505 0.0019

Mars -37547-08-26 19:54 J -11992380.81 -11992380.67 -11992380.53 0.1632 0.0345

Saturn -37544-04-23 00:57 J -11991410.57 -11991410.46 -11991410.33 0.0280 0.0185

Saturn -37544-07-20 17:16 J -11991321.93 -11991321.78 -11991321.63 0.0280 0.0066

Moon -37544-10-16 17:30 J -11991233.88 -11991233.77 -11991233.66 0.2665 0.1342

Earth -37544-10-16 18:14 J -11991233.85 -11991233.74 -11991233.62 0.2660 0.1314 *

Saturn -37544-10-17 08:52 J -11991233.28 -11991233.13 -11991232.98 0.0280 0.0051

Saturn -37543-01-14 00:14 J -11991144.62 -11991144.49 -11991144.37 0.0279 0.0164

Saturn -37543-04-12 14:52 J -11991055.90 -11991055.88 -11991055.85 0.0279 0.0274

Moon -37541-04-16 19:40 J -11990320.81 -11990320.68 -11990320.55 0.2676 0.0069

Earth -37541-04-16 19:54 J -11990320.80 -11990320.67 -11990320.54 0.2670 0.0128 *

Jupiter -37541-06-09 01:40 J -11990267.58 -11990267.43 -11990267.28 0.0524 0.0152

Uranus -37540-06-29 07:26 J -11989882.27 -11989882.19 -11989882.10 0.0146 0.0122

Uranus -37540-09-25 12:42 J -11989794.08 -11989793.97 -11989793.85 0.0146 0.0096

Uranus -37540-12-22 18:14 J -11989705.88 -11989705.74 -11989705.60 0.0146 0.0069

Uranus -37539-03-20 23:30 J -11989617.67 -11989617.52 -11989617.37 0.0146 0.0042

Uranus -37539-06-17 05:02 J -11989529.45 -11989529.29 -11989529.13 0.0146 0.0015

Uranus -37539-09-13 10:33 J -11989441.22 -11989441.06 -11989440.90 0.0146 0.0012

Uranus -37539-12-10 16:04 J -11989352.98 -11989352.83 -11989352.68 0.0146 0.0039

Mars -37538-03-05 02:23 J -11989268.52 -11989268.40 -11989268.29 0.1894 0.0804

Uranus -37538-03-08 21:35 J -11989264.74 -11989264.60 -11989264.46 0.0146 0.0067

Uranus -37538-06-05 03:21 J -11989176.48 -11989176.36 -11989176.24 0.0146 0.0095

Uranus -37538-09-01 09:06 J -11989088.21 -11989088.12 -11989088.04 0.0146 0.0123

Earth -37538-10-27 04:04 J -11989032.38 -11989032.33 -11989032.27 0.2667 0.2369

Moon -37538-10-27 05:02 J -11989032.34 -11989032.29 -11989032.24 0.2665 0.2424 *

Mars -37537-01-17 02:09 J -11988950.55 -11988950.41 -11988950.26 0.1635 0.0284

Jupiter -37536-10-28 09:06 J -11988300.26 -11988300.12 -11988299.99 0.0506 0.0158

Jupiter -37535-01-25 21:21 J -11988210.68 -11988210.61 -11988210.53 0.0502 0.0430

Moon -37531-10-19 16:18 J -11986482.95 -11986482.82 -11986482.70 0.2668 0.0388

Earth -37531-10-19 16:33 J -11986482.94 -11986482.81 -11986482.68 0.2662 0.0303 *

Jupiter -37529-03-28 02:38 J -11985957.55 -11985957.39 -11985957.24 0.0524 0.0017

Saturn -37529-04-30 20:38 J -11985923.75 -11985923.64 -11985923.52 0.0279 0.0174

Mars -37529-07-25 07:26 J -11985838.31 -11985838.19 -11985838.06 0.1891 0.0112

Saturn -37529-07-28 11:45 J -11985835.16 -11985835.01 -11985834.86 0.0279 0.0062

Saturn -37529-10-25 03:06 J -11985746.52 -11985746.37 -11985746.22 0.0279 0.0052

Saturn -37528-01-21 18:42 J -11985657.84 -11985657.72 -11985657.59 0.0279 0.0169

Earth -37528-04-19 18:28 J -11985569.85 -11985569.73 -11985569.61 0.2668 0.0934

Moon -37528-04-19 18:42 J -11985569.84 -11985569.72 -11985569.60 0.2675 0.0880 *

Mars -37528-06-08 08:09 J -11985520.28 -11985520.16 -11985520.04 0.1638 0.0924

Mars -37526-05-15 07:11 J -11984814.20 -11984814.20 -11984814.20 0.1627 0.1627

Jupiter -37524-08-16 11:45 J -11983990.13 -11983990.01 -11983989.90 0.0507 0.0302

Jupiter -37524-11-13 23:45 J -11983900.63 -11983900.51 -11983900.38 0.0503 0.0283

Pluto -37522-03-28 10:18 J -11983401.10 -11983401.07 -11983401.02 0.0077 0.0075

Pluto -37522-06-24 11:45 J -11983313.07 -11983313.01 -11983312.92 0.0077 0.0067

Venus -37522-07-24 03:35 J -11983283.47 -11983283.35 -11983283.23 0.3760 0.0544

Pluto -37522-09-20 13:26 J -11983225.03 -11983224.94 -11983224.84 0.0077 0.0058

Pluto -37522-12-17 14:52 J -11983136.99 -11983136.88 -11983136.76 0.0077 0.0050

Pluto -37521-03-14 16:04 J -11983048.94 -11983048.83 -11983048.69 0.0077 0.0043

Moon -37521-04-12 04:18 J -11983020.41 -11983020.32 -11983020.24 0.2672 0.1901

Earth -37521-04-12 05:16 J -11983020.37 -11983020.28 -11983020.19 0.2673 0.1880 *

Pluto -37521-06-10 17:45 J -11982960.89 -11982960.76 -11982960.63 0.0077 0.0035

Pluto -37521-09-06 18:57 J -11982872.84 -11982872.71 -11982872.56 0.0077 0.0028

Pluto -37521-12-03 20:38 J -11982784.79 -11982784.64 -11982784.50 0.0077 0.0020

Pluto -37520-03-01 21:50 J -11982696.73 -11982696.59 -11982696.44 0.0076 0.0012

Pluto -37520-05-28 23:16 J -11982608.68 -11982608.53 -11982608.38 0.0076 0.0005

Pluto -37520-08-25 00:42 J -11982520.62 -11982520.47 -11982520.33 0.0076 0.0003

Pluto -37520-11-21 01:54 J -11982432.57 -11982432.42 -11982432.27 0.0076 0.0010

Mars -37520-12-15 12:57 J -11982408.06 -11982407.96 -11982407.85 0.1886 0.0956

Pluto -37519-02-17 03:06 J -11982344.51 -11982344.37 -11982344.22 0.0076 0.0017

Pluto -37519-05-16 04:33 J -11982256.45 -11982256.31 -11982256.17 0.0076 0.0024

Pluto -37519-08-12 05:30 J -11982168.39 -11982168.27 -11982168.12 0.0076 0.0032

Mars -37519-10-29 13:40 J -11982089.96 -11982089.93 -11982089.89 0.1641 0.1594

Pluto -37519-11-08 06:57 J -11982080.33 -11982080.21 -11982080.07 0.0075 0.0038

Pluto -37518-02-04 08:09 J -11981992.27 -11981992.16 -11981992.03 0.0075 0.0045

Pluto -37518-05-03 09:21 J -11981904.20 -11981904.11 -11981903.99 0.0075 0.0052

Venus -37518-07-25 10:47 J -11981821.09 -11981821.05 -11981821.01 0.3614 0.3373

Pluto -37518-07-30 10:33 J -11981816.14 -11981816.06 -11981815.95 0.0075 0.0059

Earth -37518-10-22 14:23 J -11981732.02 -11981731.90 -11981731.77 0.2664 0.0671

Moon -37518-10-22 14:52 J -11981732.00 -11981731.88 -11981731.76 0.2670 0.0784 *

Pluto -37518-10-26 11:59 J -11981728.06 -11981728.00 -11981727.92 0.0075 0.0065

Jupiter -37517-01-15 03:06 J -11981647.51 -11981647.37 -11981647.22 0.0522 0.0188

Pluto -37517-01-22 13:11 J -11981639.98 -11981639.95 -11981639.91 0.0075 0.0072

Jupiter -37517-04-13 23:30 J -11981557.55 -11981557.52 -11981557.49 0.0526 0.0511

Mars -37517-10-04 13:54 J -11981384.03 -11981383.92 -11981383.81 0.1629 0.1038

Venus -37516-02-06 00:57 J -11981259.52 -11981259.46 -11981259.39 0.3756 0.3141

Earth -37515-04-22 17:16 J -11980818.86 -11980818.78 -11980818.69 0.2666 0.1988

Moon -37515-04-22 18:28 J -11980818.81 -11980818.73 -11980818.66 0.2670 0.2146 *

Saturn -37515-09-10 01:26 J -11980678.53 -11980678.44 -11980678.34 0.0281 0.0223

Saturn -37515-12-07 17:45 J -11980589.91 -11980589.76 -11980589.62 0.0280 0.0103

Saturn -37514-03-06 09:35 J -11980501.26 -11980501.10 -11980500.95 0.0280 0.0015

Saturn -37514-06-03 00:57 J -11980412.59 -11980412.46 -11980412.32 0.0280 0.0130

Saturn -37514-08-30 16:04 J -11980323.90 -11980323.83 -11980323.75 0.0280 0.0241

Venus -37512-02-07 06:42 J -11979797.34 -11979797.22 -11979797.10 0.3618 0.0345

Jupiter -37512-06-04 13:40 J -11979679.99 -11979679.93 -11979679.87 0.0508 0.0457

Jupiter -37512-09-02 01:26 J -11979590.58 -11979590.44 -11979590.29 0.0504 0.0126

Moon -37511-10-15 00:14 J -11979182.55 -11979182.49 -11979182.42 0.2659 0.2262

Earth -37511-10-15 01:26 J -11979182.52 -11979182.44 -11979182.37 0.2659 0.2158 *

Mars -37510-05-07 18:42 J -11978977.75 -11978977.72 -11978977.68 0.1882 0.1792

Mars -37508-04-12 21:50 J -11978271.62 -11978271.59 -11978271.56 0.1897 0.1841

Moon -37508-04-15 02:23 J -11978269.52 -11978269.40 -11978269.28 0.2674 0.0967

Earth -37508-04-15 03:21 J -11978269.48 -11978269.36 -11978269.24 0.2671 0.0913 *

Mars -37507-02-24 20:23 J -11977953.79 -11977953.65 -11977953.51 0.1632 0.0432

Venus -37507-08-24 02:09 J -11977773.49 -11977773.41 -11977773.33 0.3621 0.2573

Jupiter -37506-11-03 03:06 J -11977337.48 -11977337.37 -11977337.26 0.0521 0.0368

Jupiter -37505-01-31 23:59 J -11977247.62 -11977247.50 -11977247.38 0.0525 0.0336

Earth -37505-10-24 11:59 J -11976981.10 -11976981.00 -11976980.90 0.2665 0.1617

Moon -37505-10-24 12:57 J -11976981.06 -11976980.96 -11976980.86 0.2667 0.1616 *

Jupiter -37500-06-21 04:04 J -11975280.48 -11975280.33 -11975280.18 0.0505 0.0022

Saturn -37500-09-17 23:59 J -11975191.60 -11975191.50 -11975191.39 0.0278 0.0190

Saturn -37500-12-15 15:06 J -11975103.02 -11975102.87 -11975102.73 0.0279 0.0079

Uranus -37499-02-08 05:16 J -11975048.29 -11975048.28 -11975048.24 0.0133 0.0131

Saturn -37499-03-14 06:14 J -11975014.39 -11975014.24 -11975014.08 0.0279 0.0035

Uranus -37499-05-07 10:04 J -11974960.16 -11974960.08 -11974959.98 0.0133 0.0109

Saturn -37499-06-10 21:50 J -11974925.71 -11974925.59 -11974925.45 0.0279 0.0151

Uranus -37499-08-03 14:38 J -11974872.00 -11974871.89 -11974871.76 0.0133 0.0088

Mars -37499-09-03 02:38 J -11974841.51 -11974841.39 -11974841.28 0.1894 0.0901

Saturn -37499-09-07 13:54 J -11974836.95 -11974836.92 -11974836.88 0.0279 0.0270

Uranus -37499-10-30 19:11 J -11974783.83 -11974783.70 -11974783.56 0.0133 0.0067

Uranus -37498-01-26 23:59 J -11974695.65 -11974695.50 -11974695.36 0.0133 0.0046

Uranus -37498-04-25 04:18 J -11974607.47 -11974607.32 -11974607.16 0.0133 0.0025

Mars -37498-07-18 02:38 J -11974523.54 -11974523.39 -11974523.25 0.1635 0.0197

Uranus -37498-07-22 08:52 J -11974519.29 -11974519.13 -11974518.98 0.0133 0.0006

Moon -37498-10-17 22:47 J -11974431.66 -11974431.55 -11974431.43 0.2665 0.1221

Earth -37498-10-17 23:45 J -11974431.63 -11974431.51 -11974431.39 0.2661 0.1128 *

Uranus -37498-10-18 13:11 J -11974431.11 -11974430.95 -11974430.79 0.0133 0.0016

Uranus -37497-01-14 17:30 J -11974342.92 -11974342.77 -11974342.62 0.0133 0.0036

Uranus -37497-04-11 21:50 J -11974254.73 -11974254.59 -11974254.45 0.0133 0.0056

Uranus -37497-07-09 02:09 J -11974166.54 -11974166.41 -11974166.28 0.0133 0.0076

Uranus -37497-10-05 06:14 J -11974078.34 -11974078.24 -11974078.13 0.0133 0.0096

Uranus -37496-01-01 10:18 J -11973990.13 -11973990.07 -11973989.98 0.0132 0.0116

Moon -37495-04-18 01:11 J -11973518.58 -11973518.45 -11973518.32 0.2676 0.0030

Earth -37495-04-18 01:26 J -11973518.57 -11973518.44 -11973518.31 0.2669 0.0115 *

Jupiter -37494-11-19 23:30 J -11972937.66 -11972937.52 -11972937.37 0.0524 0.0151

Earth -37492-10-27 09:21 J -11972230.14 -11972230.11 -11972230.07 0.2667 0.2532

Moon -37492-10-27 10:18 J -11972230.09 -11972230.07 -11972230.05 0.2665 0.2616 *

Mars -37489-01-24 07:40 J -11971411.31 -11971411.18 -11971411.05 0.1890 0.0010

Mars -37489-12-07 08:23 J -11971093.27 -11971093.15 -11971093.02 0.1638 0.0841

Jupiter -37488-04-09 06:57 J -11970970.34 -11970970.21 -11970970.07 0.0506 0.0161

Moon -37488-04-10 12:14 J -11970969.01 -11970968.99 -11970968.97 0.2670 0.2615

Earth -37488-04-10 12:57 J -11970968.97 -11970968.96 -11970968.95 0.2674 0.2650 *

Jupiter -37488-07-07 19:26 J -11970880.76 -11970880.69 -11970880.61 0.0503 0.0429

Saturn -37485-01-28 03:21 J -11969946.43 -11969946.36 -11969946.29 0.0280 0.0250

Saturn -37485-04-25 19:40 J -11969857.82 -11969857.68 -11969857.54 0.0280 0.0129

Saturn -37485-07-23 11:30 J -11969769.17 -11969769.02 -11969768.86 0.0280 0.0013

Moon -37485-10-19 21:50 J -11969680.72 -11969680.59 -11969680.46 0.2669 0.0094

Earth -37485-10-19 21:50 J -11969680.71 -11969680.59 -11969680.46 0.2662 0.0153 *

Saturn -37485-10-20 03:06 J -11969680.51 -11969680.37 -11969680.23 0.0280 0.0104 *

Saturn -37484-01-16 18:14 J -11969591.83 -11969591.74 -11969591.64 0.0279 0.0216

Neptune -37482-04-15 15:06 J -11968772.88 -11968772.87 -11968772.82 0.0089 0.0087

Earth -37482-04-20 23:59 J -11968767.62 -11968767.50 -11968767.38 0.2668 0.1119

Moon -37482-04-21 00:28 J -11968767.59 -11968767.48 -11968767.36 0.2674 0.1219 *

Neptune -37482-07-12 17:02 J -11968684.84 -11968684.79 -11968684.72 0.0089 0.0080

Jupiter -37482-09-08 00:14 J -11968627.65 -11968627.49 -11968627.34 0.0523 0.0025

Neptune -37482-10-08 18:57 J -11968596.79 -11968596.71 -11968596.62 0.0089 0.0073

Neptune -37481-01-04 20:52 J -11968508.73 -11968508.63 -11968508.53 0.0089 0.0066

Neptune -37481-04-01 22:47 J -11968420.66 -11968420.55 -11968420.44 0.0089 0.0060

Neptune -37481-06-29 00:14 J -11968332.60 -11968332.49 -11968332.36 0.0089 0.0053

Neptune -37481-09-25 02:09 J -11968244.53 -11968244.41 -11968244.27 0.0089 0.0046

Neptune -37481-12-22 04:04 J -11968156.46 -11968156.33 -11968156.19 0.0089 0.0039

Neptune -37480-03-20 05:59 J -11968068.39 -11968068.25 -11968068.11 0.0089 0.0032

Mars -37480-06-15 12:57 J -11967981.07 -11967980.96 -11967980.85 0.1886 0.0877

Neptune -37480-06-16 07:54 J -11967980.31 -11967980.17 -11967980.03 0.0089 0.0025

Neptune -37480-09-12 09:50 J -11967892.24 -11967892.09 -11967891.94 0.0089 0.0018

Neptune -37480-12-09 11:45 J -11967804.16 -11967804.01 -11967803.86 0.0089 0.0011

Neptune -37479-03-07 13:40 J -11967716.08 -11967715.93 -11967715.78 0.0089 0.0004

Mars -37479-04-29 14:09 J -11967662.96 -11967662.91 -11967662.85 0.1642 0.1498

Neptune -37479-06-03 15:35 J -11967628.00 -11967627.85 -11967627.70 0.0089 0.0004

Neptune -37479-08-30 17:16 J -11967539.92 -11967539.78 -11967539.62 0.0089 0.0011

Neptune -37479-11-26 19:11 J -11967451.84 -11967451.70 -11967451.55 0.0089 0.0018

Neptune -37478-02-22 21:06 J -11967363.76 -11967363.62 -11967363.47 0.0089 0.0025

Neptune -37478-05-21 23:02 J -11967275.67 -11967275.54 -11967275.39 0.0089 0.0033

Neptune -37478-08-18 01:11 J -11967187.59 -11967187.45 -11967187.32 0.0089 0.0039

Neptune -37478-11-14 02:52 J -11967099.50 -11967099.38 -11967099.24 0.0089 0.0047

Neptune -37477-02-10 04:47 J -11967011.41 -11967011.30 -11967011.17 0.0089 0.0055

Mars -37477-04-04 14:09 J -11966957.01 -11966956.91 -11966956.81 0.1630 0.1121

Neptune -37477-05-08 06:57 J -11966923.31 -11966923.21 -11966923.10 0.0089 0.0061

Neptune -37477-08-04 08:38 J -11966835.22 -11966835.14 -11966835.03 0.0089 0.0069

Neptune -37477-10-31 10:47 J -11966747.12 -11966747.05 -11966746.96 0.0089 0.0076

Jupiter -37476-01-26 09:50 J -11966660.20 -11966660.09 -11966659.97 0.0507 0.0301

Neptune -37476-01-27 12:57 J -11966659.00 -11966658.96 -11966658.90 0.0089 0.0083

Jupiter -37476-04-25 22:04 J -11966570.70 -11966570.58 -11966570.46 0.0503 0.0283

Moon -37475-04-13 09:35 J -11966218.19 -11966218.10 -11966218.01 0.2672 0.1840

Earth -37475-04-13 10:33 J -11966218.15 -11966218.06 -11966217.96 0.2673 0.1708 *

Earth -37472-10-22 19:54 J -11964929.79 -11964929.67 -11964929.55 0.2664 0.0847

Moon -37472-10-22 20:23 J -11964929.77 -11964929.65 -11964929.53 0.2670 0.0809 *

Venus -37471-08-14 05:16 J -11964634.36 -11964634.28 -11964634.20 0.3762 0.2826

Mars -37471-11-05 18:57 J -11964550.76 -11964550.71 -11964550.66 0.1882 0.1701

Saturn -37470-02-05 00:28 J -11964459.57 -11964459.48 -11964459.40 0.0279 0.0229

Saturn -37470-05-04 15:06 J -11964371.00 -11964370.87 -11964370.73 0.0279 0.0119

Jupiter -37470-06-27 00:57 J -11964317.61 -11964317.46 -11964317.32 0.0522 0.0193

Saturn -37470-08-01 06:28 J -11964282.39 -11964282.23 -11964282.08 0.0279 0.0010

Jupiter -37470-09-24 21:21 J -11964227.65 -11964227.61 -11964227.58 0.0526 0.0508

Saturn -37470-10-28 21:50 J -11964193.73 -11964193.59 -11964193.45 0.0279 0.0109

Saturn -37469-01-25 13:40 J -11964105.02 -11964104.93 -11964104.84 0.0279 0.0227

Earth -37469-04-22 22:47 J -11964016.62 -11964016.55 -11964016.47 0.2666 0.2181

Moon -37469-04-22 23:59 J -11964016.58 -11964016.50 -11964016.43 0.2670 0.2173 *

Mars -37468-08-25 20:38 J -11963526.77 -11963526.64 -11963526.50 0.1632 0.0524

Venus -37465-02-28 02:23 J -11962610.52 -11962610.40 -11962610.28 0.3758 0.0766

Moon -37465-10-15 05:45 J -11962380.34 -11962380.26 -11962380.18 0.2661 0.1995

Earth -37465-10-15 06:42 J -11962380.30 -11962380.22 -11962380.13 0.2659 0.1975 *

Jupiter -37465-11-14 12:42 J -11962350.04 -11962349.97 -11962349.91 0.0508 0.0444

Jupiter -37464-02-12 00:28 J -11962260.62 -11962260.48 -11962260.34 0.0504 0.0137

Moon -37462-04-16 07:54 J -11961467.29 -11961467.17 -11961467.05 0.2675 0.0768

Earth -37462-04-16 08:38 J -11961467.26 -11961467.14 -11961467.02 0.2671 0.0735 *

Venus -37461-02-29 09:21 J -11961148.20 -11961148.11 -11961148.01 0.3615 0.2228

Mars -37459-03-04 02:52 J -11960414.49 -11960414.38 -11960414.27 0.1894 0.1001

Earth -37459-10-25 17:16 J -11960178.87 -11960178.78 -11960178.68 0.2666 0.1785

Moon -37459-10-25 18:28 J -11960178.82 -11960178.73 -11960178.65 0.2667 0.1934 *

Mars -37458-01-16 02:52 J -11960096.52 -11960096.38 -11960096.23 0.1635 0.0110

Jupiter -37458-04-15 01:26 J -11960007.55 -11960007.44 -11960007.33 0.0521 0.0364

Jupiter -37458-07-13 22:18 J -11959917.69 -11959917.57 -11959917.46 0.0525 0.0341

Uranus -37456-04-22 09:21 J -11959269.14 -11959269.11 -11959269.07 0.0146 0.0141

Uranus -37456-07-19 14:38 J -11959180.98 -11959180.89 -11959180.80 0.0146 0.0115

Saturn -37456-09-12 19:54 J -11959125.79 -11959125.67 -11959125.54 0.0280 0.0168

Venus -37456-09-14 05:16 J -11959124.40 -11959124.28 -11959124.17 0.3618 0.0780

Uranus -37456-10-15 19:54 J -11959092.79 -11959092.67 -11959092.55 0.0146 0.0089

Saturn -37456-12-10 11:59 J -11959037.15 -11959037.00 -11959036.84 0.0280 0.0049

Uranus -37455-01-12 01:11 J -11959004.59 -11959004.45 -11959004.31 0.0146 0.0063

Saturn -37455-03-09 03:50 J -11958948.49 -11958948.34 -11958948.19 0.0280 0.0068

Uranus -37455-04-10 06:42 J -11958916.37 -11958916.22 -11958916.07 0.0146 0.0036

Saturn -37455-06-05 18:57 J -11958859.82 -11958859.71 -11958859.59 0.0280 0.0181

Uranus -37455-07-07 11:59 J -11958828.15 -11958828.00 -11958827.84 0.0146 0.0010

Uranus -37455-10-03 17:30 J -11958739.92 -11958739.77 -11958739.61 0.0146 0.0019

Uranus -37455-12-30 23:16 J -11958651.68 -11958651.53 -11958651.38 0.0146 0.0046

Uranus -37454-03-29 04:47 J -11958563.44 -11958563.30 -11958563.16 0.0146 0.0074

Uranus -37454-06-25 10:18 J -11958475.18 -11958475.07 -11958474.95 0.0146 0.0102

Uranus -37454-09-21 16:04 J -11958386.90 -11958386.83 -11958386.76 0.0146 0.0130

Jupiter -37453-12-01 02:09 J -11957950.55 -11957950.41 -11957950.26 0.0505 0.0022

Moon -37452-10-18 04:33 J -11957629.43 -11957629.31 -11957629.20 0.2665 0.1007

Earth -37452-10-18 05:16 J -11957629.40 -11957629.28 -11957629.16 0.2661 0.0950 *

Mars -37450-07-25 07:40 J -11956984.30 -11956984.18 -11956984.05 0.1890 0.0115

Moon -37449-04-18 06:42 J -11956716.35 -11956716.22 -11956716.09 0.2676 0.0282

Earth -37449-04-18 06:57 J -11956716.34 -11956716.21 -11956716.08 0.2669 0.0271 *

Mars -37449-06-07 08:52 J -11956666.26 -11956666.13 -11956666.00 0.1638 0.0748

Jupiter -37446-05-01 22:33 J -11955607.70 -11955607.56 -11955607.41 0.0524 0.0165

Moon -37442-04-11 17:30 J -11954166.80 -11954166.77 -11954166.75 0.2670 0.2604

Earth -37442-04-11 18:14 J -11954166.78 -11954166.74 -11954166.70 0.2674 0.2482 *

Saturn -37441-06-24 03:35 J -11953727.41 -11953727.35 -11953727.28 0.0278 0.0246

Jupiter -37441-09-19 04:47 J -11953640.44 -11953640.30 -11953640.16 0.0506 0.0167

Saturn -37441-09-20 18:28 J -11953638.86 -11953638.73 -11953638.60 0.0278 0.0136

Mars -37441-12-14 13:11 J -11953554.07 -11953553.95 -11953553.84 0.1886 0.0784

Jupiter -37441-12-17 17:02 J -11953550.86 -11953550.79 -11953550.70 0.0503 0.0422

Saturn -37441-12-18 09:35 J -11953550.26 -11953550.10 -11953549.95 0.0279 0.0025

Saturn -37440-03-17 00:57 J -11953461.61 -11953461.46 -11953461.31 0.0279 0.0091

Saturn -37440-06-13 16:33 J -11953372.90 -11953372.81 -11953372.70 0.0279 0.0209

Mars -37440-10-28 14:38 J -11953235.97 -11953235.89 -11953235.82 0.1642 0.1414

Moon -37439-10-21 03:21 J -11952878.49 -11952878.36 -11952878.23 0.2670 0.0037

Earth -37439-10-21 03:21 J -11952878.49 -11952878.36 -11952878.23 0.2663 0.0048 *

Mars -37438-10-04 14:23 J -11952529.99 -11952529.90 -11952529.80 0.1630 0.1204

Earth -37436-04-21 05:30 J -11951965.38 -11951965.27 -11951965.15 0.2668 0.1310

Moon -37436-04-21 06:14 J -11951965.35 -11951965.24 -11951965.13 0.2673 0.1310 *

Jupiter -37434-02-17 22:04 J -11951297.74 -11951297.58 -11951297.43 0.0523 0.0026

Mars -37431-05-06 18:57 J -11950123.77 -11950123.71 -11950123.64 0.1881 0.1616

Moon -37429-04-13 14:52 J -11949415.98 -11949415.88 -11949415.77 0.2672 0.1542

Earth -37429-04-13 16:04 J -11949415.94 -11949415.83 -11949415.73 0.2672 0.1539 *

Jupiter -37429-07-08 07:40 J -11949330.29 -11949330.18 -11949330.06 0.0507 0.0306

Jupiter -37429-10-05 19:54 J -11949240.79 -11949240.67 -11949240.55 0.0504 0.0280

Mars -37428-02-23 21:06 J -11949099.76 -11949099.62 -11949099.49 0.1632 0.0605

Saturn -37426-01-30 22:18 J -11948393.68 -11948393.57 -11948393.45 0.0280 0.0192

Saturn -37426-04-29 14:38 J -11948305.04 -11948304.89 -11948304.74 0.0280 0.0072

Saturn -37426-07-27 06:14 J -11948216.39 -11948216.24 -11948216.09 0.0280 0.0045

Saturn -37426-10-23 21:35 J -11948127.72 -11948127.60 -11948127.47 0.0280 0.0159

Earth -37426-10-24 01:11 J -11948127.57 -11948127.45 -11948127.34 0.2664 0.1013 *

Moon -37426-10-24 01:40 J -11948127.54 -11948127.43 -11948127.31 0.2669 0.1123 *

Saturn -37425-01-20 12:28 J -11948039.01 -11948038.98 -11948038.94 0.0279 0.0270

Earth -37423-04-24 04:33 J -11947214.37 -11947214.31 -11947214.25 0.2666 0.2374

Moon -37423-04-24 05:30 J -11947214.31 -11947214.27 -11947214.23 0.2668 0.2532 *

Jupiter -37423-12-06 22:18 J -11946987.71 -11946987.57 -11946987.42 0.0522 0.0201

Jupiter -37422-03-06 18:42 J -11946897.76 -11946897.72 -11946897.67 0.0526 0.0499

Mars -37420-09-02 02:52 J -11945987.49 -11945987.38 -11945987.28 0.1894 0.1083

Mars -37419-07-17 03:21 J -11945669.51 -11945669.36 -11945669.22 0.1635 0.0026

Moon -37419-10-16 11:16 J -11945578.12 -11945578.03 -11945577.94 0.2661 0.1936

Earth -37419-10-16 12:14 J -11945578.08 -11945577.99 -11945577.89 0.2660 0.1788 *

Jupiter -37417-04-26 10:47 J -11945020.12 -11945020.05 -11945019.98 0.0508 0.0445

Jupiter -37417-07-24 22:33 J -11944930.70 -11944930.56 -11944930.42 0.0504 0.0136

Moon -37416-04-16 13:26 J -11944665.06 -11944664.94 -11944664.82 0.2676 0.0655

Earth -37416-04-16 14:09 J -11944665.04 -11944664.91 -11944664.79 0.2671 0.0557 *

Uranus -37415-02-28 12:14 J -11944347.03 -11944346.99 -11944346.93 0.0133 0.0126

Uranus -37415-05-27 17:02 J -11944258.89 -11944258.79 -11944258.69 0.0133 0.0104

Uranus -37415-08-23 21:35 J -11944170.72 -11944170.60 -11944170.47 0.0133 0.0083

Uranus -37415-11-20 02:09 J -11944082.55 -11944082.41 -11944082.27 0.0133 0.0062

Uranus -37414-02-16 06:42 J -11943994.37 -11943994.22 -11943994.07 0.0133 0.0041

Venus -37414-03-21 04:04 J -11943961.44 -11943961.33 -11943961.22 0.3761 0.1543

Uranus -37414-05-15 11:16 J -11943906.19 -11943906.03 -11943905.88 0.0133 0.0021

Uranus -37414-08-11 15:35 J -11943818.01 -11943817.85 -11943817.69 0.0133 0.0001

Uranus -37414-11-07 19:54 J -11943729.82 -11943729.67 -11943729.51 0.0133 0.0021

Uranus -37413-02-04 00:14 J -11943641.63 -11943641.49 -11943641.34 0.0133 0.0041

Uranus -37413-05-02 04:33 J -11943553.44 -11943553.31 -11943553.17 0.0133 0.0061

Uranus -37413-07-29 08:52 J -11943465.25 -11943465.13 -11943465.00 0.0132 0.0081

Uranus -37413-10-25 12:57 J -11943377.05 -11943376.96 -11943376.85 0.0132 0.0101

Earth -37413-10-25 22:33 J -11943376.64 -11943376.56 -11943376.47 0.2666 0.1953

Moon -37413-10-25 23:45 J -11943376.60 -11943376.51 -11943376.43 0.2667 0.1942 *

Uranus -37412-01-21 17:16 J -11943288.83 -11943288.78 -11943288.71 0.0132 0.0120

Saturn -37411-02-07 18:42 J -11942906.83 -11942906.72 -11942906.59 0.0279 0.0175

Saturn -37411-05-07 09:50 J -11942818.24 -11942818.09 -11942817.94 0.0279 0.0063

Saturn -37411-08-04 01:11 J -11942729.60 -11942729.45 -11942729.30 0.0279 0.0051

Jupiter -37411-09-24 22:47 J -11942677.66 -11942677.55 -11942677.44 0.0521 0.0373

Saturn -37411-10-31 16:47 J -11942640.92 -11942640.80 -11942640.67 0.0279 0.0168

Jupiter -37411-12-23 19:54 J -11942587.79 -11942587.67 -11942587.56 0.0525 0.0334

Mars -37410-01-23 07:54 J -11942557.30 -11942557.17 -11942557.04 0.1890 0.0180

Mars -37410-12-07 09:21 J -11942239.25 -11942239.11 -11942238.98 0.1638 0.0657

Venus -37409-10-04 01:26 J -11941937.54 -11941937.44 -11941937.34 0.3757 0.2087

Moon -37406-10-19 10:04 J -11940827.20 -11940827.08 -11940826.96 0.2666 0.0788

Earth -37406-10-19 10:47 J -11940827.18 -11940827.05 -11940826.93 0.2661 0.0774 *

Jupiter -37405-05-13 01:11 J -11940620.60 -11940620.45 -11940620.31 0.0505 0.0013

Venus -37405-10-05 08:09 J -11940475.28 -11940475.16 -11940475.05 0.3616 0.1085

Moon -37403-04-19 12:14 J -11939914.11 -11939913.99 -11939913.86 0.2675 0.0451

Earth -37403-04-19 12:28 J -11939914.11 -11939913.98 -11939913.85 0.2669 0.0456 *

Mars -37401-06-14 13:26 J -11939127.06 -11939126.94 -11939126.82 0.1886 0.0685

Mars -37400-04-28 14:52 J -11938808.96 -11938808.88 -11938808.79 0.1642 0.1321

Venus -37399-04-21 03:35 J -11938451.45 -11938451.35 -11938451.24 0.3619 0.1886

Neptune -37399-07-12 21:21 J -11938368.66 -11938368.61 -11938368.56 0.0088 0.0084

Neptune -37399-10-08 23:16 J -11938280.59 -11938280.53 -11938280.42 0.0088 0.0077

Jupiter -37399-10-11 20:52 J -11938277.78 -11938277.63 -11938277.49 0.0524 0.0167

Neptune -37398-01-05 01:54 J -11938192.51 -11938192.42 -11938192.29 0.0088 0.0069

Neptune -37398-04-03 04:33 J -11938104.42 -11938104.31 -11938104.17 0.0088 0.0060

Mars -37398-04-04 14:52 J -11938102.97 -11938102.88 -11938102.80 0.1630 0.1290

Neptune -37398-06-30 07:11 J -11938016.33 -11938016.20 -11938016.05 0.0088 0.0052

Neptune -37398-09-26 09:50 J -11937928.23 -11937928.09 -11937927.94 0.0088 0.0044

Neptune -37398-12-23 12:14 J -11937840.13 -11937839.99 -11937839.83 0.0088 0.0037

Neptune -37397-03-20 14:52 J -11937752.04 -11937751.88 -11937751.72 0.0088 0.0029

Neptune -37397-06-16 17:16 J -11937663.94 -11937663.78 -11937663.61 0.0088 0.0021

Saturn -37397-06-18 22:18 J -11937661.65 -11937661.57 -11937661.48 0.0280 0.0232

Neptune -37397-09-12 19:40 J -11937575.84 -11937575.68 -11937575.51 0.0088 0.0014

Saturn -37397-09-15 14:38 J -11937573.03 -11937572.89 -11937572.74 0.0280 0.0111

Neptune -37397-12-09 22:18 J -11937487.74 -11937487.57 -11937487.40 0.0088 0.0005

Saturn -37397-12-13 06:42 J -11937484.38 -11937484.22 -11937484.07 0.0280 0.0009

Neptune -37396-03-08 00:42 J -11937399.63 -11937399.47 -11937399.30 0.0088 0.0003

Saturn -37396-03-11 22:04 J -11937395.71 -11937395.58 -11937395.44 0.0280 0.0123

Moon -37396-04-11 22:47 J -11937364.62 -11937364.55 -11937364.49 0.2670 0.2305

Earth -37396-04-11 23:30 J -11937364.58 -11937364.52 -11937364.46 0.2674 0.2317 *

Neptune -37396-06-04 03:06 J -11937311.53 -11937311.37 -11937311.20 0.0088 0.0010

Saturn -37396-06-08 13:11 J -11937307.03 -11937306.95 -11937306.86 0.0280 0.0235

Neptune -37396-08-31 05:30 J -11937223.43 -11937223.27 -11937223.10 0.0088 0.0018

Neptune -37396-11-27 07:54 J -11937135.33 -11937135.17 -11937135.01 0.0088 0.0025

Neptune -37395-02-23 10:04 J -11937047.22 -11937047.08 -11937046.91 0.0088 0.0033

Neptune -37395-05-22 12:28 J -11936959.11 -11936958.98 -11936958.82 0.0088 0.0041

Neptune -37395-08-18 15:06 J -11936871.01 -11936870.87 -11936870.73 0.0088 0.0048

Neptune -37395-11-14 17:16 J -11936782.90 -11936782.78 -11936782.65 0.0088 0.0055

Neptune -37394-02-10 19:40 J -11936694.79 -11936694.68 -11936694.56 0.0088 0.0063

Neptune -37394-05-09 21:50 J -11936606.67 -11936606.59 -11936606.48 0.0088 0.0070

Neptune -37394-08-06 00:14 J -11936518.56 -11936518.49 -11936518.40 0.0088 0.0078

Neptune -37394-11-02 02:38 J -11936430.43 -11936430.39 -11936430.34 0.0088 0.0085

Jupiter -37393-03-01 02:52 J -11936310.51 -11936310.38 -11936310.24 0.0506 0.0167

Jupiter -37393-05-29 15:21 J -11936220.94 -11936220.86 -11936220.78 0.0503 0.0422

Moon -37393-10-21 08:52 J -11936076.26 -11936076.13 -11936076.01 0.2670 0.0259

Earth -37393-10-21 08:38 J -11936076.26 -11936076.14 -11936076.01 0.2663 0.0230 *

Mars -37392-11-04 18:57 J -11935696.78 -11935696.71 -11935696.63 0.1881 0.1533

Earth -37390-04-22 11:02 J -11935163.15 -11935163.04 -11935162.93 0.2667 0.1493

Moon -37390-04-22 11:45 J -11935163.11 -11935163.01 -11935162.91 0.2673 0.1591 *

Mars -37389-08-24 21:21 J -11934672.74 -11934672.61 -11934672.48 0.1632 0.0689

Jupiter -37387-07-30 21:06 J -11933967.78 -11933967.62 -11933967.47 0.0523 0.0015

Earth -37386-10-14 19:11 J -11933526.71 -11933526.70 -11933526.70 0.2658 0.2649

Moon -37383-04-14 20:23 J -11932613.75 -11932613.65 -11932613.54 0.2673 0.1506

Earth -37383-04-14 21:21 J -11932613.72 -11932613.61 -11932613.50 0.2672 0.1362 *

Saturn -37382-06-27 21:50 J -11932174.69 -11932174.59 -11932174.48 0.0278 0.0193

Saturn -37382-09-24 12:42 J -11932086.11 -11932085.97 -11932085.82 0.0279 0.0083

Jupiter -37382-12-19 05:30 J -11932000.38 -11932000.27 -11932000.16 0.0507 0.0312

Saturn -37382-12-22 04:04 J -11931997.48 -11931997.33 -11931997.18 0.0279 0.0032

Jupiter -37381-03-17 17:30 J -11931910.89 -11931910.77 -11931910.64 0.0504 0.0274

Saturn -37381-03-19 19:40 J -11931908.81 -11931908.68 -11931908.55 0.0279 0.0148

Saturn -37381-06-16 11:30 J -11931820.05 -11931820.02 -11931819.97 0.0279 0.0268

Mars -37380-03-03 02:52 J -11931560.48 -11931560.38 -11931560.28 0.1894 0.1176

Earth -37380-10-24 06:28 J -11931325.34 -11931325.23 -11931325.12 0.2665 0.1183

Moon -37380-10-24 07:11 J -11931325.31 -11931325.20 -11931325.08 0.2668 0.1204 *

Mars -37379-01-15 03:35 J -11931242.49 -11931242.35 -11931242.20 0.1635 0.0070

Earth -37377-04-24 10:04 J -11930412.11 -11930412.08 -11930412.05 0.2666 0.2569

Moon -37377-04-24 11:02 J -11930412.07 -11930412.04 -11930412.01 0.2666 0.2580 *

Jupiter -37375-05-18 20:09 J -11929657.80 -11929657.66 -11929657.51 0.0522 0.0203

Jupiter -37375-08-16 16:33 J -11929567.85 -11929567.81 -11929567.76 0.0526 0.0496

Moon -37373-10-16 16:47 J -11928775.91 -11928775.80 -11928775.70 0.2662 0.1611

Earth -37373-10-16 17:45 J -11928775.86 -11928775.76 -11928775.66 0.2660 0.1607 *

Uranus -37372-05-12 16:18 J -11928567.87 -11928567.82 -11928567.76 0.0146 0.0135

Uranus -37372-08-08 21:35 J -11928479.69 -11928479.60 -11928479.49 0.0146 0.0109

Uranus -37372-11-05 02:52 J -11928391.50 -11928391.38 -11928391.25 0.0146 0.0083

Uranus -37371-02-01 08:23 J -11928303.29 -11928303.15 -11928303.01 0.0146 0.0056

Uranus -37371-04-30 13:54 J -11928215.08 -11928214.92 -11928214.77 0.0146 0.0029

Mars -37371-07-24 08:09 J -11928130.29 -11928130.16 -11928130.04 0.1890 0.0278

Uranus -37371-07-27 19:11 J -11928126.85 -11928126.70 -11928126.54 0.0146 0.0003

Uranus -37371-10-24 00:42 J -11928038.62 -11928038.47 -11928038.31 0.0146 0.0026

Uranus -37370-01-20 06:14 J -11927950.38 -11927950.24 -11927950.09 0.0146 0.0053

Moon -37370-04-17 18:42 J -11927862.84 -11927862.72 -11927862.59 0.2676 0.0375

Earth -37370-04-17 19:26 J -11927862.82 -11927862.69 -11927862.56 0.2670 0.0383 *

Uranus -37370-04-18 11:45 J -11927862.13 -11927862.01 -11927861.87 0.0146 0.0081

Mars -37370-06-07 09:35 J -11927812.24 -11927812.10 -11927811.96 0.1639 0.0573

Uranus -37370-07-15 17:30 J -11927773.87 -11927773.77 -11927773.66 0.0146 0.0109

Jupiter -37370-10-07 08:38 J -11927690.20 -11927690.14 -11927690.07 0.0508 0.0449

Uranus -37370-10-11 23:16 J -11927685.58 -11927685.53 -11927685.47 0.0146 0.0137

Jupiter -37369-01-04 20:23 J -11927600.79 -11927600.65 -11927600.51 0.0505 0.0133

Saturn -37368-11-06 00:57 J -11926929.51 -11926929.46 -11926929.38 0.0280 0.0254

Saturn -37367-02-02 17:30 J -11926840.91 -11926840.77 -11926840.63 0.0280 0.0132

Saturn -37367-05-02 09:21 J -11926752.26 -11926752.11 -11926751.95 0.0280 0.0016

Saturn -37367-07-30 00:57 J -11926663.60 -11926663.46 -11926663.31 0.0280 0.0102

Saturn -37367-10-26 16:04 J -11926574.92 -11926574.83 -11926574.73 0.0280 0.0215

Earth -37367-10-27 04:04 J -11926574.41 -11926574.33 -11926574.26 0.2666 0.2117

Moon -37367-10-27 05:02 J -11926574.36 -11926574.29 -11926574.23 0.2667 0.2262 *

Jupiter -37363-03-06 20:23 J -11925347.76 -11925347.65 -11925347.54 0.0521 0.0381

Jupiter -37363-06-04 17:16 J -11925257.90 -11925257.78 -11925257.66 0.0525 0.0325

Mars -37362-12-14 13:11 J -11924700.07 -11924699.95 -11924699.83 0.1886 0.0614

Mars -37361-10-27 15:21 J -11924381.95 -11924381.86 -11924381.76 0.1642 0.1225

Pluto -37360-03-05 21:06 J -11924252.65 -11924252.62 -11924252.54 0.0067 0.0063

Pluto -37360-06-01 22:47 J -11924164.63 -11924164.55 -11924164.46 0.0067 0.0057

Pluto -37360-08-28 23:45 J -11924076.60 -11924076.51 -11924076.39 0.0067 0.0052

Moon -37360-10-19 15:50 J -11924024.97 -11924024.84 -11924024.72 0.2668 0.0676

Earth -37360-10-19 16:04 J -11924024.95 -11924024.83 -11924024.70 0.2662 0.0590 *

Pluto -37360-11-25 01:26 J -11923988.56 -11923988.44 -11923988.32 0.0067 0.0046

Pluto -37359-02-21 02:23 J -11923900.52 -11923900.40 -11923900.26 0.0067 0.0041

Pluto -37359-05-20 03:50 J -11923812.47 -11923812.34 -11923812.19 0.0067 0.0036

Pluto -37359-08-16 05:02 J -11923724.43 -11923724.29 -11923724.13 0.0067 0.0030

Mars -37359-10-03 15:06 J -11923675.95 -11923675.87 -11923675.80 0.1630 0.1372

Pluto -37359-11-12 06:28 J -11923636.38 -11923636.23 -11923636.07 0.0067 0.0024

Pluto -37358-02-08 07:54 J -11923548.33 -11923548.17 -11923548.01 0.0068 0.0019

Pluto -37358-05-07 09:21 J -11923460.28 -11923460.11 -11923459.95 0.0068 0.0013

Pluto -37358-08-03 10:47 J -11923372.22 -11923372.05 -11923371.89 0.0068 0.0007

Jupiter -37358-10-23 23:16 J -11923290.68 -11923290.53 -11923290.39 0.0505 0.0015

Venus -37358-10-26 02:52 J -11923288.50 -11923288.38 -11923288.26 0.3760 0.0272

Pluto -37358-10-30 11:59 J -11923284.17 -11923284.00 -11923283.83 0.0068 0.0002

Pluto -37357-01-26 13:26 J -11923196.11 -11923195.94 -11923195.77 0.0068 0.0005

Earth -37357-04-19 17:45 J -11923111.88 -11923111.76 -11923111.63 0.2669 0.0643

Moon -37357-04-19 17:59 J -11923111.87 -11923111.75 -11923111.62 0.2675 0.0621 *

Pluto -37357-04-23 14:38 J -11923108.05 -11923107.89 -11923107.71 0.0068 0.0011

Pluto -37357-07-20 16:18 J -11923019.99 -11923019.82 -11923019.66 0.0068 0.0017

Pluto -37357-10-16 17:45 J -11922931.92 -11922931.76 -11922931.60 0.0068 0.0023

Pluto -37356-01-12 18:57 J -11922843.86 -11922843.71 -11922843.55 0.0068 0.0029

Pluto -37356-04-10 20:38 J -11922755.79 -11922755.64 -11922755.50 0.0069 0.0035

Pluto -37356-07-07 21:35 J -11922667.72 -11922667.60 -11922667.45 0.0069 0.0042

Pluto -37356-10-03 23:02 J -11922579.64 -11922579.54 -11922579.40 0.0069 0.0048

Pluto -37356-12-31 00:28 J -11922491.56 -11922491.48 -11922491.35 0.0069 0.0054

Pluto -37355-03-29 02:09 J -11922403.48 -11922403.41 -11922403.32 0.0069 0.0060

Pluto -37355-06-25 03:50 J -11922315.38 -11922315.34 -11922315.29 0.0069 0.0067

Venus -37354-10-27 10:47 J -11921826.12 -11921826.05 -11921825.98 0.3614 0.2972

Saturn -37353-11-13 22:33 J -11921442.64 -11921442.56 -11921442.47 0.0278 0.0229

Saturn -37352-02-10 13:26 J -11921354.08 -11921353.94 -11921353.80 0.0279 0.0119

Mars -37352-05-05 19:26 J -11921269.77 -11921269.69 -11921269.61 0.1882 0.1438

Saturn -37352-05-10 04:33 J -11921265.46 -11921265.31 -11921265.16 0.0279 0.0007

Venus -37352-05-11 00:14 J -11921264.53 -11921264.49 -11921264.44 0.3756 0.3443

Saturn -37352-08-06 19:54 J -11921176.81 -11921176.67 -11921176.52 0.0279 0.0109

Saturn -37352-11-03 11:45 J -11921088.10 -11921088.01 -11921087.92 0.0279 0.0227

Jupiter -37351-03-23 18:14 J -11920947.89 -11920947.74 -11920947.60 0.0524 0.0157

Moon -37350-04-13 04:04 J -11920562.40 -11920562.33 -11920562.27 0.2670 0.2269

Earth -37350-04-13 05:02 J -11920562.37 -11920562.29 -11920562.22 0.2674 0.2148 *

Mars -37349-02-23 21:50 J -11920245.72 -11920245.59 -11920245.47 0.1632 0.0780

Venus -37348-05-12 06:42 J -11919802.34 -11919802.22 -11919802.10 0.3617 0.0120

Earth -37347-10-22 14:09 J -11919274.04 -11919273.91 -11919273.78 0.2663 0.0398

Moon -37347-10-22 14:23 J -11919274.03 -11919273.90 -11919273.78 0.2670 0.0422 *

Jupiter -37346-08-12 01:54 J -11918980.56 -11918980.42 -11918980.28 0.0506 0.0154

Jupiter -37346-11-09 14:09 J -11918890.98 -11918890.91 -11918890.83 0.0502 0.0434

Earth -37344-04-22 16:33 J -11918360.91 -11918360.81 -11918360.71 0.2667 0.1686

Moon -37344-04-22 17:16 J -11918360.88 -11918360.78 -11918360.68 0.2672 0.1720 *

Venus -37343-11-26 02:09 J -11917778.47 -11917778.41 -11917778.34 0.3620 0.2985

Mars -37341-09-01 03:06 J -11917133.46 -11917133.37 -11917133.27 0.1894 0.1279

Mars -37340-07-16 03:50 J -11916815.48 -11916815.34 -11916815.19 0.1635 0.0163

Moon -37340-10-14 23:30 J -11916724.56 -11916724.52 -11916724.47 0.2658 0.2476

Earth -37340-10-15 00:42 J -11916724.52 -11916724.47 -11916724.43 0.2659 0.2466 *

Jupiter -37339-01-09 18:57 J -11916637.86 -11916637.71 -11916637.55 0.0523 0.0018

Saturn -37338-06-22 17:30 J -11916108.89 -11916108.77 -11916108.65 0.0280 0.0173

Saturn -37338-09-19 09:35 J -11916020.25 -11916020.10 -11916019.95 0.0280 0.0053

Saturn -37338-12-17 01:11 J -11915931.60 -11915931.45 -11915931.29 0.0280 0.0064

Saturn -37337-03-14 16:33 J -11915842.92 -11915842.81 -11915842.69 0.0280 0.0178

Moon -37337-04-15 01:54 J -11915811.54 -11915811.42 -11915811.31 0.2675 0.1180

Earth -37337-04-15 02:52 J -11915811.50 -11915811.38 -11915811.27 0.2672 0.1190 *

Jupiter -37334-05-31 03:50 J -11914670.45 -11914670.34 -11914670.23 0.0507 0.0309

Jupiter -37334-08-28 15:50 J -11914580.96 -11914580.84 -11914580.72 0.0503 0.0275

Earth -37334-10-25 11:45 J -11914523.12 -11914523.01 -11914522.90 0.2665 0.1355

Moon -37334-10-25 12:42 J -11914523.07 -11914522.97 -11914522.86 0.2668 0.1449 *

Mars -37331-01-22 08:09 J -11913703.29 -11913703.16 -11913703.04 0.1890 0.0361

Uranus -37331-03-20 19:11 J -11913645.76 -11913645.70 -11913645.62 0.0133 0.0120

Uranus -37331-06-16 23:45 J -11913557.60 -11913557.51 -11913557.39 0.0133 0.0099

Uranus -37331-09-13 04:18 J -11913469.43 -11913469.32 -11913469.18 0.0133 0.0078

Mars -37331-12-06 10:04 J -11913385.22 -11913385.08 -11913384.94 0.1638 0.0483

Uranus -37331-12-10 09:06 J -11913381.26 -11913381.12 -11913380.97 0.0133 0.0057

Uranus -37330-03-08 13:40 J -11913293.08 -11913292.93 -11913292.78 0.0133 0.0036

Uranus -37330-06-04 18:14 J -11913204.90 -11913204.74 -11913204.59 0.0133 0.0015

Uranus -37330-08-31 22:33 J -11913116.71 -11913116.56 -11913116.40 0.0133 0.0006

Uranus -37330-11-28 02:52 J -11913028.53 -11913028.38 -11913028.22 0.0133 0.0026

Uranus -37329-02-24 07:11 J -11912940.34 -11912940.20 -11912940.05 0.0133 0.0047

Uranus -37329-05-22 11:30 J -11912852.15 -11912852.02 -11912851.88 0.0132 0.0066

Uranus -37329-08-18 15:50 J -11912763.95 -11912763.84 -11912763.72 0.0132 0.0086

Uranus -37329-11-14 20:09 J -11912675.75 -11912675.66 -11912675.56 0.0132 0.0106

Uranus -37328-02-11 00:14 J -11912587.53 -11912587.49 -11912587.43 0.0132 0.0125

Jupiter -37328-10-28 19:11 J -11912327.84 -11912327.70 -11912327.55 0.0522 0.0188

Jupiter -37327-01-26 15:35 J -11912237.88 -11912237.85 -11912237.81 0.0526 0.0512

Moon -37327-10-17 22:18 J -11911973.67 -11911973.57 -11911973.47 0.2663 0.1568

Earth -37327-10-17 23:16 J -11911973.64 -11911973.53 -11911973.42 0.2660 0.1421 *

Moon -37324-04-18 00:14 J -11911060.61 -11911060.49 -11911060.36 0.2675 0.0320

Earth -37324-04-18 00:57 J -11911060.59 -11911060.46 -11911060.33 0.2670 0.0198 *

Saturn -37323-04-03 01:11 J -11910710.51 -11910710.45 -11910710.38 0.0278 0.0251

Saturn -37323-06-30 15:50 J -11910621.96 -11910621.84 -11910621.70 0.0279 0.0142

Saturn -37323-09-27 06:57 J -11910533.36 -11910533.21 -11910533.05 0.0279 0.0030

Saturn -37323-12-24 22:18 J -11910444.71 -11910444.57 -11910444.42 0.0279 0.0087

Jupiter -37322-03-19 06:28 J -11910360.29 -11910360.23 -11910360.17 0.0508 0.0454

Saturn -37322-03-23 14:09 J -11910356.01 -11910355.91 -11910355.80 0.0279 0.0205

Mars -37322-06-14 13:40 J -11910273.06 -11910272.93 -11910272.81 0.1886 0.0516

Jupiter -37322-06-16 18:14 J -11910270.88 -11910270.74 -11910270.60 0.0505 0.0127

Mars -37321-04-27 15:35 J -11909954.95 -11909954.85 -11909954.74 0.1642 0.1141

Earth -37321-10-27 09:21 J -11909772.18 -11909772.11 -11909772.05 0.2667 0.2284

Moon -37321-10-27 10:18 J -11909772.14 -11909772.07 -11909772.01 0.2666 0.2285 *

Mars -37319-04-03 15:21 J -11909248.92 -11909248.86 -11909248.80 0.1630 0.1456

Neptune -37317-01-10 14:52 J -11908601.92 -11908601.88 -11908601.82 0.0089 0.0083

Neptune -37317-04-07 16:47 J -11908513.87 -11908513.80 -11908513.72 0.0089 0.0076

Neptune -37317-07-04 18:28 J -11908425.81 -11908425.73 -11908425.63 0.0089 0.0069

Neptune -37317-09-30 20:09 J -11908337.75 -11908337.66 -11908337.54 0.0089 0.0063

Neptune -37317-12-27 22:04 J -11908249.68 -11908249.58 -11908249.45 0.0089 0.0055

Neptune -37316-03-25 23:59 J -11908161.62 -11908161.50 -11908161.37 0.0089 0.0048

Neptune -37316-06-22 01:54 J -11908073.55 -11908073.42 -11908073.28 0.0089 0.0041

Jupiter -37316-08-16 18:14 J -11908017.85 -11908017.74 -11908017.63 0.0521 0.0381

Neptune -37316-09-18 03:50 J -11907985.48 -11907985.34 -11907985.20 0.0089 0.0034

Jupiter -37316-11-14 15:21 J -11907927.98 -11907927.86 -11907927.74 0.0525 0.0324

Neptune -37316-12-15 05:45 J -11907897.40 -11907897.26 -11907897.12 0.0089 0.0027

Neptune -37315-03-13 07:26 J -11907809.33 -11907809.19 -11907809.04 0.0089 0.0020

Neptune -37315-06-09 09:21 J -11907721.25 -11907721.11 -11907720.96 0.0089 0.0013

Neptune -37315-09-05 11:16 J -11907633.18 -11907633.03 -11907632.88 0.0089 0.0006

Neptune -37315-12-02 13:11 J -11907545.10 -11907544.95 -11907544.80 0.0089 0.0001

Neptune -37314-02-28 15:06 J -11907457.02 -11907456.87 -11907456.72 0.0089 0.0008

Neptune -37314-05-27 17:02 J -11907368.94 -11907368.79 -11907368.64 0.0089 0.0015

Neptune -37314-08-23 18:57 J -11907280.86 -11907280.71 -11907280.57 0.0089 0.0022

Moon -37314-10-20 21:06 J -11907222.74 -11907222.62 -11907222.49 0.2669 0.0374

Earth -37314-10-20 21:35 J -11907222.73 -11907222.60 -11907222.48 0.2662 0.0418 *

Neptune -37314-11-19 20:38 J -11907192.77 -11907192.64 -11907192.49 0.0089 0.0030

Neptune -37313-02-15 22:33 J -11907104.69 -11907104.56 -11907104.41 0.0089 0.0037

Neptune -37313-05-14 00:28 J -11907016.60 -11907016.48 -11907016.34 0.0089 0.0044

Neptune -37313-08-10 02:38 J -11906928.51 -11906928.39 -11906928.27 0.0089 0.0051

Mars -37313-11-03 19:11 J -11906842.78 -11906842.70 -11906842.61 0.1881 0.1359

Neptune -37313-11-06 04:18 J -11906840.42 -11906840.32 -11906840.19 0.0089 0.0059

Neptune -37312-02-02 06:14 J -11906752.33 -11906752.24 -11906752.12 0.0089 0.0066

Neptune -37312-05-01 08:23 J -11906664.23 -11906664.15 -11906664.06 0.0089 0.0073

Neptune -37312-07-28 10:33 J -11906576.12 -11906576.06 -11906576.00 0.0089 0.0080

Neptune -37312-10-24 12:14 J -11906488.00 -11906487.99 -11906487.96 0.0089 0.0088

Earth -37311-04-20 23:16 J -11906309.65 -11906309.53 -11906309.40 0.2668 0.0823

Moon -37311-04-20 23:45 J -11906309.64 -11906309.51 -11906309.39 0.2675 0.0901 *

Jupiter -37310-04-04 21:06 J -11905960.77 -11905960.62 -11905960.47 0.0506 0.0014

Mars -37310-08-24 21:50 J -11905818.71 -11905818.59 -11905818.46 0.1633 0.0859

Saturn -37309-11-08 20:23 J -11905376.76 -11905376.65 -11905376.53 0.0280 0.0193

Saturn -37308-02-05 12:42 J -11905288.12 -11905287.97 -11905287.82 0.0280 0.0073

Saturn -37308-05-05 04:18 J -11905199.47 -11905199.32 -11905199.16 0.0280 0.0045

Saturn -37308-08-01 19:40 J -11905110.80 -11905110.68 -11905110.55 0.0280 0.0159

Saturn -37308-10-29 10:47 J -11905022.08 -11905022.05 -11905022.01 0.0279 0.0269

Venus -37307-11-16 04:47 J -11904639.39 -11904639.30 -11904639.21 0.3763 0.2506

Moon -37304-04-13 09:21 J -11903760.19 -11903760.11 -11903760.02 0.2670 0.1988

Earth -37304-04-13 10:18 J -11903760.15 -11903760.07 -11903759.98 0.2673 0.1974 *

Jupiter -37304-09-02 15:35 J -11903617.99 -11903617.85 -11903617.70 0.0524 0.0151

Mars -37301-03-02 03:06 J -11902706.46 -11902706.37 -11902706.28 0.1893 0.1356

Venus -37301-06-01 01:54 J -11902615.54 -11902615.42 -11902615.31 0.3759 0.1069

Earth -37301-10-22 19:26 J -11902471.81 -11902471.69 -11902471.56 0.2663 0.0574

Moon -37301-10-22 19:54 J -11902471.79 -11902471.67 -11902471.55 0.2669 0.0569 *

Mars -37300-01-14 04:18 J -11902388.46 -11902388.32 -11902388.17 0.1636 0.0246

Jupiter -37298-01-21 23:59 J -11901650.64 -11901650.50 -11901650.36 0.0506 0.0154

Jupiter -37298-04-21 12:14 J -11901561.06 -11901560.99 -11901560.91 0.0503 0.0434

Earth -37298-04-23 22:04 J -11901558.67 -11901558.58 -11901558.49 0.2667 0.1872

Moon -37298-04-23 22:47 J -11901558.63 -11901558.55 -11901558.46 0.2671 0.1936 *

Venus -37297-06-02 09:21 J -11901153.21 -11901153.11 -11901153.00 0.3615 0.1816

Moon -37294-10-16 05:02 J -11899922.34 -11899922.29 -11899922.24 0.2658 0.2418

Earth -37294-10-16 06:14 J -11899922.31 -11899922.24 -11899922.18 0.2659 0.2279 *

Saturn -37294-11-17 16:47 J -11899889.91 -11899889.80 -11899889.68 0.0279 0.0177

Saturn -37293-02-14 07:40 J -11899801.32 -11899801.18 -11899801.03 0.0279 0.0066

Saturn -37293-05-12 23:02 J -11899712.69 -11899712.54 -11899712.39 0.0279 0.0049

Saturn -37293-08-09 14:38 J -11899624.01 -11899623.89 -11899623.76 0.0279 0.0166

Jupiter -37292-06-21 16:18 J -11899307.97 -11899307.82 -11899307.66 0.0523 0.0023

Mars -37292-07-23 08:23 J -11899276.28 -11899276.15 -11899276.03 0.1890 0.0457

Venus -37292-12-17 05:02 J -11899129.40 -11899129.29 -11899129.17 0.3618 0.1189

Moon -37291-04-16 07:11 J -11899009.31 -11899009.20 -11899009.08 0.2675 0.1154

Earth -37291-04-16 08:09 J -11899009.28 -11899009.16 -11899009.04 0.2671 0.1013 *

Mars -37291-06-06 10:18 J -11898958.21 -11898958.07 -11898957.92 0.1638 0.0392

Uranus -37288-06-01 23:16 J -11897866.59 -11897866.53 -11897866.45 0.0146 0.0129

Uranus -37288-08-29 04:33 J -11897778.41 -11897778.31 -11897778.19 0.0146 0.0103

Earth -37288-10-25 17:16 J -11897720.89 -11897720.78 -11897720.68 0.2665 0.1528

Moon -37288-10-25 17:59 J -11897720.85 -11897720.75 -11897720.64 0.2669 0.1577 *

Uranus -37288-11-25 09:50 J -11897690.21 -11897690.09 -11897689.95 0.0146 0.0077

Uranus -37287-02-21 15:21 J -11897602.00 -11897601.86 -11897601.71 0.0146 0.0050

Uranus -37287-05-20 20:52 J -11897513.79 -11897513.63 -11897513.48 0.0146 0.0023

Uranus -37287-08-17 02:23 J -11897425.56 -11897425.40 -11897425.25 0.0146 0.0006

Jupiter -37287-11-10 02:38 J -11897340.50 -11897340.39 -11897340.27 0.0507 0.0297

Uranus -37287-11-13 07:40 J -11897337.33 -11897337.18 -11897337.02 0.0146 0.0032

Jupiter -37286-02-07 14:52 J -11897251.00 -11897250.88 -11897250.76 0.0503 0.0288

Uranus -37286-02-09 13:26 J -11897249.09 -11897248.94 -11897248.80 0.0146 0.0059

Uranus -37286-05-08 18:57 J -11897160.83 -11897160.71 -11897160.58 0.0146 0.0087

Uranus -37286-08-05 00:42 J -11897072.57 -11897072.47 -11897072.38 0.0146 0.0115

Uranus -37286-11-01 05:59 J -11896984.26 -11896984.25 -11896984.21 0.0146 0.0145

Mars -37283-12-13 13:40 J -11895846.05 -11895845.93 -11895845.81 0.1885 0.0422

Mars -37282-10-27 16:04 J -11895527.94 -11895527.83 -11895527.72 0.1642 0.1051

Moon -37281-10-18 03:50 J -11895171.45 -11895171.34 -11895171.22 0.2664 0.1230

Earth -37281-10-18 04:47 J -11895171.42 -11895171.30 -11895171.19 0.2660 0.1246 *

Jupiter -37280-04-09 17:16 J -11894997.93 -11894997.78 -11894997.64 0.0522 0.0188

Jupiter -37280-07-08 13:40 J -11894907.96 -11894907.93 -11894907.89 0.0526 0.0513

Mars -37280-10-02 15:50 J -11894821.89 -11894821.84 -11894821.80 0.1630 0.1539

Saturn -37279-03-28 19:54 J -11894644.75 -11894644.67 -11894644.58 0.0280 0.0236

Saturn -37279-06-25 12:14 J -11894556.13 -11894555.99 -11894555.84 0.0280 0.0115

Saturn -37279-09-22 04:18 J -11894467.48 -11894467.32 -11894467.17 0.0280 0.0005

Saturn -37279-12-19 19:54 J -11894378.81 -11894378.67 -11894378.54 0.0280 0.0119

Saturn -37278-03-18 10:47 J -11894290.12 -11894290.05 -11894289.96 0.0279 0.0232

Moon -37278-04-19 05:59 J -11894258.38 -11894258.25 -11894258.13 0.2676 0.0063

Earth -37278-04-19 06:14 J -11894258.36 -11894258.24 -11894258.11 0.2670 0.0099 *

Jupiter -37275-08-29 04:47 J -11893030.36 -11893030.30 -11893030.23 0.0508 0.0450

Earth -37275-10-28 14:38 J -11892969.94 -11892969.89 -11892969.84 0.2667 0.2450

Moon -37275-10-28 15:35 J -11892969.89 -11892969.85 -11892969.82 0.2664 0.2552 *

Jupiter -37275-11-26 16:33 J -11892940.95 -11892940.81 -11892940.67 0.0504 0.0131

Pluto -37274-07-20 20:23 J -11892704.70 -11892704.65 -11892704.57 0.0077 0.0070

Pluto -37274-10-16 21:50 J -11892616.66 -11892616.59 -11892616.49 0.0077 0.0062

Pluto -37273-01-12 23:30 J -11892528.62 -11892528.52 -11892528.41 0.0077 0.0054

Pluto -37273-04-10 00:57 J -11892440.57 -11892440.46 -11892440.34 0.0077 0.0046

Mars -37273-05-04 19:26 J -11892415.78 -11892415.69 -11892415.60 0.1881 0.1270

Pluto -37273-07-07 02:09 J -11892352.53 -11892352.41 -11892352.27 0.0077 0.0039

Pluto -37273-10-03 03:50 J -11892264.48 -11892264.34 -11892264.20 0.0077 0.0031

Pluto -37273-12-30 05:02 J -11892176.42 -11892176.29 -11892176.14 0.0077 0.0024

Pluto -37272-03-28 06:28 J -11892088.37 -11892088.23 -11892088.08 0.0076 0.0016

Pluto -37272-06-24 07:54 J -11892000.32 -11892000.17 -11892000.02 0.0076 0.0008

Pluto -37272-09-20 09:21 J -11891912.26 -11891912.11 -11891911.96 0.0076 0.0002

Pluto -37272-12-17 10:33 J -11891824.21 -11891824.06 -11891823.91 0.0076 0.0006

Pluto -37271-03-15 11:45 J -11891736.15 -11891736.01 -11891735.86 0.0076 0.0014

Pluto -37271-06-11 13:11 J -11891648.09 -11891647.95 -11891647.81 0.0076 0.0021

Pluto -37271-09-07 14:23 J -11891560.03 -11891559.90 -11891559.76 0.0076 0.0028

Pluto -37271-12-04 15:50 J -11891471.97 -11891471.84 -11891471.71 0.0075 0.0035

Mars -37270-02-22 22:18 J -11891391.69 -11891391.57 -11891391.45 0.1632 0.0944

Pluto -37270-03-02 17:02 J -11891383.91 -11891383.79 -11891383.67 0.0075 0.0042

Pluto -37270-05-29 18:14 J -11891295.85 -11891295.74 -11891295.62 0.0075 0.0049

Pluto -37270-08-25 19:26 J -11891207.78 -11891207.69 -11891207.59 0.0075 0.0055

Pluto -37270-11-21 20:38 J -11891119.71 -11891119.64 -11891119.55 0.0075 0.0062

Pluto -37269-02-17 21:50 J -11891031.64 -11891031.59 -11891031.53 0.0075 0.0069

Jupiter -37268-01-26 17:16 J -11890687.89 -11890687.78 -11890687.66 0.0521 0.0365

Jupiter -37268-04-26 14:23 J -11890598.02 -11890597.90 -11890597.78 0.0525 0.0340

Moon -37268-10-21 02:38 J -11890420.52 -11890420.39 -11890420.26 0.2669 0.0327

Earth -37268-10-21 02:52 J -11890420.51 -11890420.38 -11890420.25 0.2662 0.0238 *

Earth -37265-04-21 04:47 J -11889507.42 -11889507.30 -11889507.18 0.2668 0.1011

Moon -37265-04-21 05:16 J -11889507.40 -11889507.28 -11889507.16 0.2675 0.0976 *

Saturn -37264-04-05 18:57 J -11889157.81 -11889157.71 -11889157.60 0.0279 0.0201

Saturn -37264-07-03 09:50 J -11889069.23 -11889069.09 -11889068.94 0.0279 0.0091

Saturn -37264-09-30 01:11 J -11888980.61 -11888980.45 -11888980.30 0.0279 0.0024

Saturn -37264-12-27 16:33 J -11888891.94 -11888891.81 -11888891.67 0.0279 0.0140

Saturn -37263-03-26 08:23 J -11888803.20 -11888803.15 -11888803.08 0.0279 0.0260

Jupiter -37263-09-14 19:11 J -11888630.85 -11888630.70 -11888630.56 0.0505 0.0023

Mars -37262-09-01 03:21 J -11888279.44 -11888279.36 -11888279.28 0.1893 0.1455

Mars -37261-07-15 04:33 J -11887961.45 -11887961.31 -11887961.16 0.1636 0.0332

Moon -37258-04-14 14:38 J -11886957.97 -11886957.89 -11886957.80 0.2672 0.1889

Earth -37258-04-14 15:35 J -11886957.94 -11886957.85 -11886957.75 0.2673 0.1806 *

Jupiter -37256-02-12 13:40 J -11886288.07 -11886287.93 -11886287.78 0.0523 0.0151

Earth -37255-10-24 00:57 J -11885669.59 -11885669.46 -11885669.34 0.2664 0.0750

Moon -37255-10-24 01:26 J -11885669.56 -11885669.44 -11885669.32 0.2669 0.0844 *

Mars -37252-01-21 08:23 J -11884849.27 -11884849.15 -11884849.03 0.1889 0.0542

Earth -37252-04-24 03:35 J -11884756.43 -11884756.35 -11884756.27 0.2666 0.2065

Moon -37252-04-24 04:33 J -11884756.38 -11884756.31 -11884756.23 0.2669 0.2176 *

Mars -37252-12-05 10:33 J -11884531.20 -11884531.06 -11884530.91 0.1639 0.0310

Jupiter -37251-07-03 21:50 J -11884320.72 -11884320.59 -11884320.45 0.0507 0.0158

Jupiter -37251-10-01 10:18 J -11884231.14 -11884231.07 -11884231.00 0.0503 0.0432

Venus -37250-06-23 03:35 J -11883966.47 -11883966.35 -11883966.24 0.3762 0.1233

Saturn -37250-08-15 22:47 J -11883912.60 -11883912.55 -11883912.48 0.0280 0.0257

Saturn -37250-11-12 15:21 J -11883823.99 -11883823.86 -11883823.72 0.0280 0.0135

Saturn -37249-02-09 07:26 J -11883735.35 -11883735.19 -11883735.04 0.0280 0.0016

Saturn -37249-05-07 23:02 J -11883646.68 -11883646.54 -11883646.40 0.0280 0.0100

Saturn -37249-08-04 14:09 J -11883558.00 -11883557.91 -11883557.81 0.0280 0.0213

Moon -37248-10-16 10:33 J -11883120.14 -11883120.06 -11883119.98 0.2658 0.2124

Earth -37248-10-16 11:45 J -11883120.09 -11883120.01 -11883119.94 0.2659 0.2094 *

Uranus -37247-04-10 02:23 J -11882944.48 -11882944.40 -11882944.32 0.0133 0.0114

Uranus -37247-07-07 06:57 J -11882856.32 -11882856.21 -11882856.10 0.0133 0.0093

Uranus -37247-10-03 11:30 J -11882768.15 -11882768.02 -11882767.88 0.0133 0.0072

Uranus -37247-12-30 16:04 J -11882679.97 -11882679.83 -11882679.68 0.0133 0.0051

Uranus -37246-03-28 20:38 J -11882591.79 -11882591.64 -11882591.48 0.0133 0.0030

Uranus -37246-06-25 01:11 J -11882503.61 -11882503.45 -11882503.30 0.0133 0.0010

Uranus -37246-09-21 05:30 J -11882415.42 -11882415.27 -11882415.11 0.0133 0.0011

Uranus -37246-12-18 09:50 J -11882327.24 -11882327.09 -11882326.93 0.0132 0.0032

Uranus -37245-03-15 14:09 J -11882239.05 -11882238.91 -11882238.76 0.0132 0.0052

Moon -37245-04-16 12:42 J -11882207.09 -11882206.97 -11882206.85 0.2675 0.0837

Earth -37245-04-16 13:40 J -11882207.05 -11882206.93 -11882206.81 0.2671 0.0834 *

Uranus -37245-06-11 18:28 J -11882150.85 -11882150.73 -11882150.59 0.0132 0.0072

Uranus -37245-09-07 22:47 J -11882062.65 -11882062.55 -11882062.43 0.0132 0.0091

Jupiter -37245-12-01 14:09 J -11881978.07 -11881977.91 -11881977.76 0.0523 0.0027

Uranus -37245-12-05 02:52 J -11881974.45 -11881974.38 -11881974.28 0.0132 0.0111

Venus -37244-01-06 00:42 J -11881942.56 -11881942.47 -11881942.38 0.3758 0.2385

Uranus -37244-03-03 07:11 J -11881886.21 -11881886.20 -11881886.17 0.0132 0.0131

Mars -37243-06-13 13:40 J -11881419.06 -11881418.93 -11881418.81 0.1885 0.0344

Mars -37242-04-27 16:33 J -11881100.93 -11881100.81 -11881100.69 0.1642 0.0955

Earth -37242-10-26 22:33 J -11880918.66 -11880918.56 -11880918.46 0.2665 0.1695

Moon -37242-10-26 23:30 J -11880918.62 -11880918.52 -11880918.43 0.2668 0.1757 *

Venus -37240-01-07 07:54 J -11880480.29 -11880480.17 -11880480.05 0.3615 0.0676

Mars -37240-04-02 16:04 J -11880394.84 -11880394.83 -11880394.82 0.1630 0.1621

Jupiter -37239-04-22 00:57 J -11880010.58 -11880010.46 -11880010.34 0.0507 0.0296

Jupiter -37239-07-20 12:57 J -11879921.08 -11879920.96 -11879920.84 0.0504 0.0289

Venus -37235-07-24 03:35 J -11878456.44 -11878456.35 -11878456.26 0.3619 0.2280

Saturn -37235-08-23 19:54 J -11878425.74 -11878425.67 -11878425.59 0.0278 0.0236

Moon -37235-10-19 09:21 J -11878369.22 -11878369.11 -11878368.99 0.2666 0.1184

Earth -37235-10-19 10:04 J -11878369.19 -11878369.08 -11878368.96 0.2661 0.1062 *

Saturn -37235-11-20 10:47 J -11878337.19 -11878337.05 -11878336.92 0.0279 0.0126

Neptune -37234-01-10 17:30 J -11878285.78 -11878285.77 -11878285.73 0.0088 0.0087

Saturn -37234-02-17 01:54 J -11878248.58 -11878248.42 -11878248.27 0.0279 0.0015

Neptune -37234-04-08 20:09 J -11878197.72 -11878197.66 -11878197.57 0.0088 0.0079

Saturn -37234-05-16 17:16 J -11878159.93 -11878159.78 -11878159.64 0.0279 0.0102

Neptune -37234-07-05 22:47 J -11878109.64 -11878109.55 -11878109.44 0.0088 0.0071

Saturn -37234-08-13 08:52 J -11878071.22 -11878071.13 -11878071.03 0.0279 0.0220

Neptune -37234-10-02 01:11 J -11878021.55 -11878021.45 -11878021.32 0.0088 0.0064

Mars -37234-11-03 19:40 J -11877988.78 -11877988.68 -11877988.59 0.1881 0.1179

Neptune -37234-12-29 03:50 J -11877933.46 -11877933.34 -11877933.20 0.0088 0.0056

Neptune -37233-03-26 06:28 J -11877845.36 -11877845.23 -11877845.08 0.0088 0.0048

Neptune -37233-06-22 09:06 J -11877757.27 -11877757.12 -11877756.97 0.0088 0.0040

Mars -37233-09-16 21:50 J -11877670.60 -11877670.59 -11877670.58 0.1645 0.1635

Neptune -37233-09-18 11:16 J -11877669.17 -11877669.03 -11877668.86 0.0088 0.0033

Jupiter -37233-09-19 14:38 J -11877668.04 -11877667.89 -11877667.75 0.0522 0.0198

Neptune -37233-12-15 13:54 J -11877581.07 -11877580.92 -11877580.75 0.0088 0.0024

Jupiter -37233-12-18 11:02 J -11877578.07 -11877578.04 -11877577.99 0.0526 0.0504

Neptune -37232-03-13 16:33 J -11877492.97 -11877492.81 -11877492.64 0.0088 0.0016

Moon -37232-04-19 11:45 J -11877456.14 -11877456.01 -11877455.89 0.2676 0.0106

Earth -37232-04-19 11:45 J -11877456.13 -11877456.01 -11877455.88 0.2670 0.0190 *

Neptune -37232-06-09 19:11 J -11877404.87 -11877404.70 -11877404.54 0.0088 0.0009

Neptune -37232-09-05 21:35 J -11877316.77 -11877316.60 -11877316.44 0.0088 0.0001

Neptune -37232-12-02 23:59 J -11877228.67 -11877228.50 -11877228.33 0.0088 0.0007

Neptune -37231-03-01 02:23 J -11877140.56 -11877140.40 -11877140.24 0.0088 0.0015

Neptune -37231-05-28 04:47 J -11877052.46 -11877052.30 -11877052.14 0.0088 0.0022

Mars -37231-08-23 22:47 J -11876964.66 -11876964.55 -11876964.44 0.1633 0.1033

Neptune -37231-08-24 06:57 J -11876964.35 -11876964.21 -11876964.04 0.0088 0.0031

Neptune -37231-11-20 09:35 J -11876876.25 -11876876.10 -11876875.95 0.0088 0.0038

Neptune -37230-02-16 11:45 J -11876788.14 -11876788.01 -11876787.86 0.0088 0.0045

Neptune -37230-05-15 14:23 J -11876700.03 -11876699.90 -11876699.77 0.0088 0.0053

Neptune -37230-08-11 16:33 J -11876611.92 -11876611.81 -11876611.68 0.0088 0.0060

Neptune -37230-11-07 18:57 J -11876523.81 -11876523.71 -11876523.60 0.0088 0.0068

Neptune -37229-02-03 21:06 J -11876435.69 -11876435.62 -11876435.52 0.0088 0.0075

Neptune -37229-05-01 23:30 J -11876347.57 -11876347.52 -11876347.45 0.0088 0.0082

Earth -37229-10-28 19:54 J -11876167.69 -11876167.67 -11876167.65 0.2667 0.2616

Moon -37229-10-28 20:52 J -11876167.64 -11876167.63 -11876167.62 0.2664 0.2644

Jupiter -37227-02-08 03:50 J -11875700.41 -11875700.34 -11875700.27 0.0508 0.0437

Jupiter -37227-05-08 15:35 J -11875610.99 -11875610.85 -11875610.71 0.0504 0.0144

Moon -37225-04-11 22:47 J -11874906.58 -11874906.55 -11874906.52 0.2669 0.2571

Earth -37225-04-11 23:30 J -11874906.55 -11874906.52 -11874906.49 0.2674 0.2575 *

Mars -37222-03-02 03:35 J -11873852.42 -11873852.35 -11873852.28 0.1893 0.1555

Moon -37222-10-22 08:09 J -11873618.29 -11873618.16 -11873618.03 0.2669 0.0010

Earth -37222-10-22 08:23 J -11873618.28 -11873618.15 -11873618.02 0.2662 0.0083 *

Mars -37221-01-14 05:02 J -11873534.43 -11873534.29 -11873534.15 0.1635 0.0417

Jupiter -37221-07-08 15:21 J -11873357.97 -11873357.86 -11873357.75 0.0521 0.0366

Jupiter -37221-10-06 12:28 J -11873268.10 -11873267.98 -11873267.87 0.0525 0.0341

Saturn -37220-03-31 14:52 J -11873092.00 -11873091.88 -11873091.76 0.0280 0.0178

Saturn -37220-06-28 06:57 J -11873003.36 -11873003.21 -11873003.05 0.0280 0.0059

Saturn -37220-09-24 22:47 J -11872914.70 -11872914.55 -11872914.40 0.0280 0.0059

Saturn -37220-12-22 14:09 J -11872826.03 -11872825.91 -11872825.79 0.0279 0.0173

Earth -37219-04-22 10:18 J -11872705.19 -11872705.07 -11872704.95 0.2668 0.1193

Moon -37219-04-22 10:47 J -11872705.17 -11872705.05 -11872704.94 0.2674 0.1299 *

Jupiter -37215-02-24 17:30 J -11871300.91 -11871300.77 -11871300.62 0.0505 0.0016

Mars -37213-07-22 08:23 J -11870422.27 -11870422.15 -11870422.02 0.1889 0.0637

Moon -37212-04-14 20:09 J -11870155.76 -11870155.66 -11870155.57 0.2673 0.1715

Earth -37212-04-14 21:06 J -11870155.72 -11870155.62 -11870155.52 0.2673 0.1630 *

Mars -37212-06-05 11:02 J -11870104.18 -11870104.04 -11870103.89 0.1639 0.0218

Jupiter -37209-07-25 12:57 J -11868958.11 -11868957.96 -11868957.81 0.0524 0.0169

Earth -37209-10-24 06:14 J -11868867.36 -11868867.24 -11868867.12 0.2664 0.0919

Moon -37209-10-24 06:57 J -11868867.33 -11868867.21 -11868867.10 0.2670 0.0903 *

Earth -37206-04-25 09:06 J -11867954.19 -11867954.12 -11867954.05 0.2666 0.2258

Moon -37206-04-25 10:18 J -11867954.14 -11867954.07 -11867954.01 0.2668 0.2282 *

Saturn -37205-01-10 21:35 J -11867693.64 -11867693.60 -11867693.55 0.0279 0.0264

Saturn -37205-04-08 12:28 J -11867605.11 -11867604.98 -11867604.86 0.0279 0.0155

Saturn -37205-07-06 03:21 J -11867516.51 -11867516.36 -11867516.21 0.0279 0.0043

Saturn -37205-10-02 18:42 J -11867427.87 -11867427.72 -11867427.57 0.0279 0.0072

Saturn -37205-12-30 10:18 J -11867339.18 -11867339.07 -11867338.95 0.0279 0.0190

Uranus -37204-06-22 06:28 J -11867165.31 -11867165.23 -11867165.15 0.0146 0.0123

Uranus -37204-09-18 11:30 J -11867077.13 -11867077.02 -11867076.90 0.0146 0.0097

Mars -37204-12-12 13:54 J -11866992.05 -11866991.92 -11866991.80 0.1885 0.0252

Jupiter -37204-12-13 20:09 J -11866990.80 -11866990.66 -11866990.52 0.0506 0.0156

Uranus -37204-12-15 16:47 J -11866988.93 -11866988.80 -11866988.66 0.0146 0.0071

Jupiter -37203-03-13 08:23 J -11866901.22 -11866901.15 -11866901.07 0.0503 0.0431

Uranus -37203-03-13 22:18 J -11866900.72 -11866900.57 -11866900.42 0.0146 0.0044

Uranus -37203-06-10 03:50 J -11866812.50 -11866812.34 -11866812.19 0.0146 0.0017

Uranus -37203-09-06 09:21 J -11866724.27 -11866724.11 -11866723.96 0.0146 0.0011

Mars -37203-10-26 16:47 J -11866673.93 -11866673.80 -11866673.68 0.1642 0.0872

Uranus -37203-12-03 14:38 J -11866636.04 -11866635.89 -11866635.73 0.0146 0.0038

Uranus -37202-03-01 20:23 J -11866547.79 -11866547.65 -11866547.51 0.0146 0.0065

Uranus -37202-05-29 01:54 J -11866459.54 -11866459.42 -11866459.30 0.0146 0.0093

Uranus -37202-08-25 07:40 J -11866371.27 -11866371.18 -11866371.09 0.0146 0.0122

Moon -37202-10-17 16:04 J -11866317.91 -11866317.83 -11866317.75 0.2660 0.2002

Earth -37202-10-17 17:02 J -11866317.88 -11866317.79 -11866317.70 0.2659 0.1910 *

Moon -37199-04-17 18:14 J -11865404.86 -11865404.74 -11865404.62 0.2675 0.0765

Earth -37199-04-17 18:57 J -11865404.83 -11865404.71 -11865404.58 0.2671 0.0661 *

Venus -37199-07-14 05:16 J -11865317.32 -11865317.28 -11865317.23 0.3765 0.3469

Jupiter -37197-05-13 12:14 J -11864648.14 -11864647.99 -11864647.83 0.0522 0.0023

Earth -37196-10-27 03:50 J -11864116.43 -11864116.34 -11864116.25 0.2666 0.1865

Moon -37196-10-27 04:47 J -11864116.38 -11864116.30 -11864116.22 0.2667 0.1967 *

Mars -37194-05-04 19:40 J -11863561.79 -11863561.68 -11863561.58 0.1881 0.1096

Venus -37193-01-28 02:09 J -11863293.53 -11863293.41 -11863293.29 0.3761 0.0136

Mars -37193-03-17 22:18 J -11863243.62 -11863243.57 -11863243.52 0.1646 0.1543

Jupiter -37192-10-01 23:02 J -11862680.66 -11862680.54 -11862680.42 0.0508 0.0297

Jupiter -37192-12-30 11:02 J -11862591.16 -11862591.04 -11862590.92 0.0504 0.0289

Mars -37191-02-21 23:02 J -11862537.65 -11862537.54 -11862537.44 0.1633 0.1114

Saturn -37191-08-18 17:45 J -11862359.87 -11862359.76 -11862359.65 0.0280 0.0200

Saturn -37191-11-15 10:04 J -11862271.23 -11862271.08 -11862270.93 0.0280 0.0080

Saturn -37190-02-12 01:54 J -11862182.58 -11862182.42 -11862182.27 0.0280 0.0039

Saturn -37190-05-11 17:16 J -11862093.91 -11862093.78 -11862093.65 0.0280 0.0153

Saturn -37190-08-08 08:23 J -11862005.20 -11862005.15 -11862005.11 0.0280 0.0265

Venus -37189-01-29 10:33 J -11861831.14 -11861831.06 -11861830.97 0.3613 0.2585

Moon -37189-10-19 14:52 J -11861567.00 -11861566.88 -11861566.76 0.2666 0.0877

Earth -37189-10-19 15:35 J -11861566.97 -11861566.85 -11861566.73 0.2661 0.0880 *

Venus -37188-08-12 23:30 J -11861269.53 -11861269.52 -11861269.50 0.3757 0.3727

Moon -37186-04-20 17:16 J -11860653.91 -11860653.78 -11860653.66 0.2676 0.0416

Earth -37186-04-20 17:16 J -11860653.91 -11860653.78 -11860653.65 0.2669 0.0348 *

Jupiter -37185-03-01 12:28 J -11860338.13 -11860337.98 -11860337.83 0.0521 0.0198

Jupiter -37185-05-30 08:52 J -11860248.16 -11860248.13 -11860248.08 0.0525 0.0502

Venus -37184-08-14 06:28 J -11859807.35 -11859807.23 -11859807.11 0.3616 0.0447

Mars -37183-08-31 03:35 J -11859425.42 -11859425.35 -11859425.29 0.1893 0.1633

Mars -37182-07-15 05:16 J -11859107.41 -11859107.28 -11859107.14 0.1636 0.0505

Jupiter -37180-07-21 02:09 J -11858370.48 -11858370.41 -11858370.34 0.0509 0.0435

Jupiter -37180-10-18 13:54 J -11858281.06 -11858280.92 -11858280.78 0.0505 0.0147

Moon -37179-04-13 04:04 J -11858104.37 -11858104.33 -11858104.29 0.2670 0.2508

Earth -37179-04-13 04:47 J -11858104.35 -11858104.30 -11858104.25 0.2674 0.2409 *

Venus -37178-02-28 02:09 J -11857783.45 -11857783.41 -11857783.37 0.3620 0.3379

Saturn -37176-08-26 13:26 J -11856873.05 -11856872.94 -11856872.83 0.0278 0.0188

Earth -37176-10-22 13:40 J -11856816.06 -11856815.93 -11856815.80 0.2663 0.0134

Moon -37176-10-22 13:54 J -11856816.05 -11856815.92 -11856815.80 0.2669 0.0084 *

Saturn -37176-11-23 04:18 J -11856784.47 -11856784.32 -11856784.17 0.0279 0.0077

Saturn -37175-02-19 19:26 J -11856695.84 -11856695.69 -11856695.53 0.0279 0.0037

Saturn -37175-05-19 11:02 J -11856607.17 -11856607.04 -11856606.91 0.0279 0.0153

Saturn -37175-08-16 02:52 J -11856518.41 -11856518.38 -11856518.34 0.0279 0.0272

Jupiter -37174-12-19 12:42 J -11856028.08 -11856027.97 -11856027.86 0.0521 0.0373

Mars -37173-01-21 08:38 J -11855995.26 -11855995.14 -11855995.02 0.1890 0.0725

Jupiter -37173-03-18 09:50 J -11855938.20 -11855938.09 -11855937.97 0.0525 0.0334

Earth -37173-04-22 15:50 J -11855902.95 -11855902.84 -11855902.73 0.2668 0.1389

Moon -37173-04-22 16:33 J -11855902.92 -11855902.81 -11855902.70 0.2673 0.1361 *

Mars -37173-12-04 11:30 J -11855677.17 -11855677.02 -11855676.88 0.1639 0.0139

Jupiter -37168-08-06 16:33 J -11853970.95 -11853970.81 -11853970.66 0.0506 0.0011

Moon -37166-04-16 01:26 J -11853353.55 -11853353.44 -11853353.34 0.2673 0.1504

Earth -37166-04-16 02:23 J -11853353.50 -11853353.40 -11853353.29 0.2672 0.1459 *

Mars -37164-06-12 14:09 J -11852565.04 -11852564.91 -11852564.79 0.1885 0.0162

Uranus -37163-02-01 04:33 J -11852331.33 -11852331.31 -11852331.27 0.0133 0.0130

Mars -37163-04-26 17:16 J -11852246.91 -11852246.78 -11852246.65 0.1642 0.0782

Uranus -37163-04-30 09:21 J -11852243.19 -11852243.11 -11852243.01 0.0133 0.0108

Uranus -37163-07-27 13:54 J -11852155.03 -11852154.92 -11852154.79 0.0133 0.0087

Uranus -37163-10-23 18:42 J -11852066.86 -11852066.72 -11852066.58 0.0133 0.0066

Earth -37163-10-25 11:30 J -11852065.13 -11852065.02 -11852064.90 0.2664 0.1092

Moon -37163-10-25 12:14 J -11852065.10 -11852064.99 -11852064.88 0.2670 0.1213 *

Uranus -37162-01-19 23:16 J -11851978.68 -11851978.53 -11851978.38 0.0133 0.0045

Uranus -37162-04-18 03:50 J -11851890.50 -11851890.34 -11851890.19 0.0133 0.0024

Uranus -37162-07-15 08:23 J -11851802.31 -11851802.15 -11851802.00 0.0133 0.0005

Uranus -37162-10-11 12:42 J -11851714.13 -11851713.97 -11851713.81 0.0132 0.0017

Jupiter -37161-01-05 11:02 J -11851628.19 -11851628.04 -11851627.89 0.0524 0.0170

Saturn -37161-01-05 16:47 J -11851627.87 -11851627.80 -11851627.72 0.0280 0.0246

Uranus -37161-01-07 17:02 J -11851625.94 -11851625.79 -11851625.64 0.0132 0.0037

Saturn -37161-04-03 09:21 J -11851539.25 -11851539.11 -11851538.97 0.0280 0.0124

Uranus -37161-04-04 21:21 J -11851537.74 -11851537.61 -11851537.46 0.0132 0.0058

Saturn -37161-07-01 01:11 J -11851450.60 -11851450.45 -11851450.29 0.0280 0.0010

Uranus -37161-07-02 01:40 J -11851449.55 -11851449.43 -11851449.30 0.0132 0.0078

Saturn -37161-09-27 16:47 J -11851361.94 -11851361.80 -11851361.65 0.0279 0.0111

Uranus -37161-09-28 05:59 J -11851361.35 -11851361.25 -11851361.14 0.0132 0.0097

Saturn -37161-12-25 08:09 J -11851273.25 -11851273.16 -11851273.07 0.0279 0.0223

Uranus -37161-12-25 10:18 J -11851273.14 -11851273.07 -11851273.00 0.0132 0.0117 *

Earth -37160-04-25 14:38 J -11851151.94 -11851151.89 -11851151.84 0.2666 0.2450

Moon -37160-04-25 15:50 J -11851151.87 -11851151.84 -11851151.81 0.2668 0.2601 *

Jupiter -37156-05-25 18:42 J -11849660.85 -11849660.72 -11849660.58 0.0506 0.0149

Jupiter -37156-08-23 06:57 J -11849571.27 -11849571.21 -11849571.13 0.0503 0.0440

Moon -37156-10-17 21:35 J -11849515.69 -11849515.60 -11849515.50 0.2662 0.1813

Earth -37156-10-17 22:33 J -11849515.65 -11849515.56 -11849515.46 0.2660 0.1724 *

Mars -37155-11-02 19:40 J -11849134.79 -11849134.68 -11849134.58 0.1881 0.1011

Mars -37154-09-16 22:33 J -11848816.62 -11848816.56 -11848816.49 0.1646 0.1454

Moon -37153-04-17 23:45 J -11848602.63 -11848602.51 -11848602.38 0.2675 0.0510

Earth -37153-04-18 00:28 J -11848602.61 -11848602.48 -11848602.35 0.2671 0.0478 *

Neptune -37153-07-10 12:28 J -11848519.01 -11848518.98 -11848518.93 0.0089 0.0086

Neptune -37153-10-06 14:23 J -11848430.96 -11848430.90 -11848430.83 0.0089 0.0079

Neptune -37152-01-02 16:04 J -11848342.90 -11848342.83 -11848342.73 0.0089 0.0072

Neptune -37152-03-31 17:45 J -11848254.84 -11848254.76 -11848254.64 0.0089 0.0065

Neptune -37152-06-27 19:40 J -11848166.78 -11848166.68 -11848166.56 0.0089 0.0058

Mars -37152-08-22 23:16 J -11848110.63 -11848110.53 -11848110.44 0.1633 0.1195

Neptune -37152-09-23 21:35 J -11848078.71 -11848078.60 -11848078.47 0.0089 0.0051

Neptune -37152-12-20 23:30 J -11847990.64 -11847990.52 -11847990.39 0.0089 0.0044

Neptune -37151-03-19 01:26 J -11847902.57 -11847902.44 -11847902.31 0.0089 0.0037

Neptune -37151-06-15 03:06 J -11847814.50 -11847814.37 -11847814.22 0.0089 0.0030

Neptune -37151-09-11 05:02 J -11847726.43 -11847726.29 -11847726.14 0.0089 0.0023

Neptune -37151-12-08 06:57 J -11847638.36 -11847638.21 -11847638.06 0.0089 0.0016

Neptune -37150-03-06 08:52 J -11847550.28 -11847550.13 -11847549.98 0.0089 0.0009

Neptune -37150-06-02 10:47 J -11847462.20 -11847462.05 -11847461.90 0.0089 0.0003

Neptune -37150-08-29 12:28 J -11847374.12 -11847373.98 -11847373.82 0.0089 0.0006

Jupiter -37150-10-24 11:30 J -11847318.17 -11847318.02 -11847317.86 0.0523 0.0010

Earth -37150-10-28 09:06 J -11847314.20 -11847314.12 -11847314.04 0.2666 0.2034

Moon -37150-10-28 10:04 J -11847314.16 -11847314.08 -11847314.00 0.2665 0.2044 *

Neptune -37150-11-25 14:23 J -11847286.04 -11847285.90 -11847285.75 0.0089 0.0012

Neptune -37149-02-21 16:18 J -11847197.96 -11847197.82 -11847197.67 0.0089 0.0019

Neptune -37149-05-19 18:14 J -11847109.88 -11847109.74 -11847109.59 0.0089 0.0026

Neptune -37149-08-15 19:54 J -11847021.80 -11847021.67 -11847021.52 0.0089 0.0034

Neptune -37149-11-11 21:50 J -11846933.71 -11846933.59 -11846933.44 0.0089 0.0041

Neptune -37148-02-07 23:59 J -11846845.62 -11846845.50 -11846845.37 0.0089 0.0048

Neptune -37148-05-07 01:54 J -11846757.53 -11846757.42 -11846757.30 0.0089 0.0055

Neptune -37148-08-03 03:35 J -11846669.44 -11846669.35 -11846669.23 0.0089 0.0063

Neptune -37148-10-30 05:30 J -11846581.35 -11846581.27 -11846581.16 0.0089 0.0070

Neptune -37147-01-26 07:40 J -11846493.25 -11846493.18 -11846493.10 0.0089 0.0077

Neptune -37147-04-24 09:50 J -11846405.13 -11846405.09 -11846405.04 0.0089 0.0084

Saturn -37146-01-13 14:23 J -11846140.98 -11846140.90 -11846140.81 0.0279 0.0222

Saturn -37146-04-12 05:16 J -11846052.42 -11846052.28 -11846052.14 0.0279 0.0111

Saturn -37146-07-09 20:23 J -11845963.80 -11845963.65 -11845963.50 0.0279 0.0002

Saturn -37146-10-06 11:45 J -11845875.15 -11845875.01 -11845874.86 0.0279 0.0119

Saturn -37145-01-03 03:35 J -11845786.43 -11845786.35 -11845786.26 0.0279 0.0237

Mars -37145-03-25 01:40 J -11845704.45 -11845704.43 -11845704.40 0.1876 0.1824

Jupiter -37144-03-13 21:35 J -11845350.72 -11845350.60 -11845350.49 0.0507 0.0293

Jupiter -37144-06-11 09:21 J -11845261.22 -11845261.11 -11845260.99 0.0504 0.0292

Mars -37143-03-01 03:50 J -11844998.39 -11844998.34 -11844998.29 0.1893 0.1729

Moon -37143-10-20 20:23 J -11844764.77 -11844764.65 -11844764.53 0.2667 0.0791

Earth -37143-10-20 21:06 J -11844764.75 -11844764.62 -11844764.50 0.2661 0.0705 *

Mars -37142-01-13 05:30 J -11844680.40 -11844680.27 -11844680.13 0.1636 0.0589

Venus -37142-02-18 04:04 J -11844644.43 -11844644.33 -11844644.23 0.3763 0.2223

Moon -37140-04-20 22:47 J -11843851.68 -11843851.55 -11843851.43 0.2676 0.0475

Earth -37140-04-20 22:47 J -11843851.68 -11843851.55 -11843851.42 0.2669 0.0534 *

Jupiter -37138-08-12 10:47 J -11843008.19 -11843008.05 -11843007.90 0.0521 0.0192

Jupiter -37138-11-10 07:26 J -11842918.22 -11842918.19 -11842918.15 0.0525 0.0508

Venus -37137-09-03 01:11 J -11842620.57 -11842620.45 -11842620.34 0.3760 0.1348

Mars -37134-07-22 08:52 J -11841568.25 -11841568.13 -11841568.02 0.1889 0.0818

Moon -37133-04-13 09:06 J -11841302.18 -11841302.12 -11841302.05 0.2671 0.2226

Earth -37133-04-13 10:04 J -11841302.15 -11841302.08 -11841302.01 0.2674 0.2239 *

Mars -37133-06-04 11:45 J -11841250.16 -11841250.01 -11841249.87 0.1639 0.0047

Venus -37133-09-04 09:06 J -11841158.23 -11841158.12 -11841158.00 0.3614 0.1436

Jupiter -37133-12-31 00:14 J -11841040.56 -11841040.49 -11841040.41 0.0509 0.0434

Jupiter -37132-03-30 11:59 J -11840951.14 -11840951.00 -11840950.86 0.0505 0.0150

Saturn -37132-05-24 19:26 J -11840895.72 -11840895.69 -11840895.64 0.0281 0.0269

Saturn -37132-08-21 11:59 J -11840807.13 -11840807.00 -11840806.86 0.0280 0.0147

Saturn -37132-11-18 04:04 J -11840718.48 -11840718.33 -11840718.17 0.0280 0.0027

Saturn -37131-02-14 19:40 J -11840629.82 -11840629.68 -11840629.53 0.0280 0.0090

Saturn -37131-05-14 11:02 J -11840541.14 -11840541.04 -11840540.93 0.0280 0.0203

Earth -37130-10-23 19:11 J -11840013.83 -11840013.70 -11840013.58 0.2663 0.0303

Moon -37130-10-23 19:26 J -11840013.82 -11840013.69 -11840013.57 0.2670 0.0380 *

Venus -37127-03-21 05:02 J -11839134.40 -11839134.29 -11839134.18 0.3617 0.1572

Earth -37127-04-23 21:21 J -11839100.71 -11839100.61 -11839100.50 0.2667 0.1572

Moon -37127-04-23 22:04 J -11839100.68 -11839100.58 -11839100.48 0.2672 0.1708 *

Jupiter -37126-05-31 10:47 J -11838698.15 -11838698.05 -11838697.93 0.0520 0.0370

Jupiter -37126-08-29 08:09 J -11838608.28 -11838608.16 -11838608.05 0.0524 0.0336

Mars -37125-12-11 13:54 J -11838138.05 -11838137.92 -11838137.79 0.1885 0.0080

Mars -37124-10-25 17:30 J -11837819.90 -11837819.77 -11837819.63 0.1642 0.0688

Earth -37123-10-16 05:30 J -11837464.30 -11837464.27 -11837464.25 0.2658 0.2587

Jupiter -37120-01-16 14:52 J -11836641.02 -11836640.88 -11836640.73 0.0506 0.0016

Uranus -37120-04-15 08:09 J -11836552.18 -11836552.16 -11836552.13 0.0146 0.0143

Moon -37120-04-16 06:42 J -11836551.32 -11836551.22 -11836551.11 0.2673 0.1401

Earth -37120-04-16 07:54 J -11836551.28 -11836551.17 -11836551.06 0.2672 0.1285 *

Uranus -37120-07-12 13:26 J -11836464.03 -11836463.94 -11836463.85 0.0146 0.0117

Uranus -37120-10-08 18:42 J -11836375.84 -11836375.72 -11836375.60 0.0146 0.0091

Uranus -37119-01-04 23:59 J -11836287.63 -11836287.50 -11836287.36 0.0146 0.0064

Uranus -37119-04-03 05:16 J -11836199.42 -11836199.28 -11836199.12 0.0146 0.0038

Uranus -37119-06-30 10:47 J -11836111.20 -11836111.05 -11836110.89 0.0146 0.0011

Uranus -37119-09-26 16:18 J -11836022.98 -11836022.82 -11836022.66 0.0146 0.0017

Uranus -37119-12-23 21:50 J -11835934.74 -11835934.59 -11835934.44 0.0146 0.0044

Uranus -37118-03-22 03:21 J -11835846.49 -11835846.36 -11835846.22 0.0146 0.0072

Uranus -37118-06-18 08:52 J -11835758.24 -11835758.13 -11835758.01 0.0146 0.0100

Uranus -37118-09-14 14:23 J -11835669.96 -11835669.90 -11835669.81 0.0146 0.0129

Saturn -37117-06-01 15:50 J -11835408.90 -11835408.84 -11835408.78 0.0278 0.0253

Saturn -37117-08-29 06:28 J -11835320.36 -11835320.23 -11835320.10 0.0278 0.0144

Earth -37117-10-25 17:02 J -11835262.90 -11835262.79 -11835262.68 0.2665 0.1265

Moon -37117-10-25 17:45 J -11835262.87 -11835262.76 -11835262.65 0.2669 0.1246 *

Saturn -37117-11-25 21:21 J -11835231.76 -11835231.61 -11835231.45 0.0279 0.0033

Saturn -37116-02-22 12:42 J -11835143.12 -11835142.97 -11835142.82 0.0279 0.0083

Saturn -37116-05-22 04:18 J -11835054.42 -11835054.32 -11835054.21 0.0279 0.0201

Mars -37115-05-03 19:54 J -11834707.78 -11834707.67 -11834707.56 0.1881 0.0915

Mars -37114-03-17 23:02 J -11834389.62 -11834389.54 -11834389.46 0.1645 0.1361

Earth -37114-04-26 20:09 J -11834349.67 -11834349.66 -11834349.64 0.2666 0.2647

Moon -37114-04-26 21:21 J -11834349.62 -11834349.61 -11834349.60 0.2667 0.2652

Jupiter -37114-06-17 08:38 J -11834298.28 -11834298.14 -11834297.99 0.0524 0.0165

Mars -37112-02-20 23:30 J -11833683.60 -11833683.52 -11833683.43 0.1633 0.1286

Pluto -37112-06-28 05:59 J -11833556.29 -11833556.25 -11833556.18 0.0067 0.0063

Pluto -37112-09-24 07:40 J -11833468.26 -11833468.18 -11833468.10 0.0067 0.0057

Pluto -37112-12-21 08:38 J -11833380.23 -11833380.14 -11833380.02 0.0067 0.0052

Pluto -37111-03-19 10:04 J -11833292.19 -11833292.08 -11833291.95 0.0067 0.0046

Pluto -37111-06-15 11:02 J -11833204.15 -11833204.04 -11833203.89 0.0067 0.0042

Pluto -37111-09-11 12:28 J -11833116.11 -11833115.98 -11833115.82 0.0067 0.0036

Pluto -37111-12-08 13:54 J -11833028.06 -11833027.92 -11833027.76 0.0067 0.0030

Pluto -37110-03-06 15:06 J -11832940.01 -11832939.87 -11832939.70 0.0068 0.0025

Pluto -37110-06-02 16:33 J -11832851.96 -11832851.81 -11832851.64 0.0068 0.0019

Pluto -37110-08-29 17:59 J -11832763.91 -11832763.75 -11832763.58 0.0068 0.0013

Moon -37110-10-19 03:06 J -11832713.47 -11832713.37 -11832713.27 0.2663 0.1577

Earth -37110-10-19 04:04 J -11832713.43 -11832713.33 -11832713.22 0.2660 0.1540 *

Pluto -37110-11-25 19:26 J -11832675.85 -11832675.69 -11832675.52 0.0068 0.0007

Pluto -37109-02-21 20:52 J -11832587.80 -11832587.63 -11832587.46 0.0068 0.0001

Pluto -37109-05-19 22:18 J -11832499.74 -11832499.57 -11832499.40 0.0068 0.0005

Pluto -37109-08-15 23:30 J -11832411.68 -11832411.52 -11832411.35 0.0068 0.0011

Jupiter -37109-11-04 17:45 J -11832330.89 -11832330.76 -11832330.62 0.0507 0.0134

Pluto -37109-11-12 00:57 J -11832323.62 -11832323.46 -11832323.29 0.0068 0.0017

Jupiter -37108-02-02 05:59 J -11832241.30 -11832241.25 -11832241.18 0.0503 0.0456

Pluto -37108-02-08 02:09 J -11832235.56 -11832235.41 -11832235.24 0.0068 0.0024

Pluto -37108-05-07 03:35 J -11832147.49 -11832147.35 -11832147.18 0.0068 0.0030

Pluto -37108-08-03 05:02 J -11832059.42 -11832059.29 -11832059.13 0.0069 0.0036

Pluto -37108-10-30 06:28 J -11831971.35 -11831971.23 -11831971.08 0.0069 0.0042

Pluto -37107-01-26 08:09 J -11831883.27 -11831883.16 -11831883.03 0.0069 0.0048

Moon -37107-04-19 05:16 J -11831800.40 -11831800.28 -11831800.15 0.2676 0.0335

Earth -37107-04-19 05:45 J -11831800.38 -11831800.26 -11831800.13 0.2670 0.0317 *

Pluto -37107-04-24 09:35 J -11831795.20 -11831795.10 -11831794.99 0.0069 0.0054

Pluto -37107-07-21 10:47 J -11831707.11 -11831707.05 -11831706.95 0.0069 0.0061

Pluto -37107-10-17 12:28 J -11831619.00 -11831618.98 -11831618.93 0.0069 0.0067

Mars -37106-09-24 01:40 J -11831277.47 -11831277.43 -11831277.38 0.1876 0.1740

Mars -37104-08-30 04:04 J -11830571.36 -11830571.33 -11830571.30 0.1893 0.1832

Earth -37104-10-28 14:23 J -11830511.96 -11830511.90 -11830511.83 0.2666 0.2201

Moon -37104-10-28 15:35 J -11830511.91 -11830511.85 -11830511.79 0.2666 0.2340 *

Mars -37103-07-14 05:59 J -11830253.38 -11830253.25 -11830253.12 0.1636 0.0673

Saturn -37102-01-08 11:02 J -11830075.15 -11830075.04 -11830074.93 0.0280 0.0193

Jupiter -37102-04-05 09:35 J -11829988.25 -11829988.10 -11829987.94 0.0523 0.0016

Saturn -37102-04-07 03:21 J -11829986.51 -11829986.36 -11829986.21 0.0280 0.0073

Saturn -37102-07-04 19:11 J -11829897.86 -11829897.70 -11829897.55 0.0280 0.0045

Saturn -37102-10-01 10:33 J -11829809.18 -11829809.06 -11829808.93 0.0279 0.0160

Saturn -37102-12-29 01:40 J -11829720.46 -11829720.43 -11829720.40 0.0279 0.0271

Jupiter -37097-08-23 20:23 J -11828020.77 -11828020.65 -11828020.53 0.0507 0.0281

Moon -37097-10-21 01:54 J -11827962.54 -11827962.42 -11827962.29 0.2667 0.0543

Earth -37097-10-21 02:23 J -11827962.52 -11827962.40 -11827962.27 0.2662 0.0522 *

Jupiter -37097-11-21 08:09 J -11827931.27 -11827931.16 -11827931.04 0.0504 0.0303

Mars -37094-01-20 08:52 J -11827141.24 -11827141.13 -11827141.02 0.1889 0.0904

Earth -37094-04-22 04:18 J -11827049.45 -11827049.32 -11827049.20 0.2669 0.0720

Moon -37094-04-22 04:18 J -11827049.44 -11827049.32 -11827049.20 0.2675 0.0765 *

Mars -37094-12-04 11:59 J -11826823.14 -11826823.00 -11826822.85 0.1639 0.0061

Jupiter -37090-01-22 10:18 J -11825678.22 -11825678.07 -11825677.92 0.0522 0.0172

Saturn -37087-01-16 06:57 J -11824588.32 -11824588.21 -11824588.09 0.0279 0.0181

Moon -37087-04-14 14:23 J -11824499.97 -11824499.90 -11824499.83 0.2672 0.2216

Earth -37087-04-14 15:21 J -11824499.94 -11824499.86 -11824499.78 0.2673 0.2071 *

Saturn -37087-04-14 21:50 J -11824499.73 -11824499.59 -11824499.44 0.0279 0.0070

Saturn -37087-07-12 13:11 J -11824411.10 -11824410.95 -11824410.80 0.0279 0.0045

Saturn -37087-10-09 04:33 J -11824322.43 -11824322.31 -11824322.18 0.0279 0.0162

Venus -37086-09-25 02:52 J -11823971.50 -11823971.38 -11823971.26 0.3762 0.0948

Mars -37085-06-11 14:09 J -11823711.04 -11823710.91 -11823710.78 0.1885 0.0032

Jupiter -37085-06-11 23:02 J -11823710.61 -11823710.54 -11823710.46 0.0508 0.0425

Jupiter -37085-09-09 10:47 J -11823621.19 -11823621.05 -11823620.91 0.0505 0.0157

Mars -37084-04-25 17:45 J -11823392.89 -11823392.76 -11823392.62 0.1642 0.0606

Earth -37084-10-24 00:28 J -11823211.60 -11823211.48 -11823211.35 0.2663 0.0474

Moon -37084-10-24 00:42 J -11823211.59 -11823211.47 -11823211.34 0.2670 0.0449 *

Venus -37082-09-26 11:45 J -11822509.05 -11822509.01 -11822508.97 0.3612 0.3360

Earth -37081-04-24 02:52 J -11822298.48 -11822298.38 -11822298.28 0.2667 0.1765

Moon -37081-04-24 03:50 J -11822298.44 -11822298.34 -11822298.24 0.2671 0.1765 *

Venus -37080-04-09 23:59 J -11821947.58 -11821947.50 -11821947.41 0.3759 0.2686

Uranus -37079-02-21 11:59 J -11821630.06 -11821630.00 -11821629.94 0.0133 0.0123

Uranus -37079-05-20 16:33 J -11821541.91 -11821541.81 -11821541.70 0.0133 0.0102

Uranus -37079-08-16 21:06 J -11821453.74 -11821453.62 -11821453.49 0.0133 0.0081

Jupiter -37079-11-10 09:35 J -11821368.21 -11821368.10 -11821367.99 0.0520 0.0359

Uranus -37079-11-13 01:40 J -11821365.56 -11821365.43 -11821365.28 0.0133 0.0060

Jupiter -37078-02-08 06:42 J -11821278.34 -11821278.22 -11821278.11 0.0524 0.0345

Uranus -37078-02-09 06:28 J -11821277.38 -11821277.23 -11821277.08 0.0133 0.0039

Uranus -37078-05-08 11:02 J -11821189.20 -11821189.04 -11821188.89 0.0133 0.0018

Uranus -37078-08-04 15:21 J -11821101.01 -11821100.86 -11821100.70 0.0133 0.0004

Uranus -37078-10-31 19:54 J -11821012.83 -11821012.67 -11821012.52 0.0132 0.0023

Uranus -37077-01-28 00:14 J -11820924.64 -11820924.49 -11820924.34 0.0132 0.0043

Uranus -37077-04-25 04:33 J -11820836.44 -11820836.31 -11820836.17 0.0132 0.0063

Uranus -37077-07-22 08:52 J -11820748.25 -11820748.13 -11820748.01 0.0132 0.0083

Moon -37077-10-16 09:50 J -11820662.14 -11820662.09 -11820662.03 0.2657 0.2399

Earth -37077-10-16 11:02 J -11820662.10 -11820662.04 -11820661.99 0.2659 0.2401 *

Uranus -37077-10-18 12:57 J -11820660.04 -11820659.96 -11820659.85 0.0132 0.0104

Uranus -37076-01-14 17:30 J -11820571.82 -11820571.77 -11820571.71 0.0132 0.0123

Venus -37076-04-11 07:54 J -11820485.29 -11820485.17 -11820485.05 0.3615 0.0293

Mars -37076-11-01 19:40 J -11820280.79 -11820280.68 -11820280.56 0.1880 0.0841

Mars -37075-09-15 23:30 J -11819962.62 -11819962.52 -11819962.43 0.1646 0.1273

Moon -37074-04-17 12:14 J -11819749.10 -11819748.99 -11819748.87 0.2673 0.1125

Earth -37074-04-17 13:11 J -11819749.06 -11819748.95 -11819748.83 0.2672 0.1112 *

Saturn -37073-05-27 13:11 J -11819343.04 -11819342.95 -11819342.85 0.0281 0.0220

Jupiter -37073-06-28 13:26 J -11819311.09 -11819310.94 -11819310.80 0.0506 0.0020

Mars -37073-08-21 23:45 J -11819256.58 -11819256.51 -11819256.43 0.1633 0.1362

Saturn -37073-08-24 05:30 J -11819254.41 -11819254.27 -11819254.12 0.0281 0.0099

Saturn -37073-11-20 21:35 J -11819165.75 -11819165.60 -11819165.44 0.0280 0.0021

Saturn -37072-02-17 13:11 J -11819077.08 -11819076.95 -11819076.82 0.0280 0.0137

Saturn -37072-05-17 04:18 J -11818988.38 -11818988.32 -11818988.25 0.0280 0.0249

Venus -37071-10-26 03:35 J -11818461.43 -11818461.35 -11818461.27 0.3618 0.2690

Earth -37071-10-26 22:18 J -11818460.68 -11818460.57 -11818460.47 0.2665 0.1433

Moon -37071-10-26 23:02 J -11818460.64 -11818460.54 -11818460.43 0.2668 0.1568 *

Neptune -37070-10-07 16:33 J -11818114.85 -11818114.81 -11818114.74 0.0088 0.0083

Neptune -37069-01-03 18:57 J -11818026.78 -11818026.71 -11818026.60 0.0088 0.0076

Neptune -37069-03-31 21:35 J -11817938.69 -11817938.60 -11817938.47 0.0088 0.0068

Neptune -37069-06-28 00:14 J -11817850.60 -11817850.49 -11817850.35 0.0088 0.0060

Neptune -37069-09-24 02:52 J -11817762.51 -11817762.38 -11817762.23 0.0088 0.0051

Neptune -37069-12-21 05:30 J -11817674.41 -11817674.27 -11817674.12 0.0088 0.0043

Neptune -37068-03-19 08:09 J -11817586.31 -11817586.16 -11817586.00 0.0088 0.0035

Neptune -37068-06-15 10:33 J -11817498.21 -11817498.06 -11817497.89 0.0088 0.0028

Neptune -37068-09-11 13:11 J -11817410.11 -11817409.95 -11817409.79 0.0088 0.0020

Neptune -37068-12-08 15:35 J -11817322.01 -11817321.85 -11817321.68 0.0088 0.0012

Neptune -37067-03-06 18:14 J -11817233.91 -11817233.74 -11817233.58 0.0088 0.0004

Neptune -37067-06-02 20:38 J -11817145.81 -11817145.64 -11817145.47 0.0088 0.0004

Neptune -37067-08-29 23:02 J -11817057.70 -11817057.54 -11817057.37 0.0088 0.0011

Neptune -37067-11-26 01:26 J -11816969.60 -11816969.44 -11816969.27 0.0088 0.0019

Jupiter -37067-11-27 07:11 J -11816968.35 -11816968.20 -11816968.06 0.0523 0.0172

Neptune -37066-02-22 04:04 J -11816881.49 -11816881.33 -11816881.18 0.0088 0.0027

Mars -37066-03-25 01:54 J -11816850.48 -11816850.42 -11816850.37 0.1876 0.1655

Neptune -37066-05-21 06:14 J -11816793.39 -11816793.24 -11816793.08 0.0088 0.0034

Neptune -37066-08-17 08:23 J -11816705.28 -11816705.15 -11816704.99 0.0088 0.0043

Neptune -37066-11-13 11:02 J -11816617.17 -11816617.04 -11816616.90 0.0088 0.0050

Neptune -37065-02-09 13:11 J -11816529.06 -11816528.95 -11816528.81 0.0088 0.0058

Neptune -37065-05-07 15:50 J -11816440.95 -11816440.84 -11816440.72 0.0088 0.0064

Neptune -37065-08-03 17:59 J -11816352.83 -11816352.75 -11816352.64 0.0088 0.0072

Neptune -37065-10-30 20:23 J -11816264.71 -11816264.65 -11816264.57 0.0088 0.0080

Neptune -37064-01-26 23:02 J -11816176.57 -11816176.54 -11816176.51 0.0088 0.0087

Moon -37064-10-19 08:38 J -11815911.25 -11815911.14 -11815911.03 0.2663 0.1476

Earth -37064-10-19 09:35 J -11815911.21 -11815911.10 -11815910.99 0.2660 0.1353 *

Mars -37063-01-12 06:28 J -11815826.36 -11815826.23 -11815826.11 0.1636 0.0764

Jupiter -37061-04-16 16:18 J -11815000.96 -11815000.82 -11815000.68 0.0507 0.0128

Moon -37061-04-19 10:47 J -11814998.17 -11814998.05 -11814997.92 0.2677 0.0193

Earth -37061-04-19 11:16 J -11814998.16 -11814998.03 -11814997.90 0.2670 0.0133 *

Jupiter -37061-07-15 04:33 J -11814911.36 -11814911.31 -11814911.25 0.0503 0.0461

Saturn -37058-06-05 08:23 J -11813856.24 -11813856.15 -11813856.05 0.0278 0.0212

Saturn -37058-09-01 23:16 J -11813767.67 -11813767.53 -11813767.39 0.0278 0.0102

Earth -37058-10-29 19:54 J -11813709.73 -11813709.67 -11813709.62 0.2667 0.2368

Moon -37058-10-29 20:52 J -11813709.69 -11813709.63 -11813709.58 0.2666 0.2362 *

Saturn -37058-11-29 14:09 J -11813679.06 -11813678.91 -11813678.75 0.0279 0.0012

Saturn -37057-02-26 05:30 J -11813590.40 -11813590.27 -11813590.13 0.0279 0.0127

Saturn -37057-05-24 21:21 J -11813501.68 -11813501.61 -11813501.54 0.0279 0.0245

Mars -37055-07-21 09:06 J -11812714.23 -11812714.12 -11812714.01 0.1889 0.1001

Jupiter -37055-09-15 07:40 J -11812658.34 -11812658.18 -11812658.03 0.0522 0.0014

Mars -37054-06-04 12:28 J -11812396.13 -11812395.98 -11812395.84 0.1639 0.0135

Moon -37051-10-22 07:40 J -11811160.31 -11811160.18 -11811160.05 0.2668 0.0343

Earth -37051-10-22 07:54 J -11811160.30 -11811160.17 -11811160.04 0.2662 0.0340 *

Jupiter -37049-02-03 19:26 J -11810690.81 -11810690.69 -11810690.57 0.0508 0.0267

Jupiter -37049-05-03 07:26 J -11810601.31 -11810601.19 -11810601.08 0.0504 0.0319

Earth -37048-04-22 09:35 J -11810247.22 -11810247.10 -11810246.97 0.2668 0.0906

Moon -37048-04-22 10:04 J -11810247.20 -11810247.08 -11810246.96 0.2674 0.0917 *

Mars -37046-12-11 14:23 J -11809284.03 -11809283.90 -11809283.78 0.1885 0.0120

Mars -37045-10-24 18:14 J -11808965.88 -11808965.74 -11808965.60 0.1642 0.0516

Saturn -37044-10-14 11:59 J -11808611.03 -11808611.00 -11808610.94 0.0280 0.0268

Saturn -37043-01-11 04:47 J -11808522.44 -11808522.30 -11808522.17 0.0280 0.0144

Saturn -37043-04-09 20:52 J -11808433.79 -11808433.63 -11808433.47 0.0280 0.0024

Jupiter -37043-07-04 08:23 J -11808348.30 -11808348.15 -11808348.00 0.0522 0.0168

Saturn -37043-07-07 12:28 J -11808345.12 -11808344.98 -11808344.83 0.0280 0.0093

Saturn -37043-10-04 03:50 J -11808256.44 -11808256.34 -11808256.23 0.0279 0.0206

Moon -37041-04-14 19:40 J -11807697.76 -11807697.68 -11807697.59 0.2671 0.1890

Earth -37041-04-14 20:52 J -11807697.72 -11807697.63 -11807697.55 0.2673 0.1900 *

Earth -37038-10-25 05:59 J -11806409.38 -11806409.25 -11806409.13 0.2663 0.0652

Moon -37038-10-25 06:14 J -11806409.36 -11806409.24 -11806409.12 0.2670 0.0709 *

Jupiter -37038-11-22 22:04 J -11806380.66 -11806380.58 -11806380.50 0.0508 0.0413

Jupiter -37037-02-20 09:35 J -11806291.24 -11806291.10 -11806290.96 0.0505 0.0169

Mars -37036-05-02 19:54 J -11805853.78 -11805853.67 -11805853.55 0.1881 0.0747

Uranus -37036-05-05 15:35 J -11805850.91 -11805850.85 -11805850.80 0.0146 0.0136

Uranus -37036-08-01 20:23 J -11805762.74 -11805762.65 -11805762.54 0.0146 0.0111

Uranus -37036-10-29 01:54 J -11805674.54 -11805674.42 -11805674.29 0.0146 0.0084

Uranus -37035-01-25 07:11 J -11805586.34 -11805586.20 -11805586.06 0.0146 0.0058

Mars -37035-03-16 23:45 J -11805535.61 -11805535.51 -11805535.41 0.1646 0.1180

Uranus -37035-04-23 12:28 J -11805498.13 -11805497.98 -11805497.82 0.0146 0.0031

Earth -37035-04-25 08:23 J -11805496.24 -11805496.15 -11805496.06 0.2667 0.1952

Moon -37035-04-25 09:21 J -11805496.19 -11805496.11 -11805496.03 0.2671 0.2085 *

Uranus -37035-07-20 17:59 J -11805409.91 -11805409.75 -11805409.59 0.0146 0.0004

Venus -37035-10-16 04:47 J -11805322.36 -11805322.30 -11805322.24 0.3765 0.3168

Uranus -37035-10-16 23:30 J -11805321.68 -11805321.52 -11805321.37 0.0146 0.0023

Uranus -37034-01-13 04:47 J -11805233.44 -11805233.30 -11805233.14 0.0146 0.0052

Uranus -37034-04-11 10:18 J -11805145.19 -11805145.07 -11805144.93 0.0146 0.0079

Uranus -37034-07-08 15:50 J -11805056.93 -11805056.84 -11805056.72 0.0146 0.0108

Uranus -37034-10-04 21:35 J -11804968.65 -11804968.60 -11804968.53 0.0146 0.0135

Mars -37033-02-21 00:14 J -11804829.55 -11804829.49 -11804829.43 0.1633 0.1448

Jupiter -37031-04-22 08:52 J -11804038.25 -11804038.13 -11804038.01 0.0521 0.0339

Jupiter -37031-07-21 05:59 J -11803948.35 -11803948.25 -11803948.14 0.0525 0.0367

Moon -37031-10-17 15:21 J -11803859.92 -11803859.86 -11803859.80 0.2659 0.2373

Earth -37031-10-17 16:33 J -11803859.89 -11803859.81 -11803859.74 0.2659 0.2214 *

Venus -37029-05-01 01:40 J -11803298.55 -11803298.43 -11803298.31 0.3762 0.0339

Saturn -37029-10-22 08:38 J -11803124.20 -11803124.14 -11803124.08 0.0278 0.0253

Saturn -37028-01-18 23:02 J -11803035.66 -11803035.54 -11803035.40 0.0279 0.0144

Saturn -37028-04-17 14:09 J -11802947.06 -11802946.91 -11802946.76 0.0279 0.0031

Moon -37028-04-17 17:45 J -11802946.88 -11802946.76 -11802946.64 0.2675 0.1069 *

Earth -37028-04-17 18:42 J -11802946.84 -11802946.72 -11802946.60 0.2671 0.0938 *

Saturn -37028-07-15 05:30 J -11802858.42 -11802858.27 -11802858.13 0.0279 0.0084

Saturn -37028-10-11 21:06 J -11802769.73 -11802769.62 -11802769.51 0.0279 0.0202

Mars -37027-09-23 01:54 J -11802423.49 -11802423.42 -11802423.35 0.1876 0.1569

Pluto -37026-08-16 04:18 J -11802096.32 -11802096.32 -11802096.31 0.0077 0.0077

Pluto -37026-11-12 05:30 J -11802008.32 -11802008.27 -11802008.19 0.0077 0.0069

Jupiter -37026-12-09 12:14 J -11801981.14 -11801980.99 -11801980.85 0.0506 0.0024

Pluto -37025-02-08 06:57 J -11801920.29 -11801920.21 -11801920.11 0.0077 0.0062

Venus -37025-05-02 10:33 J -11801836.16 -11801836.06 -11801835.97 0.3612 0.2188

Pluto -37025-05-06 08:38 J -11801832.25 -11801832.14 -11801832.03 0.0077 0.0053

Pluto -37025-08-02 09:50 J -11801744.20 -11801744.09 -11801743.96 0.0077 0.0046

Earth -37025-10-27 03:35 J -11801658.45 -11801658.35 -11801658.25 0.2665 0.1607

Moon -37025-10-27 04:33 J -11801658.41 -11801658.31 -11801658.21 0.2667 0.1618 *

Pluto -37025-10-29 11:16 J -11801656.15 -11801656.03 -11801655.89 0.0077 0.0038

Pluto -37024-01-25 12:42 J -11801568.10 -11801567.97 -11801567.83 0.0077 0.0030

Pluto -37024-04-23 14:09 J -11801480.05 -11801479.91 -11801479.76 0.0076 0.0023

Mars -37024-07-13 06:28 J -11801399.35 -11801399.23 -11801399.10 0.1636 0.0844

Pluto -37024-07-20 15:35 J -11801392.00 -11801391.85 -11801391.70 0.0076 0.0015

Pluto -37024-10-16 16:47 J -11801303.94 -11801303.80 -11801303.65 0.0076 0.0008

Pluto -37023-01-12 18:14 J -11801215.89 -11801215.74 -11801215.59 0.0076 0.0001

Pluto -37023-04-10 19:40 J -11801127.83 -11801127.68 -11801127.54 0.0076 0.0007

Pluto -37023-07-07 20:52 J -11801039.78 -11801039.63 -11801039.48 0.0076 0.0014

Pluto -37023-10-03 22:04 J -11800951.72 -11800951.58 -11800951.43 0.0076 0.0021

Pluto -37023-12-30 23:16 J -11800863.66 -11800863.53 -11800863.38 0.0075 0.0029

Pluto -37022-03-29 00:28 J -11800775.60 -11800775.48 -11800775.34 0.0075 0.0036

Pluto -37022-06-25 01:54 J -11800687.54 -11800687.42 -11800687.30 0.0075 0.0042

Pluto -37022-09-21 03:06 J -11800599.47 -11800599.37 -11800599.25 0.0075 0.0049

Pluto -37022-12-18 04:18 J -11800511.41 -11800511.32 -11800511.22 0.0075 0.0056

Pluto -37021-03-15 05:16 J -11800423.34 -11800423.28 -11800423.18 0.0075 0.0063

Pluto -37021-06-11 06:28 J -11800335.26 -11800335.23 -11800335.16 0.0075 0.0070

Venus -37020-11-16 06:28 J -11799812.35 -11799812.23 -11799812.11 0.3616 0.0862

Jupiter -37019-05-09 05:45 J -11799638.40 -11799638.26 -11799638.11 0.0523 0.0185

Moon -37018-10-20 14:09 J -11799109.03 -11799108.91 -11799108.79 0.2664 0.1180

Earth -37018-10-20 15:06 J -11799108.99 -11799108.87 -11799108.76 0.2660 0.1174 *

Mars -37015-01-19 09:06 J -11798287.23 -11798287.12 -11798287.02 0.1889 0.1084

Moon -37015-04-20 16:18 J -11798195.95 -11798195.82 -11798195.69 0.2676 0.0070

Earth -37015-04-20 16:47 J -11798195.93 -11798195.80 -11798195.67 0.2670 0.0071 *

Mars -37015-12-03 12:42 J -11797969.11 -11797968.97 -11797968.83 0.1639 0.0217

Saturn -37014-05-31 06:28 J -11797790.34 -11797790.23 -11797790.10 0.0281 0.0174

Saturn -37014-08-27 22:47 J -11797701.70 -11797701.55 -11797701.39 0.0281 0.0053

Jupiter -37014-09-27 14:52 J -11797671.02 -11797670.88 -11797670.74 0.0507 0.0123

Saturn -37014-11-24 14:38 J -11797613.03 -11797612.89 -11797612.73 0.0280 0.0067

Jupiter -37014-12-26 03:06 J -11797581.42 -11797581.37 -11797581.32 0.0504 0.0468

Saturn -37013-02-21 06:14 J -11797524.36 -11797524.24 -11797524.12 0.0280 0.0181

Earth -37012-10-30 01:11 J -11796907.49 -11796907.45 -11796907.42 0.2667 0.2534

Earth -37008-04-13 04:33 J -11795646.31 -11795646.31 -11795646.30 0.2675 0.2666

Jupiter -37007-02-25 06:14 J -11795328.40 -11795328.24 -11795328.08 0.0522 0.0010

Mars -37006-06-11 14:23 J -11794857.03 -11794856.90 -11794856.78 0.1885 0.0197

Mars -37005-04-24 18:42 J -11794538.86 -11794538.72 -11794538.58 0.1642 0.0420

Moon -37005-10-22 13:11 J -11794358.08 -11794357.95 -11794357.82 0.2669 0.0205

Earth -37005-10-22 13:26 J -11794358.07 -11794357.94 -11794357.82 0.2662 0.0179 *

Earth -37002-04-23 15:06 J -11793444.99 -11793444.87 -11793444.75 0.2668 0.1091

Moon -37002-04-23 15:35 J -11793444.96 -11793444.85 -11793444.73 0.2674 0.1115 *

Jupiter -37002-07-16 17:45 J -11793360.88 -11793360.76 -11793360.64 0.0508 0.0262

Jupiter -37002-10-14 05:45 J -11793271.37 -11793271.26 -11793271.15 0.0504 0.0325

37TH MILLENNIUM BCE

This is a list of transits of Mercury in the 37th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Saturn	**-36999-06-08 00:42**	**J**	**-11792303.58**	**-11792303.47**	**-11792303.35**	**0.0278**	**0.0173**	
Saturn	**-36999-09-04 15:35**	**J**	**-11792215.00**	**-11792214.85**	**-11792214.70**	**0.0278**	**0.0062**	
Saturn	**-36999-12-02 06:42**	**J**	**-11792126.37**	**-11792126.22**	**-11792126.07**	**0.0278**	**0.0052**	
Saturn	**-36998-02-28 22:18**	**J**	**-11792037.69**	**-11792037.57**	**-11792037.45**	**0.0279**	**0.0169**	
Mars	**-36997-10-31 20:09**	**J**	**-11791426.78**	**-11791426.66**	**-11791426.54**	**0.1881**	**0.0655**	
Mars	**-36996-09-15 00:14**	**J**	**-11791108.60**	**-11791108.49**	**-11791108.38**	**0.1646**	**0.1091**	
Jupiter	**-36996-12-14 06:28**	**J**	**-11791018.38**	**-11791018.23**	**-11791018.08**	**0.0521**	**0.0166**	
Uranus	**-36995-03-13 18:57**	**J**	**-11790928.77**	**-11790928.71**	**-11790928.62**	**0.0133**	**0.0117**	
Moon	**-36995-04-16 01:11**	**J**	**-11790895.54**	**-11790895.45**	**-11790895.36**	**0.2671**	**0.1866**	
Earth	**-36995-04-16 02:09**	**J**	**-11790895.50**	**-11790895.41**	**-11790895.31**	**0.2673**	**0.1725**	*****
Uranus	**-36995-06-09 23:45**	**J**	**-11790840.61**	**-11790840.51**	**-11790840.39**	**0.0133**	**0.0095**	
Uranus	**-36995-09-06 04:33**	**J**	**-11790752.44**	**-11790752.31**	**-11790752.18**	**0.0133**	**0.0074**	
Uranus	**-36995-12-03 09:06**	**J**	**-11790664.26**	**-11790664.12**	**-11790663.97**	**0.0133**	**0.0053**	
Uranus	**-36994-03-01 13:40**	**J**	**-11790576.08**	**-11790575.93**	**-11790575.77**	**0.0133**	**0.0032**	
Uranus	**-36994-05-28 18:14**	**J**	**-11790487.90**	**-11790487.74**	**-11790487.58**	**0.0133**	**0.0011**	
Mars	**-36994-08-22 00:28**	**J**	**-11790402.52**	**-11790402.48**	**-11790402.43**	**0.1633**	**0.1534**	
Uranus	**-36994-08-24 22:47**	**J**	**-11790399.71**	**-11790399.55**	**-11790399.40**	**0.0133**	**0.0010**	
Uranus	**-36994-11-21 03:06**	**J**	**-11790311.52**	**-11790311.37**	**-11790311.21**	**0.0132**	**0.0030**	
Uranus	**-36993-02-17 07:26**	**J**	**-11790223.33**	**-11790223.19**	**-11790223.04**	**0.0132**	**0.0050**	
Uranus	**-36993-05-15 11:45**	**J**	**-11790135.13**	**-11790135.01**	**-11790134.87**	**0.0132**	**0.0070**	
Uranus	**-36993-08-11 16:04**	**J**	**-11790046.94**	**-11790046.83**	**-11790046.71**	**0.0132**	**0.0090**	
Uranus	**-36993-11-07 20:23**	**J**	**-11789958.73**	**-11789958.65**	**-11789958.56**	**0.0132**	**0.0110**	

Uranus -36992-02-04 00:28 J -11789870.50 -11789870.48 -11789870.44 0.0132 0.0130

Earth -36992-10-25 11:16 J -11789607.15 -11789607.03 -11789606.91 0.2664 0.0825

Moon -36992-10-25 11:45 J -11789607.13 -11789607.01 -11789606.89 0.2669 0.0863 *

Jupiter -36990-05-04 20:52 J -11789050.71 -11789050.63 -11789050.54 0.0509 0.0399

Jupiter -36990-08-02 08:38 J -11788961.28 -11788961.14 -11788961.00 0.0505 0.0184

Earth -36989-04-25 13:54 J -11788694.00 -11788693.92 -11788693.84 0.2666 0.2146

Moon -36989-04-25 14:52 J -11788693.95 -11788693.88 -11788693.81 0.2670 0.2177 *

Neptune -36988-01-08 10:18 J -11788436.08 -11788436.07 -11788436.05 0.0089 0.0088

Neptune -36988-04-06 11:45 J -11788348.05 -11788348.01 -11788347.94 0.0089 0.0082

Neptune -36988-07-03 13:40 J -11788260.00 -11788259.93 -11788259.84 0.0089 0.0075

Neptune -36988-09-29 15:21 J -11788171.94 -11788171.86 -11788171.75 0.0089 0.0068

Neptune -36988-12-26 17:16 J -11788083.88 -11788083.78 -11788083.66 0.0089 0.0061

Mars -36987-03-24 01:54 J -11787996.49 -11787996.42 -11787996.34 0.1876 0.1484

Neptune -36987-03-24 19:11 J -11787995.81 -11787995.70 -11787995.58 0.0089 0.0054

Neptune -36987-06-20 21:06 J -11787907.74 -11787907.62 -11787907.49 0.0089 0.0047

Neptune -36987-09-16 22:47 J -11787819.67 -11787819.55 -11787819.41 0.0089 0.0041

Neptune -36987-12-14 00:42 J -11787731.60 -11787731.47 -11787731.33 0.0089 0.0033

Neptune -36986-03-12 02:38 J -11787643.53 -11787643.39 -11787643.25 0.0089 0.0026

Neptune -36986-06-08 04:33 J -11787555.46 -11787555.31 -11787555.17 0.0089 0.0020

Neptune -36986-09-04 06:14 J -11787467.38 -11787467.24 -11787467.09 0.0089 0.0012

Neptune -36986-12-01 08:09 J -11787379.31 -11787379.16 -11787379.01 0.0089 0.0005

Neptune -36985-02-27 10:04 J -11787291.23 -11787291.08 -11787290.93 0.0089 0.0002

Neptune -36985-05-25 11:59 J -11787203.15 -11787203.00 -11787202.85 0.0089 0.0009

Neptune -36985-08-21 13:40 J -11787115.07 -11787114.93 -11787114.78 0.0089 0.0016

Saturn -36985-10-17 05:30 J -11787058.36 -11787058.27 -11787058.17 0.0280 0.0221

Moon -36985-10-17 20:52 J -11787057.71 -11787057.63 -11787057.55 0.2660 0.2030

Earth -36985-10-17 22:04 J -11787057.67 -11787057.58 -11787057.50 0.2659 0.2030 *

Neptune -36985-11-17 15:35 J -11787026.99 -11787026.85 -11787026.70 0.0089 0.0023

Mars -36984-01-11 06:57 J -11786972.33 -11786972.21 -11786972.09 0.1636 0.0928

Saturn -36984-01-13 22:04 J -11786969.73 -11786969.58 -11786969.44 0.0280 0.0099

Neptune -36984-02-13 17:30 J -11786938.91 -11786938.77 -11786938.63 0.0089 0.0030

Saturn -36984-04-12 13:54 J -11786881.07 -11786880.92 -11786880.76 0.0280 0.0021

Neptune -36984-05-12 19:26 J -11786850.82 -11786850.69 -11786850.55 0.0089 0.0037

Saturn -36984-07-10 05:30 J -11786792.40 -11786792.27 -11786792.13 0.0280 0.0137

Neptune -36984-08-08 21:06 J -11786762.74 -11786762.62 -11786762.48 0.0089 0.0045

Jupiter -36984-10-02 07:11 J -11786708.32 -11786708.20 -11786708.08 0.0521 0.0334

Saturn -36984-10-06 20:52 J -11786703.70 -11786703.63 -11786703.56 0.0279 0.0249

Neptune -36984-11-04 23:02 J -11786674.65 -11786674.54 -11786674.41 0.0089 0.0052

Jupiter -36984-12-31 04:18 J -11786618.43 -11786618.32 -11786618.21 0.0524 0.0371

Neptune -36983-02-01 01:11 J -11786586.56 -11786586.45 -11786586.34 0.0089 0.0059

Neptune -36983-04-30 03:06 J -11786498.47 -11786498.37 -11786498.27 0.0089 0.0066

Neptune -36983-07-27 04:47 J -11786410.37 -11786410.30 -11786410.20 0.0089 0.0074

Neptune -36983-10-23 06:42 J -11786322.26 -11786322.22 -11786322.14 0.0089 0.0081

Neptune -36982-01-19 08:52 J -11786234.14 -11786234.13 -11786234.11 0.0089 0.0088

Moon -36982-04-18 23:16 J -11786144.65 -11786144.53 -11786144.41 0.2676 0.0734

Earth -36982-04-18 23:59 J -11786144.62 -11786144.50 -11786144.37 0.2671 0.0759 *

Earth -36979-10-28 08:52 J -11784856.22 -11784856.13 -11784856.03 0.2665 0.1778

Moon -36979-10-28 10:04 J -11784856.17 -11784856.08 -11784856.00 0.2668 0.1902 *

Jupiter -36978-05-21 11:02 J -11784651.18 -11784651.04 -11784650.89 0.0506 0.0039

Venus -36978-05-23 03:35 J -11784649.45 -11784649.35 -11784649.25 0.3764 0.1914

Mars -36976-07-20 09:21 J -11783860.21 -11783860.11 -11783860.01 0.1889 0.1179

Mars -36975-06-03 12:57 J -11783542.10 -11783541.96 -11783541.81 0.1639 0.0310

Venus -36973-12-06 00:28 J -11782625.58 -11782625.48 -11782625.37 0.3761 0.1664

Jupiter -36972-07-21 07:26 J -11782398.22 -11782398.19 -11782398.15 0.0520 0.0506

Jupiter -36972-10-19 05:16 J -11782308.42 -11782308.28 -11782308.14 0.0523 0.0205

Moon -36972-10-20 19:40 J -11782306.79 -11782306.68 -11782306.56 0.2665 0.1116

Earth -36972-10-20 20:23 J -11782306.77 -11782306.65 -11782306.53 0.2661 0.0990 *

Saturn -36970-10-26 00:28 J -11781571.57 -11781571.48 -11781571.38 0.0278 0.0216

Saturn -36969-01-22 15:06 J -11781483.00 -11781482.87 -11781482.72 0.0278 0.0107

Saturn -36969-04-20 06:14 J -11781394.39 -11781394.24 -11781394.08 0.0279 0.0009

Moon -36969-04-20 21:50 J -11781393.71 -11781393.59 -11781393.46 0.2676 0.0195

Earth -36969-04-20 22:18 J -11781393.70 -11781393.57 -11781393.45 0.2669 0.0258 *

Saturn -36969-07-17 21:35 J -11781305.74 -11781305.60 -11781305.46 0.0279 0.0123

Saturn -36969-10-14 13:11 J -11781217.02 -11781216.95 -11781216.87 0.0279 0.0242

Venus -36969-12-07 09:06 J -11781163.24 -11781163.12 -11781163.00 0.3613 0.1023

Mars -36967-12-10 14:23 J -11780430.02 -11780429.90 -11780429.77 0.1885 0.0291

Jupiter -36966-03-09 13:40 J -11780341.07 -11780340.93 -11780340.78 0.0507 0.0110

Jupiter -36966-06-07 01:54 J -11780251.45 -11780251.42 -11780251.37 0.0503 0.0481

Mars -36966-10-24 18:57 J -11780111.85 -11780111.71 -11780111.57 0.1642 0.0339

Venus -36963-06-23 05:02 J -11779139.39 -11779139.29 -11779139.19 0.3617 0.1983

Moon -36962-04-14 09:06 J -11778844.15 -11778844.12 -11778844.09 0.2670 0.2555

Earth -36962-04-14 09:50 J -11778844.13 -11778844.09 -11778844.04 0.2674 0.2497 *

Jupiter -36960-08-07 05:02 J -11777998.44 -11777998.29 -11777998.13 0.0522 0.0028

Moon -36959-10-23 18:42 J -11777555.85 -11777555.72 -11777555.60 0.2669 0.0105

Earth -36959-10-23 18:42 J -11777555.85 -11777555.72 -11777555.59 0.2662 0.0019 *

Mars -36957-05-01 20:09 J -11776999.78 -11776999.66 -11776999.54 0.1880 0.0575

Mars -36956-03-16 00:28 J -11776681.59 -11776681.48 -11776681.36 0.1646 0.1000

Earth -36956-04-23 20:38 J -11776642.75 -11776642.64 -11776642.53 0.2668 0.1273

Moon -36956-04-23 21:06 J -11776642.73 -11776642.62 -11776642.51 0.2674 0.1355 *

Saturn -36955-03-06 06:57 J -11776326.27 -11776326.21 -11776326.14 0.0281 0.0253

Saturn -36955-06-02 23:30 J -11776237.65 -11776237.52 -11776237.38 0.0281 0.0130

Saturn -36955-08-30 15:50 J -11776149.00 -11776148.84 -11776148.69 0.0281 0.0010

Saturn -36955-11-27 07:26 J -11776060.33 -11776060.19 -11776060.04 0.0281 0.0109

Jupiter -36955-12-26 16:18 J -11776030.94 -11776030.82 -11776030.70 0.0508 0.0255

Mars -36954-02-20 00:42 J -11775975.49 -11775975.47 -11775975.45 0.1633 0.1612

Saturn -36954-02-23 22:47 J -11775971.64 -11775971.55 -11775971.45 0.0280 0.0223

Jupiter -36954-03-26 04:18 J -11775941.43 -11775941.32 -11775941.21 0.0505 0.0332

Uranus -36952-05-25 22:33 J -11775149.62 -11775149.56 -11775149.48 0.0146 0.0129

Uranus -36952-08-22 03:50 J -11775061.44 -11775061.34 -11775061.22 0.0146 0.0103

Uranus -36952-11-18 09:21 J -11774973.24 -11774973.11 -11774972.98 0.0146 0.0076

Uranus -36951-02-14 14:38 J -11774885.03 -11774884.89 -11774884.74 0.0146 0.0050

Uranus -36951-05-13 19:54 J -11774796.82 -11774796.67 -11774796.51 0.0146 0.0023

Uranus -36951-08-10 01:26 J -11774708.60 -11774708.44 -11774708.28 0.0146 0.0004

Uranus -36951-11-06 06:57 J -11774620.37 -11774620.21 -11774620.06 0.0146 0.0032

Uranus -36950-02-02 12:14 J -11774532.13 -11774531.99 -11774531.84 0.0146 0.0059

Uranus -36950-05-01 17:45 J -11774443.88 -11774443.76 -11774443.62 0.0146 0.0087

Uranus -36950-07-28 23:16 J -11774355.61 -11774355.53 -11774355.42 0.0146 0.0115

Uranus -36950-10-25 05:02 J -11774267.31 -11774267.29 -11774267.25 0.0146 0.0143

Moon -36949-04-16 06:42 J -11774093.33 -11774093.22 -11774093.12 0.2672 0.1568

Earth -36949-04-16 07:40 J -11774093.29 -11774093.18 -11774093.08 0.2673 0.1554 *

Jupiter -36948-05-26 05:16 J -11773688.43 -11773688.28 -11773688.13 0.0521 0.0152

Mars -36948-09-22 02:09 J -11773569.50 -11773569.41 -11773569.33 0.1876 0.1402

Earth -36946-10-26 16:47 J -11772804.92 -11772804.80 -11772804.69 0.2664 0.1002

Moon -36946-10-26 17:30 J -11772804.89 -11772804.77 -11772804.66 0.2669 0.1031 *

Mars -36945-07-12 07:11 J -11772545.31 -11772545.20 -11772545.08 0.1636 0.1017

Earth -36943-04-26 19:26 J -11771891.75 -11771891.69 -11771891.63 0.2666 0.2335

Moon -36943-04-26 20:23 J -11771891.70 -11771891.65 -11771891.60 0.2668 0.2419 *

Jupiter -36943-10-14 19:26 J -11771720.78 -11771720.69 -11771720.60 0.0509 0.0394

Jupiter -36942-01-12 07:11 J -11771631.34 -11771631.20 -11771631.07 0.0505 0.0190

Saturn -36940-03-14 02:38 J -11770839.46 -11770839.39 -11770839.32 0.0278 0.0243

Saturn -36940-06-10 17:02 J -11770750.92 -11770750.79 -11770750.65 0.0278 0.0134

Saturn -36940-09-07 07:54 J -11770662.32 -11770662.17 -11770662.01 0.0278 0.0023

Saturn -36940-12-04 23:16 J -11770573.68 -11770573.53 -11770573.39 0.0278 0.0092

Saturn -36939-03-03 14:38 J -11770484.98 -11770484.89 -11770484.78 0.0279 0.0210

Moon -36939-10-19 02:23 J -11770255.49 -11770255.40 -11770255.32 0.2660 0.1997

Earth -36939-10-19 03:21 J -11770255.45 -11770255.36 -11770255.26 0.2659 0.1843 *

Mars -36936-01-18 09:21 J -11769433.20 -11769433.11 -11769433.01 0.1889 0.1271

Jupiter -36936-03-14 05:16 J -11769378.40 -11769378.28 -11769378.16 0.0520 0.0331

Moon -36936-04-19 04:47 J -11769342.43 -11769342.30 -11769342.18 0.2676 0.0722

Earth -36936-04-19 05:30 J -11769342.40 -11769342.27 -11769342.15 0.2671 0.0579 *

Jupiter -36936-06-12 02:38 J -11769288.50 -11769288.39 -11769288.29 0.0524 0.0374

Mars -36936-12-02 13:26 J -11769115.08 -11769114.94 -11769114.80 0.1639 0.0393

Earth -36933-10-28 14:23 J -11768053.99 -11768053.90 -11768053.82 0.2666 0.1948

Moon -36933-10-28 15:21 J -11768053.94 -11768053.86 -11768053.78 0.2667 0.1981 *

Jupiter -36931-10-31 10:04 J -11767321.22 -11767321.08 -11767320.93 0.0506 0.0050

Mars -36927-06-10 14:38 J -11766003.01 -11766002.89 -11766002.76 0.1885 0.0383

Mars -36926-04-24 19:11 J -11765684.84 -11765684.70 -11765684.55 0.1642 0.0254

Saturn -36926-10-20 22:47 J -11765505.67 -11765505.55 -11765505.43 0.0281 0.0176

Moon -36926-10-22 01:26 J -11765504.57 -11765504.44 -11765504.32 0.2667 0.0777

Earth -36926-10-22 01:54 J -11765504.54 -11765504.42 -11765504.30 0.2661 0.0810 *

Saturn -36925-01-17 15:06 J -11765417.03 -11765416.87 -11765416.72 0.0280 0.0054

Saturn -36925-04-15 06:57 J -11765328.36 -11765328.21 -11765328.06 0.0280 0.0064

Saturn -36925-07-12 22:18 J -11765239.68 -11765239.57 -11765239.45 0.0280 0.0180

Jupiter -36925-12-31 05:45 J -11765068.29 -11765068.26 -11765068.21 0.0519 0.0501

Jupiter -36924-03-31 03:35 J -11764978.49 -11764978.35 -11764978.21 0.0523 0.0209

Moon -36923-04-22 03:35 J -11764591.47 -11764591.35 -11764591.22 0.2676 0.0498

Earth -36923-04-22 03:35 J -11764591.47 -11764591.35 -11764591.22 0.2669 0.0432 *

Venus -36922-12-28 02:23 J -11763976.52 -11763976.40 -11763976.29 0.3763 0.0655

Jupiter -36919-08-19 12:42 J -11763011.11 -11763010.97 -11763010.83 0.0507 0.0095

Jupiter -36919-11-17 00:57 J -11762921.48 -11762921.46 -11762921.43 0.0503 0.0493

Mars -36918-10-31 20:09 J -11762572.78 -11762572.66 -11762572.54 0.1880 0.0489

Venus -36918-12-29 11:45 J -11762514.08 -11762514.01 -11762513.94 0.3611 0.2959

Mars -36917-09-14 00:57 J -11762254.59 -11762254.46 -11762254.34 0.1646 0.0913

Moon -36916-04-14 14:23 J -11762041.95 -11762041.90 -11762041.84 0.2670 0.2384

Earth -36916-04-14 15:06 J -11762041.92 -11762041.87 -11762041.81 0.2674 0.2333 *

Venus -36916-07-12 23:30 J -11761952.60 -11761952.52 -11761952.45 0.3760 0.2978

Moon -36913-10-24 00:14 J -11760753.62 -11760753.49 -11760753.37 0.2669 0.0151

Earth -36913-10-24 00:14 J -11760753.62 -11760753.49 -11760753.37 0.2663 0.0211 *

Jupiter -36912-01-17 04:18 J -11760668.47 -11760668.32 -11760668.16 0.0522 0.0045

Venus -36912-07-14 07:40 J -11760490.30 -11760490.18 -11760490.06 0.3614 0.0120

Uranus -36911-01-04 21:35 J -11760315.61 -11760315.60 -11760315.56 0.0133 0.0131

Uranus -36911-04-03 02:38 J -11760227.48 -11760227.39 -11760227.30 0.0133 0.0109

Uranus -36911-06-30 07:11 J -11760139.31 -11760139.20 -11760139.07 0.0133 0.0088

Uranus -36911-09-26 11:45 J -11760051.14 -11760051.01 -11760050.86 0.0133 0.0067

Saturn -36911-10-28 16:33 J -11760018.92 -11760018.81 -11760018.69 0.0278 0.0179

Uranus -36911-12-23 16:33 J -11759962.96 -11759962.81 -11759962.66 0.0133 0.0046

Saturn -36910-01-25 07:26 J -11759930.34 -11759930.19 -11759930.04 0.0278 0.0068

Uranus -36910-03-21 21:06 J -11759874.78 -11759874.62 -11759874.47 0.0133 0.0025

Saturn -36910-04-23 22:33 J -11759841.72 -11759841.56 -11759841.41 0.0279 0.0046

Earth -36910-04-25 02:09 J -11759840.52 -11759840.41 -11759840.30 0.2667 0.1464

Moon -36910-04-25 02:38 J -11759840.49 -11759840.39 -11759840.28 0.2673 0.1468 *

Uranus -36910-06-18 01:40 J -11759786.59 -11759786.43 -11759786.28 0.0133 0.0005

Saturn -36910-07-21 13:54 J -11759753.05 -11759752.92 -11759752.80 0.0279 0.0162

Uranus -36910-09-14 05:59 J -11759698.40 -11759698.25 -11759698.09 0.0133 0.0016

Uranus -36910-12-11 10:18 J -11759610.21 -11759610.07 -11759609.91 0.0132 0.0037

Uranus -36909-03-08 14:52 J -11759522.02 -11759521.88 -11759521.74 0.0132 0.0057

Uranus -36909-06-04 19:11 J -11759433.83 -11759433.70 -11759433.57 0.0132 0.0077

Uranus -36909-08-31 23:16 J -11759345.63 -11759345.53 -11759345.41 0.0132 0.0097

Uranus -36909-11-28 03:35 J -11759257.41 -11759257.35 -11759257.27 0.0132 0.0116

Mars -36908-03-23 02:09 J -11759142.50 -11759142.41 -11759142.32 0.1876 0.1312

Mars -36907-02-04 06:14 J -11758824.28 -11758824.24 -11758824.21 0.1650 0.1595

Jupiter -36907-06-07 15:35 J -11758700.98 -11758700.85 -11758700.73 0.0508 0.0239

Jupiter -36907-09-05 03:21 J -11758611.46 -11758611.36 -11758611.25 0.0504 0.0347

Venus -36906-01-28 03:35 J -11758466.41 -11758466.35 -11758466.29 0.3618 0.3099

Mars -36905-01-11 07:40 J -11758118.29 -11758118.18 -11758118.08 0.1636 0.1098

Neptune -36905-04-06 12:42 J -11758031.98 -11758031.97 -11758031.94 0.0088 0.0088

Neptune -36905-07-03 15:21 J -11757943.92 -11757943.86 -11757943.78 0.0088 0.0080

Neptune -36905-09-29 17:59 J -11757855.84 -11757855.75 -11757855.64 0.0088 0.0071

Neptune -36905-12-26 20:38 J -11757767.75 -11757767.64 -11757767.52 0.0088 0.0063

Neptune -36904-03-24 23:16 J -11757679.66 -11757679.53 -11757679.40 0.0088 0.0055

Neptune -36904-06-21 01:40 J -11757591.56 -11757591.43 -11757591.28 0.0088 0.0048

Neptune -36904-09-17 04:18 J -11757503.47 -11757503.32 -11757503.16 0.0088 0.0040

Neptune -36904-12-14 06:57 J -11757415.37 -11757415.21 -11757415.05 0.0088 0.0032

Neptune -36903-03-12 09:21 J -11757327.27 -11757327.11 -11757326.94 0.0088 0.0024

Moon -36903-04-17 11:59 J -11757291.11 -11757291.00 -11757290.90 0.2674 0.1479

Earth -36903-04-17 12:57 J -11757291.07 -11757290.96 -11757290.85 0.2672 0.1380 *

Neptune -36903-06-08 11:45 J -11757239.17 -11757239.01 -11757238.84 0.0088 0.0017

Neptune -36903-09-04 14:23 J -11757151.06 -11757150.90 -11757150.73 0.0088 0.0008

Neptune -36903-12-01 17:02 J -11757062.96 -11757062.79 -11757062.63 0.0088 0.0002

Neptune -36902-02-27 19:26 J -11756974.86 -11756974.69 -11756974.52 0.0088 0.0007

Neptune -36902-05-26 21:50 J -11756886.75 -11756886.59 -11756886.42 0.0088 0.0015

Neptune -36902-08-23 00:14 J -11756798.65 -11756798.49 -11756798.33 0.0088 0.0023

Neptune -36902-11-19 02:38 J -11756710.54 -11756710.39 -11756710.23 0.0088 0.0030

Neptune -36901-02-15 05:02 J -11756622.43 -11756622.29 -11756622.13 0.0088 0.0038

Neptune -36901-05-13 07:26 J -11756534.32 -11756534.19 -11756534.04 0.0088 0.0046

Neptune -36901-08-09 09:35 J -11756446.21 -11756446.10 -11756445.95 0.0088 0.0054

Jupiter -36901-11-05 04:18 J -11756358.47 -11756358.32 -11756358.17 0.0521 0.0136

Neptune -36901-11-05 12:14 J -11756358.10 -11756357.99 -11756357.87 0.0088 0.0061

Neptune -36900-02-01 14:23 J -11756269.99 -11756269.90 -11756269.78 0.0088 0.0069

Neptune -36900-04-30 17:02 J -11756181.87 -11756181.79 -11756181.70 0.0088 0.0076

Neptune -36900-07-27 19:11 J -11756093.74 -11756093.70 -11756093.63 0.0088 0.0083

Earth -36900-10-26 22:04 J -11756002.70 -11756002.58 -11756002.47 0.2664 0.1172

Moon -36900-10-26 22:47 J -11756002.66 -11756002.55 -11756002.44 0.2669 0.1274 *

Earth -36897-04-27 00:57 J -11755089.50 -11755089.46 -11755089.42 0.2666 0.2529

Moon -36897-04-27 02:09 J -11755089.43 -11755089.41 -11755089.40 0.2666 0.2632 *

Mars -36897-07-19 09:35 J -11755006.19 -11755006.10 -11755006.02 0.1889 0.1360

Saturn -36896-03-08 23:45 J -11754773.61 -11754773.51 -11754773.40 0.0281 0.0211

Mars -36896-06-02 13:40 J -11754688.07 -11754687.93 -11754687.79 0.1639 0.0480

Saturn -36896-06-05 16:18 J -11754684.97 -11754684.82 -11754684.67 0.0281 0.0087

Saturn -36896-09-02 08:23 J -11754596.30 -11754596.15 -11754596.00 0.0281 0.0033

Saturn -36896-11-29 23:59 J -11754507.63 -11754507.50 -11754507.37 0.0281 0.0150

Saturn -36895-02-26 15:06 J -11754418.91 -11754418.87 -11754418.81 0.0280 0.0264

Jupiter -36895-03-26 17:59 J -11754390.84 -11754390.75 -11754390.66 0.0509 0.0388

Jupiter -36895-06-24 05:45 J -11754301.40 -11754301.26 -11754301.13 0.0506 0.0197

Moon -36893-10-19 07:54 J -11753453.27 -11753453.17 -11753453.07 0.2661 0.1675

Earth -36893-10-19 08:52 J -11753453.23 -11753453.13 -11753453.03 0.2660 0.1657 *

Moon -36890-04-20 10:04 J -11752540.20 -11752540.08 -11752539.95 0.2675 0.0389

Earth -36890-04-20 11:02 J -11752540.17 -11752540.04 -11752539.92 0.2671 0.0408 *

Jupiter -36889-08-24 04:18 J -11752048.44 -11752048.32 -11752048.19 0.0520 0.0314

Jupiter -36889-11-22 01:26 J -11751958.54 -11751958.44 -11751958.34 0.0524 0.0388

Mars -36888-12-09 14:38 J -11751576.02 -11751575.89 -11751575.77 0.1885 0.0457

Mars -36887-10-23 19:40 J -11751257.82 -11751257.68 -11751257.53 0.1642 0.0159

Earth -36887-10-29 19:40 J -11751251.76 -11751251.68 -11751251.61 0.2666 0.2115

Moon -36887-10-29 20:38 J -11751251.71 -11751251.64 -11751251.57 0.2666 0.2188 *

Jupiter -36883-04-12 08:23 J -11749991.29 -11749991.15 -11749991.00 0.0506 0.0058

Saturn -36881-03-16 18:42 J -11749286.82 -11749286.72 -11749286.62 0.0277 0.0204

Saturn -36881-06-13 09:21 J -11749198.25 -11749198.11 -11749197.96 0.0278 0.0095

Saturn -36881-09-10 00:28 J -11749109.64 -11749109.48 -11749109.33 0.0278 0.0019

Saturn -36881-12-07 15:35 J -11749020.98 -11749020.85 -11749020.71 0.0278 0.0134

Saturn -36880-03-06 07:11 J -11748932.26 -11748932.20 -11748932.13 0.0278 0.0252

Moon -36880-10-22 06:57 J -11748702.34 -11748702.21 -11748702.09 0.2668 0.0746

Earth -36880-10-22 07:26 J -11748702.32 -11748702.19 -11748702.07 0.2661 0.0628 *

Mars -36878-05-01 20:23 J -11748145.77 -11748145.65 -11748145.52 0.1880 0.0392

Mars -36877-03-15 01:11 J -11747827.57 -11747827.45 -11747827.32 0.1646 0.0822

Moon -36877-04-22 09:21 J -11747789.24 -11747789.11 -11747788.99 0.2676 0.0550

Earth -36877-04-22 09:06 J -11747789.24 -11747789.12 -11747788.99 0.2669 0.0613 *

Jupiter -36877-06-12 04:04 J -11747738.37 -11747738.33 -11747738.28 0.0519 0.0495

Jupiter -36877-09-10 01:40 J -11747648.57 -11747648.43 -11747648.28 0.0523 0.0214

Jupiter -36871-01-29 11:30 J -11745681.16 -11745681.02 -11745680.87 0.0507 0.0085

Venus -36870-01-18 04:18 J -11745327.40 -11745327.32 -11745327.25 0.3766 0.2872

Moon -36870-04-15 19:40 J -11745239.75 -11745239.68 -11745239.61 0.2670 0.2193

Earth -36870-04-15 20:38 J -11745239.71 -11745239.64 -11745239.57 0.2674 0.2161 *

Mars -36869-09-21 02:09 J -11744715.50 -11744715.41 -11744715.31 0.1875 0.1229

Uranus -36868-06-15 05:59 J -11744448.32 -11744448.25 -11744448.15 0.0146 0.0121

Mars -36868-08-05 06:28 J -11744397.28 -11744397.23 -11744397.17 0.1650 0.1504

Uranus -36868-09-11 11:16 J -11744360.14 -11744360.03 -11744359.91 0.0146 0.0095

Uranus -36868-12-08 16:47 J -11744271.94 -11744271.80 -11744271.67 0.0146 0.0068

Uranus -36867-03-06 22:04 J -11744183.73 -11744183.58 -11744183.43 0.0146 0.0042

Uranus -36867-06-03 03:21 J -11744095.51 -11744095.36 -11744095.20 0.0146 0.0015

Saturn -36867-07-26 23:02 J -11744041.60 -11744041.54 -11744041.47 0.0281 0.0255

Uranus -36867-08-30 08:52 J -11744007.29 -11744007.13 -11744006.98 0.0146 0.0012

Saturn -36867-10-23 15:35 J -11743952.98 -11743952.85 -11743952.70 0.0281 0.0132

Earth -36867-10-25 05:30 J -11743951.40 -11743951.27 -11743951.14 0.2663 0.0372

Moon -36867-10-25 05:45 J -11743951.38 -11743951.26 -11743951.13 0.2669 0.0460 *

Uranus -36867-11-26 14:23 J -11743919.05 -11743918.90 -11743918.75 0.0146 0.0040

Saturn -36866-01-20 07:54 J -11743864.33 -11743864.17 -11743864.01 0.0280 0.0011

Uranus -36866-02-22 19:40 J -11743830.81 -11743830.68 -11743830.53 0.0146 0.0067

Saturn -36866-04-18 23:45 J -11743775.65 -11743775.51 -11743775.37 0.0280 0.0107

Uranus -36866-05-22 01:11 J -11743742.56 -11743742.45 -11743742.32 0.0146 0.0095

Mars -36866-07-12 07:54 J -11743691.27 -11743691.17 -11743691.07 0.1636 0.1181

Saturn -36866-07-16 15:06 J -11743686.96 -11743686.87 -11743686.78 0.0280 0.0222

Uranus -36866-08-18 06:42 J -11743654.29 -11743654.22 -11743654.12 0.0146 0.0124

Jupiter -36865-06-29 02:38 J -11743338.54 -11743338.39 -11743338.23 0.0522 0.0047

Venus -36865-08-03 01:11 J -11743303.57 -11743303.45 -11743303.33 0.3762 0.0652

Earth -36864-04-25 07:40 J -11743038.28 -11743038.18 -11743038.08 0.2667 0.1651

Moon -36864-04-25 08:23 J -11743038.25 -11743038.15 -11743038.06 0.2672 0.1771 *

Pluto -36864-10-20 14:23 J -11742859.93 -11742859.90 -11742859.83 0.0067 0.0064

Pluto -36863-01-16 15:50 J -11742771.91 -11742771.84 -11742771.75 0.0067 0.0058

Pluto -36863-04-14 16:47 J -11742683.88 -11742683.80 -11742683.68 0.0067 0.0053

Pluto -36863-07-11 18:14 J -11742595.84 -11742595.74 -11742595.61 0.0067 0.0048

Pluto -36863-10-07 19:54 J -11742507.80 -11742507.67 -11742507.54 0.0067 0.0042

Pluto -36862-01-03 20:52 J -11742419.76 -11742419.63 -11742419.47 0.0067 0.0036

Pluto -36862-04-01 22:18 J -11742331.71 -11742331.57 -11742331.41 0.0068 0.0031

Pluto -36862-06-28 23:45 J -11742243.66 -11742243.51 -11742243.35 0.0068 0.0025

Pluto -36862-09-25 01:11 J -11742155.61 -11742155.45 -11742155.29 0.0068 0.0019

Pluto -36862-12-22 02:38 J -11742067.56 -11742067.39 -11742067.23 0.0068 0.0013

Pluto -36861-03-19 03:50 J -11741979.50 -11741979.34 -11741979.17 0.0068 0.0007

Pluto -36861-06-15 05:16 J -11741891.45 -11741891.28 -11741891.11 0.0068 0.0001

Venus -36861-08-04 10:18 J -11741841.18 -11741841.07 -11741840.97 0.3612 0.1796

Pluto -36861-09-11 06:42 J -11741803.39 -11741803.22 -11741803.05 0.0068 0.0005

Pluto -36861-12-08 08:09 J -11741715.33 -11741715.16 -11741715.00 0.0068 0.0011

Pluto -36860-03-06 09:21 J -11741627.27 -11741627.11 -11741626.94 0.0068 0.0017

Pluto -36860-06-02 10:47 J -11741539.21 -11741539.05 -11741538.89 0.0068 0.0023

Pluto -36860-08-29 12:14 J -11741451.14 -11741450.99 -11741450.83 0.0069 0.0029

Moon -36860-10-17 14:38 J -11741401.91 -11741401.89 -11741401.87 0.2656 0.2616

Earth -36860-10-17 15:35 J -11741401.88 -11741401.85 -11741401.81 0.2658 0.2526 *

Jupiter -36860-11-17 14:23 J -11741371.03 -11741370.90 -11741370.77 0.0508 0.0227

Pluto -36860-11-25 13:40 J -11741363.07 -11741362.93 -11741362.78 0.0069 0.0035

Jupiter -36859-02-15 02:23 J -11741281.50 -11741281.40 -11741281.30 0.0504 0.0359

Pluto -36859-02-21 14:52 J -11741275.00 -11741274.88 -11741274.73 0.0069 0.0042

Pluto -36859-05-20 16:18 J -11741186.92 -11741186.82 -11741186.68 0.0069 0.0048

Pluto -36859-08-16 17:59 J -11741098.85 -11741098.75 -11741098.64 0.0069 0.0054

Pluto -36859-11-12 19:40 J -11741010.76 -11741010.68 -11741010.60 0.0069 0.0060

Pluto -36858-02-08 20:38 J -11740922.66 -11740922.64 -11740922.58 0.0069 0.0068

Mars -36857-01-18 09:35 J -11740579.18 -11740579.10 -11740579.02 0.1889 0.1446

Moon -36857-04-17 17:16 J -11740488.89 -11740488.78 -11740488.67 0.2675 0.1268

Earth -36857-04-17 18:14 J -11740488.85 -11740488.74 -11740488.62 0.2672 0.1207 *

Mars -36857-12-01 14:09 J -11740261.05 -11740260.91 -11740260.78 0.1639 0.0565

Venus -36855-02-18 06:14 J -11739817.35 -11739817.24 -11739817.12 0.3615 0.1256

Earth -36854-10-28 03:21 J -11739200.47 -11739200.36 -11739200.25 0.2665 0.1345

Moon -36854-10-28 04:18 J -11739200.43 -11739200.32 -11739200.22 0.2669 0.1355 *

Jupiter -36853-04-17 03:21 J -11739028.51 -11739028.36 -11739028.20 0.0521 0.0121

Saturn -36852-08-03 18:14 J -11738554.80 -11738554.74 -11738554.67 0.0278 0.0249

Saturn -36852-10-31 08:52 J -11738466.26 -11738466.13 -11738466.00 0.0278 0.0141

Saturn -36851-01-27 23:45 J -11738377.67 -11738377.51 -11738377.36 0.0278 0.0030

Saturn -36851-04-26 14:52 J -11738289.03 -11738288.88 -11738288.74 0.0278 0.0086

Saturn -36851-07-24 06:14 J -11738200.34 -11738200.24 -11738200.13 0.0279 0.0203

Mars -36848-06-09 14:52 J -11737149.00 -11737148.88 -11737148.76 0.1885 0.0554

Jupiter -36848-09-05 17:16 J -11737060.88 -11737060.78 -11737060.68 0.0509 0.0370

Jupiter -36848-12-04 04:47 J -11736971.43 -11736971.30 -11736971.16 0.0505 0.0214

Mars -36847-04-23 19:54 J -11736830.81 -11736830.67 -11736830.52 0.1643 0.0078

Moon -36847-10-20 13:26 J -11736651.04 -11736650.94 -11736650.83 0.2663 0.1569

Earth -36847-10-20 14:23 J -11736651.01 -11736650.90 -11736650.79 0.2660 0.1472 *

Moon -36844-04-20 15:50 J -11735737.97 -11735737.84 -11735737.72 0.2676 0.0323

Earth -36844-04-20 16:18 J -11735737.95 -11735737.82 -11735737.69 0.2670 0.0221 *

Jupiter -36841-02-04 03:21 J -11734718.49 -11734718.36 -11734718.23 0.0520 0.0297

Jupiter -36841-05-04 00:28 J -11734628.58 -11734628.48 -11734628.38 0.0524 0.0404

Earth -36841-10-30 00:57 J -11734449.52 -11734449.46 -11734449.40 0.2666 0.2285

Moon -36841-10-30 01:54 J -11734449.47 -11734449.42 -11734449.37 0.2665 0.2373 *

Mars -36839-10-30 20:23 J -11733718.78 -11733718.65 -11733718.53 0.1880 0.0319

Mars -36838-09-14 01:40 J -11733400.56 -11733400.43 -11733400.30 0.1646 0.0731

Saturn -36837-03-11 16:33 J -11733220.93 -11733220.81 -11733220.68 0.0282 0.0168

Saturn -36837-06-08 09:06 J -11733132.28 -11733132.12 -11733131.97 0.0281 0.0045

Saturn -36837-09-05 00:57 J -11733043.61 -11733043.46 -11733043.31 0.0281 0.0074

Saturn -36837-12-02 16:33 J -11732954.92 -11732954.81 -11732954.70 0.0281 0.0191

Jupiter -36836-09-22 06:57 J -11732661.35 -11732661.21 -11732661.06 0.0507 0.0062

Moon -36834-10-23 12:14 J -11731900.11 -11731899.99 -11731899.86 0.2668 0.0423

Earth -36834-10-23 12:42 J -11731900.09 -11731899.97 -11731899.84 0.2662 0.0455 *

Earth -36831-04-23 14:38 J -11730987.02 -11730986.89 -11730986.77 0.2669 0.0797

Moon -36831-04-23 14:38 J -11730987.01 -11730986.89 -11730986.76 0.2676 0.0896 *

Jupiter -36830-11-23 03:21 J -11730408.42 -11730408.36 -11730408.30 0.0519 0.0476

Jupiter -36829-02-21 00:57 J -11730318.60 -11730318.46 -11730318.32 0.0522 0.0230

Mars -36829-03-22 02:23 J -11730288.50 -11730288.40 -11730288.30 0.1876 0.1142

Mars -36828-02-03 06:57 J -11729970.28 -11729970.21 -11729970.13 0.1649 0.1407

Uranus -36827-01-25 05:16 J -11729614.33 -11729614.28 -11729614.21 0.0133 0.0123

Uranus -36827-04-23 09:50 J -11729526.18 -11729526.09 -11729525.97 0.0133 0.0102

Uranus -36827-07-20 14:52 J -11729438.01 -11729437.88 -11729437.75 0.0133 0.0080

Uranus -36827-10-16 19:26 J -11729349.83 -11729349.69 -11729349.55 0.0133 0.0059

Mars -36826-01-10 08:23 J -11729264.24 -11729264.15 -11729264.07 0.1636 0.1271

Uranus -36826-01-12 23:59 J -11729261.65 -11729261.50 -11729261.35 0.0133 0.0038

Uranus -36826-04-11 04:33 J -11729173.47 -11729173.31 -11729173.15 0.0133 0.0017

Uranus -36826-07-08 09:06 J -11729085.28 -11729085.12 -11729084.96 0.0133 0.0004

Uranus -36826-10-04 13:26 J -11728997.09 -11728996.94 -11728996.78 0.0132 0.0024

Uranus -36826-12-31 17:59 J -11728908.90 -11728908.75 -11728908.60 0.0132 0.0044

Uranus -36825-03-28 22:18 J -11728820.71 -11728820.57 -11728820.43 0.0132 0.0064

Uranus -36825-06-25 02:38 J -11728732.51 -11728732.39 -11728732.27 0.0132 0.0084

Uranus -36825-09-21 06:42 J -11728644.31 -11728644.22 -11728644.12 0.0132 0.0104

Uranus -36825-12-18 11:02 J -11728556.09 -11728556.04 -11728555.98 0.0132 0.0123

Moon -36824-04-16 00:57 J -11728437.53 -11728437.46 -11728437.38 0.2672 0.2103

Earth -36824-04-16 01:54 J -11728437.50 -11728437.42 -11728437.34 0.2674 0.1992 *

Jupiter -36824-07-11 09:50 J -11728351.23 -11728351.09 -11728350.94 0.0508 0.0082

Neptune -36824-10-05 09:21 J -11728265.14 -11728265.11 -11728265.06 0.0089 0.0085

Neptune -36823-01-01 11:16 J -11728177.10 -11728177.03 -11728176.96 0.0089 0.0078

Neptune -36823-03-30 12:42 J -11728089.04 -11728088.97 -11728088.87 0.0089 0.0072

Neptune -36823-06-26 14:38 J -11728000.98 -11728000.89 -11728000.78 0.0089 0.0065

Neptune -36823-09-22 16:33 J -11727912.92 -11727912.81 -11727912.69 0.0089 0.0058

Neptune -36823-12-19 18:14 J -11727824.85 -11727824.74 -11727824.61 0.0089 0.0051

Saturn -36823-12-21 20:52 J -11727822.65 -11727822.63 -11727822.60 0.0277 0.0271

Neptune -36822-03-17 20:09 J -11727736.78 -11727736.66 -11727736.53 0.0089 0.0044

Saturn -36822-03-20 11:16 J -11727734.15 -11727734.03 -11727733.91 0.0277 0.0164

Neptune -36822-06-13 22:04 J -11727648.71 -11727648.58 -11727648.44 0.0089 0.0037

Saturn -36822-06-17 01:54 J -11727645.57 -11727645.42 -11727645.27 0.0278 0.0054

Neptune -36822-09-09 23:45 J -11727560.64 -11727560.51 -11727560.36 0.0089 0.0030

Saturn -36822-09-13 17:02 J -11727556.94 -11727556.79 -11727556.64 0.0278 0.0060

Neptune -36822-12-07 01:40 J -11727472.57 -11727472.43 -11727472.28 0.0089 0.0023

Saturn -36822-12-11 08:23 J -11727468.27 -11727468.15 -11727468.03 0.0278 0.0176

Neptune -36821-03-04 03:35 J -11727384.50 -11727384.35 -11727384.20 0.0089 0.0016

Neptune -36821-05-31 05:30 J -11727296.42 -11727296.27 -11727296.12 0.0089 0.0009

Neptune -36821-08-27 07:26 J -11727208.34 -11727208.19 -11727208.05 0.0089 0.0003

Earth -36821-10-25 11:02 J -11727149.17 -11727149.04 -11727148.92 0.2663 0.0557

Moon -36821-10-25 11:16 J -11727149.15 -11727149.03 -11727148.90 0.2669 0.0520 *

Neptune -36821-11-23 09:06 J -11727120.27 -11727120.12 -11727119.97 0.0089 0.0005

Neptune -36820-02-19 11:02 J -11727032.19 -11727032.04 -11727031.89 0.0089 0.0012

Neptune -36820-05-18 12:57 J -11726944.11 -11726943.96 -11726943.81 0.0089 0.0019

Neptune -36820-08-14 14:52 J -11726856.03 -11726855.88 -11726855.74 0.0089 0.0026

Neptune -36820-11-10 16:33 J -11726767.94 -11726767.81 -11726767.66 0.0089 0.0034

Neptune -36819-02-06 18:28 J -11726679.86 -11726679.73 -11726679.59 0.0089 0.0041

Neptune -36819-05-05 20:23 J -11726591.77 -11726591.65 -11726591.52 0.0089 0.0048

Neptune -36819-08-01 22:18 J -11726503.68 -11726503.57 -11726503.45 0.0089 0.0055

Neptune -36819-10-28 23:59 J -11726415.59 -11726415.50 -11726415.38 0.0089 0.0063

Neptune -36818-01-25 01:54 J -11726327.49 -11726327.42 -11726327.31 0.0089 0.0070

Neptune -36818-04-23 04:04 J -11726239.39 -11726239.33 -11726239.25 0.0089 0.0077

Earth -36818-04-26 13:11 J -11726236.04 -11726235.95 -11726235.86 0.2667 0.1847

Moon -36818-04-26 14:09 J -11726236.00 -11726235.91 -11726235.82 0.2670 0.1839 *

Mars -36818-07-19 09:50 J -11726152.16 -11726152.09 -11726152.02 0.1889 0.1545

Neptune -36818-07-20 06:14 J -11726151.29 -11726151.24 -11726151.19 0.0089 0.0084

Jupiter -36818-12-10 00:57 J -11726008.62 -11726008.46 -11726008.30 0.0522 0.0052

Mars -36817-06-01 14:23 J -11725834.03 -11725833.90 -11725833.77 0.1639 0.0651

Venus -36814-08-25 02:52 J -11724654.48 -11724654.38 -11724654.27 0.3765 0.1618

Moon -36814-10-18 20:09 J -11724599.72 -11724599.66 -11724599.60 0.2657 0.2384

Earth -36814-10-18 21:06 J -11724599.68 -11724599.62 -11724599.56 0.2659 0.2339 *

Jupiter -36812-04-29 12:57 J -11724041.08 -11724040.96 -11724040.83 0.0508 0.0219

Jupiter -36812-07-28 00:57 J -11723951.55 -11723951.46 -11723951.36 0.0505 0.0370

Moon -36811-04-18 22:47 J -11723686.67 -11723686.55 -11723686.44 0.2674 0.1100

Earth -36811-04-18 23:45 J -11723686.63 -11723686.51 -11723686.39 0.2672 0.1029 *

Mars -36809-12-08 14:52 J -11722722.00 -11722721.88 -11722721.76 0.1884 0.0646

Venus -36808-03-09 23:59 J -11722630.61 -11722630.50 -11722630.40 0.3761 0.1944

Saturn -36808-07-29 16:18 J -11722488.92 -11722488.82 -11722488.72 0.0281 0.0210

Mars -36808-10-22 20:23 J -11722403.80 -11722403.65 -11722403.51 0.1643 0.0035

Saturn -36808-10-26 08:52 J -11722400.28 -11722400.13 -11722399.98 0.0281 0.0087

Earth -36808-10-28 08:38 J -11722398.24 -11722398.14 -11722398.03 0.2665 0.1517

Moon -36808-10-28 09:35 J -11722398.20 -11722398.10 -11722398.00 0.2668 0.1640 *

Saturn -36807-01-23 00:57 J -11722311.62 -11722311.46 -11722311.31 0.0281 0.0034

Saturn -36807-04-21 16:33 J -11722222.94 -11722222.81 -11722222.68 0.0280 0.0151

Saturn -36807-07-19 07:54 J -11722134.22 -11722134.17 -11722134.12 0.0280 0.0264

Jupiter -36806-09-28 01:40 J -11721698.59 -11721698.43 -11721698.28 0.0521 0.0117

Venus -36804-03-11 08:52 J -11721168.25 -11721168.13 -11721168.01 0.3613 0.0638

Moon -36801-10-20 18:57 J -11719848.82 -11719848.71 -11719848.60 0.2665 0.1349

Earth -36801-10-20 19:54 J -11719848.78 -11719848.67 -11719848.56 0.2660 0.1285 *

Jupiter -36800-02-15 16:04 J -11719730.93 -11719730.83 -11719730.73 0.0509 0.0360

Jupiter -36800-05-16 03:35 J -11719641.48 -11719641.35 -11719641.22 0.0505 0.0224

Mars -36799-04-30 20:38 J -11719291.77 -11719291.64 -11719291.52 0.1880 0.0231

Venus -36799-09-25 04:47 J -11719144.39 -11719144.30 -11719144.21 0.3616 0.2377

Mars -36798-03-15 01:54 J -11718973.55 -11718973.42 -11718973.28 0.1646 0.0643

Moon -36798-04-21 21:21 J -11718935.74 -11718935.61 -11718935.48 0.2676 0.0046

Earth -36798-04-21 21:50 J -11718935.72 -11718935.59 -11718935.47 0.2670 0.0086 *

Earth -36795-10-31 06:14 J -11717647.28 -11717647.24 -11717647.19 0.2667 0.2453

Moon -36795-10-31 07:11 J -11717647.24 -11717647.20 -11717647.15 0.2664 0.2474 *

Jupiter -36794-07-17 02:09 J -11717388.54 -11717388.41 -11717388.27 0.0520 0.0286

Jupiter -36794-10-14 23:16 J -11717298.61 -11717298.53 -11717298.43 0.0524 0.0418

Saturn -36793-08-06 10:47 J -11717002.14 -11717002.05 -11717001.95 0.0278 0.0209

Saturn -36793-11-03 01:26 J -11716913.58 -11716913.44 -11716913.30 0.0278 0.0099

Saturn -36792-01-30 16:18 J -11716824.97 -11716824.82 -11716824.67 0.0278 0.0013

Saturn -36792-04-29 07:26 J -11716736.32 -11716736.19 -11716736.05 0.0278 0.0129

Saturn -36792-07-26 23:02 J -11716647.61 -11716647.54 -11716647.46 0.0279 0.0246

Mars -36790-09-21 02:23 J -11715861.50 -11715861.40 -11715861.30 0.1875 0.1058

Mars -36789-08-04 07:11 J -11715543.28 -11715543.20 -11715543.11 0.1650 0.1324

Jupiter -36789-12-04 18:57 J -11715420.73 -11715420.71 -11715420.69 0.0510 0.0502

Jupiter -36788-03-04 06:14 J -11715331.38 -11715331.24 -11715331.09 0.0506 0.0079

Moon -36788-10-23 17:59 J -11715097.88 -11715097.75 -11715097.63 0.2668 0.0341

Earth -36788-10-23 18:14 J -11715097.87 -11715097.74 -11715097.61 0.2662 0.0264 *

Mars -36787-07-11 08:23 J -11714837.23 -11714837.15 -11714837.07 0.1636 0.1349

Earth -36785-04-23 20:09 J -11714184.78 -11714184.66 -11714184.54 0.2668 0.0988

Moon -36785-04-23 20:23 J -11714184.77 -11714184.65 -11714184.53 0.2675 0.0941 *

Uranus -36784-04-08 08:23 J -11713835.19 -11713835.15 -11713835.10 0.0146 0.0139

Uranus -36784-07-05 13:40 J -11713747.02 -11713746.93 -11713746.83 0.0146 0.0113

Uranus -36784-10-01 18:42 J -11713658.83 -11713658.72 -11713658.59 0.0146 0.0087

Uranus -36784-12-29 00:14 J -11713570.63 -11713570.49 -11713570.35 0.0146 0.0060

Uranus -36783-03-27 05:30 J -11713482.42 -11713482.27 -11713482.12 0.0146 0.0034

Uranus -36783-06-23 10:47 J -11713394.20 -11713394.05 -11713393.89 0.0146 0.0008

Uranus -36783-09-19 16:18 J -11713305.97 -11713305.82 -11713305.66 0.0146 0.0021

Uranus -36783-12-16 21:35 J -11713217.74 -11713217.60 -11713217.44 0.0146 0.0049

Uranus -36782-03-15 03:21 J -11713129.49 -11713129.36 -11713129.23 0.0146 0.0076

Jupiter -36782-05-05 02:09 J -11713078.48 -11713078.41 -11713078.33 0.0519 0.0461

Uranus -36782-06-11 08:52 J -11713041.24 -11713041.13 -11713041.02 0.0146 0.0103

Jupiter -36782-08-02 23:45 J -11712988.64 -11712988.51 -11712988.37 0.0523 0.0246

Uranus -36782-09-07 14:23 J -11712952.96 -11712952.90 -11712952.83 0.0146 0.0132

Mars -36780-02-10 08:23 J -11712431.15 -11712431.15 -11712431.14 0.1870 0.1868

Saturn -36779-12-16 16:47 J -11711756.87 -11711756.80 -11711756.73 0.0282 0.0249

Mars -36778-01-17 09:50 J -11711725.15 -11711725.09 -11711725.03 0.1888 0.1627

Saturn -36778-03-15 09:21 J -11711668.25 -11711668.11 -11711667.96 0.0282 0.0124

Moon -36778-04-17 06:14 J -11711635.33 -11711635.24 -11711635.15 0.2673 0.1820

Earth -36778-04-17 07:11 J -11711635.29 -11711635.20 -11711635.10 0.2673 0.1822 *

Saturn -36778-06-12 01:40 J -11711579.58 -11711579.43 -11711579.27 0.0281 0.0005

Saturn -36778-09-08 17:30 J -11711490.91 -11711490.77 -11711490.63 0.0281 0.0117

Mars -36778-12-01 14:38 J -11711407.02 -11711406.89 -11711406.76 0.1640 0.0735

Saturn -36778-12-06 09:06 J -11711402.20 -11711402.12 -11711402.04 0.0281 0.0232

Pluto -36778-12-08 13:11 J -11711399.96 -11711399.95 -11711399.92 0.0077 0.0076

Pluto -36777-03-05 14:38 J -11711311.94 -11711311.89 -11711311.81 0.0077 0.0068

Pluto -36777-06-01 16:18 J -11711223.91 -11711223.82 -11711223.73 0.0077 0.0060

Pluto -36777-08-28 17:30 J -11711135.87 -11711135.77 -11711135.65 0.0077 0.0053

Pluto -36777-11-24 18:57 J -11711047.82 -11711047.71 -11711047.58 0.0077 0.0045

Jupiter -36777-12-21 08:23 J -11711021.29 -11711021.15 -11711021.01 0.0508 0.0075

Pluto -36776-02-20 20:38 J -11710959.77 -11710959.64 -11710959.51 0.0077 0.0037

Pluto -36776-05-19 21:50 J -11710871.72 -11710871.59 -11710871.45 0.0076 0.0029

Pluto -36776-08-15 23:02 J -11710783.67 -11710783.54 -11710783.38 0.0076 0.0023

Pluto -36776-11-12 00:42 J -11710695.62 -11710695.47 -11710695.32 0.0076 0.0014

Pluto -36775-02-08 01:54 J -11710607.56 -11710607.42 -11710607.27 0.0076 0.0007

Pluto -36775-05-07 03:21 J -11710519.51 -11710519.36 -11710519.21 0.0076 0.0000

Pluto -36775-08-03 04:33 J -11710431.45 -11710431.31 -11710431.16 0.0076 0.0008

Earth -36775-10-26 16:18 J -11710346.94 -11710346.82 -11710346.70 0.2663 0.0725

Moon -36775-10-26 16:47 J -11710346.92 -11710346.80 -11710346.68 0.2670 0.0839 *

Pluto -36775-10-30 05:59 J -11710343.40 -11710343.25 -11710343.11 0.0076 0.0015

Pluto -36774-01-26 06:57 J -11710255.34 -11710255.21 -11710255.06 0.0075 0.0023

Pluto -36774-04-24 08:23 J -11710167.28 -11710167.15 -11710167.01 0.0075 0.0029

Pluto -36774-07-21 09:35 J -11710079.22 -11710079.10 -11710078.96 0.0075 0.0036

Pluto -36774-10-17 10:47 J -11709991.16 -11709991.05 -11709990.92 0.0075 0.0043

Pluto -36773-01-13 11:59 J -11709903.10 -11709903.00 -11709902.88 0.0075 0.0050

Pluto -36773-04-10 13:11 J -11709815.03 -11709814.95 -11709814.84 0.0075 0.0057

Pluto -36773-07-07 14:23 J -11709726.96 -11709726.90 -11709726.81 0.0075 0.0064

Pluto -36773-10-03 15:50 J -11709638.88 -11709638.84 -11709638.79 0.0075 0.0070

Earth -36772-04-26 18:42 J -11709433.80 -11709433.72 -11709433.64 0.2667 0.2034

Moon -36772-04-26 19:40 J -11709433.75 -11709433.68 -11709433.61 0.2670 0.2194 *

Jupiter -36770-05-21 23:59 J -11708678.65 -11708678.50 -11708678.34 0.0521 0.0071

Mars -36769-06-08 15:06 J -11708294.99 -11708294.87 -11708294.76 0.1885 0.0731

Mars -36768-04-22 20:52 J -11707976.78 -11707976.63 -11707976.49 0.1643 0.0112

Moon -36768-10-19 01:40 J -11707797.50 -11707797.43 -11707797.36 0.2658 0.2274

Earth -36768-10-19 02:38 J -11707797.46 -11707797.39 -11707797.31 0.2659 0.2148 *

Moon -36765-04-19 04:04 J -11706884.44 -11706884.33 -11706884.21 0.2674 0.0945

Earth -36765-04-19 05:02 J -11706884.41 -11706884.29 -11706884.17 0.2671 0.0856 *

Jupiter -36765-10-09 11:16 J -11706711.16 -11706711.03 -11706710.90 0.0509 0.0218

Jupiter -36764-01-06 23:16 J -11706621.63 -11706621.53 -11706621.43 0.0505 0.0371

Saturn -36764-12-24 13:40 J -11706270.01 -11706269.93 -11706269.85 0.0277 0.0229

Saturn -36763-03-23 04:04 J -11706181.46 -11706181.33 -11706181.19 0.0277 0.0121

Saturn -36763-06-19 18:57 J -11706092.86 -11706092.71 -11706092.56 0.0277 0.0009

Saturn -36763-09-16 10:04 J -11706004.22 -11706004.08 -11706003.94 0.0278 0.0105

Saturn -36763-12-14 01:26 J -11705915.53 -11705915.44 -11705915.34 0.0278 0.0222

Earth -36762-10-29 14:09 J -11705596.01 -11705595.91 -11705595.82 0.2665 0.1690

Moon -36762-10-29 15:06 J -11705595.97 -11705595.87 -11705595.78 0.2667 0.1683 *

Mars -36760-10-29 20:38 J -11704864.76 -11704864.64 -11704864.51 0.1880 0.0135

Mars -36759-09-13 02:23 J -11704546.54 -11704546.40 -11704546.26 0.1646 0.0555

Jupiter -36758-03-09 23:45 J -11704368.66 -11704368.51 -11704368.35 0.0521 0.0114

Venus -36757-03-31 01:40 J -11703981.55 -11703981.43 -11703981.31 0.3764 0.0356

Moon -36755-10-22 00:28 J -11703046.59 -11703046.48 -11703046.36 0.2665 0.1154

Earth -36755-10-22 01:26 J -11703046.56 -11703046.44 -11703046.32 0.2660 0.1103 *

Venus -36753-04-01 11:30 J -11702519.11 -11702519.02 -11702518.94 0.3611 0.2574

Jupiter -36753-07-28 14:38 J -11702400.99 -11702400.89 -11702400.79 0.0509 0.0355

Jupiter -36753-10-26 02:09 J -11702311.54 -11702311.41 -11702311.28 0.0506 0.0231

Moon -36752-04-22 02:52 J -11702133.51 -11702133.38 -11702133.25 0.2677 0.0116

Earth -36752-04-22 03:06 J -11702133.50 -11702133.37 -11702133.24 0.2670 0.0145 *

Venus -36752-10-14 22:47 J -11701957.61 -11701957.55 -11701957.49 0.3760 0.3248

Mars -36750-03-22 02:23 J -11701434.50 -11701434.40 -11701434.29 0.1875 0.0973

Mars -36749-02-03 07:40 J -11701116.28 -11701116.18 -11701116.08 0.1650 0.1229

Saturn -36749-08-01 09:35 J -11700936.23 -11700936.10 -11700935.97 0.0281 0.0163

Saturn -36749-10-29 01:54 J -11700847.57 -11700847.42 -11700847.26 0.0281 0.0041

Earth -36749-10-31 11:30 J -11700845.04 -11700845.02 -11700845.00 0.2667 0.2621

Saturn -36748-01-25 17:59 J -11700758.90 -11700758.75 -11700758.60 0.0281 0.0079

Saturn -36748-04-24 09:35 J -11700670.21 -11700670.10 -11700669.99 0.0280 0.0196

Venus -36748-10-16 07:40 J -11700495.31 -11700495.18 -11700495.06 0.3614 0.0538

Mars -36747-01-09 08:52 J -11700410.20 -11700410.13 -11700410.07 0.1636 0.1433

Jupiter -36747-12-27 00:14 J -11700058.62 -11700058.49 -11700058.35 0.0520 0.0284

Jupiter -36746-03-26 21:21 J -11699968.69 -11699968.61 -11699968.51 0.0524 0.0419

Moon -36745-04-14 14:23 J -11699583.93 -11699583.90 -11699583.86 0.2670 0.2554

Earth -36745-04-14 15:06 J -11699583.90 -11699583.87 -11699583.84 0.2675 0.2590 *

Uranus -36743-02-14 12:57 J -11698913.04 -11698912.96 -11698912.88 0.0133 0.0115

Uranus -36743-05-13 17:30 J -11698824.88 -11698824.77 -11698824.65 0.0133 0.0094

Uranus -36743-08-09 22:04 J -11698736.70 -11698736.58 -11698736.44 0.0133 0.0073

Uranus -36743-11-06 02:52 J -11698648.52 -11698648.38 -11698648.23 0.0133 0.0052

Uranus -36742-02-02 07:26 J -11698560.34 -11698560.19 -11698560.03 0.0133 0.0031

Uranus -36742-05-01 11:59 J -11698472.16 -11698472.00 -11698471.84 0.0133 0.0010

Venus -36742-05-02 03:21 J -11698471.38 -11698471.36 -11698471.33 0.3617 0.3500

Uranus -36742-07-28 16:33 J -11698383.97 -11698383.81 -11698383.66 0.0132 0.0011

Uranus -36742-10-24 20:52 J -11698295.78 -11698295.63 -11698295.47 0.0132 0.0031

Moon -36742-10-24 23:45 J -11698295.64 -11698295.51 -11698295.39 0.2669 0.0116 *

Earth -36742-10-24 23:45 J -11698295.64 -11698295.51 -11698295.38 0.2662 0.0091 *

Uranus -36741-01-21 01:11 J -11698207.59 -11698207.45 -11698207.30 0.0132 0.0051

Uranus -36741-04-18 05:30 J -11698119.39 -11698119.27 -11698119.13 0.0132 0.0071

Jupiter -36741-05-16 17:30 J -11698090.80 -11698090.77 -11698090.74 0.0510 0.0494

Uranus -36741-07-15 09:50 J -11698031.19 -11698031.09 -11698030.97 0.0132 0.0091

Mars -36741-08-11 08:38 J -11698004.17 -11698004.14 -11698004.10 0.1870 0.1775

Jupiter -36741-08-14 04:47 J -11698001.44 -11698001.30 -11698001.15 0.0506 0.0088

Uranus -36741-10-11 14:09 J -11697942.99 -11697942.91 -11697942.82 0.0132 0.0111

Neptune -36740-01-01 11:16 J -11697861.06 -11697861.03 -11697860.96 0.0088 0.0084

Uranus -36740-01-07 18:14 J -11697854.75 -11697854.74 -11697854.70 0.0132 0.0131

Neptune -36740-03-30 13:54 J -11697772.99 -11697772.92 -11697772.82 0.0088 0.0076

Neptune -36740-06-26 16:33 J -11697684.91 -11697684.81 -11697684.69 0.0088 0.0068

Neptune -36740-09-22 19:11 J -11697596.81 -11697596.70 -11697596.57 0.0088 0.0060

Neptune -36740-12-19 21:35 J -11697508.72 -11697508.60 -11697508.45 0.0088 0.0053

Neptune -36739-03-18 00:14 J -11697420.62 -11697420.49 -11697420.33 0.0088 0.0045

Earth -36739-04-25 01:26 J -11697382.55 -11697382.44 -11697382.32 0.2668 0.1174

Moon -36739-04-25 01:54 J -11697382.53 -11697382.42 -11697382.30 0.2674 0.1254 *

Neptune -36739-06-14 02:52 J -11697332.53 -11697332.38 -11697332.22 0.0088 0.0037

Mars -36739-07-18 10:04 J -11697298.13 -11697298.08 -11697298.03 0.1888 0.1722

Neptune -36739-09-10 05:30 J -11697244.43 -11697244.27 -11697244.11 0.0088 0.0028

Neptune -36739-12-07 08:09 J -11697156.33 -11697156.16 -11697156.00 0.0088 0.0021

Neptune -36738-03-05 10:33 J -11697068.22 -11697068.06 -11697067.89 0.0088 0.0013

Neptune -36738-06-01 13:11 J -11696980.12 -11696979.95 -11696979.79 0.0088 0.0005

Mars -36738-06-01 15:06 J -11696980.00 -11696979.87 -11696979.75 0.1639 0.0822 *

Neptune -36738-08-28 15:35 J -11696892.02 -11696891.85 -11696891.68 0.0088 0.0003

Neptune -36738-11-24 17:59 J -11696803.91 -11696803.75 -11696803.58 0.0088 0.0011

Neptune -36737-02-20 20:23 J -11696715.81 -11696715.65 -11696715.48 0.0088 0.0018

Neptune -36737-05-18 22:47 J -11696627.70 -11696627.55 -11696627.38 0.0088 0.0026

Neptune -36737-08-15 01:26 J -11696539.59 -11696539.44 -11696539.29 0.0088 0.0034

Neptune -36737-11-11 03:35 J -11696451.49 -11696451.35 -11696451.19 0.0088 0.0042

Neptune -36736-02-07 05:59 J -11696363.38 -11696363.25 -11696363.10 0.0088 0.0049

Neptune -36736-05-06 08:23 J -11696275.26 -11696275.15 -11696275.01 0.0088 0.0057

Neptune -36736-08-02 10:47 J -11696187.15 -11696187.05 -11696186.93 0.0088 0.0064

Neptune -36736-10-29 13:11 J -11696099.03 -11696098.95 -11696098.84 0.0088 0.0072

Neptune -36735-01-25 15:21 J -11696010.91 -11696010.86 -11696010.77 0.0088 0.0080

Neptune -36735-04-23 17:45 J -11695922.77 -11695922.76 -11695922.71 0.0088 0.0087

Jupiter -36735-10-15 00:42 J -11695748.54 -11695748.47 -11695748.39 0.0519 0.0454

Jupiter -36734-01-12 22:18 J -11695658.70 -11695658.57 -11695658.43 0.0523 0.0255

Saturn -36734-05-13 13:26 J -11695537.96 -11695537.94 -11695537.91 0.0277 0.0272

Saturn -36734-08-10 03:50 J -11695449.46 -11695449.34 -11695449.22 0.0277 0.0165

Saturn -36734-11-06 18:28 J -11695360.88 -11695360.73 -11695360.58 0.0278 0.0055

Saturn -36733-02-03 09:21 J -11695272.26 -11695272.11 -11695271.96 0.0278 0.0059

Saturn -36733-05-02 00:42 J -11695183.59 -11695183.47 -11695183.35 0.0278 0.0175

Moon -36732-04-17 11:30 J -11694833.11 -11694833.02 -11694832.93 0.2673 0.1802

Earth -36732-04-17 12:42 J -11694833.07 -11694832.97 -11694832.88 0.2673 0.1651 *

Mars -36730-12-08 15:06 J -11693867.98 -11693867.87 -11693867.75 0.1884 0.0820

Jupiter -36729-06-02 07:40 J -11693691.33 -11693691.18 -11693691.04 0.0507 0.0059

Mars -36729-10-21 20:52 J -11693549.77 -11693549.63 -11693549.48 0.1643 0.0194

Earth -36729-10-26 21:35 J -11693544.72 -11693544.60 -11693544.48 0.2664 0.0907

Moon -36729-10-26 22:18 J -11693544.69 -11693544.57 -11693544.45 0.2670 0.0882 *

Earth -36726-04-28 00:14 J -11692631.56 -11692631.49 -11692631.42 0.2666 0.2230

Moon -36726-04-28 01:11 J -11692631.52 -11692631.45 -11692631.38 0.2669 0.2228 *

Jupiter -36723-10-31 23:02 J -11691348.70 -11691348.54 -11691348.39 0.0521 0.0084

Moon -36722-10-20 07:11 J -11690995.29 -11690995.20 -11690995.11 0.2661 0.1963

Earth -36722-10-20 08:09 J -11690995.24 -11690995.16 -11690995.07 0.2659 0.1960 *

Mars -36720-04-29 20:38 J -11690437.77 -11690437.64 -11690437.51 0.1880 0.0053

Saturn -36720-12-19 10:04 J -11690204.19 -11690204.08 -11690203.97 0.0282 0.0202

Mars -36719-03-14 02:52 J -11690119.53 -11690119.38 -11690119.24 0.1646 0.0464

Saturn -36719-03-18 02:38 J -11690115.54 -11690115.39 -11690115.24 0.0282 0.0078

Moon -36719-04-20 09:35 J -11690082.22 -11690082.10 -11690081.97 0.2675 0.0694

Earth -36719-04-20 10:33 J -11690082.19 -11690082.06 -11690081.94 0.2671 0.0680 *

Saturn -36719-06-14 18:42 J -11690026.87 -11690026.72 -11690026.56 0.0282 0.0043

Saturn -36719-09-11 10:33 J -11689938.19 -11689938.06 -11689937.93 0.0281 0.0161

Saturn -36719-12-09 01:54 J -11689849.44 -11689849.42 -11689849.39 0.0281 0.0276

Jupiter -36717-03-21 09:35 J -11689381.23 -11689381.10 -11689380.97 0.0509 0.0214

Jupiter -36717-06-18 21:35 J -11689291.69 -11689291.60 -11689291.50 0.0505 0.0375

Earth -36716-10-29 19:26 J -11688793.78 -11688793.69 -11688793.60 0.2665 0.1858

Moon -36716-10-29 20:23 J -11688793.73 -11688793.65 -11688793.57 0.2666 0.2006 *

Jupiter -36711-08-19 23:02 J -11687038.70 -11687038.54 -11687038.38 0.0520 0.0094

Mars -36711-09-20 02:38 J -11687007.50 -11687007.39 -11687007.28 0.1875 0.0885

Mars -36710-08-04 08:09 J -11686689.27 -11686689.16 -11686689.06 0.1650 0.1138

Moon -36709-10-22 05:59 J -11686244.37 -11686244.25 -11686244.13 0.2665 0.1003

Earth -36709-10-22 06:57 J -11686244.34 -11686244.21 -11686244.09 0.2661 0.0919 *

Mars -36708-07-10 09:06 J -11685983.17 -11685983.12 -11685983.07 0.1636 0.1521

Venus -36706-04-22 03:50 J -11685332.43 -11685332.34 -11685332.26 0.3766 0.2562

Moon -36706-04-23 08:23 J -11685331.28 -11685331.15 -11685331.02 0.2676 0.0304

Earth -36706-04-23 08:38 J -11685331.27 -11685331.14 -11685331.01 0.2669 0.0326 *

Jupiter -36705-01-08 12:28 J -11685071.08 -11685070.98 -11685070.88 0.0510 0.0357

Jupiter -36705-04-07 00:14 J -11684981.62 -11684981.49 -11684981.36 0.0506 0.0229

Saturn -36705-12-27 06:42 J -11684717.33 -11684717.22 -11684717.10 0.0277 0.0184

Saturn -36704-03-25 21:21 J -11684628.75 -11684628.61 -11684628.46 0.0277 0.0074

Saturn -36704-06-22 12:14 J -11684540.14 -11684539.99 -11684539.83 0.0277 0.0039

Saturn -36704-09-19 03:35 J -11684451.48 -11684451.35 -11684451.22 0.0278 0.0154

Saturn -36704-12-16 18:57 J -11684362.73 -11684362.71 -11684362.67 0.0278 0.0272

Mars -36701-02-10 08:52 J -11683577.18 -11683577.13 -11683577.08 0.1870 0.1688

Venus -36701-11-05 00:28 J -11683308.59 -11683308.48 -11683308.36 0.3763 0.0953

Uranus -36700-04-28 15:35 J -11683133.91 -11683133.85 -11683133.78 0.0146 0.0132

Uranus -36700-07-25 20:52 J -11683045.73 -11683045.63 -11683045.53 0.0146 0.0106

Uranus -36700-10-22 01:54 J -11682957.54 -11682957.42 -11682957.28 0.0146 0.0080

Mars -36699-01-16 10:04 J -11682871.11 -11682871.08 -11682871.04 0.1888 0.1818

Uranus -36699-01-18 07:11 J -11682869.33 -11682869.20 -11682869.05 0.0146 0.0054

Moon -36699-04-15 19:40 J -11682781.72 -11682781.68 -11682781.64 0.2671 0.2524

Earth -36699-04-15 20:23 J -11682781.70 -11682781.65 -11682781.60 0.2674 0.2418 *

Uranus -36699-04-16 12:42 J -11682781.12 -11682780.97 -11682780.82 0.0146 0.0027

Jupiter -36699-06-07 22:33 J -11682728.70 -11682728.56 -11682728.43 0.0519 0.0280

Uranus -36699-07-13 17:59 J -11682692.90 -11682692.75 -11682692.59 0.0146 0.0003

Jupiter -36699-09-05 19:40 J -11682638.77 -11682638.68 -11682638.59 0.0523 0.0421

Uranus -36699-10-09 23:30 J -11682604.67 -11682604.52 -11682604.37 0.0146 0.0027

Mars -36699-11-30 15:21 J -11682552.98 -11682552.86 -11682552.74 0.1639 0.0908

Uranus -36698-01-06 04:47 J -11682516.44 -11682516.30 -11682516.15 0.0146 0.0055

Uranus -36698-04-04 10:33 J -11682428.19 -11682428.06 -11682427.93 0.0146 0.0083

Uranus -36698-07-01 16:04 J -11682339.93 -11682339.83 -11682339.73 0.0146 0.0111

Uranus -36698-09-27 21:35 J -11682251.64 -11682251.60 -11682251.55 0.0146 0.0139

Venus -36697-11-06 10:04 J -11681846.19 -11681846.08 -11681845.96 0.3611 0.1395

Earth -36696-10-25 05:02 J -11681493.42 -11681493.29 -11681493.16 0.2662 0.0114

Moon -36696-10-25 05:16 J -11681493.41 -11681493.28 -11681493.16 0.2669 0.0120 *

Jupiter -36694-10-27 15:50 J -11680760.87 -11680760.84 -11680760.80 0.0510 0.0492

Jupiter -36693-01-25 03:21 J -11680671.51 -11680671.36 -11680671.22 0.0507 0.0091

Earth -36693-04-25 06:57 J -11680580.32 -11680580.21 -11680580.10 0.2668 0.1356

Moon -36693-04-25 07:40 J -11680580.29 -11680580.18 -11680580.07 0.2673 0.1386 *

Venus -36691-05-23 06:14 J -11679822.35 -11679822.24 -11679822.14 0.3615 0.1664

Saturn -36690-05-08 10:33 J -11679472.14 -11679472.06 -11679471.97 0.0282 0.0238

Mars -36690-06-08 15:21 J -11679440.97 -11679440.86 -11679440.75 0.1884 0.0914

Saturn -36690-08-05 03:21 J -11679383.51 -11679383.36 -11679383.22 0.0281 0.0114

Saturn -36690-11-01 19:26 J -11679294.84 -11679294.69 -11679294.53 0.0281 0.0012

Saturn -36689-01-29 11:16 J -11679206.16 -11679206.03 -11679205.89 0.0281 0.0127

Mars -36689-04-21 21:21 J -11679122.75 -11679122.61 -11679122.46 0.1643 0.0276

Saturn -36689-04-27 02:52 J -11679117.45 -11679117.38 -11679117.30 0.0281 0.0242

Jupiter -36687-03-26 22:47 J -11678418.63 -11678418.55 -11678418.48 0.0519 0.0454

Jupiter -36687-06-24 20:23 J -11678328.79 -11678328.65 -11678328.51 0.0523 0.0253

Moon -36686-04-18 17:02 J -11678030.90 -11678030.79 -11678030.69 0.2672 0.1468

Earth -36686-04-18 17:59 J -11678030.85 -11678030.75 -11678030.64 0.2673 0.1475 *

Earth -36683-10-28 03:06 J -11676742.49 -11676742.37 -11676742.25 0.2664 0.1077

Moon -36683-10-28 03:35 J -11676742.46 -11676742.35 -11676742.23 0.2669 0.1174 *

Jupiter -36682-11-13 05:59 J -11676361.39 -11676361.25 -11676361.10 0.0507 0.0055

Mars -36681-10-28 20:52 J -11676010.76 -11676010.63 -11676010.51 0.1880 0.0069

Earth -36680-04-28 05:45 J -11675829.31 -11675829.26 -11675829.21 0.2666 0.2421

Moon -36680-04-28 06:42 J -11675829.25 -11675829.22 -11675829.19 0.2669 0.2574 *

Mars -36680-09-12 03:06 J -11675692.52 -11675692.37 -11675692.23 0.1646 0.0378

Moon -36676-10-20 12:42 J -11674193.06 -11674192.97 -11674192.88 0.2661 0.1936

Earth -36676-10-20 13:40 J -11674193.02 -11674192.93 -11674192.83 0.2659 0.1773 *

Jupiter -36675-04-12 21:06 J -11674018.77 -11674018.62 -11674018.46 0.0522 0.0088

Saturn -36675-05-16 06:42 J -11673985.30 -11673985.22 -11673985.13 0.0277 0.0225

Saturn -36675-08-12 21:21 J -11673896.75 -11673896.61 -11673896.48 0.0277 0.0117

Saturn -36675-11-09 11:59 J -11673808.15 -11673808.00 -11673807.85 0.0278 0.0006

Saturn -36674-02-06 03:06 J -11673719.51 -11673719.37 -11673719.23 0.0278 0.0109

Saturn -36674-05-05 18:28 J -11673630.81 -11673630.73 -11673630.64 0.0278 0.0226

Moon -36673-04-20 15:06 J -11673279.99 -11673279.87 -11673279.74 0.2676 0.0621

Earth -36673-04-20 15:50 J -11673279.97 -11673279.84 -11673279.71 0.2671 0.0500 *

Mars -36671-03-21 02:38 J -11672580.50 -11672580.39 -11672580.27 0.1875 0.0799

Mars -36670-02-02 08:23 J -11672262.26 -11672262.15 -11672262.03 0.1650 0.1049

Jupiter -36670-09-01 08:52 J -11672051.26 -11672051.13 -11672051.00 0.0508 0.0197

Earth -36670-10-31 00:42 J -11671991.55 -11671991.47 -11671991.39 0.2666 0.2034

Moon -36670-10-31 01:54 J -11671991.50 -11671991.42 -11671991.34 0.2666 0.2031 *

Jupiter -36670-11-29 20:38 J -11671961.72 -11671961.64 -11671961.54 0.0505 0.0391

Mars -36668-01-08 09:21 J -11671556.13 -11671556.11 -11671556.08 0.1637 0.1601

Jupiter -36663-01-29 21:35 J -11669708.75 -11669708.60 -11669708.44 0.0520 0.0085

Moon -36663-10-23 11:45 J -11669442.14 -11669442.01 -11669441.89 0.2666 0.0736

Earth -36663-10-23 12:14 J -11669442.11 -11669441.99 -11669441.86 0.2661 0.0736 *

Mars -36662-08-11 08:38 J -11669150.20 -11669150.14 -11669150.07 0.1870 0.1614

Saturn -36661-09-24 10:33 J -11668740.07 -11668740.06 -11668740.04 0.0282 0.0280

Saturn -36661-12-22 03:35 J -11668651.48 -11668651.35 -11668651.22 0.0282 0.0153

Saturn -36660-03-20 19:54 J -11668562.82 -11668562.67 -11668562.51 0.0282 0.0031

Moon -36660-04-23 13:54 J -11668529.05 -11668528.92 -11668528.80 0.2676 0.0524

Earth -36660-04-23 13:54 J -11668529.04 -11668528.92 -11668528.79 0.2669 0.0511 *

Saturn -36660-06-17 11:59 J -11668474.14 -11668474.00 -11668473.85 0.0282 0.0091

Saturn -36660-09-14 03:35 J -11668385.45 -11668385.35 -11668385.24 0.0281 0.0208

Uranus -36660-12-08 15:35 J -11668299.88 -11668299.85 -11668299.80 0.0133 0.0129

Uranus -36659-03-06 20:38 J -11668211.74 -11668211.64 -11668211.55 0.0133 0.0107

Mars -36659-05-31 15:35 J -11668125.96 -11668125.85 -11668125.73 0.1640 0.0993

Uranus -36659-06-03 01:11 J -11668123.57 -11668123.45 -11668123.33 0.0133 0.0086

Neptune -36659-07-02 08:38 J -11668094.19 -11668094.14 -11668094.09 0.0089 0.0082

Uranus -36659-08-30 05:45 J -11668035.39 -11668035.26 -11668035.12 0.0133 0.0065

Neptune -36659-09-28 10:04 J -11668006.14 -11668006.08 -11668005.99 0.0089 0.0076

Uranus -36659-11-26 10:18 J -11667947.21 -11667947.07 -11667946.91 0.0133 0.0044

Neptune -36659-12-25 11:45 J -11667918.09 -11667918.01 -11667917.90 0.0089 0.0069

Uranus -36658-02-22 14:52 J -11667859.03 -11667858.88 -11667858.72 0.0133 0.0024

Neptune -36658-03-23 13:40 J -11667830.02 -11667829.93 -11667829.82 0.0089 0.0062

Uranus -36658-05-21 19:26 J -11667770.84 -11667770.69 -11667770.53 0.0132 0.0004

Neptune -36658-06-19 15:35 J -11667741.96 -11667741.85 -11667741.73 0.0089 0.0055

Jupiter -36658-06-20 10:47 J -11667741.15 -11667741.05 -11667740.94 0.0510 0.0354

Uranus -36658-08-17 23:59 J -11667682.66 -11667682.50 -11667682.34 0.0132 0.0018

Neptune -36658-09-15 17:16 J -11667653.89 -11667653.78 -11667653.65 0.0089 0.0048

Jupiter -36658-09-17 22:33 J -11667651.69 -11667651.56 -11667651.43 0.0506 0.0232

Uranus -36658-11-14 04:18 J -11667594.46 -11667594.32 -11667594.16 0.0132 0.0039

Neptune -36658-12-12 19:11 J -11667565.83 -11667565.70 -11667565.57 0.0089 0.0041

Uranus -36657-02-10 08:52 J -11667506.27 -11667506.13 -11667505.99 0.0132 0.0059

Neptune -36657-03-09 21:06 J -11667477.76 -11667477.62 -11667477.48 0.0089 0.0034

Uranus -36657-05-08 13:11 J -11667418.07 -11667417.95 -11667417.82 0.0132 0.0079

Neptune -36657-06-05 22:47 J -11667389.69 -11667389.55 -11667389.40 0.0089 0.0028

Uranus -36657-08-04 17:30 J -11667329.87 -11667329.77 -11667329.67 0.0132 0.0098

Neptune -36657-09-02 00:42 J -11667301.61 -11667301.47 -11667301.32 0.0089 0.0020

Uranus -36657-10-31 21:35 J -11667241.66 -11667241.60 -11667241.52 0.0132 0.0118

Neptune -36657-11-29 02:38 J -11667213.54 -11667213.39 -11667213.25 0.0089 0.0013

Neptune -36656-02-25 04:18 J -11667125.46 -11667125.32 -11667125.17 0.0089 0.0007

Neptune -36656-05-24 06:14 J -11667037.39 -11667037.24 -11667037.09 0.0089 0.0001

Neptune -36656-08-20 08:09 J -11666949.31 -11666949.16 -11666949.01 0.0089 0.0008

Neptune -36656-11-16 09:50 J -11666861.23 -11666861.09 -11666860.94 0.0089 0.0015

Neptune -36655-02-12 11:45 J -11666773.15 -11666773.01 -11666772.86 0.0089 0.0022

Neptune -36655-05-11 13:40 J -11666685.07 -11666684.93 -11666684.79 0.0089 0.0029

Neptune -36655-08-07 15:35 J -11666596.98 -11666596.85 -11666596.71 0.0089 0.0036

Neptune -36655-11-03 17:16 J -11666508.90 -11666508.78 -11666508.64 0.0089 0.0044

Neptune -36654-01-30 19:11 J -11666420.81 -11666420.70 -11666420.57 0.0089 0.0051

Neptune -36654-04-28 21:06 J -11666332.72 -11666332.62 -11666332.50 0.0089 0.0058

Neptune -36654-07-25 23:16 J -11666244.63 -11666244.53 -11666244.43 0.0089 0.0065

Neptune -36654-10-22 00:57 J -11666156.53 -11666156.46 -11666156.36 0.0089 0.0073

Neptune -36653-01-18 02:52 J -11666068.43 -11666068.38 -11666068.30 0.0089 0.0080

Neptune -36653-04-15 05:02 J -11665980.31 -11665980.29 -11665980.26 0.0089 0.0087

Moon -36653-04-16 00:57 J -11665979.53 -11665979.46 -11665979.40 0.2671 0.2268

Earth -36653-04-16 01:40 J -11665979.49 -11665979.43 -11665979.36 0.2674 0.2254 *

Jupiter -36652-11-17 21:35 J -11665398.73 -11665398.60 -11665398.46 0.0519 0.0263

Jupiter -36651-02-15 18:42 J -11665308.80 -11665308.72 -11665308.63 0.0523 0.0437

Mars -36651-12-07 15:21 J -11665013.97 -11665013.86 -11665013.75 0.1884 0.0995

Mars -36650-10-21 21:50 J -11664695.73 -11664695.59 -11664695.45 0.1643 0.0367

Earth -36650-10-26 10:33 J -11664691.19 -11664691.06 -11664690.93 0.2663 0.0276

Moon -36650-10-26 10:33 J -11664691.18 -11664691.06 -11664690.93 0.2670 0.0282 *

Venus -36650-11-27 02:23 J -11664659.51 -11664659.40 -11664659.28 0.3765 0.1306

Earth -36647-04-26 12:28 J -11663778.08 -11663777.98 -11663777.87 0.2668 0.1548

Moon -36647-04-26 13:11 J -11663778.05 -11663777.95 -11663777.84 0.2673 0.1614 *

Jupiter -36646-04-08 13:40 J -11663430.95 -11663430.93 -11663430.89 0.0511 0.0497

Jupiter -36646-07-07 01:11 J -11663341.59 -11663341.45 -11663341.31 0.0507 0.0086

Saturn -36646-10-03 10:04 J -11663253.15 -11663253.08 -11663253.01 0.0277 0.0242

Venus -36646-11-28 12:28 J -11663197.02 -11663196.98 -11663196.93 0.3609 0.3358

Saturn -36646-12-31 00:28 J -11663164.61 -11663164.48 -11663164.35 0.0277 0.0134

Saturn -36645-03-28 15:06 J -11663076.02 -11663075.87 -11663075.72 0.0277 0.0024

Saturn -36645-06-25 06:14 J -11662987.39 -11662987.24 -11662987.10 0.0277 0.0090

Saturn -36645-09-21 21:21 J -11662898.70 -11662898.61 -11662898.50 0.0278 0.0207

Venus -36644-06-11 23:16 J -11662635.62 -11662635.53 -11662635.43 0.3762 0.2240

Earth -36643-10-18 20:23 J -11662141.65 -11662141.65 -11662141.65 0.2658 0.2652

Mars -36641-04-28 21:06 J -11661583.75 -11661583.62 -11661583.50 0.1880 0.0143

Mars -36640-03-13 03:21 J -11661265.50 -11661265.36 -11661265.21 0.1646 0.0290

Moon -36640-04-18 22:33 J -11661228.67 -11661228.56 -11661228.46 0.2673 0.1446

Earth -36640-04-18 23:30 J -11661228.63 -11661228.52 -11661228.41 0.2672 0.1301 *

Venus -36640-06-13 08:52 J -11661173.25 -11661173.13 -11661173.01 0.3612 0.0232

Jupiter -36640-09-05 20:52 J -11661088.71 -11661088.63 -11661088.56 0.0518 0.0452

Jupiter -36640-12-04 18:28 J -11660998.86 -11660998.73 -11660998.59 0.0522 0.0254

Earth -36637-10-28 08:23 J -11659940.26 -11659940.15 -11659940.04 0.2664 0.1254

Moon -36637-10-28 09:21 J -11659940.22 -11659940.11 -11659940.00 0.2668 0.1298 *

Venus -36635-12-28 04:47 J -11659149.38 -11659149.30 -11659149.23 0.3615 0.2796

Jupiter -36634-04-25 04:18 J -11659031.47 -11659031.32 -11659031.18 0.0508 0.0054

Earth -36634-04-29 11:16 J -11659027.05 -11659027.03 -11659027.01 0.2666 0.2614

Moon -36634-04-29 12:14 J -11659027.00 -11659026.99 -11659026.97 0.2667 0.2643

Mars -36632-09-19 02:38 J -11658153.50 -11658153.39 -11658153.27 0.1875 0.0717

Saturn -36631-05-11 04:47 J -11657919.42 -11657919.30 -11657919.18 0.0282 0.0185

Mars -36631-08-03 08:52 J -11657835.25 -11657835.13 -11657835.01 0.1650 0.0958

Saturn -36631-08-07 21:21 J -11657830.76 -11657830.61 -11657830.45 0.0281 0.0061

Saturn -36631-11-04 13:26 J -11657742.09 -11657741.94 -11657741.78 0.0281 0.0061

Saturn -36630-02-01 05:16 J -11657653.40 -11657653.28 -11657653.16 0.0281 0.0178

Moon -36630-10-21 18:14 J -11657390.85 -11657390.74 -11657390.64 0.2662 0.1584

Earth -36630-10-21 19:11 J -11657390.80 -11657390.70 -11657390.59 0.2660 0.1588 *

Jupiter -36628-09-22 18:57 J -11656688.86 -11656688.71 -11656688.55 0.0522 0.0083

Moon -36627-04-21 20:38 J -11656477.76 -11656477.64 -11656477.51 0.2677 0.0289

Earth -36627-04-21 21:21 J -11656477.74 -11656477.61 -11656477.48 0.2671 0.0322 *

Earth -36624-10-31 06:14 J -11655189.31 -11655189.24 -11655189.18 0.2666 0.2202

Moon -36624-10-31 07:11 J -11655189.26 -11655189.20 -11655189.14 0.2667 0.2340 *

Mars -36622-02-09 08:52 J -11654723.20 -11654723.13 -11654723.06 0.1870 0.1525

Jupiter -36622-02-11 07:11 J -11654721.33 -11654721.20 -11654721.07 0.0508 0.0195

Jupiter -36622-05-11 18:57 J -11654631.79 -11654631.71 -11654631.61 0.0505 0.0394

Mars -36622-12-24 13:54 J -11654404.92 -11654404.92 -11654404.92 0.1654 0.1653

Mars -36620-11-29 16:04 J -11653698.94 -11653698.83 -11653698.72 0.1640 0.1076

Moon -36617-10-23 17:16 J -11652639.90 -11652639.78 -11652639.65 0.2667 0.0651

Earth -36617-10-23 17:45 J -11652639.89 -11652639.76 -11652639.63 0.2661 0.0552 *

Uranus -36616-05-18 22:47 J -11652432.61 -11652432.55 -11652432.46 0.0146 0.0125

Saturn -36616-05-19 00:42 J -11652432.59 -11652432.47 -11652432.35 0.0277 0.0175 *

Jupiter -36616-07-11 19:40 J -11652378.84 -11652378.68 -11652378.53 0.0521 0.0086

Uranus -36616-08-15 04:04 J -11652344.43 -11652344.33 -11652344.21 0.0146 0.0099

Saturn -36616-08-15 15:06 J -11652344.01 -11652343.87 -11652343.72 0.0277 0.0065

Uranus -36616-11-11 09:21 J -11652256.24 -11652256.11 -11652255.97 0.0146 0.0073

Saturn -36616-11-12 05:59 J -11652255.40 -11652255.25 -11652255.09 0.0278 0.0048

Uranus -36615-02-07 14:38 J -11652168.03 -11652167.89 -11652167.74 0.0146 0.0046

Saturn -36615-02-08 21:21 J -11652166.74 -11652166.61 -11652166.49 0.0278 0.0163

Pluto -36615-02-11 22:18 J -11652163.58 -11652163.57 -11652163.53 0.0067 0.0066

Uranus -36615-05-06 20:09 J -11652079.82 -11652079.66 -11652079.51 0.0146 0.0019

Pluto -36615-05-10 23:59 J -11652075.57 -11652075.50 -11652075.43 0.0067 0.0060

Uranus -36615-08-03 01:26 J -11651991.59 -11651991.44 -11651991.28 0.0146 0.0008

Pluto -36615-08-07 00:57 J -11651987.54 -11651987.46 -11651987.35 0.0067 0.0055

Uranus -36615-10-30 06:42 J -11651903.37 -11651903.22 -11651903.06 0.0146 0.0035

Pluto -36615-11-03 02:23 J -11651899.51 -11651899.40 -11651899.28 0.0067 0.0049

Uranus -36614-01-26 12:14 J -11651815.13 -11651814.99 -11651814.84 0.0146 0.0063

Pluto -36614-01-30 03:21 J -11651811.47 -11651811.36 -11651811.21 0.0067 0.0045

Uranus -36614-04-24 17:45 J -11651726.88 -11651726.76 -11651726.63 0.0146 0.0091

Moon -36614-04-24 19:40 J -11651726.81 -11651726.68 -11651726.56 0.2675 0.0659 *

Earth -36614-04-24 19:26 J -11651726.81 -11651726.69 -11651726.56 0.2669 0.0693 *

Pluto -36614-04-28 04:47 J -11651723.42 -11651723.30 -11651723.15 0.0067 0.0039

Uranus -36614-07-21 23:16 J -11651638.61 -11651638.53 -11651638.43 0.0146 0.0119

Pluto -36614-07-25 06:14 J -11651635.38 -11651635.24 -11651635.08 0.0068 0.0033

Pluto -36614-10-21 07:40 J -11651547.33 -11651547.18 -11651547.02 0.0068 0.0027

Pluto -36613-01-17 09:06 J -11651459.28 -11651459.12 -11651458.96 0.0068 0.0021

Pluto -36613-04-14 10:18 J -11651371.23 -11651371.07 -11651370.90 0.0068 0.0015

Pluto -36613-07-11 11:45 J -11651283.17 -11651283.01 -11651282.84 0.0068 0.0010

Pluto -36613-10-07 13:11 J -11651195.12 -11651194.95 -11651194.78 0.0068 0.0004

Pluto -36612-01-03 14:38 J -11651107.06 -11651106.89 -11651106.72 0.0068 0.0003

Pluto -36612-04-01 15:50 J -11651019.00 -11651018.84 -11651018.67 0.0068 0.0009

Pluto -36612-06-28 17:16 J -11650930.94 -11650930.78 -11650930.61 0.0068 0.0015

Pluto -36612-09-24 18:42 J -11650842.88 -11650842.72 -11650842.55 0.0068 0.0021

Pluto -36612-12-21 20:09 J -11650754.81 -11650754.66 -11650754.50 0.0069 0.0027

Pluto -36611-03-19 21:35 J -11650666.74 -11650666.60 -11650666.45 0.0069 0.0033

Mars -36611-06-07 15:35 J -11650586.95 -11650586.85 -11650586.75 0.1884 0.1092

Pluto -36611-06-15 23:16 J -11650578.67 -11650578.53 -11650578.40 0.0069 0.0039

Pluto -36611-09-12 00:14 J -11650490.60 -11650490.49 -11650490.35 0.0069 0.0046

Jupiter -36611-11-30 10:04 J -11650411.19 -11650411.08 -11650410.98 0.0509 0.0338

Pluto -36611-12-09 01:40 J -11650402.52 -11650402.43 -11650402.30 0.0069 0.0052

Jupiter -36610-02-27 21:35 J -11650321.73 -11650321.60 -11650321.47 0.0506 0.0246

Pluto -36610-03-07 03:21 J -11650314.44 -11650314.36 -11650314.26 0.0069 0.0059

Mars -36610-04-21 22:04 J -11650268.72 -11650268.58 -11650268.44 0.1643 0.0449

Pluto -36610-06-03 04:33 J -11650226.34 -11650226.31 -11650226.23 0.0069 0.0066

Moon -36607-04-17 06:14 J -11649177.31 -11649177.24 -11649177.17 0.2671 0.2177

Earth -36607-04-17 07:11 J -11649177.28 -11649177.20 -11649177.13 0.2674 0.2080 *

Jupiter -36604-04-29 20:09 J -11648068.80 -11648068.66 -11648068.52 0.0519 0.0256

Jupiter -36604-07-28 17:16 J -11647978.86 -11647978.78 -11647978.70 0.0523 0.0445

Earth -36604-10-26 15:50 J -11647888.96 -11647888.84 -11647888.71 0.2663 0.0457

Moon -36604-10-26 16:04 J -11647888.95 -11647888.83 -11647888.70 0.2670 0.0497 *

Saturn -36602-09-28 04:47 J -11647187.39 -11647187.30 -11647187.21 0.0282 0.0226

Mars -36602-10-28 20:52 J -11647156.76 -11647156.63 -11647156.50 0.1879 0.0209

Saturn -36602-12-25 21:35 J -11647098.75 -11647098.60 -11647098.46 0.0282 0.0101

Saturn -36601-03-23 13:54 J -11647010.08 -11647009.92 -11647009.77 0.0282 0.0022

Earth -36601-04-26 17:59 J -11646975.85 -11646975.75 -11646975.65 0.2667 0.1733

Moon -36601-04-26 18:42 J -11646975.81 -11646975.72 -11646975.63 0.2673 0.1803 *

Saturn -36601-06-20 05:45 J -11646921.39 -11646921.26 -11646921.13 0.0281 0.0141

Mars -36601-09-11 03:50 J -11646838.48 -11646838.34 -11646838.19 0.1646 0.0195

Saturn -36601-09-16 21:21 J -11646832.67 -11646832.61 -11646832.55 0.0281 0.0256

Jupiter -36599-09-18 11:59 J -11646101.03 -11646101.00 -11646100.96 0.0511 0.0495

Jupiter -36599-12-16 23:30 J -11646011.67 -11646011.52 -11646011.38 0.0507 0.0088

Venus -36599-12-18 04:33 J -11646010.35 -11646010.31 -11646010.27 0.3768 0.3481

Moon -36597-10-19 00:42 J -11645339.51 -11645339.47 -11645339.42 0.2657 0.2501

Earth -36597-10-19 01:54 J -11645339.47 -11645339.42 -11645339.37 0.2658 0.2462 *

Moon -36594-04-20 03:50 J -11644426.45 -11644426.34 -11644426.22 0.2674 0.1130

Earth -36594-04-20 04:47 J -11644426.42 -11644426.30 -11644426.19 0.2672 0.1127 *

Venus -36593-07-03 01:11 J -11643986.57 -11643986.45 -11643986.33 0.3765 0.0101

Jupiter -36592-02-15 19:54 J -11643758.76 -11643758.67 -11643758.59 0.0518 0.0435

Mars -36592-03-20 02:52 J -11643726.50 -11643726.38 -11643726.26 0.1875 0.0625

Jupiter -36592-05-16 17:30 J -11643668.90 -11643668.77 -11643668.64 0.0522 0.0270

Mars -36591-02-01 09:21 J -11643408.24 -11643408.11 -11643407.99 0.1650 0.0865

Earth -36591-10-29 13:54 J -11643138.03 -11643137.92 -11643137.82 0.2665 0.1430

Moon -36591-10-29 14:38 J -11643137.99 -11643137.89 -11643137.78 0.2668 0.1495 *

Venus -36589-07-04 11:16 J -11642524.13 -11642524.03 -11642523.93 0.3610 0.2169

Venus -36587-01-16 22:04 J -11641962.62 -11641962.58 -11641962.54 0.3761 0.3535

Jupiter -36587-10-05 01:54 J -11641701.56 -11641701.42 -11641701.27 0.0508 0.0062

Saturn -36587-10-06 04:04 J -11641700.44 -11641700.33 -11641700.22 0.0277 0.0191

Saturn -36586-01-02 18:28 J -11641611.87 -11641611.73 -11641611.58 0.0277 0.0082

Saturn -36586-04-01 09:21 J -11641523.26 -11641523.11 -11641522.96 0.0277 0.0030

Saturn -36586-06-29 00:28 J -11641434.61 -11641434.48 -11641434.35 0.0277 0.0145

Saturn -36586-09-25 15:50 J -11641345.88 -11641345.84 -11641345.78 0.0278 0.0263

Moon -36584-10-21 23:45 J -11640588.62 -11640588.51 -11640588.41 0.2662 0.1553

Earth -36584-10-22 00:42 J -11640588.58 -11640588.47 -11640588.36 0.2660 0.1401 *

Venus -36583-01-18 07:26 J -11640500.31 -11640500.19 -11640500.07 0.3613 0.0929

Mars -36583-08-10 09:06 J -11640296.20 -11640296.12 -11640296.04 0.1870 0.1434

Mars -36582-06-24 14:23 J -11639977.95 -11639977.90 -11639977.86 0.1654 0.1561

Moon -36581-04-22 02:09 J -11639675.54 -11639675.41 -11639675.29 0.2676 0.0261

Earth -36581-04-22 02:38 J -11639675.52 -11639675.39 -11639675.26 0.2670 0.0150 *

Jupiter -36580-03-04 17:02 J -11639358.95 -11639358.79 -11639358.64 0.0521 0.0084

Mars -36580-05-30 16:18 J -11639271.92 -11639271.82 -11639271.72 0.1640 0.1163

Earth -36578-11-01 11:30 J -11638387.08 -11638387.02 -11638386.97 0.2666 0.2373

Moon -36578-11-01 12:28 J -11638387.03 -11638386.98 -11638386.93 0.2666 0.2390 *

Neptune -36576-09-28 09:50 J -11637690.15 -11637690.09 -11637690.02 0.0088 0.0082

Neptune -36576-12-25 12:14 J -11637602.07 -11637601.99 -11637601.89 0.0088 0.0074

Uranus -36576-12-28 23:02 J -11637598.59 -11637598.54 -11637598.46 0.0133 0.0121

Neptune -36575-03-23 14:52 J -11637513.98 -11637513.88 -11637513.76 0.0088 0.0066

Uranus -36575-03-27 04:04 J -11637510.43 -11637510.33 -11637510.22 0.0133 0.0099

Neptune -36575-06-19 17:30 J -11637425.89 -11637425.77 -11637425.63 0.0088 0.0058

Uranus -36575-06-23 08:38 J -11637422.26 -11637422.14 -11637422.00 0.0133 0.0078

Jupiter -36575-07-24 05:02 J -11637391.42 -11637391.29 -11637391.15 0.0509 0.0199

Neptune -36575-09-15 20:09 J -11637337.80 -11637337.66 -11637337.52 0.0088 0.0050

Uranus -36575-09-19 13:26 J -11637334.08 -11637333.94 -11637333.79 0.0133 0.0057

Jupiter -36575-10-21 17:02 J -11637301.88 -11637301.79 -11637301.70 0.0505 0.0391

Neptune -36575-12-12 22:47 J -11637249.70 -11637249.55 -11637249.40 0.0088 0.0042

Uranus -36575-12-16 17:59 J -11637245.90 -11637245.75 -11637245.59 0.0133 0.0036

Neptune -36574-03-11 01:11 J -11637161.60 -11637161.45 -11637161.29 0.0088 0.0034

Uranus -36574-03-14 22:33 J -11637157.72 -11637157.56 -11637157.40 0.0133 0.0015

Neptune -36574-06-07 03:35 J -11637073.50 -11637073.35 -11637073.18 0.0088 0.0027

Uranus -36574-06-11 03:06 J -11637069.53 -11637069.37 -11637069.21 0.0132 0.0006

Neptune -36574-09-03 06:14 J -11636985.40 -11636985.24 -11636985.07 0.0088 0.0018

Uranus -36574-09-07 07:26 J -11636981.34 -11636981.19 -11636981.03 0.0132 0.0027

Neptune -36574-11-30 08:52 J -11636897.30 -11636897.13 -11636896.96 0.0088 0.0010

Uranus -36574-12-04 11:59 J -11636893.15 -11636893.00 -11636892.85 0.0132 0.0046

Neptune -36573-02-26 11:30 J -11636809.19 -11636809.02 -11636808.86 0.0088 0.0003

Uranus -36573-03-01 16:18 J -11636804.95 -11636804.82 -11636804.68 0.0132 0.0066

Neptune -36573-05-24 13:54 J -11636721.09 -11636720.92 -11636720.75 0.0088 0.0005

Uranus -36573-05-28 20:38 J -11636716.75 -11636716.64 -11636716.52 0.0132 0.0086

Neptune -36573-08-20 16:18 J -11636632.98 -11636632.82 -11636632.65 0.0088 0.0013

Uranus -36573-08-25 00:57 J -11636628.54 -11636628.46 -11636628.36 0.0132 0.0106

Neptune -36573-11-16 18:42 J -11636544.88 -11636544.72 -11636544.55 0.0088 0.0021

Uranus -36573-11-21 05:16 J -11636540.32 -11636540.28 -11636540.23 0.0132 0.0126

Neptune -36572-02-12 21:21 J -11636456.77 -11636456.61 -11636456.45 0.0088 0.0029

Saturn -36572-02-14 06:28 J -11636455.29 -11636455.23 -11636455.16 0.0282 0.0254

Neptune -36572-05-11 23:30 J -11636368.66 -11636368.52 -11636368.36 0.0088 0.0037

Saturn -36572-05-13 23:16 J -11636366.66 -11636366.53 -11636366.38 0.0282 0.0129

Neptune -36572-08-08 01:54 J -11636280.55 -11636280.42 -11636280.26 0.0088 0.0044

Saturn -36572-08-10 15:50 J -11636278.00 -11636277.84 -11636277.68 0.0281 0.0006

Neptune -36572-11-04 04:33 J -11636192.44 -11636192.31 -11636192.17 0.0088 0.0051

Saturn -36572-11-07 07:40 J -11636189.32 -11636189.18 -11636189.03 0.0281 0.0114

Mars -36572-12-06 15:35 J -11636159.95 -11636159.85 -11636159.75 0.1884 0.1181

Neptune -36571-01-31 06:42 J -11636104.33 -11636104.22 -11636104.08 0.0088 0.0059

Saturn -36571-02-03 23:16 J -11636100.61 -11636100.53 -11636100.44 0.0281 0.0231

Neptune -36571-04-29 09:21 J -11636016.21 -11636016.11 -11636016.00 0.0088 0.0067

Neptune -36571-07-26 11:30 J -11635928.09 -11635928.02 -11635927.92 0.0088 0.0074

Mars -36571-10-20 22:18 J -11635841.70 -11635841.57 -11635841.43 0.1643 0.0539

Neptune -36571-10-22 14:09 J -11635839.97 -11635839.91 -11635839.85 0.0088 0.0082

Moon -36571-10-24 22:47 J -11635837.67 -11635837.55 -11635837.42 0.2668 0.0321

Earth -36571-10-24 23:16 J -11635837.66 -11635837.53 -11635837.41 0.2661 0.0382 *

Jupiter -36569-12-21 17:16 J -11635048.94 -11635048.78 -11635048.62 0.0520 0.0091

Earth -36568-04-25 00:57 J -11634924.58 -11634924.46 -11634924.34 0.2669 0.0881

Moon -36568-04-25 01:11 J -11634924.57 -11634924.45 -11634924.33 0.2675 0.0979 *

Jupiter -36563-05-12 08:09 J -11633081.26 -11633081.16 -11633081.05 0.0509 0.0338

Jupiter -36563-08-09 19:40 J -11632991.80 -11632991.68 -11632991.55 0.0506 0.0247

Mars -36562-04-28 21:06 J -11632729.75 -11632729.62 -11632729.49 0.1880 0.0303

Mars -36561-03-12 04:04 J -11632411.47 -11632411.33 -11632411.18 0.1646 0.0115

Moon -36561-04-17 11:30 J -11632375.11 -11632375.02 -11632374.94 0.2671 0.1954

Earth -36561-04-17 12:28 J -11632375.07 -11632374.98 -11632374.90 0.2673 0.1914 *

Earth -36558-10-27 21:21 J -11631086.74 -11631086.61 -11631086.49 0.2663 0.0632

Moon -36558-10-27 21:35 J -11631086.72 -11631086.60 -11631086.47 0.2669 0.0613 *

Saturn -36557-02-23 04:33 J -11630968.39 -11630968.31 -11630968.23 0.0277 0.0229

Saturn -36557-05-21 18:57 J -11630879.85 -11630879.71 -11630879.58 0.0277 0.0121

Saturn -36557-08-18 09:35 J -11630791.25 -11630791.10 -11630790.95 0.0277 0.0010

Jupiter -36557-10-09 17:45 J -11630738.90 -11630738.76 -11630738.63 0.0520 0.0261

Saturn -36557-11-15 00:28 J -11630702.62 -11630702.48 -11630702.33 0.0278 0.0104

Jupiter -36556-01-07 15:06 J -11630648.96 -11630648.87 -11630648.79 0.0524 0.0441

Saturn -36556-02-11 15:50 J -11630613.93 -11630613.84 -11630613.74 0.0278 0.0221

Earth -36555-04-27 23:30 J -11630173.61 -11630173.52 -11630173.43 0.2667 0.1928

Moon -36555-04-28 00:14 J -11630173.57 -11630173.49 -11630173.40 0.2671 0.1965 *

Mars -36553-09-18 02:52 J -11629299.50 -11629299.38 -11629299.26 0.1875 0.0542

Mars -36552-08-02 09:35 J -11628981.23 -11628981.10 -11628980.97 0.1650 0.0780

Jupiter -36551-02-28 11:02 J -11628771.08 -11628771.04 -11628770.99 0.0510 0.0481

Jupiter -36551-05-28 22:18 J -11628681.71 -11628681.57 -11628681.42 0.0507 0.0102

Moon -36551-10-20 06:14 J -11628537.29 -11628537.24 -11628537.18 0.2658 0.2381

Earth -36551-10-20 07:26 J -11628537.25 -11628537.19 -11628537.12 0.2659 0.2269 *

Moon -36548-04-20 09:21 J -11627624.23 -11627624.11 -11627624.00 0.2676 0.1066

Earth -36548-04-20 10:04 J -11627624.20 -11627624.08 -11627623.96 0.2672 0.0950 *

Jupiter -36545-07-28 17:59 J -11626428.83 -11626428.75 -11626428.66 0.0518 0.0432

Jupiter -36545-10-26 15:50 J -11626338.97 -11626338.84 -11626338.71 0.0522 0.0275

Earth -36545-10-29 19:11 J -11626335.80 -11626335.70 -11626335.60 0.2665 0.1600

Moon -36545-10-29 20:09 J -11626335.76 -11626335.66 -11626335.56 0.2668 0.1686 *

Mars -36543-02-08 08:52 J -11625869.21 -11625869.13 -11625869.04 0.1870 0.1362

Saturn -36543-09-30 23:16 J -11625634.65 -11625634.53 -11625634.40 0.0282 0.0169

Mars -36543-12-23 14:52 J -11625550.95 -11625550.88 -11625550.81 0.1654 0.1461

Saturn -36543-12-28 15:50 J -11625545.99 -11625545.84 -11625545.68 0.0282 0.0046

Saturn -36542-03-27 08:09 J -11625457.31 -11625457.16 -11625457.01 0.0282 0.0076

Saturn -36542-06-23 23:45 J -11625368.61 -11625368.51 -11625368.39 0.0281 0.0194

Venus -36542-07-25 03:21 J -11625337.46 -11625337.36 -11625337.27 0.3767 0.2253

Mars -36541-11-28 16:47 J -11624844.90 -11624844.80 -11624844.71 0.1640 0.1247

Jupiter -36539-03-17 00:14 J -11624371.63 -11624371.49 -11624371.35 0.0508 0.0058

Moon -36538-10-23 05:16 J -11623786.39 -11623786.28 -11623786.16 0.2664 0.1217

Earth -36538-10-23 06:14 J -11623786.36 -11623786.24 -11623786.13 0.2660 0.1215 *

Venus -36536-02-06 23:59 J -11623313.62 -11623313.50 -11623313.39 0.3764 0.1226

Moon -36535-04-23 07:40 J -11622873.31 -11622873.18 -11622873.05 0.2676 0.0089

Earth -36535-04-23 08:09 J -11622873.29 -11622873.16 -11622873.03 0.2670 0.0045 *

Jupiter -36533-08-14 16:04 J -11622028.99 -11622028.83 -11622028.68 0.0521 0.0099

Venus -36532-02-08 09:50 J -11621851.20 -11621851.09 -11621850.97 0.3611 0.1004

Uranus -36532-03-12 00:57 J -11621819.47 -11621819.46 -11621819.43 0.0146 0.0144

Mars -36532-06-06 15:50 J -11621732.94 -11621732.84 -11621732.75 0.1884 0.1269

Uranus -36532-06-08 06:14 J -11621731.32 -11621731.24 -11621731.15 0.0146 0.0118

Uranus -36532-09-04 11:16 J -11621643.14 -11621643.03 -11621642.90 0.0146 0.0092

Earth -36532-11-01 16:47 J -11621584.83 -11621584.80 -11621584.76 0.2667 0.2541

Moon -36532-11-01 17:45 J -11621584.78 -11621584.76 -11621584.74 0.2664 0.2619 *

Uranus -36532-12-01 16:33 J -11621554.94 -11621554.81 -11621554.67 0.0146 0.0066

Uranus -36531-02-27 21:50 J -11621466.73 -11621466.59 -11621466.44 0.0146 0.0039

Mars -36531-04-20 22:47 J -11621414.68 -11621414.55 -11621414.41 0.1643 0.0629

Uranus -36531-05-27 03:21 J -11621378.52 -11621378.36 -11621378.21 0.0146 0.0013

Uranus -36531-08-23 08:38 J -11621290.29 -11621290.14 -11621289.98 0.0146 0.0015

Uranus -36531-11-19 13:54 J -11621202.06 -11621201.92 -11621201.76 0.0146 0.0043

Uranus -36530-02-15 19:26 J -11621113.82 -11621113.69 -11621113.55 0.0146 0.0070

Uranus -36530-05-15 00:57 J -11621025.57 -11621025.46 -11621025.34 0.0146 0.0098

Uranus -36530-08-11 06:42 J -11620937.30 -11620937.22 -11620937.14 0.0146 0.0126

Pluto -36529-06-27 22:47 J -11620615.59 -11620615.55 -11620615.48 0.0077 0.0071

Pluto -36529-09-24 00:14 J -11620527.56 -11620527.49 -11620527.39 0.0077 0.0063

Pluto -36529-12-21 01:40 J -11620439.52 -11620439.43 -11620439.31 0.0077 0.0055

Pluto -36528-03-19 03:21 J -11620351.48 -11620351.36 -11620351.24 0.0077 0.0047

Pluto -36528-06-15 04:33 J -11620263.43 -11620263.31 -11620263.17 0.0076 0.0040

Saturn -36528-07-12 07:54 J -11620236.24 -11620236.17 -11620236.11 0.0277 0.0246

Pluto -36528-09-11 06:14 J -11620175.38 -11620175.24 -11620175.11 0.0076 0.0032

Saturn -36528-10-08 22:04 J -11620147.71 -11620147.58 -11620147.45 0.0277 0.0138

Pluto -36528-12-08 07:26 J -11620087.33 -11620087.19 -11620087.04 0.0076 0.0024

Jupiter -36527-01-03 02:52 J -11620061.51 -11620061.38 -11620061.25 0.0509 0.0205

Saturn -36527-01-05 12:42 J -11620059.12 -11620058.97 -11620058.81 0.0277 0.0028

Pluto -36527-03-06 08:38 J -11619999.28 -11619999.14 -11619998.98 0.0076 0.0017

Jupiter -36527-04-02 14:52 J -11619971.98 -11619971.88 -11619971.79 0.0505 0.0384

Saturn -36527-04-04 03:50 J -11619970.49 -11619970.34 -11619970.20 0.0277 0.0086

Pluto -36527-06-02 10:04 J -11619911.22 -11619911.08 -11619910.93 0.0076 0.0010

Saturn -36527-07-01 18:57 J -11619881.81 -11619881.71 -11619881.60 0.0278 0.0203

Venus -36527-08-25 05:59 J -11619827.35 -11619827.25 -11619827.15 0.3614 0.2056

Pluto -36527-08-29 11:30 J -11619823.17 -11619823.02 -11619822.87 0.0076 0.0002

Pluto -36527-11-25 12:42 J -11619735.11 -11619734.97 -11619734.82 0.0076 0.0006

Pluto -36526-02-21 14:09 J -11619647.06 -11619646.91 -11619646.76 0.0076 0.0013

Pluto -36526-05-20 15:21 J -11619559.00 -11619558.86 -11619558.71 0.0075 0.0020

Pluto -36526-08-16 16:33 J -11619470.94 -11619470.81 -11619470.67 0.0075 0.0027

Pluto -36526-11-12 17:45 J -11619382.88 -11619382.76 -11619382.62 0.0075 0.0034

Pluto -36525-02-08 18:57 J -11619294.82 -11619294.71 -11619294.58 0.0075 0.0041

Pluto -36525-05-06 20:09 J -11619206.76 -11619206.66 -11619206.53 0.0075 0.0048

Pluto -36525-08-02 21:21 J -11619118.70 -11619118.61 -11619118.50 0.0075 0.0055

Moon -36525-10-25 04:18 J -11619035.45 -11619035.32 -11619035.19 0.2669 0.0291

Earth -36525-10-25 04:33 J -11619035.44 -11619035.31 -11619035.18 0.2662 0.0191 *

Pluto -36525-10-29 22:47 J -11619030.63 -11619030.55 -11619030.46 0.0075 0.0061

Pluto -36524-01-25 23:59 J -11618942.55 -11618942.50 -11618942.44 0.0075 0.0068

Pluto -36524-04-24 01:11 J -11618854.45 -11618854.45 -11618854.44 0.0074 0.0074

Mars -36523-10-27 21:21 J -11618302.74 -11618302.61 -11618302.49 0.1879 0.0398

Earth -36522-04-26 06:28 J -11618122.35 -11618122.23 -11618122.11 0.2668 0.1068

Moon -36522-04-26 06:42 J -11618122.33 -11618122.22 -11618122.10 0.2675 0.1025 *

Mars -36522-09-11 04:33 J -11617984.46 -11617984.31 -11617984.17 0.1646 0.0032

Jupiter -36521-06-02 15:06 J -11617719.02 -11617718.87 -11617718.71 0.0520 0.0092

Jupiter -36516-10-22 05:59 J -11615751.35 -11615751.25 -11615751.14 0.0510 0.0343

Jupiter -36515-01-19 17:45 J -11615661.89 -11615661.76 -11615661.63 0.0506 0.0243

Moon -36515-04-18 16:47 J -11615572.89 -11615572.80 -11615572.71 0.2672 0.1798

Earth -36515-04-18 17:45 J -11615572.85 -11615572.76 -11615572.66 0.2673 0.1741 *

Saturn -36513-02-18 01:40 J -11614902.54 -11614902.43 -11614902.31 0.0282 0.0194

Mars -36513-03-19 03:06 J -11614872.50 -11614872.37 -11614872.25 0.1875 0.0457

Saturn -36513-05-16 18:14 J -11614813.89 -11614813.74 -11614813.58 0.0282 0.0070

Saturn -36513-08-13 10:33 J -11614725.21 -11614725.06 -11614724.91 0.0281 0.0052

Saturn -36513-11-10 02:23 J -11614636.52 -11614636.40 -11614636.28 0.0281 0.0170

Mars -36512-01-31 10:04 J -11614554.22 -11614554.08 -11614553.95 0.1650 0.0687

Earth -36512-10-28 02:38 J -11614284.51 -11614284.39 -11614284.27 0.2663 0.0807

Moon -36512-10-28 03:21 J -11614284.48 -11614284.36 -11614284.24 0.2669 0.0921 *

Jupiter -36509-03-21 15:06 J -11613409.00 -11613408.87 -11613408.73 0.0519 0.0268

Earth -36509-04-28 05:02 J -11613371.37 -11613371.29 -11613371.21 0.2667 0.2121

Moon -36509-04-28 05:59 J -11613371.32 -11613371.25 -11613371.18 0.2670 0.2250 *

Jupiter -36509-06-19 12:28 J -11613319.06 -11613318.98 -11613318.89 0.0523 0.0433

Moon -36505-10-20 11:59 J -11611735.08 -11611735.00 -11611734.93 0.2658 0.2147

Earth -36505-10-20 12:57 J -11611735.04 -11611734.96 -11611734.88 0.2659 0.2081 *

Mars -36504-08-09 09:06 J -11611442.21 -11611442.12 -11611442.03 0.1870 0.1268

Jupiter -36504-08-10 09:06 J -11611441.16 -11611441.12 -11611441.07 0.0511 0.0482

Jupiter -36504-11-07 20:23 J -11611351.79 -11611351.65 -11611351.50 0.0507 0.0101

Mars -36503-06-23 15:06 J -11611123.95 -11611123.87 -11611123.79 0.1654 0.1377

Moon -36502-04-21 14:38 J -11610822.01 -11610821.89 -11610821.77 0.2675 0.0804

Earth -36502-04-21 15:35 J -11610821.98 -11610821.85 -11610821.73 0.2671 0.0777 *

Mars -36501-05-29 17:02 J -11610417.87 -11610417.79 -11610417.71 0.1640 0.1332

Earth -36499-10-31 00:28 J -11609533.57 -11609533.48 -11609533.38 0.2665 0.1776

Moon -36499-10-31 01:26 J -11609533.53 -11609533.44 -11609533.35 0.2668 0.1811 *

Saturn -36498-02-25 22:47 J -11609415.66 -11609415.55 -11609415.43 0.0277 0.0175

Saturn -36498-05-25 13:26 J -11609327.09 -11609326.94 -11609326.79 0.0277 0.0065

Saturn -36498-08-22 04:18 J -11609238.47 -11609238.32 -11609238.17 0.0278 0.0048

Saturn -36498-11-18 19:26 J -11609149.81 -11609149.69 -11609149.57 0.0278 0.0163

Jupiter -36497-01-08 15:35 J -11609098.94 -11609098.85 -11609098.77 0.0518 0.0441

Jupiter -36497-04-07 13:11 J -11609009.08 -11609008.95 -11609008.81 0.0522 0.0267

Neptune -36495-12-31 05:30 J -11608011.29 -11608011.27 -11608011.23 0.0089 0.0087

Neptune -36494-03-29 07:11 J -11607923.25 -11607923.20 -11607923.12 0.0089 0.0080

Neptune -36494-06-25 09:06 J -11607835.19 -11607835.12 -11607835.03 0.0089 0.0073

Neptune -36494-09-21 11:02 J -11607747.14 -11607747.04 -11607746.94 0.0089 0.0066

Neptune -36494-12-18 12:28 J -11607659.07 -11607658.98 -11607658.86 0.0089 0.0060

Neptune -36493-03-15 14:23 J -11607571.01 -11607570.90 -11607570.77 0.0089 0.0053

Neptune -36493-06-11 16:04 J -11607482.94 -11607482.83 -11607482.69 0.0089 0.0046

Neptune -36493-09-07 17:59 J -11607394.87 -11607394.75 -11607394.61 0.0089 0.0039

Neptune -36493-12-04 19:54 J -11607306.80 -11607306.67 -11607306.53 0.0089 0.0032

Mars -36493-12-05 15:50 J -11607305.93 -11607305.84 -11607305.75 0.1884 0.1358

Neptune -36492-03-02 21:35 J -11607218.73 -11607218.60 -11607218.45 0.0089 0.0025

Neptune -36492-05-29 23:30 J -11607130.66 -11607130.52 -11607130.37 0.0089 0.0018

Neptune -36492-08-26 01:26 J -11607042.59 -11607042.44 -11607042.29 0.0089 0.0011

Jupiter -36492-08-26 23:16 J -11607041.68 -11607041.53 -11607041.39 0.0508 0.0046

Mars -36492-10-19 23:02 J -11606987.67 -11606987.54 -11606987.41 0.1643 0.0708

Moon -36492-10-23 11:02 J -11606984.16 -11606984.04 -11606983.93 0.2666 0.1128

Earth -36492-10-23 11:45 J -11606984.13 -11606984.01 -11606983.89 0.2660 0.1030 *

Neptune -36492-11-22 03:21 J -11606954.51 -11606954.36 -11606954.21 0.0089 0.0004

Uranus -36491-01-18 06:57 J -11606897.28 -11606897.21 -11606897.11 0.0133 0.0112

Neptune -36491-02-18 05:02 J -11606866.43 -11606866.29 -11606866.14 0.0089 0.0004

Uranus -36491-04-16 11:45 J -11606809.12 -11606809.01 -11606808.89 0.0133 0.0091

Neptune -36491-05-17 06:57 J -11606778.36 -11606778.21 -11606778.06 0.0089 0.0010

Uranus -36491-07-13 16:18 J -11606720.94 -11606720.82 -11606720.67 0.0133 0.0070

Neptune -36491-08-13 08:38 J -11606690.28 -11606690.14 -11606689.98 0.0089 0.0018

Uranus -36491-10-09 21:06 J -11606632.76 -11606632.62 -11606632.47 0.0133 0.0048

Neptune -36491-11-09 10:33 J -11606602.20 -11606602.06 -11606601.91 0.0089 0.0025

Uranus -36490-01-06 01:40 J -11606544.58 -11606544.43 -11606544.27 0.0133 0.0028

Neptune -36490-02-05 12:28 J -11606514.11 -11606513.98 -11606513.83 0.0089 0.0032

Uranus -36490-04-04 06:14 J -11606456.39 -11606456.24 -11606456.08 0.0133 0.0008

Neptune -36490-05-04 14:23 J -11606426.03 -11606425.90 -11606425.76 0.0089 0.0039

Uranus -36490-07-01 10:47 J -11606368.21 -11606368.05 -11606367.89 0.0132 0.0014

Neptune -36490-07-31 16:18 J -11606337.94 -11606337.82 -11606337.69 0.0089 0.0046

Uranus -36490-09-27 15:21 J -11606280.01 -11606279.86 -11606279.71 0.0132 0.0034

Neptune -36490-10-27 18:14 J -11606249.86 -11606249.74 -11606249.62 0.0089 0.0053

Uranus -36490-12-24 19:40 J -11606191.82 -11606191.68 -11606191.53 0.0132 0.0055

Neptune -36489-01-23 19:54 J -11606161.77 -11606161.67 -11606161.55 0.0089 0.0061

Uranus -36489-03-22 00:14 J -11606103.62 -11606103.49 -11606103.36 0.0132 0.0075

Neptune -36489-04-20 21:50 J -11606073.67 -11606073.59 -11606073.48 0.0089 0.0068

Moon -36489-04-23 13:26 J -11606071.07 -11606070.94 -11606070.82 0.2676 0.0172

Earth -36489-04-23 13:26 J -11606071.06 -11606070.94 -11606070.81 0.2670 0.0243 *

Uranus -36489-06-18 04:18 J -11606015.42 -11606015.32 -11606015.20 0.0132 0.0095

Neptune -36489-07-17 23:59 J -11605985.58 -11605985.50 -11605985.42 0.0089 0.0075

Uranus -36489-09-14 08:38 J -11605927.21 -11605927.14 -11605927.05 0.0132 0.0114

Neptune -36489-10-14 01:40 J -11605897.47 -11605897.43 -11605897.36 0.0089 0.0083

Jupiter -36485-01-25 14:09 J -11604699.07 -11604698.91 -11604698.76 0.0521 0.0100

Venus -36485-02-29 01:54 J -11604664.53 -11604664.42 -11604664.30 0.3766 0.1011

Saturn -36484-07-07 01:26 J -11604170.52 -11604170.44 -11604170.35 0.0282 0.0236

Saturn -36484-10-03 18:14 J -11604081.89 -11604081.74 -11604081.60 0.0282 0.0110

Saturn -36484-12-31 10:33 J -11603993.21 -11603993.06 -11603992.90 0.0281 0.0013

Saturn -36483-03-30 02:38 J -11603904.53 -11603904.39 -11603904.26 0.0281 0.0132

Mars -36483-04-27 21:21 J -11603875.74 -11603875.61 -11603875.49 0.1879 0.0479

Saturn -36483-06-26 18:14 J -11603815.81 -11603815.74 -11603815.67 0.0281 0.0248

Mars -36482-03-12 05:02 J -11603557.44 -11603557.29 -11603557.15 0.1647 0.0079

Moon -36482-04-17 00:57 J -11603521.50 -11603521.46 -11603521.42 0.2669 0.2490

Earth -36482-04-17 01:40 J -11603521.47 -11603521.43 -11603521.39 0.2675 0.2514 *

Venus -36481-03-01 12:14 J -11603202.06 -11603201.99 -11603201.92 0.3609 0.2975

Jupiter -36480-06-15 01:11 J -11602731.58 -11602731.45 -11602731.32 0.0509 0.0203

Jupiter -36480-09-12 12:57 J -11602642.05 -11602641.96 -11602641.86 0.0505 0.0384

Venus -36480-09-13 22:33 J -11602640.64 -11602640.56 -11602640.47 0.3763 0.2513

Moon -36479-10-26 09:50 J -11602233.22 -11602233.09 -11602232.96 0.2669 0.0053

Earth -36479-10-26 10:04 J -11602233.21 -11602233.08 -11602232.95 0.2662 0.0034 *

Earth -36476-04-26 11:59 J -11601320.12 -11601320.00 -11601319.89 0.2668 0.1257

Moon -36476-04-26 12:14 J -11601320.10 -11601319.99 -11601319.88 0.2675 0.1372 *

Venus -36476-09-15 08:38 J -11601178.26 -11601178.14 -11601178.02 0.3612 0.0176

Mars -36474-09-18 03:06 J -11600445.49 -11600445.37 -11600445.24 0.1875 0.0366

Jupiter -36474-11-13 14:09 J -11600389.07 -11600388.91 -11600388.75 0.0520 0.0077

Mars -36473-08-01 10:18 J -11600127.20 -11600127.07 -11600126.93 0.1650 0.0596

Venus -36470-04-01 04:33 J -11599154.36 -11599154.31 -11599154.25 0.3615 0.3191

Moon -36469-04-18 22:04 J -11598770.67 -11598770.58 -11598770.48 0.2673 0.1678

Earth -36469-04-18 23:02 J -11598770.64 -11598770.54 -11598770.43 0.2673 0.1570 *

Saturn -36469-07-15 01:54 J -11598683.52 -11598683.42 -11598683.31 0.0277 0.0194

Saturn -36469-10-11 16:18 J -11598594.96 -11598594.82 -11598594.67 0.0277 0.0084

Saturn -36468-01-08 07:11 J -11598506.35 -11598506.20 -11598506.05 0.0277 0.0028

Jupiter -36468-04-03 03:50 J -11598421.44 -11598421.34 -11598421.24 0.0510 0.0350

Saturn -36468-04-06 22:18 J -11598417.70 -11598417.57 -11598417.44 0.0278 0.0143

Jupiter -36468-07-01 15:21 J -11598331.99 -11598331.86 -11598331.73 0.0506 0.0235

Saturn -36468-07-04 13:40 J -11598328.98 -11598328.93 -11598328.87 0.0278 0.0261

Earth -36466-10-29 08:09 J -11597482.28 -11597482.16 -11597482.04 0.2664 0.0985

Moon -36466-10-29 08:52 J -11597482.25 -11597482.13 -11597482.02 0.2669 0.0959 *

Mars -36464-02-07 09:21 J -11597015.21 -11597015.11 -11597015.02 0.1870 0.1183

Mars -36464-12-22 15:35 J -11596696.95 -11596696.85 -11596696.76 0.1654 0.1284

Earth -36463-04-29 10:33 J -11596569.12 -11596569.06 -11596569.00 0.2666 0.2315

Moon -36463-04-29 11:30 J -11596569.08 -11596569.02 -11596568.95 0.2668 0.2322 *

Jupiter -36462-09-01 13:11 J -11596079.09 -11596078.95 -11596078.82 0.0519 0.0269

Mars -36462-11-28 17:16 J -11595990.85 -11595990.78 -11595990.71 0.1640 0.1416

Jupiter -36462-11-30 10:18 J -11595989.15 -11595989.07 -11595988.98 0.0523 0.0432

Moon -36459-10-21 17:30 J -11594932.86 -11594932.77 -11594932.68 0.2659 0.1960

Earth -36459-10-21 18:28 J -11594932.82 -11594932.73 -11594932.64 0.2659 0.1892 *

Jupiter -36456-01-20 06:57 J -11594111.24 -11594111.21 -11594111.17 0.0511 0.0488

Jupiter -36456-04-19 18:14 J -11594021.88 -11594021.74 -11594021.59 0.0507 0.0096

Moon -36456-04-21 20:09 J -11594019.79 -11594019.66 -11594019.54 0.2675 0.0681

Earth -36456-04-21 20:52 J -11594019.75 -11594019.63 -11594019.50 0.2671 0.0596 *

Saturn -36455-11-24 04:04 J -11593438.39 -11593438.33 -11593438.26 0.0282 0.0258

Saturn -36454-02-20 21:06 J -11593349.76 -11593349.62 -11593349.48 0.0282 0.0132

Saturn -36454-05-20 13:26 J -11593261.09 -11593260.94 -11593260.78 0.0281 0.0010

Saturn -36454-08-17 05:30 J -11593172.41 -11593172.27 -11593172.13 0.0281 0.0112

Saturn -36454-11-13 21:06 J -11593083.71 -11593083.62 -11593083.53 0.0281 0.0228

Mars -36453-06-05 16:04 J -11592878.91 -11592878.83 -11592878.75 0.1884 0.1452

Earth -36453-10-31 05:59 J -11592731.34 -11592731.25 -11592731.17 0.2665 0.1946

Moon -36453-10-31 06:42 J -11592731.29 -11592731.22 -11592731.14 0.2667 0.2068 *

Mars -36452-04-19 23:30 J -11592560.65 -11592560.52 -11592560.40 0.1643 0.0797

Jupiter -36450-06-20 12:57 J -11591769.04 -11591768.96 -11591768.88 0.0518 0.0447

Jupiter -36450-09-18 10:47 J -11591679.18 -11591679.05 -11591678.91 0.0522 0.0259

Uranus -36448-04-01 08:38 J -11591118.19 -11591118.14 -11591118.08 0.0146 0.0135

Uranus -36448-06-28 13:54 J -11591030.02 -11591029.92 -11591029.82 0.0146 0.0109

Uranus -36448-09-24 18:57 J -11590941.83 -11590941.71 -11590941.58 0.0146 0.0083

Uranus -36448-12-22 00:14 J -11590853.62 -11590853.49 -11590853.34 0.0146 0.0057

Uranus -36447-03-20 05:30 J -11590765.41 -11590765.27 -11590765.11 0.0146 0.0030

Uranus -36447-06-16 11:02 J -11590677.20 -11590677.04 -11590676.89 0.0146 0.0003

Uranus -36447-09-12 16:18 J -11590588.97 -11590588.82 -11590588.66 0.0146 0.0024

Uranus -36447-12-09 21:50 J -11590500.74 -11590500.59 -11590500.44 0.0146 0.0052

Uranus -36446-03-08 03:06 J -11590412.49 -11590412.37 -11590412.23 0.0146 0.0080

Uranus -36446-06-04 08:38 J -11590324.24 -11590324.14 -11590324.02 0.0146 0.0108

Uranus -36446-08-31 14:23 J -11590235.95 -11590235.90 -11590235.84 0.0146 0.0135

Moon -36446-10-24 16:33 J -11590181.94 -11590181.81 -11590181.69 0.2666 0.0873

Earth -36446-10-24 17:02 J -11590181.91 -11590181.79 -11590181.66 0.2661 0.0849 *

Jupiter -36444-02-05 21:21 J -11589711.76 -11589711.61 -11589711.47 0.0508 0.0049

Mars -36444-10-26 21:21 J -11589448.73 -11589448.61 -11589448.49 0.1879 0.0568

Moon -36443-04-24 18:57 J -11589268.84 -11589268.71 -11589268.59 0.2676 0.0452

Earth -36443-04-24 18:57 J -11589268.84 -11589268.71 -11589268.58 0.2669 0.0411 *

Mars -36443-09-10 05:16 J -11589130.43 -11589130.28 -11589130.14 0.1647 0.0157

Saturn -36440-12-02 02:52 J -11587951.46 -11587951.38 -11587951.29 0.0277 0.0228

Saturn -36439-02-28 17:16 J -11587862.91 -11587862.78 -11587862.64 0.0277 0.0120

Saturn -36439-05-28 07:54 J -11587774.32 -11587774.17 -11587774.02 0.0277 0.0009

Saturn -36439-08-24 22:47 J -11587685.69 -11587685.55 -11587685.40 0.0278 0.0106

Saturn -36439-11-21 14:09 J -11587597.00 -11587596.91 -11587596.81 0.0278 0.0222

Jupiter -36438-07-07 11:16 J -11587369.18 -11587369.03 -11587368.87 0.0521 0.0091

Moon -36436-04-17 06:14 J -11586719.29 -11586719.24 -11586719.19 0.2670 0.2453

Earth -36436-04-17 06:57 J -11586719.27 -11586719.21 -11586719.15 0.2674 0.2341 *

Mars -36434-03-19 03:06 J -11586018.49 -11586018.37 -11586018.24 0.1874 0.0289

Venus -36434-03-22 04:04 J -11586015.39 -11586015.33 -11586015.27 0.3768 0.3175

Mars -36433-01-31 10:47 J -11585700.19 -11585700.05 -11585699.91 0.1650 0.0507

Moon -36433-10-26 15:35 J -11585430.98 -11585430.85 -11585430.73 0.2669 0.0137

Earth -36433-10-26 15:21 J -11585430.98 -11585430.86 -11585430.73 0.2662 0.0192 *

Jupiter -36433-11-24 23:59 J -11585401.63 -11585401.50 -11585401.36 0.0509 0.0192

Jupiter -36432-02-22 11:45 J -11585312.09 -11585312.01 -11585311.92 0.0505 0.0397

Earth -36430-04-27 17:16 J -11584517.89 -11584517.78 -11584517.67 0.2668 0.1444

Moon -36430-04-27 17:59 J -11584517.86 -11584517.75 -11584517.65 0.2673 0.1417 *

Venus -36429-10-05 00:42 J -11583991.59 -11583991.47 -11583991.35 0.3765 0.0265

Jupiter -36426-04-25 11:59 J -11583059.15 -11583059.00 -11583058.84 0.0520 0.0079

Saturn -36425-07-09 20:38 J -11582617.76 -11582617.64 -11582617.51 0.0282 0.0175

Mars -36425-08-08 09:06 J -11582588.22 -11582588.12 -11582588.02 0.1870 0.1106

Venus -36425-10-06 11:02 J -11582529.15 -11582529.04 -11582528.93 0.3610 0.1777

Saturn -36425-10-06 13:11 J -11582529.10 -11582528.95 -11582528.79 0.0281 0.0051 *

Saturn -36424-01-03 05:30 J -11582440.42 -11582440.27 -11582440.12 0.0281 0.0071

Saturn -36424-04-01 21:21 J -11582351.72 -11582351.61 -11582351.50 0.0281 0.0189

Mars -36424-06-22 16:04 J -11582269.94 -11582269.83 -11582269.73 0.1654 0.1187

Moon -36423-04-20 03:21 J -11581968.46 -11581968.36 -11581968.25 0.2674 0.1415

Earth -36423-04-20 04:33 J -11581968.42 -11581968.31 -11581968.21 0.2673 0.1398 *

Mars -36422-05-29 17:45 J -11581563.82 -11581563.76 -11581563.71 0.1640 0.1501

Jupiter -36421-09-13 02:09 J -11581091.51 -11581091.41 -11581091.30 0.0510 0.0347

Jupiter -36421-12-11 13:40 J -11581002.06 -11581001.93 -11581001.80 0.0506 0.0237

Earth -36420-10-29 13:26 J -11580680.05 -11580679.94 -11580679.82 0.2664 0.1162

Moon -36420-10-29 14:09 J -11580680.02 -11580679.91 -11580679.80 0.2670 0.1293 *

Venus -36419-04-22 07:11 J -11580505.31 -11580505.20 -11580505.08 0.3613 0.1327

Earth -36417-04-29 16:04 J -11579766.87 -11579766.83 -11579766.79 0.2666 0.2504

Jupiter -36414-02-11 11:59 J -11578749.13 -11578749.00 -11578748.86 0.0519 0.0255

Jupiter -36414-05-12 09:21 J -11578659.18 -11578659.11 -11578659.03 0.0523 0.0447

Mars -36414-12-05 16:04 J -11578451.90 -11578451.83 -11578451.76 0.1884 0.1538

Mars -36413-10-18 23:45 J -11578133.63 -11578133.51 -11578133.38 0.1643 0.0887

Moon -36413-10-21 23:02 J -11578130.64 -11578130.54 -11578130.45 0.2661 0.1819

Earth -36413-10-21 23:59 J -11578130.60 -11578130.50 -11578130.40 0.2659 0.1703 *

Neptune -36411-03-29 05:16 J -11577607.29 -11577607.28 -11577607.26 0.0088 0.0088

Neptune -36411-06-25 07:54 J -11577519.24 -11577519.17 -11577519.10 0.0088 0.0080

Neptune -36411-09-21 10:18 J -11577431.16 -11577431.07 -11577430.96 0.0088 0.0072

Neptune -36411-12-18 12:57 J -11577343.07 -11577342.96 -11577342.83 0.0088 0.0064

Neptune -36410-03-16 15:35 J -11577254.98 -11577254.85 -11577254.71 0.0088 0.0056

Saturn -36410-04-21 05:45 J -11577219.32 -11577219.26 -11577219.20 0.0277 0.0249

Moon -36410-04-23 01:40 J -11577217.56 -11577217.43 -11577217.31 0.2675 0.0480

Earth -36410-04-23 02:23 J -11577217.53 -11577217.40 -11577217.28 0.2671 0.0428 *

Neptune -36410-06-12 18:14 J -11577166.88 -11577166.74 -11577166.59 0.0088 0.0048

Saturn -36410-07-18 19:54 J -11577130.80 -11577130.67 -11577130.54 0.0277 0.0141

Neptune -36410-09-08 20:52 J -11577078.78 -11577078.63 -11577078.48 0.0088 0.0040

Saturn -36410-10-15 10:33 J -11577042.21 -11577042.06 -11577041.91 0.0277 0.0030

Neptune -36410-12-05 23:30 J -11576990.68 -11576990.52 -11576990.36 0.0088 0.0032

Saturn -36409-01-12 01:26 J -11576953.58 -11576953.44 -11576953.29 0.0278 0.0084

Neptune -36409-03-03 01:40 J -11576902.58 -11576902.43 -11576902.25 0.0088 0.0025

Saturn -36409-04-09 16:47 J -11576864.90 -11576864.80 -11576864.69 0.0278 0.0200

Neptune -36409-05-30 04:18 J -11576814.48 -11576814.32 -11576814.15 0.0088 0.0016

Jupiter -36409-07-02 05:02 J -11576781.33 -11576781.29 -11576781.26 0.0511 0.0493

Neptune -36409-08-26 06:57 J -11576726.37 -11576726.21 -11576726.04 0.0088 0.0008

Jupiter -36409-09-29 16:04 J -11576691.97 -11576691.83 -11576691.68 0.0507 0.0089

Neptune -36409-11-22 09:35 J -11576638.27 -11576638.10 -11576637.93 0.0088 0.0001

Neptune -36408-02-18 11:59 J -11576550.17 -11576550.00 -11576549.83 0.0088 0.0008

Neptune -36408-05-17 14:23 J -11576462.06 -11576461.90 -11576461.73 0.0088 0.0016

Neptune -36408-08-13 16:47 J -11576373.95 -11576373.80 -11576373.63 0.0088 0.0023

Neptune -36408-11-09 19:26 J -11576285.84 -11576285.69 -11576285.53 0.0088 0.0031

Uranus -36408-11-11 09:50 J -11576284.13 -11576284.09 -11576284.02 0.0133 0.0125

Neptune -36407-02-05 21:50 J -11576197.74 -11576197.59 -11576197.44 0.0088 0.0038

Uranus -36407-02-07 14:52 J -11576195.97 -11576195.88 -11576195.77 0.0133 0.0103

Neptune -36407-05-04 23:59 J -11576109.63 -11576109.50 -11576109.34 0.0088 0.0047

Uranus -36407-05-06 19:26 J -11576107.81 -11576107.69 -11576107.55 0.0133 0.0082

Neptune -36407-08-01 02:38 J -11576021.52 -11576021.39 -11576021.25 0.0088 0.0054

Uranus -36407-08-03 00:14 J -11576019.63 -11576019.49 -11576019.34 0.0133 0.0061

Neptune -36407-10-28 04:47 J -11575933.40 -11575933.30 -11575933.16 0.0088 0.0062

Uranus -36407-10-30 04:47 J -11575931.44 -11575931.30 -11575931.14 0.0133 0.0040

Earth -36407-11-01 11:16 J -11575929.11 -11575929.03 -11575928.96 0.2666 0.2119

Moon -36407-11-01 12:14 J -11575929.06 -11575928.99 -11575928.91 0.2665 0.2114 *

Neptune -36406-01-24 07:26 J -11575845.28 -11575845.19 -11575845.08 0.0088 0.0069

Uranus -36406-01-26 09:35 J -11575843.26 -11575843.10 -11575842.94 0.0133 0.0019

Neptune -36406-04-22 09:35 J -11575757.16 -11575757.10 -11575757.00 0.0088 0.0077

Uranus -36406-04-24 14:09 J -11575755.07 -11575754.91 -11575754.75 0.0133 0.0003

Neptune -36406-07-19 12:14 J -11575669.03 -11575668.99 -11575668.93 0.0088 0.0084

Uranus -36406-07-21 18:42 J -11575666.88 -11575666.72 -11575666.57 0.0132 0.0023

Uranus -36406-10-17 23:02 J -11575578.69 -11575578.54 -11575578.39 0.0132 0.0043

Uranus -36405-01-14 03:21 J -11575490.49 -11575490.36 -11575490.22 0.0132 0.0063

Uranus -36405-04-11 07:40 J -11575402.29 -11575402.18 -11575402.05 0.0132 0.0084

Uranus -36405-07-08 11:59 J -11575314.08 -11575314.00 -11575313.89 0.0132 0.0103

Uranus -36405-10-04 16:33 J -11575225.86 -11575225.81 -11575225.75 0.0132 0.0123

Mars -36404-04-26 21:35 J -11575021.72 -11575021.60 -11575021.48 0.1879 0.0667

Mars -36403-03-11 05:30 J -11574703.41 -11574703.27 -11574703.12 0.1647 0.0252

Jupiter -36403-11-30 10:47 J -11574439.12 -11574439.05 -11574438.97 0.0518 0.0448

Jupiter -36402-02-28 08:38 J -11574349.27 -11574349.14 -11574349.00 0.0522 0.0259

Moon -36400-10-24 21:50 J -11573379.71 -11573379.59 -11573379.46 0.2666 0.0731

Earth -36400-10-24 22:33 J -11573379.68 -11573379.56 -11573379.43 0.2661 0.0662 *

Moon -36397-04-25 00:28 J -11572466.61 -11572466.48 -11572466.36 0.2677 0.0561

Earth -36397-04-25 00:28 J -11572466.61 -11572466.48 -11572466.36 0.2669 0.0594 *

Jupiter -36397-07-18 19:11 J -11572381.85 -11572381.70 -11572381.56 0.0508 0.0054

Saturn -36396-11-26 23:45 J -11571885.63 -11571885.51 -11571885.40 0.0282 0.0195

Saturn -36395-02-23 16:18 J -11571796.97 -11571796.82 -11571796.67 0.0282 0.0070

Saturn -36395-05-23 08:38 J -11571708.30 -11571708.14 -11571707.99 0.0281 0.0052

Saturn -36395-08-20 00:28 J -11571619.60 -11571619.48 -11571619.36 0.0281 0.0170

Mars -36395-09-17 03:21 J -11571591.49 -11571591.36 -11571591.24 0.1874 0.0201

Mars -36394-08-01 11:02 J -11571273.18 -11571273.04 -11571272.89 0.1650 0.0418

Jupiter -36391-12-17 08:52 J -11570039.28 -11570039.13 -11570038.97 0.0521 0.0084

Moon -36390-04-18 11:30 J -11569917.10 -11569917.02 -11569916.95 0.2671 0.2158

Earth -36390-04-18 12:14 J -11569917.06 -11569916.99 -11569916.92 0.2674 0.2175 *

Earth -36387-10-27 20:52 J -11568628.76 -11568628.63 -11568628.50 0.2663 0.0354

Moon -36387-10-27 21:06 J -11568628.74 -11568628.62 -11568628.49 0.2669 0.0413 *

Mars -36385-02-07 09:21 J -11568161.21 -11568161.11 -11568161.00 0.1870 0.1015

Jupiter -36385-05-06 22:04 J -11568071.71 -11568071.58 -11568071.45 0.0509 0.0193

Jupiter -36385-08-04 09:50 J -11567982.18 -11567982.09 -11567982.00 0.0505 0.0395

Mars -36385-12-21 16:18 J -11567842.93 -11567842.82 -11567842.71 0.1654 0.1102

Earth -36384-04-27 22:47 J -11567715.65 -11567715.55 -11567715.45 0.2668 0.1632

Moon -36384-04-27 23:30 J -11567715.61 -11567715.52 -11567715.42 0.2672 0.1749 *

Mars -36383-11-27 17:59 J -11567136.78 -11567136.75 -11567136.72 0.1640 0.1583

Saturn -36381-12-04 21:06 J -11566398.74 -11566398.62 -11566398.50 0.0277 0.0175

Saturn -36380-03-03 11:30 J -11566310.16 -11566310.02 -11566309.87 0.0277 0.0066

Saturn -36380-05-31 02:23 J -11566221.55 -11566221.40 -11566221.25 0.0278 0.0047

Saturn -36380-08-27 17:30 J -11566132.89 -11566132.77 -11566132.65 0.0278 0.0163

Earth -36380-10-20 06:42 J -11566079.25 -11566079.22 -11566079.19 0.2658 0.2584

Jupiter -36379-10-05 09:21 J -11565729.27 -11565729.11 -11565728.95 0.0520 0.0088

Venus -36378-10-27 02:52 J -11565342.48 -11565342.38 -11565342.28 0.3767 0.1948

Moon -36377-04-20 08:52 J -11565166.24 -11565166.13 -11565166.03 0.2674 0.1362

Earth -36377-04-20 09:50 J -11565166.20 -11565166.09 -11565165.98 0.2672 0.1221 *

Mars -36376-06-29 15:50 J -11564730.87 -11564730.84 -11564730.81 0.1864 0.1802

Mars -36374-06-05 16:18 J -11564024.88 -11564024.82 -11564024.76 0.1883 0.1634

Earth -36374-10-30 18:57 J -11563877.82 -11563877.71 -11563877.60 0.2664 0.1339

Moon -36374-10-30 19:40 J -11563877.79 -11563877.68 -11563877.57 0.2669 0.1322 *

Jupiter -36373-02-24 00:57 J -11563761.56 -11563761.46 -11563761.35 0.0510 0.0336

Mars -36373-04-19 00:14 J -11563706.61 -11563706.49 -11563706.38 0.1643 0.0970

Jupiter -36373-05-23 12:28 J -11563672.10 -11563671.98 -11563671.85 0.0506 0.0250

Venus -36372-05-11 23:16 J -11563318.63 -11563318.53 -11563318.42 0.3764 0.1529

Venus -36368-05-13 09:50 J -11561856.21 -11561856.09 -11561855.97 0.3610 0.0595

Jupiter -36367-07-24 10:04 J -11561419.22 -11561419.08 -11561418.95 0.0519 0.0257

Pluto -36367-09-02 07:26 J -11561379.23 -11561379.19 -11561379.12 0.0067 0.0063

Jupiter -36367-10-22 07:26 J -11561329.27 -11561329.19 -11561329.11 0.0523 0.0446

Moon -36367-10-23 04:33 J -11561328.42 -11561328.31 -11561328.20 0.2663 0.1526

Earth -36367-10-23 05:30 J -11561328.38 -11561328.27 -11561328.16 0.2660 0.1515 *

Pluto -36367-11-29 09:06 J -11561291.20 -11561291.12 -11561291.04 0.0067 0.0058

Pluto -36366-02-25 09:50 J -11561203.17 -11561203.09 -11561202.96 0.0067 0.0053

Saturn -36366-04-15 23:02 J -11561153.62 -11561153.54 -11561153.45 0.0282 0.0239

Pluto -36366-05-24 11:16 J -11561115.13 -11561115.03 -11561114.89 0.0067 0.0047

Saturn -36366-07-13 15:50 J -11561064.98 -11561064.84 -11561064.69 0.0281 0.0113

Pluto -36366-08-20 12:42 J -11561027.09 -11561026.97 -11561026.83 0.0068 0.0041

Saturn -36366-10-10 08:23 J -11560976.31 -11560976.15 -11560976.00 0.0281 0.0011

Pluto -36366-11-16 13:54 J -11560939.05 -11560938.92 -11560938.76 0.0068 0.0036

Saturn -36365-01-07 00:14 J -11560887.62 -11560887.49 -11560887.35 0.0281 0.0130

Pluto -36365-02-12 15:21 J -11560851.00 -11560850.86 -11560850.70 0.0068 0.0030

Saturn -36365-04-04 16:04 J -11560798.90 -11560798.83 -11560798.76 0.0281 0.0246

Pluto -36365-05-10 16:33 J -11560762.95 -11560762.81 -11560762.64 0.0068 0.0024

Pluto -36365-08-06 17:59 J -11560674.90 -11560674.75 -11560674.58 0.0068 0.0018

Mars -36365-10-25 21:35 J -11560594.72 -11560594.60 -11560594.49 0.1879 0.0738

Pluto -36365-11-02 19:26 J -11560586.85 -11560586.69 -11560586.52 0.0068 0.0012

Pluto -36364-01-29 20:52 J -11560498.79 -11560498.63 -11560498.46 0.0068 0.0006

Uranus -36364-04-21 16:18 J -11560416.89 -11560416.82 -11560416.74 0.0146 0.0126

Moon -36364-04-23 07:11 J -11560415.33 -11560415.20 -11560415.07 0.2676 0.0240

Earth -36364-04-23 07:40 J -11560415.31 -11560415.18 -11560415.05 0.2671 0.0239 *

Pluto -36364-04-27 22:18 J -11560410.74 -11560410.57 -11560410.40 0.0068 0.0001

Uranus -36364-07-18 21:35 J -11560328.71 -11560328.60 -11560328.49 0.0146 0.0100

Pluto -36364-07-24 23:45 J -11560322.68 -11560322.51 -11560322.34 0.0068 0.0006

Mars -36364-09-09 05:59 J -11560276.39 -11560276.25 -11560276.11 0.1647 0.0336

Uranus -36364-10-15 02:38 J -11560240.52 -11560240.39 -11560240.25 0.0146 0.0074

Pluto -36364-10-21 00:57 J -11560234.62 -11560234.46 -11560234.29 0.0068 0.0013

Uranus -36363-01-11 07:54 J -11560152.31 -11560152.17 -11560152.02 0.0146 0.0048

Pluto -36363-01-17 02:23 J -11560146.56 -11560146.40 -11560146.23 0.0069 0.0019

Uranus -36363-04-09 13:11 J -11560064.10 -11560063.95 -11560063.79 0.0146 0.0021

Pluto -36363-04-15 03:50 J -11560058.49 -11560058.34 -11560058.17 0.0069 0.0025

Uranus -36363-07-06 18:42 J -11559975.88 -11559975.72 -11559975.57 0.0146 0.0007

Pluto -36363-07-12 05:16 J -11559970.42 -11559970.28 -11559970.12 0.0069 0.0031

Uranus -36363-10-02 23:59 J -11559887.65 -11559887.50 -11559887.35 0.0146 0.0033

Pluto -36363-10-08 06:42 J -11559882.36 -11559882.22 -11559882.07 0.0069 0.0037

Venus -36363-11-27 05:59 J -11559832.34 -11559832.25 -11559832.17 0.3613 0.2479

Uranus -36363-12-30 05:30 J -11559799.41 -11559799.27 -11559799.13 0.0146 0.0061

Pluto -36362-01-04 08:23 J -11559794.28 -11559794.15 -11559794.02 0.0069 0.0043

Uranus -36362-03-28 10:47 J -11559711.17 -11559711.05 -11559710.92 0.0146 0.0089

Pluto -36362-04-02 09:21 J -11559706.21 -11559706.11 -11559705.97 0.0069 0.0050

Uranus -36362-06-24 16:18 J -11559622.90 -11559622.82 -11559622.72 0.0146 0.0117

Pluto -36362-06-29 11:02 J -11559618.12 -11559618.04 -11559617.93 0.0069 0.0056

Uranus -36362-09-20 22:04 J -11559534.60 -11559534.58 -11559534.56 0.0146 0.0145

Pluto -36362-09-25 12:42 J -11559530.03 -11559529.97 -11559529.89 0.0069 0.0063

Jupiter -36362-12-13 03:21 J -11559451.40 -11559451.36 -11559451.32 0.0511 0.0488

Pluto -36362-12-22 14:09 J -11559441.91 -11559441.91 -11559441.90 0.0069 0.0069

Jupiter -36361-03-11 14:38 J -11559362.04 -11559361.89 -11559361.75 0.0507 0.0093

Earth -36361-11-01 16:33 J -11559126.87 -11559126.81 -11559126.75 0.2666 0.2287

Moon -36361-11-01 17:30 J -11559126.81 -11559126.77 -11559126.72 0.2665 0.2439 *

Mars -36355-03-18 03:35 J -11557164.48 -11557164.35 -11557164.23 0.1875 0.0120

Jupiter -36355-05-12 09:50 J -11557109.17 -11557109.09 -11557109.00 0.0518 0.0433

Jupiter -36355-08-10 07:40 J -11557019.31 -11557019.18 -11557019.04 0.0522 0.0274

Mars -36354-01-30 11:30 J -11556846.16 -11556846.02 -11556845.87 0.1650 0.0324

Moon -36354-10-26 03:35 J -11556577.48 -11556577.35 -11556577.23 0.2667 0.0525

Earth -36354-10-26 04:04 J -11556577.46 -11556577.33 -11556577.20 0.2661 0.0477 *

Saturn -36351-04-23 23:16 J -11555666.63 -11555666.53 -11555666.42 0.0277 0.0200

Moon -36351-04-26 05:59 J -11555664.38 -11555664.25 -11555664.13 0.2676 0.0800

Earth -36351-04-26 05:45 J -11555664.38 -11555664.26 -11555664.13 0.2669 0.0781 *

Saturn -36351-07-21 13:40 J -11555578.07 -11555577.93 -11555577.78 0.0277 0.0091

Saturn -36351-10-18 04:33 J -11555489.46 -11555489.31 -11555489.16 0.0278 0.0022

Saturn -36350-01-14 19:26 J -11555400.82 -11555400.69 -11555400.55 0.0278 0.0138

Saturn -36350-04-13 11:02 J -11555312.10 -11555312.04 -11555311.98 0.0278 0.0255

Jupiter -36350-12-29 17:02 J -11555051.93 -11555051.79 -11555051.65 0.0508 0.0056

Mars -36346-08-08 09:35 J -11553734.21 -11553734.10 -11553733.99 0.1869 0.0924

Mars -36345-06-21 16:47 J -11553415.92 -11553415.80 -11553415.69 0.1654 0.1009

Moon -36344-04-18 16:33 J -11553114.88 -11553114.81 -11553114.73 0.2672 0.2138

Earth -36344-04-18 17:30 J -11553114.85 -11553114.77 -11553114.68 0.2674 0.2003 *

Jupiter -36343-05-29 06:57 J -11552709.36 -11552709.21 -11552709.05 0.0521 0.0084

Earth -36341-10-28 02:23 J -11551826.53 -11551826.40 -11551826.28 0.2663 0.0539

Moon -36341-10-28 02:38 J -11551826.52 -11551826.39 -11551826.27 0.2670 0.0533 *

Earth -36338-04-29 04:18 J -11550913.41 -11550913.32 -11550913.23 0.2667 0.1820

Moon -36338-04-29 05:16 J -11550913.38 -11550913.28 -11550913.19 0.2671 0.1846 *

Jupiter -36338-10-17 20:09 J -11550741.80 -11550741.66 -11550741.53 0.0509 0.0197

Jupiter -36337-01-15 07:54 J -11550652.26 -11550652.17 -11550652.08 0.0506 0.0392

Saturn -36337-09-02 01:54 J -11550421.47 -11550421.42 -11550421.35 0.0282 0.0260

Saturn -36337-11-29 18:57 J -11550332.85 -11550332.71 -11550332.57 0.0282 0.0133

Mars -36337-12-28 15:50 J -11550303.88 -11550303.84 -11550303.79 0.1864 0.1719

Saturn -36336-02-26 11:30 J -11550244.18 -11550244.02 -11550243.86 0.0282 0.0010

Saturn -36336-05-26 03:35 J -11550155.49 -11550155.35 -11550155.21 0.0281 0.0111

Saturn -36336-08-22 19:11 J -11550066.79 -11550066.70 -11550066.61 0.0281 0.0228

Mars -36335-12-04 16:18 J -11549597.87 -11549597.82 -11549597.77 0.1883 0.1721

Mars -36334-10-19 00:28 J -11549279.59 -11549279.48 -11549279.37 0.1643 0.1055

Moon -36334-10-21 11:02 J -11549277.09 -11549277.04 -11549276.98 0.2657 0.2391

Earth -36334-10-21 12:14 J -11549277.05 -11549276.99 -11549276.94 0.2658 0.2396 *

Jupiter -36331-03-17 06:57 J -11548399.36 -11548399.21 -11548399.05 0.0520 0.0093

Moon -36331-04-21 14:09 J -11548364.02 -11548363.91 -11548363.79 0.2674 0.1047

Earth -36331-04-21 15:06 J -11548363.98 -11548363.87 -11548363.75 0.2672 0.1049 *

Neptune -36330-09-27 04:18 J -11547840.35 -11547840.32 -11547840.27 0.0089 0.0085

Neptune -36330-12-24 05:59 J -11547752.31 -11547752.25 -11547752.17 0.0089 0.0078

Neptune -36329-03-21 07:54 J -11547664.25 -11547664.17 -11547664.08 0.0089 0.0071

Neptune -36329-06-17 09:50 J -11547576.19 -11547576.09 -11547575.99 0.0089 0.0064

Neptune -36329-09-13 11:16 J -11547488.13 -11547488.03 -11547487.91 0.0089 0.0058

Neptune -36329-12-10 12:57 J -11547400.06 -11547399.96 -11547399.82 0.0089 0.0051

Neptune -36328-03-08 14:52 J -11547312.00 -11547311.88 -11547311.74 0.0089 0.0044

Neptune -36328-06-04 16:47 J -11547223.93 -11547223.80 -11547223.66 0.0089 0.0037

Neptune -36328-08-31 18:28 J -11547135.86 -11547135.73 -11547135.58 0.0089 0.0030

Earth -36328-10-31 00:14 J -11547075.59 -11547075.49 -11547075.38 0.2665 0.1512

Moon -36328-10-31 01:11 J -11547075.55 -11547075.45 -11547075.35 0.2668 0.1629 *

Neptune -36328-11-27 20:23 J -11547047.79 -11547047.65 -11547047.50 0.0089 0.0023

Neptune -36327-02-23 22:18 J -11546959.72 -11546959.57 -11546959.42 0.0089 0.0016

Neptune -36327-05-22 23:59 J -11546871.64 -11546871.50 -11546871.35 0.0089 0.0009

Neptune -36327-08-19 01:54 J -11546783.57 -11546783.42 -11546783.27 0.0089 0.0002

Neptune -36327-11-15 03:50 J -11546695.49 -11546695.34 -11546695.19 0.0089 0.0005

Neptune -36326-02-11 05:30 J -11546607.41 -11546607.27 -11546607.12 0.0089 0.0013

Neptune -36326-05-10 07:26 J -11546519.33 -11546519.19 -11546519.04 0.0089 0.0020

Jupiter -36326-08-05 23:16 J -11546431.64 -11546431.53 -11546431.43 0.0510 0.0337

Neptune -36326-08-06 09:06 J -11546431.25 -11546431.12 -11546430.97 0.0089 0.0027

Neptune -36326-11-02 11:02 J -11546343.17 -11546343.04 -11546342.89 0.0089 0.0034

Jupiter -36326-11-03 10:33 J -11546342.18 -11546342.06 -11546341.93 0.0506 0.0249

Neptune -36325-01-29 12:57 J -11546255.08 -11546254.96 -11546254.82 0.0089 0.0041

Mars -36325-04-25 21:50 J -11546167.71 -11546167.59 -11546167.48 0.1879 0.0836

Neptune -36325-04-26 14:52 J -11546167.00 -11546166.88 -11546166.75 0.0089 0.0048

Neptune -36325-07-23 16:47 J -11546078.91 -11546078.80 -11546078.68 0.0089 0.0055

Neptune -36325-10-19 18:28 J -11545990.82 -11545990.73 -11545990.61 0.0089 0.0063

Neptune -36324-01-15 20:23 J -11545902.73 -11545902.65 -11545902.54 0.0089 0.0070

Mars -36324-03-10 06:14 J -11545849.38 -11545849.24 -11545849.09 0.1647 0.0422

Neptune -36324-04-13 22:33 J -11545814.63 -11545814.56 -11545814.48 0.0089 0.0077

Neptune -36324-07-11 00:14 J -11545726.52 -11545726.49 -11545726.43 0.0089 0.0085

Uranus -36324-12-01 17:59 J -11545582.82 -11545582.75 -11545582.66 0.0133 0.0115

Uranus -36323-02-27 22:47 J -11545494.66 -11545494.55 -11545494.43 0.0133 0.0094

Uranus -36323-05-27 03:21 J -11545406.48 -11545406.36 -11545406.21 0.0133 0.0073

Uranus -36323-08-23 08:23 J -11545318.30 -11545318.15 -11545318.01 0.0133 0.0051

Uranus -36323-11-19 12:57 J -11545230.12 -11545229.96 -11545229.81 0.0133 0.0030

Uranus -36322-02-15 17:30 J -11545141.93 -11545141.77 -11545141.61 0.0133 0.0009

Uranus -36322-05-14 22:04 J -11545053.74 -11545053.58 -11545053.42 0.0132 0.0011

Uranus -36322-08-11 02:23 J -11544965.55 -11544965.40 -11544965.24 0.0132 0.0032

Saturn -36322-09-11 00:42 J -11544934.55 -11544934.47 -11544934.39 0.0277 0.0232

Uranus -36322-11-07 06:57 J -11544877.35 -11544877.21 -11544877.06 0.0132 0.0052

Saturn -36322-12-08 14:52 J -11544846.01 -11544845.88 -11544845.74 0.0277 0.0124

Uranus -36321-02-03 11:16 J -11544789.15 -11544789.03 -11544788.89 0.0132 0.0073

Saturn -36321-03-06 05:30 J -11544757.42 -11544757.27 -11544757.12 0.0277 0.0014

Uranus -36321-05-01 15:35 J -11544700.95 -11544700.85 -11544700.73 0.0132 0.0093

Venus -36321-06-02 01:26 J -11544669.56 -11544669.44 -11544669.32 0.3766 0.0700

Saturn -36321-06-02 20:23 J -11544668.79 -11544668.65 -11544668.50 0.0278 0.0102

Uranus -36321-07-28 19:54 J -11544612.74 -11544612.67 -11544612.58 0.0132 0.0112

Saturn -36321-08-30 11:45 J -11544580.10 -11544580.01 -11544579.91 0.0278 0.0218

Moon -36321-10-23 10:04 J -11544526.19 -11544526.08 -11544525.97 0.2663 0.1477

Earth -36321-10-23 11:02 J -11544526.15 -11544526.04 -11544525.93 0.2660 0.1329 *

Uranus -36321-10-25 00:28 J -11544524.49 -11544524.48 -11544524.47 0.0132 0.0132

Jupiter -36319-01-03 07:11 J -11544089.34 -11544089.20 -11544089.06 0.0519 0.0266

Jupiter -36319-04-03 04:33 J -11543999.39 -11543999.31 -11543999.22 0.0523 0.0436

Moon -36318-04-24 12:42 J -11543613.10 -11543612.97 -11543612.85 0.2677 0.0150

Earth -36318-04-24 13:11 J -11543613.08 -11543612.95 -11543612.83 0.2670 0.0092 *

Venus -36317-06-03 12:14 J -11543207.08 -11543206.99 -11543206.91 0.3608 0.2566

Mars -36316-09-16 03:35 J -11542737.48 -11542737.35 -11542737.23 0.1874 0.0048

Venus -36316-12-16 22:04 J -11542645.65 -11542645.58 -11542645.50 0.3763 0.2817

Mars -36315-07-31 11:45 J -11542419.15 -11542419.01 -11542418.86 0.1651 0.0242

Earth -36315-11-02 21:50 J -11542324.63 -11542324.59 -11542324.54 0.2666 0.2462

Moon -36315-11-02 23:02 J -11542324.59 -11542324.54 -11542324.50 0.2666 0.2452 *

Jupiter -36314-05-25 02:09 J -11542121.45 -11542121.41 -11542121.36 0.0511 0.0477

Jupiter -36314-08-22 13:26 J -11542032.08 -11542031.94 -11542031.80 0.0507 0.0105

Venus -36312-12-18 08:23 J -11541183.27 -11541183.15 -11541183.03 0.3611 0.0581

Jupiter -36308-10-22 07:40 J -11539779.26 -11539779.18 -11539779.09 0.0518 0.0435

Moon -36308-10-26 09:06 J -11539775.24 -11539775.12 -11539774.99 0.2668 0.0294

Earth -36308-10-26 09:35 J -11539775.23 -11539775.10 -11539774.97 0.2661 0.0301 *

Jupiter -36307-01-20 05:45 J -11539689.39 -11539689.26 -11539689.13 0.0522 0.0273

Saturn -36307-04-18 18:14 J -11539600.86 -11539600.74 -11539600.61 0.0281 0.0178

Saturn -36307-07-16 11:02 J -11539512.20 -11539512.04 -11539511.89 0.0281 0.0054

Saturn -36307-10-13 03:06 J -11539423.52 -11539423.37 -11539423.21 0.0281 0.0068

Saturn -36306-01-09 18:57 J -11539334.82 -11539334.71 -11539334.59 0.0281 0.0187

Mars -36306-02-06 09:35 J -11539307.22 -11539307.10 -11539306.99 0.1870 0.0850

Venus -36306-07-04 04:33 J -11539159.32 -11539159.31 -11539159.31 0.3614 0.3606

Mars -36306-12-21 17:16 J -11538988.91 -11538988.78 -11538988.66 0.1654 0.0910

Earth -36305-04-26 11:16 J -11538862.15 -11538862.03 -11538861.91 0.2669 0.0963

Moon -36305-04-26 11:30 J -11538862.14 -11538862.02 -11538861.90 0.2675 0.0997 *

Jupiter -36302-06-10 15:35 J -11537721.99 -11537721.85 -11537721.71 0.0508 0.0050

Moon -36298-04-19 21:50 J -11536312.68 -11536312.59 -11536312.50 0.2672 0.1836

Earth -36298-04-19 23:02 J -11536312.64 -11536312.54 -11536312.45 0.2674 0.1835 *

Mars -36297-06-28 16:04 J -11535876.89 -11535876.83 -11535876.77 0.1865 0.1627

Mars -36296-05-12 22:04 J -11535558.61 -11535558.58 -11535558.56 0.1658 0.1621

Jupiter -36296-11-08 05:59 J -11535379.40 -11535379.25 -11535379.09 0.0521 0.0101

Mars -36295-06-04 16:33 J -11535170.84 -11535170.81 -11535170.78 0.1884 0.1813

Earth -36295-10-29 07:40 J -11535024.30 -11535024.18 -11535024.05 0.2663 0.0714

Moon -36295-10-29 08:09 J -11535024.29 -11535024.16 -11535024.04 0.2670 0.0753 *

Mars -36294-04-19 00:57 J -11534852.57 -11534852.46 -11534852.36 0.1643 0.1145

Saturn -36292-01-28 02:23 J -11534202.44 -11534202.40 -11534202.35 0.0277 0.0261

Saturn -36292-04-26 16:33 J -11534113.93 -11534113.81 -11534113.68 0.0277 0.0153

Earth -36292-04-29 09:50 J -11534111.17 -11534111.09 -11534111.01 0.2667 0.2011

Moon -36292-04-29 10:47 J -11534111.13 -11534111.05 -11534110.98 0.2671 0.2119 *

Saturn -36292-07-24 07:11 J -11534025.35 -11534025.20 -11534025.05 0.0278 0.0042

Saturn -36292-10-20 22:04 J -11533936.73 -11533936.58 -11533936.43 0.0278 0.0072

Saturn -36291-01-17 13:11 J -11533848.06 -11533847.95 -11533847.83 0.0278 0.0188

Jupiter -36290-03-29 18:14 J -11533411.87 -11533411.74 -11533411.61 0.0509 0.0197

Jupiter -36290-06-27 05:59 J -11533322.34 -11533322.25 -11533322.16 0.0505 0.0391

Moon -36288-10-21 16:33 J -11532474.87 -11532474.81 -11532474.75 0.2659 0.2356

Earth -36288-10-21 17:45 J -11532474.83 -11532474.76 -11532474.69 0.2659 0.2204 *

Mars -36286-10-25 22:04 J -11531740.69 -11531740.58 -11531740.47 0.1879 0.0931

Moon -36285-04-21 19:40 J -11531561.79 -11531561.68 -11531561.56 0.2675 0.1006

Earth -36285-04-21 20:38 J -11531561.76 -11531561.64 -11531561.52 0.2672 0.0864 *

Mars -36285-09-08 06:42 J -11531422.36 -11531422.22 -11531422.08 0.1647 0.0507

Jupiter -36284-08-27 05:16 J -11531069.44 -11531069.28 -11531069.13 0.0520 0.0089

Earth -36282-11-01 05:30 J -11530273.36 -11530273.27 -11530273.17 0.2665 0.1688

Moon -36282-11-01 06:28 J -11530273.32 -11530273.23 -11530273.13 0.2667 0.1724 *

Pluto -36281-10-20 07:11 J -11529919.24 -11529919.20 -11529919.14 0.0077 0.0072

Pluto -36280-01-16 08:52 J -11529831.21 -11529831.13 -11529831.05 0.0077 0.0064

Uranus -36280-02-12 19:26 J -11529803.73 -11529803.69 -11529803.66 0.0146 0.0141

Pluto -36280-04-14 10:04 J -11529743.17 -11529743.08 -11529742.97 0.0077 0.0057

Uranus -36280-05-12 00:14 J -11529715.57 -11529715.49 -11529715.39 0.0146 0.0116

Pluto -36280-07-11 11:30 J -11529655.12 -11529655.02 -11529654.89 0.0077 0.0049

Uranus -36280-08-08 05:30 J -11529627.38 -11529627.27 -11529627.14 0.0146 0.0090

Pluto -36280-10-07 13:11 J -11529567.08 -11529566.95 -11529566.82 0.0076 0.0041

Uranus -36280-11-04 10:47 J -11529539.19 -11529539.05 -11529538.91 0.0146 0.0063

Pluto -36279-01-03 14:23 J -11529479.03 -11529478.90 -11529478.76 0.0076 0.0033

Uranus -36279-01-31 16:04 J -11529450.98 -11529450.83 -11529450.68 0.0146 0.0037

Pluto -36279-04-01 15:50 J -11529390.98 -11529390.84 -11529390.70 0.0076 0.0026

Uranus -36279-04-29 21:21 J -11529362.76 -11529362.61 -11529362.45 0.0146 0.0010

Pluto -36279-06-28 17:16 J -11529302.92 -11529302.78 -11529302.63 0.0076 0.0018

Uranus -36279-07-27 02:52 J -11529274.54 -11529274.38 -11529274.23 0.0146 0.0018

Pluto -36279-09-24 18:28 J -11529214.87 -11529214.73 -11529214.58 0.0076 0.0011

Uranus -36279-10-23 08:09 J -11529186.31 -11529186.16 -11529186.01 0.0146 0.0044

Pluto -36279-12-21 19:54 J -11529126.82 -11529126.67 -11529126.52 0.0076 0.0003

Jupiter -36278-01-15 21:06 J -11529101.72 -11529101.62 -11529101.51 0.0510 0.0339

Uranus -36278-01-19 13:26 J -11529098.07 -11529097.94 -11529097.80 0.0146 0.0072

Pluto -36278-03-19 21:06 J -11529038.76 -11529038.62 -11529038.47 0.0076 0.0005

Jupiter -36278-04-15 08:38 J -11529012.26 -11529012.14 -11529012.01 0.0507 0.0248

Uranus -36278-04-17 19:11 J -11529009.81 -11529009.70 -11529009.59 0.0146 0.0100

Pluto -36278-06-15 22:33 J -11528950.71 -11528950.56 -11528950.41 0.0075 0.0011

Uranus -36278-07-15 00:42 J -11528921.54 -11528921.47 -11528921.39 0.0146 0.0128

Saturn -36278-09-05 21:06 J -11528868.72 -11528868.62 -11528868.50 0.0282 0.0200

Pluto -36278-09-11 23:45 J -11528862.65 -11528862.51 -11528862.36 0.0075 0.0018

Saturn -36278-12-03 13:54 J -11528780.07 -11528779.92 -11528779.77 0.0282 0.0075

Pluto -36278-12-09 00:57 J -11528774.59 -11528774.46 -11528774.31 0.0075 0.0026

Saturn -36277-03-01 06:14 J -11528691.39 -11528691.24 -11528691.08 0.0281 0.0048

Pluto -36277-03-06 02:23 J -11528686.53 -11528686.40 -11528686.27 0.0075 0.0032

Saturn -36277-05-28 22:04 J -11528602.70 -11528602.58 -11528602.45 0.0281 0.0167

Pluto -36277-06-02 03:35 J -11528598.47 -11528598.35 -11528598.22 0.0075 0.0039

Pluto -36277-08-29 04:47 J -11528510.41 -11528510.30 -11528510.18 0.0075 0.0046

Pluto -36277-11-25 05:59 J -11528422.35 -11528422.25 -11528422.14 0.0075 0.0053

Pluto -36276-02-21 07:11 J -11528334.28 -11528334.20 -11528334.11 0.0075 0.0060

Mars -36276-03-17 03:35 J -11528310.48 -11528310.35 -11528310.22 0.1874 0.0071

Pluto -36276-05-20 08:09 J -11528246.21 -11528246.16 -11528246.08 0.0074 0.0067

Pluto -36276-08-16 09:21 J -11528158.12 -11528158.11 -11528158.07 0.0074 0.0073

Mars -36275-01-29 12:14 J -11527992.13 -11527991.99 -11527991.84 0.1650 0.0148

Moon -36275-10-24 15:35 J -11527723.97 -11527723.85 -11527723.74 0.2664 0.1139

Earth -36275-10-24 16:33 J -11527723.93 -11527723.81 -11527723.70 0.2660 0.1146 *

Moon -36272-04-24 18:14 J -11526810.87 -11526810.74 -11526810.62 0.2677 0.0175

Earth -36272-04-24 18:28 J -11526810.85 -11526810.73 -11526810.60 0.2670 0.0160 *

Jupiter -36272-06-15 05:02 J -11526759.42 -11526759.29 -11526759.15 0.0519 0.0267

Jupiter -36272-09-13 02:38 J -11526669.47 -11526669.39 -11526669.31 0.0522 0.0434

Venus -36270-06-24 03:35 J -11526020.42 -11526020.35 -11526020.27 0.3769 0.2867

Earth -36269-11-03 03:21 J -11525522.38 -11525522.36 -11525522.35 0.2667 0.2630

Mars -36267-08-07 09:35 J -11524880.21 -11524880.10 -11524879.98 0.1869 0.0759

Jupiter -36267-11-04 00:28 J -11524791.53 -11524791.48 -11524791.43 0.0511 0.0476

Jupiter -36266-02-01 11:30 J -11524702.16 -11524702.02 -11524701.87 0.0507 0.0107

Mars -36266-06-21 17:30 J -11524561.90 -11524561.77 -11524561.64 0.1654 0.0828

Moon -36265-04-17 06:14 J -11524261.26 -11524261.24 -11524261.22 0.2670 0.2631

Earth -36265-04-17 06:42 J -11524261.24 -11524261.22 -11524261.19 0.2675 0.2600 *

Venus -36264-01-06 23:59 J -11523996.61 -11523996.50 -11523996.38 0.3766 0.0565

Saturn -36263-09-13 17:59 J -11523381.86 -11523381.75 -11523381.63 0.0277 0.0185

Saturn -36263-12-11 08:23 J -11523293.29 -11523293.15 -11523293.00 0.0277 0.0076

Saturn -36262-03-09 23:16 J -11523204.68 -11523204.53 -11523204.38 0.0277 0.0038

Saturn -36262-06-06 14:09 J -11523116.03 -11523115.91 -11523115.78 0.0278 0.0153

Saturn -36262-09-03 05:30 J -11523027.29 -11523027.27 -11523027.23 0.0278 0.0271

Moon -36262-10-27 14:52 J -11522973.01 -11522972.88 -11522972.75 0.2669 0.0183

Earth -36262-10-27 14:52 J -11522973.01 -11522972.88 -11522972.75 0.2662 0.0125 *

Venus -36260-01-08 10:47 J -11522534.16 -11522534.05 -11522533.93 0.3609 0.1372

Jupiter -36260-04-03 05:02 J -11522449.37 -11522449.29 -11522449.20 0.0518 0.0443

Jupiter -36260-07-02 03:06 J -11522359.50 -11522359.37 -11522359.23 0.0522 0.0265

Earth -36259-04-27 16:47 J -11522059.92 -11522059.80 -11522059.68 0.2668 0.1151

Moon -36259-04-27 17:16 J -11522059.90 -11522059.78 -11522059.67 0.2674 0.1148 *

Mars -36258-12-28 15:50 J -11521449.90 -11521449.84 -11521449.77 0.1864 0.1556

Mars -36257-11-10 22:18 J -11521131.62 -11521131.57 -11521131.51 0.1659 0.1526

Venus -36255-07-25 06:57 J -11520510.31 -11520510.21 -11520510.10 0.3612 0.1732

Mars -36255-10-18 01:11 J -11520425.55 -11520425.45 -11520425.36 0.1644 0.1225

Jupiter -36255-11-20 14:38 J -11520392.04 -11520391.89 -11520391.75 0.0508 0.0039

Moon -36252-04-20 03:21 J -11519510.46 -11519510.36 -11519510.27 0.2671 0.1785

Earth -36252-04-20 04:18 J -11519510.42 -11519510.32 -11519510.22 0.2673 0.1658 *

Earth -36249-10-29 13:11 J -11518222.07 -11518221.95 -11518221.83 0.2663 0.0892

Moon -36249-10-29 13:40 J -11518222.05 -11518221.93 -11518221.81 0.2669 0.0946 *

Saturn -36248-01-22 20:09 J -11518136.73 -11518136.66 -11518136.58 0.0282 0.0247

Jupiter -36248-04-20 04:04 J -11518049.49 -11518049.33 -11518049.18 0.0521 0.0100

Saturn -36248-04-21 13:11 J -11518048.09 -11518047.95 -11518047.81 0.0281 0.0120

Saturn -36248-07-19 05:45 J -11517959.42 -11517959.26 -11517959.11 0.0281 0.0007

Saturn -36248-10-15 21:50 J -11517870.73 -11517870.59 -11517870.45 0.0281 0.0124

Saturn -36247-01-12 13:26 J -11517782.02 -11517781.94 -11517781.86 0.0281 0.0241

Neptune -36247-12-24 02:52 J -11517436.40 -11517436.38 -11517436.34 0.0088 0.0086

Neptune -36246-03-22 05:30 J -11517348.34 -11517348.27 -11517348.18 0.0088 0.0078

Mars -36246-04-25 21:50 J -11517313.69 -11517313.59 -11517313.48 0.1879 0.1009

Earth -36246-04-30 15:21 J -11517308.94 -11517308.86 -11517308.79 0.2667 0.2202

Moon -36246-04-30 16:04 J -11517308.89 -11517308.83 -11517308.76 0.2671 0.2261 *

Neptune -36246-06-18 07:54 J -11517260.25 -11517260.17 -11517260.05 0.0088 0.0071

Neptune -36246-09-14 10:33 J -11517172.16 -11517172.06 -11517171.92 0.0088 0.0063

Neptune -36246-12-11 13:11 J -11517084.07 -11517083.95 -11517083.80 0.0088 0.0055

Neptune -36245-03-08 15:50 J -11516995.97 -11516995.84 -11516995.68 0.0088 0.0047

Mars -36245-03-09 07:11 J -11516995.34 -11516995.20 -11516995.07 0.1647 0.0602

Neptune -36245-06-04 18:28 J -11516907.87 -11516907.73 -11516907.56 0.0088 0.0039

Neptune -36245-08-31 21:06 J -11516819.77 -11516819.62 -11516819.45 0.0088 0.0030

Neptune -36245-11-27 23:45 J -11516731.67 -11516731.51 -11516731.34 0.0088 0.0022

Neptune -36244-02-24 02:23 J -11516643.56 -11516643.40 -11516643.23 0.0088 0.0014

Neptune -36244-05-23 05:02 J -11516555.46 -11516555.29 -11516555.12 0.0088 0.0006

Neptune -36244-08-19 07:26 J -11516467.36 -11516467.19 -11516467.02 0.0088 0.0002

Neptune -36244-11-15 10:04 J -11516379.25 -11516379.08 -11516378.92 0.0088 0.0009

Neptune -36243-02-11 12:28 J -11516291.14 -11516290.98 -11516290.81 0.0088 0.0017

Neptune -36243-05-10 14:52 J -11516203.04 -11516202.88 -11516202.71 0.0088 0.0025

Neptune -36243-08-06 17:16 J -11516114.93 -11516114.78 -11516114.62 0.0088 0.0033

Jupiter -36243-09-08 16:47 J -11516081.93 -11516081.80 -11516081.66 0.0509 0.0189

Neptune -36243-11-02 19:40 J -11516026.82 -11516026.68 -11516026.52 0.0088 0.0040

Jupiter -36243-12-07 04:33 J -11515992.40 -11515992.31 -11515992.22 0.0505 0.0399

Neptune -36242-01-29 22:18 J -11515938.71 -11515938.57 -11515938.43 0.0088 0.0048

Neptune -36242-04-28 00:42 J -11515850.59 -11515850.47 -11515850.34 0.0088 0.0055

Neptune -36242-07-25 02:52 J -11515762.48 -11515762.38 -11515762.25 0.0088 0.0063

Neptune -36242-10-21 05:30 J -11515674.36 -11515674.27 -11515674.17 0.0088 0.0071

Moon -36242-10-22 22:04 J -11515672.66 -11515672.58 -11515672.50 0.2660 0.2034

Earth -36242-10-22 23:16 J -11515672.62 -11515672.53 -11515672.45 0.2659 0.2015 *

Neptune -36241-01-17 07:40 J -11515586.24 -11515586.18 -11515586.09 0.0088 0.0079

Neptune -36241-04-14 10:18 J -11515498.10 -11515498.07 -11515498.03 0.0088 0.0086

Uranus -36240-09-24 21:21 J -11514969.65 -11514969.61 -11514969.56 0.0133 0.0127

Uranus -36240-12-22 01:54 J -11514881.51 -11514881.42 -11514881.31 0.0133 0.0106

Uranus -36239-03-20 06:42 J -11514793.34 -11514793.22 -11514793.09 0.0133 0.0084

Moon -36239-04-23 01:11 J -11514759.57 -11514759.45 -11514759.33 0.2676 0.0677

Earth -36239-04-23 01:54 J -11514759.54 -11514759.42 -11514759.29 0.2671 0.0694 *

Uranus -36239-06-16 11:30 J -11514705.16 -11514705.02 -11514704.87 0.0133 0.0063

Uranus -36239-09-12 16:04 J -11514616.97 -11514616.83 -11514616.67 0.0133 0.0042

Uranus -36239-12-09 20:52 J -11514528.79 -11514528.63 -11514528.47 0.0133 0.0021

Uranus -36238-03-08 01:26 J -11514440.60 -11514440.44 -11514440.28 0.0132 0.0001

Uranus -36238-06-04 05:59 J -11514352.41 -11514352.25 -11514352.09 0.0132 0.0021

Uranus -36238-08-31 10:33 J -11514264.21 -11514264.06 -11514263.91 0.0132 0.0041

Uranus -36238-11-27 14:52 J -11514176.01 -11514175.88 -11514175.74 0.0132 0.0062

Uranus -36237-02-23 19:26 J -11514087.81 -11514087.69 -11514087.57 0.0132 0.0082

Uranus -36237-05-21 23:45 J -11513999.61 -11513999.51 -11513999.41 0.0132 0.0102

Uranus -36237-08-18 03:50 J -11513911.39 -11513911.34 -11513911.27 0.0132 0.0122

Mars -36237-09-15 03:50 J -11513883.47 -11513883.34 -11513883.21 0.1874 0.0161

Jupiter -36236-02-06 04:18 J -11513739.48 -11513739.32 -11513739.16 0.0520 0.0072

Mars -36236-07-30 12:42 J -11513565.12 -11513564.97 -11513564.83 0.1650 0.0069

Earth -36236-11-01 11:02 J -11513471.13 -11513471.04 -11513470.95 0.2665 0.1862

Moon -36236-11-01 11:59 J -11513471.08 -11513471.00 -11513470.92 0.2667 0.1959 *

Saturn -36233-01-31 19:11 J -11512649.79 -11512649.70 -11512649.61 0.0277 0.0218

Saturn -36233-04-29 09:35 J -11512561.24 -11512561.10 -11512560.96 0.0277 0.0109

Saturn -36233-07-27 00:14 J -11512472.64 -11512472.49 -11512472.34 0.0278 0.0004

Saturn -36233-10-23 15:06 J -11512384.00 -11512383.87 -11512383.73 0.0278 0.0119

Saturn -36232-01-20 06:28 J -11512295.30 -11512295.23 -11512295.14 0.0278 0.0236

Jupiter -36231-06-27 19:40 J -11511771.79 -11511771.68 -11511771.57 0.0510 0.0334

Jupiter -36231-09-25 06:57 J -11511682.33 -11511682.21 -11511682.08 0.0506 0.0251

Moon -36229-10-24 21:06 J -11510921.74 -11510921.62 -11510921.50 0.2665 0.1091

Earth -36229-10-24 21:50 J -11510921.71 -11510921.59 -11510921.46 0.2660 0.0961 *

Mars -36227-02-05 09:50 J -11510453.21 -11510453.09 -11510452.97 0.1869 0.0670

Mars -36227-12-20 17:59 J -11510134.89 -11510134.75 -11510134.62 0.1654 0.0735

Moon -36226-04-25 23:45 J -11510008.64 -11510008.51 -11510008.39 0.2676 0.0229

Earth -36226-04-25 23:59 J -11510008.63 -11510008.50 -11510008.37 0.2670 0.0312 *

Jupiter -36225-11-25 03:21 J -11509429.49 -11509429.36 -11509429.22 0.0518 0.0261

Jupiter -36224-02-23 00:57 J -11509339.54 -11509339.46 -11509339.38 0.0522 0.0440

Jupiter -36219-04-15 22:33 J -11507461.61 -11507461.56 -11507461.51 0.0512 0.0477

Moon -36219-04-18 11:16 J -11507459.07 -11507459.03 -11507458.98 0.2670 0.2463

Earth -36219-04-18 11:59 J -11507459.04 -11507459.00 -11507458.95 0.2675 0.2435 *

Saturn -36219-06-11 22:47 J -11507404.59 -11507404.55 -11507404.50 0.0282 0.0271

Jupiter -36219-07-14 09:50 J -11507372.23 -11507372.09 -11507371.95 0.0508 0.0106

Saturn -36219-09-08 15:50 J -11507315.97 -11507315.84 -11507315.70 0.0282 0.0143

Saturn -36219-12-06 08:23 J -11507227.31 -11507227.15 -11507226.99 0.0282 0.0019

Saturn -36218-03-05 00:28 J -11507138.62 -11507138.48 -11507138.33 0.0281 0.0103

Saturn -36218-06-01 16:18 J -11507049.91 -11507049.82 -11507049.72 0.0281 0.0220

Mars -36218-06-28 16:04 J -11507022.90 -11507022.83 -11507022.75 0.1864 0.1465

Mars -36217-05-11 22:47 J -11506704.62 -11506704.55 -11506704.48 0.1658 0.1434

Moon -36216-10-27 20:23 J -11506170.78 -11506170.65 -11506170.53 0.2669 0.0155

Earth -36216-10-27 20:23 J -11506170.78 -11506170.65 -11506170.52 0.2662 0.0070 *

Mars -36215-04-18 01:26 J -11505998.52 -11505998.44 -11505998.35 0.1643 0.1314

Venus -36213-01-29 02:09 J -11505347.51 -11505347.41 -11505347.30 0.3768 0.1659

Earth -36213-04-27 22:18 J -11505257.68 -11505257.57 -11505257.46 0.2668 0.1340

Moon -36213-04-27 22:47 J -11505257.65 -11505257.55 -11505257.44 0.2674 0.1447 *

Jupiter -36213-09-13 03:21 J -11505119.45 -11505119.36 -11505119.28 0.0517 0.0439

Jupiter -36213-12-12 01:11 J -11505029.58 -11505029.45 -11505029.31 0.0521 0.0267

Venus -36209-01-30 13:11 J -11503884.99 -11503884.95 -11503884.91 0.3607 0.3383

Venus -36208-08-13 22:47 J -11503323.65 -11503323.55 -11503323.44 0.3765 0.1817

Jupiter -36207-05-02 12:42 J -11503062.11 -11503061.97 -11503061.82 0.0509 0.0037

Mars -36207-10-24 22:04 J -11502886.68 -11502886.58 -11502886.47 0.1879 0.1103

Moon -36206-04-21 08:38 J -11502708.24 -11502708.14 -11502708.04 0.2672 0.1519

Earth -36206-04-21 09:35 J -11502708.20 -11502708.10 -11502708.00 0.2673 0.1489 *

Mars -36206-09-08 07:26 J -11502568.32 -11502568.19 -11502568.06 0.1647 0.0683

Saturn -36204-06-19 20:52 J -11501917.69 -11501917.63 -11501917.56 0.0277 0.0248

Venus -36204-08-15 09:35 J -11501861.23 -11501861.10 -11501860.98 0.3610 0.0227

Saturn -36204-09-16 11:02 J -11501829.16 -11501829.04 -11501828.91 0.0277 0.0140

Saturn -36204-12-14 01:40 J -11501740.58 -11501740.43 -11501740.28 0.0277 0.0029

Saturn -36203-03-12 16:33 J -11501651.96 -11501651.81 -11501651.67 0.0277 0.0085

Saturn -36203-06-09 07:40 J -11501563.29 -11501563.18 -11501563.08 0.0278 0.0201

Earth -36203-10-30 18:28 J -11501419.85 -11501419.73 -11501419.61 0.2664 0.1068

Moon -36203-10-30 19:11 J -11501419.82 -11501419.70 -11501419.58 0.2668 0.1074 *

Jupiter -36201-09-30 01:40 J -11500719.59 -11500719.43 -11500719.28 0.0521 0.0095

Earth -36200-04-30 20:52 J -11500506.69 -11500506.63 -11500506.58 0.2666 0.2398

Moon -36200-04-30 21:50 J -11500506.64 -11500506.59 -11500506.54 0.2669 0.2458 *

Venus -36198-03-01 05:45 J -11499837.33 -11499837.26 -11499837.19 0.3613 0.2873

Mars -36197-03-16 03:50 J -11499456.47 -11499456.34 -11499456.21 0.1874 0.0242

Mars -36196-01-28 12:57 J -11499138.10 -11499137.96 -11499137.81 0.1651 0.0043

Uranus -36196-03-05 02:52 J -11499102.44 -11499102.38 -11499102.32 0.0146 0.0133

Uranus -36196-06-01 07:54 J -11499014.26 -11499014.17 -11499014.06 0.0146 0.0107

Uranus -36196-08-28 13:11 J -11498926.07 -11498925.95 -11498925.82 0.0146 0.0081

Moon -36196-10-23 03:35 J -11498870.44 -11498870.35 -11498870.26 0.2660 0.1960

Earth -36196-10-23 04:47 J -11498870.40 -11498870.30 -11498870.21 0.2659 0.1821 *

Uranus -36196-11-24 18:14 J -11498837.87 -11498837.74 -11498837.59 0.0146 0.0055

Jupiter -36195-02-18 15:50 J -11498751.97 -11498751.84 -11498751.70 0.0509 0.0175

Uranus -36195-02-20 23:45 J -11498749.66 -11498749.51 -11498749.36 0.0146 0.0028

Jupiter -36195-05-19 03:35 J -11498662.43 -11498662.35 -11498662.27 0.0506 0.0413

Uranus -36195-05-20 05:02 J -11498661.44 -11498661.29 -11498661.14 0.0146 0.0001

Uranus -36195-08-16 10:18 J -11498573.22 -11498573.07 -11498572.91 0.0146 0.0026

Uranus -36195-11-12 15:50 J -11498484.99 -11498484.84 -11498484.70 0.0146 0.0053

Uranus -36194-02-08 21:06 J -11498396.74 -11498396.62 -11498396.48 0.0146 0.0081

Uranus -36194-05-08 02:38 J -11498308.49 -11498308.39 -11498308.28 0.0146 0.0109

Uranus -36194-08-04 08:09 J -11498220.20 -11498220.16 -11498220.10 0.0146 0.0137

Moon -36193-04-23 06:42 J -11497957.35 -11497957.22 -11497957.10 0.2676 0.0637

Earth -36193-04-23 07:26 J -11497957.32 -11497957.19 -11497957.07 0.2671 0.0510 *

Earth -36190-11-02 16:18 J -11496668.90 -11496668.82 -11496668.74 0.2665 0.2033

Moon -36190-11-02 17:16 J -11496668.85 -11496668.78 -11496668.70 0.2667 0.2095 *

Saturn -36189-01-26 14:52 J -11496584.00 -11496583.88 -11496583.77 0.0282 0.0191

Saturn -36189-04-24 07:26 J -11496495.34 -11496495.19 -11496495.03 0.0281 0.0066

Jupiter -36189-07-19 02:23 J -11496409.56 -11496409.40 -11496409.24 0.0520 0.0071

Saturn -36189-07-21 23:45 J -11496406.66 -11496406.51 -11496406.35 0.0281 0.0058

Saturn -36189-10-18 15:50 J -11496317.96 -11496317.84 -11496317.72 0.0281 0.0176

Mars -36188-08-06 09:50 J -11496026.21 -11496026.09 -11496025.97 0.1869 0.0588

Mars -36187-06-20 18:28 J -11495707.87 -11495707.73 -11495707.60 0.1654 0.0639

Jupiter -36184-12-07 18:28 J -11494441.84 -11494441.73 -11494441.62 0.0510 0.0324

Jupiter -36183-03-07 05:45 J -11494352.38 -11494352.26 -11494352.13 0.0506 0.0261

Moon -36183-10-26 02:52 J -11494119.50 -11494119.38 -11494119.26 0.2666 0.0746

Earth -36183-10-26 03:21 J -11494119.48 -11494119.36 -11494119.23 0.2661 0.0774 *

Moon -36180-04-26 05:16 J -11493206.40 -11493206.28 -11493206.15 0.2676 0.0560

Earth -36180-04-26 05:30 J -11493206.40 -11493206.27 -11493206.15 0.2669 0.0501 *

Mars -36179-12-27 16:18 J -11492595.90 -11492595.82 -11492595.74 0.1864 0.1376

Mars -36178-11-10 23:16 J -11492277.62 -11492277.53 -11492277.45 0.1658 0.1341

Jupiter -36177-05-07 02:38 J -11492099.53 -11492099.39 -11492099.25 0.0519 0.0243

Jupiter -36177-08-05 00:14 J -11492009.56 -11492009.49 -11492009.42 0.0523 0.0459

Mars -36176-10-17 01:54 J -11491571.49 -11491571.42 -11491571.35 0.1643 0.1401

Saturn -36174-02-03 11:45 J -11491097.12 -11491097.01 -11491096.89 0.0277 0.0177

Saturn -36174-05-03 02:09 J -11491008.55 -11491008.41 -11491008.26 0.0277 0.0067

Saturn -36174-07-30 17:02 J -11490919.94 -11490919.79 -11490919.64 0.0278 0.0047

Saturn -36174-10-27 07:54 J -11490831.29 -11490831.17 -11490831.04 0.0278 0.0163

Moon -36173-04-18 16:33 J -11490656.86 -11490656.81 -11490656.75 0.2670 0.2348

Earth -36173-04-18 17:30 J -11490656.84 -11490656.77 -11490656.71 0.2674 0.2263 *

Jupiter -36172-09-25 21:21 J -11490131.66 -11490131.61 -11490131.56 0.0511 0.0468

Jupiter -36172-12-24 08:23 J -11490042.29 -11490042.15 -11490042.01 0.0507 0.0113

Moon -36170-10-29 01:40 J -11489368.55 -11489368.43 -11489368.30 0.2669 0.0200

Earth -36170-10-29 01:40 J -11489368.55 -11489368.43 -11489368.30 0.2662 0.0269 *

Mars -36167-04-24 22:18 J -11488459.67 -11488459.57 -11488459.47 0.1879 0.1199

Earth -36167-04-29 03:35 J -11488455.45 -11488455.35 -11488455.24 0.2668 0.1529

Moon -36167-04-29 04:18 J -11488455.43 -11488455.32 -11488455.22 0.2674 0.1507 *

Mars -36166-03-09 07:40 J -11488141.30 -11488141.18 -11488141.05 0.1647 0.0772

Jupiter -36165-02-24 01:40 J -11487789.51 -11487789.43 -11487789.33 0.0517 0.0430

Jupiter -36165-05-23 23:45 J -11487699.64 -11487699.51 -11487699.37 0.0521 0.0276

Neptune -36165-06-23 02:52 J -11487669.41 -11487669.38 -11487669.31 0.0089 0.0084

Neptune -36165-09-19 04:47 J -11487581.36 -11487581.30 -11487581.22 0.0089 0.0076

Neptune -36165-12-16 06:42 J -11487493.31 -11487493.22 -11487493.13 0.0089 0.0069

Neptune -36164-03-14 08:23 J -11487405.25 -11487405.15 -11487405.04 0.0089 0.0063

Neptune -36164-06-10 10:04 J -11487317.18 -11487317.08 -11487316.96 0.0089 0.0056

Neptune -36164-09-06 11:45 J -11487229.12 -11487229.01 -11487228.88 0.0089 0.0049

Neptune -36164-12-03 13:40 J -11487141.05 -11487140.93 -11487140.80 0.0089 0.0042

Neptune -36163-03-01 15:21 J -11487052.98 -11487052.86 -11487052.72 0.0089 0.0035

Neptune -36163-05-28 17:16 J -11486964.92 -11486964.78 -11486964.64 0.0089 0.0028

Neptune -36163-08-24 19:11 J -11486876.84 -11486876.70 -11486876.56 0.0089 0.0021

Neptune -36163-11-20 20:52 J -11486788.77 -11486788.63 -11486788.48 0.0089 0.0014

Neptune -36162-02-16 22:47 J -11486700.70 -11486700.55 -11486700.40 0.0089 0.0007

Neptune -36162-05-16 00:28 J -11486612.62 -11486612.48 -11486612.33 0.0089 0.0003

Neptune -36162-08-12 02:23 J -11486524.55 -11486524.40 -11486524.25 0.0089 0.0007

Neptune -36162-11-08 04:18 J -11486436.47 -11486436.32 -11486436.18 0.0089 0.0014

Neptune -36161-02-04 05:59 J -11486348.39 -11486348.25 -11486348.10 0.0089 0.0021

Neptune -36161-05-02 07:54 J -11486260.31 -11486260.17 -11486260.03 0.0089 0.0028

Neptune -36161-07-29 09:35 J -11486172.23 -11486172.10 -11486171.95 0.0089 0.0036

Neptune -36161-10-25 11:30 J -11486084.14 -11486084.02 -11486083.88 0.0089 0.0043

Neptune -36160-01-21 13:26 J -11485996.06 -11485995.94 -11485995.81 0.0089 0.0050

Neptune -36160-04-19 15:21 J -11485907.97 -11485907.86 -11485907.74 0.0089 0.0057

Moon -36160-04-21 13:54 J -11485906.02 -11485905.92 -11485905.81 0.2674 0.1390

Earth -36160-04-21 14:52 J -11485905.99 -11485905.88 -11485905.77 0.2673 0.1316 *

Saturn -36160-06-14 17:02 J -11485851.89 -11485851.79 -11485851.69 0.0282 0.0218

Neptune -36160-07-16 17:02 J -11485819.88 -11485819.79 -11485819.67 0.0089 0.0065

Saturn -36160-09-11 09:50 J -11485763.24 -11485763.09 -11485762.94 0.0282 0.0091

Jupiter -36160-10-12 11:02 J -11485732.18 -11485732.04 -11485731.89 0.0509 0.0034

Neptune -36160-10-12 18:57 J -11485731.78 -11485731.71 -11485731.61 0.0089 0.0072

Saturn -36160-12-09 02:23 J -11485674.56 -11485674.40 -11485674.25 0.0282 0.0033

Neptune -36159-01-08 20:52 J -11485643.68 -11485643.63 -11485643.55 0.0089 0.0079

Saturn -36159-03-07 18:28 J -11485585.86 -11485585.73 -11485585.60 0.0282 0.0153

Neptune -36159-04-06 23:02 J -11485555.57 -11485555.54 -11485555.50 0.0089 0.0086

Saturn -36159-06-04 10:04 J -11485497.12 -11485497.08 -11485497.04 0.0281 0.0270

Mars -36158-09-15 03:50 J -11485029.46 -11485029.34 -11485029.21 0.1874 0.0335

Mars -36157-07-29 13:26 J -11484711.09 -11484710.94 -11484710.80 0.1651 0.0124

Venus -36157-09-04 00:57 J -11484674.58 -11484674.46 -11484674.34 0.3767 0.0416

Earth -36157-10-30 23:45 J -11484617.62 -11484617.51 -11484617.39 0.2664 0.1246

Moon -36157-10-31 00:42 J -11484617.58 -11484617.47 -11484617.36 0.2668 0.1367 *

Uranus -36156-10-15 05:16 J -11484268.35 -11484268.28 -11484268.20 0.0133 0.0117

Uranus -36155-01-11 10:04 J -11484180.18 -11484180.08 -11484179.96 0.0133 0.0096

Uranus -36155-04-09 14:52 J -11484092.01 -11484091.88 -11484091.74 0.0133 0.0074

Uranus -36155-07-06 19:40 J -11484003.83 -11484003.68 -11484003.53 0.0133 0.0053

Uranus -36155-10-03 00:14 J -11483915.64 -11483915.49 -11483915.33 0.0133 0.0032

Uranus -36155-12-30 05:02 J -11483827.45 -11483827.29 -11483827.13 0.0132 0.0011

Uranus -36154-03-28 09:35 J -11483739.26 -11483739.10 -11483738.94 0.0132 0.0010

Earth -36154-05-02 02:23 J -11483704.43 -11483704.40 -11483704.37 0.2666 0.2593

Uranus -36154-06-24 14:09 J -11483651.07 -11483650.91 -11483650.76 0.0132 0.0031

Uranus -36154-09-20 18:28 J -11483562.87 -11483562.73 -11483562.58 0.0132 0.0051

Uranus -36154-12-17 22:47 J -11483474.67 -11483474.55 -11483474.41 0.0132 0.0072

Jupiter -36153-03-11 23:59 J -11483389.65 -11483389.50 -11483389.34 0.0520 0.0102

Uranus -36153-03-15 03:21 J -11483386.47 -11483386.36 -11483386.24 0.0132 0.0091

Uranus -36153-06-11 07:40 J -11483298.26 -11483298.18 -11483298.09 0.0132 0.0111

Venus -36153-09-05 11:45 J -11483212.11 -11483212.01 -11483211.91 0.3608 0.2180

Uranus -36153-09-07 12:14 J -11483210.01 -11483209.99 -11483209.97 0.0132 0.0131

Venus -36151-03-20 21:35 J -11482650.67 -11482650.60 -11482650.53 0.3764 0.3096

Moon -36150-10-24 09:06 J -11482068.22 -11482068.12 -11482068.02 0.2660 0.1677

Earth -36150-10-24 10:18 J -11482068.17 -11482068.07 -11482067.97 0.2659 0.1635 *

Mars -36148-02-04 10:04 J -11481599.21 -11481599.08 -11481598.96 0.1869 0.0502

Jupiter -36148-07-31 14:09 J -11481422.04 -11481421.91 -11481421.77 0.0510 0.0173

Jupiter -36148-10-29 01:54 J -11481332.50 -11481332.42 -11481332.34 0.0506 0.0417

Mars -36148-12-19 18:42 J -11481280.86 -11481280.72 -11481280.58 0.1655 0.0553

Venus -36147-03-22 08:09 J -11481188.28 -11481188.16 -11481188.04 0.3611 0.0974

Moon -36147-04-24 11:59 J -11481155.13 -11481155.00 -11481154.87 0.2676 0.0333

Earth -36147-04-24 12:42 J -11481155.10 -11481154.97 -11481154.84 0.2671 0.0336 *

Saturn -36145-06-22 13:26 J -11480365.03 -11480364.94 -11480364.84 0.0277 0.0206

Saturn -36145-09-19 03:50 J -11480276.48 -11480276.34 -11480276.20 0.0277 0.0097

Saturn -36145-12-16 18:28 J -11480187.89 -11480187.73 -11480187.58 0.0277 0.0016

Saturn -36144-03-15 09:21 J -11480099.25 -11480099.11 -11480098.98 0.0277 0.0129

Saturn -36144-06-12 00:28 J -11480010.54 -11480010.48 -11480010.41 0.0278 0.0246

Earth -36144-11-02 21:35 J -11479866.67 -11479866.60 -11479866.53 0.2666 0.2207

Moon -36144-11-02 22:33 J -11479866.62 -11479866.56 -11479866.49 0.2666 0.2260 *

Jupiter -36142-12-30 00:14 J -11479079.65 -11479079.49 -11479079.33 0.0520 0.0073

Mars -36139-06-27 16:18 J -11478168.91 -11478168.82 -11478168.73 0.1864 0.1300

Mars -36138-05-11 23:45 J -11477850.61 -11477850.51 -11477850.42 0.1659 0.1245

Moon -36137-10-26 08:23 J -11477317.27 -11477317.15 -11477317.02 0.2667 0.0684

Earth -36137-10-26 08:52 J -11477317.25 -11477317.13 -11477317.00 0.2661 0.0585 *

Mars -36136-04-17 02:09 J -11477144.47 -11477144.41 -11477144.35 0.1644 0.1483

Jupiter -36136-05-19 17:16 J -11477111.88 -11477111.78 -11477111.66 0.0510 0.0312

Jupiter -36136-08-17 04:47 J -11477022.42 -11477022.30 -11477022.18 0.0507 0.0275

Moon -36134-04-27 11:02 J -11476404.17 -11476404.04 -11476403.92 0.2676 0.0625

Earth -36134-04-27 10:47 J -11476404.17 -11476404.05 -11476403.93 0.2669 0.0677 *

Saturn -36131-11-01 15:50 J -11475119.89 -11475119.84 -11475119.79 0.0282 0.0266

Saturn -36130-01-29 08:52 J -11475031.27 -11475031.13 -11475030.99 0.0282 0.0139

Saturn -36130-04-28 01:26 J -11474942.60 -11474942.44 -11474942.28 0.0281 0.0014

Saturn -36130-07-25 17:30 J -11474853.91 -11474853.77 -11474853.62 0.0281 0.0108

Jupiter -36130-10-18 00:42 J -11474769.61 -11474769.47 -11474769.32 0.0519 0.0240

Saturn -36130-10-22 09:21 J -11474765.20 -11474765.11 -11474765.02 0.0281 0.0226

Jupiter -36129-01-15 22:18 J -11474679.64 -11474679.57 -11474679.50 0.0523 0.0462

Mars -36128-10-23 22:18 J -11474032.67 -11474032.57 -11474032.48 0.1878 0.1273

Moon -36127-04-19 21:50 J -11473854.66 -11473854.59 -11473854.51 0.2670 0.2105

Earth -36127-04-19 22:47 J -11473854.63 -11473854.55 -11473854.48 0.2674 0.2097 *

Mars -36127-09-07 08:09 J -11473714.28 -11473714.16 -11473714.03 0.1647 0.0862

Jupiter -36124-03-07 20:09 J -11472801.72 -11472801.66 -11472801.60 0.0511 0.0456

Jupiter -36124-06-05 07:11 J -11472712.34 -11472712.20 -11472712.06 0.0507 0.0126

Earth -36124-10-29 07:11 J -11472566.33 -11472566.20 -11472566.07 0.2663 0.0436

Moon -36124-10-29 07:26 J -11472566.32 -11472566.19 -11472566.07 0.2669 0.0520 *

Earth -36121-04-29 09:06 J -11471653.22 -11471653.12 -11471653.02 0.2668 0.1719

Moon -36121-04-29 09:50 J -11471653.18 -11471653.09 -11471653.00 0.2673 0.1846 *

Mars -36118-03-16 04:04 J -11470602.45 -11470602.33 -11470602.20 0.1874 0.0430

Pluto -36118-03-23 15:35 J -11470594.89 -11470594.85 -11470594.76 0.0067 0.0063

Pluto -36118-06-19 17:16 J -11470506.86 -11470506.78 -11470506.68 0.0067 0.0056

Jupiter -36118-08-06 00:57 J -11470459.55 -11470459.46 -11470459.36 0.0518 0.0412

Pluto -36118-09-15 18:42 J -11470418.83 -11470418.72 -11470418.61 0.0067 0.0051

Jupiter -36118-11-03 23:02 J -11470369.66 -11470369.54 -11470369.41 0.0522 0.0296

Pluto -36118-12-12 19:40 J -11470330.79 -11470330.68 -11470330.54 0.0067 0.0046

Mars -36117-01-28 13:54 J -11470284.07 -11470283.92 -11470283.78 0.1651 0.0218

Pluto -36117-03-09 21:06 J -11470242.74 -11470242.62 -11470242.47 0.0068 0.0040

Pluto -36117-06-05 22:33 J -11470154.70 -11470154.56 -11470154.41 0.0068 0.0034

Pluto -36117-09-01 23:45 J -11470066.65 -11470066.51 -11470066.35 0.0068 0.0028

Moon -36117-10-21 15:35 J -11470016.85 -11470016.85 -11470016.84 0.2656 0.2647

Earth -36117-10-21 16:47 J -11470016.84 -11470016.80 -11470016.76 0.2658 0.2520 *

Pluto -36117-11-29 01:11 J -11469978.60 -11469978.45 -11469978.28 0.0068 0.0022

Pluto -36116-02-25 02:38 J -11469890.55 -11469890.39 -11469890.22 0.0068 0.0016

Pluto -36116-05-24 04:04 J -11469802.50 -11469802.33 -11469802.16 0.0068 0.0010

Pluto -36116-08-20 05:30 J -11469714.44 -11469714.27 -11469714.10 0.0068 0.0004

Saturn -36116-11-09 13:40 J -11469632.99 -11469632.93 -11469632.86 0.0277 0.0246

Pluto -36116-11-16 06:42 J -11469626.38 -11469626.22 -11469626.05 0.0068 0.0003

Saturn -36115-02-06 03:50 J -11469544.46 -11469544.34 -11469544.20 0.0277 0.0139

Pluto -36115-02-12 08:09 J -11469538.32 -11469538.16 -11469537.99 0.0068 0.0008

Saturn -36115-05-05 18:28 J -11469455.88 -11469455.73 -11469455.58 0.0277 0.0027

Pluto -36115-05-11 09:35 J -11469450.26 -11469450.10 -11469449.93 0.0069 0.0014

Saturn -36115-08-02 09:21 J -11469367.26 -11469367.11 -11469366.97 0.0278 0.0087

Pluto -36115-08-07 11:02 J -11469362.20 -11469362.04 -11469361.88 0.0069 0.0020

Saturn -36115-10-30 00:28 J -11469278.58 -11469278.48 -11469278.37 0.0278 0.0204

Pluto -36115-11-03 12:14 J -11469274.14 -11469273.99 -11469273.82 0.0069 0.0027

Pluto -36114-01-30 13:40 J -11469186.07 -11469185.93 -11469185.77 0.0069 0.0033

Moon -36114-04-22 19:26 J -11469103.80 -11469103.69 -11469103.58 0.2675 0.1230

Earth -36114-04-22 20:23 J -11469103.77 -11469103.65 -11469103.54 0.2672 0.1138 *

Pluto -36114-04-28 15:06 J -11469098.00 -11469097.87 -11469097.72 0.0069 0.0039

Pluto -36114-07-25 16:47 J -11469009.92 -11469009.80 -11469009.67 0.0069 0.0045

Pluto -36114-10-21 17:59 J -11468921.84 -11468921.75 -11468921.62 0.0069 0.0052

Pluto -36113-01-17 19:26 J -11468833.76 -11468833.69 -11468833.58 0.0069 0.0059

Pluto -36113-04-14 21:21 J -11468745.67 -11468745.61 -11468745.55 0.0069 0.0065

Jupiter -36112-03-24 10:04 J -11468402.23 -11468402.08 -11468401.94 0.0508 0.0023

Uranus -36112-03-25 10:47 J -11468401.12 -11468401.05 -11468400.97 0.0146 0.0123

Uranus -36112-06-21 15:50 J -11468312.94 -11468312.84 -11468312.72 0.0146 0.0097

Uranus -36112-09-17 21:06 J -11468224.75 -11468224.62 -11468224.48 0.0146 0.0071

Uranus -36112-12-15 02:23 J -11468136.55 -11468136.40 -11468136.25 0.0146 0.0045

Uranus -36111-03-13 07:40 J -11468048.33 -11468048.18 -11468048.03 0.0146 0.0018

Uranus -36111-06-09 12:57 J -11467960.11 -11467959.96 -11467959.80 0.0146 0.0009

Uranus -36111-09-05 18:14 J -11467871.89 -11467871.74 -11467871.59 0.0146 0.0036

Earth -36111-11-01 05:16 J -11467815.39 -11467815.28 -11467815.17 0.2664 0.1421

Moon -36111-11-01 05:59 J -11467815.35 -11467815.25 -11467815.14 0.2669 0.1413 *

Uranus -36111-12-02 23:45 J -11467783.65 -11467783.51 -11467783.37 0.0146 0.0064

Uranus -36110-03-01 05:02 J -11467695.40 -11467695.29 -11467695.16 0.0146 0.0092

Uranus -36110-05-28 10:33 J -11467607.14 -11467607.06 -11467606.96 0.0146 0.0120

Mars -36109-08-05 10:04 J -11467172.20 -11467172.08 -11467171.95 0.1869 0.0409

Mars -36108-06-19 19:11 J -11466853.85 -11466853.70 -11466853.56 0.1655 0.0462

Jupiter -36106-08-22 22:47 J -11466059.70 -11466059.55 -11466059.40 0.0520 0.0114

Venus -36106-09-26 03:06 J -11466025.45 -11466025.37 -11466025.28 0.3769 0.2574

Moon -36104-10-24 14:52 J -11465265.99 -11465265.88 -11465265.78 0.2662 0.1521

Earth -36104-10-24 15:50 J -11465265.95 -11465265.84 -11465265.73 0.2660 0.1444 *

Moon -36101-04-24 17:30 J -11464352.89 -11464352.77 -11464352.64 0.2676 0.0237

Earth -36101-04-24 18:14 J -11464352.87 -11464352.74 -11464352.62 0.2671 0.0162 *

Saturn -36101-06-17 10:33 J -11464299.18 -11464299.06 -11464298.93 0.0282 0.0169

Saturn -36101-09-14 03:21 J -11464210.52 -11464210.36 -11464210.20 0.0282 0.0043

Saturn -36101-12-11 19:40 J -11464121.83 -11464121.68 -11464121.53 0.0282 0.0080

Jupiter -36100-01-10 12:42 J -11464092.11 -11464091.97 -11464091.84 0.0510 0.0168

Saturn -36100-03-10 11:30 J -11464033.12 -11464033.02 -11464032.91 0.0282 0.0199

Jupiter -36100-04-10 00:14 J -11464002.56 -11464002.49 -11464002.41 0.0506 0.0423

Venus -36100-04-10 23:45 J -11464001.63 -11464001.51 -11464001.40 0.3766 0.0860

Mars -36100-12-26 16:18 J -11463741.91 -11463741.82 -11463741.73 0.1864 0.1215

Mars -36099-11-09 23:59 J -11463423.61 -11463423.50 -11463423.39 0.1659 0.1156

Earth -36098-11-04 02:52 J -11463064.43 -11463064.38 -11463064.32 0.2666 0.2378

Moon -36098-11-04 03:50 J -11463064.38 -11463064.34 -11463064.29 0.2665 0.2488 *

Mars -36097-10-16 02:38 J -11462717.43 -11462717.39 -11462717.35 0.1644 0.1568

Venus -36096-04-12 10:33 J -11462539.18 -11462539.06 -11462538.94 0.3608 0.0980

Jupiter -36094-06-10 22:47 J -11461749.71 -11461749.55 -11461749.39 0.0519 0.0062

Venus -36091-10-27 06:57 J -11460515.31 -11460515.21 -11460515.11 0.3612 0.2142

Moon -36091-10-27 13:54 J -11460515.05 -11460514.92 -11460514.79 0.2668 0.0385

Earth -36091-10-27 14:23 J -11460515.03 -11460514.90 -11460514.77 0.2661 0.0400 *

Jupiter -36089-10-29 15:50 J -11459781.95 -11459781.84 -11459781.73 0.0511 0.0307

Jupiter -36088-01-27 03:06 J -11459692.48 -11459692.37 -11459692.24 0.0507 0.0280

Mars -36088-04-23 22:33 J -11459605.65 -11459605.56 -11459605.47 0.1879 0.1373

Earth -36088-04-27 16:18 J -11459601.95 -11459601.82 -11459601.70 0.2669 0.0863

Moon -36088-04-27 16:18 J -11459601.93 -11459601.82 -11459601.70 0.2676 0.0947 *

Mars -36087-03-08 08:23 J -11459287.26 -11459287.15 -11459287.03 0.1647 0.0946

Saturn -36086-03-29 15:50 J -11458900.86 -11458900.84 -11458900.82 0.0276 0.0273

Saturn -36086-06-26 05:59 J -11458812.37 -11458812.25 -11458812.13 0.0276 0.0166

Saturn -36086-09-22 20:09 J -11458723.80 -11458723.66 -11458723.51 0.0277 0.0057

Saturn -36086-12-20 11:02 J -11458635.19 -11458635.04 -11458634.89 0.0277 0.0057

Saturn -36085-03-18 01:54 J -11458546.54 -11458546.42 -11458546.30 0.0277 0.0172

Jupiter -36082-03-29 22:47 J -11457439.69 -11457439.55 -11457439.41 0.0518 0.0238

Jupiter -36082-06-27 20:23 J -11457349.72 -11457349.65 -11457349.58 0.0522 0.0462

Neptune -36082-09-20 00:28 J -11457265.51 -11457265.48 -11457265.44 0.0088 0.0086

Neptune -36082-12-17 02:52 J -11457177.45 -11457177.38 -11457177.28 0.0088 0.0078

Neptune -36081-03-14 05:30 J -11457089.36 -11457089.27 -11457089.15 0.0088 0.0070

Moon -36081-04-20 03:21 J -11457052.44 -11457052.36 -11457052.28 0.2671 0.2043

Earth -36081-04-20 04:04 J -11457052.41 -11457052.33 -11457052.24 0.2674 0.1920 *

Neptune -36081-06-10 08:09 J -11457001.27 -11457001.16 -11457001.02 0.0088 0.0062

Neptune -36081-09-06 10:47 J -11456913.17 -11456913.05 -11456912.90 0.0088 0.0054

Neptune -36081-12-03 13:26 J -11456825.07 -11456824.94 -11456824.78 0.0088 0.0046

Neptune -36080-03-01 16:04 J -11456736.97 -11456736.83 -11456736.66 0.0088 0.0038

Neptune -36080-05-28 18:42 J -11456648.87 -11456648.72 -11456648.55 0.0088 0.0030

Neptune -36080-08-24 21:21 J -11456560.77 -11456560.61 -11456560.44 0.0088 0.0021

Neptune -36080-11-20 23:59 J -11456472.66 -11456472.50 -11456472.33 0.0088 0.0013

Neptune -36079-02-17 02:38 J -11456384.56 -11456384.39 -11456384.22 0.0088 0.0005

Neptune -36079-05-16 05:16 J -11456296.45 -11456296.28 -11456296.12 0.0088 0.0003

Neptune -36079-08-12 07:40 J -11456208.35 -11456208.18 -11456208.01 0.0088 0.0010

Mars -36079-09-14 04:04 J -11456175.45 -11456175.33 -11456175.20 0.1874 0.0511

Neptune -36079-11-08 10:04 J -11456120.24 -11456120.08 -11456119.91 0.0088 0.0018

Neptune -36078-02-04 12:28 J -11456032.13 -11456031.98 -11456031.81 0.0088 0.0026

Neptune -36078-05-03 15:06 J -11455944.02 -11455943.87 -11455943.71 0.0088 0.0034

Mars -36078-07-29 14:09 J -11455857.05 -11455856.91 -11455856.77 0.1651 0.0299

Neptune -36078-07-30 17:30 J -11455855.91 -11455855.77 -11455855.62 0.0088 0.0041

Neptune -36078-10-26 19:54 J -11455767.80 -11455767.67 -11455767.52 0.0088 0.0049

Earth -36078-10-30 12:42 J -11455764.10 -11455763.97 -11455763.85 0.2663 0.0616

Moon -36078-10-30 13:11 J -11455764.08 -11455763.95 -11455763.83 0.2669 0.0588 *

Neptune -36077-01-22 22:33 J -11455679.69 -11455679.56 -11455679.43 0.0088 0.0057

Neptune -36077-04-20 00:42 J -11455591.57 -11455591.47 -11455591.35 0.0088 0.0065

Neptune -36077-07-17 02:52 J -11455503.45 -11455503.38 -11455503.26 0.0088 0.0073

Jupiter -36077-08-17 19:11 J -11455471.77 -11455471.70 -11455471.63 0.0512 0.0444

Neptune -36077-10-13 05:30 J -11455415.33 -11455415.27 -11455415.19 0.0088 0.0080

Jupiter -36077-11-15 06:14 J -11455382.38 -11455382.24 -11455382.10 0.0508 0.0139

Neptune -36076-01-09 07:40 J -11455327.18 -11455327.18 -11455327.13 0.0088 0.0088

Earth -36075-04-30 14:38 J -11454850.98 -11454850.89 -11454850.80 0.2667 0.1906

Moon -36075-04-30 15:21 J -11454850.94 -11454850.86 -11454850.77 0.2671 0.1899 *

Uranus -36072-08-08 08:23 J -11453655.17 -11453655.15 -11453655.10 0.0133 0.0129

Saturn -36072-11-04 09:21 J -11453567.21 -11453567.11 -11453567.01 0.0282 0.0217

Uranus -36072-11-04 13:26 J -11453567.03 -11453566.94 -11453566.84 0.0133 0.0107 *

Uranus -36071-01-31 18:14 J -11453478.86 -11453478.74 -11453478.61 0.0133 0.0086

Saturn -36071-02-01 02:23 J -11453478.55 -11453478.40 -11453478.25 0.0282 0.0090

Uranus -36071-04-29 23:02 J -11453390.68 -11453390.54 -11453390.40 0.0133 0.0064

Saturn -36071-04-30 18:42 J -11453389.87 -11453389.72 -11453389.56 0.0281 0.0035

Uranus -36071-07-27 03:50 J -11453302.50 -11453302.34 -11453302.19 0.0133 0.0043

Saturn -36071-07-28 10:47 J -11453301.17 -11453301.05 -11453300.92 0.0281 0.0154

Moon -36071-10-22 21:21 J -11453214.67 -11453214.61 -11453214.55 0.2656 0.2351

Earth -36071-10-22 22:18 J -11453214.63 -11453214.57 -11453214.51 0.2658 0.2329 *

Uranus -36071-10-23 08:23 J -11453214.31 -11453214.15 -11453213.99 0.0133 0.0022

Saturn -36071-10-25 02:38 J -11453212.43 -11453212.39 -11453212.36 0.0281 0.0271

Jupiter -36070-01-15 23:16 J -11453129.63 -11453129.53 -11453129.43 0.0518 0.0407

Uranus -36070-01-19 12:57 J -11453126.12 -11453125.96 -11453125.80 0.0132 0.0002

Jupiter -36070-04-15 21:21 J -11453039.74 -11453039.61 -11453039.48 0.0522 0.0299

Uranus -36070-04-17 17:30 J -11453037.92 -11453037.77 -11453037.61 0.0132 0.0020

Uranus -36070-07-14 22:04 J -11452949.73 -11452949.58 -11452949.43 0.0132 0.0040

Uranus -36070-10-11 02:38 J -11452861.53 -11452861.39 -11452861.25 0.0132 0.0061

Uranus -36069-01-07 06:57 J -11452773.33 -11452773.21 -11452773.08 0.0132 0.0081

Mars -36069-02-04 10:04 J -11452745.20 -11452745.08 -11452744.95 0.1869 0.0331

Uranus -36069-04-04 11:30 J -11452685.12 -11452685.02 -11452684.92 0.0132 0.0101

Uranus -36069-07-01 15:50 J -11452596.90 -11452596.84 -11452596.78 0.0132 0.0120

Mars -36069-12-18 19:40 J -11452426.83 -11452426.68 -11452426.54 0.1654 0.0368

Moon -36068-04-23 00:42 J -11452301.59 -11452301.47 -11452301.35 0.2675 0.1003

Earth -36068-04-23 01:40 J -11452301.55 -11452301.43 -11452301.31 0.2672 0.0964 *

Jupiter -36065-09-03 08:52 J -11451072.27 -11451072.13 -11451071.98 0.0508 0.0011

Earth -36065-11-01 10:33 J -11451013.16 -11451013.06 -11451012.95 0.2665 0.1600

Moon -36065-11-01 11:30 J -11451013.12 -11451013.02 -11451012.93 0.2669 0.1737 *

Mars -36060-06-26 16:33 J -11449314.91 -11449314.81 -11449314.71 0.1864 0.1121

Mars -36059-05-11 00:28 J -11448996.59 -11448996.48 -11448996.37 0.1659 0.1062

Jupiter -36058-02-01 22:04 J -11448729.73 -11448729.58 -11448729.43 0.0521 0.0133

Moon -36058-10-25 20:23 J -11448463.76 -11448463.65 -11448463.54 0.2664 0.1347

Earth -36058-10-25 21:21 J -11448463.73 -11448463.61 -11448463.50 0.2660 0.1258 *

Saturn -36057-11-12 05:45 J -11448080.35 -11448080.26 -11448080.16 0.0277 0.0209

Saturn -36056-02-08 19:54 J -11447991.80 -11447991.67 -11447991.52 0.0277 0.0100

Saturn -36056-05-08 10:33 J -11447903.21 -11447903.06 -11447902.91 0.0277 0.0013

Saturn -36056-08-05 01:26 J -11447814.57 -11447814.44 -11447814.30 0.0277 0.0127

Saturn -36056-11-01 16:47 J -11447725.87 -11447725.80 -11447725.73 0.0278 0.0244

Moon -36055-04-25 23:02 J -11447550.66 -11447550.54 -11447550.41 0.2676 0.0082

Earth -36055-04-25 23:30 J -11447550.65 -11447550.52 -11447550.39 0.2670 0.0027 *

Jupiter -36053-06-22 11:45 J -11446762.15 -11446762.01 -11446761.87 0.0509 0.0153

Jupiter -36053-09-19 23:16 J -11446672.60 -11446672.53 -11446672.45 0.0506 0.0436

Earth -36052-11-04 08:23 J -11446262.18 -11446262.15 -11446262.12 0.2666 0.2551

Moon -36052-11-04 09:21 J -11446262.14 -11446262.11 -11446262.08 0.2664 0.2550 *

Venus -36049-05-02 01:54 J -11445352.53 -11445352.42 -11445352.31 0.3769 0.1352

Mars -36049-10-22 22:47 J -11445178.63 -11445178.55 -11445178.47 0.1878 0.1467

Mars -36048-09-06 08:52 J -11444860.24 -11444860.13 -11444860.02 0.1647 0.1032

Jupiter -36047-11-20 21:50 J -11444419.75 -11444419.59 -11444419.43 0.0519 0.0047

Venus -36045-05-03 12:42 J -11443890.03 -11443889.97 -11443889.90 0.3606 0.2988

Moon -36045-10-27 19:26 J -11443712.82 -11443712.69 -11443712.56 0.2668 0.0275

Earth -36045-10-27 19:54 J -11443712.80 -11443712.67 -11443712.54 0.2661 0.0222 *

Venus -36044-11-15 22:18 J -11443328.67 -11443328.57 -11443328.47 0.3765 0.2114

Saturn -36042-03-24 10:47 J -11442835.12 -11442835.05 -11442834.98 0.0283 0.0251

Earth -36042-04-28 21:35 J -11442799.71 -11442799.60 -11442799.48 0.2669 0.1053

Moon -36042-04-28 21:50 J -11442799.70 -11442799.59 -11442799.47 0.2676 0.1022 *

Saturn -36042-06-21 03:50 J -11442746.48 -11442746.34 -11442746.20 0.0283 0.0123

Saturn -36042-09-17 20:23 J -11442657.81 -11442657.65 -11442657.49 0.0282 0.0003

Saturn -36042-12-15 12:28 J -11442569.11 -11442568.98 -11442568.83 0.0282 0.0126

Saturn -36041-03-13 04:18 J -11442480.39 -11442480.32 -11442480.24 0.0282 0.0244

Jupiter -36041-04-10 14:23 J -11442452.02 -11442451.90 -11442451.79 0.0511 0.0302

Jupiter -36041-07-09 01:40 J -11442362.55 -11442362.43 -11442362.31 0.0507 0.0286

Venus -36040-11-17 09:21 J -11441866.23 -11441866.11 -11441865.99 0.3609 0.0210

Mars -36039-03-15 04:18 J -11441748.44 -11441748.32 -11441748.20 0.1874 0.0595

Mars -36038-01-27 14:38 J -11441430.04 -11441429.89 -11441429.75 0.1651 0.0392

Moon -36035-04-21 08:23 J -11440250.24 -11440250.15 -11440250.05 0.2673 0.1745

Earth -36035-04-21 09:21 J -11440250.20 -11440250.11 -11440250.01 0.2674 0.1753 *

Jupiter -36035-09-08 21:50 J -11440109.74 -11440109.59 -11440109.45 0.0518 0.0223

Jupiter -36035-12-07 19:11 J -11440019.76 -11440019.70 -11440019.63 0.0522 0.0475

Venus -36034-06-03 05:30 J -11439842.31 -11439842.27 -11439842.22 0.3612 0.3294

Pluto -36032-05-10 15:50 J -11439134.88 -11439134.84 -11439134.76 0.0077 0.0070

Pluto -36032-08-06 17:30 J -11439046.85 -11439046.77 -11439046.67 0.0077 0.0062

Earth -36032-10-30 17:59 J -11438961.87 -11438961.75 -11438961.62 0.2663 0.0797

Moon -36032-10-30 18:28 J -11438961.84 -11438961.73 -11438961.61 0.2669 0.0899 *

Pluto -36032-11-02 18:57 J -11438958.81 -11438958.71 -11438958.59 0.0077 0.0054

Pluto -36031-01-29 20:38 J -11438870.76 -11438870.64 -11438870.52 0.0076 0.0046

Pluto -36031-04-27 21:50 J -11438782.71 -11438782.59 -11438782.45 0.0076 0.0038

Pluto -36031-07-24 23:02 J -11438694.66 -11438694.54 -11438694.39 0.0076 0.0031

Pluto -36031-10-21 00:42 J -11438606.61 -11438606.47 -11438606.33 0.0076 0.0023

Pluto -36030-01-17 01:54 J -11438518.56 -11438518.42 -11438518.27 0.0076 0.0016

Pluto -36030-04-15 03:21 J -11438430.51 -11438430.36 -11438430.21 0.0076 0.0008

Pluto -36030-07-12 04:47 J -11438342.45 -11438342.30 -11438342.15 0.0076 0.0002

Mars -36030-08-05 10:18 J -11438318.20 -11438318.07 -11438317.95 0.1869 0.0238

Pluto -36030-10-08 05:59 J -11438254.40 -11438254.25 -11438254.10 0.0075 0.0006

Pluto -36029-01-04 07:11 J -11438166.34 -11438166.20 -11438166.05 0.0075 0.0014

Jupiter -36029-01-28 17:30 J -11438141.84 -11438141.77 -11438141.70 0.0512 0.0441

Pluto -36029-04-01 08:38 J -11438078.28 -11438078.14 -11438078.00 0.0075 0.0021

Jupiter -36029-04-27 04:47 J -11438052.44 -11438052.30 -11438052.16 0.0508 0.0144

Earth -36029-04-30 20:09 J -11438048.74 -11438048.66 -11438048.58 0.2667 0.2098

Moon -36029-04-30 21:06 J -11438048.69 -11438048.62 -11438048.55 0.2670 0.2246 *

Mars -36029-06-18 19:54 J -11437999.82 -11437999.67 -11437999.53 0.1655 0.0284

Pluto -36029-06-28 09:35 J -11437990.23 -11437990.10 -11437989.95 0.0075 0.0028

Pluto -36029-09-24 10:47 J -11437902.17 -11437902.05 -11437901.91 0.0075 0.0035

Pluto -36029-12-21 11:59 J -11437814.11 -11437814.00 -11437813.86 0.0075 0.0042

Uranus -36028-01-16 13:11 J -11437787.98 -11437787.95 -11437787.91 0.0146 0.0141

Pluto -36028-03-19 13:11 J -11437726.05 -11437725.95 -11437725.82 0.0075 0.0049

Uranus -36028-04-14 17:59 J -11437699.83 -11437699.75 -11437699.64 0.0146 0.0116

Pluto -36028-06-15 14:23 J -11437637.98 -11437637.90 -11437637.78 0.0075 0.0056

Uranus -36028-07-11 23:16 J -11437611.64 -11437611.53 -11437611.40 0.0146 0.0090

Pluto -36028-09-11 15:50 J -11437549.91 -11437549.84 -11437549.75 0.0074 0.0062

Uranus -36028-10-08 04:33 J -11437523.44 -11437523.31 -11437523.17 0.0146 0.0063

Pluto -36028-12-08 17:02 J -11437461.84 -11437461.79 -11437461.73 0.0074 0.0069

Uranus -36027-01-04 09:50 J -11437435.24 -11437435.09 -11437434.94 0.0146 0.0037

Saturn -36027-04-01 07:54 J -11437348.24 -11437348.17 -11437348.09 0.0276 0.0234

Uranus -36027-04-02 15:06 J -11437347.02 -11437346.87 -11437346.72 0.0146 0.0010

Saturn -36027-06-28 22:04 J -11437259.71 -11437259.58 -11437259.45 0.0276 0.0127

Uranus -36027-06-29 20:23 J -11437258.80 -11437258.65 -11437258.50 0.0146 0.0017

Saturn -36027-09-25 12:28 J -11437171.13 -11437170.98 -11437170.83 0.0277 0.0017

Uranus -36027-09-26 01:40 J -11437170.57 -11437170.43 -11437170.28 0.0146 0.0044

Saturn -36027-12-23 03:06 J -11437082.51 -11437082.37 -11437082.22 0.0277 0.0098

Uranus -36027-12-23 07:11 J -11437082.34 -11437082.20 -11437082.06 0.0146 0.0072 *

Uranus -36026-03-21 12:28 J -11436994.09 -11436993.98 -11436993.86 0.0146 0.0100

Saturn -36026-03-21 18:28 J -11436993.83 -11436993.73 -11436993.64 0.0277 0.0213

Uranus -36026-06-17 17:59 J -11436905.82 -11436905.75 -11436905.67 0.0146 0.0128

Moon -36025-10-23 02:52 J -11436412.45 -11436412.38 -11436412.31 0.2658 0.2279

Earth -36025-10-23 03:50 J -11436412.41 -11436412.34 -11436412.26 0.2658 0.2135 *

Jupiter -36023-06-27 21:35 J -11435799.70 -11435799.60 -11435799.50 0.0517 0.0403

Jupiter -36023-09-25 19:26 J -11435709.81 -11435709.69 -11435709.56 0.0521 0.0303

Moon -36022-04-24 06:14 J -11435499.36 -11435499.24 -11435499.13 0.2675 0.0899

Earth -36022-04-24 06:57 J -11435499.33 -11435499.21 -11435499.08 0.2672 0.0789 *

Mars -36021-12-25 16:33 J -11434887.92 -11434887.81 -11434887.71 0.1864 0.1050

Mars -36020-11-09 00:57 J -11434569.58 -11434569.46 -11434569.34 0.1659 0.0967

Earth -36019-11-02 16:04 J -11434210.93 -11434210.83 -11434210.74 0.2665 0.1775

Moon -36019-11-02 17:02 J -11434210.89 -11434210.79 -11434210.70 0.2667 0.1768 *

Jupiter -36017-02-14 07:54 J -11433742.32 -11433742.17 -11433742.03 0.0509 0.0009

Saturn -36013-11-07 02:38 J -11432014.51 -11432014.39 -11432014.26 0.0282 0.0171

Saturn -36012-02-03 19:26 J -11431925.84 -11431925.69 -11431925.53 0.0282 0.0044

Saturn -36012-05-03 11:45 J -11431837.16 -11431837.01 -11431836.86 0.0282 0.0079

Saturn -36012-07-31 03:50 J -11431748.45 -11431748.34 -11431748.23 0.0281 0.0198

Moon -36012-10-26 01:54 J -11431661.54 -11431661.42 -11431661.30 0.2665 0.1087

Earth -36012-10-26 02:52 J -11431661.50 -11431661.38 -11431661.26 0.2660 0.1069 *

Mars -36011-05-17 23:16 J -11431457.55 -11431457.53 -11431457.50 0.1859 0.1809

Jupiter -36011-07-14 20:23 J -11431399.80 -11431399.65 -11431399.50 0.0521 0.0138

Mars -36009-04-22 22:47 J -11430751.62 -11430751.55 -11430751.48 0.1878 0.1546

Moon -36009-04-26 04:47 J -11430748.43 -11430748.30 -11430748.18 0.2677 0.0228

Earth -36009-04-26 05:02 J -11430748.42 -11430748.29 -11430748.17 0.2670 0.0223 *

Mars -36008-03-07 09:21 J -11430433.22 -11430433.11 -11430433.01 0.1647 0.1125

Jupiter -36006-12-03 10:47 J -11429432.19 -11429432.05 -11429431.92 0.0509 0.0141

Jupiter -36005-03-01 22:18 J -11429342.63 -11429342.57 -11429342.50 0.0506 0.0449

Moon -36002-04-19 16:47 J -11428198.84 -11428198.80 -11428198.76 0.2669 0.2486

Earth -36002-04-19 17:16 J -11428198.81 -11428198.78 -11428198.74 0.2675 0.2520 *

Neptune -36001-12-21 23:59 J -11427586.51 -11427586.50 -11427586.47 0.0089 0.0088

36TH MILLENNIUM BCE

This is a list of transits of Mercury in the 36th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Neptune -36000-03-20 01:40 J -11427498.47 -11427498.43 -11427498.36 0.0089 0.0081

Neptune -36000-06-16 03:35 J -11427410.42 -11427410.35 -11427410.27 0.0089 0.0074

Neptune -36000-09-12 05:02 J -11427322.37 -11427322.29 -11427322.18 0.0089 0.0068

Mars -36000-09-13 04:33 J -11427321.43 -11427321.31 -11427321.19 0.1874 0.0690

Neptune -36000-12-09 06:57 J -11427234.31 -11427234.21 -11427234.10 0.0089 0.0061

Neptune -35999-03-07 08:38 J -11427146.24 -11427146.14 -11427146.01 0.0089 0.0054

Jupiter -35999-05-02 20:52 J -11427089.79 -11427089.63 -11427089.47 0.0520 0.0032

Neptune -35999-06-03 10:33 J -11427058.18 -11427058.06 -11427057.93 0.0089 0.0047

Mars -35999-07-28 14:52 J -11427003.02 -11427002.88 -11427002.74 0.1651 0.0477

Neptune -35999-08-30 12:14 J -11426970.11 -11426969.99 -11426969.85 0.0089 0.0040

Moon -35999-10-29 01:11 J -11426910.58 -11426910.45 -11426910.32 0.2668 0.0064

Earth -35999-10-29 01:11 J -11426910.58 -11426910.45 -11426910.32 0.2662 0.0062 *

Neptune -35999-11-26 14:09 J -11426882.05 -11426881.91 -11426881.77 0.0089 0.0033

Neptune -35998-02-22 15:50 J -11426793.98 -11426793.84 -11426793.70 0.0089 0.0027

Neptune -35998-05-21 17:45 J -11426705.90 -11426705.76 -11426705.62 0.0089 0.0019

Venus -35998-05-24 04:04 J -11426703.37 -11426703.33 -11426703.28 0.3771 0.3474

Neptune -35998-08-17 19:26 J -11426617.83 -11426617.69 -11426617.54 0.0089 0.0013

Neptune -35998-11-13 21:21 J -11426529.76 -11426529.61 -11426529.46 0.0089 0.0006

Saturn -35998-11-15 21:35 J -11426527.71 -11426527.60 -11426527.47 0.0277 0.0172

Neptune -35997-02-09 23:02 J -11426441.68 -11426441.54 -11426441.39 0.0089 0.0003

Saturn -35997-02-12 11:59 J -11426439.14 -11426439.00 -11426438.85 0.0277 0.0062

Neptune -35997-05-08 00:57 J -11426353.61 -11426353.46 -11426353.31 0.0089 0.0009

Saturn -35997-05-11 02:38 J -11426350.53 -11426350.39 -11426350.23 0.0277 0.0052

Neptune -35997-08-04 02:38 J -11426265.53 -11426265.39 -11426265.24 0.0089 0.0016

Saturn -35997-08-07 17:45 J -11426261.88 -11426261.76 -11426261.64 0.0277 0.0166

Neptune -35997-10-31 04:33 J -11426177.45 -11426177.31 -11426177.16 0.0089 0.0023

Neptune -35996-01-27 06:14 J -11426089.37 -11426089.24 -11426089.09 0.0089 0.0030

Neptune -35996-04-25 08:09 J -11426001.29 -11426001.16 -11426001.02 0.0089 0.0037

Earth -35996-04-29 03:06 J -11425997.48 -11425997.37 -11425997.26 0.2668 0.1232

Moon -35996-04-29 03:35 J -11425997.47 -11425997.35 -11425997.24 0.2674 0.1295 *

Neptune -35996-07-22 10:04 J -11425913.20 -11425913.08 -11425912.95 0.0089 0.0044

Neptune -35996-10-18 11:45 J -11425825.12 -11425825.01 -11425824.88 0.0089 0.0052

Neptune -35995-01-14 13:40 J -11425737.03 -11425736.93 -11425736.81 0.0089 0.0059

Neptune -35995-04-12 15:35 J -11425648.94 -11425648.85 -11425648.74 0.0089 0.0066

Neptune -35995-07-09 17:30 J -11425560.84 -11425560.77 -11425560.68 0.0089 0.0073

Neptune -35995-10-05 19:11 J -11425472.74 -11425472.70 -11425472.62 0.0089 0.0081

Neptune -35994-01-01 21:21 J -11425384.62 -11425384.61 -11425384.58 0.0089 0.0088

Jupiter -35994-09-21 13:40 J -11425122.05 -11425121.93 -11425121.82 0.0510 0.0284

Jupiter -35994-12-20 00:57 J -11425032.58 -11425032.46 -11425032.34 0.0507 0.0302

Venus -35993-12-07 00:28 J -11424679.60 -11424679.48 -11424679.36 0.3768 0.0109

Mars -35990-02-03 10:18 J -11423891.19 -11423891.07 -11423890.94 0.1869 0.0159

Mars -35990-12-18 20:09 J -11423572.80 -11423572.66 -11423572.51 0.1655 0.0194

Moon -35989-04-21 13:40 J -11423448.02 -11423447.93 -11423447.83 0.2673 0.1731

Earth -35989-04-21 14:52 J -11423447.98 -11423447.88 -11423447.78 0.2673 0.1576 *

Venus -35989-12-08 11:30 J -11423217.12 -11423217.02 -11423216.91 0.3607 0.1774

Uranus -35988-08-28 16:33 J -11422953.87 -11422953.81 -11422953.72 0.0133 0.0119

Uranus -35988-11-24 21:35 J -11422865.70 -11422865.60 -11422865.48 0.0133 0.0097

Jupiter -35987-02-18 20:52 J -11422779.78 -11422779.63 -11422779.49 0.0518 0.0207

Uranus -35987-02-21 02:09 J -11422777.53 -11422777.41 -11422777.26 0.0133 0.0076

Jupiter -35987-05-19 18:14 J -11422689.79 -11422689.74 -11422689.69 0.0522 0.0491

Uranus -35987-05-20 07:11 J -11422689.35 -11422689.20 -11422689.05 0.0133 0.0054

Venus -35987-06-22 21:06 J -11422655.67 -11422655.62 -11422655.57 0.3764 0.3394

Uranus -35987-08-16 11:59 J -11422601.16 -11422601.00 -11422600.85 0.0133 0.0033

Uranus -35987-11-12 16:33 J -11422512.97 -11422512.81 -11422512.65 0.0133 0.0012

Uranus -35986-02-08 21:06 J -11422424.78 -11422424.62 -11422424.46 0.0132 0.0009

Uranus -35986-05-08 01:40 J -11422336.58 -11422336.43 -11422336.27 0.0132 0.0030

Uranus -35986-08-04 05:59 J -11422248.39 -11422248.25 -11422248.09 0.0132 0.0051

Uranus -35986-10-31 10:33 J -11422160.19 -11422160.06 -11422159.92 0.0132 0.0071

Earth -35986-10-31 23:30 J -11422159.64 -11422159.52 -11422159.40 0.2663 0.0975

Moon -35986-10-31 23:59 J -11422159.62 -11422159.50 -11422159.38 0.2670 0.0970 *

Uranus -35985-01-27 15:06 J -11422071.98 -11422071.87 -11422071.75 0.0132 0.0090

Uranus -35985-04-24 19:26 J -11421983.77 -11421983.69 -11421983.60 0.0132 0.0110

Uranus -35985-07-21 23:45 J -11421895.53 -11421895.51 -11421895.48 0.0132 0.0130

Saturn -35983-03-27 03:21 J -11421282.46 -11421282.36 -11421282.24 0.0283 0.0208

Earth -35983-05-02 01:40 J -11421246.50 -11421246.43 -11421246.37 0.2667 0.2292

Moon -35983-05-02 02:38 J -11421246.45 -11421246.39 -11421246.32 0.2670 0.2307 *

Saturn -35983-06-23 20:23 J -11421193.80 -11421193.65 -11421193.49 0.0283 0.0080

Venus -35983-06-24 08:09 J -11421193.28 -11421193.16 -11421193.05 0.3610 0.1393

Saturn -35983-09-20 12:57 J -11421105.11 -11421104.96 -11421104.80 0.0282 0.0046

Saturn -35983-12-18 05:02 J -11421016.41 -11421016.29 -11421016.16 0.0282 0.0167

Jupiter -35982-07-10 16:04 J -11420811.90 -11420811.83 -11420811.76 0.0512 0.0434

Jupiter -35982-10-08 03:21 J -11420722.50 -11420722.36 -11420722.23 0.0508 0.0151

Mars -35981-06-25 16:33 J -11420460.91 -11420460.81 -11420460.70 0.1864 0.0960

Mars -35980-05-10 01:11 J -11420142.57 -11420142.45 -11420142.32 0.1659 0.0878

Moon -35979-10-24 08:23 J -11419610.24 -11419610.15 -11419610.06 0.2660 0.1944

Earth -35979-10-24 09:21 J -11419610.19 -11419610.11 -11419610.02 0.2659 0.1948 *

Moon -35976-04-24 11:30 J -11418697.14 -11418697.02 -11418696.89 0.2675 0.0614

Earth -35976-04-24 12:28 J -11418697.11 -11418696.98 -11418696.86 0.2672 0.0609 *

Jupiter -35976-12-07 20:38 J -11418469.75 -11418469.64 -11418469.53 0.0517 0.0384

Jupiter -35975-03-07 18:28 J -11418379.85 -11418379.73 -11418379.60 0.0521 0.0319

Earth -35973-11-02 21:21 J -11417408.69 -11417408.61 -11417408.52 0.2665 0.1949

Moon -35973-11-02 22:18 J -11417408.64 -11417408.57 -11417408.49 0.2666 0.2086 *

Mars -35972-11-15 23:16 J -11417030.57 -11417030.53 -11417030.49 0.1858 0.1730

Mars -35971-09-30 05:59 J -11416712.29 -11416712.25 -11416712.21 0.1663 0.1592

Jupiter -35970-07-27 06:14 J -11416412.38 -11416412.24 -11416412.10 0.0509 0.0008

Mars -35970-10-22 22:47 J -11416324.61 -11416324.55 -11416324.48 0.1878 0.1642

Mars -35969-09-05 09:35 J -11416006.20 -11416006.10 -11416006.00 0.1647 0.1204

Saturn -35968-04-03 23:59 J -11415795.60 -11415795.50 -11415795.39 0.0276 0.0196

Saturn -35968-07-01 14:23 J -11415707.05 -11415706.90 -11415706.76 0.0276 0.0087

Saturn -35968-09-28 04:47 J -11415618.45 -11415618.30 -11415618.15 0.0276 0.0024

Saturn -35968-12-25 19:40 J -11415529.81 -11415529.68 -11415529.55 0.0277 0.0138

Saturn -35967-03-24 10:47 J -11415441.10 -11415441.05 -11415440.99 0.0277 0.0255

Moon -35966-10-27 07:26 J -11414859.31 -11414859.19 -11414859.07 0.2665 0.0995

Earth -35966-10-27 08:09 J -11414859.28 -11414859.16 -11414859.03 0.2660 0.0885 *

Jupiter -35964-12-24 18:42 J -11414069.87 -11414069.72 -11414069.57 0.0520 0.0143

Moon -35963-04-27 10:04 J -11413946.20 -11413946.08 -11413945.95 0.2677 0.0347

Earth -35963-04-27 10:18 J -11413946.20 -11413946.07 -11413945.94 0.2670 0.0394 *

Mars -35960-03-14 04:33 J -11412894.43 -11412894.31 -11412894.20 0.1873 0.0771

Mars -35959-01-26 15:21 J -11412576.00 -11412575.86 -11412575.72 0.1651 0.0567

Jupiter -35958-05-15 09:35 J -11412102.24 -11412102.10 -11412101.97 0.0510 0.0130

Jupiter -35958-08-12 21:06 J -11412012.67 -11412012.62 -11412012.56 0.0506 0.0461

Moon -35956-04-19 21:50 J -11411396.63 -11411396.59 -11411396.54 0.2671 0.2440

Earth -35956-04-19 22:33 J -11411396.61 -11411396.56 -11411396.50 0.2675 0.2353 *

Saturn -35954-08-14 02:38 J -11410550.46 -11410550.39 -11410550.32 0.0283 0.0254

Saturn -35954-11-10 19:40 J -11410461.82 -11410461.68 -11410461.53 0.0282 0.0125

Saturn -35953-02-07 12:28 J -11410373.14 -11410372.98 -11410372.82 0.0282 0.0001

Saturn -35953-05-06 04:47 J -11410284.44 -11410284.30 -11410284.16 0.0282 0.0123

Saturn -35953-08-02 20:23 J -11410195.72 -11410195.65 -11410195.56 0.0281 0.0243

Earth -35953-10-29 06:42 J -11410108.35 -11410108.22 -11410108.09 0.2662 0.0152

Moon -35953-10-29 06:42 J -11410108.34 -11410108.22 -11410108.09 0.2669 0.0199 *

Jupiter -35952-10-12 19:11 J -11409759.86 -11409759.70 -11409759.54 0.0519 0.0026

Mars -35951-08-04 10:33 J -11409464.19 -11409464.06 -11409463.94 0.1869 0.0085

Earth -35950-04-30 08:38 J -11409195.25 -11409195.14 -11409195.03 0.2668 0.1426

Moon -35950-04-30 09:06 J -11409195.22 -11409195.12 -11409195.01 0.2673 0.1481 *

Mars -35950-06-18 20:38 J -11409145.78 -11409145.64 -11409145.49 0.1655 0.0106

Jupiter -35946-03-03 12:28 J -11407792.10 -11407791.98 -11407791.86 0.0511 0.0272

Jupiter -35946-05-31 23:45 J -11407702.62 -11407702.51 -11407702.39 0.0507 0.0315

Uranus -35944-02-05 21:06 J -11407086.68 -11407086.62 -11407086.55 0.0146 0.0131

Uranus -35944-05-05 02:09 J -11406998.51 -11406998.41 -11406998.30 0.0146 0.0105

Uranus -35944-08-01 07:26 J -11406910.32 -11406910.19 -11406910.06 0.0146 0.0079

Uranus -35944-10-28 12:28 J -11406822.12 -11406821.98 -11406821.83 0.0146 0.0053

Uranus -35943-01-24 17:45 J -11406733.91 -11406733.76 -11406733.61 0.0146 0.0027

Moon -35943-04-22 19:11 J -11406645.81 -11406645.70 -11406645.60 0.2673 0.1402

Earth -35943-04-22 20:09 J -11406645.77 -11406645.66 -11406645.55 0.2673 0.1404 *

Uranus -35943-04-22 23:02 J -11406645.69 -11406645.54 -11406645.38 0.0146 0.0002 *

Uranus -35943-07-20 04:18 J -11406557.47 -11406557.32 -11406557.16 0.0146 0.0028

Uranus -35943-10-16 09:50 J -11406469.24 -11406469.09 -11406468.95 0.0146 0.0055

Uranus -35942-01-12 15:06 J -11406380.99 -11406380.87 -11406380.74 0.0146 0.0082

Uranus -35942-04-10 20:23 J -11406292.74 -11406292.65 -11406292.54 0.0146 0.0111

Uranus -35942-07-08 01:54 J -11406204.46 -11406204.42 -11406204.36 0.0146 0.0138

Mars -35942-12-25 16:47 J -11406033.91 -11406033.80 -11406033.69 0.1864 0.0868

Venus -35942-12-29 02:52 J -11406030.48 -11406030.38 -11406030.29 0.3770 0.2261

Mars -35941-11-08 01:40 J -11405715.56 -11405715.43 -11405715.30 0.1659 0.0785

Jupiter -35940-07-31 19:40 J -11405449.82 -11405449.68 -11405449.53 0.0518 0.0193

Jupiter -35940-10-29 17:16 J -11405359.81 -11405359.78 -11405359.74 0.0522 0.0508

Earth -35940-11-01 04:47 J -11405357.41 -11405357.30 -11405357.18 0.2664 0.1154

Moon -35940-11-01 05:30 J -11405357.38 -11405357.27 -11405357.16 0.2669 0.1225 *

Saturn -35939-08-21 23:45 J -11405063.58 -11405063.51 -11405063.43 0.0276 0.0240

Saturn -35939-11-18 13:54 J -11404975.05 -11404974.92 -11404974.79 0.0276 0.0133

Saturn -35938-02-15 04:18 J -11404886.47 -11404886.32 -11404886.17 0.0277 0.0022

Saturn -35938-05-14 18:57 J -11404797.85 -11404797.71 -11404797.56 0.0277 0.0091

Saturn -35938-08-11 09:50 J -11404709.18 -11404709.09 -11404708.98 0.0277 0.0207

Earth -35937-05-02 07:11 J -11404444.25 -11404444.20 -11404444.16 0.2666 0.2483

Moon -35937-05-02 08:09 J -11404444.18 -11404444.16 -11404444.14 0.2669 0.2618 *

Venus -35936-07-13 23:16 J -11404006.65 -11404006.53 -11404006.42 0.3767 0.1157

Jupiter -35935-12-20 15:21 J -11403481.94 -11403481.86 -11403481.77 0.0512 0.0415

Jupiter -35934-03-20 02:38 J -11403392.53 -11403392.39 -11403392.26 0.0508 0.0169

Moon -35933-10-24 13:54 J -11402808.01 -11402807.92 -11402807.83 0.2661 0.1914

Earth -35933-10-24 14:52 J -11402807.97 -11402807.88 -11402807.78 0.2659 0.1754 *

Mars -35932-05-16 23:16 J -11402603.58 -11402603.53 -11402603.47 0.1858 0.1647

Venus -35932-07-15 10:18 J -11402544.19 -11402544.07 -11402543.95 0.3608 0.0580

Mars -35931-03-31 06:28 J -11402285.29 -11402285.23 -11402285.17 0.1663 0.1495

Mars -35930-04-22 23:02 J -11401897.58 -11401897.54 -11401897.49 0.1878 0.1739

Moon -35930-04-25 17:16 J -11401894.91 -11401894.78 -11401894.66 0.2676 0.0554

Earth -35930-04-25 17:45 J -11401894.88 -11401894.76 -11401894.63 0.2671 0.0430 *

Mars -35929-03-06 09:50 J -11401579.17 -11401579.09 -11401579.00 0.1647 0.1293

Jupiter -35928-05-19 19:40 J -11401139.79 -11401139.68 -11401139.57 0.0517 0.0368

Jupiter -35928-08-17 17:45 J -11401049.88 -11401049.76 -11401049.64 0.0521 0.0335

Earth -35927-11-04 02:38 J -11400606.46 -11400606.39 -11400606.31 0.2665 0.2125

Moon -35927-11-04 03:50 J -11400606.42 -11400606.34 -11400606.27 0.2666 0.2140 *

Venus -35926-01-29 06:42 J -11400520.30 -11400520.22 -11400520.13 0.3611 0.2552

Saturn -35924-03-29 20:09 J -11399729.79 -11399729.66 -11399729.53 0.0283 0.0164

Saturn -35924-06-26 13:11 J -11399641.11 -11399640.95 -11399640.80 0.0283 0.0037

Saturn -35924-09-23 05:30 J -11399552.42 -11399552.27 -11399552.12 0.0283 0.0088

Saturn -35924-12-20 21:35 J -11399463.70 -11399463.60 -11399463.50 0.0282 0.0208

Jupiter -35922-01-06 04:47 J -11399082.44 -11399082.30 -11399082.16 0.0509 0.0015

Mars -35921-09-12 04:33 J -11398467.42 -11398467.31 -11398467.19 0.1873 0.0862

Mars -35920-07-27 15:35 J -11398148.98 -11398148.85 -11398148.71 0.1651 0.0655

Moon -35920-10-27 12:57 J -11398057.08 -11398056.96 -11398056.83 0.2665 0.0685

Earth -35920-10-27 13:40 J -11398057.05 -11398056.93 -11398056.80 0.2661 0.0696 *

Moon -35917-04-27 15:35 J -11397143.97 -11397143.85 -11397143.72 0.2676 0.0620

Earth -35917-04-27 15:50 J -11397143.97 -11397143.84 -11397143.72 0.2670 0.0579 *

Neptune -35917-06-15 22:04 J -11397094.62 -11397094.58 -11397094.54 0.0088 0.0085

Neptune -35917-09-12 00:42 J -11397006.55 -11397006.47 -11397006.39 0.0088 0.0077

Neptune -35917-12-09 03:06 J -11396918.47 -11396918.37 -11396918.25 0.0088 0.0069

Neptune -35916-03-07 05:45 J -11396830.37 -11396830.26 -11396830.12 0.0088 0.0061

Neptune -35916-06-03 08:23 J -11396742.27 -11396742.15 -11396742.00 0.0088 0.0053

Jupiter -35916-06-05 17:45 J -11396739.91 -11396739.76 -11396739.61 0.0520 0.0162

Neptune -35916-08-30 11:02 J -11396654.18 -11396654.04 -11396653.88 0.0088 0.0045

Neptune -35916-11-26 13:40 J -11396566.08 -11396565.93 -11396565.76 0.0088 0.0037

Neptune -35915-02-22 16:18 J -11396477.97 -11396477.82 -11396477.65 0.0088 0.0028

Neptune -35915-05-21 18:57 J -11396389.87 -11396389.71 -11396389.54 0.0088 0.0020

Neptune -35915-08-17 21:35 J -11396301.76 -11396301.60 -11396301.43 0.0088 0.0012

Neptune -35915-11-14 00:14 J -11396213.66 -11396213.49 -11396213.32 0.0088 0.0004

Neptune -35914-02-10 02:52 J -11396125.55 -11396125.38 -11396125.21 0.0088 0.0004

Neptune -35914-05-09 05:16 J -11396037.45 -11396037.28 -11396037.11 0.0088 0.0012

Neptune -35914-08-05 07:40 J -11395949.34 -11395949.18 -11395949.01 0.0088 0.0020

Neptune -35914-11-01 10:18 J -11395861.23 -11395861.07 -11395860.91 0.0088 0.0027

Neptune -35913-01-28 12:42 J -11395773.12 -11395772.97 -11395772.81 0.0088 0.0035

Neptune -35913-04-25 15:21 J -11395685.01 -11395684.86 -11395684.71 0.0088 0.0043

Neptune -35913-07-22 17:30 J -11395596.89 -11395596.77 -11395596.62 0.0088 0.0051

Neptune -35913-10-18 19:54 J -11395508.78 -11395508.67 -11395508.53 0.0088 0.0059

Neptune -35912-01-14 22:33 J -11395420.66 -11395420.56 -11395420.44 0.0088 0.0066

Neptune -35912-04-13 00:42 J -11395332.54 -11395332.47 -11395332.36 0.0088 0.0074

Neptune -35912-07-10 03:35 J -11395244.41 -11395244.35 -11395244.29 0.0088 0.0081

Neptune -35912-10-06 05:59 J -11395156.25 -11395156.25 -11395156.25 0.0088 0.0088

Mars -35911-02-02 10:33 J -11395037.18 -11395037.06 -11395036.93 0.1869 0.0038

Jupiter -35911-10-25 07:54 J -11394772.31 -11394772.17 -11394772.04 0.0510 0.0128

Mars -35911-12-17 21:06 J -11394718.77 -11394718.62 -11394718.48 0.1655 0.0046

Jupiter -35910-01-22 19:26 J -11394682.74 -11394682.69 -11394682.63 0.0506 0.0465

Moon -35910-04-21 03:06 J -11394594.44 -11394594.37 -11394594.30 0.2671 0.2220

Earth -35910-04-21 04:04 J -11394594.40 -11394594.33 -11394594.26 0.2674 0.2181 *

Saturn -35909-01-09 02:38 J -11394331.44 -11394331.39 -11394331.35 0.0276 0.0262

Saturn -35909-04-06 16:18 J -11394242.94 -11394242.82 -11394242.69 0.0276 0.0156

Saturn -35909-07-04 06:42 J -11394154.37 -11394154.22 -11394154.07 0.0276 0.0046

Saturn -35909-09-30 21:21 J -11394065.76 -11394065.61 -11394065.46 0.0276 0.0066

Saturn -35909-12-28 12:14 J -11393977.10 -11393976.99 -11393976.87 0.0277 0.0181

Earth -35907-10-30 12:14 J -11393306.12 -11393305.99 -11393305.87 0.2662 0.0344

Moon -35907-10-30 12:14 J -11393306.11 -11393305.99 -11393305.86 0.2669 0.0303 *

Jupiter -35904-03-24 17:30 J -11392429.92 -11392429.77 -11392429.61 0.0519 0.0023

Earth -35904-04-30 14:09 J -11392393.02 -11392392.91 -11392392.81 0.2668 0.1616

Moon -35904-04-30 14:52 J -11392392.98 -11392392.88 -11392392.78 0.2673 0.1648 *

Uranus -35904-06-21 20:09 J -11392340.69 -11392340.66 -11392340.63 0.0133 0.0130

Uranus -35904-09-18 01:11 J -11392252.55 -11392252.45 -11392252.36 0.0133 0.0108

Uranus -35904-12-15 05:45 J -11392164.38 -11392164.26 -11392164.13 0.0133 0.0087

Uranus -35903-03-13 10:33 J -11392076.20 -11392076.06 -11392075.92 0.0133 0.0065

Uranus -35903-06-09 15:21 J -11391988.01 -11391987.86 -11391987.71 0.0133 0.0044

Uranus -35903-09-05 20:09 J -11391899.82 -11391899.66 -11391899.51 0.0133 0.0023

Uranus -35903-12-03 00:42 J -11391811.63 -11391811.47 -11391811.31 0.0133 0.0002

Uranus -35902-03-01 05:16 J -11391723.44 -11391723.28 -11391723.12 0.0133 0.0019

Uranus -35902-05-28 09:50 J -11391635.24 -11391635.09 -11391634.94 0.0132 0.0040

Mars -35902-06-25 16:47 J -11391606.91 -11391606.80 -11391606.69 0.1863 0.0793

Uranus -35902-08-24 14:09 J -11391547.04 -11391546.91 -11391546.76 0.0132 0.0060

Uranus -35902-11-20 18:42 J -11391458.84 -11391458.72 -11391458.59 0.0132 0.0080

Uranus -35901-02-16 23:02 J -11391370.63 -11391370.54 -11391370.43 0.0132 0.0100

Mars -35901-05-09 02:09 J -11391288.54 -11391288.41 -11391288.27 0.1659 0.0689

Uranus -35901-05-15 03:21 J -11391282.41 -11391282.36 -11391282.28 0.0132 0.0120

Earth -35900-10-22 21:35 J -11390756.61 -11390756.60 -11390756.60 0.2658 0.2647

Jupiter -35899-08-13 11:02 J -11390462.16 -11390462.04 -11390461.91 0.0511 0.0265

Jupiter -35899-11-10 22:33 J -11390372.67 -11390372.56 -11390372.45 0.0507 0.0324

Moon -35897-04-23 00:28 J -11389843.59 -11389843.48 -11389843.37 0.2673 0.1369

Earth -35897-04-23 01:26 J -11389843.55 -11389843.44 -11389843.33 0.2673 0.1230 *

Saturn -35895-08-16 19:40 J -11388997.78 -11388997.68 -11388997.57 0.0283 0.0208

Saturn -35895-11-13 12:42 J -11388909.12 -11388908.97 -11388908.82 0.0282 0.0080

Saturn -35894-02-10 05:16 J -11388820.43 -11388820.28 -11388820.12 0.0282 0.0045

Saturn -35894-05-09 21:21 J -11388731.73 -11388731.61 -11388731.48 0.0282 0.0167

Earth -35894-11-02 10:18 J -11388555.18 -11388555.07 -11388554.96 0.2664 0.1332

Moon -35894-11-02 11:02 J -11388555.15 -11388555.04 -11388554.93 0.2668 0.1398 *

Mars -35893-11-14 23:30 J -11388176.59 -11388176.52 -11388176.46 0.1859 0.1562

Jupiter -35892-01-10 17:59 J -11388119.90 -11388119.75 -11388119.60 0.0518 0.0188

Jupiter -35892-04-10 15:35 J -11388029.88 -11388029.85 -11388029.82 0.0522 0.0511

Mars -35892-09-29 06:57 J -11387858.29 -11387858.21 -11387858.14 0.1663 0.1401

Mars -35891-10-21 23:02 J -11387470.57 -11387470.54 -11387470.51 0.1878 0.1814

Mars -35890-09-05 10:18 J -11387152.14 -11387152.07 -11387151.99 0.1647 0.1383

Jupiter -35887-06-01 14:09 J -11386151.99 -11386151.91 -11386151.82 0.0512 0.0405

Jupiter -35887-08-30 01:26 J -11386062.58 -11386062.44 -11386062.31 0.0508 0.0180

Moon -35887-10-25 19:26 J -11386005.80 -11386005.69 -11386005.59 0.2662 0.1565

Earth -35887-10-25 20:23 J -11386005.75 -11386005.65 -11386005.54 0.2659 0.1565 *

Venus -35885-08-04 01:26 J -11385357.55 -11385357.44 -11385357.33 0.3769 0.1043

Moon -35884-04-25 22:33 J -11385092.69 -11385092.56 -11385092.43 0.2677 0.0215

Earth -35884-04-25 23:16 J -11385092.66 -11385092.53 -11385092.41 0.2671 0.0268 *

Mars -35881-03-13 04:47 J -11384040.40 -11384040.30 -11384040.19 0.1874 0.0959

Venus -35881-08-05 12:28 J -11383895.07 -11383894.98 -11383894.89 0.3606 0.2598

Jupiter -35881-10-29 18:28 J -11383809.85 -11383809.73 -11383809.62 0.0517 0.0356

Earth -35881-11-04 08:09 J -11383804.22 -11383804.16 -11383804.10 0.2666 0.2297

Moon -35881-11-04 09:06 J -11383804.17 -11383804.12 -11383804.07 0.2666 0.2418 *

Mars -35880-01-25 16:04 J -11383721.96 -11383721.83 -11383721.70 0.1651 0.0745

Jupiter -35880-01-27 16:33 J -11383719.93 -11383719.81 -11383719.69 0.0521 0.0348

Saturn -35880-08-24 16:04 J -11383510.93 -11383510.83 -11383510.73 0.0276 0.0200

Saturn -35880-11-21 06:14 J -11383422.38 -11383422.24 -11383422.10 0.0276 0.0092

Saturn -35879-02-17 20:38 J -11383333.79 -11383333.64 -11383333.49 0.0277 0.0020

Venus -35879-02-17 21:50 J -11383333.68 -11383333.59 -11383333.50 0.3766 0.2388 *

Saturn -35879-05-17 11:30 J -11383245.16 -11383245.02 -11383244.89 0.0277 0.0133

Saturn -35879-08-14 02:38 J -11383156.46 -11383156.39 -11383156.33 0.0277 0.0249

Venus -35875-02-19 09:06 J -11381871.24 -11381871.12 -11381871.00 0.3609 0.0611

Jupiter -35875-06-18 04:04 J -11381752.47 -11381752.33 -11381752.18 0.0509 0.0037

Moon -35874-10-28 18:42 J -11381254.84 -11381254.72 -11381254.59 0.2667 0.0616

Earth -35874-10-28 19:11 J -11381254.83 -11381254.70 -11381254.57 0.2661 0.0508 *

Mars -35872-08-03 10:47 J -11380610.18 -11380610.05 -11380609.93 0.1869 0.0118

Earth -35871-04-28 21:06 J -11380341.74 -11380341.62 -11380341.49 0.2669 0.0773

Moon -35871-04-28 21:21 J -11380341.73 -11380341.61 -11380341.49 0.2676 0.0713 *

Mars -35871-06-17 21:21 J -11380291.75 -11380291.61 -11380291.46 0.1655 0.0087

Pluto -35870-07-15 23:02 J -11379898.55 -11379898.54 -11379898.51 0.0067 0.0067

Pluto -35870-10-11 23:59 J -11379810.54 -11379810.50 -11379810.41 0.0067 0.0062

Pluto -35869-01-08 01:26 J -11379722.51 -11379722.44 -11379722.33 0.0067 0.0056

Pluto -35869-04-05 02:52 J -11379634.48 -11379634.38 -11379634.26 0.0068 0.0050

Pluto -35869-07-02 04:18 J -11379546.44 -11379546.32 -11379546.19 0.0068 0.0044

Pluto -35869-09-28 05:16 J -11379458.40 -11379458.28 -11379458.12 0.0068 0.0039

Jupiter -35869-11-15 16:47 J -11379409.95 -11379409.80 -11379409.65 0.0520 0.0177

Pluto -35869-12-25 06:42 J -11379370.35 -11379370.22 -11379370.06 0.0068 0.0033

Pluto -35868-03-23 08:09 J -11379282.30 -11379282.16 -11379281.99 0.0068 0.0027

Pluto -35868-06-19 09:35 J -11379194.25 -11379194.10 -11379193.93 0.0068 0.0021

Pluto -35868-09-15 11:02 J -11379106.20 -11379106.04 -11379105.87 0.0068 0.0015

Pluto -35868-12-12 12:28 J -11379018.15 -11379017.98 -11379017.81 0.0068 0.0009

Pluto -35867-03-10 13:54 J -11378930.09 -11378929.92 -11378929.75 0.0068 0.0003

Pluto -35867-06-06 15:21 J -11378842.03 -11378841.86 -11378841.69 0.0068 0.0003

Pluto -35867-09-02 16:33 J -11378753.97 -11378753.81 -11378753.64 0.0069 0.0010

Pluto -35867-11-29 17:59 J -11378665.91 -11378665.75 -11378665.58 0.0069 0.0016

Pluto -35866-02-25 19:26 J -11378577.85 -11378577.69 -11378577.53 0.0069 0.0022

Pluto -35866-05-24 20:52 J -11378489.78 -11378489.63 -11378489.47 0.0069 0.0028

Pluto -35866-08-20 22:18 J -11378401.71 -11378401.57 -11378401.42 0.0069 0.0034

Pluto -35866-11-16 23:30 J -11378313.64 -11378313.52 -11378313.37 0.0069 0.0041

Saturn -35865-01-03 19:54 J -11378265.75 -11378265.67 -11378265.60 0.0283 0.0250

Pluto -35865-02-13 01:11 J -11378225.57 -11378225.45 -11378225.32 0.0069 0.0047

Saturn -35865-04-01 12:57 J -11378177.10 -11378176.96 -11378176.81 0.0283 0.0120

Pluto -35865-05-11 02:52 J -11378137.49 -11378137.38 -11378137.27 0.0069 0.0054

Saturn -35865-06-29 05:45 J -11378088.41 -11378088.26 -11378088.10 0.0283 0.0010

Pluto -35865-08-07 04:04 J -11378049.40 -11378049.33 -11378049.24 0.0069 0.0061

Saturn -35865-09-25 22:04 J -11377999.71 -11377999.58 -11377999.44 0.0283 0.0131

Pluto -35865-11-03 05:45 J -11377961.30 -11377961.26 -11377961.21 0.0070 0.0067

Saturn -35865-12-23 14:09 J -11377910.98 -11377910.91 -11377910.84 0.0282 0.0251

Moon -35864-04-21 08:23 J -11377792.23 -11377792.15 -11377792.08 0.2671 0.2081

Earth -35864-04-21 09:21 J -11377792.19 -11377792.11 -11377792.03 0.2674 0.2014 *

Jupiter -35863-04-06 06:14 J -11377442.37 -11377442.24 -11377442.10 0.0510 0.0122

Jupiter -35863-07-04 17:59 J -11377352.80 -11377352.75 -11377352.70 0.0507 0.0470

Mars -35863-12-24 16:47 J -11377179.91 -11377179.80 -11377179.68 0.1864 0.0709

Mars -35862-11-08 02:23 J -11376861.54 -11376861.40 -11376861.26 0.1659 0.0603

Earth -35861-10-30 17:30 J -11376503.90 -11376503.77 -11376503.64 0.2663 0.0515

Moon -35861-10-30 17:45 J -11376503.89 -11376503.76 -11376503.64 0.2669 0.0587 *

Uranus -35860-02-26 04:47 J -11376385.37 -11376385.30 -11376385.21 0.0146 0.0122

Uranus -35860-05-25 10:04 J -11376297.19 -11376297.08 -11376296.97 0.0146 0.0096

Uranus -35860-08-21 15:06 J -11376209.00 -11376208.87 -11376208.74 0.0146 0.0070

Uranus -35860-11-17 20:09 J -11376120.80 -11376120.66 -11376120.51 0.0146 0.0044

Uranus -35859-02-14 01:26 J -11376032.59 -11376032.44 -11376032.28 0.0146 0.0018

Uranus -35859-05-13 06:42 J -11375944.37 -11375944.22 -11375944.06 0.0146 0.0010

Uranus -35859-08-09 11:59 J -11375856.14 -11375856.00 -11375855.84 0.0146 0.0037

Uranus -35859-11-05 17:16 J -11375767.91 -11375767.78 -11375767.63 0.0146 0.0064

Uranus -35858-02-01 22:47 J -11375679.67 -11375679.55 -11375679.42 0.0146 0.0091

Uranus -35858-05-01 04:04 J -11375591.41 -11375591.33 -11375591.23 0.0146 0.0120

Earth -35858-05-01 19:40 J -11375590.78 -11375590.68 -11375590.59 0.2668 0.1808

Moon -35858-05-01 20:23 J -11375590.74 -11375590.65 -11375590.56 0.2673 0.1911 *

Jupiter -35857-09-03 16:47 J -11375099.95 -11375099.80 -11375099.64 0.0519 0.0015

Moon -35854-10-24 01:54 J -11373954.46 -11373954.42 -11373954.38 0.2657 0.2517

Earth -35854-10-24 03:06 J -11373954.42 -11373954.37 -11373954.32 0.2658 0.2451 *

Mars -35853-05-15 23:30 J -11373749.59 -11373749.52 -11373749.44 0.1858 0.1478

Mars -35852-03-30 07:11 J -11373431.29 -11373431.20 -11373431.11 0.1663 0.1309

Jupiter -35851-01-23 09:21 J -11373132.23 -11373132.11 -11373131.99 0.0511 0.0264

Jupiter -35851-04-22 20:52 J -11373042.74 -11373042.63 -11373042.52 0.0508 0.0325

Moon -35851-04-24 05:45 J -11373041.37 -11373041.26 -11373041.14 0.2674 0.1082

Earth -35851-04-24 06:42 J -11373041.33 -11373041.22 -11373041.10 0.2672 0.1058 *

Saturn -35850-01-11 18:57 J -11372778.79 -11372778.71 -11372778.62 0.0275 0.0221

Mars -35850-03-06 10:33 J -11372725.12 -11372725.06 -11372724.99 0.1647 0.1465

Saturn -35850-04-10 08:52 J -11372690.26 -11372690.13 -11372689.99 0.0276 0.0114

Saturn -35850-07-07 23:16 J -11372601.68 -11372601.53 -11372601.38 0.0276 0.0007

Saturn -35850-10-04 13:54 J -11372513.06 -11372512.92 -11372512.77 0.0276 0.0110

Saturn -35849-01-01 05:02 J -11372424.38 -11372424.29 -11372424.20 0.0276 0.0226

Earth -35848-11-02 15:35 J -11371752.95 -11371752.85 -11371752.74 0.2664 0.1508

Moon -35848-11-02 16:33 J -11371752.91 -11371752.81 -11371752.71 0.2667 0.1541 *

Jupiter -35845-06-22 16:18 J -11370789.97 -11370789.82 -11370789.67 0.0518 0.0182

Jupiter -35845-09-20 13:54 J -11370699.94 -11370699.92 -11370699.90 0.0522 0.0516

Mars -35842-09-12 04:47 J -11369613.40 -11369613.30 -11369613.19 0.1873 0.1037

Mars -35841-07-26 16:18 J -11369294.94 -11369294.82 -11369294.69 0.1651 0.0831

Moon -35841-10-26 00:57 J -11369203.56 -11369203.46 -11369203.35 0.2662 0.1516

Earth -35841-10-26 02:09 J -11369203.53 -11369203.41 -11369203.30 0.2660 0.1371 *

Jupiter -35840-11-11 12:42 J -11368822.05 -11368821.97 -11368821.88 0.0512 0.0400

Jupiter -35839-02-08 23:59 J -11368732.64 -11368732.50 -11368732.37 0.0508 0.0186

Moon -35838-04-27 04:04 J -11368290.46 -11368290.33 -11368290.21 0.2677 0.0189

Earth -35838-04-27 04:33 J -11368290.44 -11368290.31 -11368290.18 0.2671 0.0073 *

Saturn -35836-08-19 12:57 J -11367445.09 -11367444.96 -11367444.83 0.0283 0.0161

Neptune -35836-09-17 22:47 J -11367415.58 -11367415.55 -11367415.52 0.0089 0.0087

Saturn -35836-11-16 05:59 J -11367356.41 -11367356.25 -11367356.10 0.0283 0.0033

Neptune -35836-12-15 00:14 J -11367327.54 -11367327.49 -11367327.42 0.0089 0.0080

Saturn -35835-02-12 22:18 J -11367267.71 -11367267.57 -11367267.42 0.0282 0.0091

Neptune -35835-03-13 01:54 J -11367239.49 -11367239.42 -11367239.33 0.0089 0.0073

Saturn -35835-05-12 14:23 J -11367179.00 -11367178.90 -11367178.80 0.0282 0.0212

Neptune -35835-06-09 03:50 J -11367151.43 -11367151.34 -11367151.24 0.0089 0.0066

Neptune -35835-09-05 05:45 J -11367063.37 -11367063.26 -11367063.16 0.0089 0.0059

Earth -35835-11-05 13:26 J -11367001.98 -11367001.94 -11367001.89 0.2666 0.2470

Moon -35835-11-05 14:23 J -11367001.94 -11367001.90 -11367001.86 0.2666 0.2511 *

Neptune -35835-12-02 07:11 J -11366975.31 -11366975.20 -11366975.07 0.0089 0.0053

Neptune -35834-02-28 08:52 J -11366887.24 -11366887.13 -11366886.99 0.0089 0.0046

Neptune -35834-05-27 10:47 J -11366799.18 -11366799.05 -11366798.91 0.0089 0.0039

Neptune -35834-08-23 12:28 J -11366711.11 -11366710.98 -11366710.83 0.0089 0.0032

Venus -35834-08-26 03:50 J -11366708.40 -11366708.34 -11366708.28 0.3771 0.3162

Neptune -35834-11-19 14:23 J -11366623.04 -11366622.90 -11366622.76 0.0089 0.0025

Neptune -35833-02-15 16:04 J -11366534.97 -11366534.83 -11366534.68 0.0089 0.0018

Jupiter -35833-04-10 16:33 J -11366479.92 -11366479.81 -11366479.69 0.0517 0.0353

Neptune -35833-05-13 17:59 J -11366446.90 -11366446.75 -11366446.60 0.0089 0.0011

Jupiter -35833-07-09 14:38 J -11366390.00 -11366389.89 -11366389.77 0.0521 0.0350

Neptune -35833-08-09 19:40 J -11366358.82 -11366358.68 -11366358.53 0.0089 0.0005

Neptune -35833-11-05 21:35 J -11366270.75 -11366270.60 -11366270.45 0.0089 0.0003

Mars -35832-02-01 10:47 J -11366183.18 -11366183.05 -11366182.93 0.1869 0.0193

Neptune -35832-02-01 23:30 J -11366182.67 -11366182.52 -11366182.38 0.0089 0.0010

Neptune -35832-05-01 01:11 J -11366094.59 -11366094.45 -11366094.30 0.0089 0.0017

Neptune -35832-07-28 03:06 J -11366006.51 -11366006.37 -11366006.23 0.0089 0.0024

Neptune -35832-10-24 04:47 J -11365918.43 -11365918.30 -11365918.16 0.0089 0.0031

Mars -35832-12-16 21:50 J -11365864.73 -11365864.59 -11365864.44 0.1655 0.0178

Neptune -35831-01-20 06:42 J -11365830.35 -11365830.22 -11365830.08 0.0089 0.0038

Neptune -35831-04-18 08:23 J -11365742.27 -11365742.15 -11365742.01 0.0089 0.0046

Neptune -35831-07-15 10:18 J -11365654.18 -11365654.07 -11365653.94 0.0089 0.0053

Neptune -35831-10-11 12:14 J -11365566.09 -11365565.99 -11365565.88 0.0089 0.0060

Neptune -35830-01-07 14:09 J -11365478.00 -11365477.91 -11365477.81 0.0089 0.0067

Neptune -35830-04-05 15:50 J -11365389.91 -11365389.84 -11365389.75 0.0089 0.0075

Neptune -35830-07-02 17:45 J -11365301.81 -11365301.76 -11365301.69 0.0089 0.0082

Venus -35828-03-10 23:59 J -11364684.62 -11364684.50 -11364684.38 0.3768 0.0185

Moon -35828-10-29 00:14 J -11364452.61 -11364452.49 -11364452.36 0.2668 0.0284

Earth -35828-10-29 00:42 J -11364452.60 -11364452.47 -11364452.34 0.2661 0.0327 *

Jupiter -35828-11-28 02:52 J -11364422.53 -11364422.38 -11364422.24 0.0509 0.0043

Earth -35825-04-29 02:38 J -11363539.51 -11363539.39 -11363539.27 0.2669 0.0947

Moon -35825-04-29 02:52 J -11363539.49 -11363539.38 -11363539.26 0.2675 0.1048 *

Venus -35824-03-12 11:16 J -11363222.14 -11363222.03 -11363221.92 0.3607 0.1386

Mars -35823-06-24 17:16 J -11362752.90 -11362752.78 -11362752.67 0.1864 0.0614

Venus -35823-09-24 20:23 J -11362660.67 -11362660.65 -11362660.62 0.3765 0.3663

Mars -35822-05-09 02:52 J -11362434.52 -11362434.38 -11362434.24 0.1659 0.0509

Jupiter -35821-04-27 15:21 J -11362080.00 -11362079.86 -11362079.71 0.0520 0.0186

Saturn -35821-05-30 18:57 J -11362046.75 -11362046.71 -11362046.67 0.0276 0.0264

Saturn -35821-08-27 08:38 J -11361958.25 -11361958.14 -11361958.01 0.0276 0.0158

Saturn -35821-11-23 23:02 J -11361869.69 -11361869.54 -11361869.39 0.0276 0.0048

Saturn -35820-02-20 13:26 J -11361781.08 -11361780.94 -11361780.79 0.0276 0.0064

Saturn -35820-05-20 04:18 J -11361692.43 -11361692.32 -11361692.20 0.0277 0.0179

Uranus -35820-07-12 04:04 J -11361639.38 -11361639.33 -11361639.25 0.0133 0.0120

Uranus -35820-10-08 09:06 J -11361551.22 -11361551.12 -11361551.01 0.0133 0.0098

Uranus -35819-01-04 13:54 J -11361463.05 -11361462.92 -11361462.78 0.0133 0.0077

Uranus -35819-04-02 18:42 J -11361374.86 -11361374.72 -11361374.57 0.0133 0.0055

Uranus -35819-06-29 23:30 J -11361286.68 -11361286.52 -11361286.36 0.0133 0.0034

Uranus -35819-09-26 04:04 J -11361198.49 -11361198.33 -11361198.17 0.0133 0.0013

Venus -35819-09-26 07:54 J -11361198.28 -11361198.17 -11361198.07 0.3610 0.1789 *

Uranus -35819-12-23 08:52 J -11361110.29 -11361110.13 -11361109.97 0.0133 0.0008

Uranus -35818-03-21 13:26 J -11361022.10 -11361021.94 -11361021.79 0.0133 0.0029

Moon -35818-04-22 13:40 J -11360990.02 -11360989.93 -11360989.84 0.2671 0.1913

Earth -35818-04-22 14:38 J -11360989.98 -11360989.89 -11360989.80 0.2674 0.1841 *

Uranus -35818-06-17 17:45 J -11360933.90 -11360933.76 -11360933.60 0.0133 0.0050

Uranus -35818-09-13 22:18 J -11360845.70 -11360845.57 -11360845.43 0.0132 0.0070

Uranus -35818-12-11 02:52 J -11360757.49 -11360757.38 -11360757.26 0.0132 0.0090

Uranus -35817-03-08 07:11 J -11360669.28 -11360669.20 -11360669.11 0.0132 0.0110

Uranus -35817-06-04 11:30 J -11360581.04 -11360581.02 -11360580.98 0.0132 0.0130

Jupiter -35816-09-16 05:45 J -11360112.40 -11360112.26 -11360112.12 0.0510 0.0103

Jupiter -35816-12-14 17:16 J -11360022.81 -11360022.78 -11360022.74 0.0506 0.0488

Earth -35815-10-31 23:02 J -11359701.67 -11359701.54 -11359701.42 0.2663 0.0700

Moon -35815-10-31 23:16 J -11359701.65 -11359701.53 -11359701.40 0.2669 0.0659 *

Mars -35814-11-14 23:30 J -11359322.60 -11359322.52 -11359322.44 0.1858 0.1398

Mars -35813-09-28 07:40 J -11359004.28 -11359004.18 -11359004.08 0.1663 0.1214

Earth -35812-05-02 00:57 J -11358788.54 -11358788.46 -11358788.37 0.2667 0.1998

Moon -35812-05-02 01:54 J -11358788.51 -11358788.42 -11358788.34 0.2672 0.2010 *

Mars -35811-09-04 11:02 J -11358298.09 -11358298.04 -11358298.00 0.1647 0.1550

Jupiter -35809-02-14 15:50 J -11357770.00 -11357769.84 -11357769.68 0.0519 0.0017

Moon -35808-10-24 07:26 J -11357152.25 -11357152.19 -11357152.13 0.2658 0.2334

Earth -35808-10-24 08:38 J -11357152.21 -11357152.14 -11357152.07 0.2658 0.2257 *

Saturn -35806-01-06 12:57 J -11356713.07 -11356712.96 -11356712.85 0.0283 0.0203

Saturn -35806-04-05 05:59 J -11356624.40 -11356624.25 -11356624.10 0.0283 0.0074

Saturn -35806-07-02 22:47 J -11356535.71 -11356535.55 -11356535.40 0.0283 0.0052

Saturn -35806-09-29 14:52 J -11356447.00 -11356446.88 -11356446.75 0.0283 0.0175

Moon -35805-04-24 11:16 J -11356239.15 -11356239.03 -11356238.91 0.2676 0.0964

Earth -35805-04-24 12:14 J -11356239.11 -11356238.99 -11356238.87 0.2672 0.0884 *

Jupiter -35804-07-05 07:54 J -11355802.29 -11355802.17 -11355802.05 0.0511 0.0259

Jupiter -35804-10-02 19:11 J -11355712.81 -11355712.70 -11355712.59 0.0508 0.0330

Mars -35802-03-13 05:02 J -11355186.39 -11355186.29 -11355186.19 0.1873 0.1125

Earth -35802-11-03 21:06 J -11354950.72 -11354950.62 -11354950.53 0.2665 0.1686

Moon -35802-11-03 22:04 J -11354950.68 -11354950.58 -11354950.49 0.2668 0.1806 *

Mars -35801-01-25 16:47 J -11354867.92 -11354867.80 -11354867.68 0.1651 0.0919

Jupiter -35798-12-03 15:35 J -11353460.00 -11353459.85 -11353459.69 0.0518 0.0162

Moon -35795-10-27 06:42 J -11352401.34 -11352401.22 -11352401.11 0.2663 0.1202

Earth -35795-10-27 07:26 J -11352401.30 -11352401.19 -11352401.07 0.2660 0.1185 *

Mars -35793-08-02 11:02 J -11351756.17 -11351756.04 -11351755.92 0.1868 0.0287

Jupiter -35792-04-23 10:47 J -11351492.13 -11351492.05 -11351491.96 0.0512 0.0402

Moon -35792-04-27 09:35 J -11351488.23 -11351488.10 -11351487.98 0.2676 0.0169

Earth -35792-04-27 10:04 J -11351488.21 -11351488.08 -11351487.96 0.2670 0.0149 *

Mars -35792-06-16 22:04 J -11351437.72 -11351437.58 -11351437.43 0.1655 0.0262

Jupiter -35792-07-21 22:04 J -11351402.72 -11351402.58 -11351402.45 0.0509 0.0184

Saturn -35791-01-14 11:45 J -11351226.12 -11351226.01 -11351225.89 0.0275 0.0177

Saturn -35791-04-13 01:54 J -11351137.56 -11351137.42 -11351137.27 0.0276 0.0068

Saturn -35791-07-10 16:18 J -11351048.97 -11351048.82 -11351048.67 0.0276 0.0044

Saturn -35791-10-07 07:11 J -11350960.33 -11350960.20 -11350960.07 0.0276 0.0157

Saturn -35790-01-03 22:18 J -11350871.59 -11350871.57 -11350871.55 0.0276 0.0273

Earth -35789-11-05 18:42 J -11350199.73 -11350199.72 -11350199.70 0.2666 0.2643

Jupiter -35786-09-21 14:52 J -11349150.00 -11349149.88 -11349149.76 0.0517 0.0347

Jupiter -35786-12-20 12:57 J -11349060.07 -11349059.96 -11349059.84 0.0521 0.0355

Earth -35785-04-19 22:33 J -11348938.58 -11348938.56 -11348938.53 0.2675 0.2606

Pluto -35784-09-01 23:30 J -11348438.54 -11348438.52 -11348438.46 0.0077 0.0074

Pluto -35784-11-29 00:57 J -11348350.52 -11348350.46 -11348350.37 0.0077 0.0066

Mars -35784-12-23 17:02 J -11348325.91 -11348325.79 -11348325.67 0.1863 0.0539

Pluto -35783-02-25 02:38 J -11348262.48 -11348262.39 -11348262.29 0.0076 0.0058

Pluto -35783-05-24 04:18 J -11348174.44 -11348174.32 -11348174.21 0.0076 0.0050

Pluto -35783-08-20 05:16 J -11348086.39 -11348086.28 -11348086.14 0.0076 0.0043

Mars -35783-11-07 03:21 J -11348007.50 -11348007.36 -11348007.21 0.1659 0.0414

Pluto -35783-11-16 06:57 J -11347998.34 -11347998.21 -11347998.08 0.0076 0.0035

Pluto -35782-02-12 08:09 J -11347910.29 -11347910.16 -11347910.01 0.0076 0.0027

Pluto -35782-05-11 09:35 J -11347822.24 -11347822.10 -11347821.95 0.0076 0.0020

Pluto -35782-08-07 11:02 J -11347734.19 -11347734.04 -11347733.89 0.0076 0.0012

Moon -35782-10-30 05:59 J -11347650.38 -11347650.25 -11347650.13 0.2668 0.0239

Earth -35782-10-30 06:14 J -11347650.37 -11347650.24 -11347650.11 0.2661 0.0151 *

Pluto -35782-11-03 12:14 J -11347646.13 -11347645.99 -11347645.84 0.0076 0.0005

Pluto -35781-01-30 13:40 J -11347558.08 -11347557.93 -11347557.78 0.0075 0.0003

Pluto -35781-04-27 14:52 J -11347470.02 -11347469.88 -11347469.73 0.0075 0.0010

Pluto -35781-07-24 16:04 J -11347381.97 -11347381.83 -11347381.68 0.0075 0.0017

Pluto -35781-10-20 17:16 J -11347293.91 -11347293.78 -11347293.63 0.0075 0.0024

Pluto -35780-01-16 18:42 J -11347205.85 -11347205.72 -11347205.58 0.0075 0.0031

Pluto -35780-04-14 19:54 J -11347117.79 -11347117.67 -11347117.54 0.0075 0.0038

Jupiter -35780-05-10 01:11 J -11347092.59 -11347092.45 -11347092.31 0.0509 0.0045

Pluto -35780-07-11 21:06 J -11347029.73 -11347029.62 -11347029.50 0.0075 0.0045

Pluto -35780-10-07 22:18 J -11346941.67 -11346941.57 -11346941.46 0.0075 0.0052

Pluto -35779-01-03 23:16 J -11346853.60 -11346853.53 -11346853.42 0.0074 0.0059

Pluto -35779-04-02 00:28 J -11346765.53 -11346765.48 -11346765.39 0.0074 0.0065

Earth -35779-04-30 08:09 J -11346737.28 -11346737.16 -11346737.05 0.2669 0.1140

Moon -35779-04-30 08:38 J -11346737.26 -11346737.14 -11346737.03 0.2675 0.1099 *

Pluto -35779-06-29 01:54 J -11346677.45 -11346677.42 -11346677.38 0.0074 0.0071

Venus -35777-04-01 02:23 J -11346035.50 -11346035.40 -11346035.30 0.3770 0.1958

Saturn -35777-05-25 13:26 J -11345981.02 -11345980.94 -11345980.86 0.0283 0.0241

Saturn -35777-08-22 06:28 J -11345892.37 -11345892.23 -11345892.08 0.0283 0.0111

Saturn -35777-11-18 23:16 J -11345803.68 -11345803.53 -11345803.37 0.0283 0.0018

Uranus -35777-12-20 08:09 J -11345772.21 -11345772.16 -11345772.10 0.0146 0.0136

Saturn -35776-02-15 15:35 J -11345714.98 -11345714.85 -11345714.71 0.0282 0.0140

Uranus -35776-03-18 13:11 J -11345684.04 -11345683.95 -11345683.85 0.0146 0.0110

Saturn -35776-05-15 07:40 J -11345626.24 -11345626.18 -11345626.12 0.0282 0.0259

Uranus -35776-06-14 18:14 J -11345595.86 -11345595.74 -11345595.61 0.0146 0.0084

Uranus -35776-09-10 23:30 J -11345507.66 -11345507.52 -11345507.38 0.0146 0.0058

Uranus -35776-12-08 04:33 J -11345419.45 -11345419.31 -11345419.16 0.0146 0.0032

Uranus -35775-03-06 09:50 J -11345331.24 -11345331.09 -11345330.93 0.0146 0.0006

Uranus -35775-06-02 15:06 J -11345243.02 -11345242.87 -11345242.72 0.0146 0.0022

Uranus -35775-08-29 20:23 J -11345154.79 -11345154.65 -11345154.50 0.0146 0.0049

Uranus -35775-11-26 01:40 J -11345066.55 -11345066.43 -11345066.29 0.0146 0.0076

Uranus -35774-02-22 07:11 J -11344978.31 -11344978.20 -11344978.09 0.0146 0.0104

Mars -35774-05-15 23:45 J -11344895.60 -11344895.51 -11344895.42 0.1858 0.1309

Uranus -35774-05-21 12:28 J -11344890.03 -11344889.98 -11344889.90 0.0146 0.0132

Jupiter -35774-10-08 13:26 J -11344750.09 -11344749.94 -11344749.79 0.0520 0.0186

Mars -35773-03-29 08:09 J -11344577.27 -11344577.16 -11344577.05 0.1663 0.1118

Venus -35773-04-02 13:26 J -11344572.98 -11344572.94 -11344572.91 0.3605 0.3432

Moon -35772-04-22 18:57 J -11344187.80 -11344187.71 -11344187.61 0.2672 0.1703

Earth -35772-04-22 19:54 J -11344187.77 -11344187.67 -11344187.57 0.2674 0.1670 *

Venus -35772-10-15 22:33 J -11344011.67 -11344011.56 -11344011.45 0.3767 0.1424

Mars -35771-03-05 11:30 J -11343871.03 -11343871.02 -11343871.01 0.1647 0.1641

Earth -35769-11-01 04:18 J -11342899.44 -11342899.32 -11342899.19 0.2663 0.0884

Moon -35769-11-01 05:02 J -11342899.41 -11342899.29 -11342899.17 0.2668 0.0996 *

Jupiter -35768-02-26 04:18 J -11342782.46 -11342782.32 -11342782.18 0.0510 0.0098

Jupiter -35768-05-26 15:50 J -11342692.87 -11342692.84 -11342692.81 0.0506 0.0494

Venus -35768-10-17 10:04 J -11342549.20 -11342549.08 -11342548.96 0.3608 0.0177

Earth -35766-05-03 06:28 J -11341986.30 -11341986.23 -11341986.16 0.2667 0.2188

Moon -35766-05-03 07:26 J -11341986.25 -11341986.19 -11341986.13 0.2670 0.2330 *

Mars -35763-09-11 05:16 J -11340759.38 -11340759.28 -11340759.18 0.1873 0.1222

Venus -35762-05-03 06:28 J -11340525.30 -11340525.23 -11340525.16 0.3610 0.2955

Saturn -35762-06-03 11:45 J -11340494.09 -11340494.01 -11340493.91 0.0276 0.0219

Mars -35762-07-26 17:02 J -11340440.90 -11340440.79 -11340440.67 0.1651 0.1006

Jupiter -35762-07-27 13:54 J -11340440.07 -11340439.92 -11340439.76 0.0519 0.0025

Saturn -35762-08-31 01:54 J -11340405.56 -11340405.42 -11340405.28 0.0276 0.0111

Moon -35762-10-25 12:57 J -11340350.03 -11340349.96 -11340349.88 0.2658 0.2169

Earth -35762-10-25 14:09 J -11340349.99 -11340349.91 -11340349.83 0.2658 0.2063 *

Saturn -35762-11-27 16:18 J -11340316.97 -11340316.82 -11340316.67 0.0276 0.0006

Saturn -35761-02-24 06:42 J -11340228.35 -11340228.22 -11340228.07 0.0276 0.0113

Saturn -35761-05-22 21:35 J -11340139.68 -11340139.60 -11340139.50 0.0277 0.0228

Moon -35759-04-25 16:33 J -11339436.93 -11339436.81 -11339436.69 0.2676 0.0766

Earth -35759-04-25 17:30 J -11339436.89 -11339436.77 -11339436.65 0.2672 0.0701 *

Jupiter -35757-12-15 07:11 J -11338472.33 -11338472.20 -11338472.08 0.0511 0.0241

Jupiter -35756-03-14 18:28 J -11338382.83 -11338382.73 -11338382.62 0.0507 0.0347

Earth -35756-11-04 02:23 J -11338148.49 -11338148.40 -11338148.31 0.2665 0.1863

Moon -35756-11-04 03:21 J -11338148.45 -11338148.36 -11338148.27 0.2668 0.1875 *

Mars -35753-02-01 11:02 J -11337329.16 -11337329.04 -11337328.92 0.1868 0.0370

Mars -35753-12-15 22:33 J -11337010.70 -11337010.56 -11337010.41 0.1655 0.0353

Neptune -35752-03-12 19:11 J -11336923.74 -11336923.70 -11336923.64 0.0088 0.0084

Neptune -35752-06-08 21:50 J -11336835.66 -11336835.59 -11336835.49 0.0088 0.0076

Neptune -35752-09-05 00:28 J -11336747.57 -11336747.48 -11336747.36 0.0088 0.0068

Neptune -35752-12-02 03:06 J -11336659.48 -11336659.37 -11336659.23 0.0088 0.0060

Neptune -35751-02-28 05:59 J -11336571.38 -11336571.25 -11336571.11 0.0088 0.0052

Neptune -35751-05-27 08:38 J -11336483.28 -11336483.14 -11336482.99 0.0088 0.0044

Neptune -35751-08-23 11:16 J -11336395.18 -11336395.03 -11336394.87 0.0088 0.0036

Neptune -35751-11-19 13:54 J -11336307.08 -11336306.92 -11336306.75 0.0088 0.0027

Neptune -35750-02-15 16:33 J -11336218.98 -11336218.81 -11336218.64 0.0088 0.0019

Neptune -35750-05-14 19:11 J -11336130.87 -11336130.70 -11336130.53 0.0088 0.0012

Jupiter -35750-05-15 14:23 J -11336130.05 -11336129.90 -11336129.75 0.0518 0.0150

Neptune -35750-08-10 21:35 J -11336042.76 -11336042.60 -11336042.42 0.0088 0.0005

Neptune -35750-11-07 00:14 J -11335954.66 -11335954.49 -11335954.32 0.0088 0.0005

Neptune -35749-02-03 02:52 J -11335866.55 -11335866.38 -11335866.21 0.0088 0.0012

Neptune -35749-05-01 05:16 J -11335778.44 -11335778.28 -11335778.11 0.0088 0.0020

Neptune -35749-07-28 07:40 J -11335690.33 -11335690.18 -11335690.01 0.0088 0.0028

Neptune -35749-10-24 10:04 J -11335602.22 -11335602.08 -11335601.91 0.0088 0.0037

Moon -35749-10-27 12:14 J -11335599.11 -11335598.99 -11335598.87 0.2665 0.1064

Earth -35749-10-27 12:57 J -11335599.08 -11335598.96 -11335598.84 0.2660 0.0992 *

Neptune -35748-01-20 12:42 J -11335514.11 -11335513.97 -11335513.81 0.0088 0.0044

Neptune -35748-04-18 15:06 J -11335425.99 -11335425.87 -11335425.72 0.0088 0.0052

Neptune -35748-07-15 17:30 J -11335337.88 -11335337.77 -11335337.63 0.0088 0.0060

Neptune -35748-10-11 20:09 J -11335249.76 -11335249.66 -11335249.54 0.0088 0.0067

Neptune -35747-01-07 22:33 J -11335161.64 -11335161.56 -11335161.46 0.0088 0.0074

Saturn -35747-01-09 06:28 J -11335160.36 -11335160.23 -11335160.10 0.0283 0.0153

Neptune -35747-04-06 00:42 J -11335073.51 -11335073.47 -11335073.39 0.0088 0.0083

Saturn -35747-04-07 23:30 J -11335071.68 -11335071.52 -11335071.37 0.0283 0.0025

Saturn -35747-07-05 16:04 J -11334982.98 -11334982.83 -11334982.69 0.0283 0.0100

Saturn -35747-10-02 08:09 J -11334894.25 -11334894.16 -11334894.07 0.0283 0.0222

Moon -35746-04-28 15:06 J -11334685.99 -11334685.87 -11334685.74 0.2676 0.0241

Earth -35746-04-28 15:21 J -11334685.99 -11334685.86 -11334685.73 0.2670 0.0298 *

Jupiter -35745-10-03 09:21 J -11334162.20 -11334162.11 -11334162.02 0.0512 0.0398

Jupiter -35745-12-31 20:23 J -11334072.78 -11334072.65 -11334072.52 0.0508 0.0188

Mars -35744-06-23 17:16 J -11333898.90 -11333898.78 -11333898.66 0.1863 0.0446

Mars -35743-05-08 03:35 J -11333580.49 -11333580.35 -11333580.20 0.1659 0.0330

Moon -35739-04-21 03:21 J -11332136.42 -11332136.36 -11332136.31 0.2670 0.2404

Earth -35739-04-21 03:50 J -11332136.38 -11332136.34 -11332136.29 0.2675 0.2438 *

Jupiter -35738-03-03 14:09 J -11331820.03 -11331819.91 -11331819.78 0.0517 0.0328

Jupiter -35738-06-01 12:14 J -11331730.10 -11331729.99 -11331729.88 0.0520 0.0373

Uranus -35736-05-05 07:40 J -11331026.20 -11331026.18 -11331026.16 0.0133 0.0131

Uranus -35736-08-01 12:14 J -11330938.07 -11330937.99 -11330937.88 0.0133 0.0110

Uranus -35736-10-28 17:16 J -11330849.89 -11330849.78 -11330849.65 0.0133 0.0088

Moon -35736-10-30 11:30 J -11330848.15 -11330848.02 -11330847.90 0.2668 0.0138

Earth -35736-10-30 11:30 J -11330848.15 -11330848.02 -11330847.89 0.2662 0.0074 *

Uranus -35735-01-24 22:18 J -11330761.71 -11330761.57 -11330761.43 0.0133 0.0066

Uranus -35735-04-23 02:52 J -11330673.53 -11330673.38 -11330673.22 0.0133 0.0045

Uranus -35735-07-20 07:40 J -11330585.34 -11330585.18 -11330585.02 0.0133 0.0024

Uranus -35735-10-16 12:14 J -11330497.15 -11330496.99 -11330496.83 0.0133 0.0004

Mars -35735-11-13 23:45 J -11330468.60 -11330468.51 -11330468.42 0.1858 0.1231

Uranus -35734-01-12 16:47 J -11330408.95 -11330408.80 -11330408.64 0.0133 0.0019

Uranus -35734-04-10 21:35 J -11330320.76 -11330320.60 -11330320.45 0.0133 0.0039

Uranus -35734-07-08 01:54 J -11330232.56 -11330232.42 -11330232.27 0.0133 0.0059

Mars -35734-09-28 08:23 J -11330150.26 -11330150.15 -11330150.03 0.1663 0.1031

Uranus -35734-10-04 06:28 J -11330144.35 -11330144.23 -11330144.10 0.0133 0.0080

Uranus -35734-12-31 10:47 J -11330056.14 -11330056.05 -11330055.94 0.0132 0.0100

Uranus -35733-03-28 15:06 J -11329967.92 -11329967.87 -11329967.79 0.0132 0.0120

Earth -35733-04-30 13:26 J -11329935.05 -11329934.94 -11329934.83 0.2668 0.1323

Moon -35733-04-30 13:54 J -11329935.03 -11329934.92 -11329934.81 0.2675 0.1435 *

Jupiter -35733-10-19 23:02 J -11329762.68 -11329762.54 -11329762.39 0.0510 0.0045

Saturn -35733-10-20 15:06 J -11329761.94 -11329761.87 -11329761.79 0.0275 0.0236

Saturn -35732-01-17 05:02 J -11329673.42 -11329673.29 -11329673.16 0.0276 0.0129

Saturn -35732-04-15 19:11 J -11329584.85 -11329584.70 -11329584.54 0.0276 0.0021

Saturn -35732-07-13 09:50 J -11329496.23 -11329496.09 -11329495.94 0.0276 0.0093

Saturn -35732-10-10 00:42 J -11329407.57 -11329407.47 -11329407.37 0.0276 0.0208

Jupiter -35726-03-20 11:45 J -11327420.16 -11327420.01 -11327419.87 0.0519 0.0190

Moon -35726-04-24 00:14 J -11327385.58 -11327385.49 -11327385.39 0.2674 0.1622

Earth -35726-04-24 01:11 J -11327385.55 -11327385.45 -11327385.34 0.2673 0.1496 *

Mars -35723-03-12 05:16 J -11326332.37 -11326332.28 -11326332.19 0.1873 0.1301

Earth -35723-11-02 09:50 J -11326097.21 -11326097.09 -11326096.97 0.2663 0.1062

Moon -35723-11-02 10:33 J -11326097.18 -11326097.06 -11326096.94 0.2669 0.1040 *

Mars -35722-01-24 17:30 J -11326013.88 -11326013.77 -11326013.66 0.1651 0.1096

Jupiter -35721-08-08 02:23 J -11325452.54 -11325452.40 -11325452.26 0.0510 0.0098

Jupiter -35721-11-05 13:54 J -11325362.94 -11325362.92 -11325362.89 0.0507 0.0495

Venus -35721-11-06 00:57 J -11325362.57 -11325362.46 -11325362.34 0.3769 0.0740

Earth -35720-05-03 11:59 J -11325184.06 -11325184.00 -11325183.95 0.2667 0.2381

Moon -35720-05-03 12:57 J -11325184.01 -11325183.96 -11325183.90 0.2668 0.2379 *

Saturn -35718-05-29 07:40 J -11324428.30 -11324428.18 -11324428.06 0.0283 0.0186

Saturn -35718-08-26 00:42 J -11324339.63 -11324339.47 -11324339.32 0.0283 0.0058

Saturn -35718-11-22 17:16 J -11324250.93 -11324250.78 -11324250.63 0.0283 0.0068

Saturn -35717-02-19 09:21 J -11324162.22 -11324162.11 -11324161.99 0.0282 0.0191

Venus -35717-11-07 12:14 J -11323900.09 -11323899.99 -11323899.89 0.3606 0.2194

Moon -35716-10-25 18:28 J -11323547.82 -11323547.73 -11323547.64 0.2659 0.1918

Earth -35716-10-25 19:40 J -11323547.77 -11323547.68 -11323547.59 0.2659 0.1873 *

Venus -35715-05-22 21:21 J -11323338.69 -11323338.61 -11323338.53 0.3766 0.2687

Jupiter -35714-01-06 11:59 J -11323110.16 -11323110.00 -11323109.84 0.0519 0.0020

Mars -35714-08-02 11:02 J -11322902.16 -11322902.04 -11322901.91 0.1869 0.0462

Moon -35713-04-25 22:04 J -11322634.71 -11322634.58 -11322634.46 0.2676 0.0580

Earth -35713-04-25 22:47 J -11322634.67 -11322634.55 -11322634.42 0.2672 0.0528 *

Mars -35713-06-15 23:02 J -11322583.68 -11322583.54 -11322583.40 0.1655 0.0445

Venus -35711-05-24 08:52 J -11321876.25 -11321876.13 -11321876.01 0.3608 0.1024

Earth -35710-11-05 07:54 J -11321346.25 -11321346.17 -11321346.09 0.2665 0.2042

Moon -35710-11-05 08:38 J -11321346.21 -11321346.14 -11321346.06 0.2667 0.2180 *

Jupiter -35709-05-27 05:30 J -11321142.40 -11321142.27 -11321142.15 0.0511 0.0238

Jupiter -35709-08-24 16:47 J -11321052.90 -11321052.80 -11321052.69 0.0507 0.0350

Mars -35705-12-22 17:16 J -11319471.90 -11319471.78 -11319471.65 0.1863 0.0363

Mars -35704-11-06 04:04 J -11319153.48 -11319153.33 -11319153.18 0.1659 0.0237

Saturn -35703-03-09 15:35 J -11319029.85 -11319029.85 -11319029.85 0.0275 0.0275

Saturn -35703-06-06 05:16 J -11318941.39 -11318941.28 -11318941.16 0.0276 0.0170

Saturn -35703-09-02 19:26 J -11318852.83 -11318852.69 -11318852.54 0.0276 0.0061

Jupiter -35703-10-25 12:14 J -11318800.14 -11318799.99 -11318799.83 0.0518 0.0152

Moon -35703-10-28 17:45 J -11318796.88 -11318796.76 -11318796.63 0.2666 0.0864

Earth -35703-10-28 18:28 J -11318796.85 -11318796.73 -11318796.60 0.2660 0.0805 *

Saturn -35703-11-30 09:50 J -11318764.24 -11318764.09 -11318763.94 0.0276 0.0051

Saturn -35702-02-27 00:42 J -11318675.59 -11318675.47 -11318675.35 0.0276 0.0164

Moon -35700-04-28 20:38 J -11317883.76 -11317883.64 -11317883.51 0.2677 0.0503

Earth -35700-04-28 20:52 J -11317883.76 -11317883.63 -11317883.51 0.2670 0.0487 *

Jupiter -35697-03-15 08:23 J -11316832.24 -11316832.15 -11316832.05 0.0512 0.0382

Jupiter -35697-06-12 19:26 J -11316742.82 -11316742.69 -11316742.55 0.0508 0.0204

Mars -35695-05-14 23:59 J -11316041.60 -11316041.50 -11316041.41 0.1858 0.1146

Mars -35694-03-29 08:52 J -11315723.25 -11315723.13 -11315723.00 0.1663 0.0935

Moon -35693-04-21 08:23 J -11315334.20 -11315334.15 -11315334.09 0.2670 0.2390

Earth -35693-04-21 09:07 J -11315334.18 -11315334.12 -11315334.05 0.2675 0.2270 *

Uranus -35692-01-09 16:04 J -11315070.90 -11315070.83 -11315070.75 0.0146 0.0126

Uranus -35692-04-07 20:52 J -11314982.73 -11314982.63 -11314982.51 0.0146 0.0101

Uranus -35692-07-05 02:09 J -11314894.54 -11314894.41 -11314894.28 0.0146 0.0075

Uranus -35692-10-01 07:11 J -11314806.34 -11314806.20 -11314806.05 0.0146 0.0049

Uranus -35692-12-28 12:28 J -11314718.13 -11314717.98 -11314717.83 0.0146 0.0022

Uranus -35691-03-26 17:45 J -11314629.91 -11314629.76 -11314629.61 0.0146 0.0004

Uranus -35691-06-22 23:02 J -11314541.69 -11314541.54 -11314541.39 0.0146 0.0031

Jupiter -35691-08-13 12:43 J -11314490.10 -11314489.97 -11314489.85 0.0517 0.0321

Uranus -35691-09-19 04:19 J -11314453.46 -11314453.32 -11314453.18 0.0146 0.0059

Jupiter -35691-11-11 10:47 J -11314400.16 -11314400.05 -11314399.95 0.0521 0.0381

Uranus -35691-12-16 09:35 J -11314365.22 -11314365.10 -11314364.97 0.0146 0.0086

Uranus -35690-03-14 15:07 J -11314276.96 -11314276.87 -11314276.77 0.0146 0.0113

Uranus -35690-06-10 20:23 J -11314188.68 -11314188.65 -11314188.60 0.0146 0.0142

Moon -35690-10-31 17:02 J -11314045.92 -11314045.79 -11314045.66 0.2668 0.0203

Earth -35690-10-31 17:02 J -11314045.92 -11314045.79 -11314045.66 0.2662 0.0235 *

Saturn -35689-10-15 07:11 J -11313696.29 -11313696.20 -11313696.11 0.0284 0.0231

Saturn -35688-01-12 00:28 J -11313607.63 -11313607.48 -11313607.33 0.0283 0.0100

Saturn -35688-04-10 17:16 J -11313518.94 -11313518.78 -11313518.62 0.0283 0.0027

Saturn -35688-07-08 09:35 J -11313430.23 -11313430.10 -11313429.97 0.0283 0.0151

Saturn -35688-10-05 01:40 J -11313341.47 -11313341.43 -11313341.39 0.0283 0.0272

Earth -35687-05-01 18:57 J -11313132.81 -11313132.71 -11313132.60 0.2668 0.1514

Moon -35687-05-01 19:26 J -11313132.79 -11313132.69 -11313132.58 0.2674 0.1499 *

Jupiter -35685-03-31 21:35 J -11312432.75 -11312432.60 -11312432.46 0.0509 0.0046

Mars -35685-08-18 13:26 J -11312292.95 -11312292.94 -11312292.93 0.1668 0.1660

Mars -35684-09-10 05:16 J -11311905.36 -11311905.28 -11311905.19 0.1873 0.1394

Mars -35683-07-25 17:45 J -11311586.86 -11311586.76 -11311586.65 0.1651 0.1182

Moon -35680-04-24 05:31 J -11310583.38 -11310583.27 -11310583.16 0.2675 0.1322

Earth -35680-04-24 06:28 J -11310583.33 -11310583.23 -11310583.12 0.2673 0.1326 *

Jupiter -35679-06-01 12:14 J -11310180.02 -11310179.99 -11310179.95 0.0515 0.0499

Jupiter -35679-08-30 10:47 J -11310090.19 -11310090.05 -11310089.90 0.0519 0.0206

Earth -35677-11-02 15:07 J -11309294.98 -11309294.87 -11309294.75 0.2664 0.1243

Moon -35677-11-02 16:04 J -11309294.94 -11309294.83 -11309294.73 0.2669 0.1372 *

Mars -35674-01-31 11:16 J -11308475.15 -11308475.03 -11308474.91 0.1868 0.0542

Earth -35674-05-04 17:31 J -11308381.80 -11308381.77 -11308381.74 0.2666 0.2574

Saturn -35674-10-24 08:38 J -11308209.25 -11308209.14 -11308209.03 0.0275 0.0187

Mars -35674-12-15 23:16 J -11308156.67 -11308156.53 -11308156.39 0.1655 0.0527

Jupiter -35673-01-19 00:14 J -11308122.63 -11308122.49 -11308122.35 0.0511 0.0103

Saturn -35673-01-20 22:47 J -11308120.70 -11308120.55 -11308120.41 0.0276 0.0079

Jupiter -35673-04-17 11:45 J -11308033.04 -11308033.01 -11308032.97 0.0507 0.0489

Saturn -35673-04-18 13:11 J -11308032.10 -11308031.95 -11308031.80 0.0276 0.0033

Saturn -35673-07-16 03:50 J -11307943.47 -11307943.34 -11307943.21 0.0276 0.0146

Saturn -35673-10-12 18:43 J -11307854.76 -11307854.72 -11307854.67 0.0276 0.0262

Neptune -35671-06-14 21:07 J -11307244.65 -11307244.62 -11307244.57 0.0089 0.0085

Neptune -35671-09-10 23:02 J -11307156.60 -11307156.54 -11307156.47 0.0089 0.0079

Neptune -35671-12-08 00:28 J -11307068.55 -11307068.48 -11307068.38 0.0089 0.0072

Neptune -35670-03-06 02:09 J -11306980.49 -11306980.41 -11306980.30 0.0089 0.0065

Neptune -35670-06-02 04:04 J -11306892.43 -11306892.33 -11306892.21 0.0089 0.0058

Neptune -35670-08-29 05:45 J -11306804.37 -11306804.26 -11306804.13 0.0089 0.0052

Moon -35670-10-27 00:14 J -11306745.59 -11306745.49 -11306745.40 0.2661 0.1817

Earth -35670-10-27 01:11 J -11306745.55 -11306745.45 -11306745.35 0.2659 0.1680 *

Neptune -35670-11-25 07:40 J -11306716.30 -11306716.18 -11306716.05 0.0089 0.0044

Venus -35670-11-28 03:21 J -11306713.43 -11306713.36 -11306713.28 0.3772 0.2846

Neptune -35669-02-21 09:07 J -11306628.24 -11306628.12 -11306627.97 0.0089 0.0038

Neptune -35669-05-19 11:02 J -11306540.17 -11306540.04 -11306539.90 0.0089 0.0031

Neptune -35669-08-15 12:43 J -11306452.10 -11306451.97 -11306451.82 0.0089 0.0024

Neptune -35669-11-11 14:38 J -11306364.03 -11306363.89 -11306363.74 0.0089 0.0017

Neptune -35668-02-07 16:33 J -11306275.96 -11306275.81 -11306275.66 0.0089 0.0010

Neptune -35668-05-06 18:14 J -11306187.88 -11306187.74 -11306187.59 0.0089 0.0004

Neptune -35668-08-02 20:09 J -11306099.81 -11306099.66 -11306099.51 0.0089 0.0004

Neptune -35668-10-29 21:50 J -11306011.73 -11306011.59 -11306011.44 0.0089 0.0012

Neptune -35667-01-25 23:45 J -11305923.65 -11305923.51 -11305923.36 0.0089 0.0019

Neptune -35667-04-24 01:26 J -11305835.58 -11305835.44 -11305835.29 0.0089 0.0026

Moon -35667-04-27 03:35 J -11305832.48 -11305832.35 -11305832.23 0.2676 0.0422

Earth -35667-04-27 04:19 J -11305832.45 -11305832.32 -11305832.19 0.2671 0.0340 *

Jupiter -35667-06-18 10:04 J -11305780.24 -11305780.08 -11305779.92 0.0518 0.0021

Neptune -35667-07-21 03:21 J -11305747.50 -11305747.36 -11305747.22 0.0089 0.0033

Neptune -35667-10-17 05:02 J -11305659.41 -11305659.29 -11305659.15 0.0089 0.0040

Neptune -35666-01-13 06:57 J -11305571.33 -11305571.21 -11305571.08 0.0089 0.0047

Neptune -35666-04-11 08:52 J -11305483.24 -11305483.13 -11305483.01 0.0089 0.0054

Neptune -35666-07-08 10:47 J -11305395.16 -11305395.05 -11305394.94 0.0089 0.0061

Neptune -35666-10-04 12:28 J -11305307.06 -11305306.98 -11305306.88 0.0089 0.0069

Neptune -35666-12-31 14:23 J -11305218.97 -11305218.90 -11305218.82 0.0089 0.0076

Neptune -35665-03-28 16:19 J -11305130.86 -11305130.82 -11305130.76 0.0089 0.0083

Mars -35665-06-22 17:16 J -11305044.90 -11305044.78 -11305044.65 0.1863 0.0284

Mars -35664-05-07 04:33 J -11304726.46 -11304726.31 -11304726.16 0.1659 0.0142

Venus -35664-06-12 23:31 J -11304689.63 -11304689.52 -11304689.40 0.3769 0.0492

Earth -35664-11-05 13:11 J -11304544.02 -11304543.95 -11304543.88 0.2665 0.2215

Moon -35664-11-05 14:09 J -11304543.98 -11304543.91 -11304543.84 0.2665 0.2207 *

Jupiter -35662-11-07 03:35 J -11303812.48 -11303812.35 -11303812.23 0.0512 0.0242

Jupiter -35661-02-04 14:52 J -11303722.98 -11303722.88 -11303722.78 0.0508 0.0348

Venus -35660-06-14 11:02 J -11303227.16 -11303227.04 -11303226.92 0.3607 0.0971

Saturn -35659-03-04 08:52 J -11302964.19 -11302964.13 -11302964.07 0.0283 0.0260

Saturn -35659-06-01 02:09 J -11302875.55 -11302875.41 -11302875.26 0.0283 0.0129

Saturn -35659-08-28 19:11 J -11302786.86 -11302786.70 -11302786.55 0.0283 0.0005

Saturn -35659-11-25 11:31 J -11302698.16 -11302698.02 -11302697.88 0.0283 0.0124

Saturn -35658-02-22 03:35 J -11302609.42 -11302609.35 -11302609.27 0.0282 0.0245

Moon -35657-10-28 23:16 J -11301994.65 -11301994.53 -11301994.40 0.2666 0.0647

Earth -35657-10-28 23:59 J -11301994.63 -11301994.50 -11301994.37 0.2660 0.0617 *

Mars -35656-11-12 23:59 J -11301614.60 -11301614.50 -11301614.40 0.1858 0.1060

Jupiter -35655-04-06 10:04 J -11301470.23 -11301470.08 -11301469.93 0.0518 0.0155

Mars -35655-09-27 09:21 J -11301296.24 -11301296.11 -11301295.98 0.1663 0.0841

Venus -35655-12-29 07:40 J -11301203.28 -11301203.18 -11301203.09 0.3609 0.2205

Moon -35654-04-30 02:09 J -11301081.53 -11301081.41 -11301081.28 0.2677 0.0672

Earth -35654-04-30 02:09 J -11301081.53 -11301081.41 -11301081.28 0.2670 0.0666 *

Uranus -35652-05-25 15:50 J -11300324.91 -11300324.84 -11300324.78 0.0133 0.0121

Uranus -35652-08-21 20:23 J -11300236.74 -11300236.65 -11300236.53 0.0133 0.0100

Uranus -35652-11-18 01:26 J -11300148.57 -11300148.44 -11300148.31 0.0133 0.0078

Uranus -35651-02-14 05:59 J -11300060.38 -11300060.25 -11300060.09 0.0133 0.0057

Uranus -35651-05-13 11:02 J -11299972.20 -11299972.04 -11299971.89 0.0133 0.0035

Uranus -35651-08-09 15:35 J -11299884.01 -11299883.85 -11299883.69 0.0133 0.0014

Uranus -35651-11-05 20:23 J -11299795.81 -11299795.65 -11299795.49 0.0133 0.0007

Uranus -35650-02-02 00:57 J -11299707.62 -11299707.46 -11299707.30 0.0133 0.0028

Uranus -35650-05-01 05:16 J -11299619.42 -11299619.28 -11299619.12 0.0133 0.0049

Uranus -35650-07-28 10:04 J -11299531.22 -11299531.08 -11299530.95 0.0133 0.0069

Jupiter -35650-08-26 06:43 J -11299502.31 -11299502.22 -11299502.13 0.0512 0.0381

Uranus -35650-10-24 14:38 J -11299443.01 -11299442.89 -11299442.78 0.0133 0.0089

Jupiter -35650-11-23 17:45 J -11299412.89 -11299412.76 -11299412.63 0.0508 0.0204

Uranus -35649-01-20 18:43 J -11299354.80 -11299354.72 -11299354.62 0.0132 0.0109

Uranus -35649-04-17 23:16 J -11299266.56 -11299266.53 -11299266.49 0.0132 0.0129

Moon -35647-04-22 13:40 J -11298532.00 -11298531.93 -11298531.85 0.2671 0.2085

Earth -35647-04-22 14:23 J -11298531.97 -11298531.90 -11298531.82 0.2674 0.2103 *

Mars -35646-04-05 06:43 J -11298184.24 -11298184.22 -11298184.19 0.1852 0.1817

Mars -35645-02-17 13:55 J -11297865.97 -11297865.92 -11297865.87 0.1668 0.1562

Mars -35644-03-11 05:31 J -11297478.34 -11297478.27 -11297478.19 0.1873 0.1489

Saturn -35644-03-12 09:21 J -11297477.19 -11297477.11 -11297477.02 0.0276 0.0224

Saturn -35644-06-08 23:16 J -11297388.66 -11297388.53 -11297388.39 0.0276 0.0117

Saturn -35644-09-05 13:26 J -11297300.09 -11297299.94 -11297299.78 0.0276 0.0010

Earth -35644-10-31 22:33 J -11297243.69 -11297243.56 -11297243.44 0.2662 0.0426

Moon -35644-10-31 22:47 J -11297243.68 -11297243.55 -11297243.43 0.2669 0.0452 *

Saturn -35644-12-03 04:04 J -11297211.47 -11297211.33 -11297211.19 0.0276 0.0105

Jupiter -35643-01-23 10:04 J -11297160.20 -11297160.08 -11297159.95 0.0517 0.0327

Mars -35643-01-23 18:14 J -11297159.83 -11297159.74 -11297159.65 0.1651 0.1268

Saturn -35643-03-01 18:57 J -11297122.80 -11297122.71 -11297122.62 0.0276 0.0220

Jupiter -35643-04-23 08:23 J -11297070.26 -11297070.15 -11297070.04 0.0521 0.0377

Earth -35641-05-02 00:28 J -11296330.58 -11296330.48 -11296330.39 0.2668 0.1702

Moon -35641-05-02 01:11 J -11296330.55 -11296330.45 -11296330.36 0.2672 0.1795 *

Jupiter -35638-09-11 20:38 J -11295102.79 -11295102.64 -11295102.50 0.0509 0.0059

Earth -35637-10-24 07:40 J -11294694.21 -11294694.18 -11294694.15 0.2658 0.2579

Mars -35635-08-01 11:16 J -11294048.15 -11294048.03 -11294047.91 0.1868 0.0634

Moon -35634-04-25 11:02 J -11293781.15 -11293781.04 -11293780.93 0.2674 0.1301

Earth -35634-04-25 11:59 J -11293781.12 -11293781.00 -11293780.89 0.2673 0.1145 *

Mars -35634-06-15 23:45 J -11293729.65 -11293729.51 -11293729.38 0.1655 0.0618

Jupiter -35632-11-11 10:33 J -11292850.10 -11292850.06 -11292850.02 0.0516 0.0496

Jupiter -35631-02-09 09:07 J -11292760.27 -11292760.12 -11292759.98 0.0520 0.0211

Earth -35631-11-03 20:38 J -11292492.75 -11292492.64 -11292492.53 0.2664 0.1420

Moon -35631-11-03 21:21 J -11292492.72 -11292492.61 -11292492.50 0.2669 0.1418 *

Saturn -35630-10-19 01:40 J -11292143.55 -11292143.43 -11292143.30 0.0283 0.0173

Saturn -35629-01-15 18:57 J -11292054.87 -11292054.71 -11292054.56 0.0283 0.0043

Saturn -35629-04-13 11:31 J -11291966.17 -11291966.02 -11291965.87 0.0283 0.0083

Saturn -35629-07-11 03:35 J -11291877.45 -11291877.35 -11291877.24 0.0283 0.0206

Jupiter -35626-06-30 22:33 J -11290792.70 -11290792.56 -11290792.42 0.0510 0.0101

Jupiter -35626-09-28 10:04 J -11290703.11 -11290703.08 -11290703.04 0.0507 0.0490

Mars -35626-12-22 17:31 J -11290617.90 -11290617.77 -11290617.64 0.1863 0.0192

Mars -35625-11-05 04:47 J -11290299.44 -11290299.30 -11290299.15 0.1659 0.0068

Moon -35624-10-27 05:45 J -11289943.37 -11289943.26 -11289943.15 0.2663 0.1485

Earth -35624-10-27 06:43 J -11289943.33 -11289943.22 -11289943.11 0.2659 0.1491 *

Moon -35621-04-27 09:07 J -11289030.25 -11289030.12 -11289029.99 0.2677 0.0147

Earth -35621-04-27 09:35 J -11289030.23 -11289030.10 -11289029.97 0.2671 0.0168 *

Pluto -35621-05-01 07:26 J -11289026.23 -11289026.19 -11289026.10 0.0067 0.0063

Pluto -35621-07-28 09:07 J -11288938.20 -11288938.12 -11288938.02 0.0067 0.0057

Pluto -35621-10-24 10:33 J -11288850.17 -11288850.06 -11288849.95 0.0068 0.0051

Pluto -35620-01-20 11:31 J -11288762.13 -11288762.02 -11288761.88 0.0068 0.0046

Pluto -35620-04-18 12:57 J -11288674.08 -11288673.96 -11288673.81 0.0068 0.0040

Pluto -35620-07-15 14:09 J -11288586.04 -11288585.91 -11288585.75 0.0068 0.0034

Pluto -35620-10-11 15:35 J -11288497.99 -11288497.85 -11288497.69 0.0068 0.0028

Jupiter -35620-11-28 09:07 J -11288450.28 -11288450.12 -11288449.96 0.0518 0.0036

Pluto -35619-01-07 17:02 J -11288409.94 -11288409.79 -11288409.62 0.0068 0.0022

Pluto -35619-04-05 18:28 J -11288321.89 -11288321.73 -11288321.56 0.0068 0.0016

Pluto -35619-07-02 19:55 J -11288233.84 -11288233.67 -11288233.50 0.0068 0.0010

Pluto -35619-09-28 21:21 J -11288145.78 -11288145.61 -11288145.44 0.0068 0.0004

Pluto -35619-12-25 22:47 J -11288057.72 -11288057.55 -11288057.38 0.0069 0.0002

Pluto -35618-03-23 23:59 J -11287969.66 -11287969.50 -11287969.33 0.0069 0.0009

Pluto -35618-06-20 01:26 J -11287881.60 -11287881.44 -11287881.27 0.0069 0.0015

Pluto -35618-09-16 02:52 J -11287793.54 -11287793.38 -11287793.22 0.0069 0.0021

Earth -35618-11-06 18:28 J -11287741.78 -11287741.73 -11287741.68 0.2666 0.2390

Moon -35618-11-06 19:26 J -11287741.72 -11287741.69 -11287741.65 0.2664 0.2537 *

Pluto -35618-12-13 04:19 J -11287705.47 -11287705.32 -11287705.16 0.0069 0.0027

Pluto -35617-03-10 05:45 J -11287617.40 -11287617.26 -11287617.11 0.0069 0.0034

Pluto -35617-06-06 06:57 J -11287529.33 -11287529.21 -11287529.06 0.0069 0.0040

Pluto -35617-09-02 08:38 J -11287441.26 -11287441.14 -11287441.01 0.0069 0.0046

Pluto -35617-11-29 09:50 J -11287353.18 -11287353.09 -11287352.96 0.0069 0.0053

Pluto -35616-02-25 11:31 J -11287265.09 -11287265.02 -11287264.92 0.0070 0.0060

Mars -35616-05-13 23:59 J -11287187.60 -11287187.50 -11287187.39 0.1858 0.0979

Pluto -35616-05-24 12:43 J -11287176.99 -11287176.97 -11287176.89 0.0070 0.0067

Mars -35615-03-28 09:50 J -11286869.22 -11286869.09 -11286868.96 0.1663 0.0749

Saturn -35615-07-30 12:43 J -11286745.04 -11286744.97 -11286744.90 0.0275 0.0242

Saturn -35615-10-27 02:38 J -11286656.52 -11286656.39 -11286656.26 0.0276 0.0135

Saturn -35614-01-23 16:47 J -11286567.95 -11286567.80 -11286567.65 0.0276 0.0026

Jupiter -35614-04-19 01:26 J -11286482.57 -11286482.44 -11286482.32 0.0512 0.0249

Saturn -35614-04-22 07:11 J -11286479.34 -11286479.20 -11286479.05 0.0276 0.0087

Jupiter -35614-07-17 12:28 J -11286393.08 -11286392.98 -11286392.87 0.0508 0.0341

Saturn -35614-07-19 22:04 J -11286390.68 -11286390.58 -11286390.48 0.0276 0.0202

Venus -35613-07-04 01:55 J -11286040.52 -11286040.42 -11286040.31 0.3771 0.1651

Moon -35611-10-30 05:02 J -11285192.42 -11285192.29 -11285192.17 0.2667 0.0507

Earth -35611-10-30 05:31 J -11285192.40 -11285192.27 -11285192.14 0.2661 0.0429 *

Venus -35609-07-05 12:57 J -11284578.02 -11284577.96 -11284577.89 0.3605 0.3030

Uranus -35609-11-02 19:11 J -11284457.73 -11284457.70 -11284457.66 0.0146 0.0141

Uranus -35608-01-29 23:59 J -11284369.58 -11284369.50 -11284369.40 0.0146 0.0116

Uranus -35608-04-28 05:02 J -11284281.40 -11284281.29 -11284281.16 0.0146 0.0090

Moon -35608-04-30 07:40 J -11284279.30 -11284279.18 -11284279.06 0.2676 0.0846

Earth -35608-04-30 07:40 J -11284279.30 -11284279.18 -11284279.06 0.2669 0.0854 *

Uranus -35608-07-25 10:19 J -11284193.21 -11284193.07 -11284192.93 0.0146 0.0064

Jupiter -35608-09-16 07:55 J -11284140.32 -11284140.17 -11284140.01 0.0517 0.0155

Uranus -35608-10-21 15:21 J -11284105.00 -11284104.86 -11284104.71 0.0146 0.0038

Uranus -35607-01-17 20:38 J -11284016.79 -11284016.64 -11284016.49 0.0146 0.0011

Venus -35607-01-17 22:04 J -11284016.68 -11284016.58 -11284016.47 0.3768 0.1722 *

Uranus -35607-04-16 01:55 J -11283928.58 -11283928.42 -11283928.27 0.0146 0.0015

Uranus -35607-07-13 07:11 J -11283840.35 -11283840.20 -11283840.06 0.0146 0.0042

Mars -35607-10-04 06:43 J -11283757.26 -11283757.22 -11283757.18 0.1853 0.1743

Uranus -35607-10-09 12:28 J -11283752.12 -11283751.98 -11283751.84 0.0146 0.0069

Uranus -35606-01-05 17:45 J -11283663.87 -11283663.76 -11283663.64 0.0146 0.0097

Uranus -35606-04-03 23:16 J -11283575.61 -11283575.53 -11283575.45 0.0146 0.0125

Mars -35606-08-18 14:23 J -11283438.97 -11283438.90 -11283438.83 0.1668 0.1465

Mars -35605-09-09 05:31 J -11283051.34 -11283051.27 -11283051.20 0.1873 0.1565

Mars -35604-07-24 18:43 J -11282732.81 -11282732.72 -11282732.64 0.1652 0.1355

Venus -35603-01-19 09:50 J -11282554.21 -11282554.09 -11282553.96 0.3607 0.0241

Jupiter -35602-02-05 04:33 J -11282172.40 -11282172.31 -11282172.22 0.0513 0.0387

Jupiter -35602-05-05 15:35 J -11282082.98 -11282082.85 -11282082.72 0.0509 0.0200

Moon -35601-04-22 18:57 J -11281729.79 -11281729.71 -11281729.63 0.2672 0.2046

Earth -35601-04-22 19:55 J -11281729.76 -11281729.67 -11281729.59 0.2674 0.1932 *

Saturn -35600-03-07 03:50 J -11281411.44 -11281411.34 -11281411.22 0.0283 0.0199

Saturn -35600-06-03 21:07 J -11281322.77 -11281322.62 -11281322.46 0.0283 0.0069

Saturn -35600-08-31 13:55 J -11281234.07 -11281233.92 -11281233.77 0.0283 0.0058

Saturn -35600-11-28 06:14 J -11281145.36 -11281145.24 -11281145.12 0.0283 0.0181

Venus -35598-08-05 06:14 J -11280530.28 -11280530.24 -11280530.20 0.3610 0.3359

Earth -35598-11-02 03:50 J -11280441.46 -11280441.34 -11280441.21 0.2662 0.0605

Moon -35598-11-02 04:19 J -11280441.44 -11280441.32 -11280441.20 0.2669 0.0641 *

Jupiter -35596-07-05 07:55 J -11279830.30 -11279830.17 -11279830.05 0.0516 0.0331

Jupiter -35596-10-03 05:59 J -11279740.36 -11279740.25 -11279740.14 0.0520 0.0371

Mars -35595-01-30 11:31 J -11279621.14 -11279621.02 -11279620.91 0.1868 0.0717

Earth -35595-05-03 05:59 J -11279528.34 -11279528.25 -11279528.16 0.2668 0.1898

Moon -35595-05-03 06:43 J -11279528.30 -11279528.22 -11279528.13 0.2671 0.1957 *

Mars -35595-12-15 00:14 J -11279302.63 -11279302.49 -11279302.36 0.1655 0.0711

Moon -35591-10-25 12:14 J -11277892.05 -11277891.99 -11277891.94 0.2656 0.2385

Earth -35591-10-25 13:11 J -11277892.00 -11277891.95 -11277891.89 0.2658 0.2385 *

Jupiter -35590-02-21 18:43 J -11277772.87 -11277772.72 -11277772.58 0.0509 0.0058

Moon -35588-04-25 16:19 J -11276978.94 -11276978.82 -11276978.70 0.2674 0.0962

Earth -35588-04-25 17:16 J -11276978.90 -11276978.78 -11276978.66 0.2672 0.0969 *

Neptune -35588-12-07 16:33 J -11276752.85 -11276752.81 -11276752.74 0.0088 0.0084

Neptune -35587-03-05 19:11 J -11276664.77 -11276664.70 -11276664.59 0.0088 0.0076

Neptune -35587-06-01 21:50 J -11276576.68 -11276576.59 -11276576.46 0.0088 0.0068

Neptune -35587-08-29 00:57 J -11276488.58 -11276488.46 -11276488.33 0.0088 0.0059

Neptune -35587-11-25 03:35 J -11276400.49 -11276400.35 -11276400.21 0.0088 0.0051

Neptune -35586-02-21 06:14 J -11276312.39 -11276312.24 -11276312.09 0.0088 0.0043

Neptune -35586-05-20 08:52 J -11276224.28 -11276224.13 -11276223.97 0.0088 0.0034

Mars -35586-06-22 17:45 J -11276190.89 -11276190.76 -11276190.64 0.1863 0.0099

Neptune -35586-08-16 11:31 J -11276136.18 -11276136.02 -11276135.85 0.0088 0.0026

Neptune -35586-11-12 14:09 J -11276048.08 -11276047.91 -11276047.74 0.0088 0.0018

Neptune -35585-02-08 16:47 J -11275959.97 -11275959.80 -11275959.63 0.0088 0.0010

Saturn -35585-03-15 03:21 J -11275924.47 -11275924.36 -11275924.24 0.0276 0.0171

Mars -35585-05-06 05:16 J -11275872.43 -11275872.28 -11275872.13 0.1659 0.0046

Neptune -35585-05-06 19:26 J -11275871.86 -11275871.69 -11275871.52 0.0088 0.0003

Saturn -35585-06-11 17:31 J -11275835.92 -11275835.77 -11275835.62 0.0276 0.0062

Neptune -35585-08-02 21:50 J -11275783.76 -11275783.59 -11275783.42 0.0088 0.0006

Saturn -35585-09-08 07:55 J -11275747.32 -11275747.17 -11275747.02 0.0276 0.0049

Neptune -35585-10-30 00:28 J -11275695.65 -11275695.48 -11275695.31 0.0088 0.0013

Earth -35585-11-04 01:55 J -11275690.52 -11275690.42 -11275690.31 0.2664 0.1600

Moon -35585-11-04 02:52 J -11275690.48 -11275690.38 -11275690.28 0.2667 0.1695 *

Saturn -35585-12-05 22:33 J -11275658.68 -11275658.56 -11275658.44 0.0276 0.0163

Neptune -35584-01-26 02:52 J -11275607.54 -11275607.38 -11275607.21 0.0088 0.0021

Jupiter -35584-04-23 07:40 J -11275520.20 -11275520.18 -11275520.14 0.0516 0.0505

Neptune -35584-04-24 05:16 J -11275519.43 -11275519.28 -11275519.11 0.0088 0.0030

Neptune -35584-07-21 07:55 J -11275431.32 -11275431.17 -11275431.01 0.0088 0.0037

Jupiter -35584-07-22 06:28 J -11275430.37 -11275430.23 -11275430.08 0.0520 0.0203

Neptune -35584-10-17 10:33 J -11275343.20 -11275343.06 -11275342.91 0.0088 0.0045

Neptune -35583-01-13 12:57 J -11275255.09 -11275254.96 -11275254.82 0.0088 0.0052

Neptune -35583-04-11 15:21 J -11275166.97 -11275166.86 -11275166.73 0.0088 0.0060

Neptune -35583-07-08 17:45 J -11275078.85 -11275078.76 -11275078.64 0.0088 0.0068

Neptune -35583-10-04 20:23 J -11274990.73 -11274990.65 -11274990.56 0.0088 0.0076

Neptune -35583-12-31 22:33 J -11274902.60 -11274902.56 -11274902.49 0.0088 0.0084

Jupiter -35579-12-10 21:35 J -11273462.74 -11273462.60 -11273462.46 0.0510 0.0089

Jupiter -35578-03-10 09:07 J -11273373.14 -11273373.12 -11273373.11 0.0507 0.0502

Moon -35578-10-28 11:16 J -11273141.14 -11273141.03 -11273140.92 0.2663 0.1454

Earth -35578-10-28 12:14 J -11273141.10 -11273140.99 -11273140.88 0.2659 0.1295 *

Mars -35577-11-11 23:59 J -11272760.61 -11272760.50 -11272760.39 0.1858 0.0899

Mars -35576-09-26 10:04 J -11272442.21 -11272442.08 -11272441.94 0.1663 0.0659

Moon -35575-04-28 14:38 J -11272228.01 -11272227.89 -11272227.76 0.2677 0.0085

Earth -35575-04-28 15:07 J -11272228.00 -11272227.87 -11272227.74 0.2671 0.0052 *

Jupiter -35572-05-10 07:11 J -11271120.36 -11271120.20 -11271120.04 0.0519 0.0038

Earth -35572-11-06 23:45 J -11270939.54 -11270939.51 -11270939.47 0.2666 0.2567

Moon -35572-11-07 00:57 J -11270939.49 -11270939.46 -11270939.43 0.2665 0.2563 *

Saturn -35571-07-25 03:21 J -11270679.43 -11270679.36 -11270679.27 0.0283 0.0243

Saturn -35571-10-21 20:52 J -11270590.78 -11270590.63 -11270590.48 0.0283 0.0112

Saturn -35570-01-18 13:40 J -11270502.08 -11270501.93 -11270501.77 0.0283 0.0017

Saturn -35570-04-17 06:14 J -11270413.37 -11270413.24 -11270413.11 0.0283 0.0141

Saturn -35570-07-14 22:19 J -11270324.62 -11270324.57 -11270324.51 0.0283 0.0262

Uranus -35568-06-14 23:31 J -11269623.59 -11269623.52 -11269623.42 0.0133 0.0112

Uranus -35568-09-11 04:33 J -11269535.42 -11269535.31 -11269535.18 0.0133 0.0090

Uranus -35568-12-08 09:21 J -11269447.24 -11269447.11 -11269446.96 0.0133 0.0068

Uranus -35567-03-06 14:09 J -11269359.06 -11269358.91 -11269358.75 0.0133 0.0047

Mars -35567-04-04 06:57 J -11269330.26 -11269330.21 -11269330.16 0.1852 0.1655

Uranus -35567-06-02 18:57 J -11269270.87 -11269270.71 -11269270.55 0.0133 0.0026

Uranus -35567-08-29 23:45 J -11269182.67 -11269182.51 -11269182.35 0.0133 0.0005

Jupiter -35567-09-28 23:31 J -11269152.64 -11269152.52 -11269152.39 0.0511 0.0247

Uranus -35567-11-26 04:19 J -11269094.48 -11269094.32 -11269094.16 0.0133 0.0017

Jupiter -35567-12-27 10:47 J -11269063.15 -11269063.05 -11269062.94 0.0508 0.0342

Mars -35566-02-16 14:38 J -11269011.97 -11269011.89 -11269011.80 0.1668 0.1377

Uranus -35566-02-22 08:52 J -11269006.28 -11269006.13 -11269005.97 0.0133 0.0037

Uranus -35566-05-21 13:26 J -11268918.08 -11268917.94 -11268917.79 0.0133 0.0058

Uranus -35566-08-17 17:45 J -11268829.88 -11268829.76 -11268829.62 0.0133 0.0079

Uranus -35566-11-13 22:19 J -11268741.67 -11268741.57 -11268741.46 0.0132 0.0098

Uranus -35565-02-10 02:38 J -11268653.44 -11268653.39 -11268653.31 0.0132 0.0119

Mars -35565-03-10 05:45 J -11268624.32 -11268624.26 -11268624.20 0.1873 0.1656

Moon -35565-10-30 10:33 J -11268390.19 -11268390.06 -11268389.93 0.2667 0.0218

Earth -35565-10-30 11:02 J -11268390.17 -11268390.04 -11268389.91 0.2661 0.0258 *

Mars -35564-01-22 18:57 J -11268305.78 -11268305.71 -11268305.64 0.1651 0.1440

Earth -35562-05-01 12:57 J -11267477.07 -11267476.96 -11267476.84 0.2669 0.1042

Moon -35562-05-01 13:11 J -11267477.06 -11267476.95 -11267476.83 0.2675 0.1098 *

Venus -35562-07-26 04:33 J -11267391.32 -11267391.31 -11267391.30 0.3773 0.3729

Jupiter -35560-02-26 06:57 J -11266810.36 -11266810.21 -11266810.05 0.0517 0.0140

Venus -35556-02-08 00:28 J -11265367.60 -11265367.48 -11265367.36 0.3770 0.0461

Mars -35556-07-31 11:31 J -11265194.13 -11265194.02 -11265193.90 0.1868 0.0808

Saturn -35556-08-02 06:28 J -11265192.33 -11265192.23 -11265192.12 0.0276 0.0190

Saturn -35556-10-29 20:23 J -11265103.79 -11265103.65 -11265103.50 0.0276 0.0082

Saturn -35555-01-26 10:47 J -11265015.20 -11265015.05 -11265014.90 0.0276 0.0030

Moon -35555-04-24 00:14 J -11264927.59 -11264927.49 -11264927.40 0.2673 0.1789

Earth -35555-04-24 01:11 J -11264927.55 -11264927.45 -11264927.36 0.2674 0.1757 *

Saturn -35555-04-25 01:26 J -11264926.57 -11264926.44 -11264926.31 0.0276 0.0144

Mars -35555-06-15 00:28 J -11264875.61 -11264875.48 -11264875.35 0.1655 0.0794

Jupiter -35555-07-18 02:23 J -11264842.49 -11264842.40 -11264842.31 0.0512 0.0393

Saturn -35555-07-22 16:33 J -11264837.86 -11264837.81 -11264837.76 0.0276 0.0260

Jupiter -35555-10-15 13:26 J -11264753.07 -11264752.94 -11264752.81 0.0509 0.0192

Venus -35552-02-09 11:59 J -11263905.11 -11263905.00 -11263904.90 0.3605 0.1807

Earth -35552-11-02 09:21 J -11263639.23 -11263639.11 -11263638.99 0.2663 0.0783

Moon -35552-11-02 09:50 J -11263639.22 -11263639.09 -11263638.97 0.2669 0.0794 *

Venus -35551-08-24 20:52 J -11263343.70 -11263343.63 -11263343.56 0.3767 0.2972

Earth -35549-05-03 11:16 J -11262726.11 -11262726.03 -11262725.95 0.2667 0.2088

Moon -35549-05-03 12:14 J -11262726.06 -11262725.99 -11262725.91 0.2671 0.2159 *

Jupiter -35549-12-15 05:45 J -11262500.38 -11262500.26 -11262500.13 0.0516 0.0331

Jupiter -35548-03-15 04:04 J -11262410.44 -11262410.33 -11262410.22 0.0520 0.0370

Venus -35547-08-26 08:38 J -11261881.26 -11261881.14 -11261881.03 0.3608 0.1416

Mars -35547-12-21 17:31 J -11261763.89 -11261763.77 -11261763.64 0.1863 0.0054

Mars -35546-11-05 05:45 J -11261445.41 -11261445.26 -11261445.11 0.1659 0.0132

Moon -35545-10-25 17:45 J -11261089.82 -11261089.76 -11261089.70 0.2658 0.2320

Earth -35545-10-25 18:43 J -11261089.79 -11261089.72 -11261089.64 0.2658 0.2188 *

Jupiter -35543-08-03 16:33 J -11260442.96 -11260442.81 -11260442.67 0.0510 0.0053

Moon -35542-04-26 21:50 J -11260176.71 -11260176.59 -11260176.47 0.2675 0.0928

Earth -35542-04-26 22:33 J -11260176.68 -11260176.56 -11260176.44 0.2672 0.0797 *

Saturn -35542-12-12 06:14 J -11259947.29 -11259947.24 -11259947.18 0.0284 0.0265

Saturn -35541-03-09 23:31 J -11259858.66 -11259858.52 -11259858.38 0.0283 0.0134

Saturn -35541-06-06 16:33 J -11259769.97 -11259769.81 -11259769.65 0.0283 0.0005

Saturn -35541-09-03 09:07 J -11259681.26 -11259681.12 -11259680.98 0.0283 0.0120

Saturn -35541-12-01 01:11 J -11259592.53 -11259592.45 -11259592.37 0.0283 0.0241

Earth -35539-11-05 07:26 J -11258888.28 -11258888.19 -11258888.10 0.2665 0.1778

Moon -35539-11-05 08:23 J -11258888.24 -11258888.15 -11258888.06 0.2666 0.1844 *

Mars -35537-05-13 00:14 J -11258333.60 -11258333.49 -11258333.38 0.1858 0.0808

Jupiter -35537-10-03 05:16 J -11258190.29 -11258190.28 -11258190.25 0.0515 0.0510

Jupiter -35536-01-01 04:04 J -11258100.47 -11258100.33 -11258100.18 0.0519 0.0197

Mars -35536-03-27 10:33 J -11258015.20 -11258015.06 -11258014.92 0.1663 0.0564

Pluto -35535-03-23 07:40 J -11257654.21 -11257654.18 -11257654.14 0.0077 0.0074

Pluto -35535-06-19 08:52 J -11257566.19 -11257566.13 -11257566.04 0.0077 0.0067

Pluto -35535-09-15 10:19 J -11257478.15 -11257478.07 -11257477.96 0.0076 0.0059

Pluto -35535-12-12 11:59 J -11257390.11 -11257390.00 -11257389.89 0.0076 0.0051

Pluto -35534-03-10 13:11 J -11257302.06 -11257301.95 -11257301.82 0.0076 0.0043

Pluto -35534-06-06 14:38 J -11257214.01 -11257213.89 -11257213.75 0.0076 0.0036

Pluto -35534-09-02 16:04 J -11257125.96 -11257125.83 -11257125.69 0.0076 0.0028

Pluto -35534-11-29 17:16 J -11257037.91 -11257037.78 -11257037.62 0.0076 0.0021

Pluto -35533-02-25 18:57 J -11256949.86 -11256949.71 -11256949.57 0.0076 0.0013

Pluto -35533-05-23 20:09 J -11256861.81 -11256861.66 -11256861.51 0.0075 0.0006

Pluto -35533-08-19 21:35 J -11256773.75 -11256773.60 -11256773.45 0.0075 0.0002

Pluto -35533-11-15 22:47 J -11256685.70 -11256685.55 -11256685.40 0.0075 0.0009

Pluto -35532-02-11 23:59 J -11256597.64 -11256597.50 -11256597.35 0.0075 0.0016

Pluto -35532-05-11 01:11 J -11256509.58 -11256509.45 -11256509.30 0.0075 0.0023

Pluto -35532-08-07 02:38 J -11256421.53 -11256421.39 -11256421.25 0.0075 0.0030

Moon -35532-10-28 16:47 J -11256338.92 -11256338.80 -11256338.68 0.2664 0.1095

Earth -35532-10-28 17:45 J -11256338.88 -11256338.76 -11256338.64 0.2660 0.1107 *

Pluto -35532-11-03 03:50 J -11256333.47 -11256333.34 -11256333.21 0.0075 0.0037

Pluto -35531-01-30 05:02 J -11256245.41 -11256245.29 -11256245.17 0.0075 0.0044

Pluto -35531-04-28 06:14 J -11256157.34 -11256157.24 -11256157.13 0.0074 0.0051

Jupiter -35531-05-22 19:26 J -11256132.83 -11256132.69 -11256132.55 0.0511 0.0092

Pluto -35531-07-25 07:26 J -11256069.28 -11256069.19 -11256069.09 0.0074 0.0057

Jupiter -35531-08-20 06:57 J -11256043.22 -11256043.21 -11256043.18 0.0507 0.0501

Pluto -35531-10-21 08:23 J -11255981.21 -11255981.15 -11255981.06 0.0074 0.0064

Pluto -35530-01-17 09:21 J -11255893.13 -11255893.11 -11255893.05 0.0074 0.0072

Moon -35529-04-28 20:09 J -11255425.79 -11255425.66 -11255425.54 0.2677 0.0269

Earth -35529-04-28 20:23 J -11255425.78 -11255425.65 -11255425.52 0.2670 0.0204 *

Mars -35528-10-03 06:57 J -11254903.27 -11254903.21 -11254903.14 0.1852 0.1572

Mars -35527-08-17 15:07 J -11254584.96 -11254584.87 -11254584.77 0.1668 0.1282

Saturn -35527-12-20 07:40 J -11254460.26 -11254460.18 -11254460.09 0.0275 0.0223

Saturn -35526-03-18 21:50 J -11254371.73 -11254371.59 -11254371.46 0.0276 0.0116

Saturn -35526-06-15 11:59 J -11254283.15 -11254283.00 -11254282.85 0.0276 0.0008

Mars -35526-09-09 05:59 J -11254197.29 -11254197.25 -11254197.21 0.1873 0.1754

Saturn -35526-09-12 02:23 J -11254194.54 -11254194.40 -11254194.26 0.0276 0.0107

Saturn -35526-12-09 17:02 J -11254105.87 -11254105.79 -11254105.69 0.0276 0.0223

Mars -35525-07-23 19:11 J -11253878.75 -11253878.70 -11253878.64 0.1652 0.1526

Jupiter -35525-10-20 04:19 J -11253790.48 -11253790.32 -11253790.16 0.0519 0.0028

Uranus -35525-11-23 02:38 J -11253756.44 -11253756.39 -11253756.32 0.0145 0.0133

Uranus -35524-02-19 07:26 J -11253668.28 -11253668.19 -11253668.07 0.0146 0.0108

Uranus -35524-05-18 12:43 J -11253580.09 -11253579.97 -11253579.84 0.0146 0.0082

Uranus -35524-08-14 17:45 J -11253491.90 -11253491.76 -11253491.62 0.0146 0.0056

Uranus -35524-11-10 23:02 J -11253403.69 -11253403.54 -11253403.39 0.0146 0.0030

Uranus -35523-02-07 04:04 J -11253315.48 -11253315.33 -11253315.17 0.0146 0.0005

Uranus -35523-05-06 09:21 J -11253227.26 -11253227.11 -11253226.96 0.0146 0.0024

Uranus -35523-08-02 14:38 J -11253139.03 -11253138.89 -11253138.74 0.0146 0.0051

Uranus -35523-10-29 19:55 J -11253050.80 -11253050.67 -11253050.54 0.0146 0.0078

Uranus -35522-01-26 01:11 J -11252962.55 -11252962.45 -11252962.34 0.0146 0.0105

Moon -35522-04-22 08:38 J -11252876.17 -11252876.14 -11252876.12 0.2670 0.2584

Earth -35522-04-22 09:07 J -11252876.16 -11252876.12 -11252876.08 0.2675 0.2526 *

Uranus -35522-04-24 06:28 J -11252874.28 -11252874.23 -11252874.15 0.0146 0.0134

Jupiter -35519-03-10 22:33 J -11251822.69 -11251822.56 -11251822.44 0.0511 0.0234

Jupiter -35519-06-08 09:50 J -11251733.19 -11251733.09 -11251732.99 0.0508 0.0354

Moon -35519-10-31 16:19 J -11251587.95 -11251587.82 -11251587.69 0.2668 0.0136

Earth -35519-10-31 16:19 J -11251587.95 -11251587.82 -11251587.69 0.2661 0.0105 *

Mars -35516-01-29 11:45 J -11250767.13 -11250767.01 -11250766.90 0.1868 0.0892

Earth -35516-05-01 18:28 J -11250674.84 -11250674.73 -11250674.61 0.2669 0.1230

Moon -35516-05-01 18:57 J -11250674.82 -11250674.71 -11250674.60 0.2674 0.1207 *

Mars -35516-12-14 00:43 J -11250448.59 -11250448.47 -11250448.34 0.1655 0.0885

Jupiter -35513-08-08 04:47 J -11249480.45 -11249480.30 -11249480.14 0.0518 0.0142

Saturn -35512-07-27 22:47 J -11249126.67 -11249126.55 -11249126.42 0.0283 0.0179

Saturn -35512-10-24 16:04 J -11249037.99 -11249037.83 -11249037.67 0.0283 0.0049

Saturn -35511-01-21 08:38 J -11248949.28 -11248949.14 -11248948.98 0.0283 0.0078

Saturn -35511-04-20 00:57 J -11248860.56 -11248860.46 -11248860.35 0.0283 0.0201

Moon -35509-04-24 05:31 J -11248125.37 -11248125.27 -11248125.18 0.2672 0.1688

Earth -35509-04-24 06:28 J -11248125.33 -11248125.23 -11248125.13 0.2674 0.1587 *

Jupiter -35508-12-28 00:43 J -11247512.56 -11247512.47 -11247512.38 0.0512 0.0390

Jupiter -35507-03-27 11:45 J -11247423.14 -11247423.01 -11247422.88 0.0509 0.0194

Mars -35507-06-21 17:45 J -11247336.88 -11247336.76 -11247336.63 0.1863 0.0076

Neptune -35506-03-11 19:40 J -11247073.72 -11247073.68 -11247073.63 0.0089 0.0084

Mars -35506-05-06 05:59 J -11247018.39 -11247018.25 -11247018.10 0.1659 0.0219

Neptune -35506-06-07 21:21 J -11246985.67 -11246985.61 -11246985.53 0.0089 0.0078

Neptune -35506-09-03 22:47 J -11246897.62 -11246897.55 -11246897.44 0.0089 0.0072

Earth -35506-11-03 14:38 J -11246837.01 -11246836.89 -11246836.77 0.2663 0.0969

Moon -35506-11-03 15:07 J -11246836.98 -11246836.87 -11246836.75 0.2669 0.1051 *

Neptune -35506-12-01 00:43 J -11246809.56 -11246809.47 -11246809.36 0.0089 0.0064

Neptune -35505-02-27 02:23 J -11246721.50 -11246721.40 -11246721.28 0.0089 0.0057

Venus -35505-03-01 03:07 J -11246718.46 -11246718.37 -11246718.29 0.3772 0.2564

Neptune -35505-05-25 04:19 J -11246633.43 -11246633.32 -11246633.20 0.0089 0.0050

Neptune -35505-08-21 05:59 J -11246545.37 -11246545.25 -11246545.12 0.0089 0.0043

Neptune -35505-11-17 07:55 J -11246457.30 -11246457.17 -11246457.04 0.0089 0.0036

Neptune -35504-02-13 09:35 J -11246369.23 -11246369.10 -11246368.96 0.0089 0.0029

Neptune -35504-05-12 11:31 J -11246281.16 -11246281.02 -11246280.88 0.0089 0.0022

Neptune -35504-08-08 13:11 J -11246193.09 -11246192.95 -11246192.80 0.0089 0.0015

Neptune -35504-11-04 14:52 J -11246105.02 -11246104.88 -11246104.73 0.0089 0.0009

Neptune -35503-01-31 16:47 J -11246016.95 -11246016.80 -11246016.65 0.0089 0.0001

Neptune -35503-04-29 18:28 J -11245928.87 -11245928.73 -11245928.58 0.0089 0.0006

Earth -35503-05-04 16:47 J -11245923.86 -11245923.80 -11245923.73 0.2667 0.2281

Moon -35503-05-04 17:45 J -11245923.81 -11245923.76 -11245923.70 0.2671 0.2375 *

Neptune -35503-07-26 20:23 J -11245840.80 -11245840.65 -11245840.50 0.0089 0.0013

Neptune -35503-10-22 22:04 J -11245752.72 -11245752.58 -11245752.43 0.0089 0.0020

Neptune -35502-01-18 23:59 J -11245664.64 -11245664.50 -11245664.36 0.0089 0.0027

Neptune -35502-04-17 01:40 J -11245576.56 -11245576.43 -11245576.29 0.0089 0.0034

Neptune -35502-07-14 03:35 J -11245488.48 -11245488.35 -11245488.22 0.0089 0.0041

Neptune -35502-10-10 05:31 J -11245400.39 -11245400.27 -11245400.15 0.0089 0.0048

Neptune -35501-01-06 06:57 J -11245312.31 -11245312.21 -11245312.08 0.0089 0.0056

Neptune -35501-04-03 08:52 J -11245224.22 -11245224.13 -11245224.01 0.0089 0.0063

Jupiter -35501-05-27 04:33 J -11245170.43 -11245170.31 -11245170.18 0.0516 0.0318

Neptune -35501-06-30 10:47 J -11245136.13 -11245136.05 -11245135.95 0.0089 0.0070

Jupiter -35501-08-25 02:52 J -11245080.48 -11245080.38 -11245080.27 0.0520 0.0384

Neptune -35501-09-26 12:43 J -11245048.03 -11245047.97 -11245047.89 0.0089 0.0077

Neptune -35501-12-23 14:23 J -11244959.93 -11244959.90 -11244959.84 0.0089 0.0085

Venus -35500-09-14 23:02 J -11244694.65 -11244694.54 -11244694.42 0.3769 0.0765

Moon -35499-10-26 23:16 J -11244287.61 -11244287.53 -11244287.45 0.2660 0.2043

Earth -35499-10-27 00:28 J -11244287.57 -11244287.48 -11244287.40 0.2658 0.1993 *

Mars -35498-11-12 00:14 J -11243906.60 -11243906.49 -11243906.37 0.1857 0.0730

Saturn -35497-05-08 10:33 J -11243728.12 -11243728.06 -11243727.99 0.0276 0.0244

Saturn -35497-08-05 00:28 J -11243639.61 -11243639.48 -11243639.35 0.0276 0.0137

Mars -35497-09-25 11:02 J -11243588.19 -11243588.04 -11243587.90 0.1664 0.0475

Saturn -35497-11-01 14:38 J -11243551.04 -11243550.89 -11243550.74 0.0276 0.0027

Saturn -35496-01-29 05:02 J -11243462.43 -11243462.29 -11243462.14 0.0276 0.0086

Moon -35496-04-27 03:21 J -11243374.49 -11243374.36 -11243374.24 0.2676 0.0619

Earth -35496-04-27 04:04 J -11243374.46 -11243374.33 -11243374.21 0.2672 0.0615 *

Saturn -35496-04-27 19:55 J -11243373.77 -11243373.67 -11243373.56 0.0276 0.0200

Venus -35496-09-16 10:47 J -11243232.18 -11243232.05 -11243231.93 0.3606 0.0593

Jupiter -35495-01-13 14:23 J -11243113.05 -11243112.90 -11243112.76 0.0510 0.0046

Earth -35493-11-05 12:43 J -11242086.05 -11242085.97 -11242085.88 0.2665 0.1954

Moon -35493-11-05 13:55 J -11242086.01 -11242085.92 -11242085.84 0.2666 0.2017 *

Venus -35490-04-02 07:26 J -11241208.28 -11241208.19 -11241208.11 0.3609 0.2601

Jupiter -35489-03-15 03:07 J -11240860.38 -11240860.37 -11240860.34 0.0515 0.0510

Jupiter -35489-06-13 01:55 J -11240770.56 -11240770.42 -11240770.27 0.0519 0.0197

Mars -35488-04-03 06:57 J -11240476.28 -11240476.21 -11240476.14 0.1852 0.1494

Mars -35487-02-15 15:35 J -11240157.95 -11240157.85 -11240157.74 0.1668 0.1182

Mars -35486-03-10 05:59 J -11239770.28 -11239770.25 -11239770.23 0.1872 0.1830

Moon -35486-10-29 22:33 J -11239536.68 -11239536.56 -11239536.44 0.2664 0.1044

Earth -35486-10-29 23:16 J -11239536.65 -11239536.53 -11239536.41 0.2660 0.0913 *

Mars -35485-01-22 19:40 J -11239451.70 -11239451.68 -11239451.65 0.1652 0.1615

Uranus -35484-04-08 02:52 J -11239010.44 -11239010.38 -11239010.33 0.0133 0.0125

Uranus -35484-07-05 07:40 J -11238922.28 -11238922.18 -11238922.08 0.0133 0.0103

Uranus -35484-10-01 12:28 J -11238834.10 -11238833.98 -11238833.85 0.0133 0.0081

Jupiter -35484-11-01 17:16 J -11238802.92 -11238802.78 -11238802.64 0.0511 0.0097

Uranus -35484-12-28 17:16 J -11238745.92 -11238745.78 -11238745.63 0.0133 0.0059

Jupiter -35483-01-30 04:47 J -11238713.32 -11238713.30 -11238713.27 0.0507 0.0495

Uranus -35483-03-26 22:04 J -11238657.73 -11238657.58 -11238657.42 0.0133 0.0038

Moon -35483-04-30 01:26 J -11238623.56 -11238623.44 -11238623.31 0.2677 0.0306

Earth -35483-04-30 01:55 J -11238623.55 -11238623.42 -11238623.30 0.2670 0.0393 *

Uranus -35483-06-23 02:52 J -11238569.54 -11238569.38 -11238569.22 0.0133 0.0017

Uranus -35483-09-19 07:26 J -11238481.35 -11238481.19 -11238481.02 0.0133 0.0006

Saturn -35483-12-15 01:55 J -11238394.53 -11238394.42 -11238394.31 0.0283 0.0200

Uranus -35483-12-16 11:59 J -11238393.15 -11238393.00 -11238392.84 0.0133 0.0026

Saturn -35482-03-13 19:11 J -11238305.86 -11238305.70 -11238305.55 0.0283 0.0070

Uranus -35482-03-14 16:47 J -11238304.95 -11238304.80 -11238304.65 0.0133 0.0046

Saturn -35482-06-10 11:45 J -11238217.16 -11238217.01 -11238216.85 0.0283 0.0058

Uranus -35482-06-10 21:07 J -11238216.75 -11238216.62 -11238216.47 0.0133 0.0067

Uranus -35482-09-07 01:55 J -11238128.54 -11238128.42 -11238128.30 0.0133 0.0087

Saturn -35482-09-07 04:19 J -11238128.44 -11238128.32 -11238128.20 0.0283 0.0181 *

Uranus -35482-12-04 06:14 J -11238040.33 -11238040.24 -11238040.14 0.0132 0.0107

Uranus -35481-03-01 10:47 J -11237952.09 -11237952.05 -11237952.01 0.0132 0.0127

Jupiter -35477-04-01 01:55 J -11236460.58 -11236460.42 -11236460.26 0.0518 0.0023

Mars -35477-07-30 11:45 J -11236340.12 -11236340.01 -11236339.90 0.1868 0.0980

Moon -35476-04-22 13:40 J -11236073.99 -11236073.93 -11236073.87 0.2671 0.2359

Earth -35476-04-22 14:23 J -11236073.95 -11236073.90 -11236073.84 0.2675 0.2357 *

Mars -35476-06-14 01:11 J -11236021.57 -11236021.45 -11236021.33 0.1655 0.0973

Moon -35473-10-31 21:50 J -11234785.72 -11234785.59 -11234785.46 0.2669 0.0213

Earth -35473-10-31 21:50 J -11234785.72 -11234785.59 -11234785.46 0.2662 0.0136 *

Jupiter -35472-08-20 20:23 J -11234492.77 -11234492.65 -11234492.52 0.0512 0.0238

Jupiter -35472-11-18 07:40 J -11234403.28 -11234403.18 -11234403.07 0.0508 0.0351

Earth -35470-05-02 23:59 J -11233872.61 -11233872.50 -11233872.40 0.2668 0.1415

Moon -35470-05-03 00:28 J -11233872.58 -11233872.48 -11233872.38 0.2674 0.1539 *

Mars -35468-12-20 17:59 J -11232909.88 -11232909.75 -11232909.63 0.1863 0.0156

Saturn -35468-12-23 01:55 J -11232907.54 -11232907.42 -11232907.30 0.0276 0.0170

Saturn -35467-03-21 15:50 J -11232818.98 -11232818.84 -11232818.69 0.0276 0.0061

Saturn -35467-06-18 06:14 J -11232730.39 -11232730.24 -11232730.09 0.0276 0.0051

Saturn -35467-09-14 20:52 J -11232641.75 -11232641.63 -11232641.51 0.0276 0.0165

Mars -35467-11-04 06:28 J -11232591.38 -11232591.23 -11232591.09 0.1659 0.0306

Jupiter -35465-01-19 02:09 J -11232150.57 -11232150.41 -11232150.26 0.0517 0.0153

Moon -35463-04-25 10:47 J -11231323.15 -11231323.05 -11231322.95 0.2673 0.1470

Earth -35463-04-25 11:45 J -11231323.12 -11231323.01 -11231322.90 0.2673 0.1411 *

Jupiter -35460-06-08 23:31 J -11230182.61 -11230182.52 -11230182.42 0.0512 0.0380

Jupiter -35460-09-06 10:33 J -11230093.19 -11230093.06 -11230092.93 0.0509 0.0206

Earth -35460-11-03 20:09 J -11230034.78 -11230034.66 -11230034.54 0.2663 0.1148

Moon -35460-11-03 20:52 J -11230034.75 -11230034.63 -11230034.52 0.2668 0.1137 *

Mars -35458-05-13 00:28 J -11229479.60 -11229479.48 -11229479.37 0.1858 0.0646

Mars -35457-03-26 11:31 J -11229161.17 -11229161.02 -11229160.88 0.1664 0.0382

Earth -35457-05-04 22:19 J -11229121.61 -11229121.57 -11229121.52 0.2667 0.2476

Moon -35457-05-04 23:16 J -11229121.57 -11229121.53 -11229121.49 0.2669 0.2510 *

Jupiter -35454-11-07 02:23 J -11227840.52 -11227840.40 -11227840.27 0.0516 0.0321

Jupiter -35453-02-05 00:43 J -11227750.57 -11227750.47 -11227750.36 0.0520 0.0383

Saturn -35453-05-03 00:57 J -11227662.53 -11227662.46 -11227662.37 0.0283 0.0246

Saturn -35453-07-30 18:28 J -11227573.87 -11227573.73 -11227573.58 0.0283 0.0114

Moon -35453-10-27 04:47 J -11227485.39 -11227485.30 -11227485.21 0.2660 0.1904

Earth -35453-10-27 05:59 J -11227485.35 -11227485.25 -11227485.16 0.2659 0.1801 *

Saturn -35453-10-27 11:31 J -11227485.18 -11227485.02 -11227484.86 0.0283 0.0015 *

Saturn -35452-01-24 03:50 J -11227396.47 -11227396.34 -11227396.20 0.0283 0.0140

Saturn -35452-04-22 20:09 J -11227307.72 -11227307.66 -11227307.60 0.0282 0.0260

Moon -35450-04-28 08:38 J -11226572.26 -11226572.14 -11226572.02 0.2677 0.0529

Earth -35450-04-28 09:21 J -11226572.24 -11226572.11 -11226571.99 0.2672 0.0437 *

Mars -35449-10-02 07:11 J -11226049.28 -11226049.20 -11226049.12 0.1852 0.1412

Venus -35449-10-06 01:26 J -11226045.54 -11226045.44 -11226045.33 0.3771 0.1371

Jupiter -35448-06-25 12:43 J -11225783.11 -11225782.97 -11225782.83 0.0510 0.0049

Mars -35448-08-16 15:50 J -11225730.95 -11225730.84 -11225730.72 0.1668 0.1098

Earth -35447-11-06 18:14 J -11225283.82 -11225283.74 -11225283.67 0.2665 0.2133

Moon -35447-11-06 19:11 J -11225283.77 -11225283.70 -11225283.63 0.2667 0.2233 *

Venus -35445-10-07 12:43 J -11224583.06 -11224582.97 -11224582.89 0.3604 0.2638

Venus -35443-04-21 21:50 J -11224021.69 -11224021.59 -11224021.50 0.3768 0.2022

Jupiter -35442-08-26 02:09 J -11223530.45 -11223530.41 -11223530.37 0.0515 0.0497

Jupiter -35442-11-24 00:57 J -11223440.60 -11223440.46 -11223440.31 0.0519 0.0210

Uranus -35441-12-13 10:19 J -11223055.14 -11223055.07 -11223054.98 0.0145 0.0124

Uranus -35440-03-11 15:21 J -11222966.96 -11222966.86 -11222966.74 0.0146 0.0098

Uranus -35440-06-07 20:23 J -11222878.77 -11222878.65 -11222878.51 0.0146 0.0073

Uranus -35440-09-04 01:26 J -11222790.58 -11222790.44 -11222790.29 0.0146 0.0047

Moon -35440-10-30 04:19 J -11222734.45 -11222734.32 -11222734.20 0.2666 0.0721

Earth -35440-10-30 04:47 J -11222734.43 -11222734.30 -11222734.17 0.2660 0.0724 *

Uranus -35440-12-01 06:43 J -11222702.37 -11222702.22 -11222702.07 0.0146 0.0020

Uranus -35439-02-27 11:59 J -11222614.16 -11222614.00 -11222613.85 0.0146 0.0007

Venus -35439-04-23 09:35 J -11222559.22 -11222559.10 -11222558.98 0.3607 0.0636

Uranus -35439-05-26 17:16 J -11222525.93 -11222525.78 -11222525.63 0.0146 0.0033

Uranus -35439-08-22 22:19 J -11222437.70 -11222437.57 -11222437.42 0.0146 0.0060

Uranus -35439-11-19 03:50 J -11222349.46 -11222349.34 -11222349.22 0.0146 0.0087

Uranus -35438-02-15 08:52 J -11222261.21 -11222261.13 -11222261.02 0.0146 0.0116

Saturn -35438-05-12 04:04 J -11222175.43 -11222175.33 -11222175.22 0.0276 0.0195

Uranus -35438-05-14 14:38 J -11222172.92 -11222172.89 -11222172.86 0.0146 0.0143

Saturn -35438-08-08 18:14 J -11222086.88 -11222086.74 -11222086.60 0.0276 0.0086

Saturn -35438-11-05 08:38 J -11221998.29 -11221998.14 -11221997.99 0.0276 0.0026

Mars -35437-01-29 11:45 J -11221913.11 -11221913.01 -11221912.90 0.1868 0.1065

Saturn -35437-02-01 23:16 J -11221909.67 -11221909.53 -11221909.40 0.0276 0.0140

Moon -35437-04-30 07:11 J -11221821.33 -11221821.20 -11221821.08 0.2676 0.0633

Earth -35437-04-30 07:11 J -11221821.32 -11221821.20 -11221821.07 0.2670 0.0568 *

Saturn -35437-04-30 14:09 J -11221820.97 -11221820.91 -11221820.86 0.0277 0.0256

Mars -35437-12-13 01:26 J -11221594.55 -11221594.44 -11221594.32 0.1656 0.1057

Jupiter -35436-04-13 15:21 J -11221473.00 -11221472.86 -11221472.72 0.0511 0.0101

Jupiter -35436-07-12 02:52 J -11221383.42 -11221383.38 -11221383.35 0.0507 0.0490

Moon -35430-04-23 18:57 J -11219271.77 -11219271.71 -11219271.65 0.2671 0.2303

Earth -35430-04-23 19:40 J -11219271.75 -11219271.68 -11219271.61 0.2675 0.2187 *

Jupiter -35430-09-11 23:59 J -11219130.66 -11219130.50 -11219130.34 0.0518 0.0022

Mars -35428-06-20 17:59 J -11218482.88 -11218482.75 -11218482.63 0.1863 0.0235

Mars -35427-05-05 06:57 J -11218164.35 -11218164.21 -11218164.07 0.1659 0.0403

Moon -35427-11-02 03:21 J -11217983.49 -11217983.36 -11217983.23 0.2669 0.0250

Earth -35427-11-02 03:21 J -11217983.49 -11217983.36 -11217983.23 0.2662 0.0321 *

Jupiter -35424-01-30 18:28 J -11217162.86 -11217162.73 -11217162.61 0.0512 0.0243

Jupiter -35424-04-30 05:31 J -11217073.37 -11217073.27 -11217073.16 0.0508 0.0347

Earth -35424-05-03 05:16 J -11217070.38 -11217070.28 -11217070.17 0.2668 0.1609

Moon -35424-05-03 05:59 J -11217070.35 -11217070.25 -11217070.15 0.2674 0.1579 *

Saturn -35424-09-20 04:04 J -11216930.38 -11216930.33 -11216930.28 0.0284 0.0267

Saturn -35424-12-17 21:21 J -11216841.74 -11216841.61 -11216841.46 0.0283 0.0136

Saturn -35423-03-16 14:38 J -11216753.05 -11216752.89 -11216752.74 0.0283 0.0009

Saturn -35423-06-13 06:57 J -11216664.34 -11216664.21 -11216664.06 0.0283 0.0120

Neptune -35423-09-03 14:38 J -11216581.95 -11216581.89 -11216581.82 0.0088 0.0082

Saturn -35423-09-09 23:16 J -11216575.61 -11216575.53 -11216575.45 0.0283 0.0241

Neptune -35423-11-30 17:16 J -11216493.87 -11216493.78 -11216493.68 0.0088 0.0074

Neptune -35422-02-26 19:55 J -11216405.78 -11216405.67 -11216405.55 0.0088 0.0065

Neptune -35422-05-25 22:33 J -11216317.68 -11216317.56 -11216317.42 0.0088 0.0057

Neptune -35422-08-22 01:11 J -11216229.58 -11216229.45 -11216229.30 0.0088 0.0049

Neptune -35422-11-18 03:50 J -11216141.48 -11216141.34 -11216141.18 0.0088 0.0041

Neptune -35421-02-14 06:28 J -11216053.38 -11216053.23 -11216053.06 0.0088 0.0033

Neptune -35421-05-12 09:07 J -11215965.27 -11215965.12 -11215964.95 0.0088 0.0025

Neptune -35421-08-08 11:45 J -11215877.17 -11215877.01 -11215876.83 0.0088 0.0018

Neptune -35421-11-04 14:23 J -11215789.06 -11215788.90 -11215788.72 0.0088 0.0010

Neptune -35420-01-31 17:16 J -11215700.96 -11215700.78 -11215700.61 0.0088 0.0002

Neptune -35420-04-29 19:40 J -11215612.85 -11215612.68 -11215612.51 0.0088 0.0007

Neptune -35420-07-26 22:19 J -11215524.74 -11215524.57 -11215524.40 0.0088 0.0015

Neptune -35420-10-23 00:43 J -11215436.63 -11215436.47 -11215436.30 0.0088 0.0023

Neptune -35419-01-19 03:21 J -11215348.52 -11215348.36 -11215348.20 0.0088 0.0031

Neptune -35419-04-17 05:45 J -11215260.40 -11215260.26 -11215260.10 0.0088 0.0039

Neptune -35419-07-14 08:23 J -11215172.29 -11215172.15 -11215172.00 0.0088 0.0046

Neptune -35419-10-10 10:47 J -11215084.17 -11215084.05 -11215083.91 0.0088 0.0054

Mars -35419-11-11 00:28 J -11215052.60 -11215052.48 -11215052.36 0.1858 0.0558

Neptune -35418-01-06 13:11 J -11214996.06 -11214995.95 -11214995.82 0.0088 0.0062

Neptune -35418-04-04 15:50 J -11214907.94 -11214907.84 -11214907.73 0.0088 0.0070

Jupiter -35418-06-30 23:45 J -11214820.66 -11214820.51 -11214820.36 0.0517 0.0156

Neptune -35418-07-01 17:59 J -11214819.81 -11214819.75 -11214819.65 0.0088 0.0078

Mars -35418-09-25 11:45 J -11214734.15 -11214734.01 -11214733.86 0.1664 0.0291

Neptune -35418-09-27 20:23 J -11214731.67 -11214731.65 -11214731.59 0.0088 0.0086

Moon -35417-04-25 16:04 J -11214520.93 -11214520.83 -11214520.72 0.2674 0.1285

Earth -35417-04-25 17:02 J -11214520.90 -11214520.79 -11214520.67 0.2673 0.1237 *

Earth -35414-11-05 01:40 J -11213232.54 -11213232.43 -11213232.32 0.2664 0.1331

Moon -35414-11-05 02:23 J -11213232.50 -11213232.40 -11213232.29 0.2668 0.1470 *

Jupiter -35413-11-18 21:35 J -11212852.69 -11212852.60 -11212852.51 0.0513 0.0382

Jupiter -35412-02-16 08:38 J -11212763.27 -11212763.14 -11212763.01 0.0509 0.0204

Earth -35411-05-06 03:50 J -11212319.34 -11212319.34 -11212319.34 0.2666 0.2666

Mars -35409-04-02 07:11 J -11211622.29 -11211622.20 -11211622.11 0.1852 0.1327

Saturn -35409-09-28 05:45 J -11211443.33 -11211443.26 -11211443.17 0.0275 0.0225

Saturn -35409-12-25 19:40 J -11211354.81 -11211354.68 -11211354.54 0.0276 0.0118

Mars -35408-02-14 16:19 J -11211303.93 -11211303.82 -11211303.70 0.1668 0.1002

Saturn -35408-03-24 10:04 J -11211266.23 -11211266.08 -11211265.93 0.0276 0.0010

Saturn -35408-06-21 00:28 J -11211177.62 -11211177.48 -11211177.34 0.0276 0.0106

Saturn -35408-09-17 15:07 J -11211088.95 -11211088.87 -11211088.77 0.0276 0.0222

Moon -35407-10-28 10:19 J -11210683.17 -11210683.07 -11210682.97 0.2660 0.1682

Earth -35407-10-28 11:31 J -11210683.13 -11210683.02 -11210682.92 0.2659 0.1606 *

Jupiter -35406-04-18 23:31 J -11210510.64 -11210510.52 -11210510.39 0.0516 0.0332

Jupiter -35406-07-17 22:04 J -11210420.69 -11210420.58 -11210420.47 0.0520 0.0372

Moon -35404-04-28 13:55 J -11209770.04 -11209769.92 -11209769.79 0.2677 0.0298

Earth -35404-04-28 14:38 J -11209770.01 -11209769.89 -11209769.76 0.2671 0.0269 *

Earth -35401-11-06 23:31 J -11208481.58 -11208481.52 -11208481.46 0.2665 0.2310

Moon -35401-11-07 00:28 J -11208481.54 -11208481.48 -11208481.42 0.2666 0.2339 *

Jupiter -35401-12-05 11:31 J -11208453.16 -11208453.02 -11208452.88 0.0510 0.0060

Uranus -35400-04-28 10:33 J -11208309.13 -11208309.06 -11208308.97 0.0133 0.0115

Uranus -35400-07-25 15:35 J -11208220.96 -11208220.85 -11208220.73 0.0133 0.0093

Uranus -35400-10-21 20:09 J -11208132.78 -11208132.66 -11208132.51 0.0133 0.0072

Uranus -35399-01-18 01:11 J -11208044.60 -11208044.45 -11208044.30 0.0133 0.0050

Uranus -35399-04-16 05:59 J -11207956.41 -11207956.25 -11207956.09 0.0133 0.0029

Uranus -35399-07-13 10:47 J -11207868.21 -11207868.05 -11207867.89 0.0133 0.0008

Uranus -35399-10-09 15:21 J -11207780.02 -11207779.86 -11207779.70 0.0133 0.0014

Uranus -35398-01-05 19:55 J -11207691.82 -11207691.67 -11207691.51 0.0133 0.0035

Uranus -35398-04-04 00:43 J -11207603.62 -11207603.47 -11207603.33 0.0133 0.0055

Uranus -35398-07-01 05:02 J -11207515.41 -11207515.29 -11207515.15 0.0133 0.0076

Mars -35398-07-30 11:59 J -11207486.10 -11207486.00 -11207485.90 0.1868 0.1153

Uranus -35398-09-27 09:35 J -11207427.20 -11207427.10 -11207426.99 0.0133 0.0096

Venus -35398-10-28 04:04 J -11207396.37 -11207396.33 -11207396.28 0.3773 0.3428

Uranus -35398-12-24 14:09 J -11207338.98 -11207338.91 -11207338.83 0.0133 0.0116

Mars -35397-06-13 01:55 J -11207167.52 -11207167.42 -11207167.31 0.1656 0.1145

Jupiter -35394-02-04 23:45 J -11206200.54 -11206200.51 -11206200.47 0.0515 0.0501

Jupiter -35394-05-05 22:47 J -11206110.70 -11206110.55 -11206110.40 0.0519 0.0208

Saturn -35394-05-06 20:38 J -11206109.76 -11206109.64 -11206109.51 0.0283 0.0181

Saturn -35394-08-03 13:55 J -11206021.08 -11206020.92 -11206020.76 0.0283 0.0051

Saturn -35394-10-31 06:43 J -11205932.38 -11205932.22 -11205932.07 0.0283 0.0076

Moon -35394-10-31 09:50 J -11205932.22 -11205932.09 -11205931.96 0.2667 0.0601 *

Earth -35394-10-31 10:19 J -11205932.20 -11205932.07 -11205931.94 0.2660 0.0536 *

Saturn -35393-01-27 22:47 J -11205843.65 -11205843.55 -11205843.43 0.0282 0.0199

Venus -35392-05-12 23:59 J -11205372.61 -11205372.50 -11205372.38 0.3771 0.0206

Earth -35391-05-01 12:43 J -11205019.10 -11205018.97 -11205018.85 0.2670 0.0761

Moon -35391-05-01 12:43 J -11205019.09 -11205018.97 -11205018.85 0.2676 0.0720 *

Jupiter -35389-09-23 13:55 J -11204143.06 -11204142.92 -11204142.78 0.0511 0.0095

Mars -35389-12-19 17:59 J -11204055.87 -11204055.75 -11204055.62 0.1863 0.0325

Jupiter -35389-12-22 01:11 J -11204053.47 -11204053.45 -11204053.42 0.0507 0.0495

Venus -35388-05-14 11:31 J -11203910.13 -11203910.02 -11203909.90 0.3605 0.1396

Mars -35388-11-03 07:11 J -11203737.34 -11203737.20 -11203737.06 0.1660 0.0485

Venus -35387-11-26 20:23 J -11203348.71 -11203348.65 -11203348.59 0.3768 0.3270

Moon -35384-04-24 00:14 J -11202469.57 -11202469.49 -11202469.41 0.2671 0.2001

Earth -35384-04-24 01:11 J -11202469.53 -11202469.45 -11202469.37 0.2675 0.2015 *

Venus -35383-11-28 08:23 J -11201886.26 -11201886.15 -11201886.04 0.3607 0.1836

Jupiter -35382-02-21 23:02 J -11201800.70 -11201800.54 -11201800.38 0.0518 0.0038

Earth -35381-11-02 08:52 J -11201181.26 -11201181.13 -11201181.01 0.2662 0.0509

Moon -35381-11-02 08:52 J -11201181.25 -11201181.13 -11201181.00 0.2669 0.0589 *

Saturn -35379-02-15 07:40 J -11200711.23 -11200711.18 -11200711.12 0.0276 0.0253

Mars -35379-05-12 00:28 J -11200625.60 -11200625.48 -11200625.36 0.1857 0.0479

Saturn -35379-05-14 21:35 J -11200622.72 -11200622.60 -11200622.47 0.0276 0.0146

Saturn -35379-08-11 11:45 J -11200534.16 -11200534.01 -11200533.86 0.0276 0.0036

Saturn -35379-11-08 02:09 J -11200445.56 -11200445.41 -11200445.26 0.0276 0.0076

Saturn -35378-02-04 16:47 J -11200356.90 -11200356.80 -11200356.69 0.0277 0.0192

Mars -35378-03-26 12:14 J -11200307.14 -11200306.99 -11200306.84 0.1664 0.0199

Earth -35378-05-04 10:47 J -11200268.15 -11200268.05 -11200267.96 0.2668 0.1791

Moon -35378-05-04 11:31 J -11200268.11 -11200268.02 -11200267.94 0.2673 0.1927 *

Jupiter -35377-07-12 16:33 J -11199832.93 -11199832.81 -11199832.68 0.0512 0.0243

Jupiter -35377-10-10 03:50 J -11199743.45 -11199743.34 -11199743.24 0.0508 0.0345

Earth -35374-10-26 17:45 J -11198631.80 -11198631.76 -11198631.72 0.2657 0.2511

Pluto -35373-11-19 15:21 J -11198241.91 -11198241.86 -11198241.81 0.0067 0.0064

Pluto -35372-02-15 16:19 J -11198153.89 -11198153.82 -11198153.72 0.0068 0.0059

Pluto -35372-05-14 17:31 J -11198065.85 -11198065.77 -11198065.65 0.0068 0.0053

Pluto -35372-08-10 18:57 J -11197977.82 -11197977.71 -11197977.58 0.0068 0.0047

Pluto -35372-11-06 20:23 J -11197889.77 -11197889.65 -11197889.51 0.0068 0.0041

Pluto -35371-02-02 21:50 J -11197801.73 -11197801.59 -11197801.45 0.0068 0.0035

Moon -35371-04-26 21:35 J -11197718.71 -11197718.60 -11197718.49 0.2676 0.1176

Earth -35371-04-26 22:33 J -11197718.68 -11197718.56 -11197718.45 0.2673 0.1060 *

Pluto -35371-05-01 23:16 J -11197713.68 -11197713.53 -11197713.38 0.0068 0.0030

Pluto -35371-07-29 00:14 J -11197625.63 -11197625.49 -11197625.32 0.0068 0.0024

Pluto -35371-10-25 01:55 J -11197537.58 -11197537.42 -11197537.26 0.0068 0.0018

Jupiter -35371-12-10 21:50 J -11197490.74 -11197490.59 -11197490.43 0.0517 0.0153

Pluto -35370-01-21 03:21 J -11197449.53 -11197449.36 -11197449.20 0.0068 0.0012

Pluto -35370-04-19 04:47 J -11197361.47 -11197361.30 -11197361.14 0.0068 0.0006

Pluto -35370-07-16 05:59 J -11197273.41 -11197273.25 -11197273.08 0.0069 0.0002

Mars -35370-10-02 07:11 J -11197195.29 -11197195.20 -11197195.11 0.1852 0.1250

Pluto -35370-10-12 07:26 J -11197185.36 -11197185.19 -11197185.02 0.0069 0.0007

Pluto -35369-01-08 08:52 J -11197097.29 -11197097.13 -11197096.96 0.0069 0.0013

Pluto -35369-04-05 10:19 J -11197009.23 -11197009.07 -11197008.91 0.0069 0.0019

Pluto -35369-07-02 11:31 J -11196921.17 -11196921.02 -11196920.85 0.0069 0.0026

Mars -35369-08-15 16:47 J -11196876.92 -11196876.80 -11196876.67 0.1668 0.0906

Pluto -35369-09-28 12:57 J -11196833.10 -11196832.96 -11196832.80 0.0069 0.0032

Pluto -35369-12-25 14:38 J -11196745.03 -11196744.89 -11196744.75 0.0069 0.0039

Pluto -35368-03-23 15:50 J -11196656.95 -11196656.84 -11196656.70 0.0069 0.0045

Pluto -35368-06-19 17:31 J -11196568.88 -11196568.77 -11196568.65 0.0069 0.0052

Pluto -35368-09-15 18:43 J -11196480.79 -11196480.72 -11196480.61 0.0070 0.0059

Earth -35368-11-05 06:57 J -11196430.31 -11196430.21 -11196430.10 0.2664 0.1514

Moon -35368-11-05 07:55 J -11196430.27 -11196430.17 -11196430.06 0.2668 0.1499 *

Pluto -35368-12-12 20:23 J -11196392.70 -11196392.65 -11196392.58 0.0070 0.0065

Jupiter -35365-04-30 19:40 J -11195522.77 -11195522.68 -11195522.59 0.0513 0.0386

Jupiter -35365-07-29 06:28 J -11195433.36 -11195433.23 -11195433.09 0.0509 0.0201

Saturn -35365-09-22 23:31 J -11195377.63 -11195377.52 -11195377.40 0.0284 0.0203

Saturn -35365-12-20 16:47 J -11195288.95 -11195288.80 -11195288.64 0.0283 0.0072

Saturn -35364-03-19 09:35 J -11195200.25 -11195200.10 -11195199.94 0.0283 0.0056

Saturn -35364-06-16 01:55 J -11195111.53 -11195111.42 -11195111.29 0.0283 0.0180

Moon -35361-10-28 16:04 J -11193880.94 -11193880.83 -11193880.72 0.2662 0.1465

Earth -35361-10-28 17:02 J -11193880.90 -11193880.79 -11193880.68 0.2659 0.1415 *

Mars -35359-01-05 21:07 J -11193446.64 -11193446.62 -11193446.59 0.1673 0.1641

Jupiter -35359-09-28 21:35 J -11193180.72 -11193180.60 -11193180.48 0.0516 0.0331

Jupiter -35359-12-27 19:55 J -11193090.78 -11193090.67 -11193090.56 0.0520 0.0371

Mars -35358-01-28 11:59 J -11193059.09 -11193059.00 -11193058.90 0.1868 0.1242

Moon -35358-04-29 19:26 J -11192967.81 -11192967.69 -11192967.56 0.2676 0.0140

Earth -35358-04-29 20:09 J -11192967.79 -11192967.66 -11192967.53 0.2671 0.0082 *

Mars -35358-12-13 02:23 J -11192740.50 -11192740.40 -11192740.31 0.1655 0.1235

Uranus -35357-10-06 12:57 J -11192441.99 -11192441.96 -11192441.91 0.0145 0.0140

Uranus -35356-01-02 17:59 J -11192353.83 -11192353.75 -11192353.65 0.0145 0.0115

Uranus -35356-03-31 23:02 J -11192265.66 -11192265.54 -11192265.42 0.0145 0.0090

Uranus -35356-06-28 04:04 J -11192177.46 -11192177.33 -11192177.19 0.0146 0.0064

Uranus -35356-09-24 09:07 J -11192089.26 -11192089.12 -11192088.97 0.0146 0.0038

Uranus -35356-12-21 14:23 J -11192001.05 -11192000.90 -11192000.75 0.0146 0.0012

Uranus -35355-03-19 19:26 J -11191912.84 -11191912.69 -11191912.53 0.0146 0.0015

Uranus -35355-06-16 00:43 J -11191824.62 -11191824.47 -11191824.32 0.0146 0.0042

Uranus -35355-09-12 05:59 J -11191736.38 -11191736.25 -11191736.11 0.0146 0.0069

Earth -35355-11-08 05:02 J -11191679.34 -11191679.29 -11191679.25 0.2666 0.2488

Moon -35355-11-08 05:59 J -11191679.27 -11191679.25 -11191679.23 0.2664 0.2617 *

Uranus -35355-12-09 11:16 J -11191648.14 -11191648.03 -11191647.91 0.0146 0.0096

Uranus -35354-03-07 16:33 J -11191559.88 -11191559.81 -11191559.72 0.0146 0.0124

Jupiter -35353-05-17 09:35 J -11191123.24 -11191123.10 -11191122.96 0.0510 0.0059

Saturn -35350-10-01 23:16 J -11189890.64 -11189890.53 -11189890.41 0.0275 0.0176

Saturn -35350-12-29 13:26 J -11189802.09 -11189801.94 -11189801.80 0.0276 0.0067

Saturn -35349-03-27 03:35 J -11189713.50 -11189713.35 -11189713.20 0.0276 0.0045

Mars -35349-06-19 18:14 J -11189628.86 -11189628.74 -11189628.62 0.1863 0.0413

Saturn -35349-06-23 18:14 J -11189624.86 -11189624.74 -11189624.61 0.0276 0.0158

Saturn -35349-09-20 09:07 J -11189536.13 -11189536.12 -11189536.10 0.0276 0.0275

Mars -35348-05-04 07:40 J -11189310.32 -11189310.18 -11189310.04 0.1659 0.0576

Moon -35348-10-31 15:21 J -11189129.99 -11189129.86 -11189129.73 0.2667 0.0360

Earth -35348-10-31 15:50 J -11189129.97 -11189129.84 -11189129.71 0.2661 0.0350 *

Jupiter -35347-07-17 21:07 J -11188870.64 -11188870.62 -11188870.59 0.0515 0.0508

Jupiter -35347-10-15 20:09 J -11188780.81 -11188780.66 -11188780.51 0.0519 0.0199

Earth -35345-05-01 17:59 J -11188216.87 -11188216.75 -11188216.63 0.2669 0.0944

Moon -35345-05-01 18:14 J -11188216.85 -11188216.74 -11188216.62 0.2676 0.1003 *

Neptune -35342-12-06 17:59 J -11186902.78 -11186902.75 -11186902.68 0.0089 0.0084

Neptune -35341-03-03 19:55 J -11186814.73 -11186814.67 -11186814.59 0.0089 0.0076

Jupiter -35341-03-05 12:43 J -11186813.11 -11186812.97 -11186812.83 0.0511 0.0084

Neptune -35341-05-30 21:35 J -11186726.68 -11186726.60 -11186726.50 0.0089 0.0070

Jupiter -35341-06-03 00:14 J -11186723.49 -11186723.49 -11186723.49 0.0507 0.0507

Venus -35341-06-03 02:38 J -11186723.48 -11186723.39 -11186723.30 0.3772 0.2250

Neptune -35341-08-26 23:31 J -11186638.62 -11186638.52 -11186638.41 0.0089 0.0062

Neptune -35341-11-23 01:11 J -11186550.56 -11186550.45 -11186550.33 0.0089 0.0056

Neptune -35340-02-19 02:52 J -11186462.49 -11186462.38 -11186462.25 0.0089 0.0049

Neptune -35340-05-18 04:33 J -11186374.43 -11186374.31 -11186374.17 0.0089 0.0042

Neptune -35340-08-14 06:28 J -11186286.36 -11186286.23 -11186286.09 0.0089 0.0035

Mars -35340-11-10 00:28 J -11186198.60 -11186198.48 -11186198.35 0.1857 0.0399

Neptune -35340-11-10 08:09 J -11186198.29 -11186198.16 -11186198.02 0.0089 0.0028

Neptune -35339-02-06 09:50 J -11186110.22 -11186110.09 -11186109.94 0.0089 0.0022

Neptune -35339-05-05 11:45 J -11186022.15 -11186022.01 -11186021.86 0.0089 0.0014

Neptune -35339-08-01 13:40 J -11185934.08 -11185933.93 -11185933.79 0.0089 0.0007

Mars -35339-09-24 12:28 J -11185880.12 -11185879.98 -11185879.83 0.1664 0.0117

Neptune -35339-10-28 15:21 J -11185846.01 -11185845.86 -11185845.71 0.0089 0.0001

Neptune -35338-01-24 17:02 J -11185757.93 -11185757.79 -11185757.64 0.0089 0.0008

Neptune -35338-04-22 18:57 J -11185669.85 -11185669.71 -11185669.56 0.0089 0.0014

Moon -35338-04-25 05:31 J -11185667.35 -11185667.27 -11185667.19 0.2672 0.1975

Earth -35338-04-25 06:28 J -11185667.32 -11185667.23 -11185667.15 0.2674 0.1846 *

Neptune -35338-07-19 20:38 J -11185581.78 -11185581.64 -11185581.49 0.0089 0.0022

Neptune -35338-10-15 22:19 J -11185493.70 -11185493.57 -11185493.42 0.0089 0.0029

Neptune -35337-01-12 00:14 J -11185405.62 -11185405.49 -11185405.35 0.0089 0.0036

Neptune -35337-04-09 02:09 J -11185317.54 -11185317.41 -11185317.28 0.0089 0.0043

Venus -35337-06-04 13:26 J -11185260.97 -11185260.94 -11185260.91 0.3603 0.3483

Neptune -35337-07-06 03:50 J -11185229.45 -11185229.34 -11185229.21 0.0089 0.0050

Neptune -35337-10-02 05:45 J -11185141.37 -11185141.26 -11185141.14 0.0089 0.0057

Neptune -35337-12-29 07:40 J -11185053.28 -11185053.18 -11185053.07 0.0089 0.0065

Neptune -35336-03-27 09:21 J -11184965.19 -11184965.11 -11184965.01 0.0089 0.0072

Neptune -35336-06-23 11:16 J -11184877.09 -11184877.03 -11184876.95 0.0089 0.0079

Neptune -35336-09-19 13:11 J -11184788.98 -11184788.95 -11184788.91 0.0089 0.0086

Venus -35336-12-17 22:47 J -11184699.67 -11184699.55 -11184699.44 0.3770 0.1081

Saturn -35335-02-09 22:19 J -11184645.63 -11184645.57 -11184645.49 0.0283 0.0251

Saturn -35335-05-09 15:50 J -11184556.98 -11184556.84 -11184556.69 0.0283 0.0119

Jupiter -35335-08-03 20:38 J -11184470.79 -11184470.64 -11184470.47 0.0518 0.0037

Saturn -35335-08-06 08:52 J -11184468.29 -11184468.13 -11184467.97 0.0283 0.0010

Saturn -35335-11-03 01:26 J -11184379.57 -11184379.44 -11184379.30 0.0282 0.0135

Earth -35335-11-03 14:09 J -11184379.03 -11184378.91 -11184378.78 0.2662 0.0692

Moon -35335-11-03 14:38 J -11184379.01 -11184378.89 -11184378.77 0.2668 0.0681 *

Saturn -35334-01-30 17:45 J -11184290.83 -11184290.76 -11184290.70 0.0282 0.0257

Earth -35332-05-04 16:19 J -11183465.91 -11183465.82 -11183465.74 0.2668 0.1987

Moon -35332-05-04 17:02 J -11183465.87 -11183465.79 -11183465.70 0.2671 0.1987 *

Venus -35332-12-19 10:33 J -11183237.19 -11183237.06 -11183236.94 0.3606 0.0198

Mars -35330-04-02 07:26 J -11182768.29 -11182768.19 -11182768.10 0.1852 0.1165

Jupiter -35330-12-23 15:07 J -11182502.99 -11182502.87 -11182502.74 0.0512 0.0236

Mars -35329-02-14 17:16 J -11182449.91 -11182449.78 -11182449.65 0.1668 0.0817

Jupiter -35329-03-22 02:23 J -11182413.50 -11182413.40 -11182413.30 0.0508 0.0352

Moon -35328-10-26 22:19 J -11181829.64 -11181829.57 -11181829.51 0.2656 0.2315

Earth -35328-10-26 23:31 J -11181829.59 -11181829.52 -11181829.46 0.2658 0.2314 *

Venus -35326-07-05 07:11 J -11181213.27 -11181213.20 -11181213.14 0.3608 0.3016

Moon -35325-04-27 02:52 J -11180916.50 -11180916.38 -11180916.26 0.2676 0.0887

Earth -35325-04-27 03:50 J -11180916.46 -11180916.34 -11180916.22 0.2673 0.0880 *

Jupiter -35323-05-22 20:52 J -11180160.79 -11180160.63 -11180160.47 0.0517 0.0138

Earth -35322-11-06 12:28 J -11179628.08 -11179627.98 -11179627.89 0.2664 0.1692

Moon -35322-11-06 13:11 J -11179628.04 -11179627.95 -11179627.86 0.2668 0.1839 *

Saturn -35320-02-18 00:43 J -11179158.56 -11179158.47 -11179158.37 0.0276 0.0208

Saturn -35320-05-17 14:38 J -11179070.03 -11179069.89 -11179069.75 0.0276 0.0100

Mars -35320-07-06 21:35 J -11179019.65 -11179019.60 -11179019.54 0.1673 0.1544

Saturn -35320-08-14 04:47 J -11178981.45 -11178981.30 -11178981.15 0.0276 0.0013

Saturn -35320-11-10 19:26 J -11178892.83 -11178892.69 -11178892.56 0.0276 0.0125

Saturn -35319-02-07 10:19 J -11178804.14 -11178804.07 -11178804.00 0.0277 0.0241

Mars -35319-07-29 12:14 J -11178632.08 -11178631.99 -11178631.90 0.1867 0.1327

Mars -35318-06-13 02:38 J -11178313.48 -11178313.39 -11178313.30 0.1656 0.1318

Jupiter -35318-10-11 17:59 J -11178192.84 -11178192.75 -11178192.65 0.0513 0.0382

Jupiter -35317-01-09 04:47 J -11178103.42 -11178103.30 -11178103.16 0.0509 0.0204

Uranus -35316-02-19 13:11 J -11177695.98 -11177695.95 -11177695.90 0.0133 0.0129

Uranus -35316-05-18 17:59 J -11177607.83 -11177607.75 -11177607.64 0.0133 0.0108

Uranus -35316-08-14 23:02 J -11177519.66 -11177519.54 -11177519.41 0.0133 0.0085

Uranus -35316-11-11 04:04 J -11177431.47 -11177431.33 -11177431.19 0.0133 0.0063

Uranus -35315-02-07 08:52 J -11177343.28 -11177343.13 -11177342.97 0.0133 0.0042

Uranus -35315-05-06 13:40 J -11177255.09 -11177254.93 -11177254.77 0.0133 0.0020

Uranus -35315-08-02 18:28 J -11177166.89 -11177166.73 -11177166.57 0.0133 0.0003

Moon -35315-10-29 21:35 J -11177078.71 -11177078.60 -11177078.48 0.2664 0.1338

Uranus -35315-10-29 23:02 J -11177078.70 -11177078.54 -11177078.38 0.0133 0.0022 *

Earth -35315-10-29 22:33 J -11177078.68 -11177078.56 -11177078.45 0.2659 0.1219 *

Uranus -35314-01-26 03:35 J -11176990.50 -11176990.35 -11176990.19 0.0133 0.0043

Uranus -35314-04-24 08:09 J -11176902.29 -11176902.16 -11176902.01 0.0133 0.0064

Uranus -35314-07-21 12:43 J -11176814.08 -11176813.97 -11176813.84 0.0133 0.0084

Uranus -35314-10-17 17:31 J -11176725.87 -11176725.77 -11176725.68 0.0133 0.0104

Uranus -35313-01-13 21:35 J -11176637.64 -11176637.60 -11176637.53 0.0133 0.0125

Moon -35312-04-30 01:11 J -11176165.58 -11176165.45 -11176165.33 0.2677 0.0078

Earth -35312-04-30 01:26 J -11176165.56 -11176165.44 -11176165.31 0.2671 0.0137 *

Jupiter -35311-03-10 19:40 J -11175850.80 -11175850.68 -11175850.55 0.0516 0.0326

Jupiter -35311-06-08 18:14 J -11175760.85 -11175760.74 -11175760.63 0.0520 0.0376

Mars -35310-12-19 18:14 J -11175201.87 -11175201.74 -11175201.62 0.1862 0.0487

Mars -35309-11-02 08:09 J -11174883.30 -11174883.16 -11174883.03 0.1660 0.0669

Earth -35309-11-08 10:19 J -11174877.07 -11174877.07 -11174877.07 0.2666 0.2664

Moon -35309-11-08 11:16 J -11174877.04 -11174877.03 -11174877.02 0.2663 0.2648

Saturn -35306-06-30 00:43 J -11173913.49 -11173913.47 -11173913.42 0.0284 0.0277

Saturn -35306-09-26 18:28 J -11173824.87 -11173824.73 -11173824.59 0.0284 0.0144

Jupiter -35306-10-28 07:40 J -11173793.32 -11173793.18 -11173793.04 0.0510 0.0058

Saturn -35306-12-24 11:31 J -11173736.17 -11173736.02 -11173735.86 0.0283 0.0016

Saturn -35305-03-22 04:19 J -11173647.46 -11173647.32 -11173647.18 0.0283 0.0113

Earth -35305-04-22 14:23 J -11173615.92 -11173615.90 -11173615.87 0.2676 0.2608

Saturn -35305-06-18 20:23 J -11173558.73 -11173558.65 -11173558.56 0.0283 0.0236

Moon -35302-11-01 20:52 J -11172327.76 -11172327.63 -11172327.50 0.2667 0.0184

Earth -35302-11-01 21:07 J -11172327.75 -11172327.62 -11172327.49 0.2661 0.0181 *

Mars -35300-05-11 00:43 J -11171771.59 -11171771.47 -11171771.34 0.1857 0.0307

Jupiter -35300-12-27 19:26 J -11171540.72 -11171540.69 -11171540.66 0.0515 0.0504

Mars -35299-03-25 12:57 J -11171453.11 -11171452.96 -11171452.81 0.1664 0.0028

Jupiter -35299-03-27 18:14 J -11171450.88 -11171450.74 -11171450.59 0.0519 0.0202

Earth -35299-05-02 23:31 J -11171414.64 -11171414.52 -11171414.41 0.2669 0.1130

Moon -35299-05-02 23:45 J -11171414.62 -11171414.51 -11171414.40 0.2676 0.1133 *

Jupiter -35294-08-16 10:47 J -11169483.19 -11169483.05 -11169482.91 0.0511 0.0085

Moon -35292-04-25 10:47 J -11168865.15 -11168865.05 -11168864.95 0.2673 0.1665

Earth -35292-04-25 11:45 J -11168865.11 -11168865.01 -11168864.92 0.2674 0.1671 *

Saturn -35291-07-08 02:38 J -11168426.46 -11168426.39 -11168426.31 0.0275 0.0236

Mars -35291-10-01 07:26 J -11168341.29 -11168341.19 -11168341.09 0.1852 0.1083

Saturn -35291-10-04 16:33 J -11168337.94 -11168337.81 -11168337.68 0.0275 0.0130

Saturn -35290-01-01 06:28 J -11168249.38 -11168249.23 -11168249.08 0.0276 0.0020

Saturn -35290-03-30 20:52 J -11168160.77 -11168160.63 -11168160.48 0.0276 0.0093

Saturn -35290-06-27 11:31 J -11168072.11 -11168072.02 -11168071.91 0.0276 0.0208

Mars -35290-08-15 17:45 J -11168022.90 -11168022.76 -11168022.63 0.1668 0.0725

Earth -35289-11-03 19:40 J -11167576.80 -11167576.68 -11167576.56 0.2663 0.0872

Moon -35289-11-03 20:09 J -11167576.78 -11167576.66 -11167576.54 0.2669 0.0947 *

Jupiter -35287-01-13 18:14 J -11167140.90 -11167140.74 -11167140.58 0.0518 0.0031

Pluto -35287-10-11 15:35 J -11166869.88 -11166869.85 -11166869.81 0.0077 0.0074

Pluto -35286-01-07 16:47 J -11166781.86 -11166781.80 -11166781.71 0.0076 0.0067

Pluto -35286-04-05 18:14 J -11166693.82 -11166693.74 -11166693.63 0.0076 0.0059

Earth -35286-05-05 21:50 J -11166663.67 -11166663.59 -11166663.52 0.2668 0.2182

Moon -35286-05-05 22:47 J -11166663.62 -11166663.55 -11166663.49 0.2670 0.2305 *

Pluto -35286-07-02 19:55 J -11166605.78 -11166605.67 -11166605.56 0.0076 0.0051

Pluto -35286-09-28 21:07 J -11166517.73 -11166517.62 -11166517.49 0.0076 0.0043

Pluto -35286-12-25 22:47 J -11166429.68 -11166429.55 -11166429.42 0.0076 0.0035

Pluto -35285-03-22 23:59 J -11166341.63 -11166341.50 -11166341.36 0.0076 0.0028

Pluto -35285-06-19 01:11 J -11166253.58 -11166253.45 -11166253.30 0.0076 0.0021

Pluto -35285-09-15 02:38 J -11166165.53 -11166165.39 -11166165.24 0.0076 0.0013

Pluto -35285-12-12 04:04 J -11166077.48 -11166077.33 -11166077.18 0.0075 0.0006

Venus -35284-01-08 01:11 J -11166050.56 -11166050.45 -11166050.34 0.3772 0.1066

Pluto -35284-03-10 05:31 J -11165989.42 -11165989.27 -11165989.13 0.0075 0.0003

Pluto -35284-06-06 06:43 J -11165901.37 -11165901.22 -11165901.07 0.0075 0.0009

Pluto -35284-09-02 07:55 J -11165813.31 -11165813.17 -11165813.02 0.0075 0.0016

Pluto -35284-11-29 09:07 J -11165725.26 -11165725.12 -11165724.97 0.0075 0.0023

Pluto -35283-02-25 10:19 J -11165637.20 -11165637.07 -11165636.93 0.0075 0.0030

Pluto -35283-05-24 11:45 J -11165549.14 -11165549.01 -11165548.88 0.0075 0.0037

Pluto -35283-08-20 12:57 J -11165461.08 -11165460.96 -11165460.84 0.0075 0.0044

Pluto -35283-11-16 13:55 J -11165373.02 -11165372.92 -11165372.80 0.0074 0.0051

Pluto -35282-02-12 15:07 J -11165284.95 -11165284.87 -11165284.77 0.0074 0.0058

Pluto -35282-05-11 16:19 J -11165196.88 -11165196.82 -11165196.74 0.0074 0.0064

Jupiter -35282-06-04 14:09 J -11165173.04 -11165172.91 -11165172.79 0.0512 0.0224

Pluto -35282-08-07 17:45 J -11165108.80 -11165108.76 -11165108.72 0.0074 0.0070

Jupiter -35282-09-02 01:11 J -11165083.55 -11165083.45 -11165083.35 0.0508 0.0365

Moon -35282-10-28 03:50 J -11165027.40 -11165027.34 -11165027.27 0.2657 0.2276

Earth -35282-10-28 05:02 J -11165027.37 -11165027.29 -11165027.21 0.2658 0.2115 *

Mars -35281-02-21 14:23 J -11164910.91 -11164910.90 -11164910.89 0.1846 0.1829

Mars -35280-01-04 21:50 J -11164592.66 -11164592.59 -11164592.51 0.1673 0.1455

Venus -35280-01-09 12:28 J -11164588.08 -11164587.98 -11164587.89 0.3604 0.2238

Mars -35279-01-27 12:14 J -11164205.07 -11164204.99 -11164204.91 0.1867 0.1410

Moon -35279-04-28 08:09 J -11164114.28 -11164114.16 -11164114.04 0.2675 0.0842

Earth -35279-04-28 09:07 J -11164114.24 -11164114.12 -11164114.00 0.2672 0.0703 *

Venus -35279-07-24 21:21 J -11164026.70 -11164026.61 -11164026.52 0.3769 0.2310

Mars -35279-12-12 02:52 J -11163886.45 -11163886.38 -11163886.30 0.1656 0.1406

Saturn -35276-02-12 17:31 J -11163092.89 -11163092.77 -11163092.65 0.0283 0.0191

Saturn -35276-05-12 10:47 J -11163004.21 -11163004.05 -11163003.90 0.0283 0.0061

Saturn -35276-08-09 03:35 J -11162915.51 -11162915.35 -11162915.20 0.0283 0.0067

Jupiter -35276-11-01 18:43 J -11162830.87 -11162830.72 -11162830.56 0.0517 0.0139

Saturn -35276-11-05 19:55 J -11162826.78 -11162826.67 -11162826.55 0.0282 0.0191

Earth -35276-11-06 17:45 J -11162825.85 -11162825.76 -11162825.67 0.2664 0.1874

Moon -35276-11-06 18:43 J -11162825.81 -11162825.72 -11162825.63 0.2667 0.1876 *

Venus -35275-07-26 09:07 J -11162564.23 -11162564.12 -11162564.00 0.3606 0.1042

Uranus -35273-10-26 20:52 J -11161740.68 -11161740.63 -11161740.56 0.0145 0.0131

Uranus -35272-01-23 01:55 J -11161652.52 -11161652.42 -11161652.31 0.0145 0.0105

Uranus -35272-04-21 06:57 J -11161564.33 -11161564.21 -11161564.08 0.0145 0.0080

Uranus -35272-07-18 11:59 J -11161476.14 -11161476.00 -11161475.86 0.0146 0.0054

Uranus -35272-10-14 17:02 J -11161387.93 -11161387.79 -11161387.64 0.0146 0.0028

Uranus -35271-01-10 22:19 J -11161299.72 -11161299.57 -11161299.42 0.0146 0.0002

Uranus -35271-04-09 03:21 J -11161211.50 -11161211.36 -11161211.20 0.0146 0.0026

Uranus -35271-07-06 08:38 J -11161123.28 -11161123.14 -11161122.99 0.0146 0.0052

Uranus -35271-10-02 13:55 J -11161035.04 -11161034.92 -11161034.79 0.0146 0.0079

Uranus -35271-12-29 19:11 J -11160946.80 -11160946.70 -11160946.59 0.0146 0.0107

Jupiter -35270-03-23 16:47 J -11160862.89 -11160862.80 -11160862.70 0.0513 0.0372

Uranus -35270-03-28 00:43 J -11160858.52 -11160858.47 -11160858.41 0.0146 0.0134

Mars -35270-06-19 18:28 J -11160774.85 -11160774.73 -11160774.61 0.1862 0.0580

Jupiter -35270-06-21 03:35 J -11160773.48 -11160773.35 -11160773.22 0.0509 0.0213

Mars -35269-05-03 08:23 J -11160456.28 -11160456.15 -11160456.02 0.1660 0.0751

Moon -35269-10-30 03:07 J -11160276.49 -11160276.37 -11160276.25 0.2665 0.1020

Earth -35269-10-30 04:04 J -11160276.45 -11160276.33 -11160276.21 0.2660 0.1028 *

Moon -35266-05-01 06:43 J -11159363.35 -11159363.22 -11159363.10 0.2677 0.0329

Earth -35266-05-01 06:57 J -11159363.34 -11159363.21 -11159363.09 0.2670 0.0301 *

Jupiter -35264-08-20 18:57 J -11158520.84 -11158520.71 -11158520.58 0.0516 0.0310

Jupiter -35264-11-18 17:16 J -11158430.88 -11158430.78 -11158430.67 0.0520 0.0393

Saturn -35262-11-25 03:35 J -11157694.37 -11157694.35 -11157694.33 0.0276 0.0273

Saturn -35261-02-21 17:16 J -11157605.90 -11157605.78 -11157605.66 0.0276 0.0166

Saturn -35261-05-20 07:11 J -11157517.34 -11157517.20 -11157517.05 0.0276 0.0058

Saturn -35261-08-16 21:35 J -11157428.75 -11157428.60 -11157428.45 0.0276 0.0055

Mars -35261-11-09 00:43 J -11157344.60 -11157344.47 -11157344.35 0.1857 0.0231

Saturn -35261-11-13 12:14 J -11157340.11 -11157339.99 -11157339.87 0.0276 0.0170

Mars -35260-09-23 13:26 J -11157026.09 -11157025.94 -11157025.79 0.1664 0.0077

Moon -35259-04-23 19:11 J -11156813.75 -11156813.70 -11156813.65 0.2670 0.2432

Earth -35259-04-23 19:40 J -11156813.72 -11156813.68 -11156813.63 0.2675 0.2443 *

Neptune -35258-03-04 09:50 J -11156499.09 -11156499.09 -11156499.07 0.0088 0.0088

Jupiter -35258-04-09 06:28 J -11156463.37 -11156463.23 -11156463.09 0.0510 0.0066

Neptune -35258-05-31 12:43 J -11156411.04 -11156410.97 -11156410.90 0.0088 0.0080

Neptune -35258-08-27 15:21 J -11156322.96 -11156322.86 -11156322.76 0.0088 0.0071

Neptune -35258-11-23 17:45 J -11156234.87 -11156234.76 -11156234.63 0.0088 0.0064

Neptune -35257-02-19 20:23 J -11156146.77 -11156146.65 -11156146.50 0.0088 0.0056

Neptune -35257-05-17 23:02 J -11156058.67 -11156058.54 -11156058.38 0.0088 0.0048

Neptune -35257-08-14 01:55 J -11155970.57 -11155970.42 -11155970.26 0.0088 0.0039

Neptune -35257-11-10 04:33 J -11155882.46 -11155882.31 -11155882.14 0.0088 0.0031

Neptune -35256-02-06 07:11 J -11155794.36 -11155794.20 -11155794.03 0.0088 0.0023

Neptune -35256-05-05 09:50 J -11155706.25 -11155706.09 -11155705.92 0.0088 0.0015

Neptune -35256-08-01 12:28 J -11155618.15 -11155617.98 -11155617.81 0.0088 0.0007

Neptune -35256-10-28 15:07 J -11155530.04 -11155529.87 -11155529.70 0.0088 0.0001

Moon -35256-11-02 02:38 J -11155525.52 -11155525.39 -11155525.26 0.2668 0.0050

Earth -35256-11-02 02:38 J -11155525.52 -11155525.39 -11155525.26 0.2661 0.0067 *

Neptune -35255-01-24 17:45 J -11155441.93 -11155441.76 -11155441.59 0.0088 0.0009

Neptune -35255-04-22 20:09 J -11155353.82 -11155353.66 -11155353.49 0.0088 0.0017

Neptune -35255-07-19 22:33 J -11155265.71 -11155265.56 -11155265.38 0.0088 0.0026

Neptune -35255-10-16 01:26 J -11155177.60 -11155177.44 -11155177.28 0.0088 0.0033

Neptune -35254-01-12 03:50 J -11155089.48 -11155089.34 -11155089.19 0.0088 0.0041

Neptune -35254-04-10 06:14 J -11155001.37 -11155001.24 -11155001.09 0.0088 0.0049

Neptune -35254-07-07 08:38 J -11154913.25 -11154913.14 -11154913.00 0.0088 0.0057

Neptune -35254-10-03 11:02 J -11154825.14 -11154825.04 -11154824.91 0.0088 0.0065

Neptune -35254-12-30 13:55 J -11154737.01 -11154736.92 -11154736.82 0.0088 0.0072

Neptune -35253-03-27 16:04 J -11154648.88 -11154648.83 -11154648.74 0.0088 0.0080

Earth -35253-05-03 05:02 J -11154612.41 -11154612.29 -11154612.18 0.2669 0.1325

Moon -35253-05-03 05:16 J -11154612.39 -11154612.28 -11154612.17 0.2675 0.1355 *

Neptune -35253-06-23 18:28 J -11154560.74 -11154560.73 -11154560.68 0.0088 0.0087

Jupiter -35252-06-08 17:59 J -11154210.79 -11154210.75 -11154210.71 0.0515 0.0495

Jupiter -35252-09-06 16:47 J -11154120.95 -11154120.80 -11154120.66 0.0518 0.0211

Mars -35251-04-01 07:26 J -11153914.29 -11153914.19 -11153914.09 0.1852 0.1002

Mars -35250-02-13 18:14 J -11153595.88 -11153595.74 -11153595.61 0.1668 0.0627

Saturn -35247-07-02 19:26 J -11152360.79 -11152360.69 -11152360.58 0.0284 0.0220

Saturn -35247-09-29 12:57 J -11152272.11 -11152271.96 -11152271.81 0.0284 0.0088

Saturn -35247-12-27 05:45 J -11152183.41 -11152183.26 -11152183.10 0.0283 0.0042

Jupiter -35246-01-26 09:07 J -11152153.26 -11152153.12 -11152152.98 0.0511 0.0082

Saturn -35246-03-25 22:19 J -11152094.69 -11152094.57 -11152094.44 0.0283 0.0167

Moon -35246-04-26 16:04 J -11152062.93 -11152062.83 -11152062.73 0.2674 0.1635

Earth -35246-04-26 17:02 J -11152062.89 -11152062.79 -11152062.69 0.2674 0.1496 *

Earth -35243-11-05 01:11 J -11150774.57 -11150774.45 -11150774.34 0.2663 0.1059

Moon -35243-11-05 01:40 J -11150774.54 -11150774.43 -11150774.31 0.2669 0.1092 *

Mars -35242-08-22 14:23 J -11150483.93 -11150483.90 -11150483.86 0.1846 0.1744

Mars -35241-07-05 22:19 J -11150165.65 -11150165.57 -11150165.48 0.1673 0.1361

Earth -35240-05-06 03:07 J -11149861.42 -11149861.37 -11149861.31 0.2667 0.2377

Moon -35240-05-06 04:19 J -11149861.37 -11149861.32 -11149861.27 0.2669 0.2422 *

Jupiter -35240-06-25 16:47 J -11149810.96 -11149810.80 -11149810.64 0.0517 0.0036

Mars -35240-07-28 12:28 J -11149778.05 -11149777.98 -11149777.91 0.1868 0.1502

Mars -35239-06-12 03:21 J -11149459.42 -11149459.36 -11149459.30 0.1656 0.1493

Moon -35236-10-28 09:35 J -11148225.19 -11148225.10 -11148225.01 0.2659 0.1922

Earth -35236-10-28 10:33 J -11148225.15 -11148225.06 -11148224.97 0.2658 0.1919 *

Jupiter -35235-11-14 12:28 J -11147843.11 -11147842.98 -11147842.86 0.0512 0.0223

Jupiter -35234-02-11 23:31 J -11147753.62 -11147753.52 -11147753.42 0.0509 0.0367

Venus -35233-01-30 03:50 J -11147401.40 -11147401.34 -11147401.28 0.3774 0.3138

Moon -35233-04-28 13:40 J -11147312.05 -11147311.93 -11147311.81 0.2675 0.0513

Earth -35233-04-28 14:38 J -11147312.02 -11147311.89 -11147311.77 0.2672 0.0533 *

Uranus -35232-03-11 20:52 J -11146994.69 -11146994.63 -11146994.55 0.0133 0.0121

Uranus -35232-06-08 01:55 J -11146906.52 -11146906.42 -11146906.30 0.0133 0.0099

Saturn -35232-07-10 19:11 J -11146873.80 -11146873.70 -11146873.59 0.0275 0.0194

Uranus -35232-09-04 06:57 J -11146818.34 -11146818.21 -11146818.07 0.0133 0.0076

Saturn -35232-10-07 09:07 J -11146785.26 -11146785.12 -11146784.98 0.0275 0.0086

Uranus -35232-12-01 11:45 J -11146730.15 -11146730.01 -11146729.86 0.0133 0.0055

Saturn -35231-01-03 23:16 J -11146696.68 -11146696.53 -11146696.38 0.0276 0.0025

Uranus -35231-02-27 16:33 J -11146641.96 -11146641.81 -11146641.65 0.0133 0.0033

Saturn -35231-04-02 13:40 J -11146608.05 -11146607.93 -11146607.79 0.0276 0.0139

Uranus -35231-05-26 21:21 J -11146553.77 -11146553.61 -11146553.44 0.0133 0.0012

Saturn -35231-06-30 04:33 J -11146519.36 -11146519.31 -11146519.25 0.0276 0.0254

Uranus -35231-08-23 02:09 J -11146465.57 -11146465.41 -11146465.25 0.0133 0.0010

Uranus -35231-11-19 06:43 J -11146377.37 -11146377.22 -11146377.06 0.0133 0.0031

Mars -35231-12-18 18:28 J -11146347.85 -11146347.73 -11146347.61 0.1862 0.0666

Uranus -35230-02-15 11:16 J -11146289.17 -11146289.03 -11146288.87 0.0133 0.0052

Uranus -35230-05-14 16:04 J -11146200.96 -11146200.83 -11146200.69 0.0133 0.0072

Uranus -35230-08-10 20:23 J -11146112.75 -11146112.65 -11146112.53 0.0133 0.0093

Mars -35230-11-02 08:38 J -11146029.26 -11146029.14 -11146029.01 0.1660 0.0841

Uranus -35230-11-07 00:57 J -11146024.53 -11146024.46 -11146024.37 0.0133 0.0113

Earth -35230-11-07 23:16 J -11146023.61 -11146023.53 -11146023.45 0.2665 0.2051

Moon -35230-11-08 00:14 J -11146023.57 -11146023.49 -11146023.42 0.2665 0.2165 *

Jupiter -35228-04-13 16:33 J -11145500.96 -11145500.81 -11145500.65 0.0517 0.0140

Venus -35228-08-14 23:45 J -11145377.63 -11145377.51 -11145377.39 0.3771 0.0150

Venus -35224-08-16 11:16 J -11143915.15 -11143915.03 -11143914.91 0.3604 0.1007

Jupiter -35223-09-02 15:35 J -11143532.94 -11143532.85 -11143532.75 0.0513 0.0361

Moon -35223-10-31 08:38 J -11143474.26 -11143474.14 -11143474.01 0.2665 0.0973

Earth -35223-10-31 09:35 J -11143474.23 -11143474.10 -11143473.98 0.2660 0.0835 *

Jupiter -35223-12-01 02:38 J -11143443.52 -11143443.39 -11143443.26 0.0509 0.0225

Venus -35222-02-28 19:55 J -11143353.71 -11143353.67 -11143353.63 0.3768 0.3536

Mars -35221-05-10 00:57 J -11142917.59 -11142917.46 -11142917.34 0.1857 0.0156

Mars -35220-03-24 13:40 J -11142599.07 -11142598.93 -11142598.78 0.1664 0.0170

Moon -35220-05-01 12:14 J -11142561.12 -11142560.99 -11142560.87 0.2677 0.0415

Earth -35220-05-01 12:14 J -11142561.11 -11142560.99 -11142560.86 0.2670 0.0479 *

Venus -35218-03-02 08:09 J -11141891.26 -11141891.16 -11141891.07 0.3607 0.2236

Saturn -35218-11-19 17:59 J -11141628.79 -11141628.75 -11141628.69 0.0283 0.0270

Saturn -35217-02-16 11:45 J -11141540.15 -11141540.01 -11141539.87 0.0283 0.0136

Saturn -35217-05-15 04:47 J -11141451.46 -11141451.30 -11141451.14 0.0283 0.0009

Saturn -35217-08-11 21:35 J -11141362.74 -11141362.60 -11141362.46 0.0283 0.0120

Saturn -35217-11-08 13:55 J -11141274.00 -11141273.92 -11141273.85 0.0282 0.0243

Jupiter -35216-01-30 16:47 J -11141190.92 -11141190.80 -11141190.67 0.0516 0.0309

Jupiter -35216-04-30 15:21 J -11141100.96 -11141100.86 -11141100.76 0.0520 0.0394

Moon -35213-04-24 00:14 J -11140011.54 -11140011.49 -11140011.43 0.2671 0.2335

Earth -35213-04-24 00:57 J -11140011.52 -11140011.46 -11140011.39 0.2675 0.2271 *

Mars -35212-09-30 07:26 J -11139487.30 -11139487.19 -11139487.08 0.1852 0.0921

Jupiter -35211-06-21 18:43 J -11139222.74 -11139222.72 -11139222.70 0.0514 0.0505

Mars -35211-08-14 18:28 J -11139168.88 -11139168.73 -11139168.59 0.1668 0.0544

Jupiter -35211-09-19 05:16 J -11139133.42 -11139133.28 -11139133.14 0.0510 0.0076

Earth -35210-11-03 08:09 J -11138723.29 -11138723.16 -11138723.03 0.2662 0.0217

Moon -35210-11-03 08:09 J -11138723.28 -11138723.16 -11138723.03 0.2668 0.0293 *

Earth -35207-05-04 10:19 J -11137810.18 -11137810.07 -11137809.96 0.2668 0.1507

Moon -35207-05-04 10:47 J -11137810.15 -11137810.05 -11137809.94 0.2674 0.1589 *

Jupiter -35205-11-18 16:47 J -11136880.85 -11136880.80 -11136880.74 0.0515 0.0480

Jupiter -35204-02-16 15:50 J -11136790.98 -11136790.84 -11136790.69 0.0519 0.0228

Saturn -35203-11-27 19:40 J -11136141.75 -11136141.68 -11136141.60 0.0275 0.0234

Mars -35202-02-20 14:23 J -11136056.95 -11136056.90 -11136056.85 0.1846 0.1673

Saturn -35202-02-24 09:35 J -11136053.23 -11136053.10 -11136052.97 0.0276 0.0127

Saturn -35202-05-23 23:31 J -11135964.67 -11135964.52 -11135964.37 0.0276 0.0017

Saturn -35202-08-20 13:55 J -11135876.06 -11135875.92 -11135875.78 0.0276 0.0096

Saturn -35202-11-17 04:33 J -11135787.40 -11135787.31 -11135787.21 0.0276 0.0212

Mars -35201-01-04 22:47 J -11135738.64 -11135738.55 -11135738.45 0.1673 0.1262

Mars -35200-01-26 12:28 J -11135351.04 -11135350.98 -11135350.91 0.1867 0.1584

Moon -35200-04-26 21:21 J -11135260.72 -11135260.61 -11135260.50 0.2674 0.1339

Earth -35200-04-26 22:19 J -11135260.68 -11135260.57 -11135260.46 0.2673 0.1324 *

Mars -35200-12-11 03:35 J -11135032.39 -11135032.35 -11135032.31 0.1656 0.1577

Jupiter -35199-07-08 08:09 J -11134823.30 -11134823.16 -11134823.02 0.0511 0.0072

Earth -35197-11-05 06:28 J -11133972.34 -11133972.23 -11133972.11 0.2663 0.1241

Moon -35197-11-05 07:11 J -11133972.31 -11133972.20 -11133972.09 0.2669 0.1285 *

Earth -35194-05-07 08:38 J -11133059.17 -11133059.14 -11133059.11 0.2667 0.2570

Jupiter -35193-12-05 15:21 J -11132481.02 -11132480.86 -11132480.70 0.0517 0.0048

Mars -35191-06-18 18:28 J -11131920.85 -11131920.73 -11131920.61 0.1862 0.0744

Mars -35190-05-03 09:07 J -11131602.24 -11131602.12 -11131601.99 0.1660 0.0936

Moon -35190-10-29 15:07 J -11131422.96 -11131422.87 -11131422.78 0.2661 0.1868

Earth -35190-10-29 16:04 J -11131422.93 -11131422.83 -11131422.73 0.2658 0.1722 *

Uranus -35189-11-16 04:47 J -11131039.37 -11131039.30 -11131039.21 0.0145 0.0121

Uranus -35188-02-12 09:50 J -11130951.20 -11130951.09 -11130950.97 0.0145 0.0095

Uranus -35188-05-11 14:52 J -11130863.01 -11130862.88 -11130862.74 0.0145 0.0070

Saturn -35188-07-05 13:11 J -11130808.07 -11130807.95 -11130807.81 0.0284 0.0168

Uranus -35188-08-07 19:55 J -11130774.81 -11130774.67 -11130774.52 0.0145 0.0044

Saturn -35188-10-02 06:43 J -11130719.38 -11130719.22 -11130719.06 0.0284 0.0036

Uranus -35188-11-04 01:11 J -11130686.61 -11130686.45 -11130686.30 0.0146 0.0018

Saturn -35188-12-29 23:31 J -11130630.67 -11130630.52 -11130630.37 0.0283 0.0092

Uranus -35187-01-31 06:14 J -11130598.39 -11130598.24 -11130598.09 0.0146 0.0009

Saturn -35187-03-28 15:50 J -11130541.94 -11130541.84 -11130541.74 0.0283 0.0216

Jupiter -35187-04-26 10:47 J -11130513.18 -11130513.05 -11130512.93 0.0513 0.0219

Uranus -35187-04-29 11:16 J -11130510.17 -11130510.03 -11130509.87 0.0146 0.0036

Moon -35187-04-29 19:11 J -11130509.82 -11130509.70 -11130509.58 0.2677 0.0466

Earth -35187-04-29 19:55 J -11130509.80 -11130509.67 -11130509.55 0.2672 0.0353 *

Jupiter -35187-07-24 21:50 J -11130423.68 -11130423.59 -11130423.49 0.0509 0.0371

Uranus -35187-07-26 16:33 J -11130421.94 -11130421.81 -11130421.67 0.0146 0.0062

Uranus -35187-10-22 21:50 J -11130333.70 -11130333.59 -11130333.46 0.0146 0.0090

Uranus -35186-01-19 03:07 J -11130245.45 -11130245.37 -11130245.27 0.0146 0.0117

Uranus -35186-04-17 08:38 J -11130157.16 -11130157.14 -11130157.12 0.0146 0.0144

Earth -35184-11-08 04:33 J -11129221.38 -11129221.31 -11129221.24 0.2665 0.2229

Moon -35184-11-08 05:31 J -11129221.33 -11129221.27 -11129221.20 0.2665 0.2280 *

Mars -35182-11-09 00:57 J -11128490.59 -11128490.46 -11128490.33 0.1857 0.0057

Mars -35181-09-22 14:09 J -11128172.06 -11128171.91 -11128171.76 0.1664 0.0253

Jupiter -35181-09-23 15:21 J -11128171.02 -11128170.86 -11128170.71 0.0516 0.0129

Neptune -35177-06-05 15:07 J -11126819.87 -11126819.87 -11126819.84 0.0089 0.0088

Neptune -35177-09-01 17:02 J -11126731.84 -11126731.79 -11126731.73 0.0089 0.0081

Venus -35177-09-05 02:23 J -11126728.50 -11126728.40 -11126728.31 0.3773 0.1958

Moon -35177-10-31 14:23 J -11126672.03 -11126671.90 -11126671.77 0.2665 0.0618

Earth -35177-10-31 15:07 J -11126672.00 -11126671.87 -11126671.75 0.2660 0.0646 *

Neptune -35177-11-28 18:43 J -11126643.79 -11126643.72 -11126643.64 0.0089 0.0075

Neptune -35176-02-24 20:09 J -11126555.74 -11126555.66 -11126555.55 0.0089 0.0068

Neptune -35176-05-23 22:04 J -11126467.68 -11126467.58 -11126467.47 0.0089 0.0061

Neptune -35176-08-19 23:45 J -11126379.61 -11126379.51 -11126379.39 0.0089 0.0054

Neptune -35176-11-16 01:26 J -11126291.55 -11126291.44 -11126291.31 0.0089 0.0048

Neptune -35175-02-12 03:21 J -11126203.49 -11126203.36 -11126203.23 0.0089 0.0040

Jupiter -35175-02-12 13:55 J -11126203.01 -11126202.92 -11126202.82 0.0514 0.0359

Neptune -35175-05-11 05:02 J -11126115.42 -11126115.29 -11126115.15 0.0089 0.0033

Jupiter -35175-05-13 00:57 J -11126113.59 -11126113.46 -11126113.33 0.0510 0.0228

Neptune -35175-08-07 06:57 J -11126027.35 -11126027.21 -11126027.07 0.0089 0.0026

Neptune -35175-11-03 08:38 J -11125939.28 -11125939.14 -11125938.99 0.0089 0.0019

Neptune -35174-01-30 10:33 J -11125851.21 -11125851.06 -11125850.92 0.0089 0.0012

Neptune -35174-04-28 12:14 J -11125763.14 -11125762.99 -11125762.84 0.0089 0.0005

Moon -35174-05-02 17:31 J -11125758.89 -11125758.77 -11125758.65 0.2677 0.0728

Earth -35174-05-02 17:45 J -11125758.89 -11125758.76 -11125758.64 0.2670 0.0665 *

Neptune -35174-07-25 13:55 J -11125675.06 -11125674.92 -11125674.77 0.0089 0.0003

Neptune -35174-10-21 15:50 J -11125586.99 -11125586.84 -11125586.69 0.0089 0.0009

Neptune -35173-01-17 17:31 J -11125498.91 -11125498.77 -11125498.62 0.0089 0.0016

Neptune -35173-04-14 19:26 J -11125410.83 -11125410.69 -11125410.55 0.0089 0.0023

Saturn -35173-04-15 21:50 J -11125409.63 -11125409.59 -11125409.54 0.0275 0.0260

Neptune -35173-07-11 21:07 J -11125322.75 -11125322.62 -11125322.48 0.0089 0.0030

Saturn -35173-07-13 11:31 J -11125321.14 -11125321.02 -11125320.89 0.0275 0.0154

Venus -35173-09-06 12:57 J -11125266.02 -11125265.96 -11125265.90 0.3603 0.3102

Neptune -35173-10-07 23:02 J -11125234.67 -11125234.54 -11125234.41 0.0089 0.0037

Saturn -35173-10-10 01:26 J -11125232.58 -11125232.44 -11125232.29 0.0275 0.0045

Neptune -35172-01-04 00:43 J -11125146.59 -11125146.47 -11125146.34 0.0089 0.0045

Saturn -35172-01-06 15:50 J -11125143.99 -11125143.84 -11125143.69 0.0275 0.0067

Mars -35172-03-31 07:40 J -11125060.29 -11125060.18 -11125060.07 0.1852 0.0837

Neptune -35172-04-02 02:23 J -11125058.51 -11125058.40 -11125058.27 0.0089 0.0052

Saturn -35172-04-05 06:14 J -11125055.35 -11125055.24 -11125055.12 0.0276 0.0182

Neptune -35172-06-29 04:19 J -11124970.42 -11124970.32 -11124970.20 0.0089 0.0059

Neptune -35172-09-25 06:14 J -11124882.33 -11124882.24 -11124882.14 0.0089 0.0066

Neptune -35172-12-22 07:55 J -11124794.24 -11124794.17 -11124794.07 0.0089 0.0074

Mars -35171-02-12 18:57 J -11124741.86 -11124741.71 -11124741.57 0.1668 0.0447

Neptune -35171-03-20 09:50 J -11124706.14 -11124706.09 -11124706.02 0.0089 0.0081

Venus -35171-03-21 22:19 J -11124704.68 -11124704.57 -11124704.46 0.3770 0.1366

Neptune -35171-06-16 11:45 J -11124618.02 -11124618.01 -11124617.98 0.0089 0.0088

Jupiter -35169-07-12 14:52 J -11123861.01 -11123860.88 -11123860.75 0.0516 0.0307

Jupiter -35169-10-10 13:26 J -11123771.04 -11123770.94 -11123770.84 0.0520 0.0395

Venus -35167-03-23 10:04 J -11123242.20 -11123242.08 -11123241.95 0.3605 0.0226

Moon -35167-04-25 05:31 J -11123209.34 -11123209.27 -11123209.20 0.2672 0.2172

Earth -35167-04-25 06:14 J -11123209.31 -11123209.24 -11123209.16 0.2675 0.2103 *

Earth -35164-11-03 13:40 J -11121921.06 -11121920.93 -11121920.80 0.2662 0.0409

Moon -35164-11-03 13:55 J -11121921.05 -11121920.92 -11121920.79 0.2669 0.0358 *

Jupiter -35164-12-01 17:31 J -11121892.80 -11121892.77 -11121892.74 0.0514 0.0495

Jupiter -35163-03-01 04:04 J -11121803.47 -11121803.33 -11121803.19 0.0510 0.0089

Mars -35163-08-21 14:38 J -11121629.96 -11121629.89 -11121629.83 0.1846 0.1588

Mars -35162-07-05 23:16 J -11121311.64 -11121311.53 -11121311.43 0.1673 0.1174

Venus -35162-10-07 06:43 J -11121218.25 -11121218.22 -11121218.18 0.3608 0.3422

Earth -35161-05-04 15:50 J -11121007.94 -11121007.84 -11121007.74 0.2668 0.1701

Moon -35161-05-04 16:33 J -11121007.91 -11121007.81 -11121007.71 0.2673 0.1707 *

Mars -35161-07-27 12:43 J -11120924.03 -11120923.97 -11120923.92 0.1867 0.1674

Saturn -35159-11-22 12:14 J -11120076.09 -11120075.99 -11120075.89 0.0284 0.0217

Saturn -35158-02-19 05:31 J -11119987.42 -11119987.27 -11119987.11 0.0283 0.0085

Saturn -35158-05-18 22:33 J -11119898.72 -11119898.56 -11119898.40 0.0283 0.0044

Saturn -35158-08-15 15:07 J -11119809.99 -11119809.87 -11119809.74 0.0283 0.0170

Jupiter -35157-04-30 15:07 J -11119550.93 -11119550.87 -11119550.81 0.0515 0.0476

Jupiter -35157-07-29 14:09 J -11119461.05 -11119460.91 -11119460.77 0.0519 0.0231

Earth -35157-10-26 22:33 J -11119371.58 -11119371.56 -11119371.55 0.2657 0.2635

Moon -35154-04-28 02:38 J -11118458.50 -11118458.39 -11118458.28 0.2674 0.1269

Earth -35154-04-28 03:35 J -11118458.46 -11118458.35 -11118458.24 0.2673 0.1148 *

Mars -35152-12-17 18:43 J -11117493.84 -11117493.72 -11117493.61 0.1862 0.0833

Jupiter -35152-12-18 06:57 J -11117493.35 -11117493.21 -11117493.07 0.0511 0.0058

Mars -35151-11-01 09:21 J -11117175.22 -11117175.11 -11117174.99 0.1660 0.1014

Earth -35151-11-06 11:59 J -11117170.11 -11117170.00 -11117169.89 0.2664 0.1423

Moon -35151-11-06 12:43 J -11117170.07 -11117169.97 -11117169.87 0.2668 0.1515 *

Uranus -35148-04-01 04:33 J -11116293.39 -11116293.31 -11116293.22 0.0133 0.0113

Uranus -35148-06-28 09:35 J -11116205.22 -11116205.10 -11116204.98 0.0133 0.0090

Uranus -35148-09-24 14:23 J -11116117.03 -11116116.90 -11116116.76 0.0133 0.0069

Uranus -35148-12-21 19:11 J -11116028.84 -11116028.70 -11116028.54 0.0133 0.0047

Uranus -35147-03-20 00:14 J -11115940.65 -11115940.49 -11115940.33 0.0133 0.0025

Uranus -35147-06-16 05:02 J -11115852.45 -11115852.29 -11115852.13 0.0133 0.0005

Uranus -35147-09-12 09:35 J -11115764.26 -11115764.10 -11115763.94 0.0133 0.0018

Uranus -35147-12-09 14:23 J -11115676.05 -11115675.90 -11115675.75 0.0133 0.0038

Uranus -35146-03-07 18:57 J -11115587.85 -11115587.71 -11115587.56 0.0133 0.0059

Uranus -35146-06-03 23:31 J -11115499.64 -11115499.52 -11115499.39 0.0133 0.0080

Uranus -35146-08-31 03:50 J -11115411.43 -11115411.34 -11115411.22 0.0133 0.0101

Uranus -35146-11-27 08:23 J -11115323.20 -11115323.15 -11115323.07 0.0133 0.0121

Jupiter -35145-05-17 14:38 J -11115151.05 -11115150.89 -11115150.73 0.0518 0.0065

Moon -35144-10-29 20:38 J -11114620.75 -11114620.64 -11114620.53 0.2662 0.1551

Earth -35144-10-29 21:35 J -11114620.70 -11114620.60 -11114620.49 0.2659 0.1527 *

Saturn -35144-11-30 11:31 J -11114589.11 -11114589.02 -11114588.91 0.0275 0.0197

Saturn -35143-02-27 01:26 J -11114500.58 -11114500.44 -11114500.30 0.0276 0.0088

Saturn -35143-05-26 15:35 J -11114412.00 -11114411.85 -11114411.70 0.0276 0.0023

Saturn -35143-08-23 05:59 J -11114323.38 -11114323.25 -11114323.11 0.0276 0.0136

Saturn -35143-11-19 20:52 J -11114234.69 -11114234.63 -11114234.57 0.0276 0.0252

Mars -35142-05-10 00:57 J -11114063.59 -11114063.46 -11114063.34 0.1857 0.0024

Mars -35141-03-23 14:38 J -11113745.04 -11113744.89 -11113744.75 0.1664 0.0346

Moon -35141-04-30 00:43 J -11113707.60 -11113707.47 -11113707.35 0.2677 0.0140

Earth -35141-04-30 01:11 J -11113707.58 -11113707.45 -11113707.32 0.2671 0.0166 *

Jupiter -35140-10-06 09:50 J -11113183.22 -11113183.09 -11113182.96 0.0512 0.0204

Jupiter -35139-01-03 20:52 J -11113093.72 -11113093.63 -11113093.53 0.0508 0.0385

Earth -35138-11-09 09:50 J -11112419.14 -11112419.09 -11112419.03 0.2665 0.2408

Moon -35138-11-09 11:02 J -11112419.08 -11112419.04 -11112419.00 0.2665 0.2495 *

Jupiter -35133-03-05 14:09 J -11110841.07 -11110840.91 -11110840.75 0.0516 0.0114

Mars -35133-09-29 07:40 J -11110633.30 -11110633.18 -11110633.07 0.1852 0.0757

Mars -35132-08-13 19:11 J -11110314.84 -11110314.70 -11110314.55 0.1668 0.0356

Moon -35131-11-01 20:09 J -11109869.79 -11109869.66 -11109869.54 0.2666 0.0557

Earth -35131-11-01 20:38 J -11109869.77 -11109869.64 -11109869.51 0.2660 0.0457 *

Saturn -35129-04-10 13:11 J -11109344.02 -11109343.95 -11109343.88 0.0284 0.0253

Saturn -35129-07-08 06:43 J -11109255.36 -11109255.22 -11109255.07 0.0284 0.0119

Saturn -35129-10-04 23:59 J -11109166.66 -11109166.50 -11109166.34 0.0284 0.0012

Saturn -35128-01-01 16:33 J -11109077.94 -11109077.81 -11109077.67 0.0284 0.0139

Saturn -35128-03-31 08:52 J -11108989.18 -11108989.13 -11108989.07 0.0283 0.0262

Moon -35128-05-02 23:02 J -11108956.66 -11108956.54 -11108956.42 0.2676 0.0789

Earth -35128-05-02 23:02 J -11108956.66 -11108956.54 -11108956.42 0.2670 0.0848 *

Jupiter -35128-07-25 12:28 J -11108873.08 -11108872.98 -11108872.88 0.0514 0.0354

Jupiter -35128-10-22 23:31 J -11108783.65 -11108783.52 -11108783.40 0.0510 0.0234

Pluto -35124-09-05 22:33 J -11107369.61 -11107369.56 -11107369.49 0.0067 0.0063

Pluto -35124-12-02 23:31 J -11107281.58 -11107281.52 -11107281.41 0.0068 0.0058

Mars -35123-02-19 14:38 J -11107202.96 -11107202.89 -11107202.82 0.1846 0.1503

Pluto -35123-03-01 00:57 J -11107193.55 -11107193.46 -11107193.33 0.0068 0.0052

Pluto -35123-05-28 02:23 J -11107105.51 -11107105.40 -11107105.26 0.0068 0.0046

Pluto -35123-08-24 03:50 J -11107017.46 -11107017.34 -11107017.20 0.0068 0.0040

Pluto -35123-11-20 05:16 J -11106929.42 -11106929.28 -11106929.13 0.0068 0.0034

Mars -35122-01-03 23:45 J -11106884.63 -11106884.51 -11106884.40 0.1673 0.1078

Pluto -35122-02-16 06:28 J -11106841.37 -11106841.23 -11106841.07 0.0068 0.0028

Pluto -35122-05-15 07:55 J -11106753.32 -11106753.17 -11106753.00 0.0068 0.0022

Pluto -35122-08-11 09:21 J -11106665.27 -11106665.11 -11106664.94 0.0068 0.0016

Pluto -35122-11-07 10:47 J -11106577.21 -11106577.05 -11106576.88 0.0068 0.0010

Jupiter -35122-12-23 13:55 J -11106531.05 -11106530.92 -11106530.79 0.0515 0.0290

Mars -35121-01-26 12:43 J -11106497.01 -11106496.97 -11106496.93 0.1867 0.1761

Pluto -35121-02-03 12:14 J -11106489.16 -11106488.99 -11106488.82 0.0069 0.0004

Jupiter -35121-03-22 12:14 J -11106441.08 -11106440.99 -11106440.89 0.0519 0.0409

Moon -35121-04-25 10:47 J -11106407.14 -11106407.05 -11106406.97 0.2672 0.1962

Earth -35121-04-25 11:45 J -11106407.10 -11106407.01 -11106406.93 0.2675 0.1929 *

Pluto -35121-05-01 13:40 J -11106401.10 -11106400.93 -11106400.76 0.0069 0.0002

Pluto -35121-07-28 14:52 J -11106313.04 -11106312.88 -11106312.71 0.0069 0.0009

Pluto -35121-10-24 16:19 J -11106224.98 -11106224.82 -11106224.65 0.0069 0.0015

Pluto -35120-01-20 17:45 J -11106136.92 -11106136.76 -11106136.59 0.0069 0.0021

Venus -35120-04-12 00:43 J -11106055.58 -11106055.47 -11106055.35 0.3772 0.0773

Pluto -35120-04-18 19:11 J -11106048.85 -11106048.70 -11106048.54 0.0069 0.0027

Pluto -35120-07-15 20:23 J -11105960.78 -11105960.65 -11105960.49 0.0069 0.0034

Pluto -35120-10-11 22:04 J -11105872.71 -11105872.58 -11105872.44 0.0069 0.0040

Pluto -35119-01-07 23:45 J -11105784.64 -11105784.51 -11105784.39 0.0069 0.0047

Pluto -35119-04-06 00:57 J -11105696.56 -11105696.46 -11105696.34 0.0070 0.0054

Pluto -35119-07-03 02:09 J -11105608.47 -11105608.41 -11105608.30 0.0070 0.0061

Pluto -35119-09-29 03:50 J -11105520.37 -11105520.34 -11105520.28 0.0070 0.0067

Earth -35118-11-04 19:11 J -11105118.83 -11105118.70 -11105118.58 0.2662 0.0597

Moon -35118-11-04 19:26 J -11105118.82 -11105118.69 -11105118.57 0.2669 0.0692 *

Venus -35116-04-13 11:59 J -11104593.11 -11104593.00 -11104592.89 0.3603 0.1841

Jupiter -35116-05-13 15:50 J -11104562.87 -11104562.84 -11104562.80 0.0515 0.0493

Jupiter -35116-08-11 02:38 J -11104473.53 -11104473.39 -11104473.25 0.0511 0.0093

Earth -35115-05-05 21:07 J -11104205.71 -11104205.62 -11104205.53 0.2668 0.1890

Moon -35115-05-05 22:04 J -11104205.66 -11104205.58 -11104205.50 0.2673 0.2025 *

Venus -35115-10-26 20:52 J -11104031.72 -11104031.63 -11104031.55 0.3769 0.2588

Saturn -35114-04-19 13:55 J -11103857.00 -11103856.92 -11103856.83 0.0275 0.0221

Saturn -35114-07-17 03:35 J -11103768.48 -11103768.35 -11103768.21 0.0275 0.0114

Saturn -35114-10-13 17:45 J -11103679.91 -11103679.76 -11103679.61 0.0275 0.0005

Saturn -35113-01-10 07:55 J -11103591.30 -11103591.17 -11103591.02 0.0275 0.0108

Saturn -35113-04-07 22:33 J -11103502.64 -11103502.56 -11103502.46 0.0276 0.0223

Mars -35112-06-17 18:43 J -11103066.83 -11103066.72 -11103066.61 0.1862 0.0924

Mars -35111-05-02 09:50 J -11102748.20 -11102748.09 -11102747.98 0.1660 0.1104

Moon -35111-10-28 02:52 J -11102569.41 -11102569.38 -11102569.34 0.2657 0.2534

Earth -35111-10-28 04:04 J -11102569.38 -11102569.33 -11102569.28 0.2657 0.2436 *

Venus -35111-10-28 08:52 J -11102569.24 -11102569.13 -11102569.01 0.3606 0.1450

Jupiter -35110-10-11 13:26 J -11102221.01 -11102220.94 -11102220.88 0.0514 0.0470

Jupiter -35109-01-09 12:14 J -11102131.13 -11102130.99 -11102130.84 0.0518 0.0235

Moon -35108-04-28 08:09 J -11101656.28 -11101656.16 -11101656.05 0.2675 0.1020

Earth -35108-04-28 08:52 J -11101656.24 -11101656.13 -11101656.01 0.2673 0.0974 *

Uranus -35105-09-09 07:55 J -11100426.22 -11100426.17 -11100426.11 0.0145 0.0136

Earth -35105-11-06 17:16 J -11100367.88 -11100367.78 -11100367.67 0.2664 0.1609

Moon -35105-11-06 18:14 J -11100367.84 -11100367.74 -11100367.64 0.2667 0.1617 *

Uranus -35105-12-06 12:57 J -11100338.06 -11100337.96 -11100337.87 0.0145 0.0110

Uranus -35104-03-04 17:45 J -11100249.88 -11100249.76 -11100249.63 0.0145 0.0085

Jupiter -35104-05-30 05:45 J -11100163.40 -11100163.26 -11100163.12 0.0512 0.0048

Uranus -35104-05-31 22:47 J -11100161.68 -11100161.55 -11100161.41 0.0145 0.0060

Uranus -35104-08-28 03:50 J -11100073.48 -11100073.34 -11100073.19 0.0145 0.0034

Uranus -35104-11-24 09:07 J -11099985.28 -11099985.12 -11099984.97 0.0146 0.0008

Uranus -35103-02-20 14:09 J -11099897.06 -11099896.91 -11099896.76 0.0146 0.0019

Uranus -35103-05-19 19:11 J -11099808.84 -11099808.70 -11099808.55 0.0146 0.0046

Uranus -35103-08-16 00:28 J -11099720.61 -11099720.48 -11099720.34 0.0146 0.0073

Mars -35103-11-08 00:57 J -11099636.58 -11099636.46 -11099636.33 0.1857 0.0116

Uranus -35103-11-12 05:45 J -11099632.36 -11099632.26 -11099632.14 0.0146 0.0100

Uranus -35102-02-08 11:02 J -11099544.10 -11099544.04 -11099543.96 0.0146 0.0127

Mars -35102-09-22 14:52 J -11099318.02 -11099317.88 -11099317.74 0.1664 0.0431

Saturn -35100-11-25 05:31 J -11098523.39 -11098523.27 -11098523.14 0.0284 0.0168

Saturn -35099-02-21 22:47 J -11098434.70 -11098434.55 -11098434.39 0.0283 0.0038

Saturn -35099-05-21 15:50 J -11098345.99 -11098345.84 -11098345.69 0.0283 0.0092

Saturn -35099-08-18 08:09 J -11098257.25 -11098257.16 -11098257.06 0.0283 0.0217

Jupiter -35098-10-28 12:43 J -11097821.12 -11097820.97 -11097820.81 0.0518 0.0071

Moon -35098-10-31 02:09 J -11097818.52 -11097818.41 -11097818.30 0.2662 0.1453

Earth -35098-10-31 03:07 J -11097818.48 -11097818.37 -11097818.25 0.2659 0.1333 *

Moon -35095-05-01 05:59 J -11096905.37 -11096905.25 -11096905.12 0.2677 0.0089

Earth -35095-05-01 06:28 J -11096905.35 -11096905.23 -11096905.10 0.2671 0.0066 *

Neptune -35094-11-29 07:55 J -11096328.20 -11096328.17 -11096328.11 0.0088 0.0085

Neptune -35093-02-25 10:33 J -11096240.12 -11096240.06 -11096239.96 0.0088 0.0077

Mars -35093-03-30 07:40 J -11096206.29 -11096206.18 -11096206.06 0.1851 0.0673

Neptune -35093-05-23 13:40 J -11096152.03 -11096151.93 -11096151.82 0.0088 0.0069

Neptune -35093-08-19 16:19 J -11096063.94 -11096063.82 -11096063.69 0.0088 0.0060

Neptune -35093-11-15 18:57 J -11095975.84 -11095975.71 -11095975.57 0.0088 0.0052

Mars -35092-02-11 19:40 J -11095887.83 -11095887.68 -11095887.53 0.1668 0.0264

Neptune -35092-02-11 21:35 J -11095887.74 -11095887.60 -11095887.44 0.0088 0.0044 *

Jupiter -35092-03-18 08:52 J -11095853.26 -11095853.13 -11095853.00 0.0512 0.0191

Neptune -35092-05-11 00:14 J -11095799.64 -11095799.49 -11095799.32 0.0088 0.0036

Jupiter -35092-06-15 19:55 J -11095763.76 -11095763.67 -11095763.58 0.0508 0.0398

Neptune -35092-08-07 02:52 J -11095711.54 -11095711.38 -11095711.21 0.0088 0.0028

Neptune -35092-11-03 05:31 J -11095623.43 -11095623.27 -11095623.10 0.0088 0.0020

Earth -35092-11-09 15:21 J -11095616.89 -11095616.86 -11095616.83 0.2666 0.2586

Moon -35092-11-09 16:19 J -11095616.82 -11095616.82 -11095616.82 0.2665 0.2659

Neptune -35091-01-30 08:09 J -11095535.32 -11095535.16 -11095534.98 0.0088 0.0012

Neptune -35091-04-28 11:02 J -11095447.22 -11095447.04 -11095446.87 0.0088 0.0005

Neptune -35091-07-25 13:26 J -11095359.11 -11095358.94 -11095358.77 0.0088 0.0004

Neptune -35091-10-21 16:04 J -11095271.00 -11095270.83 -11095270.66 0.0088 0.0012

Neptune -35090-01-17 18:28 J -11095182.89 -11095182.73 -11095182.56 0.0088 0.0020

Neptune -35090-04-15 21:07 J -11095094.78 -11095094.62 -11095094.45 0.0088 0.0028

Neptune -35090-07-12 23:45 J -11095006.66 -11095006.51 -11095006.35 0.0088 0.0036

Neptune -35090-10-09 02:09 J -11094918.55 -11094918.41 -11094918.26 0.0088 0.0044

Neptune -35089-01-05 04:33 J -11094830.43 -11094830.31 -11094830.16 0.0088 0.0052

Neptune -35089-04-02 07:11 J -11094742.32 -11094742.20 -11094742.07 0.0088 0.0059

Neptune -35089-06-29 09:35 J -11094654.20 -11094654.10 -11094653.98 0.0088 0.0067

Neptune -35089-09-25 12:14 J -11094566.07 -11094565.99 -11094565.89 0.0088 0.0075

Neptune -35089-12-22 14:38 J -11094477.94 -11094477.89 -11094477.82 0.0088 0.0082

Moon -35088-04-23 19:26 J -11094355.70 -11094355.69 -11094355.68 0.2671 0.2654

Jupiter -35086-08-16 13:11 J -11093511.11 -11093510.95 -11093510.79 0.0517 0.0098

Saturn -35085-09-05 13:55 J -11093124.95 -11093124.92 -11093124.88 0.0275 0.0264

Moon -35085-11-02 01:40 J -11093067.55 -11093067.43 -11093067.30 0.2667 0.0235

Earth -35085-11-02 02:09 J -11093067.54 -11093067.41 -11093067.28 0.2661 0.0275 *

Saturn -35085-12-03 03:35 J -11093036.47 -11093036.35 -11093036.23 0.0275 0.0159

Saturn -35084-03-01 17:31 J -11092947.92 -11092947.77 -11092947.63 0.0275 0.0050

Saturn -35084-05-29 07:40 J -11092859.33 -11092859.18 -11092859.03 0.0276 0.0062

Mars -35084-08-20 14:23 J -11092775.97 -11092775.90 -11092775.82 0.1846 0.1435

Saturn -35084-08-25 22:04 J -11092770.69 -11092770.58 -11092770.46 0.0276 0.0176

Mars -35083-07-05 00:14 J -11092457.62 -11092457.49 -11092457.37 0.1673 0.0983

Earth -35082-05-04 04:33 J -11092154.43 -11092154.31 -11092154.20 0.2669 0.1037

Moon -35082-05-04 04:47 J -11092154.42 -11092154.30 -11092154.19 0.2676 0.1130 *

Mars -35082-07-27 12:43 J -11092069.98 -11092069.97 -11092069.95 0.1867 0.1847

Jupiter -35080-01-04 11:45 J -11091543.11 -11091543.01 -11091542.90 0.0513 0.0336

Jupiter -35080-04-03 22:47 J -11091453.68 -11091453.55 -11091453.43 0.0509 0.0251

Moon -35075-04-26 16:04 J -11089604.92 -11089604.83 -11089604.74 0.2672 0.1864

Earth -35075-04-26 17:02 J -11089604.89 -11089604.79 -11089604.70 0.2674 0.1756 *

Jupiter -35074-06-04 12:57 J -11089201.10 -11089200.96 -11089200.82 0.0515 0.0275

Jupiter -35074-09-02 11:16 J -11089111.12 -11089111.03 -11089110.94 0.0519 0.0424

Mars -35073-12-16 18:43 J -11088639.83 -11088639.72 -11088639.61 0.1862 0.0998

Mars -35072-10-31 10:19 J -11088321.17 -11088321.07 -11088320.97 0.1660 0.1195

Earth -35072-11-05 00:28 J -11088316.60 -11088316.48 -11088316.35 0.2662 0.0787

Moon -35072-11-05 00:57 J -11088316.58 -11088316.46 -11088316.34 0.2669 0.0735 *

Saturn -35070-04-14 06:14 J -11087791.35 -11087791.24 -11087791.13 0.0284 0.0207

Saturn -35070-07-11 23:45 J -11087702.67 -11087702.51 -11087702.36 0.0284 0.0073

Saturn -35070-10-08 16:47 J -11087613.96 -11087613.80 -11087613.65 0.0284 0.0057

Saturn -35069-01-05 09:21 J -11087525.23 -11087525.11 -11087524.99 0.0284 0.0183

Venus -35069-05-03 03:35 J -11087406.43 -11087406.35 -11087406.28 0.3774 0.2829

Earth -35069-05-06 02:38 J -11087403.47 -11087403.39 -11087403.31 0.2668 0.2085

Moon -35069-05-06 03:35 J -11087403.43 -11087403.35 -11087403.27 0.2672 0.2079 *

Jupiter -35069-10-23 14:23 J -11087232.94 -11087232.90 -11087232.86 0.0515 0.0487

Jupiter -35068-01-21 00:57 J -11087143.60 -11087143.46 -11087143.32 0.0511 0.0099

Moon -35065-10-28 08:23 J -11085767.21 -11085767.15 -11085767.08 0.2658 0.2281

Earth -35065-10-28 09:35 J -11085767.17 -11085767.10 -11085767.03 0.2658 0.2239 *

Uranus -35064-01-23 07:11 J -11085680.24 -11085680.20 -11085680.14 0.0133 0.0126

Uranus -35064-04-21 11:59 J -11085592.09 -11085592.00 -11085591.89 0.0133 0.0105

Uranus -35064-07-18 17:02 J -11085503.91 -11085503.79 -11085503.65 0.0133 0.0082

Uranus -35064-10-14 22:04 J -11085415.72 -11085415.58 -11085415.43 0.0133 0.0060

Venus -35064-11-16 23:16 J -11085382.64 -11085382.53 -11085382.41 0.3771 0.0466

Uranus -35063-01-11 03:07 J -11085327.53 -11085327.37 -11085327.22 0.0133 0.0039

Uranus -35063-04-09 07:55 J -11085239.33 -11085239.17 -11085239.01 0.0133 0.0017

Mars -35063-05-09 01:11 J -11085209.57 -11085209.45 -11085209.32 0.1857 0.0200

Uranus -35063-07-06 12:28 J -11085151.14 -11085150.98 -11085150.81 0.0133 0.0006

Uranus -35063-10-02 17:16 J -11085062.94 -11085062.78 -11085062.62 0.0133 0.0026

Uranus -35063-12-29 21:50 J -11084974.73 -11084974.59 -11084974.43 0.0133 0.0047

Jupiter -35062-03-23 12:28 J -11084891.05 -11084890.98 -11084890.90 0.0514 0.0451

Mars -35062-03-23 15:21 J -11084891.00 -11084890.86 -11084890.72 0.1664 0.0524 *

Uranus -35062-03-28 02:23 J -11084886.53 -11084886.40 -11084886.25 0.0133 0.0068

Moon -35062-04-29 13:26 J -11084854.06 -11084853.94 -11084853.82 0.2676 0.0846

Earth -35062-04-29 14:23 J -11084854.02 -11084853.90 -11084853.78 0.2673 0.0791 *

Jupiter -35062-06-21 11:31 J -11084801.16 -11084801.02 -11084800.88 0.0518 0.0252

Uranus -35062-06-24 07:11 J -11084798.31 -11084798.20 -11084798.08 0.0133 0.0088

Uranus -35062-09-20 11:31 J -11084710.10 -11084710.02 -11084709.92 0.0133 0.0109

Uranus -35062-12-17 16:04 J -11084621.85 -11084621.83 -11084621.78 0.0133 0.0129

Venus -35060-11-18 11:02 J -11083920.17 -11083920.04 -11083919.92 0.3604 0.0608

Earth -35059-11-07 22:47 J -11083565.64 -11083565.55 -11083565.46 0.2664 0.1786

Moon -35059-11-07 23:45 J -11083565.60 -11083565.51 -11083565.42 0.2667 0.1933 *

Jupiter -35057-11-09 04:04 J -11082833.47 -11082833.33 -11082833.18 0.0512 0.0048

Saturn -35055-04-22 05:59 J -11082304.36 -11082304.25 -11082304.14 0.0274 0.0183

Saturn -35055-07-19 19:40 J -11082215.82 -11082215.68 -11082215.53 0.0275 0.0075

Saturn -35055-10-16 09:50 J -11082127.24 -11082127.09 -11082126.94 0.0275 0.0036

Saturn -35054-01-13 00:14 J -11082038.62 -11082038.49 -11082038.36 0.0275 0.0148

Saturn -35054-04-11 14:52 J -11081949.92 -11081949.88 -11081949.83 0.0275 0.0264

Venus -35054-06-04 07:55 J -11081896.26 -11081896.17 -11081896.09 0.3607 0.2652

Mars -35054-09-29 07:40 J -11081779.29 -11081779.18 -11081779.06 0.1851 0.0595

Mars -35053-08-12 19:55 J -11081460.81 -11081460.67 -11081460.52 0.1668 0.0181

Moon -35052-10-31 07:55 J -11081016.29 -11081016.17 -11081016.06 0.2663 0.1189

Earth -35052-10-31 08:38 J -11081016.26 -11081016.14 -11081016.02 0.2659 0.1140 *

Jupiter -35050-04-09 11:16 J -11080491.19 -11080491.03 -11080490.87 0.0517 0.0076

Moon -35049-05-01 11:31 J -11080103.14 -11080103.02 -11080102.89 0.2677 0.0213

Earth -35049-05-01 11:59 J -11080103.13 -11080103.00 -11080102.87 0.2671 0.0202 *

Jupiter -35045-08-28 07:40 J -11078523.31 -11078523.18 -11078523.05 0.0513 0.0183

Jupiter -35045-11-25 18:43 J -11078433.80 -11078433.72 -11078433.63 0.0509 0.0408

Mars -35044-02-18 14:38 J -11078348.97 -11078348.89 -11078348.81 0.1846 0.1348

Mars -35043-01-03 00:28 J -11078030.61 -11078030.48 -11078030.35 0.1673 0.0894

Moon -35042-04-25 00:28 J -11077553.50 -11077553.48 -11077553.46 0.2671 0.2632

Earth -35042-04-25 01:11 J -11077553.49 -11077553.45 -11077553.42 0.2676 0.2521 *

Saturn -35041-08-31 05:02 J -11077059.35 -11077059.29 -11077059.21 0.0284 0.0255

Saturn -35041-11-27 22:47 J -11076970.69 -11076970.55 -11076970.40 0.0284 0.0120

Saturn -35040-02-24 16:04 J -11076881.99 -11076881.83 -11076881.67 0.0284 0.0011

Saturn -35040-05-24 08:38 J -11076793.27 -11076793.14 -11076793.00 0.0283 0.0139

Saturn -35040-08-21 00:57 J -11076704.51 -11076704.46 -11076704.39 0.0283 0.0262

Moon -35039-11-03 07:26 J -11076265.32 -11076265.19 -11076265.06 0.2668 0.0157

Earth -35039-11-03 07:26 J -11076265.32 -11076265.19 -11076265.06 0.2661 0.0098 *

Jupiter -35038-01-26 11:31 J -11076181.18 -11076181.02 -11076180.86 0.0517 0.0093

Pluto -35038-07-28 23:16 J -11075997.56 -11075997.53 -11075997.46 0.0076 0.0072

Pluto -35038-10-25 00:57 J -11075909.54 -11075909.46 -11075909.37 0.0076 0.0064

Pluto -35037-01-21 02:09 J -11075821.50 -11075821.41 -11075821.29 0.0076 0.0056

Pluto -35037-04-18 03:35 J -11075733.45 -11075733.35 -11075733.22 0.0076 0.0048

Pluto -35037-07-15 05:16 J -11075645.41 -11075645.28 -11075645.15 0.0076 0.0040

Pluto -35037-10-11 06:28 J -11075557.36 -11075557.23 -11075557.09 0.0076 0.0033

Pluto -35036-01-07 07:55 J -11075469.31 -11075469.17 -11075469.03 0.0076 0.0025

Pluto -35036-04-05 09:21 J -11075381.26 -11075381.11 -11075380.97 0.0076 0.0018

Earth -35036-05-04 09:50 J -11075352.20 -11075352.09 -11075351.98 0.2669 0.1223

Moon -35036-05-04 10:19 J -11075352.18 -11075352.07 -11075351.96 0.2675 0.1198 *

Pluto -35036-07-02 10:33 J -11075293.20 -11075293.06 -11075292.91 0.0075 0.0011

Pluto -35036-09-28 11:59 J -11075205.15 -11075205.00 -11075204.85 0.0075 0.0003

Pluto -35036-12-25 13:11 J -11075117.09 -11075116.95 -11075116.80 0.0075 0.0004

Pluto -35035-03-23 14:38 J -11075029.04 -11075028.89 -11075028.75 0.0075 0.0011

Pluto -35035-06-19 15:50 J -11074940.98 -11074940.84 -11074940.69 0.0075 0.0018

Pluto -35035-09-15 16:47 J -11074852.93 -11074852.80 -11074852.65 0.0075 0.0026

Pluto -35035-12-12 17:59 J -11074764.87 -11074764.75 -11074764.60 0.0075 0.0033

Pluto -35034-03-10 19:11 J -11074676.81 -11074676.70 -11074676.56 0.0075 0.0040

Mars -35034-05-26 04:33 J -11074600.34 -11074600.31 -11074600.29 0.1678 0.1641

Pluto -35034-06-06 20:23 J -11074588.75 -11074588.65 -11074588.52 0.0074 0.0047

Pluto -35034-09-02 22:04 J -11074500.68 -11074500.58 -11074500.48 0.0074 0.0053

Pluto -35034-11-29 23:02 J -11074412.62 -11074412.54 -11074412.44 0.0074 0.0060

Pluto -35033-02-26 00:14 J -11074324.55 -11074324.49 -11074324.42 0.0074 0.0066

Pluto -35033-05-24 01:11 J -11074236.46 -11074236.45 -11074236.41 0.0074 0.0073

Jupiter -35033-06-16 10:47 J -11074213.16 -11074213.05 -11074212.94 0.0513 0.0324

Mars -35033-06-16 18:57 J -11074212.81 -11074212.71 -11074212.61 0.1862 0.1091

Jupiter -35033-09-13 21:35 J -11074123.72 -11074123.60 -11074123.48 0.0509 0.0263

Mars -35032-05-01 10:33 J -11073894.15 -11073894.06 -11073893.97 0.1660 0.1277

Moon -35029-04-26 21:21 J -11072802.71 -11072802.61 -11072802.51 0.2672 0.1593

Earth -35029-04-26 22:19 J -11072802.67 -11072802.57 -11072802.47 0.2674 0.1583 *

Jupiter -35027-11-14 11:45 J -11071871.15 -11071871.01 -11071870.87 0.0516 0.0261

Jupiter -35026-02-12 10:19 J -11071781.15 -11071781.07 -11071780.99 0.0520 0.0440

Saturn -35026-09-09 05:45 J -11071572.33 -11071572.26 -11071572.17 0.0275 0.0227

Earth -35026-11-06 05:59 J -11071514.37 -11071514.25 -11071514.13 0.2663 0.0966

Moon -35026-11-06 06:28 J -11071514.34 -11071514.23 -11071514.11 0.2668 0.1080 *

Saturn -35026-12-06 19:26 J -11071483.82 -11071483.69 -11071483.55 0.0275 0.0120

Saturn -35025-03-04 09:21 J -11071395.26 -11071395.11 -11071394.95 0.0275 0.0014

Saturn -35025-05-31 23:45 J -11071306.65 -11071306.51 -11071306.37 0.0275 0.0101

Saturn -35025-08-28 14:09 J -11071218.00 -11071217.91 -11071217.81 0.0276 0.0216

Mars -35024-11-07 01:11 J -11070782.58 -11070782.45 -11070782.33 0.1856 0.0272

Earth -35023-05-07 08:09 J -11070601.23 -11070601.16 -11070601.10 0.2667 0.2274

Moon -35023-05-07 08:52 J -11070601.18 -11070601.13 -11070601.07 0.2671 0.2423 *

Mars -35023-09-21 15:35 J -11070463.98 -11070463.85 -11070463.71 0.1664 0.0613

Jupiter -35021-04-04 13:55 J -11069902.98 -11069902.92 -11069902.86 0.0514 0.0466

Jupiter -35021-07-03 00:28 J -11069813.62 -11069813.48 -11069813.34 0.0510 0.0117

Uranus -35021-09-29 15:21 J -11069724.92 -11069724.86 -11069724.78 0.0145 0.0127

Uranus -35021-12-26 20:23 J -11069636.75 -11069636.65 -11069636.54 0.0145 0.0102

Uranus -35020-03-25 01:26 J -11069548.57 -11069548.44 -11069548.31 0.0145 0.0077

Uranus -35020-06-21 06:28 J -11069460.37 -11069460.23 -11069460.09 0.0145 0.0051

Uranus -35020-09-17 11:31 J -11069372.17 -11069372.02 -11069371.87 0.0145 0.0025

Uranus -35020-12-14 16:33 J -11069283.96 -11069283.81 -11069283.65 0.0145 0.0003

Uranus -35019-03-12 21:50 J -11069195.74 -11069195.59 -11069195.44 0.0146 0.0028

Uranus -35019-06-09 02:52 J -11069107.52 -11069107.38 -11069107.23 0.0146 0.0054

Uranus -35019-09-05 08:09 J -11069019.29 -11069019.16 -11069019.03 0.0146 0.0081

Moon -35019-10-29 13:55 J -11068964.99 -11068964.92 -11068964.84 0.2658 0.2185

Earth -35019-10-29 15:07 J -11068964.95 -11068964.87 -11068964.78 0.2658 0.2041 *

Uranus -35019-12-02 13:26 J -11068931.04 -11068930.94 -11068930.84 0.0146 0.0108

Uranus -35018-02-28 18:43 J -11068842.77 -11068842.72 -11068842.66 0.0146 0.0136

Moon -35016-04-29 18:57 J -11068051.83 -11068051.71 -11068051.59 0.2677 0.0711

Earth -35016-04-29 19:40 J -11068051.80 -11068051.68 -11068051.56 0.2672 0.0613 *

Jupiter -35015-09-02 11:31 J -11067561.10 -11067561.02 -11067560.93 0.0514 0.0435

Jupiter -35015-12-01 10:33 J -11067471.20 -11067471.06 -11067470.93 0.0518 0.0269

Mars -35014-03-30 07:55 J -11067352.29 -11067352.17 -11067352.05 0.1852 0.0510

Mars -35013-02-11 20:38 J -11067033.79 -11067033.64 -11067033.50 0.1668 0.0093

Earth -35013-11-08 04:04 J -11066763.41 -11066763.33 -11066763.24 0.2664 0.1973

Moon -35013-11-08 05:16 J -11066763.37 -11066763.28 -11066763.20 0.2667 0.1968 *

Venus -35013-12-08 01:55 J -11066733.52 -11066733.42 -11066733.31 0.3773 0.1649

Neptune -35012-03-02 13:55 J -11066648.94 -11066648.92 -11066648.87 0.0089 0.0087

Neptune -35012-05-29 15:50 J -11066560.90 -11066560.84 -11066560.77 0.0089 0.0079

Neptune -35012-08-25 17:31 J -11066472.85 -11066472.77 -11066472.68 0.0089 0.0073

Neptune -35012-11-21 19:26 J -11066384.79 -11066384.69 -11066384.60 0.0089 0.0066

Neptune -35011-02-17 20:52 J -11066296.73 -11066296.63 -11066296.51 0.0089 0.0059

Saturn -35011-04-16 22:47 J -11066238.67 -11066238.55 -11066238.41 0.0285 0.0163

Neptune -35011-05-16 22:33 J -11066208.67 -11066208.56 -11066208.43 0.0089 0.0052

Saturn -35011-07-14 16:19 J -11066149.98 -11066149.82 -11066149.66 0.0284 0.0030

Neptune -35011-08-13 00:14 J -11066120.60 -11066120.49 -11066120.35 0.0089 0.0046

Saturn -35011-10-11 09:21 J -11066061.26 -11066061.11 -11066060.96 0.0284 0.0100

Neptune -35011-11-09 02:09 J -11066032.54 -11066032.41 -11066032.27 0.0089 0.0038

Saturn -35010-01-08 01:55 J -11065972.51 -11065972.42 -11065972.33 0.0284 0.0226

Neptune -35010-02-05 03:50 J -11065944.47 -11065944.34 -11065944.20 0.0089 0.0031

Neptune -35010-05-04 05:45 J -11065856.40 -11065856.26 -11065856.12 0.0089 0.0024

Neptune -35010-07-31 07:26 J -11065768.33 -11065768.19 -11065768.04 0.0089 0.0017

Neptune -35010-10-27 09:21 J -11065680.26 -11065680.11 -11065679.97 0.0089 0.0010

Neptune -35009-01-23 11:02 J -11065592.19 -11065592.04 -11065591.89 0.0089 0.0003

Neptune -35009-04-20 12:43 J -11065504.11 -11065503.97 -11065503.82 0.0089 0.0005

Jupiter -35009-04-21 02:52 J -11065503.52 -11065503.38 -11065503.24 0.0512 0.0039

Neptune -35009-07-17 14:38 J -11065416.04 -11065415.89 -11065415.75 0.0089 0.0011

Neptune -35009-10-13 16:19 J -11065327.96 -11065327.82 -11065327.67 0.0089 0.0018

Venus -35009-12-09 12:43 J -11065271.05 -11065270.97 -11065270.89 0.3602 0.2696

Neptune -35008-01-09 18:14 J -11065239.88 -11065239.74 -11065239.60 0.0089 0.0025

Neptune -35008-04-07 19:55 J -11065151.80 -11065151.67 -11065151.53 0.0089 0.0032

Neptune -35008-07-04 21:35 J -11065063.72 -11065063.60 -11065063.46 0.0089 0.0040

Neptune -35008-09-30 23:16 J -11064975.64 -11064975.53 -11064975.39 0.0089 0.0048

Neptune -35008-12-28 01:11 J -11064887.56 -11064887.45 -11064887.32 0.0089 0.0054

Neptune -35007-03-26 03:07 J -11064799.47 -11064799.37 -11064799.26 0.0089 0.0061

Neptune -35007-06-22 05:02 J -11064711.38 -11064711.29 -11064711.19 0.0089 0.0068

Venus -35007-06-23 21:50 J -11064709.69 -11064709.59 -11064709.48 0.3771 0.1659

Neptune -35007-09-18 06:43 J -11064623.28 -11064623.22 -11064623.13 0.0089 0.0076

Neptune -35007-12-15 08:38 J -11064535.18 -11064535.14 -11064535.08 0.0089 0.0083

Moon -35006-11-01 13:26 J -11064214.06 -11064213.94 -11064213.82 0.2664 0.0991

Earth -35006-11-01 14:09 J -11064214.03 -11064213.91 -11064213.78 0.2660 0.0948 *

Mars -35005-08-19 14:52 J -11063921.97 -11063921.88 -11063921.79 0.1846 0.1262

Mars -35004-07-04 00:57 J -11063603.60 -11063603.46 -11063603.33 0.1673 0.0802

Moon -35003-05-02 17:02 J -11063300.91 -11063300.79 -11063300.66 0.2677 0.0361

Earth -35003-05-02 17:16 J -11063300.90 -11063300.78 -11063300.65 0.2671 0.0398 *

Venus -35003-06-25 09:50 J -11063247.21 -11063247.09 -11063246.97 0.3605 0.0641

Jupiter -35003-09-19 10:33 J -11063161.22 -11063161.06 -11063160.90 0.0517 0.0095

35TH MILLENNIUM BCE

This is a list of transits of Mercury in the 35th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Jupiter -34997-02-08 05:59 J -11061193.38 -11061193.25 -11061193.12 0.0513 0.0181

Jupiter -34997-05-07 17:02 J -11061103.87 -11061103.79 -11061103.70 0.0509 0.0412

Saturn -34996-01-26 08:38 J -11060840.20 -11060840.14 -11060840.08 0.0274 0.0248

Saturn -34996-04-24 22:04 J -11060751.70 -11060751.58 -11060751.45 0.0274 0.0143

Moon -34996-04-25 05:31 J -11060751.33 -11060751.27 -11060751.21 0.2671 0.2327

Earth -34996-04-25 06:14 J -11060751.29 -11060751.24 -11060751.18 0.2675 0.2357 *

Saturn -34996-07-22 11:59 J -11060663.15 -11060663.00 -11060662.85 0.0275 0.0034

Saturn -34996-10-19 02:09 J -11060574.56 -11060574.41 -11060574.26 0.0275 0.0077

Saturn -34995-01-15 16:33 J -11060485.92 -11060485.81 -11060485.70 0.0275 0.0191

Mars -34995-11-24 04:47 J -11060173.35 -11060173.30 -11060173.24 0.1678 0.1546

Mars -34994-12-16 18:57 J -11059785.80 -11059785.71 -11059785.61 0.1862 0.1177

Mars -34993-10-30 10:47 J -11059467.13 -11059467.05 -11059466.96 0.1660 0.1365

Moon -34993-11-03 12:57 J -11059463.09 -11059462.96 -11059462.83 0.2668 0.0166

Earth -34993-11-03 12:57 J -11059463.09 -11059462.96 -11059462.83 0.2661 0.0128 *

Jupiter -34991-07-08 10:04 J -11058851.24 -11058851.08 -11058850.92 0.0516 0.0085

Earth -34990-05-05 15:21 J -11058549.97 -11058549.86 -11058549.75 0.2669 0.1415

Moon -34990-05-05 15:50 J -11058549.94 -11058549.84 -11058549.74 0.2675 0.1514 *

Jupiter -34986-11-27 09:21 J -11056883.22 -11056883.11 -11056883.00 0.0514 0.0317

Jupiter -34985-02-24 20:09 J -11056793.77 -11056793.66 -11056793.53 0.0510 0.0272

Mars -34984-05-08 01:11 J -11056355.57 -11056355.45 -11056355.32 0.1857 0.0362

Mars -34983-03-22 16:04 J -11056036.97 -11056036.83 -11056036.70 0.1664 0.0700

Moon -34983-04-28 02:38 J -11056000.49 -11056000.39 -11056000.29 0.2674 0.1546

Earth -34983-04-28 03:35 J -11056000.46 -11056000.35 -11056000.25 0.2674 0.1410 *

Saturn -34982-09-03 22:19 J -11055506.68 -11055506.57 -11055506.46 0.0284 0.0208

Saturn -34982-12-01 15:50 J -11055417.99 -11055417.84 -11055417.68 0.0284 0.0074

Saturn -34981-02-28 08:52 J -11055329.28 -11055329.13 -11055328.97 0.0284 0.0057

Saturn -34981-05-27 01:26 J -11055240.55 -11055240.44 -11055240.31 0.0283 0.0184

Uranus -34980-02-12 14:23 J -11054978.96 -11054978.90 -11054978.82 0.0133 0.0120

Uranus -34980-05-11 19:26 J -11054890.79 -11054890.69 -11054890.57 0.0133 0.0097

Uranus -34980-08-08 00:14 J -11054802.61 -11054802.49 -11054802.34 0.0133 0.0076

Uranus -34980-11-04 05:16 J -11054714.42 -11054714.28 -11054714.12 0.0133 0.0053

Earth -34980-11-06 11:31 J -11054712.14 -11054712.02 -11054711.91 0.2663 0.1154

Moon -34980-11-06 12:14 J -11054712.11 -11054711.99 -11054711.88 0.2668 0.1151 *

Uranus -34979-01-31 10:19 J -11054626.23 -11054626.07 -11054625.91 0.0133 0.0032

Jupiter -34979-04-26 10:04 J -11054541.22 -11054541.08 -11054540.93 0.0515 0.0256

Uranus -34979-04-29 15:07 J -11054538.03 -11054537.87 -11054537.71 0.0133 0.0010

Jupiter -34979-07-25 08:38 J -11054451.22 -11054451.14 -11054451.06 0.0519 0.0445

Uranus -34979-07-26 19:55 J -11054449.83 -11054449.67 -11054449.51 0.0133 0.0011

Uranus -34979-10-23 00:28 J -11054361.63 -11054361.48 -11054361.32 0.0133 0.0033

Uranus -34978-01-19 05:02 J -11054273.42 -11054273.29 -11054273.13 0.0133 0.0054

Uranus -34978-04-17 09:50 J -11054185.22 -11054185.09 -11054184.95 0.0133 0.0074

Uranus -34978-07-14 14:23 J -11054097.00 -11054096.90 -11054096.78 0.0133 0.0095

Uranus -34978-10-10 19:11 J -11054008.78 -11054008.70 -11054008.63 0.0133 0.0115

Earth -34977-05-07 13:40 J -11053798.98 -11053798.93 -11053798.89 0.2667 0.2473

Moon -34977-05-07 14:38 J -11053798.94 -11053798.89 -11053798.85 0.2669 0.2476 *

Mars -34975-09-28 07:55 J -11052925.29 -11052925.17 -11052925.05 0.1851 0.0428

Mars -34974-08-12 20:52 J -11052606.78 -11052606.63 -11052606.48 0.1669 0.0045

Jupiter -34974-09-15 12:43 J -11052573.03 -11052572.97 -11052572.91 0.0514 0.0457

Jupiter -34974-12-13 23:16 J -11052483.67 -11052483.53 -11052483.39 0.0511 0.0128

Moon -34973-10-29 19:40 J -11052162.78 -11052162.68 -11052162.59 0.2659 0.1861

Earth -34973-10-29 20:38 J -11052162.73 -11052162.64 -11052162.54 0.2658 0.1844 *

Moon -34970-05-01 00:14 J -11051249.61 -11051249.49 -11051249.37 0.2676 0.0450

Earth -34970-05-01 00:57 J -11051249.58 -11051249.46 -11051249.33 0.2672 0.0437 *

Jupiter -34967-02-12 10:19 J -11050231.16 -11050231.07 -11050230.98 0.0515 0.0424

Jupiter -34967-05-13 09:21 J -11050141.25 -11050141.11 -11050140.98 0.0519 0.0281

Saturn -34967-09-11 21:50 J -11050019.69 -11050019.59 -11050019.48 0.0275 0.0188

Earth -34967-11-09 09:35 J -11049961.18 -11049961.10 -11049961.03 0.2665 0.2148

Moon -34967-11-09 10:33 J -11049961.12 -11049961.06 -11049961.00 0.2667 0.2297 *

Saturn -34967-12-09 11:45 J -11049931.15 -11049931.01 -11049930.87 0.0275 0.0080

Saturn -34966-03-08 01:40 J -11049842.58 -11049842.43 -11049842.28 0.0275 0.0030

Saturn -34966-06-04 16:04 J -11049753.96 -11049753.83 -11049753.70 0.0275 0.0143

Saturn -34966-09-01 06:43 J -11049665.27 -11049665.22 -11049665.17 0.0276 0.0258

Mars -34965-02-18 14:38 J -11049494.98 -11049494.89 -11049494.79 0.1846 0.1192

Mars -34964-01-02 01:26 J -11049176.58 -11049176.44 -11049176.30 0.1673 0.0700

Jupiter -34962-10-02 02:09 J -11048173.55 -11048173.41 -11048173.27 0.0511 0.0020

Venus -34962-12-30 04:47 J -11048084.32 -11048084.30 -11048084.28 0.3775 0.3678

Moon -34960-11-01 19:11 J -11047411.83 -11047411.70 -11047411.58 0.2666 0.0840

Earth -34960-11-01 19:40 J -11047411.80 -11047411.68 -11047411.55 0.2660 0.0754 *

Moon -34957-05-02 22:47 J -11046498.68 -11046498.55 -11046498.43 0.2677 0.0563

Earth -34957-05-02 22:47 J -11046498.68 -11046498.55 -11046498.43 0.2670 0.0573 *

Venus -34956-07-15 00:28 J -11046060.59 -11046060.48 -11046060.36 0.3773 0.0455

Jupiter -34955-03-01 09:35 J -11045831.26 -11045831.10 -11045830.95 0.0517 0.0111

Mars -34955-05-25 05:16 J -11045746.35 -11045746.28 -11045746.20 0.1678 0.1450

Mars -34954-06-16 18:57 J -11045358.80 -11045358.71 -11045358.61 0.1862 0.1257

Mars -34953-04-30 11:16 J -11045040.09 -11045040.03 -11045039.96 0.1660 0.1457

Saturn -34952-01-20 22:04 J -11044774.65 -11044774.58 -11044774.51 0.0285 0.0252

Saturn -34952-04-19 15:50 J -11044685.99 -11044685.84 -11044685.69 0.0285 0.0117

Venus -34952-07-16 11:31 J -11044598.13 -11044598.02 -11044597.90 0.3603 0.1443

Saturn -34952-07-17 09:07 J -11044597.28 -11044597.12 -11044596.96 0.0285 0.0016

Saturn -34952-10-14 01:55 J -11044508.55 -11044508.42 -11044508.28 0.0284 0.0144

Saturn -34951-01-10 18:28 J -11044419.78 -11044419.73 -11044419.68 0.0284 0.0269

Venus -34950-01-28 20:23 J -11044036.72 -11044036.65 -11044036.58 0.3770 0.2869

Moon -34950-04-26 10:47 J -11043949.11 -11043949.05 -11043948.98 0.2670 0.2303

Earth -34950-04-26 11:45 J -11043949.08 -11043949.01 -11043948.95 0.2675 0.2185 *

Jupiter -34950-07-21 04:33 J -11043863.44 -11043863.31 -11043863.18 0.0513 0.0174

Jupiter -34950-10-18 15:35 J -11043773.93 -11043773.85 -11043773.77 0.0509 0.0418

Moon -34947-11-04 18:28 J -11042660.86 -11042660.73 -11042660.60 0.2668 0.0296

Earth -34947-11-04 18:28 J -11042660.86 -11042660.73 -11042660.60 0.2662 0.0307 *

Venus -34946-01-30 08:38 J -11042574.24 -11042574.14 -11042574.03 0.3606 0.1858

Mars -34945-11-06 01:26 J -11041928.56 -11041928.44 -11041928.32 0.1857 0.0446

Earth -34944-05-05 20:38 J -11041747.74 -11041747.64 -11041747.53 0.2669 0.1608

Moon -34944-05-05 21:21 J -11041747.71 -11041747.61 -11041747.51 0.2675 0.1612 *

Mars -34944-09-20 16:19 J -11041609.95 -11041609.82 -11041609.69 0.1664 0.0788

Jupiter -34944-12-18 09:21 J -11041521.27 -11041521.11 -11041520.95 0.0516 0.0064

Jupiter -34938-05-09 07:40 J -11039553.29 -11039553.18 -11039553.07 0.0514 0.0317

Jupiter -34938-08-06 18:28 J -11039463.85 -11039463.73 -11039463.61 0.0510 0.0273

Saturn -34937-01-30 00:57 J -11039287.56 -11039287.46 -11039287.37 0.0274 0.0207

Saturn -34937-04-27 14:23 J -11039199.03 -11039198.90 -11039198.76 0.0274 0.0101

Moon -34937-04-28 07:55 J -11039198.28 -11039198.17 -11039198.06 0.2675 0.1228

Earth -34937-04-28 08:52 J -11039198.24 -11039198.13 -11039198.02 0.2673 0.1234 *

Uranus -34937-07-23 17:59 J -11039111.75 -11039111.75 -11039111.74 0.0145 0.0145

Saturn -34937-07-25 04:33 J -11039110.46 -11039110.31 -11039110.16 0.0274 0.0011

Uranus -34937-10-19 22:47 J -11039023.62 -11039023.55 -11039023.46 0.0145 0.0120

Saturn -34937-10-21 18:43 J -11039021.86 -11039021.72 -11039021.58 0.0275 0.0120

Uranus -34936-01-16 03:35 J -11038935.45 -11038935.35 -11038935.23 0.0145 0.0095

Saturn -34936-01-18 09:07 J -11038933.19 -11038933.12 -11038933.04 0.0275 0.0235

Uranus -34936-04-14 08:52 J -11038847.26 -11038847.13 -11038847.00 0.0145 0.0069

Uranus -34936-07-11 13:55 J -11038759.07 -11038758.92 -11038758.78 0.0145 0.0044

Uranus -34936-10-07 18:57 J -11038670.86 -11038670.71 -11038670.56 0.0145 0.0018

Uranus -34935-01-03 23:59 J -11038582.65 -11038582.50 -11038582.35 0.0145 0.0008

Mars -34935-03-29 07:55 J -11038498.29 -11038498.17 -11038498.04 0.1851 0.0347

Uranus -34935-04-02 05:02 J -11038494.43 -11038494.29 -11038494.14 0.0146 0.0035

Uranus -34935-06-29 10:19 J -11038406.21 -11038406.07 -11038405.93 0.0146 0.0062

Uranus -34935-09-25 15:21 J -11038317.97 -11038317.86 -11038317.73 0.0146 0.0089

Uranus -34935-12-22 20:38 J -11038229.72 -11038229.64 -11038229.54 0.0146 0.0116

Mars -34934-02-10 21:21 J -11038179.76 -11038179.61 -11038179.46 0.1669 0.0108

Uranus -34934-03-21 02:09 J -11038141.43 -11038141.41 -11038141.38 0.0146 0.0143

Earth -34934-11-07 16:47 J -11037909.91 -11037909.80 -11037909.69 0.2663 0.1333

Moon -34934-11-07 17:45 J -11037909.87 -11037909.76 -11037909.66 0.2668 0.1446 *

Jupiter -34932-10-06 08:38 J -11037211.28 -11037211.14 -11037211.00 0.0515 0.0247

Jupiter -34931-01-04 07:11 J -11037121.28 -11037121.20 -11037121.13 0.0519 0.0451

Neptune -34929-08-25 06:14 J -11036157.28 -11036157.24 -11036157.16 0.0088 0.0083

Neptune -34929-11-21 09:21 J -11036069.20 -11036069.11 -11036069.01 0.0088 0.0074

Neptune -34928-02-17 11:59 J -11035981.11 -11035981.00 -11035980.88 0.0088 0.0065

Neptune -34928-05-16 14:38 J -11035893.01 -11035892.89 -11035892.75 0.0088 0.0057

Neptune -34928-08-12 17:16 J -11035804.91 -11035804.78 -11035804.62 0.0088 0.0049

Neptune -34928-11-08 19:55 J -11035716.81 -11035716.67 -11035716.50 0.0088 0.0042

Neptune -34927-02-04 22:33 J -11035628.70 -11035628.56 -11035628.38 0.0088 0.0034

Neptune -34927-05-04 01:26 J -11035540.60 -11035540.44 -11035540.27 0.0088 0.0025

Neptune -34927-07-31 04:19 J -11035452.49 -11035452.32 -11035452.15 0.0088 0.0017

Neptune -34927-10-27 06:43 J -11035364.39 -11035364.22 -11035364.04 0.0088 0.0009

Moon -34927-10-31 01:11 J -11035360.54 -11035360.45 -11035360.35 0.2660 0.1798

Earth -34927-10-31 02:23 J -11035360.51 -11035360.40 -11035360.30 0.2659 0.1645 *

Neptune -34926-01-23 09:21 J -11035276.28 -11035276.11 -11035275.93 0.0088 0.0002

Jupiter -34926-02-25 11:16 J -11035243.10 -11035243.03 -11035242.97 0.0515 0.0453

Neptune -34926-04-21 11:59 J -11035188.17 -11035188.00 -11035187.83 0.0088 0.0008

Jupiter -34926-05-25 21:50 J -11035153.73 -11035153.59 -11035153.45 0.0511 0.0133

Neptune -34926-07-18 14:38 J -11035100.06 -11035099.89 -11035099.72 0.0088 0.0015

Mars -34926-08-19 14:52 J -11035067.98 -11035067.88 -11035067.78 0.1846 0.1104

Neptune -34926-10-14 17:16 J -11035011.95 -11035011.78 -11035011.62 0.0088 0.0023

Neptune -34925-01-10 19:40 J -11034923.83 -11034923.68 -11034923.52 0.0088 0.0031

Neptune -34925-04-07 22:04 J -11034835.72 -11034835.58 -11034835.42 0.0088 0.0040

Mars -34925-07-03 01:40 J -11034749.57 -11034749.43 -11034749.29 0.1673 0.0616

Neptune -34925-07-05 00:43 J -11034747.60 -11034747.47 -11034747.32 0.0088 0.0047

Neptune -34925-10-01 03:21 J -11034659.49 -11034659.36 -11034659.22 0.0088 0.0055

Neptune -34925-12-28 05:45 J -11034571.37 -11034571.26 -11034571.13 0.0088 0.0063

Neptune -34924-03-26 08:09 J -11034483.25 -11034483.16 -11034483.05 0.0088 0.0071

Moon -34924-05-01 05:31 J -11034447.39 -11034447.27 -11034447.14 0.2676 0.0374

Earth -34924-05-01 06:14 J -11034447.36 -11034447.24 -11034447.11 0.2672 0.0271 *

Neptune -34924-06-22 10:33 J -11034395.12 -11034395.06 -11034394.96 0.0088 0.0078

Neptune -34924-09-18 13:26 J -11034306.97 -11034306.94 -11034306.90 0.0088 0.0086

Saturn -34923-09-06 15:35 J -11033953.98 -11033953.85 -11033953.72 0.0284 0.0160

Saturn -34923-12-04 08:52 J -11033865.28 -11033865.13 -11033864.97 0.0284 0.0028

Saturn -34922-03-03 01:55 J -11033776.56 -11033776.42 -11033776.27 0.0284 0.0103

Saturn -34922-05-30 18:28 J -11033687.82 -11033687.73 -11033687.64 0.0284 0.0229

Earth -34921-11-09 14:52 J -11033158.94 -11033158.88 -11033158.82 0.2665 0.2331

Moon -34921-11-09 15:50 J -11033158.89 -11033158.84 -11033158.78 0.2665 0.2331 *

Jupiter -34920-07-25 08:38 J -11032901.23 -11032901.14 -11032901.05 0.0514 0.0419

Jupiter -34920-10-23 07:26 J -11032811.32 -11032811.19 -11032811.05 0.0518 0.0285

Mars -34916-01-08 21:50 J -11031637.59 -11031637.59 -11031637.58 0.1840 0.1838

Mars -34916-11-23 05:45 J -11031319.35 -11031319.26 -11031319.17 0.1678 0.1358

Mars -34915-12-15 19:11 J -11030931.79 -11030931.70 -11030931.61 0.1862 0.1344

Jupiter -34914-03-14 00:57 J -11030843.60 -11030843.46 -11030843.32 0.0512 0.0010

Mars -34914-10-30 11:31 J -11030613.07 -11030613.02 -11030612.97 0.1660 0.1535

Moon -34914-11-03 00:43 J -11030609.60 -11030609.47 -11030609.34 0.2666 0.0550

Earth -34914-11-03 01:11 J -11030609.57 -11030609.45 -11030609.32 0.2660 0.0563 *

Moon -34911-05-04 04:04 J -11029696.45 -11029696.33 -11029696.20 0.2677 0.0805

Earth -34911-05-04 04:04 J -11029696.45 -11029696.33 -11029696.21 0.2670 0.0758 *

Saturn -34908-06-18 00:57 J -11028555.51 -11028555.46 -11028555.40 0.0274 0.0250

Jupiter -34908-08-11 08:09 J -11028501.32 -11028501.16 -11028501.01 0.0517 0.0120

Saturn -34908-09-14 14:23 J -11028467.02 -11028466.90 -11028466.77 0.0274 0.0145

Saturn -34908-12-12 04:19 J -11028378.47 -11028378.32 -11028378.17 0.0275 0.0036

Saturn -34907-03-10 18:28 J -11028289.88 -11028289.73 -11028289.59 0.0275 0.0075

Saturn -34907-06-07 08:38 J -11028201.24 -11028201.14 -11028201.02 0.0275 0.0188

Mars -34905-05-07 01:26 J -11027501.56 -11027501.44 -11027501.32 0.1856 0.0523

Venus -34905-08-05 03:07 J -11027411.45 -11027411.37 -11027411.28 0.3775 0.2522

Mars -34904-03-21 16:47 J -11027182.92 -11027182.80 -11027182.67 0.1664 0.0880

Moon -34904-04-26 16:04 J -11027146.91 -11027146.83 -11027146.75 0.2671 0.2013

Earth -34904-04-26 16:47 J -11027146.88 -11027146.80 -11027146.72 0.2675 0.2018 *

Jupiter -34903-12-31 03:50 J -11026533.47 -11026533.34 -11026533.20 0.0513 0.0154

Jupiter -34902-03-30 15:07 J -11026443.94 -11026443.87 -11026443.80 0.0509 0.0437

Venus -34901-08-06 13:11 J -11025948.96 -11025948.95 -11025948.94 0.3601 0.3589

Earth -34901-11-04 23:59 J -11025858.63 -11025858.50 -11025858.37 0.2662 0.0499

Moon -34901-11-05 00:14 J -11025858.62 -11025858.49 -11025858.36 0.2668 0.0500 *

Venus -34899-02-18 23:02 J -11025387.66 -11025387.54 -11025387.43 0.3772 0.0736

Earth -34898-05-07 02:09 J -11024945.50 -11024945.41 -11024945.31 0.2668 0.1800

Moon -34898-05-07 02:52 J -11024945.47 -11024945.38 -11024945.29 0.2673 0.1866 *

Uranus -34896-03-04 22:04 J -11024277.67 -11024277.58 -11024277.49 0.0133 0.0112

Jupiter -34896-05-30 08:23 J -11024191.31 -11024191.15 -11024190.99 0.0516 0.0051

Uranus -34896-06-01 02:52 J -11024189.49 -11024189.38 -11024189.25 0.0133 0.0090

Uranus -34896-08-28 07:55 J -11024101.31 -11024101.17 -11024101.03 0.0133 0.0068

Mars -34896-09-27 08:09 J -11024071.29 -11024071.16 -11024071.04 0.1851 0.0267

Uranus -34896-11-24 12:43 J -11024013.12 -11024012.97 -11024012.81 0.0133 0.0046

Venus -34895-02-20 10:33 J -11023925.19 -11023925.06 -11023924.94 0.3604 0.0201

Uranus -34895-02-20 17:45 J -11023924.92 -11023924.76 -11023924.60 0.0133 0.0024

Uranus -34895-05-19 22:33 J -11023836.72 -11023836.56 -11023836.40 0.0133 0.0003

Mars -34895-08-11 21:35 J -11023752.74 -11023752.60 -11023752.45 0.1669 0.0196

Uranus -34895-08-16 03:21 J -11023748.52 -11023748.36 -11023748.20 0.0133 0.0019

Uranus -34895-11-12 07:55 J -11023660.32 -11023660.17 -11023660.01 0.0133 0.0040

Uranus -34894-02-08 12:43 J -11023572.11 -11023571.97 -11023571.83 0.0133 0.0061

Uranus -34894-05-07 17:16 J -11023483.90 -11023483.78 -11023483.65 0.0133 0.0082

Uranus -34894-08-03 21:50 J -11023395.68 -11023395.59 -11023395.48 0.0133 0.0102

Earth -34894-10-29 08:38 J -11023309.17 -11023309.14 -11023309.11 0.2657 0.2561

Uranus -34894-10-31 02:09 J -11023307.45 -11023307.41 -11023307.33 0.0133 0.0123

Saturn -34893-01-24 15:07 J -11023221.98 -11023221.87 -11023221.76 0.0285 0.0205

Saturn -34893-04-22 08:38 J -11023133.29 -11023133.14 -11023132.98 0.0285 0.0071

Saturn -34893-07-20 01:55 J -11023044.57 -11023044.42 -11023044.26 0.0285 0.0061

Saturn -34893-10-16 18:28 J -11022955.84 -11022955.73 -11022955.60 0.0284 0.0190

Moon -34891-04-29 13:11 J -11022396.06 -11022395.95 -11022395.84 0.2675 0.1207

Earth -34891-04-29 14:09 J -11022396.02 -11022395.91 -11022395.79 0.2673 0.1056 *

Jupiter -34891-10-19 06:14 J -11022223.35 -11022223.24 -11022223.13 0.0514 0.0311

Jupiter -34890-01-16 17:02 J -11022133.91 -11022133.79 -11022133.67 0.0510 0.0278

Venus -34890-09-06 07:26 J -11021901.25 -11021901.19 -11021901.12 0.3606 0.3049

Earth -34888-11-07 22:19 J -11021107.68 -11021107.57 -11021107.47 0.2664 0.1518

Moon -34888-11-07 23:02 J -11021107.64 -11021107.54 -11021107.44 0.2668 0.1542 *

Mars -34886-02-17 14:52 J -11020640.98 -11020640.88 -11020640.78 0.1845 0.1022

Mars -34885-01-02 02:09 J -11020322.55 -11020322.41 -11020322.27 0.1673 0.0522

Jupiter -34884-03-18 08:09 J -11019881.31 -11019881.16 -11019881.02 0.0515 0.0226

Jupiter -34884-06-16 06:28 J -11019791.29 -11019791.23 -11019791.17 0.0519 0.0471

Moon -34881-10-31 06:57 J -11018558.32 -11018558.21 -11018558.10 0.2662 0.1439

Earth -34881-10-31 07:55 J -11018558.28 -11018558.17 -11018558.06 0.2659 0.1448 *

Jupiter -34879-08-07 09:21 J -11017913.17 -11017913.11 -11017913.05 0.0515 0.0454

Jupiter -34879-11-04 19:55 J -11017823.81 -11017823.67 -11017823.53 0.0511 0.0132

Saturn -34879-11-05 04:04 J -11017823.35 -11017823.33 -11017823.30 0.0274 0.0269

Saturn -34878-02-01 17:31 J -11017734.89 -11017734.77 -11017734.65 0.0274 0.0164

Saturn -34878-05-01 07:11 J -11017646.34 -11017646.20 -11017646.05 0.0274 0.0057

Moon -34878-05-02 11:16 J -11017645.16 -11017645.03 -11017644.91 0.2677 0.0077

Earth -34878-05-02 11:45 J -11017645.14 -11017645.01 -11017644.88 0.2671 0.0072 *

Saturn -34878-07-28 21:07 J -11017557.76 -11017557.62 -11017557.47 0.0274 0.0055

Saturn -34878-10-25 11:31 J -11017469.14 -11017469.02 -11017468.90 0.0275 0.0167

Mars -34877-07-09 22:04 J -11017210.61 -11017210.58 -11017210.55 0.1840 0.1754

Mars -34876-05-24 06:14 J -11016892.34 -11016892.24 -11016892.14 0.1678 0.1262

Pluto -34875-03-27 05:02 J -11016585.29 -11016585.29 -11016585.29 0.0067 0.0067

Mars -34875-06-15 19:26 J -11016504.77 -11016504.69 -11016504.61 0.1861 0.1436

Pluto -34875-06-23 05:59 J -11016497.30 -11016497.25 -11016497.17 0.0068 0.0062

Pluto -34875-09-19 07:40 J -11016409.27 -11016409.18 -11016409.09 0.0068 0.0056

Earth -34875-11-10 20:23 J -11016356.69 -11016356.65 -11016356.61 0.2665 0.2507

Moon -34875-11-10 21:21 J -11016356.63 -11016356.61 -11016356.60 0.2664 0.2635 *

Pluto -34875-12-16 08:23 J -11016321.24 -11016321.15 -11016321.02 0.0068 0.0051

Pluto -34874-03-14 09:50 J -11016233.20 -11016233.09 -11016232.95 0.0068 0.0045

Mars -34874-04-30 11:59 J -11016186.03 -11016186.00 -11016185.97 0.1660 0.1625

Pluto -34874-06-10 11:16 J -11016145.15 -11016145.03 -11016144.88 0.0068 0.0039

Pluto -34874-09-06 12:43 J -11016057.11 -11016056.97 -11016056.82 0.0068 0.0033

Pluto -34874-12-03 13:55 J -11015969.06 -11015968.92 -11015968.75 0.0068 0.0028

Pluto -34873-02-29 15:21 J -11015881.01 -11015880.86 -11015880.69 0.0068 0.0021

Pluto -34873-05-27 16:47 J -11015792.96 -11015792.80 -11015792.63 0.0068 0.0015

Pluto -34873-08-23 18:28 J -11015704.90 -11015704.73 -11015704.57 0.0069 0.0009

Pluto -34873-11-19 19:40 J -11015616.84 -11015616.68 -11015616.51 0.0069 0.0003

Jupiter -34872-01-04 06:57 J -11015571.30 -11015571.21 -11015571.11 0.0514 0.0412

Pluto -34872-02-15 21:07 J -11015528.79 -11015528.62 -11015528.45 0.0069 0.0004

Jupiter -34872-04-04 05:59 J -11015481.38 -11015481.25 -11015481.12 0.0518 0.0291

Pluto -34872-05-14 22:33 J -11015440.73 -11015440.56 -11015440.39 0.0069 0.0010

Pluto -34872-08-10 23:59 J -11015352.66 -11015352.50 -11015352.33 0.0069 0.0016

Pluto -34872-11-07 01:26 J -11015264.60 -11015264.44 -11015264.28 0.0069 0.0023

Pluto -34871-02-03 02:38 J -11015176.53 -11015176.39 -11015176.23 0.0069 0.0029

Pluto -34871-05-02 04:04 J -11015088.46 -11015088.33 -11015088.17 0.0069 0.0036

Pluto -34871-07-29 05:31 J -11015000.39 -11015000.27 -11015000.12 0.0069 0.0042

Pluto -34871-10-25 06:57 J -11014912.31 -11014912.21 -11014912.07 0.0070 0.0049

Pluto -34870-01-21 08:23 J -11014824.23 -11014824.15 -11014824.03 0.0070 0.0056

Pluto -34870-04-19 10:04 J -11014736.14 -11014736.08 -11014735.99 0.0070 0.0062

Pluto -34870-07-16 11:31 J -11014648.03 -11014648.02 -11014647.98 0.0070 0.0069

Moon -34868-11-03 06:14 J -11013807.37 -11013807.24 -11013807.11 0.2666 0.0467

Earth -34868-11-03 06:43 J -11013807.35 -11013807.22 -11013807.09 0.2660 0.0371 *

Jupiter -34867-08-23 23:16 J -11013513.67 -11013513.53 -11013513.39 0.0512 0.0007

Mars -34866-11-06 01:26 J -11013074.56 -11013074.44 -11013074.32 0.1856 0.0611

Moon -34865-05-04 09:35 J -11012894.22 -11012894.10 -11012893.98 0.2677 0.0910

Earth -34865-05-04 09:35 J -11012894.22 -11012894.10 -11012893.98 0.2670 0.0947 *

Mars -34865-09-19 17:02 J -11012755.91 -11012755.79 -11012755.67 0.1664 0.0966

Saturn -34864-06-12 15:21 J -11012489.94 -11012489.86 -11012489.77 0.0285 0.0244

Saturn -34864-09-09 09:07 J -11012401.27 -11012401.12 -11012400.97 0.0285 0.0109

Saturn -34864-12-07 02:23 J -11012312.55 -11012312.40 -11012312.24 0.0284 0.0025

Saturn -34863-03-05 19:26 J -11012223.82 -11012223.69 -11012223.56 0.0284 0.0152

Saturn -34863-06-02 11:45 J -11012135.04 -11012135.01 -11012134.98 0.0284 0.0277

Jupiter -34860-01-21 06:14 J -11011171.40 -11011171.24 -11011171.08 0.0517 0.0122

Moon -34858-04-27 21:21 J -11010344.70 -11010344.61 -11010344.53 0.2673 0.1932

Earth -34858-04-27 22:04 J -11010344.66 -11010344.58 -11010344.49 0.2675 0.1844 *

Mars -34856-03-28 08:09 J -11009644.29 -11009644.16 -11009644.04 0.1851 0.0180

Mars -34855-02-09 22:04 J -11009325.73 -11009325.58 -11009325.44 0.1669 0.0283

Jupiter -34855-06-12 02:23 J -11009203.53 -11009203.40 -11009203.26 0.0513 0.0149

Jupiter -34855-09-09 13:40 J -11009114.00 -11009113.93 -11009113.86 0.0509 0.0443

Earth -34855-11-06 05:31 J -11009056.40 -11009056.27 -11009056.15 0.2662 0.0690

Moon -34855-11-06 05:45 J -11009056.38 -11009056.26 -11009056.13 0.2669 0.0762 *

Uranus -34853-08-13 01:11 J -11008410.48 -11008410.45 -11008410.40 0.0145 0.0138

Uranus -34853-11-09 05:59 J -11008322.33 -11008322.25 -11008322.14 0.0145 0.0113

Uranus -34852-02-05 11:02 J -11008234.15 -11008234.04 -11008233.91 0.0145 0.0088

Uranus -34852-05-04 16:04 J -11008145.96 -11008145.83 -11008145.69 0.0145 0.0062

Earth -34852-05-07 07:40 J -11008143.27 -11008143.18 -11008143.10 0.2668 0.1988

Moon -34852-05-07 08:23 J -11008143.23 -11008143.15 -11008143.07 0.2672 0.2078 *

Uranus -34852-07-31 21:07 J -11008057.77 -11008057.62 -11008057.47 0.0145 0.0037

Uranus -34852-10-28 02:09 J -11007969.56 -11007969.41 -11007969.26 0.0145 0.0011

Uranus -34851-01-24 07:11 J -11007881.35 -11007881.20 -11007881.05 0.0145 0.0016

Uranus -34851-04-22 12:14 J -11007793.13 -11007792.99 -11007792.84 0.0145 0.0043

Uranus -34851-07-19 17:31 J -11007704.90 -11007704.77 -11007704.63 0.0146 0.0069

Uranus -34851-10-15 22:47 J -11007616.66 -11007616.55 -11007616.43 0.0146 0.0096

Uranus -34850-01-12 04:04 J -11007528.41 -11007528.33 -11007528.25 0.0146 0.0123

Saturn -34849-06-20 17:45 J -11007002.85 -11007002.76 -11007002.66 0.0274 0.0205

Saturn -34849-09-17 07:26 J -11006914.33 -11006914.19 -11006914.05 0.0274 0.0099

Jupiter -34849-11-09 06:28 J -11006861.39 -11006861.23 -11006861.07 0.0516 0.0046

Saturn -34849-12-14 21:21 J -11006825.76 -11006825.61 -11006825.46 0.0275 0.0011

Venus -34848-03-12 01:40 J -11006738.54 -11006738.43 -11006738.32 0.3774 0.1353

Saturn -34848-03-13 11:31 J -11006737.16 -11006737.02 -11006736.89 0.0275 0.0122

Saturn -34848-06-10 01:55 J -11006648.49 -11006648.42 -11006648.34 0.0275 0.0236

Moon -34848-10-29 12:57 J -11006507.01 -11006506.96 -11006506.90 0.2655 0.2382

Earth -34848-10-29 14:09 J -11006506.97 -11006506.91 -11006506.85 0.2657 0.2362 *

Neptune -34848-11-27 13:11 J -11006477.99 -11006477.95 -11006477.89 0.0089 0.0084

Neptune -34847-02-23 15:07 J -11006389.94 -11006389.87 -11006389.80 0.0089 0.0077

Neptune -34847-05-22 16:33 J -11006301.89 -11006301.81 -11006301.71 0.0089 0.0070

Mars -34847-08-18 14:52 J -11006213.99 -11006213.88 -11006213.78 0.1845 0.0950

Neptune -34847-08-18 18:14 J -11006213.83 -11006213.74 -11006213.63 0.0089 0.0063 *

Neptune -34847-11-14 19:55 J -11006125.77 -11006125.67 -11006125.55 0.0089 0.0057

Neptune -34846-02-10 21:50 J -11006037.71 -11006037.59 -11006037.47 0.0089 0.0049

Neptune -34846-05-09 23:31 J -11005949.64 -11005949.52 -11005949.39 0.0089 0.0042

Mars -34846-07-03 02:38 J -11005895.54 -11005895.39 -11005895.25 0.1673 0.0424

Neptune -34846-08-06 01:11 J -11005861.58 -11005861.45 -11005861.31 0.0089 0.0036

Neptune -34846-11-02 03:07 J -11005773.51 -11005773.37 -11005773.24 0.0089 0.0029

Neptune -34845-01-29 04:47 J -11005685.44 -11005685.30 -11005685.16 0.0089 0.0022

Neptune -34845-04-26 06:28 J -11005597.37 -11005597.23 -11005597.08 0.0089 0.0015

Moon -34845-04-29 18:28 J -11005593.85 -11005593.73 -11005593.61 0.2675 0.0882

Earth -34845-04-29 19:26 J -11005593.81 -11005593.69 -11005593.57 0.2673 0.0884 *

Neptune -34845-07-23 08:09 J -11005509.30 -11005509.16 -11005509.01 0.0089 0.0008

Neptune -34845-10-19 10:04 J -11005421.23 -11005421.08 -11005420.93 0.0089 0.0001

Neptune -34844-01-15 11:45 J -11005333.15 -11005333.01 -11005332.86 0.0089 0.0007

Venus -34844-03-13 12:14 J -11005276.09 -11005275.99 -11005275.89 0.3602 0.2311

Neptune -34844-04-13 13:26 J -11005245.08 -11005244.94 -11005244.79 0.0089 0.0014

Neptune -34844-07-10 15:21 J -11005157.00 -11005156.86 -11005156.72 0.0089 0.0021

Neptune -34844-10-06 17:02 J -11005068.92 -11005068.79 -11005068.64 0.0089 0.0028

Neptune -34843-01-02 18:57 J -11004980.84 -11004980.71 -11004980.57 0.0089 0.0035

Jupiter -34843-03-31 05:31 J -11004893.38 -11004893.27 -11004893.15 0.0514 0.0292

Neptune -34843-03-31 20:38 J -11004892.76 -11004892.64 -11004892.50 0.0089 0.0042

Neptune -34843-06-27 22:33 J -11004804.68 -11004804.56 -11004804.43 0.0089 0.0050

Jupiter -34843-06-28 16:19 J -11004803.93 -11004803.82 -11004803.70 0.0510 0.0297

Neptune -34843-09-24 00:14 J -11004716.59 -11004716.49 -11004716.37 0.0089 0.0057

Venus -34843-09-25 21:21 J -11004714.71 -11004714.61 -11004714.51 0.3771 0.1932

Neptune -34843-12-21 02:09 J -11004628.51 -11004628.41 -11004628.30 0.0089 0.0064

Neptune -34842-03-19 03:50 J -11004540.42 -11004540.34 -11004540.24 0.0089 0.0072

Neptune -34842-06-15 05:59 J -11004452.32 -11004452.25 -11004452.18 0.0089 0.0078

Neptune -34842-09-11 07:26 J -11004364.21 -11004364.19 -11004364.14 0.0089 0.0086

Earth -34842-11-09 03:35 J -11004305.44 -11004305.35 -11004305.25 0.2664 0.1706

Moon -34842-11-09 04:33 J -11004305.40 -11004305.31 -11004305.22 0.2667 0.1778 *

Venus -34839-09-27 09:21 J -11003252.23 -11003252.11 -11003251.99 0.3604 0.1035

Mars -34837-01-08 22:04 J -11002783.62 -11002783.58 -11002783.53 0.1840 0.1673

Jupiter -34837-08-28 06:43 J -11002551.37 -11002551.22 -11002551.07 0.0515 0.0215

Mars -34837-11-22 06:43 J -11002465.33 -11002465.22 -11002465.12 0.1678 0.1168

Jupiter -34837-11-26 05:02 J -11002461.34 -11002461.29 -11002461.23 0.0519 0.0483

Mars -34836-12-14 19:11 J -11002077.77 -11002077.70 -11002077.62 0.1862 0.1514

Moon -34835-11-01 12:28 J -11001756.09 -11001755.98 -11001755.87 0.2663 0.1401

Earth -34835-11-01 13:26 J -11001756.06 -11001755.94 -11001755.82 0.2659 0.1250 *

Saturn -34834-01-27 08:23 J -11001669.28 -11001669.15 -11001669.01 0.0285 0.0155

Saturn -34834-04-26 01:55 J -11001580.58 -11001580.42 -11001580.26 0.0285 0.0022

Saturn -34834-07-23 18:57 J -11001491.85 -11001491.71 -11001491.56 0.0285 0.0110

Saturn -34834-10-20 11:45 J -11001403.09 -11001403.01 -11001402.92 0.0284 0.0236

Moon -34832-05-02 16:47 J -11000842.93 -11000842.80 -11000842.68 0.2678 0.0064

Earth -34832-05-02 17:02 J -11000842.91 -11000842.79 -11000842.66 0.2671 0.0119 *

Jupiter -34831-01-17 07:40 J -11000583.24 -11000583.18 -11000583.11 0.0515 0.0450

Jupiter -34831-04-16 18:28 J -11000493.87 -11000493.73 -11000493.60 0.0511 0.0137

Mars -34826-05-07 01:40 J -10998647.54 -10998647.43 -10998647.31 0.1856 0.0703

Mars -34825-03-20 17:31 J -10998328.88 -10998328.77 -10998328.66 0.1664 0.1055

Moon -34825-04-25 05:59 J -10998293.27 -10998293.25 -10998293.23 0.2670 0.2609

Earth -34825-04-25 06:28 J -10998293.26 -10998293.23 -10998293.21 0.2676 0.2606 *

Jupiter -34825-06-16 06:14 J -10998241.34 -10998241.24 -10998241.13 0.0514 0.0392

Jupiter -34825-09-14 05:16 J -10998151.41 -10998151.28 -10998151.15 0.0518 0.0310

Moon -34822-11-04 11:59 J -10997005.13 -10997005.00 -10997004.87 0.2667 0.0128

Earth -34822-11-04 12:14 J -10997005.12 -10997004.99 -10997004.86 0.2661 0.0189 *

Saturn -34820-11-07 20:52 J -10996270.71 -10996270.63 -10996270.54 0.0274 0.0223

Jupiter -34819-02-02 21:21 J -10996183.75 -10996183.61 -10996183.47 0.0512 0.0013

Saturn -34819-02-04 10:33 J -10996182.19 -10996182.06 -10996181.92 0.0274 0.0117

Saturn -34819-05-04 00:28 J -10996093.63 -10996093.48 -10996093.33 0.0274 0.0009

Earth -34819-05-05 14:52 J -10996091.99 -10996091.88 -10996091.76 0.2669 0.1136

Moon -34819-05-05 15:07 J -10996091.98 -10996091.87 -10996091.76 0.2676 0.1211 *

Saturn -34819-07-31 14:23 J -10996005.03 -10996004.90 -10996004.75 0.0274 0.0104

Saturn -34819-10-28 04:47 J -10995916.38 -10995916.30 -10995916.20 0.0275 0.0217

Mars -34817-09-26 08:09 J -10995217.29 -10995217.16 -10995217.03 0.1851 0.0099

Mars -34816-08-10 22:19 J -10994898.71 -10994898.57 -10994898.42 0.1669 0.0372

Jupiter -34813-07-03 04:33 J -10993841.47 -10993841.31 -10993841.16 0.0517 0.0127

Uranus -34813-12-26 23:45 J -10993664.54 -10993664.51 -10993664.46 0.0134 0.0129

Uranus -34812-03-25 05:02 J -10993576.39 -10993576.29 -10993576.19 0.0133 0.0106

Moon -34812-04-28 02:23 J -10993542.49 -10993542.40 -10993542.30 0.2674 0.1734

Earth -34812-04-28 03:35 J -10993542.45 -10993542.35 -10993542.26 0.2674 0.1671 *

Uranus -34812-06-21 10:04 J -10993488.21 -10993488.08 -10993487.95 0.0133 0.0084

Uranus -34812-09-17 14:52 J -10993400.02 -10993399.88 -10993399.73 0.0133 0.0062

Uranus -34812-12-14 19:55 J -10993311.82 -10993311.67 -10993311.51 0.0133 0.0040

Uranus -34811-03-13 00:43 J -10993223.63 -10993223.47 -10993223.30 0.0133 0.0018

Uranus -34811-06-09 05:31 J -10993135.43 -10993135.27 -10993135.10 0.0133 0.0006

Uranus -34811-09-05 10:19 J -10993047.22 -10993047.07 -10993046.91 0.0133 0.0025

Uranus -34811-12-02 15:07 J -10992959.02 -10992958.87 -10992958.72 0.0133 0.0046

Uranus -34810-02-28 19:40 J -10992870.81 -10992870.68 -10992870.53 0.0133 0.0067

Uranus -34810-05-28 00:14 J -10992782.60 -10992782.49 -10992782.36 0.0133 0.0088

Uranus -34810-08-24 05:02 J -10992694.38 -10992694.29 -10992694.20 0.0133 0.0108

Uranus -34810-11-20 09:35 J -10992606.13 -10992606.10 -10992606.06 0.0133 0.0128

Earth -34809-11-06 10:47 J -10992254.17 -10992254.05 -10992253.92 0.2662 0.0876

Moon -34809-11-06 11:16 J -10992254.15 -10992254.03 -10992253.91 0.2669 0.0857 *

Jupiter -34808-11-22 00:43 J -10991873.61 -10991873.47 -10991873.34 0.0513 0.0149

Mars -34807-02-16 15:07 J -10991786.98 -10991786.87 -10991786.76 0.1845 0.0865

Jupiter -34807-02-19 11:45 J -10991784.08 -10991784.01 -10991783.94 0.0509 0.0443

Mars -34806-01-01 02:52 J -10991468.53 -10991468.38 -10991468.23 0.1673 0.0338

Earth -34806-05-08 13:11 J -10991341.03 -10991340.95 -10991340.88 0.2668 0.2185

Moon -34806-05-08 14:09 J -10991340.98 -10991340.91 -10991340.84 0.2671 0.2223 *

Saturn -34805-06-15 09:21 J -10990937.22 -10990937.11 -10990936.98 0.0285 0.0190

Saturn -34805-09-12 03:07 J -10990848.53 -10990848.37 -10990848.21 0.0285 0.0055

Saturn -34805-12-09 20:09 J -10990759.81 -10990759.66 -10990759.50 0.0284 0.0076

Saturn -34804-03-08 12:57 J -10990671.07 -10990670.96 -10990670.85 0.0284 0.0203

Moon -34802-10-30 18:43 J -10989704.79 -10989704.72 -10989704.65 0.2657 0.2269

Earth -34802-10-30 19:40 J -10989704.75 -10989704.68 -10989704.60 0.2658 0.2161 *

Jupiter -34801-04-21 04:33 J -10989531.47 -10989531.31 -10989531.15 0.0516 0.0046

Moon -34799-04-30 23:59 J -10988791.62 -10988791.50 -10988791.38 0.2675 0.0823

Earth -34799-05-01 00:57 J -10988791.59 -10988791.46 -10988791.34 0.2673 0.0705 *

Mars -34798-07-09 22:04 J -10988356.64 -10988356.58 -10988356.52 0.1839 0.1597

Venus -34797-04-02 04:33 J -10988089.36 -10988089.31 -10988089.26 0.3776 0.3375

Mars -34797-05-23 07:11 J -10988038.32 -10988038.20 -10988038.09 0.1678 0.1073

Mars -34796-06-14 19:26 J -10987650.75 -10987650.69 -10987650.62 0.1861 0.1606

Jupiter -34796-09-10 03:50 J -10987563.45 -10987563.34 -10987563.22 0.0514 0.0290

Earth -34796-11-09 09:07 J -10987503.21 -10987503.12 -10987503.03 0.2664 0.1885

Moon -34796-11-09 10:04 J -10987503.16 -10987503.08 -10987502.99 0.2666 0.1980 *

Jupiter -34796-12-08 14:38 J -10987474.00 -10987473.89 -10987473.77 0.0510 0.0300

Venus -34792-10-16 23:59 J -10986065.61 -10986065.50 -10986065.38 0.3773 0.0229

Saturn -34790-03-27 21:35 J -10985538.64 -10985538.60 -10985538.56 0.0274 0.0262

Saturn -34790-06-24 11:02 J -10985450.16 -10985450.04 -10985449.92 0.0274 0.0157

Saturn -34790-09-21 00:43 J -10985361.61 -10985361.47 -10985361.32 0.0274 0.0049

Saturn -34790-12-18 14:38 J -10985273.03 -10985272.89 -10985272.74 0.0275 0.0062

Jupiter -34789-02-08 04:33 J -10985221.45 -10985221.31 -10985221.16 0.0515 0.0216

Pluto -34789-02-16 05:59 J -10985213.25 -10985213.25 -10985213.23 0.0076 0.0076

Saturn -34789-03-16 05:02 J -10985184.41 -10985184.29 -10985184.17 0.0275 0.0174

Jupiter -34789-05-08 03:07 J -10985131.42 -10985131.37 -10985131.31 0.0519 0.0483

Pluto -34789-05-14 07:26 J -10985125.24 -10985125.19 -10985125.11 0.0076 0.0069

Pluto -34789-08-10 08:52 J -10985037.21 -10985037.13 -10985037.03 0.0076 0.0061

Moon -34789-11-01 17:59 J -10984953.87 -10984953.75 -10984953.63 0.2663 0.1052

Earth -34789-11-01 18:57 J -10984953.83 -10984953.71 -10984953.59 0.2659 0.1054 *

Pluto -34789-11-06 10:04 J -10984949.17 -10984949.08 -10984948.95 0.0076 0.0053

Pluto -34788-02-02 11:45 J -10984861.12 -10984861.01 -10984860.88 0.0076 0.0045

Pluto -34788-05-01 12:57 J -10984773.08 -10984772.96 -10984772.82 0.0076 0.0038

Pluto -34788-07-28 14:38 J -10984685.03 -10984684.89 -10984684.75 0.0076 0.0030

Venus -34788-10-18 11:16 J -10984603.15 -10984603.03 -10984602.91 0.3603 0.1047

Pluto -34788-10-24 15:50 J -10984596.98 -10984596.84 -10984596.69 0.0076 0.0023

Pluto -34787-01-20 17:16 J -10984508.93 -10984508.78 -10984508.63 0.0075 0.0015

Pluto -34787-04-18 18:28 J -10984420.87 -10984420.73 -10984420.57 0.0075 0.0008

Pluto -34787-07-15 19:55 J -10984332.82 -10984332.67 -10984332.52 0.0075 0.0001

Pluto -34787-10-11 21:07 J -10984244.76 -10984244.62 -10984244.47 0.0075 0.0007

Mars -34787-11-05 01:40 J -10984220.55 -10984220.43 -10984220.32 0.1856 0.0774

Pluto -34786-01-07 22:33 J -10984156.71 -10984156.56 -10984156.42 0.0075 0.0014

Pluto -34786-04-05 23:45 J -10984068.65 -10984068.51 -10984068.37 0.0075 0.0021

Venus -34786-05-02 19:55 J -10984041.73 -10984041.67 -10984041.60 0.3770 0.3158

Moon -34786-05-03 22:04 J -10984040.70 -10984040.58 -10984040.45 0.2678 0.0352

Earth -34786-05-03 22:33 J -10984040.69 -10984040.56 -10984040.44 0.2671 0.0307 *

Pluto -34786-07-03 00:57 J -10983980.59 -10983980.46 -10983980.32 0.0075 0.0028

Mars -34786-09-19 17:59 J -10983901.86 -10983901.75 -10983901.65 0.1665 0.1144

Pluto -34786-09-29 02:09 J -10983892.54 -10983892.41 -10983892.27 0.0075 0.0035

Pluto -34786-12-26 03:21 J -10983804.48 -10983804.36 -10983804.23 0.0074 0.0042

Pluto -34785-03-23 04:33 J -10983716.41 -10983716.31 -10983716.19 0.0074 0.0049

Pluto -34785-06-19 05:45 J -10983628.35 -10983628.26 -10983628.16 0.0074 0.0055

Pluto -34785-09-15 06:43 J -10983540.28 -10983540.22 -10983540.12 0.0074 0.0063

Pluto -34785-12-12 07:55 J -10983452.21 -10983452.17 -10983452.10 0.0074 0.0069

Jupiter -34784-06-29 07:11 J -10983253.28 -10983253.20 -10983253.13 0.0515 0.0432

Jupiter -34784-09-26 17:45 J -10983163.90 -10983163.76 -10983163.63 0.0511 0.0154

Venus -34782-05-04 08:23 J -10982579.25 -10982579.15 -10982579.06 0.3605 0.2260

Moon -34779-04-26 11:02 J -10981491.08 -10981491.04 -10981491.00 0.2671 0.2510

Earth -34779-04-26 11:45 J -10981491.06 -10981491.01 -10981490.96 0.2676 0.2434 *

Jupiter -34778-11-27 04:47 J -10980911.41 -10980911.30 -10980911.19 0.0514 0.0384

Jupiter -34777-02-25 03:50 J -10980821.47 -10980821.34 -10980821.22 0.0518 0.0319

Mars -34777-03-27 08:23 J -10980790.28 -10980790.15 -10980790.03 0.1851 0.0048

Mars -34776-02-08 22:47 J -10980471.69 -10980471.55 -10980471.40 0.1669 0.0466

Saturn -34776-11-02 08:23 J -10980205.23 -10980205.15 -10980205.05 0.0285 0.0237

Moon -34776-11-04 17:45 J -10980202.89 -10980202.76 -10980202.63 0.2667 0.0072

Earth -34776-11-04 17:45 J -10980202.89 -10980202.76 -10980202.63 0.2661 0.0027 *

Saturn -34775-01-30 02:23 J -10980116.55 -10980116.40 -10980116.25 0.0285 0.0101

Saturn -34775-04-28 19:55 J -10980027.83 -10980027.67 -10980027.51 0.0285 0.0032

Saturn -34775-07-26 12:43 J -10979939.09 -10979938.97 -10979938.84 0.0284 0.0162

Earth -34773-05-05 20:23 J -10979289.76 -10979289.65 -10979289.54 0.2669 0.1321

Moon -34773-05-05 20:52 J -10979289.75 -10979289.63 -10979289.52 0.2675 0.1291 *

Jupiter -34772-07-15 19:40 J -10978853.82 -10978853.68 -10978853.54 0.0512 0.0009

Uranus -34769-09-02 08:23 J -10977709.20 -10977709.15 -10977709.07 0.0145 0.0131

Uranus -34769-11-29 13:26 J -10977621.03 -10977620.94 -10977620.83 0.0145 0.0106

Uranus -34768-02-25 18:28 J -10977532.85 -10977532.73 -10977532.61 0.0145 0.0081

Uranus -34768-05-24 23:16 J -10977444.66 -10977444.53 -10977444.38 0.0145 0.0055

Mars -34768-08-17 15:07 J -10977359.98 -10977359.87 -10977359.76 0.1845 0.0777

Uranus -34768-08-21 04:19 J -10977356.46 -10977356.32 -10977356.17 0.0145 0.0030

Uranus -34768-11-17 09:21 J -10977268.26 -10977268.11 -10977267.95 0.0145 0.0005

Uranus -34767-02-13 14:23 J -10977180.04 -10977179.90 -10977179.74 0.0145 0.0023

Uranus -34767-05-12 19:26 J -10977091.82 -10977091.69 -10977091.54 0.0145 0.0050

Mars -34767-07-02 03:21 J -10977041.51 -10977041.36 -10977041.21 0.1673 0.0245

Uranus -34767-08-09 00:43 J -10977003.59 -10977003.47 -10977003.33 0.0146 0.0076

Uranus -34767-11-05 05:59 J -10976915.35 -10976915.25 -10976915.14 0.0146 0.0103

Uranus -34766-02-01 11:16 J -10976827.09 -10976827.03 -10976826.96 0.0146 0.0130

Moon -34766-04-29 07:55 J -10976740.27 -10976740.17 -10976740.07 0.2673 0.1561

Earth -34766-04-29 08:52 J -10976740.23 -10976740.13 -10976740.03 0.2674 0.1492 *

Jupiter -34766-12-14 03:35 J -10976511.50 -10976511.35 -10976511.19 0.0517 0.0146

Neptune -34764-02-23 02:23 J -10976074.42 -10976074.40 -10976074.35 0.0088 0.0086

Neptune -34764-05-22 05:02 J -10975986.35 -10975986.29 -10975986.19 0.0088 0.0079

Neptune -34764-08-18 08:09 J -10975898.26 -10975898.16 -10975898.05 0.0088 0.0070

Neptune -34764-11-14 10:47 J -10975810.16 -10975810.05 -10975809.92 0.0088 0.0061

Neptune -34763-02-10 13:26 J -10975722.07 -10975721.94 -10975721.79 0.0088 0.0053

Neptune -34763-05-09 16:04 J -10975633.96 -10975633.83 -10975633.67 0.0088 0.0045

Neptune -34763-08-05 18:43 J -10975545.86 -10975545.72 -10975545.55 0.0088 0.0038

Neptune -34763-11-01 21:50 J -10975457.76 -10975457.59 -10975457.43 0.0088 0.0029

Earth -34763-11-07 16:19 J -10975451.94 -10975451.82 -10975451.70 0.2663 0.1059

Moon -34763-11-07 16:47 J -10975451.91 -10975451.80 -10975451.68 0.2669 0.1163 *

Neptune -34762-01-29 00:28 J -10975369.65 -10975369.48 -10975369.31 0.0088 0.0021

Neptune -34762-04-27 03:07 J -10975281.54 -10975281.37 -10975281.20 0.0088 0.0012

Neptune -34762-07-24 05:45 J -10975193.43 -10975193.26 -10975193.09 0.0088 0.0004

Neptune -34762-10-20 08:23 J -10975105.32 -10975105.15 -10975104.98 0.0088 0.0004

Neptune -34761-01-16 11:02 J -10975017.21 -10975017.04 -10975016.87 0.0088 0.0012

Neptune -34761-04-13 13:26 J -10974929.10 -10974928.94 -10974928.77 0.0088 0.0020

Neptune -34761-07-10 16:04 J -10974840.99 -10974840.83 -10974840.67 0.0088 0.0028

Neptune -34761-10-06 18:43 J -10974752.88 -10974752.72 -10974752.56 0.0088 0.0035

Saturn -34761-11-10 14:09 J -10974718.01 -10974717.91 -10974717.79 0.0274 0.0175

Neptune -34760-01-02 21:07 J -10974664.76 -10974664.62 -10974664.47 0.0088 0.0043

Saturn -34760-02-07 04:04 J -10974629.48 -10974629.33 -10974629.19 0.0274 0.0067

Neptune -34760-03-31 23:31 J -10974576.64 -10974576.52 -10974576.37 0.0088 0.0051

Jupiter -34760-05-03 22:33 J -10974543.69 -10974543.56 -10974543.42 0.0513 0.0154

Saturn -34760-05-06 17:59 J -10974540.90 -10974540.75 -10974540.60 0.0274 0.0043

Earth -34760-05-08 18:28 J -10974538.78 -10974538.73 -10974538.67 0.2667 0.2377

Moon -34760-05-08 19:26 J -10974538.73 -10974538.69 -10974538.65 0.2671 0.2504 *

Neptune -34760-06-28 01:55 J -10974488.53 -10974488.42 -10974488.28 0.0088 0.0060

Jupiter -34760-08-01 09:35 J -10974454.17 -10974454.10 -10974454.02 0.0509 0.0438

Saturn -34760-08-03 08:09 J -10974452.28 -10974452.16 -10974452.03 0.0275 0.0155

Neptune -34760-09-24 04:47 J -10974400.41 -10974400.30 -10974400.19 0.0088 0.0067

Saturn -34760-10-30 22:47 J -10974363.58 -10974363.55 -10974363.53 0.0275 0.0270

Neptune -34760-12-21 07:11 J -10974312.28 -10974312.20 -10974312.10 0.0088 0.0074

Neptune -34759-03-19 09:35 J -10974224.15 -10974224.10 -10974224.03 0.0088 0.0082

Mars -34758-01-07 22:04 J -10973929.64 -10973929.58 -10973929.51 0.1839 0.1521

Mars -34758-11-22 07:26 J -10973611.31 -10973611.19 -10973611.07 0.1678 0.0980

Mars -34757-12-13 19:40 J -10973223.74 -10973223.68 -10973223.63 0.1861 0.1689

Moon -34756-10-31 00:14 J -10972902.57 -10972902.49 -10972902.41 0.2659 0.2047

Earth -34756-10-31 01:26 J -10972902.53 -10972902.44 -10972902.36 0.2658 0.1964 *

Jupiter -34754-10-02 02:38 J -10972201.55 -10972201.39 -10972201.22 0.0516 0.0044

Moon -34753-05-01 05:31 J -10971989.40 -10971989.27 -10971989.15 0.2677 0.0550

Earth -34753-05-01 06:14 J -10971989.37 -10971989.24 -10971989.12 0.2672 0.0524 *

Earth -34750-11-10 14:38 J -10970700.97 -10970700.89 -10970700.81 0.2664 0.2071

Moon -34750-11-10 15:35 J -10970700.93 -10970700.85 -10970700.77 0.2666 0.2101 *

Jupiter -34748-02-20 01:55 J -10970233.53 -10970233.42 -10970233.30 0.0514 0.0293

Jupiter -34748-05-20 12:43 J -10970144.08 -10970143.97 -10970143.85 0.0510 0.0297

Mars -34747-05-06 01:55 J -10969793.54 -10969793.42 -10969793.31 0.1856 0.0866

Mars -34746-03-20 18:14 J -10969474.84 -10969474.74 -10969474.64 0.1664 0.1230

Saturn -34746-03-22 10:04 J -10969473.13 -10969473.08 -10969473.02 0.0285 0.0268

Saturn -34746-06-19 04:04 J -10969384.47 -10969384.33 -10969384.19 0.0285 0.0131

Saturn -34746-09-15 21:35 J -10969295.76 -10969295.60 -10969295.44 0.0285 0.0006

Saturn -34746-12-13 14:23 J -10969207.03 -10969206.90 -10969206.76 0.0284 0.0133

Saturn -34745-03-11 07:11 J -10969118.26 -10969118.20 -10969118.14 0.0284 0.0258

Moon -34743-11-02 23:45 J -10968151.63 -10968151.51 -10968151.39 0.2664 0.0981

Earth -34743-11-03 00:28 J -10968151.60 -10968151.48 -10968151.35 0.2660 0.0859 *

Jupiter -34742-07-21 02:38 J -10967891.54 -10967891.39 -10967891.25 0.0515 0.0217

Jupiter -34742-10-19 00:57 J -10967801.51 -10967801.46 -10967801.40 0.0519 0.0481

Venus -34741-11-07 02:52 J -10967416.47 -10967416.38 -10967416.29 0.3775 0.2218

Moon -34740-05-04 03:35 J -10967238.48 -10967238.35 -10967238.23 0.2677 0.0396

Earth -34740-05-04 03:50 J -10967238.47 -10967238.34 -10967238.22 0.2671 0.0481 *

Mars -34738-09-26 08:23 J -10966363.28 -10966363.15 -10966363.03 0.1851 0.0075

Mars -34737-08-09 23:02 J -10966044.68 -10966044.54 -10966044.40 0.1669 0.0552

Venus -34737-11-08 12:43 J -10965954.02 -10965953.97 -10965953.91 0.3601 0.3185

Jupiter -34737-12-09 05:16 J -10965923.35 -10965923.28 -10965923.20 0.0515 0.0432

Jupiter -34736-03-08 15:50 J -10965833.97 -10965833.84 -10965833.70 0.0511 0.0154

Venus -34735-05-23 22:33 J -10965392.67 -10965392.56 -10965392.45 0.3772 0.1022

Moon -34733-04-26 16:04 J -10964688.89 -10964688.83 -10964688.76 0.2672 0.2257

Earth -34733-04-26 17:02 J -10964688.86 -10964688.79 -10964688.73 0.2675 0.2270 *

Saturn -34731-03-30 15:07 J -10963985.96 -10963985.87 -10963985.77 0.0274 0.0212

Venus -34731-05-25 10:04 J -10963930.20 -10963930.08 -10963929.95 0.3603 0.0248

Saturn -34731-06-27 04:47 J -10963897.44 -10963897.30 -10963897.17 0.0274 0.0105

Saturn -34731-09-23 18:28 J -10963808.88 -10963808.73 -10963808.58 0.0274 0.0008

Saturn -34731-12-21 08:38 J -10963720.28 -10963720.14 -10963720.00 0.0275 0.0115

Saturn -34730-03-19 23:02 J -10963631.62 -10963631.54 -10963631.46 0.0275 0.0229

Jupiter -34730-05-09 02:23 J -10963581.50 -10963581.40 -10963581.29 0.0514 0.0389

Jupiter -34730-08-07 01:26 J -10963491.56 -10963491.44 -10963491.31 0.0518 0.0315

Moon -34730-11-05 23:16 J -10963400.66 -10963400.53 -10963400.40 0.2668 0.0290

Earth -34730-11-05 23:16 J -10963400.66 -10963400.53 -10963400.40 0.2661 0.0210 *

Uranus -34728-01-16 06:57 J -10962963.26 -10962963.21 -10962963.13 0.0134 0.0122

Mars -34728-02-15 15:07 J -10962932.99 -10962932.87 -10962932.76 0.1845 0.0709

Uranus -34728-04-14 11:59 J -10962875.10 -10962875.00 -10962874.88 0.0134 0.0100

Uranus -34728-07-11 17:16 J -10962786.91 -10962786.78 -10962786.64 0.0133 0.0077

Uranus -34728-10-07 22:19 J -10962698.72 -10962698.57 -10962698.42 0.0133 0.0055

Mars -34728-12-31 03:50 J -10962614.49 -10962614.34 -10962614.19 0.1673 0.0147

Uranus -34727-01-04 03:07 J -10962610.52 -10962610.37 -10962610.21 0.0133 0.0033

Uranus -34727-04-02 07:55 J -10962522.33 -10962522.17 -10962522.00 0.0133 0.0012

Earth -34727-05-07 01:40 J -10962487.53 -10962487.43 -10962487.32 0.2669 0.1513

Moon -34727-05-07 02:23 J -10962487.50 -10962487.40 -10962487.30 0.2674 0.1639 *

Uranus -34727-06-29 12:57 J -10962434.13 -10962433.96 -10962433.80 0.0133 0.0010

Uranus -34727-09-25 17:31 J -10962345.92 -10962345.77 -10962345.61 0.0133 0.0032

Uranus -34727-12-22 22:19 J -10962257.72 -10962257.57 -10962257.42 0.0133 0.0052

Uranus -34726-03-21 03:07 J -10962169.50 -10962169.37 -10962169.24 0.0133 0.0073

Uranus -34726-06-17 07:26 J -10962081.29 -10962081.19 -10962081.07 0.0133 0.0094

Uranus -34726-09-13 12:14 J -10961993.07 -10961992.99 -10961992.91 0.0133 0.0114

Venus -34726-12-09 07:11 J -10961906.23 -10961906.20 -10961906.17 0.3606 0.3475

Jupiter -34725-12-25 18:43 J -10961523.86 -10961523.72 -10961523.57 0.0512 0.0019

Moon -34720-04-29 13:11 J -10959938.06 -10959937.95 -10959937.85 0.2673 0.1405

Earth -34720-04-29 14:09 J -10959938.02 -10959937.91 -10959937.80 0.2674 0.1315 *

Mars -34719-07-08 22:19 J -10959502.64 -10959502.57 -10959502.49 0.1840 0.1432

Mars -34718-05-23 07:55 J -10959184.30 -10959184.17 -10959184.04 0.1678 0.0885

Jupiter -34718-05-26 01:55 J -10959181.57 -10959181.42 -10959181.26 0.0517 0.0150

Mars -34717-06-13 19:40 J -10958796.72 -10958796.68 -10958796.65 0.1861 0.1772

Saturn -34717-11-05 03:07 J -10958652.49 -10958652.37 -10958652.24 0.0285 0.0178

Earth -34717-11-07 21:50 J -10958649.71 -10958649.59 -10958649.48 0.2663 0.1249

Moon -34717-11-07 22:19 J -10958649.68 -10958649.57 -10958649.45 0.2668 0.1229 *

Saturn -34716-02-01 20:52 J -10958563.79 -10958563.63 -10958563.47 0.0285 0.0043

Saturn -34716-05-01 14:09 J -10958475.06 -10958474.91 -10958474.76 0.0285 0.0089

Saturn -34716-07-29 06:57 J -10958386.31 -10958386.21 -10958386.11 0.0284 0.0216

Earth -34714-05-09 23:59 J -10957736.53 -10957736.50 -10957736.47 0.2667 0.2570

Moon -34714-05-10 00:57 J -10957736.49 -10957736.46 -10957736.43 0.2670 0.2584 *

Jupiter -34713-10-13 20:52 J -10957213.76 -10957213.63 -10957213.49 0.0513 0.0152

Jupiter -34712-01-11 07:55 J -10957124.24 -10957124.17 -10957124.10 0.0509 0.0440

Moon -34710-11-01 05:45 J -10956100.35 -10956100.26 -10956100.16 0.2660 0.1833

Earth -34710-11-01 06:57 J -10956100.31 -10956100.21 -10956100.11 0.2658 0.1764 *

Mars -34709-10-12 11:45 J -10955754.04 -10955754.01 -10955753.98 0.1683 0.1644

Mars -34708-11-04 01:55 J -10955366.53 -10955366.42 -10955366.31 0.1856 0.0953

Moon -34707-05-02 10:47 J -10955187.17 -10955187.05 -10955186.92 0.2677 0.0407

Earth -34707-05-02 11:31 J -10955187.14 -10955187.02 -10955186.89 0.2672 0.0340 *

Mars -34707-09-18 18:43 J -10955047.81 -10955047.72 -10955047.64 0.1665 0.1318

Jupiter -34706-03-14 01:55 J -10954871.59 -10954871.42 -10954871.26 0.0516 0.0029

Earth -34704-11-10 19:55 J -10953898.74 -10953898.67 -10953898.60 0.2665 0.2250

Moon -34704-11-10 21:07 J -10953898.68 -10953898.62 -10953898.57 0.2666 0.2384 *

Saturn -34702-08-17 18:14 J -10953253.81 -10953253.74 -10953253.65 0.0274 0.0230

Saturn -34702-11-14 07:55 J -10953165.30 -10953165.17 -10953165.04 0.0274 0.0124

Saturn -34701-02-10 21:35 J -10953076.75 -10953076.60 -10953076.45 0.0274 0.0016

Saturn -34701-05-09 11:45 J -10952988.15 -10952988.01 -10952987.87 0.0274 0.0096

Jupiter -34701-08-01 23:45 J -10952903.62 -10952903.51 -10952903.39 0.0514 0.0299

Saturn -34701-08-06 02:09 J -10952899.51 -10952899.41 -10952899.31 0.0275 0.0210

Jupiter -34701-10-30 10:33 J -10952814.17 -10952814.06 -10952813.94 0.0510 0.0290

Mars -34698-03-27 08:23 J -10951936.27 -10951936.15 -10951936.02 0.1851 0.0152

Mars -34697-02-08 23:31 J -10951617.65 -10951617.52 -10951617.38 0.1669 0.0646

Moon -34697-11-03 05:16 J -10951349.40 -10951349.28 -10951349.15 0.2665 0.0687

Earth -34697-11-03 05:59 J -10951349.38 -10951349.25 -10951349.12 0.2660 0.0667 *

Jupiter -34695-12-31 00:28 J -10950561.62 -10950561.48 -10950561.33 0.0515 0.0215

Jupiter -34694-03-30 23:02 J -10950471.59 -10950471.54 -10950471.48 0.0518 0.0482

Moon -34694-05-05 09:07 J -10950436.24 -10950436.12 -10950436.00 0.2677 0.0713

Earth -34694-05-05 09:07 J -10950436.24 -10950436.12 -10950435.99 0.2670 0.0675 *

Jupiter -34689-05-21 03:07 J -10948593.44 -10948593.37 -10948593.29 0.0515 0.0438

Mars -34689-08-16 15:07 J -10948505.98 -10948505.87 -10948505.75 0.1845 0.0621

Jupiter -34689-08-18 13:40 J -10948504.06 -10948503.93 -10948503.79 0.0511 0.0149

Mars -34688-07-01 04:04 J -10948187.48 -10948187.33 -10948187.18 0.1673 0.0064

Saturn -34687-03-25 05:31 J -10947920.38 -10947920.27 -10947920.16 0.0285 0.0204

Moon -34687-04-27 21:21 J -10947886.67 -10947886.61 -10947886.54 0.2672 0.2224

Earth -34687-04-27 22:19 J -10947886.65 -10947886.57 -10947886.50 0.2675 0.2094 *

Saturn -34687-06-21 23:16 J -10947831.69 -10947831.53 -10947831.38 0.0285 0.0069

Saturn -34687-09-18 16:33 J -10947742.97 -10947742.81 -10947742.66 0.0285 0.0064

Saturn -34687-12-16 09:07 J -10947654.23 -10947654.12 -10947654.00 0.0284 0.0192

Uranus -34685-09-22 16:19 J -10947007.90 -10947007.82 -10947007.74 0.0145 0.0122

Uranus -34685-12-19 20:52 J -10946919.73 -10946919.63 -10946919.51 0.0145 0.0098

Uranus -34684-03-18 01:55 J -10946831.55 -10946831.42 -10946831.29 0.0145 0.0072

Venus -34684-06-14 01:26 J -10946743.55 -10946743.44 -10946743.33 0.3774 0.1046

Uranus -34684-06-14 06:57 J -10946743.35 -10946743.21 -10946743.07 0.0145 0.0047 *

Uranus -34684-09-10 11:59 J -10946655.15 -10946655.00 -10946654.85 0.0145 0.0022

Moon -34684-11-06 04:47 J -10946598.43 -10946598.30 -10946598.17 0.2669 0.0338

Earth -34684-11-06 04:47 J -10946598.43 -10946598.30 -10946598.17 0.2661 0.0401 *

Uranus -34684-12-07 17:02 J -10946566.95 -10946566.79 -10946566.64 0.0145 0.0006

Uranus -34683-03-05 22:04 J -10946478.73 -10946478.58 -10946478.43 0.0145 0.0031

Neptune -34683-05-28 10:47 J -10946395.07 -10946395.05 -10946395.01 0.0089 0.0087

Uranus -34683-06-02 03:07 J -10946390.51 -10946390.37 -10946390.23 0.0145 0.0057

Neptune -34683-08-24 12:28 J -10946307.03 -10946306.98 -10946306.91 0.0089 0.0080

Uranus -34683-08-29 08:23 J -10946302.28 -10946302.15 -10946302.03 0.0146 0.0084

Jupiter -34683-10-19 00:14 J -10946251.60 -10946251.49 -10946251.39 0.0514 0.0392

Neptune -34683-11-20 14:09 J -10946218.98 -10946218.91 -10946218.82 0.0089 0.0074

Uranus -34683-11-25 13:26 J -10946214.03 -10946213.94 -10946213.84 0.0146 0.0111

Jupiter -34682-01-16 23:16 J -10946161.66 -10946161.53 -10946161.41 0.0518 0.0311

Neptune -34682-02-16 15:35 J -10946130.93 -10946130.85 -10946130.74 0.0089 0.0068

Uranus -34682-02-21 18:43 J -10946125.76 -10946125.72 -10946125.67 0.0146 0.0138

Neptune -34682-05-15 17:31 J -10946042.87 -10946042.77 -10946042.66 0.0089 0.0060

Neptune -34682-08-11 19:11 J -10945954.81 -10945954.70 -10945954.58 0.0089 0.0053

Neptune -34682-11-07 20:52 J -10945866.74 -10945866.63 -10945866.50 0.0089 0.0047

Neptune -34681-02-03 22:47 J -10945778.68 -10945778.55 -10945778.42 0.0089 0.0039

Neptune -34681-05-02 00:28 J -10945690.61 -10945690.48 -10945690.34 0.0089 0.0032

Earth -34681-05-07 07:11 J -10945685.30 -10945685.20 -10945685.10 0.2669 0.1702

Moon -34681-05-07 07:55 J -10945685.27 -10945685.17 -10945685.07 0.2674 0.1682 *

Neptune -34681-07-29 02:09 J -10945602.55 -10945602.41 -10945602.27 0.0089 0.0026

Neptune -34681-10-25 04:04 J -10945514.48 -10945514.33 -10945514.19 0.0089 0.0019

Neptune -34680-01-21 05:45 J -10945426.41 -10945426.26 -10945426.12 0.0089 0.0012

Neptune -34680-04-19 07:26 J -10945338.34 -10945338.19 -10945338.04 0.0089 0.0004

Venus -34680-06-15 11:45 J -10945281.11 -10945281.01 -10945280.90 0.3602 0.1901

Neptune -34680-07-16 09:07 J -10945250.26 -10945250.12 -10945249.97 0.0089 0.0003

Neptune -34680-10-12 10:47 J -10945162.19 -10945162.05 -10945161.90 0.0089 0.0011

Mars -34679-01-06 22:19 J -10945075.65 -10945075.57 -10945075.49 0.1839 0.1361

Neptune -34679-01-08 12:43 J -10945074.11 -10945073.97 -10945073.83 0.0089 0.0017

Neptune -34679-04-06 14:23 J -10944986.04 -10944985.90 -10944985.75 0.0089 0.0024

Neptune -34679-07-03 16:04 J -10944897.96 -10944897.83 -10944897.68 0.0089 0.0031

Neptune -34679-09-29 17:59 J -10944809.88 -10944809.75 -10944809.61 0.0089 0.0038

Mars -34679-11-21 08:23 J -10944757.28 -10944757.15 -10944757.02 0.1678 0.0792

Neptune -34679-12-26 19:55 J -10944721.80 -10944721.67 -10944721.54 0.0089 0.0045

Venus -34679-12-28 21:07 J -10944719.71 -10944719.62 -10944719.53 0.3772 0.2232

Neptune -34678-03-24 21:50 J -10944633.71 -10944633.59 -10944633.48 0.0089 0.0053

Neptune -34678-06-20 23:16 J -10944545.63 -10944545.53 -10944545.41 0.0089 0.0060

Neptune -34678-09-17 01:11 J -10944457.54 -10944457.45 -10944457.35 0.0089 0.0067

Mars -34678-12-13 19:55 J -10944369.68 -10944369.67 -10944369.67 0.1861 0.1861

Neptune -34678-12-14 03:07 J -10944369.45 -10944369.37 -10944369.29 0.0089 0.0074

Neptune -34677-03-11 05:02 J -10944281.35 -10944281.29 -10944281.23 0.0089 0.0081

Jupiter -34677-06-06 17:02 J -10944193.94 -10944193.79 -10944193.65 0.0512 0.0017

Neptune -34677-06-07 06:43 J -10944193.22 -10944193.22 -10944193.20 0.0089 0.0089

Venus -34675-12-30 09:07 J -10943257.23 -10943257.12 -10943257.00 0.3604 0.1452

Moon -34674-04-30 18:28 J -10943135.84 -10943135.73 -10943135.62 0.2674 0.1170

Earth -34674-04-30 19:26 J -10943135.80 -10943135.69 -10943135.58 0.2673 0.1142 *

Saturn -34672-01-03 19:26 J -10942521.72 -10942521.69 -10942521.64 0.0274 0.0264

Saturn -34672-04-02 08:52 J -10942433.24 -10942433.13 -10942433.00 0.0274 0.0159

Saturn -34672-06-29 22:47 J -10942344.70 -10942344.55 -10942344.41 0.0274 0.0051

Saturn -34672-09-26 12:43 J -10942256.12 -10942255.97 -10942255.83 0.0275 0.0059

Saturn -34672-12-24 02:52 J -10942167.50 -10942167.38 -10942167.26 0.0275 0.0172

Jupiter -34671-11-04 23:31 J -10941851.68 -10941851.52 -10941851.37 0.0517 0.0142

Earth -34671-11-09 03:07 J -10941847.47 -10941847.37 -10941847.26 0.2663 0.1435

Moon -34671-11-09 04:04 J -10941847.43 -10941847.33 -10941847.23 0.2667 0.1572 *

Mars -34669-04-12 12:14 J -10941327.05 -10941326.99 -10941326.93 0.1683 0.1542

Mars -34668-05-05 01:55 J -10940939.53 -10940939.42 -10940939.32 0.1856 0.1028

Mars -34667-03-19 19:11 J -10940620.78 -10940620.70 -10940620.63 0.1665 0.1411

Jupiter -34665-03-25 19:55 J -10939883.80 -10939883.67 -10939883.53 0.0513 0.0138

Jupiter -34665-06-23 06:57 J -10939794.27 -10939794.21 -10939794.14 0.0509 0.0453

Moon -34664-11-01 11:16 J -10939298.13 -10939298.03 -10939297.93 0.2660 0.1680

Earth -34664-11-01 12:28 J -10939298.09 -10939297.98 -10939297.87 0.2658 0.1566 *

Moon -34661-05-02 16:19 J -10938384.95 -10938384.82 -10938384.70 0.2677 0.0233

Earth -34661-05-02 16:47 J -10938384.92 -10938384.80 -10938384.67 0.2672 0.0173 *

Jupiter -34659-08-23 23:45 J -10937541.67 -10937541.51 -10937541.34 0.0516 0.0027

Mars -34659-09-25 08:38 J -10937509.27 -10937509.14 -10937509.02 0.1851 0.0244

Mars -34658-08-09 23:59 J -10937190.63 -10937190.50 -10937190.37 0.1669 0.0732

Saturn -34658-08-12 04:19 J -10937188.38 -10937188.32 -10937188.24 0.0285 0.0252

Saturn -34658-11-08 22:33 J -10937099.71 -10937099.56 -10937099.42 0.0285 0.0115

Earth -34658-11-12 01:26 J -10937096.49 -10937096.44 -10937096.39 0.2665 0.2435

Moon -34658-11-12 02:23 J -10937096.45 -10937096.40 -10937096.35 0.2666 0.2444 *

Saturn -34657-02-05 15:50 J -10937011.00 -10937010.84 -10937010.68 0.0284 0.0020

Saturn -34657-05-04 08:52 J -10936922.26 -10936922.13 -10936921.99 0.0284 0.0149

Saturn -34657-08-01 01:26 J -10936833.47 -10936833.44 -10936833.40 0.0284 0.0275

Jupiter -34653-01-12 22:04 J -10935573.69 -10935573.58 -10935573.46 0.0514 0.0297

Jupiter -34653-04-11 08:52 J -10935484.24 -10935484.13 -10935484.01 0.0510 0.0292

Moon -34651-11-04 11:02 J -10934547.17 -10934547.04 -10934546.91 0.2666 0.0511

Earth -34651-11-04 11:31 J -10934547.15 -10934547.02 -10934546.89 0.2660 0.0473 *

Mars -34649-02-15 15:21 J -10934078.98 -10934078.86 -10934078.74 0.1845 0.0537

Mars -34649-12-30 04:33 J -10933760.46 -10933760.31 -10933760.16 0.1673 0.0031

Earth -34648-05-05 14:38 J -10933634.01 -10933633.89 -10933633.77 0.2670 0.0858

Moon -34648-05-05 14:52 J -10933634.00 -10933633.88 -10933633.77 0.2677 0.0847 *

Jupiter -34647-06-11 23:31 J -10933231.67 -10933231.52 -10933231.37 0.0515 0.0201

Jupiter -34647-09-09 22:04 J -10933141.62 -10933141.58 -10933141.54 0.0519 0.0496

Uranus -34644-02-05 14:09 J -10932261.99 -10932261.91 -10932261.83 0.0134 0.0116

Uranus -34644-05-04 18:57 J -10932173.82 -10932173.71 -10932173.58 0.0134 0.0094

Uranus -34644-07-31 23:59 J -10932085.63 -10932085.50 -10932085.35 0.0134 0.0072

Uranus -34644-10-28 05:02 J -10931997.44 -10931997.29 -10931997.13 0.0133 0.0050

Uranus -34643-01-24 10:04 J -10931909.24 -10931909.08 -10931908.92 0.0133 0.0028

Uranus -34643-04-22 14:52 J -10931821.04 -10931820.88 -10931820.72 0.0133 0.0006

Uranus -34643-07-19 19:40 J -10931732.84 -10931732.68 -10931732.52 0.0133 0.0016

Saturn -34643-08-20 11:59 J -10931701.11 -10931701.00 -10931700.89 0.0274 0.0179

Uranus -34643-10-16 00:28 J -10931644.63 -10931644.48 -10931644.32 0.0133 0.0037

Saturn -34643-11-17 01:40 J -10931612.57 -10931612.43 -10931612.28 0.0274 0.0071

Uranus -34642-01-12 05:02 J -10931556.43 -10931556.29 -10931556.14 0.0133 0.0058

Saturn -34642-02-13 15:35 J -10931524.00 -10931523.85 -10931523.70 0.0275 0.0039

Uranus -34642-04-10 09:35 J -10931468.22 -10931468.10 -10931467.96 0.0133 0.0079

Saturn -34642-05-13 05:45 J -10931435.38 -10931435.26 -10931435.13 0.0275 0.0152

Uranus -34642-07-07 14:23 J -10931380.00 -10931379.90 -10931379.79 0.0133 0.0099

Saturn -34642-08-09 20:23 J -10931346.68 -10931346.65 -10931346.62 0.0275 0.0267

Uranus -34642-10-03 18:57 J -10931291.77 -10931291.71 -10931291.63 0.0133 0.0120

Jupiter -34642-11-01 00:57 J -10931263.52 -10931263.46 -10931263.38 0.0515 0.0445

Jupiter -34641-01-29 11:31 J -10931174.15 -10931174.02 -10931173.88 0.0511 0.0142

Moon -34641-04-28 02:38 J -10931084.48 -10931084.39 -10931084.30 0.2671 0.1906

Earth -34641-04-28 03:35 J -10931084.44 -10931084.35 -10931084.27 0.2675 0.1928 *

Mars -34640-07-07 22:19 J -10930648.65 -10930648.57 -10930648.48 0.1839 0.1278

Mars -34639-05-22 08:52 J -10930330.27 -10930330.13 -10930330.00 0.1678 0.0699

Earth -34638-11-07 10:19 J -10929796.20 -10929796.07 -10929795.95 0.2662 0.0594

Moon -34638-11-07 10:19 J -10929796.19 -10929796.07 -10929795.94 0.2668 0.0655 *

Jupiter -34635-03-30 22:04 J -10928921.68 -10928921.58 -10928921.47 0.0513 0.0391

Earth -34635-05-08 12:43 J -10928883.06 -10928882.97 -10928882.88 0.2668 0.1897

Moon -34635-05-08 13:26 J -10928883.03 -10928882.94 -10928882.86 0.2674 0.2027 *

Jupiter -34635-06-28 21:07 J -10928831.74 -10928831.62 -10928831.49 0.0517 0.0311

Venus -34633-07-05 04:19 J -10928094.39 -10928094.32 -10928094.26 0.3776 0.3066

Moon -34631-10-30 17:31 J -10927246.77 -10927246.77 -10927246.76 0.2656 0.2655

Earth -34631-10-30 18:43 J -10927246.76 -10927246.72 -10927246.67 0.2657 0.2485 *

Mars -34630-10-12 12:28 J -10926900.05 -10926899.98 -10926899.90 0.1683 0.1456

Jupiter -34630-11-17 14:38 J -10926864.03 -10926863.89 -10926863.74 0.0513 0.0016

Mars -34629-11-03 02:09 J -10926512.51 -10926512.41 -10926512.31 0.1856 0.1117

Saturn -34629-12-29 07:11 J -10926456.24 -10926456.20 -10926456.16 0.0285 0.0275

Saturn -34628-03-28 01:11 J -10926367.59 -10926367.45 -10926367.31 0.0285 0.0138

Moon -34628-04-30 23:45 J -10926333.62 -10926333.51 -10926333.39 0.2676 0.1098

Earth -34628-05-01 00:43 J -10926333.59 -10926333.47 -10926333.35 0.2673 0.0963 *

Saturn -34628-06-24 18:43 J -10926278.88 -10926278.72 -10926278.56 0.0285 0.0009

Mars -34628-09-17 19:11 J -10926193.76 -10926193.70 -10926193.63 0.1665 0.1493

Saturn -34628-09-21 11:45 J -10926190.15 -10926190.01 -10926189.87 0.0284 0.0127

Saturn -34628-12-19 04:19 J -10926101.39 -10926101.32 -10926101.25 0.0284 0.0253

Venus -34627-01-18 23:45 J -10926070.63 -10926070.51 -10926070.39 0.3774 0.0121

Pluto -34626-04-09 12:14 J -10925625.02 -10925624.99 -10925624.91 0.0068 0.0064

Pluto -34626-07-06 13:40 J -10925537.00 -10925536.93 -10925536.83 0.0068 0.0058

Pluto -34626-10-02 15:07 J -10925448.96 -10925448.87 -10925448.75 0.0068 0.0052

Pluto -34626-12-29 16:33 J -10925360.92 -10925360.81 -10925360.68 0.0068 0.0046

Pluto -34625-03-26 17:59 J -10925272.88 -10925272.75 -10925272.61 0.0068 0.0040

Pluto -34625-06-22 19:11 J -10925184.84 -10925184.70 -10925184.55 0.0068 0.0035

Pluto -34625-09-18 20:38 J -10925096.79 -10925096.64 -10925096.48 0.0068 0.0028

Earth -34625-11-09 08:38 J -10925045.24 -10925045.14 -10925045.04 0.2663 0.1618

Moon -34625-11-09 09:35 J -10925045.20 -10925045.10 -10925045.00 0.2667 0.1613 *

Pluto -34625-12-15 21:50 J -10925008.74 -10925008.59 -10925008.42 0.0068 0.0023

Pluto -34624-03-13 23:16 J -10924920.68 -10924920.53 -10924920.36 0.0068 0.0017

Pluto -34624-06-10 00:43 J -10924832.63 -10924832.47 -10924832.30 0.0069 0.0011

Pluto -34624-09-06 02:09 J -10924744.57 -10924744.41 -10924744.24 0.0069 0.0004

Pluto -34624-12-03 03:35 J -10924656.52 -10924656.35 -10924656.18 0.0069 0.0002

Venus -34623-01-20 10:47 J -10924608.17 -10924608.05 -10924607.92 0.3602 0.0635

Pluto -34623-03-01 05:02 J -10924568.46 -10924568.29 -10924568.12 0.0069 0.0008

Jupiter -34623-04-16 21:07 J -10924521.78 -10924521.62 -10924521.47 0.0516 0.0137

Pluto -34623-05-28 06:14 J -10924480.39 -10924480.24 -10924480.06 0.0069 0.0015

Pluto -34623-08-24 07:40 J -10924392.33 -10924392.18 -10924392.01 0.0069 0.0022

Pluto -34623-11-20 09:21 J -10924304.26 -10924304.11 -10924303.95 0.0069 0.0028

Pluto -34622-02-16 10:33 J -10924216.20 -10924216.06 -10924215.90 0.0069 0.0034

Pluto -34622-05-15 12:14 J -10924128.12 -10924127.99 -10924127.85 0.0069 0.0041

Venus -34622-08-04 19:40 J -10924046.72 -10924046.68 -10924046.64 0.3771 0.3448

Pluto -34622-08-11 13:26 J -10924040.05 -10924039.94 -10924039.80 0.0070 0.0048

Pluto -34622-11-07 15:07 J -10923951.97 -10923951.87 -10923951.76 0.0070 0.0054

Pluto -34621-02-03 16:33 J -10923863.88 -10923863.81 -10923863.72 0.0070 0.0061

Pluto -34621-05-01 17:45 J -10923775.78 -10923775.76 -10923775.70 0.0070 0.0068

Mars -34619-03-26 08:38 J -10923082.27 -10923082.14 -10923082.02 0.1850 0.0319

Mars -34618-02-08 00:14 J -10922763.61 -10922763.49 -10922763.36 0.1669 0.0823

Venus -34618-08-06 07:55 J -10922584.25 -10922584.17 -10922584.09 0.3605 0.2664

Jupiter -34618-09-05 17:59 J -10922553.89 -10922553.75 -10922553.62 0.0513 0.0141

Moon -34618-11-02 17:02 J -10922495.90 -10922495.79 -10922495.68 0.2661 0.1395

Earth -34618-11-02 17:59 J -10922495.86 -10922495.75 -10922495.63 0.2659 0.1367 *

Jupiter -34618-12-04 05:02 J -10922464.36 -10922464.29 -10922464.23 0.0509 0.0450

Moon -34615-05-03 21:35 J -10921582.72 -10921582.60 -10921582.47 0.2677 0.0042

Earth -34615-05-03 22:19 J -10921582.70 -10921582.57 -10921582.45 0.2671 0.0053 *

Saturn -34613-01-07 13:26 J -10920969.03 -10920968.94 -10920968.84 0.0274 0.0211

Saturn -34613-04-05 03:07 J -10920880.51 -10920880.37 -10920880.23 0.0274 0.0104

Saturn -34613-07-02 16:47 J -10920791.95 -10920791.80 -10920791.65 0.0274 0.0007

Saturn -34613-09-29 06:57 J -10920703.35 -10920703.21 -10920703.07 0.0275 0.0116

Saturn -34613-12-26 21:07 J -10920614.69 -10920614.62 -10920614.53 0.0275 0.0231

Earth -34612-11-12 06:43 J -10920294.24 -10920294.22 -10920294.20 0.2665 0.2613

Jupiter -34611-02-02 21:07 J -10920211.78 -10920211.62 -10920211.46 0.0516 0.0036

Mars -34610-08-16 15:21 J -10919651.98 -10919651.86 -10919651.74 0.1845 0.0463

Mars -34609-06-30 05:02 J -10919333.44 -10919333.29 -10919333.14 0.1673 0.0129

Moon -34608-04-26 11:16 J -10919033.03 -10919033.03 -10919033.03 0.2671 0.2669

Jupiter -34606-06-24 21:07 J -10918243.74 -10918243.62 -10918243.50 0.0514 0.0285

Jupiter -34606-09-22 07:40 J -10918154.29 -10918154.18 -10918154.06 0.0510 0.0305

Moon -34605-11-04 16:33 J -10917744.94 -10917744.81 -10917744.68 0.2667 0.0328

Earth -34605-11-04 17:02 J -10917744.92 -10917744.79 -10917744.66 0.2660 0.0279 *

Earth -34602-05-06 19:55 J -10916831.78 -10916831.67 -10916831.55 0.2670 0.1045

Moon -34602-05-06 20:09 J -10916831.77 -10916831.66 -10916831.54 0.2677 0.1078 *

Uranus -34601-07-16 18:57 J -10916394.75 -10916394.71 -10916394.67 0.0145 0.0139

Uranus -34601-10-12 23:31 J -10916306.60 -10916306.52 -10916306.42 0.0145 0.0115

Mars -34600-01-05 22:33 J -10916221.65 -10916221.56 -10916221.47 0.1839 0.1194

Uranus -34600-01-09 04:19 J -10916218.43 -10916218.32 -10916218.19 0.0145 0.0090

Uranus -34600-04-07 09:21 J -10916130.24 -10916130.11 -10916129.97 0.0145 0.0065

Uranus -34600-07-04 14:23 J -10916042.04 -10916041.90 -10916041.75 0.0145 0.0039

Uranus -34600-09-30 19:26 J -10915953.84 -10915953.69 -10915953.54 0.0145 0.0014

Neptune -34600-11-20 01:11 J -10915903.49 -10915903.45 -10915903.37 0.0088 0.0082

Mars -34600-11-20 09:07 J -10915903.26 -10915903.12 -10915902.98 0.1678 0.0605

Jupiter -34600-11-21 21:21 J -10915901.76 -10915901.61 -10915901.46 0.0515 0.0202

Uranus -34600-12-28 00:28 J -10915865.63 -10915865.48 -10915865.33 0.0145 0.0013

Neptune -34599-02-16 04:19 J -10915815.41 -10915815.32 -10915815.22 0.0088 0.0074

Jupiter -34599-02-19 19:55 J -10915811.71 -10915811.67 -10915811.62 0.0519 0.0496

Uranus -34599-03-26 05:31 J -10915777.42 -10915777.27 -10915777.13 0.0145 0.0039

Neptune -34599-05-15 06:57 J -10915727.32 -10915727.21 -10915727.08 0.0088 0.0065

Uranus -34599-06-22 10:33 J -10915689.19 -10915689.06 -10915688.92 0.0145 0.0065

Neptune -34599-08-11 09:35 J -10915639.22 -10915639.10 -10915638.95 0.0088 0.0057

Saturn -34599-08-15 00:14 J -10915635.61 -10915635.49 -10915635.37 0.0285 0.0185

Uranus -34599-09-18 15:50 J -10915600.96 -10915600.84 -10915600.72 0.0146 0.0092

Neptune -34599-11-07 12:14 J -10915551.12 -10915550.99 -10915550.83 0.0088 0.0050

Saturn -34599-11-11 17:59 J -10915546.91 -10915546.75 -10915546.59 0.0284 0.0050

Uranus -34599-12-15 20:52 J -10915512.71 -10915512.63 -10915512.54 0.0146 0.0119

Neptune -34598-02-03 15:21 J -10915463.01 -10915462.86 -10915462.70 0.0088 0.0041

Saturn -34598-02-08 11:16 J -10915458.18 -10915458.03 -10915457.88 0.0284 0.0082

Neptune -34598-05-02 17:59 J -10915374.91 -10915374.75 -10915374.58 0.0088 0.0032

Saturn -34598-05-08 04:04 J -10915369.44 -10915369.33 -10915369.23 0.0284 0.0211

Neptune -34598-07-29 20:38 J -10915286.80 -10915286.64 -10915286.47 0.0088 0.0024

Neptune -34598-10-25 23:16 J -10915198.69 -10915198.53 -10915198.35 0.0088 0.0016

Neptune -34597-01-22 02:09 J -10915110.58 -10915110.41 -10915110.24 0.0088 0.0008

Neptune -34597-04-19 04:47 J -10915022.47 -10915022.30 -10915022.13 0.0088 0.0000

Neptune -34597-07-16 07:26 J -10914934.36 -10914934.19 -10914934.02 0.0088 0.0008

Neptune -34597-10-12 10:04 J -10914846.25 -10914846.08 -10914845.91 0.0088 0.0016

Neptune -34596-01-08 12:28 J -10914758.14 -10914757.98 -10914757.81 0.0088 0.0025

Neptune -34596-04-06 15:07 J -10914670.02 -10914669.87 -10914669.71 0.0088 0.0032

Neptune -34596-07-03 17:31 J -10914581.91 -10914581.77 -10914581.60 0.0088 0.0041

Neptune -34596-09-29 20:09 J -10914493.79 -10914493.66 -10914493.51 0.0088 0.0048

Neptune -34596-12-26 22:33 J -10914405.67 -10914405.56 -10914405.41 0.0088 0.0056

Neptune -34595-03-25 01:26 J -10914317.55 -10914317.44 -10914317.32 0.0088 0.0064

Moon -34595-04-29 07:55 J -10914282.26 -10914282.17 -10914282.08 0.2672 0.1884

Earth -34595-04-29 08:52 J -10914282.23 -10914282.13 -10914282.04 0.2675 0.1751 *

Neptune -34595-06-21 03:50 J -10914229.43 -10914229.34 -10914229.23 0.0088 0.0072

Neptune -34595-09-17 06:14 J -10914141.30 -10914141.24 -10914141.15 0.0088 0.0079

Neptune -34595-12-14 08:38 J -10914053.15 -10914053.14 -10914053.10 0.0088 0.0087

Jupiter -34594-04-12 23:31 J -10913933.59 -10913933.52 -10913933.45 0.0515 0.0441

Jupiter -34594-07-11 09:50 J -10913844.22 -10913844.09 -10913843.95 0.0511 0.0144

Earth -34592-11-07 15:35 J -10912993.97 -10912993.85 -10912993.72 0.2662 0.0781

Moon -34592-11-07 16:04 J -10912993.95 -10912993.83 -10912993.71 0.2668 0.0787 *

Mars -34590-04-12 12:57 J -10912473.04 -10912472.96 -10912472.87 0.1683 0.1357

Mars -34589-05-04 02:09 J -10912085.50 -10912085.41 -10912085.31 0.1856 0.1210

Earth -34589-05-08 17:59 J -10912080.83 -10912080.75 -10912080.67 0.2668 0.2091

Moon -34589-05-08 18:57 J -10912080.79 -10912080.71 -10912080.64 0.2672 0.2105 *

Mars -34588-03-18 19:40 J -10911766.72 -10911766.68 -10911766.63 0.1665 0.1581

Jupiter -34588-09-09 20:52 J -10911591.74 -10911591.63 -10911591.52 0.0514 0.0379

Jupiter -34588-12-08 19:55 J -10911501.79 -10911501.67 -10911501.54 0.0518 0.0325

Moon -34585-10-30 23:16 J -10910444.60 -10910444.53 -10910444.47 0.2656 0.2284

Earth -34585-10-31 00:14 J -10910444.55 -10910444.49 -10910444.42 0.2657 0.2287 *

Saturn -34584-05-26 16:19 J -10910236.89 -10910236.82 -10910236.74 0.0274 0.0233

Saturn -34584-08-23 05:45 J -10910148.39 -10910148.26 -10910148.13 0.0274 0.0127

Saturn -34584-11-19 19:26 J -10910059.83 -10910059.69 -10910059.54 0.0275 0.0020

Saturn -34583-02-16 09:35 J -10909971.24 -10909971.10 -10909970.96 0.0275 0.0094

Saturn -34583-05-15 23:59 J -10909882.60 -10909882.50 -10909882.40 0.0275 0.0208

Jupiter -34582-04-29 12:43 J -10909534.11 -10909533.97 -10909533.83 0.0512 0.0015

Moon -34582-05-02 05:02 J -10909531.40 -10909531.29 -10909531.17 0.2676 0.0784

Earth -34582-05-02 05:59 J -10909531.37 -10909531.25 -10909531.13 0.2673 0.0789 *

Mars -34580-09-24 08:38 J -10908655.26 -10908655.14 -10908655.02 0.1850 0.0400

Mars -34579-08-09 00:43 J -10908336.59 -10908336.47 -10908336.35 0.1669 0.0910

Earth -34579-11-10 14:09 J -10908243.01 -10908242.91 -10908242.82 0.2664 0.1802

Moon -34579-11-10 14:52 J -10908242.96 -10908242.88 -10908242.79 0.2668 0.1943 *

Venus -34576-02-09 02:38 J -10907421.49 -10907421.39 -10907421.29 0.3775 0.1932

Jupiter -34576-09-26 18:57 J -10907191.86 -10907191.71 -10907191.55 0.0516 0.0137

Venus -34572-02-10 12:28 J -10905959.06 -10905958.98 -10905958.91 0.3601 0.2794

Moon -34572-11-02 22:47 J -10905693.66 -10905693.55 -10905693.44 0.2663 0.1302

Earth -34572-11-02 23:31 J -10905693.63 -10905693.52 -10905693.40 0.2659 0.1171 *

Venus -34571-08-25 22:19 J -10905397.68 -10905397.57 -10905397.46 0.3773 0.1313

Mars -34570-02-14 15:21 J -10905224.98 -10905224.86 -10905224.74 0.1845 0.0376

Jupiter -34570-02-15 15:50 J -10905223.98 -10905223.84 -10905223.71 0.0514 0.0149

Jupiter -34570-05-16 02:38 J -10905134.45 -10905134.39 -10905134.32 0.0510 0.0444

Mars -34570-12-30 05:16 J -10904906.43 -10904906.28 -10904906.13 0.1674 0.0215

Saturn -34569-01-02 03:07 J -10904903.48 -10904903.37 -10904903.26 0.0285 0.0206

Saturn -34569-03-30 20:52 J -10904814.78 -10904814.63 -10904814.47 0.0285 0.0071

Moon -34569-05-04 03:07 J -10904780.49 -10904780.37 -10904780.24 0.2677 0.0140

Earth -34569-05-04 03:35 J -10904780.48 -10904780.35 -10904780.22 0.2671 0.0208 *

Saturn -34569-06-27 14:09 J -10904726.06 -10904725.91 -10904725.75 0.0285 0.0063

Saturn -34569-09-24 06:57 J -10904637.32 -10904637.21 -10904637.09 0.0284 0.0192

Venus -34567-08-27 09:50 J -10903935.22 -10903935.09 -10903934.97 0.3603 0.0611

Jupiter -34564-07-15 18:43 J -10902881.88 -10902881.72 -10902881.56 0.0515 0.0040

Moon -34562-04-27 16:19 J -10902230.84 -10902230.82 -10902230.79 0.2670 0.2589

Earth -34562-04-27 17:02 J -10902230.83 -10902230.79 -10902230.75 0.2676 0.2519 *

Mars -34561-07-06 22:33 J -10901794.66 -10901794.56 -10901794.47 0.1839 0.1121

Uranus -34561-11-29 15:50 J -10901648.85 -10901648.84 -10901648.81 0.0134 0.0133

Uranus -34560-02-25 21:07 J -10901560.71 -10901560.62 -10901560.52 0.0134 0.0110

Mars -34560-05-21 09:35 J -10901476.24 -10901476.10 -10901475.95 0.1678 0.0509

Uranus -34560-05-25 02:09 J -10901472.53 -10901472.41 -10901472.28 0.0134 0.0088

Uranus -34560-08-21 07:11 J -10901384.34 -10901384.20 -10901384.05 0.0134 0.0065

Uranus -34560-11-17 12:14 J -10901296.14 -10901295.99 -10901295.84 0.0133 0.0043

Uranus -34559-02-13 17:02 J -10901207.95 -10901207.79 -10901207.62 0.0133 0.0022

Uranus -34559-05-12 22:04 J -10901119.75 -10901119.58 -10901119.42 0.0133 0.0003

Uranus -34559-08-09 02:52 J -10901031.54 -10901031.38 -10901031.22 0.0133 0.0022

Uranus -34559-11-05 07:26 J -10900943.34 -10900943.19 -10900943.03 0.0133 0.0043

Moon -34559-11-05 22:19 J -10900942.70 -10900942.57 -10900942.44 0.2667 0.0123

Earth -34559-11-05 22:33 J -10900942.69 -10900942.56 -10900942.43 0.2661 0.0082 *

Jupiter -34559-12-04 18:57 J -10900913.82 -10900913.71 -10900913.59 0.0514 0.0290

Uranus -34558-02-01 11:59 J -10900855.13 -10900855.00 -10900854.85 0.0133 0.0064

Jupiter -34558-03-04 05:45 J -10900824.37 -10900824.26 -10900824.14 0.0511 0.0300

Uranus -34558-04-30 17:02 J -10900766.92 -10900766.79 -10900766.67 0.0133 0.0085

Uranus -34558-07-27 21:21 J -10900678.70 -10900678.61 -10900678.50 0.0133 0.0105

Uranus -34558-10-24 01:55 J -10900590.46 -10900590.42 -10900590.36 0.0133 0.0126

Earth -34556-05-07 01:26 J -10900029.55 -10900029.44 -10900029.33 0.2669 0.1233

Moon -34556-05-07 01:40 J -10900029.54 -10900029.43 -10900029.32 0.2676 0.1270 *

Saturn -34555-10-13 17:59 J -10899504.78 -10899504.75 -10899504.71 0.0274 0.0263

Saturn -34554-01-10 07:26 J -10899416.31 -10899416.19 -10899416.07 0.0274 0.0158

Saturn -34554-04-08 21:07 J -10899327.77 -10899327.62 -10899327.47 0.0274 0.0050

Saturn -34554-07-06 11:02 J -10899239.19 -10899239.04 -10899238.89 0.0275 0.0061

Saturn -34554-10-03 01:11 J -10899150.56 -10899150.45 -10899150.33 0.0275 0.0174

Jupiter -34552-05-03 18:28 J -10898571.88 -10898571.73 -10898571.58 0.0515 0.0214

Jupiter -34552-08-01 17:16 J -10898481.84 -10898481.78 -10898481.73 0.0519 0.0485

Mars -34551-10-11 13:40 J -10898046.03 -10898045.93 -10898045.84 0.1683 0.1259

Mars -34550-11-03 02:09 J -10897658.50 -10897658.41 -10897658.32 0.1856 0.1279

Moon -34549-04-29 13:11 J -10897480.05 -10897479.95 -10897479.85 0.2673 0.1581

Earth -34549-04-29 14:09 J -10897480.01 -10897479.91 -10897479.81 0.2674 0.1580 *

Jupiter -34547-09-22 22:19 J -10896603.64 -10896603.57 -10896603.50 0.0515 0.0431

Jupiter -34547-12-21 08:52 J -10896514.27 -10896514.13 -10896514.00 0.0511 0.0156

Earth -34546-11-08 21:07 J -10896191.74 -10896191.62 -10896191.50 0.2662 0.0969

Moon -34546-11-08 21:50 J -10896191.71 -10896191.59 -10896191.47 0.2668 0.1014 *

Earth -34543-05-09 23:31 J -10895278.59 -10895278.52 -10895278.46 0.2668 0.2283

Moon -34543-05-10 00:28 J -10895278.54 -10895278.48 -10895278.43 0.2670 0.2381 *

Jupiter -34540-02-19 18:28 J -10894261.83 -10894261.73 -10894261.61 0.0514 0.0383

Pluto -34540-02-28 14:23 J -10894252.96 -10894252.90 -10894252.84 0.0076 0.0070

Mars -34540-03-25 08:52 J -10894228.25 -10894228.13 -10894228.01 0.1851 0.0490

Jupiter -34540-05-20 17:45 J -10894171.88 -10894171.76 -10894171.63 0.0518 0.0322

Saturn -34540-05-21 02:09 J -10894171.48 -10894171.41 -10894171.33 0.0285 0.0254

Pluto -34540-05-27 15:35 J -10894164.92 -10894164.85 -10894164.75 0.0076 0.0062

Saturn -34540-08-17 20:09 J -10894082.81 -10894082.66 -10894082.51 0.0284 0.0117

Pluto -34540-08-23 17:02 J -10894076.88 -10894076.79 -10894076.68 0.0076 0.0054

Saturn -34540-11-14 13:40 J -10893994.09 -10893993.93 -10893993.77 0.0284 0.0017

Pluto -34540-11-19 18:14 J -10893988.84 -10893988.74 -10893988.60 0.0076 0.0047

Mars -34539-02-07 01:11 J -10893909.57 -10893909.45 -10893909.33 0.1669 0.1004

Saturn -34539-02-11 06:43 J -10893905.36 -10893905.22 -10893905.09 0.0284 0.0147

Pluto -34539-02-15 19:55 J -10893900.79 -10893900.67 -10893900.54 0.0076 0.0039

Saturn -34539-05-10 23:02 J -10893816.57 -10893816.54 -10893816.49 0.0284 0.0274

Pluto -34539-05-14 21:07 J -10893812.74 -10893812.62 -10893812.47 0.0076 0.0032

Pluto -34539-08-10 22:47 J -10893724.69 -10893724.55 -10893724.41 0.0076 0.0024

Moon -34539-11-01 04:47 J -10893642.37 -10893642.30 -10893642.23 0.2657 0.2248

Earth -34539-11-01 05:59 J -10893642.33 -10893642.25 -10893642.17 0.2658 0.2082 *

Pluto -34539-11-06 23:59 J -10893636.64 -10893636.50 -10893636.35 0.0075 0.0017

Pluto -34538-02-03 01:26 J -10893548.59 -10893548.44 -10893548.29 0.0075 0.0009

Pluto -34538-05-02 02:38 J -10893460.54 -10893460.39 -10893460.24 0.0075 0.0002

Pluto -34538-07-29 03:50 J -10893372.48 -10893372.34 -10893372.18 0.0075 0.0006

Pluto -34538-10-25 05:16 J -10893284.43 -10893284.28 -10893284.13 0.0075 0.0013

Pluto -34537-01-21 06:28 J -10893196.37 -10893196.23 -10893196.08 0.0075 0.0020

Pluto -34537-04-18 07:40 J -10893108.31 -10893108.18 -10893108.04 0.0075 0.0027

Pluto -34537-07-15 08:52 J -10893020.25 -10893020.13 -10893019.99 0.0074 0.0034

Pluto -34537-10-11 10:04 J -10892932.19 -10892932.08 -10892931.95 0.0074 0.0041

Pluto -34536-01-07 11:16 J -10892844.13 -10892844.03 -10892843.91 0.0074 0.0048

Pluto -34536-04-05 12:28 J -10892756.07 -10892755.98 -10892755.87 0.0074 0.0054

Moon -34536-05-02 10:33 J -10892729.18 -10892729.06 -10892728.94 0.2676 0.0754

Earth -34536-05-02 11:31 J -10892729.15 -10892729.02 -10892728.90 0.2673 0.0612 *

Pluto -34536-07-02 13:40 J -10892668.00 -10892667.93 -10892667.84 0.0074 0.0061

Pluto -34536-09-28 15:07 J -10892579.93 -10892579.87 -10892579.81 0.0074 0.0067

Jupiter -34535-10-09 11:02 J -10892204.18 -10892204.04 -10892203.90 0.0512 0.0004

Earth -34533-11-10 19:26 J -10891440.77 -10891440.69 -10891440.60 0.2664 0.1986

Moon -34533-11-10 20:23 J -10891440.73 -10891440.65 -10891440.57 0.2667 0.2003 *

Mars -34531-08-15 15:35 J -10890797.98 -10890797.85 -10890797.73 0.1845 0.0290

Mars -34530-06-30 05:45 J -10890479.41 -10890479.26 -10890479.11 0.1674 0.0306

Jupiter -34528-03-08 17:45 J -10889861.91 -10889861.76 -10889861.60 0.0517 0.0150

Moon -34526-11-04 04:19 J -10888891.44 -10888891.32 -10888891.20 0.2664 0.0950

Earth -34526-11-04 05:02 J -10888891.41 -10888891.29 -10888891.16 0.2659 0.0976 *

Saturn -34525-05-29 09:50 J -10888684.20 -10888684.09 -10888683.98 0.0274 0.0183

Saturn -34525-08-25 23:31 J -10888595.67 -10888595.52 -10888595.38 0.0275 0.0075

Saturn -34525-11-22 13:26 J -10888507.09 -10888506.94 -10888506.80 0.0275 0.0036

Saturn -34524-02-19 03:35 J -10888418.48 -10888418.35 -10888418.23 0.0275 0.0148

Saturn -34524-05-18 17:59 J -10888329.79 -10888329.75 -10888329.71 0.0275 0.0264

Moon -34523-05-05 08:38 J -10887978.26 -10887978.14 -10887978.01 0.2677 0.0449

Earth -34523-05-05 08:52 J -10887978.25 -10887978.13 -10887978.00 0.2671 0.0401 *

Jupiter -34523-07-28 13:40 J -10887894.06 -10887893.93 -10887893.79 0.0513 0.0153

Jupiter -34523-10-26 00:43 J -10887804.54 -10887804.47 -10887804.40 0.0510 0.0438

Mars -34521-01-05 22:33 J -10887367.66 -10887367.56 -10887367.46 0.1839 0.1040

Mars -34521-11-19 10:04 J -10887049.23 -10887049.08 -10887048.94 0.1678 0.0419

Venus -34520-09-16 00:57 J -10886748.57 -10886748.46 -10886748.34 0.3775 0.0769

Neptune -34518-02-22 10:19 J -10886224.11 -10886224.07 -10886224.01 0.0089 0.0083

Neptune -34518-05-21 11:59 J -10886136.06 -10886136.00 -10886135.92 0.0089 0.0077

Neptune -34518-08-17 13:26 J -10886048.01 -10886047.94 -10886047.84 0.0089 0.0071

Neptune -34518-11-13 15:21 J -10885959.95 -10885959.86 -10885959.75 0.0089 0.0063

Neptune -34517-02-09 17:02 J -10885871.89 -10885871.79 -10885871.67 0.0089 0.0056

Neptune -34517-05-07 18:43 J -10885783.83 -10885783.72 -10885783.59 0.0089 0.0049

Neptune -34517-08-03 20:23 J -10885695.77 -10885695.65 -10885695.52 0.0089 0.0043

Uranus -34517-08-06 02:09 J -10885693.46 -10885693.41 -10885693.34 0.0145 0.0132

Neptune -34517-10-30 22:19 J -10885607.70 -10885607.57 -10885607.44 0.0089 0.0035

Uranus -34517-11-02 07:11 J -10885605.30 -10885605.20 -10885605.10 0.0145 0.0107

Jupiter -34517-12-25 16:47 J -10885551.97 -10885551.80 -10885551.64 0.0515 0.0041

Neptune -34516-01-26 23:59 J -10885519.64 -10885519.50 -10885519.36 0.0089 0.0029

Uranus -34516-01-29 11:59 J -10885517.12 -10885517.00 -10885516.88 0.0145 0.0082

Neptune -34516-04-25 01:40 J -10885431.57 -10885431.43 -10885431.29 0.0089 0.0022

Uranus -34516-04-27 16:47 J -10885428.94 -10885428.80 -10885428.66 0.0145 0.0057

Moon -34516-04-27 21:35 J -10885428.65 -10885428.60 -10885428.54 0.2670 0.2362

Earth -34516-04-27 22:19 J -10885428.63 -10885428.57 -10885428.51 0.2676 0.2346 *

Neptune -34516-07-22 03:21 J -10885343.50 -10885343.36 -10885343.21 0.0089 0.0015

Uranus -34516-07-24 21:35 J -10885340.74 -10885340.60 -10885340.45 0.0145 0.0032

Venus -34516-09-17 11:16 J -10885286.14 -10885286.03 -10885285.91 0.3601 0.1516

Neptune -34516-10-18 05:02 J -10885255.43 -10885255.29 -10885255.14 0.0089 0.0008

Uranus -34516-10-21 02:38 J -10885252.54 -10885252.39 -10885252.23 0.0145 0.0008

Neptune -34515-01-14 06:57 J -10885167.36 -10885167.21 -10885167.07 0.0089 0.0001

Uranus -34515-01-17 07:40 J -10885164.33 -10885164.18 -10885164.02 0.0145 0.0021

Neptune -34515-04-12 08:38 J -10885079.28 -10885079.14 -10885078.99 0.0089 0.0006

Uranus -34515-04-15 12:43 J -10885076.11 -10885075.97 -10885075.82 0.0145 0.0047

Neptune -34515-07-09 10:19 J -10884991.21 -10884991.07 -10884990.92 0.0089 0.0014

Uranus -34515-07-12 17:59 J -10884987.88 -10884987.75 -10884987.62 0.0145 0.0073

Neptune -34515-10-05 11:59 J -10884903.14 -10884903.00 -10884902.85 0.0089 0.0021

Uranus -34515-10-08 23:02 J -10884899.65 -10884899.54 -10884899.42 0.0146 0.0100

Neptune -34514-01-01 13:40 J -10884815.06 -10884814.93 -10884814.78 0.0089 0.0028

Uranus -34514-01-05 04:19 J -10884811.39 -10884811.32 -10884811.24 0.0146 0.0127

Neptune -34514-03-30 15:35 J -10884726.98 -10884726.85 -10884726.71 0.0089 0.0035

Venus -34514-04-01 20:38 J -10884724.72 -10884724.64 -10884724.55 0.3772 0.2518

Neptune -34514-06-26 17:16 J -10884638.90 -10884638.78 -10884638.64 0.0089 0.0042

Neptune -34514-09-22 19:11 J -10884550.82 -10884550.70 -10884550.57 0.0089 0.0049

Neptune -34514-12-19 20:52 J -10884462.73 -10884462.63 -10884462.51 0.0089 0.0057

Neptune -34513-03-16 22:33 J -10884374.65 -10884374.56 -10884374.44 0.0089 0.0064

Neptune -34513-06-13 00:28 J -10884286.56 -10884286.48 -10884286.38 0.0089 0.0071

Neptune -34513-09-09 02:23 J -10884198.46 -10884198.40 -10884198.32 0.0089 0.0078

Moon -34513-11-06 03:50 J -10884140.47 -10884140.34 -10884140.21 0.2667 0.0062

Earth -34513-11-06 04:04 J -10884140.46 -10884140.33 -10884140.20 0.2661 0.0111 *

Neptune -34513-12-06 04:19 J -10884110.36 -10884110.32 -10884110.28 0.0089 0.0085

Mars -34512-05-28 05:59 J -10883937.28 -10883937.25 -10883937.22 0.1833 0.1751

Mars -34511-04-11 13:55 J -10883619.03 -10883618.92 -10883618.81 0.1683 0.1168

Jupiter -34511-05-16 16:47 J -10883583.91 -10883583.80 -10883583.68 0.0515 0.0296

Jupiter -34511-08-14 03:35 J -10883494.46 -10883494.35 -10883494.23 0.0511 0.0294

Saturn -34511-10-08 05:02 J -10883439.32 -10883439.29 -10883439.25 0.0285 0.0276

Saturn -34510-01-04 23:02 J -10883350.68 -10883350.54 -10883350.40 0.0285 0.0138

Venus -34510-04-03 08:38 J -10883262.25 -10883262.14 -10883262.03 0.3604 0.1846

Saturn -34510-04-03 16:33 J -10883261.97 -10883261.81 -10883261.65 0.0285 0.0009

Mars -34510-05-04 02:23 J -10883231.48 -10883231.40 -10883231.32 0.1856 0.1373

Earth -34510-05-08 06:43 J -10883227.33 -10883227.22 -10883227.11 0.2669 0.1420

Moon -34510-05-08 07:11 J -10883227.31 -10883227.20 -10883227.10 0.2676 0.1427 *

Saturn -34510-07-01 09:50 J -10883173.23 -10883173.09 -10883172.95 0.0284 0.0127

Saturn -34510-09-28 02:23 J -10883084.46 -10883084.40 -10883084.33 0.0284 0.0255

Jupiter -34505-10-13 16:04 J -10881241.97 -10881241.83 -10881241.68 0.0514 0.0217

Jupiter -34504-01-11 14:52 J -10881151.93 -10881151.88 -10881151.82 0.0518 0.0481

Moon -34503-04-30 18:28 J -10880677.83 -10880677.73 -10880677.63 0.2674 0.1520

Earth -34503-04-30 19:26 J -10880677.80 -10880677.69 -10880677.59 0.2674 0.1402 *

Mars -34501-09-23 08:52 J -10879801.25 -10879801.13 -10879801.01 0.1850 0.0568

Mars -34500-08-08 01:26 J -10879482.55 -10879482.44 -10879482.33 0.1669 0.1089

Earth -34500-11-09 02:38 J -10879389.51 -10879389.39 -10879389.27 0.2663 0.1158

Moon -34500-11-09 03:21 J -10879389.48 -10879389.36 -10879389.25 0.2669 0.1228 *

Jupiter -34499-03-04 20:23 J -10879273.73 -10879273.65 -10879273.58 0.0516 0.0435

Jupiter -34499-06-02 06:43 J -10879184.35 -10879184.22 -10879184.08 0.0512 0.0151

Earth -34497-05-10 04:47 J -10878476.34 -10878476.30 -10878476.25 0.2668 0.2478

Moon -34497-05-10 05:59 J -10878476.29 -10878476.25 -10878476.22 0.2670 0.2555 *

Saturn -34496-10-16 11:45 J -10877952.10 -10877952.01 -10877951.92 0.0274 0.0211

Saturn -34495-01-13 01:11 J -10877863.58 -10877863.45 -10877863.31 0.0274 0.0105

Saturn -34495-04-11 15:07 J -10877775.02 -10877774.87 -10877774.72 0.0274 0.0006

Saturn -34495-07-09 05:02 J -10877686.42 -10877686.29 -10877686.15 0.0275 0.0116

Saturn -34495-10-05 19:26 J -10877597.77 -10877597.69 -10877597.61 0.0275 0.0230

Jupiter -34493-08-01 15:50 J -10876931.95 -10876931.84 -10876931.74 0.0513 0.0393

Jupiter -34493-10-30 15:07 J -10876842.00 -10876841.87 -10876841.75 0.0517 0.0311

Moon -34493-11-01 10:19 J -10876840.16 -10876840.07 -10876839.97 0.2658 0.1898

Earth -34493-11-01 11:31 J -10876840.11 -10876840.02 -10876839.93 0.2658 0.1884 *

Mars -34491-02-13 15:21 J -10876370.98 -10876370.86 -10876370.73 0.1845 0.0223

Mars -34491-12-29 06:14 J -10876052.38 -10876052.24 -10876052.09 0.1674 0.0404

Moon -34490-05-03 15:50 J -10875926.96 -10875926.84 -10875926.72 0.2676 0.0418

Earth -34490-05-03 16:47 J -10875926.93 -10875926.80 -10875926.68 0.2672 0.0439 *

Jupiter -34487-03-21 09:50 J -10874874.23 -10874874.09 -10874873.95 0.0512 0.0008

Earth -34487-11-12 00:57 J -10874638.53 -10874638.46 -10874638.39 0.2664 0.2172

Moon -34487-11-12 01:55 J -10874638.49 -10874638.42 -10874638.36 0.2666 0.2266 *

Mars -34482-07-06 22:47 J -10872940.66 -10872940.55 -10872940.45 0.1839 0.0951

Mars -34481-05-20 10:33 J -10872622.21 -10872622.06 -10872621.92 0.1678 0.0325

Saturn -34481-05-23 22:04 J -10872618.70 -10872618.58 -10872618.45 0.0285 0.0185

Jupiter -34481-08-18 15:35 J -10872532.01 -10872531.85 -10872531.70 0.0517 0.0146

Saturn -34481-08-20 15:50 J -10872529.99 -10872529.84 -10872529.68 0.0284 0.0050

Saturn -34481-11-17 09:07 J -10872441.27 -10872441.12 -10872440.96 0.0284 0.0083

Saturn -34480-02-14 01:55 J -10872352.52 -10872352.42 -10872352.31 0.0284 0.0211

Moon -34480-11-04 09:50 J -10872089.21 -10872089.09 -10872088.96 0.2665 0.0920

Earth -34480-11-04 10:47 J -10872089.18 -10872089.05 -10872088.93 0.2659 0.0779 *

Moon -34477-05-05 14:09 J -10871176.03 -10871175.91 -10871175.78 0.2678 0.0499

Earth -34477-05-05 14:23 J -10871176.03 -10871175.90 -10871175.78 0.2671 0.0582 *

Uranus -34477-12-19 22:33 J -10870947.59 -10870947.56 -10870947.50 0.0134 0.0128

Uranus -34476-03-18 03:50 J -10870859.44 -10870859.34 -10870859.23 0.0134 0.0105

Uranus -34476-06-14 08:52 J -10870771.25 -10870771.13 -10870771.00 0.0134 0.0083

Uranus -34476-09-10 13:55 J -10870683.06 -10870682.92 -10870682.77 0.0134 0.0061

Uranus -34476-12-07 18:57 J -10870594.87 -10870594.71 -10870594.55 0.0133 0.0039

Jupiter -34475-01-07 12:14 J -10870564.12 -10870563.99 -10870563.85 0.0513 0.0147

Uranus -34475-03-05 23:45 J -10870506.67 -10870506.51 -10870506.34 0.0133 0.0017

Jupiter -34475-04-06 23:02 J -10870474.60 -10870474.54 -10870474.47 0.0509 0.0443

Uranus -34475-06-02 04:47 J -10870418.47 -10870418.30 -10870418.14 0.0133 0.0006

Uranus -34475-08-29 09:21 J -10870330.26 -10870330.11 -10870329.94 0.0133 0.0027

Uranus -34475-11-25 14:09 J -10870242.06 -10870241.91 -10870241.75 0.0133 0.0048

Uranus -34474-02-21 18:57 J -10870153.84 -10870153.71 -10870153.57 0.0133 0.0068

Uranus -34474-05-20 23:31 J -10870065.63 -10870065.52 -10870065.39 0.0133 0.0089

Uranus -34474-08-17 04:04 J -10869977.41 -10869977.33 -10869977.23 0.0133 0.0110

Uranus -34474-11-13 08:52 J -10869889.15 -10869889.13 -10869889.10 0.0133 0.0130

Mars -34473-11-26 05:59 J -10869510.30 -10869510.25 -10869510.20 0.1833 0.1674

Mars -34472-10-10 14:23 J -10869192.02 -10869191.90 -10869191.78 0.1683 0.1070

Mars -34471-11-02 02:38 J -10868804.47 -10868804.39 -10868804.32 0.1856 0.1463

Moon -34470-04-29 02:52 J -10868626.45 -10868626.38 -10868626.31 0.2671 0.2218

Earth -34470-04-29 03:35 J -10868626.42 -10868626.35 -10868626.28 0.2676 0.2178 *

Jupiter -34469-06-06 15:21 J -10868222.02 -10868221.86 -10868221.69 0.0516 0.0030

Venus -34469-10-07 04:04 J -10868099.41 -10868099.33 -10868099.26 0.3776 0.2781

Moon -34467-11-07 09:35 J -10867338.23 -10867338.10 -10867337.97 0.2668 0.0374

Earth -34467-11-07 09:35 J -10867338.23 -10867338.10 -10867337.97 0.2661 0.0304 *

Saturn -34466-03-05 13:40 J -10867219.99 -10867219.93 -10867219.86 0.0274 0.0241

Saturn -34466-06-02 03:07 J -10867131.49 -10867131.37 -10867131.24 0.0275 0.0134

Saturn -34466-08-29 16:47 J -10867042.94 -10867042.80 -10867042.65 0.0275 0.0026

Saturn -34466-11-26 06:57 J -10866954.35 -10866954.21 -10866954.07 0.0275 0.0087

Saturn -34465-02-22 21:07 J -10866865.72 -10866865.62 -10866865.51 0.0275 0.0201

Earth -34464-05-08 12:14 J -10866425.09 -10866424.99 -10866424.89 0.2669 0.1610

Moon -34464-05-08 12:43 J -10866425.07 -10866424.97 -10866424.87 0.2674 0.1704 *

Jupiter -34464-10-26 15:07 J -10866253.98 -10866253.87 -10866253.76 0.0514 0.0295

Jupiter -34463-01-24 01:40 J -10866164.54 -10866164.43 -10866164.31 0.0511 0.0293

Venus -34463-04-22 23:31 J -10866075.64 -10866075.52 -10866075.41 0.3774 0.0421

Mars -34461-03-24 08:52 J -10865374.25 -10865374.13 -10865374.01 0.1850 0.0650

Mars -34460-02-06 01:55 J -10865055.52 -10865055.42 -10865055.32 0.1669 0.1180

Venus -34459-04-24 10:19 J -10864613.19 -10864613.07 -10864612.94 0.3602 0.0262

Venus -34458-11-06 19:11 J -10864051.71 -10864051.70 -10864051.68 0.3771 0.3737

Jupiter -34457-03-25 14:09 J -10863912.05 -10863911.91 -10863911.76 0.0514 0.0215

Moon -34457-04-30 23:45 J -10863875.62 -10863875.51 -10863875.40 0.2675 0.1268

Earth -34457-05-01 00:43 J -10863875.58 -10863875.47 -10863875.36 0.2674 0.1226 *

Jupiter -34457-06-23 12:57 J -10863822.01 -10863821.96 -10863821.90 0.0518 0.0483

Venus -34454-11-08 07:40 J -10862589.24 -10862589.18 -10862589.12 0.3604 0.3084

Earth -34454-11-10 08:09 J -10862587.27 -10862587.16 -10862587.05 0.2663 0.1347

Moon -34454-11-10 08:38 J -10862587.25 -10862587.14 -10862587.03 0.2668 0.1367 *

Mars -34452-08-14 15:35 J -10861943.97 -10861943.85 -10861943.72 0.1845 0.0133

Jupiter -34452-08-14 18:14 J -10861943.81 -10861943.74 -10861943.67 0.0516 0.0440 *

Saturn -34452-10-11 00:57 J -10861886.57 -10861886.46 -10861886.35 0.0285 0.0208

Jupiter -34452-11-12 04:33 J -10861854.44 -10861854.31 -10861854.17 0.0512 0.0147

Saturn -34451-01-07 18:43 J -10861797.87 -10861797.72 -10861797.56 0.0285 0.0072

Saturn -34451-04-06 12:14 J -10861709.15 -10861708.99 -10861708.84 0.0285 0.0062

Mars -34451-06-29 06:28 J -10861625.37 -10861625.23 -10861625.09 0.1674 0.0486

Saturn -34451-07-04 05:02 J -10861620.40 -10861620.29 -10861620.17 0.0284 0.0191

Moon -34447-11-02 16:04 J -10860037.93 -10860037.83 -10860037.73 0.2660 0.1806

Earth -34447-11-02 17:02 J -10860037.89 -10860037.79 -10860037.68 0.2658 0.1682 *

Jupiter -34445-01-12 13:40 J -10859602.03 -10859601.93 -10859601.82 0.0513 0.0392

Jupiter -34445-04-11 12:57 J -10859512.09 -10859511.96 -10859511.83 0.0517 0.0310

Moon -34444-05-03 21:21 J -10859124.73 -10859124.61 -10859124.48 0.2677 0.0359

Earth -34444-05-03 22:04 J -10859124.71 -10859124.58 -10859124.45 0.2672 0.0242 *

Mars -34442-01-04 22:33 J -10858513.67 -10858513.56 -10858513.45 0.1839 0.0882

Mars -34442-11-19 11:02 J -10858195.19 -10858195.04 -10858194.89 0.1679 0.0231

Earth -34441-11-12 06:14 J -10857836.29 -10857836.24 -10857836.18 0.2665 0.2354

Moon -34441-11-12 07:26 J -10857836.24 -10857836.19 -10857836.14 0.2664 0.2432 *

Jupiter -34440-08-31 07:55 J -10857544.31 -10857544.17 -10857544.03 0.0513 0.0011

Saturn -34437-07-22 15:50 J -10856487.86 -10856487.84 -10856487.81 0.0274 0.0267

Saturn -34437-10-19 05:16 J -10856399.40 -10856399.28 -10856399.16 0.0274 0.0162

Saturn -34436-01-15 18:57 J -10856310.86 -10856310.71 -10856310.57 0.0274 0.0055

Saturn -34436-04-14 08:38 J -10856222.28 -10856222.14 -10856221.99 0.0274 0.0057

Saturn -34436-07-11 22:47 J -10856133.66 -10856133.55 -10856133.43 0.0275 0.0170

Neptune -34435-05-20 21:50 J -10855820.62 -10855820.59 -10855820.54 0.0088 0.0085

Neptune -34435-08-17 00:28 J -10855732.55 -10855732.48 -10855732.38 0.0088 0.0077

Neptune -34435-11-13 03:07 J -10855644.46 -10855644.37 -10855644.24 0.0088 0.0069

Neptune -34434-02-09 06:14 J -10855556.36 -10855556.24 -10855556.11 0.0088 0.0060

Neptune -34434-05-08 08:52 J -10855468.26 -10855468.13 -10855467.98 0.0088 0.0052

Neptune -34434-08-04 11:31 J -10855380.16 -10855380.02 -10855379.86 0.0088 0.0044

Neptune -34434-10-31 14:09 J -10855292.05 -10855291.91 -10855291.74 0.0088 0.0036

Moon -34434-11-05 15:35 J -10855286.98 -10855286.85 -10855286.73 0.2665 0.0559

Earth -34434-11-05 16:19 J -10855286.95 -10855286.82 -10855286.70 0.2660 0.0584 *

Neptune -34433-01-27 17:16 J -10855203.95 -10855203.78 -10855203.62 0.0088 0.0027

Jupiter -34433-01-29 12:57 J -10855202.12 -10855201.96 -10855201.81 0.0516 0.0137

Neptune -34433-04-24 19:55 J -10855115.84 -10855115.67 -10855115.50 0.0088 0.0019

Mars -34433-05-27 05:59 J -10855083.30 -10855083.25 -10855083.19 0.1834 0.1595

Neptune -34433-07-21 22:33 J -10855027.73 -10855027.56 -10855027.39 0.0088 0.0011

Uranus -34433-08-26 09:21 J -10854992.18 -10854992.11 -10854992.04 0.0145 0.0126

Neptune -34433-10-18 01:11 J -10854939.62 -10854939.45 -10854939.27 0.0088 0.0003

Uranus -34433-11-22 13:55 J -10854904.02 -10854903.92 -10854903.81 0.0145 0.0102

Neptune -34432-01-14 03:50 J -10854851.51 -10854851.34 -10854851.16 0.0088 0.0005

Uranus -34432-02-18 18:43 J -10854815.84 -10854815.72 -10854815.58 0.0145 0.0077

Mars -34432-04-10 14:52 J -10854765.00 -10854764.88 -10854764.75 0.1683 0.0971

Neptune -34432-04-12 06:28 J -10854763.40 -10854763.23 -10854763.06 0.0088 0.0013

Uranus -34432-05-17 23:45 J -10854727.65 -10854727.51 -10854727.37 0.0145 0.0051

Neptune -34432-07-09 09:07 J -10854675.28 -10854675.12 -10854674.95 0.0088 0.0021

Uranus -34432-08-14 04:47 J -10854639.45 -10854639.30 -10854639.15 0.0145 0.0026

Neptune -34432-10-05 11:45 J -10854587.17 -10854587.01 -10854586.85 0.0088 0.0029

Uranus -34432-11-10 09:50 J -10854551.24 -10854551.09 -10854550.94 0.0145 0.0003

Neptune -34431-01-01 14:09 J -10854499.05 -10854498.91 -10854498.74 0.0088 0.0038

Uranus -34431-02-06 14:38 J -10854463.03 -10854462.89 -10854462.73 0.0145 0.0027

Neptune -34431-03-30 16:47 J -10854410.94 -10854410.80 -10854410.64 0.0088 0.0045

Mars -34431-05-03 02:23 J -10854377.47 -10854377.40 -10854377.33 0.1855 0.1538

Uranus -34431-05-05 19:55 J -10854374.81 -10854374.67 -10854374.53 0.0145 0.0052

Moon -34431-05-06 19:40 J -10854373.80 -10854373.68 -10854373.57 0.2677 0.0839

Earth -34431-05-06 19:40 J -10854373.80 -10854373.68 -10854373.56 0.2670 0.0761 *

Neptune -34431-06-26 19:11 J -10854322.82 -10854322.70 -10854322.55 0.0088 0.0054

Uranus -34431-08-02 00:57 J -10854286.59 -10854286.46 -10854286.33 0.0145 0.0079

Neptune -34431-09-22 21:50 J -10854234.70 -10854234.59 -10854234.45 0.0088 0.0061

Uranus -34431-10-29 05:59 J -10854198.35 -10854198.25 -10854198.14 0.0145 0.0106

Neptune -34431-12-20 00:43 J -10854146.57 -10854146.47 -10854146.36 0.0088 0.0069

Uranus -34430-01-25 11:16 J -10854110.08 -10854110.03 -10854109.96 0.0146 0.0133

Neptune -34430-03-18 03:07 J -10854058.45 -10854058.37 -10854058.28 0.0088 0.0076

Neptune -34430-06-14 05:31 J -10853970.30 -10853970.27 -10853970.21 0.0088 0.0084

Jupiter -34428-06-19 11:02 J -10853234.17 -10853234.04 -10853233.90 0.0514 0.0137

Jupiter -34428-09-16 22:04 J -10853144.65 -10853144.58 -10853144.52 0.0510 0.0454

Moon -34424-04-29 08:09 J -10851824.24 -10851824.16 -10851824.09 0.2672 0.2092

Earth -34424-04-29 08:52 J -10851824.21 -10851824.13 -10851824.05 0.2675 0.2004 *

Saturn -34422-02-27 23:45 J -10851154.57 -10851154.51 -10851154.44 0.0285 0.0257

Saturn -34422-05-27 17:45 J -10851065.90 -10851065.76 -10851065.61 0.0284 0.0120

Saturn -34422-08-24 11:16 J -10850977.19 -10850977.03 -10850976.87 0.0284 0.0015

Mars -34422-09-23 09:07 J -10850947.24 -10850947.12 -10850947.01 0.1850 0.0739

Jupiter -34422-11-17 13:11 J -10850892.11 -10850891.95 -10850891.79 0.0515 0.0030

Saturn -34422-11-21 04:19 J -10850888.45 -10850888.32 -10850888.18 0.0284 0.0145

Saturn -34421-02-17 21:07 J -10850799.66 -10850799.62 -10850799.58 0.0284 0.0272

Mars -34421-08-07 02:23 J -10850628.50 -10850628.40 -10850628.31 0.1669 0.1269

Earth -34421-11-07 15:07 J -10850536.00 -10850535.87 -10850535.75 0.2661 0.0502

Moon -34421-11-07 15:21 J -10850535.99 -10850535.86 -10850535.74 0.2668 0.0443 *

Earth -34418-05-09 17:31 J -10849622.86 -10849622.77 -10849622.67 0.2669 0.1802

Moon -34418-05-09 18:14 J -10849622.83 -10849622.74 -10849622.64 0.2673 0.1794 *

Jupiter -34416-04-07 13:40 J -10848924.04 -10848923.93 -10848923.81 0.0514 0.0288

Jupiter -34416-07-06 00:14 J -10848834.60 -10848834.49 -10848834.37 0.0510 0.0299

Earth -34414-10-31 23:16 J -10847986.55 -10847986.53 -10847986.51 0.2657 0.2616

Mars -34412-02-12 15:50 J -10847516.97 -10847516.84 -10847516.72 0.1845 0.0069

Venus -34412-05-14 02:23 J -10847426.51 -10847426.40 -10847426.30 0.3776 0.1624

Mars -34412-12-28 06:57 J -10847198.35 -10847198.21 -10847198.07 0.1674 0.0580

Moon -34411-05-02 05:02 J -10847073.40 -10847073.29 -10847073.18 0.2674 0.1145

Earth -34411-05-02 05:59 J -10847073.36 -10847073.25 -10847073.14 0.2674 0.1047 *

Jupiter -34410-09-05 13:11 J -10846582.10 -10846581.95 -10846581.80 0.0515 0.0202

Jupiter -34410-12-04 11:59 J -10846492.04 -10846492.00 -10846491.96 0.0518 0.0497

Venus -34408-05-15 11:59 J -10845964.10 -10845964.00 -10845963.91 0.3600 0.2393

Earth -34408-11-10 13:26 J -10845785.04 -10845784.94 -10845784.83 0.2663 0.1533

Moon -34408-11-10 14:09 J -10845785.01 -10845784.91 -10845784.80 0.2668 0.1644 *

Saturn -34407-03-08 06:43 J -10845667.32 -10845667.22 -10845667.12 0.0274 0.0194

Saturn -34407-06-04 20:09 J -10845578.80 -10845578.66 -10845578.52 0.0275 0.0087

Saturn -34407-09-01 10:04 J -10845490.23 -10845490.08 -10845489.93 0.0275 0.0023

Venus -34407-11-27 22:04 J -10845402.69 -10845402.58 -10845402.48 0.3773 0.1617

Saturn -34407-11-29 00:14 J -10845401.62 -10845401.49 -10845401.36 0.0275 0.0136

Saturn -34406-02-25 14:23 J -10845312.95 -10845312.90 -10845312.83 0.0275 0.0251

Jupiter -34404-01-24 16:47 J -10844613.87 -10844613.80 -10844613.73 0.0515 0.0435

Jupiter -34404-04-24 03:07 J -10844524.51 -10844524.37 -10844524.24 0.0512 0.0150

Mars -34403-07-05 22:47 J -10844086.66 -10844086.55 -10844086.44 0.1839 0.0795

Venus -34403-11-29 09:21 J -10843940.23 -10843940.11 -10843939.99 0.3603 0.1021

Mars -34402-05-20 11:16 J -10843768.18 -10843768.03 -10843767.88 0.1678 0.0140

Moon -34401-11-02 21:35 J -10843235.71 -10843235.60 -10843235.49 0.2661 0.1538

Earth -34401-11-02 22:33 J -10843235.67 -10843235.56 -10843235.45 0.2658 0.1486 *

Moon -34398-05-05 02:52 J -10842322.51 -10842322.38 -10842322.26 0.2678 0.0056

Earth -34398-05-05 03:21 J -10842322.48 -10842322.36 -10842322.23 0.2672 0.0075 *

Jupiter -34398-06-24 11:45 J -10842272.11 -10842272.01 -10842271.90 0.0513 0.0388

Jupiter -34398-09-22 11:02 J -10842182.16 -10842182.04 -10842181.91 0.0517 0.0315

Earth -34395-11-13 11:45 J -10841034.05 -10841034.01 -10841033.98 0.2665 0.2538

Moon -34395-11-13 12:43 J -10841033.99 -10841033.97 -10841033.94 0.2665 0.2596 *

Mars -34394-11-26 05:59 J -10840656.31 -10840656.25 -10840656.18 0.1833 0.1519

Saturn -34393-07-17 02:09 J -10840422.42 -10840422.41 -10840422.39 0.0285 0.0283

Mars -34393-10-09 15:07 J -10840337.99 -10840337.87 -10840337.74 0.1683 0.0885

Saturn -34393-10-13 20:23 J -10840333.79 -10840333.65 -10840333.51 0.0285 0.0144

Uranus -34392-01-09 05:45 J -10840246.33 -10840246.26 -10840246.20 0.0134 0.0122

Saturn -34392-01-10 13:55 J -10840245.08 -10840244.92 -10840244.76 0.0285 0.0011

Jupiter -34392-02-10 05:59 J -10840214.39 -10840214.25 -10840214.11 0.0513 0.0013

Uranus -34392-04-07 10:33 J -10840158.16 -10840158.06 -10840157.94 0.0134 0.0100

Saturn -34392-04-09 07:11 J -10840156.34 -10840156.20 -10840156.06 0.0285 0.0123

Uranus -34392-07-04 15:35 J -10840069.97 -10840069.85 -10840069.70 0.0134 0.0078

Saturn -34392-07-06 23:59 J -10840067.57 -10840067.50 -10840067.43 0.0284 0.0251

Uranus -34392-09-30 20:38 J -10839981.78 -10839981.64 -10839981.48 0.0133 0.0056

Mars -34392-11-01 02:38 J -10839950.45 -10839950.39 -10839950.33 0.1855 0.1626

Uranus -34392-12-28 01:40 J -10839893.58 -10839893.43 -10839893.27 0.0133 0.0033

Uranus -34391-03-26 06:43 J -10839805.38 -10839805.22 -10839805.06 0.0133 0.0011

Uranus -34391-06-22 11:31 J -10839717.18 -10839717.02 -10839716.85 0.0133 0.0010

Uranus -34391-09-18 16:19 J -10839628.97 -10839628.82 -10839628.66 0.0133 0.0032

Uranus -34391-12-15 20:52 J -10839540.77 -10839540.63 -10839540.47 0.0133 0.0054

Uranus -34390-03-14 01:40 J -10839452.55 -10839452.43 -10839452.29 0.0133 0.0074

Uranus -34390-06-10 06:28 J -10839364.34 -10839364.23 -10839364.11 0.0133 0.0095

Uranus -34390-09-06 11:02 J -10839276.11 -10839276.04 -10839275.95 0.0133 0.0115

Moon -34388-11-05 21:21 J -10838484.74 -10838484.61 -10838484.49 0.2665 0.0488

Earth -34388-11-05 21:50 J -10838484.72 -10838484.59 -10838484.46 0.2660 0.0384 *

Jupiter -34386-07-11 11:02 J -10837872.20 -10837872.04 -10837871.89 0.0516 0.0140

Moon -34385-05-07 01:11 J -10837571.57 -10837571.45 -10837571.34 0.2677 0.0891

Earth -34385-05-07 01:11 J -10837571.57 -10837571.45 -10837571.34 0.2670 0.0959 *

Mars -34383-03-01 18:57 J -10836907.74 -10836907.71 -10836907.67 0.1688 0.1643

Mars -34382-03-24 09:07 J -10836520.23 -10836520.12 -10836520.01 0.1850 0.0819

Mars -34381-02-06 02:38 J -10836201.47 -10836201.39 -10836201.30 0.1669 0.1358

Jupiter -34381-11-29 09:07 J -10835904.25 -10835904.12 -10835903.98 0.0514 0.0139

Jupiter -34380-02-26 20:09 J -10835814.72 -10835814.66 -10835814.60 0.0510 0.0453

Moon -34378-04-30 13:11 J -10835022.04 -10835021.95 -10835021.86 0.2673 0.1844

Earth -34378-04-30 14:09 J -10835022.00 -10835021.91 -10835021.82 0.2675 0.1834 *

Saturn -34378-07-26 08:52 J -10834935.21 -10834935.13 -10834935.04 0.0274 0.0221

Saturn -34378-10-22 22:19 J -10834846.70 -10834846.57 -10834846.43 0.0274 0.0115

Saturn -34377-01-19 11:59 J -10834758.15 -10834758.00 -10834757.85 0.0274 0.0006

Pluto -34377-01-24 19:26 J -10834752.73 -10834752.69 -10834752.62 0.0068 0.0064

Saturn -34377-04-17 01:55 J -10834669.56 -10834669.42 -10834669.28 0.0274 0.0106

Pluto -34377-04-21 20:52 J -10834664.71 -10834664.63 -10834664.54 0.0068 0.0058

Saturn -34377-07-14 16:19 J -10834580.91 -10834580.82 -10834580.73 0.0275 0.0220

Pluto -34377-07-18 22:04 J -10834576.67 -10834576.58 -10834576.46 0.0068 0.0052

Pluto -34377-10-14 23:31 J -10834488.63 -10834488.52 -10834488.39 0.0068 0.0046

Pluto -34376-01-11 00:57 J -10834400.59 -10834400.46 -10834400.32 0.0068 0.0041

Pluto -34376-04-09 02:23 J -10834312.54 -10834312.40 -10834312.26 0.0068 0.0035

Pluto -34376-07-06 03:35 J -10834224.50 -10834224.35 -10834224.19 0.0068 0.0029

Pluto -34376-10-02 05:02 J -10834136.45 -10834136.29 -10834136.13 0.0068 0.0023

Pluto -34376-12-29 06:14 J -10834048.39 -10834048.24 -10834048.07 0.0069 0.0017

Pluto -34375-03-27 07:40 J -10833960.34 -10833960.18 -10833960.01 0.0069 0.0011

Pluto -34375-06-23 09:07 J -10833872.28 -10833872.12 -10833871.95 0.0069 0.0005

Pluto -34375-09-19 10:33 J -10833784.22 -10833784.06 -10833783.89 0.0069 0.0003

Earth -34375-11-08 20:38 J -10833733.77 -10833733.64 -10833733.52 0.2662 0.0691

Moon -34375-11-08 20:52 J -10833733.76 -10833733.63 -10833733.51 0.2669 0.0792 *

Pluto -34375-12-16 11:59 J -10833696.16 -10833696.00 -10833695.83 0.0069 0.0009

Pluto -34374-03-14 13:26 J -10833608.10 -10833607.94 -10833607.77 0.0069 0.0015

Jupiter -34374-04-29 10:47 J -10833562.22 -10833562.05 -10833561.89 0.0515 0.0036

Pluto -34374-06-10 14:52 J -10833520.04 -10833519.88 -10833519.72 0.0069 0.0021

Pluto -34374-09-06 16:19 J -10833431.97 -10833431.82 -10833431.66 0.0069 0.0028

Pluto -34374-12-03 17:31 J -10833343.90 -10833343.77 -10833343.61 0.0069 0.0035

Pluto -34373-02-29 19:11 J -10833255.83 -10833255.70 -10833255.56 0.0070 0.0041

Pluto -34373-05-27 20:23 J -10833167.75 -10833167.65 -10833167.51 0.0070 0.0048

Mars -34373-08-13 15:50 J -10833089.97 -10833089.84 -10833089.72 0.1845 0.0064

Pluto -34373-08-23 21:50 J -10833079.67 -10833079.59 -10833079.46 0.0070 0.0055

Pluto -34373-11-19 23:31 J -10832991.59 -10832991.52 -10832991.43 0.0070 0.0061

Pluto -34372-02-16 00:57 J -10832903.48 -10832903.46 -10832903.40 0.0070 0.0068

Earth -34372-05-09 23:02 J -10832820.62 -10832820.54 -10832820.46 0.2668 0.1995

Moon -34372-05-09 23:45 J -10832820.58 -10832820.51 -10832820.43 0.2673 0.2144 *

Mars -34372-06-28 07:26 J -10832771.32 -10832771.19 -10832771.05 0.1674 0.0678

Jupiter -34369-09-17 12:28 J -10831594.09 -10831593.98 -10831593.86 0.0515 0.0279

Jupiter -34369-12-15 23:16 J -10831504.65 -10831504.53 -10831504.42 0.0511 0.0310

Moon -34368-11-01 03:50 J -10831184.38 -10831184.34 -10831184.30 0.2656 0.2530

Earth -34368-11-01 04:47 J -10831184.35 -10831184.30 -10831184.24 0.2657 0.2411 *

Moon -34365-05-02 10:19 J -10830271.18 -10830271.07 -10830270.95 0.2675 0.0938

Earth -34365-05-02 11:16 J -10830271.15 -10830271.03 -10830270.91 0.2673 0.0869 *

Mars -34363-01-03 22:47 J -10829659.66 -10829659.55 -10829659.43 0.1839 0.0714

Saturn -34363-03-02 19:11 J -10829601.82 -10829601.70 -10829601.58 0.0285 0.0193

Saturn -34363-05-30 12:57 J -10829513.11 -10829512.96 -10829512.80 0.0284 0.0057

Saturn -34363-08-27 06:28 J -10829424.39 -10829424.23 -10829424.08 0.0284 0.0076

Mars -34363-11-18 11:45 J -10829341.16 -10829341.01 -10829340.86 0.1678 0.0045

Saturn -34363-11-23 23:16 J -10829335.64 -10829335.53 -10829335.42 0.0284 0.0205

Jupiter -34362-02-15 10:47 J -10829252.19 -10829252.05 -10829251.89 0.0514 0.0204

Jupiter -34362-05-16 09:50 J -10829162.13 -10829162.09 -10829162.05 0.0518 0.0496

Earth -34362-11-11 18:57 J -10828982.81 -10828982.71 -10828982.61 0.2663 0.1719

Moon -34362-11-11 19:55 J -10828982.77 -10828982.67 -10828982.58 0.2666 0.1717 *

Venus -34361-06-04 05:16 J -10828777.31 -10828777.28 -10828777.25 0.3777 0.3609

Jupiter -34357-07-06 15:21 J -10827283.93 -10827283.86 -10827283.78 0.0515 0.0427

Jupiter -34357-10-04 01:40 J -10827194.56 -10827194.43 -10827194.29 0.0512 0.0159

Venus -34356-12-19 00:43 J -10826753.58 -10826753.47 -10826753.35 0.3775 0.0467

Moon -34355-11-04 03:07 J -10826433.48 -10826433.37 -10826433.26 0.2662 0.1378

Earth -34355-11-04 04:19 J -10826433.44 -10826433.32 -10826433.21 0.2659 0.1285 *

Mars -34354-05-27 06:14 J -10826229.32 -10826229.24 -10826229.17 0.1833 0.1436

Neptune -34354-08-23 08:09 J -10826141.18 -10826141.16 -10826141.12 0.0089 0.0086

Neptune -34354-11-19 09:50 J -10826053.14 -10826053.09 -10826053.02 0.0089 0.0080

Neptune -34353-02-15 11:45 J -10825965.09 -10825965.01 -10825964.93 0.0089 0.0073

Mars -34353-04-09 15:50 J -10825910.98 -10825910.84 -10825910.71 0.1683 0.0784

Neptune -34353-05-13 13:11 J -10825877.04 -10825876.95 -10825876.85 0.0089 0.0066

Neptune -34353-08-09 14:52 J -10825788.98 -10825788.88 -10825788.76 0.0089 0.0059

Neptune -34353-11-05 16:33 J -10825700.92 -10825700.81 -10825700.69 0.0089 0.0052

Neptune -34352-02-01 18:14 J -10825612.85 -10825612.74 -10825612.61 0.0089 0.0046

Neptune -34352-04-30 20:09 J -10825524.79 -10825524.66 -10825524.53 0.0089 0.0038

Mars -34352-05-02 02:52 J -10825523.42 -10825523.38 -10825523.34 0.1855 0.1720

Moon -34352-05-05 08:23 J -10825520.28 -10825520.15 -10825520.03 0.2678 0.0109

Earth -34352-05-05 08:52 J -10825520.26 -10825520.13 -10825520.01 0.2671 0.0148 *

Neptune -34352-07-27 21:50 J -10825436.72 -10825436.59 -10825436.45 0.0089 0.0031

Neptune -34352-10-23 23:31 J -10825348.66 -10825348.52 -10825348.38 0.0089 0.0024

Venus -34352-12-20 11:02 J -10825291.16 -10825291.04 -10825290.92 0.3601 0.1105

Neptune -34351-01-20 01:11 J -10825260.59 -10825260.45 -10825260.30 0.0089 0.0018

Neptune -34351-04-18 02:52 J -10825172.52 -10825172.38 -10825172.23 0.0089 0.0011

Neptune -34351-07-15 04:47 J -10825084.45 -10825084.30 -10825084.16 0.0089 0.0004

Neptune -34351-10-11 06:28 J -10824996.38 -10824996.23 -10824996.08 0.0089 0.0004

Jupiter -34351-12-04 10:47 J -10824942.16 -10824942.05 -10824941.94 0.0513 0.0375

Neptune -34350-01-07 08:09 J -10824908.30 -10824908.16 -10824908.01 0.0089 0.0011

Jupiter -34350-03-04 10:04 J -10824852.20 -10824852.08 -10824851.95 0.0517 0.0329

Neptune -34350-04-05 09:50 J -10824820.23 -10824820.09 -10824819.94 0.0089 0.0018

Neptune -34350-07-02 11:31 J -10824732.15 -10824732.02 -10824731.87 0.0089 0.0025

Venus -34350-07-04 20:23 J -10824729.72 -10824729.65 -10824729.57 0.3772 0.2810

Neptune -34350-09-28 13:26 J -10824644.07 -10824643.94 -10824643.80 0.0089 0.0032

Neptune -34350-12-25 15:07 J -10824556.00 -10824555.87 -10824555.73 0.0089 0.0039

Neptune -34349-03-22 16:47 J -10824467.91 -10824467.80 -10824467.66 0.0089 0.0047

Neptune -34349-06-18 18:43 J -10824379.83 -10824379.72 -10824379.60 0.0089 0.0053

Neptune -34349-09-14 20:38 J -10824291.75 -10824291.64 -10824291.53 0.0089 0.0061

Uranus -34349-09-15 16:04 J -10824290.90 -10824290.83 -10824290.74 0.0145 0.0121

Neptune -34349-12-11 22:04 J -10824203.66 -10824203.58 -10824203.47 0.0089 0.0068

Saturn -34349-12-12 10:04 J -10824203.13 -10824203.08 -10824203.03 0.0274 0.0257

Uranus -34349-12-12 21:07 J -10824202.73 -10824202.62 -10824202.51 0.0145 0.0096

Neptune -34348-03-09 23:59 J -10824115.57 -10824115.50 -10824115.41 0.0089 0.0075

Saturn -34348-03-10 23:16 J -10824114.65 -10824114.53 -10824114.40 0.0274 0.0151

Uranus -34348-03-11 01:55 J -10824114.55 -10824114.42 -10824114.29 0.0145 0.0071 *

Neptune -34348-06-06 01:55 J -10824027.47 -10824027.42 -10824027.36 0.0089 0.0082

Uranus -34348-06-07 06:43 J -10824026.36 -10824026.22 -10824026.08 0.0145 0.0046

Saturn -34348-06-07 12:57 J -10824026.11 -10824025.96 -10824025.81 0.0275 0.0042 *

Uranus -34348-09-03 11:45 J -10823938.16 -10823938.01 -10823937.86 0.0145 0.0020

Saturn -34348-09-04 02:52 J -10823937.53 -10823937.38 -10823937.24 0.0275 0.0069

Uranus -34348-11-30 16:33 J -10823849.96 -10823849.81 -10823849.65 0.0145 0.0007

Saturn -34348-12-01 17:02 J -10823848.90 -10823848.79 -10823848.68 0.0275 0.0182

Uranus -34347-02-26 21:35 J -10823761.74 -10823761.60 -10823761.45 0.0145 0.0032

Uranus -34347-05-26 02:38 J -10823673.52 -10823673.39 -10823673.24 0.0145 0.0058

Uranus -34347-08-22 07:55 J -10823585.29 -10823585.17 -10823585.05 0.0145 0.0084

Uranus -34347-11-18 12:57 J -10823497.05 -10823496.96 -10823496.86 0.0145 0.0111

Uranus -34346-02-14 17:59 J -10823408.78 -10823408.75 -10823408.69 0.0145 0.0139

Venus -34346-07-06 08:23 J -10823267.25 -10823267.15 -10823267.05 0.3603 0.2264

Moon -34345-04-27 22:04 J -10822970.62 -10822970.58 -10822970.55 0.2671 0.2552

Earth -34345-04-27 22:19 J -10822970.59 -10822970.57 -10822970.54 0.2676 0.2599 *

Jupiter -34345-07-23 04:33 J -10822884.45 -10822884.31 -10822884.17 0.0513 0.0010

Mars -34344-08-30 19:11 J -10822480.75 -10822480.70 -10822480.64 0.1688 0.1556

Mars -34343-09-22 09:07 J -10822093.23 -10822093.12 -10822093.01 0.1850 0.0903

Mars -34342-08-07 03:07 J -10821774.44 -10821774.37 -10821774.30 0.1669 0.1446

Moon -34342-11-07 02:52 J -10821682.51 -10821682.38 -10821682.25 0.2667 0.0186

Earth -34342-11-07 03:21 J -10821682.50 -10821682.36 -10821682.23 0.2660 0.0203 *

Earth -34339-05-08 06:28 J -10820769.35 -10820769.23 -10820769.12 0.2670 0.1141

Moon -34339-05-08 06:43 J -10820769.33 -10820769.22 -10820769.11 0.2676 0.1221 *

Jupiter -34339-12-21 09:21 J -10820542.26 -10820542.11 -10820541.95 0.0516 0.0148

Saturn -34334-07-20 20:52 J -10818869.72 -10818869.63 -10818869.52 0.0285 0.0224

Saturn -34334-10-17 14:52 J -10818781.03 -10818780.88 -10818780.72 0.0285 0.0086

Saturn -34333-01-14 08:23 J -10818692.30 -10818692.15 -10818691.99 0.0285 0.0050

Mars -34333-02-12 15:50 J -10818662.96 -10818662.84 -10818662.71 0.1845 0.0123

Saturn -34333-04-12 01:26 J -10818603.55 -10818603.44 -10818603.31 0.0285 0.0180

Jupiter -34333-05-11 07:26 J -10818574.33 -10818574.19 -10818574.06 0.0514 0.0139

Jupiter -34333-08-08 18:14 J -10818484.80 -10818484.74 -10818484.67 0.0510 0.0454

Mars -34333-12-27 07:40 J -10818344.31 -10818344.18 -10818344.04 0.1674 0.0761

Moon -34332-04-30 18:28 J -10818219.82 -10818219.73 -10818219.64 0.2672 0.1788

Earth -34332-04-30 19:26 J -10818219.79 -10818219.69 -10818219.60 0.2675 0.1657 *

Earth -34329-11-09 01:55 J -10816931.54 -10816931.42 -10816931.29 0.2662 0.0879

Moon -34329-11-09 02:23 J -10816931.53 -10816931.40 -10816931.28 0.2668 0.0830 *

Jupiter -34327-10-09 09:07 J -10816232.28 -10816232.12 -10816231.96 0.0515 0.0028

Earth -34326-05-11 04:33 J -10816018.39 -10816018.31 -10816018.24 0.2668 0.2192

Moon -34326-05-11 05:16 J -10816018.35 -10816018.28 -10816018.21 0.2673 0.2178 *

Mars -34324-07-04 22:47 J -10815232.66 -10815232.55 -10815232.43 0.1839 0.0638

Mars -34323-05-19 12:14 J -10814914.14 -10814913.99 -10814913.84 0.1679 0.0053

Moon -34322-11-02 09:21 J -10814382.18 -10814382.11 -10814382.04 0.2657 0.2227

Earth -34322-11-02 10:33 J -10814382.14 -10814382.06 -10814381.99 0.2657 0.2209 *

Jupiter -34321-02-28 10:47 J -10814264.17 -10814264.05 -10814263.94 0.0515 0.0280

Jupiter -34321-05-27 21:21 J -10814174.72 -10814174.61 -10814174.50 0.0511 0.0311

Moon -34319-05-03 15:50 J -10813468.96 -10813468.84 -10813468.72 0.2676 0.0729

Earth -34319-05-03 16:33 J -10813468.93 -10813468.81 -10813468.69 0.2673 0.0694 *

Saturn -34319-07-29 01:40 J -10813382.54 -10813382.43 -10813382.32 0.0274 0.0177

Saturn -34319-10-25 15:07 J -10813294.01 -10813293.87 -10813293.73 0.0274 0.0069

Saturn -34318-01-22 04:47 J -10813205.44 -10813205.30 -10813205.15 0.0274 0.0041

Saturn -34318-04-20 18:57 J -10813116.83 -10813116.71 -10813116.58 0.0274 0.0153

Saturn -34318-07-18 09:21 J -10813028.14 -10813028.11 -10813028.08 0.0275 0.0268

Earth -34316-11-12 00:28 J -10812180.57 -10812180.48 -10812180.39 0.2664 0.1906

Moon -34316-11-12 01:26 J -10812180.52 -10812180.44 -10812180.36 0.2666 0.2061 *

Jupiter -34315-07-28 08:38 J -10811922.29 -10811922.14 -10811921.99 0.0514 0.0205

Jupiter -34315-10-26 07:26 J -10811832.23 -10811832.19 -10811832.14 0.0518 0.0493

Mars -34315-11-25 06:14 J -10811802.32 -10811802.24 -10811802.16 0.1833 0.1357

Mars -34314-10-09 16:19 J -10811483.96 -10811483.82 -10811483.69 0.1683 0.0689

Mars -34313-10-31 02:38 J -10811096.41 -10811096.39 -10811096.36 0.1855 0.1794

Jupiter -34310-12-17 14:09 J -10809953.99 -10809953.91 -10809953.83 0.0516 0.0418

Jupiter -34309-03-16 00:28 J -10809864.61 -10809864.48 -10809864.34 0.0512 0.0169

Moon -34309-11-04 08:52 J -10809631.25 -10809631.13 -10809631.01 0.2662 0.1162

Earth -34309-11-04 09:50 J -10809631.21 -10809631.09 -10809630.97 0.2659 0.1085 *

Uranus -34308-01-29 12:14 J -10809545.06 -10809544.99 -10809544.91 0.0134 0.0118

Uranus -34308-04-27 17:02 J -10809456.89 -10809456.79 -10809456.66 0.0134 0.0096

Uranus -34308-07-24 22:04 J -10809368.70 -10809368.58 -10809368.43 0.0134 0.0074

Uranus -34308-10-21 03:21 J -10809280.51 -10809280.36 -10809280.20 0.0133 0.0051

Uranus -34307-01-17 08:23 J -10809192.31 -10809192.15 -10809191.99 0.0133 0.0029

Uranus -34307-04-15 13:11 J -10809104.11 -10809103.95 -10809103.78 0.0133 0.0008

Uranus -34307-07-12 18:14 J -10809015.90 -10809015.74 -10809015.58 0.0133 0.0014

Uranus -34307-10-08 22:47 J -10808927.70 -10808927.55 -10808927.38 0.0133 0.0037

Uranus -34306-01-05 03:35 J -10808839.49 -10808839.35 -10808839.20 0.0133 0.0057

Uranus -34306-04-03 08:23 J -10808751.27 -10808751.15 -10808751.01 0.0133 0.0078

Moon -34306-05-06 13:40 J -10808718.06 -10808717.93 -10808717.81 0.2678 0.0295

Earth -34306-05-06 14:09 J -10808718.04 -10808717.91 -10808717.79 0.2671 0.0309 *

Uranus -34306-06-30 12:57 J -10808663.05 -10808662.96 -10808662.84 0.0133 0.0099

Uranus -34306-09-26 17:45 J -10808574.82 -10808574.76 -10808574.69 0.0133 0.0119

Saturn -34305-12-06 19:26 J -10808137.72 -10808137.69 -10808137.64 0.0285 0.0274

Venus -34304-01-09 03:50 J -10808104.43 -10808104.34 -10808104.26 0.3777 0.2476

Mars -34304-02-28 19:55 J -10808053.75 -10808053.67 -10808053.60 0.1688 0.1455

Saturn -34304-03-05 13:40 J -10808049.07 -10808048.93 -10808048.78 0.0285 0.0135

Saturn -34304-06-02 07:26 J -10807960.35 -10807960.19 -10807960.03 0.0285 0.0002

Saturn -34304-08-30 00:43 J -10807871.61 -10807871.47 -10807871.33 0.0284 0.0132

Saturn -34304-11-26 17:31 J -10807782.83 -10807782.77 -10807782.71 0.0284 0.0260

Mars -34303-03-23 09:21 J -10807666.22 -10807666.11 -10807666.00 0.1850 0.0992

Jupiter -34303-05-16 08:38 J -10807612.25 -10807612.14 -10807612.02 0.0513 0.0374

Jupiter -34303-08-14 08:09 J -10807522.28 -10807522.16 -10807522.04 0.0517 0.0329

Mars -34302-02-05 03:35 J -10807347.41 -10807347.35 -10807347.30 0.1669 0.1538

Venus -34300-01-10 12:28 J -10806642.03 -10806641.98 -10806641.94 0.3599 0.3299

Moon -34299-04-29 03:07 J -10806168.41 -10806168.37 -10806168.34 0.2671 0.2533

Earth -34299-04-29 03:35 J -10806168.40 -10806168.35 -10806168.30 0.2676 0.2429 *

Venus -34299-07-25 23:16 J -10806080.65 -10806080.53 -10806080.42 0.3774 0.0721

Jupiter -34297-01-03 03:21 J -10805554.50 -10805554.36 -10805554.22 0.0513 0.0021

Moon -34296-11-07 08:38 J -10804880.27 -10804880.14 -10804880.01 0.2668 0.0038

Earth -34296-11-07 08:52 J -10804880.27 -10804880.13 -10804880.00 0.2661 0.0075 *

Venus -34295-07-27 09:50 J -10804618.21 -10804618.09 -10804617.96 0.3602 0.0202

Mars -34294-08-13 16:04 J -10804235.96 -10804235.83 -10804235.71 0.1844 0.0212

Earth -34293-05-08 11:59 J -10803967.11 -10803967.00 -10803966.89 0.2670 0.1337

Moon -34293-05-08 12:14 J -10803967.10 -10803966.99 -10803966.88 0.2676 0.1330 *

Mars -34293-06-27 08:09 J -10803917.29 -10803917.16 -10803917.03 0.1674 0.0852

Pluto -34292-12-15 21:35 J -10803380.65 -10803380.60 -10803380.53 0.0076 0.0069

Pluto -34291-03-13 23:16 J -10803292.62 -10803292.53 -10803292.44 0.0076 0.0061

Jupiter -34291-06-02 08:23 J -10803212.30 -10803212.15 -10803212.00 0.0516 0.0163

Pluto -34291-06-10 00:14 J -10803204.58 -10803204.49 -10803204.37 0.0076 0.0054

Pluto -34291-09-06 01:55 J -10803116.53 -10803116.42 -10803116.30 0.0076 0.0046

Pluto -34291-12-03 03:07 J -10803028.49 -10803028.37 -10803028.23 0.0076 0.0039

Pluto -34290-03-01 04:33 J -10802940.44 -10802940.31 -10802940.17 0.0076 0.0031

Pluto -34290-05-28 05:59 J -10802852.39 -10802852.25 -10802852.10 0.0075 0.0023

Pluto -34290-08-24 07:11 J -10802764.34 -10802764.20 -10802764.04 0.0075 0.0017

Pluto -34290-11-20 08:38 J -10802676.29 -10802676.14 -10802675.99 0.0075 0.0009

Saturn -34290-12-16 02:09 J -10802650.49 -10802650.41 -10802650.32 0.0274 0.0216

Venus -34289-02-10 07:11 J -10802594.22 -10802594.20 -10802594.17 0.3604 0.3494

Pluto -34289-02-16 10:04 J -10802588.23 -10802588.08 -10802587.93 0.0075 0.0002

Saturn -34289-03-13 15:35 J -10802561.98 -10802561.85 -10802561.71 0.0274 0.0110

Pluto -34289-05-14 11:16 J -10802500.18 -10802500.03 -10802499.88 0.0075 0.0006

Saturn -34289-06-10 05:16 J -10802473.43 -10802473.28 -10802473.13 0.0274 0.0005

Pluto -34289-08-10 12:28 J -10802412.12 -10802411.98 -10802411.83 0.0075 0.0013

Saturn -34289-09-06 19:11 J -10802384.83 -10802384.70 -10802384.56 0.0275 0.0112

Pluto -34289-11-06 13:55 J -10802324.07 -10802323.92 -10802323.78 0.0075 0.0020

Saturn -34289-12-04 09:35 J -10802296.19 -10802296.10 -10802296.02 0.0275 0.0226

Pluto -34288-02-02 14:52 J -10802236.01 -10802235.88 -10802235.73 0.0075 0.0027

Pluto -34288-05-01 16:04 J -10802147.95 -10802147.83 -10802147.69 0.0074 0.0034

Pluto -34288-07-28 17:16 J -10802059.89 -10802059.78 -10802059.64 0.0074 0.0041

Pluto -34288-10-24 18:28 J -10801971.83 -10801971.73 -10801971.60 0.0074 0.0048

Pluto -34287-01-20 19:55 J -10801883.76 -10801883.67 -10801883.57 0.0074 0.0054

Pluto -34287-04-18 21:07 J -10801795.70 -10801795.62 -10801795.54 0.0074 0.0061

Pluto -34287-07-15 22:04 J -10801707.62 -10801707.58 -10801707.51 0.0074 0.0068

Moon -34286-05-01 23:45 J -10801417.61 -10801417.51 -10801417.41 0.2672 0.1484

Earth -34286-05-02 00:43 J -10801417.58 -10801417.47 -10801417.37 0.2674 0.1488 *

Jupiter -34286-10-22 06:14 J -10801244.37 -10801244.24 -10801244.10 0.0514 0.0128

Jupiter -34285-01-19 17:16 J -10801154.84 -10801154.78 -10801154.73 0.0510 0.0464

Mars -34284-01-02 23:02 J -10800805.66 -10800805.54 -10800805.42 0.1839 0.0556

Mars -34284-11-17 12:28 J -10800487.12 -10800486.98 -10800486.83 0.1679 0.0151

Earth -34283-11-10 07:26 J -10800129.31 -10800129.19 -10800129.07 0.2662 0.1064

Moon -34283-11-10 07:55 J -10800129.29 -10800129.17 -10800129.05 0.2668 0.1162 *

Earth -34280-05-11 09:50 J -10799216.14 -10799216.09 -10799216.03 0.2668 0.2387

Moon -34280-05-11 10:47 J -10799216.09 -10799216.05 -10799216.01 0.2672 0.2533 *

Jupiter -34279-03-21 07:40 J -10798902.34 -10798902.18 -10798902.01 0.0515 0.0022

Moon -34276-11-02 14:52 J -10797579.95 -10797579.88 -10797579.80 0.2658 0.2168

Earth -34276-11-02 16:04 J -10797579.92 -10797579.83 -10797579.74 0.2657 0.2001 *

Mars -34275-05-26 06:14 J -10797375.32 -10797375.24 -10797375.15 0.1833 0.1277

Saturn -34275-07-23 15:21 J -10797316.99 -10797316.86 -10797316.73 0.0286 0.0167

Saturn -34275-10-20 09:07 J -10797228.28 -10797228.12 -10797227.96 0.0285 0.0030

Saturn -34274-01-17 02:23 J -10797139.54 -10797139.40 -10797139.25 0.0285 0.0103

Mars -34274-04-09 16:33 J -10797056.95 -10797056.81 -10797056.67 0.1683 0.0597

Saturn -34274-04-15 19:26 J -10797050.78 -10797050.69 -10797050.60 0.0285 0.0232

Jupiter -34274-08-10 09:07 J -10796934.24 -10796934.12 -10796934.00 0.0515 0.0277

Jupiter -34274-11-07 19:40 J -10796844.79 -10796844.68 -10796844.57 0.0511 0.0313

Moon -34273-05-03 21:07 J -10796666.74 -10796666.62 -10796666.50 0.2677 0.0625

Earth -34273-05-03 21:50 J -10796666.71 -10796666.59 -10796666.46 0.2673 0.0518 *

Neptune -34270-02-14 20:52 J -10795649.68 -10795649.63 -10795649.54 0.0088 0.0081

Neptune -34270-05-13 23:45 J -10795561.59 -10795561.51 -10795561.39 0.0088 0.0072

Neptune -34270-08-10 02:38 J -10795473.50 -10795473.39 -10795473.26 0.0088 0.0064

Neptune -34270-11-06 05:16 J -10795385.40 -10795385.28 -10795385.13 0.0088 0.0056

Earth -34270-11-13 05:45 J -10795378.34 -10795378.26 -10795378.18 0.2664 0.2089

Moon -34270-11-13 06:43 J -10795378.29 -10795378.22 -10795378.14 0.2667 0.2084 *

Neptune -34269-02-02 08:09 J -10795297.30 -10795297.16 -10795297.00 0.0088 0.0047

Neptune -34269-04-30 11:02 J -10795209.19 -10795209.04 -10795208.88 0.0088 0.0039

Neptune -34269-07-27 13:40 J -10795121.08 -10795120.93 -10795120.76 0.0088 0.0031

Neptune -34269-10-23 16:33 J -10795032.98 -10795032.81 -10795032.64 0.0088 0.0022

Neptune -34268-01-19 19:11 J -10794944.87 -10794944.70 -10794944.52 0.0088 0.0014

Neptune -34268-04-17 21:50 J -10794856.76 -10794856.59 -10794856.41 0.0088 0.0007

Neptune -34268-07-15 00:43 J -10794768.64 -10794768.47 -10794768.30 0.0088 0.0003

Neptune -34268-10-11 03:21 J -10794680.53 -10794680.36 -10794680.19 0.0088 0.0011

Neptune -34267-01-07 05:59 J -10794592.42 -10794592.25 -10794592.08 0.0088 0.0019

Jupiter -34267-01-07 07:26 J -10794592.34 -10794592.19 -10794592.04 0.0514 0.0192 *

Neptune -34267-04-05 08:38 J -10794504.30 -10794504.14 -10794503.98 0.0088 0.0027

Jupiter -34267-04-07 06:14 J -10794502.27 -10794502.24 -10794502.21 0.0517 0.0503

Neptune -34267-07-02 11:16 J -10794416.19 -10794416.03 -10794415.87 0.0088 0.0035

Neptune -34267-09-28 13:55 J -10794328.07 -10794327.92 -10794327.77 0.0088 0.0043

Neptune -34267-12-25 16:19 J -10794239.95 -10794239.82 -10794239.67 0.0088 0.0051

Neptune -34266-03-23 18:57 J -10794151.83 -10794151.71 -10794151.58 0.0088 0.0058

Neptune -34266-06-19 21:21 J -10794063.71 -10794063.61 -10794063.49 0.0088 0.0067

Neptune -34266-09-15 23:45 J -10793975.58 -10793975.51 -10793975.40 0.0088 0.0075

Neptune -34266-12-13 02:23 J -10793887.44 -10793887.40 -10793887.32 0.0088 0.0082

Uranus -34265-07-09 18:14 J -10793677.77 -10793677.74 -10793677.71 0.0145 0.0141

Mars -34265-08-29 20:23 J -10793626.74 -10793626.65 -10793626.56 0.1688 0.1353

Uranus -34265-10-05 23:02 J -10793589.63 -10793589.54 -10793589.45 0.0145 0.0116

Uranus -34264-01-02 03:35 J -10793501.45 -10793501.35 -10793501.22 0.0145 0.0092

Uranus -34264-03-31 08:38 J -10793413.27 -10793413.14 -10793413.01 0.0145 0.0066

Uranus -34264-06-27 13:26 J -10793325.08 -10793324.94 -10793324.79 0.0145 0.0041

Mars -34264-09-21 09:21 J -10793239.21 -10793239.11 -10793239.01 0.1850 0.1069

Uranus -34264-09-23 18:28 J -10793236.88 -10793236.73 -10793236.58 0.0145 0.0016

Uranus -34264-12-20 23:31 J -10793148.67 -10793148.52 -10793148.37 0.0145 0.0010

Uranus -34263-03-19 04:33 J -10793060.46 -10793060.31 -10793060.16 0.0145 0.0037

Uranus -34263-06-15 09:21 J -10792972.24 -10792972.11 -10792971.96 0.0145 0.0064

Mars -34263-08-06 03:50 J -10792920.37 -10792920.34 -10792920.31 0.1670 0.1622

Uranus -34263-09-11 14:38 J -10792884.00 -10792883.89 -10792883.77 0.0145 0.0090

Moon -34263-11-05 14:38 J -10792829.02 -10792828.89 -10792828.77 0.2663 0.0912

Earth -34263-11-05 15:21 J -10792828.98 -10792828.86 -10792828.73 0.2659 0.0884 *

Uranus -34263-12-08 19:40 J -10792795.76 -10792795.68 -10792795.58 0.0145 0.0117

Uranus -34262-03-07 00:57 J -10792707.47 -10792707.46 -10792707.43 0.0145 0.0144

Jupiter -34262-05-29 12:28 J -10792624.06 -10792623.98 -10792623.90 0.0516 0.0417

Jupiter -34262-08-26 22:47 J -10792534.68 -10792534.55 -10792534.41 0.0512 0.0171

Saturn -34260-05-04 04:33 J -10791918.37 -10791918.31 -10791918.24 0.0273 0.0241

Moon -34260-05-06 19:11 J -10791915.83 -10791915.70 -10791915.58 0.2677 0.0472

Earth -34260-05-06 19:26 J -10791915.81 -10791915.69 -10791915.56 0.2671 0.0490 *

Saturn -34260-07-31 17:59 J -10791829.88 -10791829.75 -10791829.62 0.0274 0.0135

Saturn -34260-10-28 07:26 J -10791741.33 -10791741.19 -10791741.04 0.0274 0.0028

Saturn -34259-01-24 21:21 J -10791652.75 -10791652.61 -10791652.47 0.0274 0.0084

Saturn -34259-04-23 11:31 J -10791564.12 -10791564.02 -10791563.91 0.0274 0.0197

Jupiter -34256-10-26 06:43 J -10790282.33 -10790282.22 -10790282.10 0.0513 0.0372

Jupiter -34255-01-24 05:59 J -10790192.37 -10790192.25 -10790192.12 0.0517 0.0331

Mars -34254-02-11 16:04 J -10789808.96 -10789808.83 -10789808.71 0.1845 0.0287

Mars -34254-12-27 08:38 J -10789490.26 -10789490.14 -10789490.01 0.1674 0.0949

Moon -34253-04-29 08:09 J -10789366.22 -10789366.16 -10789366.09 0.2671 0.2243

Earth -34253-04-29 08:52 J -10789366.19 -10789366.13 -10789366.07 0.2676 0.2259 *

Jupiter -34250-06-15 02:09 J -10788224.55 -10788224.41 -10788224.27 0.0513 0.0032

Moon -34250-11-08 14:09 J -10788078.04 -10788077.91 -10788077.78 0.2668 0.0206

Earth -34250-11-08 14:09 J -10788078.04 -10788077.91 -10788077.77 0.2661 0.0222 *

Venus -34248-08-16 02:09 J -10787431.52 -10787431.41 -10787431.31 0.3776 0.1327

Earth -34247-05-09 17:16 J -10787164.89 -10787164.78 -10787164.68 0.2669 0.1520

Moon -34247-05-09 17:45 J -10787164.86 -10787164.76 -10787164.66 0.2676 0.1595 *

Saturn -34246-12-10 13:40 J -10786585.02 -10786584.93 -10786584.82 0.0285 0.0219

Saturn -34245-03-08 07:55 J -10786496.33 -10786496.17 -10786496.02 0.0285 0.0081

Saturn -34245-06-05 01:26 J -10786407.60 -10786407.44 -10786407.29 0.0285 0.0054

Mars -34245-07-03 23:16 J -10786378.65 -10786378.53 -10786378.41 0.1839 0.0469

Saturn -34245-09-01 18:28 J -10786318.85 -10786318.73 -10786318.61 0.0284 0.0184

Mars -34244-05-18 12:57 J -10786060.10 -10786059.96 -10786059.81 0.1679 0.0242

Venus -34244-08-17 11:16 J -10785969.13 -10785969.03 -10785968.92 0.3600 0.2012

Jupiter -34244-11-12 06:28 J -10785882.38 -10785882.23 -10785882.07 0.0516 0.0166

Venus -34242-03-01 21:35 J -10785407.70 -10785407.60 -10785407.50 0.3773 0.1880

Moon -34240-05-02 05:02 J -10784615.39 -10784615.29 -10784615.19 0.2673 0.1450

Earth -34240-05-02 05:59 J -10784615.36 -10784615.25 -10784615.14 0.2674 0.1310 *

Venus -34238-03-03 08:52 J -10783945.24 -10783945.13 -10783945.01 0.3602 0.1421

Jupiter -34238-04-03 05:16 J -10783914.42 -10783914.28 -10783914.15 0.0514 0.0116

Jupiter -34238-07-01 16:04 J -10783824.88 -10783824.83 -10783824.78 0.0510 0.0475

Earth -34237-11-10 12:57 J -10783327.08 -10783326.96 -10783326.85 0.2663 0.1255

Moon -34237-11-10 13:40 J -10783327.05 -10783326.93 -10783326.82 0.2667 0.1273 *

Mars -34236-11-24 06:14 J -10782948.33 -10782948.24 -10782948.14 0.1833 0.1201

Mars -34235-10-08 17:02 J -10782629.93 -10782629.79 -10782629.64 0.1683 0.0500

Earth -34234-05-12 15:21 J -10782413.89 -10782413.86 -10782413.83 0.2668 0.2584

Moon -34234-05-12 16:19 J -10782413.84 -10782413.82 -10782413.79 0.2670 0.2599 *

Jupiter -34232-08-31 06:43 J -10781572.38 -10781572.22 -10781572.05 0.0515 0.0008

Saturn -34231-12-18 18:14 J -10781097.85 -10781097.74 -10781097.63 0.0274 0.0177

Saturn -34230-03-17 07:40 J -10781009.32 -10781009.18 -10781009.03 0.0274 0.0070

Saturn -34230-06-13 21:21 J -10780920.75 -10780920.61 -10780920.46 0.0274 0.0041

Saturn -34230-09-10 11:31 J -10780832.14 -10780832.02 -10780831.90 0.0275 0.0153

Moon -34230-11-03 20:23 J -10780777.74 -10780777.65 -10780777.55 0.2658 0.1809

Earth -34230-11-03 21:35 J -10780777.69 -10780777.60 -10780777.50 0.2658 0.1803 *

Saturn -34230-12-08 01:40 J -10780743.45 -10780743.43 -10780743.39 0.0275 0.0268

Moon -34227-05-05 02:23 J -10779864.52 -10779864.40 -10779864.28 0.2677 0.0331

Earth -34227-05-05 03:07 J -10779864.49 -10779864.37 -10779864.24 0.2672 0.0347 *

Jupiter -34226-01-20 08:09 J -10779604.27 -10779604.16 -10779604.04 0.0515 0.0261

Jupiter -34226-04-19 18:43 J -10779514.82 -10779514.72 -10779514.61 0.0511 0.0328

Mars -34225-02-28 20:38 J -10779199.74 -10779199.64 -10779199.54 0.1688 0.1264

Uranus -34224-02-18 18:57 J -10778843.79 -10778843.71 -10778843.62 0.0134 0.0113

Mars -34224-03-22 09:21 J -10778812.20 -10778812.11 -10778812.01 0.1850 0.1156

Uranus -34224-05-17 23:59 J -10778755.62 -10778755.50 -10778755.37 0.0134 0.0091

Uranus -34224-08-14 05:02 J -10778667.43 -10778667.29 -10778667.14 0.0134 0.0068

Uranus -34224-11-10 10:04 J -10778579.23 -10778579.08 -10778578.92 0.0134 0.0046

Earth -34224-11-13 11:16 J -10778576.10 -10778576.03 -10778575.97 0.2664 0.2273

Moon -34224-11-13 12:14 J -10778576.04 -10778575.99 -10778575.94 0.2666 0.2425 *

Uranus -34223-02-06 15:07 J -10778491.03 -10778490.87 -10778490.71 0.0133 0.0024

Uranus -34223-05-05 20:09 J -10778402.83 -10778402.66 -10778402.50 0.0133 0.0004

Uranus -34223-08-02 00:57 J -10778314.62 -10778314.46 -10778314.30 0.0133 0.0019

Uranus -34223-10-29 05:45 J -10778226.41 -10778226.26 -10778226.10 0.0133 0.0041

Uranus -34222-01-25 10:19 J -10778138.20 -10778138.07 -10778137.92 0.0133 0.0063

Uranus -34222-04-23 15:07 J -10778049.99 -10778049.87 -10778049.74 0.0133 0.0083

Uranus -34222-07-20 19:40 J -10777961.76 -10777961.68 -10777961.57 0.0133 0.0104

Uranus -34222-10-17 00:43 J -10777873.52 -10777873.47 -10777873.42 0.0133 0.0124

Jupiter -34220-06-19 06:14 J -10777262.39 -10777262.24 -10777262.09 0.0514 0.0179

Jupiter -34220-09-17 05:02 J -10777172.30 -10777172.29 -10777172.28 0.0517 0.0516

Moon -34217-11-05 20:23 J -10776026.78 -10776026.65 -10776026.53 0.2665 0.0796

Earth -34217-11-05 20:52 J -10776026.76 -10776026.63 -10776026.50 0.2659 0.0685 *

Saturn -34216-04-28 14:23 J -10775852.96 -10775852.90 -10775852.82 0.0286 0.0257

Saturn -34216-07-26 08:52 J -10775764.28 -10775764.13 -10775763.99 0.0286 0.0117

Saturn -34216-10-23 02:38 J -10775675.55 -10775675.39 -10775675.23 0.0285 0.0021

Saturn -34215-01-19 19:40 J -10775586.81 -10775586.68 -10775586.54 0.0285 0.0152

Saturn -34215-04-18 12:28 J -10775498.00 -10775497.98 -10775497.95 0.0285 0.0281

Mars -34215-08-12 16:04 J -10775381.95 -10775381.83 -10775381.70 0.1844 0.0376

Jupiter -34215-11-08 11:02 J -10775294.12 -10775294.04 -10775293.96 0.0516 0.0413

Jupiter -34214-02-05 21:21 J -10775204.74 -10775204.61 -10775204.48 0.0512 0.0175

Moon -34214-05-08 00:43 J -10775113.59 -10775113.47 -10775113.35 0.2677 0.0641

Earth -34214-05-08 00:43 J -10775113.59 -10775113.47 -10775113.34 0.2671 0.0679 *

Mars -34214-06-27 08:52 J -10775063.24 -10775063.13 -10775063.01 0.1674 0.1033

Jupiter -34208-04-07 05:45 J -10772952.38 -10772952.26 -10772952.14 0.0512 0.0355

Jupiter -34208-07-06 05:02 J -10772862.41 -10772862.29 -10772862.17 0.0516 0.0345

Moon -34207-04-30 13:26 J -10772564.01 -10772563.94 -10772563.87 0.2671 0.2192

Earth -34207-04-30 14:09 J -10772563.99 -10772563.91 -10772563.83 0.2676 0.2088 *

Mars -34205-01-02 23:02 J -10771951.66 -10771951.54 -10771951.42 0.1838 0.0396

Mars -34205-11-16 13:26 J -10771633.08 -10771632.94 -10771632.79 0.1679 0.0336

Moon -34204-11-08 19:40 J -10771275.80 -10771275.68 -10771275.55 0.2668 0.0413

Earth -34204-11-08 19:55 J -10771275.80 -10771275.67 -10771275.54 0.2661 0.0406 *

Jupiter -34203-11-25 00:28 J -10770894.62 -10770894.48 -10770894.34 0.0514 0.0034

Saturn -34201-05-06 20:38 J -10770365.73 -10770365.64 -10770365.54 0.0273 0.0201

Earth -34201-05-09 22:33 J -10770362.65 -10770362.56 -10770362.46 0.2669 0.1717

Moon -34201-05-09 23:16 J -10770362.63 -10770362.53 -10770362.44 0.2675 0.1745 *

Saturn -34201-08-03 10:04 J -10770277.22 -10770277.08 -10770276.94 0.0273 0.0095

Saturn -34201-10-30 23:45 J -10770188.66 -10770188.51 -10770188.36 0.0274 0.0014

Saturn -34200-01-27 13:26 J -10770100.06 -10770099.94 -10770099.80 0.0274 0.0126

Saturn -34200-04-26 03:50 J -10770011.41 -10770011.34 -10770011.27 0.0274 0.0239

Venus -34197-09-06 05:02 J -10768782.34 -10768782.29 -10768782.23 0.3778 0.3308

Jupiter -34196-04-24 04:47 J -10768552.45 -10768552.30 -10768552.15 0.0516 0.0170

Mars -34196-05-25 06:28 J -10768521.33 -10768521.23 -10768521.13 0.1833 0.1117

Mars -34195-04-08 17:31 J -10768202.91 -10768202.77 -10768202.62 0.1683 0.0403

Moon -34194-05-03 10:19 J -10767813.18 -10767813.07 -10767812.96 0.2675 0.1132

Earth -34194-05-03 11:16 J -10767813.14 -10767813.03 -10767812.92 0.2674 0.1133 *

Venus -34191-03-23 00:28 J -10766758.59 -10766758.48 -10766758.36 0.3775 0.0168

Jupiter -34191-09-13 04:04 J -10766584.47 -10766584.33 -10766584.20 0.0514 0.0107

Earth -34191-11-11 18:14 J -10766524.84 -10766524.74 -10766524.63 0.2663 0.1446

Moon -34191-11-11 19:11 J -10766524.81 -10766524.70 -10766524.60 0.2668 0.1529 *

Jupiter -34191-12-11 14:52 J -10766494.92 -10766494.88 -10766494.84 0.0510 0.0486

Neptune -34189-02-21 06:28 J -10766058.24 -10766058.23 -10766058.21 0.0089 0.0088

Neptune -34189-05-19 07:55 J -10765970.21 -10765970.17 -10765970.10 0.0089 0.0082

Neptune -34189-08-15 09:35 J -10765882.16 -10765882.10 -10765882.01 0.0089 0.0075

Neptune -34189-11-11 11:16 J -10765794.11 -10765794.03 -10765793.93 0.0089 0.0068

Neptune -34188-02-07 12:57 J -10765706.05 -10765705.96 -10765705.85 0.0089 0.0062

Neptune -34188-05-06 14:52 J -10765617.99 -10765617.88 -10765617.77 0.0089 0.0054

Neptune -34188-08-02 16:33 J -10765529.93 -10765529.81 -10765529.69 0.0089 0.0048

Neptune -34188-10-29 17:59 J -10765441.87 -10765441.75 -10765441.61 0.0089 0.0041

Neptune -34187-01-25 19:40 J -10765353.80 -10765353.68 -10765353.54 0.0089 0.0034

Venus -34187-03-24 10:33 J -10765296.19 -10765296.06 -10765295.94 0.3601 0.0725

Neptune -34187-04-23 21:21 J -10765265.74 -10765265.61 -10765265.46 0.0089 0.0027

Neptune -34187-07-20 23:16 J -10765177.67 -10765177.53 -10765177.39 0.0089 0.0020

Mars -34187-10-15 13:55 J -10765090.92 -10765090.92 -10765090.91 0.1827 0.1819

Neptune -34187-10-17 00:57 J -10765089.60 -10765089.46 -10765089.31 0.0089 0.0013

Saturn -34187-12-13 07:26 J -10765032.32 -10765032.19 -10765032.05 0.0285 0.0167

Neptune -34186-01-13 02:38 J -10765001.53 -10765001.39 -10765001.24 0.0089 0.0006

Saturn -34186-03-12 01:26 J -10764943.60 -10764943.44 -10764943.28 0.0285 0.0030

Neptune -34186-04-11 04:19 J -10764913.46 -10764913.32 -10764913.17 0.0089 0.0003

Saturn -34186-06-08 18:43 J -10764854.86 -10764854.72 -10764854.57 0.0285 0.0104

Neptune -34186-07-08 06:14 J -10764825.39 -10764825.24 -10764825.10 0.0089 0.0008

Mars -34186-08-29 21:07 J -10764772.72 -10764772.62 -10764772.51 0.1688 0.1167

Saturn -34186-09-05 11:45 J -10764766.09 -10764766.01 -10764765.92 0.0284 0.0234

Neptune -34186-10-04 07:55 J -10764737.31 -10764737.17 -10764737.03 0.0089 0.0015

Venus -34186-10-06 20:09 J -10764734.73 -10764734.66 -10764734.60 0.3773 0.3081

Neptune -34186-12-31 09:35 J -10764649.24 -10764649.10 -10764648.96 0.0089 0.0022

Neptune -34185-03-28 11:16 J -10764561.16 -10764561.03 -10764560.89 0.0089 0.0030

Neptune -34185-06-24 13:11 J -10764473.08 -10764472.95 -10764472.82 0.0089 0.0037

Mars -34185-09-20 09:35 J -10764385.19 -10764385.10 -10764385.01 0.1850 0.1246

Neptune -34185-09-20 14:38 J -10764385.00 -10764384.89 -10764384.75 0.0089 0.0044

Neptune -34185-12-17 16:33 J -10764296.92 -10764296.81 -10764296.68 0.0089 0.0051

Jupiter -34184-02-10 05:02 J -10764242.45 -10764242.29 -10764242.13 0.0515 0.0005

Neptune -34184-03-15 18:14 J -10764208.84 -10764208.74 -10764208.62 0.0089 0.0058

Neptune -34184-06-11 20:09 J -10764120.75 -10764120.66 -10764120.55 0.0089 0.0065

Neptune -34184-09-07 22:04 J -10764032.66 -10764032.58 -10764032.49 0.0089 0.0072

Moon -34184-11-04 02:09 J -10763975.51 -10763975.41 -10763975.31 0.2659 0.1759

Earth -34184-11-04 03:21 J -10763975.47 -10763975.36 -10763975.26 0.2658 0.1599 *

Neptune -34184-12-04 23:31 J -10763944.57 -10763944.52 -10763944.44 0.0089 0.0080

Neptune -34183-03-03 01:26 J -10763856.46 -10763856.44 -10763856.40 0.0089 0.0087

Venus -34182-10-08 07:55 J -10763272.25 -10763272.17 -10763272.09 0.3603 0.2667

Moon -34181-05-05 07:55 J -10763062.30 -10763062.17 -10763062.05 0.2677 0.0283

Earth -34181-05-05 08:38 J -10763062.27 -10763062.14 -10763062.02 0.2672 0.0158 *

Uranus -34181-07-30 01:11 J -10762976.49 -10762976.45 -10762976.39 0.0145 0.0135

Uranus -34181-10-26 05:45 J -10762888.34 -10762888.26 -10762888.15 0.0145 0.0111

Uranus -34180-01-22 10:47 J -10762800.17 -10762800.05 -10762799.93 0.0145 0.0086

Uranus -34180-04-20 15:35 J -10762711.98 -10762711.85 -10762711.71 0.0145 0.0061

Uranus -34180-07-17 20:38 J -10762623.79 -10762623.64 -10762623.50 0.0145 0.0035

Uranus -34180-10-14 01:26 J -10762535.59 -10762535.44 -10762535.29 0.0145 0.0010

Uranus -34179-01-10 06:28 J -10762447.38 -10762447.23 -10762447.08 0.0145 0.0016

Uranus -34179-04-08 11:31 J -10762359.16 -10762359.02 -10762358.87 0.0145 0.0043

Jupiter -34179-07-02 07:11 J -10762274.32 -10762274.20 -10762274.08 0.0515 0.0249

Uranus -34179-07-05 16:33 J -10762270.94 -10762270.81 -10762270.67 0.0145 0.0069

Jupiter -34179-09-29 17:45 J -10762184.86 -10762184.76 -10762184.65 0.0511 0.0340

Uranus -34179-10-01 21:35 J -10762182.71 -10762182.60 -10762182.48 0.0145 0.0096

Uranus -34179-12-29 02:52 J -10762094.46 -10762094.38 -10762094.30 0.0145 0.0122

Earth -34178-11-14 16:33 J -10761773.85 -10761773.81 -10761773.76 0.2665 0.2459

Moon -34178-11-14 17:31 J -10761773.81 -10761773.77 -10761773.72 0.2665 0.2470 *

Mars -34175-02-10 16:19 J -10760954.94 -10760954.82 -10760954.70 0.1844 0.0455

Mars -34175-12-26 09:21 J -10760636.21 -10760636.11 -10760636.00 0.1674 0.1126

Jupiter -34173-11-29 05:16 J -10759932.44 -10759932.28 -10759932.13 0.0514 0.0165

Saturn -34172-09-23 20:52 J -10759633.69 -10759633.63 -10759633.56 0.0274 0.0244

Saturn -34172-12-21 10:04 J -10759545.20 -10759545.08 -10759544.95 0.0274 0.0139

Saturn -34171-03-19 23:31 J -10759456.66 -10759456.52 -10759456.37 0.0274 0.0032

Saturn -34171-06-16 13:26 J -10759368.08 -10759367.94 -10759367.80 0.0274 0.0080

Saturn -34171-09-13 03:35 J -10759279.46 -10759279.35 -10759279.25 0.0274 0.0193

Moon -34171-11-07 01:55 J -10759224.55 -10759224.42 -10759224.29 0.2666 0.0465

Earth -34171-11-07 02:23 J -10759224.53 -10759224.40 -10759224.27 0.2660 0.0489 *

Moon -34168-05-08 06:14 J -10758311.36 -10758311.24 -10758311.12 0.2677 0.0924

Earth -34168-05-08 06:14 J -10758311.36 -10758311.24 -10758311.12 0.2670 0.0864 *

Jupiter -34167-04-20 10:19 J -10757964.16 -10757964.07 -10757963.98 0.0516 0.0393

Jupiter -34167-07-18 20:38 J -10757874.77 -10757874.64 -10757874.51 0.0512 0.0193

Mars -34166-07-03 23:16 J -10757524.66 -10757524.53 -10757524.41 0.1839 0.0310

Mars -34165-05-17 13:55 J -10757206.07 -10757205.92 -10757205.78 0.1679 0.0420

Moon -34161-04-30 18:43 J -10755761.81 -10755761.72 -10755761.64 0.2671 0.1923

Earth -34161-04-30 19:26 J -10755761.77 -10755761.69 -10755761.60 0.2675 0.1912 *

Jupiter -34161-09-17 04:47 J -10755622.42 -10755622.30 -10755622.18 0.0513 0.0340

Jupiter -34161-12-16 04:04 J -10755532.44 -10755532.33 -10755532.22 0.0516 0.0360

Earth -34158-11-10 01:11 J -10754473.57 -10754473.45 -10754473.32 0.2661 0.0595

Moon -34158-11-10 01:26 J -10754473.56 -10754473.44 -10754473.31 0.2668 0.0572 *

Saturn -34157-05-01 07:40 J -10754300.29 -10754300.18 -10754300.06 0.0286 0.0208

Saturn -34157-07-29 01:55 J -10754211.58 -10754211.42 -10754211.27 0.0286 0.0069

Saturn -34157-10-25 19:26 J -10754122.84 -10754122.69 -10754122.53 0.0286 0.0066

Mars -34157-11-23 06:28 J -10754094.33 -10754094.23 -10754094.13 0.1833 0.1040

Saturn -34156-01-22 12:28 J -10754034.09 -10754033.98 -10754033.86 0.0285 0.0198

Mars -34156-10-07 17:59 J -10753775.90 -10753775.75 -10753775.61 0.1684 0.0316

Jupiter -34155-05-06 23:02 J -10753564.68 -10753564.54 -10753564.40 0.0514 0.0041

Earth -34155-05-11 04:04 J -10753560.42 -10753560.33 -10753560.24 0.2669 0.1904

Moon -34155-05-11 04:33 J -10753560.39 -10753560.31 -10753560.22 0.2674 0.1951 *

Earth -34151-11-02 09:21 J -10751924.15 -10751924.11 -10751924.07 0.2656 0.2537

Jupiter -34149-10-04 04:04 J -10751222.48 -10751222.33 -10751222.18 0.0515 0.0188

Moon -34148-05-03 15:35 J -10751010.96 -10751010.85 -10751010.74 0.2676 0.1093

Earth -34148-05-03 16:33 J -10751010.93 -10751010.81 -10751010.69 0.2674 0.0954 *

Mars -34147-04-15 13:55 J -10750663.95 -10750663.92 -10750663.89 0.1827 0.1746

Mars -34146-02-27 21:50 J -10750345.71 -10750345.59 -10750345.47 0.1688 0.1061

Mars -34145-03-21 09:35 J -10749958.18 -10749958.10 -10749958.01 0.1849 0.1324

Earth -34145-11-11 23:45 J -10749722.61 -10749722.51 -10749722.41 0.2663 0.1636

Moon -34145-11-12 00:43 J -10749722.57 -10749722.47 -10749722.37 0.2668 0.1689 *

Jupiter -34143-02-23 02:23 J -10749254.54 -10749254.40 -10749254.26 0.0515 0.0104

Jupiter -34143-05-23 13:11 J -10749164.98 -10749164.95 -10749164.91 0.0511 0.0490

Saturn -34142-02-10 23:31 J -10748901.54 -10748901.52 -10748901.49 0.0273 0.0266

Saturn -34142-05-10 12:43 J -10748813.09 -10748812.97 -10748812.85 0.0273 0.0162

Saturn -34142-08-07 02:09 J -10748724.56 -10748724.41 -10748724.27 0.0273 0.0055

Saturn -34142-11-03 15:50 J -10748635.99 -10748635.84 -10748635.70 0.0273 0.0054

Saturn -34141-01-31 05:45 J -10748547.38 -10748547.26 -10748547.14 0.0274 0.0166

Uranus -34141-12-12 20:09 J -10748230.68 -10748230.66 -10748230.63 0.0134 0.0132

Uranus -34140-03-11 01:26 J -10748142.53 -10748142.44 -10748142.34 0.0134 0.0109

Venus -34140-04-13 03:35 J -10748109.45 -10748109.35 -10748109.26 0.3777 0.2174

Uranus -34140-06-07 06:28 J -10748054.35 -10748054.23 -10748054.10 0.0134 0.0087

Uranus -34140-09-03 11:31 J -10747966.16 -10747966.02 -10747965.87 0.0134 0.0064

Uranus -34140-11-30 16:33 J -10747877.96 -10747877.81 -10747877.65 0.0134 0.0042

Uranus -34139-02-26 21:35 J -10747789.76 -10747789.60 -10747789.43 0.0133 0.0020

Uranus -34139-05-26 02:38 J -10747701.56 -10747701.39 -10747701.23 0.0133 0.0002

Uranus -34139-08-22 07:26 J -10747613.35 -10747613.19 -10747613.03 0.0133 0.0023

Uranus -34139-11-18 12:14 J -10747525.14 -10747524.99 -10747524.83 0.0133 0.0045

Uranus -34138-02-14 17:02 J -10747436.93 -10747436.79 -10747436.65 0.0133 0.0066

Uranus -34138-05-13 21:35 J -10747348.71 -10747348.60 -10747348.47 0.0133 0.0088

Uranus -34138-08-10 02:23 J -10747260.48 -10747260.40 -10747260.30 0.0133 0.0108

Moon -34138-11-05 07:55 J -10747173.29 -10747173.17 -10747173.06 0.2661 0.1401

Earth -34138-11-05 08:52 J -10747173.24 -10747173.13 -10747173.02 0.2658 0.1399 *

Uranus -34138-11-06 07:11 J -10747172.23 -10747172.20 -10747172.16 0.0133 0.0128

Jupiter -34137-07-23 03:35 J -10746912.52 -10746912.35 -10746912.19 0.0514 0.0016

Venus -34136-04-14 11:45 J -10746647.08 -10746647.01 -10746646.93 0.3599 0.2916

Mars -34136-08-11 16:19 J -10746527.94 -10746527.82 -10746527.70 0.1844 0.0534

Moon -34135-05-06 13:11 J -10746260.07 -10746259.95 -10746259.82 0.2677 0.0106

Earth -34135-05-06 13:55 J -10746260.05 -10746259.92 -10746259.80 0.2672 0.0038 *

Mars -34135-06-26 09:50 J -10746209.19 -10746209.09 -10746208.99 0.1674 0.1219

Venus -34135-10-27 22:47 J -10746085.66 -10746085.55 -10746085.44 0.3774 0.0999

Earth -34132-11-14 22:04 J -10744971.59 -10744971.58 -10744971.57 0.2665 0.2644

Jupiter -34132-12-12 05:45 J -10744944.38 -10744944.26 -10744944.13 0.0515 0.0243

Jupiter -34131-03-11 16:33 J -10744854.91 -10744854.81 -10744854.71 0.0512 0.0349

Venus -34131-10-29 09:35 J -10744623.23 -10744623.10 -10744622.98 0.3601 0.0569

Pluto -34129-11-10 02:09 J -10743880.44 -10743880.41 -10743880.36 0.0068 0.0065

Pluto -34128-02-06 03:07 J -10743792.43 -10743792.37 -10743792.27 0.0068 0.0060

Pluto -34128-05-05 04:33 J -10743704.39 -10743704.31 -10743704.19 0.0068 0.0054

Pluto -34128-08-01 05:45 J -10743616.36 -10743616.26 -10743616.12 0.0068 0.0049

Saturn -34128-09-18 06:28 J -10743568.29 -10743568.23 -10743568.16 0.0286 0.0258

Pluto -34128-10-28 07:11 J -10743528.31 -10743528.20 -10743528.05 0.0068 0.0042

Saturn -34128-12-16 00:43 J -10743479.61 -10743479.47 -10743479.32 0.0285 0.0119

Pluto -34127-01-24 08:38 J -10743440.27 -10743440.14 -10743439.99 0.0068 0.0036

Saturn -34127-03-14 18:28 J -10743390.89 -10743390.73 -10743390.57 0.0285 0.0019

Pluto -34127-04-22 09:50 J -10743352.22 -10743352.09 -10743351.92 0.0068 0.0031

Saturn -34127-06-11 11:45 J -10743302.14 -10743302.01 -10743301.87 0.0285 0.0151

Pluto -34127-07-19 11:16 J -10743264.17 -10743264.03 -10743263.86 0.0068 0.0025

Saturn -34127-09-08 04:47 J -10743213.33 -10743213.30 -10743213.28 0.0285 0.0280

Pluto -34127-10-15 12:57 J -10743176.12 -10743175.96 -10743175.80 0.0069 0.0018

Mars -34126-01-01 23:16 J -10743097.65 -10743097.53 -10743097.40 0.1839 0.0226

Pluto -34126-01-11 14:23 J -10743088.07 -10743087.90 -10743087.74 0.0069 0.0012

Pluto -34126-04-09 15:50 J -10743000.01 -10742999.84 -10742999.67 0.0069 0.0006

Pluto -34126-07-06 17:16 J -10742911.95 -10742911.78 -10742911.62 0.0069 0.0002

Pluto -34126-10-02 18:28 J -10742823.89 -10742823.73 -10742823.56 0.0069 0.0007

Mars -34126-11-16 14:23 J -10742779.05 -10742778.90 -10742778.76 0.1679 0.0514

Pluto -34126-12-29 19:55 J -10742735.83 -10742735.67 -10742735.50 0.0069 0.0014

Pluto -34125-03-26 21:21 J -10742647.77 -10742647.61 -10742647.44 0.0069 0.0020

Jupiter -34125-05-11 03:35 J -10742602.51 -10742602.35 -10742602.19 0.0514 0.0159

Pluto -34125-06-22 22:47 J -10742559.70 -10742559.55 -10742559.39 0.0069 0.0027

Pluto -34125-09-18 23:59 J -10742471.63 -10742471.50 -10742471.33 0.0069 0.0034

Moon -34125-11-07 07:26 J -10742422.32 -10742422.19 -10742422.06 0.2666 0.0408

Earth -34125-11-07 07:55 J -10742422.30 -10742422.17 -10742422.04 0.2660 0.0293 *

Pluto -34125-12-16 01:40 J -10742383.56 -10742383.43 -10742383.28 0.0070 0.0040

Pluto -34124-03-14 02:52 J -10742295.49 -10742295.38 -10742295.23 0.0070 0.0047

Pluto -34124-06-10 04:47 J -10742207.41 -10742207.30 -10742207.19 0.0070 0.0053

Pluto -34124-09-06 05:59 J -10742119.32 -10742119.25 -10742119.15 0.0070 0.0060

Pluto -34124-12-03 07:26 J -10742031.22 -10742031.19 -10742031.12 0.0070 0.0067

Moon -34122-05-09 11:45 J -10741509.13 -10741509.01 -10741508.90 0.2677 0.1004

Earth -34122-05-09 11:31 J -10741509.13 -10741509.02 -10741508.90 0.2670 0.1054 *

Jupiter -34120-09-30 09:21 J -10740634.21 -10740634.11 -10740634.02 0.0516 0.0382

Jupiter -34120-12-28 19:40 J -10740544.81 -10740544.68 -10740544.55 0.0512 0.0205

Mars -34117-05-24 06:28 J -10739667.33 -10739667.23 -10739667.12 0.1833 0.0959

Mars -34116-04-07 18:28 J -10739348.88 -10739348.73 -10739348.58 0.1684 0.0216

Moon -34115-05-01 23:45 J -10738959.60 -10738959.51 -10738959.42 0.2673 0.1813

Earth -34115-05-02 00:43 J -10738959.56 -10738959.47 -10738959.38 0.2675 0.1741 *

Jupiter -34113-02-28 03:35 J -10738292.47 -10738292.35 -10738292.22 0.0513 0.0327

Jupiter -34113-05-28 02:52 J -10738202.48 -10738202.38 -10738202.26 0.0517 0.0375

Saturn -34113-09-26 12:43 J -10738081.06 -10738080.97 -10738080.88 0.0273 0.0207

Saturn -34113-12-24 01:55 J -10737992.55 -10737992.42 -10737992.28 0.0274 0.0101

Saturn -34112-03-22 15:35 J -10737904.00 -10737903.85 -10737903.70 0.0274 0.0010

Saturn -34112-06-19 05:16 J -10737815.41 -10737815.28 -10737815.14 0.0274 0.0119

Saturn -34112-09-15 19:26 J -10737726.76 -10737726.69 -10737726.61 0.0274 0.0233

Earth -34112-11-10 06:43 J -10737671.34 -10737671.22 -10737671.09 0.2662 0.0782

Moon -34112-11-10 07:11 J -10737671.32 -10737671.20 -10737671.08 0.2668 0.0877 *

Earth -34109-05-11 09:35 J -10736758.18 -10736758.10 -10736758.03 0.2668 0.2101

Moon -34109-05-11 10:19 J -10736758.14 -10736758.07 -10736758.00 0.2672 0.2206 *

Mars -34108-10-14 14:09 J -10736236.96 -10736236.91 -10736236.87 0.1827 0.1665

Jupiter -34108-10-16 22:33 J -10736234.70 -10736234.56 -10736234.42 0.0513 0.0059

Mars -34107-08-28 22:04 J -10735918.70 -10735918.58 -10735918.46 0.1689 0.0976

Neptune -34106-08-15 17:31 J -10735566.81 -10735566.77 -10735566.70 0.0088 0.0083

Mars -34106-09-20 09:50 J -10735531.17 -10735531.09 -10735531.01 0.1850 0.1410

Neptune -34106-11-11 20:38 J -10735478.73 -10735478.64 -10735478.54 0.0088 0.0075

Neptune -34105-02-07 23:16 J -10735390.63 -10735390.53 -10735390.41 0.0088 0.0066

Neptune -34105-05-06 01:55 J -10735302.54 -10735302.42 -10735302.27 0.0088 0.0058

Neptune -34105-08-02 05:02 J -10735214.43 -10735214.29 -10735214.15 0.0088 0.0050

Neptune -34105-10-29 07:40 J -10735126.33 -10735126.18 -10735126.02 0.0088 0.0041

Moon -34105-11-02 13:55 J -10735121.98 -10735121.92 -10735121.86 0.2655 0.2374

Earth -34105-11-02 14:52 J -10735121.94 -10735121.88 -10735121.81 0.2657 0.2334 *

Neptune -34104-01-25 10:19 J -10735038.22 -10735038.07 -10735037.90 0.0088 0.0033

Neptune -34104-04-23 12:57 J -10734950.11 -10734949.96 -10734949.78 0.0088 0.0026

Neptune -34104-07-20 16:04 J -10734862.00 -10734861.83 -10734861.66 0.0088 0.0017

Neptune -34104-10-16 18:43 J -10734773.89 -10734773.72 -10734773.55 0.0088 0.0008

Neptune -34103-01-12 21:21 J -10734685.78 -10734685.61 -10734685.44 0.0088 0.0001

Neptune -34103-04-10 23:59 J -10734597.67 -10734597.50 -10734597.33 0.0088 0.0008

Neptune -34103-07-08 02:38 J -10734509.56 -10734509.39 -10734509.22 0.0088 0.0016

Neptune -34103-10-04 05:16 J -10734421.44 -10734421.28 -10734421.11 0.0088 0.0024

Neptune -34103-12-31 07:55 J -10734333.32 -10734333.17 -10734333.01 0.0088 0.0032

Neptune -34102-03-29 10:33 J -10734245.21 -10734245.06 -10734244.90 0.0088 0.0040

Moon -34102-05-04 20:52 J -10734208.75 -10734208.63 -10734208.51 0.2675 0.0789

Earth -34102-05-04 21:50 J -10734208.71 -10734208.59 -10734208.47 0.2673 0.0774 *

Neptune -34102-06-25 12:57 J -10734157.09 -10734156.96 -10734156.80 0.0088 0.0049

Neptune -34102-09-21 15:35 J -10734068.97 -10734068.85 -10734068.71 0.0088 0.0056

Jupiter -34102-12-17 03:07 J -10733982.39 -10733982.37 -10733982.33 0.0512 0.0500

Neptune -34102-12-18 18:14 J -10733980.85 -10733980.74 -10733980.61 0.0088 0.0064

Neptune -34101-03-15 20:38 J -10733892.72 -10733892.64 -10733892.52 0.0088 0.0072

Jupiter -34101-03-16 03:07 J -10733892.52 -10733892.37 -10733892.22 0.0515 0.0204 *

Neptune -34101-06-11 23:31 J -10733804.58 -10733804.52 -10733804.44 0.0088 0.0080

Neptune -34101-09-08 01:55 J -10733716.43 -10733716.42 -10733716.39 0.0088 0.0088

Earth -34099-11-13 05:16 J -10732920.37 -10732920.28 -10732920.19 0.2663 0.1822

Moon -34099-11-13 05:59 J -10732920.34 -10732920.25 -10732920.16 0.2667 0.1877 *

Saturn -34098-05-05 00:43 J -10732747.61 -10732747.47 -10732747.34 0.0286 0.0162

Saturn -34098-08-01 18:43 J -10732658.88 -10732658.72 -10732658.56 0.0286 0.0024

Saturn -34098-10-29 11:59 J -10732570.14 -10732570.00 -10732569.85 0.0286 0.0112

Saturn -34097-01-26 05:02 J -10732481.36 -10732481.29 -10732481.20 0.0285 0.0243

Uranus -34097-08-19 08:23 J -10732275.21 -10732275.15 -10732275.08 0.0145 0.0129

Uranus -34097-11-15 13:11 J -10732187.05 -10732186.95 -10732186.84 0.0145 0.0104

Mars -34096-02-09 16:19 J -10732100.93 -10732100.82 -10732100.70 0.1844 0.0619

Uranus -34096-02-11 17:59 J -10732098.87 -10732098.75 -10732098.62 0.0145 0.0079

Uranus -34096-05-10 22:47 J -10732010.68 -10732010.55 -10732010.41 0.0145 0.0054

Jupiter -34096-08-05 00:57 J -10731924.60 -10731924.46 -10731924.32 0.0515 0.0097

Uranus -34096-08-07 03:50 J -10731922.49 -10731922.34 -10731922.19 0.0145 0.0029

Jupiter -34096-11-02 11:45 J -10731835.03 -10731835.01 -10731834.97 0.0511 0.0497

Uranus -34096-11-03 08:38 J -10731834.29 -10731834.14 -10731833.99 0.0145 0.0005

Mars -34096-12-25 10:04 J -10731782.17 -10731782.08 -10731781.98 0.1674 0.1303

Uranus -34095-01-30 13:40 J -10731746.08 -10731745.93 -10731745.78 0.0145 0.0023

Uranus -34095-04-28 18:43 J -10731657.86 -10731657.72 -10731657.58 0.0145 0.0049

Uranus -34095-07-25 23:45 J -10731569.64 -10731569.51 -10731569.38 0.0145 0.0076

Uranus -34095-10-22 04:47 J -10731481.40 -10731481.30 -10731481.19 0.0145 0.0102

Uranus -34094-01-18 09:50 J -10731393.15 -10731393.09 -10731393.01 0.0145 0.0129

Moon -34092-11-05 13:26 J -10730371.05 -10730370.94 -10730370.82 0.2663 0.1332

Earth -34092-11-05 14:23 J -10730371.02 -10730370.90 -10730370.78 0.2658 0.1195 *

Jupiter -34089-01-03 02:52 J -10729582.54 -10729582.38 -10729582.22 0.0514 0.0031

Moon -34089-05-06 18:57 J -10729457.84 -10729457.71 -10729457.59 0.2678 0.0135

Earth -34089-05-06 19:11 J -10729457.82 -10729457.70 -10729457.57 0.2672 0.0233 *

Mars -34087-07-02 23:16 J -10728670.65 -10728670.53 -10728670.41 0.1838 0.0150

Mars -34086-05-17 14:52 J -10728352.02 -10728351.88 -10728351.74 0.1679 0.0610

Jupiter -34084-05-24 04:04 J -10727614.45 -10727614.33 -10727614.20 0.0516 0.0241

Jupiter -34084-08-21 14:52 J -10727524.98 -10727524.88 -10727524.78 0.0512 0.0352

Venus -34084-11-18 01:55 J -10727436.53 -10727436.42 -10727436.31 0.3776 0.1026

Saturn -34083-02-13 15:21 J -10727348.93 -10727348.86 -10727348.78 0.0273 0.0228

Saturn -34083-05-13 04:33 J -10727260.44 -10727260.31 -10727260.18 0.0273 0.0123

Saturn -34083-08-09 17:59 J -10727171.90 -10727171.75 -10727171.60 0.0273 0.0017

Saturn -34083-11-06 07:40 J -10727083.31 -10727083.18 -10727083.03 0.0273 0.0096

Saturn -34082-02-02 21:50 J -10726994.68 -10726994.59 -10726994.49 0.0274 0.0207

Moon -34082-04-30 08:38 J -10726908.18 -10726908.14 -10726908.10 0.2670 0.2488

Earth -34082-04-30 09:07 J -10726908.16 -10726908.12 -10726908.08 0.2676 0.2508 *

Venus -34080-11-19 11:02 J -10725974.16 -10725974.04 -10725973.93 0.3600 0.1606

Moon -34079-11-08 13:11 J -10725620.09 -10725619.95 -10725619.82 0.2666 0.0107

Earth -34079-11-08 13:26 J -10725620.07 -10725619.94 -10725619.81 0.2660 0.0100 *

Venus -34078-06-03 21:21 J -10725412.70 -10725412.61 -10725412.52 0.3774 0.2176

Jupiter -34078-10-22 02:09 J -10725272.57 -10725272.41 -10725272.25 0.0513 0.0149

Mars -34078-11-23 06:43 J -10725240.33 -10725240.22 -10725240.12 0.1833 0.0879

Mars -34077-10-06 18:57 J -10724921.86 -10724921.71 -10724921.56 0.1683 0.0124

Earth -34076-05-09 17:02 J -10724706.91 -10724706.79 -10724706.68 0.2670 0.1244

Moon -34076-05-09 17:02 J -10724706.90 -10724706.79 -10724706.68 0.2677 0.1328 *

Venus -34074-06-05 08:38 J -10723950.25 -10723950.14 -10723950.03 0.3602 0.1835

Jupiter -34072-03-12 07:55 J -10723304.27 -10723304.17 -10723304.08 0.0517 0.0377

Jupiter -34072-06-09 18:14 J -10723214.87 -10723214.74 -10723214.61 0.0513 0.0212

Moon -34069-05-02 05:02 J -10722157.39 -10722157.29 -10722157.19 0.2674 0.1651

Earth -34069-05-02 05:59 J -10722157.35 -10722157.25 -10722157.15 0.2675 0.1565 *

Saturn -34069-09-20 23:45 J -10722015.62 -10722015.51 -10722015.40 0.0286 0.0210

Saturn -34069-12-18 17:59 J -10721926.91 -10721926.75 -10721926.60 0.0286 0.0070

Saturn -34068-03-17 11:31 J -10721838.17 -10721838.02 -10721837.86 0.0285 0.0066

Mars -34068-04-14 14:09 J -10721809.97 -10721809.91 -10721809.85 0.1827 0.1583

Saturn -34068-06-14 04:47 J -10721749.41 -10721749.30 -10721749.19 0.0285 0.0198

Mars -34067-02-26 22:33 J -10721491.69 -10721491.56 -10721491.43 0.1688 0.0876

Mars -34066-03-21 09:50 J -10721104.16 -10721104.09 -10721104.01 0.1850 0.1500

Jupiter -34066-08-10 01:55 J -10720962.54 -10720962.42 -10720962.29 0.0513 0.0320

Jupiter -34066-11-08 01:26 J -10720872.55 -10720872.44 -10720872.33 0.0517 0.0380

Earth -34066-11-11 12:14 J -10720869.11 -10720868.99 -10720868.87 0.2662 0.0974

Moon -34066-11-11 12:43 J -10720869.09 -10720868.97 -10720868.85 0.2668 0.0939 *

Earth -34063-05-12 14:52 J -10719955.94 -10719955.88 -10719955.82 0.2668 0.2295

Moon -34063-05-12 15:50 J -10719955.90 -10719955.84 -10719955.78 0.2672 0.2311 *

Jupiter -34061-12-29 11:16 J -10718994.04 -10718994.03 -10718994.02 0.0517 0.0515

Jupiter -34060-03-28 21:21 J -10718904.75 -10718904.61 -10718904.47 0.0513 0.0070

Moon -34059-11-03 19:26 J -10718319.76 -10718319.69 -10718319.62 0.2656 0.2217

Earth -34059-11-03 20:38 J -10718319.72 -10718319.64 -10718319.56 0.2657 0.2128 *

Mars -34058-07-20 01:55 J -10718061.44 -10718061.42 -10718061.39 0.1694 0.1662

Mars -34057-08-10 16:33 J -10717673.93 -10717673.81 -10717673.70 0.1844 0.0704

Uranus -34056-01-02 02:52 J -10717529.42 -10717529.38 -10717529.32 0.0134 0.0127

Uranus -34056-03-31 08:09 J -10717441.26 -10717441.16 -10717441.05 0.0134 0.0104

Moon -34056-05-05 02:09 J -10717406.53 -10717406.41 -10717406.29 0.2675 0.0711

Earth -34056-05-05 03:07 J -10717406.49 -10717406.37 -10717406.25 0.2673 0.0596 *

Mars -34056-06-25 10:33 J -10717355.14 -10717355.06 -10717354.98 0.1674 0.1394

Uranus -34056-06-27 13:11 J -10717353.07 -10717352.95 -10717352.81 0.0134 0.0082

Uranus -34056-09-23 18:14 J -10717264.88 -10717264.74 -10717264.58 0.0134 0.0060

Uranus -34056-12-20 23:16 J -10717176.68 -10717176.53 -10717176.37 0.0134 0.0037

Uranus -34055-03-19 04:19 J -10717088.48 -10717088.32 -10717088.15 0.0133 0.0015

Uranus -34055-06-15 09:21 J -10717000.27 -10717000.11 -10716999.95 0.0133 0.0007

Uranus -34055-09-11 14:09 J -10716912.07 -10716911.91 -10716911.75 0.0133 0.0028

Uranus -34055-12-08 18:57 J -10716823.85 -10716823.71 -10716823.55 0.0133 0.0050

Uranus -34054-03-06 23:45 J -10716735.64 -10716735.51 -10716735.37 0.0133 0.0071

Jupiter -34054-05-29 01:55 J -10716652.46 -10716652.42 -10716652.37 0.0512 0.0490

Uranus -34054-06-03 04:19 J -10716647.42 -10716647.32 -10716647.19 0.0133 0.0093

Saturn -34054-07-03 15:21 J -10716616.86 -10716616.86 -10716616.84 0.0273 0.0272

Jupiter -34054-08-27 01:40 J -10716562.57 -10716562.43 -10716562.28 0.0516 0.0217

Uranus -34054-08-30 09:07 J -10716559.19 -10716559.12 -10716559.03 0.0133 0.0113

Saturn -34054-09-30 04:33 J -10716528.42 -10716528.31 -10716528.19 0.0273 0.0168

Saturn -34054-12-27 17:59 J -10716439.90 -10716439.75 -10716439.61 0.0273 0.0061

Saturn -34053-03-25 07:26 J -10716351.33 -10716351.19 -10716351.04 0.0274 0.0049

Saturn -34053-06-21 21:21 J -10716262.73 -10716262.61 -10716262.48 0.0274 0.0160

Saturn -34053-09-18 11:45 J -10716174.01 -10716174.01 -10716174.01 0.0274 0.0274

Earth -34053-11-13 10:47 J -10716118.14 -10716118.05 -10716117.97 0.2664 0.2011

Moon -34053-11-13 11:45 J -10716118.09 -10716118.01 -10716117.94 0.2666 0.2125 *

Jupiter -34048-01-15 00:28 J -10714594.62 -10714594.48 -10714594.34 0.0514 0.0076

Mars -34048-12-31 23:31 J -10714243.65 -10714243.52 -10714243.40 0.1838 0.0086

Mars -34047-11-15 15:07 J -10713925.00 -10713924.87 -10713924.73 0.1679 0.0696

Moon -34046-11-06 18:57 J -10713568.83 -10713568.71 -10713568.59 0.2663 0.1017

Earth -34046-11-06 19:55 J -10713568.79 -10713568.67 -10713568.54 0.2659 0.0998 *

Moon -34043-05-08 00:14 J -10712655.61 -10712655.49 -10712655.36 0.2678 0.0449

Earth -34043-05-08 00:43 J -10712655.60 -10712655.47 -10712655.35 0.2671 0.0415 *

Pluto -34043-10-02 04:04 J -10712508.36 -10712508.33 -10712508.26 0.0076 0.0071

Pluto -34043-12-29 05:45 J -10712420.33 -10712420.26 -10712420.17 0.0076 0.0063

Pluto -34042-03-27 07:11 J -10712332.30 -10712332.20 -10712332.09 0.0076 0.0055

Jupiter -34042-06-15 01:55 J -10712252.58 -10712252.42 -10712252.26 0.0514 0.0047

Pluto -34042-06-23 08:23 J -10712244.25 -10712244.15 -10712244.02 0.0076 0.0048

Pluto -34042-09-19 10:04 J -10712156.21 -10712156.08 -10712155.95 0.0076 0.0040

Pluto -34042-12-16 11:16 J -10712068.16 -10712068.03 -10712067.89 0.0076 0.0033

Pluto -34041-03-13 12:43 J -10711980.11 -10711979.97 -10711979.82 0.0075 0.0025

Pluto -34041-06-09 14:09 J -10711892.06 -10711891.91 -10711891.76 0.0075 0.0017

Pluto -34041-09-05 15:21 J -10711804.00 -10711803.86 -10711803.71 0.0075 0.0010

Pluto -34041-12-02 16:47 J -10711715.95 -10711715.80 -10711715.65 0.0075 0.0003

Pluto -34040-02-28 17:59 J -10711627.90 -10711627.75 -10711627.60 0.0075 0.0005

Pluto -34040-05-27 19:11 J -10711539.84 -10711539.70 -10711539.55 0.0075 0.0012

Pluto -34040-08-23 20:38 J -10711451.78 -10711451.64 -10711451.50 0.0075 0.0019

Pluto -34040-11-19 21:50 J -10711363.73 -10711363.59 -10711363.45 0.0074 0.0026

Saturn -34039-02-07 23:02 J -10711283.61 -10711283.54 -10711283.47 0.0286 0.0258

Pluto -34039-02-15 23:02 J -10711275.67 -10711275.54 -10711275.40 0.0074 0.0033

Saturn -34039-05-07 17:31 J -10711194.92 -10711194.77 -10711194.63 0.0286 0.0117

Pluto -34039-05-15 00:14 J -10711187.61 -10711187.49 -10711187.36 0.0074 0.0040

Saturn -34039-08-04 11:16 J -10711106.19 -10711106.03 -10711105.87 0.0286 0.0021

Pluto -34039-08-11 01:26 J -10711099.55 -10711099.44 -10711099.32 0.0074 0.0046

Saturn -34039-11-01 04:33 J -10711017.44 -10711017.31 -10711017.17 0.0286 0.0156

Pluto -34039-11-07 02:38 J -10711011.49 -10711011.39 -10711011.28 0.0074 0.0053

Pluto -34038-02-03 03:35 J -10710923.42 -10710923.35 -10710923.25 0.0074 0.0060

Pluto -34038-05-02 04:47 J -10710835.35 -10710835.30 -10710835.22 0.0074 0.0067

Mars -34038-05-24 06:43 J -10710813.33 -10710813.22 -10710813.11 0.1833 0.0798

Pluto -34038-07-29 06:14 J -10710747.25 -10710747.24 -10710747.22 0.0074 0.0073

Mars -34037-04-06 19:11 J -10710494.85 -10710494.70 -10710494.55 0.1684 0.0049

Jupiter -34037-11-03 02:52 J -10710284.50 -10710284.38 -10710284.26 0.0516 0.0233

Jupiter -34036-01-31 13:26 J -10710195.04 -10710194.94 -10710194.84 0.0512 0.0359

Moon -34036-04-30 13:40 J -10710105.98 -10710105.93 -10710105.88 0.2671 0.2425

Earth -34036-04-30 14:09 J -10710105.96 -10710105.91 -10710105.85 0.2676 0.2342 *

Moon -34033-11-08 18:57 J -10708817.84 -10708817.71 -10708817.58 0.2667 0.0069

Earth -34033-11-08 18:57 J -10708817.84 -10708817.71 -10708817.58 0.2660 0.0107 *

Venus -34033-12-09 05:02 J -10708787.36 -10708787.29 -10708787.22 0.3778 0.2994

Jupiter -34030-04-03 01:40 J -10707942.59 -10707942.43 -10707942.27 0.0513 0.0127

Earth -34030-05-10 22:19 J -10707904.67 -10707904.57 -10707904.46 0.2670 0.1438

Moon -34030-05-10 22:47 J -10707904.66 -10707904.55 -10707904.45 0.2676 0.1400 *

Mars -34029-10-13 14:09 J -10707382.98 -10707382.91 -10707382.85 0.1827 0.1514

Mars -34028-08-27 23:16 J -10707064.67 -10707064.53 -10707064.40 0.1689 0.0776

Venus -34027-06-25 00:14 J -10706763.60 -10706763.49 -10706763.38 0.3775 0.0129

Mars -34027-09-19 09:50 J -10706677.15 -10706677.09 -10706677.02 0.1849 0.1577

Jupiter -34025-08-22 05:59 J -10705974.34 -10705974.25 -10705974.15 0.0517 0.0377

Neptune -34025-11-17 05:59 J -10705887.28 -10705887.25 -10705887.19 0.0089 0.0084

Jupiter -34025-11-19 16:33 J -10705884.94 -10705884.81 -10705884.68 0.0513 0.0213

Neptune -34024-02-13 07:40 J -10705799.24 -10705799.18 -10705799.10 0.0089 0.0078

Saturn -34024-02-16 07:26 J -10705796.29 -10705796.19 -10705796.08 0.0273 0.0188

Neptune -34024-05-12 09:35 J -10705711.18 -10705711.10 -10705711.01 0.0089 0.0070

Saturn -34024-05-15 20:38 J -10705707.78 -10705707.64 -10705707.50 0.0273 0.0083

Neptune -34024-08-08 11:16 J -10705623.13 -10705623.03 -10705622.93 0.0089 0.0064

Saturn -34024-08-12 10:19 J -10705619.22 -10705619.07 -10705618.92 0.0273 0.0026

Neptune -34024-11-04 12:43 J -10705535.07 -10705534.97 -10705534.85 0.0089 0.0057

Saturn -34024-11-08 23:59 J -10705530.62 -10705530.50 -10705530.37 0.0273 0.0137

Neptune -34023-01-31 14:23 J -10705447.01 -10705446.90 -10705446.77 0.0089 0.0050

Saturn -34023-02-05 14:09 J -10705441.96 -10705441.91 -10705441.85 0.0273 0.0250

Neptune -34023-04-29 16:04 J -10705358.94 -10705358.83 -10705358.69 0.0089 0.0043

Moon -34023-05-03 10:19 J -10705355.18 -10705355.07 -10705354.97 0.2674 0.1431

Earth -34023-05-03 11:16 J -10705355.14 -10705355.03 -10705354.93 0.2675 0.1391 *

Venus -34023-06-26 10:04 J -10705301.21 -10705301.08 -10705300.95 0.3600 0.0309

Neptune -34023-07-26 17:45 J -10705270.88 -10705270.76 -10705270.62 0.0089 0.0037

Neptune -34023-10-22 19:40 J -10705182.81 -10705182.68 -10705182.54 0.0089 0.0029

Neptune -34022-01-18 21:21 J -10705094.75 -10705094.61 -10705094.47 0.0089 0.0022

Neptune -34022-04-16 23:02 J -10705006.68 -10705006.54 -10705006.39 0.0089 0.0015

Neptune -34022-07-14 00:43 J -10704918.61 -10704918.47 -10704918.32 0.0089 0.0008

Neptune -34022-10-10 02:38 J -10704830.54 -10704830.39 -10704830.25 0.0089 0.0002

Neptune -34021-01-06 04:19 J -10704742.47 -10704742.32 -10704742.18 0.0089 0.0006

Venus -34021-01-08 19:40 J -10704739.73 -10704739.68 -10704739.63 0.3773 0.3369

Neptune -34021-04-03 05:59 J -10704654.39 -10704654.25 -10704654.11 0.0089 0.0013

Neptune -34021-06-30 07:40 J -10704566.32 -10704566.18 -10704566.04 0.0089 0.0020

Neptune -34021-09-26 09:21 J -10704478.24 -10704478.11 -10704477.97 0.0089 0.0027

Neptune -34021-12-23 11:16 J -10704390.17 -10704390.03 -10704389.90 0.0089 0.0034

Neptune -34020-03-21 12:57 J -10704302.09 -10704301.96 -10704301.83 0.0089 0.0042

Neptune -34020-06-17 14:23 J -10704214.01 -10704213.90 -10704213.76 0.0089 0.0050

Neptune -34020-09-13 16:19 J -10704125.92 -10704125.82 -10704125.70 0.0089 0.0056

Earth -34020-11-11 17:45 J -10704066.88 -10704066.76 -10704066.64 0.2662 0.1165

Moon -34020-11-11 18:14 J -10704066.85 -10704066.74 -10704066.63 0.2668 0.1282 *

Neptune -34020-12-10 17:59 J -10704037.84 -10704037.75 -10704037.63 0.0089 0.0064

Neptune -34019-03-08 19:55 J -10703949.75 -10703949.67 -10703949.57 0.0089 0.0070

Neptune -34019-06-04 21:50 J -10703861.66 -10703861.59 -10703861.51 0.0089 0.0077

Neptune -34019-08-31 23:16 J -10703773.55 -10703773.53 -10703773.47 0.0089 0.0085

Mars -34018-01-18 02:23 J -10703634.45 -10703634.40 -10703634.34 0.1694 0.1561

Jupiter -34018-01-20 00:28 J -10703632.60 -10703632.48 -10703632.34 0.0512 0.0311

Jupiter -34018-04-19 23:59 J -10703542.61 -10703542.50 -10703542.40 0.0516 0.0389

Venus -34017-01-10 07:40 J -10703277.25 -10703277.18 -10703277.12 0.3603 0.3087

Mars -34017-02-09 16:33 J -10703246.92 -10703246.81 -10703246.70 0.1844 0.0783

Earth -34017-05-12 20:23 J -10703153.70 -10703153.65 -10703153.61 0.2668 0.2490

Moon -34017-05-12 21:21 J -10703153.63 -10703153.61 -10703153.60 0.2671 0.2638 *

Mars -34017-12-24 11:02 J -10702928.10 -10702928.04 -10702927.97 0.1674 0.1489

Jupiter -34013-06-10 09:50 J -10701664.11 -10701664.09 -10701664.08 0.0518 0.0512

Jupiter -34013-09-07 19:55 J -10701574.81 -10701574.67 -10701574.53 0.0514 0.0074

Uranus -34013-09-08 15:35 J -10701573.92 -10701573.85 -10701573.76 0.0145 0.0122

Moon -34013-11-04 01:11 J -10701517.54 -10701517.45 -10701517.37 0.2659 0.2035

Earth -34013-11-04 02:09 J -10701517.50 -10701517.41 -10701517.32 0.2657 0.1922 *

Uranus -34013-12-05 20:38 J -10701485.75 -10701485.64 -10701485.53 0.0145 0.0097

Uranus -34012-03-04 01:11 J -10701397.57 -10701397.45 -10701397.32 0.0145 0.0072

Uranus -34012-05-31 06:14 J -10701309.38 -10701309.24 -10701309.10 0.0145 0.0047

Uranus -34012-08-27 11:02 J -10701221.19 -10701221.04 -10701220.89 0.0145 0.0022

Uranus -34012-11-23 16:04 J -10701132.98 -10701132.83 -10701132.68 0.0145 0.0005

Uranus -34011-02-19 20:52 J -10701044.77 -10701044.63 -10701044.48 0.0145 0.0030

Uranus -34011-05-19 01:55 J -10700956.56 -10700956.42 -10700956.28 0.0145 0.0056

Uranus -34011-08-15 06:57 J -10700868.33 -10700868.21 -10700868.08 0.0145 0.0083

Uranus -34011-11-11 11:59 J -10700780.09 -10700780.00 -10700779.89 0.0145 0.0109

Uranus -34010-02-07 17:02 J -10700691.83 -10700691.79 -10700691.72 0.0145 0.0137

Moon -34010-05-06 07:40 J -10700604.30 -10700604.18 -10700604.06 0.2676 0.0459

Earth -34010-05-06 08:23 J -10700604.27 -10700604.15 -10700604.02 0.2673 0.0421 *

Saturn -34010-09-24 17:02 J -10700462.92 -10700462.79 -10700462.66 0.0286 0.0161

Saturn -34010-12-22 11:02 J -10700374.20 -10700374.04 -10700373.88 0.0286 0.0022

Saturn -34009-03-20 04:33 J -10700285.46 -10700285.31 -10700285.16 0.0286 0.0113

Saturn -34009-06-16 21:35 J -10700196.68 -10700196.60 -10700196.52 0.0285 0.0244

Mars -34008-07-01 23:31 J -10699816.64 -10699816.52 -10699816.39 0.1838 0.0067

Mars -34007-05-16 15:35 J -10699497.98 -10699497.85 -10699497.72 0.1679 0.0790

Jupiter -34007-11-08 00:14 J -10699322.54 -10699322.49 -10699322.43 0.0512 0.0483

Earth -34007-11-14 16:04 J -10699315.90 -10699315.83 -10699315.76 0.2664 0.2197

Moon -34007-11-14 17:16 J -10699315.85 -10699315.78 -10699315.71 0.2665 0.2209 *

Jupiter -34006-02-06 00:14 J -10699232.64 -10699232.49 -10699232.35 0.0515 0.0222

Jupiter -34001-06-26 23:16 J -10697264.67 -10697264.53 -10697264.39 0.0514 0.0068

34TH MILLENNIUM BCE

This is a list of transits of Mercury in the 34th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Moon	**-34000-11-07 00:43 J**		**-10696766.60**	**-10696766.47**	**-10696766.35**	**0.2663**	**0.0903**	
Earth	**-34000-11-07 01:26 J**		**-10696766.56**	**-10696766.44**	**-10696766.31**	**0.2659**	**0.0797**	*
Mars	**-33999-11-22 06:43 J**		**-10696386.33**	**-10696386.22**	**-10696386.11**	**0.1832**	**0.0721**	
Mars	**-33998-10-06 19:40 J**		**-10696067.83**	**-10696067.68**	**-10696067.53**	**0.1684**	**0.0067**	
Moon	**-33997-05-08 05:45 J**		**-10695853.39**	**-10695853.26**	**-10695853.14**	**0.2678**	**0.0522**	
Earth	**-33997-05-08 05:59 J**		**-10695853.37**	**-10695853.25**	**-10695853.13**	**0.2671**	**0.0593**	*
Saturn	**-33995-07-06 07:40 J**		**-10695064.25**	**-10695064.18**	**-10695064.10**	**0.0273**	**0.0231**	
Saturn	**-33995-10-02 20:52 J**		**-10694975.76**	**-10694975.63**	**-10694975.50**	**0.0273**	**0.0126**	
Jupiter	**-33995-11-25 00:28 J**		**-10694922.64**	**-10694922.48**	**-10694922.32**	**0.0515**	**0.0056**	
Saturn	**-33995-12-30 10:19 J**		**-10694887.22**	**-10694887.07**	**-10694886.93**	**0.0273**	**0.0021**	
Saturn	**-33994-03-28 23:45 J**		**-10694798.65**	**-10694798.51**	**-10694798.36**	**0.0273**	**0.0092**	
Saturn	**-33994-06-25 13:40 J**		**-10694710.02**	**-10694709.93**	**-10694709.82**	**0.0274**	**0.0204**	
Moon	**-33990-05-01 18:43 J**		**-10693303.79**	**-10693303.72**	**-10693303.64**	**0.2672**	**0.2147**	
Earth	**-33990-05-01 19:26 J**		**-10693303.76**	**-10693303.69**	**-10693303.62**	**0.2676**	**0.2169**	*
Mars	**-33989-04-13 14:23 J**		**-10692955.98**	**-10692955.90**	**-10692955.83**	**0.1827**	**0.1429**	
Jupiter	**-33989-04-15 02:23 J**		**-10692954.53**	**-10692954.40**	**-10692954.27**	**0.0515**	**0.0211**	
Jupiter	**-33989-07-13 12:57 J**		**-10692865.05**	**-10692864.96**	**-10692864.86**	**0.0511**	**0.0380**	
Mars	**-33988-02-25 23:31 J**		**-10692637.66**	**-10692637.52**	**-10692637.38**	**0.1689**	**0.0686**	
Mars	**-33987-03-20 10:04 J**		**-10692250.13**	**-10692250.08**	**-10692250.03**	**0.1849**	**0.1664**	
Moon	**-33987-11-10 00:28 J**		**-10692015.61**	**-10692015.48**	**-10692015.35**	**0.2668**	**0.0358**	

Earth -33987-11-10 00:28 J -10692015.61 -10692015.48 -10692015.35 0.2661 0.0294 *

Earth -33984-05-11 03:50 J -10691102.45 -10691102.34 -10691102.24 0.2669 0.1627

Moon -33984-05-11 04:19 J -10691102.42 -10691102.32 -10691102.23 0.2675 0.1740 *

Jupiter -33983-09-13 00:28 J -10690612.64 -10690612.48 -10690612.32 0.0513 0.0113

Saturn -33980-02-10 16:04 J -10689730.94 -10689730.83 -10689730.72 0.0286 0.0210

Saturn -33980-05-10 10:19 J -10689642.23 -10689642.07 -10689641.91 0.0286 0.0069

Saturn -33980-08-07 04:04 J -10689553.48 -10689553.33 -10689553.17 0.0286 0.0068

Saturn -33980-11-03 21:21 J -10689464.72 -10689464.61 -10689464.50 0.0286 0.0201

Mars -33979-07-19 02:52 J -10689207.45 -10689207.38 -10689207.30 0.1694 0.1464

Mars -33978-08-10 16:47 J -10688819.91 -10688819.80 -10688819.69 0.1844 0.0871

Jupiter -33977-02-02 04:47 J -10688644.40 -10688644.30 -10688644.21 0.0517 0.0370

Jupiter -33977-05-01 15:07 J -10688555.00 -10688554.87 -10688554.74 0.0513 0.0219

Moon -33977-05-03 15:35 J -10688552.96 -10688552.85 -10688552.74 0.2673 0.1331

Earth -33977-05-03 16:33 J -10688552.92 -10688552.81 -10688552.70 0.2674 0.1215 *

Mars -33977-06-24 11:31 J -10688501.07 -10688501.02 -10688500.98 0.1674 0.1572

Venus -33976-07-16 03:21 J -10688114.46 -10688114.36 -10688114.26 0.3777 0.1866

Earth -33974-11-12 23:16 J -10687264.65 -10687264.53 -10687264.42 0.2662 0.1359

Moon -33974-11-12 23:45 J -10687264.62 -10687264.51 -10687264.40 0.2668 0.1332 *

Uranus -33972-01-22 09:21 J -10686828.16 -10686828.11 -10686828.03 0.0134 0.0123

Uranus -33972-04-20 14:38 J -10686739.99 -10686739.89 -10686739.77 0.0134 0.0100

Venus -33972-07-17 11:16 J -10686652.12 -10686652.03 -10686651.94 0.3599 0.2519

Uranus -33972-07-17 19:40 J -10686651.80 -10686651.68 -10686651.54 0.0134 0.0078

Uranus -33972-10-14 00:57 J -10686563.61 -10686563.46 -10686563.31 0.0134 0.0055

Uranus -33971-01-10 05:59 J -10686475.41 -10686475.25 -10686475.09 0.0133 0.0033

Uranus -33971-04-08 11:02 J -10686387.21 -10686387.04 -10686386.88 0.0133 0.0011

Jupiter -33971-07-01 23:59 J -10686302.63 -10686302.50 -10686302.36 0.0512 0.0288

Uranus -33971-07-05 15:50 J -10686299.00 -10686298.84 -10686298.67 0.0133 0.0011

Jupiter -33971-09-29 23:16 J -10686212.62 -10686212.53 -10686212.43 0.0516 0.0410

Uranus -33971-10-01 20:52 J -10686210.79 -10686210.63 -10686210.47 0.0133 0.0033

Uranus -33971-12-29 01:26 J -10686122.58 -10686122.44 -10686122.28 0.0133 0.0055

Venus -33970-01-29 22:33 J -10686090.67 -10686090.56 -10686090.45 0.3775 0.1283

Uranus -33970-03-27 06:14 J -10686034.36 -10686034.24 -10686034.10 0.0133 0.0076

Uranus -33970-06-23 11:02 J -10685946.14 -10685946.04 -10685945.92 0.0133 0.0096

Uranus -33970-09-19 15:50 J -10685857.91 -10685857.84 -10685857.76 0.0133 0.0117

Mars -33969-12-30 23:31 J -10685389.65 -10685389.52 -10685389.40 0.1838 0.0097

Mars -33968-11-14 16:04 J -10685070.96 -10685070.83 -10685070.70 0.1679 0.0884

Moon -33967-11-05 06:43 J -10684715.32 -10684715.22 -10684715.12 0.2660 0.1759

Earth -33967-11-05 07:40 J -10684715.28 -10684715.18 -10684715.07 0.2658 0.1721 *

Venus -33966-01-31 09:07 J -10684628.24 -10684628.12 -10684628.00 0.3601 0.0978

Jupiter -33966-11-21 07:55 J -10684334.18 -10684334.17 -10684334.15 0.0518 0.0513

Saturn -33966-11-23 10:33 J -10684332.11 -10684332.06 -10684332.00 0.0272 0.0251

Jupiter -33965-02-18 17:59 J -10684244.88 -10684244.75 -10684244.61 0.0514 0.0075

Saturn -33965-02-19 23:45 J -10684243.63 -10684243.51 -10684243.39 0.0273 0.0146

Saturn -33965-05-18 13:11 J -10684155.10 -10684154.95 -10684154.81 0.0273 0.0040

Saturn -33965-08-15 02:38 J -10684066.53 -10684066.39 -10684066.24 0.0273 0.0070

Saturn -33965-11-11 16:33 J -10683977.92 -10683977.81 -10683977.69 0.0273 0.0182

Moon -33964-05-06 13:11 J -10683802.08 -10683801.95 -10683801.83 0.2678 0.0283

Earth -33964-05-06 13:40 J -10683802.05 -10683801.93 -10683801.80 0.2673 0.0248 *

Earth -33961-11-14 21:35 J -10682513.66 -10682513.60 -10682513.55 0.2664 0.2382

Moon -33961-11-14 22:33 J -10682513.59 -10682513.56 -10682513.52 0.2665 0.2536 *

Jupiter -33959-04-19 22:47 J -10681992.60 -10681992.55 -10681992.48 0.0511 0.0473

Mars -33959-05-23 06:57 J -10681959.33 -10681959.21 -10681959.10 0.1833 0.0636

Jupiter -33959-07-18 22:33 J -10681902.70 -10681902.56 -10681902.41 0.0515 0.0230

Mars -33958-04-06 20:09 J -10681640.81 -10681640.66 -10681640.51 0.1684 0.0164

Moon -33954-11-08 06:28 J -10679964.36 -10679964.23 -10679964.11 0.2664 0.0644

Earth -33954-11-08 06:57 J -10679964.33 -10679964.21 -10679964.08 0.2659 0.0603 *

Jupiter -33954-12-07 21:35 J -10679934.74 -10679934.60 -10679934.46 0.0515 0.0066

Moon -33951-05-09 11:16 J -10679051.15 -10679051.03 -10679050.92 0.2677 0.0811

Earth -33951-05-09 11:16 J -10679051.15 -10679051.03 -10679050.91 0.2671 0.0782 *

Saturn -33951-06-30 16:19 J -10678998.90 -10678998.82 -10678998.75 0.0286 0.0251

Saturn -33951-09-27 10:33 J -10678910.21 -10678910.06 -10678909.91 0.0286 0.0109

Saturn -33951-12-25 04:19 J -10678821.47 -10678821.32 -10678821.16 0.0286 0.0030

Saturn -33950-03-23 21:50 J -10678732.72 -10678732.59 -10678732.46 0.0286 0.0163

Mars -33950-10-13 14:23 J -10678528.98 -10678528.90 -10678528.82 0.1827 0.1348

Mars -33949-08-26 23:59 J -10678210.64 -10678210.50 -10678210.36 0.1689 0.0589

Mars -33948-09-18 10:19 J -10677823.11 -10677823.07 -10677823.03 0.1849 0.1755

Jupiter -33947-05-06 22:47 J -10677592.72 -10677592.55 -10677592.39 0.0514 0.0061

Moon -33944-05-01 23:59 J -10676501.58 -10676501.50 -10676501.43 0.2672 0.2129

Earth -33944-05-02 00:43 J -10676501.55 -10676501.47 -10676501.39 0.2676 0.1997 *

Jupiter -33942-09-26 00:57 J -10675624.59 -10675624.46 -10675624.33 0.0515 0.0206

Jupiter -33942-12-24 11:31 J -10675535.11 -10675535.02 -10675534.93 0.0512 0.0386

Neptune -33941-02-13 14:23 J -10675483.93 -10675483.90 -10675483.84 0.0088 0.0085

Neptune -33941-05-11 17:02 J -10675395.85 -10675395.79 -10675395.69 0.0088 0.0078

Neptune -33941-08-07 20:09 J -10675307.76 -10675307.66 -10675307.54 0.0088 0.0069

Neptune -33941-11-03 22:47 J -10675219.66 -10675219.55 -10675219.41 0.0088 0.0060

Earth -33941-11-10 05:59 J -10675213.38 -10675213.25 -10675213.12 0.2661 0.0493

Moon -33941-11-10 05:59 J -10675213.37 -10675213.25 -10675213.12 0.2668 0.0456 *

Neptune -33940-01-31 01:26 J -10675131.56 -10675131.44 -10675131.28 0.0088 0.0053

Neptune -33940-04-29 04:33 J -10675043.46 -10675043.31 -10675043.15 0.0088 0.0044

Neptune -33940-07-26 07:11 J -10674955.35 -10674955.20 -10674955.03 0.0088 0.0035

Neptune -33940-10-22 09:50 J -10674867.24 -10674867.09 -10674866.91 0.0088 0.0028

Mars -33939-01-17 03:21 J -10674780.44 -10674780.36 -10674780.27 0.1694 0.1366

Neptune -33939-01-18 12:43 J -10674779.13 -10674778.97 -10674778.79 0.0088 0.0019

Neptune -33939-04-16 15:35 J -10674691.02 -10674690.85 -10674690.68 0.0088 0.0011

Neptune -33939-07-13 18:14 J -10674602.91 -10674602.74 -10674602.56 0.0088 0.0003

Neptune -33939-10-09 20:52 J -10674514.80 -10674514.63 -10674514.45 0.0088 0.0006

Neptune -33938-01-05 23:31 J -10674426.69 -10674426.52 -10674426.34 0.0088 0.0014

Mars -33938-02-08 16:47 J -10674392.91 -10674392.80 -10674392.69 0.1844 0.0952

Neptune -33938-04-04 02:09 J -10674338.57 -10674338.41 -10674338.24 0.0088 0.0022

Earth -33938-05-12 09:07 J -10674300.21 -10674300.12 -10674300.03 0.2669 0.1820

Moon -33938-05-12 09:50 J -10674300.18 -10674300.09 -10674300.00 0.2674 0.1814 *

Neptune -33938-07-01 04:47 J -10674250.45 -10674250.30 -10674250.13 0.0088 0.0030

Neptune -33938-09-27 07:26 J -10674162.34 -10674162.19 -10674162.03 0.0088 0.0038

Neptune -33938-12-24 10:04 J -10674074.22 -10674074.08 -10674073.93 0.0088 0.0046

Mars -33938-12-24 11:45 J -10674074.02 -10674074.01 -10674073.99 0.1674 0.1662 *

Neptune -33937-03-21 12:28 J -10673986.10 -10673985.98 -10673985.83 0.0088 0.0055

Neptune -33937-06-17 15:07 J -10673897.98 -10673897.87 -10673897.73 0.0088 0.0062

Neptune -33937-09-13 17:45 J -10673809.85 -10673809.76 -10673809.64 0.0088 0.0070

Neptune -33937-12-10 20:38 J -10673721.72 -10673721.64 -10673721.56 0.0088 0.0078

Neptune -33936-03-08 23:02 J -10673633.57 -10673633.54 -10673633.49 0.0088 0.0086

Saturn -33936-07-09 00:14 J -10673511.60 -10673511.49 -10673511.39 0.0273 0.0188

Saturn -33936-10-05 13:26 J -10673423.08 -10673422.94 -10673422.80 0.0273 0.0082

Saturn -33935-01-02 02:52 J -10673334.53 -10673334.38 -10673334.23 0.0273 0.0026

Jupiter -33935-02-22 22:47 J -10673282.71 -10673282.55 -10673282.39 0.0514 0.0109

Saturn -33935-03-31 16:33 J -10673245.94 -10673245.81 -10673245.68 0.0273 0.0137

Saturn -33935-06-28 06:43 J -10673157.28 -10673157.22 -10673157.16 0.0274 0.0250

Moon -33931-05-04 20:52 J -10671750.74 -10671750.63 -10671750.52 0.2674 0.1051

Earth -33931-05-04 21:50 J -10671750.71 -10671750.59 -10671750.48 0.2674 0.1039 *

Jupiter -33930-07-15 04:04 J -10671314.43 -10671314.33 -10671314.22 0.0516 0.0349

Jupiter -33930-10-12 14:23 J -10671225.02 -10671224.90 -10671224.77 0.0512 0.0240

Mars -33929-06-30 23:45 J -10670962.64 -10670962.51 -10670962.39 0.1838 0.0187

Uranus -33929-07-02 17:59 J -10670960.78 -10670960.75 -10670960.71 0.0145 0.0140

Uranus -33929-09-28 22:47 J -10670872.63 -10670872.55 -10670872.46 0.0145 0.0116

Uranus -33929-12-26 03:21 J -10670784.46 -10670784.36 -10670784.24 0.0145 0.0092

Uranus -33928-03-24 08:09 J -10670696.28 -10670696.16 -10670696.02 0.0145 0.0067

Mars -33928-05-15 16:19 J -10670643.94 -10670643.82 -10670643.70 0.1679 0.0972

Uranus -33928-06-20 13:11 J -10670608.09 -10670607.95 -10670607.81 0.0145 0.0041

Uranus -33928-09-16 17:59 J -10670519.89 -10670519.75 -10670519.60 0.0145 0.0016

Earth -33928-11-13 04:33 J -10670462.41 -10670462.31 -10670462.20 0.2663 0.1546

Moon -33928-11-13 05:31 J -10670462.37 -10670462.27 -10670462.17 0.2667 0.1676 *

Uranus -33928-12-13 23:02 J -10670431.69 -10670431.54 -10670431.39 0.0145 0.0010

Uranus -33927-03-12 04:04 J -10670343.48 -10670343.33 -10670343.19 0.0145 0.0036

Uranus -33927-06-08 08:52 J -10670255.26 -10670255.13 -10670254.99 0.0145 0.0063

Uranus -33927-09-04 14:09 J -10670167.03 -10670166.91 -10670166.79 0.0145 0.0089

Uranus -33927-12-01 18:57 J -10670078.79 -10670078.71 -10670078.61 0.0145 0.0116

Uranus -33926-02-28 00:14 J -10669990.51 -10669990.49 -10669990.45 0.0145 0.0142

Jupiter -33924-12-11 22:47 J -10668972.69 -10668972.55 -10668972.41 0.0512 0.0277

Jupiter -33923-03-11 22:04 J -10668882.67 -10668882.58 -10668882.49 0.0516 0.0422

Saturn -33921-02-14 09:21 J -10668178.24 -10668178.11 -10668177.97 0.0286 0.0159

Saturn -33921-05-13 03:35 J -10668089.51 -10668089.35 -10668089.19 0.0286 0.0020

Saturn -33921-08-09 21:07 J -10668000.76 -10668000.62 -10668000.47 0.0286 0.0117

Moon -33921-11-05 12:14 J -10667913.09 -10667912.99 -10667912.88 0.2660 0.1657

Earth -33921-11-05 13:26 J -10667913.05 -10667912.94 -10667912.83 0.2658 0.1512 *

Saturn -33921-11-06 14:23 J -10667911.97 -10667911.90 -10667911.82 0.0286 0.0249

Mars -33920-11-21 06:57 J -10667532.33 -10667532.21 -10667532.10 0.1832 0.0561

Venus -33919-02-20 01:40 J -10667441.55 -10667441.43 -10667441.32 0.3776 0.0761

Mars -33919-10-05 20:38 J -10667213.79 -10667213.64 -10667213.49 0.1684 0.0253

Jupiter -33918-05-03 06:28 J -10667004.25 -10667004.23 -10667004.20 0.0518 0.0508

Moon -33918-05-07 18:28 J -10666999.85 -10666999.73 -10666999.61 0.2678 0.0131

Earth -33918-05-07 19:11 J -10666999.83 -10666999.70 -10666999.58 0.2672 0.0072 *

Jupiter -33918-07-31 16:33 J -10666914.94 -10666914.81 -10666914.67 0.0514 0.0081

Venus -33915-02-21 10:19 J -10665979.19 -10665979.07 -10665978.94 0.3600 0.1218

Earth -33915-11-16 02:52 J -10665711.41 -10665711.38 -10665711.35 0.2665 0.2569

Moon -33915-11-16 04:04 J -10665711.36 -10665711.33 -10665711.30 0.2666 0.2566 *

Venus -33914-09-05 21:07 J -10665417.71 -10665417.62 -10665417.54 0.3774 0.2464

Jupiter -33912-09-29 22:19 J -10664662.64 -10664662.57 -10664662.49 0.0511 0.0452

Jupiter -33912-12-28 22:04 J -10664572.72 -10664572.58 -10664572.44 0.0515 0.0250

Mars -33910-04-13 14:23 J -10664101.99 -10664101.90 -10664101.82 0.1827 0.1275

Venus -33910-09-07 08:09 J -10663955.26 -10663955.16 -10663955.06 0.3602 0.2229

Mars -33909-02-26 00:43 J -10663783.62 -10663783.47 -10663783.33 0.1689 0.0487

Mars -33908-03-19 10:19 J -10663396.09 -10663396.07 -10663396.06 0.1849 0.1831

Moon -33908-11-08 12:14 J -10663162.12 -10663161.99 -10663161.86 0.2666 0.0419

Earth -33908-11-08 12:43 J -10663162.11 -10663161.97 -10663161.84 0.2659 0.0407 *

Saturn -33907-11-26 03:21 J -10662779.45 -10662779.36 -10662779.27 0.0272 0.0206

Saturn -33906-02-22 16:33 J -10662690.95 -10662690.81 -10662690.68 0.0273 0.0101

Jupiter -33906-05-19 19:40 J -10662604.82 -10662604.68 -10662604.54 0.0515 0.0068

Saturn -33906-05-22 05:59 J -10662602.40 -10662602.25 -10662602.10 0.0273 0.0008

Saturn -33906-08-18 19:40 J -10662513.82 -10662513.68 -10662513.55 0.0273 0.0117

Saturn -33906-11-15 09:35 J -10662425.18 -10662425.10 -10662425.02 0.0273 0.0230

Moon -33905-05-09 16:47 J -10662248.92 -10662248.80 -10662248.69 0.2677 0.0967

Earth -33905-05-09 16:47 J -10662248.92 -10662248.80 -10662248.69 0.2670 0.0970 *

Mars -33900-07-18 03:50 J -10660353.44 -10660353.34 -10660353.24 0.1694 0.1271

Jupiter -33900-10-16 21:07 J -10660262.78 -10660262.62 -10660262.46 0.0514 0.0067

Mars -33899-08-09 16:47 J -10659965.90 -10659965.80 -10659965.69 0.1844 0.1037

Moon -33898-05-03 05:16 J -10659699.37 -10659699.28 -10659699.19 0.2672 0.1809

Earth -33898-05-03 05:59 J -10659699.34 -10659699.25 -10659699.16 0.2675 0.1823 *

Earth -33895-11-11 11:31 J -10658411.15 -10658411.02 -10658410.89 0.2661 0.0687

Moon -33895-11-11 11:45 J -10658411.14 -10658411.01 -10658410.89 0.2668 0.0737 *

Jupiter -33894-03-07 23:02 J -10658294.66 -10658294.54 -10658294.41 0.0516 0.0208

Jupiter -33894-06-05 09:50 J -10658205.18 -10658205.09 -10658205.00 0.0512 0.0385

Earth -33892-05-12 14:23 J -10657497.98 -10657497.90 -10657497.81 0.2669 0.2013

Moon -33892-05-12 15:07 J -10657497.94 -10657497.87 -10657497.79 0.2674 0.2125 *

Saturn -33892-07-03 10:19 J -10657446.19 -10657446.07 -10657445.95 0.0286 0.0195

Saturn -33892-09-30 04:33 J -10657357.47 -10657357.31 -10657357.16 0.0286 0.0055

Saturn -33892-12-27 22:04 J -10657268.73 -10657268.58 -10657268.42 0.0286 0.0082

Saturn -33891-03-26 15:21 J -10657179.96 -10657179.86 -10657179.75 0.0286 0.0215

Mars -33890-12-30 23:45 J -10656535.63 -10656535.51 -10656535.38 0.1838 0.0271

Mars -33889-11-13 16:47 J -10656216.91 -10656216.80 -10656216.68 0.1679 0.1062

Uranus -33888-02-11 16:04 J -10656126.90 -10656126.83 -10656126.74 0.0134 0.0118

Uranus -33888-05-10 21:21 J -10656038.72 -10656038.61 -10656038.49 0.0134 0.0095

Jupiter -33888-08-04 20:52 J -10655952.79 -10655952.63 -10655952.47 0.0513 0.0106

Uranus -33888-08-07 02:23 J -10655950.53 -10655950.40 -10655950.25 0.0134 0.0073

Uranus -33888-11-03 07:26 J -10655862.33 -10655862.19 -10655862.03 0.0133 0.0051

Moon -33888-11-03 18:14 J -10655861.75 -10655861.74 -10655861.72 0.2655 0.2623

Earth -33888-11-03 19:26 J -10655861.74 -10655861.69 -10655861.64 0.2656 0.2456 *

Uranus -33887-01-30 12:43 J -10655774.13 -10655773.97 -10655773.81 0.0133 0.0028

Uranus -33887-04-28 17:45 J -10655685.92 -10655685.76 -10655685.60 0.0133 0.0006

Uranus -33887-07-25 22:33 J -10655597.72 -10655597.56 -10655597.39 0.0133 0.0016

Uranus -33887-10-22 03:35 J -10655509.51 -10655509.35 -10655509.19 0.0133 0.0037

Uranus -33886-01-18 08:23 J -10655421.29 -10655421.15 -10655421.00 0.0133 0.0059

Uranus -33886-04-16 12:57 J -10655333.08 -10655332.96 -10655332.82 0.0133 0.0080

Uranus -33886-07-13 17:45 J -10655244.85 -10655244.76 -10655244.65 0.0133 0.0101

Uranus -33886-10-09 22:47 J -10655156.62 -10655156.55 -10655156.49 0.0133 0.0121

Moon -33885-05-05 02:09 J -10654948.52 -10654948.41 -10654948.29 0.2676 0.0999

Earth -33885-05-05 03:07 J -10654948.49 -10654948.37 -10654948.25 0.2674 0.0859 *

Jupiter -33883-12-25 02:38 J -10653984.49 -10653984.39 -10653984.29 0.0517 0.0346

Jupiter -33882-03-24 12:57 J -10653895.08 -10653894.96 -10653894.84 0.0513 0.0243

Earth -33882-11-14 10:04 J -10653660.18 -10653660.08 -10653659.98 0.2663 0.1739

Moon -33882-11-14 11:02 J -10653660.14 -10653660.04 -10653659.94 0.2667 0.1753 *

Mars -33880-05-22 06:57 J -10653105.33 -10653105.21 -10653105.09 0.1832 0.0476

Pluto -33880-08-27 09:35 J -10653008.14 -10653008.10 -10653008.04 0.0068 0.0064

Pluto -33880-11-23 11:02 J -10652920.12 -10652920.04 -10652919.95 0.0068 0.0058

Pluto -33879-02-19 12:14 J -10652832.09 -10652831.99 -10652831.88 0.0068 0.0053

Mars -33879-04-05 21:07 J -10652786.77 -10652786.62 -10652786.47 0.1684 0.0348

Pluto -33879-05-18 13:40 J -10652744.05 -10652743.93 -10652743.81 0.0068 0.0047

Pluto -33879-08-14 15:07 J -10652656.01 -10652655.87 -10652655.74 0.0068 0.0041

Pluto -33879-11-10 16:19 J -10652567.96 -10652567.82 -10652567.67 0.0068 0.0035

Pluto -33878-02-06 17:31 J -10652479.91 -10652479.77 -10652479.61 0.0068 0.0029

Pluto -33878-05-05 18:57 J -10652391.86 -10652391.71 -10652391.54 0.0069 0.0023

Pluto -33878-08-01 20:23 J -10652303.81 -10652303.65 -10652303.48 0.0069 0.0017

Pluto -33878-10-28 21:50 J -10652215.75 -10652215.59 -10652215.42 0.0069 0.0010

Pluto -33877-01-24 23:16 J -10652127.70 -10652127.53 -10652127.36 0.0069 0.0004

Saturn -33877-04-14 04:04 J -10652047.39 -10652047.33 -10652047.27 0.0273 0.0245

Pluto -33877-04-22 00:43 J -10652039.64 -10652039.47 -10652039.30 0.0069 0.0002

Saturn -33877-07-11 17:02 J -10651958.91 -10651958.79 -10651958.66 0.0273 0.0141

Pluto -33877-07-19 02:09 J -10651951.58 -10651951.41 -10651951.24 0.0069 0.0009

Saturn -33877-10-08 06:28 J -10651870.38 -10651870.23 -10651870.09 0.0273 0.0034

Pluto -33877-10-15 03:35 J -10651863.51 -10651863.35 -10651863.19 0.0069 0.0015

Saturn -33876-01-04 19:55 J -10651781.81 -10651781.67 -10651781.52 0.0273 0.0076

Pluto -33876-01-11 05:02 J -10651775.45 -10651775.29 -10651775.13 0.0069 0.0022

Saturn -33876-04-03 09:50 J -10651693.20 -10651693.09 -10651692.98 0.0273 0.0187

Pluto -33876-04-09 06:14 J -10651687.38 -10651687.24 -10651687.07 0.0069 0.0029

Jupiter -33876-05-23 20:52 J -10651642.77 -10651642.63 -10651642.49 0.0513 0.0277

Pluto -33876-07-06 07:55 J -10651599.31 -10651599.17 -10651599.02 0.0070 0.0035

Jupiter -33876-08-21 20:09 J -10651552.75 -10651552.66 -10651552.57 0.0516 0.0423

Pluto -33876-10-02 09:07 J -10651511.24 -10651511.12 -10651510.97 0.0070 0.0042

Pluto -33876-12-29 10:33 J -10651423.16 -10651423.06 -10651422.92 0.0070 0.0049

Pluto -33875-03-27 12:14 J -10651335.08 -10651334.99 -10651334.88 0.0070 0.0055

Pluto -33875-06-23 13:40 J -10651246.99 -10651246.93 -10651246.84 0.0070 0.0062

Pluto -33875-09-19 15:07 J -10651158.88 -10651158.87 -10651158.82 0.0070 0.0069

Moon -33875-11-06 17:59 J -10651110.87 -10651110.75 -10651110.64 0.2660 0.1326

Earth -33875-11-06 18:57 J -10651110.82 -10651110.71 -10651110.59 0.2658 0.1312 *

Moon -33872-05-07 23:45 J -10650197.63 -10650197.51 -10650197.38 0.2677 0.0135

Earth -33872-05-08 00:28 J -10650197.61 -10650197.48 -10650197.36 0.2672 0.0138 *

Mars -33871-10-12 14:23 J -10649674.99 -10649674.90 -10649674.81 0.1827 0.1194

Jupiter -33871-10-13 05:59 J -10649674.29 -10649674.25 -10649674.21 0.0517 0.0488

Jupiter -33870-01-10 16:04 J -10649584.97 -10649584.83 -10649584.69 0.0514 0.0098

Mars -33870-08-27 00:43 J -10649356.61 -10649356.47 -10649356.32 0.1689 0.0405

Venus -33868-03-13 04:47 J -10648792.38 -10648792.30 -10648792.23 0.3778 0.2710

Moon -33865-04-30 13:55 J -10647647.94 -10647647.92 -10647647.89 0.2671 0.2589

Earth -33865-04-30 14:23 J -10647647.93 -10647647.90 -10647647.87 0.2677 0.2588 *

Jupiter -33864-03-11 20:52 J -10647332.71 -10647332.63 -10647332.55 0.0511 0.0444

Venus -33864-03-14 11:31 J -10647330.05 -10647330.02 -10647329.99 0.3598 0.3466

Jupiter -33864-06-09 20:38 J -10647242.78 -10647242.64 -10647242.50 0.0515 0.0259

Venus -33863-09-26 23:59 J -10646768.62 -10646768.50 -10646768.39 0.3776 0.0410

Saturn -33863-11-20 08:52 J -10646714.21 -10646714.13 -10646714.04 0.0287 0.0246

Saturn -33862-02-17 03:21 J -10646625.51 -10646625.36 -10646625.21 0.0286 0.0104

Saturn -33862-05-16 21:21 J -10646536.77 -10646536.61 -10646536.45 0.0286 0.0035

Saturn -33862-08-13 14:52 J -10646448.01 -10646447.88 -10646447.75 0.0286 0.0169

Moon -33862-11-09 17:45 J -10646359.89 -10646359.76 -10646359.63 0.2667 0.0271

Earth -33862-11-09 18:14 J -10646359.87 -10646359.74 -10646359.61 0.2660 0.0203 *

Mars -33860-01-16 04:19 J -10645926.42 -10645926.32 -10645926.21 0.1694 0.1170

Neptune -33860-05-18 04:19 J -10645804.34 -10645804.32 -10645804.28 0.0089 0.0086

Neptune -33860-08-14 05:59 J -10645716.31 -10645716.25 -10645716.18 0.0089 0.0079

Neptune -33860-11-10 07:40 J -10645628.25 -10645628.18 -10645628.09 0.0089 0.0073

Neptune -33859-02-06 09:07 J -10645540.20 -10645540.12 -10645540.01 0.0089 0.0066

Mars -33859-02-07 17:02 J -10645538.89 -10645538.79 -10645538.69 0.1844 0.1119

Neptune -33859-05-05 10:47 J -10645452.14 -10645452.05 -10645451.93 0.0089 0.0059

Earth -33859-05-10 22:04 J -10645446.69 -10645446.58 -10645446.47 0.2670 0.1158

Moon -33859-05-10 22:19 J -10645446.68 -10645446.57 -10645446.46 0.2677 0.1161 *

Neptune -33859-08-01 12:28 J -10645364.08 -10645363.98 -10645363.85 0.0089 0.0053

Venus -33859-09-28 09:35 J -10645306.23 -10645306.10 -10645305.98 0.3600 0.0140

Neptune -33859-10-28 14:23 J -10645276.02 -10645275.90 -10645275.77 0.0089 0.0045

Jupiter -33859-10-29 18:14 J -10645274.88 -10645274.74 -10645274.60 0.0515 0.0064

Neptune -33858-01-24 16:04 J -10645187.96 -10645187.83 -10645187.70 0.0089 0.0038

Neptune -33858-04-22 17:45 J -10645099.89 -10645099.76 -10645099.62 0.0089 0.0031

Neptune -33858-07-19 19:26 J -10645011.83 -10645011.69 -10645011.55 0.0089 0.0024

Neptune -33858-10-15 21:07 J -10644923.76 -10644923.62 -10644923.48 0.0089 0.0017

Neptune -33857-01-11 22:47 J -10644835.69 -10644835.55 -10644835.40 0.0089 0.0011

Neptune -33857-04-09 00:43 J -10644747.62 -10644747.47 -10644747.33 0.0089 0.0004

Venus -33857-04-11 19:26 J -10644744.72 -10644744.69 -10644744.66 0.3773 0.3646

Neptune -33857-07-06 02:23 J -10644659.55 -10644659.40 -10644659.26 0.0089 0.0004

Neptune -33857-10-02 04:04 J -10644571.47 -10644571.33 -10644571.19 0.0089 0.0011

Neptune -33857-12-29 05:45 J -10644483.40 -10644483.26 -10644483.12 0.0089 0.0018

Neptune -33856-03-27 07:26 J -10644395.32 -10644395.19 -10644395.05 0.0089 0.0025

Neptune -33856-06-23 09:07 J -10644307.25 -10644307.12 -10644306.98 0.0089 0.0032

Neptune -33856-09-19 11:02 J -10644219.17 -10644219.04 -10644218.91 0.0089 0.0039

Neptune -33856-12-16 12:43 J -10644131.09 -10644130.97 -10644130.84 0.0089 0.0046

Neptune -33855-03-14 14:38 J -10644043.01 -10644042.89 -10644042.78 0.0089 0.0054

Neptune -33855-06-10 16:04 J -10643954.92 -10643954.83 -10643954.71 0.0089 0.0061

Neptune -33855-09-06 17:59 J -10643866.84 -10643866.75 -10643866.65 0.0089 0.0068

Neptune -33855-12-03 19:40 J -10643778.75 -10643778.68 -10643778.59 0.0089 0.0075

Neptune -33854-03-01 21:35 J -10643690.65 -10643690.60 -10643690.54 0.0089 0.0082

Venus -33853-04-13 07:11 J -10643282.23 -10643282.20 -10643282.17 0.3602 0.3482

Jupiter -33852-03-28 20:23 J -10642932.81 -10642932.65 -10642932.49 0.0514 0.0086

Moon -33852-05-03 10:33 J -10642897.16 -10642897.06 -10642896.97 0.2672 0.1776

Earth -33852-05-03 11:16 J -10642897.13 -10642897.03 -10642896.93 0.2675 0.1646 *

Mars -33850-06-30 23:45 J -10642108.63 -10642108.51 -10642108.39 0.1838 0.0342

Mars -33849-05-14 17:16 J -10641789.88 -10641789.78 -10641789.67 0.1679 0.1161

Earth -33849-11-11 17:02 J -10641608.91 -10641608.79 -10641608.67 0.2661 0.0883

Moon -33849-11-11 17:16 J -10641608.90 -10641608.78 -10641608.65 0.2668 0.0916 *

Saturn -33848-09-01 07:11 J -10641315.23 -10641315.20 -10641315.16 0.0272 0.0263

Saturn -33848-11-28 20:23 J -10641226.77 -10641226.65 -10641226.53 0.0273 0.0159

Saturn -33847-02-25 09:35 J -10641138.24 -10641138.10 -10641137.95 0.0273 0.0052

Saturn -33847-05-24 23:16 J -10641049.68 -10641049.53 -10641049.39 0.0273 0.0057

Jupiter -33847-08-17 21:07 J -10640964.74 -10640964.62 -10640964.49 0.0516 0.0212

Saturn -33847-08-21 12:57 J -10640961.08 -10640960.96 -10640960.84 0.0273 0.0168

Jupiter -33847-11-15 07:40 J -10640875.27 -10640875.18 -10640875.08 0.0512 0.0381

Earth -33846-05-13 19:55 J -10640695.74 -10640695.67 -10640695.60 0.2668 0.2206

Moon -33846-05-13 20:38 J -10640695.71 -10640695.64 -10640695.57 0.2673 0.2236 *

Uranus -33845-07-23 00:43 J -10640259.51 -10640259.47 -10640259.41 0.0145 0.0136

Uranus -33845-10-19 05:31 J -10640171.36 -10640171.27 -10640171.17 0.0145 0.0111

Uranus -33844-01-15 10:19 J -10640083.19 -10640083.07 -10640082.95 0.0145 0.0087

Uranus -33844-04-13 15:07 J -10639995.00 -10639994.87 -10639994.73 0.0145 0.0062

Uranus -33844-07-10 19:55 J -10639906.81 -10639906.67 -10639906.52 0.0145 0.0037

Uranus -33844-10-07 00:57 J -10639818.61 -10639818.46 -10639818.31 0.0145 0.0011

Uranus -33843-01-03 05:45 J -10639730.41 -10639730.26 -10639730.11 0.0145 0.0015

Uranus -33843-04-01 10:47 J -10639642.19 -10639642.05 -10639641.90 0.0145 0.0041

Uranus -33843-06-28 15:35 J -10639553.97 -10639553.85 -10639553.71 0.0145 0.0067

Uranus -33843-09-24 20:52 J -10639465.74 -10639465.63 -10639465.51 0.0145 0.0093

Uranus -33843-12-22 01:40 J -10639377.50 -10639377.43 -10639377.33 0.0145 0.0121

Moon -33842-11-04 23:45 J -10639059.57 -10639059.51 -10639059.44 0.2656 0.2262

Earth -33842-11-05 01:11 J -10639059.52 -10639059.45 -10639059.39 0.2657 0.2254 *

Mars -33841-11-20 06:57 J -10638678.33 -10638678.21 -10638678.08 0.1832 0.0401

Jupiter -33840-01-14 19:11 J -10638622.86 -10638622.70 -10638622.54 0.0513 0.0100

Mars -33840-10-04 21:21 J -10638359.75 -10638359.61 -10638359.46 0.1684 0.0443

Moon -33839-05-06 07:26 J -10638146.31 -10638146.19 -10638146.07 0.2677 0.0673

Earth -33839-05-06 08:23 J -10638146.27 -10638146.15 -10638146.03 0.2673 0.0678 *

Earth -33836-11-14 15:35 J -10636857.94 -10636857.85 -10636857.76 0.2663 0.1927

Moon -33836-11-14 16:33 J -10636857.89 -10636857.81 -10636857.73 0.2667 0.2049 *

Jupiter -33835-06-06 00:43 J -10636654.57 -10636654.47 -10636654.37 0.0517 0.0350

Jupiter -33835-09-03 11:02 J -10636565.17 -10636565.04 -10636564.92 0.0513 0.0240

Saturn -33833-04-08 10:19 J -10635982.10 -10635982.07 -10635982.04 0.0287 0.0279

Saturn -33833-07-06 04:47 J -10635893.44 -10635893.30 -10635893.16 0.0286 0.0136

Saturn -33833-10-02 22:47 J -10635804.71 -10635804.55 -10635804.39 0.0286 0.0004

Saturn -33833-12-30 16:19 J -10635715.95 -10635715.82 -10635715.68 0.0286 0.0139

Saturn -33832-03-29 09:35 J -10635627.15 -10635627.10 -10635627.05 0.0286 0.0270

Mars -33831-04-12 14:38 J -10635247.99 -10635247.89 -10635247.80 0.1826 0.1113

Mars -33830-02-25 01:26 J -10634929.59 -10634929.44 -10634929.29 0.1689 0.0302

Jupiter -33829-11-02 18:43 J -10634312.86 -10634312.72 -10634312.58 0.0512 0.0276

Moon -33829-11-06 23:31 J -10634308.63 -10634308.52 -10634308.40 0.2662 0.1257

Earth -33829-11-07 00:28 J -10634308.60 -10634308.48 -10634308.36 0.2658 0.1108 *

Jupiter -33828-01-31 17:59 J -10634222.83 -10634222.75 -10634222.65 0.0516 0.0423

Moon -33826-05-09 05:16 J -10633395.40 -10633395.28 -10633395.15 0.2677 0.0232

Earth -33826-05-09 05:45 J -10633395.38 -10633395.26 -10633395.13 0.2672 0.0322 *

Jupiter -33823-03-25 04:04 J -10632344.37 -10632344.33 -10632344.28 0.0518 0.0489

Jupiter -33823-06-22 14:09 J -10632255.04 -10632254.91 -10632254.77 0.0514 0.0099

Mars -33822-09-02 22:19 J -10631817.59 -10631817.57 -10631817.56 0.1820 0.1806

Mars -33821-07-17 04:47 J -10631499.42 -10631499.30 -10631499.18 0.1694 0.1077

Mars -33820-08-08 17:02 J -10631111.88 -10631111.79 -10631111.69 0.1844 0.1205

Moon -33819-05-01 19:11 J -10630845.75 -10630845.70 -10630845.66 0.2671 0.2458

Earth -33819-05-01 19:40 J -10630845.73 -10630845.68 -10630845.63 0.2677 0.2415 *

Saturn -33818-04-17 21:21 J -10630494.71 -10630494.61 -10630494.51 0.0273 0.0195

Saturn -33818-07-15 10:33 J -10630406.20 -10630406.06 -10630405.92 0.0273 0.0090

Saturn -33818-10-11 23:59 J -10630317.65 -10630317.50 -10630317.35 0.0273 0.0019

Saturn -33817-01-08 13:40 J -10630229.06 -10630228.93 -10630228.80 0.0273 0.0129

Saturn -33817-04-06 03:35 J -10630140.42 -10630140.35 -10630140.28 0.0273 0.0242

Jupiter -33817-08-21 18:28 J -10630002.81 -10630002.73 -10630002.65 0.0511 0.0449

Jupiter -33817-11-19 18:14 J -10629912.88 -10629912.74 -10629912.60 0.0515 0.0255

Moon -33816-11-09 23:16 J -10629557.66 -10629557.53 -10629557.40 0.2667 0.0051

Earth -33816-11-09 23:45 J -10629557.65 -10629557.51 -10629557.38 0.2660 0.0063 *

Earth -33813-05-11 03:21 J -10628644.47 -10628644.36 -10628644.25 0.2670 0.1344

Moon -33813-05-11 03:35 J -10628644.45 -10628644.35 -10628644.24 0.2677 0.1414 *

Venus -33812-10-18 03:07 J -10628119.48 -10628119.37 -10628119.27 0.3777 0.1587

Jupiter -33811-04-10 17:16 J -10627944.92 -10627944.78 -10627944.64 0.0515 0.0049

Mars -33811-12-29 23:59 J -10627681.63 -10627681.50 -10627681.38 0.1838 0.0430

Mars -33810-11-13 17:31 J -10627362.86 -10627362.77 -10627362.67 0.1679 0.1244

Venus -33808-10-19 10:47 J -10626657.16 -10626657.05 -10626656.95 0.3598 0.2133

Venus -33806-05-03 22:19 J -10626095.67 -10626095.57 -10626095.46 0.3775 0.1579

Moon -33806-05-04 15:35 J -10626094.95 -10626094.85 -10626094.74 0.2673 0.1488

Earth -33806-05-04 16:33 J -10626094.91 -10626094.81 -10626094.71 0.2675 0.1471 *

Jupiter -33805-09-07 18:43 J -10625602.88 -10625602.72 -10625602.56 0.0514 0.0090

Uranus -33804-03-03 22:33 J -10625425.63 -10625425.56 -10625425.46 0.0134 0.0114

Uranus -33804-05-31 03:50 J -10625337.45 -10625337.34 -10625337.21 0.0134 0.0091

Uranus -33804-08-27 08:52 J -10625249.26 -10625249.13 -10625248.98 0.0133 0.0069

Saturn -33804-11-23 03:35 J -10625161.47 -10625161.35 -10625161.23 0.0286 0.0186

Uranus -33804-11-23 14:09 J -10625161.06 -10625160.91 -10625160.75 0.0133 0.0046

Uranus -33803-02-19 19:11 J -10625072.86 -10625072.70 -10625072.53 0.0133 0.0024

Saturn -33803-02-19 21:50 J -10625072.75 -10625072.59 -10625072.43 0.0286 0.0045 *

Uranus -33803-05-19 00:14 J -10624984.65 -10624984.49 -10624984.32 0.0133 0.0002

Saturn -33803-05-19 15:35 J -10624984.00 -10624983.85 -10624983.70 0.0286 0.0092

Uranus -33803-08-15 05:16 J -10624896.44 -10624896.28 -10624896.12 0.0133 0.0020

Saturn -33803-08-16 08:52 J -10624895.22 -10624895.13 -10624895.03 0.0286 0.0226

Uranus -33803-11-11 10:04 J -10624808.23 -10624808.08 -10624807.92 0.0133 0.0041

Earth -33803-11-12 22:33 J -10624806.68 -10624806.56 -10624806.44 0.2662 0.1078

Moon -33803-11-12 23:02 J -10624806.65 -10624806.54 -10624806.42 0.2667 0.1095 *

Uranus -33802-02-07 14:38 J -10624720.02 -10624719.89 -10624719.73 0.0133 0.0064

Venus -33802-05-05 08:38 J -10624633.26 -10624633.14 -10624633.02 0.3601 0.1376

Uranus -33802-05-06 19:26 J -10624631.80 -10624631.69 -10624631.55 0.0133 0.0084

Uranus -33802-08-03 00:14 J -10624543.57 -10624543.49 -10624543.38 0.0133 0.0105

Uranus -33802-10-30 05:16 J -10624455.33 -10624455.28 -10624455.23 0.0133 0.0125

Mars -33801-05-21 07:11 J -10624251.33 -10624251.20 -10624251.08 0.1832 0.0324

Mars -33800-04-04 21:50 J -10623932.73 -10623932.59 -10623932.44 0.1684 0.0532

Earth -33800-05-14 01:11 J -10623893.50 -10623893.45 -10623893.39 0.2668 0.2400

Moon -33800-05-14 02:09 J -10623893.45 -10623893.41 -10623893.36 0.2671 0.2471 *

Jupiter -33799-01-27 19:40 J -10623634.81 -10623634.68 -10623634.56 0.0516 0.0208

Jupiter -33799-04-27 05:59 J -10623545.34 -10623545.25 -10623545.15 0.0512 0.0384

Moon -33796-11-05 05:31 J -10622257.34 -10622257.27 -10622257.20 0.2656 0.2206

Earth -33796-11-05 06:43 J -10622257.31 -10622257.22 -10622257.14 0.2657 0.2046 *

Pluto -33794-07-19 12:28 J -10621636.04 -10621635.98 -10621635.92 0.0076 0.0068

Pluto -33794-10-15 13:26 J -10621548.01 -10621547.94 -10621547.83 0.0076 0.0061

Pluto -33793-01-11 15:07 J -10621459.97 -10621459.87 -10621459.76 0.0076 0.0053

Pluto -33793-04-08 16:19 J -10621371.93 -10621371.82 -10621371.69 0.0076 0.0046

Moon -33793-05-06 12:57 J -10621344.09 -10621343.96 -10621343.84 0.2677 0.0649

Earth -33793-05-06 13:40 J -10621344.05 -10621343.93 -10621343.81 0.2673 0.0498 *

Jupiter -33793-06-26 18:14 J -10621292.90 -10621292.74 -10621292.57 0.0513 0.0085

Pluto -33793-07-05 17:45 J -10621283.88 -10621283.76 -10621283.62 0.0076 0.0038

Pluto -33793-10-01 19:11 J -10621195.83 -10621195.70 -10621195.56 0.0075 0.0030

Pluto -33793-12-28 20:38 J -10621107.78 -10621107.64 -10621107.49 0.0075 0.0023

Pluto -33792-03-26 21:50 J -10621019.73 -10621019.59 -10621019.44 0.0075 0.0016

Pluto -33792-06-22 23:16 J -10620931.68 -10620931.53 -10620931.38 0.0075 0.0008

Pluto -33792-09-19 00:43 J -10620843.62 -10620843.47 -10620843.32 0.0075 0.0002

Mars -33792-10-11 14:23 J -10620821.00 -10620820.90 -10620820.80 0.1827 0.1041

Pluto -33792-12-16 01:55 J -10620755.57 -10620755.42 -10620755.27 0.0075 0.0007

Pluto -33791-03-14 03:07 J -10620667.51 -10620667.37 -10620667.22 0.0075 0.0014

Pluto -33791-06-10 04:19 J -10620579.46 -10620579.32 -10620579.17 0.0074 0.0021

Mars -33791-08-26 01:55 J -10620502.57 -10620502.42 -10620502.27 0.1689 0.0203

Pluto -33791-09-06 05:45 J -10620491.40 -10620491.26 -10620491.12 0.0074 0.0028

Pluto -33791-12-03 06:57 J -10620403.34 -10620403.21 -10620403.08 0.0074 0.0035

Pluto -33790-03-01 08:09 J -10620315.28 -10620315.16 -10620315.04 0.0074 0.0042

Pluto -33790-05-28 09:21 J -10620227.22 -10620227.11 -10620227.00 0.0074 0.0048

Pluto -33790-08-24 10:19 J -10620139.16 -10620139.07 -10620138.96 0.0074 0.0055

Earth -33790-11-15 21:07 J -10620055.70 -10620055.62 -10620055.55 0.2664 0.2120

Moon -33790-11-15 22:04 J -10620055.66 -10620055.58 -10620055.51 0.2667 0.2160 *

Pluto -33790-11-20 11:31 J -10620051.09 -10620051.02 -10620050.93 0.0074 0.0062

Pluto -33789-02-16 12:28 J -10619963.01 -10619962.98 -10619962.91 0.0074 0.0069

Saturn -33789-09-04 00:28 J -10619762.56 -10619762.48 -10619762.39 0.0273 0.0214

Saturn -33789-12-01 13:40 J -10619674.06 -10619673.93 -10619673.79 0.0273 0.0109

Saturn -33788-02-28 03:07 J -10619585.52 -10619585.37 -10619585.22 0.0273 0.0003

Saturn -33788-05-27 16:47 J -10619496.94 -10619496.80 -10619496.67 0.0273 0.0109

Saturn -33788-08-24 06:28 J -10619408.31 -10619408.23 -10619408.13 0.0273 0.0223

Jupiter -33788-11-15 22:33 J -10619324.66 -10619324.56 -10619324.46 0.0517 0.0356

Jupiter -33787-02-13 08:52 J -10619235.25 -10619235.13 -10619235.00 0.0513 0.0233

Moon -33783-11-08 05:16 J -10617506.40 -10617506.28 -10617506.15 0.2664 0.0889

Earth -33783-11-08 05:59 J -10617506.37 -10617506.25 -10617506.12 0.2659 0.0913 *

Mars -33782-03-03 22:19 J -10617390.61 -10617390.57 -10617390.53 0.1821 0.1723

Mars -33781-01-16 05:16 J -10617072.40 -10617072.28 -10617072.15 0.1694 0.0976

Jupiter -33781-04-14 17:02 J -10616982.93 -10616982.79 -10616982.65 0.0512 0.0272

Jupiter -33781-07-13 16:19 J -10616892.91 -10616892.82 -10616892.73 0.0516 0.0425

Mars -33780-02-06 17:02 J -10616684.87 -10616684.79 -10616684.70 0.1844 0.1287

Moon -33780-05-09 10:47 J -10616593.17 -10616593.05 -10616592.92 0.2678 0.0564

Earth -33780-05-09 11:02 J -10616593.16 -10616593.04 -10616592.91 0.2672 0.0517 *

Neptune -33777-08-13 11:02 J -10615401.04 -10615401.04 -10615401.01 0.0088 0.0088

Neptune -33777-11-09 13:55 J -10615312.98 -10615312.92 -10615312.83 0.0088 0.0080

Neptune -33776-02-05 16:47 J -10615224.89 -10615224.80 -10615224.68 0.0088 0.0071

Neptune -33776-05-04 19:40 J -10615136.79 -10615136.68 -10615136.55 0.0088 0.0063

Neptune -33776-07-31 22:19 J -10615048.69 -10615048.57 -10615048.42 0.0088 0.0055

Jupiter -33776-09-04 02:09 J -10615014.45 -10615014.41 -10615014.38 0.0518 0.0495

Neptune -33776-10-28 01:11 J -10614960.59 -10614960.45 -10614960.29 0.0088 0.0046

Jupiter -33776-12-02 12:14 J -10614925.13 -10614924.99 -10614924.86 0.0514 0.0093

Neptune -33775-01-24 04:04 J -10614872.48 -10614872.33 -10614872.17 0.0088 0.0038

Neptune -33775-04-22 06:57 J -10614784.37 -10614784.21 -10614784.04 0.0088 0.0029

Neptune -33775-07-19 09:35 J -10614696.26 -10614696.10 -10614695.93 0.0088 0.0021

Neptune -33775-10-15 12:14 J -10614608.15 -10614607.99 -10614607.81 0.0088 0.0013

Neptune -33774-01-11 15:07 J -10614520.04 -10614519.87 -10614519.69 0.0088 0.0005

Neptune -33774-04-09 17:45 J -10614431.93 -10614431.76 -10614431.58 0.0088 0.0004

Saturn -33774-04-12 05:45 J -10614429.37 -10614429.26 -10614429.15 0.0287 0.0214

Neptune -33774-07-06 20:23 J -10614343.82 -10614343.65 -10614343.47 0.0088 0.0012

Saturn -33774-07-09 23:59 J -10614340.66 -10614340.50 -10614340.34 0.0286 0.0072

Neptune -33774-10-02 23:02 J -10614255.70 -10614255.54 -10614255.36 0.0088 0.0020

Saturn -33774-10-06 17:45 J -10614251.91 -10614251.76 -10614251.60 0.0286 0.0066

Neptune -33774-12-30 01:40 J -10614167.58 -10614167.43 -10614167.26 0.0088 0.0028

Saturn -33773-01-03 11:16 J -10614163.14 -10614163.03 -10614162.92 0.0286 0.0200

Neptune -33773-03-27 04:19 J -10614079.47 -10614079.32 -10614079.15 0.0088 0.0036

Moon -33773-05-02 00:14 J -10614043.55 -10614043.49 -10614043.43 0.2671 0.2290

Earth -33773-05-02 00:57 J -10614043.53 -10614043.46 -10614043.40 0.2676 0.2248 *

Neptune -33773-06-23 06:57 J -10613991.35 -10613991.21 -10613991.05 0.0088 0.0044

Neptune -33773-09-19 09:35 J -10613903.23 -10613903.10 -10613902.95 0.0088 0.0052

Neptune -33773-12-16 12:14 J -10613815.10 -10613814.99 -10613814.86 0.0088 0.0060

Neptune -33772-03-14 14:38 J -10613726.98 -10613726.89 -10613726.76 0.0088 0.0069

Neptune -33772-06-10 17:16 J -10613638.85 -10613638.78 -10613638.68 0.0088 0.0076

Neptune -33772-09-06 20:09 J -10613550.71 -10613550.66 -10613550.60 0.0088 0.0084

Mars -33771-06-29 23:59 J -10613254.62 -10613254.50 -10613254.38 0.1838 0.0517

Mars -33770-05-14 17:59 J -10612935.84 -10612935.75 -10612935.66 0.1679 0.1335

Moon -33770-11-11 05:02 J -10612755.42 -10612755.29 -10612755.16 0.2667 0.0123

Earth -33770-11-11 05:16 J -10612755.41 -10612755.28 -10612755.15 0.2660 0.0205 *

Jupiter -33769-02-01 16:19 J -10612672.90 -10612672.82 -10612672.74 0.0511 0.0449

Jupiter -33769-05-01 16:04 J -10612582.97 -10612582.83 -10612582.69 0.0515 0.0253

Earth -33767-05-12 08:52 J -10611842.24 -10611842.13 -10611842.03 0.2670 0.1539

Moon -33767-05-12 09:07 J -10611842.22 -10611842.12 -10611842.02 0.2676 0.1521 *

Jupiter -33764-09-20 15:21 J -10610614.99 -10610614.86 -10610614.72 0.0515 0.0053

Mars -33762-11-20 07:11 J -10609824.33 -10609824.20 -10609824.08 0.1832 0.0241

Uranus -33761-08-12 07:26 J -10609558.24 -10609558.19 -10609558.13 0.0145 0.0132

Mars -33761-10-03 22:19 J -10609505.71 -10609505.57 -10609505.43 0.1684 0.0624

Venus -33761-11-08 06:14 J -10609470.28 -10609470.24 -10609470.20 0.3779 0.3513

Uranus -33761-11-08 11:59 J -10609470.09 -10609470.00 -10609469.89 0.0145 0.0108

Uranus -33760-02-04 16:47 J -10609381.91 -10609381.80 -10609381.67 0.0145 0.0083

Uranus -33760-05-03 21:50 J -10609293.73 -10609293.59 -10609293.46 0.0145 0.0058

Moon -33760-05-04 20:52 J -10609292.73 -10609292.63 -10609292.52 0.2675 0.1388

Earth -33760-05-04 21:50 J -10609292.70 -10609292.59 -10609292.48 0.2675 0.1295 *

Uranus -33760-07-31 02:38 J -10609205.54 -10609205.39 -10609205.25 0.0145 0.0033

Uranus -33760-10-27 07:26 J -10609117.34 -10609117.19 -10609117.04 0.0145 0.0008

Saturn -33759-01-22 01:55 J -10609030.47 -10609030.42 -10609030.36 0.0273 0.0247

Uranus -33759-01-23 12:28 J -10609029.13 -10609028.98 -10609028.83 0.0145 0.0019

Saturn -33759-04-20 15:07 J -10608942.00 -10608941.87 -10608941.75 0.0273 0.0143

Uranus -33759-04-21 17:16 J -10608940.92 -10608940.78 -10608940.63 0.0145 0.0045

Saturn -33759-07-18 04:19 J -10608853.47 -10608853.32 -10608853.17 0.0273 0.0036

Uranus -33759-07-18 22:19 J -10608852.70 -10608852.57 -10608852.43 0.0145 0.0071

Saturn -33759-10-14 17:45 J -10608764.90 -10608764.76 -10608764.61 0.0273 0.0074

Uranus -33759-10-15 03:21 J -10608764.47 -10608764.36 -10608764.24 0.0145 0.0097

Saturn -33758-01-11 07:40 J -10608676.29 -10608676.18 -10608676.07 0.0273 0.0185

Uranus -33758-01-11 08:38 J -10608676.22 -10608676.14 -10608676.06 0.0145 0.0124 *

Jupiter -33757-02-18 16:04 J -10608272.99 -10608272.83 -10608272.67 0.0514 0.0083

Earth -33757-11-13 04:04 J -10608004.45 -10608004.33 -10608004.22 0.2662 0.1272

Moon -33757-11-13 04:33 J -10608004.42 -10608004.31 -10608004.20 0.2668 0.1373 *

Venus -33755-05-25 01:26 J -10607446.56 -10607446.44 -10607446.33 0.3777 0.0456

Earth -33754-05-15 06:43 J -10607091.25 -10607091.22 -10607091.19 0.2668 0.2594

Mars -33752-04-11 14:38 J -10606393.99 -10606393.89 -10606393.79 0.1826 0.0955

Jupiter -33752-07-09 18:43 J -10606304.85 -10606304.72 -10606304.59 0.0516 0.0194

Jupiter -33752-10-07 05:02 J -10606215.37 -10606215.29 -10606215.20 0.0512 0.0398

Mars -33751-02-24 02:09 J -10606075.56 -10606075.41 -10606075.26 0.1689 0.0120

Venus -33751-05-26 09:50 J -10605984.21 -10605984.09 -10605983.96 0.3599 0.0812

Moon -33750-11-06 11:16 J -10605455.13 -10605455.03 -10605454.94 0.2657 0.1874

Earth -33750-11-06 12:14 J -10605455.08 -10605454.99 -10605454.89 0.2657 0.1841 *

Venus -33750-12-08 20:52 J -10605422.71 -10605422.63 -10605422.56 0.3774 0.2758

Moon -33747-05-07 18:14 J -10604541.86 -10604541.74 -10604541.62 0.2676 0.0308

Earth -33747-05-07 18:57 J -10604541.83 -10604541.71 -10604541.58 0.2673 0.0328 *

Jupiter -33746-12-07 16:19 J -10603962.98 -10603962.82 -10603962.66 0.0513 0.0083

Venus -33746-12-10 07:40 J -10603960.26 -10603960.18 -10603960.09 0.3601 0.2650

Saturn -33745-08-29 04:19 J -10603697.38 -10603697.32 -10603697.26 0.0286 0.0264

Saturn -33745-11-25 22:47 J -10603608.70 -10603608.55 -10603608.40 0.0286 0.0122

Saturn -33744-02-22 16:47 J -10603519.96 -10603519.80 -10603519.64 0.0286 0.0018

Saturn -33744-05-22 10:33 J -10603431.20 -10603431.06 -10603430.93 0.0286 0.0153

Saturn -33744-08-19 03:35 J -10603342.35 -10603342.35 -10603342.34 0.0286 0.0285

Earth -33744-11-16 02:23 J -10603253.46 -10603253.40 -10603253.34 0.2664 0.2305

Moon -33744-11-16 03:21 J -10603253.41 -10603253.36 -10603253.30 0.2665 0.2378 *

Mars -33743-09-01 22:04 J -10602963.62 -10602963.58 -10602963.53 0.1820 0.1657

Mars -33742-07-17 05:45 J -10602645.39 -10602645.26 -10602645.13 0.1694 0.0879

Mars -33741-08-07 17:16 J -10602257.86 -10602257.78 -10602257.70 0.1843 0.1370

Jupiter -33740-04-27 21:07 J -10601994.72 -10601994.62 -10601994.52 0.0517 0.0352

Jupiter -33740-07-26 07:11 J -10601905.32 -10601905.20 -10601905.07 0.0513 0.0236

Moon -33737-11-08 11:02 J -10600704.17 -10600704.04 -10600703.92 0.2664 0.0847

Earth -33737-11-08 11:45 J -10600704.14 -10600704.01 -10600703.89 0.2659 0.0709 *

Moon -33734-05-10 16:19 J -10599790.94 -10599790.82 -10599790.70 0.2678 0.0618

Earth -33734-05-10 16:33 J -10599790.93 -10599790.81 -10599790.69 0.2671 0.0697 *

Jupiter -33734-09-25 15:50 J -10599652.98 -10599652.84 -10599652.70 0.0512 0.0258

Jupiter -33734-12-24 15:07 J -10599562.94 -10599562.87 -10599562.78 0.0516 0.0440

Mars -33733-12-06 08:52 J -10599215.15 -10599215.13 -10599215.11 0.1699 0.1678

Mars -33732-12-28 23:59 J -10598827.62 -10598827.50 -10598827.38 0.1838 0.0585

Mars -33731-11-12 18:28 J -10598508.80 -10598508.73 -10598508.65 0.1679 0.1429

Saturn -33730-06-11 05:02 J -10598298.31 -10598298.29 -10598298.26 0.0273 0.0267

Saturn -33730-09-07 17:59 J -10598209.86 -10598209.75 -10598209.63 0.0273 0.0163

Saturn -33730-12-05 07:26 J -10598121.34 -10598121.19 -10598121.05 0.0273 0.0056

Saturn -33729-03-02 20:52 J -10598032.78 -10598032.63 -10598032.48 0.0273 0.0053

Saturn -33729-05-30 10:33 J -10597944.17 -10597944.06 -10597943.94 0.0273 0.0165

Jupiter -33728-02-13 23:59 J -10597684.53 -10597684.50 -10597684.47 0.0518 0.0500

Jupiter -33728-05-14 10:04 J -10597595.22 -10597595.08 -10597594.94 0.0514 0.0086

Moon -33727-05-03 05:31 J -10597241.35 -10597241.27 -10597241.19 0.2671 0.2091

Earth -33727-05-03 06:14 J -10597241.32 -10597241.24 -10597241.17 0.2676 0.2075 *

Moon -33724-11-11 10:47 J -10595953.18 -10595953.05 -10595952.92 0.2667 0.0472

Earth -33724-11-11 10:47 J -10595953.18 -10595953.05 -10595952.92 0.2661 0.0399 *

Mars -33722-05-21 07:26 J -10595397.32 -10595397.19 -10595397.07 0.1832 0.0162

Jupiter -33722-07-14 14:09 J -10595342.98 -10595342.91 -10595342.83 0.0511 0.0448

Jupiter -33722-10-12 14:09 J -10595253.05 -10595252.91 -10595252.77 0.0515 0.0255

Mars -33721-04-03 22:47 J -10595078.69 -10595078.55 -10595078.41 0.1684 0.0719

Earth -33721-05-12 14:09 J -10595040.01 -10595039.91 -10595039.81 0.2670 0.1729

Moon -33721-05-12 14:38 J -10595039.98 -10595039.89 -10595039.80 0.2675 0.1834 *

Uranus -33721-12-25 23:59 J -10594812.51 -10594812.50 -10594812.46 0.0134 0.0132

Uranus -33720-03-24 05:16 J -10594724.36 -10594724.28 -10594724.17 0.0134 0.0109

Uranus -33720-06-20 10:33 J -10594636.18 -10594636.06 -10594635.93 0.0134 0.0086

Uranus -33720-09-16 15:50 J -10594547.99 -10594547.84 -10594547.69 0.0134 0.0064

Uranus -33720-12-13 20:52 J -10594459.78 -10594459.63 -10594459.47 0.0133 0.0041

Uranus -33719-03-12 01:55 J -10594371.58 -10594371.42 -10594371.25 0.0133 0.0019

Uranus -33719-06-08 06:57 J -10594283.37 -10594283.21 -10594283.05 0.0133 0.0003

Uranus -33719-09-04 11:45 J -10594195.17 -10594195.01 -10594194.84 0.0133 0.0025

Uranus -33719-12-01 16:33 J -10594106.95 -10594106.81 -10594106.65 0.0133 0.0046

Uranus -33718-02-27 21:35 J -10594018.74 -10594018.60 -10594018.46 0.0133 0.0067

Uranus -33718-05-27 02:23 J -10593930.52 -10593930.40 -10593930.28 0.0133 0.0088

Uranus -33718-08-23 06:57 J -10593842.29 -10593842.21 -10593842.11 0.0133 0.0109

Uranus -33718-11-19 11:31 J -10593754.03 -10593754.02 -10593753.97 0.0133 0.0130

Jupiter -33716-03-02 13:11 J -10593285.09 -10593284.95 -10593284.81 0.0515 0.0058

Saturn -33715-04-15 01:11 J -10592876.58 -10592876.45 -10592876.30 0.0286 0.0147

Saturn -33715-07-12 19:26 J -10592787.85 -10592787.69 -10592787.53 0.0286 0.0008

Saturn -33715-10-09 13:11 J -10592699.09 -10592698.95 -10592698.81 0.0286 0.0130

Saturn -33714-01-06 06:14 J -10592610.29 -10592610.24 -10592610.17 0.0286 0.0263

Moon -33714-05-06 02:09 J -10592490.52 -10592490.41 -10592490.30 0.2675 0.1187

Earth -33714-05-06 03:07 J -10592490.48 -10592490.37 -10592490.26 0.2674 0.1117 *

Mars -33713-10-10 14:38 J -10591967.00 -10591966.89 -10591966.78 0.1826 0.0877

Mars -33712-08-25 02:38 J -10591648.54 -10591648.39 -10591648.24 0.1689 0.0036

Earth -33711-11-14 09:21 J -10591202.21 -10591202.11 -10591202.00 0.2662 0.1464

Moon -33711-11-14 10:04 J -10591202.18 -10591202.08 -10591201.97 0.2668 0.1459 *

Jupiter -33710-07-31 13:55 J -10590943.09 -10590942.92 -10590942.76 0.0514 0.0081

Jupiter -33705-12-19 16:33 J -10588974.93 -10588974.81 -10588974.68 0.0516 0.0199

Jupiter -33704-03-19 03:07 J -10588885.46 -10588885.37 -10588885.28 0.0512 0.0394

Venus -33704-06-15 04:33 J -10588797.39 -10588797.31 -10588797.22 0.3778 0.2402

Moon -33704-11-06 16:47 J -10588652.90 -10588652.80 -10588652.70 0.2660 0.1735

Earth -33704-11-06 17:59 J -10588652.86 -10588652.75 -10588652.65 0.2658 0.1636 *

Mars -33703-03-02 22:19 J -10588536.63 -10588536.57 -10588536.51 0.1820 0.1575

Mars -33702-01-15 06:14 J -10588218.38 -10588218.24 -10588218.11 0.1694 0.0785

Mars -33701-02-06 17:16 J -10587830.85 -10587830.78 -10587830.70 0.1843 0.1451

Moon -33701-05-07 23:45 J -10587739.64 -10587739.51 -10587739.39 0.2677 0.0252

Earth -33701-05-08 00:14 J -10587739.61 -10587739.49 -10587739.36 0.2673 0.0161 *

Saturn -33700-01-24 19:40 J -10587477.77 -10587477.68 -10587477.57 0.0273 0.0194

Saturn -33700-04-23 08:52 J -10587389.27 -10587389.13 -10587388.99 0.0273 0.0089

Venus -33700-06-16 11:02 J -10587335.11 -10587335.04 -10587334.97 0.3598 0.3058

Saturn -33700-07-20 22:19 J -10587300.72 -10587300.57 -10587300.42 0.0273 0.0020

Saturn -33700-10-17 11:59 J -10587212.13 -10587212.00 -10587211.87 0.0273 0.0131

Saturn -33699-01-14 01:55 J -10587123.48 -10587123.42 -10587123.35 0.0273 0.0243

Venus -33699-12-29 23:45 J -10586773.62 -10586773.51 -10586773.40 0.3776 0.0711

Jupiter -33698-05-19 13:26 J -10586633.10 -10586632.94 -10586632.77 0.0513 0.0094

Earth -33698-11-17 07:55 J -10586451.22 -10586451.17 -10586451.13 0.2664 0.2494

Moon -33698-11-17 08:52 J -10586451.15 -10586451.13 -10586451.10 0.2664 0.2599 *

Neptune -33696-11-16 02:23 J -10585721.40 -10585721.40 -10585721.36 0.0089 0.0089

Neptune -33695-02-12 04:19 J -10585633.37 -10585633.32 -10585633.26 0.0089 0.0081

Neptune -33695-05-11 05:59 J -10585545.32 -10585545.25 -10585545.17 0.0089 0.0074

Neptune -33695-08-07 07:40 J -10585457.27 -10585457.18 -10585457.09 0.0089 0.0068

Neptune -33695-11-03 09:07 J -10585369.21 -10585369.12 -10585369.01 0.0089 0.0061

Venus -33695-12-31 09:07 J -10585311.25 -10585311.12 -10585310.99 0.3600 0.0503

Neptune -33694-01-30 10:47 J -10585281.15 -10585281.05 -10585280.93 0.0089 0.0054

Neptune -33694-04-28 12:28 J -10585193.09 -10585192.98 -10585192.85 0.0089 0.0047

Neptune -33694-07-25 14:09 J -10585105.03 -10585104.91 -10585104.77 0.0089 0.0041

Neptune -33694-10-21 15:50 J -10585016.96 -10585016.84 -10585016.70 0.0089 0.0034

Neptune -33693-01-17 17:45 J -10584928.90 -10584928.76 -10584928.63 0.0089 0.0026

Neptune -33693-04-14 19:26 J -10584840.83 -10584840.69 -10584840.55 0.0089 0.0019

Mars -33693-06-06 09:21 J -10584788.17 -10584788.11 -10584788.06 0.1700 0.1586

Neptune -33693-07-11 21:07 J -10584752.76 -10584752.62 -10584752.48 0.0089 0.0012

Jupiter -33693-10-07 19:55 J -10584664.77 -10584664.67 -10584664.57 0.0517 0.0341

Neptune -33693-10-07 22:47 J -10584664.69 -10584664.55 -10584664.41 0.0089 0.0005 *

Neptune -33692-01-04 00:28 J -10584576.62 -10584576.48 -10584576.33 0.0089 0.0002

Jupiter -33692-01-05 06:14 J -10584575.37 -10584575.24 -10584575.12 0.0513 0.0248

Neptune -33692-04-02 02:09 J -10584488.55 -10584488.41 -10584488.26 0.0089 0.0009

Mars -33692-06-29 00:14 J -10584400.61 -10584400.49 -10584400.38 0.1838 0.0676

Neptune -33692-06-29 03:50 J -10584400.48 -10584400.34 -10584400.19 0.0089 0.0016 *

Neptune -33692-09-25 05:31 J -10584312.40 -10584312.27 -10584312.12 0.0089 0.0023

Neptune -33692-12-22 07:26 J -10584224.33 -10584224.19 -10584224.05 0.0089 0.0030

Neptune -33691-03-20 09:07 J -10584136.25 -10584136.12 -10584135.99 0.0089 0.0037

Mars -33691-05-13 18:57 J -10584081.78 -10584081.71 -10584081.65 0.1679 0.1514

Neptune -33691-06-16 10:47 J -10584048.17 -10584048.05 -10584047.92 0.0089 0.0044

Neptune -33691-09-12 12:43 J -10583960.09 -10583959.97 -10583959.85 0.0089 0.0051

Moon -33691-11-09 16:33 J -10583901.94 -10583901.81 -10583901.68 0.2665 0.0491

Earth -33691-11-09 17:16 J -10583901.91 -10583901.78 -10583901.65 0.2659 0.0505 *

Neptune -33691-12-09 14:09 J -10583872.01 -10583871.91 -10583871.79 0.0089 0.0059

Neptune -33690-03-07 16:04 J -10583783.92 -10583783.83 -10583783.73 0.0089 0.0066

Neptune -33690-06-03 17:45 J -10583695.83 -10583695.76 -10583695.67 0.0089 0.0073

Neptune -33690-08-30 19:40 J -10583607.73 -10583607.68 -10583607.61 0.0089 0.0080

Neptune -33690-11-26 21:35 J -10583519.62 -10583519.60 -10583519.58 0.0089 0.0088

Moon -33688-05-10 21:50 J -10582988.71 -10582988.59 -10582988.48 0.2678 0.0958

Earth -33688-05-10 21:50 J -10582988.71 -10582988.59 -10582988.47 0.2671 0.0882 *

Jupiter -33686-03-07 13:40 J -10582323.07 -10582322.93 -10582322.79 0.0512 0.0261

Jupiter -33686-06-05 12:57 J -10582233.03 -10582232.96 -10582232.87 0.0516 0.0439

Saturn -33686-09-02 00:14 J -10582144.61 -10582144.49 -10582144.37 0.0286 0.0195

Saturn -33686-11-29 18:28 J -10582055.88 -10582055.73 -10582055.57 0.0286 0.0054

Saturn -33685-02-26 12:28 J -10581967.13 -10581966.98 -10581966.83 0.0286 0.0084

Saturn -33685-05-25 05:45 J -10581878.36 -10581878.26 -10581878.15 0.0286 0.0218

Mars -33683-11-19 07:11 J -10580970.32 -10580970.20 -10580970.07 0.1832 0.0087

Mars -33682-10-03 23:16 J -10580651.67 -10580651.53 -10580651.40 0.1684 0.0810

Moon -33681-05-03 10:33 J -10580439.14 -10580439.06 -10580438.98 0.2672 0.2004

Earth -33681-05-03 11:16 J -10580439.11 -10580439.03 -10580438.94 0.2676 0.1904 *

Jupiter -33681-07-26 22:33 J -10580354.60 -10580354.56 -10580354.53 0.0518 0.0497

Jupiter -33681-10-24 08:23 J -10580265.29 -10580265.15 -10580265.01 0.0514 0.0088

Earth -33678-11-12 16:19 J -10579150.95 -10579150.82 -10579150.69 0.2661 0.0596

Moon -33678-11-12 16:33 J -10579150.94 -10579150.81 -10579150.68 0.2667 0.0540 *

Uranus -33677-09-01 14:09 J -10578856.97 -10578856.91 -10578856.84 0.0145 0.0128

Uranus -33677-11-28 18:43 J -10578768.81 -10578768.72 -10578768.61 0.0145 0.0104

Uranus -33676-02-24 23:31 J -10578680.64 -10578680.52 -10578680.39 0.0145 0.0079

Uranus -33676-05-24 04:19 J -10578592.45 -10578592.32 -10578592.18 0.0145 0.0054

Uranus -33676-08-20 09:07 J -10578504.26 -10578504.12 -10578503.97 0.0145 0.0029

Uranus -33676-11-16 14:09 J -10578416.06 -10578415.91 -10578415.76 0.0145 0.0004

Uranus -33675-02-12 18:57 J -10578327.85 -10578327.71 -10578327.56 0.0145 0.0023

Uranus -33675-05-11 23:59 J -10578239.64 -10578239.50 -10578239.36 0.0145 0.0048

Earth -33675-05-13 19:40 J -10578237.77 -10578237.68 -10578237.60 0.2669 0.1928

Moon -33675-05-13 20:23 J -10578237.74 -10578237.65 -10578237.57 0.2674 0.1913 *

Uranus -33675-08-08 05:02 J -10578151.42 -10578151.29 -10578151.16 0.0145 0.0075

Uranus -33675-11-04 09:50 J -10578063.19 -10578063.09 -10578062.97 0.0145 0.0101

Jupiter -33675-12-24 12:57 J -10578013.04 -10578012.96 -10578012.87 0.0511 0.0436

Uranus -33674-01-31 15:07 J -10577974.94 -10577974.87 -10577974.80 0.0145 0.0128

Jupiter -33674-03-24 12:57 J -10577923.10 -10577922.96 -10577922.82 0.0515 0.0267

Mars -33673-04-10 14:38 J -10577540.00 -10577539.89 -10577539.78 0.1826 0.0802

Mars -33672-02-23 03:21 J -10577221.52 -10577221.36 -10577221.21 0.1689 0.0093

Saturn -33671-06-13 22:33 J -10576745.64 -10576745.56 -10576745.47 0.0273 0.0217

Saturn -33671-09-10 11:45 J -10576657.14 -10576657.01 -10576656.88 0.0273 0.0111

Moon -33671-11-04 22:47 J -10576601.57 -10576601.55 -10576601.53 0.2653 0.2623

Earth -33671-11-04 23:59 J -10576601.53 -10576601.50 -10576601.48 0.2656 0.2588 *

Saturn -33671-12-08 01:11 J -10576568.60 -10576568.45 -10576568.31 0.0273 0.0007

Saturn -33670-03-06 14:38 J -10576480.02 -10576479.89 -10576479.75 0.0273 0.0109

Saturn -33670-06-03 04:33 J -10576391.39 -10576391.31 -10576391.22 0.0273 0.0221

Jupiter -33669-08-12 11:16 J -10575955.17 -10575955.03 -10575954.89 0.0515 0.0064

Moon -33668-05-06 07:26 J -10575688.30 -10575688.19 -10575688.08 0.2675 0.1004

Earth -33668-05-06 08:23 J -10575688.26 -10575688.15 -10575688.03 0.2674 0.0937 *

Earth -33665-11-14 14:52 J -10574399.98 -10574399.88 -10574399.78 0.2663 0.1651

Moon -33665-11-14 15:35 J -10574399.94 -10574399.85 -10574399.75 0.2667 0.1779 *

Mars -33664-08-31 22:19 J -10574109.63 -10574109.57 -10574109.50 0.1820 0.1494

Mars -33663-07-16 06:43 J -10573791.36 -10573791.22 -10573791.08 0.1694 0.0691

Jupiter -33662-01-10 11:45 J -10573613.17 -10573613.01 -10573612.85 0.0514 0.0080

Mars -33662-08-07 17:31 J -10573403.84 -10573403.77 -10573403.70 0.1844 0.1539

Moon -33658-11-07 22:33 J -10571850.67 -10571850.56 -10571850.45 0.2661 0.1515

Earth -33658-11-07 23:31 J -10571850.63 -10571850.52 -10571850.41 0.2658 0.1426 *

Jupiter -33657-05-31 14:23 J -10571645.03 -10571644.90 -10571644.77 0.0516 0.0206

Jupiter -33657-08-29 00:57 J -10571555.55 -10571555.46 -10571555.37 0.0512 0.0386

Saturn -33656-01-19 03:07 J -10571412.48 -10571412.37 -10571412.27 0.0287 0.0218

Saturn -33656-04-17 21:21 J -10571323.76 -10571323.61 -10571323.45 0.0286 0.0076

Saturn -33656-07-15 15:21 J -10571235.02 -10571234.86 -10571234.70 0.0286 0.0063

Saturn -33656-10-12 08:38 J -10571146.25 -10571146.14 -10571146.02 0.0286 0.0197

Moon -33655-05-09 05:02 J -10570937.41 -10570937.29 -10570937.16 0.2678 0.0109

Earth -33655-05-09 05:45 J -10570937.39 -10570937.26 -10570937.14 0.2672 0.0078 *

Mars -33654-12-06 09:50 J -10570361.16 -10570361.09 -10570361.02 0.1699 0.1482

Mars -33653-12-28 00:14 J -10569973.60 -10569973.49 -10569973.37 0.1838 0.0760

Mars -33652-11-11 19:11 J -10569654.74 -10569654.70 -10569654.66 0.1679 0.1605

Jupiter -33651-10-29 11:16 J -10569303.19 -10569303.03 -10569302.87 0.0513 0.0096

Earth -33648-05-01 19:55 J -10568387.68 -10568387.67 -10568387.67 0.2677 0.2667

Venus -33647-01-20 02:52 J -10568124.49 -10568124.38 -10568124.28 0.3778 0.1293

Jupiter -33645-03-19 17:45 J -10567334.86 -10567334.76 -10567334.65 0.0517 0.0347

Jupiter -33645-06-17 04:04 J -10567245.45 -10567245.33 -10567245.20 0.0513 0.0243

Moon -33645-11-09 22:19 J -10567099.70 -10567099.57 -10567099.44 0.2665 0.0394

Earth -33645-11-09 22:47 J -10567099.68 -10567099.55 -10567099.42 0.2659 0.0301 *

Venus -33643-01-21 10:19 J -10566662.19 -10566662.07 -10566661.96 0.3598 0.1732

Mars -33643-05-20 07:26 J -10566543.32 -10566543.19 -10566543.07 0.1832 0.0030

Mars -33642-04-03 23:31 J -10566224.64 -10566224.52 -10566224.39 0.1684 0.0903

Moon -33642-05-12 03:07 J -10566186.48 -10566186.37 -10566186.25 0.2677 0.1014

Earth -33642-05-12 03:07 J -10566186.48 -10566186.37 -10566186.25 0.2670 0.1072 *

Venus -33642-08-05 22:04 J -10566100.68 -10566100.58 -10566100.48 0.3776 0.1867

Saturn -33642-11-01 00:43 J -10566013.53 -10566013.47 -10566013.41 0.0273 0.0245

Saturn -33641-01-28 13:40 J -10565925.05 -10565924.93 -10565924.80 0.0273 0.0140

Saturn -33641-04-26 02:52 J -10565836.52 -10565836.38 -10565836.23 0.0273 0.0033

Saturn -33641-07-23 16:33 J -10565747.96 -10565747.81 -10565747.67 0.0273 0.0077

Saturn -33641-10-20 06:14 J -10565659.34 -10565659.24 -10565659.13 0.0273 0.0189

Jupiter -33639-08-17 10:47 J -10564993.19 -10564993.05 -10564992.91 0.0512 0.0272

Jupiter -33639-11-15 10:19 J -10564903.16 -10564903.07 -10564902.98 0.0516 0.0427

Venus -33638-08-07 08:09 J -10564638.27 -10564638.16 -10564638.05 0.3600 0.1772

Uranus -33636-01-15 06:28 J -10564111.26 -10564111.23 -10564111.17 0.0134 0.0128

Uranus -33636-04-13 11:59 J -10564023.10 -10564023.00 -10564022.90 0.0134 0.0105

Uranus -33636-07-10 17:02 J -10563934.91 -10563934.79 -10563934.65 0.0134 0.0082

Uranus -33636-10-06 22:19 J -10563846.72 -10563846.57 -10563846.42 0.0134 0.0060

Uranus -33635-01-03 03:21 J -10563758.52 -10563758.36 -10563758.20 0.0134 0.0038

Uranus -33635-04-01 08:23 J -10563670.31 -10563670.15 -10563669.98 0.0133 0.0016

Moon -33635-05-04 15:50 J -10563636.94 -10563636.84 -10563636.75 0.2673 0.1723

Earth -33635-05-04 16:33 J -10563636.90 -10563636.81 -10563636.71 0.2675 0.1729 *

Uranus -33635-06-28 13:26 J -10563582.10 -10563581.94 -10563581.78 0.0133 0.0006

Uranus -33635-09-24 18:14 J -10563493.89 -10563493.74 -10563493.57 0.0133 0.0028

Uranus -33635-12-21 23:16 J -10563405.68 -10563405.53 -10563405.38 0.0133 0.0050

Uranus -33634-03-20 03:50 J -10563317.46 -10563317.34 -10563317.19 0.0133 0.0071

Uranus -33634-06-16 08:38 J -10563229.24 -10563229.14 -10563229.01 0.0133 0.0092

Uranus -33634-09-12 13:26 J -10563141.01 -10563140.94 -10563140.85 0.0133 0.0113

Mars -33634-10-10 14:52 J -10563113.00 -10563112.88 -10563112.77 0.1826 0.0723

Jupiter -33633-01-06 21:07 J -10563024.66 -10563024.62 -10563024.57 0.0518 0.0488

Jupiter -33633-04-05 07:11 J -10562935.34 -10562935.20 -10562935.06 0.0514 0.0098

Mars -33633-08-24 03:35 J -10562794.50 -10562794.35 -10562794.20 0.1689 0.0171

Earth -33632-11-12 21:50 J -10562348.72 -10562348.59 -10562348.47 0.2661 0.0791

Moon -33632-11-12 22:04 J -10562348.70 -10562348.58 -10562348.46 0.2668 0.0888 *

Pluto -33631-06-13 16:33 J -10562135.84 -10562135.81 -10562135.73 0.0068 0.0064

Pluto -33631-09-09 17:59 J -10562047.82 -10562047.75 -10562047.65 0.0068 0.0058

Pluto -33631-12-06 19:26 J -10561959.78 -10561959.69 -10561959.57 0.0068 0.0052

Pluto -33630-03-04 20:38 J -10561871.74 -10561871.64 -10561871.50 0.0068 0.0047

Pluto -33630-05-31 22:04 J -10561783.70 -10561783.58 -10561783.43 0.0068 0.0040

Pluto -33630-08-27 23:31 J -10561695.65 -10561695.52 -10561695.37 0.0068 0.0034

Pluto -33630-11-24 01:11 J -10561607.60 -10561607.45 -10561607.30 0.0069 0.0028

Pluto -33629-02-20 02:23 J -10561519.55 -10561519.40 -10561519.24 0.0069 0.0022

Earth -33629-05-14 00:57 J -10561435.54 -10561435.46 -10561435.38 0.2669 0.2117

Moon -33629-05-14 01:40 J -10561435.49 -10561435.43 -10561435.36 0.2673 0.2266 *

Pluto -33629-05-18 03:50 J -10561431.50 -10561431.34 -10561431.17 0.0069 0.0016

Pluto -33629-08-14 05:16 J -10561343.45 -10561343.28 -10561343.11 0.0069 0.0009

Pluto -33629-11-10 06:43 J -10561255.39 -10561255.22 -10561255.05 0.0069 0.0003

Pluto -33628-02-06 08:09 J -10561167.33 -10561167.16 -10561166.99 0.0069 0.0003

Pluto -33628-05-05 09:21 J -10561079.27 -10561079.11 -10561078.94 0.0069 0.0010

Pluto -33628-08-01 10:47 J -10560991.21 -10560991.05 -10560990.88 0.0069 0.0017

Pluto -33628-10-28 12:28 J -10560903.14 -10560902.98 -10560902.82 0.0069 0.0023

Pluto -33627-01-24 13:40 J -10560815.07 -10560814.93 -10560814.77 0.0070 0.0030

Pluto -33627-04-22 15:21 J -10560727.00 -10560726.86 -10560726.71 0.0070 0.0036

Jupiter -33627-06-05 10:33 J -10560683.14 -10560683.06 -10560682.97 0.0511 0.0441

Saturn -33627-06-08 01:40 J -10560680.48 -10560680.43 -10560680.36 0.0286 0.0267

Pluto -33627-07-19 16:33 J -10560638.93 -10560638.81 -10560638.66 0.0070 0.0043

Jupiter -33627-09-03 10:33 J -10560593.19 -10560593.06 -10560592.91 0.0515 0.0264

Saturn -33627-09-04 20:23 J -10560591.79 -10560591.65 -10560591.50 0.0286 0.0124

Pluto -33627-10-15 17:59 J -10560550.85 -10560550.75 -10560550.62 0.0070 0.0050

Saturn -33627-12-02 14:23 J -10560503.06 -10560502.90 -10560502.73 0.0286 0.0018

Pluto -33626-01-11 19:55 J -10560462.77 -10560462.67 -10560462.57 0.0070 0.0056

Saturn -33626-03-01 08:09 J -10560414.29 -10560414.16 -10560414.03 0.0286 0.0152

Pluto -33626-04-09 21:07 J -10560374.68 -10560374.62 -10560374.54 0.0070 0.0064

Saturn -33626-05-29 01:11 J -10560325.46 -10560325.45 -10560325.43 0.0285 0.0284

Moon -33625-11-05 04:19 J -10559799.35 -10559799.32 -10559799.28 0.2655 0.2518

Earth -33625-11-05 05:31 J -10559799.33 -10559799.27 -10559799.21 0.2656 0.2376 *

Mars -33624-03-01 22:19 J -10559682.64 -10559682.57 -10559682.49 0.1820 0.1423

Mars -33623-01-14 07:11 J -10559364.34 -10559364.20 -10559364.06 0.1694 0.0588

Mars -33622-02-05 17:31 J -10558976.83 -10558976.77 -10558976.71 0.1843 0.1619

Moon -33622-05-07 12:43 J -10558886.09 -10558885.97 -10558885.85 0.2675 0.0856

Earth -33622-05-07 13:40 J -10558886.05 -10558885.93 -10558885.81 0.2674 0.0760 *

Jupiter -33621-01-23 09:35 J -10558625.24 -10558625.10 -10558624.96 0.0515 0.0059

Earth -33619-11-15 20:23 J -10557597.74 -10557597.65 -10557597.56 0.2663 0.1846

Moon -33619-11-15 21:21 J -10557597.71 -10557597.61 -10557597.52 0.2666 0.1839 *

Jupiter -33615-06-22 10:33 J -10556283.22 -10556283.06 -10556282.90 0.0514 0.0092

Mars -33614-06-06 10:19 J -10555934.16 -10555934.07 -10555933.98 0.1699 0.1383

Mars -33613-06-28 00:14 J -10555546.60 -10555546.49 -10555546.38 0.1838 0.0834

Saturn -33612-03-20 03:07 J -10555281.38 -10555281.37 -10555281.35 0.0273 0.0270

Neptune -33612-05-10 10:33 J -10555230.10 -10555230.06 -10555229.98 0.0088 0.0082

Saturn -33612-06-16 16:04 J -10555192.94 -10555192.83 -10555192.71 0.0273 0.0166

Neptune -33612-08-06 13:40 J -10555142.02 -10555141.93 -10555141.83 0.0088 0.0073

Saturn -33612-09-13 05:16 J -10555104.42 -10555104.28 -10555104.13 0.0273 0.0059

Neptune -33612-11-02 16:19 J -10555053.92 -10555053.82 -10555053.69 0.0088 0.0065

Moon -33612-11-08 04:04 J -10555048.45 -10555048.33 -10555048.21 0.2661 0.1281

Earth -33612-11-08 05:02 J -10555048.40 -10555048.29 -10555048.17 0.2658 0.1224 *

Saturn -33612-12-10 18:57 J -10555015.86 -10555015.71 -10555015.57 0.0273 0.0052

Neptune -33611-01-29 19:26 J -10554965.82 -10554965.69 -10554965.55 0.0088 0.0056

Saturn -33611-03-09 08:23 J -10554927.26 -10554927.15 -10554927.02 0.0273 0.0164

Neptune -33611-04-27 22:04 J -10554877.72 -10554877.58 -10554877.43 0.0088 0.0048

Neptune -33611-07-25 00:43 J -10554789.61 -10554789.47 -10554789.30 0.0088 0.0040

Neptune -33611-10-21 03:50 J -10554701.50 -10554701.34 -10554701.18 0.0088 0.0031

Neptune -33610-01-17 06:28 J -10554613.40 -10554613.23 -10554613.06 0.0088 0.0023

Neptune -33610-04-15 09:07 J -10554525.29 -10554525.12 -10554524.94 0.0088 0.0015

Neptune -33610-07-12 11:59 J -10554437.17 -10554437.00 -10554436.83 0.0088 0.0007

Neptune -33610-10-08 14:38 J -10554349.06 -10554348.89 -10554348.71 0.0088 0.0003

Jupiter -33610-11-11 12:28 J -10554315.10 -10554314.98 -10554314.85 0.0516 0.0209

Neptune -33609-01-04 17:16 J -10554260.95 -10554260.78 -10554260.60 0.0088 0.0010

Jupiter -33609-02-08 22:47 J -10554225.64 -10554225.55 -10554225.45 0.0512 0.0382

Neptune -33609-04-01 19:55 J -10554172.83 -10554172.67 -10554172.49 0.0088 0.0018

Moon -33609-05-09 10:33 J -10554135.19 -10554135.06 -10554134.94 0.2679 0.0201

Earth -33609-05-09 11:02 J -10554135.17 -10554135.04 -10554134.92 0.2672 0.0241 *

Neptune -33609-06-28 22:33 J -10554084.72 -10554084.56 -10554084.38 0.0088 0.0026

Neptune -33609-09-25 01:11 J -10553996.60 -10553996.45 -10553996.28 0.0088 0.0034

Neptune -33609-12-22 03:50 J -10553908.48 -10553908.34 -10553908.18 0.0088 0.0042

Neptune -33608-03-20 06:28 J -10553820.36 -10553820.23 -10553820.08 0.0088 0.0050

Neptune -33608-06-16 09:07 J -10553732.24 -10553732.12 -10553731.98 0.0088 0.0058

Neptune -33608-09-12 11:45 J -10553644.11 -10553644.01 -10553643.89 0.0088 0.0066

Neptune -33608-12-09 14:09 J -10553555.98 -10553555.91 -10553555.80 0.0088 0.0075

Neptune -33607-03-07 16:47 J -10553467.84 -10553467.80 -10553467.72 0.0088 0.0082

Mars -33604-11-18 07:26 J -10552116.31 -10552116.19 -10552116.06 0.1832 0.0092

Jupiter -33603-04-10 09:07 J -10551973.28 -10551973.12 -10551972.96 0.0513 0.0096

Mars -33603-10-02 23:59 J -10551797.62 -10551797.50 -10551797.38 0.1684 0.0992

Moon -33602-05-03 00:43 J -10551585.52 -10551585.47 -10551585.43 0.2671 0.2449

Earth -33602-05-03 00:57 J -10551585.50 -10551585.46 -10551585.41 0.2677 0.2498 *

Moon -33599-11-11 04:04 J -10550297.46 -10550297.33 -10550297.20 0.2666 0.0104

Earth -33599-11-11 04:19 J -10550297.45 -10550297.32 -10550297.19 0.2660 0.0111 *

Jupiter -33598-08-30 15:35 J -10550004.95 -10550004.85 -10550004.75 0.0517 0.0354

Jupiter -33598-11-28 01:55 J -10549915.55 -10549915.42 -10549915.30 0.0514 0.0236

Saturn -33597-01-22 23:16 J -10549859.67 -10549859.53 -10549859.38 0.0286 0.0146

Saturn -33597-04-20 17:31 J -10549770.93 -10549770.77 -10549770.61 0.0286 0.0006

Saturn -33597-07-18 11:02 J -10549682.17 -10549682.04 -10549681.89 0.0286 0.0132

Saturn -33597-10-15 04:19 J -10549593.37 -10549593.32 -10549593.25 0.0286 0.0265

Venus -33596-02-10 05:59 J -10549475.30 -10549475.25 -10549475.19 0.3779 0.3234

Earth -33596-05-12 08:38 J -10549384.25 -10549384.14 -10549384.03 0.2670 0.1264

Moon -33596-05-12 08:38 J -10549384.24 -10549384.14 -10549384.03 0.2677 0.1327 *

Mars -33594-04-10 14:52 J -10548686.00 -10548685.88 -10548685.76 0.1826 0.0638

Mars -33593-02-23 04:04 J -10548367.48 -10548367.33 -10548367.18 0.1689 0.0265

Uranus -33593-09-21 20:52 J -10548155.70 -10548155.63 -10548155.55 0.0145 0.0124

Uranus -33593-12-19 01:40 J -10548067.53 -10548067.43 -10548067.32 0.0145 0.0099

Uranus -33592-03-17 06:28 J -10547979.36 -10547979.23 -10547979.10 0.0145 0.0074

Uranus -33592-06-13 11:16 J -10547891.17 -10547891.03 -10547890.89 0.0145 0.0049

Uranus -33592-09-09 16:04 J -10547802.98 -10547802.83 -10547802.68 0.0145 0.0024

Uranus -33592-12-06 20:52 J -10547714.78 -10547714.63 -10547714.48 0.0145 0.0003

Jupiter -33591-01-27 08:23 J -10547663.29 -10547663.15 -10547663.01 0.0512 0.0274

Uranus -33591-03-05 01:55 J -10547626.57 -10547626.42 -10547626.27 0.0145 0.0027

Jupiter -33591-04-27 07:55 J -10547573.26 -10547573.17 -10547573.08 0.0515 0.0424

Uranus -33591-06-01 06:43 J -10547538.36 -10547538.22 -10547538.08 0.0145 0.0053

Venus -33591-08-27 01:11 J -10547451.56 -10547451.45 -10547451.34 0.3777 0.0158

Uranus -33591-08-28 11:45 J -10547450.13 -10547450.01 -10547449.88 0.0145 0.0080

Uranus -33591-11-24 16:33 J -10547361.90 -10547361.81 -10547361.69 0.0145 0.0107

Uranus -33590-02-20 21:50 J -10547273.64 -10547273.59 -10547273.52 0.0145 0.0133

Moon -33589-05-04 20:52 J -10546834.72 -10546834.63 -10546834.53 0.2673 0.1699

Earth -33589-05-04 21:50 J -10546834.69 -10546834.59 -10546834.49 0.2675 0.1553 *

Venus -33587-08-28 09:21 J -10545989.24 -10545989.11 -10545988.98 0.3599 0.0421

Jupiter -33586-06-18 19:11 J -10545694.74 -10545694.70 -10545694.66 0.0518 0.0493

Jupiter -33586-09-16 05:02 J -10545605.42 -10545605.29 -10545605.15 0.0514 0.0094

Earth -33586-11-14 03:07 J -10545546.49 -10545546.37 -10545546.24 0.2661 0.0991

Moon -33586-11-14 03:35 J -10545546.47 -10545546.35 -10545546.23 0.2668 0.0952 *

Venus -33585-03-11 20:23 J -10545427.71 -10545427.65 -10545427.58 0.3775 0.3020

Mars -33585-08-30 22:33 J -10545255.65 -10545255.56 -10545255.48 0.1820 0.1343

Mars -33584-07-15 07:26 J -10544937.33 -10544937.19 -10544937.04 0.1694 0.0502

Earth -33583-05-15 06:28 J -10544633.29 -10544633.23 -10544633.17 0.2669 0.2316

Moon -33583-05-15 07:11 J -10544633.26 -10544633.20 -10544633.14 0.2673 0.2311 *

Mars -33583-08-06 17:31 J -10544549.81 -10544549.77 -10544549.72 0.1843 0.1706

Saturn -33583-11-03 18:14 J -10544460.84 -10544460.74 -10544460.63 0.0273 0.0193

Saturn -33582-01-31 07:26 J -10544372.33 -10544372.19 -10544372.05 0.0273 0.0087

Saturn -33582-04-29 20:52 J -10544283.78 -10544283.63 -10544283.48 0.0273 0.0022

Saturn -33582-07-27 10:19 J -10544195.19 -10544195.07 -10544194.93 0.0273 0.0133

Saturn -33582-10-24 00:14 J -10544106.55 -10544106.49 -10544106.42 0.0273 0.0246

Venus -33581-03-13 07:11 J -10543965.27 -10543965.20 -10543965.13 0.3601 0.3041

Jupiter -33580-11-15 07:40 J -10543353.25 -10543353.18 -10543353.10 0.0511 0.0452

Jupiter -33579-02-13 07:55 J -10543263.31 -10543263.17 -10543263.03 0.0515 0.0252

Moon -33579-11-06 10:04 J -10542997.16 -10542997.08 -10542997.01 0.2657 0.2173

Earth -33579-11-06 11:16 J -10542997.11 -10542997.03 -10542996.96 0.2657 0.2169 *

Moon -33576-05-07 18:14 J -10542083.86 -10542083.74 -10542083.62 0.2676 0.0598

Earth -33576-05-07 18:57 J -10542083.83 -10542083.71 -10542083.59 0.2674 0.0579 *

Mars -33575-12-05 10:47 J -10541507.15 -10541507.05 -10541506.96 0.1700 0.1292

Jupiter -33574-07-05 08:23 J -10541295.29 -10541295.15 -10541295.01 0.0515 0.0051

Mars -33574-12-28 00:28 J -10541119.59 -10541119.48 -10541119.38 0.1838 0.0921

Earth -33573-11-16 01:55 J -10540795.51 -10540795.42 -10540795.34 0.2663 0.2036

Moon -33573-11-16 02:52 J -10540795.45 -10540795.38 -10540795.31 0.2665 0.2188 *

Saturn -33568-06-10 22:19 J -10539127.69 -10539127.57 -10539127.45 0.0286 0.0194

Saturn -33568-09-07 16:33 J -10539038.97 -10539038.81 -10539038.65 0.0286 0.0053

Jupiter -33568-12-02 08:09 J -10538953.32 -10538953.16 -10538953.00 0.0514 0.0087

Saturn -33568-12-05 10:19 J -10538950.22 -10538950.07 -10538949.91 0.0286 0.0086

Saturn -33567-03-04 03:50 J -10538861.44 -10538861.34 -10538861.24 0.0285 0.0219

Moon -33566-11-09 09:50 J -10538246.21 -10538246.09 -10538245.97 0.2662 0.1129

Earth -33566-11-09 10:47 J -10538246.18 -10538246.05 -10538245.93 0.2658 0.1018 *

Mars -33564-05-19 07:26 J -10537689.31 -10537689.19 -10537689.06 0.1832 0.0169

Mars -33563-04-03 00:28 J -10537370.59 -10537370.48 -10537370.37 0.1684 0.1085

Moon -33563-05-10 15:50 J -10537332.96 -10537332.84 -10537332.72 0.2678 0.0381

Earth -33563-05-10 16:19 J -10537332.94 -10537332.82 -10537332.70 0.2672 0.0422 *

Jupiter -33562-04-23 11:02 J -10536985.17 -10536985.04 -10536984.92 0.0516 0.0205

Jupiter -33562-07-21 21:21 J -10536895.70 -10536895.61 -10536895.52 0.0512 0.0385

Moon -33556-05-03 05:45 J -10534783.31 -10534783.26 -10534783.21 0.2672 0.2410

Earth -33556-05-03 06:14 J -10534783.29 -10534783.24 -10534783.18 0.2677 0.2323 *

Jupiter -33556-09-20 07:55 J -10534643.34 -10534643.17 -10534643.01 0.0513 0.0086

Mars -33555-10-09 14:52 J -10534259.00 -10534258.88 -10534258.76 0.1826 0.0565

Mars -33554-08-24 04:33 J -10533940.46 -10533940.31 -10533940.16 0.1689 0.0361

Saturn -33553-03-22 20:23 J -10533728.73 -10533728.65 -10533728.57 0.0273 0.0222

Saturn -33553-06-19 09:21 J -10533640.24 -10533640.11 -10533639.97 0.0273 0.0116

Saturn -33553-09-15 22:47 J -10533551.70 -10533551.55 -10533551.40 0.0273 0.0007

Moon -33553-11-11 09:50 J -10533495.22 -10533495.09 -10533494.96 0.2667 0.0118

Earth -33553-11-11 09:50 J -10533495.22 -10533495.09 -10533494.96 0.2660 0.0107 *

Saturn -33553-12-13 12:28 J -10533463.12 -10533462.98 -10533462.85 0.0273 0.0104

Uranus -33552-02-04 13:26 J -10533410.00 -10533409.94 -10533409.88 0.0134 0.0123

Saturn -33552-03-12 02:09 J -10533374.49 -10533374.41 -10533374.31 0.0274 0.0217

Uranus -33552-05-03 18:28 J -10533321.83 -10533321.73 -10533321.61 0.0134 0.0101

Uranus -33552-07-30 23:45 J -10533233.64 -10533233.51 -10533233.37 0.0134 0.0078

Uranus -33552-10-27 04:47 J -10533145.44 -10533145.30 -10533145.14 0.0134 0.0056

Uranus -33551-01-23 09:50 J -10533057.24 -10533057.09 -10533056.92 0.0134 0.0034

Uranus -33551-04-21 15:07 J -10532969.04 -10532968.87 -10532968.71 0.0133 0.0011

Uranus -33551-07-18 19:55 J -10532880.83 -10532880.67 -10532880.50 0.0133 0.0012

Uranus -33551-10-15 00:57 J -10532792.62 -10532792.46 -10532792.30 0.0133 0.0032

Uranus -33550-01-11 05:45 J -10532704.40 -10532704.26 -10532704.11 0.0133 0.0054

Jupiter -33550-02-09 13:55 J -10532675.02 -10532674.92 -10532674.82 0.0517 0.0353

Uranus -33550-04-09 10:33 J -10532616.19 -10532616.06 -10532615.92 0.0133 0.0075

Jupiter -33550-05-09 23:59 J -10532585.62 -10532585.50 -10532585.37 0.0513 0.0234

Earth -33550-05-13 13:55 J -10532582.03 -10532581.92 -10532581.82 0.2670 0.1451

Moon -33550-05-13 14:23 J -10532582.01 -10532581.90 -10532581.80 0.2676 0.1474 *

Uranus -33550-07-06 15:21 J -10532527.96 -10532527.86 -10532527.74 0.0133 0.0096

Uranus -33550-10-02 20:09 J -10532439.73 -10532439.66 -10532439.58 0.0133 0.0117

Pluto -33545-02-06 18:28 J -10530851.75 -10530851.73 -10530851.69 0.0076 0.0074

Mars -33545-02-29 22:33 J -10530828.65 -10530828.56 -10530828.47 0.1820 0.1260

Pluto -33545-05-04 20:09 J -10530763.73 -10530763.66 -10530763.59 0.0076 0.0066

Pluto -33545-07-31 21:07 J -10530675.70 -10530675.62 -10530675.51 0.0076 0.0059

Pluto -33545-10-27 22:47 J -10530587.65 -10530587.55 -10530587.43 0.0076 0.0051

Mars -33544-01-13 08:09 J -10530510.31 -10530510.16 -10530510.02 0.1694 0.0403

Pluto -33544-01-23 23:59 J -10530499.61 -10530499.50 -10530499.36 0.0076 0.0044

Pluto -33544-04-22 01:26 J -10530411.56 -10530411.44 -10530411.30 0.0075 0.0036

Jupiter -33544-07-09 06:28 J -10530333.37 -10530333.23 -10530333.09 0.0511 0.0272

Pluto -33544-07-19 02:52 J -10530323.51 -10530323.38 -10530323.23 0.0075 0.0028

Jupiter -33544-10-07 05:59 J -10530243.34 -10530243.25 -10530243.16 0.0515 0.0426

Pluto -33544-10-15 04:19 J -10530235.46 -10530235.32 -10530235.17 0.0075 0.0021

Pluto -33543-01-11 05:31 J -10530147.41 -10530147.27 -10530147.12 0.0075 0.0013

Mars -33543-02-04 17:45 J -10530122.79 -10530122.76 -10530122.73 0.1843 0.1787

Pluto -33543-04-09 06:57 J -10530059.36 -10530059.21 -10530059.06 0.0075 0.0006

Moon -33543-05-06 02:09 J -10530032.51 -10530032.41 -10530032.30 0.2673 0.1367

Earth -33543-05-06 03:07 J -10530032.47 -10530032.37 -10530032.26 0.2675 0.1376 *

Pluto -33543-07-06 08:09 J -10529971.30 -10529971.16 -10529971.01 0.0075 0.0003

Pluto -33543-10-02 09:35 J -10529883.25 -10529883.10 -10529882.95 0.0075 0.0009

Pluto -33543-12-29 10:47 J -10529795.20 -10529795.05 -10529794.90 0.0074 0.0016

Pluto -33542-03-27 11:59 J -10529707.14 -10529707.00 -10529706.86 0.0074 0.0023

Pluto -33542-06-23 12:57 J -10529619.08 -10529618.96 -10529618.81 0.0074 0.0031

Pluto -33542-09-19 14:38 J -10529531.02 -10529530.89 -10529530.76 0.0074 0.0037

Pluto -33542-12-16 15:50 J -10529442.96 -10529442.84 -10529442.72 0.0074 0.0043

Pluto -33541-03-13 16:47 J -10529354.90 -10529354.80 -10529354.68 0.0074 0.0050

Pluto -33541-06-09 17:59 J -10529266.83 -10529266.75 -10529266.65 0.0074 0.0057

Pluto -33541-09-05 18:57 J -10529178.76 -10529178.71 -10529178.62 0.0074 0.0064

Pluto -33541-12-02 20:09 J -10529090.68 -10529090.66 -10529090.60 0.0073 0.0070

Venus -33540-09-17 04:19 J -10528802.41 -10528802.32 -10528802.22 0.3778 0.2118

Earth -33540-11-14 08:38 J -10528744.25 -10528744.14 -10528744.02 0.2662 0.1183

Moon -33540-11-14 09:07 J -10528744.23 -10528744.12 -10528744.00 0.2667 0.1264 *

Saturn -33539-10-29 00:57 J -10528395.56 -10528395.46 -10528395.35 0.0287 0.0218

Jupiter -33539-11-28 17:02 J -10528364.82 -10528364.79 -10528364.76 0.0518 0.0499

Saturn -33538-01-25 19:26 J -10528306.85 -10528306.69 -10528306.53 0.0286 0.0076

Jupiter -33538-02-26 02:52 J -10528275.51 -10528275.38 -10528275.24 0.0515 0.0089

Saturn -33538-04-24 13:26 J -10528218.10 -10528217.94 -10528217.79 0.0286 0.0063

Saturn -33538-07-22 06:57 J -10528129.33 -10528129.21 -10528129.10 0.0286 0.0198

Earth -33537-05-15 11:45 J -10527831.05 -10527831.01 -10527830.97 0.2668 0.2511

Moon -33537-05-15 12:43 J -10527830.98 -10527830.97 -10527830.96 0.2672 0.2650 *

Venus -33536-09-18 10:19 J -10527340.15 -10527340.07 -10527339.98 0.3597 0.2685

Mars -33535-06-05 11:16 J -10527080.14 -10527080.03 -10527079.92 0.1699 0.1190

Venus -33534-04-02 23:31 J -10526778.63 -10526778.52 -10526778.41 0.3776 0.0996

Mars -33534-06-28 00:28 J -10526692.58 -10526692.48 -10526692.37 0.1837 0.1008

Moon -33533-11-06 15:35 J -10526194.93 -10526194.85 -10526194.77 0.2658 0.2137

Earth -33533-11-06 16:47 J -10526194.89 -10526194.80 -10526194.71 0.2657 0.1958 *

Jupiter -33532-04-27 05:31 J -10526023.34 -10526023.27 -10526023.19 0.0510 0.0451

Jupiter -33532-07-26 05:45 J -10525933.40 -10525933.26 -10525933.12 0.0514 0.0252

Neptune -33531-08-13 02:23 J -10525550.43 -10525550.40 -10525550.34 0.0089 0.0084

Neptune -33531-11-09 04:19 J -10525462.39 -10525462.32 -10525462.25 0.0089 0.0077

Neptune -33530-02-05 05:31 J -10525374.34 -10525374.27 -10525374.17 0.0089 0.0071

Venus -33530-04-04 08:23 J -10525316.27 -10525316.15 -10525316.02 0.3599 0.0896

Neptune -33530-05-04 07:11 J -10525286.28 -10525286.20 -10525286.09 0.0089 0.0064

Moon -33530-05-08 23:31 J -10525281.64 -10525281.52 -10525281.40 0.2678 0.0526

Earth -33530-05-09 00:14 J -10525281.61 -10525281.49 -10525281.37 0.2673 0.0398 *

Neptune -33530-07-31 09:07 J -10525198.23 -10525198.12 -10525198.01 0.0089 0.0056

Neptune -33530-10-27 10:47 J -10525110.17 -10525110.05 -10525109.93 0.0089 0.0049

Neptune -33529-01-23 12:28 J -10525022.10 -10525021.98 -10525021.85 0.0089 0.0042

Neptune -33529-04-20 14:09 J -10524934.04 -10524933.91 -10524933.78 0.0089 0.0036

Neptune -33529-07-17 15:50 J -10524845.98 -10524845.84 -10524845.70 0.0089 0.0029

Neptune -33529-10-13 17:31 J -10524757.91 -10524757.77 -10524757.63 0.0089 0.0022

Neptune -33528-01-09 19:11 J -10524669.84 -10524669.70 -10524669.56 0.0089 0.0015

Neptune -33528-04-07 20:52 J -10524581.77 -10524581.63 -10524581.49 0.0089 0.0008

Neptune -33528-07-04 22:33 J -10524493.70 -10524493.56 -10524493.41 0.0089 0.0001

Neptune -33528-10-01 00:14 J -10524405.63 -10524405.49 -10524405.34 0.0089 0.0007

Neptune -33528-12-28 01:55 J -10524317.56 -10524317.42 -10524317.27 0.0089 0.0014

Neptune -33527-03-26 03:35 J -10524229.48 -10524229.35 -10524229.20 0.0089 0.0021

Neptune -33527-06-22 05:16 J -10524141.41 -10524141.28 -10524141.13 0.0089 0.0028

Neptune -33527-09-18 06:57 J -10524053.33 -10524053.21 -10524053.07 0.0089 0.0035

Earth -33527-11-17 07:11 J -10523993.26 -10523993.20 -10523993.13 0.2664 0.2230

Moon -33527-11-17 08:23 J -10523993.22 -10523993.15 -10523993.08 0.2666 0.2233 *

Jupiter -33527-12-15 06:14 J -10523965.37 -10523965.24 -10523965.10 0.0516 0.0057

Neptune -33527-12-15 08:52 J -10523965.25 -10523965.13 -10523965.00 0.0089 0.0042 *

Neptune -33526-03-13 10:33 J -10523877.17 -10523877.06 -10523876.93 0.0089 0.0049

Neptune -33526-06-09 12:28 J -10523789.09 -10523788.98 -10523788.87 0.0089 0.0056

Neptune -33526-09-05 14:09 J -10523701.01 -10523700.91 -10523700.80 0.0089 0.0064

Neptune -33526-12-02 15:35 J -10523612.92 -10523612.85 -10523612.74 0.0089 0.0072

Neptune -33525-02-28 17:31 J -10523524.83 -10523524.77 -10523524.69 0.0089 0.0078

Neptune -33525-05-26 19:26 J -10523436.72 -10523436.69 -10523436.64 0.0089 0.0085

Mars -33525-11-17 07:26 J -10523262.31 -10523262.19 -10523262.06 0.1832 0.0255

Saturn -33524-08-09 22:47 J -10522996.61 -10522996.55 -10522996.49 0.0272 0.0247

Mars -33524-10-02 00:43 J -10522943.57 -10522943.47 -10522943.36 0.1684 0.1176

Saturn -33524-11-06 11:45 J -10522908.13 -10522908.01 -10522907.89 0.0273 0.0142

Saturn -33523-02-03 00:57 J -10522819.60 -10522819.46 -10522819.31 0.0273 0.0035

Saturn -33523-05-02 14:23 J -10522731.04 -10522730.90 -10522730.75 0.0273 0.0075

Saturn -33523-07-30 04:04 J -10522642.43 -10522642.33 -10522642.21 0.0273 0.0187

Jupiter -33520-05-14 05:16 J -10521623.44 -10521623.28 -10521623.11 0.0514 0.0078

Moon -33520-11-09 15:21 J -10521443.98 -10521443.86 -10521443.73 0.2663 0.0825

Earth -33520-11-09 16:19 J -10521443.95 -10521443.82 -10521443.69 0.2659 0.0812 *

Moon -33517-05-10 21:21 J -10520530.73 -10520530.61 -10520530.49 0.2678 0.0615

Earth -33517-05-10 21:35 J -10520530.72 -10520530.60 -10520530.48 0.2672 0.0608 *

Mars -33515-04-09 14:52 J -10519831.99 -10519831.88 -10519831.76 0.1826 0.0486

Jupiter -33515-10-03 09:35 J -10519655.22 -10519655.10 -10519654.97 0.0516 0.0197

Jupiter -33515-12-31 20:09 J -10519565.75 -10519565.66 -10519565.57 0.0512 0.0394

Mars -33514-02-22 04:47 J -10519513.44 -10519513.30 -10519513.15 0.1689 0.0449

Moon -33510-05-04 10:47 J -10517981.12 -10517981.05 -10517980.98 0.2672 0.2161

Earth -33510-05-04 11:31 J -10517981.09 -10517981.02 -10517980.95 0.2677 0.2153 *

Saturn -33509-03-16 23:31 J -10517663.56 -10517663.52 -10517663.45 0.0286 0.0269

Saturn -33509-06-13 18:14 J -10517574.88 -10517574.74 -10517574.59 0.0286 0.0125

Uranus -33509-07-15 23:16 J -10517542.55 -10517542.53 -10517542.50 0.0145 0.0142

Saturn -33509-09-10 12:28 J -10517486.14 -10517485.98 -10517485.82 0.0286 0.0016

Uranus -33509-10-12 03:50 J -10517454.41 -10517454.34 -10517454.24 0.0145 0.0118

Saturn -33509-12-08 05:59 J -10517397.38 -10517397.25 -10517397.11 0.0286 0.0153

Uranus -33508-01-08 08:52 J -10517366.24 -10517366.13 -10517366.02 0.0145 0.0093

Jupiter -33508-03-02 05:31 J -10517313.43 -10517313.27 -10517313.11 0.0513 0.0090

Saturn -33508-03-06 23:16 J -10517308.53 -10517308.53 -10517308.52 0.0285 0.0285

Uranus -33508-04-06 13:26 J -10517278.07 -10517277.94 -10517277.81 0.0145 0.0069

Uranus -33508-07-03 18:14 J -10517189.88 -10517189.74 -10517189.60 0.0145 0.0043

Uranus -33508-09-29 23:02 J -10517101.68 -10517101.54 -10517101.39 0.0145 0.0019

Uranus -33508-12-27 04:04 J -10517013.48 -10517013.33 -10517013.18 0.0145 0.0008

Uranus -33507-03-25 08:52 J -10516925.28 -10516925.13 -10516924.98 0.0145 0.0033

Uranus -33507-06-21 13:40 J -10516837.06 -10516836.93 -10516836.79 0.0145 0.0060

Uranus -33507-09-17 18:43 J -10516748.84 -10516748.72 -10516748.59 0.0145 0.0086

Moon -33507-11-12 15:21 J -10516692.99 -10516692.86 -10516692.73 0.2667 0.0271

Earth -33507-11-12 15:21 J -10516692.99 -10516692.86 -10516692.73 0.2660 0.0306 *

Uranus -33507-12-14 23:45 J -10516660.60 -10516660.51 -10516660.41 0.0145 0.0112

Uranus -33506-03-13 04:47 J -10516572.33 -10516572.30 -10516572.25 0.0145 0.0139

Mars -33506-08-30 22:19 J -10516401.66 -10516401.57 -10516401.47 0.1820 0.1195

Mars -33505-07-14 08:38 J -10516083.29 -10516083.14 -10516082.99 0.1694 0.0306

Earth -33504-05-13 19:11 J -10515779.80 -10515779.70 -10515779.60 0.2670 0.1648

Moon -33504-05-13 19:55 J -10515779.77 -10515779.67 -10515779.58 0.2676 0.1693 *

Jupiter -33503-07-22 12:28 J -10515345.08 -10515344.98 -10515344.88 0.0517 0.0347

Jupiter -33503-10-19 22:33 J -10515255.68 -10515255.56 -10515255.43 0.0513 0.0240

Moon -33497-05-06 07:40 J -10513230.29 -10513230.18 -10513230.08 0.2674 0.1336

Earth -33497-05-06 08:23 J -10513230.26 -10513230.15 -10513230.04 0.2675 0.1196 *

Jupiter -33497-12-19 05:02 J -10513003.43 -10513003.29 -10513003.14 0.0512 0.0262

Jupiter -33496-03-19 04:47 J -10512913.38 -10512913.30 -10512913.21 0.0516 0.0438

Mars -33496-12-04 11:45 J -10512653.13 -10512653.01 -10512652.90 0.1699 0.1092

Mars -33495-12-27 00:28 J -10512265.58 -10512265.48 -10512265.38 0.1837 0.1078

Saturn -33494-03-26 13:11 J -10512176.05 -10512175.95 -10512175.83 0.0273 0.0175

Saturn -33494-06-23 02:23 J -10512087.54 -10512087.40 -10512087.25 0.0273 0.0069

Saturn -33494-09-19 15:50 J -10511998.98 -10511998.84 -10511998.69 0.0273 0.0042

Earth -33494-11-15 14:09 J -10511942.02 -10511941.91 -10511941.80 0.2662 0.1376

Moon -33494-11-15 14:52 J -10511941.99 -10511941.88 -10511941.77 0.2667 0.1423 *

Saturn -33494-12-17 05:31 J -10511910.39 -10511910.27 -10511910.14 0.0274 0.0154

Saturn -33493-03-14 19:26 J -10511821.71 -10511821.69 -10511821.65 0.0274 0.0268

Jupiter -33491-05-10 15:35 J -10511034.89 -10511034.85 -10511034.81 0.0518 0.0495

Jupiter -33491-08-08 01:26 J -10510945.58 -10510945.44 -10510945.30 0.0514 0.0090

Moon -33487-11-07 21:07 J -10509392.72 -10509392.62 -10509392.52 0.2658 0.1757

Earth -33487-11-07 22:19 J -10509392.67 -10509392.57 -10509392.47 0.2657 0.1754 *

Mars -33485-05-18 07:40 J -10508835.30 -10508835.18 -10508835.05 0.1832 0.0336

Jupiter -33485-10-07 03:50 J -10508693.42 -10508693.34 -10508693.26 0.0510 0.0447

Jupiter -33484-01-05 03:50 J -10508603.48 -10508603.34 -10508603.20 0.0514 0.0256

Mars -33484-04-02 01:11 J -10508516.54 -10508516.45 -10508516.35 0.1684 0.1268

Moon -33484-05-09 04:47 J -10508479.42 -10508479.30 -10508479.17 0.2678 0.0200

Earth -33484-05-09 05:31 J -10508479.39 -10508479.27 -10508479.14 0.2673 0.0230 *

Venus -33483-04-24 02:38 J -10508129.50 -10508129.39 -10508129.28 0.3778 0.0993

Earth -33481-11-17 12:43 J -10507191.02 -10507190.97 -10507190.92 0.2664 0.2416

Moon -33481-11-17 13:40 J -10507190.96 -10507190.93 -10507190.89 0.2666 0.2560 *

Saturn -33480-10-31 20:52 J -10506842.77 -10506842.63 -10506842.49 0.0287 0.0150

Saturn -33479-01-28 15:07 J -10506754.03 -10506753.87 -10506753.71 0.0286 0.0009

Venus -33479-04-25 09:35 J -10506667.22 -10506667.10 -10506666.98 0.3598 0.1339

Saturn -33479-04-27 08:52 J -10506665.27 -10506665.13 -10506664.99 0.0286 0.0129

Jupiter -33479-05-27 04:19 J -10506635.46 -10506635.32 -10506635.18 0.0516 0.0059

Saturn -33479-07-25 01:55 J -10506576.47 -10506576.42 -10506576.35 0.0286 0.0263

Venus -33478-11-07 21:50 J -10506105.68 -10506105.59 -10506105.50 0.3776 0.2148

Mars -33476-10-08 14:52 J -10505405.00 -10505404.88 -10505404.76 0.1826 0.0409

Mars -33475-08-23 05:16 J -10505086.42 -10505086.28 -10505086.14 0.1689 0.0541

Venus -33474-11-09 07:40 J -10504643.28 -10504643.18 -10504643.08 0.3600 0.2185

Moon -33474-11-10 21:21 J -10504641.74 -10504641.61 -10504641.49 0.2664 0.0736

Earth -33474-11-10 21:50 J -10504641.72 -10504641.59 -10504641.46 0.2659 0.0609 *

Jupiter -33473-10-24 03:21 J -10504293.52 -10504293.36 -10504293.19 0.0513 0.0082

Moon -33471-05-12 02:52 J -10503728.50 -10503728.38 -10503728.26 0.2678 0.0743

Earth -33471-05-12 02:52 J -10503728.50 -10503728.38 -10503728.26 0.2671 0.0803 *

Uranus -33468-02-24 19:55 J -10502708.74 -10502708.67 -10502708.59 0.0134 0.0119

Uranus -33468-05-24 01:11 J -10502620.56 -10502620.45 -10502620.33 0.0134 0.0096

Uranus -33468-08-20 06:14 J -10502532.37 -10502532.24 -10502532.09 0.0134 0.0074

Uranus -33468-11-16 11:31 J -10502444.17 -10502444.02 -10502443.86 0.0134 0.0051

Uranus -33467-02-12 16:33 J -10502355.97 -10502355.81 -10502355.65 0.0134 0.0029

Jupiter -33467-03-15 07:40 J -10502325.31 -10502325.18 -10502325.05 0.0517 0.0201

Uranus -33467-05-11 21:35 J -10502267.76 -10502267.60 -10502267.43 0.0133 0.0007

Jupiter -33467-06-12 17:59 J -10502235.83 -10502235.75 -10502235.66 0.0513 0.0392

Uranus -33467-08-08 02:38 J -10502179.55 -10502179.39 -10502179.23 0.0133 0.0015

Uranus -33467-11-04 07:40 J -10502091.34 -10502091.18 -10502091.03 0.0133 0.0037

Uranus -33466-01-31 12:14 J -10502003.13 -10502002.99 -10502002.83 0.0133 0.0059

Mars -33466-02-28 22:33 J -10501974.65 -10501974.56 -10501974.46 0.1820 0.1111

Uranus -33466-04-29 17:16 J -10501914.91 -10501914.78 -10501914.65 0.0133 0.0079

Uranus -33466-07-26 22:04 J -10501826.68 -10501826.58 -10501826.47 0.0133 0.0100

Uranus -33466-10-23 02:38 J -10501738.44 -10501738.39 -10501738.32 0.0133 0.0121

Mars -33465-01-13 08:52 J -10501656.28 -10501656.13 -10501655.98 0.1694 0.0212

Saturn -33465-08-12 15:50 J -10501443.94 -10501443.84 -10501443.74 0.0272 0.0200

Saturn -33465-11-09 04:47 J -10501355.43 -10501355.30 -10501355.16 0.0273 0.0094

Saturn -33464-02-05 18:14 J -10501266.89 -10501266.74 -10501266.59 0.0273 0.0015

Moon -33464-05-04 16:04 J -10501178.91 -10501178.83 -10501178.75 0.2672 0.2056

Earth -33464-05-04 16:47 J -10501178.88 -10501178.80 -10501178.72 0.2676 0.1975 *

Saturn -33464-05-05 07:40 J -10501178.31 -10501178.18 -10501178.04 0.0273 0.0125

Saturn -33464-08-01 21:35 J -10501089.67 -10501089.60 -10501089.53 0.0273 0.0238

Jupiter -33461-08-12 02:52 J -10499983.54 -10499983.38 -10499983.22 0.0512 0.0096

Moon -33461-11-12 20:52 J -10499890.76 -10499890.63 -10499890.50 0.2667 0.0537

Earth -33461-11-12 20:52 J -10499890.76 -10499890.63 -10499890.50 0.2660 0.0500 *

Earth -33458-05-15 00:43 J -10498977.56 -10498977.47 -10498977.38 0.2669 0.1837

Moon -33458-05-15 01:11 J -10498977.54 -10498977.45 -10498977.36 0.2676 0.1901 *

Mars -33457-07-21 06:28 J -10498544.25 -10498544.23 -10498544.21 0.1814 0.1786

Mars -33456-06-04 11:59 J -10498226.12 -10498226.00 -10498225.87 0.1700 0.0999

Jupiter -33455-01-01 11:16 J -10498015.14 -10498015.03 -10498014.93 0.0517 0.0341

Jupiter -33455-03-31 21:21 J -10497925.73 -10497925.61 -10497925.49 0.0514 0.0249

Mars -33455-06-27 00:43 J -10497838.57 -10497838.47 -10497838.38 0.1837 0.1168

Moon -33451-05-07 12:43 J -10496428.08 -10496427.97 -10496427.85 0.2676 0.1035

Earth -33451-05-07 13:40 J -10496428.04 -10496427.93 -10496427.81 0.2674 0.1020 *

Saturn -33450-03-20 19:26 J -10496110.80 -10496110.69 -10496110.57 0.0286 0.0200

Saturn -33450-06-17 13:55 J -10496022.08 -10496021.92 -10496021.76 0.0286 0.0058

Saturn -33450-09-14 07:55 J -10495933.32 -10495933.17 -10495933.02 0.0286 0.0081

Saturn -33450-12-12 01:26 J -10495844.54 -10495844.44 -10495844.34 0.0286 0.0216

Jupiter -33449-05-31 02:52 J -10495673.52 -10495673.38 -10495673.24 0.0512 0.0265

Jupiter -33449-08-29 02:38 J -10495583.48 -10495583.39 -10495583.31 0.0516 0.0435

Neptune -33448-11-08 07:26 J -10495147.23 -10495147.19 -10495147.13 0.0088 0.0084

Earth -33448-11-15 19:40 J -10495139.78 -10495139.68 -10495139.57 0.2662 0.1571

Moon -33448-11-15 20:38 J -10495139.74 -10495139.64 -10495139.54 0.2667 0.1625 *

Neptune -33447-02-04 10:04 J -10495059.15 -10495059.08 -10495058.97 0.0088 0.0076

Neptune -33447-05-03 13:11 J -10494971.06 -10494970.95 -10494970.83 0.0088 0.0067

Neptune -33447-07-30 15:50 J -10494882.96 -10494882.84 -10494882.70 0.0088 0.0059

Neptune -33447-10-26 18:57 J -10494794.85 -10494794.71 -10494794.56 0.0088 0.0051

Neptune -33446-01-22 21:35 J -10494706.74 -10494706.60 -10494706.44 0.0088 0.0042

Neptune -33446-04-21 00:14 J -10494618.64 -10494618.49 -10494618.31 0.0088 0.0035

Neptune -33446-07-18 03:21 J -10494530.53 -10494530.36 -10494530.19 0.0088 0.0025

Neptune -33446-10-14 05:59 J -10494442.42 -10494442.25 -10494442.07 0.0088 0.0017

Mars -33446-11-17 07:40 J -10494408.30 -10494408.18 -10494408.06 0.1831 0.0403

Neptune -33445-01-10 08:52 J -10494354.30 -10494354.13 -10494353.95 0.0088 0.0009

Neptune -33445-04-07 11:31 J -10494266.19 -10494266.02 -10494265.84 0.0088 0.0003

Neptune -33445-07-04 14:23 J -10494178.08 -10494177.90 -10494177.73 0.0088 0.0008

Neptune -33445-09-30 16:47 J -10494089.96 -10494089.80 -10494089.62 0.0088 0.0017

Mars -33445-10-01 01:40 J -10494089.52 -10494089.43 -10494089.34 0.1684 0.1356

Neptune -33445-12-27 19:40 J -10494001.84 -10494001.68 -10494001.51 0.0088 0.0024

Neptune -33444-03-25 22:19 J -10493913.73 -10493913.57 -10493913.40 0.0088 0.0032

Neptune -33444-06-22 00:57 J -10493825.61 -10493825.46 -10493825.30 0.0088 0.0040

Neptune -33444-09-18 03:35 J -10493737.49 -10493737.35 -10493737.20 0.0088 0.0048

Jupiter -33444-10-20 14:09 J -10493704.95 -10493704.91 -10493704.86 0.0518 0.0487

Neptune -33444-12-15 06:14 J -10493649.36 -10493649.24 -10493649.10 0.0088 0.0056

Jupiter -33443-01-17 23:59 J -10493615.63 -10493615.50 -10493615.36 0.0514 0.0098

Neptune -33443-03-13 08:38 J -10493561.24 -10493561.14 -10493561.01 0.0088 0.0065

Neptune -33443-06-09 11:16 J -10493473.11 -10493473.03 -10493472.92 0.0088 0.0073

Neptune -33443-09-05 13:55 J -10493384.97 -10493384.92 -10493384.83 0.0088 0.0080

Neptune -33443-12-02 16:33 J -10493296.81 -10493296.81 -10493296.78 0.0088 0.0088

Moon -33441-11-08 02:52 J -10492590.48 -10492590.38 -10492590.28 0.2659 0.1707

Earth -33441-11-08 04:04 J -10492590.44 -10492590.33 -10492590.22 0.2657 0.1545 *

Moon -33438-05-10 10:04 J -10491677.20 -10491677.08 -10491676.95 0.2678 0.0187

Earth -33438-05-10 10:47 J -10491677.17 -10491677.05 -10491676.92 0.2673 0.0100 *

Jupiter -33437-03-19 02:23 J -10491363.48 -10491363.40 -10491363.31 0.0511 0.0437

Jupiter -33437-06-17 02:38 J -10491273.53 -10491273.39 -10491273.25 0.0515 0.0268

Mars -33436-04-08 15:07 J -10490977.99 -10490977.87 -10490977.75 0.1826 0.0330

Saturn -33436-12-30 17:02 J -10490711.86 -10490711.79 -10490711.72 0.0273 0.0236

Mars -33435-02-21 05:45 J -10490659.40 -10490659.26 -10490659.12 0.1689 0.0641

Saturn -33435-03-29 05:59 J -10490623.38 -10490623.25 -10490623.12 0.0273 0.0130

Saturn -33435-06-25 19:11 J -10490534.84 -10490534.70 -10490534.55 0.0273 0.0023

Saturn -33435-09-22 08:38 J -10490446.28 -10490446.14 -10490445.99 0.0273 0.0089

Earth -33435-11-18 18:14 J -10490388.76 -10490388.74 -10490388.72 0.2664 0.2609

Moon -33435-11-18 19:11 J -10490388.71 -10490388.70 -10490388.69 0.2665 0.2640

Saturn -33435-12-19 22:33 J -10490357.66 -10490357.56 -10490357.46 0.0274 0.0201

Venus -33432-05-15 05:59 J -10489480.32 -10489480.25 -10489480.18 0.3779 0.2924

Jupiter -33432-11-06 02:52 J -10489305.51 -10489305.38 -10489305.24 0.0515 0.0055

Moon -33428-11-11 02:52 J -10487839.51 -10487839.38 -10487839.25 0.2665 0.0366

Earth -33428-11-11 03:21 J -10487839.49 -10487839.36 -10487839.23 0.2659 0.0412 *

Mars -33427-08-29 22:47 J -10487547.65 -10487547.55 -10487547.45 0.1820 0.1029

Venus -33427-11-29 00:57 J -10487456.57 -10487456.46 -10487456.34 0.3777 0.0174

Mars -33426-07-14 09:21 J -10487229.26 -10487229.11 -10487228.96 0.1694 0.0117

Jupiter -33425-04-05 01:55 J -10486963.59 -10486963.42 -10486963.26 0.0513 0.0088

Earth -33425-05-12 08:23 J -10486926.27 -10486926.15 -10486926.03 0.2671 0.0990

Moon -33425-05-12 08:23 J -10486926.26 -10486926.15 -10486926.03 0.2678 0.1072 *

Uranus -33425-08-05 06:28 J -10486841.27 -10486841.23 -10486841.18 0.0145 0.0136

Uranus -33425-11-01 11:02 J -10486753.12 -10486753.04 -10486752.94 0.0145 0.0112

Uranus -33424-01-28 15:50 J -10486664.95 -10486664.84 -10486664.72 0.0145 0.0087

Uranus -33424-04-26 20:38 J -10486576.77 -10486576.64 -10486576.51 0.0145 0.0062

Uranus -33424-07-24 01:26 J -10486488.58 -10486488.44 -10486488.30 0.0145 0.0037

Uranus -33424-10-20 06:14 J -10486400.39 -10486400.24 -10486400.09 0.0145 0.0012

Uranus -33423-01-16 11:02 J -10486312.19 -10486312.04 -10486311.89 0.0145 0.0014

Uranus -33423-04-14 16:04 J -10486223.98 -10486223.83 -10486223.69 0.0145 0.0040

Uranus -33423-07-11 20:52 J -10486135.76 -10486135.63 -10486135.49 0.0145 0.0066

Uranus -33423-10-08 01:40 J -10486047.53 -10486047.43 -10486047.30 0.0145 0.0093

Venus -33423-11-30 08:52 J -10485994.26 -10485994.13 -10485994.00 0.3599 0.0012

Uranus -33422-01-04 06:57 J -10485959.29 -10485959.21 -10485959.12 0.0145 0.0118

Uranus -33422-04-02 11:59 J -10485871.00 -10485871.00 -10485870.99 0.0145 0.0145

Venus -33421-06-13 20:09 J -10485432.71 -10485432.66 -10485432.60 0.3775 0.3309

Saturn -33421-08-06 21:21 J -10485378.70 -10485378.61 -10485378.51 0.0287 0.0230

Saturn -33421-11-03 15:50 J -10485289.99 -10485289.84 -10485289.68 0.0287 0.0087

Saturn -33420-01-31 10:04 J -10485201.24 -10485201.08 -10485200.92 0.0286 0.0054

Saturn -33420-04-30 03:35 J -10485112.47 -10485112.35 -10485112.23 0.0286 0.0190

Jupiter -33420-08-25 05:45 J -10484995.38 -10484995.26 -10484995.13 0.0517 0.0202

Jupiter -33420-11-22 16:19 J -10484905.91 -10484905.82 -10484905.73 0.0513 0.0391

Moon -33418-05-05 21:21 J -10484376.70 -10484376.61 -10484376.53 0.2672 0.1846

Earth -33418-05-05 22:04 J -10484376.67 -10484376.58 -10484376.49 0.2676 0.1806 *

Mars -33417-01-20 06:28 J -10484117.27 -10484117.23 -10484117.19 0.1814 0.1713

Venus -33417-06-15 06:43 J -10483970.25 -10483970.22 -10483970.19 0.3601 0.3461

Mars -33417-12-03 12:43 J -10483799.10 -10483798.97 -10483798.84 0.1700 0.0899

Mars -33416-12-26 00:43 J -10483411.56 -10483411.47 -10483411.38 0.1837 0.1250

Earth -33415-11-14 02:23 J -10483088.52 -10483088.40 -10483088.27 0.2661 0.0698

Moon -33415-11-14 02:38 J -10483088.51 -10483088.39 -10483088.26 0.2667 0.0656 *

Jupiter -33413-01-23 01:26 J -10482653.61 -10482653.44 -10482653.28 0.0512 0.0089

Earth -33412-05-15 05:59 J -10482175.33 -10482175.25 -10482175.17 0.2669 0.2036

Moon -33412-05-15 06:43 J -10482175.30 -10482175.22 -10482175.14 0.2674 0.2054 *

Jupiter -33408-06-13 09:21 J -10480685.21 -10480685.11 -10480685.01 0.0518 0.0343

Jupiter -33408-09-10 19:26 J -10480595.81 -10480595.69 -10480595.57 0.0514 0.0248

Moon -33408-11-06 08:52 J -10480539.16 -10480539.13 -10480539.11 0.2654 0.2606

Earth -33408-11-06 09:50 J -10480539.13 -10480539.09 -10480539.04 0.2656 0.2503 *

Mars -33406-05-18 07:40 J -10479981.30 -10479981.18 -10479981.06 0.1832 0.0491

Saturn -33406-05-19 19:26 J -10479979.72 -10479979.69 -10479979.64 0.0272 0.0260

Saturn -33406-08-16 08:23 J -10479891.26 -10479891.15 -10479891.03 0.0272 0.0155

Saturn -33406-11-12 21:35 J -10479802.74 -10479802.60 -10479802.45 0.0272 0.0048

Saturn -33405-02-09 11:02 J -10479714.19 -10479714.04 -10479713.90 0.0273 0.0061

Mars -33405-04-01 02:09 J -10479662.49 -10479662.41 -10479662.34 0.1684 0.1447

Moon -33405-05-07 17:59 J -10479625.86 -10479625.75 -10479625.63 0.2677 0.0951

Earth -33405-05-07 18:57 J -10479625.83 -10479625.71 -10479625.59 0.2674 0.0838 *

Saturn -33405-05-08 00:43 J -10479625.59 -10479625.47 -10479625.36 0.0273 0.0173 *

Jupiter -33402-11-11 00:28 J -10478343.62 -10478343.48 -10478343.33 0.0511 0.0267

Earth -33402-11-17 01:11 J -10478337.55 -10478337.45 -10478337.35 0.2663 0.1763

Moon -33402-11-17 02:09 J -10478337.51 -10478337.41 -10478337.32 0.2667 0.1860 *

Jupiter -33401-02-09 00:14 J -10478253.57 -10478253.49 -10478253.40 0.0515 0.0432

Mars -33397-10-07 15:07 J -10476550.99 -10476550.87 -10476550.75 0.1826 0.0246

Jupiter -33396-04-01 12:57 J -10476375.01 -10476374.96 -10476374.91 0.0519 0.0481

Jupiter -33396-06-29 22:47 J -10476285.69 -10476285.55 -10476285.41 0.0515 0.0106

Mars -33396-08-22 05:59 J -10476232.38 -10476232.25 -10476232.11 0.1689 0.0724

Moon -33395-11-09 08:38 J -10475788.25 -10475788.14 -10475788.03 0.2660 0.1354

Earth -33395-11-09 09:35 J -10475788.21 -10475788.10 -10475787.98 0.2658 0.1337 *

Moon -33392-05-10 15:35 J -10474874.97 -10474874.85 -10474874.72 0.2677 0.0187

Earth -33392-05-10 16:19 J -10474874.95 -10474874.82 -10474874.70 0.2672 0.0168 *

Saturn -33392-12-24 19:55 J -10474646.69 -10474646.67 -10474646.64 0.0286 0.0282

Saturn -33391-03-23 14:38 J -10474558.03 -10474557.89 -10474557.74 0.0286 0.0137

Saturn -33391-06-20 08:52 J -10474469.29 -10474469.13 -10474468.97 0.0286 0.0006

Saturn -33391-09-17 02:38 J -10474380.52 -10474380.39 -10474380.25 0.0286 0.0142

Saturn -33391-12-14 19:55 J -10474291.70 -10474291.67 -10474291.62 0.0286 0.0276

Jupiter -33390-08-30 00:14 J -10474033.57 -10474033.49 -10474033.40 0.0511 0.0437

Jupiter -33390-11-28 00:43 J -10473943.61 -10473943.47 -10473943.34 0.0514 0.0268

Mars -33387-02-27 22:33 J -10473120.66 -10473120.56 -10473120.46 0.1820 0.0961

Mars -33386-01-12 09:50 J -10472802.24 -10472802.09 -10472801.93 0.1694 0.0056

Moon -33385-05-03 05:59 J -10472325.26 -10472325.25 -10472325.23 0.2671 0.2648

Earth -33385-05-03 06:28 J -10472325.26 -10472325.23 -10472325.20 0.2677 0.2570 *

Uranus -33384-03-17 02:38 J -10472007.47 -10472007.39 -10472007.30 0.0134 0.0114

Jupiter -33384-04-18 01:40 J -10471975.56 -10471975.43 -10471975.29 0.0515 0.0045

Uranus -33384-06-13 07:55 J -10471919.29 -10471919.17 -10471919.05 0.0134 0.0091

Uranus -33384-09-09 12:57 J -10471831.09 -10471830.96 -10471830.81 0.0134 0.0069

Uranus -33384-12-06 17:59 J -10471742.89 -10471742.75 -10471742.58 0.0134 0.0047

Uranus -33383-03-04 23:16 J -10471654.69 -10471654.53 -10471654.36 0.0133 0.0024

Uranus -33383-06-01 04:19 J -10471566.48 -10471566.32 -10471566.15 0.0133 0.0003

Uranus -33383-08-28 09:21 J -10471478.27 -10471478.11 -10471477.95 0.0133 0.0020

Uranus -33383-11-24 14:23 J -10471390.06 -10471389.90 -10471389.75 0.0133 0.0042

Pluto -33382-01-01 23:45 J -10471351.53 -10471351.51 -10471351.46 0.0068 0.0066

Uranus -33382-02-20 18:57 J -10471301.84 -10471301.71 -10471301.56 0.0133 0.0063

Pluto -33382-03-31 00:57 J -10471263.52 -10471263.46 -10471263.36 0.0068 0.0061

Uranus -33382-05-19 23:59 J -10471213.62 -10471213.50 -10471213.37 0.0133 0.0084

Pluto -33382-06-27 02:23 J -10471175.48 -10471175.40 -10471175.29 0.0068 0.0054

Uranus -33382-08-16 04:47 J -10471125.39 -10471125.30 -10471125.20 0.0133 0.0105

Pluto -33382-09-23 03:50 J -10471087.45 -10471087.34 -10471087.21 0.0068 0.0048

Moon -33382-11-12 08:23 J -10471037.28 -10471037.15 -10471037.02 0.2666 0.0328

Earth -33382-11-12 08:52 J -10471037.26 -10471037.13 -10471036.99 0.2659 0.0212 *

Uranus -33382-11-12 09:21 J -10471037.15 -10471037.11 -10471037.05 0.0133 0.0126 *

Pluto -33382-12-20 05:02 J -10470999.40 -10470999.29 -10470999.15 0.0068 0.0043

Pluto -33381-03-17 06:28 J -10470911.36 -10470911.23 -10470911.08 0.0069 0.0036

Pluto -33381-06-13 08:09 J -10470823.31 -10470823.16 -10470823.01 0.0069 0.0030

Pluto -33381-09-09 09:21 J -10470735.26 -10470735.11 -10470734.95 0.0069 0.0024

Pluto -33381-12-06 10:47 J -10470647.21 -10470647.05 -10470646.89 0.0069 0.0018

Pluto -33380-03-04 11:59 J -10470559.15 -10470559.00 -10470558.82 0.0069 0.0012

Pluto -33380-05-31 13:40 J -10470471.10 -10470470.93 -10470470.76 0.0069 0.0005

Pluto -33380-08-27 15:07 J -10470383.04 -10470382.87 -10470382.70 0.0069 0.0001

Pluto -33380-11-23 16:33 J -10470294.98 -10470294.81 -10470294.64 0.0069 0.0008

Pluto -33379-02-19 17:45 J -10470206.91 -10470206.76 -10470206.59 0.0069 0.0015

Earth -33379-05-13 13:40 J -10470124.04 -10470123.93 -10470123.82 0.2671 0.1180

Moon -33379-05-13 13:55 J -10470124.03 -10470123.92 -10470123.81 0.2678 0.1120 *

Pluto -33379-05-18 19:26 J -10470118.85 -10470118.69 -10470118.53 0.0070 0.0021

Pluto -33379-08-14 20:38 J -10470030.78 -10470030.64 -10470030.47 0.0070 0.0028

Pluto -33379-11-10 22:19 J -10469942.71 -10469942.57 -10469942.42 0.0070 0.0034

Pluto -33378-02-06 23:31 J -10469854.64 -10469854.52 -10469854.37 0.0070 0.0041

Pluto -33378-05-06 00:57 J -10469766.56 -10469766.46 -10469766.32 0.0070 0.0048

Mars -33378-07-21 06:43 J -10469690.27 -10469690.22 -10469690.17 0.1814 0.1634

Pluto -33378-08-02 02:52 J -10469678.48 -10469678.38 -10469678.27 0.0070 0.0055

Jupiter -33378-09-16 00:43 J -10469633.63 -10469633.47 -10469633.31 0.0514 0.0100

Pluto -33378-10-29 04:19 J -10469590.39 -10469590.32 -10469590.23 0.0070 0.0061

Pluto -33377-01-25 05:45 J -10469502.29 -10469502.26 -10469502.21 0.0070 0.0069

Mars -33377-06-03 12:57 J -10469372.09 -10469371.96 -10469371.82 0.1700 0.0803

Saturn -33376-01-02 09:21 J -10469159.21 -10469159.11 -10469159.01 0.0273 0.0194

Saturn -33376-03-31 22:19 J -10469070.71 -10469070.57 -10469070.43 0.0273 0.0088

Mars -33376-06-26 00:43 J -10468984.56 -10468984.47 -10468984.39 0.1837 0.1325

Saturn -33376-06-28 11:31 J -10468982.16 -10468982.02 -10468981.87 0.0273 0.0022

Saturn -33376-09-25 01:11 J -10468893.58 -10468893.45 -10468893.32 0.0273 0.0132

Venus -33376-12-20 04:19 J -10468807.42 -10468807.32 -10468807.22 0.3779 0.1815

Saturn -33376-12-22 14:52 J -10468804.94 -10468804.88 -10468804.81 0.0273 0.0246

Jupiter -33372-02-04 04:47 J -10467665.43 -10467665.30 -10467665.17 0.0516 0.0190

Jupiter -33372-05-04 15:07 J -10467575.95 -10467575.87 -10467575.78 0.0512 0.0401

Moon -33372-05-06 02:23 J -10467574.49 -10467574.40 -10467574.30 0.2673 0.1675

Earth -33372-05-06 03:21 J -10467574.46 -10467574.36 -10467574.27 0.2676 0.1629 *

Venus -33372-12-21 09:50 J -10467345.19 -10467345.09 -10467344.99 0.3597 0.2281

Venus -33370-07-05 23:16 J -10466783.63 -10466783.53 -10466783.42 0.3777 0.1286

Earth -33369-11-14 07:55 J -10466286.29 -10466286.17 -10466286.04 0.2661 0.0891

Moon -33369-11-14 08:23 J -10466286.27 -10466286.15 -10466286.03 0.2667 0.1000 *

Mars -33368-10-24 15:50 J -10465941.88 -10465941.84 -10465941.79 0.1705 0.1615

Mars -33367-11-16 07:55 J -10465554.29 -10465554.17 -10465554.05 0.1832 0.0572

Neptune -33366-02-11 00:43 J -10465467.50 -10465467.47 -10465467.42 0.0089 0.0086

Neptune -33366-05-10 02:23 J -10465379.46 -10465379.40 -10465379.33 0.0089 0.0079

Earth -33366-05-16 11:31 J -10465373.09 -10465373.02 -10465372.95 0.2669 0.2231

Moon -33366-05-16 12:14 J -10465373.05 -10465372.99 -10465372.93 0.2673 0.2358 *

Jupiter -33366-07-04 23:45 J -10465323.67 -10465323.51 -10465323.34 0.0512 0.0080

Venus -33366-07-07 07:55 J -10465321.29 -10465321.17 -10465321.05 0.3599 0.1302

Neptune -33366-08-06 03:50 J -10465291.41 -10465291.34 -10465291.24 0.0089 0.0072

Mars -33366-10-01 02:23 J -10465235.46 -10465235.40 -10465235.34 0.1684 0.1536

Neptune -33366-11-02 05:31 J -10465203.35 -10465203.27 -10465203.16 0.0089 0.0066

Neptune -33365-01-29 07:11 J -10465115.30 -10465115.20 -10465115.08 0.0089 0.0059

Neptune -33365-04-26 08:52 J -10465027.24 -10465027.13 -10465027.01 0.0089 0.0052

Neptune -33365-07-23 10:33 J -10464939.18 -10464939.06 -10464938.93 0.0089 0.0045

Neptune -33365-10-19 12:14 J -10464851.11 -10464850.99 -10464850.86 0.0089 0.0038

Neptune -33364-01-15 13:55 J -10464763.05 -10464762.92 -10464762.78 0.0089 0.0031

Neptune -33364-04-13 15:35 J -10464674.98 -10464674.85 -10464674.71 0.0089 0.0024

Neptune -33364-07-10 17:16 J -10464586.92 -10464586.78 -10464586.64 0.0089 0.0017

Neptune -33364-10-06 18:57 J -10464498.85 -10464498.71 -10464498.56 0.0089 0.0010

Neptune -33363-01-02 20:38 J -10464410.78 -10464410.64 -10464410.49 0.0089 0.0004

Neptune -33363-03-31 22:19 J -10464322.71 -10464322.57 -10464322.42 0.0089 0.0005

Neptune -33363-06-27 23:59 J -10464234.64 -10464234.50 -10464234.35 0.0089 0.0012

Neptune -33363-09-24 01:40 J -10464146.57 -10464146.43 -10464146.28 0.0089 0.0019

Neptune -33363-12-21 03:35 J -10464058.49 -10464058.35 -10464058.21 0.0089 0.0025

Neptune -33362-03-19 05:16 J -10463970.41 -10463970.28 -10463970.15 0.0089 0.0032

Neptune -33362-06-15 06:57 J -10463882.34 -10463882.21 -10463882.08 0.0089 0.0040

Saturn -33362-08-10 15:50 J -10463825.96 -10463825.84 -10463825.70 0.0287 0.0171

Neptune -33362-09-11 08:23 J -10463794.26 -10463794.15 -10463794.01 0.0089 0.0048

Saturn -33362-11-07 10:19 J -10463737.23 -10463737.07 -10463736.90 0.0287 0.0029

Moon -33362-11-07 14:23 J -10463736.96 -10463736.90 -10463736.84 0.2654 0.2374 *

Earth -33362-11-07 15:35 J -10463736.91 -10463736.85 -10463736.78 0.2656 0.2291 *

Neptune -33362-12-08 10:19 J -10463706.18 -10463706.07 -10463705.95 0.0089 0.0054

Saturn -33361-02-04 04:19 J -10463648.47 -10463648.32 -10463648.17 0.0287 0.0111

Neptune -33361-03-05 11:59 J -10463618.09 -10463618.00 -10463617.88 0.0089 0.0061

Saturn -33361-05-02 21:50 J -10463559.67 -10463559.59 -10463559.51 0.0286 0.0246

Neptune -33361-06-01 13:55 J -10463530.01 -10463529.92 -10463529.82 0.0089 0.0068

Neptune -33361-08-28 15:50 J -10463441.92 -10463441.84 -10463441.77 0.0089 0.0076

Jupiter -33361-11-23 07:40 J -10463355.28 -10463355.18 -10463355.08 0.0518 0.0341

Neptune -33361-11-24 17:16 J -10463353.82 -10463353.78 -10463353.72 0.0089 0.0083

Jupiter -33360-02-20 17:45 J -10463265.88 -10463265.76 -10463265.64 0.0514 0.0249

Moon -33359-05-08 23:16 J -10462823.65 -10462823.53 -10462823.41 0.2676 0.0704

Earth -33359-05-09 00:14 J -10462823.61 -10462823.49 -10462823.37 0.2674 0.0660 *

Mars -33357-04-07 15:07 J -10462123.99 -10462123.87 -10462123.74 0.1826 0.0169

Mars -33356-02-20 06:43 J -10461805.35 -10461805.22 -10461805.09 0.1689 0.0823

Earth -33356-11-17 06:43 J -10461535.31 -10461535.22 -10461535.13 0.2663 0.1957

Moon -33356-11-17 07:40 J -10461535.27 -10461535.18 -10461535.10 0.2667 0.1985 *

Jupiter -33354-04-22 23:16 J -10461013.67 -10461013.53 -10461013.38 0.0511 0.0254

Jupiter -33354-07-21 23:02 J -10460923.62 -10460923.54 -10460923.46 0.0515 0.0442

Jupiter -33349-09-11 11:02 J -10459045.08 -10459045.04 -10459044.99 0.0519 0.0482

Moon -33349-11-09 14:23 J -10458986.02 -10458985.90 -10458985.78 0.2662 0.1233

Earth -33349-11-09 15:21 J -10458985.98 -10458985.86 -10458985.74 0.2658 0.1131 *

Jupiter -33349-12-09 21:07 J -10458955.76 -10458955.62 -10458955.49 0.0515 0.0107

Mars -33348-08-28 22:47 J -10458693.66 -10458693.55 -10458693.45 0.1820 0.0879

Saturn -33347-05-22 11:59 J -10458427.09 -10458427.00 -10458426.92 0.0272 0.0217

Mars -33347-07-13 10:04 J -10458375.23 -10458375.08 -10458374.92 0.1694 0.0086

Saturn -33347-08-19 00:43 J -10458338.60 -10458338.47 -10458338.33 0.0272 0.0113

Saturn -33347-11-15 13:55 J -10458250.06 -10458249.92 -10458249.77 0.0272 0.0010

Saturn -33346-02-12 03:21 J -10458161.49 -10458161.36 -10458161.22 0.0273 0.0106

Saturn -33346-05-11 17:16 J -10458072.87 -10458072.78 -10458072.69 0.0273 0.0218

Moon -33346-05-11 21:07 J -10458072.74 -10458072.62 -10458072.49 0.2678 0.0262 *

Earth -33346-05-11 21:35 J -10458072.73 -10458072.60 -10458072.48 0.2672 0.0346 *

Jupiter -33342-02-08 22:19 J -10456703.65 -10456703.57 -10456703.48 0.0510 0.0434

Jupiter -33342-05-09 22:33 J -10456613.70 -10456613.56 -10456613.42 0.0514 0.0268

Uranus -33341-08-25 13:26 J -10456140.00 -10456139.94 -10456139.88 0.0145 0.0131

Uranus -33341-11-21 17:59 J -10456051.84 -10456051.75 -10456051.65 0.0145 0.0107

Uranus -33340-02-17 22:47 J -10455963.67 -10455963.55 -10455963.43 0.0145 0.0082

Uranus -33340-05-17 03:35 J -10455875.49 -10455875.35 -10455875.22 0.0145 0.0057

Uranus -33340-08-13 08:23 J -10455787.30 -10455787.15 -10455787.01 0.0145 0.0032

Uranus -33340-11-09 13:11 J -10455699.10 -10455698.95 -10455698.80 0.0145 0.0007

Uranus -33339-02-05 17:59 J -10455610.90 -10455610.75 -10455610.60 0.0145 0.0019

Moon -33339-05-04 11:16 J -10455523.09 -10455523.03 -10455522.98 0.2671 0.2366

Earth -33339-05-04 11:45 J -10455523.06 -10455523.01 -10455522.96 0.2677 0.2403 *

Uranus -33339-05-04 22:47 J -10455522.69 -10455522.55 -10455522.40 0.0145 0.0045

Uranus -33339-08-01 03:50 J -10455434.47 -10455434.34 -10455434.20 0.0145 0.0071

Uranus -33339-10-28 08:52 J -10455346.24 -10455346.13 -10455346.02 0.0145 0.0098

Mars -33338-01-19 06:28 J -10455263.29 -10455263.23 -10455263.17 0.1814 0.1562

Uranus -33338-01-24 13:40 J -10455257.99 -10455257.93 -10455257.84 0.0145 0.0125

Mars -33338-12-03 13:26 J -10454945.08 -10454944.94 -10454944.80 0.1700 0.0709

Jupiter -33337-09-28 00:28 J -10454645.62 -10454645.48 -10454645.34 0.0516 0.0034

Mars -33337-12-25 00:57 J -10454557.54 -10454557.46 -10454557.39 0.1837 0.1412

Moon -33336-11-12 14:09 J -10454235.04 -10454234.91 -10454234.78 0.2666 0.0043

Earth -33336-11-12 14:38 J -10454235.03 -10454234.89 -10454234.76 0.2660 0.0092 *

Earth -33333-05-13 19:11 J -10453321.81 -10453321.70 -10453321.60 0.2670 0.1375

Moon -33333-05-13 19:11 J -10453321.80 -10453321.70 -10453321.59 0.2677 0.1472 *

Saturn -33333-12-27 14:23 J -10453094.00 -10453093.90 -10453093.79 0.0287 0.0223

Saturn -33332-03-26 09:07 J -10453005.28 -10453005.12 -10453004.96 0.0286 0.0079

Saturn -33332-06-23 03:07 J -10452916.52 -10452916.37 -10452916.21 0.0286 0.0061

Saturn -33332-09-19 20:38 J -10452827.75 -10452827.64 -10452827.52 0.0286 0.0198

Jupiter -33330-02-25 22:47 J -10452303.71 -10452303.55 -10452303.39 0.0513 0.0102

Mars -33328-04-24 16:33 J -10451514.88 -10451514.81 -10451514.74 0.1705 0.1507

Mars -33327-05-17 07:55 J -10451127.29 -10451127.17 -10451127.06 0.1831 0.0647

Mars -33326-04-01 02:52 J -10450808.41 -10450808.38 -10450808.34 0.1685 0.1629

Moon -33326-05-07 07:40 J -10450772.28 -10450772.18 -10450772.08 0.2674 0.1564

Earth -33326-05-07 08:38 J -10450772.25 -10450772.14 -10450772.04 0.2675 0.1454 *

Jupiter -33325-07-17 03:35 J -10450335.48 -10450335.35 -10450335.22 0.0516 0.0179

Jupiter -33325-10-14 13:55 J -10450246.00 -10450245.92 -10450245.83 0.0513 0.0412

Venus -33324-01-10 07:40 J -10450158.20 -10450158.18 -10450158.17 0.3780 0.3721

Earth -33323-11-15 13:26 J -10449484.06 -10449483.94 -10449483.82 0.2661 0.1091

Moon -33323-11-15 13:55 J -10449484.03 -10449483.92 -10449483.80 0.2668 0.1058 *

Earth -33320-05-16 16:47 J -10448570.85 -10448570.80 -10448570.75 0.2669 0.2429

Moon -33320-05-16 17:45 J -10448570.81 -10448570.76 -10448570.71 0.2671 0.2429 *

Venus -33319-07-27 02:38 J -10448134.50 -10448134.39 -10448134.28 0.3778 0.0696

Jupiter -33319-12-14 22:47 J -10447993.72 -10447993.55 -10447993.39 0.0513 0.0067

Mars -33318-10-07 15:07 J -10447696.99 -10447696.87 -10447696.74 0.1826 0.0101

Saturn -33318-10-09 12:28 J -10447695.02 -10447694.98 -10447694.94 0.0272 0.0258

Saturn -33317-01-06 01:26 J -10447606.56 -10447606.44 -10447606.32 0.0273 0.0154

Saturn -33317-04-03 14:23 J -10447518.04 -10447517.90 -10447517.75 0.0273 0.0047

Saturn -33317-07-01 03:50 J -10447429.49 -10447429.34 -10447429.20 0.0273 0.0062

Mars -33317-08-21 06:57 J -10447378.33 -10447378.21 -10447378.08 0.1689 0.0915

Saturn -33317-09-27 17:16 J -10447340.89 -10447340.78 -10447340.66 0.0273 0.0174

Moon -33316-11-07 20:09 J -10446934.74 -10446934.66 -10446934.58 0.2656 0.2141

Earth -33316-11-07 21:21 J -10446934.70 -10446934.61 -10446934.53 0.2656 0.2080 *

Venus -33315-07-28 09:07 J -10446672.25 -10446672.12 -10446672.00 0.3598 0.0949

Venus -33313-02-09 21:35 J -10446110.69 -10446110.60 -10446110.51 0.3776 0.2419

Jupiter -33313-05-05 06:43 J -10446025.32 -10446025.22 -10446025.11 0.0517 0.0325

Moon -33313-05-09 04:47 J -10446021.43 -10446021.30 -10446021.18 0.2676 0.0565

Earth -33313-05-09 05:31 J -10446021.39 -10446021.27 -10446021.14 0.2674 0.0479 *

Jupiter -33313-08-02 16:47 J -10445935.92 -10445935.80 -10445935.68 0.0514 0.0264

Earth -33310-11-18 11:59 J -10444733.07 -10444733.00 -10444732.92 0.2663 0.2148

Moon -33310-11-18 12:57 J -10444733.02 -10444732.96 -10444732.89 0.2665 0.2282 *

Venus -33309-02-11 07:11 J -10444648.29 -10444648.20 -10444648.11 0.3600 0.2591

Mars -33308-02-26 22:47 J -10444266.66 -10444266.55 -10444266.44 0.1820 0.0797

Mars -33307-01-11 10:47 J -10443948.21 -10443948.05 -10443947.90 0.1694 0.0174

Jupiter -33307-10-02 22:04 J -10443683.73 -10443683.58 -10443683.44 0.0511 0.0243

Jupiter -33307-12-31 21:50 J -10443593.67 -10443593.59 -10443593.52 0.0515 0.0454

Saturn -33303-05-16 14:52 J -10442361.94 -10442361.88 -10442361.81 0.0287 0.0263

Saturn -33303-08-13 09:50 J -10442273.24 -10442273.09 -10442272.94 0.0287 0.0117

Saturn -33303-11-10 04:04 J -10442184.49 -10442184.33 -10442184.17 0.0287 0.0026

Moon -33303-11-10 19:55 J -10442183.79 -10442183.67 -10442183.55 0.2663 0.0974

Earth -33303-11-10 20:52 J -10442183.76 -10442183.63 -10442183.51 0.2658 0.0923 *

Saturn -33302-02-06 21:50 J -10442095.71 -10442095.59 -10442095.45 0.0287 0.0164

Jupiter -33301-02-22 09:35 J -10441715.15 -10441715.10 -10441715.05 0.0519 0.0478

Jupiter -33301-05-21 19:26 J -10441625.82 -10441625.69 -10441625.55 0.0515 0.0110

Uranus -33300-01-08 04:04 J -10441394.35 -10441394.33 -10441394.30 0.0134 0.0132

Uranus -33300-04-06 09:21 J -10441306.20 -10441306.11 -10441306.01 0.0134 0.0109

Moon -33300-05-12 02:38 J -10441270.51 -10441270.39 -10441270.27 0.2679 0.0550

Earth -33300-05-12 02:52 J -10441270.50 -10441270.38 -10441270.26 0.2672 0.0529 *

Uranus -33300-07-03 14:23 J -10441218.02 -10441217.90 -10441217.76 0.0134 0.0087

Uranus -33300-09-29 19:40 J -10441129.82 -10441129.68 -10441129.53 0.0134 0.0064

Uranus -33300-12-27 00:57 J -10441041.62 -10441041.46 -10441041.30 0.0133 0.0041

Uranus -33299-03-25 05:59 J -10440953.41 -10440953.25 -10440953.08 0.0133 0.0019

Uranus -33299-06-21 11:02 J -10440865.20 -10440865.04 -10440864.87 0.0133 0.0003

Mars -33299-07-20 06:43 J -10440836.29 -10440836.22 -10440836.16 0.1814 0.1484

Uranus -33299-09-17 16:04 J -10440776.99 -10440776.83 -10440776.67 0.0133 0.0025

Uranus -33299-12-14 20:52 J -10440688.78 -10440688.63 -10440688.47 0.0133 0.0046

Uranus -33298-03-13 01:55 J -10440600.56 -10440600.42 -10440600.28 0.0133 0.0067

Mars -33298-06-03 13:55 J -10440518.06 -10440517.92 -10440517.77 0.1700 0.0610

Uranus -33298-06-09 06:28 J -10440512.34 -10440512.23 -10440512.10 0.0133 0.0089

Uranus -33298-09-05 11:16 J -10440424.11 -10440424.03 -10440423.93 0.0133 0.0110

Uranus -33298-12-02 16:19 J -10440335.85 -10440335.82 -10440335.79 0.0133 0.0130

Mars -33297-06-25 00:57 J -10440130.53 -10440130.46 -10440130.39 0.1837 0.1499

Pluto -33297-11-23 03:35 J -10439979.41 -10439979.35 -10439979.28 0.0076 0.0068

Pluto -33296-02-19 04:33 J -10439891.38 -10439891.31 -10439891.20 0.0076 0.0061

Pluto -33296-05-18 06:14 J -10439803.34 -10439803.24 -10439803.13 0.0076 0.0053

Pluto -33296-08-14 07:26 J -10439715.30 -10439715.19 -10439715.06 0.0075 0.0046

Pluto -33296-11-10 08:52 J -10439627.25 -10439627.13 -10439626.99 0.0075 0.0038

Pluto -33295-02-06 10:19 J -10439539.20 -10439539.07 -10439538.93 0.0075 0.0030

Pluto -33295-05-05 11:45 J -10439451.15 -10439451.01 -10439450.87 0.0075 0.0022

Jupiter -33295-07-21 21:21 J -10439373.70 -10439373.61 -10439373.51 0.0510 0.0418

Pluto -33295-08-01 12:57 J -10439363.10 -10439362.96 -10439362.81 0.0075 0.0015

Jupiter -33295-10-19 21:35 J -10439283.74 -10439283.60 -10439283.47 0.0514 0.0283

Pluto -33295-10-28 14:23 J -10439275.05 -10439274.90 -10439274.75 0.0075 0.0008

Pluto -33294-01-24 15:35 J -10439187.00 -10439186.85 -10439186.70 0.0075 0.0002

Pluto -33294-04-22 17:02 J -10439098.94 -10439098.79 -10439098.64 0.0075 0.0007

Pluto -33294-07-19 18:14 J -10439010.89 -10439010.74 -10439010.59 0.0074 0.0014

Pluto -33294-10-15 19:11 J -10438922.83 -10438922.70 -10438922.54 0.0074 0.0022

Pluto -33293-01-11 20:38 J -10438834.77 -10438834.64 -10438834.50 0.0074 0.0028

Pluto -33293-04-08 21:50 J -10438746.71 -10438746.59 -10438746.45 0.0074 0.0035

Moon -33293-05-04 16:33 J -10438720.87 -10438720.81 -10438720.76 0.2671 0.2327

Earth -33293-05-04 17:02 J -10438720.86 -10438720.79 -10438720.73 0.2677 0.2227 *

Pluto -33293-07-05 22:47 J -10438658.65 -10438658.55 -10438658.41 0.0074 0.0042

Pluto -33293-10-01 23:59 J -10438570.59 -10438570.50 -10438570.37 0.0074 0.0049

Pluto -33293-12-29 01:26 J -10438482.53 -10438482.44 -10438482.34 0.0074 0.0055

Pluto -33292-03-27 02:38 J -10438394.46 -10438394.39 -10438394.30 0.0074 0.0062

Pluto -33292-06-23 03:35 J -10438306.39 -10438306.35 -10438306.28 0.0073 0.0069

Moon -33290-11-13 19:55 J -10437432.80 -10437432.67 -10437432.54 0.2666 0.0146

Earth -33290-11-13 20:09 J -10437432.80 -10437432.66 -10437432.53 0.2660 0.0212 *

Jupiter -33289-03-09 22:47 J -10437315.69 -10437315.55 -10437315.41 0.0516 0.0034

Mars -33289-10-23 16:47 J -10437087.88 -10437087.80 -10437087.72 0.1705 0.1421

Saturn -33288-05-25 03:50 J -10436874.44 -10436874.34 -10436874.23 0.0272 0.0177

Saturn -33288-08-21 16:47 J -10436785.94 -10436785.80 -10436785.65 0.0272 0.0072

Mars -33288-11-15 07:55 J -10436700.28 -10436700.17 -10436700.05 0.1831 0.0728

Saturn -33288-11-18 06:14 J -10436697.39 -10436697.24 -10436697.10 0.0272 0.0037

Saturn -33287-02-14 19:40 J -10436608.80 -10436608.68 -10436608.55 0.0272 0.0148

Saturn -33287-05-14 09:21 J -10436520.14 -10436520.11 -10436520.06 0.0273 0.0261

Earth -33287-05-15 00:28 J -10436519.58 -10436519.48 -10436519.38 0.2670 0.1563

Moon -33287-05-15 00:43 J -10436519.57 -10436519.47 -10436519.37 0.2676 0.1531 *

Neptune -33283-05-09 03:50 J -10435064.35 -10435064.34 -10435064.31 0.0088 0.0088

Neptune -33283-08-05 06:28 J -10434976.29 -10434976.23 -10434976.13 0.0088 0.0080

Jupiter -33283-08-07 20:52 J -10434973.79 -10434973.63 -10434973.46 0.0513 0.0108

Neptune -33283-11-01 09:35 J -10434888.20 -10434888.10 -10434887.99 0.0088 0.0071

Neptune -33282-01-28 12:14 J -10434800.10 -10434799.99 -10434799.85 0.0088 0.0063

Neptune -33282-04-26 15:21 J -10434711.99 -10434711.86 -10434711.71 0.0088 0.0054

Neptune -33282-07-23 17:59 J -10434623.89 -10434623.75 -10434623.59 0.0088 0.0046

Neptune -33282-10-19 20:52 J -10434535.78 -10434535.63 -10434535.46 0.0088 0.0037

Neptune -33281-01-15 23:45 J -10434447.67 -10434447.51 -10434447.34 0.0088 0.0029

Neptune -33281-04-13 02:38 J -10434359.56 -10434359.39 -10434359.22 0.0088 0.0020

Neptune -33281-07-10 05:31 J -10434271.44 -10434271.27 -10434271.10 0.0088 0.0012

Neptune -33281-10-06 08:09 J -10434183.33 -10434183.16 -10434182.98 0.0088 0.0004

Neptune -33280-01-02 11:02 J -10434095.22 -10434095.04 -10434094.87 0.0088 0.0005

Neptune -33280-03-31 13:40 J -10434007.10 -10434006.93 -10434006.76 0.0088 0.0013

Moon -33280-05-07 12:43 J -10433970.07 -10433969.97 -10433969.86 0.2675 0.1292

Earth -33280-05-07 13:40 J -10433970.03 -10433969.93 -10433969.82 0.2675 0.1281 *

Neptune -33280-06-27 16:19 J -10433918.98 -10433918.82 -10433918.65 0.0088 0.0021

Neptune -33280-09-23 19:11 J -10433830.86 -10433830.70 -10433830.54 0.0088 0.0029

Neptune -33280-12-20 21:50 J -10433742.75 -10433742.59 -10433742.43 0.0088 0.0038

Neptune -33279-03-19 00:28 J -10433654.63 -10433654.48 -10433654.33 0.0088 0.0046

Neptune -33279-06-15 02:52 J -10433566.50 -10433566.38 -10433566.23 0.0088 0.0054

Neptune -33279-09-11 05:31 J -10433478.38 -10433478.27 -10433478.13 0.0088 0.0062

Neptune -33279-12-08 08:09 J -10433390.25 -10433390.16 -10433390.04 0.0088 0.0070

Neptune -33278-03-06 11:02 J -10433302.11 -10433302.04 -10433301.96 0.0088 0.0078

Mars -33278-04-07 15:21 J -10433269.99 -10433269.86 -10433269.74 0.1826 0.0048

Neptune -33278-06-02 13:40 J -10433213.96 -10433213.93 -10433213.89 0.0088 0.0086

Jupiter -33278-12-28 02:23 J -10433005.53 -10433005.40 -10433005.27 0.0517 0.0172

Mars -33277-02-20 07:26 J -10432951.31 -10432951.19 -10432951.07 0.1689 0.1002

Jupiter -33277-03-26 12:43 J -10432916.05 -10432915.97 -10432915.89 0.0513 0.0421

Earth -33277-11-15 18:57 J -10432681.82 -10432681.71 -10432681.59 0.2662 0.1288

Moon -33277-11-15 19:26 J -10432681.79 -10432681.69 -10432681.58 0.2668 0.1419 *

Earth -33274-05-17 22:19 J -10431768.59 -10431768.57 -10431768.55 0.2668 0.2624

Saturn -33274-12-31 08:23 J -10431541.28 -10431541.15 -10431541.01 0.0287 0.0168

Saturn -33273-03-29 02:52 J -10431452.54 -10431452.38 -10431452.21 0.0287 0.0025

Saturn -33273-06-25 20:52 J -10431363.77 -10431363.63 -10431363.48 0.0286 0.0115

Saturn -33273-09-22 14:23 J -10431274.97 -10431274.90 -10431274.82 0.0286 0.0250

Jupiter -33271-05-26 20:52 J -10430663.79 -10430663.63 -10430663.46 0.0512 0.0063

Moon -33270-11-09 01:40 J -10430132.51 -10430132.43 -10430132.34 0.2658 0.2011

Earth -33270-11-09 02:52 J -10430132.47 -10430132.38 -10430132.29 0.2657 0.1870 *

Mars -33269-08-27 22:47 J -10429839.67 -10429839.55 -10429839.44 0.1820 0.0731

Mars -33268-07-12 11:16 J -10429521.18 -10429521.03 -10429520.88 0.1695 0.0267

Venus -33268-08-17 05:45 J -10429485.34 -10429485.26 -10429485.18 0.3780 0.2627

Moon -33267-05-10 10:04 J -10429219.20 -10429219.08 -10429218.96 0.2677 0.0367

Earth -33267-05-10 10:47 J -10429219.17 -10429219.05 -10429218.92 0.2673 0.0298 *

Jupiter -33266-10-16 05:45 J -10428695.37 -10428695.26 -10428695.15 0.0518 0.0314

Jupiter -33265-01-13 15:50 J -10428605.96 -10428605.84 -10428605.72 0.0514 0.0275

Venus -33264-08-18 09:50 J -10428023.14 -10428023.09 -10428023.04 0.3597 0.3267

Earth -33264-11-18 17:31 J -10427930.83 -10427930.77 -10427930.71 0.2664 0.2343

Moon -33264-11-18 18:43 J -10427930.78 -10427930.72 -10427930.66 0.2664 0.2341 *

Venus -33262-03-03 00:43 J -10427461.58 -10427461.47 -10427461.36 0.3777 0.0423

Mars -33259-01-18 06:43 J -10426409.30 -10426409.22 -10426409.15 0.1814 0.1406

Jupiter -33259-03-14 20:52 J -10426353.78 -10426353.63 -10426353.48 0.0511 0.0230

Jupiter -33259-06-12 20:38 J -10426263.70 -10426263.64 -10426263.57 0.0515 0.0469

Saturn -33259-10-12 04:19 J -10426142.40 -10426142.32 -10426142.24 0.0272 0.0220

Mars -33259-12-02 14:23 J -10426091.04 -10426090.90 -10426090.75 0.1700 0.0513

Saturn -33258-01-08 17:02 J -10426053.92 -10426053.79 -10426053.65 0.0272 0.0115

Venus -33258-03-04 08:09 J -10425999.28 -10425999.16 -10425999.03 0.3599 0.0393

Saturn -33258-04-07 06:14 J -10425965.38 -10425965.24 -10425965.09 0.0273 0.0010

Saturn -33258-07-04 19:40 J -10425876.81 -10425876.68 -10425876.54 0.0273 0.0103

Saturn -33258-10-01 09:21 J -10425788.20 -10425788.11 -10425788.02 0.0273 0.0215

Mars -33258-12-25 00:57 J -10425703.52 -10425703.46 -10425703.40 0.1837 0.1570

Uranus -33257-09-14 19:55 J -10425438.73 -10425438.67 -10425438.59 0.0145 0.0127

Venus -33257-09-15 19:55 J -10425437.70 -10425437.67 -10425437.64 0.3775 0.3579

Moon -33257-11-11 01:40 J -10425381.56 -10425381.43 -10425381.31 0.2663 0.0790

Earth -33257-11-11 02:23 J -10425381.53 -10425381.40 -10425381.27 0.2658 0.0718 *

Uranus -33257-12-12 00:43 J -10425350.57 -10425350.47 -10425350.36 0.0145 0.0102

Uranus -33256-03-10 05:16 J -10425262.39 -10425262.28 -10425262.15 0.0145 0.0078

Uranus -33256-06-06 10:04 J -10425174.21 -10425174.08 -10425173.93 0.0145 0.0053

Uranus -33256-09-02 15:07 J -10425086.02 -10425085.87 -10425085.73 0.0145 0.0027

Uranus -33256-11-29 19:55 J -10424997.82 -10424997.67 -10424997.52 0.0145 0.0002

Uranus -33255-02-26 00:43 J -10424909.61 -10424909.47 -10424909.32 0.0145 0.0024

Uranus -33255-05-25 05:45 J -10424821.40 -10424821.26 -10424821.12 0.0145 0.0050

Uranus -33255-08-21 10:33 J -10424733.18 -10424733.06 -10424732.93 0.0145 0.0076

Uranus -33255-11-17 15:35 J -10424644.95 -10424644.85 -10424644.74 0.0145 0.0103

Uranus -33254-02-13 20:38 J -10424556.70 -10424556.64 -10424556.56 0.0145 0.0129

Moon -33254-05-13 07:55 J -10424468.29 -10424468.17 -10424468.05 0.2679 0.0685

Earth -33254-05-13 08:09 J -10424468.28 -10424468.16 -10424468.04 0.2672 0.0722 *

Jupiter -33254-08-04 08:52 J -10424385.19 -10424385.13 -10424385.06 0.0518 0.0459

Jupiter -33254-11-01 18:43 J -10424295.85 -10424295.72 -10424295.58 0.0515 0.0130

Mars -33249-04-23 17:16 J -10422660.87 -10422660.78 -10422660.68 0.1705 0.1319

Mars -33248-05-16 08:09 J -10422273.27 -10422273.16 -10422273.05 0.1831 0.0815

Jupiter -33248-12-31 20:09 J -10422043.75 -10422043.66 -10422043.55 0.0510 0.0404

Jupiter -33247-03-31 20:23 J -10421953.78 -10421953.65 -10421953.51 0.0514 0.0297

Moon -33247-05-05 21:35 J -10421918.68 -10421918.60 -10421918.52 0.2672 0.2034

Earth -33247-05-05 22:04 J -10421918.65 -10421918.58 -10421918.50 0.2677 0.2059 *

Saturn -33244-05-19 08:23 J -10420809.26 -10420809.15 -10420809.04 0.0287 0.0212

Saturn -33244-08-16 03:07 J -10420720.53 -10420720.37 -10420720.21 0.0287 0.0067

Saturn -33244-11-12 21:07 J -10420631.77 -10420631.62 -10420631.46 0.0287 0.0075

Moon -33244-11-14 01:40 J -10420630.56 -10420630.43 -10420630.30 0.2667 0.0442

Earth -33244-11-14 01:40 J -10420630.56 -10420630.43 -10420630.30 0.2660 0.0404 *

Saturn -33243-02-09 14:52 J -10420542.98 -10420542.88 -10420542.77 0.0287 0.0212

Jupiter -33242-08-20 21:21 J -10419985.75 -10419985.61 -10419985.47 0.0516 0.0028

Earth -33241-05-15 05:45 J -10419717.35 -10419717.26 -10419717.16 0.2670 0.1757

Moon -33241-05-15 06:28 J -10419717.32 -10419717.23 -10419717.14 0.2675 0.1856 *

Mars -33239-10-06 15:21 J -10418842.99 -10418842.86 -10418842.74 0.1825 0.0079

Mars -33238-08-21 07:40 J -10418524.29 -10418524.18 -10418524.06 0.1689 0.1095

Jupiter -33235-01-17 20:09 J -10417643.82 -10417643.66 -10417643.50 0.0513 0.0126

Moon -33234-05-08 17:59 J -10417167.86 -10417167.75 -10417167.64 0.2675 0.1240

Earth -33234-05-08 18:57 J -10417167.82 -10417167.71 -10417167.59 0.2675 0.1099 *

Earth -33231-11-17 00:28 J -10415879.59 -10415879.48 -10415879.37 0.2662 0.1486

Moon -33231-11-17 01:11 J -10415879.56 -10415879.45 -10415879.34 0.2667 0.1470 *

Jupiter -33230-06-09 00:43 J -10415675.60 -10415675.47 -10415675.34 0.0517 0.0171

Jupiter -33230-09-06 11:02 J -10415586.12 -10415586.04 -10415585.96 0.0513 0.0423

Mars -33229-02-26 22:47 J -10415412.66 -10415412.55 -10415412.43 0.1820 0.0647

Saturn -33229-02-29 06:57 J -10415410.27 -10415410.21 -10415410.14 0.0271 0.0241

Saturn -33229-05-27 19:55 J -10415321.80 -10415321.67 -10415321.55 0.0272 0.0137

Saturn -33229-08-24 08:52 J -10415233.27 -10415233.13 -10415232.98 0.0272 0.0031

Saturn -33229-11-20 22:19 J -10415144.72 -10415144.57 -10415144.43 0.0272 0.0078

Mars -33228-01-10 11:31 J -10415094.17 -10415094.02 -10415093.87 0.1695 0.0354

Saturn -33228-02-17 11:45 J -10415056.11 -10415056.01 -10415055.90 0.0272 0.0189

Jupiter -33224-11-05 19:26 J -10413333.85 -10413333.69 -10413333.52 0.0512 0.0053

Moon -33224-11-09 07:26 J -10413330.29 -10413330.19 -10413330.09 0.2659 0.1671

Earth -33224-11-09 08:38 J -10413330.25 -10413330.14 -10413330.04 0.2657 0.1661 *

Moon -33221-05-10 15:35 J -10412416.98 -10412416.85 -10412416.73 0.2678 0.0125

Earth -33221-05-10 16:04 J -10412416.95 -10412416.83 -10412416.70 0.2673 0.0141 *

Mars -33220-07-19 06:43 J -10411982.30 -10411982.22 -10411982.14 0.1813 0.1332

Mars -33219-06-02 14:52 J -10411664.03 -10411663.88 -10411663.73 0.1700 0.0419

Jupiter -33218-03-28 04:19 J -10411365.43 -10411365.32 -10411365.21 0.0518 0.0308

Mars -33218-06-25 01:11 J -10411276.50 -10411276.45 -10411276.40 0.1837 0.1659

Jupiter -33218-06-25 14:23 J -10411276.01 -10411275.90 -10411275.78 0.0514 0.0283

Earth -33218-11-19 23:02 J -10411128.58 -10411128.54 -10411128.50 0.2664 0.2532

Uranus -33216-01-28 10:47 J -10410693.09 -10410693.05 -10410692.99 0.0134 0.0127

Uranus -33216-04-26 16:04 J -10410604.93 -10410604.83 -10410604.72 0.0134 0.0104

Uranus -33216-07-23 21:07 J -10410516.74 -10410516.62 -10410516.47 0.0134 0.0082

Uranus -33216-10-20 02:38 J -10410428.54 -10410428.39 -10410428.24 0.0133 0.0058

Uranus -33215-01-16 07:40 J -10410340.34 -10410340.18 -10410340.02 0.0133 0.0036

Uranus -33215-04-14 12:43 J -10410252.13 -10410251.97 -10410251.80 0.0133 0.0015

Uranus -33215-07-11 17:59 J -10410163.92 -10410163.75 -10410163.59 0.0133 0.0009

Saturn -33215-10-06 06:57 J -10410077.27 -10410077.21 -10410077.14 0.0287 0.0263

Uranus -33215-10-07 22:47 J -10410075.71 -10410075.55 -10410075.39 0.0133 0.0030

Saturn -33214-01-03 01:55 J -10409988.57 -10409988.42 -10409988.27 0.0287 0.0117

Uranus -33214-01-04 03:50 J -10409987.49 -10409987.34 -10409987.19 0.0133 0.0051

Saturn -33214-04-01 20:09 J -10409899.82 -10409899.66 -10409899.49 0.0287 0.0027

Uranus -33214-04-02 08:23 J -10409899.27 -10409899.15 -10409899.00 0.0133 0.0074

Uranus -33214-06-29 13:26 J -10409811.05 -10409810.94 -10409810.82 0.0133 0.0094

Saturn -33214-06-29 13:55 J -10409811.04 -10409810.92 -10409810.78 0.0287 0.0165 *

Uranus -33214-09-25 18:14 J -10409722.81 -10409722.74 -10409722.65 0.0133 0.0115

Jupiter -33212-08-24 19:11 J -10409023.84 -10409023.70 -10409023.55 0.0511 0.0223

Jupiter -33212-11-22 18:57 J -10408933.77 -10408933.71 -10408933.65 0.0515 0.0474

Venus -33211-03-24 04:04 J -10408812.43 -10408812.33 -10408812.23 0.3779 0.1521

Moon -33211-11-12 07:11 J -10408579.32 -10408579.20 -10408579.07 0.2664 0.0591

Earth -33211-11-12 07:55 J -10408579.30 -10408579.17 -10408579.04 0.2659 0.0515 *

Mars -33210-10-23 17:59 J -10408233.86 -10408233.75 -10408233.65 0.1705 0.1217

Mars -33209-11-14 07:55 J -10407846.28 -10407846.17 -10407846.06 0.1831 0.0885

Moon -33208-05-13 13:26 J -10407666.06 -10407665.94 -10407665.83 0.2678 0.0905

Earth -33208-05-13 13:26 J -10407666.05 -10407665.94 -10407665.82 0.2671 0.0909 *

Venus -33207-03-25 09:07 J -10407350.23 -10407350.12 -10407350.01 0.3597 0.1903

Jupiter -33206-01-14 07:55 J -10407055.24 -10407055.17 -10407055.11 0.0519 0.0448

Jupiter -33206-04-13 17:45 J -10406965.90 -10406965.76 -10406965.63 0.0515 0.0139

Venus -33206-10-07 23:02 J -10406788.64 -10406788.54 -10406788.44 0.3777 0.1554

Neptune -33202-08-11 23:02 J -10405384.56 -10405384.54 -10405384.51 0.0089 0.0088

Venus -33202-10-09 07:26 J -10405326.30 -10405326.19 -10405326.08 0.3599 0.1692

Neptune -33202-11-08 00:28 J -10405296.52 -10405296.48 -10405296.41 0.0089 0.0081

Neptune -33201-02-04 02:09 J -10405208.48 -10405208.41 -10405208.32 0.0089 0.0074

Neptune -33201-05-02 03:50 J -10405120.42 -10405120.34 -10405120.24 0.0089 0.0067

Moon -33201-05-06 02:38 J -10405116.47 -10405116.39 -10405116.31 0.2673 0.2000

Earth -33201-05-06 03:21 J -10405116.44 -10405116.36 -10405116.27 0.2676 0.1881 *

Neptune -33201-07-29 05:31 J -10405032.37 -10405032.27 -10405032.16 0.0089 0.0061

Neptune -33201-10-25 06:57 J -10404944.31 -10404944.21 -10404944.09 0.0089 0.0054

Neptune -33200-01-21 08:38 J -10404856.25 -10404856.14 -10404856.01 0.0089 0.0047

Neptune -33200-04-19 10:19 J -10404768.19 -10404768.07 -10404767.93 0.0089 0.0040

Jupiter -33200-06-12 18:57 J -10404713.81 -10404713.71 -10404713.60 0.0510 0.0392

Neptune -33200-07-16 11:59 J -10404680.13 -10404680.00 -10404679.86 0.0089 0.0033

Jupiter -33200-09-10 19:11 J -10404623.82 -10404623.70 -10404623.56 0.0514 0.0311

Neptune -33200-10-12 13:40 J -10404592.06 -10404591.93 -10404591.79 0.0089 0.0026

Saturn -33200-10-14 20:09 J -10404589.77 -10404589.66 -10404589.56 0.0272 0.0181

Neptune -33199-01-08 15:21 J -10404504.00 -10404503.86 -10404503.72 0.0089 0.0019

Saturn -33199-01-11 08:52 J -10404501.27 -10404501.13 -10404500.99 0.0272 0.0076

Mars -33199-04-06 15:21 J -10404415.98 -10404415.86 -10404415.73 0.1826 0.0152

Neptune -33199-04-06 17:02 J -10404415.93 -10404415.79 -10404415.64 0.0089 0.0013 *

Saturn -33199-04-09 22:04 J -10404412.72 -10404412.58 -10404412.43 0.0272 0.0033

Neptune -33199-07-03 18:43 J -10404327.86 -10404327.72 -10404327.57 0.0089 0.0006

Saturn -33199-07-07 11:45 J -10404324.14 -10404324.01 -10404323.89 0.0273 0.0143

Neptune -33199-09-29 20:23 J -10404239.79 -10404239.65 -10404239.50 0.0089 0.0003

Saturn -33199-10-04 01:11 J -10404235.49 -10404235.45 -10404235.39 0.0273 0.0256

Neptune -33199-12-26 22:04 J -10404151.72 -10404151.58 -10404151.43 0.0089 0.0009

Mars -33198-02-19 08:23 J -10404097.26 -10404097.15 -10404097.05 0.1689 0.1192

Neptune -33198-03-24 23:45 J -10404063.65 -10404063.51 -10404063.36 0.0089 0.0016

Neptune -33198-06-21 01:26 J -10403975.57 -10403975.44 -10403975.29 0.0089 0.0023

Neptune -33198-09-17 03:07 J -10403887.50 -10403887.37 -10403887.23 0.0089 0.0030

Earth -33198-11-15 07:11 J -10403828.33 -10403828.20 -10403828.07 0.2660 0.0604

Moon -33198-11-15 07:11 J -10403828.32 -10403828.20 -10403828.07 0.2668 0.0610 *

Neptune -33198-12-14 04:47 J -10403799.42 -10403799.30 -10403799.16 0.0089 0.0037

Neptune -33197-03-11 06:28 J -10403711.35 -10403711.23 -10403711.09 0.0089 0.0045

Neptune -33197-06-07 08:23 J -10403623.27 -10403623.15 -10403623.03 0.0089 0.0051

Neptune -33197-09-03 10:04 J -10403535.18 -10403535.08 -10403534.97 0.0089 0.0059

Neptune -33197-11-30 11:31 J -10403447.10 -10403447.02 -10403446.90 0.0089 0.0067

Neptune -33196-02-26 13:26 J -10403359.01 -10403358.94 -10403358.85 0.0089 0.0073

Neptune -33196-05-25 15:07 J -10403270.92 -10403270.87 -10403270.79 0.0089 0.0081

Neptune -33196-08-21 17:02 J -10403182.81 -10403182.79 -10403182.76 0.0089 0.0087

Earth -33195-05-16 11:16 J -10402915.12 -10402915.03 -10402914.95 0.2670 0.1953

Moon -33195-05-16 11:59 J -10402915.09 -10402915.00 -10402914.92 0.2675 0.1981 *

Jupiter -33194-01-30 20:52 J -10402655.77 -10402655.63 -10402655.49 0.0516 0.0007

Moon -33191-11-07 13:11 J -10401278.96 -10401278.95 -10401278.93 0.2653 0.2630

Earth -33191-11-07 14:23 J -10401278.92 -10401278.90 -10401278.89 0.2655 0.2632

Mars -33190-08-27 23:02 J -10400985.66 -10400985.54 -10400985.43 0.1820 0.0565

Mars -33189-07-11 11:59 J -10400667.15 -10400667.00 -10400666.86 0.1695 0.0447

Moon -33188-05-08 23:31 J -10400365.64 -10400365.52 -10400365.41 0.2675 0.0921

Earth -33188-05-09 00:14 J -10400365.60 -10400365.49 -10400365.37 0.2675 0.0921 *

Jupiter -33188-06-29 19:11 J -10400313.86 -10400313.70 -10400313.54 0.0513 0.0141

Saturn -33185-05-22 01:26 J -10399256.57 -10399256.44 -10399256.31 0.0288 0.0163

Saturn -33185-08-18 19:55 J -10399167.83 -10399167.67 -10399167.50 0.0287 0.0020

Saturn -33185-11-15 13:55 J -10399079.06 -10399078.92 -10399078.77 0.0287 0.0123

Earth -33185-11-17 05:59 J -10399077.35 -10399077.25 -10399077.15 0.2662 0.1681

Moon -33185-11-17 06:43 J -10399077.31 -10399077.22 -10399077.12 0.2666 0.1794 *

Saturn -33184-02-12 07:40 J -10398990.24 -10398990.18 -10398990.11 0.0287 0.0259

Jupiter -33183-11-18 23:16 J -10398345.66 -10398345.53 -10398345.40 0.0517 0.0164

Jupiter -33182-02-16 09:35 J -10398256.17 -10398256.10 -10398256.02 0.0513 0.0430

Mars -33180-01-17 06:43 J -10397555.31 -10397555.22 -10397555.13 0.1813 0.1259

Mars -33180-12-01 15:21 J -10397237.01 -10397236.86 -10397236.71 0.1700 0.0324

Mars -33179-12-24 01:11 J -10396849.49 -10396849.45 -10396849.41 0.1837 0.1740

Moon -33178-11-10 12:57 J -10396528.06 -10396527.96 -10396527.85 0.2660 0.1622

Earth -33178-11-10 14:09 J -10396528.02 -10396527.91 -10396527.80 0.2657 0.1451 *

Jupiter -33176-04-17 18:57 J -10396003.88 -10396003.71 -10396003.55 0.0512 0.0033

Moon -33175-05-11 20:52 J -10395614.75 -10395614.63 -10395614.50 0.2679 0.0038

Earth -33175-05-11 21:35 J -10395614.73 -10395614.60 -10395614.48 0.2673 0.0125 *

Uranus -33173-10-05 02:38 J -10394737.46 -10394737.39 -10394737.30 0.0145 0.0123

Uranus -33172-01-01 07:11 J -10394649.29 -10394649.20 -10394649.08 0.0145 0.0099

Uranus -33172-03-30 11:59 J -10394561.12 -10394561.00 -10394560.86 0.0145 0.0074

Uranus -33172-06-26 16:47 J -10394472.93 -10394472.80 -10394472.65 0.0145 0.0049

Uranus -33172-09-22 21:50 J -10394384.74 -10394384.59 -10394384.45 0.0145 0.0023

Uranus -33172-12-20 02:38 J -10394296.54 -10394296.39 -10394296.24 0.0145 0.0002

Uranus -33171-03-18 07:26 J -10394208.33 -10394208.19 -10394208.04 0.0145 0.0028

Uranus -33171-06-14 12:14 J -10394120.12 -10394119.99 -10394119.84 0.0145 0.0054

Jupiter -33171-09-07 02:38 J -10394035.50 -10394035.39 -10394035.28 0.0518 0.0307

Uranus -33171-09-10 17:16 J -10394031.90 -10394031.78 -10394031.65 0.0145 0.0080

Jupiter -33171-12-05 12:43 J -10393946.08 -10393945.97 -10393945.85 0.0514 0.0285

Uranus -33171-12-07 22:19 J -10393943.67 -10393943.57 -10393943.46 0.0145 0.0107

Saturn -33170-03-03 22:47 J -10393857.64 -10393857.55 -10393857.45 0.0271 0.0203

Uranus -33170-03-06 03:21 J -10393855.41 -10393855.36 -10393855.29 0.0145 0.0133

Mars -33170-04-23 18:14 J -10393806.85 -10393806.74 -10393806.63 0.1705 0.1127

Saturn -33170-05-31 11:45 J -10393769.15 -10393769.01 -10393768.87 0.0272 0.0098

Saturn -33170-08-28 00:57 J -10393680.61 -10393680.46 -10393680.32 0.0272 0.0012

Saturn -33170-11-24 14:09 J -10393592.04 -10393591.91 -10393591.77 0.0272 0.0119

Saturn -33169-02-21 03:50 J -10393503.41 -10393503.34 -10393503.26 0.0272 0.0231

Mars -33169-05-15 08:09 J -10393419.26 -10393419.16 -10393419.05 0.1831 0.0971

Earth -33168-05-04 11:59 J -10393065.01 -10393065.00 -10393064.99 0.2678 0.2647

Moon -33165-11-12 13:11 J -10391777.08 -10391776.95 -10391776.82 0.2665 0.0294

Earth -33165-11-12 13:40 J -10391777.07 -10391776.93 -10391776.80 0.2659 0.0314 *

Jupiter -33164-02-03 17:59 J -10391693.90 -10391693.75 -10391693.60 0.0511 0.0213

Jupiter -33164-05-04 17:45 J -10391603.82 -10391603.76 -10391603.71 0.0515 0.0483

Earth -33162-05-14 18:57 J -10390863.83 -10390863.71 -10390863.60 0.2671 0.1100

Moon -33162-05-14 18:57 J -10390863.82 -10390863.71 -10390863.60 0.2678 0.1126 *

Venus -33160-04-14 07:26 J -10390163.23 -10390163.19 -10390163.14 0.3780 0.3419

Mars -33160-10-05 15:21 J -10389988.98 -10389988.86 -10389988.73 0.1825 0.0231

Jupiter -33159-06-26 06:28 J -10389725.30 -10389725.23 -10389725.16 0.0519 0.0444

Mars -33159-08-20 08:38 J -10389670.24 -10389670.14 -10389670.05 0.1690 0.1275

Jupiter -33159-09-23 16:19 J -10389635.95 -10389635.82 -10389635.69 0.0515 0.0145

Saturn -33156-10-09 00:14 J -10388524.59 -10388524.49 -10388524.38 0.0287 0.0213

Saturn -33155-01-05 18:57 J -10388435.87 -10388435.71 -10388435.55 0.0287 0.0068

Saturn -33155-04-04 13:11 J -10388347.10 -10388346.95 -10388346.79 0.0287 0.0074

Moon -33155-05-07 07:40 J -10388314.27 -10388314.18 -10388314.08 0.2673 0.1713

Earth -33155-05-07 08:38 J -10388314.23 -10388314.14 -10388314.04 0.2676 0.1706 *

Saturn -33155-07-02 06:57 J -10388258.31 -10388258.21 -10388258.10 0.0287 0.0212

Venus -33155-10-29 02:23 J -10388139.51 -10388139.40 -10388139.29 0.3778 0.0417

Jupiter -33153-11-22 17:31 J -10387383.88 -10387383.77 -10387383.66 0.0510 0.0384

Jupiter -33152-02-20 17:45 J -10387293.89 -10387293.76 -10387293.63 0.0514 0.0317

Earth -33152-11-15 12:43 J -10387026.10 -10387025.97 -10387025.85 0.2661 0.0804

Moon -33152-11-15 12:57 J -10387026.09 -10387025.96 -10387025.84 0.2668 0.0821 *

Venus -33151-10-30 08:23 J -10386677.28 -10386677.15 -10386677.02 0.3598 0.0556

Mars -33150-02-25 22:47 J -10386558.67 -10386558.55 -10386558.43 0.1819 0.0498

Mars -33149-01-10 12:28 J -10386240.12 -10386239.98 -10386239.83 0.1695 0.0549

Venus -33149-05-13 21:21 J -10386115.69 -10386115.61 -10386115.53 0.3776 0.2704

Earth -33149-05-16 16:33 J -10386112.88 -10386112.81 -10386112.74 0.2669 0.2146

Moon -33149-05-16 17:16 J -10386112.85 -10386112.78 -10386112.71 0.2674 0.2232 *

Jupiter -33147-07-12 19:40 J -10385325.82 -10385325.68 -10385325.54 0.0516 0.0006

Venus -33145-05-15 06:43 J -10384653.29 -10384653.22 -10384653.15 0.3600 0.2994

Moon -33145-11-07 18:57 J -10384476.74 -10384476.71 -10384476.68 0.2655 0.2571

Earth -33145-11-07 19:55 J -10384476.72 -10384476.67 -10384476.61 0.2656 0.2419 *

Moon -33142-05-10 04:47 J -10383563.42 -10383563.30 -10383563.18 0.2676 0.0871

Earth -33142-05-10 05:45 J -10383563.38 -10383563.26 -10383563.14 0.2674 0.0736 *

Mars -33141-07-18 06:43 J -10383128.31 -10383128.22 -10383128.12 0.1814 0.1179

Saturn -33141-07-20 23:02 J -10383125.59 -10383125.54 -10383125.47 0.0272 0.0246

Saturn -33141-10-17 11:59 J -10383037.12 -10383037.00 -10383036.88 0.0272 0.0142

Jupiter -33141-12-09 17:59 J -10382983.91 -10382983.75 -10382983.59 0.0513 0.0152

Saturn -33140-01-14 00:57 J -10382948.61 -10382948.46 -10382948.31 0.0272 0.0035

Saturn -33140-04-12 14:09 J -10382860.05 -10382859.91 -10382859.77 0.0272 0.0073

Mars -33140-06-01 15:50 J -10382809.99 -10382809.84 -10382809.69 0.1700 0.0228

Saturn -33140-07-10 03:35 J -10382771.45 -10382771.35 -10382771.24 0.0272 0.0185

Mars -33139-06-24 01:11 J -10382422.46 -10382422.45 -10382422.44 0.1837 0.1818

Earth -33139-11-18 11:31 J -10382275.11 -10382275.02 -10382274.93 0.2662 0.1877

Moon -33139-11-18 12:28 J -10382275.07 -10382274.98 -10382274.89 0.2665 0.1926 *

Jupiter -33135-04-30 23:02 J -10381015.68 -10381015.54 -10381015.41 0.0517 0.0142

Jupiter -33135-07-29 09:07 J -10380926.18 -10380926.12 -10380926.05 0.0513 0.0452

Pluto -33134-10-19 07:55 J -10380479.21 -10380479.17 -10380479.09 0.0068 0.0063

Pluto -33133-01-15 09:07 J -10380391.19 -10380391.12 -10380391.01 0.0068 0.0058

Pluto -33133-04-12 10:33 J -10380303.15 -10380303.06 -10380302.94 0.0068 0.0051

Pluto -33133-07-09 11:45 J -10380215.11 -10380215.01 -10380214.87 0.0068 0.0046

Pluto -33133-10-05 13:11 J -10380127.07 -10380126.95 -10380126.80 0.0069 0.0040

Pluto -33132-01-01 14:52 J -10380039.02 -10380038.88 -10380038.73 0.0069 0.0033

Uranus -33132-02-17 17:31 J -10379991.83 -10379991.77 -10379991.69 0.0134 0.0122

Pluto -33132-03-30 16:04 J -10379950.97 -10379950.83 -10379950.67 0.0069 0.0027

Uranus -33132-05-16 22:47 J -10379903.65 -10379903.55 -10379903.43 0.0134 0.0099

Pluto -33132-06-26 17:31 J -10379862.92 -10379862.77 -10379862.60 0.0069 0.0021

Uranus -33132-08-13 04:04 J -10379815.46 -10379815.33 -10379815.18 0.0134 0.0076

Pluto -33132-09-22 19:11 J -10379774.87 -10379774.70 -10379774.54 0.0069 0.0014

Uranus -33132-11-09 09:21 J -10379727.26 -10379727.11 -10379726.95 0.0133 0.0053

Moon -33132-11-10 18:43 J -10379725.84 -10379725.72 -10379725.60 0.2660 0.1244

Earth -33132-11-10 19:40 J -10379725.80 -10379725.68 -10379725.56 0.2657 0.1245 *

Pluto -33132-12-19 20:23 J -10379686.81 -10379686.65 -10379686.48 0.0069 0.0008

Uranus -33131-02-05 14:23 J -10379639.05 -10379638.90 -10379638.73 0.0133 0.0031

Pluto -33131-03-17 21:50 J -10379598.75 -10379598.59 -10379598.42 0.0069 0.0002

Uranus -33131-05-04 19:40 J -10379550.85 -10379550.68 -10379550.51 0.0133 0.0009

Pluto -33131-06-13 23:16 J -10379510.69 -10379510.53 -10379510.36 0.0069 0.0005

Uranus -33131-08-01 00:43 J -10379462.64 -10379462.47 -10379462.31 0.0133 0.0013

Pluto -33131-09-10 00:43 J -10379422.63 -10379422.47 -10379422.30 0.0069 0.0011

Mars -33131-10-22 18:43 J -10379379.84 -10379379.72 -10379379.60 0.1705 0.1027

Uranus -33131-10-28 05:31 J -10379374.42 -10379374.27 -10379374.10 0.0133 0.0035

Pluto -33131-12-07 01:55 J -10379334.57 -10379334.42 -10379334.24 0.0070 0.0019

Uranus -33130-01-24 10:33 J -10379286.20 -10379286.06 -10379285.91 0.0133 0.0057

Pluto -33130-03-05 03:35 J -10379246.50 -10379246.35 -10379246.19 0.0070 0.0025

Uranus -33130-04-22 15:21 J -10379197.98 -10379197.86 -10379197.72 0.0133 0.0078

Pluto -33130-06-01 04:47 J -10379158.43 -10379158.30 -10379158.13 0.0070 0.0032

Uranus -33130-07-19 20:09 J -10379109.76 -10379109.66 -10379109.54 0.0133 0.0099

Pluto -33130-08-28 06:28 J -10379070.36 -10379070.23 -10379070.08 0.0070 0.0038

Uranus -33130-10-16 00:57 J -10379021.51 -10379021.46 -10379021.38 0.0133 0.0120

Mars -33130-11-14 08:23 J -10378992.26 -10378992.15 -10378992.05 0.1831 0.1057

Pluto -33130-11-24 07:55 J -10378982.29 -10378982.17 -10378982.03 0.0070 0.0045

Pluto -33129-02-20 09:21 J -10378894.21 -10378894.11 -10378893.98 0.0070 0.0052

Moon -33129-05-12 02:09 J -10378812.53 -10378812.41 -10378812.28 0.2678 0.0308

Earth -33129-05-12 02:52 J -10378812.51 -10378812.38 -10378812.26 0.2673 0.0266 *

Pluto -33129-05-18 11:16 J -10378806.12 -10378806.03 -10378805.94 0.0070 0.0059

Pluto -33129-08-14 12:43 J -10378718.02 -10378717.97 -10378717.91 0.0070 0.0066

Jupiter -33129-09-27 17:59 J -10378673.92 -10378673.75 -10378673.59 0.0512 0.0020

Saturn -33126-02-25 23:16 J -10377792.60 -10377792.53 -10377792.47 0.0288 0.0264

Saturn -33126-05-25 18:14 J -10377703.89 -10377703.74 -10377703.59 0.0288 0.0117

Saturn -33126-08-22 12:28 J -10377615.14 -10377614.98 -10377614.81 0.0288 0.0029

Saturn -33126-11-19 06:28 J -10377526.35 -10377526.23 -10377526.09 0.0287 0.0167

Jupiter -33123-02-17 01:26 J -10376705.55 -10376705.44 -10376705.33 0.0518 0.0300

Jupiter -33123-05-17 11:31 J -10376616.13 -10376616.02 -10376615.90 0.0514 0.0292

Moon -33122-05-05 16:47 J -10376262.84 -10376262.80 -10376262.76 0.2672 0.2503

Earth -33122-05-05 17:16 J -10376262.83 -10376262.78 -10376262.74 0.2677 0.2475 *

Mars -33120-04-05 15:35 J -10375561.98 -10375561.85 -10375561.73 0.1825 0.0314

Mars -33119-02-18 09:07 J -10375243.21 -10375243.12 -10375243.04 0.1689 0.1370

Moon -33119-11-13 18:57 J -10374974.85 -10374974.71 -10374974.58 0.2666 0.0210

Earth -33119-11-13 19:11 J -10374974.83 -10374974.70 -10374974.57 0.2659 0.0111 *

Neptune -33118-02-03 03:07 J -10374893.42 -10374893.37 -10374893.30 0.0088 0.0082

Neptune -33118-05-02 06:14 J -10374805.34 -10374805.24 -10374805.15 0.0088 0.0074

Neptune -33118-07-29 08:52 J -10374717.24 -10374717.13 -10374717.00 0.0088 0.0065

Neptune -33118-10-25 11:31 J -10374629.14 -10374629.02 -10374628.87 0.0088 0.0057

Neptune -33117-01-21 14:38 J -10374541.03 -10374540.89 -10374540.74 0.0088 0.0048

Neptune -33117-04-18 17:16 J -10374452.92 -10374452.78 -10374452.61 0.0088 0.0040

Neptune -33117-07-15 20:23 J -10374364.81 -10374364.65 -10374364.48 0.0088 0.0031

Jupiter -33117-07-16 17:31 J -10374363.93 -10374363.77 -10374363.62 0.0511 0.0189

Neptune -33117-10-11 23:02 J -10374276.70 -10374276.54 -10374276.36 0.0088 0.0023

Jupiter -33117-10-14 17:02 J -10374273.81 -10374273.79 -10374273.76 0.0514 0.0505

Neptune -33116-01-08 01:55 J -10374188.59 -10374188.42 -10374188.24 0.0088 0.0015

Neptune -33116-04-06 04:47 J -10374100.48 -10374100.30 -10374100.13 0.0088 0.0006

Earth -33116-05-15 00:14 J -10374061.60 -10374061.49 -10374061.38 0.2671 0.1290

Moon -33116-05-15 00:28 J -10374061.59 -10374061.48 -10374061.37 0.2677 0.1270 *

Neptune -33116-07-03 07:26 J -10374012.36 -10374012.19 -10374012.01 0.0088 0.0003

Neptune -33116-09-29 10:19 J -10373924.24 -10373924.07 -10373923.90 0.0088 0.0010

Neptune -33116-12-26 12:57 J -10373836.13 -10373835.96 -10373835.79 0.0088 0.0019

Neptune -33115-03-24 15:35 J -10373748.01 -10373747.85 -10373747.68 0.0088 0.0027

Neptune -33115-06-20 18:14 J -10373659.89 -10373659.74 -10373659.57 0.0088 0.0035

Neptune -33115-09-16 20:52 J -10373571.77 -10373571.63 -10373571.47 0.0088 0.0044

Neptune -33115-12-13 23:45 J -10373483.64 -10373483.51 -10373483.36 0.0088 0.0051

Neptune -33114-03-12 02:23 J -10373395.52 -10373395.40 -10373395.27 0.0088 0.0059

Neptune -33114-06-08 05:02 J -10373307.39 -10373307.29 -10373307.17 0.0088 0.0067

Neptune -33114-09-04 07:40 J -10373219.26 -10373219.18 -10373219.08 0.0088 0.0075

Neptune -33114-12-01 10:19 J -10373131.11 -10373131.07 -10373131.01 0.0088 0.0083

Jupiter -33112-12-06 04:47 J -10372395.37 -10372395.30 -10372395.23 0.0519 0.0443

Saturn -33112-12-08 02:09 J -10372393.43 -10372393.41 -10372393.38 0.0271 0.0266

Jupiter -33111-03-05 14:38 J -10372306.02 -10372305.89 -10372305.76 0.0516 0.0146

Saturn -33111-03-06 14:52 J -10372305.00 -10372304.88 -10372304.77 0.0271 0.0162

Saturn -33111-06-03 03:50 J -10372216.49 -10372216.34 -10372216.20 0.0271 0.0057

Mars -33111-08-26 23:02 J -10372131.66 -10372131.54 -10372131.42 0.1819 0.0414

Saturn -33111-08-30 16:47 J -10372127.94 -10372127.80 -10372127.65 0.0272 0.0052

Saturn -33111-11-27 06:14 J -10372039.35 -10372039.24 -10372039.11 0.0272 0.0162

Mars -33110-07-11 12:43 J -10371813.11 -10371812.97 -10371812.83 0.1695 0.0631

Moon -33109-05-07 12:57 J -10371512.05 -10371511.96 -10371511.86 0.2673 0.1642

Earth -33109-05-07 13:55 J -10371512.02 -10371511.92 -10371511.82 0.2676 0.1527 *

Earth -33106-11-16 18:14 J -10370223.86 -10370223.74 -10370223.62 0.2661 0.1003

Moon -33106-11-16 18:28 J -10370223.84 -10370223.73 -10370223.61 0.2667 0.1066 *

Jupiter -33105-05-04 16:19 J -10370053.93 -10370053.82 -10370053.71 0.0510 0.0372

Jupiter -33105-08-02 16:19 J -10369963.94 -10369963.82 -10369963.69 0.0513 0.0328

Venus -33104-11-19 05:45 J -10369490.35 -10369490.26 -10369490.17 0.3779 0.2326

Earth -33103-05-17 21:50 J -10369310.65 -10369310.59 -10369310.53 0.2669 0.2342

Moon -33103-05-17 22:47 J -10369310.61 -10369310.55 -10369310.50 0.2674 0.2407 *

Mars -33101-01-17 06:43 J -10368701.31 -10368701.22 -10368701.12 0.1813 0.1106

Mars -33101-11-30 16:19 J -10368382.98 -10368382.82 -10368382.67 0.1700 0.0142

Venus -33100-11-20 09:21 J -10368028.19 -10368028.11 -10368028.04 0.3596 0.2870

Jupiter -33100-12-22 18:14 J -10367995.88 -10367995.74 -10367995.60 0.0516 0.0009

Moon -33099-11-09 00:28 J -10367674.55 -10367674.48 -10367674.41 0.2656 0.2244

Earth -33099-11-09 01:40 J -10367674.50 -10367674.43 -10367674.36 0.2656 0.2206 *

Venus -33098-06-05 00:43 J -10367466.59 -10367466.47 -10367466.36 0.3778 0.0723

Saturn -33097-10-11 17:45 J -10366971.90 -10366971.76 -10366971.63 0.0288 0.0163

Saturn -33096-01-08 12:14 J -10366883.15 -10366882.99 -10366882.83 0.0287 0.0018

Saturn -33096-04-07 06:14 J -10366794.38 -10366794.24 -10366794.09 0.0287 0.0123

Moon -33096-05-10 10:04 J -10366761.20 -10366761.08 -10366760.96 0.2678 0.0553

Earth -33096-05-10 10:47 J -10366761.17 -10366761.05 -10366760.92 0.2674 0.0563 *

Saturn -33096-07-04 23:59 J -10366705.56 -10366705.50 -10366705.43 0.0287 0.0260

Venus -33094-06-06 07:40 J -10366004.30 -10366004.18 -10366004.05 0.3598 0.0789

Jupiter -33093-05-21 16:19 J -10365653.97 -10365653.82 -10365653.66 0.0513 0.0160

Earth -33093-11-18 17:02 J -10365472.87 -10365472.79 -10365472.71 0.2663 0.2074

Moon -33093-11-18 17:59 J -10365472.83 -10365472.75 -10365472.68 0.2666 0.2163 *

Mars -33092-06-08 14:52 J -10365270.90 -10365270.88 -10365270.86 0.1808 0.1772

Mars -33091-04-22 19:26 J -10364952.82 -10364952.69 -10364952.57 0.1705 0.0922

Mars -33090-05-15 08:09 J -10364565.25 -10364565.16 -10364565.06 0.1831 0.1129

Uranus -33089-07-29 04:47 J -10364124.31 -10364124.30 -10364124.27 0.0145 0.0143

Uranus -33089-10-25 09:35 J -10364036.18 -10364036.10 -10364036.01 0.0145 0.0118

Uranus -33088-01-21 14:09 J -10363948.01 -10363947.91 -10363947.79 0.0145 0.0094

Uranus -33088-04-19 18:57 J -10363859.84 -10363859.71 -10363859.58 0.0145 0.0069

Uranus -33088-07-16 23:45 J -10363771.65 -10363771.51 -10363771.37 0.0145 0.0044

Jupiter -33088-10-10 21:35 J -10363685.73 -10363685.60 -10363685.46 0.0517 0.0134

Uranus -33088-10-13 04:33 J -10363683.46 -10363683.31 -10363683.16 0.0145 0.0019

Jupiter -33087-01-08 07:55 J -10363596.23 -10363596.17 -10363596.11 0.0513 0.0461

Uranus -33087-01-09 09:21 J -10363595.26 -10363595.11 -10363594.96 0.0145 0.0007

Uranus -33087-04-07 14:09 J -10363507.05 -10363506.91 -10363506.76 0.0145 0.0033

Uranus -33087-07-04 19:11 J -10363418.83 -10363418.70 -10363418.56 0.0145 0.0059

Uranus -33087-09-30 23:59 J -10363330.61 -10363330.50 -10363330.37 0.0145 0.0085

Uranus -33087-12-28 05:02 J -10363242.38 -10363242.29 -10363242.19 0.0145 0.0112

Uranus -33086-03-26 10:04 J -10363154.11 -10363154.08 -10363154.03 0.0146 0.0138

Moon -33086-11-12 00:28 J -10362923.60 -10362923.48 -10362923.36 0.2661 0.1184

Earth -33086-11-12 01:26 J -10362923.57 -10362923.44 -10362923.32 0.2658 0.1039 *

Moon -33083-05-13 07:40 J -10362010.30 -10362010.18 -10362010.06 0.2678 0.0352

Earth -33083-05-13 08:09 J -10362010.28 -10362010.16 -10362010.04 0.2672 0.0454 *

Saturn -33082-07-24 15:07 J -10361572.96 -10361572.87 -10361572.77 0.0272 0.0205

Saturn -33082-10-21 03:50 J -10361484.47 -10361484.34 -10361484.20 0.0272 0.0101

Saturn -33081-01-17 17:02 J -10361395.94 -10361395.79 -10361395.64 0.0272 0.0007

Jupiter -33081-03-09 16:19 J -10361343.98 -10361343.82 -10361343.65 0.0512 0.0016

Saturn -33081-04-15 06:14 J -10361307.37 -10361307.24 -10361307.10 0.0272 0.0116

Saturn -33081-07-12 19:55 J -10361218.75 -10361218.67 -10361218.59 0.0272 0.0227

Mars -33081-10-04 15:35 J -10361134.97 -10361134.85 -10361134.73 0.1825 0.0388

Mars -33080-08-19 09:21 J -10360816.18 -10360816.11 -10360816.03 0.1689 0.1460

Moon -33076-05-05 21:50 J -10359460.65 -10359460.59 -10359460.53 0.2672 0.2318

Earth -33076-05-05 22:19 J -10359460.63 -10359460.57 -10359460.51 0.2677 0.2306 *

Jupiter -33076-07-30 00:57 J -10359375.57 -10359375.46 -10359375.34 0.0518 0.0277

Jupiter -33076-10-27 11:02 J -10359286.15 -10359286.04 -10359285.93 0.0514 0.0314

Moon -33073-11-14 00:28 J -10358172.61 -10358172.48 -10358172.35 0.2667 0.0162

Earth -33073-11-14 00:43 J -10358172.60 -10358172.47 -10358172.34 0.2660 0.0100 *

Mars -33071-02-24 23:02 J -10357704.66 -10357704.54 -10357704.42 0.1819 0.0333

Mars -33070-01-09 13:11 J -10357386.08 -10357385.95 -10357385.81 0.1695 0.0728

Earth -33070-05-16 05:31 J -10357259.37 -10357259.27 -10357259.16 0.2671 0.1487

Moon -33070-05-16 05:59 J -10357259.35 -10357259.25 -10357259.15 0.2677 0.1583 *

Jupiter -33070-12-27 16:19 J -10357033.97 -10357033.82 -10357033.66 0.0511 0.0176

Saturn -33067-02-28 16:04 J -10356239.93 -10356239.83 -10356239.72 0.0288 0.0216

Saturn -33067-05-28 11:02 J -10356151.20 -10356151.04 -10356150.88 0.0288 0.0069

Saturn -33067-08-25 05:16 J -10356062.43 -10356062.28 -10356062.12 0.0288 0.0074

Saturn -33067-11-21 23:02 J -10355973.64 -10355973.54 -10355973.42 0.0287 0.0214

Jupiter -33064-05-18 03:21 J -10355065.43 -10355065.36 -10355065.28 0.0519 0.0436

Jupiter -33064-08-15 13:11 J -10354976.08 -10354975.95 -10354975.81 0.0515 0.0154

Moon -33063-05-08 18:14 J -10354709.84 -10354709.74 -10354709.63 0.2674 0.1392

Earth -33063-05-08 19:11 J -10354709.81 -10354709.70 -10354709.60 0.2676 0.1353 *

Mars -33062-07-18 06:43 J -10354274.32 -10354274.22 -10354274.12 0.1813 0.1030

Mars -33061-05-31 16:47 J -10353955.96 -10353955.80 -10353955.65 0.1700 0.0057

Earth -33060-11-16 23:45 J -10353421.63 -10353421.51 -10353421.40 0.2661 0.1202

Moon -33060-11-17 00:14 J -10353421.60 -10353421.49 -10353421.37 0.2666 0.1196 *

Jupiter -33058-10-15 15:50 J -10352723.96 -10352723.84 -10352723.72 0.0510 0.0349

Jupiter -33057-01-13 15:50 J -10352633.95 -10352633.84 -10352633.72 0.0513 0.0350

Earth -33057-05-18 03:21 J -10352508.40 -10352508.36 -10352508.32 0.2669 0.2542

Moon -33057-05-18 04:19 J -10352508.35 -10352508.32 -10352508.30 0.2672 0.2588 *

Moon -33053-11-09 06:14 J -10350872.32 -10350872.24 -10350872.17 0.2656 0.2126

Earth -33053-11-09 07:26 J -10350872.28 -10350872.19 -10350872.11 0.2656 0.1991 *

Mars -33053-12-07 14:52 J -10350843.92 -10350843.88 -10350843.84 0.1807 0.1696

Saturn -33053-12-10 18:14 J -10350840.82 -10350840.74 -10350840.66 0.0271 0.0225

Saturn -33052-03-09 06:57 J -10350752.34 -10350752.21 -10350752.08 0.0271 0.0121

Jupiter -33052-06-03 16:19 J -10350665.95 -10350665.82 -10350665.68 0.0516 0.0019

Saturn -33052-06-05 19:55 J -10350663.81 -10350663.67 -10350663.52 0.0271 0.0015

Saturn -33052-09-02 09:07 J -10350575.25 -10350575.12 -10350574.98 0.0272 0.0095

Mars -33052-10-21 19:40 J -10350525.82 -10350525.68 -10350525.55 0.1705 0.0838

Saturn -33052-11-29 22:47 J -10350486.65 -10350486.55 -10350486.45 0.0272 0.0206

Mars -33051-11-13 08:23 J -10350138.25 -10350138.15 -10350138.06 0.1831 0.1210

Moon -33050-05-11 15:21 J -10349958.98 -10349958.86 -10349958.74 0.2678 0.0492

Earth -33050-05-11 16:19 J -10349958.95 -10349958.82 -10349958.70 0.2674 0.0377 *

Uranus -33048-03-10 00:28 J -10349290.55 -10349290.48 -10349290.39 0.0134 0.0116

Uranus -33048-06-06 05:45 J -10349202.37 -10349202.26 -10349202.13 0.0134 0.0093

Pluto -33048-06-13 11:02 J -10349195.10 -10349195.04 -10349194.99 0.0076 0.0070

Uranus -33048-09-02 11:16 J -10349114.17 -10349114.03 -10349113.89 0.0134 0.0070

Pluto -33048-09-09 11:59 J -10349107.07 -10349107.00 -10349106.90 0.0076 0.0063

Uranus -33048-11-29 16:19 J -10349025.97 -10349025.82 -10349025.66 0.0133 0.0048

Pluto -33048-12-06 13:26 J -10349019.03 -10349018.94 -10349018.83 0.0076 0.0055

Uranus -33047-02-25 21:21 J -10348937.77 -10348937.61 -10348937.44 0.0133 0.0026

Pluto -33047-03-04 14:38 J -10348930.99 -10348930.89 -10348930.75 0.0075 0.0048

Uranus -33047-05-25 02:38 J -10348849.56 -10348849.39 -10348849.23 0.0133 0.0003

Pluto -33047-05-31 16:19 J -10348842.94 -10348842.82 -10348842.69 0.0075 0.0039

Venus -33047-06-26 04:04 J -10348817.44 -10348817.33 -10348817.23 0.3779 0.1224

Uranus -33047-08-21 07:40 J -10348761.34 -10348761.18 -10348761.02 0.0133 0.0019

Pluto -33047-08-27 17:31 J -10348754.90 -10348754.77 -10348754.62 0.0075 0.0032

Uranus -33047-11-17 12:43 J -10348673.13 -10348672.97 -10348672.82 0.0133 0.0041

Earth -33047-11-19 22:19 J -10348670.63 -10348670.57 -10348670.50 0.2663 0.2266

Moon -33047-11-19 23:31 J -10348670.58 -10348670.52 -10348670.47 0.2666 0.2346 *

Pluto -33047-11-23 18:57 J -10348666.85 -10348666.71 -10348666.56 0.0075 0.0024

Uranus -33046-02-13 17:31 J -10348584.91 -10348584.77 -10348584.62 0.0133 0.0062

Pluto -33046-02-19 20:23 J -10348578.80 -10348578.65 -10348578.50 0.0075 0.0017

Uranus -33046-05-12 22:33 J -10348496.69 -10348496.56 -10348496.43 0.0133 0.0083

Pluto -33046-05-18 21:35 J -10348490.74 -10348490.60 -10348490.45 0.0075 0.0010

Uranus -33046-08-09 03:07 J -10348408.46 -10348408.37 -10348408.26 0.0133 0.0105

Pluto -33046-08-14 23:02 J -10348402.69 -10348402.54 -10348402.39 0.0075 0.0002

Jupiter -33046-11-01 15:07 J -10348324.03 -10348323.87 -10348323.72 0.0512 0.0169

Uranus -33046-11-05 07:55 J -10348320.21 -10348320.17 -10348320.11 0.0133 0.0126

Pluto -33046-11-11 00:14 J -10348314.64 -10348314.49 -10348314.34 0.0075 0.0005

Pluto -33045-02-07 01:26 J -10348226.58 -10348226.44 -10348226.29 0.0074 0.0012

Pluto -33045-05-05 02:38 J -10348138.53 -10348138.39 -10348138.24 0.0074 0.0019

Pluto -33045-08-01 03:50 J -10348050.47 -10348050.34 -10348050.19 0.0074 0.0026

Pluto -33045-10-28 05:02 J -10347962.41 -10347962.29 -10347962.15 0.0074 0.0033

Pluto -33044-01-24 06:14 J -10347874.35 -10347874.24 -10347874.10 0.0074 0.0040

Pluto -33044-04-22 07:26 J -10347786.29 -10347786.19 -10347786.06 0.0074 0.0047

Pluto -33044-07-19 08:38 J -10347698.23 -10347698.14 -10347698.03 0.0074 0.0054

Pluto -33044-10-15 09:35 J -10347610.16 -10347610.10 -10347609.99 0.0074 0.0061

Pluto -33043-01-11 11:02 J -10347522.09 -10347522.04 -10347521.97 0.0073 0.0067

Pluto -33043-04-09 12:28 J -10347433.98 -10347433.98 -10347433.98 0.0073 0.0073

Venus -33043-06-27 08:38 J -10347355.26 -10347355.14 -10347355.02 0.3597 0.1495

Mars -33042-03-13 22:19 J -10347095.60 -10347095.57 -10347095.53 0.1711 0.1653

Venus -33041-01-09 22:47 J -10346793.64 -10346793.55 -10346793.45 0.3777 0.1856

Mars -33041-04-04 15:35 J -10346707.97 -10346707.85 -10346707.73 0.1825 0.0466

Mars -33040-02-17 09:50 J -10346389.15 -10346389.09 -10346389.03 0.1690 0.1548

Jupiter -33040-03-22 19:55 J -10346355.80 -10346355.67 -10346355.53 0.0517 0.0133

Jupiter -33040-06-20 06:28 J -10346266.29 -10346266.23 -10346266.17 0.0514 0.0463

Moon -33040-11-12 06:14 J -10346121.37 -10346121.24 -10346121.11 0.2663 0.0819

Earth -33040-11-12 06:57 J -10346121.34 -10346121.21 -10346121.08 0.2658 0.0827 *

Saturn -33038-07-18 16:04 J -10345507.90 -10345507.83 -10345507.76 0.0288 0.0259

Saturn -33038-10-15 11:02 J -10345419.19 -10345419.04 -10345418.89 0.0288 0.0112

Venus -33037-01-11 06:57 J -10345331.31 -10345331.21 -10345331.11 0.3599 0.2105

Saturn -33037-01-12 05:31 J -10345330.43 -10345330.27 -10345330.11 0.0287 0.0032

Saturn -33037-04-09 23:31 J -10345241.65 -10345241.52 -10345241.39 0.0287 0.0172

Neptune -33037-05-07 22:47 J -10345213.59 -10345213.55 -10345213.50 0.0089 0.0084

Moon -33037-05-13 13:11 J -10345208.07 -10345207.95 -10345207.83 0.2678 0.0690

Earth -33037-05-13 13:26 J -10345208.06 -10345207.94 -10345207.82 0.2672 0.0638 *

Neptune -33037-08-03 23:59 J -10345125.55 -10345125.50 -10345125.41 0.0089 0.0078

Neptune -33037-10-31 01:40 J -10345037.50 -10345037.43 -10345037.33 0.0089 0.0071

Neptune -33036-01-27 03:21 J -10344949.45 -10344949.36 -10344949.25 0.0089 0.0064

Neptune -33036-04-25 05:16 J -10344861.39 -10344861.28 -10344861.17 0.0089 0.0056

Neptune -33036-07-22 06:57 J -10344773.33 -10344773.21 -10344773.09 0.0089 0.0050

Neptune -33036-10-18 08:23 J -10344685.27 -10344685.15 -10344685.02 0.0089 0.0043

Neptune -33035-01-14 10:04 J -10344597.21 -10344597.08 -10344596.95 0.0089 0.0036

Neptune -33035-04-12 11:45 J -10344509.14 -10344509.01 -10344508.87 0.0089 0.0029

Neptune -33035-07-09 13:26 J -10344421.08 -10344420.94 -10344420.80 0.0089 0.0022

Neptune -33035-10-05 15:07 J -10344333.01 -10344332.87 -10344332.73 0.0089 0.0015

Neptune -33034-01-01 16:47 J -10344244.94 -10344244.80 -10344244.66 0.0089 0.0008

Neptune -33034-03-30 18:28 J -10344156.87 -10344156.73 -10344156.59 0.0089 0.0001

Neptune -33034-06-26 20:09 J -10344068.80 -10344068.66 -10344068.52 0.0089 0.0006

Jupiter -33034-08-20 14:52 J -10344014.05 -10344013.88 -10344013.72 0.0512 0.0005

Neptune -33034-09-22 21:50 J -10343980.73 -10343980.59 -10343980.45 0.0089 0.0013

Neptune -33034-12-19 23:31 J -10343892.66 -10343892.52 -10343892.38 0.0089 0.0020

Neptune -33033-03-17 01:11 J -10343804.59 -10343804.45 -10343804.31 0.0089 0.0027

Neptune -33033-06-13 02:52 J -10343716.51 -10343716.38 -10343716.25 0.0089 0.0034

Neptune -33033-09-09 04:33 J -10343628.44 -10343628.31 -10343628.18 0.0089 0.0041

Neptune -33033-12-06 06:14 J -10343540.36 -10343540.24 -10343540.11 0.0089 0.0048

Neptune -33032-03-04 08:09 J -10343452.28 -10343452.16 -10343452.05 0.0089 0.0056

Neptune -33032-05-31 09:21 J -10343364.19 -10343364.11 -10343363.99 0.0089 0.0064

Mars -33032-08-25 23:02 J -10343277.66 -10343277.54 -10343277.42 0.1819 0.0263

Neptune -33032-08-27 11:16 J -10343276.11 -10343276.03 -10343275.93 0.0089 0.0070

Neptune -33032-11-23 12:57 J -10343188.02 -10343187.96 -10343187.88 0.0089 0.0077

Neptune -33031-02-19 14:52 J -10343099.92 -10343099.88 -10343099.83 0.0089 0.0084

Mars -33031-07-10 13:55 J -10342959.06 -10342958.92 -10342958.79 0.1695 0.0828

Moon -33030-05-07 02:52 J -10342658.44 -10342658.38 -10342658.31 0.2671 0.2214

Earth -33030-05-07 03:35 J -10342658.42 -10342658.35 -10342658.28 0.2677 0.2131 *

Jupiter -33028-01-08 23:31 J -10342045.63 -10342045.52 -10342045.40 0.0518 0.0272

Jupiter -33028-04-08 09:35 J -10341956.20 -10341956.10 -10341955.99 0.0514 0.0321

Moon -33027-11-15 05:59 J -10341370.38 -10341370.25 -10341370.12 0.2666 0.0222

Earth -33027-11-15 06:14 J -10341370.37 -10341370.24 -10341370.11 0.2660 0.0304 *

Earth -33024-05-16 11:02 J -10340457.14 -10340457.04 -10340456.95 0.2670 0.1677

Moon -33024-05-16 11:16 J -10340457.12 -10340457.03 -10340456.93 0.2677 0.1645 *

Saturn -33023-04-29 18:43 J -10340108.74 -10340108.72 -10340108.69 0.0271 0.0265

Saturn -33023-07-27 07:26 J -10340020.30 -10340020.19 -10340020.07 0.0271 0.0162

Saturn -33023-10-23 20:23 J -10339931.79 -10339931.65 -10339931.51 0.0272 0.0057

Mars -33022-01-16 06:57 J -10339847.32 -10339847.21 -10339847.11 0.1813 0.0949

Saturn -33022-01-20 09:35 J -10339843.25 -10339843.10 -10339842.96 0.0272 0.0052

Saturn -33022-04-18 22:47 J -10339754.67 -10339754.55 -10339754.43 0.0272 0.0161

Jupiter -33022-06-08 14:38 J -10339704.05 -10339703.89 -10339703.73 0.0511 0.0171

Mars -33022-11-30 17:02 J -10339528.94 -10339528.79 -10339528.63 0.1700 0.0070

Moon -33017-05-08 23:31 J -10337907.63 -10337907.52 -10337907.41 0.2675 0.1237

Earth -33017-05-09 00:28 J -10337907.59 -10337907.48 -10337907.37 0.2675 0.1173 *

Jupiter -33017-10-28 02:52 J -10337735.46 -10337735.38 -10337735.29 0.0519 0.0414

Jupiter -33016-01-25 12:57 J -10337646.10 -10337645.96 -10337645.83 0.0515 0.0176

Earth -33014-11-18 05:16 J -10336619.39 -10336619.28 -10336619.17 0.2662 0.1398

Moon -33014-11-18 05:59 J -10336619.36 -10336619.25 -10336619.15 0.2667 0.1529 *

Mars -33013-06-07 14:52 J -10336416.93 -10336416.88 -10336416.83 0.1807 0.1618

Mars -33012-04-21 20:09 J -10336098.80 -10336098.66 -10336098.52 0.1705 0.0735

Mars -33011-05-14 08:38 J -10335711.23 -10335711.14 -10335711.06 0.1831 0.1300

Jupiter -33010-03-27 14:38 J -10335394.02 -10335393.89 -10335393.77 0.0510 0.0338

Jupiter -33010-06-25 14:52 J -10335304.00 -10335303.88 -10335303.77 0.0514 0.0362

Saturn -33008-03-03 09:21 J -10334687.24 -10334687.11 -10334686.97 0.0288 0.0165

Saturn -33008-05-31 04:19 J -10334598.49 -10334598.32 -10334598.16 0.0288 0.0020

Saturn -33008-08-27 22:19 J -10334509.71 -10334509.57 -10334509.42 0.0288 0.0124

Saturn -33008-11-24 16:04 J -10334420.89 -10334420.83 -10334420.76 0.0287 0.0262

Moon -33007-11-10 11:45 J -10334070.10 -10334070.01 -10334069.91 0.2657 0.1845

Earth -33007-11-10 12:57 J -10334070.06 -10334069.96 -10334069.86 0.2657 0.1780 *

Uranus -33005-08-18 11:59 J -10333423.04 -10333423.00 -10333422.95 0.0145 0.0137

Jupiter -33005-11-13 15:07 J -10333336.01 -10333335.87 -10333335.73 0.0516 0.0014

Uranus -33005-11-14 16:47 J -10333334.89 -10333334.80 -10333334.71 0.0145 0.0112

Uranus -33004-02-10 21:21 J -10333246.72 -10333246.61 -10333246.49 0.0145 0.0088

Uranus -33004-05-10 02:09 J -10333158.54 -10333158.41 -10333158.28 0.0145 0.0063

Moon -33004-05-11 20:38 J -10333156.76 -10333156.64 -10333156.52 0.2677 0.0204

Earth -33004-05-11 21:21 J -10333156.73 -10333156.61 -10333156.48 0.2673 0.0213 *

Uranus -33004-08-06 06:57 J -10333070.35 -10333070.21 -10333070.07 0.0145 0.0038

Uranus -33004-11-02 11:45 J -10332982.16 -10332982.01 -10332981.86 0.0145 0.0012

Uranus -33003-01-29 16:33 J -10332893.96 -10332893.81 -10332893.66 0.0145 0.0013

Uranus -33003-04-27 21:21 J -10332805.75 -10332805.61 -10332805.46 0.0145 0.0039

Uranus -33003-07-25 02:09 J -10332717.54 -10332717.41 -10332717.27 0.0145 0.0065

Mars -33003-09-11 22:47 J -10332668.61 -10332668.55 -10332668.49 0.1711 0.1561

Uranus -33003-10-21 07:11 J -10332629.31 -10332629.20 -10332629.08 0.0145 0.0091

Uranus -33002-01-17 12:14 J -10332541.07 -10332540.99 -10332540.90 0.0145 0.0118

Uranus -33002-04-15 17:16 J -10332452.79 -10332452.78 -10332452.76 0.0146 0.0144

Mars -33002-10-04 15:35 J -10332280.97 -10332280.85 -10332280.73 0.1825 0.0545

Mars -33001-08-18 10:19 J -10331962.11 -10331962.07 -10331962.04 0.1690 0.1640

Earth -33001-11-20 03:50 J -10331868.39 -10331868.34 -10331868.29 0.2663 0.2459

Moon -33001-11-20 04:47 J -10331868.34 -10331868.30 -10331868.26 0.2665 0.2505 *

33RD MILLENNIUM BCE

This is a list of transits of Mercury in the 33rd millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Jupiter	**-32998-04-13 14:23 J**		**-10330994.05**	**-10330993.90**	**-10330993.74**	**0.0512**	**0.0192**	
Venus	**-32996-07-17 07:26 J**		**-10330168.25**	**-10330168.19**	**-10330168.13**	**0.3780**	**0.3116**	
Moon	**-32994-11-13 11:59 J**		**-10329319.13**	**-10329319.00**	**-10329318.88**	**0.2664**	**0.0726**	
Earth	**-32994-11-13 12:28 J**		**-10329319.11**	**-10329318.98**	**-10329318.85**	**0.2658**	**0.0623**	*
Saturn	**-32994-12-14 10:33 J**		**-10329288.16**	**-10329288.06**	**-10329287.95**	**0.0271**	**0.0182**	
Saturn	**-32993-03-11 23:31 J**		**-10329199.66**	**-10329199.52**	**-10329199.38**	**0.0271**	**0.0077**	
Saturn	**-32993-06-08 12:28 J**		**-10329111.12**	**-10329110.98**	**-10329110.83**	**0.0271**	**0.0031**	
Jupiter	**-32993-09-01 18:14 J**		**-10329025.87**	**-10329025.74**	**-10329025.61**	**0.0517**	**0.0134**	
Saturn	**-32993-09-05 01:55 J**		**-10329022.55**	**-10329022.42**	**-10329022.30**	**0.0272**	**0.0141**	
Jupiter	**-32993-11-30 04:33 J**		**-10328936.37**	**-10328936.31**	**-10328936.25**	**0.0514**	**0.0461**	
Saturn	**-32993-12-02 15:21 J**		**-10328933.91**	**-10328933.86**	**-10328933.80**	**0.0272**	**0.0253**	
Mars	**-32992-02-23 23:02 J**		**-10328850.66**	**-10328850.54**	**-10328850.41**	**0.1819**	**0.0188**	
Mars	**-32991-01-08 14:09 J**		**-10328532.04**	**-10328531.91**	**-10328531.79**	**0.1695**	**0.0912**	
Moon	**-32991-05-14 18:43 J**		**-10328405.84**	**-10328405.72**	**-10328405.60**	**0.2679**	**0.0765**	
Earth	**-32991-05-14 18:43 J**		**-10328405.84**	**-10328405.72**	**-10328405.60**	**0.2672**	**0.0830**	*

Venus -32990-01-31 02:09 J -10328144.52 -10328144.41 -10328144.30 0.3779 0.0127

Jupiter -32986-01-30 13:26 J -10326684.11 -10326683.94 -10326683.78 0.0511 0.0009

Venus -32986-02-01 07:55 J -10326682.30 -10326682.17 -10326682.04 0.3598 0.0150

Venus -32985-08-15 21:07 J -10326120.68 -10326120.62 -10326120.55 0.3777 0.2996

Moon -32984-05-07 08:09 J -10325856.24 -10325856.16 -10325856.08 0.2672 0.1952

Earth -32984-05-07 08:52 J -10325856.21 -10325856.13 -10325856.05 0.2677 0.1959 *

Mars -32983-07-17 06:57 J -10325420.32 -10325420.21 -10325420.11 0.1813 0.0877

Mars -32982-05-31 17:31 J -10325101.92 -10325101.77 -10325101.62 0.1700 0.0153

Jupiter -32981-06-20 21:50 J -10324715.71 -10324715.59 -10324715.48 0.0518 0.0273

Venus -32981-08-17 05:59 J -10324658.29 -10324658.25 -10324658.21 0.3599 0.3393

Jupiter -32981-09-18 07:55 J -10324626.28 -10324626.17 -10324626.06 0.0515 0.0320

Earth -32981-11-15 11:45 J -10324568.14 -10324568.01 -10324567.88 0.2660 0.0511

Moon -32981-11-15 11:45 J -10324568.13 -10324568.01 -10324567.88 0.2666 0.0592 *

Saturn -32979-07-21 10:04 J -10323955.20 -10323955.08 -10323954.96 0.0288 0.0203

Saturn -32979-10-18 04:47 J -10323866.46 -10323866.30 -10323866.14 0.0288 0.0057

Saturn -32978-01-14 23:16 J -10323777.69 -10323777.53 -10323777.38 0.0287 0.0087

Saturn -32978-04-13 17:02 J -10323688.89 -10323688.79 -10323688.69 0.0287 0.0225

Earth -32978-05-17 16:19 J -10323654.91 -10323654.82 -10323654.73 0.2670 0.1870

Moon -32978-05-17 16:47 J -10323654.88 -10323654.80 -10323654.72 0.2676 0.1989 *

Jupiter -32975-11-18 12:57 J -10322374.12 -10322373.96 -10322373.80 0.0511 0.0165

Mars -32974-12-07 14:52 J -10321989.94 -10321989.88 -10321989.82 0.1807 0.1548

Mars -32973-10-20 20:38 J -10321671.78 -10321671.64 -10321671.50 0.1705 0.0633

Mars -32972-11-12 08:23 J -10321284.23 -10321284.15 -10321284.07 0.1831 0.1367

Moon -32971-05-10 04:47 J -10321105.41 -10321105.30 -10321105.19 0.2676 0.1095

Earth -32971-05-10 05:45 J -10321105.38 -10321105.26 -10321105.15 0.2675 0.0992 *

Jupiter -32969-04-09 01:26 J -10320405.52 -10320405.44 -10320405.36 0.0519 0.0411

Jupiter -32969-07-07 11:16 J -10320316.16 -10320316.03 -10320315.90 0.0515 0.0178

Earth -32968-11-18 10:47 J -10319817.16 -10319817.05 -10319816.95 0.2662 0.1599

Moon -32968-11-18 11:31 J -10319817.13 -10319817.02 -10319816.92 0.2667 0.1579 *

Uranus -32964-01-01 02:09 J -10318677.42 -10318677.41 -10318677.38 0.0134 0.0133

Uranus -32964-03-30 07:26 J -10318589.27 -10318589.19 -10318589.08 0.0134 0.0110

Saturn -32964-05-02 11:16 J -10318556.10 -10318556.03 -10318555.94 0.0271 0.0221

Uranus -32964-06-26 12:43 J -10318501.09 -10318500.97 -10318500.83 0.0134 0.0087

Saturn -32964-07-29 23:59 J -10318467.62 -10318467.50 -10318467.36 0.0271 0.0117

Uranus -32964-09-22 18:14 J -10318412.89 -10318412.74 -10318412.59 0.0134 0.0064

Saturn -32964-10-26 13:11 J -10318379.10 -10318378.95 -10318378.81 0.0272 0.0010

Uranus -32964-12-19 23:16 J -10318324.68 -10318324.53 -10318324.37 0.0133 0.0042

Saturn -32963-01-23 02:23 J -10318290.54 -10318290.40 -10318290.26 0.0272 0.0099

Mars -32963-03-12 23:16 J -10318241.61 -10318241.53 -10318241.45 0.1711 0.1458

Uranus -32963-03-18 04:33 J -10318236.48 -10318236.31 -10318236.15 0.0133 0.0019

Saturn -32963-04-21 15:50 J -10318201.93 -10318201.84 -10318201.75 0.0272 0.0210

Uranus -32963-06-14 09:35 J -10318148.27 -10318148.10 -10318147.93 0.0133 0.0003

Jupiter -32963-09-06 12:28 J -10318064.10 -10318063.98 -10318063.85 0.0510 0.0337

Uranus -32963-09-10 14:38 J -10318060.05 -10318059.89 -10318059.73 0.0133 0.0025

Jupiter -32963-12-05 12:43 J -10317974.08 -10317973.97 -10317973.85 0.0514 0.0364

Uranus -32963-12-07 19:40 J -10317971.83 -10317971.68 -10317971.53 0.0133 0.0047

Uranus -32962-03-06 00:28 J -10317883.61 -10317883.48 -10317883.33 0.0133 0.0068

Mars -32962-04-04 15:50 J -10317853.96 -10317853.84 -10317853.73 0.1825 0.0629

Uranus -32962-06-02 05:31 J -10317795.39 -10317795.27 -10317795.15 0.0133 0.0089

Uranus -32962-08-29 10:19 J -10317707.16 -10317707.07 -10317706.98 0.0133 0.0110

Uranus -32962-11-25 15:07 J -10317618.89 -10317618.87 -10317618.84 0.0133 0.0131

Moon -32961-11-10 17:31 J -10317267.87 -10317267.77 -10317267.66 0.2659 0.1637

Earth -32961-11-10 18:43 J -10317267.83 -10317267.72 -10317267.62 0.2657 0.1569 *

Moon -32958-05-13 02:09 J -10316354.54 -10316354.41 -10316354.29 0.2677 0.0090

Earth -32958-05-13 02:52 J -10316354.51 -10316354.38 -10316354.26 0.2673 0.0066 *

Jupiter -32957-04-25 14:23 J -10316006.03 -10316005.90 -10316005.76 0.0516 0.0036

Earth -32955-11-21 09:21 J -10315066.12 -10315066.11 -10315066.10 0.2664 0.2650

Neptune -32954-08-03 23:02 J -10314810.56 -10314810.54 -10314810.49 0.0088 0.0086

Neptune -32954-10-31 02:09 J -10314722.49 -10314722.41 -10314722.32 0.0088 0.0078

Neptune -32953-01-27 04:47 J -10314634.39 -10314634.30 -10314634.17 0.0088 0.0069

Neptune -32953-04-24 07:55 J -10314546.29 -10314546.17 -10314546.04 0.0088 0.0061

Neptune -32953-07-21 10:33 J -10314458.19 -10314458.06 -10314457.90 0.0088 0.0053

Mars -32953-08-24 23:16 J -10314423.65 -10314423.53 -10314423.41 0.1819 0.0100

Neptune -32953-10-17 13:40 J -10314370.08 -10314369.93 -10314369.77 0.0088 0.0044

Neptune -32952-01-13 16:19 J -10314281.97 -10314281.82 -10314281.65 0.0088 0.0036

Neptune -32952-04-11 19:26 J -10314193.86 -10314193.69 -10314193.52 0.0088 0.0027

Neptune -32952-07-08 22:04 J -10314105.75 -10314105.58 -10314105.40 0.0088 0.0019

Mars -32952-07-09 14:23 J -10314105.02 -10314104.90 -10314104.78 0.1695 0.1005

Neptune -32952-10-05 00:57 J -10314017.63 -10314017.46 -10314017.28 0.0088 0.0010

Neptune -32951-01-01 03:50 J -10313929.52 -10313929.34 -10313929.16 0.0088 0.0002

Neptune -32951-03-30 06:28 J -10313841.40 -10313841.23 -10313841.05 0.0088 0.0007

Moon -32951-05-05 17:16 J -10313804.79 -10313804.78 -10313804.78 0.2672 0.2663

Jupiter -32951-06-25 12:28 J -10313754.00 -10313753.98 -10313753.96 0.0509 0.0504

Neptune -32951-06-26 09:21 J -10313753.28 -10313753.11 -10313752.94 0.0088 0.0015

Neptune -32951-09-22 11:59 J -10313665.16 -10313665.00 -10313664.83 0.0088 0.0023

Jupiter -32951-09-23 13:11 J -10313664.11 -10313663.95 -10313663.80 0.0513 0.0200

Neptune -32951-12-19 14:52 J -10313577.04 -10313576.88 -10313576.72 0.0088 0.0032

Neptune -32950-03-17 17:16 J -10313488.92 -10313488.78 -10313488.61 0.0088 0.0040

Neptune -32950-06-13 19:55 J -10313400.80 -10313400.67 -10313400.51 0.0088 0.0049

Neptune -32950-09-09 22:47 J -10313312.67 -10313312.55 -10313312.41 0.0088 0.0056

Neptune -32950-12-07 01:26 J -10313224.55 -10313224.44 -10313224.31 0.0088 0.0064

Saturn -32950-12-08 08:09 J -10313223.23 -10313223.16 -10313223.08 0.0288 0.0258

Neptune -32949-03-04 04:04 J -10313136.41 -10313136.33 -10313136.22 0.0088 0.0072

Saturn -32949-03-06 03:21 J -10313134.51 -10313134.36 -10313134.21 0.0288 0.0110

Neptune -32949-05-31 06:43 J -10313048.28 -10313048.22 -10313048.14 0.0088 0.0080

Saturn -32949-06-02 21:50 J -10313045.75 -10313045.59 -10313045.43 0.0288 0.0035

Neptune -32949-08-27 09:35 J -10312960.10 -10312960.10 -10312960.09 0.0088 0.0088

Saturn -32949-08-30 15:50 J -10312956.96 -10312956.84 -10312956.71 0.0287 0.0176

Moon -32948-11-13 17:31 J -10312516.90 -10312516.77 -10312516.64 0.2664 0.0420

Earth -32948-11-13 18:14 J -10312516.87 -10312516.74 -10312516.61 0.2658 0.0414 *

Jupiter -32945-02-12 16:47 J -10311695.93 -10311695.80 -10311695.67 0.0517 0.0128

Jupiter -32945-05-12 03:07 J -10311606.43 -10311606.37 -10311606.31 0.0514 0.0465

Moon -32945-05-14 23:59 J -10311603.61 -10311603.50 -10311603.38 0.2679 0.1081

Earth -32945-05-14 23:59 J -10311603.61 -10311603.50 -10311603.38 0.2671 0.1020 *

Mars -32943-01-15 06:57 J -10310993.32 -10310993.21 -10310993.10 0.1813 0.0802

Mars -32943-11-29 17:59 J -10310674.90 -10310674.75 -10310674.60 0.1700 0.0247

Venus -32939-02-21 05:31 J -10309495.36 -10309495.27 -10309495.17 0.3780 0.2047

Jupiter -32939-07-12 12:43 J -10309354.13 -10309353.97 -10309353.80 0.0511 0.0027

Moon -32938-05-08 13:26 J -10309054.03 -10309053.94 -10309053.86 0.2673 0.1895

Earth -32938-05-08 14:09 J -10309054.00 -10309053.91 -10309053.82 0.2676 0.1778 *

Venus -32935-02-22 08:38 J -10308033.24 -10308033.14 -10308033.05 0.3596 0.2486

Saturn -32935-09-19 14:38 J -10307823.96 -10307823.89 -10307823.83 0.0271 0.0240

Earth -32935-11-16 17:16 J -10307765.90 -10307765.78 -10307765.65 0.2660 0.0716

Moon -32935-11-16 17:45 J -10307765.89 -10307765.76 -10307765.64 0.2667 0.0679 *

Saturn -32935-12-17 03:07 J -10307735.49 -10307735.37 -10307735.24 0.0271 0.0136

Saturn -32934-03-15 16:04 J -10307646.97 -10307646.83 -10307646.68 0.0271 0.0031

Mars -32934-06-07 15:07 J -10307562.94 -10307562.87 -10307562.81 0.1807 0.1470

Saturn -32934-06-12 05:16 J -10307558.42 -10307558.28 -10307558.13 0.0272 0.0079

Venus -32934-09-07 00:28 J -10307471.59 -10307471.48 -10307471.37 0.3778 0.0996

Saturn -32934-09-08 18:43 J -10307469.82 -10307469.72 -10307469.61 0.0272 0.0190

Jupiter -32934-12-01 19:55 J -10307385.79 -10307385.67 -10307385.56 0.0518 0.0276

Jupiter -32933-02-29 05:59 J -10307296.36 -10307296.25 -10307296.14 0.0515 0.0316

Mars -32933-04-20 21:07 J -10307244.77 -10307244.62 -10307244.48 0.1706 0.0545

Mars -32932-05-13 08:38 J -10306857.22 -10306857.14 -10306857.07 0.1831 0.1456

Earth -32932-05-17 21:35 J -10306852.68 -10306852.60 -10306852.52 0.2670 0.2065

Moon -32932-05-17 22:19 J -10306852.65 -10306852.57 -10306852.49 0.2674 0.2055 *

Venus -32930-09-08 06:57 J -10306009.33 -10306009.21 -10306009.08 0.3598 0.1178

Moon -32928-11-08 23:16 J -10305216.56 -10305216.53 -10305216.50 0.2653 0.2555

Earth -32928-11-09 00:28 J -10305216.52 -10305216.48 -10305216.45 0.2655 0.2545 *

Jupiter -32927-04-30 11:16 J -10305044.18 -10305044.03 -10305043.87 0.0510 0.0158

Moon -32925-05-10 10:04 J -10304303.20 -10304303.08 -10304302.97 0.2676 0.0850

Earth -32925-05-10 11:02 J -10304303.16 -10304303.04 -10304302.92 0.2675 0.0815 *

Mars -32924-09-10 23:45 J -10303814.60 -10303814.51 -10303814.42 0.1711 0.1357

Mars -32923-10-03 15:50 J -10303426.96 -10303426.84 -10303426.73 0.1825 0.0704

Jupiter -32922-09-19 23:31 J -10303075.60 -10303075.52 -10303075.44 0.0520 0.0415

Earth -32922-11-19 16:19 J -10303014.92 -10303014.82 -10303014.73 0.2662 0.1797

Moon -32922-11-19 17:02 J -10303014.88 -10303014.79 -10303014.70 0.2667 0.1940 *

Jupiter -32922-12-18 09:21 J -10302986.24 -10302986.11 -10302985.98 0.0516 0.0175

Uranus -32921-09-07 19:11 J -10302721.75 -10302721.70 -10302721.62 0.0145 0.0130

Uranus -32921-12-04 23:59 J -10302633.59 -10302633.50 -10302633.39 0.0145 0.0105

Uranus -32920-03-03 04:47 J -10302545.42 -10302545.30 -10302545.18 0.0145 0.0080

Uranus -32920-05-30 09:21 J -10302457.24 -10302457.11 -10302456.97 0.0145 0.0056

Saturn -32920-07-24 04:33 J -10302402.45 -10302402.31 -10302402.17 0.0288 0.0143

Uranus -32920-08-26 14:09 J -10302369.05 -10302368.91 -10302368.76 0.0145 0.0031

Saturn -32920-10-20 23:16 J -10302313.69 -10302313.53 -10302313.37 0.0288 0.0004

Uranus -32920-11-22 18:57 J -10302280.85 -10302280.71 -10302280.56 0.0145 0.0007

Saturn -32919-01-17 17:16 J -10302224.91 -10302224.78 -10302224.64 0.0288 0.0144

Uranus -32919-02-18 23:59 J -10302192.65 -10302192.50 -10302192.36 0.0145 0.0021

Saturn -32919-04-16 11:02 J -10302136.06 -10302136.04 -10302136.01 0.0287 0.0282

Uranus -32919-05-18 04:47 J -10302104.44 -10302104.30 -10302104.16 0.0145 0.0046

Uranus -32919-08-14 09:35 J -10302016.22 -10302016.10 -10302015.97 0.0145 0.0073

Uranus -32919-11-10 14:38 J -10301928.00 -10301927.89 -10301927.78 0.0145 0.0099

Uranus -32918-02-06 19:26 J -10301839.75 -10301839.69 -10301839.60 0.0146 0.0126

Jupiter -32915-02-16 10:33 J -10300734.18 -10300734.06 -10300733.93 0.0510 0.0334

Jupiter -32915-05-17 10:47 J -10300644.16 -10300644.05 -10300643.93 0.0513 0.0365

Moon -32915-11-11 23:16 J -10300465.64 -10300465.53 -10300465.42 0.2661 0.1478

Earth -32915-11-12 00:14 J -10300465.61 -10300465.49 -10300465.37 0.2657 0.1356 *

Mars -32913-02-23 23:02 J -10299996.66 -10299996.54 -10299996.41 0.1819 0.0053

Mars -32912-01-07 15:07 J -10299677.98 -10299677.87 -10299677.76 0.1695 0.1104

Moon -32912-05-13 07:26 J -10299552.31 -10299552.19 -10299552.06 0.2678 0.0175

Earth -32912-05-13 08:09 J -10299552.29 -10299552.16 -10299552.04 0.2673 0.0201 *

Jupiter -32910-10-06 12:43 J -10298676.11 -10298675.97 -10298675.83 0.0516 0.0034

Saturn -32905-05-05 04:19 J -10297003.43 -10297003.32 -10297003.20 0.0271 0.0172

Moon -32905-05-05 22:19 J -10297002.59 -10297002.57 -10297002.55 0.2671 0.2632

Earth -32905-05-05 22:33 J -10297002.59 -10297002.56 -10297002.52 0.2678 0.2550 *

Saturn -32905-08-01 17:16 J -10296914.92 -10296914.78 -10296914.64 0.0271 0.0067

Saturn -32905-10-29 06:14 J -10296826.38 -10296826.24 -10296826.09 0.0272 0.0041

Saturn -32904-01-25 19:26 J -10296737.81 -10296737.69 -10296737.56 0.0272 0.0151

Saturn -32904-04-24 09:07 J -10296649.15 -10296649.12 -10296649.08 0.0272 0.0263

Mars -32904-07-16 06:57 J -10296566.32 -10296566.21 -10296566.09 0.1813 0.0720

Jupiter -32904-12-05 10:04 J -10296424.09 -10296424.08 -10296424.07 0.0509 0.0507

Jupiter -32903-03-05 10:47 J -10296334.20 -10296334.05 -10296333.90 0.0513 0.0197

Mars -32903-05-30 18:28 J -10296247.88 -10296247.73 -10296247.58 0.1700 0.0343

Moon -32902-11-14 23:16 J -10295714.66 -10295714.53 -10295714.40 0.2665 0.0266

Earth -32902-11-14 23:45 J -10295714.64 -10295714.51 -10295714.38 0.2659 0.0203 *

Moon -32899-05-16 05:31 J -10294801.38 -10294801.27 -10294801.16 0.2678 0.1178

Earth -32899-05-16 05:31 J -10294801.38 -10294801.27 -10294801.16 0.2671 0.1212 *

Jupiter -32898-07-25 16:04 J -10294365.97 -10294365.83 -10294365.70 0.0517 0.0111

Jupiter -32898-10-23 02:23 J -10294276.45 -10294276.40 -10294276.36 0.0513 0.0483

Mars -32895-12-06 14:52 J -10293135.95 -10293135.88 -10293135.80 0.1807 0.1396

Mars -32894-10-20 21:35 J -10292817.75 -10292817.60 -10292817.46 0.1706 0.0446

Mars -32893-11-11 08:38 J -10292430.20 -10292430.14 -10292430.07 0.1831 0.1541

Moon -32892-05-08 18:28 J -10292251.83 -10292251.73 -10292251.63 0.2674 0.1595

Earth -32892-05-08 19:26 J -10292251.79 -10292251.69 -10292251.60 0.2676 0.1605 *

Jupiter -32892-12-22 11:02 J -10292024.21 -10292024.04 -10292023.88 0.0512 0.0032

Saturn -32891-12-11 02:52 J -10291670.49 -10291670.38 -10291670.25 0.0288 0.0196

Saturn -32890-03-09 21:50 J -10291581.75 -10291581.59 -10291581.43 0.0288 0.0049

Saturn -32890-06-06 16:04 J -10291492.98 -10291492.83 -10291492.67 0.0287 0.0095

Saturn -32890-09-03 10:04 J -10291404.17 -10291404.08 -10291403.99 0.0287 0.0233

Earth -32889-11-16 22:47 J -10290963.67 -10290963.55 -10290963.42 0.2661 0.0915

Moon -32889-11-16 23:16 J -10290963.65 -10290963.53 -10290963.41 0.2667 0.0996 *

Jupiter -32886-05-13 18:28 J -10290055.85 -10290055.73 -10290055.62 0.0518 0.0271

Earth -32886-05-19 03:07 J -10290050.44 -10290050.37 -10290050.31 0.2669 0.2261

Moon -32886-05-19 03:50 J -10290050.39 -10290050.34 -10290050.28 0.2673 0.2395 *

Jupiter -32886-08-11 04:19 J -10289966.42 -10289966.32 -10289966.21 0.0514 0.0321

Pluto -32885-05-08 15:35 J -10289694.89 -10289694.85 -10289694.77 0.0068 0.0063

Pluto -32885-08-04 16:47 J -10289606.87 -10289606.80 -10289606.69 0.0068 0.0058

Pluto -32885-10-31 18:14 J -10289518.83 -10289518.74 -10289518.61 0.0068 0.0052

Pluto -32884-01-27 19:40 J -10289430.79 -10289430.68 -10289430.54 0.0069 0.0045

Mars -32884-03-12 00:14 J -10289387.59 -10289387.49 -10289387.39 0.1711 0.1262

Pluto -32884-04-25 21:21 J -10289342.75 -10289342.61 -10289342.47 0.0069 0.0039

Pluto -32884-07-22 22:33 J -10289254.70 -10289254.56 -10289254.41 0.0069 0.0033

Pluto -32884-10-18 23:45 J -10289166.65 -10289166.51 -10289166.34 0.0069 0.0027

Pluto -32883-01-15 01:26 J -10289078.60 -10289078.44 -10289078.28 0.0069 0.0020

Mars -32883-04-03 15:50 J -10288999.95 -10288999.84 -10288999.73 0.1825 0.0783

Pluto -32883-04-13 02:52 J -10288990.54 -10288990.38 -10288990.22 0.0069 0.0014

Pluto -32883-07-10 04:19 J -10288902.49 -10288902.32 -10288902.15 0.0069 0.0008

Venus -32883-09-28 03:50 J -10288822.45 -10288822.34 -10288822.23 0.3779 0.0950

Pluto -32883-10-06 05:45 J -10288814.43 -10288814.26 -10288814.09 0.0069 0.0001

Pluto -32882-01-02 07:11 J -10288726.37 -10288726.20 -10288726.03 0.0069 0.0005

Pluto -32882-03-31 08:38 J -10288638.31 -10288638.14 -10288637.98 0.0070 0.0012

Pluto -32882-06-27 09:50 J -10288550.24 -10288550.09 -10288549.92 0.0070 0.0019

Pluto -32882-09-23 11:31 J -10288462.18 -10288462.02 -10288461.86 0.0070 0.0025

Moon -32882-11-10 05:02 J -10288414.34 -10288414.29 -10288414.25 0.2654 0.2489

Earth -32882-11-10 05:59 J -10288414.31 -10288414.25 -10288414.18 0.2656 0.2328 *

Pluto -32882-12-20 12:43 J -10288374.11 -10288373.97 -10288373.81 0.0070 0.0032

Pluto -32881-03-17 14:09 J -10288286.03 -10288285.91 -10288285.75 0.0070 0.0039

Pluto -32881-06-13 16:04 J -10288197.96 -10288197.83 -10288197.70 0.0070 0.0046

Pluto -32881-09-09 17:16 J -10288109.88 -10288109.78 -10288109.66 0.0070 0.0053

Pluto -32881-12-06 18:43 J -10288021.79 -10288021.72 -10288021.61 0.0070 0.0060

Uranus -32880-01-21 09:21 J -10287976.15 -10287976.11 -10287976.04 0.0134 0.0126

Pluto -32880-03-04 20:23 J -10287933.69 -10287933.65 -10287933.59 0.0070 0.0067

Uranus -32880-04-19 14:38 J -10287887.98 -10287887.89 -10287887.77 0.0134 0.0103

Uranus -32880-07-16 20:09 J -10287799.79 -10287799.66 -10287799.52 0.0134 0.0080

Jupiter -32880-10-10 10:33 J -10287714.22 -10287714.06 -10287713.90 0.0511 0.0141

Uranus -32880-10-13 01:11 J -10287711.59 -10287711.45 -10287711.29 0.0133 0.0058

Uranus -32879-01-09 06:43 J -10287623.39 -10287623.22 -10287623.06 0.0133 0.0035

Uranus -32879-04-07 11:45 J -10287535.18 -10287535.01 -10287534.84 0.0133 0.0012

Moon -32879-05-11 15:21 J -10287500.98 -10287500.86 -10287500.74 0.2676 0.0750

Earth -32879-05-11 16:19 J -10287500.94 -10287500.82 -10287500.70 0.2674 0.0627 *

Uranus -32879-07-04 16:47 J -10287446.96 -10287446.80 -10287446.63 0.0133 0.0010

Venus -32879-09-29 07:55 J -10287360.30 -10287360.17 -10287360.05 0.3597 0.1120

Uranus -32879-09-30 21:50 J -10287358.75 -10287358.59 -10287358.43 0.0133 0.0032

Uranus -32879-12-28 02:52 J -10287270.53 -10287270.38 -10287270.23 0.0133 0.0053

Uranus -32878-03-26 07:40 J -10287182.31 -10287182.18 -10287182.04 0.0133 0.0075

Uranus -32878-06-22 12:28 J -10287094.08 -10287093.98 -10287093.86 0.0133 0.0096

Uranus -32878-09-18 17:16 J -10287005.84 -10287005.78 -10287005.69 0.0133 0.0117

Venus -32877-04-12 22:47 J -10286798.65 -10286798.55 -10286798.46 0.3777 0.2130

Saturn -32876-09-22 07:26 J -10286271.29 -10286271.19 -10286271.09 0.0271 0.0192

Earth -32876-11-19 21:50 J -10286212.68 -10286212.59 -10286212.51 0.2662 0.1996

Moon -32876-11-19 22:33 J -10286212.64 -10286212.56 -10286212.47 0.2665 0.1993 *

Saturn -32876-12-19 20:09 J -10286182.79 -10286182.66 -10286182.52 0.0271 0.0088

Saturn -32875-03-18 09:21 J -10286094.26 -10286094.11 -10286093.96 0.0272 0.0020

Saturn -32875-06-14 22:33 J -10286005.69 -10286005.56 -10286005.43 0.0272 0.0130

Saturn -32875-09-11 12:14 J -10285917.06 -10285916.99 -10285916.93 0.0272 0.0242

Jupiter -32874-03-01 21:35 J -10285745.68 -10285745.60 -10285745.52 0.0519 0.0420

Jupiter -32874-05-30 07:11 J -10285656.33 -10285656.20 -10285656.06 0.0516 0.0171

Mars -32874-08-24 23:16 J -10285569.65 -10285569.53 -10285569.41 0.1819 0.0060

Venus -32873-04-14 06:14 J -10285336.33 -10285336.24 -10285336.14 0.3599 0.2493

Mars -32873-07-08 15:21 J -10285250.97 -10285250.86 -10285250.76 0.1695 0.1187

Neptune -32873-11-05 20:38 J -10285130.66 -10285130.64 -10285130.60 0.0089 0.0087

Neptune -32872-02-01 22:04 J -10285042.62 -10285042.58 -10285042.50 0.0089 0.0080

Neptune -32872-04-30 23:45 J -10284954.58 -10284954.51 -10284954.42 0.0089 0.0073

Neptune -32872-07-28 01:26 J -10284866.52 -10284866.44 -10284866.34 0.0089 0.0066

Neptune -32872-10-24 03:07 J -10284778.47 -10284778.37 -10284778.26 0.0089 0.0059

Neptune -32871-01-20 04:47 J -10284690.41 -10284690.30 -10284690.18 0.0089 0.0053

Neptune -32871-04-18 06:28 J -10284602.35 -10284602.23 -10284602.11 0.0089 0.0046

Neptune -32871-07-15 07:55 J -10284514.29 -10284514.17 -10284514.03 0.0089 0.0039

Neptune -32871-10-11 09:35 J -10284426.22 -10284426.10 -10284425.96 0.0089 0.0032

Neptune -32870-01-07 11:16 J -10284338.16 -10284338.03 -10284337.89 0.0089 0.0025

Neptune -32870-04-05 12:57 J -10284250.09 -10284249.96 -10284249.82 0.0089 0.0018

Neptune -32870-07-02 14:38 J -10284162.03 -10284161.89 -10284161.74 0.0089 0.0011

Neptune -32870-09-28 16:19 J -10284073.96 -10284073.82 -10284073.67 0.0089 0.0004

Neptune -32870-12-25 17:59 J -10283985.89 -10283985.75 -10283985.60 0.0089 0.0004

Neptune -32869-03-22 19:40 J -10283897.82 -10283897.68 -10283897.53 0.0089 0.0010

Neptune -32869-06-18 21:21 J -10283809.75 -10283809.61 -10283809.47 0.0089 0.0017

Neptune -32869-09-14 23:02 J -10283721.68 -10283721.54 -10283721.40 0.0089 0.0024

Moon -32869-11-12 04:47 J -10283663.42 -10283663.30 -10283663.18 0.2661 0.1166

Earth -32869-11-12 05:59 J -10283663.38 -10283663.25 -10283663.13 0.2657 0.1148 *

Neptune -32869-12-12 00:43 J -10283633.60 -10283633.47 -10283633.33 0.0089 0.0031

Neptune -32868-03-10 02:23 J -10283545.53 -10283545.40 -10283545.27 0.0089 0.0038

Neptune -32868-06-06 04:04 J -10283457.45 -10283457.33 -10283457.20 0.0089 0.0045

Jupiter -32868-07-29 08:52 J -10283404.25 -10283404.13 -10283404.00 0.0509 0.0328

Neptune -32868-09-02 05:59 J -10283369.37 -10283369.25 -10283369.14 0.0089 0.0053

Jupiter -32868-10-27 09:07 J -10283314.23 -10283314.12 -10283314.01 0.0513 0.0370

Neptune -32868-11-29 07:26 J -10283281.29 -10283281.19 -10283281.07 0.0089 0.0060

Neptune -32867-02-25 09:07 J -10283193.20 -10283193.12 -10283193.01 0.0089 0.0067

Neptune -32867-05-24 10:47 J -10283105.12 -10283105.05 -10283104.96 0.0089 0.0074

Neptune -32867-08-20 12:43 J -10283017.02 -10283016.97 -10283016.91 0.0089 0.0081

Neptune -32867-11-16 14:23 J -10282928.91 -10282928.90 -10282928.88 0.0089 0.0088

Moon -32866-05-14 12:57 J -10282750.08 -10282749.96 -10282749.84 0.2679 0.0374

Earth -32866-05-14 13:26 J -10282750.07 -10282749.94 -10282749.82 0.2673 0.0375 *

Mars -32864-01-14 06:57 J -10282139.32 -10282139.21 -10282139.10 0.1813 0.0648

Mars -32864-11-28 18:57 J -10281820.86 -10281820.71 -10281820.57 0.1700 0.0438

Jupiter -32862-03-18 10:33 J -10281346.19 -10281346.06 -10281345.92 0.0517 0.0033

Saturn -32861-04-29 04:47 J -10280938.40 -10280938.30 -10280938.20 0.0288 0.0226

Saturn -32861-07-26 23:45 J -10280849.67 -10280849.51 -10280849.35 0.0288 0.0079

Saturn -32861-10-23 18:14 J -10280760.90 -10280760.74 -10280760.58 0.0288 0.0066

Saturn -32860-01-20 11:59 J -10280672.10 -10280672.00 -10280671.88 0.0287 0.0206

Moon -32859-05-07 03:35 J -10280200.41 -10280200.35 -10280200.30 0.2671 0.2342

Earth -32859-05-07 03:50 J -10280200.39 -10280200.34 -10280200.28 0.2678 0.2377 *

Jupiter -32856-05-17 08:09 J -10279094.18 -10279094.16 -10279094.15 0.0508 0.0506

Jupiter -32856-08-15 08:52 J -10279004.29 -10279004.13 -10279003.98 0.0512 0.0197

Moon -32856-11-15 05:02 J -10278912.42 -10278912.29 -10278912.16 0.2665 0.0031

Earth -32856-11-15 05:16 J -10278912.41 -10278912.28 -10278912.15 0.2659 0.0020 *

Mars -32855-06-06 15:07 J -10278708.96 -10278708.87 -10278708.79 0.1807 0.1322

Mars -32854-04-20 22:04 J -10278390.73 -10278390.58 -10278390.43 0.1705 0.0342

Mars -32853-05-12 08:38 J -10278003.20 -10278003.14 -10278003.08 0.1830 0.1611

Earth -32853-05-16 10:47 J -10277999.16 -10277999.05 -10277998.95 0.2671 0.1399

Moon -32853-05-16 11:02 J -10277999.15 -10277999.04 -10277998.94 0.2677 0.1439 *

Jupiter -32850-01-04 14:09 J -10277036.04 -10277035.91 -10277035.78 0.0518 0.0114

Jupiter -32850-04-04 00:28 J -10276946.53 -10276946.48 -10276946.43 0.0514 0.0481

Saturn -32846-02-09 09:07 J -10275539.20 -10275539.12 -10275539.04 0.0271 0.0225

Saturn -32846-05-08 21:50 J -10275450.72 -10275450.59 -10275450.46 0.0271 0.0121

Moon -32846-05-09 23:45 J -10275449.61 -10275449.51 -10275449.41 0.2674 0.1570

Earth -32846-05-10 00:43 J -10275449.58 -10275449.47 -10275449.37 0.2676 0.1425 *

Saturn -32846-08-05 10:47 J -10275362.20 -10275362.05 -10275361.91 0.0271 0.0016

Saturn -32846-11-01 23:45 J -10275273.64 -10275273.51 -10275273.37 0.0272 0.0095

Saturn -32845-01-29 13:11 J -10275185.04 -10275184.95 -10275184.85 0.0272 0.0205

Mars -32845-09-10 00:43 J -10274960.58 -10274960.47 -10274960.36 0.1711 0.1165

Jupiter -32844-06-03 08:23 J -10274694.31 -10274694.15 -10274693.98 0.0512 0.0027

Mars -32844-10-02 15:50 J -10274572.95 -10274572.84 -10274572.73 0.1825 0.0866

Earth -32843-11-18 04:19 J -10274161.44 -10274161.32 -10274161.20 0.2661 0.1116

Moon -32843-11-18 04:47 J -10274161.42 -10274161.30 -10274161.18 0.2667 0.1114 *

Earth -32840-05-19 08:23 J -10273248.19 -10273248.15 -10273248.10 0.2669 0.2461

Moon -32840-05-19 09:21 J -10273248.15 -10273248.11 -10273248.07 0.2673 0.2481 *

Jupiter -32839-10-23 17:31 J -10272725.89 -10272725.77 -10272725.65 0.0518 0.0257

Jupiter -32838-01-21 03:35 J -10272636.46 -10272636.35 -10272636.25 0.0514 0.0334

Uranus -32837-09-28 02:52 J -10272020.45 -10272020.38 -10272020.30 0.0145 0.0122

Uranus -32837-12-25 07:26 J -10271932.29 -10271932.19 -10271932.08 0.0145 0.0098

Uranus -32836-03-23 12:14 J -10271844.12 -10271843.99 -10271843.86 0.0145 0.0073

Uranus -32836-06-19 16:47 J -10271755.93 -10271755.80 -10271755.65 0.0145 0.0049

Uranus -32836-09-15 21:35 J -10271667.74 -10271667.60 -10271667.45 0.0145 0.0023

Moon -32836-11-10 10:33 J -10271612.14 -10271612.06 -10271611.98 0.2656 0.2121

Earth -32836-11-10 11:45 J -10271612.09 -10271612.01 -10271611.93 0.2656 0.2117 *

Uranus -32836-12-13 02:23 J -10271579.54 -10271579.40 -10271579.25 0.0145 0.0005

Uranus -32835-03-11 07:26 J -10271491.34 -10271491.19 -10271491.05 0.0145 0.0028

Uranus -32835-06-07 12:14 J -10271403.13 -10271402.99 -10271402.85 0.0145 0.0054

Uranus -32835-09-03 17:02 J -10271314.91 -10271314.79 -10271314.66 0.0145 0.0080

Uranus -32835-11-30 22:04 J -10271226.68 -10271226.58 -10271226.48 0.0146 0.0107

Mars -32834-02-22 23:16 J -10271142.65 -10271142.53 -10271142.40 0.1819 0.0151

Uranus -32834-02-27 02:52 J -10271138.43 -10271138.38 -10271138.31 0.0146 0.0134

Mars -32833-01-07 15:50 J -10270823.94 -10270823.84 -10270823.74 0.1695 0.1283

Moon -32833-05-11 20:38 J -10270698.76 -10270698.64 -10270698.52 0.2677 0.0449

Earth -32833-05-11 21:35 J -10270698.73 -10270698.60 -10270698.48 0.2674 0.0450 *

Jupiter -32832-03-22 08:23 J -10270384.31 -10270384.15 -10270383.99 0.0511 0.0141

Saturn -32832-09-16 02:52 J -10270206.40 -10270206.38 -10270206.33 0.0288 0.0280

Venus -32832-10-19 07:11 J -10270173.27 -10270173.20 -10270173.12 0.3780 0.2838

Saturn -32832-12-13 22:19 J -10270117.72 -10270117.57 -10270117.43 0.0288 0.0131

Saturn -32831-03-12 16:47 J -10270028.96 -10270028.80 -10270028.63 0.0287 0.0017

Saturn -32831-06-09 11:02 J -10269940.17 -10269940.04 -10269939.90 0.0287 0.0157

Earth -32830-11-21 03:07 J -10269410.44 -10269410.37 -10269410.29 0.2663 0.2191

Moon -32830-11-21 04:19 J -10269410.38 -10269410.32 -10269410.26 0.2664 0.2327 *

Venus -32828-10-20 08:23 J -10268711.17 -10268711.15 -10268711.12 0.3595 0.3494

Jupiter -32827-08-11 19:55 J -10268415.75 -10268415.67 -10268415.59 0.0519 0.0416

Jupiter -32827-11-09 05:45 J -10268326.39 -10268326.26 -10268326.13 0.0515 0.0173

Venus -32826-05-05 02:09 J -10268149.53 -10268149.41 -10268149.30 0.3779 0.0207

Mars -32825-07-15 06:57 J -10267712.32 -10267712.21 -10267712.09 0.1813 0.0572

Mars -32824-05-29 19:26 J -10267393.84 -10267393.69 -10267393.55 0.1700 0.0533

Moon -32823-11-13 10:33 J -10266861.18 -10266861.06 -10266860.94 0.2661 0.1076

Earth -32823-11-13 11:31 J -10266861.15 -10266861.02 -10266860.90 0.2658 0.0935 *

Venus -32822-05-06 07:11 J -10266687.33 -10266687.20 -10266687.07 0.3597 0.0247

Venus -32821-11-17 21:07 J -10266125.68 -10266125.62 -10266125.57 0.3777 0.3277

Jupiter -32820-01-08 07:55 J -10266074.30 -10266074.17 -10266074.04 0.0510 0.0315

Jupiter -32820-04-08 08:09 J -10265984.27 -10265984.16 -10265984.05 0.0513 0.0384

Moon -32820-05-14 18:14 J -10265947.86 -10265947.74 -10265947.61 0.2679 0.0497

Earth -32820-05-14 18:43 J -10265947.84 -10265947.72 -10265947.60 0.2672 0.0562 *

Saturn -32817-06-28 11:59 J -10264807.05 -10264807.00 -10264806.94 0.0271 0.0247

Saturn -32817-09-25 00:43 J -10264718.59 -10264718.47 -10264718.35 0.0272 0.0142

Saturn -32817-12-22 13:40 J -10264630.08 -10264629.93 -10264629.79 0.0272 0.0036

Saturn -32816-03-21 02:52 J -10264541.53 -10264541.38 -10264541.24 0.0272 0.0073

Saturn -32816-06-17 16:04 J -10264452.93 -10264452.83 -10264452.72 0.0272 0.0184

Mars -32816-12-05 15:07 J -10264281.96 -10264281.87 -10264281.79 0.1807 0.1246

Jupiter -32815-08-28 08:38 J -10264016.28 -10264016.14 -10264016.00 0.0516 0.0022

Mars -32815-10-19 22:19 J -10263963.72 -10263963.57 -10263963.42 0.1706 0.0256

Mars -32814-11-11 08:52 J -10263576.18 -10263576.13 -10263576.09 0.1831 0.1697

Moon -32813-05-07 08:38 J -10263398.21 -10263398.14 -10263398.08 0.2672 0.2276

Earth -32813-05-07 09:07 J -10263398.19 -10263398.12 -10263398.05 0.2677 0.2205 *

Moon -32810-11-16 10:47 J -10262110.18 -10262110.05 -10262109.92 0.2666 0.0244

Earth -32810-11-16 10:47 J -10262110.18 -10262110.05 -10262109.91 0.2659 0.0220 *

Jupiter -32809-10-27 06:14 J -10261764.26 -10261764.24 -10261764.22 0.0508 0.0503

Jupiter -32808-01-25 06:57 J -10261674.36 -10261674.21 -10261674.06 0.0512 0.0200

Earth -32807-05-17 16:04 J -10261196.93 -10261196.83 -10261196.73 0.2671 0.1598

Moon -32807-05-17 16:33 J -10261196.91 -10261196.81 -10261196.71 0.2676 0.1650 *

Mars -32805-03-11 01:11 J -10260533.57 -10260533.45 -10260533.32 0.1711 0.1058

Mars -32804-04-02 16:04 J -10260145.94 -10260145.83 -10260145.73 0.1825 0.0945

Jupiter -32803-06-16 11:59 J -10259706.13 -10259706.00 -10259705.87 0.0518 0.0121

Jupiter -32803-09-13 22:04 J -10259616.62 -10259616.58 -10259616.52 0.0514 0.0474

Saturn -32802-05-03 00:43 J -10259385.61 -10259385.47 -10259385.33 0.0288 0.0156

Saturn -32802-07-30 19:26 J -10259296.85 -10259296.69 -10259296.53 0.0288 0.0010

Saturn -32802-10-27 13:40 J -10259208.07 -10259207.93 -10259207.79 0.0288 0.0133

Saturn -32801-01-24 07:11 J -10259119.24 -10259119.20 -10259119.14 0.0287 0.0272

Moon -32800-05-10 04:47 J -10258647.40 -10258647.30 -10258647.19 0.2674 0.1248

Earth -32800-05-10 05:45 J -10258647.36 -10258647.26 -10258647.15 0.2676 0.1249 *

Pluto -32799-01-01 18:43 J -10258410.76 -10258410.72 -10258410.64 0.0076 0.0070

Pluto -32799-03-30 20:09 J -10258322.73 -10258322.66 -10258322.56 0.0076 0.0062

Pluto -32799-06-26 21:50 J -10258234.69 -10258234.59 -10258234.48 0.0075 0.0054

Pluto -32799-09-22 23:02 J -10258146.65 -10258146.54 -10258146.41 0.0075 0.0046

Pluto -32799-12-20 00:28 J -10258058.60 -10258058.48 -10258058.34 0.0075 0.0039

Pluto -32798-03-18 01:40 J -10257970.55 -10257970.43 -10257970.28 0.0075 0.0031

Pluto -32798-06-14 03:21 J -10257882.51 -10257882.36 -10257882.22 0.0075 0.0023

Pluto -32798-09-10 04:33 J -10257794.46 -10257794.31 -10257794.16 0.0075 0.0016

Pluto -32798-12-07 05:45 J -10257706.40 -10257706.26 -10257706.11 0.0075 0.0009

Pluto -32797-03-04 07:11 J -10257618.35 -10257618.20 -10257618.05 0.0075 0.0001

Pluto -32797-05-31 08:23 J -10257530.30 -10257530.15 -10257530.00 0.0074 0.0006

Pluto -32797-08-27 09:35 J -10257442.24 -10257442.10 -10257441.95 0.0074 0.0013

Jupiter -32797-11-13 06:14 J -10257364.40 -10257364.24 -10257364.07 0.0511 0.0025

Earth -32797-11-18 09:50 J -10257359.20 -10257359.09 -10257358.97 0.2661 0.1317

Moon -32797-11-18 10:33 J -10257359.17 -10257359.06 -10257358.95 0.2667 0.1372 *

Pluto -32797-11-23 10:47 J -10257354.19 -10257354.05 -10257353.90 0.0074 0.0020

Uranus -32796-02-10 16:33 J -10257274.87 -10257274.81 -10257274.72 0.0134 0.0119

Pluto -32796-02-19 11:59 J -10257266.13 -10257266.00 -10257265.85 0.0074 0.0027

Uranus -32796-05-09 22:04 J -10257186.69 -10257186.58 -10257186.46 0.0134 0.0096

Pluto -32796-05-18 13:11 J -10257178.07 -10257177.95 -10257177.81 0.0074 0.0034

Uranus -32796-08-06 03:21 J -10257098.50 -10257098.36 -10257098.22 0.0133 0.0073

Pluto -32796-08-14 14:23 J -10257090.01 -10257089.90 -10257089.77 0.0074 0.0041

Uranus -32796-11-02 08:38 J -10257010.29 -10257010.14 -10257009.98 0.0133 0.0050

Pluto -32796-11-10 15:35 J -10257001.95 -10257001.85 -10257001.73 0.0074 0.0048

Uranus -32795-01-29 13:55 J -10256922.09 -10256921.92 -10256921.76 0.0133 0.0028

Pluto -32795-02-06 16:47 J -10256913.89 -10256913.80 -10256913.69 0.0074 0.0054

Uranus -32795-04-27 18:57 J -10256833.87 -10256833.71 -10256833.54 0.0133 0.0006

Pluto -32795-05-05 18:14 J -10256825.82 -10256825.74 -10256825.66 0.0073 0.0061

Uranus -32795-07-24 23:59 J -10256745.66 -10256745.50 -10256745.33 0.0133 0.0017

Pluto -32795-08-01 19:11 J -10256737.75 -10256737.70 -10256737.63 0.0073 0.0068

Mars -32795-08-23 23:16 J -10256715.65 -10256715.53 -10256715.41 0.1819 0.0210

Uranus -32795-10-21 05:02 J -10256657.44 -10256657.29 -10256657.13 0.0133 0.0038

Uranus -32794-01-17 09:50 J -10256569.23 -10256569.09 -10256568.93 0.0133 0.0061

Uranus -32794-04-15 14:52 J -10256481.00 -10256480.88 -10256480.74 0.0133 0.0081

Earth -32794-05-20 13:55 J -10256445.93 -10256445.92 -10256445.92 0.2669 0.2656

Mars -32794-07-08 16:19 J -10256396.90 -10256396.82 -10256396.73 0.1695 0.1380

Uranus -32794-07-12 19:55 J -10256392.77 -10256392.67 -10256392.56 0.0133 0.0102

Uranus -32794-10-09 00:28 J -10256304.52 -10256304.48 -10256304.41 0.0133 0.0124

Jupiter -32791-04-04 15:21 J -10255395.97 -10255395.86 -10255395.74 0.0519 0.0263

Jupiter -32791-07-03 01:26 J -10255306.54 -10255306.44 -10255306.33 0.0515 0.0330

Moon -32790-11-11 16:19 J -10254809.91 -10254809.82 -10254809.74 0.2658 0.2072

Earth -32790-11-11 17:16 J -10254809.87 -10254809.78 -10254809.68 0.2656 0.1901 *

Neptune -32789-04-29 21:50 J -10254639.64 -10254639.59 -10254639.51 0.0088 0.0082

Neptune -32789-07-27 00:43 J -10254551.55 -10254551.47 -10254551.35 0.0088 0.0074

Neptune -32789-10-23 04:04 J -10254463.45 -10254463.33 -10254463.21 0.0088 0.0065

Neptune -32788-01-19 06:43 J -10254375.35 -10254375.22 -10254375.08 0.0088 0.0056

Neptune -32788-04-17 09:50 J -10254287.24 -10254287.09 -10254286.94 0.0088 0.0048

Neptune -32788-07-14 12:28 J -10254199.13 -10254198.98 -10254198.82 0.0088 0.0039

Neptune -32788-10-10 15:07 J -10254111.02 -10254110.87 -10254110.69 0.0088 0.0031

Neptune -32787-01-06 18:14 J -10254022.91 -10254022.74 -10254022.57 0.0088 0.0022

Saturn -32787-02-12 02:38 J -10253986.50 -10253986.39 -10253986.28 0.0271 0.0173

Neptune -32787-04-04 20:52 J -10253934.80 -10253934.63 -10253934.45 0.0088 0.0015

Saturn -32787-05-11 15:21 J -10253898.00 -10253897.86 -10253897.72 0.0271 0.0067

Moon -32787-05-13 02:09 J -10253896.53 -10253896.41 -10253896.29 0.2678 0.0393

Earth -32787-05-13 02:52 J -10253896.51 -10253896.38 -10253896.26 0.2674 0.0263 *

Neptune -32787-07-01 23:45 J -10253846.68 -10253846.51 -10253846.33 0.0088 0.0006

Saturn -32787-08-08 04:19 J -10253809.46 -10253809.32 -10253809.17 0.0272 0.0041

Neptune -32787-09-28 02:38 J -10253758.56 -10253758.39 -10253758.21 0.0088 0.0003

Saturn -32787-11-04 17:31 J -10253720.88 -10253720.77 -10253720.64 0.0272 0.0151

Neptune -32787-12-25 05:16 J -10253670.45 -10253670.28 -10253670.10 0.0088 0.0012

Saturn -32786-02-01 07:11 J -10253632.23 -10253632.20 -10253632.16 0.0272 0.0263

Neptune -32786-03-23 08:09 J -10253582.33 -10253582.16 -10253581.99 0.0088 0.0019

Neptune -32786-06-19 10:47 J -10253494.21 -10253494.05 -10253493.88 0.0088 0.0028

Neptune -32786-09-15 13:26 J -10253406.09 -10253405.94 -10253405.77 0.0088 0.0036

Neptune -32786-12-12 16:19 J -10253317.96 -10253317.82 -10253317.66 0.0088 0.0044

Mars -32785-01-14 07:11 J -10253285.32 -10253285.20 -10253285.08 0.1813 0.0490

Neptune -32785-03-09 18:57 J -10253229.84 -10253229.71 -10253229.56 0.0088 0.0052

Neptune -32785-06-05 21:35 J -10253141.71 -10253141.60 -10253141.46 0.0088 0.0061

Jupiter -32785-09-01 05:45 J -10253054.42 -10253054.26 -10253054.10 0.0510 0.0150

Neptune -32785-09-02 00:28 J -10253053.58 -10253053.48 -10253053.37 0.0088 0.0069

Mars -32785-11-27 19:40 J -10252966.82 -10252966.68 -10252966.54 0.1700 0.0625

Neptune -32785-11-29 03:07 J -10252965.45 -10252965.37 -10252965.28 0.0088 0.0077

Neptune -32784-02-25 05:45 J -10252877.30 -10252877.26 -10252877.21 0.0088 0.0085

Earth -32784-11-21 08:38 J -10252608.19 -10252608.14 -10252608.08 0.2663 0.2385

Moon -32784-11-21 09:50 J -10252608.14 -10252608.09 -10252608.04 0.2664 0.2418 *

Jupiter -32779-01-21 18:57 J -10251085.79 -10251085.71 -10251085.63 0.0519 0.0404

Jupiter -32779-04-21 04:33 J -10250996.43 -10250996.31 -10250996.17 0.0516 0.0186

Moon -32777-11-13 16:19 J -10250058.95 -10250058.82 -10250058.69 0.2662 0.0719

Earth -32777-11-13 17:02 J -10250058.92 -10250058.79 -10250058.66 0.2658 0.0728 *

Mars -32776-06-05 15:07 J -10249854.96 -10249854.87 -10249854.78 0.1807 0.1166

Mars -32775-04-19 23:02 J -10249536.70 -10249536.54 -10249536.39 0.1706 0.0161

Venus -32775-05-26 05:31 J -10249500.37 -10249500.27 -10249500.17 0.3780 0.1743

Mars -32774-05-12 08:52 J -10249149.15 -10249149.13 -10249149.10 0.1831 0.1787

Moon -32774-05-15 23:45 J -10249145.63 -10249145.51 -10249145.39 0.2679 0.0783

Earth -32774-05-15 23:59 J -10249145.62 -10249145.50 -10249145.38 0.2672 0.0751 *

Jupiter -32773-06-20 05:31 J -10248744.40 -10248744.27 -10248744.14 0.0510 0.0317

Jupiter -32773-09-18 05:59 J -10248654.36 -10248654.25 -10248654.14 0.0513 0.0383

Saturn -32773-09-18 23:16 J -10248653.64 -10248653.53 -10248653.42 0.0288 0.0208

Saturn -32773-12-16 18:14 J -10248564.90 -10248564.74 -10248564.58 0.0287 0.0060

Saturn -32772-03-15 12:28 J -10248476.13 -10248475.98 -10248475.82 0.0287 0.0084

Saturn -32772-06-12 06:43 J -10248387.32 -10248387.22 -10248387.13 0.0287 0.0224

Venus -32771-05-27 07:55 J -10248038.28 -10248038.17 -10248038.06 0.3596 0.2090

Venus -32770-12-10 00:14 J -10247476.59 -10247476.49 -10247476.38 0.3778 0.1298

Jupiter -32767-02-07 07:11 J -10246686.34 -10246686.20 -10246686.07 0.0516 0.0031

Moon -32767-05-08 13:40 J -10246596.01 -10246595.93 -10246595.86 0.2673 0.2069

Earth -32767-05-08 14:23 J -10246595.98 -10246595.90 -10246595.82 0.2677 0.2029 *

Mars -32766-09-10 01:40 J -10246106.56 -10246106.43 -10246106.31 0.1711 0.0968

Venus -32766-12-11 06:28 J -10246014.34 -10246014.23 -10246014.11 0.3598 0.1585

Mars -32765-10-01 16:04 J -10245718.94 -10245718.83 -10245718.73 0.1825 0.1023

Moon -32764-11-16 16:19 J -10245307.95 -10245307.82 -10245307.69 0.2667 0.0366

Earth -32764-11-16 16:19 J -10245307.95 -10245307.82 -10245307.68 0.2660 0.0420 *

Jupiter -32761-04-08 04:47 J -10244434.34 -10244434.30 -10244434.26 0.0509 0.0492

Earth -32761-05-17 21:35 J -10244394.70 -10244394.60 -10244394.51 0.2670 0.1792

Moon -32761-05-17 22:04 J -10244394.67 -10244394.58 -10244394.49 0.2676 0.1806 *

Jupiter -32761-07-07 05:45 J -10244344.41 -10244344.26 -10244344.11 0.0512 0.0212

Saturn -32758-07-02 05:16 J -10243254.37 -10243254.28 -10243254.18 0.0272 0.0196

Saturn -32758-09-28 18:14 J -10243165.88 -10243165.74 -10243165.61 0.0272 0.0091

Saturn -32758-12-26 07:11 J -10243077.35 -10243077.20 -10243077.05 0.0272 0.0017

Saturn -32757-03-23 20:23 J -10242988.78 -10242988.65 -10242988.52 0.0272 0.0127

Saturn -32757-06-20 09:50 J -10242900.15 -10242900.09 -10242900.01 0.0272 0.0240

Jupiter -32756-11-26 10:04 J -10242376.22 -10242376.08 -10242375.95 0.0517 0.0126

Mars -32755-02-21 23:31 J -10242288.64 -10242288.52 -10242288.40 0.1819 0.0293

Jupiter -32755-02-23 20:09 J -10242286.71 -10242286.66 -10242286.60 0.0514 0.0467

Mars -32754-01-06 16:33 J -10241969.88 -10241969.81 -10241969.74 0.1695 0.1463

Moon -32754-05-11 10:04 J -10241845.19 -10241845.08 -10241844.97 0.2674 0.1201

Earth -32754-05-11 11:02 J -10241845.15 -10241845.04 -10241844.92 0.2675 0.1069 *

Uranus -32753-07-22 05:31 J -10241407.30 -10241407.27 -10241407.24 0.0145 0.0140

Uranus -32753-10-18 10:04 J -10241319.16 -10241319.08 -10241318.99 0.0145 0.0116

Uranus -32752-01-14 14:23 J -10241231.00 -10241230.90 -10241230.77 0.0145 0.0092

Uranus -32752-04-12 19:11 J -10241142.82 -10241142.70 -10241142.56 0.0145 0.0067

Uranus -32752-07-09 23:59 J -10241054.64 -10241054.50 -10241054.35 0.0145 0.0042

Uranus -32752-10-06 04:47 J -10240966.44 -10240966.30 -10240966.15 0.0145 0.0017

Uranus -32751-01-02 09:35 J -10240878.24 -10240878.10 -10240877.95 0.0145 0.0010

Uranus -32751-03-31 14:23 J -10240790.04 -10240789.90 -10240789.75 0.0145 0.0035

Uranus -32751-06-27 19:26 J -10240701.83 -10240701.69 -10240701.56 0.0145 0.0061

Uranus -32751-09-24 00:14 J -10240613.60 -10240613.49 -10240613.36 0.0146 0.0087

Earth -32751-11-19 15:21 J -10240556.96 -10240556.86 -10240556.75 0.2661 0.1517

Moon -32751-11-19 16:04 J -10240556.93 -10240556.83 -10240556.72 0.2666 0.1596 *

Uranus -32751-12-21 05:02 J -10240525.37 -10240525.29 -10240525.18 0.0146 0.0114

Uranus -32750-03-19 10:19 J -10240437.11 -10240437.07 -10240437.03 0.0146 0.0140

Jupiter -32749-04-25 04:19 J -10240034.49 -10240034.32 -10240034.16 0.0511 0.0026

Mars -32746-07-15 07:11 J -10238858.32 -10238858.20 -10238858.08 0.1813 0.0419

Mars -32745-05-28 20:09 J -10238539.79 -10238539.66 -10238539.52 0.1700 0.0722

Jupiter -32744-09-14 13:11 J -10238066.06 -10238065.95 -10238065.83 0.0519 0.0271

Moon -32744-11-11 21:50 J -10238007.69 -10238007.59 -10238007.49 0.2658 0.1704

Earth -32744-11-11 23:02 J -10238007.64 -10238007.54 -10238007.44 0.2656 0.1687 *

Jupiter -32744-12-12 23:16 J -10237976.64 -10237976.53 -10237976.42 0.0515 0.0322

Saturn -32743-02-06 01:55 J -10237921.52 -10237921.42 -10237921.33 0.0288 0.0232

Saturn -32743-05-05 20:52 J -10237832.79 -10237832.63 -10237832.47 0.0288 0.0084

Saturn -32743-08-02 15:21 J -10237744.02 -10237743.86 -10237743.70 0.0288 0.0061

Saturn -32743-10-30 09:21 J -10237655.22 -10237655.11 -10237654.99 0.0288 0.0202

Moon -32741-05-13 07:26 J -10237094.32 -10237094.19 -10237094.07 0.2679 0.0082

Earth -32741-05-13 08:09 J -10237094.29 -10237094.16 -10237094.04 0.2674 0.0108 *

Earth -32738-11-22 14:09 J -10235805.94 -10235805.91 -10235805.88 0.2663 0.2581

Jupiter -32737-02-12 03:21 J -10235724.51 -10235724.36 -10235724.19 0.0510 0.0152

Mars -32737-12-04 15:07 J -10235427.97 -10235427.87 -10235427.77 0.1807 0.1094

Mars -32736-10-18 23:31 J -10235109.68 -10235109.52 -10235109.37 0.1706 0.0065

Jupiter -32732-07-03 16:47 J -10233755.88 -10233755.80 -10233755.72 0.0520 0.0411

Jupiter -32732-10-01 02:38 J -10233666.52 -10233666.39 -10233666.26 0.0516 0.0179

Moon -32731-11-14 22:04 J -10233256.71 -10233256.58 -10233256.45 0.2664 0.0641

Earth -32731-11-14 22:47 J -10233256.69 -10233256.55 -10233256.42 0.2658 0.0526 *

Saturn -32729-11-18 07:40 J -10232522.26 -10232522.18 -10232522.10 0.0271 0.0223

Saturn -32728-02-14 20:09 J -10232433.78 -10232433.66 -10232433.52 0.0271 0.0120

Saturn -32728-05-14 09:07 J -10232345.26 -10232345.12 -10232344.97 0.0272 0.0015

Moon -32728-05-16 05:16 J -10232343.40 -10232343.28 -10232343.16 0.2678 0.0876

Earth -32728-05-16 05:16 J -10232343.39 -10232343.28 -10232343.16 0.2672 0.0946 *

Saturn -32728-08-10 22:19 J -10232256.71 -10232256.57 -10232256.43 0.0272 0.0097

Saturn -32728-11-07 11:45 J -10232168.10 -10232168.01 -10232167.91 0.0272 0.0208

Mars -32727-04-26 23:31 J -10231997.55 -10231997.52 -10231997.50 0.1801 0.1743

Mars -32726-03-11 02:09 J -10231679.54 -10231679.41 -10231679.28 0.1711 0.0866

Jupiter -32726-12-01 02:38 J -10231414.51 -10231414.39 -10231414.26 0.0509 0.0328

Jupiter -32725-02-29 03:07 J -10231324.48 -10231324.37 -10231324.26 0.0513 0.0372

Mars -32725-04-01 16:04 J -10231291.92 -10231291.83 -10231291.73 0.1825 0.1107

Venus -32724-06-16 09:07 J -10230851.15 -10230851.12 -10230851.09 0.3781 0.3604

Moon -32721-05-08 18:43 J -10229793.80 -10229793.72 -10229793.63 0.2673 0.1907

Earth -32721-05-08 19:26 J -10229793.77 -10229793.69 -10229793.60 0.2677 0.1858 *

Jupiter -32720-07-20 05:45 J -10229356.39 -10229356.26 -10229356.12 0.0517 0.0038

Venus -32719-12-31 03:50 J -10228827.45 -10228827.34 -10228827.23 0.3779 0.0660

Moon -32718-11-17 22:04 J -10228505.71 -10228505.58 -10228505.46 0.2667 0.0689

Earth -32718-11-17 22:04 J -10228505.71 -10228505.58 -10228505.46 0.2660 0.0622 *

Mars -32717-07-31 04:19 J -10228249.32 -10228249.32 -10228249.31 0.1717 0.1711

Mars -32716-08-22 23:31 J -10227861.64 -10227861.52 -10227861.40 0.1819 0.0374

Earth -32715-05-19 02:52 J -10227592.46 -10227592.38 -10227592.30 0.2670 0.1987

Moon -32715-05-19 03:35 J -10227592.43 -10227592.35 -10227592.28 0.2676 0.2092 *

Mars -32715-07-07 17:02 J -10227542.85 -10227542.79 -10227542.73 0.1695 0.1556

Venus -32714-01-01 07:11 J -10227365.32 -10227365.20 -10227365.07 0.3597 0.0722

Saturn -32714-06-26 00:28 J -10227189.50 -10227189.48 -10227189.45 0.0288 0.0283

Jupiter -32714-09-19 02:23 J -10227104.43 -10227104.40 -10227104.37 0.0509 0.0497

Saturn -32714-09-22 19:40 J -10227100.82 -10227100.68 -10227100.53 0.0287 0.0134

Jupiter -32714-12-18 03:21 J -10227014.51 -10227014.36 -10227014.21 0.0512 0.0207

Saturn -32714-12-20 14:23 J -10227012.06 -10227011.90 -10227011.74 0.0287 0.0012

Saturn -32713-03-18 08:38 J -10226923.28 -10226923.14 -10226923.01 0.0287 0.0154

Venus -32713-07-15 22:33 J -10226803.64 -10226803.56 -10226803.47 0.3778 0.2421

Uranus -32712-03-03 00:14 J -10226573.58 -10226573.49 -10226573.40 0.0134 0.0111

Uranus -32712-05-30 05:31 J -10226485.39 -10226485.27 -10226485.14 0.0133 0.0088

Uranus -32712-08-26 10:47 J -10226397.19 -10226397.05 -10226396.90 0.0133 0.0065

Uranus -32712-11-22 16:04 J -10226308.99 -10226308.83 -10226308.67 0.0133 0.0043

Uranus -32711-02-18 21:07 J -10226220.78 -10226220.62 -10226220.45 0.0133 0.0021

Uranus -32711-05-18 02:23 J -10226132.57 -10226132.40 -10226132.24 0.0133 0.0002

Uranus -32711-08-14 07:26 J -10226044.35 -10226044.19 -10226044.03 0.0133 0.0024

Uranus -32711-11-10 12:28 J -10225956.14 -10225955.98 -10225955.82 0.0133 0.0045

Uranus -32710-02-06 17:16 J -10225867.91 -10225867.78 -10225867.63 0.0133 0.0067

Uranus -32710-05-05 22:19 J -10225779.69 -10225779.57 -10225779.45 0.0133 0.0088

Uranus -32710-08-02 03:21 J -10225691.45 -10225691.36 -10225691.27 0.0133 0.0109

Uranus -32710-10-29 08:09 J -10225603.19 -10225603.16 -10225603.13 0.0133 0.0130

Venus -32709-07-17 05:45 J -10225341.33 -10225341.26 -10225341.19 0.3599 0.2906

Jupiter -32708-05-08 08:23 J -10225046.28 -10225046.15 -10225046.02 0.0517 0.0123

Moon -32708-05-11 15:21 J -10225042.97 -10225042.86 -10225042.74 0.2676 0.0924

Earth -32708-05-11 16:19 J -10225042.94 -10225042.82 -10225042.70 0.2675 0.0887 *

Neptune -32708-08-02 20:09 J -10224959.70 -10224959.66 -10224959.61 0.0089 0.0083

Jupiter -32708-08-05 18:28 J -10224956.78 -10224956.73 -10224956.67 0.0514 0.0470

Neptune -32708-10-29 21:50 J -10224871.66 -10224871.59 -10224871.52 0.0089 0.0076

Neptune -32707-01-25 23:31 J -10224783.61 -10224783.52 -10224783.44 0.0089 0.0070

Neptune -32707-04-24 00:43 J -10224695.55 -10224695.47 -10224695.36 0.0089 0.0063

Neptune -32707-07-21 02:23 J -10224607.50 -10224607.40 -10224607.28 0.0089 0.0056

Neptune -32707-10-17 04:04 J -10224519.44 -10224519.33 -10224519.20 0.0089 0.0049

Neptune -32706-01-13 05:45 J -10224431.38 -10224431.26 -10224431.13 0.0089 0.0042

Mars -32706-01-13 07:11 J -10224431.32 -10224431.20 -10224431.08 0.1813 0.0338 *

Neptune -32706-04-11 07:26 J -10224343.31 -10224343.19 -10224343.05 0.0089 0.0036

Neptune -32706-07-08 09:07 J -10224255.25 -10224255.12 -10224254.98 0.0089 0.0029

Neptune -32706-10-04 10:47 J -10224167.19 -10224167.05 -10224166.91 0.0089 0.0022

Mars -32706-11-27 20:38 J -10224112.77 -10224112.64 -10224112.51 0.1700 0.0813

Neptune -32706-12-31 12:28 J -10224079.12 -10224078.98 -10224078.84 0.0089 0.0015

Neptune -32705-03-28 14:09 J -10223991.05 -10223990.91 -10223990.77 0.0089 0.0008

Neptune -32705-06-24 15:50 J -10223902.99 -10223902.84 -10223902.70 0.0089 0.0001

Neptune -32705-09-20 17:31 J -10223814.92 -10223814.77 -10223814.63 0.0089 0.0007

Earth -32705-11-19 20:52 J -10223754.73 -10223754.63 -10223754.53 0.2662 0.1714

Moon -32705-11-19 21:50 J -10223754.69 -10223754.59 -10223754.49 0.2666 0.1736 *

Neptune -32705-12-17 19:11 J -10223726.85 -10223726.70 -10223726.56 0.0089 0.0014

Neptune -32704-03-15 20:52 J -10223638.77 -10223638.63 -10223638.49 0.0089 0.0021

Neptune -32704-06-11 22:19 J -10223550.70 -10223550.57 -10223550.43 0.0089 0.0028

Neptune -32704-09-07 23:59 J -10223462.63 -10223462.50 -10223462.36 0.0089 0.0035

Neptune -32704-12-05 01:40 J -10223374.55 -10223374.43 -10223374.30 0.0089 0.0042

Neptune -32703-03-03 03:21 J -10223286.47 -10223286.36 -10223286.23 0.0089 0.0049

Neptune -32703-05-30 05:02 J -10223198.39 -10223198.29 -10223198.17 0.0089 0.0056

Neptune -32703-08-26 06:43 J -10223110.31 -10223110.22 -10223110.11 0.0089 0.0063

Neptune -32703-11-22 08:38 J -10223022.22 -10223022.14 -10223022.05 0.0089 0.0070

Neptune -32702-02-18 10:19 J -10222934.13 -10222934.07 -10222934.00 0.0089 0.0078

Neptune -32702-05-17 11:45 J -10222846.03 -10222846.01 -10222845.95 0.0089 0.0085

Jupiter -32702-10-06 02:52 J -10222704.54 -10222704.38 -10222704.21 0.0511 0.0036

Saturn -32699-04-07 10:04 J -10221790.13 -10221790.08 -10221790.02 0.0272 0.0249

Saturn -32699-07-04 22:47 J -10221701.67 -10221701.55 -10221701.43 0.0272 0.0145

Saturn -32699-10-01 11:45 J -10221613.16 -10221613.01 -10221612.87 0.0272 0.0039

Saturn -32699-12-29 00:43 J -10221524.61 -10221524.47 -10221524.32 0.0272 0.0071

Saturn -32698-03-27 14:09 J -10221436.02 -10221435.91 -10221435.80 0.0272 0.0182

Moon -32698-11-13 03:35 J -10221205.46 -10221205.35 -10221205.24 0.2658 0.1618

Earth -32698-11-13 04:47 J -10221205.41 -10221205.30 -10221205.19 0.2657 0.1469 *

Mars -32697-06-04 15:07 J -10221000.97 -10221000.87 -10221000.77 0.1807 0.1017

Jupiter -32696-02-24 11:16 J -10220736.14 -10220736.03 -10220735.91 0.0518 0.0273

Mars -32696-04-18 23:45 J -10220682.66 -10220682.51 -10220682.36 0.1706 0.0042

Jupiter -32696-05-24 21:21 J -10220646.72 -10220646.61 -10220646.50 0.0515 0.0318

Moon -32695-05-14 12:43 J -10220292.09 -10220291.97 -10220291.85 0.2678 0.0014

Earth -32695-05-14 13:26 J -10220292.07 -10220291.94 -10220291.82 0.2673 0.0117 *

Jupiter -32690-07-25 01:26 J -10218394.60 -10218394.44 -10218394.28 0.0510 0.0151

Moon -32688-05-07 03:50 J -10217742.37 -10217742.34 -10217742.31 0.2672 0.2584

Earth -32688-05-07 04:04 J -10217742.35 -10217742.33 -10217742.30 0.2678 0.2624 *

Mars -32688-10-25 23:16 J -10217570.57 -10217570.53 -10217570.49 0.1801 0.1679

Mars -32687-09-09 02:38 J -10217252.52 -10217252.39 -10217252.25 0.1711 0.0765

Mars -32686-10-01 16:04 J -10216864.92 -10216864.83 -10216864.73 0.1824 0.1183

Moon -32685-11-15 03:50 J -10216454.47 -10216454.34 -10216454.21 0.2665 0.0268

Earth -32685-11-15 04:19 J -10216454.45 -10216454.32 -10216454.19 0.2658 0.0310 *

Jupiter -32685-12-13 14:38 J -10216425.97 -10216425.89 -10216425.81 0.0520 0.0419

Saturn -32684-02-08 22:19 J -10216368.70 -10216368.57 -10216368.42 0.0288 0.0157

Jupiter -32684-03-13 00:14 J -10216336.62 -10216336.49 -10216336.35 0.0516 0.0172

Saturn -32684-05-08 17:16 J -10216279.94 -10216279.78 -10216279.62 0.0288 0.0010

Saturn -32684-08-05 11:31 J -10216191.16 -10216191.02 -10216190.87 0.0288 0.0133

Saturn -32684-11-02 05:16 J -10216102.32 -10216102.28 -10216102.22 0.0287 0.0272

Earth -32682-05-17 10:33 J -10215541.17 -10215541.06 -10215540.94 0.2671 0.1133

Moon -32682-05-17 10:47 J -10215541.16 -10215541.05 -10215540.94 0.2678 0.1215 *

Jupiter -32678-05-13 00:28 J -10214084.61 -10214084.48 -10214084.35 0.0509 0.0329

Jupiter -32678-08-11 00:43 J -10213994.57 -10213994.47 -10213994.35 0.0513 0.0370

Mars -32677-01-30 05:02 J -10213822.34 -10213822.29 -10213822.24 0.1717 0.1605

Mars -32676-02-20 23:31 J -10213434.64 -10213434.52 -10213434.40 0.1819 0.0444

Mars -32675-01-05 17:31 J -10213115.79 -10213115.77 -10213115.74 0.1695 0.1656

Moon -32675-05-09 23:59 J -10212991.59 -10212991.50 -10212991.41 0.2672 0.1752

Earth -32675-05-10 00:43 J -10212991.56 -10212991.47 -10212991.37 0.2676 0.1679 *

Jupiter -32673-12-30 03:50 J -10212026.48 -10212026.34 -10212026.21 0.0517 0.0032

Earth -32672-11-18 03:35 J -10211703.48 -10211703.35 -10211703.23 0.2660 0.0823

Moon -32672-11-18 03:50 J -10211703.47 -10211703.34 -10211703.22 0.2667 0.0772 *

Saturn -32670-11-22 01:11 J -10210969.56 -10210969.45 -10210969.34 0.0271 0.0171

Saturn -32669-02-18 13:55 J -10210881.06 -10210880.92 -10210880.77 0.0271 0.0065

Saturn -32669-05-17 03:07 J -10210792.52 -10210792.37 -10210792.23 0.0272 0.0044

Earth -32669-05-19 08:09 J -10210790.23 -10210790.16 -10210790.09 0.2670 0.2185

Moon -32669-05-19 08:52 J -10210790.20 -10210790.13 -10210790.06 0.2675 0.2182 *

Uranus -32669-08-11 12:14 J -10210706.03 -10210705.99 -10210705.92 0.0145 0.0135

Saturn -32669-08-13 16:04 J -10210703.94 -10210703.83 -10210703.70 0.0272 0.0154

Uranus -32669-11-07 17:02 J -10210617.88 -10210617.79 -10210617.69 0.0145 0.0110

Saturn -32669-11-10 05:45 J -10210615.28 -10210615.26 -10210615.23 0.0272 0.0266

Uranus -32668-02-03 21:35 J -10210529.71 -10210529.60 -10210529.47 0.0145 0.0086

Uranus -32668-05-03 02:23 J -10210441.53 -10210441.40 -10210441.26 0.0145 0.0061

Uranus -32668-07-30 07:11 J -10210353.34 -10210353.20 -10210353.06 0.0145 0.0036

Uranus -32668-10-26 11:59 J -10210265.15 -10210265.00 -10210264.85 0.0145 0.0011

Venus -32667-01-21 07:11 J -10210178.28 -10210178.20 -10210178.12 0.3781 0.2537

Uranus -32667-01-22 16:47 J -10210176.95 -10210176.80 -10210176.65 0.0145 0.0015

Uranus -32667-04-20 21:35 J -10210088.74 -10210088.60 -10210088.46 0.0145 0.0041

Mars -32667-07-14 07:26 J -10210004.32 -10210004.19 -10210004.07 0.1813 0.0260

Uranus -32667-07-18 02:23 J -10210000.53 -10210000.40 -10210000.26 0.0146 0.0067

Uranus -32667-10-14 07:26 J -10209912.31 -10209912.19 -10209912.08 0.0146 0.0093

Uranus -32666-01-10 12:14 J -10209824.07 -10209823.99 -10209823.90 0.0146 0.0119

Jupiter -32666-02-28 23:31 J -10209774.52 -10209774.52 -10209774.52 0.0508 0.0508

Mars -32666-05-28 21:07 J -10209685.75 -10209685.62 -10209685.49 0.1700 0.0908

Jupiter -32666-05-30 00:28 J -10209684.63 -10209684.48 -10209684.33 0.0512 0.0196

Moon -32665-11-10 09:07 J -10209154.16 -10209154.12 -10209154.08 0.2654 0.2521

Earth -32665-11-10 10:33 J -10209154.11 -10209154.06 -10209154.02 0.2655 0.2454 *

Venus -32663-01-22 07:55 J -10208716.24 -10208716.17 -10208716.11 0.3595 0.3100

Moon -32662-05-12 20:38 J -10208240.76 -10208240.64 -10208240.52 0.2677 0.0787

Earth -32662-05-12 21:35 J -10208240.72 -10208240.60 -10208240.48 0.2675 0.0706 *

Venus -32662-08-07 01:55 J -10208154.53 -10208154.42 -10208154.31 0.3779 0.0461

Jupiter -32661-10-18 07:11 J -10207716.34 -10207716.20 -10207716.07 0.0518 0.0116

Jupiter -32660-01-15 17:16 J -10207626.83 -10207626.78 -10207626.73 0.0514 0.0478

Earth -32659-11-21 02:23 J -10206952.49 -10206952.40 -10206952.31 0.2662 0.1912

Moon -32659-11-21 03:21 J -10206952.44 -10206952.36 -10206952.28 0.2666 0.2045 *

Venus -32658-08-08 06:28 J -10206692.36 -10206692.23 -10206692.10 0.3597 0.0630

Mars -32658-12-04 15:07 J -10206573.97 -10206573.87 -10206573.76 0.1807 0.0943

Mars -32657-10-18 00:14 J -10206255.64 -10206255.49 -10206255.34 0.1706 0.0134

Venus -32656-02-19 20:52 J -10206130.67 -10206130.63 -10206130.60 0.3777 0.3537

Saturn -32655-06-28 21:07 J -10205636.73 -10205636.62 -10205636.50 0.0287 0.0208

Saturn -32655-09-25 16:04 J -10205547.99 -10205547.83 -10205547.67 0.0287 0.0060

Saturn -32655-12-23 10:33 J -10205459.21 -10205459.06 -10205458.90 0.0287 0.0085

Jupiter -32654-03-18 00:28 J -10205374.65 -10205374.48 -10205374.32 0.0511 0.0030

Saturn -32654-03-22 04:33 J -10205370.40 -10205370.31 -10205370.21 0.0287 0.0225

Moon -32652-11-13 09:21 J -10204403.23 -10204403.11 -10204402.99 0.2660 0.1301

Earth -32652-11-13 10:19 J -10204403.19 -10204403.07 -10204402.95 0.2657 0.1259 *

Moon -32649-05-14 17:59 J -10203489.87 -10203489.75 -10203489.62 0.2678 0.0312

Earth -32649-05-14 18:43 J -10203489.85 -10203489.72 -10203489.60 0.2673 0.0298 *

Jupiter -32649-08-06 09:50 J -10203406.20 -10203406.09 -10203405.97 0.0518 0.0269

Jupiter -32649-11-03 19:40 J -10203316.78 -10203316.68 -10203316.57 0.0515 0.0322

Mars -32648-04-25 23:31 J -10203143.58 -10203143.52 -10203143.47 0.1801 0.1599

Mars -32647-03-10 03:07 J -10202825.51 -10202825.37 -10202825.23 0.1711 0.0671

Mars -32646-04-01 16:19 J -10202437.91 -10202437.82 -10202437.73 0.1824 0.1264

Jupiter -32642-01-03 23:59 J -10201064.66 -10201064.50 -10201064.34 0.0510 0.0143

Moon -32642-05-08 08:52 J -10200940.16 -10200940.13 -10200940.09 0.2672 0.2545

Earth -32642-05-08 09:21 J -10200940.15 -10200940.11 -10200940.06 0.2678 0.2450 *

Saturn -32640-04-10 03:21 J -10200237.45 -10200237.36 -10200237.26 0.0272 0.0199

Saturn -32640-07-07 16:04 J -10200148.96 -10200148.83 -10200148.69 0.0272 0.0094

Saturn -32640-10-04 05:02 J -10200060.43 -10200060.29 -10200060.14 0.0272 0.0016

Saturn -32640-12-31 18:14 J -10199971.87 -10199971.74 -10199971.60 0.0272 0.0125

Saturn -32639-03-30 07:55 J -10199883.24 -10199883.17 -10199883.10 0.0272 0.0237

Moon -32639-11-16 09:35 J -10199652.24 -10199652.10 -10199651.97 0.2665 0.0220

Earth -32639-11-16 09:50 J -10199652.22 -10199652.09 -10199651.95 0.2659 0.0112 *

Mars -32638-07-31 05:31 J -10199395.35 -10199395.27 -10199395.20 0.1717 0.1512

Jupiter -32637-05-25 12:57 J -10199096.04 -10199095.96 -10199095.88 0.0519 0.0418

Mars -32637-08-21 23:45 J -10199007.63 -10199007.51 -10199007.40 0.1819 0.0532

Jupiter -32637-08-22 22:33 J -10199006.69 -10199006.56 -10199006.43 0.0516 0.0170

Pluto -32637-11-26 23:31 J -10198910.57 -10198910.52 -10198910.45 0.0068 0.0064

Pluto -32636-02-23 00:43 J -10198822.54 -10198822.47 -10198822.37 0.0068 0.0058

Earth -32636-05-17 16:04 J -10198738.94 -10198738.83 -10198738.72 0.2671 0.1328

Moon -32636-05-17 16:19 J -10198738.93 -10198738.82 -10198738.71 0.2678 0.1277 *

Pluto -32636-05-22 01:55 J -10198734.51 -10198734.42 -10198734.29 0.0069 0.0052

Pluto -32636-08-18 03:21 J -10198646.47 -10198646.36 -10198646.22 0.0069 0.0046

Pluto -32636-11-14 04:33 J -10198558.42 -10198558.31 -10198558.15 0.0069 0.0040

Pluto -32635-02-10 06:14 J -10198470.38 -10198470.24 -10198470.09 0.0069 0.0033

Pluto -32635-05-09 07:40 J -10198382.33 -10198382.18 -10198382.02 0.0069 0.0027

Pluto -32635-08-05 08:52 J -10198294.28 -10198294.13 -10198293.96 0.0069 0.0021

Pluto -32635-11-01 10:33 J -10198206.22 -10198206.06 -10198205.90 0.0069 0.0014

Pluto -32634-01-28 11:59 J -10198118.17 -10198118.00 -10198117.83 0.0069 0.0008

Pluto -32634-04-26 13:26 J -10198030.11 -10198029.94 -10198029.77 0.0069 0.0001

Pluto -32634-07-23 14:52 J -10197942.05 -10197941.88 -10197941.71 0.0069 0.0005

Pluto -32634-10-19 16:19 J -10197853.99 -10197853.82 -10197853.65 0.0070 0.0012

Pluto -32633-01-15 17:31 J -10197765.92 -10197765.77 -10197765.60 0.0070 0.0019

Pluto -32633-04-12 19:11 J -10197677.85 -10197677.70 -10197677.54 0.0070 0.0025

Pluto -32633-07-09 20:23 J -10197589.78 -10197589.65 -10197589.48 0.0070 0.0032

Pluto -32633-10-05 21:50 J -10197501.71 -10197501.59 -10197501.43 0.0070 0.0039

Pluto -32632-01-01 23:45 J -10197413.64 -10197413.51 -10197413.38 0.0070 0.0046

Pluto -32632-03-31 01:11 J -10197325.56 -10197325.45 -10197325.33 0.0070 0.0053

Pluto -32632-06-27 02:38 J -10197237.47 -10197237.39 -10197237.29 0.0070 0.0060

Pluto -32632-09-23 04:04 J -10197149.37 -10197149.33 -10197149.26 0.0071 0.0067

Jupiter -32631-10-22 22:19 J -10196754.69 -10196754.57 -10196754.44 0.0509 0.0328

Jupiter -32630-01-20 22:47 J -10196664.66 -10196664.55 -10196664.43 0.0513 0.0371

Moon -32629-05-10 05:16 J -10196189.38 -10196189.28 -10196189.18 0.2674 0.1524

Earth -32629-05-10 05:59 J -10196189.35 -10196189.25 -10196189.15 0.2676 0.1500 *

Uranus -32629-12-25 01:55 J -10195960.45 -10195960.42 -10195960.35 0.0134 0.0127

Uranus -32628-03-23 07:26 J -10195872.29 -10195872.19 -10195872.07 0.0134 0.0104

Uranus -32628-06-19 12:43 J -10195784.09 -10195783.97 -10195783.83 0.0133 0.0081

Uranus -32628-09-15 18:14 J -10195695.89 -10195695.74 -10195695.59 0.0133 0.0058

Uranus -32628-12-12 23:16 J -10195607.68 -10195607.53 -10195607.36 0.0133 0.0036

Mars -32627-01-12 07:11 J -10195577.32 -10195577.20 -10195577.08 0.1812 0.0187

Uranus -32627-03-11 04:33 J -10195519.47 -10195519.31 -10195519.14 0.0133 0.0013

Uranus -32627-06-07 09:35 J -10195431.26 -10195431.10 -10195430.93 0.0133 0.0010

Uranus -32627-09-03 14:38 J -10195343.05 -10195342.89 -10195342.72 0.0133 0.0031

Mars -32627-11-26 21:35 J -10195258.72 -10195258.60 -10195258.48 0.1701 0.1003

Uranus -32627-11-30 19:40 J -10195254.83 -10195254.68 -10195254.52 0.0133 0.0053

Uranus -32626-02-27 00:43 J -10195166.60 -10195166.47 -10195166.33 0.0133 0.0074

Uranus -32626-05-26 05:31 J -10195078.38 -10195078.27 -10195078.15 0.0133 0.0095

Uranus -32626-08-22 10:33 J -10194990.14 -10194990.06 -10194989.98 0.0133 0.0116

Saturn -32626-11-15 23:45 J -10194904.60 -10194904.51 -10194904.41 0.0288 0.0232

Earth -32626-11-19 09:07 J -10194901.24 -10194901.12 -10194901.00 0.2660 0.1025

Moon -32626-11-19 09:35 J -10194901.22 -10194901.10 -10194900.98 0.2666 0.1138 *

Saturn -32625-02-12 18:57 J -10194815.87 -10194815.71 -10194815.56 0.0288 0.0083

Saturn -32625-05-11 13:26 J -10194727.10 -10194726.94 -10194726.78 0.0288 0.0062

Jupiter -32625-06-11 01:40 J -10194696.57 -10194696.43 -10194696.30 0.0517 0.0024

Saturn -32625-08-08 07:26 J -10194638.30 -10194638.19 -10194638.07 0.0288 0.0204

Neptune -32625-10-28 17:45 J -10194556.78 -10194556.76 -10194556.72 0.0088 0.0087

Neptune -32624-01-24 20:23 J -10194468.71 -10194468.65 -10194468.55 0.0088 0.0078

Neptune -32624-04-22 23:31 J -10194380.62 -10194380.52 -10194380.40 0.0088 0.0070

Neptune -32624-07-20 02:09 J -10194292.52 -10194292.41 -10194292.26 0.0088 0.0062

Neptune -32624-10-16 05:16 J -10194204.41 -10194204.28 -10194204.13 0.0088 0.0053

Neptune -32623-01-12 08:09 J -10194116.30 -10194116.16 -10194116.00 0.0088 0.0044

Neptune -32623-04-10 11:02 J -10194028.19 -10194028.04 -10194027.87 0.0088 0.0036

Earth -32623-05-20 13:40 J -10193987.99 -10193987.93 -10193987.88 0.2669 0.2380

Moon -32623-05-20 14:23 J -10193987.94 -10193987.90 -10193987.86 0.2673 0.2516 *

Neptune -32623-07-07 13:55 J -10193940.08 -10193939.92 -10193939.74 0.0088 0.0027

Neptune -32623-10-03 16:47 J -10193851.97 -10193851.80 -10193851.62 0.0088 0.0019

Neptune -32623-12-30 19:40 J -10193763.85 -10193763.68 -10193763.50 0.0088 0.0010

Neptune -32622-03-28 22:33 J -10193675.74 -10193675.56 -10193675.38 0.0088 0.0002

Neptune -32622-06-25 01:11 J -10193587.62 -10193587.45 -10193587.27 0.0088 0.0007

Neptune -32622-09-21 04:04 J -10193499.50 -10193499.33 -10193499.15 0.0088 0.0015

Neptune -32622-12-18 06:43 J -10193411.38 -10193411.22 -10193411.04 0.0088 0.0024

Neptune -32621-03-15 09:35 J -10193323.26 -10193323.10 -10193322.93 0.0088 0.0032

Neptune -32621-06-11 12:14 J -10193235.14 -10193234.99 -10193234.83 0.0088 0.0040

Neptune -32621-09-07 14:52 J -10193147.01 -10193146.88 -10193146.72 0.0088 0.0048

Neptune -32621-12-04 17:45 J -10193058.89 -10193058.76 -10193058.62 0.0088 0.0056

Neptune -32620-03-02 20:23 J -10192970.76 -10192970.65 -10192970.52 0.0088 0.0064

Neptune -32620-05-29 23:02 J -10192882.63 -10192882.54 -10192882.43 0.0088 0.0073

Neptune -32620-08-26 01:55 J -10192794.48 -10192794.42 -10192794.35 0.0088 0.0081

Jupiter -32619-08-10 21:21 J -10192444.62 -10192444.61 -10192444.60 0.0508 0.0506

Jupiter -32619-11-08 22:19 J -10192354.72 -10192354.57 -10192354.42 0.0512 0.0196

Moon -32619-11-11 14:52 J -10192351.94 -10192351.88 -10192351.82 0.2654 0.2363

Earth -32619-11-11 16:04 J -10192351.90 -10192351.83 -10192351.76 0.2656 0.2236 *

Mars -32618-06-04 15:21 J -10192146.97 -10192146.86 -10192146.76 0.1807 0.0866

Mars -32617-04-18 00:43 J -10191828.62 -10191828.47 -10191828.31 0.1706 0.0241

Moon -32616-05-13 01:55 J -10191438.54 -10191438.42 -10191438.30 0.2677 0.0601

Earth -32616-05-13 02:52 J -10191438.50 -10191438.38 -10191438.26 0.2674 0.0523 *

Jupiter -32613-03-30 05:02 J -10190386.42 -10190386.29 -10190386.16 0.0518 0.0121

Jupiter -32613-06-27 15:07 J -10190296.92 -10190296.87 -10190296.81 0.0514 0.0473

Earth -32613-11-21 07:55 J -10190150.25 -10190150.17 -10190150.09 0.2662 0.2112

Moon -32613-11-21 08:52 J -10190150.21 -10190150.13 -10190150.05 0.2666 0.2116 *

Venus -32611-08-28 05:31 J -10189505.38 -10189505.27 -10189505.17 0.3780 0.1461

Saturn -32611-08-28 05:59 J -10189505.33 -10189505.25 -10189505.17 0.0271 0.0223 *

Saturn -32611-11-24 18:43 J -10189416.85 -10189416.72 -10189416.59 0.0271 0.0119

Saturn -32610-02-21 07:26 J -10189328.33 -10189328.19 -10189328.04 0.0271 0.0015

Saturn -32610-05-20 20:38 J -10189239.78 -10189239.64 -10189239.50 0.0272 0.0097

Saturn -32610-08-17 09:50 J -10189151.17 -10189151.09 -10189150.99 0.0272 0.0209

Mars -32609-10-24 23:31 J -10188716.58 -10188716.52 -10188716.46 0.1801 0.1521

Mars -32608-09-08 03:35 J -10188398.50 -10188398.35 -10188398.21 0.1711 0.0573

Jupiter -32607-08-27 21:35 J -10188044.76 -10188044.60 -10188044.43 0.0511 0.0021

Venus -32607-08-29 07:11 J -10188043.32 -10188043.20 -10188043.09 0.3596 0.1720

Mars -32607-09-30 16:19 J -10188010.90 -10188010.82 -10188010.73 0.1825 0.1348

Moon -32606-11-14 15:07 J -10187600.99 -10187600.87 -10187600.75 0.2662 0.1116

Earth -32606-11-14 15:50 J -10187600.96 -10187600.84 -10187600.71 0.2657 0.1049 *

Venus -32605-03-13 00:14 J -10187481.60 -10187481.49 -10187481.39 0.3778 0.1563

Moon -32603-05-15 23:31 J -10186687.64 -10186687.52 -10186687.39 0.2679 0.0426

Earth -32603-05-15 23:59 J -10186687.62 -10186687.50 -10186687.38 0.2673 0.0484 *

Jupiter -32601-01-17 08:23 J -10186076.26 -10186076.15 -10186076.03 0.0519 0.0263

Venus -32601-03-14 05:45 J -10186019.37 -10186019.26 -10186019.15 0.3598 0.1972

Jupiter -32601-04-15 18:28 J -10185986.84 -10185986.73 -10185986.63 0.0515 0.0329

Mars -32598-01-29 05:59 J -10184968.34 -10184968.25 -10184968.16 0.1717 0.1405

Mars -32597-02-20 23:45 J -10184580.63 -10184580.51 -10184580.39 0.1818 0.0609

Saturn -32596-04-03 22:19 J -10184172.59 -10184172.57 -10184172.53 0.0288 0.0283

Moon -32596-05-08 14:09 J -10184137.98 -10184137.91 -10184137.85 0.2672 0.2232

Earth -32596-05-08 14:38 J -10184137.95 -10184137.89 -10184137.83 0.2678 0.2275 *

Saturn -32596-07-01 17:45 J -10184083.91 -10184083.76 -10184083.61 0.0287 0.0132

Saturn -32596-09-28 12:28 J -10183995.14 -10183994.98 -10183994.82 0.0287 0.0014

Saturn -32596-12-26 06:43 J -10183906.35 -10183906.22 -10183906.08 0.0287 0.0157

Jupiter -32595-06-15 21:21 J -10183734.76 -10183734.61 -10183734.44 0.0510 0.0149

Moon -32593-11-16 15:07 J -10182850.00 -10182849.87 -10182849.74 0.2665 0.0138

Earth -32593-11-16 15:21 J -10182849.99 -10182849.86 -10182849.72 0.2659 0.0138 *

Earth -32590-05-18 21:21 J -10181936.71 -10181936.61 -10181936.51 0.2671 0.1515

Moon -32590-05-18 21:35 J -10181936.70 -10181936.60 -10181936.50 0.2678 0.1609 *

Jupiter -32590-11-05 11:31 J -10181766.10 -10181766.02 -10181765.94 0.0519 0.0413

Jupiter -32589-02-02 21:07 J -10181676.75 -10181676.62 -10181676.49 0.0516 0.0175

Mars -32588-07-13 07:26 J -10181150.32 -10181150.19 -10181150.07 0.1813 0.0119

Mars -32587-05-27 21:50 J -10180831.70 -10180831.59 -10180831.47 0.1700 0.1095

Uranus -32585-08-31 19:11 J -10180004.75 -10180004.70 -10180004.63 0.0145 0.0130

Uranus -32585-11-27 23:59 J -10179916.60 -10179916.50 -10179916.40 0.0145 0.0105

Uranus -32584-02-24 04:33 J -10179828.42 -10179828.31 -10179828.18 0.0145 0.0081

Uranus -32584-05-23 09:21 J -10179740.24 -10179740.11 -10179739.97 0.0145 0.0056

Uranus -32584-08-19 13:55 J -10179652.06 -10179651.92 -10179651.77 0.0145 0.0032

Uranus -32584-11-15 18:43 J -10179563.86 -10179563.72 -10179563.57 0.0145 0.0007

Uranus -32583-02-11 23:31 J -10179475.66 -10179475.52 -10179475.37 0.0145 0.0020

Jupiter -32583-04-03 20:52 J -10179424.76 -10179424.63 -10179424.50 0.0509 0.0320

Uranus -32583-05-11 04:19 J -10179387.46 -10179387.32 -10179387.17 0.0145 0.0046

Moon -32583-05-11 10:19 J -10179387.17 -10179387.07 -10179386.96 0.2675 0.1450 *

Earth -32583-05-11 11:16 J -10179387.14 -10179387.03 -10179386.92 0.2676 0.1320 *

Jupiter -32583-07-02 21:21 J -10179334.71 -10179334.61 -10179334.50 0.0513 0.0381

Uranus -32583-08-07 09:21 J -10179299.24 -10179299.11 -10179298.98 0.0146 0.0072

Uranus -32583-11-03 14:09 J -10179211.02 -10179210.91 -10179210.80 0.0146 0.0098

Uranus -32582-01-30 18:57 J -10179122.77 -10179122.71 -10179122.62 0.0146 0.0125

Saturn -32581-01-15 07:55 J -10178773.22 -10178773.17 -10178773.12 0.0272 0.0255

Saturn -32581-04-12 20:23 J -10178684.77 -10178684.65 -10178684.53 0.0272 0.0151

Saturn -32581-07-10 09:21 J -10178596.26 -10178596.11 -10178595.97 0.0272 0.0045

Saturn -32581-10-06 22:19 J -10178507.71 -10178507.57 -10178507.43 0.0272 0.0065

Saturn -32580-01-03 11:31 J -10178419.13 -10178419.02 -10178418.90 0.0272 0.0176

Earth -32580-11-19 14:38 J -10178099.01 -10178098.89 -10178098.77 0.2661 0.1229

Moon -32580-11-19 15:21 J -10178098.98 -10178098.86 -10178098.75 0.2667 0.1207 *

Mars -32579-12-03 15:21 J -10177719.97 -10177719.86 -10177719.75 0.1806 0.0789

Mars -32578-10-18 01:11 J -10177401.60 -10177401.45 -10177401.30 0.1706 0.0323

Jupiter -32578-11-21 23:59 J -10177366.64 -10177366.50 -10177366.36 0.0517 0.0025

Earth -32577-05-20 18:57 J -10177185.74 -10177185.71 -10177185.68 0.2669 0.2579

Moon -32577-05-20 19:55 J -10177185.70 -10177185.67 -10177185.64 0.2672 0.2579 *

Moon -32573-11-11 20:38 J -10175549.73 -10175549.64 -10175549.56 0.2655 0.2057

Earth -32573-11-11 21:50 J -10175549.68 -10175549.59 -10175549.51 0.2656 0.2023 *

Jupiter -32571-01-20 19:26 J -10175114.71 -10175114.69 -10175114.67 0.0508 0.0504

Jupiter -32571-04-20 20:23 J -10175024.80 -10175024.65 -10175024.50 0.0512 0.0199

Moon -32570-05-14 07:11 J -10174636.32 -10174636.20 -10174636.08 0.2677 0.0393

Earth -32570-05-14 08:09 J -10174636.28 -10174636.16 -10174636.04 0.2674 0.0341 *

Mars -32569-04-24 23:31 J -10174289.59 -10174289.52 -10174289.45 0.1801 0.1454

Mars -32568-03-09 04:19 J -10173971.47 -10173971.32 -10173971.17 0.1711 0.0465

Mars -32567-03-31 16:19 J -10173583.89 -10173583.82 -10173583.74 0.1824 0.1426

Saturn -32567-11-18 19:55 J -10173351.80 -10173351.67 -10173351.53 0.0288 0.0160

Earth -32567-11-22 13:26 J -10173348.00 -10173347.94 -10173347.88 0.2663 0.2310

Moon -32567-11-22 14:23 J -10173347.95 -10173347.90 -10173347.85 0.2665 0.2460 *

Saturn -32566-02-15 14:52 J -10173263.04 -10173262.88 -10173262.72 0.0288 0.0012

Saturn -32566-05-15 09:07 J -10173174.26 -10173174.12 -10173173.97 0.0288 0.0132

Saturn -32566-08-12 03:07 J -10173085.42 -10173085.37 -10173085.32 0.0288 0.0271

Jupiter -32566-09-10 02:52 J -10173056.51 -10173056.38 -10173056.24 0.0518 0.0127

Jupiter -32566-12-08 13:11 J -10172967.01 -10172966.95 -10172966.90 0.0514 0.0469

Venus -32560-09-18 09:07 J -10170856.17 -10170856.12 -10170856.07 0.3781 0.3316

Moon -32560-11-14 20:38 J -10170798.76 -10170798.64 -10170798.51 0.2663 0.0925

Earth -32560-11-14 21:35 J -10170798.73 -10170798.60 -10170798.47 0.2657 0.0835 *

Jupiter -32559-02-06 19:40 J -10170714.84 -10170714.68 -10170714.51 0.0511 0.0025

Mars -32559-07-30 06:28 J -10170541.33 -10170541.23 -10170541.13 0.1717 0.1308

Mars -32558-08-21 23:45 J -10170153.63 -10170153.51 -10170153.40 0.1819 0.0684

Moon -32557-05-16 05:02 J -10169885.41 -10169885.29 -10169885.17 0.2679 0.0668

Earth -32557-05-16 05:16 J -10169885.40 -10169885.28 -10169885.16 0.2672 0.0673 *

Venus -32554-04-04 03:35 J -10168832.46 -10168832.35 -10168832.24 0.3779 0.0361

Jupiter -32554-06-29 06:28 J -10168746.35 -10168746.23 -10168746.11 0.0519 0.0268

Jupiter -32554-09-26 16:19 J -10168656.92 -10168656.82 -10168656.71 0.0515 0.0324

Saturn -32552-08-30 23:02 J -10167952.64 -10167952.54 -10167952.42 0.0271 0.0175

Saturn -32552-11-27 11:45 J -10167864.14 -10167864.01 -10167863.86 0.0271 0.0070

Saturn -32551-02-24 00:57 J -10167775.61 -10167775.46 -10167775.32 0.0271 0.0040

Pluto -32551-04-26 01:55 J -10167714.42 -10167714.42 -10167714.41 0.0076 0.0076

Saturn -32551-05-23 14:09 J -10167687.04 -10167686.91 -10167686.79 0.0272 0.0150

Pluto -32551-07-23 03:21 J -10167626.42 -10167626.36 -10167626.29 0.0076 0.0068

Saturn -32551-08-20 03:35 J -10167598.39 -10167598.35 -10167598.31 0.0272 0.0262

Pluto -32551-10-19 04:47 J -10167538.39 -10167538.30 -10167538.21 0.0076 0.0060

Pluto -32550-01-15 05:59 J -10167450.35 -10167450.25 -10167450.13 0.0075 0.0052

Venus -32550-04-05 06:28 J -10167370.36 -10167370.23 -10167370.10 0.3596 0.0351

Pluto -32550-04-13 07:26 J -10167362.31 -10167362.19 -10167362.07 0.0075 0.0045

Moon -32550-05-09 19:11 J -10167335.76 -10167335.70 -10167335.63 0.2672 0.2209

Earth -32550-05-09 19:40 J -10167335.75 -10167335.68 -10167335.60 0.2677 0.2105 *

Pluto -32550-07-10 08:38 J -10167274.26 -10167274.14 -10167274.00 0.0075 0.0037

Pluto -32550-10-06 10:19 J -10167186.21 -10167186.07 -10167185.94 0.0075 0.0029

Pluto -32549-01-02 11:31 J -10167098.16 -10167098.02 -10167097.88 0.0075 0.0022

Pluto -32549-03-30 12:43 J -10167010.11 -10167009.97 -10167009.82 0.0075 0.0015

Pluto -32549-06-26 14:09 J -10166922.06 -10166921.91 -10166921.76 0.0075 0.0007

Pluto -32549-09-22 15:21 J -10166834.01 -10166833.86 -10166833.71 0.0074 0.0001

Venus -32549-10-17 22:19 J -10166808.64 -10166808.57 -10166808.49 0.3778 0.2687

Pluto -32549-12-19 16:33 J -10166745.95 -10166745.81 -10166745.66 0.0074 0.0008

Mars -32548-01-11 07:26 J -10166723.31 -10166723.19 -10166723.07 0.1813 0.0026

Pluto -32548-03-17 17:45 J -10166657.90 -10166657.76 -10166657.61 0.0074 0.0015

Pluto -32548-06-13 19:11 J -10166569.84 -10166569.70 -10166569.56 0.0074 0.0021

Pluto -32548-09-09 20:23 J -10166481.79 -10166481.65 -10166481.51 0.0074 0.0028

Jupiter -32548-11-25 18:57 J -10166404.87 -10166404.71 -10166404.55 0.0510 0.0154

Mars -32548-11-25 22:19 J -10166404.67 -10166404.57 -10166404.46 0.1700 0.1188 *

Pluto -32548-12-06 21:35 J -10166393.73 -10166393.60 -10166393.47 0.0074 0.0035

Pluto -32547-03-04 22:47 J -10166305.67 -10166305.55 -10166305.43 0.0074 0.0042

Pluto -32547-05-31 23:59 J -10166217.61 -10166217.50 -10166217.39 0.0074 0.0049

Pluto -32547-08-28 00:57 J -10166129.54 -10166129.46 -10166129.35 0.0073 0.0056

Moon -32547-11-17 20:52 J -10166047.76 -10166047.63 -10166047.50 0.2666 0.0283

Earth -32547-11-17 21:07 J -10166047.76 -10166047.62 -10166047.49 0.2659 0.0324 *

Pluto -32547-11-24 02:09 J -10166041.48 -10166041.41 -10166041.32 0.0073 0.0062

Pluto -32546-02-20 03:07 J -10165953.40 -10165953.37 -10165953.30 0.0073 0.0069

Venus -32545-10-19 05:02 J -10165346.33 -10165346.29 -10165346.24 0.3598 0.3307

Uranus -32544-01-14 09:35 J -10165259.17 -10165259.10 -10165259.01 0.0134 0.0119

Uranus -32544-04-12 14:52 J -10165170.98 -10165170.88 -10165170.75 0.0134 0.0096

Earth -32544-05-19 02:38 J -10165134.48 -10165134.39 -10165134.29 0.2671 0.1712

Moon -32544-05-19 03:07 J -10165134.47 -10165134.37 -10165134.28 0.2677 0.1696 *

Uranus -32544-07-09 20:23 J -10165082.79 -10165082.65 -10165082.51 0.0133 0.0073

Uranus -32544-10-06 01:26 J -10164994.58 -10164994.44 -10164994.27 0.0133 0.0051

Uranus -32543-01-02 06:57 J -10164906.38 -10164906.21 -10164906.05 0.0133 0.0028

Neptune -32543-01-31 17:45 J -10164876.77 -10164876.76 -10164876.72 0.0089 0.0087

Uranus -32543-03-31 11:59 J -10164818.16 -10164818.00 -10164817.83 0.0133 0.0006

Neptune -32543-04-29 19:26 J -10164788.74 -10164788.69 -10164788.62 0.0089 0.0080

Uranus -32543-06-27 17:02 J -10164729.95 -10164729.79 -10164729.62 0.0133 0.0017

Neptune -32543-07-26 21:07 J -10164700.69 -10164700.62 -10164700.54 0.0089 0.0073

Uranus -32543-09-23 22:19 J -10164641.73 -10164641.57 -10164641.42 0.0133 0.0039

Neptune -32543-10-22 22:47 J -10164612.64 -10164612.55 -10164612.46 0.0089 0.0067

Uranus -32543-12-21 03:07 J -10164553.51 -10164553.37 -10164553.22 0.0133 0.0060

Neptune -32542-01-19 00:14 J -10164524.59 -10164524.49 -10164524.38 0.0089 0.0060

Uranus -32542-03-19 08:09 J -10164465.29 -10164465.16 -10164465.03 0.0133 0.0081

Neptune -32542-04-17 01:55 J -10164436.53 -10164436.42 -10164436.30 0.0089 0.0053

Jupiter -32542-04-17 10:04 J -10164436.16 -10164436.08 -10164436.00 0.0520 0.0408

Uranus -32542-06-15 12:43 J -10164377.06 -10164376.97 -10164376.85 0.0133 0.0103

Neptune -32542-07-14 03:35 J -10164348.47 -10164348.35 -10164348.23 0.0089 0.0046

Jupiter -32542-07-15 19:40 J -10164346.81 -10164346.68 -10164346.55 0.0516 0.0181

Uranus -32542-09-11 17:45 J -10164288.81 -10164288.76 -10164288.69 0.0133 0.0124

Neptune -32542-10-10 05:02 J -10164260.41 -10164260.29 -10164260.15 0.0089 0.0040

Neptune -32541-01-06 06:43 J -10164172.34 -10164172.22 -10164172.08 0.0089 0.0033

Neptune -32541-04-03 08:23 J -10164084.28 -10164084.15 -10164084.01 0.0089 0.0026

Neptune -32541-06-30 10:04 J -10163996.22 -10163996.08 -10163995.94 0.0089 0.0019

Neptune -32541-09-26 11:45 J -10163908.15 -10163908.01 -10163907.87 0.0089 0.0011

Neptune -32541-12-23 13:26 J -10163820.08 -10163819.94 -10163819.80 0.0089 0.0004

Neptune -32540-03-21 15:07 J -10163732.01 -10163731.87 -10163731.73 0.0089 0.0003

Neptune -32540-06-17 16:47 J -10163643.94 -10163643.80 -10163643.66 0.0089 0.0010

Neptune -32540-09-13 18:14 J -10163555.87 -10163555.74 -10163555.59 0.0089 0.0017

Neptune -32540-12-10 19:55 J -10163467.80 -10163467.67 -10163467.52 0.0089 0.0024

Neptune -32539-03-08 21:35 J -10163379.73 -10163379.60 -10163379.46 0.0089 0.0031

Mars -32539-06-03 15:21 J -10163292.97 -10163292.86 -10163292.75 0.1806 0.0710

Neptune -32539-06-04 23:16 J -10163291.65 -10163291.53 -10163291.39 0.0089 0.0038

Neptune -32539-09-01 00:57 J -10163203.58 -10163203.46 -10163203.33 0.0089 0.0045

Neptune -32539-11-28 02:38 J -10163115.50 -10163115.39 -10163115.26 0.0089 0.0052

Neptune -32538-02-24 04:19 J -10163027.42 -10163027.32 -10163027.20 0.0089 0.0059

Mars -32538-04-18 01:40 J -10162974.58 -10162974.43 -10162974.28 0.1706 0.0425

Neptune -32538-05-23 06:14 J -10162939.33 -10162939.24 -10162939.14 0.0089 0.0066

Neptune -32538-08-19 07:55 J -10162851.25 -10162851.17 -10162851.09 0.0089 0.0074

Neptune -32538-11-15 09:21 J -10162763.15 -10162763.11 -10162763.04 0.0089 0.0081

Neptune -32537-02-11 11:02 J -10162675.04 -10162675.04 -10162675.00 0.0089 0.0088

Saturn -32537-04-06 18:43 J -10162619.83 -10162619.72 -10162619.61 0.0288 0.0211

Moon -32537-05-11 15:35 J -10162584.96 -10162584.85 -10162584.74 0.2676 0.1144

Earth -32537-05-11 16:33 J -10162584.92 -10162584.81 -10162584.70 0.2676 0.1145 *

Saturn -32537-07-04 13:40 J -10162531.09 -10162530.93 -10162530.77 0.0287 0.0062

Saturn -32537-10-01 08:09 J -10162442.31 -10162442.16 -10162442.00 0.0287 0.0083

Saturn -32537-12-29 02:09 J -10162353.50 -10162353.41 -10162353.30 0.0287 0.0224

Jupiter -32536-09-13 18:28 J -10162094.85 -10162094.73 -10162094.60 0.0509 0.0324

Jupiter -32536-12-12 19:11 J -10162004.81 -10162004.70 -10162004.59 0.0513 0.0377

Earth -32534-11-20 20:09 J -10161296.77 -10161296.66 -10161296.55 0.2661 0.1429

Moon -32534-11-20 20:52 J -10161296.74 -10161296.63 -10161296.53 0.2667 0.1553 *

Jupiter -32530-05-03 22:33 J -10160036.69 -10160036.56 -10160036.42 0.0517 0.0034

Mars -32530-10-24 23:31 J -10159862.60 -10159862.52 -10159862.44 0.1800 0.1375

Mars -32529-09-07 04:33 J -10159544.46 -10159544.31 -10159544.16 0.1711 0.0379

Mars -32528-09-29 16:33 J -10159156.88 -10159156.81 -10159156.75 0.1824 0.1505

Moon -32527-11-13 02:23 J -10158747.49 -10158747.40 -10158747.31 0.2657 0.1963

Earth -32527-11-13 03:21 J -10158747.45 -10158747.36 -10158747.26 0.2656 0.1806 *

Moon -32524-05-14 12:43 J -10157834.09 -10157833.97 -10157833.85 0.2677 0.0250

Earth -32524-05-14 13:26 J -10157834.06 -10157833.94 -10157833.82 0.2674 0.0151 *

Jupiter -32524-07-02 17:45 J -10157784.78 -10157784.76 -10157784.72 0.0508 0.0497

Jupiter -32524-09-30 18:57 J -10157694.86 -10157694.71 -10157694.56 0.0512 0.0209

Saturn -32522-01-18 00:28 J -10157220.56 -10157220.48 -10157220.39 0.0272 0.0210

Saturn -32522-04-16 13:11 J -10157132.08 -10157131.95 -10157131.81 0.0272 0.0104

Saturn -32522-07-14 02:09 J -10157043.56 -10157043.41 -10157043.27 0.0272 0.0005

Saturn -32522-10-10 15:07 J -10156955.00 -10156954.87 -10156954.73 0.0272 0.0113

Saturn -32521-01-07 04:33 J -10156866.39 -10156866.31 -10156866.22 0.0272 0.0225

Earth -32521-11-22 18:57 J -10156545.75 -10156545.71 -10156545.67 0.2663 0.2508

Moon -32521-11-22 19:55 J -10156545.71 -10156545.67 -10156545.63 0.2664 0.2507 *

Mars -32519-01-28 06:57 J -10156114.32 -10156114.21 -10156114.10 0.1717 0.1207

Mars -32518-02-19 23:45 J -10155726.62 -10155726.51 -10155726.40 0.1818 0.0766

Jupiter -32518-02-20 01:40 J -10155726.56 -10155726.43 -10155726.30 0.0518 0.0118 *

Jupiter -32518-05-20 11:45 J -10155637.06 -10155637.01 -10155636.96 0.0514 0.0474

Moon -32514-11-16 02:23 J -10153996.53 -10153996.40 -10153996.27 0.2663 0.0655

Earth -32514-11-16 03:07 J -10153996.50 -10153996.37 -10153996.24 0.2658 0.0628 *

Jupiter -32512-07-19 17:59 J -10153384.91 -10153384.75 -10153384.58 0.0511 0.0029

Moon -32511-05-17 10:19 J -10153083.18 -10153083.07 -10153082.95 0.2679 0.0867

Earth -32511-05-17 10:33 J -10153083.18 -10153083.06 -10153082.94 0.2672 0.0864 *

Mars -32509-07-12 07:26 J -10152296.31 -10152296.19 -10152296.07 0.1812 0.0050

Mars -32508-05-26 23:02 J -10151977.64 -10151977.54 -10151977.45 0.1701 0.1286

Saturn -32508-08-24 20:23 J -10151887.74 -10151887.65 -10151887.56 0.0288 0.0241

Saturn -32508-11-21 15:35 J -10151799.01 -10151798.85 -10151798.69 0.0288 0.0091

Saturn -32507-02-18 10:19 J -10151710.23 -10151710.07 -10151709.91 0.0288 0.0055

Saturn -32507-05-18 04:19 J -10151621.43 -10151621.32 -10151621.19 0.0288 0.0198

Jupiter -32507-12-09 04:33 J -10151416.42 -10151416.31 -10151416.19 0.0519 0.0270

Jupiter -32506-03-08 14:23 J -10151327.00 -10151326.90 -10151326.79 0.0516 0.0323

Moon -32504-05-10 00:28 J -10150533.57 -10150533.48 -10150533.40 0.2673 0.1914

Earth -32504-05-10 00:57 J -10150533.54 -10150533.46 -10150533.37 0.2677 0.1929 *

Venus -32503-04-25 07:11 J -10150183.29 -10150183.20 -10150183.11 0.3781 0.2239

Uranus -32501-09-21 02:38 J -10149303.46 -10149303.39 -10149303.31 0.0145 0.0123

Moon -32501-11-18 02:38 J -10149245.52 -10149245.39 -10149245.26 0.2666 0.0536

Earth -32501-11-18 02:38 J -10149245.52 -10149245.39 -10149245.26 0.2659 0.0523 *

Uranus -32501-12-18 07:11 J -10149215.30 -10149215.20 -10149215.09 0.0145 0.0099

Uranus -32500-03-16 11:45 J -10149127.13 -10149127.01 -10149126.88 0.0145 0.0075

Jupiter -32500-05-07 17:16 J -10149074.94 -10149074.78 -10149074.62 0.0510 0.0147

Uranus -32500-06-12 16:33 J -10149038.95 -10149038.81 -10149038.67 0.0145 0.0050

Uranus -32500-09-08 21:07 J -10148950.76 -10148950.62 -10148950.47 0.0145 0.0025

Mars -32500-12-02 15:21 J -10148865.97 -10148865.86 -10148865.74 0.1807 0.0636

Uranus -32500-12-06 01:55 J -10148862.56 -10148862.42 -10148862.27 0.0145 0.0004

Uranus -32499-03-04 06:43 J -10148774.36 -10148774.22 -10148774.07 0.0145 0.0026

Venus -32499-04-26 06:57 J -10148721.29 -10148721.21 -10148721.12 0.3595 0.2727

Uranus -32499-05-31 11:31 J -10148686.15 -10148686.02 -10148685.88 0.0146 0.0052

Uranus -32499-08-27 16:19 J -10148597.94 -10148597.82 -10148597.69 0.0146 0.0079

Mars -32499-10-17 02:09 J -10148547.55 -10148547.41 -10148547.26 0.1706 0.0521

Uranus -32499-11-23 21:21 J -10148509.71 -10148509.61 -10148509.50 0.0146 0.0104

Uranus -32498-02-20 02:23 J -10148421.46 -10148421.40 -10148421.33 0.0146 0.0131

Earth -32498-05-20 07:55 J -10148332.25 -10148332.17 -10148332.08 0.2671 0.1907

Moon -32498-05-20 08:38 J -10148332.23 -10148332.14 -10148332.06 0.2676 0.1982 *

Venus -32498-11-09 01:55 J -10148159.53 -10148159.42 -10148159.31 0.3779 0.0751

Jupiter -32495-09-27 08:09 J -10147106.24 -10147106.16 -10147106.08 0.0520 0.0412

Jupiter -32495-12-25 17:45 J -10147016.89 -10147016.76 -10147016.63 0.0517 0.0178

Venus -32494-11-10 05:59 J -10146697.38 -10146697.25 -10146697.13 0.3597 0.1032

Saturn -32493-06-06 03:21 J -10146488.43 -10146488.36 -10146488.29 0.0271 0.0232

Saturn -32493-09-02 15:50 J -10146399.96 -10146399.84 -10146399.71 0.0271 0.0128

Saturn -32493-11-30 04:47 J -10146311.45 -10146311.30 -10146311.16 0.0271 0.0022

Saturn -32492-02-26 17:45 J -10146222.90 -10146222.76 -10146222.62 0.0271 0.0088

Saturn -32492-05-26 06:57 J -10146134.30 -10146134.21 -10146134.10 0.0272 0.0199

Moon -32491-05-12 20:52 J -10145782.75 -10145782.63 -10145782.52 0.2675 0.1119

Earth -32491-05-12 21:50 J -10145782.71 -10145782.59 -10145782.48 0.2675 0.0964 *

Mars -32490-04-24 23:31 J -10145435.60 -10145435.52 -10145435.43 0.1800 0.1297

Mars -32489-03-08 05:02 J -10145117.44 -10145117.29 -10145117.14 0.1711 0.0277

Jupiter -32488-02-23 16:19 J -10144764.95 -10144764.82 -10144764.69 0.0509 0.0326

Mars -32488-03-30 16:33 J -10144729.87 -10144729.81 -10144729.75 0.1824 0.1590

Jupiter -32488-05-24 16:47 J -10144674.91 -10144674.80 -10144674.69 0.0513 0.0373

Earth -32488-11-21 01:40 J -10144494.53 -10144494.43 -10144494.33 0.2661 0.1632

Moon -32488-11-21 02:23 J -10144494.50 -10144494.40 -10144494.30 0.2667 0.1635 *

Jupiter -32483-10-13 21:21 J -10142706.75 -10142706.61 -10142706.48 0.0517 0.0039

Moon -32481-11-13 07:55 J -10141945.27 -10141945.17 -10141945.06 0.2659 0.1593

Earth -32481-11-13 09:07 J -10141945.23 -10141945.12 -10141945.01 0.2656 0.1592 *

Mars -32480-07-29 07:26 J -10141687.31 -10141687.19 -10141687.07 0.1717 0.1108

Mars -32479-08-20 23:59 J -10141299.61 -10141299.50 -10141299.39 0.1818 0.0849

Saturn -32478-04-10 14:09 J -10141067.05 -10141066.91 -10141066.76 0.0288 0.0143

Moon -32478-05-15 17:59 J -10141031.87 -10141031.75 -10141031.62 0.2679 0.0072

Earth -32478-05-15 18:43 J -10141031.85 -10141031.72 -10141031.60 0.2674 0.0035 *

Saturn -32478-07-08 09:07 J -10140978.29 -10140978.12 -10140977.96 0.0288 0.0005

Saturn -32478-10-05 03:21 J -10140889.49 -10140889.36 -10140889.22 0.0287 0.0148

Jupiter -32477-12-12 15:35 J -10140454.87 -10140454.85 -10140454.81 0.0508 0.0497

Jupiter -32476-03-12 16:47 J -10140364.95 -10140364.80 -10140364.65 0.0512 0.0208

Jupiter -32471-08-02 00:28 J -10138396.62 -10138396.48 -10138396.35 0.0518 0.0111

Jupiter -32471-10-30 10:33 J -10138307.11 -10138307.06 -10138307.02 0.0514 0.0482

Mars -32469-01-11 07:26 J -10137869.31 -10137869.19 -10137869.06 0.1812 0.0133

Mars -32469-11-24 23:16 J -10137550.62 -10137550.53 -10137550.44 0.1701 0.1374

Moon -32468-11-16 08:09 J -10137194.29 -10137194.16 -10137194.03 0.2663 0.0514

Earth -32468-11-16 08:52 J -10137194.27 -10137194.13 -10137194.00 0.2658 0.0415 *

Moon -32465-05-17 15:50 J -10136280.96 -10136280.84 -10136280.73 0.2679 0.1030

Earth -32465-05-17 15:50 J -10136280.95 -10136280.84 -10136280.72 0.2672 0.1060 *

Jupiter -32465-12-29 16:33 J -10136054.97 -10136054.81 -10136054.64 0.0511 0.0041

Saturn -32464-10-24 04:19 J -10135756.33 -10135756.32 -10135756.30 0.0271 0.0270

Saturn -32463-01-20 16:47 J -10135667.91 -10135667.80 -10135667.68 0.0272 0.0166

Saturn -32463-04-19 05:31 J -10135579.41 -10135579.27 -10135579.12 0.0272 0.0061

Saturn -32463-07-16 18:28 J -10135490.87 -10135490.73 -10135490.58 0.0272 0.0049

Saturn -32463-10-13 07:40 J -10135402.29 -10135402.18 -10135402.05 0.0272 0.0159

Saturn -32462-01-09 21:21 J -10135313.62 -10135313.61 -10135313.61 0.0272 0.0271

Uranus -32460-02-03 17:02 J -10134557.87 -10134557.79 -10134557.69 0.0134 0.0111

Uranus -32460-05-02 22:33 J -10134469.68 -10134469.56 -10134469.43 0.0134 0.0088

Mars -32460-06-02 15:21 J -10134438.97 -10134438.86 -10134438.74 0.1806 0.0562

Neptune -32460-07-25 16:04 J -10134385.88 -10134385.83 -10134385.77 0.0088 0.0083

Uranus -32460-07-30 03:50 J -10134381.48 -10134381.34 -10134381.19 0.0134 0.0065

Neptune -32460-10-21 18:43 J -10134297.79 -10134297.72 -10134297.61 0.0088 0.0075

Uranus -32460-10-26 09:07 J -10134293.28 -10134293.12 -10134292.96 0.0133 0.0042

Neptune -32459-01-17 21:50 J -10134209.70 -10134209.59 -10134209.46 0.0088 0.0066

Uranus -32459-01-22 14:23 J -10134205.07 -10134204.90 -10134204.74 0.0133 0.0020

Neptune -32459-04-16 00:57 J -10134121.59 -10134121.46 -10134121.33 0.0088 0.0058

Mars -32459-04-17 02:38 J -10134120.53 -10134120.39 -10134120.25 0.1706 0.0612

Uranus -32459-04-20 19:26 J -10134116.85 -10134116.69 -10134116.52 0.0133 0.0003

Jupiter -32459-05-21 03:35 J -10134086.47 -10134086.35 -10134086.23 0.0519 0.0258

Neptune -32459-07-13 03:35 J -10134033.49 -10134033.35 -10134033.19 0.0088 0.0049

Uranus -32459-07-18 00:28 J -10134028.64 -10134028.48 -10134028.31 0.0133 0.0024

Jupiter -32459-08-18 13:26 J -10133997.05 -10133996.94 -10133996.84 0.0515 0.0333

Neptune -32459-10-09 06:43 J -10133945.38 -10133945.22 -10133945.06 0.0088 0.0041

Uranus -32459-10-14 05:31 J -10133940.42 -10133940.27 -10133940.11 0.0133 0.0046

Neptune -32458-01-05 09:21 J -10133857.27 -10133857.11 -10133856.94 0.0088 0.0032

Uranus -32458-01-10 10:33 J -10133852.20 -10133852.06 -10133851.91 0.0133 0.0068

Neptune -32458-04-03 12:14 J -10133769.15 -10133768.99 -10133768.81 0.0088 0.0024

Uranus -32458-04-08 15:21 J -10133763.97 -10133763.86 -10133763.73 0.0133 0.0089

Moon -32458-05-11 05:31 J -10133731.36 -10133731.27 -10133731.19 0.2674 0.1856

Earth -32458-05-11 06:14 J -10133731.33 -10133731.24 -10133731.15 0.2677 0.1752 *

Neptune -32458-06-30 15:07 J -10133681.04 -10133680.87 -10133680.69 0.0088 0.0015

Uranus -32458-07-05 20:23 J -10133675.73 -10133675.65 -10133675.55 0.0133 0.0110

Neptune -32458-09-26 17:59 J -10133592.92 -10133592.75 -10133592.57 0.0088 0.0007

Uranus -32458-10-02 01:11 J -10133587.47 -10133587.45 -10133587.42 0.0133 0.0131

Neptune -32458-12-23 20:52 J -10133504.81 -10133504.63 -10133504.45 0.0088 0.0002

Neptune -32457-03-20 23:31 J -10133416.69 -10133416.52 -10133416.34 0.0088 0.0010

Neptune -32457-06-17 02:23 J -10133328.57 -10133328.40 -10133328.23 0.0088 0.0018

Neptune -32457-09-13 05:16 J -10133240.45 -10133240.28 -10133240.11 0.0088 0.0027

Neptune -32457-12-10 07:40 J -10133152.33 -10133152.18 -10133152.01 0.0088 0.0035

Neptune -32456-03-08 10:33 J -10133064.20 -10133064.06 -10133063.90 0.0088 0.0043

Neptune -32456-06-04 13:11 J -10132976.08 -10132975.95 -10132975.80 0.0088 0.0052

Neptune -32456-08-31 16:04 J -10132887.95 -10132887.83 -10132887.70 0.0088 0.0059

Neptune -32456-11-27 18:43 J -10132799.82 -10132799.72 -10132799.60 0.0088 0.0068

Neptune -32455-02-23 21:35 J -10132711.68 -10132711.60 -10132711.51 0.0088 0.0076

Neptune -32455-05-22 23:45 J -10132623.54 -10132623.51 -10132623.43 0.0088 0.0085

Earth -32455-11-19 08:09 J -10132443.29 -10132443.16 -10132443.03 0.2660 0.0728

Moon -32455-11-19 08:23 J -10132443.28 -10132443.15 -10132443.02 0.2667 0.0770 *

Jupiter -32453-10-17 15:35 J -10131745.00 -10131744.85 -10131744.68 0.0510 0.0140

Earth -32452-05-20 13:26 J -10131530.02 -10131529.94 -10131529.87 0.2670 0.2106

Moon -32452-05-20 14:09 J -10131529.98 -10131529.91 -10131529.84 0.2675 0.2167 *

Mars -32451-10-23 23:31 J -10131008.61 -10131008.52 -10131008.43 0.1800 0.1230

Mars -32450-09-07 05:45 J -10130690.42 -10130690.26 -10130690.11 0.1711 0.0180

Saturn -32449-08-27 15:21 J -10130334.99 -10130334.86 -10130334.73 0.0288 0.0178

Mars -32449-09-28 16:33 J -10130302.85 -10130302.81 -10130302.76 0.1824 0.1666

Saturn -32449-11-24 10:19 J -10130246.23 -10130246.07 -10130245.90 0.0288 0.0030

Saturn -32448-02-21 04:47 J -10130157.44 -10130157.30 -10130157.15 0.0288 0.0116

Saturn -32448-05-20 23:02 J -10130068.61 -10130068.54 -10130068.47 0.0288 0.0257

Moon -32448-11-11 13:40 J -10129893.95 -10129893.93 -10129893.90 0.2652 0.2593

Earth -32448-11-11 14:52 J -10129893.91 -10129893.88 -10129893.86 0.2655 0.2584 *

Jupiter -32447-03-09 06:28 J -10129776.31 -10129776.23 -10129776.15 0.0520 0.0412

Jupiter -32447-06-06 16:04 J -10129686.96 -10129686.83 -10129686.70 0.0517 0.0179

Venus -32447-11-30 05:16 J -10129510.38 -10129510.28 -10129510.17 0.3780 0.1165

Moon -32445-05-13 02:09 J -10128980.53 -10128980.41 -10128980.30 0.2675 0.0781

Earth -32445-05-13 03:07 J -10128980.49 -10128980.37 -10128980.26 0.2675 0.0785 *

Venus -32443-12-01 06:28 J -10128048.35 -10128048.23 -10128048.11 0.3596 0.1322

Earth -32442-11-22 07:11 J -10127692.30 -10127692.20 -10127692.11 0.2662 0.1832

Moon -32442-11-22 07:55 J -10127692.26 -10127692.17 -10127692.08 0.2665 0.1921 *

Venus -32441-06-14 23:59 J -10127486.60 -10127486.50 -10127486.40 0.3778 0.1850

Jupiter -32441-08-05 14:52 J -10127435.01 -10127434.88 -10127434.74 0.0508 0.0314

Jupiter -32441-11-03 15:35 J -10127344.96 -10127344.85 -10127344.75 0.0512 0.0383

Mars -32440-01-27 07:55 J -10127260.29 -10127260.17 -10127260.04 0.1717 0.1005

Mars -32439-02-18 23:59 J -10126872.61 -10126872.50 -10126872.40 0.1818 0.0923

Venus -32437-06-16 05:16 J -10126024.38 -10126024.28 -10126024.18 0.3598 0.2385

Jupiter -32435-03-25 19:26 J -10125376.83 -10125376.69 -10125376.55 0.0518 0.0035

Moon -32435-11-14 13:40 J -10125143.04 -10125142.93 -10125142.82 0.2660 0.1549

Earth -32435-11-14 14:38 J -10125143.00 -10125142.89 -10125142.77 0.2657 0.1375 *

Saturn -32434-06-09 19:40 J -10124935.78 -10124935.68 -10124935.58 0.0271 0.0189

Saturn -32434-09-06 08:23 J -10124847.29 -10124847.15 -10124847.02 0.0271 0.0084

Saturn -32434-12-03 21:07 J -10124758.76 -10124758.62 -10124758.47 0.0271 0.0024

Saturn -32433-03-01 10:19 J -10124670.20 -10124670.07 -10124669.94 0.0271 0.0133

Saturn -32433-05-28 23:45 J -10124581.57 -10124581.51 -10124581.45 0.0271 0.0245

Moon -32432-05-15 23:31 J -10124229.65 -10124229.52 -10124229.40 0.2679 0.0113

Earth -32432-05-15 23:59 J -10124229.62 -10124229.50 -10124229.38 0.2673 0.0222 *

Mars -32430-07-12 07:40 J -10123442.30 -10123442.18 -10123442.06 0.1812 0.0214

Jupiter -32429-05-24 13:40 J -10123124.96 -10123124.93 -10123124.89 0.0508 0.0495

Mars -32429-05-25 23:45 J -10123123.58 -10123123.51 -10123123.44 0.1701 0.1469

Jupiter -32429-08-22 14:52 J -10123035.03 -10123034.88 -10123034.73 0.0511 0.0208

Moon -32425-05-08 14:38 J -10121679.93 -10121679.89 -10121679.85 0.2672 0.2536

Earth -32425-05-08 14:52 J -10121679.92 -10121679.88 -10121679.84 0.2678 0.2523 *

Jupiter -32423-01-11 23:02 J -10121066.67 -10121066.54 -10121066.41 0.0518 0.0105

Jupiter -32423-04-11 09:07 J -10120977.16 -10120977.12 -10120977.08 0.0515 0.0490

Moon -32422-11-17 13:55 J -10120392.05 -10120391.92 -10120391.79 0.2664 0.0173

Earth -32422-11-17 14:23 J -10120392.03 -10120391.90 -10120391.77 0.2658 0.0204 *

Mars -32421-12-01 15:21 J -10120011.97 -10120011.86 -10120011.74 0.1806 0.0487

Mars -32420-10-16 03:07 J -10119693.51 -10119693.37 -10119693.23 0.1706 0.0709

Saturn -32419-01-14 13:55 J -10119603.02 -10119602.92 -10119602.82 0.0288 0.0231

Saturn -32419-04-13 08:52 J -10119514.28 -10119514.13 -10119513.97 0.0288 0.0082

Earth -32419-05-18 21:07 J -10119478.73 -10119478.62 -10119478.51 0.2672 0.1251

Moon -32419-05-18 21:21 J -10119478.72 -10119478.61 -10119478.51 0.2678 0.1298 *

Saturn -32419-07-11 03:35 J -10119425.50 -10119425.35 -10119425.19 0.0288 0.0066

Saturn -32419-10-07 22:04 J -10119336.69 -10119336.58 -10119336.47 0.0287 0.0208

Jupiter -32417-06-10 14:38 J -10118725.05 -10118724.89 -10118724.72 0.0511 0.0042

Uranus -32417-07-15 05:16 J -10118690.30 -10118690.28 -10118690.24 0.0145 0.0141

Uranus -32417-10-11 09:50 J -10118602.17 -10118602.09 -10118602.00 0.0145 0.0117

Uranus -32416-01-07 14:23 J -10118514.00 -10118513.90 -10118513.78 0.0145 0.0093

Uranus -32416-04-05 19:11 J -10118425.83 -10118425.70 -10118425.57 0.0145 0.0068

Uranus -32416-07-02 23:45 J -10118337.65 -10118337.51 -10118337.36 0.0145 0.0043

Uranus -32416-09-29 04:33 J -10118249.45 -10118249.31 -10118249.16 0.0145 0.0018

Uranus -32416-12-26 09:21 J -10118161.26 -10118161.11 -10118160.96 0.0145 0.0008

Uranus -32415-03-24 14:09 J -10118073.06 -10118072.91 -10118072.77 0.0145 0.0033

Uranus -32415-06-20 18:57 J -10117984.84 -10117984.71 -10117984.57 0.0146 0.0059

Uranus -32415-09-16 23:45 J -10117896.63 -10117896.51 -10117896.38 0.0146 0.0086

Uranus -32415-12-14 04:47 J -10117808.39 -10117808.30 -10117808.20 0.0146 0.0112

Uranus -32414-03-12 09:35 J -10117720.14 -10117720.10 -10117720.05 0.0146 0.0139

Moon -32412-05-11 10:33 J -10116929.16 -10116929.06 -10116928.96 0.2674 0.1608

Earth -32412-05-11 11:31 J -10116929.12 -10116929.02 -10116928.92 0.2677 0.1575 *

Jupiter -32412-10-31 02:23 J -10116756.52 -10116756.40 -10116756.28 0.0519 0.0249

Jupiter -32411-01-28 12:14 J -10116667.09 -10116666.99 -10116666.89 0.0515 0.0342

Mars -32411-04-23 23:45 J -10116581.61 -10116581.51 -10116581.42 0.1800 0.1148

Mars -32410-03-08 05:59 J -10116263.40 -10116263.25 -10116263.10 0.1711 0.0082

Mars -32409-03-29 16:47 J -10115875.83 -10115875.80 -10115875.77 0.1824 0.1749

Earth -32409-11-19 13:40 J -10115641.05 -10115640.93 -10115640.80 0.2660 0.0933

Moon -32409-11-19 13:55 J -10115641.04 -10115640.92 -10115640.80 0.2667 0.0921 *

Earth -32406-05-21 18:43 J -10114727.78 -10114727.72 -10114727.66 0.2670 0.2302

Moon -32406-05-21 19:26 J -10114727.74 -10114727.69 -10114727.63 0.2675 0.2359 *

Jupiter -32405-03-29 14:23 J -10114415.06 -10114414.90 -10114414.74 0.0510 0.0128

Saturn -32405-10-26 20:23 J -10114203.72 -10114203.65 -10114203.57 0.0271 0.0229

Saturn -32404-01-23 08:52 J -10114115.25 -10114115.13 -10114115.00 0.0271 0.0125

Saturn -32404-04-21 21:50 J -10114026.74 -10114026.59 -10114026.45 0.0271 0.0019

Saturn -32404-07-19 10:47 J -10113938.19 -10113938.05 -10113937.91 0.0272 0.0091

Saturn -32404-10-15 23:59 J -10113849.60 -10113849.50 -10113849.40 0.0272 0.0202

Mars -32402-09-14 07:55 J -10113151.17 -10113151.17 -10113151.17 0.1794 0.1793

Moon -32402-11-12 19:11 J -10113091.74 -10113091.70 -10113091.65 0.2654 0.2493

Earth -32402-11-12 20:23 J -10113091.71 -10113091.65 -10113091.59 0.2655 0.2362 *

Mars -32401-07-28 08:23 J -10112833.28 -10112833.15 -10112833.02 0.1717 0.0909

Jupiter -32400-08-19 05:31 J -10112446.35 -10112446.27 -10112446.18 0.0520 0.0395

Mars -32400-08-19 23:59 J -10112445.60 -10112445.50 -10112445.39 0.1818 0.1007

Jupiter -32400-11-16 15:07 J -10112356.99 -10112356.87 -10112356.74 0.0516 0.0195

Moon -32399-05-14 07:26 J -10112178.31 -10112178.19 -10112178.07 0.2677 0.0734

Earth -32399-05-14 08:09 J -10112178.28 -10112178.16 -10112178.04 0.2675 0.0602 *

Earth -32396-11-22 12:43 J -10110890.05 -10110889.97 -10110889.89 0.2662 0.2033

Moon -32396-11-22 13:40 J -10110890.01 -10110889.93 -10110889.85 0.2665 0.2115 *

Venus -32396-12-21 09:07 J -10110861.19 -10110861.12 -10110861.06 0.3781 0.3011

Jupiter -32393-01-16 13:40 J -10110105.07 -10110104.93 -10110104.80 0.0509 0.0304

Jupiter -32393-04-15 14:09 J -10110015.01 -10110014.91 -10110014.80 0.0512 0.0394

Mars -32390-01-10 07:26 J -10109015.31 -10109015.19 -10109015.06 0.1812 0.0286

Saturn -32390-06-03 13:55 J -10108870.96 -10108870.92 -10108870.86 0.0289 0.0273

Venus -32390-07-07 03:35 J -10108837.46 -10108837.35 -10108837.24 0.3779 0.0099

Saturn -32390-08-31 09:35 J -10108782.25 -10108782.10 -10108781.95 0.0288 0.0121

Mars -32390-11-25 00:14 J -10108696.55 -10108696.49 -10108696.43 0.1701 0.1563

Saturn -32390-11-28 04:33 J -10108693.48 -10108693.31 -10108693.15 0.0288 0.0029

Saturn -32389-02-24 22:47 J -10108604.68 -10108604.55 -10108604.42 0.0288 0.0172

Moon -32389-11-14 19:26 J -10108340.82 -10108340.69 -10108340.57 0.2660 0.1164

Earth -32389-11-14 20:23 J -10108340.77 -10108340.65 -10108340.53 0.2657 0.1160 *

Pluto -32388-03-21 06:28 J -10108214.24 -10108214.23 -10108214.18 0.0068 0.0067

Pluto -32388-06-17 08:23 J -10108126.22 -10108126.15 -10108126.08 0.0068 0.0061

Jupiter -32388-09-04 17:59 J -10108046.89 -10108046.75 -10108046.62 0.0518 0.0041

Pluto -32388-09-13 09:35 J -10108038.19 -10108038.10 -10108038.00 0.0069 0.0055

Pluto -32388-12-10 10:47 J -10107950.16 -10107950.05 -10107949.93 0.0069 0.0049

Pluto -32387-03-08 11:59 J -10107862.11 -10107862.00 -10107861.86 0.0069 0.0043

Pluto -32387-06-04 13:26 J -10107774.07 -10107773.94 -10107773.79 0.0069 0.0037

Pluto -32387-08-31 15:07 J -10107686.02 -10107685.87 -10107685.72 0.0069 0.0030

Pluto -32387-11-27 16:19 J -10107597.97 -10107597.82 -10107597.66 0.0069 0.0024

Pluto -32386-02-23 17:31 J -10107509.92 -10107509.77 -10107509.59 0.0069 0.0019

Moon -32386-05-17 04:47 J -10107427.42 -10107427.30 -10107427.18 0.2679 0.0448

Earth -32386-05-17 05:16 J -10107427.40 -10107427.28 -10107427.16 0.2673 0.0408 *

Pluto -32386-05-22 19:11 J -10107421.86 -10107421.70 -10107421.53 0.0069 0.0011

Venus -32386-07-08 05:59 J -10107375.39 -10107375.25 -10107375.12 0.3596 0.0124

Pluto -32386-08-18 20:38 J -10107333.80 -10107333.64 -10107333.47 0.0069 0.0005

Pluto -32386-11-14 22:04 J -10107245.74 -10107245.58 -10107245.41 0.0070 0.0002

Pluto -32385-02-10 23:31 J -10107157.68 -10107157.52 -10107157.35 0.0070 0.0009

Pluto -32385-05-09 00:57 J -10107069.62 -10107069.46 -10107069.29 0.0070 0.0015

Pluto -32385-08-05 02:23 J -10106981.55 -10106981.40 -10106981.24 0.0070 0.0022

Pluto -32385-11-01 03:35 J -10106893.49 -10106893.35 -10106893.18 0.0070 0.0029

Venus -32384-01-19 22:19 J -10106813.64 -10106813.57 -10106813.50 0.3778 0.2966

Pluto -32384-01-28 05:31 J -10106805.41 -10106805.27 -10106805.12 0.0070 0.0035

Pluto -32384-04-26 06:43 J -10106717.34 -10106717.22 -10106717.07 0.0070 0.0043

Pluto -32384-07-23 08:09 J -10106629.26 -10106629.16 -10106629.02 0.0070 0.0050

Pluto -32384-10-19 09:35 J -10106541.18 -10106541.10 -10106540.98 0.0070 0.0057

Pluto -32383-01-15 11:16 J -10106453.09 -10106453.03 -10106452.94 0.0071 0.0064

Pluto -32383-04-13 12:57 J -10106364.96 -10106364.96 -10106364.94 0.0071 0.0071

Jupiter -32382-11-04 12:43 J -10105795.02 -10105794.97 -10105794.91 0.0507 0.0479

Jupiter -32381-02-02 13:55 J -10105705.07 -10105704.92 -10105704.78 0.0511 0.0223

Mars -32381-06-01 15:35 J -10105584.97 -10105584.85 -10105584.73 0.1807 0.0402

Mars -32380-04-16 03:35 J -10105266.48 -10105266.35 -10105266.22 0.1706 0.0808

Moon -32379-05-09 19:40 J -10104877.73 -10104877.68 -10104877.63 0.2672 0.2401

Earth -32379-05-09 19:55 J -10104877.72 -10104877.67 -10104877.61 0.2678 0.2355 *

Neptune -32379-10-28 17:02 J -10104705.82 -10104705.79 -10104705.74 0.0089 0.0084

Neptune -32378-01-24 18:43 J -10104617.78 -10104617.72 -10104617.65 0.0089 0.0078

Neptune -32378-04-22 20:09 J -10104529.73 -10104529.66 -10104529.57 0.0089 0.0071

Neptune -32378-07-19 21:50 J -10104441.68 -10104441.59 -10104441.49 0.0089 0.0064

Neptune -32378-10-15 23:31 J -10104353.62 -10104353.52 -10104353.41 0.0089 0.0057

Neptune -32377-01-12 01:11 J -10104265.57 -10104265.45 -10104265.33 0.0089 0.0050

Neptune -32377-04-09 02:52 J -10104177.51 -10104177.38 -10104177.26 0.0089 0.0044

Neptune -32377-07-06 04:04 J -10104089.44 -10104089.33 -10104089.19 0.0089 0.0038

Neptune -32377-10-02 05:45 J -10104001.38 -10104001.26 -10104001.11 0.0089 0.0031

Uranus -32377-11-27 19:40 J -10103944.74 -10103944.68 -10103944.63 0.0134 0.0125

Neptune -32377-12-29 07:26 J -10103913.32 -10103913.19 -10103913.04 0.0089 0.0024

Uranus -32376-02-24 00:57 J -10103856.57 -10103856.46 -10103856.35 0.0134 0.0102

Neptune -32376-03-27 09:07 J -10103825.25 -10103825.12 -10103824.97 0.0089 0.0016

Uranus -32376-05-23 05:59 J -10103768.37 -10103768.25 -10103768.10 0.0134 0.0080

Neptune -32376-06-23 10:47 J -10103737.19 -10103737.05 -10103736.90 0.0089 0.0010

Jupiter -32376-06-23 21:21 J -10103736.75 -10103736.61 -10103736.48 0.0519 0.0106

Uranus -32376-08-19 11:31 J -10103680.17 -10103680.02 -10103679.86 0.0134 0.0057

Neptune -32376-09-19 12:28 J -10103649.12 -10103648.98 -10103648.83 0.0089 0.0003

Jupiter -32376-09-21 07:26 J -10103647.23 -10103647.19 -10103647.15 0.0515 0.0490

Uranus -32376-11-15 16:47 J -10103591.96 -10103591.80 -10103591.64 0.0133 0.0034

Moon -32376-11-17 19:40 J -10103589.81 -10103589.68 -10103589.54 0.2665 0.0112

Earth -32376-11-17 19:55 J -10103589.80 -10103589.67 -10103589.53 0.2659 0.0071 *

Neptune -32376-12-16 14:09 J -10103561.05 -10103560.91 -10103560.76 0.0089 0.0006

Uranus -32375-02-11 22:04 J -10103503.75 -10103503.58 -10103503.42 0.0133 0.0012

Neptune -32375-03-14 15:50 J -10103472.98 -10103472.84 -10103472.70 0.0089 0.0012

Saturn -32375-03-15 23:16 J -10103471.58 -10103471.53 -10103471.48 0.0271 0.0251

Uranus -32375-05-11 03:07 J -10103415.54 -10103415.37 -10103415.20 0.0133 0.0011

Neptune -32375-06-10 17:31 J -10103384.91 -10103384.77 -10103384.63 0.0089 0.0019

Saturn -32375-06-12 11:45 J -10103383.13 -10103383.01 -10103382.89 0.0271 0.0147

Uranus -32375-08-07 08:09 J -10103327.32 -10103327.16 -10103327.00 0.0133 0.0033

Neptune -32375-09-06 19:11 J -10103296.84 -10103296.70 -10103296.56 0.0089 0.0026

Saturn -32375-09-09 00:28 J -10103294.63 -10103294.48 -10103294.34 0.0271 0.0042

Uranus -32375-11-03 13:11 J -10103239.10 -10103238.95 -10103238.80 0.0133 0.0054

Neptune -32375-12-03 20:52 J -10103208.76 -10103208.63 -10103208.50 0.0089 0.0033

Saturn -32375-12-06 13:11 J -10103206.09 -10103205.95 -10103205.80 0.0271 0.0067

Uranus -32374-01-30 17:59 J -10103150.87 -10103150.75 -10103150.60 0.0133 0.0076

Neptune -32374-03-01 22:33 J -10103120.69 -10103120.56 -10103120.43 0.0089 0.0040

Saturn -32374-03-05 02:23 J -10103117.51 -10103117.40 -10103117.28 0.0271 0.0177

Uranus -32374-04-28 23:02 J -10103062.64 -10103062.54 -10103062.42 0.0133 0.0097

Neptune -32374-05-28 23:59 J -10103032.61 -10103032.50 -10103032.37 0.0089 0.0048

Uranus -32374-07-26 04:04 J -10102974.40 -10102974.33 -10102974.25 0.0133 0.0118

Neptune -32374-08-25 01:40 J -10102944.53 -10102944.43 -10102944.31 0.0089 0.0055

Neptune -32374-11-21 03:21 J -10102856.45 -10102856.36 -10102856.24 0.0089 0.0062

Neptune -32373-02-17 05:16 J -10102768.36 -10102768.28 -10102768.19 0.0089 0.0069

Neptune -32373-05-15 06:57 J -10102680.28 -10102680.21 -10102680.13 0.0089 0.0076

Earth -32373-05-19 02:38 J -10102676.50 -10102676.39 -10102676.29 0.2671 0.1444

Moon -32373-05-19 02:52 J -10102676.49 -10102676.38 -10102676.28 0.2678 0.1408 *

Neptune -32373-08-11 08:38 J -10102592.18 -10102592.14 -10102592.08 0.0089 0.0083

Mars -32372-10-22 23:45 J -10102154.61 -10102154.51 -10102154.41 0.1800 0.1071

Mars -32371-09-06 06:28 J -10101836.38 -10101836.23 -10101836.08 0.1711 0.0018

Jupiter -32370-11-21 12:57 J -10101395.12 -10101394.96 -10101394.79 0.0510 0.0046

Moon -32366-05-12 15:50 J -10100126.95 -10100126.84 -10100126.74 0.2674 0.1488

Earth -32366-05-12 16:33 J -10100126.91 -10100126.81 -10100126.70 0.2676 0.1400 *

Jupiter -32364-04-12 00:57 J -10099426.58 -10099426.46 -10099426.34 0.0520 0.0244

Jupiter -32364-07-10 10:47 J -10099337.15 -10099337.05 -10099336.95 0.0516 0.0349

Earth -32363-11-20 19:11 J -10098838.82 -10098838.70 -10098838.58 0.2660 0.1138

Moon -32363-11-20 19:40 J -10098838.80 -10098838.68 -10098838.57 0.2667 0.1224 *

Mars -32362-03-15 08:09 J -10098724.20 -10098724.16 -10098724.13 0.1794 0.1719

Mars -32361-01-27 09:07 J -10098406.26 -10098406.12 -10098405.99 0.1717 0.0807

Saturn -32360-01-17 07:55 J -10098050.30 -10098050.17 -10098050.03 0.0288 0.0174

Mars -32360-02-17 23:59 J -10098018.59 -10098018.50 -10098018.40 0.1818 0.1087

Saturn -32360-04-16 03:07 J -10097961.53 -10097961.37 -10097961.21 0.0288 0.0024

Earth -32360-05-21 23:59 J -10097925.54 -10097925.50 -10097925.45 0.2670 0.2504

Moon -32360-05-22 00:57 J -10097925.49 -10097925.46 -10097925.44 0.2674 0.2597 *

Saturn -32360-07-13 21:35 J -10097872.74 -10097872.60 -10097872.45 0.0288 0.0122

Saturn -32360-10-10 15:35 J -10097783.90 -10097783.85 -10097783.78 0.0288 0.0263

Jupiter -32358-09-09 12:43 J -10097085.13 -10097084.97 -10097084.81 0.0510 0.0123

Moon -32356-11-13 00:57 J -10096289.53 -10096289.46 -10096289.39 0.2656 0.2215

Earth -32356-11-13 02:09 J -10096289.49 -10096289.41 -10096289.33 0.2655 0.2142 *

Moon -32353-05-14 12:43 J -10095376.09 -10095375.97 -10095375.85 0.2678 0.0429

Earth -32353-05-14 13:26 J -10095376.06 -10095375.94 -10095375.81 0.2675 0.0418 *

Jupiter -32352-01-29 04:33 J -10095116.40 -10095116.31 -10095116.22 0.0520 0.0385

Jupiter -32352-04-28 14:09 J -10095027.04 -10095026.91 -10095026.79 0.0516 0.0204

Mars -32352-06-18 11:02 J -10094976.08 -10094976.04 -10094976.01 0.1723 0.1669

Mars -32351-07-11 07:40 J -10094588.30 -10094588.18 -10094588.06 0.1812 0.0366

Mars -32350-05-26 00:43 J -10094269.51 -10094269.47 -10094269.44 0.1701 0.1654

Earth -32350-11-23 18:14 J -10094087.81 -10094087.74 -10094087.67 0.2662 0.2233

Moon -32350-11-23 19:11 J -10094087.76 -10094087.70 -10094087.63 0.2665 0.2289 *

Jupiter -32346-06-28 12:14 J -10092775.12 -10092774.99 -10092774.85 0.0509 0.0293

Jupiter -32346-09-26 12:57 J -10092685.06 -10092684.96 -10092684.86 0.0513 0.0407

Saturn -32346-10-30 12:14 J -10092651.09 -10092650.99 -10092650.89 0.0271 0.0190

Saturn -32345-01-27 00:43 J -10092562.60 -10092562.47 -10092562.33 0.0271 0.0085

Saturn -32345-04-24 13:40 J -10092474.08 -10092473.93 -10092473.79 0.0271 0.0023

Saturn -32345-07-22 02:38 J -10092385.52 -10092385.39 -10092385.26 0.0271 0.0132

Saturn -32345-10-18 15:50 J -10092296.90 -10092296.84 -10092296.77 0.0272 0.0244

Moon -32343-11-16 01:11 J -10091538.57 -10091538.45 -10091538.33 0.2660 0.1086

Earth -32343-11-16 02:09 J -10091538.54 -10091538.41 -10091538.29 0.2657 0.0946 *

Mars -32342-12-01 15:35 J -10091157.97 -10091157.85 -10091157.73 0.1806 0.0328

Mars -32341-10-15 03:50 J -10090839.46 -10090839.34 -10090839.21 0.1706 0.0899

Jupiter -32340-02-14 17:16 J -10090716.92 -10090716.78 -10090716.64 0.0517 0.0057

Moon -32340-05-17 10:04 J -10090625.20 -10090625.08 -10090624.96 0.2679 0.0493

Earth -32340-05-17 10:33 J -10090625.18 -10090625.06 -10090624.94 0.2673 0.0598 *

Venus -32339-07-28 07:11 J -10090188.30 -10090188.20 -10090188.11 0.3781 0.1945

Venus -32335-07-29 06:14 J -10088726.34 -10088726.24 -10088726.14 0.3595 0.2347

Jupiter -32334-04-16 11:31 J -10088465.08 -10088465.02 -10088464.95 0.0508 0.0466

Jupiter -32334-07-15 12:43 J -10088375.12 -10088374.97 -10088374.83 0.0511 0.0236

Venus -32333-02-11 01:40 J -10088164.54 -10088164.43 -10088164.32 0.3779 0.1014

Moon -32333-05-10 00:43 J -10088075.54 -10088075.47 -10088075.40 0.2673 0.2168

Earth -32333-05-10 01:11 J -10088075.52 -10088075.45 -10088075.38 0.2678 0.2178 *

Uranus -32333-08-04 12:57 J -10087989.00 -10087988.96 -10087988.89 0.0145 0.0132

Uranus -32333-10-31 17:45 J -10087900.85 -10087900.76 -10087900.66 0.0145 0.0107

Uranus -32332-01-27 22:19 J -10087812.68 -10087812.57 -10087812.45 0.0145 0.0083

Mars -32332-04-22 23:45 J -10087727.61 -10087727.51 -10087727.41 0.1800 0.1003

Uranus -32332-04-26 02:52 J -10087724.51 -10087724.38 -10087724.24 0.0145 0.0059

Uranus -32332-07-23 07:40 J -10087636.32 -10087636.18 -10087636.04 0.0145 0.0033

Uranus -32332-10-19 12:28 J -10087548.13 -10087547.98 -10087547.83 0.0145 0.0008

Uranus -32331-01-15 17:16 J -10087459.93 -10087459.78 -10087459.64 0.0145 0.0018

Mars -32331-03-07 07:11 J -10087409.35 -10087409.20 -10087409.05 0.1711 0.0124

Uranus -32331-04-13 21:50 J -10087371.72 -10087371.59 -10087371.44 0.0145 0.0044

Saturn -32331-06-06 07:40 J -10087318.28 -10087318.18 -10087318.07 0.0289 0.0219

Uranus -32331-07-11 02:38 J -10087283.51 -10087283.39 -10087283.25 0.0146 0.0070

Saturn -32331-09-03 03:07 J -10087229.53 -10087229.37 -10087229.21 0.0289 0.0068

Uranus -32331-10-07 07:40 J -10087195.29 -10087195.18 -10087195.06 0.0146 0.0095

Saturn -32331-11-30 21:50 J -10087140.75 -10087140.59 -10087140.43 0.0288 0.0080

Uranus -32330-01-03 12:28 J -10087107.05 -10087106.98 -10087106.89 0.0146 0.0122

Saturn -32330-02-27 16:04 J -10087051.93 -10087051.83 -10087051.73 0.0288 0.0223

Moon -32330-11-19 01:26 J -10086787.57 -10086787.44 -10086787.31 0.2666 0.0291

Earth -32330-11-19 01:40 J -10086787.57 -10086787.43 -10086787.30 0.2659 0.0229 *

Venus -32329-02-12 05:16 J -10086702.40 -10086702.28 -10086702.16 0.3597 0.1432

Jupiter -32329-12-03 19:55 J -10086406.81 -10086406.67 -10086406.54 0.0519 0.0101

Jupiter -32328-03-03 05:59 J -10086317.29 -10086317.25 -10086317.22 0.0515 0.0495

Earth -32327-05-20 07:55 J -10085874.27 -10085874.17 -10085874.07 0.2671 0.1633

Moon -32327-05-20 08:09 J -10085874.25 -10085874.16 -10085874.06 0.2678 0.1748 *

Mars -32323-09-13 08:09 J -10084297.21 -10084297.16 -10084297.12 0.1794 0.1641

Jupiter -32322-05-03 12:14 J -10084065.16 -10084064.99 -10084064.83 0.0510 0.0064

Mars -32322-07-28 09:21 J -10083979.25 -10083979.11 -10083978.97 0.1717 0.0710

Mars -32321-08-19 00:14 J -10083591.59 -10083591.49 -10083591.40 0.1818 0.1164

Moon -32320-05-12 21:07 J -10083324.73 -10083324.62 -10083324.52 0.2674 0.1284

Earth -32320-05-12 21:50 J -10083324.70 -10083324.59 -10083324.48 0.2676 0.1218 *

Jupiter -32317-09-21 23:16 J -10082096.65 -10082096.53 -10082096.41 0.0520 0.0244

Earth -32317-11-21 00:43 J -10082036.58 -10082036.47 -10082036.35 0.2661 0.1345

Moon -32317-11-21 01:26 J -10082036.56 -10082036.44 -10082036.33 0.2666 0.1323 *

Jupiter -32317-12-20 09:07 J -10082007.22 -10082007.12 -10082007.02 0.0516 0.0350

Saturn -32316-03-18 15:07 J -10081918.96 -10081918.87 -10081918.78 0.0270 0.0212

Saturn -32316-06-15 03:35 J -10081830.48 -10081830.35 -10081830.22 0.0270 0.0108

Saturn -32316-09-11 16:19 J -10081741.97 -10081741.82 -10081741.68 0.0271 0.0003

Saturn -32316-12-09 05:16 J -10081653.42 -10081653.28 -10081653.15 0.0271 0.0107

Saturn -32315-03-07 18:28 J -10081564.82 -10081564.73 -10081564.64 0.0271 0.0218

Mars -32313-12-17 11:31 J -10080549.08 -10080549.02 -10080548.95 0.1723 0.1561

Mars -32311-01-09 07:55 J -10080161.29 -10080161.17 -10080161.05 0.1812 0.0450

Jupiter -32310-02-19 11:16 J -10079755.20 -10079755.03 -10079754.87 0.0509 0.0115

Moon -32310-11-14 06:28 J -10079487.31 -10079487.23 -10079487.14 0.2656 0.2029

Earth -32310-11-14 07:55 J -10079487.27 -10079487.17 -10079487.08 0.2656 0.1927 *

Moon -32307-05-15 17:59 J -10078573.87 -10078573.75 -10078573.63 0.2679 0.0332

Earth -32307-05-15 18:43 J -10078573.84 -10078573.72 -10078573.60 0.2674 0.0231 *

Jupiter -32305-07-11 03:07 J -10077786.46 -10077786.37 -10077786.28 0.0521 0.0381

Jupiter -32305-10-08 12:43 J -10077697.10 -10077696.97 -10077696.84 0.0517 0.0210

Earth -32304-11-23 23:45 J -10077285.56 -10077285.51 -10077285.46 0.2663 0.2434

Moon -32304-11-24 00:43 J -10077285.51 -10077285.47 -10077285.44 0.2665 0.2548 *

Pluto -32303-11-14 10:47 J -10076930.08 -10076930.05 -10076929.99 0.0076 0.0072

Pluto -32302-02-10 12:14 J -10076842.06 -10076841.99 -10076841.90 0.0076 0.0064

Pluto -32302-05-09 13:55 J -10076754.02 -10076753.92 -10076753.82 0.0075 0.0056

Mars -32302-06-01 15:35 J -10076730.97 -10076730.85 -10076730.73 0.1806 0.0254

Pluto -32302-08-05 14:52 J -10076665.98 -10076665.88 -10076665.75 0.0075 0.0049

Saturn -32302-10-24 06:14 J -10076586.29 -10076586.24 -10076586.18 0.0288 0.0272

Pluto -32302-11-01 16:33 J -10076577.94 -10076577.81 -10076577.68 0.0075 0.0040

Saturn -32301-01-21 01:40 J -10076497.58 -10076497.43 -10076497.28 0.0288 0.0120

Pluto -32301-01-28 17:45 J -10076489.89 -10076489.76 -10076489.62 0.0075 0.0033

Mars -32301-04-15 04:33 J -10076412.43 -10076412.31 -10076412.19 0.1706 0.0997

Saturn -32301-04-18 20:38 J -10076408.80 -10076408.64 -10076408.47 0.0288 0.0030

Pluto -32301-04-25 19:11 J -10076401.84 -10076401.70 -10076401.56 0.0075 0.0025

Saturn -32301-07-16 15:07 J -10076319.99 -10076319.87 -10076319.74 0.0288 0.0174

Pluto -32301-07-22 20:23 J -10076313.79 -10076313.65 -10076313.50 0.0075 0.0018

Pluto -32301-10-18 21:50 J -10076225.74 -10076225.59 -10076225.44 0.0075 0.0011

Pluto -32300-01-14 23:02 J -10076137.69 -10076137.54 -10076137.39 0.0074 0.0003

Pluto -32300-04-13 00:14 J -10076049.63 -10076049.49 -10076049.34 0.0074 0.0005

Pluto -32300-07-10 01:26 J -10075961.58 -10075961.44 -10075961.28 0.0074 0.0012

Pluto -32300-10-06 02:52 J -10075873.53 -10075873.38 -10075873.24 0.0074 0.0018

Pluto -32299-01-02 04:04 J -10075785.47 -10075785.33 -10075785.19 0.0074 0.0025

Pluto -32299-03-31 05:16 J -10075697.41 -10075697.28 -10075697.14 0.0074 0.0032

Pluto -32299-06-27 06:28 J -10075609.35 -10075609.23 -10075609.10 0.0074 0.0039

Pluto -32299-09-23 07:40 J -10075521.29 -10075521.18 -10075521.06 0.0074 0.0046

Jupiter -32299-12-08 10:47 J -10075445.19 -10075445.05 -10075444.91 0.0509 0.0285

Pluto -32299-12-20 08:38 J -10075433.23 -10075433.14 -10075433.03 0.0073 0.0053

Jupiter -32298-03-08 11:16 J -10075355.12 -10075355.03 -10075354.93 0.0512 0.0413

Pluto -32298-03-18 09:50 J -10075345.16 -10075345.09 -10075344.99 0.0073 0.0059

Pluto -32298-06-14 10:47 J -10075257.09 -10075257.05 -10075256.97 0.0073 0.0066

Pluto -32298-09-10 12:14 J -10075169.00 -10075168.99 -10075168.96 0.0073 0.0072

Moon -32297-11-16 06:57 J -10074736.34 -10074736.21 -10074736.08 0.2662 0.0744

Earth -32297-11-16 07:40 J -10074736.31 -10074736.18 -10074736.05 0.2657 0.0731 *

Neptune -32295-04-21 13:55 J -10074214.97 -10074214.92 -10074214.83 0.0088 0.0081

Neptune -32295-07-18 17:02 J -10074126.88 -10074126.79 -10074126.68 0.0088 0.0072

Neptune -32295-10-14 20:09 J -10074038.78 -10074038.66 -10074038.54 0.0088 0.0064

Neptune -32294-01-10 22:47 J -10073950.68 -10073950.55 -10073950.40 0.0088 0.0055

Neptune -32294-04-09 01:55 J -10073862.57 -10073862.42 -10073862.27 0.0088 0.0046

Moon -32294-05-18 15:35 J -10073822.97 -10073822.85 -10073822.73 0.2679 0.0828

Earth -32294-05-18 15:50 J -10073822.96 -10073822.84 -10073822.72 0.2673 0.0786 *

Neptune -32294-07-06 04:33 J -10073774.46 -10073774.31 -10073774.14 0.0088 0.0038

Neptune -32294-10-02 07:40 J -10073686.35 -10073686.18 -10073686.01 0.0088 0.0029

Neptune -32294-12-29 10:19 J -10073598.23 -10073598.07 -10073597.89 0.0088 0.0021

Neptune -32293-03-26 13:26 J -10073510.12 -10073509.94 -10073509.77 0.0088 0.0012

Jupiter -32293-04-29 06:43 J -10073476.22 -10073476.22 -10073476.21 0.0521 0.0520

Neptune -32293-06-22 16:19 J -10073422.00 -10073421.82 -10073421.65 0.0088 0.0004

Jupiter -32293-07-27 16:04 J -10073386.97 -10073386.83 -10073386.69 0.0517 0.0068

Neptune -32293-09-18 18:57 J -10073333.88 -10073333.71 -10073333.53 0.0088 0.0005

Mars -32293-10-21 23:45 J -10073300.61 -10073300.51 -10073300.41 0.1800 0.0923

Neptune -32293-12-15 21:50 J -10073245.76 -10073245.59 -10073245.41 0.0088 0.0013

Uranus -32293-12-18 02:52 J -10073243.44 -10073243.38 -10073243.28 0.0134 0.0117

Neptune -32292-03-14 00:28 J -10073157.64 -10073157.48 -10073157.30 0.0088 0.0021

Uranus -32292-03-16 08:23 J -10073155.26 -10073155.15 -10073155.02 0.0134 0.0094

Neptune -32292-06-10 03:21 J -10073069.52 -10073069.36 -10073069.19 0.0088 0.0029

Uranus -32292-06-12 13:55 J -10073067.06 -10073066.92 -10073066.77 0.0134 0.0070

Mars -32292-09-05 07:26 J -10072982.34 -10072982.19 -10072982.04 0.1712 0.0209

Neptune -32292-09-06 06:14 J -10072981.40 -10072981.24 -10072981.08 0.0088 0.0038

Uranus -32292-09-08 19:11 J -10072978.85 -10072978.70 -10072978.54 0.0133 0.0048

Neptune -32292-12-03 08:38 J -10072893.28 -10072893.14 -10072892.98 0.0088 0.0046

Uranus -32292-12-06 00:28 J -10072890.64 -10072890.48 -10072890.31 0.0133 0.0025

Neptune -32291-03-01 11:31 J -10072805.15 -10072805.02 -10072804.87 0.0088 0.0054

Uranus -32291-03-04 05:45 J -10072802.43 -10072802.26 -10072802.09 0.0133 0.0003

Neptune -32291-05-28 14:09 J -10072717.02 -10072716.91 -10072716.78 0.0088 0.0063

Uranus -32291-05-31 10:47 J -10072714.21 -10072714.05 -10072713.88 0.0133 0.0019

Neptune -32291-08-24 17:02 J -10072628.89 -10072628.79 -10072628.68 0.0088 0.0070

Uranus -32291-08-27 15:50 J -10072625.99 -10072625.84 -10072625.68 0.0133 0.0041

Neptune -32291-11-20 19:40 J -10072540.75 -10072540.68 -10072540.60 0.0088 0.0079

Uranus -32291-11-23 20:52 J -10072537.77 -10072537.63 -10072537.48 0.0133 0.0063

Neptune -32290-02-16 22:33 J -10072452.59 -10072452.56 -10072452.53 0.0088 0.0087

Uranus -32290-02-20 01:55 J -10072449.54 -10072449.42 -10072449.29 0.0133 0.0084

Uranus -32290-05-19 06:43 J -10072361.31 -10072361.22 -10072361.11 0.0133 0.0106

Uranus -32290-08-15 11:31 J -10072273.05 -10072273.02 -10072272.96 0.0133 0.0127

Venus -32288-08-18 10:47 J -10071539.05 -10071539.05 -10071539.04 0.3782 0.3775

Moon -32287-05-11 05:45 J -10071273.33 -10071273.26 -10071273.18 0.2673 0.2107

Earth -32287-05-11 06:28 J -10071273.31 -10071273.23 -10071273.15 0.2678 0.2001 *

Saturn -32287-08-05 15:21 J -10071186.90 -10071186.86 -10071186.81 0.0271 0.0255

Jupiter -32287-09-26 10:19 J -10071135.14 -10071135.07 -10071135.00 0.0508 0.0455

Saturn -32287-11-02 03:50 J -10071098.46 -10071098.34 -10071098.22 0.0271 0.0151

Jupiter -32287-12-25 11:16 J -10071045.17 -10071045.03 -10071044.88 0.0512 0.0249

Saturn -32286-01-29 16:33 J -10071009.96 -10071009.81 -10071009.67 0.0271 0.0046

Saturn -32286-04-28 05:16 J -10070921.42 -10070921.28 -10070921.13 0.0271 0.0062

Saturn -32286-07-25 18:14 J -10070832.84 -10070832.74 -10070832.62 0.0271 0.0173

Moon -32284-11-19 06:57 J -10069985.34 -10069985.21 -10069985.08 0.2666 0.0348

Earth -32284-11-19 07:11 J -10069985.33 -10069985.20 -10069985.07 0.2659 0.0429 *

Mars -32283-03-14 08:09 J -10069870.22 -10069870.16 -10069870.11 0.1794 0.1571

Mars -32282-01-26 10:04 J -10069552.22 -10069552.08 -10069551.94 0.1717 0.0605

Venus -32282-03-04 05:16 J -10069515.39 -10069515.28 -10069515.17 0.3780 0.0886

Mars -32281-02-18 00:14 J -10069164.58 -10069164.49 -10069164.40 0.1818 0.1244

Jupiter -32281-05-15 19:26 J -10069076.83 -10069076.69 -10069076.56 0.0518 0.0078

Earth -32281-05-20 13:11 J -10069072.04 -10069071.95 -10069071.86 0.2671 0.1833

Moon -32281-05-20 13:40 J -10069072.02 -10069071.93 -10069071.84 0.2677 0.1796 *

Venus -32278-03-05 05:45 J -10068053.39 -10068053.26 -10068053.13 0.3596 0.0946

Venus -32277-09-16 23:59 J -10067491.60 -10067491.50 -10067491.41 0.3779 0.2129

Jupiter -32275-10-13 11:16 J -10066735.20 -10066735.03 -10066734.87 0.0510 0.0080

Moon -32274-05-14 02:09 J -10066522.52 -10066522.41 -10066522.29 0.2676 0.1080

Earth -32274-05-14 03:07 J -10066522.48 -10066522.37 -10066522.25 0.2676 0.1034 *

Mars -32273-06-17 12:14 J -10066122.07 -10066121.99 -10066121.91 0.1723 0.1455

Venus -32273-09-18 04:33 J -10066029.39 -10066029.31 -10066029.23 0.3597 0.2772

Saturn -32272-06-09 00:43 J -10065765.60 -10065765.47 -10065765.33 0.0289 0.0169

Mars -32272-07-10 07:40 J -10065734.29 -10065734.18 -10065734.06 0.1812 0.0521

Saturn -32272-09-05 19:55 J -10065676.83 -10065676.67 -10065676.50 0.0289 0.0020

Saturn -32272-12-03 14:38 J -10065588.03 -10065587.89 -10065587.74 0.0289 0.0129

Saturn -32271-03-02 08:52 J -10065499.18 -10065499.13 -10065499.07 0.0288 0.0271

Earth -32271-11-22 06:14 J -10065234.34 -10065234.24 -10065234.13 0.2661 0.1548

Moon -32271-11-22 07:11 J -10065234.30 -10065234.20 -10065234.10 0.2666 0.1691 *

Jupiter -32269-03-03 21:50 J -10064766.71 -10064766.59 -10064766.46 0.0520 0.0238

Jupiter -32269-06-01 07:55 J -10064677.27 -10064677.17 -10064677.07 0.0516 0.0357

Moon -32264-11-14 12:14 J -10062685.09 -10062684.99 -10062684.89 0.2656 0.1807

Earth -32264-11-14 13:26 J -10062685.04 -10062684.94 -10062684.83 0.2656 0.1708 *

Jupiter -32263-08-01 10:33 J -10062425.22 -10062425.06 -10062424.89 0.0509 0.0094

Mars -32263-11-30 15:50 J -10062303.97 -10062303.84 -10062303.72 0.1806 0.0185

Mars -32262-10-15 04:47 J -10061985.41 -10061985.30 -10061985.18 0.1706 0.1092

Moon -32261-05-15 23:16 J -10061771.65 -10061771.53 -10061771.41 0.2678 0.0091

Earth -32261-05-15 23:59 J -10061771.62 -10061771.50 -10061771.37 0.2674 0.0056 *

Earth -32258-11-25 05:02 J -10060483.30 -10060483.29 -10060483.27 0.2663 0.2635

Moon -32258-11-25 06:14 J -10060483.25 -10060483.24 -10060483.24 0.2665 0.2658

Jupiter -32258-12-22 01:26 J -10060456.53 -10060456.44 -10060456.35 0.0521 0.0381

Jupiter -32257-03-20 11:02 J -10060367.16 -10060367.04 -10060366.91 0.0517 0.0211

Saturn -32257-03-21 06:43 J -10060366.33 -10060366.22 -10060366.11 0.0270 0.0173

Saturn -32257-06-17 19:11 J -10060277.84 -10060277.70 -10060277.56 0.0270 0.0069

Saturn -32257-09-14 08:09 J -10060189.31 -10060189.16 -10060189.02 0.0270 0.0039

Saturn -32257-12-11 21:07 J -10060100.74 -10060100.62 -10060100.50 0.0271 0.0148

Saturn -32256-03-10 10:19 J -10060012.11 -10060012.07 -10060012.03 0.0271 0.0259

Mars -32253-04-21 23:45 J -10058873.61 -10058873.51 -10058873.40 0.1800 0.0845

Mars -32252-03-06 07:55 J -10058555.32 -10058555.17 -10058555.02 0.1712 0.0311

Jupiter -32251-05-20 09:35 J -10058115.24 -10058115.10 -10058114.96 0.0508 0.0274

Jupiter -32251-08-18 10:04 J -10058025.17 -10058025.08 -10058024.99 0.0512 0.0423

Moon -32251-11-17 12:43 J -10057934.10 -10057933.97 -10057933.84 0.2664 0.0595

Earth -32251-11-17 13:11 J -10057934.08 -10057933.95 -10057933.81 0.2658 0.0522 *

Uranus -32249-08-24 20:38 J -10057287.71 -10057287.64 -10057287.56 0.0145 0.0124

Uranus -32249-11-21 01:26 J -10057199.55 -10057199.44 -10057199.34 0.0145 0.0100

Uranus -32248-02-17 05:45 J -10057111.38 -10057111.26 -10057111.13 0.0145 0.0075

Uranus -32248-05-16 10:33 J -10057023.20 -10057023.06 -10057022.92 0.0145 0.0050

Moon -32248-05-18 21:07 J -10057020.74 -10057020.62 -10057020.51 0.2679 0.0933

Earth -32248-05-18 21:07 J -10057020.74 -10057020.62 -10057020.50 0.2672 0.0978 *

Uranus -32248-08-12 15:21 J -10056935.01 -10056934.86 -10056934.72 0.0145 0.0025

Uranus -32248-11-08 19:55 J -10056846.81 -10056846.67 -10056846.52 0.0145 0.0003

Uranus -32247-02-05 00:43 J -10056758.61 -10056758.47 -10056758.32 0.0145 0.0026

Uranus -32247-05-04 05:31 J -10056670.41 -10056670.27 -10056670.13 0.0146 0.0052

Uranus -32247-07-31 10:19 J -10056582.19 -10056582.07 -10056581.94 0.0146 0.0078

Uranus -32247-10-27 15:21 J -10056493.96 -10056493.86 -10056493.75 0.0146 0.0104

Uranus -32246-01-23 20:09 J -10056405.72 -10056405.66 -10056405.59 0.0146 0.0131

Jupiter -32246-10-10 05:16 J -10056146.29 -10056146.28 -10056146.27 0.0522 0.0517

Jupiter -32245-01-07 14:38 J -10056057.02 -10056056.89 -10056056.75 0.0518 0.0073

Mars -32244-09-12 08:09 J -10055443.23 -10055443.16 -10055443.10 0.1794 0.1495

Mars -32243-07-27 10:33 J -10055125.21 -10055125.06 -10055124.92 0.1717 0.0511

Saturn -32243-10-26 23:45 J -10055033.62 -10055033.51 -10055033.41 0.0289 0.0220

Saturn -32242-01-23 18:57 J -10054944.87 -10054944.71 -10054944.55 0.0289 0.0069

Saturn -32242-04-22 13:55 J -10054856.08 -10054855.92 -10054855.77 0.0288 0.0080

Saturn -32242-07-20 08:09 J -10054767.26 -10054767.16 -10054767.06 0.0288 0.0223

Mars -32242-08-19 00:28 J -10054737.57 -10054737.48 -10054737.40 0.1818 0.1328

Moon -32241-05-11 11:02 J -10054471.13 -10054471.04 -10054470.95 0.2672 0.1801

Earth -32241-05-11 11:45 J -10054471.10 -10054471.01 -10054470.92 0.2677 0.1823 *

Jupiter -32239-03-08 08:52 J -10053805.21 -10053805.13 -10053805.05 0.0508 0.0445

Jupiter -32239-06-06 09:50 J -10053715.23 -10053715.09 -10053714.94 0.0511 0.0257

Earth -32238-11-20 12:43 J -10053183.10 -10053182.97 -10053182.84 0.2659 0.0635

Moon -32238-11-20 12:43 J -10053183.09 -10053182.97 -10053182.84 0.2666 0.0701 *

Earth -32235-05-21 18:28 J -10052269.81 -10052269.73 -10052269.65 0.2671 0.2024

Moon -32235-05-21 18:57 J -10052269.78 -10052269.71 -10052269.63 0.2676 0.2143 *

Jupiter -32234-10-26 18:14 J -10051746.88 -10051746.74 -10051746.60 0.0518 0.0069

Mars -32234-12-17 12:28 J -10051695.07 -10051694.98 -10051694.88 0.1723 0.1363

Mars -32232-01-08 07:55 J -10051307.29 -10051307.17 -10051307.05 0.1812 0.0599

Venus -32231-03-25 08:52 J -10050866.20 -10050866.13 -10050866.05 0.3781 0.2729

Moon -32228-05-14 07:26 J -10049720.30 -10049720.19 -10049720.07 0.2677 0.0978

Earth -32228-05-14 08:23 J -10049720.27 -10049720.15 -10049720.03 0.2676 0.0852 *

Saturn -32228-08-08 07:11 J -10049634.29 -10049634.20 -10049634.12 0.0270 0.0216

Saturn -32228-11-04 19:26 J -10049545.81 -10049545.69 -10049545.55 0.0271 0.0113

Saturn -32227-02-01 08:09 J -10049457.30 -10049457.16 -10049457.01 0.0271 0.0009

Jupiter -32227-03-25 09:50 J -10049405.25 -10049405.09 -10049404.93 0.0511 0.0090

Venus -32227-03-26 05:59 J -10049404.29 -10049404.25 -10049404.21 0.3595 0.3397

Saturn -32227-04-30 21:07 J -10049368.75 -10049368.62 -10049368.48 0.0271 0.0102

Saturn -32227-07-28 10:04 J -10049280.16 -10049280.08 -10049279.98 0.0271 0.0213

Venus -32226-10-09 03:21 J -10048842.47 -10048842.36 -10048842.25 0.3780 0.0210

Earth -32225-11-22 11:45 J -10048432.10 -10048432.01 -10048431.91 0.2661 0.1757

Moon -32225-11-22 12:43 J -10048432.07 -10048431.97 -10048431.87 0.2666 0.1736 *

Mars -32223-05-31 15:50 J -10047876.96 -10047876.84 -10047876.72 0.1806 0.0101

Mars -32222-04-15 05:16 J -10047558.38 -10047558.28 -10047558.17 0.1706 0.1184

Jupiter -32222-08-14 21:35 J -10047436.72 -10047436.60 -10047436.48 0.0519 0.0213

Venus -32222-10-10 05:02 J -10047380.42 -10047380.29 -10047380.15 0.3596 0.0458

Jupiter -32222-11-12 07:26 J -10047347.28 -10047347.19 -10047347.10 0.0516 0.0380

Venus -32220-04-23 22:04 J -10046818.63 -10046818.58 -10046818.52 0.3778 0.3245

Moon -32218-11-15 17:59 J -10045882.86 -10045882.75 -10045882.64 0.2658 0.1541

Earth -32218-11-15 19:11 J -10045882.81 -10045882.70 -10045882.59 0.2656 0.1494 *

Jupiter -32215-01-11 09:35 J -10045095.26 -10045095.10 -10045094.93 0.0509 0.0079

Moon -32215-05-17 04:33 J -10044969.43 -10044969.31 -10044969.18 0.2678 0.0098

Earth -32215-05-17 05:16 J -10044969.40 -10044969.28 -10044969.15 0.2674 0.0151 *

Neptune -32214-04-28 14:38 J -10044622.89 -10044622.89 -10044622.87 0.0089 0.0089

Neptune -32214-07-25 16:04 J -10044534.87 -10044534.83 -10044534.77 0.0089 0.0082

Neptune -32214-10-21 17:45 J -10044446.83 -10044446.76 -10044446.68 0.0089 0.0075

Mars -32214-10-21 23:45 J -10044446.62 -10044446.51 -10044446.40 0.1800 0.0775

Neptune -32213-01-17 19:26 J -10044358.78 -10044358.69 -10044358.60 0.0089 0.0069

Saturn -32213-03-14 22:04 J -10044301.63 -10044301.58 -10044301.53 0.0289 0.0274

Neptune -32213-04-14 20:52 J -10044270.72 -10044270.63 -10044270.52 0.0089 0.0062

Saturn -32213-06-11 17:45 J -10044212.91 -10044212.76 -10044212.61 0.0289 0.0120

Neptune -32213-07-11 22:19 J -10044182.67 -10044182.57 -10044182.45 0.0089 0.0056

Mars -32213-09-04 08:38 J -10044128.29 -10044128.14 -10044128.00 0.1711 0.0413

Saturn -32213-09-08 12:43 J -10044124.13 -10044123.97 -10044123.80 0.0289 0.0030

Neptune -32213-10-07 23:59 J -10044094.61 -10044094.50 -10044094.37 0.0089 0.0048

Saturn -32213-12-06 07:26 J -10044035.32 -10044035.19 -10044035.06 0.0289 0.0176

Neptune -32212-01-04 01:40 J -10044006.55 -10044006.43 -10044006.30 0.0089 0.0041

Neptune -32212-04-02 03:21 J -10043918.49 -10043918.36 -10043918.23 0.0089 0.0034

Neptune -32212-06-29 05:02 J -10043830.42 -10043830.29 -10043830.15 0.0089 0.0027

Neptune -32212-09-25 06:43 J -10043742.36 -10043742.22 -10043742.08 0.0089 0.0021

Neptune -32212-12-22 08:09 J -10043654.29 -10043654.16 -10043654.01 0.0089 0.0014

Neptune -32211-03-20 09:50 J -10043566.23 -10043566.09 -10043565.94 0.0089 0.0007

Neptune -32211-06-16 11:31 J -10043478.16 -10043478.02 -10043477.88 0.0089 0.0001

Neptune -32211-09-12 13:11 J -10043390.09 -10043389.95 -10043389.81 0.0089 0.0007

Neptune -32211-12-09 14:52 J -10043302.02 -10043301.88 -10043301.74 0.0089 0.0014

Neptune -32210-03-07 16:33 J -10043213.95 -10043213.81 -10043213.67 0.0089 0.0021

Jupiter -32210-06-03 00:14 J -10043126.59 -10043126.49 -10043126.40 0.0521 0.0373

Neptune -32210-06-03 18:14 J -10043125.88 -10043125.74 -10043125.61 0.0089 0.0028

Neptune -32210-08-30 19:40 J -10043037.80 -10043037.68 -10043037.54 0.0089 0.0036

Jupiter -32210-08-31 09:50 J -10043037.22 -10043037.09 -10043036.97 0.0517 0.0219

Neptune -32210-11-26 21:21 J -10042949.73 -10042949.61 -10042949.48 0.0089 0.0043

Neptune -32209-02-22 23:02 J -10042861.65 -10042861.54 -10042861.41 0.0089 0.0050

Neptune -32209-05-21 00:43 J -10042773.57 -10042773.47 -10042773.35 0.0089 0.0057

Neptune -32209-08-17 02:23 J -10042685.49 -10042685.40 -10042685.29 0.0089 0.0064

Uranus -32209-10-11 05:45 J -10042630.29 -10042630.26 -10042630.22 0.0134 0.0130

Neptune -32209-11-13 04:04 J -10042597.40 -10042597.33 -10042597.23 0.0089 0.0071

Uranus -32208-01-07 11:02 J -10042542.13 -10042542.04 -10042541.93 0.0134 0.0107

Neptune -32208-02-09 05:59 J -10042509.31 -10042509.25 -10042509.18 0.0089 0.0078

Uranus -32208-04-05 16:33 J -10042453.94 -10042453.81 -10042453.68 0.0134 0.0084

Neptune -32208-05-08 07:26 J -10042421.21 -10042421.19 -10042421.14 0.0089 0.0086

Moon -32208-05-09 20:09 J -10042419.70 -10042419.66 -10042419.63 0.2672 0.2551

Earth -32208-05-09 20:23 J -10042419.68 -10042419.65 -10042419.62 0.2679 0.2597 *

Uranus -32208-07-02 21:50 J -10042365.74 -10042365.59 -10042365.44 0.0133 0.0061

Uranus -32208-09-29 03:07 J -10042277.53 -10042277.37 -10042277.20 0.0133 0.0038

Uranus -32208-12-26 08:23 J -10042189.32 -10042189.15 -10042188.98 0.0133 0.0016

Uranus -32207-03-24 13:40 J -10042101.10 -10042100.93 -10042100.77 0.0133 0.0007

Uranus -32207-06-20 18:43 J -10042012.88 -10042012.72 -10042012.56 0.0133 0.0029

Uranus -32207-09-16 23:45 J -10041924.66 -10041924.51 -10041924.35 0.0133 0.0050

Uranus -32207-12-14 04:47 J -10041836.44 -10041836.30 -10041836.16 0.0133 0.0072

Uranus -32206-03-12 09:50 J -10041748.20 -10041748.09 -10041747.97 0.0133 0.0093

Uranus -32206-06-08 14:38 J -10041659.96 -10041659.89 -10041659.80 0.0133 0.0115

Moon -32205-11-17 18:14 J -10041131.87 -10041131.74 -10041131.61 0.2664 0.0348

Earth -32205-11-17 18:57 J -10041131.85 -10041131.71 -10041131.58 0.2658 0.0308 *

Mars -32204-03-13 08:09 J -10041016.23 -10041016.16 -10041016.08 0.1794 0.1417

Jupiter -32204-10-30 09:07 J -10040785.27 -10040785.12 -10040784.98 0.0508 0.0250

Mars -32203-01-25 11:02 J -10040698.19 -10040698.04 -10040697.89 0.1717 0.0406

Jupiter -32203-01-28 09:35 J -10040695.18 -10040695.10 -10040695.02 0.0512 0.0445

Mars -32202-02-17 00:28 J -10040310.56 -10040310.48 -10040310.41 0.1818 0.1403

Earth -32202-05-20 02:23 J -10040218.51 -10040218.40 -10040218.28 0.2672 0.1176

Moon -32202-05-20 02:38 J -10040218.50 -10040218.39 -10040218.28 0.2679 0.1214 *

Saturn -32199-12-26 10:04 J -10038902.14 -10038902.08 -10038902.01 0.0270 0.0237

Jupiter -32198-03-22 03:35 J -10038816.36 -10038816.35 -10038816.33 0.0522 0.0516

Saturn -32198-03-24 22:33 J -10038813.69 -10038813.56 -10038813.44 0.0270 0.0134

Jupiter -32198-06-19 12:57 J -10038727.09 -10038726.96 -10038726.82 0.0518 0.0074

Saturn -32198-06-21 11:02 J -10038725.18 -10038725.04 -10038724.89 0.0270 0.0028

Saturn -32198-09-17 23:59 J -10038636.64 -10038636.50 -10038636.36 0.0270 0.0080

Saturn -32198-12-15 12:57 J -10038548.06 -10038547.96 -10038547.85 0.0270 0.0189

Moon -32195-05-12 16:04 J -10037668.92 -10037668.83 -10037668.73 0.2673 0.1771

Earth -32195-05-12 16:47 J -10037668.89 -10037668.80 -10037668.70 0.2677 0.1649 *

Mars -32194-06-17 13:11 J -10037268.06 -10037267.95 -10037267.85 0.1723 0.1258

Mars -32193-07-09 08:09 J -10036880.28 -10036880.16 -10036880.05 0.1812 0.0688

Jupiter -32192-08-18 07:40 J -10036475.27 -10036475.18 -10036475.09 0.0507 0.0433

Jupiter -32192-11-16 08:38 J -10036385.28 -10036385.14 -10036385.00 0.0511 0.0268

Earth -32192-11-20 18:14 J -10036380.86 -10036380.74 -10036380.61 0.2660 0.0846

Moon -32192-11-20 18:28 J -10036380.85 -10036380.73 -10036380.60 0.2666 0.0836 *

Earth -32189-05-21 23:59 J -10035467.57 -10035467.50 -10035467.44 0.2670 0.2225

Moon -32189-05-22 00:28 J -10035467.54 -10035467.48 -10035467.41 0.2675 0.2225 *

Jupiter -32186-04-07 16:47 J -10034416.94 -10034416.80 -10034416.67 0.0519 0.0068

Moon -32185-11-12 23:31 J -10033831.56 -10033831.52 -10033831.47 0.2652 0.2490

Earth -32185-11-13 00:43 J -10033831.51 -10033831.47 -10033831.42 0.2655 0.2491 *

Saturn -32184-10-29 16:47 J -10033480.92 -10033480.80 -10033480.66 0.0289 0.0169

Mars -32184-11-29 15:50 J -10033449.96 -10033449.84 -10033449.72 0.1806 0.0023

Saturn -32183-01-26 12:14 J -10033392.15 -10033391.99 -10033391.83 0.0289 0.0018

Saturn -32183-04-25 06:57 J -10033303.36 -10033303.21 -10033303.07 0.0289 0.0130

Saturn -32183-07-23 01:11 J -10033214.50 -10033214.45 -10033214.40 0.0288 0.0272

Mars -32183-10-14 05:45 J -10033131.35 -10033131.26 -10033131.16 0.1706 0.1279

Moon -32182-05-15 12:43 J -10032918.09 -10032917.97 -10032917.85 0.2677 0.0680

Earth -32182-05-15 13:40 J -10032918.05 -10032917.93 -10032917.81 0.2675 0.0669 *

Jupiter -32180-09-04 08:23 J -10032075.31 -10032075.15 -10032074.99 0.0510 0.0098

Earth -32179-11-23 17:16 J -10031629.86 -10031629.78 -10031629.69 0.2661 0.1956

Moon -32179-11-23 18:14 J -10031629.82 -10031629.74 -10031629.66 0.2666 0.2100 *

Venus -32175-10-30 06:57 J -10030193.30 -10030193.21 -10030193.11 0.3781 0.1673

Jupiter -32174-01-24 20:23 J -10030106.78 -10030106.65 -10030106.53 0.0520 0.0206

Mars -32174-04-21 23:59 J -10030019.62 -10030019.50 -10030019.39 0.1800 0.0694

Jupiter -32174-04-24 06:14 J -10030017.33 -10030017.24 -10030017.15 0.0516 0.0388

Mars -32173-03-05 08:52 J -10029701.28 -10029701.13 -10029700.98 0.1712 0.0501

Moon -32172-11-15 23:45 J -10029080.62 -10029080.51 -10029080.39 0.2660 0.1419

Earth -32172-11-16 00:43 J -10029080.58 -10029080.47 -10029080.35 0.2656 0.1276 *

Venus -32171-10-31 05:31 J -10028731.38 -10028731.27 -10028731.16 0.3595 0.1968

Venus -32169-05-15 01:40 J -10028169.54 -10028169.43 -10028169.33 0.3779 0.1305

Moon -32169-05-17 10:04 J -10028167.20 -10028167.08 -10028166.96 0.2679 0.0271

Earth -32169-05-17 10:33 J -10028167.18 -10028167.06 -10028166.93 0.2674 0.0340 *

Saturn -32169-08-10 23:02 J -10028081.65 -10028081.54 -10028081.43 0.0270 0.0176

Saturn -32169-11-07 11:31 J -10027993.16 -10027993.02 -10027992.88 0.0270 0.0071

Saturn -32168-02-04 00:14 J -10027904.64 -10027904.49 -10027904.35 0.0271 0.0036

Saturn -32168-05-03 12:57 J -10027816.08 -10027815.96 -10027815.83 0.0271 0.0145

Jupiter -32168-06-23 08:09 J -10027765.32 -10027765.16 -10027764.99 0.0510 0.0070

Saturn -32168-07-31 02:23 J -10027727.45 -10027727.40 -10027727.35 0.0271 0.0255

Venus -32165-05-16 04:33 J -10026707.42 -10026707.31 -10026707.20 0.3597 0.1825

Uranus -32165-06-17 23:45 J -10026674.54 -10026674.51 -10026674.47 0.0145 0.0140

Mars -32165-09-11 08:09 J -10026589.24 -10026589.16 -10026589.08 0.1794 0.1349

Uranus -32165-09-14 04:33 J -10026586.40 -10026586.31 -10026586.23 0.0145 0.0115

Uranus -32165-12-11 08:52 J -10026498.24 -10026498.13 -10026498.01 0.0145 0.0091

Uranus -32164-03-09 13:40 J -10026410.06 -10026409.93 -10026409.80 0.0145 0.0066

Uranus -32164-06-05 18:14 J -10026321.88 -10026321.74 -10026321.60 0.0145 0.0041

Mars -32164-07-26 11:31 J -10026271.17 -10026271.02 -10026270.87 0.1717 0.0310

Uranus -32164-09-01 23:02 J -10026233.69 -10026233.54 -10026233.40 0.0145 0.0016

Uranus -32164-11-29 03:35 J -10026145.49 -10026145.35 -10026145.20 0.0145 0.0011

Uranus -32163-02-25 08:23 J -10026057.29 -10026057.15 -10026057.00 0.0145 0.0035

Uranus -32163-05-24 13:11 J -10025969.08 -10025968.95 -10025968.81 0.0146 0.0061

Mars -32163-08-18 00:28 J -10025883.55 -10025883.48 -10025883.41 0.1818 0.1485

Uranus -32163-08-20 18:14 J -10025880.86 -10025880.74 -10025880.62 0.0146 0.0087

Jupiter -32163-11-12 23:45 J -10025796.61 -10025796.51 -10025796.41 0.0520 0.0349

Uranus -32163-11-16 23:02 J -10025792.63 -10025792.54 -10025792.44 0.0146 0.0113

Jupiter -32162-02-10 09:21 J -10025707.23 -10025707.11 -10025706.98 0.0517 0.0242

Uranus -32162-02-13 04:04 J -10025704.37 -10025704.33 -10025704.29 0.0146 0.0140

Moon -32162-05-11 01:11 J -10025617.49 -10025617.45 -10025617.41 0.2672 0.2492

Earth -32162-05-11 01:40 J -10025617.48 -10025617.43 -10025617.38 0.2679 0.2421 *

Moon -32159-11-18 23:59 J -10024329.63 -10024329.50 -10024329.37 0.2664 0.0138

Earth -32159-11-19 00:28 J -10024329.61 -10024329.48 -10024329.35 0.2658 0.0096 *

Jupiter -32156-04-11 07:55 J -10023455.32 -10023455.17 -10023455.02 0.0508 0.0237

Moon -32156-05-20 07:55 J -10023416.28 -10023416.17 -10023416.07 0.2679 0.1359

Earth -32156-05-20 07:55 J -10023416.28 -10023416.17 -10023416.07 0.2672 0.1368 *

Jupiter -32156-07-10 08:38 J -10023365.21 -10023365.14 -10023365.07 0.0512 0.0459

Mars -32155-12-16 13:40 J -10022841.04 -10022840.93 -10022840.81 0.1723 0.1152

Saturn -32154-03-18 14:52 J -10022748.97 -10022748.88 -10022748.77 0.0289 0.0226

Saturn -32154-06-15 10:33 J -10022660.22 -10022660.06 -10022659.90 0.0289 0.0072

Saturn -32154-09-12 05:31 J -10022571.43 -10022571.27 -10022571.11 0.0289 0.0077

Saturn -32154-12-09 23:59 J -10022482.60 -10022482.50 -10022482.40 0.0289 0.0222

Mars -32153-01-08 07:55 J -10022453.28 -10022453.17 -10022453.06 0.1812 0.0752

Jupiter -32151-09-01 02:23 J -10021486.43 -10021486.40 -10021486.37 0.0522 0.0508

Jupiter -32151-11-29 11:45 J -10021397.15 -10021397.01 -10021396.87 0.0518 0.0081

Moon -32149-05-12 21:21 J -10020866.71 -10020866.61 -10020866.51 0.2675 0.1464

Earth -32149-05-12 22:04 J -10020866.68 -10020866.58 -10020866.48 0.2677 0.1470 *

Earth -32146-11-21 23:45 J -10019578.63 -10019578.51 -10019578.38 0.2660 0.1051

Moon -32146-11-22 00:14 J -10019578.61 -10019578.49 -10019578.37 0.2666 0.1107 *

Jupiter -32144-01-28 07:11 J -10019145.29 -10019145.20 -10019145.10 0.0507 0.0410

Jupiter -32144-04-28 08:09 J -10019055.29 -10019055.16 -10019055.02 0.0511 0.0291

Mars -32144-05-30 15:50 J -10019022.96 -10019022.84 -10019022.71 0.1806 0.0093

Mars -32143-04-14 06:28 J -10018704.32 -10018704.23 -10018704.15 0.1706 0.1377

Earth -32143-05-23 05:16 J -10018665.33 -10018665.28 -10018665.23 0.2670 0.2424

Moon -32143-05-23 05:59 J -10018665.28 -10018665.25 -10018665.21 0.2674 0.2536 *

Pluto -32140-10-09 15:07 J -10017429.90 -10017429.87 -10017429.79 0.0068 0.0065

Saturn -32140-12-29 01:55 J -10017349.51 -10017349.42 -10017349.32 0.0270 0.0196

Pluto -32139-01-05 17:02 J -10017341.88 -10017341.79 -10017341.70 0.0069 0.0058

Saturn -32139-03-27 14:23 J -10017261.03 -10017260.90 -10017260.76 0.0270 0.0092

Pluto -32139-04-03 18:14 J -10017253.84 -10017253.74 -10017253.63 0.0069 0.0052

Saturn -32139-06-24 03:07 J -10017172.51 -10017172.37 -10017172.22 0.0270 0.0014

Pluto -32139-06-30 19:26 J -10017165.80 -10017165.69 -10017165.55 0.0069 0.0046

Jupiter -32139-09-17 15:07 J -10017087.01 -10017086.87 -10017086.74 0.0519 0.0068

Saturn -32139-09-20 16:04 J -10017083.96 -10017083.83 -10017083.70 0.0270 0.0122

Pluto -32139-09-26 20:52 J -10017077.76 -10017077.63 -10017077.49 0.0069 0.0040

Moon -32139-11-14 05:16 J -10017029.33 -10017029.28 -10017029.23 0.2653 0.2439

Earth -32139-11-14 06:28 J -10017029.30 -10017029.23 -10017029.16 0.2655 0.2268 *

Saturn -32139-12-18 05:16 J -10016995.36 -10016995.28 -10016995.21 0.0270 0.0233

Pluto -32139-12-23 22:33 J -10016989.71 -10016989.56 -10016989.42 0.0069 0.0033

Pluto -32138-03-21 23:45 J -10016901.66 -10016901.51 -10016901.35 0.0069 0.0027

Pluto -32138-06-18 00:57 J -10016813.61 -10016813.46 -10016813.29 0.0069 0.0021

Pluto -32138-09-14 02:38 J -10016725.55 -10016725.39 -10016725.23 0.0069 0.0014

Pluto -32138-12-11 04:04 J -10016637.50 -10016637.33 -10016637.16 0.0069 0.0008

Pluto -32137-03-08 05:31 J -10016549.44 -10016549.27 -10016549.10 0.0070 0.0001

Pluto -32137-06-04 06:57 J -10016461.38 -10016461.21 -10016461.04 0.0070 0.0005

Pluto -32137-08-31 08:23 J -10016373.31 -10016373.15 -10016372.98 0.0070 0.0012

Pluto -32137-11-27 09:35 J -10016285.25 -10016285.10 -10016284.93 0.0070 0.0019

Pluto -32136-02-23 11:16 J -10016197.18 -10016197.03 -10016196.87 0.0070 0.0026

Moon -32136-05-15 17:59 J -10016115.87 -10016115.75 -10016115.63 0.2676 0.0631

Earth -32136-05-15 18:57 J -10016115.83 -10016115.71 -10016115.59 0.2675 0.0492 *

Pluto -32136-05-22 12:43 J -10016109.11 -10016108.97 -10016108.81 0.0070 0.0032

Pluto -32136-08-18 14:09 J -10016021.04 -10016020.91 -10016020.76 0.0070 0.0039

Pluto -32136-11-14 15:35 J -10015932.96 -10015932.85 -10015932.71 0.0070 0.0046

Pluto -32135-02-10 17:02 J -10015844.88 -10015844.79 -10015844.66 0.0070 0.0054

Pluto -32135-05-09 18:28 J -10015756.79 -10015756.73 -10015756.62 0.0071 0.0061

Pluto -32135-08-05 20:09 J -10015668.69 -10015668.66 -10015668.60 0.0071 0.0068

Mars -32135-10-20 23:59 J -10015592.62 -10015592.50 -10015592.39 0.1800 0.0617

Mars -32134-09-04 09:21 J -10015274.25 -10015274.11 -10015273.97 0.1712 0.0598

Earth -32133-11-23 22:47 J -10014827.62 -10014827.55 -10014827.47 0.2662 0.2160

Moon -32133-11-23 23:45 J -10014827.58 -10014827.51 -10014827.43 0.2665 0.2167 *

Jupiter -32132-02-14 07:11 J -10014745.36 -10014745.20 -10014745.04 0.0510 0.0110

Neptune -32131-10-20 08:38 J -10014132.14 -10014132.14 -10014132.11 0.0088 0.0088

Neptune -32130-01-16 11:31 J -10014044.08 -10014044.02 -10014043.92 0.0088 0.0080

Neptune -32130-04-14 14:52 J -10013955.98 -10013955.88 -10013955.77 0.0088 0.0070

Neptune -32130-07-11 17:31 J -10013867.88 -10013867.77 -10013867.63 0.0088 0.0062

Neptune -32130-10-07 20:38 J -10013779.78 -10013779.64 -10013779.49 0.0088 0.0053

Neptune -32129-01-03 23:45 J -10013691.67 -10013691.51 -10013691.36 0.0088 0.0045

Neptune -32129-04-01 02:23 J -10013603.55 -10013603.40 -10013603.23 0.0088 0.0036

Neptune -32129-06-28 05:31 J -10013515.44 -10013515.27 -10013515.10 0.0088 0.0028

Neptune -32129-09-24 08:09 J -10013427.33 -10013427.16 -10013426.98 0.0088 0.0019

Neptune -32129-12-21 11:02 J -10013339.21 -10013339.04 -10013338.86 0.0088 0.0011

Neptune -32128-03-19 13:55 J -10013251.09 -10013250.92 -10013250.74 0.0088 0.0003

Neptune -32128-06-15 16:47 J -10013162.97 -10013162.80 -10013162.62 0.0088 0.0006

Neptune -32128-09-11 19:40 J -10013074.85 -10013074.68 -10013074.51 0.0088 0.0015

Neptune -32128-12-08 22:19 J -10012986.73 -10012986.57 -10012986.39 0.0088 0.0023

Neptune -32127-03-07 01:11 J -10012898.61 -10012898.45 -10012898.28 0.0088 0.0031

Neptune -32127-06-03 04:04 J -10012810.49 -10012810.33 -10012810.17 0.0088 0.0040

Jupiter -32127-07-06 18:43 J -10012776.85 -10012776.72 -10012776.60 0.0520 0.0205

Neptune -32127-08-30 06:28 J -10012722.36 -10012722.23 -10012722.07 0.0088 0.0048

Jupiter -32127-10-04 04:33 J -10012687.40 -10012687.31 -10012687.22 0.0516 0.0390

Neptune -32127-11-26 09:21 J -10012634.23 -10012634.11 -10012633.97 0.0088 0.0056

Neptune -32126-02-22 11:59 J -10012546.10 -10012546.00 -10012545.87 0.0088 0.0065

Neptune -32126-05-21 14:52 J -10012457.97 -10012457.88 -10012457.78 0.0088 0.0073

Neptune -32126-08-17 17:45 J -10012369.83 -10012369.76 -10012369.69 0.0088 0.0081

Moon -32126-11-17 05:31 J -10012278.40 -10012278.27 -10012278.15 0.2661 0.1057

Earth -32126-11-17 06:28 J -10012278.35 -10012278.23 -10012278.11 0.2657 0.1059 *

Mars -32125-03-12 08:09 J -10012162.24 -10012162.16 -10012162.07 0.1794 0.1273

Saturn -32125-08-04 14:38 J -10012016.94 -10012016.89 -10012016.82 0.0289 0.0270

Uranus -32125-10-31 13:26 J -10011929.00 -10011928.94 -10011928.85 0.0134 0.0121

Saturn -32125-11-01 10:19 J -10011928.22 -10011928.07 -10011927.91 0.0289 0.0116

Mars -32124-01-24 11:59 J -10011844.15 -10011844.00 -10011843.85 0.1717 0.0210

Uranus -32124-01-27 18:57 J -10011840.82 -10011840.71 -10011840.59 0.0134 0.0097

Saturn -32124-01-29 05:31 J -10011839.43 -10011839.27 -10011839.11 0.0289 0.0034

Uranus -32124-04-26 00:14 J -10011752.62 -10011752.49 -10011752.34 0.0133 0.0075

Saturn -32124-04-27 23:59 J -10011750.62 -10011750.50 -10011750.37 0.0289 0.0180

Uranus -32124-07-23 05:45 J -10011664.41 -10011664.26 -10011664.10 0.0133 0.0051

Uranus -32124-10-19 11:02 J -10011576.20 -10011576.04 -10011575.87 0.0133 0.0029

Venus -32124-11-20 10:47 J -10011544.09 -10011544.05 -10011544.01 0.3781 0.3480

Uranus -32123-01-15 16:19 J -10011487.99 -10011487.82 -10011487.65 0.0133 0.0006

Mars -32123-02-16 00:28 J -10011456.54 -10011456.48 -10011456.42 0.1818 0.1565

Uranus -32123-04-13 21:21 J -10011399.77 -10011399.61 -10011399.44 0.0133 0.0016

Moon -32123-05-18 15:21 J -10011364.98 -10011364.86 -10011364.73 0.2680 0.0554

Earth -32123-05-18 15:50 J -10011364.96 -10011364.84 -10011364.72 0.2673 0.0523 *

Uranus -32123-07-11 02:23 J -10011311.55 -10011311.40 -10011311.23 0.0133 0.0038

Uranus -32123-10-07 07:26 J -10011223.33 -10011223.19 -10011223.03 0.0133 0.0060

Uranus -32122-01-03 12:43 J -10011135.10 -10011134.97 -10011134.84 0.0133 0.0081

Uranus -32122-04-01 17:31 J -10011046.86 -10011046.77 -10011046.66 0.0133 0.0103

Uranus -32122-06-28 22:19 J -10010958.61 -10010958.57 -10010958.50 0.0133 0.0124

Jupiter -32121-12-03 06:43 J -10010435.39 -10010435.22 -10010435.05 0.0509 0.0061

Venus -32118-06-06 05:16 J -10009520.39 -10009520.28 -10009520.17 0.3780 0.0602

Moon -32116-05-11 06:28 J -10008815.30 -10008815.23 -10008815.17 0.2672 0.2232

Earth -32116-05-11 06:43 J -10008815.28 -10008815.22 -10008815.15 0.2678 0.2252 *

Jupiter -32115-04-24 22:19 J -10008466.67 -10008466.57 -10008466.46 0.0521 0.0344

Mars -32115-06-16 14:09 J -10008414.03 -10008413.91 -10008413.79 0.1723 0.1059

Jupiter -32115-07-23 07:55 J -10008377.29 -10008377.17 -10008377.04 0.0517 0.0249

Venus -32114-06-07 05:02 J -10008058.42 -10008058.29 -10008058.16 0.3596 0.0549

Mars -32114-07-09 08:09 J -10008026.27 -10008026.16 -10008026.05 0.1812 0.0839

Moon -32113-11-19 05:45 J -10007527.39 -10007527.26 -10007527.13 0.2665 0.0064

Earth -32113-11-19 05:59 J -10007527.38 -10007527.25 -10007527.11 0.2658 0.0143 *

Venus -32113-12-19 23:45 J -10007496.59 -10007496.51 -10007496.42 0.3779 0.2415

Saturn -32110-05-18 02:38 J -10006617.45 -10006617.39 -10006617.32 0.0270 0.0237

Earth -32110-05-21 13:11 J -10006614.05 -10006613.95 -10006613.85 0.2671 0.1563

Moon -32110-05-21 13:11 J -10006614.04 -10006613.95 -10006613.85 0.2678 0.1580 *

Saturn -32110-08-14 15:07 J -10006529.00 -10006528.87 -10006528.75 0.0270 0.0133

Saturn -32110-11-11 03:35 J -10006440.49 -10006440.35 -10006440.20 0.0270 0.0028

Saturn -32109-02-07 16:33 J -10006351.95 -10006351.81 -10006351.67 0.0270 0.0080

Saturn -32109-05-06 05:31 J -10006263.38 -10006263.27 -10006263.17 0.0271 0.0189

Jupiter -32109-09-21 06:14 J -10006125.39 -10006125.24 -10006125.09 0.0508 0.0231

Jupiter -32109-12-20 06:57 J -10006035.28 -10006035.21 -10006035.15 0.0512 0.0466

Venus -32109-12-21 03:50 J -10006034.39 -10006034.34 -10006034.28 0.3597 0.3186

Mars -32105-11-28 15:50 J -10004595.96 -10004595.84 -10004595.71 0.1806 0.0145

Mars -32104-10-13 06:43 J -10004277.29 -10004277.22 -10004277.14 0.1706 0.1465

Jupiter -32103-02-11 01:55 J -10004156.46 -10004156.42 -10004156.37 0.0521 0.0486

Jupiter -32103-05-11 11:16 J -10004067.16 -10004067.03 -10004066.89 0.0518 0.0104

Moon -32103-05-14 02:23 J -10004064.50 -10004064.40 -10004064.30 0.2675 0.1420

Earth -32103-05-14 03:21 J -10004064.47 -10004064.36 -10004064.25 0.2677 0.1287 *

Earth -32100-11-22 05:31 J -10002776.39 -10002776.27 -10002776.16 0.2660 0.1258

Moon -32100-11-22 05:59 J -10002776.37 -10002776.25 -10002776.14 0.2667 0.1293 *

Earth -32097-05-23 10:33 J -10001863.08 -10001863.06 -10001863.04 0.2670 0.2624

Moon -32097-05-23 11:31 J -10001863.02 -10001863.02 -10001863.02 0.2673 0.2672

Jupiter -32097-07-10 05:59 J -10001815.35 -10001815.25 -10001815.14 0.0507 0.0398

Jupiter -32097-10-08 06:57 J -10001725.34 -10001725.21 -10001725.07 0.0511 0.0303

Saturn -32095-03-21 08:23 J -10001196.28 -10001196.15 -10001196.02 0.0289 0.0173

Mars -32095-04-20 23:59 J -10001165.62 -10001165.50 -10001165.39 0.1800 0.0547

Saturn -32095-06-18 03:50 J -10001107.51 -10001107.34 -10001107.18 0.0289 0.0022

Saturn -32095-09-14 22:33 J -10001018.70 -10001018.56 -10001018.41 0.0289 0.0128

Saturn -32095-12-12 16:47 J -10000929.84 -10000929.80 -10000929.74 0.0289 0.0272

Mars -32094-03-05 10:04 J -10000847.22 -10000847.08 -10000846.94 0.1711 0.0704

Moon -32093-11-14 11:02 J -10000227.13 -10000227.04 -10000226.96 0.2655 0.2062

Earth -32093-11-14 12:14 J -10000227.08 -10000226.99 -10000226.91 0.2655 0.2050 *

Jupiter -32091-02-27 13:40 J -9999757.06 -9999756.93 -9999756.79 0.0519 0.0059

Moon -32090-05-16 23:16 J -9999313.65 -9999313.53 -9999313.41 0.2677 0.0297

Earth -32090-05-17 00:14 J -9999313.62 -9999313.49 -9999313.37 0.2675 0.0311 *

Earth -32087-11-25 04:19 J -9998025.38 -9998025.32 -9998025.26 0.2662 0.2357

Moon -32087-11-25 05:31 J -9998025.32 -9998025.27 -9998025.23 0.2664 0.2473 *

Mars -32086-09-11 08:23 J -9997735.24 -9997735.15 -9997735.06 0.1794 0.1193

Mars -32085-07-25 12:28 J -9997417.13 -9997416.98 -9997416.83 0.1717 0.0113

Jupiter -32085-07-27 06:43 J -9997415.38 -9997415.22 -9997415.06 0.0510 0.0132

Mars -32084-08-17 00:43 J -9997029.52 -9997029.47 -9997029.42 0.1818 0.1646

Uranus -32081-07-08 06:43 J -9995973.26 -9995973.22 -9995973.15 0.0145 0.0134

Saturn -32081-10-04 05:59 J -9995885.29 -9995885.25 -9995885.21 0.0270 0.0256

Uranus -32081-10-04 11:31 J -9995885.11 -9995885.02 -9995884.92 0.0145 0.0109

Uranus -32081-12-31 16:04 J -9995796.94 -9995796.83 -9995796.71 0.0145 0.0085

Saturn -32081-12-31 17:59 J -9995796.86 -9995796.75 -9995796.62 0.0270 0.0154 *

Uranus -32080-03-29 20:38 J -9995708.76 -9995708.64 -9995708.50 0.0145 0.0060

Saturn -32080-03-30 06:43 J -9995708.36 -9995708.22 -9995708.08 0.0270 0.0049

Uranus -32080-06-26 01:26 J -9995620.58 -9995620.44 -9995620.30 0.0145 0.0035

Saturn -32080-06-26 19:26 J -9995619.83 -9995619.69 -9995619.55 0.0270 0.0059

Uranus -32080-09-22 06:14 J -9995532.39 -9995532.24 -9995532.10 0.0145 0.0010

Saturn -32080-09-23 08:23 J -9995531.26 -9995531.15 -9995531.03 0.0270 0.0168

Moon -32080-11-17 11:02 J -9995476.16 -9995476.04 -9995475.91 0.2661 0.1002

Earth -32080-11-17 11:59 J -9995476.12 -9995476.00 -9995475.87 0.2657 0.0843 *

Jupiter -32080-12-16 17:02 J -9995446.92 -9995446.79 -9995446.67 0.0520 0.0207

Uranus -32080-12-19 10:47 J -9995444.19 -9995444.05 -9995443.90 0.0145 0.0016

Jupiter -32079-03-16 02:52 J -9995357.47 -9995357.38 -9995357.29 0.0516 0.0388

Uranus -32079-03-17 15:35 J -9995355.99 -9995355.85 -9995355.70 0.0145 0.0042

Uranus -32079-06-13 20:23 J -9995267.78 -9995267.65 -9995267.51 0.0146 0.0067

Uranus -32079-09-10 01:11 J -9995179.55 -9995179.45 -9995179.33 0.0146 0.0094

Uranus -32079-12-07 06:14 J -9995091.32 -9995091.24 -9995091.15 0.0146 0.0120

Moon -32077-05-18 20:52 J -9994562.75 -9994562.63 -9994562.51 0.2680 0.0627

Earth -32077-05-18 21:07 J -9994562.74 -9994562.62 -9994562.50 0.2673 0.0715 *

Mars -32076-12-15 14:38 J -9993987.01 -9993986.89 -9993986.76 0.1723 0.0953

Mars -32074-01-07 08:09 J -9993599.26 -9993599.16 -9993599.05 0.1812 0.0921

Jupiter -32073-05-15 05:16 J -9993105.44 -9993105.28 -9993105.11 0.0509 0.0052

Moon -32070-05-12 11:31 J -9992013.09 -9992013.02 -9992012.95 0.2673 0.2121

Earth -32070-05-12 11:59 J -9992013.08 -9992013.00 -9992012.93 0.2678 0.2072 *

Jupiter -32068-10-04 20:38 J -9991136.74 -9991136.64 -9991136.54 0.0521 0.0345

Jupiter -32067-01-02 06:14 J -9991047.36 -9991047.24 -9991047.12 0.0517 0.0247

Venus -32067-06-27 08:52 J -9990871.21 -9990871.13 -9990871.04 0.3781 0.2432

Moon -32067-11-20 11:31 J -9990725.15 -9990725.02 -9990724.89 0.2665 0.0390

Earth -32067-11-20 11:45 J -9990725.15 -9990725.01 -9990724.88 0.2659 0.0333 *

Saturn -32066-08-08 08:38 J -9990464.25 -9990464.14 -9990464.03 0.0289 0.0214

Saturn -32066-11-05 04:04 J -9990375.49 -9990375.33 -9990375.17 0.0289 0.0061

Saturn -32065-02-01 23:02 J -9990286.69 -9990286.54 -9990286.38 0.0289 0.0088

Saturn -32065-04-30 17:31 J -9990197.86 -9990197.77 -9990197.68 0.0289 0.0233

Mars -32065-05-29 16:04 J -9990168.96 -9990168.83 -9990168.71 0.1806 0.0218

Mars -32064-04-13 07:11 J -9989850.26 -9989850.20 -9989850.14 0.1706 0.1562

Earth -32064-05-21 18:28 J -9989811.83 -9989811.73 -9989811.64 0.2671 0.1753

Moon -32064-05-21 18:43 J -9989811.81 -9989811.72 -9989811.63 0.2677 0.1824 *

Venus -32063-06-28 05:16 J -9989409.35 -9989409.28 -9989409.21 0.3595 0.3003

Venus -32061-01-11 03:21 J -9988847.47 -9988847.36 -9988847.25 0.3780 0.0501

Jupiter -32061-03-03 04:33 J -9988795.45 -9988795.31 -9988795.15 0.0508 0.0224

Jupiter -32061-06-01 05:16 J -9988705.34 -9988705.28 -9988705.22 0.0512 0.0471

Venus -32057-01-12 04:33 J -9987385.44 -9987385.31 -9987385.18 0.3596 0.0855

Moon -32057-05-14 07:40 J -9987262.29 -9987262.18 -9987262.07 0.2675 0.1129

Earth -32057-05-14 08:38 J -9987262.25 -9987262.14 -9987262.03 0.2676 0.1112 *

Jupiter -32056-07-24 00:28 J -9986826.53 -9986826.48 -9986826.43 0.0522 0.0483

Venus -32056-07-26 22:04 J -9986823.62 -9986823.58 -9986823.54 0.3778 0.3528

Mars -32056-10-19 23:59 J -9986738.62 -9986738.50 -9986738.38 0.1800 0.0467

Jupiter -32056-10-21 09:50 J -9986737.23 -9986737.09 -9986736.96 0.0518 0.0106

Mars -32055-09-03 10:19 J -9986420.21 -9986420.07 -9986419.94 0.1712 0.0788

Pluto -32054-03-08 18:43 J -9986233.73 -9986233.72 -9986233.67 0.0076 0.0074

Pluto -32054-06-04 20:23 J -9986145.72 -9986145.65 -9986145.57 0.0076 0.0066

Pluto -32054-08-31 21:35 J -9986057.68 -9986057.60 -9986057.49 0.0075 0.0058

Earth -32054-11-23 11:02 J -9985974.15 -9985974.04 -9985973.93 0.2661 0.1465

Moon -32054-11-23 11:31 J -9985974.13 -9985974.02 -9985973.91 0.2667 0.1494 *

Pluto -32054-11-27 23:02 J -9985969.64 -9985969.54 -9985969.42 0.0075 0.0050

Pluto -32053-02-24 00:28 J -9985881.60 -9985881.48 -9985881.35 0.0075 0.0043

Pluto -32053-05-22 01:40 J -9985793.55 -9985793.43 -9985793.29 0.0075 0.0035

Pluto -32053-08-18 02:52 J -9985705.50 -9985705.38 -9985705.22 0.0075 0.0028

Pluto -32053-11-14 04:33 J -9985617.45 -9985617.31 -9985617.16 0.0075 0.0020

Pluto -32052-02-10 05:45 J -9985529.40 -9985529.26 -9985529.11 0.0075 0.0013

Pluto -32052-05-09 07:11 J -9985441.35 -9985441.20 -9985441.05 0.0074 0.0005

Pluto -32052-08-05 08:23 J -9985353.30 -9985353.15 -9985353.00 0.0074 0.0002

Pluto -32052-11-01 09:35 J -9985265.25 -9985265.10 -9985264.95 0.0074 0.0009

Pluto -32051-01-28 11:02 J -9985177.19 -9985177.04 -9985176.90 0.0074 0.0017

Pluto -32051-04-26 11:59 J -9985089.14 -9985089.00 -9985088.85 0.0074 0.0024

Saturn -32051-05-20 19:11 J -9985064.80 -9985064.70 -9985064.60 0.0270 0.0191

Pluto -32051-07-23 13:11 J -9985001.08 -9985000.95 -9985000.81 0.0074 0.0031

Saturn -32051-08-17 07:40 J -9984976.32 -9984976.18 -9984976.05 0.0270 0.0087

Pluto -32051-10-19 14:23 J -9984913.02 -9984912.90 -9984912.76 0.0074 0.0037

Saturn -32051-11-13 20:09 J -9984887.80 -9984887.66 -9984887.51 0.0270 0.0020

Pluto -32050-01-15 15:21 J -9984824.96 -9984824.86 -9984824.72 0.0074 0.0045

Saturn -32050-02-10 09:07 J -9984799.25 -9984799.12 -9984798.99 0.0270 0.0127

Pluto -32050-04-13 17:02 J -9984736.90 -9984736.79 -9984736.69 0.0073 0.0051

Saturn -32050-05-09 22:04 J -9984710.64 -9984710.58 -9984710.50 0.0271 0.0238

Pluto -32050-07-10 17:59 J -9984648.83 -9984648.75 -9984648.65 0.0073 0.0058

Pluto -32050-10-06 18:57 J -9984560.76 -9984560.71 -9984560.63 0.0073 0.0065

Jupiter -32050-12-21 04:04 J -9984485.43 -9984485.33 -9984485.23 0.0507 0.0396

Pluto -32049-01-02 20:09 J -9984472.68 -9984472.66 -9984472.61 0.0073 0.0071

Neptune -32049-01-23 13:26 J -9984451.95 -9984451.94 -9984451.90 0.0089 0.0087

Jupiter -32049-03-20 05:02 J -9984395.42 -9984395.29 -9984395.15 0.0511 0.0305

Neptune -32049-04-20 15:07 J -9984363.92 -9984363.87 -9984363.80 0.0089 0.0080

Neptune -32049-07-17 16:47 J -9984275.87 -9984275.80 -9984275.72 0.0089 0.0073

Neptune -32049-10-13 18:28 J -9984187.82 -9984187.73 -9984187.64 0.0089 0.0067

Neptune -32048-01-09 19:40 J -9984099.77 -9984099.68 -9984099.56 0.0089 0.0061

Neptune -32048-04-07 21:21 J -9984011.71 -9984011.61 -9984011.49 0.0089 0.0053

Neptune -32048-07-04 23:02 J -9983923.65 -9983923.54 -9983923.41 0.0089 0.0046

Neptune -32048-10-01 00:43 J -9983835.59 -9983835.47 -9983835.34 0.0089 0.0039

Neptune -32048-12-28 02:23 J -9983747.53 -9983747.40 -9983747.27 0.0089 0.0032

Neptune -32047-03-26 04:04 J -9983659.47 -9983659.33 -9983659.20 0.0089 0.0026

Neptune -32047-06-22 05:31 J -9983571.40 -9983571.27 -9983571.13 0.0089 0.0019

Neptune -32047-09-18 07:11 J -9983483.34 -9983483.20 -9983483.06 0.0089 0.0012

Moon -32047-11-15 16:33 J -9983424.89 -9983424.81 -9983424.72 0.2657 0.1983

Earth -32047-11-15 17:45 J -9983424.85 -9983424.76 -9983424.66 0.2655 0.1829 *

Neptune -32047-12-15 08:52 J -9983395.27 -9983395.13 -9983394.99 0.0089 0.0005

Mars -32046-03-12 08:23 J -9983308.25 -9983308.15 -9983308.06 0.1794 0.1126

Neptune -32046-03-13 10:33 J -9983307.20 -9983307.06 -9983306.92 0.0089 0.0003

Neptune -32046-06-09 11:59 J -9983219.14 -9983219.00 -9983218.85 0.0089 0.0010

Neptune -32046-09-05 13:40 J -9983131.07 -9983130.93 -9983130.79 0.0089 0.0017

Neptune -32046-12-02 15:21 J -9983043.00 -9983042.86 -9983042.72 0.0089 0.0023

Mars -32045-01-24 13:11 J -9982990.11 -9982989.95 -9982989.80 0.1718 0.0048

Neptune -32045-02-28 17:02 J -9982954.92 -9982954.79 -9982954.65 0.0089 0.0030

Neptune -32045-05-26 18:28 J -9982866.85 -9982866.73 -9982866.59 0.0089 0.0038

Neptune -32045-08-22 20:09 J -9982778.77 -9982778.66 -9982778.52 0.0089 0.0045

Neptune -32045-11-18 21:50 J -9982690.69 -9982690.59 -9982690.46 0.0089 0.0052

Neptune -32044-02-14 23:31 J -9982602.62 -9982602.52 -9982602.40 0.0089 0.0059

Mars -32044-02-15 00:43 J -9982602.51 -9982602.47 -9982602.43 0.1818 0.1725 *

Neptune -32044-05-14 01:11 J -9982514.53 -9982514.45 -9982514.34 0.0089 0.0066

Moon -32044-05-17 04:33 J -9982511.43 -9982511.31 -9982511.18 0.2679 0.0258

Earth -32044-05-17 05:16 J -9982511.40 -9982511.28 -9982511.15 0.2675 0.0147 *

Jupiter -32044-08-09 13:11 J -9982427.09 -9982426.95 -9982426.81 0.0519 0.0038

Neptune -32044-08-10 03:07 J -9982426.45 -9982426.37 -9982426.29 0.0089 0.0073

Neptune -32044-11-06 04:47 J -9982338.35 -9982338.30 -9982338.24 0.0089 0.0080

Neptune -32043-02-02 06:14 J -9982250.25 -9982250.24 -9982250.20 0.0089 0.0088

Uranus -32041-08-24 16:19 J -9981315.82 -9981315.82 -9981315.82 0.0134 0.0134

Uranus -32041-11-20 21:35 J -9981227.68 -9981227.60 -9981227.50 0.0134 0.0111

Earth -32041-11-25 09:50 J -9981223.12 -9981223.09 -9981223.05 0.2662 0.2560

Moon -32041-11-25 11:02 J -9981223.06 -9981223.04 -9981223.02 0.2664 0.2622 *

Uranus -32040-02-17 02:52 J -9981139.49 -9981139.38 -9981139.24 0.0134 0.0088

Uranus -32040-05-16 08:23 J -9981051.29 -9981051.15 -9981050.99 0.0133 0.0065

Uranus -32040-08-12 13:55 J -9980963.08 -9980962.92 -9980962.76 0.0133 0.0042

Uranus -32040-11-08 19:11 J -9980874.87 -9980874.70 -9980874.54 0.0133 0.0019

Uranus -32039-02-05 00:14 J -9980786.65 -9980786.49 -9980786.32 0.0133 0.0005

Uranus -32039-05-04 05:31 J -9980698.43 -9980698.27 -9980698.11 0.0133 0.0026

Uranus -32039-07-31 10:33 J -9980610.21 -9980610.06 -9980609.90 0.0133 0.0048

Uranus -32039-10-27 15:35 J -9980521.99 -9980521.85 -9980521.70 0.0133 0.0069

Uranus -32038-01-23 20:38 J -9980433.75 -9980433.64 -9980433.51 0.0133 0.0091

Uranus -32038-04-22 01:40 J -9980345.51 -9980345.43 -9980345.34 0.0133 0.0112

Jupiter -32037-01-07 05:16 J -9980085.44 -9980085.28 -9980085.12 0.0510 0.0141

Mars -32037-08-01 16:47 J -9979877.82 -9979877.80 -9979877.78 0.1788 0.1754

Saturn -32037-12-25 06:28 J -9979732.28 -9979732.23 -9979732.18 0.0289 0.0272

Saturn -32036-03-24 02:09 J -9979643.56 -9979643.41 -9979643.26 0.0289 0.0118

Mars -32036-06-15 15:21 J -9979560.00 -9979559.86 -9979559.73 0.1723 0.0850

Saturn -32036-06-20 21:21 J -9979554.77 -9979554.61 -9979554.45 0.0289 0.0033

Saturn -32036-09-17 15:50 J -9979465.96 -9979465.84 -9979465.71 0.0289 0.0181

Mars -32035-07-08 08:09 J -9979172.26 -9979172.16 -9979172.06 0.1812 0.0991

Moon -32034-11-18 16:47 J -9978673.93 -9978673.80 -9978673.67 0.2661 0.0617

Earth -32034-11-18 17:45 J -9978673.89 -9978673.76 -9978673.63 0.2657 0.0627 *

Jupiter -32032-05-28 15:35 J -9978116.98 -9978116.85 -9978116.72 0.0520 0.0200

Jupiter -32032-08-26 01:26 J -9978027.53 -9978027.44 -9978027.35 0.0516 0.0394

Moon -32031-05-20 02:09 J -9977760.53 -9977760.41 -9977760.29 0.2679 0.0952

Earth -32031-05-20 02:23 J -9977760.51 -9977760.40 -9977760.28 0.2673 0.0907 *

Jupiter -32026-10-26 04:47 J -9975775.47 -9975775.30 -9975775.13 0.0509 0.0030

Mars -32026-11-28 16:04 J -9975741.95 -9975741.83 -9975741.71 0.1806 0.0293

Mars -32025-10-12 07:40 J -9975423.21 -9975423.18 -9975423.15 0.1706 0.1655

Moon -32024-05-12 16:33 J -9975210.90 -9975210.81 -9975210.73 0.2674 0.1961

Earth -32024-05-12 17:02 J -9975210.87 -9975210.79 -9975210.70 0.2678 0.1901 *

Saturn -32022-10-07 22:19 J -9974332.66 -9974332.57 -9974332.48 0.0270 0.0212

Saturn -32021-01-04 10:33 J -9974244.19 -9974244.06 -9974243.92 0.0270 0.0109

Saturn -32021-04-01 23:16 J -9974155.68 -9974155.53 -9974155.38 0.0270 0.0002

Saturn -32021-06-29 11:59 J -9974067.13 -9974067.00 -9974066.86 0.0270 0.0107

Saturn -32021-09-26 01:11 J -9973978.54 -9973978.45 -9973978.36 0.0270 0.0216

Moon -32021-11-20 17:16 J -9973922.91 -9973922.78 -9973922.65 0.2666 0.0473

Earth -32021-11-20 17:16 J -9973922.91 -9973922.78 -9973922.65 0.2659 0.0543 *

Jupiter -32020-03-16 18:43 J -9973806.81 -9973806.72 -9973806.62 0.0521 0.0348

Jupiter -32020-06-14 04:19 J -9973717.44 -9973717.32 -9973717.19 0.0517 0.0245

Earth -32018-05-22 23:45 J -9973009.59 -9973009.51 -9973009.42 0.2671 0.1952

Moon -32018-05-23 00:14 J -9973009.57 -9973009.49 -9973009.40 0.2677 0.1950 *

Mars -32016-04-20 00:14 J -9972311.61 -9972311.49 -9972311.37 0.1800 0.0390

Mars -32015-03-04 10:47 J -9971993.18 -9971993.05 -9971992.92 0.1712 0.0890

Jupiter -32014-08-14 03:07 J -9971465.52 -9971465.37 -9971465.21 0.0508 0.0215

Jupiter -32014-11-12 03:50 J -9971375.39 -9971375.34 -9971375.29 0.0512 0.0479

Moon -32011-05-15 12:57 J -9970460.08 -9970459.96 -9970459.85 0.2675 0.1045

Earth -32011-05-15 13:40 J -9970460.04 -9970459.93 -9970459.81 0.2676 0.0931 *

Venus -32010-02-01 06:57 J -9970198.31 -9970198.21 -9970198.10 0.3781 0.1383

Jupiter -32008-01-02 22:33 J -9969496.61 -9969496.56 -9969496.52 0.0522 0.0487

Jupiter -32008-04-02 07:55 J -9969407.31 -9969407.17 -9969407.04 0.0518 0.0103

Earth -32008-11-23 16:33 J -9969171.91 -9969171.81 -9969171.71 0.2661 0.1670

Moon -32008-11-23 17:16 J -9969171.88 -9969171.78 -9969171.69 0.2666 0.1769 *

Saturn -32007-08-11 03:07 J -9968911.50 -9968911.37 -9968911.22 0.0289 0.0153

Mars -32007-09-10 08:23 J -9968881.25 -9968881.15 -9968881.05 0.1794 0.1048

Saturn -32007-11-07 22:33 J -9968822.73 -9968822.56 -9968822.40 0.0289 0.0003

Venus -32006-02-02 04:47 J -9968736.42 -9968736.30 -9968736.18 0.3595 0.1578

Saturn -32006-02-04 17:16 J -9968733.92 -9968733.78 -9968733.64 0.0289 0.0147

Mars -32006-07-25 13:26 J -9968563.09 -9968562.94 -9968562.79 0.1717 0.0084

Mars -32005-08-16 00:57 J -9968175.47 -9968175.46 -9968175.46 0.1818 0.1808

Venus -32005-08-17 01:26 J -9968174.54 -9968174.44 -9968174.33 0.3779 0.1596

Jupiter -32002-06-02 02:23 J -9967155.51 -9967155.40 -9967155.29 0.0507 0.0390

Jupiter -32002-08-31 03:21 J -9967065.49 -9967065.36 -9967065.23 0.0511 0.0309

Venus -32001-08-18 03:50 J -9966712.44 -9966712.34 -9966712.24 0.3597 0.2208

Moon -32001-11-15 22:19 J -9966622.68 -9966622.57 -9966622.46 0.2657 0.1650

Earth -32001-11-15 23:31 J -9966622.63 -9966622.52 -9966622.41 0.2656 0.1607 *

32ND MILLENNIUM BCE

This is a list of transits of Mercury in the 32nd millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Moon -31998-05-18 10:04 J -9965709.21 -9965709.08 -9965708.96 0.2679 0.0117

Earth -31998-05-18 10:33 J -9965709.18 -9965709.06 -9965708.93 0.2674 0.0117 *

Mars -31997-01-31 16:47 J -9965450.83 -9965450.80 -9965450.76 0.1788 0.1683

Uranus -31997-07-28 14:23 J -9965271.96 -9965271.90 -9965271.82 0.0145 0.0126

Uranus -31997-10-24 19:11 J -9965183.80 -9965183.70 -9965183.60 0.0145 0.0101

Mars -31997-12-14 15:35 J -9965132.99 -9965132.85 -9965132.71 0.1723 0.0757

Jupiter -31996-01-19 11:31 J -9965097.16 -9965097.02 -9965096.88 0.0519 0.0038

Uranus -31996-01-20 23:31 J -9965095.63 -9965095.52 -9965095.39 0.0145 0.0077

Uranus -31996-04-19 04:19 J -9965007.45 -9965007.32 -9965007.18 0.0145 0.0052

Uranus -31996-07-16 09:07 J -9964919.27 -9964919.12 -9964918.98 0.0145 0.0027

Uranus -31996-10-12 13:40 J -9964831.08 -9964830.93 -9964830.78 0.0145 0.0003

Mars -31995-01-06 08:23 J -9964745.25 -9964745.15 -9964745.06 0.1812 0.1074

Uranus -31995-01-08 18:28 J -9964742.88 -9964742.73 -9964742.58 0.0145 0.0024

Uranus -31995-04-06 23:16 J -9964654.67 -9964654.53 -9964654.39 0.0145 0.0049

Uranus -31995-07-04 03:50 J -9964566.46 -9964566.34 -9964566.20 0.0146 0.0076

Uranus -31995-09-30 08:52 J -9964478.23 -9964478.13 -9964478.02 0.0146 0.0102

Uranus -31995-12-27 13:55 J -9964389.99 -9964389.92 -9964389.85 0.0146 0.0128

Saturn -31992-02-23 23:45 J -9963600.56 -9963600.51 -9963600.45 0.0270 0.0246

Saturn -31992-05-23 11:59 J -9963512.12 -9963512.00 -9963511.88 0.0270 0.0143

Saturn -31992-08-20 00:28 J -9963423.62 -9963423.48 -9963423.33 0.0270 0.0039

Saturn -31992-11-16 13:11 J -9963335.09 -9963334.95 -9963334.81 0.0270 0.0069

Saturn -31991-02-13 02:09 J -9963246.52 -9963246.41 -9963246.30 0.0270 0.0178

Earth -31991-05-11 01:55 J -9963159.43 -9963159.42 -9963159.41 0.2679 0.2664

Jupiter -31990-06-19 03:07 J -9962755.53 -9962755.37 -9962755.21 0.0510 0.0140

Moon -31988-11-18 22:47 J -9961871.68 -9961871.55 -9961871.42 0.2663 0.0533

Earth -31988-11-18 23:16 J -9961871.66 -9961871.53 -9961871.39 0.2657 0.0415 *

Mars -31987-05-06 17:31 J -9961702.82 -9961702.77 -9961702.71 0.1729 0.1617

Mars -31986-05-29 16:04 J -9961314.95 -9961314.83 -9961314.71 0.1806 0.0372

Moon -31985-05-20 07:40 J -9960958.30 -9960958.18 -9960958.07 0.2679 0.1021

Earth -31985-05-20 07:40 J -9960958.29 -9960958.18 -9960958.06 0.2672 0.1098 *

Jupiter -31985-11-07 14:52 J -9960787.01 -9960786.88 -9960786.75 0.0520 0.0182

Jupiter -31984-02-05 00:43 J -9960697.55 -9960697.47 -9960697.39 0.0516 0.0412

Jupiter -31978-04-07 03:07 J -9958445.54 -9958445.37 -9958445.20 0.0509 0.0026

Moon -31978-05-13 21:35 J -9958408.69 -9958408.60 -9958408.51 0.2674 0.1742

Earth -31978-05-13 22:19 J -9958408.66 -9958408.57 -9958408.47 0.2678 0.1719 *

Saturn -31978-12-29 00:57 J -9958179.57 -9958179.46 -9958179.34 0.0289 0.0211

Saturn -31977-03-26 20:38 J -9958090.80 -9958090.64 -9958090.48 0.0289 0.0057

Saturn -31977-06-23 15:35 J -9958002.00 -9958001.85 -9958001.70 0.0289 0.0092

Saturn -31977-09-20 10:04 J -9957913.17 -9957913.08 -9957912.99 0.0289 0.0238

Mars -31977-10-18 23:59 J -9957884.62 -9957884.50 -9957884.38 0.1800 0.0320

Mars -31976-09-02 11:16 J -9957566.15 -9957566.03 -9957565.90 0.1712 0.0990

Moon -31975-11-21 23:02 J -9957120.67 -9957120.54 -9957120.42 0.2666 0.0842

Earth -31975-11-21 22:47 J -9957120.67 -9957120.55 -9957120.42 0.2659 0.0753 *

Jupiter -31973-08-26 17:31 J -9956476.87 -9956476.77 -9956476.67 0.0521 0.0342

Jupiter -31973-11-24 02:52 J -9956387.50 -9956387.38 -9956387.25 0.0517 0.0250

Earth -31972-05-23 05:02 J -9956207.36 -9956207.29 -9956207.21 0.2671 0.2148

Moon -31972-05-23 05:45 J -9956207.33 -9956207.26 -9956207.20 0.2677 0.2272 *

Earth -31968-11-14 05:02 J -9954571.31 -9954571.29 -9954571.27 0.2654 0.2618

Mars -31967-03-11 08:23 J -9954454.25 -9954454.15 -9954454.05 0.1794 0.0971

Mars -31966-01-23 13:55 J -9954136.07 -9954135.92 -9954135.76 0.1717 0.0187

Jupiter -31966-01-24 02:23 J -9954135.55 -9954135.40 -9954135.24 0.0508 0.0198

Jupiter -31966-04-24 02:52 J -9954045.41 -9954045.38 -9954045.34 0.0512 0.0497

Neptune -31966-07-17 06:28 J -9953961.26 -9953961.23 -9953961.20 0.0088 0.0087

Neptune -31966-10-13 08:52 J -9953873.19 -9953873.13 -9953873.02 0.0088 0.0079

Neptune -31965-01-09 11:59 J -9953785.09 -9953785.00 -9953784.87 0.0088 0.0070

Neptune -31965-04-06 15:07 J -9953696.99 -9953696.87 -9953696.73 0.0088 0.0061

Moon -31965-05-15 18:14 J -9953657.86 -9953657.74 -9953657.63 0.2676 0.0801

Earth -31965-05-15 18:57 J -9953657.82 -9953657.71 -9953657.59 0.2676 0.0746 *

Neptune -31965-07-03 17:59 J -9953608.88 -9953608.75 -9953608.59 0.0088 0.0052

Neptune -31965-09-29 21:07 J -9953520.77 -9953520.62 -9953520.46 0.0088 0.0043

Neptune -31965-12-26 23:45 J -9953432.66 -9953432.51 -9953432.33 0.0088 0.0035

Neptune -31964-03-25 02:52 J -9953344.54 -9953344.38 -9953344.20 0.0088 0.0026

Neptune -31964-06-21 05:59 J -9953256.43 -9953256.25 -9953256.08 0.0088 0.0018

Neptune -31964-09-17 08:38 J -9953168.31 -9953168.14 -9953167.96 0.0088 0.0009

Neptune -31964-12-14 11:31 J -9953080.19 -9953080.02 -9953079.84 0.0088 0.0002

Neptune -31963-03-12 14:23 J -9952992.07 -9952991.90 -9952991.72 0.0088 0.0008

Neptune -31963-06-08 17:16 J -9952903.95 -9952903.78 -9952903.61 0.0088 0.0016

Saturn -31963-07-14 02:52 J -9952868.40 -9952868.38 -9952868.36 0.0270 0.0267

Neptune -31963-09-04 20:09 J -9952815.83 -9952815.66 -9952815.49 0.0088 0.0025

Saturn -31963-10-10 15:07 J -9952779.98 -9952779.87 -9952779.76 0.0270 0.0164

Neptune -31963-12-01 22:47 J -9952727.71 -9952727.55 -9952727.38 0.0088 0.0033

Saturn -31962-01-07 03:35 J -9952691.49 -9952691.35 -9952691.21 0.0270 0.0059

Neptune -31962-02-28 01:26 J -9952639.58 -9952639.44 -9952639.27 0.0088 0.0042

Saturn -31962-04-05 16:19 J -9952602.97 -9952602.82 -9952602.68 0.0270 0.0048

Neptune -31962-05-27 04:19 J -9952551.46 -9952551.32 -9952551.17 0.0088 0.0050

Saturn -31962-07-03 05:02 J -9952514.40 -9952514.29 -9952514.16 0.0270 0.0158

Neptune -31962-08-23 06:57 J -9952463.33 -9952463.21 -9952463.07 0.0088 0.0058

Saturn -31962-09-29 18:14 J -9952425.75 -9952425.74 -9952425.72 0.0271 0.0269

Neptune -31962-11-19 09:35 J -9952375.20 -9952375.10 -9952374.97 0.0088 0.0067

Earth -31962-11-24 22:04 J -9952369.67 -9952369.58 -9952369.49 0.2661 0.1876

Moon -31962-11-24 23:02 J -9952369.63 -9952369.54 -9952369.45 0.2665 0.1882 *

Neptune -31961-02-15 12:28 J -9952287.06 -9952286.98 -9952286.88 0.0088 0.0074

Neptune -31961-05-13 15:07 J -9952198.91 -9952198.87 -9952198.80 0.0088 0.0083

Jupiter -31961-06-14 20:38 J -9952166.68 -9952166.64 -9952166.60 0.0522 0.0490

Jupiter -31961-09-12 05:59 J -9952077.39 -9952077.25 -9952077.12 0.0518 0.0099

Venus -31959-02-22 10:47 J -9951549.11 -9951549.05 -9951548.99 0.3782 0.3206

Mars -31958-08-01 16:47 J -9951023.85 -9951023.80 -9951023.74 0.1788 0.1609

Mars -31957-06-14 16:19 J -9950705.97 -9950705.82 -9950705.68 0.1723 0.0653

Uranus -31957-09-14 00:14 J -9950614.55 -9950614.49 -9950614.42 0.0134 0.0124

Uranus -31957-12-11 05:31 J -9950526.37 -9950526.27 -9950526.15 0.0134 0.0101

Uranus -31956-03-09 11:02 J -9950438.17 -9950438.04 -9950437.89 0.0134 0.0078

Uranus -31956-06-05 16:33 J -9950349.96 -9950349.81 -9950349.65 0.0134 0.0054

Mars -31956-07-07 08:23 J -9950318.24 -9950318.15 -9950318.05 0.1812 0.1160

Uranus -31956-09-01 21:50 J -9950261.75 -9950261.59 -9950261.42 0.0133 0.0032

Uranus -31956-11-29 03:07 J -9950173.54 -9950173.37 -9950173.20 0.0133 0.0009

Uranus -31955-02-25 08:23 J -9950085.32 -9950085.15 -9950084.98 0.0133 0.0013

Uranus -31955-05-24 13:26 J -9949997.10 -9949996.94 -9949996.78 0.0133 0.0035

Uranus -31955-08-20 18:28 J -9949908.87 -9949908.73 -9949908.57 0.0133 0.0057

Jupiter -31955-11-12 00:43 J -9949825.58 -9949825.47 -9949825.36 0.0507 0.0384

Uranus -31955-11-16 23:31 J -9949820.64 -9949820.52 -9949820.38 0.0133 0.0079

Moon -31955-11-17 04:04 J -9949820.44 -9949820.33 -9949820.22 0.2658 0.1517 *

Earth -31955-11-17 05:16 J -9949820.40 -9949820.28 -9949820.17 0.2656 0.1390 *

Jupiter -31954-02-10 01:40 J -9949735.56 -9949735.43 -9949735.30 0.0511 0.0315

Uranus -31954-02-13 04:33 J -9949732.41 -9949732.31 -9949732.19 0.0133 0.0100

Uranus -31954-05-12 09:21 J -9949644.16 -9949644.11 -9949644.03 0.0133 0.0122

Venus -31954-09-08 05:16 J -9949525.40 -9949525.28 -9949525.17 0.3780 0.0344

Moon -31952-05-18 15:07 J -9948906.99 -9948906.87 -9948906.74 0.2679 0.0182

Earth -31952-05-18 15:50 J -9948906.96 -9948906.84 -9948906.71 0.2674 0.0265 *

Venus -31950-09-09 04:19 J -9948063.46 -9948063.32 -9948063.19 0.3595 0.0209

Jupiter -31949-07-01 09:21 J -9947767.24 -9947767.11 -9947766.97 0.0519 0.0045

Venus -31948-03-23 23:45 J -9947501.59 -9947501.51 -9947501.43 0.3779 0.2676

Saturn -31948-05-17 02:38 J -9947447.48 -9947447.39 -9947447.30 0.0289 0.0242

Saturn -31948-08-13 22:19 J -9947358.73 -9947358.57 -9947358.41 0.0289 0.0088

Mars -31948-11-04 17:59 J -9947275.82 -9947275.75 -9947275.68 0.1729 0.1526

Saturn -31948-11-10 17:16 J -9947269.94 -9947269.78 -9947269.62 0.0289 0.0063

Saturn -31947-02-07 11:59 J -9947181.11 -9947181.00 -9947180.89 0.0289 0.0209

Mars -31947-11-27 16:04 J -9946887.95 -9946887.83 -9946887.71 0.1806 0.0447

Moon -31945-05-11 06:57 J -9946357.26 -9946357.21 -9946357.17 0.2673 0.2445

Earth -31945-05-11 07:11 J -9946357.24 -9946357.20 -9946357.16 0.2679 0.2495 *

Venus -31944-03-25 03:07 J -9946039.38 -9946039.37 -9946039.35 0.3597 0.3564

Jupiter -31943-11-29 01:11 J -9945425.61 -9945425.45 -9945425.29 0.0510 0.0142

Moon -31942-11-20 04:33 J -9945069.44 -9945069.31 -9945069.18 0.2664 0.0169

Earth -31942-11-20 05:02 J -9945069.43 -9945069.29 -9945069.16 0.2658 0.0196 *

Earth -31939-05-21 12:57 J -9944156.07 -9944155.96 -9944155.85 0.2672 0.1292

Moon -31939-05-21 13:11 J -9944156.06 -9944155.95 -9944155.85 0.2679 0.1367 *

Mars -31937-04-19 00:14 J -9943457.61 -9943457.49 -9943457.37 0.1800 0.0237

Jupiter -31937-04-19 12:57 J -9943457.08 -9943456.96 -9943456.83 0.0520 0.0185

Jupiter -31937-07-17 22:47 J -9943367.63 -9943367.55 -9943367.46 0.0516 0.0410

Mars -31936-03-03 11:45 J -9943139.13 -9943139.01 -9943138.90 0.1712 0.1077

Saturn -31933-02-27 16:47 J -9942047.89 -9942047.80 -9942047.70 0.0270 0.0197

Saturn -31933-05-26 05:02 J -9941959.42 -9941959.29 -9941959.15 0.0270 0.0094

Saturn -31933-08-22 17:45 J -9941870.90 -9941870.76 -9941870.61 0.0270 0.0014

Saturn -31933-11-19 06:28 J -9941782.35 -9941782.23 -9941782.09 0.0270 0.0122

Saturn -31932-02-15 19:40 J -9941693.75 -9941693.68 -9941693.61 0.0270 0.0232

Moon -31932-05-14 02:52 J -9941606.48 -9941606.38 -9941606.29 0.2673 0.1638

Earth -31932-05-14 03:35 J -9941606.45 -9941606.35 -9941606.25 0.2677 0.1538 *

Jupiter -31931-09-17 00:28 J -9941115.64 -9941115.48 -9941115.31 0.0509 0.0032

Earth -31929-11-22 04:33 J -9940318.44 -9940318.31 -9940318.19 0.2659 0.0966

Moon -31929-11-22 04:33 J -9940318.43 -9940318.31 -9940318.18 0.2666 0.0908 *

Mars -31928-09-09 08:23 J -9940027.26 -9940027.15 -9940027.05 0.1793 0.0902

Mars -31927-07-24 14:23 J -9939709.05 -9939708.90 -9939708.74 0.1718 0.0287

Earth -31926-05-24 10:33 J -9939405.12 -9939405.06 -9939405.01 0.2670 0.2350

Moon -31926-05-24 11:02 J -9939405.10 -9939405.04 -9939404.98 0.2676 0.2333 *

Jupiter -31925-02-06 16:33 J -9939146.92 -9939146.81 -9939146.71 0.0521 0.0327

Jupiter -31925-05-06 02:09 J -9939057.53 -9939057.41 -9939057.29 0.0517 0.0264

Moon -31922-11-15 09:35 J -9937769.16 -9937769.10 -9937769.05 0.2654 0.2438

Earth -31922-11-15 10:47 J -9937769.11 -9937769.05 -9937769.00 0.2655 0.2399 *

Moon -31919-05-16 23:31 J -9936855.64 -9936855.52 -9936855.40 0.2678 0.0616

Earth -31919-05-17 00:14 J -9936855.61 -9936855.49 -9936855.37 0.2675 0.0561 *

Jupiter -31919-07-06 00:28 J -9936805.64 -9936805.48 -9936805.33 0.0508 0.0197

Jupiter -31919-10-04 00:57 J -9936715.49 -9936715.46 -9936715.42 0.0512 0.0499

Saturn -31919-12-31 20:23 J -9936626.79 -9936626.65 -9936626.50 0.0289 0.0143

Mars -31918-01-30 17:02 J -9936596.85 -9936596.79 -9936596.73 0.1788 0.1535

Saturn -31918-03-30 15:50 J -9936538.00 -9936537.84 -9936537.68 0.0289 0.0009

Saturn -31918-06-27 10:33 J -9936449.19 -9936449.06 -9936448.92 0.0289 0.0158

Mars -31918-12-14 16:47 J -9936278.95 -9936278.80 -9936278.65 0.1723 0.0549

Mars -31916-01-05 08:23 J -9935891.24 -9935891.15 -9935891.06 0.1812 0.1226

Earth -31916-11-25 03:35 J -9935567.43 -9935567.35 -9935567.27 0.2661 0.2078

Moon -31916-11-25 04:33 J -9935567.38 -9935567.31 -9935567.24 0.2665 0.2232 *

Jupiter -31914-11-25 19:11 J -9934836.75 -9934836.70 -9934836.65 0.0522 0.0485

Jupiter -31913-02-23 04:33 J -9934747.45 -9934747.31 -9934747.18 0.0518 0.0104

Uranus -31913-05-21 17:16 J -9934658.79 -9934658.78 -9934658.75 0.0145 0.0143

Uranus -31913-08-17 21:50 J -9934570.66 -9934570.59 -9934570.50 0.0145 0.0119

Uranus -31913-11-14 02:23 J -9934482.50 -9934482.40 -9934482.29 0.0145 0.0095

Uranus -31912-02-10 06:57 J -9934394.33 -9934394.21 -9934394.08 0.0145 0.0070

Uranus -31912-05-09 11:45 J -9934306.15 -9934306.01 -9934305.87 0.0145 0.0045

Uranus -31912-08-05 16:19 J -9934217.96 -9934217.82 -9934217.67 0.0145 0.0020

Uranus -31912-11-01 21:07 J -9934129.77 -9934129.62 -9934129.47 0.0145 0.0005

Uranus -31911-01-29 01:40 J -9934041.57 -9934041.43 -9934041.28 0.0145 0.0031

Uranus -31911-04-27 06:28 J -9933953.36 -9933953.23 -9933953.09 0.0145 0.0057

Uranus -31911-07-24 11:16 J -9933865.14 -9933865.03 -9933864.90 0.0146 0.0083

Uranus -31911-10-20 16:04 J -9933776.92 -9933776.83 -9933776.72 0.0146 0.0109

Uranus -31910-01-16 21:07 J -9933688.67 -9933688.62 -9933688.56 0.0146 0.0135

Moon -31909-11-17 09:50 J -9933018.21 -9933018.09 -9933017.97 0.2659 0.1241

Earth -31909-11-17 10:47 J -9933018.17 -9933018.05 -9933017.93 0.2656 0.1171 *

Mars -31908-05-05 18:28 J -9932848.81 -9932848.73 -9932848.64 0.1729 0.1420

Jupiter -31907-04-23 23:31 J -9932495.63 -9932495.52 -9932495.40 0.0507 0.0371

Mars -31907-05-28 16:19 J -9932460.94 -9932460.82 -9932460.70 0.1806 0.0529

Jupiter -31907-07-23 00:43 J -9932405.59 -9932405.47 -9932405.34 0.0511 0.0329

Moon -31906-05-19 20:38 J -9932104.76 -9932104.64 -9932104.52 0.2679 0.0445

Earth -31906-05-19 21:07 J -9932104.74 -9932104.62 -9932104.49 0.2674 0.0459 *

Saturn -31904-07-16 19:40 J -9931315.76 -9931315.68 -9931315.59 0.0270 0.0219

Saturn -31904-10-13 08:09 J -9931227.29 -9931227.16 -9931227.03 0.0270 0.0115

Saturn -31903-01-09 20:38 J -9931138.78 -9931138.64 -9931138.49 0.0270 0.0011

Saturn -31903-04-08 09:35 J -9931050.24 -9931050.10 -9931049.97 0.0271 0.0100

Saturn -31903-07-05 22:33 J -9930961.65 -9930961.56 -9930961.47 0.0271 0.0210

Venus -31903-09-29 08:52 J -9930876.22 -9930876.13 -9930876.04 0.3781 0.2153

Jupiter -31902-12-12 07:26 J -9930437.32 -9930437.19 -9930437.05 0.0519 0.0049

Moon -31899-05-12 11:59 J -9929555.05 -9929555.00 -9929554.95 0.2673 0.2412

Earth -31899-05-12 12:14 J -9929555.04 -9929554.99 -9929554.93 0.2679 0.2317 *

Venus -31899-09-30 04:19 J -9929414.41 -9929414.32 -9929414.23 0.3595 0.2644

Mars -31898-10-19 00:14 J -9929030.61 -9929030.49 -9929030.37 0.1800 0.0161

Venus -31897-04-14 03:21 J -9928852.47 -9928852.36 -9928852.25 0.3780 0.0780

Mars -31897-09-01 12:14 J -9928712.10 -9928711.99 -9928711.88 0.1712 0.1173

Moon -31896-11-20 10:19 J -9928267.21 -9928267.07 -9928266.94 0.2665 0.0113

Earth -31896-11-20 10:33 J -9928267.19 -9928267.06 -9928266.92 0.2658 0.0046 *

Jupiter -31895-05-10 23:16 J -9928095.69 -9928095.53 -9928095.37 0.0510 0.0146

Venus -31893-04-15 03:35 J -9927390.47 -9927390.35 -9927390.22 0.3596 0.1229

Earth -31893-05-21 18:14 J -9927353.84 -9927353.74 -9927353.63 0.2672 0.1486

Moon -31893-05-21 18:28 J -9927353.83 -9927353.73 -9927353.62 0.2679 0.1449 *

Pluto -31891-02-01 00:14 J -9926733.54 -9926733.49 -9926733.43 0.0069 0.0064

Pluto -31891-04-30 01:26 J -9926645.52 -9926645.44 -9926645.35 0.0069 0.0058

Pluto -31891-07-27 02:38 J -9926557.48 -9926557.39 -9926557.27 0.0069 0.0052

Pluto -31891-10-23 03:50 J -9926469.44 -9926469.34 -9926469.20 0.0069 0.0046

Pluto -31890-01-19 05:31 J -9926381.40 -9926381.27 -9926381.13 0.0069 0.0039

Pluto -31890-04-17 06:43 J -9926293.35 -9926293.22 -9926293.06 0.0069 0.0034

Pluto -31890-07-14 08:09 J -9926205.30 -9926205.16 -9926205.00 0.0069 0.0027

Jupiter -31890-09-30 10:47 J -9926127.17 -9926127.05 -9926126.92 0.0520 0.0193

Pluto -31890-10-10 09:35 J -9926117.25 -9926117.10 -9926116.93 0.0069 0.0021

Jupiter -31890-12-28 20:38 J -9926037.72 -9926037.64 -9926037.55 0.0517 0.0403

Pluto -31889-01-06 11:16 J -9926029.19 -9926029.03 -9926028.87 0.0069 0.0014

Pluto -31889-04-03 12:43 J -9925941.14 -9925940.97 -9925940.81 0.0070 0.0007

Saturn -31889-05-19 22:33 J -9925894.69 -9925894.56 -9925894.42 0.0289 0.0171

Pluto -31889-06-30 14:09 J -9925853.08 -9925852.91 -9925852.74 0.0070 0.0001

Saturn -31889-08-16 17:59 J -9925805.91 -9925805.75 -9925805.58 0.0289 0.0018

Pluto -31889-09-26 15:35 J -9925765.02 -9925764.85 -9925764.68 0.0070 0.0006

Saturn -31889-11-13 12:57 J -9925717.11 -9925716.96 -9925716.82 0.0289 0.0131

Pluto -31889-12-23 16:47 J -9925676.96 -9925676.80 -9925676.63 0.0070 0.0013

Saturn -31888-02-10 07:11 J -9925628.24 -9925628.20 -9925628.15 0.0289 0.0276

Mars -31888-03-10 08:23 J -9925600.25 -9925600.15 -9925600.04 0.1794 0.0825

Pluto -31888-03-21 18:28 J -9925588.89 -9925588.73 -9925588.57 0.0070 0.0019

Pluto -31888-06-17 19:55 J -9925500.82 -9925500.67 -9925500.51 0.0070 0.0026

Pluto -31888-09-13 21:07 J -9925412.75 -9925412.62 -9925412.46 0.0070 0.0034

Pluto -31888-12-10 22:33 J -9925324.68 -9925324.56 -9925324.40 0.0070 0.0041

Mars -31887-01-22 14:52 J -9925282.03 -9925281.88 -9925281.73 0.1717 0.0382

Pluto -31887-03-08 23:59 J -9925236.60 -9925236.50 -9925236.35 0.0070 0.0048

Pluto -31887-06-05 01:40 J -9925148.52 -9925148.43 -9925148.31 0.0071 0.0054

Pluto -31887-09-01 03:07 J -9925060.43 -9925060.37 -9925060.27 0.0071 0.0062

Pluto -31887-11-28 04:33 J -9924972.32 -9924972.31 -9924972.25 0.0071 0.0069

Moon -31886-05-15 07:55 J -9924804.27 -9924804.17 -9924804.06 0.2674 0.1367

Earth -31886-05-15 08:52 J -9924804.24 -9924804.13 -9924804.03 0.2677 0.1360 *

Neptune -31885-10-19 12:28 J -9924281.01 -9924280.98 -9924280.93 0.0089 0.0085

Neptune -31884-01-15 14:09 J -9924192.97 -9924192.91 -9924192.84 0.0089 0.0078

Neptune -31884-04-13 15:21 J -9924104.92 -9924104.86 -9924104.76 0.0089 0.0073

Neptune -31884-07-10 17:02 J -9924016.87 -9924016.79 -9924016.68 0.0089 0.0065

Neptune -31884-10-06 18:43 J -9923928.82 -9923928.72 -9923928.61 0.0089 0.0058

Neptune -31883-01-02 20:23 J -9923840.76 -9923840.65 -9923840.53 0.0089 0.0051

Jupiter -31883-02-26 22:33 J -9923785.73 -9923785.56 -9923785.40 0.0509 0.0031

Neptune -31883-03-31 22:04 J -9923752.70 -9923752.58 -9923752.46 0.0089 0.0045

Neptune -31883-06-27 23:31 J -9923664.64 -9923664.52 -9923664.39 0.0089 0.0038

Neptune -31883-09-24 01:11 J -9923576.58 -9923576.45 -9923576.32 0.0089 0.0031

Earth -31883-11-23 10:04 J -9923516.20 -9923516.08 -9923515.96 0.2660 0.1171

Moon -31883-11-23 10:33 J -9923516.18 -9923516.06 -9923515.95 0.2666 0.1277 *

Neptune -31883-12-21 02:38 J -9923488.52 -9923488.39 -9923488.25 0.0089 0.0024

Neptune -31882-03-19 04:19 J -9923400.45 -9923400.32 -9923400.18 0.0089 0.0017

Neptune -31882-06-15 05:59 J -9923312.39 -9923312.25 -9923312.11 0.0089 0.0010

Neptune -31882-09-11 07:40 J -9923224.32 -9923224.18 -9923224.04 0.0089 0.0003

Neptune -31882-12-08 09:21 J -9923136.26 -9923136.11 -9923135.97 0.0089 0.0005

Neptune -31881-03-05 10:47 J -9923048.19 -9923048.05 -9923047.91 0.0089 0.0011

Neptune -31881-06-01 12:28 J -9922960.12 -9922959.98 -9922959.84 0.0089 0.0018

Neptune -31881-08-28 14:09 J -9922872.05 -9922871.91 -9922871.77 0.0089 0.0025

Neptune -31881-11-24 15:35 J -9922783.97 -9922783.85 -9922783.71 0.0089 0.0032

Neptune -31880-02-20 17:16 J -9922695.90 -9922695.78 -9922695.64 0.0089 0.0039

Neptune -31880-05-19 18:57 J -9922607.83 -9922607.71 -9922607.58 0.0089 0.0046

Earth -31880-05-24 15:50 J -9922602.88 -9922602.84 -9922602.81 0.2670 0.2545

Neptune -31880-08-15 20:38 J -9922519.75 -9922519.64 -9922519.52 0.0089 0.0053

Neptune -31880-11-11 22:19 J -9922431.67 -9922431.57 -9922431.46 0.0089 0.0060

Neptune -31879-02-08 00:14 J -9922343.58 -9922343.49 -9922343.40 0.0089 0.0067

Neptune -31879-05-07 01:26 J -9922255.50 -9922255.44 -9922255.35 0.0089 0.0075

Mars -31879-07-31 17:02 J -9922169.86 -9922169.79 -9922169.72 0.1788 0.1460

Neptune -31879-08-03 03:21 J -9922167.40 -9922167.36 -9922167.30 0.0089 0.0082

Neptune -31879-10-30 05:16 J -9922079.28 -9922079.28 -9922079.28 0.0089 0.0089

Mars -31878-06-14 17:16 J -9921851.93 -9921851.78 -9921851.64 0.1723 0.0458

Jupiter -31878-07-19 14:23 J -9921817.00 -9921816.90 -9921816.79 0.0521 0.0333

Jupiter -31878-10-16 23:59 J -9921727.61 -9921727.50 -9921727.38 0.0517 0.0260

Mars -31877-07-06 08:38 J -9921464.23 -9921464.14 -9921464.06 0.1812 0.1313

Moon -31876-11-15 15:07 J -9920966.93 -9920966.87 -9920966.81 0.2654 0.2334

Earth -31876-11-15 16:19 J -9920966.89 -9920966.82 -9920966.74 0.2655 0.2175 *

Saturn -31875-12-03 21:50 J -9920583.64 -9920583.59 -9920583.53 0.0270 0.0248

Saturn -31874-03-02 10:04 J -9920495.20 -9920495.08 -9920494.95 0.0270 0.0145

Saturn -31874-05-29 22:33 J -9920406.70 -9920406.56 -9920406.41 0.0270 0.0040

Saturn -31874-08-26 11:16 J -9920318.17 -9920318.03 -9920317.88 0.0270 0.0069

Saturn -31874-11-23 00:14 J -9920229.60 -9920229.49 -9920229.38 0.0270 0.0178

Moon -31873-05-17 04:33 J -9920053.43 -9920053.31 -9920053.19 0.2678 0.0484

Earth -31873-05-17 05:31 J -9920053.39 -9920053.27 -9920053.15 0.2675 0.0374 *

Uranus -31873-10-04 08:09 J -9919913.23 -9919913.16 -9919913.06 0.0134 0.0114

Uranus -31873-12-31 13:40 J -9919825.04 -9919824.93 -9919824.79 0.0134 0.0091

Uranus -31872-03-29 19:11 J -9919736.84 -9919736.70 -9919736.55 0.0134 0.0067

Uranus -31872-06-26 00:28 J -9919648.63 -9919648.48 -9919648.31 0.0134 0.0045

Uranus -31872-09-22 05:59 J -9919560.42 -9919560.25 -9919560.08 0.0133 0.0022

Jupiter -31872-12-15 21:35 J -9919475.75 -9919475.60 -9919475.44 0.0508 0.0205

Uranus -31872-12-19 11:16 J -9919472.20 -9919472.03 -9919471.86 0.0133 0.0001

Jupiter -31871-03-15 22:19 J -9919385.61 -9919385.57 -9919385.52 0.0512 0.0490

Uranus -31871-03-17 16:19 J -9919383.98 -9919383.82 -9919383.65 0.0133 0.0024

Uranus -31871-06-13 21:35 J -9919295.76 -9919295.60 -9919295.44 0.0133 0.0045

Uranus -31871-09-10 02:38 J -9919207.53 -9919207.39 -9919207.24 0.0133 0.0067

Uranus -31871-12-07 07:40 J -9919119.30 -9919119.18 -9919119.05 0.0133 0.0089

Uranus -31870-03-05 12:43 J -9919031.05 -9919030.97 -9919030.87 0.0133 0.0110

Uranus -31870-06-01 17:45 J -9918942.78 -9918942.76 -9918942.74 0.0133 0.0131

Earth -31870-11-26 09:07 J -9918765.19 -9918765.12 -9918765.06 0.2662 0.2286

Moon -31870-11-26 10:04 J -9918765.15 -9918765.08 -9918765.02 0.2666 0.2280 *

Mars -31869-11-03 19:11 J -9918421.80 -9918421.70 -9918421.60 0.1729 0.1311

Mars -31868-11-26 16:19 J -9918033.94 -9918033.82 -9918033.71 0.1805 0.0601

Jupiter -31866-05-07 17:59 J -9917506.80 -9917506.75 -9917506.69 0.0522 0.0475

Jupiter -31866-08-05 03:21 J -9917417.49 -9917417.36 -9917417.22 0.0518 0.0115

Moon -31863-11-18 15:35 J -9916215.98 -9916215.85 -9916215.73 0.2661 0.1003

Earth -31863-11-18 16:33 J -9916215.94 -9916215.81 -9916215.69 0.2656 0.0957 *

Moon -31860-05-20 02:09 J -9915302.53 -9915302.41 -9915302.29 0.2679 0.0598

Earth -31860-05-20 02:23 J -9915302.52 -9915302.40 -9915302.27 0.2673 0.0650 *

Jupiter -31860-10-03 21:21 J -9915165.72 -9915165.61 -9915165.50 0.0507 0.0373

Saturn -31860-10-06 20:52 J -9915162.73 -9915162.63 -9915162.52 0.0289 0.0225

Jupiter -31859-01-01 22:33 J -9915075.69 -9915075.56 -9915075.43 0.0511 0.0328

Saturn -31859-01-03 16:33 J -9915073.97 -9915073.81 -9915073.65 0.0289 0.0071

Saturn -31859-04-02 11:31 J -9914985.17 -9914985.02 -9914984.86 0.0289 0.0080

Saturn -31859-06-30 05:59 J -9914896.34 -9914896.25 -9914896.14 0.0289 0.0226

Mars -31858-04-19 00:14 J -9914603.61 -9914603.49 -9914603.37 0.1800 0.0087

Mars -31857-03-02 12:43 J -9914285.07 -9914284.97 -9914284.87 0.1712 0.1277

Jupiter -31854-05-24 05:59 J -9913107.39 -9913107.25 -9913107.12 0.0519 0.0045

Moon -31853-05-12 17:02 J -9912752.87 -9912752.79 -9912752.72 0.2672 0.2106

Earth -31853-05-12 17:31 J -9912752.84 -9912752.77 -9912752.70 0.2678 0.2146 *

Moon -31850-11-21 15:50 J -9911464.97 -9911464.84 -9911464.71 0.2665 0.0238

Earth -31850-11-21 16:19 J -9911464.96 -9911464.82 -9911464.69 0.2658 0.0244 *

Mars -31849-09-08 08:38 J -9911173.25 -9911173.14 -9911173.03 0.1794 0.0744

Mars -31848-07-23 15:21 J -9910855.00 -9910854.86 -9910854.71 0.1718 0.0477

Jupiter -31848-10-20 22:04 J -9910765.74 -9910765.58 -9910765.42 0.0510 0.0157

Earth -31847-05-22 23:45 J -9910551.61 -9910551.51 -9910551.42 0.2672 0.1682

Moon -31847-05-22 23:59 J -9910551.59 -9910551.50 -9910551.41 0.2679 0.1761 *

Venus -31846-05-06 06:57 J -9910203.31 -9910203.21 -9910203.10 0.3781 0.1094

Saturn -31845-07-19 12:57 J -9909763.07 -9909762.96 -9909762.85 0.0271 0.0169

Saturn -31845-10-16 01:26 J -9909674.58 -9909674.44 -9909674.30 0.0271 0.0063

Saturn -31844-01-12 14:09 J -9909586.06 -9909585.91 -9909585.77 0.0271 0.0044

Saturn -31844-04-11 03:07 J -9909497.49 -9909497.37 -9909497.25 0.0271 0.0154

Saturn -31844-07-08 16:04 J -9909408.85 -9909408.83 -9909408.80 0.0271 0.0266

Jupiter -31842-03-12 08:52 J -9908797.25 -9908797.13 -9908797.00 0.0520 0.0196

Venus -31842-05-07 03:50 J -9908741.46 -9908741.34 -9908741.21 0.3595 0.1205

Jupiter -31842-06-09 18:43 J -9908707.81 -9908707.72 -9908707.63 0.0516 0.0397

Venus -31841-11-19 01:26 J -9908179.53 -9908179.44 -9908179.34 0.3779 0.1867

Moon -31840-05-15 13:11 J -9908002.06 -9908001.95 -9908001.85 0.2675 0.1313

Earth -31840-05-15 13:55 J -9908002.03 -9908001.92 -9908001.81 0.2677 0.1182 *

Mars -31839-01-29 17:02 J -9907742.87 -9907742.79 -9907742.72 0.1787 0.1389

Mars -31839-12-13 17:45 J -9907424.91 -9907424.76 -9907424.61 0.1723 0.0352

Mars -31837-01-05 08:38 J -9907037.22 -9907037.14 -9907037.06 0.1811 0.1393

Venus -31837-11-20 03:07 J -9906717.46 -9906717.37 -9906717.28 0.3596 0.2613

Earth -31837-11-23 15:35 J -9906713.96 -9906713.85 -9906713.74 0.2660 0.1379

Moon -31837-11-23 16:04 J -9906713.94 -9906713.83 -9906713.71 0.2666 0.1377 *

Jupiter -31836-08-08 20:23 J -9906455.81 -9906455.65 -9906455.48 0.0509 0.0031

Jupiter -31831-12-29 12:14 J -9904487.09 -9904486.99 -9904486.88 0.0521 0.0341

Saturn -31830-02-23 23:16 J -9904430.60 -9904430.53 -9904430.44 0.0289 0.0251

Jupiter -31830-03-28 21:50 J -9904397.71 -9904397.59 -9904397.47 0.0518 0.0251

Saturn -31830-05-23 18:57 J -9904341.86 -9904341.71 -9904341.55 0.0289 0.0096

Saturn -31830-08-20 14:09 J -9904253.07 -9904252.91 -9904252.75 0.0289 0.0056

Moon -31830-11-16 20:52 J -9904164.72 -9904164.63 -9904164.54 0.2654 0.1968

Earth -31830-11-16 22:04 J -9904164.67 -9904164.58 -9904164.49 0.2655 0.1951 *

Saturn -31830-11-17 08:52 J -9904164.24 -9904164.13 -9904164.01 0.0289 0.0203

Mars -31829-05-04 19:26 J -9903994.79 -9903994.69 -9903994.58 0.1729 0.1220

Uranus -31829-06-11 01:40 J -9903957.49 -9903957.43 -9903957.38 0.0145 0.0132

Uranus -31829-09-07 05:59 J -9903869.34 -9903869.25 -9903869.15 0.0145 0.0108

Uranus -31829-12-04 10:33 J -9903781.17 -9903781.06 -9903780.94 0.0145 0.0084

Uranus -31828-03-02 15:07 J -9903693.00 -9903692.87 -9903692.73 0.0145 0.0059

Mars -31828-05-27 16:19 J -9903606.93 -9903606.82 -9903606.70 0.1806 0.0680

Uranus -31828-05-29 19:55 J -9903604.81 -9903604.67 -9903604.53 0.0145 0.0035

Uranus -31828-08-26 00:28 J -9903516.63 -9903516.48 -9903516.33 0.0145 0.0009

Uranus -31828-11-22 05:16 J -9903428.43 -9903428.28 -9903428.14 0.0145 0.0016

Uranus -31827-02-18 09:50 J -9903340.23 -9903340.09 -9903339.94 0.0145 0.0042

Uranus -31827-05-17 14:38 J -9903252.02 -9903251.89 -9903251.75 0.0146 0.0068

Moon -31827-05-18 09:50 J -9903251.21 -9903251.09 -9903250.96 0.2678 0.0222

Earth -31827-05-18 10:47 J -9903251.17 -9903251.05 -9903250.93 0.2675 0.0186 *

Uranus -31827-08-13 19:26 J -9903163.80 -9903163.69 -9903163.57 0.0146 0.0094

Uranus -31827-11-10 00:14 J -9903075.56 -9903075.49 -9903075.40 0.0146 0.0120

Jupiter -31824-05-27 19:26 J -9902145.84 -9902145.69 -9902145.53 0.0508 0.0206

Jupiter -31824-08-25 20:09 J -9902055.70 -9902055.66 -9902055.61 0.0511 0.0489

Earth -31824-11-26 14:38 J -9901962.94 -9901962.89 -9901962.85 0.2662 0.2486

Moon -31824-11-26 15:35 J -9901962.86 -9901962.85 -9901962.84 0.2665 0.2641 *

Jupiter -31819-10-17 16:04 J -9900176.88 -9900176.83 -9900176.78 0.0522 0.0482

Mars -31819-10-18 00:14 J -9900176.61 -9900176.49 -9900176.36 0.1800 0.0066

Jupiter -31818-01-15 01:11 J -9900087.58 -9900087.45 -9900087.31 0.0518 0.0109

Mars -31818-09-01 12:57 J -9899858.05 -9899857.96 -9899857.87 0.1712 0.1360

Moon -31817-11-18 21:21 J -9899413.74 -9899413.61 -9899413.48 0.2662 0.0850

Earth -31817-11-18 22:04 J -9899413.71 -9899413.58 -9899413.45 0.2657 0.0736 *

Saturn -31816-12-06 15:21 J -9899030.96 -9899030.86 -9899030.76 0.0270 0.0195

Saturn -31815-03-05 03:35 J -9898942.48 -9898942.35 -9898942.21 0.0270 0.0092

Saturn -31815-06-01 16:19 J -9898853.96 -9898853.82 -9898853.67 0.0270 0.0016

Saturn -31815-08-29 05:02 J -9898765.42 -9898765.29 -9898765.16 0.0270 0.0125

Saturn -31815-11-25 18:14 J -9898676.81 -9898676.74 -9898676.67 0.0271 0.0235

Moon -31814-05-21 07:26 J -9898500.30 -9898500.19 -9898500.07 0.2680 0.0806

Earth -31814-05-21 07:40 J -9898500.29 -9898500.18 -9898500.06 0.2673 0.0836 *

Jupiter -31812-03-15 18:28 J -9897835.84 -9897835.73 -9897835.62 0.0507 0.0383

Jupiter -31812-06-13 19:40 J -9897745.81 -9897745.68 -9897745.55 0.0511 0.0317

Mars -31809-03-09 08:23 J -9896746.26 -9896746.15 -9896746.03 0.1793 0.0680

Mars -31808-01-21 16:04 J -9896427.98 -9896427.83 -9896427.69 0.1718 0.0580

Moon -31807-05-13 22:04 J -9895950.65 -9895950.58 -9895950.50 0.2672 0.2068

Earth -31807-05-13 22:47 J -9895950.64 -9895950.55 -9895950.47 0.2678 0.1967 *

Jupiter -31807-11-03 04:47 J -9895777.44 -9895777.30 -9895777.17 0.0519 0.0039

Pluto -31806-07-01 03:35 J -9895537.37 -9895537.35 -9895537.30 0.0076 0.0073

Pluto -31806-09-27 05:16 J -9895449.35 -9895449.28 -9895449.20 0.0075 0.0065

Pluto -31806-12-24 06:14 J -9895361.32 -9895361.24 -9895361.12 0.0075 0.0058

Pluto -31805-03-21 07:55 J -9895273.28 -9895273.17 -9895273.05 0.0075 0.0049

Pluto -31805-06-17 09:07 J -9895185.23 -9895185.12 -9895184.98 0.0075 0.0042

Pluto -31805-09-13 10:33 J -9895097.19 -9895097.06 -9895096.92 0.0075 0.0034

Pluto -31805-12-10 11:45 J -9895009.14 -9895009.01 -9895008.86 0.0075 0.0027

Pluto -31804-03-08 13:26 J -9894921.09 -9894920.94 -9894920.80 0.0075 0.0019

Pluto -31804-06-04 14:38 J -9894833.04 -9894832.89 -9894832.74 0.0074 0.0012

Pluto -31804-08-31 15:50 J -9894744.99 -9894744.84 -9894744.69 0.0074 0.0005

Moon -31804-11-21 21:35 J -9894662.73 -9894662.60 -9894662.47 0.2665 0.0424

Earth -31804-11-21 21:50 J -9894662.72 -9894662.59 -9894662.46 0.2658 0.0445 *

Pluto -31804-11-27 17:16 J -9894656.93 -9894656.78 -9894656.63 0.0074 0.0003

Pluto -31803-02-23 18:28 J -9894568.88 -9894568.73 -9894568.58 0.0074 0.0010

Pluto -31803-05-22 19:40 J -9894480.82 -9894480.68 -9894480.53 0.0074 0.0017

Pluto -31803-08-18 20:52 J -9894392.77 -9894392.63 -9894392.49 0.0074 0.0024

Pluto -31803-11-14 21:50 J -9894304.71 -9894304.59 -9894304.44 0.0074 0.0032

Pluto -31802-02-10 23:02 J -9894216.65 -9894216.54 -9894216.40 0.0074 0.0039

Pluto -31802-05-10 00:28 J -9894128.59 -9894128.48 -9894128.36 0.0073 0.0045

Pluto -31802-08-06 01:40 J -9894040.53 -9894040.43 -9894040.32 0.0073 0.0052

Pluto -31802-11-02 02:38 J -9893952.47 -9893952.39 -9893952.29 0.0073 0.0059

Pluto -31801-01-29 03:50 J -9893864.40 -9893864.34 -9893864.26 0.0073 0.0065

Neptune -31801-04-12 03:07 J -9893790.38 -9893790.37 -9893790.31 0.0088 0.0087

Pluto -31801-04-26 04:47 J -9893776.31 -9893776.30 -9893776.26 0.0073 0.0072

Earth -31801-05-23 05:02 J -9893749.38 -9893749.29 -9893749.20 0.2671 0.1878

Moon -31801-05-23 05:16 J -9893749.37 -9893749.28 -9893749.19 0.2678 0.1875 *

Neptune -31801-07-09 06:14 J -9893702.31 -9893702.24 -9893702.14 0.0088 0.0078

Neptune -31801-10-05 09:21 J -9893614.21 -9893614.11 -9893613.99 0.0088 0.0069

Saturn -31801-10-09 17:31 J -9893609.91 -9893609.77 -9893609.62 0.0289 0.0148

Neptune -31800-01-01 12:14 J -9893526.11 -9893525.99 -9893525.84 0.0088 0.0060

Saturn -31800-01-06 12:57 J -9893521.12 -9893520.96 -9893520.79 0.0289 0.0007

Neptune -31800-03-30 15:21 J -9893438.00 -9893437.86 -9893437.71 0.0088 0.0051

Jupiter -31800-04-01 19:40 J -9893435.84 -9893435.68 -9893435.52 0.0510 0.0152

Saturn -31800-04-05 07:55 J -9893432.31 -9893432.17 -9893432.03 0.0289 0.0153

Neptune -31800-06-26 18:28 J -9893349.89 -9893349.73 -9893349.57 0.0088 0.0042

Mars -31800-07-30 17:02 J -9893315.87 -9893315.79 -9893315.71 0.1788 0.1314

Neptune -31800-09-22 21:07 J -9893261.77 -9893261.62 -9893261.44 0.0088 0.0034

Neptune -31800-12-20 00:14 J -9893173.66 -9893173.49 -9893173.32 0.0088 0.0025

Neptune -31799-03-18 03:07 J -9893085.54 -9893085.37 -9893085.19 0.0088 0.0017

Mars -31799-06-13 18:14 J -9892997.89 -9892997.74 -9892997.59 0.1723 0.0251

Neptune -31799-06-14 05:59 J -9892997.42 -9892997.25 -9892997.07 0.0088 0.0008

Neptune -31799-09-10 08:52 J -9892909.30 -9892909.13 -9892908.95 0.0088 0.0002

Neptune -31799-12-07 11:45 J -9892821.18 -9892821.01 -9892820.83 0.0088 0.0009

Neptune -31798-03-05 14:38 J -9892733.06 -9892732.89 -9892732.71 0.0088 0.0017

Neptune -31798-06-01 17:16 J -9892644.94 -9892644.78 -9892644.60 0.0088 0.0026

Mars -31798-07-06 08:38 J -9892610.21 -9892610.14 -9892610.07 0.1811 0.1465

Neptune -31798-08-28 20:09 J -9892556.81 -9892556.66 -9892556.49 0.0088 0.0034

Neptune -31798-11-24 23:02 J -9892468.69 -9892468.54 -9892468.38 0.0088 0.0043

Neptune -31797-02-21 01:40 J -9892380.56 -9892380.43 -9892380.27 0.0088 0.0051

Neptune -31797-05-19 04:33 J -9892292.43 -9892292.31 -9892292.17 0.0088 0.0059

Neptune -31797-08-15 07:11 J -9892204.30 -9892204.20 -9892204.07 0.0088 0.0068

Neptune -31797-11-11 10:04 J -9892116.16 -9892116.08 -9892115.98 0.0088 0.0076

Neptune -31796-02-07 12:57 J -9892028.01 -9892027.96 -9892027.91 0.0088 0.0084

Venus -31795-05-27 10:47 J -9891554.12 -9891554.05 -9891553.98 0.3782 0.2906

Jupiter -31795-08-22 07:26 J -9891467.32 -9891467.19 -9891467.06 0.0520 0.0192

Jupiter -31795-11-19 17:02 J -9891377.87 -9891377.79 -9891377.70 0.0516 0.0400

Moon -31794-05-16 18:14 J -9891199.85 -9891199.74 -9891199.62 0.2676 0.0998

Earth -31794-05-16 19:11 J -9891199.81 -9891199.70 -9891199.58 0.2676 0.1000 *

Earth -31791-11-24 21:07 J -9889911.73 -9889911.62 -9889911.51 0.2660 0.1584

Moon -31791-11-24 21:50 J -9889911.69 -9889911.59 -9889911.49 0.2666 0.1687 *

Mars -31790-11-03 20:09 J -9889567.78 -9889567.66 -9889567.54 0.1729 0.1116

Venus -31790-12-11 05:16 J -9889530.39 -9889530.28 -9889530.17 0.3780 0.0117

Uranus -31789-07-28 10:47 J -9889300.09 -9889300.05 -9889299.98 0.0134 0.0127

Uranus -31789-10-24 16:33 J -9889211.91 -9889211.81 -9889211.70 0.0134 0.0103

Mars -31789-11-25 16:33 J -9889179.93 -9889179.81 -9889179.70 0.1806 0.0762

Jupiter -31788-01-18 18:57 J -9889125.87 -9889125.71 -9889125.54 0.0509 0.0022

Uranus -31788-01-20 22:04 J -9889123.71 -9889123.58 -9889123.44 0.0134 0.0080

Uranus -31788-04-19 03:21 J -9889035.51 -9889035.36 -9889035.20 0.0134 0.0057

Uranus -31788-07-16 08:52 J -9888947.29 -9888947.13 -9888946.97 0.0134 0.0034

Uranus -31788-10-12 14:09 J -9888859.08 -9888858.91 -9888858.74 0.0133 0.0011

Uranus -31787-01-08 19:26 J -9888770.86 -9888770.69 -9888770.52 0.0133 0.0011

Uranus -31787-04-07 00:43 J -9888682.64 -9888682.47 -9888682.31 0.0133 0.0034

Uranus -31787-07-04 05:45 J -9888594.41 -9888594.26 -9888594.11 0.0133 0.0055

Uranus -31787-09-30 10:47 J -9888506.18 -9888506.05 -9888505.91 0.0133 0.0077

Uranus -31787-12-27 15:35 J -9888417.94 -9888417.85 -9888417.73 0.0133 0.0100

Uranus -31786-03-25 20:52 J -9888329.69 -9888329.63 -9888329.56 0.0133 0.0120

Saturn -31786-04-25 17:59 J -9888298.83 -9888298.75 -9888298.67 0.0271 0.0222

Saturn -31786-07-23 06:14 J -9888210.37 -9888210.24 -9888210.11 0.0271 0.0118

Saturn -31786-10-19 18:43 J -9888121.86 -9888121.72 -9888121.57 0.0271 0.0012

Venus -31786-12-12 03:35 J -9888068.49 -9888068.35 -9888068.22 0.3595 0.0245

Saturn -31785-01-16 07:40 J -9888033.32 -9888033.18 -9888033.05 0.0271 0.0098

Saturn -31785-04-13 20:23 J -9887944.73 -9887944.65 -9887944.55 0.0271 0.0209

Venus -31784-06-25 23:45 J -9887506.58 -9887506.51 -9887506.45 0.3779 0.2963

Moon -31784-11-17 02:38 J -9887362.48 -9887362.39 -9887362.29 0.2656 0.1897

Earth -31784-11-17 03:50 J -9887362.44 -9887362.34 -9887362.24 0.2655 0.1726 *

Jupiter -31783-06-10 10:33 J -9887157.16 -9887157.06 -9887156.96 0.0521 0.0343

Jupiter -31783-09-07 19:55 J -9887067.79 -9887067.67 -9887067.55 0.0517 0.0248

Moon -31781-05-18 15:07 J -9886448.99 -9886448.87 -9886448.74 0.2678 0.0145

Earth -31781-05-18 16:04 J -9886448.96 -9886448.83 -9886448.71 0.2675 0.0049 *

Mars -31779-04-18 00:28 J -9885749.61 -9885749.48 -9885749.36 0.1800 0.0081

Mars -31778-03-02 13:40 J -9885431.01 -9885430.93 -9885430.86 0.1712 0.1461

Jupiter -31777-11-06 17:16 J -9884815.93 -9884815.78 -9884815.62 0.0508 0.0206

Jupiter -31776-02-04 18:14 J -9884725.79 -9884725.74 -9884725.70 0.0511 0.0489

Saturn -31771-02-26 20:09 J -9882877.79 -9882877.66 -9882877.52 0.0289 0.0172

Jupiter -31771-03-29 13:40 J -9882846.97 -9882846.93 -9882846.88 0.0522 0.0490

Saturn -31771-05-26 15:35 J -9882789.01 -9882788.85 -9882788.68 0.0289 0.0021

Jupiter -31771-06-26 23:02 J -9882757.67 -9882757.54 -9882757.40 0.0519 0.0100

Saturn -31771-08-23 10:33 J -9882700.20 -9882700.06 -9882699.91 0.0289 0.0131

Moon -31771-11-20 02:52 J -9882611.51 -9882611.38 -9882611.24 0.2662 0.0526

Earth -31771-11-20 03:50 J -9882611.47 -9882611.34 -9882611.21 0.2657 0.0516 *

Saturn -31771-11-20 05:02 J -9882611.33 -9882611.29 -9882611.24 0.0289 0.0276 *

Mars -31770-09-08 08:38 J -9882319.26 -9882319.14 -9882319.03 0.1794 0.0600

Mars -31769-07-22 16:19 J -9882000.96 -9882000.82 -9882000.68 0.1718 0.0668

Moon -31768-05-21 12:57 J -9881698.08 -9881697.96 -9881697.85 0.2680 0.1050

Earth -31768-05-21 12:57 J -9881698.07 -9881697.96 -9881697.84 0.2673 0.1027 *

Jupiter -31765-08-25 16:04 J -9880505.93 -9880505.83 -9880505.71 0.0507 0.0384

Jupiter -31765-11-23 17:31 J -9880415.90 -9880415.77 -9880415.64 0.0510 0.0316

Moon -31761-05-14 03:21 J -9879148.45 -9879148.36 -9879148.27 0.2673 0.1785

Earth -31761-05-14 03:50 J -9879148.43 -9879148.34 -9879148.25 0.2678 0.1792 *

Mars -31760-01-28 17:02 J -9878888.88 -9878888.79 -9878888.70 0.1787 0.1242

Mars -31760-12-12 18:43 J -9878570.88 -9878570.72 -9878570.57 0.1724 0.0158

Jupiter -31759-04-15 02:38 J -9878447.53 -9878447.39 -9878447.26 0.0519 0.0045

Mars -31758-01-04 08:38 J -9878183.20 -9878183.14 -9878183.07 0.1811 0.1549

Earth -31758-11-23 03:21 J -9877860.49 -9877860.36 -9877860.23 0.2659 0.0660

Moon -31758-11-23 03:35 J -9877860.48 -9877860.35 -9877860.23 0.2665 0.0649 *

Saturn -31757-09-11 20:23 J -9877566.70 -9877566.65 -9877566.59 0.0270 0.0246

Saturn -31757-12-09 08:52 J -9877478.25 -9877478.13 -9877478.01 0.0270 0.0143

Saturn -31756-03-07 21:21 J -9877389.76 -9877389.61 -9877389.47 0.0270 0.0037

Saturn -31756-06-04 09:50 J -9877301.23 -9877301.09 -9877300.94 0.0270 0.0071

Saturn -31756-08-31 22:47 J -9877212.65 -9877212.55 -9877212.44 0.0270 0.0181

Earth -31755-05-24 10:19 J -9876947.15 -9876947.07 -9876946.99 0.2671 0.2078

Moon -31755-05-24 10:47 J -9876947.12 -9876947.05 -9876946.97 0.2677 0.2130 *

Jupiter -31753-09-11 16:47 J -9876105.96 -9876105.80 -9876105.64 0.0510 0.0141

Mars -31750-05-04 20:52 J -9875140.76 -9875140.63 -9875140.51 0.1729 0.1004

Mars -31749-05-26 16:33 J -9874752.92 -9874752.81 -9874752.71 0.1805 0.0837

Moon -31748-05-16 23:31 J -9874397.63 -9874397.52 -9874397.41 0.2676 0.0964

Earth -31748-05-17 00:28 J -9874397.60 -9874397.48 -9874397.36 0.2676 0.0812 *

Jupiter -31747-02-01 05:59 J -9874137.37 -9874137.25 -9874137.12 0.0520 0.0187

Jupiter -31747-05-01 15:50 J -9874047.93 -9874047.84 -9874047.76 0.0516 0.0407

Uranus -31745-07-01 09:21 J -9873256.18 -9873256.11 -9873256.03 0.0145 0.0123

Uranus -31745-09-27 13:55 J -9873168.02 -9873167.92 -9873167.81 0.0145 0.0099

Earth -31745-11-25 02:38 J -9873109.49 -9873109.39 -9873109.29 0.2661 0.1792

Moon	-31745-11-25 03:21 J	-9873109.46	-9873109.36	-9873109.27	0.2666	0.1817 *
Uranus	-31745-12-24 18:28 J	-9873079.85	-9873079.73	-9873079.60	0.0145	0.0074
Uranus	-31744-03-22 23:02 J	-9872991.67	-9872991.54	-9872991.40	0.0145	0.0050
Uranus	-31744-06-19 03:50 J	-9872903.49	-9872903.34	-9872903.20	0.0145	0.0025
Uranus	-31744-09-15 08:23 J	-9872815.30	-9872815.15	-9872815.00	0.0145	0.0001
Uranus	-31744-12-12 12:57 J	-9872727.10	-9872726.96	-9872726.81	0.0145	0.0027
Uranus	-31743-03-10 17:45 J	-9872638.89	-9872638.76	-9872638.62	0.0145	0.0052
Uranus	-31743-06-06 22:33 J	-9872550.68	-9872550.56	-9872550.43	0.0146	0.0077
Uranus	-31743-09-03 03:21 J	-9872462.46	-9872462.36	-9872462.25	0.0146	0.0103
Uranus	-31743-11-30 08:09 J	-9872374.22	-9872374.16	-9872374.08	0.0146	0.0130
Saturn	-31742-07-16 18:43 J	-9872145.81	-9872145.72	-9872145.61	0.0289	0.0224
Saturn	-31742-10-13 14:23 J	-9872057.06	-9872056.90	-9872056.73	0.0289	0.0070
Saturn	-31741-01-10 09:35 J	-9871968.26	-9871968.10	-9871967.94	0.0289	0.0081
Saturn	-31741-04-08 04:04 J	-9871879.42	-9871879.33	-9871879.22	0.0288	0.0228
Jupiter	-31741-06-30 16:33 J	-9871795.98	-9871795.81	-9871795.64	0.0509	0.0026
Mars	-31740-10-17 00:28 J	-9871322.61	-9871322.48	-9871322.36	0.1800	0.0152
Mars	-31739-08-31 14:09 J	-9871003.97	-9871003.91	-9871003.85	0.1712	0.1557
Venus	-31738-01-01 08:52 J	-9870881.22	-9870881.13	-9870881.03	0.3781	0.1859
Moon	-31738-11-18 08:23 J	-9870560.26	-9870560.15	-9870560.04	0.2658	0.1508
Earth	-31738-11-18 09:35 J	-9870560.21	-9870560.10	-9870559.99	0.2655	0.1505 *
Jupiter	-31736-11-20 08:52 J	-9869827.23	-9869827.13	-9869827.02	0.0521	0.0340
Jupiter	-31735-02-17 18:28 J	-9869737.85	-9869737.73	-9869737.61	0.0517	0.0251
Moon	-31735-05-19 20:38 J	-9869646.76	-9869646.64	-9869646.52	0.2679	0.0202
Earth	-31735-05-19 21:21 J	-9869646.74	-9869646.61	-9869646.49	0.2674	0.0192 *
Venus	-31734-01-02 03:35 J	-9869419.45	-9869419.35	-9869419.25	0.3595	0.2253
Venus	-31733-07-17 03:21 J	-9868857.47	-9868857.36	-9868857.26	0.3780	0.1065
Mars	-31730-03-09 08:38 J	-9867892.25	-9867892.14	-9867892.02	0.1794	0.0521
Mars	-31729-01-21 16:47 J	-9867573.93	-9867573.80	-9867573.66	0.1718	0.0769
Jupiter	-31729-04-18 15:50 J	-9867486.00	-9867485.84	-9867485.69	0.0508	0.0199
Jupiter	-31729-07-17 16:33 J	-9867395.84	-9867395.81	-9867395.77	0.0512	0.0498

Venus -31729-07-18 02:52 J -9867395.49 -9867395.38 -9867395.26 0.3596 0.1624

Moon -31728-05-12 12:28 J -9867097.01 -9867096.98 -9867096.95 0.2672 0.2566

Earth -31728-05-12 12:43 J -9867097.00 -9867096.97 -9867096.94 0.2679 0.2563 *

Saturn -31727-04-28 11:02 J -9866746.15 -9866746.04 -9866745.93 0.0271 0.0172

Saturn -31727-07-25 23:31 J -9866657.66 -9866657.52 -9866657.38 0.0271 0.0066

Saturn -31727-10-22 11:59 J -9866569.14 -9866569.00 -9866568.85 0.0271 0.0042

Saturn -31726-01-19 00:57 J -9866480.58 -9866480.46 -9866480.34 0.0271 0.0151

Saturn -31726-04-17 14:09 J -9866391.94 -9866391.91 -9866391.88 0.0271 0.0263

Moon -31725-11-20 08:38 J -9865809.27 -9865809.14 -9865809.00 0.2662 0.0428

Earth -31725-11-20 09:21 J -9865809.24 -9865809.11 -9865808.97 0.2657 0.0308 *

Jupiter -31724-09-08 11:59 J -9865517.04 -9865517.00 -9865516.95 0.0522 0.0489

Jupiter -31724-12-06 21:21 J -9865427.75 -9865427.61 -9865427.48 0.0518 0.0099

Moon -31722-05-22 18:14 J -9864895.85 -9864895.74 -9864895.63 0.2680 0.1167

Earth -31722-05-22 18:14 J -9864895.85 -9864895.74 -9864895.63 0.2673 0.1221 *

Mars -31721-07-29 17:02 J -9864461.88 -9864461.79 -9864461.70 0.1787 0.1167

Mars -31720-06-12 19:11 J -9864143.85 -9864143.70 -9864143.54 0.1723 0.0060

Neptune -31720-07-16 11:02 J -9864110.07 -9864110.04 -9864109.98 0.0089 0.0085

Neptune -31720-10-12 12:43 J -9864022.02 -9864021.97 -9864021.89 0.0089 0.0078

Neptune -31719-01-08 14:23 J -9863933.98 -9863933.90 -9863933.81 0.0089 0.0070

Neptune -31719-04-06 16:04 J -9863845.92 -9863845.83 -9863845.73 0.0089 0.0064

Neptune -31719-07-03 17:31 J -9863757.87 -9863757.77 -9863757.65 0.0089 0.0057

Mars -31719-07-05 08:52 J -9863756.18 -9863756.13 -9863756.08 0.1811 0.1632

Neptune -31719-09-29 19:11 J -9863669.81 -9863669.70 -9863669.58 0.0089 0.0050

Neptune -31719-12-26 20:38 J -9863581.75 -9863581.64 -9863581.51 0.0089 0.0043

Neptune -31718-03-24 22:19 J -9863493.69 -9863493.57 -9863493.44 0.0089 0.0036

Neptune -31718-06-20 23:59 J -9863405.63 -9863405.50 -9863405.37 0.0089 0.0029

Neptune -31718-09-17 01:40 J -9863317.57 -9863317.43 -9863317.30 0.0089 0.0023

Neptune -31718-12-14 03:07 J -9863229.51 -9863229.37 -9863229.23 0.0089 0.0016

Jupiter -31717-02-05 14:09 J -9863176.02 -9863175.91 -9863175.80 0.0507 0.0383

Neptune -31717-03-11 04:47 J -9863141.44 -9863141.30 -9863141.16 0.0089 0.0009

Jupiter -31717-05-05 15:21 J -9863085.99 -9863085.86 -9863085.73 0.0510 0.0316

Neptune -31717-06-07 06:28 J -9863053.37 -9863053.23 -9863053.09 0.0089 0.0002

Neptune -31717-09-03 07:55 J -9862965.31 -9862965.17 -9862965.02 0.0089 0.0006

Neptune -31717-11-30 09:35 J -9862877.24 -9862877.10 -9862876.96 0.0089 0.0012

Neptune -31716-02-26 11:16 J -9862789.17 -9862789.03 -9862788.89 0.0089 0.0019

Neptune -31716-05-25 12:57 J -9862701.10 -9862700.96 -9862700.83 0.0089 0.0026

Neptune -31716-08-21 14:23 J -9862613.03 -9862612.90 -9862612.76 0.0089 0.0034

Neptune -31716-11-17 16:04 J -9862524.95 -9862524.83 -9862524.70 0.0089 0.0040

Neptune -31715-02-13 17:31 J -9862436.88 -9862436.77 -9862436.64 0.0089 0.0048

Neptune -31715-05-12 19:11 J -9862348.80 -9862348.70 -9862348.57 0.0089 0.0055

Moon -31715-05-15 08:23 J -9862346.25 -9862346.15 -9862346.06 0.2674 0.1692

Earth -31715-05-15 09:07 J -9862346.22 -9862346.12 -9862346.02 0.2678 0.1610 *

Neptune -31715-08-08 20:52 J -9862260.72 -9862260.63 -9862260.52 0.0089 0.0062

Neptune -31715-11-04 22:33 J -9862172.64 -9862172.56 -9862172.46 0.0089 0.0069

Neptune -31714-02-01 00:14 J -9862084.55 -9862084.49 -9862084.40 0.0089 0.0076

Neptune -31714-04-30 02:09 J -9861996.45 -9861996.41 -9861996.36 0.0089 0.0083

Saturn -31713-12-02 21:35 J -9861413.69 -9861413.60 -9861413.52 0.0289 0.0249

Saturn -31712-03-01 17:02 J -9861324.94 -9861324.79 -9861324.63 0.0289 0.0094

Saturn -31712-05-29 12:14 J -9861236.15 -9861235.99 -9861235.82 0.0289 0.0059

Saturn -31712-08-26 06:57 J -9861147.32 -9861147.21 -9861147.09 0.0289 0.0206

Jupiter -31712-09-25 00:28 J -9861117.62 -9861117.48 -9861117.35 0.0520 0.0053

Earth -31712-11-23 09:07 J -9861058.25 -9861058.12 -9861058.00 0.2659 0.0875

Moon -31712-11-23 09:07 J -9861058.24 -9861058.12 -9861057.99 0.2666 0.0944 *

Mars -31711-11-02 21:07 J -9860713.75 -9860713.62 -9860713.49 0.1729 0.0916

Mars -31710-11-25 16:33 J -9860325.92 -9860325.81 -9860325.71 0.1805 0.0911

Earth -31709-05-24 15:35 J -9860144.91 -9860144.85 -9860144.78 0.2671 0.2274

Moon -31709-05-24 16:19 J -9860144.88 -9860144.82 -9860144.76 0.2676 0.2355 *

Jupiter -31705-02-22 14:38 J -9858776.05 -9858775.89 -9858775.73 0.0509 0.0141

Uranus -31705-08-17 19:11 J -9858598.77 -9858598.70 -9858598.60 0.0134 0.0116

Uranus -31705-11-14 00:57 J -9858510.58 -9858510.46 -9858510.34 0.0134 0.0092

Moon -31705-11-15 13:55 J -9858508.96 -9858508.92 -9858508.89 0.2651 0.2550

Earth -31705-11-15 14:52 J -9858508.92 -9858508.88 -9858508.84 0.2654 0.2524 *

Uranus -31704-02-10 06:14 J -9858422.38 -9858422.24 -9858422.09 0.0134 0.0069

Uranus -31704-05-09 11:45 J -9858334.17 -9858334.01 -9858333.85 0.0134 0.0046

Uranus -31704-08-05 17:02 J -9858245.95 -9858245.79 -9858245.62 0.0134 0.0024

Uranus -31704-11-01 22:33 J -9858157.73 -9858157.56 -9858157.39 0.0133 0.0003

Uranus -31703-01-29 03:35 J -9858069.51 -9858069.35 -9858069.18 0.0133 0.0022

Uranus -31703-04-27 08:52 J -9857981.29 -9857981.13 -9857980.97 0.0133 0.0044

Uranus -31703-07-24 13:55 J -9857893.06 -9857892.92 -9857892.77 0.0133 0.0066

Uranus -31703-10-20 18:57 J -9857804.82 -9857804.71 -9857804.58 0.0133 0.0088

Uranus -31702-01-16 23:59 J -9857716.58 -9857716.50 -9857716.40 0.0133 0.0110

Uranus -31702-04-15 04:47 J -9857628.31 -9857628.30 -9857628.25 0.0133 0.0131

Moon -31702-05-18 04:47 J -9857595.42 -9857595.30 -9857595.18 0.2676 0.0640

Earth -31702-05-18 05:45 J -9857595.38 -9857595.26 -9857595.14 0.2676 0.0636 *

Mars -31700-04-17 00:28 J -9856895.60 -9856895.48 -9856895.36 0.1799 0.0221

Jupiter -31700-07-14 03:50 J -9856807.46 -9856807.34 -9856807.21 0.0521 0.0195

Jupiter -31700-10-11 13:40 J -9856718.02 -9856717.93 -9856717.85 0.0517 0.0400

Mars -31699-03-01 14:23 J -9856576.94 -9856576.90 -9856576.86 0.1712 0.1644

Earth -31699-11-26 08:09 J -9856307.24 -9856307.16 -9856307.07 0.2661 0.2003

Moon -31699-11-26 08:52 J -9856307.21 -9856307.13 -9856307.04 0.2665 0.2071 *

Saturn -31698-09-15 13:40 J -9856014.02 -9856013.93 -9856013.82 0.0270 0.0195

Saturn -31698-12-13 02:09 J -9855925.54 -9855925.41 -9855925.27 0.0270 0.0090

Saturn -31697-03-10 14:38 J -9855837.03 -9855836.89 -9855836.74 0.0270 0.0018

Saturn -31697-06-07 03:35 J -9855748.48 -9855748.35 -9855748.22 0.0270 0.0125

Saturn -31697-09-03 16:19 J -9855659.88 -9855659.82 -9855659.74 0.0270 0.0237

Jupiter -31694-12-11 13:40 J -9854466.10 -9854465.93 -9854465.76 0.0509 0.0036

Moon -31692-11-18 14:09 J -9853758.02 -9853757.91 -9853757.80 0.2659 0.1452

Earth -31692-11-18 15:07 J -9853757.98 -9853757.87 -9853757.75 0.2656 0.1284 *

Mars -31691-09-07 08:38 J -9853465.26 -9853465.14 -9853465.02 0.1793 0.0454

Mars -31690-07-22 17:31 J -9853146.91 -9853146.77 -9853146.64 0.1718 0.0869

Moon	-31689-05-20 01:55 J	-9852844.54	-9852844.42	-9852844.29	0.2680	0.0277
Earth	-31689-05-20 02:38 J	-9852844.52	-9852844.39	-9852844.27	0.2674	0.0386 *
Jupiter	-31688-05-02 07:26 J	-9852497.29	-9852497.19	-9852497.08	0.0521	0.0336
Jupiter	-31688-07-30 17:02 J	-9852407.91	-9852407.79	-9852407.67	0.0518	0.0256
Venus	-31687-01-22 12:43 J	-9852231.99	-9852231.97	-9852231.94	0.3782	0.3657
Saturn	-31683-07-19 15:50 J	-9850592.98	-9850592.84	-9850592.69	0.0289	0.0145
Saturn	-31683-10-16 11:16 J	-9850504.20	-9850504.03	-9850503.87	0.0289	0.0008
Saturn	-31682-01-13 05:59 J	-9850415.38	-9850415.25	-9850415.11	0.0289	0.0157
Moon	-31682-05-13 17:45 J	-9850294.82	-9850294.76	-9850294.71	0.2672	0.2379
Earth	-31682-05-13 17:45 J	-9850294.81	-9850294.76	-9850294.70	0.2679	0.2390 *
Venus	-31682-08-08 06:57 J	-9850208.31	-9850208.21	-9850208.10	0.3781	0.0807
Jupiter	-31682-09-29 13:11 J	-9850156.10	-9850155.95	-9850155.79	0.0508	0.0205
Jupiter	-31682-12-28 14:09 J	-9850065.95	-9850065.91	-9850065.87	0.0512	0.0492
Mars	-31681-01-28 17:02 J	-9850034.88	-9850034.79	-9850034.69	0.1788	0.1095
Mars	-31681-12-11 19:40 J	-9849716.83	-9849716.68	-9849716.52	0.1723	0.0058
Mars	-31679-01-03 08:52 J	-9849329.17	-9849329.13	-9849329.09	0.1811	0.1700
Moon	-31679-11-21 14:38 J	-9849007.03	-9849006.89	-9849006.76	0.2663	0.0067
Earth	-31679-11-21 15:07 J	-9849007.01	-9849006.87	-9849006.74	0.2658	0.0083 *
Venus	-31678-08-09 03:07 J	-9848746.50	-9848746.37	-9848746.24	0.3595	0.0826
Jupiter	-31676-02-18 10:33 J	-9848187.10	-9848187.06	-9848187.01	0.0522	0.0485
Venus	-31676-02-21 01:26 J	-9848184.53	-9848184.44	-9848184.35	0.3779	0.2129
Jupiter	-31676-05-18 19:55 J	-9848097.81	-9848097.67	-9848097.54	0.0518	0.0104
Moon	-31676-05-22 23:45 J	-9848093.62	-9848093.51	-9848093.41	0.2679	0.1475
Earth	-31676-05-22 23:45 J	-9848093.62	-9848093.51	-9848093.41	0.2672	0.1415 *
Venus	-31672-02-22 02:23 J	-9846722.47	-9846722.40	-9846722.33	0.3597	0.3004
Mars	-31672-06-20 01:55 J	-9846604.45	-9846604.42	-9846604.39	0.1781	0.1714
Mars	-31671-05-03 21:35 J	-9846286.73	-9846286.60	-9846286.46	0.1729	0.0811
Mars	-31670-05-26 16:33 J	-9845898.91	-9845898.81	-9845898.70	0.1806	0.0995
Jupiter	-31670-07-18 12:28 J	-9845846.09	-9845845.98	-9845845.87	0.0507	0.0378
Jupiter	-31670-10-16 13:55 J	-9845756.05	-9845755.92	-9845755.79	0.0511	0.0324

Moon -31669-05-15 13:26 J -9845544.04 -9845543.94 -9845543.84 0.2675 0.1489

Earth -31669-05-15 14:23 J -9845544.01 -9845543.90 -9845543.80 0.2677 0.1434 *

Saturn -31668-02-01 15:50 J -9845281.92 -9845281.84 -9845281.77 0.0271 0.0227

Saturn -31668-05-01 04:04 J -9845193.46 -9845193.33 -9845193.20 0.0271 0.0122

Saturn -31668-07-28 16:33 J -9845104.95 -9845104.81 -9845104.67 0.0271 0.0016

Saturn -31668-10-25 05:16 J -9845016.42 -9845016.28 -9845016.14 0.0271 0.0093

Saturn -31667-01-21 18:14 J -9844927.83 -9844927.74 -9844927.64 0.0271 0.0204

Earth -31666-11-24 14:38 J -9844256.01 -9844255.89 -9844255.77 0.2659 0.1085

Moon -31666-11-24 14:52 J -9844256.00 -9844255.88 -9844255.76 0.2666 0.1048 *

Jupiter -31664-03-06 22:47 J -9843787.68 -9843787.55 -9843787.41 0.0519 0.0049

Earth -31663-05-25 21:07 J -9843342.67 -9843342.62 -9843342.58 0.2670 0.2476

Moon -31663-05-25 21:50 J -9843342.63 -9843342.59 -9843342.55 0.2675 0.2506 *

Mars -31662-09-23 23:02 J -9842856.56 -9842856.54 -9842856.51 0.1735 0.1703

Uranus -31661-04-24 13:11 J -9842642.99 -9842642.95 -9842642.90 0.0145 0.0136

Uranus -31661-07-21 17:31 J -9842554.85 -9842554.77 -9842554.67 0.0145 0.0112

Mars -31661-10-16 00:28 J -9842468.60 -9842468.48 -9842468.36 0.1799 0.0299

Uranus -31661-10-17 22:04 J -9842466.69 -9842466.58 -9842466.46 0.0145 0.0088

Uranus -31660-01-14 02:52 J -9842378.51 -9842378.38 -9842378.25 0.0145 0.0063

Uranus -31660-04-12 07:26 J -9842290.33 -9842290.19 -9842290.05 0.0145 0.0039

Uranus -31660-07-09 11:59 J -9842202.15 -9842202.00 -9842201.85 0.0145 0.0014

Uranus -31660-10-05 16:33 J -9842113.95 -9842113.81 -9842113.66 0.0145 0.0013

Uranus -31659-01-01 21:21 J -9842025.75 -9842025.61 -9842025.47 0.0145 0.0037

Uranus -31659-03-31 02:09 J -9841937.54 -9841937.41 -9841937.28 0.0145 0.0063

Uranus -31659-06-27 06:57 J -9841849.33 -9841849.21 -9841849.09 0.0146 0.0089

Uranus -31659-09-23 11:45 J -9841761.10 -9841761.01 -9841760.92 0.0146 0.0115

Moon -31659-11-16 19:40 J -9841706.74 -9841706.68 -9841706.63 0.2653 0.2403

Earth -31659-11-16 20:38 J -9841706.70 -9841706.64 -9841706.57 0.2654 0.2296 *

Uranus -31659-12-20 16:47 J -9841672.84 -9841672.80 -9841672.77 0.0146 0.0141

Jupiter -31658-08-04 12:43 J -9841446.13 -9841445.97 -9841445.81 0.0509 0.0143

Moon -31656-05-18 10:04 J -9840793.20 -9840793.08 -9840792.96 0.2677 0.0569

Earth -31656-05-18 11:02 J -9840793.16 -9840793.04 -9840792.92 0.2676 0.0449 *

Saturn -31654-12-06 17:59 J -9839860.88 -9839860.75 -9839860.61 0.0289 0.0172

Saturn -31653-03-04 13:26 J -9839772.10 -9839771.94 -9839771.77 0.0289 0.0020

Saturn -31653-06-01 08:23 J -9839683.29 -9839683.15 -9839683.00 0.0289 0.0133

Saturn -31653-08-29 03:07 J -9839594.41 -9839594.37 -9839594.33 0.0289 0.0278

Earth -31653-11-26 13:40 J -9839505.00 -9839504.93 -9839504.86 0.2661 0.2208

Moon -31653-11-26 14:38 J -9839504.95 -9839504.89 -9839504.82 0.2664 0.2314 *

Jupiter -31653-12-24 01:55 J -9839477.55 -9839477.42 -9839477.30 0.0521 0.0200

Jupiter -31652-03-23 11:31 J -9839388.11 -9839388.02 -9839387.93 0.0517 0.0394

Mars -31651-03-08 08:38 J -9839038.26 -9839038.14 -9839038.02 0.1793 0.0377

Mars -31650-01-20 17:45 J -9838719.88 -9838719.76 -9838719.63 0.1718 0.0961

Jupiter -31646-05-23 11:45 J -9837136.18 -9837136.01 -9837135.84 0.0508 0.0033

Moon -31646-11-19 19:40 J -9836955.80 -9836955.68 -9836955.55 0.2659 0.1079

Earth -31646-11-19 20:52 J -9836955.75 -9836955.63 -9836955.50 0.2656 0.1062 *

Moon -31643-05-21 07:11 J -9836042.32 -9836042.20 -9836042.08 0.2680 0.0606

Earth -31643-05-21 07:55 J -9836042.30 -9836042.17 -9836042.05 0.2674 0.0573 *

Pluto -31643-05-26 08:52 J -9836037.18 -9836037.13 -9836037.05 0.0069 0.0063

Pluto -31643-08-22 10:04 J -9835949.15 -9835949.08 -9835948.97 0.0069 0.0057

Pluto -31643-11-18 11:45 J -9835861.12 -9835861.01 -9835860.90 0.0069 0.0050

Pluto -31642-02-14 12:57 J -9835773.08 -9835772.96 -9835772.82 0.0069 0.0044

Pluto -31642-05-13 14:09 J -9835685.03 -9835684.91 -9835684.75 0.0069 0.0038

Mars -31642-07-29 17:02 J -9835607.88 -9835607.79 -9835607.69 0.1787 0.1022

Pluto -31642-08-09 15:50 J -9835596.98 -9835596.84 -9835596.69 0.0069 0.0031

Pluto -31642-11-05 17:02 J -9835508.93 -9835508.79 -9835508.62 0.0069 0.0025

Pluto -31641-02-01 18:43 J -9835420.88 -9835420.72 -9835420.56 0.0069 0.0019

Pluto -31641-04-29 20:09 J -9835332.82 -9835332.66 -9835332.50 0.0070 0.0012

Mars -31641-06-11 20:09 J -9835289.81 -9835289.66 -9835289.51 0.1724 0.0139

Pluto -31641-07-26 21:35 J -9835244.77 -9835244.60 -9835244.43 0.0070 0.0005

Jupiter -31641-10-12 05:31 J -9835167.37 -9835167.27 -9835167.17 0.0522 0.0343

Pluto -31641-10-22 23:02 J -9835156.71 -9835156.54 -9835156.37 0.0070 0.0001

Jupiter -31640-01-09 14:52 J -9835078.00 -9835077.88 -9835077.76 0.0518 0.0250

Pluto -31640-01-19 00:28 J -9835068.65 -9835068.48 -9835068.31 0.0070 0.0008

Pluto -31640-04-17 01:40 J -9834980.58 -9834980.43 -9834980.25 0.0070 0.0015

Mars -31640-07-04 08:52 J -9834902.14 -9834902.13 -9834902.11 0.1811 0.1786

Pluto -31640-07-14 03:21 J -9834892.52 -9834892.36 -9834892.20 0.0070 0.0021

Pluto -31640-10-10 04:47 J -9834804.45 -9834804.30 -9834804.14 0.0070 0.0028

Pluto -31639-01-06 06:14 J -9834716.38 -9834716.24 -9834716.09 0.0070 0.0035

Pluto -31639-04-04 07:40 J -9834628.30 -9834628.18 -9834628.03 0.0070 0.0043

Saturn -31639-06-21 18:43 J -9834549.77 -9834549.72 -9834549.66 0.0270 0.0248

Pluto -31639-07-01 09:07 J -9834540.22 -9834540.12 -9834539.98 0.0071 0.0050

Saturn -31639-09-18 06:57 J -9834461.33 -9834461.21 -9834461.09 0.0270 0.0145

Pluto -31639-09-27 10:33 J -9834452.14 -9834452.06 -9834451.94 0.0071 0.0057

Saturn -31639-12-15 19:26 J -9834372.84 -9834372.69 -9834372.55 0.0270 0.0040

Pluto -31639-12-24 12:14 J -9834364.05 -9834363.99 -9834363.90 0.0071 0.0064

Saturn -31638-03-14 07:55 J -9834284.31 -9834284.17 -9834284.03 0.0270 0.0069

Pluto -31638-03-22 14:09 J -9834275.91 -9834275.91 -9834275.91 0.0071 0.0071

Saturn -31638-06-10 20:52 J -9834195.74 -9834195.63 -9834195.52 0.0270 0.0178

Neptune -31636-01-07 00:28 J -9833619.51 -9833619.48 -9833619.43 0.0088 0.0086

Neptune -31636-04-05 03:50 J -9833531.43 -9833531.34 -9833531.26 0.0088 0.0077

Moon -31636-05-13 22:47 J -9833492.62 -9833492.55 -9833492.49 0.2673 0.2270

Earth -31636-05-13 23:02 J -9833492.61 -9833492.54 -9833492.47 0.2679 0.2211 *

Neptune -31636-07-02 06:14 J -9833443.33 -9833443.24 -9833443.11 0.0088 0.0069

Neptune -31636-09-28 09:21 J -9833355.23 -9833355.11 -9833354.96 0.0088 0.0060

Neptune -31636-12-25 12:43 J -9833267.12 -9833266.97 -9833266.83 0.0088 0.0051

Neptune -31635-03-23 15:21 J -9833179.01 -9833178.86 -9833178.69 0.0088 0.0042

Neptune -31635-06-19 18:28 J -9833090.89 -9833090.73 -9833090.56 0.0088 0.0033

Neptune -31635-09-15 21:07 J -9833002.78 -9833002.62 -9833002.43 0.0088 0.0026

Neptune -31635-12-13 00:14 J -9832914.66 -9832914.49 -9832914.31 0.0088 0.0016

Neptune -31634-03-11 03:21 J -9832826.54 -9832826.36 -9832826.19 0.0088 0.0008

Jupiter -31634-03-11 10:33 J -9832826.21 -9832826.06 -9832825.90 0.0507 0.0212 *

Neptune -31634-06-07 06:14 J -9832738.42 -9832738.24 -9832738.06 0.0088 0.0002

Jupiter -31634-06-09 11:31 J -9832736.07 -9832736.02 -9832735.97 0.0511 0.0484

Neptune -31634-09-03 09:07 J -9832650.30 -9832650.12 -9832649.95 0.0088 0.0010

Neptune -31634-11-30 11:45 J -9832562.18 -9832562.01 -9832561.83 0.0088 0.0018

Neptune -31633-02-26 14:38 J -9832474.05 -9832473.89 -9832473.72 0.0088 0.0027

Neptune -31633-05-24 17:16 J -9832385.93 -9832385.78 -9832385.60 0.0088 0.0035

Neptune -31633-08-20 20:09 J -9832297.80 -9832297.66 -9832297.50 0.0088 0.0044

Neptune -31633-11-16 23:02 J -9832209.67 -9832209.54 -9832209.39 0.0088 0.0052

Moon -31633-11-21 20:23 J -9832204.78 -9832204.65 -9832204.52 0.2664 0.0036

Earth -31633-11-21 20:38 J -9832204.77 -9832204.64 -9832204.50 0.2658 0.0139 *

Mars -31633-12-19 01:40 J -9832177.47 -9832177.43 -9832177.39 0.1781 0.1649

Neptune -31632-02-13 01:40 J -9832121.54 -9832121.43 -9832121.29 0.0088 0.0060

Neptune -31632-05-12 04:33 J -9832033.41 -9832033.31 -9832033.19 0.0088 0.0068

Neptune -31632-08-08 07:26 J -9831945.27 -9831945.19 -9831945.10 0.0088 0.0076

Mars -31632-11-01 22:19 J -9831859.71 -9831859.57 -9831859.43 0.1729 0.0704

Neptune -31632-11-04 10:19 J -9831857.12 -9831857.07 -9831857.02 0.0088 0.0085

Venus -31631-08-29 10:47 J -9831559.12 -9831559.05 -9831558.97 0.3782 0.2618

Mars -31631-11-24 16:33 J -9831471.91 -9831471.81 -9831471.71 0.1805 0.1064

Moon -31630-05-24 05:02 J -9831291.39 -9831291.29 -9831291.19 0.2678 0.1565

Earth -31630-05-24 05:02 J -9831291.39 -9831291.29 -9831291.20 0.2672 0.1609 *

Jupiter -31629-07-31 09:07 J -9830857.17 -9830857.12 -9830857.07 0.0522 0.0482

Jupiter -31629-10-28 18:28 J -9830767.87 -9830767.73 -9830767.60 0.0519 0.0108

Venus -31627-08-30 03:07 J -9830097.42 -9830097.37 -9830097.33 0.3594 0.3362

Venus -31625-03-14 05:02 J -9829535.40 -9829535.29 -9829535.18 0.3780 0.0264

Saturn -31624-04-24 16:33 J -9829128.91 -9829128.81 -9829128.70 0.0289 0.0224

Saturn -31624-07-22 12:14 J -9829040.15 -9829039.99 -9829039.82 0.0289 0.0070

Saturn -31624-10-19 07:26 J -9828951.34 -9828951.19 -9828951.03 0.0289 0.0083

Saturn -31623-01-16 02:09 J -9828862.50 -9828862.41 -9828862.31 0.0289 0.0230

Moon -31623-05-16 18:43 J -9828741.83 -9828741.72 -9828741.62 0.2674 0.1312

Earth -31623-05-16 19:26 J -9828741.79 -9828741.69 -9828741.58 0.2677 0.1250 *

Jupiter -31623-12-28 10:04 J -9828516.19 -9828516.08 -9828515.97 0.0507 0.0382

Mars -31622-03-24 23:45 J -9828429.57 -9828429.51 -9828429.45 0.1735 0.1596

Jupiter -31622-03-28 11:31 J -9828426.15 -9828426.02 -9828425.89 0.0510 0.0319

Venus -31621-03-15 02:38 J -9828073.52 -9828073.39 -9828073.26 0.3595 0.0596

Mars -31621-04-16 00:28 J -9828041.60 -9828041.48 -9828041.36 0.1800 0.0377

Uranus -31621-06-10 22:04 J -9827985.62 -9827985.58 -9827985.52 0.0134 0.0128

Uranus -31621-09-07 03:50 J -9827897.44 -9827897.34 -9827897.23 0.0134 0.0104

Uranus -31621-12-04 09:21 J -9827809.25 -9827809.11 -9827808.97 0.0134 0.0081

Uranus -31620-03-02 14:38 J -9827721.04 -9827720.89 -9827720.73 0.0134 0.0058

Uranus -31620-05-29 20:09 J -9827632.82 -9827632.66 -9827632.50 0.0134 0.0035

Uranus -31620-08-26 01:26 J -9827544.61 -9827544.44 -9827544.27 0.0133 0.0012

Venus -31620-09-27 23:31 J -9827511.58 -9827511.52 -9827511.46 0.3779 0.3220

Uranus -31620-11-22 06:43 J -9827456.39 -9827456.22 -9827456.05 0.0133 0.0011

Earth -31620-11-24 20:09 J -9827453.78 -9827453.66 -9827453.54 0.2660 0.1292

Moon -31620-11-24 20:23 J -9827453.76 -9827453.65 -9827453.53 0.2666 0.1392 *

Uranus -31619-02-18 11:59 J -9827368.16 -9827368.00 -9827367.84 0.0133 0.0033

Uranus -31619-05-17 17:02 J -9827279.94 -9827279.79 -9827279.63 0.0133 0.0055

Uranus -31619-08-13 22:19 J -9827191.71 -9827191.57 -9827191.43 0.0133 0.0077

Uranus -31619-11-10 03:21 J -9827103.47 -9827103.36 -9827103.25 0.0133 0.0098

Uranus -31618-02-06 08:09 J -9827015.22 -9827015.16 -9827015.08 0.0133 0.0120

Jupiter -31617-08-16 21:21 J -9826457.74 -9826457.61 -9826457.47 0.0519 0.0045

Moon -31613-11-17 01:11 J -9824904.53 -9824904.45 -9824904.37 0.2655 0.2178

Earth -31613-11-17 02:23 J -9824904.48 -9824904.40 -9824904.31 0.2655 0.2073 *

Mars -31612-09-06 08:52 J -9824611.25 -9824611.13 -9824611.01 0.1793 0.0299

Mars -31611-07-21 18:14 J -9824292.86 -9824292.74 -9824292.62 0.1718 0.1055

Jupiter -31610-01-14 11:02 J -9824116.20 -9824116.04 -9824115.88 0.0510 0.0150

Moon -31610-05-19 15:21 J -9823990.98 -9823990.86 -9823990.74 0.2678 0.0295

Earth -31610-05-19 16:04 J -9823990.95 -9823990.83 -9823990.70 0.2675 0.0275 *

Saturn -31609-02-05 08:23 J -9823729.25 -9823729.15 -9823729.04 0.0271 0.0180

Saturn -31609-05-03 20:52 J -9823640.77 -9823640.63 -9823640.50 0.0271 0.0075

Saturn -31609-07-31 09:21 J -9823552.25 -9823552.11 -9823551.97 0.0271 0.0033

Saturn -31609-10-27 22:04 J -9823463.70 -9823463.58 -9823463.45 0.0271 0.0142

Saturn -31608-01-24 11:02 J -9823375.08 -9823375.04 -9823374.98 0.0271 0.0254

Earth -31607-11-27 19:11 J -9822702.75 -9822702.70 -9822702.64 0.2661 0.2417

Moon -31607-11-27 20:23 J -9822702.70 -9822702.65 -9822702.60 0.2664 0.2447 *

Jupiter -31605-06-05 00:28 J -9822147.60 -9822147.48 -9822147.35 0.0520 0.0193

Jupiter -31605-09-02 10:04 J -9822058.16 -9822058.08 -9822057.99 0.0516 0.0401

Mars -31602-01-27 17:02 J -9821180.89 -9821180.79 -9821180.68 0.1787 0.0950

Mars -31602-12-11 20:38 J -9820862.79 -9820862.64 -9820862.49 0.1723 0.0241

Moon -31600-11-20 01:40 J -9820153.56 -9820153.43 -9820153.31 0.2660 0.0976

Earth -31600-11-20 02:38 J -9820153.52 -9820153.39 -9820153.26 0.2656 0.0842 *

Jupiter -31599-11-02 09:50 J -9819806.25 -9819806.09 -9819805.92 0.0508 0.0031

Moon -31597-05-21 12:43 J -9819240.09 -9819239.97 -9819239.86 0.2680 0.0663

Earth -31597-05-21 13:11 J -9819240.07 -9819239.95 -9819239.84 0.2674 0.0766 *

Saturn -31595-09-11 18:14 J -9818396.81 -9818396.74 -9818396.66 0.0289 0.0256

Saturn -31595-12-09 14:09 J -9818308.07 -9818307.91 -9818307.75 0.0289 0.0099

Saturn -31594-03-08 09:21 J -9818219.27 -9818219.11 -9818218.94 0.0289 0.0054

Saturn -31594-06-05 04:19 J -9818130.43 -9818130.32 -9818130.20 0.0289 0.0202

Jupiter -31593-03-24 03:35 J -9817837.45 -9817837.35 -9817837.25 0.0522 0.0346

Mars -31593-06-19 01:55 J -9817750.48 -9817750.42 -9817750.37 0.1781 0.1571

Jupiter -31593-06-21 12:57 J -9817748.08 -9817747.96 -9817747.84 0.0518 0.0247

Mars -31592-05-02 22:33 J -9817432.70 -9817432.56 -9817432.41 0.1729 0.0613

Mars -31591-05-25 16:47 J -9817044.90 -9817044.80 -9817044.71 0.1805 0.1147

Moon -31590-05-15 03:35 J -9816690.43 -9816690.35 -9816690.27 0.2673 0.2016

Earth -31590-05-15 04:19 J -9816690.40 -9816690.32 -9816690.25 0.2679 0.2040 *

Jupiter -31587-08-21 08:52 J -9815496.28 -9815496.13 -9815495.97 0.0507 0.0205

Jupiter -31587-11-19 09:50 J -9815406.13 -9815406.09 -9815406.04 0.0511 0.0490

Moon -31587-11-23 02:09 J -9815402.54 -9815402.41 -9815402.28 0.2665 0.0415

Earth -31587-11-23 02:23 J -9815402.54 -9815402.40 -9815402.27 0.2658 0.0356 *

Earth -31584-05-24 10:19 J -9814489.16 -9814489.07 -9814488.98 0.2672 0.1805

Moon -31584-05-24 10:33 J -9814489.14 -9814489.06 -9814488.97 0.2678 0.1917 *

Mars -31583-09-23 00:14 J -9814002.57 -9814002.49 -9814002.41 0.1736 0.1495

Mars -31582-10-16 00:43 J -9813614.59 -9813614.47 -9813614.36 0.1799 0.0453

Jupiter -31581-01-11 07:11 J -9813527.25 -9813527.20 -9813527.16 0.0523 0.0488

Jupiter -31581-04-09 16:19 J -9813437.95 -9813437.82 -9813437.68 0.0519 0.0102

Saturn -31580-06-24 11:31 J -9812997.12 -9812997.02 -9812996.93 0.0270 0.0201

Saturn -31580-09-20 23:45 J -9812908.65 -9812908.51 -9812908.38 0.0270 0.0097

Saturn -31580-12-18 12:14 J -9812820.14 -9812819.99 -9812819.85 0.0270 0.0010

Saturn -31579-03-17 00:57 J -9812731.59 -9812731.46 -9812731.33 0.0270 0.0118

Saturn -31579-06-13 13:55 J -9812643.00 -9812642.92 -9812642.84 0.0270 0.0229

Uranus -31577-05-14 20:52 J -9811941.69 -9811941.63 -9811941.56 0.0145 0.0128

Moon -31577-05-16 23:45 J -9811939.62 -9811939.51 -9811939.40 0.2674 0.1155

Earth -31577-05-17 00:43 J -9811939.58 -9811939.47 -9811939.36 0.2677 0.1065 *

Uranus -31577-08-11 01:11 J -9811853.54 -9811853.45 -9811853.34 0.0145 0.0104

Uranus -31577-11-07 05:45 J -9811765.38 -9811765.26 -9811765.14 0.0145 0.0080

Uranus -31576-02-03 10:19 J -9811677.20 -9811677.07 -9811676.93 0.0145 0.0055

Uranus -31576-05-02 14:52 J -9811589.02 -9811588.88 -9811588.73 0.0145 0.0031

Uranus -31576-07-29 19:40 J -9811500.83 -9811500.68 -9811500.54 0.0145 0.0007

Uranus -31576-10-26 00:14 J -9811412.63 -9811412.49 -9811412.34 0.0145 0.0020

Uranus -31575-01-22 04:47 J -9811324.43 -9811324.30 -9811324.15 0.0145 0.0046

Uranus -31575-04-20 09:35 J -9811236.22 -9811236.10 -9811235.97 0.0145 0.0071

Jupiter -31575-06-09 07:40 J -9811186.29 -9811186.18 -9811186.07 0.0506 0.0385

Uranus -31575-07-17 14:23 J -9811148.00 -9811147.90 -9811147.78 0.0146 0.0097

Jupiter -31575-09-07 09:07 J -9811096.25 -9811096.12 -9811095.99 0.0510 0.0315

Uranus -31575-10-13 19:26 J -9811059.77 -9811059.69 -9811059.61 0.0146 0.0123

Venus -31574-04-05 08:52 J -9810886.23 -9810886.13 -9810886.03 0.3781 0.1573

Earth -31574-11-26 01:40 J -9810651.54 -9810651.43 -9810651.32 0.2660 0.1505

Moon -31574-11-26 02:09 J -9810651.51 -9810651.41 -9810651.30 0.2665 0.1478 *

Mars -31572-03-07 08:38 J -9810184.26 -9810184.14 -9810184.02 0.1793 0.0232

Mars -31571-01-19 18:57 J -9809865.83 -9809865.71 -9809865.60 0.1718 0.1159

Venus -31570-04-06 02:38 J -9809424.50 -9809424.39 -9809424.28 0.3594 0.1893

Jupiter -31569-01-27 19:55 J -9809127.81 -9809127.67 -9809127.53 0.0520 0.0040

Venus -31569-10-19 03:07 J -9808862.47 -9808862.37 -9808862.26 0.3780 0.1334

Moon -31567-11-18 06:57 J -9808102.31 -9808102.21 -9808102.12 0.2655 0.1922

Earth -31567-11-18 08:09 J -9808102.26 -9808102.16 -9808102.06 0.2655 0.1849 *

Saturn -31565-04-27 12:43 J -9807576.11 -9807575.97 -9807575.83 0.0289 0.0152

Saturn -31565-07-25 08:09 J -9807487.33 -9807487.16 -9807486.99 0.0289 0.0001

Venus -31565-10-20 02:09 J -9807400.52 -9807400.41 -9807400.30 0.3596 0.2006

Saturn -31565-10-22 03:07 J -9807398.51 -9807398.37 -9807398.23 0.0289 0.0152

Moon -31564-05-19 20:38 J -9807188.76 -9807188.64 -9807188.52 0.2679 0.0142

Earth -31564-05-19 21:21 J -9807188.73 -9807188.61 -9807188.48 0.2675 0.0113 *

Jupiter -31563-06-26 08:52 J -9806786.29 -9806786.13 -9806785.97 0.0509 0.0148

Mars -31563-07-28 17:16 J -9806753.89 -9806753.78 -9806753.68 0.1787 0.0872

Mars -31562-06-11 21:07 J -9806435.77 -9806435.62 -9806435.47 0.1723 0.0343

Earth -31561-11-28 00:43 J -9805900.49 -9805900.47 -9805900.45 0.2662 0.2620

Pluto -31558-10-23 13:11 J -9804840.99 -9804840.95 -9804840.87 0.0075 0.0069

Jupiter -31558-11-15 23:16 J -9804817.66 -9804817.53 -9804817.40 0.0520 0.0186

Pluto -31557-01-19 14:38 J -9804752.96 -9804752.89 -9804752.79 0.0075 0.0061

Jupiter -31557-02-13 08:52 J -9804728.21 -9804728.13 -9804728.05 0.0517 0.0407

Pluto -31557-04-16 16:04 J -9804664.93 -9804664.83 -9804664.71 0.0075 0.0053

Pluto -31557-07-13 17:16 J -9804576.88 -9804576.78 -9804576.64 0.0075 0.0046

Pluto -31557-10-09 18:43 J -9804488.84 -9804488.72 -9804488.58 0.0075 0.0038

Pluto -31556-01-05 20:09 J -9804400.79 -9804400.66 -9804400.52 0.0075 0.0031

Pluto -31556-04-03 21:35 J -9804312.74 -9804312.60 -9804312.46 0.0075 0.0023

Pluto -31556-06-30 22:47 J -9804224.69 -9804224.55 -9804224.40 0.0075 0.0016

Pluto -31556-09-27 00:14 J -9804136.64 -9804136.49 -9804136.34 0.0074 0.0008

Pluto -31556-12-24 01:26 J -9804048.59 -9804048.44 -9804048.29 0.0074 0.0001

Pluto -31555-03-22 02:38 J -9803960.53 -9803960.39 -9803960.24 0.0074 0.0007

Neptune -31555-04-12 09:50 J -9803939.12 -9803939.09 -9803939.03 0.0089 0.0083

Pluto -31555-06-18 03:50 J -9803872.48 -9803872.34 -9803872.19 0.0074 0.0014

Neptune -31555-07-09 11:31 J -9803851.08 -9803851.02 -9803850.94 0.0089 0.0076

Pluto -31555-09-14 05:02 J -9803784.43 -9803784.29 -9803784.14 0.0074 0.0021

Neptune -31555-10-05 13:11 J -9803763.03 -9803762.95 -9803762.86 0.0089 0.0069

Pluto -31555-12-11 06:14 J -9803696.37 -9803696.24 -9803696.09 0.0074 0.0028

Neptune -31554-01-01 14:52 J -9803674.98 -9803674.88 -9803674.78 0.0089 0.0063

Pluto -31554-03-09 07:26 J -9803608.31 -9803608.19 -9803608.05 0.0074 0.0035

Neptune -31554-03-30 16:04 J -9803586.93 -9803586.83 -9803586.71 0.0089 0.0056

Pluto -31554-06-05 08:38 J -9803520.25 -9803520.14 -9803520.01 0.0074 0.0042

Neptune -31554-06-26 17:45 J -9803498.87 -9803498.76 -9803498.64 0.0089 0.0049

Pluto -31554-09-01 09:50 J -9803432.19 -9803432.09 -9803431.97 0.0073 0.0049

Neptune -31554-09-22 19:26 J -9803410.81 -9803410.69 -9803410.56 0.0089 0.0042

Moon -31554-11-21 07:26 J -9803351.32 -9803351.19 -9803351.06 0.2661 0.0662

Earth -31554-11-21 08:09 J -9803351.29 -9803351.16 -9803351.03 0.2657 0.0624 *

Pluto -31554-11-28 11:02 J -9803344.13 -9803344.04 -9803343.94 0.0073 0.0055

Mars -31554-12-19 01:55 J -9803323.49 -9803323.42 -9803323.36 0.1781 0.1499

Neptune -31554-12-19 21:07 J -9803322.75 -9803322.62 -9803322.49 0.0089 0.0035

Pluto -31553-02-24 11:59 J -9803256.06 -9803256.00 -9803255.91 0.0073 0.0062

Neptune -31553-03-16 22:33 J -9803234.69 -9803234.56 -9803234.42 0.0089 0.0028

Pluto -31553-05-22 13:26 J -9803167.98 -9803167.94 -9803167.89 0.0073 0.0068

Neptune -31553-06-13 00:14 J -9803146.63 -9803146.49 -9803146.35 0.0089 0.0021

Neptune -31553-09-09 01:40 J -9803058.56 -9803058.43 -9803058.28 0.0089 0.0015

Mars -31553-10-31 23:16 J -9803005.68 -9803005.53 -9803005.39 0.1729 0.0512

Neptune -31553-12-06 03:21 J -9802970.50 -9802970.36 -9802970.22 0.0089 0.0008

Neptune -31552-03-04 05:02 J -9802882.43 -9802882.29 -9802882.15 0.0089 0.0001

Neptune -31552-05-31 06:43 J -9802794.36 -9802794.22 -9802794.08 0.0089 0.0006

Neptune -31552-08-27 08:09 J -9802706.30 -9802706.16 -9802706.01 0.0089 0.0014

Neptune -31552-11-23 09:50 J -9802618.23 -9802618.09 -9802617.95 0.0089 0.0020

Mars -31552-11-23 16:47 J -9802617.89 -9802617.80 -9802617.71 0.1805 0.1226

Neptune -31551-02-19 11:31 J -9802530.15 -9802530.02 -9802529.88 0.0089 0.0027

Jupiter -31551-04-14 08:23 J -9802476.32 -9802476.15 -9802475.98 0.0509 0.0022

Neptune -31551-05-18 13:11 J -9802442.08 -9802441.95 -9802441.82 0.0089 0.0034

Moon -31551-05-22 17:59 J -9802437.86 -9802437.75 -9802437.63 0.2679 0.0982

Earth -31551-05-22 18:28 J -9802437.85 -9802437.73 -9802437.62 0.2673 0.0956 *

Neptune -31551-08-14 14:52 J -9802354.01 -9802353.88 -9802353.76 0.0089 0.0042

Neptune -31551-11-10 16:19 J -9802265.93 -9802265.82 -9802265.69 0.0089 0.0049

Saturn -31551-11-11 12:43 J -9802265.03 -9802264.97 -9802264.90 0.0270 0.0238

Neptune -31550-02-06 17:45 J -9802177.86 -9802177.76 -9802177.63 0.0089 0.0056

Saturn -31550-02-08 00:57 J -9802176.58 -9802176.46 -9802176.34 0.0270 0.0135

Neptune -31550-05-05 19:26 J -9802089.78 -9802089.69 -9802089.57 0.0089 0.0063

Saturn -31550-05-07 13:26 J -9802088.09 -9802087.94 -9802087.80 0.0270 0.0030

Neptune -31550-08-01 21:07 J -9802001.69 -9802001.62 -9802001.52 0.0089 0.0071

Saturn -31550-08-04 01:55 J -9801999.56 -9801999.42 -9801999.28 0.0271 0.0080

Neptune -31550-10-28 23:02 J -9801913.60 -9801913.54 -9801913.47 0.0089 0.0077

Saturn -31550-10-31 14:52 J -9801910.98 -9801910.88 -9801910.78 0.0271 0.0190

Neptune -31549-01-25 00:43 J -9801825.51 -9801825.47 -9801825.42 0.0089 0.0084

Jupiter -31546-09-04 02:23 J -9800507.50 -9800507.40 -9800507.29 0.0521 0.0334

Jupiter -31546-12-02 11:45 J -9800418.12 -9800418.01 -9800417.89 0.0518 0.0258

Moon -31544-05-15 08:52 J -9799888.21 -9799888.13 -9799888.05 0.2673 0.1973

Earth -31544-05-15 09:21 J -9799888.19 -9799888.11 -9799888.02 0.2678 0.1857 *

Mars -31543-03-24 00:43 J -9799575.56 -9799575.47 -9799575.38 0.1735 0.1392

Mars -31542-04-16 00:43 J -9799187.59 -9799187.47 -9799187.35 0.1799 0.0527

Moon -31541-11-23 07:40 J -9798600.31 -9798600.18 -9798600.05 0.2665 0.0491

Earth -31541-11-23 07:55 J -9798600.30 -9798600.17 -9798600.04 0.2658 0.0565 *

Jupiter -31539-01-31 07:11 J -9798166.35 -9798166.20 -9798166.04 0.0507 0.0199

Jupiter -31539-05-01 08:09 J -9798076.19 -9798076.16 -9798076.12 0.0511 0.0496

Earth -31538-05-25 15:35 J -9797686.93 -9797686.85 -9797686.77 0.2672 0.2004

Moon -31538-05-25 16:04 J -9797686.91 -9797686.83 -9797686.75 0.2678 0.1972 *

Uranus -31537-07-01 06:28 J -9797284.30 -9797284.23 -9797284.14 0.0134 0.0117

Uranus -31537-09-27 11:59 J -9797196.11 -9797196.00 -9797195.87 0.0134 0.0094

Uranus -31537-12-24 17:16 J -9797107.91 -9797107.78 -9797107.62 0.0134 0.0071

Uranus -31536-03-22 22:47 J -9797019.70 -9797019.55 -9797019.38 0.0134 0.0048

Uranus -31536-06-19 04:19 J -9796931.48 -9796931.32 -9796931.15 0.0134 0.0024

Saturn -31536-09-14 13:26 J -9796844.06 -9796843.94 -9796843.80 0.0290 0.0189

Uranus -31536-09-15 09:35 J -9796843.26 -9796843.10 -9796842.93 0.0134 0.0004

Saturn -31536-12-12 09:21 J -9796755.28 -9796755.11 -9796754.95 0.0290 0.0033

Uranus -31536-12-12 14:52 J -9796755.04 -9796754.88 -9796754.71 0.0133 0.0021 *

Uranus -31535-03-10 20:09 J -9796666.82 -9796666.66 -9796666.50 0.0133 0.0043

Saturn -31535-03-11 04:33 J -9796666.46 -9796666.31 -9796666.16 0.0289 0.0119

Uranus -31535-06-07 01:11 J -9796578.59 -9796578.45 -9796578.30 0.0133 0.0065

Saturn -31535-06-07 23:02 J -9796577.59 -9796577.54 -9796577.47 0.0289 0.0267

Uranus -31535-09-03 06:28 J -9796490.36 -9796490.23 -9796490.10 0.0133 0.0087

Uranus -31535-11-30 11:16 J -9796402.11 -9796402.03 -9796401.92 0.0133 0.0109

Uranus -31534-02-26 16:33 J -9796313.84 -9796313.81 -9796313.77 0.0133 0.0130

Jupiter -31534-06-23 05:16 J -9796197.32 -9796197.28 -9796197.23 0.0523 0.0489

Jupiter -31534-09-20 14:38 J -9796108.03 -9796107.89 -9796107.76 0.0519 0.0102

Mars -31533-09-05 08:52 J -9795757.25 -9795757.13 -9795757.01 0.1793 0.0156

Mars -31532-07-20 19:11 J -9795438.81 -9795438.70 -9795438.60 0.1718 0.1244

Moon -31531-05-18 05:02 J -9795137.40 -9795137.29 -9795137.17 0.2676 0.0911

Earth -31531-05-18 05:59 J -9795137.37 -9795137.25 -9795137.14 0.2677 0.0887 *

Jupiter -31528-11-19 06:14 J -9793856.35 -9793856.24 -9793856.12 0.0506 0.0374

Earth -31528-11-26 07:11 J -9793849.30 -9793849.20 -9793849.10 0.2660 0.1717

Moon -31528-11-26 08:09 J -9793849.26 -9793849.16 -9793849.07 0.2665 0.1855 *

Jupiter -31527-02-17 07:40 J -9793766.30 -9793766.18 -9793766.05 0.0510 0.0325

Mars -31523-01-26 17:16 J -9792326.89 -9792326.78 -9792326.68 0.1787 0.0802

Venus -31523-04-26 12:57 J -9792237.01 -9792236.96 -9792236.92 0.3782 0.3358

Mars -31523-12-10 21:35 J -9792008.75 -9792008.60 -9792008.45 0.1724 0.0434

Jupiter -31522-07-09 17:59 J -9791797.88 -9791797.75 -9791797.61 0.0520 0.0044

Saturn -31521-03-30 15:50 J -9791532.88 -9791532.84 -9791532.81 0.0270 0.0259

Saturn -31521-06-27 03:50 J -9791444.45 -9791444.34 -9791444.22 0.0270 0.0156

Saturn -31521-09-23 16:04 J -9791355.97 -9791355.83 -9791355.68 0.0270 0.0052

Moon -31521-11-18 12:28 J -9791300.08 -9791299.98 -9791299.87 0.2655 0.1759

Earth -31521-11-18 13:55 J -9791300.03 -9791299.92 -9791299.82 0.2655 0.1625 *

Saturn -31521-12-21 04:47 J -9791267.44 -9791267.30 -9791267.16 0.0270 0.0056

Saturn -31520-03-19 17:31 J -9791178.88 -9791178.77 -9791178.65 0.0270 0.0165

Moon -31518-05-21 01:55 J -9790386.54 -9790386.42 -9790386.30 0.2679 0.0058

Earth -31518-05-21 02:38 J -9790386.51 -9790386.39 -9790386.26 0.2675 0.0126 *

Venus -31518-11-10 06:57 J -9790213.32 -9790213.21 -9790213.10 0.3781 0.0525

Jupiter -31516-12-06 06:43 J -9789456.38 -9789456.22 -9789456.06 0.0509 0.0149

Mars -31514-06-19 01:40 J -9788896.49 -9788896.43 -9788896.35 0.1781 0.1432

Venus -31514-11-11 02:23 J -9788751.54 -9788751.40 -9788751.27 0.3595 0.0459

Mars -31513-05-01 23:45 J -9788578.66 -9788578.51 -9788578.36 0.1729 0.0403

Mars -31512-05-24 16:47 J -9788190.89 -9788190.80 -9788190.72 0.1805 0.1298

Venus -31512-05-26 01:26 J -9788189.53 -9788189.44 -9788189.36 0.3779 0.2413

Earth -31511-05-13 18:14 J -9787836.76 -9787836.74 -9787836.72 0.2680 0.2632

Jupiter -31510-04-27 21:50 J -9787487.72 -9787487.59 -9787487.47 0.0521 0.0183

Jupiter -31510-07-26 07:26 J -9787398.27 -9787398.19 -9787398.11 0.0517 0.0412

Venus -31508-05-27 01:40 J -9786727.47 -9786727.43 -9786727.39 0.3596 0.3399

Moon -31508-11-21 13:11 J -9786549.08 -9786548.95 -9786548.82 0.2663 0.0453

Earth -31508-11-21 13:55 J -9786549.06 -9786548.92 -9786548.79 0.2657 0.0410 *

Saturn -31506-02-01 11:59 J -9786112.08 -9786112.00 -9786111.90 0.0289 0.0242

Saturn -31506-05-01 07:55 J -9786023.33 -9786023.17 -9786023.01 0.0289 0.0086

Saturn -31506-07-29 03:21 J -9785934.52 -9785934.36 -9785934.20 0.0289 0.0068

Saturn -31506-10-25 22:04 J -9785845.68 -9785845.58 -9785845.47 0.0289 0.0216

Moon -31505-05-22 23:31 J -9785635.63 -9785635.52 -9785635.40 0.2680 0.1123

Earth -31505-05-22 23:45 J -9785635.62 -9785635.51 -9785635.40 0.2673 0.1151 *

Mars -31504-09-22 01:11 J -9785148.55 -9785148.45 -9785148.35 0.1735 0.1292

Jupiter -31504-09-24 06:28 J -9785146.40 -9785146.23 -9785146.06 0.0508 0.0022

Mars -31503-10-15 00:43 J -9784760.59 -9784760.47 -9784760.36 0.1799 0.0601

Jupiter -31498-02-14 01:11 J -9783177.55 -9783177.45 -9783177.34 0.0521 0.0326

Jupiter -31498-05-14 10:33 J -9783088.17 -9783088.06 -9783087.94 0.0518 0.0265

Moon -31498-05-16 13:55 J -9783086.01 -9783085.92 -9783085.82 0.2673 0.1654

Earth -31498-05-16 14:38 J -9783085.99 -9783085.89 -9783085.80 0.2678 0.1682 *

Earth -31495-11-24 13:26 J -9781798.07 -9781797.94 -9781797.81 0.2659 0.0779

Moon -31495-11-24 13:26 J -9781798.06 -9781797.94 -9781797.81 0.2665 0.0827 *

Mars -31493-03-06 08:52 J -9781330.25 -9781330.13 -9781330.01 0.1793 0.0074

Uranus -31493-03-08 00:14 J -9781328.51 -9781328.49 -9781328.47 0.0145 0.0143

Uranus -31493-06-04 04:19 J -9781240.39 -9781240.32 -9781240.23 0.0145 0.0120

Uranus -31493-08-31 09:07 J -9781152.23 -9781152.12 -9781152.01 0.0145 0.0095

Uranus -31493-11-27 13:26 J -9781064.06 -9781063.94 -9781063.81 0.0145 0.0071

Mars -31492-01-18 19:40 J -9781011.77 -9781011.68 -9781011.59 0.1718 0.1343

Uranus -31492-02-23 17:59 J -9780975.88 -9780975.75 -9780975.61 0.0145 0.0047

Uranus -31492-05-22 22:47 J -9780887.70 -9780887.55 -9780887.41 0.0145 0.0022

Earth -31492-05-25 20:52 J -9780884.70 -9780884.63 -9780884.56 0.2671 0.2205

Moon -31492-05-25 21:21 J -9780884.67 -9780884.61 -9780884.55 0.2677 0.2316 *

Jupiter -31492-07-13 05:45 J -9780836.41 -9780836.26 -9780836.10 0.0508 0.0190

Uranus -31492-08-19 03:21 J -9780799.51 -9780799.36 -9780799.21 0.0145 0.0003

Jupiter -31492-10-11 06:57 J -9780746.23 -9780746.21 -9780746.19 0.0511 0.0506

Saturn -31492-11-14 04:47 J -9780712.39 -9780712.30 -9780712.20 0.0270 0.0196

Uranus -31492-11-15 07:55 J -9780711.31 -9780711.17 -9780711.02 0.0145 0.0029

Saturn -31491-02-10 17:02 J -9780623.92 -9780623.79 -9780623.65 0.0270 0.0091

Uranus -31491-02-11 12:43 J -9780623.11 -9780622.97 -9780622.83 0.0145 0.0054

Saturn -31491-05-10 05:31 J -9780535.41 -9780535.27 -9780535.12 0.0270 0.0015

Uranus -31491-05-10 17:31 J -9780534.89 -9780534.77 -9780534.65 0.0145 0.0080

Saturn -31491-08-06 18:14 J -9780446.87 -9780446.74 -9780446.61 0.0270 0.0124

Uranus -31491-08-06 22:19 J -9780446.67 -9780446.57 -9780446.47 0.0146 0.0106 *

Uranus -31491-11-03 03:07 J -9780358.43 -9780358.37 -9780358.31 0.0146 0.0132

Saturn -31491-11-03 07:11 J -9780358.27 -9780358.20 -9780358.13 0.0271 0.0235

Earth -31488-11-16 19:11 J -9779248.70 -9779248.70 -9779248.69 0.2654 0.2648

Jupiter -31487-12-03 04:33 J -9778867.36 -9778867.31 -9778867.25 0.0522 0.0472

Jupiter -31486-03-02 13:40 J -9778778.06 -9778777.93 -9778777.79 0.0519 0.0118

Moon -31485-05-18 10:19 J -9778335.19 -9778335.07 -9778334.96 0.2677 0.0836

Earth -31485-05-18 11:16 J -9778335.15 -9778335.03 -9778334.92 0.2676 0.0705 *

Mars -31484-07-27 17:16 J -9777899.89 -9777899.78 -9777899.67 0.1787 0.0727

Mars -31483-06-10 22:04 J -9777581.72 -9777581.58 -9777581.43 0.1724 0.0536

Earth -31482-11-27 12:43 J -9777047.05 -9777046.97 -9777046.87 0.2660 0.1927

Moon -31482-11-27 13:40 J -9777047.02 -9777046.93 -9777046.84 0.2665 0.1917 *

Jupiter -31480-05-01 04:47 J -9776526.41 -9776526.30 -9776526.18 0.0506 0.0365

Jupiter -31480-07-30 06:14 J -9776436.36 -9776436.24 -9776436.11 0.0510 0.0335

Saturn -31477-06-20 12:14 J -9775380.02 -9775379.99 -9775379.97 0.0290 0.0285

Saturn -31477-09-17 08:09 J -9775291.31 -9775291.16 -9775291.01 0.0290 0.0127

Saturn -31477-12-15 03:35 J -9775202.51 -9775202.35 -9775202.18 0.0290 0.0029

Saturn -31476-03-13 22:33 J -9775113.68 -9775113.56 -9775113.42 0.0290 0.0179

Moon -31475-11-19 18:28 J -9774497.85 -9774497.73 -9774497.62 0.2657 0.1429

Earth -31475-11-19 19:40 J -9774497.80 -9774497.68 -9774497.57 0.2655 0.1400 *

Mars -31475-12-18 01:55 J -9774469.50 -9774469.42 -9774469.35 0.1781 0.1357

Jupiter -31475-12-19 16:33 J -9774467.95 -9774467.81 -9774467.68 0.0520 0.0041

Mars -31474-10-31 23:59 J -9774151.65 -9774151.50 -9774151.34 0.1729 0.0316

Mars -31473-11-22 16:47 J -9773763.88 -9773763.80 -9773763.72 0.1805 0.1375

Moon -31472-05-21 07:11 J -9773584.32 -9773584.20 -9773584.08 0.2679 0.0270

Earth -31472-05-21 07:55 J -9773584.29 -9773584.17 -9773584.05 0.2674 0.0312 *

Neptune -31472-10-03 21:21 J -9773448.63 -9773448.61 -9773448.54 0.0088 0.0086

Neptune -31472-12-31 00:28 J -9773360.55 -9773360.48 -9773360.37 0.0088 0.0077

Neptune -31471-03-29 03:35 J -9773272.45 -9773272.35 -9773272.22 0.0088 0.0068

Neptune -31471-06-25 06:43 J -9773184.34 -9773184.22 -9773184.08 0.0088 0.0059

Neptune -31471-09-21 09:35 J -9773096.23 -9773096.10 -9773095.94 0.0088 0.0050

Neptune -31471-12-18 12:43 J -9773008.12 -9773007.97 -9773007.81 0.0088 0.0041

Neptune -31470-03-16 15:50 J -9772920.01 -9772919.84 -9772919.67 0.0088 0.0032

Neptune -31470-06-12 18:28 J -9772831.89 -9772831.73 -9772831.55 0.0088 0.0024

Neptune -31470-09-08 21:35 J -9772743.77 -9772743.60 -9772743.42 0.0088 0.0015

Neptune -31470-12-06 00:28 J -9772655.65 -9772655.48 -9772655.30 0.0088 0.0007

Neptune -31469-03-03 03:21 J -9772567.53 -9772567.36 -9772567.18 0.0088 0.0003

Neptune -31469-05-30 06:14 J -9772479.41 -9772479.24 -9772479.06 0.0088 0.0011

Neptune -31469-08-26 09:07 J -9772391.29 -9772391.12 -9772390.94 0.0088 0.0019

Neptune -31469-11-22 11:59 J -9772303.17 -9772303.00 -9772302.83 0.0088 0.0027

Neptune -31468-02-18 14:38 J -9772215.04 -9772214.89 -9772214.72 0.0088 0.0036

Neptune -31468-05-17 17:31 J -9772126.91 -9772126.77 -9772126.61 0.0088 0.0044

Jupiter -31468-05-18 05:45 J -9772126.42 -9772126.26 -9772126.10 0.0509 0.0163

Neptune -31468-08-13 20:23 J -9772038.78 -9772038.65 -9772038.50 0.0088 0.0053

Neptune -31468-11-09 23:02 J -9771950.65 -9771950.54 -9771950.40 0.0088 0.0061

Neptune -31467-02-06 01:55 J -9771862.52 -9771862.42 -9771862.30 0.0088 0.0069

Neptune -31467-05-05 04:47 J -9771774.37 -9771774.30 -9771774.21 0.0088 0.0077

Neptune -31467-08-01 07:40 J -9771686.22 -9771686.18 -9771686.14 0.0088 0.0086

Venus -31467-12-01 11:02 J -9771564.13 -9771564.04 -9771563.96 0.3781 0.2326

Moon -31465-05-13 23:16 J -9771034.58 -9771034.53 -9771034.49 0.2673 0.2426

Earth -31465-05-13 23:31 J -9771034.57 -9771034.52 -9771034.48 0.2679 0.2459 *

Mars -31464-03-23 01:55 J -9770721.54 -9770721.42 -9770721.31 0.1736 0.1185

Mars -31463-04-15 00:43 J -9770333.58 -9770333.47 -9770333.35 0.1799 0.0681

Jupiter -31463-10-07 19:55 J -9770157.79 -9770157.67 -9770157.54 0.0521 0.0185

Venus -31463-12-02 02:09 J -9770102.48 -9770102.41 -9770102.34 0.3594 0.2978

Jupiter -31462-01-05 05:31 J -9770068.35 -9770068.27 -9770068.18 0.0517 0.0411

Saturn -31462-04-03 07:40 J -9769980.25 -9769980.18 -9769980.09 0.0269 0.0217

Saturn -31462-06-30 19:55 J -9769891.80 -9769891.67 -9769891.54 0.0269 0.0113

Saturn -31462-09-27 08:23 J -9769803.30 -9769803.15 -9769803.01 0.0270 0.0007

Moon -31462-11-22 18:57 J -9769746.85 -9769746.71 -9769746.58 0.2663 0.0270

Earth -31462-11-22 19:26 J -9769746.82 -9769746.69 -9769746.55 0.2657 0.0187 *

Saturn -31462-12-24 20:52 J -9769714.76 -9769714.63 -9769714.49 0.0270 0.0101

Saturn -31461-03-22 09:35 J -9769626.18 -9769626.10 -9769626.00 0.0270 0.0211

Venus -31461-06-16 05:02 J -9769540.40 -9769540.29 -9769540.18 0.3780 0.0547

Moon -31459-05-24 05:02 J -9768833.40 -9768833.29 -9768833.19 0.2680 0.1355

Earth -31459-05-24 05:02 J -9768833.40 -9768833.29 -9768833.19 0.2673 0.1343 *

Venus -31457-06-17 01:55 J -9768078.55 -9768078.42 -9768078.29 0.3595 0.0995

Jupiter -31456-03-06 04:33 J -9767816.47 -9767816.31 -9767816.14 0.0508 0.0019

Venus -31456-12-30 23:31 J -9767516.56 -9767516.52 -9767516.48 0.3779 0.3506

Mars -31454-09-05 08:52 J -9766903.26 -9766903.13 -9766903.01 0.1793 0.0051

Uranus -31453-04-24 09:07 J -9766671.15 -9766671.12 -9766671.07 0.0134 0.0130

Mars -31453-07-19 20:09 J -9766584.74 -9766584.66 -9766584.58 0.1718 0.1443

Uranus -31453-07-21 14:52 J -9766582.98 -9766582.88 -9766582.78 0.0134 0.0106

Uranus -31453-10-17 20:09 J -9766494.78 -9766494.66 -9766494.52 0.0134 0.0083

Uranus -31452-01-14 01:40 J -9766406.58 -9766406.43 -9766406.27 0.0134 0.0060

Uranus -31452-04-12 07:11 J -9766318.36 -9766318.20 -9766318.03 0.0134 0.0037

Moon -31452-05-16 19:11 J -9766283.80 -9766283.70 -9766283.61 0.2673 0.1621

Earth -31452-05-16 19:55 J -9766283.77 -9766283.67 -9766283.57 0.2678 0.1501 *

Uranus -31452-07-09 12:28 J -9766230.14 -9766229.98 -9766229.81 0.0134 0.0014

Uranus -31452-10-05 17:45 J -9766141.92 -9766141.76 -9766141.59 0.0134 0.0010

Uranus -31451-01-01 23:02 J -9766053.70 -9766053.54 -9766053.37 0.0133 0.0031

Uranus -31451-03-31 04:04 J -9765965.47 -9765965.33 -9765965.17 0.0133 0.0054

Uranus -31451-06-27 09:21 J -9765877.24 -9765877.11 -9765876.97 0.0133 0.0075

Jupiter -31451-07-26 23:45 J -9765847.61 -9765847.51 -9765847.40 0.0522 0.0323

Uranus -31451-09-23 14:23 J -9765789.00 -9765788.90 -9765788.78 0.0133 0.0097

Jupiter -31451-10-24 09:07 J -9765758.23 -9765758.12 -9765758.00 0.0518 0.0270

Uranus -31451-12-20 19:26 J -9765700.75 -9765700.69 -9765700.61 0.0133 0.0118

Earth -31449-11-24 19:11 J -9764995.83 -9764995.70 -9764995.58 0.2659 0.0996

Moon -31449-11-24 19:26 J -9764995.82 -9764995.69 -9764995.57 0.2665 0.0999 *

Saturn -31447-02-04 06:43 J -9764559.35 -9764559.22 -9764559.09 0.0289 0.0181

Saturn -31447-05-04 02:23 J -9764470.57 -9764470.40 -9764470.24 0.0289 0.0025

Saturn -31447-07-31 21:35 J -9764381.75 -9764381.60 -9764381.45 0.0289 0.0127

Saturn -31447-10-28 16:19 J -9764292.87 -9764292.82 -9764292.77 0.0289 0.0274

Earth -31446-05-27 02:09 J -9764082.46 -9764082.41 -9764082.35 0.2671 0.2407

Moon -31446-05-27 02:52 J -9764082.43 -9764082.38 -9764082.33 0.2676 0.2415 *

Jupiter -31445-12-23 04:04 J -9763506.49 -9763506.33 -9763506.17 0.0507 0.0185

Mars -31444-01-25 17:16 J -9763472.89 -9763472.78 -9763472.67 0.1787 0.0652

Jupiter -31444-03-23 05:02 J -9763416.29 -9763416.29 -9763416.28 0.0511 0.0510

Mars -31444-12-09 22:33 J -9763154.70 -9763154.56 -9763154.42 0.1723 0.0632

Moon -31442-11-17 23:45 J -9762446.56 -9762446.51 -9762446.46 0.2651 0.2422

Earth -31442-11-18 00:57 J -9762446.51 -9762446.46 -9762446.41 0.2654 0.2422 *

Jupiter -31439-05-15 03:21 J -9761537.42 -9761537.36 -9761537.30 0.0523 0.0464

Moon -31439-05-19 15:21 J -9761532.98 -9761532.86 -9761532.74 0.2678 0.0519

Earth -31439-05-19 16:19 J -9761532.94 -9761532.82 -9761532.70 0.2676 0.0518 *

Jupiter -31439-08-12 12:28 J -9761448.11 -9761447.98 -9761447.84 0.0519 0.0127

Earth -31436-11-27 18:28 J -9760244.81 -9760244.73 -9760244.66 0.2661 0.2132

Moon -31436-11-27 19:11 J -9760244.77 -9760244.70 -9760244.63 0.2666 0.2268 *

Mars -31435-06-18 01:55 J -9760042.50 -9760042.42 -9760042.34 0.1781 0.1281

Mars -31434-05-02 00:43 J -9759724.62 -9759724.47 -9759724.32 0.1729 0.0209

Mars -31433-05-23 17:02 J -9759336.86 -9759336.79 -9759336.72 0.1805 0.1460

Saturn -31433-08-20 08:23 J -9759248.18 -9759248.15 -9759248.10 0.0270 0.0258

Jupiter -31433-10-11 03:21 J -9759196.48 -9759196.36 -9759196.23 0.0507 0.0356

Saturn -31433-11-16 20:38 J -9759159.75 -9759159.64 -9759159.52 0.0270 0.0155

Jupiter -31432-01-09 05:02 J -9759106.41 -9759106.29 -9759106.17 0.0510 0.0345

Saturn -31432-02-13 08:52 J -9759071.27 -9759071.13 -9759070.98 0.0270 0.0050

Saturn -31432-05-12 21:21 J -9758982.75 -9758982.61 -9758982.46 0.0270 0.0058

Saturn -31432-08-09 10:19 J -9758894.19 -9758894.07 -9758893.96 0.0270 0.0167

Moon -31429-11-20 00:14 J -9757695.61 -9757695.49 -9757695.37 0.2659 0.1332

Earth -31429-11-20 01:11 J -9757695.57 -9757695.45 -9757695.33 0.2656 0.1174 *

Jupiter -31427-05-31 15:50 J -9757137.97 -9757137.84 -9757137.70 0.0520 0.0022

Moon -31426-05-22 12:43 J -9756782.10 -9756781.97 -9756781.85 0.2679 0.0422

Earth -31426-05-22 13:11 J -9756782.07 -9756781.95 -9756781.83 0.2674 0.0499 *

Mars -31425-09-21 02:09 J -9756294.53 -9756294.41 -9756294.29 0.1735 0.1089

Mars -31424-10-14 00:43 J -9755906.58 -9755906.47 -9755906.36 0.1799 0.0756

Jupiter -31421-10-28 04:33 J -9754796.47 -9754796.31 -9754796.15 0.0509 0.0175

Moon -31419-05-15 04:19 J -9754232.38 -9754232.32 -9754232.27 0.2673 0.2335

Earth -31419-05-15 04:33 J -9754232.37 -9754232.31 -9754232.25 0.2679 0.2283 *

Saturn -31418-06-24 05:59 J -9753827.35 -9753827.25 -9753827.14 0.0290 0.0228

Saturn -31418-09-21 01:55 J -9753738.58 -9753738.42 -9753738.25 0.0290 0.0071

Saturn -31418-12-18 21:21 J -9753649.76 -9753649.61 -9753649.45 0.0290 0.0084

Saturn -31417-03-16 16:19 J -9753560.91 -9753560.82 -9753560.72 0.0290 0.0233

Moon -31416-11-23 00:28 J -9752944.61 -9752944.48 -9752944.34 0.2663 0.0084

Earth -31416-11-23 01:11 J -9752944.59 -9752944.45 -9752944.32 0.2657 0.0047 *

Jupiter -31415-03-19 18:28 J -9752827.85 -9752827.73 -9752827.60 0.0521 0.0180

Jupiter -31415-06-17 04:04 J -9752738.41 -9752738.33 -9752738.24 0.0517 0.0416

Mars -31414-03-06 08:52 J -9752476.25 -9752476.13 -9752476.01 0.1793 0.0076

Mars -31413-01-18 20:23 J -9752157.71 -9752157.65 -9752157.58 0.1718 0.1532

Moon -31413-05-24 10:19 J -9752031.17 -9752031.07 -9752030.97 0.2680 0.1560

Earth -31413-05-24 10:19 J -9752031.17 -9752031.07 -9752030.97 0.2672 0.1541 *

Venus -31410-07-08 09:07 J -9750891.23 -9750891.12 -9750891.02 0.3781 0.1286

Uranus -31409-03-28 07:11 J -9750627.23 -9750627.20 -9750627.14 0.0145 0.0137

Uranus -31409-06-24 11:45 J -9750539.09 -9750539.01 -9750538.91 0.0145 0.0113

Jupiter -31409-08-16 03:50 J -9750486.51 -9750486.34 -9750486.17 0.0508 0.0011

Uranus -31409-09-20 16:19 J -9750450.93 -9750450.82 -9750450.70 0.0145 0.0088

Uranus -31409-12-17 20:52 J -9750362.76 -9750362.63 -9750362.50 0.0145 0.0064

Uranus -31408-03-16 01:26 J -9750274.58 -9750274.44 -9750274.30 0.0145 0.0040

Uranus -31408-06-12 05:59 J -9750186.39 -9750186.25 -9750186.10 0.0145 0.0015

Uranus -31408-09-08 10:47 J -9750098.20 -9750098.05 -9750097.91 0.0145 0.0011

Uranus -31408-12-05 15:21 J -9750010.00 -9750009.86 -9750009.72 0.0145 0.0036

Uranus -31407-03-03 19:55 J -9749921.80 -9749921.67 -9749921.53 0.0145 0.0061

Uranus -31407-05-31 00:43 J -9749833.58 -9749833.47 -9749833.35 0.0145 0.0087

Uranus -31407-08-27 05:31 J -9749745.36 -9749745.27 -9749745.17 0.0145 0.0113

Uranus -31407-11-23 10:04 J -9749657.10 -9749657.08 -9749657.02 0.0146 0.0140

Moon -31406-05-18 00:14 J -9749481.60 -9749481.49 -9749481.39 0.2675 0.1322

Earth -31406-05-18 00:57 J -9749481.56 -9749481.46 -9749481.35 0.2678 0.1319 *

Venus -31406-07-09 01:55 J -9749429.54 -9749429.42 -9749429.30 0.3595 0.1506

Mars -31405-07-26 17:16 J -9749045.90 -9749045.78 -9749045.67 0.1787 0.0580

Venus -31404-01-21 03:07 J -9748867.47 -9748867.37 -9748867.27 0.3780 0.1615

Mars -31404-06-09 23:02 J -9748727.68 -9748727.54 -9748727.40 0.1724 0.0726

Jupiter -31403-01-05 22:04 J -9748517.68 -9748517.58 -9748517.48 0.0522 0.0324

Jupiter -31403-04-05 07:26 J -9748428.30 -9748428.19 -9748428.07 0.0519 0.0270

Saturn -31403-04-05 23:31 J -9748427.62 -9748427.52 -9748427.41 0.0269 0.0176

Saturn -31403-07-03 11:45 J -9748339.14 -9748339.01 -9748338.87 0.0269 0.0072

Saturn -31403-09-30 00:14 J -9748250.63 -9748250.49 -9748250.34 0.0269 0.0035

Earth -31403-11-26 00:43 J -9748193.59 -9748193.47 -9748193.35 0.2659 0.1208

Moon -31403-11-26 01:11 J -9748193.57 -9748193.45 -9748193.34 0.2666 0.1239 *

Saturn -31403-12-27 12:57 J -9748162.08 -9748161.96 -9748161.84 0.0269 0.0143

Saturn -31402-03-26 01:40 J -9748073.47 -9748073.43 -9748073.37 0.0270 0.0254

Venus -31400-01-22 01:26 J -9747405.54 -9747405.44 -9747405.34 0.3596 0.2405

Earth -31400-05-27 07:40 J -9747280.21 -9747280.18 -9747280.16 0.2671 0.2605

Jupiter -31397-06-04 02:38 J -9746176.55 -9746176.39 -9746176.23 0.0507 0.0176

Moon -31396-11-18 05:31 J -9745644.33 -9745644.27 -9745644.21 0.2652 0.2364

Earth -31396-11-18 06:43 J -9745644.30 -9745644.22 -9745644.15 0.2654 0.2193 *

Mars -31396-12-17 01:55 J -9745615.51 -9745615.42 -9745615.34 0.1781 0.1215

Pluto -31395-06-21 17:45 J -9745428.80 -9745428.76 -9745428.69 0.0069 0.0064

Pluto -31395-09-17 18:57 J -9745340.78 -9745340.71 -9745340.60 0.0069 0.0058

Mars -31395-10-31 01:11 J -9745297.60 -9745297.45 -9745297.29 0.1729 0.0111

Pluto -31395-12-14 20:38 J -9745252.74 -9745252.64 -9745252.53 0.0069 0.0051

Pluto -31394-03-12 21:50 J -9745164.70 -9745164.59 -9745164.45 0.0069 0.0045

Pluto -31394-06-08 23:02 J -9745076.66 -9745076.54 -9745076.39 0.0069 0.0039

Pluto -31394-09-05 00:43 J -9744988.61 -9744988.47 -9744988.32 0.0069 0.0032

Mars -31394-11-22 16:47 J -9744909.86 -9744909.80 -9744909.73 0.1805 0.1529

Pluto -31394-12-02 01:55 J -9744900.56 -9744900.42 -9744900.25 0.0069 0.0027

Pluto -31393-02-28 03:35 J -9744812.51 -9744812.35 -9744812.19 0.0070 0.0019

Moon -31393-05-19 20:38 J -9744730.76 -9744730.64 -9744730.52 0.2677 0.0481

Earth -31393-05-19 21:35 J -9744730.72 -9744730.60 -9744730.48 0.2676 0.0327 *

Pluto -31393-05-26 05:02 J -9744724.45 -9744724.29 -9744724.13 0.0070 0.0013

Pluto -31393-08-22 06:28 J -9744636.40 -9744636.23 -9744636.06 0.0070 0.0006

Pluto -31393-11-18 07:55 J -9744548.34 -9744548.17 -9744548.00 0.0070 0.0000

Pluto -31392-02-14 09:21 J -9744460.27 -9744460.11 -9744459.94 0.0070 0.0007

Pluto -31392-05-13 10:47 J -9744372.21 -9744372.05 -9744371.88 0.0070 0.0014

Pluto -31392-08-09 11:59 J -9744284.15 -9744284.00 -9744283.83 0.0070 0.0022

Jupiter -31392-10-25 01:55 J -9744207.48 -9744207.42 -9744207.36 0.0523 0.0461

Pluto -31392-11-05 13:55 J -9744196.08 -9744195.92 -9744195.77 0.0070 0.0028

Jupiter -31391-01-22 11:02 J -9744118.17 -9744118.04 -9744117.90 0.0519 0.0131

Pluto -31391-02-01 15:07 J -9744108.01 -9744107.87 -9744107.71 0.0070 0.0035

Pluto -31391-04-30 16:33 J -9744019.93 -9744019.81 -9744019.66 0.0071 0.0042

Pluto -31391-07-27 18:14 J -9743931.85 -9743931.74 -9743931.61 0.0071 0.0049

Neptune -31391-10-11 06:57 J -9743856.21 -9743856.21 -9743856.19 0.0089 0.0089

Pluto -31391-10-23 19:40 J -9743843.77 -9743843.68 -9743843.57 0.0071 0.0056

Neptune -31390-01-07 08:38 J -9743768.18 -9743768.14 -9743768.08 0.0089 0.0082

Pluto -31390-01-19 21:21 J -9743755.68 -9743755.61 -9743755.53 0.0071 0.0063

Neptune -31390-04-05 10:04 J -9743680.14 -9743680.08 -9743679.99 0.0089 0.0076

Pluto -31390-04-17 23:02 J -9743667.55 -9743667.54 -9743667.52 0.0071 0.0070

Neptune -31390-07-02 11:45 J -9743592.09 -9743592.01 -9743591.92 0.0089 0.0069

Neptune -31390-09-28 13:11 J -9743504.04 -9743503.95 -9743503.84 0.0089 0.0062

Earth -31390-11-28 23:59 J -9743442.56 -9743442.50 -9743442.44 0.2661 0.2341

Moon -31390-11-29 00:43 J -9743442.52 -9743442.47 -9743442.41 0.2665 0.2365 *

Neptune -31390-12-25 14:52 J -9743415.98 -9743415.88 -9743415.76 0.0089 0.0055

Neptune -31389-03-22 16:19 J -9743327.93 -9743327.82 -9743327.69 0.0089 0.0049

Neptune -31389-06-18 17:59 J -9743239.87 -9743239.75 -9743239.62 0.0089 0.0041

Neptune -31389-09-14 19:40 J -9743151.81 -9743151.68 -9743151.55 0.0089 0.0034

Saturn -31389-11-10 04:19 J -9743095.34 -9743095.32 -9743095.28 0.0290 0.0283

Neptune -31389-12-11 21:21 J -9743063.75 -9743063.61 -9743063.48 0.0089 0.0027

Saturn -31388-02-07 00:28 J -9743006.63 -9743006.48 -9743006.33 0.0290 0.0124

Neptune -31388-03-09 22:47 J -9742975.68 -9742975.55 -9742975.41 0.0089 0.0021

Saturn -31388-05-06 20:09 J -9742917.83 -9742917.66 -9742917.50 0.0290 0.0031

Neptune -31388-06-06 00:28 J -9742887.62 -9742887.48 -9742887.34 0.0089 0.0013

Saturn -31388-08-03 15:07 J -9742828.99 -9742828.87 -9742828.74 0.0289 0.0182

Neptune -31388-09-02 02:09 J -9742799.55 -9742799.41 -9742799.27 0.0089 0.0007

Neptune -31388-11-29 03:35 J -9742711.49 -9742711.35 -9742711.21 0.0089 0.0002

Neptune -31387-02-25 05:16 J -9742623.42 -9742623.28 -9742623.14 0.0089 0.0007

Neptune -31387-05-24 06:57 J -9742535.35 -9742535.21 -9742535.07 0.0089 0.0015

Neptune -31387-08-20 08:23 J -9742447.28 -9742447.15 -9742447.01 0.0089 0.0022

Neptune -31387-11-16 10:04 J -9742359.21 -9742359.08 -9742358.94 0.0089 0.0029

Neptune -31386-02-12 11:45 J -9742271.14 -9742271.01 -9742270.88 0.0089 0.0036

Neptune -31386-05-11 13:26 J -9742183.07 -9742182.94 -9742182.82 0.0089 0.0043

Neptune -31386-08-07 14:52 J -9742094.99 -9742094.88 -9742094.75 0.0089 0.0050

Neptune -31386-11-03 16:33 J -9742006.91 -9742006.81 -9742006.69 0.0089 0.0057

Neptune -31385-01-30 18:14 J -9741918.83 -9741918.74 -9741918.64 0.0089 0.0064

Mars -31385-03-22 02:52 J -9741867.51 -9741867.38 -9741867.25 0.1735 0.0983

Jupiter -31385-03-23 01:55 J -9741866.54 -9741866.42 -9741866.29 0.0506 0.0347

Neptune -31385-04-27 19:55 J -9741830.75 -9741830.67 -9741830.58 0.0089 0.0071

Jupiter -31385-06-21 03:21 J -9741776.48 -9741776.36 -9741776.24 0.0510 0.0352

Neptune -31385-07-24 21:35 J -9741742.66 -9741742.60 -9741742.53 0.0089 0.0078

Neptune -31385-10-20 23:16 J -9741654.56 -9741654.53 -9741654.49 0.0089 0.0085

Mars -31384-04-14 00:57 J -9741479.57 -9741479.46 -9741479.36 0.1799 0.0834

Moon -31383-11-21 05:59 J -9740893.38 -9740893.25 -9740893.13 0.2660 0.0944

Earth -31383-11-21 06:57 J -9740893.34 -9740893.21 -9740893.09 0.2656 0.0953 *

Moon -31380-05-22 17:59 J -9739979.87 -9739979.75 -9739979.63 0.2680 0.0724

Earth -31380-05-22 18:28 J -9739979.85 -9739979.73 -9739979.61 0.2674 0.0690 *

Jupiter -31380-11-10 14:38 J -9739808.02 -9739807.89 -9739807.75 0.0520 0.0018

Mars -31375-09-04 08:52 J -9738049.25 -9738049.13 -9738049.00 0.1793 0.0166

Mars -31374-07-19 20:52 J -9737730.67 -9737730.63 -9737730.58 0.1718 0.1624

Saturn -31374-08-24 00:14 J -9737695.57 -9737695.49 -9737695.40 0.0270 0.0218

Saturn -31374-11-20 12:28 J -9737607.11 -9737606.98 -9737606.85 0.0270 0.0115

Saturn -31373-02-17 00:43 J -9737518.61 -9737518.47 -9737518.32 0.0270 0.0010

Jupiter -31373-04-09 03:07 J -9737466.52 -9737466.37 -9737466.21 0.0509 0.0186

Moon -31373-05-15 09:21 J -9737430.18 -9737430.11 -9737430.03 0.2673 0.2103

Earth -31373-05-15 09:50 J -9737430.16 -9737430.09 -9737430.02 0.2679 0.2103 *

Saturn -31373-05-15 13:11 J -9737430.08 -9737429.95 -9737429.81 0.0270 0.0099 *

Saturn -31373-08-12 02:09 J -9737341.50 -9737341.41 -9737341.32 0.0270 0.0208

Moon -31370-11-24 06:28 J -9736142.37 -9736142.23 -9736142.10 0.2664 0.0181

Earth -31370-11-24 06:43 J -9736142.35 -9736142.22 -9736142.08 0.2658 0.0262 *

Uranus -31369-05-14 17:02 J -9735969.85 -9735969.79 -9735969.70 0.0134 0.0121

Uranus -31369-08-10 22:33 J -9735881.66 -9735881.56 -9735881.43 0.0134 0.0097

Uranus -31369-11-07 04:19 J -9735793.46 -9735793.32 -9735793.18 0.0134 0.0073

Uranus -31368-02-03 09:50 J -9735705.25 -9735705.09 -9735704.93 0.0134 0.0050

Uranus -31368-05-02 15:07 J -9735617.03 -9735616.87 -9735616.70 0.0134 0.0027

Uranus -31368-07-29 20:38 J -9735528.81 -9735528.64 -9735528.47 0.0134 0.0005

Jupiter -31368-08-29 18:14 J -9735497.87 -9735497.74 -9735497.61 0.0521 0.0158

Uranus -31368-10-26 01:55 J -9735440.59 -9735440.42 -9735440.25 0.0134 0.0018

Jupiter -31368-11-27 03:50 J -9735408.42 -9735408.34 -9735408.27 0.0517 0.0437

Uranus -31367-01-22 06:57 J -9735352.36 -9735352.21 -9735352.04 0.0134 0.0041

Uranus -31367-04-20 12:14 J -9735264.13 -9735263.99 -9735263.84 0.0133 0.0063

Earth -31367-05-25 15:35 J -9735228.95 -9735228.85 -9735228.76 0.2672 0.1734

Moon -31367-05-25 15:35 J -9735228.94 -9735228.85 -9735228.75 0.2679 0.1727 *

Uranus -31367-07-17 17:16 J -9735175.90 -9735175.78 -9735175.64 0.0133 0.0085

Uranus -31367-10-13 22:19 J -9735087.66 -9735087.57 -9735087.46 0.0133 0.0107

Uranus -31366-01-10 03:35 J -9734999.39 -9734999.35 -9734999.30 0.0133 0.0128

Mars -31365-01-25 17:16 J -9734618.90 -9734618.78 -9734618.66 0.1787 0.0507

Mars -31365-12-08 23:31 J -9734300.65 -9734300.52 -9734300.38 0.1724 0.0825

Jupiter -31361-01-27 02:52 J -9733156.55 -9733156.38 -9733156.21 0.0508 0.0018

Moon -31360-05-18 05:16 J -9732679.39 -9732679.28 -9732679.17 0.2676 0.1250

Earth -31360-05-18 06:14 J -9732679.35 -9732679.24 -9732679.13 0.2677 0.1136 *

Saturn -31359-06-26 23:16 J -9732274.66 -9732274.53 -9732274.40 0.0290 0.0176

Venus -31359-07-29 12:57 J -9732242.02 -9732241.96 -9732241.90 0.3782 0.3066

Saturn -31359-09-23 19:11 J -9732185.87 -9732185.70 -9732185.54 0.0290 0.0021

Saturn -31359-12-21 14:23 J -9732097.04 -9732096.90 -9732096.75 0.0290 0.0134

Saturn -31358-03-20 09:07 J -9732008.15 -9732008.12 -9732008.08 0.0290 0.0283

Earth -31357-11-26 06:14 J -9731391.35 -9731391.24 -9731391.12 0.2659 0.1424

Moon -31357-11-26 06:43 J -9731391.32 -9731391.22 -9731391.11 0.2666 0.1491 *

Mars -31356-06-17 01:55 J -9731188.51 -9731188.42 -9731188.33 0.1781 0.1138

Jupiter -31356-06-17 20:38 J -9731187.74 -9731187.64 -9731187.53 0.0522 0.0318

Jupiter -31356-09-15 06:14 J -9731098.36 -9731098.24 -9731098.13 0.0518 0.0277

Mars -31355-05-01 01:40 J -9730870.59 -9730870.43 -9730870.28 0.1730 0.0032

Mars -31354-05-23 17:02 J -9730482.84 -9730482.79 -9730482.74 0.1805 0.1610

Venus -31353-02-12 06:57 J -9730218.32 -9730218.21 -9730218.10 0.3781 0.0251

Jupiter -31350-11-15 02:09 J -9728846.57 -9728846.41 -9728846.25 0.0507 0.0154

Moon -31350-11-19 11:16 J -9728842.12 -9728842.03 -9728841.94 0.2654 0.1995

Earth -31350-11-19 12:28 J -9728842.07 -9728841.98 -9728841.89 0.2654 0.1970 *

Venus -31349-02-13 01:26 J -9728756.57 -9728756.44 -9728756.30 0.3595 0.0057

Venus -31348-08-28 01:26 J -9728194.52 -9728194.44 -9728194.37 0.3780 0.2691

Moon -31347-05-21 01:55 J -9727928.54 -9727928.42 -9727928.30 0.2677 0.0143

Earth -31347-05-21 02:52 J -9727928.50 -9727928.38 -9727928.26 0.2676 0.0147 *

Mars -31347-11-07 10:33 J -9727758.07 -9727758.06 -9727758.04 0.1775 0.1756

Mars -31346-09-21 03:21 J -9727440.49 -9727440.36 -9727440.23 0.1736 0.0882

Mars -31345-10-13 00:57 J -9727052.57 -9727052.46 -9727052.36 0.1799 0.0907

Saturn -31344-01-10 03:07 J -9726963.42 -9726963.37 -9726963.30 0.0269 0.0239

Jupiter -31344-04-06 00:14 J -9726877.55 -9726877.49 -9726877.43 0.0523 0.0461

Saturn -31344-04-08 15:21 J -9726874.98 -9726874.86 -9726874.74 0.0269 0.0136

Jupiter -31344-07-04 09:35 J -9726788.24 -9726788.10 -9726787.97 0.0520 0.0131

Saturn -31344-07-06 03:35 J -9726786.49 -9726786.35 -9726786.21 0.0269 0.0031

Saturn -31344-10-02 16:04 J -9726697.97 -9726697.83 -9726697.69 0.0269 0.0075

Earth -31344-11-29 05:31 J -9726640.31 -9726640.27 -9726640.24 0.2661 0.2551

Moon -31344-11-29 06:28 J -9726640.24 -9726640.23 -9726640.22 0.2664 0.2644 *

Saturn -31344-12-30 04:47 J -9726609.41 -9726609.30 -9726609.19 0.0269 0.0184

Jupiter -31338-09-03 00:43 J -9724536.59 -9724536.47 -9724536.34 0.0506 0.0335

Jupiter -31338-12-02 02:09 J -9724446.53 -9724446.41 -9724446.29 0.0509 0.0362

Moon -31337-11-21 11:31 J -9724091.14 -9724091.02 -9724090.89 0.2660 0.0897

Earth -31337-11-21 12:28 J -9724091.11 -9724090.98 -9724090.85 0.2656 0.0733 *

Mars -31335-03-05 08:52 J -9723622.25 -9723622.13 -9723622.01 0.1793 0.0219

Moon -31334-05-23 23:31 J -9723177.64 -9723177.52 -9723177.41 0.2680 0.0792

Earth -31334-05-23 23:45 J -9723177.63 -9723177.51 -9723177.39 0.2674 0.0885 *

Jupiter -31332-04-22 13:11 J -9722478.08 -9722477.95 -9722477.81 0.0520 0.0011

Saturn -31330-11-13 21:50 J -9721542.68 -9721542.59 -9721542.48 0.0290 0.0229

Saturn -31329-02-10 17:59 J -9721453.91 -9721453.75 -9721453.59 0.0290 0.0071

Saturn -31329-05-09 13:26 J -9721365.10 -9721364.94 -9721364.78 0.0290 0.0084

Saturn -31329-08-06 08:23 J -9721276.24 -9721276.15 -9721276.05 0.0290 0.0234

Moon -31327-05-16 14:23 J -9720627.98 -9720627.90 -9720627.81 0.2673 0.1956

Earth -31327-05-16 14:52 J -9720627.96 -9720627.88 -9720627.79 0.2679 0.1928 *

Mars -31326-07-26 17:31 J -9720191.89 -9720191.77 -9720191.66 0.1787 0.0433

Jupiter -31326-09-20 01:40 J -9720136.58 -9720136.43 -9720136.27 0.0509 0.0196

Uranus -31325-04-17 15:21 J -9719925.92 -9719925.86 -9719925.79 0.0145 0.0127

Mars -31325-06-08 23:59 J -9719873.63 -9719873.50 -9719873.37 0.1724 0.0923

Uranus -31325-07-14 19:55 J -9719837.77 -9719837.67 -9719837.57 0.0145 0.0103

Uranus -31325-10-11 00:14 J -9719749.61 -9719749.49 -9719749.36 0.0145 0.0079

Uranus -31324-01-07 04:47 J -9719661.43 -9719661.30 -9719661.16 0.0145 0.0055

Uranus -31324-04-05 09:21 J -9719573.25 -9719573.11 -9719572.97 0.0145 0.0030

Uranus -31324-07-02 13:55 J -9719485.06 -9719484.92 -9719484.77 0.0145 0.0005

Uranus -31324-09-28 18:28 J -9719396.87 -9719396.73 -9719396.58 0.0145 0.0021

Moon -31324-11-24 12:14 J -9719340.12 -9719339.99 -9719339.86 0.2664 0.0537

Earth -31324-11-24 12:28 J -9719340.12 -9719339.98 -9719339.85 0.2658 0.0475 *

Uranus -31324-12-25 23:16 J -9719308.67 -9719308.53 -9719308.39 0.0145 0.0045

Uranus -31323-03-24 03:50 J -9719220.46 -9719220.34 -9719220.21 0.0145 0.0071

Uranus -31323-06-20 08:38 J -9719132.24 -9719132.14 -9719132.03 0.0145 0.0097

Uranus -31323-09-16 13:26 J -9719044.01 -9719043.94 -9719043.86 0.0145 0.0123

Earth -31321-05-25 20:52 J -9718426.71 -9718426.63 -9718426.55 0.2672 0.1932

Moon -31321-05-25 21:07 J -9718426.70 -9718426.62 -9718426.54 0.2678 0.2012 *

Jupiter -31320-02-08 17:02 J -9718167.92 -9718167.79 -9718167.66 0.0521 0.0149

Jupiter -31320-05-09 02:38 J -9718078.46 -9718078.39 -9718078.33 0.0517 0.0446

Mars -31317-12-16 01:55 J -9716761.51 -9716761.42 -9716761.32 0.1781 0.1066

Mars -31316-10-30 02:09 J -9716443.57 -9716443.41 -9716443.26 0.1730 0.0087

Saturn -31315-08-26 15:50 J -9716142.94 -9716142.84 -9716142.73 0.0269 0.0179

Mars -31315-11-21 17:02 J -9716055.83 -9716055.79 -9716055.75 0.1805 0.1691

Saturn -31315-11-23 04:04 J -9716054.47 -9716054.33 -9716054.19 0.0269 0.0075

Saturn -31314-02-19 16:19 J -9715965.96 -9715965.82 -9715965.67 0.0270 0.0032

Saturn -31314-05-19 05:02 J -9715877.41 -9715877.29 -9715877.17 0.0270 0.0139

Moon -31314-05-19 10:33 J -9715877.18 -9715877.06 -9715876.95 0.2676 0.0994 *

Earth -31314-05-19 11:31 J -9715877.14 -9715877.02 -9715876.91 0.2677 0.0955 *

Jupiter -31314-07-09 01:26 J -9715826.61 -9715826.44 -9715826.27 0.0508 0.0027

Saturn -31314-08-15 17:45 J -9715788.81 -9715788.76 -9715788.70 0.0270 0.0249

Earth -31311-11-27 11:59 J -9714589.11 -9714589.00 -9714588.90 0.2660 0.1637

Moon -31311-11-27 12:28 J -9714589.09 -9714588.98 -9714588.88 0.2666 0.1642 *

Pluto -31310-11-18 22:33 J -9714232.61 -9714232.56 -9714232.50 0.0075 0.0070

Pluto -31309-02-14 23:45 J -9714144.58 -9714144.51 -9714144.41 0.0075 0.0062

Pluto -31309-05-13 01:11 J -9714056.54 -9714056.45 -9714056.34 0.0075 0.0054

Pluto -31309-08-09 02:38 J -9713968.50 -9713968.39 -9713968.27 0.0075 0.0046

Pluto -31309-11-05 03:50 J -9713880.46 -9713880.34 -9713880.20 0.0075 0.0039

Jupiter -31309-11-27 20:23 J -9713857.76 -9713857.65 -9713857.54 0.0522 0.0293

Pluto -31308-02-01 05:16 J -9713792.41 -9713792.28 -9713792.14 0.0075 0.0031

Jupiter -31308-02-25 05:45 J -9713768.37 -9713768.26 -9713768.15 0.0518 0.0300

Pluto -31308-04-30 06:28 J -9713704.36 -9713704.23 -9713704.08 0.0075 0.0024

Pluto -31308-07-27 07:55 J -9713616.31 -9713616.17 -9713616.02 0.0074 0.0016

Pluto -31308-10-23 09:21 J -9713528.26 -9713528.11 -9713527.96 0.0074 0.0009

Pluto -31307-01-19 10:33 J -9713440.21 -9713440.06 -9713439.91 0.0074 0.0001

Pluto -31307-04-17 11:45 J -9713352.16 -9713352.01 -9713351.86 0.0074 0.0006

Mars -31307-05-08 10:47 J -9713331.09 -9713331.05 -9713331.02 0.1775 0.1680

Neptune -31307-06-30 18:43 J -9713277.75 -9713277.72 -9713277.65 0.0088 0.0084

Pluto -31307-07-14 12:57 J -9713264.10 -9713263.96 -9713263.81 0.0074 0.0013

Neptune -31307-09-26 21:50 J -9713189.67 -9713189.59 -9713189.48 0.0088 0.0075

Pluto -31307-10-10 14:23 J -9713176.05 -9713175.90 -9713175.76 0.0074 0.0020

Neptune -31307-12-24 00:57 J -9713101.57 -9713101.46 -9713101.33 0.0088 0.0067

Pluto -31306-01-06 15:21 J -9713087.99 -9713087.86 -9713087.71 0.0074 0.0027

Mars -31306-03-22 03:50 J -9713013.48 -9713013.34 -9713013.20 0.1735 0.0783

Neptune -31306-03-22 03:50 J -9713013.46 -9713013.34 -9713013.19 0.0088 0.0058 *

Pluto -31306-04-04 16:19 J -9712999.93 -9712999.82 -9712999.67 0.0074 0.0035

Neptune -31306-06-18 06:57 J -9712925.35 -9712925.21 -9712925.05 0.0088 0.0049

Pluto -31306-07-01 17:31 J -9712911.88 -9712911.77 -9712911.63 0.0073 0.0042

Neptune -31306-09-14 09:50 J -9712837.24 -9712837.09 -9712836.92 0.0088 0.0041

Pluto -31306-09-27 18:43 J -9712823.81 -9712823.72 -9712823.59 0.0073 0.0049

Neptune -31306-12-11 12:43 J -9712749.12 -9712748.97 -9712748.79 0.0088 0.0032

Pluto -31306-12-24 20:09 J -9712735.75 -9712735.66 -9712735.56 0.0073 0.0055

Neptune -31305-03-08 15:50 J -9712661.01 -9712660.84 -9712660.66 0.0088 0.0023

Pluto -31305-03-21 21:21 J -9712647.68 -9712647.61 -9712647.53 0.0073 0.0061

Mars -31305-04-13 00:57 J -9712625.56 -9712625.46 -9712625.36 0.1799 0.0984

Neptune -31305-06-04 18:57 J -9712572.89 -9712572.71 -9712572.53 0.0088 0.0014

Pluto -31305-06-17 22:19 J -9712559.61 -9712559.57 -9712559.51 0.0073 0.0068

Neptune -31305-08-31 21:50 J -9712484.77 -9712484.59 -9712484.41 0.0088 0.0006

Neptune -31305-11-28 00:43 J -9712396.65 -9712396.47 -9712396.29 0.0088 0.0003

Neptune -31304-02-24 03:35 J -9712308.53 -9712308.35 -9712308.17 0.0088 0.0011

Neptune -31304-05-23 06:14 J -9712220.40 -9712220.24 -9712220.06 0.0088 0.0020

Neptune -31304-08-19 09:21 J -9712132.28 -9712132.11 -9712131.94 0.0088 0.0028

Neptune -31304-11-15 11:59 J -9712044.15 -9712044.00 -9712043.83 0.0088 0.0037

Moon -31304-11-19 17:02 J -9712039.89 -9712039.79 -9712039.70 0.2656 0.1872

Earth -31304-11-19 18:14 J -9712039.85 -9712039.74 -9712039.64 0.2655 0.1741 *

Neptune -31303-02-11 14:52 J -9711956.02 -9711955.88 -9711955.72 0.0088 0.0045

Neptune -31303-05-10 17:45 J -9711867.89 -9711867.76 -9711867.61 0.0088 0.0054

Neptune -31303-08-06 20:23 J -9711779.76 -9711779.65 -9711779.51 0.0088 0.0062

Neptune -31303-11-02 23:16 J -9711691.62 -9711691.53 -9711691.41 0.0088 0.0070

Neptune -31302-01-30 02:09 J -9711603.48 -9711603.41 -9711603.33 0.0088 0.0078

Venus -31302-03-05 11:02 J -9711569.14 -9711569.04 -9711568.95 0.3782 0.2054

Jupiter -31302-04-27 01:11 J -9711516.62 -9711516.45 -9711516.29 0.0507 0.0140

Neptune -31302-04-28 05:02 J -9711515.32 -9711515.29 -9711515.26 0.0088 0.0087

Moon -31301-05-21 07:26 J -9711126.31 -9711126.19 -9711126.07 0.2679 0.0084

Earth -31301-05-21 08:09 J -9711126.28 -9711126.16 -9711126.04 0.2675 0.0055 *

Saturn -31300-04-01 19:55 J -9710810.69 -9710810.67 -9710810.64 0.0290 0.0286

Saturn -31300-06-29 16:19 J -9710721.97 -9710721.82 -9710721.67 0.0290 0.0126

Saturn -31300-09-26 11:59 J -9710633.17 -9710633.00 -9710632.84 0.0290 0.0030

Saturn -31300-12-24 07:11 J -9710544.33 -9710544.20 -9710544.08 0.0290 0.0182

Venus -31298-03-06 01:11 J -9710107.54 -9710107.45 -9710107.36 0.3594 0.2615

Mars -31297-08-11 04:47 J -9709583.33 -9709583.30 -9709583.26 0.1742 0.1695

Jupiter -31297-09-15 23:02 J -9709547.60 -9709547.54 -9709547.47 0.0523 0.0452

Venus -31297-09-18 05:02 J -9709545.40 -9709545.29 -9709545.18 0.3780 0.0818

Jupiter -31297-12-14 08:09 J -9709458.29 -9709458.16 -9709458.02 0.0519 0.0140

Mars -31296-09-03 09:07 J -9709195.24 -9709195.12 -9709195.00 0.1793 0.0305

Moon -31294-05-14 23:59 J -9708576.52 -9708576.50 -9708576.49 0.2673 0.2631

Venus -31293-09-19 00:57 J -9708083.58 -9708083.46 -9708083.34 0.3595 0.1364

Venus -31291-04-03 23:31 J -9707521.52 -9707521.52 -9707521.52 0.3779 0.3774

Moon -31291-11-22 17:16 J -9707288.91 -9707288.78 -9707288.65 0.2661 0.0501

Earth -31291-11-22 18:14 J -9707288.87 -9707288.74 -9707288.61 0.2656 0.0508 *

Jupiter -31290-02-13 00:14 J -9707206.62 -9707206.49 -9707206.35 0.0506 0.0312

Jupiter -31290-05-14 01:40 J -9707116.53 -9707116.43 -9707116.32 0.0509 0.0385

Moon -31288-05-24 04:47 J -9706375.42 -9706375.30 -9706375.19 0.2680 0.1132

Earth -31288-05-24 05:02 J -9706375.40 -9706375.29 -9706375.18 0.2673 0.1075 *

Mars -31286-01-24 17:16 J -9705764.90 -9705764.78 -9705764.66 0.1787 0.0361

Mars -31286-12-09 00:28 J -9705446.60 -9705446.48 -9705446.36 0.1724 0.1017

Saturn -31285-01-13 18:43 J -9705410.81 -9705410.72 -9705410.62 0.0269 0.0201

Uranus -31285-03-07 19:40 J -9705356.68 -9705356.68 -9705356.67 0.0134 0.0134

Saturn -31285-04-11 06:57 J -9705322.34 -9705322.21 -9705322.08 0.0269 0.0097

Uranus -31285-06-04 01:11 J -9705268.54 -9705268.45 -9705268.35 0.0134 0.0110

Saturn -31285-07-08 19:11 J -9705233.84 -9705233.70 -9705233.55 0.0269 0.0010

Uranus -31285-08-31 06:43 J -9705180.34 -9705180.22 -9705180.08 0.0134 0.0087

Jupiter -31285-10-02 11:31 J -9705148.15 -9705148.02 -9705147.88 0.0520 0.0018

Saturn -31285-10-05 07:55 J -9705145.30 -9705145.17 -9705145.04 0.0269 0.0116

Uranus -31285-11-27 12:28 J -9705092.13 -9705091.98 -9705091.83 0.0134 0.0063

Saturn -31284-01-01 20:38 J -9705056.72 -9705056.64 -9705056.56 0.0269 0.0226

Uranus -31284-02-23 17:45 J -9705003.92 -9705003.76 -9705003.59 0.0134 0.0040

Uranus -31284-05-22 23:02 J -9704915.70 -9704915.54 -9704915.36 0.0134 0.0018

Uranus -31284-08-19 04:33 J -9704827.48 -9704827.31 -9704827.14 0.0134 0.0005

Uranus -31284-11-15 09:50 J -9704739.25 -9704739.09 -9704738.92 0.0134 0.0028

Uranus -31283-02-11 14:52 J -9704651.02 -9704650.88 -9704650.71 0.0134 0.0051

Uranus -31283-05-10 20:09 J -9704562.79 -9704562.66 -9704562.51 0.0134 0.0073

Uranus -31283-08-07 01:11 J -9704474.55 -9704474.45 -9704474.32 0.0133 0.0095

Uranus -31283-11-03 06:14 J -9704386.30 -9704386.24 -9704386.15 0.0133 0.0117

Moon -31281-05-16 19:26 J -9703825.77 -9703825.69 -9703825.60 0.2674 0.1824

Earth -31281-05-16 20:09 J -9703825.75 -9703825.66 -9703825.57 0.2678 0.1745 *

Jupiter -31279-12-01 22:47 J -9702896.58 -9702896.55 -9702896.52 0.0505 0.0493

Jupiter -31278-03-02 00:43 J -9702806.63 -9702806.47 -9702806.32 0.0508 0.0208

Moon -31278-11-25 17:59 J -9702537.88 -9702537.75 -9702537.62 0.2665 0.0614

Earth -31278-11-25 17:59 J -9702537.88 -9702537.75 -9702537.62 0.2658 0.0690 *

Mars -31277-06-16 01:55 J -9702334.52 -9702334.42 -9702334.32 0.1781 0.0996

Mars -31276-04-30 02:38 J -9702016.54 -9702016.39 -9702016.23 0.1729 0.0201

Mars -31275-05-22 17:02 J -9701628.81 -9701628.79 -9701628.77 0.1805 0.1761

Earth -31275-05-27 02:09 J -9701624.48 -9701624.41 -9701624.34 0.2672 0.2131

Moon -31275-05-27 02:38 J -9701624.46 -9701624.39 -9701624.31 0.2677 0.2114 *

Jupiter -31273-07-21 15:21 J -9700837.99 -9700837.86 -9700837.73 0.0521 0.0147

Jupiter -31273-10-19 00:57 J -9700748.52 -9700748.46 -9700748.39 0.0518 0.0450

Saturn -31271-11-16 15:07 J -9699989.99 -9699989.87 -9699989.73 0.0290 0.0177

Saturn -31270-02-13 11:02 J -9699901.20 -9699901.04 -9699900.87 0.0290 0.0021

Saturn -31270-05-13 06:28 J -9699812.37 -9699812.23 -9699812.08 0.0290 0.0134

Saturn -31270-08-10 01:26 J -9699723.47 -9699723.44 -9699723.41 0.0290 0.0283

Moon -31268-05-19 15:35 J -9699074.96 -9699074.85 -9699074.73 0.2675 0.0868

Earth -31268-05-19 16:33 J -9699074.92 -9699074.81 -9699074.69 0.2677 0.0770 *

Mars -31268-11-06 10:47 J -9698904.10 -9698904.05 -9698904.00 0.1775 0.1606

Mars -31267-09-20 04:19 J -9698586.46 -9698586.32 -9698586.18 0.1736 0.0683

Jupiter -31267-12-19 00:14 J -9698496.66 -9698496.49 -9698496.33 0.0508 0.0040

Mars -31266-10-13 00:57 J -9698198.56 -9698198.46 -9698198.36 0.1799 0.1060

Earth -31265-11-27 17:31 J -9697786.87 -9697786.77 -9697786.68 0.2660 0.1846

Moon -31265-11-27 17:59 J -9697786.83 -9697786.75 -9697786.66 0.2665 0.1961 *

Jupiter -31261-05-09 19:11 J -9696527.81 -9696527.70 -9696527.59 0.0522 0.0285

Jupiter -31261-08-07 04:33 J -9696438.42 -9696438.31 -9696438.20 0.0518 0.0308

Moon -31258-11-20 22:33 J -9695237.67 -9695237.56 -9695237.45 0.2657 0.1593

Earth -31258-11-20 23:45 J -9695237.62 -9695237.51 -9695237.40 0.2655 0.1518 *

Mars -31257-02-10 05:31 J -9695156.33 -9695156.27 -9695156.20 0.1742 0.1583

Mars -31256-03-04 09:07 J -9694768.24 -9694768.12 -9694768.00 0.1793 0.0379

Saturn -31256-06-01 19:26 J -9694678.74 -9694678.69 -9694678.62 0.0269 0.0242

Saturn -31256-08-29 07:26 J -9694590.31 -9694590.19 -9694590.06 0.0269 0.0140

Saturn -31256-11-25 19:40 J -9694501.82 -9694501.68 -9694501.53 0.0269 0.0035

Saturn -31255-02-22 08:09 J -9694413.30 -9694413.16 -9694413.02 0.0269 0.0072

Saturn -31255-05-21 20:52 J -9694324.74 -9694324.63 -9694324.52 0.0269 0.0181

Moon -31255-05-22 12:43 J -9694324.09 -9694323.97 -9694323.85 0.2680 0.0233

Earth -31255-05-22 13:26 J -9694324.07 -9694323.94 -9694323.82 0.2675 0.0246 *

Jupiter -31255-10-06 23:31 J -9694186.68 -9694186.52 -9694186.35 0.0507 0.0132

Jupiter -31249-02-26 22:47 J -9692217.62 -9692217.55 -9692217.47 0.0523 0.0428

Jupiter -31249-05-26 07:55 J -9692128.30 -9692128.17 -9692128.04 0.0519 0.0163

Earth -31248-05-15 05:02 J -9691774.33 -9691774.29 -9691774.25 0.2680 0.2525

Moon -31248-05-15 05:02 J -9691774.32 -9691774.29 -9691774.26 0.2673 0.2578 *

Mars -31247-07-25 17:16 J -9691337.90 -9691337.78 -9691337.65 0.1787 0.0292

Mars -31246-06-09 00:57 J -9691019.58 -9691019.46 -9691019.35 0.1724 0.1114

Venus -31246-10-10 08:52 J -9690896.23 -9690896.13 -9690896.02 0.3781 0.1019

Moon -31245-11-22 23:16 J -9690486.66 -9690486.53 -9690486.40 0.2662 0.0401

Earth -31245-11-22 23:59 J -9690486.64 -9690486.50 -9690486.37 0.2657 0.0289 *

Jupiter -31243-07-25 23:16 J -9689876.67 -9689876.53 -9689876.39 0.0506 0.0298

Jupiter -31243-10-24 00:43 J -9689786.57 -9689786.47 -9689786.37 0.0510 0.0399

Moon -31242-05-25 10:04 J -9689573.19 -9689573.08 -9689572.97 0.2680 0.1196

Earth -31242-05-25 10:19 J -9689573.18 -9689573.07 -9689572.96 0.2673 0.1276 *

Venus -31242-10-11 00:57 J -9689434.59 -9689434.46 -9689434.34 0.3594 0.1147

Uranus -31241-02-09 18:57 J -9689312.73 -9689312.71 -9689312.67 0.0144 0.0140

Saturn -31241-04-04 12:57 J -9689258.05 -9689257.96 -9689257.86 0.0290 0.0236

Uranus -31241-05-07 23:31 J -9689224.60 -9689224.52 -9689224.44 0.0144 0.0117

Saturn -31241-07-02 09:07 J -9689169.28 -9689169.12 -9689168.96 0.0290 0.0077

Uranus -31241-08-04 03:50 J -9689136.45 -9689136.34 -9689136.23 0.0145 0.0093

Saturn -31241-09-29 04:33 J -9689080.46 -9689080.31 -9689080.15 0.0290 0.0079

Uranus -31241-10-31 08:23 J -9689048.28 -9689048.15 -9689048.03 0.0145 0.0069

Saturn -31241-12-26 23:31 J -9688991.61 -9688991.52 -9688991.41 0.0290 0.0231

Uranus -31240-01-27 12:43 J -9688960.10 -9688959.97 -9688959.83 0.0145 0.0045

Venus -31240-04-25 03:07 J -9688872.46 -9688872.37 -9688872.27 0.3780 0.1889

Uranus -31240-04-25 17:16 J -9688871.92 -9688871.78 -9688871.63 0.0145 0.0020

Uranus -31240-07-22 21:50 J -9688783.73 -9688783.59 -9688783.44 0.0145 0.0007

Uranus -31240-10-19 02:38 J -9688695.54 -9688695.39 -9688695.25 0.0145 0.0030

Uranus -31239-01-15 07:11 J -9688607.33 -9688607.20 -9688607.06 0.0145 0.0056

Uranus -31239-04-13 11:45 J -9688519.12 -9688519.01 -9688518.88 0.0145 0.0082

Uranus -31239-07-10 16:33 J -9688430.90 -9688430.81 -9688430.70 0.0145 0.0107

Uranus -31239-10-06 21:21 J -9688342.66 -9688342.61 -9688342.54 0.0145 0.0133

Mars -31238-12-16 01:55 J -9687907.52 -9687907.42 -9687907.31 0.1781 0.0923

Jupiter -31237-03-14 10:19 J -9687818.20 -9687818.07 -9687817.93 0.0520 0.0017

Mars -31237-10-29 03:07 J -9687589.53 -9687589.37 -9687589.22 0.1730 0.0284

Venus -31236-04-26 00:28 J -9687410.56 -9687410.48 -9687410.39 0.3596 0.2780

Moon -31235-05-18 00:28 J -9687023.57 -9687023.48 -9687023.38 0.2674 0.1574

Earth -31235-05-18 01:26 J -9687023.54 -9687023.44 -9687023.35 0.2678 0.1570 *

Earth -31232-11-25 23:45 J -9685735.64 -9685735.51 -9685735.39 0.2658 0.0909

Moon -31232-11-25 23:45 J -9685735.63 -9685735.51 -9685735.39 0.2666 0.0999 *

Jupiter -31231-05-13 22:19 J -9685566.62 -9685566.57 -9685566.50 0.0505 0.0470

Jupiter -31231-08-12 00:14 J -9685476.64 -9685476.49 -9685476.34 0.0508 0.0231

Earth -31229-05-27 07:26 J -9684822.25 -9684822.19 -9684822.13 0.2671 0.2332

Moon -31229-05-27 08:09 J -9684822.21 -9684822.16 -9684822.12 0.2677 0.2466 *

Mars -31228-05-07 10:47 J -9684477.11 -9684477.05 -9684477.00 0.1775 0.1540

Mars -31227-03-21 05:02 J -9684159.44 -9684159.29 -9684159.15 0.1736 0.0575

Saturn -31227-10-19 22:33 J -9683946.58 -9683946.56 -9683946.53 0.0269 0.0263

Saturn -31226-01-16 10:33 J -9683858.17 -9683858.06 -9683857.95 0.0269 0.0161

Mars -31226-04-13 00:57 J -9683771.55 -9683771.46 -9683771.36 0.1799 0.1139

Saturn -31226-04-14 22:47 J -9683769.70 -9683769.55 -9683769.41 0.0269 0.0057

Neptune -31226-07-08 05:45 J -9683685.27 -9683685.26 -9683685.23 0.0089 0.0088

Saturn -31226-07-12 11:02 J -9683681.18 -9683681.04 -9683680.90 0.0269 0.0050

Neptune -31226-10-04 07:11 J -9683597.24 -9683597.20 -9683597.13 0.0089 0.0082

Saturn -31226-10-08 23:31 J -9683592.63 -9683592.52 -9683592.40 0.0269 0.0158

Neptune -31226-12-31 08:52 J -9683509.20 -9683509.13 -9683509.05 0.0089 0.0075

Jupiter -31225-01-01 13:40 J -9683508.06 -9683507.93 -9683507.80 0.0521 0.0147

Saturn -31225-01-05 12:14 J -9683503.99 -9683503.99 -9683503.97 0.0269 0.0269

Neptune -31225-03-28 10:33 J -9683421.15 -9683421.06 -9683420.97 0.0089 0.0068

Jupiter -31225-03-30 23:16 J -9683418.59 -9683418.53 -9683418.46 0.0518 0.0451

Neptune -31225-06-24 11:45 J -9683333.09 -9683333.01 -9683332.89 0.0089 0.0062

Neptune -31225-09-20 13:26 J -9683245.04 -9683244.94 -9683244.82 0.0089 0.0054

Earth -31225-11-18 05:02 J -9683186.32 -9683186.29 -9683186.25 0.2654 0.2552

Neptune -31225-12-17 15:07 J -9683156.98 -9683156.87 -9683156.75 0.0089 0.0047

Neptune -31224-03-15 16:47 J -9683068.92 -9683068.80 -9683068.68 0.0089 0.0040

Neptune -31224-06-11 18:14 J -9682980.86 -9682980.74 -9682980.60 0.0089 0.0034

Neptune -31224-09-07 19:55 J -9682892.80 -9682892.67 -9682892.53 0.0089 0.0026

Neptune -31224-12-04 21:35 J -9682804.74 -9682804.60 -9682804.46 0.0089 0.0020

Neptune -31223-03-02 23:02 J -9682716.68 -9682716.54 -9682716.40 0.0089 0.0013

Neptune -31223-05-30 00:43 J -9682628.61 -9682628.47 -9682628.33 0.0089 0.0006

Neptune -31223-08-26 02:23 J -9682540.54 -9682540.40 -9682540.26 0.0089 0.0002

Neptune -31223-11-22 03:50 J -9682452.48 -9682452.34 -9682452.19 0.0089 0.0009

Neptune -31222-02-18 05:31 J -9682364.41 -9682364.27 -9682364.13 0.0089 0.0016

Neptune -31222-05-17 07:11 J -9682276.34 -9682276.20 -9682276.06 0.0089 0.0023

Moon -31222-05-20 21:07 J -9682272.74 -9682272.62 -9682272.51 0.2676 0.0660

Earth -31222-05-20 21:50 J -9682272.71 -9682272.59 -9682272.47 0.2676 0.0581 *

Neptune -31222-08-13 08:38 J -9682188.27 -9682188.14 -9682188.00 0.0089 0.0030

Neptune -31222-11-09 10:19 J -9682100.19 -9682100.07 -9682099.94 0.0089 0.0037

Neptune -31221-02-05 11:45 J -9682012.12 -9682012.01 -9682011.87 0.0089 0.0045

Neptune -31221-05-03 13:26 J -9681924.04 -9681923.94 -9681923.81 0.0089 0.0051

Neptune -31221-07-30 15:07 J -9681835.97 -9681835.87 -9681835.75 0.0089 0.0058

Neptune -31221-10-26 16:47 J -9681747.89 -9681747.80 -9681747.69 0.0089 0.0065

Neptune -31220-01-22 18:28 J -9681659.80 -9681659.73 -9681659.64 0.0089 0.0072

Neptune -31220-04-20 20:09 J -9681571.71 -9681571.66 -9681571.59 0.0089 0.0080

Neptune -31220-07-17 22:04 J -9681483.61 -9681483.58 -9681483.55 0.0089 0.0087

Jupiter -31219-05-30 23:02 J -9681166.71 -9681166.54 -9681166.37 0.0507 0.0051

Earth -31219-11-28 23:02 J -9680984.62 -9680984.54 -9680984.46 0.2660 0.2058

Moon -31219-11-28 23:45 J -9680984.59 -9680984.51 -9680984.42 0.2664 0.2053 *

Mars -31218-08-11 05:59 J -9680729.33 -9680729.25 -9680729.17 0.1741 0.1481

Mars -31217-09-02 09:07 J -9680341.24 -9680341.12 -9680341.01 0.1793 0.0451

Jupiter -31214-10-20 17:31 J -9679197.88 -9679197.77 -9679197.66 0.0522 0.0285

Jupiter -31213-01-18 02:52 J -9679108.48 -9679108.38 -9679108.27 0.0519 0.0310

Saturn -31212-08-22 12:28 J -9678526.01 -9678525.98 -9678525.94 0.0290 0.0284

Saturn -31212-11-19 08:38 J -9678437.29 -9678437.14 -9678436.99 0.0290 0.0124

Moon -31212-11-21 04:19 J -9678435.44 -9678435.32 -9678435.20 0.2657 0.1391

Earth -31212-11-21 05:31 J -9678435.39 -9678435.27 -9678435.15 0.2655 0.1289 *

Saturn -31211-02-16 04:19 J -9678348.48 -9678348.32 -9678348.15 0.0290 0.0034

Saturn -31211-05-15 23:31 J -9678259.64 -9678259.52 -9678259.39 0.0290 0.0186

Moon -31209-05-22 17:59 J -9677521.87 -9677521.75 -9677521.63 0.2680 0.0347

Earth -31209-05-22 18:43 J -9677521.84 -9677521.72 -9677521.60 0.2675 0.0438 *

Mars -31207-01-23 17:31 J -9676910.89 -9676910.77 -9676910.65 0.1787 0.0214

Jupiter -31207-03-18 22:19 J -9676856.74 -9676856.57 -9676856.41 0.0507 0.0121

Mars -31207-12-08 01:26 J -9676592.55 -9676592.44 -9676592.33 0.1724 0.1210

Moon -31202-05-16 10:04 J -9674972.14 -9674972.08 -9674972.02 0.2673 0.2292

Earth -31202-05-16 10:04 J -9674972.13 -9674972.08 -9674972.02 0.2680 0.2351 *

Jupiter -31202-08-08 21:21 J -9674887.68 -9674887.61 -9674887.53 0.0523 0.0423

Jupiter -31202-11-06 06:43 J -9674798.35 -9674798.22 -9674798.10 0.0519 0.0170

Uranus -31201-03-28 03:35 J -9674655.41 -9674655.35 -9674655.29 0.0134 0.0125

Uranus -31201-06-24 08:52 J -9674567.23 -9674567.13 -9674567.00 0.0134 0.0102

Uranus -31201-09-20 14:38 J -9674479.02 -9674478.89 -9674478.74 0.0134 0.0078

Uranus -31201-12-17 20:09 J -9674390.81 -9674390.66 -9674390.50 0.0134 0.0054

Uranus -31200-03-16 01:40 J -9674302.59 -9674302.43 -9674302.26 0.0134 0.0031

Uranus -31200-06-12 07:11 J -9674214.37 -9674214.20 -9674214.03 0.0134 0.0008

Uranus -31200-09-08 12:28 J -9674126.15 -9674125.98 -9674125.81 0.0134 0.0015

Uranus -31200-12-05 17:31 J -9674037.92 -9674037.77 -9674037.60 0.0134 0.0038

Uranus -31199-03-03 22:47 J -9673949.69 -9673949.55 -9673949.39 0.0134 0.0060

Uranus -31199-05-31 04:04 J -9673861.45 -9673861.33 -9673861.19 0.0134 0.0082

Uranus -31199-08-27 09:21 J -9673773.21 -9673773.11 -9673773.00 0.0133 0.0104

Uranus -31199-11-23 14:09 J -9673684.95 -9673684.91 -9673684.84 0.0133 0.0126

Moon -31199-11-24 05:02 J -9673684.42 -9673684.29 -9673684.15 0.2663 0.0071

Earth -31199-11-24 05:31 J -9673684.40 -9673684.27 -9673684.13 0.2657 0.0075 *

Mars -31198-06-16 02:09 J -9673480.52 -9673480.41 -9673480.31 0.1781 0.0848

Mars -31197-04-29 03:35 J -9673162.50 -9673162.35 -9673162.20 0.1730 0.0386

Saturn -31197-06-04 11:16 J -9673126.12 -9673126.03 -9673125.93 0.0269 0.0201

Saturn -31197-08-31 23:16 J -9673037.66 -9673037.53 -9673037.39 0.0269 0.0099

Saturn -31197-11-28 11:45 J -9672949.16 -9672949.01 -9672948.87 0.0269 0.0010

Saturn -31196-02-24 23:59 J -9672860.62 -9672860.50 -9672860.36 0.0269 0.0115

Saturn -31196-05-24 12:43 J -9672772.04 -9672771.97 -9672771.88 0.0269 0.0224

Moon -31196-05-25 15:35 J -9672770.95 -9672770.85 -9672770.75 0.2679 0.1531

Earth -31196-05-25 15:35 J -9672770.95 -9672770.85 -9672770.75 0.2673 0.1469 *

Jupiter -31195-01-04 21:35 J -9672546.74 -9672546.60 -9672546.46 0.0506 0.0292

Jupiter -31195-04-04 23:02 J -9672456.64 -9672456.54 -9672456.44 0.0510 0.0406

Venus -31195-10-31 12:57 J -9672247.03 -9672246.96 -9672246.89 0.3782 0.2789

Jupiter -31190-08-25 10:04 J -9670488.22 -9670488.08 -9670487.95 0.0520 0.0025

Venus -31189-05-16 06:57 J -9670223.32 -9670223.21 -9670223.10 0.3781 0.0135

Moon -31189-05-18 05:45 J -9670221.36 -9670221.26 -9670221.16 0.2674 0.1504

Earth -31189-05-18 06:28 J -9670221.33 -9670221.23 -9670221.12 0.2678 0.1385 *

Mars -31189-11-05 10:47 J -9670050.12 -9670050.05 -9670049.99 0.1775 0.1467

Mars -31188-09-19 05:16 J -9669732.43 -9669732.28 -9669732.13 0.1736 0.0482

Mars -31187-10-12 00:57 J -9669344.55 -9669344.46 -9669344.37 0.1799 0.1214

Moon -31186-11-27 05:31 J -9668933.40 -9668933.27 -9668933.15 0.2665 0.1066

Earth -31186-11-27 05:16 J -9668933.40 -9668933.28 -9668933.16 0.2659 0.1122 *

Venus -31185-05-17 00:28 J -9668761.61 -9668761.48 -9668761.34 0.3595 0.0332

Jupiter -31184-10-23 21:07 J -9668236.69 -9668236.62 -9668236.55 0.0505 0.0458

Venus -31184-11-30 01:26 J -9668199.51 -9668199.44 -9668199.38 0.3779 0.2970

Jupiter -31183-01-21 23:02 J -9668146.68 -9668146.54 -9668146.39 0.0509 0.0244

Earth -31183-05-28 12:43 J -9668020.00 -9668019.97 -9668019.93 0.2671 0.2536

Moon -31183-05-28 13:26 J -9668019.98 -9668019.94 -9668019.90 0.2677 0.2515 *

Saturn -31182-04-08 05:59 J -9667705.37 -9667705.25 -9667705.11 0.0290 0.0185

Saturn -31182-07-06 02:09 J -9667616.58 -9667616.41 -9667616.25 0.0290 0.0027

Saturn -31182-10-02 21:35 J -9667527.75 -9667527.60 -9667527.45 0.0290 0.0128

Saturn -31182-12-30 16:19 J -9667438.85 -9667438.82 -9667438.77 0.0290 0.0279

Moon -31179-11-19 09:35 J -9666384.16 -9666384.10 -9666384.03 0.2653 0.2341

Earth -31179-11-19 10:47 J -9666384.11 -9666384.05 -9666383.98 0.2654 0.2323 *

Mars -31178-02-09 06:28 J -9666302.32 -9666302.23 -9666302.13 0.1742 0.1382

Jupiter -31178-06-13 12:28 J -9666178.11 -9666177.98 -9666177.85 0.0521 0.0138

Jupiter -31178-09-10 22:04 J -9666088.64 -9666088.58 -9666088.51 0.0518 0.0458

Mars -31177-03-03 09:07 J -9665914.24 -9665914.12 -9665914.00 0.1793 0.0525

Moon -31176-05-21 02:09 J -9665470.53 -9665470.41 -9665470.29 0.2678 0.0437

Earth -31176-05-21 03:07 J -9665470.49 -9665470.37 -9665470.25 0.2676 0.0397 *

Earth -31173-11-29 04:33 J -9664182.38 -9664182.31 -9664182.24 0.2661 0.2268

Moon -31173-11-29 05:31 J -9664182.32 -9664182.27 -9664182.22 0.2664 0.2430 *

Jupiter -31172-11-09 22:33 J -9663836.73 -9663836.56 -9663836.39 0.0508 0.0074

Mars -31168-07-24 17:31 J -9662483.89 -9662483.77 -9662483.65 0.1786 0.0143

Saturn -31168-10-22 14:09 J -9662393.98 -9662393.91 -9662393.82 0.0269 0.0224

Saturn -31167-01-19 02:23 J -9662305.53 -9662305.40 -9662305.27 0.0269 0.0120

Saturn -31167-04-17 14:38 J -9662217.04 -9662216.89 -9662216.75 0.0269 0.0015

Mars -31167-06-08 01:55 J -9662165.52 -9662165.42 -9662165.32 0.1724 0.1306

Saturn -31167-07-15 03:07 J -9662128.51 -9662128.37 -9662128.24 0.0269 0.0092

Saturn -31167-10-11 15:35 J -9662039.94 -9662039.85 -9662039.75 0.0269 0.0201

Jupiter -31166-04-01 15:50 J -9661867.95 -9661867.84 -9661867.73 0.0522 0.0285

Jupiter -31166-06-30 01:11 J -9661778.56 -9661778.45 -9661778.34 0.0519 0.0310

Moon -31166-11-22 10:04 J -9661633.20 -9661633.08 -9661632.96 0.2658 0.1164

Earth -31166-11-22 11:16 J -9661633.16 -9661633.03 -9661632.91 0.2656 0.1064 *

Moon -31163-05-23 23:16 J -9660719.65 -9660719.53 -9660719.41 0.2680 0.0596

Earth -31163-05-23 23:59 J -9660719.62 -9660719.50 -9660719.38 0.2674 0.0632 *

Jupiter -31160-08-28 21:07 J -9659526.79 -9659526.62 -9659526.45 0.0507 0.0108

Mars -31159-12-15 01:55 J -9659053.53 -9659053.42 -9659053.31 0.1781 0.0779

Mars -31158-10-29 04:04 J -9658735.47 -9658735.33 -9658735.18 0.1729 0.0490

Uranus -31157-03-01 03:07 J -9658611.42 -9658611.37 -9658611.30 0.0144 0.0130

Uranus -31157-05-28 07:40 J -9658523.27 -9658523.18 -9658523.08 0.0144 0.0106

Uranus -31157-08-24 11:59 J -9658435.11 -9658435.00 -9658434.88 0.0145 0.0082

Uranus -31157-11-20 16:33 J -9658346.94 -9658346.81 -9658346.68 0.0145 0.0058

Uranus -31156-02-16 21:07 J -9658258.76 -9658258.62 -9658258.48 0.0145 0.0033

Uranus -31156-05-16 01:40 J -9658170.58 -9658170.43 -9658170.28 0.0145 0.0008

Moon -31156-05-16 14:52 J -9658169.94 -9658169.88 -9658169.81 0.2674 0.2260

Earth -31156-05-16 15:21 J -9658169.93 -9658169.86 -9658169.79 0.2679 0.2173 *

Uranus -31156-08-12 06:14 J -9658082.38 -9658082.24 -9658082.09 0.0145 0.0017

Uranus -31156-11-08 10:47 J -9657994.19 -9657994.05 -9657993.90 0.0145 0.0042

Uranus -31155-02-04 15:35 J -9657905.98 -9657905.85 -9657905.72 0.0145 0.0067

Uranus -31155-05-03 20:09 J -9657817.76 -9657817.66 -9657817.54 0.0145 0.0093

Uranus -31155-07-31 00:57 J -9657729.54 -9657729.46 -9657729.37 0.0145 0.0119

Uranus -31155-10-27 05:45 J -9657641.26 -9657641.26 -9657641.25 0.0145 0.0145

Jupiter -31154-01-18 19:40 J -9657557.76 -9657557.68 -9657557.60 0.0523 0.0424

Jupiter -31154-04-18 04:47 J -9657468.43 -9657468.30 -9657468.17 0.0520 0.0168

Saturn -31153-08-25 05:59 J -9656973.34 -9656973.25 -9656973.14 0.0290 0.0229

Saturn -31153-11-22 02:23 J -9656884.56 -9656884.40 -9656884.24 0.0290 0.0069

Moon -31153-11-24 10:47 J -9656882.18 -9656882.05 -9656881.92 0.2664 0.0105

Earth -31153-11-24 11:16 J -9656882.17 -9656882.03 -9656881.90 0.2657 0.0164 *

Saturn -31152-02-18 21:50 J -9656795.74 -9656795.59 -9656795.43 0.0290 0.0087

Saturn -31152-05-18 17:02 J -9656706.88 -9656706.79 -9656706.70 0.0290 0.0239

Earth -31150-05-26 20:52 J -9655968.73 -9655968.63 -9655968.53 0.2673 0.1668

Moon -31150-05-26 21:07 J -9655968.72 -9655968.62 -9655968.52 0.2679 0.1649 *

Mars -31149-05-06 10:47 J -9655623.12 -9655623.05 -9655622.97 0.1775 0.1391

Mars -31148-03-20 05:45 J -9655305.41 -9655305.26 -9655305.10 0.1736 0.0381

Jupiter -31148-06-16 20:09 J -9655216.80 -9655216.66 -9655216.52 0.0506 0.0282

Jupiter -31148-09-14 21:35 J -9655126.69 -9655126.60 -9655126.50 0.0509 0.0414

Mars -31147-04-12 01:11 J -9654917.54 -9654917.45 -9654917.37 0.1799 0.1290

Pluto -31147-04-21 02:09 J -9654908.41 -9654908.41 -9654908.40 0.0069 0.0069

Pluto -31147-07-18 03:07 J -9654820.41 -9654820.37 -9654820.28 0.0069 0.0063

Pluto -31147-10-14 04:47 J -9654732.39 -9654732.30 -9654732.20 0.0069 0.0056

Pluto -31146-01-10 05:59 J -9654644.35 -9654644.25 -9654644.13 0.0069 0.0050

Pluto -31146-04-08 07:11 J -9654556.31 -9654556.20 -9654556.05 0.0069 0.0044

Pluto -31146-07-05 08:52 J -9654468.26 -9654468.13 -9654467.98 0.0069 0.0037

Pluto -31146-10-01 10:04 J -9654380.21 -9654380.08 -9654379.92 0.0069 0.0031

Pluto -31146-12-28 11:31 J -9654292.16 -9654292.02 -9654291.85 0.0070 0.0025

Pluto -31145-03-25 13:11 J -9654204.11 -9654203.95 -9654203.79 0.0070 0.0018

Pluto -31145-06-21 14:23 J -9654116.06 -9654115.90 -9654115.73 0.0070 0.0012

Pluto -31145-09-17 16:04 J -9654028.00 -9654027.83 -9654027.67 0.0070 0.0005

Pluto -31145-12-14 17:31 J -9653939.94 -9653939.77 -9653939.61 0.0070 0.0002

Pluto -31144-03-12 18:43 J -9653851.88 -9653851.72 -9653851.55 0.0070 0.0009

Pluto -31144-06-08 20:09 J -9653763.81 -9653763.66 -9653763.49 0.0070 0.0016

Pluto -31144-09-04 21:50 J -9653675.75 -9653675.59 -9653675.43 0.0070 0.0023

Pluto -31144-12-01 23:16 J -9653587.68 -9653587.53 -9653587.37 0.0070 0.0030

Pluto -31143-02-28 00:43 J -9653499.61 -9653499.47 -9653499.32 0.0071 0.0037

Moon -31143-05-19 11:02 J -9653419.15 -9653419.04 -9653418.94 0.2674 0.1201

Earth -31143-05-19 11:45 J -9653419.12 -9653419.01 -9653418.90 0.2678 0.1205 *

Pluto -31143-05-27 02:09 J -9653411.53 -9653411.41 -9653411.27 0.0071 0.0044

Pluto -31143-08-23 03:35 J -9653323.45 -9653323.35 -9653323.22 0.0071 0.0051

Pluto -31143-11-19 05:16 J -9653235.36 -9653235.28 -9653235.18 0.0071 0.0058

Jupiter -31142-02-04 08:38 J -9653158.28 -9653158.14 -9653158.01 0.0520 0.0029

Pluto -31142-02-15 06:57 J -9653147.27 -9653147.21 -9653147.14 0.0071 0.0065

Neptune -31142-03-27 16:33 J -9653106.86 -9653106.81 -9653106.74 0.0088 0.0082

Neptune -31142-06-23 19:40 J -9653018.77 -9653018.68 -9653018.58 0.0088 0.0074

Neptune -31142-09-19 22:19 J -9652930.67 -9652930.57 -9652930.43 0.0088 0.0065

Neptune -31142-12-17 01:26 J -9652842.57 -9652842.44 -9652842.29 0.0088 0.0056

Neptune -31141-03-14 04:33 J -9652754.46 -9652754.31 -9652754.15 0.0088 0.0047

Neptune -31141-06-10 07:26 J -9652666.34 -9652666.19 -9652666.02 0.0088 0.0039

Neptune -31141-09-06 10:19 J -9652578.23 -9652578.07 -9652577.89 0.0088 0.0031

Neptune -31141-12-03 13:26 J -9652490.11 -9652489.94 -9652489.76 0.0088 0.0022

Neptune -31140-03-01 16:19 J -9652401.99 -9652401.82 -9652401.63 0.0088 0.0013

Neptune -31140-05-28 19:26 J -9652313.87 -9652313.69 -9652313.51 0.0088 0.0004

Neptune -31140-08-24 22:19 J -9652225.75 -9652225.57 -9652225.39 0.0088 0.0004

Neptune -31140-11-21 01:11 J -9652137.63 -9652137.45 -9652137.27 0.0088 0.0013

Earth -31140-11-27 10:47 J -9652131.16 -9652131.05 -9652130.93 0.2659 0.1335

Moon -31140-11-27 11:16 J -9652131.14 -9652131.03 -9652130.92 0.2665 0.1425 *

Neptune -31139-02-17 04:04 J -9652049.50 -9652049.33 -9652049.16 0.0088 0.0021

Neptune -31139-05-16 06:43 J -9651961.38 -9651961.22 -9651961.04 0.0088 0.0030

Mars -31139-08-10 07:11 J -9651875.31 -9651875.20 -9651875.10 0.1742 0.1279

Neptune -31139-08-12 09:35 J -9651873.25 -9651873.10 -9651872.93 0.0088 0.0039

Neptune -31139-11-08 12:14 J -9651785.12 -9651784.99 -9651784.82 0.0088 0.0047

Neptune -31138-02-04 15:07 J -9651696.99 -9651696.87 -9651696.72 0.0088 0.0056

Saturn -31138-03-11 15:35 J -9651661.88 -9651661.85 -9651661.82 0.0269 0.0260

Neptune -31138-05-03 18:14 J -9651608.86 -9651608.74 -9651608.62 0.0088 0.0063

Venus -31138-06-07 11:02 J -9651574.14 -9651574.04 -9651573.94 0.3781 0.1756

Saturn -31138-06-08 03:21 J -9651573.47 -9651573.36 -9651573.24 0.0269 0.0158

Neptune -31138-07-30 20:38 J -9651520.72 -9651520.64 -9651520.52 0.0088 0.0072

Mars -31138-09-02 09:07 J -9651487.23 -9651487.12 -9651487.00 0.1793 0.0607

Saturn -31138-09-04 15:35 J -9651484.99 -9651484.85 -9651484.71 0.0269 0.0054

Neptune -31138-10-26 23:31 J -9651432.57 -9651432.52 -9651432.43 0.0088 0.0080

Saturn -31138-12-02 03:50 J -9651396.48 -9651396.34 -9651396.20 0.0269 0.0053

Saturn -31137-02-28 16:33 J -9651307.93 -9651307.81 -9651307.70 0.0269 0.0160

Jupiter -31136-04-04 19:11 J -9650906.77 -9650906.70 -9650906.62 0.0505 0.0455

Jupiter -31136-07-03 21:21 J -9650816.76 -9650816.61 -9650816.47 0.0509 0.0247

Venus -31134-06-08 00:14 J -9650112.59 -9650112.49 -9650112.38 0.3594 0.2239

Moon -31133-11-19 15:21 J -9649581.93 -9649581.86 -9649581.79 0.2653 0.2270

Earth -31133-11-19 16:33 J -9649581.89 -9649581.81 -9649581.72 0.2654 0.2089 *

Venus -31133-12-21 05:02 J -9649550.39 -9649550.29 -9649550.18 0.3780 0.1113

Jupiter -31131-11-23 11:59 J -9648848.13 -9648848.00 -9648847.86 0.0521 0.0117

Jupiter -31130-02-20 21:35 J -9648758.64 -9648758.60 -9648758.55 0.0517 0.0480

Moon -31130-05-22 07:26 J -9648668.31 -9648668.19 -9648668.07 0.2679 0.0330

Earth -31130-05-22 08:23 J -9648668.27 -9648668.15 -9648668.03 0.2676 0.0210 *

Venus -31129-12-22 00:14 J -9648088.61 -9648088.49 -9648088.38 0.3595 0.1761

Mars -31128-01-22 17:31 J -9648056.89 -9648056.77 -9648056.65 0.1787 0.0070

Mars -31128-12-07 02:23 J -9647738.49 -9647738.40 -9647738.32 0.1724 0.1402

Earth -31127-11-30 10:04 J -9647380.12 -9647380.08 -9647380.03 0.2661 0.2477

Moon -31127-11-30 11:02 J -9647380.08 -9647380.04 -9647379.99 0.2665 0.2471 *

Jupiter -31124-04-21 21:07 J -9646506.78 -9646506.62 -9646506.45 0.0508 0.0084

Saturn -31123-01-12 03:35 J -9646241.36 -9646241.35 -9646241.34 0.0290 0.0290

Saturn -31123-04-10 23:45 J -9646152.65 -9646152.51 -9646152.35 0.0290 0.0129

Saturn -31123-07-08 19:40 J -9646063.85 -9646063.68 -9646063.51 0.0290 0.0029

Saturn -31123-10-05 14:52 J -9645975.00 -9645974.88 -9645974.75 0.0290 0.0182

Moon -31120-11-22 16:04 J -9644830.96 -9644830.83 -9644830.70 0.2659 0.0868

Earth -31120-11-22 17:02 J -9644830.92 -9644830.79 -9644830.66 0.2656 0.0839 *

Mars -31119-06-15 02:09 J -9644626.52 -9644626.41 -9644626.30 0.1781 0.0704

Jupiter -31119-09-11 14:38 J -9644538.00 -9644537.89 -9644537.78 0.0522 0.0277

Jupiter -31119-12-09 23:59 J -9644448.61 -9644448.50 -9644448.39 0.0518 0.0316

Mars -31118-04-29 04:33 J -9644308.46 -9644308.31 -9644308.17 0.1730 0.0578

Uranus -31117-04-17 11:31 J -9643954.10 -9643954.02 -9643953.92 0.0134 0.0115

Moon -31117-05-24 04:33 J -9643917.42 -9643917.31 -9643917.19 0.2679 0.0782

Earth -31117-05-24 05:02 J -9643917.40 -9643917.29 -9643917.17 0.2674 0.0818 *

Uranus -31117-07-14 17:16 J -9643865.90 -9643865.78 -9643865.65 0.0134 0.0091

Uranus -31117-10-10 22:47 J -9643777.69 -9643777.55 -9643777.40 0.0134 0.0067

Uranus -31116-01-07 04:19 J -9643689.48 -9643689.32 -9643689.16 0.0134 0.0044

Uranus -31116-04-05 09:50 J -9643601.26 -9643601.09 -9643600.92 0.0134 0.0021

Uranus -31116-07-02 15:07 J -9643513.04 -9643512.87 -9643512.70 0.0134 0.0004

Uranus -31116-09-28 20:38 J -9643424.81 -9643424.64 -9643424.48 0.0134 0.0025

Uranus -31116-12-26 01:40 J -9643336.58 -9643336.43 -9643336.27 0.0134 0.0048

Uranus -31115-03-24 06:57 J -9643248.35 -9643248.21 -9643248.06 0.0134 0.0070

Uranus -31115-06-20 12:14 J -9643160.11 -9643159.99 -9643159.87 0.0133 0.0092

Uranus -31115-09-16 17:16 J -9643071.86 -9643071.78 -9643071.69 0.0133 0.0114

Jupiter -31112-02-07 20:38 J -9642196.81 -9642196.64 -9642196.48 0.0507 0.0088

Moon -31110-05-17 19:55 J -9641367.75 -9641367.67 -9641367.58 0.2673 0.1968

Earth -31110-05-17 20:38 J -9641367.72 -9641367.64 -9641367.57 0.2679 0.1997 *

Mars -31110-11-05 10:47 J -9641196.13 -9641196.05 -9641195.98 0.1774 0.1330

Mars -31109-09-18 06:28 J -9640878.39 -9640878.23 -9640878.08 0.1736 0.0276

Saturn -31109-10-25 06:28 J -9640841.34 -9640841.23 -9640841.13 0.0269 0.0181

Saturn -31108-01-21 18:28 J -9640752.87 -9640752.73 -9640752.59 0.0269 0.0076

Saturn -31108-04-20 06:43 J -9640664.36 -9640664.22 -9640664.07 0.0269 0.0031

Saturn -31108-07-17 19:11 J -9640575.82 -9640575.70 -9640575.57 0.0269 0.0138

Mars -31108-10-11 01:11 J -9640490.53 -9640490.45 -9640490.37 0.1798 0.1365

Saturn -31108-10-14 08:09 J -9640487.22 -9640487.16 -9640487.11 0.0269 0.0248

Jupiter -31107-06-30 17:59 J -9640227.83 -9640227.75 -9640227.67 0.0523 0.0425

Jupiter -31107-09-28 03:07 J -9640138.50 -9640138.37 -9640138.24 0.0520 0.0167

Moon -31107-11-25 16:33 J -9640079.95 -9640079.81 -9640079.68 0.2664 0.0362

Earth -31107-11-25 16:47 J -9640079.93 -9640079.80 -9640079.66 0.2657 0.0379 *

Earth -31104-05-27 02:09 J -9639166.50 -9639166.41 -9639166.32 0.2672 0.1863

Moon -31104-05-27 02:23 J -9639166.48 -9639166.40 -9639166.32 0.2679 0.1921 *

Jupiter -31101-11-26 18:57 J -9637886.86 -9637886.71 -9637886.57 0.0506 0.0271

Jupiter -31100-02-24 20:23 J -9637796.74 -9637796.65 -9637796.56 0.0509 0.0425

Mars -31099-02-08 07:40 J -9637448.29 -9637448.18 -9637448.06 0.1742 0.1169

Mars -31098-03-03 09:07 J -9637060.23 -9637060.12 -9637060.01 0.1793 0.0672

Moon -31097-05-19 16:04 J -9636616.94 -9636616.83 -9636616.72 0.2675 0.1155

Earth -31097-05-19 17:02 J -9636616.91 -9636616.79 -9636616.68 0.2677 0.1024 *

Jupiter -31095-07-17 06:43 J -9635828.36 -9635828.22 -9635828.08 0.0521 0.0025

Saturn -31094-08-29 00:28 J -9635420.61 -9635420.48 -9635420.34 0.0290 0.0168

Saturn -31094-11-25 20:38 J -9635331.81 -9635331.64 -9635331.48 0.0290 0.0011

Earth -31094-11-28 16:19 J -9635328.92 -9635328.82 -9635328.71 0.2659 0.1552

Moon -31094-11-28 17:02 J -9635328.90 -9635328.79 -9635328.69 0.2665 0.1568 *

Saturn -31093-02-22 15:50 J -9635242.98 -9635242.84 -9635242.69 0.0290 0.0146

Mars -31089-07-23 17:31 J -9633629.89 -9633629.77 -9633629.65 0.1787 0.0037

Jupiter -31089-09-14 17:45 J -9633576.84 -9633576.76 -9633576.68 0.0505 0.0446

Jupiter -31089-12-13 19:40 J -9633486.83 -9633486.68 -9633486.54 0.0508 0.0253

Mars -31088-06-07 02:52 J -9633311.46 -9633311.38 -9633311.31 0.1724 0.1499

Venus	-31087-06-28 15:07 J	-9632924.91	-9632924.87	-9632924.83	0.3782	0.3512
Moon	-31087-11-20 21:07 J	-9632779.71	-9632779.62	-9632779.52	0.2653	0.1869
Earth	-31087-11-20 22:19 J	-9632779.66	-9632779.57	-9632779.47	0.2654	0.1862 *
Moon	-31084-05-22 12:43 J	-9631866.10	-9631865.97	-9631865.85	0.2679	0.0079
Earth	-31084-05-22 13:26 J	-9631866.06	-9631865.94	-9631865.81	0.2676	0.0083 *
Jupiter	-31083-05-05 10:19 J	-9631518.20	-9631518.07	-9631517.93	0.0521	0.0117
Jupiter	-31083-08-02 19:55 J	-9631428.71	-9631428.67	-9631428.62	0.0518	0.0481
Venus	-31081-01-12 09:07 J	-9630901.23	-9630901.12	-9630901.02	0.3781	0.0725
Mars	-31080-12-14 02:09 J	-9630199.53	-9630199.41	-9630199.30	0.1780	0.0634
Saturn	-31079-03-14 07:55 J	-9630109.25	-9630109.17	-9630109.08	0.0269	0.0215
Saturn	-31079-06-10 19:55 J	-9630020.80	-9630020.67	-9630020.54	0.0269	0.0112
Saturn	-31079-09-07 08:09 J	-9629932.31	-9629932.16	-9629932.02	0.0269	0.0007
Mars	-31079-10-28 05:02 J	-9629881.43	-9629881.29	-9629881.15	0.1730	0.0677
Saturn	-31079-12-04 20:38 J	-9629843.78	-9629843.64	-9629843.51	0.0269	0.0101
Saturn	-31078-03-03 09:07 J	-9629755.21	-9629755.12	-9629755.03	0.0269	0.0209
Venus	-31077-01-12 23:59 J	-9629439.63	-9629439.50	-9629439.37	0.3594	0.0755
Jupiter	-31077-10-01 18:57 J	-9629176.87	-9629176.71	-9629176.54	0.0508	0.0084
Venus	-31076-07-28 03:21 J	-9628877.45	-9628877.36	-9628877.28	0.3780	0.2174
Moon	-31074-11-23 21:50 J	-9628028.72	-9628028.59	-9628028.46	0.2661	0.0745
Earth	-31074-11-23 22:33 J	-9628028.69	-9628028.56	-9628028.42	0.2656	0.0615 *
Uranus	-31074-12-24 06:43 J	-9627998.22	-9627998.22	-9627998.20	0.0144	0.0143
Uranus	-31073-03-21 11:02 J	-9627910.11	-9627910.04	-9627909.95	0.0144	0.0120
Uranus	-31073-06-17 15:21 J	-9627821.95	-9627821.86	-9627821.74	0.0144	0.0097
Uranus	-31073-09-13 19:55 J	-9627733.79	-9627733.67	-9627733.54	0.0144	0.0072
Uranus	-31073-12-11 00:28 J	-9627645.61	-9627645.48	-9627645.34	0.0145	0.0048
Uranus	-31072-03-09 05:02 J	-9627557.43	-9627557.29	-9627557.15	0.0145	0.0023
Uranus	-31072-06-05 09:35 J	-9627469.24	-9627469.10	-9627468.95	0.0145	0.0002
Venus	-31072-07-28 23:45 J	-9627415.57	-9627415.51	-9627415.45	0.3596	0.3175
Uranus	-31072-09-01 14:09 J	-9627381.05	-9627380.91	-9627380.76	0.0145	0.0027
Uranus	-31072-11-28 18:43 J	-9627292.85	-9627292.72	-9627292.58	0.0145	0.0052

Jupiter -31071-02-21 13:55 J -9627208.03 -9627207.92 -9627207.80 0.0522 0.0259

Uranus -31071-02-24 23:31 J -9627204.64 -9627204.52 -9627204.39 0.0145 0.0077

Jupiter -31071-05-21 23:16 J -9627118.63 -9627118.53 -9627118.42 0.0518 0.0335

Uranus -31071-05-24 04:04 J -9627116.42 -9627116.33 -9627116.22 0.0145 0.0103

Moon -31071-05-25 10:04 J -9627115.19 -9627115.08 -9627114.97 0.2680 0.0959

Earth -31071-05-25 10:19 J -9627115.18 -9627115.07 -9627114.95 0.2674 0.1011 *

Uranus -31071-08-20 08:52 J -9627028.19 -9627028.13 -9627028.05 0.0145 0.0129

Mars -31070-05-06 10:47 J -9626769.13 -9626769.05 -9626768.96 0.1775 0.1251

Mars -31069-03-19 06:57 J -9626451.37 -9626451.21 -9626451.06 0.1736 0.0184

Mars -31068-04-11 01:11 J -9626063.52 -9626063.45 -9626063.38 0.1798 0.1444

Jupiter -31065-07-20 18:57 J -9624866.88 -9624866.71 -9624866.55 0.0507 0.0082

Saturn -31064-01-14 22:04 J -9624688.68 -9624688.58 -9624688.48 0.0290 0.0228

Saturn -31064-04-13 18:14 J -9624599.90 -9624599.74 -9624599.58 0.0290 0.0069

Moon -31064-05-18 01:11 J -9624565.53 -9624565.45 -9624565.37 0.2673 0.1902

Earth -31064-05-18 01:40 J -9624565.52 -9624565.43 -9624565.34 0.2679 0.1814 *

Saturn -31064-07-11 13:40 J -9624511.08 -9624510.93 -9624510.77 0.0290 0.0088

Saturn -31064-10-08 08:52 J -9624422.21 -9624422.13 -9624422.03 0.0290 0.0240

Pluto -31062-09-18 07:11 J -9623712.21 -9623712.20 -9623712.17 0.0075 0.0074

Pluto -31062-12-15 08:38 J -9623624.20 -9623624.14 -9623624.06 0.0075 0.0066

Pluto -31061-03-12 10:04 J -9623536.17 -9623536.08 -9623535.98 0.0075 0.0059

Neptune -31061-04-03 04:19 J -9623514.33 -9623514.32 -9623514.28 0.0089 0.0087

Pluto -31061-06-08 11:16 J -9623448.13 -9623448.03 -9623447.91 0.0075 0.0051

Neptune -31061-06-30 05:59 J -9623426.30 -9623426.25 -9623426.19 0.0089 0.0080

Pluto -31061-09-04 12:43 J -9623360.08 -9623359.97 -9623359.84 0.0075 0.0043

Neptune -31061-09-26 07:40 J -9623338.26 -9623338.18 -9623338.10 0.0089 0.0074

Moon -31061-11-25 22:19 J -9623277.70 -9623277.57 -9623277.44 0.2664 0.0599

Earth -31061-11-25 22:33 J -9623277.69 -9623277.56 -9623277.43 0.2658 0.0599 *

Pluto -31061-12-01 13:55 J -9623272.04 -9623271.92 -9623271.77 0.0075 0.0036

Neptune -31061-12-23 08:52 J -9623250.20 -9623250.13 -9623250.02 0.0089 0.0067

Pluto -31060-02-27 15:35 J -9623183.99 -9623183.85 -9623183.71 0.0075 0.0028

Neptune -31060-03-21 10:33 J -9623162.15 -9623162.06 -9623161.95 0.0089 0.0060

Pluto -31060-05-26 16:47 J -9623095.94 -9623095.80 -9623095.65 0.0074 0.0020

Neptune -31060-06-17 12:14 J -9623074.10 -9623073.99 -9623073.87 0.0089 0.0053

Mars -31060-08-09 08:09 J -9623021.28 -9623021.16 -9623021.04 0.1742 0.1075

Pluto -31060-08-22 17:59 J -9623007.89 -9623007.75 -9623007.59 0.0074 0.0013

Neptune -31060-09-13 13:40 J -9622986.04 -9622985.93 -9622985.80 0.0089 0.0047

Pluto -31060-11-18 19:26 J -9622919.84 -9622919.69 -9622919.54 0.0074 0.0006

Neptune -31060-12-10 15:21 J -9622897.98 -9622897.86 -9622897.73 0.0089 0.0039

Jupiter -31060-12-10 16:33 J -9622897.88 -9622897.81 -9622897.73 0.0523 0.0418 *

Pluto -31059-02-14 20:38 J -9622831.79 -9622831.64 -9622831.49 0.0074 0.0002

Neptune -31059-03-08 17:02 J -9622809.92 -9622809.79 -9622809.66 0.0089 0.0032

Jupiter -31059-03-10 01:40 J -9622808.56 -9622808.43 -9622808.30 0.0519 0.0173

Pluto -31059-05-13 21:50 J -9622743.73 -9622743.59 -9622743.44 0.0074 0.0009

Neptune -31059-06-04 18:43 J -9622721.86 -9622721.72 -9622721.59 0.0089 0.0026

Pluto -31059-08-09 23:16 J -9622655.68 -9622655.53 -9622655.39 0.0074 0.0016

Neptune -31059-08-31 20:09 J -9622633.80 -9622633.66 -9622633.52 0.0089 0.0019

Mars -31059-09-01 09:21 J -9622633.23 -9622633.11 -9622633.00 0.1793 0.0756

Pluto -31059-11-06 00:14 J -9622567.62 -9622567.49 -9622567.34 0.0074 0.0023

Neptune -31059-11-27 21:35 J -9622545.73 -9622545.60 -9622545.45 0.0089 0.0013

Pluto -31058-02-02 01:26 J -9622479.57 -9622479.44 -9622479.30 0.0074 0.0030

Neptune -31058-02-23 23:16 J -9622457.67 -9622457.53 -9622457.38 0.0089 0.0005

Pluto -31058-05-01 02:38 J -9622391.51 -9622391.39 -9622391.25 0.0073 0.0037

Neptune -31058-05-23 00:57 J -9622369.60 -9622369.46 -9622369.32 0.0089 0.0003

Earth -31058-05-28 07:26 J -9622364.26 -9622364.19 -9622364.11 0.2672 0.2066

Moon -31058-05-28 07:40 J -9622364.25 -9622364.18 -9622364.10 0.2679 0.2085 *

Pluto -31058-07-28 03:50 J -9622303.45 -9622303.34 -9622303.21 0.0073 0.0044

Neptune -31058-08-19 02:38 J -9622281.53 -9622281.39 -9622281.25 0.0089 0.0010

Pluto -31058-10-24 04:47 J -9622215.39 -9622215.30 -9622215.18 0.0073 0.0052

Neptune -31058-11-15 04:04 J -9622193.46 -9622193.33 -9622193.19 0.0089 0.0017

Pluto -31057-01-20 05:59 J -9622127.32 -9622127.25 -9622127.14 0.0073 0.0058

Neptune -31057-02-11 05:45 J -9622105.39 -9622105.26 -9622105.12 0.0089 0.0024

Pluto -31057-04-17 07:26 J -9622039.25 -9622039.19 -9622039.12 0.0073 0.0064

Neptune -31057-05-09 07:26 J -9622017.32 -9622017.19 -9622017.06 0.0089 0.0031

Pluto -31057-07-14 08:23 J -9621951.17 -9621951.15 -9621951.11 0.0073 0.0071

Neptune -31057-08-05 08:52 J -9621929.25 -9621929.13 -9621928.99 0.0089 0.0038

Neptune -31057-11-01 10:33 J -9621841.18 -9621841.06 -9621840.93 0.0089 0.0045

Neptune -31056-01-28 11:59 J -9621753.10 -9621753.00 -9621752.87 0.0089 0.0053

Neptune -31056-04-26 13:40 J -9621665.02 -9621664.93 -9621664.81 0.0089 0.0060

Neptune -31056-07-23 15:21 J -9621576.94 -9621576.86 -9621576.75 0.0089 0.0067

Neptune -31056-10-19 17:16 J -9621488.86 -9621488.78 -9621488.70 0.0089 0.0073

Neptune -31055-01-15 18:57 J -9621400.77 -9621400.71 -9621400.65 0.0089 0.0080

Neptune -31055-04-13 20:09 J -9621312.66 -9621312.66 -9621312.62 0.0089 0.0089

Jupiter -31053-05-08 17:59 J -9620556.89 -9620556.75 -9620556.60 0.0506 0.0254

Jupiter -31053-08-06 19:26 J -9620466.77 -9620466.69 -9620466.61 0.0509 0.0443

Moon -31051-05-20 21:21 J -9619814.73 -9619814.61 -9619814.50 0.2677 0.0843

Earth -31051-05-20 22:04 J -9619814.69 -9619814.58 -9619814.46 0.2677 0.0837 *

Saturn -31050-08-01 11:02 J -9619377.11 -9619377.04 -9619376.98 0.0269 0.0238

Saturn -31050-10-28 22:47 J -9619288.67 -9619288.55 -9619288.42 0.0269 0.0135

Mars -31049-01-22 17:31 J -9619202.89 -9619202.77 -9619202.65 0.1786 0.0084

Saturn -31049-01-25 11:02 J -9619200.18 -9619200.04 -9619199.90 0.0269 0.0030

Saturn -31049-04-22 23:31 J -9619111.66 -9619111.52 -9619111.38 0.0269 0.0078

Saturn -31049-07-20 11:59 J -9619023.10 -9619023.00 -9619022.89 0.0269 0.0187

Mars -31049-12-06 03:07 J -9618884.42 -9618884.37 -9618884.31 0.1724 0.1593

Earth -31048-11-28 22:04 J -9618526.68 -9618526.58 -9618526.48 0.2660 0.1767

Moon -31048-11-28 22:47 J -9618526.65 -9618526.55 -9618526.46 0.2665 0.1845 *

Jupiter -31048-12-27 04:47 J -9618498.43 -9618498.30 -9618498.16 0.0520 0.0025

Jupiter -31041-02-25 16:19 J -9616246.91 -9616246.82 -9616246.74 0.0505 0.0438

Jupiter -31041-05-25 17:59 J -9616156.89 -9616156.75 -9616156.60 0.0508 0.0262

Moon -31041-11-21 02:52 J -9615977.48 -9615977.38 -9615977.28 0.2655 0.1805

Earth -31041-11-21 04:04 J -9615977.44 -9615977.33 -9615977.22 0.2654 0.1629 *

Mars -31040-06-14 02:09 J -9615772.53 -9615772.41 -9615772.30 0.1781 0.0560

Mars -31039-04-28 05:45 J -9615454.40 -9615454.26 -9615454.13 0.1730 0.0783

Moon -31038-05-23 17:59 J -9615063.87 -9615063.75 -9615063.63 0.2678 0.0053

Earth -31038-05-23 18:43 J -9615063.84 -9615063.72 -9615063.59 0.2675 0.0181 *

Jupiter -31036-10-15 08:23 J -9614188.28 -9614188.15 -9614188.02 0.0522 0.0121

Jupiter -31035-01-12 17:59 J -9614098.80 -9614098.75 -9614098.70 0.0518 0.0475

Saturn -31035-06-03 23:16 J -9613956.59 -9613956.53 -9613956.45 0.0290 0.0263

Saturn -31035-08-31 19:40 J -9613867.84 -9613867.68 -9613867.52 0.0290 0.0102

Saturn -31035-11-28 15:21 J -9613779.02 -9613778.86 -9613778.70 0.0290 0.0055

Saturn -31034-02-25 10:33 J -9613690.17 -9613690.06 -9613689.94 0.0290 0.0209

Uranus -31033-02-09 13:40 J -9613340.97 -9613340.93 -9613340.88 0.0134 0.0129

Uranus -31033-05-07 19:26 J -9613252.79 -9613252.69 -9613252.58 0.0134 0.0105

Uranus -31033-08-04 00:43 J -9613164.59 -9613164.47 -9613164.32 0.0134 0.0083

Uranus -31033-10-31 06:28 J -9613076.38 -9613076.23 -9613076.07 0.0134 0.0058

Uranus -31032-01-27 11:59 J -9612988.16 -9612988.00 -9612987.83 0.0134 0.0035

Uranus -31032-04-25 17:31 J -9612899.94 -9612899.77 -9612899.60 0.0134 0.0012

Uranus -31032-07-22 23:02 J -9612811.71 -9612811.54 -9612811.37 0.0134 0.0011

Uranus -31032-10-19 04:19 J -9612723.48 -9612723.32 -9612723.16 0.0134 0.0034

Uranus -31031-01-15 09:21 J -9612635.25 -9612635.11 -9612634.95 0.0134 0.0057

Uranus -31031-04-13 14:38 J -9612547.01 -9612546.89 -9612546.74 0.0134 0.0079

Moon -31031-05-16 10:33 J -9612514.09 -9612514.06 -9612514.03 0.2674 0.2578

Earth -31031-05-16 10:33 J -9612514.08 -9612514.06 -9612514.03 0.2680 0.2591 *

Uranus -31031-07-10 19:55 J -9612458.77 -9612458.67 -9612458.55 0.0133 0.0101

Uranus -31031-10-07 00:57 J -9612370.51 -9612370.46 -9612370.38 0.0133 0.0123

Mars -31031-11-04 10:47 J -9612342.14 -9612342.05 -9612341.96 0.1775 0.1178

Venus -31030-02-02 12:57 J -9612252.04 -9612251.96 -9612251.88 0.3782 0.2506

Mars -31030-09-18 07:26 J -9612024.35 -9612024.19 -9612024.04 0.1736 0.0090

Jupiter -31029-03-13 17:16 J -9611846.95 -9611846.78 -9611846.61 0.0507 0.0088

Mars -31029-10-10 01:11 J -9611636.51 -9611636.45 -9611636.38 0.1799 0.1522

Moon -31028-11-24 03:35 J -9611226.49 -9611226.35 -9611226.22 0.2662 0.0381

Earth -31028-11-24 04:19 J -9611226.45 -9611226.32 -9611226.19 0.2656 0.0388 *

Venus -31026-02-02 23:31 J -9610790.56 -9610790.52 -9610790.47 0.3594 0.3376

Moon -31025-05-25 15:21 J -9610312.96 -9610312.86 -9610312.75 0.2681 0.1250

Earth -31025-05-25 15:35 J -9610312.96 -9610312.85 -9610312.74 0.2673 0.1203 *

Venus -31025-08-18 07:11 J -9610228.31 -9610228.20 -9610228.09 0.3781 0.0354

Jupiter -31024-08-03 12:14 J -9609878.11 -9609877.99 -9609877.88 0.0522 0.0261

Jupiter -31024-10-31 21:35 J -9609788.71 -9609788.60 -9609788.50 0.0519 0.0333

Venus -31021-08-18 23:31 J -9608766.65 -9608766.52 -9608766.38 0.3595 0.0688

Saturn -31021-12-18 12:43 J -9608644.97 -9608644.97 -9608644.96 0.0269 0.0269

Mars -31020-02-07 08:38 J -9608594.26 -9608594.14 -9608594.01 0.1742 0.0968

Saturn -31020-03-17 00:43 J -9608556.58 -9608556.47 -9608556.36 0.0269 0.0167

Saturn -31020-06-13 12:43 J -9608468.11 -9608467.97 -9608467.83 0.0269 0.0063

Saturn -31020-09-10 00:57 J -9608379.60 -9608379.46 -9608379.31 0.0269 0.0045

Saturn -31020-12-07 13:26 J -9608291.05 -9608290.94 -9608290.81 0.0269 0.0152

Mars -31019-03-02 09:21 J -9608206.22 -9608206.11 -9608206.00 0.1792 0.0830

Venus -31019-03-04 01:11 J -9608204.50 -9608204.45 -9608204.39 0.3779 0.3222

Saturn -31019-03-06 02:09 J -9608202.43 -9608202.41 -9608202.37 0.0269 0.0262

Moon -31018-05-19 06:14 J -9607763.33 -9607763.24 -9607763.14 0.2673 0.1638

Earth -31018-05-19 06:57 J -9607763.31 -9607763.21 -9607763.12 0.2679 0.1631 *

Jupiter -31018-12-31 16:19 J -9607536.98 -9607536.82 -9607536.65 0.0507 0.0087

Earth -31015-11-27 04:04 J -9606475.46 -9606475.33 -9606475.20 0.2658 0.0818

Moon -31015-11-27 04:04 J -9606475.45 -9606475.33 -9606475.20 0.2664 0.0782 *

Jupiter -31012-05-22 15:50 J -9605567.92 -9605567.84 -9605567.76 0.0523 0.0403

Earth -31012-05-28 12:43 J -9605562.03 -9605561.97 -9605561.90 0.2672 0.2264

Moon -31012-05-28 13:11 J -9605562.01 -9605561.95 -9605561.89 0.2678 0.2294 *

Jupiter -31012-08-20 00:57 J -9605478.59 -9605478.46 -9605478.33 0.0519 0.0188

Mars -31010-07-23 17:31 J -9604775.89 -9604775.77 -9604775.65 0.1786 0.0164

Mars -31009-06-06 03:35 J -9604457.37 -9604457.35 -9604457.32 0.1724 0.1688

Jupiter -31006-10-19 16:04 J -9603226.98 -9603226.83 -9603226.68 0.0506 0.0252

Jupiter -31005-01-17 17:31 J -9603136.84 -9603136.77 -9603136.69 0.0509 0.0445

Saturn -31005-01-18 17:16 J -9603135.91 -9603135.78 -9603135.63 0.0290 0.0160

Saturn -31005-04-16 13:26 J -9603047.11 -9603046.94 -9603046.77 0.0290 0.0002

Moon -31005-05-21 02:23 J -9603012.52 -9603012.40 -9603012.28 0.2677 0.0788

Earth -31005-05-21 03:21 J -9603012.48 -9603012.36 -9603012.24 0.2677 0.0648 *

Saturn -31005-07-14 08:52 J -9602958.27 -9602958.13 -9602957.99 0.0290 0.0153

Earth -31002-11-30 03:35 J -9601724.44 -9601724.35 -9601724.26 0.2660 0.1982

Moon -31002-11-30 04:19 J -9601724.40 -9601724.32 -9601724.24 0.2666 0.2038 *

Mars -31001-12-13 02:09 J -9601345.53 -9601345.41 -9601345.29 0.1780 0.0485

31ST MILLENNIUM BCE

This is a list of transits of Mercury in the 31st millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Jupiter -31000-06-08 03:21 J -9601168.49 -9601168.36 -9601168.22 0.0520 0.0032

Mars -31000-10-27 05:59 J -9601027.38 -9601027.25 -9601027.12 0.1730 0.0870

Moon -30995-11-22 08:38 J -9599175.25 -9599175.14 -9599175.02 0.2657 0.1420

Earth -30995-11-22 09:50 J -9599175.21 -9599175.09 -9599174.97 0.2655 0.1404 *

Jupiter -30994-08-07 15:07 J -9598916.96 -9598916.87 -9598916.78 0.0505 0.0425

Jupiter -30994-11-05 17:02 J -9598826.93 -9598826.79 -9598826.65 0.0509 0.0276

Moon -30992-05-23 23:16 J -9598261.65 -9598261.53 -9598261.41 0.2679 0.0377

Earth -30992-05-23 23:59 J -9598261.62 -9598261.50 -9598261.38 0.2675 0.0363 *

Mars -30991-05-05 10:47 J -9597915.14 -9597915.05 -9597914.96 0.1774 0.1112

Saturn -30991-08-04 03:35 J -9597824.45 -9597824.35 -9597824.25 0.0269 0.0190

Saturn -30991-10-31 15:35 J -9597735.98 -9597735.85 -9597735.71 0.0269 0.0086

Saturn -30990-01-28 04:04 J -9597647.48 -9597647.33 -9597647.19 0.0269 0.0022

Mars -30990-03-19 07:55 J -9597597.32 -9597597.17 -9597597.01 0.1736 0.0059

Saturn -30990-04-26 16:19 J -9597558.94 -9597558.82 -9597558.69 0.0269 0.0129

Saturn -30990-07-24 05:16 J -9597470.35 -9597470.28 -9597470.22 0.0269 0.0239

Uranus -30989-01-13 14:23 J -9597296.94 -9597296.90 -9597296.84 0.0144 0.0135

Mars -30989-04-10 01:26 J -9597209.50 -9597209.44 -9597209.39 0.1798 0.1597

Uranus -30989-04-10 18:57 J -9597208.80 -9597208.71 -9597208.62 0.0144 0.0111

Uranus -30989-07-07 23:16 J -9597120.64 -9597120.53 -9597120.41 0.0144 0.0088

Uranus -30989-10-04 03:50 J -9597032.47 -9597032.34 -9597032.21 0.0144 0.0063

Uranus -30989-12-31 08:09 J -9596944.29 -9596944.16 -9596944.01 0.0145 0.0039

Jupiter -30988-03-27 06:28 J -9596858.36 -9596858.23 -9596858.09 0.0521 0.0125

Uranus -30988-03-29 12:43 J -9596856.11 -9596855.97 -9596855.82 0.0145 0.0015

Jupiter -30988-06-24 16:04 J -9596768.88 -9596768.83 -9596768.77 0.0518 0.0471

Uranus -30988-06-25 17:16 J -9596767.92 -9596767.78 -9596767.63 0.0145 0.0012

Uranus -30988-09-21 21:50 J -9596679.72 -9596679.59 -9596679.44 0.0145 0.0036

Uranus -30988-12-19 02:38 J -9596591.52 -9596591.39 -9596591.26 0.0145 0.0061

Uranus -30987-03-17 07:26 J -9596503.31 -9596503.19 -9596503.07 0.0145 0.0086

Uranus -30987-06-13 11:59 J -9596415.09 -9596415.00 -9596414.90 0.0145 0.0112

Uranus -30987-09-09 16:47 J -9596326.84 -9596326.80 -9596326.75 0.0145 0.0138

Moon -30985-05-16 15:35 J -9595711.89 -9595711.85 -9595711.80 0.2673 0.2443

Earth -30985-05-16 15:50 J -9595711.89 -9595711.84 -9595711.79 0.2680 0.2415 *

Jupiter -30982-08-24 15:35 J -9594517.02 -9594516.85 -9594516.69 0.0507 0.0093

Mars -30982-09-25 19:55 J -9594484.70 -9594484.67 -9594484.65 0.1769 0.1709

Moon -30982-11-25 09:07 J -9594424.25 -9594424.12 -9594423.98 0.2662 0.0317

Earth -30982-11-25 10:04 J -9594424.22 -9594424.08 -9594423.95 0.2656 0.0178 *

Mars -30981-08-08 09:07 J -9594167.25 -9594167.12 -9594166.98 0.1742 0.0867

Mars -30980-08-31 09:07 J -9593779.22 -9593779.12 -9593779.01 0.1792 0.0902

Moon -30979-05-26 20:52 J -9593510.74 -9593510.63 -9593510.53 0.2680 0.1335

Earth -30979-05-26 20:52 J -9593510.73 -9593510.63 -9593510.52 0.2673 0.1404 *

Neptune -30978-12-22 14:09 J -9592935.97 -9592935.91 -9592935.82 0.0088 0.0081

Neptune -30977-03-19 17:31 J -9592847.87 -9592847.77 -9592847.67 0.0088 0.0071

Neptune -30977-06-15 20:09 J -9592759.77 -9592759.66 -9592759.52 0.0088 0.0063

Neptune -30977-09-11 23:16 J -9592671.66 -9592671.53 -9592671.38 0.0088 0.0054

Neptune -30977-12-09 02:23 J -9592583.55 -9592583.40 -9592583.24 0.0088 0.0045

Jupiter -30976-01-13 10:04 J -9592548.19 -9592548.08 -9592547.97 0.0523 0.0268

Neptune -30976-03-07 05:02 J -9592495.44 -9592495.29 -9592495.11 0.0088 0.0038

Jupiter -30976-04-12 19:26 J -9592458.80 -9592458.69 -9592458.58 0.0519 0.0326

Neptune -30976-06-03 08:09 J -9592407.32 -9592407.16 -9592406.98 0.0088 0.0028

Saturn -30976-06-06 19:11 J -9592403.82 -9592403.70 -9592403.57 0.0290 0.0191

Neptune -30976-08-30 11:16 J -9592319.20 -9592319.03 -9592318.85 0.0088 0.0019

Saturn -30976-09-03 15:21 J -9592315.03 -9592314.86 -9592314.70 0.0290 0.0032

Neptune -30976-11-26 14:09 J -9592231.08 -9592230.91 -9592230.73 0.0088 0.0011

Saturn -30976-12-01 10:47 J -9592226.20 -9592226.05 -9592225.90 0.0290 0.0125

Neptune -30975-02-22 17:16 J -9592142.96 -9592142.78 -9592142.60 0.0088 0.0003

Saturn -30975-02-28 05:45 J -9592137.30 -9592137.26 -9592137.21 0.0290 0.0276

Neptune -30975-05-21 20:09 J -9592054.84 -9592054.66 -9592054.48 0.0088 0.0007

Neptune -30975-08-17 23:02 J -9591966.72 -9591966.54 -9591966.36 0.0088 0.0015

Neptune -30975-11-14 01:55 J -9591878.59 -9591878.42 -9591878.25 0.0088 0.0023

Neptune -30974-02-10 04:33 J -9591790.47 -9591790.31 -9591790.13 0.0088 0.0032

Neptune -30974-05-09 07:40 J -9591702.34 -9591702.18 -9591702.02 0.0088 0.0040

Neptune -30974-08-05 10:04 J -9591614.21 -9591614.08 -9591613.91 0.0088 0.0050

Venus -30974-09-09 11:02 J -9591579.14 -9591579.04 -9591578.94 0.3781 0.1478

Neptune -30974-11-01 13:11 J -9591526.08 -9591525.95 -9591525.81 0.0088 0.0057

Neptune -30973-01-28 16:04 J -9591437.94 -9591437.83 -9591437.71 0.0088 0.0066

Neptune -30973-04-25 18:43 J -9591349.80 -9591349.72 -9591349.61 0.0088 0.0074

Neptune -30973-07-22 21:35 J -9591261.65 -9591261.60 -9591261.53 0.0088 0.0082

Moon -30972-05-19 11:16 J -9590961.13 -9590961.03 -9590960.93 0.2675 0.1515

Earth -30972-05-19 11:59 J -9590961.10 -9590961.00 -9590960.90 0.2678 0.1453 *

Mars -30970-01-21 17:45 J -9590348.89 -9590348.76 -9590348.64 0.1787 0.0244

Jupiter -30970-06-12 14:23 J -9590207.06 -9590206.90 -9590206.73 0.0506 0.0084

Venus -30970-09-09 23:16 J -9590117.64 -9590117.53 -9590117.41 0.3594 0.1888

Earth -30969-11-27 09:50 J -9589673.22 -9589673.09 -9589672.97 0.2658 0.1039

Moon -30969-11-27 09:50 J -9589673.20 -9589673.09 -9589672.97 0.2665 0.1128 *

Venus -30968-03-25 05:02 J -9589555.39 -9589555.29 -9589555.18 0.3780 0.1366

Earth -30966-05-29 17:59 J -9588759.79 -9588759.75 -9588759.70 0.2671 0.2467

Moon -30966-05-29 18:43 J -9588759.75 -9588759.72 -9588759.69 0.2676 0.2564 *

Jupiter -30965-11-01 13:55 J -9588238.00 -9588237.92 -9588237.84 0.0523 0.0409

Jupiter -30964-01-29 23:02 J -9588148.67 -9588148.54 -9588148.42 0.0520 0.0184

Venus -30964-03-25 23:16 J -9588093.64 -9588093.53 -9588093.42 0.3595 0.2124

Moon -30962-11-20 13:55 J -9587123.96 -9587123.92 -9587123.87 0.2650 0.2500

Earth -30962-11-20 15:07 J -9587123.92 -9587123.87 -9587123.82 0.2653 0.2447 *

Saturn -30962-12-22 05:59 J -9587092.33 -9587092.25 -9587092.17 0.0269 0.0218

Saturn -30961-03-19 17:45 J -9587003.88 -9587003.76 -9587003.63 0.0269 0.0115

Mars -30961-06-13 02:09 J -9586918.53 -9586918.41 -9586918.29 0.1780 0.0409

Saturn -30961-06-16 05:59 J -9586915.39 -9586915.25 -9586915.10 0.0269 0.0011

Saturn -30961-09-12 18:28 J -9586826.86 -9586826.73 -9586826.60 0.0269 0.0098

Saturn -30961-12-10 06:57 J -9586738.30 -9586738.21 -9586738.11 0.0269 0.0207

Mars -30960-04-27 06:28 J -9586600.35 -9586600.23 -9586600.10 0.1730 0.0974

Moon -30959-05-22 07:40 J -9586210.30 -9586210.18 -9586210.06 0.2677 0.0482

Earth -30959-05-22 08:38 J -9586210.26 -9586210.14 -9586210.02 0.2677 0.0461 *

Jupiter -30958-03-31 13:26 J -9585897.09 -9585896.94 -9585896.79 0.0506 0.0259

Jupiter -30958-06-29 14:52 J -9585806.96 -9585806.88 -9585806.79 0.0509 0.0437

Earth -30956-11-30 09:07 J -9584922.19 -9584922.12 -9584922.04 0.2660 0.2194

Moon -30956-11-30 09:50 J -9584922.15 -9584922.09 -9584922.02 0.2665 0.2239 *

Jupiter -30953-11-18 02:23 J -9583838.53 -9583838.40 -9583838.26 0.0520 0.0039

Mars -30952-11-03 10:47 J -9583488.14 -9583488.05 -9583487.95 0.1774 0.1038

Mars -30951-09-17 08:23 J -9583170.31 -9583170.15 -9583170.00 0.1736 0.0129

Mars -30950-10-10 01:26 J -9582782.49 -9582782.44 -9582782.40 0.1798 0.1672

Uranus -30949-02-29 21:35 J -9582639.67 -9582639.60 -9582639.51 0.0134 0.0120

Uranus -30949-05-28 03:07 J -9582551.48 -9582551.37 -9582551.24 0.0134 0.0096

Uranus -30949-08-24 08:52 J -9582463.27 -9582463.13 -9582462.98 0.0134 0.0072

Uranus -30949-11-20 14:23 J -9582375.05 -9582374.90 -9582374.73 0.0134 0.0049

Moon -30949-11-22 14:23 J -9582373.01 -9582372.90 -9582372.78 0.2658 0.1324

Earth -30949-11-22 15:35 J -9582372.97 -9582372.85 -9582372.73 0.2655 0.1174 *

Uranus -30948-02-16 20:09 J -9582286.83 -9582286.66 -9582286.50 0.0134 0.0025

Uranus -30948-05-16 01:26 J -9582198.61 -9582198.44 -9582198.27 0.0134 0.0003

Uranus -30948-08-12 06:57 J -9582110.38 -9582110.21 -9582110.04 0.0134 0.0021

Uranus -30948-11-08 11:59 J -9582022.15 -9582022.00 -9582021.83 0.0134 0.0044

Uranus -30947-02-04 17:31 J -9581933.91 -9581933.77 -9581933.62 0.0134 0.0066

Uranus -30947-05-03 22:47 J -9581845.68 -9581845.55 -9581845.42 0.0134 0.0088

Uranus -30947-07-31 03:50 J -9581757.43 -9581757.34 -9581757.24 0.0133 0.0110

Saturn -30947-10-24 17:16 J -9581671.87 -9581671.78 -9581671.69 0.0290 0.0247

Uranus -30947-10-27 08:52 J -9581669.14 -9581669.13 -9581669.09 0.0133 0.0132

Jupiter -30946-01-17 12:43 J -9581587.05 -9581586.97 -9581586.87 0.0505 0.0427

Saturn -30946-01-21 13:26 J -9581583.10 -9581582.94 -9581582.78 0.0290 0.0087

Jupiter -30946-04-17 14:52 J -9581497.02 -9581496.88 -9581496.74 0.0509 0.0274

Saturn -30946-04-20 09:07 J -9581494.28 -9581494.12 -9581493.95 0.0290 0.0071

Moon -30946-05-25 04:47 J -9581459.42 -9581459.30 -9581459.18 0.2680 0.0449

Earth -30946-05-25 05:16 J -9581459.40 -9581459.28 -9581459.16 0.2675 0.0558 *

Saturn -30946-07-18 04:33 J -9581405.42 -9581405.31 -9581405.21 0.0290 0.0223

Mars -30942-03-26 19:55 J -9580057.72 -9580057.67 -9580057.63 0.1768 0.1640

Mars -30941-02-07 09:50 J -9579740.23 -9579740.09 -9579739.95 0.1742 0.0765

Jupiter -30941-09-06 05:02 J -9579528.42 -9579528.29 -9579528.16 0.0521 0.0120

Jupiter -30941-12-04 14:38 J -9579438.94 -9579438.89 -9579438.84 0.0518 0.0474

Mars -30940-03-01 09:21 J -9579352.21 -9579352.11 -9579352.01 0.1792 0.0979

Moon -30939-05-17 20:52 J -9578909.70 -9578909.63 -9578909.57 0.2673 0.2205

Earth -30939-05-17 20:52 J -9578909.69 -9578909.63 -9578909.56 0.2680 0.2239 *

Moon -30936-11-25 15:07 J -9577622.01 -9577621.87 -9577621.74 0.2662 0.0111

Earth -30936-11-25 15:35 J -9577621.98 -9577621.85 -9577621.71 0.2657 0.0059 *

Jupiter -30934-02-03 14:09 J -9577187.07 -9577186.91 -9577186.74 0.0508 0.0104

Moon -30933-05-27 02:09 J -9576708.51 -9576708.41 -9576708.32 0.2680 0.1665

Earth -30933-05-27 02:09 J -9576708.51 -9576708.41 -9576708.31 0.2673 0.1598 *

Saturn -30932-05-10 08:38 J -9576360.19 -9576360.14 -9576360.08 0.0270 0.0243

Mars -30932-06-29 10:47 J -9576310.09 -9576310.05 -9576310.01 0.1748 0.1680

Saturn -30932-08-06 20:38 J -9576271.76 -9576271.64 -9576271.52 0.0270 0.0140

Saturn -30932-11-03 08:52 J -9576183.27 -9576183.13 -9576182.99 0.0270 0.0034

Saturn -30931-01-30 21:07 J -9576094.76 -9576094.62 -9576094.48 0.0270 0.0073

Saturn -30931-04-29 09:35 J -9576006.20 -9576006.10 -9576005.99 0.0270 0.0183

Mars -30931-07-22 17:31 J -9575921.89 -9575921.77 -9575921.64 0.1786 0.0316

Jupiter -30929-06-25 08:09 J -9575218.27 -9575218.16 -9575218.04 0.0522 0.0271

Jupiter -30929-09-22 17:31 J -9575128.88 -9575128.77 -9575128.66 0.0519 0.0322

Moon -30926-05-20 16:33 J -9574158.92 -9574158.81 -9574158.71 0.2675 0.1352

Earth -30926-05-20 17:16 J -9574158.89 -9574158.78 -9574158.67 0.2678 0.1268 *

Venus -30923-09-30 15:07 J -9572929.92 -9572929.87 -9572929.81 0.3782 0.3234

Jupiter -30923-11-22 12:28 J -9572877.14 -9572876.98 -9572876.81 0.0506 0.0081

Earth -30923-11-28 15:21 J -9572870.98 -9572870.86 -9572870.74 0.2659 0.1252

Moon -30923-11-28 15:35 J -9572870.97 -9572870.85 -9572870.73 0.2666 0.1202 *

Mars -30922-12-13 02:09 J -9572491.53 -9572491.41 -9572491.29 0.1781 0.0339

Mars -30921-10-26 06:57 J -9572173.33 -9572173.21 -9572173.09 0.1730 0.1074

Earth -30920-05-29 23:31 J -9571957.52 -9571957.52 -9571957.52 0.2671 0.2671

Saturn -30917-03-12 19:26 J -9570939.74 -9570939.69 -9570939.63 0.0290 0.0274

Jupiter -30917-04-13 11:31 J -9570908.09 -9570908.02 -9570907.93 0.0524 0.0418

Venus -30917-04-15 09:07 J -9570906.23 -9570906.12 -9570906.01 0.3781 0.0439

Saturn -30917-06-09 15:50 J -9570850.99 -9570850.84 -9570850.68 0.0290 0.0113

Jupiter -30917-07-11 20:38 J -9570818.76 -9570818.64 -9570818.51 0.0520 0.0175

Saturn -30917-09-06 11:45 J -9570762.18 -9570762.01 -9570761.85 0.0290 0.0045

Saturn -30917-12-04 06:57 J -9570673.33 -9570673.21 -9570673.09 0.0290 0.0199

Moon -30916-11-20 19:40 J -9570321.75 -9570321.68 -9570321.61 0.2652 0.2298

Earth -30916-11-20 20:52 J -9570321.71 -9570321.63 -9570321.56 0.2653 0.2215 *

Venus -30913-04-15 23:02 J -9569444.68 -9569444.54 -9569444.41 0.3594 0.0403

Moon -30913-05-22 12:57 J -9569408.08 -9569407.96 -9569407.84 0.2677 0.0394

Earth -30913-05-22 13:40 J -9569408.05 -9569407.93 -9569407.80 0.2676 0.0285 *

Mars -30912-05-04 11:02 J -9569061.15 -9569061.04 -9569060.94 0.1774 0.0963

Venus -30912-10-30 03:07 J -9568882.45 -9568882.37 -9568882.28 0.3780 0.2431

Mars -30911-03-18 08:52 J -9568743.28 -9568743.13 -9568742.98 0.1736 0.0224

Jupiter -30911-09-10 11:16 J -9568567.17 -9568567.03 -9568566.88 0.0505 0.0258

Jupiter -30911-12-09 12:57 J -9568477.05 -9568476.96 -9568476.88 0.0509 0.0437

Mars -30910-04-10 01:26 J -9568355.46 -9568355.44 -9568355.41 0.1799 0.1752

Earth -30910-12-01 14:38 J -9568119.94 -9568119.89 -9568119.83 0.2660 0.2407

Moon -30910-12-01 15:35 J -9568119.88 -9568119.85 -9568119.81 0.2664 0.2532 *

Venus -30908-10-30 22:47 J -9567420.56 -9567420.55 -9567420.53 0.3596 0.3560

Uranus -30905-02-02 22:04 J -9566595.65 -9566595.58 -9566595.52 0.0144 0.0128

Jupiter -30905-04-30 00:14 J -9566508.62 -9566508.49 -9566508.35 0.0521 0.0034

Uranus -30905-05-01 02:09 J -9566507.50 -9566507.41 -9566507.30 0.0144 0.0104

Uranus -30905-07-28 06:43 J -9566419.33 -9566419.22 -9566419.10 0.0144 0.0080

Uranus -30905-10-24 11:02 J -9566331.16 -9566331.04 -9566330.90 0.0144 0.0057

Uranus -30904-01-20 15:50 J -9566242.99 -9566242.84 -9566242.70 0.0144 0.0032

Uranus -30904-04-18 20:09 J -9566154.80 -9566154.66 -9566154.51 0.0145 0.0008

Uranus -30904-07-16 00:43 J -9566066.61 -9566066.47 -9566066.32 0.0145 0.0018

Uranus -30904-10-12 05:31 J -9565978.41 -9565978.27 -9565978.13 0.0145 0.0043

Uranus -30903-01-08 10:04 J -9565890.21 -9565890.08 -9565889.95 0.0145 0.0068

Uranus -30903-04-06 14:38 J -9565802.00 -9565801.89 -9565801.77 0.0145 0.0094

Uranus -30903-07-03 19:26 J -9565713.77 -9565713.69 -9565713.60 0.0145 0.0119

Mars -30903-09-24 19:55 J -9565630.73 -9565630.67 -9565630.62 0.1768 0.1569

Saturn -30903-09-27 11:16 J -9565628.03 -9565628.03 -9565628.02 0.0269 0.0268

Moon -30903-11-23 20:09 J -9565570.79 -9565570.66 -9565570.54 0.2658 0.0987

Earth -30903-11-23 21:21 J -9565570.74 -9565570.61 -9565570.49 0.2655 0.0952 *

Saturn -30903-12-24 23:16 J -9565539.64 -9565539.53 -9565539.42 0.0269 0.0166

Saturn -30902-03-23 11:16 J -9565451.17 -9565451.03 -9565450.89 0.0269 0.0061

Saturn -30902-06-19 23:31 J -9565362.66 -9565362.52 -9565362.37 0.0269 0.0046

Mars -30902-08-08 10:19 J -9565313.22 -9565313.07 -9565312.93 0.1742 0.0662

Saturn -30902-09-16 11:59 J -9565274.11 -9565274.00 -9565273.88 0.0269 0.0154

Saturn -30902-12-14 00:43 J -9565185.49 -9565185.47 -9565185.44 0.0269 0.0264

Mars -30901-08-30 09:21 J -9564925.20 -9564925.11 -9564925.01 0.1792 0.1061

Moon -30900-05-25 10:04 J -9564657.20 -9564657.08 -9564656.97 0.2681 0.0774

Earth -30900-05-25 10:33 J -9564657.18 -9564657.06 -9564656.94 0.2675 0.0749 *

Pluto -30899-05-17 12:43 J -9564300.01 -9564299.97 -9564299.89 0.0069 0.0064

Jupiter -30899-06-29 09:50 J -9564257.17 -9564257.09 -9564257.00 0.0505 0.0437

Pluto -30899-08-13 13:55 J -9564211.98 -9564211.92 -9564211.81 0.0069 0.0059

Jupiter -30899-09-27 11:59 J -9564167.14 -9564167.00 -9564166.85 0.0508 0.0265

Pluto -30899-11-09 15:35 J -9564123.95 -9564123.85 -9564123.73 0.0069 0.0052

Pluto -30898-02-05 16:47 J -9564035.91 -9564035.80 -9564035.66 0.0069 0.0046

Pluto -30898-05-04 18:28 J -9563947.86 -9563947.73 -9563947.59 0.0069 0.0039

Pluto -30898-07-31 19:40 J -9563859.81 -9563859.68 -9563859.52 0.0069 0.0033

Pluto -30898-10-27 21:07 J -9563771.76 -9563771.62 -9563771.46 0.0070 0.0026

Pluto -30897-01-23 22:47 J -9563683.71 -9563683.55 -9563683.39 0.0070 0.0019

Pluto -30897-04-20 23:59 J -9563595.66 -9563595.50 -9563595.33 0.0070 0.0013

Pluto -30897-07-18 01:26 J -9563507.60 -9563507.44 -9563507.27 0.0070 0.0006

Pluto -30897-10-14 03:07 J -9563419.54 -9563419.37 -9563419.21 0.0070 0.0002

Neptune -30897-12-29 03:35 J -9563343.39 -9563343.35 -9563343.32 0.0089 0.0086

Pluto -30896-01-10 04:19 J -9563331.48 -9563331.32 -9563331.15 0.0070 0.0008

Neptune -30896-03-27 04:47 J -9563255.35 -9563255.30 -9563255.23 0.0089 0.0079

Pluto -30896-04-08 05:59 J -9563243.42 -9563243.25 -9563243.09 0.0070 0.0015

Neptune -30896-06-23 06:14 J -9563167.31 -9563167.24 -9563167.15 0.0089 0.0073

Pluto -30896-07-05 07:26 J -9563155.35 -9563155.19 -9563155.03 0.0070 0.0022

Neptune -30896-09-19 07:55 J -9563079.26 -9563079.17 -9563079.07 0.0089 0.0066

Pluto -30896-10-01 08:52 J -9563067.28 -9563067.13 -9563066.98 0.0070 0.0029

Neptune -30896-12-16 09:35 J -9562991.20 -9562991.10 -9562990.99 0.0089 0.0059

Pluto -30896-12-28 10:19 J -9562979.21 -9562979.07 -9562978.92 0.0071 0.0036

Neptune -30895-03-14 11:16 J -9562903.15 -9562903.03 -9562902.92 0.0089 0.0052

Pluto -30895-03-26 11:45 J -9562891.13 -9562891.01 -9562890.87 0.0071 0.0043

Neptune -30895-06-10 12:28 J -9562815.09 -9562814.98 -9562814.85 0.0089 0.0045

Pluto -30895-06-22 13:11 J -9562803.06 -9562802.95 -9562802.82 0.0071 0.0050

Neptune -30895-09-06 14:09 J -9562727.03 -9562726.91 -9562726.78 0.0089 0.0038

Pluto -30895-09-18 14:52 J -9562714.97 -9562714.88 -9562714.78 0.0071 0.0057

Neptune -30895-12-03 15:50 J -9562638.97 -9562638.84 -9562638.71 0.0089 0.0031

Pluto -30895-12-15 16:04 J -9562626.88 -9562626.83 -9562626.74 0.0071 0.0065

Neptune -30894-03-01 17:16 J -9562550.91 -9562550.78 -9562550.64 0.0089 0.0024

Neptune -30894-05-28 18:57 J -9562462.84 -9562462.71 -9562462.57 0.0089 0.0017

Neptune -30894-08-24 20:38 J -9562374.78 -9562374.64 -9562374.50 0.0089 0.0010

Neptune -30894-11-20 22:19 J -9562286.71 -9562286.57 -9562286.43 0.0089 0.0004

Neptune -30893-02-16 23:45 J -9562198.65 -9562198.51 -9562198.37 0.0089 0.0004

Jupiter -30893-02-17 03:50 J -9562198.47 -9562198.34 -9562198.21 0.0522 0.0112 *

Neptune -30893-05-15 01:26 J -9562110.58 -9562110.44 -9562110.30 0.0089 0.0011

Jupiter -30893-05-16 13:11 J -9562108.99 -9562108.95 -9562108.90 0.0518 0.0484

Moon -30893-05-18 01:55 J -9562107.50 -9562107.42 -9562107.35 0.2674 0.2129

Earth -30893-05-18 02:09 J -9562107.49 -9562107.41 -9562107.34 0.2680 0.2061 *

Neptune -30893-08-11 02:52 J -9562022.51 -9562022.38 -9562022.23 0.0089 0.0018

Neptune -30893-11-07 04:33 J -9561934.44 -9561934.31 -9561934.17 0.0089 0.0025

Mars -30893-12-28 11:02 J -9561883.10 -9561883.04 -9561882.97 0.1748 0.1586

Neptune -30892-02-03 06:14 J -9561846.37 -9561846.24 -9561846.11 0.0089 0.0032

Neptune -30892-05-02 07:40 J -9561758.30 -9561758.18 -9561758.04 0.0089 0.0040

Neptune -30892-07-29 09:21 J -9561670.22 -9561670.11 -9561669.98 0.0089 0.0046

Neptune -30892-10-25 11:02 J -9561582.15 -9561582.04 -9561581.92 0.0089 0.0054

Mars -30891-01-20 17:45 J -9561494.88 -9561494.76 -9561494.64 0.1786 0.0387

Neptune -30891-01-21 12:43 J -9561494.07 -9561493.97 -9561493.86 0.0089 0.0061

Neptune -30891-04-19 14:09 J -9561405.99 -9561405.91 -9561405.81 0.0089 0.0068

Neptune -30891-07-16 15:50 J -9561317.90 -9561317.84 -9561317.75 0.0089 0.0075

Neptune -30891-10-12 17:31 J -9561229.81 -9561229.77 -9561229.71 0.0089 0.0082

Moon -30890-11-26 20:52 J -9560819.76 -9560819.63 -9560819.49 0.2663 0.0203

Earth -30890-11-26 21:21 J -9560819.75 -9560819.61 -9560819.48 0.2657 0.0288 *

Saturn -30888-10-27 13:55 J -9560119.05 -9560118.92 -9560118.77 0.0290 0.0168

Saturn -30887-01-24 10:04 J -9560030.25 -9560030.08 -9560029.91 0.0290 0.0009

Saturn -30887-04-23 05:31 J -9559941.41 -9559941.27 -9559941.12 0.0290 0.0147

Earth -30887-05-28 07:26 J -9559906.28 -9559906.19 -9559906.09 0.2673 0.1804

Moon -30887-05-28 07:40 J -9559906.27 -9559906.18 -9559906.09 0.2679 0.1752 *

Jupiter -30887-07-16 11:45 J -9559857.17 -9559857.01 -9559856.84 0.0508 0.0099

Mars -30882-06-13 02:09 J -9558064.53 -9558064.41 -9558064.29 0.1780 0.0265

Jupiter -30882-12-06 06:43 J -9557888.33 -9557888.22 -9557888.10 0.0522 0.0267

Jupiter -30881-03-04 15:50 J -9557798.94 -9557798.84 -9557798.73 0.0518 0.0325

Mars -30881-04-26 07:26 J -9557746.30 -9557746.19 -9557746.08 0.1730 0.1164

Moon -30880-05-20 21:35 J -9557356.71 -9557356.60 -9557356.49 0.2675 0.1122

Earth -30880-05-20 22:33 J -9557356.67 -9557356.56 -9557356.45 0.2678 0.1088 *

Earth -30877-11-28 20:52 J -9556068.74 -9556068.63 -9556068.52 0.2659 0.1468

Moon -30877-11-28 21:21 J -9556068.72 -9556068.61 -9556068.51 0.2665 0.1580 *

Jupiter -30875-05-04 11:02 J -9555547.21 -9555547.04 -9555546.87 0.0507 0.0073

Saturn -30873-05-13 01:40 J -9554807.52 -9554807.43 -9554807.32 0.0270 0.0193

Saturn -30873-08-09 13:55 J -9554719.06 -9554718.92 -9554718.79 0.0270 0.0088

Mars -30873-11-02 10:47 J -9554634.15 -9554634.05 -9554633.95 0.1774 0.0897

Saturn -30873-11-06 02:09 J -9554630.55 -9554630.41 -9554630.27 0.0270 0.0019

Saturn -30872-02-02 14:38 J -9554542.02 -9554541.89 -9554541.76 0.0270 0.0128

Saturn -30872-05-02 03:21 J -9554453.43 -9554453.36 -9554453.30 0.0270 0.0238

Mars -30872-09-16 09:35 J -9554316.26 -9554316.10 -9554315.95 0.1736 0.0332

Jupiter -30870-09-24 09:50 J -9553578.16 -9553578.09 -9553578.01 0.0523 0.0418

Moon -30870-11-22 01:26 J -9553519.52 -9553519.44 -9553519.36 0.2654 0.2114

Earth -30870-11-22 02:38 J -9553519.48 -9553519.39 -9553519.30 0.2654 0.1980 *

Jupiter -30870-12-22 18:57 J -9553488.84 -9553488.71 -9553488.58 0.0519 0.0172

Moon -30867-05-23 18:14 J -9552605.86 -9552605.74 -9552605.62 0.2678 0.0149

Earth -30867-05-23 18:57 J -9552605.83 -9552605.71 -9552605.59 0.2676 0.0097 *

Venus -30866-05-07 13:11 J -9552257.04 -9552256.95 -9552256.86 0.3782 0.2212

Uranus -30865-03-21 05:16 J -9551938.38 -9551938.28 -9551938.19 0.0134 0.0112

Uranus -30865-06-17 10:33 J -9551850.18 -9551850.06 -9551849.92 0.0134 0.0089

Uranus -30865-09-13 16:19 J -9551761.96 -9551761.82 -9551761.66 0.0134 0.0064

Uranus -30865-12-10 21:50 J -9551673.74 -9551673.59 -9551673.42 0.0134 0.0041

Uranus -30864-03-09 03:21 J -9551585.52 -9551585.36 -9551585.18 0.0134 0.0018

Uranus -30864-06-05 08:52 J -9551497.30 -9551497.13 -9551496.96 0.0134 0.0007

Uranus -30864-09-01 14:23 J -9551409.07 -9551408.90 -9551408.73 0.0134 0.0028

Uranus -30864-11-28 19:40 J -9551320.83 -9551320.68 -9551320.52 0.0134 0.0051

Earth -30864-12-01 20:09 J -9551317.67 -9551317.66 -9551317.64 0.2661 0.2620

Moon -30864-12-01 21:21 J -9551317.63 -9551317.61 -9551317.59 0.2663 0.2631

Jupiter -30863-02-20 09:07 J -9551237.26 -9551237.12 -9551236.97 0.0505 0.0258

Uranus -30863-02-25 00:43 J -9551232.60 -9551232.47 -9551232.32 0.0134 0.0074

Mars -30863-03-25 19:55 J -9551203.73 -9551203.67 -9551203.61 0.1769 0.1495

Jupiter -30863-05-21 10:47 J -9551147.13 -9551147.05 -9551146.96 0.0509 0.0438

Uranus -30863-05-24 05:59 J -9551144.35 -9551144.25 -9551144.12 0.0134 0.0096

Uranus -30863-08-20 11:16 J -9551056.10 -9551056.03 -9551055.94 0.0133 0.0118

Mars -30862-02-06 10:47 J -9550886.19 -9550886.05 -9550885.90 0.1742 0.0556

Venus -30862-05-07 22:33 J -9550795.63 -9550795.56 -9550795.49 0.3594 0.3019

Mars -30861-02-29 09:21 J -9550498.20 -9550498.11 -9550498.01 0.1792 0.1127

Venus -30861-11-20 07:11 J -9550233.31 -9550233.20 -9550233.09 0.3780 0.0608

Saturn -30858-03-16 16:33 J -9549386.93 -9549386.81 -9549386.68 0.0290 0.0194

Saturn -30858-06-13 12:43 J -9549298.14 -9549297.97 -9549297.81 0.0290 0.0034

Saturn -30858-09-10 08:09 J -9549209.30 -9549209.16 -9549209.01 0.0290 0.0123

Jupiter -30858-10-10 22:04 J -9549178.71 -9549178.58 -9549178.44 0.0521 0.0023

Saturn -30858-12-08 03:21 J -9549120.41 -9549120.36 -9549120.31 0.0290 0.0275

Venus -30857-11-20 22:47 J -9548771.68 -9548771.55 -9548771.42 0.3595 0.1070

Moon -30857-11-24 01:55 J -9548768.55 -9548768.42 -9548768.29 0.2659 0.0834

Earth -30857-11-24 02:52 J -9548768.51 -9548768.38 -9548768.25 0.2655 0.0720 *

Venus -30855-06-06 01:11 J -9548209.49 -9548209.45 -9548209.41 0.3779 0.3498

Moon -30854-05-26 15:21 J -9547854.98 -9547854.86 -9547854.75 0.2680 0.0856

Earth -30854-05-26 15:50 J -9547854.96 -9547854.84 -9547854.73 0.2674 0.0945 *

Mars -30853-06-28 11:45 J -9547456.09 -9547456.01 -9547455.93 0.1748 0.1479

Mars -30852-07-21 17:45 J -9547067.88 -9547067.76 -9547067.64 0.1786 0.0464

Jupiter -30852-12-09 07:55 J -9546927.26 -9546927.17 -9546927.09 0.0505 0.0436

Jupiter -30851-03-09 09:50 J -9546837.23 -9546837.09 -9546836.94 0.0508 0.0264

Moon -30847-05-19 06:43 J -9545305.30 -9545305.22 -9545305.13 0.2674 0.1850

Earth -30847-05-19 07:11 J -9545305.28 -9545305.20 -9545305.11 0.2679 0.1882 *

Jupiter -30846-07-30 01:40 J -9544868.56 -9544868.43 -9544868.30 0.0522 0.0120

Jupiter -30846-10-27 11:02 J -9544779.09 -9544779.04 -9544778.98 0.0518 0.0476

Saturn -30844-09-30 04:47 J -9544075.39 -9544075.30 -9544075.22 0.0269 0.0215

Moon -30844-11-27 02:38 J -9544017.52 -9544017.39 -9544017.26 0.2664 0.0550

Earth -30844-11-27 02:52 J -9544017.51 -9544017.38 -9544017.25 0.2657 0.0500 *

Saturn -30844-12-27 16:33 J -9543986.93 -9543986.81 -9543986.68 0.0269 0.0112

Saturn -30843-03-26 04:47 J -9543898.44 -9543898.30 -9543898.16 0.0269 0.0006

Saturn -30843-06-22 17:16 J -9543809.92 -9543809.78 -9543809.65 0.0269 0.0102

Saturn -30843-09-19 05:45 J -9543721.35 -9543721.26 -9543721.17 0.0269 0.0211

Mars -30843-12-12 02:09 J -9543637.53 -9543637.41 -9543637.29 0.1780 0.0193

Mars -30842-10-26 07:55 J -9543319.27 -9543319.17 -9543319.07 0.1730 0.1263

Earth -30841-05-28 12:43 J -9543104.05 -9543103.97 -9543103.89 0.2673 0.1998

Moon -30841-05-28 13:11 J -9543104.03 -9543103.95 -9543103.88 0.2679 0.2097 *

Jupiter -30840-12-26 08:52 J -9542527.29 -9542527.13 -9542526.96 0.0507 0.0088

Jupiter -30834-05-18 05:16 J -9540558.39 -9540558.28 -9540558.16 0.0523 0.0263

Moon -30834-05-22 02:52 J -9540554.50 -9540554.38 -9540554.27 0.2675 0.1015

Earth -30834-05-22 03:35 J -9540554.46 -9540554.35 -9540554.23 0.2678 0.0902 *

Jupiter -30834-08-15 14:38 J -9540469.00 -9540468.89 -9540468.79 0.0519 0.0331

Mars -30833-05-03 11:02 J -9540207.15 -9540207.04 -9540206.94 0.1774 0.0819

Mars -30832-03-17 09:50 J -9539889.24 -9539889.09 -9539888.94 0.1736 0.0423

Earth -30831-11-30 02:38 J -9539266.50 -9539266.39 -9539266.29 0.2659 0.1688

Moon -30831-11-30 03:07 J -9539266.47 -9539266.37 -9539266.27 0.2665 0.1656 *

Saturn -30829-08-02 15:07 J -9538654.96 -9538654.87 -9538654.78 0.0290 0.0246

Saturn -30829-10-30 11:16 J -9538566.19 -9538566.03 -9538565.87 0.0290 0.0086

Saturn -30828-01-27 07:11 J -9538477.36 -9538477.20 -9538477.04 0.0290 0.0072

Saturn -30828-04-26 02:23 J -9538388.50 -9538388.40 -9538388.30 0.0290 0.0225

Jupiter -30828-10-14 08:23 J -9538217.32 -9538217.15 -9538216.98 0.0507 0.0080

Mars -30824-09-23 19:55 J -9536776.74 -9536776.67 -9536776.60 0.1768 0.1428

Moon -30824-11-22 07:11 J -9536717.30 -9536717.20 -9536717.10 0.2655 0.1794

Earth -30824-11-22 08:23 J -9536717.25 -9536717.15 -9536717.05 0.2654 0.1750 *

Mars -30823-08-07 11:16 J -9536459.18 -9536459.03 -9536458.88 0.1742 0.0459

Jupiter -30822-03-06 08:23 J -9536248.23 -9536248.15 -9536248.07 0.0523 0.0415

Jupiter -30822-06-03 17:16 J -9536158.91 -9536158.78 -9536158.65 0.0519 0.0175

Mars -30822-08-30 09:35 J -9536071.19 -9536071.10 -9536071.01 0.1792 0.1208

Uranus -30822-11-27 01:11 J -9535982.45 -9535982.45 -9535982.45 0.0144 0.0144

Uranus -30821-02-23 05:31 J -9535894.35 -9535894.27 -9535894.20 0.0144 0.0121

Uranus -30821-05-21 09:35 J -9535806.20 -9535806.10 -9535805.99 0.0144 0.0097

Moon -30821-05-23 23:31 J -9535803.65 -9535803.52 -9535803.40 0.2680 0.0094

Earth -30821-05-24 00:14 J -9535803.61 -9535803.49 -9535803.37 0.2676 0.0106 *

Uranus -30821-08-17 14:09 J -9535718.03 -9535717.91 -9535717.78 0.0144 0.0073

Uranus -30821-11-13 18:28 J -9535629.86 -9535629.73 -9535629.59 0.0144 0.0049

Uranus -30820-02-09 23:02 J -9535541.68 -9535541.54 -9535541.39 0.0144 0.0025

Uranus -30820-05-09 03:35 J -9535453.49 -9535453.35 -9535453.20 0.0145 0.0002

Uranus -30820-08-05 08:09 J -9535365.30 -9535365.16 -9535365.01 0.0145 0.0025

Uranus -30820-11-01 12:43 J -9535277.10 -9535276.97 -9535276.83 0.0145 0.0050

Uranus -30819-01-28 17:31 J -9535188.90 -9535188.77 -9535188.65 0.0145 0.0075

Uranus -30819-04-26 22:04 J -9535100.68 -9535100.58 -9535100.47 0.0145 0.0101

Uranus -30819-07-24 02:38 J -9535012.45 -9535012.39 -9535012.31 0.0145 0.0127

Jupiter -30816-08-02 07:26 J -9533907.34 -9533907.19 -9533907.04 0.0506 0.0253

Jupiter -30816-10-31 09:07 J -9533817.19 -9533817.12 -9533817.04 0.0509 0.0445

Saturn -30814-02-17 06:57 J -9533343.26 -9533343.21 -9533343.15 0.0270 0.0245

Saturn -30814-05-16 18:57 J -9533254.83 -9533254.71 -9533254.59 0.0270 0.0141

Moon -30814-05-17 16:19 J -9533253.85 -9533253.82 -9533253.79 0.2674 0.2574

Earth -30814-05-17 16:19 J -9533253.83 -9533253.82 -9533253.81 0.2681 0.2659 *

Pluto -30814-07-18 17:16 J -9533191.78 -9533191.78 -9533191.78 0.0075 0.0075

Saturn -30814-08-13 07:11 J -9533166.34 -9533166.20 -9533166.06 0.0270 0.0035

Pluto -30814-10-14 18:14 J -9533103.79 -9533103.74 -9533103.66 0.0075 0.0068

Saturn -30814-11-09 19:26 J -9533077.83 -9533077.69 -9533077.55 0.0270 0.0073

Mars -30814-12-28 12:28 J -9533029.08 -9533028.98 -9533028.89 0.1748 0.1366

Pluto -30813-01-10 19:55 J -9533015.76 -9533015.67 -9533015.58 0.0075 0.0060

Saturn -30813-02-06 07:55 J -9532989.27 -9532989.17 -9532989.06 0.0270 0.0183

Pluto -30813-04-07 20:52 J -9532927.72 -9532927.63 -9532927.50 0.0075 0.0052

Neptune -30813-06-21 09:21 J -9532853.14 -9532853.11 -9532853.07 0.0088 0.0086

Pluto -30813-07-04 22:33 J -9532839.68 -9532839.56 -9532839.43 0.0075 0.0044

Neptune -30813-09-17 11:59 J -9532765.06 -9532765.00 -9532764.89 0.0088 0.0078

Pluto -30813-09-30 23:45 J -9532751.63 -9532751.51 -9532751.37 0.0075 0.0037

Neptune -30813-12-14 15:07 J -9532676.96 -9532676.87 -9532676.74 0.0088 0.0069

Pluto -30813-12-28 01:11 J -9532663.58 -9532663.45 -9532663.31 0.0075 0.0029

Mars -30812-01-19 17:45 J -9532640.88 -9532640.76 -9532640.65 0.1786 0.0531

Neptune -30812-03-12 18:14 J -9532588.86 -9532588.74 -9532588.60 0.0088 0.0060

Pluto -30812-03-26 02:23 J -9532575.54 -9532575.40 -9532575.25 0.0074 0.0022

Neptune -30812-06-08 21:21 J -9532500.75 -9532500.61 -9532500.46 0.0088 0.0051

Pluto -30812-06-22 03:50 J -9532487.49 -9532487.34 -9532487.19 0.0074 0.0014

Neptune -30812-09-05 00:28 J -9532412.64 -9532412.48 -9532412.32 0.0088 0.0043

Pluto -30812-09-18 05:02 J -9532399.43 -9532399.29 -9532399.13 0.0074 0.0007

Neptune -30812-12-02 03:21 J -9532324.52 -9532324.36 -9532324.19 0.0088 0.0034

Pluto -30812-12-15 06:28 J -9532311.38 -9532311.23 -9532311.08 0.0074 0.0001

Neptune -30811-02-28 06:14 J -9532236.40 -9532236.24 -9532236.06 0.0088 0.0026

Pluto -30811-03-13 07:40 J -9532223.33 -9532223.18 -9532223.03 0.0074 0.0008

Neptune -30811-05-27 09:21 J -9532148.28 -9532148.11 -9532147.93 0.0088 0.0017

Pluto -30811-06-09 08:52 J -9532135.27 -9532135.13 -9532134.98 0.0074 0.0015

Neptune -30811-08-23 12:14 J -9532060.16 -9532059.99 -9532059.81 0.0088 0.0008

Pluto -30811-09-05 10:04 J -9532047.22 -9532047.08 -9532046.93 0.0074 0.0022

Neptune -30811-11-19 15:21 J -9531972.04 -9531971.86 -9531971.68 0.0088 0.0002

Moon -30811-11-25 07:40 J -9531966.31 -9531966.18 -9531966.04 0.2660 0.0566

Earth -30811-11-25 08:38 J -9531966.27 -9531966.14 -9531966.01 0.2656 0.0493 *

Pluto -30811-12-02 11:16 J -9531959.16 -9531959.03 -9531958.89 0.0074 0.0029

Neptune -30810-02-15 18:14 J -9531883.92 -9531883.74 -9531883.56 0.0088 0.0009

Pluto -30810-02-28 12:14 J -9531871.10 -9531870.99 -9531870.85 0.0073 0.0037

Jupiter -30810-03-22 20:23 J -9531848.79 -9531848.65 -9531848.51 0.0520 0.0023

Neptune -30810-05-14 20:52 J -9531795.80 -9531795.63 -9531795.45 0.0088 0.0018

Pluto -30810-05-27 13:26 J -9531783.05 -9531782.94 -9531782.81 0.0073 0.0044

Neptune -30810-08-10 23:59 J -9531707.67 -9531707.50 -9531707.33 0.0088 0.0026

Pluto -30810-08-23 14:38 J -9531694.98 -9531694.89 -9531694.77 0.0073 0.0050

Neptune -30810-11-07 02:38 J -9531619.54 -9531619.39 -9531619.22 0.0088 0.0035

Pluto -30810-11-19 15:50 J -9531606.92 -9531606.84 -9531606.74 0.0073 0.0057

Venus -30810-12-12 11:16 J -9531584.14 -9531584.03 -9531583.93 0.3781 0.1192

Neptune -30809-02-03 05:31 J -9531531.42 -9531531.27 -9531531.11 0.0088 0.0043

Pluto -30809-02-15 17:16 J -9531518.85 -9531518.78 -9531518.71 0.0073 0.0063

Neptune -30809-05-01 08:38 J -9531443.29 -9531443.14 -9531443.00 0.0088 0.0052

Pluto -30809-05-13 18:14 J -9531430.77 -9531430.74 -9531430.70 0.0073 0.0070

Neptune -30809-07-28 11:02 J -9531355.15 -9531355.04 -9531354.89 0.0088 0.0061

Neptune -30809-10-24 14:09 J -9531267.02 -9531266.91 -9531266.79 0.0088 0.0068

Neptune -30808-01-20 16:33 J -9531178.87 -9531178.81 -9531178.70 0.0088 0.0077

Neptune -30808-04-18 19:26 J -9531090.71 -9531090.69 -9531090.63 0.0088 0.0086

Moon -30808-05-26 20:38 J -9531052.75 -9531052.64 -9531052.53 0.2680 0.1149

Earth -30808-05-26 21:07 J -9531052.73 -9531052.62 -9531052.51 0.2674 0.1141 *

Venus -30806-12-12 22:19 J -9530122.69 -9530122.57 -9530122.44 0.3594 0.1508

Jupiter -30804-05-21 05:31 J -9529597.35 -9529597.27 -9529597.18 0.0505 0.0437

Venus -30804-06-27 05:16 J -9529560.38 -9529560.28 -9529560.19 0.3780 0.1654

Jupiter -30804-08-19 07:55 J -9529507.32 -9529507.17 -9529507.03 0.0508 0.0264

Mars -30803-06-12 02:23 J -9529210.53 -9529210.40 -9529210.28 0.1780 0.0131

Mars -30802-04-26 08:38 J -9528892.24 -9528892.14 -9528892.05 0.1730 0.1367

Moon	-30801-05-19 11:45 J	-9528503.10	-9528503.01	-9528502.92	0.2674	0.1819
Earth	-30801-05-19 12:28 J	-9528503.07	-9528502.98	-9528502.89	0.2679	0.1702 *
Venus	-30800-06-27 22:33 J	-9528098.66	-9528098.56	-9528098.47	0.3595	0.2530
Saturn	-30800-12-20 17:16 J	-9527922.83	-9527922.78	-9527922.72	0.0290	0.0273
Saturn	-30799-03-19 13:40 J	-9527834.08	-9527833.93	-9527833.77	0.0290	0.0112
Saturn	-30799-06-16 09:35 J	-9527745.26	-9527745.10	-9527744.93	0.0290	0.0047
Saturn	-30799-09-13 05:02 J	-9527656.41	-9527656.29	-9527656.17	0.0290	0.0201
Jupiter	-30798-01-08 23:31 J	-9527538.65	-9527538.52	-9527538.39	0.0522	0.0129
Jupiter	-30798-04-08 08:52 J	-9527449.18	-9527449.13	-9527449.07	0.0518	0.0468
Moon	-30798-11-28 08:23 J	-9527215.28	-9527215.15	-9527215.02	0.2665	0.0670
Earth	-30798-11-28 08:38 J	-9527215.27	-9527215.14	-9527215.01	0.2658	0.0729 *
Earth	-30795-05-29 17:59 J	-9526301.81	-9526301.75	-9526301.68	0.2672	0.2203
Moon	-30795-05-29 18:28 J	-9526301.80	-9526301.73	-9526301.66	0.2679	0.2185 *
Mars	-30794-11-02 11:02 J	-9525780.15	-9525780.04	-9525779.93	0.1774	0.0746
Mars	-30793-09-15 10:19 J	-9525462.21	-9525462.07	-9525461.92	0.1736	0.0523
Jupiter	-30792-06-07 06:43 J	-9525197.38	-9525197.22	-9525197.05	0.0507	0.0089
Moon	-30788-05-22 07:55 J	-9523752.29	-9523752.17	-9523752.05	0.2676	0.0729
Earth	-30788-05-22 08:52 J	-9523752.25	-9523752.13	-9523752.01	0.2677	0.0717 *
Jupiter	-30787-10-28 03:07 J	-9523228.48	-9523228.37	-9523228.26	0.0523	0.0272
Jupiter	-30786-01-25 12:28 J	-9523139.09	-9523138.98	-9523138.88	0.0519	0.0323
Saturn	-30785-07-06 10:04 J	-9522611.10	-9522611.08	-9522611.06	0.0269	0.0265
Saturn	-30785-10-02 22:04 J	-9522522.69	-9522522.58	-9522522.47	0.0269	0.0163
Earth	-30785-11-30 08:09 J	-9522464.25	-9522464.16	-9522464.07	0.2659	0.1901
Moon	-30785-11-30 08:52 J	-9522464.22	-9522464.13	-9522464.05	0.2664	0.2027 *
Saturn	-30785-12-30 10:04 J	-9522434.22	-9522434.08	-9522433.94	0.0269	0.0058
Mars	-30784-03-24 19:55 J	-9522349.75	-9522349.67	-9522349.60	0.1768	0.1356
Saturn	-30784-03-28 22:19 J	-9522345.71	-9522345.57	-9522345.43	0.0269	0.0049
Saturn	-30784-06-25 10:47 J	-9522257.17	-9522257.05	-9522256.93	0.0269	0.0158
Saturn	-30784-09-21 23:31 J	-9522168.53	-9522168.52	-9522168.51	0.0269	0.0268
Mars	-30783-02-05 11:59 J	-9522032.16	-9522032.00	-9522031.85	0.1742	0.0355

Mars -30782-02-28 09:35 J -9521644.19 -9521644.10 -9521644.02 0.1792 0.1285

Uranus -30781-01-13 06:57 J -9521325.26 -9521325.21 -9521325.15 0.0135 0.0128

Uranus -30781-04-10 12:43 J -9521237.07 -9521236.97 -9521236.86 0.0134 0.0104

Uranus -30781-07-07 18:28 J -9521148.87 -9521148.73 -9521148.59 0.0134 0.0080

Uranus -30781-10-03 23:59 J -9521060.65 -9521060.50 -9521060.34 0.0134 0.0056

Uranus -30781-12-31 05:31 J -9520972.43 -9520972.27 -9520972.10 0.0134 0.0033

Jupiter -30780-03-26 05:31 J -9520887.44 -9520887.27 -9520887.10 0.0506 0.0090

Uranus -30780-03-29 11:02 J -9520884.21 -9520884.04 -9520883.87 0.0134 0.0010

Uranus -30780-06-25 16:33 J -9520795.98 -9520795.81 -9520795.64 0.0134 0.0014

Uranus -30780-09-21 21:50 J -9520707.75 -9520707.59 -9520707.42 0.0134 0.0037

Uranus -30780-12-19 03:07 J -9520619.51 -9520619.37 -9520619.21 0.0134 0.0060

Uranus -30779-03-17 08:23 J -9520531.27 -9520531.15 -9520531.01 0.0134 0.0082

Uranus -30779-06-13 13:40 J -9520443.03 -9520442.93 -9520442.82 0.0134 0.0104

Uranus -30779-09-09 18:57 J -9520354.76 -9520354.71 -9520354.65 0.0134 0.0126

Moon -30778-11-23 12:57 J -9519915.07 -9519914.96 -9519914.86 0.2655 0.1681

Earth -30778-11-23 14:09 J -9519915.02 -9519914.91 -9519914.80 0.2654 0.1515 *

Moon -30775-05-25 04:47 J -9519001.43 -9519001.30 -9519001.18 0.2680 0.0221

Earth -30775-05-25 05:31 J -9519001.39 -9519001.27 -9519001.15 0.2675 0.0300 *

Jupiter -30775-08-16 06:43 J -9518918.29 -9518918.22 -9518918.13 0.0524 0.0414

Jupiter -30775-11-13 15:50 J -9518828.97 -9518828.84 -9518828.71 0.0520 0.0178

Mars -30774-06-28 12:43 J -9518602.07 -9518601.97 -9518601.86 0.1748 0.1275

Mars -30773-07-20 17:45 J -9518213.87 -9518213.76 -9518213.64 0.1786 0.0612

Saturn -30770-08-06 12:14 J -9517102.12 -9517101.99 -9517101.84 0.0290 0.0164

Saturn -30770-11-03 08:23 J -9517013.32 -9517013.15 -9517012.98 0.0290 0.0005

Saturn -30769-01-31 03:50 J -9516924.47 -9516924.34 -9516924.19 0.0290 0.0152

Jupiter -30768-01-12 04:47 J -9516577.44 -9516577.30 -9516577.15 0.0506 0.0260

Jupiter -30768-04-12 06:43 J -9516487.30 -9516487.22 -9516487.14 0.0509 0.0438

Earth -30768-05-17 21:21 J -9516451.65 -9516451.61 -9516451.56 0.2681 0.2480

Moon -30768-05-17 21:21 J -9516451.64 -9516451.61 -9516451.57 0.2674 0.2518 *

Moon -30765-11-25 13:40 J -9515164.06 -9515163.93 -9515163.80 0.2662 0.0288

Earth -30765-11-25 14:23 J -9515164.04 -9515163.90 -9515163.77 0.2656 0.0273 *

Mars -30764-12-11 02:09 J -9514783.53 -9514783.41 -9514783.28 0.1780 0.0083

Jupiter -30763-09-01 18:57 J -9514518.85 -9514518.71 -9514518.58 0.0520 0.0028

Mars -30763-10-25 08:52 J -9514465.21 -9514465.13 -9514465.05 0.1730 0.1455

Moon -30762-05-28 02:09 J -9514250.52 -9514250.41 -9514250.30 0.2680 0.1319

Earth -30762-05-28 02:23 J -9514250.51 -9514250.40 -9514250.30 0.2674 0.1336 *

Venus -30758-01-02 15:21 J -9512934.93 -9512934.86 -9512934.80 0.3782 0.2938

Jupiter -30757-10-31 03:50 J -9512267.43 -9512267.34 -9512267.25 0.0505 0.0433

Jupiter -30756-01-29 05:59 J -9512177.39 -9512177.25 -9512177.10 0.0508 0.0270

Saturn -30755-02-19 23:59 J -9511790.59 -9511790.50 -9511790.40 0.0270 0.0194

Saturn -30755-05-19 11:59 J -9511702.13 -9511702.00 -9511701.86 0.0270 0.0090

Moon -30755-05-20 17:02 J -9511700.89 -9511700.79 -9511700.69 0.2674 0.1495

Earth -30755-05-20 17:45 J -9511700.86 -9511700.76 -9511700.67 0.2679 0.1522 *

Saturn -30755-08-16 00:14 J -9511613.63 -9511613.49 -9511613.35 0.0270 0.0017

Saturn -30755-11-12 12:43 J -9511525.10 -9511524.97 -9511524.84 0.0270 0.0126

Saturn -30754-02-09 01:26 J -9511436.51 -9511436.44 -9511436.37 0.0270 0.0236

Mars -30754-05-03 10:47 J -9511353.16 -9511353.05 -9511352.93 0.1774 0.0682

Mars -30753-03-16 11:02 J -9511035.18 -9511035.04 -9511034.90 0.1736 0.0631

Venus -30753-07-18 09:07 J -9510911.23 -9510911.12 -9510911.01 0.3781 0.0178

Moon -30752-11-28 14:09 J -9510413.03 -9510412.91 -9510412.79 0.2665 0.0971

Earth -30752-11-28 14:09 J -9510413.03 -9510412.91 -9510412.78 0.2658 0.0946 *

Jupiter -30751-06-20 22:04 J -9510208.71 -9510208.58 -9510208.45 0.0521 0.0125

Jupiter -30751-09-18 07:26 J -9510119.25 -9510119.19 -9510119.14 0.0518 0.0469

Earth -30749-05-29 23:31 J -9509499.58 -9509499.52 -9509499.47 0.2672 0.2402

Moon -30749-05-29 23:45 J -9509499.55 -9509499.51 -9509499.46 0.2678 0.2498 *

Venus -30749-07-18 22:04 J -9509449.72 -9509449.58 -9509449.44 0.3595 0.0027

Venus -30747-02-01 03:07 J -9508887.44 -9508887.37 -9508887.29 0.3780 0.2702

Mars -30745-09-22 19:55 J -9507922.75 -9507922.67 -9507922.59 0.1768 0.1282

Jupiter -30745-11-17 04:47 J -9507867.47 -9507867.30 -9507867.14 0.0507 0.0089

Earth -30745-11-20 19:11 J -9507863.73 -9507863.70 -9507863.67 0.2653 0.2571

Mars -30744-08-06 12:28 J -9507605.14 -9507604.98 -9507604.83 0.1742 0.0256

Mars -30743-08-29 09:35 J -9507217.18 -9507217.10 -9507217.02 0.1792 0.1358

Moon -30742-05-23 13:11 J -9506950.07 -9506949.95 -9506949.83 0.2678 0.0672

Earth -30742-05-23 13:55 J -9506950.03 -9506949.92 -9506949.80 0.2677 0.0538 *

Saturn -30741-12-23 14:23 J -9506370.02 -9506369.90 -9506369.77 0.0290 0.0192

Saturn -30740-03-22 10:47 J -9506281.22 -9506281.05 -9506280.89 0.0290 0.0031

Saturn -30740-06-19 06:14 J -9506192.38 -9506192.24 -9506192.09 0.0290 0.0127

Saturn -30740-09-16 01:40 J -9506103.48 -9506103.43 -9506103.39 0.0290 0.0279

Jupiter -30739-04-09 00:57 J -9505898.57 -9505898.46 -9505898.34 0.0523 0.0279

Jupiter -30739-07-07 10:19 J -9505809.18 -9505809.07 -9505808.96 0.0519 0.0316

Earth -30739-12-01 13:40 J -9505662.01 -9505661.93 -9505661.85 0.2660 0.2120

Moon -30739-12-01 14:38 J -9505661.97 -9505661.89 -9505661.81 0.2664 0.2135 *

Uranus -30738-12-17 08:38 J -9505281.18 -9505281.14 -9505281.09 0.0144 0.0136

Uranus -30737-03-14 12:57 J -9505193.04 -9505192.96 -9505192.87 0.0144 0.0112

Uranus -30737-06-10 17:16 J -9505104.89 -9505104.78 -9505104.66 0.0144 0.0089

Uranus -30737-09-06 21:35 J -9505016.72 -9505016.60 -9505016.46 0.0144 0.0065

Uranus -30737-12-04 02:09 J -9504928.54 -9504928.41 -9504928.27 0.0144 0.0041

Uranus -30736-03-02 06:43 J -9504840.36 -9504840.22 -9504840.08 0.0144 0.0016

Uranus -30736-05-29 11:16 J -9504752.18 -9504752.03 -9504751.89 0.0145 0.0008

Uranus -30736-08-25 15:35 J -9504663.98 -9504663.85 -9504663.70 0.0145 0.0034

Uranus -30736-11-21 20:23 J -9504575.78 -9504575.65 -9504575.52 0.0145 0.0058

Uranus -30735-02-18 00:57 J -9504487.58 -9504487.46 -9504487.34 0.0145 0.0084

Uranus -30735-05-17 05:31 J -9504399.36 -9504399.27 -9504399.17 0.0145 0.0109

Uranus -30735-08-13 10:04 J -9504311.12 -9504311.08 -9504311.01 0.0145 0.0135

Mars -30735-12-27 13:26 J -9504175.06 -9504174.94 -9504174.82 0.1748 0.1163

Mars -30733-01-19 17:59 J -9503786.87 -9503786.75 -9503786.64 0.1786 0.0689

Jupiter -30733-09-05 03:35 J -9503557.52 -9503557.35 -9503557.18 0.0506 0.0087

Neptune -30732-09-25 02:09 J -9503172.44 -9503172.41 -9503172.35 0.0089 0.0085

Moon -30732-11-23 18:43 J -9503112.84 -9503112.72 -9503112.60 0.2656 0.1306

Earth -30732-11-23 19:55 J -9503112.79 -9503112.67 -9503112.55 0.2654 0.1290 *

Neptune -30732-12-22 03:50 J -9503084.40 -9503084.34 -9503084.27 0.0089 0.0077

Neptune -30731-03-20 05:31 J -9502996.35 -9502996.27 -9502996.19 0.0089 0.0070

Neptune -30731-06-16 07:11 J -9502908.30 -9502908.20 -9502908.11 0.0089 0.0064

Neptune -30731-09-12 08:23 J -9502820.25 -9502820.15 -9502820.03 0.0089 0.0057

Neptune -30731-12-09 09:50 J -9502732.19 -9502732.09 -9502731.96 0.0089 0.0051

Neptune -30730-03-07 11:31 J -9502644.13 -9502644.02 -9502643.89 0.0089 0.0043

Neptune -30730-06-03 13:11 J -9502556.08 -9502555.95 -9502555.82 0.0089 0.0036

Neptune -30730-08-30 14:38 J -9502468.01 -9502467.89 -9502467.75 0.0089 0.0030

Neptune -30730-11-26 16:19 J -9502379.95 -9502379.82 -9502379.68 0.0089 0.0022

Neptune -30729-02-22 17:59 J -9502291.89 -9502291.75 -9502291.61 0.0089 0.0015

Neptune -30729-05-20 19:26 J -9502203.83 -9502203.69 -9502203.55 0.0089 0.0009

Moon -30729-05-25 09:50 J -9502199.21 -9502199.09 -9502198.97 0.2680 0.0475

Earth -30729-05-25 10:47 J -9502199.18 -9502199.05 -9502198.93 0.2675 0.0497 *

Neptune -30729-08-16 21:07 J -9502115.76 -9502115.62 -9502115.48 0.0089 0.0001

Neptune -30729-11-12 22:47 J -9502027.69 -9502027.55 -9502027.41 0.0089 0.0006

Neptune -30728-02-09 00:14 J -9501939.63 -9501939.49 -9501939.35 0.0089 0.0013

Neptune -30728-05-08 01:55 J -9501851.56 -9501851.42 -9501851.28 0.0089 0.0020

Neptune -30728-08-04 03:21 J -9501763.49 -9501763.36 -9501763.22 0.0089 0.0027

Neptune -30728-10-31 05:02 J -9501675.42 -9501675.29 -9501675.15 0.0089 0.0034

Jupiter -30727-01-26 04:33 J -9501588.38 -9501588.31 -9501588.23 0.0524 0.0422

Neptune -30727-01-27 06:43 J -9501587.34 -9501587.22 -9501587.09 0.0089 0.0041

Neptune -30727-04-25 08:09 J -9501499.27 -9501499.16 -9501499.03 0.0089 0.0048

Jupiter -30727-04-25 13:40 J -9501499.06 -9501498.93 -9501498.80 0.0520 0.0171 *

Neptune -30727-07-22 09:50 J -9501411.19 -9501411.09 -9501410.97 0.0089 0.0055

Neptune -30727-10-18 11:31 J -9501323.11 -9501323.02 -9501322.91 0.0089 0.0062

Neptune -30726-01-14 13:11 J -9501235.03 -9501234.95 -9501234.86 0.0089 0.0070

Neptune -30726-04-12 14:38 J -9501146.95 -9501146.89 -9501146.80 0.0089 0.0077

Neptune -30726-07-09 16:19 J -9501058.85 -9501058.82 -9501058.76 0.0089 0.0084

Saturn -30726-07-10 03:07 J -9501058.45 -9501058.37 -9501058.28 0.0269 0.0215

Saturn -30726-10-06 15:07 J -9500970.00 -9500969.87 -9500969.74 0.0269 0.0111

Saturn -30725-01-03 03:21 J -9500881.51 -9500881.36 -9500881.22 0.0269 0.0009

Saturn -30725-03-31 15:35 J -9500792.98 -9500792.85 -9500792.72 0.0269 0.0103

Saturn -30725-06-28 04:04 J -9500704.41 -9500704.33 -9500704.24 0.0269 0.0212

Mars -30724-06-11 02:23 J -9500356.52 -9500356.40 -9500356.28 0.1780 0.0046

Mars -30723-04-25 09:21 J -9500038.17 -9500038.11 -9500038.04 0.1730 0.1557

Moon -30722-05-19 02:23 J -9499649.46 -9499649.40 -9499649.34 0.2674 0.2288

Earth -30722-05-19 02:38 J -9499649.45 -9499649.39 -9499649.33 0.2680 0.2305 *

Jupiter -30721-06-24 02:09 J -9499247.55 -9499247.41 -9499247.26 0.0505 0.0267

Jupiter -30721-09-22 03:50 J -9499157.42 -9499157.34 -9499157.25 0.0509 0.0430

Moon -30719-11-26 19:26 J -9498361.83 -9498361.69 -9498361.56 0.2663 0.0140

Earth -30719-11-26 19:55 J -9498361.80 -9498361.67 -9498361.53 0.2656 0.0083 *

Moon -30716-05-28 07:40 J -9497448.28 -9497448.18 -9497448.08 0.2680 0.1523

Earth -30716-05-28 07:40 J -9497448.28 -9497448.18 -9497448.08 0.2673 0.1536 *

Jupiter -30715-02-11 17:16 J -9497188.91 -9497188.78 -9497188.64 0.0521 0.0028

Mars -30715-11-01 11:02 J -9496926.16 -9496926.04 -9496925.93 0.1774 0.0603

Mars -30714-09-15 11:16 J -9496608.17 -9496608.03 -9496607.89 0.1736 0.0718

Saturn -30711-05-12 13:11 J -9495638.04 -9495637.95 -9495637.86 0.0290 0.0244

Saturn -30711-08-09 09:21 J -9495549.27 -9495549.11 -9495548.95 0.0290 0.0083

Saturn -30711-11-06 05:16 J -9495460.44 -9495460.28 -9495460.12 0.0290 0.0075

Saturn -30710-02-03 00:28 J -9495371.57 -9495371.48 -9495371.38 0.0290 0.0229

Jupiter -30709-04-12 01:26 J -9494937.53 -9494937.44 -9494937.36 0.0505 0.0438

Moon -30709-05-20 22:04 J -9494898.68 -9494898.58 -9494898.48 0.2674 0.1450

Earth -30709-05-20 22:47 J -9494898.65 -9494898.55 -9494898.44 0.2679 0.1333 *

Jupiter -30709-07-11 03:35 J -9494847.49 -9494847.35 -9494847.21 0.0508 0.0264

Earth -30706-11-29 19:55 J -9493610.79 -9493610.67 -9493610.55 0.2658 0.1168

Moon -30706-11-29 20:09 J -9493610.78 -9493610.66 -9493610.55 0.2664 0.1195 *

Mars -30705-03-23 19:55 J -9493495.76 -9493495.67 -9493495.58 0.1768 0.1213

Mars -30704-02-04 12:57 J -9493178.11 -9493177.96 -9493177.80 0.1742 0.0148

Jupiter -30704-11-30 20:38 J -9492878.78 -9492878.64 -9492878.51 0.0521 0.0122

Mars -30703-02-27 09:35 J -9492790.17 -9492790.10 -9492790.02 0.1792 0.1437

Jupiter -30703-02-28 05:45 J -9492789.31 -9492789.26 -9492789.20 0.0518 0.0473

Earth -30703-05-31 04:47 J -9492697.33 -9492697.30 -9492697.28 0.2672 0.2603

Moon -30703-05-31 05:16 J -9492697.30 -9492697.28 -9492697.26 0.2677 0.2627 *

Venus -30702-08-09 13:11 J -9492262.04 -9492261.95 -9492261.85 0.3782 0.1931

Moon -30699-11-21 23:45 J -9491061.57 -9491061.51 -9491061.45 0.2651 0.2354

Earth -30699-11-22 00:57 J -9491061.52 -9491061.46 -9491061.39 0.2653 0.2341 *

Venus -30698-08-09 21:35 J -9490800.69 -9490800.60 -9490800.51 0.3594 0.2674

Uranus -30697-02-02 14:09 J -9490623.98 -9490623.91 -9490623.83 0.0135 0.0121

Jupiter -30697-04-29 02:52 J -9490537.54 -9490537.38 -9490537.21 0.0507 0.0094

Uranus -30697-04-30 19:55 J -9490535.79 -9490535.67 -9490535.55 0.0134 0.0097

Uranus -30697-07-28 01:26 J -9490447.58 -9490447.44 -9490447.29 0.0134 0.0073

Uranus -30697-10-24 07:11 J -9490359.36 -9490359.20 -9490359.04 0.0134 0.0049

Saturn -30697-11-26 04:47 J -9490326.34 -9490326.30 -9490326.24 0.0270 0.0250

Uranus -30696-01-20 12:43 J -9490271.14 -9490270.97 -9490270.80 0.0134 0.0026

Venus -30696-02-22 07:11 J -9490238.31 -9490238.20 -9490238.10 0.3781 0.0867

Saturn -30696-02-22 16:47 J -9490237.92 -9490237.80 -9490237.68 0.0270 0.0146

Uranus -30696-04-18 18:14 J -9490182.91 -9490182.74 -9490182.57 0.0134 0.0003

Saturn -30696-05-22 04:47 J -9490149.44 -9490149.30 -9490149.15 0.0270 0.0041

Moon -30696-05-23 18:28 J -9490147.86 -9490147.73 -9490147.61 0.2679 0.0353

Earth -30696-05-23 19:11 J -9490147.82 -9490147.70 -9490147.58 0.2677 0.0348 *

Uranus -30696-07-15 23:45 J -9490094.68 -9490094.51 -9490094.34 0.0134 0.0021

Saturn -30696-08-18 17:02 J -9490060.92 -9490060.79 -9490060.64 0.0270 0.0068

Uranus -30696-10-12 05:02 J -9490006.45 -9490006.29 -9490006.13 0.0134 0.0044

Saturn -30696-11-15 05:45 J -9489972.37 -9489972.26 -9489972.15 0.0270 0.0177

Uranus -30695-01-08 10:19 J -9489918.21 -9489918.07 -9489917.92 0.0134 0.0066

Uranus -30695-04-06 15:35 J -9489829.97 -9489829.85 -9489829.72 0.0134 0.0089

Mars -30695-06-27 14:09 J -9489748.04 -9489747.91 -9489747.79 0.1748 0.1055

Uranus -30695-07-03 20:52 J -9489741.71 -9489741.63 -9489741.53 0.0134 0.0111

Uranus -30695-09-30 01:55 J -9489653.42 -9489653.42 -9489653.39 0.0134 0.0133

Mars -30694-07-20 17:45 J -9489359.87 -9489359.76 -9489359.65 0.1786 0.0759

Earth -30693-12-01 19:11 J -9488859.76 -9488859.70 -9488859.63 0.2660 0.2335

Moon -30693-12-01 20:09 J -9488859.71 -9488859.66 -9488859.61 0.2665 0.2452 *

Venus -30692-02-22 21:50 J -9488776.71 -9488776.59 -9488776.47 0.3595 0.1449

Jupiter -30692-09-18 23:45 J -9488568.62 -9488568.51 -9488568.39 0.0522 0.0271

Jupiter -30692-12-17 08:52 J -9488479.23 -9488479.13 -9488479.02 0.0519 0.0321

Venus -30691-09-08 01:11 J -9488214.45 -9488214.45 -9488214.44 0.3780 0.3767

Moon -30686-11-25 00:28 J -9486310.60 -9486310.48 -9486310.36 0.2658 0.1222

Earth -30686-11-25 01:26 J -9486310.56 -9486310.44 -9486310.31 0.2655 0.1058 *

Jupiter -30685-02-16 01:40 J -9486227.60 -9486227.43 -9486227.26 0.0506 0.0085

Mars -30685-12-10 02:23 J -9485929.52 -9485929.40 -9485929.28 0.1780 0.0109

Mars -30684-10-24 09:50 J -9485611.13 -9485611.09 -9485611.05 0.1730 0.1654

Moon -30683-05-26 15:21 J -9485396.98 -9485396.86 -9485396.74 0.2680 0.0580

Earth -30683-05-26 15:50 J -9485396.95 -9485396.84 -9485396.72 0.2675 0.0691 *

Saturn -30682-09-29 14:38 J -9484905.94 -9484905.89 -9484905.84 0.0290 0.0277

Saturn -30682-12-27 11:02 J -9484817.19 -9484817.04 -9484816.88 0.0291 0.0114

Saturn -30681-03-25 06:57 J -9484728.37 -9484728.21 -9484728.04 0.0291 0.0045

Saturn -30681-06-22 02:23 J -9484639.51 -9484639.40 -9484639.28 0.0290 0.0201

Jupiter -30680-07-08 02:38 J -9484258.46 -9484258.39 -9484258.31 0.0524 0.0426

Jupiter -30680-10-05 11:45 J -9484169.14 -9484169.01 -9484168.88 0.0520 0.0166

Moon -30676-05-19 07:26 J -9482847.26 -9482847.19 -9482847.12 0.2673 0.2151

Earth -30676-05-19 07:40 J -9482847.25 -9482847.18 -9482847.11 0.2680 0.2124 *

Mars -30675-05-02 11:02 J -9482499.15 -9482499.04 -9482498.92 0.1774 0.0526

Mars -30674-03-16 11:59 J -9482181.14 -9482181.00 -9482180.87 0.1736 0.0824

Jupiter -30674-12-05 00:28 J -9481917.62 -9481917.48 -9481917.33 0.0505 0.0261

Jupiter -30673-03-04 02:09 J -9481827.49 -9481827.41 -9481827.32 0.0508 0.0435

Moon -30673-11-27 00:57 J -9481559.59 -9481559.46 -9481559.32 0.2663 0.0221

Earth -30673-11-27 01:40 J -9481559.57 -9481559.43 -9481559.30 0.2656 0.0184 *

Earth -30670-05-29 12:43 J -9480646.06 -9480645.97 -9480645.87 0.2673 0.1731

Moon -30670-05-29 12:57 J -9480646.05 -9480645.96 -9480645.87 0.2680 0.1777 *

Jupiter -30668-07-24 15:07 J -9479859.00 -9479858.87 -9479858.73 0.0521 0.0027

Saturn -30667-04-15 08:09 J -9479594.16 -9479594.16 -9479594.16 0.0269 0.0269

Saturn -30667-07-12 19:55 J -9479505.78 -9479505.67 -9479505.56 0.0269 0.0166

Saturn -30667-10-09 07:55 J -9479417.31 -9479417.17 -9479417.03 0.0269 0.0062

Saturn -30666-01-05 20:09 J -9479328.80 -9479328.66 -9479328.52 0.0269 0.0045

Saturn -30666-04-04 08:23 J -9479240.26 -9479240.15 -9479240.02 0.0269 0.0154

Saturn -30666-07-01 21:07 J -9479151.64 -9479151.62 -9479151.59 0.0269 0.0264

Mars -30666-09-22 19:55 J -9479068.76 -9479068.67 -9479068.58 0.1768 0.1142

Mars -30665-08-05 13:26 J -9478751.10 -9478750.94 -9478750.78 0.1742 0.0049

Mars -30664-08-28 09:50 J -9478363.16 -9478363.09 -9478363.03 0.1792 0.1516

Moon -30663-05-22 03:07 J -9478096.47 -9478096.37 -9478096.26 0.2675 0.1170

Earth -30663-05-22 04:04 J -9478096.44 -9478096.33 -9478096.22 0.2678 0.1153 *

Jupiter -30662-09-22 23:02 J -9477607.62 -9477607.54 -9477607.46 0.0504 0.0442

Jupiter -30662-12-22 01:11 J -9477517.59 -9477517.45 -9477517.31 0.0508 0.0259

Earth -30660-11-30 01:26 J -9476808.55 -9476808.44 -9476808.33 0.2658 0.1388

Moon -30660-11-30 01:55 J -9476808.53 -9476808.42 -9476808.31 0.2665 0.1391 *

Mars -30656-02-12 05:02 J -9475638.31 -9475638.29 -9475638.27 0.1762 0.1734

Jupiter -30656-05-12 18:57 J -9475548.84 -9475548.71 -9475548.58 0.0522 0.0120

Jupiter -30656-08-10 04:19 J -9475459.37 -9475459.32 -9475459.27 0.0519 0.0476

Mars -30656-12-26 14:23 J -9475321.03 -9475320.90 -9475320.77 0.1748 0.0961

Mars -30654-01-18 17:59 J -9474932.86 -9474932.75 -9474932.65 0.1786 0.0834

Uranus -30653-01-06 16:19 J -9474579.87 -9474579.82 -9474579.74 0.0144 0.0127

Uranus -30653-04-03 20:52 J -9474491.73 -9474491.63 -9474491.53 0.0144 0.0103

Uranus -30653-07-01 00:57 J -9474403.57 -9474403.46 -9474403.33 0.0144 0.0081

Uranus -30653-09-27 05:31 J -9474315.40 -9474315.27 -9474315.13 0.0144 0.0056

Moon -30653-11-22 05:31 J -9474259.34 -9474259.27 -9474259.20 0.2651 0.2268

Earth -30653-11-22 06:43 J -9474259.30 -9474259.22 -9474259.14 0.2653 0.2106 *

Uranus -30653-12-24 10:04 J -9474227.22 -9474227.08 -9474226.94 0.0144 0.0032

Uranus -30652-03-22 14:38 J -9474139.04 -9474138.89 -9474138.75 0.0144 0.0008

Saturn -30652-05-15 09:35 J -9474085.23 -9474085.10 -9474084.96 0.0290 0.0167

Uranus -30652-06-18 18:57 J -9474050.85 -9474050.71 -9474050.56 0.0145 0.0018

Saturn -30652-08-12 05:45 J -9473996.43 -9473996.26 -9473996.09 0.0290 0.0007

Uranus -30652-09-14 23:31 J -9473962.66 -9473962.52 -9473962.38 0.0145 0.0042

Saturn -30652-11-09 01:11 J -9473907.58 -9473907.45 -9473907.30 0.0290 0.0151

Uranus -30652-12-12 04:04 J -9473874.45 -9473874.33 -9473874.20 0.0145 0.0067

Pluto -30652-12-18 22:04 J -9473867.58 -9473867.58 -9473867.58 0.0069 0.0069

Uranus -30651-03-10 08:38 J -9473786.24 -9473786.14 -9473786.02 0.0145 0.0093

Pluto -30651-03-16 23:02 J -9473779.59 -9473779.54 -9473779.46 0.0069 0.0063

Uranus -30651-06-06 13:26 J -9473698.02 -9473697.94 -9473697.85 0.0145 0.0118

Pluto -30651-06-13 00:28 J -9473691.56 -9473691.48 -9473691.37 0.0069 0.0057

Venus -30651-08-30 17:31 J -9473612.80 -9473612.77 -9473612.75 0.3782 0.3657

Uranus -30651-09-02 17:59 J -9473609.75 -9473609.75 -9473609.72 0.0145 0.0144

Pluto -30651-09-09 01:40 J -9473603.52 -9473603.43 -9473603.30 0.0069 0.0051

Pluto -30651-12-06 03:21 J -9473515.48 -9473515.36 -9473515.23 0.0069 0.0044

Pluto -30650-03-04 04:33 J -9473427.44 -9473427.31 -9473427.16 0.0069 0.0038

Moon -30650-05-24 23:31 J -9473345.64 -9473345.52 -9473345.40 0.2678 0.0303

Earth -30650-05-25 00:28 J -9473345.60 -9473345.48 -9473345.36 0.2677 0.0150 *

Pluto -30650-05-31 05:59 J -9473339.39 -9473339.25 -9473339.09 0.0070 0.0031

Pluto -30650-08-27 07:40 J -9473251.34 -9473251.18 -9473251.02 0.0070 0.0024

Jupiter -30650-10-10 00:43 J -9473207.64 -9473207.47 -9473207.30 0.0507 0.0091

Pluto -30650-11-23 08:52 J -9473163.28 -9473163.13 -9473162.96 0.0070 0.0018

Pluto -30649-02-19 10:19 J -9473075.23 -9473075.07 -9473074.90 0.0070 0.0011

Pluto -30649-05-17 11:59 J -9472987.17 -9472987.00 -9472986.84 0.0070 0.0004

Pluto -30649-08-13 13:26 J -9472899.11 -9472898.94 -9472898.77 0.0070 0.0003

Pluto -30649-11-09 14:38 J -9472811.05 -9472810.89 -9472810.72 0.0070 0.0011

Pluto -30648-02-05 16:19 J -9472722.98 -9472722.82 -9472722.66 0.0070 0.0017

Neptune -30648-03-18 07:26 J -9472682.23 -9472682.19 -9472682.12 0.0088 0.0083

Pluto -30648-05-04 17:45 J -9472634.92 -9472634.76 -9472634.60 0.0071 0.0024

Neptune -30648-06-14 10:33 J -9472594.14 -9472594.06 -9472593.95 0.0088 0.0074

Pluto -30648-07-31 19:11 J -9472546.85 -9472546.70 -9472546.54 0.0071 0.0031

Neptune -30648-09-10 13:55 J -9472506.04 -9472505.92 -9472505.80 0.0088 0.0065

Pluto -30648-10-27 20:38 J -9472458.77 -9472458.64 -9472458.49 0.0071 0.0038

Neptune -30648-12-07 16:33 J -9472417.93 -9472417.81 -9472417.66 0.0088 0.0057

Pluto -30647-01-23 22:19 J -9472370.70 -9472370.57 -9472370.44 0.0071 0.0045

Neptune -30647-03-05 19:40 J -9472329.82 -9472329.68 -9472329.52 0.0088 0.0048

Pluto -30647-04-21 23:16 J -9472282.62 -9472282.53 -9472282.39 0.0071 0.0053

Neptune -30647-06-01 22:47 J -9472241.71 -9472241.55 -9472241.38 0.0088 0.0039

Pluto -30647-07-19 00:57 J -9472194.53 -9472194.46 -9472194.35 0.0071 0.0060

Neptune -30647-08-29 01:55 J -9472153.59 -9472153.42 -9472153.25 0.0088 0.0030

Pluto -30647-10-15 02:38 J -9472106.43 -9472106.39 -9472106.32 0.0071 0.0067

Neptune -30647-11-25 04:47 J -9472065.47 -9472065.30 -9472065.12 0.0088 0.0022

Earth -30647-12-03 00:57 J -9472057.50 -9472057.46 -9472057.43 0.2660 0.2550

Moon -30647-12-03 01:55 J -9472057.45 -9472057.42 -9472057.40 0.2664 0.2600 *

Neptune -30646-02-21 07:40 J -9471977.35 -9471977.18 -9471976.99 0.0088 0.0013

Neptune -30646-05-20 10:47 J -9471889.23 -9471889.05 -9471888.87 0.0088 0.0004

Neptune -30646-08-16 13:40 J -9471801.11 -9471800.93 -9471800.75 0.0088 0.0004

Neptune -30646-11-12 16:33 J -9471712.98 -9471712.81 -9471712.63 0.0088 0.0013

Neptune -30645-02-08 19:26 J -9471624.86 -9471624.69 -9471624.51 0.0088 0.0022

Venus -30645-03-15 11:16 J -9471589.14 -9471589.03 -9471588.93 0.3781 0.0927

Neptune -30645-05-06 22:19 J -9471536.73 -9471536.57 -9471536.40 0.0088 0.0030

Mars -30645-06-10 02:23 J -9471502.52 -9471502.40 -9471502.28 0.1780 0.0181

Neptune -30645-08-03 01:11 J -9471448.60 -9471448.45 -9471448.28 0.0088 0.0039

Neptune -30645-10-30 03:50 J -9471360.47 -9471360.34 -9471360.17 0.0088 0.0048

Neptune -30644-01-26 06:57 J -9471272.34 -9471272.21 -9471272.07 0.0088 0.0055

Jupiter -30644-02-28 22:19 J -9471238.68 -9471238.57 -9471238.45 0.0523 0.0266

Neptune -30644-04-24 09:35 J -9471184.21 -9471184.10 -9471183.96 0.0088 0.0064

Jupiter -30644-05-29 07:26 J -9471149.29 -9471149.19 -9471149.08 0.0519 0.0327

Neptune -30644-07-21 12:28 J -9471096.07 -9471095.98 -9471095.87 0.0088 0.0072

Neptune -30644-10-17 15:21 J -9471007.92 -9471007.86 -9471007.78 0.0088 0.0081

Venus -30641-03-15 21:21 J -9470127.74 -9470127.61 -9470127.48 0.3594 0.1161

Venus -30640-09-29 05:16 J -9469565.38 -9469565.28 -9469565.19 0.3780 0.1919

Moon -30640-11-25 06:14 J -9469508.37 -9469508.24 -9469508.11 0.2659 0.0826

Earth -30640-11-25 07:11 J -9469508.33 -9469508.20 -9469508.07 0.2655 0.0832 *

Jupiter -30638-07-28 23:59 J -9468897.67 -9468897.50 -9468897.33 0.0506 0.0080

Saturn -30638-11-29 21:21 J -9468773.70 -9468773.61 -9468773.52 0.0270 0.0203

Saturn -30637-02-26 09:21 J -9468685.24 -9468685.11 -9468684.98 0.0269 0.0099

Saturn -30637-05-24 21:21 J -9468596.75 -9468596.61 -9468596.46 0.0270 0.0010

Moon -30637-05-26 20:52 J -9468594.75 -9468594.63 -9468594.52 0.2681 0.0918

Earth -30637-05-26 21:07 J -9468594.73 -9468594.62 -9468594.50 0.2675 0.0884 *

Saturn -30637-08-21 09:50 J -9468508.22 -9468508.09 -9468507.96 0.0270 0.0116

Saturn -30637-11-17 22:19 J -9468419.64 -9468419.57 -9468419.49 0.0270 0.0225

Venus -30636-09-29 21:21 J -9468103.68 -9468103.61 -9468103.53 0.3595 0.2898

Mars -30636-10-31 11:02 J -9468072.16 -9468072.04 -9468071.93 0.1774 0.0462

Mars -30635-09-14 12:28 J -9467754.11 -9467753.98 -9467753.85 0.1736 0.0929

Jupiter -30633-12-18 01:40 J -9466928.51 -9466928.43 -9466928.35 0.0523 0.0414

Jupiter -30632-03-17 10:47 J -9466839.18 -9466839.05 -9466838.93 0.0520 0.0177

Moon -30630-05-20 12:28 J -9466045.06 -9466044.98 -9466044.90 0.2673 0.1972

Earth -30630-05-20 12:57 J -9466045.05 -9466044.96 -9466044.88 0.2680 0.1949 *

Moon -30627-11-28 06:57 J -9464757.34 -9464757.21 -9464757.08 0.2663 0.0311

Earth -30627-11-28 07:26 J -9464757.33 -9464757.19 -9464757.06 0.2657 0.0418 *

Mars -30626-03-23 19:55 J -9464641.76 -9464641.67 -9464641.57 0.1768 0.1068

Jupiter -30626-05-16 22:33 J -9464587.70 -9464587.56 -9464587.41 0.0505 0.0257

Jupiter -30626-08-15 00:28 J -9464497.56 -9464497.48 -9464497.40 0.0509 0.0440

Mars -30625-02-04 14:09 J -9464324.07 -9464323.91 -9464323.76 0.1742 0.0076

Mars -30624-02-26 09:50 J -9463936.15 -9463936.09 -9463936.04 0.1792 0.1587

Earth -30624-05-29 18:14 J -9463843.83 -9463843.74 -9463843.66 0.2673 0.1933

Moon -30624-05-29 18:14 J -9463843.82 -9463843.74 -9463843.65 0.2680 0.1901 *

Saturn -30623-10-02 10:33 J -9463353.18 -9463353.06 -9463352.94 0.0291 0.0204

Saturn -30623-12-30 06:43 J -9463264.38 -9463264.22 -9463264.05 0.0291 0.0043

Saturn -30622-03-29 02:38 J -9463175.54 -9463175.39 -9463175.24 0.0291 0.0116

Saturn -30622-06-25 21:50 J -9463086.64 -9463086.59 -9463086.53 0.0291 0.0270

Jupiter -30620-01-03 13:26 J -9462529.07 -9462528.94 -9462528.80 0.0521 0.0020

Moon -30617-05-22 08:23 J -9461294.27 -9461294.15 -9461294.04 0.2677 0.1059

Earth -30617-05-22 09:07 J -9461294.23 -9461294.12 -9461294.00 0.2678 0.0967 *

Mars -30617-08-13 05:02 J -9461211.33 -9461211.29 -9461211.25 0.1762 0.1663

Mars -30616-06-26 15:07 J -9460894.01 -9460893.87 -9460893.74 0.1748 0.0854

Mars -30615-07-19 17:59 J -9460505.85 -9460505.75 -9460505.64 0.1786 0.0916

Jupiter -30614-03-04 21:35 J -9460277.69 -9460277.60 -9460277.51 0.0504 0.0431

Jupiter -30614-06-02 23:45 J -9460187.65 -9460187.51 -9460187.37 0.0507 0.0268

Earth -30614-12-01 06:57 J -9460006.31 -9460006.21 -9460006.10 0.2659 0.1607

Moon -30614-12-01 07:40 J -9460006.29 -9460006.18 -9460006.08 0.2665 0.1707 *

Uranus -30613-02-22 21:35 J -9459922.69 -9459922.60 -9459922.50 0.0135 0.0113

Uranus -30613-05-21 03:21 J -9459834.48 -9459834.36 -9459834.23 0.0134 0.0089

Uranus -30613-08-17 08:52 J -9459746.27 -9459746.13 -9459745.97 0.0134 0.0065

Uranus -30613-11-13 14:38 J -9459658.05 -9459657.89 -9459657.72 0.0134 0.0041

Uranus -30612-02-09 20:09 J -9459569.83 -9459569.66 -9459569.49 0.0134 0.0018

Uranus -30612-05-09 01:40 J -9459481.60 -9459481.43 -9459481.26 0.0134 0.0006

Uranus -30612-08-05 07:11 J -9459393.36 -9459393.20 -9459393.03 0.0134 0.0028

Uranus -30612-11-01 12:28 J -9459305.13 -9459304.98 -9459304.82 0.0134 0.0051

Uranus -30611-01-28 17:45 J -9459216.89 -9459216.76 -9459216.61 0.0134 0.0074

Uranus -30611-04-26 23:16 J -9459128.65 -9459128.53 -9459128.41 0.0134 0.0096

Uranus -30611-07-24 04:33 J -9459040.39 -9459040.31 -9459040.24 0.0134 0.0118

Jupiter -30609-10-22 17:02 J -9458218.92 -9458218.79 -9458218.66 0.0522 0.0126

Jupiter -30608-01-20 02:23 J -9458129.45 -9458129.40 -9458129.34 0.0519 0.0471

Saturn -30608-04-18 00:28 J -9458041.55 -9458041.48 -9458041.40 0.0269 0.0223

Saturn -30608-07-15 12:28 J -9457953.11 -9457952.98 -9457952.86 0.0269 0.0120

Saturn -30608-10-12 00:28 J -9457864.62 -9457864.48 -9457864.34 0.0269 0.0015

Saturn -30607-01-08 12:43 J -9457776.11 -9457775.97 -9457775.83 0.0269 0.0093

Saturn -30607-04-07 01:11 J -9457687.54 -9457687.45 -9457687.36 0.0269 0.0202

Moon -30607-11-23 11:16 J -9457457.12 -9457457.03 -9457456.93 0.2653 0.1920

Earth -30607-11-23 12:28 J -9457457.07 -9457456.98 -9457456.88 0.2654 0.1872 *

Mars -30606-12-10 02:23 J -9457075.52 -9457075.40 -9457075.28 0.1780 0.0254

Moon -30604-05-25 04:47 J -9456543.42 -9456543.30 -9456543.18 0.2678 0.0057

Earth -30604-05-25 05:45 J -9456543.38 -9456543.26 -9456543.14 0.2676 0.0045 *

Jupiter -30602-03-21 22:33 J -9455877.73 -9455877.56 -9455877.39 0.0507 0.0091

Jupiter -30597-08-10 20:38 J -9453908.75 -9453908.64 -9453908.52 0.0523 0.0267

Jupiter -30597-11-08 05:59 J -9453819.36 -9453819.25 -9453819.15 0.0520 0.0329

Mars -30596-05-01 11:02 J -9453645.15 -9453645.04 -9453644.92 0.1774 0.0385

Mars -30595-03-15 12:57 J -9453327.09 -9453326.96 -9453326.84 0.1736 0.1019

Venus -30594-04-06 15:21 J -9452939.93 -9452939.86 -9452939.78 0.3782 0.2659

Moon -30594-11-26 11:59 J -9452706.13 -9452706.00 -9452705.87 0.2660 0.0759

Earth -30594-11-26 12:57 J -9452706.09 -9452705.96 -9452705.83 0.2655 0.0602 *

Saturn -30593-02-19 08:52 J -9452621.20 -9452621.13 -9452621.05 0.0290 0.0258

Saturn -30593-05-18 05:16 J -9452532.43 -9452532.28 -9452532.12 0.0290 0.0096

Saturn -30593-08-15 01:11 J -9452443.61 -9452443.45 -9452443.28 0.0290 0.0065

Saturn -30593-11-11 20:52 J -9452354.74 -9452354.63 -9452354.53 0.0290 0.0219

Moon -30591-05-28 02:09 J -9451792.52 -9451792.41 -9451792.30 0.2681 0.0977

Earth -30591-05-28 02:23 J -9451792.51 -9451792.40 -9451792.28 0.2675 0.1076 *

Jupiter -30590-01-07 21:50 J -9451567.76 -9451567.59 -9451567.42 0.0506 0.0079

Venus -30589-10-20 09:07 J -9450916.23 -9450916.12 -9450916.01 0.3781 0.0155

Mars -30587-09-21 19:55 J -9450214.77 -9450214.67 -9450214.57 0.1768 0.1001

Mars -30586-08-05 14:23 J -9449897.05 -9449896.90 -9449896.74 0.1742 0.0159

Jupiter -30585-05-30 00:28 J -9449598.56 -9449598.48 -9449598.40 0.0524 0.0408

Jupiter -30585-08-27 09:21 J -9449509.24 -9449509.11 -9449508.98 0.0520 0.0183

Mars -30585-08-27 09:50 J -9449509.13 -9449509.09 -9449509.05 0.1792 0.1667 *

Venus -30585-10-20 21:07 J -9449454.76 -9449454.62 -9449454.49 0.3595 0.0343

Moon -30584-05-20 17:31 J -9449242.86 -9449242.77 -9449242.68 0.2674 0.1773

Earth -30584-05-20 17:59 J -9449242.84 -9449242.75 -9449242.66 0.2680 0.1766 *

Venus -30583-05-06 03:21 J -9448892.43 -9448892.36 -9448892.30 0.3780 0.2976

Moon -30581-11-28 12:43 J -9447955.10 -9447954.97 -9447954.84 0.2663 0.0700

Earth -30581-11-28 12:57 J -9447955.09 -9447954.96 -9447954.83 0.2657 0.0630 *

Saturn -30579-09-05 01:40 J -9447309.46 -9447309.43 -9447309.40 0.0269 0.0262

Jupiter -30579-10-26 21:07 J -9447257.77 -9447257.62 -9447257.47 0.0505 0.0250

Saturn -30579-12-02 13:26 J -9447221.05 -9447220.94 -9447220.82 0.0269 0.0159

Jupiter -30578-01-24 22:47 J -9447167.62 -9447167.55 -9447167.46 0.0509 0.0448

Saturn -30578-03-01 01:26 J -9447132.58 -9447132.44 -9447132.30 0.0269 0.0054

Saturn -30578-05-28 13:40 J -9447044.07 -9447043.93 -9447043.79 0.0269 0.0052

Earth -30578-05-30 23:31 J -9447041.60 -9447041.52 -9447041.45 0.2673 0.2133

Moon -30578-05-30 23:45 J -9447041.58 -9447041.51 -9447041.45 0.2679 0.2221 *

Saturn -30578-08-25 01:55 J -9446955.53 -9446955.42 -9446955.30 0.0269 0.0161

Mars -30577-02-12 05:02 J -9446784.34 -9446784.29 -9446784.24 0.1762 0.1596

Mars -30577-12-25 15:50 J -9446466.99 -9446466.84 -9446466.70 0.1748 0.0743

Mars -30575-01-17 17:59 J -9446078.85 -9446078.75 -9446078.65 0.1786 0.0981

Jupiter -30573-06-15 12:43 J -9445199.11 -9445198.97 -9445198.84 0.0521 0.0037

Moon -30571-05-23 13:26 J -9444492.05 -9444491.94 -9444491.82 0.2677 0.0850

Earth -30571-05-23 14:23 J -9444492.02 -9444491.90 -9444491.78 0.2678 0.0780 *

Uranus -30570-10-30 19:55 J -9443966.69 -9443966.67 -9443966.64 0.0144 0.0141

Uranus -30569-01-27 00:14 J -9443878.56 -9443878.49 -9443878.40 0.0144 0.0118

Uranus -30569-04-24 04:47 J -9443790.41 -9443790.30 -9443790.20 0.0144 0.0094

Uranus -30569-07-21 08:52 J -9443702.25 -9443702.13 -9443702.00 0.0144 0.0071

Uranus -30569-10-17 13:26 J -9443614.08 -9443613.94 -9443613.80 0.0144 0.0047

Uranus -30568-01-13 17:45 J -9443525.90 -9443525.76 -9443525.61 0.0144 0.0023

Uranus -30568-04-11 22:19 J -9443437.71 -9443437.57 -9443437.42 0.0144 0.0002

Uranus -30568-07-09 02:52 J -9443349.52 -9443349.38 -9443349.24 0.0145 0.0027

Uranus -30568-10-05 07:26 J -9443261.33 -9443261.19 -9443261.05 0.0145 0.0051

Earth -30568-12-01 12:43 J -9443204.07 -9443203.97 -9443203.88 0.2659 0.1825

Moon -30568-12-01 13:11 J -9443204.05 -9443203.95 -9443203.85 0.2665 0.1808 *

Uranus -30567-01-01 11:59 J -9443173.12 -9443173.00 -9443172.88 0.0145 0.0077

Neptune -30567-03-25 23:59 J -9443089.51 -9443089.50 -9443089.47 0.0089 0.0089

Uranus -30567-03-30 16:33 J -9443084.91 -9443084.81 -9443084.70 0.0145 0.0102

Mars -30567-05-17 16:04 J -9443036.86 -9443036.83 -9443036.79 0.1754 0.1691

Neptune -30567-06-22 01:40 J -9443001.48 -9443001.43 -9443001.37 0.0089 0.0082

Uranus -30567-06-26 21:07 J -9442996.68 -9442996.62 -9442996.54 0.0145 0.0128

Jupiter -30567-08-14 19:55 J -9442947.76 -9442947.67 -9442947.58 0.0504 0.0425

Neptune -30567-09-18 02:52 J -9442913.44 -9442913.38 -9442913.29 0.0089 0.0076

Jupiter -30567-11-12 22:19 J -9442857.71 -9442857.57 -9442857.43 0.0508 0.0276

Neptune -30567-12-15 04:33 J -9442825.39 -9442825.31 -9442825.21 0.0089 0.0068

Neptune -30566-03-13 06:14 J -9442737.34 -9442737.24 -9442737.14 0.0089 0.0061

Pluto -30566-05-18 03:50 J -9442671.37 -9442671.34 -9442671.29 0.0075 0.0072

Neptune -30566-06-09 07:40 J -9442649.28 -9442649.18 -9442649.06 0.0089 0.0055

Mars -30566-06-10 02:23 J -9442648.51 -9442648.40 -9442648.28 0.1780 0.0337

Pluto -30566-08-14 05:16 J -9442583.35 -9442583.28 -9442583.19 0.0075 0.0064

Neptune -30566-09-05 09:21 J -9442561.23 -9442561.11 -9442560.99 0.0089 0.0048

Pluto -30566-11-10 06:28 J -9442495.32 -9442495.23 -9442495.12 0.0075 0.0056

Neptune -30566-12-02 10:47 J -9442473.17 -9442473.05 -9442472.92 0.0089 0.0041

Pluto -30565-02-06 07:55 J -9442407.27 -9442407.17 -9442407.04 0.0075 0.0048

Neptune -30565-02-28 12:14 J -9442385.11 -9442384.99 -9442384.85 0.0089 0.0034

Pluto -30565-05-04 09:07 J -9442319.23 -9442319.12 -9442318.98 0.0075 0.0041

Neptune -30565-05-26 13:55 J -9442297.05 -9442296.92 -9442296.78 0.0089 0.0027

Pluto -30565-07-31 10:47 J -9442231.18 -9442231.05 -9442230.91 0.0075 0.0033

Neptune -30565-08-22 15:21 J -9442208.99 -9442208.86 -9442208.72 0.0089 0.0021

Pluto -30565-10-27 11:59 J -9442143.14 -9442143.00 -9442142.85 0.0074 0.0025

Neptune -30565-11-18 17:02 J -9442120.92 -9442120.79 -9442120.65 0.0089 0.0013

Pluto -30564-01-23 13:26 J -9442055.08 -9442054.94 -9442054.79 0.0074 0.0018

Neptune -30564-02-14 18:43 J -9442032.86 -9442032.72 -9442032.58 0.0089 0.0006

Pluto -30564-04-21 14:38 J -9441967.03 -9441966.89 -9441966.74 0.0074 0.0011

Neptune -30564-05-13 20:09 J -9441944.80 -9441944.66 -9441944.51 0.0089 0.0003

Pluto -30564-07-18 16:04 J -9441878.98 -9441878.83 -9441878.68 0.0074 0.0003

Neptune -30564-08-09 21:50 J -9441856.73 -9441856.59 -9441856.45 0.0089 0.0008

Saturn -30564-10-05 05:31 J -9441800.42 -9441800.27 -9441800.12 0.0291 0.0138

Pluto -30564-10-14 17:16 J -9441790.93 -9441790.78 -9441790.63 0.0074 0.0004

Neptune -30564-11-05 23:16 J -9441768.66 -9441768.53 -9441768.38 0.0089 0.0016

Saturn -30563-01-02 01:40 J -9441711.60 -9441711.43 -9441711.27 0.0291 0.0023

Pluto -30563-01-10 18:28 J -9441702.87 -9441702.73 -9441702.58 0.0074 0.0012

Neptune -30563-02-02 00:57 J -9441680.59 -9441680.46 -9441680.32 0.0089 0.0022

Saturn -30563-03-31 21:21 J -9441622.74 -9441622.61 -9441622.48 0.0291 0.0180

Pluto -30563-04-08 19:40 J -9441614.82 -9441614.68 -9441614.53 0.0074 0.0019

Neptune -30563-05-01 02:38 J -9441592.52 -9441592.39 -9441592.26 0.0089 0.0029

Pluto -30563-07-05 20:52 J -9441526.76 -9441526.63 -9441526.48 0.0074 0.0026

Neptune -30563-07-28 04:04 J -9441504.45 -9441504.33 -9441504.19 0.0089 0.0036

Pluto -30563-10-01 22:04 J -9441438.71 -9441438.58 -9441438.44 0.0073 0.0033

Neptune -30563-10-24 05:45 J -9441416.38 -9441416.26 -9441416.13 0.0089 0.0043

Pluto -30563-12-28 23:16 J -9441350.65 -9441350.53 -9441350.40 0.0073 0.0040

Neptune -30562-01-20 07:26 J -9441328.30 -9441328.19 -9441328.07 0.0089 0.0050

Pluto -30562-03-27 00:28 J -9441262.59 -9441262.48 -9441262.36 0.0073 0.0047

Neptune -30562-04-18 09:07 J -9441240.23 -9441240.12 -9441240.01 0.0089 0.0058

Pluto -30562-06-23 01:40 J -9441174.52 -9441174.43 -9441174.32 0.0073 0.0053

Neptune -30562-07-15 10:47 J -9441152.15 -9441152.05 -9441151.95 0.0089 0.0065

Pluto -30562-09-19 02:38 J -9441086.46 -9441086.39 -9441086.29 0.0073 0.0060

Neptune -30562-10-11 11:59 J -9441064.07 -9441064.00 -9441063.90 0.0089 0.0073

Pluto -30562-12-16 03:50 J -9440998.38 -9440998.34 -9440998.27 0.0073 0.0067

Neptune -30561-01-07 13:40 J -9440975.98 -9440975.93 -9440975.85 0.0089 0.0080

Jupiter -30561-04-03 15:21 J -9440888.99 -9440888.86 -9440888.73 0.0522 0.0124

Neptune -30561-04-04 15:35 J -9440887.88 -9440887.85 -9440887.81 0.0089 0.0086

Jupiter -30561-07-02 00:43 J -9440799.52 -9440799.47 -9440799.41 0.0519 0.0472

Moon -30561-11-23 17:02 J -9440654.89 -9440654.79 -9440654.68 0.2655 0.1742

Earth -30561-11-23 18:14 J -9440654.85 -9440654.74 -9440654.63 0.2654 0.1638 *

Moon -30558-05-26 10:04 J -9439741.20 -9439741.08 -9439740.96 0.2679 0.0136

Earth -30558-05-26 11:02 J -9439741.17 -9439741.04 -9439740.92 0.2676 0.0252 *

Mars -30557-10-30 11:02 J -9439218.15 -9439218.04 -9439217.92 0.1774 0.0316

Mars -30556-09-13 13:26 J -9438900.06 -9438899.94 -9438899.82 0.1736 0.1118

Jupiter -30555-08-31 21:21 J -9438547.77 -9438547.61 -9438547.44 0.0506 0.0105

Moon -30551-05-19 03:07 J -9437191.42 -9437191.37 -9437191.33 0.2674 0.2471

Earth -30551-05-19 03:07 J -9437191.41 -9437191.37 -9437191.34 0.2681 0.2551 *

Jupiter -30549-01-21 18:57 J -9436578.83 -9436578.71 -9436578.60 0.0523 0.0269

Jupiter -30549-04-20 04:04 J -9436489.43 -9436489.33 -9436489.22 0.0520 0.0326

Saturn -30549-04-20 16:33 J -9436488.91 -9436488.81 -9436488.70 0.0269 0.0180

Saturn -30549-07-18 04:33 J -9436400.45 -9436400.31 -9436400.18 0.0269 0.0076

Saturn -30549-10-14 16:33 J -9436311.95 -9436311.81 -9436311.66 0.0269 0.0031

Saturn -30548-01-11 04:47 J -9436223.42 -9436223.30 -9436223.17 0.0269 0.0139

Saturn -30548-04-09 17:16 J -9436134.82 -9436134.78 -9436134.72 0.0269 0.0248

Moon -30548-11-26 17:45 J -9435903.90 -9435903.76 -9435903.63 0.2660 0.0378

Earth -30548-11-26 18:43 J -9435903.86 -9435903.72 -9435903.59 0.2656 0.0377 *

Mars -30547-03-22 19:55 J -9435787.77 -9435787.67 -9435787.56 0.1768 0.0928

Mars -30546-02-03 15:07 J -9435470.02 -9435469.87 -9435469.72 0.1742 0.0259

Mars -30545-02-26 09:50 J -9435082.11 -9435082.09 -9435082.06 0.1792 0.1745

Moon -30545-05-28 07:26 J -9434990.30 -9434990.19 -9434990.09 0.2681 0.1323

Earth -30545-05-28 07:40 J -9434990.29 -9434990.18 -9434990.07 0.2674 0.1272 *

Jupiter -30543-06-19 20:09 J -9434237.83 -9434237.66 -9434237.49 0.0506 0.0075

Moon -30538-05-21 22:33 J -9432440.65 -9432440.56 -9432440.46 0.2675 0.1673

Earth -30538-05-21 23:16 J -9432440.63 -9432440.53 -9432440.44 0.2679 0.1585 *

Mars -30538-08-13 05:02 J -9432357.35 -9432357.29 -9432357.23 0.1762 0.1522

Jupiter -30538-11-09 22:47 J -9432268.63 -9432268.55 -9432268.47 0.0524 0.0407

Venus -30538-11-11 13:26 J -9432267.04 -9432266.94 -9432266.85 0.3781 0.1656

Jupiter -30537-02-07 07:55 J -9432179.30 -9432179.17 -9432179.05 0.0521 0.0186

Mars -30537-06-25 16:04 J -9432039.98 -9432039.83 -9432039.69 0.1748 0.0650

Mars -30536-07-18 18:14 J -9431651.84 -9431651.74 -9431651.65 0.1786 0.1065

Moon -30535-11-29 18:43 J -9431152.85 -9431152.72 -9431152.59 0.2664 0.0786

Earth -30535-11-29 18:43 J -9431152.85 -9431152.72 -9431152.60 0.2657 0.0860 *

Saturn -30534-02-22 03:50 J -9431068.46 -9431068.34 -9431068.21 0.0291 0.0193

Saturn -30534-05-22 00:14 J -9430979.65 -9430979.49 -9430979.32 0.0291 0.0031

Saturn -30534-08-18 20:09 J -9430890.81 -9430890.66 -9430890.51 0.0290 0.0128

Venus -30534-11-11 20:23 J -9430805.75 -9430805.65 -9430805.54 0.3594 0.2314

Saturn -30534-11-15 15:21 J -9430801.89 -9430801.86 -9430801.82 0.0290 0.0282

Venus -30532-05-27 07:11 J -9430243.30 -9430243.20 -9430243.09 0.3781 0.1148

Earth -30532-05-31 04:47 J -9430239.36 -9430239.30 -9430239.24 0.2672 0.2337

Moon -30532-05-31 05:16 J -9430239.34 -9430239.28 -9430239.22 0.2678 0.2314 *

Jupiter -30531-04-07 19:26 J -9429927.84 -9429927.69 -9429927.54 0.0505 0.0246

Jupiter -30531-07-06 21:07 J -9429837.69 -9429837.62 -9429837.54 0.0508 0.0451

Uranus -30530-12-16 22:47 J -9429309.58 -9429309.55 -9429309.50 0.0135 0.0131

Uranus -30529-03-14 04:33 J -9429221.40 -9429221.31 -9429221.19 0.0135 0.0107

Uranus -30529-06-10 10:19 J -9429133.20 -9429133.07 -9429132.92 0.0134 0.0083

Uranus -30529-09-06 16:04 J -9429044.98 -9429044.83 -9429044.67 0.0134 0.0059

Uranus -30529-12-03 21:50 J -9428956.76 -9428956.59 -9428956.42 0.0134 0.0035

Uranus -30528-03-02 03:21 J -9428868.53 -9428868.36 -9428868.19 0.0134 0.0011

Venus -30528-05-27 20:52 J -9428781.75 -9428781.63 -9428781.51 0.3595 0.1829

Uranus -30528-05-29 08:52 J -9428780.30 -9428780.13 -9428779.96 0.0134 0.0012

Uranus -30528-08-25 14:09 J -9428692.07 -9428691.91 -9428691.74 0.0134 0.0035

Mars -30528-11-15 16:47 J -9428609.86 -9428609.80 -9428609.73 0.1755 0.1580

Uranus -30528-11-21 19:26 J -9428603.83 -9428603.69 -9428603.53 0.0134 0.0058

Uranus -30527-02-18 00:57 J -9428515.59 -9428515.46 -9428515.32 0.0134 0.0080

Uranus -30527-05-17 05:59 J -9428427.34 -9428427.25 -9428427.13 0.0134 0.0103

Uranus -30527-08-13 11:16 J -9428339.07 -9428339.03 -9428338.96 0.0134 0.0125

Mars -30527-12-09 02:23 J -9428221.51 -9428221.40 -9428221.28 0.1780 0.0406

Jupiter -30526-11-26 11:16 J -9427869.16 -9427869.03 -9427868.89 0.0521 0.0045

Moon -30525-05-23 18:43 J -9427689.84 -9427689.72 -9427689.60 0.2676 0.0662

Earth -30525-05-23 19:40 J -9427689.80 -9427689.68 -9427689.56 0.2678 0.0595 *

Earth -30522-12-02 18:14 J -9426401.82 -9426401.74 -9426401.66 0.2659 0.2039

Moon -30522-12-02 18:57 J -9426401.79 -9426401.71 -9426401.64 0.2664 0.2169 *

Saturn -30520-09-07 17:31 J -9425756.85 -9425756.77 -9425756.69 0.0269 0.0221

Saturn -30520-12-05 05:16 J -9425668.40 -9425668.28 -9425668.15 0.0269 0.0117

Jupiter -30519-01-24 18:14 J -9425617.83 -9425617.74 -9425617.64 0.0504 0.0418

Saturn -30519-03-03 17:16 J -9425579.92 -9425579.78 -9425579.63 0.0269 0.0014

Jupiter -30519-04-24 20:38 J -9425527.77 -9425527.64 -9425527.50 0.0508 0.0285

Saturn -30519-05-31 05:31 J -9425491.40 -9425491.27 -9425491.13 0.0269 0.0096

Saturn -30519-08-27 17:59 J -9425402.84 -9425402.75 -9425402.65 0.0269 0.0205

Mars -30517-04-30 11:02 J -9424791.16 -9424791.04 -9424790.92 0.1774 0.0243

Mars -30516-03-14 14:09 J -9424473.02 -9424472.91 -9424472.80 0.1736 0.1227

Moon -30515-11-24 22:47 J -9423852.66 -9423852.55 -9423852.44 0.2656 0.1514

Earth -30515-11-24 23:59 J -9423852.61 -9423852.50 -9423852.38 0.2654 0.1403 *

Jupiter -30514-09-14 14:52 J -9423559.02 -9423558.88 -9423558.75 0.0522 0.0106

Jupiter -30514-12-12 23:59 J -9423469.53 -9423469.50 -9423469.45 0.0518 0.0491

Moon -30512-05-26 15:35 J -9422938.97 -9422938.85 -9422938.73 0.2680 0.0403

Earth -30512-05-26 16:04 J -9422938.95 -9422938.83 -9422938.70 0.2676 0.0434 *

Mars -30508-09-20 20:09 J -9421360.77 -9421360.66 -9421360.56 0.1768 0.0852

Jupiter -30507-02-10 20:09 J -9421217.83 -9421217.66 -9421217.49 0.0507 0.0115

Mars -30507-08-04 15:35 J -9421043.00 -9421042.85 -9421042.70 0.1742 0.0359

Moon -30505-05-19 08:09 J -9420389.21 -9420389.16 -9420389.11 0.2674 0.2430

Earth -30505-05-19 08:09 J -9420389.21 -9420389.16 -9420389.11 0.2681 0.2369 *

Saturn -30505-07-11 03:07 J -9420336.46 -9420336.37 -9420336.28 0.0291 0.0242

Saturn -30505-10-07 23:31 J -9420247.68 -9420247.52 -9420247.35 0.0291 0.0078

Saturn -30504-01-04 19:40 J -9420158.84 -9420158.68 -9420158.52 0.0291 0.0082

Saturn -30504-04-03 15:07 J -9420069.96 -9420069.87 -9420069.77 0.0291 0.0238

Jupiter -30502-07-03 17:31 J -9419248.88 -9419248.77 -9419248.65 0.0523 0.0264

Jupiter -30502-10-01 02:38 J -9419159.49 -9419159.39 -9419159.28 0.0520 0.0330

Moon -30502-11-27 23:31 J -9419101.65 -9419101.52 -9419101.38 0.2661 0.0253

Earth -30502-11-28 00:14 J -9419101.62 -9419101.49 -9419101.35 0.2656 0.0159 *

Moon -30499-05-29 12:43 J -9418188.07 -9418187.97 -9418187.87 0.2680 0.1392

Earth -30499-05-29 12:57 J -9418188.06 -9418187.96 -9418187.86 0.2674 0.1467 *

Mars -30498-02-11 05:02 J -9417930.36 -9417930.29 -9417930.22 0.1762 0.1452

Mars -30498-12-25 16:47 J -9417612.95 -9417612.80 -9417612.65 0.1748 0.0540

Mars -30496-01-16 18:14 J -9417224.84 -9417224.74 -9417224.65 0.1786 0.1140

Jupiter -30496-11-29 19:26 J -9416907.86 -9416907.69 -9416907.52 0.0506 0.0057

Moon -30492-05-22 03:35 J -9415638.45 -9415638.35 -9415638.25 0.2675 0.1393

Earth -30492-05-22 04:19 J -9415638.42 -9415638.32 -9415638.22 0.2679 0.1402 *

Saturn -30490-01-25 20:38 J -9415024.70 -9415024.64 -9415024.58 0.0268 0.0241

Jupiter -30490-04-21 21:07 J -9414938.70 -9414938.62 -9414938.54 0.0524 0.0409

Saturn -30490-04-24 08:23 J -9414936.27 -9414936.15 -9414936.03 0.0268 0.0138

Jupiter -30490-07-20 05:59 J -9414849.37 -9414849.25 -9414849.12 0.0521 0.0185

Saturn -30490-07-21 20:23 J -9414847.79 -9414847.65 -9414847.51 0.0268 0.0034

Saturn -30490-10-18 08:23 J -9414759.28 -9414759.15 -9414759.01 0.0268 0.0074

Saturn -30489-01-14 20:52 J -9414670.73 -9414670.63 -9414670.52 0.0268 0.0181

Earth -30489-11-30 00:14 J -9414350.61 -9414350.49 -9414350.37 0.2658 0.1078

Moon -30489-11-30 00:14 J -9414350.60 -9414350.49 -9414350.37 0.2665 0.1169 *

Mars -30488-05-16 17:16 J -9414182.86 -9414182.78 -9414182.70 0.1754 0.1481

Mars -30487-06-09 02:38 J -9413794.51 -9413794.39 -9413794.28 0.1780 0.0480

Venus -30487-12-02 17:31 J -9413617.81 -9413617.77 -9413617.72 0.3782 0.3370

Earth -30486-06-01 10:04 J -9413437.12 -9413437.08 -9413437.05 0.2672 0.2535

Moon -30486-06-01 10:33 J -9413437.06 -9413437.06 -9413437.05 0.2678 0.2668 *

Uranus -30486-11-20 03:21 J -9413265.40 -9413265.36 -9413265.30 0.0144 0.0134

Uranus -30485-02-16 07:40 J -9413177.26 -9413177.18 -9413177.08 0.0144 0.0111

Uranus -30485-05-14 11:59 J -9413089.11 -9413089.00 -9413088.88 0.0144 0.0087

Uranus -30485-08-10 16:33 J -9413000.94 -9413000.81 -9413000.68 0.0144 0.0063

Uranus -30485-11-06 20:52 J -9412912.77 -9412912.63 -9412912.49 0.0144 0.0039

Uranus -30484-02-03 01:26 J -9412824.59 -9412824.44 -9412824.30 0.0144 0.0015

Uranus -30484-05-02 05:45 J -9412736.40 -9412736.26 -9412736.11 0.0144 0.0010

Uranus -30484-07-29 10:19 J -9412648.21 -9412648.07 -9412647.93 0.0145 0.0034

Jupiter -30484-09-17 17:45 J -9412597.91 -9412597.76 -9412597.60 0.0505 0.0237

Uranus -30484-10-25 14:52 J -9412560.01 -9412559.88 -9412559.75 0.0145 0.0059

Neptune -30484-12-13 06:14 J -9412511.32 -9412511.24 -9412511.16 0.0088 0.0079

Jupiter -30484-12-16 19:40 J -9412507.75 -9412507.68 -9412507.61 0.0508 0.0458

Uranus -30483-01-21 19:26 J -9412471.81 -9412471.69 -9412471.57 0.0145 0.0084

Neptune -30483-03-11 08:52 J -9412423.22 -9412423.13 -9412423.01 0.0088 0.0071

Uranus -30483-04-19 23:59 J -9412383.59 -9412383.50 -9412383.40 0.0145 0.0110

Neptune -30483-06-07 11:59 J -9412335.11 -9412335.00 -9412334.86 0.0088 0.0062

Uranus -30483-07-17 04:47 J -9412295.35 -9412295.30 -9412295.25 0.0145 0.0135

Neptune -30483-09-03 15:07 J -9412247.00 -9412246.87 -9412246.71 0.0088 0.0053

Neptune -30483-11-30 18:14 J -9412158.89 -9412158.74 -9412158.58 0.0088 0.0044

Neptune -30482-02-26 21:21 J -9412070.77 -9412070.61 -9412070.44 0.0088 0.0035

Neptune -30482-05-26 00:14 J -9411982.66 -9411982.49 -9411982.31 0.0088 0.0027

Neptune -30482-08-22 03:21 J -9411894.53 -9411894.36 -9411894.18 0.0088 0.0018

Neptune -30482-11-18 06:14 J -9411806.41 -9411806.24 -9411806.05 0.0088 0.0010

Moon -30482-11-23 04:04 J -9411801.35 -9411801.33 -9411801.32 0.2650 0.2620

Earth -30482-11-23 05:02 J -9411801.33 -9411801.29 -9411801.24 0.2652 0.2467 *

Neptune -30481-02-14 09:21 J -9411718.29 -9411718.11 -9411717.93 0.0088 0.0001

Neptune -30481-05-12 12:14 J -9411630.17 -9411629.99 -9411629.81 0.0088 0.0008

Venus -30481-06-17 11:16 J -9411594.14 -9411594.03 -9411593.92 0.3781 0.0640

Neptune -30481-08-08 15:07 J -9411542.04 -9411541.87 -9411541.69 0.0088 0.0017

Neptune -30481-11-04 17:59 J -9411453.91 -9411453.75 -9411453.57 0.0088 0.0026

Neptune -30480-01-31 20:52 J -9411365.79 -9411365.63 -9411365.46 0.0088 0.0034

Neptune -30480-04-29 23:59 J -9411277.66 -9411277.50 -9411277.34 0.0088 0.0042

Neptune -30480-07-27 02:38 J -9411189.52 -9411189.39 -9411189.23 0.0088 0.0051

Neptune -30480-10-23 05:31 J -9411101.39 -9411101.27 -9411101.13 0.0088 0.0060

Neptune -30479-01-19 08:09 J -9411013.25 -9411013.16 -9411013.03 0.0088 0.0068

Neptune -30479-04-17 11:16 J -9410925.11 -9410925.03 -9410924.94 0.0088 0.0076

Moon -30479-05-24 23:59 J -9410887.62 -9410887.50 -9410887.39 0.2677 0.0512

Earth -30479-05-25 00:43 J -9410887.59 -9410887.47 -9410887.35 0.2677 0.0409 *

Neptune -30479-07-14 14:09 J -9410836.95 -9410836.91 -9410836.86 0.0088 0.0085

Jupiter -30478-05-08 09:50 J -9410539.22 -9410539.09 -9410538.95 0.0522 0.0044

Mars -30478-10-30 11:16 J -9410364.15 -9410364.03 -9410363.91 0.1774 0.0166

Venus -30477-06-17 20:23 J -9410132.79 -9410132.65 -9410132.52 0.3594 0.0788

Mars -30477-09-12 14:23 J -9410046.00 -9410045.90 -9410045.80 0.1736 0.1313

Earth -30476-12-02 23:45 J -9409599.58 -9409599.51 -9409599.44 0.2660 0.2261

Moon -30476-12-03 00:43 J -9409599.54 -9409599.47 -9409599.40 0.2664 0.2252 *

Venus -30475-01-01 05:16 J -9409570.37 -9409570.28 -9409570.19 0.3780 0.2194

Saturn -30475-02-24 22:04 J -9409515.73 -9409515.58 -9409515.43 0.0291 0.0133

Saturn -30475-05-24 18:14 J -9409426.90 -9409426.74 -9409426.57 0.0291 0.0029

Saturn -30475-08-21 13:55 J -9409338.04 -9409337.92 -9409337.79 0.0291 0.0186

Jupiter -30472-07-06 17:02 J -9408287.89 -9408287.79 -9408287.69 0.0504 0.0408

Jupiter -30472-10-04 19:11 J -9408197.84 -9408197.70 -9408197.56 0.0507 0.0291

Venus -30471-01-01 20:38 J -9408108.69 -9408108.64 -9408108.59 0.3595 0.3287

Moon -30469-11-25 04:33 J -9407050.43 -9407050.31 -9407050.19 0.2656 0.1239

Earth -30469-11-25 05:45 J -9407050.38 -9407050.26 -9407050.14 0.2654 0.1171 *

Mars -30468-03-21 19:55 J -9406933.77 -9406933.67 -9406933.56 0.1768 0.0787

Mars -30467-02-02 16:04 J -9406615.98 -9406615.83 -9406615.68 0.1742 0.0466

Jupiter -30466-02-24 13:40 J -9406229.07 -9406228.93 -9406228.80 0.0522 0.0098

Jupiter -30466-05-24 23:02 J -9406139.58 -9406139.54 -9406139.51 0.0519 0.0499

Moon -30466-05-27 20:38 J -9406136.75 -9406136.64 -9406136.52 0.2681 0.0572

Earth -30466-05-27 21:21 J -9406136.73 -9406136.61 -9406136.49 0.2675 0.0620 *

Saturn -30461-09-10 09:07 J -9404204.22 -9404204.12 -9404204.01 0.0269 0.0180

Saturn -30461-12-07 21:07 J -9404115.76 -9404115.62 -9404115.49 0.0269 0.0076

Saturn -30460-03-06 09:07 J -9404027.26 -9404027.12 -9404026.98 0.0269 0.0030

Saturn -30460-06-02 21:21 J -9403938.73 -9403938.61 -9403938.48 0.0269 0.0138

Jupiter -30460-07-23 18:43 J -9403887.88 -9403887.72 -9403887.56 0.0507 0.0124

Saturn -30460-08-30 09:50 J -9403850.14 -9403850.09 -9403850.03 0.0269 0.0247

Moon -30459-05-20 13:11 J -9403587.02 -9403586.95 -9403586.88 0.2674 0.2132

Earth -30459-05-20 13:26 J -9403587.01 -9403586.94 -9403586.88 0.2681 0.2195 *

Mars -30459-08-12 05:02 J -9403503.36 -9403503.29 -9403503.22 0.1762 0.1383

Mars -30458-06-25 17:16 J -9403185.93 -9403185.78 -9403185.63 0.1748 0.0433

Mars -30457-07-17 18:14 J -9402797.83 -9402797.74 -9402797.66 0.1786 0.1210

Moon -30456-11-28 05:31 J -9402299.40 -9402299.27 -9402299.13 0.2662 0.0065

Earth -30456-11-28 05:59 J -9402299.38 -9402299.25 -9402299.11 0.2656 0.0094 *

Jupiter -30455-12-13 17:02 J -9401918.91 -9401918.79 -9401918.67 0.0523 0.0242

Jupiter -30454-03-13 02:09 J -9401829.51 -9401829.41 -9401829.31 0.0519 0.0352

Earth -30453-05-29 18:14 J -9401385.84 -9401385.74 -9401385.64 0.2674 0.1666

Moon -30453-05-29 18:14 J -9401385.83 -9401385.74 -9401385.65 0.2680 0.1711 *

Mars -30449-11-14 17:45 J -9399755.85 -9399755.76 -9399755.66 0.1754 0.1375

Jupiter -30448-05-11 18:14 J -9399577.91 -9399577.74 -9399577.57 0.0506 0.0045

Mars -30448-12-08 02:38 J -9399367.51 -9399367.39 -9399367.27 0.1780 0.0553

Moon -30446-05-23 08:38 J -9398836.24 -9398836.14 -9398836.03 0.2675 0.1355

Earth -30446-05-23 09:35 J -9398836.21 -9398836.10 -9398836.00 0.2679 0.1218 *

Saturn -30446-07-14 20:38 J -9398783.77 -9398783.64 -9398783.51 0.0291 0.0187

Saturn -30446-10-11 17:02 J -9398694.96 -9398694.79 -9398694.62 0.0291 0.0024

Uranus -30445-01-06 06:28 J -9398608.30 -9398608.23 -9398608.16 0.0135 0.0123

Saturn -30445-01-08 12:57 J -9398606.11 -9398605.96 -9398605.81 0.0291 0.0136

Uranus -30445-04-03 12:14 J -9398520.11 -9398519.99 -9398519.88 0.0135 0.0099

Saturn -30445-04-06 08:23 J -9398517.15 -9398517.15 -9398517.15 0.0291 0.0291

Uranus -30445-06-30 17:31 J -9398431.90 -9398431.77 -9398431.61 0.0134 0.0076

Uranus -30445-09-26 23:16 J -9398343.68 -9398343.53 -9398343.36 0.0134 0.0052

Uranus -30445-12-24 05:02 J -9398255.45 -9398255.29 -9398255.12 0.0134 0.0028

Uranus -30444-03-22 10:33 J -9398167.23 -9398167.06 -9398166.88 0.0134 0.0006

Uranus -30444-06-18 16:04 J -9398079.00 -9398078.83 -9398078.66 0.0134 0.0019

Uranus -30444-09-14 21:21 J -9397990.76 -9397990.61 -9397990.44 0.0134 0.0042

Uranus -30444-12-12 02:38 J -9397902.52 -9397902.39 -9397902.23 0.0134 0.0065

Uranus -30443-03-10 08:09 J -9397814.28 -9397814.16 -9397814.03 0.0134 0.0087

Uranus -30443-06-06 13:40 J -9397726.03 -9397725.93 -9397725.84 0.0134 0.0109

Uranus -30443-09-02 18:43 J -9397637.74 -9397637.72 -9397637.69 0.0134 0.0131

Jupiter -30443-10-01 19:40 J -9397608.76 -9397608.68 -9397608.59 0.0524 0.0403

Earth -30443-12-01 05:59 J -9397548.37 -9397548.25 -9397548.14 0.2658 0.1306

Moon -30443-12-01 05:59 J -9397548.36 -9397548.25 -9397548.13 0.2665 0.1259 *

Jupiter -30443-12-30 04:47 J -9397519.43 -9397519.30 -9397519.17 0.0521 0.0190

Mars -30438-04-30 11:16 J -9395937.15 -9395937.03 -9395936.91 0.1774 0.0087

Mars -30437-03-13 14:52 J -9395618.96 -9395618.88 -9395618.79 0.1736 0.1419

Jupiter -30436-02-27 17:16 J -9395267.93 -9395267.78 -9395267.62 0.0505 0.0216

Jupiter -30436-05-28 19:11 J -9395177.76 -9395177.70 -9395177.65 0.0508 0.0478

Moon -30436-11-23 09:35 J -9394999.17 -9394999.10 -9394999.02 0.2652 0.2239

Earth -30436-11-23 11:02 J -9394999.12 -9394999.04 -9394998.97 0.2653 0.2230 *

Moon -30433-05-25 05:02 J -9394085.41 -9394085.29 -9394085.17 0.2678 0.0246

Earth -30433-05-25 05:59 J -9394085.37 -9394085.25 -9394085.13 0.2677 0.0215 *

Saturn -30431-01-28 12:14 J -9393472.08 -9393471.99 -9393471.90 0.0268 0.0201

Saturn -30431-04-26 23:59 J -9393383.63 -9393383.50 -9393383.37 0.0268 0.0098

Saturn -30431-07-24 11:59 J -9393295.14 -9393295.00 -9393294.85 0.0268 0.0008

Jupiter -30431-10-18 08:09 J -9393209.29 -9393209.16 -9393209.02 0.0522 0.0044

Saturn -30431-10-21 00:14 J -9393206.62 -9393206.49 -9393206.36 0.0268 0.0114

Saturn -30430-01-17 12:28 J -9393118.05 -9393117.98 -9393117.89 0.0268 0.0224

Venus -30430-07-09 15:35 J -9392944.94 -9392944.85 -9392944.77 0.3781 0.2373

Earth -30430-12-04 05:16 J -9392797.32 -9392797.28 -9392797.23 0.2660 0.2477

Moon -30430-12-04 06:28 J -9392797.25 -9392797.23 -9392797.22 0.2663 0.2635 *

Mars -30429-09-19 20:09 J -9392506.77 -9392506.66 -9392506.55 0.1768 0.0713

Mars -30428-08-03 16:33 J -9392188.95 -9392188.81 -9392188.66 0.1742 0.0560

Venus -30426-07-09 19:26 J -9391483.71 -9391483.69 -9391483.66 0.3594 0.3492

Jupiter -30425-12-16 15:35 J -9390957.95 -9390957.85 -9390957.74 0.0504 0.0396

Venus -30424-01-22 09:21 J -9390921.22 -9390921.11 -9390921.00 0.3781 0.0394

Jupiter -30424-03-16 17:59 J -9390867.88 -9390867.75 -9390867.62 0.0507 0.0302

Moon -30423-11-26 10:19 J -9390248.19 -9390248.07 -9390247.94 0.2657 0.1071

Earth -30423-11-26 11:31 J -9390248.15 -9390248.02 -9390247.89 0.2654 0.0937 *

Venus -30420-01-22 20:09 J -9389459.79 -9389459.66 -9389459.53 0.3595 0.0727

Moon -30420-05-28 01:55 J -9389334.53 -9389334.42 -9389334.30 0.2681 0.0756

Earth -30420-05-28 02:38 J -9389334.51 -9389334.39 -9389334.27 0.2675 0.0812 *

Mars -30419-02-10 05:02 J -9389076.37 -9389076.29 -9389076.21 0.1762 0.1312

Jupiter -30419-08-06 11:59 J -9388899.13 -9388899.00 -9388898.87 0.0523 0.0095

Venus -30419-08-08 03:21 J -9388897.41 -9388897.36 -9388897.31 0.3780 0.3247

Jupiter -30419-11-03 21:21 J -9388809.64 -9388809.61 -9388809.58 0.0519 0.0502

Mars -30419-12-24 17:45 J -9388758.92 -9388758.76 -9388758.61 0.1748 0.0340

Mars -30417-01-16 18:14 J -9388370.82 -9388370.74 -9388370.66 0.1786 0.1288

Saturn -30417-11-30 19:11 J -9388051.79 -9388051.70 -9388051.60 0.0291 0.0241

Saturn -30416-02-27 15:50 J -9387963.00 -9387962.84 -9387962.68 0.0291 0.0076

Saturn -30416-05-27 11:59 J -9387874.16 -9387874.00 -9387873.84 0.0291 0.0084

Saturn -30416-08-24 07:26 J -9387785.28 -9387785.19 -9387785.10 0.0291 0.0241

Moon -30413-05-20 18:14 J -9386784.82 -9386784.74 -9386784.67 0.2674 0.2083

Earth -30413-05-20 18:28 J -9386784.81 -9386784.73 -9386784.65 0.2680 0.2008 *

Jupiter -30412-01-02 17:16 J -9386557.94 -9386557.78 -9386557.61 0.0506 0.0134

Moon -30410-11-29 11:16 J -9385497.16 -9385497.03 -9385496.89 0.2663 0.0298

Earth -30410-11-29 11:45 J -9385497.15 -9385497.01 -9385496.88 0.2656 0.0317 *

Mars -30409-05-15 18:43 J -9385328.83 -9385328.72 -9385328.61 0.1754 0.1259

Mars -30408-06-08 02:38 J -9384940.50 -9384940.39 -9384940.27 0.1780 0.0628

Jupiter -30407-05-25 15:50 J -9384588.96 -9384588.84 -9384588.72 0.0523 0.0235

Earth -30407-05-30 23:31 J -9384583.61 -9384583.52 -9384583.43 0.2673 0.1864

Moon -30407-05-30 23:45 J -9384583.60 -9384583.51 -9384583.43 0.2680 0.1870 *

Jupiter -30407-08-23 00:57 J -9384499.55 -9384499.46 -9384499.36 0.0520 0.0360

Pluto -30404-10-18 09:07 J -9383347.16 -9383347.12 -9383347.05 0.0069 0.0065

Pluto -30403-01-14 10:19 J -9383259.13 -9383259.07 -9383258.96 0.0069 0.0059

Pluto -30403-04-12 11:59 J -9383171.10 -9383171.00 -9383170.88 0.0069 0.0052

Pluto -30403-07-09 13:11 J -9383083.06 -9383082.95 -9383082.81 0.0069 0.0046

Pluto -30403-10-05 14:52 J -9382995.01 -9382994.88 -9382994.74 0.0070 0.0039

Neptune -30403-12-20 23:31 J -9382918.55 -9382918.52 -9382918.48 0.0089 0.0086

Pluto -30402-01-01 16:04 J -9382906.96 -9382906.83 -9382906.67 0.0070 0.0033

Neptune -30402-03-19 01:11 J -9382830.51 -9382830.45 -9382830.39 0.0089 0.0079

Pluto -30402-03-30 17:31 J -9382818.91 -9382818.77 -9382818.61 0.0070 0.0026

Neptune -30402-06-15 02:23 J -9382742.47 -9382742.40 -9382742.31 0.0089 0.0072

Saturn -30402-06-17 12:57 J -9382740.01 -9382739.96 -9382739.90 0.0269 0.0243

Pluto -30402-06-26 18:57 J -9382730.86 -9382730.71 -9382730.54 0.0070 0.0019

Neptune -30402-09-11 03:50 J -9382654.42 -9382654.34 -9382654.23 0.0089 0.0066

Saturn -30402-09-14 00:43 J -9382651.59 -9382651.47 -9382651.35 0.0268 0.0140

Pluto -30402-09-22 20:38 J -9382642.81 -9382642.64 -9382642.48 0.0070 0.0012

Neptune -30402-12-08 05:31 J -9382566.37 -9382566.27 -9382566.16 0.0089 0.0059

Uranus -30402-12-10 10:33 J -9382564.11 -9382564.06 -9382563.99 0.0144 0.0128

Saturn -30402-12-11 12:43 J -9382563.11 -9382562.97 -9382562.83 0.0268 0.0036

Pluto -30402-12-19 22:04 J -9382554.75 -9382554.58 -9382554.42 0.0070 0.0005

Neptune -30401-03-05 07:11 J -9382478.31 -9382478.20 -9382478.09 0.0089 0.0052

Uranus -30401-03-07 14:52 J -9382475.97 -9382475.88 -9382475.78 0.0144 0.0105

Saturn -30401-03-09 00:43 J -9382474.60 -9382474.47 -9382474.33 0.0268 0.0071

Pluto -30401-03-16 23:31 J -9382466.69 -9382466.52 -9382466.35 0.0070 0.0001

Neptune -30401-06-01 08:52 J -9382390.25 -9382390.13 -9382390.01 0.0089 0.0045

Uranus -30401-06-03 19:11 J -9382387.81 -9382387.70 -9382387.58 0.0144 0.0081

Saturn -30401-06-05 13:11 J -9382386.06 -9382385.95 -9382385.85 0.0269 0.0179

Pluto -30401-06-13 00:57 J -9382378.63 -9382378.46 -9382378.29 0.0070 0.0008

Neptune -30401-08-28 10:04 J -9382302.20 -9382302.08 -9382301.95 0.0089 0.0038

Uranus -30401-08-30 23:45 J -9382299.64 -9382299.51 -9382299.38 0.0144 0.0057

Pluto -30401-09-09 02:23 J -9382290.56 -9382290.40 -9382290.24 0.0070 0.0015

Jupiter -30401-10-21 16:47 J -9382247.97 -9382247.80 -9382247.63 0.0506 0.0036

Neptune -30401-11-24 11:45 J -9382214.14 -9382214.01 -9382213.88 0.0089 0.0031

Uranus -30401-11-27 04:04 J -9382211.47 -9382211.33 -9382211.19 0.0144 0.0033

Pluto -30401-12-06 03:50 J -9382202.49 -9382202.34 -9382202.18 0.0071 0.0022

Neptune -30400-02-20 13:11 J -9382126.08 -9382125.95 -9382125.81 0.0089 0.0024

Uranus -30400-02-23 08:23 J -9382123.29 -9382123.15 -9382123.00 0.0144 0.0010

Pluto -30400-03-04 05:16 J -9382114.43 -9382114.28 -9382114.12 0.0071 0.0030

Neptune -30400-05-19 14:52 J -9382038.01 -9382037.88 -9382037.74 0.0089 0.0017

Uranus -30400-05-22 12:57 J -9382035.10 -9382034.96 -9382034.81 0.0144 0.0016

Moon -30400-05-23 13:55 J -9382034.03 -9382033.92 -9382033.81 0.2675 0.1018

Earth -30400-05-23 14:38 J -9382034.00 -9382033.89 -9382033.77 0.2679 0.1036 *

Pluto -30400-05-31 06:43 J -9382026.35 -9382026.22 -9382026.07 0.0071 0.0037

Neptune -30400-08-15 16:33 J -9381949.95 -9381949.81 -9381949.67 0.0089 0.0010

Uranus -30400-08-18 17:31 J -9381946.91 -9381946.77 -9381946.63 0.0145 0.0040

Pluto -30400-08-27 08:09 J -9381938.28 -9381938.16 -9381938.02 0.0071 0.0044

Neptune -30400-11-11 17:59 J -9381861.89 -9381861.75 -9381861.61 0.0089 0.0004

Uranus -30400-11-14 21:50 J -9381858.71 -9381858.59 -9381858.45 0.0145 0.0066

Pluto -30400-11-23 09:50 J -9381850.20 -9381850.09 -9381849.97 0.0071 0.0051

Neptune -30399-02-07 19:40 J -9381773.82 -9381773.68 -9381773.54 0.0089 0.0004

Uranus -30399-02-11 02:23 J -9381770.50 -9381770.40 -9381770.28 0.0145 0.0091

Pluto -30399-02-19 11:31 J -9381762.11 -9381762.02 -9381761.92 0.0071 0.0059

Neptune -30399-05-06 21:07 J -9381685.75 -9381685.62 -9381685.48 0.0089 0.0011

Uranus -30399-05-10 07:11 J -9381682.28 -9381682.20 -9381682.11 0.0145 0.0116

Pluto -30399-05-18 12:43 J -9381674.01 -9381673.97 -9381673.89 0.0071 0.0066

Neptune -30399-08-02 22:47 J -9381597.69 -9381597.55 -9381597.41 0.0089 0.0018

Uranus -30399-08-06 11:59 J -9381594.03 -9381594.00 -9381593.97 0.0145 0.0141

Mars -30399-10-29 11:16 J -9381510.15 -9381510.03 -9381509.91 0.1774 0.0051

Neptune -30399-10-30 00:14 J -9381509.62 -9381509.49 -9381509.35 0.0089 0.0025

Neptune -30398-01-26 01:55 J -9381421.55 -9381421.42 -9381421.29 0.0089 0.0032

Neptune -30398-04-24 03:21 J -9381333.48 -9381333.36 -9381333.22 0.0089 0.0040

Neptune -30398-07-21 05:02 J -9381245.40 -9381245.29 -9381245.16 0.0089 0.0046

Mars -30398-09-12 15:35 J -9381191.92 -9381191.85 -9381191.78 0.1736 0.1520

Neptune -30398-10-17 06:43 J -9381157.33 -9381157.22 -9381157.10 0.0089 0.0053

Neptune -30397-01-13 08:23 J -9381069.25 -9381069.15 -9381069.05 0.0089 0.0060

Neptune -30397-04-10 10:04 J -9380981.17 -9380981.08 -9380980.99 0.0089 0.0068

Neptune -30397-07-07 11:16 J -9380893.09 -9380893.03 -9380892.94 0.0089 0.0076

Neptune -30397-10-03 12:57 J -9380805.00 -9380804.96 -9380804.89 0.0089 0.0083

Earth -30397-12-01 11:31 J -9380746.13 -9380746.02 -9380745.91 0.2658 0.1522

Moon -30397-12-01 11:45 J -9380746.11 -9380746.01 -9380745.90 0.2664 0.1593 *

Jupiter -30395-03-13 19:26 J -9380278.78 -9380278.69 -9380278.60 0.0524 0.0378

Jupiter -30395-06-11 04:33 J -9380189.44 -9380189.31 -9380189.19 0.0520 0.0215

Moon	-30390-11-24 15:21 J	-9378196.93	-9378196.86	-9378196.78	0.2653	0.2186
Earth	-30390-11-24 16:47 J	-9378196.89	-9378196.80	-9378196.71	0.2653	0.1993 *
Mars	-30389-03-20 20:09 J	-9378079.77	-9378079.66	-9378079.55	0.1768	0.0635
Jupiter	-30389-08-09 16:19 J	-9377937.98	-9377937.82	-9377937.67	0.0505	0.0202
Jupiter	-30389-11-07 17:59 J	-9377847.78	-9377847.75	-9377847.71	0.0508	0.0492
Mars	-30388-02-01 17:16 J	-9377761.93	-9377761.78	-9377761.64	0.1742	0.0665
Moon	-30387-05-26 10:19 J	-9377283.19	-9377283.07	-9377282.95	0.2680	0.0163
Earth	-30387-05-26 11:16 J	-9377283.16	-9377283.03	-9377282.91	0.2677	0.0095 *
Saturn	-30387-07-17 13:26 J	-9377231.08	-9377230.94	-9377230.78	0.0291	0.0136
Saturn	-30387-10-14 09:50 J	-9377142.25	-9377142.09	-9377141.92	0.0291	0.0028
Saturn	-30386-01-11 05:45 J	-9377053.39	-9377053.26	-9377053.13	0.0291	0.0186
Jupiter	-30383-03-30 06:57 J	-9375879.34	-9375879.21	-9375879.07	0.0522	0.0053
Mars	-30380-08-11 05:02 J	-9374649.37	-9374649.29	-9374649.20	0.1762	0.1240
Mars	-30379-06-24 18:14 J	-9374331.89	-9374331.74	-9374331.58	0.1748	0.0236
Mars	-30378-07-17 18:28 J	-9373943.81	-9373943.73	-9373943.66	0.1786	0.1371
Jupiter	-30377-05-28 15:21 J	-9373627.97	-9373627.86	-9373627.75	0.0504	0.0373
Jupiter	-30377-08-26 17:31 J	-9373537.89	-9373537.77	-9373537.64	0.0507	0.0325
Moon	-30377-11-26 16:19 J	-9373445.95	-9373445.82	-9373445.69	0.2658	0.0720
Earth	-30377-11-26 17:16 J	-9373445.91	-9373445.78	-9373445.65	0.2655	0.0706 *
Moon	-30374-05-29 07:11 J	-9372532.31	-9372532.20	-9372532.08	0.2680	0.0995
Earth	-30374-05-29 07:55 J	-9372532.29	-9372532.17	-9372532.06	0.2675	0.1009 *
Venus	-30373-02-13 13:26 J	-9372272.04	-9372271.94	-9372271.84	0.3781	0.1380
Saturn	-30373-11-03 16:04 J	-9372007.85	-9372007.83	-9372007.81	0.0268	0.0264
Saturn	-30372-01-31 03:50 J	-9371919.45	-9371919.34	-9371919.23	0.0268	0.0162
Saturn	-30372-04-29 15:35 J	-9371830.99	-9371830.85	-9371830.71	0.0268	0.0058
Saturn	-30372-07-27 03:35 J	-9371742.49	-9371742.35	-9371742.20	0.0268	0.0049
Saturn	-30372-10-23 15:50 J	-9371653.95	-9371653.84	-9371653.72	0.0268	0.0156
Jupiter	-30371-01-16 10:33 J	-9371569.20	-9371569.06	-9371568.93	0.0523	0.0096
Saturn	-30371-01-20 04:19 J	-9371565.33	-9371565.32	-9371565.29	0.0268	0.0265
Jupiter	-30371-04-15 19:40 J	-9371479.70	-9371479.68	-9371479.64	0.0519	0.0504

Mars -30370-11-14 18:57 J -9370901.83 -9370901.71 -9370901.59 0.1754 0.1164

Venus -30369-02-13 19:26 J -9370810.80 -9370810.69 -9370810.58 0.3594 0.1949

Mars -30369-12-07 02:38 J -9370513.50 -9370513.39 -9370513.28 0.1780 0.0701

Venus -30368-08-29 07:11 J -9370248.30 -9370248.20 -9370248.09 0.3781 0.1432

Moon -30367-05-21 23:02 J -9369982.62 -9369982.54 -9369982.45 0.2674 0.1825

Earth -30367-05-21 23:45 J -9369982.60 -9369982.51 -9369982.43 0.2680 0.1833 *

Jupiter -30365-06-14 16:19 J -9369227.98 -9369227.82 -9369227.66 0.0506 0.0147

Venus -30364-08-29 19:55 J -9368786.78 -9368786.67 -9368786.57 0.3595 0.2188

Moon -30364-11-29 17:02 J -9368694.92 -9368694.79 -9368694.66 0.2663 0.0489

Earth -30364-11-29 17:16 J -9368694.91 -9368694.78 -9368694.64 0.2657 0.0546 *

Uranus -30361-01-26 12:57 J -9367907.03 -9367906.96 -9367906.86 0.0135 0.0118

Uranus -30361-04-23 18:43 J -9367818.83 -9367818.72 -9367818.58 0.0135 0.0094

Earth -30361-05-31 04:47 J -9367781.38 -9367781.30 -9367781.22 0.2673 0.2066

Moon -30361-05-31 05:02 J -9367781.36 -9367781.29 -9367781.22 0.2680 0.2098 *

Uranus -30361-07-21 00:28 J -9367730.62 -9367730.48 -9367730.32 0.0134 0.0070

Uranus -30361-10-17 06:14 J -9367642.40 -9367642.24 -9367642.07 0.0134 0.0046

Uranus -30360-01-13 11:45 J -9367554.17 -9367554.01 -9367553.83 0.0134 0.0023

Uranus -30360-04-11 17:31 J -9367465.94 -9367465.77 -9367465.60 0.0134 0.0002

Uranus -30360-07-08 23:02 J -9367377.71 -9367377.54 -9367377.38 0.0134 0.0024

Uranus -30360-10-05 04:19 J -9367289.48 -9367289.32 -9367289.16 0.0134 0.0047

Jupiter -30360-11-04 14:23 J -9367259.02 -9367258.90 -9367258.78 0.0524 0.0234

Uranus -30359-01-01 09:35 J -9367201.24 -9367201.10 -9367200.95 0.0134 0.0070

Jupiter -30359-02-01 23:31 J -9367169.62 -9367169.52 -9367169.42 0.0520 0.0362

Uranus -30359-03-30 15:07 J -9367112.99 -9367112.87 -9367112.75 0.0134 0.0092

Mars -30359-04-29 11:16 J -9367083.15 -9367083.03 -9367082.91 0.1774 0.0073

Uranus -30359-06-26 20:09 J -9367024.73 -9367024.66 -9367024.56 0.0134 0.0115

Mars -30358-03-13 15:50 J -9366764.89 -9366764.84 -9366764.78 0.1736 0.1610

Saturn -30358-12-04 12:28 J -9366499.10 -9366498.98 -9366498.84 0.0291 0.0188

Saturn -30357-03-02 09:07 J -9366410.29 -9366410.12 -9366409.96 0.0291 0.0024

Saturn -30357-05-30 05:02 J -9366321.44 -9366321.29 -9366321.14 0.0291 0.0136

Moon -30354-05-24 19:11 J -9365231.81 -9365231.70 -9365231.59 0.2676 0.0974

Earth -30354-05-24 19:55 J -9365231.78 -9365231.67 -9365231.55 0.2678 0.0841 *

Jupiter -30353-04-02 15:35 J -9364918.02 -9364917.85 -9364917.68 0.0505 0.0025

Earth -30351-12-02 17:02 J -9363943.89 -9363943.79 -9363943.69 0.2658 0.1745

Moon -30351-12-02 17:45 J -9363943.86 -9363943.76 -9363943.66 0.2664 0.1790 *

Mars -30350-09-19 20:09 J -9363652.78 -9363652.66 -9363652.55 0.1768 0.0571

Mars -30349-08-02 17:45 J -9363334.90 -9363334.76 -9363334.62 0.1742 0.0764

Jupiter -30348-08-23 18:14 J -9362948.83 -9362948.74 -9362948.65 0.0524 0.0371

Jupiter -30348-11-21 03:07 J -9362859.49 -9362859.37 -9362859.24 0.0521 0.0222

Moon -30344-11-24 21:07 J -9361394.72 -9361394.62 -9361394.52 0.2653 0.1769

Earth -30344-11-24 22:33 J -9361394.67 -9361394.56 -9361394.46 0.2653 0.1760 *

Saturn -30343-06-20 04:33 J -9361187.39 -9361187.31 -9361187.21 0.0268 0.0203

Saturn -30343-09-16 16:33 J -9361098.95 -9361098.81 -9361098.68 0.0268 0.0100

Saturn -30343-12-14 04:19 J -9361010.46 -9361010.32 -9361010.17 0.0268 0.0008

Saturn -30342-03-12 16:33 J -9360921.94 -9360921.81 -9360921.68 0.0268 0.0112

Saturn -30342-06-09 04:47 J -9360833.38 -9360833.30 -9360833.21 0.0268 0.0221

Jupiter -30341-01-20 14:38 J -9360608.04 -9360607.89 -9360607.73 0.0505 0.0194

Jupiter -30341-04-19 16:33 J -9360517.83 -9360517.81 -9360517.78 0.0508 0.0501

Moon -30341-05-26 15:35 J -9360480.97 -9360480.85 -9360480.73 0.2680 0.0177

Earth -30341-05-26 16:19 J -9360480.94 -9360480.82 -9360480.69 0.2676 0.0193 *

Mars -30340-02-09 05:02 J -9360222.37 -9360222.29 -9360222.20 0.1762 0.1171

Mars -30340-12-23 18:57 J -9359904.86 -9359904.71 -9359904.55 0.1748 0.0122

Mars -30338-01-15 18:14 J -9359516.81 -9359516.74 -9359516.67 0.1785 0.1435

Jupiter -30336-06-11 22:04 J -9358638.61 -9358638.58 -9358638.56 0.0525 0.0513

Jupiter -30336-09-09 06:43 J -9358549.35 -9358549.22 -9358549.09 0.0521 0.0077

Moon -30334-05-20 08:52 J -9357931.16 -9357931.13 -9357931.11 0.2675 0.2593

Earth -30334-05-20 08:38 J -9357931.16 -9357931.14 -9357931.11 0.2682 0.2612 *

Mars -30331-07-02 14:23 J -9356791.91 -9356791.90 -9356791.89 0.1756 0.1748

Moon -30331-11-27 22:04 J -9356643.71 -9356643.58 -9356643.45 0.2660 0.0622

Earth -30331-11-27 23:02 J -9356643.68 -9356643.54 -9356643.41 0.2655 0.0482 *

Mars -30330-05-15 19:40 J -9356474.81 -9356474.68 -9356474.56 0.1754 0.1055

Jupiter -30330-11-08 14:09 J -9356298.03 -9356297.91 -9356297.79 0.0504 0.0360

Jupiter -30329-02-06 16:19 J -9356207.94 -9356207.82 -9356207.69 0.0507 0.0340

Mars -30329-06-07 02:52 J -9356086.49 -9356086.38 -9356086.27 0.1780 0.0780

Saturn -30328-04-22 09:50 J -9355767.17 -9355767.09 -9355767.00 0.0291 0.0250

Moon -30328-05-29 12:43 J -9355730.08 -9355729.97 -9355729.86 0.2681 0.1136

Earth -30328-05-29 13:11 J -9355730.06 -9355729.95 -9355729.84 0.2675 0.1208 *

Saturn -30328-07-20 06:28 J -9355678.39 -9355678.23 -9355678.06 0.0291 0.0085

Saturn -30328-10-17 02:52 J -9355589.54 -9355589.38 -9355589.22 0.0291 0.0078

Saturn -30327-01-13 22:19 J -9355500.66 -9355500.57 -9355500.47 0.0291 0.0236

Jupiter -30324-06-28 09:21 J -9354239.25 -9354239.11 -9354238.98 0.0523 0.0086

Jupiter -30324-09-25 18:43 J -9354149.74 -9354149.72 -9354149.70 0.0519 0.0511

Venus -30322-03-06 17:45 J -9353622.82 -9353622.76 -9353622.70 0.3782 0.3105

Moon -30321-05-22 04:19 J -9353180.41 -9353180.32 -9353180.23 0.2674 0.1713

Earth -30321-05-22 04:47 J -9353180.39 -9353180.30 -9353180.20 0.2680 0.1645 *

Mars -30320-10-28 11:16 J -9352656.15 -9352656.03 -9352655.91 0.1774 0.0142

Neptune -30319-06-13 01:26 J -9352428.47 -9352428.44 -9352428.36 0.0088 0.0084

Neptune -30319-09-09 04:33 J -9352340.38 -9352340.31 -9352340.20 0.0088 0.0076

Mars -30319-09-11 16:19 J -9352337.84 -9352337.82 -9352337.79 0.1736 0.1710

Neptune -30319-12-06 07:40 J -9352252.28 -9352252.18 -9352252.04 0.0088 0.0067

Pluto -30319-12-19 13:55 J -9352238.93 -9352238.92 -9352238.86 0.0075 0.0074

Neptune -30318-03-04 11:02 J -9352164.17 -9352164.04 -9352163.90 0.0088 0.0057

Pluto -30318-03-17 15:21 J -9352150.91 -9352150.86 -9352150.77 0.0075 0.0066

Neptune -30318-05-31 14:09 J -9352076.06 -9352075.91 -9352075.76 0.0088 0.0048

Pluto -30318-06-13 17:02 J -9352062.88 -9352062.79 -9352062.69 0.0075 0.0057

Neptune -30318-08-27 17:16 J -9351987.94 -9351987.78 -9351987.62 0.0088 0.0040

Pluto -30318-09-09 18:28 J -9351974.84 -9351974.73 -9351974.61 0.0075 0.0049

Neptune -30318-11-23 19:55 J -9351899.83 -9351899.67 -9351899.49 0.0088 0.0031

Jupiter -30318-11-25 15:50 J -9351897.99 -9351897.84 -9351897.68 0.0506 0.0172

Moon -30318-11-30 22:47 J -9351892.68 -9351892.55 -9351892.42 0.2663 0.0792

Earth -30318-11-30 23:02 J -9351892.67 -9351892.54 -9351892.41 0.2657 0.0765 *

Pluto -30318-12-06 19:40 J -9351886.80 -9351886.68 -9351886.55 0.0075 0.0042

Uranus -30318-12-30 17:16 J -9351862.84 -9351862.78 -9351862.69 0.0144 0.0124

Neptune -30317-02-19 23:02 J -9351811.71 -9351811.54 -9351811.35 0.0088 0.0022

Pluto -30317-03-03 21:07 J -9351798.75 -9351798.62 -9351798.48 0.0075 0.0034

Uranus -30317-03-27 21:50 J -9351774.69 -9351774.59 -9351774.49 0.0144 0.0100

Neptune -30317-05-18 02:09 J -9351723.58 -9351723.41 -9351723.23 0.0088 0.0013

Pluto -30317-05-30 22:19 J -9351710.70 -9351710.57 -9351710.42 0.0074 0.0027

Uranus -30317-06-24 01:55 J -9351686.53 -9351686.42 -9351686.29 0.0144 0.0077

Neptune -30317-08-14 05:16 J -9351635.46 -9351635.28 -9351635.10 0.0088 0.0005

Pluto -30317-08-26 23:45 J -9351622.65 -9351622.51 -9351622.36 0.0074 0.0019

Venus -30317-09-19 11:31 J -9351599.13 -9351599.02 -9351598.92 0.3781 0.0390

Uranus -30317-09-20 06:28 J -9351598.36 -9351598.23 -9351598.09 0.0144 0.0053

Neptune -30317-11-10 08:09 J -9351547.34 -9351547.16 -9351546.98 0.0088 0.0004

Pluto -30317-11-23 01:11 J -9351534.60 -9351534.45 -9351534.30 0.0074 0.0012

Uranus -30317-12-17 10:47 J -9351510.19 -9351510.05 -9351509.90 0.0144 0.0029

Neptune -30316-02-06 11:02 J -9351459.21 -9351459.04 -9351458.86 0.0088 0.0013

Pluto -30316-02-19 02:23 J -9351446.55 -9351446.40 -9351446.25 0.0074 0.0004

Uranus -30316-03-15 15:21 J -9351422.00 -9351421.86 -9351421.72 0.0144 0.0004

Neptune -30316-05-05 14:09 J -9351371.09 -9351370.91 -9351370.74 0.0088 0.0021

Pluto -30316-05-18 03:35 J -9351358.50 -9351358.35 -9351358.20 0.0074 0.0003

Uranus -30316-06-11 19:55 J -9351333.82 -9351333.67 -9351333.53 0.0144 0.0020

Neptune -30316-08-01 17:02 J -9351282.96 -9351282.79 -9351282.62 0.0088 0.0030

Pluto -30316-08-14 04:47 J -9351270.44 -9351270.30 -9351270.15 0.0074 0.0011

Uranus -30316-09-08 00:14 J -9351245.62 -9351245.49 -9351245.35 0.0144 0.0045

Neptune -30316-10-28 19:40 J -9351194.83 -9351194.68 -9351194.51 0.0088 0.0039

Pluto -30316-11-10 05:59 J -9351182.39 -9351182.25 -9351182.10 0.0074 0.0018

Uranus -30316-12-05 04:47 J -9351157.42 -9351157.30 -9351157.17 0.0145 0.0070

Neptune -30315-01-24 22:47 J -9351106.70 -9351106.55 -9351106.39 0.0088 0.0047

Pluto -30315-02-06 07:11 J -9351094.33 -9351094.20 -9351094.05 0.0073 0.0025

Uranus -30315-03-03 09:21 J -9351069.21 -9351069.11 -9351068.99 0.0145 0.0095

Neptune -30315-04-23 01:26 J -9351018.56 -9351018.44 -9351018.29 0.0088 0.0056

Pluto -30315-05-05 08:23 J -9351006.28 -9351006.15 -9351006.01 0.0073 0.0032

Uranus -30315-05-30 13:55 J -9350980.99 -9350980.92 -9350980.83 0.0145 0.0121

Earth -30315-06-01 10:04 J -9350979.15 -9350979.08 -9350979.02 0.2673 0.2266

Moon -30315-06-01 10:19 J -9350979.13 -9350979.07 -9350979.01 0.2680 0.2312 *

Neptune -30315-07-20 04:19 J -9350930.42 -9350930.32 -9350930.18 0.0088 0.0065

Pluto -30315-08-01 09:35 J -9350918.22 -9350918.10 -9350917.96 0.0073 0.0039

Neptune -30315-10-16 07:40 J -9350842.28 -9350842.18 -9350842.08 0.0088 0.0073

Pluto -30315-10-28 10:47 J -9350830.16 -9350830.05 -9350829.92 0.0073 0.0046

Neptune -30314-01-12 10:04 J -9350754.13 -9350754.08 -9350754.00 0.0088 0.0081

Pluto -30314-01-24 11:59 J -9350742.09 -9350742.00 -9350741.89 0.0073 0.0052

Pluto -30314-04-22 13:11 J -9350654.03 -9350653.95 -9350653.86 0.0073 0.0059

Pluto -30314-07-19 14:09 J -9350565.96 -9350565.91 -9350565.83 0.0073 0.0066

Pluto -30314-10-15 15:21 J -9350477.86 -9350477.86 -9350477.83 0.0073 0.0072

Saturn -30314-11-07 07:40 J -9350455.25 -9350455.18 -9350455.10 0.0268 0.0225

Saturn -30313-02-03 19:26 J -9350366.82 -9350366.69 -9350366.57 0.0268 0.0122

Saturn -30313-05-02 07:11 J -9350278.34 -9350278.20 -9350278.05 0.0268 0.0019

Saturn -30313-07-29 19:26 J -9350189.83 -9350189.69 -9350189.56 0.0268 0.0090

Venus -30313-09-19 19:11 J -9350137.83 -9350137.70 -9350137.56 0.3594 0.0435

Saturn -30313-10-26 07:40 J -9350101.27 -9350101.18 -9350101.08 0.0268 0.0198

Jupiter -30312-04-16 12:43 J -9349929.09 -9349928.97 -9349928.85 0.0524 0.0232

Jupiter -30312-07-14 21:50 J -9349839.68 -9349839.59 -9349839.49 0.0520 0.0363

Venus -30311-04-05 05:16 J -9349575.36 -9349575.28 -9349575.20 0.3780 0.2454

Mars -30310-03-20 20:09 J -9349225.77 -9349225.66 -9349225.54 0.1768 0.0493

Mars -30309-02-01 18:14 J -9348907.87 -9348907.74 -9348907.61 0.1742 0.0865

Moon -30308-05-25 00:14 J -9348429.61 -9348429.49 -9348429.37 0.2677 0.0674

Earth -30308-05-25 01:11 J -9348429.57 -9348429.45 -9348429.34 0.2678 0.0661 *

Jupiter -30306-09-13 14:23 J -9347588.07 -9347587.90 -9347587.73 0.0505 0.0014

Earth -30305-12-02 22:47 J -9347141.64 -9347141.55 -9347141.46 0.2659 0.1967

Moon -30305-12-02 23:31 J -9347141.61 -9347141.52 -9347141.44 0.2664 0.2014 *

Mars -30301-08-10 05:16 J -9345795.38 -9345795.28 -9345795.19 0.1762 0.1098

Jupiter -30300-02-02 16:33 J -9345618.90 -9345618.81 -9345618.72 0.0525 0.0372

Jupiter -30300-05-03 01:26 J -9345529.56 -9345529.44 -9345529.31 0.0521 0.0224

Mars -30300-06-23 19:26 J -9345477.85 -9345477.69 -9345477.54 0.1748 0.0054

Mars -30299-07-16 18:28 J -9345089.79 -9345089.73 -9345089.67 0.1786 0.1518

Saturn -30299-12-07 05:45 J -9344946.40 -9344946.26 -9344946.10 0.0291 0.0134

Saturn -30298-03-06 02:09 J -9344857.57 -9344857.41 -9344857.24 0.0291 0.0029

Saturn -30298-06-02 22:04 J -9344768.70 -9344768.58 -9344768.45 0.0291 0.0188

Moon -30298-11-26 03:07 J -9344592.48 -9344592.37 -9344592.27 0.2654 0.1697

Earth -30298-11-26 04:04 J -9344592.44 -9344592.33 -9344592.21 0.2654 0.1525 *

Moon -30295-05-27 20:52 J -9343678.75 -9343678.63 -9343678.51 0.2679 0.0231

Earth -30295-05-27 21:35 J -9343678.72 -9343678.60 -9343678.48 0.2676 0.0362 *

Jupiter -30294-07-02 13:26 J -9343278.10 -9343277.94 -9343277.78 0.0505 0.0181

Mars -30292-12-31 14:23 J -9342364.93 -9342364.90 -9342364.87 0.1756 0.1688

Mars -30291-11-13 20:23 J -9342047.79 -9342047.65 -9342047.52 0.1755 0.0945

Mars -30290-12-07 02:52 J -9341659.49 -9341659.38 -9341659.28 0.1779 0.0852

Jupiter -30289-11-21 20:38 J -9341308.67 -9341308.64 -9341308.61 0.0525 0.0508

Jupiter -30288-02-19 05:16 J -9341219.41 -9341219.28 -9341219.14 0.0522 0.0083

Moon -30288-05-20 13:40 J -9341128.98 -9341128.93 -9341128.88 0.2675 0.2402

Earth -30288-05-20 13:55 J -9341128.97 -9341128.92 -9341128.88 0.2681 0.2436 *

Moon -30285-11-28 03:50 J -9339841.48 -9339841.34 -9339841.21 0.2661 0.0221

Earth -30285-11-28 04:33 J -9339841.44 -9339841.31 -9339841.17 0.2655 0.0253 *

Saturn -30284-03-26 08:38 J -9339723.16 -9339723.14 -9339723.11 0.0268 0.0264

Saturn -30284-06-22 20:23 J -9339634.76 -9339634.65 -9339634.54 0.0268 0.0161

Saturn -30284-09-19 08:09 J -9339546.30 -9339546.16 -9339546.02 0.0268 0.0058

Saturn -30284-12-16 20:09 J -9339457.80 -9339457.66 -9339457.51 0.0268 0.0049

Saturn -30283-03-15 08:23 J -9339369.26 -9339369.15 -9339369.03 0.0268 0.0156

Saturn -30283-06-11 20:52 J -9339280.65 -9339280.63 -9339280.61 0.0268 0.0265

Jupiter -30282-04-20 12:28 J -9338968.10 -9338967.98 -9338967.85 0.0504 0.0353

Moon -30282-05-30 18:14 J -9338927.84 -9338927.74 -9338927.64 0.2681 0.1463

Earth -30282-05-30 18:28 J -9338927.84 -9338927.73 -9338927.63 0.2674 0.1407 *

Jupiter -30282-07-19 14:52 J -9338878.00 -9338877.88 -9338877.76 0.0507 0.0346

Mars -30280-04-28 11:16 J -9338229.15 -9338229.03 -9338228.91 0.1774 0.0210

Uranus -30277-02-15 19:55 J -9337205.75 -9337205.67 -9337205.56 0.0135 0.0112

Uranus -30277-05-14 01:40 J -9337117.55 -9337117.43 -9337117.29 0.0135 0.0088

Uranus -30277-08-10 07:26 J -9337029.33 -9337029.19 -9337029.03 0.0135 0.0064

Uranus -30277-11-06 13:11 J -9336941.11 -9336940.95 -9336940.78 0.0134 0.0040

Jupiter -30277-12-08 08:52 J -9336909.26 -9336909.13 -9336908.99 0.0522 0.0063

Uranus -30276-02-02 18:57 J -9336852.88 -9336852.71 -9336852.54 0.0134 0.0017

Uranus -30276-05-02 00:28 J -9336764.65 -9336764.48 -9336764.31 0.0134 0.0008

Uranus -30276-07-29 05:45 J -9336676.42 -9336676.26 -9336676.09 0.0134 0.0031

Uranus -30276-10-25 11:16 J -9336588.18 -9336588.03 -9336587.87 0.0134 0.0053

Uranus -30275-01-21 16:33 J -9336499.94 -9336499.81 -9336499.66 0.0134 0.0076

Uranus -30275-04-19 21:50 J -9336411.69 -9336411.59 -9336411.47 0.0134 0.0098

Moon -30275-05-23 09:21 J -9336378.21 -9336378.11 -9336378.01 0.2674 0.1491

Earth -30275-05-23 10:04 J -9336378.18 -9336378.08 -9336377.98 0.2680 0.1469 *

Uranus -30275-07-17 03:21 J -9336323.43 -9336323.36 -9336323.29 0.0134 0.0120

Moon -30272-12-01 04:33 J -9335090.43 -9335090.31 -9335090.18 0.2663 0.0938

Earth -30272-12-01 04:33 J -9335090.43 -9335090.31 -9335090.18 0.2657 0.0994 *

Mars -30271-09-18 20:09 J -9334798.77 -9334798.66 -9334798.54 0.1768 0.0421

Jupiter -30270-05-07 14:52 J -9334568.04 -9334567.88 -9334567.73 0.0506 0.0184

Mars -30270-08-02 18:43 J -9334480.85 -9334480.72 -9334480.59 0.1742 0.0963

Saturn -30269-04-25 02:52 J -9334214.50 -9334214.38 -9334214.25 0.0291 0.0198

Earth -30269-06-01 15:21 J -9334176.90 -9334176.86 -9334176.82 0.2673 0.2473

Moon -30269-06-01 15:50 J -9334176.89 -9334176.84 -9334176.80 0.2679 0.2482 *

Saturn -30269-07-22 23:31 J -9334125.69 -9334125.52 -9334125.35 0.0291 0.0034

Saturn -30269-10-19 19:40 J -9334036.83 -9334036.68 -9334036.53 0.0291 0.0128

Saturn -30268-01-16 15:07 J -9333947.90 -9333947.87 -9333947.83 0.0291 0.0285

Venus -30266-10-11 15:35 J -9332949.94 -9332949.85 -9332949.76 0.3781 0.2106

Jupiter -30265-09-26 11:31 J -9332599.14 -9332599.02 -9332598.90 0.0523 0.0223

Earth -30265-11-23 09:21 J -9332541.14 -9332541.11 -9332541.09 0.2652 0.2595

Jupiter -30265-12-24 20:38 J -9332509.73 -9332509.64 -9332509.54 0.0520 0.0372

Moon -30262-05-26 05:16 J -9331627.39 -9331627.28 -9331627.16 0.2678 0.0590

Earth -30262-05-26 06:14 J -9331627.36 -9331627.24 -9331627.12 0.2678 0.0470 *

Venus -30262-10-11 18:28 J -9331488.80 -9331488.73 -9331488.67 0.3594 0.3156

Mars -30261-02-09 05:16 J -9331368.38 -9331368.28 -9331368.19 0.1762 0.1029

Mars -30261-12-22 19:55 J -9331050.82 -9331050.67 -9331050.51 0.1748 0.0085

Venus -30260-04-26 09:21 J -9330926.21 -9330926.11 -9330926.00 0.3781 0.0673

Mars -30259-01-14 18:28 J -9330662.78 -9330662.73 -9330662.68 0.1785 0.1595

Earth -30259-12-04 04:19 J -9330339.39 -9330339.32 -9330339.24 0.2659 0.2185

Moon -30259-12-04 05:02 J -9330339.35 -9330339.29 -9330339.22 0.2665 0.2280 *

Jupiter -30258-02-23 14:09 J -9330258.08 -9330257.91 -9330257.74 0.0505 0.0015

Venus -30256-04-26 19:11 J -9329464.83 -9329464.70 -9329464.57 0.3595 0.1083

Saturn -30255-11-09 23:16 J -9328902.63 -9328902.53 -9328902.42 0.0268 0.0184

Venus -30255-11-10 03:21 J -9328902.40 -9328902.36 -9328902.32 0.3779 0.3499

Saturn -30254-02-06 11:02 J -9328814.17 -9328814.04 -9328813.90 0.0268 0.0081

Saturn -30254-05-05 23:02 J -9328725.68 -9328725.54 -9328725.39 0.0268 0.0026

Saturn -30254-08-02 11:16 J -9328637.15 -9328637.03 -9328636.90 0.0268 0.0132

Saturn -30254-10-29 23:45 J -9328548.57 -9328548.51 -9328548.45 0.0268 0.0241

Jupiter -30253-07-15 15:07 J -9328288.97 -9328288.87 -9328288.78 0.0524 0.0370

Jupiter -30253-10-12 23:59 J -9328199.62 -9328199.50 -9328199.38 0.0521 0.0223

Mars -30252-07-01 14:23 J -9327937.94 -9327937.90 -9327937.85 0.1756 0.1611

Moon -30252-11-26 08:52 J -9327790.25 -9327790.13 -9327790.01 0.2656 0.1321

Earth -30252-11-26 10:04 J -9327790.20 -9327790.08 -9327789.96 0.2654 0.1287 *

Mars -30251-05-14 20:38 J -9327620.77 -9327620.64 -9327620.50 0.1754 0.0847

Mars -30250-06-07 02:52 J -9327232.48 -9327232.38 -9327232.28 0.1780 0.0927

Moon -30249-05-28 02:09 J -9326876.53 -9326876.41 -9326876.29 0.2680 0.0565

Earth -30249-05-28 02:52 J -9326876.50 -9326876.38 -9326876.26 0.2676 0.0554 *

Jupiter -30247-12-12 12:28 J -9325948.14 -9325947.98 -9325947.82 0.0504 0.0167

Moon -30242-05-21 18:43 J -9324326.77 -9324326.72 -9324326.66 0.2674 0.2308

Earth -30242-05-21 18:57 J -9324326.77 -9324326.71 -9324326.65 0.2681 0.2253 *

Jupiter -30241-05-03 18:57 J -9323978.74 -9323978.71 -9323978.68 0.0526 0.0510

Jupiter -30241-08-01 03:35 J -9323889.48 -9323889.35 -9323889.21 0.0522 0.0082

Mars -30241-10-27 11:31 J -9323802.14 -9323802.02 -9323801.90 0.1774 0.0281

Saturn -30240-09-12 02:52 J -9323482.47 -9323482.38 -9323482.29 0.0291 0.0243

Saturn -30240-12-09 23:31 J -9323393.68 -9323393.52 -9323393.35 0.0291 0.0078

Saturn -30239-03-08 19:40 J -9323304.84 -9323304.68 -9323304.52 0.0292 0.0085

Saturn -30239-06-05 15:21 J -9323215.94 -9323215.86 -9323215.76 0.0291 0.0243

Moon -30239-11-29 09:35 J -9323039.24 -9323039.10 -9323038.97 0.2661 0.0164

Earth -30239-11-29 10:19 J -9323039.21 -9323039.07 -9323038.93 0.2656 0.0029 *

Neptune -30238-06-20 21:35 J -9322835.60 -9322835.60 -9322835.59 0.0089 0.0089

Neptune -30238-09-16 23:02 J -9322747.58 -9322747.54 -9322747.48 0.0089 0.0082

Neptune -30238-12-14 00:28 J -9322659.54 -9322659.48 -9322659.40 0.0089 0.0076

Neptune -30237-03-11 02:09 J -9322571.50 -9322571.41 -9322571.32 0.0089 0.0069

Neptune -30237-06-07 03:21 J -9322483.44 -9322483.36 -9322483.25 0.0089 0.0063

Neptune -30237-09-03 05:02 J -9322395.39 -9322395.29 -9322395.17 0.0089 0.0055

Neptune -30237-11-30 06:28 J -9322307.33 -9322307.23 -9322307.10 0.0089 0.0049

Neptune -30236-02-26 08:09 J -9322219.28 -9322219.16 -9322219.03 0.0089 0.0041

Neptune -30236-05-25 09:50 J -9322131.22 -9322131.09 -9322130.96 0.0089 0.0034

Moon -30236-05-30 23:31 J -9322125.62 -9322125.52 -9322125.42 0.2681 0.1525

Earth -30236-05-30 23:31 J -9322125.61 -9322125.52 -9322125.42 0.2674 0.1604 *

Neptune -30236-08-21 11:16 J -9322043.16 -9322043.03 -9322042.89 0.0089 0.0028

Neptune -30236-11-17 12:57 J -9321955.10 -9321954.96 -9321954.83 0.0089 0.0021

Neptune -30235-02-13 14:23 J -9321867.04 -9321866.90 -9321866.76 0.0089 0.0014

Neptune -30235-05-12 16:04 J -9321778.97 -9321778.83 -9321778.69 0.0089 0.0007

Neptune -30235-08-08 17:31 J -9321690.91 -9321690.77 -9321690.63 0.0089 0.0002

Jupiter -30235-09-30 11:16 J -9321638.15 -9321638.03 -9321637.90 0.0504 0.0341

Neptune -30235-11-04 19:11 J -9321602.84 -9321602.70 -9321602.56 0.0089 0.0007

Jupiter -30235-12-29 13:40 J -9321548.05 -9321547.93 -9321547.81 0.0507 0.0356

Neptune -30234-01-31 20:38 J -9321514.78 -9321514.64 -9321514.50 0.0089 0.0014

Neptune -30234-04-29 22:19 J -9321426.71 -9321426.57 -9321426.43 0.0089 0.0021

Neptune -30234-07-26 23:45 J -9321338.64 -9321338.51 -9321338.37 0.0089 0.0029

Neptune -30234-10-23 01:26 J -9321250.57 -9321250.44 -9321250.31 0.0089 0.0035

Uranus -30234-10-23 20:09 J -9321249.67 -9321249.66 -9321249.63 0.0144 0.0142

Neptune -30233-01-19 03:07 J -9321162.50 -9321162.37 -9321162.25 0.0089 0.0043

Uranus -30233-01-20 00:14 J -9321161.55 -9321161.49 -9321161.40 0.0144 0.0119

Neptune -30233-04-16 04:19 J -9321074.42 -9321074.32 -9321074.19 0.0089 0.0050

Uranus -30233-04-17 04:47 J -9321073.40 -9321073.30 -9321073.19 0.0144 0.0095

Neptune -30233-07-13 05:59 J -9320986.35 -9320986.25 -9320986.13 0.0089 0.0057

Uranus -30233-07-14 08:52 J -9320985.24 -9320985.13 -9320985.00 0.0144 0.0072

Neptune -30233-10-09 07:40 J -9320898.27 -9320898.18 -9320898.07 0.0089 0.0064

Uranus -30233-10-10 13:26 J -9320897.07 -9320896.94 -9320896.80 0.0144 0.0048

Neptune -30232-01-05 09:21 J -9320810.19 -9320810.11 -9320810.02 0.0089 0.0071

Uranus -30232-01-06 17:45 J -9320808.90 -9320808.76 -9320808.61 0.0144 0.0024

Neptune -30232-04-03 10:47 J -9320722.10 -9320722.05 -9320721.97 0.0089 0.0079

Uranus -30232-04-04 22:19 J -9320720.72 -9320720.57 -9320720.43 0.0144 0.0001

Neptune -30232-06-30 12:28 J -9320634.01 -9320633.98 -9320633.93 0.0089 0.0086

Uranus -30232-07-02 02:38 J -9320632.53 -9320632.39 -9320632.24 0.0144 0.0026

Uranus -30232-09-28 07:11 J -9320544.33 -9320544.20 -9320544.06 0.0144 0.0050

Uranus -30232-12-25 11:45 J -9320456.13 -9320456.01 -9320455.88 0.0145 0.0075

Mars -30231-03-19 20:09 J -9320371.78 -9320371.66 -9320371.54 0.1768 0.0352

Uranus -30231-03-23 16:19 J -9320367.92 -9320367.82 -9320367.71 0.0145 0.0100

Uranus -30231-06-19 20:52 J -9320279.69 -9320279.63 -9320279.55 0.0145 0.0126

Mars -30230-01-31 19:26 J -9320053.82 -9320053.69 -9320053.57 0.1742 0.1070

Jupiter -30229-05-20 07:26 J -9319579.32 -9319579.19 -9319579.05 0.0523 0.0059

Moon -30229-05-23 14:23 J -9319576.00 -9319575.90 -9319575.79 0.2675 0.1320

Earth -30229-05-23 15:07 J -9319575.97 -9319575.87 -9319575.76 0.2679 0.1280 *

Earth -30226-12-02 10:19 J -9318288.19 -9318288.07 -9318287.95 0.2657 0.1212

Moon -30226-12-02 10:33 J -9318288.18 -9318288.06 -9318287.95 0.2664 0.1315 *

Saturn	-30225-03-29 00:43 J	-9318170.55	-9318170.47	-9318170.39	0.0268	0.0221
Saturn	-30225-06-25 12:28 J	-9318082.11	-9318081.98	-9318081.86	0.0268	0.0118
Saturn	-30225-09-22 00:14 J	-9317993.63	-9317993.49	-9317993.34	0.0268	0.0014
Saturn	-30225-12-19 12:14 J	-9317905.12	-9317904.99	-9317904.85	0.0268	0.0093
Saturn	-30224-03-18 00:28 J	-9317816.57	-9317816.48	-9317816.38	0.0268	0.0201
Jupiter	-30223-10-17 12:57 J	-9317238.12	-9317237.96	-9317237.80	0.0506	0.0187
Mars	-30222-08-10 05:16 J	-9316941.38	-9316941.28	-9316941.18	0.1762	0.0956
Mars	-30221-06-22 20:38 J	-9316623.80	-9316623.64	-9316623.49	0.1748	0.0188
Mars	-30220-07-15 18:28 J	-9316235.77	-9316235.73	-9316235.69	0.1785	0.1665
Moon	-30219-11-24 13:55 J	-9315738.97	-9315738.92	-9315738.87	0.2649	0.2446
Earth	-30219-11-24 15:07 J	-9315738.93	-9315738.87	-9315738.81	0.2652	0.2355 *
Jupiter	-30217-03-08 11:16 J	-9315269.16	-9315269.03	-9315268.91	0.0523	0.0202
Jupiter	-30217-06-05 20:23 J	-9315179.74	-9315179.65	-9315179.57	0.0520	0.0394
Moon	-30216-05-26 10:33 J	-9314825.18	-9314825.06	-9314824.94	0.2678	0.0329
Earth	-30216-05-26 11:31 J	-9314825.14	-9314825.02	-9314824.90	0.2677	0.0283 *
Earth	-30213-12-04 09:50 J	-9313537.14	-9313537.09	-9313537.03	0.2659	0.2406
Moon	-30213-12-04 10:47 J	-9313537.10	-9313537.05	-9313537.00	0.2664	0.2424 *
Mars	-30213-12-30 14:23 J	-9313510.95	-9313510.90	-9313510.84	0.1756	0.1539
Mars	-30212-11-12 21:21 J	-9313193.75	-9313193.61	-9313193.47	0.1755	0.0741
Jupiter	-30211-08-05 12:43 J	-9312928.14	-9312927.97	-9312927.80	0.0506	0.0024
Mars	-30211-12-06 02:52 J	-9312805.48	-9312805.38	-9312805.28	0.1780	0.1004
Saturn	-30210-04-28 20:38 J	-9312661.79	-9312661.64	-9312661.49	0.0291	0.0142
Saturn	-30210-07-26 17:02 J	-9312572.96	-9312572.79	-9312572.62	0.0291	0.0021
Saturn	-30210-10-23 12:57 J	-9312484.09	-9312483.96	-9312483.83	0.0291	0.0181
Venus	-30209-05-17 13:40 J	-9312277.04	-9312276.93	-9312276.83	0.3781	0.1105
Moon	-30206-11-27 14:38 J	-9310988.01	-9310987.89	-9310987.77	0.2657	0.1167
Earth	-30206-11-27 15:50 J	-9310987.97	-9310987.84	-9310987.72	0.2654	0.1052 *
Jupiter	-30206-12-26 13:55 J	-9310959.02	-9310958.92	-9310958.83	0.0524	0.0361
Jupiter	-30205-03-24 22:47 J	-9310869.67	-9310869.55	-9310869.43	0.0521	0.0231
Venus	-30205-05-17 18:14 J	-9310815.86	-9310815.74	-9310815.61	0.3594	0.1597

Venus	-30204-12-01 07:26 J	-9310253.29	-9310253.19	-9310253.09	0.3780	0.1695
Moon	-30203-05-29 07:26 J	-9310074.31	-9310074.19	-9310074.07	0.2681	0.0650
Earth	-30203-05-29 08:09 J	-9310074.28	-9310074.16	-9310074.05	0.2676	0.0754 *
Mars	-30202-04-04 21:35 J	-9309763.64	-9309763.60	-9309763.56	0.1761	0.1698
Mars	-30201-04-27 11:31 J	-9309375.14	-9309375.02	-9309374.90	0.1774	0.0355
Venus	-30200-12-01 18:57 J	-9308791.81	-9308791.71	-9308791.62	0.3595	0.2570
Jupiter	-30199-05-24 11:59 J	-9308618.17	-9308618.00	-9308617.84	0.0505	0.0146
Moon	-30196-05-21 23:59 J	-9307524.58	-9307524.50	-9307524.43	0.2674	0.2029
Earth	-30196-05-21 23:59 J	-9307524.57	-9307524.50	-9307524.42	0.2681	0.2080 *
Saturn	-30196-08-16 03:35 J	-9307438.40	-9307438.35	-9307438.29	0.0268	0.0245
Saturn	-30196-11-12 15:21 J	-9307349.98	-9307349.86	-9307349.74	0.0268	0.0142
Saturn	-30195-02-09 03:07 J	-9307261.51	-9307261.37	-9307261.23	0.0268	0.0037
Saturn	-30195-05-08 15:07 J	-9307173.00	-9307172.87	-9307172.73	0.0268	0.0070
Saturn	-30195-08-05 03:21 J	-9307084.46	-9307084.36	-9307084.25	0.0268	0.0178
Jupiter	-30194-10-14 17:16 J	-9306648.81	-9306648.78	-9306648.75	0.0525	0.0509
Uranus	-30194-12-09 20:38 J	-9306592.66	-9306592.64	-9306592.60	0.0135	0.0132
Jupiter	-30193-01-12 01:55 J	-9306559.55	-9306559.42	-9306559.28	0.0522	0.0082
Uranus	-30193-03-07 02:23 J	-9306504.49	-9306504.40	-9306504.29	0.0135	0.0108
Uranus	-30193-06-03 08:09 J	-9306416.29	-9306416.16	-9306416.02	0.0135	0.0084
Uranus	-30193-08-30 13:55 J	-9306328.07	-9306327.92	-9306327.76	0.0135	0.0060
Uranus	-30193-11-26 19:40 J	-9306239.84	-9306239.68	-9306239.51	0.0134	0.0036
Moon	-30193-11-29 15:21 J	-9306236.99	-9306236.86	-9306236.72	0.2661	0.0246
Earth	-30193-11-29 16:04 J	-9306236.97	-9306236.83	-9306236.70	0.2656	0.0222 *
Uranus	-30192-02-23 01:11 J	-9306151.62	-9306151.45	-9306151.27	0.0134	0.0013
Uranus	-30192-05-22 06:57 J	-9306063.38	-9306063.21	-9306063.04	0.0134	0.0012
Uranus	-30192-08-18 12:28 J	-9305975.15	-9305974.98	-9305974.82	0.0134	0.0035
Mars	-30192-09-17 20:09 J	-9305944.78	-9305944.66	-9305944.54	0.1768	0.0280
Uranus	-30192-11-14 17:45 J	-9305886.91	-9305886.76	-9305886.60	0.0134	0.0057
Uranus	-30191-02-10 23:02 J	-9305798.67	-9305798.54	-9305798.40	0.0134	0.0080
Uranus	-30191-05-10 04:33 J	-9305710.42	-9305710.31	-9305710.20	0.0134	0.0102

Mars -30191-08-01 19:40 J -9305626.79 -9305626.68 -9305626.56 0.1742 0.1161

Uranus -30191-08-06 09:35 J -9305622.15 -9305622.10 -9305622.03 0.0134 0.0125

Earth -30190-06-01 04:47 J -9305323.39 -9305323.30 -9305323.21 0.2674 0.1805

Moon -30190-06-01 04:47 J -9305323.38 -9305323.30 -9305323.21 0.2681 0.1878 *

Jupiter -30187-03-12 10:04 J -9304308.21 -9304308.08 -9304307.95 0.0504 0.0328

Jupiter -30187-06-10 12:28 J -9304218.10 -9304217.98 -9304217.87 0.0507 0.0368

Moon -30183-05-24 19:26 J -9302773.80 -9302773.69 -9302773.58 0.2676 0.1199

Earth -30183-05-24 20:23 J -9302773.76 -9302773.65 -9302773.54 0.2679 0.1097 *

Mars -30182-02-08 05:16 J -9302514.38 -9302514.28 -9302514.18 0.1762 0.0884

Jupiter -30182-10-31 05:45 J -9302249.40 -9302249.26 -9302249.13 0.0523 0.0063

Mars -30182-12-22 20:52 J -9302196.78 -9302196.63 -9302196.47 0.1748 0.0284

Saturn -30181-09-14 20:52 J -9301929.75 -9301929.63 -9301929.49 0.0291 0.0184

Saturn -30181-12-12 17:31 J -9301840.94 -9301840.77 -9301840.60 0.0292 0.0019

Mars -30180-01-13 18:43 J -9301808.75 -9301808.72 -9301808.70 0.1785 0.1746

Saturn -30180-03-11 13:40 J -9301752.08 -9301751.93 -9301751.79 0.0292 0.0142

Earth -30180-12-02 15:50 J -9301485.95 -9301485.84 -9301485.72 0.2658 0.1441

Moon -30180-12-02 16:19 J -9301485.93 -9301485.82 -9301485.71 0.2665 0.1387 *

Jupiter -30175-03-29 11:31 J -9299908.18 -9299908.02 -9299907.86 0.0506 0.0197

Mars -30173-06-30 14:23 J -9299083.96 -9299083.90 -9299083.84 0.1756 0.1475

Moon -30173-11-24 19:40 J -9298936.76 -9298936.68 -9298936.60 0.2651 0.2173

Earth -30173-11-24 20:52 J -9298936.71 -9298936.63 -9298936.55 0.2653 0.2115 *

Mars -30172-05-13 22:04 J -9298766.73 -9298766.58 -9298766.43 0.1754 0.0624

Mars -30171-06-06 02:52 J -9298378.47 -9298378.38 -9298378.28 0.1779 0.1077

Moon -30170-05-27 15:50 J -9298022.96 -9298022.84 -9298022.72 0.2678 0.0185

Earth -30170-05-27 16:47 J -9298022.93 -9298022.80 -9298022.68 0.2677 0.0127 *

Jupiter -30170-08-19 09:35 J -9297939.23 -9297939.10 -9297938.98 0.0524 0.0201

Jupiter -30170-11-16 18:43 J -9297849.81 -9297849.72 -9297849.64 0.0520 0.0395

Earth -30167-12-05 15:35 J -9296734.87 -9296734.85 -9296734.84 0.2660 0.2621

Saturn -30166-04-01 16:47 J -9296617.90 -9296617.80 -9296617.69 0.0268 0.0177

Saturn -30166-06-29 04:33 J -9296529.44 -9296529.31 -9296529.17 0.0268 0.0073

Saturn -30166-09-25 16:33 J -9296440.95 -9296440.81 -9296440.66 0.0268 0.0034

Saturn -30166-12-23 04:47 J -9296352.42 -9296352.30 -9296352.18 0.0268 0.0140

Saturn -30165-03-20 17:02 J -9296263.84 -9296263.79 -9296263.74 0.0268 0.0249

Jupiter -30163-01-15 10:33 J -9295598.23 -9295598.06 -9295597.88 0.0506 0.0029

Mars -30163-10-03 22:04 J -9295336.64 -9295336.58 -9295336.51 0.1761 0.1594

Mars -30162-10-27 11:31 J -9294948.14 -9294948.02 -9294947.90 0.1774 0.0424

Moon -30160-11-27 20:23 J -9294185.78 -9294185.65 -9294185.52 0.2658 0.0888

Earth -30160-11-27 21:21 J -9294185.74 -9294185.61 -9294185.47 0.2654 0.0818 *

Jupiter -30158-06-07 13:11 J -9293629.05 -9293628.95 -9293628.85 0.0524 0.0343

Venus -30158-06-08 17:59 J -9293627.83 -9293627.75 -9293627.68 0.3781 0.2817

Jupiter -30158-09-04 22:04 J -9293539.70 -9293539.58 -9293539.46 0.0521 0.0251

Moon -30157-05-29 12:43 J -9293272.08 -9293271.97 -9293271.85 0.2682 0.0952

Earth -30157-05-29 13:11 J -9293272.06 -9293271.95 -9293271.83 0.2675 0.0948 *

Pluto -30156-05-21 20:09 J -9292914.71 -9292914.66 -9292914.59 0.0069 0.0064

Pluto -30156-08-17 21:21 J -9292826.69 -9292826.61 -9292826.51 0.0069 0.0057

Pluto -30156-11-13 23:02 J -9292738.65 -9292738.54 -9292738.43 0.0069 0.0051

Pluto -30155-02-09 23:59 J -9292650.61 -9292650.50 -9292650.36 0.0070 0.0045

Pluto -30155-05-09 01:40 J -9292562.56 -9292562.43 -9292562.29 0.0070 0.0038

Pluto -30155-08-05 02:52 J -9292474.51 -9292474.38 -9292474.22 0.0070 0.0032

Pluto -30155-11-01 04:19 J -9292386.46 -9292386.32 -9292386.15 0.0070 0.0025

Neptune -30155-12-11 21:35 J -9292345.60 -9292345.60 -9292345.59 0.0088 0.0088

Pluto -30154-01-28 05:45 J -9292298.41 -9292298.26 -9292298.09 0.0070 0.0018

Neptune -30154-03-10 00:28 J -9292257.54 -9292257.48 -9292257.38 0.0088 0.0079

Pluto -30154-04-26 07:26 J -9292210.35 -9292210.19 -9292210.03 0.0070 0.0011

Neptune -30154-06-06 03:35 J -9292169.44 -9292169.35 -9292169.23 0.0088 0.0070

Pluto -30154-07-23 08:52 J -9292122.30 -9292122.13 -9292121.96 0.0070 0.0004

Neptune -30154-09-02 06:43 J -9292081.34 -9292081.22 -9292081.08 0.0088 0.0062

Pluto -30154-10-19 10:19 J -9292034.23 -9292034.07 -9292033.90 0.0070 0.0003

Neptune -30154-11-29 10:04 J -9291993.22 -9291993.08 -9291992.93 0.0088 0.0052

Pluto -30153-01-15 11:45 J -9291946.17 -9291946.01 -9291945.84 0.0070 0.0010

Neptune -30153-02-25 13:11 J -9291905.11 -9291904.95 -9291904.79 0.0088 0.0043

Pluto -30153-04-12 13:11 J -9291858.11 -9291857.95 -9291857.78 0.0071 0.0017

Neptune -30153-05-23 15:50 J -9291816.99 -9291816.84 -9291816.66 0.0088 0.0035

Pluto -30153-07-09 14:38 J -9291770.04 -9291769.89 -9291769.73 0.0071 0.0024

Neptune -30153-08-19 18:57 J -9291728.87 -9291728.71 -9291728.53 0.0088 0.0026

Pluto -30153-10-05 16:04 J -9291681.97 -9291681.83 -9291681.67 0.0071 0.0031

Neptune -30153-11-15 22:04 J -9291640.75 -9291640.58 -9291640.39 0.0088 0.0017

Venus -30153-12-22 11:31 J -9291604.13 -9291604.02 -9291603.91 0.3781 0.0119

Pluto -30152-01-01 17:45 J -9291593.90 -9291593.76 -9291593.62 0.0071 0.0038

Neptune -30152-02-12 01:11 J -9291552.63 -9291552.45 -9291552.27 0.0088 0.0008

Mars -30152-03-18 20:23 J -9291517.77 -9291517.65 -9291517.53 0.1768 0.0202

Pluto -30152-03-30 19:11 J -9291505.82 -9291505.70 -9291505.57 0.0071 0.0045

Neptune -30152-05-11 04:19 J -9291464.50 -9291464.32 -9291464.14 0.0088 0.0002

Pluto -30152-06-26 20:23 J -9291417.74 -9291417.65 -9291417.52 0.0071 0.0053

Neptune -30152-08-07 07:11 J -9291376.38 -9291376.20 -9291376.02 0.0088 0.0009

Pluto -30152-09-22 22:04 J -9291329.65 -9291329.58 -9291329.48 0.0071 0.0061

Neptune -30152-11-03 10:04 J -9291288.25 -9291288.08 -9291287.90 0.0088 0.0018

Jupiter -30152-11-03 10:19 J -9291288.24 -9291288.07 -9291287.91 0.0505 0.0140 *

Pluto -30152-12-19 23:45 J -9291241.55 -9291241.51 -9291241.45 0.0071 0.0068

Neptune -30151-01-30 13:11 J -9291200.12 -9291199.95 -9291199.78 0.0088 0.0026

Mars -30151-01-30 20:23 J -9291199.76 -9291199.65 -9291199.55 0.1742 0.1266

Saturn -30151-02-01 17:59 J -9291197.83 -9291197.75 -9291197.65 0.0291 0.0247

Neptune -30151-04-28 15:50 J -9291111.99 -9291111.84 -9291111.66 0.0088 0.0036

Saturn -30151-05-01 14:52 J -9291109.04 -9291108.88 -9291108.72 0.0291 0.0081

Neptune -30151-07-25 18:43 J -9291023.86 -9291023.72 -9291023.55 0.0088 0.0044

Saturn -30151-07-29 11:02 J -9291020.19 -9291020.04 -9291019.87 0.0291 0.0082

Neptune -30151-10-21 21:50 J -9290935.73 -9290935.59 -9290935.44 0.0088 0.0052

Saturn -30151-10-26 06:57 J -9290931.30 -9290931.21 -9290931.12 0.0291 0.0240

Neptune -30150-01-18 00:28 J -9290847.59 -9290847.48 -9290847.33 0.0088 0.0061

Neptune -30150-04-16 03:35 J -9290759.45 -9290759.35 -9290759.23 0.0088 0.0069

Moon -30150-05-23 05:02 J -9290722.37 -9290722.29 -9290722.21 0.2674 0.1970

Earth -30150-05-23 05:16 J -9290722.36 -9290722.28 -9290722.20 0.2681 0.1891 *

Neptune -30150-07-13 06:14 J -9290671.30 -9290671.24 -9290671.14 0.0088 0.0078

Neptune -30150-10-09 09:07 J -9290583.14 -9290583.12 -9290583.07 0.0088 0.0087

Uranus -30150-11-13 03:21 J -9290548.40 -9290548.36 -9290548.31 0.0144 0.0136

Uranus -30149-02-09 07:40 J -9290460.26 -9290460.18 -9290460.09 0.0144 0.0112

Uranus -30149-05-07 11:59 J -9290372.11 -9290372.00 -9290371.89 0.0144 0.0089

Uranus -30149-08-03 16:04 J -9290283.95 -9290283.83 -9290283.69 0.0144 0.0066

Uranus -30149-10-30 20:38 J -9290195.78 -9290195.64 -9290195.50 0.0144 0.0042

Venus -30149-12-22 18:14 J -9290142.88 -9290142.74 -9290142.60 0.3594 0.0065

Uranus -30148-01-27 00:57 J -9290107.60 -9290107.46 -9290107.31 0.0144 0.0018

Uranus -30148-04-25 05:31 J -9290019.42 -9290019.27 -9290019.13 0.0144 0.0007

Uranus -30148-07-22 09:50 J -9289931.23 -9289931.09 -9289930.94 0.0144 0.0032

Uranus -30148-10-18 14:23 J -9289843.03 -9289842.90 -9289842.76 0.0144 0.0056

Uranus -30147-01-14 18:43 J -9289754.83 -9289754.72 -9289754.59 0.0144 0.0082

Uranus -30147-04-12 23:31 J -9289666.61 -9289666.52 -9289666.42 0.0145 0.0106

Venus -30147-07-08 05:31 J -9289580.35 -9289580.27 -9289580.20 0.3780 0.2733

Uranus -30147-07-10 04:04 J -9289578.38 -9289578.33 -9289578.26 0.0145 0.0132

Moon -30147-11-30 21:21 J -9289434.74 -9289434.61 -9289434.48 0.2662 0.0371

Earth -30147-11-30 21:35 J -9289434.73 -9289434.60 -9289434.46 0.2656 0.0453 *

Jupiter -30146-03-26 16:04 J -9289318.87 -9289318.83 -9289318.79 0.0525 0.0501

Jupiter -30146-06-24 00:43 J -9289229.60 -9289229.47 -9289229.34 0.0522 0.0089

Moon -30144-06-01 10:19 J -9288521.16 -9288521.07 -9288520.99 0.2680 0.1957

Earth -30144-06-01 10:04 J -9288521.16 -9288521.08 -9288521.00 0.2674 0.2002 *

Mars -30143-08-09 05:16 J -9288087.39 -9288087.28 -9288087.17 0.1762 0.0811

Mars -30142-06-22 21:35 J -9287769.75 -9287769.60 -9287769.45 0.1748 0.0388

Jupiter -30140-08-22 09:21 J -9286978.25 -9286978.11 -9286977.98 0.0504 0.0311

Jupiter -30140-11-20 11:45 J -9286888.12 -9286888.01 -9286887.91 0.0507 0.0387

Moon -30137-05-25 00:28 J -9285971.59 -9285971.48 -9285971.36 0.2676 0.0929

Earth -30137-05-25 01:26 J -9285971.55 -9285971.44 -9285971.33 0.2679 0.0911 *

Saturn -30137-08-18 19:40 J -9285885.77 -9285885.68 -9285885.58 0.0269 0.0201

Saturn -30137-11-15 07:26 J -9285797.32 -9285797.19 -9285797.05 0.0268 0.0097

Saturn -30136-02-11 19:26 J -9285708.83 -9285708.69 -9285708.55 0.0268 0.0009

Saturn -30136-05-11 07:40 J -9285620.31 -9285620.18 -9285620.05 0.0268 0.0116

Saturn -30136-08-07 19:55 J -9285531.75 -9285531.67 -9285531.59 0.0268 0.0225

Jupiter -30134-04-12 03:50 J -9284919.47 -9284919.34 -9284919.20 0.0523 0.0065

Earth -30134-12-03 21:35 J -9284683.70 -9284683.60 -9284683.50 0.2658 0.1664

Moon -30134-12-03 21:50 J -9284683.68 -9284683.59 -9284683.49 0.2665 0.1784 *

Mars -30134-12-30 14:23 J -9284656.97 -9284656.90 -9284656.83 0.1756 0.1403

Mars -30133-11-11 22:19 J -9284339.72 -9284339.57 -9284339.42 0.1755 0.0534

Mars -30132-12-05 02:52 J -9283951.47 -9283951.38 -9283951.28 0.1779 0.1151

Jupiter -30128-06-10 07:11 J -9282668.22 -9282668.20 -9282668.16 0.0503 0.0495

Jupiter -30128-09-08 10:04 J -9282578.23 -9282578.08 -9282577.92 0.0506 0.0206

Moon -30127-11-26 01:26 J -9282134.53 -9282134.44 -9282134.35 0.2653 0.2037

Earth -30127-11-26 02:38 J -9282134.49 -9282134.39 -9282134.29 0.2653 0.1876 *

Moon -30124-05-27 21:07 J -9281220.75 -9281220.62 -9281220.50 0.2679 0.0080

Earth -30124-05-27 21:50 J -9281220.71 -9281220.59 -9281220.47 0.2677 0.0104 *

Mars -30123-04-03 22:47 J -9280909.63 -9280909.55 -9280909.47 0.1761 0.1487

Jupiter -30122-01-29 07:40 J -9280609.31 -9280609.18 -9280609.06 0.0524 0.0206

Mars -30122-04-27 11:31 J -9280521.13 -9280521.02 -9280520.90 0.1774 0.0503

Jupiter -30122-04-28 16:47 J -9280519.89 -9280519.80 -9280519.71 0.0520 0.0391

Saturn -30122-06-21 18:57 J -9280465.73 -9280465.71 -9280465.67 0.0291 0.0285

Saturn -30122-09-18 16:04 J -9280376.99 -9280376.83 -9280376.68 0.0291 0.0117

Saturn -30122-12-16 12:28 J -9280288.15 -9280287.98 -9280287.82 0.0292 0.0047

Saturn -30121-03-14 08:09 J -9280199.27 -9280199.16 -9280199.04 0.0292 0.0207

Earth -30117-05-20 14:23 J -9278670.90 -9278670.90 -9278670.89 0.2682 0.2673

Jupiter -30116-06-27 09:07 J -9278268.29 -9278268.12 -9278267.95 0.0505 0.0033

Moon -30114-11-29 02:09 J -9277383.54 -9277383.41 -9277383.28 0.2658 0.0666

Earth -30114-11-29 03:07 J -9277383.50 -9277383.37 -9277383.23 0.2655 0.0584 *

Mars -30113-09-16 20:09 J -9277090.78 -9277090.66 -9277090.54 0.1767 0.0146

Mars -30112-07-31 20:52 J -9276772.73 -9276772.63 -9276772.54 0.1742 0.1366

Moon -30111-05-30 17:59 J -9276469.86 -9276469.75 -9276469.63 0.2682 0.1083

Earth -30111-05-30 18:28 J -9276469.84 -9276469.73 -9276469.62 0.2675 0.1145 *

Jupiter -30111-11-17 11:31 J -9276299.12 -9276299.02 -9276298.92 0.0525 0.0345

Jupiter -30110-02-14 20:23 J -9276209.77 -9276209.65 -9276209.53 0.0521 0.0248

Uranus -30110-12-30 03:21 J -9275891.41 -9275891.36 -9275891.30 0.0135 0.0127

Uranus -30109-03-27 09:07 J -9275803.22 -9275803.12 -9275803.00 0.0135 0.0103

Uranus -30109-06-23 15:07 J -9275715.01 -9275714.87 -9275714.73 0.0135 0.0078

Uranus -30109-09-19 20:38 J -9275626.79 -9275626.64 -9275626.47 0.0135 0.0054

Uranus -30109-12-17 02:23 J -9275538.57 -9275538.40 -9275538.23 0.0135 0.0030

Uranus -30108-03-15 08:09 J -9275450.33 -9275450.16 -9275449.99 0.0134 0.0007

Uranus -30108-06-11 13:40 J -9275362.10 -9275361.93 -9275361.76 0.0134 0.0017

Uranus -30108-09-07 19:11 J -9275273.86 -9275273.70 -9275273.54 0.0134 0.0040

Uranus -30108-12-05 00:28 J -9275185.62 -9275185.48 -9275185.32 0.0134 0.0063

Saturn -30107-01-05 21:50 J -9275153.66 -9275153.59 -9275153.52 0.0268 0.0232

Uranus -30107-03-03 05:59 J -9275097.38 -9275097.25 -9275097.12 0.0134 0.0085

Saturn -30107-04-04 09:21 J -9275065.23 -9275065.11 -9275064.98 0.0268 0.0129

Uranus -30107-05-30 11:02 J -9275009.12 -9275009.04 -9275008.93 0.0134 0.0108

Saturn -30107-07-01 21:21 J -9274976.75 -9274976.61 -9274976.47 0.0268 0.0024

Uranus -30107-08-26 16:33 J -9274920.84 -9274920.81 -9274920.77 0.0134 0.0130

Saturn -30107-09-28 09:21 J -9274888.25 -9274888.11 -9274887.97 0.0268 0.0083

Saturn -30107-12-25 21:21 J -9274799.70 -9274799.61 -9274799.50 0.0268 0.0191

Jupiter -30104-04-15 07:55 J -9273958.33 -9273958.17 -9273958.00 0.0505 0.0142

Moon -30104-05-23 09:50 J -9273920.18 -9273920.09 -9273919.99 0.2675 0.1682

Earth -30104-05-23 10:19 J -9273920.16 -9273920.07 -9273919.97 0.2680 0.1715 *

Mars -30103-02-07 05:16 J -9273660.39 -9273660.28 -9273660.17 0.1762 0.0742

Mars -30103-12-21 22:04 J -9273342.72 -9273342.58 -9273342.43 0.1748 0.0495

Venus -30101-01-13 15:50 J -9272954.94 -9272954.84 -9272954.75 0.3781 0.1819

Moon -30101-12-01 03:21 J -9272632.49 -9272632.36 -9272632.24 0.2663 0.0702

Earth -30101-12-01 03:21 J -9272632.49 -9272632.36 -9272632.23 0.2656 0.0674 *

Jupiter -30099-09-05 15:07 J -9271988.91 -9271988.87 -9271988.82 0.0525 0.0487

Jupiter -30099-12-03 23:59 J -9271899.64 -9271899.50 -9271899.37 0.0522 0.0105

Earth -30098-06-02 15:21 J -9271718.93 -9271718.86 -9271718.79 0.2673 0.2205

Moon -30098-06-02 15:50 J -9271718.91 -9271718.84 -9271718.78 0.2679 0.2290 *

Venus -30097-01-13 17:16 J -9271493.86 -9271493.78 -9271493.69 0.3594 0.2792

Venus -30096-07-29 09:35 J -9270931.21 -9270931.10 -9270931.00 0.3780 0.0946

Mars -30094-06-30 14:38 J -9270229.97 -9270229.89 -9270229.82 0.1756 0.1330

Mars -30093-05-12 23:02 J -9269912.69 -9269912.54 -9269912.39 0.1755 0.0425

Jupiter -30092-02-01 07:26 J -9269648.33 -9269648.19 -9269648.06 0.0504 0.0309

Saturn -30092-02-04 13:26 J -9269645.07 -9269644.94 -9269644.80 0.0291 0.0179

Jupiter -30092-05-02 09:50 J -9269558.20 -9269558.09 -9269557.99 0.0507 0.0389

Saturn -30092-05-04 10:04 J -9269556.25 -9269556.08 -9269555.91 0.0291 0.0014

Mars -30092-06-05 03:07 J -9269524.46 -9269524.37 -9269524.28 0.1780 0.1230

Venus -30092-07-29 17:59 J -9269469.87 -9269469.75 -9269469.62 0.3595 0.1448

Saturn -30092-08-01 05:59 J -9269467.39 -9269467.25 -9269467.10 0.0291 0.0147

Moon -30091-05-26 05:45 J -9269169.37 -9269169.26 -9269169.14 0.2676 0.0854

Earth -30091-05-26 06:43 J -9269169.34 -9269169.22 -9269169.11 0.2679 0.0723 *

Venus -30090-02-12 03:21 J -9268907.37 -9268907.36 -9268907.35 0.3780 0.3761

Earth -30088-12-04 03:07 J -9267881.46 -9267881.37 -9267881.27 0.2658 0.1890

Moon -30088-12-04 03:50 J -9267881.44 -9267881.34 -9267881.25 0.2664 0.1868 *

Jupiter -30087-09-22 02:38 J -9267589.52 -9267589.39 -9267589.26 0.0522 0.0056

Mars -30084-10-02 23:16 J -9266482.62 -9266482.53 -9266482.43 0.1761 0.1380

Mars -30083-10-26 11:31 J -9266094.13 -9266094.02 -9266093.90 0.1773 0.0579

Jupiter -30081-11-20 06:14 J -9265338.29 -9265338.24 -9265338.19 0.0503 0.0481

Moon -30081-11-26 07:11 J -9265332.31 -9265332.20 -9265332.10 0.2654 0.1658

Earth -30081-11-26 08:23 J -9265332.26 -9265332.15 -9265332.04 0.2653 0.1637 *

Jupiter -30080-02-18 09:07 J -9265248.27 -9265248.12 -9265247.97 0.0506 0.0221

Saturn -30078-05-26 00:43 J -9264421.51 -9264421.47 -9264421.43 0.0269 0.0257

Moon -30078-05-29 02:23 J -9264418.52 -9264418.40 -9264418.28 0.2680 0.0279

Earth -30078-05-29 03:07 J -9264418.49 -9264418.37 -9264418.25 0.2677 0.0296 *

Saturn -30078-08-22 12:14 J -9264333.10 -9264332.99 -9264332.87 0.0269 0.0154

Saturn -30078-11-18 23:59 J -9264244.64 -9264244.50 -9264244.36 0.0269 0.0050

Saturn -30077-02-15 11:59 J -9264156.13 -9264156.00 -9264155.86 0.0269 0.0058

Saturn -30077-05-14 00:14 J -9264067.60 -9264067.49 -9264067.37 0.0268 0.0166

Jupiter -30075-07-11 05:45 J -9263279.38 -9263279.26 -9263279.13 0.0523 0.0207

Jupiter -30075-10-08 14:52 J -9263189.97 -9263189.88 -9263189.79 0.0520 0.0388

Neptune -30073-03-16 21:07 J -9262664.65 -9262664.62 -9262664.57 0.0089 0.0085

Mars -30073-03-17 20:23 J -9262663.77 -9262663.65 -9262663.53 0.1768 0.0069

Neptune -30073-06-12 22:47 J -9262576.61 -9262576.55 -9262576.48 0.0089 0.0078

Neptune -30073-09-09 00:14 J -9262488.56 -9262488.49 -9262488.40 0.0089 0.0072

Neptune -30073-12-06 01:55 J -9262400.51 -9262400.42 -9262400.33 0.0089 0.0065

Mars -30072-01-29 21:21 J -9262345.69 -9262345.61 -9262345.53 0.1742 0.1464

Neptune -30072-03-04 03:07 J -9262312.46 -9262312.37 -9262312.25 0.0089 0.0059

Neptune -30072-05-31 04:47 J -9262224.41 -9262224.30 -9262224.18 0.0089 0.0051

Neptune -30072-08-27 06:14 J -9262136.35 -9262136.24 -9262136.11 0.0089 0.0045

Neptune -30072-11-23 07:55 J -9262048.29 -9262048.17 -9262048.04 0.0089 0.0037

Neptune -30071-02-19 09:35 J -9261960.23 -9261960.10 -9261959.97 0.0089 0.0030

Neptune -30071-05-18 11:02 J -9261872.17 -9261872.04 -9261871.90 0.0089 0.0023

Earth -30071-05-21 19:26 J -9261868.73 -9261868.69 -9261868.65 0.2682 0.2497

Moon -30071-05-21 19:40 J -9261868.73 -9261868.68 -9261868.63 0.2675 0.2423 *

Pluto -30071-07-23 01:40 J -9261806.48 -9261806.43 -9261806.36 0.0075 0.0069

Neptune -30071-08-14 12:43 J -9261784.11 -9261783.97 -9261783.84 0.0089 0.0017

Pluto -30071-10-19 03:21 J -9261718.45 -9261718.36 -9261718.28 0.0075 0.0061

Neptune -30071-11-10 14:09 J -9261696.05 -9261695.91 -9261695.77 0.0089 0.0010

Pluto -30070-01-15 04:19 J -9261630.41 -9261630.32 -9261630.20 0.0075 0.0054

Neptune -30070-02-06 15:50 J -9261607.98 -9261607.84 -9261607.70 0.0089 0.0003

Pluto -30070-04-13 05:45 J -9261542.37 -9261542.26 -9261542.13 0.0075 0.0046

Neptune -30070-05-05 17:16 J -9261519.92 -9261519.78 -9261519.64 0.0089 0.0004

Pluto -30070-07-10 06:57 J -9261454.32 -9261454.21 -9261454.07 0.0075 0.0039

Neptune -30070-08-01 18:57 J -9261431.85 -9261431.71 -9261431.57 0.0089 0.0012

Pluto -30070-10-06 08:23 J -9261366.28 -9261366.15 -9261366.00 0.0074 0.0031

Neptune -30070-10-28 20:23 J -9261343.79 -9261343.65 -9261343.51 0.0089 0.0019

Pluto -30069-01-02 09:50 J -9261278.23 -9261278.09 -9261277.94 0.0074 0.0023

Neptune -30069-01-24 22:04 J -9261255.72 -9261255.58 -9261255.45 0.0089 0.0026

Pluto -30069-03-30 11:16 J -9261190.18 -9261190.03 -9261189.88 0.0074 0.0016

Neptune -30069-04-21 23:31 J -9261167.65 -9261167.52 -9261167.39 0.0089 0.0033

Pluto -30069-06-26 12:28 J -9261102.13 -9261101.98 -9261101.83 0.0074 0.0008

Neptune -30069-07-19 01:11 J -9261079.58 -9261079.45 -9261079.32 0.0089 0.0040

Pluto -30069-09-22 13:40 J -9261014.08 -9261013.93 -9261013.78 0.0074 0.0002

Neptune -30069-10-15 02:23 J -9260991.50 -9260991.40 -9260991.26 0.0089 0.0048

Jupiter -30069-12-07 07:26 J -9260938.36 -9260938.19 -9260938.02 0.0505 0.0039

Pluto -30069-12-19 14:52 J -9260926.02 -9260925.88 -9260925.72 0.0074 0.0007

Neptune -30068-01-11 04:04 J -9260903.43 -9260903.33 -9260903.21 0.0089 0.0054

Pluto -30068-03-17 16:04 J -9260837.97 -9260837.83 -9260837.67 0.0074 0.0014

Neptune -30068-04-09 05:45 J -9260815.35 -9260815.26 -9260815.15 0.0089 0.0061

Pluto -30068-06-13 17:31 J -9260749.91 -9260749.77 -9260749.63 0.0074 0.0021

Neptune -30068-07-06 07:26 J -9260727.27 -9260727.19 -9260727.09 0.0089 0.0068

Pluto -30068-09-09 18:43 J -9260661.86 -9260661.72 -9260661.58 0.0073 0.0028

Neptune -30068-10-02 08:52 J -9260639.19 -9260639.13 -9260639.04 0.0089 0.0076

Moon -30068-11-29 07:55 J -9260581.30 -9260581.17 -9260581.03 0.2659 0.0449

Earth -30068-11-29 08:52 J -9260581.27 -9260581.13 -9260580.99 0.2655 0.0348 *

Pluto -30068-12-06 19:55 J -9260573.80 -9260573.67 -9260573.54 0.0073 0.0035

Neptune -30068-12-29 10:33 J -9260551.10 -9260551.06 -9260551.00 0.0089 0.0083

Pluto -30067-03-04 21:07 J -9260485.74 -9260485.62 -9260485.50 0.0073 0.0042

Pluto -30067-05-31 22:19 J -9260397.68 -9260397.57 -9260397.46 0.0073 0.0048

Pluto -30067-08-27 23:31 J -9260309.62 -9260309.52 -9260309.42 0.0073 0.0055

Pluto -30067-11-24 00:28 J -9260221.55 -9260221.48 -9260221.40 0.0073 0.0062

Pluto -30066-02-20 01:26 J -9260133.47 -9260133.44 -9260133.38 0.0073 0.0069

Uranus -30066-12-03 10:47 J -9259847.10 -9259847.05 -9259846.98 0.0144 0.0128

Uranus -30065-02-29 15:07 J -9259758.96 -9259758.87 -9259758.77 0.0144 0.0105

Uranus -30065-05-27 19:26 J -9259670.80 -9259670.69 -9259670.57 0.0144 0.0082

Moon -30065-05-30 23:16 J -9259667.63 -9259667.53 -9259667.42 0.2681 0.1324

Earth -30065-05-30 23:45 J -9259667.62 -9259667.51 -9259667.40 0.2675 0.1337 *

Uranus -30065-08-23 23:45 J -9259582.64 -9259582.51 -9259582.38 0.0144 0.0058

Uranus -30065-11-20 04:04 J -9259494.47 -9259494.33 -9259494.19 0.0144 0.0034

Uranus -30064-02-16 08:38 J -9259406.29 -9259406.14 -9259406.00 0.0144 0.0010

Uranus -30064-05-15 12:57 J -9259318.10 -9259317.96 -9259317.81 0.0144 0.0014

Mars -30064-08-08 05:16 J -9259233.39 -9259233.28 -9259233.17 0.1762 0.0670

Uranus -30064-08-11 17:16 J -9259229.91 -9259229.78 -9259229.63 0.0144 0.0040

Uranus -30064-11-07 21:50 J -9259141.71 -9259141.59 -9259141.45 0.0144 0.0064

Uranus -30063-02-04 02:38 J -9259053.51 -9259053.39 -9259053.28 0.0144 0.0089

Jupiter -30063-04-29 09:21 J -9258969.21 -9258969.11 -9258969.01 0.0525 0.0352

Uranus -30063-05-03 06:57 J -9258965.29 -9258965.21 -9258965.11 0.0145 0.0114

Mars -30063-06-21 22:33 J -9258915.71 -9258915.56 -9258915.41 0.1749 0.0586

Saturn -30063-06-24 14:52 J -9258912.99 -9258912.88 -9258912.76 0.0291 0.0212

Jupiter -30063-07-27 18:14 J -9258879.86 -9258879.74 -9258879.62 0.0521 0.0242

Uranus -30063-07-30 11:31 J -9258877.04 -9258877.02 -9258876.97 0.0145 0.0140

Saturn -30063-09-21 11:45 J -9258824.18 -9258824.01 -9258823.85 0.0291 0.0046

Saturn -30063-12-19 07:55 J -9258735.32 -9258735.17 -9258735.02 0.0292 0.0117

Saturn -30062-03-18 03:35 J -9258646.40 -9258646.35 -9258646.30 0.0292 0.0275

Moon -30058-05-24 14:52 J -9257117.97 -9257117.88 -9257117.78 0.2675 0.1637

Earth -30058-05-24 15:35 J -9257117.95 -9257117.85 -9257117.75 0.2680 0.1525 *

Jupiter -30057-09-25 05:59 J -9256628.41 -9256628.25 -9256628.08 0.0504 0.0139

Moon -30055-12-02 08:52 J -9255830.25 -9255830.13 -9255830.00 0.2664 0.0886

Earth -30055-12-02 09:07 J -9255830.25 -9255830.12 -9255830.00 0.2657 0.0904 *

Mars -30055-12-29 14:23 J -9255802.98 -9255802.90 -9255802.82 0.1756 0.1266

Mars -30054-11-11 23:45 J -9255485.67 -9255485.51 -9255485.36 0.1755 0.0314

Mars -30053-12-04 03:07 J -9255097.45 -9255097.37 -9255097.29 0.1779 0.1299

Earth -30052-06-02 20:38 J -9254916.69 -9254916.64 -9254916.59 0.2673 0.2408

Moon -30052-06-02 21:07 J -9254916.67 -9254916.62 -9254916.57 0.2679 0.2419 *

Jupiter -30051-02-15 13:11 J -9254658.99 -9254658.95 -9254658.90 0.0526 0.0492

Jupiter -30051-05-15 21:50 J -9254569.72 -9254569.59 -9254569.45 0.0522 0.0101

Venus -30050-02-03 20:09 J -9254305.70 -9254305.66 -9254305.63 0.3782 0.3521

Saturn -30048-01-08 14:38 J -9253600.99 -9253600.89 -9253600.79 0.0268 0.0182

Saturn -30048-04-07 02:23 J -9253512.54 -9253512.40 -9253512.27 0.0268 0.0078

Saturn -30048-07-04 14:09 J -9253424.05 -9253423.91 -9253423.76 0.0268 0.0029

Saturn -30048-10-01 02:23 J -9253335.52 -9253335.40 -9253335.28 0.0268 0.0135

Saturn -30048-12-28 14:38 J -9253246.94 -9253246.89 -9253246.83 0.0268 0.0244

Moon -30045-05-26 11:02 J -9252367.16 -9252367.04 -9252366.92 0.2677 0.0537

Earth -30045-05-26 11:45 J -9252367.13 -9252367.01 -9252366.89 0.2678 0.0537 *

Jupiter -30045-07-14 04:47 J -9252318.43 -9252318.30 -9252318.17 0.0504 0.0315

Venus -30045-08-19 13:40 J -9252282.03 -9252281.93 -9252281.82 0.3781 0.0820

Jupiter -30045-10-12 07:11 J -9252228.31 -9252228.20 -9252228.09 0.0507 0.0383

Mars -30044-04-02 23:59 J -9252055.61 -9252055.50 -9252055.39 0.1761 0.1269

Mars -30043-04-26 11:31 J -9251667.13 -9251667.02 -9251666.90 0.1774 0.0649

Earth -30042-12-05 08:52 J -9251079.21 -9251079.13 -9251079.05 0.2659 0.2109

Moon -30042-12-05 09:35 J -9251079.17 -9251079.10 -9251079.03 0.2663 0.2217 *

Venus -30041-08-19 17:16 J -9250820.91 -9250820.78 -9250820.65 0.3594 0.1255

Jupiter -30039-03-04 01:40 J -9250259.57 -9250259.43 -9250259.30 0.0523 0.0046

Venus -30039-03-05 07:26 J -9250258.28 -9250258.19 -9250258.10 0.3780 0.1948

Venus -30035-03-05 17:45 J -9248796.83 -9248796.76 -9248796.68 0.3595 0.2938

Moon -30035-11-27 12:57 J -9248530.07 -9248529.96 -9248529.85 0.2654 0.1590

Earth -30035-11-27 14:09 J -9248530.03 -9248529.91 -9248529.79 0.2653 0.1400 *

Mars -30034-09-16 20:23 J -9248236.77 -9248236.65 -9248236.53 0.1768 0.0024

Saturn -30034-11-11 12:28 J -9248181.03 -9248180.98 -9248180.91 0.0291 0.0271

Saturn -30033-02-08 09:35 J -9248092.26 -9248092.10 -9248091.94 0.0291 0.0104

Jupiter -30033-05-02 03:50 J -9248008.38 -9248008.34 -9248008.29 0.0503 0.0484

Saturn -30033-05-07 05:59 J -9248003.42 -9248003.25 -9248003.09 0.0291 0.0060

Mars -30033-07-30 21:50 J -9247918.66 -9247918.59 -9247918.53 0.1742 0.1560

Jupiter -30033-07-31 06:57 J -9247918.36 -9247918.21 -9247918.06 0.0506 0.0219

Saturn -30033-08-04 01:40 J -9247914.53 -9247914.43 -9247914.31 0.0291 0.0220

Moon -30032-05-29 07:40 J -9247616.30 -9247616.18 -9247616.06 0.2681 0.0384

Earth -30032-05-29 08:23 J -9247616.27 -9247616.15 -9247616.03 0.2677 0.0496 *

Jupiter -30028-12-21 04:19 J -9245949.44 -9245949.32 -9245949.19 0.0523 0.0203

Jupiter -30027-03-20 13:26 J -9245860.03 -9245859.94 -9245859.85 0.0520 0.0392

Uranus -30025-01-19 10:04 J -9245190.15 -9245190.08 -9245190.01 0.0135 0.0122

Uranus -30025-04-16 15:50 J -9245101.96 -9245101.84 -9245101.72 0.0135 0.0098

Moon -30025-05-22 00:43 J -9245066.53 -9245066.47 -9245066.42 0.2675 0.2341

Earth -30025-05-22 00:43 J -9245066.53 -9245066.47 -9245066.42 0.2681 0.2320 *

Uranus -30025-07-13 21:35 J -9245013.74 -9245013.60 -9245013.45 0.0135 0.0074

Uranus -30025-10-10 03:21 J -9244925.52 -9244925.36 -9244925.20 0.0135 0.0050

Uranus -30024-01-06 09:07 J -9244837.29 -9244837.12 -9244836.95 0.0134 0.0026

Mars -30024-02-06 05:16 J -9244806.39 -9244806.28 -9244806.17 0.1762 0.0599

Uranus -30024-04-04 14:38 J -9244749.06 -9244748.89 -9244748.72 0.0134 0.0002

Uranus -30024-07-01 20:09 J -9244660.83 -9244660.66 -9244660.49 0.0134 0.0021

Uranus -30024-09-28 01:40 J -9244572.59 -9244572.43 -9244572.27 0.0134 0.0044

Mars -30024-12-20 23:16 J -9244488.68 -9244488.53 -9244488.39 0.1748 0.0694

Uranus -30024-12-25 07:11 J -9244484.35 -9244484.20 -9244484.05 0.0134 0.0067

Uranus -30023-03-23 12:28 J -9244396.10 -9244395.98 -9244395.85 0.0134 0.0090

Uranus -30023-06-19 17:59 J -9244307.84 -9244307.75 -9244307.66 0.0134 0.0112

Moon -30022-11-30 13:55 J -9243779.05 -9243778.92 -9243778.78 0.2661 0.0114

Earth -30022-11-30 14:38 J -9243779.03 -9243778.89 -9243778.75 0.2655 0.0115 *

Jupiter -30021-05-19 05:59 J -9243608.42 -9243608.25 -9243608.08 0.0506 0.0049

Saturn -30019-05-28 17:16 J -9242868.86 -9242868.78 -9242868.69 0.0269 0.0209

Moon -30019-06-01 04:47 J -9242865.40 -9242865.30 -9242865.20 0.2681 0.1545

Earth -30019-06-01 05:02 J -9242865.39 -9242865.29 -9242865.19 0.2675 0.1539 *

Saturn -30019-08-25 05:02 J -9242780.42 -9242780.29 -9242780.16 0.0269 0.0105

Saturn -30019-11-21 17:02 J -9242691.94 -9242691.79 -9242691.65 0.0269 0.0007

Saturn -30018-02-18 05:02 J -9242603.42 -9242603.29 -9242603.16 0.0269 0.0109

Saturn -30018-05-17 17:16 J -9242514.86 -9242514.78 -9242514.69 0.0269 0.0218

Jupiter	**-30016-10-09 07:40 J**	**-9241639.28**	**-9241639.18**	**-9241639.08**	**0.0524**	**0.0352**	
Jupiter	**-30015-01-06 16:33 J**	**-9241549.93**	**-9241549.81**	**-9241549.69**	**0.0521**	**0.0239**	
Mars	**-30015-06-29 14:38 J**	**-9241375.98**	**-9241375.89**	**-9241375.81**	**0.1756**	**0.1190**	
Mars	**-30014-05-12 23:59 J**	**-9241058.65**	**-9241058.50**	**-9241058.34**	**0.1755**	**0.0220**	
Mars	**-30013-06-04 03:07 J**	**-9240670.44**	**-9240670.37**	**-9240670.29**	**0.1779**	**0.1378**	
Moon	**-30012-05-24 19:55 J**	**-9240315.77**	**-9240315.67**	**-9240315.56**	**0.2675**	**0.1340**	
Earth	**-30012-05-24 20:38 J**	**-9240315.74**	**-9240315.64**	**-9240315.53**	**0.2680**	**0.1345**	*
Jupiter	**-30009-03-07 04:19 J**	**-9239298.49**	**-9239298.32**	**-9239298.16**	**0.0504**	**0.0135**	
Moon	**-30009-12-02 14:38 J**	**-9239028.01**	**-9239027.89**	**-9239027.77**	**0.2664**	**0.1129**	
Earth	**-30009-12-02 14:38 J**	**-9239028.01**	**-9239027.89**	**-9239027.76**	**0.2657**	**0.1132**	*
Earth	**-30006-06-04 01:55 J**	**-9238114.44**	**-9238114.42**	**-9238114.40**	**0.2673**	**0.2611**	
Mars	**-30005-10-02 00:28 J**	**-9237628.60**	**-9237628.48**	**-9237628.36**	**0.1761**	**0.1168**	
Saturn	**-30004-06-27 11:31 J**	**-9237360.17**	**-9237360.02**	**-9237359.86**	**0.0291**	**0.0133**	
Jupiter	**-30004-07-28 11:02 J**	**-9237329.07**	**-9237329.04**	**-9237329.00**	**0.0526**	**0.0500**	
Saturn	**-30004-09-24 08:09 J**	**-9237271.33**	**-9237271.16**	**-9237271.00**	**0.0291**	**0.0032**	
Mars	**-30004-10-25 11:45 J**	**-9237240.12**	**-9237240.01**	**-9237239.90**	**0.1773**	**0.0723**	
Jupiter	**-30004-10-25 19:55 J**	**-9237239.81**	**-9237239.67**	**-9237239.54**	**0.0522**	**0.0092**	
Saturn	**-30004-12-22 03:50 J**	**-9237182.45**	**-9237182.34**	**-9237182.21**	**0.0291**	**0.0193**	
Moon	**-30002-11-25 17:59 J**	**-9236478.76**	**-9236478.75**	**-9236478.75**	**0.2650**	**0.2643**	
Earth	**-30002-11-25 19:11 J**	**-9236478.75**	**-9236478.70**	**-9236478.66**	**0.2652**	**0.2485**	*

30TH MILLENNIUM BCE

This is a list of transits of Mercury in the 30th millennium BCE.

FROM	MAX-TRANSIT	C	START	MAX	END	SUNRAD	DEPTH	S

Moon -29999-05-27 16:04 J -9235564.94 -9235564.83 -9235564.71 0.2678 0.0491

Earth -29999-05-27 17:02 J -9235564.91 -9235564.79 -9235564.67 0.2678 0.0339 *

Jupiter -29998-12-25 02:38 J -9234988.52 -9234988.39 -9234988.25 0.0503 0.0313

Jupiter -29997-03-24 05:16 J -9234898.39 -9234898.28 -9234898.17 0.0507 0.0385

Earth -29996-12-05 14:23 J -9234276.96 -9234276.90 -9234276.84 0.2659 0.2331

Moon -29996-12-05 15:21 J -9234276.92 -9234276.86 -9234276.80 0.2663 0.2381 *

Mars -29994-03-17 20:23 J -9233809.77 -9233809.65 -9233809.53 0.1767 0.0096

Venus -29994-09-10 17:59 J -9233632.83 -9233632.75 -9233632.67 0.3781 0.2534

Mars -29993-01-29 22:19 J -9233491.61 -9233491.57 -9233491.52 0.1742 0.1667

Jupiter -29992-08-13 23:31 J -9232929.65 -9232929.52 -9232929.39 0.0523 0.0052

Neptune -29990-09-07 20:52 J -9232174.69 -9232174.63 -9232174.57 0.0088 0.0083

Saturn -29990-10-15 19:55 J -9232136.73 -9232136.67 -9232136.60 0.0268 0.0234

Neptune -29990-12-04 23:59 J -9232086.60 -9232086.50 -9232086.40 0.0088 0.0074

Saturn -29989-01-12 07:40 J -9232048.30 -9232048.18 -9232048.06 0.0268 0.0130

Neptune -29989-03-02 02:38 J -9231998.49 -9231998.39 -9231998.25 0.0088 0.0065

Saturn -29989-04-09 19:26 J -9231959.83 -9231959.69 -9231959.55 0.0268 0.0026

Neptune -29989-05-29 05:45 J -9231910.38 -9231910.26 -9231910.10 0.0088 0.0056

Saturn -29989-07-07 07:26 J -9231871.32 -9231871.19 -9231871.05 0.0268 0.0082

Neptune -29989-08-25 08:52 J -9231822.27 -9231822.13 -9231821.96 0.0088 0.0048

Saturn -29989-10-03 19:40 J -9231782.78 -9231782.68 -9231782.58 0.0268 0.0190

Neptune -29989-11-21 11:59 J -9231734.15 -9231734.00 -9231733.82 0.0088 0.0039

Moon -29989-11-27 18:43 J -9231727.84 -9231727.72 -9231727.60 0.2655 0.1174

Earth -29989-11-27 19:55 J -9231727.80 -9231727.67 -9231727.55 0.2654 0.1166 *

Neptune -29988-02-17 15:07 J -9231646.03 -9231645.87 -9231645.69 0.0088 0.0030

Venus -29988-03-26 11:31 J -9231609.12 -9231609.02 -9231608.91 0.3781 0.0249

Neptune -29988-05-16 18:28 J -9231557.91 -9231557.73 -9231557.56 0.0088 0.0020

Neptune -29988-08-12 21:21 J -9231469.79 -9231469.61 -9231469.43 0.0088 0.0012

Neptune -29988-11-09 00:28 J -9231381.66 -9231381.48 -9231381.30 0.0088 0.0003

Neptune -29987-02-05 03:21 J -9231293.54 -9231293.36 -9231293.18 0.0088 0.0006

Neptune -29987-05-04 06:14 J -9231205.41 -9231205.24 -9231205.05 0.0088 0.0015

Neptune -29987-07-31 09:21 J -9231117.28 -9231117.11 -9231116.94 0.0088 0.0023

Neptune -29987-10-27 11:59 J -9231029.15 -9231029.00 -9231028.82 0.0088 0.0033

Neptune -29986-01-23 15:21 J -9230941.02 -9230940.86 -9230940.70 0.0088 0.0041

Neptune -29986-04-21 17:59 J -9230852.89 -9230852.75 -9230852.59 0.0088 0.0049

Moon -29986-05-30 12:43 J -9230814.08 -9230813.97 -9230813.85 0.2681 0.0697

Earth -29986-05-30 13:40 J -9230814.05 -9230813.93 -9230813.82 0.2676 0.0693 *

Neptune -29986-07-18 20:38 J -9230764.75 -9230764.64 -9230764.48 0.0088 0.0059

Jupiter -29986-10-13 01:11 J -9230678.48 -9230678.45 -9230678.41 0.0503 0.0491

Neptune -29986-10-14 23:45 J -9230676.61 -9230676.51 -9230676.38 0.0088 0.0066

Jupiter -29985-01-11 04:04 J -9230588.48 -9230588.33 -9230588.17 0.0506 0.0211

Neptune -29985-01-11 02:23 J -9230588.47 -9230588.40 -9230588.28 0.0088 0.0076 *

Neptune -29985-04-08 05:31 J -9230500.31 -9230500.27 -9230500.20 0.0088 0.0083

Mars -29985-08-07 05:31 J -9230379.39 -9230379.27 -9230379.16 0.1762 0.0529

Venus -29984-03-26 17:02 J -9230147.93 -9230147.79 -9230147.65 0.3595 0.0287

Mars -29984-06-20 23:45 J -9230061.65 -9230061.51 -9230061.37 0.1748 0.0798

Venus -29983-10-10 05:31 J -9229585.34 -9229585.27 -9229585.21 0.3780 0.2982

Uranus -29982-12-23 18:14 J -9229145.81 -9229145.74 -9229145.66 0.0144 0.0122

Uranus -29981-03-20 22:19 J -9229057.66 -9229057.57 -9229057.46 0.0144 0.0099

Uranus -29981-06-17 02:52 J -9228969.50 -9228969.38 -9228969.26 0.0144 0.0075

Uranus -29981-09-13 07:11 J -9228881.33 -9228881.20 -9228881.07 0.0144 0.0051

Uranus -29981-12-10 11:31 J -9228793.16 -9228793.02 -9228792.88 0.0144 0.0027

Uranus -29980-03-08 16:04 J -9228704.98 -9228704.83 -9228704.69 0.0144 0.0005

Jupiter -29980-06-02 03:07 J -9228619.49 -9228619.37 -9228619.24 0.0524 0.0195

Uranus -29980-06-04 20:23 J -9228616.79 -9228616.65 -9228616.51 0.0144 0.0022

Jupiter -29980-08-30 12:14 J -9228530.08 -9228529.99 -9228529.90 0.0520 0.0400

Uranus -29980-09-01 00:43 J -9228528.60 -9228528.47 -9228528.33 0.0144 0.0047

Uranus -29980-11-28 05:16 J -9228440.40 -9228440.28 -9228440.15 0.0144 0.0071

Uranus -29979-02-24 09:50 J -9228352.19 -9228352.09 -9228351.98 0.0144 0.0096

Moon -29979-05-23 05:31 J -9228264.34 -9228264.27 -9228264.20 0.2675 0.2143

Earth -29979-05-23 05:45 J -9228264.33 -9228264.26 -9228264.19 0.2681 0.2137 *

Uranus -29979-05-23 14:23 J -9228263.97 -9228263.90 -9228263.82 0.0145 0.0122

Moon -29976-11-30 19:40 J -9226976.81 -9226976.68 -9226976.54 0.2662 0.0063

Earth -29976-11-30 20:23 J -9226976.79 -9226976.65 -9226976.52 0.2655 0.0139 *

Mars -29976-12-28 14:38 J -9226948.99 -9226948.89 -9226948.80 0.1756 0.1120

Mars -29975-11-11 00:43 J -9226631.63 -9226631.47 -9226631.32 0.1755 0.0119

Saturn -29975-11-14 09:35 J -9226628.22 -9226628.10 -9226627.97 0.0291 0.0190

Saturn -29974-02-11 06:14 J -9226539.41 -9226539.24 -9226539.07 0.0291 0.0025

Saturn -29974-05-11 02:23 J -9226450.54 -9226450.40 -9226450.25 0.0291 0.0138

Jupiter -29974-10-30 03:35 J -9226278.52 -9226278.35 -9226278.18 0.0505 0.0045

Mars -29974-12-04 03:07 J -9226243.43 -9226243.37 -9226243.30 0.1779 0.1455

Moon -29973-06-01 10:19 J -9226063.16 -9226063.07 -9226062.98 0.2681 0.1705

Earth -29973-06-01 10:19 J -9226063.16 -9226063.07 -9226062.98 0.2674 0.1740 *

Jupiter -29968-03-21 06:14 J -9224309.34 -9224309.24 -9224309.14 0.0524 0.0349

Jupiter -29968-06-18 14:52 J -9224220.00 -9224219.88 -9224219.76 0.0521 0.0243

Mars -29966-05-20 23:45 J -9223518.53 -9223518.51 -9223518.48 0.1750 0.1696

Moon -29966-05-26 01:11 J -9223513.56 -9223513.45 -9223513.34 0.2675 0.1259

Earth -29966-05-26 01:55 J -9223513.53 -9223513.42 -9223513.31 0.2679 0.1158 *

Mars -29965-04-02 00:57 J -9223201.58 -9223201.46 -9223201.33 0.1761 0.1060

Mars -29964-04-25 11:45 J -9222813.12 -9222813.01 -9222812.90 0.1773 0.0797

Earth -29963-12-03 20:23 J -9222225.77 -9222225.65 -9222225.54 0.2657 0.1356

Moon -29963-12-03 20:38 J -9222225.76 -9222225.64 -9222225.53 0.2663 0.1409 *

Jupiter -29962-08-18 02:38 J -9221968.56 -9221968.39 -9221968.22 0.0505 0.0128

Saturn -29960-03-03 22:33 J -9221404.59 -9221404.56 -9221404.53 0.0269 0.0262

Saturn -29960-05-31 10:19 J -9221316.19 -9221316.07 -9221315.96 0.0269 0.0158

Saturn -29960-08-27 22:04 J -9221227.72 -9221227.58 -9221227.44 0.0269 0.0053

Saturn -29960-11-24 10:04 J -9221139.22 -9221139.08 -9221138.94 0.0269 0.0054

Saturn -29959-02-20 22:04 J -9221050.69 -9221050.58 -9221050.46 0.0269 0.0163

Jupiter -29956-01-07 09:21 J -9219999.14 -9219999.11 -9219999.06 0.0525 0.0499

Jupiter -29956-04-06 17:59 J -9219909.88 -9219909.75 -9219909.61 0.0522 0.0090

Moon -29956-11-25 23:31 J -9219676.58 -9219676.52 -9219676.45 0.2650 0.2290

Earth -29956-11-26 00:57 J -9219676.53 -9219676.46 -9219676.39 0.2652 0.2243 *

Mars -29955-09-15 20:23 J -9219382.77 -9219382.65 -9219382.53 0.1767 0.0161

Moon -29953-05-27 21:21 J -9218762.73 -9218762.61 -9218762.49 0.2680 0.0164

Earth -29953-05-27 22:19 J -9218762.70 -9218762.57 -9218762.45 0.2678 0.0177 *

Jupiter -29950-06-06 00:43 J -9217658.60 -9217658.47 -9217658.33 0.0504 0.0312

Jupiter -29950-09-04 03:07 J -9217568.48 -9217568.37 -9217568.26 0.0507 0.0386

Earth -29950-12-06 20:09 J -9217474.70 -9217474.66 -9217474.63 0.2659 0.2556

Moon -29950-12-06 20:52 J -9217474.64 -9217474.63 -9217474.61 0.2664 0.2647 *

Mars -29945-02-06 05:16 J -9215952.39 -9215952.28 -9215952.16 0.1761 0.0460

Saturn -29945-04-02 11:59 J -9215896.11 -9215896.00 -9215895.89 0.0291 0.0217

Saturn -29945-06-30 08:38 J -9215807.30 -9215807.14 -9215806.97 0.0291 0.0051

Saturn -29945-09-27 05:02 J -9215718.45 -9215718.29 -9215718.14 0.0291 0.0113

Mars -29945-12-20 00:14 J -9215634.63 -9215634.49 -9215634.36 0.1749 0.0893

Saturn -29945-12-25 00:28 J -9215629.53 -9215629.48 -9215629.41 0.0291 0.0272

Jupiter -29944-01-23 21:21 J -9215599.75 -9215599.61 -9215599.48 0.0523 0.0061

Moon -29943-11-29 00:28 J -9214925.60 -9214925.48 -9214925.35 0.2657 0.1094

Earth -29943-11-29 01:40 J -9214925.56 -9214925.43 -9214925.30 0.2654 0.0929 *

Uranus -29941-02-08 16:33 J -9214488.88 -9214488.81 -9214488.71 0.0135 0.0117

Uranus -29941-05-06 22:47 J -9214400.68 -9214400.55 -9214400.43 0.0135 0.0092

Uranus -29941-08-03 04:33 J -9214312.46 -9214312.31 -9214312.16 0.0135 0.0068

Uranus -29941-10-30 10:19 J -9214224.24 -9214224.07 -9214223.91 0.0134 0.0044

Uranus -29940-01-26 15:50 J -9214136.01 -9214135.84 -9214135.67 0.0134 0.0020

Uranus -29940-04-24 21:35 J -9214047.77 -9214047.60 -9214047.43 0.0134 0.0004

Moon -29940-05-30 18:14 J -9214011.86 -9214011.74 -9214011.63 0.2681 0.0771

Earth -29940-05-30 18:43 J -9214011.83 -9214011.72 -9214011.60 0.2676 0.0888 *

Uranus -29940-07-22 03:07 J -9213959.54 -9213959.37 -9213959.20 0.0134 0.0027

Uranus -29940-10-18 08:23 J -9213871.30 -9213871.15 -9213870.98 0.0134 0.0050

Uranus -29939-01-14 13:55 J -9213783.05 -9213782.92 -9213782.77 0.0134 0.0073

Uranus -29939-04-12 19:11 J -9213694.80 -9213694.70 -9213694.57 0.0134 0.0096

Uranus -29939-07-10 00:43 J -9213606.54 -9213606.47 -9213606.38 0.0134 0.0118

Jupiter -29938-03-24 23:16 J -9213348.57 -9213348.53 -9213348.50 0.0503 0.0490

Jupiter -29938-06-23 01:55 J -9213258.57 -9213258.42 -9213258.26 0.0506 0.0212

Venus -29937-04-16 15:50 J -9212959.93 -9212959.84 -9212959.74 0.3781 0.1548

Mars -29936-06-28 14:23 J -9212521.99 -9212521.90 -9212521.80 0.1756 0.1055

Mars -29935-05-12 01:26 J -9212204.60 -9212204.44 -9212204.29 0.1754 0.0022

Mars -29934-06-04 03:07 J -9211816.43 -9211816.37 -9211816.30 0.1779 0.1526

Venus -29933-04-16 16:04 J -9211498.93 -9211498.83 -9211498.73 0.3594 0.2462

Moon -29933-05-23 10:33 J -9211462.14 -9211462.06 -9211461.98 0.2674 0.1961

Earth -29933-05-23 10:47 J -9211462.13 -9211462.05 -9211461.97 0.2681 0.1960 *

Jupiter -29933-11-12 00:57 J -9211289.58 -9211289.46 -9211289.34 0.0524 0.0204

Jupiter -29932-02-09 10:04 J -9211200.17 -9211200.08 -9211199.99 0.0521 0.0392

Venus -29932-10-31 09:35 J -9210936.20 -9210936.10 -9210936.00 0.3780 0.1199

Saturn -29931-10-18 13:11 J -9210584.05 -9210583.95 -9210583.85 0.0268 0.0181

Saturn -29930-01-15 00:57 J -9210495.60 -9210495.46 -9210495.33 0.0268 0.0077

Saturn -29930-04-13 12:43 J -9210407.11 -9210406.97 -9210406.82 0.0268 0.0030

Saturn -29930-07-11 00:57 J -9210318.58 -9210318.46 -9210318.34 0.0268 0.0137

Saturn -29930-10-07 13:11 J -9210230.00 -9210229.95 -9210229.89 0.0268 0.0246

Moon -29930-12-02 01:26 J -9210174.57 -9210174.44 -9210174.31 0.2662 0.0388

Earth -29930-12-02 01:55 J -9210174.55 -9210174.42 -9210174.28 0.2656 0.0351 *

Venus -29928-10-31 17:02 J -9209474.91 -9209474.79 -9209474.67 0.3595 0.1808

Earth -29927-06-02 15:35 J -9209260.94 -9209260.85 -9209260.77 0.2674 0.1942

Moon -29927-06-02 15:35 J -9209260.93 -9209260.85 -9209260.77 0.2681 0.2017 *

Mars -29927-11-18 23:59 J -9209091.55 -9209091.50 -9209091.46 0.1750 0.1625

Jupiter -29926-04-11 00:43 J -9208948.64 -9208948.47 -9208948.30 0.0505 0.0034

Mars -29926-10-02 01:40 J -9208774.57 -9208774.43 -9208774.30 0.1761 0.0956

Mars -29925-10-24 11:45 J -9208386.12 -9208386.01 -9208385.91 0.1773 0.0868

Jupiter -29921-08-31 04:47 J -9206979.40 -9206979.30 -9206979.20 0.0525 0.0346

Jupiter -29921-11-28 13:40 J -9206890.05 -9206889.93 -9206889.82 0.0521 0.0247

Moon -29920-05-26 06:14 J -9206711.35 -9206711.24 -9206711.13 0.2676 0.1006

Earth -29920-05-26 06:57 J -9206711.32 -9206711.21 -9206711.09 0.2679 0.0975 *

Earth -29917-12-04 01:55 J -9205423.53 -9205423.42 -9205423.31 0.2657 0.1582

Moon -29917-12-04 02:23 J -9205423.51 -9205423.40 -9205423.29 0.2663 0.1564 *

Saturn -29916-08-20 10:04 J -9205164.13 -9205164.08 -9205164.01 0.0291 0.0272

Saturn -29916-11-17 06:57 J -9205075.36 -9205075.21 -9205075.04 0.0291 0.0105

Saturn -29915-02-14 03:35 J -9204986.52 -9204986.35 -9204986.19 0.0291 0.0060

Mars -29915-03-16 20:38 J -9204955.76 -9204955.64 -9204955.52 0.1768 0.0245

Saturn -29915-05-13 23:31 J -9204897.63 -9204897.52 -9204897.41 0.0291 0.0219

Jupiter -29914-01-27 23:59 J -9204638.66 -9204638.50 -9204638.33 0.0505 0.0135

Moon -29910-11-27 05:31 J -9202874.35 -9202874.27 -9202874.19 0.2651 0.2136

Earth -29910-11-27 06:43 J -9202874.31 -9202874.22 -9202874.13 0.2652 0.1997 *

Jupiter -29909-06-19 07:55 J -9202669.21 -9202669.17 -9202669.13 0.0525 0.0496

Neptune -29909-09-14 19:26 J -9202581.70 -9202581.69 -9202581.66 0.0089 0.0088

Jupiter -29909-09-16 16:33 J -9202579.95 -9202579.81 -9202579.68 0.0522 0.0092

Pluto -29909-09-26 06:14 J -9202570.27 -9202570.24 -9202570.19 0.0069 0.0067

Neptune -29909-12-11 20:52 J -9202493.67 -9202493.63 -9202493.56 0.0089 0.0082

Pluto -29909-12-23 07:26 J -9202482.25 -9202482.19 -9202482.09 0.0069 0.0061

Neptune -29908-03-09 22:33 J -9202405.63 -9202405.56 -9202405.48 0.0089 0.0074

Pluto -29908-03-21 09:07 J -9202394.22 -9202394.12 -9202394.01 0.0069 0.0054

Neptune -29908-06-06 00:14 J -9202317.58 -9202317.49 -9202317.40 0.0089 0.0068

Pluto -29908-06-17 10:19 J -9202306.18 -9202306.07 -9202305.94 0.0070 0.0048

Neptune -29908-09-02 01:40 J -9202229.53 -9202229.43 -9202229.33 0.0089 0.0061

Pluto -29908-09-13 11:45 J -9202218.13 -9202218.01 -9202217.87 0.0070 0.0041

Neptune -29908-11-29 02:52 J -9202141.47 -9202141.38 -9202141.26 0.0089 0.0055

Pluto -29908-12-10 13:26 J -9202130.09 -9202129.94 -9202129.80 0.0070 0.0034

Neptune -29907-02-25 04:33 J -9202053.42 -9202053.31 -9202053.19 0.0089 0.0047

Pluto -29907-03-08 14:38 J -9202042.04 -9202041.89 -9202041.73 0.0070 0.0028

Neptune -29907-05-24 05:59 J -9201965.36 -9201965.25 -9201965.12 0.0089 0.0041

Moon -29907-05-29 02:38 J -9201960.52 -9201960.39 -9201960.27 0.2679 0.0136

Earth -29907-05-29 03:21 J -9201960.48 -9201960.36 -9201960.24 0.2677 0.0082 *

Pluto -29907-06-04 16:04 J -9201953.98 -9201953.83 -9201953.67 0.0070 0.0021

Neptune -29907-08-20 07:40 J -9201877.30 -9201877.18 -9201877.05 0.0089 0.0033

Pluto -29907-08-31 17:31 J -9201865.93 -9201865.77 -9201865.60 0.0070 0.0014

Neptune -29907-11-16 09:21 J -9201789.24 -9201789.11 -9201788.98 0.0089 0.0026

Pluto -29907-11-27 18:57 J -9201777.87 -9201777.71 -9201777.54 0.0070 0.0008

Neptune -29906-02-12 10:47 J -9201701.18 -9201701.05 -9201700.91 0.0089 0.0019

Pluto -29906-02-23 20:38 J -9201689.81 -9201689.64 -9201689.48 0.0070 0.0002

Neptune -29906-05-11 12:28 J -9201613.12 -9201612.98 -9201612.84 0.0089 0.0012

Pluto -29906-05-22 22:04 J -9201601.75 -9201601.58 -9201601.42 0.0070 0.0007

Mars -29906-08-07 05:31 J -9201525.39 -9201525.27 -9201525.16 0.1761 0.0388

Neptune -29906-08-07 13:55 J -9201525.06 -9201524.92 -9201524.78 0.0089 0.0005

Pluto -29906-08-18 23:16 J -9201513.69 -9201513.53 -9201513.36 0.0071 0.0014

Neptune -29906-11-03 15:35 J -9201436.99 -9201436.85 -9201436.71 0.0089 0.0003

Pluto -29906-11-15 00:43 J -9201425.62 -9201425.47 -9201425.30 0.0071 0.0021

Neptune -29905-01-30 17:02 J -9201348.93 -9201348.79 -9201348.65 0.0089 0.0009

Pluto -29905-02-11 02:23 J -9201337.55 -9201337.40 -9201337.24 0.0071 0.0028

Neptune -29905-04-27 18:28 J -9201260.86 -9201260.73 -9201260.59 0.0089 0.0016

Pluto -29905-05-09 03:50 J -9201249.48 -9201249.34 -9201249.19 0.0071 0.0035

Mars -29905-06-20 00:43 J -9201207.59 -9201207.47 -9201207.34 0.1748 0.0998

Neptune -29905-07-24 20:09 J -9201172.79 -9201172.66 -9201172.52 0.0089 0.0023

Pluto -29905-08-05 05:31 J -9201161.40 -9201161.27 -9201161.14 0.0071 0.0042

Neptune -29905-10-20 21:35 J -9201084.72 -9201084.60 -9201084.46 0.0089 0.0030

Pluto -29905-11-01 06:43 J -9201073.32 -9201073.22 -9201073.09 0.0071 0.0050

Neptune -29904-01-16 23:02 J -9200996.65 -9200996.54 -9200996.40 0.0089 0.0038

Pluto -29904-01-28 08:09 J -9200985.24 -9200985.16 -9200985.04 0.0071 0.0058

Neptune -29904-04-15 00:43 J -9200908.58 -9200908.47 -9200908.34 0.0089 0.0044

Pluto -29904-04-26 10:04 J -9200897.14 -9200897.08 -9200897.01 0.0071 0.0065

Neptune -29904-07-12 02:23 J -9200820.51 -9200820.40 -9200820.28 0.0089 0.0051

Neptune -29904-10-08 03:50 J -9200732.43 -9200732.34 -9200732.22 0.0089 0.0059

Neptune -29903-01-04 05:31 J -9200644.36 -9200644.27 -9200644.17 0.0089 0.0065

Neptune -29903-04-02 07:11 J -9200556.27 -9200556.20 -9200556.11 0.0089 0.0072

Neptune -29903-06-29 08:52 J -9200468.19 -9200468.13 -9200468.06 0.0089 0.0080

Neptune -29903-09-25 10:33 J -9200380.09 -9200380.06 -9200380.03 0.0089 0.0087

Jupiter -29903-11-15 22:47 J -9200328.68 -9200328.55 -9200328.41 0.0504 0.0308

Jupiter -29902-02-14 01:26 J -9200238.55 -9200238.44 -9200238.33 0.0507 0.0391

Saturn -29901-03-06 15:21 J -9199851.94 -9199851.86 -9199851.76 0.0269 0.0212

Saturn -29901-06-03 03:07 J -9199763.49 -9199763.37 -9199763.23 0.0269 0.0107

Saturn -29901-08-30 15:07 J -9199675.01 -9199674.87 -9199674.73 0.0269 0.0004

Saturn -29901-11-27 03:07 J -9199586.50 -9199586.37 -9199586.23 0.0269 0.0108

Saturn -29900-02-23 15:35 J -9199497.94 -9199497.85 -9199497.77 0.0269 0.0217

Moon -29900-05-21 20:23 J -9199410.66 -9199410.65 -9199410.64 0.2676 0.2657

Uranus -29898-10-16 21:07 J -9198532.65 -9198532.62 -9198532.58 0.0143 0.0139

Uranus -29897-01-13 01:26 J -9198444.52 -9198444.44 -9198444.35 0.0144 0.0116

Uranus -29897-04-10 05:31 J -9198356.37 -9198356.27 -9198356.15 0.0144 0.0093

Jupiter -29897-07-05 19:40 J -9198269.81 -9198269.68 -9198269.55 0.0523 0.0060

Uranus -29897-07-07 10:04 J -9198268.21 -9198268.08 -9198267.96 0.0144 0.0069

Uranus -29897-10-03 14:23 J -9198180.04 -9198179.90 -9198179.77 0.0144 0.0045

Moon -29897-11-29 06:28 J -9198123.36 -9198123.23 -9198123.10 0.2658 0.0701

Earth -29897-11-29 07:26 J -9198123.32 -9198123.19 -9198123.06 0.2654 0.0691 *

Mars -29897-12-27 14:38 J -9198094.99 -9198094.89 -9198094.80 0.1756 0.0983

Uranus -29897-12-30 18:43 J -9198091.86 -9198091.72 -9198091.58 0.0144 0.0021

Uranus -29896-03-28 23:02 J -9198003.68 -9198003.54 -9198003.39 0.0144 0.0005

Uranus -29896-06-25 03:35 J -9197915.49 -9197915.35 -9197915.21 0.0144 0.0028

Uranus -29896-09-21 07:55 J -9197827.30 -9197827.17 -9197827.03 0.0144 0.0053

Mars -29896-11-10 01:40 J -9197777.59 -9197777.43 -9197777.28 0.1755 0.0092

Uranus -29896-12-18 12:28 J -9197739.10 -9197738.98 -9197738.85 0.0144 0.0077

Uranus -29895-03-16 17:02 J -9197650.89 -9197650.79 -9197650.68 0.0144 0.0102

Uranus -29895-06-12 21:35 J -9197562.66 -9197562.60 -9197562.53 0.0145 0.0128

Mars -29895-12-03 03:21 J -9197389.41 -9197389.36 -9197389.31 0.1779 0.1600

Moon -29894-05-31 23:31 J -9197209.63 -9197209.52 -9197209.41 0.2681 0.1112

Earth -29894-05-31 23:59 J -9197209.61 -9197209.50 -9197209.39 0.2676 0.1078 *

Jupiter -29891-09-03 20:52 J -9196018.66 -9196018.63 -9196018.59 0.0503 0.0491

Jupiter -29891-12-02 23:45 J -9195928.66 -9195928.51 -9195928.35 0.0506 0.0211

Mars -29887-05-19 23:45 J -9194664.56 -9194664.51 -9194664.45 0.1750 0.1559

Moon -29887-05-24 15:35 J -9194659.93 -9194659.85 -9194659.76 0.2674 0.1832

Earth -29887-05-24 16:04 J -9194659.92 -9194659.83 -9194659.74 0.2681 0.1775 *

Mars -29886-04-02 02:09 J -9194347.54 -9194347.41 -9194347.27 0.1761 0.0846

Saturn -29886-04-06 09:21 J -9194343.26 -9194343.11 -9194342.96 0.0291 0.0132

Venus -29886-05-08 20:23 J -9194310.71 -9194310.65 -9194310.60 0.3781 0.3233

Saturn -29886-07-04 05:45 J -9194254.42 -9194254.26 -9194254.09 0.0291 0.0034

Saturn -29886-10-01 01:40 J -9194165.54 -9194165.43 -9194165.30 0.0291 0.0195

Jupiter -29885-04-23 22:47 J -9193959.67 -9193959.55 -9193959.43 0.0524 0.0212

Mars -29885-04-24 11:45 J -9193959.11 -9193959.01 -9193958.90 0.1773 0.0947

Jupiter -29885-07-22 07:55 J -9193870.26 -9193870.17 -9193870.08 0.0521 0.0383

Moon -29884-12-02 07:11 J -9193372.33 -9193372.20 -9193372.06 0.2662 0.0472

Earth -29884-12-02 07:40 J -9193372.31 -9193372.18 -9193372.05 0.2656 0.0580 *

Earth -29881-06-02 20:52 J -9192458.71 -9192458.63 -9192458.56 0.2674 0.2146

Moon -29881-06-02 20:52 J -9192458.70 -9192458.63 -9192458.55 0.2681 0.2098 *

Venus -29881-11-21 13:55 J -9192287.03 -9192286.92 -9192286.81 0.3781 0.0543

Jupiter -29879-09-20 22:33 J -9191618.73 -9191618.56 -9191618.38 0.0505 0.0037

Venus -29877-11-21 16:04 J -9190825.96 -9190825.83 -9190825.70 0.3594 0.0893

Mars -29876-09-14 20:23 J -9190528.77 -9190528.65 -9190528.53 0.1767 0.0301

Venus -29875-06-07 07:40 J -9190263.27 -9190263.18 -9190263.10 0.3780 0.2228

Moon -29874-05-27 11:16 J -9189909.14 -9189909.03 -9189908.91 0.2677 0.0853

Earth -29874-05-27 12:14 J -9189909.11 -9189908.99 -9189908.88 0.2679 0.0784 *

Jupiter -29873-02-11 02:38 J -9189649.49 -9189649.39 -9189649.30 0.0525 0.0356

Jupiter -29873-05-10 11:16 J -9189560.15 -9189560.03 -9189559.91 0.0522 0.0238

Saturn -29872-07-24 18:43 J -9189119.78 -9189119.72 -9189119.65 0.0268 0.0231

Saturn -29872-10-21 06:28 J -9189031.36 -9189031.23 -9189031.11 0.0268 0.0128

Saturn -29871-01-17 18:14 J -9188942.88 -9188942.74 -9188942.60 0.0268 0.0022

Saturn -29871-04-16 06:14 J -9188854.38 -9188854.24 -9188854.11 0.0268 0.0085

Venus -29871-06-07 16:47 J -9188801.85 -9188801.80 -9188801.75 0.3595 0.3312

Saturn -29871-07-13 18:28 J -9188765.83 -9188765.73 -9188765.63 0.0268 0.0193

Earth -29871-12-05 07:40 J -9188621.28 -9188621.18 -9188621.09 0.2658 0.1806

Moon -29871-12-05 08:09 J -9188621.25 -9188621.16 -9188621.07 0.2664 0.1932 *

Jupiter -29867-07-09 21:07 J -9187308.78 -9187308.62 -9187308.45 0.0504 0.0144

Mars -29866-02-05 05:31 J -9187098.39 -9187098.27 -9187098.15 0.1762 0.0316

Mars -29866-12-20 01:11 J -9186780.57 -9186780.45 -9186780.33 0.1748 0.1099

Moon -29864-11-27 11:16 J -9186072.13 -9186072.03 -9186071.93 0.2652 0.1838

Earth -29864-11-27 12:28 J -9186072.08 -9186071.98 -9186071.88 0.2652 0.1758 *

Jupiter -29862-11-30 06:14 J -9185339.27 -9185339.24 -9185339.19 0.0526 0.0497

Jupiter -29861-02-27 14:52 J -9185250.01 -9185249.88 -9185249.74 0.0522 0.0095

Moon -29861-05-29 07:40 J -9185158.30 -9185158.18 -9185158.06 0.2679 0.0212

Earth -29861-05-29 08:38 J -9185158.26 -9185158.14 -9185158.02 0.2677 0.0234 *

Uranus -29857-02-28 23:16 J -9183787.62 -9183787.53 -9183787.42 0.0135 0.0112

Uranus -29857-05-27 05:02 J -9183699.41 -9183699.29 -9183699.15 0.0135 0.0088

Mars -29857-06-27 14:38 J -9183667.99 -9183667.89 -9183667.79 0.1756 0.0907

Saturn -29857-08-23 07:55 J -9183611.30 -9183611.17 -9183611.04 0.0291 0.0185

Uranus -29857-08-23 10:47 J -9183611.19 -9183611.05 -9183610.88 0.0134 0.0064 *

Uranus -29857-11-19 16:47 J -9183522.96 -9183522.80 -9183522.63 0.0134 0.0039

Saturn -29857-11-20 04:33 J -9183522.48 -9183522.31 -9183522.14 0.0291 0.0019

Uranus -29856-02-15 22:33 J -9183434.73 -9183434.56 -9183434.39 0.0134 0.0015

Saturn -29856-02-17 00:43 J -9183433.61 -9183433.47 -9183433.32 0.0291 0.0143

Mars -29856-05-11 02:23 J -9183350.56 -9183350.40 -9183350.25 0.1755 0.0203

Uranus -29856-05-15 04:04 J -9183346.50 -9183346.33 -9183346.16 0.0134 0.0008

Uranus -29856-08-11 09:35 J -9183258.26 -9183258.10 -9183257.93 0.0134 0.0032

Uranus -29856-11-07 15:07 J -9183170.02 -9183169.87 -9183169.71 0.0134 0.0055

Uranus -29855-02-03 20:38 J -9183081.77 -9183081.64 -9183081.50 0.0134 0.0077

Jupiter -29855-04-27 20:09 J -9182998.79 -9182998.66 -9182998.52 0.0504 0.0315

Uranus -29855-05-03 01:55 J -9182993.52 -9182993.42 -9182993.30 0.0134 0.0100

Mars -29855-06-03 03:21 J -9182962.39 -9182962.36 -9182962.32 0.1779 0.1681

Jupiter -29855-07-26 22:47 J -9182908.66 -9182908.55 -9182908.44 0.0507 0.0384

Uranus -29855-07-30 07:11 J -9182905.25 -9182905.20 -9182905.12 0.0134 0.0123

Earth -29854-05-23 01:11 J -9182608.48 -9182608.45 -9182608.42 0.2682 0.2561

Moon -29854-05-23 01:11 J -9182608.47 -9182608.45 -9182608.42 0.2676 0.2609 *

Moon -29851-11-30 12:14 J -9181321.12 -9181320.99 -9181320.86 0.2659 0.0580

Earth -29851-11-30 13:11 J -9181321.09 -9181320.95 -9181320.82 0.2654 0.0451 *

Jupiter -29850-12-16 18:14 J -9180939.88 -9180939.74 -9180939.61 0.0523 0.0060

Moon -29848-06-01 04:47 J -9180407.40 -9180407.30 -9180407.19 0.2682 0.1199

Earth -29848-06-01 05:16 J -9180407.39 -9180407.28 -9180407.18 0.2675 0.1280 *

Mars -29848-11-17 23:45 J -9180237.57 -9180237.51 -9180237.44 0.1750 0.1490

Mars -29847-10-01 02:38 J -9179920.53 -9179920.39 -9179920.24 0.1761 0.0745

Mars -29846-10-24 11:45 J -9179532.11 -9179532.01 -9179531.91 0.1773 0.1019

Jupiter -29843-02-13 18:43 J -9178688.75 -9178688.72 -9178688.68 0.0503 0.0491

Jupiter -29843-05-14 22:04 J -9178598.74 -9178598.58 -9178598.43 0.0506 0.0214

Saturn -29843-12-11 20:52 J -9178387.65 -9178387.63 -9178387.60 0.0269 0.0263

Saturn -29842-03-10 08:23 J -9178299.26 -9178299.15 -9178299.03 0.0269 0.0160

Saturn -29842-06-06 20:23 J -9178210.79 -9178210.65 -9178210.51 0.0269 0.0055

Saturn -29842-09-03 08:09 J -9178122.30 -9178122.16 -9178122.02 0.0269 0.0053

Saturn -29842-11-30 20:23 J -9178033.76 -9178033.65 -9178033.53 0.0269 0.0161

Moon -29841-05-24 20:38 J -9177857.73 -9177857.64 -9177857.54 0.2674 0.1580

Earth -29841-05-24 21:07 J -9177857.71 -9177857.62 -9177857.52 0.2681 0.1593 *

Jupiter -29838-10-04 21:21 J -9176629.73 -9176629.61 -9176629.49 0.0523 0.0208

Moon -29838-12-03 13:11 J -9176570.07 -9176569.95 -9176569.82 0.2662 0.0877

Earth -29838-12-03 13:26 J -9176570.07 -9176569.94 -9176569.81 0.2656 0.0813 *

Jupiter -29837-01-02 06:14 J -9176540.33 -9176540.24 -9176540.15 0.0520 0.0385

Mars -29837-02-21 02:38 J -9176490.42 -9176490.39 -9176490.36 0.1767 0.1724

Mars -29836-03-15 20:23 J -9176101.76 -9176101.65 -9176101.53 0.1767 0.0384

Earth -29835-06-04 02:09 J -9175656.47 -9175656.41 -9175656.36 0.2673 0.2348

Moon -29835-06-04 02:23 J -9175656.45 -9175656.40 -9175656.36 0.2680 0.2446 *

Jupiter -29831-03-02 20:23 J -9174288.82 -9174288.65 -9174288.47 0.0505 0.0036

Venus -29830-12-13 18:14 J -9173637.83 -9173637.74 -9173637.65 0.3781 0.2248

Moon -29828-05-27 16:33 J -9173106.93 -9173106.81 -9173106.70 0.2678 0.0695

Earth -29828-05-27 17:31 J -9173106.89 -9173106.77 -9173106.66 0.2679 0.0600 *

Saturn -29827-01-10 09:50 J -9172879.20 -9172879.09 -9172878.97 0.0291 0.0214

Saturn -29827-04-09 06:43 J -9172790.39 -9172790.22 -9172790.05 0.0291 0.0047

Saturn -29827-07-07 03:07 J -9172701.53 -9172701.37 -9172701.22 0.0291 0.0117

Mars -29827-08-06 05:31 J -9172671.39 -9172671.27 -9172671.15 0.1761 0.0242

Saturn -29827-10-03 22:47 J -9172612.60 -9172612.55 -9172612.50 0.0292 0.0276

Mars -29826-06-20 01:40 J -9172353.54 -9172353.43 -9172353.31 0.1749 0.1194

Jupiter -29826-07-24 00:28 J -9172319.57 -9172319.48 -9172319.39 0.0525 0.0363

Jupiter -29826-10-21 09:07 J -9172230.24 -9172230.12 -9172229.99 0.0522 0.0231

Neptune -29825-03-07 16:33 J -9172091.82 -9172091.81 -9172091.74 0.0088 0.0087

Neptune -29825-06-03 19:55 J -9172003.74 -9172003.67 -9172003.57 0.0088 0.0077

Neptune -29825-08-30 23:02 J -9171915.64 -9171915.54 -9171915.41 0.0088 0.0068

Neptune -29825-11-27 02:09 J -9171827.53 -9171827.41 -9171827.26 0.0088 0.0059

Earth -29825-12-05 13:11 J -9171819.03 -9171818.95 -9171818.86 0.2658 0.2034

Moon -29825-12-05 13:55 J -9171819.01 -9171818.92 -9171818.84 0.2664 0.2006 *

Neptune -29824-02-23 05:16 J -9171739.42 -9171739.28 -9171739.12 0.0088 0.0050

Neptune -29824-05-22 08:23 J -9171651.30 -9171651.15 -9171650.98 0.0088 0.0041

Venus -29824-06-28 11:45 J -9171614.12 -9171614.01 -9171613.90 0.3780 0.0465

Neptune -29824-08-18 11:31 J -9171563.18 -9171563.02 -9171562.84 0.0088 0.0032

Neptune -29824-11-14 14:38 J -9171475.06 -9171474.89 -9171474.71 0.0088 0.0023

Pluto -29824-11-27 12:28 J -9171462.02 -9171461.98 -9171461.94 0.0075 0.0073

Neptune -29823-02-10 17:45 J -9171386.94 -9171386.76 -9171386.58 0.0088 0.0015

Pluto -29823-02-23 13:26 J -9171374.00 -9171373.94 -9171373.85 0.0075 0.0065

Neptune -29823-05-09 20:38 J -9171298.82 -9171298.64 -9171298.45 0.0088 0.0006

Pluto -29823-05-22 14:52 J -9171285.96 -9171285.88 -9171285.77 0.0075 0.0057

Neptune -29823-08-05 23:45 J -9171210.69 -9171210.51 -9171210.33 0.0088 0.0003

Pluto -29823-08-18 16:33 J -9171197.92 -9171197.81 -9171197.70 0.0075 0.0049

Neptune -29823-11-02 02:38 J -9171122.56 -9171122.39 -9171122.20 0.0088 0.0012

Pluto -29823-11-14 17:31 J -9171109.88 -9171109.77 -9171109.63 0.0075 0.0042

Neptune -29822-01-29 05:45 J -9171034.43 -9171034.26 -9171034.08 0.0088 0.0020

Pluto -29822-02-10 19:11 J -9171021.83 -9171021.70 -9171021.56 0.0074 0.0034

Neptune -29822-04-27 08:38 J -9170946.30 -9170946.14 -9170945.96 0.0088 0.0029

Pluto -29822-05-09 20:23 J -9170933.79 -9170933.65 -9170933.50 0.0074 0.0026

Neptune -29822-07-24 11:31 J -9170858.17 -9170858.02 -9170857.85 0.0088 0.0038

Pluto -29822-08-05 21:50 J -9170845.74 -9170845.59 -9170845.44 0.0074 0.0019

Neptune -29822-10-20 14:38 J -9170770.04 -9170769.89 -9170769.74 0.0088 0.0046

Pluto -29822-11-01 23:02 J -9170757.69 -9170757.54 -9170757.39 0.0074 0.0011

Neptune -29821-01-16 17:16 J -9170681.90 -9170681.78 -9170681.63 0.0088 0.0055

Pluto -29821-01-29 00:28 J -9170669.63 -9170669.48 -9170669.33 0.0074 0.0004

Neptune -29821-04-13 20:23 J -9170593.77 -9170593.65 -9170593.52 0.0088 0.0064

Pluto -29821-04-26 01:40 J -9170581.58 -9170581.43 -9170581.28 0.0074 0.0004

Neptune -29821-07-10 23:02 J -9170505.62 -9170505.54 -9170505.42 0.0088 0.0073

Pluto -29821-07-23 02:52 J -9170493.53 -9170493.38 -9170493.23 0.0074 0.0011

Neptune -29821-10-07 02:23 J -9170417.47 -9170417.40 -9170417.33 0.0088 0.0081

Pluto -29821-10-19 04:04 J -9170405.47 -9170405.33 -9170405.18 0.0074 0.0018

Pluto -29820-01-15 05:02 J -9170317.42 -9170317.29 -9170317.14 0.0073 0.0026

Pluto -29820-04-13 06:14 J -9170229.36 -9170229.24 -9170229.09 0.0073 0.0033

Venus -29820-06-28 16:04 J -9170152.97 -9170152.83 -9170152.70 0.3595 0.0658

Pluto -29820-07-10 07:26 J -9170141.30 -9170141.19 -9170141.05 0.0073 0.0039

Pluto -29820-10-06 08:38 J -9170053.24 -9170053.14 -9170053.01 0.0073 0.0046

Jupiter -29820-12-19 19:11 J -9169978.87 -9169978.70 -9169978.53 0.0504 0.0142

Pluto -29819-01-02 09:50 J -9169965.18 -9169965.09 -9169964.98 0.0073 0.0053

Pluto -29819-03-31 10:47 J -9169877.11 -9169877.05 -9169876.94 0.0073 0.0060

Pluto -29819-06-27 12:28 J -9169789.04 -9169788.98 -9169788.92 0.0073 0.0066

Venus -29818-01-12 05:31 J -9169590.32 -9169590.27 -9169590.21 0.3780 0.3258

Moon -29818-11-28 17:02 J -9169269.90 -9169269.79 -9169269.68 0.2654 0.1590

Earth -29818-11-28 18:14 J -9169269.85 -9169269.74 -9169269.62 0.2653 0.1516 *

Mars -29818-12-27 14:23 J -9169241.00 -9169240.90 -9169240.79 0.1756 0.0846

Mars -29817-11-09 02:52 J -9168923.53 -9168923.38 -9168923.22 0.1755 0.0311

Mars -29816-12-02 03:21 J -9168535.38 -9168535.36 -9168535.34 0.1779 0.1748

Moon -29815-05-30 12:57 J -9168356.08 -9168355.96 -9168355.84 0.2680 0.0345

Earth -29815-05-30 13:55 J -9168356.04 -9168355.92 -9168355.80 0.2677 0.0436 *

Jupiter -29814-05-12 04:04 J -9168009.36 -9168009.33 -9168009.29 0.0526 0.0507

Jupiter -29814-08-09 12:43 J -9167920.10 -9167919.97 -9167919.84 0.0523 0.0085

Uranus -29814-11-06 04:04 J -9167831.37 -9167831.33 -9167831.28 0.0143 0.0135

Uranus -29813-02-02 08:09 J -9167743.24 -9167743.16 -9167743.07 0.0144 0.0112

Uranus -29813-04-30 12:28 J -9167655.09 -9167654.98 -9167654.86 0.0144 0.0088

Saturn -29813-07-27 11:45 J -9167567.11 -9167567.01 -9167566.90 0.0268 0.0179

Uranus -29813-07-27 16:47 J -9167566.92 -9167566.80 -9167566.67 0.0144 0.0065 *

Uranus -29813-10-23 21:07 J -9167478.75 -9167478.62 -9167478.48 0.0144 0.0041

Saturn -29813-10-23 23:31 J -9167478.65 -9167478.52 -9167478.38 0.0268 0.0075 *

Uranus -29812-01-20 01:26 J -9167390.58 -9167390.44 -9167390.29 0.0144 0.0017

Saturn -29812-01-20 11:31 J -9167390.17 -9167390.02 -9167389.88 0.0268 0.0032

Uranus -29812-04-18 05:59 J -9167302.40 -9167302.25 -9167302.11 0.0144 0.0008

Saturn -29812-04-18 23:31 J -9167301.64 -9167301.52 -9167301.40 0.0268 0.0139

Uranus -29812-07-15 10:19 J -9167214.21 -9167214.07 -9167213.93 0.0144 0.0032

Saturn -29812-07-16 11:45 J -9167213.06 -9167213.01 -9167212.96 0.0268 0.0249

Uranus -29812-10-11 14:52 J -9167126.01 -9167125.88 -9167125.75 0.0144 0.0057

Uranus -29811-01-07 19:11 J -9167037.81 -9167037.70 -9167037.57 0.0144 0.0082

Uranus -29811-04-05 23:45 J -9166949.60 -9166949.51 -9166949.41 0.0145 0.0107

Uranus -29811-07-03 04:33 J -9166861.37 -9166861.31 -9166861.25 0.0145 0.0132

Mars -29808-05-18 23:59 J -9165810.57 -9165810.50 -9165810.43 0.1750 0.1416

Moon -29808-05-23 06:14 J -9165806.30 -9165806.24 -9165806.18 0.2675 0.2302

Earth -29808-05-23 06:14 J -9165806.29 -9165806.24 -9165806.18 0.2682 0.2382 *

Jupiter -29808-10-07 17:31 J -9165668.90 -9165668.77 -9165668.64 0.0503 0.0323

Jupiter -29807-01-05 19:55 J -9165578.77 -9165578.67 -9165578.55 0.0507 0.0376

Mars -29807-04-01 03:21 J -9165493.51 -9165493.36 -9165493.21 0.1761 0.0635

Mars -29806-04-24 11:45 J -9165105.10 -9165105.01 -9165104.91 0.1773 0.1092

Moon -29805-11-30 17:59 J -9164518.89 -9164518.75 -9164518.62 0.2659 0.0248

Earth -29805-11-30 18:57 J -9164518.85 -9164518.71 -9164518.58 0.2655 0.0225 *

Jupiter -29802-05-28 16:33 J -9163609.95 -9163609.81 -9163609.68 0.0523 0.0059

Moon -29802-06-02 10:04 J -9163605.18 -9163605.08 -9163604.98 0.2682 0.1519

Earth -29802-06-02 10:33 J -9163605.17 -9163605.06 -9163604.96 0.2675 0.1479 *

Saturn -29798-05-30 08:23 J -9162147.21 -9162147.15 -9162147.09 0.0291 0.0268

Mars -29798-08-22 03:21 J -9162063.42 -9162063.36 -9162063.30 0.1767 0.1615

Saturn -29798-08-27 05:16 J -9162058.44 -9162058.28 -9162058.12 0.0291 0.0100

Saturn -29798-11-24 01:40 J -9161969.59 -9161969.43 -9161969.26 0.0291 0.0065

Saturn -29797-02-20 21:35 J -9161880.70 -9161880.60 -9161880.49 0.0291 0.0225

Mars -29797-09-13 20:38 J -9161674.76 -9161674.64 -9161674.53 0.1767 0.0455

Jupiter -29796-07-26 16:19 J -9161358.84 -9161358.82 -9161358.79 0.0503 0.0495

Jupiter -29796-10-24 19:26 J -9161268.84 -9161268.69 -9161268.53 0.0506 0.0208

Moon -29795-05-26 01:55 J -9161055.52 -9161055.42 -9161055.33 0.2675 0.1507

Earth -29795-05-26 02:23 J -9161055.50 -9161055.40 -9161055.30 0.2680 0.1403 *

Earth -29792-12-03 18:57 J -9159767.83 -9159767.71 -9159767.58 0.2656 0.1048

Moon -29792-12-03 19:11 J -9159767.82 -9159767.70 -9159767.58 0.2663 0.0993 *

Jupiter -29790-03-16 19:55 J -9159299.80 -9159299.67 -9159299.55 0.0524 0.0206

Jupiter -29790-06-14 04:47 J -9159210.39 -9159210.30 -9159210.21 0.0520 0.0387

Earth -29789-06-04 07:11 J -9158854.23 -9158854.20 -9158854.16 0.2673 0.2552

Moon -29789-06-04 07:40 J -9158854.21 -9158854.18 -9158854.14 0.2679 0.2533 *

Mars -29787-02-04 05:31 J -9158244.39 -9158244.27 -9158244.15 0.1761 0.0172

Mars -29787-12-19 02:23 J -9157926.50 -9157926.40 -9157926.30 0.1748 0.1298

Moon -29785-11-25 22:04 J -9157218.60 -9157218.58 -9157218.56 0.2647 0.2618

Earth -29785-11-25 23:02 J -9157218.55 -9157218.54 -9157218.52 0.2651 0.2615

Jupiter -29784-08-12 18:28 J -9156958.90 -9156958.73 -9156958.56 0.0505 0.0037

Saturn -29784-12-14 13:40 J -9156835.01 -9156834.93 -9156834.84 0.0269 0.0213

Saturn -29783-03-13 01:26 J -9156746.57 -9156746.44 -9156746.31 0.0269 0.0108

Saturn -29783-06-09 13:11 J -9156658.09 -9156657.95 -9156657.80 0.0269 0.0006

Saturn -29783-09-06 01:11 J -9156569.58 -9156569.45 -9156569.31 0.0269 0.0106

Saturn -29783-12-03 13:26 J -9156481.02 -9156480.94 -9156480.85 0.0269 0.0215

Moon -29782-05-28 21:35 J -9156304.72 -9156304.60 -9156304.48 0.2678 0.0448

Earth -29782-05-28 22:33 J -9156304.68 -9156304.56 -9156304.44 0.2679 0.0406 *

Earth -29779-12-06 18:57 J -9155016.78 -9155016.71 -9155016.64 0.2658 0.2260

Moon -29779-12-06 19:40 J -9155016.74 -9155016.68 -9155016.63 0.2664 0.2402 *

Jupiter -29778-01-02 23:16 J -9154989.63 -9154989.53 -9154989.44 0.0524 0.0355

Jupiter -29778-04-02 07:55 J -9154900.29 -9154900.17 -9154900.05 0.0521 0.0236

Mars -29778-06-27 14:38 J -9154814.00 -9154813.89 -9154813.78 0.1756 0.0768

Mars -29777-05-10 03:21 J -9154496.51 -9154496.36 -9154496.21 0.1755 0.0402

Uranus -29774-12-23 00:14 J -9153174.52 -9153174.49 -9153174.45 0.0135 0.0131

Uranus -29773-03-20 05:59 J -9153086.35 -9153086.25 -9153086.13 0.0135 0.0107

Uranus -29773-06-16 11:45 J -9152998.13 -9152998.01 -9152997.86 0.0135 0.0083

Venus -29773-07-19 16:04 J -9152964.93 -9152964.83 -9152964.73 0.3781 0.1260

Uranus -29773-09-12 17:31 J -9152909.91 -9152909.77 -9152909.60 0.0134 0.0059

Uranus -29773-12-09 23:31 J -9152821.69 -9152821.52 -9152821.35 0.0134 0.0034

Uranus -29772-03-08 05:16 J -9152733.45 -9152733.28 -9152733.11 0.0134 0.0010

Jupiter -29772-05-31 17:02 J -9152648.95 -9152648.79 -9152648.62 0.0504 0.0142

Uranus -29772-06-04 10:47 J -9152645.22 -9152645.05 -9152644.87 0.0134 0.0014

Uranus -29772-08-31 16:19 J -9152556.98 -9152556.82 -9152556.65 0.0134 0.0037

Uranus -29772-11-27 21:50 J -9152468.74 -9152468.59 -9152468.43 0.0134 0.0060

Moon -29772-11-28 22:47 J -9152467.66 -9152467.55 -9152467.43 0.2656 0.1424

Earth -29772-11-28 23:59 J -9152467.62 -9152467.50 -9152467.38 0.2653 0.1277 *

Uranus -29771-02-24 03:07 J -9152380.49 -9152380.37 -9152380.22 0.0134 0.0083

Uranus -29771-05-23 08:52 J -9152292.23 -9152292.13 -9152292.03 0.0134 0.0105

Uranus -29771-08-19 13:55 J -9152203.95 -9152203.92 -9152203.86 0.0134 0.0128

Moon -29769-05-30 18:14 J -9151553.85 -9151553.74 -9151553.62 0.2681 0.0577

Earth -29769-05-30 18:57 J -9151553.83 -9151553.71 -9151553.59 0.2677 0.0627 *

Venus -29769-07-19 14:52 J -9151503.99 -9151503.88 -9151503.76 0.3594 0.2107

Mars -29769-11-16 23:45 J -9151383.58 -9151383.51 -9151383.43 0.1750 0.1354

Saturn -29768-01-13 06:43 J -9151326.37 -9151326.22 -9151326.06 0.0291 0.0132

Saturn -29768-04-12 03:21 J -9151237.52 -9151237.36 -9151237.19 0.0292 0.0035

Saturn -29768-07-09 23:31 J -9151148.64 -9151148.52 -9151148.39 0.0292 0.0196

Mars -29768-09-30 03:50 J -9151066.49 -9151066.34 -9151066.19 0.1761 0.0532

Venus -29767-02-02 09:50 J -9150941.19 -9150941.09 -9150940.99 0.3780 0.1479

Jupiter -29767-10-22 02:09 J -9150679.43 -9150679.41 -9150679.38 0.0526 0.0511

Mars -29767-10-23 11:59 J -9150678.10 -9150678.00 -9150677.91 0.1773 0.1165

Jupiter -29766-01-19 10:47 J -9150590.18 -9150590.05 -9150589.92 0.0523 0.0079

Venus -29763-02-02 16:04 J -9149479.94 -9149479.83 -9149479.73 0.3595 0.2183

Moon -29762-05-24 11:16 J -9149004.09 -9149004.03 -9149003.96 0.2675 0.2264

Earth -29762-05-24 11:31 J -9149004.09 -9149004.02 -9149003.96 0.2682 0.2201 *

Jupiter -29760-03-19 15:35 J -9148338.98 -9148338.85 -9148338.71 0.0503 0.0318

Jupiter -29760-06-17 18:14 J -9148248.85 -9148248.74 -9148248.62 0.0506 0.0380

Moon -29759-12-01 23:45 J -9147716.64 -9147716.51 -9147716.37 0.2660 0.0088

Earth -29759-12-02 00:28 J -9147716.61 -9147716.48 -9147716.34 0.2655 0.0085 *

Mars -29758-02-20 04:04 J -9147636.41 -9147636.33 -9147636.25 0.1767 0.1498

Mars -29757-03-14 20:23 J -9147247.76 -9147247.65 -9147247.53 0.1767 0.0522

Moon -29756-06-02 15:35 J -9146802.95 -9146802.85 -9146802.76 0.2681 0.1626

Earth -29756-06-02 15:35 J -9146802.94 -9146802.85 -9146802.75 0.2675 0.1682 *

Jupiter -29755-11-07 14:23 J -9146280.03 -9146279.90 -9146279.77 0.0524 0.0067

Saturn -29754-05-03 17:02 J -9146102.85 -9146102.79 -9146102.72 0.0268 0.0232

Saturn -29754-07-31 04:47 J -9146014.43 -9146014.30 -9146014.18 0.0268 0.0128

Saturn -29754-10-27 16:33 J -9145925.95 -9145925.81 -9145925.67 0.0268 0.0024

Saturn -29753-01-24 04:19 J -9145837.45 -9145837.32 -9145837.18 0.0268 0.0084

Saturn -29753-04-21 16:33 J -9145748.91 -9145748.81 -9145748.71 0.0268 0.0193

Moon -29749-05-26 06:43 J -9144253.32 -9144253.22 -9144253.11 0.2676 0.1208

Earth -29749-05-26 07:26 J -9144253.29 -9144253.19 -9144253.08 0.2680 0.1221 *

Jupiter -29748-01-05 13:55 J -9144028.93 -9144028.92 -9144028.90 0.0502 0.0499

Jupiter -29748-04-05 17:02 J -9143938.95 -9143938.79 -9143938.63 0.0506 0.0202

Mars -29748-08-05 05:31 J -9143817.39 -9143817.27 -9143817.15 0.1762 0.0096

Mars -29747-06-19 02:52 J -9143499.47 -9143499.38 -9143499.29 0.1748 0.1400

Earth -29746-12-05 00:43 J -9142965.59 -9142965.47 -9142965.35 0.2657 0.1272

Moon -29746-12-05 00:57 J -9142965.58 -9142965.46 -9142965.35 0.2664 0.1344 *

Neptune -29744-06-11 19:26 J -9142410.73 -9142410.69 -9142410.64 0.0089 0.0084

Neptune -29744-09-07 20:38 J -9142322.69 -9142322.64 -9142322.55 0.0089 0.0078

Neptune -29744-12-04 22:19 J -9142234.64 -9142234.57 -9142234.47 0.0089 0.0070

Neptune -29743-03-02 23:59 J -9142146.59 -9142146.50 -9142146.40 0.0089 0.0063

Neptune -29743-05-30 01:26 J -9142058.54 -9142058.44 -9142058.33 0.0089 0.0056

Neptune -29743-08-26 03:07 J -9141970.48 -9141970.37 -9141970.26 0.0089 0.0049

Jupiter -29743-08-26 18:14 J -9141969.87 -9141969.74 -9141969.62 0.0524 0.0208

Neptune -29743-11-22 04:33 J -9141882.43 -9141882.31 -9141882.19 0.0089 0.0043

Jupiter -29743-11-24 03:07 J -9141880.46 -9141880.37 -9141880.28 0.0521 0.0388

Neptune -29742-02-18 06:14 J -9141794.37 -9141794.24 -9141794.12 0.0089 0.0036

Neptune -29742-05-17 07:26 J -9141706.31 -9141706.19 -9141706.05 0.0089 0.0030

Neptune -29742-08-13 09:07 J -9141618.25 -9141618.12 -9141617.98 0.0089 0.0022

Neptune -29742-11-09 10:47 J -9141530.19 -9141530.05 -9141529.91 0.0089 0.0015

Neptune -29741-02-05 12:14 J -9141442.13 -9141441.99 -9141441.85 0.0089 0.0008

Neptune -29741-05-03 13:55 J -9141354.06 -9141353.92 -9141353.78 0.0089 0.0002

Neptune -29741-07-30 15:21 J -9141266.00 -9141265.86 -9141265.72 0.0089 0.0006

Neptune -29741-10-26 17:02 J -9141177.93 -9141177.79 -9141177.65 0.0089 0.0013

Neptune -29740-01-22 18:28 J -9141089.86 -9141089.73 -9141089.59 0.0089 0.0020

Neptune -29740-04-20 19:55 J -9141001.80 -9141001.67 -9141001.53 0.0089 0.0028

Neptune -29740-07-17 21:35 J -9140913.73 -9140913.60 -9140913.47 0.0089 0.0034

Neptune -29740-10-13 23:16 J -9140825.65 -9140825.53 -9140825.41 0.0089 0.0041

Neptune -29739-01-10 00:43 J -9140737.58 -9140737.47 -9140737.35 0.0089 0.0049

Neptune -29739-04-08 02:23 J -9140649.51 -9140649.40 -9140649.29 0.0089 0.0056

Saturn -29739-06-02 05:31 J -9140594.40 -9140594.27 -9140594.14 0.0291 0.0185

Neptune -29739-07-05 03:35 J -9140561.43 -9140561.35 -9140561.23 0.0089 0.0064

Saturn -29739-08-30 02:09 J -9140505.57 -9140505.41 -9140505.24 0.0291 0.0020

Neptune -29739-10-01 05:16 J -9140473.35 -9140473.28 -9140473.18 0.0089 0.0070

Saturn -29739-11-26 22:33 J -9140416.70 -9140416.56 -9140416.42 0.0291 0.0145

Moon -29739-11-27 03:50 J -9140416.38 -9140416.34 -9140416.30 0.2649 0.2536

Earth -29739-11-27 05:02 J -9140416.35 -9140416.29 -9140416.23 0.2652 0.2366 *

Mars -29739-12-26 14:38 J -9140387.00 -9140386.89 -9140386.78 0.1755 0.0698

Neptune -29739-12-28 06:57 J -9140385.27 -9140385.21 -9140385.13 0.0089 0.0077

Neptune -29738-03-26 08:38 J -9140297.17 -9140297.14 -9140297.09 0.0089 0.0084

Mars -29738-11-09 03:50 J -9140069.49 -9140069.34 -9140069.19 0.1755 0.0505

Jupiter -29736-01-22 16:19 J -9139628.99 -9139628.82 -9139628.65 0.0505 0.0034

Moon -29736-05-29 02:52 J -9139502.50 -9139502.38 -9139502.26 0.2678 0.0332

Earth -29736-05-29 03:50 J -9139502.46 -9139502.34 -9139502.22 0.2678 0.0211 *

Earth -29733-12-07 00:28 J -9138214.52 -9138214.48 -9138214.43 0.2659 0.2485

Moon -29733-12-07 01:26 J -9138214.49 -9138214.44 -9138214.40 0.2663 0.2484 *

Jupiter -29731-06-14 21:50 J -9137659.69 -9137659.59 -9137659.50 0.0525 0.0352

Jupiter -29731-09-12 06:28 J -9137570.35 -9137570.23 -9137570.11 0.0521 0.0240

Uranus -29730-11-26 10:33 J -9137130.10 -9137130.06 -9137130.00 0.0144 0.0131

Uranus -29729-02-22 14:38 J -9137041.97 -9137041.89 -9137041.78 0.0144 0.0109

Mars -29729-05-17 23:59 J -9136956.58 -9136956.50 -9136956.42 0.1750 0.1281

Uranus -29729-05-20 19:11 J -9136953.81 -9136953.70 -9136953.58 0.0144 0.0085

Uranus -29729-08-16 23:31 J -9136865.65 -9136865.52 -9136865.39 0.0144 0.0061

Uranus -29729-11-13 03:50 J -9136777.48 -9136777.34 -9136777.20 0.0144 0.0037

Uranus -29728-02-09 08:09 J -9136689.30 -9136689.16 -9136689.02 0.0144 0.0013

Mars -29728-03-31 04:33 J -9136639.47 -9136639.31 -9136639.16 0.1761 0.0429

Uranus -29728-05-08 12:28 J -9136601.12 -9136600.98 -9136600.83 0.0144 0.0011

Uranus -29728-08-04 17:02 J -9136512.93 -9136512.79 -9136512.65 0.0144 0.0035

Uranus -29728-10-31 21:21 J -9136424.74 -9136424.61 -9136424.47 0.0144 0.0060

Uranus -29727-01-28 01:40 J -9136336.53 -9136336.43 -9136336.30 0.0144 0.0086

Mars -29727-04-23 11:59 J -9136251.09 -9136251.00 -9136250.92 0.1773 0.1240

Uranus -29727-04-26 06:28 J -9136248.32 -9136248.23 -9136248.13 0.0145 0.0110

Uranus -29727-07-23 10:47 J -9136160.08 -9136160.05 -9136159.99 0.0145 0.0136

Moon -29726-11-30 04:33 J -9135665.43 -9135665.31 -9135665.18 0.2656 0.1072

Earth -29726-11-30 05:45 J -9135665.38 -9135665.26 -9135665.13 0.2653 0.1039 *

Saturn -29725-09-19 18:43 J -9135370.73 -9135370.72 -9135370.71 0.0269 0.0267

Jupiter -29725-11-10 15:07 J -9135319.03 -9135318.87 -9135318.70 0.0504 0.0139

Saturn -29725-12-17 06:14 J -9135282.35 -9135282.24 -9135282.13 0.0269 0.0164

Saturn -29724-03-15 17:59 J -9135193.89 -9135193.75 -9135193.61 0.0269 0.0059

Saturn -29724-06-12 05:59 J -9135105.39 -9135105.25 -9135105.11 0.0269 0.0048

Saturn -29724-09-08 17:59 J -9135016.87 -9135016.75 -9135016.63 0.0269 0.0156

Saturn -29724-12-06 06:14 J -9134928.25 -9134928.24 -9134928.22 0.0269 0.0266

Moon -29723-05-31 23:45 J -9134751.63 -9134751.51 -9134751.40 0.2682 0.0805

Earth -29723-06-01 00:14 J -9134751.61 -9134751.49 -9134751.37 0.2676 0.0821 *

Venus -29722-08-10 20:38 J -9134315.71 -9134315.64 -9134315.58 0.3781 0.2956

Jupiter -29719-04-03 01:11 J -9133349.49 -9133349.45 -9133349.41 0.0525 0.0499

Jupiter -29719-07-01 09:50 J -9133260.23 -9133260.09 -9133259.96 0.0522 0.0091

Mars -29719-08-21 04:19 J -9133209.41 -9133209.32 -9133209.22 0.1767 0.1405

Mars -29718-09-13 20:38 J -9132820.75 -9132820.64 -9132820.53 0.1767 0.0597

Venus -29716-02-23 13:55 J -9132292.03 -9132291.92 -9132291.81 0.3781 0.0292

Moon -29716-05-24 16:19 J -9132201.90 -9132201.82 -9132201.73 0.2675 0.1968

Earth -29716-05-24 16:33 J -9132201.89 -9132201.81 -9132201.73 0.2681 0.2018 *

Jupiter -29713-08-29 13:55 J -9131009.06 -9131008.92 -9131008.79 0.0503 0.0316

Jupiter -29713-11-27 16:33 J -9130918.92 -9130918.81 -9130918.70 0.0506 0.0382

Moon -29713-12-02 05:45 J -9130914.39 -9130914.26 -9130914.12 0.2661 0.0200

Earth -29713-12-02 06:14 J -9130914.37 -9130914.24 -9130914.10 0.2655 0.0255 *

Venus -29712-02-23 14:52 J -9130831.01 -9130830.88 -9130830.74 0.3595 0.0544

Venus -29711-09-09 07:40 J -9130268.26 -9130268.18 -9130268.10 0.3780 0.2490

Moon -29710-06-03 20:52 J -9130000.71 -9130000.63 -9130000.55 0.2681 0.1900

Earth -29710-06-03 20:52 J -9130000.71 -9130000.63 -9130000.54 0.2675 0.1877 *

Saturn -29710-10-20 05:59 J -9129862.35 -9129862.25 -9129862.14 0.0291 0.0224

Saturn -29709-01-17 03:07 J -9129773.54 -9129773.37 -9129773.21 0.0292 0.0056

Saturn -29709-04-14 23:31 J -9129684.68 -9129684.52 -9129684.37 0.0292 0.0109

Saturn -29709-07-12 19:11 J -9129595.75 -9129595.70 -9129595.63 0.0292 0.0270

Mars -29708-02-03 05:31 J -9129390.39 -9129390.27 -9129390.15 0.1761 0.0030

Mars -29708-12-18 03:21 J -9129072.44 -9129072.36 -9129072.28 0.1749 0.1494

Jupiter -29707-04-19 12:28 J -9128950.11 -9128949.98 -9128949.84 0.0524 0.0070

Moon -29703-05-27 11:59 J -9127451.11 -9127451.00 -9127450.90 0.2676 0.1171

Earth -29703-05-27 12:43 J -9127451.08 -9127450.97 -9127450.86 0.2680 0.1030 *

Jupiter -29701-06-17 12:28 J -9126699.01 -9126698.98 -9126698.95 0.0502 0.0490

Jupiter -29701-09-15 15:35 J -9126609.01 -9126608.85 -9126608.70 0.0505 0.0211

Earth -29700-12-05 06:28 J -9126163.35 -9126163.23 -9126163.12 0.2657 0.1503

Moon -29700-12-05 06:28 J -9126163.34 -9126163.23 -9126163.11 0.2664 0.1491 *

Mars -29699-06-26 14:38 J -9125960.01 -9125959.89 -9125959.78 0.1756 0.0633

Mars -29698-05-10 04:33 J -9125642.46 -9125642.31 -9125642.16 0.1755 0.0616

Jupiter -29695-02-05 16:04 J -9124639.95 -9124639.83 -9124639.71 0.0525 0.0215

Jupiter -29695-05-06 00:57 J -9124550.54 -9124550.46 -9124550.36 0.0521 0.0382

Saturn -29695-05-06 09:35 J -9124550.20 -9124550.10 -9124550.00 0.0268 0.0183

Saturn -29695-08-02 21:21 J -9124461.75 -9124461.61 -9124461.48 0.0268 0.0079

Saturn -29695-10-30 09:07 J -9124373.26 -9124373.12 -9124372.98 0.0268 0.0027

Saturn -29694-01-26 21:07 J -9124284.74 -9124284.62 -9124284.49 0.0268 0.0134

Saturn -29694-04-25 09:21 J -9124196.17 -9124196.11 -9124196.05 0.0268 0.0243

Moon -29693-11-27 09:35 J -9123614.18 -9123614.10 -9123614.02 0.2651 0.2139

Earth -29693-11-27 10:47 J -9123614.13 -9123614.05 -9123613.97 0.2652 0.2126 *

Moon -29690-05-30 08:09 J -9122700.28 -9122700.16 -9122700.04 0.2679 0.0063

Earth -29690-05-30 08:52 J -9122700.25 -9122700.13 -9122700.01 0.2678 0.0073 *

Mars -29690-11-16 23:59 J -9122529.59 -9122529.50 -9122529.42 0.1750 0.1209

Uranus -29689-01-12 06:43 J -9122473.27 -9122473.22 -9122473.16 0.0135 0.0127

Uranus -29689-04-09 12:28 J -9122385.08 -9122384.98 -9122384.86 0.0135 0.0103

Jupiter -29689-07-04 14:09 J -9122299.09 -9122298.91 -9122298.74 0.0505 0.0034

Uranus -29689-07-06 18:28 J -9122296.87 -9122296.73 -9122296.59 0.0135 0.0078

Mars -29689-09-29 05:02 J -9122212.45 -9122212.29 -9122212.14 0.1761 0.0325

Uranus -29689-10-03 00:14 J -9122208.65 -9122208.49 -9122208.33 0.0134 0.0054

Uranus -29689-12-30 05:59 J -9122120.42 -9122120.25 -9122120.08 0.0134 0.0030

Uranus -29688-03-28 11:45 J -9122032.18 -9122032.01 -9122031.84 0.0134 0.0006

Uranus -29688-06-24 17:16 J -9121943.95 -9121943.78 -9121943.61 0.0134 0.0018

Uranus -29688-09-20 22:47 J -9121855.71 -9121855.55 -9121855.38 0.0134 0.0041

Mars -29688-10-22 11:59 J -9121824.08 -9121824.00 -9121823.92 0.1773 0.1312

Uranus -29688-12-18 04:19 J -9121767.46 -9121767.32 -9121767.16 0.0134 0.0064

Uranus -29687-03-16 09:35 J -9121679.21 -9121679.10 -9121678.96 0.0134 0.0087

Uranus -29687-06-12 15:21 J -9121590.96 -9121590.86 -9121590.76 0.0134 0.0109

Uranus -29687-09-08 20:23 J -9121502.66 -9121502.65 -9121502.61 0.0134 0.0132

Jupiter -29684-11-24 19:55 J -9120329.76 -9120329.67 -9120329.57 0.0525 0.0354

Jupiter -29683-02-22 04:47 J -9120240.42 -9120240.30 -9120240.18 0.0522 0.0240

Saturn -29680-03-08 04:33 J -9119130.35 -9119130.31 -9119130.26 0.0291 0.0279

Saturn -29680-06-05 01:40 J -9119041.59 -9119041.43 -9119041.27 0.0291 0.0109

Saturn -29680-09-01 22:19 J -9118952.74 -9118952.57 -9118952.41 0.0291 0.0056

Saturn -29680-11-29 18:14 J -9118863.84 -9118863.74 -9118863.63 0.0291 0.0218

Moon -29680-11-30 10:33 J -9118863.19 -9118863.06 -9118862.94 0.2656 0.0964

Earth -29680-11-30 11:31 J -9118863.15 -9118863.02 -9118862.89 0.2654 0.0799 *

Mars -29679-02-19 05:02 J -9118782.39 -9118782.29 -9118782.18 0.1767 0.1289

Mars -29678-03-14 20:38 J -9118393.75 -9118393.64 -9118393.53 0.1767 0.0672

Jupiter -29677-04-22 13:11 J -9117989.12 -9117988.95 -9117988.79 0.0504 0.0139

Moon -29677-06-01 04:47 J -9117949.41 -9117949.30 -9117949.18 0.2682 0.0938

Earth -29677-06-01 05:31 J -9117949.38 -9117949.27 -9117949.16 0.2676 0.1021 *

Jupiter -29672-09-12 23:45 J -9116019.55 -9116019.51 -9116019.47 0.0526 0.0495

Jupiter -29672-12-11 08:23 J -9115930.29 -9115930.15 -9115930.02 0.0522 0.0095

Moon -29670-05-25 21:21 J -9115399.69 -9115399.61 -9115399.53 0.2675 0.1893

Earth -29670-05-25 21:35 J -9115399.68 -9115399.60 -9115399.51 0.2681 0.1839 *

Mars -29669-08-04 05:31 J -9114963.39 -9114963.27 -9114963.15 0.1761 0.0047

Mars -29668-06-18 03:50 J -9114645.40 -9114645.34 -9114645.28 0.1749 0.1596

Moon -29667-12-03 11:45 J -9114112.15 -9114112.01 -9114111.88 0.2662 0.0513

Earth -29667-12-03 11:59 J -9114112.13 -9114112.00 -9114111.87 0.2655 0.0488 *

Saturn -29666-09-23 11:02 J -9113818.12 -9113818.04 -9113817.96 0.0269 0.0221

Saturn -29666-12-20 22:33 J -9113729.68 -9113729.56 -9113729.43 0.0269 0.0118

Jupiter -29665-02-09 11:59 J -9113679.14 -9113679.00 -9113678.86 0.0503 0.0312

Venus -29665-03-16 18:28 J -9113642.83 -9113642.73 -9113642.64 0.3781 0.1989

Saturn -29665-03-18 10:19 J -9113641.21 -9113641.07 -9113640.93 0.0268 0.0013

Jupiter -29665-05-09 14:38 J -9113588.99 -9113588.89 -9113588.78 0.0507 0.0388

Saturn -29665-06-14 22:19 J -9113552.70 -9113552.57 -9113552.44 0.0268 0.0095

Saturn -29665-09-11 10:19 J -9113464.16 -9113464.07 -9113463.97 0.0268 0.0204

Earth -29664-06-04 02:09 J -9113198.48 -9113198.41 -9113198.33 0.2674 0.2085

Moon -29664-06-04 02:23 J -9113198.47 -9113198.40 -9113198.33 0.2681 0.2116 *

Pluto -29661-02-01 16:47 J -9112225.81 -9112225.80 -9112225.75 0.0069 0.0068

Venus -29661-03-16 13:40 J -9112181.98 -9112181.93 -9112181.89 0.3594 0.3370

Pluto -29661-04-29 18:14 J -9112137.80 -9112137.74 -9112137.65 0.0069 0.0062

Pluto -29661-07-26 19:26 J -9112049.77 -9112049.69 -9112049.57 0.0069 0.0056

Pluto -29661-10-22 21:07 J -9111961.73 -9111961.62 -9111961.49 0.0070 0.0049

Neptune -29661-12-02 16:04 J -9111920.89 -9111920.83 -9111920.73 0.0088 0.0080

Pluto -29660-01-18 22:33 J -9111873.68 -9111873.56 -9111873.42 0.0070 0.0042

Neptune -29660-02-28 19:11 J -9111832.79 -9111832.70 -9111832.57 0.0088 0.0071

Pluto -29660-04-16 23:45 J -9111785.64 -9111785.51 -9111785.35 0.0070 0.0036

Neptune -29660-05-27 22:19 J -9111744.68 -9111744.57 -9111744.42 0.0088 0.0062

Pluto -29660-07-14 01:11 J -9111697.59 -9111697.45 -9111697.29 0.0070 0.0029

Neptune -29660-08-24 01:26 J -9111656.57 -9111656.44 -9111656.28 0.0088 0.0054

Jupiter -29660-09-29 11:45 J -9111620.14 -9111620.01 -9111619.88 0.0523 0.0054

Venus -29660-09-30 11:59 J -9111619.11 -9111619.00 -9111618.90 0.3780 0.0733

Pluto -29660-10-10 02:52 J -9111609.53 -9111609.38 -9111609.22 0.0070 0.0022

Neptune -29660-11-20 04:33 J -9111568.45 -9111568.31 -9111568.14 0.0088 0.0045

Mars -29660-12-25 14:38 J -9111533.00 -9111532.89 -9111532.78 0.1755 0.0558

Pluto -29659-01-06 04:19 J -9111521.48 -9111521.32 -9111521.16 0.0070 0.0015

Neptune -29659-02-16 07:55 J -9111480.33 -9111480.17 -9111480.00 0.0088 0.0035

Pluto -29659-04-04 05:45 J -9111433.42 -9111433.26 -9111433.09 0.0070 0.0008

Neptune -29659-05-15 11:02 J -9111392.21 -9111392.04 -9111391.87 0.0088 0.0026

Pluto -29659-07-01 07:11 J -9111345.36 -9111345.20 -9111345.03 0.0070 0.0002

Neptune -29659-08-11 14:09 J -9111304.09 -9111303.91 -9111303.73 0.0088 0.0017

Pluto -29659-09-27 08:38 J -9111257.30 -9111257.14 -9111256.97 0.0071 0.0006

Neptune -29659-11-07 17:02 J -9111215.97 -9111215.79 -9111215.60 0.0088 0.0009

Mars -29659-11-08 04:47 J -9111215.44 -9111215.30 -9111215.16 0.1755 0.0705

Pluto -29659-12-24 10:04 J -9111169.24 -9111169.08 -9111168.91 0.0071 0.0013

Neptune -29658-02-03 20:09 J -9111127.84 -9111127.66 -9111127.48 0.0088 0.0000

Pluto -29658-03-22 11:31 J -9111081.17 -9111081.02 -9111080.85 0.0071 0.0020

Neptune -29658-05-02 23:02 J -9111039.72 -9111039.54 -9111039.35 0.0088 0.0009

Pluto -29658-06-18 13:11 J -9110993.10 -9110992.95 -9110992.79 0.0071 0.0027

Neptune -29658-07-30 02:09 J -9110951.59 -9110951.41 -9110951.23 0.0088 0.0018

Pluto -29658-09-14 14:38 J -9110905.03 -9110904.89 -9110904.74 0.0071 0.0034

Neptune -29658-10-26 05:02 J -9110863.46 -9110863.29 -9110863.11 0.0088 0.0026

Pluto -29658-12-11 16:19 J -9110816.96 -9110816.82 -9110816.68 0.0071 0.0041

Neptune -29657-01-22 07:55 J -9110775.33 -9110775.17 -9110775.00 0.0088 0.0035

Pluto -29657-03-08 17:31 J -9110728.88 -9110728.77 -9110728.63 0.0071 0.0049

Neptune -29657-04-19 10:47 J -9110687.19 -9110687.05 -9110686.88 0.0088 0.0044

Moon -29657-05-27 17:02 J -9110648.90 -9110648.79 -9110648.68 0.2676 0.0836

Earth -29657-05-27 17:45 J -9110648.87 -9110648.76 -9110648.64 0.2679 0.0846 *

Pluto -29657-06-04 19:11 J -9110640.79 -9110640.70 -9110640.59 0.0071 0.0056

Neptune -29657-07-16 13:55 J -9110599.06 -9110598.92 -9110598.77 0.0088 0.0052

Pluto -29657-08-31 20:52 J -9110552.70 -9110552.63 -9110552.55 0.0071 0.0064

Neptune -29657-10-12 16:33 J -9110510.92 -9110510.81 -9110510.66 0.0088 0.0061

Pluto -29657-11-27 22:19 J -9110464.57 -9110464.57 -9110464.55 0.0072 0.0072

Neptune -29656-01-08 19:40 J -9110422.78 -9110422.68 -9110422.56 0.0088 0.0070

Neptune -29656-04-06 22:19 J -9110334.63 -9110334.57 -9110334.47 0.0088 0.0079

Neptune -29656-07-04 01:26 J -9110246.46 -9110246.44 -9110246.40 0.0088 0.0087

Venus -29656-09-30 14:52 J -9110158.01 -9110157.88 -9110157.75 0.3595 0.1002

Venus -29654-04-16 05:45 J -9109595.30 -9109595.26 -9109595.23 0.3780 0.3522

Jupiter -29654-11-28 10:47 J -9109369.09 -9109369.05 -9109369.01 0.0502 0.0485

Earth -29654-12-06 11:59 J -9109361.10 -9109361.00 -9109360.90 0.2657 0.1730

Moon -29654-12-06 12:28 J -9109361.08 -9109360.98 -9109360.88 0.2663 0.1774 *

Jupiter -29653-02-26 13:55 J -9109279.07 -9109278.92 -9109278.77 0.0505 0.0216

Saturn -29651-10-23 01:40 J -9108309.58 -9108309.43 -9108309.29 0.0292 0.0153

Saturn -29650-01-19 22:19 J -9108220.74 -9108220.57 -9108220.40 0.0292 0.0016

Saturn -29650-04-18 18:43 J -9108131.85 -9108131.72 -9108131.59 0.0292 0.0178

Mars -29650-05-17 23:59 J -9108102.59 -9108102.50 -9108102.42 0.1750 0.1146

Mars -29649-03-30 05:45 J -9107785.42 -9107785.26 -9107785.11 0.1761 0.0219

Mars -29648-04-22 11:59 J -9107397.07 -9107397.00 -9107396.92 0.1773 0.1388

Jupiter -29648-07-18 14:38 J -9107310.02 -9107309.89 -9107309.77 0.0525 0.0214

Jupiter -29648-10-15 23:31 J -9107220.61 -9107220.52 -9107220.43 0.0521 0.0382

Moon -29647-11-28 15:21 J -9106811.95 -9106811.86 -9106811.78 0.2652 0.2065

Earth -29647-11-28 16:33 J -9106811.91 -9106811.81 -9106811.71 0.2652 0.1878 *

Uranus -29646-12-16 17:16 J -9106428.83 -9106428.78 -9106428.71 0.0144 0.0128

Uranus -29645-03-13 21:35 J -9106340.69 -9106340.60 -9106340.50 0.0144 0.0104

Uranus -29645-06-10 01:55 J -9106252.53 -9106252.42 -9106252.30 0.0144 0.0081

Uranus -29645-09-06 05:59 J -9106164.37 -9106164.25 -9106164.11 0.0144 0.0058

Uranus -29645-12-03 10:33 J -9106076.20 -9106076.06 -9106075.92 0.0144 0.0034

Uranus -29644-03-01 14:52 J -9105988.02 -9105987.88 -9105987.74 0.0144 0.0010

Uranus -29644-05-28 19:11 J -9105899.84 -9105899.70 -9105899.55 0.0144 0.0015

Moon -29644-05-30 13:26 J -9105898.06 -9105897.94 -9105897.82 0.2680 0.0083

Earth -29644-05-30 14:09 J -9105898.03 -9105897.91 -9105897.79 0.2678 0.0177 *

Uranus -29644-08-24 23:31 J -9105811.65 -9105811.52 -9105811.37 0.0144 0.0040

Uranus -29644-11-21 04:04 J -9105723.46 -9105723.33 -9105723.20 0.0144 0.0064

Uranus -29643-02-17 08:38 J -9105635.25 -9105635.14 -9105635.02 0.0144 0.0089

Uranus -29643-05-16 12:57 J -9105547.04 -9105546.96 -9105546.86 0.0145 0.0114

Uranus -29643-08-12 17:45 J -9105458.80 -9105458.76 -9105458.72 0.0145 0.0139

Jupiter -29642-12-15 12:57 J -9104969.13 -9104968.96 -9104968.79 0.0504 0.0045

Mars -29641-10-07 09:21 J -9104672.13 -9104672.11 -9104672.09 0.1744 0.1709

Mars -29640-08-20 05:45 J -9104355.38 -9104355.26 -9104355.15 0.1767 0.1183

Mars -29639-09-12 20:38 J -9103966.75 -9103966.64 -9103966.53 0.1767 0.0737

Earth -29637-05-23 06:57 J -9103348.23 -9103348.21 -9103348.19 0.2683 0.2625

Moon -29637-05-23 07:11 J -9103348.23 -9103348.20 -9103348.17 0.2676 0.2585 *

Saturn -29636-02-09 14:09 J -9103085.96 -9103085.91 -9103085.84 0.0268 0.0241

Jupiter -29636-05-06 18:14 J -9102999.84 -9102999.74 -9102999.65 0.0526 0.0359

Saturn -29636-05-09 01:55 J -9102997.54 -9102997.42 -9102997.30 0.0268 0.0138

Jupiter -29636-08-04 02:52 J -9102910.50 -9102910.38 -9102910.26 0.0522 0.0235

Saturn -29636-08-05 13:26 J -9102909.08 -9102908.94 -9102908.79 0.0268 0.0034

Saturn -29636-11-02 01:26 J -9102820.58 -9102820.44 -9102820.30 0.0268 0.0073

Saturn -29635-01-29 13:26 J -9102732.04 -9102731.94 -9102731.83 0.0268 0.0181

Moon -29634-12-01 16:19 J -9102060.95 -9102060.82 -9102060.69 0.2657 0.0560

Earth -29634-12-01 17:16 J -9102060.91 -9102060.78 -9102060.64 0.2654 0.0561 *

Moon -29631-06-02 10:04 J -9101147.18 -9101147.08 -9101146.97 0.2681 0.1230

Earth -29631-06-02 10:47 J -9101147.16 -9101147.05 -9101146.95 0.2676 0.1221 *

Jupiter -29630-10-03 11:16 J -9100659.19 -9100659.03 -9100658.86 0.0504 0.0135

Mars -29629-02-03 05:31 J -9100536.39 -9100536.27 -9100536.15 0.1761 0.0123

Mars -29629-12-17 04:19 J -9100218.35 -9100218.32 -9100218.28 0.1748 0.1696

Jupiter -29624-02-22 22:04 J -9098689.62 -9098689.58 -9098689.54 0.0526 0.0497

Jupiter -29624-05-23 06:43 J -9098600.35 -9098600.22 -9098600.09 0.0523 0.0095

Moon -29624-05-26 02:23 J -9098597.49 -9098597.40 -9098597.31 0.2675 0.1671

Earth -29624-05-26 02:52 J -9098597.47 -9098597.38 -9098597.29 0.2681 0.1650 *

Saturn -29621-03-10 23:59 J -9097577.62 -9097577.50 -9097577.38 0.0291 0.0208

Saturn -29621-06-07 20:52 J -9097488.79 -9097488.63 -9097488.46 0.0291 0.0041

Saturn -29621-09-04 17:31 J -9097399.93 -9097399.77 -9097399.62 0.0292 0.0125

Saturn -29621-12-02 13:11 J -9097310.97 -9097310.95 -9097310.91 0.0292 0.0285

Moon -29621-12-03 17:31 J -9097309.91 -9097309.77 -9097309.64 0.2663 0.0646

Earth -29621-12-03 17:45 J -9097309.89 -9097309.76 -9097309.63 0.2656 0.0722 *

Mars -29620-06-25 14:38 J -9097106.00 -9097105.89 -9097105.77 0.1755 0.0485

Mars -29619-05-09 05:31 J -9096788.41 -9096788.27 -9096788.13 0.1755 0.0813

Earth -29618-06-05 07:26 J -9096396.25 -9096396.19 -9096396.13 0.2674 0.2286

Moon -29618-06-05 07:40 J -9096396.24 -9096396.18 -9096396.12 0.2681 0.2292 *

Jupiter -29618-07-22 10:19 J -9096349.21 -9096349.07 -9096348.93 0.0503 0.0306

Jupiter -29618-10-20 12:57 J -9096259.06 -9096258.96 -9096258.85 0.0506 0.0391

Venus -29614-04-07 22:47 J -9094993.57 -9094993.55 -9094993.52 0.3781 0.3648

Jupiter -29612-03-11 10:19 J -9094290.20 -9094290.07 -9094289.93 0.0523 0.0051

Moon -29611-05-28 22:04 J -9093846.69 -9093846.58 -9093846.46 0.2677 0.0785

Earth -29611-05-28 23:02 J -9093846.66 -9093846.54 -9093846.42 0.2679 0.0655 *

Mars -29611-11-15 23:59 J -9093675.60 -9093675.50 -9093675.41 0.1750 0.1076

Mars -29610-09-29 05:59 J -9093358.41 -9093358.25 -9093358.09 0.1761 0.0117

Mars -29609-10-21 11:59 J -9092970.07 -9092970.00 -9092969.93 0.1773 0.1460

Venus -29609-10-21 16:19 J -9092969.93 -9092969.82 -9092969.72 0.3781 0.1002 *

Earth -29608-12-06 17:45 J -9092558.85 -9092558.76 -9092558.67 0.2658 0.1958

Moon -29608-12-06 18:14 J -9092558.82 -9092558.74 -9092558.65 0.2663 0.2038 *

Saturn -29607-09-26 02:52 J -9092265.48 -9092265.38 -9092265.27 0.0268 0.0178

Saturn -29607-12-23 14:38 J -9092177.03 -9092176.89 -9092176.76 0.0268 0.0074

Saturn -29606-03-22 02:23 J -9092088.54 -9092088.40 -9092088.26 0.0268 0.0032

Jupiter -29606-05-10 09:07 J -9092039.17 -9092039.12 -9092039.07 0.0503 0.0480

Saturn -29606-06-18 14:23 J -9092000.02 -9091999.90 -9091999.78 0.0268 0.0140

Jupiter -29606-08-08 12:14 J -9091949.14 -9091948.99 -9091948.84 0.0506 0.0223

Saturn -29606-09-15 02:23 J -9091911.44 -9091911.40 -9091911.34 0.0268 0.0249

Uranus -29605-02-01 12:57 J -9091772.02 -9091771.96 -9091771.88 0.0135 0.0123

Uranus -29605-04-29 19:11 J -9091683.82 -9091683.70 -9091683.58 0.0135 0.0098

Uranus -29605-07-27 00:57 J -9091595.60 -9091595.46 -9091595.31 0.0135 0.0074

Venus -29605-10-21 13:40 J -9091509.05 -9091508.93 -9091508.81 0.3594 0.1773

Uranus -29605-10-23 06:43 J -9091507.38 -9091507.22 -9091507.05 0.0135 0.0050

Uranus -29604-01-19 12:28 J -9091419.15 -9091418.98 -9091418.81 0.0134 0.0026

Uranus -29604-04-17 18:14 J -9091330.91 -9091330.74 -9091330.57 0.0134 0.0002

Uranus -29604-07-14 23:45 J -9091242.67 -9091242.51 -9091242.33 0.0134 0.0022

Uranus -29604-10-11 05:16 J -9091154.43 -9091154.28 -9091154.11 0.0134 0.0045

Uranus -29603-01-07 10:47 J -9091066.19 -9091066.05 -9091065.89 0.0134 0.0068

Uranus -29603-04-05 16:19 J -9090977.94 -9090977.82 -9090977.69 0.0134 0.0091

Venus -29603-05-07 09:50 J -9090946.18 -9090946.09 -9090945.99 0.3780 0.1742

Uranus -29603-07-02 21:35 J -9090889.67 -9090889.60 -9090889.50 0.0134 0.0114

Mars -29601-04-07 09:21 J -9090245.14 -9090245.11 -9090245.07 0.1744 0.1640

Moon -29601-11-28 21:07 J -9090009.73 -9090009.62 -9090009.51 0.2652 0.1664

Earth -29601-11-28 22:19 J -9090009.68 -9090009.57 -9090009.46 0.2652 0.1637 *

Jupiter -29601-12-28 13:55 J -9089980.04 -9089979.92 -9089979.79 0.0524 0.0194

Mars -29600-02-18 05:59 J -9089928.37 -9089928.25 -9089928.12 0.1767 0.1084

Jupiter -29600-03-27 22:47 J -9089890.63 -9089890.55 -9089890.46 0.0521 0.0400

Mars -29599-03-13 20:38 J -9089539.75 -9089539.64 -9089539.53 0.1767 0.0814

Venus -29599-05-07 14:52 J -9089484.98 -9089484.88 -9089484.79 0.3595 0.2531

Moon -29598-05-31 18:28 J -9089095.85 -9089095.73 -9089095.61 0.2681 0.0375

Earth -29598-05-31 19:26 J -9089095.81 -9089095.69 -9089095.57 0.2677 0.0378 *

Jupiter -29594-05-27 11:31 J -9087639.19 -9087639.02 -9087638.85 0.0505 0.0054

Saturn -29592-07-28 22:47 J -9086845.62 -9086845.55 -9086845.47 0.0292 0.0260

Saturn -29592-10-25 19:55 J -9086756.83 -9086756.67 -9086756.50 0.0292 0.0090

Saturn -29591-01-22 16:47 J -9086667.97 -9086667.80 -9086667.64 0.0292 0.0077

Saturn -29591-04-21 12:43 J -9086579.06 -9086578.97 -9086578.87 0.0292 0.0240

Earth -29591-05-24 11:59 J -9086546.05 -9086546.00 -9086545.95 0.2682 0.2444

Moon -29591-05-24 12:14 J -9086546.04 -9086545.99 -9086545.95 0.2676 0.2447 *

Mars -29590-08-04 05:31 J -9086109.39 -9086109.27 -9086109.15 0.1761 0.0195

Jupiter -29589-10-16 16:47 J -9085669.90 -9085669.80 -9085669.70 0.0525 0.0354

Jupiter -29588-01-14 01:26 J -9085580.56 -9085580.44 -9085580.32 0.0522 0.0239

Moon -29588-12-01 22:19 J -9085258.71 -9085258.57 -9085258.44 0.2659 0.0467

Earth -29588-12-01 23:02 J -9085258.68 -9085258.54 -9085258.40 0.2654 0.0320 *

Moon -29585-06-02 15:35 J -9084344.95 -9084344.85 -9084344.74 0.2681 0.1337

Earth -29585-06-02 15:50 J -9084344.94 -9084344.84 -9084344.73 0.2676 0.1424 *

Jupiter -29582-03-15 10:33 J -9083329.23 -9083329.06 -9083328.89 0.0504 0.0118

Mars -29581-12-24 14:38 J -9082679.01 -9082678.89 -9082678.78 0.1755 0.0422

Mars -29580-11-07 05:59 J -9082361.38 -9082361.25 -9082361.11 0.1755 0.0920

Neptune -29580-12-10 17:45 J -9082327.78 -9082327.76 -9082327.71 0.0089 0.0086

Neptune -29579-03-08 19:11 J -9082239.75 -9082239.70 -9082239.63 0.0089 0.0080

Neptune -29579-06-04 20:52 J -9082151.70 -9082151.63 -9082151.55 0.0089 0.0072

Neptune -29579-08-31 22:33 J -9082063.65 -9082063.56 -9082063.47 0.0089 0.0066

Neptune -29579-11-27 23:59 J -9081975.60 -9081975.50 -9081975.40 0.0089 0.0059

Neptune -29578-02-24 01:11 J -9081887.55 -9081887.45 -9081887.33 0.0089 0.0053

Neptune -29578-05-23 02:52 J -9081799.49 -9081799.38 -9081799.25 0.0089 0.0045

Moon -29578-05-27 07:26 J -9081795.29 -9081795.19 -9081795.09 0.2675 0.1510

Earth -29578-05-27 07:55 J -9081795.27 -9081795.17 -9081795.07 0.2681 0.1469 *

Neptune -29578-08-19 04:19 J -9081711.43 -9081711.32 -9081711.19 0.0089 0.0039

Neptune -29578-11-15 05:59 J -9081623.38 -9081623.25 -9081623.12 0.0089 0.0031

Neptune -29577-02-11 07:26 J -9081535.32 -9081535.19 -9081535.05 0.0089 0.0025

Saturn -29577-02-13 05:59 J -9081533.34 -9081533.25 -9081533.15 0.0268 0.0199

Neptune -29577-05-09 09:07 J -9081447.26 -9081447.12 -9081446.98 0.0089 0.0017

Saturn -29577-05-11 17:45 J -9081444.89 -9081444.76 -9081444.63 0.0268 0.0095

Jupiter -29577-08-04 20:23 J -9081359.69 -9081359.65 -9081359.61 0.0526 0.0499

Neptune -29577-08-05 10:33 J -9081359.19 -9081359.06 -9081358.92 0.0089 0.0011

Saturn -29577-08-08 05:31 J -9081356.42 -9081356.27 -9081356.13 0.0268 0.0012

Neptune -29577-11-01 12:14 J -9081271.13 -9081270.99 -9081270.85 0.0089 0.0003

Jupiter -29577-11-02 05:02 J -9081270.43 -9081270.29 -9081270.16 0.0523 0.0093

Saturn -29577-11-04 17:16 J -9081267.90 -9081267.78 -9081267.65 0.0268 0.0118

Neptune -29576-01-28 13:40 J -9081183.07 -9081182.93 -9081182.79 0.0089 0.0004

Saturn -29576-02-01 05:31 J -9081179.35 -9081179.27 -9081179.20 0.0268 0.0226

Pluto -29576-04-03 23:31 J -9081117.54 -9081117.52 -9081117.46 0.0075 0.0073

Neptune -29576-04-26 15:21 J -9081095.00 -9081094.86 -9081094.72 0.0089 0.0011

Pluto -29576-07-01 01:11 J -9081029.52 -9081029.45 -9081029.37 0.0075 0.0064

Neptune -29576-07-23 16:47 J -9081006.93 -9081006.80 -9081006.66 0.0089 0.0018

Pluto -29576-09-27 02:38 J -9080941.49 -9080941.39 -9080941.29 0.0075 0.0056

Neptune -29576-10-19 18:14 J -9080918.87 -9080918.74 -9080918.60 0.0089 0.0025

Pluto -29576-12-24 03:35 J -9080853.45 -9080853.35 -9080853.22 0.0075 0.0049

Neptune -29575-01-15 19:55 J -9080830.80 -9080830.67 -9080830.53 0.0089 0.0032

Pluto -29575-03-22 05:16 J -9080765.40 -9080765.28 -9080765.15 0.0075 0.0041

Neptune -29575-04-13 21:21 J -9080742.73 -9080742.61 -9080742.47 0.0089 0.0039

Pluto -29575-06-18 06:43 J -9080677.36 -9080677.22 -9080677.09 0.0074 0.0033

Neptune -29575-07-10 23:02 J -9080654.65 -9080654.54 -9080654.41 0.0089 0.0046

Pluto -29575-09-14 07:55 J -9080589.31 -9080589.17 -9080589.03 0.0074 0.0025

Neptune -29575-10-07 00:28 J -9080566.58 -9080566.48 -9080566.36 0.0089 0.0054

Moon -29575-12-04 23:02 J -9080507.66 -9080507.54 -9080507.41 0.2663 0.1013

Earth -29575-12-04 23:16 J -9080507.65 -9080507.53 -9080507.40 0.2656 0.0955 *

Pluto -29575-12-11 09:07 J -9080501.26 -9080501.12 -9080500.97 0.0074 0.0018

Neptune -29574-01-03 02:09 J -9080478.50 -9080478.41 -9080478.30 0.0089 0.0061

Pluto -29574-03-09 10:33 J -9080413.21 -9080413.06 -9080412.91 0.0074 0.0010

Neptune -29574-04-01 03:50 J -9080390.43 -9080390.34 -9080390.24 0.0089 0.0068

Pluto -29574-06-05 11:45 J -9080325.16 -9080325.01 -9080324.86 0.0074 0.0003

Neptune -29574-06-28 05:31 J -9080302.34 -9080302.27 -9080302.19 0.0089 0.0075

Pluto -29574-09-01 12:57 J -9080237.11 -9080236.96 -9080236.80 0.0074 0.0005

Neptune -29574-09-24 06:43 J -9080214.25 -9080214.22 -9080214.15 0.0089 0.0083

Pluto -29574-11-28 14:09 J -9080149.05 -9080148.91 -9080148.75 0.0074 0.0012

Neptune -29574-12-21 08:38 J -9080126.14 -9080126.14 -9080126.13 0.0089 0.0089

Pluto -29573-02-24 15:35 J -9080061.00 -9080060.85 -9080060.71 0.0074 0.0019

Pluto -29573-05-22 16:33 J -9079972.94 -9079972.81 -9079972.66 0.0073 0.0026

Pluto -29573-08-18 17:45 J -9079884.88 -9079884.76 -9079884.62 0.0073 0.0033

Pluto -29573-11-14 18:57 J -9079796.83 -9079796.71 -9079796.58 0.0073 0.0040

Pluto -29572-02-10 20:09 J -9079708.76 -9079708.66 -9079708.54 0.0073 0.0047

Pluto -29572-05-09 21:07 J -9079620.70 -9079620.62 -9079620.50 0.0073 0.0054

Earth -29572-06-05 12:43 J -9079594.01 -9079593.97 -9079593.93 0.2674 0.2492

Moon -29572-06-05 12:57 J -9079593.99 -9079593.96 -9079593.92 0.2681 0.2574 *

Pluto -29572-08-05 22:19 J -9079532.63 -9079532.57 -9079532.47 0.0073 0.0061

Pluto -29572-11-01 23:45 J -9079444.56 -9079444.51 -9079444.45 0.0073 0.0067

Mars -29571-05-16 23:59 J -9079248.60 -9079248.50 -9079248.40 0.1750 0.1001

Jupiter -29570-01-01 08:38 J -9079019.27 -9079019.14 -9079018.99 0.0503 0.0298

Mars -29570-03-30 06:43 J -9078931.38 -9078931.22 -9078931.07 0.1761 0.0042

Jupiter -29570-04-01 11:31 J -9078929.12 -9078929.02 -9078928.92 0.0506 0.0399

Mars -29569-04-21 11:59 J -9078543.06 -9078543.00 -9078542.94 0.1773 0.1535

Moon -29565-05-29 03:21 J -9077044.48 -9077044.36 -9077044.24 0.2678 0.0501

Earth -29565-05-29 04:04 J -9077044.45 -9077044.33 -9077044.21 0.2679 0.0470 *

Jupiter -29565-08-21 08:52 J -9076960.27 -9076960.13 -9076960.00 0.0524 0.0050

Saturn -29562-03-14 18:28 J -9076024.87 -9076024.73 -9076024.57 0.0292 0.0145

Saturn -29562-06-11 15:21 J -9075936.03 -9075935.86 -9075935.69 0.0292 0.0024

Saturn -29562-09-08 11:45 J -9075847.14 -9075847.01 -9075846.88 0.0292 0.0187

Mars -29562-10-07 09:21 J -9075818.16 -9075818.11 -9075818.06 0.1744 0.1572

Earth -29562-12-07 23:16 J -9075756.60 -9075756.53 -9075756.45 0.2658 0.2185

Moon -29562-12-08 00:14 J -9075756.57 -9075756.49 -9075756.42 0.2663 0.2205 *

Uranus -29561-01-06 00:14 J -9075727.55 -9075727.49 -9075727.40 0.0144 0.0123

Uranus -29561-04-03 04:47 J -9075639.40 -9075639.30 -9075639.20 0.0144 0.0099

Uranus -29561-06-30 08:52 J -9075551.24 -9075551.13 -9075551.00 0.0144 0.0076

Mars -29561-08-19 06:43 J -9075501.35 -9075501.22 -9075501.09 0.1767 0.0973

Uranus -29561-09-26 13:11 J -9075463.08 -9075462.95 -9075462.81 0.0144 0.0052

Uranus -29561-12-23 17:31 J -9075374.91 -9075374.77 -9075374.63 0.0144 0.0029

Uranus -29560-03-21 21:50 J -9075286.73 -9075286.59 -9075286.44 0.0144 0.0006

Uranus -29560-06-18 02:09 J -9075198.55 -9075198.41 -9075198.26 0.0144 0.0021

Mars -29560-09-11 20:52 J -9075112.74 -9075112.63 -9075112.53 0.1767 0.0892

Uranus -29560-09-14 06:43 J -9075110.36 -9075110.22 -9075110.08 0.0144 0.0044

Uranus -29560-12-11 11:02 J -9075022.16 -9075022.04 -9075021.91 0.0144 0.0069

Uranus -29559-03-09 15:35 J -9074933.96 -9074933.85 -9074933.74 0.0144 0.0094

Uranus -29559-06-05 20:09 J -9074845.74 -9074845.66 -9074845.58 0.0145 0.0119

Uranus -29559-09-02 00:43 J -9074757.48 -9074757.47 -9074757.46 0.0145 0.0144

Jupiter -29559-10-20 07:40 J -9074709.24 -9074709.18 -9074709.12 0.0502 0.0470

Jupiter -29558-01-18 10:47 J -9074619.20 -9074619.05 -9074618.90 0.0505 0.0231

Venus -29558-11-12 20:38 J -9074320.71 -9074320.64 -9074320.56 0.3781 0.2682

Moon	-29555-11-30 03:07 J	-9073207.49	-9073207.37	-9073207.26	0.2653	0.1548
Earth	-29555-11-30 04:19 J	-9073207.44	-9073207.32	-9073207.21	0.2653	0.1389 *
Jupiter	-29553-06-09 12:43 J	-9072650.10	-9072649.97	-9072649.85	0.0524	0.0188
Jupiter	-29553-09-06 21:35 J	-9072560.68	-9072560.60	-9072560.52	0.0521	0.0407
Venus	-29552-05-28 14:09 J	-9072297.02	-9072296.91	-9072296.80	0.3780	0.0026
Moon	-29552-05-31 23:45 J	-9072293.63	-9072293.51	-9072293.39	0.2680	0.0428
Earth	-29552-06-01 00:28 J	-9072293.60	-9072293.48	-9072293.36	0.2677	0.0571 *
Mars	-29550-02-02 05:31 J	-9071682.39	-9071682.27	-9071682.15	0.1761	0.0261
Venus	-29548-05-28 13:40 J	-9070836.06	-9070835.93	-9070835.79	0.3595	0.0218
Saturn	-29548-07-02 07:11 J	-9070801.26	-9070801.20	-9070801.14	0.0268	0.0239
Saturn	-29548-09-28 18:43 J	-9070712.84	-9070712.72	-9070712.60	0.0268	0.0136
Saturn	-29548-12-26 06:14 J	-9070624.38	-9070624.24	-9070624.10	0.0268	0.0032
Saturn	-29547-03-24 18:14 J	-9070535.88	-9070535.74	-9070535.61	0.0268	0.0075
Saturn	-29547-06-21 05:59 J	-9070447.35	-9070447.25	-9070447.14	0.0268	0.0183
Jupiter	-29547-11-06 09:50 J	-9070309.26	-9070309.09	-9070308.92	0.0505	0.0062
Venus	-29547-12-12 07:55 J	-9070273.25	-9070273.17	-9070273.10	0.3780	0.2765
Moon	-29545-05-24 17:02 J	-9069743.85	-9069743.79	-9069743.72	0.2676	0.2210
Earth	-29545-05-24 17:02 J	-9069743.85	-9069743.79	-9069743.72	0.2682	0.2263 *
Moon	-29542-12-03 04:04 J	-9068456.47	-9068456.33	-9068456.19	0.2660	0.0059
Earth	-29542-12-03 04:47 J	-9068456.44	-9068456.30	-9068456.16	0.2654	0.0083 *
Jupiter	-29541-03-28 16:19 J	-9068339.92	-9068339.82	-9068339.72	0.0525	0.0332
Mars	-29541-06-24 14:38 J	-9068252.01	-9068251.89	-9068251.77	0.1755	0.0347
Jupiter	-29541-06-26 00:57 J	-9068250.57	-9068250.46	-9068250.34	0.0522	0.0261
Mars	-29540-05-08 06:28 J	-9067934.36	-9067934.23	-9067934.11	0.1755	0.1011
Moon	-29539-06-03 21:07 J	-9067542.72	-9067542.62	-9067542.53	0.2682	0.1684
Earth	-29539-06-03 21:07 J	-9067542.72	-9067542.62	-9067542.52	0.2675	0.1616 *
Jupiter	-29535-08-25 09:07 J	-9065999.28	-9065999.12	-9065998.95	0.0504	0.0108
Saturn	-29533-07-31 16:33 J	-9065292.92	-9065292.81	-9065292.68	0.0292	0.0202
Saturn	-29533-10-28 13:40 J	-9065204.10	-9065203.93	-9065203.76	0.0292	0.0033
Saturn	-29532-01-25 10:19 J	-9065115.22	-9065115.07	-9065114.92	0.0292	0.0134

Moon -29532-05-27 12:28 J -9064993.08 -9064992.98 -9064992.87 0.2675 0.1338

Earth -29532-05-27 13:11 J -9064993.06 -9064992.95 -9064992.85 0.2680 0.1281 *

Mars -29532-11-14 23:45 J -9064821.61 -9064821.51 -9064821.41 0.1749 0.0940

Mars -29531-09-28 07:11 J -9064504.36 -9064504.20 -9064504.04 0.1761 0.0097

Mars -29530-10-21 12:14 J -9064116.04 -9064115.99 -9064115.95 0.1773 0.1608

Jupiter -29529-01-15 19:11 J -9064029.75 -9064029.70 -9064029.66 0.0526 0.0492

Jupiter -29529-04-14 03:35 J -9063940.48 -9063940.35 -9063940.22 0.0523 0.0099

Moon -29529-12-05 05:02 J -9063705.41 -9063705.29 -9063705.17 0.2663 0.1121

Earth -29529-12-05 05:02 J -9063705.41 -9063705.29 -9063705.17 0.2656 0.1188 *

Jupiter -29523-06-13 08:09 J -9061689.30 -9061689.16 -9061689.01 0.0503 0.0277

Jupiter -29523-09-11 10:47 J -9061599.14 -9061599.05 -9061598.95 0.0506 0.0419

Mars -29522-04-07 09:21 J -9061391.16 -9061391.11 -9061391.05 0.1744 0.1503

Moon -29522-11-28 07:40 J -9061156.21 -9061156.18 -9061156.14 0.2648 0.2560

Earth -29522-11-28 09:07 J -9061156.17 -9061156.12 -9061156.08 0.2651 0.2494 *

Mars -29521-02-18 07:26 J -9061074.33 -9061074.19 -9061074.05 0.1767 0.0860

Uranus -29521-02-21 19:26 J -9061070.76 -9061070.69 -9061070.60 0.0135 0.0119

Uranus -29521-05-20 01:26 J -9060982.56 -9060982.44 -9060982.31 0.0135 0.0094

Uranus -29521-08-16 07:11 J -9060894.34 -9060894.20 -9060894.04 0.0135 0.0070

Uranus -29521-11-12 13:11 J -9060806.11 -9060805.95 -9060805.78 0.0135 0.0045

Uranus -29520-02-08 18:57 J -9060717.88 -9060717.71 -9060717.54 0.0134 0.0022

Mars -29520-03-12 20:38 J -9060685.74 -9060685.64 -9060685.54 0.1767 0.0955

Uranus -29520-05-08 00:43 J -9060629.64 -9060629.47 -9060629.30 0.0134 0.0002

Uranus -29520-08-04 06:14 J -9060541.40 -9060541.24 -9060541.07 0.0134 0.0026

Uranus -29520-10-31 11:45 J -9060453.16 -9060453.01 -9060452.84 0.0134 0.0049

Uranus -29519-01-27 17:16 J -9060364.92 -9060364.78 -9060364.63 0.0134 0.0072

Uranus -29519-04-25 22:47 J -9060276.66 -9060276.55 -9060276.43 0.0134 0.0095

Moon -29519-05-30 08:23 J -9060242.27 -9060242.15 -9060242.03 0.2679 0.0362

Earth -29519-05-30 09:21 J -9060242.23 -9060242.11 -9060241.99 0.2679 0.0276 *

Uranus -29519-07-23 04:19 J -9060188.40 -9060188.32 -9060188.24 0.0134 0.0117

Saturn -29519-11-19 10:04 J -9060069.10 -9060069.08 -9060069.04 0.0268 0.0261

Saturn -29518-02-15 21:35 J -9059980.71 -9059980.60 -9059980.48 0.0268 0.0158

Saturn -29518-05-15 09:21 J -9059892.25 -9059892.11 -9059891.97 0.0268 0.0054

Saturn -29518-08-11 21:07 J -9059803.76 -9059803.62 -9059803.48 0.0268 0.0052

Saturn -29518-11-08 08:52 J -9059715.24 -9059715.13 -9059715.01 0.0267 0.0160

Jupiter -29517-02-01 07:11 J -9059630.34 -9059630.20 -9059630.07 0.0524 0.0049

Earth -29516-12-08 05:02 J -9058954.35 -9058954.29 -9058954.24 0.2658 0.2412

Moon -29516-12-08 05:45 J -9058954.29 -9058954.26 -9058954.22 0.2663 0.2544 *

Jupiter -29511-04-01 06:14 J -9057379.30 -9057379.24 -9057379.16 0.0502 0.0458

Jupiter -29511-06-30 09:35 J -9057289.25 -9057289.10 -9057288.95 0.0505 0.0242

Mars -29511-08-03 05:45 J -9057255.38 -9057255.26 -9057255.14 0.1761 0.0339

Moon -29509-11-30 08:52 J -9056405.25 -9056405.13 -9056405.01 0.2655 0.1213

Earth -29509-11-30 10:04 J -9056405.21 -9056405.08 -9056404.96 0.2653 0.1150 *

Moon -29506-06-02 05:02 J -9055491.41 -9055491.29 -9055491.18 0.2681 0.0759

Earth -29506-06-02 05:45 J -9055491.38 -9055491.26 -9055491.14 0.2677 0.0760 *

Jupiter -29506-11-20 11:02 J -9055320.16 -9055320.04 -9055319.91 0.0525 0.0188

Jupiter -29505-02-17 19:55 J -9055230.75 -9055230.67 -9055230.58 0.0521 0.0410

Saturn -29504-12-18 15:07 J -9054560.94 -9054560.87 -9054560.78 0.0292 0.0257

Saturn -29503-03-17 12:28 J -9054472.14 -9054471.98 -9054471.82 0.0292 0.0086

Saturn -29503-06-14 09:07 J -9054383.28 -9054383.12 -9054382.96 0.0292 0.0081

Saturn -29503-09-11 05:16 J -9054294.37 -9054294.28 -9054294.19 0.0292 0.0243

Mars -29502-12-24 14:38 J -9053825.01 -9053824.89 -9053824.77 0.1755 0.0276

Venus -29501-06-18 18:28 J -9053647.82 -9053647.73 -9053647.63 0.3781 0.1707

Mars -29501-11-06 06:57 J -9053507.33 -9053507.21 -9053507.09 0.1755 0.1113

Jupiter -29499-04-18 08:38 J -9052979.31 -9052979.14 -9052978.97 0.0504 0.0073

Moon -29499-05-25 22:04 J -9052941.65 -9052941.58 -9052941.51 0.2675 0.2150

Earth -29499-05-25 22:19 J -9052941.65 -9052941.57 -9052941.50 0.2682 0.2079 *

Venus -29497-06-18 12:28 J -9052187.05 -9052186.98 -9052186.91 0.3594 0.3022

Neptune -29496-06-02 12:57 J -9051838.02 -9051837.96 -9051837.90 0.0088 0.0082

Neptune -29496-08-29 16:04 J -9051749.93 -9051749.83 -9051749.73 0.0088 0.0073

Neptune -29496-11-25 19:11 J -9051661.82 -9051661.70 -9051661.58 0.0088 0.0064

Moon -29496-12-03 09:50 J -9051654.22 -9051654.09 -9051653.95 0.2660 0.0057

Earth -29496-12-03 10:33 J -9051654.20 -9051654.06 -9051653.92 0.2655 0.0161 *

Venus -29495-01-02 11:59 J -9051624.10 -9051624.00 -9051623.89 0.3780 0.1016

Neptune -29495-02-21 22:19 J -9051573.71 -9051573.57 -9051573.43 0.0088 0.0056

Neptune -29495-05-21 01:26 J -9051485.60 -9051485.44 -9051485.29 0.0088 0.0047

Neptune -29495-08-17 04:04 J -9051397.48 -9051397.33 -9051397.15 0.0088 0.0039

Neptune -29495-11-13 07:11 J -9051309.36 -9051309.20 -9051309.01 0.0088 0.0030

Neptune -29494-02-09 10:33 J -9051221.24 -9051221.06 -9051220.88 0.0088 0.0020

Neptune -29494-05-08 13:40 J -9051133.11 -9051132.93 -9051132.75 0.0088 0.0011

Neptune -29494-08-04 16:33 J -9051044.99 -9051044.81 -9051044.62 0.0088 0.0003

Jupiter -29494-09-08 15:07 J -9051009.97 -9051009.87 -9051009.77 0.0525 0.0326

Neptune -29494-10-31 19:40 J -9050956.86 -9050956.68 -9050956.50 0.0088 0.0007

Jupiter -29494-12-06 23:45 J -9050920.62 -9050920.51 -9050920.39 0.0522 0.0268

Neptune -29493-01-27 22:47 J -9050868.73 -9050868.55 -9050868.37 0.0088 0.0015

Neptune -29493-04-25 01:40 J -9050780.60 -9050780.43 -9050780.25 0.0088 0.0024

Moon -29493-06-04 02:23 J -9050740.49 -9050740.40 -9050740.31 0.2682 0.1752

Earth -29493-06-04 02:23 J -9050740.49 -9050740.40 -9050740.31 0.2675 0.1823 *

Neptune -29493-07-22 04:19 J -9050692.47 -9050692.32 -9050692.14 0.0088 0.0034

Neptune -29493-10-18 07:26 J -9050604.34 -9050604.19 -9050604.02 0.0088 0.0042

Neptune -29492-01-14 10:19 J -9050516.20 -9050516.07 -9050515.91 0.0088 0.0050

Neptune -29492-04-12 13:40 J -9050428.07 -9050427.93 -9050427.80 0.0088 0.0059

Mars -29492-05-15 23:59 J -9050394.61 -9050394.50 -9050394.40 0.1750 0.0864

Neptune -29492-07-09 16:19 J -9050339.93 -9050339.82 -9050339.70 0.0088 0.0067

Neptune -29492-10-05 18:57 J -9050251.78 -9050251.71 -9050251.60 0.0088 0.0076

Neptune -29491-01-01 22:04 J -9050163.62 -9050163.58 -9050163.52 0.0088 0.0084

Venus -29491-01-02 13:40 J -9050163.05 -9050162.93 -9050162.80 0.3595 0.1374

Mars -29491-03-29 07:40 J -9050077.33 -9050077.18 -9050077.02 0.1761 0.0199

Mars -29490-04-21 12:14 J -9049689.03 -9049688.99 -9049688.96 0.1773 0.1683

Saturn -29489-07-04 22:33 J -9049248.65 -9049248.56 -9049248.46 0.0268 0.0200

Saturn -29489-10-01 10:04 J -9049160.21 -9049160.08 -9049159.94 0.0268 0.0096

Saturn -29489-12-28 21:50 J -9049071.73 -9049071.59 -9049071.45 0.0268 0.0009

Saturn -29488-03-27 09:50 J -9048983.22 -9048983.09 -9048982.97 0.0268 0.0116

Saturn -29488-06-23 21:50 J -9048894.67 -9048894.59 -9048894.51 0.0268 0.0224

Jupiter -29487-02-04 07:40 J -9048669.35 -9048669.18 -9048669.01 0.0504 0.0098

Moon -29486-05-28 17:45 J -9048190.87 -9048190.76 -9048190.66 0.2676 0.1112

Earth -29486-05-28 18:14 J -9048190.85 -9048190.74 -9048190.63 0.2680 0.1092 *

Mars -29483-10-06 09:21 J -9046964.17 -9046964.11 -9046964.04 0.1744 0.1436

Earth -29483-12-06 10:47 J -9046903.16 -9046903.05 -9046902.94 0.2656 0.1420

Moon -29483-12-06 11:02 J -9046903.15 -9046903.04 -9046902.93 0.2663 0.1526 *

Jupiter -29482-06-27 18:57 J -9046699.77 -9046699.71 -9046699.66 0.0526 0.0469

Mars -29482-08-19 07:40 J -9046647.32 -9046647.18 -9046647.03 0.1768 0.0768

Jupiter -29482-09-25 03:21 J -9046610.49 -9046610.36 -9046610.23 0.0523 0.0123

Mars -29481-09-10 20:52 J -9046258.73 -9046258.63 -9046258.54 0.1767 0.1034

Uranus -29478-10-30 03:35 J -9045114.38 -9045114.35 -9045114.31 0.0143 0.0139

Uranus -29477-01-26 07:55 J -9045026.25 -9045026.17 -9045026.09 0.0144 0.0116

Uranus -29477-04-23 11:59 J -9044938.11 -9044938.00 -9044937.89 0.0144 0.0093

Uranus -29477-07-20 16:04 J -9044849.95 -9044849.83 -9044849.70 0.0144 0.0070

Uranus -29477-10-16 20:23 J -9044761.78 -9044761.65 -9044761.51 0.0144 0.0046

Uranus -29476-01-13 00:43 J -9044673.61 -9044673.47 -9044673.32 0.0144 0.0023

Uranus -29476-04-11 05:16 J -9044585.43 -9044585.28 -9044585.14 0.0144 0.0005

Uranus -29476-07-08 09:35 J -9044497.24 -9044497.10 -9044496.96 0.0144 0.0026

Uranus -29476-10-04 13:55 J -9044409.05 -9044408.92 -9044408.78 0.0144 0.0051

Jupiter -29476-11-23 06:57 J -9044359.35 -9044359.21 -9044359.06 0.0503 0.0265

Moon -29476-11-28 13:40 J -9044353.99 -9044353.93 -9044353.87 0.2649 0.2382

Earth -29476-11-28 14:52 J -9044353.95 -9044353.88 -9044353.81 0.2651 0.2246 *

Uranus -29476-12-31 18:14 J -9044320.85 -9044320.74 -9044320.61 0.0144 0.0076

Jupiter -29475-02-21 09:50 J -9044269.18 -9044269.09 -9044269.00 0.0506 0.0432

Uranus -29475-03-29 22:47 J -9044232.65 -9044232.55 -9044232.44 0.0145 0.0100

Uranus -29475-06-26 03:07 J -9044144.43 -9044144.37 -9044144.29 0.0145 0.0126

Saturn -29474-08-04 09:50 J -9043740.23 -9043740.09 -9043739.94 0.0292 0.0148

Saturn -29474-11-01 06:43 J -9043651.39 -9043651.22 -9043651.05 0.0292 0.0022

Saturn -29473-01-29 03:07 J -9043562.49 -9043562.37 -9043562.24 0.0292 0.0186

Moon -29473-05-30 13:40 J -9043440.05 -9043439.93 -9043439.81 0.2679 0.0182

Earth -29473-05-30 14:38 J -9043440.02 -9043439.89 -9043439.77 0.2678 0.0131 *

Mars -29472-01-08 07:40 J -9043217.20 -9043217.18 -9043217.16 0.1774 0.1749

Mars -29471-02-01 05:31 J -9042828.38 -9042828.27 -9042828.15 0.1761 0.0403

Jupiter -29470-07-14 05:59 J -9042300.38 -9042300.25 -9042300.12 0.0524 0.0040

Earth -29470-12-09 10:33 J -9042152.07 -9042152.06 -9042152.05 0.2658 0.2640

Moon -29470-12-09 11:31 J -9042152.04 -9042152.02 -9042152.01 0.2663 0.2641

Jupiter -29464-09-11 05:59 J -9040049.33 -9040049.25 -9040049.16 0.0502 0.0435

Jupiter -29464-12-10 09:07 J -9039959.26 -9039959.12 -9039958.97 0.0505 0.0265

Moon -29463-12-01 14:38 J -9039603.02 -9039602.89 -9039602.76 0.2657 0.0985

Earth -29463-12-01 15:50 J -9039602.97 -9039602.84 -9039602.71 0.2653 0.0907 *

Mars -29462-06-24 14:38 J -9039398.01 -9039397.89 -9039397.77 0.1755 0.0207

Mars -29461-05-07 07:40 J -9039080.29 -9039080.18 -9039080.07 0.1755 0.1223

Moon -29460-06-02 10:19 J -9038689.18 -9038689.07 -9038688.95 0.2682 0.0882

Earth -29460-06-02 11:02 J -9038689.16 -9038689.04 -9038688.93 0.2676 0.0961 *

Saturn -29460-11-22 01:40 J -9038516.51 -9038516.43 -9038516.36 0.0268 0.0222

Saturn -29459-02-18 12:57 J -9038428.08 -9038427.96 -9038427.83 0.0268 0.0120

Saturn -29459-05-18 00:43 J -9038339.61 -9038339.47 -9038339.33 0.0267 0.0015

Saturn -29459-08-14 12:28 J -9038251.11 -9038250.98 -9038250.84 0.0267 0.0093

Saturn -29459-11-11 00:28 J -9038162.57 -9038162.48 -9038162.38 0.0267 0.0200

Jupiter -29458-05-02 09:35 J -9037990.23 -9037990.10 -9037989.98 0.0525 0.0187

Jupiter -29458-07-30 18:28 J -9037900.81 -9037900.73 -9037900.65 0.0521 0.0410

Moon -29453-05-26 03:07 J -9036139.45 -9036139.37 -9036139.28 0.2675 0.1836

Earth -29453-05-26 03:21 J -9036139.44 -9036139.36 -9036139.27 0.2682 0.1894 *

Mars -29453-11-13 23:59 J -9035967.61 -9035967.50 -9035967.39 0.1750 0.0794

Mars -29452-09-27 08:09 J -9035650.31 -9035650.16 -9035650.00 0.1761 0.0301

Jupiter -29452-09-28 07:40 J -9035649.35 -9035649.18 -9035649.01 0.0504 0.0087

Mars -29451-10-20 12:14 J -9035262.01 -9035261.99 -9035261.98 0.1773 0.1755

Venus -29450-07-10 23:02 J -9034998.58 -9034998.54 -9034998.49 0.3781 0.3365

Moon -29450-12-04 15:35 J -9034851.98 -9034851.85 -9034851.71 0.2661 0.0411

Earth -29450-12-04 16:19 J -9034851.96 -9034851.82 -9034851.69 0.2655 0.0395 *

Moon -29447-06-05 07:40 J -9033938.26 -9033938.18 -9033938.11 0.2682 0.2095

Earth -29447-06-05 07:40 J -9033938.26 -9033938.18 -9033938.10 0.2675 0.2021 *

Jupiter -29446-02-18 13:26 J -9033680.04 -9033679.94 -9033679.84 0.0526 0.0326

Jupiter -29446-05-18 22:04 J -9033590.69 -9033590.58 -9033590.46 0.0522 0.0270

Saturn -29445-12-21 08:38 J -9033008.26 -9033008.14 -9033008.01 0.0292 0.0201

Venus -29444-01-23 16:33 J -9032974.92 -9032974.81 -9032974.71 0.3781 0.0731

Saturn -29444-03-20 05:45 J -9032919.43 -9032919.26 -9032919.09 0.0292 0.0032

Saturn -29444-06-17 02:23 J -9032830.55 -9032830.40 -9032830.25 0.0292 0.0135

Mars -29443-04-06 09:21 J -9032537.18 -9032537.11 -9032537.04 0.1744 0.1367

Mars -29442-02-17 08:38 J -9032220.29 -9032220.14 -9032220.00 0.1767 0.0654

Mars -29441-03-11 20:52 J -9031831.73 -9031831.63 -9031831.54 0.1767 0.1107

Venus -29440-01-23 12:28 J -9031514.10 -9031513.98 -9031513.85 0.3595 0.1419

Moon -29440-05-28 22:33 J -9031388.67 -9031388.56 -9031388.44 0.2677 0.1029

Earth -29440-05-28 23:31 J -9031388.64 -9031388.52 -9031388.41 0.2680 0.0904 *

Jupiter -29440-07-17 06:43 J -9031339.39 -9031339.22 -9031339.05 0.0503 0.0085

Venus -29439-08-09 10:04 J -9030951.17 -9030951.08 -9030950.99 0.3780 0.2013

Uranus -29437-03-13 02:09 J -9030369.49 -9030369.41 -9030369.31 0.0135 0.0114

Uranus -29437-06-09 08:09 J -9030281.28 -9030281.16 -9030281.02 0.0135 0.0089

Uranus -29437-09-05 13:55 J -9030193.06 -9030192.92 -9030192.76 0.0135 0.0065

Uranus -29437-12-02 19:55 J -9030104.83 -9030104.67 -9030104.50 0.0135 0.0040

Earth -29437-12-06 16:33 J -9030100.92 -9030100.81 -9030100.71 0.2657 0.1655

Moon -29437-12-06 16:47 J -9030100.90 -9030100.80 -9030100.69 0.2663 0.1619 *

Uranus -29436-03-01 01:40 J -9030016.60 -9030016.43 -9030016.26 0.0134 0.0017

Uranus -29436-05-28 07:26 J -9029928.37 -9029928.19 -9029928.02 0.0134 0.0007

Uranus -29436-08-24 12:57 J -9029840.13 -9029839.96 -9029839.79 0.0134 0.0031

Uranus -29436-11-20 18:28 J -9029751.88 -9029751.73 -9029751.57 0.0134 0.0054

Uranus -29435-02-16 23:59 J -9029663.63 -9029663.50 -9029663.35 0.0134 0.0077

Uranus -29435-05-16 05:16 J -9029575.38 -9029575.28 -9029575.15 0.0134 0.0100

Venus -29435-08-09 13:40 J -9029490.01 -9029489.93 -9029489.85 0.3595 0.2894

Uranus -29435-08-12 10:47 J -9029487.11 -9029487.05 -9029486.97 0.0134 0.0122

Jupiter -29435-12-07 17:31 J -9029369.83 -9029369.77 -9029369.71 0.0526 0.0463

Jupiter -29434-03-07 02:09 J -9029280.54 -9029280.41 -9029280.28 0.0523 0.0130

Mars -29433-07-09 07:55 J -9028790.22 -9028790.17 -9028790.11 0.1774 0.1658

Mars -29432-08-02 05:45 J -9028401.38 -9028401.26 -9028401.15 0.1761 0.0479

Saturn -29430-04-11 02:38 J -9027784.41 -9027784.39 -9027784.36 0.0268 0.0262

Saturn -29430-07-08 13:55 J -9027696.02 -9027695.92 -9027695.80 0.0268 0.0161

Saturn -29430-10-05 01:40 J -9027607.57 -9027607.43 -9027607.29 0.0268 0.0056

Moon -29430-11-29 19:26 J -9027551.78 -9027551.69 -9027551.60 0.2650 0.2035

Earth -29430-11-29 20:38 J -9027551.73 -9027551.64 -9027551.55 0.2651 0.2002 *

Saturn -29429-01-01 13:11 J -9027519.08 -9027518.95 -9027518.80 0.0268 0.0050

Saturn -29429-03-30 01:11 J -9027430.56 -9027430.45 -9027430.33 0.0267 0.0157

Saturn -29429-06-26 13:11 J -9027341.96 -9027341.95 -9027341.93 0.0267 0.0266

Jupiter -29428-05-05 05:31 J -9027029.42 -9027029.27 -9027029.12 0.0503 0.0256

Jupiter -29428-08-03 08:23 J -9026939.23 -9026939.15 -9026939.07 0.0506 0.0440

Moon -29427-05-31 18:43 J -9026637.84 -9026637.72 -9026637.60 0.2679 0.0079

Earth -29427-05-31 19:40 J -9026637.80 -9026637.68 -9026637.56 0.2678 0.0116 *

Mars -29423-12-23 14:38 J -9024971.01 -9024970.89 -9024970.77 0.1755 0.0141

Jupiter -29423-12-24 05:45 J -9024970.40 -9024970.26 -9024970.13 0.0524 0.0016

Mars -29422-11-06 07:55 J -9024653.27 -9024653.17 -9024653.07 0.1755 0.1311

Moon -29420-05-24 12:57 J -9024087.99 -9024087.96 -9024087.94 0.2677 0.2606

Moon -29417-12-01 20:23 J -9022800.78 -9022800.65 -9022800.52 0.2657 0.0778

Earth -29417-12-01 21:35 J -9022800.74 -9022800.60 -9022800.47 0.2653 0.0668 *

Jupiter -29416-02-21 04:47 J -9022719.39 -9022719.30 -9022719.20 0.0502 0.0423

Jupiter -29416-05-22 07:55 J -9022629.31 -9022629.17 -9022629.02 0.0505 0.0278

Saturn -29415-05-10 05:31 J -9022276.33 -9022276.27 -9022276.20 0.0292 0.0268

Neptune -29415-06-10 16:19 J -9022244.83 -9022244.82 -9022244.79 0.0089 0.0088

Saturn -29415-08-07 02:38 J -9022187.54 -9022187.39 -9022187.22 0.0292 0.0098

Neptune -29415-09-06 17:45 J -9022156.80 -9022156.76 -9022156.70 0.0089 0.0082

Saturn -29415-11-03 23:31 J -9022098.68 -9022098.52 -9022098.35 0.0292 0.0072

Neptune -29415-12-03 19:26 J -9022068.76 -9022068.69 -9022068.61 0.0089 0.0075

Saturn -29414-01-31 19:55 J -9022009.76 -9022009.67 -9022009.57 0.0292 0.0236

Neptune -29414-03-01 20:38 J -9021980.71 -9021980.64 -9021980.54 0.0089 0.0068

Neptune -29414-05-28 22:19 J -9021892.66 -9021892.57 -9021892.46 0.0089 0.0061

Moon -29414-06-03 15:50 J -9021886.95 -9021886.84 -9021886.73 0.2683 0.1141

Earth -29414-06-03 16:04 J -9021886.94 -9021886.83 -9021886.72 0.2676 0.1164 *

Pluto -29414-06-09 04:47 J -9021881.34 -9021881.30 -9021881.25 0.0069 0.0067

Neptune -29414-08-24 23:45 J -9021804.61 -9021804.51 -9021804.39 0.0089 0.0054

Pluto -29414-09-05 05:45 J -9021793.32 -9021793.26 -9021793.16 0.0069 0.0061

Neptune -29414-11-21 01:26 J -9021716.55 -9021716.44 -9021716.32 0.0089 0.0047

Pluto -29414-12-02 07:26 J -9021705.28 -9021705.19 -9021705.08 0.0070 0.0054

Neptune -29413-02-17 02:52 J -9021628.50 -9021628.38 -9021628.25 0.0089 0.0040

Pluto -29413-02-28 08:52 J -9021617.24 -9021617.13 -9021617.00 0.0070 0.0047

Mars -29413-05-14 23:59 J -9021540.61 -9021540.50 -9021540.40 0.1749 0.0732

Neptune -29413-05-15 04:33 J -9021540.44 -9021540.31 -9021540.19 0.0089 0.0034 *

Pluto -29413-05-26 10:04 J -9021529.20 -9021529.08 -9021528.93 0.0070 0.0041

Neptune -29413-08-11 05:59 J -9021452.38 -9021452.25 -9021452.12 0.0089 0.0027

Pluto -29413-08-22 11:31 J -9021441.15 -9021441.02 -9021440.87 0.0070 0.0034

Neptune -29413-11-07 07:26 J -9021364.32 -9021364.19 -9021364.05 0.0089 0.0020

Pluto -29413-11-18 12:57 J -9021353.10 -9021352.96 -9021352.80 0.0070 0.0027

Neptune -29412-02-03 08:52 J -9021276.26 -9021276.13 -9021275.99 0.0089 0.0013

Pluto -29412-02-14 14:23 J -9021265.05 -9021264.90 -9021264.73 0.0070 0.0021

Mars -29412-03-28 08:52 J -9021223.28 -9021223.13 -9021222.98 0.1761 0.0412

Neptune -29412-05-02 10:33 J -9021188.20 -9021188.06 -9021187.92 0.0089 0.0006

Pluto -29412-05-13 16:04 J -9021177.00 -9021176.83 -9021176.67 0.0070 0.0014

Neptune -29412-07-29 11:59 J -9021100.13 -9021100.00 -9021099.86 0.0089 0.0003

Pluto -29412-08-09 17:31 J -9021088.94 -9021088.77 -9021088.61 0.0070 0.0007

Neptune -29412-10-25 13:40 J -9021012.07 -9021011.93 -9021011.79 0.0089 0.0008

Pluto -29412-11-05 18:57 J -9021000.88 -9021000.71 -9021000.55 0.0070 0.0001

Neptune -29411-01-21 15:07 J -9020924.00 -9020923.87 -9020923.73 0.0089 0.0016

Pluto -29411-02-01 20:23 J -9020912.82 -9020912.65 -9020912.49 0.0071 0.0007

Neptune -29411-04-19 16:47 J -9020835.94 -9020835.80 -9020835.67 0.0089 0.0022

Pluto -29411-04-30 21:35 J -9020824.75 -9020824.60 -9020824.43 0.0071 0.0015

Neptune -29411-07-16 18:14 J -9020747.87 -9020747.74 -9020747.60 0.0089 0.0030

Pluto -29411-07-27 23:02 J -9020736.69 -9020736.54 -9020736.37 0.0071 0.0022

Jupiter -29411-10-12 08:23 J -9020660.27 -9020660.15 -9020660.02 0.0525 0.0177

Neptune -29411-10-12 19:55 J -9020659.80 -9020659.67 -9020659.54 0.0089 0.0036

Pluto -29411-10-24 00:43 J -9020648.62 -9020648.47 -9020648.31 0.0071 0.0029

Neptune -29410-01-08 21:21 J -9020571.73 -9020571.61 -9020571.48 0.0089 0.0044

Jupiter -29410-01-09 17:16 J -9020570.86 -9020570.78 -9020570.70 0.0521 0.0419

Pluto -29410-01-20 02:09 J -9020560.55 -9020560.41 -9020560.26 0.0071 0.0036

Neptune -29410-04-06 22:47 J -9020483.65 -9020483.55 -9020483.42 0.0089 0.0051

Pluto -29410-04-18 03:50 J -9020472.47 -9020472.34 -9020472.21 0.0071 0.0044

Neptune -29410-07-04 00:28 J -9020395.58 -9020395.48 -9020395.37 0.0089 0.0058

Pluto -29410-07-15 05:02 J -9020384.39 -9020384.29 -9020384.16 0.0071 0.0051

Neptune -29410-09-30 01:55 J -9020307.50 -9020307.42 -9020307.31 0.0089 0.0066

Pluto -29410-10-11 06:43 J -9020296.30 -9020296.22 -9020296.11 0.0071 0.0059

Neptune -29410-12-27 03:35 J -9020219.42 -9020219.35 -9020219.26 0.0089 0.0072

Pluto -29409-01-07 08:38 J -9020208.20 -9020208.14 -9020208.08 0.0072 0.0066

Neptune -29409-03-24 05:16 J -9020131.33 -9020131.28 -9020131.21 0.0089 0.0079

Neptune -29409-06-20 06:57 J -9020043.24 -9020043.21 -9020043.17 0.0089 0.0087

Moon -29407-05-27 08:09 J -9019337.25 -9019337.16 -9019337.07 0.2675 0.1797

Earth -29407-05-27 08:23 J -9019337.24 -9019337.15 -9019337.05 0.2681 0.1714 *

Jupiter -29404-03-10 07:26 J -9018319.36 -9018319.19 -9018319.03 0.0504 0.0111

Mars -29404-10-05 09:21 J -9018110.19 -9018110.11 -9018110.03 0.1744 0.1300

Moon -29404-12-04 21:35 J -9018049.73 -9018049.60 -9018049.46 0.2661 0.0589

Earth -29404-12-04 22:04 J -9018049.72 -9018049.58 -9018049.45 0.2655 0.0635 *

Mars -29403-08-18 09:07 J -9017793.27 -9017793.12 -9017792.97 0.1767 0.0550

Mars -29402-09-10 20:38 J -9017404.73 -9017404.64 -9017404.55 0.1767 0.1175

Moon -29401-06-05 12:57 J -9017136.03 -9017135.96 -9017135.89 0.2681 0.2194

Earth -29401-06-05 12:57 J -9017136.03 -9017135.96 -9017135.90 0.2674 0.2228 *

Saturn -29401-11-24 17:02 J -9016963.89 -9016963.79 -9016963.69 0.0268 0.0184

Saturn -29400-02-21 04:19 J -9016875.45 -9016875.32 -9016875.18 0.0268 0.0081

Saturn -29400-05-20 16:04 J -9016786.97 -9016786.83 -9016786.68 0.0267 0.0027

Saturn -29400-08-17 04:04 J -9016698.46 -9016698.33 -9016698.21 0.0267 0.0132

Saturn -29400-11-13 15:50 J -9016609.89 -9016609.84 -9016609.77 0.0267 0.0242

Jupiter -29399-07-31 11:59 J -9016350.10 -9016350.00 -9016349.90 0.0526 0.0324

Jupiter -29399-10-28 20:38 J -9016260.75 -9016260.64 -9016260.52 0.0522 0.0271

Moon -29394-05-30 03:50 J -9014586.46 -9014586.34 -9014586.23 0.2678 0.0721

Earth -29394-05-30 04:33 J -9014586.42 -9014586.31 -9014586.19 0.2680 0.0714 *

Uranus -29394-11-19 10:33 J -9014413.10 -9014413.06 -9014413.00 0.0144 0.0134

Mars -29393-01-08 08:38 J -9014363.21 -9014363.14 -9014363.06 0.1774 0.1542

Venus -29393-02-14 20:52 J -9014325.71 -9014325.63 -9014325.55 0.3781 0.2406

Uranus -29393-02-15 14:52 J -9014324.96 -9014324.88 -9014324.79 0.0144 0.0111

Uranus -29393-05-13 18:57 J -9014236.81 -9014236.71 -9014236.59 0.0144 0.0088

Uranus -29393-08-09 23:16 J -9014148.65 -9014148.53 -9014148.40 0.0144 0.0064

Uranus -29393-11-06 03:35 J -9014060.48 -9014060.35 -9014060.21 0.0144 0.0040

Jupiter -29393-12-27 05:45 J -9014009.43 -9014009.26 -9014009.09 0.0503 0.0069

Mars -29392-01-31 05:45 J -9013974.38 -9013974.26 -9013974.15 0.1761 0.0550

Uranus -29392-02-02 07:55 J -9013972.31 -9013972.17 -9013972.03 0.0144 0.0017

Uranus -29392-05-01 12:14 J -9013884.13 -9013883.99 -9013883.84 0.0144 0.0008

Uranus -29392-07-28 16:33 J -9013795.94 -9013795.81 -9013795.66 0.0144 0.0032

Uranus -29392-10-24 21:07 J -9013707.75 -9013707.62 -9013707.49 0.0144 0.0056

Uranus -29391-01-21 01:26 J -9013619.55 -9013619.44 -9013619.31 0.0144 0.0081

Uranus -29391-04-19 05:59 J -9013531.34 -9013531.25 -9013531.15 0.0145 0.0106

Uranus -29391-07-16 10:19 J -9013443.12 -9013443.07 -9013443.00 0.0145 0.0132

Earth -29391-12-07 22:04 J -9013298.67 -9013298.58 -9013298.49 0.2657 0.1882

Moon -29391-12-07 22:33 J -9013298.65 -9013298.56 -9013298.47 0.2664 0.1994 *

Venus -29388-08-30 14:23 J -9012302.01 -9012301.90 -9012301.79 0.3780 0.0278

Jupiter -29387-05-19 15:50 J -9012039.90 -9012039.84 -9012039.78 0.0527 0.0463

Jupiter -29387-08-17 00:28 J -9011950.61 -9011950.48 -9011950.35 0.0523 0.0130

Saturn -29386-12-25 01:55 J -9011455.56 -9011455.42 -9011455.27 0.0292 0.0148

Saturn -29385-03-22 22:47 J -9011366.71 -9011366.55 -9011366.38 0.0292 0.0023

Saturn -29385-06-19 19:11 J -9011277.82 -9011277.70 -9011277.56 0.0292 0.0187

Venus -29384-08-30 12:28 J -9010841.12 -9010840.98 -9010840.84 0.3595 0.0148

Moon -29384-11-30 01:11 J -9010749.54 -9010749.45 -9010749.35 0.2652 0.1933

Earth -29384-11-30 02:23 J -9010749.50 -9010749.40 -9010749.29 0.2652 0.1754 *

Mars -29383-06-23 14:38 J -9010544.01 -9010543.89 -9010543.77 0.1755 0.0081

Venus -29382-03-16 07:55 J -9010278.23 -9010278.17 -9010278.11 0.3780 0.3010

Mars -29382-05-07 08:38 J -9010226.23 -9010226.14 -9010226.05 0.1755 0.1418

Moon -29381-05-31 23:59 J -9009835.62 -9009835.50 -9009835.38 0.2680 0.0226

Earth -29381-06-01 00:57 J -9009835.58 -9009835.46 -9009835.34 0.2678 0.0314 *

Jupiter -29381-10-15 04:33 J -9009699.46 -9009699.31 -9009699.16 0.0503 0.0242

Jupiter -29380-01-13 07:11 J -9009609.27 -9009609.20 -9009609.13 0.0506 0.0453

Jupiter -29375-06-05 04:19 J -9007640.45 -9007640.32 -9007640.18 0.0524 0.0016

Earth -29374-05-25 17:45 J -9007285.80 -9007285.76 -9007285.72 0.2683 0.2501

Moon -29374-05-25 17:59 J -9007285.79 -9007285.75 -9007285.72 0.2676 0.2521 *

Mars -29374-11-13 23:59 J -9007113.61 -9007113.50 -9007113.39 0.1749 0.0659

Mars -29373-09-26 09:07 J -9006796.27 -9006796.12 -9006795.97 0.1761 0.0506

Saturn -29371-04-13 17:59 J -9006231.82 -9006231.75 -9006231.67 0.0268 0.0223

Saturn -29371-07-11 05:31 J -9006143.39 -9006143.27 -9006143.14 0.0267 0.0120

Saturn -29371-10-07 17:16 J -9006054.92 -9006054.78 -9006054.64 0.0267 0.0017

Moon -29371-12-03 02:09 J -9005998.54 -9005998.41 -9005998.27 0.2657 0.0473

Earth -29371-12-03 03:21 J -9005998.50 -9005998.36 -9005998.23 0.2653 0.0430 *

Saturn -29370-01-04 04:47 J -9005966.43 -9005966.30 -9005966.16 0.0267 0.0092

Saturn -29370-04-02 17:02 J -9005877.89 -9005877.79 -9005877.70 0.0267 0.0199

Jupiter -29369-08-03 03:07 J -9005389.46 -9005389.37 -9005389.26 0.0502 0.0416

Jupiter -29369-11-01 06:28 J -9005299.37 -9005299.23 -9005299.09 0.0505 0.0285

Moon -29368-06-03 20:52 J -9005084.73 -9005084.63 -9005084.52 0.2683 0.1336

Earth -29368-06-03 21:21 J -9005084.71 -9005084.61 -9005084.50 0.2676 0.1359 *

Mars -29364-04-05 09:21 J -9003683.19 -9003683.11 -9003683.02 0.1744 0.1230

Mars -29363-02-16 09:35 J -9003366.26 -9003366.10 -9003365.95 0.1768 0.0446

Jupiter -29363-03-24 08:09 J -9003330.29 -9003330.16 -9003330.03 0.0525 0.0152

Jupiter -29363-06-21 17:02 J -9003240.86 -9003240.79 -9003240.72 0.0521 0.0444

Mars -29362-03-11 20:52 J -9002977.71 -9002977.63 -9002977.54 0.1767 0.1251

Moon -29361-05-27 13:11 J -9002535.05 -9002534.95 -9002534.85 0.2676 0.1499

Earth -29361-05-27 13:40 J -9002535.03 -9002534.93 -9002534.83 0.2681 0.1526 *

Moon -29358-12-06 03:35 J -9001247.48 -9001247.35 -9001247.22 0.2662 0.0858

Earth -29358-12-06 03:35 J -9001247.48 -9001247.35 -9001247.22 0.2655 0.0869 *

Jupiter -29357-08-20 06:14 J -9000989.41 -9000989.24 -9000989.08 0.0504 0.0123

Saturn -29356-05-12 22:33 J -9000723.67 -9000723.56 -9000723.44 0.0292 0.0216

Saturn -29356-08-09 19:40 J -9000634.84 -9000634.68 -9000634.51 0.0292 0.0046

Saturn -29356-11-06 16:33 J -9000545.96 -9000545.81 -9000545.66 0.0292 0.0123

Saturn -29355-02-03 12:28 J -9000457.00 -9000456.98 -9000456.94 0.0292 0.0287

Earth -29355-06-06 17:59 J -9000333.79 -9000333.75 -9000333.70 0.2674 0.2434

Moon -29355-06-06 18:28 J -9000333.77 -9000333.73 -9000333.69 0.2680 0.2495 *

Mars -29354-07-09 09:21 J -8999936.20 -8999936.11 -8999936.01 0.1774 0.1428

Uranus -29353-01-05 03:07 J -8999756.39 -8999756.37 -8999756.35 0.0135 0.0133

Uranus -29353-04-02 08:52 J -8999668.22 -8999668.13 -8999668.02 0.0135 0.0109

Uranus -29353-06-29 14:52 J -8999580.01 -8999579.88 -8999579.74 0.0135 0.0084

Mars -29353-08-01 05:45 J -8999547.38 -8999547.26 -8999547.15 0.1761 0.0619

Uranus -29353-09-25 20:38 J -8999491.79 -8999491.64 -8999491.48 0.0135 0.0060

Uranus -29353-12-23 02:38 J -8999403.56 -8999403.39 -8999403.22 0.0134 0.0036

Uranus -29352-03-21 08:09 J -8999315.33 -8999315.16 -8999314.98 0.0134 0.0013

Uranus -29352-06-17 13:55 J -8999227.09 -8999226.92 -8999226.75 0.0134 0.0012

Uranus -29352-09-13 19:26 J -8999138.85 -8999138.69 -8999138.52 0.0134 0.0035

Uranus -29352-12-11 01:11 J -8999050.61 -8999050.45 -8999050.30 0.0134 0.0058

Jupiter -29351-01-10 10:47 J -8999020.15 -8999020.05 -8999019.94 0.0525 0.0314

Uranus -29351-03-09 06:43 J -8998962.36 -8998962.22 -8998962.08 0.0134 0.0081

Jupiter -29351-04-09 19:26 J -8998930.80 -8998930.69 -8998930.57 0.0522 0.0281

Uranus -29351-06-05 11:59 J -8998874.10 -8998874.00 -8998873.89 0.0134 0.0104

Uranus -29351-09-01 17:31 J -8998785.82 -8998785.77 -8998785.71 0.0134 0.0126

Moon -29348-05-30 08:52 J -8997784.25 -8997784.13 -8997784.01 0.2677 0.0671

Earth -29348-05-30 09:50 J -8997784.21 -8997784.09 -8997783.98 0.2679 0.0526 *

Jupiter -29345-06-08 05:16 J -8996679.45 -8996679.28 -8996679.10 0.0504 0.0047

Earth -29345-12-08 03:50 J -8996496.42 -8996496.34 -8996496.26 0.2657 0.2113

Moon -29345-12-08 04:19 J -8996496.40 -8996496.32 -8996496.24 0.2663 0.2113 *

Mars -29344-12-22 14:38 J -8996117.01 -8996116.89 -8996116.77 0.1755 0.0023

Mars -29343-11-05 09:07 J -8995799.19 -8995799.12 -8995799.04 0.1755 0.1521

Saturn -29342-08-31 21:07 J -8995499.67 -8995499.62 -8995499.57 0.0268 0.0247

Saturn -29342-11-28 08:23 J -8995411.27 -8995411.15 -8995411.03 0.0268 0.0144

Saturn -29341-02-24 19:55 J -8995322.81 -8995322.67 -8995322.53 0.0268 0.0040

Saturn -29341-05-23 07:40 J -8995234.31 -8995234.18 -8995234.04 0.0267 0.0067

Saturn -29341-08-19 19:40 J -8995145.79 -8995145.68 -8995145.57 0.0267 0.0174

Jupiter -29340-10-29 14:23 J -8994709.96 -8994709.90 -8994709.84 0.0526 0.0460

Jupiter -29339-01-26 23:02 J -8994620.67 -8994620.54 -8994620.41 0.0523 0.0133

Moon -29338-12-01 06:57 J -8993947.32 -8993947.21 -8993947.10 0.2654 0.1521

Earth -29338-12-01 08:09 J -8993947.27 -8993947.16 -8993947.04 0.2652 0.1512 *

Venus -29337-09-20 18:43 J -8993652.82 -8993652.72 -8993652.62 0.3780 0.1433

Moon -29335-06-02 05:16 J -8993033.40 -8993033.28 -8993033.16 0.2681 0.0505

Earth -29335-06-02 05:59 J -8993033.37 -8993033.25 -8993033.13 0.2678 0.0512 *

Mars -29334-05-14 23:59 J -8992686.61 -8992686.50 -8992686.39 0.1749 0.0584

Jupiter -29333-03-27 03:35 J -8992369.50 -8992369.35 -8992369.20 0.0503 0.0226

Mars -29333-03-27 09:50 J -8992369.23 -8992369.09 -8992368.94 0.1761 0.0612 *

Jupiter -29333-06-25 06:14 J -8992279.30 -8992279.24 -8992279.18 0.0506 0.0468

Venus -29333-09-20 11:02 J -8992192.13 -8992192.04 -8992191.95 0.3595 0.2708

Neptune -29332-12-01 08:38 J -8991755.16 -8991755.14 -8991755.08 0.0088 0.0086

Neptune -29331-02-27 11:45 J -8991667.08 -8991667.01 -8991666.90 0.0088 0.0077

Venus -29331-04-06 12:14 J -8991629.09 -8991628.99 -8991628.89 0.3780 0.1260

Neptune -29331-05-26 14:52 J -8991578.97 -8991578.88 -8991578.74 0.0088 0.0068

Neptune -29331-08-22 18:14 J -8991490.86 -8991490.74 -8991490.59 0.0088 0.0059

Neptune -29331-11-18 21:21 J -8991402.75 -8991402.61 -8991402.44 0.0088 0.0050

Neptune -29330-02-15 00:28 J -8991314.63 -8991314.48 -8991314.30 0.0088 0.0041

Neptune -29330-05-14 03:35 J -8991226.51 -8991226.35 -8991226.17 0.0088 0.0032

Neptune -29330-08-10 06:43 J -8991138.39 -8991138.22 -8991138.03 0.0088 0.0023

Neptune -29330-11-06 09:50 J -8991050.26 -8991050.09 -8991049.90 0.0088 0.0014

Neptune -29329-02-02 13:11 J -8990962.14 -8990961.95 -8990961.77 0.0088 0.0005

Neptune -29329-04-30 16:04 J -8990874.01 -8990873.83 -8990873.64 0.0088 0.0004

Neptune -29329-07-27 19:11 J -8990785.88 -8990785.70 -8990785.52 0.0088 0.0013

Pluto -29329-08-09 11:16 J -8990773.06 -8990773.03 -8990772.96 0.0075 0.0071

Neptune -29329-10-23 22:04 J -8990697.75 -8990697.58 -8990697.40 0.0088 0.0022

Pluto -29329-11-05 12:43 J -8990685.04 -8990684.97 -8990684.87 0.0075 0.0063

Neptune -29328-01-20 00:57 J -8990609.62 -8990609.46 -8990609.28 0.0088 0.0030

Pluto -29328-02-01 14:09 J -8990597.00 -8990596.91 -8990596.80 0.0075 0.0055

Neptune -29328-04-18 03:50 J -8990521.49 -8990521.34 -8990521.16 0.0088 0.0039

Pluto -29328-04-30 15:35 J -8990508.96 -8990508.85 -8990508.73 0.0075 0.0047

Earth -29328-05-25 22:47 J -8990483.61 -8990483.55 -8990483.49 0.2683 0.2323

Moon -29328-05-25 23:02 J -8990483.60 -8990483.54 -8990483.48 0.2676 0.2278 *

Neptune -29328-07-15 07:11 J -8990433.35 -8990433.20 -8990433.05 0.0088 0.0048

Pluto -29328-07-27 16:47 J -8990420.92 -8990420.80 -8990420.66 0.0074 0.0040

Neptune -29328-10-11 09:50 J -8990345.22 -8990345.09 -8990344.94 0.0088 0.0056

Pluto -29328-10-23 18:14 J -8990332.87 -8990332.74 -8990332.60 0.0074 0.0032

Jupiter -29328-11-15 02:38 J -8990310.52 -8990310.39 -8990310.25 0.0524 0.0014

Neptune -29327-01-07 12:43 J -8990257.08 -8990256.97 -8990256.83 0.0088 0.0065

Pluto -29327-01-19 19:26 J -8990244.82 -8990244.69 -8990244.54 0.0074 0.0024

Neptune -29327-04-05 15:50 J -8990168.93 -8990168.84 -8990168.73 0.0088 0.0073

Venus -29327-04-06 12:28 J -8990168.10 -8990167.98 -8990167.86 0.3595 0.1699

Pluto -29327-04-17 20:52 J -8990156.77 -8990156.63 -8990156.48 0.0074 0.0016

Neptune -29327-07-02 18:28 J -8990080.77 -8990080.73 -8990080.65 0.0088 0.0082

Pluto -29327-07-14 22:19 J -8990068.72 -8990068.57 -8990068.42 0.0074 0.0009

Saturn -29327-09-29 22:04 J -8989991.65 -8989991.58 -8989991.50 0.0292 0.0264

Pluto -29327-10-10 23:31 J -8989980.67 -8989980.52 -8989980.37 0.0074 0.0002

Saturn -29327-12-27 19:26 J -8989902.85 -8989902.69 -8989902.53 0.0292 0.0092

Pluto -29326-01-07 00:43 J -8989892.62 -8989892.47 -8989892.32 0.0074 0.0006

Saturn -29326-03-26 16:19 J -8989813.98 -8989813.82 -8989813.66 0.0292 0.0077

Pluto -29326-04-05 01:55 J -8989804.56 -8989804.42 -8989804.27 0.0074 0.0013

Saturn -29326-06-23 12:28 J -8989725.07 -8989724.98 -8989724.88 0.0292 0.0242

Pluto -29326-07-02 03:07 J -8989716.51 -8989716.37 -8989716.22 0.0073 0.0020

Pluto -29326-09-28 04:19 J -8989628.45 -8989628.32 -8989628.17 0.0073 0.0028

Pluto -29326-12-25 05:31 J -8989540.39 -8989540.27 -8989540.13 0.0073 0.0035

Pluto -29325-03-22 06:43 J -8989452.34 -8989452.22 -8989452.09 0.0073 0.0041

Pluto -29325-06-18 07:55 J -8989364.27 -8989364.17 -8989364.05 0.0073 0.0048

Pluto -29325-09-14 09:07 J -8989276.21 -8989276.12 -8989276.02 0.0073 0.0055

Mars -29325-10-04 09:21 J -8989256.20 -8989256.11 -8989256.02 0.1744 0.1162

Moon -29325-12-03 08:09 J -8989196.30 -8989196.16 -8989196.02 0.2658 0.0306

Earth -29325-12-03 09:07 J -8989196.26 -8989196.12 -8989195.99 0.2654 0.0193 *

Pluto -29325-12-11 10:19 J -8989188.14 -8989188.07 -8989187.99 0.0073 0.0062

Pluto -29324-03-09 11:16 J -8989100.06 -8989100.03 -8989099.97 0.0073 0.0069

Mars -29324-08-17 10:04 J -8988939.23 -8988939.08 -8988938.92 0.1767 0.0339

Mars -29323-09-09 20:52 J -8988550.71 -8988550.63 -8988550.55 0.1767 0.1327

Moon -29322-06-05 02:23 J -8988282.50 -8988282.40 -8988282.31 0.2682 0.1524

Earth -29322-06-05 02:38 J -8988282.49 -8988282.39 -8988282.29 0.2676 0.1563 *

Jupiter -29321-01-14 02:09 J -8988059.51 -8988059.41 -8988059.30 0.0502 0.0400

Jupiter -29321-04-13 05:16 J -8987969.41 -8987969.28 -8987969.14 0.0505 0.0298

Jupiter -29316-09-03 06:43 J -8986000.35 -8986000.22 -8986000.09 0.0525 0.0149

Jupiter -29316-12-01 15:35 J -8985910.92 -8985910.85 -8985910.78 0.0521 0.0447

Mars -29315-02-24 18:57 J -8985825.72 -8985825.71 -8985825.70 0.1738 0.1721

Moon -29315-05-28 18:14 J -8985732.84 -8985732.74 -8985732.64 0.2676 0.1433

Earth -29315-05-28 18:43 J -8985732.82 -8985732.72 -8985732.61 0.2681 0.1340 *

Mars -29314-01-07 09:50 J -8985509.20 -8985509.09 -8985508.99 0.1774 0.1332

Mars -29313-01-31 05:45 J -8985120.37 -8985120.26 -8985120.15 0.1761 0.0690

Saturn -29312-04-16 09:50 J -8984679.19 -8984679.09 -8984678.99 0.0268 0.0181

Saturn -29312-07-13 21:21 J -8984590.75 -8984590.61 -8984590.48 0.0267 0.0078

Saturn -29312-10-10 08:52 J -8984502.27 -8984502.13 -8984501.98 0.0267 0.0029

Moon -29312-12-06 09:21 J -8984445.23 -8984445.11 -8984444.99 0.2663 0.1131

Earth -29312-12-06 09:21 J -8984445.23 -8984445.11 -8984444.98 0.2656 0.1101 *

Saturn -29311-01-06 20:52 J -8984413.76 -8984413.63 -8984413.51 0.0267 0.0134

Saturn -29311-04-05 08:52 J -8984325.19 -8984325.13 -8984325.07 0.0267 0.0243

Uranus -29310-12-09 17:31 J -8983711.82 -8983711.77 -8983711.70 0.0144 0.0129

Jupiter -29309-01-31 04:19 J -8983659.48 -8983659.32 -8983659.15 0.0504 0.0129

Uranus -29309-03-06 21:35 J -8983623.68 -8983623.60 -8983623.50 0.0144 0.0107

Uranus -29309-06-03 01:55 J -8983535.53 -8983535.42 -8983535.30 0.0144 0.0083

Earth -29309-06-06 23:31 J -8983531.54 -8983531.52 -8983531.51 0.2674 0.2643

Uranus -29309-08-30 06:14 J -8983447.37 -8983447.24 -8983447.11 0.0144 0.0060

Uranus -29309-11-26 10:33 J -8983359.20 -8983359.06 -8983358.92 0.0144 0.0036

Uranus -29308-02-22 14:52 J -8983271.02 -8983270.88 -8983270.74 0.0144 0.0012

Uranus -29308-05-21 19:11 J -8983182.84 -8983182.70 -8983182.56 0.0144 0.0012

Uranus -29308-08-17 23:31 J -8983094.66 -8983094.52 -8983094.38 0.0144 0.0037

Uranus -29308-11-14 03:50 J -8983006.46 -8983006.34 -8983006.20 0.0144 0.0062

Uranus -29307-02-10 08:09 J -8982918.26 -8982918.16 -8982918.03 0.0144 0.0087

Uranus -29307-05-09 12:57 J -8982830.05 -8982829.96 -8982829.87 0.0145 0.0111

Uranus -29307-08-05 17:16 J -8982741.82 -8982741.78 -8982741.72 0.0145 0.0137

Moon -29305-11-28 11:59 J -8981896.01 -8981896.00 -8981896.00 0.2648 0.2644

Earth -29305-11-28 12:57 J -8981895.97 -8981895.96 -8981895.94 0.2651 0.2624

Jupiter -29304-06-22 10:33 J -8981690.17 -8981690.06 -8981689.95 0.0526 0.0291

Mars -29304-06-22 14:38 J -8981690.01 -8981689.89 -8981689.76 0.1755 0.0102 *

Jupiter -29304-09-19 19:11 J -8981600.81 -8981600.70 -8981600.59 0.0522 0.0303

Mars -29303-05-06 09:35 J -8981372.16 -8981372.10 -8981372.05 0.1755 0.1613

Moon	-29302-05-31 14:09 J	-8980982.03	-8980981.91	-8980981.79	0.2677	0.0337
Earth	-29302-05-31 14:52 J	-8980982.00	-8980981.88	-8980981.76	0.2679	0.0337 *
Earth	-29299-12-09 09:21 J	-8979694.17	-8979694.11	-8979694.05	0.2657	0.2339
Moon	-29299-12-09 10:04 J	-8979694.13	-8979694.08	-8979694.03	0.2662	0.2422 *
Jupiter	-29298-11-19 04:04 J	-8979349.50	-8979349.33	-8979349.16	0.0504	0.0036
Saturn	-29297-05-15 15:50 J	-8979170.98	-8979170.84	-8979170.69	0.0292	0.0161
Saturn	-29297-08-12 12:57 J	-8979082.13	-8979081.96	-8979081.79	0.0292	0.0012
Saturn	-29297-11-09 09:35 J	-8978993.23	-8978993.10	-8978992.96	0.0292	0.0176
Mars	-29295-11-12 23:59 J	-8978259.62	-8978259.50	-8978259.39	0.1749	0.0525
Mars	-29294-09-26 10:33 J	-8977942.21	-8977942.06	-8977941.92	0.1761	0.0719
Jupiter	-29292-04-10 13:11 J	-8977380.01	-8977379.95	-8977379.88	0.0526	0.0451
Jupiter	-29292-07-08 21:50 J	-8977290.72	-8977290.59	-8977290.46	0.0523	0.0141
Moon	-29292-12-01 12:43 J	-8977145.08	-8977144.97	-8977144.85	0.2654	0.1456
Earth	-29292-12-01 14:09 J	-8977145.03	-8977144.91	-8977144.79	0.2652	0.1260 *
Moon	-29289-06-02 10:33 J	-8976231.18	-8976231.06	-8976230.94	0.2682	0.0576
Earth	-29289-06-02 11:16 J	-8976231.15	-8976231.03	-8976230.91	0.2677	0.0705 *
Jupiter	-29286-09-07 03:07 J	-8975039.53	-8975039.37	-8975039.21	0.0503	0.0205
Venus	-29286-10-12 23:16 J	-8975003.59	-8975003.53	-8975003.47	0.3781	0.3098
Jupiter	-29286-12-06 05:45 J	-8974949.30	-8974949.26	-8974949.22	0.0506	0.0490
Mars	-29285-04-04 09:21 J	-8974829.20	-8974829.11	-8974829.02	0.1744	0.1093
Mars	-29284-02-15 10:47 J	-8974512.21	-8974512.05	-8974511.89	0.1767	0.0229
Mars	-29283-03-10 20:52 J	-8974123.70	-8974123.63	-8974123.56	0.1767	0.1391
Saturn	-29283-09-03 12:43 J	-8973947.06	-8973946.97	-8973946.88	0.0268	0.0206
Saturn	-29283-12-01 00:14 J	-8973858.62	-8973858.49	-8973858.36	0.0268	0.0103
Saturn	-29282-02-27 11:45 J	-8973770.15	-8973770.01	-8973769.87	0.0268	0.0005
Saturn	-29282-05-26 23:31 J	-8973681.65	-8973681.52	-8973681.39	0.0267	0.0110
Moon	-29282-05-27 03:50 J	-8973681.41	-8973681.34	-8973681.26	0.2676	0.2140 *
Earth	-29282-05-27 03:50 J	-8973681.41	-8973681.34	-8973681.27	0.2682	0.2141 *
Saturn	-29282-08-23 11:31 J	-8973593.10	-8973593.02	-8973592.94	0.0267	0.0218
Jupiter	-29280-04-27 01:11 J	-8972980.59	-8972980.45	-8972980.32	0.0524	0.0010

Venus -29280-04-27 16:33 J -8972979.91 -8972979.81 -8972979.70 0.3780 0.0470

Moon -29279-12-04 14:09 J -8972394.05 -8972393.91 -8972393.78 0.2660 0.0087

Earth -29279-12-04 14:52 J -8972394.02 -8972393.88 -8972393.75 0.2654 0.0105 *

Venus -29276-04-27 11:16 J -8971519.16 -8971519.03 -8971518.90 0.3595 0.1098

Moon -29276-06-05 07:40 J -8971480.27 -8971480.18 -8971480.09 0.2682 0.1790

Earth -29276-06-05 07:55 J -8971480.26 -8971480.17 -8971480.08 0.2675 0.1763 *

Mars -29276-08-25 18:57 J -8971398.74 -8971398.71 -8971398.68 0.1738 0.1652

Mars -29275-07-08 10:19 J -8971082.18 -8971082.07 -8971081.95 0.1774 0.1223

Venus -29275-11-11 10:04 J -8970956.16 -8970956.08 -8970955.99 0.3780 0.2271

Jupiter -29274-06-26 00:57 J -8970729.56 -8970729.46 -8970729.34 0.0502 0.0387

Mars -29274-08-01 05:45 J -8970693.37 -8970693.26 -8970693.15 0.1761 0.0766

Jupiter -29274-09-24 04:19 J -8970639.46 -8970639.32 -8970639.19 0.0505 0.0312

Venus -29271-11-11 12:28 J -8969495.03 -8969494.98 -8969494.92 0.3595 0.3253

Uranus -29269-01-25 09:35 J -8969055.14 -8969055.10 -8969055.04 0.0135 0.0128

Uranus -29269-04-22 15:21 J -8968966.95 -8968966.86 -8968966.73 0.0135 0.0104

Moon -29269-05-28 23:16 J -8968930.64 -8968930.53 -8968930.42 0.2676 0.1173

Earth -29269-05-28 23:59 J -8968930.61 -8968930.50 -8968930.40 0.2681 0.1153 *

Uranus -29269-07-19 21:35 J -8968878.74 -8968878.60 -8968878.46 0.0135 0.0079

Uranus -29269-10-16 03:21 J -8968790.52 -8968790.36 -8968790.20 0.0134 0.0055

Uranus -29268-01-12 09:07 J -8968702.28 -8968702.12 -8968701.95 0.0134 0.0031

Jupiter -29268-02-13 04:47 J -8968670.42 -8968670.30 -8968670.17 0.0525 0.0152

Uranus -29268-04-10 14:52 J -8968614.05 -8968613.88 -8968613.70 0.0134 0.0007

Jupiter -29268-05-13 13:55 J -8968580.99 -8968580.92 -8968580.86 0.0522 0.0446

Uranus -29268-07-07 20:38 J -8968525.81 -8968525.64 -8968525.47 0.0134 0.0017

Saturn -29268-10-02 16:04 J -8968438.95 -8968438.83 -8968438.70 0.0292 0.0205

Uranus -29268-10-04 02:09 J -8968437.57 -8968437.41 -8968437.24 0.0134 0.0040

Saturn -29268-12-30 13:26 J -8968350.11 -8968349.94 -8968349.77 0.0292 0.0034

Uranus -29268-12-31 07:40 J -8968349.32 -8968349.18 -8968349.02 0.0134 0.0063

Saturn -29267-03-29 10:04 J -8968261.23 -8968261.08 -8968260.93 0.0293 0.0135

Uranus -29267-03-29 13:11 J -8968261.07 -8968260.95 -8968260.81 0.0134 0.0086 *

Uranus -29267-06-25 18:28 J -8968172.81 -8968172.73 -8968172.62 0.0134 0.0109

Uranus -29267-09-22 00:14 J -8968084.52 -8968084.49 -8968084.46 0.0134 0.0131

Moon -29266-12-07 15:07 J -8967642.99 -8967642.87 -8967642.75 0.2663 0.1303

Earth -29266-12-07 15:07 J -8967642.99 -8967642.87 -8967642.75 0.2656 0.1335 *

Mars -29265-12-21 14:38 J -8967263.01 -8967262.89 -8967262.76 0.1755 0.0163

Mars -29264-11-04 10:04 J -8966945.11 -8966945.08 -8966945.05 0.1755 0.1716

Jupiter -29262-07-13 03:07 J -8966329.53 -8966329.37 -8966329.20 0.0504 0.0140

Moon -29259-11-29 17:31 J -8965093.81 -8965093.77 -8965093.72 0.2649 0.2504

Earth -29259-11-29 18:57 J -8965093.77 -8965093.71 -8965093.65 0.2651 0.2372 *

Jupiter -29257-12-02 08:52 J -8964360.24 -8964360.13 -8964360.02 0.0526 0.0290

Jupiter -29256-03-01 17:31 J -8964270.88 -8964270.77 -8964270.66 0.0522 0.0305

Moon -29256-05-31 19:11 J -8964179.82 -8964179.70 -8964179.58 0.2679 0.0278

Earth -29256-05-31 20:09 J -8964179.78 -8964179.66 -8964179.54 0.2679 0.0146 *

Mars -29255-05-13 23:59 J -8963832.62 -8963832.50 -8963832.38 0.1749 0.0447

Mars -29254-03-27 10:47 J -8963515.18 -8963515.05 -8963514.91 0.1761 0.0817

Saturn -29253-01-21 14:23 J -8963214.95 -8963214.90 -8963214.84 0.0268 0.0240

Saturn -29253-04-19 01:40 J -8963126.54 -8963126.43 -8963126.30 0.0267 0.0138

Saturn -29253-07-16 13:26 J -8963038.08 -8963037.94 -8963037.80 0.0267 0.0033

Saturn -29253-10-13 01:11 J -8962949.59 -8962949.45 -8962949.32 0.0267 0.0073

Earth -29253-12-09 15:07 J -8962891.90 -8962891.87 -8962891.84 0.2658 0.2570

Moon -29253-12-09 16:04 J -8962891.84 -8962891.83 -8962891.83 0.2662 0.2660 *

Saturn -29252-01-09 12:57 J -8962861.06 -8962860.96 -8962860.85 0.0267 0.0181

Neptune -29250-03-07 16:33 J -8962073.85 -8962073.81 -8962073.76 0.0089 0.0084

Jupiter -29250-05-01 02:09 J -8962019.59 -8962019.41 -8962019.24 0.0504 0.0034

Neptune -29250-06-03 17:45 J -8961985.82 -8961985.76 -8961985.68 0.0089 0.0077

Neptune -29250-08-30 19:11 J -8961897.77 -8961897.70 -8961897.60 0.0089 0.0070

Neptune -29250-11-26 20:52 J -8961809.72 -8961809.63 -8961809.53 0.0089 0.0063

Neptune -29249-02-22 22:19 J -8961721.67 -8961721.57 -8961721.46 0.0089 0.0057

Neptune -29249-05-20 23:59 J -8961633.61 -8961633.50 -8961633.39 0.0089 0.0050

Neptune -29249-08-17 01:26 J -8961545.56 -8961545.44 -8961545.32 0.0089 0.0043

Neptune -29249-11-13 02:38 J -8961457.50 -8961457.39 -8961457.25 0.0089 0.0037

Neptune -29248-02-09 04:19 J -8961369.44 -8961369.32 -8961369.18 0.0089 0.0029

Neptune -29248-05-08 05:45 J -8961281.38 -8961281.26 -8961281.12 0.0089 0.0023

Neptune -29248-08-04 07:26 J -8961193.32 -8961193.19 -8961193.05 0.0089 0.0015

Neptune -29248-10-31 08:52 J -8961105.26 -8961105.13 -8961104.99 0.0089 0.0009

Neptune -29247-01-27 10:33 J -8961017.20 -8961017.06 -8961016.92 0.0089 0.0001

Neptune -29247-04-25 11:59 J -8960929.14 -8960929.00 -8960928.86 0.0089 0.0006

Neptune -29247-07-22 13:40 J -8960841.07 -8960840.93 -8960840.79 0.0089 0.0013

Neptune -29247-10-18 15:07 J -8960753.00 -8960752.87 -8960752.73 0.0089 0.0020

Neptune -29246-01-14 16:33 J -8960664.94 -8960664.81 -8960664.67 0.0089 0.0027

Neptune -29246-04-12 18:14 J -8960576.87 -8960576.74 -8960576.61 0.0089 0.0034

Neptune -29246-07-09 19:40 J -8960488.80 -8960488.68 -8960488.55 0.0089 0.0041

Mars -29246-10-04 09:21 J -8960402.21 -8960402.11 -8960402.01 0.1743 0.1026

Neptune -29246-10-05 21:21 J -8960400.72 -8960400.61 -8960400.49 0.0089 0.0048

Moon -29246-12-02 18:43 J -8960342.85 -8960342.72 -8960342.59 0.2654 0.1031

Earth -29246-12-02 19:55 J -8960342.80 -8960342.67 -8960342.54 0.2653 0.1017 *

Neptune -29245-01-01 22:47 J -8960312.65 -8960312.55 -8960312.43 0.0089 0.0056

Neptune -29245-03-30 00:28 J -8960224.57 -8960224.48 -8960224.38 0.0089 0.0063

Neptune -29245-06-26 01:55 J -8960136.49 -8960136.42 -8960136.32 0.0089 0.0070

Mars -29245-08-16 11:02 J -8960085.19 -8960085.04 -8960084.88 0.1768 0.0139

Jupiter -29245-09-20 12:43 J -8960050.04 -8960049.97 -8960049.89 0.0526 0.0431

Neptune -29245-09-22 03:21 J -8960048.41 -8960048.36 -8960048.27 0.0089 0.0078

Jupiter -29245-12-18 21:21 J -8959960.74 -8959960.61 -8959960.49 0.0523 0.0161

Neptune -29245-12-19 05:02 J -8959960.32 -8959960.29 -8959960.23 0.0089 0.0085

Mars -29244-09-08 20:52 J -8959696.69 -8959696.63 -8959696.56 0.1767 0.1470

Moon -29243-06-03 15:50 J -8959428.96 -8959428.84 -8959428.73 0.2682 0.0921

Earth -29243-06-03 16:33 J -8959428.93 -8959428.81 -8959428.70 0.2677 0.0904 *

Jupiter -29238-02-17 01:26 J -8957709.60 -8957709.44 -8957709.28 0.0503 0.0198

Saturn -29238-02-19 12:43 J -8957707.02 -8957706.97 -8957706.90 0.0292 0.0272

Jupiter -29238-05-18 04:19 J -8957619.35 -8957619.32 -8957619.29 0.0506 0.0497

Saturn -29238-05-19 10:19 J -8957618.23 -8957618.07 -8957617.91 0.0292 0.0099

Saturn -29238-08-16 07:11 J -8957529.36 -8957529.20 -8957529.04 0.0292 0.0070

Saturn -29238-11-13 03:21 J -8957440.45 -8957440.36 -8957440.25 0.0292 0.0236

Mars -29236-02-23 18:57 J -8956971.76 -8956971.71 -8956971.67 0.1738 0.1590

Moon -29236-05-27 08:52 J -8956879.21 -8956879.13 -8956879.05 0.2676 0.1986

Earth -29236-05-27 09:07 J -8956879.20 -8956879.12 -8956879.04 0.2682 0.1958 *

Mars -29235-01-06 11:16 J -8956655.16 -8956655.03 -8956654.91 0.1774 0.1104

Mars -29234-01-30 05:45 J -8956266.37 -8956266.26 -8956266.16 0.1760 0.0831

Jupiter -29233-10-06 23:59 J -8955650.63 -8955650.50 -8955650.37 0.0524 0.0002

Moon -29233-12-04 20:09 J -8955591.80 -8955591.66 -8955591.53 0.2661 0.0195

Earth -29233-12-04 20:38 J -8955591.78 -8955591.64 -8955591.51 0.2654 0.0312 *

Moon -29230-06-06 13:11 J -8954678.04 -8954677.95 -8954677.87 0.2682 0.1920

Earth -29230-06-06 13:11 J -8954678.04 -8954677.95 -8954677.87 0.2675 0.1970 *

Venus -29229-05-18 21:07 J -8954330.71 -8954330.62 -8954330.53 0.3780 0.2127

Jupiter -29227-12-06 00:14 J -8953399.60 -8953399.49 -8953399.37 0.0502 0.0369

Jupiter -29226-03-06 03:35 J -8953309.48 -8953309.35 -8953309.22 0.0505 0.0331

Uranus -29226-12-29 23:59 J -8953010.55 -8953010.50 -8953010.42 0.0144 0.0127

Uranus -29225-03-27 04:19 J -8952922.41 -8952922.32 -8952922.22 0.0144 0.0103

Mars -29225-06-21 14:52 J -8952836.00 -8952835.88 -8952835.76 0.1755 0.0227

Uranus -29225-06-23 08:38 J -8952834.26 -8952834.14 -8952834.02 0.0144 0.0080

Uranus -29225-09-19 12:43 J -8952746.09 -8952745.97 -8952745.83 0.0144 0.0057

Uranus -29225-12-16 17:02 J -8952657.93 -8952657.79 -8952657.65 0.0144 0.0033

Uranus -29224-03-14 21:21 J -8952569.75 -8952569.61 -8952569.46 0.0144 0.0009

Saturn -29224-06-09 17:16 J -8952482.79 -8952482.78 -8952482.76 0.0268 0.0266

Uranus -29224-06-11 01:40 J -8952481.57 -8952481.43 -8952481.28 0.0144 0.0016

Saturn -29224-09-06 04:33 J -8952394.41 -8952394.31 -8952394.19 0.0268 0.0163

Uranus -29224-09-07 05:59 J -8952393.38 -8952393.25 -8952393.11 0.0144 0.0040

Venus -29224-12-02 14:38 J -8952307.00 -8952306.89 -8952306.79 0.3780 0.0559

Saturn -29224-12-03 16:04 J -8952305.96 -8952305.83 -8952305.69 0.0268 0.0059

Uranus -29224-12-04 10:33 J -8952305.19 -8952305.06 -8952304.93 0.0144 0.0064

Saturn -29223-03-02 03:50 J -8952217.48 -8952217.34 -8952217.20 0.0268 0.0048

Uranus -29223-03-02 14:52 J -8952216.99 -8952216.88 -8952216.76 0.0144 0.0089

Saturn -29223-05-29 15:50 J -8952128.96 -8952128.84 -8952128.73 0.0268 0.0156

Uranus -29223-05-29 19:26 J -8952128.77 -8952128.69 -8952128.60 0.0145 0.0114 *

Moon -29223-05-30 04:19 J -8952128.43 -8952128.32 -8952128.21 0.2676 0.1045

Earth -29223-05-30 05:02 J -8952128.40 -8952128.29 -8952128.18 0.2680 0.0964 *

Uranus -29223-08-25 23:59 J -8952040.53 -8952040.50 -8952040.46 0.0145 0.0140

Saturn -29223-08-26 03:50 J -8952040.36 -8952040.34 -8952040.32 0.0267 0.0265

Jupiter -29221-07-26 03:21 J -8951340.49 -8951340.36 -8951340.23 0.0525 0.0150

Jupiter -29221-10-23 12:14 J -8951251.06 -8951250.99 -8951250.92 0.0521 0.0445

Venus -29220-12-02 11:16 J -8950846.17 -8950846.03 -8950845.89 0.3595 0.0498

Earth -29220-12-07 20:38 J -8950840.74 -8950840.64 -8950840.53 0.2656 0.1571

Moon -29220-12-07 20:52 J -8950840.73 -8950840.63 -8950840.52 0.2663 0.1650 *

Venus -29218-06-18 08:09 J -8950283.21 -8950283.16 -8950283.11 0.3779 0.3277

Mars -29216-11-11 23:59 J -8949405.62 -8949405.50 -8949405.38 0.1749 0.0377

Mars -29215-09-25 11:31 J -8949088.16 -8949088.02 -8949087.89 0.1761 0.0917

Jupiter -29215-12-23 01:55 J -8948999.59 -8948999.42 -8948999.26 0.0504 0.0151

Moon -29213-11-29 23:31 J -8948291.60 -8948291.52 -8948291.45 0.2650 0.2211

Earth -29213-11-30 00:43 J -8948291.55 -8948291.47 -8948291.39 0.2651 0.2120 *

Moon -29210-06-02 00:28 J -8947377.60 -8947377.48 -8947377.36 0.2681 0.0055

Earth -29210-06-02 01:11 J -8947377.57 -8947377.45 -8947377.32 0.2679 0.0105 *

Jupiter -29209-05-14 06:57 J -8947030.32 -8947030.21 -8947030.10 0.0526 0.0295

Jupiter -29209-08-11 15:35 J -8946940.96 -8946940.85 -8946940.74 0.0522 0.0301

Saturn -29209-10-05 10:47 J -8946886.20 -8946886.05 -8946885.90 0.0292 0.0140

Saturn -29208-01-02 07:55 J -8946797.34 -8946797.17 -8946797.00 0.0292 0.0031

Saturn -29208-04-01 04:19 J -8946708.44 -8946708.32 -8946708.19 0.0293 0.0197

Mars -29206-04-04 09:21 J -8945975.21 -8945975.11 -8945975.01 0.1744 0.0957

Mars -29205-02-15 11:45 J -8945658.16 -8945658.01 -8945657.85 0.1767 0.0041

Mars -29204-03-09 21:07 J -8945269.68 -8945269.62 -8945269.57 0.1767 0.1545

Jupiter -29203-10-11 00:43 J -8944689.65 -8944689.47 -8944689.30 0.0503 0.0027

Moon -29200-12-03 00:43 J -8943540.60 -8943540.47 -8943540.34 0.2655 0.0925

Earth -29200-12-03 01:40 J -8943540.56 -8943540.43 -8943540.30 0.2653 0.0769 *

Jupiter -29197-03-02 11:02 J -8942720.11 -8942720.04 -8942719.97 0.0527 0.0434

Jupiter -29197-05-30 19:26 J -8942630.81 -8942630.69 -8942630.56 0.0523 0.0159

Moon -29197-06-03 21:07 J -8942626.73 -8942626.62 -8942626.51 0.2682 0.0981

Earth -29197-06-03 21:35 J -8942626.71 -8942626.60 -8942626.49 0.2677 0.1104 *

Mars -29197-08-24 18:57 J -8942544.77 -8942544.71 -8942544.65 0.1738 0.1517

Mars -29196-07-07 11:31 J -8942228.15 -8942228.02 -8942227.89 0.1774 0.1013

Mars -29195-07-31 05:45 J -8941839.36 -8941839.26 -8941839.15 0.1761 0.0908

Saturn -29194-01-24 06:43 J -8941662.31 -8941662.22 -8941662.12 0.0268 0.0194

Saturn -29194-04-22 18:14 J -8941573.87 -8941573.74 -8941573.61 0.0267 0.0090

Saturn -29194-07-20 05:45 J -8941485.40 -8941485.26 -8941485.11 0.0267 0.0018

Saturn -29194-10-16 17:45 J -8941396.89 -8941396.76 -8941396.64 0.0267 0.0123

Saturn -29193-01-13 05:31 J -8941308.33 -8941308.27 -8941308.19 0.0267 0.0231

Jupiter -29191-07-29 23:16 J -8940379.69 -8940379.53 -8940379.37 0.0503 0.0199

Jupiter -29191-10-28 01:55 J -8940289.45 -8940289.42 -8940289.39 0.0506 0.0496

Moon -29190-05-28 13:55 J -8940077.01 -8940076.92 -8940076.83 0.2676 0.1752

Earth -29190-05-28 14:09 J -8940077.00 -8940076.91 -8940076.82 0.2682 0.1771 *

Moon -29187-12-06 01:40 J -8938789.56 -8938789.43 -8938789.29 0.2661 0.0597

Earth -29187-12-06 02:09 J -8938789.54 -8938789.41 -8938789.27 0.2655 0.0542 *

Mars -29186-12-21 14:52 J -8938409.00 -8938408.88 -8938408.76 0.1755 0.0295

Uranus -29185-02-14 16:04 J -8938353.89 -8938353.83 -8938353.75 0.0135 0.0124

Jupiter -29185-03-18 23:16 J -8938320.67 -8938320.53 -8938320.40 0.0524 0.0020

Uranus -29185-05-12 22:04 J -8938265.69 -8938265.58 -8938265.45 0.0135 0.0099

Uranus -29185-08-09 04:04 J -8938177.47 -8938177.33 -8938177.18 0.0135 0.0075

Uranus -29185-11-05 09:50 J -8938089.24 -8938089.09 -8938088.92 0.0134 0.0051

Uranus -29184-02-01 15:50 J -8938001.01 -8938000.84 -8938000.67 0.0134 0.0026

Uranus -29184-04-30 21:35 J -8937912.78 -8937912.60 -8937912.43 0.0134 0.0004

Earth -29184-06-06 18:14 J -8937875.81 -8937875.74 -8937875.67 0.2675 0.2170

Moon -29184-06-06 18:28 J -8937875.79 -8937875.73 -8937875.67 0.2682 0.2262 *

Uranus -29184-07-28 03:07 J -8937824.54 -8937824.37 -8937824.20 0.0134 0.0021

Uranus -29184-10-24 08:52 J -8937736.30 -8937736.13 -8937735.97 0.0134 0.0044

Uranus -29183-01-20 14:23 J -8937648.05 -8937647.90 -8937647.75 0.0134 0.0068

Uranus -29183-04-18 19:55 J -8937559.80 -8937559.67 -8937559.54 0.0134 0.0090

Uranus -29183-07-16 01:11 J -8937471.53 -8937471.45 -8937471.35 0.0134 0.0113

Saturn -29179-02-22 07:55 J -8936154.29 -8936154.17 -8936154.04 0.0292 0.0204

Jupiter -29179-05-17 22:33 J -8936069.68 -8936069.56 -8936069.44 0.0502 0.0366

Saturn -29179-05-22 05:16 J -8936065.45 -8936065.28 -8936065.11 0.0292 0.0033

Jupiter -29179-08-16 01:40 J -8935979.56 -8935979.43 -8935979.30 0.0505 0.0334

Saturn -29179-08-19 01:55 J -8935976.57 -8935976.42 -8935976.27 0.0292 0.0135

Venus -29178-06-10 01:40 J -8935681.43 -8935681.43 -8935681.43 0.3780 0.3773

Moon -29177-05-30 09:35 J -8935326.22 -8935326.10 -8935325.99 0.2677 0.0837

Earth -29177-05-30 10:19 J -8935326.19 -8935326.07 -8935325.96 0.2680 0.0777 *

Mars -29176-05-12 23:59 J -8934978.62 -8934978.50 -8934978.38 0.1749 0.0315

Mars -29175-03-26 12:14 J -8934661.12 -8934660.99 -8934660.87 0.1761 0.1029

Earth -29174-12-09 02:23 J -8934038.50 -8934038.40 -8934038.30 0.2657 0.1804

Moon -29174-12-09 02:52 J -8934038.48 -8934038.38 -8934038.28 0.2662 0.1774 *

Jupiter -29173-01-06 01:55 J -8934010.54 -8934010.42 -8934010.29 0.0524 0.0145

Jupiter -29173-04-04 10:47 J -8933921.11 -8933921.05 -8933920.98 0.0521 0.0451

Venus -29173-12-23 18:57 J -8933657.81 -8933657.71 -8933657.61 0.3780 0.1153

Venus -29169-12-23 09:50 J -8932197.19 -8932197.09 -8932196.98 0.3595 0.2360

Jupiter -29167-06-04 00:57 J -8931669.63 -8931669.46 -8931669.30 0.0504 0.0166

Venus -29167-07-09 12:28 J -8931634.08 -8931633.98 -8931633.88 0.3780 0.1536

Pluto -29167-07-18 16:04 J -8931624.85 -8931624.83 -8931624.81 0.0069 0.0069

Neptune -29167-08-28 07:55 J -8931584.22 -8931584.17 -8931584.07 0.0088 0.0081

Mars -29167-10-03 09:21 J -8931548.21 -8931548.11 -8931548.01 0.1744 0.0887

Pluto -29167-10-14 17:02 J -8931536.84 -8931536.79 -8931536.70 0.0070 0.0063

Neptune -29167-11-24 11:16 J -8931496.12 -8931496.03 -8931495.91 0.0088 0.0071

Moon -29167-12-01 05:16 J -8931489.37 -8931489.28 -8931489.19 0.2650 0.1978

Earth -29167-12-01 06:28 J -8931489.33 -8931489.23 -8931489.13 0.2651 0.1873 *

Pluto -29166-01-10 18:28 J -8931448.81 -8931448.73 -8931448.62 0.0070 0.0056

Neptune -29166-02-20 14:23 J -8931408.01 -8931407.90 -8931407.75 0.0088 0.0062

Pluto -29166-04-08 20:09 J -8931360.77 -8931360.66 -8931360.54 0.0070 0.0049

Neptune -29166-05-19 17:31 J -8931319.90 -8931319.77 -8931319.61 0.0088 0.0053

Pluto -29166-07-05 21:21 J -8931272.73 -8931272.61 -8931272.47 0.0070 0.0043

Neptune -29166-08-15 20:38 J -8931231.78 -8931231.64 -8931231.46 0.0088 0.0044

Mars -29166-08-16 12:14 J -8931231.14 -8931230.99 -8931230.83 0.1767 0.0094

Pluto -29166-10-01 22:47 J -8931184.68 -8931184.55 -8931184.40 0.0070 0.0036

Neptune -29166-11-11 23:45 J -8931143.66 -8931143.51 -8931143.32 0.0088 0.0036

Pluto -29166-12-29 00:14 J -8931096.63 -8931096.49 -8931096.34 0.0070 0.0029

Neptune -29165-02-08 03:07 J -8931055.54 -8931055.37 -8931055.19 0.0088 0.0026

Pluto -29165-03-26 01:40 J -8931008.58 -8931008.43 -8931008.27 0.0070 0.0022

Neptune -29165-05-06 06:14 J -8930967.42 -8930967.24 -8930967.06 0.0088 0.0017

Saturn -29165-06-12 09:35 J -8930930.18 -8930930.10 -8930930.02 0.0268 0.0220

Pluto -29165-06-22 03:07 J -8930920.53 -8930920.37 -8930920.21 0.0070 0.0016

Neptune -29165-08-02 09:21 J -8930879.29 -8930879.11 -8930878.92 0.0088 0.0008

Mars -29165-09-07 20:52 J -8930842.67 -8930842.63 -8930842.58 0.1766 0.1613

Saturn -29165-09-08 21:07 J -8930841.75 -8930841.62 -8930841.50 0.0268 0.0116

Pluto -29165-09-18 04:33 J -8930832.47 -8930832.31 -8930832.14 0.0070 0.0009

Neptune -29165-10-29 12:28 J -8930791.16 -8930790.98 -8930790.80 0.0088 0.0001

Saturn -29165-12-06 08:38 J -8930753.28 -8930753.14 -8930753.00 0.0268 0.0011

Pluto -29165-12-15 05:59 J -8930744.41 -8930744.25 -8930744.08 0.0071 0.0002

Neptune -29164-01-25 15:21 J -8930703.03 -8930702.86 -8930702.67 0.0088 0.0011

Saturn -29164-03-04 20:23 J -8930664.78 -8930664.65 -8930664.52 0.0268 0.0097

Pluto -29164-03-13 07:26 J -8930656.35 -8930656.19 -8930656.02 0.0071 0.0006

Neptune -29164-04-23 18:28 J -8930614.90 -8930614.73 -8930614.55 0.0088 0.0019

Saturn -29164-06-01 08:23 J -8930576.24 -8930576.15 -8930576.06 0.0268 0.0205

Moon -29164-06-02 05:31 J -8930575.39 -8930575.27 -8930575.15 0.2681 0.0143

Earth -29164-06-02 06:28 J -8930575.35 -8930575.23 -8930575.11 0.2678 0.0253 *

Pluto -29164-06-09 08:52 J -8930568.29 -8930568.13 -8930567.96 0.0071 0.0013

Neptune -29164-07-20 21:35 J -8930526.77 -8930526.60 -8930526.43 0.0088 0.0027

Pluto -29164-09-05 10:19 J -8930480.22 -8930480.07 -8930479.90 0.0071 0.0020

Neptune -29164-10-17 00:28 J -8930438.64 -8930438.48 -8930438.31 0.0088 0.0036

Pluto -29164-12-02 11:45 J -8930392.15 -8930392.01 -8930391.85 0.0071 0.0027

Neptune -29163-01-13 03:21 J -8930350.50 -8930350.36 -8930350.19 0.0088 0.0045

Pluto -29163-02-28 13:26 J -8930304.08 -8930303.94 -8930303.79 0.0071 0.0034

Neptune -29163-04-11 06:28 J -8930262.37 -8930262.23 -8930262.08 0.0088 0.0054

Pluto -29163-05-27 14:38 J -8930216.01 -8930215.89 -8930215.74 0.0071 0.0042

Neptune -29163-07-08 09:21 J -8930174.23 -8930174.11 -8930173.97 0.0088 0.0062

Venus -29163-07-09 11:31 J -8930173.14 -8930173.02 -8930172.91 0.3595 0.2074

Pluto -29163-08-23 16:19 J -8930127.93 -8930127.82 -8930127.69 0.0071 0.0049

Neptune -29163-10-04 11:59 J -8930086.08 -8930086.00 -8930085.87 0.0088 0.0072

Pluto -29163-11-19 17:59 J -8930039.85 -8930039.75 -8930039.64 0.0071 0.0057

Neptune -29163-12-31 15:21 J -8929997.93 -8929997.86 -8929997.78 0.0088 0.0079

Pluto -29162-02-15 19:11 J -8929951.75 -8929951.70 -8929951.61 0.0072 0.0065

Neptune -29162-03-29 18:14 J -8929909.74 -8929909.74 -8929909.72 0.0088 0.0088

Jupiter -29162-10-25 05:31 J -8929700.38 -8929700.27 -8929700.16 0.0525 0.0294

Jupiter -29161-01-22 13:55 J -8929611.03 -8929610.92 -8929610.81 0.0522 0.0300

Mars -29157-02-23 18:57 J -8928117.77 -8928117.71 -8928117.65 0.1738 0.1449

Earth -29157-05-25 23:31 J -8928025.55 -8928025.52 -8928025.49 0.2683 0.2564

Moon -29157-05-25 23:45 J -8928025.55 -8928025.51 -8928025.47 0.2677 0.2469 *

Mars -29156-01-05 12:14 J -8927801.13 -8927800.99 -8927800.86 0.1774 0.0897

Mars -29155-01-29 05:45 J -8927412.36 -8927412.26 -8927412.16 0.1761 0.0982

Jupiter -29155-03-22 23:02 J -8927359.71 -8927359.54 -8927359.37 0.0503 0.0016

Moon -29154-12-04 06:28 J -8926738.36 -8926738.23 -8926738.09 0.2657 0.0563

Earth -29154-12-04 07:26 J -8926738.32 -8926738.19 -8926738.05 0.2653 0.0526 *

Moon -29151-06-05 02:23 J -8925824.50 -8925824.40 -8925824.29 0.2682 0.1326

Earth -29151-06-05 02:52 J -8925824.49 -8925824.38 -8925824.27 0.2677 0.1300 *

Saturn -29150-07-12 09:07 J -8925422.21 -8925422.12 -8925422.01 0.0292 0.0239

Jupiter -29150-08-13 08:52 J -8925390.19 -8925390.13 -8925390.05 0.0527 0.0440

Saturn -29150-10-09 06:28 J -8925333.39 -8925333.23 -8925333.06 0.0292 0.0067

Jupiter -29150-11-10 17:31 J -8925300.90 -8925300.77 -8925300.64 0.0523 0.0153

Saturn -29149-01-06 03:21 J -8925244.51 -8925244.36 -8925244.20 0.0292 0.0103

Saturn -29149-04-03 23:45 J -8925155.57 -8925155.51 -8925155.44 0.0293 0.0267

Mars -29146-06-21 14:52 J -8923982.00 -8923981.88 -8923981.76 0.1755 0.0363

Moon -29144-05-28 18:57 J -8923274.80 -8923274.71 -8923274.62 0.2675 0.1669

Earth -29144-05-28 19:11 J -8923274.79 -8923274.70 -8923274.60 0.2682 0.1588 *

Jupiter -29143-01-08 21:35 J -8923049.76 -8923049.60 -8923049.44 0.0502 0.0192

Jupiter -29143-04-09 00:14 J -8922959.50 -8922959.49 -8922959.47 0.0506 0.0501

Uranus -29141-01-19 06:43 J -8922309.29 -8922309.22 -8922309.15 0.0144 0.0124

Uranus -29141-04-16 10:47 J -8922221.14 -8922221.05 -8922220.95 0.0144 0.0101

Uranus -29141-07-13 14:52 J -8922132.99 -8922132.88 -8922132.75 0.0144 0.0078

Uranus -29141-10-09 19:11 J -8922044.83 -8922044.70 -8922044.56 0.0144 0.0054

Moon -29141-12-06 07:40 J -8921987.31 -8921987.18 -8921987.05 0.2661 0.0676

Earth -29141-12-06 07:55 J -8921987.30 -8921987.17 -8921987.04 0.2655 0.0781 *

Uranus -29140-01-05 23:31 J -8921956.66 -8921956.52 -8921956.38 0.0144 0.0030

Uranus -29140-04-04 03:50 J -8921868.48 -8921868.34 -8921868.19 0.0144 0.0007

Uranus -29140-07-01 08:09 J -8921780.30 -8921780.16 -8921780.01 0.0144 0.0018

Uranus -29140-09-27 12:43 J -8921692.11 -8921691.97 -8921691.84 0.0144 0.0043

Uranus -29140-12-24 17:02 J -8921603.92 -8921603.79 -8921603.66 0.0144 0.0067

Uranus -29139-03-22 21:21 J -8921515.71 -8921515.61 -8921515.49 0.0144 0.0092

Uranus -29139-06-19 01:40 J -8921427.50 -8921427.43 -8921427.33 0.0145 0.0118

Uranus -29139-09-15 06:14 J -8921339.25 -8921339.24 -8921339.20 0.0145 0.0143

Moon -29138-06-07 23:45 J -8921073.57 -8921073.51 -8921073.45 0.2682 0.2328

Earth -29138-06-07 23:31 J -8921073.57 -8921073.52 -8921073.46 0.2675 0.2379 *

Jupiter -29138-08-29 21:21 J -8920990.75 -8920990.61 -8920990.48 0.0524 0.0015

Mars -29137-11-10 23:59 J -8920551.62 -8920551.50 -8920551.38 0.1749 0.0239

Mars -29136-09-24 12:28 J -8920234.10 -8920233.98 -8920233.86 0.1761 0.1119

Saturn -29136-10-30 11:59 J -8920198.05 -8920198.00 -8920197.94 0.0268 0.0247

Saturn -29135-01-26 23:16 J -8920109.64 -8920109.53 -8920109.41 0.0268 0.0145

Saturn -29135-04-25 11:02 J -8920021.18 -8920021.04 -8920020.90 0.0268 0.0040

Saturn -29135-07-22 22:33 J -8919932.69 -8919932.56 -8919932.42 0.0267 0.0067

Saturn -29135-10-19 10:33 J -8919844.17 -8919844.06 -8919843.95 0.0267 0.0175

Jupiter -29132-10-27 19:55 J -8918739.78 -8918739.67 -8918739.55 0.0502 0.0370

Jupiter -29131-01-25 23:16 J -8918649.66 -8918649.53 -8918649.40 0.0505 0.0329

Moon -29131-05-31 14:38 J -8918524.01 -8918523.89 -8918523.77 0.2678 0.0620

Earth -29131-05-31 15:21 J -8918523.97 -8918523.86 -8918523.74 0.2680 0.0581 *

Earth -29128-12-09 08:09 J -8917236.25 -8917236.16 -8917236.08 0.2657 0.2035

Moon -29128-12-09 08:52 J -8917236.21 -8917236.13 -8917236.06 0.2663 0.2180 *

Mars -29127-04-03 09:21 J -8917121.21 -8917121.11 -8917121.00 0.1743 0.0819

Mars -29126-02-14 12:57 J -8916804.12 -8916803.96 -8916803.81 0.1768 0.0189

Jupiter -29126-06-18 00:57 J -8916680.58 -8916680.46 -8916680.33 0.0525 0.0133

Jupiter -29126-09-15 09:50 J -8916591.15 -8916591.09 -8916591.03 0.0521 0.0464

Mars -29125-03-08 21:07 J -8916415.65 -8916415.62 -8916415.59 0.1766 0.1689

Venus -29121-01-14 23:31 J -8915008.59 -8915008.52 -8915008.45 0.3780 0.2812

Moon -29121-12-01 11:02 J -8914687.14 -8914687.04 -8914686.93 0.2651 0.1743

Earth -29121-12-01 12:14 J -8914687.09 -8914686.99 -8914686.88 0.2651 0.1626 *

Saturn -29120-02-25 04:04 J -8914601.48 -8914601.33 -8914601.18 0.0292 0.0129

Saturn -29120-05-25 00:57 J -8914512.62 -8914512.46 -8914512.29 0.0292 0.0042

Saturn -29120-08-21 21:35 J -8914423.72 -8914423.60 -8914423.48 0.0292 0.0208

Jupiter -29120-11-13 22:47 J -8914339.71 -8914339.55 -8914339.39 0.0504 0.0165

Moon -29118-06-03 10:47 J -8913773.17 -8913773.05 -8913772.93 0.2680 0.0398

Earth -29118-06-03 11:45 J -8913773.13 -8913773.01 -8913772.89 0.2678 0.0458 *

Mars -29118-08-24 18:57 J -8913690.78 -8913690.71 -8913690.64 0.1738 0.1387

Mars -29117-07-06 12:57 J -8913374.11 -8913373.96 -8913373.82 0.1774 0.0785

Mars -29116-07-30 05:45 J -8912985.35 -8912985.26 -8912985.16 0.1760 0.1049

Venus -29116-07-30 16:47 J -8912984.90 -8912984.80 -8912984.69 0.3780 0.0202

Jupiter -29114-04-06 04:04 J -8912370.44 -8912370.33 -8912370.22 0.0525 0.0288

Jupiter -29114-07-04 12:43 J -8912281.08 -8912280.97 -8912280.86 0.0522 0.0304

Venus -29112-07-30 10:04 J -8911524.22 -8911524.08 -8911523.95 0.3595 0.0764

Earth -29111-05-27 04:33 J -8911223.36 -8911223.31 -8911223.26 0.2683 0.2380

Moon -29111-05-27 04:33 J -8911223.35 -8911223.31 -8911223.26 0.2677 0.2428 *

Venus -29110-02-13 10:19 J -8910961.15 -8910961.07 -8910960.99 0.3780 0.2528

Jupiter -29108-09-01 21:35 J -8910029.77 -8910029.60 -8910029.42 0.0504 0.0013

Moon -29108-12-04 12:14 J -8909936.12 -8909935.99 -8909935.85 0.2658 0.0379

Earth -29108-12-04 13:11 J -8909936.09 -8909935.95 -8909935.81 0.2653 0.0282 *

Mars -29107-12-20 14:52 J -8909555.00 -8909554.88 -8909554.77 0.1755 0.0433

Saturn -29106-06-16 02:09 J -8909377.51 -8909377.41 -8909377.30 0.0268 0.0171

Saturn -29106-09-12 13:40 J -8909289.07 -8909288.93 -8909288.79 0.0268 0.0066

Saturn -29106-12-10 01:26 J -8909200.58 -8909200.44 -8909200.30 0.0268 0.0041

Saturn -29105-03-07 13:11 J -8909112.07 -8909111.95 -8909111.83 0.0268 0.0148

Saturn -29105-06-04 01:11 J -8909023.48 -8909023.45 -8909023.41 0.0268 0.0258

Moon -29105-06-05 07:55 J -8909022.28 -8909022.17 -8909022.07 0.2683 0.1442

Earth -29105-06-05 08:09 J -8909022.26 -8909022.16 -8909022.06 0.2676 0.1503 *

Jupiter -29102-01-23 07:26 J -8908060.26 -8908060.19 -8908060.12 0.0526 0.0438

Jupiter -29102-04-22 15:50 J -8907970.97 -8907970.84 -8907970.71 0.0523 0.0152

Uranus -29101-03-05 22:47 J -8907652.63 -8907652.55 -8907652.46 0.0135 0.0119

Uranus -29101-06-02 04:33 J -8907564.42 -8907564.31 -8907564.17 0.0135 0.0095

Uranus -29101-08-29 10:33 J -8907476.20 -8907476.06 -8907475.90 0.0135 0.0070

Uranus -29101-11-25 16:33 J -8907387.97 -8907387.81 -8907387.65 0.0135 0.0046

Uranus -29100-02-21 22:19 J -8907299.74 -8907299.57 -8907299.40 0.0134 0.0022

Uranus -29100-05-21 04:04 J -8907211.50 -8907211.33 -8907211.16 0.0134 0.0002

Uranus -29100-08-17 09:35 J -8907123.26 -8907123.10 -8907122.92 0.0134 0.0026

Uranus -29100-11-13 15:21 J -8907035.02 -8907034.86 -8907034.70 0.0134 0.0049

Uranus -29099-02-09 20:52 J -8906946.77 -8906946.63 -8906946.48 0.0134 0.0072

Uranus -29099-05-09 02:23 J -8906858.51 -8906858.40 -8906858.27 0.0134 0.0095

Uranus -29099-08-05 07:40 J -8906770.24 -8906770.18 -8906770.09 0.0134 0.0118

Moon -29098-05-29 23:59 J -8906472.60 -8906472.50 -8906472.40 0.2675 0.1366

Earth -29098-05-30 00:28 J -8906472.58 -8906472.48 -8906472.38 0.2681 0.1396 *

Mars -29097-05-11 23:59 J -8906124.62 -8906124.50 -8906124.38 0.1749 0.0175

Mars -29096-03-25 13:11 J -8905807.06 -8905806.95 -8905806.84 0.1761 0.1228

Jupiter -29096-06-20 19:40 J -8905719.84 -8905719.68 -8905719.52 0.0503 0.0188

Jupiter -29096-09-18 22:33 J -8905629.56 -8905629.56 -8905629.56 0.0506 0.0506

Moon -29095-12-07 13:26 J -8905185.06 -8905184.94 -8905184.81 0.2661 0.1068

Earth -29095-12-07 13:40 J -8905185.06 -8905184.93 -8905184.80 0.2655 0.1014 *

Earth -29092-06-08 04:47 J -8904271.33 -8904271.30 -8904271.27 0.2674 0.2580

Moon -29092-06-08 05:02 J -8904271.29 -8904271.29 -8904271.29 0.2681 0.2681 *

Saturn -29091-07-15 05:45 J -8903869.40 -8903869.26 -8903869.11 0.0292 0.0160

Saturn -29091-10-12 02:52 J -8903780.55 -8903780.38 -8903780.21 0.0292 0.0012

Saturn -29090-01-08 23:31 J -8903691.65 -8903691.52 -8903691.38 0.0292 0.0179

Jupiter -29090-02-08 19:11 J -8903660.83 -8903660.70 -8903660.57 0.0524 0.0003

Mars -29088-10-02 09:21 J -8902694.22 -8902694.11 -8902694.00 0.1743 0.0751

Mars -29087-08-15 13:26 J -8902377.10 -8902376.94 -8902376.78 0.1767 0.0291

Neptune -29086-09-05 14:38 J -8901990.91 -8901990.89 -8901990.84 0.0089 0.0087

Mars -29086-09-07 21:07 J -8901988.62 -8901988.62 -8901988.62 0.1766 0.1764

Neptune -29086-12-02 16:19 J -8901902.87 -8901902.82 -8901902.75 0.0089 0.0079

Neptune -29085-02-28 17:45 J -8901814.83 -8901814.76 -8901814.67 0.0089 0.0073

Neptune -29085-05-26 19:26 J -8901726.78 -8901726.69 -8901726.60 0.0089 0.0066

Moon -29085-05-31 19:40 J -8901721.80 -8901721.68 -8901721.56 0.2679 0.0515

Earth -29085-05-31 20:38 J -8901721.76 -8901721.64 -8901721.52 0.2680 0.0394 *

Neptune -29085-08-22 20:38 J -8901638.73 -8901638.64 -8901638.53 0.0089 0.0059

Neptune -29085-11-18 22:04 J -8901550.68 -8901550.58 -8901550.46 0.0089 0.0053

Neptune -29084-02-14 23:45 J -8901462.62 -8901462.51 -8901462.39 0.0089 0.0045

Jupiter -29084-04-08 17:59 J -8901409.86 -8901409.75 -8901409.63 0.0502 0.0366

Neptune -29084-05-14 01:11 J -8901374.57 -8901374.45 -8901374.32 0.0089 0.0039

Jupiter -29084-07-07 21:21 J -8901319.74 -8901319.61 -8901319.48 0.0505 0.0332

Neptune -29084-08-10 02:52 J -8901286.51 -8901286.38 -8901286.25 0.0089 0.0031

Neptune -29084-11-06 04:19 J -8901198.45 -8901198.32 -8901198.19 0.0089 0.0025

Neptune -29083-02-02 05:45 J -8901110.39 -8901110.26 -8901110.12 0.0089 0.0018

Neptune -29083-05-01 07:11 J -8901022.33 -8901022.20 -8901022.06 0.0089 0.0011

Neptune -29083-07-28 08:52 J -8900934.27 -8900934.13 -8900933.99 0.0089 0.0004

Neptune -29083-10-24 10:19 J -8900846.20 -8900846.07 -8900845.93 0.0089 0.0004

Neptune -29082-01-20 11:59 J -8900758.14 -8900758.00 -8900757.86 0.0089 0.0010

Neptune -29082-04-18 13:26 J -8900670.07 -8900669.94 -8900669.80 0.0089 0.0017

Neptune -29082-07-15 14:52 J -8900582.01 -8900581.88 -8900581.74 0.0089 0.0025

Pluto -29082-09-18 23:02 J -8900516.57 -8900516.54 -8900516.49 0.0075 0.0072

Neptune -29082-10-11 16:33 J -8900493.94 -8900493.81 -8900493.68 0.0089 0.0031

Earth -29082-12-10 13:55 J -8900433.99 -8900433.92 -8900433.86 0.2657 0.2274

Moon -29082-12-10 14:23 J -8900433.96 -8900433.90 -8900433.83 0.2663 0.2249 *

Pluto -29082-12-16 00:28 J -8900428.55 -8900428.48 -8900428.39 0.0075 0.0064

Neptune -29081-01-07 17:59 J -8900405.87 -8900405.75 -8900405.62 0.0089 0.0039

Pluto -29081-03-13 01:55 J -8900340.51 -8900340.42 -8900340.31 0.0075 0.0056

Neptune -29081-04-04 19:40 J -8900317.80 -8900317.68 -8900317.56 0.0089 0.0046

Pluto -29081-06-09 03:07 J -8900252.47 -8900252.37 -8900252.24 0.0075 0.0049

Neptune -29081-07-01 20:52 J -8900229.73 -8900229.63 -8900229.50 0.0089 0.0054

Pluto -29081-09-05 04:33 J -8900164.43 -8900164.31 -8900164.17 0.0074 0.0041

Neptune -29081-09-27 22:33 J -8900141.65 -8900141.56 -8900141.45 0.0089 0.0060

Pluto -29081-12-02 06:14 J -8900076.38 -8900076.24 -8900076.11 0.0074 0.0033

Neptune -29081-12-25 00:14 J -8900053.57 -8900053.49 -8900053.39 0.0089 0.0067

Pluto -29080-02-28 07:11 J -8899988.33 -8899988.20 -8899988.05 0.0074 0.0026

Neptune -29080-03-23 01:40 J -8899965.49 -8899965.43 -8899965.34 0.0089 0.0075

Pluto -29080-05-27 08:38 J -8899900.28 -8899900.14 -8899899.99 0.0074 0.0018

Neptune -29080-06-19 03:21 J -8899877.41 -8899877.36 -8899877.29 0.0089 0.0081

Pluto -29080-08-23 10:04 J -8899812.23 -8899812.08 -8899811.93 0.0074 0.0010

Neptune -29080-09-15 05:02 J -8899789.30 -8899789.29 -8899789.27 0.0089 0.0088

Pluto -29080-11-19 11:16 J -8899724.18 -8899724.03 -8899723.88 0.0074 0.0003

Pluto -29079-02-15 12:28 J -8899636.13 -8899635.98 -8899635.83 0.0074 0.0005

Pluto -29079-05-14 13:40 J -8899548.07 -8899547.93 -8899547.78 0.0074 0.0012

Pluto -29079-08-10 14:52 J -8899460.02 -8899459.88 -8899459.73 0.0073 0.0019

Pluto -29079-11-06 16:04 J -8899371.96 -8899371.83 -8899371.68 0.0073 0.0027

Jupiter -29079-11-27 23:02 J -8899350.67 -8899350.54 -8899350.41 0.0525 0.0140

Pluto -29078-02-02 17:16 J -8899283.91 -8899283.78 -8899283.64 0.0073 0.0034

Mars -29078-02-22 18:57 J -8899263.79 -8899263.71 -8899263.63 0.1738 0.1316

Jupiter -29078-02-25 07:40 J -8899261.24 -8899261.18 -8899261.11 0.0522 0.0457

Pluto -29078-05-01 18:28 J -8899195.85 -8899195.73 -8899195.60 0.0073 0.0041

Pluto -29078-07-28 19:40 J -8899107.79 -8899107.68 -8899107.56 0.0073 0.0047

Pluto -29078-10-24 20:52 J -8899019.72 -8899019.63 -8899019.53 0.0073 0.0054

Mars -29077-01-05 13:11 J -8898947.10 -8898946.95 -8898946.80 0.1774 0.0690

Pluto -29077-01-20 22:04 J -8898931.66 -8898931.58 -8898931.50 0.0073 0.0061

Pluto -29077-04-17 23:02 J -8898843.58 -8898843.54 -8898843.48 0.0073 0.0068

Saturn -29077-11-02 05:02 J -8898645.39 -8898645.29 -8898645.20 0.0268 0.0196

Mars -29076-01-28 05:45 J -8898558.35 -8898558.26 -8898558.16 0.1760 0.1122

Saturn -29076-01-29 16:19 J -8898556.95 -8898556.82 -8898556.68 0.0268 0.0092

Saturn -29076-04-28 04:04 J -8898468.47 -8898468.33 -8898468.19 0.0268 0.0014

Saturn -29076-07-25 15:50 J -8898379.97 -8898379.84 -8898379.71 0.0267 0.0121

Saturn -29076-10-22 03:50 J -8898291.41 -8898291.34 -8898291.27 0.0267 0.0230

Moon -29075-12-02 17:02 J -8897884.91 -8897884.79 -8897884.68 0.2653 0.1426

Earth -29075-12-02 18:14 J -8897884.86 -8897884.74 -8897884.63 0.2652 0.1380 *

Jupiter -29072-04-25 19:55 J -8897009.83 -8897009.67 -8897009.50 0.0504 0.0158

Moon -29072-06-03 16:04 J -8896970.95 -8896970.83 -8896970.71 0.2681 0.0579

Earth -29072-06-03 16:47 J -8896970.92 -8896970.80 -8896970.68 0.2678 0.0649 *

Mars -29068-05-27 12:43 J -8895517.01 -8895516.97 -8895516.93 0.1780 0.1701

Mars -29067-06-20 14:52 J -8895128.00 -8895127.88 -8895127.76 0.1755 0.0505

Jupiter -29067-09-16 02:52 J -8895040.49 -8895040.38 -8895040.27 0.0526 0.0282

Jupiter -29067-12-14 11:16 J -8894951.13 -8894951.03 -8894950.92 0.0522 0.0313

Moon -29065-05-27 09:35 J -8894421.17 -8894421.10 -8894421.03 0.2676 0.2135

Earth -29065-05-27 09:35 J -8894421.16 -8894421.10 -8894421.03 0.2683 0.2201 *

Venus -29065-08-20 21:21 J -8894335.70 -8894335.61 -8894335.52 0.3780 0.1853

Saturn -29062-12-02 03:35 J -8893137.46 -8893137.35 -8893137.23 0.0292 0.0218

Moon -29062-12-05 17:59 J -8893133.88 -8893133.75 -8893133.61 0.2659 0.0138

Earth -29062-12-05 18:57 J -8893133.85 -8893133.71 -8893133.57 0.2654 0.0042 *

Saturn -29061-02-29 00:57 J -8893048.63 -8893048.46 -8893048.29 0.0292 0.0046

Saturn -29061-05-27 21:50 J -8892959.74 -8892959.59 -8892959.44 0.0292 0.0122

Saturn -29061-08-24 17:59 J -8892870.77 -8892870.75 -8892870.72 0.0292 0.0287

Jupiter -29060-02-11 19:11 J -8892699.87 -8892699.70 -8892699.52 0.0504 0.0015

Venus -29059-03-06 14:38 J -8892311.99 -8892311.89 -8892311.78 0.3780 0.0795

Moon -29059-06-06 13:11 J -8892220.04 -8892219.95 -8892219.86 0.2683 0.1728

Earth -29059-06-06 13:26 J -8892220.04 -8892219.94 -8892219.85 0.2676 0.1709 *

Mars -29058-11-10 23:59 J -8891697.62 -8891697.50 -8891697.38 0.1749 0.0107

Uranus -29058-11-12 09:21 J -8891696.12 -8891696.11 -8891696.10 0.0144 0.0143

Uranus -29057-02-08 13:11 J -8891608.01 -8891607.95 -8891607.86 0.0144 0.0121

Uranus -29057-05-06 17:16 J -8891519.87 -8891519.78 -8891519.66 0.0144 0.0098

Uranus -29057-08-02 21:35 J -8891431.71 -8891431.60 -8891431.47 0.0144 0.0074

Mars -29057-09-23 13:40 J -8891380.03 -8891379.93 -8891379.83 0.1761 0.1333

Uranus -29057-10-30 01:55 J -8891343.55 -8891343.42 -8891343.28 0.0144 0.0050

Uranus -29056-01-26 06:14 J -8891255.38 -8891255.24 -8891255.10 0.0144 0.0027

Uranus -29056-04-24 10:33 J -8891167.20 -8891167.06 -8891166.92 0.0144 0.0003

Uranus -29056-07-21 14:52 J -8891079.02 -8891078.88 -8891078.74 0.0144 0.0022

Uranus -29056-10-17 19:11 J -8890990.83 -8890990.70 -8890990.56 0.0144 0.0046

Uranus -29055-01-13 23:45 J -8890902.64 -8890902.51 -8890902.39 0.0144 0.0071

Venus -29055-03-06 10:04 J -8890851.21 -8890851.08 -8890850.94 0.3595 0.0839

Uranus -29055-04-12 04:04 J -8890814.43 -8890814.33 -8890814.22 0.0144 0.0096

Jupiter -29055-07-05 05:59 J -8890730.32 -8890730.25 -8890730.18 0.0526 0.0434

Uranus -29055-07-09 08:38 J -8890726.21 -8890726.14 -8890726.06 0.0145 0.0121

Jupiter -29055-10-02 14:23 J -8890641.03 -8890640.90 -8890640.78 0.0523 0.0156

Venus -29054-09-20 08:09 J -8890288.19 -8890288.16 -8890288.12 0.3779 0.3536

Moon -29052-05-30 05:02 J -8889670.39 -8889670.29 -8889670.19 0.2676 0.1319

Earth -29052-05-30 05:31 J -8889670.37 -8889670.27 -8889670.16 0.2681 0.1211 *

Jupiter -29049-11-30 17:59 J -8888389.91 -8888389.75 -8888389.59 0.0503 0.0183

Moon -29049-12-07 19:26 J -8888382.81 -8888382.69 -8888382.57 0.2662 0.1237

Earth	-29049-12-07 19:26 J	-8888382.81	-8888382.69	-8888382.57	0.2655	0.1254 *
Mars	-29048-04-02 09:21 J	-8888267.22	-8888267.11	-8888267.00	0.1744	0.0681
Mars	-29047-02-13 14:09 J	-8887950.07	-8887949.91	-8887949.76	0.1767	0.0402
Saturn	-29047-03-22 07:26 J	-8887913.26	-8887913.19	-8887913.11	0.0269	0.0225
Saturn	-29047-06-18 18:57 J	-8887824.83	-8887824.71	-8887824.58	0.0268	0.0120
Saturn	-29047-09-15 06:43 J	-8887736.37	-8887736.22	-8887736.08	0.0268	0.0017
Saturn	-29047-12-12 18:28 J	-8887647.87	-8887647.73	-8887647.60	0.0268	0.0094
Saturn	-29046-03-11 06:14 J	-8887559.33	-8887559.24	-8887559.14	0.0268	0.0202
Jupiter	-29043-07-21 17:31 J	-8886330.90	-8886330.77	-8886330.64	0.0524	0.0004
Moon	-29042-11-30 21:35 J	-8885833.64	-8885833.60	-8885833.55	0.2647	0.2498
Earth	-29042-11-30 22:47 J	-8885833.59	-8885833.55	-8885833.50	0.2650	0.2500 *
Moon	-29039-06-02 00:43 J	-8884919.59	-8884919.47	-8884919.35	0.2679	0.0220
Earth	-29039-06-02 01:40 J	-8884919.55	-8884919.43	-8884919.31	0.2679	0.0198 *
Mars	-29039-08-23 18:57 J	-8884836.79	-8884836.71	-8884836.63	0.1738	0.1245
Mars	-29038-07-06 13:55 J	-8884520.07	-8884519.92	-8884519.77	0.1774	0.0579
Mars	-29037-07-29 05:59 J	-8884131.34	-8884131.25	-8884131.16	0.1761	0.1200
Jupiter	-29037-09-18 15:50 J	-8884079.95	-8884079.84	-8884079.71	0.0502	0.0366
Jupiter	-29037-12-17 19:11 J	-8883989.82	-8883989.70	-8883989.57	0.0505	0.0334
Earth	-29036-12-10 19:26 J	-8883631.73	-8883631.69	-8883631.65	0.2657	0.2501
Moon	-29036-12-10 20:09 J	-8883631.67	-8883631.66	-8883631.65	0.2663	0.2643 *
Saturn	-29032-04-20 05:45 J	-8882405.35	-8882405.26	-8882405.17	0.0292	0.0247
Saturn	-29032-07-18 03:07 J	-8882316.54	-8882316.37	-8882316.21	0.0292	0.0075
Saturn	-29032-10-14 23:59 J	-8882227.66	-8882227.50	-8882227.34	0.0292	0.0095
Saturn	-29031-01-11 20:09 J	-8882138.72	-8882138.66	-8882138.58	0.0292	0.0261
Jupiter	-29031-05-09 20:52 J	-8882020.76	-8882020.63	-8882020.50	0.0525	0.0148
Jupiter	-29031-08-07 05:31 J	-8881931.33	-8881931.27	-8881931.20	0.0522	0.0448
Mars	-29029-11-25 13:11 J	-8881090.02	-8881089.95	-8881089.88	0.1780	0.1596
Moon	-29029-12-02 22:47 J	-8881082.67	-8881082.55	-8881082.43	0.2655	0.1300
Earth	-29029-12-02 23:59 J	-8881082.63	-8881082.50	-8881082.38	0.2652	0.1128 *
Mars	-29028-12-19 14:52 J	-8880700.99	-8880700.88	-8880700.77	0.1755	0.0575

Moon -29026-06-04 21:21 J -8880168.72 -8880168.61 -8880168.49 0.2682 0.0767

Earth -29026-06-04 22:04 J -8880168.70 -8880168.58 -8880168.47 0.2678 0.0847 *

Jupiter -29025-10-05 17:59 J -8879679.91 -8879679.75 -8879679.59 0.0504 0.0158

Jupiter -29019-02-26 00:43 J -8877710.58 -8877710.47 -8877710.36 0.0526 0.0292

Jupiter -29019-05-26 09:07 J -8877621.22 -8877621.12 -8877621.01 0.0523 0.0303

Moon -29019-05-28 14:38 J -8877618.96 -8877618.89 -8877618.81 0.2675 0.2067

Earth -29019-05-28 14:52 J -8877618.96 -8877618.88 -8877618.81 0.2683 0.2014 *

Mars -29018-05-11 23:59 J -8877270.62 -8877270.50 -8877270.38 0.1749 0.0054

Saturn -29018-08-09 10:33 J -8877181.11 -8877181.06 -8877181.00 0.0268 0.0247

Saturn -29018-11-05 22:04 J -8877092.70 -8877092.58 -8877092.46 0.0268 0.0143

Saturn -29017-02-02 09:35 J -8877004.24 -8877004.10 -8877003.96 0.0268 0.0038

Mars -29017-03-24 14:09 J -8876953.00 -8876952.91 -8876952.82 0.1761 0.1427

Uranus -29017-03-26 05:02 J -8876951.37 -8876951.29 -8876951.18 0.0135 0.0115

Saturn -29017-04-30 21:07 J -8876915.75 -8876915.62 -8876915.48 0.0268 0.0070

Uranus -29017-06-22 11:16 J -8876863.16 -8876863.03 -8876862.90 0.0135 0.0090

Saturn -29017-07-28 09:07 J -8876827.22 -8876827.12 -8876827.01 0.0267 0.0177

Uranus -29017-09-18 17:02 J -8876774.93 -8876774.79 -8876774.63 0.0135 0.0066

Uranus -29017-12-15 23:02 J -8876686.71 -8876686.54 -8876686.37 0.0135 0.0041

Uranus -29016-03-14 04:47 J -8876598.47 -8876598.30 -8876598.12 0.0134 0.0017

Uranus -29016-06-10 10:33 J -8876510.23 -8876510.06 -8876509.88 0.0134 0.0007

Uranus -29016-09-06 16:19 J -8876421.99 -8876421.82 -8876421.65 0.0134 0.0030

Uranus -29016-12-03 21:50 J -8876333.74 -8876333.59 -8876333.43 0.0134 0.0054

Moon -29016-12-05 23:59 J -8876331.64 -8876331.50 -8876331.37 0.2659 0.0163

Earth -29016-12-06 00:43 J -8876331.61 -8876331.47 -8876331.33 0.2654 0.0201 *

Uranus -29015-03-02 03:21 J -8876245.49 -8876245.36 -8876245.21 0.0134 0.0077

Uranus -29015-05-29 08:38 J -8876157.23 -8876157.14 -8876157.01 0.0134 0.0100

Uranus -29015-08-25 14:23 J -8876068.96 -8876068.90 -8876068.82 0.0134 0.0122

Venus -29014-09-12 01:55 J -8875686.46 -8875686.42 -8875686.38 0.3780 0.3494

Moon -29013-06-06 18:28 J -8875417.82 -8875417.73 -8875417.65 0.2683 0.1886

Earth -29013-06-06 18:28 J -8875417.81 -8875417.73 -8875417.64 0.2676 0.1913 *

Jupiter -29013-07-24 16:19 J -8875369.99 -8875369.82 -8875369.64 0.0503 0.0024

Mars -29009-10-01 09:21 J -8873840.22 -8873840.11 -8873840.00 0.1743 0.0613

Venus -29008-03-27 19:11 J -8873662.80 -8873662.70 -8873662.60 0.3780 0.0892

Mars -29008-08-14 14:23 J -8873523.05 -8873522.90 -8873522.75 0.1768 0.0497

Jupiter -29008-12-15 04:33 J -8873400.39 -8873400.31 -8873400.24 0.0527 0.0433

Jupiter -29007-03-14 12:57 J -8873311.09 -8873310.96 -8873310.84 0.0523 0.0159

Moon -29006-05-31 10:04 J -8872868.19 -8872868.08 -8872867.97 0.2677 0.1014

Earth -29006-05-31 10:47 J -8872868.16 -8872868.05 -8872867.94 0.2681 0.1022 *

Venus -29004-03-27 08:23 J -8872202.26 -8872202.15 -8872202.03 0.3595 0.2059

Venus -29003-10-11 12:28 J -8871639.07 -8871638.98 -8871638.88 0.3780 0.1795

Saturn -29003-12-05 01:26 J -8871584.60 -8871584.44 -8871584.29 0.0292 0.0131

Earth -29003-12-09 00:57 J -8871580.57 -8871580.46 -8871580.34 0.2656 0.1489

Moon -29003-12-09 01:26 J -8871580.55 -8871580.44 -8871580.33 0.2663 0.1532 *

Neptune -29002-02-26 04:19 J -8871501.37 -8871501.32 -8871501.26 0.0088 0.0083

Saturn -29002-03-03 22:19 J -8871495.74 -8871495.57 -8871495.40 0.0292 0.0040

Neptune -29002-05-25 07:26 J -8871413.28 -8871413.19 -8871413.08 0.0088 0.0074

Saturn -29002-05-31 18:43 J -8871406.83 -8871406.72 -8871406.59 0.0292 0.0207

Neptune -29002-08-21 10:33 J -8871325.17 -8871325.06 -8871324.92 0.0088 0.0065

Neptune -29002-11-17 13:40 J -8871237.06 -8871236.93 -8871236.77 0.0088 0.0056

Neptune -29001-02-13 16:47 J -8871148.94 -8871148.80 -8871148.63 0.0088 0.0048

Neptune -29001-05-11 20:09 J -8871060.82 -8871060.66 -8871060.49 0.0088 0.0038

Jupiter -29001-05-12 15:21 J -8871060.02 -8871059.86 -8871059.69 0.0503 0.0189

Neptune -29001-08-07 23:16 J -8870972.70 -8870972.53 -8870972.35 0.0088 0.0029

Neptune -29001-11-04 02:23 J -8870884.57 -8870884.40 -8870884.22 0.0088 0.0020

29TH MILLENNIUM BCE

This is a list of transits of Mercury in the 29th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Neptune	-29000-01-31 05:31 J		-8870796.45	-8870796.27	-8870796.08	0.0088	0.0011	
Neptune	-29000-04-29 08:38 J		-8870708.32	-8870708.14	-8870707.95	0.0088	0.0003	
Neptune	-29000-07-26 11:45 J		-8870620.19	-8870620.01	-8870619.83	0.0088	0.0007	
Neptune	-29000-10-22 14:52 J		-8870532.06	-8870531.88	-8870531.70	0.0088	0.0016	
Neptune	-28999-01-18 17:45 J		-8870443.93	-8870443.76	-8870443.58	0.0088	0.0025	
Mars	-28999-02-21 18:57 J		-8870409.80	-8870409.71	-8870409.63	0.1738	0.1182	
Neptune	-28999-04-16 20:52 J		-8870355.80	-8870355.63	-8870355.46	0.0088	0.0033	
Neptune	-28999-07-13 23:45 J		-8870267.66	-8870267.51	-8870267.34	0.0088	0.0042	
Neptune	-28999-10-10 02:38 J		-8870179.52	-8870179.39	-8870179.23	0.0088	0.0051	
Venus	-28999-10-11 10:04 J		-8870178.18	-8870178.08	-8870177.97	0.3596	0.2412	
Mars	-28998-01-04 14:38 J		-8870093.04	-8870092.89	-8870092.74	0.1774	0.0460	
Neptune	-28998-01-06 05:45 J		-8870091.38	-8870091.26	-8870091.12	0.0088	0.0060	
Neptune	-28998-04-04 08:38 J		-8870003.24	-8870003.14	-8870003.01	0.0088	0.0068	
Neptune	-28998-07-01 11:31 J		-8869915.09	-8869915.02	-8869914.92	0.0088	0.0077	
Neptune	-28998-09-27 14:38 J		-8869826.92	-8869826.89	-8869826.84	0.0088	0.0086	
Mars	-28997-01-28 05:45 J		-8869704.34	-8869704.26	-8869704.17	0.1760	0.1266	
Moon	-28996-12-01 03:35 J		-8869031.41	-8869031.35	-8869031.30	0.2648	0.2422	
Earth	-28996-12-01 04:47 J		-8869031.38	-8869031.30	-8869031.23	0.2650	0.2246	*
Jupiter	-28996-12-31 16:04 J		-8869000.97	-8869000.83	-8869000.70	0.0524	0.0014	
Moon	-28993-06-02 05:59 J		-8868117.37	-8868117.25	-8868117.13	0.2679	0.0148	
Earth	-28993-06-02 06:57 J		-8868117.33	-8868117.21	-8868117.09	0.2679	0.0088	*
Mars	-28990-07-15 04:47 J		-8866979.31	-8866979.30	-8866979.30	0.1732	0.1726	
Jupiter	-28989-02-29 13:55 J		-8866750.03	-8866749.92	-8866749.80	0.0502	0.0364	
Mars	-28989-05-26 13:55 J		-8866663.01	-8866662.92	-8866662.84	0.1780	0.1486	
Jupiter	-28989-05-29 17:31 J		-8866659.90	-8866659.77	-8866659.65	0.0505	0.0337	

Saturn -28988-03-25 00:28 J -8866360.58 -8866360.48 -8866360.37 0.0269 0.0173

Mars -28988-06-19 14:52 J -8866273.99 -8866273.88 -8866273.77 0.1755 0.0647

Saturn -28988-06-21 11:59 J -8866272.14 -8866272.00 -8866271.86 0.0268 0.0068

Saturn -28988-09-17 23:31 J -8866183.65 -8866183.52 -8866183.37 0.0268 0.0040

Saturn -28988-12-15 11:31 J -8866095.14 -8866095.02 -8866094.90 0.0268 0.0147

Saturn -28987-03-13 23:31 J -8866006.56 -8866006.52 -8866006.48 0.0268 0.0257

Jupiter -28984-10-19 19:11 J -8864690.82 -8864690.70 -8864690.57 0.0524 0.0147

Jupiter -28983-01-17 03:50 J -8864601.40 -8864601.34 -8864601.27 0.0521 0.0447

Moon -28983-12-04 04:33 J -8864280.44 -8864280.31 -8864280.18 0.2656 0.0891

Earth -28983-12-04 05:45 J -8864280.39 -8864280.26 -8864280.13 0.2652 0.0882 *

Moon -28980-06-05 02:38 J -8863366.50 -8863366.39 -8863366.28 0.2683 0.1050

Earth -28980-06-05 03:07 J -8863366.48 -8863366.37 -8863366.25 0.2677 0.1048 *

Mars -28979-11-09 23:59 J -8862843.62 -8862843.50 -8862843.38 0.1749 0.0071

Mars -28978-09-23 14:38 J -8862525.97 -8862525.89 -8862525.82 0.1761 0.1528

Jupiter -28977-03-17 15:50 J -8862350.00 -8862349.84 -8862349.68 0.0504 0.0157

Uranus -28974-12-02 16:19 J -8860994.85 -8860994.82 -8860994.78 0.0144 0.0138

Uranus -28973-02-28 20:23 J -8860906.73 -8860906.65 -8860906.56 0.0144 0.0115

Saturn -28973-04-23 03:35 J -8860852.50 -8860852.35 -8860852.21 0.0292 0.0158

Uranus -28973-05-27 00:28 J -8860818.58 -8860818.48 -8860818.36 0.0144 0.0092

Moon -28973-05-28 19:40 J -8860816.77 -8860816.68 -8860816.59 0.2676 0.1799

Earth -28973-05-28 19:55 J -8860816.76 -8860816.67 -8860816.59 0.2682 0.1832 *

Saturn -28973-07-21 00:43 J -8860763.64 -8860763.47 -8860763.30 0.0292 0.0013

Uranus -28973-08-23 04:47 J -8860730.42 -8860730.30 -8860730.17 0.0144 0.0068

Saturn -28973-10-17 21:07 J -8860674.74 -8860674.62 -8860674.48 0.0292 0.0182

Uranus -28973-11-19 09:07 J -8860642.25 -8860642.12 -8860641.98 0.0144 0.0045

Uranus -28972-02-15 13:26 J -8860554.08 -8860553.94 -8860553.80 0.0144 0.0021

Uranus -28972-05-14 17:45 J -8860465.90 -8860465.76 -8860465.62 0.0144 0.0003

Jupiter -28972-08-07 22:33 J -8860380.67 -8860380.56 -8860380.45 0.0526 0.0300

Uranus -28972-08-10 22:04 J -8860377.72 -8860377.58 -8860377.44 0.0144 0.0027

Jupiter -28972-11-05 06:57 J -8860291.32 -8860291.21 -8860291.09 0.0523 0.0294

Uranus -28972-11-07 02:23 J -8860289.53 -8860289.40 -8860289.26 0.0144 0.0052

Uranus -28971-02-03 06:43 J -8860201.33 -8860201.22 -8860201.09 0.0144 0.0077

Uranus -28971-05-02 11:16 J -8860113.13 -8860113.03 -8860112.93 0.0145 0.0101

Uranus -28971-07-29 15:35 J -8860024.91 -8860024.85 -8860024.77 0.0145 0.0127

Moon -28970-12-07 05:59 J -8859529.39 -8859529.25 -8859529.12 0.2660 0.0363

Earth -28970-12-07 06:28 J -8859529.37 -8859529.23 -8859529.10 0.2654 0.0445 *

Mars -28969-04-01 09:21 J -8859413.22 -8859413.11 -8859412.99 0.1743 0.0543

Mars -28968-02-12 15:07 J -8859096.01 -8859095.87 -8859095.72 0.1767 0.0609

Moon -28967-06-07 23:45 J -8858615.58 -8858615.51 -8858615.44 0.2682 0.2117

Earth -28967-06-07 23:45 J -8858615.58 -8858615.51 -8858615.43 0.2675 0.2119 *

Jupiter -28965-01-04 14:23 J -8858040.08 -8858039.90 -8858039.73 0.0503 0.0020

Jupiter -28960-05-27 02:09 J -8856070.47 -8856070.41 -8856070.34 0.0527 0.0444

Moon -28960-05-31 15:07 J -8856065.98 -8856065.87 -8856065.76 0.2678 0.0955

Earth -28960-05-31 15:50 J -8856065.95 -8856065.84 -8856065.72 0.2681 0.0829 *

Mars -28960-08-22 18:57 J -8855982.80 -8855982.71 -8855982.62 0.1738 0.1110

Jupiter -28960-08-24 10:33 J -8855981.19 -8855981.06 -8855980.93 0.0524 0.0149

Mars -28959-07-05 14:52 J -8855666.03 -8855665.88 -8855665.72 0.1774 0.0371

Saturn -28959-08-12 03:50 J -8855628.44 -8855628.34 -8855628.25 0.0268 0.0193

Saturn -28959-11-08 15:07 J -8855540.00 -8855539.87 -8855539.73 0.0268 0.0089

Saturn -28958-02-05 02:52 J -8855451.52 -8855451.38 -8855451.24 0.0268 0.0018

Saturn -28958-05-04 14:38 J -8855363.02 -8855362.89 -8855362.77 0.0268 0.0125

Mars -28958-07-29 05:59 J -8855277.33 -8855277.25 -8855277.17 0.1760 0.1341

Saturn -28958-08-01 02:38 J -8855274.46 -8855274.39 -8855274.33 0.0267 0.0234

Venus -28957-04-17 23:45 J -8855013.59 -8855013.51 -8855013.43 0.3780 0.2541

Earth -28957-12-09 06:43 J -8854778.32 -8854778.22 -8854778.12 0.2656 0.1723

Moon -28957-12-09 06:57 J -8854778.31 -8854778.21 -8854778.11 0.2663 0.1756 *

Jupiter -28954-10-23 12:28 J -8853730.14 -8853729.98 -8853729.82 0.0502 0.0199

Jupiter -28953-01-21 15:21 J -8853639.88 -8853639.86 -8853639.82 0.0506 0.0496

Venus -28952-11-01 17:02 J -8852989.90 -8852989.79 -8852989.68 0.3780 0.0081

Mars -28950-01-13 04:33 J -8852552.34 -8852552.31 -8852552.28 0.1732 0.1665

Mars -28950-11-25 14:23 J -8852236.00 -8852235.90 -8852235.80 0.1780 0.1374

Moon -28950-12-02 09:21 J -8852229.20 -8852229.11 -8852229.02 0.2650 0.2023

Earth -28950-12-02 10:33 J -8852229.15 -8852229.06 -8852228.97 0.2651 0.1994 *

Mars -28949-12-18 14:52 J -8851846.99 -8851846.88 -8851846.77 0.1755 0.0718

Jupiter -28948-06-12 14:23 J -8851671.03 -8851670.90 -8851670.77 0.0524 0.0007

Venus -28948-11-01 08:38 J -8851529.28 -8851529.14 -8851529.00 0.3595 0.0430

Moon -28947-06-03 11:16 J -8851315.15 -8851315.03 -8851314.91 0.2680 0.0205

Earth -28947-06-03 11:59 J -8851315.12 -8851315.00 -8851314.88 0.2679 0.0202 *

Venus -28946-05-18 10:33 J -8850966.13 -8850966.06 -8850965.99 0.3779 0.2794

Saturn -28944-09-10 01:55 J -8850120.53 -8850120.42 -8850120.30 0.0291 0.0213

Saturn -28944-12-07 23:16 J -8850031.70 -8850031.53 -8850031.36 0.0292 0.0040

Saturn -28943-03-06 20:09 J -8849942.81 -8849942.66 -8849942.51 0.0292 0.0128

Jupiter -28942-08-11 11:16 J -8849420.14 -8849420.03 -8849419.91 0.0502 0.0371

Jupiter -28942-11-09 14:52 J -8849330.01 -8849329.88 -8849329.75 0.0505 0.0330

Earth -28940-05-27 05:16 J -8848765.30 -8848765.28 -8848765.26 0.2684 0.2625

Moon -28940-05-27 05:31 J -8848765.29 -8848765.27 -8848765.25 0.2677 0.2612 *

Mars -28939-05-10 23:59 J -8848416.62 -8848416.50 -8848416.38 0.1749 0.0110

Mars -28938-03-24 15:21 J -8848098.91 -8848098.86 -8848098.81 0.1761 0.1641

Moon -28937-12-04 10:33 J -8847478.20 -8847478.06 -8847477.93 0.2656 0.0817

Earth -28937-12-04 11:31 J -8847478.15 -8847478.02 -8847477.88 0.2653 0.0632 *

Jupiter -28936-03-31 17:45 J -8847360.89 -8847360.76 -8847360.63 0.0525 0.0146

Jupiter -28936-06-29 02:23 J -8847271.47 -8847271.40 -8847271.33 0.0521 0.0448

Moon -28934-06-06 07:55 J -8846564.28 -8846564.17 -8846564.06 0.2683 0.1142

Earth -28934-06-06 08:23 J -8846564.26 -8846564.15 -8846564.04 0.2677 0.1247 *

Uranus -28933-01-18 05:59 J -8846338.26 -8846338.25 -8846338.23 0.0135 0.0134

Uranus -28933-04-15 11:45 J -8846250.10 -8846250.01 -8846249.89 0.0135 0.0110

Uranus -28933-07-12 17:59 J -8846161.88 -8846161.75 -8846161.61 0.0135 0.0085

Uranus -28933-10-08 23:45 J -8846073.66 -8846073.51 -8846073.34 0.0135 0.0061

Uranus -28932-01-05 05:45 J -8845985.43 -8845985.26 -8845985.09 0.0134 0.0036

Uranus -28932-04-03 11:31 J -8845897.19 -8845897.02 -8845896.84 0.0134 0.0012

Uranus -28932-06-30 17:16 J -8845808.95 -8845808.78 -8845808.60 0.0134 0.0012

Uranus -28932-09-26 23:02 J -8845720.70 -8845720.54 -8845720.37 0.0134 0.0036

Uranus -28932-12-24 04:33 J -8845632.46 -8845632.31 -8845632.15 0.0134 0.0059

Uranus -28931-03-22 10:04 J -8845544.20 -8845544.08 -8845543.93 0.0134 0.0082

Uranus -28931-06-18 15:35 J -8845455.94 -8845455.85 -8845455.73 0.0134 0.0105

Uranus -28931-09-14 21:07 J -8845367.66 -8845367.62 -8845367.56 0.0134 0.0128

Jupiter -28930-08-28 13:40 J -8845020.09 -8845019.93 -8845019.76 0.0504 0.0159

Mars -28930-10-01 09:21 J -8844986.22 -8844986.11 -8844985.99 0.1743 0.0475

Saturn -28930-12-30 05:59 J -8844896.32 -8844896.25 -8844896.18 0.0269 0.0225

Saturn -28929-03-27 17:31 J -8844807.90 -8844807.77 -8844807.65 0.0269 0.0121

Saturn -28929-06-24 05:02 J -8844719.43 -8844719.29 -8844719.15 0.0268 0.0015

Mars -28929-08-13 15:35 J -8844668.99 -8844668.85 -8844668.70 0.1767 0.0709

Saturn -28929-09-20 16:47 J -8844630.94 -8844630.80 -8844630.67 0.0268 0.0093

Saturn -28929-12-18 04:33 J -8844542.40 -8844542.31 -8844542.21 0.0268 0.0202

Moon -28927-05-30 00:43 J -8844014.56 -8844014.47 -8844014.38 0.2676 0.1678

Earth -28927-05-30 00:57 J -8844014.55 -8844014.46 -8844014.36 0.2682 0.1644 *

Jupiter -28924-01-17 21:07 J -8843050.73 -8843050.62 -8843050.51 0.0525 0.0296

Jupiter -28924-04-17 05:31 J -8842961.38 -8842961.27 -8842961.16 0.0522 0.0296

Moon -28924-12-07 11:59 J -8842727.13 -8842727.00 -8842726.87 0.2661 0.0739

Earth -28924-12-07 12:14 J -8842727.12 -8842726.99 -8842726.86 0.2654 0.0685 *

Neptune -28921-03-05 13:26 J -8841907.95 -8841907.94 -8841907.92 0.0089 0.0088

Neptune -28921-06-01 14:52 J -8841819.93 -8841819.88 -8841819.83 0.0089 0.0082

Earth -28921-06-08 05:02 J -8841813.35 -8841813.29 -8841813.23 0.2675 0.2319

Moon -28921-06-08 05:16 J -8841813.34 -8841813.28 -8841813.23 0.2682 0.2377 *

Neptune -28921-08-28 16:04 J -8841731.89 -8841731.83 -8841731.74 0.0089 0.0075

Neptune -28921-11-24 17:45 J -8841643.84 -8841643.76 -8841643.67 0.0089 0.0068

Mars -28920-02-20 18:57 J -8841555.80 -8841555.71 -8841555.62 0.1738 0.1042

Neptune -28920-02-20 19:11 J -8841555.79 -8841555.70 -8841555.60 0.0089 0.0061 *

Neptune -28920-05-19 20:38 J -8841467.74 -8841467.64 -8841467.53 0.0089 0.0055

Neptune -28920-08-15 22:19 J -8841379.69 -8841379.57 -8841379.46 0.0089 0.0048

Pluto -28920-08-27 04:47 J -8841368.34 -8841368.30 -8841368.26 0.0069 0.0067

Neptune -28920-11-11 23:31 J -8841291.63 -8841291.52 -8841291.39 0.0089 0.0041

Pluto -28920-11-23 05:45 J -8841280.32 -8841280.26 -8841280.17 0.0070 0.0061

Mars -28919-01-03 15:35 J -8841239.00 -8841238.85 -8841238.69 0.1774 0.0257

Neptune -28919-02-08 01:11 J -8841203.57 -8841203.45 -8841203.32 0.0089 0.0034

Pluto -28919-02-19 07:11 J -8841192.29 -8841192.20 -8841192.09 0.0070 0.0054

Neptune -28919-05-07 02:38 J -8841115.52 -8841115.39 -8841115.25 0.0089 0.0027

Pluto -28919-05-18 08:23 J -8841104.25 -8841104.15 -8841104.01 0.0070 0.0048

Neptune -28919-08-03 04:04 J -8841027.46 -8841027.33 -8841027.19 0.0089 0.0021

Pluto -28919-08-14 09:50 J -8841016.21 -8841016.09 -8841015.94 0.0070 0.0041

Neptune -28919-10-30 05:45 J -8840939.40 -8840939.26 -8840939.12 0.0089 0.0013

Pluto -28919-11-10 11:16 J -8840928.16 -8840928.03 -8840927.87 0.0070 0.0034

Neptune -28918-01-26 07:11 J -8840851.33 -8840851.20 -8840851.06 0.0089 0.0007

Mars -28918-01-27 05:59 J -8840850.32 -8840850.25 -8840850.18 0.1760 0.1415

Pluto -28918-02-06 12:57 J -8840840.11 -8840839.96 -8840839.80 0.0070 0.0027

Neptune -28918-04-24 08:52 J -8840763.27 -8840763.13 -8840762.99 0.0089 0.0002

Pluto -28918-05-05 14:23 J -8840752.06 -8840751.90 -8840751.74 0.0070 0.0020

Jupiter -28918-06-16 11:59 J -8840710.17 -8840710.00 -8840709.82 0.0503 0.0023

Neptune -28918-07-21 10:19 J -8840675.21 -8840675.07 -8840674.93 0.0089 0.0008

Pluto -28918-08-01 15:50 J -8840664.00 -8840663.84 -8840663.68 0.0070 0.0013

Neptune -28918-10-17 11:45 J -8840587.14 -8840587.01 -8840586.87 0.0089 0.0015

Pluto -28918-10-28 17:16 J -8840575.94 -8840575.78 -8840575.61 0.0071 0.0006

Neptune -28917-01-13 13:11 J -8840499.08 -8840498.95 -8840498.81 0.0089 0.0022

Pluto -28917-01-24 18:43 J -8840487.88 -8840487.72 -8840487.55 0.0071 0.0001

Neptune -28917-04-10 14:38 J -8840411.01 -8840410.89 -8840410.75 0.0089 0.0030

Pluto -28917-04-21 20:09 J -8840399.82 -8840399.66 -8840399.49 0.0071 0.0008

Neptune -28917-07-07 16:19 J -8840322.94 -8840322.82 -8840322.69 0.0089 0.0036

Pluto -28917-07-18 21:35 J -8840311.76 -8840311.60 -8840311.43 0.0071 0.0015

Neptune -28917-10-03 17:45 J -8840234.87 -8840234.76 -8840234.63 0.0089 0.0043

Pluto -28917-10-14 23:16 J -8840223.69 -8840223.53 -8840223.38 0.0071 0.0022

Neptune -28917-12-30 19:26 J -8840146.80 -8840146.69 -8840146.57 0.0089 0.0050

Pluto -28916-01-11 00:28 J -8840135.62 -8840135.48 -8840135.32 0.0071 0.0030

Neptune -28916-03-28 20:52 J -8840058.73 -8840058.63 -8840058.51 0.0089 0.0057

Pluto -28916-04-09 01:55 J -8840047.55 -8840047.42 -8840047.27 0.0071 0.0037

Neptune -28916-06-24 22:33 J -8839970.65 -8839970.56 -8839970.46 0.0089 0.0064

Pluto -28916-07-06 03:35 J -8839959.47 -8839959.35 -8839959.21 0.0071 0.0045

Neptune -28916-09-20 23:59 J -8839882.57 -8839882.50 -8839882.41 0.0089 0.0072

Pluto -28916-10-02 04:47 J -8839871.39 -8839871.30 -8839871.17 0.0071 0.0053

Neptune -28916-12-18 01:40 J -8839794.49 -8839794.43 -8839794.36 0.0089 0.0079

Pluto -28916-12-29 06:28 J -8839783.31 -8839783.23 -8839783.12 0.0072 0.0060

Neptune -28915-03-16 03:21 J -8839706.39 -8839706.36 -8839706.32 0.0089 0.0086

Pluto -28915-03-27 07:55 J -8839695.20 -8839695.17 -8839695.09 0.0072 0.0068

Saturn -28914-01-28 03:35 J -8839388.43 -8839388.35 -8839388.25 0.0292 0.0243

Saturn -28914-04-27 01:11 J -8839299.61 -8839299.45 -8839299.28 0.0292 0.0069

Moon -28914-06-01 20:09 J -8839263.78 -8839263.66 -8839263.54 0.2677 0.0655

Earth -28914-06-01 21:07 J -8839263.74 -8839263.62 -8839263.51 0.2680 0.0648 *

Saturn -28914-07-24 22:04 J -8839210.73 -8839210.58 -8839210.42 0.0292 0.0101

Saturn -28914-10-21 18:43 J -8839121.79 -8839121.72 -8839121.66 0.0292 0.0267

Jupiter -28913-11-06 00:14 J -8838740.56 -8838740.49 -8838740.43 0.0527 0.0451

Jupiter -28912-02-03 08:23 J -8838651.27 -8838651.15 -8838651.02 0.0524 0.0142

Mars -28911-07-14 04:33 J -8838125.35 -8838125.31 -8838125.26 0.1732 0.1595

Earth -28911-12-10 12:28 J -8837976.07 -8837975.98 -8837975.89 0.2656 0.1962

Moon -28911-12-10 12:57 J -8837976.05 -8837975.96 -8837975.87 0.2663 0.1979 *

Mars -28910-05-26 14:52 J -8837808.99 -8837808.88 -8837808.76 0.1780 0.1270

Mars -28909-06-18 14:52 J -8837419.98 -8837419.88 -8837419.77 0.1755 0.0792

Jupiter -28906-04-04 10:33 J -8836400.22 -8836400.06 -8836399.90 0.0502 0.0197

Jupiter -28906-07-03 13:26 J -8836309.96 -8836309.94 -8836309.91 0.0505 0.0497

Moon -28904-12-02 15:07 J -8835426.97 -8835426.87 -8835426.78 0.2652 0.1904

Earth -28904-12-02 16:19 J -8835426.92 -8835426.82 -8835426.71 0.2651 0.1743 *

Moon -28901-06-03 16:19 J -8834512.94 -8834512.82 -8834512.70 0.2682 0.0273

Earth -28901-06-03 17:16 J -8834512.90 -8834512.78 -8834512.66 0.2679 0.0396 *

Jupiter -28901-11-22 12:14 J -8834341.13 -8834340.99 -8834340.86 0.0525 0.0016

Venus -28901-11-22 21:35 J -8834340.70 -8834340.60 -8834340.50 0.3780 0.1582

Saturn -28900-05-18 09:21 J -8834164.16 -8834164.11 -8834164.05 0.0268 0.0244

Saturn -28900-08-14 20:52 J -8834075.75 -8834075.63 -8834075.51 0.0268 0.0140

Mars -28900-11-09 00:14 J -8833989.61 -8833989.49 -8833989.37 0.1749 0.0196

Saturn -28900-11-11 08:23 J -8833987.29 -8833987.15 -8833987.01 0.0268 0.0035

Saturn -28899-02-07 19:55 J -8833898.80 -8833898.67 -8833898.53 0.0268 0.0072

Saturn -28899-05-07 07:40 J -8833810.28 -8833810.18 -8833810.07 0.0267 0.0181

Mars -28899-09-22 15:35 J -8833671.87 -8833671.85 -8833671.82 0.1761 0.1729

Venus -28897-11-22 06:57 J -8832880.26 -8832880.21 -8832880.16 0.3595 0.3374

Venus -28895-06-08 14:52 J -8832316.98 -8832316.88 -8832316.78 0.3779 0.1070

Jupiter -28894-01-21 08:38 J -8832090.25 -8832090.14 -8832090.03 0.0501 0.0379

Jupiter -28894-04-21 11:59 J -8832000.13 -8832000.00 -8831999.87 0.0505 0.0321

Earth -28894-05-28 10:19 J -8831963.12 -8831963.07 -8831963.02 0.2684 0.2440

Moon -28894-05-28 10:33 J -8831963.11 -8831963.06 -8831963.01 0.2677 0.2375 *

Venus -28891-06-08 08:52 J -8830856.26 -8830856.13 -8830856.00 0.3595 0.1190

Moon -28891-12-05 16:19 J -8830675.95 -8830675.82 -8830675.68 0.2656 0.0386

Earth -28891-12-05 17:16 J -8830675.91 -8830675.78 -8830675.64 0.2653 0.0393 *

Mars -28890-04-01 09:21 J -8830559.22 -8830559.11 -8830558.99 0.1743 0.0406

Uranus -28890-12-22 23:31 J -8830293.56 -8830293.52 -8830293.46 0.0144 0.0132

Mars -28889-02-12 16:19 J -8830241.96 -8830241.82 -8830241.68 0.1768 0.0815

Uranus -28889-03-20 03:35 J -8830205.43 -8830205.35 -8830205.25 0.0144 0.0109

Uranus -28889-06-16 08:09 J -8830117.28 -8830117.16 -8830117.05 0.0144 0.0085

Jupiter -28889-09-10 15:50 J -8830030.96 -8830030.84 -8830030.71 0.0525 0.0149

Uranus -28889-09-12 12:14 J -8830029.12 -8830028.99 -8830028.86 0.0144 0.0062

Jupiter -28889-12-09 00:43 J -8829941.54 -8829941.47 -8829941.40 0.0522 0.0448

Uranus -28889-12-09 16:33 J -8829940.95 -8829940.81 -8829940.68 0.0144 0.0038

Uranus -28888-03-07 20:38 J -8829852.78 -8829852.64 -8829852.49 0.0144 0.0015

Uranus -28888-06-04 00:57 J -8829764.60 -8829764.46 -8829764.31 0.0144 0.0011

Moon -28888-06-06 13:11 J -8829762.05 -8829761.95 -8829761.85 0.2683 0.1477

Earth -28888-06-06 13:40 J -8829762.03 -8829761.93 -8829761.83 0.2677 0.1449 *

Uranus -28888-08-31 05:16 J -8829676.41 -8829676.28 -8829676.13 0.0144 0.0035

Uranus -28888-11-27 09:50 J -8829588.22 -8829588.09 -8829587.96 0.0144 0.0059

Uranus -28887-02-23 14:09 J -8829500.02 -8829499.91 -8829499.79 0.0144 0.0084

Uranus -28887-05-22 18:28 J -8829411.81 -8829411.73 -8829411.63 0.0145 0.0109

Uranus -28887-08-18 23:02 J -8829323.58 -8829323.54 -8829323.48 0.0145 0.0134

Saturn -28885-09-12 23:45 J -8828567.66 -8828567.51 -8828567.35 0.0292 0.0123

Saturn -28885-12-10 20:52 J -8828478.79 -8828478.63 -8828478.46 0.0292 0.0049

Saturn -28884-03-09 17:31 J -8828389.88 -8828389.77 -8828389.65 0.0292 0.0215

Jupiter -28882-02-07 11:16 J -8827690.20 -8827690.03 -8827689.87 0.0504 0.0152

Moon -28881-05-30 05:31 J -8827212.36 -8827212.27 -8827212.17 0.2677 0.1511

Earth -28881-05-30 06:14 J -8827212.34 -8827212.24 -8827212.15 0.2682 0.1460 *

Mars -28881-08-21 18:57 J -8827128.81 -8827128.71 -8827128.61 0.1738 0.0977

Mars -28880-07-04 16:19 J -8826811.98 -8826811.82 -8826811.66 0.1774 0.0144

Mars -28879-07-28 05:59 J -8826423.31 -8826423.25 -8826423.19 0.1760 0.1482

Moon -28878-12-08 17:45 J -8825924.89 -8825924.76 -8825924.63 0.2662 0.0836

Earth -28878-12-08 17:59 J -8825924.88 -8825924.75 -8825924.62 0.2655 0.0930 *

Jupiter -28877-06-29 19:26 J -8825720.80 -8825720.69 -8825720.58 0.0526 0.0295

Jupiter -28877-09-27 03:50 J -8825631.45 -8825631.34 -8825631.23 0.0522 0.0298

Earth -28875-06-09 10:19 J -8825011.11 -8825011.07 -8825011.04 0.2675 0.2528

Moon -28875-06-09 10:33 J -8825011.10 -8825011.06 -8825011.02 0.2681 0.2512 *

Mars -28871-01-12 04:33 J -8823698.36 -8823698.31 -8823698.25 0.1732 0.1527

Mars -28871-11-24 15:35 J -8823381.97 -8823381.85 -8823381.73 0.1780 0.1159

Jupiter -28871-11-26 09:50 J -8823380.26 -8823380.09 -8823379.91 0.0503 0.0024

Saturn -28870-01-01 22:47 J -8823343.65 -8823343.55 -8823343.44 0.0269 0.0174

Saturn -28870-03-31 10:19 J -8823255.21 -8823255.07 -8823254.94 0.0268 0.0068

Saturn -28870-06-27 21:50 J -8823166.73 -8823166.59 -8823166.45 0.0268 0.0039

Saturn -28870-09-24 09:35 J -8823078.21 -8823078.10 -8823077.98 0.0268 0.0147

Mars -28870-12-18 14:52 J -8822992.98 -8822992.88 -8822992.77 0.1755 0.0864

Saturn -28870-12-21 21:35 J -8822989.63 -8822989.60 -8822989.56 0.0268 0.0256

Moon -28868-06-02 01:26 J -8822461.56 -8822461.44 -8822461.33 0.2678 0.0561

Earth -28868-06-02 02:09 J -8822461.53 -8822461.41 -8822461.29 0.2680 0.0446 *

Jupiter -28865-04-17 23:02 J -8821410.61 -8821410.54 -8821410.47 0.0526 0.0444

Jupiter -28865-07-16 07:11 J -8821321.33 -8821321.20 -8821321.07 0.0523 0.0146

Earth -28865-12-10 18:14 J -8821173.82 -8821173.74 -8821173.67 0.2657 0.2198

Moon -28865-12-10 18:43 J -8821173.78 -8821173.72 -8821173.65 0.2662 0.2307 *

Mars -28860-05-10 00:14 J -8819562.61 -8819562.49 -8819562.37 0.1749 0.0260

Jupiter -28859-09-14 08:23 J -8819070.31 -8819070.15 -8819069.99 0.0502 0.0199

Jupiter -28859-12-13 11:16 J -8818980.05 -8818980.03 -8818980.00 0.0505 0.0496

Moon -28858-12-03 20:52 J -8818624.74 -8818624.63 -8818624.52 0.2652 0.1554

Earth -28858-12-03 22:19 J -8818624.69 -8818624.57 -8818624.46 0.2651 0.1492 *

Saturn -28855-01-31 01:11 J -8817835.59 -8817835.45 -8817835.30 0.0292 0.0155

Saturn -28855-04-29 22:33 J -8817746.73 -8817746.56 -8817746.39 0.0292 0.0017

Moon -28855-06-04 21:35 J -8817710.72 -8817710.60 -8817710.48 0.2682 0.0585

Earth -28855-06-04 22:19 J -8817710.68 -8817710.57 -8817710.45 0.2678 0.0594 *

Saturn -28855-07-27 19:26 J -8817657.82 -8817657.69 -8817657.56 0.0292 0.0186

Jupiter -28853-05-04 10:04 J -8817011.21 -8817011.08 -8817010.94 0.0525 0.0019

Mars -28851-09-30 09:21 J -8816132.22 -8816132.11 -8816131.99 0.1743 0.0338

Mars -28850-08-13 16:47 J -8815814.94 -8815814.80 -8815814.67 0.1768 0.0916

Venus -28850-12-15 02:09 J -8815691.46 -8815691.41 -8815691.35 0.3780 0.3214

Uranus -28849-02-07 12:57 J -8815637.01 -8815636.96 -8815636.91 0.0135 0.0128

Uranus -28849-05-05 18:43 J -8815548.82 -8815548.72 -8815548.60 0.0135 0.0104

Uranus -28849-08-02 00:43 J -8815460.60 -8815460.47 -8815460.32 0.0135 0.0079

Uranus -28849-10-29 06:43 J -8815372.37 -8815372.22 -8815372.05 0.0134 0.0054

Uranus -28848-01-25 12:43 J -8815284.14 -8815283.97 -8815283.80 0.0134 0.0030

Uranus -28848-04-23 18:28 J -8815195.90 -8815195.73 -8815195.55 0.0134 0.0006

Earth -28848-05-28 15:21 J -8815160.92 -8815160.86 -8815160.79 0.2683 0.2255

Moon -28848-05-28 15:35 J -8815160.91 -8815160.85 -8815160.79 0.2677 0.2278 *

Uranus -28848-07-21 00:14 J -8815107.66 -8815107.49 -8815107.31 0.0134 0.0018

Uranus -28848-10-17 05:59 J -8815019.41 -8815019.25 -8815019.08 0.0134 0.0041

Uranus -28847-01-13 11:31 J -8814931.16 -8814931.02 -8814930.86 0.0134 0.0065

Uranus -28847-04-11 17:02 J -8814842.91 -8814842.79 -8814842.65 0.0134 0.0088

Jupiter -28847-07-03 06:43 J -8814760.33 -8814760.22 -8814760.10 0.0501 0.0375

Uranus -28847-07-08 22:33 J -8814754.64 -8814754.56 -8814754.45 0.0134 0.0111

Jupiter -28847-10-01 10:04 J -8814670.20 -8814670.08 -8814669.94 0.0504 0.0325

Uranus -28847-10-05 04:19 J -8814666.33 -8814666.32 -8814666.31 0.0134 0.0133

Moon -28845-12-05 22:19 J -8813873.71 -8813873.57 -8813873.43 0.2658 0.0274

Earth -28845-12-05 23:02 J -8813873.68 -8813873.54 -8813873.40 0.2653 0.0151 *

Venus -28844-06-29 19:26 J -8813667.80 -8813667.69 -8813667.59 0.3779 0.0620

Moon -28842-06-07 18:28 J -8812959.83 -8812959.73 -8812959.63 0.2682 0.1561

Earth -28842-06-07 18:43 J -8812959.81 -8812959.72 -8812959.62 0.2676 0.1653 *

Mars -28841-02-20 18:57 J -8812701.81 -8812701.71 -8812701.61 0.1738 0.0906

Jupiter -28841-02-21 13:40 J -8812701.05 -8812700.93 -8812700.80 0.0526 0.0159

Jupiter -28841-05-20 22:33 J -8812611.63 -8812611.56 -8812611.49 0.0522 0.0438

Saturn -28841-05-21 02:09 J -8812611.50 -8812611.41 -8812611.31 0.0268 0.0193 *

Saturn -28841-08-17 13:40 J -8812523.06 -8812522.93 -8812522.80 0.0268 0.0088

Saturn -28841-11-14 01:11 J -8812434.59 -8812434.45 -8812434.31 0.0268 0.0018

Mars -28840-01-02 16:47 J -8812384.96 -8812384.80 -8812384.65 0.1774 0.0069

Saturn -28840-02-10 12:57 J -8812346.08 -8812345.96 -8812345.84 0.0267 0.0126

Saturn -28840-05-10 00:57 J -8812257.53 -8812257.46 -8812257.40 0.0267 0.0235

Venus -28840-06-29 07:11 J -8812207.32 -8812207.20 -8812207.08 0.3595 0.1716

Mars -28839-01-26 05:59 J -8811996.30 -8811996.25 -8811996.19 0.1760 0.1558

Venus -28838-01-13 12:43 J -8811644.06 -8811643.97 -8811643.88 0.3779 0.2063

Neptune -28838-08-26 23:59 J -8811418.51 -8811418.50 -8811418.47 0.0088 0.0088

Neptune -28838-11-23 03:07 J -8811330.44 -8811330.37 -8811330.27 0.0088 0.0079

Neptune -28837-02-19 06:28 J -8811242.33 -8811242.23 -8811242.11 0.0088 0.0069

Neptune -28837-05-17 09:35 J -8811154.22 -8811154.10 -8811153.95 0.0088 0.0060

Neptune -28837-08-13 12:43 J -8811066.11 -8811065.97 -8811065.81 0.0088 0.0051

Neptune -28837-11-09 15:50 J -8810977.99 -8810977.84 -8810977.66 0.0088 0.0042

Neptune -28836-02-05 19:11 J -8810889.87 -8810889.70 -8810889.52 0.0088 0.0033

Neptune -28836-05-04 22:19 J -8810801.74 -8810801.57 -8810801.39 0.0088 0.0024

Neptune -28836-08-01 01:26 J -8810713.62 -8810713.44 -8810713.25 0.0088 0.0015

Neptune -28836-10-28 04:33 J -8810625.49 -8810625.31 -8810625.12 0.0088 0.0006

Neptune -28835-01-24 07:40 J -8810537.36 -8810537.18 -8810536.99 0.0088 0.0003

Neptune -28835-04-22 10:47 J -8810449.23 -8810449.05 -8810448.87 0.0088 0.0012

Moon -28835-05-31 10:47 J -8810410.16 -8810410.05 -8810409.95 0.2676 0.1285

Earth -28835-05-31 11:16 J -8810410.13 -8810410.03 -8810409.92 0.2682 0.1266 *

Neptune -28835-07-19 13:40 J -8810361.10 -8810360.93 -8810360.74 0.0088 0.0021

Jupiter -28835-07-20 08:38 J -8810360.31 -8810360.14 -8810359.97 0.0504 0.0146

Neptune -28835-10-15 16:33 J -8810272.97 -8810272.81 -8810272.62 0.0088 0.0031

Pluto -28835-10-28 11:31 J -8810260.06 -8810260.02 -8810259.95 0.0075 0.0070

Neptune -28834-01-11 19:55 J -8810184.83 -8810184.67 -8810184.50 0.0088 0.0038

Venus -28834-01-13 09:07 J -8810183.21 -8810183.12 -8810183.04 0.3596 0.2773

Pluto -28834-01-24 12:57 J -8810172.03 -8810171.96 -8810171.86 0.0075 0.0062

Neptune -28834-04-09 22:47 J -8810096.69 -8810096.55 -8810096.39 0.0088 0.0047

Pluto -28834-04-22 14:38 J -8810083.99 -8810083.89 -8810083.79 0.0075 0.0054

Neptune -28834-07-07 01:40 J -8810008.55 -8810008.43 -8810008.28 0.0088 0.0056

Pluto -28834-07-19 15:35 J -8809995.95 -8809995.85 -8809995.71 0.0074 0.0047

Neptune -28834-10-03 04:33 J -8809920.41 -8809920.31 -8809920.17 0.0088 0.0065

Pluto -28834-10-15 17:02 J -8809907.91 -8809907.79 -8809907.65 0.0074 0.0039

Neptune -28834-12-30 07:55 J -8809832.26 -8809832.17 -8809832.07 0.0088 0.0073

Pluto -28833-01-11 18:14 J -8809819.86 -8809819.74 -8809819.59 0.0074 0.0032

Neptune -28833-03-27 10:33 J -8809744.10 -8809744.06 -8809743.98 0.0088 0.0083

Pluto -28833-04-08 19:55 J -8809731.81 -8809731.67 -8809731.52 0.0074 0.0023

Pluto -28833-07-05 21:07 J -8809643.76 -8809643.62 -8809643.47 0.0074 0.0016

Pluto -28833-10-01 22:33 J -8809555.71 -8809555.56 -8809555.41 0.0074 0.0008

Pluto -28833-12-28 23:45 J -8809467.66 -8809467.51 -8809467.36 0.0074 0.0001

Pluto -28832-03-27 00:57 J -8809379.61 -8809379.46 -8809379.31 0.0074 0.0007

Pluto -28832-06-23 02:23 J -8809291.55 -8809291.40 -8809291.26 0.0073 0.0014

Mars -28832-07-13 04:33 J -8809271.37 -8809271.31 -8809271.25 0.1732 0.1462

Pluto -28832-09-19 03:21 J -8809203.50 -8809203.36 -8809203.21 0.0073 0.0021

Moon -28832-12-08 23:31 J -8809122.64 -8809122.52 -8809122.40 0.2662 0.1244

Earth -28832-12-08 23:45 J -8809122.64 -8809122.51 -8809122.39 0.2655 0.1168 *

Pluto -28832-12-16 04:33 J -8809115.44 -8809115.31 -8809115.16 0.0073 0.0029

Pluto -28831-03-14 05:45 J -8809027.38 -8809027.26 -8809027.12 0.0073 0.0036

Mars -28831-05-25 16:19 J -8808954.95 -8808954.82 -8808954.69 0.1780 0.1042

Pluto -28831-06-10 07:11 J -8808939.32 -8808939.20 -8808939.08 0.0073 0.0042

Pluto -28831-09-06 08:23 J -8808851.26 -8808851.15 -8808851.04 0.0073 0.0049

Pluto -28831-12-03 09:21 J -8808763.19 -8808763.11 -8808763.01 0.0073 0.0056

Pluto -28830-03-01 10:33 J -8808675.13 -8808675.06 -8808674.98 0.0073 0.0063

Pluto -28830-05-28 11:31 J -8808587.04 -8808587.02 -8808586.97 0.0072 0.0070

Mars -28830-06-18 15:07 J -8808565.97 -8808565.87 -8808565.77 0.1754 0.0936

Jupiter -28830-12-10 17:45 J -8808390.87 -8808390.76 -8808390.66 0.0526 0.0299

Jupiter -28829-03-09 02:09 J -8808301.52 -8808301.41 -8808301.30 0.0523 0.0295

Saturn -28826-06-19 23:59 J -8807103.62 -8807103.50 -8807103.38 0.0292 0.0209

Saturn -28826-09-16 21:21 J -8807014.78 -8807014.61 -8807014.44 0.0292 0.0036

Saturn -28826-12-14 18:14 J -8806925.89 -8806925.74 -8806925.59 0.0292 0.0134

Earth -28825-12-01 02:52 J -8806573.40 -8806573.38 -8806573.37 0.2650 0.2629

Jupiter -28823-05-08 07:40 J -8806050.36 -8806050.18 -8806050.01 0.0503 0.0028

Moon -28822-06-03 06:28 J -8805659.35 -8805659.23 -8805659.11 0.2679 0.0313

Earth -28822-06-03 07:26 J -8805659.31 -8805659.19 -8805659.08 0.2680 0.0274 *

Mars -28821-11-07 23:59 J -8805135.62 -8805135.50 -8805135.38 0.1749 0.0322

Earth -28819-12-11 23:45 J -8804371.56 -8804371.51 -8804371.45 0.2657 0.2433

Moon -28819-12-12 00:43 J -8804371.52 -8804371.47 -8804371.42 0.2662 0.2432 *

Jupiter -28818-09-28 21:21 J -8804080.68 -8804080.61 -8804080.54 0.0527 0.0442

Jupiter -28818-12-27 05:45 J -8803991.39 -8803991.26 -8803991.13 0.0523 0.0148

Saturn -28812-10-08 04:04 J -8801879.40 -8801879.33 -8801879.26 0.0268 0.0228

Moon -28812-12-04 02:52 J -8801822.50 -8801822.38 -8801822.27 0.2652 0.1373

Earth -28812-12-04 04:04 J -8801822.45 -8801822.33 -8801822.21 0.2651 0.1241 *

Saturn -28811-01-04 15:21 J -8801790.98 -8801790.86 -8801790.73 0.0268 0.0124

Jupiter -28811-02-24 06:14 J -8801740.40 -8801740.24 -8801740.08 0.0503 0.0199

Mars -28811-03-31 09:35 J -8801705.22 -8801705.10 -8801704.99 0.1743 0.0268

Saturn -28811-04-03 02:52 J -8801702.52 -8801702.38 -8801702.24 0.0268 0.0018

Jupiter -28811-05-25 09:21 J -8801650.14 -8801650.11 -8801650.08 0.0506 0.0498

Saturn -28811-06-30 14:38 J -8801614.02 -8801613.89 -8801613.76 0.0268 0.0090

Saturn -28811-09-27 02:23 J -8801525.49 -8801525.40 -8801525.30 0.0268 0.0198

Mars -28810-02-11 17:16 J -8801387.90 -8801387.78 -8801387.65 0.1767 0.1024

Moon -28809-06-05 02:52 J -8800908.50 -8800908.38 -8800908.27 0.2682 0.0672

Earth -28809-06-05 03:35 J -8800908.47 -8800908.35 -8800908.24 0.2678 0.0788 *

Jupiter -28806-10-15 09:07 J -8799681.26 -8799681.12 -8799680.99 0.0524 0.0012

Uranus -28805-01-12 06:43 J -8799592.28 -8799592.22 -8799592.14 0.0144 0.0126

Uranus -28805-04-09 10:47 J -8799504.13 -8799504.05 -8799503.94 0.0144 0.0103

Uranus -28805-07-06 15:21 J -8799415.98 -8799415.86 -8799415.75 0.0144 0.0079

Uranus -28805-10-02 19:26 J -8799327.82 -8799327.69 -8799327.56 0.0144 0.0056

Uranus -28805-12-29 23:45 J -8799239.65 -8799239.51 -8799239.37 0.0144 0.0032

Uranus -28804-03-28 04:04 J -8799151.47 -8799151.33 -8799151.19 0.0144 0.0008

Uranus -28804-06-24 08:23 J -8799063.29 -8799063.15 -8799063.01 0.0144 0.0016

Uranus -28804-09-20 12:43 J -8798975.11 -8798974.97 -8798974.83 0.0144 0.0041

Uranus -28804-12-17 17:02 J -8798886.92 -8798886.79 -8798886.66 0.0144 0.0065

Uranus -28803-03-15 21:35 J -8798798.71 -8798798.60 -8798798.49 0.0145 0.0090

Uranus -28803-06-12 01:55 J -8798710.50 -8798710.42 -8798710.33 0.0145 0.0115

Uranus -28803-09-08 06:28 J -8798622.26 -8798622.23 -8798622.20 0.0145 0.0140

Moon -28802-05-29 20:23 J -8798358.72 -8798358.65 -8798358.57 0.2677 0.2013

Earth -28802-05-29 20:23 J -8798358.72 -8798358.65 -8798358.57 0.2683 0.2077 *

Mars -28802-08-21 18:57 J -8798274.81 -8798274.71 -8798274.60 0.1738 0.0835

Mars -28801-07-03 17:16 J -8797957.93 -8797957.78 -8797957.62 0.1774 0.0078

Mars -28800-07-27 06:14 J -8797569.28 -8797569.24 -8797569.20 0.1760 0.1637

Jupiter -28800-12-13 04:33 J -8797430.42 -8797430.31 -8797430.19 0.0501 0.0375

Jupiter -28799-03-13 08:09 J -8797340.29 -8797340.16 -8797340.03 0.0504 0.0325

Moon -28799-12-07 04:19 J -8797071.46 -8797071.32 -8797071.19 0.2659 0.0123

Earth -28799-12-07 04:47 J -8797071.43 -8797071.30 -8797071.16 0.2653 0.0133 *

Saturn -28797-11-06 00:28 J -8796371.57 -8796371.48 -8796371.39 0.0292 0.0248

Saturn -28796-02-02 22:04 J -8796282.75 -8796282.58 -8796282.41 0.0292 0.0074

Saturn -28796-05-02 19:11 J -8796193.86 -8796193.70 -8796193.54 0.0292 0.0098

Moon -28796-06-07 23:59 J -8796157.59 -8796157.50 -8796157.42 0.2683 0.1915

Earth -28796-06-07 23:59 J -8796157.58 -8796157.50 -8796157.41 0.2676 0.1854 *

Saturn -28796-07-30 15:35 J -8796104.91 -8796104.85 -8796104.78 0.0293 0.0265

Jupiter -28794-08-03 11:59 J -8795371.13 -8795371.00 -8795370.88 0.0525 0.0161

Jupiter -28794-10-31 20:38 J -8795281.71 -8795281.64 -8795281.57 0.0522 0.0434

Venus -28793-07-20 23:59 J -8795018.58 -8795018.50 -8795018.41 0.3780 0.2267

Mars -28792-01-11 04:33 J -8794844.38 -8794844.31 -8794844.24 0.1732 0.1394

Mars -28792-11-23 16:47 J -8794527.93 -8794527.80 -8794527.67 0.1780 0.0942

Mars -28791-12-17 15:07 J -8794138.97 -8794138.87 -8794138.78 0.1754 0.1006

Moon -28789-05-31 15:50 J -8793607.95 -8793607.84 -8793607.73 0.2676 0.1164

Earth -28789-05-31 16:19 J -8793607.93 -8793607.82 -8793607.71 0.2682 0.1078 *

Jupiter -28788-12-30 06:57 J -8793030.37 -8793030.21 -8793030.04 0.0503 0.0153

Venus -28787-02-03 17:16 J -8792994.89 -8792994.78 -8792994.67 0.3780 0.0354

Moon -28786-12-10 05:31 J -8792320.39 -8792320.27 -8792320.16 0.2661 0.1344

Earth -28786-12-10 05:16 J -8792320.39 -8792320.28 -8792320.16 0.2655 0.1412 *

Venus -28783-02-03 07:26 J -8791534.33 -8791534.19 -8791534.05 0.3596 0.0082

Saturn -28782-02-25 07:26 J -8791147.24 -8791147.19 -8791147.13 0.0268 0.0246

Jupiter -28782-05-22 15:35 J -8791060.96 -8791060.85 -8791060.74 0.0526 0.0307

Saturn -28782-05-24 18:43 J -8791058.83 -8791058.72 -8791058.60 0.0268 0.0143

Jupiter -28782-08-19 23:59 J -8790971.61 -8790971.50 -8790971.38 0.0523 0.0288

Venus -28782-08-20 10:47 J -8790971.11 -8790971.05 -8790970.99 0.3779 0.3058

Saturn -28782-08-21 06:14 J -8790970.38 -8790970.24 -8790970.10 0.0267 0.0038

Saturn -28782-11-17 17:59 J -8790881.89 -8790881.75 -8790881.62 0.0267 0.0070

Saturn -28781-02-14 05:45 J -8790793.37 -8790793.26 -8790793.16 0.0267 0.0177

Mars -28781-05-09 00:14 J -8790708.61 -8790708.49 -8790708.37 0.1749 0.0398

Moon -28779-12-02 07:26 J -8789771.25 -8789771.19 -8789771.14 0.2648 0.2414

Earth -28779-12-02 08:38 J -8789771.20 -8789771.14 -8789771.08 0.2650 0.2378 *

Moon -28776-06-03 11:31 J -8788857.14 -8788857.02 -8788856.90 0.2681 0.0151

Earth -28776-06-03 12:28 J -8788857.10 -8788856.98 -8788856.86 0.2680 0.0064 *

Jupiter -28776-10-18 05:16 J -8788720.45 -8788720.28 -8788720.10 0.0503 0.0027

Mars -28772-09-29 09:21 J -8787278.23 -8787278.11 -8787277.99 0.1743 0.0204

Mars -28771-08-12 17:45 J -8786960.88 -8786960.76 -8786960.64 0.1768 0.1125

Jupiter -28770-03-10 19:26 J -8786750.75 -8786750.69 -8786750.62 0.0527 0.0447

Jupiter -28770-06-08 03:50 J -8786661.47 -8786661.34 -8786661.21 0.0524 0.0146

Saturn -28767-06-22 20:38 J -8785550.79 -8785550.64 -8785550.48 0.0292 0.0127

Saturn -28767-09-19 17:59 J -8785461.92 -8785461.75 -8785461.58 0.0292 0.0045

Saturn -28767-12-17 14:38 J -8785373.00 -8785372.89 -8785372.77 0.0292 0.0213

Moon -28766-12-05 08:38 J -8785020.26 -8785020.14 -8785020.01 0.2654 0.1091

Earth -28766-12-05 09:50 J -8785020.22 -8785020.09 -8785019.96 0.2652 0.0992 *

Uranus -28765-02-27 19:40 J -8784935.73 -8784935.68 -8784935.59 0.0135 0.0122

Uranus -28765-05-26 01:55 J -8784847.53 -8784847.42 -8784847.29 0.0135 0.0097

Uranus -28765-08-22 08:09 J -8784759.31 -8784759.16 -8784759.01 0.0134 0.0072

Uranus -28765-11-18 13:55 J -8784671.08 -8784670.92 -8784670.75 0.0134 0.0048

Uranus -28764-02-14 19:55 J -8784582.84 -8784582.67 -8784582.50 0.0134 0.0023

Uranus -28764-05-14 01:40 J -8784494.60 -8784494.43 -8784494.26 0.0134 0.0001

Jupiter -28764-08-06 04:04 J -8784410.49 -8784410.33 -8784410.17 0.0502 0.0199

Uranus -28764-08-10 07:26 J -8784406.36 -8784406.19 -8784406.02 0.0134 0.0024

Jupiter -28764-11-04 07:11 J -8784320.23 -8784320.20 -8784320.17 0.0505 0.0497

Uranus -28764-11-06 12:57 J -8784318.11 -8784317.96 -8784317.79 0.0134 0.0048

Uranus -28763-02-02 18:43 J -8784229.86 -8784229.72 -8784229.57 0.0134 0.0071

Uranus -28763-05-02 00:14 J -8784141.60 -8784141.49 -8784141.36 0.0134 0.0094

Moon -28763-06-06 08:09 J -8784106.28 -8784106.16 -8784106.05 0.2682 0.0971

Earth -28763-06-06 08:52 J -8784106.25 -8784106.13 -8784106.02 0.2678 0.0992 *

Uranus -28763-07-29 05:45 J -8784053.33 -8784053.26 -8784053.17 0.0134 0.0117

Mars -28762-02-19 18:57 J -8783847.82 -8783847.71 -8783847.60 0.1738 0.0770

Mars -28761-01-02 17:59 J -8783530.90 -8783530.75 -8783530.59 0.1774 0.0183

Mars -28760-01-25 05:59 J -8783142.28 -8783142.25 -8783142.22 0.1760 0.1699

Jupiter -28758-03-27 07:40 J -8782351.32 -8782351.18 -8782351.05 0.0524 0.0013

Neptune -28757-11-30 13:11 J -8781736.99 -8781736.95 -8781736.91 0.0089 0.0085

Neptune -28756-02-26 14:23 J -8781648.95 -8781648.90 -8781648.82 0.0089 0.0078

Neptune -28756-05-25 15:50 J -8781560.91 -8781560.84 -8781560.75 0.0089 0.0072

Moon -28756-05-30 01:26 J -8781556.52 -8781556.44 -8781556.36 0.2676 0.1964

Earth -28756-05-30 01:40 J -8781556.52 -8781556.43 -8781556.35 0.2683 0.1886 *

Neptune -28756-08-21 17:31 J -8781472.86 -8781472.77 -8781472.67 0.0089 0.0064

Neptune -28756-11-17 18:57 J -8781384.81 -8781384.71 -8781384.60 0.0089 0.0058

Neptune -28755-02-13 20:38 J -8781296.75 -8781296.64 -8781296.53 0.0089 0.0051

Neptune -28755-05-12 21:50 J -8781208.70 -8781208.59 -8781208.46 0.0089 0.0044

Neptune -28755-08-08 23:16 J -8781120.64 -8781120.53 -8781120.39 0.0089 0.0037

Neptune -28755-11-05 00:57 J -8781032.59 -8781032.46 -8781032.33 0.0089 0.0030

Neptune -28754-02-01 02:23 J -8780944.53 -8780944.40 -8780944.26 0.0089 0.0023

Neptune -28754-04-30 04:04 J -8780856.47 -8780856.33 -8780856.20 0.0089 0.0016

Neptune -28754-07-27 05:31 J -8780768.41 -8780768.27 -8780768.13 0.0089 0.0009

Neptune -28754-10-23 06:57 J -8780680.35 -8780680.21 -8780680.07 0.0089 0.0003

Neptune -28753-01-19 08:38 J -8780592.28 -8780592.14 -8780592.01 0.0089 0.0005

Neptune -28753-04-16 10:04 J -8780504.22 -8780504.08 -8780503.94 0.0089 0.0012

Mars -28753-07-12 04:47 J -8780417.38 -8780417.30 -8780417.23 0.1732 0.1323

Neptune -28753-07-13 11:31 J -8780416.15 -8780416.02 -8780415.88 0.0089 0.0019

Neptune -28753-10-09 12:57 J -8780328.09 -8780327.96 -8780327.82 0.0089 0.0026

Saturn -28753-10-10 20:23 J -8780326.75 -8780326.65 -8780326.55 0.0268 0.0180

Moon -28753-12-07 10:04 J -8780269.22 -8780269.08 -8780268.95 0.2660 0.0261

Earth -28753-12-07 10:33 J -8780269.19 -8780269.06 -8780268.92 0.2653 0.0358 *

Neptune -28752-01-05 14:23 J -8780240.02 -8780239.90 -8780239.76 0.0089 0.0034

Saturn -28752-01-07 07:40 J -8780238.31 -8780238.18 -8780238.04 0.0268 0.0076

Neptune -28752-04-03 16:04 J -8780151.95 -8780151.83 -8780151.70 0.0089 0.0040

Saturn -28752-04-05 19:26 J -8780149.83 -8780149.69 -8780149.55 0.0268 0.0032

Mars -28752-05-24 17:31 J -8780100.91 -8780100.77 -8780100.63 0.1780 0.0832

Jupiter -28752-05-25 02:38 J -8780100.50 -8780100.39 -8780100.27 0.0502 0.0374

Neptune -28752-06-30 17:31 J -8780063.88 -8780063.77 -8780063.64 0.0089 0.0047

Saturn -28752-07-03 06:57 J -8780061.33 -8780061.21 -8780061.08 0.0268 0.0139

Jupiter -28752-08-23 06:14 J -8780010.37 -8780010.24 -8780010.11 0.0505 0.0328

Neptune -28752-09-26 19:11 J -8779975.81 -8779975.70 -8779975.58 0.0089 0.0054

Saturn -28752-09-29 18:57 J -8779972.76 -8779972.71 -8779972.66 0.0268 0.0248

Neptune -28752-12-23 20:38 J -8779887.73 -8779887.64 -8779887.53 0.0089 0.0061

Neptune -28751-03-21 22:19 J -8779799.65 -8779799.57 -8779799.48 0.0089 0.0068

Mars -28751-06-17 15:07 J -8779711.96 -8779711.87 -8779711.78 0.1755 0.1079

Neptune -28751-06-17 23:45 J -8779711.57 -8779711.51 -8779711.43 0.0089 0.0076

Neptune -28751-09-14 01:26 J -8779623.48 -8779623.44 -8779623.38 0.0089 0.0083

Moon -28750-06-09 05:16 J -8779355.36 -8779355.28 -8779355.20 0.2683 0.2007

Earth -28750-06-09 05:16 J -8779355.36 -8779355.28 -8779355.20 0.2676 0.2057 *

Jupiter -28746-01-13 11:02 J -8778041.16 -8778041.04 -8778040.91 0.0525 0.0148

Jupiter -28746-04-12 19:40 J -8777951.74 -8777951.68 -8777951.61 0.0522 0.0447

Moon -28743-06-01 20:52 J -8776805.74 -8776805.63 -8776805.52 0.2677 0.0886

Earth -28743-06-01 21:35 J -8776805.72 -8776805.60 -8776805.49 0.2681 0.0889 *

Mars -28742-11-08 00:14 J -8776281.61 -8776281.49 -8776281.37 0.1749 0.0469

Jupiter -28740-06-11 05:16 J -8775700.45 -8775700.28 -8775700.12 0.0504 0.0156

Earth -28740-12-10 11:02 J -8775518.14 -8775518.04 -8775517.93 0.2655 0.1647

Moon -28740-12-10 11:31 J -8775518.12 -8775518.02 -8775517.92 0.2662 0.1745 *

Saturn -28738-11-09 20:23 J -8774818.78 -8774818.65 -8774818.51 0.0292 0.0172

Saturn -28737-02-06 17:59 J -8774729.93 -8774729.75 -8774729.58 0.0292 0.0007

Saturn -28737-05-05 14:38 J -8774641.02 -8774640.89 -8774640.75 0.0293 0.0172

Venus -28736-02-24 21:50 J -8774345.69 -8774345.59 -8774345.49 0.3780 0.1324

Jupiter -28735-11-01 13:55 J -8773731.02 -8773730.92 -8773730.81 0.0526 0.0307

Jupiter -28734-01-29 22:33 J -8773641.68 -8773641.56 -8773641.45 0.0523 0.0287

Moon -28733-12-02 13:11 J -8772969.02 -8772968.95 -8772968.88 0.2648 0.2297

Earth -28733-12-02 14:23 J -8772968.98 -8772968.90 -8772968.81 0.2650 0.2121 *

Venus -28732-02-24 05:31 J -8772885.34 -8772885.27 -8772885.20 0.3596 0.3054

Mars -28732-03-30 09:35 J -8772851.22 -8772851.10 -8772850.98 0.1743 0.0135

Mars -28731-02-10 18:28 J -8772533.84 -8772533.73 -8772533.62 0.1768 0.1232

Venus -28731-09-10 15:07 J -8772321.97 -8772321.87 -8772321.77 0.3779 0.1333

Moon -28730-06-04 16:47 J -8772054.92 -8772054.80 -8772054.68 0.2681 0.0057

Earth -28730-06-04 17:45 J -8772054.88 -8772054.76 -8772054.64 0.2679 0.0166 *

Jupiter -28728-03-30 04:04 J -8771390.50 -8771390.33 -8771390.16 0.0503 0.0016

Venus -28727-09-10 07:26 J -8770861.31 -8770861.19 -8770861.06 0.3596 0.1512

Saturn -28723-02-27 23:45 J -8769594.60 -8769594.51 -8769594.42 0.0268 0.0199

Saturn -28723-05-27 11:02 J -8769506.17 -8769506.04 -8769505.91 0.0267 0.0095

Earth -28723-05-28 11:02 J -8769505.04 -8769505.04 -8769505.04 0.2684 0.2681

Jupiter -28723-08-20 17:45 J -8769420.83 -8769420.76 -8769420.70 0.0527 0.0453

Mars -28723-08-20 18:57 J -8769420.82 -8769420.71 -8769420.60 0.1738 0.0700 *

Saturn -28723-08-23 22:33 J -8769417.70 -8769417.56 -8769417.42 0.0267 0.0012

Jupiter -28723-11-18 01:55 J -8769331.55 -8769331.42 -8769331.29 0.0524 0.0140

Saturn -28723-11-20 10:19 J -8769329.20 -8769329.07 -8769328.94 0.0267 0.0118

Saturn -28722-02-16 22:04 J -8769240.65 -8769240.58 -8769240.50 0.0267 0.0226

Mars -28722-07-03 18:28 J -8769103.89 -8769103.73 -8769103.58 0.1774 0.0272

Uranus -28722-11-05 09:50 J -8768979.09 -8768979.09 -8768979.08 0.0144 0.0143

Uranus -28721-02-01 13:40 J -8768890.99 -8768890.93 -8768890.84 0.0144 0.0121

Uranus -28721-04-29 17:59 J -8768802.85 -8768802.75 -8768802.64 0.0144 0.0097

Uranus -28721-07-26 22:19 J -8768714.69 -8768714.57 -8768714.45 0.0144 0.0074

Uranus -28721-10-23 02:23 J -8768626.53 -8768626.40 -8768626.26 0.0144 0.0051

Uranus -28720-01-19 06:43 J -8768538.36 -8768538.22 -8768538.08 0.0144 0.0027

Uranus -28720-04-17 11:02 J -8768450.18 -8768450.04 -8768449.90 0.0144 0.0003

Uranus -28720-07-14 15:21 J -8768362.00 -8768361.86 -8768361.72 0.0144 0.0021

Uranus -28720-10-10 19:40 J -8768273.81 -8768273.68 -8768273.54 0.0144 0.0046

Moon -28720-12-05 14:38 J -8768218.02 -8768217.89 -8768217.76 0.2656 0.0791

Earth -28720-12-05 15:35 J -8768217.98 -8768217.85 -8768217.72 0.2652 0.0745 *

Uranus -28719-01-06 23:59 J -8768185.62 -8768185.50 -8768185.37 0.0144 0.0071

Uranus -28719-04-05 04:19 J -8768097.42 -8768097.32 -8768097.20 0.0145 0.0096

Uranus -28719-07-02 08:52 J -8768009.20 -8768009.13 -8768009.05 0.0145 0.0120

Moon -28717-06-06 13:26 J -8767304.05 -8767303.94 -8767303.83 0.2683 0.1136

Earth -28717-06-06 13:55 J -8767304.03 -8767303.92 -8767303.81 0.2678 0.1195 *

Jupiter -28716-01-16 02:09 J -8767080.57 -8767080.41 -8767080.24 0.0502 0.0196

Jupiter -28716-04-16 05:16 J -8766990.30 -8766990.28 -8766990.25 0.0505 0.0499

Mars -28713-01-11 04:33 J -8765990.39 -8765990.31 -8765990.23 0.1732 0.1261

Mars -28713-11-22 18:14 J -8765673.89 -8765673.74 -8765673.60 0.1780 0.0718

Mars -28712-12-16 15:07 J -8765284.96 -8765284.87 -8765284.78 0.1754 0.1149

Jupiter -28711-09-06 05:45 J -8765021.39 -8765021.26 -8765021.12 0.0525 0.0016

Moon -28710-05-31 06:28 J -8764754.33 -8764754.23 -8764754.14 0.2676 0.1651

Earth -28710-05-31 06:43 J -8764754.31 -8764754.22 -8764754.13 0.2683 0.1703 *

Saturn -28708-03-28 18:43 J -8764086.82 -8764086.72 -8764086.60 0.0292 0.0228

Saturn -28708-06-25 16:19 J -8763997.98 -8763997.82 -8763997.64 0.0292 0.0054

Saturn -28708-09-22 13:26 J -8763909.09 -8763908.94 -8763908.78 0.0292 0.0118

Saturn -28708-12-20 10:04 J -8763820.11 -8763820.08 -8763820.04 0.0292 0.0284

Moon -28707-12-08 15:50 J -8763466.97 -8763466.84 -8763466.71 0.2660 0.0576

Earth -28707-12-08 16:19 J -8763466.95 -8763466.82 -8763466.68 0.2654 0.0596 *

Jupiter -28705-11-04 00:57 J -8762770.58 -8762770.46 -8762770.34 0.0501 0.0368

Jupiter -28704-02-02 04:19 J -8762680.44 -8762680.32 -8762680.18 0.0504 0.0331

Moon -28704-06-09 10:33 J -8762553.12 -8762553.06 -8762553.00 0.2683 0.2325

Earth -28704-06-09 10:33 J -8762553.12 -8762553.06 -8762553.00 0.2676 0.2266 *

Mars -28703-04-14 17:02 J -8762243.81 -8762243.79 -8762243.76 0.1786 0.1756

Mars -28702-05-09 00:14 J -8761854.61 -8761854.49 -8761854.38 0.1749 0.0537

Jupiter -28699-06-25 09:35 J -8760711.22 -8760711.10 -8760710.97 0.0525 0.0144

Jupiter -28699-09-22 18:28 J -8760621.80 -8760621.73 -8760621.67 0.0522 0.0452

Moon -28697-06-02 01:55 J -8760003.53 -8760003.42 -8760003.31 0.2678 0.0826

Earth -28697-06-02 02:38 J -8760003.50 -8760003.39 -8760003.27 0.2681 0.0695 *

Saturn -28694-07-18 00:57 J -8758862.51 -8758862.46 -8758862.39 0.0268 0.0238

Saturn -28694-10-14 12:28 J -8758774.10 -8758773.98 -8758773.86 0.0268 0.0134

Earth -28694-12-11 16:47 J -8758715.90 -8758715.80 -8758715.71 0.2656 0.1885

Moon -28694-12-11 17:16 J -8758715.87 -8758715.78 -8758715.68 0.2662 0.1881 *

Saturn -28693-01-10 23:59 J -8758685.64 -8758685.50 -8758685.36 0.0268 0.0030

Saturn -28693-04-08 11:31 J -8758597.16 -8758597.02 -8758596.89 0.0268 0.0078

Saturn -28693-07-05 23:16 J -8758508.63 -8758508.53 -8758508.43 0.0267 0.0186

Mars -28693-09-28 09:35 J -8758424.22 -8758424.10 -8758423.98 0.1743 0.0061

Jupiter -28693-11-21 03:21 J -8758370.52 -8758370.36 -8758370.19 0.0504 0.0161

Mars -28692-08-11 18:57 J -8758106.81 -8758106.71 -8758106.61 0.1768 0.1331

Jupiter -28687-04-13 13:26 J -8756401.05 -8756400.94 -8756400.83 0.0526 0.0289

Jupiter -28687-07-11 21:50 J -8756311.70 -8756311.59 -8756311.48 0.0523 0.0304

Moon -28687-12-03 19:11 J -8756166.80 -8756166.70 -8756166.61 0.2649 0.1882

Earth -28687-12-03 20:23 J -8756166.75 -8756166.65 -8756166.55 0.2651 0.1864 *

Venus -28685-03-18 02:23 J -8755696.46 -8755696.40 -8755696.33 0.3779 0.2958

Moon -28684-06-04 21:50 J -8755252.71 -8755252.59 -8755252.47 0.2680 0.0314

Earth -28684-06-04 22:47 J -8755252.67 -8755252.55 -8755252.43 0.2679 0.0340 *

Mars -28683-02-18 18:57 J -8754993.82 -8754993.71 -8754993.60 0.1737 0.0631

Mars -28682-01-01 19:11 J -8754676.86 -8754676.70 -8754676.55 0.1774 0.0385

Uranus -28681-03-19 02:52 J -8754234.45 -8754234.38 -8754234.27 0.0135 0.0115

Uranus -28681-06-15 09:07 J -8754146.24 -8754146.12 -8754145.98 0.0135 0.0090

Jupiter -28681-09-09 02:23 J -8754060.57 -8754060.40 -8754060.22 0.0503 0.0014

Uranus -28681-09-11 15:07 J -8754058.02 -8754057.87 -8754057.71 0.0134 0.0065

Uranus -28681-12-08 21:07 J -8753969.79 -8753969.62 -8753969.45 0.0134 0.0041

Uranus -28680-03-07 02:52 J -8753881.55 -8753881.38 -8753881.20 0.0134 0.0017

Uranus -28680-06-03 08:52 J -8753793.31 -8753793.13 -8753792.96 0.0134 0.0008

Uranus -28680-08-30 14:23 J -8753705.06 -8753704.90 -8753704.72 0.0134 0.0031

Venus -28680-10-01 19:40 J -8753672.79 -8753672.68 -8753672.57 0.3779 0.0358

Uranus -28680-11-26 20:09 J -8753616.81 -8753616.66 -8753616.50 0.0134 0.0054

Uranus -28679-02-23 01:40 J -8753528.56 -8753528.43 -8753528.28 0.0134 0.0078

Uranus -28679-05-22 07:11 J -8753440.30 -8753440.20 -8753440.08 0.0134 0.0101

Saturn -28679-08-15 17:31 J -8753354.81 -8753354.77 -8753354.72 0.0292 0.0280

Uranus -28679-08-18 12:57 J -8753352.02 -8753351.96 -8753351.89 0.0134 0.0123

Saturn -28679-11-12 15:21 J -8753266.02 -8753265.86 -8753265.70 0.0292 0.0104

Saturn -28678-02-09 12:43 J -8753177.14 -8753176.97 -8753176.81 0.0293 0.0069

Saturn -28678-05-09 09:21 J -8753088.20 -8753088.11 -8753088.01 0.0293 0.0238

Moon -28677-05-28 16:19 J -8752702.87 -8752702.82 -8752702.78 0.2678 0.2441

Earth -28677-05-28 16:04 J -8752702.87 -8752702.83 -8752702.79 0.2684 0.2499 *

Venus -28676-10-01 05:45 J -8752212.39 -8752212.26 -8752212.13 0.3596 0.1402

Jupiter -28675-01-30 16:19 J -8752090.89 -8752090.82 -8752090.76 0.0527 0.0449

Jupiter -28675-04-30 00:28 J -8752001.61 -8752001.48 -8752001.35 0.0524 0.0142

Venus -28674-04-17 12:57 J -8751649.04 -8751648.96 -8751648.87 0.3779 0.2314

Mars -28674-07-12 04:33 J -8751563.39 -8751563.31 -8751563.22 0.1732 0.1190

Moon -28674-12-06 20:23 J -8751415.78 -8751415.65 -8751415.51 0.2657 0.0638

Earth -28674-12-06 21:21 J -8751415.74 -8751415.61 -8751415.47 0.2652 0.0496 *

Neptune -28673-05-22 23:02 J -8751247.59 -8751247.54 -8751247.47 0.0088 0.0083

Mars -28673-05-23 18:43 J -8751246.87 -8751246.72 -8751246.57 0.1780 0.0615

Pluto -28673-07-09 16:47 J -8751199.82 -8751199.80 -8751199.75 0.0070 0.0068

Neptune -28673-08-19 02:09 J -8751159.50 -8751159.41 -8751159.29 0.0088 0.0074

Pluto -28673-10-05 17:59 J -8751111.81 -8751111.75 -8751111.66 0.0070 0.0062

Neptune -28673-11-15 05:16 J -8751071.39 -8751071.28 -8751071.14 0.0088 0.0065

Pluto -28672-01-01 19:26 J -8751023.77 -8751023.69 -8751023.57 0.0070 0.0055

Neptune -28672-02-11 08:38 J -8750983.28 -8750983.14 -8750982.99 0.0088 0.0055

Pluto -28672-03-30 20:52 J -8750935.74 -8750935.63 -8750935.50 0.0070 0.0048

Neptune -28672-05-10 11:45 J -8750895.16 -8750895.01 -8750894.84 0.0088 0.0046

Mars -28672-06-16 15:07 J -8750857.95 -8750857.87 -8750857.78 0.1754 0.1223

Pluto -28672-06-26 22:33 J -8750847.69 -8750847.56 -8750847.43 0.0070 0.0041

Neptune -28672-08-06 14:52 J -8750807.04 -8750806.88 -8750806.70 0.0088 0.0037

Pluto -28672-09-22 23:31 J -8750759.64 -8750759.52 -8750759.36 0.0070 0.0035

Neptune -28672-11-02 17:59 J -8750718.91 -8750718.75 -8750718.56 0.0088 0.0028

Pluto -28672-12-20 00:57 J -8750671.59 -8750671.46 -8750671.29 0.0070 0.0029

Neptune -28671-01-29 21:21 J -8750630.79 -8750630.61 -8750630.43 0.0088 0.0019

Pluto -28671-03-18 02:38 J -8750583.54 -8750583.39 -8750583.23 0.0070 0.0021

Neptune -28671-04-28 00:28 J -8750542.66 -8750542.48 -8750542.29 0.0088 0.0010

Moon -28671-06-07 18:43 J -8750501.82 -8750501.72 -8750501.61 0.2683 0.1344

Earth -28671-06-07 19:11 J -8750501.80 -8750501.70 -8750501.60 0.2677 0.1391 *

Pluto -28671-06-14 04:04 J -8750495.49 -8750495.33 -8750495.16 0.0070 0.0014

Neptune -28671-07-25 03:35 J -8750454.53 -8750454.35 -8750454.16 0.0088 0.0001

Pluto -28671-09-10 05:31 J -8750407.43 -8750407.27 -8750407.10 0.0071 0.0007

Neptune -28671-10-21 06:43 J -8750366.40 -8750366.22 -8750366.04 0.0088 0.0008

Pluto -28671-12-07 07:11 J -8750319.37 -8750319.20 -8750319.04 0.0071 0.0002

Neptune -28670-01-17 09:35 J -8750278.27 -8750278.10 -8750277.91 0.0088 0.0017

Pluto -28670-03-05 08:23 J -8750231.31 -8750231.15 -8750230.98 0.0071 0.0008

Neptune -28670-04-15 12:43 J -8750190.14 -8750189.97 -8750189.79 0.0088 0.0026

Venus -28670-04-17 07:40 J -8750188.25 -8750188.18 -8750188.11 0.3596 0.3091

Pluto -28670-06-01 09:50 J -8750143.24 -8750143.09 -8750142.92 0.0071 0.0015

Neptune -28670-07-12 15:35 J -8750102.00 -8750101.85 -8750101.67 0.0088 0.0035

Pluto -28670-08-28 11:16 J -8750055.18 -8750055.03 -8750054.86 0.0071 0.0022

Neptune -28670-10-08 18:57 J -8750013.87 -8750013.71 -8750013.55 0.0088 0.0043

Pluto -28670-11-24 12:57 J -8749967.11 -8749966.96 -8749966.80 0.0071 0.0029

Neptune -28669-01-04 21:50 J -8749925.73 -8749925.59 -8749925.44 0.0088 0.0052

Pluto -28669-02-20 14:23 J -8749879.04 -8749878.90 -8749878.75 0.0071 0.0037

Neptune -28669-04-02 00:43 J -8749837.59 -8749837.47 -8749837.33 0.0088 0.0061

Pluto -28669-05-18 15:50 J -8749790.96 -8749790.84 -8749790.70 0.0071 0.0044

Jupiter -28669-06-28 01:11 J -8749750.61 -8749750.45 -8749750.28 0.0502 0.0181

Neptune -28669-06-29 03:35 J -8749749.44 -8749749.35 -8749749.22 0.0088 0.0070

Pluto -28669-08-14 17:31 J -8749702.88 -8749702.77 -8749702.65 0.0072 0.0052

Neptune -28669-09-25 06:57 J -8749661.29 -8749661.21 -8749661.13 0.0088 0.0078

Pluto -28669-11-10 18:43 J -8749614.79 -8749614.72 -8749614.61 0.0072 0.0060

Neptune -28669-12-22 09:35 J -8749573.10 -8749573.10 -8749573.06 0.0088 0.0088

Pluto -28668-02-06 20:38 J -8749526.69 -8749526.64 -8749526.58 0.0072 0.0067

Saturn -28665-12-04 04:33 J -8748130.35 -8748130.31 -8748130.28 0.0268 0.0258

Saturn -28664-03-02 15:35 J -8748041.96 -8748041.85 -8748041.73 0.0267 0.0155

Saturn -28664-05-30 03:07 J -8747953.51 -8747953.37 -8747953.23 0.0267 0.0050

Moon -28664-05-31 11:31 J -8747952.11 -8747952.02 -8747951.92 0.2676 0.1596

Earth -28664-05-31 11:45 J -8747952.10 -8747952.01 -8747951.91 0.2682 0.1514 *

Saturn -28664-08-26 14:38 J -8747865.03 -8747864.89 -8747864.75 0.0267 0.0056

Mars -28664-10-13 17:31 J -8747816.83 -8747816.77 -8747816.71 0.1787 0.1657

Saturn -28664-11-23 02:09 J -8747776.51 -8747776.41 -8747776.29 0.0267 0.0164

Jupiter -28663-02-16 04:04 J -8747691.46 -8747691.33 -8747691.20 0.0525 0.0005

Mars -28663-11-07 00:14 J -8747427.60 -8747427.49 -8747427.38 0.1749 0.0609

Moon -28661-12-08 21:50 J -8746664.72 -8746664.59 -8746664.46 0.2660 0.0821

Earth -28661-12-08 22:04 J -8746664.71 -8746664.58 -8746664.45 0.2654 0.0835 *

Earth -28658-06-10 15:35 J -8745750.89 -8745750.85 -8745750.80 0.2676 0.2475

Moon -28658-06-10 15:50 J -8745750.88 -8745750.84 -8745750.79 0.2682 0.2463 *

Jupiter -28657-04-15 23:31 J -8745440.64 -8745440.52 -8745440.40 0.0501 0.0360

Jupiter -28657-07-15 02:52 J -8745350.50 -8745350.38 -8745350.25 0.0504 0.0338

Mars -28653-03-29 09:35 J -8743997.22 -8743997.10 -8743996.98 0.1743 0.0053

Mars -28652-02-09 19:40 J -8743679.77 -8743679.68 -8743679.59 0.1768 0.1438

Jupiter -28652-12-05 07:55 J -8743381.29 -8743381.17 -8743381.04 0.0526 0.0146

Jupiter -28651-03-04 16:47 J -8743291.87 -8743291.80 -8743291.74 0.0523 0.0452

Moon -28651-06-03 06:57 J -8743201.33 -8743201.21 -8743201.09 0.2679 0.0503

Earth -28651-06-03 07:55 J -8743201.29 -8743201.17 -8743201.06 0.2681 0.0510 *

Saturn -28649-03-31 13:55 J -8742534.06 -8742533.92 -8742533.77 0.0292 0.0159

Saturn -28649-06-28 11:31 J -8742445.20 -8742445.02 -8742444.85 0.0293 0.0016

Saturn -28649-09-25 08:09 J -8742356.28 -8742356.16 -8742356.02 0.0293 0.0185

Earth -28648-12-11 22:33 J -8741913.64 -8741913.56 -8741913.48 0.2656 0.2120

Moon -28648-12-11 23:02 J -8741913.61 -8741913.54 -8741913.47 0.2662 0.2211 *

Jupiter -28645-05-03 01:55 J -8741040.58 -8741040.42 -8741040.26 0.0503 0.0169

Mars -28644-08-19 18:57 J -8740566.82 -8740566.71 -8740566.60 0.1738 0.0563

Mars -28643-07-02 19:40 J -8740249.83 -8740249.68 -8740249.52 0.1774 0.0497

Moon -28641-12-04 00:57 J -8739364.56 -8739364.46 -8739364.36 0.2651 0.1795

Earth -28641-12-04 02:09 J -8739364.52 -8739364.41 -8739364.30 0.2651 0.1609 *

Jupiter -28640-09-23 11:59 J -8739071.11 -8739071.00 -8739070.89 0.0526 0.0284

Jupiter -28640-12-21 20:23 J -8738981.75 -8738981.65 -8738981.54 0.0523 0.0310

Moon -28638-06-06 03:07 J -8738450.49 -8738450.37 -8738450.25 0.2681 0.0408

Earth -28638-06-06 04:04 J -8738450.45 -8738450.33 -8738450.22 0.2679 0.0541 *

Uranus -28638-11-25 16:33 J -8738277.84 -8738277.81 -8738277.78 0.0144 0.0140

Uranus -28637-02-21 20:38 J -8738189.72 -8738189.64 -8738189.56 0.0144 0.0117

Uranus -28637-05-20 00:43 J -8738101.57 -8738101.47 -8738101.36 0.0144 0.0094

Uranus -28637-08-16 05:02 J -8738013.41 -8738013.29 -8738013.17 0.0144 0.0070

Uranus -28637-11-12 09:07 J -8737925.25 -8737925.12 -8737924.98 0.0144 0.0047

Uranus -28636-02-08 13:26 J -8737837.08 -8737836.94 -8737836.80 0.0144 0.0023

Uranus -28636-05-07 17:45 J -8737748.90 -8737748.76 -8737748.62 0.0144 0.0001

Uranus -28636-08-03 22:04 J -8737660.72 -8737660.58 -8737660.44 0.0144 0.0025

Uranus -28636-10-31 02:23 J -8737572.53 -8737572.40 -8737572.26 0.0144 0.0050

Uranus -28635-01-27 06:43 J -8737484.34 -8737484.22 -8737484.09 0.0145 0.0074

Uranus -28635-04-25 11:16 J -8737396.13 -8737396.03 -8737395.93 0.0145 0.0099

Saturn -28635-07-20 16:47 J -8737309.89 -8737309.80 -8737309.70 0.0268 0.0195

Uranus -28635-07-22 15:35 J -8737307.92 -8737307.85 -8737307.77 0.0145 0.0124

Saturn -28635-10-17 04:19 J -8737221.45 -8737221.32 -8737221.19 0.0268 0.0090

Mars -28634-01-10 04:47 J -8737136.39 -8737136.30 -8737136.21 0.1732 0.1120

Saturn -28634-01-13 15:50 J -8737132.99 -8737132.84 -8737132.70 0.0267 0.0017

Saturn -28634-04-12 03:21 J -8737044.49 -8737044.36 -8737044.23 0.0267 0.0122

Saturn -28634-07-09 15:07 J -8736955.94 -8736955.87 -8736955.80 0.0267 0.0231

Mars -28634-11-22 19:11 J -8736819.85 -8736819.70 -8736819.55 0.1780 0.0505

Jupiter -28633-02-20 00:57 J -8736730.64 -8736730.46 -8736730.29 0.0503 0.0014

Mars -28633-12-15 15:07 J -8736430.95 -8736430.87 -8736430.79 0.1754 0.1296

Earth -28631-05-29 21:07 J -8735900.68 -8735900.62 -8735900.56 0.2684 0.2318

Moon -28631-05-29 21:07 J -8735900.67 -8735900.62 -8735900.56 0.2677 0.2314 *

Venus -28629-10-23 00:14 J -8735023.58 -8735023.49 -8735023.40 0.3779 0.2008

Jupiter -28628-07-12 15:50 J -8734760.92 -8734760.84 -8734760.77 0.0527 0.0428

Jupiter -28628-10-09 23:59 J -8734671.62 -8734671.50 -8734671.37 0.0524 0.0164

Moon -28628-12-07 02:09 J -8734613.54 -8734613.41 -8734613.27 0.2657 0.0263

Earth -28628-12-07 03:21 J -8734613.50 -8734613.36 -8734613.23 0.2653 0.0252 *

Mars -28625-06-01 14:23 J -8733705.92 -8733705.90 -8733705.87 0.1727 0.1663

Moon -28625-06-07 23:59 J -8733699.60 -8733699.50 -8733699.40 0.2684 0.1604

Earth -28625-06-08 00:14 J -8733699.58 -8733699.49 -8733699.39 0.2677 0.1598 *

Mars -28624-04-13 18:14 J -8733389.82 -8733389.74 -8733389.66 0.1787 0.1538

Mars -28623-05-08 00:14 J -8733000.60 -8733000.49 -8733000.38 0.1749 0.0685

Venus -28623-05-08 17:31 J -8732999.88 -8732999.77 -8732999.66 0.3779 0.0624

Jupiter -28622-12-08 23:59 J -8732420.67 -8732420.50 -8732420.34 0.0502 0.0171

Saturn -28620-08-18 11:45 J -8731802.12 -8731802.01 -8731801.90 0.0292 0.0219

Saturn -28620-11-15 09:21 J -8731713.28 -8731713.11 -8731712.94 0.0293 0.0044

Saturn -28619-02-12 06:28 J -8731624.38 -8731624.23 -8731624.08 0.0293 0.0128

Venus -28619-05-08 05:59 J -8731539.39 -8731539.25 -8731539.11 0.3596 0.0252

Moon -28618-06-01 16:33 J -8731149.92 -8731149.81 -8731149.71 0.2677 0.1316

Earth -28618-06-01 17:02 J -8731149.90 -8731149.79 -8731149.69 0.2682 0.1330 *

Venus -28618-11-22 10:47 J -8730976.10 -8730976.05 -8730976.00 0.3779 0.3305

Jupiter -28616-07-29 02:52 J -8730361.52 -8730361.38 -8730361.25 0.0525 0.0015

Moon -28615-12-10 03:50 J -8729862.46 -8729862.34 -8729862.21 0.2661 0.1046

Earth -28615-12-10 03:50 J -8729862.46 -8729862.34 -8729862.21 0.2654 0.1082 *

Mars -28614-09-28 09:35 J -8729570.22 -8729570.10 -8729569.98 0.1743 0.0095

Mars -28613-08-10 20:09 J -8729252.74 -8729252.66 -8729252.59 0.1768 0.1537

Jupiter -28610-09-26 22:47 J -8728110.68 -8728110.55 -8728110.42 0.0501 0.0341

Jupiter -28610-12-26 02:09 J -8728020.52 -8728020.41 -8728020.28 0.0504 0.0357

Saturn -28606-12-07 20:09 J -8726577.74 -8726577.66 -8726577.58 0.0267 0.0216

Saturn -28605-03-05 07:26 J -8726489.32 -8726489.19 -8726489.07 0.0267 0.0112

Saturn -28605-06-01 18:43 J -8726400.86 -8726400.72 -8726400.58 0.0267 0.0010

Moon -28605-06-03 11:59 J -8726399.11 -8726399.00 -8726398.88 0.2679 0.0463

Earth -28605-06-03 12:57 J -8726399.08 -8726398.96 -8726398.84 0.2680 0.0307 *

Saturn -28605-08-29 06:14 J -8726312.36 -8726312.24 -8726312.10 0.0267 0.0100

Saturn -28605-11-25 17:59 J -8726223.83 -8726223.75 -8726223.66 0.0267 0.0208

Mars -28604-02-17 18:57 J -8726139.82 -8726139.71 -8726139.59 0.1737 0.0495

Jupiter -28604-05-17 06:28 J -8726051.36 -8726051.23 -8726051.11 0.0526 0.0147

Jupiter -28604-08-14 15:07 J -8725961.94 -8725961.87 -8725961.81 0.0523 0.0451

Mars -28604-12-31 20:09 J -8725822.81 -8725822.66 -8725822.51 0.1774 0.0590

Earth -28602-12-13 04:04 J -8725111.39 -8725111.33 -8725111.27 0.2656 0.2356

Moon -28602-12-13 04:47 J -8725111.36 -8725111.30 -8725111.25 0.2662 0.2393 *

Jupiter -28598-10-14 00:43 J -8723710.63 -8723710.47 -8723710.31 0.0503 0.0180

Uranus -28597-01-11 04:33 J -8723621.34 -8723621.31 -8723621.28 0.0135 0.0132

Uranus -28597-04-08 10:19 J -8723533.17 -8723533.07 -8723532.96 0.0135 0.0107

Uranus -28597-07-05 16:19 J -8723444.95 -8723444.82 -8723444.67 0.0135 0.0083

Uranus -28597-10-01 22:19 J -8723356.72 -8723356.57 -8723356.40 0.0134 0.0058

Uranus -28597-12-29 04:19 J -8723268.49 -8723268.32 -8723268.15 0.0134 0.0034

Uranus -28596-03-27 10:04 J -8723180.25 -8723180.08 -8723179.90 0.0134 0.0011

Uranus -28596-06-23 16:04 J -8723092.01 -8723091.83 -8723091.66 0.0134 0.0014

Uranus -28596-09-19 21:35 J -8723003.76 -8723003.60 -8723003.43 0.0134 0.0038

Uranus -28596-12-17 03:21 J -8722915.51 -8722915.36 -8722915.20 0.0134 0.0061

Uranus -28595-03-15 09:07 J -8722827.25 -8722827.12 -8722826.99 0.0134 0.0084

Uranus -28595-06-11 14:38 J -8722738.99 -8722738.89 -8722738.79 0.0134 0.0107

Mars -28595-07-11 04:33 J -8722709.40 -8722709.31 -8722709.22 0.1732 0.1057

Uranus -28595-09-07 19:55 J -8722650.70 -8722650.67 -8722650.62 0.0134 0.0130

Moon -28595-12-05 06:43 J -8722562.33 -8722562.22 -8722562.10 0.2653 0.1376

Earth -28595-12-05 08:09 J -8722562.28 -8722562.16 -8722562.04 0.2651 0.1357 *

Mars -28594-05-23 19:55 J -8722392.82 -8722392.67 -8722392.51 0.1780 0.0390

Mars -28593-06-15 15:21 J -8722003.94 -8722003.86 -8722003.79 0.1754 0.1368

Jupiter -28592-03-05 10:19 J -8721741.18 -8721741.07 -8721740.96 0.0527 0.0286

Neptune -28592-05-31 11:02 J -8721654.04 -8721654.04 -8721654.00 0.0089 0.0089

Jupiter -28592-06-02 18:43 J -8721651.82 -8721651.72 -8721651.61 0.0524 0.0311

Moon -28592-06-06 08:23 J -8721648.26 -8721648.15 -8721648.03 0.2682 0.0740

Earth -28592-06-06 09:07 J -8721648.23 -8721648.12 -8721648.00 0.2679 0.0734 *

Neptune -28592-08-27 12:43 J -8721566.01 -8721565.97 -8721565.91 0.0089 0.0081

Neptune -28592-11-23 14:09 J -8721477.97 -8721477.91 -8721477.83 0.0089 0.0075

Neptune -28591-02-19 15:50 J -8721389.93 -8721389.84 -8721389.75 0.0089 0.0068

Neptune -28591-05-18 17:02 J -8721301.88 -8721301.79 -8721301.68 0.0089 0.0061

Neptune -28591-08-14 18:28 J -8721213.83 -8721213.73 -8721213.61 0.0089 0.0054

Neptune -28591-11-10 20:09 J -8721125.77 -8721125.66 -8721125.54 0.0089 0.0047

Saturn -28590-01-05 10:04 J -8721070.13 -8721070.08 -8721070.02 0.0292 0.0275

Neptune -28590-02-06 21:35 J -8721037.72 -8721037.60 -8721037.47 0.0089 0.0040

Saturn -28590-04-04 07:55 J -8720981.33 -8720981.17 -8720981.00 0.0293 0.0099

Neptune -28590-05-05 23:02 J -8720949.66 -8720949.54 -8720949.41 0.0089 0.0034

Saturn -28590-07-02 05:16 J -8720892.44 -8720892.28 -8720892.11 0.0293 0.0075

Neptune -28590-08-02 00:43 J -8720861.60 -8720861.47 -8720861.34 0.0089 0.0026

Saturn -28590-09-29 01:55 J -8720803.50 -8720803.42 -8720803.32 0.0293 0.0244

Neptune -28590-10-29 02:09 J -8720773.54 -8720773.41 -8720773.27 0.0089 0.0019

Neptune -28589-01-25 03:35 J -8720685.48 -8720685.35 -8720685.21 0.0089 0.0013

Neptune -28589-04-22 05:16 J -8720597.42 -8720597.28 -8720597.15 0.0089 0.0006

Neptune -28589-07-19 06:43 J -8720509.36 -8720509.22 -8720509.08 0.0089 0.0001

Neptune -28589-10-15 08:09 J -8720421.30 -8720421.16 -8720421.02 0.0089 0.0009

Neptune -28588-01-11 09:35 J -8720333.23 -8720333.10 -8720332.96 0.0089 0.0016

Neptune -28588-04-09 11:16 J -8720245.17 -8720245.03 -8720244.90 0.0089 0.0022

Neptune -28588-07-06 12:43 J -8720157.10 -8720156.97 -8720156.84 0.0089 0.0030

Pluto -28588-09-10 00:43 J -8720091.52 -8720091.47 -8720091.41 0.0075 0.0069

Neptune -28588-10-02 14:23 J -8720069.03 -8720068.90 -8720068.78 0.0089 0.0037

Pluto -28588-12-07 02:09 J -8720003.49 -8720003.41 -8720003.32 0.0075 0.0061

Neptune -28588-12-29 15:50 J -8719980.96 -8719980.84 -8719980.72 0.0089 0.0044

Pluto -28587-03-05 03:07 J -8719915.46 -8719915.37 -8719915.25 0.0075 0.0054

Neptune -28587-03-27 17:02 J -8719892.89 -8719892.79 -8719892.66 0.0089 0.0051

Pluto -28587-06-01 04:33 J -8719827.42 -8719827.31 -8719827.18 0.0074 0.0046

Neptune -28587-06-23 18:43 J -8719804.82 -8719804.72 -8719804.61 0.0089 0.0058

Pluto -28587-08-28 06:14 J -8719739.37 -8719739.24 -8719739.11 0.0074 0.0038

Neptune -28587-09-19 20:09 J -8719716.74 -8719716.66 -8719716.55 0.0089 0.0065

Pluto -28587-11-24 07:26 J -8719651.32 -8719651.19 -8719651.05 0.0074 0.0030

Neptune -28587-12-16 21:50 J -8719628.66 -8719628.59 -8719628.50 0.0089 0.0072

Pluto -28586-02-20 08:52 J -8719563.28 -8719563.13 -8719562.99 0.0074 0.0022

Neptune -28586-03-14 23:16 J -8719540.58 -8719540.53 -8719540.45 0.0089 0.0080

Pluto -28586-05-19 10:04 J -8719475.23 -8719475.08 -8719474.93 0.0074 0.0015

Neptune -28586-06-11 00:57 J -8719452.48 -8719452.46 -8719452.42 0.0089 0.0086

Jupiter -28586-08-01 23:31 J -8719400.69 -8719400.52 -8719400.34 0.0502 0.0015

Pluto -28586-08-15 11:16 J -8719387.17 -8719387.03 -8719386.87 0.0074 0.0008

Pluto -28586-11-11 12:43 J -8719299.12 -8719298.97 -8719298.82 0.0074 0.0000

Mars -28586-12-01 14:23 J -8719278.94 -8719278.90 -8719278.85 0.1727 0.1597

Pluto -28585-02-07 13:55 J -8719211.07 -8719210.92 -8719210.77 0.0074 0.0007

Pluto -28585-05-05 15:07 J -8719123.01 -8719122.87 -8719122.72 0.0073 0.0015

Earth -28585-05-30 02:09 J -8719098.48 -8719098.41 -8719098.34 0.2684 0.2132

Moon -28585-05-30 02:23 J -8719098.47 -8719098.40 -8719098.33 0.2677 0.2119 *

Pluto -28585-08-01 16:19 J -8719034.96 -8719034.82 -8719034.67 0.0073 0.0022

Mars -28585-10-12 18:57 J -8718962.81 -8718962.71 -8718962.62 0.1786 0.1429

Pluto -28585-10-28 17:31 J -8718946.90 -8718946.77 -8718946.63 0.0073 0.0029

Pluto -28584-01-24 18:43 J -8718858.84 -8718858.72 -8718858.58 0.0073 0.0036

Pluto -28584-04-22 19:55 J -8718770.78 -8718770.67 -8718770.54 0.0073 0.0043

Pluto -28584-07-19 21:07 J -8718682.72 -8718682.62 -8718682.51 0.0073 0.0050

Pluto -28584-10-15 22:04 J -8718594.66 -8718594.58 -8718594.47 0.0073 0.0057

Mars -28584-11-06 00:14 J -8718573.60 -8718573.49 -8718573.38 0.1749 0.0747

Pluto -28583-01-11 23:16 J -8718506.59 -8718506.53 -8718506.45 0.0073 0.0064

Pluto -28583-04-10 00:28 J -8718418.50 -8718418.48 -8718418.43 0.0072 0.0070

Moon -28582-12-08 08:09 J -8717811.30 -8717811.16 -8717811.02 0.2657 0.0142

Earth -28582-12-08 09:07 J -8717811.26 -8717811.12 -8717810.98 0.2653 0.0048 *

Jupiter -28581-12-22 14:23 J -8717430.97 -8717430.90 -8717430.82 0.0527 0.0423

Jupiter -28580-03-21 22:47 J -8717341.68 -8717341.55 -8717341.42 0.0524 0.0169

Moon -28579-06-09 05:16 J -8716897.37 -8716897.28 -8716897.19 0.2683 0.1732

Earth -28579-06-09 05:31 J -8716897.36 -8716897.27 -8716897.18 0.2677 0.1798 *

Venus -28578-11-14 05:02 J -8716374.32 -8716374.29 -8716374.27 0.3779 0.3619

Saturn -28576-04-25 21:21 J -8715845.65 -8715845.61 -8715845.57 0.0268 0.0256

Saturn -28576-07-23 08:38 J -8715757.26 -8715757.14 -8715757.03 0.0267 0.0153

Saturn -28576-10-19 19:55 J -8715668.81 -8715668.67 -8715668.53 0.0267 0.0048

Saturn -28575-01-16 07:26 J -8715580.33 -8715580.19 -8715580.05 0.0267 0.0058

Saturn -28575-04-14 18:57 J -8715491.82 -8715491.71 -8715491.60 0.0267 0.0165

Mars -28574-03-29 09:35 J -8715143.22 -8715143.10 -8715142.98 0.1743 0.0162

Jupiter -28574-05-20 22:19 J -8715090.73 -8715090.57 -8715090.40 0.0502 0.0163

Mars -28573-02-09 20:38 J -8714825.69 -8714825.64 -8714825.58 0.1768 0.1645

Venus -28572-05-29 22:04 J -8714350.68 -8714350.58 -8714350.48 0.3779 0.1051

Moon -28572-06-01 21:21 J -8714347.71 -8714347.61 -8714347.50 0.2678 0.1209

Earth -28572-06-01 22:04 J -8714347.69 -8714347.58 -8714347.47 0.2682 0.1134 *

Earth -28569-12-10 09:35 J -8713060.22 -8713060.10 -8713059.98 0.2655 0.1323

Moon -28569-12-10 09:35 J -8713060.21 -8713060.10 -8713059.98 0.2662 0.1398 *

Jupiter -28568-01-08 02:23 J -8713031.53 -8713031.40 -8713031.26 0.0525 0.0026

Venus -28568-05-29 04:04 J -8712890.42 -8712890.33 -8712890.24 0.3596 0.2738

Venus -28567-12-13 15:21 J -8712326.96 -8712326.86 -8712326.76 0.3779 0.1598

Mars -28565-08-18 18:57 J -8711712.82 -8711712.71 -8711712.59 0.1737 0.0426

Mars -28564-07-01 20:52 J -8711395.78 -8711395.63 -8711395.49 0.1774 0.0701

Venus -28563-12-13 06:14 J -8710866.36 -8710866.24 -8710866.12 0.3596 0.1857

Jupiter -28562-03-08 21:35 J -8710780.73 -8710780.60 -8710780.47 0.0501 0.0330

Jupiter -28562-06-07 01:11 J -8710690.57 -8710690.45 -8710690.34 0.0504 0.0369

Moon -28562-12-03 11:31 J -8710511.06 -8710511.02 -8710510.99 0.2646 0.2555

Earth -28562-12-03 12:28 J -8710511.02 -8710510.98 -8710510.93 0.2649 0.2503 *

Saturn -28561-08-21 05:16 J -8710249.42 -8710249.28 -8710249.14 0.0292 0.0163

Saturn -28561-11-18 02:38 J -8710160.56 -8710160.39 -8710160.21 0.0293 0.0015

Saturn -28560-02-14 23:45 J -8710071.64 -8710071.51 -8710071.38 0.0293 0.0184

Moon -28559-06-04 17:16 J -8709596.90 -8709596.78 -8709596.66 0.2679 0.0140

Earth -28559-06-04 17:59 J -8709596.87 -8709596.75 -8709596.63 0.2680 0.0146 *

Jupiter -28557-10-27 05:16 J -8708721.41 -8708721.28 -8708721.15 0.0526 0.0138

Jupiter -28556-01-24 13:55 J -8708631.98 -8708631.92 -8708631.86 0.0522 0.0459

Earth -28556-12-13 09:50 J -8708309.12 -8708309.09 -8708309.07 0.2657 0.2596

Moon -28556-12-13 10:33 J -8708309.07 -8708309.06 -8708309.05 0.2661 0.2651 *

Mars -28555-01-09 04:33 J -8708282.40 -8708282.31 -8708282.21 0.1732 0.0988

Mars -28555-11-21 20:23 J -8707965.81 -8707965.65 -8707965.49 0.1780 0.0291

Mars -28554-12-15 15:07 J -8707576.93 -8707576.87 -8707576.80 0.1754 0.1438

Uranus -28554-12-15 23:16 J -8707576.57 -8707576.53 -8707576.48 0.0144 0.0136

Uranus -28553-03-13 03:35 J -8707488.44 -8707488.35 -8707488.27 0.0144 0.0113

Uranus -28553-06-09 07:26 J -8707400.29 -8707400.19 -8707400.07 0.0144 0.0090

Uranus -28553-09-05 11:45 J -8707312.13 -8707312.01 -8707311.89 0.0144 0.0067

Uranus -28553-12-02 15:50 J -8707223.97 -8707223.84 -8707223.70 0.0144 0.0044

Uranus -28552-02-28 20:09 J -8707135.80 -8707135.66 -8707135.52 0.0144 0.0020

Uranus -28552-05-28 00:28 J -8707047.62 -8707047.48 -8707047.34 0.0144 0.0005

Uranus -28552-08-24 04:47 J -8706959.44 -8706959.30 -8706959.16 0.0144 0.0029

Uranus -28552-11-20 09:07 J -8706871.25 -8706871.12 -8706870.99 0.0144 0.0053

Uranus -28551-02-16 13:26 J -8706783.06 -8706782.94 -8706782.82 0.0145 0.0078

Uranus -28551-05-15 17:45 J -8706694.85 -8706694.76 -8706694.65 0.0145 0.0103

Uranus -28551-08-11 22:19 J -8706606.63 -8706606.57 -8706606.50 0.0145 0.0128

Jupiter -28551-12-25 20:23 J -8706470.66 -8706470.65 -8706470.65 0.0500 0.0500

Jupiter -28550-03-26 00:14 J -8706380.64 -8706380.49 -8706380.33 0.0503 0.0202

Moon -28549-12-05 12:43 J -8705760.10 -8705759.97 -8705759.85 0.2653 0.1285

Earth -28549-12-05 13:55 J -8705760.05 -8705759.92 -8705759.79 0.2651 0.1102 *

Saturn -28547-12-10 11:31 J -8705025.12 -8705025.02 -8705024.91 0.0267 0.0176

Saturn -28546-03-08 22:47 J -8704936.68 -8704936.55 -8704936.41 0.0267 0.0072

Mars -28546-06-01 14:23 J -8704851.95 -8704851.90 -8704851.84 0.1726 0.1529

Saturn -28546-06-05 10:19 J -8704848.21 -8704848.07 -8704847.93 0.0267 0.0034

Moon -28546-06-07 13:40 J -8704846.04 -8704845.93 -8704845.82 0.2683 0.0805

Earth -28546-06-07 14:23 J -8704846.02 -8704845.90 -8704845.79 0.2678 0.0936 *

Saturn -28546-09-01 21:50 J -8704759.71 -8704759.59 -8704759.47 0.0267 0.0141

Saturn -28546-11-29 09:35 J -8704671.14 -8704671.10 -8704671.05 0.0267 0.0250

Mars -28545-04-12 19:26 J -8704535.79 -8704535.69 -8704535.58 0.1787 0.1320

Jupiter -28545-08-15 08:52 J -8704411.24 -8704411.13 -8704411.02 0.0527 0.0284

Jupiter -28545-11-12 17:16 J -8704321.89 -8704321.78 -8704321.67 0.0523 0.0311

Mars -28544-05-07 00:28 J -8704146.59 -8704146.48 -8704146.38 0.1749 0.0828

Moon -28539-05-31 07:26 J -8702296.28 -8702296.19 -8702296.11 0.2677 0.1922

Earth -28539-05-31 07:26 J -8702296.27 -8702296.19 -8702296.11 0.2684 0.1947 *

Jupiter -28538-01-11 22:33 J -8702070.73 -8702070.56 -8702070.38 0.0502 0.0026

Moon -28536-12-08 14:09 J -8701009.04 -8701008.91 -8701008.77 0.2658 0.0286

Earth -28536-12-08 14:52 J -8701009.02 -8701008.88 -8701008.74 0.2653 0.0257 *

Mars -28535-09-27 09:35 J -8700716.22 -8700716.10 -8700715.98 0.1743 0.0225

Mars -28534-08-10 21:07 J -8700398.64 -8700398.62 -8700398.59 0.1768 0.1746

Jupiter -28533-06-03 12:43 J -8700101.04 -8700100.97 -8700100.89 0.0528 0.0424

Moon -28533-06-09 10:33 J -8700095.13 -8700095.06 -8700094.98 0.2683 0.2051

Earth -28533-06-09 10:47 J -8700095.13 -8700095.05 -8700094.97 0.2676 0.2004 *

Jupiter -28533-08-31 21:07 J -8700011.75 -8700011.62 -8700011.49 0.0524 0.0170

Saturn -28531-01-08 03:35 J -8699517.45 -8699517.35 -8699517.22 0.0293 0.0219

Saturn -28531-04-07 01:26 J -8699428.61 -8699428.44 -8699428.27 0.0293 0.0042

Saturn -28531-07-04 22:33 J -8699339.71 -8699339.56 -8699339.40 0.0293 0.0131

Jupiter -28527-10-30 21:21 J -8697760.78 -8697760.61 -8697760.44 0.0502 0.0148

Moon -28526-06-03 02:23 J -8697545.51 -8697545.40 -8697545.29 0.2678 0.1003

Earth -28526-06-03 03:07 J -8697545.48 -8697545.37 -8697545.25 0.2682 0.0948 *

Mars -28525-02-17 18:57 J -8697285.82 -8697285.71 -8697285.59 0.1738 0.0358

Mars -28525-12-30 21:35 J -8696968.74 -8696968.60 -8696968.46 0.1774 0.0812

Moon -28523-12-11 15:21 J -8696257.97 -8696257.86 -8696257.74 0.2662 0.1516

Earth -28523-12-11 15:21 J -8696257.97 -8696257.86 -8696257.75 0.2655 0.1567 *

Jupiter -28521-06-20 01:11 J -8695701.58 -8695701.45 -8695701.32 0.0525 0.0031

Venus -28521-06-20 02:52 J -8695701.46 -8695701.38 -8695701.31 0.3779 0.2680 *

Saturn -28517-04-28 12:43 J -8694293.05 -8694292.97 -8694292.89 0.0267 0.0215

Saturn -28517-07-25 23:59 J -8694204.62 -8694204.50 -8694204.37 0.0267 0.0112

Saturn -28517-10-22 11:16 J -8694116.17 -8694116.03 -8694115.88 0.0267 0.0011

Saturn -28516-01-18 22:47 J -8694027.68 -8694027.55 -8694027.41 0.0267 0.0100

Saturn -28516-04-17 10:33 J -8693939.15 -8693939.06 -8693938.97 0.0267 0.0207

Mars -28516-07-10 04:47 J -8693855.40 -8693855.30 -8693855.20 0.1732 0.0915

Moon -28516-12-03 17:16 J -8693708.85 -8693708.78 -8693708.72 0.2648 0.2341

Earth -28516-12-03 18:28 J -8693708.80 -8693708.73 -8693708.66 0.2650 0.2242 *

Venus -28515-01-03 19:55 J -8693677.78 -8693677.67 -8693677.56 0.3779 0.0087

Mars -28515-05-22 21:07 J -8693538.78 -8693538.62 -8693538.46 0.1780 0.0182

Jupiter -28515-08-18 20:09 J -8693450.80 -8693450.66 -8693450.53 0.0501 0.0322

Jupiter -28515-11-16 23:31 J -8693360.63 -8693360.52 -8693360.40 0.0504 0.0378

Mars -28514-06-15 15:21 J -8693149.92 -8693149.86 -8693149.80 0.1754 0.1514

Uranus -28513-01-31 11:16 J -8692920.08 -8692920.03 -8692919.96 0.0135 0.0126

Uranus -28513-04-28 17:31 J -8692831.88 -8692831.77 -8692831.65 0.0135 0.0101

Moon -28513-06-04 22:19 J -8692794.69 -8692794.57 -8692794.45 0.2680 0.0101

Earth -28513-06-04 23:16 J -8692794.65 -8692794.53 -8692794.41 0.2680 0.0085 *

Uranus -28513-07-25 23:31 J -8692743.66 -8692743.52 -8692743.37 0.0135 0.0076

Uranus -28513-10-22 05:31 J -8692655.43 -8692655.27 -8692655.11 0.0134 0.0051

Uranus -28512-01-18 11:31 J -8692567.19 -8692567.02 -8692566.85 0.0134 0.0027

Uranus -28512-04-16 17:16 J -8692478.95 -8692478.78 -8692478.60 0.0134 0.0004

Uranus -28512-07-13 23:02 J -8692390.71 -8692390.54 -8692390.36 0.0134 0.0021

Uranus -28512-10-10 04:47 J -8692302.46 -8692302.30 -8692302.13 0.0134 0.0044

Venus -28511-01-03 04:33 J -8692217.45 -8692217.31 -8692217.18 0.3596 0.1060

Uranus -28511-01-06 10:33 J -8692214.21 -8692214.06 -8692213.91 0.0134 0.0068

Uranus -28511-04-04 15:50 J -8692125.95 -8692125.84 -8692125.70 0.0134 0.0091

Uranus -28511-07-01 21:21 J -8692037.68 -8692037.61 -8692037.50 0.0134 0.0114

Venus -28510-07-20 13:11 J -8691654.03 -8691653.95 -8691653.87 0.3779 0.2579

Jupiter -28509-04-08 05:02 J -8691391.42 -8691391.29 -8691391.16 0.0526 0.0113

Jupiter -28509-07-06 13:40 J -8691301.98 -8691301.93 -8691301.88 0.0522 0.0483

Neptune -28509-11-20 18:28 J -8691164.74 -8691164.73 -8691164.70 0.0088 0.0087

Neptune -28508-02-16 21:35 J -8691076.67 -8691076.60 -8691076.50 0.0088 0.0078

Neptune -28508-05-16 00:43 J -8690988.57 -8690988.47 -8690988.34 0.0088 0.0069

Neptune -28508-08-12 03:50 J -8690900.46 -8690900.34 -8690900.19 0.0088 0.0061

Neptune -28508-11-08 07:11 J -8690812.34 -8690812.20 -8690812.04 0.0088 0.0051

Neptune -28507-02-04 10:19 J -8690724.22 -8690724.07 -8690723.89 0.0088 0.0042

Neptune -28507-05-03 13:26 J -8690636.10 -8690635.94 -8690635.75 0.0088 0.0033

Neptune -28507-07-30 16:33 J -8690547.97 -8690547.81 -8690547.62 0.0088 0.0025

Neptune -28507-10-26 19:55 J -8690459.85 -8690459.67 -8690459.48 0.0088 0.0015

Mars -28507-11-30 14:23 J -8690424.96 -8690424.90 -8690424.83 0.1726 0.1462

Neptune -28506-01-22 23:02 J -8690371.72 -8690371.54 -8690371.35 0.0088 0.0006

Neptune -28506-04-21 02:09 J -8690283.59 -8690283.41 -8690283.22 0.0088 0.0004

Moon -28506-05-29 17:02 J -8690244.80 -8690244.79 -8690244.77 0.2679 0.2630

Neptune -28506-07-18 05:16 J -8690195.46 -8690195.28 -8690195.09 0.0088 0.0012

Venus -28506-07-20 06:28 J -8690193.27 -8690193.23 -8690193.19 0.3596 0.3448

Mars -28506-10-12 20:09 J -8690108.78 -8690108.66 -8690108.54 0.1787 0.1207

Neptune -28506-10-14 08:23 J -8690107.33 -8690107.15 -8690106.97 0.0088 0.0021

Neptune -28505-01-10 11:16 J -8690019.19 -8690019.03 -8690018.85 0.0088 0.0030

Neptune -28505-04-07 14:23 J -8689931.06 -8689930.90 -8689930.73 0.0088 0.0039

Neptune -28505-07-04 17:16 J -8689842.92 -8689842.78 -8689842.61 0.0088 0.0048

Neptune -28505-09-30 20:38 J -8689754.78 -8689754.64 -8689754.50 0.0088 0.0057

Mars -28505-11-05 00:28 J -8689719.59 -8689719.48 -8689719.38 0.1749 0.0898

Neptune -28505-12-27 23:31 J -8689666.63 -8689666.52 -8689666.39 0.0088 0.0065

Neptune -28504-03-26 02:23 J -8689578.48 -8689578.40 -8689578.29 0.0088 0.0074

Neptune -28504-06-22 05:16 J -8689490.32 -8689490.28 -8689490.20 0.0088 0.0083

Jupiter -28503-06-06 19:11 J -8689140.74 -8689140.70 -8689140.66 0.0500 0.0488

Jupiter -28503-09-04 23:16 J -8689050.69 -8689050.53 -8689050.38 0.0503 0.0215

Moon -28503-12-06 18:28 J -8688957.86 -8688957.73 -8688957.60 0.2653 0.0884

Earth -28503-12-06 19:40 J -8688957.81 -8688957.68 -8688957.55 0.2651 0.0850 *

Saturn -28502-05-27 23:59 J -8688785.51 -8688785.50 -8688785.46 0.0292 0.0289

Saturn -28502-08-24 22:04 J -8688696.74 -8688696.58 -8688696.42 0.0293 0.0111

Saturn -28502-11-21 19:40 J -8688607.85 -8688607.68 -8688607.52 0.0293 0.0064

Saturn -28501-02-18 16:19 J -8688518.91 -8688518.82 -8688518.71 0.0293 0.0235

Moon -28500-06-07 18:43 J -8688043.82 -8688043.72 -8688043.61 0.2683 0.1153

Earth -28500-06-07 19:26 J -8688043.80 -8688043.69 -8688043.58 0.2678 0.1132 *

Jupiter -28497-01-26 07:40 J -8687081.29 -8687081.18 -8687081.06 0.0526 0.0274

Jupiter -28497-04-24 16:19 J -8686991.93 -8686991.82 -8686991.72 0.0523 0.0321

Mars -28495-03-28 09:35 J -8686289.22 -8686289.10 -8686288.98 0.1743 0.0297

Moon -28493-05-31 12:14 J -8685494.08 -8685493.99 -8685493.90 0.2677 0.1806

Earth -28493-05-31 12:28 J -8685494.07 -8685493.98 -8685493.89 0.2683 0.1756 *

Jupiter -28491-06-23 22:19 J -8684740.74 -8684740.57 -8684740.40 0.0503 0.0048

Moon -28490-12-09 20:09 J -8684206.80 -8684206.66 -8684206.53 0.2660 0.0391

Earth -28490-12-09 20:38 J -8684206.78 -8684206.64 -8684206.51 0.2653 0.0506 *

Saturn -28488-09-15 15:35 J -8683560.90 -8683560.85 -8683560.79 0.0268 0.0240

Saturn -28488-12-13 02:52 J -8683472.50 -8683472.38 -8683472.26 0.0267 0.0137

Saturn -28487-03-11 14:09 J -8683384.05 -8683383.91 -8683383.77 0.0267 0.0032

Saturn -28487-06-08 01:40 J -8683295.56 -8683295.43 -8683295.29 0.0267 0.0075

Moon -28487-06-10 16:04 J -8683292.90 -8683292.83 -8683292.76 0.2683 0.2155

Earth -28487-06-10 15:50 J -8683292.90 -8683292.84 -8683292.77 0.2676 0.2211 *

Saturn -28487-09-04 13:26 J -8683207.04 -8683206.94 -8683206.84 0.0267 0.0182

Mars -28486-08-18 19:11 J -8682858.82 -8682858.70 -8682858.59 0.1737 0.0291

Jupiter -28486-11-14 11:31 J -8682771.10 -8682771.02 -8682770.95 0.0527 0.0420

Jupiter -28485-02-11 19:40 J -8682681.81 -8682681.68 -8682681.55 0.0524 0.0172

Mars -28485-06-30 21:50 J -8682541.72 -8682541.59 -8682541.45 0.1774 0.0905

Moon -28480-06-03 07:40 J -8680743.30 -8680743.18 -8680743.07 0.2677 0.0805

Earth -28480-06-03 08:23 J -8680743.27 -8680743.15 -8680743.04 0.2681 0.0751 *

Jupiter -28479-04-11 20:38 J -8680430.81 -8680430.64 -8680430.48 0.0502 0.0132

Earth -28477-12-11 21:07 J -8679455.72 -8679455.62 -8679455.52 0.2655 0.1805

Moon -28477-12-11 21:21 J -8679455.71 -8679455.61 -8679455.52 0.2662 0.1907 *

Mars -28476-01-08 04:33 J -8679428.41 -8679428.31 -8679428.20 0.1732 0.0853

Mars -28476-11-20 21:50 J -8679111.75 -8679111.59 -8679111.43 0.1780 0.0065

Mars -28475-12-14 15:21 J -8678722.91 -8678722.86 -8678722.81 0.1754 0.1583

Jupiter -28474-11-30 23:31 J -8678371.65 -8678371.52 -8678371.39 0.0525 0.0032

Saturn -28472-01-10 21:07 J -8677964.76 -8677964.62 -8677964.47 0.0293 0.0163

Saturn -28472-04-09 18:43 J -8677875.89 -8677875.72 -8677875.55 0.0293 0.0013

Saturn -28472-07-07 15:50 J -8677786.97 -8677786.84 -8677786.71 0.0293 0.0184

Moon -28470-12-04 23:02 J -8676906.62 -8676906.54 -8676906.46 0.2649 0.2124

Earth -28470-12-05 00:14 J -8676906.58 -8676906.49 -8676906.40 0.2650 0.1989 *

Uranus -28469-01-05 05:59 J -8676875.29 -8676875.25 -8676875.18 0.0144 0.0132

Uranus -28469-04-02 10:19 J -8676787.16 -8676787.07 -8676786.98 0.0144 0.0109

Uranus -28469-06-29 14:23 J -8676699.01 -8676698.90 -8676698.78 0.0144 0.0086

Uranus -28469-09-25 18:43 J -8676610.85 -8676610.72 -8676610.59 0.0144 0.0062

Uranus -28469-12-22 22:47 J -8676522.68 -8676522.55 -8676522.41 0.0144 0.0039

Uranus -28468-03-21 03:07 J -8676434.51 -8676434.37 -8676434.23 0.0144 0.0015

Uranus -28468-06-17 07:26 J -8676346.33 -8676346.19 -8676346.05 0.0144 0.0009

Uranus -28468-09-13 11:45 J -8676258.15 -8676258.01 -8676257.87 0.0144 0.0033

Uranus -28468-12-10 16:04 J -8676169.96 -8676169.83 -8676169.70 0.0145 0.0058

Jupiter -28467-01-28 19:11 J -8676120.84 -8676120.70 -8676120.56 0.0501 0.0305

Uranus -28467-03-08 20:09 J -8676081.77 -8676081.66 -8676081.53 0.0145 0.0083

Jupiter -28467-04-28 22:33 J -8676030.66 -8676030.56 -8676030.45 0.0504 0.0392

Mars -28467-05-31 14:38 J -8675997.96 -8675997.89 -8675997.83 0.1727 0.1393

Uranus -28467-06-05 00:43 J -8675993.56 -8675993.47 -8675993.37 0.0145 0.0107

Moon -28467-06-06 03:35 J -8675992.47 -8675992.35 -8675992.23 0.2682 0.0230

Earth -28467-06-06 04:19 J -8675992.44 -8675992.32 -8675992.20 0.2680 0.0291 *

Uranus -28467-09-01 05:02 J -8675905.33 -8675905.29 -8675905.22 0.0145 0.0133

Mars -28466-04-12 20:52 J -8675681.76 -8675681.63 -8675681.51 0.1786 0.1091

Mars -28465-05-06 00:14 J -8675292.59 -8675292.49 -8675292.39 0.1749 0.0966

Venus -28464-01-25 00:28 J -8675028.57 -8675028.48 -8675028.38 0.3779 0.1735

Jupiter -28462-09-19 03:35 J -8674061.48 -8674061.35 -8674061.22 0.0526 0.0108

Jupiter -28462-12-17 12:14 J -8673972.03 -8673971.99 -8673971.94 0.0523 0.0489

Earth -28460-05-29 21:50 J -8673442.62 -8673442.59 -8673442.56 0.2685 0.2557

Moon -28460-05-29 22:19 J -8673442.60 -8673442.57 -8673442.55 0.2678 0.2585 *

Venus	-28459-08-10 17:45 J	-8673004.86	-8673004.76	-8673004.66	0.3779	0.0888
Saturn	-28458-05-02 04:19 J	-8672740.43	-8672740.32	-8672740.22	0.0267	0.0176
Saturn	-28458-07-29 15:21 J	-8672651.99	-8672651.86	-8672651.72	0.0267	0.0072
Saturn	-28458-10-26 02:52 J	-8672563.52	-8672563.38	-8672563.24	0.0267	0.0034
Saturn	-28457-01-22 14:23 J	-8672475.02	-8672474.90	-8672474.78	0.0267	0.0141
Saturn	-28457-04-20 02:09 J	-8672386.46	-8672386.41	-8672386.36	0.0267	0.0249
Moon	-28457-12-07 00:28 J	-8672155.61	-8672155.48	-8672155.35	0.2655	0.0727
Earth	-28457-12-07 01:26 J	-8672155.57	-8672155.44	-8672155.30	0.2652	0.0602 *
Mars	-28456-09-26 09:35 J	-8671862.21	-8671862.10	-8671861.98	0.1743	0.0374
Jupiter	-28456-11-16 17:31 J	-8671810.81	-8671810.77	-8671810.72	0.0500	0.0480
Jupiter	-28455-02-14 21:35 J	-8671720.75	-8671720.60	-8671720.44	0.0503	0.0223
Venus	-28455-08-10 04:47 J	-8671544.44	-8671544.30	-8671544.16	0.3596	0.0574
Moon	-28454-06-08 23:59 J	-8671241.60	-8671241.50	-8671241.39	0.2683	0.1228
Earth	-28454-06-09 00:43 J	-8671241.58	-8671241.47	-8671241.37	0.2678	0.1337 *
Venus	-28453-02-24 11:02 J	-8670981.07	-8670981.04	-8670981.01	0.3779	0.3553
Jupiter	-28450-07-08 07:26 J	-8669751.30	-8669751.19	-8669751.07	0.0527	0.0250
Jupiter	-28450-10-05 15:50 J	-8669661.93	-8669661.84	-8669661.73	0.0523	0.0346
Moon	-28447-06-01 17:16 J	-8668691.88	-8668691.78	-8668691.69	0.2677	0.1542
Earth	-28447-06-01 17:31 J	-8668691.86	-8668691.77	-8668691.67	0.2683	0.1572 *
Mars	-28446-02-16 19:11 J	-8668431.82	-8668431.70	-8668431.59	0.1737	0.0224
Mars	-28446-12-30 22:33 J	-8668114.69	-8668114.56	-8668114.43	0.1774	0.1018
Jupiter	-28444-12-03 21:07 J	-8667410.79	-8667410.62	-8667410.45	0.0503	0.0060
Moon	-28444-12-10 01:55 J	-8667404.55	-8667404.42	-8667404.29	0.2660	0.0796
Earth	-28444-12-10 02:23 J	-8667404.53	-8667404.40	-8667404.27	0.2653	0.0749 *
Saturn	-28443-05-30 17:16 J	-8667232.88	-8667232.78	-8667232.67	0.0292	0.0235
Saturn	-28443-08-27 15:07 J	-8667144.04	-8667143.87	-8667143.70	0.0293	0.0058
Saturn	-28443-11-24 12:28 J	-8667055.14	-8667054.98	-8667054.82	0.0293	0.0116
Saturn	-28442-02-21 09:21 J	-8666966.15	-8666966.11	-8666966.08	0.0293	0.0285
Earth	-28441-06-10 21:07 J	-8666490.67	-8666490.62	-8666490.57	0.2676	0.2418
Moon	-28441-06-10 21:21 J	-8666490.65	-8666490.61	-8666490.57	0.2683	0.2515 *

Jupiter -28438-04-26 10:19 J -8665441.15 -8665441.07 -8665440.98 0.0527 0.0409

Jupiter -28438-07-24 18:43 J -8665351.85 -8665351.72 -8665351.60 0.0524 0.0183

Mars -28437-07-09 04:47 J -8665001.41 -8665001.30 -8665001.20 0.1732 0.0780

Mars -28436-05-21 22:19 J -8664684.73 -8664684.57 -8664684.42 0.1780 0.0058

Mars -28435-06-14 15:21 J -8664295.90 -8664295.86 -8664295.82 0.1754 0.1657

Moon -28434-06-04 12:43 J -8663941.09 -8663940.97 -8663940.85 0.2678 0.0644

Earth -28434-06-04 13:26 J -8663941.05 -8663940.94 -8663940.82 0.2681 0.0558 *

Jupiter -28432-09-21 20:09 J -8663100.83 -8663100.66 -8663100.49 0.0502 0.0108

Earth -28431-12-13 02:38 J -8662653.47 -8662653.39 -8662653.30 0.2655 0.2047

Moon -28431-12-13 03:21 J -8662653.45 -8662653.36 -8662653.28 0.2661 0.2018 *

Uranus -28429-02-20 18:28 J -8662218.80 -8662218.73 -8662218.63 0.0135 0.0119

Uranus -28429-05-19 00:43 J -8662130.59 -8662130.47 -8662130.34 0.0135 0.0094

Uranus -28429-08-15 06:57 J -8662042.37 -8662042.21 -8662042.06 0.0135 0.0069

Saturn -28429-09-18 06:57 J -8662008.30 -8662008.21 -8662008.12 0.0268 0.0202

Uranus -28429-11-11 12:43 J -8661954.13 -8661953.97 -8661953.80 0.0135 0.0045

Saturn -28429-12-15 18:14 J -8661919.87 -8661919.74 -8661919.61 0.0267 0.0097

Uranus -28428-02-07 18:43 J -8661865.90 -8661865.72 -8661865.55 0.0134 0.0020

Saturn -28428-03-14 05:31 J -8661831.41 -8661831.27 -8661831.13 0.0267 0.0011

Uranus -28428-05-07 00:28 J -8661777.65 -8661777.48 -8661777.30 0.0134 0.0004

Saturn -28428-06-10 17:16 J -8661742.91 -8661742.78 -8661742.66 0.0267 0.0115

Uranus -28428-08-03 06:14 J -8661689.41 -8661689.24 -8661689.07 0.0134 0.0028

Saturn -28428-09-07 04:47 J -8661654.37 -8661654.30 -8661654.22 0.0267 0.0223

Uranus -28428-10-30 11:59 J -8661601.16 -8661601.00 -8661600.84 0.0134 0.0051

Mars -28428-11-29 14:23 J -8661570.97 -8661570.90 -8661570.82 0.1726 0.1329

Uranus -28427-01-26 17:31 J -8661512.91 -8661512.77 -8661512.62 0.0134 0.0075

Neptune -28427-02-25 10:47 J -8661483.08 -8661483.05 -8661483.00 0.0089 0.0085

Uranus -28427-04-24 23:16 J -8661424.64 -8661424.53 -8661424.41 0.0134 0.0097

Neptune -28427-05-24 12:14 J -8661395.04 -8661394.99 -8661394.92 0.0089 0.0078

Uranus -28427-07-22 04:47 J -8661336.37 -8661336.30 -8661336.22 0.0134 0.0120

Neptune -28427-08-20 13:40 J -8661307.00 -8661306.93 -8661306.84 0.0089 0.0072

Mars -28427-10-11 21:21 J -8661254.74 -8661254.61 -8661254.48 0.1787 0.0991

Neptune -28427-11-16 15:21 J -8661218.95 -8661218.86 -8661218.77 0.0089 0.0064

Neptune -28426-02-12 16:47 J -8661130.90 -8661130.80 -8661130.69 0.0089 0.0058

Neptune -28426-05-11 17:59 J -8661042.85 -8661042.75 -8661042.62 0.0089 0.0051

Jupiter -28426-05-12 22:04 J -8661041.71 -8661041.58 -8661041.45 0.0525 0.0034

Pluto -28426-05-23 06:28 J -8661031.28 -8661031.23 -8661031.17 0.0070 0.0065

Neptune -28426-08-07 19:40 J -8660954.79 -8660954.68 -8660954.56 0.0089 0.0044

Pluto -28426-08-19 07:40 J -8660943.25 -8660943.18 -8660943.08 0.0070 0.0059

Neptune -28426-11-03 21:07 J -8660866.74 -8660866.62 -8660866.49 0.0089 0.0037

Mars -28426-11-05 00:28 J -8660865.58 -8660865.48 -8660865.39 0.1748 0.1038

Pluto -28426-11-15 09:07 J -8660855.22 -8660855.12 -8660855.00 0.0070 0.0052

Neptune -28425-01-30 22:33 J -8660778.68 -8660778.56 -8660778.42 0.0089 0.0031

Pluto -28425-02-11 10:33 J -8660767.17 -8660767.06 -8660766.93 0.0070 0.0045

Neptune -28425-04-28 00:14 J -8660690.62 -8660690.49 -8660690.36 0.0089 0.0023

Pluto -28425-05-09 11:59 J -8660679.13 -8660679.00 -8660678.86 0.0070 0.0038

Neptune -28425-07-25 01:40 J -8660602.56 -8660602.43 -8660602.29 0.0089 0.0016

Pluto -28425-08-05 13:26 J -8660591.08 -8660590.94 -8660590.79 0.0070 0.0032

Neptune -28425-10-21 03:21 J -8660514.50 -8660514.36 -8660514.23 0.0089 0.0010

Pluto -28425-11-01 14:52 J -8660503.03 -8660502.88 -8660502.72 0.0070 0.0025

Neptune -28424-01-17 04:47 J -8660426.44 -8660426.30 -8660426.16 0.0089 0.0002

Pluto -28424-01-28 16:19 J -8660414.97 -8660414.82 -8660414.65 0.0070 0.0018

Neptune -28424-04-15 06:14 J -8660338.38 -8660338.24 -8660338.10 0.0089 0.0005

Pluto -28424-04-26 17:45 J -8660326.92 -8660326.76 -8660326.59 0.0071 0.0011

Neptune -28424-07-12 07:40 J -8660250.31 -8660250.18 -8660250.04 0.0089 0.0012

Pluto -28424-07-23 19:26 J -8660238.86 -8660238.69 -8660238.53 0.0071 0.0004

Neptune -28424-10-08 09:07 J -8660162.25 -8660162.12 -8660161.98 0.0089 0.0019

Pluto -28424-10-19 20:52 J -8660150.80 -8660150.63 -8660150.47 0.0071 0.0004

Moon -28424-12-05 04:47 J -8660104.40 -8660104.30 -8660104.20 0.2650 0.1799

Earth -28424-12-05 06:14 J -8660104.35 -8660104.24 -8660104.14 0.2650 0.1732 *

Neptune -28423-01-04 10:47 J -8660074.18 -8660074.05 -8660073.92 0.0089 0.0026

Pluto -28423-01-15 22:04 J -8660062.73 -8660062.58 -8660062.41 0.0071 0.0011

Neptune -28423-04-02 12:14 J -8659986.11 -8659985.99 -8659985.86 0.0089 0.0033

Pluto -28423-04-13 23:45 J -8659974.67 -8659974.51 -8659974.35 0.0071 0.0018

Neptune -28423-06-29 13:40 J -8659898.05 -8659897.93 -8659897.80 0.0089 0.0040

Pluto -28423-07-11 01:11 J -8659886.60 -8659886.45 -8659886.29 0.0071 0.0025

Neptune -28423-09-25 15:07 J -8659809.98 -8659809.87 -8659809.74 0.0089 0.0048

Pluto -28423-10-07 02:23 J -8659798.53 -8659798.40 -8659798.24 0.0071 0.0034

Neptune -28423-12-22 16:47 J -8659721.90 -8659721.80 -8659721.68 0.0089 0.0054

Pluto -28422-01-03 04:04 J -8659710.46 -8659710.33 -8659710.18 0.0071 0.0041

Neptune -28422-03-20 18:14 J -8659633.83 -8659633.74 -8659633.63 0.0089 0.0062

Pluto -28422-04-01 05:45 J -8659622.38 -8659622.26 -8659622.13 0.0072 0.0048

Neptune -28422-06-16 19:55 J -8659545.75 -8659545.67 -8659545.58 0.0089 0.0068

Pluto -28422-06-28 06:57 J -8659534.29 -8659534.21 -8659534.09 0.0072 0.0056

Neptune -28422-09-12 21:21 J -8659457.67 -8659457.61 -8659457.53 0.0089 0.0076

Pluto -28422-09-24 08:52 J -8659446.20 -8659446.13 -8659446.05 0.0072 0.0063

Neptune -28422-12-09 23:02 J -8659369.58 -8659369.54 -8659369.48 0.0089 0.0083

Pluto -28422-12-21 10:19 J -8659358.08 -8659358.07 -8659358.03 0.0072 0.0071

Moon -28421-06-06 08:38 J -8659190.25 -8659190.14 -8659190.02 0.2682 0.0415

Earth -28421-06-06 09:35 J -8659190.22 -8659190.10 -8659189.98 0.2679 0.0480 *

Jupiter -28420-07-10 18:14 J -8658790.88 -8658790.74 -8658790.59 0.0501 0.0288

Jupiter -28420-10-08 21:50 J -8658700.69 -8658700.59 -8658700.49 0.0504 0.0408

Mars -28416-03-27 09:35 J -8657435.22 -8657435.10 -8657434.98 0.1743 0.0436

Jupiter -28414-03-01 01:55 J -8656731.55 -8656731.42 -8656731.29 0.0526 0.0108

Jupiter -28414-05-29 10:33 J -8656642.10 -8656642.06 -8656642.01 0.0523 0.0489

Earth -28414-05-31 02:52 J -8656640.43 -8656640.38 -8656640.33 0.2685 0.2375

Moon -28414-05-31 03:07 J -8656640.43 -8656640.37 -8656640.31 0.2678 0.2279 *

Saturn -28414-10-17 16:33 J -8656500.84 -8656500.81 -8656500.77 0.0293 0.0286

Saturn -28413-01-14 14:23 J -8656412.06 -8656411.90 -8656411.74 0.0293 0.0108

Venus -28413-02-16 05:16 J -8656379.33 -8656379.28 -8656379.23 0.3779 0.3350

Saturn -28413-04-12 11:59 J -8656323.17 -8656323.00 -8656322.84 0.0293 0.0067

Saturn -28413-07-10 08:52 J -8656234.23 -8656234.13 -8656234.03 0.0293 0.0238

Moon -28411-12-08 06:28 J -8655353.37 -8655353.23 -8655353.10 0.2656 0.0419

Earth -28411-12-08 07:11 J -8655353.33 -8655353.20 -8655353.06 0.2652 0.0358 *

Jupiter -28408-04-28 16:47 J -8654480.87 -8654480.80 -8654480.74 0.0500 0.0463

Moon -28408-06-09 05:31 J -8654439.37 -8654439.27 -8654439.18 0.2683 0.1552

Earth -28408-06-09 05:59 J -8654439.35 -8654439.25 -8654439.16 0.2678 0.1543 *

Jupiter -28408-07-27 20:38 J -8654390.79 -8654390.64 -8654390.49 0.0503 0.0238

Venus -28408-08-31 22:19 J -8654355.67 -8654355.57 -8654355.46 0.3779 0.0781

Mars -28407-08-17 19:11 J -8654004.82 -8654004.70 -8654004.58 0.1737 0.0150

Mars -28406-06-30 23:16 J -8653687.65 -8653687.53 -8653687.41 0.1774 0.1127

Venus -28404-08-31 02:38 J -8652895.49 -8652895.39 -8652895.29 0.3596 0.2440

Jupiter -28403-12-18 05:59 J -8652421.36 -8652421.25 -8652421.13 0.0527 0.0247

Jupiter -28402-03-17 14:38 J -8652331.99 -8652331.89 -8652331.79 0.0523 0.0349

Venus -28402-03-17 15:35 J -8652331.95 -8652331.85 -8652331.76 0.3779 0.1844 *

Moon -28401-06-01 22:19 J -8651889.67 -8651889.57 -8651889.47 0.2676 0.1485

Earth -28401-06-01 22:47 J -8651889.66 -8651889.55 -8651889.45 0.2683 0.1383 *

Saturn -28399-02-05 08:23 J -8651276.20 -8651276.15 -8651276.08 0.0267 0.0238

Saturn -28399-05-04 19:40 J -8651187.80 -8651187.68 -8651187.56 0.0267 0.0135

Saturn -28399-08-01 06:57 J -8651099.35 -8651099.21 -8651099.07 0.0267 0.0030

Saturn -28399-10-28 18:28 J -8651010.87 -8651010.73 -8651010.60 0.0267 0.0076

Saturn -28398-01-25 05:59 J -8650922.35 -8650922.25 -8650922.15 0.0267 0.0183

Venus -28398-03-17 05:02 J -8650871.41 -8650871.29 -8650871.18 0.3596 0.2184

Moon -28398-12-11 07:40 J -8650602.30 -8650602.18 -8650602.05 0.2660 0.0913

Earth -28398-12-11 08:09 J -8650602.29 -8650602.16 -8650602.04 0.2654 0.0994 *

Mars -28397-01-08 04:47 J -8650574.41 -8650574.30 -8650574.19 0.1732 0.0712

Mars -28397-11-19 22:47 J -8650257.71 -8650257.55 -8650257.39 0.1780 0.0144

Jupiter -28396-05-15 19:26 J -8650080.86 -8650080.69 -8650080.51 0.0503 0.0067

Mars -28396-12-13 15:21 J -8649868.87 -8649868.86 -8649868.84 0.1754 0.1730

Earth -28395-06-12 02:23 J -8649688.42 -8649688.40 -8649688.38 0.2676 0.2627

Moon -28395-06-12 02:38 J -8649688.42 -8649688.39 -8649688.36 0.2683 0.2587 *

Jupiter -28391-10-06 10:04 J -8648111.17 -8648111.08 -8648110.99 0.0527 0.0387

Jupiter -28390-01-03 18:14 J -8648021.86 -8648021.74 -8648021.61 0.0524 0.0206

Mars -28388-05-30 14:23 J -8647143.97 -8647143.90 -8647143.82 0.1726 0.1261

Moon -28388-06-04 17:45 J -8647138.88 -8647138.76 -8647138.64 0.2679 0.0388

Earth -28388-06-04 18:43 J -8647138.84 -8647138.72 -8647138.61 0.2681 0.0379 *

Mars -28387-04-11 22:04 J -8646827.72 -8646827.58 -8646827.44 0.1787 0.0873

Mars -28386-05-06 00:28 J -8646438.57 -8646438.48 -8646438.39 0.1748 0.1112

Uranus -28385-01-25 13:40 J -8646173.99 -8646173.93 -8646173.86 0.0144 0.0124

Uranus -28385-04-22 17:45 J -8646085.85 -8646085.76 -8646085.66 0.0144 0.0102

Uranus -28385-07-19 22:04 J -8645997.70 -8645997.58 -8645997.47 0.0144 0.0078

Uranus -28385-10-16 02:09 J -8645909.54 -8645909.41 -8645909.28 0.0144 0.0055

Earth -28385-12-13 08:23 J -8645851.21 -8645851.15 -8645851.08 0.2656 0.2287

Moon -28385-12-13 09:07 J -8645851.17 -8645851.12 -8645851.07 0.2661 0.2428 *

Uranus -28384-01-12 06:28 J -8645821.37 -8645821.23 -8645821.10 0.0144 0.0032

Jupiter -28384-03-03 18:57 J -8645770.88 -8645770.71 -8645770.54 0.0502 0.0098

Uranus -28384-04-10 10:33 J -8645733.20 -8645733.06 -8645732.92 0.0144 0.0008

Saturn -28384-06-02 10:47 J -8645680.19 -8645680.05 -8645679.92 0.0292 0.0180

Uranus -28384-07-07 14:52 J -8645645.02 -8645644.88 -8645644.74 0.0144 0.0017

Saturn -28384-08-30 08:23 J -8645591.32 -8645591.15 -8645590.98 0.0293 0.0004

Uranus -28384-10-03 19:11 J -8645556.84 -8645556.70 -8645556.56 0.0144 0.0041

Saturn -28384-11-27 05:31 J -8645502.41 -8645502.27 -8645502.13 0.0293 0.0169

Uranus -28384-12-30 23:31 J -8645468.65 -8645468.52 -8645468.39 0.0145 0.0065

Uranus -28383-03-29 03:50 J -8645380.45 -8645380.34 -8645380.23 0.0145 0.0090

Uranus -28383-06-25 08:09 J -8645292.24 -8645292.16 -8645292.07 0.0145 0.0115

Uranus -28383-09-21 12:43 J -8645204.00 -8645203.97 -8645203.93 0.0145 0.0140

Jupiter -28379-10-22 21:07 J -8643711.75 -8643711.62 -8643711.49 0.0525 0.0045

Moon -28378-12-06 10:47 J -8643302.16 -8643302.05 -8643301.94 0.2650 0.1633

Earth -28378-12-06 11:59 J -8643302.12 -8643302.00 -8643301.88 0.2650 0.1473 *

Mars -28377-09-25 09:35 J -8643008.21 -8643008.10 -8643007.98 0.1743 0.0512

Moon -28375-06-07 13:55 J -8642388.04 -8642387.92 -8642387.80 0.2682 0.0597

Earth -28375-06-07 14:38 J -8642388.00 -8642387.89 -8642387.77 0.2679 0.0684 *

Jupiter -28373-12-20 17:45 J -8641460.91 -8641460.76 -8641460.61 0.0501 0.0267

Jupiter -28372-03-20 21:21 J -8641370.70 -8641370.61 -8641370.52 0.0504 0.0430

Saturn -28370-06-25 11:16 J -8640544.04 -8640544.03 -8640544.01 0.0268 0.0265

Saturn -28370-09-21 22:19 J -8640455.67 -8640455.57 -8640455.46 0.0268 0.0162

Saturn -28370-12-19 09:35 J -8640367.23 -8640367.10 -8640366.96 0.0267 0.0057

Saturn -28369-03-16 21:07 J -8640278.76 -8640278.62 -8640278.48 0.0267 0.0049

Saturn -28369-06-13 08:38 J -8640190.25 -8640190.14 -8640190.02 0.0267 0.0157

Saturn -28369-09-09 20:23 J -8640101.65 -8640101.65 -8640101.64 0.0267 0.0266

Moon -28368-05-31 08:09 J -8639838.23 -8639838.16 -8639838.10 0.2678 0.2229

Earth -28368-05-31 07:55 J -8639838.23 -8639838.17 -8639838.10 0.2684 0.2190 *

Mars -28367-02-15 19:11 J -8639577.82 -8639577.70 -8639577.58 0.1737 0.0088

Jupiter -28367-08-11 00:28 J -8639401.61 -8639401.48 -8639401.35 0.0526 0.0105

Jupiter -28367-11-08 09:07 J -8639312.16 -8639312.12 -8639312.07 0.0522 0.0491

Mars -28367-12-29 23:31 J -8639260.63 -8639260.52 -8639260.40 0.1774 0.1223

Moon -28365-12-08 12:14 J -8638551.13 -8638550.99 -8638550.85 0.2658 0.0146

Earth -28365-12-08 13:11 J -8638551.09 -8638550.95 -8638550.82 0.2652 0.0130 *

Moon -28362-06-10 10:47 J -8637637.14 -8637637.05 -8637636.96 0.2684 0.1714

Earth -28362-06-10 11:02 J -8637637.13 -8637637.04 -8637636.95 0.2677 0.1749 *

Jupiter -28361-10-08 15:35 J -8637150.92 -8637150.85 -8637150.77 0.0500 0.0448

Jupiter -28360-01-06 19:40 J -8637060.83 -8637060.68 -8637060.53 0.0503 0.0253

Mars -28358-07-09 04:33 J -8636147.42 -8636147.31 -8636147.20 0.1732 0.0649

Mars -28357-05-20 23:31 J -8635830.67 -8635830.52 -8635830.36 0.1780 0.0265

Venus -28357-09-22 03:07 J -8635706.45 -8635706.37 -8635706.29 0.3779 0.2412

Jupiter -28355-05-30 04:19 J -8635091.43 -8635091.32 -8635091.20 0.0527 0.0248

Moon -28355-06-03 03:21 J -8635087.47 -8635087.36 -8635087.26 0.2676 0.1160

Earth -28355-06-03 03:50 J -8635087.45 -8635087.34 -8635087.24 0.2683 0.1195 *

Jupiter -28355-08-27 12:43 J -8635002.06 -8635001.97 -8635001.87 0.0524 0.0348

Saturn -28355-10-20 10:19 J -8634948.17 -8634948.07 -8634947.95 0.0293 0.0227

Saturn -28354-01-17 08:09 J -8634859.32 -8634859.16 -8634858.98 0.0293 0.0050

Saturn -28354-04-16 05:31 J -8634770.42 -8634770.27 -8634770.11 0.0293 0.0125

Moon -28352-12-11 13:40 J -8633800.05 -8633799.93 -8633799.81 0.2660 0.1266

Earth -28352-12-11 13:40 J -8633800.05 -8633799.93 -8633799.80 0.2654 0.1237 *

Venus -28351-04-07 20:09 J -8633682.77 -8633682.66 -8633682.55 0.3779 0.0176

Jupiter -28349-10-25 18:28 J -8632750.90 -8632750.73 -8632750.56 0.0502 0.0080

Mars -28349-11-28 14:23 J -8632716.98 -8632716.90 -8632716.81 0.1727 0.1194

Mars -28348-10-10 22:33 J -8632400.70 -8632400.56 -8632400.41 0.1787 0.0765

Venus -28347-04-07 02:52 J -8632222.51 -8632222.38 -8632222.24 0.3596 0.0779

Mars -28347-11-04 00:28 J -8632011.57 -8632011.48 -8632011.39 0.1748 0.1178

Venus -28346-10-22 13:26 J -8631659.01 -8631658.94 -8631658.87 0.3778 0.2821

Uranus -28345-03-12 01:55 J -8631517.51 -8631517.42 -8631517.31 0.0135 0.0111

Uranus -28345-06-08 08:09 J -8631429.29 -8631429.16 -8631429.02 0.0135 0.0086

Uranus -28345-09-04 13:55 J -8631341.06 -8631340.92 -8631340.75 0.0135 0.0062

Uranus -28345-12-01 20:09 J -8631252.83 -8631252.66 -8631252.49 0.0135 0.0037

Earth -28345-12-03 16:33 J -8631250.83 -8631250.81 -8631250.80 0.2649 0.2628

Uranus -28344-02-28 01:55 J -8631164.59 -8631164.42 -8631164.24 0.0134 0.0013

Uranus -28344-05-27 07:55 J -8631076.35 -8631076.17 -8631076.00 0.0134 0.0011

Neptune -28344-08-17 17:02 J -8630993.84 -8630993.79 -8630993.73 0.0088 0.0084

Uranus -28344-08-23 13:26 J -8630988.10 -8630987.94 -8630987.76 0.0134 0.0035

Neptune -28344-11-13 20:09 J -8630905.75 -8630905.66 -8630905.55 0.0088 0.0074

Uranus -28344-11-19 19:26 J -8630899.85 -8630899.69 -8630899.54 0.0134 0.0058

Neptune -28343-02-09 23:16 J -8630817.64 -8630817.53 -8630817.39 0.0088 0.0065

Uranus -28343-02-16 00:43 J -8630811.59 -8630811.47 -8630811.32 0.0134 0.0082

Jupiter -28343-03-18 08:23 J -8630781.23 -8630781.15 -8630781.06 0.0528 0.0386

Neptune -28343-05-09 02:23 J -8630729.53 -8630729.40 -8630729.24 0.0088 0.0056

Uranus -28343-05-15 06:14 J -8630723.33 -8630723.24 -8630723.12 0.0134 0.0105

Jupiter -28343-06-15 16:47 J -8630691.92 -8630691.80 -8630691.68 0.0524 0.0207

Neptune -28343-08-05 05:31 J -8630641.41 -8630641.27 -8630641.10 0.0088 0.0048

Uranus -28343-08-11 12:14 J -8630635.04 -8630634.99 -8630634.94 0.0134 0.0127

Neptune -28343-11-01 08:52 J -8630553.29 -8630553.13 -8630552.95 0.0088 0.0038

Neptune -28342-01-28 11:59 J -8630465.16 -8630465.00 -8630464.81 0.0088 0.0029

Neptune -28342-04-26 15:07 J -8630377.04 -8630376.87 -8630376.68 0.0088 0.0020

Moon -28342-06-05 22:47 J -8630336.67 -8630336.55 -8630336.43 0.2680 0.0319

Earth -28342-06-05 23:45 J -8630336.63 -8630336.51 -8630336.39 0.2681 0.0167 *

Neptune -28342-07-23 18:28 J -8630288.91 -8630288.73 -8630288.55 0.0088 0.0011

Neptune -28342-10-19 21:35 J -8630200.78 -8630200.60 -8630200.41 0.0088 0.0002

Neptune -28341-01-16 00:43 J -8630112.65 -8630112.47 -8630112.29 0.0088 0.0007

Neptune -28341-04-13 03:50 J -8630024.52 -8630024.34 -8630024.16 0.0088 0.0016

Pluto -28341-04-26 12:43 J -8630010.97 -8630010.97 -8630010.92 0.0075 0.0074

Neptune -28341-07-10 06:43 J -8629936.39 -8629936.22 -8629936.04 0.0088 0.0025

Pluto -28341-07-23 14:09 J -8629922.96 -8629922.91 -8629922.82 0.0075 0.0066

Neptune -28341-10-06 09:50 J -8629848.25 -8629848.09 -8629847.91 0.0088 0.0034

Pluto -28341-10-19 15:35 J -8629834.93 -8629834.85 -8629834.74 0.0075 0.0058

Neptune -28340-01-02 12:43 J -8629760.11 -8629759.97 -8629759.80 0.0088 0.0043

Pluto -28340-01-15 17:02 J -8629746.89 -8629746.79 -8629746.66 0.0074 0.0050

Saturn -28340-02-08 00:14 J -8629723.58 -8629723.49 -8629723.40 0.0267 0.0196

Neptune -28340-03-31 16:04 J -8629671.98 -8629671.83 -8629671.68 0.0088 0.0052

Pluto -28340-04-13 18:43 J -8629658.85 -8629658.72 -8629658.60 0.0074 0.0042

Saturn -28340-05-07 11:16 J -8629635.16 -8629635.03 -8629634.89 0.0267 0.0093

Neptune -28340-06-27 18:57 J -8629583.83 -8629583.71 -8629583.57 0.0088 0.0061

Pluto -28340-07-10 19:40 J -8629570.80 -8629570.68 -8629570.53 0.0074 0.0035

Saturn -28340-08-03 22:47 J -8629546.69 -8629546.55 -8629546.41 0.0267 0.0014

Neptune -28340-09-23 21:50 J -8629495.69 -8629495.59 -8629495.46 0.0088 0.0070

Pluto -28340-10-06 21:21 J -8629482.75 -8629482.61 -8629482.47 0.0074 0.0026

Saturn -28340-10-31 10:19 J -8629458.20 -8629458.07 -8629457.95 0.0267 0.0120

Neptune -28340-12-21 00:43 J -8629407.53 -8629407.47 -8629407.37 0.0088 0.0079

Pluto -28339-01-02 22:33 J -8629394.70 -8629394.56 -8629394.41 0.0074 0.0019

Saturn -28339-01-27 21:50 J -8629369.66 -8629369.59 -8629369.51 0.0267 0.0228

Neptune -28339-03-19 04:04 J -8629319.35 -8629319.33 -8629319.29 0.0088 0.0087

Pluto -28339-03-31 23:45 J -8629306.65 -8629306.51 -8629306.35 0.0074 0.0012

Pluto -28339-06-28 01:11 J -8629218.60 -8629218.45 -8629218.30 0.0074 0.0004

Pluto -28339-09-24 02:23 J -8629130.55 -8629130.40 -8629130.25 0.0074 0.0004

Earth -28339-12-14 14:09 J -8629048.95 -8629048.91 -8629048.87 0.2656 0.2525

Moon -28339-12-14 14:52 J -8629048.92 -8629048.88 -8629048.84 0.2662 0.2523 *

Pluto -28339-12-21 03:35 J -8629042.50 -8629042.35 -8629042.20 0.0073 0.0011

Pluto -28338-03-19 04:47 J -8628954.44 -8628954.30 -8628954.15 0.0073 0.0018

Pluto -28338-06-15 05:59 J -8628866.38 -8628866.25 -8628866.10 0.0073 0.0025

Pluto -28338-09-11 07:26 J -8628778.33 -8628778.19 -8628778.06 0.0073 0.0032

Pluto -28338-12-08 08:09 J -8628690.27 -8628690.16 -8628690.02 0.0073 0.0040

Pluto -28337-03-05 09:21 J -8628602.21 -8628602.11 -8628601.98 0.0073 0.0047

Mars -28337-03-26 09:50 J -8628581.21 -8628581.09 -8628580.98 0.1743 0.0583

Pluto -28337-06-01 10:33 J -8628514.15 -8628514.06 -8628513.94 0.0073 0.0054

Jupiter -28337-08-13 17:02 J -8628440.96 -8628440.79 -8628440.62 0.0502 0.0094

Pluto -28337-08-28 11:45 J -8628426.08 -8628426.01 -8628425.91 0.0073 0.0060

Pluto -28337-11-24 13:11 J -8628338.00 -8628337.95 -8628337.89 0.0072 0.0067

Moon -28332-12-06 16:47 J -8626499.93 -8626499.80 -8626499.68 0.2652 0.1243

Earth -28332-12-06 17:59 J -8626499.88 -8626499.75 -8626499.63 0.2651 0.1217 *

Jupiter -28331-01-04 12:28 J -8626470.99 -8626470.98 -8626470.97 0.0528 0.0526

Jupiter -28331-04-03 20:38 J -8626381.78 -8626381.64 -8626381.51 0.0525 0.0066

Moon -28329-06-07 19:11 J -8625585.82 -8625585.70 -8625585.59 0.2682 0.0838

Earth -28329-06-07 19:55 J -8625585.78 -8625585.67 -8625585.56 0.2679 0.0879 *

Mars -28328-08-16 19:11 J -8625150.82 -8625150.70 -8625150.58 0.1737 0.0029

Mars -28327-06-30 00:14 J -8624833.59 -8624833.49 -8624833.39 0.1774 0.1332

Jupiter -28325-06-01 16:19 J -8624130.97 -8624130.82 -8624130.67 0.0501 0.0259

Saturn -28325-06-05 04:33 J -8624127.46 -8624127.31 -8624127.15 0.0292 0.0120

Jupiter -28325-08-30 19:55 J -8624040.75 -8624040.67 -8624040.59 0.0504 0.0438

Saturn -28325-09-02 02:09 J -8624038.58 -8624038.41 -8624038.24 0.0293 0.0056

Saturn -28325-11-29 23:16 J -8623949.64 -8623949.53 -8623949.43 0.0293 0.0227

Moon -28322-06-01 12:57 J -8623036.04 -8623035.96 -8623035.88 0.2677 0.1961

Earth -28322-06-01 13:11 J -8623036.03 -8623035.95 -8623035.88 0.2684 0.2005 *

Jupiter -28319-01-20 23:31 J -8622071.65 -8622071.52 -8622071.39 0.0525 0.0096

Jupiter -28319-04-20 07:55 J -8621982.20 -8621982.17 -8621982.13 0.0522 0.0500

Moon -28319-12-09 17:59 J -8621748.88 -8621748.75 -8621748.61 0.2658 0.0085

Earth -28319-12-09 18:57 J -8621748.85 -8621748.71 -8621748.57 0.2652 0.0168 *

Mars -28318-01-07 04:47 J -8621720.42 -8621720.30 -8621720.19 0.1732 0.0578

Mars -28318-11-19 23:59 J -8621403.66 -8621403.50 -8621403.35 0.1780 0.0357

Moon -28316-06-10 16:04 J -8620834.91 -8620834.83 -8620834.75 0.2684 0.1944

Earth -28316-06-10 16:19 J -8620834.90 -8620834.82 -8620834.74 0.2677 0.1950 *

Jupiter -28313-03-20 14:52 J -8619820.96 -8619820.88 -8619820.78 0.0501 0.0430

Jupiter -28313-06-18 18:57 J -8619730.85 -8619730.71 -8619730.56 0.0503 0.0272

Saturn -28311-06-28 02:52 J -8618991.45 -8618991.38 -8618991.31 0.0268 0.0224

Saturn -28311-09-24 14:09 J -8618903.04 -8618902.91 -8618902.79 0.0268 0.0120

Saturn -28311-12-22 01:26 J -8618814.58 -8618814.44 -8618814.30 0.0267 0.0014

Saturn -28310-03-20 12:57 J -8618726.09 -8618725.96 -8618725.83 0.0267 0.0093

Saturn -28310-06-17 00:28 J -8618637.57 -8618637.48 -8618637.38 0.0267 0.0201

Mars -28309-05-29 14:38 J -8618289.98 -8618289.89 -8618289.81 0.1726 0.1126

Moon -28309-06-03 08:23 J -8618285.26 -8618285.15 -8618285.04 0.2677 0.1110

Earth -28309-06-03 08:52 J -8618285.24 -8618285.13 -8618285.02 0.2682 0.1000 *

Mars -28308-04-10 23:16 J -8617973.68 -8617973.53 -8617973.38 0.1787 0.0654

Jupiter -28308-11-09 02:52 J -8617761.49 -8617761.38 -8617761.26 0.0526 0.0244

Jupiter -28307-02-06 11:16 J -8617672.13 -8617672.03 -8617671.93 0.0523 0.0349

Mars -28307-05-05 00:28 J -8617584.56 -8617584.48 -8617584.39 0.1748 0.1256

Earth -28306-12-12 19:26 J -8616997.80 -8616997.69 -8616997.57 0.2654 0.1480

Moon -28306-12-12 19:40 J -8616997.79 -8616997.68 -8616997.57 0.2661 0.1499 *

Uranus -28302-11-18 17:02 J -8615560.81 -8615560.79 -8615560.75 0.0144 0.0140

Uranus -28301-02-14 21:21 J -8615472.69 -8615472.61 -8615472.53 0.0144 0.0117

Jupiter -28301-04-06 17:16 J -8615420.95 -8615420.78 -8615420.61 0.0502 0.0093

Uranus -28301-05-13 01:26 J -8615384.55 -8615384.44 -8615384.34 0.0144 0.0094

Uranus -28301-08-09 05:31 J -8615296.39 -8615296.27 -8615296.15 0.0144 0.0071

Uranus -28301-11-05 09:35 J -8615208.23 -8615208.10 -8615207.96 0.0144 0.0048

Uranus -28300-02-01 13:55 J -8615120.06 -8615119.92 -8615119.78 0.0144 0.0024

Venus -28300-04-29 00:57 J -8615033.56 -8615033.46 -8615033.37 0.3779 0.1471

Uranus -28300-04-30 18:14 J -8615031.89 -8615031.74 -8615031.60 0.0144 0.0004

Uranus -28300-07-27 22:19 J -8614943.71 -8614943.57 -8614943.43 0.0144 0.0025

Mars -28300-10-20 00:28 J -8614859.51 -8614859.48 -8614859.46 0.1721 0.1663

Uranus -28300-10-24 02:38 J -8614855.52 -8614855.39 -8614855.25 0.0145 0.0049

Uranus -28299-01-20 06:57 J -8614767.33 -8614767.21 -8614767.08 0.0145 0.0073

Uranus -28299-04-18 11:31 J -8614679.13 -8614679.02 -8614678.92 0.0145 0.0098

Uranus -28299-07-15 15:50 J -8614590.91 -8614590.84 -8614590.76 0.0145 0.0123

Mars -28299-08-31 22:04 J -8614543.63 -8614543.58 -8614543.53 0.1793 0.1706

Moon -28299-12-04 21:07 J -8614448.68 -8614448.62 -8614448.56 0.2646 0.2378

Earth -28299-12-04 22:19 J -8614448.63 -8614448.57 -8614448.51 0.2649 0.2371 *

Mars -28298-09-25 09:35 J -8614154.21 -8614154.10 -8614153.98 0.1742 0.0648

Moon -28296-06-06 03:50 J -8613534.46 -8613534.34 -8613534.22 0.2680 0.0096

Earth -28296-06-06 04:47 J -8613534.42 -8613534.30 -8613534.18 0.2680 0.0071 *

Jupiter -28296-08-28 06:43 J -8613451.31 -8613451.22 -8613451.13 0.0528 0.0389

Saturn -28296-10-23 04:47 J -8613395.43 -8613395.30 -8613395.15 0.0293 0.0163

Jupiter -28296-11-25 14:52 J -8613362.00 -8613361.88 -8613361.76 0.0524 0.0204

Saturn -28295-01-20 02:38 J -8613306.56 -8613306.39 -8613306.22 0.0293 0.0014

Saturn -28295-04-18 23:45 J -8613217.64 -8613217.51 -8613217.38 0.0293 0.0187

Venus -28295-11-12 17:59 J -8613009.85 -8613009.75 -8613009.65 0.3778 0.1137

Venus -28291-11-12 03:21 J -8611549.50 -8611549.36 -8611549.22 0.3596 0.0887

Jupiter -28289-01-24 15:50 J -8611111.01 -8611110.84 -8611110.67 0.0502 0.0082

Mars -28288-02-14 19:11 J -8610723.82 -8610723.70 -8610723.58 0.1737 0.0073

Mars -28288-12-29 00:57 J -8610406.55 -8610406.46 -8610406.37 0.1774 0.1439

Moon -28286-12-07 22:33 J -8609697.68 -8609697.56 -8609697.43 0.2654 0.1142

Earth -28286-12-07 23:45 J -8609697.64 -8609697.51 -8609697.38 0.2651 0.0959 *

Jupiter -28284-06-16 10:47 J -8609141.05 -8609141.05 -8609141.05 0.0528 0.0527

Jupiter -28284-09-13 18:57 J -8609051.85 -8609051.71 -8609051.58 0.0525 0.0065

Moon -28283-06-09 00:28 J -8608783.59 -8608783.48 -8608783.37 0.2683 0.0980

Earth -28283-06-09 00:57 J -8608783.57 -8608783.46 -8608783.34 0.2679 0.1085 *

Saturn -28282-11-15 05:02 J -8608259.33 -8608259.29 -8608259.25 0.0268 0.0255

Saturn -28281-02-11 16:04 J -8608170.94 -8608170.83 -8608170.71 0.0267 0.0152

Saturn -28281-05-10 03:21 J -8608082.49 -8608082.36 -8608082.22 0.0267 0.0047

Saturn -28281-08-06 14:52 J -8607994.02 -8607993.88 -8607993.74 0.0267 0.0059

Saturn -28281-11-03 02:23 J -8607905.51 -8607905.40 -8607905.29 0.0267 0.0167

Mars -28279-07-08 04:47 J -8607293.41 -8607293.30 -8607293.19 0.1732 0.0503

Mars -28278-05-21 00:43 J -8606976.63 -8606976.47 -8606976.32 0.1780 0.0471

Jupiter -28278-11-12 14:09 J -8606801.06 -8606800.91 -8606800.76 0.0501 0.0258

Jupiter -28277-02-10 17:45 J -8606710.84 -8606710.76 -8606710.68 0.0504 0.0439

Moon -28276-06-01 17:59 J -8606233.83 -8606233.75 -8606233.66 0.2677 0.1852

Earth -28276-06-01 18:14 J -8606233.83 -8606233.74 -8606233.66 0.2684 0.1817 *

Moon -28273-12-09 23:59 J -8604946.64 -8604946.50 -8604946.36 0.2658 0.0402

Earth -28273-12-10 00:43 J -8604946.61 -8604946.47 -8604946.33 0.2653 0.0406 *

Jupiter -28272-07-02 22:47 J -8604741.68 -8604741.55 -8604741.42 0.0526 0.0080

Jupiter -28272-09-30 07:11 J -8604652.21 -8604652.20 -8604652.18 0.0523 0.0518

Moon -28270-06-11 21:21 J -8604032.68 -8604032.61 -8604032.54 0.2684 0.2170

Earth -28270-06-11 21:35 J -8604032.67 -8604032.60 -8604032.53 0.2677 0.2160 *

Mars -28270-11-28 14:23 J -8603862.99 -8603862.90 -8603862.80 0.1726 0.1060

Mars -28269-10-09 23:45 J -8603546.66 -8603546.51 -8603546.35 0.1787 0.0548

Mars -28268-11-03 00:28 J -8603157.55 -8603157.48 -8603157.40 0.1748 0.1327

Saturn -28266-03-12 01:40 J -8602663.53 -8602663.43 -8602663.32 0.0292 0.0230

Saturn -28266-06-08 23:31 J -8602574.69 -8602574.52 -8602574.35 0.0292 0.0053

Jupiter -28266-08-31 13:11 J -8602491.04 -8602490.95 -8602490.86 0.0500 0.0425

Saturn -28266-09-05 20:52 J -8602485.78 -8602485.63 -8602485.47 0.0293 0.0121

Jupiter -28266-11-29 17:16 J -8602400.92 -8602400.78 -8602400.63 0.0503 0.0277

Saturn -28266-12-03 17:45 J -8602396.77 -8602396.76 -8602396.74 0.0293 0.0291

Moon -28263-06-04 13:11 J -8601483.06 -8601482.95 -8601482.83 0.2679 0.0821

Earth -28263-06-04 13:55 J -8601483.03 -8601482.92 -8601482.80 0.2682 0.0813 *

Neptune -28263-08-26 08:52 J -8601400.13 -8601400.13 -8601400.12 0.0089 0.0089

Neptune -28263-11-22 10:19 J -8601312.11 -8601312.07 -8601312.01 0.0089 0.0082

Neptune -28262-02-18 11:45 J -8601224.07 -8601224.01 -8601223.93 0.0089 0.0075

Neptune -28262-05-17 13:11 J -8601136.03 -8601135.95 -8601135.86 0.0089 0.0069

Neptune -28262-08-13 14:23 J -8601047.98 -8601047.90 -8601047.79 0.0089 0.0063

Neptune -28262-11-09 16:04 J -8600959.93 -8600959.83 -8600959.72 0.0089 0.0055

Uranus -28261-01-04 03:35 J -8600904.40 -8600904.35 -8600904.28 0.0135 0.0127

Neptune -28261-02-05 17:31 J -8600871.88 -8600871.77 -8600871.65 0.0089 0.0048

Uranus -28261-04-01 09:50 J -8600816.20 -8600816.09 -8600815.97 0.0135 0.0102

Neptune -28261-05-03 18:57 J -8600783.82 -8600783.71 -8600783.58 0.0089 0.0042

Uranus -28261-06-28 15:35 J -8600727.98 -8600727.85 -8600727.69 0.0135 0.0078

Neptune -28261-07-30 20:38 J -8600695.77 -8600695.64 -8600695.51 0.0089 0.0034

Uranus -28261-09-24 21:50 J -8600639.75 -8600639.59 -8600639.42 0.0135 0.0053

Neptune -28261-10-26 22:04 J -8600607.71 -8600607.58 -8600607.45 0.0089 0.0027

Uranus -28261-12-22 03:50 J -8600551.51 -8600551.34 -8600551.17 0.0134 0.0028

Neptune -28260-01-22 23:45 J -8600519.65 -8600519.51 -8600519.38 0.0089 0.0021

Uranus -28260-03-20 09:35 J -8600463.27 -8600463.10 -8600462.92 0.0134 0.0005

Mars -28260-04-20 00:28 J -8600432.52 -8600432.48 -8600432.44 0.1721 0.1593

Neptune -28260-04-21 01:11 J -8600431.59 -8600431.45 -8600431.32 0.0089 0.0014

Jupiter -28260-04-21 01:40 J -8600431.54 -8600431.43 -8600431.31 0.0526 0.0236 *

Uranus -28260-06-16 15:21 J -8600375.03 -8600374.86 -8600374.68 0.0134 0.0020

Neptune -28260-07-18 02:38 J -8600343.53 -8600343.39 -8600343.25 0.0089 0.0007

Jupiter -28260-07-19 10:04 J -8600342.18 -8600342.08 -8600341.98 0.0523 0.0357

Uranus -28260-09-12 21:07 J -8600286.78 -8600286.62 -8600286.45 0.0134 0.0044

Neptune -28260-10-14 04:04 J -8600255.47 -8600255.33 -8600255.19 0.0089 0.0001

Uranus -28260-12-10 02:52 J -8600198.52 -8600198.38 -8600198.22 0.0134 0.0067

Earth -28260-12-13 01:11 J -8600195.55 -8600195.45 -8600195.34 0.2655 0.1727

Moon -28260-12-13 01:40 J -8600195.53 -8600195.43 -8600195.33 0.2661 0.1739 *

Neptune -28259-01-10 05:31 J -8600167.40 -8600167.27 -8600167.13 0.0089 0.0008

Mars -28259-03-01 22:33 J -8600116.63 -8600116.56 -8600116.49 0.1793 0.1604

Uranus -28259-03-08 08:23 J -8600110.27 -8600110.15 -8600110.01 0.0134 0.0090

Neptune -28259-04-08 07:11 J -8600079.34 -8600079.20 -8600079.07 0.0089 0.0014

Uranus -28259-06-04 14:09 J -8600021.99 -8600021.91 -8600021.81 0.0134 0.0113

Neptune -28259-07-05 08:38 J -8599991.27 -8599991.14 -8599991.00 0.0089 0.0021

Neptune -28259-10-01 10:04 J -8599903.21 -8599903.08 -8599902.94 0.0089 0.0029

Neptune -28259-12-28 11:45 J -8599815.14 -8599815.01 -8599814.89 0.0089 0.0036

Mars -28258-03-26 09:50 J -8599727.20 -8599727.09 -8599726.98 0.1743 0.0720

Neptune -28258-03-26 12:57 J -8599727.07 -8599726.96 -8599726.83 0.0089 0.0043 *

Neptune -28258-06-22 14:38 J -8599639.00 -8599638.89 -8599638.77 0.0089 0.0050

Neptune -28258-09-18 16:04 J -8599550.93 -8599550.83 -8599550.71 0.0089 0.0057

Neptune -28258-12-15 17:31 J -8599462.85 -8599462.77 -8599462.66 0.0089 0.0064

Neptune -28257-03-12 19:11 J -8599374.77 -8599374.70 -8599374.61 0.0089 0.0071

Neptune -28257-06-08 20:38 J -8599286.69 -8599286.64 -8599286.56 0.0089 0.0079

Neptune -28257-09-04 22:19 J -8599198.60 -8599198.57 -8599198.52 0.0089 0.0085

Jupiter -28254-09-17 16:19 J -8598090.99 -8598090.82 -8598090.65 0.0503 0.0108

Moon -28253-12-05 03:07 J -8597646.44 -8597646.37 -8597646.30 0.2647 0.2280

Earth -28253-12-05 04:19 J -8597646.41 -8597646.32 -8597646.24 0.2649 0.2109 *

Saturn -28252-06-30 18:43 J -8597438.82 -8597438.72 -8597438.61 0.0268 0.0180

Saturn -28252-09-27 05:59 J -8597350.38 -8597350.25 -8597350.11 0.0268 0.0075

Saturn -28252-12-24 17:31 J -8597261.91 -8597261.77 -8597261.63 0.0267 0.0031

Saturn -28251-03-23 05:02 J -8597173.41 -8597173.29 -8597173.17 0.0267 0.0139

Saturn -28251-06-19 16:33 J -8597084.85 -8597084.81 -8597084.75 0.0267 0.0248

Moon -28250-06-07 09:07 J -8596732.24 -8596732.12 -8596732.00 0.2680 0.0073

Earth -28250-06-07 10:04 J -8596732.20 -8596732.08 -8596731.96 0.2680 0.0229 *

Venus -28249-05-20 05:31 J -8596384.33 -8596384.27 -8596384.21 0.3779 0.3074

Mars -28249-08-15 19:11 J -8596296.82 -8596296.70 -8596296.58 0.1737 0.0134

Jupiter -28248-02-07 05:16 J -8596121.37 -8596121.28 -8596121.19 0.0527 0.0386

Jupiter -28248-05-07 13:26 J -8596032.06 -8596031.94 -8596031.82 0.0524 0.0206

Mars -28248-06-29 01:11 J -8595979.52 -8595979.45 -8595979.37 0.1774 0.1536

Venus -28244-12-03 22:33 J -8594360.66 -8594360.56 -8594360.45 0.3778 0.0522

Earth -28243-05-31 03:35 J -8594182.37 -8594182.35 -8594182.33 0.2685 0.2615

Moon -28243-05-31 03:50 J -8594182.37 -8594182.34 -8594182.30 0.2679 0.2554 *

Jupiter -28242-07-06 14:23 J -8593781.08 -8593780.90 -8593780.73 0.0502 0.0073

Venus -28240-12-03 01:11 J -8592900.56 -8592900.45 -8592900.33 0.3596 0.2123

Moon -28240-12-08 04:19 J -8592895.45 -8592895.32 -8592895.18 0.2655 0.0710

Earth -28240-12-08 05:31 J -8592895.40 -8592895.27 -8592895.13 0.2651 0.0706 *

Mars -28239-01-06 04:33 J -8592866.42 -8592866.31 -8592866.19 0.1732 0.0447

Mars -28239-11-19 01:26 J -8592549.59 -8592549.44 -8592549.29 0.1780 0.0584

Venus -28238-06-19 15:50 J -8592336.93 -8592336.84 -8592336.75 0.3778 0.2108

Moon -28237-06-09 05:45 J -8591981.36 -8591981.26 -8591981.16 0.2684 0.1306

Earth -28237-06-09 06:14 J -8591981.34 -8591981.24 -8591981.13 0.2678 0.1282 *

Saturn -28237-07-29 02:23 J -8591931.46 -8591931.40 -8591931.33 0.0292 0.0269

Saturn -28237-10-26 00:28 J -8591842.65 -8591842.48 -8591842.32 0.0293 0.0091

Saturn -28236-01-22 21:50 J -8591753.75 -8591753.59 -8591753.42 0.0293 0.0084

Jupiter -28236-02-23 17:02 J -8591721.93 -8591721.79 -8591721.66 0.0525 0.0060

Saturn -28236-04-21 18:57 J -8591664.79 -8591664.71 -8591664.63 0.0293 0.0256

Venus -28234-06-19 03:35 J -8590876.45 -8590876.35 -8590876.25 0.3596 0.2522

Jupiter -28230-04-24 12:43 J -8589471.12 -8589470.97 -8589470.82 0.0501 0.0249

Mars -28230-05-29 14:38 J -8589435.99 -8589435.89 -8589435.80 0.1726 0.0989

Moon -28230-06-02 23:02 J -8589431.63 -8589431.54 -8589431.44 0.2677 0.1621

Earth -28230-06-02 23:16 J -8589431.62 -8589431.53 -8589431.44 0.2684 0.1625 *

Jupiter -28230-07-23 16:19 J -8589380.90 -8589380.82 -8589380.74 0.0504 0.0447

Mars -28229-04-10 00:28 J -8589119.63 -8589119.48 -8589119.32 0.1786 0.0433

Mars -28228-05-04 00:28 J -8588730.55 -8588730.48 -8588730.41 0.1748 0.1395

Moon -28227-12-11 05:59 J -8588144.38 -8588144.25 -8588144.11 0.2659 0.0555

Earth -28227-12-11 06:28 J -8588144.36 -8588144.23 -8588144.10 0.2653 0.0655 *

Jupiter -28225-12-12 20:52 J -8587411.76 -8587411.63 -8587411.50 0.0526 0.0083

Jupiter -28224-03-12 05:31 J -8587322.29 -8587322.27 -8587322.25 0.0523 0.0513

Moon -28224-06-12 02:38 J -8587230.45 -8587230.39 -8587230.33 0.2683 0.2340

Earth -28224-06-12 02:38 J -8587230.44 -8587230.39 -8587230.33 0.2676 0.2365 *

Saturn -28223-11-17 21:07 J -8586706.70 -8586706.62 -8586706.53 0.0268 0.0209

Saturn -28222-02-14 08:23 J -8586618.27 -8586618.15 -8586618.02 0.0267 0.0104

Saturn -28222-05-13 19:55 J -8586529.81 -8586529.67 -8586529.53 0.0267 0.0008

Saturn -28222-08-10 07:11 J -8586441.32 -8586441.20 -8586441.07 0.0267 0.0109

Saturn -28222-11-06 18:57 J -8586352.79 -8586352.71 -8586352.63 0.0267 0.0217

Mars -28221-10-19 00:28 J -8586005.53 -8586005.48 -8586005.43 0.1721 0.1527

Mars -28220-08-30 23:16 J -8585689.62 -8585689.53 -8585689.45 0.1793 0.1490

Mars -28219-09-24 09:50 J -8585300.20 -8585300.09 -8585299.98 0.1743 0.0794

Jupiter -28218-02-10 10:47 J -8585161.14 -8585161.05 -8585160.96 0.0500 0.0427

Jupiter -28218-05-11 14:52 J -8585071.02 -8585070.88 -8585070.73 0.0503 0.0274

Uranus -28218-12-09 00:28 J -8584859.52 -8584859.48 -8584859.41 0.0144 0.0133

Uranus -28217-03-06 04:47 J -8584771.38 -8584771.30 -8584771.21 0.0144 0.0110

Uranus -28217-06-02 08:52 J -8584683.24 -8584683.13 -8584683.01 0.0144 0.0087

Moon -28217-06-04 18:14 J -8584680.85 -8584680.74 -8584680.62 0.2679 0.0726

Earth -28217-06-04 19:11 J -8584680.82 -8584680.70 -8584680.59 0.2682 0.0617 *

Uranus -28217-08-29 13:11 J -8584595.08 -8584594.95 -8584594.83 0.0144 0.0063

Uranus -28217-11-25 17:16 J -8584506.91 -8584506.78 -8584506.64 0.0144 0.0040

Uranus -28216-02-21 21:35 J -8584418.74 -8584418.60 -8584418.46 0.0144 0.0016

Uranus -28216-05-21 01:40 J -8584330.57 -8584330.43 -8584330.28 0.0144 0.0009

Uranus -28216-08-17 05:59 J -8584242.39 -8584242.25 -8584242.11 0.0144 0.0032

Uranus -28216-11-13 10:19 J -8584154.20 -8584154.07 -8584153.94 0.0145 0.0057

Uranus -28215-02-09 14:38 J -8584066.00 -8584065.89 -8584065.77 0.0145 0.0082

Uranus -28215-05-08 18:57 J -8583977.80 -8583977.71 -8583977.61 0.0145 0.0107

Uranus -28215-08-04 23:16 J -8583889.57 -8583889.53 -8583889.46 0.0145 0.0132

Earth -28214-12-14 06:57 J -8583393.30 -8583393.21 -8583393.12 0.2655 0.1972

Moon -28214-12-14 07:26 J -8583393.28 -8583393.19 -8583393.11 0.2662 0.2049 *

Jupiter -28213-10-01 00:43 J -8583101.59 -8583101.47 -8583101.35 0.0527 0.0225

Jupiter -28213-12-29 09:07 J -8583012.21 -8583012.12 -8583012.02 0.0523 0.0370

Mars -28209-02-14 19:11 J -8581869.82 -8581869.70 -8581869.58 0.1737 0.0203

Mars -28209-12-28 01:55 J -8581552.47 -8581552.42 -8581552.36 0.1774 0.1646

Saturn -28207-03-14 21:35 J -8581110.75 -8581110.60 -8581110.46 0.0292 0.0156

Saturn -28207-06-11 19:11 J -8581021.87 -8581021.70 -8581021.53 0.0292 0.0020

Saturn -28207-09-08 16:19 J -8580932.94 -8580932.82 -8580932.69 0.0293 0.0193

Moon -28207-12-06 08:52 J -8580844.23 -8580844.13 -8580844.03 0.2649 0.1907

Earth -28207-12-06 10:04 J -8580844.18 -8580844.08 -8580843.98 0.2649 0.1851 *

Jupiter -28206-02-27 14:09 J -8580761.08 -8580760.91 -8580760.74 0.0503 0.0109

Moon -28204-06-07 14:23 J -8579930.02 -8579929.90 -8579929.78 0.2681 0.0423

Earth -28204-06-07 15:07 J -8579929.99 -8579929.87 -8579929.75 0.2680 0.0424 *

Jupiter -28201-07-20 03:50 J -8578791.43 -8578791.34 -8578791.25 0.0527 0.0380

Jupiter -28201-10-17 11:59 J -8578702.12 -8578702.00 -8578701.88 0.0524 0.0211

Mars -28200-07-07 04:47 J -8578439.42 -8578439.30 -8578439.18 0.1732 0.0369

Mars -28199-05-20 01:40 J -8578122.57 -8578122.43 -8578122.28 0.1780 0.0680

Earth -28197-05-31 08:38 J -8577380.18 -8577380.14 -8577380.09 0.2685 0.2430

Moon -28197-05-31 08:52 J -8577380.17 -8577380.13 -8577380.08 0.2678 0.2447 *

Jupiter -28195-12-16 12:57 J -8576451.13 -8576450.96 -8576450.79 0.0502 0.0063

Moon -28194-12-09 10:19 J -8576093.21 -8576093.07 -8576092.94 0.2655 0.0634

Earth -28194-12-09 11:16 J -8576093.16 -8576093.03 -8576092.89 0.2651 0.0454 *

Saturn -28193-04-05 23:45 J -8575974.56 -8575974.51 -8575974.44 0.0268 0.0238

Saturn -28193-07-03 11:02 J -8575886.16 -8575886.04 -8575885.92 0.0268 0.0133

Saturn -28193-09-29 22:33 J -8575797.70 -8575797.56 -8575797.43 0.0268 0.0028

Venus -28193-12-25 03:21 J -8575711.45 -8575711.36 -8575711.27 0.3778 0.2133

Saturn -28193-12-27 09:50 J -8575709.22 -8575709.09 -8575708.95 0.0268 0.0081

Saturn -28192-03-25 21:21 J -8575620.70 -8575620.61 -8575620.50 0.0267 0.0190

Moon -28191-06-10 11:02 J -8575179.15 -8575179.04 -8575178.94 0.2684 0.1378

Earth -28191-06-10 11:31 J -8575179.12 -8575179.02 -8575178.92 0.2678 0.1489 *

Mars -28191-11-27 14:23 J -8575009.00 -8575008.90 -8575008.80 0.1726 0.0927

Mars -28190-10-10 00:57 J -8574692.61 -8574692.46 -8574692.30 0.1787 0.0331

Jupiter -28189-08-05 15:21 J -8574391.99 -8574391.86 -8574391.73 0.0525 0.0059

Mars -28189-11-02 00:43 J -8574303.54 -8574303.47 -8574303.41 0.1748 0.1469

Venus -28187-07-10 20:23 J -8573687.75 -8573687.65 -8573687.54 0.3778 0.0445

Moon -28184-06-03 04:04 J -8572629.43 -8572629.33 -8572629.23 0.2677 0.1451

Earth -28184-06-03 04:19 J -8572629.42 -8572629.32 -8572629.22 0.2683 0.1439 *

Venus -28183-07-10 01:40 J -8572227.57 -8572227.43 -8572227.29 0.3597 0.0439

Jupiter -28183-10-04 10:47 J -8572141.20 -8572141.05 -8572140.89 0.0501 0.0245

Jupiter -28182-01-02 14:38 J -8572050.97 -8572050.89 -8572050.82 0.0504 0.0452

Venus -28181-01-24 13:40 J -8571663.99 -8571663.93 -8571663.87 0.3778 0.3086

Mars -28181-04-19 00:28 J -8571578.54 -8571578.48 -8571578.42 0.1721 0.1461

Moon -28181-12-11 11:59 J -8571342.13 -8571342.00 -8571341.87 0.2660 0.0973

Earth -28181-12-11 12:14 J -8571342.12 -8571341.99 -8571341.86 0.2653 0.0903 *

Mars -28180-02-28 23:59 J -8571262.60 -8571262.50 -8571262.39 0.1793 0.1365

Pluto -28179-01-06 19:26 J -8570950.73 -8570950.69 -8570950.63 0.0070 0.0066

Mars -28179-03-25 09:50 J -8570873.20 -8570873.09 -8570872.99 0.1742 0.0859

Pluto -28179-04-04 20:38 J -8570862.70 -8570862.64 -8570862.54 0.0070 0.0060

Neptune -28179-05-14 15:07 J -8570822.94 -8570822.87 -8570822.79 0.0088 0.0081

Pluto -28179-07-01 22:04 J -8570774.67 -8570774.58 -8570774.46 0.0070 0.0053

Neptune -28179-08-10 18:14 J -8570734.84 -8570734.74 -8570734.62 0.0088 0.0071

Pluto -28179-09-27 23:31 J -8570686.63 -8570686.52 -8570686.38 0.0070 0.0046

Neptune -28179-11-06 21:21 J -8570646.73 -8570646.61 -8570646.47 0.0088 0.0062

Pluto -28179-12-25 00:57 J -8570598.58 -8570598.46 -8570598.31 0.0070 0.0039

Neptune -28178-02-03 00:28 J -8570558.61 -8570558.48 -8570558.31 0.0088 0.0054

Pluto -28178-03-23 02:23 J -8570510.54 -8570510.40 -8570510.24 0.0070 0.0033

Neptune -28178-05-02 03:50 J -8570470.49 -8570470.34 -8570470.17 0.0088 0.0044

Earth -28178-06-13 07:55 J -8570428.20 -8570428.17 -8570428.14 0.2676 0.2573

Moon -28178-06-13 08:09 J -8570428.18 -8570428.16 -8570428.15 0.2682 0.2650 *

Pluto -28178-06-19 03:50 J -8570422.49 -8570422.34 -8570422.18 0.0070 0.0026

Neptune -28178-07-29 06:57 J -8570382.37 -8570382.21 -8570382.03 0.0088 0.0035

Saturn -28178-08-01 23:02 J -8570378.67 -8570378.54 -8570378.41 0.0293 0.0190

Pluto -28178-09-15 05:16 J -8570334.43 -8570334.28 -8570334.11 0.0071 0.0019

Neptune -28178-10-25 10:04 J -8570294.24 -8570294.08 -8570293.89 0.0088 0.0026

Saturn -28178-10-29 20:38 J -8570289.81 -8570289.64 -8570289.46 0.0293 0.0014

Pluto -28178-12-12 06:43 J -8570246.38 -8570246.22 -8570246.05 0.0071 0.0012

Neptune -28177-01-21 13:26 J -8570206.12 -8570205.94 -8570205.75 0.0088 0.0017

Uranus -28177-01-24 11:16 J -8570203.10 -8570203.03 -8570202.93 0.0135 0.0118

Saturn -28177-01-26 17:59 J -8570200.89 -8570200.75 -8570200.61 0.0293 0.0161

Pluto -28177-03-09 08:23 J -8570158.32 -8570158.15 -8570157.99 0.0071 0.0004

Neptune -28177-04-18 16:33 J -8570117.99 -8570117.81 -8570117.62 0.0088 0.0008

Uranus -28177-04-21 17:31 J -8570114.89 -8570114.77 -8570114.64 0.0135 0.0093

Jupiter -28177-05-24 18:43 J -8570081.85 -8570081.72 -8570081.58 0.0526 0.0092

Pluto -28177-06-05 09:50 J -8570070.26 -8570070.09 -8570069.93 0.0071 0.0003

Neptune -28177-07-15 19:55 J -8570029.86 -8570029.67 -8570029.49 0.0088 0.0002

Uranus -28177-07-18 23:31 J -8570026.67 -8570026.52 -8570026.36 0.0135 0.0068

Jupiter -28177-08-22 03:21 J -8569992.39 -8569992.36 -8569992.33 0.0523 0.0506

Pluto -28177-09-01 11:16 J -8569982.19 -8569982.03 -8569981.87 0.0071 0.0010

Neptune -28177-10-11 23:02 J -8569941.73 -8569941.54 -8569941.36 0.0088 0.0011

Uranus -28177-10-15 05:31 J -8569938.43 -8569938.27 -8569938.10 0.0134 0.0044

Pluto -28177-11-28 12:43 J -8569894.13 -8569893.97 -8569893.81 0.0071 0.0017

Neptune -28176-01-08 01:55 J -8569853.59 -8569853.42 -8569853.24 0.0088 0.0019

Uranus -28176-01-11 11:31 J -8569850.19 -8569850.02 -8569849.85 0.0134 0.0019

Pluto -28176-02-24 13:55 J -8569806.06 -8569805.92 -8569805.75 0.0071 0.0026

Neptune -28176-04-06 05:02 J -8569765.46 -8569765.29 -8569765.11 0.0088 0.0028

Uranus -28176-04-09 17:16 J -8569761.95 -8569761.78 -8569761.60 0.0134 0.0006

Pluto -28176-05-23 15:35 J -8569717.99 -8569717.85 -8569717.69 0.0071 0.0032

Neptune -28176-07-03 07:55 J -8569677.32 -8569677.17 -8569676.99 0.0088 0.0038

Uranus -28176-07-06 23:16 J -8569673.70 -8569673.53 -8569673.36 0.0134 0.0028

Pluto -28176-08-19 17:16 J -8569629.91 -8569629.78 -8569629.64 0.0071 0.0040

Neptune -28176-09-29 11:02 J -8569589.18 -8569589.04 -8569588.87 0.0088 0.0046

Uranus -28176-10-03 04:47 J -8569585.45 -8569585.30 -8569585.13 0.0134 0.0052

Pluto -28176-11-15 18:28 J -8569541.84 -8569541.73 -8569541.59 0.0072 0.0048

Neptune -28176-12-26 13:55 J -8569501.04 -8569500.92 -8569500.76 0.0088 0.0056

Uranus -28176-12-30 10:33 J -8569497.20 -8569497.06 -8569496.91 0.0134 0.0075

Pluto -28175-02-11 20:23 J -8569453.75 -8569453.65 -8569453.54 0.0072 0.0055

Neptune -28175-03-24 17:02 J -8569412.90 -8569412.79 -8569412.65 0.0088 0.0064

Uranus -28175-03-28 16:19 J -8569408.94 -8569408.82 -8569408.70 0.0134 0.0098

Pluto -28175-05-10 21:35 J -8569365.66 -8569365.60 -8569365.50 0.0072 0.0063

Neptune -28175-06-20 20:09 J -8569324.75 -8569324.66 -8569324.55 0.0088 0.0073

Uranus -28175-06-24 21:35 J -8569320.66 -8569320.60 -8569320.52 0.0134 0.0122

Pluto -28175-08-06 23:02 J -8569277.54 -8569277.54 -8569277.49 0.0072 0.0071

Neptune -28175-09-16 23:02 J -8569236.59 -8569236.54 -8569236.45 0.0088 0.0082

Moon -28171-06-05 23:31 J -8567878.64 -8567878.52 -8567878.41 0.2679 0.0470

Earth -28171-06-06 00:14 J -8567878.61 -8567878.49 -8567878.37 0.2682 0.0420 *

Jupiter -28171-07-23 09:07 J -8567831.21 -8567831.12 -8567831.03 0.0500 0.0422

Jupiter -28171-10-21 13:11 J -8567741.09 -8567740.95 -8567740.81 0.0503 0.0278

Mars -28170-08-15 19:11 J -8567442.82 -8567442.70 -8567442.58 0.1737 0.0273

Mars -28169-06-28 02:38 J -8567125.41 -8567125.39 -8567125.37 0.1774 0.1751

Earth -28168-12-14 12:43 J -8566591.04 -8566590.97 -8566590.90 0.2655 0.2215

Moon -28168-12-14 13:11 J -8566591.02 -8566590.95 -8566590.88 0.2661 0.2205 *

Jupiter -28165-03-12 22:47 J -8565771.67 -8565771.55 -8565771.44 0.0527 0.0233

Jupiter -28165-06-10 07:11 J -8565682.30 -8565682.20 -8565682.11 0.0524 0.0363

Saturn -28164-08-24 02:38 J -8565242.41 -8565242.39 -8565242.36 0.0268 0.0262

Saturn -28164-11-20 13:55 J -8565154.03 -8565153.92 -8565153.81 0.0268 0.0158

Saturn -28163-02-17 01:11 J -8565065.59 -8565065.45 -8565065.31 0.0267 0.0053

Saturn -28163-05-16 12:28 J -8564977.11 -8564976.98 -8564976.84 0.0267 0.0054

Saturn -28163-08-12 23:59 J -8564888.60 -8564888.50 -8564888.38 0.0267 0.0162

Moon -28161-12-06 14:38 J -8564041.99 -8564041.89 -8564041.78 0.2651 0.1717

Earth -28161-12-06 16:04 J -8564041.95 -8564041.83 -8564041.72 0.2650 0.1592 *

Mars -28160-01-05 04:47 J -8564012.42 -8564012.30 -8564012.18 0.1732 0.0299

Mars -28160-11-18 02:23 J -8563695.54 -8563695.40 -8563695.26 0.1780 0.0787

Jupiter -28159-08-09 11:31 J -8563431.19 -8563431.02 -8563430.85 0.0502 0.0103

Moon -28158-06-08 19:40 J -8563127.80 -8563127.68 -8563127.57 0.2683 0.0510

Earth -28158-06-08 20:23 J -8563127.77 -8563127.65 -8563127.53 0.2680 0.0627 *

Jupiter -28154-12-31 02:38 J -8561461.48 -8561461.39 -8561461.30 0.0527 0.0374

Jupiter -28153-03-29 10:47 J -8561372.17 -8561372.05 -8561371.93 0.0524 0.0219

Mars -28151-05-28 14:38 J -8560582.00 -8560581.89 -8560581.79 0.1726 0.0856

Earth -28151-06-01 13:40 J -8560577.99 -8560577.93 -8560577.86 0.2685 0.2247

Moon -28151-06-01 13:55 J -8560577.98 -8560577.92 -8560577.85 0.2678 0.2162 *

Mars -28150-04-10 01:40 J -8560265.58 -8560265.43 -8560265.27 0.1787 0.0217

Mars -28149-05-03 00:43 J -8559876.52 -8559876.47 -8559876.42 0.1748 0.1542

Saturn -28149-12-18 20:23 J -8559646.73 -8559646.65 -8559646.56 0.0292 0.0251

Saturn -28148-03-17 18:28 J -8559557.90 -8559557.73 -8559557.56 0.0292 0.0073

Saturn -28148-06-14 15:50 J -8559469.00 -8559468.84 -8559468.68 0.0292 0.0102

Saturn -28148-09-11 12:43 J -8559380.02 -8559379.97 -8559379.91 0.0293 0.0273

Moon -28148-12-09 16:04 J -8559290.96 -8559290.83 -8559290.69 0.2655 0.0218

Earth -28148-12-09 17:16 J -8559290.92 -8559290.78 -8559290.65 0.2652 0.0219 *

Jupiter -28147-05-28 10:33 J -8559121.23 -8559121.06 -8559120.88 0.0502 0.0066

Moon -28145-06-10 16:04 J -8558376.92 -8558376.83 -8558376.74 0.2684 0.1729

Earth -28145-06-10 16:33 J -8558376.90 -8558376.81 -8558376.71 0.2678 0.1691 *

Mars -28142-10-19 00:28 J -8557151.55 -8557151.48 -8557151.41 0.1721 0.1394

Jupiter -28142-10-19 05:59 J -8557151.26 -8557151.25 -8557151.24 0.0528 0.0524

Venus -28141-01-16 08:09 J -8557062.17 -8557062.16 -8557062.15 0.3778 0.3729

Jupiter -28141-01-16 13:55 J -8557062.05 -8557061.92 -8557061.79 0.0525 0.0063

Mars -28141-08-30 00:14 J -8556835.60 -8556835.49 -8556835.37 0.1793 0.1273

Mars -28140-09-23 09:50 J -8556446.19 -8556446.09 -8556445.99 0.1743 0.0932

Moon -28138-06-04 09:07 J -8555827.23 -8555827.12 -8555827.02 0.2678 0.1326

Earth -28138-06-04 09:35 J -8555827.21 -8555827.10 -8555827.00 0.2683 0.1249 *

Venus -28136-08-01 01:11 J -8555038.55 -8555038.45 -8555038.35 0.3778 0.1191

Jupiter -28135-03-16 09:07 J -8554811.27 -8554811.12 -8554810.96 0.0501 0.0239

Jupiter -28135-06-14 12:57 J -8554721.03 -8554720.96 -8554720.89 0.0504 0.0459

Moon -28135-12-12 17:59 J -8554539.88 -8554539.75 -8554539.63 0.2661 0.1066

Earth -28135-12-12 17:59 J -8554539.87 -8554539.75 -8554539.63 0.2653 0.1153 *

Saturn -28134-04-09 16:33 J -8554421.91 -8554421.81 -8554421.71 0.0268 0.0188

Saturn -28134-07-07 03:50 J -8554333.48 -8554333.34 -8554333.21 0.0268 0.0082

Saturn -28134-10-03 15:07 J -8554245.01 -8554244.87 -8554244.73 0.0268 0.0025

Uranus -28134-12-29 07:55 J -8554158.23 -8554158.17 -8554158.11 0.0144 0.0127

Saturn -28134-12-31 02:38 J -8554156.51 -8554156.39 -8554156.27 0.0268 0.0133

Uranus -28133-03-26 11:59 J -8554070.09 -8554070.00 -8554069.90 0.0144 0.0104

Saturn -28133-03-28 14:09 J -8554067.96 -8554067.91 -8554067.84 0.0267 0.0243

Uranus -28133-06-22 16:04 J -8553981.94 -8553981.83 -8553981.71 0.0144 0.0081

Uranus -28133-09-18 20:09 J -8553893.78 -8553893.66 -8553893.53 0.0144 0.0058

Uranus -28133-12-16 00:28 J -8553805.62 -8553805.48 -8553805.34 0.0144 0.0034

Uranus -28132-03-14 04:33 J -8553717.45 -8553717.31 -8553717.16 0.0144 0.0011

Uranus -28132-06-10 08:52 J -8553629.27 -8553629.13 -8553628.99 0.0144 0.0014

Venus -28132-07-30 23:16 J -8553578.55 -8553578.53 -8553578.50 0.3597 0.3524

Uranus -28132-09-06 13:11 J -8553541.09 -8553540.95 -8553540.81 0.0144 0.0038

Uranus -28132-12-03 17:31 J -8553452.90 -8553452.77 -8553452.64 0.0145 0.0063

Uranus -28131-03-01 21:50 J -8553364.70 -8553364.59 -8553364.47 0.0145 0.0088

Uranus -28131-05-29 02:09 J -8553276.49 -8553276.41 -8553276.31 0.0145 0.0113

Uranus -28131-08-25 06:28 J -8553188.26 -8553188.23 -8553188.18 0.0145 0.0138

Mars -28130-02-13 19:11 J -8553015.82 -8553015.70 -8553015.58 0.1737 0.0341

Venus -28130-02-14 18:14 J -8553014.84 -8553014.74 -8553014.64 0.3778 0.1398

Jupiter -28130-11-04 17:16 J -8552751.91 -8552751.78 -8552751.65 0.0525 0.0089

Jupiter -28129-02-02 01:40 J -8552662.46 -8552662.43 -8552662.40 0.0522 0.0506

Venus -28126-02-14 01:55 J -8551554.55 -8551554.42 -8551554.28 0.3597 0.1220

Moon -28125-06-06 04:33 J -8551076.43 -8551076.31 -8551076.19 0.2679 0.0308

Earth -28125-06-06 05:31 J -8551076.39 -8551076.27 -8551076.16 0.2681 0.0243 *

Jupiter -28123-01-02 06:57 J -8550501.30 -8550501.21 -8550501.11 0.0500 0.0421

Jupiter -28123-04-02 11:02 J -8550411.18 -8550411.04 -8550410.89 0.0503 0.0280

Earth -28122-12-15 18:28 J -8549788.78 -8549788.73 -8549788.68 0.2655 0.2454

Moon -28122-12-15 19:11 J -8549788.73 -8549788.70 -8549788.68 0.2661 0.2587 *

Mars -28121-07-06 04:47 J -8549585.42 -8549585.30 -8549585.18 0.1732 0.0238

Mars -28120-05-19 03:07 J -8549268.50 -8549268.37 -8549268.23 0.1780 0.0905

Saturn -28119-05-07 22:04 J -8548914.62 -8548914.58 -8548914.54 0.0292 0.0283

Saturn	-28119-08-04 20:09 J	-8548825.82	-8548825.66	-8548825.50	0.0293	0.0104
Saturn	-28119-11-01 17:31 J	-8548736.93	-8548736.77	-8548736.60	0.0293	0.0072
Saturn	-28118-01-29 14:52 J	-8548647.98	-8548647.88	-8548647.79	0.0293	0.0244
Jupiter	-28118-08-23 20:38 J	-8548441.76	-8548441.64	-8548441.52	0.0527	0.0240
Jupiter	-28118-11-21 05:02 J	-8548352.39	-8548352.29	-8548352.19	0.0524	0.0354
Moon	-28115-12-07 20:23 J	-8547239.76	-8547239.65	-8547239.53	0.2651	0.1445
Earth	-28115-12-07 21:50 J	-8547239.71	-8547239.59	-8547239.47	0.2650	0.1336 *
Moon	-28112-06-09 00:43 J	-8546325.58	-8546325.47	-8546325.35	0.2684	0.0801
Earth	-28112-06-09 01:26 J	-8546325.55	-8546325.44	-8546325.32	0.2679	0.0829 *
Mars	-28112-11-26 14:38 J	-8546155.00	-8546154.89	-8546154.79	0.1726	0.0786
Jupiter	-28111-01-19 09:35 J	-8546101.27	-8546101.10	-8546100.93	0.0502	0.0105
Mars	-28111-10-09 02:23 J	-8545838.56	-8545838.40	-8545838.24	0.1787	0.0117
Mars	-28110-11-02 00:43 J	-8545449.52	-8545449.47	-8545449.43	0.1748	0.1609
Jupiter	-28106-06-12 00:28 J	-8544131.57	-8544131.48	-8544131.39	0.0528	0.0383
Jupiter	-28106-09-09 08:38 J	-8544042.26	-8544042.14	-8544042.02	0.0525	0.0210
Earth	-28105-06-01 18:57 J	-8543775.79	-8543775.71	-8543775.64	0.2685	0.2062
Moon	-28105-06-01 18:57 J	-8543775.78	-8543775.71	-8543775.64	0.2678	0.2101 *
Saturn	-28105-08-26 19:40 J	-8543689.76	-8543689.68	-8543689.59	0.0268	0.0209
Saturn	-28105-11-23 06:57 J	-8543601.34	-8543601.21	-8543601.09	0.0267	0.0105
Saturn	-28104-02-19 18:14 J	-8543512.88	-8543512.74	-8543512.60	0.0267	0.0003
Saturn	-28104-05-19 05:45 J	-8543424.39	-8543424.26	-8543424.13	0.0267	0.0109
Saturn	-28104-08-15 17:16 J	-8543335.86	-8543335.78	-8543335.70	0.0267	0.0218
Mars	-28102-04-19 00:28 J	-8542724.56	-8542724.48	-8542724.41	0.1721	0.1327
Moon	-28102-12-10 22:19 J	-8542488.71	-8542488.57	-8542488.44	0.2657	0.0079
Earth	-28102-12-10 23:02 J	-8542488.68	-8542488.54	-8542488.40	0.2652	0.0070 *
Mars	-28101-02-29 01:11 J	-8542408.57	-8542408.45	-8542408.33	0.1793	0.1150
Mars	-28100-03-24 09:50 J	-8542019.18	-8542019.09	-8542018.99	0.1743	0.1007
Jupiter	-28100-11-07 07:55 J	-8541791.35	-8541791.17	-8541791.00	0.0502	0.0075
Moon	-28099-06-11 21:35 J	-8541574.69	-8541574.60	-8541574.51	0.2684	0.1817
Earth	-28099-06-11 21:50 J	-8541574.67	-8541574.59	-8541574.51	0.2678	0.1901 *

Neptune -28098-05-23 08:09 J -8541229.18 -8541229.16 -8541229.12 0.0089 0.0087

Neptune -28098-08-19 09:50 J -8541141.15 -8541141.09 -8541141.03 0.0089 0.0080

Neptune -28098-11-15 11:02 J -8541053.11 -8541053.04 -8541052.95 0.0089 0.0073

Neptune -28097-02-11 12:28 J -8540965.06 -8540964.98 -8540964.88 0.0089 0.0066

Neptune -28097-05-09 13:55 J -8540877.01 -8540876.92 -8540876.81 0.0089 0.0060

Neptune -28097-08-05 15:35 J -8540788.96 -8540788.85 -8540788.74 0.0089 0.0052

Neptune -28097-11-01 17:02 J -8540700.91 -8540700.79 -8540700.67 0.0089 0.0046

Neptune -28096-01-28 18:14 J -8540612.85 -8540612.74 -8540612.60 0.0089 0.0039

Neptune -28096-04-26 19:55 J -8540524.79 -8540524.67 -8540524.54 0.0089 0.0032

Neptune -28096-07-23 21:21 J -8540436.74 -8540436.61 -8540436.47 0.0089 0.0025

Neptune -28096-10-19 22:47 J -8540348.68 -8540348.55 -8540348.41 0.0089 0.0018

Neptune -28095-01-16 00:28 J -8540260.62 -8540260.48 -8540260.34 0.0089 0.0011

Neptune -28095-04-14 01:55 J -8540172.56 -8540172.42 -8540172.28 0.0089 0.0004

Neptune -28095-07-11 03:21 J -8540084.49 -8540084.36 -8540084.22 0.0089 0.0004

Neptune -28095-10-07 05:02 J -8539996.43 -8539996.29 -8539996.16 0.0089 0.0010

Pluto -28095-12-12 02:38 J -8539930.41 -8539930.39 -8539930.34 0.0075 0.0073

Neptune -28094-01-03 06:28 J -8539908.37 -8539908.23 -8539908.10 0.0089 0.0017

Pluto -28094-03-10 04:04 J -8539842.39 -8539842.33 -8539842.24 0.0075 0.0065

Jupiter -28094-03-31 04:33 J -8539821.32 -8539821.31 -8539821.30 0.0528 0.0524

Neptune -28094-04-01 07:55 J -8539820.30 -8539820.17 -8539820.03 0.0089 0.0024

Pluto -28094-06-06 05:31 J -8539754.36 -8539754.27 -8539754.16 0.0075 0.0057

Neptune -28094-06-28 09:21 J -8539732.23 -8539732.11 -8539731.98 0.0089 0.0031

Jupiter -28094-06-28 12:28 J -8539732.11 -8539731.98 -8539731.85 0.0525 0.0066 *

Pluto -28094-09-02 06:57 J -8539666.32 -8539666.21 -8539666.09 0.0074 0.0049

Neptune -28094-09-24 10:47 J -8539644.17 -8539644.05 -8539643.92 0.0089 0.0038

Uranus -28094-11-17 13:26 J -8539589.97 -8539589.94 -8539589.92 0.0135 0.0133

Pluto -28094-11-29 08:09 J -8539578.28 -8539578.16 -8539578.02 0.0074 0.0041

Neptune -28094-12-21 12:28 J -8539556.10 -8539555.98 -8539555.86 0.0089 0.0045

Uranus -28093-02-13 19:26 J -8539501.79 -8539501.69 -8539501.58 0.0135 0.0108

Pluto -28093-02-25 09:35 J -8539490.23 -8539490.10 -8539489.96 0.0074 0.0033

Neptune -28093-03-18 13:55 J -8539468.03 -8539467.92 -8539467.80 0.0089 0.0052

Uranus -28093-05-12 01:11 J -8539413.57 -8539413.45 -8539413.30 0.0135 0.0084

Pluto -28093-05-23 10:47 J -8539402.19 -8539402.05 -8539401.90 0.0074 0.0026

Neptune -28093-06-14 15:35 J -8539379.95 -8539379.85 -8539379.75 0.0089 0.0059

Uranus -28093-08-08 07:26 J -8539325.34 -8539325.19 -8539325.03 0.0135 0.0059

Pluto -28093-08-19 12:14 J -8539314.14 -8539313.99 -8539313.84 0.0074 0.0018

Neptune -28093-09-10 17:02 J -8539291.88 -8539291.79 -8539291.69 0.0089 0.0066

Uranus -28093-11-04 13:26 J -8539237.11 -8539236.94 -8539236.77 0.0134 0.0034

Pluto -28093-11-15 13:26 J -8539226.09 -8539225.94 -8539225.78 0.0074 0.0011

Neptune -28093-12-07 18:43 J -8539203.80 -8539203.72 -8539203.64 0.0089 0.0074

Uranus -28092-01-31 19:26 J -8539148.87 -8539148.69 -8539148.52 0.0134 0.0010

Pluto -28092-02-11 14:52 J -8539138.03 -8539137.88 -8539137.73 0.0074 0.0003

Neptune -28092-03-05 19:55 J -8539115.71 -8539115.67 -8539115.60 0.0089 0.0081

Uranus -28092-04-30 01:11 J -8539060.62 -8539060.45 -8539060.27 0.0134 0.0014

Pluto -28092-05-10 16:04 J -8539049.98 -8539049.83 -8539049.68 0.0074 0.0004

Neptune -28092-06-01 21:21 J -8539027.61 -8539027.61 -8539027.57 0.0089 0.0088

Moon -28092-06-04 13:55 J -8539025.03 -8539024.92 -8539024.81 0.2678 0.1053

Earth -28092-06-04 14:38 J -8539025.00 -8539024.89 -8539024.78 0.2683 0.1056 *

Uranus -28092-07-27 06:57 J -8538972.37 -8538972.21 -8538972.04 0.0134 0.0038

Pluto -28092-08-06 17:16 J -8538961.93 -8538961.78 -8538961.63 0.0073 0.0012

Uranus -28092-10-23 12:43 J -8538884.12 -8538883.97 -8538883.81 0.0134 0.0061

Pluto -28092-11-02 18:28 J -8538873.87 -8538873.73 -8538873.58 0.0073 0.0019

Uranus -28091-01-19 18:28 J -8538795.86 -8538795.73 -8538795.59 0.0134 0.0084

Pluto -28091-01-29 19:40 J -8538785.82 -8538785.68 -8538785.54 0.0073 0.0026

Uranus -28091-04-17 23:45 J -8538707.59 -8538707.51 -8538707.39 0.0134 0.0108

Pluto -28091-04-27 20:52 J -8538697.76 -8538697.63 -8538697.49 0.0073 0.0033

Uranus -28091-07-15 05:45 J -8538619.30 -8538619.26 -8538619.22 0.0134 0.0130

Pluto -28091-07-24 21:50 J -8538609.70 -8538609.59 -8538609.45 0.0073 0.0041

Mars -28091-08-14 19:11 J -8538588.82 -8538588.70 -8538588.58 0.1737 0.0413

Pluto -28091-10-20 23:02 J -8538521.64 -8538521.54 -8538521.41 0.0073 0.0048

Pluto -28090-01-17 00:14 J -8538433.58 -8538433.49 -8538433.38 0.0073 0.0055

Pluto -28090-04-15 01:11 J -8538345.51 -8538345.45 -8538345.35 0.0073 0.0062

Pluto -28090-07-12 02:52 J -8538257.43 -8538257.38 -8538257.33 0.0072 0.0068

Saturn -28090-12-22 18:14 J -8538093.88 -8538093.74 -8538093.59 0.0292 0.0162

Saturn -28089-03-20 16:04 J -8538005.01 -8538004.83 -8538004.66 0.0292 0.0016

Saturn -28089-06-17 13:11 J -8537916.08 -8537915.95 -8537915.82 0.0293 0.0188

Earth -28089-12-12 23:45 J -8537737.63 -8537737.51 -8537737.39 0.2654 0.1399

Moon -28089-12-12 23:45 J -8537737.62 -8537737.51 -8537737.40 0.2661 0.1484 *

Jupiter -28088-08-26 06:28 J -8537481.38 -8537481.23 -8537481.07 0.0501 0.0245

Jupiter -28088-11-24 10:19 J -8537391.14 -8537391.07 -8537390.99 0.0504 0.0453

Venus -28085-08-22 05:59 J -8536389.32 -8536389.25 -8536389.18 0.3778 0.2806

Jupiter -28082-04-16 15:50 J -8535421.97 -8535421.84 -8535421.71 0.0525 0.0087

Jupiter -28082-07-15 00:14 J -8535332.52 -8535332.49 -8535332.46 0.0522 0.0507

Earth -28082-12-06 02:09 J -8535188.45 -8535188.41 -8535188.36 0.2649 0.2500

Mars -28081-01-05 04:47 J -8535158.42 -8535158.30 -8535158.18 0.1731 0.0163

Mars -28081-11-17 03:21 J -8534841.49 -8534841.36 -8534841.23 0.1780 0.0997

Venus -28079-03-07 22:47 J -8534365.65 -8534365.55 -8534365.44 0.3778 0.0277

Moon -28079-06-07 09:50 J -8534274.21 -8534274.09 -8534273.97 0.2680 0.0145

Earth -28079-06-07 10:33 J -8534274.18 -8534274.06 -8534273.94 0.2681 0.0026 *

Jupiter -28076-06-14 04:47 J -8533171.39 -8533171.30 -8533171.20 0.0501 0.0421

Jupiter -28076-09-12 09:07 J -8533081.26 -8533081.12 -8533080.97 0.0504 0.0283

Saturn -28075-01-13 22:04 J -8532957.63 -8532957.58 -8532957.52 0.0269 0.0240

Venus -28075-03-06 23:45 J -8532905.63 -8532905.51 -8532905.39 0.3597 0.1819

Saturn -28075-04-12 09:21 J -8532869.23 -8532869.11 -8532868.99 0.0268 0.0135

Saturn -28075-07-09 20:38 J -8532780.78 -8532780.64 -8532780.50 0.0268 0.0029

Saturn -28075-10-06 08:09 J -8532692.30 -8532692.16 -8532692.03 0.0268 0.0079

Saturn -28074-01-02 19:40 J -8532603.78 -8532603.68 -8532603.58 0.0268 0.0188

Venus -28074-09-21 16:04 J -8532341.91 -8532341.83 -8532341.75 0.3778 0.2363

Mars -28072-05-27 14:38 J -8531728.00 -8531727.89 -8531727.79 0.1726 0.0724

Mars -28071-04-09 02:52 J -8531411.54 -8531411.38 -8531411.22 0.1787 0.0041

Jupiter -28070-02-02 19:11 J -8531111.82 -8531111.70 -8531111.58 0.0526 0.0238

Mars -28070-05-03 00:43 J -8531022.50 -8531022.47 -8531022.44 0.1748 0.1684

Jupiter -28070-05-03 03:21 J -8531022.46 -8531022.36 -8531022.26 0.0523 0.0355 *

Venus -28070-09-21 02:09 J -8530881.49 -8530881.41 -8530881.32 0.3597 0.2833

Moon -28069-12-08 02:23 J -8530437.53 -8530437.40 -8530437.28 0.2652 0.1168

Earth -28069-12-08 03:35 J -8530437.48 -8530437.35 -8530437.22 0.2650 0.1076 *

Moon -28066-06-10 05:59 J -8529523.36 -8529523.25 -8529523.14 0.2683 0.0940

Earth -28066-06-10 06:43 J -8529523.33 -8529523.22 -8529523.11 0.2679 0.1030 *

Jupiter -28064-07-01 07:26 J -8528771.36 -8528771.19 -8528771.02 0.0502 0.0103

Mars -28063-10-18 00:28 J -8528297.56 -8528297.48 -8528297.40 0.1721 0.1264

Mars -28062-08-30 01:40 J -8527981.55 -8527981.43 -8527981.29 0.1793 0.1039

Mars -28061-09-22 09:50 J -8527592.18 -8527592.09 -8527592.00 0.1742 0.1069

Saturn -28060-05-10 20:09 J -8527361.79 -8527361.66 -8527361.53 0.0292 0.0191

Saturn -28060-08-07 17:59 J -8527272.92 -8527272.75 -8527272.58 0.0293 0.0013

Saturn -28060-11-04 15:21 J -8527184.00 -8527183.86 -8527183.72 0.0293 0.0161

Moon -28059-06-02 23:59 J -8526973.59 -8526973.50 -8526973.42 0.2678 0.1810

Earth -28059-06-02 23:59 J -8526973.59 -8526973.50 -8526973.42 0.2684 0.1872 *

Jupiter -28059-11-21 22:19 J -8526801.65 -8526801.57 -8526801.48 0.0528 0.0392

Jupiter -28058-02-19 06:28 J -8526712.35 -8526712.23 -8526712.10 0.0524 0.0201

Moon -28056-12-11 04:04 J -8525686.46 -8525686.33 -8525686.19 0.2658 0.0294

Earth -28056-12-11 04:47 J -8525686.44 -8525686.30 -8525686.16 0.2652 0.0308 *

Moon -28053-06-12 02:52 J -8524772.45 -8524772.38 -8524772.31 0.2684 0.2152

Earth -28053-06-12 03:07 J -8524772.45 -8524772.37 -8524772.30 0.2677 0.2106 *

Jupiter -28052-04-19 05:45 J -8524461.43 -8524461.26 -8524461.09 0.0501 0.0073

Mars -28051-02-12 19:11 J -8524161.81 -8524161.70 -8524161.58 0.1737 0.0483

Uranus -28049-01-18 15:07 J -8523456.94 -8523456.87 -8523456.80 0.0144 0.0121

Uranus -28049-04-15 19:11 J -8523368.80 -8523368.70 -8523368.60 0.0144 0.0098

Uranus -28049-07-12 23:16 J -8523280.65 -8523280.53 -8523280.41 0.0144 0.0075

Uranus -28049-10-09 03:21 J -8523192.49 -8523192.36 -8523192.22 0.0144 0.0052

Uranus -28048-01-05 07:40 J -8523104.32 -8523104.18 -8523104.04 0.0144 0.0028

Uranus -28048-04-03 11:45 J -8523016.15 -8523016.01 -8523015.86 0.0144 0.0007

Uranus -28048-06-30 16:04 J -8522927.97 -8522927.83 -8522927.69 0.0144 0.0020

Uranus -28048-09-26 20:23 J -8522839.78 -8522839.65 -8522839.51 0.0144 0.0044

Uranus -28048-12-24 00:43 J -8522751.59 -8522751.47 -8522751.34 0.0145 0.0069

Uranus -28047-03-22 05:02 J -8522663.39 -8522663.29 -8522663.18 0.0145 0.0094

Uranus -28047-06-18 09:21 J -8522575.18 -8522575.11 -8522575.02 0.0145 0.0119

Uranus -28047-09-14 13:55 J -8522486.93 -8522486.92 -8522486.90 0.0145 0.0144

Jupiter -28047-12-08 10:19 J -8522402.21 -8522402.07 -8522401.94 0.0525 0.0057

Saturn -28046-06-03 01:40 J -8522225.46 -8522225.43 -8522225.40 0.0268 0.0259

Moon -28046-06-05 19:11 J -8522222.82 -8522222.70 -8522222.59 0.2677 0.0980

Earth -28046-06-05 19:40 J -8522222.79 -8522222.68 -8522222.57 0.2682 0.0863 *

Saturn -28046-08-30 12:43 J -8522137.08 -8522136.97 -8522136.86 0.0268 0.0155

Saturn -28046-11-26 23:59 J -8522048.64 -8522048.50 -8522048.36 0.0267 0.0049

Saturn -28045-02-23 11:16 J -8521960.16 -8521960.03 -8521959.89 0.0267 0.0058

Saturn -28045-05-21 22:47 J -8521871.65 -8521871.55 -8521871.43 0.0267 0.0166

Earth -28043-12-14 05:31 J -8520935.38 -8520935.27 -8520935.16 0.2654 0.1646

Moon -28043-12-14 05:31 J -8520935.37 -8520935.27 -8520935.16 0.2661 0.1597 *

Mars -28042-07-06 04:47 J -8520731.42 -8520731.30 -8520731.18 0.1732 0.0096

Mars -28041-05-18 04:04 J -8520414.45 -8520414.33 -8520414.20 0.1780 0.1109

Jupiter -28040-02-05 03:50 J -8520151.49 -8520151.34 -8520151.19 0.0501 0.0254

Jupiter -28040-05-06 07:26 J -8520061.26 -8520061.19 -8520061.11 0.0504 0.0443

Moon -28036-12-06 06:43 J -8518386.29 -8518386.22 -8518386.15 0.2647 0.2256

Earth -28036-12-06 08:09 J -8518386.24 -8518386.16 -8518386.09 0.2649 0.2238 *

Jupiter -28035-09-26 14:09 J -8518092.04 -8518091.91 -8518091.78 0.0526 0.0089

Jupiter -28035-12-24 22:33 J -8518002.59 -8518002.56 -8518002.53 0.0523 0.0508

Moon -28033-06-07 14:52 J -8517472.00 -8517471.88 -8517471.76 0.2682 0.0144

Earth -28033-06-07 15:35 J -8517471.97 -8517471.85 -8517471.73 0.2681 0.0192 *

Mars -28033-11-25 14:38 J -8517301.00 -8517300.89 -8517300.78 0.1726 0.0656

Mars -28032-10-08 03:21 J -8516984.51 -8516984.36 -8516984.20 0.1787 0.0120

Saturn -28031-09-27 18:14 J -8516629.82 -8516629.74 -8516629.64 0.0292 0.0248

Saturn -28031-12-25 16:19 J -8516540.98 -8516540.82 -8516540.65 0.0292 0.0070

Saturn -28030-03-24 13:40 J -8516452.08 -8516451.93 -8516451.76 0.0292 0.0107

Saturn -28030-06-21 10:47 J -8516363.10 -8516363.05 -8516363.00 0.0293 0.0277

Jupiter -28029-11-24 02:23 J -8515841.49 -8515841.40 -8515841.31 0.0500 0.0427

Jupiter -28028-02-22 06:43 J -8515751.37 -8515751.22 -8515751.08 0.0503 0.0276

Venus -28028-03-29 03:35 J -8515716.44 -8515716.35 -8515716.26 0.3778 0.1879

Moon -28026-06-01 09:50 J -8514922.12 -8514922.09 -8514922.06 0.2680 0.2570

Earth -28026-06-01 09:21 J -8514922.11 -8514922.11 -8514922.10 0.2686 0.2674 *

Mars -28023-04-18 00:28 J -8513870.57 -8513870.48 -8513870.40 0.1721 0.1195

Jupiter -28023-07-15 17:31 J -8513781.88 -8513781.77 -8513781.65 0.0526 0.0237

Venus -28023-10-12 20:38 J -8513692.74 -8513692.64 -8513692.53 0.3778 0.0695

Jupiter -28023-10-13 01:55 J -8513692.52 -8513692.42 -8513692.33 0.0523 0.0355

Moon -28023-12-09 08:23 J -8513635.28 -8513635.15 -8513635.02 0.2653 0.0950

Earth -28023-12-09 09:35 J -8513635.24 -8513635.10 -8513634.97 0.2651 0.0819 *

Mars -28022-02-28 02:23 J -8513554.54 -8513554.40 -8513554.27 0.1793 0.0936

Mars -28021-03-23 09:50 J -8513165.18 -8513165.09 -8513165.00 0.1742 0.1145

Moon -28020-06-10 11:16 J -8512721.14 -8512721.03 -8512720.93 0.2683 0.1190

Earth -28020-06-10 11:45 J -8512721.11 -8512721.01 -8512720.90 0.2679 0.1237 *

Venus -28019-10-12 00:14 J -8512232.64 -8512232.49 -8512232.35 0.3597 0.0179

Venus -28017-04-27 13:55 J -8511668.97 -8511668.92 -8511668.87 0.3778 0.3341

Jupiter -28017-12-11 05:16 J -8511441.45 -8511441.28 -8511441.11 0.0503 0.0103

Saturn -28016-01-16 15:07 J -8511404.97 -8511404.87 -8511404.77 0.0268 0.0186

Saturn -28016-04-15 02:23 J -8511316.53 -8511316.40 -8511316.27 0.0268 0.0081

Saturn -28016-07-12 13:40 J -8511228.07 -8511227.93 -8511227.79 0.0268 0.0027

Saturn -28016-10-09 01:11 J -8511139.57 -8511139.45 -8511139.33 0.0268 0.0135

Saturn -28015-01-05 12:43 J -8511051.01 -8511050.97 -8511050.90 0.0268 0.0245

Neptune -28015-11-12 09:35 J -8510740.11 -8510740.10 -8510740.08 0.0088 0.0088

Neptune -28014-02-08 12:43 J -8510652.04 -8510651.97 -8510651.88 0.0088 0.0078

Neptune -28014-05-07 15:50 J -8510563.94 -8510563.84 -8510563.71 0.0088 0.0069

Neptune -28014-08-03 18:57 J -8510475.82 -8510475.71 -8510475.55 0.0088 0.0061

Neptune -28014-10-30 22:19 J -8510387.71 -8510387.57 -8510387.40 0.0088 0.0051

Neptune -28013-01-27 01:40 J -8510299.59 -8510299.43 -8510299.26 0.0088 0.0042

Neptune -28013-04-24 05:02 J -8510211.46 -8510211.29 -8510211.12 0.0088 0.0032

Moon -28013-06-03 04:47 J -8510171.39 -8510171.30 -8510171.21 0.2678 0.1759

Earth -28013-06-03 05:02 J -8510171.38 -8510171.29 -8510171.20 0.2684 0.1685 *

Neptune -28013-07-21 08:09 J -8510123.34 -8510123.16 -8510122.98 0.0088 0.0023

Neptune -28013-10-17 11:16 J -8510035.21 -8510035.03 -8510034.84 0.0088 0.0014

Neptune -28012-01-13 14:38 J -8509947.08 -8509946.89 -8509946.71 0.0088 0.0006

Neptune -28012-04-11 17:45 J -8509858.95 -8509858.76 -8509858.58 0.0088 0.0004

Neptune -28012-07-08 20:38 J -8509770.82 -8509770.64 -8509770.45 0.0088 0.0013

Mars -28012-08-13 19:11 J -8509734.81 -8509734.70 -8509734.58 0.1737 0.0555

Neptune -28012-10-04 23:45 J -8509682.68 -8509682.51 -8509682.33 0.0088 0.0022

Neptune -28011-01-01 02:38 J -8509594.55 -8509594.39 -8509594.20 0.0088 0.0032

Neptune -28011-03-30 05:45 J -8509506.41 -8509506.26 -8509506.08 0.0088 0.0040

Jupiter -28011-05-03 21:07 J -8509471.71 -8509471.62 -8509471.54 0.0527 0.0387

Neptune -28011-06-26 09:07 J -8509418.27 -8509418.12 -8509417.97 0.0088 0.0049

Jupiter -28011-08-01 05:02 J -8509382.41 -8509382.29 -8509382.17 0.0524 0.0203

Neptune -28011-09-22 11:59 J -8509330.13 -8509330.00 -8509329.85 0.0088 0.0058

Neptune -28011-12-19 14:52 J -8509241.98 -8509241.88 -8509241.74 0.0088 0.0067

Neptune -28010-03-17 17:59 J -8509153.83 -8509153.75 -8509153.64 0.0088 0.0075

Neptune -28010-06-13 20:52 J -8509065.66 -8509065.63 -8509065.56 0.0088 0.0084

Uranus -28010-12-07 21:07 J -8508888.69 -8508888.62 -8508888.55 0.0135 0.0124

Moon -28010-12-12 10:04 J -8508884.22 -8508884.08 -8508883.95 0.2659 0.0517

Earth -28010-12-12 10:33 J -8508884.20 -8508884.06 -8508883.92 0.2652 0.0561 *

Uranus -28009-03-05 03:07 J -8508800.48 -8508800.37 -8508800.25 0.0135 0.0099

Uranus -28009-06-01 09:07 J -8508712.26 -8508712.12 -8508711.96 0.0135 0.0074

Uranus -28009-08-28 15:21 J -8508624.03 -8508623.86 -8508623.70 0.0135 0.0050

Uranus -28009-11-24 21:07 J -8508535.79 -8508535.62 -8508535.44 0.0134 0.0026

Uranus -28008-02-21 03:07 J -8508447.54 -8508447.37 -8508447.19 0.0134 0.0002

Uranus -28008-05-20 08:52 J -8508359.30 -8508359.13 -8508358.95 0.0134 0.0023

Uranus -28008-08-16 14:52 J -8508271.05 -8508270.88 -8508270.72 0.0134 0.0047

Uranus -28008-11-12 20:23 J -8508182.79 -8508182.65 -8508182.50 0.0134 0.0070

Uranus -28007-02-09 02:09 J -8508094.53 -8508094.41 -8508094.28 0.0134 0.0093

Uranus -28007-05-08 07:55 J -8508006.25 -8508006.17 -8508006.09 0.0134 0.0116

Moon -28007-06-13 08:09 J -8507970.22 -8507970.16 -8507970.09 0.2684 0.2296

Earth -28007-06-13 08:09 J -8507970.22 -8507970.16 -8507970.10 0.2677 0.2316 *

Jupiter -28005-09-29 03:21 J -8507131.53 -8507131.36 -8507131.18 0.0502 0.0077

Mars -28002-01-04 04:47 J -8506304.42 -8506304.30 -8506304.18 0.1731 0.0046

Mars -28002-11-17 04:47 J -8505987.41 -8505987.30 -8505987.19 0.1780 0.1219

Saturn -28001-02-14 19:55 J -8505897.71 -8505897.67 -8505897.61 0.0292 0.0279

Saturn -28001-05-13 18:14 J -8505808.90 -8505808.74 -8505808.58 0.0292 0.0099

Saturn -28001-08-10 15:50 J -8505720.01 -8505719.84 -8505719.67 0.0293 0.0078

Saturn -28001-11-07 12:57 J -8505631.05 -8505630.96 -8505630.87 0.0293 0.0250

28TH MILLENNIUM BCE

This is a list of transits of Mercury in the 28th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Moon -28000-06-06 00:14 J -8505420.61 -8505420.49 -8505420.38 0.2678 0.0662

Earth -28000-06-06 00:43 J -8505420.58 -8505420.47 -8505420.35 0.2682 0.0677 *

Jupiter -27999-05-20 08:09 J -8505072.29 -8505072.16 -8505072.03 0.0525 0.0047

Earth -27997-12-14 11:16 J -8504133.13 -8504133.03 -8504132.94 0.2654 0.1892

Moon -27997-12-14 11:31 J -8504133.11 -8504133.02 -8504132.93 0.2660 0.1970 *

Mars -27993-05-26 14:38 J -8502874.00 -8502873.89 -8502873.78 0.1726 0.0583

Jupiter -27993-07-18 01:40 J -8502821.58 -8502821.43 -8502821.28 0.0501 0.0253

Jupiter -27993-10-16 05:31 J -8502731.35 -8502731.27 -8502731.19 0.0504 0.0444

Mars -27992-04-08 04:04 J -8502557.49 -8502557.33 -8502557.17 0.1787 0.0221

Moon -27990-12-07 12:43 J -8501584.05 -8501583.97 -8501583.89 0.2648 0.2171

Earth -27990-12-07 13:55 J -8501584.01 -8501583.92 -8501583.82 0.2649 0.1972 *

Jupiter -27987-03-08 11:45 J -8500762.14 -8500762.01 -8500761.88 0.0526 0.0101

Saturn -27987-06-05 18:28 J -8500672.81 -8500672.73 -8500672.63 0.0268 0.0205

Jupiter -27987-06-05 20:23 J -8500672.69 -8500672.65 -8500672.61 0.0523 0.0496 *

Moon -27987-06-08 19:55 J -8500669.79 -8500669.67 -8500669.55 0.2682 0.0245

Earth -27987-06-08 20:52 J -8500669.75 -8500669.63 -8500669.51 0.2680 0.0374 *

Saturn -27987-09-02 05:45 J -8500584.38 -8500584.26 -8500584.13 0.0268 0.0100

Saturn -27987-11-29 17:16 J -8500495.92 -8500495.78 -8500495.64 0.0267 0.0010

Saturn -27986-02-26 04:33 J -8500407.43 -8500407.31 -8500407.18 0.0267 0.0115

Saturn -27986-05-25 16:19 J -8500318.90 -8500318.82 -8500318.75 0.0267 0.0223

Mars -27984-10-17 00:28 J -8499443.57 -8499443.48 -8499443.39 0.1721 0.1128

Mars -27983-08-29 02:52 J -8499127.52 -8499127.38 -8499127.23 0.1793 0.0822

Mars -27982-09-22 10:04 J -8498738.17 -8498738.08 -8498738.00 0.1743 0.1219

Jupiter -27981-05-05 23:31 J -8498511.60 -8498511.52 -8498511.43 0.0500 0.0435

Jupiter -27981-08-04 03:50 J -8498421.49 -8498421.34 -8498421.19 0.0503 0.0266

Earth -27980-06-01 14:23 J -8498119.94 -8498119.90 -8498119.85 0.2686 0.2487

Moon -27980-06-01 14:52 J -8498119.92 -8498119.88 -8498119.84 0.2680 0.2478 *

Venus -27977-04-19 08:23 J -8497067.19 -8497067.15 -8497067.11 0.3778 0.3463

Moon -27977-12-09 14:23 J -8496833.04 -8496832.90 -8496832.76 0.2655 0.0574

Earth -27977-12-09 15:21 J -8496832.99 -8496832.86 -8496832.72 0.2651 0.0559 *

Jupiter -27976-12-25 15:50 J -8496451.96 -8496451.84 -8496451.73 0.0527 0.0242

Jupiter -27975-03-24 23:59 J -8496362.59 -8496362.50 -8496362.40 0.0524 0.0353

Mars -27974-03-09 10:33 J -8496013.09 -8496013.06 -8496013.04 0.1716 0.1658

Moon -27974-06-11 16:33 J -8495918.92 -8495918.81 -8495918.71 0.2683 0.1403

Earth -27974-06-11 17:02 J -8495918.89 -8495918.79 -8495918.69 0.2679 0.1434 *

Mars -27972-02-11 19:11 J -8495307.81 -8495307.70 -8495307.59 0.1737 0.0621

Saturn -27972-09-30 16:47 J -8495076.94 -8495076.80 -8495076.64 0.0292 0.0152

Venus -27972-11-03 01:26 J -8495043.54 -8495043.44 -8495043.34 0.3778 0.0942

Saturn -27972-12-28 14:38 J -8494988.06 -8494987.89 -8494987.72 0.0292 0.0026

Saturn -27971-03-27 11:59 J -8494899.13 -8494899.00 -8494898.88 0.0293 0.0199

Jupiter -27969-05-23 02:38 J -8494111.56 -8494111.39 -8494111.22 0.0502 0.0096

Venus -27968-11-01 21:50 J -8493583.65 -8493583.59 -8493583.53 0.3597 0.3238

Moon -27967-06-04 09:50 J -8493369.19 -8493369.09 -8493368.99 0.2677 0.1460

Earth -27967-06-04 10:04 J -8493369.18 -8493369.08 -8493368.98 0.2684 0.1495 *

Venus -27966-05-19 18:28 J -8493019.82 -8493019.73 -8493019.63 0.3778 0.1658

Uranus -27966-11-11 17:45 J -8492843.78 -8492843.76 -8492843.72 0.0144 0.0140

Uranus -27965-02-07 21:50 J -8492755.66 -8492755.59 -8492755.50 0.0144 0.0117

Uranus -27965-05-06 01:55 J -8492667.52 -8492667.42 -8492667.31 0.0144 0.0094

Uranus -27965-08-02 05:59 J -8492579.36 -8492579.25 -8492579.12 0.0144 0.0071

Uranus -27965-10-29 10:19 J -8492491.20 -8492491.07 -8492490.93 0.0144 0.0047

Uranus -27964-01-25 14:38 J -8492403.03 -8492402.89 -8492402.75 0.0144 0.0023

Uranus -27964-04-23 18:43 J -8492314.86 -8492314.72 -8492314.57 0.0144 0.0004

Uranus -27964-07-20 23:02 J -8492226.68 -8492226.54 -8492226.40 0.0144 0.0025

Jupiter -27964-10-13 19:26 J -8492141.78 -8492141.69 -8492141.60 0.0527 0.0387

Uranus -27964-10-17 03:21 J -8492138.49 -8492138.36 -8492138.23 0.0144 0.0049

Moon -27964-12-12 15:50 J -8492081.97 -8492081.84 -8492081.71 0.2659 0.0767

Earth -27964-12-12 16:19 J -8492081.95 -8492081.82 -8492081.69 0.2653 0.0815 *

Jupiter -27963-01-11 03:21 J -8492052.48 -8492052.36 -8492052.23 0.0524 0.0204

Uranus -27963-01-13 07:40 J -8492050.30 -8492050.18 -8492050.06 0.0145 0.0074

Uranus -27963-04-11 11:59 J -8491962.10 -8491962.00 -8491961.89 0.0145 0.0098

Mars -27963-07-05 04:47 J -8491877.42 -8491877.30 -8491877.18 0.1731 0.0052

Uranus -27963-07-08 16:19 J -8491873.88 -8491873.82 -8491873.74 0.0145 0.0124

Mars -27962-05-18 05:02 J -8491560.39 -8491560.29 -8491560.18 0.1780 0.1314

Venus -27962-05-19 00:28 J -8491559.61 -8491559.48 -8491559.35 0.3597 0.1529

Earth -27961-06-13 13:26 J -8491167.98 -8491167.94 -8491167.90 0.2677 0.2521

Moon -27961-06-13 13:26 J -8491167.97 -8491167.94 -8491167.91 0.2684 0.2559 *

Saturn -27958-10-23 20:52 J -8489940.69 -8489940.63 -8489940.57 0.0269 0.0237

Saturn -27957-01-20 07:55 J -8489852.29 -8489852.17 -8489852.05 0.0268 0.0133

Jupiter -27957-03-11 01:11 J -8489801.63 -8489801.45 -8489801.28 0.0502 0.0079

Saturn -27957-04-17 19:11 J -8489763.83 -8489763.70 -8489763.56 0.0268 0.0028

Saturn -27957-07-15 06:43 J -8489675.35 -8489675.22 -8489675.09 0.0268 0.0081

Saturn -27957-10-11 18:14 J -8489586.83 -8489586.74 -8489586.64 0.0268 0.0190

Moon -27954-06-07 05:16 J -8488618.40 -8488618.28 -8488618.17 0.2679 0.0608

Earth -27954-06-07 05:59 J -8488618.37 -8488618.25 -8488618.13 0.2682 0.0475 *

Mars -27954-11-25 14:23 J -8488447.01 -8488446.90 -8488446.78 0.1726 0.0523

Mars -27953-10-07 04:47 J -8488130.46 -8488130.30 -8488130.15 0.1787 0.0329

Jupiter -27952-10-30 06:57 J -8487742.35 -8487742.21 -8487742.08 0.0525 0.0055

Earth -27951-12-15 17:02 J -8487330.87 -8487330.79 -8487330.71 0.2655 0.2139

Moon -27951-12-15 17:31 J -8487330.85 -8487330.77 -8487330.69 0.2661 0.2175 *

Jupiter -27946-12-28 23:16 J -8485491.68 -8485491.53 -8485491.38 0.0501 0.0257

Jupiter -27945-03-28 03:07 J -8485401.45 -8485401.37 -8485401.28 0.0504 0.0441

Mars -27944-04-17 00:28 J -8485016.57 -8485016.48 -8485016.39 0.1721 0.1062

Moon -27944-12-07 18:28 J -8484781.83 -8484781.73 -8484781.62 0.2648 0.1728

Earth -27944-12-07 19:55 J -8484781.78 -8484781.67 -8484781.56 0.2649 0.1712 *

Mars -27943-02-27 03:50 J -8484700.49 -8484700.34 -8484700.20 0.1793 0.0702

Saturn -27942-02-17 18:14 J -8484344.87 -8484344.74 -8484344.61 0.0292 0.0186

Mars -27942-03-23 09:50 J -8484311.17 -8484311.09 -8484311.01 0.1742 0.1281

Saturn -27942-05-17 16:04 J -8484256.00 -8484255.83 -8484255.66 0.0293 0.0007

Saturn -27942-08-14 13:26 J -8484167.08 -8484166.94 -8484166.80 0.0293 0.0167

Moon -27941-06-09 00:57 J -8483867.57 -8483867.46 -8483867.34 0.2682 0.0565

Earth -27941-06-09 01:55 J -8483867.54 -8483867.42 -8483867.30 0.2680 0.0571 *

Jupiter -27940-08-18 09:50 J -8483432.22 -8483432.09 -8483431.96 0.0526 0.0106

Jupiter -27940-11-15 18:14 J -8483342.78 -8483342.74 -8483342.69 0.0523 0.0489

Mars -27935-09-07 10:19 J -8481586.11 -8481586.07 -8481586.02 0.1716 0.1592

Earth -27934-06-02 19:26 J -8481317.74 -8481317.69 -8481317.63 0.2685 0.2304

Moon -27934-06-02 19:40 J -8481317.74 -8481317.68 -8481317.61 0.2679 0.2268 *

Mars -27934-07-20 01:55 J -8481270.43 -8481270.42 -8481270.41 0.1799 0.1792

Jupiter -27934-10-16 21:35 J -8481181.68 -8481181.60 -8481181.51 0.0500 0.0433

Jupiter -27933-01-15 01:55 J -8481091.57 -8481091.42 -8481091.27 0.0503 0.0268

Neptune -27933-02-17 07:26 J -8481058.22 -8481058.19 -8481058.14 0.0089 0.0085

Neptune -27933-05-15 08:38 J -8480970.19 -8480970.14 -8480970.06 0.0089 0.0078

Neptune -27933-08-11 10:19 J -8480882.14 -8480882.07 -8480881.98 0.0089 0.0071

Mars -27933-08-12 19:26 J -8480880.80 -8480880.69 -8480880.58 0.1737 0.0694

Pluto -27933-08-23 09:35 J -8480870.15 -8480870.10 -8480870.02 0.0070 0.0064

Neptune -27933-11-07 11:45 J -8480794.10 -8480794.01 -8480793.91 0.0089 0.0064

Pluto -27933-11-19 11:02 J -8480782.12 -8480782.04 -8480781.94 0.0070 0.0057

Neptune -27932-02-03 13:11 J -8480706.05 -8480705.95 -8480705.84 0.0089 0.0057

Pluto -27932-02-15 12:28 J -8480694.09 -8480693.98 -8480693.86 0.0070 0.0050

Neptune -27932-05-02 14:38 J -8480617.99 -8480617.89 -8480617.77 0.0089 0.0051

Pluto -27932-05-14 13:55 J -8480606.04 -8480605.92 -8480605.79 0.0070 0.0043

Neptune -27932-07-29 16:19 J -8480529.94 -8480529.82 -8480529.70 0.0089 0.0044

Pluto -27932-08-10 15:21 J -8480518.00 -8480517.86 -8480517.72 0.0070 0.0037

Neptune -27932-10-25 17:31 J -8480441.89 -8480441.77 -8480441.64 0.0089 0.0037

Pluto -27932-11-06 16:47 J -8480429.95 -8480429.80 -8480429.65 0.0070 0.0030

Neptune -27931-01-21 18:57 J -8480353.83 -8480353.71 -8480353.57 0.0089 0.0030

Pluto -27931-02-02 17:59 J -8480341.90 -8480341.75 -8480341.58 0.0071 0.0023

Neptune -27931-04-19 20:38 J -8480265.77 -8480265.64 -8480265.51 0.0089 0.0023

Pluto -27931-05-01 19:26 J -8480253.84 -8480253.69 -8480253.52 0.0071 0.0016

Neptune -27931-07-16 22:04 J -8480177.71 -8480177.58 -8480177.44 0.0089 0.0016

Pluto -27931-07-28 21:07 J -8480165.78 -8480165.62 -8480165.46 0.0071 0.0009

Neptune -27931-10-12 23:31 J -8480089.65 -8480089.52 -8480089.38 0.0089 0.0009

Pluto -27931-10-24 22:33 J -8480077.73 -8480077.56 -8480077.39 0.0071 0.0001

Moon -27931-12-10 20:23 J -8480030.79 -8480030.65 -8480030.52 0.2656 0.0464

Earth -27931-12-10 21:21 J -8480030.75 -8480030.61 -8480030.48 0.2651 0.0308 *

Neptune -27930-01-09 01:11 J -8480001.59 -8480001.45 -8480001.32 0.0089 0.0004

Pluto -27930-01-20 23:59 J -8479989.66 -8479989.50 -8479989.33 0.0071 0.0006

Neptune -27930-04-07 02:38 J -8479913.53 -8479913.39 -8479913.26 0.0089 0.0005

Pluto -27930-04-19 01:26 J -8479901.60 -8479901.44 -8479901.28 0.0071 0.0013

Neptune -27930-07-04 04:04 J -8479825.47 -8479825.33 -8479825.19 0.0089 0.0012

Pluto -27930-07-16 02:52 J -8479813.53 -8479813.38 -8479813.22 0.0071 0.0021

Neptune -27930-09-30 05:31 J -8479737.40 -8479737.27 -8479737.13 0.0089 0.0019

Pluto -27930-10-12 04:19 J -8479725.47 -8479725.32 -8479725.16 0.0071 0.0028

Neptune -27930-12-27 06:57 J -8479649.34 -8479649.21 -8479649.07 0.0089 0.0026

Pluto -27929-01-08 05:45 J -8479637.39 -8479637.26 -8479637.11 0.0071 0.0036

Neptune -27929-03-24 08:23 J -8479561.27 -8479561.15 -8479561.01 0.0089 0.0033

Pluto -27929-04-05 07:11 J -8479549.32 -8479549.20 -8479549.05 0.0072 0.0044

Neptune -27929-06-20 09:50 J -8479473.20 -8479473.09 -8479472.96 0.0089 0.0041

Pluto -27929-07-02 08:52 J -8479461.24 -8479461.13 -8479461.01 0.0072 0.0051

Neptune -27929-09-16 11:31 J -8479385.13 -8479385.02 -8479384.90 0.0089 0.0047

Pluto -27929-09-28 10:04 J -8479373.15 -8479373.08 -8479372.96 0.0072 0.0059

Neptune -27929-12-13 12:57 J -8479297.06 -8479296.96 -8479296.84 0.0089 0.0054

Pluto -27929-12-25 11:59 J -8479285.05 -8479285.00 -8479284.93 0.0072 0.0066

Neptune -27928-03-11 14:38 J -8479208.99 -8479208.89 -8479208.79 0.0089 0.0061

Saturn -27928-03-12 00:28 J -8479208.52 -8479208.48 -8479208.44 0.0268 0.0255

Jupiter -27928-06-06 13:26 J -8479122.05 -8479121.94 -8479121.82 0.0527 0.0253

Neptune -27928-06-07 16:04 J -8479120.91 -8479120.83 -8479120.74 0.0089 0.0068

Saturn -27928-06-08 11:31 J -8479120.13 -8479120.02 -8479119.90 0.0268 0.0151

Moon -27928-06-11 21:50 J -8479116.69 -8479116.59 -8479116.49 0.2684 0.1572

Earth -27928-06-11 22:04 J -8479116.67 -8479116.58 -8479116.48 0.2678 0.1644 *

Neptune -27928-09-03 17:45 J -8479032.83 -8479032.76 -8479032.69 0.0089 0.0075

Jupiter -27928-09-03 21:50 J -8479032.69 -8479032.59 -8479032.49 0.0524 0.0342 *

Saturn -27928-09-04 22:47 J -8479031.69 -8479031.55 -8479031.41 0.0267 0.0045

Neptune -27928-11-30 18:57 J -8478944.74 -8478944.71 -8478944.65 0.0089 0.0083

Saturn -27928-12-02 10:19 J -8478943.21 -8478943.07 -8478942.94 0.0267 0.0063

Saturn -27927-02-28 21:50 J -8478854.70 -8478854.59 -8478854.49 0.0267 0.0170

Uranus -27926-12-28 04:47 J -8478187.39 -8478187.30 -8478187.20 0.0135 0.0115

Uranus -27925-03-25 11:02 J -8478099.17 -8478099.04 -8478098.91 0.0135 0.0090

Uranus -27925-06-21 16:47 J -8478010.94 -8478010.80 -8478010.63 0.0135 0.0066

Uranus -27925-09-17 23:02 J -8477922.71 -8477922.54 -8477922.37 0.0135 0.0041

Uranus -27925-12-15 05:02 J -8477834.46 -8477834.29 -8477834.11 0.0134 0.0016

Uranus -27924-03-13 11:02 J -8477746.22 -8477746.04 -8477745.87 0.0134 0.0008

Uranus -27924-06-09 16:47 J -8477657.97 -8477657.80 -8477657.63 0.0134 0.0032

Uranus -27924-09-05 22:33 J -8477569.71 -8477569.56 -8477569.40 0.0134 0.0056

Uranus -27924-12-03 04:19 J -8477481.46 -8477481.32 -8477481.18 0.0134 0.0079

Mars -27923-01-03 04:47 J -8477450.42 -8477450.30 -8477450.18 0.1731 0.0116

Uranus -27923-03-01 10:04 J -8477393.19 -8477393.08 -8477392.97 0.0134 0.0102

Uranus -27923-05-28 15:50 J -8477304.90 -8477304.84 -8477304.79 0.0134 0.0125

Mars -27923-11-16 05:45 J -8477133.35 -8477133.26 -8477133.17 0.1780 0.1421

Jupiter -27922-11-02 23:59 J -8476781.67 -8476781.50 -8476781.33 0.0502 0.0089

Moon -27921-06-04 14:52 J -8476566.98 -8476566.88 -8476566.78 0.2677 0.1372

Earth -27921-06-04 15:07 J -8476566.97 -8476566.87 -8476566.76 0.2684 0.1305 *

Venus -27921-11-24 06:14 J -8476394.32 -8476394.24 -8476394.16 0.3778 0.2538

Moon -27918-12-13 21:50 J -8475279.71 -8475279.59 -8475279.46 0.2659 0.1089

Earth -27918-12-13 22:04 J -8475279.70 -8475279.58 -8475279.45 0.2653 0.1070 *

Jupiter -27916-03-25 17:31 J -8474811.86 -8474811.77 -8474811.68 0.0528 0.0393

Jupiter -27916-06-23 01:40 J -8474722.56 -8474722.43 -8474722.31 0.0525 0.0199

Venus -27915-06-09 23:16 J -8474370.64 -8474370.53 -8474370.43 0.3778 0.0127

Mars -27914-05-26 14:38 J -8474020.01 -8474019.89 -8474019.78 0.1726 0.0449

Mars -27913-04-07 05:16 J -8473703.43 -8473703.28 -8473703.12 0.1787 0.0437

Saturn -27913-07-06 16:47 J -8473612.89 -8473612.80 -8473612.69 0.0292 0.0239

Saturn -27913-10-03 14:52 J -8473524.05 -8473523.88 -8473523.71 0.0292 0.0060

Saturn -27913-12-31 12:14 J -8473435.14 -8473434.99 -8473434.83 0.0293 0.0116

Saturn -27912-03-30 09:21 J -8473346.13 -8473346.11 -8473346.08 0.0293 0.0287

Venus -27911-06-08 22:19 J -8472910.70 -8472910.57 -8472910.44 0.3597 0.1509

Jupiter -27910-08-21 22:47 J -8472471.73 -8472471.55 -8472471.38 0.0501 0.0084

Venus -27910-12-24 16:19 J -8472346.89 -8472346.82 -8472346.74 0.3778 0.2628

Moon -27908-06-07 10:19 J -8471816.19 -8471816.07 -8471815.95 0.2680 0.0292

Earth -27908-06-07 11:02 J -8471816.16 -8471816.04 -8471815.92 0.2682 0.0284 *

Venus -27906-12-24 00:57 J -8470886.53 -8470886.46 -8470886.40 0.3597 0.3181

Mars -27905-10-16 00:28 J -8470589.58 -8470589.48 -8470589.39 0.1721 0.0997

Earth -27905-12-15 22:33 J -8470528.61 -8470528.56 -8470528.50 0.2655 0.2386

Moon -27905-12-15 23:16 J -8470528.58 -8470528.53 -8470528.48 0.2661 0.2446 *

Jupiter -27904-04-11 05:16 J -8470412.41 -8470412.28 -8470412.15 0.0525 0.0053

Mars -27904-08-28 04:04 J -8470273.48 -8470273.33 -8470273.18 0.1793 0.0607

Mars -27903-09-21 10:04 J -8469884.16 -8469884.08 -8469884.01 0.1742 0.1356

Saturn -27899-10-26 13:26 J -8468388.03 -8468387.94 -8468387.84 0.0268 0.0186

Saturn -27898-01-23 00:43 J -8468299.60 -8468299.47 -8468299.34 0.0268 0.0080

Saturn -27898-04-21 11:59 J -8468211.14 -8468211.00 -8468210.86 0.0268 0.0028

Jupiter -27898-06-09 21:07 J -8468161.77 -8468161.62 -8468161.47 0.0501 0.0259

Saturn -27898-07-18 23:31 J -8468122.64 -8468122.52 -8468122.40 0.0268 0.0135

Jupiter -27898-09-08 00:57 J -8468071.54 -8468071.46 -8468071.37 0.0504 0.0440

Saturn -27898-10-15 11:16 J -8468034.09 -8468034.03 -8468033.98 0.0267 0.0244

Moon -27898-12-09 00:28 J -8467979.59 -8467979.48 -8467979.37 0.2650 0.1628

Earth -27898-12-09 01:40 J -8467979.54 -8467979.43 -8467979.31 0.2649 0.1448 *

Mars -27895-03-08 10:19 J -8467159.12 -8467159.07 -8467159.02 0.1716 0.1530

Moon -27895-06-10 06:14 J -8467065.35 -8467065.24 -8467065.12 0.2682 0.0636

Earth -27895-06-10 07:11 J -8467065.32 -8467065.20 -8467065.09 0.2680 0.0775 *

Mars -27894-01-18 02:52 J -8466843.44 -8466843.38 -8466843.33 0.1799 0.1667

Mars -27893-02-11 19:11 J -8466453.80 -8466453.70 -8466453.59 0.1737 0.0760

Jupiter -27892-01-28 08:38 J -8466102.27 -8466102.14 -8466102.01 0.0526 0.0098

Jupiter -27892-04-27 17:02 J -8466012.82 -8466012.79 -8466012.75 0.0523 0.0497

Moon -27888-06-03 00:43 J -8464515.54 -8464515.47 -8464515.40 0.2678 0.2084

Earth -27888-06-03 00:43 J -8464515.54 -8464515.47 -8464515.40 0.2685 0.2115 *

Jupiter -27886-03-28 19:26 J -8463851.78 -8463851.69 -8463851.61 0.0500 0.0435

Jupiter -27886-06-26 23:45 J -8463761.66 -8463761.51 -8463761.36 0.0503 0.0267

Moon -27885-12-11 02:09 J -8463228.55 -8463228.41 -8463228.27 0.2656 0.0055

Earth -27885-12-11 03:07 J -8463228.51 -8463228.37 -8463228.23 0.2651 0.0067 *

Mars -27884-07-04 04:47 J -8463023.42 -8463023.30 -8463023.18 0.1731 0.0180

Saturn -27884-11-23 17:16 J -8462880.82 -8462880.78 -8462880.72 0.0292 0.0278

Saturn -27883-02-20 15:35 J -8462792.01 -8462791.85 -8462791.69 0.0293 0.0098

Mars -27883-05-17 06:28 J -8462706.30 -8462706.23 -8462706.15 0.1780 0.1538

Saturn -27883-05-20 13:11 J -8462703.11 -8462702.95 -8462702.78 0.0293 0.0079

Saturn -27883-08-17 10:33 J -8462614.15 -8462614.06 -8462613.98 0.0293 0.0253

Moon -27882-06-13 03:07 J -8462314.46 -8462314.37 -8462314.29 0.2685 0.1882

Earth -27882-06-13 03:21 J -8462314.45 -8462314.36 -8462314.27 0.2678 0.1843 *

Uranus -27882-12-02 01:26 J -8462142.49 -8462142.44 -8462142.38 0.0144 0.0132

Uranus -27881-02-28 05:31 J -8462054.35 -8462054.27 -8462054.17 0.0144 0.0109

Uranus -27881-05-26 09:35 J -8461966.21 -8461966.10 -8461965.98 0.0144 0.0086

Uranus -27881-08-22 13:40 J -8461878.05 -8461877.93 -8461877.80 0.0144 0.0063

Jupiter -27881-11-16 11:45 J -8461792.13 -8461792.01 -8461791.90 0.0527 0.0257

Uranus -27881-11-18 17:59 J -8461789.88 -8461789.75 -8461789.61 0.0144 0.0039

Jupiter -27880-02-13 19:55 J -8461702.77 -8461702.67 -8461702.57 0.0524 0.0337

Uranus -27880-02-14 22:04 J -8461701.71 -8461701.58 -8461701.43 0.0144 0.0016

Uranus -27880-05-14 02:23 J -8461613.54 -8461613.40 -8461613.26 0.0144 0.0009

Uranus -27880-08-10 06:43 J -8461525.36 -8461525.22 -8461525.08 0.0144 0.0033

Uranus -27880-11-06 10:47 J -8461437.17 -8461437.05 -8461436.91 0.0144 0.0058

Uranus -27879-02-02 15:21 J -8461348.98 -8461348.86 -8461348.74 0.0145 0.0082

Uranus -27879-05-01 19:26 J -8461260.77 -8461260.69 -8461260.58 0.0145 0.0107

Uranus -27879-07-28 23:45 J -8461172.55 -8461172.51 -8461172.44 0.0145 0.0132

Moon -27875-06-05 19:55 J -8459764.78 -8459764.67 -8459764.56 0.2678 0.1116

Earth -27875-06-05 20:23 J -8459764.76 -8459764.65 -8459764.54 0.2683 0.1108 *

Mars -27875-11-24 14:38 J -8459593.01 -8459592.89 -8459592.78 0.1726 0.0382

Jupiter -27874-04-14 22:19 J -8459451.74 -8459451.57 -8459451.40 0.0502 0.0095

Mars -27874-10-07 05:45 J -8459276.41 -8459276.26 -8459276.11 0.1787 0.0541

Earth -27872-12-14 03:50 J -8458477.46 -8458477.34 -8458477.22 0.2653 0.1318

Moon -27872-12-14 03:50 J -8458477.45 -8458477.34 -8458477.22 0.2660 0.1264 *

Saturn	-27869-03-14 17:02 J	-8457655.87	-8457655.79	-8457655.70	0.0268	0.0204
Saturn	-27869-06-11 04:19 J	-8457567.45	-8457567.32	-8457567.19	0.0267	0.0098
Jupiter	-27869-09-04 15:21 J	-8457481.94	-8457481.86	-8457481.77	0.0528	0.0403
Saturn	-27869-09-07 15:35 J	-8457478.99	-8457478.85	-8457478.71	0.0267	0.0008
Jupiter	-27869-12-02 23:31 J	-8457392.64	-8457392.52	-8457392.40	0.0525	0.0190
Saturn	-27869-12-05 02:52 J	-8457390.50	-8457390.38	-8457390.25	0.0267	0.0116
Saturn	-27868-03-03 14:38 J	-8457301.96	-8457301.89	-8457301.82	0.0267	0.0224
Mars	-27865-04-16 00:28 J	-8456162.58	-8456162.48	-8456162.38	0.1721	0.0929
Earth	-27865-12-06 05:59 J	-8455928.26	-8455928.25	-8455928.24	0.2648	0.2632
Mars	-27864-02-26 04:47 J	-8455846.45	-8455846.30	-8455846.14	0.1793	0.0487
Venus	-27864-07-01 04:04 J	-8455721.43	-8455721.33	-8455721.24	0.3778	0.1612
Mars	-27863-03-22 10:04 J	-8455457.15	-8455457.08	-8455457.01	0.1742	0.1428
Jupiter	-27862-01-31 20:23 J	-8455141.82	-8455141.65	-8455141.48	0.0501	0.0086
Moon	-27862-06-08 15:21 J	-8455013.98	-8455013.86	-8455013.74	0.2680	0.0214
Earth	-27862-06-08 16:19 J	-8455013.94	-8455013.82	-8455013.70	0.2682	0.0104 *
Earth	-27859-12-17 04:19 J	-8453726.33	-8453726.32	-8453726.30	0.2655	0.2632
Venus	-27858-01-14 20:52 J	-8453697.73	-8453697.63	-8453697.52	0.3778	0.0974
Jupiter	-27857-09-21 03:21 J	-8453082.49	-8453082.36	-8453082.23	0.0526	0.0048
Mars	-27856-09-06 10:19 J	-8452732.13	-8452732.07	-8452732.01	0.1716	0.1461
Mars	-27855-07-19 03:07 J	-8452416.45	-8452416.37	-8452416.29	0.1799	0.1570
Venus	-27854-01-13 22:47 J	-8452237.70	-8452237.55	-8452237.41	0.3597	0.0208
Saturn	-27854-07-10 14:23 J	-8452060.05	-8452059.90	-8452059.75	0.0292	0.0151
Mars	-27854-08-12 19:26 J	-8452026.80	-8452026.69	-8452026.59	0.1737	0.0832
Saturn	-27854-10-07 12:14 J	-8451971.17	-8451970.99	-8451970.82	0.0293	0.0027
Saturn	-27853-01-04 09:21 J	-8451882.23	-8451882.11	-8451881.98	0.0293	0.0201
Venus	-27853-07-30 14:09 J	-8451673.94	-8451673.91	-8451673.88	0.3778	0.3596
Moon	-27852-12-09 06:28 J	-8451177.36	-8451177.23	-8451177.11	0.2652	0.1230
Earth	-27852-12-09 07:40 J	-8451177.31	-8451177.18	-8451177.06	0.2650	0.1188 *
Jupiter	-27851-11-19 18:57 J	-8450831.86	-8450831.71	-8450831.56	0.0501	0.0259
Jupiter	-27850-02-17 22:47 J	-8450741.63	-8450741.55	-8450741.46	0.0503	0.0439

Neptune -27850-08-09 06:43 J -8450569.24 -8450569.22 -8450569.16 0.0088 0.0086

Neptune -27850-11-05 10:33 J -8450481.15 -8450481.06 -8450480.97 0.0088 0.0077

Neptune -27849-02-01 13:26 J -8450393.05 -8450392.94 -8450392.81 0.0088 0.0068

Neptune -27849-04-29 16:33 J -8450304.93 -8450304.81 -8450304.65 0.0088 0.0059

Moon -27849-06-10 11:31 J -8450263.13 -8450263.02 -8450262.91 0.2683 0.0983

Earth -27849-06-10 12:14 J -8450263.10 -8450262.99 -8450262.88 0.2680 0.0976 *

Neptune -27849-07-26 19:55 J -8450216.81 -8450216.67 -8450216.50 0.0088 0.0049

Neptune -27849-10-22 23:02 J -8450128.69 -8450128.54 -8450128.36 0.0088 0.0040

Neptune -27848-01-19 02:38 J -8450040.57 -8450040.39 -8450040.22 0.0088 0.0031

Neptune -27848-04-17 05:45 J -8449952.44 -8449952.26 -8449952.08 0.0088 0.0021

Neptune -27848-07-14 08:52 J -8449864.31 -8449864.13 -8449863.94 0.0088 0.0012

Pluto -27848-07-28 17:02 J -8449849.83 -8449849.79 -8449849.73 0.0075 0.0070

Neptune -27848-10-10 11:59 J -8449776.18 -8449776.00 -8449775.81 0.0088 0.0004

Pluto -27848-10-24 18:28 J -8449761.80 -8449761.73 -8449761.64 0.0075 0.0062

Neptune -27847-01-06 15:07 J -8449688.05 -8449687.87 -8449687.68 0.0088 0.0007

Pluto -27847-01-20 19:55 J -8449673.77 -8449673.67 -8449673.56 0.0074 0.0054

Neptune -27847-04-04 18:14 J -8449599.91 -8449599.74 -8449599.55 0.0088 0.0015

Pluto -27847-04-18 21:07 J -8449585.73 -8449585.62 -8449585.49 0.0074 0.0046

Neptune -27847-07-01 21:21 J -8449511.78 -8449511.61 -8449511.42 0.0088 0.0024

Pluto -27847-07-15 22:33 J -8449497.68 -8449497.56 -8449497.42 0.0074 0.0038

Neptune -27847-09-28 00:28 J -8449423.64 -8449423.48 -8449423.30 0.0088 0.0033

Pluto -27847-10-11 23:59 J -8449409.64 -8449409.50 -8449409.36 0.0074 0.0030

Neptune -27847-12-25 03:21 J -8449335.50 -8449335.36 -8449335.18 0.0088 0.0043

Pluto -27846-01-08 01:11 J -8449321.59 -8449321.45 -8449321.30 0.0074 0.0023

Neptune -27846-03-23 06:57 J -8449247.36 -8449247.21 -8449247.06 0.0088 0.0051

Pluto -27846-04-06 02:38 J -8449233.54 -8449233.39 -8449233.24 0.0074 0.0015

Neptune -27846-06-19 09:50 J -8449159.22 -8449159.09 -8449158.95 0.0088 0.0060

Pluto -27846-07-03 03:50 J -8449145.49 -8449145.34 -8449145.18 0.0074 0.0008

Neptune -27846-09-15 12:43 J -8449071.07 -8449070.97 -8449070.84 0.0088 0.0069

Pluto -27846-09-29 05:16 J -8449057.44 -8449057.28 -8449057.13 0.0074 0.0002

Neptune -27846-12-12 15:35 J -8448982.92 -8448982.85 -8448982.74 0.0088 0.0078

Pluto -27846-12-26 06:28 J -8448969.38 -8448969.23 -8448969.08 0.0073 0.0007

Neptune -27845-03-09 18:43 J -8448894.74 -8448894.72 -8448894.67 0.0088 0.0086

Pluto -27845-03-23 07:40 J -8448881.33 -8448881.18 -8448881.03 0.0073 0.0015

Pluto -27845-06-19 08:38 J -8448793.27 -8448793.14 -8448792.98 0.0073 0.0022

Jupiter -27845-07-10 07:11 J -8448772.33 -8448772.20 -8448772.07 0.0526 0.0096

Pluto -27845-09-15 10:04 J -8448705.22 -8448705.08 -8448704.94 0.0073 0.0029

Jupiter -27845-10-07 15:35 J -8448682.89 -8448682.85 -8448682.81 0.0523 0.0499

Pluto -27845-12-12 11:16 J -8448617.16 -8448617.03 -8448616.90 0.0073 0.0036

Mars -27844-01-02 04:47 J -8448596.42 -8448596.30 -8448596.18 0.1731 0.0252

Pluto -27844-03-10 12:28 J -8448529.10 -8448528.98 -8448528.86 0.0073 0.0043

Pluto -27844-06-06 13:40 J -8448441.04 -8448440.93 -8448440.82 0.0073 0.0050

Pluto -27844-09-02 14:52 J -8448352.97 -8448352.88 -8448352.79 0.0073 0.0057

Mars -27844-11-15 06:43 J -8448279.28 -8448279.22 -8448279.15 0.1780 0.1626

Pluto -27844-11-29 15:50 J -8448264.90 -8448264.84 -8448264.76 0.0072 0.0064

Pluto -27843-02-25 17:02 J -8448176.81 -8448176.79 -8448176.76 0.0072 0.0071

Moon -27842-06-04 05:45 J -8447713.34 -8447713.26 -8447713.18 0.2677 0.1948

Earth -27842-06-04 05:45 J -8447713.34 -8447713.26 -8447713.18 0.2685 0.1927 *

Uranus -27842-10-21 06:14 J -8447574.27 -8447574.24 -8447574.19 0.0135 0.0131

Uranus -27841-01-17 12:28 J -8447486.08 -8447485.98 -8447485.86 0.0135 0.0106

Uranus -27841-04-14 18:43 J -8447397.86 -8447397.72 -8447397.57 0.0135 0.0081

Uranus -27841-07-12 00:57 J -8447309.62 -8447309.46 -8447309.30 0.0135 0.0056

Uranus -27841-10-08 06:43 J -8447221.38 -8447221.22 -8447221.04 0.0135 0.0032

Uranus -27840-01-04 12:57 J -8447133.14 -8447132.96 -8447132.79 0.0134 0.0007

Uranus -27840-04-02 18:43 J -8447044.89 -8447044.72 -8447044.54 0.0134 0.0017

Uranus -27840-06-30 00:28 J -8446956.64 -8446956.48 -8446956.31 0.0134 0.0042

Saturn -27840-08-01 18:43 J -8446923.77 -8446923.72 -8446923.65 0.0268 0.0241

Uranus -27840-09-26 06:14 J -8446868.38 -8446868.24 -8446868.08 0.0134 0.0065

Saturn -27840-10-29 05:59 J -8446835.37 -8446835.25 -8446835.13 0.0268 0.0135

Uranus -27840-12-23 12:14 J -8446780.12 -8446779.99 -8446779.86 0.0134 0.0088

Saturn -27839-01-25 17:16 J -8446746.92 -8446746.78 -8446746.64 0.0268 0.0029

Uranus -27839-03-21 17:59 J -8446691.85 -8446691.75 -8446691.66 0.0134 0.0111

Saturn -27839-04-24 04:33 J -8446658.44 -8446658.31 -8446658.17 0.0267 0.0078

Saturn -27839-07-21 16:04 J -8446569.93 -8446569.83 -8446569.73 0.0267 0.0187

Jupiter -27839-09-07 17:02 J -8446521.87 -8446521.79 -8446521.70 0.0500 0.0436

Jupiter -27839-12-06 21:35 J -8446431.74 -8446431.60 -8446431.45 0.0503 0.0267

Moon -27839-12-12 08:09 J -8446426.30 -8446426.16 -8446426.03 0.2656 0.0108

Earth -27839-12-12 08:52 J -8446426.27 -8446426.13 -8446425.99 0.2652 0.0215 *

Moon -27836-06-13 08:23 J -8445512.23 -8445512.15 -8445512.07 0.2685 0.1974

Earth -27836-06-13 08:38 J -8445512.22 -8445512.14 -8445512.07 0.2678 0.2055 *

Mars -27835-05-25 14:23 J -8445166.01 -8445165.90 -8445165.78 0.1726 0.0323

Mars -27834-04-07 06:28 J -8444849.37 -8444849.23 -8444849.08 0.1787 0.0654

Jupiter -27833-04-28 10:47 J -8444462.16 -8444462.05 -8444461.93 0.0527 0.0243

Jupiter -27833-07-26 18:57 J -8444372.81 -8444372.71 -8444372.61 0.0524 0.0350

Moon -27829-06-06 00:57 J -8442962.58 -8442962.46 -8442962.35 0.2679 0.0967

Earth -27829-06-06 01:26 J -8442962.55 -8442962.44 -8442962.33 0.2683 0.0915 *

Jupiter -27827-09-24 20:23 J -8442121.82 -8442121.65 -8442121.48 0.0502 0.0095

Mars -27826-10-16 00:28 J -8441735.59 -8441735.48 -8441735.38 0.1721 0.0865

Earth -27826-12-15 09:35 J -8441675.21 -8441675.10 -8441674.99 0.2653 0.1567

Moon -27826-12-15 09:50 J -8441675.20 -8441675.09 -8441674.98 0.2660 0.1669 *

Mars -27825-08-27 05:31 J -8441419.43 -8441419.27 -8441419.12 0.1793 0.0377

Saturn -27825-11-26 13:55 J -8441328.05 -8441327.92 -8441327.79 0.0292 0.0197

Saturn -27824-02-23 11:59 J -8441239.18 -8441239.00 -8441238.83 0.0293 0.0019

Saturn -27824-05-23 09:21 J -8441150.25 -8441150.11 -8441149.96 0.0293 0.0158

Mars -27824-09-20 10:04 J -8441030.14 -8441030.08 -8441030.02 0.1742 0.1494

Jupiter -27821-02-15 13:40 J -8440152.01 -8440151.93 -8440151.84 0.0528 0.0404

Jupiter -27821-05-14 21:50 J -8440062.71 -8440062.59 -8440062.47 0.0525 0.0188

Moon -27819-12-07 10:47 J -8439126.10 -8439126.05 -8439126.00 0.2645 0.2454

Earth -27819-12-07 11:59 J -8439126.06 -8439126.00 -8439125.94 0.2648 0.2364 *

Mars -27816-03-07 10:33 J -8438305.13 -8438305.06 -8438305.00 0.1716 0.1394

Moon -27816-06-08 20:23 J -8438211.77 -8438211.65 -8438211.53 0.2680 0.0122

Earth -27816-06-08 21:21 J -8438211.73 -8438211.61 -8438211.49 0.2681 0.0124 *

Mars -27815-01-17 03:50 J -8437989.43 -8437989.34 -8437989.24 0.1799 0.1450

Jupiter -27815-07-13 18:57 J -8437811.88 -8437811.71 -8437811.53 0.0501 0.0077

Mars -27814-02-10 19:26 J -8437599.80 -8437599.69 -8437599.59 0.1737 0.0901

Venus -27813-07-22 08:52 J -8437072.19 -8437072.13 -8437072.08 0.3777 0.3191

Saturn -27811-12-19 22:19 J -8436191.60 -8436191.57 -8436191.53 0.0268 0.0259

Saturn -27810-03-18 09:21 J -8436103.22 -8436103.11 -8436102.99 0.0268 0.0155

Saturn -27810-06-14 20:38 J -8436014.78 -8436014.64 -8436014.50 0.0267 0.0049

Saturn -27810-09-11 07:55 J -8435926.30 -8435926.17 -8435926.03 0.0267 0.0058

Saturn -27810-12-08 19:26 J -8435837.80 -8435837.69 -8435837.58 0.0267 0.0166

Jupiter -27809-03-03 01:26 J -8435752.57 -8435752.44 -8435752.31 0.0526 0.0041

Venus -27807-02-05 01:40 J -8435048.53 -8435048.43 -8435048.32 0.3778 0.0677

Moon -27806-12-10 12:14 J -8434375.12 -8434374.99 -8434374.86 0.2653 0.1075

Earth -27806-12-10 13:26 J -8434375.07 -8434374.94 -8434374.80 0.2650 0.0928 *

Mars -27805-07-03 04:47 J -8434169.41 -8434169.30 -8434169.18 0.1731 0.0325

Mars -27804-05-16 07:26 J -8433852.22 -8433852.19 -8433852.15 0.1780 0.1738

Venus -27803-02-03 20:09 J -8433588.74 -8433588.66 -8433588.57 0.3597 0.2931

Jupiter -27803-05-01 17:02 J -8433501.94 -8433501.79 -8433501.64 0.0500 0.0257

Moon -27803-06-11 16:47 J -8433460.91 -8433460.80 -8433460.69 0.2684 0.1066

Earth -27803-06-11 17:31 J -8433460.88 -8433460.77 -8433460.66 0.2679 0.1181 *

Jupiter -27803-07-30 20:52 J -8433411.71 -8433411.63 -8433411.55 0.0503 0.0440

Venus -27802-08-21 18:43 J -8433024.81 -8433024.72 -8433024.63 0.3778 0.1921

Venus -27798-08-20 23:02 J -8431564.66 -8431564.54 -8431564.42 0.3597 0.1841

Jupiter -27798-12-21 05:16 J -8431442.41 -8431442.28 -8431442.15 0.0527 0.0102

Uranus -27798-12-22 09:07 J -8431441.18 -8431441.12 -8431441.04 0.0144 0.0124

Uranus -27797-03-19 13:11 J -8431353.04 -8431352.95 -8431352.84 0.0144 0.0101

Jupiter -27797-03-19 13:55 J -8431352.96 -8431352.92 -8431352.88 0.0523 0.0496 *

Uranus -27797-06-15 17:16 J -8431264.89 -8431264.78 -8431264.66 0.0144 0.0078

Uranus -27797-09-11 21:35 J -8431176.73 -8431176.60 -8431176.47 0.0144 0.0054

Uranus -27797-12-09 01:40 J -8431088.56 -8431088.43 -8431088.29 0.0144 0.0031

Uranus -27796-03-07 05:59 J -8431000.39 -8431000.25 -8431000.11 0.0144 0.0007

Uranus -27796-06-03 10:04 J -8430912.22 -8430912.08 -8430911.94 0.0144 0.0017

Moon -27796-06-04 10:47 J -8430911.14 -8430911.05 -8430910.96 0.2678 0.1690

Earth -27796-06-04 10:47 J -8430911.14 -8430911.05 -8430910.96 0.2685 0.1737 *

Uranus -27796-08-30 14:23 J -8430824.03 -8430823.90 -8430823.76 0.0144 0.0041

Mars -27796-11-23 14:38 J -8430739.01 -8430738.89 -8430738.78 0.1726 0.0255

Uranus -27796-11-26 18:43 J -8430735.85 -8430735.72 -8430735.59 0.0144 0.0066

Uranus -27795-02-22 22:47 J -8430647.65 -8430647.55 -8430647.43 0.0145 0.0091

Saturn -27795-04-15 12:28 J -8430596.06 -8430595.98 -8430595.89 0.0292 0.0252

Uranus -27795-05-22 03:21 J -8430559.44 -8430559.36 -8430559.27 0.0145 0.0115

Saturn -27795-07-13 10:33 J -8430507.22 -8430507.06 -8430506.89 0.0293 0.0073

Uranus -27795-08-18 07:40 J -8430471.20 -8430471.18 -8430471.14 0.0145 0.0140

Mars -27795-10-06 06:57 J -8430422.35 -8430422.21 -8430422.07 0.1787 0.0752

Saturn -27795-10-10 08:23 J -8430418.31 -8430418.15 -8430417.99 0.0293 0.0105

Saturn -27794-01-07 05:16 J -8430329.32 -8430329.28 -8430329.22 0.0293 0.0279

Moon -27793-12-12 14:09 J -8429624.05 -8429623.91 -8429623.78 0.2657 0.0501

Earth -27793-12-12 14:38 J -8429624.03 -8429623.89 -8429623.75 0.2652 0.0466 *

Jupiter -27791-02-17 15:21 J -8429191.95 -8429191.86 -8429191.77 0.0500 0.0431

Jupiter -27791-05-18 19:40 J -8429101.82 -8429101.68 -8429101.53 0.0503 0.0271

Moon -27790-06-14 13:40 J -8428709.99 -8428709.93 -8428709.88 0.2684 0.2321

Earth -27790-06-14 13:40 J -8428709.99 -8428709.93 -8428709.86 0.2678 0.2262 *

Mars -27786-04-16 00:28 J -8427308.59 -8427308.48 -8427308.38 0.1721 0.0795

Jupiter -27786-10-09 09:21 J -8427132.23 -8427132.11 -8427131.99 0.0527 0.0241

Jupiter -27785-01-06 17:31 J -8427042.87 -8427042.77 -8427042.67 0.0524 0.0352

Mars -27785-02-26 05:59 J -8426992.41 -8426992.25 -8426992.09 0.1793 0.0272

Mars -27784-03-21 10:04 J -8426603.13 -8426603.08 -8426603.03 0.1742 0.1568

Moon -27783-06-07 05:45 J -8426160.37 -8426160.26 -8426160.14 0.2679 0.0812

Earth -27783-06-07 06:28 J -8426160.34 -8426160.23 -8426160.11 0.2683 0.0726 *

Saturn -27781-08-04 11:02 J -8425371.13 -8425371.04 -8425370.95 0.0268 0.0193

Saturn -27781-10-31 22:04 J -8425282.71 -8425282.58 -8425282.45 0.0268 0.0088

Saturn -27780-01-28 09:21 J -8425194.25 -8425194.11 -8425193.97 0.0267 0.0019

Saturn -27780-04-26 20:52 J -8425105.76 -8425105.63 -8425105.51 0.0267 0.0126

Saturn -27780-07-24 08:23 J -8425017.21 -8425017.15 -8425017.09 0.0267 0.0235

Earth -27780-12-15 15:21 J -8424872.96 -8424872.86 -8424872.76 0.2654 0.1816

Moon -27780-12-15 15:35 J -8424872.95 -8424872.85 -8424872.75 0.2661 0.1755 *

Jupiter -27779-03-06 18:28 J -8424791.90 -8424791.73 -8424791.56 0.0502 0.0098

Mars -27777-09-05 10:19 J -8423878.14 -8423878.07 -8423878.00 0.1715 0.1333

Mars -27776-07-18 04:33 J -8423562.41 -8423562.31 -8423562.20 0.1799 0.1333

Mars -27775-08-11 19:26 J -8423172.79 -8423172.69 -8423172.59 0.1737 0.0970

Jupiter -27774-07-28 13:11 J -8422822.04 -8422821.95 -8422821.87 0.0528 0.0387

Jupiter -27774-10-25 21:07 J -8422732.74 -8422732.62 -8422732.50 0.0525 0.0205

Moon -27773-12-07 16:33 J -8422323.89 -8422323.81 -8422323.73 0.2647 0.2165

Earth -27773-12-07 17:45 J -8422323.84 -8422323.76 -8422323.67 0.2648 0.2100 *

Moon -27770-06-10 01:40 J -8421409.55 -8421409.43 -8421409.31 0.2681 0.0221

Earth -27770-06-10 02:23 J -8421409.52 -8421409.40 -8421409.28 0.2681 0.0328 *

Neptune -27769-11-13 06:43 J -8420887.27 -8420887.22 -8420887.17 0.0089 0.0083

Neptune -27768-02-09 07:55 J -8420799.23 -8420799.17 -8420799.09 0.0089 0.0076

Neptune -27768-05-08 09:21 J -8420711.18 -8420711.11 -8420711.02 0.0089 0.0069

Neptune -27768-08-04 10:47 J -8420623.14 -8420623.05 -8420622.94 0.0089 0.0063

Neptune -27768-10-31 12:28 J -8420535.08 -8420534.98 -8420534.87 0.0089 0.0056

Jupiter -27768-12-23 17:16 J -8420481.95 -8420481.78 -8420481.61 0.0501 0.0072

Neptune -27767-01-27 13:40 J -8420447.03 -8420446.93 -8420446.81 0.0089 0.0049

Neptune -27767-04-25 15:07 J -8420358.98 -8420358.87 -8420358.74 0.0089 0.0042

Neptune -27767-07-22 16:47 J -8420270.92 -8420270.80 -8420270.67 0.0089 0.0035

Neptune -27767-10-18 18:14 J -8420182.87 -8420182.74 -8420182.61 0.0089 0.0028

Neptune -27766-01-14 19:40 J -8420094.81 -8420094.68 -8420094.54 0.0089 0.0021

Neptune -27766-04-12 21:07 J -8420006.75 -8420006.62 -8420006.48 0.0089 0.0015

Neptune -27766-07-09 22:33 J -8419918.69 -8419918.56 -8419918.42 0.0089 0.0008

Neptune -27766-10-06 00:14 J -8419830.63 -8419830.49 -8419830.36 0.0089 0.0002

Saturn -27766-11-30 09:21 J -8419775.26 -8419775.11 -8419774.95 0.0293 0.0124

Neptune -27765-01-02 01:40 J -8419742.57 -8419742.43 -8419742.29 0.0089 0.0007

Mars -27765-01-02 04:47 J -8419742.42 -8419742.30 -8419742.18 0.1731 0.0383 *

Saturn -27765-02-27 07:11 J -8419686.37 -8419686.20 -8419686.03 0.0293 0.0055

Neptune -27765-03-30 03:07 J -8419654.51 -8419654.37 -8419654.23 0.0089 0.0014

Saturn -27765-05-26 04:33 J -8419597.41 -8419597.31 -8419597.20 0.0293 0.0230

Neptune -27765-06-26 04:33 J -8419566.44 -8419566.31 -8419566.17 0.0089 0.0021

Neptune -27765-09-22 05:59 J -8419478.38 -8419478.25 -8419478.12 0.0089 0.0028

Neptune -27765-12-19 07:26 J -8419390.31 -8419390.19 -8419390.06 0.0089 0.0035

Neptune -27764-03-17 09:07 J -8419302.24 -8419302.12 -8419302.00 0.0089 0.0042

Neptune -27764-06-13 10:19 J -8419214.17 -8419214.07 -8419213.94 0.0089 0.0049

Neptune -27764-09-09 11:45 J -8419126.10 -8419126.01 -8419125.89 0.0089 0.0057

Neptune -27764-12-06 13:26 J -8419038.03 -8419037.94 -8419037.83 0.0089 0.0063

Neptune -27763-03-04 14:52 J -8418949.95 -8418949.88 -8418949.78 0.0089 0.0070

Neptune -27763-05-31 16:33 J -8418861.87 -8418861.81 -8418861.74 0.0089 0.0077

Earth -27763-06-02 20:09 J -8418859.69 -8418859.66 -8418859.62 0.2686 0.2547

Moon -27763-06-02 20:38 J -8418859.69 -8418859.64 -8418859.59 0.2679 0.2434 *

Neptune -27763-08-27 17:59 J -8418773.78 -8418773.75 -8418773.70 0.0089 0.0084

Jupiter -27762-08-13 23:59 J -8418422.63 -8418422.50 -8418422.37 0.0526 0.0044

Moon -27760-12-10 18:14 J -8417572.88 -8417572.74 -8417572.61 0.2653 0.0737

Earth -27760-12-10 19:26 J -8417572.83 -8417572.69 -8417572.56 0.2650 0.0667 *

Uranus -27758-11-10 14:38 J -8416872.96 -8416872.89 -8416872.81 0.0135 0.0120

Uranus -27757-02-06 20:52 J -8416784.75 -8416784.63 -8416784.50 0.0135 0.0095

Uranus -27757-05-05 03:07 J -8416696.52 -8416696.37 -8416696.22 0.0135 0.0070

Moon -27757-06-11 22:04 J -8416658.69 -8416658.58 -8416658.48 0.2685 0.1391

Earth -27757-06-11 22:33 J -8416658.66 -8416658.56 -8416658.45 0.2679 0.1385 *

Uranus -27757-08-01 08:52 J -8416608.29 -8416608.13 -8416607.95 0.0135 0.0046

Uranus -27757-10-28 15:07 J -8416520.04 -8416519.87 -8416519.69 0.0135 0.0021

Uranus -27756-01-24 21:07 J -8416431.80 -8416431.62 -8416431.44 0.0134 0.0004

Venus -27756-02-26 06:28 J -8416399.31 -8416399.23 -8416399.15 0.3777 0.2279

Uranus -27756-04-23 02:52 J -8416343.55 -8416343.38 -8416343.20 0.0134 0.0028

Mars -27756-05-24 14:38 J -8416312.01 -8416311.89 -8416311.77 0.1726 0.0177

Uranus -27756-07-20 08:52 J -8416255.29 -8416255.13 -8416254.97 0.0134 0.0052

Jupiter -27756-10-11 15:50 J -8416171.99 -8416171.84 -8416171.68 0.0500 0.0244

Uranus -27756-10-16 14:23 J -8416167.03 -8416166.90 -8416166.75 0.0134 0.0076

Jupiter -27755-01-09 19:55 J -8416081.74 -8416081.67 -8416081.60 0.0503 0.0453

Uranus -27755-01-12 20:09 J -8416078.77 -8416078.66 -8416078.53 0.0134 0.0099

Mars -27755-04-06 07:40 J -8415995.32 -8415995.18 -8415995.04 0.1787 0.0865

Uranus -27755-04-11 01:40 J -8415990.48 -8415990.43 -8415990.34 0.0134 0.0122

Saturn -27752-12-22 14:09 J -8414638.98 -8414638.91 -8414638.82 0.0268 0.0214

Saturn -27751-03-21 01:26 J -8414550.57 -8414550.44 -8414550.32 0.0267 0.0109

Saturn -27751-06-17 12:43 J -8414462.11 -8414461.97 -8414461.83 0.0267 0.0008

Venus -27751-09-11 23:31 J -8414375.63 -8414375.52 -8414375.42 0.3778 0.0272

Saturn -27751-09-13 23:59 J -8414373.63 -8414373.50 -8414373.37 0.0267 0.0104

Saturn -27751-12-11 11:31 J -8414285.10 -8414285.02 -8414284.94 0.0267 0.0213

Jupiter -27750-06-02 03:35 J -8414112.48 -8414112.35 -8414112.22 0.0527 0.0105

Moon -27750-06-05 15:50 J -8414108.94 -8414108.84 -8414108.75 0.2678 0.1614

Earth -27750-06-05 15:50 J -8414108.93 -8414108.84 -8414108.74 0.2684 0.1548 *

Jupiter -27750-08-30 11:59 J -8414023.04 -8414023.00 -8414022.96 0.0524 0.0491

Venus -27747-09-10 20:38 J -8412915.77 -8412915.64 -8412915.50 0.3597 0.1232

Mars -27747-10-15 00:28 J -8412881.59 -8412881.48 -8412881.38 0.1721 0.0731

Moon -27747-12-13 20:09 J -8412821.79 -8412821.66 -8412821.53 0.2659 0.0640

Earth -27747-12-13 20:23 J -8412821.78 -8412821.65 -8412821.51 0.2652 0.0725 *

Mars -27746-08-27 06:43 J -8412565.38 -8412565.22 -8412565.06 0.1793 0.0166

Venus -27745-03-27 16:33 J -8412351.88 -8412351.81 -8412351.74 0.3777 0.2866

Mars -27745-09-19 10:04 J -8412176.12 -8412176.08 -8412176.04 0.1742 0.1640

Moon -27744-06-14 18:57 J -8411907.75 -8411907.71 -8411907.66 0.2684 0.2427

Earth -27744-06-14 18:57 J -8411907.75 -8411907.71 -8411907.66 0.2677 0.2477 *

Jupiter -27744-07-30 13:55 J -8411862.01 -8411861.92 -8411861.83 0.0499 0.0424

Jupiter -27744-10-28 18:14 J -8411771.89 -8411771.74 -8411771.60 0.0502 0.0277

Venus -27741-03-26 23:16 J -8410891.56 -8410891.53 -8410891.49 0.3597 0.3490

Jupiter -27738-03-21 07:40 J -8409802.30 -8409802.18 -8409802.07 0.0528 0.0246

Jupiter -27738-06-18 15:50 J -8409712.94 -8409712.84 -8409712.74 0.0524 0.0350

Mars -27737-03-06 10:19 J -8409451.15 -8409451.07 -8409450.99 0.1715 0.1264

Moon -27737-06-07 11:02 J -8409358.16 -8409358.04 -8409357.93 0.2679 0.0560

Earth -27737-06-07 11:45 J -8409358.13 -8409358.01 -8409357.90 0.2683 0.0527 *

Mars -27736-01-16 05:02 J -8409135.41 -8409135.29 -8409135.17 0.1799 0.1231

Saturn -27736-04-18 07:55 J -8409043.30 -8409043.17 -8409043.03 0.0293 0.0180

Saturn -27736-07-16 05:59 J -8408954.43 -8408954.25 -8408954.08 0.0293 0.0003

Saturn -27736-10-13 03:21 J -8408865.49 -8408865.36 -8408865.22 0.0293 0.0176

Mars -27735-02-09 19:26 J -8408745.79 -8408745.69 -8408745.60 0.1737 0.1038

Earth -27734-12-16 21:07 J -8408070.70 -8408070.62 -8408070.53 0.2654 0.2061

Moon -27734-12-16 21:21 J -8408070.68 -8408070.61 -8408070.53 0.2660 0.2178 *

Jupiter -27732-08-16 17:02 J -8407461.96 -8407461.79 -8407461.62 0.0502 0.0106

Moon -27727-12-08 22:33 J -8405521.65 -8405521.56 -8405521.47 0.2649 0.2002

Earth -27727-12-08 23:45 J -8405521.61 -8405521.51 -8405521.41 0.2649 0.1828 *

Jupiter -27726-01-07 11:45 J -8405492.10 -8405492.01 -8405491.92 0.0528 0.0384

Jupiter -27726-04-06 19:40 J -8405402.80 -8405402.68 -8405402.56 0.0525 0.0209

Mars -27726-07-03 04:47 J -8405315.41 -8405315.30 -8405315.18 0.1731 0.0461

Moon -27724-06-10 06:43 J -8404607.33 -8404607.22 -8404607.10 0.2683 0.0453

Earth -27724-06-10 07:40 J -8404607.30 -8404607.18 -8404607.06 0.2681 0.0522 *

Saturn -27722-05-11 15:50 J -8403906.88 -8403906.84 -8403906.80 0.0268 0.0252

Saturn -27722-08-08 02:38 J -8403818.50 -8403818.39 -8403818.27 0.0267 0.0149

Saturn -27722-11-04 13:55 J -8403730.06 -8403729.92 -8403729.78 0.0267 0.0043

Saturn -27721-02-01 01:11 J -8403641.58 -8403641.45 -8403641.31 0.0267 0.0064

Saturn -27721-04-29 12:43 J -8403553.08 -8403552.97 -8403552.86 0.0267 0.0172

Jupiter -27720-06-04 15:35 J -8403152.03 -8403151.85 -8403151.68 0.0501 0.0068

Earth -27717-06-03 01:26 J -8402057.50 -8402057.44 -8402057.39 0.2686 0.2359

Moon -27717-06-03 01:40 J -8402057.48 -8402057.43 -8402057.38 0.2679 0.2386 *

Mars -27717-11-22 14:23 J -8401885.02 -8401884.90 -8401884.78 0.1726 0.0127

Mars -27716-10-05 08:09 J -8401568.29 -8401568.16 -8401568.02 0.1787 0.0973

Jupiter -27715-10-26 15:35 J -8401181.86 -8401181.85 -8401181.84 0.0529 0.0526

Jupiter -27714-01-23 23:31 J -8401092.65 -8401092.52 -8401092.39 0.0526 0.0064

Uranus -27714-10-15 13:26 J -8400827.98 -8400827.94 -8400827.90 0.0143 0.0136

Moon -27714-12-12 00:14 J -8400770.63 -8400770.49 -8400770.36 0.2654 0.0508

Earth -27714-12-12 01:11 J -8400770.59 -8400770.45 -8400770.31 0.2651 0.0403 *

Uranus -27713-01-11 17:31 J -8400739.85 -8400739.77 -8400739.69 0.0144 0.0113

Uranus -27713-04-08 21:35 J -8400651.71 -8400651.60 -8400651.49 0.0144 0.0090

Uranus -27713-07-06 01:40 J -8400563.55 -8400563.43 -8400563.31 0.0144 0.0067

Uranus -27713-10-02 05:45 J -8400475.39 -8400475.26 -8400475.12 0.0144 0.0044

Uranus -27713-12-29 09:50 J -8400387.22 -8400387.09 -8400386.95 0.0144 0.0021

Uranus -27712-03-27 14:09 J -8400299.05 -8400298.91 -8400298.77 0.0144 0.0004

Uranus -27712-06-23 18:14 J -8400210.87 -8400210.74 -8400210.59 0.0144 0.0029

Uranus -27712-09-19 22:33 J -8400122.69 -8400122.56 -8400122.42 0.0144 0.0052

Uranus -27712-12-17 02:52 J -8400034.50 -8400034.38 -8400034.26 0.0145 0.0077

Uranus -27711-03-15 07:11 J -8399946.30 -8399946.20 -8399946.09 0.0145 0.0101

Uranus -27711-06-11 11:45 J -8399858.08 -8399858.01 -8399857.94 0.0145 0.0126

Moon -27711-06-13 03:07 J -8399856.46 -8399856.37 -8399856.27 0.2684 0.1502

Earth -27711-06-13 03:50 J -8399856.44 -8399856.34 -8399856.25 0.2679 0.1591 *

Jupiter -27708-03-23 14:23 J -8398842.05 -8398841.90 -8398841.74 0.0500 0.0236

Jupiter -27708-06-21 18:14 J -8398751.80 -8398751.74 -8398751.67 0.0503 0.0462

Mars -27707-04-15 00:28 J -8398454.59 -8398454.48 -8398454.37 0.1721 0.0664

Saturn -27707-09-05 05:16 J -8398311.36 -8398311.28 -8398311.17 0.0292 0.0242

Saturn -27707-12-03 03:50 J -8398222.51 -8398222.34 -8398222.17 0.0293 0.0060

Mars -27706-02-25 07:26 J -8398138.35 -8398138.19 -8398138.03 0.1793 0.0064

Saturn -27706-03-02 01:26 J -8398133.59 -8398133.44 -8398133.28 0.0293 0.0118

Saturn -27706-05-29 22:33 J -8398044.56 -8398044.56 -8398044.54 0.0293 0.0292

Mars -27705-03-20 10:04 J -8397749.10 -8397749.08 -8397749.06 0.1742 0.1703

Moon -27704-06-05 20:38 J -8397306.74 -8397306.64 -8397306.54 0.2678 0.1318

Earth -27704-06-05 20:52 J -8397306.73 -8397306.63 -8397306.52 0.2684 0.1360 *

Jupiter -27703-11-12 02:09 J -8396782.54 -8396782.41 -8396782.28 0.0527 0.0101

Jupiter -27702-02-09 10:33 J -8396693.10 -8396693.06 -8396693.02 0.0523 0.0496

Moon -27701-12-14 01:55 J -8396019.55 -8396019.42 -8396019.29 0.2659 0.1002

Earth -27701-12-14 02:09 J -8396019.54 -8396019.41 -8396019.28 0.2652 0.0976 *

Venus -27700-10-03 04:19 J -8395726.42 -8395726.32 -8395726.22 0.3777 0.1351

Mars -27698-09-05 10:19 J -8395024.15 -8395024.07 -8395023.98 0.1715 0.1197

Mars -27697-07-17 05:45 J -8394708.39 -8394708.26 -8394708.14 0.1799 0.1121

Jupiter -27696-01-09 12:57 J -8394532.05 -8394531.96 -8394531.85 0.0500 0.0407

Jupiter -27696-04-09 17:31 J -8394441.91 -8394441.77 -8394441.63 0.0502 0.0294

Mars -27696-08-10 19:26 J -8394318.78 -8394318.69 -8394318.60 0.1737 0.1110

Venus -27694-04-18 21:21 J -8393702.72 -8393702.61 -8393702.51 0.3777 0.1221

Saturn -27693-12-25 05:59 J -8393086.36 -8393086.25 -8393086.15 0.0267 0.0171

Saturn -27692-03-23 17:02 J -8392997.92 -8392997.79 -8392997.65 0.0267 0.0066

Saturn -27692-06-20 04:19 J -8392909.46 -8392909.32 -8392909.18 0.0267 0.0041

Saturn -27692-09-16 15:35 J -8392820.96 -8392820.85 -8392820.73 0.0267 0.0149

Saturn -27692-12-14 03:07 J -8392732.40 -8392732.37 -8392732.33 0.0266 0.0257

Moon -27691-06-08 16:04 J -8392555.95 -8392555.83 -8392555.71 0.2679 0.0445

Earth -27691-06-08 16:47 J -8392555.92 -8392555.80 -8392555.68 0.2682 0.0330 *

Jupiter -27691-08-31 05:59 J -8392472.37 -8392472.25 -8392472.14 0.0528 0.0247

Jupiter -27691-11-28 14:09 J -8392383.01 -8392382.91 -8392382.81 0.0524 0.0348

Venus -27690-04-17 21:07 J -8392242.76 -8392242.62 -8392242.48 0.3597 0.0466

Earth -27688-12-17 02:52 J -8391268.44 -8391268.38 -8391268.31 0.2654 0.2312

Moon -27688-12-17 03:21 J -8391268.42 -8391268.36 -8391268.29 0.2660 0.2297 *

Mars -27686-01-01 04:47 J -8390888.41 -8390888.30 -8390888.18 0.1731 0.0530

Pluto -27686-01-11 23:16 J -8390877.58 -8390877.53 -8390877.48 0.0070 0.0066

Pluto -27686-04-10 00:43 J -8390789.55 -8390789.47 -8390789.39 0.0070 0.0060

Pluto -27686-07-07 01:40 J -8390701.52 -8390701.43 -8390701.31 0.0070 0.0053

Pluto -27686-10-03 03:07 J -8390613.48 -8390613.37 -8390613.23 0.0070 0.0046

Pluto -27686-12-30 04:33 J -8390525.43 -8390525.31 -8390525.16 0.0070 0.0039

Pluto -27685-03-27 05:59 J -8390437.39 -8390437.25 -8390437.09 0.0070 0.0032

Neptune -27685-05-05 03:50 J -8390398.37 -8390398.34 -8390398.28 0.0088 0.0086

Pluto -27685-06-23 07:26 J -8390349.33 -8390349.19 -8390349.03 0.0071 0.0025

Neptune -27685-08-01 07:11 J -8390310.28 -8390310.20 -8390310.09 0.0088 0.0076

Pluto -27685-09-19 09:07 J -8390261.28 -8390261.12 -8390260.96 0.0071 0.0018

Neptune -27685-10-28 10:47 J -8390222.17 -8390222.05 -8390221.93 0.0088 0.0067

Pluto -27685-12-16 10:33 J -8390173.22 -8390173.06 -8390172.90 0.0071 0.0011

Neptune -27684-01-24 13:55 J -8390134.06 -8390133.92 -8390133.77 0.0088 0.0057

Jupiter -27684-01-26 15:35 J -8390132.02 -8390131.85 -8390131.68 0.0501 0.0117

Pluto -27684-03-14 11:59 J -8390085.17 -8390085.00 -8390084.84 0.0071 0.0004

Neptune -27684-04-22 17:02 J -8390045.94 -8390045.79 -8390045.62 0.0088 0.0048

Pluto -27684-06-10 13:26 J -8389997.11 -8389996.94 -8389996.77 0.0071 0.0004

Neptune -27684-07-19 20:09 J -8389957.81 -8389957.66 -8389957.48 0.0088 0.0039

Pluto -27684-09-06 14:52 J -8389909.04 -8389908.88 -8389908.72 0.0071 0.0011

Neptune -27684-10-15 23:31 J -8389869.69 -8389869.52 -8389869.34 0.0088 0.0030

Pluto -27684-12-03 16:19 J -8389820.98 -8389820.82 -8389820.66 0.0071 0.0018

Neptune -27683-01-12 02:52 J -8389781.56 -8389781.38 -8389781.20 0.0088 0.0021

Pluto -27683-03-01 17:59 J -8389732.91 -8389732.75 -8389732.60 0.0071 0.0026

Neptune -27683-04-10 05:59 J -8389693.43 -8389693.25 -8389693.06 0.0088 0.0012

Pluto -27683-05-28 19:11 J -8389644.84 -8389644.70 -8389644.54 0.0072 0.0034

Neptune -27683-07-07 09:21 J -8389605.30 -8389605.11 -8389604.93 0.0088 0.0003

Pluto -27683-08-24 20:52 J -8389556.76 -8389556.63 -8389556.49 0.0072 0.0041

Neptune -27683-10-03 12:28 J -8389517.17 -8389516.98 -8389516.80 0.0088 0.0007

Pluto -27683-11-20 22:04 J -8389468.68 -8389468.58 -8389468.44 0.0072 0.0049

Neptune -27683-12-30 15:21 J -8389429.03 -8389428.86 -8389428.67 0.0088 0.0017

Pluto -27682-02-16 23:31 J -8389380.60 -8389380.52 -8389380.40 0.0072 0.0057

Neptune -27682-03-28 18:28 J -8389340.89 -8389340.73 -8389340.54 0.0088 0.0026

Pluto -27682-05-16 01:26 J -8389292.50 -8389292.44 -8389292.36 0.0072 0.0064

Neptune -27682-06-24 21:35 J -8389252.76 -8389252.60 -8389252.42 0.0088 0.0034

Neptune -27682-09-21 00:43 J -8389164.62 -8389164.47 -8389164.30 0.0088 0.0043

Neptune -27682-12-18 03:50 J -8389076.48 -8389076.34 -8389076.18 0.0088 0.0052

Neptune -27681-03-15 07:11 J -8388988.33 -8388988.20 -8388988.07 0.0088 0.0061

Neptune -27681-06-11 10:19 J -8388900.18 -8388900.07 -8388899.96 0.0088 0.0070

Neptune -27681-09-07 13:11 J -8388812.02 -8388811.95 -8388811.86 0.0088 0.0078

Neptune -27681-12-04 16:04 J -8388723.84 -8388723.83 -8388723.79 0.0088 0.0087

Moon -27681-12-09 04:19 J -8388719.43 -8388719.32 -8388719.21 0.2649 0.1602

Earth -27681-12-09 05:45 J -8388719.38 -8388719.26 -8388719.15 0.2649 0.1565 *

Jupiter -27679-06-19 09:50 J -8388162.17 -8388162.09 -8388162.00 0.0528 0.0387

Jupiter -27679-09-16 17:59 J -8388072.87 -8388072.75 -8388072.63 0.0525 0.0207

Moon -27678-06-11 11:59 J -8387805.12 -8387805.00 -8387804.89 0.2684 0.0679

Earth -27678-06-11 12:43 J -8387805.08 -8387804.97 -8387804.85 0.2680 0.0723 *

Saturn -27677-04-21 02:23 J -8387490.56 -8387490.40 -8387490.24 0.0293 0.0115

Mars -27677-05-23 14:38 J -8387458.01 -8387457.89 -8387457.77 0.1726 0.0066

Saturn -27677-07-19 00:14 J -8387401.66 -8387401.49 -8387401.32 0.0293 0.0064

Saturn -27677-10-15 21:35 J -8387312.69 -8387312.60 -8387312.50 0.0293 0.0239

Mars -27676-04-05 08:52 J -8387141.26 -8387141.13 -8387141.01 0.1787 0.1076

Uranus -27674-09-03 16:47 J -8386259.81 -8386259.80 -8386259.78 0.0135 0.0134

Uranus -27674-11-30 23:02 J -8386171.64 -8386171.54 -8386171.43 0.0135 0.0109

Uranus -27673-02-27 05:02 J -8386083.42 -8386083.29 -8386083.14 0.0135 0.0084

Uranus -27673-05-25 11:16 J -8385995.18 -8385995.03 -8385994.87 0.0135 0.0059

Uranus -27673-08-21 17:16 J -8385906.94 -8385906.78 -8385906.60 0.0135 0.0035

Jupiter -27673-11-14 14:23 J -8385822.08 -8385821.90 -8385821.73 0.0501 0.0056

Uranus -27673-11-17 23:31 J -8385818.70 -8385818.52 -8385818.35 0.0134 0.0010

Uranus -27672-02-14 05:16 J -8385730.45 -8385730.28 -8385730.10 0.0134 0.0015

Uranus -27672-05-13 11:16 J -8385642.20 -8385642.03 -8385641.86 0.0134 0.0039

Uranus -27672-08-09 17:02 J -8385553.94 -8385553.79 -8385553.63 0.0134 0.0062

Uranus -27672-11-05 22:47 J -8385465.68 -8385465.55 -8385465.41 0.0134 0.0086

Uranus -27671-02-02 04:33 J -8385377.40 -8385377.31 -8385377.21 0.0134 0.0109

Uranus -27671-05-01 10:19 J -8385289.09 -8385289.07 -8385289.04 0.0134 0.0132

Earth -27671-06-04 06:28 J -8385255.30 -8385255.23 -8385255.16 0.2686 0.2170

Moon -27671-06-04 06:43 J -8385255.29 -8385255.22 -8385255.15 0.2679 0.2081 *

Mars -27668-10-14 00:28 J -8384027.60 -8384027.48 -8384027.37 0.1720 0.0600

Moon -27668-12-12 06:14 J -8383968.38 -8383968.24 -8383968.10 0.2655 0.0245

Earth -27668-12-12 06:57 J -8383968.35 -8383968.21 -8383968.07 0.2651 0.0167 *

Jupiter -27667-04-07 14:09 J -8383851.92 -8383851.91 -8383851.89 0.0529 0.0523

Jupiter -27667-07-05 22:04 J -8383762.71 -8383762.58 -8383762.45 0.0526 0.0067

Mars -27667-08-26 07:40 J -8383711.34 -8383711.18 -8383711.02 0.1793 0.0050

Moon -27665-06-13 08:38 J -8383054.23 -8383054.14 -8383054.06 0.2684 0.1789

Earth -27665-06-13 08:52 J -8383054.21 -8383054.13 -8383054.04 0.2679 0.1801 *

Saturn -27663-05-14 07:11 J -8382354.28 -8382354.20 -8382354.11 0.0267 0.0211

Saturn -27663-08-10 18:14 J -8382265.86 -8382265.74 -8382265.61 0.0267 0.0106

Saturn -27663-11-07 05:31 J -8382177.41 -8382177.27 -8382177.13 0.0267 0.0001

Saturn -27662-02-03 16:47 J -8382088.93 -8382088.80 -8382088.67 0.0267 0.0107

Saturn -27662-05-03 04:19 J -8382000.40 -8382000.32 -8382000.24 0.0267 0.0215

Jupiter -27661-09-02 12:43 J -8381512.12 -8381511.97 -8381511.81 0.0500 0.0229

Jupiter -27661-12-01 16:47 J -8381421.86 -8381421.80 -8381421.74 0.0503 0.0468

Mars -27658-03-06 10:19 J -8380597.16 -8380597.07 -8380596.98 0.1715 0.1135

Moon -27658-06-07 01:40 J -8380504.54 -8380504.43 -8380504.33 0.2678 0.1274

Earth -27658-06-07 02:09 J -8380504.52 -8380504.41 -8380504.31 0.2684 0.1166 *

Mars -27657-01-16 06:28 J -8380281.36 -8380281.23 -8380281.09 0.1799 0.0994

Mars -27656-02-08 19:26 J -8379891.78 -8379891.69 -8379891.60 0.1736 0.1176

Jupiter -27655-04-24 01:55 J -8379452.55 -8379452.42 -8379452.29 0.0526 0.0077

Jupiter -27655-07-22 10:19 J -8379363.08 -8379363.07 -8379363.06 0.0523 0.0519

Moon -27655-12-15 07:55 J -8379217.30 -8379217.17 -8379217.05 0.2660 0.1193

Earth -27655-12-15 07:55 J -8379217.29 -8379217.17 -8379217.04 0.2653 0.1236 *

Jupiter -27649-06-21 11:45 J -8377202.12 -8377202.01 -8377201.90 0.0500 0.0397

Mars -27649-07-26 20:23 J -8377166.67 -8377166.65 -8377166.62 0.1711 0.1653

Jupiter -27649-09-19 16:04 J -8377111.96 -8377111.83 -8377111.69 0.0503 0.0305

Venus -27649-10-24 09:07 J -8377077.18 -8377077.12 -8377077.05 0.3777 0.2935

Saturn -27648-09-07 23:02 J -8376758.66 -8376758.54 -8376758.39 0.0293 0.0183

Saturn -27648-12-05 21:21 J -8376669.78 -8376669.61 -8376669.44 0.0293 0.0003

Saturn -27647-03-04 18:57 J -8376580.84 -8376580.71 -8376580.57 0.0293 0.0176

Mars -27647-07-02 04:47 J -8376461.41 -8376461.30 -8376461.18 0.1731 0.0594

Moon -27645-06-08 21:07 J -8375753.74 -8375753.62 -8375753.50 0.2680 0.0142

Earth -27645-06-08 21:50 J -8375753.71 -8375753.59 -8375753.47 0.2682 0.0142 *

Jupiter -27643-02-10 04:47 J -8375142.42 -8375142.30 -8375142.18 0.0527 0.0238

Venus -27643-05-10 02:09 J -8375053.52 -8375053.41 -8375053.31 0.3777 0.0438

Jupiter -27643-05-10 12:57 J -8375053.06 -8375052.96 -8375052.86 0.0524 0.0356

Earth -27642-12-18 08:38 J -8374466.17 -8374466.14 -8374466.11 0.2655 0.2558

Venus -27639-05-08 18:28 J -8373593.82 -8373593.73 -8373593.63 0.3598 0.2661

Mars -27638-11-22 14:38 J -8373031.01 -8373030.89 -8373030.77 0.1726 0.0046

Venus -27638-11-23 18:57 J -8373029.79 -8373029.71 -8373029.62 0.3777 0.2171

Jupiter -27637-07-08 15:07 J -8372802.03 -8372801.87 -8372801.70 0.0502 0.0139

Mars -27637-10-04 09:21 J -8372714.23 -8372714.11 -8372714.00 0.1787 0.1179

Moon -27635-12-10 10:19 J -8371917.19 -8371917.07 -8371916.95 0.2649 0.1487

Earth -27635-12-10 11:31 J -8371917.14 -8371917.02 -8371916.89 0.2649 0.1298 *

Saturn -27634-10-01 10:19 J -8371622.13 -8371622.07 -8371622.01 0.0268 0.0235

Venus -27634-11-22 21:35 J -8371569.71 -8371569.60 -8371569.49 0.3598 0.2157

Saturn -27634-12-28 21:21 J -8371533.73 -8371533.61 -8371533.49 0.0267 0.0130

Saturn -27633-03-26 08:23 J -8371445.29 -8371445.15 -8371445.01 0.0267 0.0025

Saturn -27633-06-22 19:40 J -8371356.81 -8371356.68 -8371356.54 0.0267 0.0082

Saturn -27633-09-19 07:11 J -8371268.30 -8371268.20 -8371268.10 0.0266 0.0190

Moon -27632-06-11 17:02 J -8371002.90 -8371002.79 -8371002.67 0.2683 0.0816

Earth -27632-06-11 17:59 J -8371002.87 -8371002.75 -8371002.64 0.2680 0.0927 *

Jupiter -27632-11-29 08:23 J -8370832.23 -8370832.15 -8370832.06 0.0528 0.0385

Jupiter -27631-02-26 16:33 J -8370742.93 -8370742.81 -8370742.69 0.0525 0.0208

Uranus -27630-11-04 21:07 J -8370126.68 -8370126.62 -8370126.56 0.0144 0.0128

Uranus -27629-02-01 00:57 J -8370038.54 -8370038.46 -8370038.36 0.0144 0.0106

Uranus -27629-04-29 05:16 J -8369950.39 -8369950.28 -8369950.17 0.0144 0.0082

Uranus -27629-07-26 09:21 J -8369862.24 -8369862.11 -8369861.98 0.0144 0.0059

Uranus -27629-10-22 13:26 J -8369774.07 -8369773.94 -8369773.80 0.0144 0.0036

Uranus -27628-01-18 17:31 J -8369685.90 -8369685.77 -8369685.62 0.0144 0.0013

Mars -27628-04-14 00:28 J -8369600.60 -8369600.48 -8369600.37 0.1721 0.0531

Uranus -27628-04-16 21:50 J -8369597.73 -8369597.59 -8369597.45 0.0144 0.0012

Uranus -27628-07-14 01:55 J -8369509.55 -8369509.42 -8369509.28 0.0144 0.0037

Uranus -27628-10-10 06:14 J -8369421.36 -8369421.24 -8369421.11 0.0144 0.0061

Uranus -27627-01-06 10:33 J -8369333.17 -8369333.06 -8369332.94 0.0145 0.0085

Mars -27627-02-24 08:23 J -8369284.31 -8369284.15 -8369283.99 0.1793 0.0175

Uranus -27627-04-04 14:52 J -8369244.97 -8369244.88 -8369244.78 0.0145 0.0110

Uranus -27627-07-01 19:11 J -8369156.74 -8369156.70 -8369156.64 0.0145 0.0135

Jupiter -27625-04-26 13:26 J -8368492.12 -8368491.94 -8368491.77 0.0501 0.0041

Earth -27625-06-04 11:31 J -8368453.10 -8368453.02 -8368452.94 0.2685 0.1977

Moon -27625-06-04 11:31 J -8368453.09 -8368453.02 -8368452.94 0.2679 0.2004 *

Moon -27622-12-13 12:14 J -8367166.13 -8367165.99 -8367165.86 0.2657 0.0130

Earth -27622-12-13 12:57 J -8367166.10 -8367165.96 -8367165.82 0.2651 0.0124 *

Jupiter -27620-09-17 12:28 J -8366521.99 -8366521.98 -8366521.96 0.0529 0.0524

Jupiter -27620-12-15 20:23 J -8366432.78 -8366432.65 -8366432.52 0.0526 0.0067

Moon -27619-06-14 13:55 J -8366252.00 -8366251.92 -8366251.84 0.2685 0.1995

Earth -27619-06-14 14:09 J -8366251.99 -8366251.91 -8366251.83 0.2678 0.2003 *

Mars -27619-09-04 10:19 J -8366170.16 -8366170.07 -8366169.98 0.1715 0.1066

Saturn -27618-01-25 21:50 J -8366026.69 -8366026.59 -8366026.49 0.0293 0.0239

Saturn -27618-04-24 19:55 J -8365937.84 -8365937.67 -8365937.50 0.0293 0.0058

Mars -27618-07-17 06:57 J -8365854.35 -8365854.21 -8365854.08 0.1799 0.0902

Saturn -27618-07-22 17:45 J -8365848.92 -8365848.76 -8365848.60 0.0293 0.0121

Mars -27617-08-09 19:26 J -8365464.77 -8365464.69 -8365464.61 0.1736 0.1248

Jupiter -27613-02-13 11:59 J -8364182.16 -8364182.00 -8364181.85 0.0500 0.0214

Jupiter -27613-05-13 15:50 J -8364091.89 -8364091.84 -8364091.79 0.0503 0.0482

Moon -27612-06-07 06:43 J -8363702.33 -8363702.22 -8363702.11 0.2678 0.0943

Earth -27612-06-07 07:11 J -8363702.31 -8363702.20 -8363702.09 0.2684 0.0969 *

Mars -27609-01-25 20:23 J -8362739.69 -8362739.65 -8362739.61 0.1710 0.1592

Moon -27609-12-15 13:40 J -8362415.04 -8362414.93 -8362414.81 0.2659 0.1490

Earth -27609-12-15 13:55 J -8362415.04 -8362414.92 -8362414.81 0.2653 0.1486 *

Jupiter -27608-10-04 00:28 J -8362122.61 -8362122.48 -8362122.34 0.0527 0.0074

Mars -27608-12-31 04:47 J -8362034.41 -8362034.30 -8362034.18 0.1731 0.0664

Neptune -27604-05-14 04:04 J -8360804.34 -8360804.33 -8360804.30 0.0089 0.0088

Saturn -27604-05-16 22:47 J -8360801.66 -8360801.55 -8360801.45 0.0267 0.0170

Neptune -27604-08-10 05:31 J -8360716.31 -8360716.27 -8360716.21 0.0089 0.0082

Saturn -27604-08-13 09:50 J -8360713.23 -8360713.09 -8360712.96 0.0267 0.0065

Neptune -27604-11-06 07:11 J -8360628.27 -8360628.20 -8360628.13 0.0089 0.0075

Saturn -27604-11-09 20:52 J -8360624.76 -8360624.63 -8360624.49 0.0267 0.0042

Neptune -27603-02-02 08:23 J -8360540.23 -8360540.15 -8360540.05 0.0089 0.0068

Saturn -27603-02-06 08:23 J -8360536.27 -8360536.15 -8360536.04 0.0266 0.0149

Neptune -27603-05-01 09:50 J -8360452.18 -8360452.09 -8360451.98 0.0089 0.0061

Saturn -27603-05-05 19:40 J -8360447.71 -8360447.68 -8360447.64 0.0266 0.0258

Neptune -27603-07-28 11:16 J -8360364.13 -8360364.03 -8360363.91 0.0089 0.0054

Neptune -27603-10-24 12:57 J -8360276.08 -8360275.96 -8360275.85 0.0089 0.0047

Neptune -27602-01-20 14:23 J -8360188.02 -8360187.90 -8360187.78 0.0089 0.0041

Neptune -27602-04-18 15:50 J -8360099.97 -8360099.84 -8360099.71 0.0089 0.0034

Neptune -27602-07-15 17:02 J -8360011.91 -8360011.79 -8360011.65 0.0089 0.0027

Neptune -27602-10-11 18:43 J -8359923.85 -8359923.72 -8359923.59 0.0089 0.0020

Jupiter -27602-12-02 10:19 J -8359872.18 -8359872.07 -8359871.96 0.0500 0.0388

Earth -27602-12-08 15:50 J -8359865.89 -8359865.84 -8359865.80 0.2648 0.2487

Pluto -27602-12-17 06:57 J -8359857.25 -8359857.21 -8359857.15 0.0075 0.0071

Neptune -27601-01-07 20:09 J -8359835.79 -8359835.66 -8359835.52 0.0089 0.0013

Jupiter -27601-03-01 14:38 J -8359782.02 -8359781.89 -8359781.75 0.0503 0.0313

Pluto -27601-03-14 08:23 J -8359769.22 -8359769.15 -8359769.06 0.0075 0.0063

Neptune -27601-04-04 21:35 J -8359747.73 -8359747.60 -8359747.46 0.0089 0.0006

Pluto -27601-06-10 09:50 J -8359681.19 -8359681.09 -8359680.98 0.0074 0.0055

Neptune -27601-07-01 23:02 J -8359659.67 -8359659.54 -8359659.40 0.0089 0.0003

Pluto -27601-09-06 11:16 J -8359593.15 -8359593.03 -8359592.91 0.0074 0.0047

Neptune -27601-09-28 00:28 J -8359571.61 -8359571.48 -8359571.34 0.0089 0.0009

Pluto -27601-12-03 12:14 J -8359505.11 -8359504.99 -8359504.85 0.0074 0.0039

Neptune -27601-12-25 01:55 J -8359483.55 -8359483.42 -8359483.28 0.0089 0.0015

Pluto -27600-03-01 13:40 J -8359417.06 -8359416.93 -8359416.78 0.0074 0.0031

Neptune -27600-03-23 03:21 J -8359395.48 -8359395.36 -8359395.22 0.0089 0.0023

Pluto -27600-05-28 14:52 J -8359329.01 -8359328.88 -8359328.72 0.0074 0.0024

Neptune -27600-06-19 05:02 J -8359307.42 -8359307.29 -8359307.16 0.0089 0.0029

Pluto -27600-08-24 16:33 J -8359240.96 -8359240.81 -8359240.66 0.0074 0.0016

Neptune -27600-09-15 06:28 J -8359219.35 -8359219.23 -8359219.10 0.0089 0.0036

Pluto -27600-11-20 17:45 J -8359152.91 -8359152.76 -8359152.61 0.0074 0.0008

Neptune -27600-12-12 07:55 J -8359131.29 -8359131.17 -8359131.04 0.0089 0.0043

Pluto -27599-02-16 18:57 J -8359064.86 -8359064.71 -8359064.55 0.0073 0.0002

Neptune -27599-03-10 09:21 J -8359043.22 -8359043.11 -8359042.99 0.0089 0.0050

Pluto -27599-05-15 20:23 J -8358976.81 -8358976.65 -8358976.50 0.0073 0.0007

Neptune -27599-06-06 10:47 J -8358955.14 -8358955.05 -8358954.93 0.0089 0.0058

Moon -27599-06-10 02:09 J -8358951.53 -8358951.41 -8358951.29 0.2682 0.0080

Earth -27599-06-10 03:07 J -8358951.49 -8358951.37 -8358951.26 0.2682 0.0118 *

Pluto -27599-08-11 21:21 J -8358888.75 -8358888.61 -8358888.45 0.0073 0.0014

Neptune -27599-09-02 12:28 J -8358867.07 -8358866.98 -8358866.88 0.0089 0.0064

Pluto -27599-11-07 22:33 J -8358800.69 -8358800.56 -8358800.41 0.0073 0.0022

Neptune -27599-11-29 13:55 J -8358778.99 -8358778.92 -8358778.83 0.0089 0.0071

Pluto -27598-02-03 23:59 J -8358712.64 -8358712.50 -8358712.36 0.0073 0.0028

Neptune -27598-02-25 15:35 J -8358690.91 -8358690.85 -8358690.79 0.0089 0.0078

Pluto -27598-05-03 01:11 J -8358624.58 -8358624.45 -8358624.32 0.0073 0.0035

Mars -27598-05-23 14:23 J -8358604.02 -8358603.90 -8358603.78 0.1726 0.0102

Neptune -27598-05-24 17:02 J -8358602.82 -8358602.79 -8358602.75 0.0089 0.0086

Pluto -27598-07-30 02:09 J -8358536.52 -8358536.41 -8358536.28 0.0073 0.0043

Pluto -27598-10-26 03:21 J -8358448.46 -8358448.36 -8358448.24 0.0073 0.0050

Pluto -27597-01-22 04:33 J -8358360.39 -8358360.31 -8358360.21 0.0073 0.0057

Mars -27597-04-04 10:04 J -8358287.19 -8358287.08 -8358286.97 0.1787 0.1293

Pluto -27597-04-19 05:31 J -8358272.32 -8358272.27 -8358272.18 0.0072 0.0064

Pluto -27597-07-16 06:43 J -8358184.24 -8358184.22 -8358184.17 0.0072 0.0070

Jupiter -27596-07-23 04:33 J -8357812.43 -8357812.31 -8357812.19 0.0527 0.0214

Jupiter -27596-10-20 12:43 J -8357723.06 -8357722.97 -8357722.88 0.0524 0.0380

Venus -27592-05-31 06:57 J -8356404.30 -8356404.21 -8356404.12 0.3777 0.2011

Uranus -27590-09-24 00:57 J -8355558.51 -8355558.46 -8355558.37 0.0135 0.0123

Jupiter -27590-12-19 14:09 J -8355472.08 -8355471.91 -8355471.75 0.0502 0.0150

Uranus -27590-12-21 07:40 J -8355470.30 -8355470.18 -8355470.06 0.0135 0.0097

Uranus -27589-03-18 13:26 J -8355382.08 -8355381.94 -8355381.78 0.0135 0.0073

Uranus -27589-06-14 19:40 J -8355293.84 -8355293.68 -8355293.51 0.0135 0.0048

Saturn -27589-09-10 16:19 J -8355205.97 -8355205.82 -8355205.66 0.0293 0.0128

Uranus -27589-09-11 01:55 J -8355205.59 -8355205.42 -8355205.24 0.0135 0.0023

Mars -27589-10-13 00:28 J -8355173.60 -8355173.48 -8355173.37 0.1721 0.0464

Uranus -27589-12-08 07:55 J -8355117.35 -8355117.17 -8355116.99 0.0134 0.0002

Saturn -27589-12-08 14:23 J -8355117.07 -8355116.90 -8355116.73 0.0293 0.0052 *

Moon -27589-12-10 16:19 J -8355114.95 -8355114.82 -8355114.69 0.2651 0.1052

Earth -27589-12-10 17:31 J -8355114.90 -8355114.77 -8355114.64 0.2649 0.1036 *

Uranus -27588-03-06 13:40 J -8355029.10 -8355028.93 -8355028.75 0.0134 0.0026

Saturn -27588-03-07 11:45 J -8355028.11 -8355028.01 -8355027.90 0.0293 0.0229

Uranus -27588-06-02 19:26 J -8354940.84 -8354940.69 -8354940.51 0.0134 0.0051

Mars -27588-08-25 09:07 J -8354857.28 -8354857.12 -8354856.97 0.1793 0.0279

Uranus -27588-08-30 01:26 J -8354852.58 -8354852.44 -8354852.29 0.0134 0.0074

Uranus -27588-11-26 07:11 J -8354764.31 -8354764.20 -8354764.07 0.0134 0.0097

Uranus -27587-02-22 12:57 J -8354676.03 -8354675.96 -8354675.88 0.0134 0.0120

Venus -27587-12-14 23:45 J -8354380.61 -8354380.51 -8354380.40 0.3777 0.0532

Moon -27586-06-12 22:19 J -8354200.68 -8354200.57 -8354200.46 0.2683 0.1108

Earth -27586-06-12 23:02 J -8354200.65 -8354200.54 -8354200.43 0.2680 0.1126 *

Jupiter -27584-05-11 07:26 J -8353502.28 -8353502.19 -8353502.10 0.0528 0.0374

Jupiter -27584-08-08 15:21 J -8353412.98 -8353412.86 -8353412.74 0.0525 0.0218

Venus -27583-12-13 19:11 J -8352920.84 -8352920.70 -8352920.56 0.3598 0.0929

Venus -27581-06-29 16:47 J -8352356.86 -8352356.80 -8352356.74 0.3777 0.3122

Mars -27579-03-05 10:19 J -8351743.16 -8351743.07 -8351742.97 0.1715 0.0999

Moon -27579-06-05 16:33 J -8351650.90 -8351650.81 -8351650.72 0.2678 0.1776

Earth -27579-06-05 16:33 J -8351650.89 -8351650.81 -8351650.72 0.2685 0.1791 *

Mars -27578-01-15 07:40 J -8351427.33 -8351427.18 -8351427.04 0.1799 0.0782

Jupiter -27578-10-07 12:57 J -8351162.13 -8351161.96 -8351161.78 0.0501 0.0019

Mars -27577-02-08 19:26 J -8351037.77 -8351037.69 -8351037.61 0.1737 0.1318

Moon -27576-12-13 17:59 J -8350363.89 -8350363.75 -8350363.61 0.2657 0.0250

Earth -27576-12-13 18:43 J -8350363.86 -8350363.72 -8350363.58 0.2651 0.0377 *

Saturn -27575-10-04 01:26 J -8350069.53 -8350069.44 -8350069.34 0.0267 0.0196

Saturn -27575-12-31 12:28 J -8349981.10 -8349980.98 -8349980.84 0.0267 0.0091

Saturn -27574-03-29 23:45 J -8349892.65 -8349892.51 -8349892.37 0.0267 0.0016

Saturn -27574-06-26 11:02 J -8349804.16 -8349804.04 -8349803.91 0.0267 0.0123

Saturn -27574-09-22 22:33 J -8349715.63 -8349715.56 -8349715.49 0.0266 0.0231

Moon -27573-06-14 19:11 J -8349449.77 -8349449.70 -8349449.63 0.2685 0.2185

Earth -27573-06-14 19:26 J -8349449.76 -8349449.69 -8349449.63 0.2678 0.2216 *

Jupiter -27572-02-27 11:02 J -8349192.05 -8349192.04 -8349192.01 0.0529 0.0521

Jupiter -27572-05-27 18:57 J -8349102.84 -8349102.71 -8349102.58 0.0526 0.0070

Mars -27570-07-26 20:23 J -8348312.70 -8348312.65 -8348312.60 0.1710 0.1524

Mars -27568-07-01 05:02 J -8347607.40 -8347607.29 -8347607.19 0.1731 0.0734

Moon -27566-06-08 11:45 J -8346900.12 -8346900.01 -8346899.90 0.2678 0.0873

Earth -27566-06-08 12:14 J -8346900.10 -8346899.99 -8346899.87 0.2683 0.0773 *

Jupiter -27566-07-26 11:02 J -8346852.20 -8346852.04 -8346851.88 0.0500 0.0196

Jupiter -27566-10-24 14:52 J -8346761.89 -8346761.88 -8346761.86 0.0503 0.0499

Earth -27563-12-16 19:40 J -8345612.79 -8345612.68 -8345612.58 0.2653 0.1738

Moon -27563-12-16 19:55 J -8345612.77 -8345612.67 -8345612.57 0.2659 0.1793 *

Jupiter -27560-03-15 23:02 J -8344792.67 -8344792.54 -8344792.41 0.0527 0.0073

Saturn -27559-01-28 15:07 J -8344474.00 -8344473.87 -8344473.73 0.0293 0.0183

Saturn -27559-04-27 13:11 J -8344385.12 -8344384.95 -8344384.77 0.0293 0.0005

Saturn -27559-07-25 10:47 J -8344296.18 -8344296.05 -8344295.91 0.0294 0.0176

Mars -27559-11-21 14:38 J -8344177.01 -8344176.89 -8344176.77 0.1726 0.0169

Mars -27558-10-04 10:19 J -8343860.16 -8343860.07 -8343859.97 0.1787 0.1390

Moon -27556-12-08 20:23 J -8343063.72 -8343063.65 -8343063.58 0.2645 0.2259

Earth -27556-12-08 21:50 J -8343063.67 -8343063.59 -8343063.52 0.2648 0.2224 *

Jupiter -27554-05-14 09:21 J -8342542.22 -8342542.11 -8342541.99 0.0499 0.0370

Jupiter -27554-08-12 13:40 J -8342452.05 -8342451.93 -8342451.79 0.0502 0.0330

Moon -27553-06-10 07:11 J -8342149.32 -8342149.20 -8342149.08 0.2682 0.0270

Earth -27553-06-10 08:09 J -8342149.28 -8342149.16 -8342149.04 0.2682 0.0270 *

Mars -27549-04-13 00:28 J -8340746.60 -8340746.48 -8340746.37 0.1720 0.0398

Jupiter -27548-01-02 03:07 J -8340482.49 -8340482.37 -8340482.25 0.0528 0.0210

Mars -27548-02-23 09:35 J -8340430.26 -8340430.10 -8340429.95 0.1793 0.0381

Jupiter -27548-04-01 11:16 J -8340393.11 -8340393.03 -8340392.94 0.0524 0.0386

Earth -27546-06-04 02:09 J -8339599.44 -8339599.41 -8339599.38 0.2687 0.2598

Moon -27546-06-04 02:38 J -8339599.42 -8339599.39 -8339599.36 0.2682 0.2566 *

Uranus -27546-08-29 00:43 J -8339513.47 -8339513.47 -8339513.45 0.0143 0.0142

Uranus -27546-11-25 04:47 J -8339425.37 -8339425.30 -8339425.22 0.0144 0.0120

Saturn -27545-02-21 03:07 J -8339337.44 -8339337.37 -8339337.31 0.0267 0.0233

Uranus -27545-02-21 08:52 J -8339337.23 -8339337.13 -8339337.02 0.0144 0.0097

Uranus -27545-05-19 12:57 J -8339249.08 -8339248.96 -8339248.84 0.0144 0.0074

Saturn -27545-05-19 13:55 J -8339249.03 -8339248.92 -8339248.79 0.0267 0.0130 *

Uranus -27545-08-15 17:02 J -8339160.92 -8339160.79 -8339160.66 0.0144 0.0051

Saturn -27545-08-16 01:11 J -8339160.59 -8339160.45 -8339160.31 0.0267 0.0024

Uranus -27545-11-11 21:21 J -8339072.75 -8339072.61 -8339072.48 0.0144 0.0027

Saturn -27545-11-12 12:28 J -8339072.12 -8339071.98 -8339071.85 0.0266 0.0083

Uranus -27544-02-08 01:26 J -8338984.58 -8338984.44 -8338984.30 0.0144 0.0003

Saturn -27544-02-08 23:45 J -8338983.61 -8338983.51 -8338983.41 0.0266 0.0190

Uranus -27544-05-07 05:31 J -8338896.41 -8338896.27 -8338896.13 0.0144 0.0021

Uranus -27544-08-03 09:50 J -8338808.22 -8338808.09 -8338807.95 0.0144 0.0045

Uranus -27544-10-30 13:55 J -8338720.04 -8338719.92 -8338719.79 0.0145 0.0070

Uranus -27543-01-26 18:14 J -8338631.84 -8338631.74 -8338631.62 0.0145 0.0094

Uranus -27543-04-24 22:33 J -8338543.63 -8338543.56 -8338543.47 0.0145 0.0119

Uranus -27543-07-22 02:52 J -8338455.38 -8338455.38 -8338455.35 0.0145 0.0144

Moon -27543-12-11 22:19 J -8338312.70 -8338312.57 -8338312.44 0.2653 0.0949

Earth -27543-12-11 23:16 J -8338312.66 -8338312.53 -8338312.39 0.2650 0.0770 *

Jupiter -27542-05-31 12:28 J -8338142.14 -8338141.98 -8338141.81 0.0502 0.0158

Venus -27541-06-21 11:45 J -8337755.04 -8337755.01 -8337754.98 0.3777 0.3577

Moon -27540-06-13 03:35 J -8337398.46 -8337398.35 -8337398.24 0.2684 0.1220

Earth -27540-06-13 04:19 J -8337398.43 -8337398.32 -8337398.22 0.2680 0.1336 *

Mars -27540-09-03 10:19 J -8337316.17 -8337316.07 -8337315.97 0.1715 0.0939

Mars -27539-07-16 08:23 J -8337000.30 -8337000.15 -8337000.00 0.1799 0.0665

Mars -27538-08-09 19:26 J -8336610.76 -8336610.69 -8336610.62 0.1736 0.1385

Jupiter -27537-10-21 07:11 J -8336172.30 -8336172.20 -8336172.10 0.0528 0.0350

Jupiter -27536-01-18 15:07 J -8336082.98 -8336082.87 -8336082.75 0.0525 0.0243

Venus -27535-01-05 04:33 J -8335731.41 -8335731.31 -8335731.21 0.3777 0.1085

Moon -27533-06-05 21:35 J -8334848.70 -8334848.60 -8334848.51 0.2678 0.1609

Earth -27533-06-05 21:35 J -8334848.69 -8334848.60 -8334848.50 0.2685 0.1600 *

Mars -27530-01-24 20:23 J -8333885.71 -8333885.65 -8333885.59 0.1710 0.1458

Jupiter -27530-03-19 11:45 J -8333832.18 -8333832.01 -8333831.83 0.0501 0.0010

Saturn -27530-06-17 10:47 J -8333742.12 -8333742.05 -8333741.96 0.0293 0.0259

Venus -27530-07-21 21:35 J -8333707.70 -8333707.60 -8333707.50 0.3777 0.1475

Saturn -27530-09-14 09:07 J -8333653.28 -8333653.12 -8333652.95 0.0293 0.0077

Mars -27530-12-06 05:59 J -8333570.27 -8333570.25 -8333570.22 0.1806 0.1778

Saturn -27530-12-12 07:11 J -8333564.36 -8333564.20 -8333564.04 0.0293 0.0103

Moon -27530-12-14 23:45 J -8333561.64 -8333561.51 -8333561.37 0.2657 0.0663

Earth -27530-12-15 00:28 J -8333561.61 -8333561.48 -8333561.34 0.2651 0.0633 *

Saturn -27529-03-10 04:19 J -8333475.36 -8333475.32 -8333475.26 0.0294 0.0280

Mars -27529-12-30 04:47 J -8333180.40 -8333180.30 -8333180.19 0.1731 0.0799

Moon -27527-06-16 00:28 J -8332647.53 -8332647.48 -8332647.44 0.2685 0.2466

Earth -27527-06-16 00:28 J -8332647.53 -8332647.48 -8332647.43 0.2678 0.2421 *

Venus -27526-07-20 19:40 J -8332247.82 -8332247.68 -8332247.54 0.3598 0.0793

Jupiter -27525-08-09 10:04 J -8331862.11 -8331862.08 -8331862.04 0.0529 0.0509

Jupiter -27525-11-06 17:59 J -8331772.88 -8331772.75 -8331772.62 0.0526 0.0081

Neptune -27520-01-30 01:11 J -8330227.50 -8330227.45 -8330227.40 0.0088 0.0084

Neptune -27520-04-28 04:19 J -8330139.41 -8330139.32 -8330139.22 0.0088 0.0075

Moon -27520-06-08 16:47 J -8330097.92 -8330097.80 -8330097.69 0.2679 0.0609

Earth -27520-06-08 17:16 J -8330097.89 -8330097.78 -8330097.66 0.2683 0.0588 *

Neptune -27520-07-25 07:26 J -8330051.30 -8330051.19 -8330051.05 0.0088 0.0066

Neptune -27520-10-21 10:33 J -8329963.18 -8329963.06 -8329962.90 0.0088 0.0057

Neptune -27519-01-17 14:09 J -8329875.06 -8329874.91 -8329874.75 0.0088 0.0048

Neptune -27519-04-15 17:16 J -8329786.94 -8329786.78 -8329786.60 0.0088 0.0039

Mars -27519-05-22 14:38 J -8329750.01 -8329749.89 -8329749.77 0.1726 0.0232

Neptune -27519-07-12 20:38 J -8329698.81 -8329698.64 -8329698.46 0.0088 0.0029

Neptune -27519-10-08 23:45 J -8329610.68 -8329610.51 -8329610.32 0.0088 0.0020

Neptune -27518-01-05 03:07 J -8329522.55 -8329522.37 -8329522.18 0.0088 0.0011

Jupiter -27518-01-05 10:47 J -8329522.22 -8329522.05 -8329521.89 0.0500 0.0173 *

Neptune -27518-04-03 06:14 J -8329434.42 -8329434.24 -8329434.05 0.0088 0.0003

Mars -27518-04-04 11:02 J -8329433.12 -8329433.04 -8329432.95 0.1787 0.1500

Neptune -27518-06-30 09:35 J -8329346.29 -8329346.10 -8329345.92 0.0088 0.0008

Neptune -27518-09-26 12:28 J -8329258.15 -8329257.98 -8329257.79 0.0088 0.0017

Neptune -27518-12-23 15:35 J -8329170.02 -8329169.85 -8329169.66 0.0088 0.0026

Neptune -27517-03-20 18:43 J -8329081.88 -8329081.72 -8329081.54 0.0088 0.0035

Neptune -27517-06-16 21:50 J -8328993.74 -8328993.59 -8328993.42 0.0088 0.0044

Neptune -27517-09-13 00:57 J -8328905.59 -8328905.46 -8328905.30 0.0088 0.0053

Neptune -27517-12-10 04:19 J -8328817.45 -8328817.32 -8328817.19 0.0088 0.0062

Earth -27517-12-17 01:26 J -8328810.53 -8328810.44 -8328810.35 0.2653 0.1991

Moon -27517-12-17 01:55 J -8328810.51 -8328810.42 -8328810.33 0.2660 0.1979 *

Neptune -27516-03-08 07:26 J -8328729.30 -8328729.19 -8328729.08 0.0088 0.0070

Neptune -27516-06-04 10:19 J -8328641.14 -8328641.07 -8328640.98 0.0088 0.0079

Saturn -27516-07-10 05:45 J -8328605.28 -8328605.26 -8328605.23 0.0268 0.0261

Neptune -27516-08-31 13:40 J -8328552.93 -8328552.93 -8328552.93 0.0088 0.0088

Saturn -27516-10-06 16:47 J -8328516.91 -8328516.80 -8328516.69 0.0267 0.0156

Saturn -27515-01-03 03:50 J -8328428.47 -8328428.34 -8328428.20 0.0267 0.0051

Saturn -27515-04-01 15:07 J -8328340.01 -8328339.87 -8328339.73 0.0267 0.0056

Saturn -27515-06-29 02:23 J -8328251.51 -8328251.40 -8328251.29 0.0266 0.0164

Jupiter -27513-08-25 21:35 J -8327462.73 -8327462.60 -8327462.47 0.0527 0.0068

Mars -27510-10-13 00:14 J -8326319.60 -8326319.49 -8326319.37 0.1720 0.0332

Moon -27510-12-10 02:23 J -8326261.49 -8326261.40 -8326261.32 0.2646 0.2107

Earth -27510-12-10 03:35 J -8326261.44 -8326261.35 -8326261.25 0.2648 0.1954 *

Mars -27509-08-24 10:04 J -8326003.23 -8326003.08 -8326002.92 0.1793 0.0492

Moon -27507-06-11 12:28 J -8325347.10 -8325346.98 -8325346.86 0.2682 0.0325

Earth -27507-06-11 13:11 J -8325347.06 -8325346.95 -8325346.83 0.2681 0.0483 *

Jupiter -27507-10-24 08:38 J -8325212.26 -8325212.14 -8325212.01 0.0499 0.0352

Jupiter -27506-01-22 12:57 J -8325122.08 -8325121.96 -8325121.83 0.0502 0.0347

Uranus -27506-10-14 09:35 J -8324857.19 -8324857.10 -8324856.99 0.0135 0.0111

Uranus -27505-01-10 15:50 J -8324768.97 -8324768.84 -8324768.69 0.0135 0.0086

Uranus -27505-04-07 22:04 J -8324680.73 -8324680.58 -8324680.42 0.0135 0.0061

Uranus -27505-07-05 04:19 J -8324592.49 -8324592.32 -8324592.15 0.0135 0.0036

Uranus -27505-10-01 10:19 J -8324504.25 -8324504.07 -8324503.89 0.0134 0.0011

Uranus -27505-12-28 16:19 J -8324416.00 -8324415.82 -8324415.64 0.0134 0.0013

Uranus -27504-03-26 22:04 J -8324327.74 -8324327.58 -8324327.40 0.0134 0.0037

Uranus -27504-06-23 03:50 J -8324239.49 -8324239.34 -8324239.17 0.0134 0.0061

Uranus -27504-09-19 09:50 J -8324151.22 -8324151.09 -8324150.95 0.0134 0.0084

Uranus -27504-12-16 15:21 J -8324062.95 -8324062.86 -8324062.75 0.0134 0.0108

Uranus -27503-03-14 21:07 J -8323974.64 -8323974.62 -8323974.57 0.0134 0.0131

Jupiter -27501-06-14 01:26 J -8323152.56 -8323152.44 -8323152.32 0.0528 0.0211

Jupiter -27501-09-11 09:50 J -8323063.18 -8323063.09 -8323063.00 0.0525 0.0386

Saturn -27500-01-31 08:23 J -8322921.31 -8322921.15 -8322920.99 0.0293 0.0128

Mars -27500-03-04 10:19 J -8322889.17 -8322889.07 -8322888.97 0.1715 0.0869

Saturn -27500-04-30 06:28 J -8322832.40 -8322832.23 -8322832.06 0.0294 0.0053

Earth -27500-06-04 07:11 J -8322797.25 -8322797.20 -8322797.15 0.2686 0.2411

Moon -27500-06-04 07:26 J -8322797.24 -8322797.19 -8322797.13 0.2680 0.2332 *

Saturn -27500-07-28 03:50 J -8322743.44 -8322743.34 -8322743.23 0.0294 0.0230

Mars -27499-01-14 08:38 J -8322573.29 -8322573.14 -8322572.98 0.1799 0.0567

Mars -27498-02-07 19:26 J -8322183.75 -8322183.69 -8322183.63 0.1736 0.1455

Moon -27497-12-12 04:04 J -8321510.47 -8321510.33 -8321510.19 0.2654 0.0525

Earth -27497-12-12 05:16 J -8321510.42 -8321510.28 -8321510.15 0.2650 0.0519 *

Jupiter -27495-11-10 11:45 J -8320812.18 -8320812.01 -8320811.85 0.0501 0.0175

Moon -27494-06-14 08:52 J -8320596.22 -8320596.13 -8320596.03 0.2685 0.1574

Earth -27494-06-14 09:21 J -8320596.20 -8320596.11 -8320596.01 0.2680 0.1545 *

Mars -27491-07-25 20:23 J -8319458.72 -8319458.65 -8319458.58 0.1710 0.1395

Mars -27490-06-06 06:43 J -8319143.28 -8319143.22 -8319143.16 0.1806 0.1663

Jupiter -27489-04-02 05:45 J -8318842.36 -8318842.26 -8318842.16 0.0528 0.0347

Mars -27489-06-30 05:02 J -8318753.40 -8318753.29 -8318753.19 0.1731 0.0871

Jupiter -27489-06-30 13:55 J -8318753.04 -8318752.92 -8318752.81 0.0525 0.0247

Moon -27487-06-07 02:38 J -8318046.49 -8318046.39 -8318046.29 0.2678 0.1435

Earth -27487-06-07 02:38 J -8318046.49 -8318046.39 -8318046.29 0.2685 0.1413 *

Saturn -27486-02-23 18:14 J -8317784.82 -8317784.74 -8317784.64 0.0267 0.0194

Saturn -27486-05-23 05:31 J -8317696.40 -8317696.27 -8317696.14 0.0267 0.0088

Saturn -27486-08-19 16:33 J -8317607.95 -8317607.81 -8317607.67 0.0267 0.0018

Saturn -27486-11-16 03:50 J -8317519.46 -8317519.34 -8317519.21 0.0266 0.0125

Saturn -27485-02-12 15:07 J -8317430.93 -8317430.87 -8317430.79 0.0266 0.0234

Venus -27484-01-26 09:35 J -8317082.18 -8317082.10 -8317082.03 0.3777 0.2664

Moon -27484-12-15 05:59 J -8316759.38 -8316759.25 -8316759.12 0.2658 0.0782

Earth -27484-12-15 06:14 J -8316759.37 -8316759.24 -8316759.10 0.2652 0.0894 *

Jupiter -27483-08-29 10:19 J -8316502.25 -8316502.07 -8316501.90 0.0501 0.0005

Moon -27481-06-16 05:45 J -8315845.29 -8315845.26 -8315845.23 0.2684 0.2593

Earth -27481-06-16 05:45 J -8315845.28 -8315845.26 -8315845.24 0.2678 0.2636 *

Mars -27480-11-20 14:23 J -8315323.02 -8315322.90 -8315322.78 0.1725 0.0293

Venus -27479-08-12 02:23 J -8315058.51 -8315058.40 -8315058.30 0.3777 0.0151

Mars -27479-10-03 11:45 J -8315006.08 -8315006.01 -8315005.95 0.1787 0.1607

Jupiter -27477-01-20 09:50 J -8314532.14 -8314532.09 -8314532.04 0.0529 0.0487

Jupiter -27477-04-18 17:45 J -8314442.89 -8314442.76 -8314442.63 0.0526 0.0104

Venus -27475-08-10 17:02 J -8313598.90 -8313598.79 -8313598.69 0.3598 0.2379

Moon -27474-06-09 21:35 J -8313295.71 -8313295.60 -8313295.48 0.2680 0.0469

Earth -27474-06-09 22:33 J -8313295.68 -8313295.56 -8313295.44 0.2683 0.0383 *

Venus -27473-02-25 19:11 J -8313034.78 -8313034.70 -8313034.61 0.3777 0.2420

Jupiter -27471-06-17 09:21 J -8312192.27 -8312192.11 -8312191.94 0.0500 0.0163

Saturn -27471-06-20 04:19 J -8312189.45 -8312189.32 -8312189.19 0.0293 0.0203

Saturn -27471-09-17 02:38 J -8312100.57 -8312100.39 -8312100.22 0.0293 0.0022

Saturn -27471-12-15 00:14 J -8312011.63 -8312011.49 -8312011.34 0.0293 0.0158

Earth -27471-12-18 07:11 J -8312008.27 -8312008.20 -8312008.13 0.2654 0.2241

Moon -27471-12-18 07:40 J -8312008.24 -8312008.18 -8312008.12 0.2660 0.2359 *

Mars -27470-04-13 00:28 J -8311892.60 -8311892.48 -8311892.37 0.1721 0.0266

Mars -27469-02-23 10:47 J -8311576.20 -8311576.05 -8311575.90 0.1793 0.0604

Venus -27469-02-24 20:09 J -8311574.76 -8311574.66 -8311574.56 0.3598 0.2477

Jupiter -27465-02-05 20:38 J -8310132.77 -8310132.64 -8310132.51 0.0526 0.0056

Moon -27464-12-10 08:23 J -8309459.26 -8309459.15 -8309459.05 0.2648 0.1775

Earth -27464-12-10 09:35 J -8309459.21 -8309459.10 -8309458.99 0.2648 0.1684 *

Uranus -27462-09-18 08:09 J -8308812.20 -8308812.16 -8308812.13 0.0143 0.0137

Uranus -27462-12-15 11:45 J -8308724.08 -8308724.01 -8308723.91 0.0144 0.0115

Uranus -27461-03-12 16:04 J -8308635.93 -8308635.83 -8308635.72 0.0144 0.0091

Uranus -27461-06-08 19:55 J -8308547.78 -8308547.67 -8308547.54 0.0144 0.0069

Moon -27461-06-11 17:31 J -8308544.88 -8308544.77 -8308544.65 0.2682 0.0663

Earth -27461-06-11 18:28 J -8308544.85 -8308544.73 -8308544.61 0.2681 0.0674 *

Mars -27461-09-02 10:19 J -8308462.17 -8308462.07 -8308461.97 0.1715 0.0801

Uranus -27461-09-05 00:14 J -8308459.62 -8308459.49 -8308459.36 0.0144 0.0045

Uranus -27461-12-02 04:19 J -8308371.46 -8308371.32 -8308371.18 0.0144 0.0022

Uranus -27460-02-28 08:38 J -8308283.28 -8308283.14 -8308283.00 0.0144 0.0004

Uranus -27460-05-27 12:43 J -8308195.11 -8308194.97 -8308194.83 0.0144 0.0026

Mars -27460-07-15 09:21 J -8308146.26 -8308146.11 -8308145.95 0.1799 0.0453

Uranus -27460-08-23 16:47 J -8308106.92 -8308106.80 -8308106.66 0.0144 0.0051

Uranus -27460-11-19 21:07 J -8308018.74 -8308018.62 -8308018.49 0.0145 0.0075

Uranus -27459-02-16 01:26 J -8307930.54 -8307930.44 -8307930.33 0.0145 0.0099

Jupiter -27459-04-05 08:09 J -8307882.29 -8307882.16 -8307882.03 0.0500 0.0331

Uranus -27459-05-15 05:45 J -8307842.32 -8307842.26 -8307842.18 0.0145 0.0124

Jupiter -27459-07-04 12:43 J -8307792.09 -8307791.97 -8307791.86 0.0503 0.0369

Mars -27459-08-08 19:40 J -8307756.74 -8307756.68 -8307756.63 0.1737 0.1531

Saturn -27457-07-12 21:07 J -8307052.69 -8307052.62 -8307052.54 0.0268 0.0221

Saturn -27457-10-09 08:09 J -8306964.28 -8306964.16 -8306964.04 0.0267 0.0116

Saturn -27456-01-05 19:11 J -8306875.83 -8306875.70 -8306875.56 0.0267 0.0013

Saturn -27456-04-04 06:28 J -8306787.36 -8306787.23 -8306787.10 0.0267 0.0097

Saturn -27456-07-01 17:59 J -8306698.84 -8306698.75 -8306698.66 0.0266 0.0206

Earth -27454-06-05 12:14 J -8305995.05 -8305994.99 -8305994.92 0.2686 0.2220

Moon -27454-06-05 12:28 J -8305995.04 -8305994.98 -8305994.92 0.2679 0.2255 *

Jupiter -27454-11-25 00:14 J -8305822.61 -8305822.49 -8305822.37 0.0527 0.0205

Jupiter -27453-02-22 08:23 J -8305733.24 -8305733.15 -8305733.06 0.0524 0.0389

Mars -27451-01-23 20:23 J -8305031.72 -8305031.65 -8305031.58 0.1710 0.1330

Mars -27451-12-05 07:26 J -8304716.27 -8304716.19 -8304716.11 0.1806 0.1551

Moon -27451-12-13 09:50 J -8304708.22 -8304708.09 -8304707.95 0.2654 0.0415

Earth -27451-12-13 11:02 J -8304708.18 -8304708.04 -8304707.90 0.2650 0.0248 *

Mars -27450-12-30 05:02 J -8304326.39 -8304326.29 -8304326.19 0.1731 0.0939

Moon -27448-06-14 14:09 J -8303794.00 -8303793.91 -8303793.82 0.2686 0.1644

Earth -27448-06-14 14:38 J -8303793.98 -8303793.89 -8303793.80 0.2679 0.1750 *

Jupiter -27447-04-22 10:47 J -8303482.21 -8303482.05 -8303481.89 0.0501 0.0192

Jupiter -27442-09-13 04:04 J -8301512.43 -8301512.33 -8301512.23 0.0528 0.0348

Saturn -27442-11-07 03:21 J -8301457.44 -8301457.36 -8301457.26 0.0293 0.0254

Jupiter -27442-12-11 12:14 J -8301423.11 -8301422.99 -8301422.88 0.0525 0.0246

Saturn -27441-02-04 01:55 J -8301368.59 -8301368.42 -8301368.25 0.0293 0.0071

Saturn -27441-05-02 23:45 J -8301279.67 -8301279.51 -8301279.35 0.0294 0.0109

Moon -27441-06-07 07:26 J -8301244.29 -8301244.19 -8301244.08 0.2678 0.1210

Earth -27441-06-07 07:55 J -8301244.28 -8301244.17 -8301244.07 0.2684 0.1216 *

Saturn -27441-07-30 21:07 J -8301190.65 -8301190.62 -8301190.58 0.0294 0.0285

Mars -27440-05-21 14:38 J -8300896.01 -8300895.89 -8300895.78 0.1726 0.0367

Pluto -27440-06-01 13:26 J -8300884.98 -8300884.94 -8300884.86 0.0070 0.0065

Pluto -27440-08-28 14:52 J -8300796.95 -8300796.88 -8300796.77 0.0070 0.0058

Pluto -27440-11-24 16:19 J -8300708.92 -8300708.82 -8300708.70 0.0070 0.0051

Neptune -27439-02-08 03:07 J -8300633.39 -8300633.37 -8300633.34 0.0089 0.0087

Pluto -27439-02-20 17:45 J -8300620.88 -8300620.76 -8300620.62 0.0070 0.0045

Mars -27439-04-03 11:59 J -8300579.04 -8300579.00 -8300578.95 0.1787 0.1708

Neptune -27439-05-07 04:33 J -8300545.36 -8300545.31 -8300545.25 0.0089 0.0081

Pluto -27439-05-19 19:11 J -8300532.83 -8300532.70 -8300532.55 0.0070 0.0038

Neptune -27439-08-03 05:45 J -8300457.32 -8300457.26 -8300457.17 0.0089 0.0074

Pluto -27439-08-15 20:38 J -8300444.78 -8300444.64 -8300444.48 0.0071 0.0031

Neptune -27439-10-30 07:11 J -8300369.28 -8300369.20 -8300369.10 0.0089 0.0067

Pluto -27439-11-11 22:04 J -8300356.73 -8300356.58 -8300356.42 0.0071 0.0024

Neptune -27438-01-26 08:38 J -8300281.23 -8300281.14 -8300281.03 0.0089 0.0061

Pluto -27438-02-07 23:45 J -8300268.67 -8300268.51 -8300268.35 0.0071 0.0016

Neptune -27438-04-24 10:19 J -8300193.18 -8300193.07 -8300192.96 0.0089 0.0053

Pluto -27438-05-07 01:11 J -8300180.62 -8300180.45 -8300180.29 0.0071 0.0009

Neptune -27438-07-21 11:45 J -8300105.12 -8300105.01 -8300104.89 0.0089 0.0046

Pluto -27438-08-03 02:38 J -8300092.56 -8300092.39 -8300092.23 0.0071 0.0002

Neptune -27438-10-17 13:11 J -8300017.07 -8300016.95 -8300016.83 0.0089 0.0040

Pluto -27438-10-30 04:04 J -8300004.50 -8300004.33 -8300004.17 0.0071 0.0006

Moon -27438-12-16 11:59 J -8299957.12 -8299957.00 -8299956.88 0.2659 0.1214

Earth -27438-12-16 11:59 J -8299957.12 -8299957.00 -8299956.87 0.2652 0.1146 *

Neptune -27437-01-13 14:23 J -8299929.02 -8299928.90 -8299928.76 0.0089 0.0033

Pluto -27437-01-26 05:16 J -8299916.43 -8299916.28 -8299916.11 0.0071 0.0014

Neptune -27437-04-10 16:04 J -8299840.96 -8299840.83 -8299840.70 0.0089 0.0026

Pluto -27437-04-23 06:57 J -8299828.37 -8299828.21 -8299828.05 0.0071 0.0020

Neptune -27437-07-07 17:31 J -8299752.90 -8299752.77 -8299752.63 0.0089 0.0019

Pluto -27437-07-20 08:38 J -8299740.30 -8299740.14 -8299739.99 0.0072 0.0028

Neptune -27437-10-03 18:57 J -8299664.84 -8299664.71 -8299664.57 0.0089 0.0012

Pluto -27437-10-16 09:50 J -8299652.22 -8299652.09 -8299651.94 0.0072 0.0036

Neptune -27437-12-30 20:23 J -8299576.78 -8299576.65 -8299576.51 0.0089 0.0005

Pluto -27436-01-12 11:16 J -8299564.15 -8299564.03 -8299563.88 0.0072 0.0044

Neptune -27436-03-28 21:50 J -8299488.72 -8299488.59 -8299488.45 0.0089 0.0003

Pluto -27436-04-10 12:57 J -8299476.07 -8299475.96 -8299475.84 0.0072 0.0051

Neptune -27436-06-24 23:16 J -8299400.66 -8299400.53 -8299400.39 0.0089 0.0010

Pluto -27436-07-07 14:23 J -8299387.98 -8299387.90 -8299387.79 0.0072 0.0059

Neptune -27436-09-21 00:43 J -8299312.60 -8299312.47 -8299312.33 0.0089 0.0017

Pluto -27436-10-03 15:50 J -8299299.88 -8299299.84 -8299299.76 0.0072 0.0067

Neptune -27436-12-18 02:09 J -8299224.53 -8299224.41 -8299224.27 0.0089 0.0024

Jupiter -27435-02-08 09:21 J -8299172.29 -8299172.11 -8299171.93 0.0501 0.0018

Neptune -27435-03-16 03:35 J -8299136.47 -8299136.35 -8299136.21 0.0089 0.0031

Neptune -27435-06-12 05:16 J -8299048.40 -8299048.28 -8299048.15 0.0089 0.0037

Neptune -27435-09-08 06:43 J -8298960.33 -8298960.22 -8298960.10 0.0089 0.0044

Neptune -27435-12-05 08:09 J -8298872.26 -8298872.16 -8298872.04 0.0089 0.0051

Neptune -27434-03-03 09:35 J -8298784.19 -8298784.10 -8298783.99 0.0089 0.0058

Neptune -27434-05-30 11:02 J -8298696.12 -8298696.04 -8298695.93 0.0089 0.0066

Neptune -27434-08-26 12:43 J -8298608.04 -8298607.97 -8298607.88 0.0089 0.0072

Neptune -27434-11-22 14:09 J -8298519.96 -8298519.91 -8298519.84 0.0089 0.0080

Neptune -27433-02-18 15:50 J -8298431.87 -8298431.84 -8298431.81 0.0089 0.0086

Mars -27431-10-12 00:14 J -8297465.60 -8297465.49 -8297465.37 0.1720 0.0202

Jupiter -27430-07-02 08:23 J -8297202.20 -8297202.15 -8297202.10 0.0529 0.0486

Mars -27430-08-24 11:16 J -8297149.18 -8297149.03 -8297148.88 0.1793 0.0701

Jupiter -27430-09-29 16:04 J -8297112.96 -8297112.83 -8297112.70 0.0526 0.0107

Moon -27428-06-10 02:52 J -8296493.50 -8296493.38 -8296493.27 0.2680 0.0278

Earth -27428-06-10 03:35 J -8296493.47 -8296493.35 -8296493.23 0.2683 0.0184 *

Venus -27428-09-02 07:11 J -8296409.29 -8296409.20 -8296409.11 0.3777 0.1747

Saturn -27428-11-29 23:02 J -8296320.57 -8296320.54 -8296320.50 0.0267 0.0255

Saturn -27427-02-26 10:04 J -8296232.19 -8296232.08 -8296231.97 0.0267 0.0151

Saturn -27427-05-25 21:07 J -8296143.76 -8296143.62 -8296143.48 0.0267 0.0045

Saturn -27427-08-22 08:23 J -8296055.29 -8296055.15 -8296055.02 0.0267 0.0062

Saturn -27427-11-18 19:40 J -8295966.79 -8295966.68 -8295966.57 0.0266 0.0169

Earth -27425-12-18 12:57 J -8295206.01 -8295205.96 -8295205.92 0.2654 0.2491

Moon -27425-12-18 13:26 J -8295205.99 -8295205.94 -8295205.89 0.2660 0.2465 *

Jupiter -27424-11-27 07:40 J -8294862.35 -8294862.18 -8294862.01 0.0500 0.0157

Venus -27422-03-18 23:59 J -8294385.60 -8294385.50 -8294385.39 0.3777 0.0775

Uranus -27422-08-07 11:31 J -8294244.07 -8294244.02 -8294243.94 0.0135 0.0126

Uranus -27422-11-03 17:59 J -8294155.86 -8294155.75 -8294155.63 0.0135 0.0100

Uranus -27421-01-31 00:14 J -8294067.63 -8294067.49 -8294067.34 0.0135 0.0075

Mars -27421-03-03 10:19 J -8294035.18 -8294035.07 -8294034.97 0.1715 0.0740

Uranus -27421-04-28 06:28 J -8293979.40 -8293979.23 -8293979.06 0.0135 0.0050

Uranus -27421-07-25 12:28 J -8293891.15 -8293890.98 -8293890.80 0.0135 0.0026

Uranus -27421-10-21 18:28 J -8293802.90 -8293802.73 -8293802.55 0.0135 0.0003

Mars -27420-01-13 10:19 J -8293719.23 -8293719.07 -8293718.91 0.1799 0.0330

Uranus -27420-01-18 00:28 J -8293714.65 -8293714.48 -8293714.30 0.0134 0.0023

Uranus -27420-04-16 06:28 J -8293626.39 -8293626.23 -8293626.07 0.0134 0.0047

Uranus -27420-07-13 12:14 J -8293538.13 -8293537.99 -8293537.84 0.0134 0.0071

Uranus -27420-10-09 17:45 J -8293449.87 -8293449.76 -8293449.62 0.0134 0.0095

Uranus -27419-01-05 23:31 J -8293361.58 -8293361.52 -8293361.42 0.0134 0.0119

Mars -27419-02-06 19:26 J -8293329.73 -8293329.69 -8293329.64 0.1736 0.1593

Venus -27418-03-17 17:31 J -8292925.91 -8292925.77 -8292925.63 0.3598 0.0637

Jupiter -27418-07-18 20:09 J -8292802.79 -8292802.66 -8292802.53 0.0527 0.0036

Moon -27418-12-11 14:09 J -8292657.03 -8292656.91 -8292656.79 0.2650 0.1504

Earth -27418-12-11 15:21 J -8292656.97 -8292656.86 -8292656.74 0.2649 0.1418 *

Venus -27417-10-01 17:02 J -8292361.83 -8292361.79 -8292361.74 0.3777 0.3370

Moon -27415-06-12 22:47 J -8291742.66 -8291742.55 -8291742.43 0.2683 0.0773

Earth -27415-06-12 23:31 J -8291742.63 -8291742.52 -8291742.40 0.2681 0.0878 *

Saturn -27412-06-22 22:04 J -8290636.73 -8290636.58 -8290636.43 0.0293 0.0144

Mars -27412-07-24 20:23 J -8290604.73 -8290604.65 -8290604.57 0.1710 0.1262

Jupiter -27412-09-15 06:43 J -8290552.35 -8290552.22 -8290552.08 0.0500 0.0322

Saturn -27412-09-19 20:09 J -8290547.83 -8290547.66 -8290547.49 0.0293 0.0037

Jupiter -27412-12-14 11:02 J -8290462.15 -8290462.04 -8290461.92 0.0503 0.0378

Saturn -27412-12-17 17:45 J -8290458.88 -8290458.76 -8290458.64 0.0293 0.0215

Mars -27411-06-05 07:55 J -8290289.26 -8290289.17 -8290289.07 0.1806 0.1439

Mars -27410-06-30 05:02 J -8289899.39 -8289899.29 -8289899.20 0.1731 0.1007

Moon -27408-06-05 17:31 J -8289192.85 -8289192.77 -8289192.69 0.2679 0.1946

Earth -27408-06-05 17:16 J -8289192.85 -8289192.78 -8289192.70 0.2686 0.2037 *

Jupiter -27406-05-06 23:02 J -8288492.66 -8288492.54 -8288492.41 0.0527 0.0195

Jupiter -27406-08-04 07:11 J -8288403.28 -8288403.20 -8288403.11 0.0524 0.0399

Moon -27405-12-13 15:50 J -8287905.98 -8287905.84 -8287905.70 0.2655 0.0067

Earth -27405-12-13 16:47 J -8287905.94 -8287905.80 -8287905.66 0.2651 0.0077 *

Moon -27402-06-15 19:26 J -8286991.77 -8286991.69 -8286991.62 0.2685 0.1995

Earth -27402-06-15 19:40 J -8286991.76 -8286991.68 -8286991.60 0.2679 0.1960 *

Mars -27401-11-19 14:38 J -8286469.01 -8286468.89 -8286468.78 0.1726 0.0435

Jupiter -27400-07-04 05:16 J -8286242.30 -8286242.28 -8286242.25 0.0499 0.0493

Jupiter -27400-10-02 10:04 J -8286152.23 -8286152.08 -8286151.92 0.0502 0.0211

Saturn -27398-07-16 12:43 J -8285500.07 -8285499.97 -8285499.87 0.0268 0.0179

Saturn -27398-10-12 23:45 J -8285411.64 -8285411.51 -8285411.38 0.0267 0.0074

Saturn -27397-01-09 11:02 J -8285323.18 -8285323.04 -8285322.91 0.0267 0.0034

Saturn -27397-04-06 22:19 J -8285234.69 -8285234.57 -8285234.45 0.0267 0.0141

Saturn -27397-07-04 09:35 J -8285146.14 -8285146.10 -8285146.05 0.0267 0.0250

Moon -27395-06-08 12:28 J -8284442.09 -8284441.98 -8284441.87 0.2679 0.1114

Earth -27395-06-08 12:57 J -8284442.07 -8284441.96 -8284441.85 0.2684 0.1020 *

Jupiter -27394-02-23 02:38 J -8284182.48 -8284182.39 -8284182.29 0.0528 0.0343

Jupiter -27394-05-23 10:47 J -8284093.17 -8284093.05 -8284092.94 0.0525 0.0249

Moon -27392-12-16 17:59 J -8283154.87 -8283154.75 -8283154.63 0.2659 0.1335

Earth -27392-12-16 17:59 J -8283154.87 -8283154.75 -8283154.64 0.2652 0.1403 *

Mars -27391-04-12 00:28 J -8283038.60 -8283038.48 -8283038.37 0.1720 0.0140

Mars -27390-02-22 11:59 J -8282722.14 -8282722.00 -8282721.86 0.1793 0.0819

Jupiter -27388-07-21 08:09 J -8281842.33 -8281842.16 -8281841.98 0.0501 0.0035

Moon -27385-12-08 18:28 J -8280605.74 -8280605.73 -8280605.72 0.2644 0.2635

Earth -27385-12-08 19:40 J -8280605.70 -8280605.68 -8280605.67 0.2647 0.2620

Saturn -27383-11-09 22:04 J -8279904.71 -8279904.58 -8279904.45 0.0293 0.0189

Jupiter -27383-12-12 06:43 J -8279872.27 -8279872.22 -8279872.18 0.0529 0.0487

Saturn -27382-02-06 20:09 J -8279815.83 -8279815.66 -8279815.48 0.0293 0.0010

Jupiter -27382-03-11 14:23 J -8279783.03 -8279782.90 -8279782.77 0.0526 0.0103

Saturn -27382-05-06 17:59 J -8279726.89 -8279726.75 -8279726.61 0.0294 0.0172

Moon -27382-06-11 07:55 J -8279691.29 -8279691.17 -8279691.05 0.2680 0.0041

Earth -27382-06-11 08:52 J -8279691.25 -8279691.13 -8279691.02 0.2682 0.0098 *

Mars -27382-09-02 10:19 J -8279608.18 -8279608.07 -8279607.96 0.1715 0.0670

Mars -27381-07-14 10:33 J -8279292.22 -8279292.06 -8279291.90 0.1799 0.0240

Mars -27380-08-07 19:26 J -8278902.72 -8278902.69 -8278902.66 0.1736 0.1667

Uranus -27378-10-08 15:35 J -8278110.91 -8278110.85 -8278110.79 0.0143 0.0130

Uranus -27377-01-04 19:40 J -8278022.77 -8278022.68 -8278022.59 0.0144 0.0107

Uranus -27377-04-01 23:31 J -8277934.63 -8277934.52 -8277934.40 0.0144 0.0084

Uranus -27377-06-29 03:35 J -8277846.47 -8277846.35 -8277846.22 0.0144 0.0061

Venus -27377-09-23 12:14 J -8277760.04 -8277759.99 -8277759.95 0.3776 0.3311

Uranus -27377-09-25 07:40 J -8277758.31 -8277758.18 -8277758.04 0.0144 0.0038

Uranus -27377-12-22 11:59 J -8277670.14 -8277670.00 -8277669.86 0.0144 0.0015

Uranus -27376-03-20 16:04 J -8277581.97 -8277581.83 -8277581.69 0.0144 0.0009

Jupiter -27376-05-09 06:43 J -8277532.39 -8277532.22 -8277532.05 0.0500 0.0143

Uranus -27376-06-16 20:09 J -8277493.79 -8277493.66 -8277493.52 0.0144 0.0034

Uranus -27376-09-13 00:28 J -8277405.61 -8277405.48 -8277405.35 0.0144 0.0058

Uranus -27376-12-10 04:47 J -8277317.42 -8277317.30 -8277317.18 0.0144 0.0082

Uranus -27375-03-08 08:52 J -8277229.22 -8277229.13 -8277229.03 0.0145 0.0107

Uranus -27375-06-04 13:11 J -8277141.00 -8277140.95 -8277140.88 0.0145 0.0132

Mars -27372-01-22 20:23 J -8276177.74 -8276177.65 -8276177.57 0.1710 0.1204

Mars -27372-12-04 08:38 J -8275862.25 -8275862.14 -8275862.03 0.1806 0.1325

Moon -27372-12-11 20:09 J -8275854.79 -8275854.66 -8275854.54 0.2651 0.1298

Earth -27372-12-11 21:21 J -8275854.74 -8275854.61 -8275854.48 0.2649 0.1146 *

Venus -27371-04-09 05:02 J -8275736.40 -8275736.29 -8275736.19 0.3776 0.0843

Jupiter -27371-12-28 18:28 J -8275472.86 -8275472.73 -8275472.60 0.0527 0.0037

Mars -27371-12-29 05:02 J -8275472.39 -8275472.29 -8275472.20 0.1731 0.1075

Moon -27369-06-13 04:04 J -8274940.44 -8274940.33 -8274940.22 0.2685 0.1030

Earth -27369-06-13 04:47 J -8274940.41 -8274940.30 -8274940.19 0.2680 0.1081 *

Saturn -27369-12-02 14:52 J -8274767.96 -8274767.88 -8274767.80 0.0267 0.0211

Saturn -27368-03-01 01:55 J -8274679.55 -8274679.42 -8274679.29 0.0267 0.0106

Saturn -27368-05-28 12:57 J -8274591.10 -8274590.96 -8274590.82 0.0267 0.0006

Saturn -27368-08-25 00:14 J -8274502.62 -8274502.49 -8274502.36 0.0267 0.0108

Saturn -27368-11-21 11:31 J -8274414.09 -8274414.02 -8274413.93 0.0266 0.0216

Venus -27366-10-23 21:50 J -8273712.68 -8273712.59 -8273712.50 0.3777 0.1717

Jupiter -27364-02-25 04:47 J -8273222.44 -8273222.30 -8273222.16 0.0500 0.0320

Jupiter -27364-05-26 09:07 J -8273132.23 -8273132.12 -8273132.00 0.0502 0.0380

Earth -27362-06-06 22:19 J -8272390.65 -8272390.57 -8272390.48 0.2686 0.1844

Moon -27362-06-06 22:33 J -8272390.64 -8272390.56 -8272390.48 0.2679 0.1893 *

Venus -27362-10-22 17:59 J -8272252.88 -8272252.75 -8272252.61 0.3598 0.1084

Mars -27361-05-20 14:23 J -8272042.01 -8272041.90 -8272041.78 0.1725 0.0501

Jupiter -27359-10-16 22:33 J -8271162.69 -8271162.56 -8271162.44 0.0527 0.0178

Moon -27359-12-14 22:04 J -8271103.72 -8271103.58 -8271103.44 0.2656 0.0206

Earth -27359-12-14 22:47 J -8271103.69 -8271103.55 -8271103.41 0.2651 0.0282 *

Jupiter -27358-01-14 06:43 J -8271073.30 -8271073.22 -8271073.14 0.0524 0.0416

Moon -27356-06-16 00:43 J -8270189.55 -8270189.47 -8270189.40 0.2685 0.2096

Earth -27356-06-16 00:57 J -8270189.53 -8270189.46 -8270189.39 0.2679 0.2166 *

Neptune -27356-10-26 21:50 J -8270056.63 -8270056.59 -8270056.53 0.0088 0.0084

Neptune -27355-01-23 00:57 J -8269968.54 -8269968.46 -8269968.35 0.0088 0.0075

Neptune -27355-04-21 04:19 J -8269880.43 -8269880.32 -8269880.18 0.0088 0.0066

Pluto -27355-05-06 21:35 J -8269864.65 -8269864.60 -8269864.53 0.0075 0.0069

Neptune -27355-07-18 07:55 J -8269792.31 -8269792.17 -8269792.03 0.0088 0.0056

Pluto -27355-08-02 23:02 J -8269776.62 -8269776.54 -8269776.45 0.0074 0.0061

Neptune -27355-10-14 11:02 J -8269704.19 -8269704.04 -8269703.88 0.0088 0.0047

Pluto -27355-10-30 00:28 J -8269688.58 -8269688.48 -8269688.37 0.0074 0.0053

Neptune -27354-01-10 14:09 J -8269616.07 -8269615.91 -8269615.73 0.0088 0.0038

Pluto -27354-01-26 01:40 J -8269600.54 -8269600.43 -8269600.30 0.0074 0.0045

Neptune -27354-04-08 17:16 J -8269527.94 -8269527.78 -8269527.59 0.0088 0.0030

Pluto -27354-04-24 03:07 J -8269512.50 -8269512.37 -8269512.23 0.0074 0.0037

Neptune -27354-07-05 20:52 J -8269439.81 -8269439.63 -8269439.45 0.0088 0.0020

Pluto -27354-07-21 04:33 J -8269424.45 -8269424.31 -8269424.17 0.0074 0.0029

Neptune -27354-10-01 23:59 J -8269351.68 -8269351.50 -8269351.31 0.0088 0.0010

Pluto -27354-10-17 05:45 J -8269336.40 -8269336.26 -8269336.11 0.0074 0.0022

Neptune -27354-12-29 03:21 J -8269263.55 -8269263.36 -8269263.18 0.0088 0.0002

Pluto -27353-01-13 07:11 J -8269248.35 -8269248.20 -8269248.05 0.0074 0.0014

Neptune -27353-03-26 06:28 J -8269175.41 -8269175.23 -8269175.04 0.0088 0.0008

Saturn -27353-03-28 17:59 J -8269172.81 -8269172.75 -8269172.66 0.0292 0.0262

Pluto -27353-04-10 08:23 J -8269160.30 -8269160.15 -8269160.00 0.0074 0.0007

Neptune -27353-06-22 09:35 J -8269087.28 -8269087.10 -8269086.92 0.0088 0.0017

Saturn -27353-06-25 16:47 J -8269083.97 -8269083.80 -8269083.64 0.0293 0.0078

Pluto -27353-07-07 09:35 J -8269072.25 -8269072.10 -8269071.94 0.0073 0.0002

Neptune -27353-09-18 12:43 J -8268999.14 -8268998.97 -8268998.79 0.0088 0.0026

Saturn -27353-09-22 14:38 J -8268995.05 -8268994.89 -8268994.73 0.0293 0.0102

Pluto -27353-10-03 10:47 J -8268984.19 -8268984.05 -8268983.89 0.0073 0.0009

Jupiter -27353-12-14 03:35 J -8268912.38 -8268912.35 -8268912.31 0.0499 0.0487

Neptune -27353-12-15 15:50 J -8268911.00 -8268910.84 -8268910.66 0.0088 0.0035

Saturn -27353-12-20 11:59 J -8268906.04 -8268906.00 -8268905.94 0.0293 0.0279

Pluto -27353-12-30 12:14 J -8268896.14 -8268895.99 -8268895.84 0.0073 0.0016

Neptune -27352-03-13 18:57 J -8268822.86 -8268822.71 -8268822.54 0.0088 0.0044

Jupiter -27352-03-14 08:23 J -8268822.30 -8268822.15 -8268821.99 0.0502 0.0217

Pluto -27352-03-28 13:11 J -8268808.08 -8268807.95 -8268807.80 0.0073 0.0023

Neptune -27352-06-09 22:04 J -8268734.72 -8268734.58 -8268734.43 0.0088 0.0053

Pluto -27352-06-24 14:23 J -8268720.03 -8268719.90 -8268719.75 0.0073 0.0030

Neptune -27352-09-06 01:11 J -8268646.57 -8268646.45 -8268646.31 0.0088 0.0062

Pluto -27352-09-20 15:50 J -8268631.97 -8268631.84 -8268631.71 0.0073 0.0037

Mars -27352-10-11 00:28 J -8268611.60 -8268611.48 -8268611.37 0.1720 0.0089

Neptune -27352-12-03 04:04 J -8268558.42 -8268558.33 -8268558.21 0.0088 0.0071

Pluto -27352-12-17 17:02 J -8268543.91 -8268543.79 -8268543.67 0.0073 0.0044

Neptune -27351-03-01 07:11 J -8268470.26 -8268470.20 -8268470.11 0.0088 0.0080

Pluto -27351-03-15 17:45 J -8268455.85 -8268455.76 -8268455.63 0.0073 0.0052

Pluto -27351-06-11 18:57 J -8268367.78 -8268367.71 -8268367.60 0.0072 0.0059

Mars -27351-08-23 12:28 J -8268295.11 -8268294.98 -8268294.84 0.1793 0.0924

Pluto -27351-09-07 20:38 J -8268279.71 -8268279.64 -8268279.58 0.0072 0.0065

Pluto -27351-12-04 21:35 J -8268191.61 -8268191.60 -8268191.58 0.0072 0.0072

Moon -27349-06-08 17:16 J -8267639.89 -8267639.78 -8267639.66 0.2679 0.0820

Earth -27349-06-08 17:59 J -8267639.86 -8267639.75 -8267639.64 0.2684 0.0827 *

Jupiter -27347-08-05 01:40 J -8266852.53 -8266852.43 -8266852.33 0.0528 0.0333

Jupiter -27347-11-02 09:35 J -8266763.22 -8266763.10 -8266762.98 0.0525 0.0257

Earth -27346-12-17 23:45 J -8266352.62 -8266352.51 -8266352.40 0.2653 0.1657

Moon -27346-12-17 23:45 J -8266352.61 -8266352.51 -8266352.41 0.2660 0.1731 *

Mars -27342-03-03 10:19 J -8265181.18 -8265181.07 -8265180.96 0.1715 0.0604

Mars -27341-01-13 11:16 J -8264865.19 -8264865.03 -8264864.87 0.1799 0.0119

Jupiter -27341-12-31 07:11 J -8264512.37 -8264512.20 -8264512.02 0.0501 0.0049

Saturn -27339-04-21 17:31 J -8264035.83 -8264035.77 -8264035.71 0.0268 0.0241

Saturn -27339-07-19 04:33 J -8263947.43 -8263947.31 -8263947.19 0.0268 0.0136

Saturn -27339-10-15 15:35 J -8263858.99 -8263858.85 -8263858.71 0.0268 0.0029

Moon -27339-12-10 00:14 J -8263803.53 -8263803.49 -8263803.45 0.2645 0.2533

Earth -27339-12-10 01:26 J -8263803.50 -8263803.44 -8263803.37 0.2647 0.2347 *

Saturn -27338-01-12 02:52 J -8263770.51 -8263770.38 -8263770.25 0.0267 0.0079

Saturn -27338-04-10 14:09 J -8263682.01 -8263681.91 -8263681.81 0.0267 0.0187

Uranus -27338-08-27 19:55 J -8263542.76 -8263542.67 -8263542.58 0.0135 0.0116

Uranus -27338-11-24 02:09 J -8263454.54 -8263454.41 -8263454.28 0.0135 0.0090

Uranus -27337-02-20 08:23 J -8263366.31 -8263366.15 -8263365.99 0.0135 0.0065

Uranus -27337-05-18 14:23 J -8263278.06 -8263277.90 -8263277.72 0.0135 0.0040

Uranus -27337-08-14 20:38 J -8263189.82 -8263189.64 -8263189.46 0.0135 0.0015

Uranus -27337-11-11 02:38 J -8263101.57 -8263101.39 -8263101.21 0.0135 0.0009

Uranus -27336-02-07 08:23 J -8263013.31 -8263013.15 -8263012.97 0.0135 0.0034

Uranus -27336-05-06 14:23 J -8262925.05 -8262924.90 -8262924.74 0.0134 0.0057

Moon -27336-06-11 12:57 J -8262889.08 -8262888.96 -8262888.84 0.2681 0.0131

Earth -27336-06-11 13:55 J -8262889.04 -8262888.92 -8262888.80 0.2682 0.0222 *

Uranus -27336-08-02 20:09 J -8262836.79 -8262836.66 -8262836.51 0.0134 0.0081

Uranus -27336-10-30 02:09 J -8262748.52 -8262748.41 -8262748.30 0.0134 0.0105

Uranus -27335-01-26 07:26 J -8262660.22 -8262660.19 -8262660.12 0.0134 0.0129

Jupiter -27335-05-24 05:16 J -8262542.33 -8262542.28 -8262542.23 0.0528 0.0482

Jupiter -27335-08-21 12:57 J -8262453.09 -8262452.96 -8262452.83 0.0526 0.0107

Mars -27333-07-23 20:23 J -8261750.74 -8261750.65 -8261750.57 0.1710 0.1134

Mars -27332-06-04 09:21 J -8261435.23 -8261435.11 -8261434.99 0.1806 0.1213

Mars -27331-06-29 05:02 J -8261045.38 -8261045.29 -8261045.20 0.1731 0.1146

Earth -27329-06-04 07:55 J -8260339.18 -8260339.17 -8260339.15 0.2687 0.2650

Moon -27329-06-04 08:23 J -8260339.16 -8260339.15 -8260339.13 0.2681 0.2639 *

Jupiter -27329-10-19 05:16 J -8260202.45 -8260202.28 -8260202.11 0.0500 0.0133

Moon -27326-12-13 01:55 J -8259052.55 -8259052.42 -8259052.29 0.2651 0.0940

Earth -27326-12-13 03:21 J -8259052.50 -8259052.36 -8259052.23 0.2649 0.0886 *

Saturn -27324-11-12 17:16 J -8258351.94 -8258351.78 -8258351.62 0.0293 0.0118

Mars -27324-12-14 06:28 J -8258320.25 -8258320.23 -8258320.20 0.1705 0.1649

Saturn -27323-02-09 15:21 J -8258263.03 -8258262.86 -8258262.69 0.0293 0.0063

Saturn -27323-05-09 12:57 J -8258174.06 -8258173.96 -8258173.87 0.0294 0.0240

Jupiter -27323-06-09 16:33 J -8258142.94 -8258142.81 -8258142.68 0.0527 0.0043

Moon -27323-06-14 09:07 J -8258138.22 -8258138.12 -8258138.01 0.2685 0.1233

Earth -27323-06-14 09:50 J -8258138.19 -8258138.09 -8258137.98 0.2680 0.1289 *

Mars -27322-11-19 14:38 J -8257615.01 -8257614.89 -8257614.78 0.1725 0.0570

Venus -27320-04-30 09:50 J -8257087.17 -8257087.09 -8257087.01 0.3776 0.2399

Jupiter -27317-08-07 03:21 J -8255892.50 -8255892.36 -8255892.22 0.0499 0.0309

Jupiter -27317-11-05 07:55 J -8255802.28 -8255802.17 -8255802.06 0.0502 0.0389

Moon -27316-06-07 03:21 J -8255588.45 -8255588.36 -8255588.26 0.2679 0.1595

Earth -27316-06-07 03:21 J -8255588.45 -8255588.36 -8255588.26 0.2685 0.1657 *

Venus -27315-11-14 02:38 J -8255063.49 -8255063.39 -8255063.28 0.3776 0.0101

Moon -27313-12-15 04:04 J -8254301.47 -8254301.33 -8254301.19 0.2657 0.0486

Earth -27313-12-15 04:33 J -8254301.44 -8254301.31 -8254301.17 0.2651 0.0541 *

Mars -27312-04-11 00:14 J -8254184.60 -8254184.49 -8254184.37 0.1720 0.0063

Mars -27311-02-21 13:11 J -8253868.08 -8253867.95 -8253867.82 0.1793 0.1029

Jupiter -27311-03-28 20:38 J -8253832.76 -8253832.64 -8253832.52 0.0528 0.0182

Jupiter -27311-06-26 04:47 J -8253743.38 -8253743.30 -8253743.22 0.0525 0.0413

Venus -27311-11-12 15:21 J -8253603.98 -8253603.86 -8253603.75 0.3598 0.2100

Moon -27310-06-17 05:59 J -8253387.30 -8253387.25 -8253387.20 0.2685 0.2405

Earth -27310-06-17 05:59 J -8253387.30 -8253387.25 -8253387.19 0.2678 0.2379 *

Saturn -27310-12-06 06:57 J -8253215.32 -8253215.21 -8253215.10 0.0267 0.0164

Saturn -27309-03-03 17:59 J -8253126.88 -8253126.75 -8253126.61 0.0267 0.0059

Venus -27309-05-29 19:40 J -8253039.76 -8253039.68 -8253039.61 0.3777 0.2670

Saturn -27309-05-31 05:16 J -8253038.42 -8253038.28 -8253038.14 0.0267 0.0048

Saturn -27309-08-27 16:33 J -8252949.92 -8252949.81 -8252949.70 0.0267 0.0156

Saturn -27309-11-24 03:50 J -8252861.34 -8252861.34 -8252861.32 0.0266 0.0266

Jupiter -27305-05-26 01:11 J -8251582.48 -8251582.45 -8251582.41 0.0499 0.0488

Venus -27305-05-28 18:28 J -8251579.82 -8251579.73 -8251579.64 0.3598 0.2784

Jupiter -27305-08-24 06:14 J -8251492.40 -8251492.24 -8251492.08 0.0502 0.0215

Moon -27303-06-09 22:33 J -8250837.68 -8250837.56 -8250837.45 0.2679 0.0760

Earth -27303-06-09 23:02 J -8250837.65 -8250837.54 -8250837.42 0.2684 0.0634 *

Mars -27303-09-01 10:04 J -8250754.19 -8250754.08 -8250753.96 0.1715 0.0545

Mars -27302-07-14 11:59 J -8250438.16 -8250438.00 -8250437.84 0.1799 0.0006

Moon -27300-12-18 05:45 J -8249550.36 -8249550.26 -8249550.17 0.2659 0.1893

Earth -27300-12-18 05:31 J -8249550.36 -8249550.27 -8249550.18 0.2653 0.1915 *

Jupiter -27299-01-15 00:43 J -8249522.57 -8249522.47 -8249522.37 0.0528 0.0323

Jupiter -27299-04-14 08:38 J -8249433.25 -8249433.14 -8249433.03 0.0525 0.0270

Saturn -27294-04-01 14:09 J -8247620.04 -8247619.91 -8247619.77 0.0292 0.0186

Saturn -27294-06-29 12:28 J -8247531.16 -8247530.98 -8247530.81 0.0293 0.0008

Saturn -27294-09-26 10:04 J -8247442.21 -8247442.08 -8247441.94 0.0293 0.0175

Uranus -27294-10-28 23:16 J -8247409.60 -8247409.53 -8247409.46 0.0143 0.0122

Mars -27293-01-22 20:23 J -8247323.74 -8247323.65 -8247323.56 0.1710 0.1067

Uranus -27293-01-25 03:07 J -8247321.46 -8247321.37 -8247321.27 0.0143 0.0099

Uranus -27293-04-22 07:11 J -8247233.31 -8247233.20 -8247233.08 0.0144 0.0076

Jupiter -27293-06-12 05:16 J -8247182.45 -8247182.28 -8247182.10 0.0501 0.0049

Uranus -27293-07-19 11:16 J -8247145.16 -8247145.03 -8247144.90 0.0144 0.0053

Uranus -27293-10-15 15:21 J -8247056.99 -8247056.86 -8247056.72 0.0144 0.0030

Mars -27293-12-03 09:50 J -8247008.21 -8247008.09 -8247007.96 0.1806 0.1100

Moon -27293-12-10 06:14 J -8247001.33 -8247001.24 -8247001.16 0.2647 0.2093

Earth -27293-12-10 07:26 J -8247001.27 -8247001.19 -8247001.10 0.2648 0.2074 *

Uranus -27292-01-11 19:26 J -8246968.83 -8246968.69 -8246968.55 0.0144 0.0007

Uranus -27292-04-09 23:45 J -8246880.65 -8246880.51 -8246880.37 0.0144 0.0018

Uranus -27292-07-07 03:50 J -8246792.47 -8246792.34 -8246792.20 0.0144 0.0041

Uranus -27292-10-03 07:55 J -8246704.29 -8246704.17 -8246704.04 0.0144 0.0066

Mars -27292-12-28 05:02 J -8246618.38 -8246618.29 -8246618.21 0.1731 0.1213

Uranus -27292-12-30 12:14 J -8246616.09 -8246615.99 -8246615.87 0.0144 0.0090

Uranus -27291-03-28 16:33 J -8246527.89 -8246527.81 -8246527.72 0.0145 0.0114

Uranus -27291-06-24 20:52 J -8246439.66 -8246439.63 -8246439.59 0.0145 0.0139

Moon -27290-06-12 18:14 J -8246086.86 -8246086.74 -8246086.63 0.2683 0.0410

Earth -27290-06-12 18:57 J -8246086.83 -8246086.71 -8246086.59 0.2682 0.0422 *

Jupiter -27288-11-03 03:50 J -8245212.39 -8245212.34 -8245212.28 0.0528 0.0476

Jupiter -27287-01-31 11:45 J -8245123.14 -8245123.01 -8245122.88 0.0525 0.0113

Mars -27284-06-14 06:28 J -8243893.27 -8243893.23 -8243893.19 0.1705 0.1584

Earth -27283-06-05 12:57 J -8243537.00 -8243536.96 -8243536.91 0.2687 0.2464

Moon -27283-06-05 13:26 J -8243536.99 -8243536.94 -8243536.89 0.2681 0.2385 *

Mars -27282-05-20 14:38 J -8243188.00 -8243187.89 -8243187.78 0.1726 0.0640

Jupiter -27281-03-31 03:50 J -8242872.51 -8242872.34 -8242872.17 0.0501 0.0123

Saturn -27280-04-24 09:35 J -8242483.19 -8242483.10 -8242483.01 0.0268 0.0195

Saturn -27280-07-21 20:38 J -8242394.77 -8242394.64 -8242394.51 0.0268 0.0088

Saturn -27280-10-18 07:55 J -8242306.31 -8242306.17 -8242306.04 0.0268 0.0020

Moon -27280-12-13 07:55 J -8242250.30 -8242250.17 -8242250.03 0.2652 0.0778

Earth -27280-12-13 09:07 J -8242250.26 -8242250.12 -8242249.98 0.2649 0.0614 *

Saturn -27279-01-14 19:11 J -8242217.83 -8242217.70 -8242217.58 0.0267 0.0127

Saturn -27279-04-13 06:28 J -8242129.29 -8242129.23 -8242129.16 0.0267 0.0237

Moon -27277-06-14 14:23 J -8241336.00 -8241335.90 -8241335.80 0.2684 0.1417

Earth -27277-06-14 15:07 J -8241335.97 -8241335.87 -8241335.77 0.2680 0.1493 *

Jupiter -27276-11-19 15:07 J -8240813.00 -8240812.87 -8240812.74 0.0526 0.0039

Neptune -27275-11-05 01:40 J -8240462.44 -8240462.43 -8240462.39 0.0089 0.0087

Neptune -27274-02-01 03:07 J -8240374.41 -8240374.37 -8240374.30 0.0089 0.0080

Neptune -27274-04-30 04:33 J -8240286.37 -8240286.31 -8240286.22 0.0089 0.0074

Neptune -27274-07-27 06:14 J -8240198.33 -8240198.24 -8240198.15 0.0089 0.0066

Neptune -27274-10-23 07:40 J -8240110.28 -8240110.18 -8240110.08 0.0089 0.0059

Neptune -27273-01-19 09:07 J -8240022.23 -8240022.12 -8240022.01 0.0089 0.0053

Neptune -27273-04-16 10:19 J -8239934.17 -8239934.07 -8239933.94 0.0089 0.0046

Neptune -27273-07-13 11:45 J -8239846.12 -8239846.01 -8239845.88 0.0089 0.0040

Neptune -27273-10-09 13:26 J -8239758.06 -8239757.94 -8239757.81 0.0089 0.0032

Mars -27273-10-10 00:14 J -8239757.61 -8239757.49 -8239757.37 0.1720 0.0092

Neptune -27272-01-05 14:52 J -8239670.01 -8239669.88 -8239669.75 0.0089 0.0025

Neptune -27272-04-03 16:19 J -8239581.95 -8239581.82 -8239581.68 0.0089 0.0018

Neptune -27272-06-30 17:45 J -8239493.89 -8239493.76 -8239493.62 0.0089 0.0011

Mars -27272-08-22 13:40 J -8239441.05 -8239440.93 -8239440.81 0.1793 0.1136

Neptune -27272-09-26 19:11 J -8239405.83 -8239405.70 -8239405.56 0.0089 0.0005

Neptune -27272-12-23 20:38 J -8239317.77 -8239317.64 -8239317.50 0.0089 0.0004

Neptune -27271-03-21 22:04 J -8239229.71 -8239229.58 -8239229.44 0.0089 0.0011

Neptune -27271-06-17 23:31 J -8239141.65 -8239141.52 -8239141.38 0.0089 0.0017

Neptune -27271-09-14 00:57 J -8239053.58 -8239053.46 -8239053.32 0.0089 0.0024

Neptune -27271-12-11 02:23 J -8238965.52 -8238965.40 -8238965.26 0.0089 0.0032

Neptune -27270-03-09 04:04 J -8238877.45 -8238877.33 -8238877.20 0.0089 0.0038

Neptune -27270-06-05 05:31 J -8238789.38 -8238789.27 -8238789.15 0.0089 0.0045

Moon -27270-06-08 08:23 J -8238786.25 -8238786.15 -8238786.06 0.2679 0.1520

Earth -27270-06-08 08:38 J -8238786.24 -8238786.14 -8238786.04 0.2685 0.1459 *

Neptune -27270-09-01 06:57 J -8238701.31 -8238701.21 -8238701.09 0.0089 0.0052

Neptune -27270-11-28 08:23 J -8238613.24 -8238613.15 -8238613.04 0.0089 0.0059

Jupiter -27269-01-18 01:40 J -8238562.57 -8238562.43 -8238562.29 0.0500 0.0304

Neptune -27269-02-24 09:50 J -8238525.17 -8238525.09 -8238524.98 0.0089 0.0067

Jupiter -27269-04-17 06:14 J -8238472.35 -8238472.24 -8238472.14 0.0502 0.0396

Neptune -27269-05-22 11:31 J -8238437.09 -8238437.02 -8238436.94 0.0089 0.0073

Neptune -27269-08-18 12:57 J -8238349.01 -8238348.96 -8238348.89 0.0089 0.0080

Neptune -27269-11-14 14:38 J -8238260.91 -8238260.89 -8238260.86 0.0089 0.0087

Moon -27267-12-16 09:50 J -8237499.22 -8237499.09 -8237498.95 0.2658 0.0804

Earth -27267-12-16 10:19 J -8237499.20 -8237499.07 -8237498.93 0.2651 0.0802 *

Saturn -27265-08-18 15:21 J -8236887.98 -8236887.86 -8236887.75 0.0293 0.0222

Saturn -27265-11-15 13:26 J -8236799.11 -8236798.94 -8236798.76 0.0293 0.0040

Saturn -27264-02-12 11:16 J -8236710.18 -8236710.03 -8236709.87 0.0293 0.0141

Earth -27264-06-17 11:16 J -8236585.06 -8236585.03 -8236585.00 0.2678 0.2587

Moon -27264-06-17 11:16 J -8236585.05 -8236585.03 -8236585.00 0.2685 0.2597 *

Jupiter -27264-09-07 18:43 J -8236502.84 -8236502.72 -8236502.60 0.0528 0.0188

Venus -27264-12-05 07:40 J -8236414.28 -8236414.18 -8236414.09 0.3776 0.1488

Jupiter -27264-12-06 02:52 J -8236413.46 -8236413.38 -8236413.30 0.0525 0.0406

Mars -27263-03-02 10:19 J -8236327.19 -8236327.07 -8236326.96 0.1715 0.0472

Mars -27262-01-12 12:28 J -8236011.14 -8236010.98 -8236010.82 0.1799 0.0105

Venus -27258-06-21 00:28 J -8234390.58 -8234390.48 -8234390.38 0.3776 0.1038

Jupiter -27258-11-05 23:45 J -8234252.55 -8234252.51 -8234252.47 0.0499 0.0481

Jupiter -27257-02-04 04:33 J -8234162.46 -8234162.31 -8234162.15 0.0501 0.0221

Moon -27257-06-10 03:35 J -8234035.47 -8234035.35 -8234035.23 0.2679 0.0418

Earth -27257-06-10 04:19 J -8234035.44 -8234035.32 -8234035.21 0.2683 0.0433 *

Venus -27254-06-19 16:04 J -8232930.98 -8232930.83 -8232930.69 0.3598 0.0344

Uranus -27254-06-20 21:21 J -8232929.63 -8232929.61 -8232929.55 0.0135 0.0132

Mars -27254-07-23 20:23 J -8232896.75 -8232896.65 -8232896.56 0.1710 0.1007

Uranus -27254-09-17 04:04 J -8232841.44 -8232841.33 -8232841.22 0.0135 0.0106

Uranus -27254-12-14 10:04 J -8232753.22 -8232753.08 -8232752.93 0.0135 0.0081

Earth -27254-12-19 11:16 J -8232748.11 -8232748.03 -8232747.95 0.2653 0.2166

Moon -27254-12-19 11:45 J -8232748.09 -8232748.01 -8232747.94 0.2659 0.2220 *

Uranus -27253-03-11 16:19 J -8232664.98 -8232664.82 -8232664.65 0.0135 0.0055

Mars -27253-06-03 10:33 J -8232581.19 -8232581.06 -8232580.92 0.1806 0.0984

Uranus -27253-06-07 22:33 J -8232576.73 -8232576.56 -8232576.39 0.0135 0.0030

Uranus -27253-09-04 04:33 J -8232488.48 -8232488.31 -8232488.13 0.0135 0.0006

Uranus -27253-12-01 10:33 J -8232400.23 -8232400.06 -8232399.88 0.0135 0.0019

Venus -27252-01-03 17:31 J -8232366.80 -8232366.77 -8232366.75 0.3776 0.3629

Uranus -27252-02-27 16:33 J -8232311.98 -8232311.81 -8232311.64 0.0135 0.0043

Uranus -27252-05-26 22:19 J -8232223.71 -8232223.57 -8232223.41 0.0135 0.0067

Jupiter -27252-06-26 22:33 J -8232192.66 -8232192.56 -8232192.45 0.0528 0.0331

Mars -27252-06-28 05:02 J -8232191.37 -8232191.29 -8232191.21 0.1731 0.1284

Uranus -27252-08-23 04:19 J -8232135.45 -8232135.32 -8232135.19 0.0134 0.0091

Jupiter -27252-09-24 06:43 J -8232103.34 -8232103.22 -8232103.11 0.0525 0.0263

Uranus -27252-11-19 09:50 J -8232047.17 -8232047.09 -8232046.99 0.0134 0.0115

Saturn -27251-09-11 12:28 J -8231751.06 -8231750.98 -8231750.91 0.0268 0.0220

Saturn -27251-12-08 23:31 J -8231662.65 -8231662.52 -8231662.40 0.0267 0.0115

Saturn -27250-03-07 10:33 J -8231574.20 -8231574.06 -8231573.92 0.0267 0.0008

Saturn -27250-06-03 21:50 J -8231485.72 -8231485.59 -8231485.46 0.0267 0.0100

Saturn -27250-08-31 09:07 J -8231397.20 -8231397.12 -8231397.03 0.0267 0.0208

Moon -27247-12-11 11:59 J -8230199.09 -8230199.00 -8230198.91 0.2647 0.2010

Earth -27247-12-11 13:26 J -8230199.04 -8230198.94 -8230198.84 0.2648 0.1804 *

Jupiter -27246-11-23 02:52 J -8229852.56 -8229852.38 -8229852.21 0.0501 0.0045

Mars -27245-12-13 06:28 J -8229466.28 -8229466.23 -8229466.18 0.1705 0.1521

Moon -27244-06-12 23:16 J -8229284.65 -8229284.53 -8229284.41 0.2684 0.0475

Earth -27244-06-13 00:14 J -8229284.61 -8229284.49 -8229284.38 0.2682 0.0631 *

Mars -27243-11-18 14:23 J -8228761.01 -8228760.90 -8228760.79 0.1725 0.0702

Jupiter -27240-04-15 02:38 J -8227882.44 -8227882.39 -8227882.33 0.0529 0.0470

Jupiter -27240-07-13 10:33 J -8227793.19 -8227793.06 -8227792.93 0.0526 0.0120

Earth -27237-06-05 17:59 J -8226734.81 -8226734.75 -8226734.69 0.2687 0.2278

Moon -27237-06-05 18:28 J -8226734.79 -8226734.73 -8226734.67 0.2681 0.2246 *

Saturn -27235-01-05 12:28 J -8226156.01 -8226155.98 -8226155.95 0.0292 0.0286

Saturn -27235-04-04 10:47 J -8226067.21 -8226067.05 -8226066.88 0.0292 0.0103

Saturn -27235-07-02 08:52 J -8225978.29 -8225978.13 -8225977.96 0.0293 0.0078

Saturn -27235-09-29 06:28 J -8225889.31 -8225889.23 -8225889.14 0.0293 0.0255

Jupiter -27234-09-11 01:40 J -8225542.60 -8225542.43 -8225542.26 0.0500 0.0124

Moon -27234-12-14 13:55 J -8225448.05 -8225447.92 -8225447.78 0.2654 0.0358

Earth -27234-12-14 15:07 J -8225448.01 -8225447.87 -8225447.73 0.2650 0.0354 *

Mars -27233-04-10 00:28 J -8225330.60 -8225330.48 -8225330.36 0.1720 0.0155

Mars -27232-02-20 14:23 J -8225014.01 -8225013.90 -8225013.79 0.1793 0.1249

Moon -27231-06-15 19:40 J -8224533.77 -8224533.68 -8224533.59 0.2685 0.1689

Earth -27231-06-15 20:09 J -8224533.75 -8224533.66 -8224533.57 0.2680 0.1699 *

Jupiter -27228-05-01 13:55 J -8223483.06 -8223482.92 -8223482.79 0.0526 0.0037

Moon -27224-06-08 13:11 J -8221984.05 -8221983.95 -8221983.84 0.2678 0.1261

Earth -27224-06-08 13:40 J -8221984.04 -8221983.93 -8221983.83 0.2685 0.1267 *

Mars -27224-08-31 10:19 J -8221900.19 -8221900.07 -8221899.96 0.1715 0.0403

Mars -27223-07-13 12:57 J -8221584.11 -8221583.96 -8221583.80 0.1799 0.0214

Jupiter -27222-06-29 23:59 J -8221232.64 -8221232.50 -8221232.36 0.0500 0.0299

Jupiter -27222-09-28 04:33 J -8221142.41 -8221142.31 -8221142.21 0.0503 0.0402

Saturn -27221-01-29 14:52 J -8221018.92 -8221018.88 -8221018.83 0.0269 0.0251

Saturn -27221-04-27 01:55 J -8220930.53 -8220930.42 -8220930.30 0.0268 0.0145

Saturn -27221-07-24 12:57 J -8220842.09 -8220841.96 -8220841.82 0.0268 0.0039

Saturn -27221-10-21 00:14 J -8220753.62 -8220753.49 -8220753.35 0.0268 0.0070

Moon -27221-12-16 15:50 J -8220696.97 -8220696.84 -8220696.71 0.2658 0.0985

Earth -27221-12-16 16:19 J -8220696.95 -8220696.82 -8220696.70 0.2651 0.1065 *

Saturn -27220-01-17 11:45 J -8220665.12 -8220665.01 -8220664.91 0.0267 0.0179

Jupiter -27216-02-17 17:16 J -8219172.90 -8219172.78 -8219172.66 0.0527 0.0185

Jupiter -27216-05-18 01:11 J -8219083.53 -8219083.45 -8219083.36 0.0524 0.0408

Mars -27214-01-21 20:09 J -8218469.75 -8218469.66 -8218469.56 0.1710 0.0941

Mars -27214-12-03 11:02 J -8218154.18 -8218154.04 -8218153.89 0.1806 0.0879

Venus -27213-12-26 12:28 J -8217765.04 -8217764.98 -8217764.92 0.3776 0.3040

Mars -27213-12-27 05:02 J -8217764.36 -8217764.29 -8217764.22 0.1731 0.1351

Moon -27211-06-11 08:38 J -8217233.26 -8217233.14 -8217233.02 0.2680 0.0354

Earth -27211-06-11 09:21 J -8217233.23 -8217233.11 -8217232.99 0.2683 0.0230 *

Jupiter -27210-04-17 21:35 J -8216922.64 -8216922.60 -8216922.55 0.0499 0.0480

Jupiter -27210-07-17 02:38 J -8216832.55 -8216832.39 -8216832.23 0.0502 0.0223

Uranus -27210-08-22 03:21 J -8216796.40 -8216796.36 -8216796.30 0.0143 0.0134

Uranus -27210-11-18 07:26 J -8216708.27 -8216708.19 -8216708.10 0.0143 0.0111

Uranus -27209-02-14 11:31 J -8216620.13 -8216620.02 -8216619.91 0.0143 0.0088

Uranus -27209-05-12 15:21 J -8216531.97 -8216531.86 -8216531.73 0.0144 0.0066

Uranus -27209-08-08 19:26 J -8216443.82 -8216443.69 -8216443.55 0.0144 0.0043

Uranus -27209-11-04 23:45 J -8216355.65 -8216355.51 -8216355.37 0.0144 0.0019

Uranus -27208-02-01 03:50 J -8216267.48 -8216267.34 -8216267.20 0.0144 0.0005

Uranus -27208-04-30 07:55 J -8216179.30 -8216179.17 -8216179.03 0.0144 0.0029

Uranus -27208-07-27 12:14 J -8216091.12 -8216090.99 -8216090.86 0.0144 0.0053

Uranus -27208-10-23 16:19 J -8216002.94 -8216002.82 -8216002.70 0.0144 0.0077

Earth -27208-12-19 17:02 J -8215945.84 -8215945.79 -8215945.74 0.2653 0.2420

Moon -27208-12-19 17:45 J -8215945.81 -8215945.76 -8215945.72 0.2659 0.2500 *

Uranus -27207-01-19 20:23 J -8215914.74 -8215914.65 -8215914.54 0.0144 0.0102

Uranus -27207-04-18 00:57 J -8215826.52 -8215826.46 -8215826.39 0.0145 0.0126

Venus -27207-07-12 05:16 J -8215741.38 -8215741.28 -8215741.18 0.3776 0.0565

Saturn -27206-08-22 12:28 J -8215335.13 -8215334.98 -8215334.82 0.0293 0.0135

Saturn -27206-11-19 10:33 J -8215246.23 -8215246.06 -8215245.89 0.0293 0.0046

Saturn -27205-02-16 08:09 J -8215157.26 -8215157.16 -8215157.05 0.0293 0.0225

Mars -27205-06-13 06:28 J -8215039.29 -8215039.23 -8215039.17 0.1705 0.1455

Jupiter -27205-12-06 20:38 J -8214862.74 -8214862.64 -8214862.54 0.0528 0.0337

Jupiter -27204-03-06 04:33 J -8214773.42 -8214773.31 -8214773.19 0.0525 0.0256

Mars -27203-05-19 14:38 J -8214334.00 -8214333.89 -8214333.78 0.1725 0.0775

Venus -27203-07-10 12:57 J -8214281.96 -8214281.96 -8214281.95 0.3599 0.3589

Venus -27201-01-25 22:04 J -8213717.67 -8213717.58 -8213717.49 0.3776 0.1982

Moon -27201-12-11 17:59 J -8213396.87 -8213396.75 -8213396.64 0.2647 0.1562

Earth -27201-12-11 19:11 J -8213396.81 -8213396.70 -8213396.58 0.2648 0.1538 *

Jupiter -27198-05-05 00:57 J -8212522.64 -8212522.46 -8212522.29 0.0501 0.0047

Moon -27198-06-14 04:19 J -8212482.43 -8212482.32 -8212482.20 0.2683 0.0828

Earth -27198-06-14 05:16 J -8212482.39 -8212482.28 -8212482.17 0.2681 0.0828 *

Venus -27197-01-24 16:33 J -8212257.94 -8212257.81 -8212257.68 0.3598 0.1395

Pluto -27194-07-25 03:21 J -8210980.39 -8210980.36 -8210980.32 0.0070 0.0068

Mars -27194-10-10 00:14 J -8210903.60 -8210903.49 -8210903.37 0.1720 0.0220

Pluto -27194-10-21 04:47 J -8210892.37 -8210892.30 -8210892.22 0.0070 0.0062

Pluto -27193-01-17 05:45 J -8210804.34 -8210804.26 -8210804.14 0.0070 0.0055

Pluto -27193-04-14 07:11 J -8210716.30 -8210716.20 -8210716.07 0.0070 0.0048

Pluto -27193-07-11 08:38 J -8210628.26 -8210628.14 -8210627.99 0.0070 0.0041

Mars -27193-08-21 14:52 J -8210586.99 -8210586.88 -8210586.78 0.1793 0.1348

Jupiter -27193-09-25 00:28 J -8210552.52 -8210552.48 -8210552.42 0.0529 0.0480

Pluto -27193-10-07 10:04 J -8210540.21 -8210540.08 -8210539.93 0.0071 0.0034

Jupiter -27193-12-23 08:23 J -8210463.28 -8210463.15 -8210463.02 0.0526 0.0111

Pluto -27192-01-03 11:45 J -8210452.16 -8210452.01 -8210451.86 0.0071 0.0027

Pluto -27192-04-01 13:11 J -8210364.11 -8210363.95 -8210363.79 0.0071 0.0020

Pluto -27192-06-28 14:23 J -8210276.05 -8210275.90 -8210275.73 0.0071 0.0013

Saturn -27192-09-14 05:02 J -8210198.39 -8210198.29 -8210198.18 0.0268 0.0168

Pluto -27192-09-24 16:04 J -8210187.99 -8210187.83 -8210187.66 0.0071 0.0006

Saturn -27192-12-11 16:04 J -8210109.96 -8210109.83 -8210109.69 0.0267 0.0062

Pluto -27192-12-21 17:31 J -8210099.93 -8210099.77 -8210099.60 0.0071 0.0002

Saturn -27191-03-10 03:21 J -8210021.50 -8210021.36 -8210021.22 0.0267 0.0046

Pluto -27191-03-19 18:57 J -8210011.87 -8210011.71 -8210011.54 0.0071 0.0009

Saturn -27191-06-06 14:38 J -8209933.00 -8209932.89 -8209932.78 0.0267 0.0154

Earth -27191-06-06 23:02 J -8209932.61 -8209932.54 -8209932.46 0.2686 0.2089

Moon -27191-06-06 23:16 J -8209932.60 -8209932.53 -8209932.45 0.2680 0.2074 *

Pluto -27191-06-15 20:23 J -8209923.81 -8209923.65 -8209923.48 0.0071 0.0017

Neptune -27191-07-23 18:28 J -8209885.76 -8209885.73 -8209885.65 0.0088 0.0084

Saturn -27191-09-03 01:55 J -8209844.43 -8209844.42 -8209844.39 0.0267 0.0264

Pluto -27191-09-11 21:50 J -8209835.74 -8209835.59 -8209835.43 0.0071 0.0024

Neptune -27191-10-19 22:19 J -8209797.67 -8209797.57 -8209797.47 0.0088 0.0075

Pluto -27191-12-08 23:31 J -8209747.67 -8209747.52 -8209747.37 0.0072 0.0032

Neptune -27190-01-16 01:26 J -8209709.56 -8209709.44 -8209709.31 0.0088 0.0065

Pluto -27190-03-07 00:43 J -8209659.59 -8209659.47 -8209659.32 0.0072 0.0040

Neptune -27190-04-14 04:33 J -8209621.44 -8209621.31 -8209621.16 0.0088 0.0056

Pluto -27190-06-03 02:23 J -8209571.51 -8209571.40 -8209571.26 0.0072 0.0047

Neptune -27190-07-11 07:40 J -8209533.32 -8209533.18 -8209533.01 0.0088 0.0047

Pluto -27190-08-30 03:50 J -8209483.43 -8209483.34 -8209483.22 0.0072 0.0055

Neptune -27190-10-07 11:16 J -8209445.20 -8209445.03 -8209444.86 0.0088 0.0038

Pluto -27190-11-26 05:16 J -8209395.34 -8209395.28 -8209395.18 0.0072 0.0063

Neptune -27189-01-03 14:23 J -8209357.07 -8209356.90 -8209356.72 0.0088 0.0028

Pluto -27189-02-22 06:57 J -8209307.22 -8209307.21 -8209307.16 0.0072 0.0071

Neptune -27189-03-31 17:45 J -8209268.94 -8209268.76 -8209268.58 0.0088 0.0019

Neptune -27189-06-27 20:52 J -8209180.81 -8209180.63 -8209180.44 0.0088 0.0010

Neptune -27189-09-24 00:14 J -8209092.68 -8209092.49 -8209092.31 0.0088 0.0001

Neptune -27189-12-21 03:21 J -8209004.54 -8209004.36 -8209004.17 0.0088 0.0008

Neptune -27188-03-19 06:28 J -8208916.41 -8208916.23 -8208916.04 0.0088 0.0018

Neptune -27188-06-15 09:35 J -8208828.27 -8208828.10 -8208827.92 0.0088 0.0027

Neptune -27188-09-11 12:28 J -8208740.13 -8208739.98 -8208739.79 0.0088 0.0037

Neptune -27188-12-08 15:35 J -8208651.99 -8208651.85 -8208651.67 0.0088 0.0045

Moon -27188-12-14 19:55 J -8208645.81 -8208645.67 -8208645.53 0.2655 0.0254

Earth -27188-12-14 20:52 J -8208645.77 -8208645.63 -8208645.49 0.2650 0.0082 *

Neptune -27187-03-06 19:11 J -8208563.85 -8208563.70 -8208563.55 0.0088 0.0054

Neptune -27187-06-02 22:19 J -8208475.70 -8208475.57 -8208475.44 0.0088 0.0063

Neptune -27187-08-30 01:26 J -8208387.55 -8208387.44 -8208387.33 0.0088 0.0071

Neptune -27187-11-26 04:19 J -8208299.38 -8208299.32 -8208299.24 0.0088 0.0080

Jupiter -27186-02-20 22:47 J -8208212.72 -8208212.55 -8208212.38 0.0500 0.0133

Moon -27185-06-16 00:57 J -8207731.54 -8207731.46 -8207731.37 0.2685 0.1825

Earth -27185-06-16 01:26 J -8207731.53 -8207731.44 -8207731.36 0.2679 0.1910 *

Mars -27184-03-01 10:04 J -8207473.19 -8207473.08 -8207472.96 0.1715 0.0347

Mars -27183-01-11 13:55 J -8207157.08 -8207156.92 -8207156.76 0.1799 0.0331

Jupiter -27181-10-11 12:14 J -8206153.12 -8206152.99 -8206152.85 0.0527 0.0035

Moon -27178-06-09 18:28 J -8205181.84 -8205181.73 -8205181.63 0.2678 0.1125

Earth -27178-06-09 18:43 J -8205181.83 -8205181.72 -8205181.61 0.2685 0.1070 *

Saturn -27176-01-08 10:19 J -8204603.20 -8204603.07 -8204602.93 0.0292 0.0195

Saturn -27176-04-07 08:38 J -8204514.31 -8204514.14 -8204513.96 0.0292 0.0013

Saturn -27176-07-05 06:28 J -8204425.37 -8204425.23 -8204425.09 0.0293 0.0167

Mars -27175-07-22 20:23 J -8204042.75 -8204042.65 -8204042.55 0.1710 0.0870

Jupiter -27175-12-09 21:21 J -8203902.75 -8203902.61 -8203902.47 0.0500 0.0304

Moon -27175-12-17 21:50 J -8203894.71 -8203894.59 -8203894.47 0.2658 0.1367

Earth -27175-12-17 22:04 J -8203894.70 -8203894.58 -8203894.46 0.2652 0.1319 *

Jupiter -27174-03-10 02:09 J -8203812.52 -8203812.41 -8203812.31 0.0502 0.0397

Mars -27174-06-03 11:45 J -8203727.15 -8203727.01 -8203726.86 0.1806 0.0763

Mars -27173-06-27 05:02 J -8203337.36 -8203337.29 -8203337.22 0.1731 0.1421

Uranus -27170-07-11 05:45 J -8202228.33 -8202228.26 -8202228.16 0.0135 0.0120

Uranus -27170-10-07 12:14 J -8202140.11 -8202139.99 -8202139.86 0.0135 0.0095

Uranus -27169-01-03 18:28 J -8202051.88 -8202051.73 -8202051.57 0.0135 0.0069

Uranus -27169-04-01 00:43 J -8201963.64 -8201963.47 -8201963.30 0.0135 0.0044

Uranus -27169-06-28 06:57 J -8201875.39 -8201875.21 -8201875.04 0.0135 0.0019

Jupiter -27169-07-30 15:50 J -8201842.97 -8201842.84 -8201842.72 0.0527 0.0183

Uranus -27169-09-24 12:57 J -8201787.14 -8201786.96 -8201786.78 0.0135 0.0005

Jupiter -27169-10-27 23:45 J -8201753.59 -8201753.51 -8201753.43 0.0524 0.0409

Uranus -27169-12-21 18:57 J -8201698.88 -8201698.71 -8201698.54 0.0135 0.0030

Uranus -27168-03-20 00:57 J -8201610.62 -8201610.46 -8201610.30 0.0135 0.0054

Uranus -27168-06-16 06:43 J -8201522.36 -8201522.22 -8201522.07 0.0135 0.0078

Uranus -27168-09-12 12:28 J -8201434.09 -8201433.98 -8201433.86 0.0134 0.0102

Uranus -27168-12-09 17:59 J -8201345.79 -8201345.75 -8201345.67 0.0134 0.0126

Mars -27166-12-13 06:28 J -8200612.29 -8200612.23 -8200612.16 0.1705 0.1390

Moon -27165-06-11 13:40 J -8200431.05 -8200430.93 -8200430.81 0.2682 0.0070

Earth -27165-06-11 14:23 J -8200431.02 -8200430.90 -8200430.78 0.2683 0.0084 *

Mars -27164-11-17 14:38 J -8199906.99 -8199906.89 -8199906.79 0.1725 0.0844

Jupiter -27163-09-27 19:26 J -8199592.73 -8199592.69 -8199592.64 0.0499 0.0481

Jupiter -27163-12-27 00:28 J -8199502.63 -8199502.48 -8199502.32 0.0502 0.0225

Saturn -27162-02-01 07:26 J -8199466.27 -8199466.19 -8199466.09 0.0269 0.0200

Saturn -27162-04-30 18:28 J -8199377.85 -8199377.73 -8199377.60 0.0268 0.0093

Saturn -27162-07-28 05:45 J -8199289.40 -8199289.26 -8199289.12 0.0268 0.0015

Saturn -27162-10-24 17:02 J -8199200.91 -8199200.79 -8199200.66 0.0268 0.0123

Saturn -27161-01-21 04:19 J -8199112.38 -8199112.32 -8199112.24 0.0267 0.0233

Jupiter -27157-05-18 19:11 J -8197532.80 -8197532.70 -8197532.60 0.0528 0.0333

Jupiter -27157-08-16 03:07 J -8197443.49 -8197443.37 -8197443.25 0.0525 0.0257

Venus -27156-08-02 10:19 J -8197092.16 -8197092.07 -8197091.99 0.3776 0.2136

Moon -27155-12-12 23:59 J -8196594.62 -8196594.50 -8196594.38 0.2649 0.1430

Earth -27155-12-13 01:11 J -8196594.57 -8196594.45 -8196594.33 0.2648 0.1264 *

Mars -27154-04-10 00:14 J -8196476.60 -8196476.49 -8196476.37 0.1720 0.0287

Mars -27153-02-20 15:35 J -8196159.94 -8196159.85 -8196159.76 0.1793 0.1462

Moon -27152-06-14 09:35 J -8195680.21 -8195680.10 -8195679.99 0.2683 0.0890

Earth -27152-06-14 10:19 J -8195680.18 -8195680.07 -8195679.96 0.2681 0.1038 *

Jupiter -27151-10-14 22:33 J -8195192.73 -8195192.56 -8195192.38 0.0501 0.0047

Venus -27150-02-16 03:07 J -8195068.48 -8195068.37 -8195068.27 0.3776 0.0388

Saturn -27147-05-28 11:59 J -8193871.11 -8193871.00 -8193870.89 0.0292 0.0226

Saturn -27147-08-25 10:19 J -8193782.24 -8193782.07 -8193781.89 0.0293 0.0043

Saturn -27147-11-22 08:23 J -8193693.30 -8193693.15 -8193693.00 0.0293 0.0137

Venus -27146-02-14 13:40 J -8193609.05 -8193608.93 -8193608.80 0.3599 0.1801

Jupiter -27145-03-06 22:33 J -8193222.61 -8193222.56 -8193222.51 0.0529 0.0487

Jupiter -27145-06-04 06:14 J -8193133.36 -8193133.24 -8193133.11 0.0526 0.0104

Moon -27145-06-07 04:19 J -8193130.41 -8193130.32 -8193130.24 0.2679 0.1848

Earth -27145-06-07 04:19 J -8193130.41 -8193130.32 -8193130.24 0.2686 0.1900 *

Mars -27145-08-30 10:19 J -8193046.19 -8193046.07 -8193045.96 0.1715 0.0274

Venus -27145-08-31 19:55 J -8193044.73 -8193044.67 -8193044.60 0.3776 0.2922

Mars -27144-07-12 14:09 J -8192730.07 -8192729.91 -8192729.76 0.1799 0.0422

Moon -27142-12-16 01:55 J -8191843.56 -8191843.42 -8191843.28 0.2655 0.0208

Earth -27142-12-16 02:38 J -8191843.53 -8191843.39 -8191843.25 0.2650 0.0186 *

Venus -27141-08-30 17:02 J -8191584.87 -8191584.79 -8191584.72 0.3599 0.3071

Moon -27139-06-17 06:14 J -8190929.31 -8190929.24 -8190929.17 0.2686 0.2175

Earth -27139-06-17 06:28 J -8190929.30 -8190929.23 -8190929.15 0.2679 0.2121 *

Jupiter -27139-08-02 20:52 J -8190882.80 -8190882.63 -8190882.46 0.0500 0.0131

Mars -27135-01-20 20:09 J -8189615.76 -8189615.66 -8189615.55 0.1710 0.0810

Mars -27135-12-02 12:28 J -8189300.13 -8189299.98 -8189299.83 0.1806 0.0647

Mars -27134-12-27 05:02 J -8188910.35 -8188910.29 -8188910.23 0.1731 0.1490

Jupiter -27133-03-23 10:04 J -8188823.21 -8188823.08 -8188822.95 0.0527 0.0044

Saturn -27133-06-20 11:02 J -8188734.12 -8188734.04 -8188733.96 0.0268 0.0219

Saturn -27133-09-16 22:04 J -8188645.71 -8188645.58 -8188645.46 0.0268 0.0114

Saturn -27133-12-14 09:07 J -8188557.26 -8188557.12 -8188556.98 0.0267 0.0007

Saturn -27132-03-12 20:23 J -8188468.78 -8188468.65 -8188468.52 0.0267 0.0102

Saturn -27132-06-09 07:40 J -8188380.26 -8188380.18 -8188380.09 0.0267 0.0211

Moon -27132-06-09 23:16 J -8188379.64 -8188379.53 -8188379.41 0.2679 0.0914

Earth -27132-06-09 23:45 J -8188379.62 -8188379.51 -8188379.40 0.2685 0.0878 *

Moon -27129-12-18 03:50 J -8187092.45 -8187092.34 -8187092.23 0.2658 0.1514

Earth -27129-12-18 03:50 J -8187092.45 -8187092.34 -8187092.23 0.2652 0.1578 *

Jupiter -27127-05-21 18:43 J -8186572.86 -8186572.72 -8186572.59 0.0499 0.0313

Jupiter -27127-08-19 23:16 J -8186482.64 -8186482.53 -8186482.42 0.0502 0.0387

Mars -27126-06-13 06:28 J -8186185.30 -8186185.23 -8186185.16 0.1705 0.1325

Uranus -27126-09-11 11:16 J -8186095.08 -8186095.03 -8186094.95 0.0143 0.0125

Uranus -27126-12-08 15:21 J -8186006.95 -8186006.86 -8186006.75 0.0143 0.0102

Uranus -27125-03-05 19:26 J -8185918.80 -8185918.69 -8185918.57 0.0143 0.0079

Mars -27125-04-23 10:19 J -8185870.10 -8185870.07 -8185870.04 0.1812 0.1765

Uranus -27125-06-01 23:31 J -8185830.64 -8185830.52 -8185830.39 0.0144 0.0056

Uranus -27125-08-29 03:35 J -8185742.48 -8185742.35 -8185742.21 0.0144 0.0033

Uranus -27125-11-25 07:40 J -8185654.32 -8185654.18 -8185654.04 0.0144 0.0010

Uranus -27124-02-21 11:59 J -8185566.14 -8185566.00 -8185565.86 0.0144 0.0015

Mars -27124-05-18 14:38 J -8185479.99 -8185479.89 -8185479.79 0.1725 0.0909

Uranus -27124-05-20 16:04 J -8185477.97 -8185477.83 -8185477.69 0.0144 0.0039

Uranus -27124-08-16 20:09 J -8185389.78 -8185389.66 -8185389.53 0.0144 0.0063

Uranus -27124-11-13 00:28 J -8185301.59 -8185301.48 -8185301.37 0.0144 0.0087

Uranus -27123-02-09 04:47 J -8185213.39 -8185213.30 -8185213.21 0.0144 0.0112

Uranus -27123-05-08 08:52 J -8185125.16 -8185125.13 -8185125.07 0.0144 0.0137

Moon -27122-12-11 04:04 J -8184543.36 -8184543.33 -8184543.30 0.2643 0.2559

Earth -27122-12-11 05:16 J -8184543.33 -8184543.28 -8184543.23 0.2647 0.2473 *

Jupiter -27121-01-10 14:09 J -8184513.04 -8184512.91 -8184512.79 0.0528 0.0186

Jupiter -27121-04-08 22:04 J -8184423.66 -8184423.58 -8184423.49 0.0525 0.0408

Moon -27119-06-12 18:43 J -8183628.84 -8183628.72 -8183628.60 0.2682 0.0060

Earth -27119-06-12 19:40 J -8183628.80 -8183628.68 -8183628.56 0.2683 0.0186 *

Saturn -27118-10-15 10:04 J -8183139.11 -8183139.08 -8183139.03 0.0292 0.0283

Saturn -27117-01-12 08:38 J -8183050.30 -8183050.14 -8183049.97 0.0292 0.0099

Saturn -27117-04-10 06:43 J -8182961.38 -8182961.22 -8182961.05 0.0293 0.0082

Saturn -27117-07-08 04:19 J -8182872.39 -8182872.32 -8182872.24 0.0293 0.0259

Jupiter -27115-03-09 17:02 J -8182262.83 -8182262.79 -8182262.76 0.0499 0.0486

Jupiter -27115-06-07 22:04 J -8182172.74 -8182172.58 -8182172.42 0.0502 0.0218

Mars -27115-10-09 00:28 J -8182049.60 -8182049.48 -8182049.37 0.1720 0.0352

Mars -27114-08-21 16:04 J -8181732.91 -8181732.83 -8181732.76 0.1793 0.1564

Moon -27112-06-05 14:23 J -8181078.93 -8181078.90 -8181078.87 0.2683 0.2586

Neptune -27110-08-02 00:28 J -8180291.50 -8180291.48 -8180291.44 0.0089 0.0087

Neptune -27110-10-29 02:09 J -8180203.47 -8180203.41 -8180203.35 0.0089 0.0080

Jupiter -27110-10-29 17:45 J -8180202.86 -8180202.76 -8180202.66 0.0528 0.0333

Neptune -27109-01-25 03:21 J -8180115.43 -8180115.36 -8180115.27 0.0089 0.0073

Jupiter -27109-01-27 01:26 J -8180113.55 -8180113.44 -8180113.32 0.0525 0.0258

Neptune -27109-04-22 04:47 J -8180027.38 -8180027.30 -8180027.20 0.0089 0.0066

Pluto -27109-06-28 11:59 J -8179960.03 -8179960.00 -8179959.96 0.0075 0.0072

Neptune -27109-07-19 06:14 J -8179939.33 -8179939.24 -8179939.13 0.0089 0.0059

Pluto -27109-09-24 13:11 J -8179872.02 -8179871.95 -8179871.86 0.0074 0.0064

Neptune -27109-10-15 07:40 J -8179851.28 -8179851.18 -8179851.06 0.0089 0.0053

Moon -27109-12-13 05:59 J -8179792.38 -8179792.25 -8179792.12 0.2651 0.1065

Earth -27109-12-13 07:11 J -8179792.33 -8179792.20 -8179792.07 0.2649 0.0992 *

Pluto -27109-12-21 14:23 J -8179783.98 -8179783.90 -8179783.79 0.0074 0.0056

Neptune -27108-01-11 09:07 J -8179763.23 -8179763.12 -8179763.00 0.0089 0.0046

Pluto -27108-03-19 15:50 J -8179695.94 -8179695.84 -8179695.71 0.0074 0.0048

Neptune -27108-04-09 10:47 J -8179675.17 -8179675.05 -8179674.93 0.0089 0.0039

Pluto -27108-06-15 17:16 J -8179607.90 -8179607.78 -8179607.65 0.0074 0.0040

Neptune -27108-07-06 12:14 J -8179587.12 -8179586.99 -8179586.87 0.0089 0.0032

Pluto -27108-09-11 18:43 J -8179519.86 -8179519.72 -8179519.58 0.0074 0.0032

Neptune -27108-10-02 13:26 J -8179499.06 -8179498.94 -8179498.80 0.0089 0.0025

Pluto -27108-12-08 19:55 J -8179431.81 -8179431.67 -8179431.52 0.0074 0.0025

Neptune -27108-12-29 14:52 J -8179411.01 -8179410.88 -8179410.74 0.0089 0.0019

Pluto -27107-03-06 21:21 J -8179343.76 -8179343.61 -8179343.46 0.0074 0.0017

Neptune -27107-03-27 16:33 J -8179322.95 -8179322.81 -8179322.68 0.0089 0.0011

Pluto -27107-06-02 22:33 J -8179255.71 -8179255.56 -8179255.41 0.0074 0.0009

Neptune -27107-06-23 17:59 J -8179234.89 -8179234.75 -8179234.61 0.0089 0.0004

Pluto -27107-08-29 23:45 J -8179167.66 -8179167.51 -8179167.35 0.0073 0.0003

Neptune -27107-09-19 19:26 J -8179146.83 -8179146.69 -8179146.55 0.0089 0.0003

Pluto -27107-11-26 00:57 J -8179079.60 -8179079.46 -8179079.30 0.0073 0.0006

Neptune -27107-12-16 20:52 J -8179058.76 -8179058.63 -8179058.49 0.0089 0.0010

Pluto -27106-02-22 02:09 J -8178991.55 -8178991.41 -8178991.25 0.0073 0.0014

Neptune -27106-03-14 22:19 J -8178970.70 -8178970.57 -8178970.43 0.0089 0.0017

Pluto -27106-05-21 03:35 J -8178903.50 -8178903.35 -8178903.20 0.0073 0.0020

Neptune -27106-06-10 23:45 J -8178882.64 -8178882.51 -8178882.37 0.0089 0.0024

Moon -27106-06-15 14:52 J -8178877.99 -8178877.88 -8178877.78 0.2684 0.1237

Earth -27106-06-15 15:35 J -8178877.96 -8178877.85 -8178877.75 0.2681 0.1238 *

Pluto -27106-08-17 04:33 J -8178815.44 -8178815.31 -8178815.16 0.0073 0.0028

Neptune -27106-09-07 01:11 J -8178794.57 -8178794.45 -8178794.31 0.0089 0.0032

Pluto -27106-11-13 05:45 J -8178727.38 -8178727.26 -8178727.12 0.0073 0.0035

Neptune -27106-12-04 02:52 J -8178706.51 -8178706.38 -8178706.26 0.0089 0.0038

Pluto -27105-02-09 06:57 J -8178639.32 -8178639.21 -8178639.08 0.0073 0.0042

Mars -27105-02-29 10:19 J -8178619.19 -8178619.07 -8178618.96 0.1715 0.0210

Neptune -27105-03-01 04:19 J -8178618.44 -8178618.32 -8178618.20 0.0089 0.0045

Pluto -27105-05-07 08:23 J -8178551.26 -8178551.15 -8178551.04 0.0073 0.0049

Neptune -27105-05-28 05:45 J -8178530.37 -8178530.26 -8178530.15 0.0089 0.0053

Pluto -27105-08-03 09:35 J -8178463.19 -8178463.10 -8178463.01 0.0072 0.0056

Venus -27105-08-23 15:21 J -8178442.88 -8178442.86 -8178442.84 0.3775 0.3680

Neptune -27105-08-24 07:11 J -8178442.29 -8178442.20 -8178442.09 0.0089 0.0060

Pluto -27105-10-30 10:33 J -8178375.12 -8178375.06 -8178374.98 0.0072 0.0063

Neptune -27105-11-20 08:52 J -8178354.22 -8178354.13 -8178354.04 0.0089 0.0067

Mars -27104-01-10 14:52 J -8178303.03 -8178302.88 -8178302.73 0.1799 0.0540

Pluto -27104-01-26 11:45 J -8178287.04 -8178287.01 -8178286.97 0.0072 0.0070

Neptune -27104-02-16 10:04 J -8178266.14 -8178266.08 -8178265.99 0.0089 0.0074

Neptune -27104-05-15 11:31 J -8178178.06 -8178178.02 -8178177.95 0.0089 0.0081

Neptune -27104-08-11 13:11 J -8178089.96 -8178089.95 -8178089.92 0.0089 0.0088

Saturn -27104-11-07 13:11 J -8178001.99 -8178001.95 -8178001.90 0.0269 0.0252

Saturn -27103-02-04 00:14 J -8177913.60 -8177913.49 -8177913.37 0.0269 0.0146

Jupiter -27103-03-26 20:23 J -8177862.83 -8177862.65 -8177862.48 0.0501 0.0043

Saturn -27103-05-03 11:31 J -8177825.16 -8177825.02 -8177824.88 0.0268 0.0038

Saturn -27103-07-30 22:47 J -8177736.69 -8177736.55 -8177736.42 0.0268 0.0070

Saturn -27103-10-27 10:04 J -8177648.18 -8177648.08 -8177647.98 0.0268 0.0179

Venus -27099-03-09 07:55 J -8176419.27 -8176419.17 -8176419.07 0.3776 0.1237

Moon -27099-06-08 09:21 J -8176328.20 -8176328.11 -8176328.02 0.2679 0.1752

Earth -27099-06-08 09:21 J -8176328.20 -8176328.11 -8176328.02 0.2686 0.1704 *

Jupiter -27098-08-17 21:07 J -8175892.66 -8175892.62 -8175892.56 0.0528 0.0483

Jupiter -27098-11-15 05:02 J -8175803.42 -8175803.29 -8175803.17 0.0526 0.0107

Mars -27096-07-21 20:23 J -8175188.76 -8175188.65 -8175188.55 0.1710 0.0741

Moon -27096-12-16 07:40 J -8175041.31 -8175041.18 -8175041.04 0.2656 0.0306

Earth -27096-12-16 08:38 J -8175041.28 -8175041.14 -8175041.01 0.2650 0.0450 *

Mars -27095-06-02 13:11 J -8174873.11 -8174872.95 -8174872.80 0.1806 0.0539

Mars -27094-06-27 05:02 J -8174483.34 -8174483.29 -8174483.24 0.1731 0.1562

Venus -27094-09-23 00:43 J -8174395.57 -8174395.47 -8174395.37 0.3776 0.1289

Moon -27093-06-17 11:31 J -8174127.09 -8174127.02 -8174126.96 0.2686 0.2245

Earth -27093-06-17 11:45 J -8174127.07 -8174127.01 -8174126.95 0.2679 0.2331 *

Jupiter -27091-01-12 18:28 J -8173552.90 -8173552.73 -8173552.56 0.0500 0.0136

Venus -27090-09-21 14:09 J -8172936.05 -8172935.91 -8172935.76 0.3599 0.0113

Saturn -27088-05-31 10:19 J -8172318.22 -8172318.07 -8172317.91 0.0292 0.0130

Saturn -27088-08-28 08:38 J -8172229.31 -8172229.14 -8172228.97 0.0293 0.0053

Saturn -27088-11-25 06:14 J -8172140.34 -8172140.24 -8172140.13 0.0293 0.0231

Mars -27087-12-12 06:28 J -8171758.31 -8171758.23 -8171758.15 0.1705 0.1261

Uranus -27086-05-04 07:55 J -8171615.18 -8171615.17 -8171615.15 0.0135 0.0135

Moon -27086-06-11 04:19 J -8171577.43 -8171577.32 -8171577.20 0.2680 0.0703

Earth -27086-06-11 05:02 J -8171577.41 -8171577.29 -8171577.18 0.2684 0.0686 *

Uranus -27086-07-31 14:09 J -8171527.00 -8171526.91 -8171526.79 0.0135 0.0109

Jupiter -27086-09-03 08:09 J -8171493.29 -8171493.16 -8171493.03 0.0527 0.0054

Mars -27086-10-23 10:33 J -8171443.12 -8171443.06 -8171443.00 0.1812 0.1667

Uranus -27086-10-27 20:38 J -8171438.78 -8171438.64 -8171438.50 0.0135 0.0084

Uranus -27085-01-24 02:52 J -8171350.54 -8171350.38 -8171350.22 0.0135 0.0058

Uranus -27085-04-21 09:07 J -8171262.30 -8171262.12 -8171261.95 0.0135 0.0033

Uranus -27085-07-18 15:07 J -8171174.05 -8171173.87 -8171173.69 0.0135 0.0009

Uranus -27085-10-14 21:07 J -8171085.79 -8171085.62 -8171085.44 0.0135 0.0016

Mars -27085-11-16 14:38 J -8171052.99 -8171052.89 -8171052.79 0.1725 0.0978

Uranus -27084-01-11 03:07 J -8170997.54 -8170997.37 -8170997.20 0.0135 0.0041

Uranus -27084-04-09 08:52 J -8170909.27 -8170909.13 -8170908.97 0.0135 0.0065

Uranus -27084-07-06 14:52 J -8170821.00 -8170820.88 -8170820.74 0.0135 0.0089

Uranus -27084-10-02 20:38 J -8170732.72 -8170732.64 -8170732.54 0.0134 0.0112

Earth -27083-12-19 09:35 J -8170290.20 -8170290.10 -8170290.00 0.2652 0.1831

Moon -27083-12-19 09:50 J -8170290.18 -8170290.09 -8170290.00 0.2659 0.1946 *

Jupiter -27080-10-31 16:33 J -8169242.95 -8169242.81 -8169242.67 0.0499 0.0313

Jupiter -27079-01-29 21:07 J -8169152.73 -8169152.62 -8169152.51 0.0502 0.0387

Moon -27076-12-11 10:04 J -8167741.15 -8167741.08 -8167741.01 0.2644 0.2330

Earth -27076-12-11 11:16 J -8167741.11 -8167741.03 -8167740.95 0.2647 0.2198 *

Mars -27075-04-09 00:14 J -8167622.60 -8167622.49 -8167622.37 0.1720 0.0418

Mars -27074-02-19 16:33 J -8167305.86 -8167305.81 -8167305.75 0.1793 0.1672

Jupiter -27074-06-22 11:45 J -8167183.13 -8167183.01 -8167182.89 0.0528 0.0198

Saturn -27074-06-24 04:04 J -8167181.44 -8167181.33 -8167181.23 0.0268 0.0164

Jupiter -27074-09-19 19:55 J -8167093.76 -8167093.67 -8167093.59 0.0525 0.0396

Saturn -27074-09-20 14:52 J -8167093.01 -8167092.88 -8167092.74 0.0268 0.0058

Saturn -27074-12-18 02:09 J -8167004.55 -8167004.41 -8167004.27 0.0267 0.0050

Saturn -27073-03-15 13:26 J -8166916.05 -8166915.94 -8166915.83 0.0267 0.0159

Moon -27073-06-12 23:45 J -8166826.63 -8166826.51 -8166826.39 0.2681 0.0313

Earth -27073-06-13 00:43 J -8166826.59 -8166826.47 -8166826.35 0.2682 0.0371 *

Jupiter -27068-08-19 13:55 J -8164932.93 -8164932.92 -8164932.89 0.0499 0.0496

Jupiter -27068-11-17 19:11 J -8164842.86 -8164842.70 -8164842.54 0.0501 0.0208

Earth -27066-06-06 18:57 J -8164276.75 -8164276.71 -8164276.68 0.2687 0.2519

Moon -27066-06-06 19:26 J -8164276.73 -8164276.69 -8164276.66 0.2682 0.2536 *

Mars -27066-08-30 10:19 J -8164192.19 -8164192.07 -8164191.96 0.1715 0.0154

Mars -27065-07-11 15:35 J -8163876.00 -8163875.85 -8163875.70 0.1799 0.0657

Moon -27063-12-14 11:45 J -8162990.14 -8162990.01 -8162989.87 0.2652 0.0832

Earth -27063-12-14 12:57 J -8162990.09 -8162989.96 -8162989.82 0.2649 0.0725 *

Jupiter -27062-04-10 15:50 J -8162872.94 -8162872.84 -8162872.74 0.0528 0.0339

Jupiter -27062-07-08 23:45 J -8162783.63 -8162783.51 -8162783.40 0.0525 0.0253

Moon -27060-06-15 20:09 J -8162075.77 -8162075.66 -8162075.56 0.2686 0.1351

Earth -27060-06-15 20:38 J -8162075.74 -8162075.64 -8162075.54 0.2681 0.1445 *

Saturn -27059-10-18 09:07 J -8161586.25 -8161586.12 -8161585.98 0.0292 0.0183

Saturn -27058-01-15 07:26 J -8161497.37 -8161497.19 -8161497.02 0.0292 0.0001

Saturn -27058-04-14 05:02 J -8161408.42 -8161408.29 -8161408.14 0.0293 0.0179

Mars -27056-01-19 20:23 J -8160761.76 -8160761.65 -8160761.55 0.1710 0.0675

Jupiter -27056-09-05 17:45 J -8160532.94 -8160532.76 -8160532.58 0.0501 0.0037

Mars -27056-12-01 13:40 J -8160446.09 -8160445.93 -8160445.77 0.1806 0.0426

Mars -27055-12-26 05:02 J -8160056.33 -8160056.29 -8160056.25 0.1731 0.1629

Moon -27053-06-08 14:23 J -8159526.00 -8159525.90 -8159525.81 0.2679 0.1456

Earth -27053-06-08 14:23 J -8159526.00 -8159525.90 -8159525.81 0.2686 0.1515 *

Jupiter -27050-01-27 19:40 J -8158562.73 -8158562.68 -8158562.63 0.0529 0.0483

Jupiter -27050-04-27 03:21 J -8158473.49 -8158473.36 -8158473.23 0.0526 0.0106

Moon -27050-12-17 13:55 J -8158239.06 -8158238.92 -8158238.79 0.2656 0.0725

Earth -27050-12-17 14:23 J -8158239.03 -8158238.90 -8158238.76 0.2651 0.0711 *

Venus -27048-03-30 12:57 J -8157770.03 -8157769.96 -8157769.89 0.3775 0.2793

Mars -27047-06-12 06:28 J -8157331.31 -8157331.23 -8157331.15 0.1705 0.1195

Moon -27047-06-18 16:47 J -8157324.83 -8157324.80 -8157324.78 0.2685 0.2605

Earth -27047-06-18 16:47 J -8157324.83 -8157324.80 -8157324.76 0.2679 0.2544 *

Mars -27046-04-23 11:31 J -8157016.10 -8157016.02 -8157015.94 0.1812 0.1541

Mars -27045-05-17 14:38 J -8156625.98 -8156625.89 -8156625.79 0.1725 0.1051

Saturn -27045-11-10 05:59 J -8156449.33 -8156449.25 -8156449.15 0.0269 0.0198

Saturn -27044-02-06 17:16 J -8156360.91 -8156360.78 -8156360.65 0.0268 0.0091

Saturn -27044-05-06 04:19 J -8156272.46 -8156272.32 -8156272.18 0.0268 0.0018

Jupiter -27044-06-24 15:50 J -8156223.01 -8156222.84 -8156222.67 0.0500 0.0141

Saturn -27044-08-02 15:35 J -8156183.97 -8156183.85 -8156183.72 0.0268 0.0126

Saturn -27044-10-30 03:07 J -8156095.44 -8156095.37 -8156095.31 0.0267 0.0235

Venus -27043-10-14 05:31 J -8155746.37 -8155746.27 -8155746.16 0.3776 0.0352

Uranus -27042-07-05 15:35 J -8155481.88 -8155481.85 -8155481.80 0.0143 0.0136

Uranus -27042-10-01 19:26 J -8155393.76 -8155393.69 -8155393.60 0.0143 0.0114

Uranus -27042-12-28 23:31 J -8155305.62 -8155305.52 -8155305.41 0.0143 0.0092

Uranus -27041-03-26 03:35 J -8155217.47 -8155217.35 -8155217.23 0.0143 0.0069

Uranus -27041-06-22 07:40 J -8155129.31 -8155129.18 -8155129.05 0.0144 0.0045

Uranus -27041-09-18 11:45 J -8155041.15 -8155041.01 -8155040.87 0.0144 0.0022

Uranus -27041-12-15 15:50 J -8154952.98 -8154952.84 -8154952.70 0.0144 0.0003

Uranus -27040-03-13 19:55 J -8154864.80 -8154864.67 -8154864.53 0.0144 0.0026

Uranus -27040-06-10 00:14 J -8154776.62 -8154776.49 -8154776.36 0.0144 0.0049

Moon -27040-06-11 09:21 J -8154775.23 -8154775.11 -8154775.00 0.2680 0.0594

Earth -27040-06-11 10:04 J -8154775.20 -8154775.08 -8154774.97 0.2684 0.0483 *

Uranus -27040-09-06 04:19 J -8154688.44 -8154688.32 -8154688.19 0.0144 0.0074

Uranus -27040-12-03 08:38 J -8154600.24 -8154600.14 -8154600.03 0.0144 0.0098

Uranus -27039-03-01 12:43 J -8154512.03 -8154511.97 -8154511.88 0.0144 0.0123

Venus -27039-10-12 11:16 J -8154287.08 -8154287.03 -8154286.98 0.3599 0.3330

Jupiter -27038-02-13 06:43 J -8154163.35 -8154163.22 -8154163.09 0.0526 0.0046

Venus -27037-04-28 22:33 J -8153722.65 -8153722.56 -8153722.48 0.3776 0.2225

Earth -27037-12-19 15:21 J -8153487.94 -8153487.86 -8153487.77 0.2652 0.2092

Moon -27037-12-19 15:35 J -8153487.93 -8153487.85 -8153487.76 0.2659 0.2043 *

Mars -27036-10-08 00:14 J -8153195.60 -8153195.49 -8153195.37 0.1720 0.0486

Mars -27035-08-20 17:16 J -8152878.80 -8152878.78 -8152878.77 0.1793 0.1778

Venus -27033-04-27 14:52 J -8152263.01 -8152262.88 -8152262.75 0.3599 0.1661

Jupiter -27032-04-12 13:55 J -8151913.05 -8151912.92 -8151912.78 0.0499 0.0318

Jupiter -27032-07-11 18:43 J -8151822.83 -8151822.72 -8151822.61 0.0502 0.0383

Moon -27030-12-12 15:50 J -8150938.93 -8150938.84 -8150938.74 0.2646 0.1968

Earth -27030-12-12 17:16 J -8150938.88 -8150938.78 -8150938.69 0.2647 0.1925 *

Saturn -27029-03-06 10:04 J -8150854.19 -8150854.08 -8150853.96 0.0292 0.0218

Saturn -27029-06-03 08:38 J -8150765.31 -8150765.14 -8150764.97 0.0293 0.0035

Saturn -27029-08-31 06:28 J -8150676.37 -8150676.23 -8150676.08 0.0293 0.0146

Moon -27027-06-14 05:02 J -8150024.41 -8150024.29 -8150024.18 0.2682 0.0499

Earth -27027-06-14 05:45 J -8150024.37 -8150024.26 -8150024.14 0.2682 0.0578 *

Jupiter -27027-12-02 09:50 J -8149853.21 -8149853.09 -8149852.97 0.0528 0.0205

Mars -27026-02-28 10:19 J -8149765.19 -8149765.07 -8149764.95 0.1715 0.0080

Jupiter -27026-03-01 17:45 J -8149763.84 -8149763.76 -8149763.67 0.0525 0.0389

Neptune -27026-04-19 15:35 J -8149714.89 -8149714.85 -8149714.77 0.0088 0.0084

Neptune -27026-07-16 18:57 J -8149626.79 -8149626.71 -8149626.59 0.0088 0.0074

Neptune -27026-10-12 22:33 J -8149538.68 -8149538.56 -8149538.43 0.0088 0.0064

Neptune -27025-01-09 01:40 J -8149450.57 -8149450.43 -8149450.27 0.0088 0.0055

Mars -27025-01-10 16:04 J -8149448.98 -8149448.83 -8149448.69 0.1800 0.0754

Neptune -27025-04-06 04:47 J -8149362.44 -8149362.30 -8149362.12 0.0088 0.0046

Neptune -27025-07-03 08:09 J -8149274.32 -8149274.16 -8149273.98 0.0088 0.0037

Neptune -27025-09-29 11:45 J -8149186.19 -8149186.01 -8149185.84 0.0088 0.0027

Neptune -27025-12-26 14:52 J -8149098.06 -8149097.88 -8149097.70 0.0088 0.0018

Neptune -27024-03-24 17:59 J -8149009.93 -8149009.75 -8149009.56 0.0088 0.0009

Neptune -27024-06-20 21:21 J -8148921.80 -8148921.61 -8148921.42 0.0088 0.0000

Neptune -27024-09-17 00:28 J -8148833.66 -8148833.48 -8148833.29 0.0088 0.0009

Neptune -27024-12-14 03:35 J -8148745.53 -8148745.35 -8148745.16 0.0088 0.0019

Neptune -27023-03-12 06:57 J -8148657.39 -8148657.21 -8148657.04 0.0088 0.0027

Neptune -27023-06-08 10:04 J -8148569.25 -8148569.08 -8148568.91 0.0088 0.0037

Neptune -27023-09-04 13:11 J -8148481.11 -8148480.95 -8148480.79 0.0088 0.0046

Neptune -27023-12-01 16:19 J -8148392.96 -8148392.82 -8148392.67 0.0088 0.0055

Neptune -27022-02-27 19:26 J -8148304.81 -8148304.69 -8148304.56 0.0088 0.0064

Neptune -27022-05-26 22:33 J -8148216.66 -8148216.56 -8148216.45 0.0088 0.0072

Neptune -27022-08-23 01:26 J -8148128.49 -8148128.44 -8148128.36 0.0088 0.0082

Jupiter -27020-01-29 11:59 J -8147603.01 -8147603.00 -8147602.98 0.0499 0.0495

Jupiter -27020-04-29 17:16 J -8147512.94 -8147512.78 -8147512.62 0.0501 0.0209

Earth -27020-06-06 23:59 J -8147474.56 -8147474.50 -8147474.45 0.2687 0.2330

Moon -27020-06-07 00:14 J -8147474.55 -8147474.49 -8147474.43 0.2681 0.2230 *

Mars -27017-07-20 20:09 J -8146334.77 -8146334.66 -8146334.55 0.1710 0.0612

Moon -27017-12-14 17:45 J -8146187.90 -8146187.76 -8146187.62 0.2652 0.0559

Earth -27017-12-14 18:57 J -8146187.85 -8146187.71 -8146187.57 0.2649 0.0451 *

Mars -27016-06-01 14:23 J -8146019.05 -8146018.90 -8146018.74 0.1806 0.0311

Saturn -27015-03-30 09:50 J -8145717.17 -8145717.09 -8145717.01 0.0268 0.0215

Mars -27015-06-26 05:02 J -8145629.30 -8145629.29 -8145629.27 0.1730 0.1701

Saturn -27015-06-26 20:52 J -8145628.75 -8145628.63 -8145628.50 0.0268 0.0108

Jupiter -27015-09-20 13:26 J -8145543.03 -8145542.94 -8145542.84 0.0529 0.0352

Saturn -27015-09-23 07:55 J -8145540.30 -8145540.17 -8145540.03 0.0267 0.0007

Jupiter -27015-12-18 21:21 J -8145453.72 -8145453.61 -8145453.49 0.0526 0.0241

Saturn -27015-12-20 19:11 J -8145451.83 -8145451.70 -8145451.57 0.0267 0.0107

Saturn -27014-03-19 06:28 J -8145363.30 -8145363.23 -8145363.14 0.0267 0.0216

Moon -27014-06-17 01:11 J -8145273.54 -8145273.45 -8145273.35 0.2686 0.1637

Earth -27014-06-17 01:55 J -8145273.52 -8145273.42 -8145273.33 0.2680 0.1653 *

Jupiter -27008-02-15 15:07 J -8143203.05 -8143202.87 -8143202.69 0.0500 0.0029

Mars -27008-12-11 06:28 J -8142904.32 -8142904.23 -8142904.14 0.1705 0.1131

Moon -27007-06-09 19:11 J -8142723.80 -8142723.70 -8142723.60 0.2679 0.1390

Earth -27007-06-09 19:26 J -8142723.79 -8142723.69 -8142723.59 0.2686 0.1315 *

Mars -27007-10-22 12:14 J -8142589.09 -8142588.99 -8142588.90 0.1812 0.1427

Mars -27006-11-16 14:38 J -8142198.98 -8142198.89 -8142198.80 0.1725 0.1113

Moon -27004-12-17 19:55 J -8141436.80 -8141436.67 -8141436.54 0.2657 0.0923

Earth -27004-12-17 20:09 J -8141436.79 -8141436.66 -8141436.53 0.2651 0.0977 *

Jupiter -27003-07-09 17:31 J -8141232.81 -8141232.77 -8141232.72 0.0529 0.0492

Jupiter -27003-10-07 01:26 J -8141143.57 -8141143.44 -8141143.31 0.0526 0.0099

Uranus -27002-05-24 16:19 J -8140913.88 -8140913.82 -8140913.74 0.0135 0.0123

Uranus -27002-08-20 22:47 J -8140825.67 -8140825.55 -8140825.42 0.0135 0.0098

Uranus -27002-11-17 05:02 J -8140737.44 -8140737.29 -8140737.14 0.0135 0.0072

Uranus -27001-02-13 11:16 J -8140649.20 -8140649.03 -8140648.86 0.0135 0.0047

Uranus -27001-05-11 17:31 J -8140560.95 -8140560.77 -8140560.60 0.0135 0.0022

Uranus -27001-08-07 23:31 J -8140472.70 -8140472.52 -8140472.34 0.0135 0.0003

Uranus -27001-11-04 05:31 J -8140384.44 -8140384.27 -8140384.09 0.0135 0.0028

27TH MILLENNIUM BCE

This is a list of transits of Mercury in the 27th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Uranus	**-27000-01-31 11:31 J**		**-8140296.18**	**-8140296.02**	**-8140295.85**	**0.0135**	**0.0052**	
Uranus	**-27000-04-29 17:31 J**		**-8140207.91**	**-8140207.77**	**-8140207.63**	**0.0135**	**0.0076**	
Saturn	**-27000-07-24 08:52 J**		**-8140122.19**	**-8140122.13**	**-8140122.06**	**0.0292**	**0.0271**	
Uranus	**-27000-07-26 23:16 J**		**-8140119.64**	**-8140119.53**	**-8140119.41**	**0.0134**	**0.0100**	
Saturn	**-27000-10-21 07:26 J**		**-8140033.35**	**-8140033.19**	**-8140033.02**	**0.0292**	**0.0087**	
Uranus	**-27000-10-23 04:47 J**		**-8140031.35**	**-8140031.30**	**-8140031.21**	**0.0134**	**0.0124**	
Saturn	**-26999-01-18 05:31 J**		**-8139944.43**	**-8139944.27**	**-8139944.10**	**0.0293**	**0.0095**	
Saturn	**-26999-04-17 03:07 J**		**-8139855.42**	**-8139855.37**	**-8139855.30**	**0.0293**	**0.0273**	
Mars	**-26998-05-03 16:47 J**		**-8139473.83**	**-8139473.80**	**-8139473.77**	**0.1700**	**0.1637**	
Jupiter	**-26997-12-04 13:26 J**		**-8138893.11**	**-8138892.94**	**-8138892.77**	**0.0500**	**0.0145**	
Mars	**-26996-04-08 00:28 J**		**-8138768.59**	**-8138768.48**	**-8138768.37**	**0.1720**	**0.0553**	
Moon	**-26994-06-12 14:23 J**		**-8137973.02**	**-8137972.90**	**-8137972.79**	**0.2680**	**0.0305**	
Earth	**-26994-06-12 15:07 J**		**-8137972.99**	**-8137972.87**	**-8137972.75**	**0.2684**	**0.0285**	*****
Venus	**-26992-11-04 10:33 J**		**-8137097.15**	**-8137097.06**	**-8137096.97**	**0.3775**	**0.1887**	
Jupiter	**-26991-07-26 05:02 J**		**-8136833.42**	**-8136833.29**	**-8136833.16**	**0.0527**	**0.0049**	
Earth	**-26991-12-20 21:07 J**		**-8136685.68**	**-8136685.62**	**-8136685.55**	**0.2653**	**0.2352**	
Moon	**-26991-12-20 21:35 J**		**-8136685.65**	**-8136685.60**	**-8136685.55**	**0.2659**	**0.2465**	*****
Mars	**-26987-08-29 10:19 J**		**-8135338.19**	**-8135338.07**	**-8135337.95**	**0.1715**	**0.0047**	
Venus	**-26986-05-21 03:21 J**		**-8135073.46**	**-8135073.36**	**-8135073.26**	**0.3776**	**0.0618**	
Mars	**-26986-07-11 16:47 J**		**-8135021.94**	**-8135021.80**	**-8135021.66**	**0.1799**	**0.0867**	
Saturn	**-26986-08-17 11:59 J**		**-8134985.04**	**-8134985.00**	**-8134984.95**	**0.0269**	**0.0249**	
Saturn	**-26986-11-13 23:02 J**		**-8134896.66**	**-8134896.54**	**-8134896.43**	**0.0268**	**0.0143**	

Saturn -26985-02-10 10:04 J -8134808.22 -8134808.08 -8134807.94 0.0268 0.0036

Saturn -26985-05-08 21:07 J -8134719.75 -8134719.62 -8134719.48 0.0268 0.0073

Saturn -26985-08-05 08:38 J -8134631.24 -8134631.14 -8134631.04 0.0267 0.0181

Jupiter -26985-09-22 11:31 J -8134583.15 -8134583.02 -8134582.88 0.0500 0.0323

Jupiter -26985-12-21 16:19 J -8134492.93 -8134492.82 -8134492.70 0.0502 0.0380

Moon -26984-12-12 21:50 J -8134136.69 -8134136.59 -8134136.49 0.2648 0.1847

Earth -26984-12-12 23:02 J -8134136.65 -8134136.54 -8134136.43 0.2647 0.1651 *

Venus -26982-05-19 11:59 J -8133614.13 -8133614.00 -8133613.87 0.3599 0.1535

Moon -26981-06-14 10:04 J -8133222.19 -8133222.08 -8133221.96 0.2684 0.0678

Earth -26981-06-14 11:02 J -8133222.16 -8133222.04 -8133221.93 0.2682 0.0784 *

Venus -26981-12-03 20:09 J -8133049.71 -8133049.66 -8133049.60 0.3776 0.3167

Jupiter -26979-05-14 08:38 J -8132523.26 -8132523.14 -8132523.02 0.0527 0.0196

Jupiter -26979-08-11 16:33 J -8132433.89 -8132433.81 -8132433.72 0.0524 0.0396

Mars -26977-01-19 20:09 J -8131907.77 -8131907.66 -8131907.54 0.1710 0.0546

Mars -26977-11-30 14:52 J -8131592.04 -8131591.88 -8131591.72 0.1806 0.0206

Venus -26977-12-02 15:21 J -8131589.91 -8131589.86 -8131589.81 0.3599 0.3371

Earth -26974-06-08 05:02 J -8130672.36 -8130672.29 -8130672.22 0.2687 0.2137

Moon -26974-06-08 05:16 J -8130672.35 -8130672.28 -8130672.21 0.2680 0.2157 *

Jupiter -26973-10-09 14:52 J -8130183.04 -8130182.88 -8130182.72 0.0501 0.0206

Moon -26971-12-15 23:45 J -8129385.65 -8129385.51 -8129385.37 0.2653 0.0252

Earth -26971-12-16 00:43 J -8129385.61 -8129385.47 -8129385.33 0.2649 0.0196 *

Saturn -26970-03-10 08:09 J -8129301.32 -8129301.16 -8129301.00 0.0293 0.0125

Saturn -26970-06-07 06:14 J -8129212.41 -8129212.24 -8129212.06 0.0293 0.0058

Saturn -26970-09-04 04:04 J -8129123.43 -8129123.33 -8129123.23 0.0293 0.0237

Mars -26968-06-11 06:28 J -8128477.32 -8128477.23 -8128477.14 0.1705 0.1064

Moon -26968-06-17 06:28 J -8128471.32 -8128471.23 -8128471.14 0.2686 0.1800

Earth -26968-06-17 06:57 J -8128471.29 -8128471.21 -8128471.12 0.2680 0.1864 *

Jupiter -26967-03-02 11:45 J -8128213.10 -8128213.01 -8128212.91 0.0529 0.0356

Mars -26967-04-22 12:43 J -8128162.08 -8128161.97 -8128161.86 0.1812 0.1316

Jupiter -26967-05-30 19:26 J -8128123.80 -8128123.69 -8128123.57 0.0526 0.0236

Mars -26966-05-17 14:38 J -8127771.97 -8127771.89 -8127771.80 0.1725 0.1188

Moon -26961-06-10 00:14 J -8125921.60 -8125921.49 -8125921.39 0.2680 0.1095

Earth -26961-06-10 00:28 J -8125921.59 -8125921.48 -8125921.37 0.2685 0.1123 *

Jupiter -26961-07-28 13:11 J -8125873.12 -8125872.95 -8125872.77 0.0500 0.0036

Mars -26959-11-01 16:47 J -8125046.84 -8125046.80 -8125046.76 0.1700 0.1579

Uranus -26958-07-25 23:02 J -8124780.58 -8124780.54 -8124780.47 0.0143 0.0129

Uranus -26958-10-22 03:07 J -8124692.45 -8124692.37 -8124692.27 0.0143 0.0107

Moon -26958-12-19 01:55 J -8124634.54 -8124634.42 -8124634.30 0.2658 0.1234

Earth -26958-12-19 02:09 J -8124634.54 -8124634.41 -8124634.29 0.2651 0.1237 *

Uranus -26957-01-18 07:11 J -8124604.31 -8124604.20 -8124604.08 0.0143 0.0084

Uranus -26957-04-15 11:16 J -8124516.16 -8124516.03 -8124515.90 0.0143 0.0061

Uranus -26957-07-12 15:21 J -8124428.00 -8124427.86 -8124427.73 0.0144 0.0038

Mars -26957-10-07 00:14 J -8124341.60 -8124341.49 -8124341.37 0.1720 0.0619

Uranus -26957-10-08 19:26 J -8124339.83 -8124339.69 -8124339.55 0.0144 0.0014

Saturn -26956-01-03 15:35 J -8124252.85 -8124252.85 -8124252.83 0.0268 0.0267

Uranus -26956-01-04 23:31 J -8124251.66 -8124251.52 -8124251.38 0.0144 0.0009

Saturn -26956-04-02 02:38 J -8124164.50 -8124164.39 -8124164.28 0.0268 0.0161

Uranus -26956-04-03 03:35 J -8124163.48 -8124163.35 -8124163.21 0.0144 0.0033

Saturn -26956-06-29 13:40 J -8124076.06 -8124075.93 -8124075.79 0.0267 0.0054

Uranus -26956-06-30 07:40 J -8124075.30 -8124075.18 -8124075.04 0.0144 0.0057

Saturn -26956-09-26 00:43 J -8123987.60 -8123987.47 -8123987.33 0.0267 0.0054

Uranus -26956-09-26 11:59 J -8123987.11 -8123987.00 -8123986.88 0.0144 0.0081

Jupiter -26956-12-19 15:35 J -8123902.89 -8123902.85 -8123902.82 0.0529 0.0503

Saturn -26956-12-23 12:14 J -8123899.10 -8123898.99 -8123898.88 0.0267 0.0162

Uranus -26956-12-23 16:19 J -8123898.91 -8123898.82 -8123898.72 0.0144 0.0106 *

Jupiter -26955-03-18 23:16 J -8123813.66 -8123813.53 -8123813.40 0.0527 0.0088

Uranus -26955-03-21 20:23 J -8123810.70 -8123810.65 -8123810.58 0.0144 0.0130

Jupiter -26949-05-16 11:02 J -8121563.21 -8121563.04 -8121562.87 0.0500 0.0148

Moon -26948-06-12 19:26 J -8121170.81 -8121170.69 -8121170.57 0.2680 0.0214

Earth -26948-06-12 20:09 J -8121170.78 -8121170.66 -8121170.54 0.2684 0.0089 *

Pluto -26948-09-15 17:59 J -8121075.76 -8121075.75 -8121075.69 0.0070 0.0069

Pluto -26948-12-12 19:26 J -8120987.75 -8120987.69 -8120987.60 0.0070 0.0062

Mars -26947-02-27 10:19 J -8120911.19 -8120911.07 -8120910.96 0.1715 0.0090

Pluto -26947-03-10 20:52 J -8120899.72 -8120899.63 -8120899.51 0.0070 0.0055

Pluto -26947-06-06 22:19 J -8120811.68 -8120811.57 -8120811.44 0.0070 0.0048

Pluto -26947-09-02 23:45 J -8120723.63 -8120723.51 -8120723.37 0.0071 0.0041

Pluto -26947-11-30 01:11 J -8120635.59 -8120635.45 -8120635.30 0.0071 0.0034

Mars -26946-01-09 17:31 J -8120594.90 -8120594.77 -8120594.64 0.1799 0.0985

Pluto -26946-02-26 02:38 J -8120547.54 -8120547.39 -8120547.23 0.0071 0.0027

Pluto -26946-05-25 04:04 J -8120459.48 -8120459.33 -8120459.17 0.0071 0.0019

Pluto -26946-08-21 05:31 J -8120371.43 -8120371.27 -8120371.10 0.0071 0.0012

Pluto -26946-11-17 06:57 J -8120283.37 -8120283.21 -8120283.04 0.0071 0.0005

Pluto -26945-02-13 08:38 J -8120195.31 -8120195.14 -8120194.98 0.0071 0.0003

Neptune -26945-04-27 23:16 J -8120120.55 -8120120.53 -8120120.49 0.0089 0.0086

Pluto -26945-05-11 09:50 J -8120107.25 -8120107.09 -8120106.92 0.0071 0.0011

Neptune -26945-07-25 00:43 J -8120032.52 -8120032.47 -8120032.40 0.0089 0.0079

Pluto -26945-08-07 11:31 J -8120019.18 -8120019.02 -8120018.86 0.0071 0.0018

Neptune -26945-10-21 02:09 J -8119944.48 -8119944.41 -8119944.33 0.0089 0.0073

Pluto -26945-11-03 12:43 J -8119931.11 -8119930.97 -8119930.80 0.0072 0.0026

Earth -26945-12-21 02:52 J -8119883.40 -8119883.38 -8119883.35 0.2653 0.2609

Moon -26945-12-21 03:35 J -8119883.37 -8119883.35 -8119883.33 0.2659 0.2613 *

Neptune -26944-01-17 03:35 J -8119856.43 -8119856.35 -8119856.25 0.0089 0.0066

Pluto -26944-01-30 14:23 J -8119843.04 -8119842.90 -8119842.75 0.0072 0.0033

Neptune -26944-04-15 04:47 J -8119768.38 -8119768.30 -8119768.18 0.0089 0.0060

Pluto -26944-04-28 15:50 J -8119754.97 -8119754.84 -8119754.69 0.0072 0.0041

Neptune -26944-07-12 06:28 J -8119680.33 -8119680.23 -8119680.11 0.0089 0.0052

Pluto -26944-07-25 17:31 J -8119666.89 -8119666.77 -8119666.64 0.0072 0.0048

Neptune -26944-10-08 07:55 J -8119592.28 -8119592.17 -8119592.05 0.0089 0.0045

Pluto -26944-10-21 18:57 J -8119578.80 -8119578.71 -8119578.60 0.0072 0.0056

Neptune -26943-01-04 09:21 J -8119504.23 -8119504.11 -8119503.98 0.0089 0.0038

Jupiter -26943-01-05 03:07 J -8119503.50 -8119503.37 -8119503.24 0.0527 0.0055

Pluto -26943-01-17 20:23 J -8119490.71 -8119490.65 -8119490.56 0.0072 0.0064

Neptune -26943-04-02 10:47 J -8119416.17 -8119416.05 -8119415.92 0.0089 0.0031

Pluto -26943-04-15 22:04 J -8119402.58 -8119402.58 -8119402.56 0.0072 0.0072

Neptune -26943-06-29 12:14 J -8119328.11 -8119327.99 -8119327.85 0.0089 0.0024

Neptune -26943-09-25 13:40 J -8119240.06 -8119239.93 -8119239.79 0.0089 0.0018

Neptune -26943-12-22 15:21 J -8119152.00 -8119151.86 -8119151.73 0.0089 0.0010

Neptune -26942-03-20 16:47 J -8119063.94 -8119063.80 -8119063.67 0.0089 0.0004

Neptune -26942-06-16 18:14 J -8118975.88 -8118975.74 -8118975.60 0.0089 0.0004

Neptune -26942-09-12 19:40 J -8118887.82 -8118887.68 -8118887.54 0.0089 0.0011

Neptune -26942-12-09 21:07 J -8118799.75 -8118799.62 -8118799.48 0.0089 0.0018

Neptune -26941-03-06 22:33 J -8118711.69 -8118711.56 -8118711.43 0.0089 0.0025

Neptune -26941-06-02 23:59 J -8118623.62 -8118623.50 -8118623.37 0.0089 0.0032

Saturn -26941-07-27 06:43 J -8118569.35 -8118569.22 -8118569.07 0.0292 0.0180

Neptune -26941-08-30 01:26 J -8118535.56 -8118535.44 -8118535.31 0.0089 0.0039

Saturn -26941-10-24 05:16 J -8118480.46 -8118480.28 -8118480.11 0.0293 0.0005

Venus -26941-11-25 15:35 J -8118447.89 -8118447.85 -8118447.81 0.3775 0.3421

Neptune -26941-11-26 02:52 J -8118447.49 -8118447.38 -8118447.25 0.0089 0.0046

Saturn -26940-01-21 03:07 J -8118391.50 -8118391.37 -8118391.24 0.0293 0.0184

Neptune -26940-02-22 04:19 J -8118359.42 -8118359.32 -8118359.20 0.0089 0.0053

Neptune -26940-05-21 05:59 J -8118271.35 -8118271.25 -8118271.15 0.0089 0.0060

Neptune -26940-08-17 07:26 J -8118183.27 -8118183.19 -8118183.09 0.0089 0.0067

Neptune -26940-11-13 08:52 J -8118095.19 -8118095.13 -8118095.05 0.0089 0.0075

Neptune -26939-02-09 10:33 J -8118007.11 -8118007.06 -8118007.00 0.0089 0.0082

Neptune -26939-05-08 11:59 J -8117919.01 -8117919.00 -8117918.98 0.0089 0.0089

Mars -26938-07-20 20:23 J -8117480.77 -8117480.65 -8117480.54 0.1710 0.0476

Moon -26938-12-14 03:35 J -8117334.47 -8117334.35 -8117334.23 0.2648 0.1400

Earth -26938-12-14 05:02 J -8117334.41 -8117334.29 -8117334.17 0.2648 0.1377 *

Jupiter -26937-03-04 09:21 J -8117253.24 -8117253.11 -8117252.97 0.0499 0.0323

Mars -26937-05-31 15:35 J -8117165.01 -8117164.85 -8117164.69 0.1806 0.0093

Jupiter -26937-06-02 14:09 J -8117163.02 -8117162.91 -8117162.80 0.0502 0.0378

Venus -26935-06-11 08:23 J -8116424.26 -8116424.15 -8116424.05 0.3775 0.0987

Moon -26935-06-15 15:21 J -8116419.97 -8116419.86 -8116419.75 0.2685 0.0966

Earth -26935-06-15 16:04 J -8116419.94 -8116419.83 -8116419.72 0.2682 0.0983 *

Jupiter -26932-10-24 07:11 J -8115193.33 -8115193.20 -8115193.08 0.0528 0.0198

Jupiter -26931-01-21 15:07 J -8115103.96 -8115103.87 -8115103.79 0.0525 0.0396

Venus -26930-12-26 01:11 J -8114400.55 -8114400.45 -8114400.36 0.3776 0.1550

Mars -26929-12-10 06:28 J -8114050.33 -8114050.23 -8114050.14 0.1705 0.1000

Earth -26928-06-08 10:04 J -8113870.16 -8113870.08 -8113870.00 0.2687 0.1946

Moon -26928-06-08 10:19 J -8113870.15 -8113870.07 -8113869.99 0.2680 0.1873 *

Mars -26928-10-21 13:26 J -8113735.06 -8113734.94 -8113734.82 0.1812 0.1199

Saturn -26927-08-20 04:33 J -8113432.40 -8113432.31 -8113432.21 0.0268 0.0196

Mars -26927-11-15 14:38 J -8113344.97 -8113344.89 -8113344.81 0.1725 0.1257

Saturn -26927-11-16 15:35 J -8113343.98 -8113343.85 -8113343.72 0.0268 0.0090

Saturn -26926-02-13 02:38 J -8113255.52 -8113255.39 -8113255.25 0.0268 0.0020

Saturn -26926-05-12 13:55 J -8113167.04 -8113166.92 -8113166.80 0.0267 0.0126

Saturn -26926-08-09 01:11 J -8113078.51 -8113078.45 -8113078.38 0.0267 0.0236

Venus -26926-12-24 12:43 J -8112941.12 -8112940.97 -8112940.83 0.3599 0.0239

Jupiter -26925-03-21 12:28 J -8112853.14 -8112852.98 -8112852.82 0.0502 0.0204

Moon -26925-12-16 05:45 J -8112583.40 -8112583.26 -8112583.12 0.2654 0.0058

Earth -26925-12-16 06:43 J -8112583.36 -8112583.22 -8112583.08 0.2649 0.0092 *

Moon -26922-06-18 11:45 J -8111669.09 -8111669.01 -8111668.94 0.2685 0.2035

Earth -26922-06-18 12:14 J -8111669.07 -8111668.99 -8111668.92 0.2680 0.2071 *

Jupiter -26920-08-12 10:47 J -8110883.15 -8110883.05 -8110882.95 0.0528 0.0344

Jupiter -26920-11-09 18:28 J -8110793.84 -8110793.73 -8110793.61 0.0525 0.0247

Mars -26919-05-02 16:47 J -8110619.85 -8110619.80 -8110619.75 0.1700 0.1510

Uranus -26918-06-14 00:14 J -8110212.57 -8110212.49 -8110212.38 0.0135 0.0114

Uranus -26918-09-10 06:43 J -8110124.35 -8110124.22 -8110124.08 0.0135 0.0088

Uranus -26918-12-07 12:57 J -8110036.11 -8110035.96 -8110035.79 0.0135 0.0062

Uranus -26917-03-04 19:11 J -8109947.87 -8109947.70 -8109947.52 0.0135 0.0037

Mars -26917-04-07 00:28 J -8109914.59 -8109914.48 -8109914.37 0.1720 0.0687

Uranus -26917-06-01 01:26 J -8109859.62 -8109859.44 -8109859.26 0.0135 0.0012

Uranus -26917-08-28 07:26 J -8109771.36 -8109771.19 -8109771.01 0.0135 0.0013

Uranus -26917-11-24 13:26 J -8109683.10 -8109682.94 -8109682.76 0.0135 0.0038

Uranus -26916-02-20 19:26 J -8109594.84 -8109594.69 -8109594.53 0.0135 0.0062

Uranus -26916-05-20 01:26 J -8109506.57 -8109506.44 -8109506.30 0.0135 0.0086

Uranus -26916-08-16 07:11 J -8109418.29 -8109418.20 -8109418.09 0.0134 0.0109

Uranus -26916-11-12 13:11 J -8109329.97 -8109329.95 -8109329.92 0.0134 0.0133

Moon -26915-06-11 05:02 J -8109119.40 -8109119.29 -8109119.18 0.2679 0.1026

Earth -26915-06-11 05:31 J -8109119.38 -8109119.27 -8109119.16 0.2685 0.0927 *

Jupiter -26913-01-08 11:02 J -8108543.21 -8108543.04 -8108542.86 0.0501 0.0033

Saturn -26912-12-14 06:14 J -8107837.34 -8107837.24 -8107837.12 0.0292 0.0226

Moon -26912-12-19 07:40 J -8107832.29 -8107832.18 -8107832.06 0.2658 0.1499

Earth -26912-12-19 07:55 J -8107832.29 -8107832.17 -8107832.06 0.2651 0.1496 *

Saturn -26911-03-13 05:02 J -8107748.47 -8107748.29 -8107748.12 0.0293 0.0041

Saturn -26911-06-10 02:52 J -8107659.52 -8107659.38 -8107659.22 0.0293 0.0142

Jupiter -26908-05-31 13:40 J -8106572.96 -8106572.93 -8106572.89 0.0529 0.0505

Mars -26908-08-28 10:19 J -8106484.19 -8106484.07 -8106483.95 0.1715 0.0138

Jupiter -26908-08-28 21:21 J -8106483.74 -8106483.61 -8106483.48 0.0526 0.0086

Mars -26907-07-10 17:45 J -8106167.88 -8106167.76 -8106167.63 0.1800 0.1079

Moon -26905-12-11 07:55 J -8105283.18 -8105283.17 -8105283.17 0.2644 0.2641

Earth -26905-12-11 09:07 J -8105283.14 -8105283.12 -8105283.10 0.2646 0.2608

Moon -26902-06-14 00:28 J -8104368.60 -8104368.48 -8104368.36 0.2681 0.0120

Earth -26902-06-14 01:11 J -8104368.56 -8104368.45 -8104368.33 0.2683 0.0153 *

Jupiter -26902-10-27 09:35 J -8104233.27 -8104233.10 -8104232.93 0.0500 0.0141

Mars -26898-01-18 20:09 J -8103053.77 -8103053.66 -8103053.54 0.1710 0.0414

Mars -26898-11-30 16:19 J -8102737.98 -8102737.82 -8102737.65 0.1806 0.0058

Saturn -26897-01-07 08:09 J -8102700.23 -8102700.16 -8102700.08 0.0268 0.0215

Saturn -26897-04-04 19:11 J -8102611.83 -8102611.70 -8102611.58 0.0268 0.0109

Saturn -26897-07-02 06:14 J -8102523.38 -8102523.24 -8102523.10 0.0267 0.0002

Saturn -26897-09-28 17:16 J -8102434.90 -8102434.78 -8102434.65 0.0267 0.0107

Saturn -26897-12-26 04:33 J -8102346.38 -8102346.31 -8102346.22 0.0267 0.0216

Jupiter -26896-06-17 01:11 J -8102173.58 -8102173.45 -8102173.32 0.0527 0.0064

Moon -26892-12-14 09:35 J -8100532.22 -8100532.10 -8100531.97 0.2649 0.1312

Earth -26892-12-14 11:02 J -8100532.17 -8100532.04 -8100531.91 0.2648 0.1105 *

Jupiter -26890-08-15 07:11 J -8099923.33 -8099923.20 -8099923.06 0.0499 0.0322

Jupiter -26890-11-13 11:59 J -8099833.11 -8099833.00 -8099832.88 0.0502 0.0378

Mars -26889-06-10 06:28 J -8099623.33 -8099623.23 -8099623.13 0.1705 0.0934

Moon -26889-06-15 20:23 J -8099617.76 -8099617.65 -8099617.54 0.2685 0.1058

Earth -26889-06-15 21:07 J -8099617.72 -8099617.62 -8099617.51 0.2681 0.1194 *

Mars -26888-04-21 14:09 J -8099308.04 -8099307.91 -8099307.78 0.1812 0.1079

Mars -26887-05-16 14:38 J -8098917.96 -8098917.89 -8098917.81 0.1725 0.1321

Jupiter -26884-04-05 05:02 J -8097863.41 -8097863.29 -8097863.17 0.0528 0.0205

Venus -26884-07-02 13:26 J -8097775.02 -8097774.94 -8097774.87 0.3775 0.2528

Jupiter -26884-07-03 13:11 J -8097774.04 -8097773.95 -8097773.86 0.0525 0.0390

Saturn -26882-05-03 05:16 J -8097105.33 -8097105.28 -8097105.23 0.0292 0.0279

Earth -26882-06-09 15:07 J -8097067.96 -8097067.87 -8097067.78 0.2687 0.1757

Moon -26882-06-09 15:07 J -8097067.95 -8097067.87 -8097067.78 0.2680 0.1764 *

Saturn -26882-07-31 03:50 J -8097016.50 -8097016.34 -8097016.17 0.0293 0.0094

Saturn -26882-10-28 02:09 J -8096927.58 -8096927.41 -8096927.25 0.0293 0.0089

Saturn -26881-01-24 23:45 J -8096838.57 -8096838.51 -8096838.44 0.0293 0.0268

Mars -26880-10-31 16:47 J -8096192.86 -8096192.80 -8096192.74 0.1700 0.1446

Moon -26879-12-17 11:45 J -8095781.14 -8095781.01 -8095780.87 0.2656 0.0384

Earth -26879-12-17 12:28 J -8095781.12 -8095780.98 -8095780.84 0.2650 0.0357 *

Venus -26878-01-16 05:59 J -8095751.35 -8095751.25 -8095751.14 0.3775 0.0070

Jupiter -26878-06-03 05:16 J -8095613.28 -8095613.28 -8095613.26 0.0498 0.0498

Jupiter -26878-09-01 10:33 J -8095523.21 -8095523.06 -8095522.89 0.0501 0.0207

Mars -26878-10-07 00:28 J -8095487.59 -8095487.48 -8095487.37 0.1720 0.0755

Moon -26876-06-18 17:02 J -8094866.85 -8094866.79 -8094866.73 0.2686 0.2298

Earth -26876-06-18 17:16 J -8094866.84 -8094866.78 -8094866.72 0.2680 0.2284 *

Venus -26874-01-14 09:35 J -8094292.18 -8094292.10 -8094292.02 0.3600 0.3043

Uranus -26874-08-15 06:43 J -8094079.29 -8094079.22 -8094079.15 0.0143 0.0122

Uranus -26874-11-11 10:33 J -8093991.15 -8093991.06 -8093990.95 0.0143 0.0100

Uranus -26873-02-07 14:38 J -8093903.00 -8093902.89 -8093902.77 0.0143 0.0077

Uranus -26873-05-05 18:43 J -8093814.85 -8093814.72 -8093814.59 0.0143 0.0054

Venus -26873-07-31 22:47 J -8093727.63 -8093727.55 -8093727.47 0.3775 0.2479

Uranus -26873-08-01 22:47 J -8093726.69 -8093726.55 -8093726.41 0.0143 0.0030

Uranus -26873-10-29 02:52 J -8093638.52 -8093638.38 -8093638.24 0.0144 0.0007

Jupiter -26872-01-22 09:07 J -8093553.21 -8093553.12 -8093553.02 0.0529 0.0345

Uranus -26872-01-25 06:57 J -8093550.35 -8093550.21 -8093550.07 0.0144 0.0017

Jupiter -26872-04-21 17:02 J -8093463.91 -8093463.79 -8093463.67 0.0526 0.0247

Uranus -26872-04-23 11:02 J -8093462.17 -8093462.04 -8093461.90 0.0144 0.0041

Uranus -26872-07-20 15:21 J -8093373.98 -8093373.86 -8093373.73 0.0144 0.0064

Uranus -26872-10-16 19:40 J -8093285.79 -8093285.68 -8093285.57 0.0144 0.0089

Uranus -26871-01-12 23:45 J -8093197.59 -8093197.51 -8093197.42 0.0144 0.0113

Uranus -26871-04-11 04:04 J -8093109.37 -8093109.33 -8093109.29 0.0144 0.0138

Moon -26869-06-11 10:04 J -8092317.19 -8092317.08 -8092316.96 0.2679 0.0723

Earth -26869-06-11 10:33 J -8092317.17 -8092317.06 -8092316.94 0.2685 0.0736 *

Venus -26869-07-30 13:11 J -8092268.07 -8092267.95 -8092267.83 0.3599 0.1963

Mars -26868-02-26 10:19 J -8092057.19 -8092057.07 -8092056.95 0.1715 0.0202

Saturn -26868-05-26 10:04 J -8091968.12 -8091968.08 -8091968.03 0.0268 0.0251

Saturn -26868-08-22 20:52 J -8091879.74 -8091879.63 -8091879.51 0.0268 0.0146

Saturn -26868-11-19 07:55 J -8091791.30 -8091791.17 -8091791.03 0.0268 0.0039

Mars -26867-01-08 18:28 J -8091740.84 -8091740.73 -8091740.61 0.1799 0.1198

Saturn -26867-02-15 18:57 J -8091702.84 -8091702.71 -8091702.57 0.0267 0.0070

Saturn -26867-05-15 06:14 J -8091614.34 -8091614.24 -8091614.13 0.0267 0.0177

Jupiter -26866-06-20 09:07 J -8091213.30 -8091213.12 -8091212.95 0.0501 0.0033

Moon -26866-12-20 13:40 J -8091030.03 -8091029.93 -8091029.83 0.2658 0.1735

Earth -26866-12-20 13:40 J -8091030.03 -8091029.93 -8091029.82 0.2652 0.1759 *

Pluto -26863-08-21 02:38 J -8090055.41 -8090055.39 -8090055.33 0.0074 0.0072

Pluto -26863-11-17 04:04 J -8089967.39 -8089967.33 -8089967.24 0.0074 0.0064

Pluto -26862-02-13 05:31 J -8089879.36 -8089879.27 -8089879.16 0.0074 0.0056

Pluto -26862-05-12 06:57 J -8089791.32 -8089791.21 -8089791.09 0.0074 0.0048

Pluto -26862-08-08 08:09 J -8089703.28 -8089703.16 -8089703.02 0.0074 0.0040

Pluto -26862-11-04 09:35 J -8089615.23 -8089615.10 -8089614.95 0.0074 0.0032

Neptune -26861-01-14 12:57 J -8089544.01 -8089543.96 -8089543.88 0.0088 0.0082

Pluto -26861-01-31 11:02 J -8089527.18 -8089527.04 -8089526.89 0.0074 0.0024

Neptune -26861-04-11 16:04 J -8089455.91 -8089455.83 -8089455.70 0.0088 0.0073

Pluto -26861-04-28 12:14 J -8089439.13 -8089438.99 -8089438.83 0.0074 0.0017

Neptune -26861-07-08 19:40 J -8089367.80 -8089367.68 -8089367.54 0.0088 0.0063

Pluto -26861-07-25 13:40 J -8089351.08 -8089350.93 -8089350.78 0.0073 0.0009

Neptune -26861-10-04 22:47 J -8089279.68 -8089279.55 -8089279.39 0.0088 0.0054

Pluto -26861-10-21 14:52 J -8089263.03 -8089262.88 -8089262.72 0.0073 0.0002

Jupiter -26861-11-10 13:11 J -8089243.00 -8089242.95 -8089242.91 0.0529 0.0488

Neptune -26860-01-01 02:09 J -8089191.56 -8089191.41 -8089191.24 0.0088 0.0045

Pluto -26860-01-17 16:04 J -8089174.98 -8089174.83 -8089174.67 0.0073 0.0007

Jupiter -26860-02-07 20:38 J -8089153.77 -8089153.64 -8089153.51 0.0526 0.0102

Neptune -26860-03-30 05:16 J -8089103.44 -8089103.28 -8089103.09 0.0088 0.0036

Pluto -26860-04-15 17:16 J -8089086.92 -8089086.78 -8089086.62 0.0073 0.0014

Neptune -26860-06-26 08:52 J -8089015.31 -8089015.13 -8089014.95 0.0088 0.0026

Pluto -26860-07-12 18:28 J -8088998.87 -8088998.73 -8088998.58 0.0073 0.0021

Neptune -26860-09-22 11:59 J -8088927.18 -8088927.00 -8088926.81 0.0088 0.0017

Pluto -26860-10-08 19:55 J -8088910.81 -8088910.67 -8088910.53 0.0073 0.0028

Neptune -26860-12-19 15:21 J -8088839.05 -8088838.86 -8088838.67 0.0088 0.0008

Pluto -26859-01-04 20:52 J -8088822.75 -8088822.63 -8088822.49 0.0073 0.0036

Neptune -26859-03-17 18:28 J -8088750.91 -8088750.73 -8088750.54 0.0088 0.0002

Pluto -26859-04-02 22:04 J -8088734.69 -8088734.58 -8088734.45 0.0073 0.0043

Neptune -26859-06-13 21:50 J -8088662.78 -8088662.59 -8088662.41 0.0088 0.0010

Pluto -26859-06-29 23:16 J -8088646.63 -8088646.53 -8088646.41 0.0073 0.0050

Mars -26859-07-19 20:23 J -8088626.77 -8088626.65 -8088626.54 0.1710 0.0348

Neptune -26859-09-10 00:57 J -8088574.64 -8088574.46 -8088574.28 0.0088 0.0020

Pluto -26859-09-26 00:14 J -8088558.57 -8088558.49 -8088558.38 0.0072 0.0057

Neptune -26859-12-07 03:50 J -8088486.50 -8088486.34 -8088486.15 0.0088 0.0029

Moon -26859-12-12 13:40 J -8088480.98 -8088480.93 -8088480.88 0.2645 0.2484

Earth -26859-12-12 14:52 J -8088480.94 -8088480.88 -8088480.81 0.2646 0.2329 *

Pluto -26859-12-23 01:26 J -8088470.50 -8088470.44 -8088470.35 0.0072 0.0064

Neptune -26858-03-05 06:57 J -8088398.36 -8088398.21 -8088398.03 0.0088 0.0038

Pluto -26858-03-21 02:38 J -8088382.41 -8088382.39 -8088382.35 0.0072 0.0070

Mars -26858-05-31 16:47 J -8088310.96 -8088310.80 -8088310.63 0.1806 0.0144

Neptune -26858-06-01 10:04 J -8088310.22 -8088310.08 -8088309.91 0.0088 0.0047

Neptune -26858-08-28 13:11 J -8088222.07 -8088221.95 -8088221.79 0.0088 0.0056

Neptune -26858-11-24 16:19 J -8088133.93 -8088133.82 -8088133.68 0.0088 0.0065

Neptune -26857-02-20 19:26 J -8088045.77 -8088045.69 -8088045.57 0.0088 0.0074

Neptune -26857-05-18 23:02 J -8087957.60 -8087957.54 -8087957.48 0.0088 0.0083

Moon -26856-06-14 05:31 J -8087566.38 -8087566.27 -8087566.15 0.2683 0.0201

Earth -26856-06-14 06:28 J -8087566.35 -8087566.23 -8087566.11 0.2683 0.0327 *

Jupiter -26854-04-08 07:40 J -8086903.35 -8086903.18 -8086903.01 0.0500 0.0139

Saturn -26853-12-17 02:23 J -8086284.55 -8086284.40 -8086284.25 0.0293 0.0148

Saturn -26852-03-16 00:43 J -8086195.64 -8086195.47 -8086195.29 0.0293 0.0036

Saturn -26852-06-12 22:47 J -8086106.67 -8086106.55 -8086106.44 0.0293 0.0217

Mars -26850-12-10 06:28 J -8085196.33 -8085196.23 -8085196.13 0.1705 0.0871

Earth -26849-06-07 00:43 J -8085016.50 -8085016.47 -8085016.44 0.2688 0.2572

Moon -26849-06-07 01:26 J -8085016.49 -8085016.44 -8085016.40 0.2683 0.2482 *

Mars -26849-10-20 14:38 J -8084881.03 -8084880.89 -8084880.75 0.1812 0.0977

Jupiter -26849-11-26 23:31 J -8084843.65 -8084843.52 -8084843.38 0.0527 0.0065

Mars -26848-11-14 14:38 J -8084490.95 -8084490.89 -8084490.82 0.1725 0.1393

Moon -26846-12-15 15:35 J -8083729.98 -8083729.85 -8083729.71 0.2650 0.0852

Earth -26846-12-15 16:47 J -8083729.93 -8083729.80 -8083729.66 0.2648 0.0836 *

Moon -26843-06-17 01:40 J -8082815.53 -8082815.43 -8082815.33 0.2685 0.1398

Earth -26843-06-17 02:23 J -8082815.50 -8082815.40 -8082815.30 0.2681 0.1398 *

Jupiter -26842-01-25 06:14 J -8082593.38 -8082593.24 -8082593.10 0.0499 0.0310

Jupiter -26842-04-25 11:02 J -8082503.15 -8082503.04 -8082502.93 0.0502 0.0390

Mars -26840-05-01 16:33 J -8081765.87 -8081765.81 -8081765.74 0.1700 0.1386

Saturn -26838-01-10 00:14 J -8081147.59 -8081147.49 -8081147.38 0.0268 0.0167

Mars -26838-04-07 00:28 J -8081060.59 -8081060.48 -8081060.38 0.1720 0.0822

Saturn -26838-04-08 11:16 J -8081059.16 -8081059.03 -8081058.89 0.0267 0.0060

Saturn -26838-07-05 22:33 J -8080970.70 -8080970.56 -8080970.43 0.0267 0.0048

Saturn -26838-10-02 09:35 J -8080882.21 -8080882.10 -8080881.98 0.0267 0.0156

Saturn -26838-12-29 20:52 J -8080793.63 -8080793.63 -8080793.61 0.0266 0.0265

Jupiter -26837-09-15 03:21 J -8080533.48 -8080533.36 -8080533.24 0.0528 0.0209

Jupiter -26837-12-13 11:16 J -8080444.12 -8080444.03 -8080443.94 0.0525 0.0385

Moon -26836-06-09 20:09 J -8080265.76 -8080265.66 -8080265.57 0.2680 0.1572

Earth -26836-06-09 20:09 J -8080265.75 -8080265.66 -8080265.56 0.2686 0.1561 *

Uranus -26834-04-07 02:09 J -8079599.46 -8079599.41 -8079599.36 0.0136 0.0129

Uranus -26834-07-04 08:09 J -8079511.26 -8079511.16 -8079511.03 0.0135 0.0104

Uranus -26834-09-30 14:52 J -8079423.03 -8079422.88 -8079422.73 0.0135 0.0078

Uranus -26834-12-27 20:52 J -8079334.78 -8079334.63 -8079334.45 0.0135 0.0053

Uranus -26833-03-25 03:21 J -8079246.54 -8079246.36 -8079246.19 0.0135 0.0027

Uranus -26833-06-21 09:35 J -8079158.28 -8079158.10 -8079157.93 0.0135 0.0004

Uranus -26833-09-17 15:35 J -8079070.03 -8079069.85 -8079069.67 0.0135 0.0023

Uranus -26833-12-14 21:35 J -8078981.76 -8078981.60 -8078981.43 0.0135 0.0047

Moon -26833-12-17 17:45 J -8078978.90 -8078978.76 -8078978.62 0.2656 0.0477

Earth -26833-12-17 18:28 J -8078978.87 -8078978.73 -8078978.60 0.2650 0.0619 *

Uranus -26832-03-13 03:21 J -8078893.50 -8078893.36 -8078893.20 0.0135 0.0072

Uranus -26832-06-09 09:21 J -8078805.22 -8078805.11 -8078804.98 0.0135 0.0096

Uranus -26832-09-05 15:07 J -8078716.93 -8078716.87 -8078716.78 0.0134 0.0120

Jupiter -26831-11-13 03:50 J -8078283.36 -8078283.34 -8078283.31 0.0498 0.0491

Jupiter -26830-02-11 09:07 J -8078193.28 -8078193.12 -8078192.96 0.0501 0.0212

Moon -26830-06-19 22:19 J -8078064.61 -8078064.57 -8078064.52 0.2686 0.2447

Earth -26830-06-19 22:33 J -8078064.60 -8078064.56 -8078064.52 0.2679 0.2497 *

Mars	-26829-08-27 10:19 J	-8077630.19	-8077630.07	-8077629.96	0.1715	0.0268
Mars	-26828-07-09 19:11 J	-8077313.80	-8077313.70	-8077313.59	0.1799	0.1310
Venus	-26827-02-06 11:02 J	-8077102.14	-8077102.04	-8077101.95	0.3775	0.1627
Jupiter	-26825-07-04 07:26 J	-8076223.29	-8076223.19	-8076223.10	0.0529	0.0350
Jupiter	-26825-10-01 15:07 J	-8076133.98	-8076133.87	-8076133.75	0.0526	0.0243
Saturn	-26823-05-06 00:57 J	-8075552.58	-8075552.46	-8075552.33	0.0293	0.0203
Moon	-26823-06-12 15:07 J	-8075514.98	-8075514.87	-8075514.75	0.2679	0.0621
Earth	-26823-06-12 15:50 J	-8075514.96	-8075514.84	-8075514.73	0.2684	0.0536 *
Saturn	-26823-08-02 23:31 J	-8075463.69	-8075463.52	-8075463.34	0.0293	0.0018
Saturn	-26823-10-30 21:35 J	-8075374.74	-8075374.60	-8075374.46	0.0293	0.0163
Venus	-26822-08-23 03:50 J	-8075078.45	-8075078.34	-8075078.24	0.3775	0.0882
Earth	-26820-12-20 19:26 J	-8074227.78	-8074227.69	-8074227.60	0.2652	0.2017
Moon	-26820-12-20 19:40 J	-8074227.76	-8074227.68	-8074227.59	0.2658	0.2102 *
Mars	-26819-01-17 20:23 J	-8074199.77	-8074199.65	-8074199.54	0.1710	0.0283
Mars	-26819-11-29 17:31 J	-8073883.93	-8073883.77	-8073883.61	0.1806	0.0246
Jupiter	-26819-11-30 07:26 J	-8073883.36	-8073883.19	-8073883.01	0.0500	0.0042
Venus	-26818-08-21 10:19 J	-8073619.21	-8073619.07	-8073618.94	0.3600	0.1282
Venus	-26816-03-07 20:38 J	-8073054.69	-8073054.64	-8073054.60	0.3775	0.3403
Jupiter	-26813-04-22 11:31 J	-8071913.06	-8071913.02	-8071912.97	0.0529	0.0487
Jupiter	-26813-07-20 19:11 J	-8071823.83	-8071823.70	-8071823.57	0.0527	0.0103
Moon	-26813-12-12 19:40 J	-8071678.77	-8071678.68	-8071678.60	0.2645	0.2129
Earth	-26813-12-12 20:52 J	-8071678.72	-8071678.63	-8071678.54	0.2647	0.2050 *
Mars	-26810-06-10 06:28 J	-8070769.34	-8070769.23	-8070769.13	0.1705	0.0803
Moon	-26810-06-15 10:33 J	-8070764.17	-8070764.06	-8070763.94	0.2684	0.0510
Earth	-26810-06-15 11:31 J	-8070764.14	-8070764.02	-8070763.90	0.2683	0.0525 *
Mars	-26809-04-20 15:21 J	-8070454.00	-8070453.86	-8070453.71	0.1812	0.0855
Saturn	-26809-05-29 02:09 J	-8070415.50	-8070415.41	-8070415.33	0.0268	0.0204
Saturn	-26809-08-25 12:57 J	-8070327.09	-8070326.96	-8070326.83	0.0267	0.0098
Saturn	-26809-11-21 23:59 J	-8070238.64	-8070238.50	-8070238.36	0.0267	0.0009
Saturn	-26808-02-18 11:02 J	-8070150.16	-8070150.04	-8070149.91	0.0267	0.0117

Mars -26808-05-15 14:52 J -8070063.94 -8070063.88 -8070063.82 0.1725 0.1465

Saturn -26808-05-17 22:19 J -8070061.64 -8070061.57 -8070061.49 0.0267 0.0226

Jupiter -26807-09-18 05:45 J -8069573.43 -8069573.26 -8069573.09 0.0500 0.0136

Earth -26803-06-08 05:45 J -8068214.31 -8068214.26 -8068214.21 0.2688 0.2382

Moon -26803-06-08 06:14 J -8068214.29 -8068214.24 -8068214.18 0.2683 0.2372 *

Jupiter -26801-05-08 23:02 J -8067513.67 -8067513.54 -8067513.41 0.0527 0.0043

Mars -26801-10-30 16:47 J -8067338.88 -8067338.80 -8067338.73 0.1700 0.1317

Moon -26800-12-15 21:35 J -8066927.73 -8066927.60 -8066927.46 0.2652 0.0726

Earth -26800-12-15 22:47 J -8066927.69 -8066927.55 -8066927.41 0.2648 0.0562 *

Mars -26799-10-06 00:28 J -8066633.58 -8066633.48 -8066633.38 0.1720 0.0891

Moon -26797-06-17 06:57 J -8066013.31 -8066013.21 -8066013.11 0.2685 0.1489

Earth -26797-06-17 07:26 J -8066013.28 -8066013.19 -8066013.09 0.2681 0.1611 *

Jupiter -26795-07-07 04:33 J -8065263.45 -8065263.31 -8065263.17 0.0499 0.0305

Jupiter -26795-10-05 09:21 J -8065173.21 -8065173.11 -8065173.00 0.0502 0.0396

Saturn -26794-09-22 22:33 J -8064820.63 -8064820.56 -8064820.48 0.0292 0.0264

Saturn -26794-12-20 21:21 J -8064731.78 -8064731.61 -8064731.44 0.0293 0.0078

Saturn -26793-03-18 19:26 J -8064642.85 -8064642.69 -8064642.52 0.0293 0.0106

Saturn -26793-06-15 17:16 J -8064553.81 -8064553.78 -8064553.73 0.0294 0.0285

Uranus -26790-06-08 10:19 J -8063466.10 -8063466.07 -8063466.03 0.0143 0.0137

Moon -26790-06-11 00:57 J -8063463.56 -8063463.46 -8063463.36 0.2679 0.1358

Earth -26790-06-11 01:11 J -8063463.55 -8063463.45 -8063463.35 0.2686 0.1370 *

Uranus -26790-09-04 14:09 J -8063377.98 -8063377.91 -8063377.82 0.0143 0.0115

Uranus -26790-12-01 18:14 J -8063289.84 -8063289.74 -8063289.63 0.0143 0.0092

Jupiter -26789-02-26 01:55 J -8063203.54 -8063203.42 -8063203.30 0.0528 0.0205

Mars -26789-02-26 10:19 J -8063203.19 -8063203.07 -8063202.96 0.1715 0.0334

Uranus -26789-02-27 22:19 J -8063201.69 -8063201.57 -8063201.45 0.0143 0.0069

Jupiter -26789-05-25 09:50 J -8063114.17 -8063114.09 -8063114.00 0.0525 0.0389

Uranus -26789-05-26 02:09 J -8063113.54 -8063113.41 -8063113.27 0.0143 0.0047

Uranus -26789-08-22 06:14 J -8063025.38 -8063025.24 -8063025.10 0.0143 0.0024

Uranus -26789-11-18 10:19 J -8062937.21 -8062937.07 -8062936.93 0.0144 0.0003

Mars -26788-01-07 19:40 J -8062886.78 -8062886.68 -8062886.58 0.1800 0.1407

Uranus -26788-02-14 14:23 J -8062849.03 -8062848.90 -8062848.76 0.0144 0.0024

Uranus -26788-05-13 18:28 J -8062760.86 -8062760.73 -8062760.59 0.0144 0.0048

Uranus -26788-08-09 22:47 J -8062672.67 -8062672.55 -8062672.43 0.0144 0.0071

Uranus -26788-11-06 02:52 J -8062584.48 -8062584.38 -8062584.27 0.0144 0.0096

Uranus -26787-02-02 07:11 J -8062496.27 -8062496.20 -8062496.12 0.0144 0.0120

Moon -26787-12-18 23:31 J -8062176.64 -8062176.52 -8062176.39 0.2656 0.0927

Earth -26787-12-19 00:14 J -8062176.62 -8062176.49 -8062176.36 0.2650 0.0880 *

Jupiter -26783-04-25 02:52 J -8060953.42 -8060953.38 -8060953.32 0.0498 0.0475

Jupiter -26783-07-24 08:09 J -8060863.31 -8060863.16 -8060863.00 0.0501 0.0229

Neptune -26780-01-22 22:04 J -8059949.61 -8059949.58 -8059949.53 0.0089 0.0086

Neptune -26780-04-20 23:45 J -8059861.57 -8059861.51 -8059861.45 0.0089 0.0079

Neptune -26780-07-18 00:43 J -8059773.53 -8059773.47 -8059773.37 0.0089 0.0073

Mars -26780-07-18 20:09 J -8059772.78 -8059772.66 -8059772.54 0.1710 0.0216

Neptune -26780-10-14 02:23 J -8059685.48 -8059685.40 -8059685.30 0.0089 0.0065

Saturn -26780-10-16 05:16 J -8059683.35 -8059683.28 -8059683.21 0.0268 0.0227

Neptune -26779-01-10 03:50 J -8059597.44 -8059597.34 -8059597.23 0.0089 0.0058

Saturn -26779-01-12 16:04 J -8059594.95 -8059594.83 -8059594.70 0.0267 0.0121

Neptune -26779-04-08 05:16 J -8059509.39 -8059509.28 -8059509.17 0.0089 0.0051

Saturn -26779-04-11 03:07 J -8059506.51 -8059506.37 -8059506.23 0.0267 0.0015

Mars -26779-05-30 18:28 J -8059456.89 -8059456.73 -8059456.58 0.1806 0.0371

Neptune -26779-07-05 06:43 J -8059421.33 -8059421.22 -8059421.10 0.0089 0.0044

Saturn -26779-07-08 14:09 J -8059418.03 -8059417.91 -8059417.78 0.0267 0.0094

Neptune -26779-10-01 08:09 J -8059333.28 -8059333.16 -8059333.03 0.0089 0.0038

Saturn -26779-10-05 01:26 J -8059329.53 -8059329.44 -8059329.35 0.0266 0.0202

Neptune -26779-12-28 09:35 J -8059245.22 -8059245.10 -8059244.97 0.0089 0.0031

Neptune -26778-03-26 11:02 J -8059157.17 -8059157.04 -8059156.90 0.0089 0.0024

Neptune -26778-06-22 12:28 J -8059069.11 -8059068.98 -8059068.84 0.0089 0.0017

Neptune -26778-09-18 13:55 J -8058981.05 -8058980.92 -8058980.78 0.0089 0.0010

Jupiter -26778-12-15 05:45 J -8058893.36 -8058893.26 -8058893.16 0.0529 0.0351

Neptune -26778-12-15 15:35 J -8058892.99 -8058892.85 -8058892.72 0.0089 0.0003

Neptune -26777-03-12 17:02 J -8058804.93 -8058804.79 -8058804.66 0.0089 0.0004

Jupiter -26777-03-13 13:26 J -8058804.05 -8058803.94 -8058803.82 0.0526 0.0241

Neptune -26777-06-08 18:28 J -8058716.87 -8058716.73 -8058716.59 0.0089 0.0011

Moon -26777-06-12 20:09 J -8058712.78 -8058712.66 -8058712.54 0.2681 0.0380

Earth -26777-06-12 20:52 J -8058712.75 -8058712.63 -8058712.51 0.2684 0.0333 *

Neptune -26777-09-04 19:55 J -8058628.80 -8058628.67 -8058628.54 0.0089 0.0018

Neptune -26777-12-01 21:21 J -8058540.74 -8058540.61 -8058540.48 0.0089 0.0026

Venus -26776-02-27 16:04 J -8058452.89 -8058452.83 -8058452.78 0.3774 0.3168

Neptune -26776-02-27 22:47 J -8058452.67 -8058452.55 -8058452.42 0.0089 0.0033

Neptune -26776-05-27 00:28 J -8058364.61 -8058364.48 -8058364.36 0.0089 0.0040

Neptune -26776-08-23 01:55 J -8058276.54 -8058276.42 -8058276.30 0.0089 0.0047

Neptune -26776-11-19 03:07 J -8058188.47 -8058188.37 -8058188.25 0.0089 0.0054

Neptune -26775-02-15 04:33 J -8058100.40 -8058100.31 -8058100.20 0.0089 0.0062

Neptune -26775-05-14 06:14 J -8058012.32 -8058012.24 -8058012.15 0.0089 0.0068

Neptune -26775-08-10 07:40 J -8057924.24 -8057924.18 -8057924.10 0.0089 0.0075

Neptune -26775-11-06 09:07 J -8057836.16 -8057836.12 -8057836.06 0.0089 0.0083

Earth -26774-12-22 01:11 J -8057425.52 -8057425.45 -8057425.38 0.2652 0.2276

Moon -26774-12-22 01:40 J -8057425.50 -8057425.43 -8057425.35 0.2658 0.2249 *

Jupiter -26771-05-12 06:14 J -8056553.41 -8056553.24 -8056553.06 0.0500 0.0051

Venus -26771-09-13 08:38 J -8056429.24 -8056429.14 -8056429.04 0.3775 0.0717

Mars -26771-12-09 06:28 J -8056342.34 -8056342.23 -8056342.13 0.1705 0.0737

Mars -26770-10-20 16:04 J -8056026.98 -8056026.83 -8056026.68 0.1812 0.0740

Mars -26769-11-13 14:38 J -8055636.94 -8055636.89 -8055636.83 0.1725 0.1529

Moon -26767-12-14 01:40 J -8054876.53 -8054876.43 -8054876.33 0.2645 0.1892

Earth -26767-12-14 02:52 J -8054876.48 -8054876.38 -8054876.27 0.2647 0.1769 *

Jupiter -26766-10-03 09:50 J -8054583.14 -8054583.09 -8054583.04 0.0530 0.0491

Jupiter -26766-12-31 17:31 J -8054493.90 -8054493.77 -8054493.64 0.0527 0.0100

Venus -26765-03-29 01:26 J -8054405.53 -8054405.44 -8054405.35 0.3775 0.1779

Saturn -26764-05-08 19:55 J -8053999.83 -8053999.67 -8053999.52 0.0293 0.0135

Moon -26764-06-15 15:50 J -8053961.96 -8053961.84 -8053961.73 0.2683 0.0600

Earth -26764-06-15 16:33 J -8053961.92 -8053961.81 -8053961.69 0.2682 0.0741 *

Saturn -26764-08-05 18:14 J -8053910.91 -8053910.74 -8053910.57 0.0293 0.0049

Saturn -26764-11-02 16:04 J -8053821.93 -8053821.83 -8053821.72 0.0294 0.0230

Venus -26761-03-27 10:47 J -8052946.19 -8052946.05 -8052945.90 0.3600 0.0499

Mars -26761-04-30 16:47 J -8052911.88 -8052911.80 -8052911.72 0.1700 0.1251

Jupiter -26759-02-28 04:33 J -8052243.48 -8052243.31 -8052243.13 0.0499 0.0123

Mars -26759-04-06 00:28 J -8052206.58 -8052206.48 -8052206.38 0.1720 0.0961

Earth -26757-06-08 10:47 J -8051412.11 -8051412.05 -8051411.98 0.2688 0.2191

Moon -26757-06-08 11:16 J -8051412.11 -8051412.03 -8051411.96 0.2682 0.2099 *

Jupiter -26754-10-19 21:35 J -8050183.73 -8050183.60 -8050183.47 0.0527 0.0041

Moon -26754-12-17 03:35 J -8050125.49 -8050125.35 -8050125.21 0.2653 0.0330

Earth -26754-12-17 04:47 J -8050125.44 -8050125.30 -8050125.16 0.2649 0.0295 *

Moon -26751-06-18 12:14 J -8049211.08 -8049210.99 -8049210.91 0.2686 0.1841

Earth -26751-06-18 12:43 J -8049211.06 -8049210.97 -8049210.89 0.2681 0.1815 *

Saturn -26750-03-05 06:57 J -8048951.23 -8048951.21 -8048951.20 0.0268 0.0265

Uranus -26750-04-27 09:07 J -8048898.18 -8048898.12 -8048898.02 0.0136 0.0122

Saturn -26750-06-01 17:31 J -8048862.87 -8048862.77 -8048862.65 0.0268 0.0161

Uranus -26750-07-24 15:35 J -8048809.96 -8048809.85 -8048809.71 0.0136 0.0096

Mars -26750-08-27 10:19 J -8048776.19 -8048776.07 -8048775.96 0.1715 0.0401

Saturn -26750-08-29 04:33 J -8048774.44 -8048774.31 -8048774.17 0.0267 0.0054

Uranus -26750-10-20 22:19 J -8048721.72 -8048721.57 -8048721.42 0.0135 0.0070

Saturn -26750-11-25 15:35 J -8048685.98 -8048685.85 -8048685.71 0.0267 0.0053

Uranus -26749-01-17 04:33 J -8048633.48 -8048633.31 -8048633.14 0.0135 0.0044

Saturn -26749-02-22 02:52 J -8048597.49 -8048597.38 -8048597.27 0.0267 0.0161

Uranus -26749-04-14 10:47 J -8048545.23 -8048545.05 -8048544.87 0.0135 0.0019

Mars -26749-07-08 20:23 J -8048459.73 -8048459.65 -8048459.57 0.1799 0.1520

Uranus -26749-07-11 16:47 J -8048456.97 -8048456.80 -8048456.62 0.0135 0.0007

Uranus -26749-10-07 23:02 J -8048368.71 -8048368.54 -8048368.37 0.0135 0.0031

Uranus -26748-01-04 05:02 J -8048280.45 -8048280.29 -8048280.13 0.0135 0.0055

Uranus -26748-04-02 10:47 J -8048192.18 -8048192.05 -8048191.89 0.0135 0.0080

Uranus -26748-06-29 16:47 J -8048103.90 -8048103.80 -8048103.68 0.0135 0.0104

Uranus -26748-09-25 22:33 J -8048015.60 -8048015.56 -8048015.49 0.0135 0.0128

Jupiter -26748-12-17 02:38 J -8047933.52 -8047933.39 -8047933.24 0.0499 0.0300

Jupiter -26747-03-17 07:40 J -8047843.28 -8047843.18 -8047843.07 0.0502 0.0402

Moon -26744-06-11 05:59 J -8046661.35 -8046661.25 -8046661.14 0.2679 0.1228

Earth -26744-06-11 06:14 J -8046661.34 -8046661.24 -8046661.13 0.2686 0.1174 *

Jupiter -26742-08-08 01:40 J -8045873.55 -8045873.43 -8045873.31 0.0528 0.0182

Jupiter -26742-11-05 09:35 J -8045784.18 -8045784.10 -8045784.02 0.0525 0.0411

Moon -26741-12-19 05:45 J -8045374.39 -8045374.26 -8045374.14 0.2657 0.1042

Earth -26741-12-19 05:59 J -8045374.37 -8045374.25 -8045374.12 0.2651 0.1148 *

Mars -26740-01-16 20:09 J -8045345.77 -8045345.66 -8045345.54 0.1710 0.0157

Mars -26740-11-28 18:43 J -8045029.87 -8045029.72 -8045029.56 0.1806 0.0468

Jupiter -26736-10-05 01:26 J -8043623.49 -8043623.44 -8043623.37 0.0498 0.0467

Jupiter -26735-01-03 06:57 J -8043533.37 -8043533.21 -8043533.06 0.0501 0.0238

Saturn -26735-09-25 16:19 J -8043267.94 -8043267.82 -8043267.69 0.0293 0.0204

Saturn -26735-12-23 15:07 J -8043179.05 -8043178.87 -8043178.69 0.0293 0.0018

Saturn -26734-03-22 13:11 J -8043090.09 -8043089.95 -8043089.80 0.0293 0.0165

Mars -26731-06-09 06:28 J -8041915.34 -8041915.23 -8041915.12 0.1705 0.0672

Moon -26731-06-14 01:11 J -8041910.57 -8041910.45 -8041910.33 0.2682 0.0190

Earth -26731-06-14 01:55 J -8041910.54 -8041910.42 -8041910.30 0.2684 0.0133 *

Mars -26730-04-20 16:47 J -8041599.95 -8041599.80 -8041599.65 0.1812 0.0629

Jupiter -26730-05-27 04:33 J -8041563.41 -8041563.31 -8041563.21 0.0529 0.0343

Jupiter -26730-08-24 12:28 J -8041474.10 -8041473.98 -8041473.87 0.0526 0.0249

Mars -26729-05-14 14:52 J -8041209.92 -8041209.88 -8041209.84 0.1725 0.1602

Earth -26728-12-22 06:57 J -8040623.24 -8040623.21 -8040623.17 0.2653 0.2531

Jupiter -26724-10-22 05:45 J -8039223.44 -8039223.26 -8039223.09 0.0500 0.0071

Mars -26722-10-30 16:33 J -8038484.89 -8038484.81 -8038484.72 0.1700 0.1192

Mars -26721-09-09 14:09 J -8038169.94 -8038169.91 -8038169.87 0.1818 0.1762

Saturn -26721-10-18 20:38 J -8038130.73 -8038130.64 -8038130.54 0.0268 0.0185

Moon -26721-12-14 07:40 J -8038074.30 -8038074.18 -8038074.07 0.2647 0.1621

Earth -26721-12-14 08:52 J -8038074.25 -8038074.13 -8038074.01 0.2647 0.1494 *

Saturn -26720-01-15 07:40 J -8038042.31 -8038042.18 -8038042.05 0.0267 0.0080

Saturn -26720-04-13 18:43 J -8037953.86 -8037953.72 -8037953.59 0.0267 0.0029

Saturn -26720-07-11 05:45 J -8037865.38 -8037865.26 -8037865.14 0.0267 0.0136

Venus -26720-10-04 13:40 J -8037780.01 -8037779.93 -8037779.85 0.3774 0.2269

Mars -26720-10-05 00:28 J -8037779.58 -8037779.48 -8037779.39 0.1720 0.1024

Saturn -26720-10-07 17:02 J -8037776.84 -8037776.79 -8037776.74 0.0266 0.0245

Jupiter -26718-03-15 08:23 J -8037253.20 -8037253.15 -8037253.10 0.0530 0.0489

Jupiter -26718-06-12 16:04 J -8037163.96 -8037163.83 -8037163.70 0.0527 0.0101

Moon -26718-06-16 20:52 J -8037159.74 -8037159.63 -8037159.52 0.2683 0.0897

Earth -26718-06-16 21:50 J -8037159.70 -8037159.59 -8037159.48 0.2682 0.0937 *

Venus -26714-04-20 06:14 J -8035756.34 -8035756.24 -8035756.13 0.3775 0.0258

Mars -26712-03-22 03:07 J -8035054.37 -8035054.37 -8035054.36 0.1696 0.1688

Jupiter -26712-08-10 03:35 J -8034913.52 -8034913.35 -8034913.17 0.0499 0.0109

Earth -26711-06-09 15:50 J -8034609.91 -8034609.84 -8034609.76 0.2687 0.2000

Moon -26711-06-09 16:04 J -8034609.90 -8034609.83 -8034609.75 0.2681 0.2041 *

Mars -26710-02-25 10:19 J -8034349.19 -8034349.07 -8034348.96 0.1715 0.0468

Venus -26710-04-18 07:40 J -8034297.27 -8034297.18 -8034297.09 0.3600 0.2821

Mars -26709-01-07 21:07 J -8034032.68 -8034032.62 -8034032.56 0.1799 0.1635

Venus -26709-11-02 23:02 J -8033732.61 -8033732.54 -8033732.46 0.3775 0.2711

Moon -26708-12-17 09:35 J -8033323.24 -8033323.10 -8033322.96 0.2654 0.0137

Earth -26708-12-17 10:33 J -8033323.20 -8033323.06 -8033322.91 0.2649 0.0065 *

Jupiter -26706-03-31 19:55 J -8032853.80 -8032853.67 -8032853.54 0.0528 0.0044

Uranus -26706-06-28 18:14 J -8032764.79 -8032764.74 -8032764.68 0.0143 0.0128

Uranus -26706-09-24 22:19 J -8032676.66 -8032676.57 -8032676.48 0.0143 0.0105

Uranus -26706-12-22 02:09 J -8032588.52 -8032588.41 -8032588.29 0.0143 0.0083

Saturn -26705-02-12 14:52 J -8032535.95 -8032535.88 -8032535.80 0.0293 0.0261

Uranus -26705-03-19 06:14 J -8032500.37 -8032500.24 -8032500.12 0.0143 0.0060

Saturn -26705-05-11 13:40 J -8032447.10 -8032446.93 -8032446.76 0.0293 0.0074

Uranus -26705-06-15 10:04 J -8032412.21 -8032412.08 -8032411.94 0.0143 0.0038

Moon -26705-06-18 17:16 J -8032408.86 -8032408.78 -8032408.69 0.2687 0.1942

Earth -26705-06-18 17:45 J -8032408.84 -8032408.76 -8032408.68 0.2680 0.2027 *

Saturn -26705-08-08 11:59 J -8032358.16 -8032358.00 -8032357.84 0.0294 0.0110

Uranus -26705-09-11 14:09 J -8032324.05 -8032323.91 -8032323.77 0.0143 0.0014

Venus -26705-11-01 11:31 J -8032273.13 -8032273.02 -8032272.91 0.3600 0.2238

Saturn -26705-11-05 09:50 J -8032269.11 -8032269.09 -8032269.07 0.0294 0.0290

Uranus -26705-12-08 18:14 J -8032235.88 -8032235.74 -8032235.60 0.0144 0.0010

Uranus -26704-03-06 22:19 J -8032147.70 -8032147.57 -8032147.43 0.0144 0.0033

Uranus -26704-06-03 02:23 J -8032059.52 -8032059.40 -8032059.26 0.0144 0.0057

Uranus -26704-08-30 06:28 J -8031971.34 -8031971.23 -8031971.10 0.0144 0.0081

Uranus -26704-11-26 10:47 J -8031883.14 -8031883.05 -8031882.95 0.0144 0.0105

Uranus -26703-02-22 15:07 J -8031794.93 -8031794.87 -8031794.81 0.0144 0.0129

Pluto -26702-11-08 09:21 J -8031171.14 -8031171.11 -8031171.06 0.0070 0.0067

Pluto -26701-02-04 10:33 J -8031083.12 -8031083.06 -8031082.96 0.0070 0.0061

Pluto -26701-05-02 11:59 J -8030995.09 -8030995.00 -8030994.88 0.0070 0.0054

Mars -26701-07-17 20:23 J -8030918.77 -8030918.65 -8030918.53 0.1710 0.0080

Pluto -26701-07-29 13:26 J -8030907.05 -8030906.94 -8030906.81 0.0071 0.0047

Pluto -26701-10-25 14:52 J -8030819.01 -8030818.88 -8030818.74 0.0071 0.0040

Pluto -26700-01-21 16:04 J -8030730.96 -8030730.83 -8030730.67 0.0071 0.0033

Pluto -26700-04-19 17:59 J -8030642.91 -8030642.75 -8030642.60 0.0071 0.0025

Jupiter -26700-05-29 01:55 J -8030603.56 -8030603.42 -8030603.27 0.0499 0.0282

Mars -26700-05-29 19:26 J -8030602.84 -8030602.69 -8030602.53 0.1806 0.0586

Pluto -26700-07-16 19:11 J -8030554.85 -8030554.70 -8030554.54 0.0071 0.0018

Jupiter -26700-08-27 06:43 J -8030513.31 -8030513.22 -8030513.12 0.0501 0.0417

Pluto -26700-10-12 20:38 J -8030466.80 -8030466.64 -8030466.47 0.0071 0.0011

Pluto -26699-01-08 22:04 J -8030378.74 -8030378.58 -8030378.41 0.0071 0.0004

Pluto -26699-04-06 23:31 J -8030290.68 -8030290.52 -8030290.35 0.0071 0.0005

Pluto -26699-07-04 01:11 J -8030202.61 -8030202.45 -8030202.29 0.0071 0.0012

Pluto -26699-09-30 02:23 J -8030114.55 -8030114.40 -8030114.23 0.0072 0.0020

Pluto -26699-12-27 04:04 J -8030026.48 -8030026.33 -8030026.17 0.0072 0.0027

Pluto -26698-03-25 05:16 J -8029938.41 -8029938.28 -8029938.12 0.0072 0.0035

Moon -26698-06-12 11:02 J -8029859.15 -8029859.04 -8029858.93 0.2679 0.0953

Earth -26698-06-12 11:16 J -8029859.14 -8029859.03 -8029858.92 0.2686 0.0981 *

Pluto -26698-06-21 07:11 J -8029850.33 -8029850.20 -8029850.07 0.0072 0.0042

Pluto -26698-09-17 08:23 J -8029762.25 -8029762.15 -8029762.02 0.0072 0.0050

Pluto -26698-12-14 09:50 J -8029674.17 -8029674.09 -8029673.97 0.0072 0.0059

Pluto -26697-03-11 11:16 J -8029586.07 -8029586.03 -8029585.94 0.0072 0.0067

Neptune -26697-10-10 10:33 J -8029373.12 -8029373.06 -8029372.97 0.0088 0.0080

Neptune -26696-01-06 13:40 J -8029285.02 -8029284.93 -8029284.80 0.0088 0.0071

Neptune -26696-04-04 17:16 J -8029196.90 -8029196.78 -8029196.64 0.0088 0.0061

Neptune -26696-07-01 20:23 J -8029108.79 -8029108.65 -8029108.48 0.0088 0.0052

Neptune -26696-09-27 23:45 J -8029020.66 -8029020.51 -8029020.33 0.0088 0.0043

Neptune -26696-12-25 03:21 J -8028932.54 -8028932.36 -8028932.19 0.0088 0.0033

Neptune -26695-03-23 06:28 J -8028844.41 -8028844.23 -8028844.05 0.0088 0.0024

Neptune -26695-06-19 09:35 J -8028756.28 -8028756.10 -8028755.91 0.0088 0.0015

Neptune -26695-09-15 12:57 J -8028668.14 -8028667.96 -8028667.77 0.0088 0.0006

Neptune -26695-12-12 16:04 J -8028580.01 -8028579.83 -8028579.64 0.0088 0.0004

Moon -26695-12-20 11:45 J -8028572.12 -8028572.01 -8028571.89 0.2657 0.1476

Earth -26695-12-20 11:59 J -8028572.12 -8028572.00 -8028571.88 0.2651 0.1414 *

Jupiter -26694-01-18 00:14 J -8028543.61 -8028543.49 -8028543.37 0.0528 0.0178

Neptune -26694-03-10 19:26 J -8028491.87 -8028491.69 -8028491.50 0.0088 0.0013

Jupiter -26694-04-17 08:09 J -8028454.23 -8028454.16 -8028454.08 0.0525 0.0416

Neptune -26694-06-06 22:19 J -8028403.74 -8028403.57 -8028403.38 0.0088 0.0022

Neptune -26694-09-03 01:26 J -8028315.60 -8028315.44 -8028315.25 0.0088 0.0032

Neptune -26694-11-30 04:47 J -8028227.46 -8028227.30 -8028227.13 0.0088 0.0040

Neptune -26693-02-26 07:55 J -8028139.31 -8028139.17 -8028139.01 0.0088 0.0049

Neptune -26693-05-24 11:02 J -8028051.17 -8028051.04 -8028050.89 0.0088 0.0058

Neptune -26693-08-20 13:55 J -8027963.02 -8027962.92 -8027962.78 0.0088 0.0068

Neptune -26693-11-16 17:02 J -8027874.86 -8027874.79 -8027874.68 0.0088 0.0076

Neptune -26692-02-12 20:09 J -8027786.69 -8027786.66 -8027786.59 0.0088 0.0085

Mars -26692-12-08 06:28 J -8027488.34 -8027488.23 -8027488.12 0.1705 0.0608

Saturn -26691-03-07 22:04 J -8027398.65 -8027398.58 -8027398.50 0.0268 0.0224

Saturn -26691-06-04 09:07 J -8027310.24 -8027310.12 -8027310.00 0.0267 0.0119

Saturn -26691-08-31 19:55 J -8027221.80 -8027221.67 -8027221.53 0.0267 0.0015

Mars -26691-10-19 17:16 J -8027172.93 -8027172.78 -8027172.62 0.1812 0.0517

Saturn -26691-11-28 06:57 J -8027133.33 -8027133.21 -8027133.07 0.0267 0.0096

Saturn -26690-02-24 18:14 J -8027044.83 -8027044.74 -8027044.65 0.0266 0.0204

Mars -26690-11-13 14:52 J -8026782.91 -8026782.88 -8026782.85 0.1725 0.1671

Jupiter -26688-03-16 23:59 J -8026293.56 -8026293.50 -8026293.43 0.0498 0.0458

Jupiter -26688-06-15 05:16 J -8026203.43 -8026203.28 -8026203.12 0.0501 0.0246

Moon -26685-06-14 06:14 J -8025108.36 -8025108.24 -8025108.12 0.2682 0.0048

Earth -26685-06-14 06:57 J -8025108.32 -8025108.21 -8025108.09 0.2684 0.0114 *

Jupiter -26683-11-06 04:19 J -8024233.42 -8024233.32 -8024233.22 0.0529 0.0319

Jupiter -26682-02-03 11:59 J -8024144.11 -8024144.00 -8024143.88 0.0526 0.0273

Mars -26682-04-30 16:47 J -8024057.89 -8024057.80 -8024057.72 0.1700 0.1123

Mars -26681-03-10 14:38 J -8023742.95 -8023742.89 -8023742.82 0.1818 0.1657

Mars -26680-04-05 00:28 J -8023352.57 -8023352.48 -8023352.39 0.1720 0.1095

Jupiter -26676-04-03 04:33 J -8021893.49 -8021893.31 -8021893.14 0.0500 0.0082

Saturn -26676-09-28 09:50 J -8021715.24 -8021715.09 -8021714.94 0.0293 0.0147

Saturn -26676-12-26 08:23 J -8021626.33 -8021626.15 -8021625.98 0.0293 0.0038

Saturn -26675-03-25 06:28 J -8021537.35 -8021537.23 -8021537.12 0.0294 0.0220

Moon -26675-12-15 13:26 J -8021272.06 -8021271.94 -8021271.81 0.2649 0.1274

Earth -26675-12-15 14:52 J -8021272.01 -8021271.88 -8021271.76 0.2647 0.1218 *

Mars -26673-09-20 03:07 J -8020627.40 -8020627.37 -8020627.34 0.1695 0.1628

Moon -26672-06-17 02:09 J -8020357.52 -8020357.41 -8020357.30 0.2684 0.1061

Earth -26672-06-17 02:52 J -8020357.49 -8020357.38 -8020357.27 0.2682 0.1143 *

Jupiter -26671-08-25 07:26 J -8019923.25 -8019923.19 -8019923.14 0.0529 0.0478

Mars -26671-08-26 10:19 J -8019922.18 -8019922.07 -8019921.96 0.1715 0.0537

Jupiter -26671-11-22 14:52 J -8019834.01 -8019833.88 -8019833.75 0.0527 0.0112

Mars -26670-07-08 21:35 J -8019605.64 -8019605.60 -8019605.56 0.1800 0.1733

Uranus -26666-05-17 17:16 J -8018196.88 -8018196.78 -8018196.67 0.0136 0.0112

Uranus -26666-08-13 23:31 J -8018108.65 -8018108.52 -8018108.37 0.0136 0.0086

Uranus -26666-11-10 05:59 J -8018020.41 -8018020.25 -8018020.08 0.0135 0.0061

Uranus -26665-02-06 12:14 J -8017932.16 -8017931.99 -8017931.81 0.0135 0.0035

Uranus -26665-05-04 18:28 J -8017843.90 -8017843.73 -8017843.55 0.0135 0.0011

Moon -26665-06-09 21:07 J -8017807.71 -8017807.62 -8017807.53 0.2680 0.1720

Earth -26665-06-09 20:52 J -8017807.71 -8017807.63 -8017807.54 0.2687 0.1808 *

Uranus -26665-08-01 00:43 J -8017755.64 -8017755.47 -8017755.29 0.0135 0.0015

Uranus -26665-10-28 06:43 J -8017667.38 -8017667.22 -8017667.04 0.0135 0.0040

Jupiter -26664-01-20 03:21 J -8017583.54 -8017583.36 -8017583.19 0.0500 0.0086

Uranus -26664-01-24 12:43 J -8017579.12 -8017578.97 -8017578.81 0.0135 0.0065

Uranus -26664-04-22 18:43 J -8017490.84 -8017490.72 -8017490.58 0.0135 0.0089

Uranus -26664-07-20 00:43 J -8017402.56 -8017402.47 -8017402.37 0.0135 0.0113

Venus -26663-05-11 11:16 J -8017107.12 -8017107.03 -8017106.93 0.3774 0.1374

Saturn -26662-07-26 00:57 J -8016666.50 -8016666.46 -8016666.41 0.0268 0.0252

Saturn -26662-10-22 11:45 J -8016578.12 -8016578.01 -8016577.89 0.0268 0.0146

Moon -26662-12-18 15:35 J -8016520.99 -8016520.85 -8016520.71 0.2654 0.0200

Earth -26662-12-18 16:33 J -8016520.95 -8016520.81 -8016520.67 0.2649 0.0259 *

Mars -26661-01-16 20:09 J -8016491.78 -8016491.66 -8016491.54 0.1709 0.0033

Saturn -26661-01-18 22:47 J -8016489.69 -8016489.55 -8016489.41 0.0267 0.0040

Saturn -26661-04-16 09:50 J -8016401.22 -8016401.09 -8016400.96 0.0267 0.0068

Saturn -26661-07-13 20:52 J -8016312.73 -8016312.63 -8016312.52 0.0266 0.0177

Mars -26661-11-27 20:09 J -8016175.80 -8016175.66 -8016175.51 0.1806 0.0703

Moon -26659-06-19 22:33 J -8015606.62 -8015606.56 -8015606.50 0.2687 0.2258

Earth -26659-06-19 22:47 J -8015606.61 -8015606.55 -8015606.48 0.2680 0.2238 *

Jupiter -26659-09-10 18:43 J -8015523.85 -8015523.72 -8015523.59 0.0527 0.0039

Venus -26658-11-25 04:04 J -8015083.43 -8015083.33 -8015083.23 0.3775 0.1111

Venus -26654-11-23 08:23 J -8013624.29 -8013624.15 -8013624.01 0.3600 0.1012

Jupiter -26653-11-08 01:11 J -8013273.60 -8013273.45 -8013273.30 0.0499 0.0264

Jupiter -26652-02-06 05:59 J -8013183.33 -8013183.25 -8013183.16 0.0501 0.0434

Mars -26652-06-08 06:28 J -8013061.34 -8013061.23 -8013061.12 0.1705 0.0539

Venus -26652-06-09 20:52 J -8013059.65 -8013059.63 -8013059.61 0.3775 0.3653

Moon -26652-06-12 16:04 J -8013056.95 -8013056.83 -8013056.72 0.2680 0.0882

Earth -26652-06-12 16:33 J -8013056.93 -8013056.81 -8013056.70 0.2685 0.0781 *

Mars -26651-04-19 18:14 J -8012745.90 -8012745.74 -8012745.59 0.1812 0.0398

Earth -26649-12-20 17:45 J -8011769.87 -8011769.76 -8011769.65 0.2651 0.1677

Moon -26649-12-20 17:45 J -8011769.86 -8011769.76 -8011769.65 0.2658 0.1645 *

Jupiter -26647-06-29 22:33 J -8011213.68 -8011213.56 -8011213.43 0.0528 0.0179

Jupiter -26647-09-27 06:28 J -8011124.30 -8011124.23 -8011124.14 0.0526 0.0417

Saturn -26646-02-15 08:09 J -8010983.28 -8010983.16 -8010983.03 0.0293 0.0205

Saturn -26646-05-15 06:57 J -8010894.39 -8010894.21 -8010894.04 0.0293 0.0018

Saturn -26646-08-12 05:02 J -8010805.43 -8010805.29 -8010805.14 0.0294 0.0165

Mars -26643-10-29 16:33 J -8009630.90 -8009630.81 -8009630.71 0.1700 0.1059

Mars -26642-09-09 15:21 J -8009315.94 -8009315.86 -8009315.77 0.1818 0.1538

Moon -26642-12-13 17:31 J -8009220.82 -8009220.77 -8009220.72 0.2642 0.2462

Earth -26642-12-13 18:43 J -8009220.77 -8009220.72 -8009220.67 0.2646 0.2457 *

Jupiter -26641-08-26 23:16 J -8008963.61 -8008963.53 -8008963.44 0.0498 0.0439

Mars -26641-10-04 00:28 J -8008925.56 -8008925.48 -8008925.39 0.1720 0.1167

Jupiter -26641-11-25 04:33 J -8008873.46 -8008873.31 -8008873.16 0.0501 0.0263

Moon -26639-06-15 11:16 J -8008306.15 -8008306.03 -8008305.91 0.2681 0.0238

Earth -26639-06-15 12:14 J -8008306.11 -8008305.99 -8008305.88 0.2684 0.0283 *

Jupiter -26635-04-18 02:52 J -8006903.48 -8006903.38 -8006903.27 0.0529 0.0316

Jupiter -26635-07-16 10:47 J -8006814.16 -8006814.05 -8006813.94 0.0526 0.0277

Mars -26633-03-21 03:07 J -8006200.41 -8006200.37 -8006200.33 0.1695 0.1561

Saturn -26632-03-10 13:26 J -8005846.04 -8005845.94 -8005845.84 0.0267 0.0185

Saturn -26632-06-07 00:14 J -8005757.62 -8005757.49 -8005757.36 0.0267 0.0079

Earth -26632-06-08 06:43 J -8005756.24 -8005756.22 -8005756.20 0.2688 0.2624

Moon -26632-06-08 07:11 J -8005756.24 -8005756.20 -8005756.16 0.2684 0.2531 *

Saturn -26632-09-03 11:16 J -8005669.17 -8005669.03 -8005668.89 0.0267 0.0028

Saturn -26632-11-30 22:19 J -8005580.69 -8005580.57 -8005580.45 0.0266 0.0136

Mars -26631-02-24 10:19 J -8005495.18 -8005495.07 -8005494.96 0.1715 0.0604

Saturn -26631-02-27 09:21 J -8005492.15 -8005492.11 -8005492.05 0.0266 0.0245

Jupiter -26629-09-13 03:07 J -8004563.55 -8004563.37 -8004563.20 0.0500 0.0091

Moon -26629-12-15 19:26 J -8004469.82 -8004469.69 -8004469.56 0.2650 0.1126

Earth -26629-12-15 20:38 J -8004469.77 -8004469.64 -8004469.50 0.2648 0.0944 *

Moon -26626-06-18 07:11 J -8003555.30 -8003555.20 -8003555.09 0.2686 0.1279

Earth -26626-06-18 07:55 J -8003555.27 -8003555.17 -8003555.06 0.2682 0.1353 *

Jupiter -26623-02-04 07:11 J -8002593.27 -8002593.20 -8002593.14 0.0530 0.0455

Jupiter -26623-05-04 14:38 J -8002504.01 -8002503.89 -8002503.76 0.0527 0.0136

Uranus -26622-04-21 22:33 J -8002151.58 -8002151.56 -8002151.53 0.0143 0.0140

Mars -26622-07-17 20:23 J -8002064.77 -8002064.65 -8002064.53 0.1710 0.0078

Uranus -26622-07-19 02:23 J -8002063.47 -8002063.40 -8002063.32 0.0143 0.0118

Uranus -26622-10-15 06:28 J -8001975.33 -8001975.23 -8001975.13 0.0143 0.0095

Uranus -26621-01-11 10:19 J -8001887.19 -8001887.07 -8001886.95 0.0143 0.0073

Uranus -26621-04-08 14:09 J -8001799.03 -8001798.91 -8001798.77 0.0143 0.0050

Mars -26621-05-28 20:38 J -8001748.78 -8001748.64 -8001748.49 0.1806 0.0803

Uranus -26621-07-05 18:14 J -8001710.87 -8001710.74 -8001710.60 0.0143 0.0027

Uranus -26621-10-01 22:19 J -8001622.71 -8001622.57 -8001622.43 0.0143 0.0005

Uranus -26621-12-29 02:23 J -8001534.54 -8001534.40 -8001534.26 0.0143 0.0020

Uranus -26620-03-27 06:28 J -8001446.36 -8001446.23 -8001446.09 0.0144 0.0044

Uranus -26620-06-23 10:47 J -8001358.18 -8001358.05 -8001357.93 0.0144 0.0067

Uranus -26620-09-19 14:52 J -8001269.99 -8001269.88 -8001269.77 0.0144 0.0091

Uranus -26620-12-16 19:11 J -8001181.79 -8001181.70 -8001181.62 0.0144 0.0115

Uranus -26619-03-14 23:02 J -8001093.56 -8001093.54 -8001093.50 0.0144 0.0140

Earth -26619-06-11 01:55 J -8001005.51 -8001005.42 -8001005.32 0.2687 0.1614

Moon -26619-06-11 02:09 J -8001005.50 -8001005.41 -8001005.32 0.2680 0.1662 *

Jupiter -26617-07-02 02:09 J -8000253.59 -8000253.41 -8000253.23 0.0500 0.0074

Saturn -26617-07-04 03:50 J -8000251.38 -8000251.34 -8000251.29 0.0292 0.0282

Saturn -26617-10-01 02:38 J -8000162.55 -8000162.39 -8000162.22 0.0293 0.0095

Pluto -26617-10-12 17:59 J -8000150.78 -8000150.75 -8000150.67 0.0074 0.0070

Saturn -26617-12-29 00:57 J -8000073.62 -8000073.46 -8000073.29 0.0293 0.0091

Pluto -26616-01-08 19:26 J -8000062.76 -8000062.69 -8000062.59 0.0074 0.0062

Saturn -26616-03-27 22:47 J -7999984.60 -7999984.55 -7999984.47 0.0294 0.0272

Pluto -26616-04-06 20:52 J -7999974.72 -7999974.63 -7999974.51 0.0074 0.0053

Pluto -26616-07-03 22:19 J -7999886.68 -7999886.57 -7999886.44 0.0074 0.0045

Pluto -26616-09-29 23:45 J -7999798.64 -7999798.51 -7999798.37 0.0074 0.0037

Neptune -26616-10-19 21:07 J -7999778.65 -7999778.62 -7999778.57 0.0089 0.0085

Moon -26616-12-18 21:35 J -7999718.74 -7999718.60 -7999718.46 0.2655 0.0476

Earth -26616-12-18 22:19 J -7999718.71 -7999718.57 -7999718.43 0.2649 0.0522 *

Pluto -26616-12-27 00:57 J -7999710.59 -7999710.46 -7999710.31 0.0074 0.0030

Neptune -26615-01-15 22:19 J -7999690.62 -7999690.57 -7999690.49 0.0089 0.0078

Pluto -26615-03-25 02:23 J -7999622.54 -7999622.40 -7999622.25 0.0074 0.0022

Neptune -26615-04-13 23:45 J -7999602.58 -7999602.51 -7999602.42 0.0089 0.0071

Pluto -26615-06-21 03:35 J -7999534.49 -7999534.35 -7999534.19 0.0074 0.0015

Neptune -26615-07-11 01:11 J -7999514.53 -7999514.45 -7999514.35 0.0089 0.0065

Pluto -26615-09-17 05:02 J -7999446.44 -7999446.29 -7999446.14 0.0073 0.0007

Neptune -26615-10-07 02:38 J -7999426.48 -7999426.39 -7999426.28 0.0089 0.0058

Pluto -26615-12-14 06:28 J -7999358.39 -7999358.23 -7999358.08 0.0073 0.0002

Neptune -26614-01-03 04:19 J -7999338.43 -7999338.32 -7999338.21 0.0089 0.0050

Pluto -26614-03-12 07:40 J -7999270.33 -7999270.18 -7999270.03 0.0073 0.0008

Neptune -26614-04-01 05:45 J -7999250.38 -7999250.26 -7999250.14 0.0089 0.0043

Pluto -26614-06-08 08:38 J -7999182.28 -7999182.14 -7999181.98 0.0073 0.0016

Neptune -26614-06-28 07:11 J -7999162.32 -7999162.20 -7999162.08 0.0089 0.0037

Pluto -26614-09-04 10:04 J -7999094.22 -7999094.08 -7999093.94 0.0073 0.0023

Neptune -26614-09-24 08:38 J -7999074.27 -7999074.14 -7999074.01 0.0089 0.0030

Pluto -26614-12-01 11:02 J -7999006.16 -7999006.04 -7999005.89 0.0073 0.0031

Neptune -26614-12-21 10:04 J -7998986.21 -7998986.08 -7998985.95 0.0089 0.0023

Pluto -26613-02-27 12:14 J -7998918.11 -7998917.99 -7998917.85 0.0073 0.0038

Neptune -26613-03-18 11:31 J -7998898.15 -7998898.02 -7998897.89 0.0089 0.0016

Pluto -26613-05-25 13:26 J -7998830.04 -7998829.94 -7998829.81 0.0073 0.0045

Neptune -26613-06-14 12:57 J -7998810.10 -7998809.96 -7998809.83 0.0089 0.0009

Moon -26613-06-20 03:50 J -7998804.39 -7998804.34 -7998804.29 0.2686 0.2398

Earth -26613-06-20 04:04 J -7998804.38 -7998804.33 -7998804.28 0.2680 0.2450 *

Pluto -26613-08-21 14:38 J -7998741.98 -7998741.89 -7998741.77 0.0072 0.0052

Neptune -26613-09-10 14:23 J -7998722.04 -7998721.90 -7998721.76 0.0089 0.0002

Pluto -26613-11-17 15:50 J -7998653.91 -7998653.84 -7998653.74 0.0072 0.0059

Mars -26613-12-07 06:28 J -7998634.35 -7998634.23 -7998634.12 0.1705 0.0479

Neptune -26613-12-07 15:50 J -7998633.98 -7998633.84 -7998633.70 0.0089 0.0005

Pluto -26612-02-13 17:02 J -7998565.84 -7998565.79 -7998565.72 0.0072 0.0066

Neptune -26612-03-05 17:16 J -7998545.91 -7998545.78 -7998545.64 0.0089 0.0012

Venus -26612-06-01 16:33 J -7998457.88 -7998457.81 -7998457.75 0.3774 0.2903

Neptune -26612-06-01 18:43 J -7998457.85 -7998457.72 -7998457.58 0.0089 0.0019 *

Neptune -26612-08-28 20:09 J -7998369.79 -7998369.66 -7998369.52 0.0089 0.0027

Mars -26612-10-18 18:43 J -7998318.88 -7998318.72 -7998318.56 0.1812 0.0293

Neptune -26612-11-24 21:35 J -7998281.72 -7998281.60 -7998281.47 0.0089 0.0034

Jupiter -26611-02-20 17:45 J -7998193.89 -7998193.76 -7998193.63 0.0527 0.0027

Neptune -26611-02-20 23:16 J -7998193.65 -7998193.53 -7998193.41 0.0089 0.0041 *

Neptune -26611-05-20 00:43 J -7998105.58 -7998105.47 -7998105.35 0.0089 0.0048

Neptune -26611-08-16 01:55 J -7998017.51 -7998017.42 -7998017.30 0.0089 0.0055

Neptune -26611-11-12 03:21 J -7997929.44 -7997929.36 -7997929.25 0.0089 0.0063

Neptune -26610-02-08 05:02 J -7997841.37 -7997841.29 -7997841.20 0.0089 0.0069

Neptune -26610-05-07 06:28 J -7997753.29 -7997753.23 -7997753.15 0.0089 0.0076

Neptune -26610-08-03 07:55 J -7997665.20 -7997665.17 -7997665.11 0.0089 0.0084

Venus -26607-12-16 09:07 J -7996434.23 -7996434.12 -7996434.02 0.3774 0.0458

Moon -26606-06-13 20:52 J -7996254.74 -7996254.63 -7996254.51 0.2681 0.0567

Earth -26606-06-13 21:35 J -7996254.72 -7996254.60 -7996254.49 0.2685 0.0582 *

Jupiter -26605-04-20 00:57 J -7995943.62 -7995943.46 -7995943.31 0.0499 0.0241

Jupiter -26605-07-19 05:31 J -7995853.33 -7995853.27 -7995853.19 0.0502 0.0458

Mars -26603-04-29 16:33 J -7995203.90 -7995203.81 -7995203.71 0.1700 0.0995

Saturn -26603-07-28 16:04 J -7995113.91 -7995113.83 -7995113.75 0.0268 0.0214

Saturn -26603-10-25 02:52 J -7995025.50 -7995025.38 -7995025.25 0.0268 0.0108

Earth -26603-12-21 23:31 J -7994967.61 -7994967.52 -7994967.42 0.2651 0.1940

Moon -26603-12-21 23:45 J -7994967.60 -7994967.51 -7994967.42 0.2658 0.1994 *

Saturn -26602-01-21 13:55 J -7994937.06 -7994936.92 -7994936.78 0.0267 0.0004

Mars -26602-03-10 16:19 J -7994888.92 -7994888.82 -7994888.72 0.1818 0.1407

Saturn -26602-04-20 00:57 J -7994848.59 -7994848.46 -7994848.33 0.0267 0.0107

Saturn -26602-07-17 11:59 J -7994760.07 -7994760.00 -7994759.91 0.0266 0.0217

Mars -26601-04-04 00:28 J -7994498.56 -7994498.48 -7994498.40 0.1719 0.1231

Venus -26601-07-01 01:40 J -7994410.51 -7994410.43 -7994410.34 0.3775 0.2039

Jupiter -26600-12-09 21:21 J -7993883.73 -7993883.61 -7993883.49 0.0528 0.0173

Jupiter -26599-03-09 05:16 J -7993794.36 -7993794.28 -7993794.20 0.0525 0.0420

Venus -26597-06-29 09:07 J -7992951.26 -7992951.12 -7992950.97 0.3600 0.0788

Moon -26596-12-13 23:31 J -7992418.58 -7992418.52 -7992418.46 0.2644 0.2364

Earth -26596-12-14 00:43 J -7992418.55 -7992418.47 -7992418.39 0.2646 0.2173 *

Mars -26594-09-20 03:07 J -7991773.42 -7991773.37 -7991773.32 0.1695 0.1496

Jupiter -26593-02-06 22:33 J -7991633.65 -7991633.56 -7991633.46 0.0498 0.0420

Jupiter -26593-05-07 03:50 J -7991543.48 -7991543.34 -7991543.19 0.0501 0.0282

Moon -26593-06-15 16:33 J -7991503.93 -7991503.81 -7991503.70 0.2682 0.0362

Earth -26593-06-15 17:16 J -7991503.90 -7991503.78 -7991503.66 0.2683 0.0482 *

Mars -26592-08-25 10:19 J -7991068.18 -7991068.07 -7991067.96 0.1715 0.0671

Jupiter -26588-09-28 01:26 J -7989573.54 -7989573.44 -7989573.34 0.0529 0.0315

Jupiter -26588-12-26 09:07 J -7989484.23 -7989484.12 -7989484.00 0.0526 0.0278

Saturn -26587-02-18 01:26 J -7989430.59 -7989430.44 -7989430.29 0.0293 0.0150

Saturn -26587-05-17 23:59 J -7989341.67 -7989341.50 -7989341.33 0.0293 0.0036

Saturn -26587-08-14 22:04 J -7989252.69 -7989252.58 -7989252.46 0.0294 0.0219

Earth -26586-06-09 11:45 J -7988954.06 -7988954.01 -7988953.97 0.2688 0.2434

Moon -26586-06-09 12:14 J -7988954.04 -7988953.99 -7988953.94 0.2682 0.2401 *

Moon -26583-12-17 01:26 J -7987667.58 -7987667.44 -7987667.31 0.2650 0.0701

Earth -26583-12-17 02:38 J -7987667.53 -7987667.39 -7987667.25 0.2648 0.0669 *

Mars -26582-01-15 20:23 J -7987637.77 -7987637.65 -7987637.53 0.1710 0.0134

Uranus -26582-03-10 18:14 J -7987583.78 -7987583.74 -7987583.68 0.0136 0.0130

Uranus -26582-06-07 00:43 J -7987495.57 -7987495.47 -7987495.34 0.0136 0.0104

Uranus -26582-09-03 07:11 J -7987407.34 -7987407.20 -7987407.05 0.0136 0.0078

Mars -26582-11-27 21:21 J -7987321.75 -7987321.61 -7987321.47 0.1806 0.0914

Uranus -26582-11-30 13:40 J -7987319.09 -7987318.93 -7987318.76 0.0135 0.0052

Jupiter -26581-02-24 02:23 J -7987233.57 -7987233.40 -7987233.23 0.0500 0.0110

Uranus -26581-02-26 19:55 J -7987230.84 -7987230.67 -7987230.49 0.0135 0.0027

Uranus -26581-05-25 02:09 J -7987142.59 -7987142.41 -7987142.23 0.0135 0.0002

Uranus -26581-08-21 08:23 J -7987054.33 -7987054.15 -7987053.98 0.0135 0.0024

Uranus -26581-11-17 14:23 J -7986966.06 -7986965.90 -7986965.73 0.0135 0.0048

Uranus -26580-02-13 20:23 J -7986877.79 -7986877.65 -7986877.50 0.0135 0.0073

Uranus -26580-05-13 02:23 J -7986789.51 -7986789.40 -7986789.27 0.0135 0.0097

Moon -26580-06-18 12:28 J -7986753.08 -7986752.98 -7986752.88 0.2686 0.1534

Earth -26580-06-18 13:11 J -7986753.05 -7986752.95 -7986752.86 0.2681 0.1559 *

Uranus -26580-08-09 08:23 J -7986701.22 -7986701.15 -7986701.07 0.0135 0.0121

Jupiter -26576-07-17 05:45 J -7985263.33 -7985263.26 -7985263.20 0.0530 0.0452

Jupiter -26576-10-14 13:26 J -7985174.07 -7985173.94 -7985173.82 0.0527 0.0139

Saturn -26574-12-15 17:45 J -7984381.80 -7984381.76 -7984381.72 0.0268 0.0251

Saturn -26573-03-13 04:33 J -7984293.43 -7984293.31 -7984293.20 0.0267 0.0146

Mars -26573-06-07 06:28 J -7984207.35 -7984207.23 -7984207.12 0.1705 0.0408

Saturn -26573-06-09 15:21 J -7984204.99 -7984204.86 -7984204.72 0.0267 0.0039

Moon -26573-06-11 06:57 J -7984203.31 -7984203.21 -7984203.11 0.2680 0.1371

Earth -26573-06-11 06:57 J -7984203.30 -7984203.21 -7984203.11 0.2687 0.1422 *

Saturn -26573-09-06 02:23 J -7984116.53 -7984116.40 -7984116.26 0.0267 0.0068

Saturn -26573-12-03 13:40 J -7984028.04 -7984027.93 -7984027.83 0.0266 0.0177

Mars -26572-04-18 19:26 J -7983891.85 -7983891.69 -7983891.53 0.1812 0.0168

Jupiter -26570-12-13 00:43 J -7982923.65 -7982923.47 -7982923.29 0.0500 0.0065

Moon -26570-12-20 03:35 J -7982916.48 -7982916.35 -7982916.21 0.2656 0.0715

Earth -26570-12-20 04:04 J -7982916.46 -7982916.33 -7982916.19 0.2650 0.0795 *

Moon -26567-06-21 09:07 J -7982002.13 -7982002.12 -7982002.11 0.2686 0.2669

Earth -26567-06-21 09:07 J -7982002.12 -7982002.12 -7982002.11 0.2680 0.2664 *

Jupiter -26564-08-02 17:16 J -7980863.91 -7980863.78 -7980863.64 0.0527 0.0017

Mars -26564-10-28 16:33 J -7980776.90 -7980776.81 -7980776.71 0.1700 0.0930

Mars -26563-09-08 16:33 J -7980461.92 -7980461.81 -7980461.69 0.1818 0.1313

Mars -26562-10-04 00:28 J -7980071.56 -7980071.48 -7980071.40 0.1720 0.1301

Moon -26560-06-14 01:55 J -7979452.53 -7979452.42 -7979452.30 0.2680 0.0511

Earth -26560-06-14 02:38 J -7979452.51 -7979452.39 -7979452.27 0.2685 0.0378 *

Saturn -26558-07-07 20:52 J -7978698.74 -7978698.63 -7978698.52 0.0292 0.0228

Jupiter -26558-09-30 23:31 J -7978613.67 -7978613.52 -7978613.36 0.0499 0.0230

Saturn -26558-10-04 19:40 J -7978609.85 -7978609.68 -7978609.51 0.0293 0.0041

Jupiter -26558-12-30 04:33 J -7978523.37 -7978523.31 -7978523.25 0.0502 0.0469

Saturn -26557-01-01 17:59 J -7978520.90 -7978520.75 -7978520.60 0.0293 0.0143

Earth -26557-12-22 05:16 J -7978165.35 -7978165.28 -7978165.20 0.2652 0.2202

Moon -26557-12-22 05:31 J -7978165.34 -7978165.27 -7978165.19 0.2658 0.2215 *

Venus -26555-01-06 14:09 J -7977785.00 -7977784.91 -7977784.82 0.3774 0.2004

Mars -26554-03-21 03:07 J -7977346.43 -7977346.37 -7977346.31 0.1695 0.1437

Mars -26552-02-23 10:19 J -7976641.18 -7976641.07 -7976640.96 0.1714 0.0738

Jupiter -26552-05-21 20:23 J -7976553.77 -7976553.65 -7976553.52 0.0528 0.0161

Jupiter -26552-08-19 04:19 J -7976464.39 -7976464.32 -7976464.24 0.0525 0.0432

Venus -26550-07-23 06:43 J -7975761.32 -7975761.22 -7975761.11 0.3774 0.0456

Moon -26550-12-15 05:16 J -7975616.38 -7975616.28 -7975616.18 0.2646 0.1932

Earth -26550-12-15 06:43 J -7975616.32 -7975616.22 -7975616.12 0.2646 0.1898 *

Moon -26547-06-16 21:35 J -7974701.72 -7974701.60 -7974701.49 0.2684 0.0677

Earth -26547-06-16 22:19 J -7974701.68 -7974701.57 -7974701.45 0.2683 0.0684 *

Jupiter -26546-07-19 22:04 J -7974303.68 -7974303.58 -7974303.47 0.0499 0.0399

Venus -26546-07-21 05:59 J -7974302.36 -7974302.25 -7974302.15 0.3601 0.2550

Jupiter -26546-10-18 03:35 J -7974213.49 -7974213.35 -7974213.21 0.0501 0.0305

Venus -26544-02-04 23:31 J -7973737.58 -7973737.52 -7973737.46 0.3775 0.2962

Saturn -26544-07-31 06:57 J -7973561.31 -7973561.21 -7973561.10 0.0268 0.0176

Saturn -26544-10-27 17:59 J -7973472.88 -7973472.75 -7973472.62 0.0268 0.0069

Saturn -26543-01-24 05:02 J -7973384.43 -7973384.29 -7973384.15 0.0267 0.0039

Saturn -26543-04-22 16:04 J -7973295.94 -7973295.83 -7973295.71 0.0267 0.0147

Mars -26543-07-16 20:09 J -7973210.77 -7973210.66 -7973210.54 0.1709 0.0196

Saturn -26543-07-20 03:21 J -7973207.39 -7973207.36 -7973207.32 0.0266 0.0256

Mars -26542-05-28 22:19 J -7972894.70 -7972894.57 -7972894.44 0.1806 0.1038

Venus -26540-02-03 09:50 J -7972278.19 -7972278.09 -7972277.98 0.3600 0.2543

Jupiter -26540-03-10 00:14 J -7972243.60 -7972243.49 -7972243.39 0.0529 0.0308

Jupiter -26540-06-07 07:55 J -7972154.28 -7972154.17 -7972154.06 0.0526 0.0283

Earth -26540-06-09 16:47 J -7972151.87 -7972151.80 -7972151.74 0.2688 0.2246

Moon -26540-06-09 17:02 J -7972151.85 -7972151.79 -7972151.72 0.2682 0.2197 *

Uranus -26538-05-12 06:28 J -7971450.28 -7971450.23 -7971450.17 0.0143 0.0130

Uranus -26538-08-08 10:33 J -7971362.15 -7971362.06 -7971361.97 0.0143 0.0108

Uranus -26538-11-04 14:23 J -7971274.01 -7971273.90 -7971273.79 0.0143 0.0086

Uranus -26537-01-31 18:14 J -7971185.86 -7971185.74 -7971185.61 0.0143 0.0063

Uranus -26537-04-28 22:19 J -7971097.70 -7971097.57 -7971097.43 0.0143 0.0040

Uranus -26537-07-26 02:23 J -7971009.54 -7971009.40 -7971009.26 0.0143 0.0017

Uranus -26537-10-22 06:28 J -7970921.37 -7970921.23 -7970921.09 0.0143 0.0006

Moon -26537-12-17 07:26 J -7970865.33 -7970865.19 -7970865.05 0.2651 0.0578

Earth -26537-12-17 08:38 J -7970865.28 -7970865.14 -7970865.00 0.2648 0.0399 *

Uranus -26536-01-18 10:33 J -7970833.20 -7970833.06 -7970832.92 0.0144 0.0030

Uranus -26536-04-16 14:23 J -7970745.02 -7970744.90 -7970744.76 0.0144 0.0054

Uranus -26536-07-13 18:43 J -7970656.84 -7970656.72 -7970656.60 0.0144 0.0077

Uranus -26536-10-09 23:02 J -7970568.64 -7970568.54 -7970568.44 0.0144 0.0101

Uranus -26535-01-06 03:07 J -7970480.43 -7970480.37 -7970480.30 0.0144 0.0125

Moon -26534-06-19 17:31 J -7969950.86 -7969950.77 -7969950.67 0.2686 0.1676

Earth -26534-06-19 18:14 J -7969950.83 -7969950.74 -7969950.65 0.2681 0.1773 *

Jupiter -26534-08-06 01:40 J -7969903.60 -7969903.43 -7969903.26 0.0500 0.0128

Mars -26534-12-07 06:28 J -7969780.35 -7969780.23 -7969780.12 0.1705 0.0341

Mars -26533-10-17 19:55 J -7969464.83 -7969464.67 -7969464.50 0.1812 0.0075

Neptune -26532-04-10 05:02 J -7969290.30 -7969290.29 -7969290.26 0.0088 0.0087

Neptune -26532-07-07 08:09 J -7969202.23 -7969202.16 -7969202.05 0.0088 0.0078

Neptune -26532-10-03 11:45 J -7969114.12 -7969114.01 -7969113.88 0.0088 0.0068

Neptune -26532-12-30 14:52 J -7969026.00 -7969025.88 -7969025.73 0.0088 0.0059

Neptune -26531-03-28 18:14 J -7968937.88 -7968937.74 -7968937.57 0.0088 0.0050

Neptune -26531-06-24 21:50 J -7968849.76 -7968849.59 -7968849.42 0.0088 0.0040

Neptune -26531-09-21 00:57 J -7968761.63 -7968761.46 -7968761.28 0.0088 0.0031

Neptune -26531-12-18 04:04 J -7968673.50 -7968673.33 -7968673.14 0.0088 0.0022

Neptune -26530-03-16 07:40 J -7968585.37 -7968585.18 -7968585.00 0.0088 0.0013

Neptune -26530-06-12 10:47 J -7968497.23 -7968497.05 -7968496.86 0.0088 0.0004

Neptune -26530-09-08 14:09 J -7968409.10 -7968408.91 -7968408.73 0.0088 0.0006

Neptune -26530-12-05 17:16 J -7968320.96 -7968320.78 -7968320.59 0.0088 0.0015

Neptune -26529-03-02 20:23 J -7968232.82 -7968232.65 -7968232.47 0.0088 0.0024

Neptune -26529-05-29 23:45 J -7968144.68 -7968144.51 -7968144.34 0.0088 0.0033

Neptune -26529-08-26 02:52 J -7968056.54 -7968056.38 -7968056.22 0.0088 0.0042

Neptune -26529-11-22 05:59 J -7967968.40 -7967968.25 -7967968.10 0.0088 0.0051

Saturn -26529-11-23 19:40 J -7967966.72 -7967966.68 -7967966.63 0.0293 0.0282

Jupiter -26529-12-27 04:04 J -7967933.39 -7967933.33 -7967933.26 0.0530 0.0451

Neptune -26528-02-18 09:07 J -7967880.25 -7967880.12 -7967879.98 0.0088 0.0061

Saturn -26528-02-20 18:43 J -7967877.89 -7967877.72 -7967877.55 0.0293 0.0094

Jupiter -26528-03-26 11:45 J -7967844.14 -7967844.01 -7967843.88 0.0527 0.0139

Neptune -26528-05-17 12:14 J -7967792.10 -7967791.99 -7967791.87 0.0088 0.0070

Saturn -26528-05-20 17:02 J -7967788.95 -7967788.79 -7967788.62 0.0294 0.0091

Neptune -26528-08-13 15:21 J -7967703.93 -7967703.86 -7967703.77 0.0088 0.0078

Saturn -26528-08-17 14:52 J -7967699.93 -7967699.88 -7967699.81 0.0294 0.0273

Neptune -26528-11-09 18:28 J -7967615.74 -7967615.73 -7967615.70 0.0088 0.0087

Moon -26527-06-12 11:59 J -7967401.11 -7967401.00 -7967400.90 0.2680 0.1271

Earth -26527-06-12 11:59 J -7967401.10 -7967401.00 -7967400.89 0.2686 0.1229 *

Mars -26524-04-28 16:33 J -7966349.91 -7966349.81 -7966349.70 0.1700 0.0864

Moon -26524-12-20 09:35 J -7966114.22 -7966114.10 -7966113.97 0.2657 0.1101

Earth -26524-12-20 10:04 J -7966114.21 -7966114.08 -7966113.95 0.2650 0.1059 *

Mars -26523-03-09 17:31 J -7966034.89 -7966034.77 -7966034.65 0.1818 0.1185

Mars -26522-04-04 00:28 J -7965644.55 -7965644.48 -7965644.40 0.1720 0.1373

Jupiter -26522-05-24 23:59 J -7965593.68 -7965593.50 -7965593.33 0.0499 0.0047

Jupiter -26516-01-12 15:50 J -7963533.97 -7963533.84 -7963533.71 0.0528 0.0014

Mars -26515-09-19 03:07 J -7962919.44 -7962919.37 -7962919.31 0.1695 0.1370

Saturn -26515-12-18 09:07 J -7962829.21 -7962829.12 -7962829.04 0.0268 0.0211

Saturn -26514-03-16 19:40 J -7962740.80 -7962740.68 -7962740.55 0.0267 0.0106

Saturn -26514-06-13 06:43 J -7962652.36 -7962652.22 -7962652.08 0.0267 0.0005

Moon -26514-06-15 06:57 J -7962650.32 -7962650.21 -7962650.09 0.2680 0.0192

Earth -26514-06-15 07:40 J -7962650.30 -7962650.18 -7962650.06 0.2685 0.0184 *

Saturn -26514-09-09 17:45 J -7962563.88 -7962563.76 -7962563.63 0.0266 0.0110

Saturn -26514-12-07 05:02 J -7962475.37 -7962475.29 -7962475.21 0.0266 0.0219

Mars -26513-08-24 10:19 J -7962214.17 -7962214.07 -7962213.96 0.1714 0.0808

Earth -26511-12-23 11:16 J -7961363.08 -7961363.03 -7961362.99 0.2652 0.2465

Moon -26511-12-23 11:31 J -7961363.06 -7961363.02 -7961362.97 0.2658 0.2491 *

Jupiter -26510-03-12 22:04 J -7961283.74 -7961283.58 -7961283.42 0.0499 0.0222

Jupiter -26510-06-11 02:52 J -7961193.43 -7961193.38 -7961193.33 0.0502 0.0476

Jupiter -26505-10-31 19:55 J -7959223.79 -7959223.67 -7959223.54 0.0528 0.0141

Venus -26504-01-27 19:11 J -7959135.73 -7959135.70 -7959135.66 0.3773 0.3529

Jupiter -26504-01-29 03:50 J -7959134.40 -7959134.34 -7959134.27 0.0525 0.0454

Moon -26504-12-15 11:16 J -7958814.14 -7958814.03 -7958813.93 0.2646 0.1805

Earth -26504-12-15 12:43 J -7958814.09 -7958813.97 -7958813.86 0.2647 0.1615 *

Mars -26503-01-14 20:23 J -7958783.77 -7958783.65 -7958783.54 0.1709 0.0262

Mars -26503-11-26 22:33 J -7958467.68 -7958467.56 -7958467.44 0.1806 0.1132

Moon -26501-06-17 02:38 J -7957899.50 -7957899.39 -7957899.28 0.2685 0.0744

Earth -26501-06-17 03:35 J -7957899.47 -7957899.35 -7957899.24 0.2683 0.0897 *

Saturn -26499-07-10 14:23 J -7957146.04 -7957145.90 -7957145.76 0.0292 0.0171

Venus -26499-08-13 11:45 J -7957112.11 -7957112.01 -7957111.91 0.3774 0.1107

Saturn -26499-10-07 12:57 J -7957057.13 -7957056.96 -7957056.78 0.0293 0.0016

Jupiter -26499-12-29 20:52 J -7956973.74 -7956973.63 -7956973.52 0.0498 0.0388

Saturn -26498-01-04 11:16 J -7956968.16 -7956968.03 -7956967.90 0.0293 0.0199

Jupiter -26498-03-30 02:09 J -7956883.54 -7956883.41 -7956883.27 0.0501 0.0314

Uranus -26498-03-31 02:09 J -7956882.48 -7956882.41 -7956882.31 0.0136 0.0120

Uranus -26498-06-27 08:38 J -7956794.25 -7956794.14 -7956793.99 0.0136 0.0094

Uranus -26498-09-23 15:21 J -7956706.01 -7956705.86 -7956705.70 0.0135 0.0067

Uranus -26498-12-20 21:35 J -7956617.77 -7956617.60 -7956617.42 0.0135 0.0042

Uranus -26497-03-18 03:50 J -7956529.51 -7956529.34 -7956529.16 0.0135 0.0017

Uranus -26497-06-14 10:04 J -7956441.25 -7956441.08 -7956440.90 0.0135 0.0009

Uranus -26497-09-10 16:19 J -7956352.99 -7956352.82 -7956352.64 0.0135 0.0034

Uranus -26497-12-07 22:19 J -7956264.72 -7956264.57 -7956264.40 0.0135 0.0058

Uranus -26496-03-06 04:19 J -7956176.45 -7956176.32 -7956176.17 0.0135 0.0083

Uranus -26496-06-02 10:19 J -7956088.17 -7956088.07 -7956087.96 0.0135 0.0107

Uranus -26496-08-29 16:04 J -7955999.85 -7955999.83 -7955999.77 0.0135 0.0131

Mars -26494-06-07 06:28 J -7955353.35 -7955353.23 -7955353.12 0.1704 0.0281

Earth -26494-06-10 21:35 J -7955349.67 -7955349.60 -7955349.52 0.2688 0.2056

Moon -26494-06-10 22:04 J -7955349.66 -7955349.58 -7955349.50 0.2682 0.1998 *

Venus -26493-02-27 04:19 J -7955088.41 -7955088.32 -7955088.22 0.3774 0.1366

Mars -26493-04-17 20:38 J -7955037.80 -7955037.64 -7955037.48 0.1812 0.0060

Jupiter -26493-08-19 23:16 J -7954913.64 -7954913.53 -7954913.43 0.0528 0.0296

Jupiter -26493-11-17 06:57 J -7954824.32 -7954824.21 -7954824.10 0.0526 0.0294

Moon -26491-12-18 13:26 J -7954063.08 -7954062.94 -7954062.80 0.2652 0.0119

Earth -26491-12-18 14:23 J -7954063.04 -7954062.90 -7954062.76 0.2648 0.0125 *

Venus -26489-02-25 06:43 J -7953629.36 -7953629.22 -7953629.08 0.3601 0.0738

Moon -26488-06-19 22:47 J -7953148.62 -7953148.55 -7953148.47 0.2686 0.1990

Earth -26488-06-19 23:31 J -7953148.60 -7953148.52 -7953148.44 0.2681 0.1982 *

Jupiter -26486-01-16 00:57 J -7952573.63 -7952573.46 -7952573.29 0.0501 0.0148

Saturn -26485-05-06 11:31 J -7952097.08 -7952097.02 -7952096.97 0.0268 0.0243

Saturn -26485-08-02 22:19 J -7952008.69 -7952008.57 -7952008.45 0.0268 0.0136

Mars -26485-10-27 16:33 J -7951922.91 -7951922.81 -7951922.70 0.1700 0.0801

Saturn -26485-10-30 09:21 J -7951920.25 -7951920.11 -7951919.98 0.0268 0.0030

Saturn -26484-01-26 20:09 J -7951831.79 -7951831.66 -7951831.52 0.0267 0.0080

Saturn -26484-04-25 07:26 J -7951743.29 -7951743.19 -7951743.09 0.0267 0.0188

Mars -26484-09-07 18:14 J -7951607.87 -7951607.74 -7951607.61 0.1818 0.1066

Mars -26483-10-03 00:28 J -7951217.54 -7951217.48 -7951217.42 0.1719 0.1435

Jupiter -26481-06-08 02:52 J -7950603.45 -7950603.38 -7950603.31 0.0529 0.0444

Moon -26481-06-12 16:47 J -7950598.91 -7950598.80 -7950598.69 0.2680 0.1047

Earth -26481-06-12 17:16 J -7950598.89 -7950598.78 -7950598.67 0.2686 0.1026 *

Jupiter -26481-09-05 10:33 J -7950514.19 -7950514.06 -7950513.94 0.0526 0.0145

Moon -26478-12-21 15:35 J -7949311.97 -7949311.85 -7949311.73 0.2657 0.1227

Earth -26478-12-21 15:50 J -7949311.96 -7949311.84 -7949311.72 0.2650 0.1326 *

Mars -26475-03-20 03:07 J -7948492.44 -7948492.37 -7948492.30 0.1695 0.1303

Jupiter -26475-11-03 23:02 J -7948263.72 -7948263.54 -7948263.36 0.0500 0.0031

Mars -26473-02-23 10:19 J -7947787.17 -7947787.07 -7947786.97 0.1715 0.0875

Saturn -26470-11-27 13:55 J -7946414.03 -7946413.92 -7946413.80 0.0293 0.0220

Saturn -26469-02-24 12:43 J -7946325.15 -7946324.97 -7946324.80 0.0293 0.0033

Saturn -26469-05-23 10:47 J -7946236.19 -7946236.05 -7946235.89 0.0294 0.0152

Jupiter -26469-06-24 14:23 J -7946204.04 -7946203.90 -7946203.77 0.0528 0.0017

Moon -26468-06-15 11:59 J -7945848.12 -7945848.00 -7945847.88 0.2681 0.0116

Earth -26468-06-15 12:43 J -7945848.08 -7945847.97 -7945847.85 0.2684 0.0083 *

Mars -26464-07-15 20:23 J -7944356.77 -7944356.65 -7944356.54 0.1710 0.0329

Mars -26463-05-27 23:16 J -7944040.64 -7944040.53 -7944040.41 0.1806 0.1249

Jupiter -26463-08-22 21:07 J -7943953.78 -7943953.62 -7943953.46 0.0499 0.0206

Jupiter -26463-11-21 01:55 J -7943863.45 -7943863.42 -7943863.39 0.0501 0.0491

Moon -26458-12-16 17:16 J -7942011.90 -7942011.78 -7942011.66 0.2646 0.1392

Earth -26458-12-16 18:28 J -7942011.85 -7942011.73 -7942011.60 0.2647 0.1337 *

Jupiter -26457-04-12 18:28 J -7941893.86 -7941893.73 -7941893.61 0.0528 0.0141

Jupiter -26457-07-11 02:23 J -7941804.46 -7941804.40 -7941804.34 0.0525 0.0454

Pluto -26456-10-04 00:14 J -7941354.50 -7941354.49 -7941354.47 0.0070 0.0070

Saturn -26456-12-21 00:28 J -7941276.58 -7941276.48 -7941276.38 0.0268 0.0169

Pluto -26456-12-31 01:11 J -7941266.50 -7941266.45 -7941266.36 0.0070 0.0063

Saturn -26455-03-19 11:16 J -7941188.16 -7941188.03 -7941187.89 0.0267 0.0062

Pluto -26455-03-29 02:38 J -7941178.47 -7941178.39 -7941178.28 0.0070 0.0056

Saturn -26455-06-15 22:19 J -7941099.71 -7941099.57 -7941099.43 0.0267 0.0045

Moon -26455-06-18 07:40 J -7941097.29 -7941097.18 -7941097.07 0.2685 0.1092

Earth -26455-06-18 08:38 J -7941097.25 -7941097.14 -7941097.03 0.2683 0.1097 *

Pluto -26455-06-25 04:19 J -7941090.43 -7941090.32 -7941090.20 0.0071 0.0049

Saturn -26455-09-12 09:21 J -7941011.22 -7941011.11 -7941010.99 0.0266 0.0154

Pluto -26455-09-21 05:45 J -7941002.39 -7941002.26 -7941002.13 0.0071 0.0042

Mars -26455-12-06 06:28 J -7940926.35 -7940926.23 -7940926.12 0.1705 0.0215

Saturn -26455-12-09 20:38 J -7940922.65 -7940922.64 -7940922.62 0.0266 0.0263

Pluto -26455-12-18 06:57 J -7940914.34 -7940914.21 -7940914.06 0.0071 0.0035

Pluto -26454-03-16 08:23 J -7940826.29 -7940826.15 -7940825.99 0.0071 0.0028

Uranus -26454-06-01 14:23 J -7940748.97 -7940748.90 -7940748.83 0.0143 0.0122

Pluto -26454-06-12 09:50 J -7940738.24 -7940738.09 -7940737.92 0.0071 0.0021

Uranus -26454-08-28 18:14 J -7940660.84 -7940660.74 -7940660.64 0.0143 0.0100

Pluto -26454-09-08 11:31 J -7940650.18 -7940650.02 -7940649.86 0.0071 0.0013

Mars -26454-10-17 21:21 J -7940610.77 -7940610.61 -7940610.45 0.1812 0.0169

Uranus -26454-11-24 22:04 J -7940572.69 -7940572.58 -7940572.46 0.0143 0.0077

Pluto -26454-12-05 12:57 J -7940562.12 -7940561.96 -7940561.80 0.0071 0.0006

Uranus -26453-02-21 01:55 J -7940484.54 -7940484.42 -7940484.28 0.0143 0.0055

Pluto -26453-03-02 14:23 J -7940474.06 -7940473.90 -7940473.73 0.0071 0.0002

Uranus -26453-05-19 05:59 J -7940396.38 -7940396.25 -7940396.11 0.0143 0.0032

Pluto -26453-05-29 15:50 J -7940386.00 -7940385.84 -7940385.67 0.0071 0.0009

Uranus -26453-08-15 10:04 J -7940308.22 -7940308.08 -7940307.94 0.0143 0.0009

Pluto -26453-08-25 17:16 J -7940297.94 -7940297.78 -7940297.61 0.0072 0.0017

Uranus -26453-11-11 14:09 J -7940220.05 -7940219.91 -7940219.77 0.0143 0.0014

Pluto -26453-11-21 18:43 J -7940209.87 -7940209.72 -7940209.56 0.0072 0.0024

Uranus -26452-02-07 18:14 J -7940131.87 -7940131.74 -7940131.60 0.0144 0.0038

Pluto -26452-02-17 20:23 J -7940121.80 -7940121.65 -7940121.50 0.0072 0.0032

Uranus -26452-05-06 22:19 J -7940043.69 -7940043.57 -7940043.44 0.0144 0.0062

Pluto -26452-05-16 21:35 J -7940033.72 -7940033.60 -7940033.45 0.0072 0.0040

Uranus -26452-08-03 02:23 J -7939955.51 -7939955.40 -7939955.28 0.0144 0.0086

Pluto -26452-08-12 23:02 J -7939945.64 -7939945.54 -7939945.40 0.0072 0.0048

Uranus -26452-10-30 06:28 J -7939867.31 -7939867.23 -7939867.13 0.0144 0.0110

Pluto -26452-11-09 00:57 J -7939857.56 -7939857.46 -7939857.35 0.0072 0.0056

Uranus -26451-01-26 10:47 J -7939779.09 -7939779.05 -7939779.00 0.0144 0.0134

Pluto -26451-02-05 02:23 J -7939769.47 -7939769.40 -7939769.31 0.0072 0.0064

Pluto -26451-05-04 04:04 J -7939681.34 -7939681.33 -7939681.30 0.0072 0.0072

Jupiter -26451-06-10 19:11 J -7939643.82 -7939643.70 -7939643.59 0.0498 0.0384

Neptune -26451-07-16 20:09 J -7939607.70 -7939607.66 -7939607.60 0.0089 0.0083

Jupiter -26451-09-09 00:14 J -7939553.62 -7939553.49 -7939553.35 0.0501 0.0319

Neptune -26451-10-12 21:35 J -7939519.66 -7939519.60 -7939519.52 0.0089 0.0076

Neptune -26450-01-08 23:02 J -7939431.61 -7939431.54 -7939431.45 0.0089 0.0070

Neptune -26450-04-07 00:28 J -7939343.57 -7939343.48 -7939343.38 0.0089 0.0063

Neptune -26450-07-04 01:55 J -7939255.52 -7939255.42 -7939255.31 0.0089 0.0056

Neptune -26450-09-30 03:07 J -7939167.47 -7939167.37 -7939167.24 0.0089 0.0050

Neptune -26450-12-27 04:33 J -7939079.42 -7939079.31 -7939079.18 0.0089 0.0043

Neptune -26449-03-24 06:14 J -7938991.36 -7938991.24 -7938991.11 0.0089 0.0035

Neptune -26449-06-20 07:40 J -7938903.31 -7938903.18 -7938903.05 0.0089 0.0028

Neptune -26449-09-16 09:07 J -7938815.25 -7938815.12 -7938814.99 0.0089 0.0021

Neptune -26449-12-13 10:33 J -7938727.19 -7938727.06 -7938726.92 0.0089 0.0014

Neptune -26448-03-11 11:59 J -7938639.13 -7938639.00 -7938638.86 0.0089 0.0007

Neptune -26448-06-07 13:26 J -7938551.07 -7938550.94 -7938550.80 0.0089 0.0002

Earth -26448-06-11 02:52 J -7938547.47 -7938547.38 -7938547.30 0.2688 0.1862

Moon -26448-06-11 03:07 J -7938547.46 -7938547.37 -7938547.29 0.2681 0.1867 *

Neptune -26448-09-03 14:52 J -7938463.01 -7938462.88 -7938462.74 0.0089 0.0007

Venus -26448-09-03 16:47 J -7938462.87 -7938462.80 -7938462.72 0.3774 0.2646 *

Neptune -26448-11-30 16:19 J -7938374.95 -7938374.82 -7938374.68 0.0089 0.0014

Neptune -26447-02-26 17:45 J -7938286.89 -7938286.76 -7938286.62 0.0089 0.0021

Neptune -26447-05-25 19:11 J -7938198.82 -7938198.70 -7938198.56 0.0089 0.0028

Neptune -26447-08-21 20:38 J -7938110.76 -7938110.64 -7938110.51 0.0089 0.0035

Neptune -26447-11-17 22:04 J -7938022.69 -7938022.58 -7938022.45 0.0089 0.0043

Neptune -26446-02-13 23:31 J -7937934.62 -7937934.52 -7937934.39 0.0089 0.0050

Neptune -26446-05-13 01:11 J -7937846.55 -7937846.45 -7937846.34 0.0089 0.0056

Neptune -26446-08-09 02:38 J -7937758.48 -7937758.39 -7937758.29 0.0089 0.0064

Neptune -26446-11-05 04:19 J -7937670.40 -7937670.32 -7937670.24 0.0089 0.0071

Jupiter -26445-01-30 22:33 J -7937583.67 -7937583.56 -7937583.45 0.0529 0.0280

Neptune -26445-02-01 05:45 J -7937582.32 -7937582.26 -7937582.19 0.0089 0.0078

Mars -26445-04-27 16:47 J -7937495.91 -7937495.80 -7937495.70 0.1700 0.0733

Jupiter -26445-04-29 06:14 J -7937494.34 -7937494.24 -7937494.13 0.0526 0.0312

Neptune -26445-04-29 06:57 J -7937494.24 -7937494.21 -7937494.16 0.0089 0.0085 *

Moon -26445-12-18 19:26 J -7937260.83 -7937260.69 -7937260.55 0.2654 0.0055

Earth -26445-12-18 20:23 J -7937260.79 -7937260.65 -7937260.51 0.2649 0.0161 *

Mars -26444-03-08 18:43 J -7937180.85 -7937180.72 -7937180.58 0.1818 0.0960

Mars -26443-04-03 00:28 J -7936790.53 -7936790.48 -7936790.42 0.1720 0.1509

Venus -26442-03-20 09:21 J -7936439.21 -7936439.11 -7936439.00 0.3774 0.0230

Moon -26442-06-21 04:19 J -7936346.40 -7936346.32 -7936346.25 0.2686 0.2106

Earth -26442-06-21 04:33 J -7936346.37 -7936346.31 -7936346.24 0.2681 0.2196 *

Saturn -26440-07-13 08:38 J -7935593.30 -7935593.14 -7935592.98 0.0293 0.0108

Saturn -26440-10-10 06:57 J -7935504.37 -7935504.21 -7935504.03 0.0293 0.0078

Saturn -26439-01-07 05:02 J -7935415.36 -7935415.29 -7935415.21 0.0293 0.0260

Jupiter -26439-06-27 23:31 J -7935243.69 -7935243.52 -7935243.35 0.0500 0.0154

Venus -26437-10-03 02:09 J -7934415.49 -7934415.41 -7934415.33 0.3774 0.2277

Mars -26436-09-18 02:52 J -7934065.45 -7934065.38 -7934065.30 0.1695 0.1245

Moon -26435-06-13 21:50 J -7933796.70 -7933796.59 -7933796.48 0.2679 0.0857

Earth -26435-06-13 22:19 J -7933796.68 -7933796.57 -7933796.46 0.2686 0.0833 *

Mars -26434-08-24 10:19 J -7933360.17 -7933360.07 -7933359.97 0.1714 0.0944

Jupiter -26434-11-19 01:55 J -7933273.49 -7933273.42 -7933273.35 0.0529 0.0433

Jupiter -26433-02-16 09:21 J -7933184.23 -7933184.11 -7933183.98 0.0526 0.0155

Venus	-26433-10-01 07:26 J	-7932956.33	-7932956.19	-7932956.05	0.3600	0.1031
Moon	-26432-12-21 21:35 J	-7932509.71	-7932509.60	-7932509.50	0.2657	0.1663
Earth	-26432-12-21 21:50 J	-7932509.71	-7932509.59	-7932509.48	0.2650	0.1595 *
Jupiter	-26427-04-15 22:04 J	-7930933.76	-7930933.58	-7930933.40	0.0500	0.0016
Saturn	-26426-05-10 02:52 J	-7930544.46	-7930544.38	-7930544.29	0.0269	0.0201
Saturn	-26426-08-06 13:55 J	-7930456.05	-7930455.92	-7930455.79	0.0268	0.0093
Saturn	-26426-11-03 00:57 J	-7930367.60	-7930367.46	-7930367.33	0.0268	0.0016
Saturn	-26425-01-30 11:59 J	-7930279.12	-7930279.00	-7930278.88	0.0267	0.0124
Saturn	-26425-04-27 23:16 J	-7930190.60	-7930190.53	-7930190.47	0.0267	0.0233
Earth	-26425-12-13 22:19 J	-7929960.59	-7929960.57	-7929960.54	0.2645	0.2583
Mars	-26424-01-13 20:09 J	-7929929.77	-7929929.66	-7929929.54	0.1709	0.0391
Mars	-26424-11-25 23:59 J	-7929613.60	-7929613.50	-7929613.39	0.1806	0.1365
Moon	-26422-06-16 17:02 J	-7929045.91	-7929045.79	-7929045.67	0.2683	0.0178
Earth	-26422-06-16 17:59 J	-7929045.87	-7929045.75	-7929045.64	0.2684	0.0245 *
Jupiter	-26422-12-05 12:57 J	-7928874.09	-7928873.96	-7928873.83	0.0527	0.0007
Jupiter	-26415-02-01 19:55 J	-7926623.83	-7926623.67	-7926623.51	0.0499	0.0195
Mars	-26415-06-06 06:28 J	-7926499.35	-7926499.23	-7926499.11	0.1705	0.0143
Earth	-26415-06-09 12:28 J	-7926495.99	-7926495.98	-7926495.97	0.2689	0.2674
Moon	-26415-06-09 13:11 J	-7926495.95	-7926495.95	-7926495.94	0.2685	0.2675
Mars	-26414-04-17 22:04 J	-7926183.74	-7926183.58	-7926183.42	0.1812	0.0285
Uranus	-26414-04-20 09:35 J	-7926181.18	-7926181.10	-7926180.98	0.0136	0.0112
Uranus	-26414-07-17 16:19 J	-7926092.95	-7926092.82	-7926092.67	0.0136	0.0085
Uranus	-26414-10-13 22:47 J	-7926004.71	-7926004.55	-7926004.39	0.0135	0.0059
Uranus	-26413-01-10 05:02 J	-7925916.46	-7925916.29	-7925916.11	0.0135	0.0034
Uranus	-26413-04-07 11:31 J	-7925828.20	-7925828.02	-7925827.84	0.0135	0.0009
Uranus	-26413-07-04 17:31 J	-7925739.94	-7925739.77	-7925739.59	0.0135	0.0017
Uranus	-26413-09-30 23:45 J	-7925651.68	-7925651.51	-7925651.34	0.0135	0.0041
Uranus	-26413-12-28 05:45 J	-7925563.41	-7925563.26	-7925563.10	0.0135	0.0066
Uranus	-26412-03-26 11:45 J	-7925475.13	-7925475.01	-7925474.87	0.0135	0.0090
Uranus	-26412-06-22 17:59 J	-7925386.84	-7925386.75	-7925386.66	0.0135	0.0114

Moon -26412-12-16 23:16 J -7925209.66 -7925209.53 -7925209.40 0.2648 0.1195

Earth -26412-12-17 00:28 J -7925209.61 -7925209.48 -7925209.35 0.2647 0.1055 *

Saturn -26411-11-30 08:38 J -7924861.29 -7924861.14 -7924860.98 0.0293 0.0152

Saturn -26410-02-27 07:26 J -7924772.37 -7924772.19 -7924772.02 0.0293 0.0035

Saturn -26410-05-27 05:31 J -7924683.38 -7924683.27 -7924683.15 0.0294 0.0218

Jupiter -26410-09-23 16:33 J -7924563.93 -7924563.81 -7924563.68 0.0528 0.0144

Jupiter -26410-12-22 00:28 J -7924474.54 -7924474.48 -7924474.41 0.0525 0.0451

Moon -26409-06-18 12:57 J -7924295.07 -7924294.96 -7924294.86 0.2685 0.1168

Earth -26409-06-18 13:40 J -7924295.03 -7924294.93 -7924294.82 0.2682 0.1307 *

Mars -26406-10-27 16:33 J -7923068.91 -7923068.81 -7923068.70 0.1700 0.0669

Mars -26405-09-06 19:26 J -7922753.83 -7922753.69 -7922753.54 0.1818 0.0842

Mars -26404-10-02 00:43 J -7922363.52 -7922363.47 -7922363.43 0.1720 0.1579

Jupiter -26404-11-20 17:45 J -7922313.87 -7922313.76 -7922313.64 0.0498 0.0372

Jupiter -26403-02-18 23:02 J -7922223.67 -7922223.54 -7922223.40 0.0501 0.0331

Moon -26402-06-12 07:55 J -7921745.26 -7921745.17 -7921745.08 0.2681 0.1600

Earth -26402-06-12 07:55 J -7921745.26 -7921745.17 -7921745.08 0.2687 0.1665 *

Moon -26399-12-20 01:26 J -7920458.58 -7920458.44 -7920458.30 0.2655 0.0432

Earth -26399-12-20 02:09 J -7920458.55 -7920458.41 -7920458.27 0.2649 0.0431 *

Jupiter -26398-07-12 20:52 J -7920253.74 -7920253.63 -7920253.52 0.0529 0.0283

Jupiter -26398-10-10 04:33 J -7920164.42 -7920164.31 -7920164.20 0.0526 0.0309

Saturn -26397-09-26 05:31 J -7919812.34 -7919812.27 -7919812.20 0.0268 0.0229

Saturn -26397-12-23 16:19 J -7919723.94 -7919723.82 -7919723.70 0.0268 0.0123

Mars -26396-03-19 03:07 J -7919638.46 -7919638.37 -7919638.29 0.1695 0.1177

Saturn -26396-03-22 03:21 J -7919635.50 -7919635.36 -7919635.23 0.0267 0.0017

Saturn -26396-06-18 14:23 J -7919547.03 -7919546.90 -7919546.77 0.0267 0.0093

Moon -26396-06-21 09:35 J -7919544.15 -7919544.10 -7919544.06 0.2687 0.2463

Earth -26396-06-21 09:50 J -7919544.15 -7919544.09 -7919544.04 0.2680 0.2405 *

Saturn -26396-09-15 01:26 J -7919458.53 -7919458.44 -7919458.35 0.0266 0.0202

Mars -26394-02-22 10:19 J -7918933.16 -7918933.07 -7918932.97 0.1714 0.1010

Jupiter -26392-12-07 21:21 J -7917913.78 -7917913.61 -7917913.44 0.0500 0.0155

Venus	-26391-04-10 14:23 J	-7917789.99	-7917789.90	-7917789.80	0.3773	0.1765
Moon	-26389-06-14 02:52 J	-7916994.49	-7916994.38	-7916994.27	0.2680	0.0688
Earth	-26389-06-14 03:21 J	-7916994.48	-7916994.36	-7916994.25	0.2686	0.0629 *
Mars	-26387-08-09 13:26 J	-7916207.95	-7916207.94	-7916207.92	0.1691	0.1674
Jupiter	-26386-05-01 00:57 J	-7915943.54	-7915943.46	-7915943.38	0.0530	0.0422
Jupiter	-26386-07-29 08:38 J	-7915854.27	-7915854.14	-7915854.02	0.0527	0.0168
Venus	-26386-10-25 07:11 J	-7915766.31	-7915766.20	-7915766.10	0.3774	0.0702
Moon	-26386-12-23 03:35 J	-7915707.45	-7915707.35	-7915707.25	0.2657	0.1800
Earth	-26386-12-23 03:35 J	-7915707.45	-7915707.35	-7915707.25	0.2651	0.1862 *
Mars	-26385-07-14 20:23 J	-7915502.77	-7915502.65	-7915502.54	0.1709	0.0461
Mars	-26384-05-27 00:28 J	-7915186.57	-7915186.48	-7915186.39	0.1806	0.1463
Venus	-26382-10-23 04:04 J	-7914307.44	-7914307.33	-7914307.22	0.3601	0.2308
Saturn	-26381-04-18 05:16 J	-7914129.39	-7914129.28	-7914129.16	0.0292	0.0222
Saturn	-26381-07-16 04:04 J	-7914040.51	-7914040.33	-7914040.16	0.0293	0.0035
Saturn	-26381-10-13 02:23 J	-7913951.55	-7913951.40	-7913951.25	0.0293	0.0149
Venus	-26380-05-09 23:45 J	-7913742.56	-7913742.51	-7913742.45	0.3774	0.3213
Jupiter	-26380-09-25 20:09 J	-7913603.84	-7913603.66	-7913603.48	0.0500	0.0013
Moon	-26379-12-15 03:07 J	-7913158.44	-7913158.37	-7913158.31	0.2642	0.2356
Earth	-26379-12-15 04:19 J	-7913158.39	-7913158.32	-7913158.25	0.2645	0.2302 *
Venus	-26376-05-08 08:09 J	-7912283.25	-7912283.16	-7912283.07	0.3600	0.2800
Moon	-26376-06-16 22:04 J	-7912243.70	-7912243.58	-7912243.46	0.2683	0.0345
Earth	-26376-06-16 23:02 J	-7912243.66	-7912243.54	-7912243.43	0.2684	0.0435 *
Mars	-26376-12-05 06:28 J	-7912072.35	-7912072.23	-7912072.12	0.1704	0.0095
Mars	-26375-10-16 22:33 J	-7911756.72	-7911756.56	-7911756.40	0.1812	0.0394
Jupiter	-26374-05-17 11:45 J	-7911544.14	-7911544.01	-7911543.88	0.0527	0.0015
Pluto	-26371-09-08 09:21 J	-7910334.14	-7910334.11	-7910334.07	0.0074	0.0072
Pluto	-26371-12-05 10:33 J	-7910246.13	-7910246.06	-7910245.97	0.0074	0.0064
Pluto	-26370-03-03 11:59 J	-7910158.09	-7910158.00	-7910157.89	0.0074	0.0056
Uranus	-26370-03-25 17:31 J	-7910135.79	-7910135.77	-7910135.73	0.0143	0.0139
Pluto	-26370-05-30 13:26 J	-7910070.05	-7910069.94	-7910069.82	0.0074	0.0047

Uranus -26370-06-21 21:35 J -7910047.68 -7910047.60 -7910047.52 0.0143 0.0116

Pluto -26370-08-26 14:38 J -7909982.01 -7909981.89 -7909981.75 0.0074 0.0040

Uranus -26370-09-18 01:26 J -7909959.54 -7909959.44 -7909959.33 0.0143 0.0094

Pluto -26370-11-22 16:04 J -7909893.96 -7909893.83 -7909893.69 0.0074 0.0032

Uranus -26370-12-15 05:16 J -7909871.39 -7909871.28 -7909871.15 0.0143 0.0072

Pluto -26369-02-18 17:31 J -7909805.92 -7909805.77 -7909805.63 0.0074 0.0024

Uranus -26369-03-12 09:21 J -7909783.24 -7909783.11 -7909782.98 0.0143 0.0049

Pluto -26369-05-16 18:43 J -7909717.87 -7909717.72 -7909717.57 0.0073 0.0016

Uranus -26369-06-08 13:26 J -7909695.08 -7909694.94 -7909694.81 0.0143 0.0026

Earth -26369-06-09 17:31 J -7909693.81 -7909693.77 -7909693.73 0.2689 0.2486

Moon -26369-06-09 18:14 J -7909693.80 -7909693.74 -7909693.69 0.2685 0.2360 *

Pluto -26369-08-12 19:55 J -7909629.82 -7909629.67 -7909629.51 0.0073 0.0009

Uranus -26369-09-04 17:16 J -7909606.92 -7909606.78 -7909606.64 0.0143 0.0005

Pluto -26369-11-08 21:21 J -7909541.76 -7909541.61 -7909541.46 0.0073 0.0001

Uranus -26369-12-01 21:21 J -7909518.75 -7909518.61 -7909518.47 0.0143 0.0021

Pluto -26368-02-04 22:33 J -7909453.71 -7909453.56 -7909453.41 0.0073 0.0006

Uranus -26368-02-28 01:26 J -7909430.57 -7909430.44 -7909430.30 0.0144 0.0044

Pluto -26368-05-03 23:45 J -7909365.66 -7909365.51 -7909365.36 0.0073 0.0014

Uranus -26368-05-27 05:31 J -7909342.39 -7909342.27 -7909342.14 0.0144 0.0068

Jupiter -26368-07-14 18:28 J -7909293.89 -7909293.73 -7909293.56 0.0499 0.0185

Pluto -26368-07-31 00:57 J -7909277.60 -7909277.46 -7909277.31 0.0073 0.0021

Uranus -26368-08-23 09:35 J -7909254.20 -7909254.10 -7909253.98 0.0144 0.0092

Pluto -26368-10-27 02:09 J -7909189.54 -7909189.41 -7909189.26 0.0073 0.0028

Uranus -26368-11-19 13:40 J -7909166.00 -7909165.93 -7909165.84 0.0144 0.0116

Neptune -26367-01-05 02:52 J -7909119.41 -7909119.38 -7909119.31 0.0088 0.0084

Pluto -26367-01-23 03:07 J -7909101.49 -7909101.37 -7909101.22 0.0073 0.0036

Saturn -26367-02-13 07:55 J -7909080.19 -7909080.17 -7909080.14 0.0269 0.0262

Uranus -26367-02-15 17:59 J -7909077.77 -7909077.75 -7909077.71 0.0144 0.0140

Neptune -26367-04-03 06:14 J -7909031.32 -7909031.24 -7909031.12 0.0088 0.0075

Pluto -26367-04-21 04:33 J -7909013.43 -7909013.31 -7909013.18 0.0073 0.0042

Saturn -26367-05-12 18:57 J -7908991.82 -7908991.71 -7908991.60 0.0269 0.0155

Neptune -26367-06-30 09:50 J -7908943.21 -7908943.09 -7908942.96 0.0088 0.0065

Pluto -26367-07-18 05:45 J -7908925.36 -7908925.26 -7908925.14 0.0072 0.0050

Saturn -26367-08-09 05:45 J -7908903.39 -7908903.26 -7908903.12 0.0268 0.0047

Neptune -26367-09-26 12:57 J -7908855.09 -7908854.96 -7908854.80 0.0088 0.0056

Pluto -26367-10-14 06:57 J -7908837.30 -7908837.21 -7908837.11 0.0072 0.0056

Saturn -26367-11-05 16:47 J -7908814.93 -7908814.80 -7908814.66 0.0268 0.0062

Neptune -26367-12-23 16:19 J -7908766.97 -7908766.82 -7908766.65 0.0088 0.0047

Pluto -26366-01-10 07:55 J -7908749.23 -7908749.17 -7908749.09 0.0072 0.0064

Saturn -26366-02-02 03:50 J -7908726.44 -7908726.34 -7908726.23 0.0267 0.0172

Neptune -26366-03-21 19:40 J -7908678.84 -7908678.68 -7908678.50 0.0088 0.0037

Pluto -26366-04-08 09:07 J -7908661.14 -7908661.12 -7908661.08 0.0072 0.0070

Mars -26366-04-27 16:33 J -7908641.92 -7908641.81 -7908641.70 0.1700 0.0604

Neptune -26366-06-17 23:02 J -7908590.71 -7908590.54 -7908590.35 0.0088 0.0028

Neptune -26366-09-14 02:23 J -7908502.58 -7908502.40 -7908502.21 0.0088 0.0019

Neptune -26366-12-11 05:45 J -7908414.45 -7908414.26 -7908414.07 0.0088 0.0009

Moon -26366-12-18 05:16 J -7908407.41 -7908407.28 -7908407.15 0.2650 0.0884

Earth -26366-12-18 06:28 J -7908407.37 -7908407.23 -7908407.09 0.2647 0.0777 *

Mars -26365-03-07 20:23 J -7908326.80 -7908326.65 -7908326.50 0.1818 0.0714

Neptune -26365-03-08 08:52 J -7908326.31 -7908326.13 -7908325.94 0.0088 0.0002

Neptune -26365-06-04 12:14 J -7908238.18 -7908237.99 -7908237.80 0.0088 0.0009

Neptune -26365-08-31 15:21 J -7908150.04 -7908149.86 -7908149.67 0.0088 0.0018

Neptune -26365-11-27 18:43 J -7908061.90 -7908061.72 -7908061.54 0.0088 0.0028

Neptune -26364-02-23 21:35 J -7907973.76 -7907973.60 -7907973.42 0.0088 0.0037

Mars -26364-04-02 00:28 J -7907936.51 -7907936.48 -7907936.44 0.1719 0.1641

Neptune -26364-05-23 00:43 J -7907885.61 -7907885.47 -7907885.30 0.0088 0.0046

Neptune -26364-08-19 03:50 J -7907797.47 -7907797.34 -7907797.18 0.0088 0.0055

Neptune -26364-11-15 06:57 J -7907709.32 -7907709.21 -7907709.06 0.0088 0.0064

Neptune -26363-02-11 10:04 J -7907621.16 -7907621.08 -7907620.96 0.0088 0.0074

Neptune -26363-05-10 13:11 J -7907532.99 -7907532.95 -7907532.86 0.0088 0.0082

Moon -26363-06-19 17:59 J -7907492.84 -7907492.75 -7907492.65 0.2685 0.1500

Earth -26363-06-19 18:43 J -7907492.81 -7907492.72 -7907492.62 0.2682 0.1516 *

Jupiter -26362-03-05 15:21 J -7907233.98 -7907233.86 -7907233.73 0.0528 0.0137

Jupiter -26362-06-02 23:16 J -7907144.60 -7907144.53 -7907144.47 0.0525 0.0454

Mars -26357-09-17 03:07 J -7905211.46 -7905211.37 -7905211.29 0.1695 0.1112

Jupiter -26356-05-02 16:19 J -7904983.94 -7904983.82 -7904983.70 0.0498 0.0365

Moon -26356-06-12 12:57 J -7904943.06 -7904942.96 -7904942.87 0.2680 0.1534

Earth -26356-06-12 12:57 J -7904943.06 -7904942.96 -7904942.86 0.2687 0.1469 *

Jupiter -26356-07-31 21:35 J -7904893.73 -7904893.60 -7904893.47 0.0501 0.0338

Mars -26355-08-23 10:19 J -7904506.16 -7904506.07 -7904505.97 0.1715 0.1081

Moon -26353-12-20 07:26 J -7903656.33 -7903656.19 -7903656.05 0.2655 0.0584

Earth -26353-12-20 08:09 J -7903656.30 -7903656.16 -7903656.02 0.2649 0.0703 *

Saturn -26352-09-05 05:45 J -7903397.33 -7903397.26 -7903397.18 0.0292 0.0262

Saturn -26352-12-03 04:33 J -7903308.48 -7903308.31 -7903308.13 0.0293 0.0075

Saturn -26351-03-02 03:07 J -7903219.53 -7903219.37 -7903219.21 0.0293 0.0110

Saturn -26351-05-30 01:11 J -7903130.47 -7903130.45 -7903130.44 0.0294 0.0292

Jupiter -26351-12-22 18:57 J -7902923.82 -7902923.71 -7902923.60 0.0529 0.0287

Jupiter -26350-03-22 02:38 J -7902834.49 -7902834.39 -7902834.28 0.0526 0.0305

Moon -26350-06-22 14:38 J -7902741.92 -7902741.89 -7902741.85 0.2687 0.2545

Earth -26350-06-22 14:52 J -7902741.90 -7902741.88 -7902741.86 0.2680 0.2622 *

Mars -26347-02-07 13:26 J -7901780.97 -7901780.94 -7901780.91 0.1691 0.1610

Mars -26345-01-13 20:23 J -7901075.77 -7901075.65 -7901075.54 0.1709 0.0528

Mars -26345-11-25 01:11 J -7900759.53 -7900759.45 -7900759.38 0.1806 0.1577

Jupiter -26344-05-19 19:55 J -7900583.84 -7900583.67 -7900583.51 0.0500 0.0163

Moon -26343-06-15 07:55 J -7900192.29 -7900192.17 -7900192.06 0.2681 0.0440

Earth -26343-06-15 08:23 J -7900192.27 -7900192.15 -7900192.03 0.2686 0.0427 *

Venus -26340-05-01 19:40 J -7899140.73 -7899140.68 -7899140.63 0.3773 0.3270

Earth -26340-12-23 09:21 J -7898905.19 -7898905.11 -7898905.02 0.2651 0.2128

Moon -26340-12-23 09:50 J -7898905.16 -7898905.09 -7898905.02 0.2657 0.2240 *

Jupiter -26339-10-10 23:02 J -7898613.61 -7898613.54 -7898613.47 0.0530 0.0429

Jupiter -26338-01-08 06:43 J -7898524.35 -7898524.22 -7898524.10 0.0527 0.0162

Saturn -26338-09-29 21:35 J -7898259.69 -7898259.60 -7898259.49 0.0268 0.0181

Saturn -26338-12-27 08:38 J -7898171.27 -7898171.14 -7898171.01 0.0268 0.0073

Saturn -26337-03-24 19:40 J -7898082.82 -7898082.68 -7898082.55 0.0267 0.0035

Saturn -26337-06-21 06:43 J -7897994.34 -7897994.22 -7897994.10 0.0267 0.0144

Saturn -26337-09-17 17:45 J -7897905.79 -7897905.76 -7897905.71 0.0266 0.0254

Mars -26336-06-05 06:28 J -7897645.35 -7897645.23 -7897645.11 0.1704 0.0027

Mars -26335-04-16 23:16 J -7897329.68 -7897329.53 -7897329.37 0.1812 0.0510

Venus -26335-11-15 12:14 J -7897117.09 -7897116.99 -7897116.89 0.3773 0.0870

Moon -26333-12-15 09:07 J -7896356.20 -7896356.12 -7896356.04 0.2643 0.2187

Earth -26333-12-15 10:19 J -7896356.16 -7896356.07 -7896355.98 0.2646 0.2017 *

Jupiter -26332-03-07 17:45 J -7896273.93 -7896273.76 -7896273.58 0.0500 0.0018

Uranus -26330-02-11 11:02 J -7895568.09 -7895568.04 -7895567.98 0.0136 0.0129

Uranus -26330-05-10 17:31 J -7895479.88 -7895479.77 -7895479.65 0.0136 0.0103

Moon -26330-06-18 03:07 J -7895441.48 -7895441.37 -7895441.25 0.2683 0.0553

Earth -26330-06-18 04:04 J -7895441.44 -7895441.33 -7895441.21 0.2684 0.0638 *

Uranus -26330-08-06 23:59 J -7895391.64 -7895391.50 -7895391.35 0.0136 0.0077

Uranus -26330-11-03 06:14 J -7895303.40 -7895303.24 -7895303.06 0.0135 0.0051

Uranus -26329-01-30 12:43 J -7895215.14 -7895214.97 -7895214.79 0.0135 0.0026

Uranus -26329-04-27 18:57 J -7895126.89 -7895126.71 -7895126.53 0.0135 0.0002

Venus -26329-05-31 04:47 J -7895093.39 -7895093.30 -7895093.20 0.3774 0.1610

Uranus -26329-07-25 01:11 J -7895038.62 -7895038.45 -7895038.27 0.0135 0.0025

Uranus -26329-10-21 07:26 J -7894950.36 -7894950.19 -7894950.03 0.0135 0.0049

Uranus -26328-01-17 13:11 J -7894862.09 -7894861.95 -7894861.79 0.0135 0.0074

Uranus -26328-04-15 19:26 J -7894773.81 -7894773.69 -7894773.57 0.0135 0.0098

Uranus -26328-07-13 01:26 J -7894685.51 -7894685.44 -7894685.37 0.0135 0.0122

Mars -26327-10-26 16:33 J -7894214.92 -7894214.81 -7894214.69 0.1700 0.0538

Jupiter -26327-10-27 10:33 J -7894214.19 -7894214.06 -7894213.93 0.0527 0.0024

Mars -26326-09-06 20:38 J -7893899.79 -7893899.64 -7893899.48 0.1818 0.0620

Venus -26325-05-29 04:47 J -7893634.44 -7893634.30 -7893634.15 0.3601 0.0495

Mars -26325-10-01 00:43 J -7893509.48 -7893509.47 -7893509.47 0.1719 0.1713

Earth -26323-06-10 22:33 J -7892891.62 -7892891.56 -7892891.50 0.2689 0.2294

Moon -26323-06-10 23:02 J -7892891.60 -7892891.54 -7892891.48 0.2683 0.2304 *

Saturn -26322-04-22 01:55 J -7892576.58 -7892576.42 -7892576.27 0.0292 0.0140

Saturn -26322-07-20 00:28 J -7892487.65 -7892487.48 -7892487.31 0.0293 0.0046

Saturn -26322-10-16 22:33 J -7892398.66 -7892398.56 -7892398.45 0.0293 0.0229

Jupiter -26321-12-24 16:19 J -7891963.98 -7891963.82 -7891963.65 0.0499 0.0185

Moon -26320-12-18 11:16 J -7891605.17 -7891605.03 -7891604.89 0.2651 0.0567

Earth -26320-12-18 12:28 J -7891605.12 -7891604.98 -7891604.84 0.2647 0.0503 *

Mars -26317-03-18 02:52 J -7890784.47 -7890784.38 -7890784.29 0.1695 0.1051

Moon -26317-06-19 23:16 J -7890690.62 -7890690.53 -7890690.43 0.2687 0.1653

Earth -26317-06-19 23:59 J -7890690.59 -7890690.50 -7890690.41 0.2682 0.1724 *

Mars -26316-01-26 17:59 J -7890469.78 -7890469.75 -7890469.71 0.1824 0.1764

Mars -26315-02-21 10:19 J -7890079.15 -7890079.07 -7890078.98 0.1714 0.1147

Jupiter -26315-08-15 14:09 J -7889904.04 -7889903.91 -7889903.79 0.0528 0.0133

Jupiter -26315-11-12 21:50 J -7889814.65 -7889814.59 -7889814.53 0.0525 0.0459

Moon -26310-06-13 17:59 J -7888140.86 -7888140.75 -7888140.65 0.2680 0.1207

Earth -26310-06-13 17:59 J -7888140.85 -7888140.75 -7888140.65 0.2687 0.1270 *

Jupiter -26309-10-12 14:23 J -7887654.02 -7887653.90 -7887653.77 0.0499 0.0360

Jupiter -26308-01-10 19:55 J -7887563.80 -7887563.67 -7887563.54 0.0501 0.0344

Saturn -26308-02-16 00:14 J -7887527.57 -7887527.49 -7887527.41 0.0269 0.0212

Saturn -26308-05-15 11:02 J -7887439.16 -7887439.04 -7887438.91 0.0269 0.0105

Mars -26308-08-08 13:26 J -7887353.98 -7887353.94 -7887353.89 0.1691 0.1545

Saturn -26308-08-11 22:04 J -7887350.72 -7887350.58 -7887350.44 0.0268 0.0004

Saturn -26308-11-08 09:07 J -7887262.24 -7887262.12 -7887261.99 0.0268 0.0113

Saturn -26307-02-04 20:23 J -7887173.72 -7887173.65 -7887173.57 0.0267 0.0223

Moon -26307-12-21 13:26 J -7886854.07 -7886853.94 -7886853.81 0.2655 0.0960

Earth -26307-12-21 13:55 J -7886854.05 -7886853.92 -7886853.79 0.2649 0.0973 *

Mars -26306-07-14 20:23 J -7886648.77 -7886648.65 -7886648.54 0.1709 0.0594

Mars -26305-05-26 01:55 J -7886332.47 -7886332.42 -7886332.37 0.1806 0.1698

Jupiter -26303-06-03 17:31 J -7885593.87 -7885593.77 -7885593.66 0.0528 0.0283

Jupiter -26303-09-01 01:11 J -7885504.55 -7885504.45 -7885504.34 0.0525 0.0307

Moon -26297-06-15 12:43 J -7883390.08 -7883389.97 -7883389.85 0.2682 0.0358

Earth -26297-06-15 13:26 J -7883390.06 -7883389.94 -7883389.82 0.2685 0.0231 *

Jupiter -26297-10-29 17:59 J -7883253.92 -7883253.75 -7883253.59 0.0500 0.0166

Mars -26297-12-04 06:28 J -7883218.35 -7883218.23 -7883218.11 0.1705 0.0064

Mars -26296-10-15 23:45 J -7882902.66 -7882902.51 -7882902.35 0.1812 0.0620

Earth -26294-12-24 15:21 J -7882102.92 -7882102.86 -7882102.81 0.2651 0.2396

Moon -26294-12-24 15:35 J -7882102.91 -7882102.85 -7882102.79 0.2658 0.2370 *

Saturn -26293-09-08 03:07 J -7881844.51 -7881844.37 -7881844.23 0.0292 0.0174

Saturn -26293-12-06 01:55 J -7881755.60 -7881755.42 -7881755.25 0.0293 0.0013

Saturn -26292-03-04 23:59 J -7881666.62 -7881666.50 -7881666.37 0.0293 0.0196

Jupiter -26291-03-22 21:07 J -7881283.69 -7881283.62 -7881283.55 0.0529 0.0434

Jupiter -26291-06-20 04:33 J -7881194.43 -7881194.31 -7881194.18 0.0527 0.0156

Mars -26287-04-26 16:33 J -7879787.92 -7879787.81 -7879787.69 0.1700 0.0473

Moon -26287-12-16 15:07 J -7879553.98 -7879553.87 -7879553.77 0.2645 0.1766

Earth -26287-12-16 16:19 J -7879553.93 -7879553.82 -7879553.71 0.2646 0.1738 *

Neptune -26286-01-14 17:59 J -7879524.76 -7879524.75 -7879524.72 0.0089 0.0088

Mars -26286-03-07 21:35 J -7879472.76 -7879472.60 -7879472.44 0.1818 0.0491

Neptune -26286-04-12 19:26 J -7879436.73 -7879436.69 -7879436.63 0.0089 0.0081

Uranus -26286-04-15 00:43 J -7879434.51 -7879434.47 -7879434.42 0.0143 0.0133

Neptune -26286-07-09 20:52 J -7879348.69 -7879348.63 -7879348.55 0.0089 0.0075

Uranus -26286-07-12 04:33 J -7879346.39 -7879346.31 -7879346.22 0.0143 0.0111

Neptune -26286-10-05 22:19 J -7879260.65 -7879260.57 -7879260.48 0.0089 0.0068

Uranus -26286-10-08 08:23 J -7879258.25 -7879258.15 -7879258.04 0.0143 0.0089

Neptune -26285-01-01 23:45 J -7879172.60 -7879172.51 -7879172.41 0.0089 0.0061

Uranus -26285-01-04 12:14 J -7879170.10 -7879169.99 -7879169.86 0.0143 0.0067

Neptune -26285-03-30 00:57 J -7879084.55 -7879084.46 -7879084.34 0.0089 0.0054

Uranus -26285-04-01 16:19 J -7879081.95 -7879081.82 -7879081.68 0.0143 0.0044

Neptune -26285-06-26 02:23 J -7878996.50 -7878996.40 -7878996.27 0.0089 0.0048

Uranus -26285-06-28 20:23 J -7878993.79 -7878993.65 -7878993.51 0.0143 0.0021

Jupiter -26285-08-17 16:04 J -7878944.01 -7878943.83 -7878943.65 0.0500 0.0012

Neptune -26285-09-22 03:50 J -7878908.45 -7878908.34 -7878908.21 0.0089 0.0041

Uranus -26285-09-25 00:28 J -7878905.62 -7878905.48 -7878905.34 0.0143 0.0003

Neptune -26285-12-19 05:31 J -7878820.39 -7878820.27 -7878820.14 0.0089 0.0033

Uranus -26285-12-22 04:33 J -7878817.45 -7878817.31 -7878817.18 0.0143 0.0026

Neptune -26284-03-17 06:57 J -7878732.34 -7878732.21 -7878732.08 0.0089 0.0026

Uranus -26284-03-20 08:23 J -7878729.28 -7878729.15 -7878729.01 0.0143 0.0049

Neptune -26284-06-13 08:23 J -7878644.28 -7878644.15 -7878644.02 0.0089 0.0019

Uranus -26284-06-16 12:28 J -7878641.09 -7878640.98 -7878640.85 0.0144 0.0073

Moon -26284-06-18 08:23 J -7878639.27 -7878639.15 -7878639.04 0.2683 0.0789

Earth -26284-06-18 09:07 J -7878639.23 -7878639.12 -7878639.00 0.2683 0.0848 *

Neptune -26284-09-09 09:50 J -7878556.22 -7878556.09 -7878555.95 0.0089 0.0012

Uranus -26284-09-12 16:33 J -7878552.90 -7878552.81 -7878552.70 0.0144 0.0097

Neptune -26284-12-06 11:16 J -7878468.16 -7878468.03 -7878467.89 0.0089 0.0005

Venus -26284-12-06 17:16 J -7878467.86 -7878467.78 -7878467.70 0.3773 0.2387

Uranus -26284-12-09 20:38 J -7878464.70 -7878464.64 -7878464.55 0.0144 0.0121

Neptune -26283-03-04 12:43 J -7878380.11 -7878379.97 -7878379.83 0.0089 0.0002

Neptune -26283-05-31 14:09 J -7878292.04 -7878291.91 -7878291.77 0.0089 0.0009

Neptune -26283-08-27 15:35 J -7878203.98 -7878203.85 -7878203.71 0.0089 0.0016

Neptune -26283-11-23 17:02 J -7878115.92 -7878115.79 -7878115.66 0.0089 0.0023

Neptune -26282-02-19 18:28 J -7878027.86 -7878027.73 -7878027.60 0.0089 0.0030

Neptune -26282-05-18 19:55 J -7877939.79 -7877939.67 -7877939.54 0.0089 0.0037

Neptune -26282-08-14 21:21 J -7877851.72 -7877851.61 -7877851.49 0.0089 0.0044

Neptune -26282-11-10 22:47 J -7877763.65 -7877763.55 -7877763.43 0.0089 0.0051

Neptune -26281-02-07 00:14 J -7877675.58 -7877675.49 -7877675.38 0.0089 0.0058

Neptune -26281-05-05 01:40 J -7877587.51 -7877587.43 -7877587.33 0.0089 0.0066

Neptune -26281-08-01 03:21 J -7877499.44 -7877499.36 -7877499.28 0.0089 0.0072

Neptune -26281-10-28 04:47 J -7877411.35 -7877411.30 -7877411.23 0.0089 0.0080

Neptune -26280-01-24 06:28 J -7877323.26 -7877323.23 -7877323.20 0.0089 0.0087

Jupiter -26279-04-08 08:38 J -7876884.27 -7876884.14 -7876884.01 0.0528 0.0017

Saturn -26279-07-06 03:21 J -7876795.42 -7876795.36 -7876795.29 0.0268 0.0235

Saturn -26279-10-02 14:09 J -7876707.02 -7876706.91 -7876706.78 0.0268 0.0128

Saturn -26279-12-30 01:11 J -7876618.59 -7876618.45 -7876618.31 0.0268 0.0020

Saturn -26278-03-28 12:14 J -7876530.12 -7876529.99 -7876529.86 0.0267 0.0089

Venus -26278-06-22 09:50 J -7876444.19 -7876444.09 -7876443.99 0.3773 0.0039

Saturn -26278-06-24 23:31 J -7876441.61 -7876441.52 -7876441.43 0.0267 0.0198

Mars -26278-09-17 02:52 J -7876357.47 -7876357.38 -7876357.28 0.1695 0.0985

Earth -26277-06-11 03:35 J -7876089.42 -7876089.35 -7876089.28 0.2688 0.2103

Moon -26277-06-11 03:50 J -7876089.41 -7876089.34 -7876089.26 0.2682 0.2023 *

Mars -26277-07-27 18:28 J -7876042.79 -7876042.73 -7876042.66 0.1824 0.1660

Mars -26276-08-22 10:33 J -7875652.15 -7875652.06 -7875651.98 0.1714 0.1217

Moon -26274-12-19 17:02 J -7874802.93 -7874802.79 -7874802.65 0.2651 0.0375

Earth -26274-12-19 18:14 J -7874802.88 -7874802.74 -7874802.60 0.2648 0.0226 *

Jupiter -26273-06-05 13:40 J -7874634.09 -7874633.93 -7874633.76 0.0499 0.0191

Venus -26272-01-05 02:38 J -7874420.47 -7874420.39 -7874420.32 0.3774 0.2535

Moon -26271-06-21 04:33 J -7873888.39 -7873888.31 -7873888.23 0.2687 0.1897

Earth -26271-06-21 05:02 J -7873888.37 -7873888.29 -7873888.21 0.2682 0.1939 *

Venus -26268-01-03 05:45 J -7872961.40 -7872961.26 -7872961.12 0.3601 0.1321

Mars -26268-02-06 13:26 J -7872926.99 -7872926.94 -7872926.89 0.1690 0.1483

Jupiter -26267-01-25 12:28 J -7872574.10 -7872573.98 -7872573.85 0.0528 0.0132

Jupiter -26267-04-24 20:23 J -7872484.71 -7872484.65 -7872484.59 0.0525 0.0462

Mars -26266-01-12 20:23 J -7872221.76 -7872221.65 -7872221.54 0.1709 0.0661

Mars -26266-11-25 02:09 J -7871905.42 -7871905.41 -7871905.39 0.1806 0.1789

Moon -26264-06-13 22:47 J -7871338.65 -7871338.55 -7871338.44 0.2680 0.1149

Earth -26264-06-13 23:02 J -7871338.65 -7871338.54 -7871338.43 0.2687 0.1075 *

Saturn -26263-01-26 00:43 J -7871112.57 -7871112.47 -7871112.37 0.0292 0.0237

Saturn -26263-04-24 23:31 J -7871023.69 -7871023.52 -7871023.34 0.0292 0.0050

Saturn -26263-07-22 21:50 J -7870934.74 -7870934.59 -7870934.43 0.0293 0.0135

Jupiter -26261-03-24 11:59 J -7870324.12 -7870324.00 -7870323.87 0.0498 0.0364

Jupiter -26261-06-22 17:31 J -7870233.90 -7870233.77 -7870233.64 0.0501 0.0340

Moon -26261-12-21 19:40 J -7870051.80 -7870051.68 -7870051.56 0.2656 0.1230

Earth -26261-12-21 19:55 J -7870051.80 -7870051.67 -7870051.55 0.2650 0.1244 *

Mars -26257-06-04 06:28 J -7868791.35 -7868791.23 -7868791.12 0.1704 0.0130

Mars -26256-04-16 00:43 J -7868475.62 -7868475.47 -7868475.33 0.1812 0.0735

Jupiter -26256-11-13 16:04 J -7868263.93 -7868263.83 -7868263.72 0.0528 0.0281

Jupiter -26255-02-10 23:45 J -7868174.61 -7868174.51 -7868174.40 0.0525 0.0309

Moon -26251-06-16 17:45 J -7866587.88 -7866587.76 -7866587.64 0.2682 0.0036

Earth -26251-06-16 18:28 J -7866587.84 -7866587.73 -7866587.61 0.2685 0.0095 *

Saturn -26250-11-23 05:45 J -7866063.26 -7866063.26 -7866063.24 0.0269 0.0268

Saturn -26249-02-19 16:47 J -7865974.91 -7865974.80 -7865974.69 0.0269 0.0160

Jupiter -26249-04-10 15:50 J -7865924.01 -7865923.84 -7865923.67 0.0501 0.0166

Saturn -26249-05-18 03:50 J -7865886.48 -7865886.34 -7865886.21 0.0268 0.0052

Saturn -26249-08-14 14:52 J -7865798.02 -7865797.88 -7865797.75 0.0268 0.0058

Saturn -26249-11-11 01:55 J -7865709.53 -7865709.42 -7865709.31 0.0268 0.0168

Mars -26248-10-25 16:33 J -7865360.92 -7865360.81 -7865360.69 0.1700 0.0407

Mars -26247-09-05 22:19 J -7865045.73 -7865045.57 -7865045.41 0.1818 0.0374

Uranus -26246-03-03 17:59 J -7864866.83 -7864866.75 -7864866.68 0.0136 0.0123

Uranus -26246-05-31 00:28 J -7864778.61 -7864778.48 -7864778.36 0.0136 0.0097

Uranus -26246-08-27 06:43 J -7864690.37 -7864690.22 -7864690.06 0.0136 0.0071

Uranus -26246-11-23 13:11 J -7864602.12 -7864601.95 -7864601.78 0.0136 0.0046

Uranus -26245-02-19 19:26 J -7864513.86 -7864513.69 -7864513.51 0.0135 0.0020

Uranus -26245-05-18 01:40 J -7864425.60 -7864425.43 -7864425.25 0.0135 0.0006

Uranus -26245-08-14 07:55 J -7864337.34 -7864337.17 -7864336.99 0.0135 0.0030

Uranus -26245-11-10 13:55 J -7864249.07 -7864248.92 -7864248.75 0.0135 0.0055

Uranus -26244-02-06 20:09 J -7864160.80 -7864160.66 -7864160.51 0.0135 0.0079

Uranus -26244-05-06 01:55 J -7864072.52 -7864072.42 -7864072.29 0.0135 0.0104

Uranus -26244-08-02 07:55 J -7863984.21 -7863984.17 -7863984.10 0.0135 0.0128

Jupiter -26244-09-01 19:40 J -7863953.75 -7863953.68 -7863953.60 0.0529 0.0430

Jupiter -26244-11-30 03:21 J -7863864.49 -7863864.36 -7863864.24 0.0526 0.0158

Moon -26241-12-16 20:52 J -7862751.74 -7862751.63 -7862751.51 0.2647 0.1660

Earth -26241-12-16 22:19 J -7862751.69 -7862751.57 -7862751.45 0.2646 0.1452 *

Mars -26238-03-18 03:07 J -7861930.47 -7861930.37 -7861930.28 0.1695 0.0918

Moon -26238-06-19 13:26 J -7861837.05 -7861836.94 -7861836.82 0.2685 0.0941

Earth -26238-06-19 14:23 J -7861837.01 -7861836.90 -7861836.79 0.2683 0.1056 *

Mars -26237-01-26 19:26 J -7861615.78 -7861615.69 -7861615.61 0.1824 0.1537

Jupiter -26237-01-28 13:40 J -7861614.10 -7861613.93 -7861613.75 0.0500 0.0017

Mars -26236-02-20 10:33 J -7861225.14 -7861225.06 -7861224.99 0.1714 0.1284

Saturn -26234-06-15 02:09 J -7860380.47 -7860380.41 -7860380.34 0.0292 0.0269

Saturn -26234-09-12 00:57 J -7860291.62 -7860291.46 -7860291.28 0.0292 0.0082

Saturn -26234-12-09 23:31 J -7860202.68 -7860202.52 -7860202.35 0.0293 0.0104

Saturn -26233-03-07 21:35 J -7860113.63 -7860113.60 -7860113.56 0.0293 0.0287

Jupiter -26232-09-18 06:28 J -7859554.36 -7859554.23 -7859554.10 0.0527 0.0015

Earth -26231-06-12 08:38 J -7859287.22 -7859287.14 -7859287.06 0.2688 0.1906

Moon -26231-06-12 08:52 J -7859287.21 -7859287.13 -7859287.05 0.2681 0.1909 *

Mars -26229-08-07 13:26 J -7858500.00 -7858499.94 -7858499.88 0.1691 0.1419

Moon -26228-12-19 23:02 J -7858000.68 -7858000.54 -7858000.40 0.2652 0.0063

Earth -26228-12-20 00:14 J -7858000.63 -7858000.49 -7858000.35 0.2648 0.0058 *

Venus -26227-07-13 14:52 J -7857794.97 -7857794.88 -7857794.78 0.3773 0.1500

Mars -26227-07-13 20:23 J -7857794.76 -7857794.65 -7857794.54 0.1709 0.0729

Jupiter -26226-11-16 11:45 J -7857304.17 -7857304.01 -7857303.84 0.0499 0.0190

Moon -26225-06-21 09:50 J -7857086.17 -7857086.09 -7857086.02 0.2687 0.2119

Earth -26225-06-21 10:19 J -7857086.14 -7857086.07 -7857086.00 0.2681 0.2149 *

Venus -26221-01-27 07:26 J -7855771.29 -7855771.19 -7855771.09 0.3774 0.0957

Jupiter -26220-07-07 10:19 J -7855244.19 -7855244.07 -7855243.94 0.0528 0.0143

Saturn -26220-07-08 20:09 J -7855242.75 -7855242.66 -7855242.55 0.0268 0.0180

Jupiter -26220-10-04 18:14 J -7855154.81 -7855154.74 -7855154.67 0.0525 0.0450

Saturn -26220-10-05 07:11 J -7855154.33 -7855154.20 -7855154.07 0.0268 0.0072

Saturn -26219-01-01 18:14 J -7855065.88 -7855065.74 -7855065.61 0.0267 0.0037

Saturn -26219-03-31 05:16 J -7854977.39 -7854977.28 -7854977.16 0.0267 0.0146

Saturn	-26219-06-27 16:33 J	-7854888.85	-7854888.81	-7854888.77	0.0267	0.0256
Moon	-26218-06-15 03:35 J	-7854536.46	-7854536.35	-7854536.23	0.2681	0.0861
Earth	-26218-06-15 04:04 J	-7854536.44	-7854536.33	-7854536.22	0.2686	0.0876 *
Mars	-26218-12-04 06:28 J	-7854364.35	-7854364.23	-7854364.12	0.1704	0.0193
Venus	-26217-01-25 02:09 J	-7854312.53	-7854312.41	-7854312.29	0.3602	0.2050
Mars	-26217-10-15 01:11 J	-7854048.59	-7854048.45	-7854048.31	0.1812	0.0841
Venus	-26216-08-12 00:14 J	-7853747.53	-7853747.49	-7853747.45	0.3774	0.3452
Moon	-26215-12-23 01:40 J	-7853249.55	-7853249.43	-7853249.32	0.2657	0.1482
Earth	-26215-12-23 01:40 J	-7853249.54	-7853249.43	-7853249.31	0.2650	0.1513 *
Jupiter	-26214-09-04 09:21 J	-7852994.23	-7852994.11	-7852993.99	0.0498	0.0372
Jupiter	-26214-12-03 14:38 J	-7852904.02	-7852903.89	-7852903.75	0.0501	0.0331
Venus	-26212-08-10 06:28 J	-7852288.30	-7852288.23	-7852288.16	0.3601	0.3079
Pluto	-26210-11-26 15:50 J	-7851449.88	-7851449.84	-7851449.78	0.0070	0.0067
Pluto	-26209-02-22 17:16 J	-7851361.86	-7851361.78	-7851361.69	0.0070	0.0060
Pluto	-26209-05-20 18:28 J	-7851273.83	-7851273.73	-7851273.61	0.0071	0.0053
Pluto	-26209-08-16 19:55 J	-7851185.79	-7851185.67	-7851185.54	0.0071	0.0046
Pluto	-26209-11-12 21:07 J	-7851097.74	-7851097.62	-7851097.47	0.0071	0.0039
Pluto	-26208-02-08 22:33 J	-7851009.69	-7851009.56	-7851009.40	0.0071	0.0032
Jupiter	-26208-04-25 14:23 J	-7850934.01	-7850933.90	-7850933.79	0.0529	0.0284
Mars	-26208-04-25 16:33 J	-7850933.92	-7850933.81	-7850933.69	0.1700	0.0345 *
Pluto	-26208-05-08 00:14 J	-7850921.64	-7850921.49	-7850921.33	0.0071	0.0024
Jupiter	-26208-07-23 22:04 J	-7850844.68	-7850844.58	-7850844.47	0.0526	0.0307
Pluto	-26208-08-04 01:40 J	-7850833.59	-7850833.43	-7850833.27	0.0071	0.0017
Pluto	-26208-10-31 03:07 J	-7850745.53	-7850745.37	-7850745.20	0.0071	0.0010
Pluto	-26207-01-27 04:33 J	-7850657.47	-7850657.31	-7850657.14	0.0071	0.0003
Mars	-26207-03-06 22:47 J	-7850618.71	-7850618.55	-7850618.39	0.1818	0.0269
Pluto	-26207-04-25 05:59 J	-7850569.41	-7850569.25	-7850569.08	0.0071	0.0006
Pluto	-26207-07-22 07:40 J	-7850481.34	-7850481.18	-7850481.02	0.0072	0.0013
Pluto	-26207-10-18 08:52 J	-7850393.28	-7850393.13	-7850392.96	0.0072	0.0021
Pluto	-26206-01-14 10:33 J	-7850305.21	-7850305.06	-7850304.91	0.0072	0.0028

Pluto -26206-04-12 11:59 J -7850217.14 -7850217.00 -7850216.85 0.0072 0.0036

Pluto -26206-07-09 13:26 J -7850129.06 -7850128.94 -7850128.80 0.0072 0.0044

Pluto -26206-10-05 14:52 J -7850040.98 -7850040.88 -7850040.75 0.0072 0.0052

Pluto -26205-01-01 16:47 J -7849952.89 -7849952.80 -7849952.71 0.0072 0.0060

Pluto -26205-03-29 18:14 J -7849864.79 -7849864.74 -7849864.68 0.0072 0.0068

Moon -26205-06-16 22:47 J -7849785.66 -7849785.55 -7849785.43 0.2681 0.0090

Earth -26205-06-16 23:45 J -7849785.63 -7849785.51 -7849785.40 0.2685 0.0202 *

Saturn -26204-01-28 23:31 J -7849559.68 -7849559.52 -7849559.36 0.0292 0.0137

Saturn -26204-04-27 22:04 J -7849470.75 -7849470.58 -7849470.41 0.0293 0.0049

Saturn -26204-07-25 20:09 J -7849381.76 -7849381.66 -7849381.55 0.0293 0.0232

Neptune -26203-10-02 01:26 J -7848948.50 -7848948.44 -7848948.35 0.0088 0.0080

Neptune -26203-12-29 04:33 J -7848860.40 -7848860.31 -7848860.18 0.0088 0.0071

Neptune -26202-03-27 08:23 J -7848772.29 -7848772.15 -7848772.02 0.0088 0.0061

Uranus -26202-05-05 07:40 J -7848733.22 -7848733.18 -7848733.11 0.0142 0.0129

Neptune -26202-06-23 11:31 J -7848684.16 -7848684.02 -7848683.86 0.0088 0.0052

Uranus -26202-08-01 11:45 J -7848645.10 -7848645.01 -7848644.92 0.0143 0.0106

Neptune -26202-09-19 14:38 J -7848596.04 -7848595.89 -7848595.71 0.0088 0.0043

Jupiter -26202-09-21 13:11 J -7848594.11 -7848593.95 -7848593.78 0.0500 0.0161

Uranus -26202-10-28 15:35 J -7848556.96 -7848556.85 -7848556.73 0.0143 0.0084

Neptune -26202-12-16 18:14 J -7848507.91 -7848507.74 -7848507.56 0.0088 0.0033

Uranus -26201-01-24 19:26 J -7848468.81 -7848468.69 -7848468.56 0.0143 0.0062

Neptune -26201-03-13 21:35 J -7848419.78 -7848419.60 -7848419.42 0.0088 0.0024

Uranus -26201-04-21 23:31 J -7848380.65 -7848380.52 -7848380.39 0.0143 0.0039

Neptune -26201-06-10 00:43 J -7848331.65 -7848331.47 -7848331.28 0.0088 0.0015

Uranus -26201-07-19 03:35 J -7848292.49 -7848292.35 -7848292.22 0.0143 0.0017

Neptune -26201-09-06 04:04 J -7848243.51 -7848243.33 -7848243.14 0.0088 0.0006

Uranus -26201-10-15 07:26 J -7848204.33 -7848204.19 -7848204.05 0.0143 0.0008

Neptune -26201-12-03 07:26 J -7848155.38 -7848155.19 -7848155.00 0.0088 0.0004

Uranus -26200-01-11 11:31 J -7848116.16 -7848116.02 -7848115.88 0.0143 0.0030

Neptune -26200-03-01 10:33 J -7848067.24 -7848067.06 -7848066.87 0.0088 0.0013

Uranus -26200-04-09 15:21 J -7848027.98 -7848027.86 -7848027.72 0.0143 0.0055

Neptune -26200-05-28 13:55 J -7847979.10 -7847978.92 -7847978.74 0.0088 0.0022

Uranus -26200-07-06 19:40 J -7847939.80 -7847939.68 -7847939.56 0.0144 0.0078

Neptune -26200-08-24 16:47 J -7847890.96 -7847890.80 -7847890.61 0.0088 0.0032

Uranus -26200-10-02 23:45 J -7847851.61 -7847851.51 -7847851.41 0.0144 0.0102

Neptune -26200-11-20 20:09 J -7847802.82 -7847802.66 -7847802.49 0.0088 0.0041

Uranus -26200-12-30 03:50 J -7847763.40 -7847763.34 -7847763.27 0.0144 0.0126

Neptune -26199-02-16 23:16 J -7847714.67 -7847714.53 -7847714.36 0.0088 0.0050

Neptune -26199-05-16 02:23 J -7847626.52 -7847626.40 -7847626.25 0.0088 0.0059

Neptune -26199-08-12 05:31 J -7847538.37 -7847538.27 -7847538.13 0.0088 0.0069

Mars -26199-09-16 02:52 J -7847503.48 -7847503.38 -7847503.28 0.1695 0.0858

Neptune -26199-11-08 08:52 J -7847450.21 -7847450.13 -7847450.03 0.0088 0.0077

Neptune -26198-02-04 11:59 J -7847362.02 -7847362.00 -7847361.95 0.0088 0.0086

Moon -26198-06-10 18:57 J -7847235.72 -7847235.71 -7847235.69 0.2686 0.2645

Mars -26198-07-27 20:09 J -7847188.76 -7847188.66 -7847188.56 0.1824 0.1416

Mars -26197-08-21 10:33 J -7846798.14 -7846798.06 -7846797.99 0.1714 0.1351

Jupiter -26196-02-11 18:14 J -7846623.81 -7846623.74 -7846623.67 0.0529 0.0430

Jupiter -26196-05-12 01:40 J -7846534.56 -7846534.43 -7846534.30 0.0526 0.0157

Moon -26195-12-18 02:52 J -7845949.51 -7845949.38 -7845949.25 0.2648 0.1197

Earth -26195-12-18 04:19 J -7845949.45 -7845949.32 -7845949.19 0.2646 0.1174 *

Moon -26192-06-19 18:43 J -7845034.83 -7845034.72 -7845034.62 0.2686 0.1257

Earth -26192-06-19 19:26 J -7845034.79 -7845034.69 -7845034.59 0.2683 0.1259 *

Saturn -26191-11-25 22:47 J -7844510.63 -7844510.55 -7844510.47 0.0269 0.0212

Saturn -26190-02-22 09:35 J -7844422.22 -7844422.10 -7844421.97 0.0269 0.0104

Saturn -26190-05-21 20:38 J -7844333.78 -7844333.64 -7844333.50 0.0268 0.0006

Jupiter -26190-07-10 11:16 J -7844284.21 -7844284.03 -7844283.85 0.0500 0.0018

Saturn -26190-08-18 07:40 J -7844245.30 -7844245.18 -7844245.05 0.0268 0.0114

Saturn -26190-11-14 18:43 J -7844156.79 -7844156.72 -7844156.64 0.0268 0.0225

Mars -26189-02-06 13:26 J -7844073.01 -7844072.94 -7844072.87 0.1691 0.1356

Mars -26187-01-11 20:09 J -7843367.76 -7843367.66 -7843367.55 0.1709 0.0794

Earth -26185-06-12 13:40 J -7842485.02 -7842484.93 -7842484.84 0.2688 0.1715

Moon -26185-06-12 13:55 J -7842485.01 -7842484.92 -7842484.83 0.2681 0.1666 *

Jupiter -26184-02-28 05:16 J -7842224.42 -7842224.28 -7842224.15 0.0527 0.0020

Moon -26182-12-21 05:16 J -7841198.42 -7841198.28 -7841198.14 0.2653 0.0186

Earth -26182-12-21 06:14 J -7841198.39 -7841198.24 -7841198.10 0.2648 0.0342 *

Moon -26179-06-22 14:52 J -7840283.93 -7840283.88 -7840283.82 0.2687 0.2309

Earth -26179-06-22 15:21 J -7840283.91 -7840283.86 -7840283.80 0.2681 0.2366 *

Jupiter -26178-04-28 09:07 J -7839974.28 -7839974.12 -7839973.95 0.0499 0.0196

Mars -26178-06-04 06:28 J -7839937.35 -7839937.23 -7839937.11 0.1705 0.0257

Mars -26177-04-15 01:55 J -7839621.56 -7839621.42 -7839621.29 0.1812 0.0958

Venus -26176-08-03 20:09 J -7839145.72 -7839145.66 -7839145.60 0.3772 0.3012

Saturn -26175-06-18 00:57 J -7838827.60 -7838827.46 -7838827.31 0.0292 0.0169

Saturn -26175-09-14 23:45 J -7838738.69 -7838738.51 -7838738.34 0.0293 0.0019

Saturn -26175-12-12 21:50 J -7838649.71 -7838649.59 -7838649.46 0.0293 0.0202

Jupiter -26173-12-17 08:23 J -7837914.28 -7837914.15 -7837914.03 0.0528 0.0151

Jupiter -26172-03-16 16:04 J -7837824.90 -7837824.83 -7837824.76 0.0525 0.0442

Moon -26172-06-15 08:38 J -7837734.25 -7837734.14 -7837734.03 0.2681 0.0758

Earth -26172-06-15 09:07 J -7837734.23 -7837734.12 -7837734.01 0.2686 0.0674 *

Venus -26170-02-17 12:28 J -7837122.08 -7837121.98 -7837121.87 0.3773 0.0628

Mars -26169-10-24 16:33 J -7836506.92 -7836506.81 -7836506.69 0.1700 0.0276

Moon -26169-12-23 07:26 J -7836447.29 -7836447.19 -7836447.09 0.2657 0.1829

Earth -26169-12-23 07:40 J -7836447.29 -7836447.18 -7836447.08 0.2650 0.1782 *

Mars -26168-09-04 23:31 J -7836191.68 -7836191.52 -7836191.36 0.1818 0.0152

Jupiter -26166-02-14 06:57 J -7835664.32 -7835664.21 -7835664.08 0.0498 0.0374

Jupiter -26166-05-15 12:43 J -7835574.10 -7835573.97 -7835573.84 0.0501 0.0330

Venus -26165-09-02 05:16 J -7835098.37 -7835098.28 -7835098.19 0.3774 0.1859

Uranus -26162-03-24 00:28 J -7834165.55 -7834165.48 -7834165.38 0.0136 0.0118

Uranus -26162-06-20 06:57 J -7834077.33 -7834077.21 -7834077.06 0.0136 0.0092

Uranus -26162-09-16 13:26 J -7833989.09 -7833988.94 -7833988.77 0.0136 0.0066

Uranus -26162-12-13 20:09 J -7833900.83 -7833900.66 -7833900.49 0.0136 0.0040

Moon -26162-12-16 06:43 J -7833898.26 -7833898.22 -7833898.17 0.2643 0.2496

Earth -26162-12-16 07:55 J -7833898.22 -7833898.17 -7833898.11 0.2645 0.2432 *

Uranus -26161-03-11 02:23 J -7833812.58 -7833812.40 -7833812.22 0.0136 0.0014

Saturn -26161-04-14 02:23 J -7833778.47 -7833778.40 -7833778.33 0.0269 0.0231

Uranus -26161-06-07 08:38 J -7833724.32 -7833724.14 -7833723.96 0.0135 0.0011

Saturn -26161-07-11 13:11 J -7833690.07 -7833689.95 -7833689.83 0.0268 0.0123

Venus -26161-08-31 03:07 J -7833639.52 -7833639.37 -7833639.23 0.3602 0.0266

Uranus -26161-09-03 14:38 J -7833636.05 -7833635.89 -7833635.71 0.0135 0.0037

Jupiter -26161-10-05 12:14 J -7833604.10 -7833603.99 -7833603.89 0.0529 0.0297

Saturn -26161-10-08 00:14 J -7833601.63 -7833601.49 -7833601.36 0.0268 0.0016

Uranus -26161-11-30 20:52 J -7833547.78 -7833547.63 -7833547.47 0.0135 0.0061

Jupiter -26160-01-02 19:55 J -7833514.78 -7833514.67 -7833514.56 0.0526 0.0294

Saturn -26160-01-04 11:16 J -7833513.16 -7833513.03 -7833512.90 0.0267 0.0094

Uranus -26160-02-27 02:52 J -7833459.51 -7833459.38 -7833459.23 0.0135 0.0086

Saturn -26160-04-02 22:19 J -7833424.65 -7833424.57 -7833424.48 0.0267 0.0204

Uranus -26160-05-26 09:07 J -7833371.22 -7833371.12 -7833371.02 0.0135 0.0110

Uranus -26160-08-22 14:38 J -7833282.89 -7833282.89 -7833282.85 0.0135 0.0134

Mars -26159-03-17 02:52 J -7833076.48 -7833076.38 -7833076.27 0.1695 0.0791

Moon -26159-06-18 04:04 J -7832983.45 -7832983.33 -7832983.22 0.2682 0.0391

Earth -26159-06-18 04:47 J -7832983.42 -7832983.30 -7832983.18 0.2684 0.0387 *

Mars -26158-01-25 20:38 J -7832761.75 -7832761.64 -7832761.53 0.1824 0.1307

Mars -26157-02-20 10:33 J -7832371.13 -7832371.06 -7832371.00 0.1714 0.1418

Jupiter -26154-03-03 10:19 J -7831264.23 -7831264.07 -7831263.90 0.0500 0.0151

Earth -26152-06-10 23:31 J -7830433.56 -7830433.52 -7830433.49 0.2689 0.2539

Moon -26152-06-10 23:59 J -7830433.54 -7830433.50 -7830433.46 0.2684 0.2522 *

Mars -26150-08-07 13:26 J -7829646.02 -7829645.94 -7829645.87 0.1690 0.1292

Jupiter -26149-07-24 16:19 J -7829293.89 -7829293.82 -7829293.75 0.0530 0.0438

Jupiter -26149-10-21 23:45 J -7829204.64 -7829204.51 -7829204.38 0.0527 0.0151

Moon -26149-12-18 08:52 J -7829147.26 -7829147.13 -7829147.00 0.2648 0.1089

Earth -26149-12-18 10:19 J -7829147.21 -7829147.07 -7829146.94 0.2647 0.0887 *

Mars -26148-07-12 20:23 J -7828940.75 -7828940.65 -7828940.55 0.1709 0.0863

Moon -26146-06-20 23:45 J -7828232.61 -7828232.51 -7828232.41 0.2686 0.1330

Earth -26146-06-21 00:28 J -7828232.58 -7828232.48 -7828232.38 0.2682 0.1473 *

Saturn -26146-11-04 23:45 J -7828095.63 -7828095.51 -7828095.40 0.0292 0.0223

Saturn -26145-02-01 22:33 J -7828006.74 -7828006.56 -7828006.39 0.0292 0.0036

Saturn -26145-04-30 20:52 J -7827917.78 -7827917.63 -7827917.48 0.0293 0.0149

Jupiter -26143-12-20 08:52 J -7826954.31 -7826954.13 -7826953.96 0.0500 0.0026

Moon -26139-06-13 18:43 J -7825682.81 -7825682.72 -7825682.62 0.2681 0.1506

Earth -26139-06-13 18:43 J -7825682.81 -7825682.72 -7825682.62 0.2688 0.1518 *

Mars -26139-12-03 06:28 J -7825510.35 -7825510.23 -7825510.12 0.1704 0.0323

Mars -26138-10-15 02:23 J -7825194.53 -7825194.40 -7825194.27 0.1812 0.1067

Jupiter -26137-08-10 03:35 J -7824894.49 -7824894.35 -7824894.22 0.0527 0.0017

Moon -26136-12-21 11:16 J -7824396.16 -7824396.03 -7824395.89 0.2654 0.0645

Earth -26136-12-21 11:59 J -7824396.14 -7824396.00 -7824395.86 0.2648 0.0605 *

Moon -26133-06-22 20:09 J -7823481.68 -7823481.66 -7823481.63 0.2687 0.2609

Earth -26133-06-22 20:23 J -7823481.68 -7823481.65 -7823481.62 0.2681 0.2577 *

Saturn -26132-09-01 04:47 J -7823046.32 -7823046.30 -7823046.28 0.0269 0.0264

Saturn -26132-11-28 15:35 J -7822957.96 -7822957.85 -7822957.74 0.0269 0.0156

Saturn -26131-02-25 02:23 J -7822869.53 -7822869.40 -7822869.26 0.0269 0.0049

Saturn -26131-05-24 13:26 J -7822781.07 -7822780.94 -7822780.80 0.0268 0.0062

Saturn -26131-08-21 00:43 J -7822692.58 -7822692.47 -7822692.37 0.0268 0.0172

Jupiter -26131-10-08 06:28 J -7822644.39 -7822644.23 -7822644.06 0.0499 0.0203

Jupiter -26130-01-06 11:45 J -7822554.02 -7822554.01 -7822553.99 0.0502 0.0499

Mars -26129-04-24 16:33 J -7822079.92 -7822079.81 -7822079.69 0.1700 0.0212

Mars -26128-03-06 00:14 J -7821764.65 -7821764.49 -7821764.32 0.1818 0.0061

Moon -26126-06-16 13:40 J -7820932.05 -7820931.93 -7820931.82 0.2680 0.0497

Earth -26126-06-16 14:09 J -7820932.02 -7820931.91 -7820931.79 0.2686 0.0477 *

Jupiter -26125-05-29 07:11 J -7820584.33 -7820584.20 -7820584.08 0.0528 0.0146

Jupiter -26125-08-26 14:52 J -7820494.95 -7820494.88 -7820494.81 0.0525 0.0445

Pluto -26125-10-31 01:26 J -7820429.50 -7820429.44 -7820429.37 0.0074 0.0067

Pluto -26124-01-27 02:52 J -7820341.47 -7820341.38 -7820341.28 0.0074 0.0058

Pluto -26124-04-25 04:19 J -7820253.43 -7820253.32 -7820253.21 0.0074 0.0050

Pluto -26124-07-22 05:16 J -7820165.39 -7820165.28 -7820165.14 0.0074 0.0043

Pluto -26124-10-18 06:43 J -7820077.34 -7820077.22 -7820077.07 0.0074 0.0035

Pluto -26123-01-14 08:09 J -7819989.30 -7819989.16 -7819989.01 0.0074 0.0027

Pluto -26123-04-12 09:21 J -7819901.25 -7819901.11 -7819900.95 0.0074 0.0019

Pluto -26123-07-09 10:47 J -7819813.20 -7819813.05 -7819812.90 0.0073 0.0011

Pluto -26123-10-05 11:59 J -7819725.15 -7819725.00 -7819724.84 0.0073 0.0004

Moon -26123-12-24 13:26 J -7819645.03 -7819644.94 -7819644.85 0.2657 0.2003

Earth -26123-12-24 13:26 J -7819645.03 -7819644.94 -7819644.85 0.2650 0.2050 *

Pluto -26122-01-01 13:26 J -7819637.10 -7819636.94 -7819636.79 0.0073 0.0004

Pluto -26122-03-30 14:38 J -7819549.04 -7819548.89 -7819548.74 0.0073 0.0011

Pluto -26122-06-26 15:35 J -7819460.99 -7819460.85 -7819460.69 0.0073 0.0019

Pluto -26122-09-22 17:02 J -7819372.93 -7819372.79 -7819372.65 0.0073 0.0026

Neptune -26122-10-11 17:31 J -7819353.79 -7819353.77 -7819353.72 0.0089 0.0086

Pluto -26122-12-19 18:14 J -7819284.87 -7819284.74 -7819284.60 0.0073 0.0033

Neptune -26121-01-07 18:57 J -7819265.76 -7819265.71 -7819265.64 0.0089 0.0079

Pluto -26121-03-16 19:11 J -7819196.81 -7819196.70 -7819196.56 0.0073 0.0041

Neptune -26121-04-04 20:23 J -7819177.72 -7819177.65 -7819177.56 0.0089 0.0072

Pluto -26121-06-12 20:23 J -7819108.75 -7819108.65 -7819108.53 0.0072 0.0048

Neptune -26121-07-01 21:35 J -7819089.68 -7819089.60 -7819089.49 0.0089 0.0066

Pluto -26121-09-08 21:35 J -7819020.69 -7819020.60 -7819020.49 0.0072 0.0054

Neptune -26121-09-27 23:02 J -7819001.63 -7819001.54 -7819001.42 0.0089 0.0059

Pluto -26121-12-05 22:47 J -7818932.62 -7818932.55 -7818932.46 0.0072 0.0061

Neptune -26121-12-25 00:28 J -7818913.58 -7818913.48 -7818913.36 0.0089 0.0052

Pluto -26120-03-03 23:59 J -7818844.54 -7818844.50 -7818844.45 0.0072 0.0068

Neptune -26120-03-23 02:09 J -7818825.52 -7818825.41 -7818825.29 0.0089 0.0044

Neptune -26120-06-19 03:35 J -7818737.47 -7818737.35 -7818737.23 0.0089 0.0037

Mars -26120-09-15 02:52 J -7818649.48 -7818649.38 -7818649.27 0.1695 0.0725

Neptune -26120-09-15 05:02 J -7818649.42 -7818649.29 -7818649.16 0.0089 0.0030 *

Neptune -26120-12-12 06:28 J -7818561.36 -7818561.23 -7818561.10 0.0089 0.0023

Neptune -26119-03-10 07:55 J -7818473.30 -7818473.17 -7818473.04 0.0089 0.0016

Venus -26119-03-10 17:45 J -7818472.85 -7818472.76 -7818472.68 0.3772 0.2141

Neptune -26119-06-06 09:21 J -7818385.25 -7818385.11 -7818384.98 0.0089 0.0009

Mars -26119-07-26 21:21 J -7818334.74 -7818334.61 -7818334.49 0.1824 0.1192

Jupiter -26119-07-27 04:33 J -7818334.43 -7818334.31 -7818334.20 0.0498 0.0380

Neptune -26119-09-02 10:47 J -7818297.19 -7818297.05 -7818296.92 0.0089 0.0003

Jupiter -26119-10-25 10:04 J -7818244.21 -7818244.08 -7818243.94 0.0501 0.0324

Neptune -26119-11-29 12:14 J -7818209.13 -7818208.99 -7818208.85 0.0089 0.0005

Neptune -26118-02-25 13:40 J -7818121.07 -7818120.93 -7818120.80 0.0089 0.0011

Neptune -26118-05-24 15:07 J -7818033.00 -7818032.87 -7818032.74 0.0089 0.0019

Uranus -26118-05-25 15:35 J -7818031.92 -7818031.85 -7818031.78 0.0142 0.0121

Neptune -26118-08-20 16:33 J -7817944.94 -7817944.81 -7817944.68 0.0089 0.0026

Mars -26118-08-21 10:33 J -7817944.12 -7817944.06 -7817944.00 0.1714 0.1488

Uranus -26118-08-21 19:11 J -7817943.79 -7817943.70 -7817943.60 0.0143 0.0099

Neptune -26118-11-16 17:59 J -7817856.88 -7817856.75 -7817856.62 0.0089 0.0033

Uranus -26118-11-17 23:02 J -7817855.65 -7817855.54 -7817855.42 0.0143 0.0077

Neptune -26117-02-12 19:26 J -7817768.81 -7817768.69 -7817768.57 0.0089 0.0040

Uranus -26117-02-14 03:07 J -7817767.50 -7817767.37 -7817767.24 0.0143 0.0054

Neptune -26117-05-10 20:52 J -7817680.74 -7817680.63 -7817680.51 0.0089 0.0047

Uranus -26117-05-12 06:57 J -7817679.34 -7817679.21 -7817679.07 0.0143 0.0032

Neptune -26117-08-06 22:04 J -7817592.67 -7817592.58 -7817592.46 0.0089 0.0054

Uranus -26117-08-08 11:02 J -7817591.18 -7817591.04 -7817590.90 0.0143 0.0009

Neptune -26117-11-02 23:31 J -7817504.60 -7817504.52 -7817504.41 0.0089 0.0062

Uranus -26117-11-04 15:07 J -7817503.01 -7817502.87 -7817502.74 0.0143 0.0015

Neptune -26116-01-30 01:11 J -7817416.53 -7817416.45 -7817416.36 0.0089 0.0068

Uranus -26116-01-31 18:57 J -7817414.84 -7817414.71 -7817414.57 0.0143 0.0038

Saturn -26116-03-24 00:43 J -7817363.55 -7817363.47 -7817363.39 0.0292 0.0257

Neptune -26116-04-28 02:38 J -7817328.45 -7817328.39 -7817328.31 0.0089 0.0075

Uranus -26116-04-29 23:02 J -7817326.66 -7817326.54 -7817326.41 0.0143 0.0062

Saturn -26116-06-20 23:45 J -7817274.68 -7817274.51 -7817274.34 0.0292 0.0069

Neptune -26116-07-25 04:04 J -7817240.37 -7817240.33 -7817240.27 0.0089 0.0082

Uranus -26116-07-27 03:07 J -7817238.48 -7817238.37 -7817238.25 0.0143 0.0085

Saturn -26116-09-17 22:04 J -7817185.74 -7817185.58 -7817185.41 0.0293 0.0117

Uranus -26116-10-23 07:26 J -7817150.28 -7817150.19 -7817150.10 0.0144 0.0109

Moon -26116-12-16 12:43 J -7817096.04 -7817095.97 -7817095.90 0.2644 0.2265

Earth -26116-12-16 13:55 J -7817096.00 -7817095.92 -7817095.83 0.2645 0.2144 *

Uranus -26115-01-19 11:31 J -7817062.07 -7817062.02 -7817061.97 0.0144 0.0133

Venus -26114-09-24 10:19 J -7816449.18 -7816449.07 -7816448.97 0.3773 0.0307

Jupiter -26113-03-17 10:04 J -7816274.18 -7816274.08 -7816273.97 0.0529 0.0305

Jupiter -26113-06-14 17:45 J -7816184.87 -7816184.76 -7816184.65 0.0526 0.0286

Moon -26113-06-18 09:07 J -7816181.24 -7816181.12 -7816181.01 0.2684 0.0467

Earth -26113-06-18 09:50 J -7816181.20 -7816181.09 -7816180.97 0.2684 0.0592 *

Mars -26110-02-05 13:26 J -7815219.02 -7815218.94 -7815218.86 0.1690 0.1229

Mars -26108-01-10 20:23 J -7814513.75 -7814513.65 -7814513.55 0.1709 0.0930

Venus -26108-04-09 02:52 J -7814425.45 -7814425.38 -7814425.31 0.3773 0.2760

Jupiter -26107-08-13 08:23 J -7813934.32 -7813934.15 -7813933.98 0.0500 0.0150

Earth -26106-06-12 04:33 J -7813631.37 -7813631.31 -7813631.26 0.2689 0.2346

Moon -26106-06-12 05:02 J -7813631.35 -7813631.29 -7813631.23 0.2684 0.2233 *

Venus -26104-04-07 03:50 J -7812966.47 -7812966.34 -7812966.21 0.3602 0.1561

Moon -26103-12-19 14:52 J -7812345.02 -7812344.88 -7812344.74 0.2649 0.0642

Earth -26103-12-19 16:04 J -7812344.96 -7812344.83 -7812344.69 0.2647 0.0613 *

Saturn -26102-04-17 19:26 J -7812225.80 -7812225.69 -7812225.59 0.0268 0.0174

Saturn -26102-07-15 06:14 J -7812137.37 -7812137.24 -7812137.11 0.0268 0.0066

Saturn -26102-10-11 17:16 J -7812048.92 -7812048.78 -7812048.65 0.0268 0.0043

Jupiter -26101-01-04 13:55 J -7811963.98 -7811963.92 -7811963.85 0.0530 0.0451

Saturn -26101-01-08 04:19 J -7811960.43 -7811960.32 -7811960.21 0.0267 0.0153

Jupiter -26101-04-02 21:35 J -7811874.73 -7811874.60 -7811874.48 0.0527 0.0139

Saturn -26101-04-05 15:35 J -7811871.87 -7811871.85 -7811871.83 0.0267 0.0263

Moon -26100-06-21 04:47 J -7811430.39 -7811430.30 -7811430.20 0.2686 0.1691

Earth -26100-06-21 05:45 J -7811430.36 -7811430.26 -7811430.17 0.2682 0.1683 *

Mars -26099-06-03 06:28 J -7811083.35 -7811083.23 -7811083.12 0.1704 0.0388

Mars -26098-04-15 03:07 J -7810767.49 -7810767.37 -7810767.25 0.1812 0.1178

Jupiter -26095-06-01 05:59 J -7809624.43 -7809624.25 -7809624.07 0.0499 0.0032

Moon -26093-06-13 23:45 J -7808880.61 -7808880.51 -7808880.41 0.2681 0.1355

Earth -26093-06-13 23:45 J -7808880.61 -7808880.51 -7808880.41 0.2688 0.1322 *

Mars -26090-10-24 16:33 J -7807652.93 -7807652.81 -7807652.69 0.1700 0.0148

Moon -26090-12-22 17:16 J -7807593.91 -7807593.78 -7807593.64 0.2655 0.0756

Earth -26090-12-22 17:59 J -7807593.89 -7807593.75 -7807593.62 0.2649 0.0885 *

Jupiter -26089-01-21 01:26 J -7807564.57 -7807564.44 -7807564.31 0.0528 0.0009

Mars -26089-09-04 00:43 J -7807337.63 -7807337.47 -7807337.31 0.1818 0.0072

Saturn -26087-11-07 22:33 J -7806542.71 -7806542.56 -7806542.39 0.0292 0.0121

Saturn -26086-02-04 21:21 J -7806453.78 -7806453.61 -7806453.44 0.0293 0.0066

Saturn -26086-05-04 19:26 J -7806364.78 -7806364.69 -7806364.60 0.0293 0.0249

Jupiter -26083-03-20 04:04 J -7805314.49 -7805314.33 -7805314.16 0.0499 0.0206

Jupiter -26083-06-18 09:21 J -7805224.14 -7805224.11 -7805224.08 0.0501 0.0493

Mars -26080-03-16 02:52 J -7804222.49 -7804222.38 -7804222.27 0.1695 0.0663

Moon -26080-06-16 18:43 J -7804129.84 -7804129.72 -7804129.60 0.2681 0.0342

Earth -26080-06-16 19:11 J -7804129.81 -7804129.70 -7804129.58 0.2686 0.0280 *

Mars -26079-01-24 22:19 J -7803907.70 -7803907.57 -7803907.44 0.1824 0.1059

Mars -26078-02-19 10:33 J -7803517.11 -7803517.06 -7803517.01 0.1714 0.1553

Uranus -26078-04-13 07:11 J -7803464.29 -7803464.20 -7803464.09 0.0136 0.0113

Uranus -26078-07-10 13:40 J -7803376.06 -7803375.93 -7803375.78 0.0136 0.0087

Uranus -26078-10-06 20:09 J -7803287.82 -7803287.66 -7803287.49 0.0136 0.0061

Jupiter -26078-11-09 05:16 J -7803254.40 -7803254.28 -7803254.15 0.0528 0.0149

Uranus -26077-01-03 02:38 J -7803199.56 -7803199.39 -7803199.22 0.0136 0.0035

Jupiter -26077-02-06 13:11 J -7803165.02 -7803164.95 -7803164.88 0.0525 0.0443

Uranus -26077-03-31 08:52 J -7803111.31 -7803111.13 -7803110.95 0.0136 0.0010

Uranus -26077-06-27 15:07 J -7803023.04 -7803022.87 -7803022.69 0.0135 0.0016

Uranus -26077-09-23 21:21 J -7802934.78 -7802934.61 -7802934.44 0.0135 0.0041

Uranus -26077-12-21 03:35 J -7802846.51 -7802846.35 -7802846.20 0.0135 0.0066

Earth -26077-12-24 19:11 J -7802842.76 -7802842.70 -7802842.63 0.2651 0.2319

Moon -26077-12-24 19:26 J -7802842.74 -7802842.69 -7802842.63 0.2657 0.2426 *

Uranus -26076-03-19 09:21 J -7802758.23 -7802758.11 -7802757.96 0.0135 0.0091

Uranus -26076-06-15 15:35 J -7802669.94 -7802669.85 -7802669.75 0.0135 0.0114

Saturn -26073-09-03 21:35 J -7801493.68 -7801493.60 -7801493.52 0.0269 0.0208

Saturn -26073-12-01 08:23 J -7801405.27 -7801405.15 -7801405.02 0.0269 0.0100

Saturn -26072-02-27 19:26 J -7801316.83 -7801316.69 -7801316.55 0.0268 0.0010

Saturn -26072-05-27 06:28 J -7801228.35 -7801228.23 -7801228.11 0.0268 0.0118

Saturn -26072-08-23 17:45 J -7801139.83 -7801139.76 -7801139.69 0.0267 0.0229

Jupiter -26071-01-06 01:40 J -7801004.53 -7801004.43 -7801004.31 0.0499 0.0388

Jupiter -26071-04-06 07:26 J -7800914.32 -7800914.19 -7800914.05 0.0501 0.0319

Mars -26071-08-06 13:26 J -7800792.03 -7800791.94 -7800791.86 0.1691 0.1164

Moon -26070-12-17 18:43 J -7800293.82 -7800293.72 -7800293.63 0.2644 0.1980

Earth -26070-12-17 20:09 J -7800293.77 -7800293.66 -7800293.56 0.2645 0.1854 *

Mars -26069-07-11 20:23 J -7800086.75 -7800086.65 -7800086.56 0.1709 0.0994

Venus -26068-03-31 22:47 J -7799823.57 -7799823.55 -7799823.52 0.3772 0.3645

Moon -26067-06-19 14:09 J -7799379.03 -7799378.91 -7799378.80 0.2685 0.0761

Earth -26067-06-19 14:52 J -7799378.99 -7799378.88 -7799378.76 0.2684 0.0803 *

Jupiter -26066-08-28 09:07 J -7798944.23 -7798944.12 -7798944.01 0.0529 0.0296

Jupiter -26066-11-25 16:33 J -7798854.92 -7798854.81 -7798854.70 0.0526 0.0293

Venus -26063-10-15 15:21 J -7797799.96 -7797799.86 -7797799.76 0.3772 0.1252

Mars -26062-12-27 23:59 J -7797361.52 -7797361.50 -7797361.48 0.1686 0.1656

Earth -26060-06-12 09:35 J -7796829.17 -7796829.10 -7796829.04 0.2689 0.2149

Moon -26060-06-12 10:04 J -7796829.15 -7796829.08 -7796829.01 0.2684 0.2153 *

Mars -26060-12-02 06:28 J -7796656.35 -7796656.23 -7796656.12 0.1704 0.0454

Jupiter -26059-01-23 05:45 J -7796604.43 -7796604.26 -7796604.09 0.0500 0.0144

Mars -26059-10-14 03:35 J -7796340.46 -7796340.35 -7796340.24 0.1812 0.1285

Saturn -26057-03-26 23:02 J -7795810.68 -7795810.54 -7795810.39 0.0292 0.0160

Venus -26057-04-30 07:55 J -7795776.27 -7795776.17 -7795776.07 0.3773 0.1189

Saturn -26057-06-23 21:50 J -7795721.76 -7795721.59 -7795721.41 0.0293 0.0028

Saturn -26057-09-20 20:09 J -7795632.77 -7795632.66 -7795632.54 0.0293 0.0212

Moon -26057-12-19 21:07 J -7795542.76 -7795542.62 -7795542.48 0.2650 0.0463

Earth -26057-12-19 22:04 J -7795542.72 -7795542.58 -7795542.44 0.2647 0.0328 *

Jupiter -26054-06-16 12:14 J -7794634.06 -7794633.99 -7794633.93 0.0530 0.0456

Moon -26054-06-22 10:04 J -7794628.17 -7794628.08 -7794627.99 0.2686 0.1771

Earth -26054-06-22 10:47 J -7794628.13 -7794628.05 -7794627.97 0.2682 0.1892 *

Jupiter -26054-09-13 19:40 J -7794544.81 -7794544.68 -7794544.56 0.0527 0.0133

Venus -26053-04-28 00:14 J -7794317.62 -7794317.49 -7794317.36 0.3602 0.1839

Venus -26052-11-14 00:28 J -7793752.50 -7793752.48 -7793752.46 0.3773 0.3678

Mars -26050-04-24 16:33 J -7793225.93 -7793225.81 -7793225.69 0.1700 0.0086

Mars -26049-03-05 01:40 J -7792910.59 -7792910.43 -7792910.27 0.1818 0.0197

Jupiter -26048-11-11 04:04 J -7792294.51 -7792294.33 -7792294.15 0.0499 0.0030

Venus -26048-11-12 04:33 J -7792293.36 -7792293.31 -7792293.25 0.3601 0.3343

Moon -26047-06-15 04:33 J -7792078.41 -7792078.31 -7792078.20 0.2680 0.1093

Earth -26047-06-15 04:47 J -7792078.40 -7792078.30 -7792078.19 0.2687 0.1123 *

Moon -26044-12-22 23:16 J -7790791.65 -7790791.53 -7790791.41 0.2655 0.1200

Earth -26044-12-22 23:45 J -7790791.63 -7790791.51 -7790791.38 0.2649 0.1157 *

Saturn -26043-01-22 01:11 J -7790761.52 -7790761.45 -7790761.37 0.0269 0.0226

Saturn -26043-04-20 11:59 J -7790673.12 -7790673.00 -7790672.87 0.0268 0.0119

Saturn -26043-07-17 23:02 J -7790584.68 -7790584.54 -7790584.40 0.0268 0.0010

Saturn -26043-10-14 10:04 J -7790496.21 -7790496.08 -7790495.95 0.0267 0.0100

Saturn -26042-01-10 21:07 J -7790407.70 -7790407.62 -7790407.53 0.0267 0.0210

Jupiter -26042-07-02 23:16 J -7790234.66 -7790234.53 -7790234.40 0.0528 0.0016

Mars -26041-09-14 02:52 J -7789795.49 -7789795.38 -7789795.27 0.1695 0.0596

Mars -26040-07-25 22:33 J -7789480.70 -7789480.56 -7789480.42 0.1824 0.0963

Mars -26039-08-20 10:33 J -7789090.10 -7789090.06 -7789090.03 0.1714 0.1622

Neptune -26038-04-01 20:23 J -7788865.67 -7788865.65 -7788865.59 0.0088 0.0086

Neptune -26038-06-28 23:59 J -7788777.58 -7788777.50 -7788777.40 0.0088 0.0076

Neptune -26038-09-25 03:07 J -7788689.47 -7788689.37 -7788689.23 0.0088 0.0067

Neptune -26038-12-22 06:43 J -7788601.36 -7788601.22 -7788601.07 0.0088 0.0057

Neptune -26037-03-19 09:50 J -7788513.23 -7788513.09 -7788512.91 0.0088 0.0049

Neptune -26037-06-15 13:11 J -7788425.10 -7788424.95 -7788424.77 0.0088 0.0039

Neptune -26037-09-11 16:47 J -7788336.98 -7788336.80 -7788336.62 0.0088 0.0029

Neptune -26037-12-08 19:55 J -7788248.84 -7788248.67 -7788248.48 0.0088 0.0020

Neptune -26036-03-06 23:16 J -7788160.71 -7788160.53 -7788160.34 0.0088 0.0011

Neptune -26036-06-03 02:38 J -7788072.57 -7788072.39 -7788072.20 0.0088 0.0002

Jupiter -26036-08-30 01:40 J -7787984.59 -7787984.43 -7787984.27 0.0499 0.0211

Neptune -26036-08-30 05:59 J -7787984.44 -7787984.25 -7787984.06 0.0088 0.0008 *

Neptune -26036-11-26 09:21 J -7787896.30 -7787896.11 -7787895.93 0.0088 0.0017

Jupiter -26036-11-28 06:57 J -7787894.25 -7787894.21 -7787894.18 0.0501 0.0488

Neptune -26035-02-22 12:14 J -7787808.16 -7787807.99 -7787807.80 0.0088 0.0027

Neptune -26035-05-21 15:35 J -7787720.01 -7787719.85 -7787719.67 0.0088 0.0036

Neptune -26035-08-17 18:43 J -7787631.87 -7787631.72 -7787631.55 0.0088 0.0045

Neptune -26035-11-13 22:04 J -7787543.72 -7787543.58 -7787543.43 0.0088 0.0054

Neptune -26034-02-10 01:11 J -7787455.57 -7787455.45 -7787455.31 0.0088 0.0063

Uranus -26034-03-18 19:11 J -7787418.74 -7787418.70 -7787418.66 0.0142 0.0135

Neptune -26034-05-09 04:19 J -7787367.41 -7787367.32 -7787367.20 0.0088 0.0073

Uranus -26034-06-14 23:02 J -7787330.62 -7787330.54 -7787330.46 0.0142 0.0113

Moon -26034-06-17 23:45 J -7787327.63 -7787327.51 -7787327.39 0.2682 0.0145

Earth -26034-06-18 00:28 J -7787327.60 -7787327.48 -7787327.37 0.2686 0.0121 *

Neptune -26034-08-05 07:40 J -7787279.24 -7787279.18 -7787279.11 0.0088 0.0081

Uranus -26034-09-11 02:52 J -7787242.48 -7787242.38 -7787242.27 0.0143 0.0091

Uranus -26034-12-08 06:43 J -7787154.34 -7787154.22 -7787154.09 0.0143 0.0069

Uranus -26033-03-05 10:33 J -7787066.18 -7787066.06 -7787065.92 0.0143 0.0047

Uranus -26033-06-01 14:38 J -7786978.02 -7786977.89 -7786977.75 0.0143 0.0024

Uranus -26033-08-28 18:43 J -7786889.86 -7786889.72 -7786889.58 0.0143 0.0002

Uranus -26033-11-24 22:33 J -7786801.69 -7786801.56 -7786801.42 0.0143 0.0023

Uranus -26032-02-21 02:38 J -7786713.52 -7786713.39 -7786713.26 0.0143 0.0046

Uranus -26032-05-20 06:43 J -7786625.34 -7786625.22 -7786625.10 0.0143 0.0069

Uranus -26032-08-16 10:47 J -7786537.15 -7786537.05 -7786536.94 0.0143 0.0093

Uranus -26032-11-12 15:07 J -7786448.95 -7786448.87 -7786448.79 0.0144 0.0117

Mars -26031-02-04 13:26 J -7786365.03 -7786364.94 -7786364.86 0.1690 0.1104

Uranus -26031-02-08 19:11 J -7786360.72 -7786360.70 -7786360.68 0.0144 0.0141

Earth -26031-12-26 00:57 J -7786040.48 -7786040.46 -7786040.43 0.2651 0.2589

Moon -26031-12-26 01:40 J -7786040.46 -7786040.43 -7786040.40 0.2657 0.2559 *

Jupiter -26030-04-21 03:21 J -7785924.49 -7785924.36 -7785924.24 0.0529 0.0158

Jupiter -26030-07-19 11:02 J -7785835.11 -7785835.04 -7785834.97 0.0526 0.0435

Mars -26029-01-10 20:23 J -7785659.74 -7785659.65 -7785659.56 0.1709 0.1062

Saturn -26028-08-13 22:04 J -7785078.70 -7785078.58 -7785078.45 0.0292 0.0212

Saturn -26028-11-10 21:07 J -7784989.80 -7784989.62 -7784989.45 0.0292 0.0025

Saturn -26027-02-07 19:26 J -7784900.83 -7784900.69 -7784900.54 0.0293 0.0161

Jupiter -26024-06-17 23:31 J -7783674.63 -7783674.52 -7783674.40 0.0498 0.0388

Jupiter -26024-09-16 05:16 J -7783584.42 -7783584.28 -7783584.14 0.0501 0.0316

Moon -26024-12-18 00:43 J -7783491.58 -7783491.47 -7783491.36 0.2644 0.1663

Earth -26024-12-18 01:55 J -7783491.53 -7783491.42 -7783491.30 0.2645 0.1572 *

Mars -26022-06-27 23:59 J -7782934.54 -7782934.50 -7782934.47 0.1686 0.1596

Moon -26021-06-19 19:11 J -7782576.81 -7782576.70 -7782576.59 0.2685 0.0895

Earth -26021-06-19 19:55 J -7782576.78 -7782576.67 -7782576.56 0.2684 0.1010 *

Mars -26020-06-02 06:28 J -7782229.35 -7782229.23 -7782229.12 0.1704 0.0520

Mars -26019-04-14 04:33 J -7781913.41 -7781913.31 -7781913.21 0.1812 0.1404

Jupiter -26018-02-07 07:26 J -7781614.30 -7781614.19 -7781614.09 0.0529 0.0299

Jupiter -26018-05-07 14:52 J -7781524.99 -7781524.88 -7781524.77 0.0526 0.0291

Saturn -26014-06-11 03:21 J -7780029.38 -7780029.36 -7780029.32 0.0269 0.0260

Earth -26014-06-13 14:38 J -7780026.97 -7780026.89 -7780026.82 0.2689 0.1960

Moon -26014-06-13 14:52 J -7780026.96 -7780026.88 -7780026.80 0.2683 0.1858 *

Saturn -26014-09-07 14:09 J -7779941.02 -7779940.91 -7779940.80 0.0269 0.0153

Saturn -26014-12-05 01:11 J -7779852.59 -7779852.45 -7779852.32 0.0268 0.0045

Saturn -26013-03-02 11:59 J -7779764.13 -7779764.00 -7779763.86 0.0268 0.0065

Saturn -26013-05-29 23:02 J -7779675.64 -7779675.54 -7779675.43 0.0267 0.0175

Jupiter	**-26012-07-05 03:21 J**	**-7779274.53**	**-7779274.36**	**-7779274.19**	**0.0500**	**0.0139**	
Venus	**-26012-11-05 20:38 J**	**-7779150.71**	**-7779150.64**	**-7779150.58**	**0.3772**	**0.2771**	
Mars	**-26011-10-23 16:33 J**	**-7778798.93**	**-7778798.81**	**-7778798.69**	**0.1700**	**0.0031**	
Moon	**-26011-12-21 03:07 J**	**-7778740.51**	**-7778740.37**	**-7778740.23**	**0.2652**	**0.0113**	
Earth	**-26011-12-21 04:04 J**	**-7778740.47**	**-7778740.33**	**-7778740.19**	**0.2647**	**0.0043**	*
Mars	**-26010-09-04 02:09 J**	**-7778483.57**	**-7778483.41**	**-7778483.25**	**0.1818**	**0.0308**	
Moon	**-26008-06-22 15:21 J**	**-7777825.93**	**-7777825.86**	**-7777825.79**	**0.2687**	**0.2119**	
Earth	**-26008-06-22 15:50 J**	**-7777825.91**	**-7777825.84**	**-7777825.77**	**0.2682**	**0.2105**	*
Jupiter	**-26007-11-26 11:02 J**	**-7777304.10**	**-7777304.04**	**-7777303.97**	**0.0529**	**0.0446**	
Jupiter	**-26006-02-23 18:28 J**	**-7777214.85**	**-7777214.73**	**-7777214.60**	**0.0527**	**0.0144**	
Venus	**-26006-05-22 12:57 J**	**-7777127.06**	**-7777126.96**	**-7777126.85**	**0.3772**	**0.0369**	
Mars	**-26001-03-15 02:52 J**	**-7775368.49**	**-7775368.38**	**-7775368.27**	**0.1695**	**0.0530**	
Moon	**-26001-06-15 09:35 J**	**-7775276.21**	**-7775276.10**	**-7775275.99**	**0.2680**	**0.1000**	
Earth	**-26001-06-15 09:50 J**	**-7775276.20**	**-7775276.09**	**-7775275.98**	**0.2687**	**0.0924**	*
Venus	**-26001-12-05 05:31 J**	**-7775103.35**	**-7775103.27**	**-7775103.18**	**0.3773**	**0.2103**	

26TH MILLENNIUM BCE

This is a list of transits of Mercury in the 26th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Mars	**-26000-01-23 23:16 J**	**-7775053.67**	**-7775053.53**	**-7775053.38**	**0.1824**	**0.0841**		
Jupiter	**-26000-04-23 01:40 J**	**-7774964.61**	**-7774964.43**	**-7774964.25**	**0.0499**	**0.0034**		
Mars	**-25999-02-18 10:33 J**	**-7774663.08**	**-7774663.06**	**-7774663.04**	**0.1714**	**0.1689**		
Saturn	**-25999-12-31 21:35 J**	**-7774346.67**	**-7774346.60**	**-7774346.51**	**0.0292**	**0.0258**		

Saturn -25998-03-30 20:38 J -7774257.81 -7774257.64 -7774257.46 0.0292 0.0069

Saturn -25998-06-27 19:11 J -7774168.85 -7774168.70 -7774168.53 0.0293 0.0118

Moon -25998-12-24 05:16 J -7773989.40 -7773989.28 -7773989.16 0.2655 0.1343

Earth -25998-12-24 05:45 J -7773989.38 -7773989.26 -7773989.14 0.2649 0.1433 *

Venus -25997-12-03 01:11 J -7773644.60 -7773644.45 -7773644.30 0.3602 0.0013

Jupiter -25995-12-12 21:35 J -7772904.73 -7772904.60 -7772904.47 0.0528 0.0021

Uranus -25994-02-04 07:26 J -7772851.21 -7772851.19 -7772851.13 0.0136 0.0133

Uranus -25994-05-03 14:23 J -7772763.01 -7772762.90 -7772762.79 0.0136 0.0106

Uranus -25994-07-30 20:52 J -7772674.77 -7772674.63 -7772674.48 0.0136 0.0080

Uranus -25994-10-27 03:21 J -7772586.53 -7772586.36 -7772586.19 0.0136 0.0054

Uranus -25993-01-23 09:35 J -7772498.27 -7772498.10 -7772497.92 0.0136 0.0029

Uranus -25993-04-20 16:04 J -7772410.01 -7772409.83 -7772409.65 0.0136 0.0003

Uranus -25993-07-17 22:19 J -7772321.75 -7772321.57 -7772321.39 0.0135 0.0022

Uranus -25993-10-14 04:19 J -7772233.48 -7772233.32 -7772233.14 0.0135 0.0048

Uranus -25992-01-10 10:33 J -7772145.21 -7772145.06 -7772144.90 0.0135 0.0072

Uranus -25992-04-08 16:47 J -7772056.92 -7772056.80 -7772056.68 0.0135 0.0097

Uranus -25992-07-05 22:33 J -7771968.63 -7771968.56 -7771968.47 0.0135 0.0121

Mars -25992-08-05 13:26 J -7771938.04 -7771937.94 -7771937.85 0.1690 0.1039

Mars -25990-07-11 20:23 J -7771232.74 -7771232.65 -7771232.56 0.1709 0.1131

Jupiter -25988-02-08 23:59 J -7770654.66 -7770654.50 -7770654.34 0.0499 0.0206

Jupiter -25988-05-10 05:02 J -7770564.31 -7770564.29 -7770564.25 0.0501 0.0494

Moon -25988-06-18 04:47 J -7770525.42 -7770525.30 -7770525.19 0.2683 0.0135

Earth -25988-06-18 05:31 J -7770525.39 -7770525.27 -7770525.15 0.2685 0.0142 *

Saturn -25984-01-24 17:45 J -7769208.86 -7769208.76 -7769208.65 0.0268 0.0173

Saturn -25984-04-23 04:47 J -7769120.44 -7769120.30 -7769120.17 0.0268 0.0065

Saturn -25984-07-20 15:35 J -7769031.98 -7769031.85 -7769031.71 0.0267 0.0044

Saturn -25984-10-17 02:38 J -7768943.50 -7768943.39 -7768943.27 0.0267 0.0154

Saturn -25983-01-13 13:55 J -7768854.94 -7768854.92 -7768854.90 0.0267 0.0264

Jupiter -25983-10-01 01:11 J -7768594.57 -7768594.45 -7768594.32 0.0529 0.0168

Mars -25983-12-26 23:59 J -7768507.55 -7768507.50 -7768507.46 0.1686 0.1531

Jupiter -25983-12-29 08:52 J -7768505.20 -7768505.13 -7768505.05 0.0526 0.0426

Moon -25981-06-11 01:11 J -7767975.47 -7767975.45 -7767975.44 0.2687 0.2651

Mars -25981-12-01 06:28 J -7767802.34 -7767802.23 -7767802.12 0.1704 0.0586

Mars -25980-10-13 04:47 J -7767486.38 -7767486.30 -7767486.21 0.1812 0.1507

Moon -25978-12-19 06:43 J -7766689.34 -7766689.22 -7766689.10 0.2646 0.1443

Earth -25978-12-19 07:55 J -7766689.29 -7766689.17 -7766689.04 0.2646 0.1285 *

Jupiter -25977-11-27 21:35 J -7766344.71 -7766344.60 -7766344.49 0.0498 0.0388

Jupiter -25976-02-26 03:07 J -7766254.50 -7766254.37 -7766254.23 0.0500 0.0315

Moon -25975-06-21 00:14 J -7765774.59 -7765774.49 -7765774.38 0.2685 0.1155

Earth -25975-06-21 01:11 J -7765774.56 -7765774.45 -7765774.35 0.2683 0.1217 *

Mars -25971-04-23 16:33 J -7764371.93 -7764371.81 -7764371.69 0.1699 0.0062

Jupiter -25971-07-20 05:16 J -7764284.38 -7764284.28 -7764284.17 0.0529 0.0309

Jupiter -25971-10-17 12:57 J -7764195.07 -7764194.96 -7764194.85 0.0527 0.0283

Mars -25970-03-05 02:38 J -7764056.54 -7764056.39 -7764056.23 0.1818 0.0414

Saturn -25969-08-16 19:40 J -7763525.84 -7763525.68 -7763525.52 0.0292 0.0121

Saturn -25969-11-13 18:28 J -7763436.90 -7763436.73 -7763436.56 0.0293 0.0066

Saturn -25968-02-10 16:33 J -7763347.89 -7763347.81 -7763347.72 0.0293 0.0250

Earth -25968-06-13 19:40 J -7763224.77 -7763224.68 -7763224.60 0.2689 0.1763

Moon -25968-06-13 19:40 J -7763224.76 -7763224.68 -7763224.59 0.2682 0.1801 *

Jupiter -25965-12-15 01:26 J -7761944.61 -7761944.44 -7761944.27 0.0500 0.0142

Moon -25965-12-21 09:07 J -7761938.27 -7761938.12 -7761937.98 0.2653 0.0177

Earth -25965-12-21 10:04 J -7761938.23 -7761938.08 -7761937.94 0.2647 0.0244 *

Pluto -25964-10-22 06:28 J -7761633.25 -7761633.23 -7761633.17 0.0070 0.0069

Pluto -25963-01-18 07:55 J -7761545.23 -7761545.17 -7761545.08 0.0070 0.0062

Pluto -25963-04-16 09:21 J -7761457.20 -7761457.11 -7761456.99 0.0071 0.0055

Pluto -25963-07-13 10:33 J -7761369.16 -7761369.06 -7761368.92 0.0071 0.0048

Pluto -25963-10-09 12:14 J -7761281.12 -7761280.99 -7761280.85 0.0071 0.0040

Pluto -25962-01-05 13:40 J -7761193.07 -7761192.93 -7761192.78 0.0071 0.0033

Pluto -25962-04-03 14:52 J -7761105.02 -7761104.88 -7761104.71 0.0071 0.0026

Moon -25962-06-23 20:38 J -7761023.70 -7761023.64 -7761023.58 0.2688 0.2254

Earth -25962-06-23 21:07 J -7761023.68 -7761023.62 -7761023.57 0.2682 0.2320 *

Pluto -25962-06-30 16:33 J -7761016.96 -7761016.81 -7761016.65 0.0071 0.0018

Mars -25962-09-14 02:52 J -7760941.50 -7760941.38 -7760941.27 0.1695 0.0473

Pluto -25962-09-26 17:59 J -7760928.91 -7760928.75 -7760928.58 0.0071 0.0011

Pluto -25962-12-23 19:26 J -7760840.85 -7760840.69 -7760840.52 0.0071 0.0004

Pluto -25961-03-20 20:52 J -7760752.79 -7760752.63 -7760752.46 0.0072 0.0005

Pluto -25961-06-16 22:19 J -7760664.73 -7760664.57 -7760664.40 0.0072 0.0012

Mars -25961-07-25 00:14 J -7760626.64 -7760626.49 -7760626.34 0.1824 0.0718

Pluto -25961-09-12 23:45 J -7760576.66 -7760576.51 -7760576.34 0.0072 0.0020

Pluto -25961-12-10 01:26 J -7760488.59 -7760488.44 -7760488.29 0.0072 0.0027

Pluto -25960-03-08 02:38 J -7760400.52 -7760400.39 -7760400.23 0.0072 0.0035

Pluto -25960-06-04 04:04 J -7760312.44 -7760312.33 -7760312.18 0.0072 0.0043

Pluto -25960-08-31 05:59 J -7760224.36 -7760224.25 -7760224.13 0.0072 0.0051

Pluto -25960-11-27 07:26 J -7760136.28 -7760136.19 -7760136.09 0.0072 0.0059

Pluto -25959-02-23 08:52 J -7760048.18 -7760048.13 -7760048.05 0.0072 0.0067

Jupiter -25959-05-08 09:35 J -7759974.17 -7759974.10 -7759974.03 0.0530 0.0447

Jupiter -25959-08-05 17:02 J -7759884.92 -7759884.79 -7759884.67 0.0527 0.0142

Neptune -25957-04-10 15:50 J -7759270.84 -7759270.84 -7759270.83 0.0089 0.0089

Neptune -25957-07-07 17:16 J -7759182.82 -7759182.78 -7759182.73 0.0089 0.0082

Neptune -25957-10-03 18:43 J -7759094.79 -7759094.72 -7759094.65 0.0089 0.0076

Neptune -25957-12-30 20:09 J -7759006.74 -7759006.66 -7759006.57 0.0089 0.0069

Neptune -25956-03-28 21:35 J -7758918.70 -7758918.60 -7758918.50 0.0089 0.0062

Neptune -25956-06-24 22:47 J -7758830.65 -7758830.55 -7758830.44 0.0089 0.0055

Neptune -25956-09-21 00:14 J -7758742.60 -7758742.49 -7758742.37 0.0089 0.0048

Neptune -25956-12-18 01:40 J -7758654.54 -7758654.43 -7758654.30 0.0089 0.0041

Neptune -25955-03-16 03:07 J -7758566.49 -7758566.37 -7758566.24 0.0089 0.0034

Neptune -25955-06-12 04:33 J -7758478.43 -7758478.31 -7758478.18 0.0089 0.0027

Venus -25955-06-12 18:14 J -7758477.83 -7758477.74 -7758477.65 0.3772 0.1884

Saturn -25955-06-13 19:40 J -7758476.76 -7758476.68 -7758476.59 0.0269 0.0209

Moon -25955-06-16 14:38 J -7758474.00 -7758473.89 -7758473.77 0.2680 0.0686

Earth -25955-06-16 14:52 J -7758473.99 -7758473.88 -7758473.76 0.2687 0.0729 *

Neptune -25955-09-08 05:59 J -7758390.38 -7758390.25 -7758390.11 0.0089 0.0020

Saturn -25955-09-10 06:28 J -7758388.35 -7758388.23 -7758388.10 0.0268 0.0102

Neptune -25955-12-05 07:26 J -7758302.32 -7758302.19 -7758302.05 0.0089 0.0014

Saturn -25955-12-07 17:31 J -7758299.91 -7758299.77 -7758299.63 0.0268 0.0008

Neptune -25954-03-03 08:52 J -7758214.26 -7758214.13 -7758213.99 0.0089 0.0007

Saturn -25954-03-06 04:33 J -7758211.43 -7758211.31 -7758211.19 0.0267 0.0117

Neptune -25954-05-30 10:19 J -7758126.20 -7758126.07 -7758125.93 0.0089 0.0003

Saturn -25954-06-02 15:35 J -7758122.92 -7758122.85 -7758122.77 0.0267 0.0227

Neptune -25954-08-26 11:45 J -7758038.14 -7758038.01 -7758037.87 0.0089 0.0008

Neptune -25954-11-22 13:11 J -7757950.08 -7757949.95 -7757949.81 0.0089 0.0015

Neptune -25953-02-18 14:38 J -7757862.02 -7757861.89 -7757861.75 0.0089 0.0022

Neptune -25953-05-16 16:04 J -7757773.95 -7757773.83 -7757773.70 0.0089 0.0029

Neptune -25953-08-12 17:31 J -7757685.89 -7757685.77 -7757685.64 0.0089 0.0036

Jupiter -25953-10-02 23:31 J -7757634.70 -7757634.52 -7757634.35 0.0499 0.0037

Neptune -25953-11-08 18:57 J -7757597.82 -7757597.71 -7757597.59 0.0089 0.0043

Mars -25952-02-03 13:26 J -7757511.04 -7757510.94 -7757510.85 0.1691 0.0974

Neptune -25952-02-04 20:23 J -7757509.76 -7757509.65 -7757509.53 0.0089 0.0050

Neptune -25952-05-03 21:50 J -7757421.69 -7757421.59 -7757421.48 0.0089 0.0057

Neptune -25952-07-30 23:16 J -7757333.61 -7757333.53 -7757333.43 0.0089 0.0064

Neptune -25952-10-27 00:43 J -7757245.54 -7757245.47 -7757245.38 0.0089 0.0072

Moon -25952-12-24 11:31 J -7757187.13 -7757187.02 -7757186.92 0.2656 0.1744

Earth -25952-12-24 11:31 J -7757187.13 -7757187.02 -7757186.91 0.2649 0.1702 *

Neptune -25951-01-23 02:09 J -7757157.46 -7757157.41 -7757157.33 0.0089 0.0079

Neptune -25951-04-21 03:50 J -7757069.37 -7757069.34 -7757069.30 0.0089 0.0085

Mars -25950-01-09 20:23 J -7756805.74 -7756805.65 -7756805.57 0.1709 0.1195

Uranus -25950-04-08 02:38 J -7756717.44 -7756717.39 -7756717.33 0.0142 0.0128

Uranus -25950-07-05 06:28 J -7756629.31 -7756629.23 -7756629.13 0.0142 0.0106

Uranus -25950-10-01 10:19 J -7756541.17 -7756541.07 -7756540.95 0.0143 0.0084

Venus -25950-12-27 10:33 J -7756454.16 -7756454.06 -7756453.95 0.3772 0.0567

Uranus -25950-12-28 14:23 J -7756453.02 -7756452.90 -7756452.78 0.0143 0.0062

Uranus -25949-03-25 18:14 J -7756364.87 -7756364.74 -7756364.61 0.0143 0.0039

Uranus -25949-06-21 22:19 J -7756276.71 -7756276.57 -7756276.44 0.0143 0.0017

Uranus -25949-09-18 02:09 J -7756188.55 -7756188.41 -7756188.27 0.0143 0.0007

Uranus -25949-12-15 06:14 J -7756100.38 -7756100.24 -7756100.10 0.0143 0.0030

Uranus -25948-03-13 10:19 J -7756012.20 -7756012.07 -7756011.94 0.0143 0.0053

Uranus -25948-06-09 14:09 J -7755924.02 -7755923.91 -7755923.78 0.0143 0.0078

Uranus -25948-09-05 18:28 J -7755835.83 -7755835.73 -7755835.63 0.0143 0.0101

Uranus -25948-12-02 22:33 J -7755747.62 -7755747.56 -7755747.49 0.0144 0.0125

Jupiter -25947-05-24 20:38 J -7755574.77 -7755574.64 -7755574.50 0.0528 0.0018

Venus -25946-12-24 21:21 J -7754995.65 -7754995.61 -7754995.57 0.3603 0.3457

Earth -25945-12-16 11:31 J -7754638.05 -7754638.02 -7754637.98 0.2644 0.2562

Venus -25944-07-12 03:21 J -7754430.42 -7754430.36 -7754430.30 0.3773 0.3009

Mars -25943-06-26 23:59 J -7754080.56 -7754080.50 -7754080.45 0.1686 0.1466

Moon -25942-06-19 09:35 J -7753723.21 -7753723.10 -7753722.98 0.2683 0.0230

Earth -25942-06-19 10:33 J -7753723.18 -7753723.06 -7753722.94 0.2685 0.0342 *

Mars -25941-06-01 06:28 J -7753375.34 -7753375.23 -7753375.12 0.1704 0.0654

Jupiter -25941-07-21 21:50 J -7753324.75 -7753324.59 -7753324.43 0.0499 0.0207

Jupiter -25941-10-20 03:07 J -7753234.40 -7753234.37 -7753234.34 0.0501 0.0493

Mars -25940-04-13 05:31 J -7753059.33 -7753059.27 -7753059.20 0.1812 0.1621

Venus -25940-07-10 02:09 J -7752971.54 -7752971.41 -7752971.29 0.3602 0.1836

Saturn -25939-01-03 17:59 J -7752793.88 -7752793.75 -7752793.60 0.0292 0.0176

Saturn -25939-04-02 17:02 J -7752704.97 -7752704.79 -7752704.61 0.0293 0.0013

Saturn -25939-06-30 15:35 J -7752615.98 -7752615.85 -7752615.73 0.0293 0.0198

Jupiter -25935-03-12 23:45 J -7751264.63 -7751264.51 -7751264.39 0.0528 0.0167

Jupiter -25935-06-10 07:26 J -7751175.27 -7751175.19 -7751175.11 0.0526 0.0425

Earth -25935-06-12 05:16 J -7751173.30 -7751173.28 -7751173.25 0.2690 0.2587

Moon -25935-06-12 05:59 J -7751173.28 -7751173.25 -7751173.22 0.2687 0.2561 *

Mars -25932-10-22 16:33 J -7749944.93 -7749944.81 -7749944.69 0.1699 0.0118

Moon -25932-12-19 12:43 J -7749887.10 -7749886.97 -7749886.84 0.2648 0.1035

Earth -25932-12-19 13:55 J -7749887.05 -7749886.92 -7749886.79 0.2646 0.1003 *

Mars -25931-09-03 03:21 J -7749629.51 -7749629.36 -7749629.20 0.1818 0.0529

Jupiter -25929-05-09 20:09 J -7749014.77 -7749014.66 -7749014.54 0.0498 0.0379

Moon -25929-06-21 05:31 J -7748972.37 -7748972.27 -7748972.17 0.2686 0.1367

Earth -25929-06-21 06:14 J -7748972.34 -7748972.24 -7748972.14 0.2683 0.1429 *

Jupiter -25929-08-08 01:55 J -7748924.56 -7748924.42 -7748924.29 0.0500 0.0325

Saturn -25926-10-31 23:16 J -7747744.59 -7747744.53 -7747744.46 0.0269 0.0229

Saturn -25925-01-28 10:04 J -7747656.20 -7747656.08 -7747655.96 0.0268 0.0122

Saturn -25925-04-25 20:52 J -7747567.76 -7747567.63 -7747567.49 0.0268 0.0016

Saturn -25925-07-23 07:55 J -7747479.30 -7747479.17 -7747479.04 0.0267 0.0096

Saturn -25925-10-19 18:57 J -7747390.79 -7747390.71 -7747390.62 0.0267 0.0205

Jupiter -25924-12-30 03:21 J -7746954.46 -7746954.36 -7746954.25 0.0529 0.0315

Jupiter -25923-03-29 11:02 J -7746865.15 -7746865.04 -7746864.93 0.0527 0.0276

Mars -25922-03-15 02:52 J -7746514.50 -7746514.38 -7746514.27 0.1695 0.0402

Earth -25922-06-15 00:43 J -7746422.57 -7746422.47 -7746422.38 0.2688 0.1571

Moon -25922-06-15 00:43 J -7746422.57 -7746422.47 -7746422.37 0.2681 0.1494 *

Mars -25921-01-24 00:43 J -7746199.63 -7746199.47 -7746199.32 0.1824 0.0615

Moon -25919-12-22 14:52 J -7745136.02 -7745135.88 -7745135.74 0.2653 0.0423

Earth -25919-12-22 15:50 J -7745135.98 -7745135.84 -7745135.70 0.2648 0.0513 *

Jupiter -25917-05-26 23:45 J -7744614.68 -7744614.51 -7744614.34 0.0500 0.0146

Moon -25916-06-24 01:55 J -7744221.46 -7744221.42 -7744221.39 0.2688 0.2539

Earth -25916-06-24 02:09 J -7744221.44 -7744221.41 -7744221.37 0.2681 0.2537 *

Mars -25913-08-04 13:11 J -7743084.04 -7743083.95 -7743083.85 0.1690 0.0912

Mars -25912-06-14 21:21 J -7742769.64 -7742769.61 -7742769.59 0.1830 0.1801

Jupiter -25912-10-18 07:26 J -7742644.25 -7742644.19 -7742644.12 0.0530 0.0456

Jupiter -25911-01-15 15:07 J -7742555.00 -7742554.87 -7742554.75 0.0527 0.0136

Mars -25911-07-10 20:23 J -7742378.73 -7742378.65 -7742378.57 0.1709 0.1265

Uranus -25910-02-24 14:23 J -7742149.95 -7742149.90 -7742149.83 0.0136 0.0127

Saturn -25910-05-23 16:47 J -7742061.90 -7742061.80 -7742061.68 0.0292 0.0231

Uranus -25910-05-23 20:52 J -7742061.74 -7742061.63 -7742061.50 0.0136 0.0101 *

Uranus -25910-08-20 03:21 J -7741973.50 -7741973.36 -7741973.19 0.0136 0.0075

Saturn -25910-08-20 15:50 J -7741973.01 -7741972.84 -7741972.66 0.0293 0.0042

Uranus -25910-11-16 10:04 J -7741885.25 -7741885.08 -7741884.91 0.0136 0.0049

Saturn -25910-11-17 14:23 J -7741884.05 -7741883.90 -7741883.74 0.0293 0.0146

Uranus -25909-02-12 16:33 J -7741796.99 -7741796.81 -7741796.63 0.0136 0.0023

Uranus -25909-05-10 22:47 J -7741708.73 -7741708.55 -7741708.37 0.0135 0.0003

Moon -25909-06-16 19:40 J -7741671.80 -7741671.68 -7741671.57 0.2681 0.0633

Earth -25909-06-16 19:55 J -7741671.78 -7741671.67 -7741671.55 0.2687 0.0531 *

Uranus -25909-08-07 05:02 J -7741620.46 -7741620.29 -7741620.11 0.0135 0.0028

Uranus -25909-11-03 11:02 J -7741532.19 -7741532.04 -7741531.86 0.0135 0.0053

Uranus -25908-01-30 17:31 J -7741443.92 -7741443.77 -7741443.63 0.0135 0.0078

Uranus -25908-04-28 23:16 J -7741355.63 -7741355.53 -7741355.40 0.0135 0.0102

Uranus -25908-07-26 05:31 J -7741267.32 -7741267.27 -7741267.21 0.0135 0.0126

Earth -25906-12-25 17:16 J -7740384.87 -7740384.78 -7740384.68 0.2650 0.1977

Moon -25906-12-25 17:31 J -7740384.86 -7740384.77 -7740384.68 0.2656 0.1982 *

Jupiter -25905-03-14 21:50 J -7740304.77 -7740304.59 -7740304.41 0.0499 0.0029

Venus -25904-07-03 23:16 J -7739828.57 -7739828.53 -7739828.48 0.3771 0.3384

Mars -25904-12-25 23:45 J -7739653.57 -7739653.51 -7739653.44 0.1686 0.1408

Mars -25902-12-01 06:14 J -7738948.34 -7738948.24 -7738948.13 0.1704 0.0715

Mars -25901-10-12 06:14 J -7738632.28 -7738632.24 -7738632.19 0.1812 0.1729

Jupiter -25900-11-03 19:11 J -7738244.83 -7738244.70 -7738244.57 0.0528 0.0005

Moon -25899-12-17 16:33 J -7737835.89 -7737835.81 -7737835.74 0.2641 0.2277

Earth -25899-12-17 17:45 J -7737835.83 -7737835.76 -7737835.69 0.2644 0.2269 *

Venus -25898-01-17 15:50 J -7737804.94 -7737804.84 -7737804.74 0.3772 0.0993

Saturn -25896-03-20 01:11 J -7737012.46 -7737012.45 -7737012.43 0.0269 0.0266

Saturn -25896-06-16 11:45 J -7736924.11 -7736924.01 -7736923.89 0.0268 0.0160

Moon -25896-06-19 14:52 J -7736921.00 -7736920.88 -7736920.77 0.2683 0.0539

Earth -25896-06-19 15:35 J -7736920.96 -7736920.85 -7736920.73 0.2685 0.0550 *

Saturn -25896-09-12 22:47 J -7736835.69 -7736835.55 -7736835.42 0.0268 0.0052

Saturn -25896-12-10 09:35 J -7736747.23 -7736747.10 -7736746.96 0.0267 0.0057

Saturn -25895-03-08 20:38 J -7736658.74 -7736658.64 -7736658.53 0.0267 0.0167

Jupiter -25893-01-01 19:55 J -7735994.84 -7735994.67 -7735994.51 0.0499 0.0206

Jupiter -25893-04-01 01:11 J -7735904.48 -7735904.45 -7735904.43 0.0501 0.0494

Venus -25893-08-02 08:23 J -7735781.25 -7735781.15 -7735781.06 0.3772 0.1442

Mars -25892-04-22 16:33 J -7735517.93 -7735517.81 -7735517.69 0.1700 0.0185

Mars -25891-03-04 04:04 J -7735202.48 -7735202.33 -7735202.17 0.1818 0.0650

Earth -25889-06-12 10:19 J -7734371.12 -7734371.07 -7734371.02 0.2690 0.2395

Moon -25889-06-12 11:02 J -7734371.10 -7734371.04 -7734370.99 0.2685 0.2323 *

Venus -25889-07-30 22:19 J -7734322.70 -7734322.57 -7734322.43 0.3603 0.1582

Jupiter -25888-08-22 23:02 J -7733934.66 -7733934.54 -7733934.41 0.0528 0.0150

Jupiter -25888-11-20 06:43 J -7733845.28 -7733845.22 -7733845.15 0.0526 0.0443

Moon -25886-12-20 18:43 J -7733084.85 -7733084.72 -7733084.59 0.2649 0.0916

Earth -25886-12-20 19:55 J -7733084.81 -7733084.67 -7733084.53 0.2646 0.0715 *

Moon -25883-06-22 10:47 J -7732170.15 -7732170.05 -7732169.96 0.2687 0.1544

Earth -25883-06-22 11:16 J -7732170.12 -7732170.03 -7732169.93 0.2683 0.1642 *

Mars -25883-09-13 02:52 J -7732087.50 -7732087.38 -7732087.26 0.1695 0.0336

Mars -25882-07-25 01:11 J -7731772.60 -7731772.45 -7731772.29 0.1824 0.0499

Jupiter -25882-10-20 18:14 J -7731684.85 -7731684.74 -7731684.62 0.0498 0.0376

Jupiter -25881-01-18 23:59 J -7731594.63 -7731594.50 -7731594.36 0.0501 0.0328

Saturn -25880-01-06 13:26 J -7731241.10 -7731240.94 -7731240.77 0.0292 0.0103

Saturn -25880-04-05 12:14 J -7731152.15 -7731151.99 -7731151.82 0.0293 0.0086

Saturn -25880-07-03 10:47 J -7731063.12 -7731063.05 -7731062.99 0.0294 0.0271

Pluto -25879-09-26 16:19 J -7730612.86 -7730612.82 -7730612.75 0.0074 0.0069

Pluto -25879-12-23 17:45 J -7730524.83 -7730524.76 -7730524.66 0.0074 0.0060

Pluto -25878-03-21 19:11 J -7730436.80 -7730436.70 -7730436.58 0.0074 0.0052

Pluto -25878-06-17 20:38 J -7730348.76 -7730348.64 -7730348.51 0.0074 0.0044

Pluto -25878-09-13 21:50 J -7730260.71 -7730260.59 -7730260.45 0.0074 0.0037

Pluto -25878-12-10 23:16 J -7730172.67 -7730172.53 -7730172.38 0.0074 0.0029

Pluto -25877-03-08 00:43 J -7730084.62 -7730084.47 -7730084.32 0.0073 0.0021

Pluto -25877-06-04 01:55 J -7729996.57 -7729996.42 -7729996.27 0.0073 0.0013

Pluto -25877-08-31 03:21 J -7729908.52 -7729908.36 -7729908.21 0.0073 0.0006

Pluto -25877-11-27 04:33 J -7729820.46 -7729820.31 -7729820.16 0.0073 0.0002

Pluto -25876-02-23 05:45 J -7729732.41 -7729732.26 -7729732.11 0.0073 0.0010

Pluto -25876-05-22 06:57 J -7729644.35 -7729644.21 -7729644.06 0.0073 0.0017

Jupiter -25876-06-11 02:09 J -7729624.52 -7729624.41 -7729624.31 0.0529 0.0310

Moon -25876-06-15 05:45 J -7729620.36 -7729620.26 -7729620.16 0.2681 0.1404

Earth -25876-06-15 05:45 J -7729620.36 -7729620.26 -7729620.16 0.2688 0.1369 *

Pluto -25876-08-18 08:09 J -7729556.30 -7729556.16 -7729556.01 0.0073 0.0024

Jupiter -25876-09-08 09:35 J -7729535.21 -7729535.10 -7729534.99 0.0526 0.0280

Pluto -25876-11-14 09:21 J -7729468.24 -7729468.11 -7729467.97 0.0073 0.0032

Pluto -25875-02-10 10:33 J -7729380.18 -7729380.06 -7729379.93 0.0072 0.0039

Pluto -25875-05-09 11:31 J -7729292.12 -7729292.02 -7729291.89 0.0072 0.0047

Pluto -25875-08-05 12:43 J -7729204.06 -7729203.97 -7729203.85 0.0072 0.0053

Pluto -25875-11-01 13:55 J -7729115.99 -7729115.92 -7729115.82 0.0072 0.0060

Pluto -25874-01-28 15:07 J -7729027.91 -7729027.87 -7729027.80 0.0072 0.0067

Neptune -25874-12-27 19:11 J -7728694.75 -7728694.70 -7728694.60 0.0088 0.0081

Mars -25873-02-03 13:11 J -7728657.05 -7728656.95 -7728656.85 0.1690 0.0848

Neptune -25873-03-24 22:47 J -7728606.65 -7728606.55 -7728606.43 0.0088 0.0071

Neptune -25873-06-21 02:09 J -7728518.53 -7728518.41 -7728518.26 0.0088 0.0062

Neptune -25873-09-17 05:45 J -7728430.41 -7728430.26 -7728430.11 0.0088 0.0052

Mars -25873-12-13 22:04 J -7728342.65 -7728342.58 -7728342.52 0.1830 0.1681

Neptune -25873-12-14 08:52 J -7728342.28 -7728342.13 -7728341.95 0.0088 0.0043

Moon -25873-12-22 21:07 J -7728333.76 -7728333.62 -7728333.49 0.2653 0.0773

Earth -25873-12-22 21:50 J -7728333.73 -7728333.59 -7728333.46 0.2648 0.0789 *

Neptune -25872-03-12 12:28 J -7728254.16 -7728253.98 -7728253.81 0.0088 0.0033

Neptune -25872-06-08 15:35 J -7728166.02 -7728165.85 -7728165.66 0.0088 0.0024

Neptune -25872-09-04 18:57 J -7728077.89 -7728077.71 -7728077.52 0.0088 0.0015

Neptune -25872-12-01 22:19 J -7727989.76 -7727989.57 -7727989.38 0.0088 0.0006

Mars -25871-01-08 20:23 J -7727951.72 -7727951.65 -7727951.58 0.1709 0.1330

Neptune -25871-02-28 01:40 J -7727901.62 -7727901.43 -7727901.24 0.0088 0.0004

Neptune -25871-05-27 04:47 J -7727813.48 -7727813.30 -7727813.11 0.0088 0.0013

Neptune -25871-08-23 08:09 J -7727725.34 -7727725.16 -7727724.98 0.0088 0.0022

Neptune -25871-11-19 11:16 J -7727637.20 -7727637.03 -7727636.85 0.0088 0.0032

Neptune -25870-02-15 14:23 J -7727549.05 -7727548.90 -7727548.72 0.0088 0.0041

Neptune -25870-05-14 17:45 J -7727460.91 -7727460.76 -7727460.60 0.0088 0.0050

Neptune -25870-08-10 20:52 J -7727372.76 -7727372.63 -7727372.48 0.0088 0.0059

Jupiter -25870-11-06 22:47 J -7727284.72 -7727284.55 -7727284.38 0.0500 0.0161

Neptune -25870-11-07 00:14 J -7727284.60 -7727284.49 -7727284.37 0.0088 0.0068 *

Neptune -25869-02-03 03:21 J -7727196.44 -7727196.36 -7727196.26 0.0088 0.0078

Neptune -25869-05-01 06:43 J -7727108.25 -7727108.22 -7727108.19 0.0088 0.0086

Saturn -25867-11-03 15:07 J -7726191.97 -7726191.87 -7726191.77 0.0268 0.0182

Saturn -25866-01-31 01:55 J -7726103.55 -7726103.42 -7726103.29 0.0268 0.0075

Uranus -25866-04-28 09:35 J -7726016.15 -7726016.10 -7726016.02 0.0142 0.0124

Saturn -25866-04-29 12:57 J -7726015.10 -7726014.96 -7726014.83 0.0267 0.0035

Uranus -25866-07-25 13:26 J -7725928.02 -7725927.94 -7725927.83 0.0142 0.0102

Saturn -25866-07-26 23:45 J -7725926.62 -7725926.51 -7725926.39 0.0267 0.0143

Uranus -25866-10-21 17:31 J -7725839.88 -7725839.77 -7725839.65 0.0143 0.0079

Saturn -25866-10-23 11:02 J -7725838.08 -7725838.04 -7725838.00 0.0267 0.0253

Uranus -25865-01-17 21:21 J -7725751.73 -7725751.61 -7725751.48 0.0143 0.0057

Uranus -25865-04-15 01:26 J -7725663.57 -7725663.44 -7725663.30 0.0143 0.0034

Uranus -25865-07-12 05:16 J -7725575.41 -7725575.28 -7725575.14 0.0143 0.0012

Uranus -25865-10-08 09:21 J -7725487.25 -7725487.11 -7725486.97 0.0143 0.0013

Uranus -25864-01-04 13:26 J -7725399.08 -7725398.94 -7725398.81 0.0143 0.0036

Jupiter -25864-03-30 05:59 J -7725314.32 -7725314.25 -7725314.19 0.0530 0.0457

Uranus -25864-04-02 17:31 J -7725310.90 -7725310.77 -7725310.64 0.0143 0.0059

Mars -25864-06-25 23:45 J -7725226.57 -7725226.51 -7725226.44 0.1686 0.1343

Jupiter -25864-06-27 13:26 J -7725225.07 -7725224.94 -7725224.82 0.0527 0.0133

Uranus -25864-06-29 21:35 J -7725222.71 -7725222.60 -7725222.49 0.0143 0.0083

Uranus -25864-09-26 01:40 J -7725134.52 -7725134.43 -7725134.34 0.0143 0.0107

Uranus -25864-12-23 05:45 J -7725046.31 -7725046.26 -7725046.20 0.0144 0.0131

Moon -25863-06-18 00:28 J -7724869.60 -7724869.48 -7724869.36 0.2682 0.0315

Earth -25863-06-18 01:11 J -7724869.57 -7724869.45 -7724869.34 0.2686 0.0327 *

Mars -25862-06-01 06:28 J -7724521.34 -7724521.23 -7724521.13 0.1704 0.0784

Earth -25860-12-25 23:16 J -7723582.61 -7723582.53 -7723582.46 0.2650 0.2243

Moon -25860-12-25 23:31 J -7723582.59 -7723582.52 -7723582.45 0.2657 0.2269 *

Jupiter -25858-08-25 20:38 J -7722974.82 -7722974.64 -7722974.46 0.0499 0.0019

Mars -25853-10-21 16:33 J -7721090.93 -7721090.81 -7721090.69 0.1699 0.0250

Moon -25853-12-17 22:33 J -7721033.65 -7721033.56 -7721033.48 0.2643 0.2160

Earth -25853-12-17 23:45 J -7721033.61 -7721033.51 -7721033.42 0.2645 0.1976 *

Jupiter -25852-04-15 17:16 J -7720914.91 -7720914.78 -7720914.65 0.0528 0.0018

Mars -25852-09-02 04:33 J -7720775.46 -7720775.31 -7720775.16 0.1818 0.0746

Saturn -25851-05-26 11:59 J -7720509.15 -7720509.00 -7720508.85 0.0293 0.0159

Saturn -25851-08-23 11:02 J -7720420.22 -7720420.04 -7720419.87 0.0293 0.0030

Saturn -25851-11-20 09:21 J -7720331.22 -7720331.11 -7720330.99 0.0294 0.0216

Moon -25850-06-20 19:55 J -7720118.79 -7720118.67 -7720118.56 0.2683 0.0611

Earth -25850-06-20 20:38 J -7720118.75 -7720118.64 -7720118.52 0.2685 0.0756 *

Venus -25847-02-07 20:52 J -7719155.70 -7719155.63 -7719155.55 0.3771 0.2512

Jupiter -25846-06-13 18:43 J -7718664.89 -7718664.72 -7718664.56 0.0498 0.0193

Mars -25843-03-14 02:52 J -7717660.50 -7717660.38 -7717660.27 0.1695 0.0281

Earth -25843-06-13 15:21 J -7717568.92 -7717568.86 -7717568.79 0.2690 0.2203

Moon -25843-06-13 15:50 J -7717568.91 -7717568.84 -7717568.77 0.2684 0.2145 *

Mars -25842-01-23 02:09 J -7717345.57 -7717345.41 -7717345.25 0.1824 0.0369

Venus -25842-08-24 13:26 J -7717132.04 -7717131.94 -7717131.84 0.3772 0.0108

Jupiter -25840-02-01 21:35 J -7716604.72 -7716604.60 -7716604.47 0.0529 0.0148

Jupiter -25840-05-02 05:16 J -7716515.34 -7716515.28 -7716515.21 0.0526 0.0445

Moon -25840-12-21 00:43 J -7716282.61 -7716282.47 -7716282.33 0.2649 0.0452

Earth -25840-12-21 01:55 J -7716282.56 -7716282.42 -7716282.28 0.2647 0.0431 *

Saturn -25837-03-22 16:47 J -7715459.87 -7715459.80 -7715459.72 0.0268 0.0220

Saturn -25837-06-19 03:35 J -7715371.47 -7715371.35 -7715371.22 0.0268 0.0113

Moon -25837-06-22 15:50 J -7715367.92 -7715367.84 -7715367.76 0.2688 0.1850

Earth -25837-06-22 16:33 J -7715367.90 -7715367.81 -7715367.73 0.2683 0.1851 *

Saturn -25837-09-15 14:38 J -7715283.03 -7715282.89 -7715282.76 0.0267 0.0010

Saturn -25837-12-13 01:26 J -7715194.56 -7715194.44 -7715194.31 0.0267 0.0104

Venus -25836-03-09 05:59 J -7715108.33 -7715108.25 -7715108.17 0.3773 0.2334

Saturn -25836-03-11 12:28 J -7715106.06 -7715105.98 -7715105.90 0.0267 0.0214

Jupiter -25834-04-01 16:33 J -7714354.93 -7714354.81 -7714354.69 0.0498 0.0371

Jupiter -25834-06-30 22:19 J -7714264.70 -7714264.57 -7714264.44 0.0500 0.0333

Mars -25834-08-04 13:11 J -7714230.05 -7714229.95 -7714229.84 0.1690 0.0783

Mars -25833-06-13 22:33 J -7713915.64 -7713915.56 -7713915.47 0.1830 0.1564

Venus -25832-03-06 23:16 J -7713649.67 -7713649.53 -7713649.38 0.3603 0.0272

Mars -25832-07-09 20:23 J -7713524.72 -7713524.65 -7713524.58 0.1709 0.1396

Moon -25830-06-16 10:33 J -7712818.16 -7712818.06 -7712817.95 0.2681 0.1143

Earth -25830-06-16 10:47 J -7712818.16 -7712818.05 -7712817.95 0.2688 0.1175 *

Jupiter -25829-11-21 01:40 J -7712294.54 -7712294.43 -7712294.32 0.0529 0.0290

Jupiter -25828-02-18 09:07 J -7712205.22 -7712205.12 -7712205.01 0.0526 0.0301

Moon -25827-12-24 03:21 J -7711531.49 -7711531.36 -7711531.23 0.2654 0.0971

Earth -25827-12-24 03:35 J -7711531.48 -7711531.35 -7711531.22 0.2648 0.1071 *

Uranus -25826-03-16 21:21 J -7711448.68 -7711448.61 -7711448.51 0.0136 0.0121

Uranus -25826-06-13 04:04 J -7711360.45 -7711360.33 -7711360.19 0.0136 0.0094

Uranus -25826-09-09 10:33 J -7711272.21 -7711272.06 -7711271.90 0.0136 0.0068

Uranus -25826-12-06 17:02 J -7711183.96 -7711183.79 -7711183.61 0.0136 0.0042

Uranus -25825-03-03 23:31 J -7711095.70 -7711095.52 -7711095.34 0.0135 0.0017

Uranus -25825-05-31 05:45 J -7711007.44 -7711007.26 -7711007.08 0.0135 0.0009

Uranus -25825-08-27 11:59 J -7710919.17 -7710919.00 -7710918.82 0.0135 0.0034

Uranus -25825-11-23 18:14 J -7710830.90 -7710830.74 -7710830.58 0.0135 0.0059

Mars -25825-12-24 23:45 J -7710799.58 -7710799.51 -7710799.43 0.1686 0.1279

Uranus -25824-02-20 00:14 J -7710742.62 -7710742.49 -7710742.34 0.0135 0.0084

Uranus -25824-05-19 06:28 J -7710654.33 -7710654.23 -7710654.12 0.0135 0.0108

Uranus -25824-08-15 12:43 J -7710566.00 -7710565.97 -7710565.94 0.0135 0.0132

Mars -25823-11-30 06:28 J -7710094.33 -7710094.23 -7710094.13 0.1704 0.0852

Jupiter -25822-04-18 21:07 J -7709954.78 -7709954.62 -7709954.45 0.0500 0.0168

Saturn -25822-10-13 08:38 J -7709777.25 -7709777.14 -7709777.03 0.0292 0.0228

Saturn -25821-01-10 07:40 J -7709688.35 -7709688.18 -7709688.00 0.0293 0.0039

Saturn -25821-04-08 06:28 J -7709599.38 -7709599.23 -7709599.08 0.0293 0.0149

Moon -25817-06-18 05:31 J -7708067.39 -7708067.27 -7708067.15 0.2682 0.0233

Earth -25817-06-18 06:14 J -7708067.36 -7708067.24 -7708067.12 0.2686 0.0122 *

Jupiter -25817-09-09 04:47 J -7707984.37 -7707984.30 -7707984.23 0.0530 0.0449

Jupiter -25817-12-07 12:14 J -7707895.12 -7707894.99 -7707894.87 0.0527 0.0139

Earth -25814-12-27 05:02 J -7706780.33 -7706780.29 -7706780.25 0.2650 0.2514

Moon -25814-12-27 05:16 J -7706780.31 -7706780.28 -7706780.25 0.2657 0.2567 *

Mars -25813-04-21 16:33 J -7706663.93 -7706663.81 -7706663.69 0.1699 0.0316

Mars -25812-03-03 05:31 J -7706348.41 -7706348.27 -7706348.13 0.1818 0.0871

Jupiter -25810-02-04 19:55 J -7705644.85 -7705644.67 -7705644.49 0.0499 0.0000

Saturn -25808-08-09 19:55 J -7704727.72 -7704727.67 -7704727.61 0.0269 0.0246

Saturn -25808-11-06 06:43 J -7704639.33 -7704639.22 -7704639.10 0.0268 0.0138

Saturn -25807-02-02 17:31 J -7704550.90 -7704550.77 -7704550.63 0.0268 0.0031

Saturn -25807-05-02 04:19 J -7704462.45 -7704462.32 -7704462.18 0.0267 0.0079

Saturn -25807-07-29 15:21 J -7704373.95 -7704373.86 -7704373.76 0.0267 0.0188

Moon -25807-12-19 04:19 J -7704231.42 -7704231.32 -7704231.21 0.2645 0.1751

Earth -25807-12-19 05:45 J -7704231.37 -7704231.26 -7704231.15 0.2645 0.1687 *

Jupiter -25805-09-25 15:50 J -7703584.97 -7703584.84 -7703584.71 0.0528 0.0009

Moon -25804-06-21 00:57 J -7703316.57 -7703316.46 -7703316.35 0.2685 0.0956

Earth -25804-06-21 01:55 J -7703316.53 -7703316.42 -7703316.31 0.2684 0.0968 *

Mars -25804-09-12 02:52 J -7703233.50 -7703233.38 -7703233.27 0.1695 0.0211

Mars -25803-07-24 02:23 J -7702918.56 -7702918.40 -7702918.23 0.1824 0.0277

Jupiter -25799-11-23 17:45 J -7701334.93 -7701334.76 -7701334.59 0.0498 0.0178

Earth -25797-06-13 20:23 J -7700766.72 -7700766.65 -7700766.57 0.2689 0.2007

Moon -25797-06-13 20:52 J -7700766.71 -7700766.63 -7700766.55 0.2683 0.1986 *

Mars -25794-02-02 13:11 J -7699803.06 -7699802.95 -7699802.84 0.1690 0.0721

Mars -25794-12-13 23:16 J -7699488.63 -7699488.53 -7699488.43 0.1830 0.1450

Moon -25794-12-22 06:43 J -7699480.36 -7699480.22 -7699480.08 0.2650 0.0334

Earth -25794-12-22 07:55 J -7699480.31 -7699480.17 -7699480.03 0.2647 0.0147 *

Jupiter -25793-07-14 19:55 J -7699274.79 -7699274.67 -7699274.55 0.0529 0.0151

Jupiter -25793-10-12 03:35 J -7699185.42 -7699185.35 -7699185.28 0.0526 0.0443

Neptune -25792-01-05 15:50 J -7699099.88 -7699099.84 -7699099.81 0.0089 0.0086

Mars -25792-01-07 20:23 J -7699097.71 -7699097.65 -7699097.59 0.1709 0.1464

Saturn -25792-03-01 07:11 J -7699045.24 -7699045.20 -7699045.17 0.0292 0.0286

Neptune -25792-04-03 16:47 J -7699011.84 -7699011.80 -7699011.72 0.0089 0.0080

Saturn -25792-05-29 06:14 J -7698956.40 -7698956.24 -7698956.07 0.0293 0.0095

Neptune -25792-06-30 18:14 J -7698923.80 -7698923.74 -7698923.65 0.0089 0.0073

Saturn -25792-08-26 05:02 J -7698867.45 -7698867.29 -7698867.12 0.0293 0.0094

Neptune -25792-09-26 19:40 J -7698835.76 -7698835.68 -7698835.58 0.0089 0.0066

Saturn -25792-11-23 03:21 J -7698778.41 -7698778.36 -7698778.30 0.0294 0.0279

Neptune -25792-12-23 21:07 J -7698747.71 -7698747.62 -7698747.51 0.0089 0.0059

Neptune -25791-03-21 22:33 J -7698659.66 -7698659.56 -7698659.44 0.0089 0.0052

Neptune -25791-06-17 23:59 J -7698571.61 -7698571.50 -7698571.38 0.0089 0.0045

Moon -25791-06-23 20:52 J -7698565.71 -7698565.63 -7698565.55 0.2687 0.1951

Earth -25791-06-23 21:35 J -7698565.67 -7698565.60 -7698565.52 0.2682 0.2065 *

Neptune -25791-09-14 01:40 J -7698483.56 -7698483.43 -7698483.31 0.0089 0.0038

Venus -25791-09-14 18:43 J -7698482.82 -7698482.72 -7698482.63 0.3771 0.1637

Neptune -25791-12-11 03:07 J -7698395.50 -7698395.37 -7698395.25 0.0089 0.0031

Neptune -25790-03-09 04:19 J -7698307.45 -7698307.32 -7698307.19 0.0089 0.0024

Neptune -25790-06-05 05:45 J -7698219.39 -7698219.26 -7698219.12 0.0089 0.0017

Neptune -25790-09-01 07:11 J -7698131.33 -7698131.20 -7698131.06 0.0089 0.0010

Neptune -25790-11-28 08:38 J -7698043.27 -7698043.14 -7698043.00 0.0089 0.0003

Neptune -25789-02-24 10:04 J -7697955.21 -7697955.08 -7697954.94 0.0089 0.0005

Neptune -25789-05-22 11:31 J -7697867.15 -7697867.02 -7697866.88 0.0089 0.0011

Neptune -25789-08-18 12:57 J -7697779.09 -7697778.96 -7697778.82 0.0089 0.0018

Neptune -25789-11-14 14:23 J -7697691.03 -7697690.90 -7697690.77 0.0089 0.0025

Neptune -25788-02-10 15:50 J -7697602.96 -7697602.84 -7697602.71 0.0089 0.0032

Neptune -25788-05-09 17:16 J -7697514.90 -7697514.78 -7697514.66 0.0089 0.0039

Neptune -25788-08-05 18:43 J -7697426.83 -7697426.72 -7697426.60 0.0089 0.0047

Neptune -25788-11-01 20:09 J -7697338.76 -7697338.66 -7697338.55 0.0089 0.0054

Neptune -25787-01-28 21:35 J -7697250.69 -7697250.60 -7697250.49 0.0089 0.0061

Neptune -25787-04-26 22:47 J -7697162.62 -7697162.55 -7697162.45 0.0089 0.0069

Neptune -25787-07-24 00:14 J -7697074.54 -7697074.49 -7697074.40 0.0089 0.0076

Jupiter -25787-09-11 15:35 J -7697024.97 -7697024.85 -7697024.72 0.0498 0.0354

Neptune -25787-10-20 01:55 J -7696986.46 -7696986.42 -7696986.36 0.0089 0.0082

Jupiter -25787-12-10 21:21 J -7696934.73 -7696934.61 -7696934.48 0.0500 0.0349

Neptune -25786-01-16 03:35 J -7696898.35 -7696898.35 -7696898.34 0.0089 0.0089

Venus -25785-03-30 11:02 J -7696459.14 -7696459.04 -7696458.94 0.3772 0.0770

Mars -25785-06-24 23:45 J -7696372.59 -7696372.51 -7696372.43 0.1686 0.1217

Moon -25784-06-16 15:35 J -7696015.96 -7696015.85 -7696015.74 0.2681 0.0993

Earth -25784-06-16 15:50 J -7696015.95 -7696015.84 -7696015.73 0.2688 0.0972 *

Mars -25783-05-31 06:28 J -7695667.33 -7695667.23 -7695667.13 0.1704 0.0916

Uranus -25782-02-19 12:43 J -7695402.97 -7695402.97 -7695402.94 0.0142 0.0141

Uranus -25782-05-18 16:33 J -7695314.87 -7695314.81 -7695314.73 0.0142 0.0120

Uranus -25782-08-14 20:38 J -7695226.74 -7695226.64 -7695226.54 0.0142 0.0097

Uranus -25782-11-11 00:28 J -7695138.60 -7695138.48 -7695138.36 0.0143 0.0075

Uranus -25781-02-07 04:19 J -7695050.44 -7695050.32 -7695050.19 0.0143 0.0052

Venus -25781-03-27 19:26 J -7695000.75 -7695000.69 -7695000.63 0.3603 0.3246

Jupiter -25781-05-03 00:14 J -7694964.60 -7694964.49 -7694964.38 0.0530 0.0287

Uranus -25781-05-05 08:23 J -7694962.29 -7694962.15 -7694962.02 0.0143 0.0030

Jupiter -25781-07-31 07:55 J -7694875.28 -7694875.17 -7694875.07 0.0527 0.0304

Uranus -25781-08-01 12:14 J -7694874.13 -7694873.99 -7694873.85 0.0143 0.0007

Uranus -25781-10-28 16:19 J -7694785.96 -7694785.82 -7694785.68 0.0143 0.0016

Moon -25781-12-24 09:21 J -7694729.23 -7694729.11 -7694729.00 0.2655 0.1411

Earth -25781-12-24 09:35 J -7694729.22 -7694729.10 -7694728.98 0.2649 0.1343 *

Uranus -25780-01-24 20:09 J -7694697.79 -7694697.66 -7694697.52 0.0143 0.0040

Uranus -25780-04-23 00:14 J -7694609.61 -7694609.49 -7694609.36 0.0143 0.0063

Uranus	-25780-07-20 04:19 J	-7694521.42	-7694521.32	-7694521.20	0.0143	0.0087
Venus	-25780-10-14 03:35 J	-7694435.40	-7694435.35	-7694435.30	0.3773	0.3241
Uranus	-25780-10-16 08:38 J	-7694433.23	-7694433.14	-7694433.05	0.0143	0.0111
Uranus	-25779-01-12 12:43 J	-7694345.01	-7694344.97	-7694344.92	0.0144	0.0135
Saturn	-25778-03-26 08:23 J	-7693907.25	-7693907.15	-7693907.05	0.0268	0.0177
Saturn	-25778-06-22 19:11 J	-7693818.83	-7693818.70	-7693818.57	0.0268	0.0069
Saturn	-25778-09-19 05:59 J	-7693730.38	-7693730.25	-7693730.11	0.0267	0.0039
Saturn	-25778-12-16 17:02 J	-7693641.91	-7693641.79	-7693641.68	0.0267	0.0148
Saturn	-25777-03-14 04:04 J	-7693553.36	-7693553.33	-7693553.30	0.0266	0.0258
Venus	-25776-10-12 00:14 J	-7692976.61	-7692976.49	-7692976.37	0.3602	0.2073
Jupiter	-25775-09-28 19:40 J	-7692624.85	-7692624.68	-7692624.51	0.0500	0.0175
Mars	-25774-10-21 16:33 J	-7692236.93	-7692236.81	-7692236.70	0.1700	0.0380
Mars	-25773-09-01 05:59 J	-7691921.39	-7691921.25	-7691921.12	0.1818	0.0978
Moon	-25771-06-19 10:33 J	-7691265.18	-7691265.06	-7691264.94	0.2681	0.0076
Earth	-25771-06-19 11:16 J	-7691265.15	-7691265.03	-7691264.91	0.2686	0.0099 *
Jupiter	-25769-02-20 04:19 J	-7690654.39	-7690654.32	-7690654.24	0.0530	0.0428
Jupiter	-25769-05-19 11:45 J	-7690565.13	-7690565.01	-7690564.88	0.0527	0.0162
Mars	-25764-03-13 02:52 J	-7688806.50	-7688806.38	-7688806.26	0.1695	0.0144
Mars	-25763-01-22 03:21 J	-7688491.52	-7688491.36	-7688491.20	0.1824	0.0151
Jupiter	-25763-07-17 18:28 J	-7688314.90	-7688314.73	-7688314.55	0.0499	0.0015
Saturn	-25763-10-16 01:55 J	-7688224.56	-7688224.42	-7688224.27	0.0292	0.0171
Saturn	-25762-01-13 01:11 J	-7688135.63	-7688135.45	-7688135.28	0.0293	0.0020
Saturn	-25762-04-11 23:45 J	-7688046.64	-7688046.51	-7688046.39	0.0293	0.0206
Moon	-25761-12-19 10:19 J	-7687429.19	-7687429.07	-7687428.96	0.2645	0.1561
Earth	-25761-12-19 11:45 J	-7687429.13	-7687429.01	-7687428.89	0.2645	0.1399 *
Moon	-25758-06-22 05:59 J	-7686514.35	-7686514.25	-7686514.14	0.2686	0.1038
Earth	-25758-06-22 06:57 J	-7686514.32	-7686514.21	-7686514.11	0.2684	0.1176 *
Jupiter	-25757-03-07 14:52 J	-7686255.01	-7686254.88	-7686254.75	0.0528	0.0008
Mars	-25755-08-03 13:11 J	-7685376.06	-7685375.95	-7685375.84	0.1690	0.0654
Mars	-25754-06-13 23:59 J	-7685061.61	-7685061.50	-7685061.39	0.1830	0.1329

Mars -25753-07-08 20:23 J -7684670.70 -7684670.65 -7684670.60 0.1709 0.1534

Jupiter -25751-05-05 17:16 J -7684004.95 -7684004.78 -7684004.61 0.0499 0.0157

Earth -25751-06-15 01:26 J -7683964.52 -7683964.44 -7683964.35 0.2689 0.1811

Moon -25751-06-15 01:55 J -7683964.51 -7683964.42 -7683964.33 0.2683 0.1734 *

Saturn -25749-08-12 11:16 J -7683175.11 -7683175.03 -7683174.94 0.0268 0.0205

Saturn -25749-11-08 22:04 J -7683086.71 -7683086.58 -7683086.45 0.0268 0.0097

Saturn -25748-02-05 08:52 J -7682998.27 -7682998.13 -7682997.99 0.0267 0.0012

Saturn -25748-05-04 19:40 J -7682909.80 -7682909.68 -7682909.55 0.0267 0.0121

Saturn -25748-08-01 06:43 J -7682821.28 -7682821.22 -7682821.15 0.0267 0.0231

Moon -25748-12-22 12:43 J -7682678.11 -7682677.97 -7682677.83 0.2651 0.0143

Earth -25748-12-22 13:40 J -7682678.07 -7682677.93 -7682677.78 0.2647 0.0158 *

Mars -25746-12-24 23:45 J -7681945.59 -7681945.51 -7681945.42 0.1686 0.1153

Jupiter -25746-12-25 18:28 J -7681944.85 -7681944.73 -7681944.60 0.0529 0.0148

Jupiter -25745-03-24 02:09 J -7681855.47 -7681855.41 -7681855.34 0.0526 0.0446

Moon -25745-06-24 02:09 J -7681763.47 -7681763.41 -7681763.35 0.2687 0.2301

Earth -25745-06-24 02:52 J -7681763.44 -7681763.38 -7681763.32 0.2682 0.2283 *

Mars -25744-11-29 06:28 J -7681240.33 -7681240.23 -7681240.14 0.1704 0.0983

Uranus -25742-04-06 03:50 J -7680747.42 -7680747.34 -7680747.23 0.0136 0.0116

Uranus -25742-07-03 10:33 J -7680659.19 -7680659.06 -7680658.92 0.0136 0.0090

Uranus -25742-09-29 17:02 J -7680570.94 -7680570.79 -7680570.62 0.0136 0.0064

Uranus -25742-12-26 23:31 J -7680482.69 -7680482.52 -7680482.34 0.0136 0.0038

Uranus -25741-03-24 05:59 J -7680394.43 -7680394.25 -7680394.07 0.0135 0.0012

Uranus -25741-06-20 12:14 J -7680306.16 -7680305.99 -7680305.81 0.0135 0.0014

Uranus -25741-09-16 18:28 J -7680217.89 -7680217.73 -7680217.55 0.0135 0.0039

Uranus -25741-12-14 00:43 J -7680129.62 -7680129.47 -7680129.31 0.0135 0.0064

Uranus -25740-03-12 06:57 J -7680041.34 -7680041.21 -7680041.07 0.0135 0.0088

Uranus -25740-06-08 12:57 J -7679953.05 -7679952.96 -7679952.86 0.0135 0.0113

Venus -25740-10-05 23:45 J -7679833.56 -7679833.51 -7679833.45 0.3771 0.3129

Jupiter -25739-02-21 14:52 J -7679695.01 -7679694.88 -7679694.74 0.0498 0.0336

Jupiter -25739-05-22 20:38 J -7679604.76 -7679604.64 -7679604.52 0.0500 0.0366

Moon -25738-06-17 20:23 J -7679213.76 -7679213.65 -7679213.54 0.2681 0.0820

Earth -25738-06-17 20:52 J -7679213.74 -7679213.63 -7679213.52 0.2688 0.0772 *

Mars -25736-05-16 10:19 J -7678515.09 -7678515.07 -7678515.05 0.1682 0.1643

Moon -25735-12-25 15:07 J -7677926.98 -7677926.87 -7677926.75 0.2656 0.1523

Earth -25735-12-25 15:35 J -7677926.96 -7677926.85 -7677926.74 0.2649 0.1627 *

Venus -25734-04-21 16:19 J -7677809.93 -7677809.82 -7677809.72 0.3771 0.0764

Mars -25734-04-21 16:33 J -7677809.92 -7677809.81 -7677809.70 0.1699 0.0446 *

Jupiter -25734-10-13 22:33 J -7677634.66 -7677634.56 -7677634.45 0.0530 0.0289

Jupiter -25733-01-11 06:14 J -7677545.35 -7677545.24 -7677545.13 0.0527 0.0303

Mars -25733-03-02 06:28 J -7677494.36 -7677494.23 -7677494.10 0.1818 0.1085

Saturn -25733-03-04 00:28 J -7677492.59 -7677492.48 -7677492.37 0.0292 0.0229

Saturn -25733-05-31 23:31 J -7677403.69 -7677403.52 -7677403.34 0.0293 0.0039

Saturn -25733-08-28 22:19 J -7677314.72 -7677314.57 -7677314.42 0.0294 0.0150

Venus -25729-11-04 08:38 J -7675786.23 -7675786.14 -7675786.04 0.3772 0.1676

Jupiter -25727-03-10 18:57 J -7675294.87 -7675294.71 -7675294.54 0.0500 0.0194

Moon -25725-06-19 15:35 J -7674462.97 -7674462.85 -7674462.73 0.2683 0.0200

Earth -25725-06-19 16:19 J -7674462.94 -7674462.82 -7674462.70 0.2686 0.0297 *

Mars -25725-09-11 02:38 J -7674379.50 -7674379.39 -7674379.27 0.1695 0.0097

Venus -25725-11-01 20:23 J -7674327.79 -7674327.65 -7674327.51 0.3603 0.1354

Mars -25724-07-23 04:04 J -7674064.49 -7674064.33 -7674064.17 0.1824 0.0036

Jupiter -25722-08-02 03:07 J -7673324.45 -7673324.37 -7673324.30 0.0530 0.0424

Jupiter -25722-10-30 10:33 J -7673235.19 -7673235.06 -7673234.94 0.0528 0.0166

Saturn -25720-12-30 12:57 J -7672443.01 -7672442.96 -7672442.90 0.0268 0.0242

Saturn -25719-03-28 23:31 J -7672354.63 -7672354.52 -7672354.40 0.0268 0.0136

Saturn -25719-06-25 10:33 J -7672266.20 -7672266.06 -7672265.93 0.0267 0.0028

Saturn -25719-09-21 21:21 J -7672177.74 -7672177.61 -7672177.48 0.0267 0.0081

Saturn -25719-12-19 08:23 J -7672089.25 -7672089.15 -7672089.06 0.0266 0.0190

Earth -25718-06-13 11:16 J -7671913.05 -7671913.03 -7671913.01 0.2691 0.2637

Moon -25718-06-13 11:59 J -7671913.04 -7671913.00 -7671912.96 0.2686 0.2499 *

Pluto -25718-12-14 22:04 J -7671728.62 -7671728.58 -7671728.50 0.0070 0.0066

Pluto -25717-03-11 23:59 J -7671640.59 -7671640.50 -7671640.41 0.0071 0.0058

Pluto -25717-06-08 01:11 J -7671552.55 -7671552.45 -7671552.33 0.0071 0.0051

Pluto -25717-09-04 02:38 J -7671464.51 -7671464.39 -7671464.26 0.0071 0.0044

Pluto -25717-12-01 03:50 J -7671376.47 -7671376.34 -7671376.19 0.0071 0.0037

Pluto -25716-02-27 05:16 J -7671288.42 -7671288.28 -7671288.12 0.0071 0.0030

Pluto -25716-05-26 06:57 J -7671200.36 -7671200.21 -7671200.05 0.0071 0.0022

Pluto -25716-08-22 08:09 J -7671112.31 -7671112.16 -7671111.99 0.0071 0.0016

Pluto -25716-11-18 09:50 J -7671024.25 -7671024.09 -7671023.93 0.0071 0.0007

Jupiter -25716-12-27 17:16 J -7670984.96 -7670984.78 -7670984.60 0.0499 0.0022

Mars -25715-02-01 13:11 J -7670949.06 -7670948.95 -7670948.84 0.1690 0.0590

Pluto -25715-02-14 11:16 J -7670936.19 -7670936.03 -7670935.86 0.0071 0.0001

Pluto -25715-05-13 12:43 J -7670848.13 -7670847.97 -7670847.80 0.0072 0.0008

Pluto -25715-08-09 14:09 J -7670760.07 -7670759.91 -7670759.75 0.0072 0.0016

Pluto -25715-11-05 15:50 J -7670672.00 -7670671.84 -7670671.69 0.0072 0.0023

Mars -25715-12-13 00:43 J -7670634.59 -7670634.47 -7670634.35 0.1830 0.1213

Moon -25715-12-20 16:19 J -7670626.95 -7670626.82 -7670626.69 0.2645 0.1203

Earth -25715-12-20 17:45 J -7670626.89 -7670626.76 -7670626.63 0.2645 0.1110 *

Pluto -25714-02-01 17:02 J -7670583.93 -7670583.79 -7670583.63 0.0072 0.0031

Pluto -25714-04-30 18:28 J -7670495.86 -7670495.73 -7670495.58 0.0072 0.0039

Pluto -25714-07-27 19:55 J -7670407.78 -7670407.67 -7670407.53 0.0072 0.0047

Pluto -25714-10-23 21:21 J -7670319.70 -7670319.61 -7670319.48 0.0072 0.0055

Mars -25713-01-07 20:23 J -7670243.69 -7670243.65 -7670243.61 0.1709 0.1596

Pluto -25713-01-19 22:47 J -7670231.60 -7670231.55 -7670231.44 0.0072 0.0064

Pluto -25713-04-17 00:28 J -7670143.49 -7670143.48 -7670143.43 0.0073 0.0072

Moon -25712-06-22 11:16 J -7669712.14 -7669712.03 -7669711.93 0.2686 0.1369

Earth -25712-06-22 11:59 J -7669712.10 -7669712.00 -7669711.90 0.2684 0.1383 *

Jupiter -25710-08-18 14:38 J -7668925.02 -7668924.89 -7668924.76 0.0528 0.0027

Neptune -25709-06-26 14:52 J -7668611.91 -7668611.88 -7668611.81 0.0088 0.0085

Neptune -25709-09-22 18:43 J -7668523.82 -7668523.72 -7668523.62 0.0088 0.0075

Neptune -25709-12-19 21:50 J -7668435.70 -7668435.59 -7668435.45 0.0088 0.0066

Neptune -25708-03-18 01:26 J -7668347.58 -7668347.44 -7668347.30 0.0088 0.0057

Neptune -25708-06-14 04:33 J -7668259.46 -7668259.31 -7668259.14 0.0088 0.0047

Neptune -25708-09-10 07:55 J -7668171.33 -7668171.17 -7668170.99 0.0088 0.0038

Neptune -25708-12-07 11:16 J -7668083.20 -7668083.03 -7668082.84 0.0088 0.0028

Neptune -25707-03-05 14:38 J -7667995.07 -7667994.89 -7667994.70 0.0088 0.0019

Neptune -25707-06-01 17:59 J -7667906.93 -7667906.75 -7667906.56 0.0088 0.0010

Neptune -25707-08-28 21:21 J -7667818.80 -7667818.61 -7667818.42 0.0088 0.0000

Neptune -25707-11-25 00:43 J -7667730.66 -7667730.47 -7667730.29 0.0088 0.0009

Neptune -25706-02-21 03:50 J -7667642.52 -7667642.34 -7667642.15 0.0088 0.0019

Neptune -25706-05-20 06:57 J -7667554.38 -7667554.21 -7667554.02 0.0088 0.0028

Mars -25706-06-24 23:45 J -7667518.60 -7667518.51 -7667518.42 0.1686 0.1089

Neptune -25706-08-16 10:19 J -7667466.23 -7667466.07 -7667465.89 0.0088 0.0037

Neptune -25706-11-12 13:26 J -7667378.09 -7667377.94 -7667377.77 0.0088 0.0047

Neptune -25705-02-08 16:47 J -7667289.94 -7667289.80 -7667289.65 0.0088 0.0055

Neptune -25705-05-06 20:09 J -7667201.78 -7667201.66 -7667201.53 0.0088 0.0065

Earth -25705-06-15 06:28 J -7667162.32 -7667162.23 -7667162.14 0.2689 0.1611

Moon -25705-06-15 06:43 J -7667162.31 -7667162.22 -7667162.13 0.2683 0.1631 *

Neptune -25705-08-02 23:02 J -7667113.62 -7667113.54 -7667113.42 0.0088 0.0074

Neptune -25705-10-30 02:09 J -7667025.45 -7667025.41 -7667025.33 0.0088 0.0083

Mars -25704-05-30 06:28 J -7666813.32 -7666813.23 -7666813.14 0.1704 0.1051

Jupiter -25704-10-15 16:04 J -7666675.00 -7666674.83 -7666674.66 0.0499 0.0146

Saturn -25704-10-18 19:11 J -7666671.86 -7666671.70 -7666671.53 0.0292 0.0116

Saturn -25703-01-15 17:59 J -7666582.91 -7666582.75 -7666582.57 0.0293 0.0074

Saturn -25703-04-14 16:33 J -7666493.88 -7666493.81 -7666493.73 0.0294 0.0260

Moon -25702-12-23 18:57 J -7665875.85 -7665875.71 -7665875.57 0.2653 0.0295

Earth -25702-12-23 19:40 J -7665875.82 -7665875.68 -7665875.54 0.2647 0.0418 *

Moon -25699-06-25 07:26 J -7664961.24 -7664961.19 -7664961.14 0.2688 0.2403

Earth -25699-06-25 07:55 J -7664961.21 -7664961.17 -7664961.13 0.2682 0.2494 *

Uranus -25698-03-11 19:26 J -7664701.71 -7664701.69 -7664701.65 0.0142 0.0138

Jupiter -25698-06-06 17:45 J -7664614.89 -7664614.76 -7664614.64 0.0528 0.0135

Uranus -25698-06-07 23:16 J -7664613.60 -7664613.53 -7664613.44 0.0142 0.0117

Jupiter -25698-09-04 01:26 J -7664525.51 -7664525.44 -7664525.38 0.0526 0.0457

Uranus -25698-09-04 03:07 J -7664525.46 -7664525.37 -7664525.26 0.0142 0.0095 *

Uranus -25698-12-01 07:11 J -7664437.32 -7664437.20 -7664437.08 0.0143 0.0072

Uranus -25697-02-27 11:02 J -7664349.17 -7664349.04 -7664348.91 0.0143 0.0049

Uranus -25697-05-25 14:52 J -7664261.01 -7664260.88 -7664260.74 0.0143 0.0027

Uranus -25697-08-21 18:57 J -7664172.85 -7664172.71 -7664172.57 0.0143 0.0004

Mars -25697-11-14 10:19 J -7664088.10 -7664088.07 -7664088.03 0.1682 0.1579

Uranus -25697-11-17 22:47 J -7664084.68 -7664084.55 -7664084.41 0.0143 0.0020

Uranus -25696-02-14 02:52 J -7663996.51 -7663996.38 -7663996.25 0.0143 0.0042

Uranus -25696-05-13 06:43 J -7663908.33 -7663908.22 -7663908.09 0.0143 0.0067

Uranus -25696-08-09 11:02 J -7663820.15 -7663820.04 -7663819.93 0.0143 0.0090

Uranus -25696-11-05 15:07 J -7663731.95 -7663731.87 -7663731.78 0.0143 0.0113

Uranus -25695-02-01 19:11 J -7663643.73 -7663643.70 -7663643.66 0.0144 0.0137

Mars -25695-10-20 16:33 J -7663382.93 -7663382.81 -7663382.70 0.1699 0.0511

Mars -25694-09-01 07:11 J -7663067.32 -7663067.20 -7663067.08 0.1818 0.1199

Moon -25692-06-18 01:26 J -7662411.55 -7662411.44 -7662411.32 0.2681 0.0572

Earth -25692-06-18 01:55 J -7662411.54 -7662411.42 -7662411.31 0.2687 0.0566 *

Jupiter -25692-08-03 14:38 J -7662365.03 -7662364.89 -7662364.75 0.0498 0.0314

Jupiter -25692-11-01 20:23 J -7662274.76 -7662274.65 -7662274.54 0.0500 0.0389

Saturn -25690-08-16 02:23 J -7661622.51 -7661622.40 -7661622.29 0.0268 0.0165

Saturn -25690-11-12 13:11 J -7661534.09 -7661533.95 -7661533.82 0.0268 0.0057

Saturn -25689-02-08 23:59 J -7661445.63 -7661445.50 -7661445.37 0.0267 0.0052

Saturn -25689-05-07 11:02 J -7661357.15 -7661357.04 -7661356.93 0.0267 0.0161

Moon -25689-12-25 21:07 J -7661124.71 -7661124.62 -7661124.53 0.2656 0.1976

Earth -25689-12-25 21:21 J -7661124.71 -7661124.61 -7661124.51 0.2649 0.1896 *

Jupiter -25686-03-25 21:21 J -7660304.71 -7660304.61 -7660304.50 0.0529 0.0282

Jupiter -25686-06-23 04:47 J -7660215.40 -7660215.30 -7660215.19 0.0527 0.0310

Mars -25685-03-12 02:52 J -7659952.50 -7659952.38 -7659952.26 0.1695 0.0042

Mars -25684-01-21 04:33 J -7659637.47 -7659637.31 -7659637.15 0.1824 0.0075

Venus -25683-05-12 21:21 J -7659160.69 -7659160.61 -7659160.52 0.3771 0.2258

Moon -25682-12-18 19:55 J -7658575.69 -7658575.67 -7658575.64 0.2641 0.2577

Earth -25682-12-18 21:21 J -7658575.67 -7658575.61 -7658575.55 0.2644 0.2396 *

Jupiter -25680-05-22 12:14 J -7658055.01 -7658054.99 -7658054.97 0.0497 0.0492

Jupiter -25680-08-20 18:14 J -7657964.90 -7657964.74 -7657964.57 0.0500 0.0213

Moon -25679-06-20 20:38 J -7657660.76 -7657660.64 -7657660.53 0.2684 0.0428

Earth -25679-06-20 21:21 J -7657660.72 -7657660.61 -7657660.49 0.2685 0.0505 *

Venus -25678-11-26 13:55 J -7657137.03 -7657136.92 -7657136.82 0.3771 0.0160

Mars -25676-08-02 13:11 J -7656522.06 -7656521.95 -7656521.84 0.1690 0.0529

Mars -25675-06-13 01:26 J -7656207.57 -7656207.44 -7656207.31 0.1830 0.1097

Jupiter -25674-01-12 01:26 J -7655994.51 -7655994.44 -7655994.36 0.0530 0.0424

Saturn -25674-03-07 17:31 J -7655939.91 -7655939.77 -7655939.62 0.0293 0.0174

Jupiter -25674-04-11 08:52 J -7655905.25 -7655905.13 -7655905.00 0.0528 0.0166

Saturn -25674-06-04 16:33 J -7655850.98 -7655850.81 -7655850.63 0.0293 0.0017

Mars -25674-07-08 20:23 J -7655816.67 -7655816.65 -7655816.63 0.1709 0.1666

Saturn -25674-09-01 15:07 J -7655761.99 -7655761.87 -7655761.74 0.0294 0.0204

Venus -25672-06-11 06:28 J -7655113.31 -7655113.23 -7655113.16 0.3772 0.2580

Earth -25672-06-13 16:19 J -7655110.87 -7655110.82 -7655110.77 0.2690 0.2442

Moon -25672-06-13 17:02 J -7655110.84 -7655110.79 -7655110.75 0.2686 0.2445 *

Moon -25669-12-20 22:19 J -7653824.70 -7653824.57 -7653824.43 0.2647 0.0938

Earth -25669-12-20 23:45 J -7653824.65 -7653824.51 -7653824.38 0.2646 0.0827 *

Jupiter -25668-06-08 16:33 J -7653654.99 -7653654.81 -7653654.63 0.0499 0.0040

Venus -25668-06-08 21:21 J -7653654.75 -7653654.61 -7653654.46 0.3603 0.0515 *

Mars -25667-12-23 23:45 J -7653091.60 -7653091.51 -7653091.42 0.1686 0.1030

Moon -25666-06-23 16:19 J -7652909.92 -7652909.82 -7652909.72 0.2686 0.1472

Earth -25666-06-23 17:02 J -7652909.88 -7652909.79 -7652909.69 0.2684 0.1598 *

Mars -25665-11-28 06:14 J -7652386.33 -7652386.24 -7652386.15 0.1704 0.1111

Jupiter -25662-01-28 13:11 J -7651595.08 -7651594.95 -7651594.82 0.0528 0.0028

Saturn -25660-01-02 04:04 J -7650890.41 -7650890.33 -7650890.24 0.0268 0.0203

Saturn -25660-03-31 14:52 J -7650802.01 -7650801.88 -7650801.75 0.0268 0.0095

Saturn -25660-06-28 01:40 J -7650713.57 -7650713.43 -7650713.29 0.0267 0.0013

Saturn -25660-09-24 12:28 J -7650625.10 -7650624.98 -7650624.85 0.0267 0.0123

Saturn -25660-12-21 23:31 J -7650536.58 -7650536.52 -7650536.45 0.0266 0.0232

Moon -25659-06-16 11:31 J -7650360.12 -7650360.02 -7650359.92 0.2682 0.1348

Earth -25659-06-16 11:31 J -7650360.12 -7650360.02 -7650359.92 0.2689 0.1417 *

Uranus -25658-04-26 10:33 J -7650046.16 -7650046.06 -7650045.95 0.0136 0.0111

Uranus -25658-07-23 17:02 J -7649957.92 -7649957.79 -7649957.64 0.0136 0.0085

Uranus -25658-10-19 23:31 J -7649869.68 -7649869.52 -7649869.35 0.0136 0.0059

Uranus -25657-01-16 06:14 J -7649781.42 -7649781.24 -7649781.07 0.0136 0.0033

Uranus -25657-04-13 12:28 J -7649693.16 -7649692.98 -7649692.80 0.0136 0.0008

Mars -25657-05-15 10:19 J -7649661.11 -7649661.07 -7649661.02 0.1682 0.1514

Uranus -25657-07-10 18:43 J -7649604.89 -7649604.72 -7649604.53 0.0135 0.0019

Uranus -25657-10-07 01:11 J -7649516.62 -7649516.45 -7649516.28 0.0135 0.0043

Uranus -25656-01-03 07:11 J -7649428.34 -7649428.20 -7649428.04 0.0135 0.0069

Jupiter -25656-03-27 14:38 J -7649345.06 -7649344.89 -7649344.72 0.0498 0.0136

Uranus -25656-04-01 13:26 J -7649340.06 -7649339.94 -7649339.81 0.0135 0.0093

Uranus -25656-06-28 19:40 J -7649251.76 -7649251.68 -7649251.59 0.0135 0.0117

Moon -25656-12-24 00:57 J -7649073.60 -7649073.46 -7649073.33 0.2653 0.0684

Earth -25656-12-24 01:40 J -7649073.57 -7649073.43 -7649073.29 0.2647 0.0701 *

Mars -25655-04-20 16:33 J -7648955.92 -7648955.81 -7648955.70 0.1699 0.0578

Mars -25654-03-02 07:55 J -7648640.28 -7648640.17 -7648640.06 0.1818 0.1318

Jupiter -25651-11-16 17:16 J -7647284.90 -7647284.78 -7647284.65 0.0529 0.0112

Jupiter -25650-02-14 00:57 J -7647195.51 -7647195.46 -7647195.41 0.0526 0.0481

Moon -25646-06-19 06:28 J -7645609.35 -7645609.23 -7645609.11 0.2681 0.0444

Earth -25646-06-19 06:57 J -7645609.33 -7645609.21 -7645609.09 0.2687 0.0361 *

Mars -25646-09-11 02:52 J -7645525.50 -7645525.38 -7645525.27 0.1695 0.0070

Mars -25645-07-22 05:16 J -7645210.44 -7645210.28 -7645210.12 0.1824 0.0191

Saturn -25645-07-24 12:43 J -7645208.05 -7645207.97 -7645207.88 0.0292 0.0254

Saturn -25645-10-21 11:59 J -7645119.17 -7645119.00 -7645118.82 0.0293 0.0063

Jupiter -25644-01-13 13:26 J -7645035.08 -7645034.94 -7645034.80 0.0498 0.0302

Saturn -25644-01-18 10:47 J -7645030.21 -7645030.05 -7645029.89 0.0293 0.0126

Jupiter -25644-04-13 19:11 J -7644944.81 -7644944.70 -7644944.60 0.0500 0.0400

Moon -25643-12-27 03:21 J -7644322.44 -7644322.36 -7644322.28 0.2656 0.2125

Earth -25643-12-27 03:07 J -7644322.44 -7644322.37 -7644322.29 0.2649 0.2177 *

Jupiter -25639-09-04 20:38 J -7642974.75 -7642974.64 -7642974.53 0.0529 0.0268

Jupiter -25639-12-03 04:04 J -7642885.43 -7642885.33 -7642885.23 0.0526 0.0321

Mars -25636-01-31 13:11 J -7642095.06 -7642094.95 -7642094.84 0.1690 0.0465

Mars -25636-12-12 01:55 J -7641780.55 -7641780.42 -7641780.28 0.1830 0.0983

Moon -25636-12-19 01:55 J -7641773.50 -7641773.42 -7641773.34 0.2642 0.2139

Earth -25636-12-19 03:21 J -7641773.45 -7641773.36 -7641773.28 0.2644 0.2107 *

Moon -25633-06-21 01:40 J -7640858.55 -7640858.43 -7640858.32 0.2685 0.0657

Earth -25633-06-21 02:23 J -7640858.51 -7640858.40 -7640858.28 0.2685 0.0722 *

Pluto -25633-08-22 06:43 J -7640796.24 -7640796.22 -7640796.17 0.0074 0.0073

Jupiter -25633-11-01 11:45 J -7640725.06 -7640725.01 -7640724.95 0.0498 0.0471

Pluto -25633-11-18 08:09 J -7640708.22 -7640708.16 -7640708.07 0.0074 0.0064

Jupiter -25632-01-30 17:59 J -7640634.91 -7640634.75 -7640634.59 0.0500 0.0235

Pluto -25632-02-14 09:35 J -7640620.19 -7640620.10 -7640619.99 0.0074 0.0056

Pluto -25632-05-13 11:02 J -7640532.15 -7640532.04 -7640531.91 0.0074 0.0048

Venus -25632-06-03 02:38 J -7640511.39 -7640511.39 -7640511.38 0.3770 0.3738

Pluto -25632-08-09 12:28 J -7640444.10 -7640443.98 -7640443.85 0.0074 0.0040

Pluto -25632-11-05 13:55 J -7640356.06 -7640355.92 -7640355.78 0.0074 0.0032

Pluto -25631-02-01 15:07 J -7640268.01 -7640267.87 -7640267.72 0.0074 0.0024

Pluto -25631-04-30 16:33 J -7640179.96 -7640179.81 -7640179.66 0.0073 0.0016

Saturn -25631-05-22 06:43 J -7640158.28 -7640158.22 -7640158.16 0.0269 0.0234

Pluto -25631-07-27 17:45 J -7640091.91 -7640091.76 -7640091.61 0.0073 0.0009

Saturn -25631-08-18 17:31 J -7640069.89 -7640069.77 -7640069.66 0.0268 0.0127

Pluto -25631-10-23 19:11 J -7640003.86 -7640003.70 -7640003.55 0.0073 0.0002

Saturn -25631-11-15 04:19 J -7639981.46 -7639981.32 -7639981.19 0.0268 0.0020

Pluto -25630-01-19 20:23 J -7639915.80 -7639915.65 -7639915.50 0.0073 0.0006

Saturn -25630-02-11 15:07 J -7639893.00 -7639892.87 -7639892.74 0.0267 0.0091

Pluto -25630-04-17 21:35 J -7639827.75 -7639827.60 -7639827.45 0.0073 0.0014

Saturn -25630-05-11 02:09 J -7639804.50 -7639804.41 -7639804.32 0.0267 0.0201

Pluto -25630-07-14 22:47 J -7639739.69 -7639739.55 -7639739.40 0.0073 0.0021

Pluto -25630-10-10 23:45 J -7639651.64 -7639651.51 -7639651.36 0.0073 0.0029

Pluto -25629-01-07 01:11 J -7639563.58 -7639563.45 -7639563.31 0.0073 0.0036

Pluto -25629-04-04 02:23 J -7639475.52 -7639475.40 -7639475.27 0.0072 0.0043

Pluto -25629-07-01 03:21 J -7639387.45 -7639387.36 -7639387.24 0.0072 0.0050

Pluto -25629-09-27 04:33 J -7639299.39 -7639299.31 -7639299.21 0.0072 0.0057

Pluto -25629-12-24 05:45 J -7639211.32 -7639211.26 -7639211.18 0.0072 0.0064

Pluto -25628-03-22 06:43 J -7639123.22 -7639123.22 -7639123.18 0.0072 0.0071

Neptune -25628-07-06 14:09 J -7639016.92 -7639016.91 -7639016.90 0.0089 0.0089

Neptune -25628-10-02 15:21 J -7638928.90 -7638928.86 -7638928.80 0.0089 0.0082

Neptune -25628-12-29 16:47 J -7638840.86 -7638840.80 -7638840.72 0.0089 0.0075

Neptune -25627-03-27 18:14 J -7638752.82 -7638752.74 -7638752.65 0.0089 0.0068

Neptune -25627-06-23 19:40 J -7638664.77 -7638664.68 -7638664.58 0.0089 0.0061

Mars -25627-06-23 23:45 J -7638664.61 -7638664.51 -7638664.42 0.1686 0.0963 *

Jupiter -25627-06-24 00:28 J -7638664.56 -7638664.48 -7638664.40 0.0530 0.0415 *

Neptune -25627-09-19 21:07 J -7638576.72 -7638576.62 -7638576.51 0.0089 0.0055

Jupiter -25627-09-21 07:40 J -7638575.30 -7638575.18 -7638575.05 0.0527 0.0173

Neptune -25627-12-16 22:33 J -7638488.67 -7638488.56 -7638488.44 0.0089 0.0048

Venus -25627-12-17 19:11 J -7638487.80 -7638487.70 -7638487.61 0.3771 0.1385

Neptune -25626-03-14 23:59 J -7638400.62 -7638400.50 -7638400.38 0.0089 0.0041

Neptune -25626-06-11 01:26 J -7638312.56 -7638312.44 -7638312.31 0.0089 0.0034

Earth -25626-06-14 21:21 J -7638308.67 -7638308.61 -7638308.55 0.2690 0.2251

Moon -25626-06-14 21:50 J -7638308.66 -7638308.59 -7638308.52 0.2686 0.2129 *

Neptune -25626-09-07 02:52 J -7638224.51 -7638224.38 -7638224.25 0.0089 0.0027

Neptune -25626-12-04 04:19 J -7638136.45 -7638136.32 -7638136.19 0.0089 0.0020

Neptune -25625-03-01 05:45 J -7638048.39 -7638048.26 -7638048.13 0.0089 0.0013

Neptune -25625-05-28 07:11 J -7637960.34 -7637960.20 -7637960.07 0.0089 0.0006

Mars -25625-05-29 06:28 J -7637959.32 -7637959.23 -7637959.15 0.1704 0.1182

Neptune -25625-08-24 08:38 J -7637872.28 -7637872.14 -7637872.01 0.0089 0.0001

Neptune -25625-11-20 10:04 J -7637784.22 -7637784.08 -7637783.95 0.0089 0.0008

Neptune -25624-02-16 11:31 J -7637696.16 -7637696.02 -7637695.89 0.0089 0.0015

Neptune -25624-05-15 12:57 J -7637608.09 -7637607.96 -7637607.83 0.0089 0.0022

Neptune -25624-08-11 14:23 J -7637520.03 -7637519.90 -7637519.77 0.0089 0.0029

Neptune -25624-11-07 15:50 J -7637431.97 -7637431.84 -7637431.72 0.0089 0.0036

Neptune -25623-02-03 17:16 J -7637343.90 -7637343.78 -7637343.66 0.0089 0.0044

Neptune -25623-05-02 18:43 J -7637255.83 -7637255.72 -7637255.61 0.0089 0.0051

Neptune -25623-07-29 20:09 J -7637167.76 -7637167.66 -7637167.56 0.0089 0.0058

Neptune -25623-10-25 21:21 J -7637079.69 -7637079.61 -7637079.51 0.0089 0.0065

Moon -25623-12-22 04:33 J -7637022.45 -7637022.31 -7637022.18 0.2648 0.0682

Earth -25623-12-22 05:31 J -7637022.41 -7637022.27 -7637022.12 0.2646 0.0544 *

Neptune -25622-01-21 22:47 J -7636991.62 -7636991.55 -7636991.46 0.0089 0.0072

Neptune -25622-04-20 00:14 J -7636903.54 -7636903.49 -7636903.41 0.0089 0.0080

Neptune -25622-07-17 01:55 J -7636815.45 -7636815.42 -7636815.38 0.0089 0.0086

Venus -25621-07-02 11:31 J -7636464.12 -7636464.02 -7636463.92 0.3771 0.1024

Jupiter -25621-11-18 15:50 J -7636325.01 -7636324.84 -7636324.66 0.0499 0.0059

Moon -25620-06-23 21:35 J -7636107.69 -7636107.60 -7636107.52 0.2687 0.1776

Earth -25620-06-23 22:19 J -7636107.66 -7636107.57 -7636107.49 0.2683 0.1812 *

Mars -25618-11-14 10:19 J -7635234.13 -7635234.07 -7635234.01 0.1681 0.1456

Venus -25617-06-29 17:31 J -7635005.85 -7635005.77 -7635005.69 0.3604 0.3003

Mars -25616-10-19 16:33 J -7634528.92 -7634528.81 -7634528.70 0.1699 0.0642

Venus -25615-01-16 04:04 J -7634440.37 -7634440.33 -7634440.29 0.3772 0.3488

Saturn -25615-03-10 10:47 J -7634387.21 -7634387.05 -7634386.88 0.0293 0.0118

Saturn -25615-06-07 09:50 J -7634298.26 -7634298.09 -7634297.92 0.0293 0.0072

Jupiter -25615-07-10 11:45 J -7634265.14 -7634265.01 -7634264.88 0.0528 0.0034

Mars -25615-08-31 08:23 J -7634213.25 -7634213.15 -7634213.05 0.1818 0.1415

Saturn -25615-09-04 08:09 J -7634209.23 -7634209.16 -7634209.07 0.0294 0.0259

Uranus -25614-04-01 02:23 J -7634000.43 -7634000.40 -7634000.35 0.0142 0.0134

Uranus -25614-06-28 06:14 J -7633912.31 -7633912.24 -7633912.15 0.0142 0.0112

Uranus -25614-09-24 10:04 J -7633824.18 -7633824.08 -7633823.97 0.0142 0.0090

Uranus -25614-12-21 14:09 J -7633736.03 -7633735.91 -7633735.79 0.0143 0.0068

Uranus -25613-03-18 17:59 J -7633647.88 -7633647.75 -7633647.62 0.0143 0.0045

Uranus -25613-06-14 21:50 J -7633559.72 -7633559.59 -7633559.45 0.0143 0.0023

Moon -25613-06-16 16:33 J -7633557.91 -7633557.81 -7633557.71 0.2681 0.1283

Earth -25613-06-16 16:33 J -7633557.91 -7633557.81 -7633557.71 0.2688 0.1214 *

Uranus -25613-09-11 01:55 J -7633471.56 -7633471.42 -7633471.29 0.0143 0.0004

Uranus -25613-12-08 05:45 J -7633383.40 -7633383.26 -7633383.12 0.0143 0.0023

Uranus -25612-03-06 09:50 J -7633295.22 -7633295.09 -7633294.96 0.0143 0.0046

Uranus -25612-06-02 13:40 J -7633207.04 -7633206.93 -7633206.80 0.0143 0.0070

Uranus -25612-08-29 17:45 J -7633118.86 -7633118.76 -7633118.65 0.0143 0.0094

Uranus -25612-11-25 21:50 J -7633030.66 -7633030.59 -7633030.50 0.0143 0.0118

Venus -25611-01-13 22:19 J -7632981.68 -7632981.57 -7632981.46 0.3603 0.2340

Uranus -25611-02-22 01:55 J -7632942.43 -7632942.42 -7632942.39 0.0144 0.0142

Moon -25610-12-25 06:57 J -7632271.35 -7632271.21 -7632271.08 0.2653 0.0900

Earth -25610-12-25 07:40 J -7632271.32 -7632271.18 -7632271.05 0.2648 0.0984 *

Jupiter -25609-09-06 14:09 J -7632015.09 -7632014.91 -7632014.74 0.0498 0.0117

Mars -25606-03-12 02:38 J -7631098.51 -7631098.39 -7631098.27 0.1695 0.0116

Mars -25605-01-21 06:14 J -7630783.40 -7630783.24 -7630783.08 0.1824 0.0321

Jupiter -25603-04-28 15:50 J -7629954.96 -7629954.84 -7629954.71 0.0529 0.0110

Jupiter -25603-07-26 23:31 J -7629865.56 -7629865.52 -7629865.47 0.0526 0.0484

Saturn -25601-01-05 19:26 J -7629337.80 -7629337.69 -7629337.59 0.0268 0.0163

Saturn -25601-04-03 05:59 J -7629249.38 -7629249.25 -7629249.11 0.0268 0.0055

Saturn -25601-06-30 16:47 J -7629160.93 -7629160.80 -7629160.66 0.0267 0.0055

Saturn -25601-09-27 03:50 J -7629072.45 -7629072.34 -7629072.23 0.0267 0.0164

Moon -25600-06-19 11:31 J -7628807.14 -7628807.02 -7628806.91 0.2682 0.0174

Earth -25600-06-19 11:59 J -7628807.12 -7628807.00 -7628806.88 0.2687 0.0160 *

Jupiter -25597-06-25 11:59 J -7627705.15 -7627705.00 -7627704.86 0.0498 0.0293

Mars -25597-08-01 13:11 J -7627668.06 -7627667.95 -7627667.84 0.1690 0.0397

Jupiter -25597-09-23 17:31 J -7627614.86 -7627614.77 -7627614.66 0.0500 0.0409

Earth -25597-12-27 09:07 J -7627520.17 -7627520.12 -7627520.07 0.2650 0.2448

Moon -25597-12-27 09:35 J -7627520.14 -7627520.10 -7627520.07 0.2656 0.2546 *

Mars -25596-06-12 02:38 J -7627353.53 -7627353.39 -7627353.24 0.1830 0.0865

Jupiter -25591-02-14 20:09 J -7625644.77 -7625644.66 -7625644.55 0.0529 0.0248

Jupiter -25591-05-15 03:35 J -7625555.44 -7625555.35 -7625555.25 0.0527 0.0343

Moon -25590-12-20 07:55 J -7624971.26 -7624971.17 -7624971.07 0.2642 0.2012

Earth -25590-12-20 09:21 J -7624971.22 -7624971.11 -7624971.01 0.2644 0.1812 *

Mars -25588-12-22 23:45 J -7624237.61 -7624237.51 -7624237.41 0.1686 0.0901

Moon -25587-06-22 06:43 J -7624056.33 -7624056.22 -7624056.11 0.2685 0.0804

Earth -25587-06-22 07:40 J -7624056.29 -7624056.18 -7624056.07 0.2685 0.0926 *

Saturn -25586-07-28 06:14 J -7623655.37 -7623655.24 -7623655.11 0.0292 0.0197

Saturn -25586-10-25 05:16 J -7623566.45 -7623566.28 -7623566.10 0.0293 0.0010

Mars -25586-11-28 06:28 J -7623532.31 -7623532.23 -7623532.15 0.1704 0.1249

Saturn -25585-01-22 04:04 J -7623477.47 -7623477.33 -7623477.19 0.0293 0.0181

Jupiter -25585-04-13 10:19 J -7623395.12 -7623395.07 -7623394.99 0.0497 0.0461

Jupiter -25585-07-12 16:47 J -7623304.96 -7623304.80 -7623304.65 0.0500 0.0246

Earth -25580-06-15 02:23 J -7621506.47 -7621506.40 -7621506.33 0.2690 0.2054

Moon -25580-06-15 02:52 J -7621506.46 -7621506.38 -7621506.31 0.2685 0.2051 *

Jupiter -25580-12-03 23:31 J -7621334.60 -7621334.52 -7621334.44 0.0529 0.0402

Jupiter -25579-03-03 06:43 J -7621245.34 -7621245.22 -7621245.09 0.0527 0.0186

Mars -25578-05-15 10:19 J -7620807.13 -7620807.07 -7620807.01 0.1682 0.1390

Moon -25577-12-22 10:19 J -7620220.21 -7620220.07 -7620219.92 0.2650 0.0300

Earth -25577-12-22 11:31 J -7620220.16 -7620220.02 -7620219.87 0.2646 0.0259 *

Mars -25576-04-19 16:33 J -7620101.92 -7620101.81 -7620101.70 0.1699 0.0709

Venus -25575-01-08 00:14 J -7619838.55 -7619838.49 -7619838.42 0.3770 0.2870

Mars -25575-03-01 09:07 J -7619786.20 -7619786.12 -7619786.03 0.1818 0.1536

Uranus -25574-02-17 09:50 J -7619433.10 -7619433.09 -7619433.06 0.0136 0.0135

Uranus -25574-05-16 16:33 J -7619344.91 -7619344.81 -7619344.69 0.0136 0.0108

Moon -25574-06-25 02:52 J -7619305.46 -7619305.38 -7619305.30 0.2688 0.1979

Earth -25574-06-25 03:21 J -7619305.44 -7619305.36 -7619305.28 0.2683 0.2028 *

Uranus -25574-08-12 23:02 J -7619256.67 -7619256.54 -7619256.38 0.0136 0.0082

Uranus -25574-11-09 05:45 J -7619168.42 -7619168.26 -7619168.09 0.0136 0.0056

Uranus -25573-02-05 12:14 J -7619080.16 -7619079.99 -7619079.81 0.0136 0.0030

Jupiter -25573-04-30 15:21 J -7618995.04 -7618994.86 -7618994.68 0.0499 0.0078

Uranus -25573-05-03 18:43 J -7618991.90 -7618991.72 -7618991.54 0.0136 0.0004

Uranus -25573-07-31 00:57 J -7618903.63 -7618903.46 -7618903.28 0.0135 0.0022

Uranus -25573-10-27 07:26 J -7618815.36 -7618815.19 -7618815.02 0.0135 0.0047

Uranus -25572-01-23 13:40 J -7618727.08 -7618726.93 -7618726.78 0.0135 0.0072

Uranus -25572-04-21 19:40 J -7618638.80 -7618638.68 -7618638.55 0.0135 0.0096

Saturn -25572-05-24 21:35 J -7618605.69 -7618605.60 -7618605.50 0.0269 0.0196

Uranus -25572-07-19 01:40 J -7618550.50 -7618550.43 -7618550.34 0.0135 0.0121

Saturn -25572-08-21 08:23 J -7618517.28 -7618517.15 -7618517.02 0.0268 0.0087

Saturn -25572-11-17 19:11 J -7618428.83 -7618428.70 -7618428.56 0.0268 0.0023

Saturn -25571-02-14 06:14 J -7618340.36 -7618340.24 -7618340.12 0.0267 0.0132

Saturn -25571-05-13 17:16 J -7618251.83 -7618251.78 -7618251.72 0.0267 0.0242

Venus -25570-07-24 16:47 J -7617814.91 -7617814.80 -7617814.70 0.3771 0.0524

Jupiter -25568-12-20 10:33 J -7616935.19 -7616935.06 -7616934.93 0.0528 0.0038

Moon -25567-06-17 21:35 J -7616755.71 -7616755.60 -7616755.49 0.2681 0.0959

Earth -25567-06-17 21:35 J -7616755.71 -7616755.60 -7616755.49 0.2688 0.1017 *

Mars -25567-09-10 02:52 J -7616671.50 -7616671.38 -7616671.27 0.1695 0.0192

Mars -25566-07-22 06:28 J -7616356.39 -7616356.23 -7616356.08 0.1824 0.0413

Venus -25564-02-06 09:07 J -7615791.21 -7615791.12 -7615791.03 0.3772 0.1920

Moon -25564-12-25 12:57 J -7615469.08 -7615468.96 -7615468.84 0.2654 0.1221

Earth -25564-12-25 13:26 J -7615469.06 -7615468.94 -7615468.81 0.2648 0.1260 *

Jupiter -25561-02-17 13:11 J -7614685.13 -7614684.95 -7614684.77 0.0499 0.0100

Venus -25560-02-03 18:28 J -7614332.87 -7614332.73 -7614332.59 0.3604 0.1113

Mars -25557-01-31 13:11 J -7613241.07 -7613240.95 -7613240.84 0.1690 0.0341

Mars -25557-12-11 03:21 J -7612926.51 -7612926.36 -7612926.21 0.1830 0.0747

Saturn -25557-12-14 05:16 J -7612923.37 -7612923.28 -7612923.18 0.0292 0.0249

Saturn -25556-03-13 04:33 J -7612834.48 -7612834.31 -7612834.13 0.0293 0.0058

Saturn -25556-06-10 03:21 J -7612745.52 -7612745.36 -7612745.20 0.0293 0.0131

Jupiter -25556-10-08 14:23 J -7612625.03 -7612624.90 -7612624.77 0.0529 0.0109

Jupiter -25555-01-05 22:04 J -7612535.63 -7612535.58 -7612535.53 0.0526 0.0483

Moon -25554-06-20 16:19 J -7612004.94 -7612004.82 -7612004.70 0.2683 0.0097

Earth -25554-06-20 17:02 J -7612004.91 -7612004.79 -7612004.67 0.2687 0.0053 *

Jupiter -25550-12-06 11:16 J -7610375.18 -7610375.03 -7610374.88 0.0498 0.0275

Jupiter -25549-03-05 16:47 J -7610284.89 -7610284.80 -7610284.71 0.0500 0.0426

Mars -25548-06-22 23:45 J -7609810.62 -7609810.51 -7609810.41 0.1686 0.0840

Mars -25546-05-29 06:14 J -7609105.31 -7609105.24 -7609105.16 0.1704 0.1312

Neptune -25544-03-23 14:09 J -7608440.97 -7608440.91 -7608440.81 0.0088 0.0079

Neptune -25544-06-19 17:59 J -7608352.87 -7608352.75 -7608352.64 0.0088 0.0070

Jupiter -25544-07-27 18:28 J -7608314.84 -7608314.73 -7608314.61 0.0529 0.0248

Neptune -25544-09-15 21:07 J -7608264.75 -7608264.62 -7608264.47 0.0088 0.0060

Jupiter -25544-10-25 02:09 J -7608225.51 -7608225.41 -7608225.31 0.0527 0.0344

Neptune -25544-12-13 00:14 J -7608176.63 -7608176.49 -7608176.32 0.0088 0.0051

Moon -25544-12-20 14:09 J -7608169.03 -7608168.91 -7608168.80 0.2644 0.1541

Earth -25544-12-20 15:21 J -7608168.98 -7608168.86 -7608168.74 0.2645 0.1517 *

Neptune -25543-03-11 03:50 J -7608088.50 -7608088.34 -7608088.16 0.0088 0.0041

Neptune -25543-06-07 07:11 J -7608000.37 -7608000.20 -7608000.02 0.0088 0.0032

Neptune -25543-09-03 10:33 J -7607912.24 -7607912.06 -7607911.87 0.0088 0.0023

Saturn -25543-10-11 23:45 J -7607873.57 -7607873.51 -7607873.44 0.0269 0.0229

Neptune -25543-11-30 13:55 J -7607824.10 -7607823.92 -7607823.73 0.0088 0.0013

Saturn -25542-01-08 10:33 J -7607785.18 -7607785.06 -7607784.94 0.0268 0.0121

Neptune -25542-02-26 17:16 J -7607735.97 -7607735.78 -7607735.59 0.0088 0.0004

Saturn -25542-04-06 21:21 J -7607696.74 -7607696.61 -7607696.47 0.0268 0.0013

Neptune -25542-05-25 20:38 J -7607647.83 -7607647.64 -7607647.45 0.0088 0.0006

Saturn -25542-07-04 08:09 J -7607608.28 -7607608.16 -7607608.03 0.0267 0.0097

Neptune -25542-08-21 23:45 J -7607559.69 -7607559.51 -7607559.32 0.0088 0.0015

Saturn -25542-09-30 19:11 J -7607519.78 -7607519.70 -7607519.61 0.0267 0.0207

Neptune -25542-11-18 03:07 J -7607471.55 -7607471.37 -7607471.19 0.0088 0.0024

Neptune -25541-02-14 06:28 J -7607383.41 -7607383.23 -7607383.06 0.0088 0.0034

Neptune -25541-05-12 09:21 J -7607295.26 -7607295.11 -7607294.93 0.0088 0.0043

Moon -25541-06-22 11:45 J -7607254.11 -7607254.01 -7607253.90 0.2685 0.1101

Earth -25541-06-22 12:43 J -7607254.08 -7607253.97 -7607253.86 0.2685 0.1134 *

Neptune -25541-08-08 12:43 J -7607207.11 -7607206.97 -7607206.81 0.0088 0.0052

Neptune -25541-11-04 15:50 J -7607118.96 -7607118.84 -7607118.69 0.0088 0.0061

Neptune -25540-01-31 19:11 J -7607030.80 -7607030.70 -7607030.58 0.0088 0.0070

Neptune -25540-04-29 22:33 J -7606942.64 -7606942.56 -7606942.48 0.0088 0.0079

Mars -25539-11-13 10:19 J -7606380.14 -7606380.07 -7606380.00 0.1682 0.1328

Jupiter -25538-09-24 08:52 J -7606065.20 -7606065.13 -7606065.06 0.0497 0.0453

Jupiter -25538-12-23 15:07 J -7605975.03 -7605974.87 -7605974.72 0.0500 0.0252

Mars -25537-10-18 16:33 J -7605674.92 -7605674.81 -7605674.71 0.1699 0.0774

Mars -25536-08-30 09:35 J -7605359.16 -7605359.10 -7605359.03 0.1818 0.1644

Earth -25534-06-16 07:26 J -7604704.27 -7604704.19 -7604704.11 0.2690 0.1858

Moon -25534-06-16 07:40 J -7604704.26 -7604704.18 -7604704.09 0.2683 0.1796 *

Jupiter -25532-05-15 22:47 J -7604004.63 -7604004.55 -7604004.46 0.0530 0.0386

Jupiter -25532-08-13 06:14 J -7603915.36 -7603915.24 -7603915.12 0.0527 0.0203

Moon -25531-12-23 16:19 J -7603417.96 -7603417.82 -7603417.67 0.2650 0.0163

Earth -25531-12-23 17:31 J -7603417.91 -7603417.77 -7603417.63 0.2646 0.0045 *

Uranus -25530-04-21 09:50 J -7603299.14 -7603299.09 -7603299.03 0.0142 0.0128

Uranus -25530-07-18 13:40 J -7603211.02 -7603210.93 -7603210.84 0.0142 0.0106

Uranus -25530-10-14 17:16 J -7603122.88 -7603122.78 -7603122.66 0.0142 0.0085

Uranus -25529-01-10 21:07 J -7603034.73 -7603034.62 -7603034.49 0.0143 0.0063

Uranus -25529-04-08 01:11 J -7602946.58 -7602946.45 -7602946.32 0.0143 0.0040

Uranus -25529-07-05 05:02 J -7602858.42 -7602858.29 -7602858.15 0.0143 0.0017

Uranus -25529-10-01 09:07 J -7602770.26 -7602770.12 -7602769.98 0.0143 0.0006

Uranus -25529-12-28 12:57 J -7602682.09 -7602681.96 -7602681.82 0.0143 0.0029

Uranus -25528-03-26 17:02 J -7602593.92 -7602593.79 -7602593.66 0.0143 0.0052

Uranus -25528-06-22 21:07 J -7602505.74 -7602505.62 -7602505.50 0.0143 0.0076

Moon -25528-06-25 07:55 J -7602503.24 -7602503.17 -7602503.10 0.2689 0.2175

Earth -25528-06-25 08:23 J -7602503.21 -7602503.15 -7602503.08 0.2683 0.2240 *

Uranus -25528-09-19 00:57 J -7602417.55 -7602417.46 -7602417.35 0.0143 0.0100

Uranus -25528-12-16 05:02 J -7602329.35 -7602329.29 -7602329.21 0.0143 0.0123

Mars -25527-03-11 02:38 J -7602244.50 -7602244.39 -7602244.27 0.1695 0.0256

Saturn -25527-07-31 00:14 J -7602102.64 -7602102.49 -7602102.33 0.0292 0.0135

Saturn -25527-10-27 23:16 J -7602013.70 -7602013.53 -7602013.36 0.0293 0.0055

Mars -25526-01-20 07:11 J -7601929.35 -7601929.20 -7601929.04 0.1824 0.0535

Saturn -25526-01-24 21:35 J -7601924.69 -7601924.60 -7601924.49 0.0293 0.0242

Jupiter -25526-10-11 13:55 J -7601665.10 -7601664.92 -7601664.75 0.0499 0.0087

Moon -25521-06-18 02:23 J -7599953.51 -7599953.40 -7599953.28 0.2681 0.0887

Earth -25521-06-18 02:38 J -7599953.50 -7599953.39 -7599953.28 0.2688 0.0814 *

Jupiter -25520-06-01 09:35 J -7599605.23 -7599605.10 -7599604.97 0.0527 0.0049

Venus -25519-08-14 21:50 J -7599165.67 -7599165.59 -7599165.50 0.3770 0.2008

Mars -25518-08-01 13:11 J -7598814.07 -7598813.95 -7598813.84 0.1690 0.0271

Moon -25518-12-26 19:11 J -7598666.82 -7598666.70 -7598666.59 0.2654 0.1557

Earth -25518-12-26 19:26 J -7598666.81 -7598666.69 -7598666.58 0.2648 0.1539 *

Mars -25517-06-11 04:04 J -7598499.48 -7598499.33 -7598499.18 0.1830 0.0631

Jupiter -25514-07-30 12:14 J -7597355.17 -7597354.99 -7597354.81 0.0499 0.0084

Venus -25513-02-28 14:23 J -7597142.01 -7597141.90 -7597141.80 0.3771 0.0401

Saturn -25513-02-29 02:23 J -7597141.43 -7597141.40 -7597141.38 0.0270 0.0263

Saturn -25513-05-27 12:57 J -7597053.07 -7597052.96 -7597052.85 0.0269 0.0155

Saturn -25513-08-23 23:45 J -7596964.64 -7596964.51 -7596964.37 0.0268 0.0046

Saturn -25513-11-20 10:33 J -7596876.19 -7596876.06 -7596875.92 0.0268 0.0065

Saturn -25512-02-16 21:35 J -7596787.70 -7596787.60 -7596787.49 0.0267 0.0175

Mars -25509-12-21 23:31 J -7595383.62 -7595383.52 -7595383.41 0.1686 0.0777

Jupiter -25508-03-20 13:11 J -7595295.08 -7595294.95 -7595294.82 0.0528 0.0101

Jupiter -25508-06-17 20:52 J -7595205.68 -7595205.63 -7595205.59 0.0525 0.0489

Moon -25508-06-20 21:21 J -7595202.73 -7595202.61 -7595202.49 0.2683 0.0250

Earth -25508-06-20 22:04 J -7595202.69 -7595202.58 -7595202.46 0.2686 0.0260 *

Venus -25508-09-13 06:43 J -7595118.28 -7595118.22 -7595118.15 0.3772 0.2822

Mars -25507-11-27 06:28 J -7594678.30 -7594678.23 -7594678.17 0.1704 0.1380

Venus -25504-09-10 19:26 J -7593659.84 -7593659.69 -7593659.55 0.3604 0.0722

Jupiter -25502-05-18 10:04 J -7593045.23 -7593045.08 -7593044.93 0.0498 0.0263

Jupiter -25502-08-16 15:35 J -7592954.92 -7592954.85 -7592954.76 0.0500 0.0439

Earth -25501-06-13 17:16 J -7592652.78 -7592652.78 -7592652.78 0.2691 0.2684

Moon -25501-06-13 17:59 J -7592652.77 -7592652.75 -7592652.73 0.2689 0.2626

Mars -25499-05-14 10:19 J -7591953.15 -7591953.07 -7591953.00 0.1681 0.1269

Saturn -25498-12-17 23:59 J -7591370.64 -7591370.50 -7591370.36 0.0292 0.0182

Moon -25498-12-21 20:09 J -7591366.78 -7591366.66 -7591366.54 0.2646 0.1426

Earth -25498-12-21 21:21 J -7591366.74 -7591366.61 -7591366.48 0.2645 0.1225 *

Saturn -25497-03-15 23:02 J -7591281.71 -7591281.54 -7591281.36 0.0293 0.0011

Mars -25497-04-18 16:33 J -7591247.92 -7591247.81 -7591247.71 0.1699 0.0840

Saturn -25497-06-12 21:50 J -7591192.72 -7591192.59 -7591192.46 0.0293 0.0197

Jupiter -25496-01-06 17:02 J -7590984.91 -7590984.79 -7590984.68 0.0529 0.0249

Mars -25496-02-28 10:19 J -7590932.11 -7590932.07 -7590932.03 0.1818 0.1752

Jupiter -25496-04-06 00:28 J -7590895.58 -7590895.48 -7590895.38 0.0527 0.0342

Moon -25495-06-23 17:02 J -7590451.90 -7590451.79 -7590451.69 0.2686 0.1210

Earth -25495-06-23 17:45 J -7590451.86 -7590451.76 -7590451.66 0.2684 0.1344 *

Jupiter -25490-03-06 07:40 J -7588735.25 -7588735.18 -7588735.09 0.0497 0.0440

Uranus -25490-03-09 16:19 J -7588731.86 -7588731.82 -7588731.76 0.0136 0.0131

Jupiter -25490-06-04 13:55 J -7588645.07 -7588644.92 -7588644.77 0.0500 0.0266

Uranus -25490-06-05 23:02 J -7588643.65 -7588643.54 -7588643.41 0.0136 0.0104

Uranus -25490-09-02 05:45 J -7588555.40 -7588555.26 -7588555.11 0.0136 0.0077

Uranus -25490-11-29 12:14 J -7588467.15 -7588466.99 -7588466.82 0.0136 0.0051

Uranus -25489-02-25 18:43 J -7588378.89 -7588378.72 -7588378.54 0.0136 0.0025

Uranus -25489-05-24 01:11 J -7588290.63 -7588290.45 -7588290.27 0.0136 0.0003

Uranus -25489-08-20 07:26 J -7588202.36 -7588202.19 -7588202.00 0.0135 0.0027

Uranus -25489-11-16 13:55 J -7588114.09 -7588113.92 -7588113.75 0.0135 0.0051

Uranus -25488-02-12 19:55 J -7588025.81 -7588025.67 -7588025.51 0.0135 0.0077

Uranus -25488-05-12 02:09 J -7587937.52 -7587937.41 -7587937.28 0.0135 0.0101

Earth -25488-06-16 12:28 J -7587902.07 -7587901.98 -7587901.89 0.2690 0.1664

Moon -25488-06-16 12:43 J -7587902.06 -7587901.97 -7587901.88 0.2683 0.1643 *

Uranus -25488-08-08 08:23 J -7587849.21 -7587849.15 -7587849.08 0.0135 0.0125

Mars -25488-09-09 02:38 J -7587817.50 -7587817.39 -7587817.27 0.1695 0.0310

Mars -25487-07-21 07:55 J -7587502.32 -7587502.17 -7587502.01 0.1824 0.0656

Jupiter -25485-10-25 21:07 J -7586674.70 -7586674.62 -7586674.53 0.0530 0.0389

Moon -25485-12-23 22:33 J -7586615.70 -7586615.56 -7586615.42 0.2651 0.0320

Earth -25485-12-23 23:31 J -7586615.66 -7586615.52 -7586615.38 0.2647 0.0326 *

Jupiter -25484-01-23 04:33 J -7586585.43 -7586585.31 -7586585.19 0.0527 0.0201

Saturn -25484-10-14 15:21 J -7586320.95 -7586320.86 -7586320.76 0.0269 0.0186

Saturn -25483-01-11 02:09 J -7586232.54 -7586232.41 -7586232.28 0.0268 0.0077

Saturn -25483-04-09 12:57 J -7586144.09 -7586143.96 -7586143.82 0.0268 0.0032

Saturn -25483-07-06 23:59 J -7586055.62 -7586055.50 -7586055.39 0.0267 0.0142

Saturn -25483-10-03 10:47 J -7585967.08 -7585967.05 -7585967.00 0.0267 0.0253

Moon -25482-06-26 12:57 J -7585701.00 -7585700.96 -7585700.91 0.2689 0.2456

Earth -25482-06-26 13:40 J -7585700.98 -7585700.93 -7585700.89 0.2682 0.2457 *

Mars -25478-01-30 13:11 J -7584387.07 -7584386.95 -7584386.84 0.1690 0.0210

Jupiter -25478-03-23 11:59 J -7584335.18 -7584335.00 -7584334.83 0.0499 0.0089

Mars -25478-12-11 04:47 J -7584072.46 -7584072.30 -7584072.15 0.1830 0.0519

Moon -25475-06-19 07:26 J -7583151.31 -7583151.19 -7583151.08 0.2682 0.0611

Earth -25475-06-19 07:40 J -7583151.29 -7583151.18 -7583151.07 0.2688 0.0613 *

Jupiter -25473-08-14 01:26 J -7582364.45 -7582364.44 -7582364.43 0.0531 0.0526

Jupiter -25473-11-11 08:38 J -7582275.27 -7582275.14 -7582275.01 0.0528 0.0061

Pluto -25472-11-09 13:26 J -7581911.98 -7581911.94 -7581911.86 0.0070 0.0066

Moon -25472-12-27 01:11 J -7581864.55 -7581864.45 -7581864.34 0.2655 0.1768

Earth -25472-12-27 01:11 J -7581864.55 -7581864.45 -7581864.34 0.2648 0.1822 *

Pluto -25471-02-05 14:52 J -7581823.95 -7581823.88 -7581823.77 0.0071 0.0059

Pluto -25471-05-04 16:19 J -7581735.91 -7581735.82 -7581735.69 0.0071 0.0052

Pluto -25471-07-31 17:59 J -7581647.87 -7581647.75 -7581647.62 0.0071 0.0044

Pluto -25471-10-27 19:11 J -7581559.83 -7581559.70 -7581559.55 0.0071 0.0037

Pluto -25470-01-23 20:38 J -7581471.78 -7581471.64 -7581471.48 0.0071 0.0030

Pluto -25470-04-21 22:19 J -7581383.72 -7581383.57 -7581383.42 0.0071 0.0022

Pluto -25470-07-18 23:31 J -7581295.67 -7581295.52 -7581295.35 0.0071 0.0015

Pluto -25470-10-15 01:11 J -7581207.61 -7581207.45 -7581207.29 0.0071 0.0007

Pluto -25469-01-11 02:38 J -7581119.55 -7581119.39 -7581119.23 0.0072 0.0000

Pluto -25469-04-08 04:04 J -7581031.49 -7581031.33 -7581031.16 0.0072 0.0008

Mars -25469-06-21 23:31 J -7580956.62 -7580956.52 -7580956.41 0.1686 0.0712

Pluto -25469-07-05 05:31 J -7580943.43 -7580943.27 -7580943.11 0.0072 0.0016

Pluto -25469-10-01 06:57 J -7580855.36 -7580855.21 -7580855.05 0.0072 0.0023

Pluto -25469-12-28 08:23 J -7580767.29 -7580767.15 -7580766.99 0.0072 0.0031

Pluto -25468-03-26 09:50 J -7580679.22 -7580679.09 -7580678.94 0.0072 0.0039

Mars -25468-05-02 01:11 J -7580642.51 -7580642.45 -7580642.40 0.1835 0.1720

Saturn -25468-05-05 20:09 J -7580638.74 -7580638.66 -7580638.57 0.0291 0.0256

Pluto -25468-06-22 11:16 J -7580591.14 -7580591.03 -7580590.89 0.0072 0.0047

Saturn -25468-08-02 19:26 J -7580549.87 -7580549.69 -7580549.52 0.0292 0.0065

Venus -25468-09-05 03:07 J -7580516.40 -7580516.37 -7580516.33 0.3770 0.3483

Pluto -25468-09-18 12:43 J -7580503.05 -7580502.97 -7580502.84 0.0072 0.0056

Saturn -25468-10-30 17:59 J -7580460.90 -7580460.75 -7580460.58 0.0293 0.0125

Pluto -25468-12-15 14:23 J -7580414.96 -7580414.90 -7580414.80 0.0072 0.0063

Pluto -25467-03-13 15:50 J -7580326.84 -7580326.84 -7580326.79 0.0073 0.0072

Mars -25467-05-28 06:28 J -7580251.29 -7580251.23 -7580251.17 0.1704 0.1449

Jupiter -25466-01-09 10:33 J -7580025.24 -7580025.06 -7580024.88 0.0499 0.0079

Earth -25465-12-19 00:57 J -7579315.50 -7579315.46 -7579315.42 0.2643 0.2527

Neptune -25463-04-02 13:55 J -7578845.95 -7578845.92 -7578845.87 0.0089 0.0085

Neptune -25463-06-29 15:21 J -7578757.91 -7578757.86 -7578757.79 0.0089 0.0078

Neptune -25463-09-25 16:47 J -7578669.87 -7578669.80 -7578669.71 0.0089 0.0071

Neptune -25463-12-22 18:14 J -7578581.83 -7578581.74 -7578581.64 0.0089 0.0064

Neptune -25462-03-20 19:40 J -7578493.78 -7578493.68 -7578493.57 0.0089 0.0057

Venus -25462-03-21 19:26 J -7578492.79 -7578492.69 -7578492.59 0.3770 0.1145

Neptune -25462-06-16 21:07 J -7578405.73 -7578405.62 -7578405.51 0.0089 0.0050

Moon -25462-06-22 02:23 J -7578400.52 -7578400.40 -7578400.28 0.2683 0.0321

Earth -25462-06-22 03:07 J -7578400.48 -7578400.37 -7578400.25 0.2686 0.0474 *

Neptune -25462-09-12 22:33 J -7578317.68 -7578317.56 -7578317.44 0.0089 0.0044

Neptune -25462-12-09 23:59 J -7578229.62 -7578229.50 -7578229.38 0.0089 0.0037

Neptune -25461-03-07 01:26 J -7578141.57 -7578141.44 -7578141.31 0.0089 0.0030

Neptune -25461-06-03 02:38 J -7578053.51 -7578053.39 -7578053.25 0.0089 0.0023

Neptune -25461-08-30 04:04 J -7577965.46 -7577965.33 -7577965.19 0.0089 0.0016

Jupiter -25461-08-30 11:59 J -7577965.12 -7577965.00 -7577964.87 0.0528 0.0094

Neptune -25461-11-26 05:31 J -7577877.40 -7577877.27 -7577877.13 0.0089 0.0009

Jupiter -25461-11-27 19:40 J -7577875.72 -7577875.68 -7577875.64 0.0525 0.0497

Neptune -25460-02-22 06:57 J -7577789.34 -7577789.21 -7577789.07 0.0089 0.0004

Neptune -25460-05-21 08:23 J -7577701.28 -7577701.15 -7577701.01 0.0089 0.0006

Neptune -25460-08-17 09:50 J -7577613.22 -7577613.09 -7577612.95 0.0089 0.0013

Mars -25460-11-12 10:19 J -7577526.15 -7577526.07 -7577525.99 0.1681 0.1204

Neptune -25460-11-13 11:16 J -7577525.16 -7577525.03 -7577524.89 0.0089 0.0020

Neptune -25459-02-09 12:43 J -7577437.10 -7577436.97 -7577436.84 0.0089 0.0027

Neptune -25459-05-08 14:09 J -7577349.03 -7577348.91 -7577348.78 0.0089 0.0034

Neptune -25459-08-04 15:35 J -7577260.97 -7577260.85 -7577260.72 0.0089 0.0041

Neptune -25459-10-31 17:02 J -7577172.90 -7577172.79 -7577172.67 0.0089 0.0048

Neptune -25458-01-27 18:14 J -7577084.83 -7577084.74 -7577084.62 0.0089 0.0056

Neptune -25458-04-25 19:55 J -7576996.76 -7576996.67 -7576996.57 0.0089 0.0062

Neptune -25458-07-22 21:21 J -7576908.69 -7576908.61 -7576908.52 0.0089 0.0069

Mars -25458-10-18 16:33 J -7576820.91 -7576820.81 -7576820.71 0.1699 0.0906

Neptune -25458-10-18 22:47 J -7576820.61 -7576820.55 -7576820.47 0.0089 0.0076

Neptune -25457-01-15 00:14 J -7576732.53 -7576732.49 -7576732.43 0.0089 0.0083

Venus -25457-10-04 11:59 J -7576469.10 -7576469.00 -7576468.91 0.3771 0.1269

Earth -25455-06-14 22:19 J -7575850.61 -7575850.57 -7575850.53 0.2691 0.2493

Moon -25455-06-14 22:47 J -7575850.60 -7575850.55 -7575850.50 0.2687 0.2391 *

Jupiter -25455-10-28 08:38 J -7575715.29 -7575715.14 -7575714.98 0.0498 0.0252

Jupiter -25454-01-26 14:38 J -7575624.97 -7575624.89 -7575624.82 0.0501 0.0451

Saturn -25454-03-03 17:45 J -7575588.83 -7575588.76 -7575588.68 0.0270 0.0220

Saturn -25454-05-31 04:33 J -7575500.43 -7575500.31 -7575500.19 0.0269 0.0111

Saturn -25454-08-27 15:21 J -7575412.00 -7575411.86 -7575411.72 0.0269 0.0002

Saturn -25454-11-24 02:09 J -7575323.53 -7575323.41 -7575323.28 0.0268 0.0110

Saturn -25453-02-20 13:11 J -7575235.02 -7575234.95 -7575234.87 0.0268 0.0221

Venus -25453-10-01 15:21 J -7575010.95 -7575010.86 -7575010.77 0.3604 0.2813

Moon -25452-12-22 01:55 J -7574564.55 -7574564.42 -7574564.28 0.2647 0.0978

Earth -25452-12-22 03:21 J -7574564.49 -7574564.36 -7574564.22 0.2645 0.0934 *

Venus -25451-04-20 04:19 J -7574445.33 -7574445.32 -7574445.30 0.3771 0.3713

Jupiter -25449-06-18 15:50 J -7573654.96 -7573654.84 -7573654.73 0.0529 0.0241

Moon -25449-06-23 22:04 J -7573649.67 -7573649.58 -7573649.48 0.2687 0.1558

Earth -25449-06-23 22:47 J -7573649.64 -7573649.55 -7573649.45 0.2684 0.1557 *

Jupiter -25449-09-15 23:16 J -7573565.63 -7573565.53 -7573565.43 0.0526 0.0348

Mars -25448-03-10 02:38 J -7573390.50 -7573390.39 -7573390.27 0.1694 0.0380

Mars -25447-01-19 08:23 J -7573075.30 -7573075.15 -7573075.00 0.1824 0.0754

Venus -25447-04-17 20:23 J -7572986.76 -7572986.65 -7572986.55 0.3603 0.2551

Uranus -25446-05-11 17:02 J -7572597.85 -7572597.79 -7572597.71 0.0142 0.0122

Uranus -25446-08-07 20:52 J -7572509.72 -7572509.63 -7572509.53 0.0142 0.0100

Uranus -25446-11-04 00:43 J -7572421.58 -7572421.47 -7572421.35 0.0142 0.0078

Uranus -25445-01-31 04:33 J -7572333.43 -7572333.31 -7572333.18 0.0143 0.0056

Uranus -25445-04-28 08:38 J -7572245.28 -7572245.14 -7572245.01 0.0143 0.0033

Uranus -25445-07-25 12:28 J -7572157.12 -7572156.98 -7572156.84 0.0143 0.0011

Uranus -25445-10-21 16:33 J -7572068.95 -7572068.81 -7572068.68 0.0143 0.0013

Uranus -25444-01-17 20:23 J -7571980.78 -7571980.65 -7571980.51 0.0143 0.0036

Uranus -25444-04-16 00:14 J -7571892.61 -7571892.49 -7571892.35 0.0143 0.0059

Uranus -25444-07-13 04:19 J -7571804.43 -7571804.32 -7571804.20 0.0143 0.0083

Uranus -25444-10-09 08:23 J -7571716.24 -7571716.15 -7571716.05 0.0143 0.0106

Uranus -25443-01-05 12:43 J -7571628.03 -7571627.97 -7571627.92 0.0144 0.0130

Jupiter -25443-08-16 06:14 J -7571405.32 -7571405.24 -7571405.15 0.0498 0.0432

Jupiter -25443-11-14 12:28 J -7571315.13 -7571314.98 -7571314.83 0.0500 0.0274

Earth -25442-06-17 17:31 J -7571099.87 -7571099.77 -7571099.68 0.2689 0.1462

Moon -25442-06-17 17:45 J -7571099.86 -7571099.76 -7571099.67 0.2683 0.1439 *

Mars -25439-07-31 12:57 J -7569960.07 -7569959.96 -7569959.84 0.1690 0.0157

Saturn -25439-12-20 19:40 J -7569817.85 -7569817.68 -7569817.51 0.0292 0.0107

Moon -25439-12-25 04:33 J -7569813.44 -7569813.31 -7569813.17 0.2651 0.0464

Earth -25439-12-25 05:31 J -7569813.41 -7569813.27 -7569813.13 0.2647 0.0610 *

Saturn -25438-03-19 18:28 J -7569728.89 -7569728.73 -7569728.56 0.0293 0.0083

Mars -25438-06-11 05:31 J -7569645.43 -7569645.27 -7569645.11 0.1830 0.0397

Saturn -25438-06-16 17:02 J -7569639.85 -7569639.79 -7569639.72 0.0293 0.0270

Jupiter -25437-04-06 19:26 J -7569344.77 -7569344.69 -7569344.60 0.0530 0.0391

Jupiter -25437-07-05 02:52 J -7569255.50 -7569255.38 -7569255.26 0.0527 0.0198

Moon -25436-06-26 18:14 J -7568898.77 -7568898.74 -7568898.71 0.2688 0.2593

Earth -25436-06-26 18:43 J -7568898.73 -7568898.72 -7568898.71 0.2682 0.2671 *

Jupiter -25431-09-02 10:33 J -7567005.23 -7567005.06 -7567004.88 0.0499 0.0099

Mars -25430-12-21 23:31 J -7566529.63 -7566529.52 -7566529.41 0.1686 0.0649

Moon -25429-06-19 12:14 J -7566349.10 -7566348.99 -7566348.87 0.2682 0.0471

Earth -25429-06-19 12:43 J -7566349.08 -7566348.97 -7566348.85 0.2688 0.0411 *

Mars -25429-10-31 01:55 J -7566215.50 -7566215.42 -7566215.35 0.1835 0.1600

Mars -25428-11-26 06:14 J -7565824.29 -7565824.24 -7565824.18 0.1704 0.1510

Moon -25426-12-28 07:11 J -7565062.28 -7565062.20 -7565062.12 0.2656 0.2182

Earth -25426-12-28 07:11 J -7565062.28 -7565062.20 -7565062.12 0.2649 0.2098 *

Jupiter -25425-04-23 06:43 J -7564945.35 -7564945.22 -7564945.09 0.0528 0.0057

Saturn -25425-07-20 20:38 J -7564856.69 -7564856.64 -7564856.59 0.0269 0.0247

Saturn -25425-10-17 07:11 J -7564768.31 -7564768.20 -7564768.08 0.0269 0.0138

Saturn -25424-01-13 17:59 J -7564679.88 -7564679.75 -7564679.61 0.0268 0.0030

Saturn -25424-04-12 05:02 J -7564591.42 -7564591.29 -7564591.16 0.0268 0.0081

Saturn -25424-07-09 16:04 J -7564502.93 -7564502.83 -7564502.74 0.0267 0.0191

Mars -25420-05-13 10:19 J -7563099.16 -7563099.07 -7563098.99 0.1682 0.1138

Jupiter -25419-06-21 08:23 J -7562695.33 -7562695.15 -7562694.97 0.0499 0.0080

Moon -25419-12-20 05:45 J -7562513.33 -7562513.26 -7562513.20 0.2641 0.2331

Earth -25419-12-20 06:57 J -7562513.29 -7562513.21 -7562513.14 0.2643 0.2230 *

Mars -25418-04-18 16:33 J -7562393.91 -7562393.81 -7562393.71 0.1699 0.0973

Moon -25416-06-22 07:26 J -7561598.30 -7561598.19 -7561598.07 0.2683 0.0653

Earth -25416-06-22 08:23 J -7561598.27 -7561598.15 -7561598.04 0.2686 0.0675 *

Jupiter -25413-02-10 11:02 J -7560635.17 -7560635.04 -7560634.92 0.0529 0.0087

Jupiter -25413-05-09 18:28 J -7560545.76 -7560545.73 -7560545.69 0.0526 0.0507

Venus -25411-04-12 00:43 J -7559843.54 -7559843.47 -7559843.39 0.3769 0.2630

Mars -25411-10-03 20:52 J -7559668.65 -7559668.63 -7559668.60 0.1677 0.1623

Saturn -25409-05-08 16:33 J -7559085.95 -7559085.81 -7559085.67 0.0292 0.0175

Earth -25409-06-15 03:21 J -7559048.42 -7559048.36 -7559048.31 0.2691 0.2296

Moon -25409-06-15 03:50 J -7559048.40 -7559048.34 -7559048.28 0.2685 0.2296 *

Saturn -25409-08-05 15:35 J -7558997.03 -7558996.85 -7558996.67 0.0292 0.0016

Mars -25409-09-08 02:38 J -7558963.50 -7558963.39 -7558963.27 0.1694 0.0444

Saturn -25409-11-02 14:09 J -7558908.03 -7558907.91 -7558907.78 0.0293 0.0203

Mars -25408-07-20 09:07 J -7558648.26 -7558648.12 -7558647.98 0.1824 0.0870

Jupiter -25407-04-09 06:43 J -7558385.38 -7558385.22 -7558385.06 0.0498 0.0250

Jupiter -25407-07-08 12:28 J -7558295.05 -7558294.98 -7558294.90 0.0501 0.0452

Uranus -25406-03-29 23:02 J -7558030.60 -7558030.54 -7558030.46 0.0136 0.0125

Uranus -25406-06-26 05:31 J -7557942.38 -7557942.27 -7557942.13 0.0136 0.0099

Uranus -25406-09-22 12:28 J -7557854.13 -7557853.98 -7557853.82 0.0136 0.0072

Venus -25406-10-26 17:02 J -7557819.89 -7557819.79 -7557819.68 0.3770 0.0292

Uranus -25406-12-19 18:57 J -7557765.88 -7557765.71 -7557765.54 0.0136 0.0046

Moon -25406-12-23 07:55 J -7557762.30 -7557762.17 -7557762.03 0.2647 0.0832

Earth -25406-12-23 09:21 J -7557762.25 -7557762.11 -7557761.97 0.2645 0.0643 *

Uranus -25405-03-17 01:26 J -7557677.62 -7557677.44 -7557677.26 0.0136 0.0020

Uranus -25405-06-13 07:55 J -7557589.35 -7557589.17 -7557588.99 0.0135 0.0006

Uranus -25405-09-09 14:09 J -7557501.08 -7557500.91 -7557500.73 0.0135 0.0031

Uranus -25405-12-06 20:23 J -7557412.81 -7557412.65 -7557412.48 0.0135 0.0056

Uranus -25404-03-05 02:38 J -7557324.52 -7557324.39 -7557324.24 0.0135 0.0081

Uranus -25404-06-01 08:38 J -7557236.23 -7557236.14 -7557236.02 0.0135 0.0106

Uranus -25404-08-28 14:52 J -7557147.91 -7557147.88 -7557147.82 0.0135 0.0130

Moon -25403-06-25 03:07 J -7556847.46 -7556847.37 -7556847.27 0.2688 0.1634

Earth -25403-06-25 04:04 J -7556847.42 -7556847.33 -7556847.25 0.2684 0.1773 *

Jupiter -25402-11-29 14:38 J -7556325.01 -7556324.89 -7556324.78 0.0529 0.0236

Jupiter -25401-02-26 21:50 J -7556235.68 -7556235.59 -7556235.49 0.0526 0.0353

Venus -25400-05-11 09:35 J -7555796.18 -7555796.10 -7555796.02 0.3771 0.2158

Mars -25399-01-29 12:57 J -7555533.07 -7555532.96 -7555532.84 0.1690 0.0102

Mars -25399-12-10 05:59 J -7555218.41 -7555218.25 -7555218.09 0.1830 0.0286

Venus -25396-05-08 16:19 J -7554337.96 -7554337.82 -7554337.67 0.3604 0.0922

Earth -25396-06-17 22:33 J -7554297.67 -7554297.56 -7554297.46 0.2689 0.1265

Moon -25396-06-17 22:33 J -7554297.66 -7554297.56 -7554297.46 0.2683 0.1225 *

Jupiter -25395-01-26 04:19 J -7554075.40 -7554075.32 -7554075.22 0.0498 0.0428

Saturn -25395-03-06 09:35 J -7554036.20 -7554036.10 -7554035.99 0.0270 0.0172

Jupiter -25395-04-26 10:47 J -7553985.19 -7553985.05 -7553984.90 0.0500 0.0280

Saturn -25395-06-02 20:23 J -7553947.78 -7553947.65 -7553947.51 0.0269 0.0063

Saturn -25395-08-30 07:26 J -7553859.33 -7553859.19 -7553859.06 0.0269 0.0048

Saturn -25395-11-26 18:14 J -7553770.84 -7553770.74 -7553770.62 0.0268 0.0159

Moon -25393-12-25 10:47 J -7553011.18 -7553011.05 -7553010.92 0.2653 0.0926

Earth -25393-12-25 11:31 J -7553011.16 -7553011.02 -7553010.89 0.2647 0.0894 *

Mars -25390-06-21 23:31 J -7552102.63 -7552102.52 -7552102.41 0.1686 0.0584

Jupiter -25390-09-17 18:14 J -7552014.83 -7552014.74 -7552014.65 0.0529 0.0384

Jupiter -25390-12-16 01:26 J -7551925.56 -7551925.44 -7551925.32 0.0527 0.0202

Mars -25389-05-01 02:23 J -7551788.50 -7551788.40 -7551788.31 0.1836 0.1491

Mars -25388-05-27 06:28 J -7551397.27 -7551397.23 -7551397.19 0.1704 0.1581

Pluto -25387-07-18 22:04 J -7550979.59 -7550979.58 -7550979.54 0.0074 0.0073

Pluto -25387-10-14 23:16 J -7550891.58 -7550891.53 -7550891.43 0.0074 0.0066

Pluto -25386-01-11 00:43 J -7550803.55 -7550803.47 -7550803.35 0.0074 0.0057

Pluto -25386-04-09 02:09 J -7550715.51 -7550715.41 -7550715.28 0.0074 0.0049

Pluto -25386-07-06 03:35 J -7550627.47 -7550627.35 -7550627.21 0.0074 0.0041

Pluto -25386-10-02 05:02 J -7550539.42 -7550539.29 -7550539.15 0.0074 0.0033

Pluto -25386-12-29 06:28 J -7550451.37 -7550451.23 -7550451.09 0.0073 0.0025

Pluto -25385-03-26 07:40 J -7550363.32 -7550363.18 -7550363.03 0.0073 0.0017

Pluto -25385-06-22 09:07 J -7550275.27 -7550275.12 -7550274.97 0.0073 0.0009

Pluto -25385-09-18 10:19 J -7550187.22 -7550187.07 -7550186.92 0.0073 0.0002

Pluto -25385-12-15 11:31 J -7550099.17 -7550099.02 -7550098.86 0.0073 0.0006

Pluto -25384-03-13 12:57 J -7550011.11 -7550010.96 -7550010.81 0.0073 0.0013

Pluto -25384-06-09 13:55 J -7549923.06 -7549922.92 -7549922.77 0.0073 0.0021

Pluto -25384-09-05 15:21 J -7549835.00 -7549834.86 -7549834.72 0.0073 0.0028

Pluto -25384-12-02 16:19 J -7549746.94 -7549746.82 -7549746.68 0.0072 0.0035

Jupiter -25383-02-12 08:38 J -7549675.31 -7549675.14 -7549674.96 0.0499 0.0102

Pluto -25383-02-28 17:31 J -7549658.88 -7549658.77 -7549658.64 0.0072 0.0042

Pluto -25383-05-27 18:43 J -7549570.82 -7549570.72 -7549570.60 0.0072 0.0050

Moon -25383-06-20 17:16 J -7549546.90 -7549546.78 -7549546.66 0.2682 0.0252

Earth -25383-06-20 17:45 J -7549546.87 -7549546.76 -7549546.64 0.2687 0.0218 *

Pluto -25383-08-23 19:55 J -7549482.75 -7549482.67 -7549482.57 0.0072 0.0057

Pluto -25383-11-19 21:07 J -7549394.68 -7549394.62 -7549394.54 0.0072 0.0063

Pluto -25382-02-15 22:19 J -7549306.59 -7549306.57 -7549306.54 0.0072 0.0070

Mars -25381-11-11 10:04 J -7548672.17 -7548672.08 -7548671.99 0.1681 0.1081

Neptune -25380-09-21 10:04 J -7548358.12 -7548358.08 -7548358.00 0.0088 0.0083

Saturn -25380-09-25 17:16 J -7548353.90 -7548353.78 -7548353.65 0.0292 0.0212

Neptune -25380-12-18 13:40 J -7548270.02 -7548269.93 -7548269.82 0.0088 0.0073

Saturn -25380-12-23 16:33 J -7548264.99 -7548264.81 -7548264.63 0.0292 0.0022

Moon -25380-12-28 13:11 J -7548260.02 -7548259.95 -7548259.89 0.2656 0.2317

Earth -25380-12-28 12:57 J -7548260.01 -7548259.96 -7548259.90 0.2649 0.2379 *

Neptune -25379-03-16 16:47 J -7548181.91 -7548181.80 -7548181.65 0.0088 0.0064

Saturn -25379-03-22 15:07 J -7548176.01 -7548175.87 -7548175.72 0.0293 0.0167

Neptune -25379-06-12 20:23 J -7548093.79 -7548093.65 -7548093.49 0.0088 0.0054

Neptune -25379-09-08 23:45 J -7548005.66 -7548005.51 -7548005.34 0.0088 0.0045

Mars -25379-10-17 16:33 J -7547966.91 -7547966.81 -7547966.72 0.1699 0.1037

Neptune -25379-12-06 03:07 J -7547917.53 -7547917.37 -7547917.19 0.0088 0.0035

Neptune -25378-03-04 06:28 J -7547829.40 -7547829.23 -7547829.04 0.0088 0.0026

Neptune -25378-05-31 10:04 J -7547741.27 -7547741.08 -7547740.90 0.0088 0.0016

Neptune -25378-08-27 13:11 J -7547653.13 -7547652.95 -7547652.75 0.0088 0.0008

Jupiter -25378-10-04 05:02 J -7547615.42 -7547615.29 -7547615.16 0.0528 0.0051

Neptune -25378-11-23 16:33 J -7547564.99 -7547564.81 -7547564.62 0.0088 0.0003

Neptune -25377-02-19 19:55 J -7547476.86 -7547476.67 -7547476.48 0.0088 0.0012

Neptune -25377-05-17 23:02 J -7547388.71 -7547388.54 -7547388.35 0.0088 0.0021

Neptune -25377-08-14 02:23 J -7547300.57 -7547300.40 -7547300.22 0.0088 0.0030

Neptune -25377-11-10 05:31 J -7547212.43 -7547212.27 -7547212.09 0.0088 0.0040

Neptune -25376-02-06 08:38 J -7547124.28 -7547124.14 -7547123.97 0.0088 0.0049

Neptune -25376-05-05 11:59 J -7547036.13 -7547036.00 -7547035.85 0.0088 0.0058

Neptune -25376-08-01 15:21 J -7546947.97 -7546947.86 -7546947.73 0.0088 0.0067

Neptune -25376-10-28 18:43 J -7546859.81 -7546859.72 -7546859.63 0.0088 0.0076

Neptune -25375-01-24 21:50 J -7546771.62 -7546771.59 -7546771.54 0.0088 0.0086

Moon -25373-12-20 11:31 J -7545711.11 -7545711.02 -7545710.92 0.2643 0.2021

Earth -25373-12-20 12:57 J -7545711.06 -7545710.96 -7545710.86 0.2644 0.1931 *

Jupiter -25372-12-01 06:43 J -7545365.40 -7545365.22 -7545365.04 0.0499 0.0075

Mars -25371-04-03 20:52 J -7545241.67 -7545241.63 -7545241.59 0.1678 0.1560

Moon -25370-06-23 12:28 J -7544796.09 -7544795.98 -7544795.86 0.2685 0.0774

Earth -25370-06-23 13:26 J -7544796.05 -7544795.94 -7544795.83 0.2686 0.0883 *

Mars -25369-03-09 02:38 J -7544536.50 -7544536.39 -7544536.28 0.1694 0.0503

Mars -25368-01-18 10:04 J -7544221.22 -7544221.08 -7544220.95 0.1824 0.0996

Jupiter -25366-07-23 08:52 J -7543305.25 -7543305.13 -7543305.00 0.0529 0.0095

Saturn -25366-07-24 12:43 J -7543304.06 -7543303.97 -7543303.87 0.0269 0.0196

Jupiter -25366-10-20 16:33 J -7543215.85 -7543215.81 -7543215.77 0.0526 0.0498

Saturn -25366-10-20 23:31 J -7543215.65 -7543215.52 -7543215.39 0.0269 0.0087

Saturn -25365-01-17 10:19 J -7543127.20 -7543127.07 -7543126.93 0.0268 0.0025

Saturn -25365-04-14 21:21 J -7543038.73 -7543038.61 -7543038.49 0.0267 0.0133

Saturn -25365-07-12 08:23 J -7542950.20 -7542950.15 -7542950.09 0.0267 0.0244

Earth -25363-06-16 08:09 J -7542246.23 -7542246.16 -7542246.08 0.2691 0.2104

Moon -25363-06-16 08:52 J -7542246.21 -7542246.13 -7542246.06 0.2685 0.1978 *

Uranus -25362-03-04 20:38 J -7541984.67 -7541984.64 -7541984.61 0.0142 0.0138

Uranus -25362-06-01 00:28 J -7541896.56 -7541896.48 -7541896.40 0.0142 0.0117

Uranus -25362-08-28 04:04 J -7541808.42 -7541808.33 -7541808.22 0.0142 0.0095

Uranus -25362-11-24 07:55 J -7541720.28 -7541720.17 -7541720.05 0.0143 0.0073

Uranus -25361-02-20 11:45 J -7541632.13 -7541632.01 -7541631.87 0.0143 0.0051

Uranus -25361-05-18 15:50 J -7541543.98 -7541543.84 -7541543.71 0.0143 0.0028

Uranus -25361-08-14 19:40 J -7541455.82 -7541455.68 -7541455.54 0.0143 0.0005

Uranus -25361-11-10 23:45 J -7541367.65 -7541367.51 -7541367.38 0.0143 0.0018

Uranus -25360-02-07 03:35 J -7541279.48 -7541279.35 -7541279.21 0.0143 0.0041

Uranus -25360-05-06 07:40 J -7541191.30 -7541191.18 -7541191.06 0.0143 0.0065

Mars -25360-07-30 13:11 J -7541106.07 -7541105.95 -7541105.84 0.1690 0.0048

Uranus -25360-08-02 11:31 J -7541103.12 -7541103.02 -7541102.90 0.0143 0.0088

Jupiter -25360-09-19 04:04 J -7541055.48 -7541055.33 -7541055.17 0.0498 0.0256

Uranus -25360-10-29 15:50 J -7541014.93 -7541014.84 -7541014.76 0.0143 0.0112

Jupiter -25360-12-18 10:04 J -7540965.16 -7540965.08 -7540965.00 0.0500 0.0446

Moon -25360-12-23 14:09 J -7540960.05 -7540959.91 -7540959.77 0.2647 0.0415

Earth -25360-12-23 15:21 J -7540960.00 -7540959.86 -7540959.72 0.2645 0.0353 *

Uranus -25359-01-25 19:40 J -7540926.71 -7540926.68 -7540926.63 0.0144 0.0136

Mars -25359-06-10 06:43 J -7540791.38 -7540791.22 -7540791.06 0.1830 0.0168

Moon -25357-06-25 08:23 J -7540045.23 -7540045.15 -7540045.08 0.2688 0.1985

Earth -25357-06-25 09:07 J -7540045.20 -7540045.12 -7540045.04 0.2684 0.1981 *

Venus -25355-11-16 22:19 J -7539170.66 -7539170.57 -7539170.48 0.3770 0.1765

Jupiter -25354-05-11 12:57 J -7538995.07 -7538994.96 -7538994.84 0.0529 0.0235

Jupiter -25354-08-08 20:38 J -7538905.74 -7538905.64 -7538905.55 0.0527 0.0356

Mars -25351-12-20 23:31 J -7537675.63 -7537675.52 -7537675.41 0.1686 0.0520

Saturn -25350-02-12 14:38 J -7537621.94 -7537621.89 -7537621.83 0.0291 0.0276

Saturn -25350-05-12 13:55 J -7537533.09 -7537532.92 -7537532.74 0.0292 0.0086

Moon -25350-06-19 03:21 J -7537495.46 -7537495.36 -7537495.25 0.2682 0.1108

Earth -25350-06-19 03:35 J -7537495.46 -7537495.35 -7537495.25 0.2689 0.1060 *

Saturn	-25350-08-09 12:43 J	-7537444.13	-7537443.97	-7537443.80	0.0292	0.0105
Mars	-25350-10-31 03:07 J	-7537361.48	-7537361.37	-7537361.26	0.1836	0.1368
Saturn	-25350-11-06 11:16 J	-7537355.05	-7537355.03	-7537355.01	0.0293	0.0290
Venus	-25349-06-01 14:52 J	-7537146.99	-7537146.88	-7537146.78	0.3770	0.0643
Mars	-25349-11-25 06:28 J	-7536970.26	-7536970.23	-7536970.20	0.1704	0.1647
Jupiter	-25348-07-08 02:09 J	-7536745.49	-7536745.41	-7536745.31	0.0498	0.0429
Jupiter	-25348-10-06 08:38 J	-7536655.29	-7536655.14	-7536654.99	0.0500	0.0278
Moon	-25347-12-26 16:47 J	-7536208.93	-7536208.80	-7536208.67	0.2654	0.1065
Earth	-25347-12-26 17:16 J	-7536208.90	-7536208.78	-7536208.65	0.2647	0.1177 *
Venus	-25344-12-16 07:11 J	-7535123.26	-7535123.20	-7535123.14	0.3771	0.3054
Jupiter	-25342-02-27 16:47 J	-7534684.89	-7534684.80	-7534684.71	0.0529	0.0381
Jupiter	-25342-05-27 23:59 J	-7534595.62	-7534595.50	-7534595.38	0.0527	0.0205
Mars	-25341-05-12 10:04 J	-7534245.17	-7534245.08	-7534244.98	0.1681	0.1016
Venus	-25340-12-13 17:31 J	-7533664.92	-7533664.77	-7533664.63	0.3604	0.0956
Mars	-25339-04-17 16:33 J	-7533539.90	-7533539.81	-7533539.72	0.1699	0.1103
Moon	-25337-06-20 22:19 J	-7532744.69	-7532744.57	-7532744.45	0.2682	0.0046
Earth	-25337-06-20 23:02 J	-7532744.66	-7532744.54	-7532744.43	0.2687	0.0100 *
Saturn	-25337-12-10 15:07 J	-7532571.93	-7532571.87	-7532571.79	0.0270	0.0230
Saturn	-25336-03-09 01:55 J	-7532483.54	-7532483.42	-7532483.29	0.0269	0.0120
Saturn	-25336-06-05 12:57 J	-7532395.10	-7532394.96	-7532394.83	0.0269	0.0012
Jupiter	-25336-07-25 06:43 J	-7532345.40	-7532345.22	-7532345.05	0.0500	0.0103
Saturn	-25336-09-01 23:45 J	-7532306.63	-7532306.51	-7532306.38	0.0268	0.0101
Saturn	-25336-11-29 10:47 J	-7532218.13	-7532218.05	-7532217.96	0.0268	0.0212
Mars	-25332-10-02 20:52 J	-7530814.68	-7530814.63	-7530814.58	0.1677	0.1499
Jupiter	-25331-12-16 20:38 J	-7530374.64	-7530374.64	-7530374.64	0.0530	0.0529
Jupiter	-25330-03-16 03:35 J	-7530285.48	-7530285.35	-7530285.22	0.0527	0.0055
Mars	-25330-09-08 02:38 J	-7530109.50	-7530109.39	-7530109.28	0.1694	0.0573
Mars	-25329-07-19 10:19 J	-7529794.20	-7529794.07	-7529793.94	0.1824	0.1090
Moon	-25327-12-21 17:31 J	-7528908.87	-7528908.77	-7528908.66	0.2643	0.1810
Earth	-25327-12-21 18:57 J	-7528908.82	-7528908.71	-7528908.60	0.2644	0.1639 *

Jupiter -25324-05-13 04:19 J -7528035.49 -7528035.32 -7528035.14 0.0499 0.0077

Moon -25324-06-23 17:31 J -7527993.87 -7527993.77 -7527993.66 0.2686 0.1029

Earth -25324-06-23 18:28 J -7527993.84 -7527993.73 -7527993.62 0.2685 0.1091 *

Uranus -25322-04-19 05:59 J -7527329.33 -7527329.25 -7527329.16 0.0136 0.0119

Uranus -25322-07-16 12:28 J -7527241.10 -7527240.98 -7527240.83 0.0136 0.0093

Uranus -25322-10-12 19:26 J -7527152.85 -7527152.69 -7527152.53 0.0136 0.0066

Uranus -25321-01-09 01:40 J -7527064.59 -7527064.43 -7527064.25 0.0136 0.0041

Uranus -25321-04-06 08:23 J -7526976.33 -7526976.15 -7526975.97 0.0136 0.0014

Uranus -25321-07-03 14:38 J -7526888.07 -7526887.89 -7526887.70 0.0135 0.0012

Saturn -25321-09-28 15:07 J -7526801.03 -7526800.87 -7526800.70 0.0292 0.0119

Uranus -25321-09-29 21:07 J -7526799.79 -7526799.62 -7526799.45 0.0135 0.0037

Saturn -25321-12-26 14:09 J -7526712.08 -7526711.91 -7526711.73 0.0293 0.0072

Uranus -25321-12-27 03:21 J -7526711.52 -7526711.36 -7526711.20 0.0135 0.0062

Mars -25320-01-28 12:57 J -7526679.08 -7526678.96 -7526678.84 0.1690 0.0058

Uranus -25320-03-25 09:35 J -7526623.23 -7526623.10 -7526622.96 0.0135 0.0087

Saturn -25320-03-25 12:57 J -7526623.04 -7526622.96 -7526622.88 0.0293 0.0259 *

Uranus -25320-06-21 15:35 J -7526534.94 -7526534.85 -7526534.74 0.0135 0.0111

Mars -25320-12-09 07:26 J -7526364.35 -7526364.19 -7526364.02 0.1830 0.0056

Jupiter -25318-01-02 06:57 J -7525975.33 -7525975.21 -7525975.08 0.0528 0.0101

Jupiter -25318-04-01 14:38 J -7525885.94 -7525885.89 -7525885.85 0.0526 0.0490

Earth -25317-06-16 13:11 J -7525444.03 -7525443.95 -7525443.87 0.2690 0.1907

Moon -25317-06-16 13:55 J -7525444.00 -7525443.92 -7525443.84 0.2685 0.1921 *

Moon -25314-12-24 20:09 J -7524157.80 -7524157.66 -7524157.51 0.2649 0.0191

Earth -25314-12-24 21:21 J -7524157.75 -7524157.61 -7524157.47 0.2646 0.0063 *

Jupiter -25312-03-01 02:09 J -7523725.56 -7523725.41 -7523725.25 0.0498 0.0254

Jupiter -25312-05-30 07:55 J -7523635.24 -7523635.17 -7523635.09 0.0500 0.0449

Mars -25311-06-20 23:31 J -7523248.63 -7523248.52 -7523248.41 0.1686 0.0456

Moon -25311-06-26 13:26 J -7523243.01 -7523242.94 -7523242.86 0.2688 0.2088

Earth -25311-06-26 14:09 J -7523242.97 -7523242.91 -7523242.84 0.2684 0.2201 *

Mars -25310-05-01 03:50 J -7522934.46 -7522934.34 -7522934.22 0.1835 0.1244

Saturn -25307-04-29 18:43 J -7521839.77 -7521839.72 -7521839.67 0.0270 0.0250

Saturn -25307-07-27 05:16 J -7521751.39 -7521751.28 -7521751.16 0.0269 0.0142

Jupiter -25307-10-21 10:47 J -7521665.16 -7521665.05 -7521664.93 0.0529 0.0246

Saturn -25307-10-23 16:19 J -7521662.96 -7521662.82 -7521662.69 0.0268 0.0032

Jupiter -25306-01-18 18:14 J -7521575.83 -7521575.74 -7521575.64 0.0527 0.0345

Saturn -25306-01-20 03:07 J -7521574.50 -7521574.37 -7521574.24 0.0268 0.0079

Saturn -25306-04-18 14:09 J -7521486.01 -7521485.91 -7521485.81 0.0267 0.0189

Moon -25304-06-19 08:23 J -7520693.27 -7520693.15 -7520693.04 0.2682 0.0820

Earth -25304-06-19 08:38 J -7520693.25 -7520693.14 -7520693.03 0.2689 0.0862 *

Venus -25304-12-08 03:35 J -7520521.40 -7520521.35 -7520521.29 0.3769 0.3235

Mars -25302-11-11 10:04 J -7519818.17 -7519818.08 -7519817.98 0.1681 0.0952

Jupiter -25301-12-17 23:31 J -7519415.60 -7519415.52 -7519415.43 0.0497 0.0437

Moon -25301-12-26 22:47 J -7519406.66 -7519406.55 -7519406.43 0.2654 0.1492

Earth -25301-12-26 23:16 J -7519406.65 -7519406.53 -7519406.41 0.2647 0.1460 *

Jupiter -25300-03-18 05:45 J -7519325.40 -7519325.26 -7519325.11 0.0500 0.0270

Mars -25300-10-16 16:33 J -7519112.90 -7519112.81 -7519112.73 0.1699 0.1170

Neptune -25299-10-01 12:43 J -7518762.99 -7518762.97 -7518762.94 0.0089 0.0087

Neptune -25299-12-28 14:09 J -7518674.96 -7518674.91 -7518674.85 0.0089 0.0081

Neptune -25298-03-26 15:35 J -7518586.92 -7518586.85 -7518586.77 0.0089 0.0074

Neptune -25298-06-22 17:02 J -7518498.88 -7518498.79 -7518498.70 0.0089 0.0067

Venus -25298-06-23 19:55 J -7518497.77 -7518497.67 -7518497.57 0.3770 0.0897

Neptune -25298-09-18 18:14 J -7518410.83 -7518410.74 -7518410.63 0.0089 0.0060

Neptune -25298-12-15 19:40 J -7518322.78 -7518322.68 -7518322.57 0.0089 0.0053

Neptune -25297-03-12 21:07 J -7518234.73 -7518234.62 -7518234.50 0.0089 0.0046

Neptune -25297-06-08 22:33 J -7518146.68 -7518146.56 -7518146.44 0.0089 0.0039

Neptune -25297-09-04 23:59 J -7518058.63 -7518058.50 -7518058.37 0.0089 0.0032

Neptune -25297-12-02 01:26 J -7517970.57 -7517970.44 -7517970.31 0.0089 0.0025

Neptune -25296-02-28 02:52 J -7517882.51 -7517882.38 -7517882.25 0.0089 0.0018

Neptune -25296-05-27 04:19 J -7517794.46 -7517794.32 -7517794.19 0.0089 0.0012

Neptune -25296-08-23 05:31 J -7517706.40 -7517706.27 -7517706.13 0.0089 0.0006

Neptune -25296-11-19 06:57 J -7517618.34 -7517618.21 -7517618.07 0.0089 0.0004

Neptune -25295-02-15 08:23 J -7517530.28 -7517530.15 -7517530.01 0.0089 0.0010

Neptune -25295-05-14 09:50 J -7517442.22 -7517442.09 -7517441.95 0.0089 0.0017

Jupiter -25295-08-09 15:07 J -7517354.96 -7517354.87 -7517354.78 0.0530 0.0386

Neptune -25295-08-10 11:16 J -7517354.16 -7517354.03 -7517353.89 0.0089 0.0024

Neptune -25295-11-06 12:43 J -7517266.09 -7517265.97 -7517265.84 0.0089 0.0031

Jupiter -25295-11-06 22:19 J -7517265.69 -7517265.57 -7517265.45 0.0527 0.0202

Neptune -25294-02-02 14:09 J -7517178.03 -7517177.91 -7517177.78 0.0089 0.0038

Neptune -25294-05-01 15:35 J -7517089.96 -7517089.85 -7517089.73 0.0089 0.0045

Neptune -25294-07-28 17:02 J -7517001.89 -7517001.79 -7517001.67 0.0089 0.0052

Neptune -25294-10-24 18:28 J -7516913.82 -7516913.73 -7516913.62 0.0089 0.0059

Neptune -25293-01-20 19:55 J -7516825.75 -7516825.67 -7516825.57 0.0089 0.0066

Neptune -25293-04-17 21:21 J -7516737.68 -7516737.61 -7516737.53 0.0089 0.0074

Neptune -25293-07-14 23:02 J -7516649.60 -7516649.54 -7516649.48 0.0089 0.0081

Neptune -25293-10-11 00:28 J -7516561.50 -7516561.48 -7516561.46 0.0089 0.0088

Venus -25292-01-06 12:28 J -7516474.08 -7516473.98 -7516473.89 0.3770 0.1514

Mars -25292-04-02 20:52 J -7516387.69 -7516387.63 -7516387.57 0.1677 0.1435

Saturn -25291-02-15 13:26 J -7516069.08 -7516068.94 -7516068.79 0.0291 0.0177

Saturn -25291-05-15 12:28 J -7515980.15 -7515979.98 -7515979.80 0.0292 0.0015

Moon -25291-06-22 03:21 J -7515942.48 -7515942.36 -7515942.24 0.2683 0.0122

Earth -25291-06-22 04:04 J -7515942.45 -7515942.33 -7515942.22 0.2687 0.0227 *

Saturn -25291-08-12 11:16 J -7515891.16 -7515891.03 -7515890.90 0.0293 0.0202

Mars -25290-03-09 02:38 J -7515682.50 -7515682.39 -7515682.28 0.1694 0.0639

Mars -25289-01-18 11:02 J -7515367.16 -7515367.04 -7515366.92 0.1824 0.1214

Venus -25288-01-03 13:11 J -7515016.05 -7515015.95 -7515015.84 0.3605 0.2593

Jupiter -25288-01-04 04:04 J -7515015.50 -7515015.33 -7515015.15 0.0499 0.0098

Jupiter -25283-05-28 18:57 J -7513044.71 -7513044.71 -7513044.71 0.0530 0.0530

Venus -25283-07-20 18:28 J -7512991.82 -7512991.73 -7512991.64 0.3604 0.2812

Jupiter -25283-08-26 02:09 J -7512955.54 -7512955.41 -7512955.28 0.0527 0.0056

Mars -25281-07-29 12:57 J -7512252.07 -7512251.96 -7512251.84 0.1690 0.0126

Moon -25281-12-21 23:31 J -7512106.64 -7512106.52 -7512106.39 0.2643 0.1407

Earth -25281-12-22 00:57 J -7512106.58 -7512106.46 -7512106.33 0.2644 0.1344 *

Mars -25280-06-09 08:09 J -7511937.33 -7511937.16 -7511937.00 0.1830 0.0075

Uranus -25278-03-25 03:35 J -7511283.39 -7511283.35 -7511283.31 0.0142 0.0134

Uranus -25278-06-21 07:26 J -7511195.27 -7511195.19 -7511195.11 0.0142 0.0113

Moon -25278-06-24 22:47 J -7511191.66 -7511191.55 -7511191.45 0.2686 0.1225

Earth -25278-06-24 23:31 J -7511191.62 -7511191.52 -7511191.42 0.2685 0.1305 *

Uranus -25278-09-17 11:02 J -7511107.14 -7511107.04 -7511106.93 0.0142 0.0091

Saturn -25278-12-14 07:40 J -7511019.27 -7511019.18 -7511019.07 0.0270 0.0175

Uranus -25278-12-14 14:52 J -7511019.00 -7511018.88 -7511018.76 0.0143 0.0069

Saturn -25277-03-11 18:43 J -7510930.85 -7510930.72 -7510930.59 0.0269 0.0065

Uranus -25277-03-11 18:43 J -7510930.85 -7510930.72 -7510930.59 0.0143 0.0046 *

Uranus -25277-06-07 22:47 J -7510842.69 -7510842.55 -7510842.42 0.0143 0.0024

Saturn -25277-06-08 05:31 J -7510842.40 -7510842.27 -7510842.13 0.0269 0.0046

Uranus -25277-09-04 02:38 J -7510754.53 -7510754.39 -7510754.25 0.0143 0.0001

Saturn -25277-09-04 16:33 J -7510753.92 -7510753.81 -7510753.70 0.0268 0.0157

Jupiter -25277-10-23 01:55 J -7510705.60 -7510705.42 -7510705.24 0.0499 0.0082

Uranus -25277-12-01 06:28 J -7510666.36 -7510666.23 -7510666.09 0.0143 0.0022

Uranus -25276-02-27 10:33 J -7510578.19 -7510578.06 -7510577.93 0.0143 0.0045

Uranus -25276-05-26 14:38 J -7510490.01 -7510489.89 -7510489.77 0.0143 0.0069

Uranus -25276-08-22 18:28 J -7510401.83 -7510401.73 -7510401.62 0.0143 0.0092

Uranus -25276-11-18 22:19 J -7510313.64 -7510313.57 -7510313.47 0.0144 0.0117

Uranus -25275-02-15 02:38 J -7510225.41 -7510225.39 -7510225.36 0.0144 0.0140

Mars -25272-12-19 23:31 J -7508821.63 -7508821.52 -7508821.41 0.1685 0.0393

Jupiter -25271-06-14 05:45 J -7508645.39 -7508645.26 -7508645.14 0.0528 0.0096

Earth -25271-06-17 18:14 J -7508641.83 -7508641.74 -7508641.65 0.2690 0.1708

Moon -25271-06-17 18:43 J -7508641.81 -7508641.72 -7508641.63 0.2684 0.1607 *

Jupiter -25271-09-11 13:11 J -7508555.99 -7508555.95 -7508555.91 0.0525 0.0493

Mars -25271-10-30 04:19 J -7508507.45 -7508507.32 -7508507.19 0.1836 0.1142

Moon -25268-12-25 02:23 J -7507355.54 -7507355.40 -7507355.26 0.2651 0.0129

Earth -25268-12-25 03:21 J -7507355.51 -7507355.36 -7507355.22 0.2646 0.0229 *

Moon -25265-06-26 18:43 J -7506440.77 -7506440.72 -7506440.67 0.2688 0.2414

Earth -25265-06-26 19:11 J -7506440.74 -7506440.70 -7506440.65 0.2683 0.2418 *

Jupiter -25265-08-10 23:31 J -7506395.67 -7506395.52 -7506395.36 0.0498 0.0261

Jupiter -25265-11-09 05:31 J -7506305.35 -7506305.27 -7506305.19 0.0501 0.0443

Mars -25262-05-12 10:04 J -7505391.18 -7505391.08 -7505390.98 0.1681 0.0891

Saturn -25262-07-05 14:38 J -7505337.01 -7505336.89 -7505336.77 0.0291 0.0211

Saturn -25262-10-02 13:40 J -7505248.10 -7505247.93 -7505247.75 0.0292 0.0021

Saturn -25262-12-30 12:28 J -7505159.12 -7505158.98 -7505158.83 0.0293 0.0169

Mars -25260-04-16 16:33 J -7504685.89 -7504685.81 -7504685.73 0.1699 0.1235

Jupiter -25259-04-02 08:52 J -7504335.24 -7504335.13 -7504335.01 0.0529 0.0254

Jupiter -25259-06-30 16:19 J -7504245.92 -7504245.82 -7504245.72 0.0527 0.0336

Moon -25258-06-20 13:26 J -7503891.06 -7503890.94 -7503890.83 0.2681 0.0747

Earth -25258-06-20 13:40 J -7503891.05 -7503890.93 -7503890.82 0.2688 0.0655 *

Moon -25255-12-28 04:47 J -7502604.41 -7502604.30 -7502604.19 0.2654 0.1674

Earth -25255-12-28 05:02 J -7502604.39 -7502604.29 -7502604.18 0.2648 0.1741 *

Jupiter -25253-05-29 21:21 J -7502085.69 -7502085.61 -7502085.52 0.0497 0.0438

Jupiter -25253-08-28 03:35 J -7501995.49 -7501995.35 -7501995.19 0.0500 0.0269

Mars -25253-10-01 20:52 J -7501960.70 -7501960.63 -7501960.57 0.1677 0.1373

Mars -25251-09-07 02:38 J -7501255.50 -7501255.39 -7501255.28 0.1694 0.0699

Mars -25250-07-19 11:45 J -7500940.11 -7500940.01 -7500939.90 0.1824 0.1331

Saturn -25248-05-02 11:31 J -7500287.11 -7500287.02 -7500286.92 0.0269 0.0193

Saturn -25248-07-29 22:19 J -7500198.70 -7500198.57 -7500198.44 0.0269 0.0084

Saturn -25248-10-26 09:07 J -7500110.25 -7500110.12 -7500109.98 0.0268 0.0028

Jupiter -25247-01-19 12:43 J -7500025.05 -7500024.97 -7500024.88 0.0530 0.0399

Saturn -25247-01-22 20:09 J -7500021.78 -7500021.66 -7500021.54 0.0268 0.0137

Jupiter -25247-04-18 20:09 J -7499935.78 -7499935.66 -7499935.54 0.0527 0.0189

Saturn -25247-04-21 07:11 J -7499933.24 -7499933.20 -7499933.15 0.0267 0.0249

Venus -25247-07-15 01:11 J -7499848.52 -7499848.45 -7499848.37 0.3769 0.2377

Moon -25245-06-22 08:09 J -7499140.27 -7499140.16 -7499140.04 0.2684 0.0414

Earth -25245-06-22 09:07 J -7499140.24 -7499140.12 -7499140.01 0.2687 0.0424 *

Mars -25241-01-28 12:57 J -7497825.07 -7497824.96 -7497824.84 0.1690 0.0189

Venus -25241-01-28 17:31 J -7497824.87 -7497824.77 -7497824.66 0.3770 0.0154 *

Jupiter -25241-06-16 01:11 J -7497685.62 -7497685.45 -7497685.27 0.0499 0.0089

Mars -25241-12-08 08:38 J -7497510.30 -7497510.14 -7497509.97 0.1830 0.0181

Uranus -25238-05-09 12:43 J -7496628.06 -7496627.97 -7496627.86 0.0136 0.0114

Earth -25238-06-16 04:04 J -7496590.36 -7496590.33 -7496590.29 0.2691 0.2543

Moon -25238-06-16 05:02 J -7496590.34 -7496590.29 -7496590.25 0.2688 0.2433 *

Uranus -25238-08-05 19:11 J -7496539.83 -7496539.70 -7496539.55 0.0136 0.0088

Uranus -25238-11-02 02:09 J -7496451.58 -7496451.41 -7496451.25 0.0136 0.0061

Uranus -25237-01-29 08:23 J -7496363.32 -7496363.15 -7496362.97 0.0136 0.0035

Uranus -25237-04-26 15:07 J -7496275.06 -7496274.87 -7496274.69 0.0135 0.0010

Uranus -25237-07-23 21:21 J -7496186.79 -7496186.61 -7496186.43 0.0135 0.0016

Uranus -25237-10-20 03:35 J -7496098.52 -7496098.35 -7496098.17 0.0135 0.0042

Uranus -25236-01-16 10:04 J -7496010.24 -7496010.08 -7496009.93 0.0135 0.0067

Uranus -25236-04-14 16:04 J -7495921.95 -7495921.83 -7495921.69 0.0135 0.0091

Uranus -25236-07-11 22:04 J -7495833.65 -7495833.58 -7495833.48 0.0135 0.0116

Venus -25236-08-13 10:04 J -7495801.16 -7495801.08 -7495801.00 0.3770 0.2400

Jupiter -25235-02-05 00:14 J -7495625.62 -7495625.49 -7495625.36 0.0528 0.0049

Moon -25235-12-23 05:45 J -7495304.39 -7495304.26 -7495304.13 0.2645 0.1235

Earth -25235-12-23 06:57 J -7495304.34 -7495304.21 -7495304.07 0.2644 0.1048 *

Saturn -25233-11-21 13:26 J -7494605.01 -7494604.94 -7494604.87 0.0291 0.0264

Saturn -25232-02-18 12:43 J -7494516.15 -7494515.97 -7494515.80 0.0292 0.0073

Saturn -25232-05-18 11:31 J -7494427.18 -7494427.02 -7494426.86 0.0292 0.0116

Mars -25232-06-19 23:31 J -7494394.64 -7494394.52 -7494394.40 0.1686 0.0327

Moon -25232-06-25 03:50 J -7494389.44 -7494389.34 -7494389.24 0.2686 0.1426

Earth -25232-06-25 04:33 J -7494389.40 -7494389.31 -7494389.21 0.2685 0.1518 *

Venus -25232-08-10 14:23 J -7494343.05 -7494342.90 -7494342.75 0.3605 0.0695

Mars -25231-04-30 05:16 J -7494080.42 -7494080.28 -7494080.14 0.1835 0.1009

Jupiter -25229-04-03 23:16 J -7493375.70 -7493375.53 -7493375.35 0.0499 0.0088

Pluto -25226-10-06 04:33 J -7492095.35 -7492095.31 -7492095.24 0.0071 0.0067

Pluto -25225-01-02 05:45 J -7492007.32 -7492007.26 -7492007.15 0.0071 0.0060

Pluto -25225-03-30 07:11 J -7491919.29 -7491919.20 -7491919.07 0.0071 0.0053

Moon -25225-06-17 23:31 J -7491839.62 -7491839.52 -7491839.43 0.2683 0.1536

Earth -25225-06-17 23:16 J -7491839.62 -7491839.53 -7491839.43 0.2690 0.1509 *

Pluto -25225-06-26 08:52 J -7491831.25 -7491831.13 -7491831.00 0.0071 0.0045

Pluto -25225-09-22 10:04 J -7491743.20 -7491743.08 -7491742.93 0.0071 0.0038

Pluto -25225-12-19 11:31 J -7491655.15 -7491655.02 -7491654.86 0.0071 0.0031

Pluto -25224-03-17 13:11 J -7491567.10 -7491566.95 -7491566.79 0.0071 0.0023

Pluto -25224-06-13 14:23 J -7491479.05 -7491478.90 -7491478.73 0.0071 0.0017

Pluto -25224-09-09 16:04 J -7491390.99 -7491390.83 -7491390.67 0.0071 0.0008

Jupiter -25224-11-24 04:04 J -7491315.46 -7491315.33 -7491315.20 0.0528 0.0099

Pluto -25224-12-06 17:31 J -7491302.93 -7491302.77 -7491302.60 0.0072 0.0001

Jupiter -25223-02-21 11:31 J -7491226.06 -7491226.02 -7491225.98 0.0525 0.0491

Pluto -25223-03-04 18:57 J -7491214.87 -7491214.71 -7491214.54 0.0072 0.0007

Pluto -25223-05-31 20:23 J -7491126.81 -7491126.65 -7491126.48 0.0072 0.0015

Pluto -25223-08-27 22:04 J -7491038.74 -7491038.58 -7491038.43 0.0072 0.0022

Mars -25223-11-10 10:04 J -7490964.18 -7490964.08 -7490963.98 0.1681 0.0826

Pluto -25223-11-23 23:16 J -7490950.67 -7490950.53 -7490950.37 0.0072 0.0030

Pluto -25222-02-20 00:43 J -7490862.60 -7490862.47 -7490862.32 0.0072 0.0038

Pluto -25222-05-19 02:09 J -7490774.52 -7490774.41 -7490774.27 0.0072 0.0046

Pluto -25222-08-15 03:35 J -7490686.44 -7490686.35 -7490686.22 0.0072 0.0055

Pluto -25222-11-11 05:16 J -7490598.35 -7490598.28 -7490598.18 0.0072 0.0063

Moon -25222-12-26 08:23 J -7490553.29 -7490553.15 -7490553.01 0.2652 0.0479

Earth -25222-12-26 09:07 J -7490553.26 -7490553.12 -7490552.97 0.2646 0.0517 *

Pluto -25221-02-07 06:43 J -7490510.24 -7490510.22 -7490510.16 0.0073 0.0071

Mars -25221-10-15 16:33 J -7490258.89 -7490258.81 -7490258.74 0.1699 0.1301

Moon -25219-06-27 23:59 J -7489638.52 -7489638.50 -7489638.47 0.2689 0.2599

Earth -25219-06-28 00:28 J -7489638.50 -7489638.48 -7489638.46 0.2683 0.2636 *

Saturn -25219-09-19 13:55 J -7489554.99 -7489554.92 -7489554.84 0.0270 0.0226

Saturn -25219-12-17 00:43 J -7489466.59 -7489466.47 -7489466.35 0.0270 0.0117

Saturn -25218-03-15 11:31 J -7489378.15 -7489378.02 -7489377.88 0.0269 0.0011

Saturn -25218-06-11 22:33 J -7489289.69 -7489289.56 -7489289.43 0.0268 0.0105

Saturn -25218-09-08 09:35 J -7489201.18 -7489201.10 -7489201.02 0.0268 0.0216

Jupiter -25217-01-21 20:52 J -7489065.78 -7489065.63 -7489065.48 0.0498 0.0268

Jupiter -25217-04-21 02:52 J -7488975.46 -7488975.38 -7488975.29 0.0501 0.0437

Neptune -25215-03-22 05:59 J -7488275.27 -7488275.25 -7488275.20 0.0088 0.0087

Neptune -25215-06-18 09:21 J -7488187.18 -7488187.11 -7488187.00 0.0088 0.0077

Neptune -25215-09-14 12:57 J -7488099.07 -7488098.96 -7488098.83 0.0088 0.0067

Neptune -25215-12-11 16:04 J -7488010.95 -7488010.83 -7488010.67 0.0088 0.0058

Neptune -25214-03-09 19:40 J -7487922.83 -7487922.68 -7487922.51 0.0088 0.0048

Neptune -25214-06-05 23:02 J -7487834.70 -7487834.54 -7487834.36 0.0088 0.0039

Neptune -25214-09-02 02:38 J -7487746.57 -7487746.39 -7487746.21 0.0088 0.0029

Neptune -25214-11-29 05:45 J -7487658.43 -7487658.26 -7487658.06 0.0088 0.0020

Neptune -25213-02-25 09:21 J -7487570.30 -7487570.11 -7487569.92 0.0088 0.0010

Mars -25213-04-01 20:52 J -7487533.70 -7487533.63 -7487533.56 0.1677 0.1314

Neptune -25213-05-23 12:43 J -7487482.16 -7487481.97 -7487481.78 0.0088 0.0001

Neptune -25213-08-19 15:50 J -7487394.02 -7487393.84 -7487393.65 0.0088 0.0009

Neptune -25213-11-15 19:11 J -7487305.88 -7487305.70 -7487305.51 0.0088 0.0018

Neptune -25212-02-11 22:33 J -7487217.74 -7487217.56 -7487217.38 0.0088 0.0027

Neptune -25212-05-11 01:40 J -7487129.59 -7487129.43 -7487129.25 0.0088 0.0037

Moon -25212-06-20 18:14 J -7487088.85 -7487088.74 -7487088.62 0.2682 0.0420

Earth -25212-06-20 18:43 J -7487088.84 -7487088.72 -7487088.61 0.2688 0.0458 *

Neptune -25212-08-07 04:47 J -7487041.45 -7487041.30 -7487041.13 0.0088 0.0046

Jupiter -25212-09-12 07:40 J -7487005.29 -7487005.18 -7487005.06 0.0529 0.0247

Neptune -25212-11-03 08:09 J -7486953.30 -7486953.16 -7486953.00 0.0088 0.0055

Jupiter -25212-12-10 15:07 J -7486915.97 -7486915.87 -7486915.77 0.0526 0.0340

Neptune -25211-01-30 11:16 J -7486865.14 -7486865.03 -7486864.89 0.0088 0.0065

Mars -25211-03-08 02:38 J -7486828.49 -7486828.39 -7486828.28 0.1694 0.0767

Neptune -25211-04-28 14:38 J -7486776.98 -7486776.89 -7486776.78 0.0088 0.0073

Neptune -25211-07-25 17:59 J -7486688.81 -7486688.75 -7486688.68 0.0088 0.0082

Mars -25210-01-17 12:14 J -7486513.09 -7486512.99 -7486512.89 0.1824 0.1430

Moon -25209-12-28 11:02 J -7485802.13 -7485802.04 -7485801.95 0.2654 0.2036

Earth -25209-12-28 11:02 J -7485802.13 -7485802.04 -7485801.95 0.2648 0.2019 *

Jupiter -25206-11-09 18:43 J -7484755.80 -7484755.72 -7484755.65 0.0498 0.0447

Jupiter -25205-02-08 00:57 J -7484665.61 -7484665.46 -7484665.30 0.0500 0.0261

Saturn -25203-07-08 13:40 J -7483784.09 -7483783.93 -7483783.76 0.0292 0.0107

Saturn -25203-10-05 12:43 J -7483695.14 -7483694.97 -7483694.80 0.0292 0.0083

Saturn -25202-01-02 11:16 J -7483606.09 -7483606.03 -7483605.96 0.0293 0.0271

Mars -25202-07-29 12:57 J -7483398.08 -7483397.96 -7483397.84 0.1690 0.0242

Moon -25202-12-21 09:21 J -7483253.15 -7483253.11 -7483253.08 0.2639 0.2551

Earth -25202-12-21 10:33 J -7483253.12 -7483253.06 -7483253.00 0.2643 0.2351 *

Mars -25201-06-08 09:35 J -7483083.26 -7483083.10 -7483082.94 0.1830 0.0302

Jupiter -25200-07-01 11:02 J -7482695.12 -7482695.04 -7482694.96 0.0530 0.0406

Jupiter -25200-09-28 18:14 J -7482605.87 -7482605.74 -7482605.62 0.0527 0.0182

Moon -25199-06-23 13:11 J -7482338.06 -7482337.95 -7482337.83 0.2685 0.0487

Earth -25199-06-23 14:09 J -7482338.03 -7482337.91 -7482337.80 0.2686 0.0632 *

Uranus -25194-04-14 10:04 J -7480582.12 -7480582.08 -7480582.03 0.0142 0.0132

Uranus -25194-07-11 13:55 J -7480494.00 -7480493.92 -7480493.83 0.0142 0.0110

Uranus -25194-10-07 17:31 J -7480405.87 -7480405.77 -7480405.65 0.0143 0.0089

Jupiter -25194-11-26 23:02 J -7480355.71 -7480355.54 -7480355.36 0.0499 0.0087

Uranus -25193-01-03 21:21 J -7480317.72 -7480317.61 -7480317.48 0.0143 0.0067

Uranus -25193-04-01 01:26 J -7480229.57 -7480229.44 -7480229.31 0.0143 0.0044

Uranus -25193-06-28 05:16 J -7480141.42 -7480141.28 -7480141.14 0.0143 0.0021

Uranus -25193-09-24 09:07 J -7480053.26 -7480053.12 -7480052.98 0.0143 0.0003

Mars -25193-12-18 23:31 J -7479967.64 -7479967.52 -7479967.40 0.1686 0.0264

Uranus -25193-12-21 12:57 J -7479965.09 -7479964.96 -7479964.82 0.0143 0.0026

Uranus -25192-03-19 17:02 J -7479876.92 -7479876.79 -7479876.66 0.0143 0.0048

Uranus -25192-06-15 20:52 J -7479788.74 -7479788.63 -7479788.50 0.0143 0.0072

Earth -25192-06-16 09:07 J -7479788.17 -7479788.12 -7479788.06 0.2691 0.2346

Moon -25192-06-16 09:50 J -7479788.15 -7479788.09 -7479788.03 0.2688 0.2298 *

Uranus -25192-09-12 01:11 J -7479700.56 -7479700.45 -7479700.35 0.0143 0.0095

Mars -25192-10-29 05:59 J -7479653.39 -7479653.25 -7479653.11 0.1835 0.0892

Uranus -25192-12-09 05:02 J -7479612.36 -7479612.29 -7479612.21 0.0144 0.0119

Uranus -25191-03-07 09:07 J -7479524.13 -7479524.12 -7479524.10 0.0144 0.0143

Venus -25190-02-18 22:47 J -7479175.64 -7479175.55 -7479175.45 0.3769 0.1517

Saturn -25189-02-06 17:45 J -7478822.81 -7478822.76 -7478822.70 0.0270 0.0244

Saturn -25189-05-05 04:33 J -7478734.42 -7478734.31 -7478734.19 0.0269 0.0134

Saturn -25189-08-01 15:21 J -7478645.99 -7478645.86 -7478645.72 0.0269 0.0024

Saturn -25189-10-29 02:09 J -7478557.53 -7478557.41 -7478557.27 0.0268 0.0087

Moon -25189-12-23 11:45 J -7478502.14 -7478502.01 -7478501.87 0.2647 0.0773

Earth -25189-12-23 13:11 J -7478502.09 -7478501.95 -7478501.82 0.2645 0.0754 *

Saturn -25188-01-25 13:11 J -7478469.04 -7478468.95 -7478468.85 0.0268 0.0198

Jupiter -25188-07-17 21:50 J -7478295.72 -7478295.59 -7478295.46 0.0528 0.0034

Moon -25186-06-26 08:52 J -7477587.22 -7477587.13 -7477587.04 0.2687 0.1688

Earth -25186-06-26 09:50 J -7477587.18 -7477587.09 -7477587.01 0.2684 0.1731 *

Venus -25185-09-03 15:07 J -7477151.97 -7477151.87 -7477151.76 0.3770 0.0882

Mars -25183-05-11 10:04 J -7476537.18 -7476537.08 -7476536.97 0.1681 0.0761

Jupiter -25182-09-14 20:38 J -7476045.82 -7476045.64 -7476045.47 0.0498 0.0096

Mars -25181-04-15 16:33 J -7475831.88 -7475831.81 -7475831.74 0.1699 0.1368

Venus -25179-03-20 07:40 J -7475128.23 -7475128.18 -7475128.13 0.3771 0.3277

Moon -25179-06-19 04:33 J -7475037.42 -7475037.31 -7475037.21 0.2682 0.1257

Earth -25179-06-19 04:19 J -7475037.42 -7475037.32 -7475037.22 0.2690 0.1308 *

Jupiter -25176-05-06 01:55 J -7473985.55 -7473985.42 -7473985.29 0.0529 0.0109

Jupiter -25176-08-03 09:21 J -7473896.15 -7473896.11 -7473896.06 0.0526 0.0483

Moon -25176-12-26 14:23 J -7473751.04 -7473750.90 -7473750.77 0.2652 0.0679

Earth -25176-12-26 15:07 J -7473751.00 -7473750.87 -7473750.73 0.2646 0.0802 *

Venus -25175-03-17 15:21 J -7473670.00 -7473669.86 -7473669.71 0.3605 0.1190

Mars -25174-10-01 20:52 J -7473106.71 -7473106.63 -7473106.56 0.1677 0.1251

Saturn -25174-11-25 12:43 J -7473052.12 -7473051.97 -7473051.82 0.0291 0.0159

Saturn -25173-02-22 11:45 J -7472963.19 -7472963.01 -7472962.83 0.0292 0.0031

Saturn -25173-05-21 10:19 J -7472874.18 -7472874.07 -7472873.95 0.0293 0.0220

Mars -25172-09-06 02:38 J -7472401.49 -7472401.39 -7472401.28 0.1694 0.0834

Mars -25171-07-18 12:57 J -7472086.04 -7472085.96 -7472085.87 0.1824 0.1548

Jupiter -25170-07-03 18:28 J -7471735.88 -7471735.73 -7471735.58 0.0498 0.0272

Jupiter -25170-10-02 00:28 J -7471645.57 -7471645.48 -7471645.39 0.0500 0.0431

Moon -25166-06-21 23:16 J -7470286.65 -7470286.53 -7470286.41 0.2682 0.0348

Earth -25166-06-21 23:45 J -7470286.63 -7470286.51 -7470286.40 0.2688 0.0255 *

Jupiter -25164-02-22 05:59 J -7469675.36 -7469675.25 -7469675.14 0.0529 0.0252

Jupiter -25164-05-22 13:11 J -7469586.05 -7469585.95 -7469585.85 0.0526 0.0337

Earth -25163-12-29 16:47 J -7468999.86 -7468999.80 -7468999.73 0.2648 0.2299

Moon -25163-12-29 17:02 J -7468999.85 -7468999.79 -7468999.72 0.2655 0.2347 *

Mars -25162-01-27 12:57 J -7468971.07 -7468970.96 -7468970.84 0.1690 0.0311

Mars -25162-12-08 10:04 J -7468656.24 -7468656.08 -7468655.92 0.1830 0.0408

Saturn -25160-09-22 06:57 J -7468002.31 -7468002.21 -7468002.10 0.0270 0.0167

Saturn -25160-12-19 17:45 J -7467913.89 -7467913.76 -7467913.63 0.0269 0.0057

Saturn -25159-03-18 04:33 J -7467825.44 -7467825.31 -7467825.17 0.0269 0.0054

Saturn -25159-06-14 15:35 J -7467736.96 -7467736.85 -7467736.74 0.0268 0.0165

Jupiter -25158-04-21 15:50 J -7467425.91 -7467425.84 -7467425.77 0.0498 0.0455

Jupiter -25158-07-20 22:19 J -7467335.72 -7467335.57 -7467335.42 0.0500 0.0253

Moon -25156-12-21 15:21 J -7466450.95 -7466450.86 -7466450.77 0.2640 0.2082

Earth -25156-12-21 16:33 J -7466450.90 -7466450.81 -7466450.72 0.2643 0.2056 *

Uranus -25154-03-02 12:28 J -7466014.98 -7466014.98 -7466014.95 0.0136 0.0136

Uranus -25154-05-29 19:11 J -7465926.80 -7465926.70 -7465926.58 0.0136 0.0109

Uranus -25154-08-26 01:55 J -7465838.56 -7465838.42 -7465838.27 0.0136 0.0083

Uranus -25154-11-22 08:23 J -7465750.31 -7465750.15 -7465749.97 0.0136 0.0057

Uranus -25153-02-18 15:07 J -7465662.05 -7465661.87 -7465661.69 0.0136 0.0030

Uranus -25153-05-16 21:35 J -7465573.78 -7465573.60 -7465573.42 0.0136 0.0005

Mars -25153-06-18 23:31 J -7465540.64 -7465540.52 -7465540.40 0.1685 0.0200

Moon -25153-06-23 18:14 J -7465535.85 -7465535.74 -7465535.63 0.2684 0.0827

Earth -25153-06-23 19:11 J -7465535.81 -7465535.70 -7465535.59 0.2686 0.0837 *

Uranus -25153-08-13 03:50 J -7465485.51 -7465485.34 -7465485.16 0.0135 0.0021

Uranus -25153-11-09 10:04 J -7465397.24 -7465397.08 -7465396.90 0.0135 0.0047

Jupiter -25153-12-11 09:50 J -7465365.18 -7465365.09 -7465365.01 0.0529 0.0399

Uranus -25152-02-05 16:19 J -7465308.96 -7465308.82 -7465308.66 0.0135 0.0072

Jupiter -25152-03-10 16:47 J -7465275.92 -7465275.80 -7465275.67 0.0527 0.0188

Mars -25152-04-29 06:28 J -7465226.38 -7465226.23 -7465226.08 0.1836 0.0781

Uranus -25152-05-04 22:33 J -7465220.67 -7465220.56 -7465220.43 0.0135 0.0096

Uranus -25152-08-01 04:47 J -7465132.37 -7465132.30 -7465132.21 0.0135 0.0120

Jupiter -25146-05-08 20:23 J -7463025.82 -7463025.65 -7463025.47 0.0499 0.0078

Earth -25146-06-17 14:09 J -7462985.97 -7462985.91 -7462985.84 0.2691 0.2149

Moon -25146-06-17 14:52 J -7462985.95 -7462985.88 -7462985.81 0.2687 0.2095 *

Saturn -25144-04-13 13:11 J -7462320.08 -7462319.95 -7462319.82 0.0291 0.0198

Saturn -25144-07-11 12:28 J -7462231.16 -7462230.98 -7462230.80 0.0292 0.0007

Saturn -25144-10-08 11:16 J -7462142.17 -7462142.03 -7462141.89 0.0293 0.0183

Mars -25144-11-09 10:04 J -7462110.19 -7462110.08 -7462109.98 0.1681 0.0703

Moon -25143-12-24 17:45 J -7461699.89 -7461699.76 -7461699.62 0.2648 0.0664

Earth -25143-12-24 19:11 J -7461699.85 -7461699.70 -7461699.56 0.2645 0.0463 *

Mars -25142-10-15 16:33 J -7461404.88 -7461404.81 -7461404.75 0.1699 0.1431

Pluto -25141-09-09 14:52 J -7461074.94 -7461074.88 -7461074.81 0.0074 0.0066

Pluto -25141-12-06 16:04 J -7460986.91 -7460986.83 -7460986.72 0.0074 0.0058

Jupiter -25141-12-27 19:55 J -7460965.80 -7460965.67 -7460965.54 0.0528 0.0029

Pluto -25140-03-04 17:31 J -7460898.87 -7460898.77 -7460898.65 0.0074 0.0050

Pluto -25140-05-31 18:57 J -7460810.83 -7460810.71 -7460810.58 0.0074 0.0042

Moon -25140-06-26 14:09 J -7460785.00 -7460784.91 -7460784.83 0.2688 0.1830

Earth -25140-06-26 14:52 J -7460784.96 -7460784.88 -7460784.80 0.2684 0.1945 *

Pluto -25140-08-27 20:23 J -7460722.78 -7460722.65 -7460722.51 0.0074 0.0034

Pluto -25140-11-23 21:35 J -7460634.74 -7460634.60 -7460634.45 0.0073 0.0026

Pluto -25139-02-19 23:02 J -7460546.69 -7460546.54 -7460546.39 0.0073 0.0018

Venus -25139-03-12 04:04 J -7460526.39 -7460526.33 -7460526.26 0.3768 0.2994

Pluto -25139-05-19 00:14 J -7460458.64 -7460458.49 -7460458.33 0.0073 0.0011

Pluto -25139-08-15 01:40 J -7460370.59 -7460370.43 -7460370.28 0.0073 0.0003

Pluto -25139-11-11 02:52 J -7460282.53 -7460282.38 -7460282.23 0.0073 0.0005

Pluto -25138-02-07 04:04 J -7460194.48 -7460194.33 -7460194.18 0.0073 0.0012

Pluto -25138-05-06 05:16 J -7460106.42 -7460106.28 -7460106.13 0.0073 0.0020

Pluto -25138-08-02 06:28 J -7460018.37 -7460018.23 -7460018.08 0.0073 0.0027

Pluto -25138-10-29 07:26 J -7459930.31 -7459930.19 -7459930.04 0.0072 0.0035

Pluto -25137-01-25 08:38 J -7459842.25 -7459842.14 -7459842.00 0.0072 0.0042

Pluto -25137-04-22 10:04 J -7459754.19 -7459754.08 -7459753.96 0.0072 0.0048

Pluto -25137-07-19 11:16 J -7459666.12 -7459666.03 -7459665.93 0.0072 0.0056

Pluto -25137-10-15 11:59 J -7459578.05 -7459578.00 -7459577.91 0.0072 0.0063

Pluto -25136-01-11 13:11 J -7459489.96 -7459489.95 -7459489.89 0.0072 0.0070

Jupiter -25134-02-24 18:28 J -7458715.90 -7458715.73 -7458715.55 0.0498 0.0096

Mars -25134-04-01 20:52 J -7458679.71 -7458679.63 -7458679.55 0.1677 0.1186

Neptune -25134-06-28 12:43 J -7458592.01 -7458591.97 -7458591.92 0.0089 0.0083

Neptune -25134-09-24 14:09 J -7458503.97 -7458503.91 -7458503.84 0.0089 0.0076

Venus -25134-09-25 20:23 J -7458502.75 -7458502.65 -7458502.55 0.3769 0.0653

Neptune -25134-12-21 15:35 J -7458415.93 -7458415.85 -7458415.76 0.0089 0.0069

Neptune -25133-03-18 17:02 J -7458327.88 -7458327.79 -7458327.70 0.0089 0.0063

Neptune -25133-06-14 18:28 J -7458239.84 -7458239.73 -7458239.63 0.0089 0.0056

Moon -25133-06-19 09:21 J -7458235.21 -7458235.11 -7458235.00 0.2682 0.1130

Earth -25133-06-19 09:21 J -7458235.21 -7458235.11 -7458235.00 0.2690 0.1107 *

Neptune -25133-09-10 19:40 J -7458151.79 -7458151.68 -7458151.56 0.0089 0.0049

Neptune -25133-12-07 21:07 J -7458063.73 -7458063.62 -7458063.50 0.0089 0.0042

Neptune -25132-03-05 22:19 J -7457975.68 -7457975.57 -7457975.43 0.0089 0.0036

Mars -25132-03-07 02:38 J -7457974.49 -7457974.39 -7457974.29 0.1694 0.0896

Neptune -25132-06-01 23:45 J -7457887.63 -7457887.51 -7457887.37 0.0089 0.0029

Neptune -25132-08-29 01:26 J -7457799.57 -7457799.44 -7457799.31 0.0089 0.0021

Neptune -25132-11-25 02:52 J -7457711.52 -7457711.38 -7457711.25 0.0089 0.0014

Mars -25131-01-16 13:55 J -7457658.98 -7457658.92 -7457658.86 0.1824 0.1670

Neptune -25131-02-21 04:19 J -7457623.46 -7457623.32 -7457623.19 0.0089 0.0007

Neptune -25131-05-20 05:31 J -7457535.40 -7457535.27 -7457535.13 0.0089 0.0003

Neptune -25131-08-16 06:57 J -7457447.34 -7457447.21 -7457447.07 0.0089 0.0007

Neptune -25131-11-12 08:23 J -7457359.28 -7457359.15 -7457359.01 0.0089 0.0014

Neptune -25130-02-08 09:50 J -7457271.22 -7457271.09 -7457270.96 0.0089 0.0021

Saturn -25130-02-09 10:47 J -7457270.15 -7457270.05 -7457269.95 0.0269 0.0185

Neptune -25130-05-07 11:16 J -7457183.16 -7457183.03 -7457182.90 0.0089 0.0028

Saturn -25130-05-08 21:35 J -7457181.73 -7457181.60 -7457181.47 0.0269 0.0075

Neptune -25130-08-03 12:43 J -7457095.09 -7457094.97 -7457094.84 0.0089 0.0035

Saturn -25130-08-05 08:23 J -7457093.29 -7457093.15 -7457093.01 0.0268 0.0035

Neptune -25130-10-30 14:09 J -7457007.03 -7457006.91 -7457006.79 0.0089 0.0042

Saturn -25130-11-01 19:26 J -7457004.81 -7457004.69 -7457004.58 0.0268 0.0146

Moon -25130-12-27 20:23 J -7456948.77 -7456948.65 -7456948.52 0.2652 0.1102

Earth -25130-12-27 21:07 J -7456948.75 -7456948.62 -7456948.49 0.2647 0.1091 *

Neptune -25129-01-26 15:35 J -7456918.96 -7456918.85 -7456918.73 0.0089 0.0049

Saturn -25129-01-29 06:14 J -7456916.27 -7456916.24 -7456916.20 0.0267 0.0257

Neptune -25129-04-23 17:02 J -7456830.89 -7456830.79 -7456830.68 0.0089 0.0056

Neptune -25129-07-20 18:28 J -7456742.82 -7456742.73 -7456742.63 0.0089 0.0064

Jupiter -25129-10-15 23:45 J -7456655.64 -7456655.51 -7456655.39 0.0529 0.0122

Neptune -25129-10-16 20:09 J -7456654.75 -7456654.66 -7456654.58 0.0089 0.0071

Neptune -25128-01-12 21:07 J -7456566.67 -7456566.62 -7456566.54 0.0089 0.0079

Jupiter -25128-01-13 07:11 J -7456566.25 -7456566.20 -7456566.14 0.0526 0.0470

Venus -25128-04-10 12:43 J -7456479.06 -7456478.97 -7456478.87 0.3770 0.1739

Neptune -25128-04-10 22:47 J -7456478.58 -7456478.55 -7456478.50 0.0089 0.0085

Mars -25125-08-22 07:40 J -7455249.19 -7455249.18 -7455249.18 0.1673 0.1663

Venus -25124-04-07 11:02 J -7455021.15 -7455021.04 -7455020.93 0.3605 0.2411

Mars -25123-07-28 12:57 J -7454544.07 -7454543.96 -7454543.84 0.1690 0.0382

Jupiter -25123-12-13 15:50 J -7454405.99 -7454405.84 -7454405.69 0.0498 0.0279

Jupiter -25122-03-13 21:50 J -7454315.68 -7454315.59 -7454315.49 0.0500 0.0424

Mars -25122-06-08 10:47 J -7454229.21 -7454229.05 -7454228.89 0.1830 0.0527

Moon -25120-06-22 04:04 J -7453484.45 -7453484.33 -7453484.21 0.2683 0.0066

Earth -25120-06-22 04:47 J -7453484.42 -7453484.30 -7453484.19 0.2688 0.0065 *

Venus -25119-10-22 16:33 J -7452996.89 -7452996.81 -7452996.73 0.3604 0.3041

Jupiter -25117-08-04 03:50 J -7452345.45 -7452345.34 -7452345.23 0.0530 0.0263

Jupiter -25117-11-01 11:02 J -7452256.14 -7452256.04 -7452255.93 0.0527 0.0327

Earth -25117-12-29 22:47 J -7452197.58 -7452197.55 -7452197.52 0.2649 0.2582

Moon -25117-12-29 23:02 J -7452197.56 -7452197.54 -7452197.51 0.2656 0.2581 *

Saturn -25115-08-31 12:14 J -7451588.07 -7451587.99 -7451587.89 0.0291 0.0248

Saturn -25115-11-28 11:45 J -7451499.19 -7451499.01 -7451498.83 0.0292 0.0056

Saturn -25114-02-25 10:33 J -7451410.21 -7451410.06 -7451409.90 0.0293 0.0134

Mars -25114-12-18 23:31 J -7451113.64 -7451113.52 -7451113.41 0.1685 0.0142

Mars -25113-10-28 07:11 J -7450799.35 -7450799.20 -7450799.04 0.1835 0.0662

Jupiter -25111-10-01 13:26 J -7450096.00 -7450095.94 -7450095.86 0.0497 0.0457

Jupiter -25111-12-30 19:55 J -7450005.82 -7450005.67 -7450005.51 0.0499 0.0252

Uranus -25110-05-04 16:33 J -7449880.86 -7449880.81 -7449880.75 0.0142 0.0130

Uranus -25110-07-31 20:23 J -7449792.74 -7449792.65 -7449792.56 0.0142 0.0109

Uranus -25110-10-28 00:14 J -7449704.60 -7449704.49 -7449704.38 0.0143 0.0087

Moon -25110-12-22 21:21 J -7449648.71 -7449648.61 -7449648.51 0.2642 0.1921

Earth -25110-12-22 22:33 J -7449648.66 -7449648.56 -7449648.45 0.2643 0.1755 *

Uranus -25109-01-24 03:50 J -7449616.45 -7449616.34 -7449616.21 0.0143 0.0065

Uranus -25109-04-21 07:55 J -7449528.30 -7449528.17 -7449528.04 0.0143 0.0042

Uranus -25109-07-18 11:45 J -7449440.15 -7449440.01 -7449439.88 0.0143 0.0020

Uranus -25109-10-14 15:35 J -7449351.99 -7449351.85 -7449351.71 0.0143 0.0004

Uranus -25108-01-10 19:26 J -7449263.82 -7449263.69 -7449263.55 0.0143 0.0027

Uranus -25108-04-08 23:31 J -7449175.65 -7449175.52 -7449175.39 0.0143 0.0050

Uranus -25108-07-06 03:21 J -7449087.47 -7449087.36 -7449087.23 0.0143 0.0073

Uranus -25108-10-02 07:26 J -7448999.29 -7448999.19 -7448999.08 0.0143 0.0097

Uranus -25108-12-29 11:31 J -7448911.09 -7448911.02 -7448910.94 0.0144 0.0120

Moon -25107-06-24 23:31 J -7448733.64 -7448733.52 -7448733.41 0.2685 0.0903

Earth -25107-06-25 00:14 J -7448733.60 -7448733.49 -7448733.38 0.2686 0.1049 *

Jupiter -25105-05-23 07:55 J -7448035.25 -7448035.17 -7448035.08 0.0530 0.0404

Jupiter -25105-08-20 15:07 J -7447945.99 -7447945.87 -7447945.74 0.0527 0.0184

Mars -25104-05-10 10:04 J -7447683.19 -7447683.08 -7447682.97 0.1681 0.0635

Mars -25102-04-15 16:33 J -7446977.87 -7446977.81 -7446977.76 0.1699 0.1500

Saturn -25101-06-28 13:11 J -7446538.03 -7446537.95 -7446537.88 0.0270 0.0219

Saturn -25101-09-24 23:45 J -7446449.63 -7446449.51 -7446449.38 0.0269 0.0110

Saturn -25101-12-22 10:33 J -7446361.19 -7446361.06 -7446360.92 0.0269 0.0009

Saturn -25100-03-20 21:35 J -7446272.73 -7446272.60 -7446272.48 0.0268 0.0112

Saturn -25100-06-17 08:38 J -7446184.22 -7446184.14 -7446184.07 0.0268 0.0223

Earth -25100-06-17 19:11 J -7446183.78 -7446183.70 -7446183.62 0.2691 0.1951

Moon -25100-06-17 19:40 J -7446183.76 -7446183.68 -7446183.60 0.2685 0.1872 *

Jupiter -25099-10-18 17:45 J -7445695.94 -7445695.76 -7445695.58 0.0499 0.0072

Moon -25097-12-24 23:45 J -7444897.65 -7444897.51 -7444897.37 0.2648 0.0182

Earth -25097-12-25 00:57 J -7444897.60 -7444897.46 -7444897.31 0.2645 0.0180 *

Mars -25095-09-30 20:38 J -7444252.72 -7444252.64 -7444252.55 0.1677 0.1126

Moon -25094-06-27 19:11 J -7443982.76 -7443982.70 -7443982.63 0.2689 0.2175

Earth -25094-06-27 19:55 J -7443982.74 -7443982.67 -7443982.60 0.2684 0.2159 *

Jupiter -25093-06-08 18:57 J -7443635.84 -7443635.71 -7443635.58 0.0528 0.0036

Mars -25093-09-05 02:38 J -7443547.48 -7443547.39 -7443547.29 0.1694 0.0966

Mars -25092-07-17 14:09 J -7443231.95 -7443231.91 -7443231.87 0.1824 0.1766

Moon -25087-06-20 14:23 J -7441433.01 -7441432.90 -7441432.79 0.2682 0.0888

Earth -25087-06-20 14:23 J -7441433.01 -7441432.90 -7441432.79 0.2689 0.0902 *

Jupiter -25087-08-06 15:50 J -7441386.01 -7441385.84 -7441385.66 0.0498 0.0103

Mars -25085-02-21 07:26 J -7440822.22 -7440822.19 -7440822.16 0.1673 0.1604

Saturn -25085-04-16 11:16 J -7440767.20 -7440767.03 -7440766.86 0.0292 0.0102

Saturn -25085-07-14 10:19 J -7440678.24 -7440678.07 -7440677.90 0.0292 0.0089

Saturn -25085-10-11 08:52 J -7440589.18 -7440589.13 -7440589.07 0.0293 0.0277

Moon -25084-12-28 02:38 J -7440146.51 -7440146.39 -7440146.26 0.2653 0.1265

Earth -25084-12-28 03:07 J -7440146.49 -7440146.37 -7440146.25 0.2647 0.1374 *

Mars -25083-01-26 12:57 J -7440117.08 -7440116.96 -7440116.85 0.1690 0.0436

Venus	-25083-10-17 01:40 J	-7439853.51	-7439853.43	-7439853.34	0.3768	0.2134
Mars	-25083-12-07 11:31 J	-7439802.17	-7439802.02	-7439801.87	0.1830	0.0647
Jupiter	-25081-03-27 22:04 J	-7439325.71	-7439325.58	-7439325.46	0.0529	0.0126
Jupiter	-25081-06-25 05:31 J	-7439236.33	-7439236.27	-7439236.21	0.0526	0.0465
Venus	-25077-05-01 17:59 J	-7437829.85	-7437829.75	-7437829.64	0.3769	0.0243
Jupiter	-25075-05-25 13:55 J	-7437076.06	-7437075.92	-7437075.76	0.0498	0.0276
Jupiter	-25075-08-23 20:09 J	-7436985.75	-7436985.66	-7436985.57	0.0500	0.0428
Mars	-25074-06-18 23:31 J	-7436686.64	-7436686.52	-7436686.40	0.1686	0.0074
Moon	-25074-06-23 09:07 J	-7436682.24	-7436682.12	-7436682.00	0.2683	0.0067
Earth	-25074-06-23 09:50 J	-7436682.21	-7436682.09	-7436681.98	0.2687	0.0173 *
Mars	-25073-04-28 08:09 J	-7436372.32	-7436372.16	-7436372.01	0.1835	0.0537
Venus	-25072-11-15 10:19 J	-7435806.14	-7435806.07	-7435805.99	0.3770	0.2625
Saturn	-25072-11-15 16:47 J	-7435805.86	-7435805.80	-7435805.74	0.0270	0.0238
Saturn	-25071-02-12 03:35 J	-7435717.47	-7435717.35	-7435717.23	0.0269	0.0129
Saturn	-25071-05-11 14:23 J	-7435629.04	-7435628.90	-7435628.77	0.0269	0.0019
Saturn	-25071-08-08 01:11 J	-7435540.58	-7435540.45	-7435540.32	0.0268	0.0092
Saturn	-25071-11-04 11:59 J	-7435452.08	-7435452.00	-7435451.90	0.0267	0.0204
Uranus	-25070-03-22 18:43 J	-7435313.75	-7435313.72	-7435313.67	0.0136	0.0132
Uranus	-25070-06-19 01:26 J	-7435225.54	-7435225.44	-7435225.32	0.0136	0.0106
Uranus	-25070-09-15 08:09 J	-7435137.30	-7435137.16	-7435137.01	0.0136	0.0079
Uranus	-25070-12-12 14:52 J	-7435049.05	-7435048.88	-7435048.71	0.0136	0.0053
Jupiter	-25069-01-15 01:40 J	-7435015.54	-7435015.43	-7435015.32	0.0530	0.0273
Uranus	-25069-03-09 21:21 J	-7434960.79	-7434960.61	-7434960.43	0.0136	0.0027
Jupiter	-25069-04-13 09:07 J	-7434926.23	-7434926.12	-7434926.02	0.0527	0.0316
Uranus	-25069-06-06 03:50 J	-7434872.52	-7434872.34	-7434872.16	0.0136	0.0002
Uranus	-25069-09-02 10:04 J	-7434784.25	-7434784.08	-7434783.90	0.0135	0.0024
Uranus	-25069-11-29 16:19 J	-7434695.98	-7434695.82	-7434695.64	0.0135	0.0050
Uranus	-25068-02-25 22:47 J	-7434607.70	-7434607.55	-7434607.40	0.0135	0.0075
Uranus	-25068-05-25 04:47 J	-7434519.41	-7434519.30	-7434519.17	0.0135	0.0100
Uranus	-25068-08-21 10:47 J	-7434431.10	-7434431.05	-7434430.96	0.0135	0.0124

Venus -25068-11-12 12:14 J -7434348.14 -7434347.99 -7434347.84 0.3605 0.0494

Moon -25067-06-16 05:59 J -7434132.27 -7434132.25 -7434132.24 0.2691 0.2650

Mars -25065-11-08 10:04 J -7433256.19 -7433256.08 -7433255.97 0.1681 0.0571

Mars -25064-09-18 04:04 J -7432942.37 -7432942.33 -7432942.29 0.1841 0.1768

Moon -25064-12-23 03:21 J -7432846.48 -7432846.36 -7432846.25 0.2644 0.1558

Earth -25064-12-23 04:33 J -7432846.43 -7432846.31 -7432846.19 0.2643 0.1460 *

Jupiter -25063-03-13 11:16 J -7432766.09 -7432766.03 -7432765.96 0.0497 0.0458

Jupiter -25063-06-11 17:45 J -7432675.91 -7432675.76 -7432675.60 0.0499 0.0249

Mars -25063-10-14 16:33 J -7432550.85 -7432550.81 -7432550.77 0.1699 0.1567

Moon -25061-06-25 04:33 J -7431931.42 -7431931.31 -7431931.21 0.2686 0.1247

Earth -25061-06-25 05:16 J -7431931.38 -7431931.28 -7431931.17 0.2686 0.1261 *

Jupiter -25058-11-03 05:45 J -7430705.33 -7430705.26 -7430705.18 0.0530 0.0415

Jupiter -25057-01-31 12:57 J -7430616.08 -7430615.96 -7430615.83 0.0528 0.0175

Saturn -25056-09-03 10:33 J -7430035.21 -7430035.06 -7430034.91 0.0292 0.0153

Saturn -25056-12-01 09:35 J -7429946.28 -7429946.10 -7429945.92 0.0292 0.0038

Saturn -25055-02-28 08:23 J -7429857.26 -7429857.15 -7429857.04 0.0293 0.0227

Mars -25055-03-31 20:38 J -7429825.73 -7429825.64 -7429825.55 0.1677 0.1062

Earth -25054-06-19 00:14 J -7429381.58 -7429381.49 -7429381.40 0.2691 0.1751

Moon -25054-06-19 00:43 J -7429381.56 -7429381.47 -7429381.39 0.2684 0.1755 *

Mars -25053-03-06 02:38 J -7429120.48 -7429120.39 -7429120.29 0.1694 0.1030

Jupiter -25051-03-30 15:50 J -7428366.02 -7428365.84 -7428365.66 0.0499 0.0074

Neptune -25051-12-17 05:31 J -7428104.34 -7428104.27 -7428104.19 0.0088 0.0080

Moon -25051-12-26 05:45 J -7428095.40 -7428095.26 -7428095.11 0.2648 0.0088

Earth -25051-12-26 06:57 J -7428095.35 -7428095.21 -7428095.06 0.2645 0.0133 *

Neptune -25050-03-15 08:38 J -7428016.23 -7428016.14 -7428016.01 0.0088 0.0071

Neptune -25050-06-11 12:14 J -7427928.11 -7427927.99 -7427927.84 0.0088 0.0061

Neptune -25050-09-07 15:50 J -7427839.99 -7427839.84 -7427839.68 0.0088 0.0052

Neptune -25050-12-04 18:57 J -7427751.86 -7427751.71 -7427751.53 0.0088 0.0043

Neptune -25049-03-01 22:47 J -7427663.73 -7427663.55 -7427663.38 0.0088 0.0033

Neptune -25049-05-29 01:55 J -7427575.60 -7427575.42 -7427575.23 0.0088 0.0023

Neptune -25049-08-25 05:16 J -7427487.46 -7427487.28 -7427487.09 0.0088 0.0014

Neptune -25049-11-21 08:52 J -7427399.32 -7427399.13 -7427398.94 0.0088 0.0005

Neptune -25048-02-17 11:59 J -7427311.18 -7427311.00 -7427310.81 0.0088 0.0006

Neptune -25048-05-16 15:21 J -7427223.04 -7427222.86 -7427222.67 0.0088 0.0015

Moon -25048-06-28 00:28 J -7427180.54 -7427180.48 -7427180.42 0.2689 0.2255

Earth -25048-06-28 00:57 J -7427180.51 -7427180.46 -7427180.40 0.2684 0.2380 *

Neptune -25048-08-12 18:28 J -7427134.90 -7427134.73 -7427134.54 0.0088 0.0025

Neptune -25048-11-08 22:04 J -7427046.76 -7427046.58 -7427046.41 0.0088 0.0033

Neptune -25047-02-05 00:57 J -7426958.61 -7426958.46 -7426958.28 0.0088 0.0043

Neptune -25047-05-04 04:19 J -7426870.46 -7426870.32 -7426870.16 0.0088 0.0052

Neptune -25047-07-31 07:40 J -7426782.31 -7426782.18 -7426782.04 0.0088 0.0061

Neptune -25047-10-27 11:02 J -7426694.15 -7426694.04 -7426693.93 0.0088 0.0071

Neptune -25046-01-23 13:55 J -7426605.98 -7426605.92 -7426605.82 0.0088 0.0080

Mars -25046-08-22 07:26 J -7426395.23 -7426395.19 -7426395.14 0.1673 0.1541

Jupiter -25046-11-19 17:16 J -7426305.91 -7426305.78 -7426305.65 0.0528 0.0034

Mars -25044-07-27 12:57 J -7425690.07 -7425689.96 -7425689.85 0.1690 0.0505

Mars -25043-06-07 11:59 J -7425375.14 -7425375.00 -7425374.85 0.1830 0.0754

Saturn -25042-07-02 05:45 J -7424985.37 -7424985.26 -7424985.15 0.0269 0.0164

Saturn -25042-09-28 16:33 J -7424896.95 -7424896.81 -7424896.68 0.0269 0.0054

Saturn -25042-12-26 03:21 J -7424808.50 -7424808.36 -7424808.23 0.0268 0.0057

Saturn -25041-03-23 14:09 J -7424720.01 -7424719.91 -7424719.80 0.0268 0.0168

Moon -25041-06-20 19:11 J -7424630.81 -7424630.70 -7424630.58 0.2683 0.0704

Earth -25041-06-20 19:26 J -7424630.80 -7424630.69 -7424630.58 0.2689 0.0700 *

Jupiter -25039-01-16 13:26 J -7424056.11 -7424055.94 -7424055.76 0.0498 0.0107

Moon -25038-12-29 08:52 J -7423344.24 -7423344.13 -7423344.03 0.2654 0.1738

Earth -25038-12-29 09:07 J -7423344.23 -7423344.12 -7423344.01 0.2647 0.1661 *

Mars -25035-12-17 23:31 J -7422259.64 -7422259.52 -7422259.41 0.1685 0.0047

Jupiter -25034-09-07 21:07 J -7421995.75 -7421995.62 -7421995.49 0.0529 0.0113

Mars -25034-10-28 08:38 J -7421945.30 -7421945.14 -7421944.98 0.1836 0.0431

Jupiter -25034-12-06 04:33 J -7421906.36 -7421906.31 -7421906.26 0.0526 0.0477

Venus -25032-11-07 07:11 J -7421204.23 -7421204.20 -7421204.18 0.3768 0.3595

Moon -25028-06-23 14:09 J -7419880.03 -7419879.91 -7419879.79 0.2683 0.0337

Earth -25028-06-23 14:52 J -7419880.00 -7419879.88 -7419879.76 0.2687 0.0379 *

Jupiter -25028-11-04 11:45 J -7419746.16 -7419746.01 -7419745.86 0.0498 0.0279

Jupiter -25027-02-02 17:45 J -7419655.85 -7419655.76 -7419655.66 0.0500 0.0425

Saturn -25026-01-21 08:52 J -7419303.25 -7419303.13 -7419302.99 0.0291 0.0207

Saturn -25026-04-20 08:23 J -7419214.33 -7419214.15 -7419213.97 0.0292 0.0014

Venus -25026-05-23 23:16 J -7419180.62 -7419180.53 -7419180.43 0.3769 0.1273

Uranus -25026-05-24 23:16 J -7419179.58 -7419179.53 -7419179.46 0.0142 0.0127

Saturn -25026-07-18 07:11 J -7419125.33 -7419125.20 -7419125.05 0.0293 0.0177

Uranus -25026-08-21 03:07 J -7419091.46 -7419091.37 -7419091.28 0.0142 0.0105

Uranus -25026-11-17 06:43 J -7419003.32 -7419003.22 -7419003.10 0.0143 0.0084

Uranus -25025-02-13 10:47 J -7418915.17 -7418915.05 -7418914.93 0.0143 0.0061

Mars -25025-05-09 10:04 J -7418829.19 -7418829.08 -7418828.97 0.1681 0.0511

Uranus -25025-05-11 14:38 J -7418827.02 -7418826.89 -7418826.76 0.0143 0.0039

Uranus -25025-08-07 18:28 J -7418738.87 -7418738.73 -7418738.59 0.0143 0.0016

Uranus -25025-11-03 22:19 J -7418650.70 -7418650.57 -7418650.43 0.0143 0.0008

Uranus -25024-01-31 02:23 J -7418562.54 -7418562.40 -7418562.27 0.0143 0.0030

Mars -25024-03-19 05:02 J -7418515.36 -7418515.29 -7418515.22 0.1841 0.1632

Uranus -25024-04-29 06:14 J -7418474.37 -7418474.24 -7418474.11 0.0143 0.0053

Uranus -25024-07-26 10:19 J -7418386.19 -7418386.07 -7418385.95 0.0143 0.0076

Uranus -25024-10-22 14:09 J -7418298.00 -7418297.91 -7418297.80 0.0143 0.0100

Uranus -25023-01-18 18:14 J -7418209.80 -7418209.74 -7418209.66 0.0143 0.0124

Mars -25023-04-14 16:33 J -7418123.84 -7418123.81 -7418123.78 0.1699 0.1630

Jupiter -25022-06-27 00:14 J -7417685.60 -7417685.49 -7417685.38 0.0529 0.0274

Jupiter -25022-09-24 07:26 J -7417596.29 -7417596.19 -7417596.08 0.0527 0.0315

Earth -25021-06-16 10:04 J -7417330.10 -7417330.08 -7417330.05 0.2692 0.2588

Moon -25021-06-16 10:47 J -7417330.08 -7417330.05 -7417330.02 0.2689 0.2584 *

Venus -25021-12-06 15:35 J -7417156.95 -7417156.85 -7417156.75 0.3769 0.1106

Moon -25018-12-24 09:21 J -7416044.24 -7416044.11 -7416043.99 0.2644 0.1288

Earth -25018-12-24 10:47 J -7416044.18 -7416044.05 -7416043.92 0.2644 0.1163 *

Jupiter -25016-08-23 09:50 J -7415436.16 -7415436.09 -7415436.02 0.0497 0.0451

Mars -25016-09-29 20:38 J -7415398.73 -7415398.64 -7415398.54 0.1677 0.0999

Jupiter -25016-11-21 16:19 J -7415345.97 -7415345.82 -7415345.66 0.0499 0.0256

Venus -25015-06-22 08:09 J -7415133.20 -7415133.16 -7415133.13 0.3770 0.3517

Moon -25015-06-26 09:35 J -7415129.20 -7415129.10 -7415129.00 0.2688 0.1355

Earth -25015-06-26 10:19 J -7415129.16 -7415129.07 -7415128.97 0.2685 0.1481 *

Mars -25014-09-05 02:38 J -7414693.48 -7414693.39 -7414693.30 0.1694 0.1093

Saturn -25013-11-18 09:07 J -7414253.21 -7414253.12 -7414253.02 0.0269 0.0185

Saturn -25012-02-14 19:55 J -7414164.80 -7414164.67 -7414164.54 0.0269 0.0075

Saturn -25012-05-14 06:43 J -7414076.35 -7414076.22 -7414076.08 0.0268 0.0035

Saturn -25012-08-10 17:45 J -7413987.88 -7413987.76 -7413987.65 0.0268 0.0146

Saturn -25012-11-07 04:33 J -7413899.34 -7413899.31 -7413899.27 0.0267 0.0257

Venus -25011-06-19 13:26 J -7413675.07 -7413674.94 -7413674.80 0.3605 0.1422

Jupiter -25010-04-15 03:50 J -7413375.41 -7413375.34 -7413375.26 0.0530 0.0421

Jupiter -25010-07-13 11:02 J -7413286.16 -7413286.04 -7413285.91 0.0528 0.0167

Earth -25008-06-19 05:16 J -7412579.37 -7412579.28 -7412579.19 0.2690 0.1552

Moon -25008-06-19 05:45 J -7412579.36 -7412579.26 -7412579.17 0.2684 0.1461 *

Mars -25006-02-20 07:26 J -7411968.24 -7411968.19 -7411968.14 0.1673 0.1478

Moon -25005-12-26 11:59 J -7411293.14 -7411293.00 -7411292.86 0.2650 0.0390

Earth -25005-12-26 12:57 J -7411293.10 -7411292.96 -7411292.82 0.2645 0.0415 *

Mars -25004-01-25 12:57 J -7411263.07 -7411262.96 -7411262.85 0.1690 0.0571

Jupiter -25004-09-09 13:55 J -7411036.09 -7411035.92 -7411035.74 0.0499 0.0078

Mars -25004-12-06 12:43 J -7410948.11 -7410947.97 -7410947.83 0.1830 0.0870

Moon -25002-06-29 05:31 J -7410378.29 -7410378.27 -7410378.24 0.2689 0.2618

Earth -25002-06-29 06:14 J -7410378.27 -7410378.24 -7410378.22 0.2684 0.2595 *

25TH MILLENNIUM BCE

This is a list of transits of Mercury in the 25th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Jupiter	**-24998-05-01 15:07**	**J**	**-7408976.00**	**-7408975.87**	**-7408975.74**	**0.0529**	**0.0028**	
Saturn	**-24997-06-09 07:55**	**J**	**-7408571.24**	**-7408571.17**	**-7408571.08**	**0.0291**	**0.0260**	
Saturn	**-24997-09-06 07:26**	**J**	**-7408482.36**	**-7408482.19**	**-7408482.02**	**0.0292**	**0.0067**	
Saturn	**-24997-12-04 06:28**	**J**	**-7408393.39**	**-7408393.23**	**-7408393.07**	**0.0293**	**0.0124**	
Mars	**-24995-06-17 23:31**	**J**	**-7407832.64**	**-7407832.52**	**-7407832.40**	**0.1685**	**0.0065**	
Moon	**-24995-06-22 00:14**	**J**	**-7407828.61**	**-7407828.49**	**-7407828.38**	**0.2683**	**0.0573**	
Earth	**-24995-06-22 00:28**	**J**	**-7407828.59**	**-7407828.48**	**-7407828.36**	**0.2689**	**0.0495**	*****
Mars	**-24994-04-28 09:35**	**J**	**-7407518.27**	**-7407518.10**	**-7407517.94**	**0.1835**	**0.0304**	
Jupiter	**-24992-06-28 11:59**	**J**	**-7406726.18**	**-7406726.00**	**-7406725.82**	**0.0498**	**0.0099**	
Moon	**-24992-12-29 14:38**	**J**	**-7406541.98**	**-7406541.89**	**-7406541.79**	**0.2654**	**0.1850**	
Earth	**-24992-12-29 14:52**	**J**	**-7406541.97**	**-7406541.88**	**-7406541.78**	**0.2647**	**0.1944**	*****
Jupiter	**-24986-02-17 19:26**	**J**	**-7404665.81**	**-7404665.69**	**-7404665.56**	**0.0529**	**0.0115**	
Uranus	**-24986-04-12 00:43**	**J**	**-7404612.51**	**-7404612.47**	**-7404612.39**	**0.0136**	**0.0130**	
Jupiter	**-24986-05-18 02:52**	**J**	**-7404576.43**	**-7404576.38**	**-7404576.32**	**0.0526**	**0.0476**	
Uranus	**-24986-07-09 07:40**	**J**	**-7404524.29**	**-7404524.18**	**-7404524.05**	**0.0136**	**0.0102**	
Uranus	**-24986-10-05 14:09**	**J**	**-7404436.05**	**-7404435.91**	**-7404435.74**	**0.0136**	**0.0076**	
Mars	**-24986-11-08 10:04**	**J**	**-7404402.20**	**-7404402.08**	**-7404401.97**	**0.1681**	**0.0447**	
Uranus	**-24985-01-01 20:52**	**J**	**-7404347.79**	**-7404347.63**	**-7404347.45**	**0.0136**	**0.0050**	
Uranus	**-24985-03-30 03:35**	**J**	**-7404259.53**	**-7404259.35**	**-7404259.17**	**0.0136**	**0.0023**	
Uranus	**-24985-06-26 10:04**	**J**	**-7404171.26**	**-7404171.08**	**-7404170.90**	**0.0136**	**0.0003**	
Mars	**-24985-09-17 05:16**	**J**	**-7404088.37**	**-7404088.28**	**-7404088.19**	**0.1841**	**0.1537**	
Uranus	**-24985-09-22 16:19**	**J**	**-7404082.99**	**-7404082.82**	**-7404082.64**	**0.0136**	**0.0028**	

Uranus -24985-12-19 22:33 J -7403994.72 -7403994.56 -7403994.38 0.0135 0.0054

Moon -24985-12-21 12:43 J -7403993.01 -7403992.97 -7403992.93 0.2639 0.2517

Earth -24985-12-21 13:55 J -7403992.96 -7403992.92 -7403992.87 0.2642 0.2487 *

Uranus -24984-03-18 04:47 J -7403906.43 -7403906.30 -7403906.14 0.0135 0.0079

Uranus -24984-06-14 11:02 J -7403818.14 -7403818.04 -7403817.91 0.0135 0.0103

Uranus -24984-09-10 17:31 J -7403729.82 -7403729.77 -7403729.71 0.0135 0.0128

Mars -24984-10-13 16:33 J -7403696.81 -7403696.81 -7403696.81 0.1699 0.1697

Saturn -24983-04-07 11:16 J -7403521.11 -7403521.03 -7403520.96 0.0269 0.0221

Saturn -24983-07-04 21:50 J -7403432.71 -7403432.59 -7403432.46 0.0269 0.0112

Saturn -24983-10-01 08:38 J -7403344.27 -7403344.14 -7403344.00 0.0268 0.0004

Saturn -24983-12-28 19:26 J -7403255.81 -7403255.69 -7403255.56 0.0268 0.0109

Saturn -24982-03-27 06:28 J -7403167.31 -7403167.23 -7403167.15 0.0267 0.0219

Moon -24982-06-24 19:11 J -7403077.82 -7403077.70 -7403077.58 0.2684 0.0510

Earth -24982-06-24 19:55 J -7403077.78 -7403077.67 -7403077.56 0.2687 0.0587 *

Jupiter -24980-04-16 09:35 J -7402416.25 -7402416.10 -7402415.95 0.0498 0.0279

Jupiter -24980-07-15 15:35 J -7402325.93 -7402325.85 -7402325.75 0.0500 0.0425

Pluto -24980-08-31 20:52 J -7402278.69 -7402278.63 -7402278.56 0.0071 0.0065

Pluto -24980-11-27 22:04 J -7402190.66 -7402190.58 -7402190.48 0.0071 0.0058

Pluto -24979-02-23 23:16 J -7402102.62 -7402102.53 -7402102.40 0.0071 0.0051

Pluto -24979-05-23 00:43 J -7402014.58 -7402014.47 -7402014.33 0.0071 0.0044

Pluto -24979-08-19 02:23 J -7401926.54 -7401926.40 -7401926.26 0.0071 0.0036

Pluto -24979-11-15 03:35 J -7401838.49 -7401838.35 -7401838.19 0.0071 0.0029

Pluto -24978-02-11 05:16 J -7401750.43 -7401750.28 -7401750.12 0.0071 0.0021

Pluto -24978-05-10 06:28 J -7401662.38 -7401662.23 -7401662.06 0.0071 0.0014

Pluto -24978-08-06 08:09 J -7401574.32 -7401574.16 -7401574.00 0.0072 0.0006

Pluto -24978-11-02 09:35 J -7401486.26 -7401486.10 -7401485.94 0.0072 0.0001

Pluto -24977-01-29 11:02 J -7401398.20 -7401398.04 -7401397.88 0.0072 0.0009

Pluto -24977-04-26 12:28 J -7401310.14 -7401309.98 -7401309.82 0.0072 0.0017

Pluto -24977-07-23 13:40 J -7401222.07 -7401221.93 -7401221.76 0.0072 0.0025

Pluto -24977-10-19 15:21 J -7401134.00 -7401133.86 -7401133.71 0.0072 0.0033

Pluto -24976-01-15 16:47 J -7401045.93 -7401045.80 -7401045.65 0.0072 0.0041

Mars -24976-03-30 20:38 J -7400971.74 -7400971.64 -7400971.54 0.1677 0.0938

Pluto -24976-04-13 18:14 J -7400957.85 -7400957.74 -7400957.60 0.0072 0.0049

Pluto -24976-07-10 19:55 J -7400869.76 -7400869.67 -7400869.56 0.0072 0.0057

Pluto -24976-10-06 21:21 J -7400781.67 -7400781.61 -7400781.52 0.0073 0.0065

Venus -24975-06-14 04:47 J -7400531.37 -7400531.30 -7400531.23 0.3768 0.2737

Earth -24975-06-17 15:07 J -7400527.92 -7400527.87 -7400527.82 0.2692 0.2393

Moon -24975-06-17 15:50 J -7400527.90 -7400527.84 -7400527.78 0.2687 0.2261 *

Jupiter -24975-12-06 23:31 J -7400355.63 -7400355.52 -7400355.41 0.0529 0.0258

Mars -24974-03-06 02:38 J -7400266.47 -7400266.39 -7400266.30 0.1694 0.1160

Jupiter -24974-03-06 06:43 J -7400266.32 -7400266.22 -7400266.12 0.0527 0.0331 *

Moon -24972-12-24 15:21 J -7399242.00 -7399241.86 -7399241.73 0.2645 0.1007

Earth -24972-12-24 16:33 J -7399241.94 -7399241.81 -7399241.67 0.2644 0.0870 *

Neptune -24970-12-27 11:31 J -7398509.05 -7398509.02 -7398508.98 0.0089 0.0086

Venus -24970-12-28 20:52 J -7398507.73 -7398507.63 -7398507.52 0.3769 0.0419

Neptune -24969-03-24 12:57 J -7398421.02 -7398420.96 -7398420.90 0.0089 0.0079

Neptune -24969-06-20 14:09 J -7398332.98 -7398332.91 -7398332.82 0.0089 0.0072

Moon -24969-06-26 14:38 J -7398326.98 -7398326.89 -7398326.80 0.2688 0.1652

Earth -24969-06-26 15:35 J -7398326.94 -7398326.85 -7398326.76 0.2685 0.1692 *

Neptune -24969-09-16 15:21 J -7398244.93 -7398244.86 -7398244.75 0.0089 0.0066

Neptune -24969-12-13 16:47 J -7398156.89 -7398156.80 -7398156.69 0.0089 0.0059

Jupiter -24968-02-02 07:55 J -7398106.25 -7398106.17 -7398106.10 0.0497 0.0450

Neptune -24968-03-11 18:14 J -7398068.84 -7398068.74 -7398068.62 0.0089 0.0052

Jupiter -24968-05-03 14:23 J -7398016.05 -7398015.90 -7398015.75 0.0499 0.0257

Neptune -24968-06-07 19:40 J -7397980.79 -7397980.68 -7397980.56 0.0089 0.0045

Neptune -24968-09-03 21:07 J -7397892.74 -7397892.62 -7397892.49 0.0089 0.0038

Neptune -24968-11-30 22:33 J -7397804.68 -7397804.56 -7397804.43 0.0089 0.0031

Saturn -24967-01-24 05:02 J -7397750.45 -7397750.29 -7397750.13 0.0292 0.0129

Neptune -24967-02-26 23:59 J -7397716.63 -7397716.50 -7397716.37 0.0089 0.0024

Saturn -24967-04-23 04:04 J -7397661.50 -7397661.33 -7397661.15 0.0292 0.0064

Neptune -24967-05-26 01:26 J -7397628.57 -7397628.44 -7397628.31 0.0089 0.0017

Saturn -24967-07-21 02:52 J -7397572.46 -7397572.38 -7397572.29 0.0293 0.0253

Mars -24967-08-21 07:26 J -7397541.25 -7397541.19 -7397541.13 0.1673 0.1416

Neptune -24967-08-22 02:52 J -7397540.52 -7397540.38 -7397540.25 0.0089 0.0010

Neptune -24967-11-18 04:19 J -7397452.46 -7397452.32 -7397452.19 0.0089 0.0003

Neptune -24966-02-14 05:31 J -7397364.40 -7397364.27 -7397364.13 0.0089 0.0006

Neptune -24966-05-13 06:57 J -7397276.34 -7397276.21 -7397276.07 0.0089 0.0012

Neptune -24966-08-09 08:23 J -7397188.28 -7397188.15 -7397188.01 0.0089 0.0018

Neptune -24966-11-05 09:50 J -7397100.22 -7397100.09 -7397099.96 0.0089 0.0025

Neptune -24965-02-01 11:16 J -7397012.15 -7397012.03 -7397011.90 0.0089 0.0032

Neptune -24965-04-29 12:43 J -7396924.09 -7396923.97 -7396923.85 0.0089 0.0039

Mars -24965-07-26 12:57 J -7396836.07 -7396835.96 -7396835.85 0.1690 0.0632

Neptune -24965-07-26 14:09 J -7396836.02 -7396835.91 -7396835.79 0.0089 0.0047 *

Neptune -24965-10-22 15:35 J -7396747.96 -7396747.85 -7396747.74 0.0089 0.0054

Neptune -24964-01-18 17:02 J -7396659.89 -7396659.79 -7396659.69 0.0089 0.0061

Neptune -24964-04-16 18:14 J -7396571.81 -7396571.74 -7396571.64 0.0089 0.0068

Mars -24964-06-06 13:40 J -7396521.07 -7396520.93 -7396520.79 0.1830 0.0997

Venus -24964-07-13 13:11 J -7396484.03 -7396483.95 -7396483.86 0.3769 0.1983

Neptune -24964-07-13 19:40 J -7396483.74 -7396483.68 -7396483.59 0.0089 0.0075

Neptune -24964-10-09 21:07 J -7396395.66 -7396395.62 -7396395.55 0.0089 0.0083

Neptune -24963-01-05 23:02 J -7396307.54 -7396307.54 -7396307.54 0.0089 0.0089

Jupiter -24963-09-25 02:38 J -7396045.47 -7396045.39 -7396045.31 0.0530 0.0418

Jupiter -24963-12-23 09:50 J -7395956.22 -7395956.09 -7395955.97 0.0528 0.0169

Earth -24962-06-20 10:19 J -7395777.17 -7395777.07 -7395776.97 0.2690 0.1353

Moon -24962-06-20 10:33 J -7395777.16 -7395777.06 -7395776.96 0.2684 0.1383 *

Venus -24960-07-10 09:07 J -7395026.24 -7395026.12 -7395026.00 0.3606 0.2194

Moon -24959-12-27 18:14 J -7394490.88 -7394490.74 -7394490.60 0.2651 0.0616

Earth -24959-12-27 18:57 J -7394490.85 -7394490.71 -7394490.57 0.2646 0.0707 *

Jupiter -24956-02-19 12:57 J -7393706.14 -7393705.96 -7393705.78 0.0499 0.0089

Mars -24956-12-16 23:31 J -7393405.64 -7393405.52 -7393405.41 0.1685 0.0128

Mars -24955-10-27 10:04 J -7393091.24 -7393091.08 -7393090.92 0.1835 0.0187

Venus -24954-01-24 14:38 J -7393001.95 -7393001.89 -7393001.83 0.3605 0.3289

Saturn -24954-08-25 14:23 J -7392788.95 -7392788.90 -7392788.84 0.0270 0.0246

Saturn -24954-11-22 01:11 J -7392700.56 -7392700.45 -7392700.33 0.0269 0.0136

Saturn -24953-02-18 11:59 J -7392612.14 -7392612.00 -7392611.87 0.0268 0.0026

Saturn -24953-05-16 22:47 J -7392523.68 -7392523.55 -7392523.42 0.0268 0.0085

Saturn -24953-08-13 09:35 J -7392435.19 -7392435.10 -7392435.00 0.0267 0.0196

Jupiter -24951-10-11 13:26 J -7391646.07 -7391645.94 -7391645.81 0.0528 0.0024

Moon -24949-06-22 05:02 J -7391026.40 -7391026.29 -7391026.17 0.2682 0.0284

Earth -24949-06-22 05:31 J -7391026.38 -7391026.27 -7391026.15 0.2689 0.0290 *

Mars -24946-05-09 10:04 J -7389975.20 -7389975.08 -7389974.97 0.1681 0.0381

Earth -24946-12-30 20:52 J -7389739.71 -7389739.63 -7389739.56 0.2648 0.2226

Moon -24946-12-30 20:38 J -7389739.70 -7389739.64 -7389739.57 0.2654 0.2304 *

Mars -24945-03-18 06:14 J -7389661.34 -7389661.24 -7389661.13 0.1841 0.1404

Jupiter -24945-12-08 10:33 J -7389396.24 -7389396.06 -7389395.88 0.0498 0.0090

Uranus -24942-06-14 06:14 J -7388478.29 -7388478.24 -7388478.16 0.0142 0.0123

Uranus -24942-09-10 10:04 J -7388390.16 -7388390.08 -7388389.97 0.0142 0.0101

Uranus -24942-12-07 14:09 J -7388302.02 -7388301.91 -7388301.80 0.0142 0.0078

Uranus -24941-03-04 17:59 J -7388213.88 -7388213.75 -7388213.63 0.0143 0.0056

Uranus -24941-05-31 21:50 J -7388125.72 -7388125.59 -7388125.46 0.0143 0.0033

Uranus -24941-08-28 01:40 J -7388037.57 -7388037.43 -7388037.29 0.0143 0.0010

Uranus -24941-11-24 05:31 J -7387949.40 -7387949.27 -7387949.13 0.0143 0.0013

Uranus -24940-02-20 09:35 J -7387861.24 -7387861.10 -7387860.97 0.0143 0.0036

Uranus -24940-05-19 13:26 J -7387773.06 -7387772.94 -7387772.81 0.0143 0.0059

Uranus -24940-08-15 17:16 J -7387684.88 -7387684.78 -7387684.66 0.0143 0.0083

Uranus -24940-11-11 21:35 J -7387596.69 -7387596.60 -7387596.51 0.0143 0.0106

Uranus -24939-02-08 01:26 J -7387508.49 -7387508.44 -7387508.37 0.0143 0.0130

Jupiter -24939-07-30 17:31 J -7387335.89 -7387335.77 -7387335.64 0.0529 0.0121

Jupiter -24939-10-28 00:57 J -7387246.51 -7387246.46 -7387246.40 0.0527 0.0471

Moon -24939-12-22 18:43 J -7387190.78 -7387190.72 -7387190.66 0.2641 0.2387

Earth -24939-12-22 20:09 J -7387190.74 -7387190.66 -7387190.58 0.2642 0.2182 *

Saturn -24938-06-13 03:35 J -7387018.49 -7387018.35 -7387018.21 0.0292 0.0184

Saturn -24938-09-10 02:52 J -7386929.56 -7386929.38 -7386929.20 0.0292 0.0008

Saturn -24938-12-08 01:40 J -7386840.55 -7386840.43 -7386840.30 0.0293 0.0199

Mars -24937-09-28 20:38 J -7386544.74 -7386544.64 -7386544.54 0.1677 0.0873

Moon -24936-06-25 00:14 J -7386275.60 -7386275.49 -7386275.38 0.2685 0.0701

Earth -24936-06-25 00:57 J -7386275.57 -7386275.46 -7386275.35 0.2687 0.0800 *

Mars -24935-09-04 02:38 J -7385839.47 -7385839.39 -7385839.31 0.1694 0.1228

Jupiter -24933-09-26 08:23 J -7385086.30 -7385086.15 -7385086.00 0.0497 0.0266

Jupiter -24933-12-25 14:38 J -7384995.98 -7384995.89 -7384995.81 0.0500 0.0436

Earth -24929-06-17 20:09 J -7383725.72 -7383725.66 -7383725.60 0.2692 0.2197

Moon -24929-06-17 20:52 J -7383725.70 -7383725.63 -7383725.57 0.2687 0.2192 *

Mars -24927-02-19 07:26 J -7383114.26 -7383114.19 -7383114.12 0.1673 0.1353

Jupiter -24927-05-18 21:50 J -7383025.70 -7383025.59 -7383025.47 0.0530 0.0259

Jupiter -24927-08-16 05:16 J -7382936.38 -7382936.28 -7382936.18 0.0527 0.0332

Moon -24926-12-25 21:21 J -7382439.75 -7382439.61 -7382439.47 0.2645 0.0650

Earth -24926-12-25 22:47 J -7382439.70 -7382439.55 -7382439.41 0.2644 0.0574 *

Mars -24925-01-25 12:57 J -7382409.07 -7382408.96 -7382408.85 0.1690 0.0700

Mars -24925-12-05 14:09 J -7382094.04 -7382093.91 -7382093.78 0.1830 0.1097

Saturn -24924-04-10 03:07 J -7381968.47 -7381968.37 -7381968.27 0.0269 0.0173

Saturn -24924-07-07 13:40 J -7381880.06 -7381879.93 -7381879.79 0.0268 0.0065

Saturn -24924-10-04 00:28 J -7381791.61 -7381791.48 -7381791.34 0.0268 0.0047

Saturn -24924-12-31 11:16 J -7381703.13 -7381703.03 -7381702.91 0.0267 0.0157

Moon -24923-06-27 19:55 J -7381524.76 -7381524.67 -7381524.59 0.2688 0.1808

Earth -24923-06-27 20:38 J -7381524.72 -7381524.64 -7381524.56 0.2685 0.1907 *

Jupiter -24921-07-15 05:59 J -7380776.33 -7380776.25 -7380776.17 0.0497 0.0446

Jupiter -24921-10-13 12:28 J -7380686.13 -7380685.98 -7380685.82 0.0499 0.0261

Venus -24918-01-19 02:23 J -7379858.49 -7379858.40 -7379858.32 0.3768 0.1883

Mars -24916-06-16 23:31 J -7378978.64 -7378978.52 -7378978.41 0.1685 0.0193

Moon -24916-06-20 15:21 J -7378974.97 -7378974.86 -7378974.75 0.2683 0.1080

Earth -24916-06-20 15:21 J -7378974.97 -7378974.86 -7378974.76 0.2690 0.1151 *

Jupiter -24915-03-07 02:09 J -7378715.50 -7378715.41 -7378715.33 0.0530 0.0399

Mars -24915-04-27 10:47 J -7378664.22 -7378664.05 -7378663.89 0.1836 0.0075

Jupiter -24915-06-04 09:21 J -7378626.24 -7378626.11 -7378625.99 0.0528 0.0189

Venus -24913-08-03 18:28 J -7377834.83 -7377834.73 -7377834.62 0.3769 0.0489

Moon -24913-12-28 00:14 J -7377688.62 -7377688.49 -7377688.36 0.2652 0.0946

Earth -24913-12-28 00:57 J -7377688.59 -7377688.46 -7377688.33 0.2646 0.0996 *

Jupiter -24909-08-01 11:16 J -7376376.21 -7376376.03 -7376375.86 0.0499 0.0094

Saturn -24909-10-30 00:14 J -7376286.58 -7376286.49 -7376286.40 0.0291 0.0253

Saturn -24908-01-26 23:45 J -7376197.69 -7376197.51 -7376197.34 0.0292 0.0060

Saturn -24908-04-25 22:33 J -7376108.71 -7376108.56 -7376108.39 0.0293 0.0132

Venus -24907-02-17 10:47 J -7375811.11 -7375811.05 -7375810.98 0.3770 0.2865

Mars -24907-11-07 09:50 J -7375548.20 -7375548.09 -7375547.97 0.1681 0.0326

Mars -24906-09-17 06:57 J -7375234.32 -7375234.21 -7375234.09 0.1841 0.1279

Venus -24903-02-14 10:19 J -7374353.22 -7374353.07 -7374352.92 0.3606 0.0264

Jupiter -24903-03-23 12:14 J -7374316.12 -7374315.99 -7374315.86 0.0528 0.0029

Moon -24903-06-23 10:04 J -7374224.19 -7374224.08 -7374223.96 0.2682 0.0193

Earth -24903-06-23 10:33 J -7374224.18 -7374224.06 -7374223.94 0.2688 0.0086 *

Uranus -24902-05-02 07:26 J -7373911.25 -7373911.19 -7373911.11 0.0136 0.0124

Uranus -24902-07-29 13:55 J -7373823.03 -7373822.92 -7373822.78 0.0136 0.0098

Uranus -24902-10-25 20:52 J -7373734.78 -7373734.63 -7373734.47 0.0136 0.0071

Uranus -24901-01-22 03:21 J -7373646.52 -7373646.36 -7373646.18 0.0136 0.0045

Uranus -24901-04-19 10:04 J -7373558.26 -7373558.08 -7373557.90 0.0136 0.0019

Uranus -24901-07-16 16:33 J -7373469.99 -7373469.81 -7373469.63 0.0136 0.0007

Uranus -24901-10-12 22:47 J -7373381.72 -7373381.55 -7373381.37 0.0135 0.0033

Uranus -24900-01-09 05:16 J -7373293.44 -7373293.28 -7373293.12 0.0135 0.0058

Uranus -24900-04-07 11:16 J -7373205.16 -7373205.03 -7373204.87 0.0135 0.0083

Uranus -24900-07-04 17:45 J -7373116.86 -7373116.76 -7373116.65 0.0135 0.0108

Uranus -24900-09-30 23:45 J -7373028.53 -7373028.51 -7373028.46 0.0135 0.0132

Earth -24900-12-31 02:38 J -7372937.43 -7372937.39 -7372937.34 0.2648 0.2510

Moon -24900-12-31 02:52 J -7372937.42 -7372937.38 -7372937.33 0.2654 0.2482 *

Mars -24897-03-29 20:38 J -7372117.74 -7372117.64 -7372117.54 0.1677 0.0808

Jupiter -24897-05-20 09:50 J -7372066.27 -7372066.09 -7372065.92 0.0498 0.0074

Mars -24895-03-05 02:38 J -7371412.46 -7371412.39 -7371412.31 0.1694 0.1292

Pluto -24895-05-10 05:31 J -7371346.29 -7371346.27 -7371346.23 0.0074 0.0072

Pluto -24895-08-06 06:57 J -7371258.28 -7371258.21 -7371258.13 0.0074 0.0064

Saturn -24895-08-28 05:59 J -7371236.33 -7371236.25 -7371236.16 0.0269 0.0201

Pluto -24895-11-02 08:09 J -7371170.24 -7371170.16 -7371170.05 0.0074 0.0056

Saturn -24895-11-24 16:47 J -7371147.93 -7371147.80 -7371147.67 0.0269 0.0091

Pluto -24894-01-29 09:35 J -7371082.20 -7371082.10 -7371081.97 0.0074 0.0048

Saturn -24894-02-21 03:35 J -7371059.49 -7371059.35 -7371059.22 0.0268 0.0020

Pluto -24894-04-27 11:02 J -7370994.16 -7370994.04 -7370993.90 0.0074 0.0040

Saturn -24894-05-20 14:23 J -7370971.02 -7370970.90 -7370970.78 0.0268 0.0130

Pluto -24894-07-24 12:28 J -7370906.12 -7370905.98 -7370905.84 0.0073 0.0032

Saturn -24894-08-17 01:11 J -7370882.50 -7370882.45 -7370882.39 0.0267 0.0241

Pluto -24894-10-20 13:40 J -7370818.07 -7370817.93 -7370817.78 0.0073 0.0024

Pluto -24893-01-16 15:07 J -7370730.02 -7370729.87 -7370729.72 0.0073 0.0016

Pluto -24893-04-13 16:19 J -7370641.97 -7370641.82 -7370641.66 0.0073 0.0009

Pluto -24893-07-10 17:45 J -7370553.92 -7370553.76 -7370553.61 0.0073 0.0001

Pluto -24893-10-06 18:57 J -7370465.86 -7370465.71 -7370465.56 0.0073 0.0007

Moon -24893-12-23 00:43 J -7370388.57 -7370388.47 -7370388.37 0.2641 0.1904

Earth -24893-12-23 02:09 J -7370388.51 -7370388.41 -7370388.31 0.2643 0.1880 *

Pluto -24892-01-02 20:09 J -7370377.81 -7370377.66 -7370377.51 0.0073 0.0014

Pluto -24892-03-31 21:21 J -7370289.75 -7370289.61 -7370289.46 0.0073 0.0022

Pluto -24892-06-27 22:33 J -7370201.69 -7370201.56 -7370201.42 0.0072 0.0029

Pluto -24892-09-23 23:31 J -7370113.64 -7370113.52 -7370113.37 0.0072 0.0037

Pluto -24892-12-21 00:57 J -7370025.58 -7370025.46 -7370025.33 0.0072 0.0043

Jupiter -24891-01-09 16:04 J -7370005.96 -7370005.83 -7370005.70 0.0529 0.0120

Pluto -24891-03-19 02:09 J -7369937.51 -7369937.41 -7369937.30 0.0072 0.0051

Jupiter -24891-04-08 23:31 J -7369916.58 -7369916.52 -7369916.46 0.0526 0.0470

Pluto -24891-06-15 03:07 J -7369849.45 -7369849.37 -7369849.27 0.0072 0.0058

Pluto -24891-09-11 04:19 J -7369761.37 -7369761.32 -7369761.24 0.0072 0.0065

Pluto -24891-12-08 05:31 J -7369673.27 -7369673.27 -7369673.25 0.0072 0.0072

Moon -24890-06-26 05:16 J -7369473.39 -7369473.28 -7369473.17 0.2686 0.0974

Earth -24890-06-26 05:59 J -7369473.36 -7369473.25 -7369473.14 0.2687 0.1010 *

Mars -24888-08-20 07:26 J -7368687.26 -7368687.19 -7368687.12 0.1673 0.1291

Neptune -24886-06-17 01:11 J -7368021.49 -7368021.45 -7368021.39 0.0088 0.0084

Mars -24886-07-26 12:57 J -7367982.06 -7367981.96 -7367981.85 0.1690 0.0767

Neptune -24886-09-13 04:19 J -7367933.40 -7367933.32 -7367933.20 0.0088 0.0075

Neptune -24886-12-10 07:55 J -7367845.28 -7367845.17 -7367845.03 0.0088 0.0065

Neptune -24885-03-07 11:31 J -7367757.16 -7367757.02 -7367756.87 0.0088 0.0056

Jupiter -24885-03-08 07:26 J -7367756.35 -7367756.19 -7367756.04 0.0497 0.0253

Neptune -24885-06-03 14:52 J -7367669.03 -7367668.88 -7367668.71 0.0088 0.0046

Mars -24885-06-05 14:52 J -7367667.00 -7367666.88 -7367666.76 0.1830 0.1216

Jupiter -24885-06-06 13:26 J -7367666.01 -7367665.94 -7367665.86 0.0500 0.0449

Neptune -24885-08-30 18:28 J -7367580.90 -7367580.73 -7367580.56 0.0088 0.0036

Neptune -24885-11-26 21:35 J -7367492.77 -7367492.60 -7367492.41 0.0088 0.0027

Neptune -24884-02-23 01:11 J -7367404.64 -7367404.45 -7367404.26 0.0088 0.0017

Neptune -24884-05-22 04:33 J -7367316.50 -7367316.31 -7367316.12 0.0088 0.0008

Neptune -24884-08-18 07:55 J -7367228.36 -7367228.17 -7367227.98 0.0088 0.0002

Neptune -24884-11-14 11:16 J -7367140.22 -7367140.03 -7367139.84 0.0088 0.0011

Neptune -24883-02-10 14:38 J -7367052.07 -7367051.89 -7367051.71 0.0088 0.0020

Neptune -24883-05-09 17:45 J -7366963.93 -7366963.76 -7366963.57 0.0088 0.0030

Earth -24883-06-19 01:11 J -7366923.53 -7366923.45 -7366923.38 0.2691 0.1999

Moon -24883-06-19 01:40 J -7366923.51 -7366923.43 -7366923.34 0.2687 0.1888 *

Neptune -24883-08-05 21:07 J -7366875.78 -7366875.62 -7366875.45 0.0088 0.0039

Neptune -24883-11-02 00:28 J -7366787.63 -7366787.48 -7366787.32 0.0088 0.0049

Neptune -24882-01-29 03:35 J -7366699.48 -7366699.35 -7366699.20 0.0088 0.0058

Neptune -24882-04-27 06:43 J -7366611.32 -7366611.22 -7366611.08 0.0088 0.0068

Neptune -24882-07-24 10:19 J -7366523.16 -7366523.07 -7366522.97 0.0088 0.0076

Neptune -24882-10-20 13:40 J -7366434.97 -7366434.93 -7366434.89 0.0088 0.0086

Jupiter -24880-10-28 20:09 J -7365695.77 -7365695.66 -7365695.55 0.0530 0.0262

Moon -24880-12-26 03:35 J -7365637.49 -7365637.35 -7365637.21 0.2647 0.0442

Earth -24880-12-26 04:47 J -7365637.45 -7365637.30 -7365637.16 0.2644 0.0283 *

Jupiter -24879-01-26 03:35 J -7365606.45 -7365606.35 -7365606.25 0.0527 0.0328

Saturn -24879-06-15 22:04 J -7365465.75 -7365465.58 -7365465.42 0.0292 0.0118

Saturn -24879-09-12 21:07 J -7365376.79 -7365376.62 -7365376.44 0.0293 0.0075

Saturn -24879-12-10 19:55 J -7365287.74 -7365287.67 -7365287.59 0.0293 0.0264

Moon -24877-06-28 00:57 J -7364722.53 -7364722.46 -7364722.39 0.2688 0.2065

Earth -24877-06-28 01:40 J -7364722.50 -7364722.43 -7364722.36 0.2685 0.2124 *

Mars -24877-12-15 23:31 J -7364551.64 -7364551.52 -7364551.41 0.1685 0.0256

Mars -24876-10-26 11:31 J -7364237.18 -7364237.02 -7364236.86 0.1835 0.0049

Jupiter -24874-12-26 05:02 J -7363446.37 -7363446.29 -7363446.19 0.0497 0.0429

Jupiter -24873-03-25 11:45 J -7363356.16 -7363356.01 -7363355.86 0.0499 0.0277

Moon -24870-06-21 20:09 J -7362172.77 -7362172.66 -7362172.55 0.2683 0.1016

Earth -24870-06-21 20:23 J -7362172.76 -7362172.65 -7362172.55 0.2690 0.0954 *

Jupiter -24868-08-17 00:43 J -7361385.56 -7361385.47 -7361385.39 0.0530 0.0398

Jupiter -24868-11-14 07:55 J -7361296.29 -7361296.17 -7361296.05 0.0528 0.0191

Venus -24867-02-09 07:40 J -7361209.23 -7361209.18 -7361209.14 0.3767 0.3339

Mars -24867-05-08 10:04 J -7361121.20 -7361121.08 -7361120.97 0.1681 0.0255

Moon -24867-12-29 06:14 J -7360886.37 -7360886.24 -7360886.12 0.2652 0.1245

Earth -24867-12-29 06:57 J -7360886.34 -7360886.21 -7360886.09 0.2646 0.1289 *

Mars -24866-03-18 07:40 J -7360807.31 -7360807.18 -7360807.06 0.1841 0.1170

Saturn -24865-01-15 07:55 J -7360504.23 -7360504.17 -7360504.11 0.0269 0.0238

Saturn -24865-04-12 18:28 J -7360415.85 -7360415.73 -7360415.61 0.0269 0.0129

Saturn -24865-07-10 05:16 J -7360327.42 -7360327.28 -7360327.15 0.0268 0.0020

Saturn -24865-10-06 16:04 J -7360238.96 -7360238.83 -7360238.70 0.0268 0.0091

Saturn -24864-01-03 02:52 J -7360150.47 -7360150.38 -7360150.29 0.0267 0.0201

Venus -24862-08-25 23:59 J -7359185.60 -7359185.50 -7359185.41 0.3768 0.1031

Jupiter -24861-01-12 09:35 J -7359046.27 -7359046.10 -7359045.92 0.0499 0.0102

Uranus -24858-04-07 10:04 J -7357865.11 -7357865.08 -7357865.05 0.0142 0.0138

Uranus -24858-07-04 13:40 J -7357777.00 -7357776.93 -7357776.85 0.0142 0.0116

Mars -24858-09-28 20:38 J -7357690.75 -7357690.64 -7357690.54 0.1677 0.0750

Uranus -24858-09-30 17:31 J -7357688.87 -7357688.77 -7357688.66 0.0142 0.0094

Uranus -24858-12-27 21:21 J -7357600.72 -7357600.61 -7357600.49 0.0143 0.0072

Uranus -24857-03-25 01:11 J -7357512.58 -7357512.45 -7357512.32 0.0143 0.0050

Uranus -24857-06-21 05:02 J -7357424.42 -7357424.29 -7357424.15 0.0143 0.0027

Moon -24857-06-23 15:07 J -7357421.99 -7357421.87 -7357421.75 0.2683 0.0141

Earth -24857-06-23 15:35 J -7357421.97 -7357421.85 -7357421.73 0.2688 0.0128 *

Uranus -24857-09-17 09:07 J -7357336.26 -7357336.12 -7357335.99 0.0143 0.0006

Uranus -24857-12-14 12:57 J -7357248.10 -7357247.96 -7357247.82 0.0143 0.0019

Venus -24856-03-10 16:04 J -7357161.92 -7357161.83 -7357161.73 0.3769 0.1335

Uranus -24856-03-12 16:47 J -7357159.93 -7357159.80 -7357159.66 0.0143 0.0042

Uranus -24856-06-08 20:52 J -7357071.75 -7357071.63 -7357071.51 0.0143 0.0065

Jupiter -24856-09-02 11:59 J -7356986.13 -7356986.00 -7356985.87 0.0528 0.0050

Mars -24856-09-03 02:38 J -7356985.46 -7356985.39 -7356985.32 0.1694 0.1359

Uranus -24856-09-05 00:57 J -7356983.57 -7356983.46 -7356983.35 0.0143 0.0089

Uranus -24856-12-02 04:47 J -7356895.38 -7356895.30 -7356895.21 0.0143 0.0112

Uranus -24855-02-28 08:52 J -7356807.16 -7356807.13 -7356807.08 0.0144 0.0136

Venus -24851-09-24 08:38 J -7355138.15 -7355138.14 -7355138.14 0.3770 0.3752

Jupiter -24850-10-31 08:23 J -7354736.33 -7354736.15 -7354735.97 0.0498 0.0065

Saturn -24850-11-02 17:45 J -7354733.89 -7354733.76 -7354733.62 0.0291 0.0194

Saturn -24849-01-30 17:16 J -7354644.96 -7354644.78 -7354644.60 0.0292 0.0004

Saturn -24849-04-28 16:04 J -7354555.96 -7354555.83 -7354555.69 0.0293 0.0190

Mars -24848-02-18 07:26 J -7354260.27 -7354260.19 -7354260.11 0.1673 0.1230

Venus -24847-09-21 11:16 J -7353680.16 -7353680.03 -7353679.89 0.3606 0.1613

Moon -24847-12-24 06:57 J -7353586.32 -7353586.21 -7353586.11 0.2641 0.1790

Earth -24847-12-24 08:09 J -7353586.27 -7353586.16 -7353586.04 0.2643 0.1575 *

Mars -24846-01-24 12:57 J -7353555.06 -7353554.96 -7353554.86 0.1689 0.0826

Mars -24846-12-05 15:35 J -7353239.96 -7353239.85 -7353239.74 0.1830 0.1337

Jupiter -24844-06-21 15:07 J -7352676.00 -7352675.87 -7352675.74 0.0529 0.0110

Moon -24844-06-26 10:19 J -7352671.18 -7352671.07 -7352670.96 0.2686 0.1083

Earth -24844-06-26 11:02 J -7352671.14 -7352671.04 -7352670.93 0.2686 0.1229 *

Jupiter -24844-09-18 22:33 J -7352586.61 -7352586.56 -7352586.51 0.0526 0.0479

Jupiter -24838-08-19 06:43 J -7350426.37 -7350426.22 -7350426.06 0.0498 0.0233

Jupiter -24838-11-17 12:57 J -7350336.01 -7350335.96 -7350335.90 0.0500 0.0470

Mars -24837-06-15 23:31 J -7350124.64 -7350124.52 -7350124.41 0.1685 0.0319

Earth -24837-06-19 06:14 J -7350121.33 -7350121.24 -7350121.16 0.2691 0.1797

Moon -24837-06-19 06:43 J -7350121.31 -7350121.22 -7350121.14 0.2686 0.1777 *

Mars -24836-04-26 12:14 J -7349810.15 -7349809.99 -7349809.82 0.1835 0.0172

Saturn -24836-06-03 10:47 J -7349772.06 -7349772.05 -7349772.04 0.0270 0.0268

Saturn -24836-08-30 21:07 J -7349683.72 -7349683.62 -7349683.50 0.0269 0.0160

Saturn -24836-11-27 07:55 J -7349595.30 -7349595.17 -7349595.03 0.0269 0.0050

Saturn -24835-02-23 18:43 J -7349506.85 -7349506.72 -7349506.58 0.0268 0.0062

Saturn -24835-05-23 05:31 J -7349418.37 -7349418.27 -7349418.16 0.0267 0.0173

Moon -24834-12-27 09:35 J -7348835.24 -7348835.10 -7348834.96 0.2649 0.0030

Earth -24834-12-27 10:47 J -7348835.20 -7348835.05 -7348834.91 0.2645 0.0052 *

Jupiter -24832-04-09 18:57 J -7348365.82 -7348365.71 -7348365.60 0.0530 0.0257

Jupiter -24832-07-08 02:09 J -7348276.51 -7348276.41 -7348276.31 0.0527 0.0332

Moon -24831-06-29 06:14 J -7347920.30 -7347920.24 -7347920.18 0.2689 0.2308

Earth -24831-06-29 06:43 J -7347920.27 -7347920.22 -7347920.16 0.2684 0.2339 *

Mars -24828-11-06 10:04 J -7346694.20 -7346694.08 -7346693.97 0.1681 0.0195

Mars -24827-09-16 08:23 J -7346380.29 -7346380.15 -7346380.02 0.1841 0.1047

Jupiter -24826-06-07 04:19 J -7346116.41 -7346116.32 -7346116.21 0.0497 0.0412

Jupiter -24826-09-05 11:02 J -7346026.19 -7346026.04 -7346025.90 0.0499 0.0294

Moon -24824-06-22 01:11 J -7345370.56 -7345370.45 -7345370.34 0.2682 0.0697

Earth -24824-06-22 01:26 J -7345370.56 -7345370.44 -7345370.33 0.2690 0.0749 *

Moon -24821-12-29 12:14 J -7344084.10 -7344083.99 -7344083.87 0.2652 0.1512

Earth -24821-12-29 12:43 J -7344084.08 -7344083.97 -7344083.85 0.2647 0.1579 *

Jupiter -24820-01-26 23:02 J -7344055.62 -7344055.54 -7344055.46 0.0530 0.0398

Saturn -24820-03-21 15:50 J -7344001.92 -7344001.84 -7344001.74 0.0292 0.0254

Jupiter -24820-04-26 06:14 J -7343966.36 -7343966.24 -7343966.12 0.0528 0.0189

Saturn -24820-06-18 15:35 J -7343913.03 -7343912.85 -7343912.68 0.0292 0.0060

Saturn -24820-09-15 14:38 J -7343824.05 -7343823.89 -7343823.73 0.0293 0.0133

Mars -24818-03-29 20:38 J -7343263.75 -7343263.64 -7343263.53 0.1677 0.0684

Uranus -24818-05-22 14:23 J -7343209.98 -7343209.90 -7343209.81 0.0136 0.0118

Uranus -24818-08-18 20:52 J -7343121.75 -7343121.63 -7343121.48 0.0136 0.0092

Uranus -24818-11-15 03:50 J -7343033.50 -7343033.34 -7343033.18 0.0136 0.0065

Uranus -24817-02-11 10:19 J -7342945.24 -7342945.07 -7342944.89 0.0136 0.0039

Uranus -24817-05-09 16:47 J -7342856.98 -7342856.80 -7342856.61 0.0136 0.0014

Uranus -24817-08-05 23:16 J -7342768.71 -7342768.53 -7342768.34 0.0135 0.0013

Uranus -24817-11-02 05:45 J -7342680.43 -7342680.26 -7342680.08 0.0135 0.0038

Uranus -24816-01-29 12:14 J -7342592.15 -7342591.99 -7342591.83 0.0135 0.0064

Mars -24816-03-04 02:38 J -7342558.45 -7342558.39 -7342558.32 0.1694 0.1424

Uranus -24816-04-27 18:28 J -7342503.86 -7342503.73 -7342503.59 0.0135 0.0089

Uranus -24816-07-25 00:43 J -7342415.56 -7342415.47 -7342415.37 0.0135 0.0113

Jupiter -24814-06-24 09:07 J -7341716.30 -7341716.12 -7341715.95 0.0499 0.0121

Moon -24811-06-24 19:55 J -7340619.78 -7340619.67 -7340619.55 0.2684 0.0222

Earth -24811-06-24 20:38 J -7340619.75 -7340619.64 -7340619.52 0.2688 0.0338 *

Venus -24811-09-16 05:16 J -7340536.36 -7340536.28 -7340536.21 0.3767 0.2492

Mars -24809-08-19 07:26 J -7339833.27 -7339833.19 -7339833.11 0.1673 0.1167

Jupiter -24808-02-12 10:33 J -7339656.19 -7339656.06 -7339655.93 0.0529 0.0052

Mars -24807-07-25 12:57 J -7339128.06 -7339127.96 -7339127.86 0.1690 0.0897

Saturn -24806-01-17 23:02 J -7338951.63 -7338951.54 -7338951.45 0.0269 0.0197

Saturn -24806-04-16 09:35 J -7338863.22 -7338863.10 -7338862.97 0.0268 0.0088

Mars -24806-06-05 16:04 J -7338812.93 -7338812.83 -7338812.73 0.1830 0.1441

Saturn -24806-07-13 20:23 J -7338774.79 -7338774.65 -7338774.51 0.0268 0.0022

Saturn -24806-10-10 07:11 J -7338686.32 -7338686.20 -7338686.08 0.0267 0.0132

Saturn -24805-01-06 17:59 J -7338597.80 -7338597.75 -7338597.69 0.0267 0.0243

Venus -24805-03-31 21:21 J -7338512.71 -7338512.61 -7338512.51 0.3768 0.0179

Neptune -24805-06-26 10:04 J -7338426.09 -7338426.08 -7338426.06 0.0089 0.0088

Neptune -24805-09-22 11:31 J -7338338.07 -7338338.02 -7338337.96 0.0089 0.0081

Neptune -24805-12-19 12:57 J -7338250.03 -7338249.96 -7338249.89 0.0089 0.0075

Neptune -24804-03-17 14:23 J -7338161.99 -7338161.90 -7338161.81 0.0089 0.0068

Neptune -24804-06-13 15:21 J -7338073.94 -7338073.86 -7338073.75 0.0089 0.0062

Earth -24804-06-17 16:04 J -7338069.85 -7338069.83 -7338069.81 0.2693 0.2635

Moon -24804-06-17 17:02 J -7338069.83 -7338069.79 -7338069.76 0.2691 0.2533 *

Neptune -24804-09-09 16:47 J -7337985.89 -7337985.80 -7337985.68 0.0089 0.0055

Neptune -24804-12-06 18:14 J -7337897.84 -7337897.74 -7337897.62 0.0089 0.0048

Neptune -24803-03-04 19:40 J -7337809.79 -7337809.68 -7337809.55 0.0089 0.0041

Neptune -24803-05-31 21:07 J -7337721.74 -7337721.62 -7337721.49 0.0089 0.0034

Neptune -24803-08-27 22:33 J -7337633.68 -7337633.56 -7337633.43 0.0089 0.0026

Neptune -24803-11-23 23:59 J -7337545.63 -7337545.50 -7337545.37 0.0089 0.0019

Neptune -24802-02-20 01:26 J -7337457.57 -7337457.44 -7337457.31 0.0089 0.0012

Jupiter -24802-04-12 06:57 J -7337406.39 -7337406.21 -7337406.03 0.0498 0.0055

Neptune -24802-05-19 02:52 J -7337369.51 -7337369.38 -7337369.25 0.0089 0.0005

Neptune -24802-08-15 04:19 J -7337281.46 -7337281.32 -7337281.19 0.0089 0.0002

Neptune -24802-11-11 05:31 J -7337193.40 -7337193.27 -7337193.13 0.0089 0.0010

Neptune -24801-02-07 06:57 J -7337105.34 -7337105.21 -7337105.07 0.0089 0.0016

Neptune -24801-05-05 08:23 J -7337017.28 -7337017.15 -7337017.01 0.0089 0.0023

Neptune -24801-08-01 09:50 J -7336929.21 -7336929.09 -7336928.96 0.0089 0.0030

Neptune -24801-10-28 11:02 J -7336841.15 -7336841.04 -7336840.90 0.0089 0.0038

Moon -24801-12-24 12:57 J -7336784.09 -7336783.96 -7336783.84 0.2642 0.1310

Earth -24801-12-24 14:09 J -7336784.03 -7336783.91 -7336783.78 0.2643 0.1281 *

Neptune -24800-01-24 12:28 J -7336753.09 -7336752.98 -7336752.85 0.0089 0.0045

Neptune -24800-04-22 13:55 J -7336665.02 -7336664.92 -7336664.80 0.0089 0.0051

Neptune -24800-07-19 15:21 J -7336576.95 -7336576.86 -7336576.74 0.0089 0.0059

Venus -24800-10-15 13:40 J -7336489.01 -7336488.93 -7336488.84 0.3769 0.2209

Neptune -24800-10-15 16:47 J -7336488.88 -7336488.80 -7336488.70 0.0089 0.0066 *

Mars -24799-01-09 18:14 J -7336402.76 -7336402.74 -7336402.72 0.1669 0.1642

Neptune -24799-01-11 18:14 J -7336400.81 -7336400.74 -7336400.65 0.0089 0.0073

Neptune -24799-04-09 19:40 J -7336312.73 -7336312.68 -7336312.61 0.0089 0.0080

Neptune -24799-07-06 21:21 J -7336224.64 -7336224.61 -7336224.58 0.0089 0.0086

Moon -24798-06-27 15:21 J -7335868.96 -7335868.86 -7335868.76 0.2686 0.1413

Earth -24798-06-27 16:04 J -7335868.92 -7335868.83 -7335868.73 0.2686 0.1437 *

Mars -24798-12-15 23:31 J -7335697.64 -7335697.52 -7335697.41 0.1685 0.0383

Mars -24797-10-25 12:43 J -7335383.13 -7335382.97 -7335382.80 0.1836 0.0281

Jupiter -24797-12-01 14:52 J -7335346.01 -7335345.88 -7335345.76 0.0529 0.0090

Jupiter -24796-02-28 22:04 J -7335256.61 -7335256.58 -7335256.54 0.0526 0.0504

Venus -24796-10-12 06:43 J -7335031.34 -7335031.22 -7335031.09 0.3607 0.2025

Earth -24791-06-20 11:16 J -7333319.13 -7333319.03 -7333318.94 0.2691 0.1601

Moon -24791-06-20 11:31 J -7333319.11 -7333319.02 -7333318.93 0.2685 0.1559 *

Saturn -24791-11-05 10:47 J -7333181.20 -7333181.05 -7333180.89 0.0292 0.0140

Jupiter -24790-01-29 05:31 J -7333096.43 -7333096.27 -7333096.11 0.0498 0.0222

Saturn -24790-02-02 10:04 J -7333092.25 -7333092.08 -7333091.90 0.0292 0.0054

Venus -24790-04-28 12:28 J -7333007.02 -7333006.98 -7333006.95 0.3605 0.3474

Jupiter -24790-04-29 11:45 J -7333006.05 -7333006.01 -7333005.96 0.0500 0.0481

Saturn -24790-05-02 08:52 J -7333003.22 -7333003.13 -7333003.02 0.0293 0.0244

Mars -24788-05-07 09:50 J -7332267.20 -7332267.09 -7332266.97 0.1681 0.0138

Moon -24788-12-27 15:35 J -7332032.99 -7332032.85 -7332032.70 0.2649 0.0145

Earth -24788-12-27 16:47 J -7332032.95 -7332032.80 -7332032.66 0.2645 0.0326 *

Mars -24787-03-17 09:21 J -7331953.25 -7331953.11 -7331952.97 0.1841 0.0913

Moon -24785-06-29 11:16 J -7331118.07 -7331118.03 -7331117.98 0.2690 0.2477

Earth -24785-06-29 11:45 J -7331118.04 -7331118.01 -7331117.97 0.2684 0.2561 *

Jupiter -24785-09-19 17:59 J -7331035.86 -7331035.75 -7331035.64 0.0529 0.0245

Jupiter -24785-12-18 01:11 J -7330946.55 -7330946.45 -7330946.35 0.0527 0.0344

Mars -24779-09-27 20:38 J -7328836.75 -7328836.64 -7328836.53 0.1677 0.0620

Jupiter -24779-11-17 03:50 J -7328786.44 -7328786.34 -7328786.22 0.0497 0.0391

Jupiter -24778-02-15 10:33 J -7328696.20 -7328696.06 -7328695.92 0.0499 0.0316

Moon -24778-06-23 06:14 J -7328568.35 -7328568.24 -7328568.13 0.2683 0.0594

Earth -24778-06-23 06:28 J -7328568.35 -7328568.23 -7328568.12 0.2689 0.0543 *

Saturn -24777-06-06 01:40 J -7328219.50 -7328219.43 -7328219.36 0.0270 0.0229

Mars -24777-09-02 02:38 J -7328131.44 -7328131.39 -7328131.33 0.1694 0.1490

Saturn -24777-09-02 12:14 J -7328131.11 -7328130.99 -7328130.87 0.0269 0.0120

Saturn -24777-11-29 23:02 J -7328042.68 -7328042.54 -7328042.41 0.0268 0.0010

Saturn -24776-02-26 09:50 J -7327954.22 -7327954.09 -7327953.97 0.0268 0.0101

Saturn -24776-05-25 20:38 J -7327865.72 -7327865.64 -7327865.56 0.0267 0.0212

Moon -24775-12-30 18:28 J -7327281.82 -7327281.73 -7327281.63 0.2653 0.1915

Earth -24775-12-30 18:43 J -7327281.82 -7327281.72 -7327281.62 0.2647 0.1867 *

Uranus -24774-04-27 17:16 J -7327163.83 -7327163.78 -7327163.73 0.0142 0.0133

Uranus -24774-07-24 20:52 J -7327075.71 -7327075.63 -7327075.54 0.0142 0.0111

Uranus -24774-10-21 00:43 J -7326987.57 -7326987.47 -7326987.36 0.0142 0.0089

Uranus -24773-01-17 04:33 J -7326899.43 -7326899.31 -7326899.19 0.0143 0.0067

Uranus -24773-04-14 08:23 J -7326811.28 -7326811.15 -7326811.02 0.0143 0.0044

Jupiter -24773-07-08 21:50 J -7326725.67 -7326725.59 -7326725.50 0.0530 0.0390

Uranus -24773-07-11 12:14 J -7326723.12 -7326722.99 -7326722.85 0.0143 0.0022

Jupiter -24773-10-06 05:02 J -7326636.41 -7326636.29 -7326636.17 0.0528 0.0196

Uranus -24773-10-07 16:04 J -7326634.96 -7326634.83 -7326634.69 0.0143 0.0005

Uranus -24772-01-03 20:09 J -7326546.80 -7326546.66 -7326546.52 0.0143 0.0024

Uranus -24772-04-01 23:59 J -7326458.63 -7326458.50 -7326458.37 0.0143 0.0048

Uranus -24772-06-29 04:04 J -7326370.45 -7326370.33 -7326370.21 0.0143 0.0071

Uranus -24772-09-25 07:55 J -7326282.27 -7326282.17 -7326282.06 0.0143 0.0095

Uranus -24772-12-22 11:59 J -7326194.07 -7326194.00 -7326193.92 0.0143 0.0118

Uranus -24771-03-20 16:04 J -7326105.84 -7326105.83 -7326105.80 0.0144 0.0142

Mars -24769-02-18 07:26 J -7325406.28 -7325406.19 -7325406.11 0.1673 0.1104

Earth -24768-12-22 17:31 J -7324732.79 -7324732.77 -7324732.76 0.2641 0.2620

Mars -24767-01-23 12:57 J -7324701.05 -7324700.96 -7324700.86 0.1690 0.0963

Jupiter -24767-12-04 08:23 J -7324386.32 -7324386.15 -7324385.98 0.0499 0.0140

Mars -24767-12-04 16:47 J -7324385.88 -7324385.80 -7324385.72 0.1830 0.1558

Moon -24765-06-25 00:57 J -7323817.57 -7323817.46 -7323817.34 0.2685 0.0533

Earth -24765-06-25 01:40 J -7323817.54 -7323817.43 -7323817.31 0.2688 0.0555 *

Saturn -24761-03-24 08:52 J -7322449.26 -7322449.13 -7322449.00 0.0292 0.0200

Saturn -24761-06-21 08:23 J -7322360.33 -7322360.15 -7322359.97 0.0293 0.0007

Jupiter -24761-07-25 09:07 J -7322326.25 -7322326.12 -7322325.99 0.0529 0.0055

Saturn -24761-09-18 07:26 J -7322271.33 -7322271.19 -7322271.05 0.0293 0.0185

Mars -24760-07-10 18:14 J -7321975.77 -7321975.74 -7321975.70 0.1669 0.1577

Mars -24758-06-15 23:31 J -7321270.64 -7321270.52 -7321270.41 0.1685 0.0448

Earth -24758-06-18 21:07 J -7321267.67 -7321267.62 -7321267.57 0.2692 0.2440

Moon -24758-06-18 21:50 J -7321267.64 -7321267.59 -7321267.54 0.2690 0.2403 *

Mars -24757-04-25 13:40 J -7320956.09 -7320955.93 -7320955.77 0.1835 0.0403

Jupiter -24755-09-22 06:28 J -7320076.41 -7320076.23 -7320076.05 0.0498 0.0034

Moon -24755-12-25 18:57 J -7319981.84 -7319981.71 -7319981.58 0.2645 0.1157

Earth -24755-12-25 20:23 J -7319981.79 -7319981.65 -7319981.52 0.2643 0.0977 *

Venus -24754-04-23 02:52 J -7319863.48 -7319863.38 -7319863.29 0.3767 0.1649

Moon -24752-06-27 20:23 J -7319066.74 -7319066.65 -7319066.55 0.2687 0.1510

Earth -24752-06-27 21:21 J -7319066.70 -7319066.61 -7319066.52 0.2686 0.1652 *

Jupiter -24749-05-13 13:26 J -7318016.07 -7318015.94 -7318015.81 0.0529 0.0084

Jupiter -24749-08-10 20:52 J -7317926.66 -7317926.63 -7317926.60 0.0527 0.0507

Mars -24749-11-05 09:50 J -7317840.20 -7317840.09 -7317839.97 0.1681 0.0092

Venus -24749-11-05 18:57 J -7317839.81 -7317839.71 -7317839.61 0.3768 0.0703

Mars -24748-09-15 09:35 J -7317526.25 -7317526.10 -7317525.95 0.1841 0.0818

Saturn -24748-10-24 03:35 J -7317487.37 -7317487.35 -7317487.34 0.0269 0.0267

Saturn -24747-01-20 14:09 J -7317399.02 -7317398.91 -7317398.80 0.0269 0.0158

Saturn -24747-04-19 00:43 J -7317310.60 -7317310.47 -7317310.33 0.0268 0.0048

Saturn -24747-07-16 11:31 J -7317222.15 -7317222.02 -7317221.89 0.0268 0.0062

Saturn -24747-10-12 22:19 J -7317133.67 -7317133.57 -7317133.47 0.0267 0.0173

Moon -24745-06-20 16:19 J -7316516.92 -7316516.82 -7316516.72 0.2684 0.1357

Earth -24745-06-20 16:04 J -7316516.92 -7316516.83 -7316516.73 0.2691 0.1400 *

Venus -24743-05-22 11:16 J -7315816.08 -7315816.03 -7315815.97 0.3769 0.3101

Jupiter -24743-07-11 04:19 J -7315766.48 -7315766.32 -7315766.16 0.0498 0.0211

Jupiter -24743-10-09 10:19 J -7315676.09 -7315676.07 -7315676.03 0.0500 0.0491

Moon -24742-12-28 21:35 J -7315230.74 -7315230.60 -7315230.46 0.2649 0.0619

Earth -24742-12-28 22:47 J -7315230.69 -7315230.55 -7315230.41 0.2645 0.0619 *

Mars -24739-03-28 20:38 J -7314409.75 -7314409.64 -7314409.53 0.1677 0.0562

Venus -24739-05-19 08:09 J -7314358.31 -7314358.16 -7314358.01 0.3606 0.0090

Jupiter -24737-03-01 17:45 J -7313705.88 -7313705.76 -7313705.65 0.0530 0.0223

Mars -24737-03-03 02:38 J -7313704.43 -7313704.39 -7313704.34 0.1694 0.1557

Jupiter -24737-05-30 00:57 J -7313616.55 -7313616.46 -7313616.37 0.0527 0.0367

Uranus -24734-06-11 21:07 J -7312508.71 -7312508.62 -7312508.50 0.0136 0.0112

Pluto -24734-07-28 11:45 J -7312462.04 -7312462.01 -7312461.93 0.0071 0.0066

Uranus -24734-09-08 04:04 J -7312420.47 -7312420.33 -7312420.18 0.0136 0.0085

Pluto -24734-10-24 13:40 J -7312374.02 -7312373.93 -7312373.84 0.0071 0.0058

Uranus -24734-12-05 10:47 J -7312332.21 -7312332.05 -7312331.88 0.0136 0.0059

Pluto -24733-01-20 14:52 J -7312285.98 -7312285.88 -7312285.76 0.0071 0.0051

Uranus -24733-03-02 17:16 J -7312243.95 -7312243.78 -7312243.60 0.0136 0.0033

Pluto -24733-04-17 16:04 J -7312197.94 -7312197.83 -7312197.69 0.0071 0.0044

Uranus -24733-05-29 23:59 J -7312155.69 -7312155.50 -7312155.32 0.0135 0.0007

Pluto -24733-07-14 17:45 J -7312109.90 -7312109.76 -7312109.62 0.0071 0.0037

Uranus -24733-08-26 06:14 J -7312067.41 -7312067.24 -7312067.05 0.0135 0.0019

Pluto -24733-10-10 18:57 J -7312021.85 -7312021.71 -7312021.55 0.0071 0.0030

Uranus -24733-11-22 12:43 J -7311979.14 -7311978.97 -7311978.80 0.0135 0.0044

Pluto -24732-01-06 20:38 J -7311933.79 -7311933.64 -7311933.48 0.0071 0.0022

Uranus -24732-02-18 18:57 J -7311890.86 -7311890.71 -7311890.55 0.0135 0.0070

Pluto -24732-04-04 21:50 J -7311845.74 -7311845.59 -7311845.42 0.0071 0.0015

Uranus -24732-05-18 01:11 J -7311802.57 -7311802.45 -7311802.31 0.0135 0.0095

Moon -24732-06-23 11:02 J -7311766.15 -7311766.04 -7311765.92 0.2683 0.0349

Earth -24732-06-23 11:31 J -7311766.14 -7311766.02 -7311765.91 0.2689 0.0337 *

Pluto -24732-07-01 23:31 J -7311757.68 -7311757.52 -7311757.36 0.0072 0.0007

Saturn -24732-08-11 03:50 J -7311717.37 -7311717.34 -7311717.29 0.0291 0.0282

Uranus -24732-08-14 07:40 J -7311714.26 -7311714.18 -7311714.10 0.0135 0.0119

Pluto -24732-09-28 00:57 J -7311669.62 -7311669.46 -7311669.30 0.0072 0.0001

Saturn -24732-11-08 03:35 J -7311628.52 -7311628.35 -7311628.18 0.0292 0.0088

Pluto -24732-12-25 02:23 J -7311581.56 -7311581.40 -7311581.24 0.0072 0.0009

Saturn -24731-02-05 02:38 J -7311539.55 -7311539.39 -7311539.22 0.0292 0.0106

Pluto -24731-03-23 03:50 J -7311493.50 -7311493.34 -7311493.18 0.0072 0.0017

Jupiter -24731-04-29 02:38 J -7311456.50 -7311456.39 -7311456.26 0.0497 0.0379

Pluto -24731-06-19 05:02 J -7311405.43 -7311405.29 -7311405.12 0.0072 0.0026

Jupiter -24731-07-28 09:21 J -7311366.24 -7311366.11 -7311365.97 0.0499 0.0329

Pluto -24731-09-15 06:57 J -7311317.36 -7311317.21 -7311317.06 0.0072 0.0032

Pluto -24731-12-12 08:23 J -7311229.28 -7311229.15 -7311229.01 0.0072 0.0041

Pluto -24730-03-10 09:50 J -7311141.20 -7311141.09 -7311140.96 0.0072 0.0049

Pluto -24730-06-06 11:16 J -7311053.12 -7311053.03 -7311052.92 0.0073 0.0057

Mars -24730-08-19 07:26 J -7310979.28 -7310979.19 -7310979.10 0.1673 0.1042

Pluto -24730-09-02 12:57 J -7310965.03 -7310964.96 -7310964.88 0.0073 0.0065

Moon -24729-12-31 00:43 J -7310479.55 -7310479.47 -7310479.38 0.2654 0.2085

Earth -24729-12-31 00:43 J -7310479.55 -7310479.47 -7310479.39 0.2647 0.2152 *

Mars -24728-07-24 12:57 J -7310274.05 -7310273.96 -7310273.87 0.1689 0.1024

Mars -24727-06-04 17:45 J -7309958.82 -7309958.76 -7309958.70 0.1830 0.1684

Jupiter -24726-12-19 21:07 J -7309395.71 -7309395.62 -7309395.53 0.0530 0.0377

Jupiter -24725-03-18 04:04 J -7309306.45 -7309306.33 -7309306.21 0.0527 0.0209

Moon -24722-12-23 22:19 J -7307930.62 -7307930.57 -7307930.51 0.2638 0.2423

Earth -24722-12-23 23:31 J -7307930.59 -7307930.52 -7307930.45 0.2642 0.2315 *

Neptune -24721-03-12 23:59 J -7307850.56 -7307850.50 -7307850.39 0.0088 0.0079

Neptune -24721-06-09 03:35 J -7307762.45 -7307762.35 -7307762.22 0.0088 0.0069

Neptune -24721-09-05 07:11 J -7307674.33 -7307674.20 -7307674.05 0.0088 0.0060

Neptune -24721-12-02 10:33 J -7307586.21 -7307586.06 -7307585.89 0.0088 0.0050

Mars -24720-01-08 18:14 J -7307548.79 -7307548.74 -7307548.69 0.1669 0.1516

Neptune -24720-02-28 14:09 J -7307498.08 -7307497.91 -7307497.74 0.0088 0.0040

Neptune -24720-05-27 17:16 J -7307409.94 -7307409.78 -7307409.59 0.0088 0.0031

Neptune -24720-08-23 20:52 J -7307321.81 -7307321.63 -7307321.44 0.0088 0.0021

Neptune -24720-11-20 00:14 J -7307233.67 -7307233.49 -7307233.30 0.0088 0.0012

Neptune -24719-02-16 03:35 J -7307145.53 -7307145.35 -7307145.15 0.0088 0.0004

Neptune -24719-05-15 07:11 J -7307057.39 -7307057.20 -7307057.01 0.0088 0.0007

Jupiter -24719-05-16 07:55 J -7307056.33 -7307056.17 -7307055.99 0.0499 0.0163

Moon -24719-06-26 05:59 J -7307015.36 -7307015.25 -7307015.13 0.2685 0.0624

Earth -24719-06-26 06:43 J -7307015.33 -7307015.22 -7307015.10 0.2687 0.0765 *

Neptune -24719-08-11 10:19 J -7306969.25 -7306969.07 -7306968.88 0.0088 0.0017

Neptune -24719-11-07 13:40 J -7306881.11 -7306880.93 -7306880.74 0.0088 0.0026

Mars -24719-12-14 23:31 J -7306843.64 -7306843.52 -7306843.41 0.1685 0.0512

Neptune -24718-02-03 16:47 J -7306792.96 -7306792.80 -7306792.61 0.0088 0.0036

Neptune -24718-05-02 20:09 J -7306704.81 -7306704.66 -7306704.49 0.0088 0.0045

Saturn -24718-06-09 16:33 J -7306666.90 -7306666.81 -7306666.72 0.0270 0.0191

Neptune -24718-07-29 23:31 J -7306616.66 -7306616.52 -7306616.36 0.0088 0.0054

Saturn -24718-09-06 03:07 J -7306578.50 -7306578.37 -7306578.24 0.0269 0.0081

Mars -24718-10-25 14:09 J -7306529.06 -7306528.91 -7306528.75 0.1835 0.0518

Neptune -24718-10-26 02:38 J -7306528.50 -7306528.39 -7306528.24 0.0088 0.0064

Saturn -24718-12-03 13:55 J -7306490.05 -7306489.92 -7306489.78 0.0268 0.0029

Neptune -24717-01-22 05:59 J -7306440.34 -7306440.25 -7306440.13 0.0088 0.0073

Saturn -24717-03-01 00:43 J -7306401.58 -7306401.47 -7306401.35 0.0268 0.0140

Neptune -24717-04-19 09:07 J -7306352.17 -7306352.12 -7306352.03 0.0088 0.0083

Saturn -24717-05-28 11:31 J -7306313.06 -7306313.02 -7306312.97 0.0267 0.0252

Jupiter -24714-10-08 00:57 J -7305085.48 -7305085.46 -7305085.44 0.0530 0.0522

Jupiter -24713-01-05 07:55 J -7304996.30 -7304996.17 -7304996.04 0.0528 0.0062

Earth -24712-06-19 02:09 J -7304465.47 -7304465.41 -7304465.35 0.2692 0.2243

Moon -24712-06-19 02:38 J -7304465.45 -7304465.39 -7304465.32 0.2689 0.2129 *

Mars -24709-05-06 10:04 J -7303413.20 -7303413.08 -7303412.97 0.1681 0.0068

Moon -24709-12-26 00:57 J -7303179.60 -7303179.46 -7303179.32 0.2646 0.0750

Earth -24709-12-26 02:23 J -7303179.54 -7303179.40 -7303179.26 0.2643 0.0683 *

Mars -24708-03-16 10:33 J -7303099.21 -7303099.06 -7303098.90 0.1841 0.0684

Jupiter -24707-03-04 05:59 J -7302746.43 -7302746.25 -7302746.07 0.0498 0.0018

Moon -24706-06-29 01:40 J -7302264.52 -7302264.43 -7302264.35 0.2689 0.1867

Earth -24706-06-29 02:23 J -7302264.48 -7302264.40 -7302264.32 0.2686 0.1868 *

Venus -24703-05-14 08:09 J -7301214.22 -7301214.16 -7301214.10 0.3766 0.3090

Saturn -24702-03-28 01:55 J -7300896.57 -7300896.42 -7300896.26 0.0292 0.0145

Saturn -24702-06-25 01:26 J -7300807.62 -7300807.44 -7300807.27 0.0293 0.0049

Saturn -24702-09-22 00:14 J -7300718.59 -7300718.49 -7300718.39 0.0293 0.0240

Jupiter -24702-10-24 11:59 J -7300686.13 -7300686.00 -7300685.88 0.0529 0.0083

Jupiter -24701-01-21 19:11 J -7300596.72 -7300596.70 -7300596.66 0.0527 0.0509

Mars -24700-09-26 20:38 J -7299982.75 -7299982.64 -7299982.53 0.1677 0.0494

Earth -24699-06-21 21:07 J -7299714.72 -7299714.62 -7299714.51 0.2691 0.1198

Moon -24699-06-21 21:21 J -7299714.71 -7299714.61 -7299714.50 0.2684 0.1200 *

Mars -24698-09-02 02:38 J -7299277.42 -7299277.39 -7299277.35 0.1694 0.1624

Venus -24698-11-28 00:14 J -7299190.59 -7299190.49 -7299190.39 0.3767 0.0798

Jupiter -24696-12-21 03:50 J -7298436.51 -7298436.34 -7298436.17 0.0498 0.0189

Moon -24696-12-29 03:50 J -7298428.48 -7298428.34 -7298428.20 0.2650 0.0757

Earth -24696-12-29 04:33 J -7298428.44 -7298428.31 -7298428.17 0.2645 0.0912 *

Venus -24692-06-12 16:33 J -7297166.90 -7297166.81 -7297166.71 0.3768 0.1576

Mars -24690-02-17 07:26 J -7296552.29 -7296552.19 -7296552.10 0.1673 0.0981

Uranus -24690-05-17 23:59 J -7296462.55 -7296462.50 -7296462.44 0.0142 0.0129

Jupiter -24690-08-12 16:19 J -7296375.94 -7296375.82 -7296375.70 0.0530 0.0220

Uranus -24690-08-14 03:50 J -7296374.42 -7296374.34 -7296374.25 0.0142 0.0107

Jupiter -24690-11-09 23:31 J -7296286.61 -7296286.52 -7296286.42 0.0527 0.0370

Uranus -24690-11-10 07:26 J -7296286.29 -7296286.19 -7296286.07 0.0143 0.0086

Uranus -24689-02-06 11:31 J -7296198.14 -7296198.02 -7296197.90 0.0143 0.0063

Uranus -24689-05-04 15:21 J -7296109.99 -7296109.86 -7296109.73 0.0143 0.0040

Uranus -24689-07-31 19:11 J -7296021.84 -7296021.70 -7296021.56 0.0143 0.0018

Saturn -24689-10-26 18:28 J -7295934.80 -7295934.73 -7295934.66 0.0269 0.0228

Uranus -24689-10-27 23:02 J -7295933.68 -7295933.54 -7295933.40 0.0143 0.0006

Mars -24688-01-22 12:57 J -7295847.05 -7295846.96 -7295846.87 0.1689 0.1091

Saturn -24688-01-23 05:02 J -7295846.41 -7295846.29 -7295846.17 0.0269 0.0118

Uranus -24688-01-24 03:07 J -7295845.51 -7295845.37 -7295845.24 0.0143 0.0028

Saturn -24688-04-21 15:50 J -7295757.98 -7295757.84 -7295757.71 0.0268 0.0010

Uranus -24688-04-22 06:57 J -7295757.34 -7295757.21 -7295757.08 0.0143 0.0051

Saturn -24688-07-19 02:38 J -7295669.52 -7295669.39 -7295669.27 0.0268 0.0103

Uranus -24688-07-19 11:02 J -7295669.16 -7295669.04 -7295668.93 0.0143 0.0075

Saturn -24688-10-15 13:11 J -7295581.02 -7295580.95 -7295580.86 0.0267 0.0214

Uranus -24688-10-15 14:52 J -7295580.98 -7295580.88 -7295580.78 0.0143 0.0098 *

Mars -24688-12-03 17:59 J -7295531.78 -7295531.75 -7295531.71 0.1830 0.1779

Uranus -24687-01-11 18:43 J -7295492.78 -7295492.72 -7295492.64 0.0144 0.0123

Moon -24686-06-24 16:04 J -7294963.95 -7294963.83 -7294963.72 0.2684 0.0192

Earth -24686-06-24 16:33 J -7294963.93 -7294963.81 -7294963.70 0.2689 0.0146 *

Jupiter -24684-10-09 01:26 J -7294126.56 -7294126.44 -7294126.32 0.0497 0.0367

Jupiter -24683-01-07 07:55 J -7294036.29 -7294036.17 -7294036.03 0.0499 0.0339

Venus -24683-12-24 09:21 J -7293685.24 -7293685.11 -7293684.98 0.3606 0.1829

Earth -24682-01-01 06:28 J -7293677.28 -7293677.23 -7293677.17 0.2647 0.2440

Moon -24682-01-01 06:43 J -7293677.26 -7293677.22 -7293677.19 0.2654 0.2547 *

Mars -24681-07-09 18:14 J -7293121.80 -7293121.74 -7293121.69 0.1669 0.1458

Mars -24679-06-14 23:31 J -7292416.64 -7292416.52 -7292416.41 0.1685 0.0576

Mars -24678-04-25 14:52 J -7292102.03 -7292101.88 -7292101.72 0.1836 0.0635

Jupiter -24678-05-31 20:38 J -7292065.73 -7292065.64 -7292065.55 0.0530 0.0357

Jupiter -24678-08-29 03:50 J -7291976.46 -7291976.34 -7291976.23 0.0528 0.0230

Moon -24676-12-24 04:19 J -7291128.40 -7291128.32 -7291128.23 0.2640 0.2143

Earth -24676-12-24 05:45 J -7291128.36 -7291128.26 -7291128.17 0.2642 0.2007 *

Moon -24673-06-26 11:02 J -7290213.15 -7290213.04 -7290212.93 0.2685 0.0941

Earth -24673-06-26 11:59 J -7290213.11 -7290213.00 -7290212.89 0.2687 0.0976 *

Saturn -24673-08-13 20:52 J -7290164.74 -7290164.63 -7290164.51 0.0291 0.0228

Saturn -24673-11-10 20:23 J -7290075.83 -7290075.65 -7290075.47 0.0292 0.0035

Saturn -24672-02-07 19:40 J -7289986.83 -7289986.68 -7289986.53 0.0293 0.0158

Jupiter -24672-10-26 06:57 J -7289726.38 -7289726.21 -7289726.05 0.0499 0.0174

Mars -24670-11-05 09:50 J -7288986.21 -7288986.09 -7288985.97 0.1681 0.0074

Mars -24669-09-14 11:31 J -7288672.18 -7288672.02 -7288671.87 0.1841 0.0560

Jupiter -24666-03-19 23:59 J -7287755.53 -7287755.50 -7287755.46 0.0530 0.0509

Jupiter -24666-06-17 06:57 J -7287666.33 -7287666.21 -7287666.08 0.0528 0.0077

Earth -24666-06-20 07:11 J -7287663.28 -7287663.20 -7287663.13 0.2692 0.2044

Moon -24666-06-20 07:40 J -7287663.25 -7287663.18 -7287663.11 0.2687 0.2051 *

Moon -24663-12-27 06:57 J -7286377.35 -7286377.21 -7286377.07 0.2646 0.0534

Earth -24663-12-27 08:23 J -7286377.30 -7286377.15 -7286377.01 0.2644 0.0380 *

Mars -24660-03-27 20:38 J -7285555.76 -7285555.64 -7285555.53 0.1677 0.0430

Moon -24660-06-29 06:43 J -7285462.30 -7285462.22 -7285462.14 0.2690 0.1957

Earth -24660-06-29 07:26 J -7285462.26 -7285462.19 -7285462.12 0.2685 0.2085 *

Jupiter -24660-08-14 05:16 J -7285416.46 -7285416.28 -7285416.10 0.0499 0.0007

Mars -24659-02-04 06:57 J -7285242.24 -7285242.21 -7285242.18 0.1846 0.1814

Saturn -24659-03-15 20:52 J -7285202.66 -7285202.63 -7285202.60 0.0270 0.0263

Saturn -24659-06-12 07:26 J -7285114.30 -7285114.19 -7285114.08 0.0270 0.0153

Saturn -24659-09-08 18:14 J -7285025.88 -7285025.74 -7285025.61 0.0269 0.0042

Saturn -24659-12-06 05:02 J -7284937.43 -7284937.29 -7284937.16 0.0268 0.0070

Mars -24658-03-03 02:38 J -7284850.39 -7284850.39 -7284850.38 0.1694 0.1687

Saturn -24658-03-04 15:50 J -7284848.94 -7284848.84 -7284848.74 0.0268 0.0181

Jupiter -24654-04-05 10:47 J -7283356.17 -7283356.05 -7283355.92 0.0529 0.0074

Jupiter -24654-07-03 18:14 J -7283266.76 -7283266.74 -7283266.72 0.0526 0.0516

Moon -24653-06-22 02:23 J -7282912.51 -7282912.40 -7282912.29 0.2684 0.0937

Earth -24653-06-22 02:09 J -7282912.51 -7282912.41 -7282912.30 0.2690 0.0994 *

Mars -24651-08-18 07:26 J -7282125.29 -7282125.19 -7282125.10 0.1673 0.0919

Uranus -24650-04-04 21:35 J -7281895.63 -7281895.60 -7281895.55 0.0136 0.0132

Uranus -24650-07-02 04:33 J -7281807.42 -7281807.31 -7281807.19 0.0136 0.0105

Uranus -24650-09-28 11:02 J -7281719.18 -7281719.04 -7281718.88 0.0136 0.0079

Uranus -24650-12-25 17:45 J -7281630.92 -7281630.76 -7281630.59 0.0136 0.0052

Moon -24650-12-30 10:04 J -7281626.21 -7281626.08 -7281625.96 0.2651 0.1220

Earth -24650-12-30 10:33 J -7281626.19 -7281626.06 -7281625.93 0.2646 0.1197 *

Uranus -24649-03-23 00:14 J -7281542.66 -7281542.49 -7281542.30 0.0136 0.0027

Pluto -24649-04-04 20:52 J -7281529.65 -7281529.63 -7281529.58 0.0074 0.0072

Uranus -24649-06-19 06:57 J -7281454.39 -7281454.21 -7281454.03 0.0135 0.0000

Pluto -24649-07-01 22:19 J -7281441.63 -7281441.57 -7281441.48 0.0074 0.0064

Mars -24649-07-23 12:57 J -7281420.04 -7281419.96 -7281419.87 0.1690 0.1160

Uranus -24649-09-15 13:26 J -7281366.12 -7281365.94 -7281365.76 0.0135 0.0025

Pluto -24649-09-27 23:31 J -7281353.60 -7281353.52 -7281353.40 0.0074 0.0056

Uranus -24649-12-12 19:40 J -7281277.84 -7281277.68 -7281277.51 0.0135 0.0051

Pluto -24649-12-25 00:57 J -7281265.56 -7281265.46 -7281265.33 0.0074 0.0048

Uranus -24648-03-11 01:55 J -7281189.56 -7281189.42 -7281189.26 0.0135 0.0076

Pluto -24648-03-23 02:23 J -7281177.52 -7281177.40 -7281177.26 0.0074 0.0040

Jupiter -24648-06-02 03:07 J -7281106.54 -7281106.37 -7281106.20 0.0498 0.0172

Uranus -24648-06-07 08:09 J -7281101.26 -7281101.16 -7281101.03 0.0135 0.0101

Pluto -24648-06-19 03:50 J -7281089.47 -7281089.34 -7281089.20 0.0073 0.0032

Uranus -24648-09-03 14:23 J -7281012.95 -7281012.90 -7281012.82 0.0135 0.0126

Pluto -24648-09-15 05:16 J -7281001.43 -7281001.28 -7281001.14 0.0073 0.0024

Pluto -24648-12-12 06:28 J -7280913.38 -7280913.23 -7280913.08 0.0073 0.0016

Pluto -24647-03-10 07:55 J -7280825.33 -7280825.17 -7280825.02 0.0073 0.0008

Pluto -24647-06-06 09:07 J -7280737.27 -7280737.12 -7280736.97 0.0073 0.0001

Pluto -24647-09-02 10:19 J -7280649.22 -7280649.07 -7280648.91 0.0073 0.0007

Pluto -24647-11-29 11:31 J -7280561.16 -7280561.02 -7280560.86 0.0073 0.0015

Venus -24647-12-19 05:45 J -7280541.34 -7280541.26 -7280541.18 0.3766 0.2242

Pluto -24646-02-25 12:43 J -7280473.11 -7280472.97 -7280472.82 0.0073 0.0022

Pluto -24646-05-24 13:55 J -7280385.05 -7280384.92 -7280384.77 0.0072 0.0029

Pluto -24646-08-20 15:07 J -7280296.99 -7280296.87 -7280296.73 0.0072 0.0037

Pluto -24646-11-16 16:33 J -7280208.93 -7280208.81 -7280208.69 0.0072 0.0044

Pluto -24645-02-12 17:16 J -7280120.87 -7280120.78 -7280120.65 0.0072 0.0052

Pluto -24645-05-10 18:43 J -7280032.80 -7280032.72 -7280032.62 0.0072 0.0058

Pluto -24645-08-06 19:40 J -7279944.72 -7279944.68 -7279944.60 0.0072 0.0065

Saturn -24644-12-31 19:40 J -7279432.72 -7279432.68 -7279432.64 0.0291 0.0283

Saturn -24643-03-30 19:26 J -7279343.87 -7279343.69 -7279343.52 0.0292 0.0088

Saturn -24643-06-27 18:28 J -7279254.89 -7279254.73 -7279254.56 0.0293 0.0105

Jupiter -24642-01-22 14:52 J -7279046.00 -7279045.88 -7279045.77 0.0530 0.0218

Jupiter -24642-04-21 22:04 J -7278956.67 -7278956.58 -7278956.49 0.0527 0.0371

Mars -24641-01-08 18:14 J -7278694.80 -7278694.74 -7278694.68 0.1669 0.1393

Venus -24641-07-03 21:50 J -7278517.69 -7278517.59 -7278517.48 0.3767 0.0156

Neptune -24640-03-23 10:04 J -7278255.12 -7278255.08 -7278255.03 0.0089 0.0084

Neptune -24640-06-19 11:31 J -7278167.08 -7278167.02 -7278166.95 0.0089 0.0078

Moon -24640-06-24 20:52 J -7278161.74 -7278161.63 -7278161.51 0.2683 0.0064

Earth -24640-06-24 21:35 J -7278161.72 -7278161.60 -7278161.49 0.2689 0.0106 *

Neptune -24640-09-15 12:57 J -7278079.04 -7278078.96 -7278078.88 0.0089 0.0071

Neptune -24640-12-12 13:55 J -7277991.00 -7277990.92 -7277990.81 0.0089 0.0065

Mars -24640-12-13 23:31 J -7277989.63 -7277989.52 -7277989.42 0.1685 0.0642

Neptune -24639-03-10 15:21 J -7277902.95 -7277902.86 -7277902.74 0.0089 0.0058

Neptune -24639-06-06 16:47 J -7277814.90 -7277814.80 -7277814.68 0.0089 0.0051

Neptune -24639-09-02 18:14 J -7277726.85 -7277726.74 -7277726.62 0.0089 0.0043

Mars -24639-10-24 15:35 J -7277674.99 -7277674.85 -7277674.70 0.1835 0.0752

Neptune -24639-11-29 19:40 J -7277638.80 -7277638.68 -7277638.55 0.0089 0.0036

Neptune -24638-02-25 21:07 J -7277550.74 -7277550.62 -7277550.49 0.0089 0.0029

Neptune -24638-05-24 22:33 J -7277462.69 -7277462.56 -7277462.43 0.0089 0.0022

Neptune -24638-08-20 23:59 J -7277374.63 -7277374.50 -7277374.37 0.0089 0.0015

Neptune -24638-11-17 01:26 J -7277286.58 -7277286.44 -7277286.31 0.0089 0.0009

Neptune -24637-02-13 02:38 J -7277198.52 -7277198.39 -7277198.25 0.0089 0.0004

Neptune -24637-05-11 04:04 J -7277110.46 -7277110.33 -7277110.19 0.0089 0.0006

Neptune -24637-08-07 05:31 J -7277022.40 -7277022.27 -7277022.13 0.0089 0.0013

Neptune -24637-11-03 06:57 J -7276934.34 -7276934.21 -7276934.08 0.0089 0.0020

Neptune -24636-01-30 08:23 J -7276846.28 -7276846.15 -7276846.02 0.0089 0.0027

Jupiter -24636-03-21 00:43 J -7276796.59 -7276796.47 -7276796.33 0.0497 0.0349

Neptune -24636-04-28 09:50 J -7276758.22 -7276758.09 -7276757.97 0.0089 0.0034

Jupiter -24636-06-19 07:26 J -7276706.31 -7276706.19 -7276706.07 0.0499 0.0357

Neptune -24636-07-25 11:16 J -7276670.15 -7276670.03 -7276669.91 0.0089 0.0041

Neptune -24636-10-21 12:28 J -7276582.09 -7276581.98 -7276581.86 0.0089 0.0048

Neptune -24635-01-17 13:55 J -7276494.02 -7276493.92 -7276493.81 0.0089 0.0055

Venus -24635-01-17 14:09 J -7276493.98 -7276493.91 -7276493.83 0.3768 0.2455 *

Neptune -24635-04-15 15:21 J -7276405.95 -7276405.86 -7276405.76 0.0089 0.0062

Neptune -24635-07-12 16:47 J -7276317.88 -7276317.80 -7276317.71 0.0089 0.0069

Neptune -24635-10-08 18:14 J -7276229.80 -7276229.74 -7276229.66 0.0089 0.0076

Neptune -24634-01-04 19:40 J -7276141.72 -7276141.68 -7276141.62 0.0089 0.0083

Venus -24631-01-14 04:47 J -7275036.43 -7275036.30 -7275036.17 0.3607 0.1808

Jupiter -24631-11-10 19:11 J -7274735.80 -7274735.70 -7274735.61 0.0530 0.0356

Jupiter -24630-02-08 02:23 J -7274646.52 -7274646.40 -7274646.29 0.0528 0.0232

Mars -24630-05-06 10:04 J -7274559.20 -7274559.08 -7274558.97 0.1681 0.0147

Saturn -24630-10-30 09:35 J -7274382.19 -7274382.10 -7274382.00 0.0269 0.0187

Moon -24630-12-25 10:19 J -7274326.18 -7274326.07 -7274325.96 0.2642 0.1762

Earth -24630-12-25 11:45 J -7274326.12 -7274326.01 -7274325.90 0.2642 0.1702 *

Saturn -24629-01-26 20:09 J -7274293.78 -7274293.66 -7274293.53 0.0269 0.0077

Mars -24629-03-15 11:59 J -7274245.16 -7274245.00 -7274244.85 0.1841 0.0456

Saturn -24629-04-24 06:57 J -7274205.34 -7274205.21 -7274205.07 0.0268 0.0034

Saturn -24629-07-21 17:45 J -7274116.87 -7274116.76 -7274116.64 0.0268 0.0145

Saturn -24629-10-18 04:47 J -7274028.34 -7274028.30 -7274028.27 0.0267 0.0256

Moon -24627-06-27 16:04 J -7273410.93 -7273410.83 -7273410.72 0.2686 0.1088

Earth -24627-06-27 17:02 J -7273410.90 -7273410.79 -7273410.69 0.2687 0.1186 *

Jupiter -24624-04-07 05:16 J -7272396.44 -7272396.28 -7272396.11 0.0499 0.0182

Mars -24621-09-25 20:23 J -7271128.76 -7271128.65 -7271128.53 0.1677 0.0374

Earth -24620-06-20 11:59 J -7270861.08 -7270861.00 -7270860.91 0.2692 0.1849

Moon -24620-06-20 12:43 J -7270861.06 -7270860.97 -7270860.89 0.2686 0.1724 *

Mars -24620-08-05 07:40 J -7270815.24 -7270815.18 -7270815.11 0.1847 0.1692

Jupiter -24619-08-29 23:31 J -7270425.56 -7270425.52 -7270425.48 0.0531 0.0493

Jupiter -24619-11-27 06:28 J -7270336.36 -7270336.23 -7270336.10 0.0528 0.0093

Moon -24617-12-27 13:11 J -7269575.10 -7269574.95 -7269574.81 0.2646 0.0191

Earth -24617-12-27 14:23 J -7269575.05 -7269574.90 -7269574.76 0.2644 0.0082 *

Moon -24614-06-30 11:45 J -7268660.07 -7268660.01 -7268659.95 0.2689 0.2294

Earth -24614-06-30 12:28 J -7268660.04 -7268659.98 -7268659.92 0.2685 0.2302 *

Saturn -24614-08-17 14:52 J -7268612.03 -7268611.88 -7268611.74 0.0291 0.0168

Saturn -24614-11-14 14:09 J -7268523.09 -7268522.91 -7268522.73 0.0292 0.0026

Saturn -24613-02-11 13:11 J -7268434.07 -7268433.95 -7268433.83 0.0293 0.0217

Jupiter -24612-01-24 04:04 J -7268086.51 -7268086.33 -7268086.15 0.0498 0.0017

Mars -24611-02-16 07:11 J -7267698.30 -7267698.20 -7267698.09 0.1673 0.0857

Mars -24609-01-22 12:57 J -7266993.04 -7266992.96 -7266992.88 0.1689 0.1219

Moon -24607-06-23 07:11 J -7266110.31 -7266110.20 -7266110.09 0.2684 0.0844

Earth -24607-06-23 07:11 J -7266110.31 -7266110.20 -7266110.09 0.2690 0.0788 *

Jupiter -24607-09-15 10:04 J -7266026.21 -7266026.08 -7266025.95 0.0528 0.0062

Uranus -24606-06-07 06:43 J -7265761.28 -7265761.22 -7265761.16 0.0142 0.0127

Uranus -24606-09-03 10:33 J -7265673.15 -7265673.06 -7265672.97 0.0142 0.0105

Uranus -24606-11-30 14:09 J -7265585.01 -7265584.91 -7265584.79 0.0143 0.0083

Uranus -24605-02-26 17:59 J -7265496.87 -7265496.75 -7265496.62 0.0143 0.0061

Uranus -24605-05-24 21:50 J -7265408.72 -7265408.59 -7265408.46 0.0143 0.0038

Uranus -24605-08-21 01:40 J -7265320.56 -7265320.43 -7265320.29 0.0143 0.0016

Uranus -24605-11-17 05:45 J -7265232.40 -7265232.26 -7265232.13 0.0143 0.0008

Uranus -24604-02-13 09:35 J -7265144.24 -7265144.10 -7265143.97 0.0143 0.0030

Uranus -24604-05-12 13:26 J -7265056.06 -7265055.94 -7265055.81 0.0143 0.0054

Uranus -24604-08-08 17:16 J -7264967.89 -7264967.78 -7264967.65 0.0143 0.0078

Uranus -24604-11-04 21:21 J -7264879.70 -7264879.61 -7264879.51 0.0143 0.0101

Moon -24604-12-30 16:04 J -7264823.94 -7264823.83 -7264823.71 0.2652 0.1415

Earth -24604-12-30 16:33 J -7264823.93 -7264823.81 -7264823.69 0.2646 0.1492 *

Uranus -24603-02-01 01:26 J -7264791.50 -7264791.44 -7264791.37 0.0144 0.0124

Mars -24602-07-09 18:14 J -7264267.81 -7264267.74 -7264267.67 0.1669 0.1329

Jupiter -24601-11-12 02:09 J -7263776.58 -7263776.41 -7263776.24 0.0498 0.0156

Saturn -24600-03-18 11:59 J -7263650.08 -7263650.00 -7263649.93 0.0270 0.0222

Mars -24600-06-13 23:31 J -7263562.63 -7263562.52 -7263562.42 0.1685 0.0707

Saturn -24600-06-14 22:33 J -7263561.68 -7263561.56 -7263561.44 0.0270 0.0112

Saturn -24600-09-11 09:21 J -7263473.25 -7263473.11 -7263472.98 0.0269 0.0001

Saturn -24600-12-08 20:09 J -7263384.78 -7263384.66 -7263384.54 0.0269 0.0111

Saturn -24599-03-07 06:57 J -7263296.28 -7263296.21 -7263296.13 0.0268 0.0223

Mars -24599-04-24 16:33 J -7263247.96 -7263247.81 -7263247.67 0.1835 0.0872

Venus -24595-01-09 11:16 J -7261892.05 -7261892.03 -7261892.02 0.3766 0.3683

Jupiter -24595-07-04 13:40 J -7261716.04 -7261715.93 -7261715.81 0.0529 0.0209

Jupiter -24595-10-01 20:52 J -7261626.71 -7261626.63 -7261626.54 0.0527 0.0379

Moon -24594-06-26 01:55 J -7261359.53 -7261359.42 -7261359.30 0.2683 0.0279

Earth -24594-06-26 02:38 J -7261359.51 -7261359.39 -7261359.28 0.2688 0.0301 *

Mars -24591-11-04 09:50 J -7260132.20 -7260132.09 -7260131.97 0.1681 0.0197

Venus -24590-07-26 03:21 J -7259868.46 -7259868.36 -7259868.27 0.3767 0.1393

Mars -24590-09-14 12:43 J -7259818.13 -7259817.97 -7259817.81 0.1841 0.0331

Jupiter -24589-08-30 23:45 J -7259466.64 -7259466.51 -7259466.37 0.0497 0.0335

Jupiter -24589-11-29 06:28 J -7259376.35 -7259376.23 -7259376.11 0.0499 0.0371

Earth -24587-06-18 22:04 J -7258809.58 -7258809.58 -7258809.58 0.2693 0.2686

Moon -24587-06-18 22:47 J -7258809.58 -7258809.55 -7258809.52 0.2691 0.2572 *

Saturn -24584-01-03 13:55 J -7257880.03 -7257879.92 -7257879.80 0.0291 0.0218

Venus -24584-02-07 19:26 J -7257844.79 -7257844.69 -7257844.59 0.3768 0.0949

Saturn -24584-04-02 13:26 J -7257791.12 -7257790.94 -7257790.76 0.0292 0.0024

Saturn -24584-06-30 12:28 J -7257702.12 -7257701.98 -7257701.83 0.0293 0.0168

Moon -24584-12-25 16:19 J -7257523.93 -7257523.82 -7257523.70 0.2642 0.1598

Earth -24584-12-25 17:45 J -7257523.88 -7257523.76 -7257523.63 0.2642 0.1393 *

Jupiter -24583-04-22 17:45 J -7257405.86 -7257405.76 -7257405.67 0.0530 0.0355

Jupiter -24583-07-21 00:43 J -7257316.59 -7257316.47 -7257316.35 0.0528 0.0232

Mars -24581-03-26 20:38 J -7256701.76 -7256701.64 -7256701.53 0.1677 0.0307

Moon -24581-06-27 21:07 J -7256608.72 -7256608.62 -7256608.52 0.2688 0.1308

Earth -24581-06-27 22:04 J -7256608.68 -7256608.58 -7256608.48 0.2687 0.1398 *

Mars -24580-02-03 08:23 J -7256388.23 -7256388.15 -7256388.06 0.1846 0.1572

Venus -24579-08-24 11:45 J -7255821.05 -7255821.01 -7255820.96 0.3768 0.3332

Jupiter -24577-09-17 04:33 J -7255066.48 -7255066.31 -7255066.15 0.0499 0.0198

Venus -24575-08-21 05:59 J -7254363.40 -7254363.25 -7254363.10 0.3607 0.0127

Earth -24574-06-21 17:02 J -7254058.88 -7254058.79 -7254058.70 0.2692 0.1646

Moon -24574-06-21 17:31 J -7254058.86 -7254058.77 -7254058.68 0.2686 0.1660 *

Mars -24572-08-17 07:11 J -7253271.30 -7253271.20 -7253271.09 0.1673 0.0793

Jupiter -24571-02-08 21:50 J -7253095.63 -7253095.59 -7253095.54 0.0531 0.0495

Jupiter -24571-05-09 04:47 J -7253006.42 -7253006.30 -7253006.17 0.0528 0.0093

Saturn -24571-08-05 14:23 J -7252917.94 -7252917.90 -7252917.86 0.0270 0.0254

Saturn -24571-11-02 00:57 J -7252829.57 -7252829.46 -7252829.34 0.0269 0.0143

Moon -24571-12-28 19:11 J -7252772.84 -7252772.70 -7252772.55 0.2648 0.0158

Earth -24571-12-28 20:23 J -7252772.79 -7252772.65 -7252772.51 0.2644 0.0223 *

Saturn -24570-01-29 11:45 J -7252741.15 -7252741.01 -7252740.88 0.0269 0.0033

Saturn -24570-04-27 22:33 J -7252652.69 -7252652.56 -7252652.43 0.0268 0.0079

Mars -24570-07-23 12:57 J -7252566.03 -7252565.96 -7252565.88 0.1689 0.1290

Saturn -24570-07-25 09:21 J -7252564.20 -7252564.11 -7252564.01 0.0268 0.0190

Moon -24568-06-30 17:02 J -7251857.84 -7251857.79 -7251857.74 0.2689 0.2421

Earth -24568-06-30 17:31 J -7251857.80 -7251857.77 -7251857.73 0.2685 0.2522 *

Uranus -24566-04-25 04:33 J -7251194.37 -7251194.31 -7251194.24 0.0136 0.0126

Uranus -24566-07-22 11:31 J -7251106.15 -7251106.02 -7251105.90 0.0136 0.0099

Uranus -24566-10-18 17:59 J -7251017.90 -7251017.75 -7251017.59 0.0136 0.0073

Uranus -24565-01-15 00:28 J -7250929.64 -7250929.48 -7250929.30 0.0136 0.0047

Uranus -24565-04-12 07:11 J -7250841.38 -7250841.20 -7250841.02 0.0136 0.0021

Jupiter -24565-07-06 02:09 J -7250756.59 -7250756.41 -7250756.23 0.0498 0.0022

Uranus -24565-07-09 13:40 J -7250753.11 -7250752.93 -7250752.74 0.0135 0.0007

Uranus -24565-10-05 20:09 J -7250664.83 -7250664.66 -7250664.48 0.0135 0.0031

Uranus -24564-01-02 02:38 J -7250576.55 -7250576.39 -7250576.22 0.0135 0.0057

Uranus -24564-03-31 08:38 J -7250488.27 -7250488.14 -7250487.98 0.0135 0.0082

Uranus -24564-06-27 15:21 J -7250399.97 -7250399.86 -7250399.75 0.0135 0.0106

Uranus -24564-09-23 21:21 J -7250311.64 -7250311.61 -7250311.56 0.0135 0.0131

Mars -24562-01-07 17:59 J -7249840.82 -7249840.75 -7249840.67 0.1669 0.1273

Moon -24561-06-23 11:59 J -7249308.11 -7249308.00 -7249307.88 0.2683 0.0539

Earth -24561-06-23 12:14 J -7249308.10 -7249307.99 -7249307.87 0.2690 0.0583 *

Mars -24561-12-12 23:16 J -7249135.63 -7249135.53 -7249135.42 0.1685 0.0768

Mars -24560-10-23 17:02 J -7248820.93 -7248820.79 -7248820.65 0.1836 0.0980

Jupiter -24559-02-25 09:07 J -7248696.25 -7248696.12 -7248695.99 0.0529 0.0048

Moon -24558-12-31 22:04 J -7248021.68 -7248021.58 -7248021.48 0.2653 0.1790

Earth -24558-12-31 22:33 J -7248021.67 -7248021.56 -7248021.46 0.2646 0.1781 *

Neptune -24557-09-10 19:40 J -7247767.73 -7247767.68 -7247767.61 0.0088 0.0083

Neptune -24557-12-07 23:31 J -7247679.63 -7247679.52 -7247679.42 0.0088 0.0074

Neptune -24556-03-06 02:38 J -7247591.51 -7247591.39 -7247591.25 0.0088 0.0064

Neptune -24556-06-02 06:14 J -7247503.39 -7247503.24 -7247503.09 0.0088 0.0054

Neptune -24556-08-29 09:21 J -7247415.26 -7247415.11 -7247414.93 0.0088 0.0045

Neptune -24556-11-25 12:57 J -7247327.13 -7247326.96 -7247326.78 0.0088 0.0035

Neptune -24555-02-21 16:33 J -7247238.99 -7247238.81 -7247238.63 0.0088 0.0026

Neptune -24555-05-20 19:55 J -7247150.86 -7247150.67 -7247150.48 0.0088 0.0016

Neptune -24555-08-16 23:16 J -7247062.72 -7247062.53 -7247062.34 0.0088 0.0007

Saturn -24555-08-20 09:35 J -7247059.27 -7247059.10 -7247058.93 0.0291 0.0100

Neptune -24555-11-13 02:38 J -7246974.58 -7246974.39 -7246974.20 0.0088 0.0004

Saturn -24555-11-17 08:52 J -7246970.30 -7246970.13 -7246969.96 0.0292 0.0093

Neptune -24554-02-09 05:59 J -7246886.43 -7246886.25 -7246886.06 0.0088 0.0013

Saturn -24554-02-14 07:26 J -7246881.22 -7246881.19 -7246881.14 0.0293 0.0284

Neptune -24554-05-08 09:21 J -7246798.29 -7246798.11 -7246797.92 0.0088 0.0022

Neptune -24554-08-04 12:43 J -7246710.14 -7246709.97 -7246709.79 0.0088 0.0031

Neptune -24554-10-31 15:50 J -7246622.00 -7246621.84 -7246621.66 0.0088 0.0041

Neptune -24553-01-27 19:11 J -7246533.84 -7246533.70 -7246533.53 0.0088 0.0050

Jupiter -24553-04-24 00:43 J -7246446.65 -7246446.47 -7246446.30 0.0498 0.0149

Neptune -24553-04-24 22:47 J -7246445.69 -7246445.55 -7246445.41 0.0088 0.0060

Neptune -24553-07-22 01:40 J -7246357.53 -7246357.43 -7246357.30 0.0088 0.0069

Neptune -24553-10-18 05:02 J -7246269.36 -7246269.29 -7246269.19 0.0088 0.0078

Neptune -24552-01-14 08:23 J -7246181.16 -7246181.15 -7246181.12 0.0088 0.0088

Mars -24551-05-05 09:50 J -7245705.20 -7245705.09 -7245704.97 0.1681 0.0259

Mars -24550-03-15 13:40 J -7245391.09 -7245390.93 -7245390.77 0.1841 0.0199

Moon -24548-06-26 06:57 J -7244557.33 -7244557.21 -7244557.09 0.2684 0.0394

Earth -24548-06-26 07:40 J -7244557.30 -7244557.18 -7244557.07 0.2688 0.0510 *

Jupiter -24548-12-14 12:43 J -7244386.09 -7244385.97 -7244385.85 0.0529 0.0199

Jupiter -24547-03-13 19:55 J -7244296.76 -7244296.67 -7244296.58 0.0526 0.0388

Mars -24542-09-25 20:38 J -7242274.76 -7242274.64 -7242274.53 0.1677 0.0245

Jupiter -24541-02-10 22:33 J -7242136.70 -7242136.56 -7242136.42 0.0498 0.0324

Saturn -24541-03-21 03:21 J -7242097.46 -7242097.36 -7242097.26 0.0270 0.0179

Jupiter -24541-05-11 05:16 J -7242046.39 -7242046.28 -7242046.17 0.0500 0.0384

Saturn -24541-06-17 13:55 J -7242009.04 -7242008.92 -7242008.78 0.0270 0.0068

Earth -24541-06-19 03:07 J -7242007.41 -7242007.37 -7242007.33 0.2693 0.2486

Moon -24541-06-19 03:50 J -7242007.39 -7242007.34 -7242007.29 0.2690 0.2435 *

Mars -24541-08-04 09:07 J -7241961.22 -7241961.12 -7241961.02 0.1846 0.1454

Saturn -24541-09-14 00:43 J -7241920.60 -7241920.47 -7241920.33 0.0269 0.0045

Saturn -24541-12-11 11:45 J -7241832.12 -7241832.01 -7241831.90 0.0269 0.0157

Venus -24539-08-16 08:38 J -7241219.20 -7241219.14 -7241219.07 0.3766 0.2848

Moon -24538-12-26 22:19 J -7240721.70 -7240721.57 -7240721.43 0.2642 0.1134

Earth -24538-12-26 23:45 J -7240721.64 -7240721.51 -7240721.37 0.2643 0.1095 *

Jupiter -24536-10-02 16:33 J -7240075.91 -7240075.81 -7240075.71 0.0529 0.0346

Jupiter -24536-12-30 23:31 J -7239986.63 -7239986.52 -7239986.40 0.0527 0.0240

Moon -24535-06-29 02:09 J -7239806.50 -7239806.41 -7239806.31 0.2688 0.1557

Earth -24535-06-29 03:07 J -7239806.47 -7239806.37 -7239806.28 0.2686 0.1613 *

Venus -24533-03-01 00:57 J -7239195.57 -7239195.46 -7239195.36 0.3767 0.0572

Mars -24532-02-15 07:11 J -7238844.30 -7238844.20 -7238844.09 0.1673 0.0730

Mars -24530-01-21 12:57 J -7238139.03 -7238138.96 -7238138.89 0.1689 0.1355

Jupiter -24529-02-28 03:07 J -7237736.53 -7237736.37 -7237736.21 0.0499 0.0207

Earth -24528-06-21 22:04 J -7237256.67 -7237256.58 -7237256.48 0.2691 0.1444

Moon -24528-06-21 22:33 J -7237256.66 -7237256.56 -7237256.46 0.2686 0.1349 *

Venus -24528-09-14 17:02 J -7237171.88 -7237171.79 -7237171.70 0.3768 0.1812

Saturn -24525-01-07 09:35 J -7236327.26 -7236327.10 -7236326.94 0.0291 0.0143

Saturn -24525-04-05 08:52 J -7236238.31 -7236238.13 -7236237.95 0.0292 0.0050

Saturn -24525-07-03 07:55 J -7236149.27 -7236149.17 -7236149.07 0.0293 0.0241

Moon -24525-12-29 01:26 J -7235970.58 -7235970.44 -7235970.30 0.2649 0.0391

Earth -24525-12-29 02:23 J -7235970.54 -7235970.40 -7235970.26 0.2644 0.0519 *

Jupiter -24524-07-21 20:23 J -7235765.70 -7235765.65 -7235765.61 0.0530 0.0495

Jupiter -24524-10-19 03:21 J -7235676.49 -7235676.36 -7235676.24 0.0528 0.0091

Mars -24523-07-08 17:59 J -7235413.82 -7235413.75 -7235413.67 0.1669 0.1208

Uranus -24522-06-27 13:11 J -7235060.01 -7235059.95 -7235059.88 0.0142 0.0125

Uranus -24522-09-23 17:02 J -7234971.88 -7234971.79 -7234971.70 0.0142 0.0103

Uranus -24522-12-20 20:38 J -7234883.74 -7234883.64 -7234883.52 0.0143 0.0081

Uranus -24521-03-18 00:28 J -7234795.60 -7234795.48 -7234795.35 0.0143 0.0059

Mars -24521-06-12 23:31 J -7234708.63 -7234708.52 -7234708.42 0.1685 0.0835

Uranus -24521-06-14 04:19 J -7234707.45 -7234707.32 -7234707.18 0.0143 0.0036

Uranus -24521-09-10 08:09 J -7234619.29 -7234619.16 -7234619.02 0.0143 0.0014

Uranus -24521-12-07 12:14 J -7234531.13 -7234530.99 -7234530.86 0.0143 0.0010

Uranus -24520-03-05 16:04 J -7234442.96 -7234442.83 -7234442.70 0.0143 0.0032

Mars -24520-04-23 17:45 J -7234393.89 -7234393.76 -7234393.63 0.1835 0.1102

Uranus -24520-06-01 19:55 J -7234354.79 -7234354.67 -7234354.54 0.0143 0.0056

Uranus -24520-08-28 23:45 J -7234266.62 -7234266.51 -7234266.39 0.0143 0.0080

Uranus -24520-11-25 03:50 J -7234178.43 -7234178.34 -7234178.24 0.0144 0.0103

Uranus -24519-02-21 07:40 J -7234090.23 -7234090.18 -7234090.10 0.0144 0.0127

Venus -24518-03-28 07:11 J -7233690.32 -7233690.20 -7233690.08 0.3607 0.2031

Jupiter -24518-12-17 00:57 J -7233426.64 -7233426.46 -7233426.28 0.0498 0.0031

Moon -24515-06-24 17:02 J -7232505.91 -7232505.79 -7232505.68 0.2683 0.0470

Earth -24515-06-24 17:16 J -7232505.89 -7232505.78 -7232505.66 0.2690 0.0376 *

Jupiter -24512-08-07 07:26 J -7231366.32 -7231366.19 -7231366.06 0.0529 0.0054

Saturn -24512-08-08 05:59 J -7231365.33 -7231365.25 -7231365.16 0.0270 0.0207

Mars -24512-11-03 09:50 J -7231278.20 -7231278.09 -7231277.97 0.1681 0.0324

Saturn -24512-11-04 16:47 J -7231276.93 -7231276.80 -7231276.67 0.0269 0.0096

Moon -24511-01-01 04:19 J -7231219.41 -7231219.32 -7231219.24 0.2653 0.2048

Earth -24511-01-01 04:33 J -7231219.40 -7231219.31 -7231219.23 0.2646 0.2077 *

Saturn -24511-02-01 03:35 J -7231188.49 -7231188.35 -7231188.22 0.0269 0.0016

Saturn -24511-04-30 14:23 J -7231100.02 -7231099.90 -7231099.78 0.0268 0.0127

Saturn -24511-07-28 01:11 J -7231011.50 -7231011.45 -7231011.39 0.0268 0.0239

Mars -24511-09-13 13:55 J -7230964.08 -7230963.92 -7230963.76 0.1841 0.0102

Jupiter -24506-10-04 22:33 J -7229116.73 -7229116.56 -7229116.39 0.0498 0.0148

Moon -24505-12-24 01:40 J -7228670.48 -7228670.43 -7228670.38 0.2638 0.2471

Earth -24505-12-24 03:07 J -7228670.43 -7228670.37 -7228670.32 0.2641 0.2438 *

Mars -24502-03-26 20:23 J -7227847.76 -7227847.65 -7227847.53 0.1677 0.0185

Moon -24502-06-27 11:59 J -7227755.12 -7227755.00 -7227754.89 0.2686 0.0713

Earth -24502-06-27 12:43 J -7227755.09 -7227754.97 -7227754.86 0.2688 0.0719 *

Mars -24501-02-03 10:04 J -7227534.19 -7227534.08 -7227533.96 0.1847 0.1318

Jupiter -24500-05-26 11:31 J -7227056.13 -7227056.02 -7227055.89 0.0529 0.0192

Jupiter -24500-08-23 18:57 J -7226966.80 -7226966.71 -7226966.63 0.0527 0.0397

Saturn -24496-05-26 05:59 J -7225595.37 -7225595.25 -7225595.12 0.0291 0.0214

Saturn -24496-08-23 05:31 J -7225506.45 -7225506.27 -7225506.09 0.0291 0.0021

Saturn -24496-11-20 04:33 J -7225417.45 -7225417.31 -7225417.16 0.0292 0.0171

Earth -24495-06-20 08:09 J -7225205.22 -7225205.16 -7225205.10 0.2693 0.2288

Moon -24495-06-20 08:52 J -7225205.20 -7225205.13 -7225205.07 0.2689 0.2202 *

Jupiter -24494-07-23 20:38 J -7224806.77 -7224806.64 -7224806.50 0.0497 0.0320

Jupiter -24494-10-22 03:21 J -7224716.47 -7224716.36 -7224716.25 0.0500 0.0387

Mars -24493-08-16 07:11 J -7224417.30 -7224417.20 -7224417.09 0.1673 0.0667

Moon -24492-12-27 04:33 J -7223919.44 -7223919.31 -7223919.17 0.2643 0.0992

Earth -24492-12-27 05:59 J -7223919.39 -7223919.25 -7223919.11 0.2643 0.0784 *

Mars -24491-07-22 12:57 J -7223712.02 -7223711.96 -7223711.90 0.1689 0.1416

Moon -24489-06-29 07:11 J -7223004.29 -7223004.20 -7223004.11 0.2688 0.1713

Earth -24489-06-29 08:09 J -7223004.25 -7223004.16 -7223004.08 0.2686 0.1828 *

Jupiter -24488-03-14 15:21 J -7222745.96 -7222745.86 -7222745.76 0.0529 0.0339

Pluto -24488-03-27 02:38 J -7222733.39 -7222733.39 -7222733.37 0.0071 0.0070

Jupiter -24488-06-11 22:19 J -7222656.68 -7222656.57 -7222656.45 0.0527 0.0246

Pluto -24488-06-23 03:50 J -7222645.39 -7222645.34 -7222645.25 0.0071 0.0064

Pluto -24488-09-19 05:31 J -7222557.36 -7222557.27 -7222557.17 0.0071 0.0056

Pluto -24488-12-16 06:43 J -7222469.33 -7222469.22 -7222469.09 0.0071 0.0049

Pluto -24487-03-14 07:55 J -7222381.28 -7222381.17 -7222381.02 0.0071 0.0042

Pluto -24487-06-10 09:35 J -7222293.24 -7222293.10 -7222292.95 0.0071 0.0034

Pluto -24487-09-06 10:47 J -7222205.19 -7222205.05 -7222204.88 0.0071 0.0028

Pluto -24487-12-03 12:28 J -7222117.13 -7222116.98 -7222116.82 0.0071 0.0020

Pluto -24486-03-01 13:55 J -7222029.08 -7222028.92 -7222028.76 0.0072 0.0012

Pluto -24486-05-28 15:21 J -7221941.02 -7221940.86 -7221940.69 0.0072 0.0005

Pluto -24486-08-24 16:47 J -7221852.96 -7221852.80 -7221852.63 0.0072 0.0004

Pluto -24486-11-20 18:28 J -7221764.90 -7221764.73 -7221764.57 0.0072 0.0011

Pluto -24485-02-16 19:40 J -7221676.83 -7221676.68 -7221676.51 0.0072 0.0019

Pluto -24485-05-14 21:07 J -7221588.76 -7221588.62 -7221588.46 0.0072 0.0027

Pluto -24485-08-10 22:33 J -7221500.69 -7221500.56 -7221500.40 0.0072 0.0035

Pluto -24485-11-06 23:59 J -7221412.61 -7221412.50 -7221412.35 0.0072 0.0044

Pluto -24484-02-03 01:40 J -7221324.53 -7221324.43 -7221324.30 0.0072 0.0051

Pluto -24484-05-02 03:07 J -7221236.45 -7221236.37 -7221236.26 0.0073 0.0060

Pluto -24484-07-29 04:47 J -7221148.35 -7221148.30 -7221148.23 0.0073 0.0068

Mars -24483-01-06 17:59 J -7220986.83 -7220986.75 -7220986.66 0.1669 0.1146

Saturn -24483-12-26 08:23 J -7220633.20 -7220633.15 -7220633.09 0.0271 0.0243

Venus -24482-03-23 06:14 J -7220546.33 -7220546.24 -7220546.15 0.3766 0.2009

Saturn -24482-03-24 18:57 J -7220544.82 -7220544.71 -7220544.59 0.0270 0.0132

Uranus -24482-05-15 11:02 J -7220493.11 -7220493.04 -7220492.95 0.0136 0.0121

Saturn -24482-06-21 05:45 J -7220456.39 -7220456.26 -7220456.12 0.0270 0.0021

Earth -24482-06-23 03:07 J -7220454.47 -7220454.37 -7220454.27 0.2691 0.1237

Moon -24482-06-23 03:21 J -7220454.46 -7220454.36 -7220454.26 0.2685 0.1249 *

Jupiter -24482-08-10 01:26 J -7220406.60 -7220406.44 -7220406.28 0.0499 0.0213

Uranus -24482-08-11 17:59 J -7220404.88 -7220404.75 -7220404.62 0.0136 0.0094

Saturn -24482-09-17 16:47 J -7220367.93 -7220367.80 -7220367.68 0.0269 0.0093

Uranus -24482-11-08 00:28 J -7220316.63 -7220316.48 -7220316.31 0.0136 0.0068

Mars -24482-12-12 23:31 J -7220281.62 -7220281.52 -7220281.42 0.1685 0.0900

Saturn -24482-12-15 03:35 J -7220279.43 -7220279.35 -7220279.26 0.0269 0.0206

Uranus -24481-02-04 07:11 J -7220228.37 -7220228.20 -7220228.02 0.0136 0.0042

Uranus -24481-05-02 13:55 J -7220140.10 -7220139.92 -7220139.74 0.0136 0.0015

Uranus -24481-07-29 20:23 J -7220051.83 -7220051.65 -7220051.47 0.0135 0.0011

Mars -24481-10-22 18:28 J -7219966.85 -7219966.73 -7219966.61 0.1835 0.1213

Uranus -24481-10-26 02:52 J -7219963.55 -7219963.38 -7219963.20 0.0135 0.0036

Uranus -24480-01-22 09:21 J -7219875.27 -7219875.11 -7219874.95 0.0135 0.0062

Uranus -24480-04-20 15:21 J -7219786.98 -7219786.86 -7219786.71 0.0135 0.0087

Uranus -24480-07-17 22:04 J -7219698.68 -7219698.58 -7219698.48 0.0135 0.0112

Moon -24479-12-30 07:26 J -7219168.32 -7219168.19 -7219168.05 0.2650 0.0814

Earth -24479-12-30 08:23 J -7219168.29 -7219168.15 -7219168.01 0.2645 0.0814 *

Venus -24477-10-05 22:19 J -7218522.67 -7218522.57 -7218522.46 0.3767 0.0350

Jupiter -24477-12-31 19:11 J -7218435.75 -7218435.70 -7218435.65 0.0530 0.0486

Jupiter -24476-03-31 02:09 J -7218346.54 -7218346.41 -7218346.29 0.0528 0.0097

Neptune -24476-09-21 08:38 J -7218172.16 -7218172.14 -7218172.11 0.0089 0.0088

Neptune -24476-12-18 10:04 J -7218084.13 -7218084.08 -7218084.03 0.0089 0.0081

Neptune -24475-03-16 11:02 J -7217996.10 -7217996.04 -7217995.95 0.0089 0.0075

Neptune -24475-06-12 12:28 J -7217908.05 -7217907.98 -7217907.88 0.0089 0.0068

Neptune -24475-09-08 13:55 J -7217820.01 -7217819.92 -7217819.81 0.0089 0.0061

Neptune -24475-12-05 15:21 J -7217731.96 -7217731.86 -7217731.74 0.0089 0.0054

Neptune -24474-03-03 16:47 J -7217643.91 -7217643.80 -7217643.68 0.0089 0.0046

Mars -24474-05-30 05:02 J -7217556.32 -7217556.29 -7217556.26 0.1666 0.1612

Neptune -24474-05-30 18:14 J -7217555.86 -7217555.74 -7217555.62 0.0089 0.0039

Neptune -24474-08-26 19:40 J -7217467.80 -7217467.68 -7217467.55 0.0089 0.0032

Neptune -24474-11-22 21:07 J -7217379.75 -7217379.62 -7217379.49 0.0089 0.0025

Neptune -24473-02-18 22:33 J -7217291.69 -7217291.56 -7217291.43 0.0089 0.0019

Neptune -24473-05-16 23:45 J -7217203.64 -7217203.51 -7217203.37 0.0089 0.0012

Neptune -24473-08-13 01:11 J -7217115.58 -7217115.45 -7217115.31 0.0089 0.0005

Neptune -24473-11-09 02:38 J -7217027.52 -7217027.39 -7217027.25 0.0089 0.0003

Neptune -24472-02-05 04:04 J -7216939.46 -7216939.33 -7216939.20 0.0089 0.0009

Neptune -24472-05-04 05:31 J -7216851.40 -7216851.27 -7216851.14 0.0089 0.0017

Mars -24472-05-04 09:50 J -7216851.20 -7216851.09 -7216850.97 0.1681 0.0391 *

Neptune -24472-07-31 06:57 J -7216763.34 -7216763.21 -7216763.08 0.0089 0.0024

Neptune -24472-10-27 08:09 J -7216675.28 -7216675.16 -7216675.03 0.0089 0.0031

Neptune -24471-01-23 09:35 J -7216587.22 -7216587.10 -7216586.97 0.0089 0.0038

Mars -24471-03-14 14:52 J -7216537.04 -7216536.88 -7216536.71 0.1841 0.0046

Neptune -24471-04-21 11:02 J -7216499.15 -7216499.04 -7216498.92 0.0089 0.0045

Venus -24471-04-21 14:38 J -7216498.96 -7216498.89 -7216498.82 0.3768 0.2673 *

Neptune -24471-07-18 12:28 J -7216411.09 -7216410.98 -7216410.87 0.0089 0.0052

Neptune -24471-10-14 13:40 J -7216323.02 -7216322.93 -7216322.82 0.0089 0.0059

Neptune -24470-01-10 15:07 J -7216234.95 -7216234.87 -7216234.77 0.0089 0.0066

Neptune -24470-04-08 16:33 J -7216146.87 -7216146.81 -7216146.72 0.0089 0.0073

Jupiter -24470-05-28 23:16 J -7216096.71 -7216096.53 -7216096.35 0.0499 0.0036

Neptune -24470-07-05 17:59 J -7216058.79 -7216058.75 -7216058.68 0.0089 0.0080

Neptune -24470-10-01 19:26 J -7215970.70 -7215970.69 -7215970.65 0.0089 0.0088

Moon -24469-06-24 22:04 J -7215703.70 -7215703.58 -7215703.46 0.2683 0.0138

Earth -24469-06-24 22:19 J -7215703.68 -7215703.57 -7215703.45 0.2690 0.0171 *

Venus -24467-04-18 02:23 J -7215041.53 -7215041.40 -7215041.26 0.3608 0.1656

Saturn -24467-10-13 06:28 J -7214863.31 -7214863.23 -7214863.14 0.0291 0.0254

Saturn -24466-01-10 05:59 J -7214774.42 -7214774.25 -7214774.07 0.0291 0.0060

Saturn -24466-04-09 05:16 J -7214685.44 -7214685.28 -7214685.12 0.0292 0.0133

Moon -24465-01-02 10:19 J -7214417.13 -7214417.07 -7214417.00 0.2653 0.2357

Earth -24465-01-02 10:19 J -7214417.13 -7214417.07 -7214417.00 0.2647 0.2365 *

Jupiter -24464-01-17 05:45 J -7214036.39 -7214036.26 -7214036.13 0.0529 0.0058

Mars -24463-09-24 20:23 J -7213420.76 -7213420.65 -7213420.53 0.1677 0.0129

Mars -24462-08-04 10:33 J -7213107.18 -7213107.06 -7213106.94 0.1846 0.1214

Moon -24459-12-25 07:40 J -7211868.24 -7211868.18 -7211868.11 0.2638 0.2319

Earth -24459-12-25 09:07 J -7211868.20 -7211868.12 -7211868.03 0.2641 0.2129 *

Jupiter -24458-03-16 20:52 J -7211786.80 -7211786.63 -7211786.45 0.0498 0.0143

Moon -24456-06-27 16:47 J -7210952.91 -7210952.80 -7210952.69 0.2686 0.0778

Earth -24456-06-27 17:45 J -7210952.87 -7210952.76 -7210952.65 0.2688 0.0931 *

Mars -24453-02-15 07:11 J -7209990.31 -7209990.20 -7209990.09 0.1673 0.0605

Saturn -24453-05-14 11:31 J -7209901.03 -7209901.02 -7209901.00 0.0271 0.0267

Saturn -24453-08-10 22:19 J -7209812.68 -7209812.57 -7209812.46 0.0270 0.0156

Jupiter -24453-11-05 09:35 J -7209726.21 -7209726.10 -7209725.98 0.0530 0.0200

Saturn -24453-11-07 08:52 J -7209724.26 -7209724.13 -7209723.99 0.0269 0.0045

Jupiter -24452-02-02 16:47 J -7209636.88 -7209636.80 -7209636.71 0.0527 0.0390

Saturn -24452-02-03 19:40 J -7209635.81 -7209635.68 -7209635.55 0.0269 0.0067

Saturn -24452-05-03 06:43 J -7209547.32 -7209547.22 -7209547.12 0.0268 0.0179

Mars -24451-01-20 12:57 J -7209285.01 -7209284.96 -7209284.90 0.1689 0.1484

Earth -24449-06-20 13:11 J -7208403.03 -7208402.95 -7208402.88 0.2693 0.2092

Moon -24449-06-20 13:40 J -7208403.00 -7208402.93 -7208402.85 0.2689 0.2020 *

Jupiter -24446-01-02 18:14 J -7207476.87 -7207476.74 -7207476.60 0.0497 0.0324

Jupiter -24446-04-03 00:57 J -7207386.57 -7207386.46 -7207386.35 0.0499 0.0382

Moon -24446-12-28 10:47 J -7207117.20 -7207117.05 -7207116.91 0.2645 0.0513

Earth -24446-12-28 11:59 J -7207117.14 -7207117.00 -7207116.86 0.2643 0.0485 *

Mars -24444-07-07 17:59 J -7206559.84 -7206559.75 -7206559.66 0.1669 0.1085

Moon -24443-06-30 12:28 J -7206202.06 -7206201.98 -7206201.91 0.2688 0.2018

Earth -24443-06-30 13:11 J -7206202.02 -7206201.95 -7206201.87 0.2686 0.2043 *

Mars -24442-06-12 23:16 J -7205854.62 -7205854.53 -7205854.43 0.1685 0.0964

Mars -24441-04-22 19:11 J -7205539.81 -7205539.70 -7205539.59 0.1836 0.1334

Jupiter -24441-08-24 13:55 J -7205416.02 -7205415.92 -7205415.82 0.0530 0.0338

Jupiter -24441-11-21 21:07 J -7205326.74 -7205326.62 -7205326.51 0.0528 0.0249

Uranus -24438-04-20 16:33 J -7204446.81 -7204446.81 -7204446.80 0.0142 0.0142

Uranus -24438-07-17 20:09 J -7204358.72 -7204358.66 -7204358.58 0.0142 0.0120

Uranus -24438-10-13 23:59 J -7204270.60 -7204270.50 -7204270.40 0.0142 0.0098

Uranus -24437-01-10 03:35 J -7204182.46 -7204182.35 -7204182.23 0.0143 0.0077

Uranus -24437-04-07 07:26 J -7204094.31 -7204094.19 -7204094.06 0.0143 0.0054

Saturn -24437-05-29 03:35 J -7204042.51 -7204042.35 -7204042.19 0.0291 0.0124

Uranus -24437-07-04 11:16 J -7204006.16 -7204006.03 -7204005.89 0.0143 0.0032

Saturn -24437-08-26 02:52 J -7203953.55 -7203953.38 -7203953.21 0.0292 0.0069

Uranus -24437-09-30 15:21 J -7203918.00 -7203917.86 -7203917.73 0.0143 0.0010

Saturn -24437-11-23 01:40 J -7203864.50 -7203864.43 -7203864.35 0.0292 0.0260

Uranus -24437-12-27 19:11 J -7203829.84 -7203829.70 -7203829.57 0.0143 0.0014

Uranus -24436-03-25 23:02 J -7203741.67 -7203741.54 -7203741.41 0.0143 0.0037

Uranus -24436-06-22 02:52 J -7203653.50 -7203653.38 -7203653.25 0.0143 0.0060

Earth -24436-06-23 08:09 J -7203652.27 -7203652.16 -7203652.05 0.2691 0.1034

Moon -24436-06-23 08:09 J -7203652.26 -7203652.16 -7203652.05 0.2684 0.1008 *

Uranus -24436-09-18 06:43 J -7203565.32 -7203565.22 -7203565.10 0.0143 0.0084

Uranus -24436-12-15 10:47 J -7203477.14 -7203477.05 -7203476.95 0.0144 0.0107

Uranus -24435-03-13 14:52 J -7203388.93 -7203388.88 -7203388.82 0.0144 0.0131

Mars -24435-11-28 05:02 J -7203129.33 -7203129.29 -7203129.25 0.1666 0.1551

Jupiter -24434-01-19 23:16 J -7203076.69 -7203076.53 -7203076.37 0.0499 0.0212

Mars -24433-11-02 09:50 J -7202424.20 -7202424.09 -7202423.98 0.1681 0.0450

Moon -24433-12-30 13:26 J -7202366.07 -7202365.94 -7202365.80 0.2650 0.0971

Earth -24433-12-30 14:23 J -7202366.03 -7202365.90 -7202365.77 0.2645 0.1115 *

Mars -24432-09-12 15:35 J -7202110.01 -7202109.85 -7202109.68 0.1841 0.0154

Venus -24431-04-13 11:45 J -7201897.05 -7201897.01 -7201896.98 0.3765 0.3451

Jupiter -24429-06-12 17:45 J -7201105.81 -7201105.76 -7201105.71 0.0530 0.0484

Jupiter -24429-09-10 00:43 J -7201016.60 -7201016.47 -7201016.34 0.0528 0.0099

Venus -24426-10-28 03:50 J -7199873.44 -7199873.34 -7199873.24 0.3766 0.1161

Saturn -24424-12-29 00:28 J -7199080.57 -7199080.48 -7199080.38 0.0271 0.0191

Mars -24423-03-25 20:23 J -7198993.76 -7198993.65 -7198993.53 0.1677 0.0081

Saturn -24423-03-27 11:16 J -7198992.16 -7198992.03 -7198991.90 0.0270 0.0079

Saturn -24423-06-23 22:04 J -7198903.71 -7198903.58 -7198903.44 0.0270 0.0034

Moon -24423-06-26 02:52 J -7198901.49 -7198901.38 -7198901.26 0.2684 0.0092

Earth -24423-06-26 03:21 J -7198901.47 -7198901.36 -7198901.24 0.2689 0.0059 *

Saturn -24423-09-20 08:52 J -7198815.24 -7198815.13 -7198815.01 0.0269 0.0146

Jupiter -24423-11-07 21:07 J -7198766.80 -7198766.62 -7198766.44 0.0499 0.0036

Saturn -24423-12-17 19:55 J -7198726.70 -7198726.67 -7198726.64 0.0269 0.0259

Mars -24422-02-02 11:16 J -7198680.16 -7198680.03 -7198679.89 0.1846 0.1088

Venus -24420-05-12 19:55 J -7197849.76 -7197849.67 -7197849.57 0.3767 0.1182

Jupiter -24417-06-29 04:19 J -7196706.44 -7196706.32 -7196706.19 0.0528 0.0053

Venus -24415-11-26 12:14 J -7195826.02 -7195825.99 -7195825.96 0.3768 0.3545

Mars -24414-08-16 07:11 J -7195563.31 -7195563.20 -7195563.09 0.1673 0.0540

Moon -24413-12-25 13:55 J -7195066.02 -7195065.92 -7195065.82 0.2639 0.1881

Earth -24413-12-25 15:21 J -7195065.97 -7195065.86 -7195065.76 0.2642 0.1826 *

Mars -24412-07-21 12:57 J -7194858.00 -7194857.96 -7194857.91 0.1689 0.1553

Jupiter -24411-08-26 18:43 J -7194456.89 -7194456.72 -7194456.55 0.0498 0.0145

Venus -24411-11-23 03:50 J -7194368.49 -7194368.34 -7194368.19 0.3608 0.0312

Moon -24410-06-28 21:50 J -7194150.69 -7194150.59 -7194150.48 0.2686 0.1134

Earth -24410-06-28 22:47 J -7194150.66 -7194150.55 -7194150.45 0.2688 0.1144 *

Saturn -24408-10-16 04:33 J -7193310.46 -7193310.31 -7193310.16 0.0291 0.0159

Saturn -24407-01-13 03:50 J -7193221.51 -7193221.34 -7193221.16 0.0292 0.0035

Saturn -24407-04-12 02:52 J -7193132.49 -7193132.38 -7193132.26 0.0292 0.0226

Jupiter -24405-04-17 07:55 J -7192396.29 -7192396.17 -7192396.05 0.0529 0.0204

Jupiter -24405-07-15 15:07 J -7192306.96 -7192306.87 -7192306.78 0.0527 0.0383

Mars -24404-01-05 17:59 J -7192132.84 -7192132.75 -7192132.66 0.1669 0.1021

Pluto -24403-03-01 13:26 J -7191712.99 -7191712.94 -7191712.89 0.0074 0.0069

Pluto -24403-05-28 14:38 J -7191624.97 -7191624.89 -7191624.80 0.0074 0.0061

Earth -24403-06-21 17:59 J -7191600.83 -7191600.75 -7191600.67 0.2692 0.1891

Moon -24403-06-21 18:43 J -7191600.80 -7191600.72 -7191600.64 0.2688 0.1854 *

Pluto -24403-08-24 16:04 J -7191536.93 -7191536.83 -7191536.72 0.0074 0.0053

Pluto -24403-11-20 17:31 J -7191448.89 -7191448.77 -7191448.65 0.0074 0.0045

Mars -24403-12-11 23:31 J -7191427.62 -7191427.52 -7191427.43 0.1685 0.1029

Pluto -24402-02-16 18:28 J -7191360.85 -7191360.73 -7191360.58 0.0073 0.0038

Pluto -24402-05-15 19:55 J -7191272.80 -7191272.67 -7191272.52 0.0073 0.0029

Pluto -24402-08-11 21:21 J -7191184.75 -7191184.61 -7191184.46 0.0073 0.0021

Mars -24402-10-22 19:40 J -7191112.77 -7191112.68 -7191112.58 0.1835 0.1446

Pluto -24402-11-07 22:47 J -7191096.70 -7191096.55 -7191096.40 0.0073 0.0013

Pluto -24401-02-03 23:59 J -7191008.65 -7191008.50 -7191008.34 0.0073 0.0006

Pluto -24401-05-02 01:11 J -7190920.60 -7190920.45 -7190920.29 0.0073 0.0003

Pluto -24401-07-29 02:23 J -7190832.55 -7190832.40 -7190832.24 0.0073 0.0010

Pluto -24401-10-25 03:50 J -7190744.49 -7190744.34 -7190744.19 0.0073 0.0017

Pluto -24400-01-21 04:47 J -7190656.43 -7190656.30 -7190656.15 0.0072 0.0025

Pluto -24400-04-19 06:14 J -7190568.38 -7190568.24 -7190568.10 0.0072 0.0032

Pluto -24400-07-16 07:11 J -7190480.32 -7190480.20 -7190480.06 0.0072 0.0039

Pluto -24400-10-12 08:23 J -7190392.25 -7190392.15 -7190392.02 0.0072 0.0046

Moon -24400-12-28 16:47 J -7190314.94 -7190314.80 -7190314.66 0.2647 0.0368

Earth -24400-12-28 17:59 J -7190314.89 -7190314.75 -7190314.61 0.2643 0.0179 *

Pluto -24399-01-08 09:35 J -7190304.19 -7190304.10 -7190303.99 0.0072 0.0053

Pluto -24399-04-06 11:02 J -7190216.12 -7190216.04 -7190215.96 0.0072 0.0060

Jupiter -24399-06-14 16:19 J -7190146.96 -7190146.82 -7190146.68 0.0497 0.0322

Pluto -24399-07-03 11:45 J -7190128.04 -7190128.01 -7190127.94 0.0072 0.0068

Jupiter -24399-09-12 23:02 J -7190056.65 -7190056.54 -7190056.43 0.0499 0.0384

Uranus -24398-06-04 17:45 J -7189791.85 -7189791.76 -7189791.66 0.0136 0.0116

Uranus -24398-09-01 00:28 J -7189703.61 -7189703.48 -7189703.33 0.0136 0.0089

Uranus -24398-11-28 07:11 J -7189615.35 -7189615.20 -7189615.03 0.0136 0.0063

Uranus -24397-02-24 13:55 J -7189527.09 -7189526.92 -7189526.74 0.0136 0.0036

Uranus -24397-05-22 20:38 J -7189438.82 -7189438.64 -7189438.46 0.0136 0.0010

Moon -24397-06-30 17:45 J -7189399.83 -7189399.76 -7189399.69 0.2689 0.2142

Earth -24397-06-30 18:14 J -7189399.80 -7189399.74 -7189399.68 0.2686 0.2266 *

Uranus -24397-08-19 03:07 J -7189350.55 -7189350.37 -7189350.19 0.0135 0.0016

Uranus -24397-11-15 09:35 J -7189262.27 -7189262.10 -7189261.92 0.0135 0.0042

Uranus -24396-02-11 15:50 J -7189173.99 -7189173.84 -7189173.67 0.0135 0.0067

Uranus -24396-05-10 22:04 J -7189085.70 -7189085.58 -7189085.43 0.0135 0.0093

Uranus -24396-08-07 04:19 J -7188997.39 -7188997.32 -7188997.21 0.0135 0.0118

Mars -24395-05-29 05:02 J -7188702.34 -7188702.29 -7188702.24 0.1665 0.1493

Saturn -24394-05-18 03:50 J -7188348.42 -7188348.34 -7188348.25 0.0271 0.0214

Saturn -24394-08-14 14:38 J -7188260.01 -7188259.89 -7188259.76 0.0270 0.0102

Saturn -24394-11-11 01:26 J -7188171.58 -7188171.44 -7188171.30 0.0269 0.0010

Jupiter -24393-02-04 11:45 J -7188086.10 -7188086.01 -7188085.91 0.0530 0.0349

Saturn -24393-02-07 12:14 J -7188083.11 -7188082.99 -7188082.87 0.0269 0.0123

Mars -24393-05-03 09:50 J -7187997.20 -7187997.09 -7187996.98 0.1681 0.0516

Jupiter -24393-05-03 18:57 J -7187996.83 -7187996.71 -7187996.60 0.0528 0.0238

Saturn -24393-05-05 23:02 J -7187994.60 -7187994.54 -7187994.47 0.0268 0.0236

Neptune -24392-03-11 15:21 J -7187684.86 -7187684.86 -7187684.86 0.0088 0.0088

Mars -24392-03-13 16:04 J -7187682.99 -7187682.83 -7187682.67 0.1841 0.0259

Neptune -24392-06-07 18:43 J -7187596.80 -7187596.72 -7187596.63 0.0088 0.0078

Neptune -24392-09-03 21:50 J -7187508.69 -7187508.59 -7187508.46 0.0088 0.0069

Neptune -24392-12-01 01:26 J -7187420.57 -7187420.44 -7187420.29 0.0088 0.0059

Neptune -24391-02-27 05:02 J -7187332.45 -7187332.29 -7187332.13 0.0088 0.0050

Neptune -24391-05-26 08:09 J -7187244.32 -7187244.16 -7187243.98 0.0088 0.0040

Neptune -24391-08-22 11:45 J -7187156.18 -7187156.01 -7187155.82 0.0088 0.0031

Neptune -24391-11-18 15:07 J -7187068.05 -7187067.87 -7187067.68 0.0088 0.0021

Neptune -24390-02-14 18:43 J -7186979.91 -7186979.72 -7186979.53 0.0088 0.0011

Neptune -24390-05-13 22:04 J -7186891.77 -7186891.58 -7186891.39 0.0088 0.0002

Moon -24390-06-24 13:11 J -7186850.06 -7186849.95 -7186849.84 0.2683 0.0826

Earth -24390-06-24 13:11 J -7186850.06 -7186849.95 -7186849.84 0.2691 0.0827 *

Neptune -24390-08-10 01:26 J -7186803.63 -7186803.44 -7186803.25 0.0088 0.0008

Neptune -24390-11-06 04:47 J -7186715.49 -7186715.30 -7186715.11 0.0088 0.0017

Neptune -24389-02-02 07:55 J -7186627.34 -7186627.17 -7186626.98 0.0088 0.0027

Neptune -24389-04-30 11:16 J -7186539.19 -7186539.03 -7186538.85 0.0088 0.0036

Neptune -24389-07-27 14:52 J -7186451.04 -7186450.88 -7186450.72 0.0088 0.0046

Neptune -24389-10-23 17:45 J -7186362.89 -7186362.76 -7186362.60 0.0088 0.0055

Neptune -24388-01-19 21:21 J -7186274.73 -7186274.61 -7186274.48 0.0088 0.0064

Neptune -24388-04-18 00:43 J -7186186.57 -7186186.47 -7186186.36 0.0088 0.0074

Neptune -24388-07-15 03:35 J -7186098.39 -7186098.35 -7186098.27 0.0088 0.0083

Jupiter -24387-07-01 20:38 J -7185746.80 -7185746.64 -7185746.48 0.0499 0.0205

Moon	-24387-12-31 19:40 J	-7185563.80	-7185563.68	-7185563.56	0.2651	0.1436
Earth	-24387-12-31 20:23 J	-7185563.77	-7185563.65	-7185563.53	0.2645	0.1408 *
Mars	-24384-09-23 20:23 J	-7184566.77	-7184566.65	-7184566.53	0.1677	0.0016
Mars	-24383-08-03 12:14 J	-7184253.13	-7184252.99	-7184252.85	0.1846	0.0961
Jupiter	-24382-11-23 16:04 J	-7183775.88	-7183775.83	-7183775.78	0.0531	0.0488
Jupiter	-24381-02-20 23:02 J	-7183686.67	-7183686.54	-7183686.41	0.0528	0.0096
Saturn	-24378-03-05 02:38 J	-7182578.51	-7182578.39	-7182578.27	0.0290	0.0218
Saturn	-24378-06-02 02:09 J	-7182489.59	-7182489.41	-7182489.23	0.0291	0.0024
Saturn	-24378-08-30 01:11 J	-7182400.59	-7182400.45	-7182400.30	0.0292	0.0167
Moon	-24377-06-26 07:55 J	-7182099.29	-7182099.17	-7182099.06	0.2685	0.0240
Earth	-24377-06-26 08:23 J	-7182099.27	-7182099.15	-7182099.03	0.2689	0.0254 *
Jupiter	-24375-04-19 18:43 J	-7181436.90	-7181436.72	-7181436.54	0.0498	0.0032
Venus	-24375-11-18 09:07 J	-7181224.19	-7181224.12	-7181224.04	0.3765	0.2616
Mars	-24374-02-14 07:11 J	-7181136.31	-7181136.20	-7181136.09	0.1673	0.0477
Mars	-24372-01-19 12:57 J	-7180430.99	-7180430.96	-7180430.93	0.1689	0.1612
Jupiter	-24370-12-10 02:52 J	-7179376.51	-7179376.38	-7179376.25	0.0528	0.0051
Venus	-24369-06-03 01:26 J	-7179200.54	-7179200.44	-7179200.34	0.3766	0.0313
Moon	-24367-12-26 19:55 J	-7178263.78	-7178263.67	-7178263.56	0.2640	0.1659
Earth	-24367-12-26 21:21 J	-7178263.73	-7178263.61	-7178263.49	0.2642	0.1517 *
Mars	-24365-07-06 17:59 J	-7177705.84	-7177705.75	-7177705.65	0.1669	0.0958
Saturn	-24365-10-04 06:28 J	-7177616.28	-7177616.23	-7177616.18	0.0271	0.0248
Saturn	-24365-12-31 17:02 J	-7177527.90	-7177527.79	-7177527.67	0.0271	0.0136
Saturn	-24364-03-30 03:50 J	-7177439.47	-7177439.34	-7177439.20	0.0270	0.0023
Saturn	-24364-06-26 14:38 J	-7177351.02	-7177350.89	-7177350.76	0.0270	0.0090
Moon	-24364-06-29 03:07 J	-7177348.48	-7177348.37	-7177348.27	0.2686	0.1214
Earth	-24364-06-29 03:50 J	-7177348.44	-7177348.34	-7177348.24	0.2687	0.1360 *
Saturn	-24364-09-23 01:26 J	-7177262.52	-7177262.44	-7177262.34	0.0269	0.0203
Venus	-24364-12-17 17:31 J	-7177176.85	-7177176.77	-7177176.68	0.3767	0.2045
Jupiter	-24363-02-05 16:04 J	-7177127.00	-7177126.83	-7177126.65	0.0498	0.0150
Mars	-24363-06-11 23:31 J	-7177000.61	-7177000.52	-7177000.43	0.1685	0.1095

Mars -24362-04-22 20:23 J -7176685.73 -7176685.65 -7176685.56 0.1835 0.1564

Venus -24360-12-13 22:47 J -7175719.59 -7175719.55 -7175719.51 0.3609 0.3461

Jupiter -24358-09-28 06:43 J -7175066.34 -7175066.22 -7175066.11 0.0529 0.0200

Jupiter -24358-12-26 13:40 J -7174977.02 -7174976.93 -7174976.84 0.0526 0.0387

Earth -24357-06-21 23:02 J -7174798.63 -7174798.54 -7174798.45 0.2692 0.1689

Moon -24357-06-21 23:31 J -7174798.61 -7174798.52 -7174798.43 0.2686 0.1594 *

Mars -24356-11-27 05:02 J -7174275.35 -7174275.29 -7174275.24 0.1666 0.1431

Uranus -24354-05-10 23:45 J -7173745.54 -7173745.51 -7173745.47 0.0142 0.0136

Venus -24354-06-30 05:02 J -7173695.41 -7173695.29 -7173695.17 0.3607 0.2241

Uranus -24354-08-07 03:21 J -7173657.43 -7173657.36 -7173657.27 0.0142 0.0115

Mars -24354-11-02 09:50 J -7173570.20 -7173570.09 -7173569.98 0.1681 0.0579

Uranus -24354-11-03 07:11 J -7173569.30 -7173569.20 -7173569.09 0.0142 0.0093

Moon -24354-12-29 22:47 J -7173512.70 -7173512.55 -7173512.41 0.2647 0.0093

Earth -24354-12-29 23:59 J -7173512.65 -7173512.50 -7173512.36 0.2644 0.0116 *

Uranus -24353-01-30 11:02 J -7173481.16 -7173481.04 -7173480.92 0.0143 0.0070

Uranus -24353-04-27 14:52 J -7173393.01 -7173392.88 -7173392.75 0.0143 0.0048

Uranus -24353-07-24 18:43 J -7173304.86 -7173304.72 -7173304.59 0.0143 0.0026

Mars -24353-09-11 16:47 J -7173255.95 -7173255.80 -7173255.63 0.1841 0.0384

Uranus -24353-10-20 22:33 J -7173216.70 -7173216.56 -7173216.42 0.0143 0.0003

Uranus -24352-01-17 02:23 J -7173128.53 -7173128.40 -7173128.26 0.0143 0.0020

Uranus -24352-04-15 06:14 J -7173040.37 -7173040.24 -7173040.10 0.0143 0.0043

Uranus -24352-07-12 10:04 J -7172952.19 -7172952.08 -7172951.95 0.0143 0.0066

Uranus -24352-10-08 14:09 J -7172864.01 -7172863.91 -7172863.80 0.0143 0.0089

Jupiter -24352-11-24 13:40 J -7172817.06 -7172816.93 -7172816.79 0.0498 0.0329

Uranus -24351-01-04 18:14 J -7172775.82 -7172775.74 -7172775.66 0.0144 0.0113

Jupiter -24351-02-22 20:38 J -7172726.76 -7172726.64 -7172726.53 0.0500 0.0379

Uranus -24351-04-02 22:04 J -7172687.61 -7172687.58 -7172687.53 0.0144 0.0137

Moon -24351-07-01 22:47 J -7172597.59 -7172597.55 -7172597.51 0.2691 0.2507

Earth -24351-07-01 23:31 J -7172597.56 -7172597.52 -7172597.48 0.2685 0.2487 *

Saturn -24349-07-22 03:50 J -7171846.43 -7171846.34 -7171846.25 0.0290 0.0252

Saturn -24349-10-19 03:21 J -7171757.54 -7171757.36 -7171757.19 0.0291 0.0058

Saturn -24348-01-16 02:23 J -7171668.55 -7171668.40 -7171668.24 0.0292 0.0135

Jupiter -24346-07-17 10:04 J -7170756.18 -7170756.08 -7170755.99 0.0530 0.0356

Jupiter -24346-10-14 17:02 J -7170666.91 -7170666.79 -7170666.68 0.0527 0.0230

Mars -24344-03-24 20:23 J -7170139.76 -7170139.65 -7170139.53 0.1677 0.0090

Moon -24344-06-24 18:14 J -7170047.86 -7170047.74 -7170047.63 0.2684 0.0638

Earth -24344-06-24 18:14 J -7170047.85 -7170047.74 -7170047.63 0.2691 0.0626 *

Mars -24343-02-01 12:43 J -7169826.11 -7169825.97 -7169825.82 0.1846 0.0848

Moon -24340-01-01 01:55 J -7168761.53 -7168761.42 -7168761.31 0.2651 0.1596

Earth -24340-01-01 02:23 J -7168761.51 -7168761.40 -7168761.30 0.2645 0.1705 *

Jupiter -24340-12-11 18:28 J -7168416.89 -7168416.73 -7168416.57 0.0499 0.0203

Saturn -24335-02-21 10:04 J -7166884.10 -7166884.08 -7166884.06 0.0271 0.0267

Saturn -24335-05-20 20:38 J -7166795.74 -7166795.64 -7166795.53 0.0270 0.0156

Mars -24335-08-15 07:11 J -7166709.31 -7166709.20 -7166709.09 0.1673 0.0415

Saturn -24335-08-17 07:26 J -7166707.32 -7166707.19 -7166707.05 0.0270 0.0044

Saturn -24335-11-13 18:14 J -7166618.87 -7166618.74 -7166618.61 0.0269 0.0069

Saturn -24334-02-10 05:02 J -7166530.38 -7166530.29 -7166530.18 0.0268 0.0182

Jupiter -24334-05-05 13:55 J -7166445.96 -7166445.92 -7166445.88 0.0531 0.0501

Jupiter -24334-08-02 20:52 J -7166356.76 -7166356.63 -7166356.50 0.0528 0.0084

Mars -24333-07-20 12:57 J -7166003.96 -7166003.96 -7166003.95 0.1689 0.1682

Moon -24331-06-27 12:43 J -7165297.08 -7165296.97 -7165296.85 0.2685 0.0386

Earth -24331-06-27 13:26 J -7165297.05 -7165296.94 -7165296.82 0.2689 0.0466 *

Jupiter -24328-09-29 15:50 J -7164107.02 -7164106.84 -7164106.66 0.0498 0.0022

Mars -24325-01-05 17:59 J -7163278.85 -7163278.75 -7163278.65 0.1669 0.0901

Earth -24324-06-20 09:07 J -7162747.16 -7162747.12 -7162747.09 0.2694 0.2535

Moon -24324-06-20 09:50 J -7162747.14 -7162747.09 -7162747.04 0.2693 0.2392 *

Mars -24324-12-10 23:16 J -7162573.61 -7162573.53 -7162573.44 0.1685 0.1154

Mars -24323-10-21 21:07 J -7162258.68 -7162258.62 -7162258.55 0.1836 0.1674

Jupiter -24322-05-22 00:57 J -7162046.59 -7162046.46 -7162046.33 0.0529 0.0059

Moon -24321-12-27 01:55 J -7161461.54 -7161461.42 -7161461.29 0.2643 0.1342

Earth -24321-12-27 03:21 J -7161461.49 -7161461.36 -7161461.23 0.2642 0.1205 *

Saturn -24319-03-08 02:09 J -7161025.58 -7161025.41 -7161025.24 0.0291 0.0111

Saturn -24319-06-05 01:26 J -7160936.61 -7160936.44 -7160936.27 0.0291 0.0082

Saturn -24319-09-02 00:14 J -7160847.55 -7160847.49 -7160847.42 0.0292 0.0272

Venus -24318-06-25 06:43 J -7160551.31 -7160551.22 -7160551.13 0.3765 0.1765

Moon -24318-06-30 08:09 J -7160546.26 -7160546.16 -7160546.07 0.2687 0.1549

Earth -24318-06-30 08:52 J -7160546.22 -7160546.13 -7160546.03 0.2687 0.1576 *

Mars -24316-05-28 05:02 J -7159848.36 -7159848.29 -7159848.23 0.1666 0.1367

Jupiter -24316-07-18 13:40 J -7159797.10 -7159796.93 -7159796.76 0.0498 0.0154

Uranus -24314-03-28 18:28 J -7159178.75 -7159178.73 -7159178.72 0.0136 0.0136

Mars -24314-05-03 09:50 J -7159143.20 -7159143.09 -7159142.98 0.1681 0.0643

Uranus -24314-06-25 00:57 J -7159090.56 -7159090.46 -7159090.34 0.0136 0.0109

Uranus -24314-09-21 07:40 J -7159002.32 -7159002.18 -7159002.02 0.0136 0.0082

Uranus -24314-12-18 14:23 J -7158914.06 -7158913.90 -7158913.72 0.0136 0.0056

Mars -24313-03-12 17:45 J -7158828.91 -7158828.76 -7158828.60 0.1841 0.0512

Uranus -24313-03-15 21:07 J -7158825.79 -7158825.62 -7158825.44 0.0136 0.0029

Uranus -24313-06-12 03:50 J -7158737.52 -7158737.34 -7158737.16 0.0136 0.0003

Uranus -24313-09-08 10:19 J -7158649.25 -7158649.07 -7158648.89 0.0135 0.0023

Uranus -24313-12-05 16:47 J -7158560.97 -7158560.80 -7158560.63 0.0135 0.0048

Venus -24312-01-07 23:02 J -7158527.65 -7158527.54 -7158527.44 0.3766 0.0568

Uranus -24312-03-03 23:16 J -7158472.68 -7158472.53 -7158472.38 0.0135 0.0074

Uranus -24312-05-31 05:31 J -7158384.39 -7158384.27 -7158384.14 0.0135 0.0099

Uranus -24312-08-27 11:45 J -7158296.07 -7158296.01 -7158295.93 0.0135 0.0123

Neptune -24311-06-18 08:09 J -7158001.19 -7158001.16 -7158001.11 0.0089 0.0085

Earth -24311-06-23 04:04 J -7157996.42 -7157996.33 -7157996.23 0.2692 0.1483

Moon -24311-06-23 04:33 J -7157996.41 -7157996.31 -7157996.22 0.2685 0.1505 *

Neptune -24311-09-14 09:50 J -7157913.16 -7157913.09 -7157913.03 0.0089 0.0078

Neptune -24311-12-11 10:47 J -7157825.11 -7157825.05 -7157824.95 0.0089 0.0071

Neptune -24310-03-09 12:14 J -7157737.07 -7157736.99 -7157736.89 0.0089 0.0064

Jupiter -24310-03-10 05:02 J -7157736.41 -7157736.29 -7157736.18 0.0529 0.0203

Neptune -24310-06-05 13:40 J -7157649.02 -7157648.93 -7157648.82 0.0089 0.0057

Jupiter -24310-06-07 11:59 J -7157647.09 -7157647.00 -7157646.91 0.0527 0.0383

Neptune -24310-09-01 15:07 J -7157560.97 -7157560.87 -7157560.75 0.0089 0.0050

Neptune -24310-11-28 16:33 J -7157472.92 -7157472.81 -7157472.69 0.0089 0.0043

Neptune -24309-02-24 17:59 J -7157384.87 -7157384.75 -7157384.63 0.0089 0.0036

Neptune -24309-05-22 19:26 J -7157296.82 -7157296.69 -7157296.56 0.0089 0.0029

Neptune -24309-08-18 20:38 J -7157208.76 -7157208.64 -7157208.50 0.0089 0.0023

Neptune -24309-11-14 22:04 J -7157120.71 -7157120.58 -7157120.44 0.0089 0.0016

Neptune -24308-02-10 23:31 J -7157032.65 -7157032.52 -7157032.38 0.0089 0.0009

Neptune -24308-05-10 00:57 J -7156944.59 -7156944.46 -7156944.32 0.0089 0.0002

Neptune -24308-08-06 02:23 J -7156856.53 -7156856.40 -7156856.27 0.0089 0.0006

Neptune -24308-11-02 03:35 J -7156768.48 -7156768.35 -7156768.21 0.0089 0.0014

Moon -24308-12-30 04:47 J -7156710.44 -7156710.30 -7156710.16 0.2647 0.0261

Earth -24308-12-30 05:59 J -7156710.39 -7156710.25 -7156710.11 0.2644 0.0419 *

Neptune -24307-01-29 05:02 J -7156680.41 -7156680.29 -7156680.15 0.0089 0.0020

Neptune -24307-04-27 06:28 J -7156592.35 -7156592.23 -7156592.10 0.0089 0.0027

Neptune -24307-07-24 07:55 J -7156504.29 -7156504.17 -7156504.04 0.0089 0.0034

Venus -24307-07-24 15:07 J -7156503.93 -7156503.87 -7156503.80 0.3767 0.2908

Neptune -24307-10-20 09:21 J -7156416.23 -7156416.11 -7156415.99 0.0089 0.0041

Neptune -24306-01-16 10:33 J -7156328.16 -7156328.06 -7156327.93 0.0089 0.0049

Neptune -24306-04-14 11:59 J -7156240.09 -7156240.00 -7156239.88 0.0089 0.0056

Neptune -24306-07-11 13:26 J -7156152.02 -7156151.94 -7156151.83 0.0089 0.0063

Neptune -24306-10-07 14:52 J -7156063.95 -7156063.88 -7156063.78 0.0089 0.0070

Saturn -24306-10-07 23:16 J -7156063.63 -7156063.53 -7156063.44 0.0271 0.0190

Neptune -24305-01-03 16:19 J -7155975.88 -7155975.82 -7155975.74 0.0089 0.0077

Saturn -24305-01-04 09:50 J -7155975.22 -7155975.09 -7155974.96 0.0270 0.0077

Neptune -24305-03-31 17:59 J -7155887.79 -7155887.75 -7155887.70 0.0089 0.0083

Saturn -24305-04-01 20:38 J -7155886.77 -7155886.64 -7155886.50 0.0270 0.0036

Saturn -24305-06-29 07:40 J -7155798.30 -7155798.18 -7155798.07 0.0269 0.0149

Moon -24305-07-02 03:50 J -7155795.37 -7155795.34 -7155795.31 0.2691 0.2586

Mars -24305-09-22 20:23 J -7155712.76 -7155712.65 -7155712.53 0.1677 0.0151

Saturn -24305-09-25 18:28 J -7155709.76 -7155709.73 -7155709.70 0.0269 0.0262

Jupiter -24304-05-06 10:47 J -7155487.18 -7155487.05 -7155486.91 0.0498 0.0339

Mars -24304-08-02 13:26 J -7155399.09 -7155398.94 -7155398.79 0.1846 0.0730

Jupiter -24304-08-04 17:45 J -7155396.88 -7155396.76 -7155396.64 0.0500 0.0371

Venus -24303-07-21 00:14 J -7155046.63 -7155046.49 -7155046.35 0.3608 0.1465

Jupiter -24299-12-27 08:38 J -7153426.23 -7153426.14 -7153426.04 0.0529 0.0350

Jupiter -24298-03-26 15:35 J -7153336.96 -7153336.85 -7153336.73 0.0527 0.0234

Moon -24298-06-25 23:02 J -7153245.66 -7153245.54 -7153245.43 0.2684 0.0400

Earth -24298-06-25 23:16 J -7153245.65 -7153245.53 -7153245.42 0.2690 0.0419 *

Mars -24295-02-13 07:11 J -7152282.32 -7152282.20 -7152282.09 0.1673 0.0354

Moon -24294-01-02 08:09 J -7151959.25 -7151959.16 -7151959.08 0.2652 0.2067

Earth -24294-01-02 08:09 J -7151959.25 -7151959.16 -7151959.06 0.2646 0.1992 *

Jupiter -24292-05-23 15:35 J -7151087.01 -7151086.85 -7151086.68 0.0499 0.0195

Saturn -24290-07-26 02:52 J -7150293.53 -7150293.38 -7150293.22 0.0291 0.0147

Saturn -24290-10-23 02:23 J -7150204.58 -7150204.40 -7150204.22 0.0291 0.0047

Saturn -24289-01-20 01:26 J -7150115.54 -7150115.44 -7150115.34 0.0292 0.0238

Earth -24288-12-25 06:28 J -7149410.26 -7149410.23 -7149410.20 0.2640 0.2567

Jupiter -24287-10-15 11:59 J -7149116.03 -7149116.00 -7149115.97 0.0530 0.0508

Jupiter -24286-01-12 18:43 J -7149026.84 -7149026.72 -7149026.59 0.0528 0.0078

Mars -24286-07-06 17:59 J -7148851.85 -7148851.75 -7148851.65 0.1669 0.0834

Moon -24285-06-27 17:45 J -7148494.87 -7148494.76 -7148494.64 0.2684 0.0606

Earth -24285-06-27 18:28 J -7148494.84 -7148494.73 -7148494.62 0.2689 0.0677 *

Mars -24284-06-10 23:16 J -7148146.61 -7148146.53 -7148146.44 0.1685 0.1224

Mars -24283-04-21 21:50 J -7147831.62 -7147831.59 -7147831.56 0.1835 0.1792

Jupiter -24280-03-11 13:40 J -7146777.11 -7146776.93 -7146776.75 0.0498 0.0020

Earth -24278-06-21 14:09 J -7145944.97 -7145944.91 -7145944.86 0.2693 0.2334

Moon -24278-06-21 14:52 J -7145944.94 -7145944.88 -7145944.83 0.2691 0.2327 *

Mars -24277-11-26 04:47 J -7145421.37 -7145421.30 -7145421.23 0.1665 0.1309

Saturn -24276-02-24 02:52 J -7145331.46 -7145331.38 -7145331.29 0.0271 0.0208

Saturn -24276-05-23 13:40 J -7145243.06 -7145242.93 -7145242.80 0.0270 0.0096

Saturn -24276-08-20 00:28 J -7145154.62 -7145154.48 -7145154.35 0.0269 0.0017

Saturn -24276-11-16 11:16 J -7145066.15 -7145066.03 -7145065.91 0.0269 0.0129

Saturn -24275-02-12 22:04 J -7144977.63 -7144977.58 -7144977.52 0.0268 0.0242

Jupiter -24275-10-31 22:33 J -7144716.68 -7144716.56 -7144716.43 0.0529 0.0074

Mars -24275-11-01 09:50 J -7144716.20 -7144716.09 -7144715.98 0.1681 0.0708

Moon -24275-12-28 07:55 J -7144659.30 -7144659.17 -7144659.03 0.2644 0.0990

Earth -24275-12-28 09:21 J -7144659.24 -7144659.11 -7144658.97 0.2642 0.0902 *

Jupiter -24274-01-29 05:45 J -7144627.27 -7144627.26 -7144627.23 0.0526 0.0517

Mars -24274-09-11 18:14 J -7144401.90 -7144401.74 -7144401.59 0.1841 0.0608

Moon -24272-06-30 13:11 J -7143744.04 -7143743.95 -7143743.86 0.2689 0.1687

Earth -24272-06-30 13:55 J -7143744.00 -7143743.92 -7143743.83 0.2687 0.1791 *

Uranus -24270-05-31 07:11 J -7143044.25 -7143044.20 -7143044.14 0.0142 0.0130

Uranus -24270-08-27 11:02 J -7142956.13 -7142956.04 -7142955.95 0.0142 0.0108

Uranus -24270-11-23 14:52 J -7142867.99 -7142867.88 -7142867.78 0.0143 0.0086

Uranus -24269-02-19 18:28 J -7142779.85 -7142779.73 -7142779.60 0.0143 0.0064

Uranus -24269-05-17 22:19 J -7142691.70 -7142691.57 -7142691.44 0.0143 0.0041

Uranus -24269-08-14 02:09 J -7142603.55 -7142603.41 -7142603.27 0.0143 0.0019

Uranus -24269-11-10 05:59 J -7142515.39 -7142515.25 -7142515.11 0.0143 0.0004

Jupiter -24269-12-28 10:47 J -7142467.22 -7142467.05 -7142466.88 0.0498 0.0164

Uranus -24268-02-06 09:50 J -7142427.22 -7142427.09 -7142426.95 0.0143 0.0027

Uranus -24268-05-05 13:40 J -7142339.05 -7142338.93 -7142338.79 0.0143 0.0050

Uranus -24268-08-01 17:31 J -7142250.88 -7142250.77 -7142250.64 0.0143 0.0074

Uranus -24268-10-28 21:35 J -7142162.70 -7142162.60 -7142162.49 0.0144 0.0097

Uranus -24267-01-25 01:40 J -7142074.50 -7142074.43 -7142074.35 0.0144 0.0120

Venus -24267-07-16 12:14 J -7141902.04 -7141901.99 -7141901.94 0.3764 0.3198

Mars -24265-03-23 20:23 J -7141285.77 -7141285.65 -7141285.53 0.1677 0.0201

Earth -24265-06-23 09:07 J -7141194.22 -7141194.12 -7141194.02 0.2692 0.1286

Moon -24265-06-23 09:21 J -7141194.21 -7141194.11 -7141194.00 0.2685 0.1183 *

Mars -24264-01-31 14:23 J -7140972.05 -7140971.90 -7140971.74 0.1846 0.0597

Jupiter -24263-08-20 02:38 J -7140406.50 -7140406.39 -7140406.27 0.0530 0.0215

Jupiter -24263-11-17 09:50 J -7140317.18 -7140317.09 -7140317.00 0.0527 0.0374

Moon -24262-12-31 11:02 J -7139908.18 -7139908.04 -7139907.90 0.2648 0.0673

Earth -24262-12-31 11:59 J -7139908.14 -7139908.00 -7139907.86 0.2644 0.0724 *

Venus -24261-01-30 04:19 J -7139878.42 -7139878.32 -7139878.22 0.3766 0.0916

Saturn -24261-12-12 02:09 J -7139561.54 -7139561.41 -7139561.27 0.0290 0.0197

Saturn -24260-03-11 01:40 J -7139472.61 -7139472.43 -7139472.25 0.0291 0.0004

Saturn -24260-06-08 00:43 J -7139383.60 -7139383.47 -7139383.33 0.0292 0.0188

Jupiter -24257-10-16 08:23 J -7138157.28 -7138157.15 -7138157.02 0.0497 0.0342

Jupiter -24256-01-14 15:21 J -7138066.98 -7138066.86 -7138066.74 0.0499 0.0365

Mars -24256-08-14 07:11 J -7137855.32 -7137855.20 -7137855.09 0.1673 0.0290

Venus -24256-08-14 20:38 J -7137854.74 -7137854.64 -7137854.55 0.3766 0.1420

Moon -24252-06-26 03:50 J -7136443.46 -7136443.34 -7136443.22 0.2684 0.0295

Earth -24252-06-26 04:19 J -7136443.44 -7136443.32 -7136443.21 0.2690 0.0223 *

Jupiter -24251-06-08 06:57 J -7136096.31 -7136096.21 -7136096.12 0.0530 0.0356

Jupiter -24251-09-05 13:55 J -7136007.04 -7136006.92 -7136006.81 0.0527 0.0229

Moon -24248-01-02 14:09 J -7135156.99 -7135156.91 -7135156.84 0.2653 0.2218

Earth -24248-01-02 14:09 J -7135156.98 -7135156.91 -7135156.84 0.2646 0.2288 *

Saturn -24247-07-14 05:16 J -7134599.33 -7134599.28 -7134599.21 0.0271 0.0242

Saturn -24247-10-10 16:04 J -7134510.95 -7134510.83 -7134510.71 0.0271 0.0129

Mars -24246-01-04 17:59 J -7134424.86 -7134424.75 -7134424.65 0.1669 0.0772

Saturn -24246-01-07 02:52 J -7134422.52 -7134422.38 -7134422.25 0.0270 0.0017

Venus -24246-02-25 01:40 J -7134373.58 -7134373.43 -7134373.28 0.3608 0.0504

Saturn -24246-04-05 13:40 J -7134334.06 -7134333.93 -7134333.80 0.0269 0.0096

Saturn -24246-07-03 00:28 J -7134245.56 -7134245.48 -7134245.39 0.0269 0.0209

Jupiter -24245-11-02 12:43 J -7133757.13 -7133756.97 -7133756.80 0.0499 0.0185

Mars -24245-12-09 23:31 J -7133719.60 -7133719.52 -7133719.45 0.1685 0.1289

Pluto -24242-05-19 19:11 J -7132828.75 -7132828.70 -7132828.62 0.0071 0.0064

Pluto -24242-08-15 20:23 J -7132740.72 -7132740.65 -7132740.53 0.0071 0.0057

Pluto -24242-11-11 22:04 J -7132652.69 -7132652.58 -7132652.46 0.0071 0.0049

Moon -24242-12-26 11:16 J -7132608.10 -7132608.03 -7132607.95 0.2638 0.2279

Earth -24242-12-26 12:28 J -7132608.05 -7132607.98 -7132607.90 0.2641 0.2261 *

Pluto -24241-02-07 23:16 J -7132564.64 -7132564.53 -7132564.38 0.0071 0.0042

Pluto -24241-05-06 00:57 J -7132476.60 -7132476.46 -7132476.32 0.0071 0.0034

Pluto -24241-08-02 02:09 J -7132388.55 -7132388.41 -7132388.25 0.0071 0.0027

Pluto -24241-10-29 03:50 J -7132300.50 -7132300.34 -7132300.18 0.0071 0.0020

Pluto -24240-01-25 05:16 J -7132212.44 -7132212.28 -7132212.12 0.0072 0.0012

Pluto -24240-04-23 06:43 J -7132124.38 -7132124.22 -7132124.06 0.0072 0.0004

Pluto -24240-07-20 08:09 J -7132036.32 -7132036.16 -7132036.00 0.0072 0.0003

Pluto -24240-10-16 09:35 J -7131948.26 -7131948.10 -7131947.94 0.0072 0.0011

Pluto -24239-01-12 11:02 J -7131860.19 -7131860.04 -7131859.88 0.0072 0.0019

Jupiter -24239-03-27 10:47 J -7131786.09 -7131786.05 -7131786.01 0.0530 0.0501

Pluto -24239-04-10 12:28 J -7131772.12 -7131771.98 -7131771.82 0.0072 0.0027

Jupiter -24239-06-24 17:31 J -7131696.89 -7131696.77 -7131696.64 0.0528 0.0083

Moon -24239-06-28 22:47 J -7131692.66 -7131692.55 -7131692.44 0.2685 0.0837

Earth -24239-06-28 23:31 J -7131692.63 -7131692.52 -7131692.41 0.2688 0.0893 *

Pluto -24239-07-07 13:55 J -7131684.05 -7131683.92 -7131683.77 0.0072 0.0035

Pluto -24239-10-03 15:21 J -7131595.98 -7131595.86 -7131595.72 0.0072 0.0044

Pluto -24239-12-30 16:47 J -7131507.90 -7131507.80 -7131507.67 0.0073 0.0052

Pluto -24238-03-28 18:28 J -7131419.81 -7131419.73 -7131419.62 0.0073 0.0060

Pluto -24238-06-24 20:09 J -7131331.71 -7131331.66 -7131331.60 0.0073 0.0068

Mars -24237-05-27 04:47 J -7130994.37 -7130994.30 -7130994.22 0.1665 0.1246

Mars -24235-05-02 09:50 J -7130289.19 -7130289.09 -7130288.98 0.1681 0.0773

Mars -24234-03-12 19:11 J -7129974.85 -7129974.70 -7129974.55 0.1841 0.0739

Jupiter -24233-08-21 10:47 J -7129447.23 -7129447.05 -7129446.87 0.0498 0.0010

Earth -24232-06-21 18:57 J -7129142.77 -7129142.71 -7129142.64 0.2693 0.2138

Moon -24232-06-21 19:40 J -7129142.75 -7129142.68 -7129142.60 0.2689 0.2017 *

Saturn -24231-05-01 02:38 J -7128829.49 -7128829.39 -7128829.28 0.0290 0.0236

Saturn -24231-07-29 02:09 J -7128740.59 -7128740.41 -7128740.23 0.0291 0.0042

Saturn -24231-10-26 01:26 J -7128651.59 -7128651.44 -7128651.29 0.0292 0.0151

Uranus -24230-04-18 01:40 J -7128477.48 -7128477.43 -7128477.36 0.0136 0.0127

Uranus -24230-07-15 08:23 J -7128389.26 -7128389.15 -7128389.02 0.0136 0.0101

Uranus -24230-10-11 15:07 J -7128301.01 -7128300.87 -7128300.70 0.0136 0.0074

Uranus -24229-01-07 21:50 J -7128212.75 -7128212.59 -7128212.41 0.0136 0.0048

Uranus -24229-04-05 04:33 J -7128124.49 -7128124.31 -7128124.12 0.0136 0.0022

Uranus -24229-07-02 11:16 J -7128036.21 -7128036.03 -7128035.85 0.0135 0.0005

Uranus -24229-09-28 17:45 J -7127947.94 -7127947.76 -7127947.58 0.0135 0.0030

Uranus -24229-12-25 23:59 J -7127859.66 -7127859.50 -7127859.33 0.0135 0.0056

Moon -24229-12-28 14:09 J -7127857.05 -7127856.91 -7127856.77 0.2644 0.0766

Earth -24229-12-28 15:35 J -7127856.99 -7127856.85 -7127856.71 0.2642 0.0589 *

Uranus -24228-03-24 06:28 J -7127771.37 -7127771.23 -7127771.08 0.0135 0.0081

Uranus -24228-06-20 12:43 J -7127683.07 -7127682.97 -7127682.85 0.0135 0.0106

Uranus -24228-09-16 18:57 J -7127594.74 -7127594.71 -7127594.66 0.0135 0.0131

Neptune -24228-12-06 13:26 J -7127513.97 -7127513.94 -7127513.86 0.0088 0.0084

Neptune -24227-03-04 17:02 J -7127425.88 -7127425.79 -7127425.67 0.0088 0.0074

Jupiter -24227-04-12 20:52 J -7127386.76 -7127386.63 -7127386.51 0.0529 0.0081

Neptune -24227-05-31 20:38 J -7127337.76 -7127337.64 -7127337.50 0.0088 0.0064

Jupiter -24227-07-11 04:04 J -7127297.36 -7127297.33 -7127297.30 0.0526 0.0508

Neptune -24227-08-27 23:59 J -7127249.64 -7127249.50 -7127249.34 0.0088 0.0055

Neptune -24227-11-24 03:35 J -7127161.51 -7127161.35 -7127161.18 0.0088 0.0045

Neptune -24226-02-20 07:11 J -7127073.38 -7127073.20 -7127073.03 0.0088 0.0036

Neptune -24226-05-19 10:19 J -7126985.24 -7126985.07 -7126984.88 0.0088 0.0026

Moon -24226-07-01 18:14 J -7126941.82 -7126941.74 -7126941.66 0.2690 0.1945

Earth -24226-07-01 18:57 J -7126941.78 -7126941.71 -7126941.63 0.2686 0.2011 *

Neptune -24226-08-15 13:55 J -7126897.11 -7126896.92 -7126896.73 0.0088 0.0016

Mars -24226-09-22 20:23 J -7126858.77 -7126858.65 -7126858.53 0.1677 0.0267

Neptune -24226-11-11 17:16 J -7126808.97 -7126808.78 -7126808.59 0.0088 0.0007

Neptune -24225-02-07 20:38 J -7126720.83 -7126720.64 -7126720.45 0.0088 0.0003

Neptune -24225-05-05 23:59 J -7126632.68 -7126632.50 -7126632.31 0.0088 0.0012

Mars -24225-08-01 14:52 J -7126545.04 -7126544.88 -7126544.72 0.1846 0.0494

Neptune -24225-08-02 03:21 J -7126544.54 -7126544.36 -7126544.17 0.0088 0.0022

Neptune -24225-10-29 06:43 J -7126456.39 -7126456.22 -7126456.04 0.0088 0.0031

Neptune -24224-01-25 10:04 J -7126368.24 -7126368.08 -7126367.91 0.0088 0.0041

Neptune -24224-04-23 13:11 J -7126280.09 -7126279.95 -7126279.78 0.0088 0.0050

Neptune -24224-07-20 16:33 J -7126191.94 -7126191.81 -7126191.66 0.0088 0.0060

Neptune -24224-10-16 19:40 J -7126103.78 -7126103.68 -7126103.54 0.0088 0.0069

Neptune -24223-01-12 23:02 J -7126015.61 -7126015.54 -7126015.44 0.0088 0.0078

Neptune -24223-04-11 02:23 J -7125927.41 -7125927.40 -7125927.36 0.0088 0.0088

Jupiter -24221-06-09 08:38 J -7125137.31 -7125137.14 -7125136.97 0.0498 0.0166

Earth -24219-06-24 14:09 J -7124392.02 -7124391.91 -7124391.81 0.2692 0.1079

Moon -24219-06-24 14:23 J -7124392.01 -7124391.90 -7124391.80 0.2685 0.1112 *

Saturn -24218-12-01 09:07 J -7123867.15 -7123867.12 -7123867.08 0.0271 0.0260

Saturn -24217-02-27 19:55 J -7123778.78 -7123778.67 -7123778.56 0.0270 0.0148

Saturn -24217-05-26 06:43 J -7123690.36 -7123690.22 -7123690.09 0.0270 0.0036

Saturn -24217-08-22 17:31 J -7123601.90 -7123601.77 -7123601.64 0.0269 0.0077

Saturn -24217-11-19 04:19 J -7123513.42 -7123513.32 -7123513.23 0.0269 0.0190

Mars -24216-02-12 07:11 J -7123428.32 -7123428.20 -7123428.09 0.1673 0.0234

Mars -24216-12-22 10:19 J -7123115.12 -7123115.07 -7123115.03 0.1852 0.1763

Moon -24216-12-31 17:16 J -7123105.91 -7123105.78 -7123105.65 0.2650 0.0968

Earth -24216-12-31 17:59 J -7123105.88 -7123105.75 -7123105.62 0.2644 0.1023 *

Jupiter -24215-01-30 00:28 J -7123076.59 -7123076.48 -7123076.36 0.0530 0.0228

Jupiter -24215-04-29 07:40 J -7122987.27 -7122987.18 -7122987.09 0.0527 0.0360

Venus -24210-02-20 09:50 J -7121229.17 -7121229.09 -7121229.01 0.3765 0.2364

Jupiter -24209-03-28 05:45 J -7120827.39 -7120827.26 -7120827.13 0.0497 0.0349

Jupiter -24209-06-26 12:43 J -7120737.09 -7120736.97 -7120736.85 0.0499 0.0357

Mars -24207-07-05 17:59 J -7119997.86 -7119997.75 -7119997.65 0.1669 0.0713

Moon -24206-06-27 08:52 J -7119641.25 -7119641.13 -7119641.02 0.2684 0.0080

Earth -24206-06-27 09:21 J -7119641.23 -7119641.11 -7119641.00 0.2690 0.0096 *

Mars -24205-06-09 23:16 J -7119292.60 -7119292.53 -7119292.46 0.1685 0.1350

Venus -24205-09-05 01:55 J -7119205.52 -7119205.42 -7119205.32 0.3766 0.0067

Jupiter -24204-11-18 04:33 J -7118766.39 -7118766.31 -7118766.21 0.0530 0.0370

Jupiter -24203-02-15 11:45 J -7118677.13 -7118677.01 -7118676.89 0.0528 0.0217

Earth -24202-01-03 20:09 J -7118354.69 -7118354.66 -7118354.63 0.2646 0.2580

Moon -24202-01-03 20:09 J -7118354.67 -7118354.66 -7118354.66 0.2653 0.2644 *

Saturn -24202-09-18 01:55 J -7118097.45 -7118097.42 -7118097.39 0.0290 0.0285

Saturn -24202-12-16 01:40 J -7118008.60 -7118008.43 -7118008.26 0.0291 0.0091

Saturn -24201-03-14 00:57 J -7117919.63 -7117919.46 -7117919.29 0.0292 0.0102

Venus -24199-03-21 17:59 J -7117181.83 -7117181.75 -7117181.67 0.3767 0.2266

Mars -24198-11-26 04:47 J -7116567.38 -7116567.30 -7116567.22 0.1666 0.1184

Jupiter -24197-04-14 10:33 J -7116427.23 -7116427.06 -7116426.89 0.0499 0.0182

Mars -24196-10-31 09:50 J -7115862.19 -7115862.09 -7115861.99 0.1681 0.0835

Moon -24196-12-26 17:16 J -7115805.86 -7115805.78 -7115805.70 0.2639 0.2160

Earth -24196-12-26 18:43 J -7115805.82 -7115805.72 -7115805.62 0.2641 0.1944 *

Venus -24195-03-17 20:38 J -7115724.70 -7115724.64 -7115724.58 0.3609 0.3293

Mars -24195-09-10 19:40 J -7115547.82 -7115547.68 -7115547.53 0.1841 0.0855

Moon -24193-06-29 03:50 J -7114890.45 -7114890.34 -7114890.23 0.2687 0.0987

Earth -24193-06-29 04:33 J -7114890.41 -7114890.31 -7114890.20 0.2688 0.1105 *

Jupiter -24192-09-06 08:52 J -7114456.16 -7114456.13 -7114456.09 0.0531 0.0508

Jupiter -24192-12-04 15:50 J -7114366.97 -7114366.84 -7114366.71 0.0528 0.0075

Venus -24190-10-02 02:52 J -7113700.49 -7113700.38 -7113700.27 0.3608 0.2407

Mars -24188-04-17 15:50 J -7113136.85 -7113136.84 -7113136.83 0.1662 0.1648

Saturn -24188-07-16 22:19 J -7113046.67 -7113046.57 -7113046.47 0.0271 0.0181

Saturn -24188-10-13 09:07 J -7112958.25 -7112958.12 -7112957.99 0.0270 0.0069

Saturn -24187-01-09 19:40 J -7112869.81 -7112869.68 -7112869.54 0.0269 0.0045

Saturn -24187-04-08 06:43 J -7112781.33 -7112781.22 -7112781.11 0.0269 0.0156

Mars -24186-03-23 20:23 J -7112431.76 -7112431.65 -7112431.53 0.1677 0.0333

Uranus -24186-06-20 14:23 J -7112342.96 -7112342.90 -7112342.83 0.0142 0.0124

Earth -24186-06-22 23:59 J -7112340.58 -7112340.50 -7112340.42 0.2693 0.1933

Moon -24186-06-23 00:43 J -7112340.55 -7112340.47 -7112340.39 0.2688 0.1909 *

Uranus -24186-09-16 18:14 J -7112254.83 -7112254.74 -7112254.65 0.0143 0.0102

Uranus -24186-12-13 21:50 J -7112166.69 -7112166.59 -7112166.47 0.0143 0.0081

Mars -24185-01-31 15:50 J -7112118.01 -7112117.84 -7112117.68 0.1846 0.0370

Jupiter -24185-02-01 07:55 J -7112117.35 -7112117.17 -7112116.99 0.0498 0.0000

Uranus -24185-03-11 01:40 J -7112078.55 -7112078.43 -7112078.30 0.0143 0.0058

Uranus -24185-06-07 05:31 J -7111990.40 -7111990.27 -7111990.13 0.0143 0.0036

Uranus -24185-09-03 09:21 J -7111902.24 -7111902.11 -7111901.97 0.0143 0.0014

Uranus -24185-11-30 13:11 J -7111814.08 -7111813.95 -7111813.81 0.0143 0.0010

Uranus -24184-02-26 17:02 J -7111725.92 -7111725.79 -7111725.65 0.0143 0.0033

Uranus -24184-05-25 21:07 J -7111637.75 -7111637.62 -7111637.49 0.0143 0.0056

Uranus -24184-08-22 00:57 J -7111549.57 -7111549.46 -7111549.34 0.0143 0.0079

Uranus -24184-11-18 04:47 J -7111461.39 -7111461.30 -7111461.20 0.0144 0.0103

Uranus -24183-02-14 08:52 J -7111373.19 -7111373.13 -7111373.06 0.0144 0.0126

Moon -24183-12-29 20:09 J -7111054.80 -7111054.66 -7111054.51 0.2644 0.0345

Earth -24183-12-29 21:35 J -7111054.75 -7111054.60 -7111054.46 0.2643 0.0288 *

Moon -24180-07-01 23:16 J -7110139.60 -7110139.53 -7110139.46 0.2689 0.2156

Earth -24180-07-01 23:59 J -7110139.56 -7110139.50 -7110139.43 0.2686 0.2233 *

Jupiter -24180-09-22 19:40 J -7110056.81 -7110056.68 -7110056.55 0.0529 0.0072

Jupiter -24180-12-21 02:52 J -7109967.40 -7109967.38 -7109967.36 0.0526 0.0515

Mars -24177-08-13 07:11 J -7109001.32 -7109001.20 -7109001.09 0.1673 0.0169

Mars -24176-06-22 11:02 J -7108688.11 -7108688.04 -7108687.96 0.1851 0.1634

Jupiter -24174-11-20 05:45 J -7107807.43 -7107807.26 -7107807.09 0.0498 0.0176

Moon -24173-06-24 19:11 J -7107589.81 -7107589.70 -7107589.59 0.2685 0.0809

Earth -24173-06-24 19:11 J -7107589.81 -7107589.70 -7107589.60 0.2691 0.0878 *

Saturn -24172-05-04 00:57 J -7107276.61 -7107276.46 -7107276.29 0.0291 0.0137

Saturn -24172-08-01 00:28 J -7107187.65 -7107187.48 -7107187.30 0.0291 0.0058

Saturn -24172-10-28 23:45 J -7107098.60 -7107098.51 -7107098.42 0.0292 0.0250

Moon -24169-01-01 23:31 J -7106303.65 -7106303.52 -7106303.40 0.2651 0.1244

Earth -24169-01-01 23:59 J -7106303.62 -7106303.50 -7106303.37 0.2645 0.1323 *

Jupiter -24168-07-11 22:47 J -7105746.67 -7105746.55 -7105746.44 0.0529 0.0232

Jupiter -24168-10-09 05:45 J -7105657.35 -7105657.26 -7105657.16 0.0527 0.0355

Mars	-24167-01-03 17:59 J	-7105570.86	-7105570.75	-7105570.65	0.1669	0.0651
Mars	-24166-12-09 23:16 J	-7104865.59	-7104865.53	-7104865.46	0.1685	0.1415
Jupiter	-24162-09-08 03:50 J	-7103497.47	-7103497.34	-7103497.21	0.0497	0.0349
Jupiter	-24162-12-07 10:33 J	-7103407.18	-7103407.06	-7103406.93	0.0499	0.0359
Moon	-24160-06-27 13:55 J	-7102839.04	-7102838.92	-7102838.81	0.2684	0.0123
Earth	-24160-06-27 14:23 J	-7102839.02	-7102838.90	-7102838.79	0.2690	0.0233 *
Saturn	-24159-12-04 02:09 J	-7102314.50	-7102314.41	-7102314.32	0.0271	0.0200
Saturn	-24158-03-02 12:43 J	-7102226.09	-7102225.97	-7102225.84	0.0270	0.0089
Mars	-24158-05-27 04:47 J	-7102140.39	-7102140.30	-7102140.22	0.1665	0.1125
Saturn	-24158-05-29 23:31 J	-7102137.65	-7102137.52	-7102137.38	0.0269	0.0024
Saturn	-24158-08-26 10:19 J	-7102049.18	-7102049.07	-7102048.95	0.0269	0.0137
Saturn	-24158-11-22 21:07 J	-7101960.66	-7101960.62	-7101960.57	0.0268	0.0250
Pluto	-24157-01-26 04:33 J	-7101896.34	-7101896.31	-7101896.25	0.0074	0.0070
Pluto	-24157-04-23 05:59 J	-7101808.32	-7101808.25	-7101808.15	0.0074	0.0062
Pluto	-24157-07-20 07:11 J	-7101720.29	-7101720.20	-7101720.08	0.0074	0.0054
Pluto	-24157-10-16 08:38 J	-7101632.25	-7101632.14	-7101632.00	0.0074	0.0046
Pluto	-24156-01-12 10:04 J	-7101544.20	-7101544.08	-7101543.94	0.0073	0.0037
Pluto	-24156-04-10 11:31 J	-7101456.16	-7101456.02	-7101455.87	0.0073	0.0029
Jupiter	-24156-04-30 02:38 J	-7101436.48	-7101436.39	-7101436.30	0.0530	0.0380
Mars	-24156-05-01 09:50 J	-7101435.19	-7101435.09	-7101434.99	0.1681	0.0900
Pluto	-24156-07-07 12:57 J	-7101368.11	-7101367.96	-7101367.81	0.0073	0.0021
Jupiter	-24156-07-28 09:35 J	-7101347.22	-7101347.10	-7101346.98	0.0528	0.0206
Pluto	-24156-10-03 14:09 J	-7101280.06	-7101279.91	-7101279.76	0.0073	0.0014
Pluto	-24156-12-30 15:21 J	-7101192.01	-7101191.86	-7101191.70	0.0073	0.0006
Mars	-24155-03-11 20:23 J	-7101120.79	-7101120.65	-7101120.52	0.1841	0.0963
Pluto	-24155-03-28 16:47 J	-7101103.96	-7101103.80	-7101103.65	0.0073	0.0002
Pluto	-24155-06-24 17:59 J	-7101015.90	-7101015.75	-7101015.60	0.0073	0.0009
Pluto	-24155-09-20 19:11 J	-7100927.85	-7100927.70	-7100927.55	0.0073	0.0017
Pluto	-24155-12-17 20:23 J	-7100839.79	-7100839.65	-7100839.50	0.0072	0.0025
Pluto	-24154-03-15 21:21 J	-7100751.73	-7100751.61	-7100751.46	0.0072	0.0032

Pluto -24154-06-11 22:47 J -7100663.67 -7100663.55 -7100663.42 0.0072 0.0039

Pluto -24154-09-07 23:59 J -7100575.61 -7100575.50 -7100575.38 0.0072 0.0046

Venus -24154-09-27 07:26 J -7100556.29 -7100556.19 -7100556.10 0.3765 0.1532

Pluto -24154-12-05 00:57 J -7100487.55 -7100487.46 -7100487.35 0.0072 0.0054

Pluto -24153-03-02 02:09 J -7100399.48 -7100399.41 -7100399.32 0.0072 0.0061

Pluto -24153-05-29 03:21 J -7100311.40 -7100311.36 -7100311.30 0.0072 0.0068

Moon -24153-06-20 10:47 J -7100289.05 -7100289.05 -7100289.04 0.2694 0.2689

Jupiter -24150-09-25 08:09 J -7099097.33 -7099097.16 -7099096.99 0.0498 0.0178

Moon -24150-12-27 23:16 J -7099003.64 -7099003.53 -7099003.41 0.2640 0.1664

Earth -24150-12-28 00:43 J -7099003.58 -7099003.47 -7099003.35 0.2641 0.1633 *

Mars -24149-10-16 15:50 J -7098709.87 -7098709.84 -7098709.81 0.1662 0.1588

Venus -24148-04-11 23:31 J -7098532.62 -7098532.52 -7098532.42 0.3766 0.0787

Moon -24147-06-30 08:52 J -7098088.23 -7098088.13 -7098088.03 0.2688 0.1300

Earth -24147-06-30 09:35 J -7098088.20 -7098088.10 -7098088.00 0.2688 0.1323 *

Mars -24147-09-21 20:23 J -7098004.77 -7098004.65 -7098004.54 0.1677 0.0392

Neptune -24147-12-17 06:28 J -7097918.23 -7097918.23 -7097918.20 0.0089 0.0089

Neptune -24146-03-15 07:55 J -7097830.21 -7097830.17 -7097830.11 0.0089 0.0082

Uranus -24146-05-08 09:35 J -7097776.19 -7097776.10 -7097776.01 0.0136 0.0118

Neptune -24146-06-11 09:21 J -7097742.18 -7097742.11 -7097742.03 0.0089 0.0075

Mars -24146-08-01 16:33 J -7097690.97 -7097690.81 -7097690.64 0.1846 0.0240

Uranus -24146-08-04 16:04 J -7097687.95 -7097687.83 -7097687.68 0.0136 0.0092

Neptune -24146-09-07 10:47 J -7097654.13 -7097654.05 -7097653.96 0.0089 0.0068

Uranus -24146-10-31 23:02 J -7097599.70 -7097599.54 -7097599.38 0.0136 0.0065

Neptune -24146-12-04 11:59 J -7097566.09 -7097566.00 -7097565.90 0.0089 0.0061

Uranus -24145-01-28 05:45 J -7097511.44 -7097511.26 -7097511.08 0.0136 0.0039

Neptune -24145-03-01 13:26 J -7097478.04 -7097477.94 -7097477.83 0.0089 0.0054

Uranus -24145-04-25 12:14 J -7097423.17 -7097422.99 -7097422.80 0.0136 0.0013

Neptune -24145-05-28 14:38 J -7097389.99 -7097389.89 -7097389.76 0.0089 0.0048

Uranus -24145-07-22 18:57 J -7097334.89 -7097334.71 -7097334.53 0.0135 0.0013

Neptune -24145-08-24 16:04 J -7097301.94 -7097301.83 -7097301.70 0.0089 0.0041

Uranus -24145-10-19 01:11 J -7097246.62 -7097246.45 -7097246.27 0.0135 0.0039

Neptune -24145-11-20 17:31 J -7097213.89 -7097213.77 -7097213.64 0.0089 0.0033

Uranus -24144-01-15 07:40 J -7097158.33 -7097158.18 -7097158.01 0.0135 0.0064

Jupiter -24144-02-16 06:43 J -7097126.24 -7097126.22 -7097126.20 0.0531 0.0521

Neptune -24144-02-16 18:57 J -7097125.83 -7097125.71 -7097125.58 0.0089 0.0026

Uranus -24144-04-13 14:09 J -7097070.04 -7097069.91 -7097069.77 0.0135 0.0089

Neptune -24144-05-15 20:23 J -7097037.78 -7097037.65 -7097037.52 0.0089 0.0019

Jupiter -24144-05-16 13:40 J -7097037.06 -7097036.93 -7097036.80 0.0529 0.0064

Uranus -24144-07-10 20:23 J -7096981.74 -7096981.65 -7096981.55 0.0135 0.0114

Neptune -24144-08-11 21:50 J -7096949.72 -7096949.59 -7096949.46 0.0089 0.0012

Neptune -24144-11-07 23:16 J -7096861.67 -7096861.53 -7096861.40 0.0089 0.0005

Neptune -24143-02-04 00:43 J -7096773.61 -7096773.47 -7096773.34 0.0089 0.0003

Neptune -24143-05-03 01:55 J -7096685.55 -7096685.42 -7096685.28 0.0089 0.0009

Neptune -24143-07-30 03:21 J -7096597.49 -7096597.36 -7096597.22 0.0089 0.0016

Saturn -24143-09-21 00:28 J -7096544.61 -7096544.48 -7096544.34 0.0291 0.0186

Neptune -24143-10-26 04:47 J -7096509.43 -7096509.30 -7096509.17 0.0089 0.0023

Venus -24143-10-26 15:35 J -7096508.90 -7096508.85 -7096508.79 0.3767 0.3128

Saturn -24143-12-18 23:59 J -7096455.68 -7096455.50 -7096455.32 0.0291 0.0010

Neptune -24142-01-22 05:59 J -7096421.37 -7096421.25 -7096421.11 0.0089 0.0031

Saturn -24142-03-17 23:16 J -7096366.66 -7096366.53 -7096366.40 0.0292 0.0201

Neptune -24142-04-20 07:26 J -7096333.30 -7096333.19 -7096333.06 0.0089 0.0037

Neptune -24142-07-17 08:52 J -7096245.24 -7096245.13 -7096245.00 0.0089 0.0044

Neptune -24142-10-13 10:19 J -7096157.17 -7096157.07 -7096156.95 0.0089 0.0051

Neptune -24141-01-09 11:45 J -7096069.10 -7096069.01 -7096068.90 0.0089 0.0058

Neptune -24141-04-06 13:11 J -7095981.04 -7095980.95 -7095980.85 0.0089 0.0065

Neptune -24141-07-03 14:38 J -7095892.96 -7095892.89 -7095892.81 0.0089 0.0072

Neptune -24141-09-29 16:04 J -7095804.88 -7095804.83 -7095804.77 0.0089 0.0079

Neptune -24141-12-26 17:31 J -7095716.79 -7095716.77 -7095716.74 0.0089 0.0087

Earth -24140-06-23 05:02 J -7095538.38 -7095538.29 -7095538.20 0.2693 0.1730

Moon -24140-06-23 05:45 J -7095538.35 -7095538.26 -7095538.17 0.2688 0.1637 *

Venus	-24139-10-22 21:50 J	-7095051.73	-7095051.59	-7095051.44	0.3609	0.1311
Jupiter	-24138-07-14 05:59 J	-7094787.43	-7094787.25	-7094787.07	0.0498	0.0009
Mars	-24137-02-12 07:11 J	-7094574.32	-7094574.20	-7094574.09	0.1673	0.0115
Mars	-24137-12-21 11:45 J	-7094261.10	-7094261.01	-7094260.91	0.1851	0.1512
Moon	-24137-12-30 02:23 J	-7094252.54	-7094252.40	-7094252.25	0.2646	0.0171
Earth	-24137-12-30 03:35 J	-7094252.49	-7094252.35	-7094252.20	0.2643	0.0034 *
Moon	-24134-07-03 04:19 J	-7093337.37	-7093337.32	-7093337.26	0.2689	0.2367
Earth	-24134-07-03 05:16 J	-7093337.33	-7093337.28	-7093337.24	0.2686	0.2448 *
Jupiter	-24132-03-04 17:45 J	-7092726.88	-7092726.76	-7092726.63	0.0529	0.0078
Jupiter	-24132-06-02 00:57 J	-7092637.48	-7092637.46	-7092637.43	0.0526	0.0511
Saturn	-24129-04-22 04:19 J	-7091582.38	-7091582.32	-7091582.25	0.0271	0.0235
Saturn	-24129-07-19 15:07 J	-7091493.99	-7091493.87	-7091493.75	0.0270	0.0123
Saturn	-24129-10-16 01:55 J	-7091405.56	-7091405.42	-7091405.29	0.0270	0.0013
Saturn	-24128-01-12 12:28 J	-7091317.10	-7091316.98	-7091316.85	0.0269	0.0102
Saturn	-24128-04-10 23:31 J	-7091228.60	-7091228.52	-7091228.44	0.0268	0.0214
Mars	-24128-07-04 17:45 J	-7091143.86	-7091143.76	-7091143.65	0.1669	0.0590
Moon	-24127-06-25 23:59 J	-7090787.61	-7090787.50	-7090787.39	0.2684	0.0716
Earth	-24127-06-26 00:14 J	-7090787.61	-7090787.49	-7090787.38	0.2691	0.0669 *
Jupiter	-24126-05-02 03:07 J	-7090477.53	-7090477.37	-7090477.20	0.0498	0.0182
Mars	-24126-06-09 23:31 J	-7090438.58	-7090438.52	-7090438.47	0.1685	0.1483
Moon	-24123-01-02 05:31 J	-7089501.39	-7089501.27	-7089501.16	0.2651	0.1620
Earth	-24123-01-02 05:59 J	-7089501.36	-7089501.25	-7089501.14	0.2645	0.1618 *
Jupiter	-24121-12-21 21:50 J	-7088416.71	-7088416.59	-7088416.47	0.0529	0.0221
Jupiter	-24120-03-21 04:47 J	-7088327.39	-7088327.30	-7088327.20	0.0527	0.0365
Mars	-24119-11-25 04:47 J	-7087713.39	-7087713.30	-7087713.21	0.1665	0.1061
Mars	-24117-10-30 09:50 J	-7087008.19	-7087008.09	-7087008.00	0.1681	0.0964
Mars	-24116-09-09 21:07 J	-7086693.75	-7086693.62	-7086693.49	0.1841	0.1083
Jupiter	-24114-02-18 01:11 J	-7086167.58	-7086167.45	-7086167.32	0.0497	0.0356
Jupiter	-24114-05-19 08:09 J	-7086077.28	-7086077.16	-7086077.03	0.0499	0.0353
Moon	-24114-06-28 18:43 J	-7086036.83	-7086036.72	-7086036.60	0.2685	0.0449

Earth -24114-06-28 19:26 J -7086036.81 -7086036.69 -7086036.58 0.2689 0.0431 *

Saturn -24113-02-07 23:16 J -7085812.63 -7085812.53 -7085812.43 0.0290 0.0238

Saturn -24113-05-06 22:47 J -7085723.73 -7085723.55 -7085723.37 0.0291 0.0044

Saturn -24113-08-03 22:04 J -7085634.73 -7085634.58 -7085634.42 0.0292 0.0150

Mars -24109-04-16 15:50 J -7084282.88 -7084282.84 -7084282.80 0.1662 0.1526

Jupiter -24109-10-10 00:57 J -7084106.55 -7084106.46 -7084106.37 0.0530 0.0381

Jupiter -24108-01-07 07:55 J -7084017.29 -7084017.17 -7084017.05 0.0528 0.0203

Mars -24107-03-22 20:23 J -7083577.76 -7083577.65 -7083577.54 0.1677 0.0458

Earth -24107-06-21 15:07 J -7083486.90 -7083486.87 -7083486.84 0.2694 0.2576

Moon -24107-06-21 15:50 J -7083486.87 -7083486.84 -7083486.80 0.2692 0.2536 *

Mars -24106-01-30 17:02 J -7083263.95 -7083263.79 -7083263.62 0.1846 0.0134

Moon -24104-12-28 05:31 J -7082201.39 -7082201.27 -7082201.15 0.2640 0.1538

Earth -24104-12-28 06:57 J -7082201.34 -7082201.21 -7082201.09 0.2641 0.1323 *

Venus -24103-10-18 12:43 J -7081907.03 -7081906.97 -7081906.91 0.3764 0.2962

Jupiter -24102-03-07 06:28 J -7081767.39 -7081767.23 -7081767.06 0.0499 0.0183

Uranus -24102-04-13 17:45 J -7081729.76 -7081729.76 -7081729.74 0.0142 0.0141

Uranus -24102-07-10 21:35 J -7081641.67 -7081641.60 -7081641.53 0.0142 0.0120

Uranus -24102-10-07 01:11 J -7081553.54 -7081553.45 -7081553.35 0.0143 0.0098

Uranus -24101-01-03 05:02 J -7081465.40 -7081465.29 -7081465.17 0.0143 0.0076

Uranus -24101-03-31 08:52 J -7081377.26 -7081377.13 -7081377.00 0.0143 0.0053

Uranus -24101-06-27 12:43 J -7081289.10 -7081288.97 -7081288.84 0.0143 0.0031

Moon -24101-06-30 13:55 J -7081286.02 -7081285.92 -7081285.82 0.2688 0.1383

Earth -24101-06-30 14:38 J -7081285.98 -7081285.89 -7081285.79 0.2688 0.1540 *

Uranus -24101-09-23 16:33 J -7081200.95 -7081200.81 -7081200.68 0.0143 0.0009

Uranus -24101-12-20 20:23 J -7081112.79 -7081112.65 -7081112.51 0.0143 0.0014

Uranus -24100-03-19 00:14 J -7081024.62 -7081024.49 -7081024.36 0.0143 0.0037

Uranus -24100-06-15 04:04 J -7080936.45 -7080936.33 -7080936.20 0.0143 0.0061

Saturn -24100-09-09 08:09 J -7080850.20 -7080850.16 -7080850.12 0.0271 0.0256

Uranus -24100-09-11 08:09 J -7080848.27 -7080848.16 -7080848.05 0.0143 0.0084

Saturn -24100-12-06 18:43 J -7080761.83 -7080761.72 -7080761.61 0.0270 0.0144

Uranus -24100-12-08 11:59 J -7080760.09 -7080760.00 -7080759.90 0.0144 0.0108

Saturn -24099-03-05 05:16 J -7080673.41 -7080673.28 -7080673.14 0.0270 0.0034

Uranus -24099-03-06 15:50 J -7080671.88 -7080671.84 -7080671.77 0.0144 0.0132

Saturn -24099-06-01 16:04 J -7080584.96 -7080584.83 -7080584.70 0.0269 0.0081

Saturn -24099-08-29 02:52 J -7080496.47 -7080496.38 -7080496.28 0.0268 0.0193

Mars -24098-08-13 06:57 J -7080147.32 -7080147.21 -7080147.09 0.1673 0.0059

Venus -24097-05-03 04:47 J -7079883.40 -7079883.30 -7079883.20 0.3765 0.0688

Mars -24097-06-21 12:28 J -7079834.09 -7079833.98 -7079833.87 0.1852 0.1398

Jupiter -24097-07-29 04:47 J -7079796.31 -7079796.30 -7079796.29 0.0531 0.0528

Jupiter -24097-10-26 11:45 J -7079707.14 -7079707.01 -7079706.89 0.0529 0.0057

Earth -24094-06-24 10:04 J -7078736.18 -7078736.08 -7078735.99 0.2693 0.1530

Moon -24094-06-24 10:33 J -7078736.16 -7078736.06 -7078735.97 0.2688 0.1491 *

Venus -24092-11-16 20:52 J -7077859.72 -7077859.63 -7077859.53 0.3766 0.1643

Jupiter -24091-12-24 04:04 J -7077457.52 -7077457.33 -7077457.15 0.0498 0.0011

Moon -24091-12-31 08:38 J -7077450.28 -7077450.14 -7077450.00 0.2648 0.0327

Earth -24091-12-31 09:35 J -7077450.24 -7077450.10 -7077449.95 0.2643 0.0331 *

Mars -24088-01-02 17:45 J -7076716.87 -7076716.76 -7076716.65 0.1669 0.0528

Moon -24088-07-03 09:35 J -7076535.11 -7076535.10 -7076535.08 0.2690 0.2657

Earth -24088-07-03 10:19 J -7076535.08 -7076535.07 -7076535.06 0.2686 0.2670 *

Mars -24087-12-08 23:16 J -7076011.57 -7076011.53 -7076011.48 0.1685 0.1541

Jupiter -24085-08-14 15:50 J -7075396.97 -7075396.84 -7075396.72 0.0529 0.0088

Jupiter -24085-11-11 23:02 J -7075307.58 -7075307.54 -7075307.50 0.0527 0.0501

Saturn -24084-09-23 21:50 J -7074991.76 -7074991.59 -7074991.42 0.0291 0.0096

Saturn -24084-12-21 21:21 J -7074902.78 -7074902.61 -7074902.45 0.0292 0.0098

Saturn -24083-03-20 20:09 J -7074813.67 -7074813.66 -7074813.63 0.0293 0.0290

Venus -24082-05-29 23:16 J -7074378.68 -7074378.53 -7074378.38 0.3609 0.0660

Moon -24081-06-26 05:02 J -7073985.41 -7073985.29 -7073985.18 0.2684 0.0432

Earth -24081-06-26 05:02 J -7073985.40 -7073985.29 -7073985.17 0.2691 0.0466 *

Mars -24079-05-26 04:47 J -7073286.39 -7073286.30 -7073286.21 0.1666 0.0998

Jupiter -24079-10-12 01:40 J -7073147.60 -7073147.43 -7073147.26 0.0497 0.0175

Moon -24077-01-03 11:31 J -7072699.12 -7072699.02 -7072698.92 0.2651 0.1829

Earth -24077-01-03 11:59 J -7072699.10 -7072699.00 -7072698.90 0.2645 0.1920 *

Mars -24077-04-30 09:50 J -7072581.18 -7072581.09 -7072581.00 0.1681 0.1029

Mars -24076-03-10 21:50 J -7072266.71 -7072266.59 -7072266.46 0.1841 0.1210

Jupiter -24073-06-02 20:09 J -7071086.78 -7071086.66 -7071086.55 0.0530 0.0225

Jupiter -24073-08-31 03:07 J -7070997.46 -7070997.37 -7070997.27 0.0527 0.0362

Saturn -24070-04-25 20:52 J -7070029.72 -7070029.63 -7070029.53 0.0270 0.0179

Saturn -24070-07-23 07:40 J -7069941.31 -7069941.18 -7069941.05 0.0270 0.0068

Mars -24070-10-16 15:50 J -7069855.90 -7069855.84 -7069855.79 0.1662 0.1467

Saturn -24070-10-19 18:14 J -7069852.87 -7069852.74 -7069852.60 0.0269 0.0046

Saturn -24069-01-16 05:02 J -7069764.40 -7069764.29 -7069764.18 0.0268 0.0157

Moon -24068-06-28 23:45 J -7069234.62 -7069234.51 -7069234.40 0.2686 0.0521

Earth -24068-06-29 00:28 J -7069234.60 -7069234.48 -7069234.37 0.2689 0.0645 *

Mars -24068-09-20 20:23 J -7069150.76 -7069150.65 -7069150.54 0.1677 0.0522

Jupiter -24067-07-30 22:47 J -7068837.67 -7068837.55 -7068837.42 0.0497 0.0358

Mars -24067-07-31 17:45 J -7068836.92 -7068836.76 -7068836.60 0.1846 0.0015

Jupiter -24067-10-29 05:59 J -7068747.38 -7068747.25 -7068747.13 0.0499 0.0351

Neptune -24063-09-02 11:45 J -7067343.07 -7067343.01 -7067342.92 0.0088 0.0081

Neptune -24063-11-29 15:35 J -7067254.96 -7067254.85 -7067254.74 0.0088 0.0071

Neptune -24062-02-25 18:43 J -7067166.84 -7067166.72 -7067166.57 0.0088 0.0061

Neptune -24062-05-24 22:19 J -7067078.72 -7067078.57 -7067078.41 0.0088 0.0051

Uranus -24062-05-28 17:02 J -7067074.89 -7067074.79 -7067074.67 0.0136 0.0110

Neptune -24062-08-21 01:40 J -7066990.59 -7066990.43 -7066990.25 0.0088 0.0042

Uranus -24062-08-24 23:59 J -7066986.65 -7066986.50 -7066986.35 0.0136 0.0083

Neptune -24062-11-17 05:16 J -7066902.45 -7066902.28 -7066902.10 0.0088 0.0032

Uranus -24062-11-21 06:28 J -7066898.39 -7066898.23 -7066898.05 0.0136 0.0057

Neptune -24061-02-13 08:38 J -7066814.32 -7066814.14 -7066813.95 0.0088 0.0023

Uranus -24061-02-17 13:11 J -7066810.12 -7066809.95 -7066809.77 0.0136 0.0031

Jupiter -24061-03-22 00:14 J -7066776.58 -7066776.49 -7066776.40 0.0530 0.0367

Neptune -24061-05-11 11:59 J -7066726.18 -7066726.00 -7066725.80 0.0088 0.0013

Uranus -24061-05-15 19:55 J -7066721.85 -7066721.67 -7066721.49 0.0136 0.0004

Jupiter -24061-06-19 07:11 J -7066687.32 -7066687.20 -7066687.08 0.0528 0.0218

Earth -24061-06-21 20:09 J -7066684.71 -7066684.66 -7066684.61 0.2694 0.2382

Moon -24061-06-21 20:52 J -7066684.69 -7066684.63 -7066684.57 0.2692 0.2256 *

Neptune -24061-08-07 15:35 J -7066638.04 -7066637.85 -7066637.66 0.0088 0.0003

Uranus -24061-08-12 02:23 J -7066633.58 -7066633.40 -7066633.22 0.0135 0.0022

Neptune -24061-11-03 18:57 J -7066549.90 -7066549.71 -7066549.52 0.0088 0.0006

Uranus -24061-11-08 08:52 J -7066545.30 -7066545.13 -7066544.96 0.0135 0.0047

Neptune -24060-01-30 22:04 J -7066461.76 -7066461.58 -7066461.38 0.0088 0.0016

Uranus -24060-02-04 15:21 J -7066457.01 -7066456.86 -7066456.71 0.0135 0.0072

Neptune -24060-04-29 01:40 J -7066373.61 -7066373.43 -7066373.25 0.0088 0.0025

Uranus -24060-05-03 21:35 J -7066368.72 -7066368.60 -7066368.47 0.0135 0.0097

Neptune -24060-07-26 04:47 J -7066285.46 -7066285.30 -7066285.12 0.0088 0.0035

Uranus -24060-07-31 03:50 J -7066280.41 -7066280.34 -7066280.26 0.0135 0.0122

Neptune -24060-10-22 08:09 J -7066197.31 -7066197.16 -7066196.99 0.0088 0.0044

Neptune -24059-01-18 11:45 J -7066109.16 -7066109.01 -7066108.86 0.0088 0.0053

Neptune -24059-04-16 14:38 J -7066021.00 -7066020.89 -7066020.74 0.0088 0.0063

Neptune -24059-07-13 18:14 J -7065932.84 -7065932.74 -7065932.63 0.0088 0.0072

Neptune -24059-10-09 21:35 J -7065844.66 -7065844.60 -7065844.53 0.0088 0.0082

Mars -24058-02-11 06:57 J -7065720.32 -7065720.21 -7065720.09 0.1673 0.0047

Mars -24058-12-21 13:11 J -7065407.07 -7065406.95 -7065406.83 0.1851 0.1272

Moon -24058-12-29 11:31 J -7065399.15 -7065399.02 -7065398.88 0.2641 0.1065

Earth -24058-12-29 12:57 J -7065399.09 -7065398.96 -7065398.82 0.2642 0.1014 *

Moon -24055-07-01 18:57 J -7064483.80 -7064483.71 -7064483.62 0.2688 0.1743

Earth -24055-07-01 19:55 J -7064483.76 -7064483.67 -7064483.59 0.2687 0.1759 *

Jupiter -24055-08-17 04:19 J -7064437.49 -7064437.32 -7064437.15 0.0499 0.0182

Saturn -24054-02-10 19:26 J -7064259.84 -7064259.69 -7064259.53 0.0291 0.0157

Saturn -24054-05-10 19:11 J -7064170.88 -7064170.70 -7064170.52 0.0291 0.0039

Saturn -24054-08-07 18:14 J -7064081.84 -7064081.74 -7064081.63 0.0292 0.0231

Jupiter -24049-01-09 03:21 J -7062466.37 -7062466.36 -7062466.34 0.0531 0.0526

Jupiter -24049-04-07 10:04 J -7062377.20 -7062377.08 -7062376.95 0.0528 0.0060

Mars -24049-07-03 17:45 J -7062289.87 -7062289.76 -7062289.64 0.1669 0.0464

Earth -24048-06-24 15:07 J -7061933.97 -7061933.87 -7061933.77 0.2692 0.1326

Moon -24048-06-24 15:21 J -7061933.96 -7061933.86 -7061933.76 0.2686 0.1305 *

Mars -24047-06-08 23:16 J -7061584.56 -7061584.53 -7061584.49 0.1685 0.1611

Venus -24046-05-25 10:19 J -7061234.15 -7061234.07 -7061233.99 0.3764 0.2121

Moon -24045-12-31 14:38 J -7060648.03 -7060647.89 -7060647.75 0.2648 0.0445

Earth -24045-12-31 15:35 J -7060647.99 -7060647.85 -7060647.71 0.2643 0.0631 *

Jupiter -24043-06-05 02:38 J -7060127.57 -7060127.39 -7060127.21 0.0498 0.0013

Saturn -24041-09-12 00:14 J -7059297.57 -7059297.49 -7059297.40 0.0271 0.0204

Venus -24041-12-08 02:23 J -7059210.50 -7059210.40 -7059210.30 0.3765 0.0162

Saturn -24041-12-09 11:02 J -7059209.17 -7059209.04 -7059208.91 0.0270 0.0091

Saturn -24040-03-07 21:35 J -7059120.73 -7059120.60 -7059120.46 0.0269 0.0022

Saturn -24040-06-04 08:23 J -7059032.26 -7059032.15 -7059032.03 0.0269 0.0133

Saturn -24040-08-31 19:11 J -7058943.75 -7058943.70 -7058943.64 0.0268 0.0246

Mars -24040-11-24 04:47 J -7058859.40 -7058859.30 -7058859.21 0.1665 0.0943

Mars -24038-10-30 09:50 J -7058154.18 -7058154.09 -7058154.00 0.1681 0.1092

Jupiter -24037-01-25 13:55 J -7058067.04 -7058066.92 -7058066.79 0.0529 0.0093

Jupiter -24037-04-23 21:07 J -7057977.66 -7057977.62 -7057977.58 0.0527 0.0497

Mars -24037-09-08 22:19 J -7057839.69 -7057839.57 -7057839.46 0.1841 0.1305

Venus -24035-06-23 18:28 J -7057186.80 -7057186.73 -7057186.65 0.3766 0.2502

Moon -24035-06-27 10:04 J -7057183.20 -7057183.08 -7057182.97 0.2684 0.0295

Earth -24035-06-27 10:04 J -7057183.19 -7057183.08 -7057182.96 0.2691 0.0261 *

Moon -24031-01-03 17:45 J -7055896.83 -7055896.76 -7055896.69 0.2651 0.2281

Earth -24031-01-03 17:59 J -7055896.83 -7055896.75 -7055896.68 0.2645 0.2212 *

Jupiter -24031-03-23 23:59 J -7055817.67 -7055817.50 -7055817.32 0.0497 0.0168

Venus -24031-06-19 18:14 J -7055729.81 -7055729.74 -7055729.67 0.3610 0.3131

Mars -24030-04-16 15:35 J -7055428.91 -7055428.85 -7055428.79 0.1662 0.1407

Mars -24028-03-21 20:23 J -7054723.76 -7054723.65 -7054723.54 0.1677 0.0583

Mars -24027-01-29 18:43 J -7054409.88 -7054409.72 -7054409.55 0.1846 0.0125

Jupiter -24026-11-13 17:59 J -7053756.86 -7053756.75 -7053756.63 0.0530 0.0234

Venus -24025-01-04 00:43 J -7053705.58 -7053705.47 -7053705.37 0.3609 0.2610

Jupiter -24025-02-11 01:11 J -7053667.54 -7053667.45 -7053667.35 0.0528 0.0355

Saturn -24025-06-29 18:14 J -7053527.86 -7053527.74 -7053527.61 0.0291 0.0211

Saturn -24025-09-26 17:59 J -7053438.93 -7053438.75 -7053438.57 0.0292 0.0016

Saturn -24025-12-24 17:16 J -7053349.92 -7053349.78 -7053349.64 0.0292 0.0178

Moon -24025-12-26 14:38 J -7053347.93 -7053347.89 -7053347.84 0.2636 0.2506

Earth -24025-12-26 16:04 J -7053347.89 -7053347.83 -7053347.77 0.2640 0.2388 *

Moon -24022-06-30 04:33 J -7052432.42 -7052432.31 -7052432.19 0.2686 0.0824

Earth -24022-06-30 05:31 J -7052432.38 -7052432.27 -7052432.16 0.2689 0.0855 *

Jupiter -24019-01-09 21:35 J -7051507.72 -7051507.60 -7051507.46 0.0497 0.0345

Jupiter -24019-04-10 04:33 J -7051417.43 -7051417.31 -7051417.18 0.0499 0.0362

Mars -24019-08-12 06:57 J -7051293.32 -7051293.21 -7051293.09 0.1673 0.0098

Uranus -24018-05-04 00:28 J -7051028.50 -7051028.48 -7051028.45 0.0142 0.0139

Mars -24018-06-21 13:55 J -7050980.05 -7050979.92 -7050979.79 0.1851 0.1150

Uranus -24018-07-31 04:04 J -7050940.40 -7050940.33 -7050940.25 0.0142 0.0117

Uranus -24018-10-27 07:55 J -7050852.27 -7050852.17 -7050852.07 0.0143 0.0095

Uranus -24017-01-23 11:45 J -7050764.13 -7050764.01 -7050763.89 0.0143 0.0073

Uranus -24017-04-20 15:21 J -7050675.98 -7050675.86 -7050675.73 0.0143 0.0051

Uranus -24017-07-17 19:11 J -7050587.83 -7050587.70 -7050587.56 0.0143 0.0029

Uranus -24017-10-13 23:02 J -7050499.67 -7050499.54 -7050499.40 0.0143 0.0007

Uranus -24016-01-10 02:52 J -7050411.51 -7050411.38 -7050411.24 0.0143 0.0018

Uranus -24016-04-08 06:57 J -7050323.34 -7050323.21 -7050323.08 0.0143 0.0040

Uranus -24016-07-05 10:47 J -7050235.17 -7050235.05 -7050234.93 0.0143 0.0063

Uranus -24016-10-01 14:52 J -7050146.99 -7050146.88 -7050146.78 0.0144 0.0087

Uranus -24016-12-28 18:28 J -7050058.80 -7050058.73 -7050058.63 0.0144 0.0111

Uranus -24015-03-26 22:47 J -7049970.60 -7049970.55 -7049970.50 0.0144 0.0134

Earth -24015-06-23 00:57 J -7049882.52 -7049882.46 -7049882.39 0.2694 0.2181

Moon -24015-06-23 01:40 J -7049882.49 -7049882.43 -7049882.36 0.2691 0.2160 *

Jupiter -24014-09-01 22:33 J -7049446.65 -7049446.56 -7049446.47 0.0531 0.0370

Jupiter -24014-11-30 05:31 J -7049357.39 -7049357.27 -7049357.15 0.0528 0.0216

Moon -24012-12-29 17:45 J -7048596.90 -7048596.76 -7048596.62 0.2643 0.0864

Earth -24012-12-29 18:57 J -7048596.85 -7048596.71 -7048596.57 0.2642 0.0707 *

Saturn -24011-01-30 02:23 J -7048565.46 -7048565.40 -7048565.34 0.0271 0.0239

Saturn -24011-04-28 12:57 J -7048477.07 -7048476.96 -7048476.84 0.0270 0.0128

Saturn -24011-07-25 23:45 J -7048388.65 -7048388.51 -7048388.38 0.0269 0.0016

Saturn -24011-10-22 10:19 J -7048300.19 -7048300.07 -7048299.94 0.0269 0.0097

Saturn -24010-01-18 21:07 J -7048211.70 -7048211.62 -7048211.53 0.0268 0.0209

Mars -24009-01-02 17:45 J -7047862.87 -7047862.76 -7047862.64 0.1669 0.0401

Moon -24009-07-01 23:59 J -7047681.58 -7047681.50 -7047681.41 0.2688 0.1833

Earth -24009-07-02 00:57 J -7047681.54 -7047681.46 -7047681.39 0.2687 0.1979 *

Mars -24008-12-07 23:16 J -7047157.53 -7047157.53 -7047157.52 0.1685 0.1676

Jupiter -24007-01-27 02:23 J -7047107.57 -7047107.40 -7047107.23 0.0499 0.0184

Jupiter -24002-06-21 02:52 J -7045136.41 -7045136.38 -7045136.35 0.0531 0.0509

Earth -24002-06-25 19:55 J -7045131.77 -7045131.67 -7045131.56 0.2692 0.1126

Moon -24002-06-25 20:09 J -7045131.76 -7045131.66 -7045131.55 0.2685 0.1061 *

Jupiter -24002-09-18 09:35 J -7045047.23 -7045047.10 -7045046.97 0.0529 0.0074

24TH MILLENNIUM BCE

This is a list of transits of Mercury in the 24th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Mars -24000-05-25 04:47 J -7044432.40 -7044432.30 -7044432.20 0.1665 0.0878

Moon -23998-01-01 20:38 J -7043845.77 -7043845.64 -7043845.51 0.2648 0.0929

Earth	-23998-01-01 21:35 J	-7043845.73	-7043845.60	-7043845.46	0.2644	0.0928 *
Mars	-23998-04-30 09:50 J	-7043727.18	-7043727.09	-7043727.01	0.1681	0.1157
Mars	-23997-03-09 23:16 J	-7043412.63	-7043412.53	-7043412.43	0.1841	0.1434
Pluto	-23996-01-16 10:04 J	-7043100.11	-7043100.08	-7043100.04	0.0071	0.0069
Pluto	-23996-04-14 11:16 J	-7043012.09	-7043012.03	-7043011.94	0.0071	0.0062
Pluto	-23996-07-11 12:28 J	-7042924.06	-7042923.98	-7042923.86	0.0071	0.0055
Pluto	-23996-10-07 14:09 J	-7042836.02	-7042835.91	-7042835.78	0.0071	0.0047
Jupiter	-23996-11-15 00:43 J	-7042797.65	-7042797.47	-7042797.29	0.0498	0.0019
Saturn	-23996-11-16 14:38 J	-7042795.92	-7042795.89	-7042795.84	0.0290	0.0281
Pluto	-23995-01-03 15:21 J	-7042747.98	-7042747.86	-7042747.71	0.0071	0.0040
Saturn	-23995-02-13 14:38 J	-7042707.06	-7042706.89	-7042706.71	0.0291	0.0085
Pluto	-23995-04-01 17:02 J	-7042659.93	-7042659.79	-7042659.64	0.0071	0.0032
Saturn	-23995-05-13 14:09 J	-7042618.08	-7042617.91	-7042617.74	0.0292	0.0110
Venus	-23995-06-15 15:50 J	-7042584.87	-7042584.84	-7042584.81	0.3763	0.3543
Pluto	-23995-06-28 18:28 J	-7042571.88	-7042571.73	-7042571.58	0.0071	0.0025
Pluto	-23995-09-24 19:40 J	-7042483.83	-7042483.68	-7042483.51	0.0072	0.0018
Pluto	-23995-12-21 21:21 J	-7042395.77	-7042395.61	-7042395.45	0.0072	0.0010
Pluto	-23994-03-19 22:47 J	-7042307.71	-7042307.55	-7042307.39	0.0072	0.0002
Pluto	-23994-06-16 00:14 J	-7042219.65	-7042219.49	-7042219.33	0.0072	0.0006
Pluto	-23994-09-12 01:40 J	-7042131.59	-7042131.43	-7042131.27	0.0072	0.0014
Pluto	-23994-12-09 02:52 J	-7042043.52	-7042043.38	-7042043.21	0.0072	0.0022
Pluto	-23993-03-06 04:19 J	-7041955.45	-7041955.32	-7041955.16	0.0072	0.0031
Pluto	-23993-06-02 05:45 J	-7041867.38	-7041867.26	-7041867.10	0.0072	0.0039
Pluto	-23993-08-29 07:11 J	-7041779.31	-7041779.20	-7041779.05	0.0073	0.0047
Pluto	-23993-11-25 08:52 J	-7041691.22	-7041691.13	-7041691.01	0.0073	0.0055
Pluto	-23992-02-21 10:19 J	-7041603.13	-7041603.07	-7041602.97	0.0073	0.0063
Pluto	-23992-05-20 11:59 J	-7041515.02	-7041515.00	-7041514.95	0.0073	0.0071
Mars	-23991-10-15 15:35 J	-7041001.91	-7041001.85	-7041001.78	0.1662	0.1346
Jupiter	-23990-07-07 12:43 J	-7040737.09	-7040736.97	-7040736.84	0.0529	0.0086
Jupiter	-23990-10-04 19:55 J	-7040647.70	-7040647.67	-7040647.63	0.0527	0.0502

Venus -23990-12-30 07:55 J -7040561.27 -7040561.17 -7040561.07 0.3764 0.1280

Moon -23989-06-27 14:52 J -7040381.00 -7040380.88 -7040380.76 0.2685 0.0069

Earth -23989-06-27 15:07 J -7040380.98 -7040380.87 -7040380.75 0.2691 0.0072 *

Mars -23989-09-19 20:23 J -7040296.76 -7040296.65 -7040296.54 0.1677 0.0648

Mars -23988-07-30 19:11 J -7039982.87 -7039982.70 -7039982.54 0.1846 0.0224

Moon -23985-01-04 23:59 J -7039094.55 -7039094.50 -7039094.45 0.2652 0.2442

Earth -23985-01-04 23:59 J -7039094.55 -7039094.50 -7039094.46 0.2645 0.2510 *

Venus -23984-07-14 23:59 J -7038537.60 -7038537.50 -7038537.40 0.3765 0.1016

Jupiter -23984-09-02 23:02 J -7038487.71 -7038487.54 -7038487.36 0.0498 0.0154

Saturn -23982-06-19 05:31 J -7037833.29 -7037833.27 -7037833.25 0.0271 0.0267

Neptune -23982-09-13 05:59 J -7037747.27 -7037747.25 -7037747.20 0.0089 0.0086

Saturn -23982-09-15 16:04 J -7037744.93 -7037744.83 -7037744.72 0.0270 0.0155

Neptune -23982-12-10 07:26 J -7037659.24 -7037659.19 -7037659.12 0.0089 0.0079

Saturn -23982-12-13 02:52 J -7037656.52 -7037656.38 -7037656.25 0.0270 0.0043

Neptune -23981-03-07 08:38 J -7037571.20 -7037571.14 -7037571.05 0.0089 0.0073

Saturn -23981-03-10 13:26 J -7037568.07 -7037567.94 -7037567.81 0.0269 0.0070

Neptune -23981-06-03 10:04 J -7037483.16 -7037483.08 -7037482.98 0.0089 0.0066

Saturn -23981-06-07 00:14 J -7037479.59 -7037479.49 -7037479.39 0.0268 0.0182

Neptune -23981-08-30 11:31 J -7037395.11 -7037395.02 -7037394.91 0.0089 0.0059

Neptune -23981-11-26 12:57 J -7037307.06 -7037306.96 -7037306.85 0.0089 0.0052

Neptune -23980-02-22 14:23 J -7037219.01 -7037218.90 -7037218.78 0.0089 0.0045

Neptune -23980-05-21 15:50 J -7037130.96 -7037130.84 -7037130.72 0.0089 0.0038

Neptune -23980-08-17 17:16 J -7037042.91 -7037042.78 -7037042.66 0.0089 0.0031

Neptune -23980-11-13 18:28 J -7036954.85 -7036954.73 -7036954.60 0.0089 0.0024

Neptune -23979-02-09 19:55 J -7036866.80 -7036866.67 -7036866.54 0.0089 0.0017

Mars -23979-02-10 06:57 J -7036866.33 -7036866.21 -7036866.09 0.1672 0.0148

Neptune -23979-05-08 21:21 J -7036778.74 -7036778.61 -7036778.48 0.0089 0.0010

Neptune -23979-08-04 22:47 J -7036690.69 -7036690.55 -7036690.42 0.0089 0.0003

Neptune -23979-11-01 00:14 J -7036602.63 -7036602.49 -7036602.36 0.0089 0.0005

Mars -23979-12-20 14:38 J -7036553.03 -7036552.89 -7036552.75 0.1852 0.1032

Moon -23979-12-27 20:52 J -7036545.71 -7036545.63 -7036545.54 0.2637 0.2147

Earth -23979-12-27 22:04 J -7036545.67 -7036545.58 -7036545.49 0.2640 0.2069 *

Neptune -23978-01-28 01:26 J -7036514.57 -7036514.44 -7036514.30 0.0089 0.0012

Venus -23978-01-28 16:04 J -7036513.87 -7036513.83 -7036513.78 0.3766 0.3367

Uranus -23978-03-21 17:31 J -7036461.81 -7036461.77 -7036461.70 0.0136 0.0129

Jupiter -23978-04-25 16:33 J -7036426.92 -7036426.81 -7036426.69 0.0530 0.0233

Neptune -23978-04-26 02:52 J -7036426.51 -7036426.38 -7036426.25 0.0089 0.0018

Uranus -23978-06-18 00:28 J -7036373.59 -7036373.48 -7036373.35 0.0136 0.0102

Neptune -23978-07-23 04:19 J -7036338.45 -7036338.32 -7036338.19 0.0089 0.0025

Jupiter -23978-07-23 23:45 J -7036337.61 -7036337.51 -7036337.42 0.0527 0.0354

Uranus -23978-09-14 07:26 J -7036285.34 -7036285.19 -7036285.04 0.0136 0.0075

Neptune -23978-10-19 05:45 J -7036250.38 -7036250.26 -7036250.13 0.0089 0.0032

Uranus -23978-12-11 13:55 J -7036197.08 -7036196.92 -7036196.74 0.0136 0.0049

Neptune -23977-01-15 07:11 J -7036162.32 -7036162.20 -7036162.08 0.0089 0.0039

Uranus -23977-03-08 20:38 J -7036108.81 -7036108.64 -7036108.45 0.0136 0.0023

Neptune -23977-04-12 08:38 J -7036074.26 -7036074.14 -7036074.03 0.0089 0.0047

Uranus -23977-06-05 03:21 J -7036020.54 -7036020.36 -7036020.18 0.0136 0.0004

Neptune -23977-07-09 10:04 J -7035986.19 -7035986.08 -7035985.98 0.0089 0.0054

Uranus -23977-09-01 09:50 J -7035932.27 -7035932.09 -7035931.91 0.0135 0.0029

Neptune -23977-10-05 11:02 J -7035898.12 -7035898.04 -7035897.93 0.0089 0.0062

Uranus -23977-11-28 16:04 J -7035843.98 -7035843.83 -7035843.65 0.0135 0.0056

Neptune -23976-01-01 12:28 J -7035810.05 -7035809.98 -7035809.88 0.0089 0.0069

Uranus -23976-02-24 22:33 J -7035755.69 -7035755.56 -7035755.40 0.0135 0.0081

Neptune -23976-03-30 13:55 J -7035721.98 -7035721.92 -7035721.83 0.0089 0.0076

Uranus -23976-05-24 05:02 J -7035667.39 -7035667.29 -7035667.17 0.0135 0.0105

Neptune -23976-06-26 15:21 J -7035633.89 -7035633.86 -7035633.79 0.0089 0.0083

Moon -23976-06-30 09:35 J -7035630.21 -7035630.10 -7035629.99 0.2686 0.0956

Earth -23976-06-30 10:33 J -7035630.17 -7035630.06 -7035629.96 0.2689 0.1072 *

Uranus -23976-08-20 11:16 J -7035579.06 -7035579.03 -7035578.97 0.0135 0.0130

Venus -23974-01-24 19:40 J -7035056.82 -7035056.68 -7035056.53 0.3610 0.1123

Jupiter -23972-06-21 20:38 J -7034177.77 -7034177.64 -7034177.51 0.0497 0.0332

Jupiter -23972-09-20 03:35 J -7034087.47 -7034087.35 -7034087.23 0.0499 0.0374

Mars -23970-07-03 17:45 J -7033435.87 -7033435.76 -7033435.64 0.1669 0.0339

Earth -23969-06-23 05:59 J -7033080.33 -7033080.25 -7033080.17 0.2694 0.1979

Moon -23969-06-23 06:43 J -7033080.30 -7033080.22 -7033080.14 0.2690 0.1853 *

Jupiter -23966-02-11 20:52 J -7032116.72 -7032116.63 -7032116.54 0.0531 0.0374

Jupiter -23966-05-12 03:50 J -7032027.46 -7032027.34 -7032027.22 0.0528 0.0212

Saturn -23966-07-03 13:11 J -7031975.11 -7031974.95 -7031974.80 0.0291 0.0143

Saturn -23966-09-30 12:43 J -7031886.15 -7031885.97 -7031885.80 0.0292 0.0053

Saturn -23966-12-28 11:45 J -7031797.10 -7031797.01 -7031796.91 0.0293 0.0246

Moon -23966-12-30 23:45 J -7031794.65 -7031794.51 -7031794.37 0.2645 0.0499

Earth -23966-12-31 01:11 J -7031794.60 -7031794.45 -7031794.31 0.2642 0.0394 *

Moon -23963-07-03 05:16 J -7030879.35 -7030879.28 -7030879.22 0.2690 0.2183

Earth -23963-07-03 05:59 J -7030879.32 -7030879.25 -7030879.19 0.2687 0.2194 *

Mars -23961-11-23 04:47 J -7030005.41 -7030005.30 -7030005.20 0.1665 0.0817

Jupiter -23960-07-09 01:26 J -7029777.60 -7029777.44 -7029777.27 0.0498 0.0201

Mars -23959-10-29 09:50 J -7029300.17 -7029300.09 -7029300.01 0.1681 0.1220

Mars -23958-09-08 23:45 J -7028985.59 -7028985.51 -7028985.42 0.1841 0.1547

Moon -23956-06-26 01:11 J -7028329.56 -7028329.45 -7028329.34 0.2685 0.0939

Earth -23956-06-26 00:57 J -7028329.56 -7028329.46 -7028329.35 0.2692 0.0916 *

Jupiter -23955-12-01 01:11 J -7027806.48 -7027806.45 -7027806.41 0.0531 0.0510

Jupiter -23954-02-28 08:09 J -7027717.29 -7027717.16 -7027717.03 0.0529 0.0075

Moon -23952-01-02 02:52 J -7027043.51 -7027043.38 -7027043.25 0.2649 0.1095

Earth -23952-01-02 03:35 J -7027043.47 -7027043.35 -7027043.22 0.2644 0.1233 *

Saturn -23952-02-01 17:59 J -7027012.84 -7027012.75 -7027012.65 0.0270 0.0193

Saturn -23952-05-01 04:47 J -7026924.43 -7026924.30 -7026924.18 0.0269 0.0081

Saturn -23952-07-28 15:21 J -7026835.99 -7026835.86 -7026835.72 0.0269 0.0031

Saturn -23952-10-25 02:09 J -7026747.53 -7026747.41 -7026747.30 0.0268 0.0144

Saturn -23951-01-21 12:57 J -7026659.00 -7026658.96 -7026658.92 0.0268 0.0256

Mars -23951-04-15 15:35 J -7026574.92 -7026574.85 -7026574.78 0.1662 0.1283

Mars	-23949-03-20 20:23 J	-7025869.76	-7025869.65	-7025869.55	0.1677	0.0713
Mars	-23948-01-28 19:55 J	-7025555.83	-7025555.67	-7025555.51	0.1846	0.0349
Jupiter	-23948-04-26 23:16 J	-7025467.71	-7025467.53	-7025467.35	0.0498	0.0023
Moon	-23943-06-28 19:40 J	-7023578.79	-7023578.68	-7023578.56	0.2685	0.0161
Earth	-23943-06-28 20:09 J	-7023578.77	-7023578.66	-7023578.54	0.2690	0.0186 *
Jupiter	-23943-12-17 12:14 J	-7023407.11	-7023406.99	-7023406.86	0.0529	0.0068
Jupiter	-23942-03-16 19:26 J	-7023317.70	-7023317.69	-7023317.67	0.0527	0.0523
Mars	-23940-08-11 06:57 J	-7022439.33	-7022439.21	-7022439.09	0.1673	0.0214
Mars	-23939-06-20 15:21 J	-7022126.00	-7022125.86	-7022125.71	0.1851	0.0910
Venus	-23938-01-20 13:26 J	-7021912.01	-7021911.94	-7021911.87	0.3763	0.2710
Saturn	-23937-11-19 08:52 J	-7021243.24	-7021243.13	-7021243.00	0.0290	0.0218
Jupiter	-23936-02-12 21:35 J	-7021157.77	-7021157.60	-7021157.42	0.0498	0.0146
Saturn	-23936-02-16 08:38 J	-7021154.32	-7021154.14	-7021153.95	0.0291	0.0023
Saturn	-23936-05-16 07:55 J	-7021065.31	-7021065.17	-7021065.02	0.0292	0.0173
Moon	-23936-06-21 17:02 J	-7021028.80	-7021028.79	-7021028.79	0.2696	0.2683
Uranus	-23934-05-24 07:26 J	-7020327.23	-7020327.19	-7020327.14	0.0142	0.0134
Uranus	-23934-08-20 11:16 J	-7020239.11	-7020239.03	-7020238.95	0.0142	0.0113
Uranus	-23934-11-16 14:52 J	-7020150.98	-7020150.88	-7020150.77	0.0143	0.0091
Uranus	-23933-02-12 18:43 J	-7020062.84	-7020062.72	-7020062.60	0.0143	0.0069
Uranus	-23933-05-10 22:19 J	-7019974.69	-7019974.57	-7019974.43	0.0143	0.0047
Venus	-23933-08-05 05:31 J	-7019888.38	-7019888.27	-7019888.17	0.3764	0.0466
Uranus	-23933-08-07 02:09 J	-7019886.54	-7019886.41	-7019886.27	0.0143	0.0025
Uranus	-23933-11-03 05:59 J	-7019798.38	-7019798.25	-7019798.11	0.0143	0.0005
Moon	-23933-12-28 02:52 J	-7019743.47	-7019743.38	-7019743.28	0.2638	0.1926
Earth	-23933-12-28 04:19 J	-7019743.43	-7019743.32	-7019743.21	0.2640	0.1754 *
Uranus	-23932-01-30 09:50 J	-7019710.22	-7019710.09	-7019709.95	0.0143	0.0022
Uranus	-23932-04-28 13:55 J	-7019622.05	-7019621.92	-7019621.79	0.0143	0.0045
Uranus	-23932-07-25 17:45 J	-7019533.88	-7019533.76	-7019533.64	0.0143	0.0068
Uranus	-23932-10-21 21:35 J	-7019445.70	-7019445.60	-7019445.49	0.0143	0.0091
Uranus	-23931-01-18 01:40 J	-7019357.51	-7019357.43	-7019357.35	0.0144	0.0115

Uranus -23931-04-16 05:31 J -7019269.29 -7019269.27 -7019269.23 0.0144 0.0139

Jupiter -23931-10-05 15:35 J -7019096.97 -7019096.85 -7019096.73 0.0530 0.0223

Mars -23930-01-01 17:45 J -7019008.88 -7019008.76 -7019008.64 0.1669 0.0277

Jupiter -23930-01-02 22:33 J -7019007.65 -7019007.56 -7019007.46 0.0527 0.0363

Moon -23930-07-01 14:38 J -7018827.99 -7018827.89 -7018827.78 0.2686 0.1228

Earth -23930-07-01 15:35 J -7018827.96 -7018827.85 -7018827.75 0.2689 0.1286 *

Venus -23927-02-18 21:35 J -7017864.69 -7017864.60 -7017864.51 0.3765 0.1871

Jupiter -23925-12-01 19:55 J -7016847.81 -7016847.67 -7016847.53 0.0497 0.0314

Jupiter -23924-03-02 02:52 J -7016757.48 -7016757.38 -7016757.27 0.0499 0.0393

Saturn -23923-06-21 20:52 J -7016280.70 -7016280.63 -7016280.55 0.0271 0.0223

Earth -23923-06-24 11:02 J -7016278.13 -7016278.04 -7016277.96 0.2693 0.1775

Moon -23923-06-24 11:31 J -7016278.10 -7016278.02 -7016277.93 0.2688 0.1784 *

Saturn -23923-09-18 07:26 J -7016192.31 -7016192.19 -7016192.06 0.0270 0.0111

Saturn -23923-12-15 18:14 J -7016103.88 -7016103.74 -7016103.61 0.0269 0.0004

Saturn -23922-03-14 04:47 J -7016015.42 -7016015.30 -7016015.17 0.0269 0.0115

Saturn -23922-06-10 15:35 J -7015926.91 -7015926.85 -7015926.77 0.0268 0.0227

Mars -23921-05-24 04:33 J -7015578.41 -7015578.31 -7015578.20 0.1665 0.0757

Moon -23920-12-31 05:59 J -7014992.40 -7014992.25 -7014992.11 0.2645 0.0215

Earth -23920-12-31 07:11 J -7014992.34 -7014992.20 -7014992.05 0.2642 0.0085 *

Mars -23919-04-29 09:50 J -7014873.17 -7014873.09 -7014873.02 0.1680 0.1285

Jupiter -23919-07-24 19:26 J -7014786.78 -7014786.69 -7014786.59 0.0530 0.0369

Jupiter -23919-10-22 02:23 J -7014697.52 -7014697.40 -7014697.28 0.0528 0.0216

Mars -23918-03-10 00:28 J -7014558.55 -7014558.48 -7014558.41 0.1841 0.1658

Venus -23918-08-31 20:52 J -7014383.77 -7014383.63 -7014383.48 0.3610 0.0829

Moon -23917-07-03 10:19 J -7014077.13 -7014077.07 -7014077.01 0.2691 0.2306

Earth -23917-07-03 11:02 J -7014077.09 -7014077.04 -7014076.99 0.2687 0.2415 *

Jupiter -23913-09-19 17:16 J -7012537.79 -7012537.78 -7012537.76 0.0496 0.0493

Jupiter -23913-12-19 00:43 J -7012447.63 -7012447.47 -7012447.31 0.0498 0.0217

Mars -23912-10-14 15:35 J -7012147.93 -7012147.85 -7012147.77 0.1662 0.1223

Pluto -23912-12-21 20:38 J -7012079.69 -7012079.64 -7012079.57 0.0074 0.0067

Pluto -23911-03-19 22:04 J -7011991.66 -7011991.58 -7011991.48 0.0074 0.0059

Pluto -23911-06-15 23:31 J -7011903.62 -7011903.52 -7011903.40 0.0074 0.0051

Pluto -23911-09-12 00:57 J -7011815.58 -7011815.46 -7011815.33 0.0073 0.0043

Pluto -23911-12-09 02:09 J -7011727.54 -7011727.41 -7011727.27 0.0073 0.0035

Pluto -23910-03-07 03:21 J -7011639.49 -7011639.36 -7011639.20 0.0073 0.0027

Pluto -23910-06-03 04:47 J -7011551.44 -7011551.30 -7011551.14 0.0073 0.0019

Moon -23910-06-27 06:14 J -7011527.36 -7011527.24 -7011527.13 0.2685 0.0641

Earth -23910-06-27 05:59 J -7011527.36 -7011527.25 -7011527.14 0.2692 0.0710 *

Pluto -23910-08-30 06:14 J -7011463.39 -7011463.24 -7011463.09 0.0073 0.0011

Mars -23910-09-19 20:09 J -7011442.76 -7011442.66 -7011442.55 0.1676 0.0775

Pluto -23910-11-26 07:26 J -7011375.34 -7011375.19 -7011375.03 0.0073 0.0004

Pluto -23909-02-22 08:52 J -7011287.28 -7011287.13 -7011286.98 0.0073 0.0004

Pluto -23909-05-20 10:04 J -7011199.23 -7011199.08 -7011198.93 0.0073 0.0012

Mars -23909-07-29 20:52 J -7011128.79 -7011128.63 -7011128.47 0.1846 0.0472

Pluto -23909-08-16 11:16 J -7011111.17 -7011111.03 -7011110.88 0.0072 0.0019

Pluto -23909-11-12 12:14 J -7011023.12 -7011022.99 -7011022.83 0.0072 0.0028

Pluto -23908-02-08 13:40 J -7010935.06 -7010934.93 -7010934.79 0.0072 0.0034

Pluto -23908-05-07 14:52 J -7010847.00 -7010846.88 -7010846.75 0.0072 0.0042

Pluto -23908-08-03 15:50 J -7010758.94 -7010758.84 -7010758.71 0.0072 0.0049

Pluto -23908-10-30 17:02 J -7010670.87 -7010670.79 -7010670.68 0.0072 0.0056

Pluto -23907-01-26 18:14 J -7010582.80 -7010582.74 -7010582.65 0.0072 0.0063

Saturn -23907-04-08 06:57 J -7010511.25 -7010511.21 -7010511.15 0.0290 0.0278

Pluto -23907-04-24 19:40 J -7010494.71 -7010494.68 -7010494.65 0.0072 0.0070

Jupiter -23907-05-12 23:45 J -7010476.54 -7010476.51 -7010476.48 0.0531 0.0511

Saturn -23907-07-06 06:57 J -7010422.39 -7010422.21 -7010422.04 0.0291 0.0082

Jupiter -23907-08-10 06:28 J -7010387.36 -7010387.23 -7010387.10 0.0529 0.0073

Saturn -23907-10-03 06:14 J -7010333.40 -7010333.24 -7010333.07 0.0292 0.0114

Moon -23906-01-03 09:07 J -7010241.23 -7010241.12 -7010241.00 0.2650 0.1541

Earth -23906-01-03 09:50 J -7010241.21 -7010241.09 -7010240.98 0.2644 0.1540 *

Jupiter -23901-10-06 22:33 J -7008137.74 -7008137.56 -7008137.38 0.0498 0.0043

Mars -23900-02-09 06:57 J -7008012.33 -7008012.21 -7008012.09 0.1673 0.0275

Mars -23900-12-19 16:04 J -7007698.98 -7007698.83 -7007698.68 0.1851 0.0791

Neptune -23898-03-03 06:14 J -7007260.25 -7007260.24 -7007260.20 0.0088 0.0087

Neptune -23898-05-30 09:50 J -7007172.17 -7007172.09 -7007171.99 0.0088 0.0077

Neptune -23898-08-26 13:40 J -7007084.05 -7007083.93 -7007083.81 0.0088 0.0068

Neptune -23898-11-22 16:47 J -7006995.93 -7006995.80 -7006995.64 0.0088 0.0058

Neptune -23897-02-18 20:23 J -7006907.80 -7006907.65 -7006907.48 0.0088 0.0048

Neptune -23897-05-16 23:59 J -7006819.67 -7006819.50 -7006819.33 0.0088 0.0039

Moon -23897-06-29 00:43 J -7006776.59 -7006776.47 -7006776.36 0.2685 0.0291

Earth -23897-06-29 01:11 J -7006776.56 -7006776.45 -7006776.33 0.2690 0.0392 *

Neptune -23897-08-13 03:07 J -7006731.54 -7006731.37 -7006731.18 0.0088 0.0029

Neptune -23897-11-09 06:43 J -7006643.40 -7006643.22 -7006643.03 0.0088 0.0019

Neptune -23896-02-05 10:04 J -7006555.26 -7006555.08 -7006554.88 0.0088 0.0010

Neptune -23896-05-04 13:40 J -7006467.12 -7006466.93 -7006466.74 0.0088 0.0001

Neptune -23896-07-31 17:02 J -7006378.98 -7006378.79 -7006378.60 0.0088 0.0009

Neptune -23896-10-27 20:09 J -7006290.84 -7006290.66 -7006290.46 0.0088 0.0019

Neptune -23895-01-23 23:45 J -7006202.69 -7006202.51 -7006202.33 0.0088 0.0028

Neptune -23895-04-22 02:52 J -7006114.54 -7006114.38 -7006114.20 0.0088 0.0038

Jupiter -23895-05-29 11:02 J -7006077.17 -7006077.04 -7006076.92 0.0529 0.0066

Neptune -23895-07-19 06:14 J -7006026.39 -7006026.24 -7006026.07 0.0088 0.0048

Jupiter -23895-08-26 18:14 J -7005987.75 -7005987.74 -7005987.74 0.0527 0.0525

Neptune -23895-10-15 09:21 J -7005938.23 -7005938.11 -7005937.95 0.0088 0.0057

Neptune -23894-01-11 12:43 J -7005850.08 -7005849.97 -7005849.83 0.0088 0.0067

Neptune -23894-04-09 16:19 J -7005761.91 -7005761.82 -7005761.72 0.0088 0.0075

Uranus -23894-04-11 00:43 J -7005760.54 -7005760.47 -7005760.38 0.0136 0.0122

Neptune -23894-07-06 19:11 J -7005673.72 -7005673.70 -7005673.63 0.0088 0.0085

Uranus -23894-07-08 07:40 J -7005672.30 -7005672.18 -7005672.04 0.0136 0.0095

Uranus -23894-10-04 14:38 J -7005584.05 -7005583.89 -7005583.73 0.0136 0.0068

Saturn -23894-11-08 22:47 J -7005548.58 -7005548.55 -7005548.52 0.0271 0.0261

Uranus -23894-12-31 21:07 J -7005495.79 -7005495.62 -7005495.44 0.0136 0.0042

Saturn -23893-02-05 09:21 J -7005460.22 -7005460.11 -7005460.00 0.0270 0.0150

Uranus -23893-03-29 03:50 J -7005407.52 -7005407.34 -7005407.15 0.0136 0.0016

Saturn -23893-05-03 19:55 J -7005371.80 -7005371.67 -7005371.53 0.0269 0.0038

Uranus -23893-06-25 10:33 J -7005319.24 -7005319.06 -7005318.88 0.0136 0.0011

Saturn -23893-07-31 06:43 J -7005283.35 -7005283.22 -7005283.09 0.0269 0.0075

Uranus -23893-09-21 17:02 J -7005230.96 -7005230.79 -7005230.61 0.0135 0.0037

Saturn -23893-10-27 17:16 J -7005194.87 -7005194.78 -7005194.68 0.0268 0.0187

Uranus -23893-12-18 23:31 J -7005142.68 -7005142.52 -7005142.35 0.0135 0.0062

Uranus -23892-03-17 05:59 J -7005054.39 -7005054.25 -7005054.11 0.0135 0.0087

Uranus -23892-06-13 12:14 J -7004966.08 -7004965.99 -7004965.88 0.0135 0.0113

Mars -23891-07-02 17:45 J -7004581.88 -7004581.76 -7004581.64 0.1669 0.0213

Earth -23890-06-22 21:07 J -7004226.64 -7004226.62 -7004226.60 0.2695 0.2623

Moon -23890-06-22 21:50 J -7004226.61 -7004226.59 -7004226.56 0.2695 0.2597 *

Jupiter -23889-07-25 20:09 J -7003827.83 -7003827.66 -7003827.48 0.0497 0.0136

Moon -23887-12-29 08:52 J -7002941.25 -7002941.13 -7002941.00 0.2640 0.1483

Earth -23887-12-29 10:19 J -7002941.19 -7002941.07 -7002940.94 0.2641 0.1441 *

Moon -23884-07-01 19:40 J -7002025.77 -7002025.68 -7002025.58 0.2687 0.1429

Earth -23884-07-01 20:38 J -7002025.74 -7002025.64 -7002025.55 0.2688 0.1503 *

Jupiter -23883-03-17 15:07 J -7001766.98 -7001766.87 -7001766.75 0.0530 0.0203

Jupiter -23883-06-14 22:19 J -7001677.66 -7001677.57 -7001677.48 0.0527 0.0385

Venus -23882-08-27 10:47 J -7001239.13 -7001239.05 -7001238.96 0.3763 0.1889

Mars -23882-11-23 04:33 J -7001151.41 -7001151.31 -7001151.20 0.1665 0.0693

Mars -23880-10-28 09:50 J -7000446.16 -7000446.09 -7000446.02 0.1680 0.1349

Mars -23879-09-08 01:11 J -7000131.49 -7000131.45 -7000131.41 0.1841 0.1775

Saturn -23878-11-23 02:09 J -6999690.56 -6999690.41 -6999690.26 0.0291 0.0162

Saturn -23877-02-20 01:40 J -6999601.60 -6999601.43 -6999601.25 0.0291 0.0034

Jupiter -23877-05-13 18:28 J -6999517.87 -6999517.73 -6999517.58 0.0497 0.0304

Saturn -23877-05-19 00:57 J -6999512.57 -6999512.46 -6999512.34 0.0292 0.0228

Earth -23877-06-24 16:04 J -6999475.92 -6999475.83 -6999475.74 0.2693 0.1572

Moon -23877-06-24 16:33 J -6999475.91 -6999475.81 -6999475.72 0.2687 0.1454 *

Jupiter -23877-08-12 01:40 J -6999427.53 -6999427.43 -6999427.32 0.0499 0.0404

Venus -23876-03-12 02:52 J -6999215.48 -6999215.38 -6999215.28 0.3765 0.0400

Moon -23873-01-01 11:59 J -6998190.14 -6998190.00 -6998189.86 0.2645 0.0097

Earth -23873-01-01 13:11 J -6998190.09 -6998189.95 -6998189.80 0.2642 0.0235 *

Mars -23872-04-14 15:35 J -6997720.93 -6997720.85 -6997720.77 0.1662 0.1163

Jupiter -23871-01-03 18:43 J -6997456.82 -6997456.72 -6997456.63 0.0530 0.0357

Jupiter -23871-04-03 01:26 J -6997367.55 -6997367.44 -6997367.32 0.0528 0.0228

Moon -23871-07-04 15:21 J -6997274.88 -6997274.86 -6997274.83 0.2691 0.2607

Earth -23871-07-04 16:04 J -6997274.85 -6997274.83 -6997274.81 0.2686 0.2635 *

Venus -23871-09-25 19:11 J -6997191.77 -6997191.70 -6997191.63 0.3766 0.2726

Mars -23870-03-20 20:23 J -6997015.76 -6997015.65 -6997015.55 0.1676 0.0840

Mars -23869-01-28 21:21 J -6996701.77 -6996701.61 -6996701.46 0.1846 0.0578

Venus -23867-09-21 15:50 J -6995734.92 -6995734.84 -6995734.76 0.3611 0.3016

Jupiter -23865-03-01 16:47 J -6995207.85 -6995207.80 -6995207.74 0.0497 0.0473

Jupiter -23865-05-31 00:14 J -6995117.64 -6995117.49 -6995117.33 0.0499 0.0238

Saturn -23864-06-24 11:59 J -6994728.10 -6994728.00 -6994727.90 0.0271 0.0183

Moon -23864-06-27 11:02 J -6994725.15 -6994725.04 -6994724.93 0.2685 0.0557

Earth -23864-06-27 11:02 J -6994725.15 -6994725.04 -6994724.92 0.2692 0.0496 *

Saturn -23864-09-20 22:33 J -6994639.69 -6994639.56 -6994639.43 0.0270 0.0070

Saturn -23864-12-18 09:07 J -6994551.25 -6994551.12 -6994550.98 0.0269 0.0043

Saturn -23863-03-16 19:55 J -6994462.78 -6994462.67 -6994462.56 0.0269 0.0155

Mars -23863-09-05 02:38 J -6994290.41 -6994290.39 -6994290.37 0.1659 0.1626

Venus -23861-04-06 22:19 J -6993710.66 -6993710.57 -6993710.47 0.3609 0.2784

Mars -23861-08-10 06:57 J -6993585.33 -6993585.21 -6993585.10 0.1672 0.0337

Moon -23860-01-03 15:21 J -6993438.96 -6993438.86 -6993438.76 0.2651 0.1800

Earth -23860-01-03 15:50 J -6993438.95 -6993438.84 -6993438.74 0.2644 0.1840 *

Mars -23860-06-19 16:47 J -6993271.95 -6993271.80 -6993271.65 0.1852 0.0671

Jupiter -23860-10-22 22:33 J -6993146.59 -6993146.56 -6993146.52 0.0531 0.0501

Jupiter -23859-01-20 05:16 J -6993057.40 -6993057.28 -6993057.15 0.0528 0.0083

Jupiter -23853-03-18 22:04 J -6990807.76 -6990807.58 -6990807.40 0.0498 0.0062

Mars -23852-12-31 17:45 J -6990154.88 -6990154.76 -6990154.65 0.1669 0.0157

Moon -23851-06-30 05:45 J -6989974.38 -6989974.26 -6989974.15 0.2685 0.0599

Earth -23851-06-30 06:14 J -6989974.35 -6989974.24 -6989974.13 0.2690 0.0600 *

Uranus -23850-06-13 14:38 J -6989625.94 -6989625.89 -6989625.83 0.0142 0.0129

Uranus -23850-09-09 18:14 J -6989537.82 -6989537.74 -6989537.64 0.0142 0.0108

Uranus -23850-12-06 22:04 J -6989449.68 -6989449.58 -6989449.47 0.0142 0.0085

Uranus -23849-03-04 01:55 J -6989361.54 -6989361.42 -6989361.30 0.0143 0.0063

Uranus -23849-05-31 05:45 J -6989273.39 -6989273.26 -6989273.13 0.0143 0.0041

Uranus -23849-08-27 09:35 J -6989185.24 -6989185.10 -6989184.97 0.0143 0.0018

Uranus -23849-11-23 13:26 J -6989097.08 -6989096.94 -6989096.81 0.0143 0.0005

Uranus -23848-02-19 17:16 J -6989008.92 -6989008.78 -6989008.65 0.0143 0.0027

Saturn -23848-04-10 23:59 J -6988958.61 -6988958.50 -6988958.38 0.0291 0.0223

Uranus -23848-05-18 21:07 J -6988920.75 -6988920.62 -6988920.49 0.0143 0.0050

Saturn -23848-07-08 23:59 J -6988869.68 -6988869.50 -6988869.32 0.0291 0.0027

Uranus -23848-08-15 00:57 J -6988832.57 -6988832.46 -6988832.34 0.0143 0.0074

Saturn -23848-10-05 23:16 J -6988780.67 -6988780.53 -6988780.38 0.0292 0.0169

Jupiter -23848-11-08 09:21 J -6988747.23 -6988747.11 -6988746.98 0.0529 0.0065

Uranus -23848-11-11 04:47 J -6988744.39 -6988744.30 -6988744.19 0.0143 0.0098

Jupiter -23847-02-05 16:33 J -6988657.81 -6988657.81 -6988657.80 0.0527 0.0526

Uranus -23847-02-07 08:52 J -6988656.20 -6988656.13 -6988656.05 0.0144 0.0121

Earth -23844-06-23 02:09 J -6987424.46 -6987424.41 -6987424.37 0.2695 0.2424

Moon -23844-06-23 02:52 J -6987424.44 -6987424.38 -6987424.33 0.2693 0.2326 *

Mars -23842-05-24 04:33 J -6986724.41 -6986724.31 -6986724.20 0.1665 0.0631

Jupiter -23841-01-05 19:55 J -6986497.85 -6986497.67 -6986497.49 0.0497 0.0114

Moon -23841-12-29 15:07 J -6986139.00 -6986138.87 -6986138.75 0.2641 0.1353

Earth -23841-12-29 16:33 J -6986138.95 -6986138.81 -6986138.68 0.2641 0.1126 *

Mars -23840-04-28 09:50 J -6986019.16 -6986019.09 -6986019.03 0.1681 0.1413

Moon -23838-07-03 00:43 J -6985223.56 -6985223.47 -6985223.37 0.2689 0.1609

Earth -23838-07-03 01:40 J -6985223.52 -6985223.43 -6985223.34 0.2688 0.1720 *

Jupiter -23836-08-27 13:55 J -6984437.04 -6984436.92 -6984436.80 0.0530 0.0199

Jupiter -23836-11-24 20:52 J -6984347.71 -6984347.63 -6984347.54 0.0528 0.0389

Saturn -23835-11-11 13:40 J -6983996.00 -6983995.93 -6983995.85 0.0270 0.0221

Saturn -23834-02-08 00:14 J -6983907.61 -6983907.49 -6983907.36 0.0270 0.0110

Saturn -23834-05-07 11:02 J -6983819.18 -6983819.04 -6983818.91 0.0269 0.0005

Saturn -23834-08-03 21:35 J -6983730.72 -6983730.60 -6983730.47 0.0268 0.0116

Saturn -23834-10-31 08:23 J -6983642.22 -6983642.15 -6983642.08 0.0268 0.0228

Mars -23833-10-13 15:35 J -6983293.94 -6983293.85 -6983293.77 0.1662 0.1103

Earth -23831-06-25 21:07 J -6982673.72 -6982673.62 -6982673.53 0.2693 0.1367

Moon -23831-06-25 21:35 J -6982673.70 -6982673.60 -6982673.50 0.2687 0.1372 *

Venus -23831-09-17 16:19 J -6982589.86 -6982589.82 -6982589.77 0.3762 0.3305

Mars -23831-09-18 20:23 J -6982588.75 -6982588.65 -6982588.56 0.1676 0.0904

Mars -23830-07-29 21:50 J -6982274.74 -6982274.59 -6982274.43 0.1846 0.0697

Jupiter -23830-10-24 17:31 J -6982187.92 -6982187.77 -6982187.63 0.0497 0.0292

Jupiter -23829-01-23 00:28 J -6982097.58 -6982097.48 -6982097.38 0.0499 0.0415

Moon -23827-01-01 18:14 J -6981387.88 -6981387.74 -6981387.60 0.2646 0.0485

Earth -23827-01-01 19:11 J -6981387.84 -6981387.70 -6981387.55 0.2643 0.0535 *

Venus -23825-04-02 08:23 J -6980566.25 -6980566.15 -6980566.05 0.3763 0.1059

Jupiter -23824-06-15 18:14 J -6980126.84 -6980126.74 -6980126.64 0.0530 0.0336

Jupiter -23824-09-13 01:11 J -6980037.56 -6980037.45 -6980037.34 0.0528 0.0250

Mars -23823-03-06 02:38 J -6979863.43 -6979863.39 -6979863.35 0.1659 0.1563

Mars -23821-02-09 06:57 J -6979158.33 -6979158.21 -6979158.10 0.1672 0.0402

Mars -23821-12-18 17:31 J -6978844.93 -6978844.77 -6978844.61 0.1851 0.0551

Venus -23820-10-17 00:28 J -6978542.58 -6978542.48 -6978542.38 0.3765 0.1243

Saturn -23819-11-25 18:57 J -6978137.88 -6978137.71 -6978137.54 0.0291 0.0109

Saturn -23818-02-22 18:28 J -6978048.90 -6978048.73 -6978048.56 0.0291 0.0087

Saturn -23818-05-22 17:31 J -6977959.81 -6977959.77 -6977959.71 0.0292 0.0280

Moon -23818-06-28 15:50 J -6977922.96 -6977922.84 -6977922.72 0.2685 0.0247

Earth -23818-06-28 16:04 J -6977922.94 -6977922.83 -6977922.71 0.2692 0.0287 *

Jupiter -23818-08-12 15:50 J -6977877.91 -6977877.84 -6977877.78 0.0497 0.0460

Jupiter -23818-11-10 23:16 J -6977787.69 -6977787.53 -6977787.38 0.0499 0.0251

Neptune -23817-06-09 05:45 J -6977576.30 -6977576.26 -6977576.22 0.0089 0.0084

Neptune -23817-09-05 06:43 J -6977488.27 -6977488.22 -6977488.14 0.0089 0.0077

Neptune -23817-12-02 08:09 J -6977400.23 -6977400.16 -6977400.07 0.0089 0.0070

Neptune -23816-02-28 09:35 J -6977312.18 -6977312.10 -6977312.00 0.0089 0.0063

Neptune -23816-05-27 11:02 J -6977224.14 -6977224.04 -6977223.93 0.0089 0.0056

Neptune -23816-08-23 12:28 J -6977136.09 -6977135.98 -6977135.87 0.0089 0.0049

Neptune -23816-11-19 13:40 J -6977048.04 -6977047.93 -6977047.81 0.0089 0.0043

Neptune -23815-02-15 15:07 J -6976959.99 -6976959.87 -6976959.74 0.0089 0.0036

Neptune -23815-05-14 16:33 J -6976871.93 -6976871.81 -6976871.68 0.0089 0.0029

Neptune -23815-08-10 17:59 J -6976783.88 -6976783.75 -6976783.62 0.0089 0.0022

Neptune -23815-11-06 19:11 J -6976695.83 -6976695.70 -6976695.56 0.0089 0.0015

Moon -23814-01-04 21:21 J -6976636.69 -6976636.61 -6976636.52 0.2651 0.2122

Earth -23814-01-04 21:50 J -6976636.68 -6976636.59 -6976636.51 0.2645 0.2141 *

Neptune -23814-02-02 20:38 J -6976607.77 -6976607.64 -6976607.50 0.0089 0.0008

Neptune -23814-05-01 22:04 J -6976519.71 -6976519.58 -6976519.44 0.0089 0.0001

Venus -23814-05-02 16:33 J -6976518.84 -6976518.81 -6976518.78 0.3765 0.3576

Neptune -23814-07-28 23:31 J -6976431.65 -6976431.52 -6976431.39 0.0089 0.0006

Neptune -23814-10-25 00:57 J -6976343.60 -6976343.46 -6976343.33 0.0089 0.0013

Neptune -23813-01-21 02:23 J -6976255.54 -6976255.40 -6976255.27 0.0089 0.0021

Neptune -23813-04-18 03:35 J -6976167.47 -6976167.35 -6976167.22 0.0089 0.0028

Neptune -23813-07-15 05:02 J -6976079.41 -6976079.29 -6976079.16 0.0089 0.0035

Neptune -23813-10-11 06:28 J -6975991.35 -6975991.23 -6975991.11 0.0089 0.0042

Neptune -23812-01-07 07:55 J -6975903.28 -6975903.17 -6975903.06 0.0089 0.0049

Jupiter -23812-04-03 21:50 J -6975816.64 -6975816.59 -6975816.54 0.0530 0.0488

Neptune -23812-04-05 09:07 J -6975815.22 -6975815.12 -6975815.01 0.0089 0.0056

Mars -23812-07-01 17:45 J -6975727.88 -6975727.76 -6975727.64 0.1669 0.0091

Jupiter -23812-07-02 04:33 J -6975727.44 -6975727.31 -6975727.18 0.0528 0.0094

Neptune -23812-07-02 10:33 J -6975727.15 -6975727.06 -6975726.96 0.0089 0.0063

Neptune -23812-09-28 11:59 J -6975639.07 -6975639.00 -6975638.91 0.0089 0.0070

Neptune -23812-12-25 13:26 J -6975551.00 -6975550.94 -6975550.87 0.0089 0.0077

Neptune -23811-03-23 14:52 J -6975462.92 -6975462.88 -6975462.83 0.0089 0.0084

Mars -23811-05-10 12:28 J -6975414.99 -6975414.98 -6975414.97 0.1857 0.1846

Venus -23810-04-28 17:16 J -6975061.93 -6975061.78 -6975061.64 0.3610 0.1012

Uranus -23810-05-01 08:23 J -6975059.24 -6975059.15 -6975059.04 0.0136 0.0114

Uranus -23810-07-28 15:07 J -6974971.00 -6974970.87 -6974970.72 0.0136 0.0087

Uranus -23810-10-24 22:04 J -6974882.74 -6974882.58 -6974882.41 0.0136 0.0060

Uranus -23809-01-21 04:47 J -6974794.48 -6974794.30 -6974794.12 0.0136 0.0033

Uranus -23809-04-18 11:31 J -6974706.20 -6974706.02 -6974705.84 0.0136 0.0007

Uranus -23809-07-15 17:59 J -6974617.93 -6974617.75 -6974617.56 0.0136 0.0019

Uranus -23809-10-12 00:43 J -6974529.64 -6974529.47 -6974529.30 0.0135 0.0045

Uranus -23808-01-08 06:57 J -6974441.36 -6974441.21 -6974441.04 0.0135 0.0071

Uranus -23808-04-06 13:40 J -6974353.06 -6974352.93 -6974352.80 0.0135 0.0096

Uranus -23808-07-03 19:40 J -6974264.74 -6974264.68 -6974264.59 0.0135 0.0121

Earth -23808-12-27 19:26 J -6974087.73 -6974087.69 -6974087.65 0.2639 0.2515

Jupiter -23806-08-29 21:35 J -6973477.78 -6973477.60 -6973477.42 0.0498 0.0083

Saturn -23805-03-30 16:04 J -6973263.87 -6973263.83 -6973263.79 0.0271 0.0257

Saturn -23805-06-27 02:38 J -6973175.50 -6973175.39 -6973175.28 0.0271 0.0145

Moon -23805-06-30 10:47 J -6973172.17 -6973172.05 -6973171.94 0.2685 0.0700

Earth -23805-06-30 11:16 J -6973172.14 -6973172.03 -6973171.92 0.2690 0.0819 *

Saturn -23805-09-23 13:11 J -6973087.08 -6973086.95 -6973086.81 0.0270 0.0033

Saturn -23805-12-20 23:59 J -6972998.63 -6972998.50 -6972998.37 0.0269 0.0081

Saturn -23804-03-19 10:47 J -6972910.14 -6972910.05 -6972909.96 0.0269 0.0194

Mars -23803-11-22 04:33 J -6972297.42 -6972297.31 -6972297.20 0.1665 0.0574

Mars -23801-10-27 09:50 J -6971592.15 -6971592.09 -6971592.04 0.1680 0.1476

Jupiter -23800-04-20 08:23 J -6971417.28 -6971417.15 -6971417.02 0.0529 0.0053

Earth -23798-06-24 06:57 J -6970622.27 -6970622.21 -6970622.14 0.2694 0.2225

Moon -23798-06-24 07:40 J -6970622.24 -6970622.18 -6970622.11 0.2691 0.2151 *

Moon -23795-12-30 21:07 J -6969336.76 -6969336.62 -6969336.48 0.2641 0.0843

Earth -23795-12-30 22:33 J -6969336.70 -6969336.56 -6969336.42 0.2641 0.0812 *

Jupiter -23794-06-17 19:26 J -6969167.87 -6969167.69 -6969167.52 0.0498 0.0094

Mars -23793-04-13 15:35 J -6968866.94 -6968866.85 -6968866.76 0.1662 0.1041

Moon -23792-07-03 05:45 J -6968421.34 -6968421.26 -6968421.18 0.2690 0.1907

Earth -23792-07-03 06:43 J -6968421.30 -6968421.22 -6968421.14 0.2688 0.1938 *

Mars -23791-03-19 20:09 J -6968161.75 -6968161.66 -6968161.56 0.1676 0.0962

Mars -23790-01-27 23:02 J -6967847.69 -6967847.54 -6967847.40 0.1846 0.0828

Saturn -23789-04-13 16:47 J -6967405.94 -6967405.80 -6967405.64 0.0291 0.0170

Saturn -23789-07-11 16:33 J -6967316.99 -6967316.81 -6967316.63 0.0292 0.0027

Saturn -23789-10-08 15:50 J -6967227.95 -6967227.84 -6967227.72 0.0292 0.0221

Jupiter -23788-02-06 12:28 J -6967107.10 -6967106.98 -6967106.86 0.0530 0.0196

Jupiter -23788-05-06 19:26 J -6967017.77 -6967017.69 -6967017.60 0.0528 0.0391

Earth -23785-06-26 01:55 J -6965871.52 -6965871.42 -6965871.31 0.2693 0.1164

Moon -23785-06-26 02:23 J -6965871.51 -6965871.40 -6965871.29 0.2687 0.1076 *

Mars -23784-09-04 02:38 J -6965436.44 -6965436.39 -6965436.35 0.1659 0.1503

Jupiter -23782-04-05 17:02 J -6964857.94 -6964857.79 -6964857.64 0.0497 0.0269

Jupiter -23782-07-04 23:59 J -6964767.58 -6964767.50 -6964767.41 0.0499 0.0437

Mars -23782-08-10 06:57 J -6964731.32 -6964731.21 -6964731.10 0.1673 0.0466

Moon -23781-01-03 00:28 J -6964585.62 -6964585.48 -6964585.34 0.2648 0.0692

Earth -23781-01-03 01:26 J -6964585.58 -6964585.44 -6964585.31 0.2643 0.0845 *

Mars -23781-06-18 18:14 J -6964417.90 -6964417.74 -6964417.58 0.1851 0.0429

Jupiter -23777-11-25 16:47 J -6962796.89 -6962796.80 -6962796.70 0.0531 0.0333

Jupiter -23776-02-22 23:45 J -6962707.62 -6962707.51 -6962707.39 0.0528 0.0254

Saturn -23776-11-14 04:33 J -6962443.41 -6962443.31 -6962443.21 0.0270 0.0183

Saturn -23775-02-10 15:07 J -6962355.00 -6962354.87 -6962354.74 0.0270 0.0071

Saturn -23775-05-10 01:55 J -6962266.56 -6962266.42 -6962266.29 0.0269 0.0043

Saturn -23775-08-06 12:28 J -6962178.09 -6962177.98 -6962177.87 0.0268 0.0155

Saturn -23775-11-02 23:31 J -6962089.52 -6962089.52 -6962089.52 0.0268 0.0268

Venus -23774-04-24 13:55 J -6961917.00 -6961916.92 -6961916.84 0.3762 0.2482

Mars -23773-12-30 17:45 J -6961300.88 -6961300.76 -6961300.65 0.1669 0.0062

Moon -23772-06-28 20:52 J -6961120.75 -6961120.63 -6961120.52 0.2684 0.0172

Earth -23772-06-28 21:07 J -6961120.74 -6961120.62 -6961120.50 0.2691 0.0073 *

Mars -23772-11-08 13:11 J -6960988.01 -6960987.95 -6960987.89 0.1857 0.1721

Jupiter -23770-01-22 14:38 J -6960547.97 -6960547.89 -6960547.82 0.0496 0.0448

Jupiter -23770-04-22 21:50 J -6960457.74 -6960457.59 -6960457.43 0.0498 0.0262

Venus -23769-11-07 05:59 J -6959893.36 -6959893.25 -6959893.15 0.3764 0.0239

Moon -23768-01-05 03:21 J -6959834.41 -6959834.36 -6959834.30 0.2651 0.2448

Earth -23768-01-05 03:35 J -6959834.40 -6959834.35 -6959834.29 0.2645 0.2438 *

Uranus -23766-04-06 18:57 J -6959012.71 -6959012.71 -6959012.70 0.0142 0.0142

Uranus -23766-07-03 22:33 J -6958924.62 -6958924.56 -6958924.48 0.0142 0.0120

Uranus -23766-09-30 02:23 J -6958836.50 -6958836.40 -6958836.30 0.0142 0.0098

Uranus -23766-12-27 05:59 J -6958748.36 -6958748.25 -6958748.13 0.0143 0.0077

Uranus -23765-03-24 09:50 J -6958660.21 -6958660.09 -6958659.96 0.0143 0.0054

Uranus -23765-06-20 13:40 J -6958572.06 -6958571.93 -6958571.80 0.0143 0.0032

Jupiter -23765-09-13 21:21 J -6958486.67 -6958486.61 -6958486.55 0.0531 0.0469

Uranus -23765-09-16 17:31 J -6958483.91 -6958483.77 -6958483.64 0.0143 0.0009

Jupiter -23765-12-12 04:04 J -6958397.45 -6958397.33 -6958397.20 0.0529 0.0116

Uranus -23765-12-13 21:21 J -6958395.75 -6958395.61 -6958395.47 0.0143 0.0014

Uranus -23764-03-12 01:11 J -6958307.58 -6958307.45 -6958307.32 0.0143 0.0036

Uranus -23764-06-08 05:02 J -6958219.41 -6958219.29 -6958219.16 0.0143 0.0060

Uranus -23764-09-04 08:52 J -6958131.24 -6958131.13 -6958131.01 0.0143 0.0083

Uranus -23764-12-01 12:43 J -6958043.05 -6958042.97 -6958042.87 0.0143 0.0107

Uranus -23763-02-27 17:02 J -6957954.85 -6957954.79 -6957954.73 0.0144 0.0130

Mars -23763-05-23 04:33 J -6957870.42 -6957870.31 -6957870.20 0.1665 0.0507

Venus -23763-05-23 22:04 J -6957869.66 -6957869.58 -6957869.50 0.3765 0.2097

Moon -23762-12-29 00:14 J -6957285.57 -6957285.49 -6957285.42 0.2637 0.2266

Earth -23762-12-29 01:26 J -6957285.52 -6957285.44 -6957285.36 0.2640 0.2201 *

Mars -23761-04-27 09:50 J -6957165.14 -6957165.09 -6957165.05 0.1680 0.1541

Saturn -23760-08-31 11:45 J -6956674.09 -6956674.01 -6956673.92 0.0290 0.0253

Saturn -23760-11-28 11:31 J -6956585.19 -6956585.02 -6956584.84 0.0291 0.0057

Saturn -23759-02-25 11:02 J -6956496.20 -6956496.04 -6956495.88 0.0292 0.0138

Moon -23759-07-01 15:35 J -6956369.96 -6956369.85 -6956369.74 0.2687 0.1025

Earth -23759-07-01 16:19 J -6956369.93 -6956369.82 -6956369.71 0.2689 0.1032 *

Jupiter -23758-02-08 20:38 J -6956147.82 -6956147.64 -6956147.47 0.0498 0.0097

Mars -23754-10-13 15:21 J -6954439.95 -6954439.86 -6954439.76 0.1662 0.0982

Venus -23754-12-03 18:43 J -6954388.87 -6954388.72 -6954388.57 0.3610 0.0996

Jupiter -23753-09-30 07:40 J -6954087.31 -6954087.18 -6954087.05 0.0529 0.0039

Earth -23752-06-24 11:59 J -6953820.07 -6953820.00 -6953819.92 0.2694 0.2021

Moon -23752-06-24 12:43 J -6953820.04 -6953819.97 -6953819.89 0.2690 0.1961 *

Mars -23752-09-17 20:09 J -6953734.75 -6953734.66 -6953734.56 0.1676 0.1030

Mars -23751-07-28 23:16 J -6953420.67 -6953420.53 -6953420.39 0.1846 0.0924

Pluto -23751-12-13 01:11 J -6953283.47 -6953283.45 -6953283.40 0.0071 0.0069

Pluto -23750-03-11 02:23 J -6953195.45 -6953195.40 -6953195.30 0.0071 0.0062

Pluto -23750-06-07 04:19 J -6953107.42 -6953107.32 -6953107.22 0.0071 0.0054

Pluto -23750-09-03 05:16 J -6953019.38 -6953019.28 -6953019.14 0.0071 0.0048

Pluto -23750-11-30 06:57 J -6952931.34 -6952931.21 -6952931.07 0.0071 0.0040

Pluto -23749-02-26 08:09 J -6952843.29 -6952843.16 -6952843.00 0.0071 0.0033

Pluto -23749-05-24 09:50 J -6952755.24 -6952755.09 -6952754.94 0.0071 0.0025

Pluto -23749-08-20 11:02 J -6952667.19 -6952667.04 -6952666.87 0.0072 0.0018

Pluto -23749-11-16 12:28 J -6952579.13 -6952578.98 -6952578.81 0.0072 0.0010

Moon -23749-12-31 03:21 J -6952534.50 -6952534.36 -6952534.22 0.2642 0.0717

Earth -23749-12-31 04:33 J -6952534.45 -6952534.31 -6952534.16 0.2641 0.0505 *

Pluto -23748-02-12 14:09 J -6952491.07 -6952490.91 -6952490.75 0.0072 0.0002

Pluto -23748-05-11 15:35 J -6952403.01 -6952402.85 -6952402.69 0.0072 0.0006

Pluto -23748-08-07 17:02 J -6952314.95 -6952314.79 -6952314.63 0.0072 0.0014

Pluto -23748-11-03 18:28 J -6952226.88 -6952226.73 -6952226.57 0.0072 0.0022

Pluto -23747-01-30 19:40 J -6952138.81 -6952138.68 -6952138.52 0.0072 0.0031

Pluto -23747-04-28 21:21 J -6952050.74 -6952050.61 -6952050.46 0.0072 0.0038

Pluto -23747-07-25 22:47 J -6951962.66 -6951962.55 -6951962.41 0.0073 0.0047

Pluto -23747-10-22 00:14 J -6951874.58 -6951874.49 -6951874.37 0.0073 0.0055

Jupiter -23747-11-27 18:43 J -6951837.90 -6951837.72 -6951837.54 0.0498 0.0074

Pluto -23746-01-18 01:55 J -6951786.49 -6951786.42 -6951786.33 0.0073 0.0063

Saturn -23746-04-03 06:43 J -6951711.29 -6951711.22 -6951711.14 0.0272 0.0220

Pluto -23746-04-16 03:07 J -6951698.37 -6951698.37 -6951698.32 0.0073 0.0072

Saturn -23746-06-30 17:16 J -6951622.90 -6951622.78 -6951622.65 0.0271 0.0108

Moon -23746-07-04 11:02 J -6951619.12 -6951619.04 -6951618.97 0.2689 0.2024

Earth -23746-07-04 11:45 J -6951619.08 -6951619.01 -6951618.94 0.2688 0.2160 *

Saturn -23746-09-27 04:04 J -6951534.47 -6951534.33 -6951534.20 0.0270 0.0006

Saturn -23746-12-24 14:52 J -6951446.00 -6951445.88 -6951445.76 0.0269 0.0119

Saturn -23745-03-22 01:40 J -6951357.50 -6951357.43 -6951357.37 0.0269 0.0233

Mars -23744-03-05 02:23 J -6951009.45 -6951009.40 -6951009.34 0.1659 0.1446

Mars -23742-02-08 06:43 J -6950304.33 -6950304.22 -6950304.10 0.1672 0.0528

Mars -23742-12-18 18:57 J -6949990.87 -6949990.71 -6949990.55 0.1852 0.0311

Jupiter -23741-07-19 11:31 J -6949777.14 -6949777.02 -6949776.90 0.0529 0.0184

Jupiter -23741-10-16 18:28 J -6949687.81 -6949687.73 -6949687.64 0.0527 0.0401

Moon -23739-06-27 07:11 J -6949069.31 -6949069.20 -6949069.09 0.2686 0.0949

Earth -23739-06-27 06:57 J -6949069.31 -6949069.21 -6949069.10 0.2693 0.0956 *

Moon -23735-01-03 06:28 J -6947783.35 -6947783.23 -6947783.10 0.2649 0.1173

Earth -23735-01-03 07:26 J -6947783.32 -6947783.19 -6947783.06 0.2643 0.1148 *

Jupiter -23735-09-15 16:19 J -6947527.97 -6947527.82 -6947527.66 0.0497 0.0252

Jupiter -23735-12-14 23:31 J -6947437.59 -6947437.52 -6947437.45 0.0499 0.0455

Neptune -23734-11-28 03:50 J -6947089.37 -6947089.34 -6947089.28 0.0088 0.0085

Neptune -23733-02-24 07:26 J -6947001.28 -6947001.19 -6947001.08 0.0088 0.0075

Neptune -23733-05-22 10:33 J -6946913.16 -6946913.06 -6946912.91 0.0088 0.0067

Mars -23733-06-30 17:31 J -6946873.88 -6946873.77 -6946873.65 0.1669 0.0074

Neptune -23733-08-18 14:09 J -6946825.04 -6946824.91 -6946824.74 0.0088 0.0057

Neptune -23733-11-14 17:59 J -6946736.91 -6946736.75 -6946736.58 0.0088 0.0046

Neptune -23732-02-10 21:35 J -6946648.78 -6946648.60 -6946648.43 0.0088 0.0037

Mars -23732-05-09 14:09 J -6946560.99 -6946560.91 -6946560.82 0.1856 0.1587

Neptune -23732-05-10 00:43 J -6946560.64 -6946560.47 -6946560.28 0.0088 0.0027

Neptune -23732-08-06 04:19 J -6946472.50 -6946472.32 -6946472.13 0.0088 0.0017

Neptune -23732-11-02 07:40 J -6946384.36 -6946384.18 -6946383.98 0.0088 0.0008

Neptune -23731-01-29 11:16 J -6946296.22 -6946296.03 -6946295.84 0.0088 0.0002

Neptune -23731-04-27 14:38 J -6946208.08 -6946207.89 -6946207.70 0.0088 0.0012

Neptune -23731-07-24 17:59 J -6946119.93 -6946119.75 -6946119.56 0.0088 0.0021

Neptune -23731-10-20 21:07 J -6946031.78 -6946031.62 -6946031.43 0.0088 0.0031

Neptune -23730-01-17 00:43 J -6945943.63 -6945943.47 -6945943.30 0.0088 0.0040

Neptune -23730-04-15 03:50 J -6945855.48 -6945855.34 -6945855.17 0.0088 0.0050

Saturn -23730-04-17 10:04 J -6945853.25 -6945853.08 -6945852.91 0.0291 0.0114

Neptune -23730-07-12 07:11 J -6945767.33 -6945767.20 -6945767.05 0.0088 0.0059

Saturn -23730-07-15 09:35 J -6945764.27 -6945764.10 -6945763.92 0.0292 0.0082

Neptune -23730-10-08 10:47 J -6945679.16 -6945679.05 -6945678.93 0.0088 0.0068

Saturn -23730-10-12 08:52 J -6945675.19 -6945675.13 -6945675.07 0.0292 0.0276

Neptune -23729-01-04 13:40 J -6945590.99 -6945590.93 -6945590.82 0.0088 0.0078

Neptune -23729-04-01 17:16 J -6945502.79 -6945502.78 -6945502.74 0.0088 0.0087

Jupiter -23729-05-07 15:35 J -6945466.95 -6945466.85 -6945466.75 0.0530 0.0329

Jupiter -23729-08-04 22:33 J -6945377.68 -6945377.56 -6945377.45 0.0528 0.0256

Uranus -23726-02-22 09:35 J -6944446.15 -6944446.10 -6944446.05 0.0136 0.0131

Uranus -23726-05-21 16:33 J -6944357.93 -6944357.81 -6944357.69 0.0136 0.0104

Moon -23726-06-30 01:40 J -6944318.54 -6944318.43 -6944318.31 0.2684 0.0188

Earth -23726-06-30 02:09 J -6944318.53 -6944318.41 -6944318.30 0.2691 0.0141 *

Uranus -23726-08-17 23:02 J -6944269.68 -6944269.54 -6944269.37 0.0136 0.0077

Uranus -23726-11-14 05:59 J -6944181.42 -6944181.25 -6944181.07 0.0136 0.0050

Uranus -23725-02-10 12:43 J -6944093.15 -6944092.97 -6944092.78 0.0136 0.0024

Uranus -23725-05-08 19:26 J -6944004.87 -6944004.69 -6944004.50 0.0136 0.0003

Uranus -23725-08-05 02:09 J -6943916.59 -6943916.41 -6943916.23 0.0136 0.0029

Uranus -23725-11-01 08:38 J -6943828.31 -6943828.14 -6943827.97 0.0135 0.0054

Uranus -23724-01-28 14:52 J -6943740.02 -6943739.88 -6943739.72 0.0135 0.0080

Uranus -23724-04-26 21:21 J -6943651.71 -6943651.61 -6943651.49 0.0135 0.0105

Uranus -23724-07-24 03:50 J -6943563.38 -6943563.34 -6943563.29 0.0135 0.0130

Mars -23724-11-21 04:33 J -6943443.42 -6943443.31 -6943443.20 0.1665 0.0446

Jupiter -23723-07-04 13:55 J -6943218.00 -6943217.92 -6943217.82 0.0497 0.0428

Jupiter -23723-10-02 21:21 J -6943127.75 -6943127.61 -6943127.46 0.0499 0.0283

Mars -23722-10-27 09:35 J -6942738.13 -6942738.10 -6942738.06 0.1681 0.1605

Venus -23718-11-29 11:31 J -6941244.11 -6941244.02 -6941243.93 0.3763 0.1657

Jupiter -23717-02-24 19:55 J -6941156.73 -6941156.67 -6941156.61 0.0531 0.0467

Jupiter -23717-05-24 02:38 J -6941067.51 -6941067.39 -6941067.26 0.0529 0.0119

Saturn -23717-08-20 08:52 J -6940979.17 -6940979.13 -6940979.09 0.0271 0.0256

Saturn -23717-11-16 19:26 J -6940890.80 -6940890.69 -6940890.58 0.0270 0.0144

Saturn -23716-02-13 05:59 J -6940802.38 -6940802.25 -6940802.11 0.0270 0.0031

Saturn -23716-05-12 16:47 J -6940713.93 -6940713.80 -6940713.67 0.0269 0.0082

Saturn -23716-08-09 03:21 J -6940625.45 -6940625.36 -6940625.26 0.0268 0.0195

Moon -23716-12-29 06:14 J -6940483.33 -6940483.24 -6940483.15 0.2638 0.2043

Earth -23716-12-29 07:40 J -6940483.28 -6940483.18 -6940483.08 0.2640 0.1880 *

Mars -23714-04-13 15:21 J -6940012.95 -6940012.86 -6940012.76 0.1662 0.0920

Moon -23713-07-01 20:38 J -6939567.75 -6939567.64 -6939567.54 0.2688 0.1104

Earth -23713-07-01 21:21 J -6939567.71 -6939567.61 -6939567.51 0.2689 0.1252 *

Mars -23712-03-18 20:09 J -6939307.74 -6939307.66 -6939307.57 0.1676 0.1095

Venus -23712-06-14 03:35 J -6939220.46 -6939220.35 -6939220.25 0.3764 0.0647

Mars -23711-01-27 00:14 J -6938993.63 -6938993.49 -6938993.36 0.1846 0.1052

Jupiter -23711-07-21 19:11 J -6938817.88 -6938817.70 -6938817.52 0.0498 0.0106

Venus -23707-12-28 19:40 J -6937196.74 -6937196.68 -6937196.62 0.3765 0.2952

Earth -23706-06-25 17:02 J -6937017.87 -6937017.79 -6937017.71 0.2694 0.1818

Moon -23706-06-25 17:45 J -6937017.85 -6937017.76 -6937017.67 0.2691 0.1723 *

Jupiter -23705-03-12 07:11 J -6936757.33 -6936757.20 -6936757.07 0.0529 0.0024

Mars -23705-09-03 02:23 J -6936582.46 -6936582.40 -6936582.33 0.1658 0.1384

Mars -23703-08-09 06:57 J -6935877.32 -6935877.21 -6935877.10 0.1672 0.0593

Venus -23703-12-24 13:26 J -6935740.03 -6935739.94 -6935739.85 0.3611 0.2865

Moon -23702-01-01 09:21 J -6935732.25 -6935732.11 -6935731.96 0.2644 0.0232

Earth -23702-01-01 10:47 J -6935732.20 -6935732.05 -6935731.91 0.2642 0.0196 *

Mars -23702-06-18 19:40 J -6935563.84 -6935563.68 -6935563.52 0.1851 0.0192

Saturn -23701-09-03 05:02 J -6935121.42 -6935121.29 -6935121.15 0.0290 0.0196

Saturn -23701-12-01 04:47 J -6935032.48 -6935032.30 -6935032.12 0.0291 0.0005

Saturn -23700-02-28 04:04 J -6934943.46 -6934943.33 -6934943.19 0.0292 0.0195

Moon -23700-07-04 16:04 J -6934816.88 -6934816.83 -6934816.78 0.2689 0.2368

Earth -23700-07-04 16:47 J -6934816.85 -6934816.80 -6934816.75 0.2687 0.2381 *

Jupiter -23699-05-09 17:31 J -6934507.95 -6934507.77 -6934507.59 0.0498 0.0063

Venus -23697-07-09 20:09 J -6933715.74 -6933715.66 -6933715.57 0.3610 0.2977

Jupiter -23694-12-30 10:47 J -6932447.17 -6932447.05 -6932446.93 0.0529 0.0172

Mars -23694-12-30 17:31 J -6932446.88 -6932446.77 -6932446.65 0.1669 0.0115

Jupiter -23693-03-28 17:45 J -6932357.84 -6932357.76 -6932357.68 0.0527 0.0413

Moon -23693-06-27 11:59 J -6932267.11 -6932267.00 -6932266.88 0.2685 0.0743

Earth -23693-06-27 11:59 J -6932267.11 -6932267.00 -6932266.89 0.2692 0.0743 *

Mars -23693-11-07 14:38 J -6932133.99 -6932133.89 -6932133.80 0.1857 0.1486

Moon -23689-01-04 12:43 J -6930981.10 -6930980.97 -6930980.85 0.2649 0.1297

Earth -23689-01-04 13:26 J -6930981.06 -6930980.94 -6930980.82 0.2643 0.1451 *

Jupiter -23687-02-25 15:35 J -6930198.01 -6930197.85 -6930197.69 0.0498 0.0235

Saturn -23687-04-05 21:35 J -6930158.70 -6930158.60 -6930158.50 0.0272 0.0182

Jupiter -23687-05-26 22:33 J -6930107.61 -6930107.56 -6930107.50 0.0500 0.0474

Saturn -23687-07-03 08:09 J -6930070.29 -6930070.16 -6930070.03 0.0271 0.0069

Saturn -23687-09-29 18:57 J -6929981.85 -6929981.71 -6929981.58 0.0270 0.0045

Saturn -23687-12-27 05:31 J -6929893.37 -6929893.27 -6929893.16 0.0269 0.0159

Mars -23684-05-22 04:33 J -6929016.43 -6929016.31 -6929016.20 0.1665 0.0392

Uranus -23682-04-27 02:38 J -6928311.43 -6928311.39 -6928311.34 0.0142 0.0134

Mars -23682-04-27 09:50 J -6928311.10 -6928311.09 -6928311.08 0.1680 0.1669

Uranus -23682-07-24 06:14 J -6928223.31 -6928223.24 -6928223.15 0.0142 0.0113

Jupiter -23682-10-18 14:38 J -6928136.99 -6928136.89 -6928136.79 0.0530 0.0317

Uranus -23682-10-20 10:04 J -6928135.18 -6928135.08 -6928134.97 0.0142 0.0091

Jupiter -23681-01-15 21:35 J -6928047.72 -6928047.60 -6928047.49 0.0527 0.0267

Uranus -23681-01-16 13:40 J -6928047.04 -6928046.93 -6928046.80 0.0143 0.0069

Uranus -23681-04-13 17:31 J -6927958.89 -6927958.77 -6927958.64 0.0143 0.0047

Uranus -23681-07-10 21:21 J -6927870.74 -6927870.61 -6927870.47 0.0143 0.0024

Uranus -23681-10-07 01:11 J -6927782.59 -6927782.45 -6927782.31 0.0143 0.0002

Uranus -23680-01-03 05:02 J -6927694.42 -6927694.29 -6927694.15 0.0143 0.0022

Uranus -23680-04-01 08:52 J -6927606.26 -6927606.13 -6927606.00 0.0143 0.0045

Uranus -23680-06-28 12:43 J -6927518.08 -6927517.97 -6927517.84 0.0143 0.0068

Moon -23680-06-30 06:43 J -6927516.34 -6927516.22 -6927516.10 0.2685 0.0273

Earth -23680-06-30 07:11 J -6927516.32 -6927516.20 -6927516.09 0.2691 0.0353 *

Uranus -23680-09-24 16:33 J -6927429.90 -6927429.81 -6927429.69 0.0143 0.0092

Uranus -23680-12-21 20:38 J -6927341.72 -6927341.64 -6927341.55 0.0144 0.0115

Uranus -23679-03-20 00:28 J -6927253.50 -6927253.48 -6927253.43 0.0144 0.0139

Jupiter -23676-12-14 13:11 J -6925888.05 -6925887.95 -6925887.85 0.0497 0.0413

Jupiter -23675-03-14 20:38 J -6925797.78 -6925797.64 -6925797.50 0.0499 0.0298

Mars -23675-10-12 15:21 J -6925585.96 -6925585.86 -6925585.76 0.1662 0.0859

Earth -23673-06-23 03:07 J -6924966.38 -6924966.37 -6924966.36 0.2695 0.2669

Moon -23673-06-23 03:50 J -6924966.37 -6924966.34 -6924966.30 0.2695 0.2523 *

Mars -23673-09-16 20:09 J -6924880.74 -6924880.66 -6924880.58 0.1676 0.1152

Mars -23672-07-28 00:57 J -6924566.59 -6924566.46 -6924566.34 0.1846 0.1173

Saturn -23671-01-21 03:50 J -6924389.42 -6924389.34 -6924389.24 0.0290 0.0250

Saturn -23671-04-20 03:50 J -6924300.52 -6924300.34 -6924300.16 0.0291 0.0053

Saturn -23671-07-18 03:07 J -6924211.52 -6924211.37 -6924211.21 0.0292 0.0142

Jupiter -23670-08-06 18:28 J -6923826.78 -6923826.73 -6923826.67 0.0531 0.0464

Jupiter -23670-11-04 01:26 J -6923737.57 -6923737.44 -6923737.32 0.0528 0.0121

Moon -23670-12-30 12:28 J -6923681.10 -6923680.98 -6923680.87 0.2638 0.1658

Earth -23670-12-30 13:55 J -6923681.04 -6923680.92 -6923680.81 0.2640 0.1561 *

Moon -23667-07-03 01:40 J -6922765.53 -6922765.43 -6922765.34 0.2688 0.1444

Earth -23667-07-03 02:23 J -6922765.50 -6922765.40 -6922765.30 0.2689 0.1466 *

Venus -23667-12-20 17:02 J -6922594.85 -6922594.79 -6922594.73 0.3762 0.3061

Pluto -23666-11-17 12:14 J -6922263.05 -6922262.99 -6922262.92 0.0074 0.0067

Pluto -23665-02-13 13:40 J -6922175.02 -6922174.93 -6922174.84 0.0074 0.0059

Mars -23665-03-04 02:23 J -6922155.47 -6922155.40 -6922155.33 0.1659 0.1323

Pluto -23665-05-11 14:52 J -6922086.98 -6922086.88 -6922086.76 0.0074 0.0051

Pluto -23665-08-07 16:19 J -6921998.94 -6921998.82 -6921998.69 0.0073 0.0043

Pluto -23665-11-03 17:45 J -6921910.90 -6921910.76 -6921910.62 0.0073 0.0035

Pluto -23664-01-30 18:43 J -6921822.85 -6921822.72 -6921822.56 0.0073 0.0028

Pluto -23664-04-28 20:09 J -6921734.80 -6921734.66 -6921734.50 0.0073 0.0019

Pluto -23664-07-25 21:35 J -6921646.75 -6921646.60 -6921646.45 0.0073 0.0011

Pluto -23664-10-21 22:47 J -6921558.70 -6921558.55 -6921558.39 0.0073 0.0004

Jupiter -23664-12-31 18:28 J -6921487.91 -6921487.73 -6921487.56 0.0498 0.0123

Pluto -23663-01-18 00:14 J -6921470.64 -6921470.49 -6921470.34 0.0073 0.0004

Mars -23663-02-07 06:57 J -6921450.32 -6921450.21 -6921450.11 0.1672 0.0656

Pluto -23663-04-16 01:26 J -6921382.59 -6921382.44 -6921382.29 0.0073 0.0012

Pluto -23663-07-13 02:38 J -6921294.53 -6921294.39 -6921294.24 0.0072 0.0019

Pluto -23663-10-09 03:35 J -6921206.48 -6921206.35 -6921206.19 0.0072 0.0028

Mars -23663-12-17 20:23 J -6921136.82 -6921136.65 -6921136.49 0.1852 0.0075

Pluto -23662-01-05 05:02 J -6921118.42 -6921118.29 -6921118.15 0.0072 0.0034

Pluto -23662-04-03 06:14 J -6921030.36 -6921030.24 -6921030.11 0.0072 0.0042

Pluto -23662-06-30 07:11 J -6920942.29 -6920942.20 -6920942.07 0.0072 0.0049

Pluto -23662-09-26 08:23 J -6920854.23 -6920854.15 -6920854.04 0.0072 0.0056

Pluto -23662-12-23 09:50 J -6920766.16 -6920766.09 -6920766.01 0.0072 0.0063

Pluto -23661-03-20 11:02 J -6920678.06 -6920678.04 -6920678.01 0.0072 0.0070

Venus -23661-07-05 08:52 J -6920571.23 -6920571.13 -6920571.03 0.3763 0.0828

Earth -23660-06-25 22:04 J -6920215.67 -6920215.58 -6920215.49 0.2694 0.1614

Moon -23660-06-25 22:33 J -6920215.65 -6920215.56 -6920215.47 0.2690 0.1593 *

Jupiter -23658-08-23 05:31 J -6919427.40 -6919427.27 -6919427.14 0.0529 0.0024

Saturn -23658-08-23 23:45 J -6919426.58 -6919426.51 -6919426.43 0.0271 0.0216

Saturn -23658-11-20 10:33 J -6919338.19 -6919338.06 -6919337.94 0.0270 0.0102

Saturn -23657-02-16 21:07 J -6919249.75 -6919249.62 -6919249.48 0.0270 0.0011

Saturn -23657-05-15 07:55 J -6919161.29 -6919161.17 -6919161.05 0.0269 0.0124

Saturn -23657-08-11 18:43 J -6919072.78 -6919072.72 -6919072.66 0.0268 0.0238

Moon -23656-01-01 15:35 J -6918929.99 -6918929.85 -6918929.70 0.2646 0.0040

Earth -23656-01-01 16:47 J -6918929.95 -6918929.80 -6918929.65 0.2642 0.0124 *

Venus -23655-01-19 00:57 J -6918547.55 -6918547.46 -6918547.36 0.3764 0.1484

Mars -23654-06-30 17:31 J -6918019.88 -6918019.77 -6918019.65 0.1669 0.0171

Moon -23654-07-05 21:21 J -6918014.66 -6918014.61 -6918014.57 0.2691 0.2480

Earth -23654-07-05 21:50 J -6918014.61 -6918014.59 -6918014.56 0.2687 0.2607 *

Mars -23653-05-08 15:35 J -6917706.96 -6917706.85 -6917706.74 0.1856 0.1348

Neptune -23653-12-08 03:35 J -6917493.36 -6917493.35 -6917493.33 0.0089 0.0089

Neptune -23652-03-06 05:02 J -6917405.34 -6917405.29 -6917405.24 0.0089 0.0082

Neptune -23652-06-02 06:14 J -6917317.30 -6917317.24 -6917317.16 0.0089 0.0075

Neptune -23652-08-29 07:26 J -6917229.26 -6917229.19 -6917229.09 0.0089 0.0069

Jupiter -23652-10-19 16:04 J -6917178.01 -6917177.83 -6917177.65 0.0498 0.0055

Neptune -23652-11-25 08:52 J -6917141.21 -6917141.13 -6917141.02 0.0089 0.0062

Neptune -23651-02-21 10:19 J -6917053.17 -6917053.07 -6917052.96 0.0089 0.0054

Neptune -23651-05-20 11:45 J -6916965.12 -6916965.01 -6916964.89 0.0089 0.0047

Neptune -23651-08-16 13:11 J -6916877.07 -6916876.95 -6916876.83 0.0089 0.0040

Neptune -23651-11-12 14:38 J -6916789.02 -6916788.89 -6916788.77 0.0089 0.0034

Neptune -23650-02-08 15:50 J -6916700.96 -6916700.84 -6916700.71 0.0089 0.0027

Neptune -23650-05-07 17:16 J -6916612.91 -6916612.78 -6916612.65 0.0089 0.0020

Neptune -23650-08-03 18:43 J -6916524.85 -6916524.72 -6916524.59 0.0089 0.0013

Neptune -23650-10-30 20:09 J -6916436.80 -6916436.66 -6916436.53 0.0089 0.0006

Neptune -23649-01-26 21:21 J -6916348.74 -6916348.61 -6916348.47 0.0089 0.0003

Neptune -23649-04-23 22:47 J -6916260.68 -6916260.55 -6916260.42 0.0089 0.0008

Neptune -23649-07-21 00:14 J -6916172.62 -6916172.49 -6916172.36 0.0089 0.0015

Neptune -23649-10-17 01:40 J -6916084.56 -6916084.43 -6916084.30 0.0089 0.0022

Neptune -23648-01-13 02:52 J -6915996.50 -6915996.38 -6915996.25 0.0089 0.0029

Neptune -23648-04-11 04:19 J -6915908.44 -6915908.32 -6915908.19 0.0089 0.0036

Neptune -23648-07-08 05:45 J -6915820.38 -6915820.26 -6915820.14 0.0089 0.0043

Neptune -23648-10-04 07:11 J -6915732.31 -6915732.20 -6915732.09 0.0089 0.0050

Neptune -23648-12-31 08:38 J -6915644.24 -6915644.14 -6915644.04 0.0089 0.0058

Neptune -23647-03-29 10:04 J -6915556.17 -6915556.08 -6915555.99 0.0089 0.0065

Neptune -23647-06-25 11:02 J -6915468.10 -6915468.04 -6915467.94 0.0089 0.0073

Moon -23647-06-28 17:02 J -6915464.90 -6915464.79 -6915464.68 0.2685 0.0514

Earth -23647-06-28 17:02 J -6915464.90 -6915464.79 -6915464.68 0.2692 0.0537 *

Neptune -23647-09-21 12:28 J -6915380.02 -6915379.98 -6915379.90 0.0089 0.0079

Neptune -23647-12-18 13:55 J -6915291.94 -6915291.92 -6915291.87 0.0089 0.0086

Jupiter -23646-06-11 09:50 J -6915117.21 -6915117.09 -6915116.96 0.0530 0.0159

Venus -23646-07-31 14:52 J -6915067.03 -6915066.88 -6915066.73 0.3611 0.0838

Jupiter -23646-09-08 17:02 J -6915027.87 -6915027.79 -6915027.72 0.0527 0.0428

Mars -23645-11-20 04:33 J -6914589.43 -6914589.31 -6914589.20 0.1665 0.0327

Moon -23643-01-04 18:43 J -6914178.82 -6914178.72 -6914178.61 0.2649 0.1793

Earth -23643-01-04 19:26 J -6914178.80 -6914178.69 -6914178.58 0.2644 0.1755 *

Uranus -23642-03-14 17:45 J -6913744.83 -6913744.76 -6913744.65 0.0136 0.0120

Uranus -23642-06-11 00:43 J -6913656.59 -6913656.47 -6913656.32 0.0136 0.0092

Saturn -23642-09-06 23:31 J -6913568.69 -6913568.52 -6913568.36 0.0290 0.0131

Uranus -23642-09-07 07:40 J -6913568.34 -6913568.18 -6913568.01 0.0136 0.0065

Uranus -23642-12-04 14:23 J -6913480.07 -6913479.90 -6913479.72 0.0136 0.0039

Saturn -23642-12-04 23:02 J -6913479.72 -6913479.54 -6913479.36 0.0291 0.0064 *

Uranus -23641-03-01 21:07 J -6913391.80 -6913391.62 -6913391.43 0.0136 0.0013

Saturn -23641-03-02 22:04 J -6913390.65 -6913390.58 -6913390.49 0.0292 0.0258

Uranus -23641-05-29 03:50 J -6913303.52 -6913303.34 -6913303.15 0.0136 0.0014

Uranus -23641-08-25 10:19 J -6913215.24 -6913215.07 -6913214.89 0.0135 0.0041

Uranus -23641-11-21 17:02 J -6913126.95 -6913126.79 -6913126.63 0.0135 0.0066

Uranus -23640-02-17 23:16 J -6913038.65 -6913038.53 -6913038.39 0.0135 0.0091

Uranus -23640-05-17 05:45 J -6912950.34 -6912950.26 -6912950.16 0.0135 0.0116

Jupiter -23640-08-07 14:09 J -6912868.07 -6912867.91 -6912867.74 0.0497 0.0225

Jupiter -23640-11-05 21:07 J -6912777.65 -6912777.62 -6912777.57 0.0499 0.0483

Mars -23635-04-12 15:21 J -6911158.96 -6911158.86 -6911158.76 0.1662 0.0797

Jupiter -23634-03-30 13:40 J -6910807.03 -6910806.93 -6910806.82 0.0530 0.0306

Jupiter -23634-06-27 20:23 J -6910717.75 -6910717.65 -6910717.54 0.0527 0.0277

Moon -23634-07-01 11:31 J -6910714.13 -6910714.02 -6910713.90 0.2686 0.0516

Earth -23634-07-01 12:14 J -6910714.11 -6910713.99 -6910713.88 0.2691 0.0568 *

Mars -23633-03-17 20:09 J -6910453.74 -6910453.66 -6910453.58 0.1676 0.1218

Mars -23632-01-26 01:26 J -6910139.56 -6910139.44 -6910139.33 0.1846 0.1276

Saturn -23628-01-10 01:55 J -6908694.46 -6908694.42 -6908694.37 0.0272 0.0254

Saturn -23628-04-08 12:28 J -6908606.09 -6908605.98 -6908605.86 0.0272 0.0141

Jupiter -23628-05-26 11:45 J -6908558.11 -6908558.01 -6908557.90 0.0497 0.0402

Saturn -23628-07-05 23:16 J -6908517.66 -6908517.53 -6908517.40 0.0271 0.0027

Jupiter -23628-08-24 19:26 J -6908467.83 -6908467.69 -6908467.55 0.0499 0.0311

Saturn -23628-10-02 10:04 J -6908429.21 -6908429.08 -6908428.95 0.0270 0.0088

Saturn -23628-12-29 20:52 J -6908340.72 -6908340.63 -6908340.54 0.0269 0.0202

Earth -23627-06-24 08:09 J -6908164.20 -6908164.16 -6908164.12 0.2695 0.2467

Moon -23627-06-24 08:52 J -6908164.17 -6908164.13 -6908164.08 0.2695 0.2458 *

Mars -23626-09-03 02:23 J -6907728.47 -6907728.40 -6907728.33 0.1659 0.1264

Mars -23624-08-08 06:43 J -6907023.32 -6907023.22 -6907023.11 0.1672 0.0715

Moon -23624-12-30 18:43 J -6906878.85 -6906878.72 -6906878.60 0.2639 0.1353

Earth -23624-12-30 19:55 J -6906878.80 -6906878.67 -6906878.54 0.2640 0.1238 *

Mars -23623-06-17 21:07 J -6906709.78 -6906709.62 -6906709.45 0.1852 0.0059

Jupiter -23622-01-16 17:31 J -6906496.83 -6906496.77 -6906496.70 0.0530 0.0452

Jupiter -23622-04-16 00:14 J -6906407.61 -6906407.49 -6906407.36 0.0528 0.0130

Moon -23621-07-03 06:43 J -6905963.32 -6905963.22 -6905963.13 0.2688 0.1547

Earth -23621-07-03 07:26 J -6905963.28 -6905963.19 -6905963.10 0.2689 0.1688 *

Jupiter -23616-06-12 17:16 J -6904157.96 -6904157.78 -6904157.61 0.0498 0.0134

Mars -23615-12-29 17:31 J -6903592.88 -6903592.77 -6903592.65 0.1669 0.0225

Earth -23614-06-27 03:07 J -6903413.47 -6903413.37 -6903413.28 0.2694 0.1409

Moon -23614-06-27 03:21 J -6903413.46 -6903413.36 -6903413.26 0.2688 0.1304 *

Mars -23614-11-07 16:19 J -6903279.94 -6903279.82 -6903279.70 0.1856 0.1226

Saturn -23612-01-23 22:47 J -6902836.69 -6902836.55 -6902836.40 0.0290 0.0179

Saturn -23612-04-22 22:33 J -6902747.74 -6902747.56 -6902747.38 0.0291 0.0017

Saturn -23612-07-20 21:50 J -6902658.71 -6902658.59 -6902658.46 0.0292 0.0211

Moon -23610-01-02 21:35 J -6902127.74 -6902127.60 -6902127.45 0.2646 0.0386

Earth -23610-01-02 22:47 J -6902127.69 -6902127.55 -6902127.40 0.2642 0.0445 *

Jupiter -23610-02-02 04:04 J -6902097.46 -6902097.33 -6902097.20 0.0529 0.0020

Venus -23610-07-27 14:23 J -6901921.98 -6901921.90 -6901921.81 0.3762 0.2245

Mars -23605-05-21 04:19 J -6900162.43 -6900162.32 -6900162.20 0.1665 0.0268

Venus -23604-02-09 06:28 J -6899898.33 -6899898.23 -6899898.13 0.3763 0.0053

Jupiter -23604-03-31 14:52 J -6899848.06 -6899847.88 -6899847.69 0.0498 0.0044

Moon -23601-06-28 22:04 J -6898662.70 -6898662.58 -6898662.47 0.2685 0.0367

Earth -23601-06-28 22:04 J -6898662.70 -6898662.58 -6898662.47 0.2692 0.0330 *

Venus -23599-08-25 22:33 J -6897874.64 -6897874.56 -6897874.48 0.3764 0.2326

Saturn -23599-08-26 15:07 J -6897873.97 -6897873.87 -6897873.76 0.0271 0.0171

Jupiter -23599-11-21 08:23 J -6897787.28 -6897787.15 -6897787.03 0.0530 0.0162

Saturn -23599-11-23 01:55 J -6897785.55 -6897785.42 -6897785.29 0.0270 0.0057

Jupiter -23598-02-18 15:21 J -6897697.94 -6897697.86 -6897697.79 0.0527 0.0425

Saturn -23598-02-19 12:43 J -6897697.11 -6897696.97 -6897696.84 0.0270 0.0057

Uranus -23598-05-17 10:19 J -6897610.12 -6897610.07 -6897610.00 0.0142 0.0126

Saturn -23598-05-18 23:16 J -6897608.63 -6897608.53 -6897608.42 0.0269 0.0170

Uranus -23598-08-13 14:09 J -6897522.00 -6897521.91 -6897521.81 0.0142 0.0104

Uranus -23598-11-09 17:45 J -6897433.86 -6897433.76 -6897433.64 0.0142 0.0083

Moon -23597-01-06 00:57 J -6897376.55 -6897376.46 -6897376.36 0.2650 0.1969

Earth -23597-01-06 01:26 J -6897376.53 -6897376.44 -6897376.35 0.2644 0.2061 *

Uranus -23597-02-05 21:35 J -6897345.72 -6897345.60 -6897345.47 0.0143 0.0060

Uranus -23597-05-04 01:26 J -6897257.57 -6897257.44 -6897257.31 0.0143 0.0038

Uranus -23597-07-31 05:16 J -6897169.41 -6897169.28 -6897169.14 0.0143 0.0015

Uranus -23597-10-27 09:07 J -6897081.26 -6897081.12 -6897080.98 0.0143 0.0008

Uranus -23596-01-23 12:57 J -6896993.09 -6896992.96 -6896992.83 0.0143 0.0030

Uranus -23596-04-21 16:47 J -6896904.93 -6896904.80 -6896904.67 0.0143 0.0053

Uranus -23596-07-18 20:38 J -6896816.75 -6896816.64 -6896816.52 0.0143 0.0077

Mars -23596-10-11 15:21 J -6896731.96 -6896731.86 -6896731.76 0.1662 0.0736

Uranus -23596-10-15 00:28 J -6896728.57 -6896728.48 -6896728.37 0.0143 0.0101

Uranus -23595-01-11 04:33 J -6896640.37 -6896640.31 -6896640.24 0.0144 0.0124

Mars -23594-09-16 20:09 J -6896026.73 -6896026.66 -6896026.58 0.1676 0.1283

Mars -23593-07-27 02:09 J -6895712.52 -6895712.41 -6895712.31 0.1846 0.1396

Jupiter -23592-01-17 12:28 J -6895538.15 -6895537.98 -6895537.82 0.0497 0.0223

Jupiter -23592-04-17 19:26 J -6895447.73 -6895447.69 -6895447.65 0.0499 0.0484

Venus -23589-03-06 16:33 J -6894393.96 -6894393.81 -6894393.67 0.3611 0.1174

Moon -23588-07-01 16:33 J -6893911.92 -6893911.81 -6893911.70 0.2686 0.0722

Earth -23588-07-01 17:16 J -6893911.89 -6893911.78 -6893911.67 0.2690 0.0782 *

Jupiter -23587-09-09 12:43 J -6893477.08 -6893476.97 -6893476.87 0.0530 0.0299

Jupiter -23587-12-07 19:26 J -6893387.79 -6893387.69 -6893387.58 0.0528 0.0286

Mars -23586-03-04 02:23 J -6893301.48 -6893301.40 -6893301.32 0.1658 0.1200

Mars -23584-02-06 06:43 J -6892596.32 -6892596.22 -6892596.11 0.1672 0.0780

Mars -23584-12-16 21:50 J -6892282.76 -6892282.59 -6892282.43 0.1851 0.0167

Saturn -23583-06-12 18:57 J -6892104.79 -6892104.71 -6892104.62 0.0289 0.0253

Saturn -23583-09-09 18:43 J -6892015.89 -6892015.72 -6892015.54 0.0290 0.0058

Saturn -23583-12-07 18:14 J -6891926.90 -6891926.74 -6891926.58 0.0291 0.0138

Earth -23581-06-24 13:11 J -6891362.01 -6891361.95 -6891361.89 0.2695 0.2265

Moon -23581-06-24 13:55 J -6891361.99 -6891361.92 -6891361.85 0.2694 0.2121 *

Jupiter -23581-11-05 10:19 J -6891228.18 -6891228.07 -6891227.96 0.0497 0.0395

Jupiter -23580-02-03 17:45 J -6891137.90 -6891137.76 -6891137.62 0.0499 0.0316

Moon -23577-01-01 00:43 J -6890076.60 -6890076.47 -6890076.34 0.2641 0.1092

Earth -23577-01-01 02:09 J -6890076.55 -6890076.41 -6890076.28 0.2640 0.0925 *

Jupiter -23575-06-28 16:33 J -6889166.88 -6889166.81 -6889166.74 0.0530 0.0444

Mars -23575-06-29 17:31 J -6889165.88 -6889165.77 -6889165.65 0.1669 0.0286

Moon -23575-07-04 11:45 J -6889161.09 -6889161.01 -6889160.93 0.2689 0.1858

Earth -23575-07-04 12:28 J -6889161.06 -6889160.98 -6889160.90 0.2688 0.1904 *

Jupiter -23575-09-25 23:16 J -6889077.66 -6889077.53 -6889077.41 0.0528 0.0137

Mars -23574-05-08 16:47 J -6888852.93 -6888852.80 -6888852.67 0.1857 0.1116

Saturn -23569-01-13 17:31 J -6887141.86 -6887141.77 -6887141.69 0.0272 0.0208

Saturn -23569-04-11 04:04 J -6887053.45 -6887053.33 -6887053.20 0.0272 0.0094

Saturn -23569-07-08 14:52 J -6886965.02 -6886964.88 -6886964.75 0.0271 0.0020

Neptune -23569-08-24 00:57 J -6886918.50 -6886918.46 -6886918.39 0.0088 0.0084

Saturn -23569-10-05 01:26 J -6886876.55 -6886876.44 -6886876.32 0.0270 0.0136

Neptune -23569-11-20 04:33 J -6886830.40 -6886830.31 -6886830.20 0.0088 0.0074

Jupiter -23569-11-22 15:35 J -6886828.02 -6886827.85 -6886827.68 0.0499 0.0141

Saturn -23568-01-01 12:28 J -6886788.03 -6886787.98 -6886787.93 0.0269 0.0249

Neptune -23568-02-16 08:09 J -6886742.28 -6886742.16 -6886742.02 0.0088 0.0064

Neptune -23568-05-15 11:31 J -6886654.16 -6886654.02 -6886653.86 0.0088 0.0055

Earth -23568-06-27 07:55 J -6886611.27 -6886611.17 -6886611.06 0.2694 0.1203

Moon -23568-06-27 08:23 J -6886611.25 -6886611.15 -6886611.05 0.2687 0.1229 *

Neptune -23568-08-11 15:07 J -6886566.03 -6886565.87 -6886565.70 0.0088 0.0045

Neptune -23568-11-07 18:43 J -6886477.89 -6886477.72 -6886477.54 0.0088 0.0035

Neptune -23567-02-03 21:50 J -6886389.76 -6886389.59 -6886389.39 0.0088 0.0027

Neptune -23567-05-03 01:26 J -6886301.62 -6886301.44 -6886301.24 0.0088 0.0016

Neptune -23567-07-30 05:02 J -6886213.48 -6886213.29 -6886213.10 0.0088 0.0006

Neptune -23567-10-26 08:23 J -6886125.34 -6886125.15 -6886124.95 0.0088 0.0004

Neptune -23566-01-22 11:45 J -6886037.19 -6886037.01 -6886036.81 0.0088 0.0013

Neptune -23566-04-20 15:21 J -6885949.04 -6885948.86 -6885948.68 0.0088 0.0023

Neptune -23566-07-17 18:28 J -6885860.90 -6885860.73 -6885860.54 0.0088 0.0032

Neptune -23566-10-13 21:50 J -6885772.74 -6885772.59 -6885772.41 0.0088 0.0042

Mars -23566-11-20 04:19 J -6885735.44 -6885735.32 -6885735.20 0.1665 0.0203

Neptune -23565-01-10 01:11 J -6885684.59 -6885684.45 -6885684.28 0.0088 0.0051

Neptune -23565-04-07 04:47 J -6885596.43 -6885596.30 -6885596.16 0.0088 0.0061

Neptune -23565-07-04 07:55 J -6885508.27 -6885508.17 -6885508.04 0.0088 0.0070

Neptune -23565-09-30 11:16 J -6885420.10 -6885420.03 -6885419.94 0.0088 0.0080

Moon -23564-01-03 03:50 J -6885325.48 -6885325.34 -6885325.20 0.2646 0.0624

Earth -23564-01-03 05:02 J -6885325.43 -6885325.29 -6885325.15 0.2642 0.0753 *

Jupiter -23563-07-15 03:07 J -6884767.50 -6884767.37 -6884767.24 0.0528 0.0018

Venus -23559-08-17 20:09 J -6883272.68 -6883272.66 -6883272.64 0.3761 0.3640

Uranus -23558-01-05 19:40 J -6883131.70 -6883131.68 -6883131.65 0.0136 0.0134

Uranus -23558-04-04 02:23 J -6883043.50 -6883043.40 -6883043.28 0.0136 0.0107

Uranus -23558-07-01 09:21 J -6882955.25 -6882955.11 -6882954.95 0.0136 0.0080

Uranus -23558-09-27 16:04 J -6882866.99 -6882866.83 -6882866.65 0.0136 0.0054

Uranus -23558-12-24 23:02 J -6882778.72 -6882778.54 -6882778.36 0.0136 0.0027

Uranus -23557-03-22 05:45 J -6882690.44 -6882690.26 -6882690.08 0.0136 0.0001

Uranus -23557-06-18 12:14 J -6882602.16 -6882601.99 -6882601.80 0.0135 0.0026

Jupiter -23557-09-10 13:11 J -6882518.13 -6882517.95 -6882517.77 0.0498 0.0038

Uranus -23557-09-14 18:57 J -6882513.88 -6882513.71 -6882513.54 0.0135 0.0051

Uranus -23557-12-12 01:11 J -6882425.59 -6882425.45 -6882425.29 0.0135 0.0077

Uranus -23556-03-10 07:40 J -6882337.29 -6882337.18 -6882337.05 0.0135 0.0103

Mars -23556-04-11 15:21 J -6882304.97 -6882304.86 -6882304.75 0.1662 0.0673

Uranus -23556-06-06 14:09 J -6882248.96 -6882248.91 -6882248.84 0.0135 0.0127

Moon -23555-06-30 02:52 J -6881860.50 -6881860.38 -6881860.26 0.2686 0.0089

Earth -23555-06-30 03:07 J -6881860.49 -6881860.37 -6881860.26 0.2692 0.0138 *

Mars -23554-03-17 20:09 J -6881599.73 -6881599.66 -6881599.59 0.1676 0.1344

Mars -23553-01-26 03:07 J -6881285.46 -6881285.37 -6881285.28 0.1846 0.1527

Saturn -23553-01-27 18:57 J -6881283.88 -6881283.71 -6881283.54 0.0290 0.0099

Venus -23553-03-02 11:59 J -6881249.09 -6881249.00 -6881248.91 0.3762 0.1418

Saturn -23553-04-25 18:28 J -6881194.90 -6881194.73 -6881194.56 0.0291 0.0096

Saturn -23553-07-23 17:45 J -6881105.78 -6881105.76 -6881105.74 0.0292 0.0289

Moon -23551-01-06 07:26 J -6880574.25 -6880574.19 -6880574.14 0.2651 0.2427

Earth -23551-01-06 07:26 J -6880574.25 -6880574.19 -6880574.13 0.2644 0.2365 *

Jupiter -23551-05-03 06:43 J -6880457.34 -6880457.22 -6880457.10 0.0529 0.0162

Jupiter -23551-07-31 13:40 J -6880368.01 -6880367.93 -6880367.86 0.0527 0.0423

Venus -23548-09-16 04:04 J -6879225.43 -6879225.33 -6879225.23 0.3763 0.0862

Mars -23547-09-02 02:23 J -6878874.48 -6878874.40 -6878874.32 0.1658 0.1140

Jupiter -23545-06-29 10:47 J -6878208.21 -6878208.05 -6878207.88 0.0497 0.0215

Mars -23545-08-07 06:43 J -6878169.32 -6878169.22 -6878169.11 0.1672 0.0845

Jupiter -23545-09-27 17:59 J -6878117.78 -6878117.75 -6878117.72 0.0499 0.0492

Moon -23545-12-29 03:50 J -6878025.38 -6878025.34 -6878025.30 0.2635 0.2512

Earth -23545-12-29 04:47 J -6878025.36 -6878025.30 -6878025.23 0.2639 0.2325 *

Mars -23544-06-16 22:33 J -6877855.72 -6877855.56 -6877855.40 0.1852 0.0287

Venus	-23542-04-01 20:09 J	-6877201.72	-6877201.66	-6877201.61	0.3764	0.3161
Moon	-23542-07-02 21:35 J	-6877109.71	-6877109.60	-6877109.49	0.2686	0.0899
Earth	-23542-07-02 22:19 J	-6877109.68	-6877109.57	-6877109.47	0.2690	0.0998 *
Saturn	-23540-06-01 20:23 J	-6876409.71	-6876409.65	-6876409.58	0.0272	0.0235
Saturn	-23540-08-29 06:57 J	-6876321.32	-6876321.21	-6876321.09	0.0271	0.0122
Saturn	-23540-11-25 17:45 J	-6876232.89	-6876232.76	-6876232.63	0.0270	0.0007
Jupiter	-23539-02-19 10:47 J	-6876147.15	-6876147.05	-6876146.95	0.0530	0.0305
Saturn	-23539-02-22 04:33 J	-6876144.43	-6876144.31	-6876144.19	0.0270	0.0107
Jupiter	-23539-05-19 17:45 J	-6876057.87	-6876057.76	-6876057.65	0.0528	0.0280
Saturn	-23539-05-21 15:21 J	-6876055.93	-6876055.86	-6876055.78	0.0269	0.0221
Venus	-23538-03-28 11:02 J	-6875745.14	-6875745.04	-6875744.94	0.3612	0.2734
Mars	-23537-01-23 13:26 J	-6875443.97	-6875443.94	-6875443.91	0.1655	0.1599
Mars	-23536-12-28 17:31 J	-6874738.88	-6874738.77	-6874738.65	0.1669	0.0347
Earth	-23535-06-25 17:59 J	-6874559.82	-6874559.75	-6874559.68	0.2695	0.2063
Moon	-23535-06-25 18:43 J	-6874559.79	-6874559.72	-6874559.64	0.2692	0.2045 *
Mars	-23535-11-06 17:45 J	-6874425.90	-6874425.76	-6874425.62	0.1856	0.0990
Jupiter	-23533-04-17 07:55 J	-6873898.27	-6873898.17	-6873898.05	0.0497	0.0397
Jupiter	-23533-07-16 15:35 J	-6873807.99	-6873807.85	-6873807.71	0.0499	0.0314
Venus	-23533-10-11 17:45 J	-6873720.83	-6873720.76	-6873720.68	0.3610	0.3121
Moon	-23531-01-01 06:43 J	-6873274.36	-6873274.22	-6873274.08	0.2642	0.0662
Earth	-23531-01-01 08:09 J	-6873274.30	-6873274.16	-6873274.02	0.2641	0.0605 *
Moon	-23529-07-04 16:47 J	-6872358.87	-6872358.80	-6872358.72	0.2690	0.2042
Earth	-23529-07-04 17:31 J	-6872358.84	-6872358.77	-6872358.70	0.2688	0.2125 *
Jupiter	-23528-12-08 15:07 J	-6871836.94	-6871836.87	-6871836.80	0.0531	0.0443
Jupiter	-23527-03-07 21:50 J	-6871747.71	-6871747.59	-6871747.47	0.0528	0.0140
Mars	-23526-05-21 04:19 J	-6871308.43	-6871308.32	-6871308.20	0.1665	0.0142
Saturn	-23524-06-15 16:19 J	-6870551.97	-6870551.82	-6870551.67	0.0290	0.0165
Saturn	-23524-09-12 15:50 J	-6870463.02	-6870462.84	-6870462.66	0.0290	0.0030
Saturn	-23524-12-10 15:07 J	-6870373.98	-6870373.87	-6870373.75	0.0291	0.0224
Earth	-23522-06-28 12:57 J	-6869809.07	-6869808.96	-6869808.85	0.2693	0.0992

Moon -23522-06-28 13:11 J -6869809.05 -6869808.95 -6869808.84 0.2687 0.0894 *

Jupiter -23521-05-04 13:40 J -6869498.10 -6869497.93 -6869497.76 0.0498 0.0142

Moon -23518-01-04 10:04 J -6868523.21 -6868523.08 -6868522.95 0.2647 0.0979

Earth -23518-01-04 11:02 J -6868523.17 -6868523.04 -6868522.91 0.2642 0.1059 *

Mars -23517-10-10 15:21 J -6867877.97 -6867877.86 -6867877.75 0.1662 0.0616

Jupiter -23516-12-25 01:40 J -6867437.56 -6867437.43 -6867437.30 0.0528 0.0010

Mars -23515-09-15 20:09 J -6867172.72 -6867172.66 -6867172.60 0.1676 0.1409

Uranus -23514-03-10 14:09 J -6866996.91 -6866996.91 -6866996.91 0.0142 0.0142

Uranus -23514-06-06 17:45 J -6866908.83 -6866908.76 -6866908.69 0.0142 0.0120

Mars -23514-07-27 03:21 J -6866858.44 -6866858.36 -6866858.28 0.1846 0.1621

Uranus -23514-09-02 21:35 J -6866820.70 -6866820.60 -6866820.51 0.0142 0.0099

Uranus -23514-11-30 01:11 J -6866732.56 -6866732.45 -6866732.34 0.0142 0.0077

Uranus -23513-02-26 04:47 J -6866644.42 -6866644.30 -6866644.17 0.0143 0.0055

Uranus -23513-05-24 08:38 J -6866556.27 -6866556.14 -6866556.00 0.0143 0.0032

Uranus -23513-08-20 12:28 J -6866468.11 -6866467.98 -6866467.84 0.0143 0.0010

Uranus -23513-11-16 16:19 J -6866379.95 -6866379.82 -6866379.68 0.0143 0.0013

Uranus -23512-02-12 20:09 J -6866291.79 -6866291.66 -6866291.53 0.0143 0.0036

Uranus -23512-05-11 23:59 J -6866203.62 -6866203.50 -6866203.37 0.0143 0.0059

Uranus -23512-08-08 03:50 J -6866115.45 -6866115.34 -6866115.22 0.0143 0.0082

Uranus -23512-11-04 07:55 J -6866027.26 -6866027.17 -6866027.08 0.0144 0.0106

Uranus -23511-01-31 11:45 J -6865939.06 -6865939.01 -6865938.95 0.0144 0.0129

Saturn -23511-10-19 22:33 J -6865677.56 -6865677.56 -6865677.55 0.0273 0.0272

Saturn -23510-01-16 09:21 J -6865589.22 -6865589.11 -6865589.00 0.0272 0.0158

Saturn -23510-04-14 20:09 J -6865500.80 -6865500.66 -6865500.53 0.0271 0.0044

Saturn -23510-07-12 06:43 J -6865412.35 -6865412.22 -6865412.09 0.0271 0.0072

Saturn -23510-10-08 17:31 J -6865323.86 -6865323.77 -6865323.67 0.0270 0.0187

Jupiter -23509-02-21 11:02 J -6865188.22 -6865188.04 -6865187.85 0.0498 0.0039

Moon -23509-06-30 07:40 J -6865058.30 -6865058.18 -6865058.06 0.2686 0.0025

Earth -23509-06-30 08:09 J -6865058.28 -6865058.16 -6865058.05 0.2692 0.0132 *

Mars -23507-03-03 02:23 J -6864447.49 -6864447.40 -6864447.32 0.1658 0.1083

Moon -23505-01-07 13:26 J -6863771.95 -6863771.94 -6863771.93 0.2652 0.2633

Mars -23505-02-06 06:43 J -6863742.32 -6863742.22 -6863742.12 0.1672 0.0901

Pluto -23505-11-07 17:16 J -6863466.82 -6863466.78 -6863466.73 0.0071 0.0067

Mars -23505-12-15 23:16 J -6863428.69 -6863428.53 -6863428.37 0.1852 0.0408

Pluto -23504-02-03 18:28 J -6863378.80 -6863378.73 -6863378.63 0.0071 0.0060

Pluto -23504-05-02 20:09 J -6863290.77 -6863290.66 -6863290.55 0.0071 0.0053

Pluto -23504-07-29 21:07 J -6863202.73 -6863202.62 -6863202.48 0.0071 0.0046

Jupiter -23504-10-13 05:31 J -6863127.39 -6863127.27 -6863127.15 0.0529 0.0155

Pluto -23504-10-25 22:47 J -6863114.68 -6863114.55 -6863114.41 0.0071 0.0038

Jupiter -23503-01-10 12:28 J -6863038.05 -6863037.98 -6863037.91 0.0526 0.0428

Pluto -23503-01-21 23:59 J -6863026.63 -6863026.50 -6863026.34 0.0071 0.0031

Pluto -23503-04-20 01:40 J -6862938.58 -6862938.43 -6862938.28 0.0072 0.0023

Pluto -23503-07-17 03:07 J -6862850.53 -6862850.37 -6862850.21 0.0072 0.0015

Pluto -23503-10-13 04:33 J -6862762.47 -6862762.31 -6862762.15 0.0072 0.0007

Pluto -23502-01-09 05:59 J -6862674.41 -6862674.25 -6862674.09 0.0072 0.0001

Venus -23502-03-24 17:31 J -6862599.83 -6862599.77 -6862599.70 0.3761 0.2834

Pluto -23502-04-07 07:26 J -6862586.35 -6862586.19 -6862586.03 0.0072 0.0008

Pluto -23502-07-04 08:52 J -6862498.29 -6862498.13 -6862497.97 0.0072 0.0016

Pluto -23502-09-30 10:19 J -6862410.22 -6862410.07 -6862409.91 0.0072 0.0024

Pluto -23502-12-27 11:45 J -6862322.15 -6862322.01 -6862321.86 0.0072 0.0033

Pluto -23501-03-24 13:11 J -6862234.07 -6862233.95 -6862233.80 0.0073 0.0041

Pluto -23501-06-20 14:52 J -6862146.00 -6862145.88 -6862145.75 0.0073 0.0049

Pluto -23501-09-16 16:33 J -6862057.91 -6862057.81 -6862057.71 0.0073 0.0057

Pluto -23501-12-13 17:45 J -6861969.81 -6861969.76 -6861969.68 0.0073 0.0066

Moon -23499-12-30 09:50 J -6861223.19 -6861223.09 -6861223.00 0.2637 0.2024

Earth -23499-12-30 11:02 J -6861223.13 -6861223.04 -6861222.94 0.2639 0.2004 *

Mars -23498-07-24 13:26 J -6861016.98 -6861016.94 -6861016.90 0.1655 0.1538

Jupiter -23498-12-10 08:38 J -6860878.30 -6860878.14 -6860877.97 0.0498 0.0217

Jupiter -23497-03-09 15:50 J -6860787.86 -6860787.84 -6860787.81 0.0500 0.0492

Venus -23497-10-07 09:35 J -6860576.20 -6860576.10 -6860576.00 0.3762 0.0593

Mars -23496-06-28 17:31 J -6860311.88 -6860311.77 -6860311.66 0.1669 0.0410

Moon -23496-07-03 02:38 J -6860307.50 -6860307.39 -6860307.29 0.2686 0.1176

Earth -23496-07-03 03:21 J -6860307.47 -6860307.36 -6860307.26 0.2690 0.1213 *

Mars -23495-05-07 18:28 J -6859998.87 -6859998.73 -6859998.58 0.1856 0.0859

Saturn -23495-11-02 16:47 J -6859819.93 -6859819.80 -6859819.67 0.0289 0.0204

Saturn -23494-01-30 16:19 J -6859731.00 -6859730.82 -6859730.64 0.0290 0.0009

Saturn -23494-04-29 15:35 J -6859641.98 -6859641.85 -6859641.71 0.0291 0.0186

Jupiter -23492-08-01 09:07 J -6858817.22 -6858817.12 -6858817.02 0.0530 0.0308

Jupiter -23492-10-29 15:50 J -6858727.95 -6858727.84 -6858727.73 0.0528 0.0275

Venus -23491-04-23 01:26 J -6858552.53 -6858552.44 -6858552.34 0.3763 0.1699

Earth -23489-06-25 23:02 J -6857757.62 -6857757.54 -6857757.46 0.2695 0.1859

Moon -23489-06-25 23:45 J -6857757.60 -6857757.51 -6857757.43 0.2690 0.1761 *

Neptune -23488-09-04 02:38 J -6857322.40 -6857322.39 -6857322.35 0.0089 0.0088

Neptune -23488-12-01 04:04 J -6857234.38 -6857234.33 -6857234.27 0.0089 0.0081

Neptune -23487-02-27 05:31 J -6857146.34 -6857146.27 -6857146.19 0.0089 0.0074

Neptune -23487-05-26 06:57 J -6857058.30 -6857058.21 -6857058.12 0.0089 0.0067

Neptune -23487-08-22 08:09 J -6856970.25 -6856970.16 -6856970.06 0.0089 0.0060

Neptune -23487-11-18 09:21 J -6856882.20 -6856882.11 -6856881.99 0.0089 0.0054

Mars -23487-11-19 04:19 J -6856881.44 -6856881.32 -6856881.20 0.1665 0.0077

Neptune -23486-02-14 10:47 J -6856794.15 -6856794.05 -6856793.93 0.0089 0.0046

Neptune -23486-05-13 12:14 J -6856706.10 -6856705.99 -6856705.86 0.0089 0.0039

Neptune -23486-08-09 13:40 J -6856618.05 -6856617.93 -6856617.80 0.0089 0.0032

Jupiter -23486-09-28 05:59 J -6856568.35 -6856568.25 -6856568.13 0.0497 0.0395

Neptune -23486-11-05 15:07 J -6856530.00 -6856529.87 -6856529.74 0.0089 0.0025

Jupiter -23486-12-27 13:40 J -6856478.06 -6856477.93 -6856477.79 0.0499 0.0317

Moon -23485-01-02 12:43 J -6856472.11 -6856471.97 -6856471.82 0.2643 0.0506

Earth -23485-01-02 14:09 J -6856472.05 -6856471.91 -6856471.76 0.2641 0.0299 *

Neptune -23485-02-01 16:33 J -6856441.94 -6856441.81 -6856441.68 0.0089 0.0018

Neptune -23485-04-29 17:45 J -6856353.89 -6856353.76 -6856353.62 0.0089 0.0012

Neptune -23485-07-26 19:11 J -6856265.83 -6856265.70 -6856265.57 0.0089 0.0004

Neptune -23485-10-22 20:38 J -6856177.78 -6856177.64 -6856177.51 0.0089 0.0003

Neptune -23484-01-18 21:50 J -6856089.72 -6856089.59 -6856089.45 0.0089 0.0010

Neptune -23484-04-16 23:16 J -6856001.66 -6856001.53 -6856001.40 0.0089 0.0017

Neptune -23484-07-14 00:43 J -6855913.60 -6855913.47 -6855913.34 0.0089 0.0024

Neptune -23484-10-10 02:09 J -6855825.54 -6855825.41 -6855825.29 0.0089 0.0031

Neptune -23483-01-06 03:21 J -6855737.48 -6855737.36 -6855737.23 0.0089 0.0038

Neptune -23483-04-04 04:33 J -6855649.41 -6855649.31 -6855649.18 0.0089 0.0046

Neptune -23483-07-01 05:59 J -6855561.35 -6855561.25 -6855561.13 0.0089 0.0052

Moon -23483-07-05 21:50 J -6855556.65 -6855556.59 -6855556.53 0.2691 0.2259

Earth -23483-07-05 22:33 J -6855556.61 -6855556.56 -6855556.50 0.2688 0.2349 *

Neptune -23483-09-27 07:26 J -6855473.28 -6855473.19 -6855473.08 0.0089 0.0059

Neptune -23483-12-24 08:52 J -6855385.21 -6855385.13 -6855385.03 0.0089 0.0066

Neptune -23482-03-22 10:19 J -6855297.14 -6855297.07 -6855296.99 0.0089 0.0073

Neptune -23482-06-18 11:45 J -6855209.06 -6855209.01 -6855208.95 0.0089 0.0080

Neptune -23482-09-14 13:11 J -6855120.97 -6855120.95 -6855120.92 0.0089 0.0087

Venus -23482-11-02 12:28 J -6855072.13 -6855071.98 -6855071.83 0.3612 0.0694

Saturn -23481-06-04 12:43 J -6854857.07 -6854856.97 -6854856.87 0.0272 0.0181

Saturn -23481-08-31 23:16 J -6854768.65 -6854768.53 -6854768.39 0.0271 0.0068

Saturn -23481-11-28 10:04 J -6854680.21 -6854680.08 -6854679.94 0.0270 0.0048

Saturn -23480-02-24 20:52 J -6854591.73 -6854591.63 -6854591.52 0.0270 0.0162

Jupiter -23480-05-20 13:11 J -6854507.02 -6854506.95 -6854506.89 0.0530 0.0452

Jupiter -23480-08-17 19:55 J -6854417.80 -6854417.67 -6854417.55 0.0528 0.0130

Mars -23477-04-10 15:21 J -6853450.97 -6853450.86 -6853450.75 0.1662 0.0553

Earth -23476-06-28 17:59 J -6853006.86 -6853006.75 -6853006.64 0.2693 0.0784

Moon -23476-06-28 18:14 J -6853006.85 -6853006.74 -6853006.63 0.2687 0.0816 *

Mars -23475-03-16 20:09 J -6852745.71 -6852745.66 -6852745.61 0.1676 0.1473

Mars -23474-01-25 04:19 J -6852431.37 -6852431.32 -6852431.27 0.1846 0.1748

Uranus -23474-01-26 04:19 J -6852430.40 -6852430.32 -6852430.24 0.0136 0.0123

Uranus -23474-04-24 11:16 J -6852342.16 -6852342.03 -6852341.90 0.0136 0.0095

Uranus -23474-07-21 17:45 J -6852253.91 -6852253.76 -6852253.59 0.0136 0.0069

Jupiter -23474-10-15 11:02 J -6852168.21 -6852168.04 -6852167.86 0.0498 0.0136

Uranus -23474-10-18 00:43 J -6852165.64 -6852165.47 -6852165.29 0.0136 0.0042

Uranus -23473-01-14 07:26 J -6852077.37 -6852077.19 -6852077.00 0.0136 0.0016

Uranus -23473-04-11 14:09 J -6851989.09 -6851988.91 -6851988.72 0.0136 0.0011

Uranus -23473-07-08 20:52 J -6851900.81 -6851900.63 -6851900.45 0.0135 0.0037

Uranus -23473-10-05 03:21 J -6851812.52 -6851812.36 -6851812.19 0.0135 0.0063

Uranus -23472-01-01 09:50 J -6851724.22 -6851724.09 -6851723.95 0.0135 0.0088

Moon -23472-01-04 16:19 J -6851720.94 -6851720.82 -6851720.70 0.2648 0.1346

Earth -23472-01-04 17:02 J -6851720.91 -6851720.79 -6851720.67 0.2643 0.1366 *

Uranus -23472-03-30 16:19 J -6851635.91 -6851635.82 -6851635.72 0.0135 0.0113

Jupiter -23468-06-05 23:59 J -6850107.63 -6850107.50 -6850107.37 0.0529 0.0015

Mars -23468-09-01 02:23 J -6850020.49 -6850020.40 -6850020.31 0.1658 0.1021

Mars -23466-08-07 06:43 J -6849315.31 -6849315.22 -6849315.12 0.1672 0.0969

Saturn -23465-03-21 14:38 J -6849087.96 -6849087.89 -6849087.81 0.0289 0.0263

Mars -23465-06-15 23:59 J -6849001.66 -6849001.50 -6849001.35 0.1851 0.0524

Saturn -23465-06-18 14:23 J -6848999.07 -6848998.90 -6848998.72 0.0290 0.0068

Saturn -23465-09-15 13:55 J -6848910.08 -6848909.92 -6848909.76 0.0291 0.0127

Moon -23463-07-01 12:43 J -6848256.09 -6848255.97 -6848255.86 0.2685 0.0349

Earth -23463-07-01 13:11 J -6848256.07 -6848255.95 -6848255.84 0.2691 0.0331 *

Jupiter -23462-08-03 08:52 J -6847858.31 -6847858.13 -6847857.95 0.0498 0.0039

Mars -23458-01-22 13:26 J -6846589.99 -6846589.94 -6846589.90 0.1655 0.1482

Mars -23457-12-27 17:31 J -6845884.88 -6845884.77 -6845884.66 0.1668 0.0472

Jupiter -23456-03-25 04:04 J -6845797.45 -6845797.33 -6845797.21 0.0529 0.0155

Jupiter -23456-06-22 11:02 J -6845708.12 -6845708.04 -6845707.97 0.0527 0.0429

Moon -23456-06-24 10:04 J -6845706.10 -6845706.08 -6845706.07 0.2697 0.2648

Mars -23456-11-05 18:57 J -6845571.86 -6845571.71 -6845571.56 0.1857 0.0754

Moon -23453-12-30 15:50 J -6844420.94 -6844420.84 -6844420.74 0.2638 0.1888

Earth -23453-12-30 17:16 J -6844420.89 -6844420.78 -6844420.67 0.2639 0.1678 *

Saturn -23452-10-22 15:07 J -6844124.95 -6844124.87 -6844124.79 0.0273 0.0216

Saturn -23451-01-19 01:55 J -6844036.55 -6844036.42 -6844036.30 0.0272 0.0101

Saturn -23451-04-17 12:28 J -6843948.11 -6843947.98 -6843947.84 0.0271 0.0016

Saturn -23451-07-14 23:16 J -6843859.64 -6843859.53 -6843859.41 0.0270 0.0129

Saturn -23451-10-11 10:04 J -6843771.13 -6843771.08 -6843771.02 0.0270 0.0244

Jupiter -23450-05-22 05:59 J -6843548.41 -6843548.25 -6843548.08 0.0498 0.0223

Moon -23450-07-04 07:40 J -6843505.29 -6843505.18 -6843505.08 0.2688 0.1305

Earth -23450-07-04 08:23 J -6843505.25 -6843505.15 -6843505.05 0.2690 0.1436 *

Jupiter -23450-08-20 13:26 J -6843457.97 -6843457.94 -6843457.90 0.0500 0.0488

Mars -23447-05-20 04:19 J -6842454.44 -6842454.32 -6842454.20 0.1665 0.0025

Venus -23446-10-29 15:07 J -6841926.96 -6841926.87 -6841926.79 0.3761 0.2012

Jupiter -23444-01-11 07:55 J -6841487.27 -6841487.17 -6841487.06 0.0529 0.0302

Jupiter -23444-04-10 14:38 J -6841398.00 -6841397.89 -6841397.78 0.0527 0.0280

Earth -23443-06-27 04:04 J -6840955.42 -6840955.33 -6840955.24 0.2694 0.1653

Moon -23443-06-27 04:33 J -6840955.40 -6840955.31 -6840955.22 0.2689 0.1610 *

Venus -23440-05-14 06:57 J -6839903.31 -6839903.21 -6839903.10 0.3762 0.0284

Moon -23439-01-02 18:57 J -6839669.85 -6839669.71 -6839669.56 0.2643 0.0037

Earth -23439-01-02 20:23 J -6839669.80 -6839669.65 -6839669.50 0.2641 0.0031 *

Jupiter -23438-03-10 03:21 J -6839238.46 -6839238.36 -6839238.25 0.0497 0.0403

Jupiter -23438-06-08 11:16 J -6839148.17 -6839148.03 -6839147.89 0.0499 0.0311

Mars -23438-10-10 15:21 J -6839023.98 -6839023.86 -6839023.75 0.1662 0.0494

Moon -23437-07-06 02:52 J -6838754.42 -6838754.38 -6838754.34 0.2691 0.2522

Earth -23437-07-06 03:35 J -6838754.38 -6838754.35 -6838754.31 0.2688 0.2571 *

Mars -23436-09-14 20:09 J -6838318.71 -6838318.66 -6838318.62 0.1676 0.1534

Saturn -23436-11-05 15:21 J -6838267.03 -6838266.86 -6838266.69 0.0290 0.0102

Saturn -23435-02-02 14:52 J -6838178.05 -6838177.88 -6838177.70 0.0291 0.0093

Saturn -23435-05-02 13:55 J -6838088.94 -6838088.92 -6838088.88 0.0291 0.0287

Venus -23435-11-27 23:02 J -6837879.61 -6837879.54 -6837879.46 0.3763 0.2538

Jupiter -23433-10-30 11:16 J -6837177.09 -6837177.03 -6837176.96 0.0530 0.0458

Jupiter -23432-01-27 17:59 J -6837087.87 -6837087.75 -6837087.62 0.0528 0.0124

Uranus -23430-03-30 21:21 J -6836295.64 -6836295.61 -6836295.57 0.0142 0.0136

Uranus -23430-06-27 00:57 J -6836207.53 -6836207.46 -6836207.38 0.0142 0.0115

Moon -23430-06-29 23:02 J -6836204.65 -6836204.54 -6836204.43 0.2686 0.0520

Earth -23430-06-29 23:02 J -6836204.65 -6836204.54 -6836204.43 0.2693 0.0576 *

Uranus -23430-09-23 04:33 J -6836119.40 -6836119.31 -6836119.20 0.0142 0.0093

Uranus -23430-12-20 08:23 J -6836031.26 -6836031.15 -6836031.03 0.0143 0.0071

Uranus -23429-03-17 12:14 J -6835943.12 -6835942.99 -6835942.86 0.0143 0.0049

Uranus -23429-06-13 16:04 J -6835854.97 -6835854.83 -6835854.70 0.0143 0.0027

Uranus -23429-09-09 19:40 J -6835766.81 -6835766.68 -6835766.54 0.0143 0.0006

Uranus -23429-12-06 23:31 J -6835678.65 -6835678.52 -6835678.38 0.0143 0.0019

Mars -23428-03-02 02:09 J -6835593.50 -6835593.41 -6835593.31 0.1658 0.0961

Uranus -23428-03-05 03:21 J -6835590.49 -6835590.36 -6835590.22 0.0143 0.0042

Uranus -23428-06-01 07:26 J -6835502.32 -6835502.19 -6835502.07 0.0143 0.0065

Uranus -23428-08-28 11:16 J -6835414.14 -6835414.03 -6835413.92 0.0143 0.0088

Uranus -23428-11-24 15:07 J -6835325.95 -6835325.87 -6835325.78 0.0144 0.0111

Uranus -23427-02-20 18:57 J -6835237.75 -6835237.71 -6835237.66 0.0144 0.0135

Moon -23426-01-05 22:33 J -6834918.68 -6834918.56 -6834918.45 0.2649 0.1572

Earth -23426-01-05 23:02 J -6834918.65 -6834918.54 -6834918.43 0.2643 0.1674 *

Mars -23426-02-05 06:43 J -6834888.31 -6834888.22 -6834888.13 0.1672 0.1032

Jupiter -23426-03-27 08:52 J -6834838.30 -6834838.13 -6834837.95 0.0498 0.0135

Mars -23426-12-16 00:43 J -6834574.63 -6834574.47 -6834574.32 0.1852 0.0644

Venus -23425-06-08 14:09 J -6834399.06 -6834398.91 -6834398.77 0.3611 0.1318

Saturn -23422-03-11 18:43 J -6833392.78 -6833392.72 -6833392.65 0.0272 0.0237

Saturn -23422-06-08 05:31 J -6833304.39 -6833304.27 -6833304.15 0.0272 0.0122

Saturn -23422-09-04 16:04 J -6833215.96 -6833215.83 -6833215.69 0.0271 0.0010

Saturn -23422-12-02 02:52 J -6833127.50 -6833127.38 -6833127.25 0.0270 0.0107

Saturn -23421-02-28 13:40 J -6833039.00 -6833038.93 -6833038.85 0.0269 0.0222

Jupiter -23421-11-15 21:50 J -6832777.72 -6832777.59 -6832777.46 0.0529 0.0025

Pluto -23420-07-17 02:52 J -6832534.39 -6832534.38 -6832534.35 0.0074 0.0073

Pluto -23420-10-13 04:04 J -6832446.39 -6832446.33 -6832446.24 0.0074 0.0065

Pluto -23419-01-09 05:31 J -6832358.36 -6832358.27 -6832358.16 0.0074 0.0057

Pluto -23419-04-07 06:57 J -6832270.32 -6832270.21 -6832270.08 0.0073 0.0048

Pluto -23419-07-04 08:09 J -6832182.27 -6832182.16 -6832182.02 0.0073 0.0041

Mars -23419-07-23 13:26 J -6832163.00 -6832162.94 -6832162.88 0.1655 0.1417

Pluto -23419-09-30 09:35 J -6832094.23 -6832094.10 -6832093.95 0.0073 0.0032

Pluto -23419-12-27 11:02 J -6832006.18 -6832006.04 -6832005.89 0.0073 0.0024

Pluto -23418-03-25 12:28 J -6831918.13 -6831917.98 -6831917.83 0.0073 0.0016

Pluto -23418-06-21 13:40 J -6831830.08 -6831829.93 -6831829.77 0.0073 0.0009

Pluto -23418-09-17 14:52 J -6831742.03 -6831741.88 -6831741.72 0.0073 0.0002

Pluto -23418-12-14 16:19 J -6831653.98 -6831653.82 -6831653.67 0.0073 0.0007

Pluto -23417-03-11 17:31 J -6831565.92 -6831565.77 -6831565.62 0.0072 0.0014

Pluto -23417-06-07 18:28 J -6831477.86 -6831477.73 -6831477.57 0.0072 0.0023

Mars -23417-06-27 17:31 J -6831457.88 -6831457.77 -6831457.66 0.1669 0.0536

Moon -23417-07-01 17:45 J -6831453.88 -6831453.76 -6831453.65 0.2685 0.0425

Earth -23417-07-01 17:59 J -6831453.86 -6831453.75 -6831453.63 0.2691 0.0540 *

Pluto -23417-09-03 19:55 J -6831389.81 -6831389.67 -6831389.53 0.0072 0.0029

Pluto -23417-11-30 20:52 J -6831301.75 -6831301.63 -6831301.49 0.0072 0.0037

Pluto -23416-02-26 22:04 J -6831213.69 -6831213.58 -6831213.45 0.0072 0.0044

Mars -23416-05-06 19:55 J -6831144.82 -6831144.67 -6831144.51 0.1856 0.0620

Pluto -23416-05-25 23:31 J -6831125.62 -6831125.52 -6831125.41 0.0072 0.0051

Pluto -23416-08-22 00:28 J -6831037.55 -6831037.48 -6831037.38 0.0072 0.0059

Pluto -23416-11-18 01:40 J -6830949.48 -6830949.43 -6830949.36 0.0072 0.0066

Jupiter -23414-01-13 06:14 J -6830528.42 -6830528.24 -6830528.06 0.0498 0.0049

Earth -23410-06-25 14:09 J -6828903.95 -6828903.91 -6828903.87 0.2696 0.2510

Moon -23410-06-25 14:52 J -6828903.93 -6828903.88 -6828903.83 0.2695 0.2402 *

Jupiter -23409-09-04 02:09 J -6828467.54 -6828467.41 -6828467.29 0.0530 0.0164

Jupiter -23409-12-02 08:52 J -6828378.20 -6828378.13 -6828378.05 0.0527 0.0422

Mars -23408-11-18 04:19 J -6828027.44 -6828027.32 -6828027.20 0.1665 0.0052

Moon -23407-12-31 21:50 J -6827618.71 -6827618.59 -6827618.47 0.2639 0.1415

Earth -23407-12-31 23:16 J -6827618.65 -6827618.53 -6827618.40 0.2640 0.1362 *

Saturn -23406-03-25 14:09 J -6827535.06 -6827534.91 -6827534.76 0.0289 0.0157

Saturn -23406-06-22 13:40 J -6827446.11 -6827445.93 -6827445.75 0.0290 0.0039

Saturn -23406-09-19 12:57 J -6827357.06 -6827356.96 -6827356.85 0.0291 0.0232

Neptune -23404-05-20 22:04 J -6826747.63 -6826747.58 -6826747.51 0.0088 0.0083

Moon -23404-07-04 12:28 J -6826703.07 -6826702.98 -6826702.89 0.2689 0.1637

Earth -23404-07-04 13:26 J -6826703.03 -6826702.94 -6826702.85 0.2689 0.1652 *

Neptune -23404-08-17 01:40 J -6826659.53 -6826659.43 -6826659.32 0.0088 0.0073

Neptune -23404-11-13 04:47 J -6826571.41 -6826571.30 -6826571.15 0.0088 0.0064

Neptune -23403-02-09 08:23 J -6826483.28 -6826483.15 -6826482.98 0.0088 0.0054

Neptune -23403-05-08 11:59 J -6826395.15 -6826395.00 -6826394.82 0.0088 0.0045

Neptune -23403-08-04 15:50 J -6826307.02 -6826306.84 -6826306.67 0.0088 0.0034

Neptune -23403-10-31 18:57 J -6826218.88 -6826218.71 -6826218.51 0.0088 0.0025

Jupiter -23403-11-01 03:50 J -6826218.51 -6826218.34 -6826218.18 0.0497 0.0225 *

Neptune -23402-01-27 22:33 J -6826130.74 -6826130.56 -6826130.36 0.0088 0.0015

Jupiter -23402-01-30 10:47 J -6826128.08 -6826128.05 -6826128.00 0.0499 0.0484

Neptune -23402-04-26 02:09 J -6826042.60 -6826042.41 -6826042.22 0.0088 0.0005

Neptune -23402-07-23 05:31 J -6825954.46 -6825954.27 -6825954.08 0.0088 0.0004

Neptune -23402-10-19 08:52 J -6825866.31 -6825866.13 -6825865.93 0.0088 0.0014

Neptune -23401-01-15 12:28 J -6825778.17 -6825777.98 -6825777.80 0.0088 0.0023

Neptune -23401-04-12 15:35 J -6825690.02 -6825689.85 -6825689.66 0.0088 0.0033

Neptune -23401-07-09 18:57 J -6825601.86 -6825601.71 -6825601.53 0.0088 0.0043

Neptune -23401-10-05 22:19 J -6825513.71 -6825513.57 -6825513.40 0.0088 0.0052

Neptune -23400-01-02 01:40 J -6825425.55 -6825425.43 -6825425.28 0.0088 0.0062

Neptune -23400-03-31 05:02 J -6825337.38 -6825337.29 -6825337.16 0.0088 0.0071

Neptune -23400-06-27 08:38 J -6825249.21 -6825249.14 -6825249.06 0.0088 0.0080

Mars -23398-04-10 15:07 J -6824596.98 -6824596.87 -6824596.75 0.1661 0.0433

Jupiter -23397-06-23 06:14 J -6824157.34 -6824157.24 -6824157.14 0.0530 0.0306

Earth -23397-06-27 08:52 J -6824153.22 -6824153.13 -6824153.03 0.2694 0.1453

Moon -23397-06-27 09:35 J -6824153.20 -6824153.10 -6824153.00 0.2689 0.1377 *

Jupiter -23397-09-20 12:57 J -6824068.07 -6824067.96 -6824067.85 0.0527 0.0276

Mars -23396-03-15 20:09 J -6823891.69 -6823891.66 -6823891.63 0.1676 0.1600

Venus -23395-11-19 20:38 J -6823277.68 -6823277.64 -6823277.60 0.3760 0.3414

Moon -23393-01-04 01:11 J -6822867.59 -6822867.45 -6822867.30 0.2644 0.0158

Earth -23393-01-04 02:23 J -6822867.54 -6822867.40 -6822867.25 0.2641 0.0341 *

Saturn -23393-07-28 21:07 J -6822660.62 -6822660.62 -6822660.60 0.0273 0.0271

Saturn -23393-10-25 07:55 J -6822572.28 -6822572.17 -6822572.06 0.0272 0.0156

Saturn -23392-01-21 18:43 J -6822483.86 -6822483.72 -6822483.59 0.0272 0.0041

Saturn -23392-04-20 05:16 J -6822395.40 -6822395.28 -6822395.15 0.0271 0.0075

Saturn -23392-07-17 16:04 J -6822306.92 -6822306.83 -6822306.73 0.0270 0.0189

Jupiter -23391-08-20 00:28 J -6821908.57 -6821908.48 -6821908.37 0.0497 0.0412

Jupiter -23391-11-18 08:23 J -6821818.29 -6821818.15 -6821818.01 0.0499 0.0302

Uranus -23390-02-15 12:14 J -6821729.09 -6821728.99 -6821728.88 0.0136 0.0113

Uranus -23390-05-14 19:11 J -6821640.84 -6821640.70 -6821640.55 0.0136 0.0085

Uranus -23390-08-11 02:09 J -6821552.58 -6821552.41 -6821552.24 0.0136 0.0058

Uranus -23390-11-07 08:52 J -6821464.31 -6821464.13 -6821463.95 0.0136 0.0032

Uranus -23389-02-03 15:35 J -6821376.03 -6821375.85 -6821375.66 0.0136 0.0006

Uranus -23389-05-01 22:19 J -6821287.75 -6821287.57 -6821287.39 0.0136 0.0021

Venus -23389-06-04 12:28 J -6821254.07 -6821253.98 -6821253.88 0.3761 0.1193

Uranus -23389-07-29 04:47 J -6821199.46 -6821199.30 -6821199.12 0.0136 0.0047

Mars -23389-08-31 02:09 J -6821166.50 -6821166.41 -6821166.31 0.1658 0.0900

Uranus -23389-10-25 11:31 J -6821111.17 -6821111.02 -6821110.87 0.0135 0.0073

Uranus -23388-01-21 17:45 J -6821022.87 -6821022.76 -6821022.62 0.0135 0.0099

Uranus -23388-04-20 00:14 J -6820934.55 -6820934.49 -6820934.41 0.0135 0.0124

Mars -23387-08-06 06:43 J -6820461.31 -6820461.22 -6820461.13 0.1672 0.1092

Mars -23386-06-16 01:26 J -6820147.59 -6820147.44 -6820147.29 0.1852 0.0771

Jupiter -23385-04-11 10:04 J -6819847.14 -6819847.08 -6819847.01 0.0530 0.0452

Jupiter -23385-07-09 16:47 J -6819757.93 -6819757.80 -6819757.68 0.0528 0.0129

Moon -23384-06-30 03:50 J -6819402.45 -6819402.34 -6819402.22 0.2686 0.0403

Earth -23384-06-30 04:04 J -6819402.45 -6819402.33 -6819402.22 0.2693 0.0371 *

Venus -23384-12-19 04:33 J -6819230.41 -6819230.31 -6819230.21 0.3762 0.1085

Moon -23380-01-06 04:33 J -6818116.40 -6818116.31 -6818116.22 0.2650 0.2017

Earth -23380-01-06 05:02 J -6818116.38 -6818116.29 -6818116.19 0.2643 0.1980 *

Mars	-23379-01-21 13:26 J	-6817736.01	-6817735.94	-6817735.88	0.1655	0.1359
Jupiter	-23379-09-06 05:59 J	-6817508.42	-6817508.25	-6817508.07	0.0498	0.0126
Venus	-23378-07-04 20:38 J	-6817206.68	-6817206.64	-6817206.60	0.3764	0.3388
Mars	-23378-12-27 17:31 J	-6817030.88	-6817030.77	-6817030.66	0.1669	0.0598
Saturn	-23377-08-11 14:52 J	-6816803.01	-6816802.88	-6816802.74	0.0289	0.0192
Mars	-23377-11-04 20:38 J	-6816717.80	-6816717.64	-6816717.48	0.1856	0.0500
Saturn	-23377-11-08 14:38 J	-6816714.07	-6816713.89	-6816713.71	0.0290	0.0006
Saturn	-23376-02-05 13:55 J	-6816625.04	-6816624.92	-6816624.78	0.0291	0.0198
Venus	-23374-06-30 08:38 J	-6815750.25	-6815750.14	-6815750.04	0.3613	0.2584
Jupiter	-23373-04-27 19:55 J	-6815447.79	-6815447.67	-6815447.54	0.0529	0.0033
Moon	-23371-07-02 22:33 J	-6814651.67	-6814651.56	-6814651.45	0.2686	0.0750
Earth	-23371-07-02 23:02 J	-6814651.65	-6814651.54	-6814651.42	0.2691	0.0751 *
Venus	-23368-01-13 15:35 J	-6813725.91	-6813725.85	-6813725.79	0.3611	0.3298
Mars	-23368-05-19 04:19 J	-6813600.44	-6813600.32	-6813600.20	0.1665	0.0113
Mars	-23367-03-27 15:21 J	-6813287.89	-6813287.86	-6813287.82	0.1861	0.1807
Jupiter	-23367-06-25 03:50 J	-6813198.52	-6813198.34	-6813198.16	0.0498	0.0051
Earth	-23364-06-25 19:11 J	-6812101.76	-6812101.70	-6812101.65	0.2696	0.2312
Moon	-23364-06-25 19:55 J	-6812101.73	-6812101.67	-6812101.61	0.2693	0.2287 *
Saturn	-23363-03-14 11:45 J	-6811840.11	-6811840.01	-6811839.91	0.0272	0.0175
Saturn	-23363-06-10 22:19 J	-6811751.70	-6811751.57	-6811751.44	0.0271	0.0061
Saturn	-23363-09-07 09:07 J	-6811663.25	-6811663.12	-6811662.99	0.0271	0.0054
Saturn	-23363-12-04 19:55 J	-6811574.77	-6811574.67	-6811574.56	0.0270	0.0169
Jupiter	-23361-02-14 23:59 J	-6811137.63	-6811137.50	-6811137.38	0.0529	0.0178
Jupiter	-23361-05-14 06:43 J	-6811048.30	-6811048.22	-6811048.14	0.0527	0.0408
Moon	-23360-01-01 04:04 J	-6810816.46	-6810816.33	-6810816.20	0.2639	0.1235
Earth	-23360-01-01 05:31 J	-6810816.40	-6810816.27	-6810816.13	0.2640	0.1034 *
Mars	-23359-10-09 15:07 J	-6810169.98	-6810169.87	-6810169.75	0.1662	0.0370
Moon	-23358-07-05 17:31 J	-6809900.86	-6809900.77	-6809900.68	0.2690	0.1714
Earth	-23358-07-05 18:28 J	-6809900.82	-6809900.73	-6809900.65	0.2689	0.1874 *
Mars	-23357-09-13 20:09 J	-6809464.67	-6809464.66	-6809464.65	0.1676	0.1665

Jupiter -23355-04-13 00:57 J -6808888.62 -6808888.46 -6808888.30 0.0497 0.0235

Jupiter -23355-07-12 08:09 J -6808798.21 -6808798.16 -6808798.10 0.0499 0.0473

Earth -23351-06-28 13:55 J -6807351.02 -6807350.92 -6807350.82 0.2694 0.1243

Moon -23351-06-28 14:23 J -6807351.00 -6807350.90 -6807350.79 0.2689 0.1183 *

Jupiter -23350-12-04 04:04 J -6806827.43 -6806827.33 -6806827.23 0.0530 0.0318

Mars -23349-03-01 02:09 J -6806739.51 -6806739.41 -6806739.31 0.1658 0.0838

Jupiter -23349-03-02 10:47 J -6806738.16 -6806738.05 -6806737.94 0.0528 0.0266

Saturn -23348-12-29 14:09 J -6806071.00 -6806070.91 -6806070.80 0.0289 0.0241

Moon -23347-01-04 07:26 J -6806065.33 -6806065.19 -6806065.05 0.2646 0.0650

Earth -23347-01-04 08:23 J -6806065.29 -6806065.15 -6806065.01 0.2642 0.0654 *

Mars -23347-02-04 06:43 J -6806034.30 -6806034.22 -6806034.14 0.1672 0.1157

Saturn -23347-03-28 14:09 J -6805982.09 -6805981.91 -6805981.73 0.0290 0.0045

Saturn -23347-06-25 13:26 J -6805893.09 -6805892.94 -6805892.78 0.0291 0.0150

Mars -23347-12-15 01:55 J -6805720.56 -6805720.42 -6805720.27 0.1851 0.0879

Uranus -23346-04-20 04:33 J -6805594.36 -6805594.31 -6805594.26 0.0142 0.0131

Uranus -23346-07-17 08:09 J -6805506.24 -6805506.16 -6805506.07 0.0142 0.0110

Uranus -23346-10-13 11:45 J -6805418.11 -6805418.01 -6805417.90 0.0142 0.0088

Uranus -23345-01-09 15:35 J -6805329.97 -6805329.85 -6805329.73 0.0142 0.0066

Uranus -23345-04-06 19:26 J -6805241.82 -6805241.69 -6805241.56 0.0143 0.0044

Uranus -23345-07-03 23:02 J -6805153.67 -6805153.54 -6805153.40 0.0143 0.0022

Uranus -23345-09-30 02:52 J -6805065.51 -6805065.38 -6805065.24 0.0143 0.0002

Uranus -23345-12-27 06:43 J -6804977.35 -6804977.22 -6804977.08 0.0143 0.0023

Uranus -23344-03-25 10:33 J -6804889.19 -6804889.06 -6804888.93 0.0143 0.0046

Uranus -23344-06-21 14:23 J -6804801.02 -6804800.90 -6804800.78 0.0143 0.0069

Uranus -23344-09-17 18:14 J -6804712.84 -6804712.74 -6804712.63 0.0143 0.0093

Uranus -23344-12-14 22:04 J -6804624.65 -6804624.58 -6804624.49 0.0144 0.0116

Jupiter -23343-01-29 22:04 J -6804578.67 -6804578.58 -6804578.47 0.0497 0.0415

Uranus -23343-03-13 02:09 J -6804536.44 -6804536.41 -6804536.38 0.0144 0.0140

Jupiter -23343-04-30 05:59 J -6804488.39 -6804488.25 -6804488.11 0.0499 0.0297

Mars -23340-07-22 13:11 J -6803309.02 -6803308.95 -6803308.88 0.1655 0.1301

Venus -23338-06-26 18:14 J -6802604.82 -6802604.74 -6802604.67 0.3760 0.2593

Mars -23338-06-27 17:31 J -6802603.88 -6802603.77 -6802603.66 0.1668 0.0661

Moon -23338-07-01 08:52 J -6802600.25 -6802600.13 -6802600.02 0.2685 0.0155

Earth -23338-07-01 09:07 J -6802600.24 -6802600.12 -6802600.01 0.2692 0.0185 *

Jupiter -23338-09-22 08:23 J -6802517.21 -6802517.15 -6802517.09 0.0530 0.0458

Jupiter -23338-12-20 14:52 J -6802428.00 -6802427.88 -6802427.75 0.0528 0.0123

Mars -23337-05-05 21:21 J -6802290.77 -6802290.61 -6802290.45 0.1857 0.0386

Moon -23334-01-07 10:33 J -6801314.14 -6801314.06 -6801313.98 0.2650 0.2180

Earth -23334-01-07 11:02 J -6801314.11 -6801314.04 -6801313.97 0.2643 0.2285 *

Saturn -23334-08-01 14:09 J -6801107.99 -6801107.91 -6801107.82 0.0273 0.0209

Saturn -23334-10-29 00:57 J -6801019.58 -6801019.46 -6801019.33 0.0272 0.0093

Saturn -23333-01-25 11:45 J -6800931.15 -6800931.01 -6800930.88 0.0271 0.0022

Saturn -23333-04-22 22:33 J -6800842.68 -6800842.56 -6800842.45 0.0270 0.0137

Saturn -23333-07-20 09:21 J -6800754.16 -6800754.11 -6800754.06 0.0270 0.0252

Venus -23332-01-09 10:04 J -6800581.18 -6800581.08 -6800580.98 0.3762 0.0353

Jupiter -23331-02-16 03:07 J -6800178.54 -6800178.37 -6800178.19 0.0499 0.0114

Mars -23329-11-17 04:04 J -6799173.44 -6799173.33 -6799173.21 0.1665 0.0182

Mars -23328-09-25 16:19 J -6798860.89 -6798860.82 -6798860.75 0.1861 0.1676

Moon -23328-12-30 06:57 J -6798765.25 -6798765.21 -6798765.17 0.2635 0.2531

Earth -23328-12-30 08:23 J -6798765.21 -6798765.15 -6798765.10 0.2638 0.2453 *

Venus -23327-07-26 02:09 J -6798557.50 -6798557.41 -6798557.32 0.3763 0.1925

Jupiter -23326-10-08 18:43 J -6798117.85 -6798117.72 -6798117.59 0.0528 0.0027

Moon -23325-07-03 03:35 J -6797849.46 -6797849.35 -6797849.24 0.2687 0.0856

Earth -23325-07-03 04:04 J -6797849.44 -6797849.33 -6797849.22 0.2691 0.0962 *

Neptune -23323-06-01 01:40 J -6797151.45 -6797151.43 -6797151.38 0.0089 0.0087

Neptune -23323-08-28 03:07 J -6797063.42 -6797063.37 -6797063.30 0.0089 0.0080

Neptune -23323-11-24 04:33 J -6796975.38 -6796975.31 -6796975.23 0.0089 0.0073

Neptune -23322-02-20 05:59 J -6796887.34 -6796887.25 -6796887.16 0.0089 0.0066

Neptune -23322-05-19 07:11 J -6796799.29 -6796799.20 -6796799.09 0.0089 0.0059

Neptune -23322-08-15 08:38 J -6796711.24 -6796711.14 -6796711.03 0.0089 0.0052

Neptune -23322-11-11 09:50 J -6796623.19 -6796623.09 -6796622.96 0.0089 0.0046

Neptune -23321-02-07 11:16 J -6796535.14 -6796535.03 -6796534.90 0.0089 0.0038

Neptune -23321-05-05 12:43 J -6796447.09 -6796446.97 -6796446.84 0.0089 0.0031

Neptune -23321-08-01 14:09 J -6796359.04 -6796358.91 -6796358.78 0.0089 0.0024

Neptune -23321-10-28 15:35 J -6796270.98 -6796270.85 -6796270.72 0.0089 0.0017

Neptune -23320-01-24 17:02 J -6796182.93 -6796182.79 -6796182.66 0.0089 0.0011

Neptune -23320-04-22 18:14 J -6796094.87 -6796094.74 -6796094.60 0.0089 0.0004

Neptune -23320-07-19 19:40 J -6796006.81 -6796006.68 -6796006.55 0.0089 0.0004

Neptune -23320-10-15 20:52 J -6795918.76 -6795918.63 -6795918.49 0.0089 0.0011

Jupiter -23320-12-05 00:43 J -6795868.65 -6795868.47 -6795868.28 0.0498 0.0065

Neptune -23319-01-11 22:19 J -6795830.70 -6795830.57 -6795830.43 0.0089 0.0018

Mars -23319-04-09 15:07 J -6795742.98 -6795742.87 -6795742.75 0.1662 0.0309

Neptune -23319-04-09 23:45 J -6795742.64 -6795742.51 -6795742.38 0.0089 0.0025

Neptune -23319-07-07 01:11 J -6795654.58 -6795654.45 -6795654.33 0.0089 0.0032

Neptune -23319-10-03 02:23 J -6795566.51 -6795566.40 -6795566.27 0.0089 0.0039

Neptune -23319-12-30 03:50 J -6795478.45 -6795478.34 -6795478.22 0.0089 0.0046

Neptune -23318-03-28 05:02 J -6795390.38 -6795390.29 -6795390.17 0.0089 0.0053

Saturn -23318-05-18 14:38 J -6795338.93 -6795338.89 -6795338.84 0.0289 0.0279

Neptune -23318-06-24 06:28 J -6795302.32 -6795302.23 -6795302.12 0.0089 0.0060

Earth -23318-06-26 23:59 J -6795299.57 -6795299.50 -6795299.43 0.2695 0.2108

Moon -23318-06-27 00:57 J -6795299.54 -6795299.46 -6795299.39 0.2693 0.1968 *

Saturn -23318-08-15 14:38 J -6795250.06 -6795249.89 -6795249.72 0.0290 0.0083

Neptune -23318-09-20 07:55 J -6795214.25 -6795214.17 -6795214.07 0.0089 0.0067

Saturn -23318-11-12 14:09 J -6795161.08 -6795160.91 -6795160.74 0.0290 0.0112

Neptune -23318-12-17 09:21 J -6795126.18 -6795126.11 -6795126.03 0.0089 0.0074

Venus -23317-02-04 10:19 J -6795077.23 -6795077.07 -6795076.92 0.3612 0.0540

Neptune -23317-03-14 10:47 J -6795038.10 -6795038.05 -6795037.99 0.0089 0.0081

Neptune -23317-06-10 12:14 J -6794950.00 -6794949.99 -6794949.97 0.0089 0.0088

Moon -23314-01-02 10:19 J -6794014.21 -6794014.07 -6794013.93 0.2640 0.0798

Earth -23314-01-02 11:45 J -6794014.16 -6794014.01 -6794013.87 0.2640 0.0721 *

Jupiter -23314-07-27 22:04 J -6793807.70 -6793807.58 -6793807.46 0.0529 0.0184

Jupiter -23314-10-25 04:47 J -6793718.38 -6793718.30 -6793718.21 0.0527 0.0400

Moon -23312-07-05 22:33 J -6793098.63 -6793098.56 -6793098.49 0.2689 0.2078

Earth -23312-07-05 23:31 J -6793098.59 -6793098.52 -6793098.45 0.2689 0.2093 *

Mars -23310-08-31 02:09 J -6792312.51 -6792312.41 -6792312.31 0.1658 0.0776

Mars -23308-08-05 06:43 J -6791607.30 -6791607.22 -6791607.14 0.1672 0.1222

Jupiter -23308-09-22 22:33 J -6791558.72 -6791558.56 -6791558.40 0.0497 0.0239

Jupiter -23308-12-22 05:59 J -6791468.31 -6791468.25 -6791468.19 0.0499 0.0470

Mars -23307-06-15 02:52 J -6791293.52 -6791293.38 -6791293.25 0.1852 0.1001

Uranus -23307-12-09 12:57 J -6791115.99 -6791115.96 -6791115.89 0.0136 0.0131

Uranus -23306-03-07 19:55 J -6791027.77 -6791027.67 -6791027.53 0.0136 0.0104

Uranus -23306-06-04 02:52 J -6790939.52 -6790939.38 -6790939.21 0.0136 0.0077

Uranus -23306-08-31 09:50 J -6790851.25 -6790851.09 -6790850.91 0.0136 0.0049

Uranus -23306-11-27 16:47 J -6790762.98 -6790762.80 -6790762.61 0.0136 0.0022

Uranus -23305-02-23 23:31 J -6790674.70 -6790674.52 -6790674.33 0.0136 0.0005

Uranus -23305-05-22 06:14 J -6790586.42 -6790586.24 -6790586.06 0.0136 0.0031

Earth -23305-06-28 18:57 J -6790548.82 -6790548.71 -6790548.60 0.2694 0.1035

Moon -23305-06-28 19:11 J -6790548.80 -6790548.70 -6790548.59 0.2688 0.1036 *

Uranus -23305-08-18 12:43 J -6790498.13 -6790497.97 -6790497.80 0.0136 0.0057

Uranus -23305-11-14 19:11 J -6790409.83 -6790409.70 -6790409.54 0.0136 0.0083

Saturn -23305-12-18 18:14 J -6790375.81 -6790375.74 -6790375.67 0.0273 0.0228

Uranus -23304-02-11 01:55 J -6790321.53 -6790321.42 -6790321.31 0.0135 0.0108

Saturn -23304-03-17 04:47 J -6790287.42 -6790287.30 -6790287.18 0.0272 0.0113

Uranus -23304-05-10 08:23 J -6790233.18 -6790233.15 -6790233.12 0.0135 0.0133

Saturn -23304-06-13 15:35 J -6790198.99 -6790198.85 -6790198.72 0.0271 0.0006

Saturn -23304-09-10 02:09 J -6790110.53 -6790110.41 -6790110.28 0.0270 0.0118

Saturn -23304-12-07 13:11 J -6790022.02 -6790021.95 -6790021.89 0.0270 0.0232

Jupiter -23302-05-16 01:55 J -6789497.52 -6789497.42 -6789497.32 0.0530 0.0332

Jupiter -23302-08-13 08:38 J -6789408.25 -6789408.14 -6789408.03 0.0528 0.0252

Moon -23301-01-05 13:40 J -6789263.07 -6789262.93 -6789262.80 0.2647 0.0806

Earth	-23301-01-05 14:38 J	-6789263.03	-6789262.89	-6789262.76	0.2642	0.0968 *
Mars	-23300-01-20 13:11 J	-6788882.02	-6788881.95	-6788881.87	0.1655	0.1238
Mars	-23299-12-26 17:31 J	-6788176.88	-6788176.77	-6788176.67	0.1668	0.0725
Mars	-23298-11-04 22:04 J	-6787863.74	-6787863.58	-6787863.41	0.1856	0.0260
Jupiter	-23296-07-11 19:26 J	-6787248.78	-6787248.69	-6787248.59	0.0497	0.0423
Jupiter	-23296-10-10 03:07 J	-6787158.51	-6787158.37	-6787158.22	0.0498	0.0289
Moon	-23292-07-01 13:40 J	-6785798.04	-6785797.93	-6785797.81	0.2685	0.0114
Earth	-23292-07-01 13:55 J	-6785798.03	-6785797.92	-6785797.80	0.2692	0.0086 *
Jupiter	-23290-03-04 05:59 J	-6785187.30	-6785187.25	-6785187.19	0.0531	0.0473
Jupiter	-23290-06-01 12:43 J	-6785098.10	-6785097.97	-6785097.85	0.0529	0.0109
Mars	-23289-05-18 04:19 J	-6784746.44	-6784746.32	-6784746.21	0.1665	0.0239
Saturn	-23288-01-01 14:09 J	-6784518.07	-6784517.91	-6784517.74	0.0290	0.0131
Earth	-23288-01-07 17:02 J	-6784511.81	-6784511.79	-6784511.76	0.2644	0.2592
Mars	-23288-03-26 16:47 J	-6784433.88	-6784433.80	-6784433.71	0.1861	0.1565
Saturn	-23288-03-31 13:40 J	-6784429.10	-6784428.93	-6784428.75	0.0290	0.0065
Saturn	-23288-06-28 12:57 J	-6784340.03	-6784339.96	-6784339.87	0.0291	0.0258
Jupiter	-23284-07-29 00:43 J	-6782848.64	-6782848.47	-6782848.29	0.0498	0.0112
Moon	-23282-12-31 13:11 J	-6781963.02	-6781962.95	-6781962.88	0.2635	0.2289
Earth	-23282-12-31 14:23 J	-6781962.98	-6781962.90	-6781962.81	0.2638	0.2124 *
Venus	-23281-01-31 15:35 J	-6781931.94	-6781931.85	-6781931.76	0.3761	0.1773
Mars	-23280-10-08 15:07 J	-6781315.99	-6781315.87	-6781315.75	0.1661	0.0247
Moon	-23279-07-04 08:23 J	-6781047.26	-6781047.15	-6781047.04	0.2688	0.1122
Earth	-23279-07-04 09:07 J	-6781047.22	-6781047.12	-6781047.01	0.2690	0.1179 *
Jupiter	-23278-03-20 16:47 J	-6780787.92	-6780787.80	-6780787.67	0.0529	0.0036
Venus	-23276-08-16 07:40 J	-6779908.28	-6779908.18	-6779908.08	0.3762	0.0486
Saturn	-23275-05-07 20:38 J	-6779643.67	-6779643.64	-6779643.60	0.0273	0.0260
Saturn	-23275-08-04 07:26 J	-6779555.30	-6779555.19	-6779555.08	0.0272	0.0146
Saturn	-23275-10-31 17:59 J	-6779466.88	-6779466.75	-6779466.61	0.0271	0.0031
Saturn	-23274-01-28 04:47 J	-6779378.43	-6779378.30	-6779378.17	0.0271	0.0084
Saturn	-23274-04-26 15:35 J	-6779289.94	-6779289.85	-6779289.76	0.0270	0.0199

Jupiter -23272-05-16 21:50 J -6778538.77 -6778538.59 -6778538.41 0.0498 0.0074

Earth -23272-06-27 05:02 J -6778497.37 -6778497.29 -6778497.21 0.2695 0.1899

Moon -23272-06-27 05:45 J -6778497.34 -6778497.26 -6778497.18 0.2693 0.1888 *

Mars -23270-03-01 02:09 J -6777885.52 -6777885.41 -6777885.31 0.1658 0.0716

Venus -23270-03-01 23:45 J -6777884.58 -6777884.51 -6777884.45 0.3763 0.2767

Moon -23268-01-02 16:19 J -6777211.96 -6777211.82 -6777211.67 0.2642 0.0530

Earth -23268-01-02 17:45 J -6777211.90 -6777211.76 -6777211.61 0.2640 0.0395 *

Mars -23268-02-03 06:43 J -6777180.30 -6777180.22 -6777180.15 0.1672 0.1280

Mars -23268-12-14 03:35 J -6776866.48 -6776866.35 -6776866.22 0.1852 0.1125

Jupiter -23266-01-06 20:52 J -6776477.75 -6776477.63 -6776477.51 0.0529 0.0177

Jupiter -23266-04-06 03:35 J -6776388.43 -6776388.35 -6776388.27 0.0527 0.0406

Moon -23266-07-07 03:35 J -6776296.41 -6776296.35 -6776296.28 0.2690 0.2175

Earth -23266-07-07 04:33 J -6776296.37 -6776296.31 -6776296.26 0.2689 0.2315 *

Uranus -23262-05-10 12:28 J -6774893.04 -6774892.98 -6774892.91 0.0142 0.0122

Uranus -23262-08-06 16:04 J -6774804.92 -6774804.83 -6774804.73 0.0142 0.0101

Uranus -23262-11-02 19:40 J -6774716.78 -6774716.68 -6774716.56 0.0142 0.0080

Uranus -23261-01-29 23:31 J -6774628.64 -6774628.52 -6774628.39 0.0142 0.0057

Uranus -23261-04-27 03:21 J -6774540.49 -6774540.36 -6774540.23 0.0143 0.0035

Mars -23261-07-21 13:11 J -6774455.03 -6774454.95 -6774454.87 0.1655 0.1176

Uranus -23261-07-24 06:57 J -6774452.34 -6774452.21 -6774452.07 0.0143 0.0014

Venus -23261-09-10 11:31 J -6774404.16 -6774404.02 -6774403.88 0.3612 0.1451

Uranus -23261-10-20 10:47 J -6774364.18 -6774364.05 -6774363.91 0.0143 0.0010

Uranus -23260-01-16 14:38 J -6774276.02 -6774275.89 -6774275.76 0.0143 0.0033

Jupiter -23260-03-04 19:26 J -6774228.84 -6774228.69 -6774228.53 0.0497 0.0251

Uranus -23260-04-14 18:28 J -6774187.85 -6774187.73 -6774187.60 0.0143 0.0055

Jupiter -23260-06-03 02:52 J -6774138.44 -6774138.38 -6774138.31 0.0499 0.0459

Uranus -23260-07-11 22:19 J -6774099.68 -6774099.57 -6774099.45 0.0143 0.0079

Uranus -23260-10-08 01:55 J -6774011.50 -6774011.42 -6774011.31 0.0143 0.0103

Uranus -23259-01-04 05:59 J -6773923.31 -6773923.25 -6773923.18 0.0143 0.0126

Saturn -23259-05-21 13:55 J -6773786.06 -6773785.92 -6773785.77 0.0289 0.0174

Mars -23259-06-26 17:31 J -6773749.88 -6773749.77 -6773749.67 0.1669 0.0789

Earth -23259-06-29 23:59 J -6773746.61 -6773746.50 -6773746.39 0.2694 0.0823

Moon -23259-06-30 00:14 J -6773746.60 -6773746.49 -6773746.38 0.2687 0.0750 *

Saturn -23259-08-18 13:40 J -6773697.11 -6773696.93 -6773696.75 0.0290 0.0022

Pluto -23259-10-04 08:09 J -6773650.18 -6773650.16 -6773650.09 0.0071 0.0068

Saturn -23259-11-15 13:11 J -6773608.07 -6773607.95 -6773607.83 0.0291 0.0216

Pluto -23259-12-31 09:50 J -6773562.16 -6773562.09 -6773562.00 0.0071 0.0060

Pluto -23258-03-29 11:02 J -6773474.13 -6773474.04 -6773473.92 0.0071 0.0053

Mars -23258-05-05 23:02 J -6773436.71 -6773436.54 -6773436.38 0.1856 0.0130

Pluto -23258-06-25 12:43 J -6773386.09 -6773385.97 -6773385.85 0.0071 0.0046

Pluto -23258-09-21 13:40 J -6773298.05 -6773297.93 -6773297.78 0.0071 0.0039

Pluto -23258-12-18 15:21 J -6773210.00 -6773209.86 -6773209.71 0.0071 0.0031

Pluto -23257-03-15 16:47 J -6773121.95 -6773121.80 -6773121.64 0.0072 0.0023

Pluto -23257-06-11 17:59 J -6773033.90 -6773033.75 -6773033.58 0.0072 0.0016

Pluto -23257-09-07 19:40 J -6772945.84 -6772945.68 -6772945.52 0.0072 0.0007

Pluto -23257-12-04 21:07 J -6772857.78 -6772857.62 -6772857.46 0.0072 0.0001

Pluto -23256-03-02 22:33 J -6772769.72 -6772769.56 -6772769.40 0.0072 0.0008

Pluto -23256-05-29 23:59 J -6772681.66 -6772681.50 -6772681.34 0.0072 0.0016

Pluto -23256-08-26 01:26 J -6772593.59 -6772593.44 -6772593.28 0.0072 0.0024

Pluto -23256-11-22 02:52 J -6772505.52 -6772505.38 -6772505.23 0.0072 0.0033

Moon -23255-01-05 19:40 J -6772460.81 -6772460.68 -6772460.56 0.2647 0.1267

Earth -23255-01-05 20:38 J -6772460.77 -6772460.64 -6772460.51 0.2642 0.1278 *

Pluto -23255-02-18 04:19 J -6772417.45 -6772417.32 -6772417.18 0.0073 0.0041

Pluto -23255-05-17 05:59 J -6772329.37 -6772329.25 -6772329.13 0.0073 0.0049

Pluto -23255-08-13 07:40 J -6772241.28 -6772241.18 -6772241.08 0.0073 0.0057

Jupiter -23255-10-25 23:59 J -6772167.59 -6772167.50 -6772167.40 0.0530 0.0337

Pluto -23255-11-09 08:38 J -6772153.19 -6772153.14 -6772153.05 0.0073 0.0066

Jupiter -23254-01-23 06:43 J -6772078.33 -6772078.22 -6772078.10 0.0528 0.0246

Mars -23252-12-12 00:28 J -6771024.50 -6771024.48 -6771024.47 0.1652 0.1630

Mars -23250-11-17 04:19 J -6770319.44 -6770319.32 -6770319.21 0.1665 0.0303

Mars -23249-09-24 17:31 J -6770006.87 -6770006.77 -6770006.66 0.1861 0.1442

Jupiter -23249-12-21 17:16 J -6769918.87 -6769918.78 -6769918.69 0.0497 0.0425

Jupiter -23248-03-22 00:57 J -6769828.60 -6769828.46 -6769828.31 0.0499 0.0288

Moon -23246-07-02 18:43 J -6768995.84 -6768995.72 -6768995.60 0.2686 0.0224

Earth -23246-07-02 18:57 J -6768995.82 -6768995.71 -6768995.59 0.2692 0.0279 *

Saturn -23246-12-22 11:02 J -6768823.14 -6768823.04 -6768822.93 0.0272 0.0166

Saturn -23245-03-19 21:50 J -6768734.72 -6768734.59 -6768734.46 0.0271 0.0051

Saturn -23245-06-16 08:38 J -6768646.27 -6768646.14 -6768646.01 0.0271 0.0065

Saturn -23245-09-12 19:11 J -6768557.79 -6768557.70 -6768557.59 0.0270 0.0180

Jupiter -23243-08-14 03:50 J -6767857.38 -6767857.34 -6767857.29 0.0531 0.0484

Jupiter -23243-11-11 10:33 J -6767768.19 -6767768.06 -6767767.93 0.0529 0.0097

Mars -23240-04-08 15:07 J -6766888.99 -6766888.87 -6766888.75 0.1661 0.0182

Neptune -23239-02-14 18:43 J -6766576.77 -6766576.72 -6766576.65 0.0088 0.0083

Neptune -23239-05-13 22:19 J -6766488.67 -6766488.57 -6766488.46 0.0088 0.0073

Neptune -23239-08-10 01:26 J -6766400.55 -6766400.44 -6766400.28 0.0088 0.0064

Neptune -23239-11-06 05:02 J -6766312.42 -6766312.29 -6766312.12 0.0088 0.0054

Neptune -23238-02-02 08:52 J -6766224.29 -6766224.13 -6766223.96 0.0088 0.0044

Neptune -23238-05-01 12:28 J -6766136.16 -6766135.98 -6766135.80 0.0088 0.0034

Neptune -23238-07-28 15:35 J -6766048.02 -6766047.85 -6766047.65 0.0088 0.0025

Neptune -23238-10-24 19:11 J -6765959.88 -6765959.70 -6765959.50 0.0088 0.0015

Neptune -23237-01-20 22:47 J -6765871.74 -6765871.55 -6765871.36 0.0088 0.0005

Neptune -23237-04-18 02:09 J -6765783.60 -6765783.41 -6765783.21 0.0088 0.0005

Neptune -23237-07-15 05:45 J -6765695.45 -6765695.26 -6765695.07 0.0088 0.0014

Neptune -23237-10-11 08:52 J -6765607.30 -6765607.13 -6765606.93 0.0088 0.0024

Neptune -23236-01-07 12:28 J -6765519.15 -6765518.98 -6765518.80 0.0088 0.0033

Jupiter -23236-01-07 22:19 J -6765518.75 -6765518.57 -6765518.39 0.0498 0.0105

Neptune -23236-04-05 15:35 J -6765431.00 -6765430.85 -6765430.67 0.0088 0.0043

Neptune -23236-07-02 19:11 J -6765342.84 -6765342.70 -6765342.54 0.0088 0.0052

Neptune -23236-09-28 22:19 J -6765254.68 -6765254.57 -6765254.41 0.0088 0.0062

Neptune -23236-12-26 01:55 J -6765166.52 -6765166.42 -6765166.30 0.0088 0.0071

Moon -23236-12-31 19:11 J -6765160.80 -6765160.70 -6765160.59 0.2636 0.1856

Earth -23236-12-31 20:38 J -6765160.75 -6765160.64 -6765160.53 0.2639 0.1801 *

Neptune -23235-03-24 05:02 J -6765078.34 -6765078.29 -6765078.19 0.0088 0.0081

Moon -23233-07-04 13:26 J -6764245.04 -6764244.94 -6764244.84 0.2688 0.1301

Earth -23233-07-04 14:09 J -6764245.01 -6764244.91 -6764244.81 0.2690 0.1394 *

Mars -23231-08-30 02:09 J -6763458.52 -6763458.41 -6763458.30 0.1658 0.0653

Jupiter -23231-08-30 14:38 J -6763458.02 -6763457.89 -6763457.76 0.0529 0.0046

Venus -23230-02-21 21:21 J -6763282.67 -6763282.61 -6763282.56 0.3760 0.3175

Saturn -23230-10-08 13:40 J -6763054.05 -6763053.93 -6763053.81 0.0289 0.0222

Saturn -23229-01-05 13:26 J -6762965.12 -6762964.94 -6762964.76 0.0290 0.0025

Saturn -23229-04-03 12:43 J -6762876.11 -6762875.97 -6762875.82 0.0291 0.0170

Mars -23229-08-04 06:43 J -6762753.29 -6762753.22 -6762753.15 0.1672 0.1349

Mars -23228-06-14 04:19 J -6762439.44 -6762439.32 -6762439.20 0.1851 0.1237

Earth -23226-06-28 10:04 J -6761695.17 -6761695.08 -6761694.99 0.2695 0.1697

Moon -23226-06-28 10:33 J -6761695.15 -6761695.06 -6761694.96 0.2692 0.1568 *

Venus -23225-09-06 13:11 J -6761259.05 -6761258.95 -6761258.85 0.3761 0.0946

Jupiter -23225-10-26 19:55 J -6761208.85 -6761208.67 -6761208.49 0.0497 0.0074

Uranus -23223-12-29 21:07 J -6760414.69 -6760414.62 -6760414.52 0.0136 0.0121

Moon -23222-01-03 22:33 J -6760409.71 -6760409.56 -6760409.42 0.2643 0.0221

Earth -23222-01-03 23:45 J -6760409.65 -6760409.51 -6760409.36 0.2640 0.0098 *

Uranus -23222-03-28 04:19 J -6760326.45 -6760326.32 -6760326.18 0.0136 0.0093

Uranus -23222-06-24 11:16 J -6760238.19 -6760238.03 -6760237.86 0.0136 0.0066

Uranus -23222-09-20 17:59 J -6760149.92 -6760149.75 -6760149.56 0.0136 0.0039

Uranus -23222-12-18 00:57 J -6760061.64 -6760061.46 -6760061.28 0.0136 0.0012

Mars -23221-01-20 13:11 J -6760028.04 -6760027.95 -6760027.87 0.1655 0.1120

Uranus -23221-03-15 07:40 J -6759973.36 -6759973.18 -6759973.00 0.0136 0.0014

Uranus -23221-06-11 14:09 J -6759885.08 -6759884.91 -6759884.73 0.0136 0.0041

Uranus -23221-09-07 20:52 J -6759796.78 -6759796.63 -6759796.47 0.0136 0.0067

Uranus -23221-12-05 03:07 J -6759708.49 -6759708.37 -6759708.22 0.0136 0.0093

Uranus -23220-03-03 09:50 J -6759620.17 -6759620.09 -6759619.99 0.0135 0.0118

Moon -23220-07-07 08:52 J -6759494.17 -6759494.13 -6759494.09 0.2691 0.2511

Earth -23220-07-07 09:35 J -6759494.14 -6759494.10 -6759494.07 0.2688 0.2536 *

Mars -23220-12-25 17:31 J -6759322.88 -6759322.77 -6759322.67 0.1668 0.0851

Venus -23219-03-23 05:02 J -6759235.38 -6759235.29 -6759235.19 0.3762 0.1309

Jupiter -23219-06-18 18:57 J -6759147.83 -6759147.71 -6759147.59 0.0530 0.0185

Jupiter -23219-09-16 01:40 J -6759058.51 -6759058.43 -6759058.34 0.0527 0.0400

Mars -23219-11-03 23:31 J -6759009.69 -6759009.52 -6759009.36 0.1857 0.0041

Saturn -23216-05-10 13:40 J -6758091.02 -6758090.93 -6758090.84 0.0272 0.0199

Saturn -23216-08-07 00:14 J -6758002.62 -6758002.49 -6758002.36 0.0271 0.0085

Saturn -23216-11-03 10:47 J -6757914.18 -6757914.05 -6757913.91 0.0271 0.0032

Saturn -23215-01-30 21:35 J -6757825.71 -6757825.60 -6757825.48 0.0270 0.0145

Saturn -23215-04-29 08:23 J -6757737.18 -6757737.15 -6757737.11 0.0269 0.0260

Venus -23214-10-06 21:07 J -6757211.64 -6757211.62 -6757211.59 0.3763 0.3613

Moon -23213-06-30 05:02 J -6756944.40 -6756944.29 -6756944.17 0.2686 0.0662

Earth -23213-06-30 05:02 J -6756944.40 -6756944.29 -6756944.18 0.2694 0.0615 *

Jupiter -23213-08-14 16:47 J -6756898.96 -6756898.80 -6756898.64 0.0497 0.0259

Jupiter -23213-11-13 00:14 J -6756808.56 -6756808.49 -6756808.41 0.0499 0.0451

Mars -23212-06-12 00:28 J -6756597.52 -6756597.48 -6756597.45 0.1652 0.1571

Mars -23210-05-18 04:04 J -6755892.44 -6755892.33 -6755892.21 0.1665 0.0360

Venus -23210-10-02 05:59 J -6755755.36 -6755755.25 -6755755.14 0.3613 0.2486

Moon -23209-01-07 01:55 J -6755658.54 -6755658.42 -6755658.30 0.2647 0.1483

Earth -23209-01-07 02:38 J -6755658.50 -6755658.39 -6755658.27 0.2642 0.1594 *

Mars -23209-03-25 18:43 J -6755579.84 -6755579.72 -6755579.60 0.1861 0.1301

Jupiter -23207-04-06 23:02 J -6754837.64 -6754837.54 -6754837.44 0.0530 0.0328

Jupiter -23207-07-05 05:45 J -6754748.37 -6754748.26 -6754748.15 0.0528 0.0254

Venus -23204-04-17 13:11 J -6753731.00 -6753730.95 -6753730.91 0.3612 0.3431

Jupiter -23201-06-02 14:23 J -6752588.98 -6752588.90 -6752588.81 0.0497 0.0434

Jupiter -23201-08-31 22:19 J -6752498.72 -6752498.57 -6752498.42 0.0499 0.0279

Mars -23201-10-07 15:07 J -6752461.99 -6752461.87 -6752461.75 0.1662 0.0120

Saturn -23200-02-24 12:14 J -6752322.04 -6752321.99 -6752321.93 0.0289 0.0274

Saturn -23200-05-24 12:14 J -6752233.17 -6752232.99 -6752232.81 0.0290 0.0077

Moon -23200-07-02 23:31 J -6752193.63 -6752193.52 -6752193.40 0.2687 0.0488

Earth -23200-07-02 23:59 J -6752193.61 -6752193.50 -6752193.38 0.2692 0.0494 *

Saturn -23200-08-21 11:45 J -6752144.17 -6752144.01 -6752143.84 0.0290 0.0119

Jupiter -23195-01-24 02:23 J -6750527.45 -6750527.40 -6750527.36 0.0530 0.0487

Jupiter -23195-04-23 08:52 J -6750438.26 -6750438.13 -6750438.00 0.0528 0.0094

Earth -23193-06-25 20:09 J -6749643.69 -6749643.66 -6749643.63 0.2696 0.2557

Moon -23193-06-25 20:52 J -6749643.67 -6749643.63 -6749643.58 0.2697 0.2434 *

Mars -23191-02-28 02:09 J -6749031.52 -6749031.41 -6749031.30 0.1658 0.0592

Moon -23189-01-02 01:26 J -6748358.55 -6748358.44 -6748358.33 0.2637 0.1674

Earth -23189-01-02 02:52 J -6748358.51 -6748358.38 -6748358.26 0.2639 0.1477 *

Mars -23189-02-03 06:43 J -6748326.28 -6748326.22 -6748326.16 0.1672 0.1412

Jupiter -23189-06-19 20:23 J -6748188.82 -6748188.65 -6748188.47 0.0498 0.0108

Mars -23189-12-13 04:47 J -6748012.40 -6748012.30 -6748012.18 0.1852 0.1356

Moon -23187-07-05 18:28 J -6747442.83 -6747442.73 -6747442.64 0.2688 0.1533

Earth -23187-07-05 19:11 J -6747442.79 -6747442.70 -6747442.61 0.2690 0.1617 *

Saturn -23187-09-27 17:16 J -6747358.86 -6747358.78 -6747358.70 0.0272 0.0221

Saturn -23187-12-25 03:50 J -6747270.46 -6747270.34 -6747270.22 0.0272 0.0107

Saturn -23186-03-23 14:38 J -6747182.03 -6747181.89 -6747181.76 0.0271 0.0010

Saturn -23186-06-20 01:11 J -6747093.57 -6747093.45 -6747093.33 0.0270 0.0123

Saturn -23186-09-16 11:59 J -6747005.06 -6747005.00 -6747004.94 0.0269 0.0238

Jupiter -23183-02-09 12:43 J -6746128.10 -6746127.97 -6746127.84 0.0529 0.0055

Mars -23182-07-21 13:11 J -6745601.04 -6745600.95 -6745600.86 0.1655 0.1055

Mars -23180-06-25 17:16 J -6744895.87 -6744895.78 -6744895.68 0.1668 0.0915

Earth -23180-06-28 15:07 J -6744892.97 -6744892.87 -6744892.78 0.2695 0.1492

Moon -23180-06-28 15:35 J -6744892.95 -6744892.85 -6744892.76 0.2690 0.1491 *

Mars -23179-05-05 00:28 J -6744582.65 -6744582.48 -6744582.32 0.1856 0.0111

Uranus -23178-03-03 16:47 J -6744279.83 -6744279.80 -6744279.76 0.0142 0.0135

Uranus -23178-05-30 20:23 J -6744191.72 -6744191.65 -6744191.56 0.0142 0.0114

Uranus -23178-08-26 23:59 J -6744103.59 -6744103.50 -6744103.39 0.0142 0.0092

Uranus -23178-11-23 03:50 J -6744015.46 -6744015.34 -6744015.22 0.0142 0.0070

Uranus -23177-02-19 07:26 J -6743927.31 -6743927.19 -6743927.06 0.0142 0.0049

Jupiter -23177-04-07 17:45 J -6743878.94 -6743878.76 -6743878.58 0.0497 0.0074

Uranus -23177-05-17 11:16 J -6743839.16 -6743839.03 -6743838.90 0.0143 0.0026

Uranus -23177-08-13 15:07 J -6743751.01 -6743750.87 -6743750.74 0.0143 0.0005

Uranus -23177-11-09 18:43 J -6743662.85 -6743662.72 -6743662.58 0.0143 0.0019

Moon -23176-01-04 04:33 J -6743607.45 -6743607.31 -6743607.16 0.2644 0.0169

Earth -23176-01-04 05:59 J -6743607.40 -6743607.25 -6743607.11 0.2641 0.0246 *

Uranus -23176-02-05 22:33 J -6743574.69 -6743574.56 -6743574.43 0.0143 0.0042

Uranus -23176-05-05 02:23 J -6743486.52 -6743486.40 -6743486.27 0.0143 0.0065

Uranus -23176-08-01 06:14 J -6743398.34 -6743398.24 -6743398.13 0.0143 0.0088

Uranus -23176-10-28 10:04 J -6743310.16 -6743310.08 -6743309.99 0.0143 0.0111

Uranus -23175-01-24 13:55 J -6743221.95 -6743221.92 -6743221.86 0.0143 0.0135

Moon -23174-07-08 13:55 J -6742691.93 -6742691.92 -6742691.91 0.2693 0.2676

Pluto -23174-09-08 19:26 J -6742629.75 -6742629.69 -6742629.62 0.0074 0.0066

Venus -23174-09-28 18:43 J -6742609.80 -6742609.72 -6742609.64 0.3760 0.2359

Pluto -23174-12-05 20:38 J -6742541.72 -6742541.64 -6742541.53 0.0074 0.0058

Pluto -23173-03-02 22:04 J -6742453.68 -6742453.58 -6742453.46 0.0073 0.0050

Pluto -23173-05-29 23:31 J -6742365.64 -6742365.52 -6742365.39 0.0073 0.0041

Pluto -23173-08-26 00:43 J -6742277.60 -6742277.47 -6742277.32 0.0073 0.0034

Pluto -23173-11-22 02:09 J -6742189.55 -6742189.41 -6742189.26 0.0073 0.0025

Mars -23173-12-11 00:14 J -6742170.53 -6742170.49 -6742170.44 0.1652 0.1513

Pluto -23172-02-18 03:35 J -6742101.50 -6742101.35 -6742101.20 0.0073 0.0017

Pluto -23172-05-17 04:47 J -6742013.45 -6742013.30 -6742013.14 0.0073 0.0010

Pluto -23172-08-13 06:14 J -6741925.40 -6741925.24 -6741925.09 0.0073 0.0002

Pluto -23172-11-09 07:26 J -6741837.34 -6741837.19 -6741837.04 0.0073 0.0006

Jupiter -23172-11-28 16:47 J -6741817.92 -6741817.80 -6741817.68 0.0530 0.0197

Pluto -23171-02-05 08:38 J -6741749.29 -6741749.14 -6741748.99 0.0072 0.0014

Jupiter -23171-02-25 23:31 J -6741728.60 -6741728.52 -6741728.43 0.0528 0.0389

Pluto -23171-05-04 09:50 J -6741661.23 -6741661.09 -6741660.94 0.0072 0.0021

Pluto -23171-07-31 10:47 J -6741573.17 -6741573.05 -6741572.89 0.0072 0.0029

Saturn -23171-10-11 11:31 J -6741501.18 -6741501.02 -6741500.85 0.0290 0.0127

Pluto -23171-10-27 12:14 J -6741485.12 -6741484.99 -6741484.85 0.0072 0.0036

Mars -23171-11-16 04:04 J -6741465.44 -6741465.33 -6741465.21 0.1665 0.0427

Saturn -23170-01-08 11:16 J -6741412.21 -6741412.03 -6741411.86 0.0291 0.0069

Pluto -23170-01-23 13:40 J -6741397.05 -6741396.93 -6741396.81 0.0072 0.0043

Saturn -23170-04-07 10:33 J -6741323.13 -6741323.06 -6741322.98 0.0291 0.0264

Pluto -23170-04-21 14:23 J -6741308.99 -6741308.90 -6741308.78 0.0072 0.0051

Pluto -23170-07-18 15:35 J -6741220.92 -6741220.85 -6741220.75 0.0072 0.0058

Mars -23170-09-24 18:57 J -6741152.83 -6741152.71 -6741152.58 0.1861 0.1202

Pluto -23170-10-14 17:02 J -6741132.85 -6741132.79 -6741132.72 0.0072 0.0065

Venus -23168-04-13 10:33 J -6740586.16 -6740586.06 -6740585.96 0.3761 0.0168

Moon -23167-07-01 10:04 J -6740142.20 -6740142.08 -6740141.97 0.2686 0.0324

Earth -23167-07-01 10:04 J -6740142.20 -6740142.08 -6740141.97 0.2693 0.0412 *

Jupiter -23165-01-25 15:07 J -6739569.03 -6739568.87 -6739568.71 0.0497 0.0253

Jupiter -23165-04-24 22:33 J -6739478.63 -6739478.56 -6739478.49 0.0499 0.0455

Moon -23163-01-07 08:09 J -6738856.26 -6738856.16 -6738856.06 0.2648 0.1878

Earth -23163-01-07 08:38 J -6738856.24 -6738856.14 -6738856.04 0.2642 0.1901 *

Venus -23163-10-28 02:38 J -6738562.47 -6738562.39 -6738562.31 0.3762 0.2139

Mars -23161-04-07 15:07 J -6738034.99 -6738034.87 -6738034.75 0.1661 0.0066

Jupiter -23160-09-16 21:07 J -6737507.71 -6737507.62 -6737507.52 0.0530 0.0334

Jupiter -23160-12-15 03:50 J -6737418.45 -6737418.34 -6737418.22 0.0528 0.0250

Neptune -23158-02-26 00:43 J -6736980.49 -6736980.47 -6736980.43 0.0089 0.0086

Neptune -23158-05-25 01:55 J -6736892.46 -6736892.42 -6736892.34 0.0089 0.0080

Neptune -23158-08-21 03:21 J -6736804.42 -6736804.36 -6736804.27 0.0089 0.0073

Neptune -23158-11-17 04:47 J -6736716.38 -6736716.30 -6736716.20 0.0089 0.0065

Neptune -23157-02-13 06:14 J -6736628.33 -6736628.24 -6736628.13 0.0089 0.0058

Saturn -23157-02-14 19:40 J -6736626.72 -6736626.68 -6736626.64 0.0272 0.0256

Neptune -23157-05-11 07:40 J -6736540.29 -6736540.18 -6736540.07 0.0089 0.0051

Saturn -23157-05-13 06:14 J -6736538.35 -6736538.24 -6736538.13 0.0272 0.0141

Neptune -23157-08-07 09:07 J -6736452.24 -6736452.12 -6736452.01 0.0089 0.0044

Saturn -23157-08-09 16:47 J -6736449.93 -6736449.80 -6736449.66 0.0271 0.0028

Neptune -23157-11-03 10:19 J -6736364.19 -6736364.07 -6736363.95 0.0089 0.0038

Saturn -23157-11-06 03:35 J -6736361.48 -6736361.35 -6736361.22 0.0270 0.0088

Neptune -23156-01-30 11:45 J -6736276.13 -6736276.01 -6736275.88 0.0089 0.0031

Saturn -23156-02-02 14:23 J -6736272.99 -6736272.90 -6736272.81 0.0269 0.0203

Neptune -23156-04-28 13:11 J -6736188.08 -6736187.95 -6736187.82 0.0089 0.0024

Neptune -23156-07-25 14:23 J -6736100.03 -6736099.90 -6736099.76 0.0089 0.0017

Neptune -23156-10-21 15:50 J -6736011.97 -6736011.84 -6736011.71 0.0089 0.0010

Neptune -23155-01-17 17:16 J -6735923.92 -6735923.78 -6735923.65 0.0089 0.0003

Neptune -23155-04-15 18:28 J -6735835.86 -6735835.73 -6735835.59 0.0089 0.0006

Neptune -23155-07-12 19:55 J -6735747.80 -6735747.67 -6735747.53 0.0089 0.0011

Neptune -23155-10-08 21:21 J -6735659.74 -6735659.61 -6735659.48 0.0089 0.0018

Neptune -23154-01-04 22:47 J -6735571.68 -6735571.55 -6735571.42 0.0089 0.0025

Neptune -23154-04-02 23:59 J -6735483.62 -6735483.50 -6735483.37 0.0089 0.0033

Neptune -23154-06-30 01:26 J -6735395.56 -6735395.44 -6735395.32 0.0089 0.0039

Moon -23154-07-04 04:33 J -6735391.43 -6735391.31 -6735391.20 0.2687 0.0595

Earth -23154-07-04 05:02 J -6735391.40 -6735391.29 -6735391.18 0.2692 0.0709 *

Neptune -23154-09-26 02:52 J -6735307.49 -6735307.38 -6735307.27 0.0089 0.0046

Jupiter -23154-11-13 11:59 J -6735259.08 -6735259.00 -6735258.91 0.0497 0.0438

Neptune -23154-12-23 04:19 J -6735219.43 -6735219.32 -6735219.21 0.0089 0.0054

Jupiter -23153-02-11 19:55 J -6735168.82 -6735168.67 -6735168.52 0.0499 0.0275

Neptune -23153-03-20 05:45 J -6735131.36 -6735131.26 -6735131.17 0.0089 0.0061

Venus -23153-05-08 07:40 J -6735082.34 -6735082.18 -6735082.03 0.3613 0.0458

Neptune -23153-06-16 06:43 J -6735043.29 -6735043.22 -6735043.12 0.0089 0.0068

Neptune -23153-09-12 08:09 J -6734955.22 -6734955.16 -6734955.07 0.0089 0.0075

Neptune -23153-12-09 09:35 J -6734867.14 -6734867.10 -6734867.04 0.0089 0.0082

Neptune -23152-03-07 11:16 J -6734779.03 -6734779.03 -6734779.02 0.0089 0.0089

Mars -23152-08-29 02:09 J -6734604.52 -6734604.41 -6734604.30 0.1658 0.0534

Mars -23150-08-04 06:43 J -6733899.28 -6733899.22 -6733899.17 0.1672 0.1472

Mars -23149-06-13 05:45 J -6733585.35 -6733585.26 -6733585.16 0.1852 0.1484

Jupiter -23148-07-06 01:26 J -6733197.50 -6733197.44 -6733197.39 0.0531 0.0475

Jupiter -23148-10-03 07:55 J -6733108.29 -6733108.17 -6733108.04 0.0528 0.0106

Earth -23147-06-27 01:11 J -6732841.50 -6732841.45 -6732841.40 0.2696 0.2351

Moon -23147-06-27 01:55 J -6732841.48 -6732841.42 -6732841.36 0.2696 0.2305 *

Moon -23143-01-02 07:26 J -6731556.32 -6731556.19 -6731556.06 0.2639 0.1190

Earth -23143-01-02 08:52 J -6731556.26 -6731556.13 -6731556.00 0.2639 0.1157 *

Mars -23142-01-19 13:11 J -6731174.04 -6731173.95 -6731173.86 0.1655 0.0996

Jupiter -23142-11-30 18:00 J -6730858.93 -6730858.75 -6730858.57 0.0498 0.0104

Saturn -23141-02-28 09:21 J -6730769.25 -6730769.11 -6730768.97 0.0289 0.0186

Saturn -23141-05-27 09:07 J -6730680.30 -6730680.12 -6730679.93 0.0290 0.0012

Moon -23141-07-05 23:31 J -6730640.61 -6730640.52 -6730640.43 0.2689 0.1781

Earth -23141-07-06 00:14 J -6730640.57 -6730640.49 -6730640.40 0.2690 0.1839 *

Saturn -23141-08-24 08:38 J -6730591.26 -6730591.14 -6730591.01 0.0291 0.0206

Mars -23141-12-24 17:16 J -6730468.87 -6730468.78 -6730468.68 0.1668 0.0977

Mars -23140-11-03 01:11 J -6730155.62 -6730155.45 -6730155.29 0.1856 0.0232

Uranus -23139-10-22 22:48 J -6729801.55 -6729801.55 -6729801.52 0.0137 0.0136

Uranus -23138-01-19 05:45 J -6729713.36 -6729713.26 -6729713.13 0.0136 0.0109

Uranus -23138-04-17 12:43 J -6729625.11 -6729624.97 -6729624.81 0.0136 0.0081

Uranus -23138-07-14 19:40 J -6729536.84 -6729536.68 -6729536.50 0.0136 0.0054

Uranus -23138-10-11 02:38 J -6729448.57 -6729448.39 -6729448.21 0.0136 0.0027

Uranus -23137-01-07 09:21 J -6729360.29 -6729360.11 -6729359.92 0.0136 0.0003

Uranus -23137-04-04 16:04 J -6729272.01 -6729271.83 -6729271.64 0.0136 0.0026

Uranus -23137-07-01 22:48 J -6729183.72 -6729183.55 -6729183.38 0.0136 0.0052

Uranus -23137-09-28 05:16 J -6729095.42 -6729095.28 -6729095.12 0.0136 0.0078

Uranus -23137-12-25 11:45 J -6729007.12 -6729007.01 -6729006.88 0.0136 0.0104

Uranus -23136-03-23 18:14 J -6728918.78 -6728918.74 -6728918.68 0.0135 0.0129

Jupiter -23136-07-22 11:02 J -6728798.16 -6728798.04 -6728797.91 0.0529 0.0057

Earth -23134-06-29 19:55 J -6728090.77 -6728090.67 -6728090.57 0.2695 0.1284

Moon -23134-06-29 20:23 J -6728090.75 -6728090.65 -6728090.54 0.2689 0.1182 *

Mars -23133-06-11 00:14 J -6727743.54 -6727743.49 -6727743.43 0.1652 0.1451

Mars -23131-05-17 04:04 J -6727038.44 -6727038.33 -6727038.21 0.1665 0.0490

Moon -23130-01-05 10:48 J -6726805.20 -6726805.05 -6726804.91 0.2644 0.0392

Earth -23130-01-05 12:00 J -6726805.14 -6726805.00 -6726804.86 0.2641 0.0555 *

Mars -23130-03-25 20:09 J -6726725.80 -6726725.66 -6726725.53 0.1861 0.1065

Jupiter -23130-09-18 16:04 J -6726549.01 -6726548.83 -6726548.64 0.0498 0.0068

Saturn -23128-09-30 09:36 J -6725806.20 -6725806.10 -6725805.99 0.0272 0.0166

Saturn -23128-12-27 20:09 J -6725717.79 -6725717.66 -6725717.52 0.0271 0.0052

Saturn -23127-03-26 06:57 J -6725629.34 -6725629.21 -6725629.08 0.0270 0.0063

Saturn -23127-06-22 17:45 J -6725540.86 -6725540.76 -6725540.66 0.0270 0.0178

Jupiter -23124-05-10 15:07 J -6724487.99 -6724487.87 -6724487.75 0.0530 0.0202

Jupiter -23124-08-07 21:50 J -6724398.68 -6724398.59 -6724398.50 0.0527 0.0383

Venus -23123-10-20 00:28 J -6723960.49 -6723960.48 -6723960.48 0.3759 0.3754

Mars -23122-10-07 15:07 J -6723607.99 -6723607.87 -6723607.75 0.1661 0.0020

Moon -23121-07-01 14:52 J -6723339.99 -6723339.88 -6723339.76 0.2687 0.0253

Earth -23121-07-01 14:52 J -6723339.99 -6723339.88 -6723339.76 0.2693 0.0198 *

Jupiter -23118-07-07 13:26 J -6722239.10 -6722238.94 -6722238.78 0.0497 0.0248

Jupiter -23118-10-05 20:52 J -6722148.69 -6722148.63 -6722148.56 0.0499 0.0460

Moon -23117-01-08 14:23 J -6722053.97 -6722053.90 -6722053.82 0.2649 0.2218

Earth -23117-01-08 14:38 J -6722053.96 -6722053.89 -6722053.81 0.2643 0.2215 *

Venus -23117-05-04 16:19 J -6721936.92 -6721936.82 -6721936.73 0.3760 0.1550

Jupiter -23112-02-26 19:11 J -6720177.80 -6720177.70 -6720177.60 0.0530 0.0343

Mars -23112-02-27 02:09 J -6720177.53 -6720177.41 -6720177.30 0.1658 0.0475

Jupiter -23112-05-27 01:55 J -6720088.53 -6720088.42 -6720088.31 0.0528 0.0240

Saturn -23112-07-17 08:09 J -6720037.26 -6720037.16 -6720037.05 0.0289 0.0240

Saturn -23112-10-14 08:09 J -6719948.34 -6719948.16 -6719947.98 0.0290 0.0043

Venus -23112-11-18 08:09 J -6719913.26 -6719913.16 -6719913.06 0.3761 0.0697

Saturn -23111-01-11 07:40 J -6719859.33 -6719859.18 -6719859.02 0.0291 0.0153

Moon -23111-12-31 10:33 J -6719505.08 -6719505.06 -6719505.04 0.2633 0.2596

Earth -23111-12-31 11:31 J -6719505.04 -6719505.02 -6719504.99 0.2638 0.2586 *

Mars -23110-02-02 06:43 J -6719472.26 -6719472.22 -6719472.18 0.1672 0.1537

Mars -23110-12-13 06:14 J -6719158.32 -6719158.24 -6719158.16 0.1851 0.1587

Moon -23108-07-04 09:21 J -6718589.22 -6718589.11 -6718589.00 0.2686 0.0930

Earth -23108-07-04 10:04 J -6718589.19 -6718589.08 -6718588.97 0.2691 0.0926 *

Jupiter -23106-04-25 10:48 J -6717929.14 -6717929.05 -6717928.96 0.0496 0.0427

Venus -23106-06-04 00:14 J -6717889.55 -6717889.49 -6717889.43 0.3762 0.2987

Jupiter -23106-07-24 18:28 J -6717838.87 -6717838.73 -6717838.58 0.0498 0.0285

Mars -23103-07-20 13:11 J -6716747.05 -6716746.95 -6716746.86 0.1655 0.0939

Mars -23101-06-24 17:16 J -6716041.87 -6716041.78 -6716041.69 0.1668 0.1039

Earth -23101-06-27 06:00 J -6716039.31 -6716039.25 -6716039.18 0.2696 0.2151

Moon -23101-06-27 06:57 J -6716039.29 -6716039.21 -6716039.14 0.2694 0.2072 *

Jupiter -23101-12-15 23:45 J -6715867.56 -6715867.51 -6715867.46 0.0531 0.0479

Jupiter -23100-03-15 06:14 J -6715778.36 -6715778.24 -6715778.11 0.0529 0.0103

Mars -23100-05-04 01:40 J -6715728.59 -6715728.43 -6715728.26 0.1857 0.0347

Saturn -23098-02-17 11:45 J -6715074.09 -6715074.01 -6715073.92 0.0272 0.0202

Saturn -23098-05-16 22:19 J -6714985.69 -6714985.57 -6714985.44 0.0271 0.0088

Saturn -23098-08-13 09:07 J -6714897.26 -6714897.12 -6714896.99 0.0270 0.0027

Saturn -23098-11-09 19:40 J -6714808.79 -6714808.68 -6714808.56 0.0270 0.0141

Moon -23097-01-03 13:40 J -6714754.07 -6714753.93 -6714753.80 0.2640 0.1064

Earth -23097-01-03 15:07 J -6714754.01 -6714753.87 -6714753.73 0.2639 0.0832 *

Saturn -23097-02-06 06:28 J -6714720.27 -6714720.23 -6714720.19 0.0269 0.0256

Venus -23097-12-13 09:07 J -6714409.25 -6714409.12 -6714408.98 0.3613 0.1588

Moon -23095-07-07 04:33 J -6713838.39 -6713838.31 -6713838.23 0.2691 0.1933

Earth -23095-07-07 05:16 J -6713838.35 -6713838.28 -6713838.20 0.2690 0.2063 *

Uranus -23094-03-24 00:57 J -6713578.51 -6713578.46 -6713578.39 0.0142 0.0125

Jupiter -23094-05-12 16:04 J -6713529.01 -6713528.83 -6713528.65 0.0498 0.0105

Uranus -23094-06-20 04:48 J -6713490.39 -6713490.30 -6713490.21 0.0142 0.0103

Uranus -23094-09-16 08:23 J -6713402.26 -6713402.15 -6713402.04 0.0142 0.0082

Mars -23094-12-11 00:14 J -6713316.55 -6713316.49 -6713316.43 0.1652 0.1390

Uranus -23094-12-13 12:00 J -6713314.12 -6713314.00 -6713313.87 0.0142 0.0060

Uranus -23093-03-10 15:50 J -6713225.97 -6713225.84 -6713225.71 0.0143 0.0038

Uranus -23093-06-06 19:26 J -6713137.82 -6713137.69 -6713137.55 0.0143 0.0016

Uranus -23093-09-02 23:16 J -6713049.66 -6713049.53 -6713049.39 0.0143 0.0007

Uranus -23093-11-30 03:07 J -6712961.50 -6712961.37 -6712961.24 0.0143 0.0030

Uranus -23092-02-26 06:57 J -6712873.34 -6712873.21 -6712873.08 0.0143 0.0052

Uranus -23092-05-25 10:48 J -6712785.17 -6712785.05 -6712784.94 0.0143 0.0075

Uranus -23092-08-21 14:38 J -6712696.99 -6712696.89 -6712696.79 0.0143 0.0099

Mars -23092-11-15 04:04 J -6712611.44 -6712611.33 -6712611.22 0.1665 0.0546

Uranus -23092-11-17 18:14 J -6712608.80 -6712608.74 -6712608.66 0.0143 0.0123

Mars -23091-09-23 20:52 J -6712298.77 -6712298.63 -6712298.49 0.1861 0.0934

Jupiter -23088-01-01 10:33 J -6711468.19 -6711468.06 -6711467.93 0.0529 0.0040

Earth -23088-06-30 00:57 J -6711288.56 -6711288.46 -6711288.35 0.2694 0.1071

Moon -23088-06-30 01:26 J -6711288.54 -6711288.44 -6711288.33 0.2688 0.1061 *

Moon -23084-01-05 17:02 J -6710002.93 -6710002.79 -6710002.65 0.2645 0.0847

Earth -23084-01-05 18:00 J -6710002.88 -6710002.75 -6710002.61 0.2641 0.0871 *

Jupiter -23082-02-28 14:09 J -6709219.09 -6709218.91 -6709218.73 0.0498 0.0066

Saturn -23082-03-03 04:48 J -6709216.46 -6709216.30 -6709216.12 0.0290 0.0112

Mars -23082-04-07 15:07 J -6709180.99 -6709180.87 -6709180.75 0.1662 0.0070

Saturn -23082-05-31 04:33 J -6709127.48 -6709127.31 -6709127.13 0.0290 0.0086

Saturn -23082-08-28 04:04 J -6709038.37 -6709038.33 -6709038.28 0.0291 0.0280

Jupiter -23077-10-20 13:40 J -6707158.05 -6707157.93 -6707157.81 0.0530 0.0197

Jupiter -23076-01-17 20:38 J -6707068.73 -6707068.64 -6707068.56 0.0527 0.0387

Moon -23075-07-02 19:40 J -6706537.80 -6706537.68 -6706537.56 0.2686 0.0057

Earth -23075-07-02 19:55 J -6706537.78 -6706537.67 -6706537.55 0.2693 0.0038 *

Neptune -23075-11-11 15:21 J -6706405.91 -6706405.86 -6706405.78 0.0088 0.0083

Neptune -23074-02-07 18:57 J -6706317.80 -6706317.71 -6706317.59 0.0088 0.0073

Neptune -23074-05-06 22:33 J -6706229.68 -6706229.56 -6706229.42 0.0088 0.0063

Neptune -23074-08-03 01:55 J -6706141.56 -6706141.42 -6706141.25 0.0088 0.0054

Neptune -23074-10-30 05:31 J -6706053.43 -6706053.27 -6706053.09 0.0088 0.0044

Neptune -23073-01-26 09:07 J -6705965.29 -6705965.12 -6705964.94 0.0088 0.0034

Neptune -23073-04-23 12:43 J -6705877.16 -6705876.97 -6705876.79 0.0088 0.0024

Neptune -23073-07-20 16:04 J -6705789.02 -6705788.83 -6705788.64 0.0088 0.0015

Mars -23073-08-28 01:55 J -6705750.53 -6705750.42 -6705750.30 0.1658 0.0413

Neptune -23073-10-16 19:40 J -6705700.87 -6705700.68 -6705700.49 0.0088 0.0005

Neptune -23072-01-12 23:02 J -6705612.73 -6705612.54 -6705612.35 0.0088 0.0005

Neptune -23072-04-11 02:23 J -6705524.58 -6705524.40 -6705524.21 0.0088 0.0014

Neptune -23072-07-08 05:45 J -6705436.44 -6705436.26 -6705436.07 0.0088 0.0024

Neptune -23072-10-04 09:21 J -6705348.29 -6705348.11 -6705347.93 0.0088 0.0033

Neptune -23072-12-31 12:28 J -6705260.13 -6705259.98 -6705259.80 0.0088 0.0043

Moon -23071-01-08 20:23 J -6705251.69 -6705251.65 -6705251.60 0.2650 0.2475

Earth -23071-01-08 20:38 J -6705251.68 -6705251.64 -6705251.60 0.2643 0.2520 *

Neptune -23071-03-29 15:50 J -6705171.98 -6705171.84 -6705171.67 0.0088 0.0053

Neptune -23071-06-25 19:11 J -6705083.82 -6705083.70 -6705083.55 0.0088 0.0063

Mars -23071-08-03 06:43 J -6705045.25 -6705045.22 -6705045.19 0.1672 0.1603

Neptune -23071-09-21 22:33 J -6704995.65 -6704995.56 -6704995.43 0.0088 0.0072

Jupiter -23071-12-17 12:14 J -6704909.15 -6704908.99 -6704908.83 0.0497 0.0236

Neptune -23071-12-19 01:55 J -6704907.47 -6704907.42 -6704907.33 0.0088 0.0081

Jupiter -23070-03-17 19:40 J -6704818.73 -6704818.68 -6704818.62 0.0499 0.0473

Mars -23070-06-13 07:11 J -6704731.26 -6704731.20 -6704731.14 0.1852 0.1711

Saturn -23069-07-06 14:52 J -6704341.95 -6704341.88 -6704341.81 0.0272 0.0230

Saturn -23069-10-03 01:26 J -6704253.56 -6704253.44 -6704253.32 0.0272 0.0116

Saturn -23069-12-30 12:14 J -6704165.13 -6704164.99 -6704164.86 0.0271 0.0005

Saturn -23068-03-28 22:48 J -6704076.67 -6704076.55 -6704076.43 0.0270 0.0114

Saturn -23068-06-25 09:36 J -6703988.17 -6703988.10 -6703988.03 0.0269 0.0229

Venus -23066-05-26 21:50 J -6703287.65 -6703287.59 -6703287.53 0.3759 0.2935

Jupiter -23065-08-08 17:45 J -6702847.86 -6702847.76 -6702847.67 0.0530 0.0343

Jupiter -23065-11-06 00:14 J -6702758.60 -6702758.49 -6702758.37 0.0528 0.0240

Moon -23065-12-31 16:33 J -6702702.87 -6702702.81 -6702702.75 0.2635 0.2408

Earth -23065-12-31 17:45 J -6702702.84 -6702702.76 -6702702.69 0.2638 0.2254 *

Mars -23063-01-18 13:11 J -6702320.05 -6702319.95 -6702319.86 0.1655 0.0875

Moon -23062-07-05 14:23 J -6701787.01 -6701786.90 -6701786.79 0.2687 0.1009

Earth -23062-07-05 15:07 J -6701786.98 -6701786.87 -6701786.77 0.2691 0.1144 *

Mars -23062-12-24 17:16 J -6701614.86 -6701614.78 -6701614.69 0.1668 0.1103

Mars -23061-11-02 02:38 J -6701301.55 -6701301.39 -6701301.23 0.1856 0.0469

Venus -23061-12-09 13:40 J -6701264.03 -6701263.93 -6701263.83 0.3760 0.0725

Jupiter -23059-10-05 09:36 J -6700599.20 -6700599.10 -6700599.00 0.0496 0.0416

Jupiter -23058-01-03 17:16 J -6700508.92 -6700508.78 -6700508.63 0.0498 0.0296

Venus -23055-06-25 05:45 J -6699240.36 -6699240.26 -6699240.17 0.3761 0.1535

Earth -23055-06-28 11:02 J -6699237.12 -6699237.04 -6699236.96 0.2696 0.1945

Moon -23055-06-28 11:45 J -6699237.09 -6699237.01 -6699236.93 0.2692 0.1849 *

Uranus -23055-11-12 07:40 J -6699100.25 -6699100.18 -6699100.09 0.0137 0.0123

Uranus -23054-02-08 14:38 J -6699012.01 -6699011.89 -6699011.75 0.0136 0.0096

Uranus -23054-05-07 21:36 J -6698923.75 -6698923.60 -6698923.43 0.0136 0.0068

Mars -23054-06-11 00:14 J -6698889.56 -6698889.49 -6698889.42 0.1652 0.1330

Uranus -23054-08-04 04:33 J -6698835.48 -6698835.31 -6698835.13 0.0136 0.0041

Uranus -23054-10-31 11:16 J -6698747.21 -6698747.03 -6698746.84 0.0136 0.0016

Uranus -23053-01-27 18:14 J -6698658.93 -6698658.74 -6698658.56 0.0136 0.0012

Uranus -23053-04-25 00:57 J -6698570.64 -6698570.46 -6698570.29 0.0136 0.0038

Jupiter -23053-05-27 21:50 J -6698537.64 -6698537.59 -6698537.54 0.0531 0.0485

Saturn -23053-07-20 03:21 J -6698484.51 -6698484.36 -6698484.21 0.0290 0.0168

Uranus -23053-07-22 07:11 J -6698482.35 -6698482.20 -6698482.02 0.0136 0.0065

Jupiter -23053-08-25 04:33 J -6698448.44 -6698448.31 -6698448.19 0.0529 0.0098

Saturn -23053-10-17 03:07 J -6698395.55 -6698395.37 -6698395.18 0.0291 0.0030

Uranus -23053-10-18 14:09 J -6698394.05 -6698393.91 -6698393.78 0.0136 0.0090

Saturn -23052-01-14 02:38 J -6698306.50 -6698306.39 -6698306.27 0.0291 0.0225

Uranus -23052-01-14 20:23 J -6698305.73 -6698305.65 -6698305.55 0.0136 0.0116

Mars -23052-05-16 04:04 J -6698184.44 -6698184.33 -6698184.22 0.1665 0.0613

Moon -23051-01-03 19:40 J -6697951.83 -6697951.68 -6697951.54 0.2640 0.0549

Earth -23051-01-03 21:07 J -6697951.76 -6697951.62 -6697951.47 0.2640 0.0510 *

Mars -23051-03-24 21:21 J -6697871.76 -6697871.61 -6697871.46 0.1861 0.0826

Moon	-23049-07-07 09:36 J	-6697036.16	-6697036.10	-6697036.04	0.2691	0.2265
Earth	-23049-07-07 10:19 J	-6697036.13	-6697036.07	-6697036.01	0.2689	0.2281 *
Jupiter	-23047-10-22 15:07 J	-6696199.05	-6696198.87	-6696198.69	0.0498	0.0120
Venus	-23045-01-04 03:36 J	-6695760.47	-6695760.35	-6695760.24	0.3614	0.2360
Mars	-23043-10-06 14:52 J	-6694753.99	-6694753.88	-6694753.76	0.1661	0.0138
Earth	-23042-07-01 06:00 J	-6694486.36	-6694486.25	-6694486.14	0.2694	0.0866
Moon	-23042-07-01 06:14 J	-6694486.35	-6694486.24	-6694486.13	0.2688	0.0802 *
Jupiter	-23041-06-13 08:52 J	-6694138.26	-6694138.13	-6694138.00	0.0529	0.0040
Venus	-23040-07-20 10:48 J	-6693736.06	-6693736.05	-6693736.04	0.3613	0.3601
Saturn	-23040-11-23 17:02 J	-6693609.81	-6693609.79	-6693609.77	0.0272	0.0267
Saturn	-23039-02-20 03:36 J	-6693521.46	-6693521.35	-6693521.24	0.0271	0.0153
Saturn	-23039-05-19 14:09 J	-6693433.04	-6693432.91	-6693432.78	0.0271	0.0039
Saturn	-23039-08-16 00:43 J	-6693344.60	-6693344.47	-6693344.34	0.0270	0.0076
Saturn	-23039-11-12 11:31 J	-6693256.11	-6693256.02	-6693255.92	0.0269	0.0190
Moon	-23038-01-06 23:16 J	-6693200.66	-6693200.53	-6693200.39	0.2647	0.1034
Earth	-23038-01-07 00:14 J	-6693200.62	-6693200.49	-6693200.36	0.2641	0.1191 *
Jupiter	-23035-08-10 12:28 J	-6691889.16	-6691888.98	-6691888.80	0.0497	0.0061
Mars	-23033-02-27 01:55 J	-6691323.53	-6691323.42	-6691323.30	0.1658	0.0350
Mars	-23031-02-01 06:43 J	-6690618.23	-6690618.22	-6690618.22	0.1672	0.1662
Mars	-23031-12-12 07:55 J	-6690304.18	-6690304.17	-6690304.15	0.1852	0.1838
Jupiter	-23029-04-01 13:11 J	-6689828.07	-6689827.95	-6689827.83	0.0530	0.0179
Jupiter	-23029-06-29 19:55 J	-6689738.75	-6689738.67	-6689738.58	0.0528	0.0406
Moon	-23029-07-03 00:43 J	-6689735.59	-6689735.47	-6689735.36	0.2686	0.0185
Earth	-23029-07-03 00:57 J	-6689735.58	-6689735.46	-6689735.35	0.2693	0.0242 *
Mars	-23024-07-19 13:11 J	-6687893.06	-6687892.95	-6687892.85	0.1655	0.0813
Saturn	-23024-12-06 23:16 J	-6687752.62	-6687752.53	-6687752.43	0.0289	0.0243
Saturn	-23023-03-05 23:16 J	-6687663.71	-6687663.53	-6687663.35	0.0290	0.0045
Jupiter	-23023-05-29 10:33 J	-6687579.22	-6687579.06	-6687578.90	0.0497	0.0230
Saturn	-23023-06-02 22:48 J	-6687574.70	-6687574.55	-6687574.39	0.0291	0.0152
Jupiter	-23023-08-27 18:00 J	-6687488.79	-6687488.75	-6687488.69	0.0499	0.0479

Mars -23022-06-24 17:16 J -6687187.86 -6687187.78 -6687187.69 0.1668 0.1168

Moon -23022-06-26 22:04 J -6687185.59 -6687185.58 -6687185.57 0.2700 0.2680

Mars -23021-05-03 03:21 J -6686874.51 -6686874.36 -6686874.20 0.1856 0.0594

Moon -23018-01-01 22:33 J -6685900.65 -6685900.56 -6685900.47 0.2636 0.2033

Earth -23018-01-02 00:00 J -6685900.60 -6685900.50 -6685900.40 0.2638 0.1927 *

Jupiter -23017-01-19 16:33 J -6685517.91 -6685517.81 -6685517.71 0.0530 0.0335

Jupiter -23017-04-17 23:16 J -6685428.65 -6685428.53 -6685428.42 0.0528 0.0247

Moon -23016-07-05 19:26 J -6684984.79 -6684984.69 -6684984.59 0.2688 0.1352

Earth -23016-07-05 20:09 J -6684984.76 -6684984.66 -6684984.56 0.2691 0.1363 *

Mars -23015-12-10 00:14 J -6684462.56 -6684462.49 -6684462.42 0.1652 0.1270

Pluto -23013-08-29 23:45 J -6683833.55 -6683833.51 -6683833.47 0.0071 0.0068

Mars -23013-11-14 04:04 J -6683757.44 -6683757.33 -6683757.22 0.1665 0.0673

Pluto -23013-11-26 00:43 J -6683745.53 -6683745.47 -6683745.37 0.0071 0.0061

Pluto -23012-02-22 01:55 J -6683657.50 -6683657.42 -6683657.29 0.0071 0.0055

Pluto -23012-05-21 03:36 J -6683569.46 -6683569.35 -6683569.22 0.0071 0.0046

Pluto -23012-08-17 05:16 J -6683481.42 -6683481.28 -6683481.15 0.0071 0.0039

Mars -23012-09-22 22:04 J -6683444.73 -6683444.58 -6683444.42 0.1861 0.0703

Pluto -23012-11-13 06:14 J -6683393.37 -6683393.24 -6683393.08 0.0072 0.0032

Pluto -23011-02-09 07:55 J -6683305.32 -6683305.17 -6683305.01 0.0072 0.0024

Jupiter -23011-03-17 08:38 J -6683269.24 -6683269.14 -6683269.03 0.0497 0.0400

Pluto -23011-05-08 09:21 J -6683217.27 -6683217.11 -6683216.95 0.0072 0.0016

Jupiter -23011-06-15 16:33 J -6683178.95 -6683178.81 -6683178.67 0.0499 0.0313

Pluto -23011-08-04 10:48 J -6683129.21 -6683129.05 -6683128.89 0.0072 0.0008

Pluto -23011-10-31 12:14 J -6683041.15 -6683040.99 -6683040.83 0.0072 0.0001

Uranus -23010-01-15 05:02 J -6682965.31 -6682965.29 -6682965.26 0.0142 0.0139

Pluto -23010-01-27 13:40 J -6682953.09 -6682952.93 -6682952.77 0.0072 0.0008

Uranus -23010-04-13 08:38 J -6682877.20 -6682877.14 -6682877.06 0.0142 0.0117

Pluto -23010-04-25 15:07 J -6682865.03 -6682864.87 -6682864.71 0.0072 0.0016

Saturn -23010-07-10 06:28 J -6682789.33 -6682789.23 -6682789.14 0.0272 0.0185

Uranus -23010-07-10 12:28 J -6682789.08 -6682788.98 -6682788.88 0.0142 0.0096

Pluto -23010-07-22 16:19 J -6682776.96 -6682776.82 -6682776.65 0.0072 0.0025

Uranus -23010-10-06 16:04 J -6682700.94 -6682700.83 -6682700.71 0.0142 0.0074

Saturn -23010-10-06 17:02 J -6682700.92 -6682700.79 -6682700.66 0.0271 0.0070 *

Pluto -23010-10-18 17:45 J -6682688.89 -6682688.76 -6682688.60 0.0072 0.0033

Venus -23010-12-31 19:26 J -6682614.78 -6682614.69 -6682614.61 0.3759 0.2122

Uranus -23009-01-02 19:40 J -6682612.80 -6682612.68 -6682612.55 0.0142 0.0052

Saturn -23009-01-03 03:36 J -6682612.48 -6682612.35 -6682612.22 0.0271 0.0045

Pluto -23009-01-14 19:26 J -6682600.82 -6682600.69 -6682600.54 0.0073 0.0040

Uranus -23009-03-30 23:31 J -6682524.65 -6682524.52 -6682524.39 0.0142 0.0030

Saturn -23009-03-31 14:23 J -6682524.01 -6682523.90 -6682523.79 0.0270 0.0160

Pluto -23009-04-11 20:52 J -6682512.74 -6682512.63 -6682512.50 0.0073 0.0049

Uranus -23009-06-27 03:21 J -6682436.50 -6682436.36 -6682436.23 0.0143 0.0008

Earth -23009-06-28 16:04 J -6682434.92 -6682434.83 -6682434.75 0.2696 0.1739

Moon -23009-06-28 16:48 J -6682434.89 -6682434.80 -6682434.71 0.2692 0.1703 *

Pluto -23009-07-08 22:33 J -6682424.65 -6682424.56 -6682424.45 0.0073 0.0057

Uranus -23009-09-23 06:57 J -6682348.34 -6682348.21 -6682348.07 0.0143 0.0016

Pluto -23009-10-05 00:14 J -6682336.56 -6682336.49 -6682336.42 0.0073 0.0065

Uranus -23009-12-20 10:48 J -6682260.18 -6682260.05 -6682259.92 0.0143 0.0038

Uranus -23008-03-18 14:38 J -6682172.01 -6682171.89 -6682171.76 0.0143 0.0061

Uranus -23008-06-14 18:14 J -6682083.84 -6682083.74 -6682083.62 0.0143 0.0085

Uranus -23008-09-10 22:19 J -6681995.66 -6681995.57 -6681995.48 0.0143 0.0107

Uranus -23008-12-08 02:09 J -6681907.46 -6681907.41 -6681907.35 0.0143 0.0130

Jupiter -23006-11-07 20:38 J -6681207.69 -6681207.64 -6681207.59 0.0531 0.0479

Moon -23005-01-05 01:55 J -6681149.57 -6681149.42 -6681149.28 0.2641 0.0389

Earth -23005-01-05 03:21 J -6681149.51 -6681149.36 -6681149.22 0.2640 0.0185 *

Jupiter -23005-02-05 03:07 J -6681118.50 -6681118.37 -6681118.24 0.0529 0.0101

Venus -23004-07-16 11:16 J -6680591.13 -6680591.03 -6680590.93 0.3760 0.0109

Mars -23003-04-06 15:07 J -6680326.99 -6680326.87 -6680326.76 0.1661 0.0195

Moon -23003-07-08 14:38 J -6680233.95 -6680233.89 -6680233.84 0.2691 0.2355

Earth -23003-07-08 15:21 J -6680233.90 -6680233.86 -6680233.82 0.2689 0.2507 *

23RD MILLENNIUM BCE

This is a list of transits of Mercury in the 23rd millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Jupiter	**-22999-04-03 14:09**	**J**	**-6678869.08**	**-6678868.91**	**-6678868.73**	**0.0498**	**0.0135**	
Venus	**-22998-01-30 03:21**	**J**	**-6678567.44**	**-6678567.36**	**-6678567.29**	**0.3762**	**0.2376**	
Earth	**-22996-07-01 11:02**	**J**	**-6677684.16**	**-6677684.04**	**-6677683.93**	**0.2694**	**0.0661**	
Moon	**-22996-07-01 11:02**	**J**	**-6677684.15**	**-6677684.04**	**-6677683.92**	**0.2688**	**0.0633**	*
Saturn	**-22994-07-23 21:21**	**J**	**-6676931.78**	**-6676931.61**	**-6676931.44**	**0.0290**	**0.0106**	
Mars	**-22994-08-28 01:55**	**J**	**-6676896.53**	**-6676896.42**	**-6676896.30**	**0.1658**	**0.0288**	
Saturn	**-22994-10-20 21:07**	**J**	**-6676842.80**	**-6676842.62**	**-6676842.45**	**0.0291**	**0.0091**	
Neptune	**-22994-11-22 23:45**	**J**	**-6676809.54**	**-6676809.51**	**-6676809.47**	**0.0089**	**0.0086**	
Jupiter	**-22994-11-24 07:11**	**J**	**-6676808.33**	**-6676808.20**	**-6676808.07**	**0.0529**	**0.0043**	
Saturn	**-22993-01-17 20:23**	**J**	**-6676753.67**	**-6676753.65**	**-6676753.62**	**0.0292**	**0.0287**	
Neptune	**-22993-02-19 00:43**	**J**	**-6676721.51**	**-6676721.47**	**-6676721.39**	**0.0089**	**0.0080**	
Neptune	**-22993-05-17 02:09**	**J**	**-6676633.47**	**-6676633.41**	**-6676633.32**	**0.0089**	**0.0073**	
Neptune	**-22993-08-13 03:36**	**J**	**-6676545.43**	**-6676545.35**	**-6676545.25**	**0.0089**	**0.0065**	
Neptune	**-22993-11-09 05:02**	**J**	**-6676457.38**	**-6676457.29**	**-6676457.18**	**0.0089**	**0.0058**	
Moon	**-22992-01-07 05:31**	**J**	**-6676398.39**	**-6676398.27**	**-6676398.16**	**0.2648**	**0.1540**	
Earth	**-22992-01-07 06:14**	**J**	**-6676398.36**	**-6676398.24**	**-6676398.12**	**0.2642**	**0.1503**	*
Neptune	**-22992-02-05 06:28**	**J**	**-6676369.33**	**-6676369.23**	**-6676369.12**	**0.0089**	**0.0051**	
Neptune	**-22992-05-04 07:40**	**J**	**-6676281.29**	**-6676281.18**	**-6676281.06**	**0.0089**	**0.0045**	
Neptune	**-22992-07-31 09:07**	**J**	**-6676193.23**	**-6676193.12**	**-6676192.99**	**0.0089**	**0.0038**	

Neptune -22992-10-27 10:33 J -6676105.18 -6676105.06 -6676104.93 0.0089 0.0030

Neptune -22991-01-23 12:00 J -6676017.13 -6676017.00 -6676016.87 0.0089 0.0023

Neptune -22991-04-21 13:26 J -6675929.08 -6675928.94 -6675928.81 0.0089 0.0017

Neptune -22991-07-18 14:38 J -6675841.02 -6675840.89 -6675840.75 0.0089 0.0010

Neptune -22991-10-14 16:04 J -6675752.96 -6675752.83 -6675752.70 0.0089 0.0002

Neptune -22990-01-10 17:31 J -6675664.91 -6675664.77 -6675664.64 0.0089 0.0005

Neptune -22990-04-08 18:43 J -6675576.85 -6675576.72 -6675576.58 0.0089 0.0012

Neptune -22990-07-05 20:09 J -6675488.79 -6675488.66 -6675488.53 0.0089 0.0019

Neptune -22990-10-01 21:36 J -6675400.73 -6675400.60 -6675400.47 0.0089 0.0026

Neptune -22990-12-28 22:48 J -6675312.67 -6675312.55 -6675312.42 0.0089 0.0033

Neptune -22989-03-26 00:00 J -6675224.61 -6675224.50 -6675224.37 0.0089 0.0041

Neptune -22989-06-22 01:26 J -6675136.54 -6675136.44 -6675136.32 0.0089 0.0047

Venus -22989-08-10 05:16 J -6675087.44 -6675087.28 -6675087.13 0.3614 0.0311

Neptune -22989-09-18 02:52 J -6675048.48 -6675048.38 -6675048.26 0.0089 0.0054

Neptune -22989-12-15 04:19 J -6674960.41 -6674960.32 -6674960.21 0.0089 0.0061

Neptune -22988-03-13 05:45 J -6674872.34 -6674872.26 -6674872.17 0.0089 0.0068

Neptune -22988-06-09 06:57 J -6674784.27 -6674784.21 -6674784.12 0.0089 0.0076

Neptune -22988-09-05 08:23 J -6674696.19 -6674696.15 -6674696.09 0.0089 0.0083

Jupiter -22987-01-20 12:00 J -6674559.19 -6674559.00 -6674558.82 0.0497 0.0043

Mars -22984-01-17 12:57 J -6673466.06 -6673465.96 -6673465.86 0.1655 0.0755

Moon -22983-07-04 05:31 J -6672933.38 -6672933.27 -6672933.15 0.2686 0.0456

Earth -22983-07-04 06:00 J -6672933.37 -6672933.25 -6672933.14 0.2692 0.0457 *

Mars -22983-12-23 17:16 J -6672760.86 -6672760.78 -6672760.70 0.1668 0.1226

Jupiter -22982-09-12 11:45 J -6672498.13 -6672498.01 -6672497.89 0.0530 0.0178

Mars -22982-11-02 03:50 J -6672447.49 -6672447.34 -6672447.19 0.1857 0.0702

Jupiter -22982-12-10 18:43 J -6672408.81 -6672408.72 -6672408.64 0.0528 0.0407

Saturn -22981-11-26 08:23 J -6672057.22 -6672057.15 -6672057.08 0.0272 0.0222

Saturn -22980-02-22 18:57 J -6671968.83 -6671968.71 -6671968.59 0.0271 0.0108

Saturn -22980-05-22 05:31 J -6671880.40 -6671880.27 -6671880.13 0.0270 0.0008

Saturn -22980-08-18 16:04 J -6671791.94 -6671791.83 -6671791.70 0.0270 0.0122

Saturn -22980-11-15 02:52 J -6671703.44 -6671703.38 -6671703.31 0.0269 0.0236

Earth -22976-06-27 02:09 J -6670383.43 -6670383.41 -6670383.38 0.2697 0.2598

Moon -22976-06-27 03:07 J -6670383.40 -6670383.37 -6670383.35 0.2697 0.2588 *

Jupiter -22976-11-08 09:07 J -6670249.28 -6670249.12 -6670248.95 0.0497 0.0221

Jupiter -22975-02-06 16:48 J -6670158.84 -6670158.80 -6670158.77 0.0499 0.0487

Mars -22975-06-10 00:14 J -6670035.57 -6670035.49 -6670035.41 0.1652 0.1209

Mars -22973-05-15 04:04 J -6669330.43 -6669330.33 -6669330.22 0.1665 0.0734

Moon -22972-01-02 04:33 J -6669098.42 -6669098.31 -6669098.20 0.2636 0.1730

Earth -22972-01-02 06:00 J -6669098.36 -6669098.25 -6669098.13 0.2638 0.1600 *

Mars -22972-03-23 23:16 J -6669017.69 -6669017.53 -6669017.37 0.1861 0.0560

Uranus -22971-12-02 16:19 J -6668398.92 -6668398.82 -6668398.70 0.0137 0.0111

Uranus -22970-02-28 23:16 J -6668310.67 -6668310.53 -6668310.37 0.0136 0.0084

Uranus -22970-05-28 06:14 J -6668222.40 -6668222.24 -6668222.06 0.0136 0.0056

Jupiter -22970-07-01 16:04 J -6668187.93 -6668187.83 -6668187.72 0.0530 0.0316

Moon -22970-07-07 00:14 J -6668182.58 -6668182.49 -6668182.39 0.2690 0.1452

Earth -22970-07-07 01:11 J -6668182.55 -6668182.45 -6668182.36 0.2691 0.1584 *

Uranus -22970-08-24 13:11 J -6668134.13 -6668133.95 -6668133.77 0.0136 0.0029

Jupiter -22970-09-28 22:48 J -6668098.66 -6668098.55 -6668098.44 0.0528 0.0268

Uranus -22970-11-20 19:55 J -6668045.85 -6668045.67 -6668045.48 0.0136 0.0005

Uranus -22969-02-17 02:38 J -6667957.57 -6667957.39 -6667957.20 0.0136 0.0024

Uranus -22969-05-15 09:21 J -6667869.28 -6667869.11 -6667868.93 0.0136 0.0050

Uranus -22969-08-11 15:50 J -6667780.98 -6667780.84 -6667780.68 0.0136 0.0076

Uranus -22969-11-07 22:19 J -6667692.67 -6667692.57 -6667692.44 0.0136 0.0102

Uranus -22968-02-04 05:02 J -6667604.34 -6667604.29 -6667604.22 0.0135 0.0127

Saturn -22965-12-09 16:33 J -6666199.95 -6666199.81 -6666199.67 0.0289 0.0186

Saturn -22964-03-08 16:33 J -6666110.99 -6666110.81 -6666110.63 0.0290 0.0012

Saturn -22964-06-05 16:04 J -6666021.95 -6666021.83 -6666021.70 0.0291 0.0208

Jupiter -22964-08-27 07:11 J -6665939.30 -6665939.20 -6665939.08 0.0497 0.0391

Mars -22964-10-05 15:07 J -6665899.99 -6665899.87 -6665899.76 0.1661 0.0258

Jupiter -22964-11-25 15:21 J -6665849.00 -6665848.86 -6665848.73 0.0498 0.0322

Earth -22963-06-29 21:07 J -6665632.72 -6665632.62 -6665632.53 0.2696 0.1532

Moon -22963-06-29 21:36 J -6665632.69 -6665632.60 -6665632.50 0.2692 0.1417 *

Moon -22959-01-05 08:09 J -6664347.31 -6664347.16 -6664347.01 0.2642 0.0083

Earth -22959-01-05 09:21 J -6664347.25 -6664347.11 -6664346.96 0.2640 0.0141 *

Venus -22958-01-22 00:57 J -6663965.49 -6663965.46 -6663965.42 0.3758 0.3508

Jupiter -22958-04-19 19:40 J -6663877.74 -6663877.68 -6663877.62 0.0530 0.0468

Jupiter -22958-07-18 02:09 J -6663788.53 -6663788.41 -6663788.28 0.0528 0.0112

Mars -22954-02-26 01:55 J -6662469.53 -6662469.42 -6662469.30 0.1658 0.0225

Venus -22953-08-06 16:48 J -6661941.89 -6661941.80 -6661941.70 0.3759 0.1308

Jupiter -22952-09-13 13:40 J -6661539.10 -6661538.93 -6661538.76 0.0498 0.0155

Saturn -22951-04-15 10:48 J -6661325.08 -6661325.05 -6661325.00 0.0273 0.0257

Saturn -22951-07-12 21:36 J -6661236.72 -6661236.60 -6661236.49 0.0272 0.0142

Saturn -22951-10-09 08:09 J -6661148.29 -6661148.16 -6661148.03 0.0271 0.0027

Saturn -22950-01-05 18:43 J -6661059.84 -6661059.72 -6661059.59 0.0270 0.0088

Saturn -22950-04-04 05:31 J -6660971.36 -6660971.27 -6660971.18 0.0270 0.0203

Moon -22950-07-02 15:50 J -6660881.95 -6660881.84 -6660881.72 0.2687 0.0472

Earth -22950-07-02 15:50 J -6660881.95 -6660881.84 -6660881.72 0.2694 0.0445 *

Venus -22947-02-20 08:38 J -6659918.23 -6659918.14 -6659918.04 0.3761 0.0943

Moon -22946-01-08 11:31 J -6659596.13 -6659596.02 -6659595.90 0.2648 0.1678

Earth -22946-01-08 12:14 J -6659596.09 -6659595.99 -6659595.88 0.2642 0.1824 *

Jupiter -22946-05-06 06:14 J -6659478.37 -6659478.24 -6659478.11 0.0529 0.0036

Mars -22945-07-18 12:57 J -6659039.06 -6659038.96 -6659038.85 0.1655 0.0692

Mars -22943-06-23 17:16 J -6658333.85 -6658333.78 -6658333.70 0.1668 0.1292

Mars -22942-05-03 04:48 J -6658020.44 -6658020.30 -6658020.15 0.1856 0.0834

Venus -22942-09-06 00:43 J -6657894.52 -6657894.47 -6657894.42 0.3762 0.3209

Jupiter -22940-07-02 11:16 J -6657229.21 -6657229.03 -6657228.85 0.0497 0.0022

Moon -22937-07-04 10:33 J -6656131.17 -6656131.06 -6656130.95 0.2687 0.0611

Earth -22937-07-04 11:02 J -6656131.16 -6656131.04 -6656130.93 0.2692 0.0676 *

Mars -22936-12-09 00:14 J -6655608.57 -6655608.49 -6655608.41 0.1652 0.1151

Saturn -22935-04-28 14:23 J -6655467.99 -6655467.90 -6655467.80 0.0289 0.0247

Saturn -22935-07-26 14:23 J -6655379.08 -6655378.90 -6655378.71 0.0290 0.0050

Saturn -22935-10-23 14:09 J -6655290.06 -6655289.91 -6655289.75 0.0291 0.0148

Jupiter -22934-02-22 10:19 J -6655168.19 -6655168.07 -6655167.95 0.0530 0.0177

Jupiter -22934-05-22 17:02 J -6655078.87 -6655078.79 -6655078.71 0.0528 0.0407

Mars -22934-11-14 04:04 J -6654903.43 -6654903.33 -6654903.23 0.1665 0.0799

Mars -22933-09-21 23:31 J -6654590.68 -6654590.52 -6654590.36 0.1861 0.0462

Venus -22932-03-17 06:43 J -6654414.35 -6654414.22 -6654414.08 0.3614 0.1728

Earth -22930-06-28 07:11 J -6653581.25 -6653581.20 -6653581.15 0.2697 0.2395

Moon -22930-06-28 07:55 J -6653581.23 -6653581.17 -6653581.11 0.2696 0.2249 *

Jupiter -22928-04-20 08:52 J -6652919.30 -6652919.13 -6652918.96 0.0497 0.0199

Pluto -22928-08-04 10:33 J -6652813.11 -6652813.06 -6652812.98 0.0074 0.0066

Pluto -22928-10-31 12:00 J -6652725.08 -6652725.00 -6652724.89 0.0073 0.0058

Pluto -22927-01-27 13:26 J -6652637.04 -6652636.94 -6652636.82 0.0073 0.0049

Pluto -22927-04-25 14:52 J -6652549.00 -6652548.88 -6652548.75 0.0073 0.0041

Pluto -22927-07-22 16:04 J -6652460.96 -6652460.83 -6652460.68 0.0073 0.0033

Pluto -22927-10-18 17:31 J -6652372.91 -6652372.77 -6652372.62 0.0073 0.0025

Moon -22926-01-03 10:48 J -6652296.17 -6652296.05 -6652295.92 0.2637 0.1411

Earth -22926-01-03 12:14 J -6652296.12 -6652295.99 -6652295.86 0.2638 0.1267 *

Pluto -22926-01-14 18:57 J -6652284.86 -6652284.71 -6652284.56 0.0073 0.0017

Uranus -22926-02-04 12:43 J -6652264.01 -6652263.97 -6652263.92 0.0142 0.0131

Pluto -22926-04-12 20:09 J -6652196.81 -6652196.66 -6652196.50 0.0073 0.0010

Mars -22926-05-01 11:16 J -6652178.05 -6652178.03 -6652178.00 0.1649 0.1602

Uranus -22926-05-03 16:19 J -6652175.90 -6652175.82 -6652175.73 0.0142 0.0110

Pluto -22926-07-09 21:36 J -6652108.76 -6652108.60 -6652108.45 0.0073 0.0002

Uranus -22926-07-30 19:55 J -6652087.77 -6652087.67 -6652087.56 0.0142 0.0089

Pluto -22926-10-05 22:48 J -6652020.70 -6652020.55 -6652020.39 0.0072 0.0006

Uranus -22926-10-26 23:45 J -6651999.63 -6651999.51 -6651999.39 0.0142 0.0066

Pluto -22925-01-02 00:00 J -6651932.65 -6651932.50 -6651932.34 0.0072 0.0014

Uranus -22925-01-23 03:21 J -6651911.48 -6651911.36 -6651911.23 0.0142 0.0045

Pluto -22925-03-30 01:11 J -6651844.59 -6651844.45 -6651844.30 0.0072 0.0021

Uranus -22925-04-20 07:11 J -6651823.33 -6651823.20 -6651823.07 0.0142 0.0022

Pluto -22925-06-26 02:23 J -6651756.53 -6651756.40 -6651756.25 0.0072 0.0029

Uranus -22925-07-17 11:02 J -6651735.18 -6651735.04 -6651734.91 0.0143 0.0004

Pluto -22925-09-22 03:36 J -6651668.47 -6651668.35 -6651668.21 0.0072 0.0036

Uranus -22925-10-13 14:38 J -6651647.02 -6651646.89 -6651646.75 0.0143 0.0023

Pluto -22925-12-19 04:48 J -6651580.41 -6651580.30 -6651580.17 0.0072 0.0044

Uranus -22924-01-09 18:28 J -6651558.86 -6651558.73 -6651558.60 0.0143 0.0045

Pluto -22924-03-17 06:00 J -6651492.35 -6651492.25 -6651492.13 0.0072 0.0051

Mars -22924-04-05 14:52 J -6651472.99 -6651472.88 -6651472.76 0.1661 0.0315

Uranus -22924-04-07 22:19 J -6651470.69 -6651470.57 -6651470.45 0.0143 0.0068

Pluto -22924-06-13 07:11 J -6651404.28 -6651404.20 -6651404.10 0.0072 0.0058

Uranus -22924-07-05 02:09 J -6651382.51 -6651382.41 -6651382.30 0.0143 0.0092

Moon -22924-07-07 05:16 J -6651380.37 -6651380.28 -6651380.19 0.2690 0.1762

Earth -22924-07-07 06:14 J -6651380.33 -6651380.24 -6651380.16 0.2690 0.1805 *

Pluto -22924-09-09 08:38 J -6651316.20 -6651316.14 -6651316.08 0.0072 0.0065

Uranus -22924-10-01 05:45 J -6651294.33 -6651294.26 -6651294.16 0.0143 0.0116

Uranus -22924-12-28 09:50 J -6651206.11 -6651206.09 -6651206.05 0.0143 0.0138

Mars -22923-02-11 18:28 J -6651160.78 -6651160.73 -6651160.68 0.1866 0.1769

Jupiter -22923-12-11 14:38 J -6650857.99 -6650857.89 -6650857.78 0.0531 0.0314

Jupiter -22922-03-10 21:21 J -6650768.71 -6650768.61 -6650768.49 0.0528 0.0271

Saturn -22922-11-29 23:16 J -6650504.62 -6650504.53 -6650504.43 0.0272 0.0181

Saturn -22921-02-26 09:50 J -6650416.21 -6650416.09 -6650415.95 0.0271 0.0067

Saturn -22921-05-24 20:38 J -6650327.77 -6650327.64 -6650327.51 0.0270 0.0049

Saturn -22921-08-21 07:11 J -6650239.30 -6650239.20 -6650239.09 0.0269 0.0164

Earth -22917-06-30 01:55 J -6648830.52 -6648830.42 -6648830.32 0.2695 0.1320

Moon -22917-06-30 02:38 J -6648830.49 -6648830.39 -6648830.29 0.2691 0.1311 *

Jupiter -22916-02-06 06:00 J -6648609.36 -6648609.25 -6648609.12 0.0496 0.0379

Jupiter -22916-05-07 13:55 J -6648519.05 -6648518.92 -6648518.78 0.0498 0.0334

Mars -22915-08-27 01:55 J -6648042.54 -6648042.42 -6648042.30 0.1658 0.0163

Moon -22913-01-06 14:23 J -6647545.04 -6647544.90 -6647544.76 0.2644 0.0332

Earth -22913-01-06 15:36 J -6647545.00 -6647544.85 -6647544.71 0.2640 0.0463 *

Jupiter -22911-09-29 19:11 J -6646547.76 -6646547.70 -6646547.63 0.0531 0.0449

Jupiter -22911-12-28 01:55 J -6646458.55 -6646458.42 -6646458.30 0.0529 0.0134

Neptune -22910-08-08 12:00 J -6646235.05 -6646235.00 -6646234.92 0.0088 0.0083

Neptune -22910-11-04 15:36 J -6646146.94 -6646146.85 -6646146.73 0.0088 0.0073

Neptune -22909-01-31 19:11 J -6646058.82 -6646058.70 -6646058.56 0.0088 0.0063

Neptune -22909-04-28 22:33 J -6645970.70 -6645970.56 -6645970.39 0.0088 0.0054

Neptune -22909-07-26 02:09 J -6645882.57 -6645882.41 -6645882.23 0.0088 0.0044

Neptune -22909-10-22 05:45 J -6645794.43 -6645794.26 -6645794.08 0.0088 0.0034

Neptune -22908-01-18 09:21 J -6645706.29 -6645706.11 -6645705.92 0.0088 0.0024

Neptune -22908-04-16 12:43 J -6645618.15 -6645617.97 -6645617.77 0.0088 0.0015

Neptune -22908-07-13 16:19 J -6645530.01 -6645529.82 -6645529.63 0.0088 0.0005

Neptune -22908-10-09 19:40 J -6645441.87 -6645441.68 -6645441.48 0.0088 0.0005

Neptune -22907-01-05 23:16 J -6645353.72 -6645353.53 -6645353.34 0.0088 0.0014

Neptune -22907-04-04 02:23 J -6645265.57 -6645265.40 -6645265.20 0.0088 0.0024

Neptune -22907-07-01 05:45 J -6645177.42 -6645177.26 -6645177.07 0.0088 0.0034

Neptune -22907-09-27 09:21 J -6645089.27 -6645089.11 -6645088.94 0.0088 0.0043

Neptune -22907-12-24 12:28 J -6645001.11 -6645000.98 -6645000.81 0.0088 0.0053

Neptune -22906-03-22 16:04 J -6644912.95 -6644912.83 -6644912.69 0.0088 0.0062

Neptune -22906-06-18 19:11 J -6644824.79 -6644824.70 -6644824.57 0.0088 0.0072

Neptune -22906-09-14 22:48 J -6644736.61 -6644736.55 -6644736.47 0.0088 0.0081

Saturn -22906-12-13 09:07 J -6644647.27 -6644647.12 -6644646.95 0.0289 0.0134

Mars -22905-01-17 12:57 J -6644612.07 -6644611.96 -6644611.85 0.1655 0.0630

Saturn -22905-03-11 09:07 J -6644558.30 -6644558.12 -6644557.94 0.0290 0.0064

Saturn -22905-06-08 08:38 J -6644469.22 -6644469.14 -6644469.06 0.0291 0.0260

Jupiter -22904-02-23 12:28 J -6644209.15 -6644208.98 -6644208.81 0.0498 0.0167

Moon -22904-07-02 20:52 J -6644079.74 -6644079.63 -6644079.51 0.2686 0.0187

Earth -22904-07-02 20:52 J -6644079.74 -6644079.63 -6644079.51 0.2694 0.0229 *

Mars -22904-12-22 17:16 J -6643906.84 -6643906.78 -6643906.71 0.1668 0.1355

Mars -22903-11-01 05:31 J -6643593.41 -6643593.27 -6643593.13 0.1856 0.0950

Venus -22902-08-28 22:33 J -6643292.63 -6643292.56 -6643292.49 0.3758 0.2705

Moon -22900-01-08 17:45 J -6642793.84 -6642793.76 -6642793.68 0.2648 0.2168

Earth -22900-01-08 18:14 J -6642793.82 -6642793.74 -6642793.65 0.2642 0.2135 *

Jupiter -22899-10-16 05:16 J -6642148.41 -6642148.28 -6642148.15 0.0529 0.0023

Venus -22896-03-13 14:23 J -6641269.00 -6641268.90 -6641268.80 0.3760 0.0518

Mars -22896-06-09 00:14 J -6641181.58 -6641181.49 -6641181.41 0.1652 0.1088

Mars -22894-05-15 04:04 J -6640476.43 -6640476.33 -6640476.23 0.1665 0.0863

Mars -22893-03-23 00:43 J -6640163.64 -6640163.47 -6640163.31 0.1861 0.0326

Jupiter -22893-12-12 10:48 J -6639899.24 -6639899.05 -6639898.87 0.0498 0.0008

Saturn -22892-04-18 01:40 J -6639772.50 -6639772.43 -6639772.35 0.0273 0.0218

Saturn -22892-07-15 12:14 J -6639684.11 -6639683.99 -6639683.86 0.0272 0.0103

Saturn -22892-10-11 23:02 J -6639595.68 -6639595.54 -6639595.41 0.0271 0.0014

Saturn -22891-01-08 09:36 J -6639507.21 -6639507.10 -6639506.98 0.0270 0.0129

Saturn -22891-04-06 20:23 J -6639418.70 -6639418.65 -6639418.59 0.0270 0.0244

Moon -22891-07-05 15:21 J -6639328.97 -6639328.86 -6639328.75 0.2688 0.0818

Earth -22891-07-05 16:04 J -6639328.94 -6639328.83 -6639328.72 0.2692 0.0893 *

Venus -22891-09-27 06:14 J -6639245.33 -6639245.24 -6639245.15 0.3761 0.1754

Jupiter -22887-08-04 09:21 J -6637838.23 -6637838.11 -6637837.99 0.0529 0.0166

Uranus -22887-09-25 17:45 J -6637785.82 -6637785.76 -6637785.68 0.0137 0.0127

Mars -22887-10-30 11:16 J -6637751.06 -6637751.03 -6637750.99 0.1649 0.1541

Jupiter -22887-11-01 16:04 J -6637748.91 -6637748.83 -6637748.75 0.0527 0.0417

Uranus -22887-12-23 00:57 J -6637697.58 -6637697.46 -6637697.33 0.0137 0.0099

Uranus -22886-03-21 07:55 J -6637609.32 -6637609.17 -6637609.01 0.0136 0.0072

Uranus -22886-06-17 14:52 J -6637521.06 -6637520.88 -6637520.70 0.0136 0.0045

Uranus -22886-09-13 21:36 J -6637432.78 -6637432.60 -6637432.41 0.0136 0.0018

Uranus -22886-12-11 04:33 J -6637344.50 -6637344.31 -6637344.13 0.0136 0.0009

Uranus -22885-03-08 11:16 J -6637256.21 -6637256.03 -6637255.85 0.0136 0.0035

Uranus -22885-06-04 17:45 J -6637167.92 -6637167.76 -6637167.59 0.0136 0.0062

Uranus -22885-09-01 00:14 J -6637079.62 -6637079.49 -6637079.34 0.0136 0.0088

Mars -22885-10-04 14:52 J -6637045.99 -6637045.88 -6637045.76 0.1661 0.0378

Uranus -22885-11-28 06:57 J -6636991.30 -6636991.21 -6636991.10 0.0136 0.0113

Earth -22884-06-28 12:14 J -6636779.06 -6636778.99 -6636778.93 0.2697 0.2188

Moon -22884-06-28 12:57 J -6636779.02 -6636778.96 -6636778.89 0.2696 0.2172 *

Mars -22884-08-12 18:57 J -6636733.78 -6636733.71 -6636733.64 0.1866 0.1656

Venus -22881-04-07 00:57 J -6635765.58 -6635765.46 -6635765.34 0.3615 0.2267

Jupiter -22881-09-30 08:23 J -6635589.32 -6635589.15 -6635588.98 0.0497 0.0179

Moon -22880-01-03 17:02 J -6635493.93 -6635493.79 -6635493.66 0.2638 0.1030

Earth -22880-01-03 18:28 J -6635493.87 -6635493.73 -6635493.59 0.2639 0.0944 *

Moon -22878-07-08 10:19 J -6634578.15 -6634578.07 -6634577.99 0.2689 0.1902

Earth -22878-07-08 11:16 J -6634578.11 -6634578.03 -6634577.96 0.2690 0.2026 *

Saturn -22876-05-01 07:11 J -6633915.33 -6633915.20 -6633915.06 0.0289 0.0194

Saturn -22876-07-29 07:11 J -6633826.38 -6633826.20 -6633826.02 0.0290 0.0004

Saturn -22876-10-26 06:43 J -6633737.35 -6633737.22 -6633737.09 0.0291 0.0200

Mars -22875-02-25 01:55 J -6633615.54 -6633615.42 -6633615.30 0.1658 0.0101

Jupiter -22875-05-23 13:26 J -6633528.04 -6633527.94 -6633527.84 0.0530 0.0310

Jupiter -22875-08-20 20:09 J -6633438.77 -6633438.66 -6633438.55 0.0528 0.0273

Earth -22871-07-01 06:57 J -6632028.31 -6632028.21 -6632028.11 0.2695 0.1113

Moon -22871-07-01 07:26 J -6632028.30 -6632028.19 -6632028.09 0.2690 0.1006 *

Jupiter -22869-07-19 05:45 J -6631279.38 -6631279.26 -6631279.13 0.0497 0.0356

Jupiter -22869-10-17 13:40 J -6631189.05 -6631188.93 -6631188.80 0.0498 0.0356

Moon -22867-01-06 20:23 J -6630742.79 -6630742.65 -6630742.51 0.2645 0.0694

Earth -22867-01-06 21:36 J -6630742.74 -6630742.60 -6630742.46 0.2640 0.0784 *

Mars -22866-07-18 12:57 J -6630185.07 -6630184.96 -6630184.85 0.1655 0.0571

Mars -22864-06-22 17:16 J -6629479.84 -6629479.78 -6629479.72 0.1668 0.1417

Jupiter -22863-03-11 18:00 J -6629217.82 -6629217.75 -6629217.69 0.0531 0.0446

Mars -22863-05-02 06:14 J -6629166.37 -6629166.24 -6629166.11 0.1857 0.1071

Jupiter -22863-06-09 00:28 J -6629128.60 -6629128.48 -6629128.35 0.0529 0.0136

Saturn -22863-09-05 03:36 J -6629040.39 -6629040.35 -6629040.30 0.0273 0.0256

Saturn -22863-12-02 14:09 J -6628952.02 -6628951.91 -6628951.79 0.0272 0.0141

Saturn -22862-03-01 00:57 J -6628863.59 -6628863.46 -6628863.33 0.0271 0.0026

Saturn -22862-05-28 11:31 J -6628775.14 -6628775.02 -6628774.89 0.0270 0.0090

Saturn -22862-08-24 22:19 J -6628686.66 -6628686.57 -6628686.48 0.0269 0.0204

Moon -22858-07-04 01:55 J -6627277.54 -6627277.42 -6627277.31 0.2686 0.0070

Earth -22858-07-04 01:55 J -6627277.53 -6627277.42 -6627277.31 0.2694 0.0009 *

Jupiter -22857-08-05 11:16 J -6626879.19 -6626879.03 -6626878.86 0.0498 0.0180

Mars -22857-12-08 00:14 J -6626754.58 -6626754.49 -6626754.40 0.1652 0.1029

Mars -22855-11-13 04:04 J -6626049.43 -6626049.33 -6626049.23 0.1665 0.0921

Moon -22854-01-10 00:14 J -6625991.55 -6625991.49 -6625991.43 0.2648 0.2381

Earth -22854-01-10 00:28 J -6625991.53 -6625991.48 -6625991.43 0.2642 0.2449 *

Mars -22854-09-22 01:26 J -6625736.61 -6625736.44 -6625736.28 0.1861 0.0198

Jupiter -22851-03-28 05:02 J -6624818.42 -6624818.29 -6624818.17 0.0529 0.0019

Moon -22847-01-01 19:40 J -6623442.74 -6623442.68 -6623442.62 0.2633 0.2400

Earth -22847-01-01 20:52 J -6623442.69 -6623442.63 -6623442.57 0.2637 0.2392 *

Mars -22847-04-30 11:16 J -6623324.08 -6623324.03 -6623323.98 0.1649 0.1480

Saturn -22847-09-18 01:55 J -6623183.46 -6623183.42 -6623183.37 0.0289 0.0279

Saturn -22847-12-16 02:09 J -6623094.59 -6623094.41 -6623094.24 0.0289 0.0081

Saturn -22846-03-15 01:55 J -6623005.59 -6623005.42 -6623005.26 0.0290 0.0117

Venus -22845-04-03 19:55 J -6622619.76 -6622619.67 -6622619.58 0.3758 0.1901

Mars -22845-04-04 14:52 J -6622618.99 -6622618.88 -6622618.76 0.1661 0.0443

Jupiter -22845-05-24 09:50 J -6622569.28 -6622569.09 -6622568.91 0.0498 0.0016

Moon -22845-07-05 20:23 J -6622526.76 -6622526.65 -6622526.55 0.2688 0.1075

Earth -22845-07-05 21:07 J -6622526.73 -6622526.62 -6622526.52 0.2692 0.1114 *

Mars -22844-02-10 19:55 J -6622306.77 -6622306.67 -6622306.58 0.1866 0.1524

Uranus -22842-02-24 19:55 J -6621562.72 -6621562.67 -6621562.60 0.0142 0.0126

Uranus -22842-05-23 23:31 J -6621474.60 -6621474.52 -6621474.42 0.0142 0.0105

Uranus -22842-08-20 03:07 J -6621386.47 -6621386.37 -6621386.25 0.0142 0.0083

Uranus -22842-11-16 06:57 J -6621298.33 -6621298.21 -6621298.09 0.0142 0.0061

Uranus -22841-02-12 10:33 J -6621210.19 -6621210.06 -6621209.93 0.0142 0.0039

Uranus -22841-05-10 14:23 J -6621122.03 -6621121.90 -6621121.77 0.0142 0.0017

Uranus -22841-08-06 18:14 J -6621033.88 -6621033.74 -6621033.61 0.0143 0.0007

Uranus -22841-11-02 21:50 J -6620945.72 -6620945.59 -6620945.45 0.0143 0.0028

Uranus -22840-01-30 01:40 J -6620857.56 -6620857.43 -6620857.30 0.0143 0.0051

Uranus -22840-04-28 05:31 J -6620769.39 -6620769.27 -6620769.15 0.0143 0.0074

Uranus -22840-07-25 09:07 J -6620681.21 -6620681.12 -6620681.01 0.0143 0.0097

Venus -22840-10-18 11:45 J -6620596.11 -6620596.01 -6620595.91 0.3760 0.0336

Uranus -22840-10-21 13:11 J -6620593.02 -6620592.95 -6620592.87 0.0143 0.0120

Jupiter -22839-01-14 08:38 J -6620508.27 -6620508.14 -6620508.02 0.0529 0.0153

Jupiter -22839-04-13 15:21 J -6620418.94 -6620418.86 -6620418.79 0.0527 0.0430

Earth -22838-06-29 17:02 J -6619976.86 -6619976.79 -6619976.71 0.2697 0.1988

Moon -22838-06-29 18:00 J -6619976.84 -6619976.75 -6619976.67 0.2695 0.1853 *

Mars -22836-08-26 01:55 J -6619188.54 -6619188.42 -6619188.30 0.1658 0.0042

Moon -22834-01-04 23:16 J -6618691.67 -6618691.53 -6618691.39 0.2640 0.0812

Earth -22834-01-05 00:28 J -6618691.62 -6618691.48 -6618691.33 0.2639 0.0618 *

Venus -22834-05-04 03:50 J -6618572.42 -6618572.34 -6618572.27 0.3761 0.2583

Jupiter -22833-03-12 07:40 J -6618259.35 -6618259.18 -6618259.00 0.0498 0.0160

Saturn -22833-04-20 16:33 J -6618219.91 -6618219.81 -6618219.71 0.0273 0.0179

Saturn -22833-07-18 03:07 J -6618131.50 -6618131.37 -6618131.24 0.0272 0.0063

Saturn -22833-10-14 13:40 J -6618043.06 -6618042.93 -6618042.80 0.0271 0.0053

Saturn -22832-01-11 00:28 J -6617954.58 -6617954.48 -6617954.37 0.0270 0.0168

Moon -22832-07-08 15:21 J -6617775.92 -6617775.86 -6617775.79 0.2690 0.2184

Earth -22832-07-08 16:19 J -6617775.88 -6617775.82 -6617775.76 0.2690 0.2250 *

Neptune -22829-08-18 22:33 J -6616638.59 -6616638.56 -6616638.52 0.0089 0.0086

Neptune -22829-11-15 00:00 J -6616550.56 -6616550.50 -6616550.44 0.0089 0.0079

Neptune -22828-02-11 00:57 J -6616462.52 -6616462.46 -6616462.37 0.0089 0.0073

Neptune -22828-05-10 02:23 J -6616374.48 -6616374.40 -6616374.30 0.0089 0.0065

Neptune -22828-08-06 03:50 J -6616286.43 -6616286.34 -6616286.23 0.0089 0.0058

Neptune -22828-11-02 05:16 J -6616198.38 -6616198.28 -6616198.17 0.0089 0.0051

Jupiter -22828-11-02 12:43 J -6616198.08 -6616197.97 -6616197.87 0.0530 0.0297

Neptune -22827-01-29 06:28 J -6616110.33 -6616110.23 -6616110.10 0.0089 0.0045

Jupiter -22827-01-30 19:11 J -6616108.81 -6616108.70 -6616108.59 0.0528 0.0284

Neptune -22827-04-27 07:55 J -6616022.28 -6616022.17 -6616022.04 0.0089 0.0038

Neptune -22827-07-24 09:21 J -6615934.23 -6615934.11 -6615933.98 0.0089 0.0030

Neptune -22827-10-20 10:48 J -6615846.18 -6615846.05 -6615845.92 0.0089 0.0023

Neptune -22826-01-16 12:14 J -6615758.12 -6615757.99 -6615757.86 0.0089 0.0016

Mars -22826-01-16 12:57 J -6615758.07 -6615757.96 -6615757.85 0.1655 0.0507 *

Neptune -22826-04-14 13:26 J -6615670.07 -6615669.94 -6615669.80 0.0089 0.0010

Neptune -22826-07-11 14:52 J -6615582.01 -6615581.88 -6615581.75 0.0089 0.0002

Neptune -22826-10-07 16:19 J -6615493.96 -6615493.82 -6615493.69 0.0089 0.0005

Neptune -22825-01-03 17:31 J -6615405.90 -6615405.77 -6615405.63 0.0089 0.0012

Neptune -22825-03-31 18:57 J -6615317.84 -6615317.71 -6615317.58 0.0089 0.0019

Neptune -22825-06-27 20:09 J -6615229.78 -6615229.66 -6615229.52 0.0089 0.0027

Earth -22825-07-01 12:00 J -6615226.11 -6615226.00 -6615225.90 0.2695 0.0902

Moon -22825-07-01 12:14 J -6615226.10 -6615225.99 -6615225.88 0.2688 0.0929 *

Neptune -22825-09-23 21:36 J -6615141.72 -6615141.60 -6615141.47 0.0089 0.0033

Venus -22825-11-12 02:38 J -6615092.54 -6615092.39 -6615092.24 0.3614 0.0191

Neptune -22825-12-20 23:02 J -6615053.65 -6615053.54 -6615053.41 0.0089 0.0040

Mars -22825-12-21 17:16 J -6615052.83 -6615052.78 -6615052.73 0.1668 0.1480

Neptune -22824-03-19 00:28 J -6614965.59 -6614965.48 -6614965.36 0.0089 0.0047

Neptune -22824-06-15 01:40 J -6614877.52 -6614877.43 -6614877.31 0.0089 0.0055

Neptune -22824-09-11 03:07 J -6614789.46 -6614789.37 -6614789.26 0.0089 0.0062

Mars -22824-10-31 06:57 J -6614739.33 -6614739.21 -6614739.08 0.1856 0.1189

Neptune -22824-12-08 04:33 J -6614701.39 -6614701.31 -6614701.22 0.0089 0.0069

Neptune -22823-03-06 06:00 J -6614613.31 -6614613.25 -6614613.17 0.0089 0.0076

Neptune -22823-06-02 07:26 J -6614525.23 -6614525.19 -6614525.14 0.0089 0.0083

Jupiter -22822-12-30 05:16 J -6613949.41 -6613949.28 -6613949.15 0.0497 0.0337

Moon -22821-01-08 02:38 J -6613940.53 -6613940.39 -6613940.26 0.2645 0.1014

Earth -22821-01-08 03:36 J -6613940.48 -6613940.35 -6613940.21 0.2641 0.1104 *

Jupiter -22821-03-29 13:11 J -6613859.07 -6613858.95 -6613858.83 0.0499 0.0375

Saturn -22817-05-04 00:14 J -6612362.65 -6612362.49 -6612362.33 0.0289 0.0140

Mars -22817-06-08 00:00 J -6612327.59 -6612327.50 -6612327.40 0.1652 0.0970

Saturn -22817-08-01 00:00 J -6612273.68 -6612273.50 -6612273.32 0.0290 0.0058

Saturn -22817-10-28 23:16 J -6612184.60 -6612184.53 -6612184.43 0.0291 0.0254

Jupiter -22816-08-21 16:33 J -6611887.87 -6611887.81 -6611887.74 0.0531 0.0441

Jupiter -22816-11-18 23:16 J -6611798.66 -6611798.53 -6611798.41 0.0529 0.0140

Mars -22815-05-14 04:04 J -6611622.42 -6611622.33 -6611622.24 0.1665 0.0987

Mars -22814-03-23 01:55 J -6611309.58 -6611309.42 -6611309.25 0.1861 0.0090

Moon -22812-07-04 06:43 J -6610475.33 -6610475.22 -6610475.10 0.2687 0.0242

Earth -22812-07-04 06:57 J -6610475.33 -6610475.21 -6610475.10 0.2693 0.0207 *

Jupiter -22809-01-16 11:02 J -6609549.21 -6609549.04 -6609548.88 0.0498 0.0201

Mars -22808-10-29 11:16 J -6608897.09 -6608897.03 -6608896.97 0.1649 0.1422

Mars -22806-10-04 14:52 J -6608191.99 -6608191.88 -6608191.77 0.1661 0.0497

Mars -22805-08-11 20:38 J -6607879.75 -6607879.64 -6607879.53 0.1866 0.1398

Jupiter -22804-09-07 03:36 J -6607488.48 -6607488.35 -6607488.22 0.0529 0.0009

Saturn -22804-09-07 18:28 J -6607487.81 -6607487.73 -6607487.65 0.0273 0.0216

Saturn -22804-12-05 05:02 J -6607399.41 -6607399.29 -6607399.16 0.0272 0.0101

Saturn -22803-03-03 15:50 J -6607310.98 -6607310.84 -6607310.71 0.0271 0.0015

Saturn -22803-05-31 02:23 J -6607222.51 -6607222.40 -6607222.28 0.0270 0.0130

Saturn -22803-08-27 13:11 J -6607134.00 -6607133.95 -6607133.90 0.0269 0.0245

Uranus -22803-10-16 01:26 J -6607084.52 -6607084.44 -6607084.33 0.0137 0.0118

Uranus -22802-01-12 08:23 J -6606996.27 -6606996.15 -6606996.00 0.0137 0.0091

Uranus -22802-04-10 15:36 J -6606908.01 -6606907.85 -6606907.68 0.0137 0.0063

Uranus -22802-07-07 22:33 J -6606819.74 -6606819.56 -6606819.38 0.0136 0.0036

Uranus -22802-10-04 05:31 J -6606731.46 -6606731.27 -6606731.09 0.0136 0.0009

Uranus -22802-12-31 12:14 J -6606643.17 -6606642.99 -6606642.80 0.0136 0.0018

Moon -22801-01-03 01:55 J -6606640.49 -6606640.42 -6606640.34 0.2634 0.2260

Earth -22801-01-03 03:07 J -6606640.46 -6606640.37 -6606640.28 0.2637 0.2056 *

Uranus -22801-03-28 18:57 J -6606554.88 -6606554.71 -6606554.53 0.0136 0.0044

Uranus -22801-06-25 01:40 J -6606466.58 -6606466.43 -6606466.27 0.0136 0.0070

Uranus -22801-09-21 08:23 J -6606378.28 -6606378.15 -6606378.02 0.0136 0.0096

Uranus -22801-12-18 14:52 J -6606289.95 -6606289.88 -6606289.80 0.0136 0.0122

Moon -22799-07-07 01:11 J -6605724.55 -6605724.45 -6605724.34 0.2688 0.1209

Earth -22799-07-07 01:55 J -6605724.52 -6605724.42 -6605724.32 0.2692 0.1333 *

Jupiter -22798-11-04 08:23 J -6605239.33 -6605239.15 -6605238.96 0.0498 0.0026

Mars -22796-02-24 01:55 J -6604761.54 -6604761.42 -6604761.30 0.1658 0.0032

Venus -22794-04-26 01:40 J -6603970.48 -6603970.43 -6603970.39 0.3757 0.3287

Jupiter -22792-06-26 07:55 J -6603178.29 -6603178.17 -6603178.04 0.0530 0.0136

Earth -22792-06-29 22:04 J -6603174.66 -6603174.58 -6603174.50 0.2696 0.1777

Moon -22792-06-29 22:48 J -6603174.64 -6603174.55 -6603174.47 0.2694 0.1745 *

Jupiter -22792-09-23 14:38 J -6603088.95 -6603088.89 -6603088.82 0.0528 0.0450

Venus -22789-11-08 17:31 J -6601946.87 -6601946.77 -6601946.68 0.3759 0.1097

Moon -22788-01-05 05:16 J -6601889.43 -6601889.28 -6601889.13 0.2641 0.0330

Earth -22788-01-05 06:43 J -6601889.37 -6601889.22 -6601889.08 0.2639 0.0296 *

Saturn -22788-09-20 19:11 J -6601630.81 -6601630.70 -6601630.58 0.0289 0.0223

Saturn -22788-12-18 19:11 J -6601541.88 -6601541.70 -6601541.52 0.0289 0.0026

Saturn -22787-03-17 18:43 J -6601452.86 -6601452.72 -6601452.57 0.0290 0.0171

Mars -22787-07-17 12:57 J -6601331.07 -6601330.96 -6601330.85 0.1655 0.0446

Moon -22786-07-09 20:23 J -6600973.69 -6600973.65 -6600973.60 0.2692 0.2416

Earth -22786-07-09 21:21 J -6600973.66 -6600973.61 -6600973.57 0.2690 0.2477 *

Jupiter -22786-08-23 06:43 J -6600929.40 -6600929.22 -6600929.05 0.0497 0.0146

Mars -22785-06-21 17:16 J -6600625.82 -6600625.78 -6600625.74 0.1668 0.1545

Mars -22784-05-01 07:40 J -6600312.29 -6600312.18 -6600312.06 0.1856 0.1314

Venus -22783-05-25 09:21 J -6599923.21 -6599923.11 -6599923.01 0.3760 0.1152

Jupiter -22780-04-14 11:45 J -6598868.12 -6598868.01 -6598867.90 0.0530 0.0283

Jupiter -22780-07-12 18:28 J -6598778.84 -6598778.73 -6598778.63 0.0527 0.0298

Earth -22779-07-02 16:48 J -6598423.91 -6598423.80 -6598423.68 0.2695 0.0700

Moon -22779-07-02 17:16 J -6598423.90 -6598423.78 -6598423.67 0.2688 0.0599 *

Mars -22778-12-08 00:00 J -6597900.59 -6597900.50 -6597900.40 0.1652 0.0909

Venus -22778-12-09 01:11 J -6597899.49 -6597899.45 -6597899.41 0.3761 0.3418

Mars -22776-11-12 04:04 J -6597195.42 -6597195.33 -6597195.24 0.1665 0.1049

Moon -22775-01-08 08:52 J -6597138.26 -6597138.13 -6597138.01 0.2646 0.1307

Earth -22775-01-08 09:50 J -6597138.22 -6597138.09 -6597137.97 0.2641 0.1417 *

Mars -22775-09-21 02:52 J -6596882.55 -6596882.38 -6596882.22 0.1861 0.0059

Saturn -22774-01-25 20:23 J -6596755.68 -6596755.65 -6596755.60 0.0274 0.0257

Saturn -22774-04-24 07:11 J -6596667.31 -6596667.20 -6596667.09 0.0273 0.0140

Jupiter -22774-06-11 04:19 J -6596619.45 -6596619.32 -6596619.18 0.0497 0.0321

Saturn -22774-07-21 17:45 J -6596578.89 -6596578.76 -6596578.62 0.0272 0.0025

Jupiter -22774-09-09 12:14 J -6596529.09 -6596528.99 -6596528.87 0.0499 0.0393

Saturn -22774-10-18 04:33 J -6596490.44 -6596490.31 -6596490.18 0.0271 0.0092

Saturn -22773-01-14 15:21 J -6596401.95 -6596401.86 -6596401.78 0.0270 0.0208

Jupiter -22768-01-31 15:50 J -6594557.91 -6594557.84 -6594557.77 0.0530 0.0427

Mars -22768-04-29 11:16 J -6594470.09 -6594470.03 -6594469.97 0.1649 0.1359

Jupiter -22768-04-30 22:19 J -6594468.69 -6594468.57 -6594468.45 0.0528 0.0152

Venus -22768-06-19 04:19 J -6594419.45 -6594419.32 -6594419.19 0.3614 0.1865

Pluto -22767-10-22 15:07 J -6593928.93 -6593928.87 -6593928.81 0.0071 0.0065

Pluto -22766-01-18 16:19 J -6593840.90 -6593840.82 -6593840.72 0.0071 0.0058

Mars -22766-04-04 14:52 J -6593764.99 -6593764.88 -6593764.77 0.1661 0.0565

Pluto -22766-04-16 17:31 J -6593752.87 -6593752.77 -6593752.64 0.0071 0.0051

Moon -22766-07-05 11:31 J -6593673.13 -6593673.02 -6593672.90 0.2687 0.0320

Earth -22766-07-05 12:00 J -6593673.12 -6593673.00 -6593672.89 0.2693 0.0428 *

Pluto -22766-07-13 18:57 J -6593664.83 -6593664.71 -6593664.57 0.0071 0.0044

Pluto -22766-10-09 20:38 J -6593576.78 -6593576.64 -6593576.50 0.0071 0.0036

Pluto -22765-01-05 21:50 J -6593488.73 -6593488.59 -6593488.43 0.0072 0.0028

Mars -22765-02-10 21:21 J -6593452.73 -6593452.61 -6593452.49 0.1866 0.1274

Pluto -22765-04-02 23:16 J -6593400.68 -6593400.53 -6593400.37 0.0072 0.0021

Pluto -22765-06-30 00:43 J -6593312.62 -6593312.47 -6593312.31 0.0072 0.0013

Pluto -22765-09-26 02:09 J -6593224.57 -6593224.41 -6593224.24 0.0072 0.0005

Pluto -22765-12-23 03:36 J -6593136.51 -6593136.35 -6593136.18 0.0072 0.0004

Pluto -22764-03-21 05:02 J -6593048.44 -6593048.29 -6593048.12 0.0072 0.0011

Pluto -22764-06-17 06:28 J -6592960.38 -6592960.23 -6592960.07 0.0072 0.0019

Pluto -22764-09-13 07:55 J -6592872.31 -6592872.17 -6592872.01 0.0072 0.0027

Pluto -22764-12-10 09:21 J -6592784.24 -6592784.11 -6592783.96 0.0073 0.0036

Pluto -22763-03-08 11:02 J -6592696.17 -6592696.04 -6592695.91 0.0073 0.0044

Pluto -22763-06-04 12:28 J -6592608.09 -6592607.98 -6592607.86 0.0073 0.0052

Pluto -22763-08-31 13:40 J -6592520.00 -6592519.93 -6592519.82 0.0073 0.0061

Pluto -22763-11-27 15:21 J -6592431.89 -6592431.86 -6592431.80 0.0073 0.0069

Jupiter -22762-06-28 10:04 J -6592219.24 -6592219.08 -6592218.91 0.0498 0.0217

Earth -22759-06-28 08:23 J -6591123.17 -6591123.15 -6591123.13 0.2698 0.2645

Moon -22759-06-28 09:07 J -6591123.15 -6591123.12 -6591123.09 0.2700 0.2556 *

Uranus -22759-12-19 00:00 J -6590949.51 -6590949.50 -6590949.47 0.0142 0.0140

Saturn -22758-02-07 17:45 J -6590898.80 -6590898.76 -6590898.71 0.0288 0.0277

Uranus -22758-03-17 03:36 J -6590861.42 -6590861.35 -6590861.27 0.0142 0.0118

Saturn -22758-05-07 17:45 J -6590809.93 -6590809.76 -6590809.58 0.0289 0.0080

Uranus -22758-06-13 07:11 J -6590773.29 -6590773.20 -6590773.10 0.0142 0.0097

Saturn -22758-08-04 17:31 J -6590720.93 -6590720.77 -6590720.60 0.0290 0.0117

Uranus -22758-09-09 11:02 J -6590685.16 -6590685.04 -6590684.93 0.0142 0.0075

Uranus -22758-12-06 14:38 J -6590597.01 -6590596.89 -6590596.76 0.0142 0.0054

Uranus -22757-03-03 18:14 J -6590508.87 -6590508.74 -6590508.60 0.0142 0.0032

Uranus -22757-05-30 22:04 J -6590420.72 -6590420.58 -6590420.45 0.0142 0.0009

Mars -22757-08-25 01:55 J -6590334.54 -6590334.42 -6590334.31 0.1658 0.0091

Uranus -22757-08-27 01:55 J -6590332.56 -6590332.42 -6590332.29 0.0142 0.0014

Uranus -22757-11-23 05:31 J -6590244.40 -6590244.27 -6590244.14 0.0143 0.0036

Jupiter -22756-02-17 02:09 J -6590158.54 -6590158.41 -6590158.28 0.0529 0.0012

Uranus -22756-02-19 09:21 J -6590156.23 -6590156.11 -6590155.98 0.0143 0.0058

Uranus -22756-05-18 13:11 J -6590068.06 -6590067.95 -6590067.84 0.0143 0.0081

Uranus -22756-08-14 17:02 J -6589979.88 -6589979.79 -6589979.70 0.0143 0.0104

Uranus -22756-11-10 20:52 J -6589891.69 -6589891.63 -6589891.57 0.0143 0.0127

Moon -22755-01-03 08:09 J -6589838.27 -6589838.16 -6589838.05 0.2635 0.1752

Earth -22755-01-03 09:21 J -6589838.22 -6589838.11 -6589838.00 0.2638 0.1720 *

Moon -22753-07-07 06:14 J -6588922.33 -6588922.24 -6588922.14 0.2688 0.1529

Earth -22753-07-07 06:57 J -6588922.30 -6588922.21 -6588922.11 0.2691 0.1552 *

Jupiter -22750-04-16 07:55 J -6587909.35 -6587909.17 -6587908.99 0.0498 0.0041

Mars -22747-01-15 12:57 J -6586904.08 -6586903.96 -6586903.85 0.1655 0.0393

Earth -22746-07-01 03:07 J -6586372.47 -6586372.37 -6586372.28 0.2696 0.1572

Moon -22746-07-01 03:36 J -6586372.44 -6586372.35 -6586372.25 0.2692 0.1490 *

Mars -22746-12-21 17:16 J -6586198.81 -6586198.78 -6586198.75 0.1668 0.1604

Neptune -22745-05-04 09:07 J -6586064.18 -6586064.12 -6586064.05 0.0088 0.0082

Neptune -22745-07-31 12:43 J -6585976.07 -6585975.97 -6585975.86 0.0088 0.0072

Saturn -22745-09-10 09:21 J -6585935.21 -6585935.11 -6585935.00 0.0273 0.0175

Neptune -22745-10-27 15:50 J -6585887.95 -6585887.84 -6585887.69 0.0088 0.0063

Mars -22745-10-30 08:23 J -6585885.26 -6585885.15 -6585885.05 0.1857 0.1425

Jupiter -22745-12-06 06:28 J -6585848.35 -6585848.23 -6585848.10 0.0530 0.0135

Saturn -22745-12-07 20:09 J -6585846.79 -6585846.66 -6585846.53 0.0272 0.0059

Neptune -22744-01-23 19:26 J -6585799.83 -6585799.69 -6585799.52 0.0088 0.0053

Jupiter -22744-03-05 13:11 J -6585759.01 -6585758.95 -6585758.88 0.0528 0.0451

Saturn -22744-03-06 06:43 J -6585758.35 -6585758.22 -6585758.09 0.0271 0.0057

Neptune -22744-04-21 23:16 J -6585711.70 -6585711.53 -6585711.36 0.0088 0.0043

Saturn -22744-06-02 17:31 J -6585669.87 -6585669.77 -6585669.67 0.0270 0.0172

Neptune -22744-07-19 02:23 J -6585623.56 -6585623.40 -6585623.20 0.0088 0.0034

Neptune -22744-10-15 06:00 J -6585535.42 -6585535.25 -6585535.05 0.0088 0.0024

Neptune -22743-01-11 09:36 J -6585447.28 -6585447.10 -6585446.90 0.0088 0.0014

Neptune -22743-04-09 13:11 J -6585359.14 -6585358.95 -6585358.76 0.0088 0.0004

Neptune -22743-07-06 16:33 J -6585271.00 -6585270.81 -6585270.61 0.0088 0.0005

Neptune -22743-10-02 19:55 J -6585182.85 -6585182.67 -6585182.47 0.0088 0.0015

Neptune -22743-12-29 23:31 J -6585094.70 -6585094.52 -6585094.33 0.0088 0.0024

Moon -22742-01-06 11:31 J -6585087.17 -6585087.02 -6585086.88 0.2642 0.0201

Earth -22742-01-06 12:43 J -6585087.11 -6585086.97 -6585086.82 0.2639 0.0091 *

Neptune -22742-03-28 02:52 J -6585006.55 -6585006.38 -6585006.20 0.0088 0.0034

Neptune -22742-06-24 06:00 J -6584918.40 -6584918.25 -6584918.07 0.0088 0.0044

Neptune -22742-09-20 09:36 J -6584830.24 -6584830.10 -6584829.94 0.0088 0.0053

Neptune -22742-12-17 12:43 J -6584742.08 -6584741.97 -6584741.82 0.0088 0.0063

Neptune -22741-03-14 16:19 J -6584653.92 -6584653.82 -6584653.70 0.0088 0.0072

Neptune -22741-06-10 19:26 J -6584565.74 -6584565.69 -6584565.60 0.0088 0.0082

Moon -22740-07-10 01:26 J -6584171.46 -6584171.44 -6584171.41 0.2693 0.2592

Jupiter -22738-02-02 05:16 J -6583599.46 -6583599.28 -6583599.10 0.0497 0.0138

Mars -22738-06-08 00:00 J -6583473.60 -6583473.50 -6583473.40 0.1652 0.0846

Venus -22738-11-30 23:02 J -6583297.61 -6583297.54 -6583297.46 0.3757 0.2478

Mars -22736-05-13 04:04 J -6582768.42 -6582768.33 -6582768.24 0.1665 0.1112

Mars -22735-03-22 03:50 J -6582455.50 -6582455.34 -6582455.17 0.1861 0.0177

Earth -22733-07-02 21:50 J -6581621.70 -6581621.59 -6581621.47 0.2695 0.0481

Moon -22733-07-02 22:04 J -6581621.69 -6581621.58 -6581621.46 0.2688 0.0506 *

Jupiter -22733-09-24 11:02 J -6581538.15 -6581538.04 -6581537.93 0.0530 0.0270

Jupiter -22733-12-22 17:45 J -6581448.87 -6581448.76 -6581448.66 0.0528 0.0313

Venus -22732-06-15 14:52 J -6581273.98 -6581273.88 -6581273.78 0.3759 0.0280

Moon -22729-01-09 15:07 J -6580335.98 -6580335.87 -6580335.76 0.2647 0.1742

Earth -22729-01-09 15:50 J -6580335.95 -6580335.84 -6580335.73 0.2641 0.1732 *

Saturn -22729-09-23 13:11 J -6580078.10 -6580077.95 -6580077.79 0.0289 0.0159

Mars -22729-10-28 11:16 J -6580043.10 -6580043.03 -6580042.96 0.1649 0.1300

Saturn -22729-12-21 13:11 J -6579989.13 -6579988.95 -6579988.77 0.0289 0.0038

Saturn -22728-03-20 12:43 J -6579900.08 -6579899.97 -6579899.87 0.0290 0.0234

Mars -22727-10-03 14:52 J -6579337.99 -6579337.88 -6579337.77 0.1661 0.0627

Jupiter -22727-11-21 03:07 J -6579289.51 -6579289.37 -6579289.22 0.0497 0.0309

Venus -22727-12-30 06:57 J -6579250.30 -6579250.21 -6579250.13 0.3760 0.1983

Jupiter -22726-02-19 11:16 J -6579199.14 -6579199.03 -6579198.93 0.0499 0.0403

Mars -22726-08-11 22:04 J -6579025.71 -6579025.58 -6579025.45 0.1866 0.1155

Jupiter -22721-07-13 14:52 J -6577227.95 -6577227.88 -6577227.80 0.0530 0.0416

Jupiter -22721-10-10 21:21 J -6577138.73 -6577138.61 -6577138.49 0.0528 0.0163

Moon -22720-07-05 16:33 J -6576870.93 -6576870.81 -6576870.70 0.2687 0.0658

Earth -22720-07-05 17:02 J -6576870.91 -6576870.79 -6576870.68 0.2693 0.0645 *

Uranus -22719-08-09 02:09 J -6576471.41 -6576471.41 -6576471.39 0.0137 0.0137

Uranus -22719-11-05 09:21 J -6576383.22 -6576383.11 -6576382.99 0.0137 0.0109

Uranus -22718-02-01 16:33 J -6576294.96 -6576294.81 -6576294.66 0.0137 0.0081

Uranus -22718-04-30 23:31 J -6576206.69 -6576206.52 -6576206.35 0.0137 0.0054

Uranus -22718-07-28 06:28 J -6576118.42 -6576118.23 -6576118.05 0.0136 0.0027

Uranus -22718-10-24 13:11 J -6576030.13 -6576029.95 -6576029.76 0.0136 0.0002

Uranus -22717-01-20 19:55 J -6575941.84 -6575941.67 -6575941.48 0.0136 0.0027

Mars -22717-02-24 01:55 J -6575907.54 -6575907.42 -6575907.31 0.1658 0.0157

Uranus -22717-04-18 02:52 J -6575853.55 -6575853.38 -6575853.21 0.0136 0.0053

Venus -22717-07-09 22:19 J -6575770.69 -6575770.57 -6575770.44 0.3616 0.2145

Uranus -22717-07-15 09:07 J -6575765.25 -6575765.12 -6575764.95 0.0136 0.0080

Uranus -22717-10-11 15:50 J -6575676.94 -6575676.84 -6575676.71 0.0136 0.0106

Uranus -22716-01-07 22:33 J -6575588.60 -6575588.56 -6575588.51 0.0136 0.0131

Saturn -22715-01-28 11:31 J -6575203.10 -6575203.02 -6575202.94 0.0274 0.0216

Saturn -22715-04-26 22:04 J -6575114.70 -6575114.58 -6575114.46 0.0273 0.0099

Saturn -22715-07-24 08:52 J -6575026.27 -6575026.13 -6575026.00 0.0272 0.0019

Jupiter -22715-09-09 00:43 J -6574979.50 -6574979.47 -6574979.44 0.0497 0.0487

Saturn -22715-10-20 19:26 J -6574937.80 -6574937.69 -6574937.57 0.0271 0.0134

Jupiter -22715-12-08 09:07 J -6574889.28 -6574889.12 -6574888.96 0.0499 0.0230

Saturn -22714-01-17 06:14 J -6574849.28 -6574849.24 -6574849.19 0.0271 0.0251

Earth -22713-06-28 13:11 J -6574320.99 -6574320.95 -6574320.90 0.2697 0.2437

Moon -22713-06-28 13:55 J -6574320.97 -6574320.92 -6574320.87 0.2699 0.2391 *

Moon -22709-01-04 14:09 J -6573036.03 -6573035.91 -6573035.79 0.2637 0.1580

Earth -22709-01-04 15:36 J -6573035.97 -6573035.85 -6573035.72 0.2638 0.1386 *

Jupiter -22709-07-30 01:26 J -6572828.57 -6572828.44 -6572828.31 0.0528 0.0020

Mars -22708-07-16 12:57 J -6572477.08 -6572476.96 -6572476.85 0.1655 0.0324

Moon -22707-07-08 11:16 J -6572120.12 -6572120.03 -6572119.94 0.2689 0.1628

Earth -22707-07-08 12:00 J -6572120.08 -6572120.00 -6572119.91 0.2691 0.1771 *

Mars -22705-04-30 09:21 J -6571458.20 -6571458.11 -6571458.03 0.1856 0.1554

Jupiter -22703-09-26 06:43 J -6570579.40 -6570579.22 -6570579.04 0.0498 0.0053

Earth -22700-07-01 07:55 J -6569570.26 -6569570.17 -6569570.07 0.2696 0.1365

Moon -22700-07-01 08:38 J -6569570.24 -6569570.14 -6569570.04 0.2691 0.1298 *

Saturn -22699-02-10 12:28 J -6569346.11 -6569345.98 -6569345.85 0.0288 0.0209

Saturn -22699-05-10 12:14 J -6569257.17 -6569256.99 -6569256.80 0.0289 0.0013

Saturn -22699-08-07 11:45 J -6569168.14 -6569168.01 -6569167.86 0.0290 0.0184

Mars -22699-12-07 00:00 J -6569046.60 -6569046.50 -6569046.40 0.1652 0.0787

Jupiter -22697-05-18 05:16 J -6568518.41 -6568518.28 -6568518.16 0.0529 0.0132

Jupiter -22697-08-15 12:00 J -6568429.07 -6568429.00 -6568428.94 0.0527 0.0451

Mars -22697-11-11 04:04 J -6568341.41 -6568341.33 -6568341.25 0.1665 0.1175

Moon -22696-01-06 17:31 J -6568284.91 -6568284.77 -6568284.62 0.2642 0.0344

Earth -22696-01-06 18:57 J -6568284.85 -6568284.71 -6568284.56 0.2640 0.0362 *

Mars -22696-09-20 04:04 J -6568028.49 -6568028.33 -6568028.16 0.1861 0.0276

Jupiter -22691-07-15 04:19 J -6566269.50 -6566269.32 -6566269.14 0.0497 0.0124

Mars -22689-04-28 11:16 J -6565616.11 -6565616.03 -6565615.96 0.1649 0.1242

Mars -22687-04-03 14:52 J -6564910.99 -6564910.88 -6564910.78 0.1661 0.0684

Moon -22687-07-04 02:52 J -6564819.49 -6564819.38 -6564819.26 0.2688 0.0239

Earth -22687-07-04 02:52 J -6564819.49 -6564819.38 -6564819.27 0.2694 0.0265 *

Mars -22686-02-09 23:02 J -6564598.67 -6564598.54 -6564598.40 0.1866 0.1018

Saturn -22686-06-17 13:55 J -6564470.97 -6564470.92 -6564470.86 0.0274 0.0248

Saturn -22686-09-14 00:43 J -6564382.59 -6564382.47 -6564382.36 0.0273 0.0132

Saturn -22686-12-11 11:16 J -6564294.16 -6564294.03 -6564293.89 0.0272 0.0016

Jupiter -22685-03-06 09:21 J -6564208.21 -6564208.11 -6564208.00 0.0530 0.0272

Saturn -22685-03-08 22:04 J -6564205.71 -6564205.58 -6564205.46 0.0271 0.0101

Jupiter -22685-06-03 16:04 J -6564118.93 -6564118.83 -6564118.73 0.0528 0.0310

Saturn -22685-06-05 08:38 J -6564117.21 -6564117.14 -6564117.05 0.0270 0.0218

Moon -22683-01-09 21:21 J -6563533.70 -6563533.61 -6563533.51 0.2648 0.1939

Earth -22683-01-09 21:50 J -6563533.68 -6563533.59 -6563533.50 0.2641 0.2055 *

Pluto -22682-07-01 00:43 J -6562996.50 -6562996.47 -6562996.42 0.0074 0.0071

Pluto -22682-09-27 01:55 J -6562908.48 -6562908.42 -6562908.33 0.0074 0.0063

Pluto -22682-12-24 03:21 J -6562820.45 -6562820.36 -6562820.24 0.0073 0.0055

Pluto -22681-03-21 04:48 J -6562732.41 -6562732.30 -6562732.17 0.0073 0.0046

Pluto -22681-06-17 06:00 J -6562644.37 -6562644.25 -6562644.10 0.0073 0.0038

Venus -22681-07-06 20:38 J -6562624.73 -6562624.64 -6562624.55 0.3758 0.1670

Pluto -22681-09-13 07:26 J -6562556.32 -6562556.19 -6562556.04 0.0073 0.0030

Pluto -22681-12-10 08:52 J -6562468.27 -6562468.13 -6562467.98 0.0073 0.0022

Pluto -22680-03-08 10:19 J -6562380.22 -6562380.07 -6562379.92 0.0073 0.0014

Pluto -22680-06-04 11:31 J -6562292.17 -6562292.02 -6562291.86 0.0073 0.0006

Pluto -22680-08-31 12:43 J -6562204.12 -6562203.97 -6562203.81 0.0073 0.0003

Pluto -22680-11-27 13:55 J -6562116.07 -6562115.92 -6562115.76 0.0072 0.0010

Pluto -22679-02-23 15:21 J -6562028.01 -6562027.86 -6562027.71 0.0072 0.0017

Jupiter -22679-05-03 01:26 J -6561959.58 -6561959.44 -6561959.29 0.0497 0.0305

Pluto -22679-05-22 16:33 J -6561939.95 -6561939.81 -6561939.66 0.0072 0.0024

Jupiter -22679-08-01 09:21 J -6561869.21 -6561869.11 -6561869.00 0.0499 0.0407

Pluto -22679-08-18 17:31 J -6561851.89 -6561851.77 -6561851.62 0.0072 0.0032

Pluto -22679-11-14 18:57 J -6561763.83 -6561763.71 -6561763.58 0.0072 0.0039

Pluto -22678-02-10 19:55 J -6561675.77 -6561675.67 -6561675.54 0.0072 0.0047

Pluto -22678-05-09 21:07 J -6561587.71 -6561587.62 -6561587.51 0.0072 0.0054

Pluto -22678-08-05 22:33 J -6561499.64 -6561499.56 -6561499.48 0.0072 0.0061

Mars -22678-08-25 01:55 J -6561480.54 -6561480.42 -6561480.31 0.1658 0.0214

Pluto -22678-11-01 23:16 J -6561411.55 -6561411.53 -6561411.46 0.0071 0.0069

Venus -22675-01-20 12:28 J -6560601.08 -6560600.98 -6560600.88 0.3759 0.0559

Uranus -22674-01-08 07:55 J -6560248.21 -6560248.17 -6560248.11 0.0141 0.0131

Uranus -22674-04-06 11:31 J -6560160.09 -6560160.02 -6560159.93 0.0142 0.0110

Uranus -22674-07-03 15:21 J -6560071.96 -6560071.86 -6560071.76 0.0142 0.0088

Moon -22674-07-06 21:21 J -6560068.72 -6560068.61 -6560068.50 0.2687 0.0747

Earth -22674-07-06 21:50 J -6560068.70 -6560068.59 -6560068.48 0.2693 0.0862 *

Uranus -22674-09-29 18:57 J -6559983.83 -6559983.71 -6559983.59 0.0142 0.0066

Jupiter -22674-12-24 13:55 J -6559898.00 -6559897.92 -6559897.84 0.0530 0.0408

Uranus -22674-12-26 22:33 J -6559895.68 -6559895.56 -6559895.43 0.0142 0.0045

Jupiter -22673-03-22 20:23 J -6559808.77 -6559808.65 -6559808.53 0.0528 0.0172

Uranus -22673-03-24 02:23 J -6559807.54 -6559807.40 -6559807.27 0.0142 0.0022

Uranus -22673-06-20 06:00 J -6559719.38 -6559719.25 -6559719.11 0.0142 0.0003

Uranus -22673-09-16 09:50 J -6559631.23 -6559631.09 -6559630.96 0.0142 0.0022

Uranus -22673-12-13 13:40 J -6559543.06 -6559542.93 -6559542.80 0.0142 0.0045

Uranus -22672-03-11 17:16 J -6559454.90 -6559454.78 -6559454.66 0.0143 0.0068

Uranus -22672-06-07 21:07 J -6559366.72 -6559366.62 -6559366.51 0.0143 0.0090

Uranus -22672-09-04 00:43 J -6559278.54 -6559278.47 -6559278.37 0.0143 0.0114

Uranus -22672-12-01 04:33 J -6559190.33 -6559190.31 -6559190.26 0.0143 0.0137

Saturn -22670-06-30 08:23 J -6558614.17 -6558614.15 -6558614.11 0.0288 0.0283

Venus -22670-08-06 04:19 J -6558577.38 -6558577.32 -6558577.25 0.3760 0.2805

Saturn -22670-09-27 08:38 J -6558525.32 -6558525.14 -6558524.97 0.0289 0.0086

Saturn -22670-12-25 08:09 J -6558436.32 -6558436.16 -6558435.99 0.0290 0.0111

Mars -22668-01-14 12:57 J -6558050.08 -6558049.96 -6558049.85 0.1655 0.0266

Jupiter -22667-02-18 23:16 J -6557649.57 -6557649.53 -6557649.48 0.0497 0.0478

Jupiter -22667-05-20 07:40 J -6557559.34 -6557559.18 -6557559.02 0.0498 0.0238

Earth -22667-06-29 18:14 J -6557518.80 -6557518.74 -6557518.68 0.2697 0.2233

Moon -22667-06-29 18:57 J -6557518.78 -6557518.71 -6557518.64 0.2697 0.2109 *

Mars -22666-10-30 09:50 J -6557031.16 -6557031.09 -6557031.02 0.1856 0.1668

Neptune -22664-05-15 21:07 J -6556467.64 -6556467.62 -6556467.57 0.0089 0.0086

Neptune -22664-08-11 22:33 J -6556379.61 -6556379.56 -6556379.49 0.0089 0.0079

Neptune -22664-11-07 23:45 J -6556291.57 -6556291.51 -6556291.42 0.0089 0.0073

Moon -22663-01-04 20:23 J -6556233.79 -6556233.65 -6556233.52 0.2638 0.1146

Earth -22663-01-04 21:50 J -6556233.73 -6556233.59 -6556233.45 0.2638 0.1054 *

Neptune -22663-02-04 01:11 J -6556203.53 -6556203.45 -6556203.35 0.0089 0.0066

Neptune -22663-05-03 02:38 J -6556115.48 -6556115.39 -6556115.28 0.0089 0.0058

Neptune -22663-07-30 04:04 J -6556027.43 -6556027.33 -6556027.22 0.0089 0.0051

Neptune -22663-10-26 05:16 J -6555939.39 -6555939.28 -6555939.16 0.0089 0.0045

Neptune -22662-01-22 06:43 J -6555851.33 -6555851.22 -6555851.09 0.0089 0.0038

Neptune -22662-04-20 08:09 J -6555763.28 -6555763.16 -6555763.03 0.0089 0.0030

Neptune -22662-07-17 09:36 J -6555675.23 -6555675.10 -6555674.97 0.0089 0.0023

Neptune -22662-10-13 10:48 J -6555587.18 -6555587.05 -6555586.91 0.0089 0.0017

Neptune -22661-01-09 12:14 J -6555499.12 -6555498.99 -6555498.85 0.0089 0.0010

Jupiter -22661-01-10 00:14 J -6555498.62 -6555498.49 -6555498.36 0.0528 0.0027

Neptune -22661-04-06 13:40 J -6555411.06 -6555410.93 -6555410.80 0.0089 0.0002

Neptune -22661-07-03 15:07 J -6555323.01 -6555322.87 -6555322.74 0.0089 0.0005

Moon -22661-07-08 16:19 J -6555317.90 -6555317.82 -6555317.74 0.2691 0.1979

Earth -22661-07-08 17:02 J -6555317.86 -6555317.79 -6555317.71 0.2691 0.1994 *

Neptune -22661-09-29 16:19 J -6555234.95 -6555234.82 -6555234.68 0.0089 0.0012

Neptune -22661-12-26 17:45 J -6555146.89 -6555146.76 -6555146.63 0.0089 0.0019

Venus -22660-02-14 00:14 J -6555097.65 -6555097.49 -6555097.34 0.3615 0.0097

Neptune -22660-03-24 18:57 J -6555058.83 -6555058.71 -6555058.57 0.0089 0.0027

Neptune -22660-06-20 20:23 J -6554970.77 -6554970.65 -6554970.52 0.0089 0.0033

Neptune -22660-09-16 21:50 J -6554882.70 -6554882.59 -6554882.47 0.0089 0.0040

Neptune -22660-12-13 23:02 J -6554794.64 -6554794.54 -6554794.41 0.0089 0.0048

Neptune -22659-03-12 00:28 J -6554706.58 -6554706.48 -6554706.36 0.0089 0.0055

Mars -22659-06-07 00:00 J -6554619.60 -6554619.50 -6554619.40 0.1652 0.0725

Neptune -22659-06-08 01:55 J -6554618.51 -6554618.42 -6554618.31 0.0089 0.0062

Neptune -22659-09-04 03:21 J -6554530.44 -6554530.36 -6554530.27 0.0089 0.0069

Neptune -22659-12-01 04:48 J -6554442.36 -6554442.30 -6554442.22 0.0089 0.0076

Neptune -22658-02-27 06:14 J -6554354.28 -6554354.24 -6554354.19 0.0089 0.0083

Mars -22657-05-12 04:04 J -6553914.41 -6553914.33 -6553914.25 0.1665 0.1238

Saturn -22656-01-31 02:38 J -6553650.49 -6553650.39 -6553650.28 0.0274 0.0171

Mars -22656-03-21 05:16 J -6553601.45 -6553601.28 -6553601.12 0.1861 0.0414

Saturn -22656-04-29 13:26 J -6553562.07 -6553561.94 -6553561.81 0.0273 0.0054

Saturn -22656-07-27 00:00 J -6553473.63 -6553473.50 -6553473.37 0.0272 0.0064

Saturn -22656-10-23 10:48 J -6553385.15 -6553385.05 -6553384.95 0.0271 0.0180

Jupiter -22655-03-08 05:02 J -6553249.47 -6553249.29 -6553249.10 0.0498 0.0061

Earth -22654-07-02 12:57 J -6552768.06 -6552767.96 -6552767.86 0.2696 0.1151

Moon -22654-07-02 13:26 J -6552768.04 -6552767.94 -6552767.83 0.2691 0.1109 *

Moon -22650-01-08 00:00 J -6551482.64 -6551482.50 -6551482.36 0.2643 0.0501

Earth -22650-01-08 01:11 J -6551482.60 -6551482.45 -6551482.31 0.2640 0.0693 *

Mars -22650-10-28 11:02 J -6551189.11 -6551189.04 -6551188.96 0.1649 0.1183

Jupiter -22650-10-29 04:19 J -6551188.45 -6551188.32 -6551188.20 0.0529 0.0121

Jupiter -22649-01-26 10:48 J -6551099.11 -6551099.05 -6551098.99 0.0527 0.0460

Mars -22648-10-02 14:52 J -6550483.98 -6550483.88 -6550483.78 0.1661 0.0749

Mars -22647-08-10 23:31 J -6550171.66 -6550171.52 -6550171.37 0.1866 0.0909

Jupiter -22644-12-25 02:38 J -6548939.57 -6548939.39 -6548939.21 0.0498 0.0119

Moon -22641-07-04 07:40 J -6548017.29 -6548017.18 -6548017.06 0.2687 0.0122

Earth -22641-07-04 07:55 J -6548017.29 -6548017.17 -6548017.06 0.2694 0.0054 *

Saturn -22640-02-13 08:23 J -6547793.31 -6547793.15 -6547792.99 0.0288 0.0130

Mars -22640-03-19 22:33 J -6547758.58 -6547758.56 -6547758.55 0.1646 0.1631

Saturn -22640-05-13 08:09 J -6547704.34 -6547704.16 -6547703.98 0.0289 0.0067

Saturn -22640-08-10 07:40 J -6547615.26 -6547615.18 -6547615.11 0.0290 0.0262

Mars -22638-02-23 01:40 J -6547053.54 -6547053.43 -6547053.31 0.1658 0.0277

Jupiter -22638-08-17 07:55 J -6546878.28 -6546878.17 -6546878.06 0.0530 0.0271

Jupiter -22638-11-14 14:38 J -6546789.00 -6546788.89 -6546788.79 0.0528 0.0310

Moon -22637-01-11 03:36 J -6546731.41 -6546731.35 -6546731.30 0.2648 0.2432

Earth -22637-01-11 03:50 J -6546731.40 -6546731.34 -6546731.27 0.2642 0.2369 *

Uranus -22635-08-29 09:50 J -6545770.14 -6545770.09 -6545770.02 0.0137 0.0128

Uranus -22635-11-25 17:02 J -6545681.91 -6545681.79 -6545681.66 0.0137 0.0100

Uranus -22634-02-22 00:00 J -6545593.65 -6545593.50 -6545593.33 0.0137 0.0073

Uranus -22634-05-21 07:11 J -6545505.38 -6545505.20 -6545505.02 0.0137 0.0045

Uranus -22634-08-17 14:09 J -6545417.10 -6545416.91 -6545416.73 0.0137 0.0018

Uranus -22634-11-13 20:52 J -6545328.81 -6545328.63 -6545328.44 0.0136 0.0010

Uranus -22633-02-10 03:36 J -6545240.52 -6545240.35 -6545240.16 0.0136 0.0036

Uranus -22633-05-08 10:33 J -6545152.22 -6545152.06 -6545151.90 0.0136 0.0062

Uranus -22633-08-04 17:16 J -6545063.92 -6545063.78 -6545063.64 0.0136 0.0088

Uranus -22633-11-01 00:00 J -6544975.60 -6544975.50 -6544975.41 0.0136 0.0114

Jupiter -22632-10-13 00:14 J -6544629.64 -6544629.49 -6544629.35 0.0497 0.0296

Jupiter -22631-01-11 07:55 J -6544539.26 -6544539.17 -6544539.06 0.0499 0.0417

Earth -22630-01-03 00:14 J -6544182.53 -6544182.49 -6544182.45 0.2636 0.2514

Venus -22630-07-29 02:09 J -6543975.46 -6543975.41 -6543975.35 0.3756 0.3049

Mars -22629-07-15 12:43 J -6543623.08 -6543622.97 -6543622.85 0.1655 0.0212

Moon -22628-07-07 02:23 J -6543266.51 -6543266.40 -6543266.30 0.2687 0.1062

Earth -22628-07-07 02:52 J -6543266.48 -6543266.38 -6543266.27 0.2692 0.1072 *

Saturn -22627-06-20 05:31 J -6542918.36 -6542918.27 -6542918.18 0.0274 0.0201

Saturn -22627-09-16 16:04 J -6542829.95 -6542829.83 -6542829.70 0.0273 0.0084

Saturn -22627-12-14 02:52 J -6542741.51 -6542741.38 -6542741.25 0.0272 0.0033

Saturn -22626-03-12 13:26 J -6542653.04 -6542652.94 -6542652.82 0.0271 0.0150

Mars -22626-04-30 10:48 J -6542604.09 -6542604.05 -6542604.01 0.1857 0.1790

Jupiter -22626-06-05 12:00 J -6542568.07 -6542568.00 -6542567.92 0.0530 0.0414

Saturn -22626-06-09 00:14 J -6542564.50 -6542564.49 -6542564.46 0.0270 0.0267

Jupiter -22626-09-02 18:43 J -6542478.84 -6542478.72 -6542478.60 0.0528 0.0167

Venus -22624-02-10 18:00 J -6541951.85 -6541951.75 -6541951.65 0.3758 0.0858

Earth -22621-06-29 23:16 J -6540716.61 -6540716.53 -6540716.46 0.2697 0.2025

Moon -22621-06-30 00:00 J -6540716.58 -6540716.50 -6540716.43 0.2695 0.2011 *

Jupiter -22620-07-31 21:07 J -6540319.66 -6540319.62 -6540319.57 0.0496 0.0478

Jupiter -22620-10-30 05:31 J -6540229.43 -6540229.27 -6540229.11 0.0498 0.0237

Mars -22620-12-06 00:00 J -6540192.61 -6540192.50 -6540192.40 0.1652 0.0665

Venus -22619-08-27 09:50 J -6539928.18 -6539928.09 -6539927.99 0.3759 0.1384

Mars -22618-11-11 04:04 J -6539487.41 -6539487.33 -6539487.26 0.1665 0.1299

Moon -22617-01-06 02:23 J -6539431.54 -6539431.40 -6539431.26 0.2638 0.0899

Earth -22617-01-06 03:50 J -6539431.48 -6539431.34 -6539431.19 0.2638 0.0729 *

Mars -22617-09-19 06:00 J -6539174.41 -6539174.25 -6539174.09 0.1861 0.0535

Moon -22615-07-09 21:21 J -6538515.69 -6538515.61 -6538515.54 0.2691 0.2067

Earth -22615-07-09 22:04 J -6538515.64 -6538515.58 -6538515.52 0.2691 0.2219 *

Jupiter -22614-06-21 23:02 J -6538168.67 -6538168.54 -6538168.41 0.0529 0.0031

Venus -22613-03-12 01:55 J -6537904.44 -6537904.42 -6537904.40 0.3761 0.3629

Saturn -22611-07-03 05:16 J -6537061.41 -6537061.28 -6537061.14 0.0288 0.0198

Saturn -22611-09-30 05:02 J -6536972.47 -6536972.29 -6536972.10 0.0289 0.0007

Saturn -22611-12-28 04:48 J -6536883.44 -6536883.30 -6536883.17 0.0290 0.0194

Mars -22610-04-28 11:16 J -6536762.12 -6536762.03 -6536761.95 0.1649 0.1121

Mars -22608-04-02 14:52 J -6536056.98 -6536056.88 -6536056.78 0.1661 0.0813

Earth -22608-07-02 18:00 J -6535965.86 -6535965.75 -6535965.64 0.2696 0.0940

Moon -22608-07-02 18:28 J -6535965.84 -6535965.73 -6535965.62 0.2690 0.0860 *

Jupiter -22608-08-18 03:21 J -6535919.54 -6535919.36 -6535919.18 0.0498 0.0064

Mars -22607-02-09 00:28 J -6535744.63 -6535744.48 -6535744.33 0.1866 0.0776

Moon -22604-01-08 06:14 J -6534680.38 -6534680.24 -6534680.11 0.2645 0.0991

Earth -22604-01-08 07:11 J -6534680.34 -6534680.20 -6534680.07 0.2640 0.1005 *

Venus -22604-09-21 01:40 J -6534424.56 -6534424.43 -6534424.30 0.3615 0.1965

Jupiter -22602-04-10 03:07 J -6533858.50 -6533858.37 -6533858.25 0.0529 0.0118

Jupiter -22602-07-08 09:36 J -6533769.16 -6533769.10 -6533769.04 0.0527 0.0464

Mars -22601-09-17 22:19 J -6533331.60 -6533331.57 -6533331.53 0.1646 0.1570

Mars -22599-08-24 01:40 J -6532626.54 -6532626.43 -6532626.31 0.1658 0.0338

Saturn -22598-11-07 07:40 J -6532186.24 -6532186.18 -6532186.12 0.0274 0.0239

Saturn -22597-02-03 18:14 J -6532097.85 -6532097.74 -6532097.62 0.0274 0.0122

Saturn -22597-05-02 05:02 J -6532009.42 -6532009.29 -6532009.16 0.0273 0.0005

Saturn -22597-07-29 15:50 J -6531920.96 -6531920.84 -6531920.72 0.0272 0.0113

Saturn -22597-10-26 02:38 J -6531832.46 -6531832.39 -6531832.32 0.0271 0.0230

Jupiter -22596-06-06 00:28 J -6531609.65 -6531609.48 -6531609.30 0.0498 0.0119

Moon -22595-07-05 12:43 J -6531215.09 -6531214.97 -6531214.86 0.2687 0.0140

Earth -22595-07-05 12:57 J -6531215.08 -6531214.96 -6531214.85 0.2694 0.0184 *

Moon -22591-01-11 09:36 J -6529929.12 -6529929.10 -6529929.07 0.2648 0.2581

Uranus -22591-11-01 12:43 J -6529634.97 -6529634.97 -6529634.96 0.0141 0.0141

Jupiter -22590-01-27 06:57 J -6529548.32 -6529548.21 -6529548.10 0.0529 0.0262

Uranus -22590-01-28 16:19 J -6529546.88 -6529546.82 -6529546.75 0.0141 0.0120

Jupiter -22590-04-26 13:26 J -6529459.04 -6529458.94 -6529458.84 0.0527 0.0317

Uranus -22590-04-26 19:55 J -6529458.76 -6529458.67 -6529458.57 0.0142 0.0099

Uranus -22590-07-23 23:31 J -6529370.63 -6529370.52 -6529370.40 0.0142 0.0077

Uranus -22590-10-20 03:07 J -6529282.49 -6529282.37 -6529282.24 0.0142 0.0056

Mars -22589-01-14 12:43 J -6529196.08 -6529195.97 -6529195.85 0.1655 0.0152

Uranus -22589-01-16 06:57 J -6529194.34 -6529194.21 -6529194.08 0.0142 0.0034

Uranus -22589-04-13 10:33 J -6529106.19 -6529106.06 -6529105.92 0.0142 0.0013

Uranus -22589-07-10 14:23 J -6529018.04 -6529017.90 -6529017.76 0.0142 0.0011

Uranus -22589-10-06 18:00 J -6528929.88 -6528929.75 -6528929.61 0.0142 0.0034

Uranus -22588-01-02 21:50 J -6528841.71 -6528841.59 -6528841.46 0.0143 0.0056

Uranus -22588-04-01 01:40 J -6528753.54 -6528753.43 -6528753.32 0.0143 0.0078

Uranus -22588-06-28 05:16 J -6528665.36 -6528665.28 -6528665.17 0.0143 0.0102

Uranus -22588-09-24 09:07 J -6528577.17 -6528577.12 -6528577.04 0.0143 0.0125

Moon -22584-01-03 05:02 J -6527380.36 -6527380.29 -6527380.21 0.2634 0.2233

Earth -22584-01-03 06:28 J -6527380.31 -6527380.23 -6527380.15 0.2637 0.2177 *

Jupiter -22584-03-24 22:04 J -6527299.73 -6527299.58 -6527299.44 0.0497 0.0297

Jupiter -22584-06-23 06:00 J -6527209.34 -6527209.25 -6527209.15 0.0499 0.0417

Moon -22582-07-08 07:11 J -6526464.30 -6526464.20 -6526464.09 0.2689 0.1205

Earth -22582-07-08 07:55 J -6526464.27 -6526464.17 -6526464.07 0.2692 0.1295 *

Saturn -22582-11-20 05:31 J -6526329.37 -6526329.27 -6526329.17 0.0288 0.0238

Saturn -22581-02-17 05:31 J -6526240.46 -6526240.27 -6526240.09 0.0289 0.0042

Saturn -22581-05-16 05:02 J -6526151.44 -6526151.29 -6526151.13 0.0290 0.0154

Neptune -22580-01-29 06:14 J -6525893.30 -6525893.24 -6525893.16 0.0088 0.0081

Neptune -22580-04-27 09:21 J -6525805.20 -6525805.11 -6525804.97 0.0088 0.0072

Mars -22580-06-06 00:00 J -6525765.61 -6525765.50 -6525765.40 0.1652 0.0608

Neptune -22580-07-24 12:57 J -6525717.08 -6525716.96 -6525716.80 0.0088 0.0062

Neptune -22580-10-20 16:48 J -6525628.95 -6525628.80 -6525628.64 0.0088 0.0052

Neptune -22579-01-16 20:23 J -6525540.82 -6525540.65 -6525540.48 0.0088 0.0042

Neptune -22579-04-15 00:00 J -6525452.68 -6525452.50 -6525452.32 0.0088 0.0032

Neptune -22579-07-12 03:21 J -6525364.54 -6525364.36 -6525364.17 0.0088 0.0023

Neptune -22579-10-08 06:57 J -6525276.40 -6525276.21 -6525276.02 0.0088 0.0013

Jupiter -22579-11-15 10:33 J -6525238.14 -6525238.06 -6525237.98 0.0530 0.0414

Neptune -22578-01-04 10:19 J -6525188.26 -6525188.07 -6525187.87 0.0088 0.0004

Jupiter -22578-02-12 17:02 J -6525148.91 -6525148.79 -6525148.67 0.0528 0.0164

Neptune -22578-04-02 13:40 J -6525100.12 -6525099.93 -6525099.73 0.0088 0.0007

Mars -22578-05-12 04:04 J -6525060.40 -6525060.33 -6525060.27 0.1665 0.1363

Neptune -22578-06-29 17:16 J -6525011.97 -6525011.78 -6525011.59 0.0088 0.0016

Neptune -22578-09-25 20:23 J -6524923.82 -6524923.65 -6524923.45 0.0088 0.0026

Neptune -22578-12-23 00:00 J -6524835.67 -6524835.50 -6524835.32 0.0088 0.0035

Neptune -22577-03-20 03:21 J -6524747.52 -6524747.36 -6524747.19 0.0088 0.0045

Mars -22577-03-20 06:28 J -6524747.38 -6524747.23 -6524747.07 0.1861 0.0646 *

Neptune -22577-06-16 06:57 J -6524659.36 -6524659.21 -6524659.06 0.0088 0.0054

Neptune -22577-09-12 10:04 J -6524571.20 -6524571.08 -6524570.94 0.0088 0.0064

Neptune -22577-12-09 13:40 J -6524483.03 -6524482.93 -6524482.82 0.0088 0.0073

Neptune -22576-03-07 16:48 J -6524394.85 -6524394.80 -6524394.72 0.0088 0.0083

Earth -22575-07-01 04:04 J -6523914.41 -6523914.33 -6523914.25 0.2697 0.1819

Moon -22575-07-01 04:48 J -6523914.39 -6523914.30 -6523914.21 0.2694 0.1670 *

Venus -22573-03-03 23:45 J -6523302.59 -6523302.51 -6523302.43 0.3757 0.2248

Jupiter -22572-01-10 19:11 J -6522989.74 -6522989.70 -6522989.64 0.0497 0.0476

Jupiter -22572-04-11 03:50 J -6522899.50 -6522899.34 -6522899.18 0.0498 0.0241

Moon -22571-01-06 08:38 J -6522629.28 -6522629.14 -6522628.99 0.2639 0.0512

Earth -22571-01-06 10:04 J -6522629.22 -6522629.08 -6522628.93 0.2638 0.0395 *

Mars -22571-10-27 11:02 J -6522335.13 -6522335.04 -6522334.95 0.1649 0.1062

Moon -22569-07-10 02:09 J -6521713.45 -6521713.41 -6521713.36 0.2691 0.2418

Earth -22569-07-10 03:07 J -6521713.42 -6521713.37 -6521713.32 0.2690 0.2440 *

Mars -22569-10-01 14:52 J -6521629.98 -6521629.88 -6521629.78 0.1661 0.0872

Saturn -22568-03-26 10:48 J -6521454.08 -6521454.05 -6521454.02 0.0274 0.0265

Saturn -22568-06-22 21:36 J -6521365.71 -6521365.60 -6521365.49 0.0273 0.0148

Mars -22568-08-10 01:26 J -6521317.60 -6521317.44 -6521317.29 0.1866 0.0647

Venus -22568-09-17 15:36 J -6521278.95 -6521278.85 -6521278.75 0.3758 0.0110

Saturn -22568-09-19 08:09 J -6521277.29 -6521277.16 -6521277.02 0.0273 0.0032

Saturn -22568-12-16 18:57 J -6521188.84 -6521188.71 -6521188.58 0.0272 0.0087

Saturn -22567-03-15 05:45 J -6521100.35 -6521100.26 -6521100.17 0.0271 0.0203

Jupiter -22567-12-01 21:07 J -6520838.75 -6520838.62 -6520838.49 0.0529 0.0022

Venus -22562-04-03 07:26 J -6519255.27 -6519255.19 -6519255.11 0.3759 0.2188

Earth -22562-07-03 23:02 J -6519163.65 -6519163.54 -6519163.43 0.2695 0.0729

Moon -22562-07-03 23:16 J -6519163.64 -6519163.53 -6519163.42 0.2689 0.0737 *

Mars -22561-03-18 22:19 J -6518904.61 -6518904.57 -6518904.52 0.1647 0.1509

Jupiter -22560-01-28 00:57 J -6518589.64 -6518589.46 -6518589.28 0.0498 0.0059

Mars -22559-02-22 01:40 J -6518199.54 -6518199.43 -6518199.31 0.1658 0.0395

Moon -22558-01-09 12:14 J -6517878.11 -6517877.99 -6517877.86 0.2646 0.1201

Earth -22558-01-09 13:11 J -6517878.07 -6517877.95 -6517877.82 0.2640 0.1329 *

Jupiter -22555-09-20 01:26 J -6516528.57 -6516528.44 -6516528.32 0.0529 0.0120

Jupiter -22555-12-18 08:09 J -6516439.22 -6516439.16 -6516439.10 0.0527 0.0463

Venus -22553-10-11 19:40 J -6515775.81 -6515775.68 -6515775.55 0.3616 0.2077

Saturn -22552-07-06 03:21 J -6515508.53 -6515508.36 -6515508.19 0.0288 0.0102

Saturn -22552-10-03 03:07 J -6515419.54 -6515419.37 -6515419.20 0.0289 0.0094

Saturn -22552-12-31 02:23 J -6515330.41 -6515330.40 -6515330.38 0.0290 0.0289

Uranus -22551-09-18 18:28 J -6515068.82 -6515068.73 -6515068.63 0.0137 0.0116

Uranus -22551-12-16 01:40 J -6514980.57 -6514980.43 -6514980.29 0.0137 0.0088

Uranus -22550-03-14 08:38 J -6514892.31 -6514892.14 -6514891.97 0.0137 0.0061

Uranus -22550-06-10 15:36 J -6514804.03 -6514803.85 -6514803.67 0.0137 0.0033

Mars -22550-07-15 12:43 J -6514769.08 -6514768.97 -6514768.85 0.1655 0.0095

Uranus -22550-09-06 22:33 J -6514715.75 -6514715.56 -6514715.37 0.0136 0.0006

Uranus -22550-12-04 05:31 J -6514627.46 -6514627.27 -6514627.09 0.0136 0.0021

Uranus -22549-03-01 12:14 J -6514539.16 -6514538.99 -6514538.82 0.0136 0.0047

Uranus -22549-05-28 18:43 J -6514450.86 -6514450.72 -6514450.55 0.0136 0.0074

Moon -22549-07-05 17:45 J -6514412.88 -6514412.76 -6514412.65 0.2687 0.0392

Earth -22549-07-05 18:00 J -6514412.87 -6514412.75 -6514412.64 0.2694 0.0401 *

Uranus -22549-08-25 01:26 J -6514362.55 -6514362.44 -6514362.31 0.0136 0.0100

Jupiter -22549-11-15 22:33 J -6514279.74 -6514279.56 -6514279.38 0.0497 0.0117

Uranus -22549-11-21 07:55 J -6514274.22 -6514274.17 -6514274.08 0.0136 0.0126

Jupiter -22543-07-09 05:31 J -6512218.38 -6512218.27 -6512218.16 0.0529 0.0262

Jupiter -22543-10-06 12:00 J -6512129.10 -6512129.00 -6512128.90 0.0527 0.0318

Earth -22542-06-29 14:23 J -6511862.91 -6511862.90 -6511862.89 0.2698 0.2683

Moon -22542-06-29 15:07 J -6511862.90 -6511862.87 -6511862.84 0.2700 0.2565 *

Mars -22541-12-05 00:00 J -6511338.61 -6511338.50 -6511338.39 0.1652 0.0546

Saturn -22539-11-09 23:45 J -6510633.60 -6510633.51 -6510633.41 0.0274 0.0185

Mars -22539-11-10 04:04 J -6510633.39 -6510633.33 -6510633.27 0.1664 0.1426

Moon -22538-01-04 11:16 J -6510578.12 -6510578.03 -6510577.94 0.2634 0.2050

Earth -22538-01-04 12:43 J -6510578.08 -6510577.97 -6510577.87 0.2637 0.1844 *

Saturn -22538-02-06 10:33 J -6510545.19 -6510545.06 -6510544.93 0.0273 0.0067

Saturn -22538-05-05 21:21 J -6510456.74 -6510456.61 -6510456.48 0.0273 0.0051

Saturn -22538-08-02 08:09 J -6510368.27 -6510368.16 -6510368.06 0.0272 0.0168

Mars -22538-09-19 07:26 J -6510320.34 -6510320.19 -6510320.04 0.1861 0.0773

Jupiter -22537-09-03 19:26 J -6509969.83 -6509969.69 -6509969.54 0.0497 0.0303

Jupiter -22537-12-03 03:36 J -6509879.45 -6509879.35 -6509879.25 0.0499 0.0412

Moon -22536-07-08 12:14 J -6509662.09 -6509661.99 -6509661.90 0.2690 0.1436

Earth -22536-07-08 12:57 J -6509662.06 -6509661.96 -6509661.87 0.2692 0.1516 *

Jupiter -22531-04-27 09:21 J -6507908.18 -6507908.11 -6507908.03 0.0530 0.0407

Mars -22531-04-27 11:02 J -6507908.13 -6507908.04 -6507907.95 0.1649 0.1000 *

Jupiter -22531-07-25 15:50 J -6507818.96 -6507818.84 -6507818.72 0.0528 0.0171

Mars -22529-04-01 14:52 J -6507202.98 -6507202.88 -6507202.79 0.1661 0.0937

Earth -22529-07-01 09:07 J -6507112.21 -6507112.12 -6507112.03 0.2697 0.1610

Moon -22529-07-01 09:50 J -6507112.18 -6507112.09 -6507112.00 0.2694 0.1601 *

Mars -22528-02-08 01:55 J -6506890.57 -6506890.42 -6506890.26 0.1866 0.0533

Moon -22525-01-07 14:52 J -6505827.03 -6505826.88 -6505826.73 0.2640 0.0165

Earth -22525-01-07 16:19 J -6505826.97 -6505826.82 -6505826.68 0.2639 0.0094 *

Jupiter -22525-06-22 16:33 J -6505659.84 -6505659.81 -6505659.76 0.0497 0.0483

Jupiter -22525-09-21 01:11 J -6505569.61 -6505569.45 -6505569.29 0.0499 0.0235

Moon -22523-07-11 07:26 J -6504911.23 -6504911.19 -6504911.16 0.2691 0.2537

Earth -22523-07-11 08:09 J -6504911.17 -6504911.16 -6504911.15 0.2690 0.2668 *

Saturn -22523-11-23 03:50 J -6504776.49 -6504776.34 -6504776.17 0.0288 0.0139

Saturn -22522-02-20 03:50 J -6504687.52 -6504687.34 -6504687.16 0.0289 0.0057

Venus -22522-03-26 05:16 J -6504653.30 -6504653.28 -6504653.25 0.3756 0.3624

Saturn -22522-05-20 03:07 J -6504598.45 -6504598.37 -6504598.28 0.0290 0.0253

Mars -22522-09-17 22:19 J -6504477.62 -6504477.57 -6504477.52 0.1646 0.1453

Pluto -22521-12-14 05:45 J -6504024.32 -6504024.26 -6504024.19 0.0071 0.0064

Pluto -22520-03-12 06:57 J -6503936.29 -6503936.21 -6503936.10 0.0071 0.0057

Pluto -22520-06-08 08:23 J -6503848.26 -6503848.15 -6503848.03 0.0071 0.0050

Mars -22520-08-23 01:40 J -6503772.54 -6503772.43 -6503772.32 0.1658 0.0455

Pluto -22520-09-04 09:36 J -6503760.21 -6503760.10 -6503759.96 0.0071 0.0042

Pluto -22520-12-01 11:02 J -6503672.17 -6503672.04 -6503671.89 0.0072 0.0035

Pluto -22519-02-27 12:43 J -6503584.12 -6503583.97 -6503583.82 0.0072 0.0027

Jupiter -22519-05-13 19:11 J -6503508.82 -6503508.70 -6503508.57 0.0529 0.0024

Pluto -22519-05-26 14:09 J -6503496.07 -6503495.91 -6503495.76 0.0072 0.0019

Pluto -22519-08-22 15:36 J -6503408.01 -6503407.85 -6503407.69 0.0072 0.0011

Pluto -22519-11-18 17:02 J -6503319.95 -6503319.79 -6503319.63 0.0072 0.0004

Pluto -22518-02-14 18:28 J -6503231.89 -6503231.73 -6503231.57 0.0072 0.0005

Pluto -22518-05-13 19:55 J -6503143.83 -6503143.67 -6503143.51 0.0072 0.0013

Pluto -22518-08-09 21:21 J -6503055.77 -6503055.61 -6503055.45 0.0072 0.0021

Pluto -22518-11-05 22:48 J -6502967.70 -6502967.55 -6502967.40 0.0072 0.0029

Pluto -22517-02-02 00:00 J -6502879.63 -6502879.50 -6502879.35 0.0073 0.0038

Pluto -22517-04-30 01:26 J -6502791.55 -6502791.44 -6502791.30 0.0073 0.0046

Pluto -22517-07-27 03:07 J -6502703.47 -6502703.37 -6502703.25 0.0073 0.0054

Venus -22517-10-08 21:07 J -6502629.71 -6502629.62 -6502629.52 0.3757 0.1441

Pluto -22517-10-23 04:48 J -6502615.38 -6502615.30 -6502615.21 0.0073 0.0062

Pluto -22516-01-19 06:00 J -6502527.27 -6502527.25 -6502527.19 0.0073 0.0071

Earth -22516-07-04 03:50 J -6502361.45 -6502361.34 -6502361.22 0.2695 0.0521

Moon -22516-07-04 04:04 J -6502361.44 -6502361.33 -6502361.22 0.2688 0.0433 *

Jupiter -22513-07-09 22:48 J -6501259.73 -6501259.55 -6501259.37 0.0498 0.0059

Moon -22512-01-09 18:28 J -6501075.84 -6501075.73 -6501075.62 0.2646 0.1617

Earth -22512-01-09 19:26 J -6501075.81 -6501075.69 -6501075.58 0.2640 0.1654 *

Venus -22511-04-24 12:57 J -6500606.06 -6500605.96 -6500605.86 0.3758 0.0764

Mars -22510-01-13 12:43 J -6500342.09 -6500341.97 -6500341.85 0.1655 0.0024

Saturn -22509-03-29 03:21 J -6499901.45 -6499901.36 -6499901.28 0.0274 0.0208

Saturn -22509-06-25 13:55 J -6499813.04 -6499812.92 -6499812.79 0.0273 0.0091

Saturn -22509-09-22 00:43 J -6499724.60 -6499724.47 -6499724.34 0.0272 0.0027

Saturn -22509-12-19 11:31 J -6499636.13 -6499636.02 -6499635.91 0.0272 0.0144

Saturn -22508-03-17 22:04 J -6499547.60 -6499547.58 -6499547.54 0.0271 0.0262

Jupiter -22507-03-01 23:16 J -6499198.65 -6499198.53 -6499198.41 0.0529 0.0130

Jupiter -22507-05-30 06:00 J -6499109.32 -6499109.25 -6499109.19 0.0527 0.0452

Uranus -22507-11-21 20:52 J -6498933.67 -6498933.63 -6498933.58 0.0141 0.0132

Uranus -22506-02-18 00:28 J -6498845.56 -6498845.48 -6498845.39 0.0141 0.0110

Uranus -22506-05-17 04:04 J -6498757.43 -6498757.33 -6498757.22 0.0142 0.0089

Uranus -22506-08-13 07:40 J -6498669.29 -6498669.18 -6498669.06 0.0142 0.0068

Venus -22506-11-08 04:48 J -6498582.35 -6498582.30 -6498582.24 0.3760 0.3016

Uranus -22506-11-09 11:16 J -6498581.15 -6498581.03 -6498580.90 0.0142 0.0046

Uranus -22505-02-05 15:07 J -6498493.00 -6498492.87 -6498492.74 0.0142 0.0024

Uranus -22505-05-03 18:43 J -6498404.85 -6498404.72 -6498404.58 0.0142 0.0004

Uranus -22505-07-30 22:33 J -6498316.70 -6498316.56 -6498316.43 0.0142 0.0021

Uranus -22505-10-27 02:09 J -6498228.53 -6498228.41 -6498228.28 0.0142 0.0043

Uranus -22504-01-23 06:00 J -6498140.37 -6498140.25 -6498140.13 0.0143 0.0066

Uranus -22504-04-21 09:36 J -6498052.20 -6498052.10 -6498051.98 0.0143 0.0089

Uranus -22504-07-18 13:26 J -6497964.01 -6497963.94 -6497963.85 0.0143 0.0112

Uranus -22504-10-14 17:16 J -6497875.81 -6497875.78 -6497875.73 0.0143 0.0135

Moon -22503-07-06 22:33 J -6497610.67 -6497610.56 -6497610.45 0.2687 0.0534

Earth -22503-07-06 22:48 J -6497610.66 -6497610.55 -6497610.44 0.2694 0.0608 *

Jupiter -22501-04-27 19:55 J -6496949.85 -6496949.67 -6496949.49 0.0497 0.0125

Mars -22501-06-05 00:00 J -6496911.62 -6496911.50 -6496911.39 0.1652 0.0484

Neptune -22499-02-09 20:09 J -6496296.69 -6496296.66 -6496296.62 0.0089 0.0086

Neptune -22499-05-08 21:36 J -6496208.65 -6496208.60 -6496208.53 0.0089 0.0079

Mars -22499-05-11 04:04 J -6496206.38 -6496206.33 -6496206.28 0.1665 0.1489

Neptune -22499-08-04 23:02 J -6496120.62 -6496120.54 -6496120.46 0.0089 0.0072

Neptune -22499-11-01 00:00 J -6496032.57 -6496032.50 -6496032.39 0.0089 0.0066

Neptune -22498-01-28 01:26 J -6495944.53 -6495944.44 -6495944.33 0.0089 0.0058

Mars -22498-03-20 08:23 J -6495893.30 -6495893.15 -6495893.01 0.1861 0.0906

Neptune -22498-04-26 02:52 J -6495856.48 -6495856.38 -6495856.26 0.0089 0.0051

Neptune -22498-07-23 04:19 J -6495768.43 -6495768.32 -6495768.20 0.0089 0.0044

Neptune -22498-10-19 05:31 J -6495680.38 -6495680.27 -6495680.14 0.0089 0.0038

Neptune -22497-01-15 06:57 J -6495592.33 -6495592.21 -6495592.08 0.0089 0.0030

Neptune -22497-04-12 08:23 J -6495504.28 -6495504.15 -6495504.02 0.0089 0.0023

Neptune -22497-07-09 09:50 J -6495416.22 -6495416.09 -6495415.96 0.0089 0.0016

Neptune -22497-10-05 11:16 J -6495328.17 -6495328.03 -6495327.90 0.0089 0.0009

Neptune -22496-01-01 12:28 J -6495240.11 -6495239.98 -6495239.84 0.0089 0.0003

Neptune -22496-03-30 13:55 J -6495152.05 -6495151.92 -6495151.79 0.0089 0.0005

Venus -22496-05-18 21:21 J -6495102.76 -6495102.61 -6495102.45 0.3616 0.0111

Neptune -22496-06-26 15:21 J -6495063.99 -6495063.86 -6495063.73 0.0089 0.0012

Earth -22496-06-29 19:11 J -6495060.74 -6495060.70 -6495060.65 0.2698 0.2482

Moon -22496-06-29 20:09 J -6495060.71 -6495060.66 -6495060.62 0.2698 0.2434 *

Neptune -22496-09-22 16:33 J -6494975.94 -6494975.81 -6494975.67 0.0089 0.0019

Jupiter -22496-12-19 03:36 J -6494888.46 -6494888.35 -6494888.24 0.0530 0.0271

Neptune -22496-12-19 18:00 J -6494887.88 -6494887.75 -6494887.62 0.0089 0.0026

Neptune -22495-03-17 19:26 J -6494799.81 -6494799.69 -6494799.57 0.0089 0.0033

Jupiter -22495-03-18 10:04 J -6494799.18 -6494799.08 -6494798.98 0.0528 0.0311

Neptune -22495-06-13 20:38 J -6494711.75 -6494711.64 -6494711.51 0.0089 0.0041

Neptune -22495-09-09 22:04 J -6494623.69 -6494623.58 -6494623.46 0.0089 0.0048

Neptune -22495-12-06 23:31 J -6494535.62 -6494535.52 -6494535.41 0.0089 0.0055

Neptune -22494-03-05 00:57 J -6494447.55 -6494447.46 -6494447.36 0.0089 0.0062

Neptune -22494-06-01 02:23 J -6494359.48 -6494359.40 -6494359.32 0.0089 0.0069

Neptune -22494-08-28 03:36 J -6494271.41 -6494271.35 -6494271.27 0.0089 0.0076

Neptune -22494-11-24 04:48 J -6494183.33 -6494183.30 -6494183.24 0.0089 0.0084

Saturn -22493-04-11 02:23 J -6494044.53 -6494044.40 -6494044.25 0.0288 0.0194

Saturn -22493-07-09 02:23 J -6493955.58 -6493955.40 -6493955.21 0.0289 0.0004

Saturn -22493-10-06 01:55 J -6493866.55 -6493866.42 -6493866.28 0.0290 0.0198

Moon -22492-01-04 17:31 J -6493775.89 -6493775.77 -6493775.65 0.2634 0.1549

Earth -22492-01-04 18:57 J -6493775.83 -6493775.71 -6493775.59 0.2637 0.1513 *

Mars -22492-10-26 11:02 J -6493481.13 -6493481.04 -6493480.94 0.1649 0.0941

Moon -22490-07-09 17:16 J -6492859.87 -6492859.78 -6492859.69 0.2690 0.1673

Earth -22490-07-09 18:00 J -6492859.84 -6492859.75 -6492859.66 0.2692 0.1741 *

Mars -22490-10-01 14:52 J -6492775.98 -6492775.88 -6492775.79 0.1661 0.0999

Jupiter -22489-02-14 17:16 J -6492639.93 -6492639.78 -6492639.64 0.0497 0.0304

Jupiter -22489-05-15 01:26 J -6492549.54 -6492549.44 -6492549.34 0.0499 0.0409

Mars -22489-08-09 02:38 J -6492463.55 -6492463.39 -6492463.22 0.1866 0.0412

Jupiter -22484-10-07 07:55 J -6490578.25 -6490578.17 -6490578.10 0.0530 0.0411

Jupiter -22483-01-04 14:09 J -6490489.03 -6490488.91 -6490488.79 0.0528 0.0167

Earth -22483-07-02 14:09 J -6490310.01 -6490309.91 -6490309.82 0.2697 0.1406

Moon -22483-07-02 14:38 J -6490309.99 -6490309.89 -6490309.79 0.2693 0.1273 *

Mars -22482-03-18 22:19 J -6490050.63 -6490050.57 -6490050.51 0.1646 0.1390

Mars -22480-02-21 01:40 J -6489345.54 -6489345.43 -6489345.32 0.1658 0.0517

Saturn -22480-08-16 05:45 J -6489169.32 -6489169.26 -6489169.20 0.0275 0.0243

Saturn -22480-11-12 16:33 J -6489080.93 -6489080.81 -6489080.70 0.0274 0.0125

Mars -22480-12-29 20:52 J -6489033.68 -6489033.63 -6489033.57 0.1870 0.1751

Moon -22479-01-07 21:07 J -6489024.77 -6489024.62 -6489024.47 0.2642 0.0089

Earth -22479-01-07 22:19 J -6489024.72 -6489024.57 -6489024.42 0.2639 0.0260 *

Saturn -22479-02-09 03:07 J -6488992.50 -6488992.37 -6488992.23 0.0273 0.0010

Saturn -22479-05-08 13:55 J -6488904.04 -6488903.92 -6488903.80 0.0272 0.0111

Saturn -22479-08-05 00:43 J -6488815.54 -6488815.47 -6488815.40 0.0271 0.0228

Jupiter -22478-12-03 13:55 J -6488329.94 -6488329.92 -6488329.90 0.0497 0.0493

Jupiter -22477-03-02 22:19 J -6488239.73 -6488239.57 -6488239.40 0.0499 0.0226

Jupiter -22472-10-23 18:00 J -6486178.87 -6486178.75 -6486178.62 0.0528 0.0026

Mars -22471-07-14 12:43 J -6485915.08 -6485914.97 -6485914.85 0.1655 0.0056

Moon -22470-07-05 09:07 J -6485559.24 -6485559.12 -6485559.01 0.2688 0.0357

Earth -22470-07-05 08:52 J -6485559.24 -6485559.13 -6485559.02 0.2695 0.0298 *

Uranus -22467-07-12 19:26 J -6484455.72 -6484455.69 -6484455.64 0.0137 0.0133

Uranus -22467-10-09 02:23 J -6484367.50 -6484367.40 -6484367.27 0.0137 0.0106

Uranus -22466-01-05 09:36 J -6484279.25 -6484279.10 -6484278.94 0.0137 0.0078

Moon -22466-01-11 00:43 J -6484273.57 -6484273.47 -6484273.37 0.2646 0.1895

Earth -22466-01-11 01:26 J -6484273.54 -6484273.44 -6484273.34 0.2641 0.1970 *

Uranus -22466-04-03 16:48 J -6484190.97 -6484190.80 -6484190.63 0.0137 0.0050

Uranus -22466-06-30 23:45 J -6484102.69 -6484102.51 -6484102.32 0.0137 0.0023

Uranus -22466-09-27 06:43 J -6484014.41 -6484014.22 -6484014.03 0.0136 0.0004

Venus -22466-10-31 02:52 J -6483980.45 -6483980.38 -6483980.32 0.3756 0.2821

Jupiter -22466-12-20 19:55 J -6483929.85 -6483929.67 -6483929.49 0.0498 0.0047

Uranus -22466-12-24 13:26 J -6483926.11 -6483925.94 -6483925.75 0.0136 0.0031

Uranus -22465-03-21 20:23 J -6483837.82 -6483837.65 -6483837.48 0.0136 0.0058

Uranus -22465-06-18 02:52 J -6483749.51 -6483749.38 -6483749.22 0.0136 0.0084

Uranus -22465-09-14 09:36 J -6483661.20 -6483661.10 -6483660.98 0.0136 0.0110

Uranus -22465-12-11 16:33 J -6483572.81 -6483572.81 -6483572.81 0.0136 0.0136

Saturn -22464-08-29 03:21 J -6483312.47 -6483312.36 -6483312.25 0.0287 0.0230

Saturn -22464-11-26 03:07 J -6483223.55 -6483223.37 -6483223.18 0.0288 0.0034

Saturn -22463-02-23 02:52 J -6483134.53 -6483134.38 -6483134.23 0.0289 0.0163

Mars -22462-12-04 23:45 J -6482484.62 -6482484.51 -6482484.40 0.1652 0.0426

Venus -22460-05-15 18:43 J -6481956.82 -6481956.72 -6481956.62 0.3757 0.0643

Jupiter -22460-08-11 21:21 J -6481868.73 -6481868.61 -6481868.48 0.0529 0.0138

Jupiter -22460-11-09 04:04 J -6481779.40 -6481779.33 -6481779.26 0.0527 0.0444

Mars -22460-11-09 04:04 J -6481779.37 -6481779.33 -6481779.29 0.1664 0.1551 *

Mars -22459-09-18 08:38 J -6481466.28 -6481466.14 -6481466.00 0.1861 0.1003

Moon -22457-07-07 03:21 J -6480808.47 -6480808.36 -6480808.25 0.2688 0.0824

Earth -22457-07-07 03:50 J -6480808.45 -6480808.34 -6480808.23 0.2693 0.0819 *

Venus -22455-11-29 10:33 J -6479933.15 -6479933.06 -6479932.97 0.3759 0.1588

Jupiter -22454-10-08 17:31 J -6479619.95 -6479619.77 -6479619.59 0.0497 0.0130

Mars -22452-04-26 11:02 J -6479054.14 -6479054.04 -6479053.94 0.1649 0.0881

Saturn -22450-01-03 09:36 J -6478437.13 -6478437.10 -6478437.07 0.0275 0.0264

Mars -22450-04-01 14:38 J -6478348.98 -6478348.89 -6478348.80 0.1661 0.1059

Saturn -22450-04-01 20:09 J -6478348.77 -6478348.66 -6478348.55 0.0274 0.0146

Saturn -22450-06-29 06:57 J -6478260.35 -6478260.21 -6478260.08 0.0273 0.0029

Earth -22450-07-01 00:14 J -6478258.55 -6478258.49 -6478258.43 0.2698 0.2274

Moon -22450-07-01 00:57 J -6478258.52 -6478258.46 -6478258.39 0.2698 0.2172 *

Saturn -22450-09-25 17:31 J -6478171.89 -6478171.77 -6478171.64 0.0272 0.0090

Saturn -22450-12-23 04:19 J -6478083.40 -6478083.32 -6478083.23 0.0271 0.0207

Mars -22449-02-08 03:50 J -6478036.51 -6478036.34 -6478036.18 0.1866 0.0271

Jupiter -22448-05-31 01:26 J -6477558.55 -6477558.44 -6477558.33 0.0530 0.0283

Jupiter -22448-08-28 07:55 J -6477469.28 -6477469.17 -6477469.06 0.0528 0.0297

Moon -22446-01-05 23:45 J -6476973.64 -6476973.51 -6476973.39 0.2636 0.1393

Earth -22446-01-06 00:57 J -6476973.59 -6476973.46 -6476973.32 0.2637 0.1176 *

Moon -22444-07-09 22:19 J -6476057.66 -6476057.57 -6476057.49 0.2689 0.1856

Earth -22444-07-09 23:02 J -6476057.62 -6476057.54 -6476057.46 0.2692 0.1964 *

Mars -22443-09-16 22:19 J -6475623.64 -6475623.57 -6475623.50 0.1646 0.1330

Jupiter -22442-07-27 14:23 J -6475310.04 -6475309.90 -6475309.76 0.0497 0.0314

Jupiter -22442-10-25 22:33 J -6475219.67 -6475219.56 -6475219.45 0.0499 0.0399

Mars -22441-08-22 01:40 J -6474918.54 -6474918.43 -6474918.32 0.1658 0.0580

Mars -22440-06-29 21:50 J -6474606.67 -6474606.59 -6474606.51 0.1870 0.1623

Venus -22440-12-23 23:16 J -6474429.66 -6474429.53 -6474429.41 0.3616 0.2078

Earth -22437-07-02 18:57 J -6473507.81 -6473507.71 -6473507.61 0.2696 0.1190

Moon -22437-07-02 19:26 J -6473507.79 -6473507.69 -6473507.58 0.2691 0.1183 *

Jupiter -22436-03-19 05:31 J -6473248.34 -6473248.27 -6473248.19 0.0530 0.0424

Jupiter -22436-06-16 12:00 J -6473159.12 -6473159.00 -6473158.87 0.0528 0.0156

Pluto -22436-08-22 15:36 J -6473091.88 -6473091.85 -6473091.78 0.0074 0.0070

Pluto -22436-11-18 17:16 J -6473003.86 -6473003.78 -6473003.69 0.0073 0.0061

Pluto -22435-02-14 18:28 J -6472915.83 -6472915.73 -6472915.61 0.0073 0.0053

Pluto -22435-05-13 19:55 J -6472827.79 -6472827.67 -6472827.54 0.0073 0.0044

Pluto -22435-08-09 21:07 J -6472739.74 -6472739.62 -6472739.48 0.0073 0.0036

Pluto -22435-11-05 22:33 J -6472651.70 -6472651.56 -6472651.41 0.0073 0.0028

Saturn -22434-01-16 02:38 J -6472580.43 -6472580.39 -6472580.35 0.0287 0.0278

Pluto -22434-02-02 00:00 J -6472563.65 -6472563.50 -6472563.35 0.0073 0.0020

Saturn -22434-04-15 02:38 J -6472491.57 -6472491.39 -6472491.21 0.0288 0.0082

Pluto -22434-05-01 01:11 J -6472475.60 -6472475.45 -6472475.29 0.0073 0.0012

Saturn -22434-07-13 02:09 J -6472402.57 -6472402.41 -6472402.24 0.0289 0.0114

Pluto -22434-07-28 02:38 J -6472387.55 -6472387.39 -6472387.24 0.0073 0.0005

Pluto -22434-10-24 03:50 J -6472299.49 -6472299.34 -6472299.19 0.0072 0.0003

Moon -22433-01-09 03:07 J -6472222.51 -6472222.37 -6472222.23 0.2643 0.0541

Earth -22433-01-09 04:33 J -6472222.46 -6472222.31 -6472222.17 0.2639 0.0587 *

Pluto -22433-01-20 05:02 J -6472211.44 -6472211.29 -6472211.14 0.0072 0.0011

Pluto -22433-04-17 06:14 J -6472123.38 -6472123.24 -6472123.09 0.0072 0.0019

Pluto -22433-07-14 07:26 J -6472035.33 -6472035.19 -6472035.04 0.0072 0.0026

Pluto -22433-10-10 08:38 J -6471947.27 -6471947.14 -6471947.00 0.0072 0.0034

Pluto -22432-01-06 09:50 J -6471859.21 -6471859.09 -6471858.96 0.0072 0.0041

Pluto -22432-04-04 10:48 J -6471771.14 -6471771.05 -6471770.92 0.0072 0.0049

Pluto -22432-07-01 12:14 J -6471683.08 -6471682.99 -6471682.89 0.0072 0.0056

Pluto -22432-09-27 13:26 J -6471595.00 -6471594.94 -6471594.86 0.0071 0.0063

Pluto -22432-12-24 14:52 J -6471506.91 -6471506.88 -6471506.86 0.0071 0.0070

Mars -22431-01-12 12:43 J -6471488.09 -6471487.97 -6471487.85 0.1655 0.0106

Jupiter -22430-05-15 11:31 J -6471000.03 -6471000.02 -6471000.01 0.0496 0.0495

Jupiter -22430-08-13 19:55 J -6470909.83 -6470909.67 -6470909.50 0.0498 0.0222

Jupiter -22424-04-04 16:19 J -6468848.95 -6468848.82 -6468848.69 0.0529 0.0017

Earth -22424-07-05 13:55 J -6468757.04 -6468756.92 -6468756.81 0.2695 0.0107

Moon -22424-07-05 13:55 J -6468757.03 -6468756.92 -6468756.80 0.2688 0.0024 *

Uranus -22423-12-12 04:33 J -6468232.36 -6468232.31 -6468232.24 0.0141 0.0124

Uranus -22422-03-10 08:09 J -6468144.24 -6468144.16 -6468144.06 0.0141 0.0103

Mars -22422-06-04 23:45 J -6468057.62 -6468057.51 -6468057.39 0.1652 0.0363

Uranus -22422-06-06 12:00 J -6468056.11 -6468056.00 -6468055.89 0.0142 0.0081

Uranus -22422-09-02 15:36 J -6467967.97 -6467967.85 -6467967.73 0.0142 0.0059

Uranus -22422-11-29 19:11 J -6467879.83 -6467879.70 -6467879.57 0.0142 0.0037

Uranus -22421-02-25 23:02 J -6467791.68 -6467791.54 -6467791.41 0.0142 0.0016

Uranus -22421-05-24 02:38 J -6467703.53 -6467703.39 -6467703.25 0.0142 0.0007

Saturn -22421-08-18 22:48 J -6467616.65 -6467616.55 -6467616.45 0.0274 0.0180

Uranus -22421-08-20 06:14 J -6467615.37 -6467615.24 -6467615.10 0.0142 0.0030

Saturn -22421-11-15 09:21 J -6467528.23 -6467528.11 -6467527.98 0.0273 0.0062

Uranus -22421-11-16 10:04 J -6467527.20 -6467527.08 -6467526.95 0.0142 0.0052

Moon -22420-01-11 06:57 J -6467471.28 -6467471.21 -6467471.13 0.2647 0.2243

Earth -22420-01-11 07:26 J -6467471.26 -6467471.19 -6467471.12 0.2641 0.2291 *

Saturn -22420-02-11 20:09 J -6467439.79 -6467439.66 -6467439.53 0.0272 0.0056

Uranus -22420-02-12 13:40 J -6467439.04 -6467438.93 -6467438.80 0.0143 0.0075

Mars -22420-05-10 04:04 J -6467352.36 -6467352.33 -6467352.31 0.1664 0.1614

Saturn -22420-05-11 06:57 J -6467351.31 -6467351.21 -6467351.11 0.0272 0.0174

Uranus -22420-05-11 17:45 J -6467350.86 -6467350.76 -6467350.66 0.0143 0.0097

Uranus -22420-08-07 21:36 J -6467262.67 -6467262.60 -6467262.53 0.0143 0.0120

Mars -22419-03-19 09:36 J -6467039.23 -6467039.10 -6467038.97 0.1861 0.1140

Jupiter -22418-06-01 16:48 J -6466599.98 -6466599.80 -6466599.61 0.0498 0.0036

Neptune -22416-10-26 03:21 J -6465722.43 -6465722.36 -6465722.27 0.0088 0.0080

Neptune -22415-01-22 06:57 J -6465634.32 -6465634.21 -6465634.08 0.0088 0.0070

Neptune -22415-04-20 10:33 J -6465546.19 -6465546.06 -6465545.91 0.0088 0.0060

Neptune -22415-07-17 13:55 J -6465458.06 -6465457.92 -6465457.75 0.0088 0.0051

Neptune -22415-10-13 17:31 J -6465369.93 -6465369.77 -6465369.59 0.0088 0.0041

Neptune -22414-01-09 21:07 J -6465281.80 -6465281.62 -6465281.43 0.0088 0.0031

Neptune -22414-04-08 00:43 J -6465193.66 -6465193.47 -6465193.28 0.0088 0.0021

Neptune -22414-07-05 04:04 J -6465105.52 -6465105.33 -6465105.13 0.0088 0.0012

Neptune -22414-10-01 07:40 J -6465017.37 -6465017.18 -6465016.99 0.0088 0.0002

Neptune -22414-12-28 11:02 J -6464929.23 -6464929.04 -6464928.84 0.0088 0.0008

Neptune -22413-03-25 14:38 J -6464841.08 -6464840.89 -6464840.70 0.0088 0.0017

Neptune -22413-06-21 18:00 J -6464752.93 -6464752.75 -6464752.56 0.0088 0.0027

Neptune -22413-09-17 21:07 J -6464664.78 -6464664.62 -6464664.43 0.0088 0.0037

Mars -22413-10-25 11:02 J -6464627.14 -6464627.04 -6464626.94 0.1649 0.0820

Neptune -22413-12-15 00:43 J -6464576.62 -6464576.47 -6464576.30 0.0088 0.0046

Jupiter -22412-01-21 20:09 J -6464538.78 -6464538.66 -6464538.53 0.0529 0.0132

Neptune -22412-03-13 04:04 J -6464488.47 -6464488.33 -6464488.17 0.0088 0.0056

Jupiter -22412-04-21 02:38 J -6464449.45 -6464449.39 -6464449.32 0.0527 0.0449

Neptune -22412-06-09 07:40 J -6464400.30 -6464400.18 -6464400.05 0.0088 0.0065

Neptune -22412-09-05 10:48 J -6464312.13 -6464312.05 -6464311.94 0.0088 0.0075

Neptune -22412-12-02 14:23 J -6464223.95 -6464223.90 -6464223.84 0.0088 0.0084

Moon -22411-07-08 08:09 J -6464006.26 -6464006.16 -6464006.05 0.2688 0.0917

Earth -22411-07-08 08:52 J -6464006.24 -6464006.13 -6464006.02 0.2693 0.1042 *

Mars -22411-09-30 14:52 J -6463921.97 -6463921.88 -6463921.80 0.1661 0.1124

Mars -22410-08-09 04:19 J -6463609.49 -6463609.32 -6463609.16 0.1866 0.0172

Venus -22409-06-06 00:14 J -6463307.57 -6463307.49 -6463307.40 0.3756 0.2018

Jupiter -22406-03-20 14:23 J -6462290.08 -6462289.90 -6462289.73 0.0498 0.0143

Saturn -22405-09-01 02:52 J -6461759.55 -6461759.38 -6461759.21 0.0288 0.0121

Saturn -22405-11-29 02:38 J -6461670.56 -6461670.39 -6461670.21 0.0289 0.0075

Saturn -22404-02-26 02:09 J -6461581.47 -6461581.41 -6461581.34 0.0290 0.0270

Earth -22404-07-01 05:16 J -6461456.35 -6461456.28 -6461456.21 0.2698 0.2068

Moon -22404-07-01 06:00 J -6461456.32 -6461456.25 -6461456.18 0.2698 0.1998 *

Venus -22404-12-20 16:04 J -6461283.93 -6461283.83 -6461283.73 0.3757 0.0184

Mars -22403-03-17 22:19 J -6461196.65 -6461196.57 -6461196.50 0.1646 0.1274

Mars -22401-02-21 01:40 J -6460491.54 -6460491.43 -6460491.32 0.1658 0.0639

Jupiter -22401-11-09 23:31 J -6460228.63 -6460228.52 -6460228.41 0.0530 0.0290

Mars -22401-12-28 22:19 J -6460179.66 -6460179.57 -6460179.47 0.1870 0.1507

Moon -22400-01-06 05:45 J -6460171.40 -6460171.26 -6460171.12 0.2638 0.0879

Earth -22400-01-06 07:11 J -6460171.34 -6460171.20 -6460171.06 0.2638 0.0840 *

Jupiter -22400-02-07 06:00 J -6460139.36 -6460139.25 -6460139.14 0.0528 0.0290

Venus -22398-07-06 07:55 J -6459260.24 -6459260.17 -6459260.09 0.3759 0.2410

Moon -22398-07-11 03:21 J -6459255.43 -6459255.36 -6459255.30 0.2690 0.2149

Earth -22398-07-11 04:04 J -6459255.40 -6459255.33 -6459255.27 0.2691 0.2188 *

Jupiter -22394-01-06 11:45 J -6457980.14 -6457980.01 -6457979.86 0.0497 0.0320

Jupiter -22394-04-06 19:55 J -6457889.77 -6457889.67 -6457889.55 0.0499 0.0395

Mars -22392-07-13 12:43 J -6457061.09 -6457060.97 -6457060.86 0.1655 0.0166

Saturn -22391-01-06 02:38 J -6456884.48 -6456884.39 -6456884.30 0.0274 0.0199

Saturn -22391-04-04 13:11 J -6456796.07 -6456795.95 -6456795.82 0.0273 0.0082

Saturn -22391-07-02 00:00 J -6456707.63 -6456707.50 -6456707.37 0.0272 0.0036

Earth -22391-07-04 00:00 J -6456705.61 -6456705.50 -6456705.40 0.2696 0.0978

Moon -22391-07-04 00:28 J -6456705.59 -6456705.48 -6456705.37 0.2690 0.0899 *

Saturn -22391-09-28 10:48 J -6456619.16 -6456619.05 -6456618.94 0.0272 0.0154

Jupiter -22389-08-29 03:21 J -6455918.43 -6455918.36 -6455918.29 0.0530 0.0437

Jupiter -22389-11-26 09:50 J -6455829.21 -6455829.09 -6455828.97 0.0528 0.0142

Venus -22388-01-13 17:02 J -6455780.92 -6455780.79 -6455780.66 0.3617 0.1974

Moon -22387-01-09 09:21 J -6455420.25 -6455420.11 -6455419.97 0.2643 0.0723

Earth -22387-01-09 10:33 J -6455420.20 -6455420.06 -6455419.92 0.2639 0.0913 *

Uranus -22383-08-02 03:36 J -6453754.41 -6453754.35 -6453754.25 0.0137 0.0122

Uranus -22383-10-29 11:02 J -6453666.17 -6453666.04 -6453665.90 0.0137 0.0094

Mars -22383-12-03 23:45 J -6453630.62 -6453630.51 -6453630.39 0.1652 0.0302

Jupiter -22382-01-23 17:16 J -6453579.95 -6453579.78 -6453579.62 0.0498 0.0212

Uranus -22382-01-25 18:14 J -6453577.90 -6453577.74 -6453577.57 0.0137 0.0066

Uranus -22382-04-24 01:11 J -6453489.63 -6453489.45 -6453489.27 0.0137 0.0039

Uranus -22382-07-21 08:09 J -6453401.34 -6453401.16 -6453400.97 0.0136 0.0012

Uranus -22382-10-17 15:07 J -6453313.05 -6453312.87 -6453312.68 0.0136 0.0016

Uranus -22381-01-13 21:50 J -6453224.76 -6453224.59 -6453224.41 0.0136 0.0043

Uranus -22381-04-11 04:33 J -6453136.46 -6453136.31 -6453136.14 0.0136 0.0069

Uranus -22381-07-08 11:16 J -6453048.15 -6453048.03 -6453047.89 0.0136 0.0095

Uranus -22381-10-04 18:00 J -6452959.82 -6452959.75 -6452959.66 0.0136 0.0121

Mars -22380-09-17 10:19 J -6452612.19 -6452612.07 -6452611.95 0.1861 0.1260

Moon -22378-07-06 18:43 J -6451954.83 -6451954.72 -6451954.60 0.2688 0.0102

Earth -22378-07-06 18:43 J -6451954.83 -6451954.72 -6451954.60 0.2694 0.0174 *

Jupiter -22377-09-14 13:55 J -6451519.05 -6451518.92 -6451518.79 0.0529 0.0007

Saturn -22375-01-19 02:38 J -6451027.54 -6451027.39 -6451027.24 0.0288 0.0167

Saturn -22375-04-18 02:23 J -6450938.58 -6450938.40 -6450938.21 0.0289 0.0030

Saturn -22375-07-16 01:55 J -6450849.53 -6450849.42 -6450849.30 0.0290 0.0225

Earth -22374-01-12 13:26 J -6450668.95 -6450668.94 -6450668.92 0.2641 0.2608

Mars -22373-04-25 11:02 J -6450200.15 -6450200.04 -6450199.94 0.1649 0.0759

Mars -22371-03-31 14:52 J -6449494.96 -6449494.88 -6449494.80 0.1661 0.1187

Jupiter -22371-11-11 14:38 J -6449270.08 -6449269.89 -6449269.71 0.0498 0.0033

Mars -22370-02-07 05:02 J -6449182.45 -6449182.29 -6449182.12 0.1866 0.0059

Moon -22367-01-04 08:38 J -6448120.21 -6448120.14 -6448120.08 0.2632 0.2351

Earth -22367-01-04 09:50 J -6448120.16 -6448120.09 -6448120.02 0.2636 0.2307 *

Jupiter -22365-07-03 18:14 J -6447208.86 -6447208.74 -6447208.61 0.0529 0.0141

Moon -22365-07-08 13:11 J -6447204.05 -6447203.95 -6447203.85 0.2688 0.1262

Earth -22365-07-08 13:55 J -6447204.02 -6447203.92 -6447203.82 0.2693 0.1261 *

Jupiter -22365-10-01 00:57 J -6447119.53 -6447119.46 -6447119.39 0.0527 0.0441

Mars -22364-09-15 22:19 J -6446769.65 -6446769.57 -6446769.50 0.1646 0.1212

Saturn -22362-05-26 05:16 J -6446152.35 -6446152.28 -6446152.21 0.0274 0.0232

Mars -22362-08-22 01:40 J -6446064.54 -6446064.43 -6446064.32 0.1658 0.0702

Saturn -22362-08-22 15:50 J -6446063.95 -6446063.84 -6446063.71 0.0273 0.0115

Saturn -22362-11-19 02:38 J -6445975.52 -6445975.39 -6445975.26 0.0273 0.0005

Saturn -22361-02-15 13:26 J -6445887.06 -6445886.94 -6445886.82 0.0272 0.0121

Saturn -22361-05-14 00:00 J -6445798.55 -6445798.50 -6445798.43 0.0271 0.0239

Mars -22361-06-28 23:16 J -6445752.64 -6445752.53 -6445752.42 0.1870 0.1377

Jupiter -22359-08-30 11:16 J -6444960.20 -6444960.03 -6444959.86 0.0497 0.0156

Venus -22358-06-28 06:00 J -6444658.29 -6444658.25 -6444658.21 0.3755 0.3385

Earth -22358-07-02 10:04 J -6444654.16 -6444654.08 -6444653.99 0.2698 0.1861

Moon -22358-07-02 11:02 J -6444654.13 -6444654.04 -6444653.96 0.2696 0.1800 *

Moon -22354-01-07 12:00 J -6443369.14 -6443369.00 -6443368.86 0.2639 0.0726

Earth -22354-01-07 13:26 J -6443369.09 -6443368.94 -6443368.79 0.2638 0.0506 *

Jupiter -22353-04-21 22:19 J -6442898.68 -6442898.57 -6442898.46 0.0530 0.0284

Jupiter -22353-07-20 04:48 J -6442809.41 -6442809.30 -6442809.19 0.0527 0.0295

Venus -22352-01-10 21:50 J -6442634.69 -6442634.59 -6442634.49 0.3756 0.1207

Mars -22352-01-11 12:43 J -6442634.09 -6442633.97 -6442633.86 0.1655 0.0227

Moon -22352-07-11 08:09 J -6442453.22 -6442453.16 -6442453.10 0.2692 0.2274

Earth -22352-07-11 09:07 J -6442453.17 -6442453.12 -6442453.07 0.2691 0.2413 *

Jupiter -22347-06-18 08:38 J -6440650.27 -6440650.14 -6440650.00 0.0497 0.0334

Venus -22347-07-27 13:40 J -6440611.03 -6440610.93 -6440610.83 0.3758 0.0997

Jupiter -22347-09-16 17:02 J -6440559.90 -6440559.79 -6440559.67 0.0499 0.0382

Saturn -22346-06-08 02:38 J -6440295.52 -6440295.39 -6440295.27 0.0287 0.0210

Saturn -22346-09-05 02:23 J -6440206.58 -6440206.40 -6440206.21 0.0288 0.0015

Saturn -22346-12-03 02:09 J -6440117.55 -6440117.41 -6440117.27 0.0289 0.0183

Earth -22345-07-04 05:02 J -6439903.40 -6439903.29 -6439903.19 0.2696 0.0774

Moon -22345-07-04 05:16 J -6439903.39 -6439903.28 -6439903.17 0.2690 0.0744 *

Mars -22343-06-03 23:45 J -6439203.63 -6439203.51 -6439203.40 0.1652 0.0243

Moon -22341-01-10 15:50 J -6438617.97 -6438617.84 -6438617.72 0.2644 0.1241

Earth -22341-01-10 16:48 J -6438617.93 -6438617.80 -6438617.67 0.2640 0.1243 *

Jupiter -22341-02-09 01:40 J -6438588.50 -6438588.43 -6438588.36 0.0530 0.0442

Venus -22341-02-10 05:31 J -6438587.32 -6438587.27 -6438587.22 0.3759 0.3234

Jupiter -22341-05-08 07:55 J -6438499.29 -6438499.17 -6438499.04 0.0528 0.0136

Mars -22340-03-18 11:02 J -6438185.15 -6438185.04 -6438184.93 0.1861 0.1372

Uranus -22339-10-05 08:23 J -6437619.16 -6437619.15 -6437619.11 0.0141 0.0139

Uranus -22338-01-01 12:00 J -6437531.06 -6437531.00 -6437530.92 0.0141 0.0117

Uranus -22338-03-30 15:50 J -6437442.94 -6437442.84 -6437442.74 0.0141 0.0096

Uranus -22338-06-26 19:11 J -6437354.80 -6437354.70 -6437354.58 0.0142 0.0075

Uranus -22338-09-22 23:02 J -6437266.67 -6437266.54 -6437266.42 0.0142 0.0053

Uranus -22338-12-20 02:38 J -6437178.52 -6437178.39 -6437178.26 0.0142 0.0031

Uranus -22337-03-17 06:14 J -6437090.37 -6437090.24 -6437090.10 0.0142 0.0010

Uranus -22337-06-13 10:04 J -6437002.22 -6437002.08 -6437001.95 0.0142 0.0013

Uranus -22337-09-09 13:40 J -6436914.06 -6436913.93 -6436913.79 0.0142 0.0036

Uranus -22337-12-06 17:16 J -6436825.89 -6436825.78 -6436825.65 0.0142 0.0059

Uranus -22336-03-04 21:07 J -6436737.72 -6436737.62 -6436737.50 0.0143 0.0081

Uranus -22336-06-01 00:57 J -6436649.55 -6436649.46 -6436649.36 0.0143 0.0104

Uranus -22336-08-28 04:48 J -6436561.35 -6436561.30 -6436561.23 0.0143 0.0127

Jupiter -22335-07-05 14:52 J -6436250.04 -6436249.88 -6436249.71 0.0498 0.0209

Neptune -22335-11-06 18:57 J -6436125.73 -6436125.71 -6436125.65 0.0089 0.0086

Neptune -22334-02-02 20:23 J -6436037.70 -6436037.65 -6436037.57 0.0089 0.0079

Neptune -22334-05-01 21:50 J -6435949.66 -6435949.59 -6435949.50 0.0089 0.0071

Neptune -22334-07-28 23:16 J -6435861.62 -6435861.53 -6435861.43 0.0089 0.0064

Neptune -22334-10-25 00:28 J -6435773.57 -6435773.48 -6435773.37 0.0089 0.0058

Mars -22334-10-25 11:02 J -6435773.15 -6435773.04 -6435772.94 0.1649 0.0703

Neptune -22333-01-21 01:55 J -6435685.52 -6435685.42 -6435685.31 0.0089 0.0051

Neptune -22333-04-18 03:21 J -6435597.47 -6435597.36 -6435597.24 0.0089 0.0043

Neptune -22333-07-15 04:48 J -6435509.42 -6435509.30 -6435509.18 0.0089 0.0036

Neptune -22333-10-11 06:00 J -6435421.37 -6435421.25 -6435421.12 0.0089 0.0030

Saturn -22333-10-12 09:07 J -6435420.17 -6435420.12 -6435420.07 0.0275 0.0252

Neptune -22332-01-07 07:26 J -6435333.32 -6435333.19 -6435333.06 0.0089 0.0023

Saturn -22332-01-08 19:40 J -6435331.79 -6435331.68 -6435331.56 0.0274 0.0135

Neptune -22332-04-05 08:52 J -6435245.26 -6435245.13 -6435245.00 0.0089 0.0016

Saturn -22332-04-07 06:28 J -6435243.36 -6435243.23 -6435243.10 0.0273 0.0017

Neptune -22332-07-02 10:04 J -6435157.21 -6435157.08 -6435156.94 0.0089 0.0009

Saturn -22332-07-04 17:16 J -6435154.91 -6435154.78 -6435154.66 0.0272 0.0101

Moon -22332-07-06 23:31 J -6435152.63 -6435152.52 -6435152.40 0.2688 0.0362

Earth -22332-07-06 23:45 J -6435152.62 -6435152.51 -6435152.39 0.2694 0.0353 *

Venus -22332-08-20 18:57 J -6435107.87 -6435107.71 -6435107.56 0.3617 0.0128

Neptune -22332-09-28 11:31 J -6435069.15 -6435069.02 -6435068.89 0.0089 0.0001

Mars -22332-09-29 14:38 J -6435067.96 -6435067.89 -6435067.81 0.1661 0.1243

Saturn -22332-10-01 04:04 J -6435066.41 -6435066.33 -6435066.26 0.0271 0.0219

Neptune -22332-12-25 12:57 J -6434981.10 -6434980.96 -6434980.83 0.0089 0.0006

Neptune -22331-03-23 14:09 J -6434893.04 -6434892.91 -6434892.77 0.0089 0.0013

Neptune -22331-06-19 15:36 J -6434804.98 -6434804.85 -6434804.72 0.0089 0.0020

Mars -22331-08-08 06:00 J -6434755.42 -6434755.25 -6434755.08 0.1866 0.0094

Neptune -22331-09-15 17:02 J -6434716.92 -6434716.79 -6434716.66 0.0089 0.0027

Neptune -22331-12-12 18:14 J -6434628.86 -6434628.74 -6434628.61 0.0089 0.0034

Neptune -22330-03-10 19:40 J -6434540.79 -6434540.68 -6434540.56 0.0089 0.0041

Neptune -22330-06-06 20:52 J -6434452.73 -6434452.63 -6434452.51 0.0089 0.0049

Neptune -22330-09-02 22:19 J -6434364.66 -6434364.57 -6434364.46 0.0089 0.0055

Neptune -22330-11-29 23:45 J -6434276.60 -6434276.51 -6434276.41 0.0089 0.0062

Jupiter -22329-02-25 11:45 J -6434189.13 -6434189.01 -6434188.88 0.0529 0.0020

Neptune -22329-02-26 01:11 J -6434188.53 -6434188.45 -6434188.36 0.0089 0.0069

Neptune -22329-05-24 02:38 J -6434100.45 -6434100.39 -6434100.32 0.0089 0.0077

Neptune -22329-08-20 04:04 J -6434012.37 -6434012.33 -6434012.28 0.0089 0.0084

Mars -22324-03-16 22:04 J -6432342.66 -6432342.58 -6432342.49 0.1646 0.1154

Jupiter -22323-04-23 12:00 J -6431940.18 -6431940.00 -6431939.82 0.0497 0.0026

Mars -22322-02-20 01:40 J -6431637.54 -6431637.43 -6431637.33 0.1658 0.0763

Mars -22322-12-29 00:00 J -6431325.62 -6431325.50 -6431325.37 0.1870 0.1251

Moon -22321-01-05 14:38 J -6431317.98 -6431317.89 -6431317.80 0.2633 0.2100

Earth -22321-01-05 15:50 J -6431317.93 -6431317.84 -6431317.74 0.2636 0.1971 *

Moon -22319-07-09 18:14 J -6430401.84 -6430401.74 -6430401.64 0.2688 0.1349

Earth -22319-07-09 18:57 J -6430401.81 -6430401.71 -6430401.62 0.2693 0.1487 *

Jupiter -22318-12-14 16:04 J -6429878.96 -6429878.83 -6429878.71 0.0530 0.0156

Jupiter -22317-03-12 22:33 J -6429789.63 -6429789.56 -6429789.48 0.0528 0.0427

Saturn -22317-10-25 01:55 J -6429563.49 -6429563.42 -6429563.33 0.0288 0.0258

Saturn -22316-01-22 02:09 J -6429474.59 -6429474.41 -6429474.23 0.0288 0.0060

Saturn -22316-04-21 01:55 J -6429385.58 -6429385.42 -6429385.26 0.0289 0.0136

Mars -22315-08-07 09:36 J -6428912.13 -6428912.10 -6428912.08 0.1644 0.1598

Mars -22313-07-12 12:43 J -6428207.09 -6428206.97 -6428206.86 0.1655 0.0290

Earth -22312-07-02 15:07 J -6427851.96 -6427851.87 -6427851.78 0.2697 0.1650

Moon -22312-07-02 15:50 J -6427851.93 -6427851.84 -6427851.75 0.2694 0.1536 *

Jupiter -22311-02-09 09:07 J -6427630.29 -6427630.12 -6427629.94 0.0497 0.0155

Moon -22308-01-07 18:00 J -6426566.89 -6426566.75 -6426566.60 0.2639 0.0243

Earth -22308-01-07 19:40 J -6426566.83 -6426566.68 -6426566.53 0.2638 0.0180 *

Moon -22306-07-12 13:11 J -6425650.97 -6425650.95 -6425650.93 0.2693 0.2629

Earth -22306-07-12 14:09 J -6425650.93 -6425650.91 -6425650.89 0.2691 0.2638 *

Jupiter -22306-10-02 20:23 J -6425568.76 -6425568.65 -6425568.54 0.0530 0.0293

Jupiter -22306-12-31 02:52 J -6425479.49 -6425479.38 -6425479.27 0.0528 0.0287

Mars -22304-12-02 23:45 J -6424776.63 -6424776.51 -6424776.39 0.1652 0.0180

Saturn -22303-05-28 22:19 J -6424599.67 -6424599.57 -6424599.46 0.0274 0.0167

Saturn -22303-08-25 09:07 J -6424511.25 -6424511.12 -6424510.99 0.0273 0.0049

Saturn -22303-11-21 19:40 J -6424422.80 -6424422.68 -6424422.54 0.0272 0.0069

Saturn -22302-02-18 06:28 J -6424334.32 -6424334.23 -6424334.13 0.0271 0.0186

Venus -22301-02-02 03:36 J -6423985.43 -6423985.35 -6423985.28 0.3755 0.2587

Mars -22301-09-16 11:45 J -6423758.11 -6423758.01 -6423757.91 0.1861 0.1494

Jupiter -22300-11-28 05:45 J -6423320.39 -6423320.26 -6423320.12 0.0497 0.0343

Jupiter -22299-02-26 14:09 J -6423230.03 -6423229.91 -6423229.79 0.0499 0.0372

Earth -22299-07-05 09:50 J -6423101.20 -6423101.09 -6423100.98 0.2696 0.0554

Moon -22299-07-05 10:19 J -6423101.18 -6423101.07 -6423100.96 0.2690 0.0506 *

Uranus -22299-08-22 11:31 J -6423053.12 -6423053.02 -6423052.91 0.0137 0.0113

Uranus -22299-11-18 18:43 J -6422964.86 -6422964.72 -6422964.57 0.0137 0.0085

Uranus -22298-02-15 01:40 J -6422876.59 -6422876.43 -6422876.25 0.0137 0.0058

Uranus -22298-05-14 08:38 J -6422788.31 -6422788.14 -6422787.95 0.0137 0.0031

Uranus -22298-08-10 15:50 J -6422700.03 -6422699.84 -6422699.65 0.0137 0.0003

Uranus -22298-11-06 22:33 J -6422611.74 -6422611.56 -6422611.37 0.0136 0.0024

Uranus -22297-02-03 05:31 J -6422523.44 -6422523.27 -6422523.10 0.0136 0.0051

Uranus -22297-05-01 12:14 J -6422435.14 -6422434.99 -6422434.83 0.0136 0.0077

Uranus -22297-07-28 18:57 J -6422346.82 -6422346.71 -6422346.59 0.0136 0.0103

Uranus -22297-10-25 01:40 J -6422258.48 -6422258.43 -6422258.37 0.0136 0.0129

Venus -22296-08-17 19:11 J -6421961.80 -6421961.70 -6421961.60 0.3757 0.0417

Moon -22295-01-10 22:04 J -6421815.70 -6421815.58 -6421815.46 0.2645 0.1415

Earth -22295-01-10 22:48 J -6421815.66 -6421815.55 -6421815.43 0.2640 0.1569 *

Mars -22294-04-25 10:48 J -6421346.15 -6421346.05 -6421345.94 0.1649 0.0643

Jupiter -22294-07-22 00:28 J -6421258.55 -6421258.48 -6421258.41 0.0530 0.0435

Jupiter -22294-10-19 06:57 J -6421169.34 -6421169.21 -6421169.09 0.0528 0.0143

Mars -22292-03-30 14:38 J -6420640.96 -6420640.89 -6420640.82 0.1661 0.1309

Mars -22291-02-06 06:28 J -6420328.39 -6420328.23 -6420328.06 0.1866 0.0206

Venus	-22290-03-03 11:02 J	-6419938.13	-6419938.04	-6419937.95	0.3758	0.1810
Jupiter	-22288-12-15 12:00 J	-6418920.17	-6418920.00	-6418919.83	0.0498	0.0198
Saturn	-22287-06-11 01:11 J	-6418742.62	-6418742.45	-6418742.28	0.0288	0.0109
Saturn	-22287-09-08 00:57 J	-6418653.63	-6418653.46	-6418653.28	0.0289	0.0088
Saturn	-22287-12-06 00:28 J	-6418564.51	-6418564.48	-6418564.44	0.0290	0.0283
Moon	-22286-07-08 04:33 J	-6418350.43	-6418350.31	-6418350.20	0.2688	0.0510
Earth	-22286-07-08 04:48 J	-6418350.41	-6418350.30	-6418350.19	0.2694	0.0568 *
Mars	-22285-09-14 22:04 J	-6417915.66	-6417915.58	-6417915.49	0.1646	0.1096
Mars	-22283-08-21 01:40 J	-6417210.53	-6417210.43	-6417210.33	0.1658	0.0824
Mars	-22282-06-29 00:43 J	-6416898.60	-6416898.47	-6416898.34	0.1870	0.1131
Jupiter	-22282-08-07 10:04 J	-6416859.21	-6416859.08	-6416858.95	0.0529	0.0018
Earth	-22279-07-01 01:26 J	-6415800.48	-6415800.44	-6415800.40	0.2699	0.2520
Moon	-22279-07-01 02:09 J	-6415800.46	-6415800.41	-6415800.36	0.2701	0.2387 *
Jupiter	-22276-10-03 09:50 J	-6414610.27	-6414610.09	-6414609.90	0.0498	0.0026
Moon	-22275-01-05 20:38 J	-6414515.75	-6414515.64	-6414515.53	0.2635	0.1781
Earth	-22275-01-05 22:04 J	-6414515.69	-6414515.58	-6414515.46	0.2636	0.1631 *
Mars	-22275-02-05 09:21 J	-6414485.14	-6414485.11	-6414485.07	0.1644	0.1539
Venus	-22275-03-27 20:38 J	-6414434.76	-6414434.64	-6414434.52	0.3616	0.2194
Pluto	-22274-02-05 19:40 J	-6414119.73	-6414119.68	-6414119.61	0.0071	0.0066
Pluto	-22274-05-04 20:52 J	-6414031.70	-6414031.63	-6414031.53	0.0071	0.0059
Pluto	-22274-07-31 22:19 J	-6413943.67	-6413943.57	-6413943.45	0.0071	0.0051
Saturn	-22274-10-16 02:09 J	-6413867.50	-6413867.41	-6413867.31	0.0274	0.0189
Pluto	-22274-10-27 23:45 J	-6413855.63	-6413855.51	-6413855.38	0.0071	0.0044
Mars	-22273-01-11 12:43 J	-6413780.09	-6413779.97	-6413779.86	0.1655	0.0353
Saturn	-22273-01-12 12:57 J	-6413779.09	-6413778.96	-6413778.84	0.0273	0.0071
Pluto	-22273-01-24 00:57 J	-6413767.58	-6413767.46	-6413767.31	0.0071	0.0037
Saturn	-22273-04-09 23:31 J	-6413690.65	-6413690.52	-6413690.39	0.0272	0.0047
Pluto	-22273-04-21 02:23 J	-6413679.54	-6413679.40	-6413679.24	0.0072	0.0029
Saturn	-22273-07-07 10:19 J	-6413602.18	-6413602.07	-6413601.97	0.0271	0.0164
Moon	-22273-07-09 23:16 J	-6413599.62	-6413599.53	-6413599.44	0.2690	0.1685

Earth -22273-07-10 00:00 J -6413599.59 -6413599.50 -6413599.42 0.2692 0.1707 *

Pluto -22273-07-18 04:04 J -6413591.48 -6413591.33 -6413591.18 0.0072 0.0021

Pluto -22273-10-14 05:31 J -6413503.43 -6413503.27 -6413503.11 0.0072 0.0013

Pluto -22272-01-10 06:57 J -6413415.37 -6413415.21 -6413415.05 0.0072 0.0005

Pluto -22272-04-08 08:23 J -6413327.32 -6413327.15 -6413326.99 0.0072 0.0003

Pluto -22272-07-05 09:36 J -6413239.25 -6413239.10 -6413238.93 0.0072 0.0011

Pluto -22272-10-01 11:02 J -6413151.19 -6413151.04 -6413150.88 0.0072 0.0019

Pluto -22272-12-28 12:28 J -6413063.12 -6413062.98 -6413062.82 0.0072 0.0027

Pluto -22271-03-26 13:55 J -6412975.05 -6412974.92 -6412974.77 0.0073 0.0036

Pluto -22271-06-22 15:21 J -6412886.98 -6412886.86 -6412886.72 0.0073 0.0044

Pluto -22271-09-18 17:02 J -6412798.90 -6412798.79 -6412798.67 0.0073 0.0052

Pluto -22271-12-15 18:14 J -6412710.81 -6412710.74 -6412710.63 0.0073 0.0061

Pluto -22270-03-13 19:55 J -6412622.71 -6412622.67 -6412622.61 0.0073 0.0069

Jupiter -22270-05-26 13:55 J -6412549.04 -6412548.92 -6412548.80 0.0529 0.0165

Jupiter -22270-08-23 20:38 J -6412459.72 -6412459.64 -6412459.57 0.0527 0.0417

Earth -22266-07-03 20:09 J -6411049.76 -6411049.66 -6411049.57 0.2697 0.1439

Moon -22266-07-03 20:52 J -6411049.73 -6411049.63 -6411049.54 0.2693 0.1424 *

Mars -22264-06-02 23:45 J -6410349.63 -6410349.51 -6410349.39 0.1652 0.0119

Jupiter -22264-07-22 06:57 J -6410300.38 -6410300.21 -6410300.04 0.0497 0.0157

Moon -22262-01-09 00:14 J -6409764.63 -6409764.49 -6409764.34 0.2640 0.0077

Earth -22262-01-09 01:40 J -6409764.58 -6409764.43 -6409764.28 0.2638 0.0164 *

Mars -22261-03-17 12:43 J -6409331.05 -6409330.97 -6409330.89 0.1861 0.1623

Jupiter -22258-03-14 18:14 J -6408238.85 -6408238.74 -6408238.64 0.0530 0.0308

Jupiter -22258-06-12 00:43 J -6408149.58 -6408149.47 -6408149.36 0.0528 0.0274

Saturn -22258-10-29 00:43 J -6408010.62 -6408010.47 -6408010.31 0.0288 0.0157

Saturn -22257-01-26 00:43 J -6407921.65 -6407921.47 -6407921.29 0.0289 0.0041

Saturn -22257-04-24 00:14 J -6407832.59 -6407832.49 -6407832.38 0.0290 0.0237

Mars -22255-10-24 10:48 J -6406919.16 -6406919.05 -6406918.94 0.1649 0.0581

Uranus -22255-10-25 15:36 J -6406917.88 -6406917.85 -6406917.79 0.0141 0.0134

Uranus -22254-01-21 19:11 J -6406829.77 -6406829.70 -6406829.61 0.0141 0.0112

Uranus -22254-04-19 23:02 J -6406741.64 -6406741.54 -6406741.44 0.0141 0.0091

Uranus -22254-07-17 02:23 J -6406653.51 -6406653.40 -6406653.27 0.0142 0.0070

Uranus -22254-10-13 06:14 J -6406565.37 -6406565.24 -6406565.11 0.0142 0.0048

Uranus -22253-01-09 09:50 J -6406477.22 -6406477.09 -6406476.96 0.0142 0.0026

Uranus -22253-04-06 13:26 J -6406389.07 -6406388.94 -6406388.80 0.0142 0.0005

Uranus -22253-07-03 17:16 J -6406300.92 -6406300.78 -6406300.65 0.0142 0.0018

Moon -22253-07-05 15:07 J -6406298.99 -6406298.87 -6406298.76 0.2689 0.0297

Earth -22253-07-05 14:52 J -6406298.99 -6406298.88 -6406298.77 0.2696 0.0336 *

Mars -22253-09-28 14:38 J -6406213.95 -6406213.89 -6406213.82 0.1661 0.1371

Uranus -22253-09-29 20:52 J -6406212.76 -6406212.63 -6406212.50 0.0142 0.0040

Uranus -22253-12-27 00:28 J -6406124.59 -6406124.48 -6406124.35 0.0142 0.0063

Uranus -22252-03-25 04:19 J -6406036.42 -6406036.32 -6406036.21 0.0143 0.0086

Jupiter -22252-05-10 04:04 J -6405990.46 -6405990.33 -6405990.19 0.0497 0.0338

Uranus -22252-06-21 07:55 J -6405948.24 -6405948.17 -6405948.07 0.0143 0.0109

Mars -22252-08-07 07:11 J -6405901.36 -6405901.20 -6405901.03 0.1866 0.0330

Jupiter -22252-08-08 12:14 J -6405900.10 -6405899.99 -6405899.87 0.0498 0.0376

Uranus -22252-09-17 12:00 J -6405860.05 -6405860.00 -6405859.95 0.0143 0.0131

Neptune -22251-04-25 21:21 J -6405639.61 -6405639.61 -6405639.58 0.0088 0.0088

Neptune -22251-07-23 00:57 J -6405551.53 -6405551.46 -6405551.36 0.0088 0.0078

Neptune -22251-10-19 04:33 J -6405463.42 -6405463.31 -6405463.17 0.0088 0.0068

Neptune -22250-01-15 08:09 J -6405375.29 -6405375.16 -6405375.00 0.0088 0.0058

Neptune -22250-04-13 11:45 J -6405287.16 -6405287.01 -6405286.84 0.0088 0.0048

Neptune -22250-07-10 15:07 J -6405199.03 -6405198.87 -6405198.68 0.0088 0.0039

Neptune -22250-10-06 18:43 J -6405110.89 -6405110.72 -6405110.53 0.0088 0.0029

Neptune -22249-01-02 22:19 J -6405022.75 -6405022.57 -6405022.37 0.0088 0.0019

Moon -22249-01-12 04:19 J -6405013.42 -6405013.32 -6405013.22 0.2646 0.1925

Earth -22249-01-12 05:02 J -6405013.39 -6405013.29 -6405013.19 0.2640 0.1891 *

Neptune -22249-03-31 01:55 J -6404934.61 -6404934.42 -6404934.23 0.0088 0.0009

Neptune -22249-06-27 05:31 J -6404846.47 -6404846.27 -6404846.08 0.0088 0.0001

Neptune -22249-09-23 08:52 J -6404758.32 -6404758.13 -6404757.94 0.0088 0.0010

Neptune -22249-12-20 12:14 J -6404670.17 -6404669.99 -6404669.80 0.0088 0.0020

Neptune -22248-03-18 15:36 J -6404582.02 -6404581.85 -6404581.66 0.0088 0.0030

Neptune -22248-06-14 19:11 J -6404493.87 -6404493.70 -6404493.52 0.0088 0.0039

Neptune -22248-09-10 22:19 J -6404405.71 -6404405.57 -6404405.39 0.0088 0.0049

Neptune -22248-12-08 02:09 J -6404317.55 -6404317.41 -6404317.27 0.0088 0.0058

Neptune -22247-03-06 05:16 J -6404229.39 -6404229.28 -6404229.15 0.0088 0.0068

Neptune -22247-06-02 08:52 J -6404141.21 -6404141.13 -6404141.04 0.0088 0.0077

Neptune -22247-08-29 12:00 J -6404053.01 -6404053.00 -6404052.96 0.0088 0.0087

Jupiter -22247-12-31 22:33 J -6403928.62 -6403928.56 -6403928.49 0.0531 0.0444

Jupiter -22246-03-31 05:02 J -6403839.41 -6403839.29 -6403839.17 0.0529 0.0135

Mars -22245-03-15 22:04 J -6403488.67 -6403488.58 -6403488.49 0.1646 0.1033

Venus -22245-09-08 00:57 J -6403312.55 -6403312.46 -6403312.37 0.3756 0.1788

Saturn -22244-03-04 04:48 J -6403135.38 -6403135.30 -6403135.23 0.0274 0.0222

Saturn -22244-05-31 15:21 J -6403046.98 -6403046.86 -6403046.74 0.0273 0.0105

Saturn -22244-08-28 01:55 J -6402958.55 -6402958.42 -6402958.28 0.0272 0.0016

Saturn -22244-11-24 12:43 J -6402870.09 -6402869.97 -6402869.85 0.0271 0.0130

Mars -22243-02-19 01:40 J -6402783.53 -6402783.43 -6402783.33 0.1658 0.0888

Saturn -22243-02-20 23:16 J -6402781.57 -6402781.53 -6402781.47 0.0271 0.0248

Mars -22243-12-28 01:40 J -6402471.57 -6402471.43 -6402471.29 0.1870 0.1002

Jupiter -22240-05-27 09:21 J -6401590.28 -6401590.11 -6401589.94 0.0498 0.0192

Moon -22240-07-08 09:21 J -6401548.22 -6401548.11 -6401547.99 0.2688 0.0767

Earth -22240-07-08 09:50 J -6401548.20 -6401548.09 -6401547.98 0.2694 0.0789 *

Venus -22239-03-24 16:48 J -6401288.90 -6401288.80 -6401288.70 0.3757 0.0411

Mars -22236-08-06 09:21 J -6400058.16 -6400058.11 -6400058.06 0.1644 0.1481

Jupiter -22234-01-17 09:07 J -6399529.25 -6399529.12 -6399528.99 0.0529 0.0010

Mars -22234-07-12 12:43 J -6399353.09 -6399352.97 -6399352.86 0.1655 0.0414

Venus -22234-10-08 08:38 J -6399265.21 -6399265.14 -6399265.07 0.3758 0.2623

Earth -22233-07-01 06:28 J -6398998.29 -6398998.23 -6398998.18 0.2698 0.2316

Moon -22233-07-01 07:11 J -6398998.26 -6398998.20 -6398998.15 0.2699 0.2304 *

Moon -22229-01-07 02:52 J -6397713.51 -6397713.38 -6397713.25 0.2635 0.1389

Earth -22229-01-07 04:19 J -6397713.45 -6397713.32 -6397713.19 0.2637 0.1291 *

Jupiter -22228-03-15 07:11 J -6397280.38 -6397280.20 -6397280.01 0.0498 0.0021

Saturn -22228-03-16 22:48 J -6397278.67 -6397278.55 -6397278.43 0.0287 0.0215

Saturn -22228-06-13 22:48 J -6397189.73 -6397189.55 -6397189.36 0.0288 0.0017

Saturn -22228-09-10 22:33 J -6397100.70 -6397100.56 -6397100.42 0.0289 0.0179

Moon -22227-07-11 04:04 J -6396797.41 -6396797.33 -6396797.24 0.2691 0.1817

Earth -22227-07-11 05:02 J -6396797.37 -6396797.29 -6396797.22 0.2692 0.1936 *

Mars -22225-12-01 23:31 J -6395922.63 -6395922.52 -6395922.40 0.1651 0.0078

Venus -22224-04-17 14:23 J -6395786.03 -6395785.90 -6395785.77 0.3618 0.1906

Jupiter -22223-11-05 12:28 J -6395219.10 -6395218.98 -6395218.86 0.0529 0.0165

Jupiter -22222-02-02 18:57 J -6395129.79 -6395129.71 -6395129.63 0.0527 0.0415

Mars -22222-09-16 12:57 J -6394904.02 -6394903.96 -6394903.90 0.1861 0.1724

Earth -22220-07-04 00:57 J -6394247.56 -6394247.46 -6394247.36 0.2697 0.1230

Moon -22220-07-04 01:40 J -6394247.53 -6394247.43 -6394247.33 0.2693 0.1096 *

Jupiter -22216-01-01 05:16 J -6392970.46 -6392970.28 -6392970.11 0.0497 0.0153

Moon -22216-01-09 06:43 J -6392962.37 -6392962.22 -6392962.08 0.2641 0.0407

Earth -22216-01-09 07:55 J -6392962.31 -6392962.17 -6392962.02 0.2638 0.0491 *

Mars -22215-04-24 10:48 J -6392492.16 -6392492.05 -6392491.94 0.1649 0.0520

Uranus -22215-06-15 11:45 J -6392440.04 -6392440.01 -6392439.96 0.0137 0.0134

Saturn -22215-07-22 08:09 J -6392403.21 -6392403.16 -6392403.10 0.0274 0.0247

Uranus -22215-09-11 18:57 J -6392351.82 -6392351.71 -6392351.59 0.0137 0.0105

Saturn -22215-10-18 18:43 J -6392314.83 -6392314.72 -6392314.60 0.0274 0.0130

Uranus -22215-12-09 01:55 J -6392263.56 -6392263.42 -6392263.25 0.0137 0.0078

Saturn -22214-01-15 05:31 J -6392226.41 -6392226.27 -6392226.14 0.0273 0.0013

Uranus -22214-03-07 09:07 J -6392175.29 -6392175.12 -6392174.94 0.0137 0.0050

Saturn -22214-04-13 16:04 J -6392137.95 -6392137.83 -6392137.70 0.0272 0.0106

Uranus -22214-06-03 16:04 J -6392087.01 -6392086.83 -6392086.64 0.0137 0.0023

Saturn -22214-07-11 02:52 J -6392049.45 -6392049.38 -6392049.31 0.0271 0.0223

Uranus -22214-08-30 23:16 J -6391998.72 -6391998.53 -6391998.34 0.0137 0.0005

Uranus -22214-11-27 06:14 J -6391910.42 -6391910.24 -6391910.06 0.0137 0.0032

Uranus -22213-02-23 12:57 J -6391822.13 -6391821.96 -6391821.79 0.0136 0.0059

Mars -22213-03-29 14:38 J -6391786.95 -6391786.89 -6391786.83 0.1661 0.1430

Uranus -22213-05-21 19:26 J -6391733.82 -6391733.69 -6391733.53 0.0136 0.0086

Uranus -22213-08-18 02:09 J -6391645.50 -6391645.41 -6391645.29 0.0136 0.0112

Mars -22212-02-05 08:23 J -6391474.31 -6391474.15 -6391473.99 0.1866 0.0467

Jupiter -22211-08-24 16:19 J -6390908.92 -6390908.82 -6390908.71 0.0530 0.0312

Jupiter -22211-11-21 22:48 J -6390819.66 -6390819.55 -6390819.44 0.0528 0.0268

Moon -22207-07-06 19:55 J -6389496.79 -6389496.67 -6389496.56 0.2688 0.0157

Earth -22207-07-06 19:55 J -6389496.79 -6389496.67 -6389496.56 0.2695 0.0125 *

Mars -22206-09-14 22:04 J -6389061.67 -6389061.58 -6389061.49 0.1646 0.0973

Jupiter -22205-10-20 02:09 J -6388660.54 -6388660.41 -6388660.27 0.0497 0.0335

Jupiter -22204-01-18 10:33 J -6388570.17 -6388570.06 -6388569.94 0.0498 0.0379

Mars -22204-08-20 01:40 J -6388356.53 -6388356.43 -6388356.34 0.1658 0.0950

Moon -22203-01-12 10:19 J -6388211.15 -6388211.07 -6388210.98 0.2647 0.2095

Earth -22203-01-12 11:02 J -6388211.12 -6388211.04 -6388210.96 0.2640 0.2216 *

Mars -22203-06-28 02:23 J -6388044.55 -6388044.40 -6388044.25 0.1870 0.0877

Jupiter -22199-06-12 20:23 J -6386598.71 -6386598.65 -6386598.58 0.0531 0.0455

Saturn -22199-08-03 21:50 J -6386546.65 -6386546.59 -6386546.52 0.0288 0.0267

Jupiter -22199-09-10 02:52 J -6386509.50 -6386509.38 -6386509.25 0.0529 0.0125

Saturn -22199-10-31 21:50 J -6386457.76 -6386457.59 -6386457.41 0.0289 0.0069

Saturn -22198-01-28 21:50 J -6386368.76 -6386368.59 -6386368.43 0.0289 0.0129

Mars -22196-02-04 09:21 J -6385631.17 -6385631.11 -6385631.05 0.1644 0.1421

Mars -22194-01-10 12:28 J -6384926.09 -6384925.98 -6384925.86 0.1654 0.0473

Moon -22194-07-09 14:23 J -6384746.01 -6384745.90 -6384745.79 0.2688 0.0969

Earth -22194-07-09 14:52 J -6384745.99 -6384745.88 -6384745.77 0.2694 0.1010 *

Venus -22194-09-30 06:43 J -6384663.27 -6384663.22 -6384663.17 0.3754 0.3156

Jupiter -22193-11-06 07:55 J -6384260.33 -6384260.17 -6384260.00 0.0498 0.0202

Pluto -22190-10-15 05:31 J -6383187.28 -6383187.27 -6383187.25 0.0074 0.0073

Pluto -22189-01-11 06:43 J -6383099.28 -6383099.22 -6383099.14 0.0073 0.0065

Pluto -22189-04-08 08:09 J -6383011.25 -6383011.16 -6383011.05 0.0073 0.0056

Pluto -22189-07-05 09:21 J -6382923.21 -6382923.11 -6382922.98 0.0073 0.0048

Pluto -22189-10-01 10:48 J -6382835.17 -6382835.05 -6382834.91 0.0073 0.0040

Pluto -22189-12-28 12:14 J -6382747.12 -6382746.99 -6382746.84 0.0073 0.0032

Pluto -22188-03-26 13:40 J -6382659.07 -6382658.93 -6382658.78 0.0073 0.0024

Venus -22188-04-14 22:19 J -6382639.67 -6382639.57 -6382639.47 0.3756 0.1001

Pluto -22188-06-22 14:52 J -6382571.02 -6382570.88 -6382570.72 0.0073 0.0016

Pluto -22188-09-18 16:19 J -6382482.97 -6382482.82 -6382482.66 0.0073 0.0008

Pluto -22188-12-15 17:31 J -6382394.92 -6382394.77 -6382394.61 0.0072 0.0002

Pluto -22187-03-13 18:57 J -6382306.87 -6382306.71 -6382306.56 0.0072 0.0008

Pluto -22187-06-09 20:09 J -6382218.81 -6382218.66 -6382218.51 0.0072 0.0015

Jupiter -22187-06-29 07:26 J -6382199.32 -6382199.19 -6382199.06 0.0529 0.0013

Earth -22187-07-02 11:16 J -6382196.10 -6382196.03 -6382195.96 0.2698 0.2106

Moon -22187-07-02 12:00 J -6382196.07 -6382196.00 -6382195.92 0.2697 0.1968 *

Pluto -22187-09-05 21:21 J -6382130.75 -6382130.61 -6382130.46 0.0072 0.0023

Pluto -22187-12-02 22:19 J -6382042.70 -6382042.57 -6382042.42 0.0072 0.0031

Pluto -22186-02-28 23:45 J -6381954.64 -6381954.51 -6381954.38 0.0072 0.0038

Pluto -22186-05-28 00:43 J -6381866.57 -6381866.47 -6381866.34 0.0072 0.0046

Pluto -22186-08-24 01:55 J -6381778.51 -6381778.42 -6381778.30 0.0072 0.0053

Pluto -22186-11-20 03:21 J -6381690.44 -6381690.36 -6381690.28 0.0072 0.0060

Pluto -22185-02-16 04:04 J -6381602.36 -6381602.33 -6381602.26 0.0071 0.0068

Saturn -22185-03-06 21:07 J -6381582.72 -6381582.62 -6381582.51 0.0273 0.0165

Mars -22185-06-01 23:45 J -6381495.63 -6381495.51 -6381495.40 0.1652 0.0052

Saturn -22185-06-03 07:55 J -6381494.31 -6381494.17 -6381494.04 0.0273 0.0048

Saturn -22185-08-30 18:28 J -6381405.86 -6381405.73 -6381405.60 0.0272 0.0070

Saturn -22185-11-27 05:02 J -6381317.38 -6381317.29 -6381317.19 0.0271 0.0188

Moon -22183-01-07 09:07 J -6380911.26 -6380911.12 -6380910.99 0.2636 0.1147

Earth -22183-01-07 10:33 J -6380911.20 -6380911.06 -6380910.92 0.2637 0.0957 *

Venus -22183-10-29 14:09 J -6380616.00 -6380615.91 -6380615.81 0.3757 0.1207

Mars -22182-03-17 13:55 J -6380476.92 -6380476.92 -6380476.91 0.1861 0.1858

Moon -22181-07-11 09:07 J -6379995.19 -6379995.12 -6379995.05 0.2692 0.2090

Earth -22181-07-11 09:50 J -6379995.15 -6379995.09 -6379995.02 0.2692 0.2159 *

Jupiter -22181-08-25 05:02 J -6379950.47 -6379950.29 -6379950.10 0.0498 0.0019

Venus -22177-05-14 06:00 J -6378592.29 -6378592.25 -6378592.21 0.3758 0.3437

Mars -22176-10-23 10:48 J -6378065.16 -6378065.05 -6378064.94 0.1649 0.0459

Jupiter -22175-04-17 11:45 J -6377889.14 -6377889.01 -6377888.89 0.0530 0.0153

Jupiter -22175-07-15 18:14 J -6377799.81 -6377799.74 -6377799.67 0.0527 0.0429

Earth -22174-07-05 06:00 J -6377445.36 -6377445.25 -6377445.15 0.2697 0.1016

Moon -22174-07-05 06:28 J -6377445.33 -6377445.23 -6377445.12 0.2692 0.1020 *

Mars -22174-09-28 14:38 J -6377359.94 -6377359.89 -6377359.84 0.1661 0.1495

Mars -22173-08-06 08:38 J -6377047.30 -6377047.14 -6377046.98 0.1866 0.0568

Uranus -22171-11-14 23:16 J -6376216.58 -6376216.53 -6376216.47 0.0141 0.0126

Moon -22170-01-10 12:57 J -6376160.10 -6376159.96 -6376159.82 0.2643 0.0732

Earth -22170-01-10 14:09 J -6376160.05 -6376159.91 -6376159.77 0.2639 0.0824 *

Uranus -22170-02-11 02:52 J -6376128.46 -6376128.38 -6376128.29 0.0141 0.0105

Uranus -22170-05-10 06:28 J -6376040.33 -6376040.23 -6376040.12 0.0141 0.0084

Neptune -22170-08-03 18:28 J -6375954.77 -6375954.73 -6375954.68 0.0089 0.0084

Uranus -22170-08-06 10:04 J -6375952.20 -6375952.08 -6375951.96 0.0142 0.0063

Neptune -22170-10-30 19:40 J -6375866.73 -6375866.68 -6375866.60 0.0089 0.0077

Uranus -22170-11-02 13:40 J -6375864.06 -6375863.93 -6375863.80 0.0142 0.0041

Neptune -22169-01-26 20:52 J -6375778.69 -6375778.63 -6375778.53 0.0089 0.0071

Uranus -22169-01-29 17:16 J -6375775.91 -6375775.78 -6375775.64 0.0142 0.0020

Saturn -22169-03-19 18:57 J -6375725.87 -6375725.71 -6375725.54 0.0288 0.0134

Neptune -22169-04-23 22:19 J -6375690.65 -6375690.57 -6375690.47 0.0089 0.0063

Uranus -22169-04-26 20:52 J -6375687.76 -6375687.63 -6375687.49 0.0142 0.0006

Jupiter -22169-06-13 02:52 J -6375640.55 -6375640.38 -6375640.20 0.0497 0.0155

Saturn -22169-06-16 18:57 J -6375636.89 -6375636.71 -6375636.53 0.0289 0.0064

Neptune -22169-07-20 23:45 J -6375602.61 -6375602.51 -6375602.40 0.0089 0.0056

Uranus -22169-07-24 00:43 J -6375599.61 -6375599.47 -6375599.34 0.0142 0.0025

Saturn -22169-09-13 18:28 J -6375547.80 -6375547.73 -6375547.64 0.0290 0.0261

Neptune -22169-10-17 00:57 J -6375514.56 -6375514.46 -6375514.34 0.0089 0.0050

Uranus -22169-10-20 04:19 J -6375511.45 -6375511.32 -6375511.19 0.0142 0.0047

Neptune -22168-01-13 02:23 J -6375426.51 -6375426.40 -6375426.28 0.0089 0.0043

Uranus -22168-01-16 08:09 J -6375423.28 -6375423.16 -6375423.04 0.0142 0.0069

Neptune -22168-04-11 03:50 J -6375338.46 -6375338.34 -6375338.22 0.0089 0.0035

Uranus -22168-04-14 11:45 J -6375335.11 -6375335.01 -6375334.90 0.0142 0.0092

Neptune -22168-07-08 05:16 J -6375250.41 -6375250.28 -6375250.16 0.0089 0.0028

Uranus -22168-07-11 15:36 J -6375246.93 -6375246.85 -6375246.77 0.0143 0.0115

Neptune -22168-10-04 06:28 J -6375162.35 -6375162.23 -6375162.10 0.0089 0.0022

Uranus -22168-10-07 19:11 J -6375158.72 -6375158.70 -6375158.66 0.0143 0.0138

Venus -22168-11-22 16:19 J -6375112.98 -6375112.82 -6375112.67 0.3617 0.0214

Neptune -22168-12-31 07:55 J -6375074.30 -6375074.17 -6375074.04 0.0089 0.0014

Neptune -22167-03-29 09:21 J -6374986.24 -6374986.11 -6374985.98 0.0089 0.0007

Neptune -22167-06-25 10:33 J -6374898.19 -6374898.06 -6374897.92 0.0089 0.0003

Neptune -22167-09-21 12:00 J -6374810.13 -6374810.00 -6374809.87 0.0089 0.0007

Neptune -22167-12-18 13:26 J -6374722.07 -6374721.94 -6374721.81 0.0089 0.0014

Mars -22166-03-15 22:04 J -6374634.68 -6374634.58 -6374634.49 0.1646 0.0917

Neptune -22166-03-16 14:38 J -6374634.01 -6374633.89 -6374633.75 0.0089 0.0021

Neptune -22166-06-12 16:04 J -6374545.95 -6374545.83 -6374545.70 0.0089 0.0028

Neptune -22166-09-08 17:16 J -6374457.89 -6374457.78 -6374457.65 0.0089 0.0035

Neptune -22166-12-05 18:43 J -6374369.83 -6374369.72 -6374369.60 0.0089 0.0042

Neptune -22165-03-02 20:09 J -6374281.77 -6374281.66 -6374281.54 0.0089 0.0049

Neptune -22165-05-29 21:21 J -6374193.70 -6374193.61 -6374193.49 0.0089 0.0057

Neptune -22165-08-25 22:48 J -6374105.63 -6374105.55 -6374105.45 0.0089 0.0064

Neptune -22165-11-22 00:14 J -6374017.56 -6374017.49 -6374017.40 0.0089 0.0071

Mars -22164-02-18 01:26 J -6373929.53 -6373929.44 -6373929.34 0.1657 0.1008

Neptune -22164-02-18 01:40 J -6373929.49 -6373929.43 -6373929.36 0.0089 0.0078 *

Neptune -22164-05-17 03:07 J -6373841.41 -6373841.37 -6373841.33 0.0089 0.0085

Mars -22164-12-27 03:07 J -6373617.52 -6373617.37 -6373617.22 0.1870 0.0758

Jupiter -22163-02-03 15:07 J -6373578.98 -6373578.87 -6373578.77 0.0530 0.0309

Jupiter -22163-05-03 21:21 J -6373489.72 -6373489.61 -6373489.50 0.0528 0.0271

Moon -22161-07-07 00:43 J -6372694.58 -6372694.47 -6372694.35 0.2688 0.0174

Earth -22161-07-07 00:57 J -6372694.58 -6372694.46 -6372694.35 0.2695 0.0138 *

Moon -22157-01-13 16:33 J -6371408.84 -6371408.81 -6371408.77 0.2646 0.2561

Earth -22157-01-13 17:02 J -6371408.82 -6371408.79 -6371408.75 0.2640 0.2541 *

Jupiter -22157-04-01 00:43 J -6371330.60 -6371330.47 -6371330.32 0.0497 0.0326

Jupiter -22157-06-30 09:07 J -6371240.22 -6371240.12 -6371240.00 0.0499 0.0390

Mars -22157-08-05 09:21 J -6371204.17 -6371204.11 -6371204.05 0.1644 0.1362

Saturn -22156-07-25 00:14 J -6370850.58 -6370850.49 -6370850.39 0.0274 0.0193

Saturn -22156-10-21 11:02 J -6370762.17 -6370762.04 -6370761.91 0.0273 0.0075

Saturn -22155-01-17 21:36 J -6370673.73 -6370673.60 -6370673.47 0.0272 0.0043

Saturn -22155-04-16 08:09 J -6370585.26 -6370585.16 -6370585.04 0.0272 0.0161

Mars -22155-07-11 12:28 J -6370499.09 -6370498.98 -6370498.87 0.1655 0.0532

Jupiter -22152-11-22 18:57 J -6369268.77 -6369268.71 -6369268.64 0.0530 0.0454

Jupiter -22151-02-20 01:26 J -6369179.57 -6369179.44 -6369179.32 0.0528 0.0125

Earth -22150-01-05 12:57 J -6368860.02 -6368859.96 -6368859.91 0.2635 0.2442

Moon -22148-07-09 19:11 J -6367943.80 -6367943.70 -6367943.59 0.2689 0.1144

Earth -22148-07-09 19:55 J -6367943.77 -6367943.67 -6367943.57 0.2693 0.1235 *

Mars -22146-12-01 23:31 J -6367068.63 -6367068.52 -6367068.40 0.1652 0.0085

Jupiter -22145-04-18 06:43 J -6366930.39 -6366930.22 -6366930.06 0.0498 0.0210

Earth -22141-07-02 16:19 J -6365393.90 -6365393.82 -6365393.74 0.2698 0.1901

Moon -22141-07-02 17:02 J -6365393.87 -6365393.79 -6365393.71 0.2697 0.1869 *

Saturn -22140-08-06 17:31 J -6364993.90 -6364993.77 -6364993.63 0.0288 0.0190

Saturn -22140-11-03 17:31 J -6364904.95 -6364904.77 -6364904.58 0.0289 0.0011

Jupiter -22140-12-09 05:31 J -6364869.40 -6364869.27 -6364869.14 0.0529 0.0019

Saturn -22139-01-31 17:16 J -6364815.90 -6364815.78 -6364815.65 0.0290 0.0206

Moon -22137-01-08 15:21 J -6364109.01 -6364108.86 -6364108.72 0.2637 0.0680

Earth -22137-01-08 16:48 J -6364108.95 -6364108.80 -6364108.66 0.2637 0.0618 *

Venus -22137-05-06 04:04 J -6363990.41 -6363990.33 -6363990.25 0.3754 0.2367

Mars -22136-04-23 10:48 J -6363638.16 -6363638.05 -6363637.94 0.1649 0.0398

Moon -22135-07-12 14:09 J -6363192.97 -6363192.91 -6363192.85 0.2691 0.2284

Earth -22135-07-12 14:52 J -6363192.93 -6363192.88 -6363192.83 0.2692 0.2385 *

Mars -22134-03-29 14:38 J -6362932.93 -6362932.89 -6362932.85 0.1661 0.1557

Jupiter -22133-02-05 04:04 J -6362620.51 -6362620.33 -6362620.14 0.0497 0.0034

Mars -22133-02-05 09:36 J -6362620.25 -6362620.10 -6362619.95 0.1866 0.0698 *

Venus -22132-11-19 19:55 J -6361966.77 -6361966.67 -6361966.57 0.3756 0.0214

Uranus -22131-07-05 18:14 J -6361738.79 -6361738.74 -6361738.66 0.0137 0.0129

Uranus -22131-10-02 01:26 J -6361650.55 -6361650.44 -6361650.30 0.0137 0.0101

Uranus -22131-12-29 08:52 J -6361562.29 -6361562.13 -6361561.97 0.0137 0.0072

Uranus -22130-03-27 15:50 J -6361474.01 -6361473.84 -6361473.66 0.0137 0.0045

Uranus -22130-06-23 22:48 J -6361385.73 -6361385.55 -6361385.36 0.0137 0.0018

Uranus -22130-09-20 05:45 J -6361297.44 -6361297.26 -6361297.07 0.0137 0.0011

Uranus -22130-12-17 12:43 J -6361209.14 -6361208.97 -6361208.79 0.0137 0.0037

Uranus -22129-03-14 19:40 J -6361120.84 -6361120.68 -6361120.52 0.0137 0.0064

Uranus -22129-06-11 02:09 J -6361032.53 -6361032.41 -6361032.26 0.0136 0.0091

Uranus -22129-09-07 08:52 J -6360944.21 -6360944.13 -6360944.02 0.0136 0.0117

Earth -22128-07-05 11:02 J -6360643.15 -6360643.04 -6360642.93 0.2697 0.0806

Moon -22128-07-05 11:16 J -6360643.14 -6360643.03 -6360642.92 0.2691 0.0701 *

Jupiter -22128-09-27 10:04 J -6360559.20 -6360559.08 -6360558.96 0.0530 0.0155

Jupiter -22128-12-25 16:33 J -6360469.88 -6360469.81 -6360469.73 0.0528 0.0427

Mars -22127-09-13 22:04 J -6360207.68 -6360207.58 -6360207.48 0.1646 0.0856

Saturn -22127-12-12 02:23 J -6360118.46 -6360118.40 -6360118.33 0.0274 0.0231

Saturn -22126-03-10 13:11 J -6360030.07 -6360029.95 -6360029.83 0.0273 0.0113

Venus -22126-06-05 11:45 J -6359943.10 -6359943.01 -6359942.93 0.3757 0.2024

Saturn -22126-06-06 23:45 J -6359941.64 -6359941.51 -6359941.38 0.0272 0.0005

Saturn -22126-09-03 10:19 J -6359853.19 -6359853.07 -6359852.95 0.0271 0.0122

Saturn -22126-11-30 21:07 J -6359764.68 -6359764.62 -6359764.56 0.0271 0.0239

Mars -22125-08-19 01:26 J -6359502.52 -6359502.44 -6359502.35 0.1658 0.1073

Moon -22124-01-10 19:11 J -6359357.84 -6359357.70 -6359357.57 0.2644 0.1025

Earth -22124-01-10 20:09 J -6359357.79 -6359357.66 -6359357.53 0.2639 0.1149 *

Mars -22124-06-27 03:50 J -6359190.49 -6359190.34 -6359190.18 0.1870 0.0632

Jupiter -22122-11-24 01:11 J -6358310.62 -6358310.45 -6358310.27 0.0497 0.0150

Mars -22117-02-04 09:21 J -6356777.18 -6356777.11 -6356777.05 0.1644 0.1305

Jupiter -22116-07-16 14:23 J -6356249.00 -6356248.90 -6356248.79 0.0530 0.0293

Jupiter -22116-10-13 20:52 J -6356159.74 -6356159.63 -6356159.52 0.0528 0.0287

Mars -22115-01-09 12:28 J -6356072.09 -6356071.98 -6356071.87 0.1654 0.0594

Moon -22115-07-08 05:45 J -6355892.37 -6355892.26 -6355892.14 0.2688 0.0251

Earth -22115-07-08 05:45 J -6355892.37 -6355892.26 -6355892.14 0.2695 0.0329 *

Venus -22111-06-29 18:14 J -6354439.86 -6354439.74 -6354439.62 0.3617 0.2306

Saturn -22111-12-24 13:40 J -6354262.00 -6354261.93 -6354261.86 0.0287 0.0263

Saturn -22110-03-23 13:55 J -6354173.10 -6354172.92 -6354172.74 0.0288 0.0065

Saturn -22110-06-20 13:40 J -6354084.09 -6354083.93 -6354083.77 0.0289 0.0132

Jupiter -22110-09-11 23:02 J -6354000.68 -6354000.54 -6354000.40 0.0497 0.0322

Jupiter -22110-12-11 07:26 J -6353910.30 -6353910.19 -6353910.08 0.0499 0.0393

Moon -22108-07-01 03:21 J -6353342.37 -6353342.36 -6353342.36 0.2702 0.2694

Mars -22106-06-01 23:31 J -6352641.64 -6352641.52 -6352641.40 0.1651 0.0123

Moon -22104-01-05 17:45 J -6352057.85 -6352057.76 -6352057.67 0.2632 0.2117

Earth -22104-01-05 19:11 J -6352057.79 -6352057.70 -6352057.61 0.2636 0.2096 *

Jupiter -22104-05-04 17:45 J -6351938.82 -6351938.76 -6351938.69 0.0530 0.0448

Jupiter -22104-08-02 00:14 J -6351849.61 -6351849.49 -6351849.37 0.0528 0.0130

Moon -22102-07-11 00:14 J -6351141.59 -6351141.49 -6351141.40 0.2690 0.1432

Earth -22102-07-11 00:43 J -6351141.56 -6351141.47 -6351141.37 0.2693 0.1455 *

Jupiter -22098-06-30 20:52 J -6349690.64 -6349690.63 -6349690.60 0.0497 0.0493

Jupiter -22098-09-29 05:45 J -6349600.42 -6349600.26 -6349600.10 0.0498 0.0225

Saturn -22097-04-30 05:16 J -6349386.31 -6349386.28 -6349386.24 0.0275 0.0263

Saturn -22097-07-27 15:50 J -6349297.95 -6349297.84 -6349297.72 0.0274 0.0145

Mars -22097-10-22 10:48 J -6349211.17 -6349211.05 -6349210.94 0.1649 0.0342

Saturn -22097-10-24 02:38 J -6349209.52 -6349209.39 -6349209.26 0.0273 0.0027

Saturn -22096-01-20 13:11 J -6349121.07 -6349120.95 -6349120.82 0.0272 0.0091

Saturn -22096-04-19 00:00 J -6349032.59 -6349032.50 -6349032.42 0.0271 0.0209

Earth -22095-07-03 21:07 J -6348591.70 -6348591.62 -6348591.53 0.2698 0.1691

Moon -22095-07-03 21:50 J -6348591.68 -6348591.59 -6348591.49 0.2697 0.1570 *

Mars -22095-09-27 14:38 J -6348505.92 -6348505.89 -6348505.87 0.1661 0.1615

Mars -22094-08-06 10:33 J -6348193.21 -6348193.06 -6348192.92 0.1866 0.0826

Jupiter -22092-05-21 04:19 J -6347539.45 -6347539.32 -6347539.20 0.0529 0.0023

Moon -22091-01-08 21:36 J -6347306.75 -6347306.60 -6347306.46 0.2639 0.0495

Earth -22091-01-08 23:02 J -6347306.69 -6347306.54 -6347306.40 0.2637 0.0291 *

Moon -22089-07-12 19:11 J -6346390.74 -6346390.70 -6346390.66 0.2691 0.2520

Earth -22089-07-12 19:55 J -6346390.69 -6346390.67 -6346390.64 0.2691 0.2611 *

Mars -22087-03-14 22:04 J -6345780.69 -6345780.58 -6345780.48 0.1646 0.0796

Uranus -22087-09-08 03:36 J -6345603.36 -6345603.35 -6345603.33 0.0141 0.0139

Uranus -22087-12-05 07:11 J -6345515.27 -6345515.20 -6345515.13 0.0141 0.0118

Neptune -22086-01-20 19:11 J -6345468.73 -6345468.70 -6345468.64 0.0088 0.0085

Uranus -22086-03-03 10:33 J -6345427.15 -6345427.06 -6345426.96 0.0141 0.0098

Neptune -22086-04-18 22:48 J -6345380.64 -6345380.55 -6345380.44 0.0088 0.0075

Venus -22086-05-28 09:50 J -6345341.10 -6345341.09 -6345341.08 0.3753 0.3714

Uranus -22086-05-30 14:09 J -6345339.02 -6345338.91 -6345338.79 0.0141 0.0076

Neptune -22086-07-16 02:38 J -6345292.52 -6345292.39 -6345292.26 0.0088 0.0065

Jupiter -22086-07-18 03:07 J -6345290.55 -6345290.37 -6345290.18 0.0497 0.0048

Uranus -22086-08-26 17:45 J -6345250.88 -6345250.76 -6345250.63 0.0142 0.0055

Neptune -22086-10-12 06:14 J -6345204.39 -6345204.24 -6345204.09 0.0088 0.0055

Uranus -22086-11-22 21:21 J -6345162.74 -6345162.61 -6345162.47 0.0142 0.0034

Neptune -22085-01-08 09:21 J -6345116.26 -6345116.11 -6345115.93 0.0088 0.0046

Mars -22085-02-18 01:26 J -6345075.52 -6345075.44 -6345075.35 0.1658 0.1134

Uranus -22085-02-19 01:11 J -6345074.59 -6345074.45 -6345074.32 0.0142 0.0012

Neptune -22085-04-05 12:57 J -6345028.12 -6345027.96 -6345027.77 0.0088 0.0036

Uranus -22085-05-17 04:48 J -6344986.44 -6344986.30 -6344986.17 0.0142 0.0011

Neptune -22085-07-02 16:33 J -6344939.98 -6344939.81 -6344939.61 0.0088 0.0026

Uranus -22085-08-13 08:23 J -6344898.28 -6344898.15 -6344898.02 0.0142 0.0033

Neptune -22085-09-28 20:23 J -6344851.84 -6344851.65 -6344851.46 0.0088 0.0016

Uranus -22085-11-09 12:00 J -6344810.12 -6344810.00 -6344809.87 0.0142 0.0055

Neptune -22085-12-25 23:45 J -6344763.70 -6344763.51 -6344763.31 0.0088 0.0007

Mars -22085-12-26 04:33 J -6344763.47 -6344763.31 -6344763.15 0.1870 0.0508 *

Uranus -22084-02-05 15:50 J -6344721.95 -6344721.84 -6344721.72 0.0142 0.0078

Neptune -22084-03-24 03:21 J -6344675.55 -6344675.36 -6344675.17 0.0088 0.0003

Uranus -22084-05-04 19:26 J -6344633.78 -6344633.69 -6344633.58 0.0142 0.0101

Neptune -22084-06-20 06:43 J -6344587.41 -6344587.22 -6344587.02 0.0088 0.0013

Uranus -22084-07-31 23:31 J -6344545.59 -6344545.52 -6344545.46 0.0143 0.0123

Neptune -22084-09-16 10:04 J -6344499.26 -6344499.08 -6344498.88 0.0088 0.0023

Neptune -22084-12-13 13:40 J -6344411.11 -6344410.93 -6344410.75 0.0088 0.0032

Neptune -22083-03-11 17:02 J -6344322.95 -6344322.79 -6344322.61 0.0088 0.0042

Neptune -22083-06-07 20:23 J -6344234.79 -6344234.65 -6344234.48 0.0088 0.0052

Neptune -22083-09-04 00:00 J -6344146.63 -6344146.50 -6344146.36 0.0088 0.0061

Neptune -22083-12-01 03:07 J -6344058.46 -6344058.37 -6344058.24 0.0088 0.0071

Neptune -22082-02-27 06:57 J -6343970.28 -6343970.21 -6343970.13 0.0088 0.0080

Earth -22082-07-06 15:50 J -6343840.95 -6343840.84 -6343840.73 0.2696 0.0593

Moon -22082-07-06 16:19 J -6343840.94 -6343840.82 -6343840.71 0.2690 0.0615 *

Saturn -22081-08-09 12:00 J -6343441.17 -6343441.00 -6343440.84 0.0288 0.0124

Saturn -22081-11-06 11:45 J -6343352.18 -6343352.01 -6343351.83 0.0289 0.0074

Venus -22081-12-11 01:40 J -6343317.53 -6343317.43 -6343317.34 0.3755 0.1575

Saturn -22080-02-03 11:16 J -6343263.08 -6343263.03 -6343262.96 0.0290 0.0271

Jupiter -22080-03-09 08:23 J -6343229.27 -6343229.15 -6343229.03 0.0530 0.0158

Jupiter -22080-06-06 14:52 J -6343139.95 -6343139.88 -6343139.80 0.0528 0.0424

Moon -22078-01-12 01:11 J -6342555.57 -6342555.45 -6342555.33 0.2644 0.1431

Earth -22078-01-12 02:09 J -6342555.53 -6342555.41 -6342555.28 0.2639 0.1479 *

Mars -22078-08-05 09:21 J -6342350.19 -6342350.11 -6342350.04 0.1644 0.1243

Mars -22076-07-10 12:28 J -6341645.09 -6341644.98 -6341644.87 0.1654 0.0656

Mars -22075-05-17 22:33 J -6341333.57 -6341333.56 -6341333.55 0.1874 0.1866

Venus -22075-06-26 17:16 J -6341293.88 -6341293.78 -6341293.68 0.3756 0.0632

Jupiter -22074-05-06 00:43 J -6340980.65 -6340980.47 -6340980.30 0.0497 0.0131

Venus -22069-01-10 09:07 J -6339270.18 -6339270.12 -6339270.05 0.3757 0.2845

Moon -22069-07-08 10:33 J -6339090.17 -6339090.06 -6339089.94 0.2688 0.0578

Earth -22069-07-08 10:48 J -6339090.16 -6339090.05 -6339089.94 0.2695 0.0533 *

Jupiter -22069-12-26 12:57 J -6338919.07 -6338918.96 -6338918.86 0.0530 0.0293

Jupiter -22068-03-25 19:26 J -6338829.80 -6338829.69 -6338829.58 0.0528 0.0288

Saturn -22068-12-14 18:00 J -6338565.85 -6338565.75 -6338565.65 0.0274 0.0183

Saturn -22067-03-13 04:33 J -6338477.44 -6338477.31 -6338477.18 0.0273 0.0066

Saturn -22067-06-09 15:07 J -6338389.00 -6338388.87 -6338388.74 0.0272 0.0052

Saturn -22067-09-06 01:40 J -6338300.53 -6338300.43 -6338300.32 0.0271 0.0169

Mars -22067-11-30 23:31 J -6338214.63 -6338214.52 -6338214.40 0.1651 0.0185

Jupiter -22062-02-21 21:36 J -6336670.74 -6336670.60 -6336670.45 0.0497 0.0313

Jupiter -22062-05-23 06:00 J -6336580.35 -6336580.25 -6336580.14 0.0498 0.0401

Earth -22062-07-02 07:26 J -6336540.22 -6336540.19 -6336540.15 0.2699 0.2563

Moon -22062-07-02 08:09 J -6336540.19 -6336540.16 -6336540.12 0.2701 0.2514 *

Venus -22060-07-20 11:45 J -6335791.14 -6335791.01 -6335790.87 0.3619 0.1805

Moon -22058-01-07 00:14 J -6335255.59 -6335255.49 -6335255.39 0.2632 0.1955

Earth -22058-01-07 01:26 J -6335255.55 -6335255.44 -6335255.33 0.2636 0.1747 *

Mars -22057-04-22 10:48 J -6334784.17 -6334784.05 -6334783.94 0.1649 0.0283

Jupiter -22057-10-14 17:16 J -6334608.85 -6334608.78 -6334608.70 0.0531 0.0430

Jupiter -22056-01-11 23:45 J -6334519.63 -6334519.51 -6334519.39 0.0529 0.0150

Moon -22056-07-11 05:02 J -6334339.38 -6334339.29 -6334339.19 0.2690 0.1537

Earth -22056-07-11 05:45 J -6334339.35 -6334339.26 -6334339.17 0.2693 0.1680 *

Mars -22054-02-04 11:02 J -6333766.19 -6333766.04 -6333765.90 0.1866 0.0934

Saturn -22052-12-27 07:11 J -6332709.32 -6332709.20 -6332709.06 0.0287 0.0204

Saturn -22051-03-26 07:26 J -6332620.38 -6332620.19 -6332620.01 0.0288 0.0005

Saturn -22051-06-23 07:11 J -6332531.33 -6332531.20 -6332531.06 0.0289 0.0192

Jupiter -22051-12-10 19:26 J -6332360.72 -6332360.69 -6332360.64 0.0496 0.0484

Jupiter -22050-03-11 04:19 J -6332270.48 -6332270.32 -6332270.16 0.0498 0.0234

Earth -22049-07-04 02:09 J -6331789.51 -6331789.41 -6331789.32 0.2698 0.1477

Moon -22049-07-04 02:52 J -6331789.48 -6331789.38 -6331789.29 0.2695 0.1426 *

Mars -22048-09-12 21:50 J -6331353.69 -6331353.59 -6331353.48 0.1646 0.0738

Uranus -22047-07-26 01:55 J -6331037.51 -6331037.42 -6331037.33 0.0137 0.0121

Uranus -22047-10-22 09:07 J -6330949.26 -6330949.12 -6330948.98 0.0137 0.0093

Uranus -22046-01-18 16:04 J -6330860.99 -6330860.83 -6330860.66 0.0137 0.0065

Uranus -22046-04-16 23:16 J -6330772.71 -6330772.53 -6330772.35 0.0137 0.0037

Uranus -22046-07-14 06:14 J -6330684.42 -6330684.24 -6330684.05 0.0137 0.0010

Mars -22046-08-19 01:26 J -6330648.52 -6330648.44 -6330648.36 0.1657 0.1193

Uranus -22046-10-10 13:11 J -6330596.13 -6330595.95 -6330595.76 0.0137 0.0018

Uranus -22045-01-06 20:09 J -6330507.83 -6330507.66 -6330507.48 0.0137 0.0045

Moon -22045-01-10 03:50 J -6330504.49 -6330504.34 -6330504.19 0.2640 0.0055

Earth -22045-01-10 05:16 J -6330504.43 -6330504.28 -6330504.14 0.2637 0.0099 *

Uranus -22045-04-04 02:52 J -6330419.53 -6330419.38 -6330419.22 0.0137 0.0071

Mars -22045-06-26 05:31 J -6330336.44 -6330336.27 -6330336.11 0.1870 0.0384

Uranus -22045-07-01 09:50 J -6330331.22 -6330331.09 -6330330.96 0.0136 0.0098

Uranus -22045-09-27 16:04 J -6330242.88 -6330242.83 -6330242.74 0.0136 0.0125

Jupiter -22045-10-31 03:07 J -6330209.49 -6330209.37 -6330209.24 0.0529 0.0020

Jupiter -22039-12-28 02:23 J -6327960.58 -6327960.40 -6327960.21 0.0498 0.0066

Mars -22038-02-03 09:07 J -6327923.19 -6327923.12 -6327923.04 0.1644 0.1186

Saturn -22038-05-03 20:23 J -6327833.73 -6327833.65 -6327833.57 0.0275 0.0220

Saturn -22038-07-31 06:57 J -6327745.33 -6327745.21 -6327745.09 0.0274 0.0102

Saturn -22038-10-27 17:45 J -6327656.90 -6327656.76 -6327656.63 0.0273 0.0019

Saturn -22037-01-24 04:19 J -6327568.44 -6327568.32 -6327568.20 0.0272 0.0134

Saturn -22037-04-21 14:52 J -6327479.92 -6327479.88 -6327479.83 0.0271 0.0252

Mars -22036-01-08 12:28 J -6327218.09 -6327217.98 -6327217.88 0.1654 0.0714

Earth -22036-07-06 20:52 J -6327038.74 -6327038.63 -6327038.52 0.2696 0.0374

Moon -22036-07-06 21:07 J -6327038.73 -6327038.62 -6327038.50 0.2689 0.0301 *

Mars -22036-11-15 23:16 J -6326906.59 -6326906.53 -6326906.47 0.1874 0.1741

Jupiter -22033-08-19 07:11 J -6325899.32 -6325899.20 -6325899.07 0.0529 0.0150

Jupiter -22033-11-16 13:40 J -6325810.00 -6325809.93 -6325809.85 0.0527 0.0431

Moon -22032-01-12 07:26 J -6325753.30 -6325753.19 -6325753.07 0.2644 0.1676

Earth -22032-01-12 08:23 J -6325753.26 -6325753.15 -6325753.04 0.2639 0.1809 *

Venus -22029-01-02 07:26 J -6324668.26 -6324668.19 -6324668.13 0.3753 0.2926

Mars -22029-06-25 20:38 J -6324492.65 -6324492.64 -6324492.63 0.1641 0.1627

Pluto -22028-03-30 09:21 J -6324215.13 -6324215.11 -6324215.07 0.0071 0.0069

Pluto -22028-06-26 10:33 J -6324127.12 -6324127.06 -6324126.97 0.0071 0.0062

Pluto -22028-09-22 12:00 J -6324039.09 -6324039.00 -6324038.89 0.0071 0.0055

Pluto -22028-12-19 13:11 J -6323951.05 -6323950.95 -6323950.81 0.0071 0.0048

Pluto -22027-03-17 14:38 J -6323863.01 -6323862.89 -6323862.74 0.0071 0.0040

Mars -22027-05-31 23:31 J -6323787.63 -6323787.52 -6323787.40 0.1652 0.0246

Pluto -22027-06-13 16:19 J -6323774.96 -6323774.82 -6323774.67 0.0072 0.0032

Pluto -22027-09-09 17:45 J -6323686.91 -6323686.76 -6323686.61 0.0072 0.0024

Jupiter -22027-10-16 00:00 J -6323650.68 -6323650.50 -6323650.32 0.0497 0.0113

Pluto -22027-12-06 19:11 J -6323598.86 -6323598.70 -6323598.54 0.0072 0.0016

Pluto -22026-03-04 20:38 J -6323510.80 -6323510.64 -6323510.48 0.0072 0.0008

Pluto -22026-05-31 22:04 J -6323422.74 -6323422.58 -6323422.42 0.0072 0.0001

Pluto -22026-08-27 23:16 J -6323334.68 -6323334.53 -6323334.36 0.0072 0.0008

Pluto -22026-11-24 00:43 J -6323246.62 -6323246.47 -6323246.30 0.0072 0.0016

Pluto -22025-02-20 02:09 J -6323158.55 -6323158.41 -6323158.25 0.0072 0.0024

Pluto -22025-05-18 03:36 J -6323070.49 -6323070.35 -6323070.19 0.0073 0.0033

Pluto -22025-08-14 05:02 J -6322982.41 -6322982.29 -6322982.14 0.0073 0.0041

Pluto -22025-11-10 06:43 J -6322894.33 -6322894.22 -6322894.10 0.0073 0.0049

Pluto -22024-02-06 07:55 J -6322806.25 -6322806.17 -6322806.05 0.0073 0.0058

Pluto -22024-05-05 09:36 J -6322718.15 -6322718.10 -6322718.02 0.0073 0.0066

Venus -22024-07-17 23:02 J -6322644.64 -6322644.54 -6322644.44 0.3755 0.0768

Moon -22023-07-09 15:21 J -6322287.97 -6322287.86 -6322287.74 0.2689 0.0664

Earth -22023-07-09 15:50 J -6322287.95 -6322287.84 -6322287.73 0.2694 0.0755 *

Saturn -22022-05-16 05:02 J -6321977.36 -6321977.29 -6321977.22 0.0287 0.0265

Saturn -22022-08-13 05:16 J -6321888.46 -6321888.28 -6321888.10 0.0288 0.0067

Saturn -22022-11-10 05:02 J -6321799.45 -6321799.29 -6321799.13 0.0289 0.0131

Jupiter -22021-06-07 11:31 J -6321589.13 -6321589.02 -6321588.92 0.0530 0.0292

Jupiter -22021-09-04 18:00 J -6321499.86 -6321499.75 -6321499.65 0.0528 0.0288

Venus -22018-01-31 14:52 J -6320620.97 -6320620.88 -6320620.79 0.3756 0.1431

Mars -22018-10-22 10:48 J -6320357.17 -6320357.05 -6320356.94 0.1649 0.0228

Earth -22016-07-02 12:28 J -6319738.03 -6319737.98 -6319737.93 0.2699 0.2353

Moon -22016-07-02 13:11 J -6319738.01 -6319737.95 -6319737.89 0.2701 0.2239 *

Jupiter -22015-08-03 21:21 J -6319340.76 -6319340.61 -6319340.46 0.0497 0.0290

Mars -22015-08-05 11:45 J -6319339.15 -6319339.01 -6319338.87 0.1866 0.1058

Jupiter -22015-11-02 05:31 J -6319250.35 -6319250.27 -6319250.17 0.0498 0.0424

Venus -22013-08-16 06:43 J -6318597.24 -6318597.22 -6318597.20 0.3758 0.3652

Moon -22012-01-07 06:14 J -6318453.36 -6318453.24 -6318453.11 0.2634 0.1467

Earth -22012-01-07 07:40 J -6318453.31 -6318453.18 -6318453.06 0.2636 0.1410 *

Moon -22010-07-12 10:04 J -6317537.16 -6317537.08 -6317537.00 0.2689 0.1885

Earth -22010-07-12 10:48 J -6317537.13 -6317537.05 -6317536.97 0.2693 0.1898 *

Jupiter -22009-03-26 15:50 J -6317278.91 -6317278.84 -6317278.76 0.0531 0.0428

Jupiter -22009-06-23 22:19 J -6317189.69 -6317189.57 -6317189.45 0.0529 0.0152

Saturn -22009-09-19 22:19 J -6317101.61 -6317101.57 -6317101.53 0.0274 0.0259

Saturn -22009-12-17 08:52 J -6317013.24 -6317013.13 -6317013.02 0.0273 0.0142

Mars -22008-03-13 21:50 J -6316926.69 -6316926.59 -6316926.48 0.1646 0.0676

Saturn -22008-03-15 19:26 J -6316924.82 -6316924.69 -6316924.55 0.0272 0.0025

Saturn -22008-06-12 06:14 J -6316836.37 -6316836.24 -6316836.12 0.0272 0.0094

Saturn -22008-09-08 16:48 J -6316747.88 -6316747.80 -6316747.71 0.0271 0.0211

Mars -22006-02-17 01:26 J -6316221.51 -6316221.44 -6316221.36 0.1657 0.1256

Mars -22006-12-26 06:14 J -6315909.41 -6315909.24 -6315909.08 0.1870 0.0263

Neptune -22005-02-01 16:33 J -6315871.81 -6315871.81 -6315871.80 0.0089 0.0089

Neptune -22005-04-29 17:45 J -6315783.80 -6315783.76 -6315783.70 0.0089 0.0082

Neptune -22005-07-26 18:57 J -6315695.77 -6315695.71 -6315695.63 0.0089 0.0076

Neptune -22005-10-22 20:23 J -6315607.72 -6315607.65 -6315607.56 0.0089 0.0068

Neptune -22004-01-18 21:50 J -6315519.68 -6315519.59 -6315519.49 0.0089 0.0061

Neptune -22004-04-16 23:02 J -6315431.63 -6315431.54 -6315431.43 0.0089 0.0055

Neptune -22004-07-14 00:28 J -6315343.59 -6315343.48 -6315343.36 0.0089 0.0048

Neptune -22004-10-10 01:55 J -6315255.54 -6315255.42 -6315255.30 0.0089 0.0040

Neptune -22003-01-06 03:07 J -6315167.49 -6315167.37 -6315167.24 0.0089 0.0034

Venus -22003-02-24 13:40 J -6315118.09 -6315117.93 -6315117.77 0.3618 0.0309

Neptune -22003-04-04 04:33 J -6315079.43 -6315079.31 -6315079.18 0.0089 0.0027

Jupiter -22003-05-22 18:28 J -6315030.78 -6315030.73 -6315030.67 0.0496 0.0471

Neptune -22003-07-01 06:00 J -6314991.38 -6314991.25 -6314991.12 0.0089 0.0020

Earth -22003-07-05 07:11 J -6314987.30 -6314987.20 -6314987.10 0.2698 0.1268

Moon -22003-07-05 07:40 J -6314987.28 -6314987.18 -6314987.08 0.2693 0.1206 *

Jupiter -22003-08-21 03:07 J -6314940.53 -6314940.37 -6314940.21 0.0498 0.0245

Neptune -22003-09-27 07:26 J -6314903.33 -6314903.19 -6314903.06 0.0089 0.0013

Uranus -22003-09-28 11:16 J -6314902.06 -6314902.03 -6314901.97 0.0141 0.0131

Neptune -22003-12-24 08:38 J -6314815.27 -6314815.14 -6314815.00 0.0089 0.0006

Uranus -22003-12-25 14:52 J -6314813.95 -6314813.88 -6314813.79 0.0141 0.0110

Neptune -22002-03-22 10:04 J -6314727.21 -6314727.08 -6314726.95 0.0089 0.0002

Uranus -22002-03-23 18:43 J -6314725.83 -6314725.72 -6314725.62 0.0141 0.0089

Neptune -22002-06-18 11:16 J -6314639.16 -6314639.03 -6314638.89 0.0089 0.0009

Uranus -22002-06-19 22:04 J -6314637.69 -6314637.58 -6314637.46 0.0141 0.0068

Neptune -22002-09-14 12:43 J -6314551.10 -6314550.97 -6314550.84 0.0089 0.0016

Uranus -22002-09-16 01:40 J -6314549.55 -6314549.43 -6314549.30 0.0142 0.0046

Neptune -22002-12-11 14:09 J -6314463.04 -6314462.91 -6314462.78 0.0089 0.0023

Uranus -22002-12-13 05:16 J -6314461.41 -6314461.28 -6314461.14 0.0142 0.0025

Neptune -22001-03-08 15:36 J -6314374.98 -6314374.85 -6314374.73 0.0089 0.0030

Uranus -22001-03-10 09:07 J -6314373.26 -6314373.12 -6314372.99 0.0142 0.0003

Neptune -22001-06-04 16:48 J -6314286.92 -6314286.80 -6314286.68 0.0089 0.0037

Uranus -22001-06-06 12:43 J -6314285.10 -6314284.97 -6314284.84 0.0142 0.0020

Neptune -22001-08-31 18:14 J -6314198.86 -6314198.74 -6314198.62 0.0089 0.0044

Uranus -22001-09-02 16:19 J -6314196.95 -6314196.82 -6314196.69 0.0142 0.0042

Neptune -22001-11-27 19:26 J -6314110.79 -6314110.69 -6314110.57 0.0089 0.0051

Uranus -22001-11-29 20:09 J -6314108.78 -6314108.66 -6314108.54 0.0142 0.0064

22ND MILLENNIUM BCE

This is a list of transits of Mercury in the 22nd millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Neptune	**-22000-02-23 20:38**	**J**	**-6314022.73**	**-6314022.64**	**-6314022.52**	**0.0089**	**0.0059**	
Uranus	**-22000-02-25 23:45**	**J**	**-6314020.61**	**-6314020.51**	**-6314020.40**	**0.0142**	**0.0087**	
Neptune	**-22000-05-22 22:04**	**J**	**-6313934.66**	**-6313934.58**	**-6313934.48**	**0.0089**	**0.0066**	
Uranus	**-22000-05-25 03:36**	**J**	**-6313932.43**	**-6313932.35**	**-6313932.26**	**0.0142**	**0.0109**	
Neptune	**-22000-08-18 23:31**	**J**	**-6313846.59**	**-6313846.52**	**-6313846.43**	**0.0089**	**0.0072**	
Uranus	**-22000-08-21 07:11**	**J**	**-6313844.24**	**-6313844.20**	**-6313844.14**	**0.0143**	**0.0133**	
Neptune	**-22000-11-15 00:57**	**J**	**-6313758.51**	**-6313758.46**	**-6313758.39**	**0.0089**	**0.0079**	
Moon	**-21999-01-10 09:50**	**J**	**-6313702.23**	**-6313702.09**	**-6313701.94**	**0.2641**	**0.0187**	
Earth	**-21999-01-10 11:16**	**J**	**-6313702.17**	**-6313702.03**	**-6313701.88**	**0.2638**	**0.0397**	*****
Neptune	**-21999-02-11 02:23**	**J**	**-6313670.42**	**-6313670.40**	**-6313670.36**	**0.0089**	**0.0086**	
Mars	**-21999-08-04 09:07**	**J**	**-6313496.20**	**-6313496.12**	**-6313496.04**	**0.1644**	**0.1127**	
Jupiter	**-21997-04-12 02:52**	**J**	**-6312879.51**	**-6312879.38**	**-6312879.25**	**0.0529**	**0.0017**	
Mars	**-21997-07-09 12:28**	**J**	**-6312791.08**	**-6312790.98**	**-6312790.88**	**0.1654**	**0.0777**	
Mars	**-21996-05-16 23:45**	**J**	**-6312479.59**	**-6312479.51**	**-6312479.42**	**0.1874**	**0.1631**	
Saturn	**-21993-12-30 00:00**	**J**	**-6311156.66**	**-6311156.50**	**-6311156.34**	**0.0288**	**0.0151**	
Saturn	**-21992-03-29 00:00**	**J**	**-6311067.68**	**-6311067.50**	**-6311067.32**	**0.0289**	**0.0047**	
Saturn	**-21992-06-25 23:45**	**J**	**-6310978.61**	**-6310978.51**	**-6310978.41**	**0.0290**	**0.0244**	
Jupiter	**-21991-06-09 01:26**	**J**	**-6310630.62**	**-6310630.44**	**-6310630.26**	**0.0498**	**0.0077**	
Moon	**-21990-07-08 02:09**	**J**	**-6310236.53**	**-6310236.41**	**-6310236.30**	**0.2690**	**0.0165**	
Earth	**-21990-07-08 01:55**	**J**	**-6310236.53**	**-6310236.42**	**-6310236.31**	**0.2696**	**0.0155**	*****

Mars -21990-12-25 20:38 J -6310065.67 -6310065.64 -6310065.61 0.1641 0.1570

Mars -21988-11-29 23:31 J -6309360.64 -6309360.52 -6309360.41 0.1651 0.0305

Moon -21986-01-13 13:55 J -6308951.00 -6308950.92 -6308950.84 0.2645 0.2174

Earth -21986-01-13 14:38 J -6308950.98 -6308950.89 -6308950.81 0.2640 0.2139 *

Jupiter -21985-01-30 06:28 J -6308569.35 -6308569.23 -6308569.11 0.0529 0.0136

Jupiter -21985-04-28 12:57 J -6308480.03 -6308479.96 -6308479.89 0.0527 0.0443

Jupiter -21979-03-27 23:16 J -6306320.71 -6306320.53 -6306320.35 0.0498 0.0094

Saturn -21979-05-06 11:02 J -6306281.13 -6306281.04 -6306280.94 0.0274 0.0180

Saturn -21979-08-02 21:50 J -6306192.72 -6306192.59 -6306192.46 0.0274 0.0062

Saturn -21979-10-30 08:23 J -6306104.28 -6306104.15 -6306104.02 0.0273 0.0057

Saturn -21978-01-26 19:11 J -6306015.80 -6306015.70 -6306015.60 0.0272 0.0175

Mars -21978-04-22 10:33 J -6305930.17 -6305930.06 -6305929.94 0.1649 0.0171

Moon -21977-07-09 20:23 J -6305485.76 -6305485.65 -6305485.55 0.2689 0.0978

Earth -21977-07-09 20:52 J -6305485.74 -6305485.63 -6305485.53 0.2694 0.0979 *

Mars -21975-02-03 12:43 J -6304912.09 -6304911.97 -6304911.84 0.1866 0.1194

Jupiter -21974-11-18 10:33 J -6304259.17 -6304259.06 -6304258.95 0.0530 0.0280

Jupiter -21973-02-15 17:02 J -6304169.90 -6304169.79 -6304169.69 0.0528 0.0299

Venus -21973-08-08 04:48 J -6303995.38 -6303995.30 -6303995.22 0.3754 0.2136

Earth -21970-07-03 17:16 J -6302935.84 -6302935.78 -6302935.71 0.2699 0.2148

Moon -21970-07-03 18:14 J -6302935.81 -6302935.74 -6302935.68 0.2700 0.2118 *

Mars -21969-09-11 21:50 J -6302499.70 -6302499.59 -6302499.48 0.1646 0.0616

Jupiter -21967-01-13 20:52 J -6302010.78 -6302010.63 -6302010.48 0.0497 0.0271

Venus -21967-02-21 20:23 J -6301971.75 -6301971.65 -6301971.54 0.3755 0.0160

Jupiter -21967-04-14 05:16 J -6301920.36 -6301920.28 -6301920.20 0.0499 0.0443

Mars -21967-08-18 01:26 J -6301794.51 -6301794.44 -6301794.37 0.1658 0.1318

Moon -21966-01-08 12:28 J -6301651.11 -6301650.98 -6301650.85 0.2636 0.1232

Earth -21966-01-08 13:55 J -6301651.06 -6301650.92 -6301650.79 0.2636 0.1065 *

Mars -21966-06-26 06:57 J -6301482.38 -6301482.21 -6301482.05 0.1870 0.0140

Moon -21964-07-12 15:07 J -6300734.95 -6300734.87 -6300734.79 0.2691 0.1979

Earth -21964-07-12 15:50 J -6300734.91 -6300734.84 -6300734.77 0.2693 0.2127 *

Saturn -21963-05-18 21:36 J -6300424.72 -6300424.60 -6300424.47 0.0287 0.0213

Uranus -21963-08-15 08:52 J -6300336.22 -6300336.13 -6300336.01 0.0137 0.0114

Saturn -21963-08-15 21:50 J -6300335.78 -6300335.59 -6300335.41 0.0288 0.0015

Uranus -21963-11-11 16:04 J -6300247.97 -6300247.83 -6300247.67 0.0137 0.0086

Saturn -21963-11-12 21:36 J -6300246.74 -6300246.60 -6300246.46 0.0289 0.0183

Uranus -21962-02-07 23:31 J -6300159.69 -6300159.52 -6300159.35 0.0137 0.0058

Uranus -21962-05-07 06:28 J -6300071.41 -6300071.23 -6300071.05 0.0137 0.0030

Uranus -21962-08-03 13:26 J -6299983.12 -6299982.94 -6299982.75 0.0137 0.0003

Jupiter -21962-09-06 14:38 J -6299948.96 -6299948.89 -6299948.81 0.0530 0.0423

Venus -21962-09-07 12:14 J -6299948.07 -6299947.99 -6299947.91 0.3757 0.2243

Uranus -21962-10-30 20:23 J -6299894.83 -6299894.65 -6299894.46 0.0137 0.0025

Jupiter -21962-12-04 21:07 J -6299859.75 -6299859.62 -6299859.50 0.0529 0.0155

Uranus -21961-01-27 03:07 J -6299806.53 -6299806.37 -6299806.19 0.0137 0.0052

Uranus -21961-04-24 09:50 J -6299718.23 -6299718.09 -6299717.92 0.0136 0.0079

Uranus -21961-07-21 16:48 J -6299629.91 -6299629.80 -6299629.67 0.0136 0.0105

Uranus -21961-10-17 23:45 J -6299541.56 -6299541.51 -6299541.46 0.0136 0.0131

Mars -21959-02-02 09:07 J -6299069.21 -6299069.12 -6299069.03 0.1644 0.1066

Mars -21957-01-08 12:28 J -6298364.08 -6298363.98 -6298363.88 0.1654 0.0838

Earth -21957-07-05 12:00 J -6298185.10 -6298185.00 -6298184.89 0.2698 0.1052

Moon -21957-07-05 12:43 J -6298185.08 -6298184.97 -6298184.87 0.2692 0.0967 *

Mars -21957-11-15 00:43 J -6298052.57 -6298052.47 -6298052.37 0.1874 0.1498

Jupiter -21956-11-01 18:14 J -6297700.82 -6297700.74 -6297700.66 0.0496 0.0448

Jupiter -21955-01-31 02:52 J -6297610.53 -6297610.38 -6297610.22 0.0498 0.0269

Moon -21953-01-11 16:04 J -6296899.97 -6296899.83 -6296899.69 0.2641 0.0699

Earth -21953-01-11 17:31 J -6296899.91 -6296899.77 -6296899.63 0.2638 0.0729 *

Mars -21950-06-25 20:23 J -6295638.69 -6295638.65 -6295638.60 0.1641 0.1511

Jupiter -21950-09-23 01:26 J -6295549.56 -6295549.44 -6295549.31 0.0529 0.0025

Saturn -21950-09-23 12:57 J -6295549.03 -6295548.96 -6295548.88 0.0274 0.0220

Saturn -21950-12-20 23:31 J -6295460.64 -6295460.52 -6295460.39 0.0273 0.0103

Saturn -21949-03-18 10:19 J -6295372.21 -6295372.07 -6295371.94 0.0272 0.0017

Saturn -21949-06-14 20:52 J -6295283.74 -6295283.63 -6295283.51 0.0272 0.0134

Saturn -21949-09-11 07:40 J -6295195.23 -6295195.18 -6295195.13 0.0271 0.0251

Mars -21948-05-30 23:31 J -6294933.64 -6294933.52 -6294933.41 0.1651 0.0368

Venus -21947-10-01 15:21 J -6294444.98 -6294444.86 -6294444.74 0.3618 0.2356

Earth -21944-07-08 06:57 J -6293434.33 -6293434.21 -6293434.10 0.2696 0.0093

Moon -21944-07-08 06:57 J -6293434.32 -6293434.21 -6293434.09 0.2689 0.0087 *

Jupiter -21944-11-19 00:14 J -6293300.67 -6293300.49 -6293300.31 0.0498 0.0091

Pluto -21943-03-04 20:38 J -6293194.70 -6293194.64 -6293194.58 0.0073 0.0068

Pluto -21943-05-31 21:50 J -6293106.67 -6293106.59 -6293106.49 0.0073 0.0060

Pluto -21943-08-27 23:02 J -6293018.64 -6293018.54 -6293018.42 0.0073 0.0052

Pluto -21943-11-24 00:28 J -6292930.60 -6292930.48 -6292930.34 0.0073 0.0043

Pluto -21942-02-20 01:55 J -6292842.55 -6292842.42 -6292842.28 0.0073 0.0035

Pluto -21942-05-19 03:07 J -6292754.50 -6292754.37 -6292754.21 0.0073 0.0027

Pluto -21942-08-15 04:33 J -6292666.45 -6292666.31 -6292666.15 0.0073 0.0019

Pluto -21942-11-11 06:00 J -6292578.40 -6292578.25 -6292578.10 0.0073 0.0011

Pluto -21941-02-07 07:11 J -6292490.35 -6292490.20 -6292490.04 0.0072 0.0003

Pluto -21941-05-05 08:38 J -6292402.30 -6292402.14 -6292401.99 0.0072 0.0005

Pluto -21941-08-01 09:50 J -6292314.24 -6292314.09 -6292313.94 0.0072 0.0012

Pluto -21941-10-28 11:02 J -6292226.19 -6292226.04 -6292225.89 0.0072 0.0020

Moon -21940-01-13 20:23 J -6292148.72 -6292148.65 -6292148.59 0.2646 0.2349

Earth -21940-01-13 20:38 J -6292148.69 -6292148.64 -6292148.59 0.2640 0.2463 *

Pluto -21940-01-24 12:00 J -6292138.13 -6292138.00 -6292137.84 0.0072 0.0028

Pluto -21940-04-22 13:26 J -6292050.07 -6292049.94 -6292049.80 0.0072 0.0035

Pluto -21940-07-19 14:38 J -6291962.01 -6291961.89 -6291961.76 0.0072 0.0043

Pluto -21940-10-15 15:50 J -6291873.94 -6291873.84 -6291873.72 0.0072 0.0050

Pluto -21939-01-11 16:48 J -6291785.87 -6291785.80 -6291785.69 0.0072 0.0058

Pluto -21939-04-09 18:14 J -6291697.80 -6291697.74 -6291697.67 0.0071 0.0064

Mars -21939-10-21 10:33 J -6291503.17 -6291503.06 -6291502.94 0.1649 0.0104

Jupiter -21938-07-12 06:00 J -6291239.37 -6291239.25 -6291239.12 0.0530 0.0117

Jupiter -21938-10-09 12:28 J -6291150.03 -6291149.98 -6291149.91 0.0528 0.0465

Mars -21936-08-04 12:57 J -6290485.07 -6290484.96 -6290484.84 0.1866 0.1291

Saturn -21933-01-02 16:33 J -6289603.98 -6289603.81 -6289603.64 0.0288 0.0101

Moon -21933-01-06 15:07 J -6289599.88 -6289599.87 -6289599.87 0.2630 0.2624

Earth -21933-01-06 16:04 J -6289599.86 -6289599.83 -6289599.80 0.2635 0.2570

Saturn -21933-03-31 16:19 J -6289514.99 -6289514.82 -6289514.64 0.0289 0.0098

Jupiter -21932-09-06 22:33 J -6288990.75 -6288990.56 -6288990.38 0.0497 0.0080

Moon -21931-07-11 01:11 J -6288683.55 -6288683.45 -6288683.34 0.2688 0.1099

Earth -21931-07-11 01:40 J -6288683.53 -6288683.43 -6288683.32 0.2694 0.1204 *

Mars -21929-03-12 21:50 J -6288072.70 -6288072.59 -6288072.48 0.1646 0.0560

Mars -21927-02-16 01:26 J -6287367.51 -6287367.44 -6287367.38 0.1657 0.1375

Mars -21927-12-25 07:40 J -6287055.35 -6287055.18 -6287055.01 0.1870 0.0015

Jupiter -21926-04-30 09:50 J -6286929.20 -6286929.09 -6286928.98 0.0529 0.0266

Jupiter -21926-07-28 16:04 J -6286839.93 -6286839.83 -6286839.72 0.0528 0.0313

Earth -21924-07-03 22:19 J -6286133.65 -6286133.57 -6286133.49 0.2699 0.1937

Moon -21924-07-03 23:02 J -6286133.62 -6286133.54 -6286133.46 0.2698 0.1801 *

Venus -21922-08-30 10:33 J -6285346.09 -6285346.06 -6285346.03 0.3753 0.3486

Neptune -21922-10-17 17:45 J -6285297.83 -6285297.76 -6285297.69 0.0088 0.0081

Neptune -21921-01-13 20:52 J -6285209.72 -6285209.63 -6285209.50 0.0088 0.0072

Neptune -21921-04-11 00:28 J -6285121.60 -6285121.48 -6285121.33 0.0088 0.0062

Neptune -21921-07-08 04:04 J -6285033.47 -6285033.33 -6285033.16 0.0088 0.0052

Neptune -21921-10-04 07:40 J -6284945.34 -6284945.18 -6284945.00 0.0088 0.0042

Neptune -21921-12-31 11:31 J -6284857.20 -6284857.02 -6284856.84 0.0088 0.0032

Moon -21920-01-08 18:28 J -6284848.87 -6284848.73 -6284848.59 0.2637 0.0858

Earth -21920-01-08 20:09 J -6284848.81 -6284848.66 -6284848.52 0.2636 0.0731 *

Saturn -21920-02-09 14:52 J -6284816.91 -6284816.88 -6284816.84 0.0275 0.0262

Neptune -21920-03-29 14:38 J -6284769.06 -6284768.89 -6284768.69 0.0088 0.0023

Saturn -21920-05-09 01:40 J -6284728.54 -6284728.43 -6284728.32 0.0274 0.0143

Neptune -21920-06-25 18:28 J -6284680.92 -6284680.73 -6284680.54 0.0088 0.0013

Jupiter -21920-06-25 20:09 J -6284680.82 -6284680.66 -6284680.50 0.0497 0.0252 *

Mars -21920-08-03 09:07 J -6284642.21 -6284642.12 -6284642.03 0.1644 0.1006

Saturn -21920-08-05 12:14 J -6284640.12 -6284639.99 -6284639.86 0.0274 0.0025

Neptune -21920-09-21 22:04 J -6284592.77 -6284592.58 -6284592.39 0.0088 0.0003

Jupiter -21920-09-24 04:33 J -6284590.37 -6284590.31 -6284590.24 0.0499 0.0463

Saturn -21920-11-01 23:02 J -6284551.67 -6284551.54 -6284551.42 0.0273 0.0095

Neptune -21920-12-19 01:26 J -6284504.63 -6284504.44 -6284504.24 0.0088 0.0007

Saturn -21919-01-29 09:36 J -6284463.18 -6284463.10 -6284463.01 0.0272 0.0213

Neptune -21919-03-17 04:48 J -6284416.48 -6284416.30 -6284416.10 0.0088 0.0017

Neptune -21919-06-13 08:23 J -6284328.33 -6284328.15 -6284327.96 0.0088 0.0026

Neptune -21919-09-09 11:45 J -6284240.18 -6284240.01 -6284239.82 0.0088 0.0036

Uranus -21919-10-18 19:11 J -6284200.76 -6284200.70 -6284200.64 0.0141 0.0123

Neptune -21919-12-06 15:07 J -6284152.02 -6284151.87 -6284151.69 0.0088 0.0046

Uranus -21918-01-14 22:48 J -6284112.64 -6284112.55 -6284112.46 0.0141 0.0103

Neptune -21918-03-04 18:57 J -6284063.86 -6284063.71 -6284063.56 0.0088 0.0055

Uranus -21918-04-13 02:09 J -6284024.51 -6284024.41 -6284024.30 0.0141 0.0082

Neptune -21918-05-31 22:04 J -6283975.70 -6283975.58 -6283975.44 0.0088 0.0065

Mars -21918-07-09 12:28 J -6283937.08 -6283936.98 -6283936.89 0.1654 0.0900

Uranus -21918-07-10 05:45 J -6283936.38 -6283936.26 -6283936.13 0.0141 0.0060

Moon -21918-07-13 20:09 J -6283932.72 -6283932.66 -6283932.61 0.2693 0.2332

Earth -21918-07-13 20:52 J -6283932.68 -6283932.63 -6283932.58 0.2692 0.2352 *

Neptune -21918-08-28 01:11 J -6283887.52 -6283887.45 -6283887.32 0.0088 0.0075

Uranus -21918-10-06 09:21 J -6283848.23 -6283848.11 -6283847.98 0.0142 0.0039

Neptune -21918-11-24 05:02 J -6283799.33 -6283799.29 -6283799.23 0.0088 0.0084

Uranus -21917-01-02 12:57 J -6283760.09 -6283759.96 -6283759.82 0.0142 0.0018

Uranus -21917-03-30 16:48 J -6283671.94 -6283671.80 -6283671.67 0.0142 0.0006

Mars -21917-05-16 01:40 J -6283625.54 -6283625.43 -6283625.31 0.1874 0.1361

Uranus -21917-06-26 20:23 J -6283583.78 -6283583.65 -6283583.52 0.0142 0.0027

Uranus -21917-09-23 00:00 J -6283495.62 -6283495.50 -6283495.37 0.0142 0.0050

Uranus -21917-12-20 03:50 J -6283407.46 -6283407.34 -6283407.22 0.0142 0.0072

Venus -21916-03-15 02:09 J -6283322.50 -6283322.41 -6283322.31 0.3754 0.1350

Uranus -21916-03-18 07:40 J -6283319.28 -6283319.18 -6283319.08 0.0142 0.0095

Uranus -21916-06-14 11:16 J -6283231.10 -6283231.03 -6283230.95 0.0142 0.0117

Uranus -21916-09-10 14:52 J -6283142.89 -6283142.88 -6283142.85 0.0143 0.0141

Jupiter -21914-02-16 13:55 J -6282619.00 -6282618.92 -6282618.84 0.0530 0.0409

Jupiter -21914-05-16 20:09 J -6282529.78 -6282529.66 -6282529.54 0.0528 0.0168

Earth -21911-07-06 17:02 J -6281382.90 -6281382.79 -6281382.68 0.2697 0.0837

Moon -21911-07-06 17:31 J -6281382.88 -6281382.77 -6281382.66 0.2692 0.0816 *

Venus -21911-09-28 18:00 J -6281298.85 -6281298.75 -6281298.65 0.3756 0.0837

Mars -21911-12-24 20:23 J -6281211.70 -6281211.65 -6281211.60 0.1641 0.1451

Mars -21909-11-28 23:31 J -6280506.64 -6280506.52 -6280506.41 0.1651 0.0429

Jupiter -21908-04-13 17:31 J -6280370.85 -6280370.77 -6280370.67 0.0497 0.0430

Jupiter -21908-07-13 02:23 J -6280280.55 -6280280.40 -6280280.25 0.0498 0.0288

Moon -21907-01-11 22:33 J -6280097.70 -6280097.56 -6280097.43 0.2642 0.0891

Earth -21907-01-11 23:31 J -6280097.65 -6280097.52 -6280097.38 0.2638 0.1061 *

Venus -21905-04-13 09:50 J -6279275.15 -6279275.09 -6279275.04 0.3757 0.3037

Saturn -21904-05-21 14:09 J -6278872.06 -6278871.91 -6278871.75 0.0287 0.0162

Saturn -21904-08-18 14:09 J -6278783.09 -6278782.91 -6278782.72 0.0288 0.0036

Saturn -21904-11-15 13:40 J -6278694.02 -6278693.93 -6278693.81 0.0289 0.0234

Jupiter -21902-03-05 00:14 J -6278219.62 -6278219.49 -6278219.36 0.0529 0.0024

Mars -21899-04-21 10:33 J -6277076.18 -6277076.06 -6277075.94 0.1649 0.0041

Moon -21898-07-09 11:45 J -6276632.13 -6276632.01 -6276631.90 0.2689 0.0285

Earth -21898-07-09 11:45 J -6276632.12 -6276632.01 -6276631.89 0.2696 0.0292 *

Mars -21896-02-02 13:55 J -6276058.02 -6276057.92 -6276057.81 0.1866 0.1423

Jupiter -21896-05-01 00:00 J -6275970.68 -6275970.50 -6275970.32 0.0498 0.0113

Venus -21896-10-22 08:52 J -6275796.26 -6275796.13 -6275795.99 0.3619 0.1769

Moon -21891-07-02 09:21 J -6274082.12 -6274082.11 -6274082.10 0.2704 0.2687

Saturn -21891-09-26 03:36 J -6273996.45 -6273996.35 -6273996.25 0.0274 0.0182

Jupiter -21891-12-22 04:48 J -6273909.43 -6273909.30 -6273909.18 0.0530 0.0115

Saturn -21891-12-23 14:09 J -6273908.03 -6273907.91 -6273907.78 0.0273 0.0064

Jupiter -21890-03-21 11:16 J -6273820.09 -6273820.03 -6273819.97 0.0528 0.0467

Saturn -21890-03-22 00:57 J -6273819.59 -6273819.46 -6273819.33 0.0272 0.0055

Saturn -21890-06-18 11:31 J -6273731.12 -6273731.02 -6273730.91 0.0271 0.0173

Mars -21890-09-11 21:50 J -6273645.70 -6273645.59 -6273645.48 0.1646 0.0497

Mars -21888-08-17 01:26 J -6272940.50 -6272940.44 -6272940.38 0.1657 0.1440

Moon -21887-01-06 21:07 J -6272797.68 -6272797.62 -6272797.56 0.2632 0.2392

Earth -21887-01-06 22:19 J -6272797.65 -6272797.57 -6272797.49 0.2635 0.2221 *

Mars -21887-06-25 08:23 J -6272628.32 -6272628.15 -6272627.98 0.1870 0.0109

Moon -21885-07-11 06:14 J -6271881.34 -6271881.24 -6271881.14 0.2689 0.1393

Earth -21885-07-11 06:43 J -6271881.31 -6271881.22 -6271881.12 0.2694 0.1425 *

Jupiter -21884-02-16 21:21 J -6271660.79 -6271660.61 -6271660.43 0.0497 0.0066

Mars -21880-02-01 09:07 J -6270215.22 -6270215.12 -6270215.03 0.1643 0.0951

Uranus -21879-06-08 09:21 J -6269723.14 -6269723.11 -6269723.05 0.0137 0.0133

Uranus -21879-09-04 16:33 J -6269634.92 -6269634.81 -6269634.68 0.0137 0.0105

Jupiter -21879-10-10 09:21 J -6269599.23 -6269599.11 -6269599.00 0.0530 0.0249

Uranus -21879-12-02 00:00 J -6269546.65 -6269546.50 -6269546.34 0.0137 0.0076

Mars -21878-01-07 12:14 J -6269510.08 -6269509.99 -6269509.89 0.1654 0.0963

Jupiter -21878-01-07 15:36 J -6269509.94 -6269509.85 -6269509.75 0.0528 0.0332 *

Uranus -21878-02-28 06:57 J -6269458.38 -6269458.21 -6269458.03 0.0137 0.0049

Uranus -21878-05-27 14:09 J -6269370.09 -6269369.91 -6269369.72 0.0137 0.0021

Earth -21878-07-05 03:21 J -6269331.45 -6269331.36 -6269331.28 0.2699 0.1726

Moon -21878-07-05 04:04 J -6269331.42 -6269331.33 -6269331.25 0.2696 0.1716 *

Uranus -21878-08-23 21:07 J -6269281.80 -6269281.62 -6269281.43 0.0137 0.0006

Mars -21878-11-15 02:09 J -6269198.53 -6269198.41 -6269198.29 0.1874 0.1257

Uranus -21878-11-20 04:04 J -6269193.51 -6269193.33 -6269193.15 0.0137 0.0033

Uranus -21877-02-16 10:48 J -6269105.21 -6269105.05 -6269104.88 0.0137 0.0060

Uranus -21877-05-14 17:45 J -6269016.90 -6269016.76 -6269016.61 0.0136 0.0087

Uranus -21877-08-11 00:14 J -6268928.57 -6268928.49 -6268928.37 0.0136 0.0114

Saturn -21875-10-08 09:07 J -6268140.21 -6268140.12 -6268140.03 0.0287 0.0246

Saturn -21874-01-05 09:07 J -6268051.30 -6268051.12 -6268050.94 0.0288 0.0048

Moon -21874-01-10 00:43 J -6268046.62 -6268046.47 -6268046.32 0.2637 0.0524

Earth -21874-01-10 02:09 J -6268046.55 -6268046.41 -6268046.26 0.2637 0.0394 *

Saturn -21874-04-04 08:52 J -6267962.28 -6267962.13 -6267961.97 0.0289 0.0149

Jupiter -21873-12-05 19:11 J -6267350.86 -6267350.70 -6267350.53 0.0497 0.0237

Jupiter -21872-03-06 03:50 J -6267260.39 -6267260.34 -6267260.29 0.0499 0.0477

Moon -21872-07-14 01:11 J -6267130.50 -6267130.45 -6267130.41 0.2693 0.2446

Earth -21872-07-14 01:55 J -6267130.45 -6267130.42 -6267130.39 0.2692 0.2583 *

Mars -21871-06-24 20:23 J -6266784.71 -6266784.65 -6266784.59 0.1641 0.1393

Mars -21869-05-29 23:16 J -6266079.64 -6266079.53 -6266079.41 0.1651 0.0487

Jupiter -21867-07-29 13:11 J -6265289.03 -6265288.95 -6265288.87 0.0530 0.0395

Jupiter -21867-10-26 19:26 J -6265199.81 -6265199.69 -6265199.57 0.0528 0.0181

Venus -21865-04-05 07:55 J -6264673.24 -6264673.17 -6264673.10 0.3753 0.2710

Earth -21865-07-06 22:04 J -6264580.69 -6264580.58 -6264580.47 0.2697 0.0626

Moon -21865-07-06 22:33 J -6264580.68 -6264580.56 -6264580.45 0.2692 0.0530 *

Moon -21861-01-13 04:48 J -6263295.43 -6263295.30 -6263295.18 0.2643 0.1352

Earth -21861-01-13 05:45 J -6263295.39 -6263295.26 -6263295.14 0.2638 0.1390 *

Saturn -21861-02-13 05:31 J -6263264.34 -6263264.27 -6263264.20 0.0275 0.0225

Saturn -21861-05-11 16:04 J -6263175.95 -6263175.83 -6263175.70 0.0274 0.0105

Saturn -21861-08-08 02:52 J -6263087.51 -6263087.38 -6263087.25 0.0274 0.0014

Jupiter -21861-09-23 16:48 J -6263040.90 -6263040.80 -6263040.70 0.0497 0.0413

Saturn -21861-11-04 13:26 J -6262999.05 -6262998.94 -6262998.82 0.0273 0.0133

Jupiter -21861-12-23 01:40 J -6262950.57 -6262950.43 -6262950.29 0.0499 0.0306

Saturn -21860-02-01 00:14 J -6262910.53 -6262910.49 -6262910.44 0.0272 0.0251

Venus -21860-10-19 23:45 J -6262649.61 -6262649.51 -6262649.41 0.3754 0.0565

Mars -21860-10-20 10:33 J -6262649.18 -6262649.06 -6262648.94 0.1649 0.0022

Mars -21857-08-03 14:52 J -6261630.97 -6261630.88 -6261630.79 0.1866 0.1548

Jupiter -21855-08-14 23:31 J -6260889.65 -6260889.52 -6260889.39 0.0528 0.0037

Venus -21854-05-05 15:21 J -6260625.95 -6260625.86 -6260625.77 0.3756 0.1637

Moon -21852-07-09 16:33 J -6259829.92 -6259829.81 -6259829.69 0.2688 0.0451

Earth -21852-07-09 16:48 J -6259829.91 -6259829.80 -6259829.69 0.2695 0.0503 *

Mars -21850-03-12 21:50 J -6259218.71 -6259218.59 -6259218.48 0.1646 0.0439

Jupiter -21849-10-10 23:16 J -6258640.70 -6258640.53 -6258640.35 0.0498 0.0130

Mars -21848-02-15 01:26 J -6258513.49 -6258513.44 -6258513.39 0.1657 0.1502

Mars -21848-12-24 09:07 J -6258201.28 -6258201.12 -6258200.95 0.1870 0.0234

Saturn -21845-05-24 07:26 J -6257319.36 -6257319.19 -6257319.02 0.0287 0.0105

Earth -21845-07-02 13:40 J -6257279.96 -6257279.93 -6257279.91 0.2700 0.2603

Moon -21845-07-02 14:09 J -6257279.93 -6257279.91 -6257279.88 0.2703 0.2593 *

Saturn -21845-08-21 07:11 J -6257230.37 -6257230.20 -6257230.02 0.0288 0.0092

Saturn -21845-11-18 06:57 J -6257141.22 -6257141.21 -6257141.20 0.0289 0.0289

Jupiter -21843-06-03 03:36 J -6256579.48 -6256579.35 -6256579.23 0.0529 0.0109

Jupiter -21843-08-31 10:04 J -6256490.14 -6256490.08 -6256490.03 0.0527 0.0471

Moon -21841-01-08 03:07 J -6255995.47 -6255995.37 -6255995.27 0.2633 0.1916

Earth -21841-01-08 04:33 J -6255995.41 -6255995.31 -6255995.20 0.2635 0.1877 *

Mars -21841-08-02 09:07 J -6255788.22 -6255788.12 -6255788.03 0.1644 0.0889

Neptune -21841-10-28 16:04 J -6255700.86 -6255700.83 -6255700.80 0.0089 0.0087

Neptune -21840-01-24 17:02 J -6255612.83 -6255612.79 -6255612.72 0.0089 0.0081

Neptune -21840-04-22 18:28 J -6255524.79 -6255524.73 -6255524.64 0.0089 0.0073

Neptune -21840-07-19 19:55 J -6255436.75 -6255436.67 -6255436.57 0.0089 0.0066

Neptune -21840-10-15 21:07 J -6255348.70 -6255348.62 -6255348.51 0.0089 0.0060

Neptune -21839-01-11 22:33 J -6255260.66 -6255260.56 -6255260.44 0.0089 0.0052

Neptune -21839-04-10 00:00 J -6255172.61 -6255172.50 -6255172.38 0.0089 0.0045

Venus -21839-05-29 10:48 J -6255123.20 -6255123.05 -6255122.89 0.3619 0.0366

Neptune -21839-07-07 01:26 J -6255084.56 -6255084.44 -6255084.32 0.0089 0.0038

Mars -21839-07-08 12:14 J -6255083.08 -6255082.99 -6255082.89 0.1654 0.1023

Moon -21839-07-12 11:02 J -6255079.13 -6255079.04 -6255078.94 0.2690 0.1574

Earth -21839-07-12 11:45 J -6255079.10 -6255079.01 -6255078.92 0.2694 0.1646 *

Neptune -21839-10-03 02:38 J -6254996.51 -6254996.39 -6254996.26 0.0089 0.0032

Neptune -21839-12-30 04:04 J -6254908.46 -6254908.33 -6254908.20 0.0089 0.0024

Neptune -21838-03-28 05:31 J -6254820.40 -6254820.27 -6254820.14 0.0089 0.0017

Mars -21838-05-16 03:07 J -6254771.50 -6254771.37 -6254771.23 0.1874 0.1118

Neptune -21838-06-24 06:43 J -6254732.35 -6254732.22 -6254732.08 0.0089 0.0011

Neptune -21838-09-20 08:09 J -6254644.29 -6254644.16 -6254644.03 0.0089 0.0003

Neptune -21838-12-17 09:36 J -6254556.24 -6254556.10 -6254555.97 0.0089 0.0004

Neptune -21837-03-14 10:48 J -6254468.18 -6254468.05 -6254467.91 0.0089 0.0011

Neptune -21837-06-10 12:14 J -6254380.12 -6254379.99 -6254379.86 0.0089 0.0018

Jupiter -21837-07-29 20:52 J -6254330.81 -6254330.63 -6254330.45 0.0497 0.0047

Neptune -21837-09-06 13:26 J -6254292.06 -6254291.94 -6254291.80 0.0089 0.0025

Neptune -21837-12-03 14:52 J -6254204.00 -6254203.88 -6254203.75 0.0089 0.0032

Neptune -21836-03-01 16:04 J -6254115.94 -6254115.83 -6254115.70 0.0089 0.0040

Neptune -21836-05-28 17:31 J -6254027.88 -6254027.77 -6254027.65 0.0089 0.0046

Neptune -21836-08-24 18:57 J -6253939.81 -6253939.71 -6253939.60 0.0089 0.0053

Neptune -21836-11-20 20:09 J -6253851.75 -6253851.66 -6253851.55 0.0089 0.0061

Neptune -21835-02-16 21:36 J -6253763.68 -6253763.60 -6253763.50 0.0089 0.0068

Neptune -21835-05-15 23:02 J -6253675.60 -6253675.54 -6253675.46 0.0089 0.0075

Uranus -21835-08-11 23:02 J -6253587.56 -6253587.54 -6253587.52 0.0141 0.0138

Neptune -21835-08-12 00:28 J -6253587.53 -6253587.48 -6253587.42 0.0089 0.0082 *

Uranus -21835-11-08 02:38 J -6253499.46 -6253499.39 -6253499.32 0.0141 0.0118

Neptune -21835-11-08 01:55 J -6253499.43 -6253499.42 -6253499.40 0.0089 0.0089 *

Uranus -21834-02-04 06:00 J -6253411.34 -6253411.25 -6253411.15 0.0141 0.0097

Uranus -21834-05-03 09:36 J -6253323.21 -6253323.10 -6253322.98 0.0141 0.0075

Uranus -21834-07-30 13:11 J -6253235.07 -6253234.95 -6253234.82 0.0141 0.0054

Uranus -21834-10-26 16:48 J -6253146.93 -6253146.80 -6253146.67 0.0142 0.0032

Uranus -21833-01-22 20:23 J -6253058.78 -6253058.65 -6253058.51 0.0142 0.0011

Uranus -21833-04-20 00:14 J -6252970.63 -6252970.49 -6252970.36 0.0142 0.0012

Uranus -21833-07-17 03:50 J -6252882.47 -6252882.34 -6252882.21 0.0142 0.0034

Uranus -21833-10-13 07:26 J -6252794.31 -6252794.19 -6252794.06 0.0142 0.0056

Uranus -21832-01-09 11:16 J -6252706.14 -6252706.03 -6252705.92 0.0142 0.0078

Uranus -21832-04-07 14:52 J -6252617.97 -6252617.88 -6252617.78 0.0142 0.0101

Saturn -21832-07-02 07:40 J -6252532.22 -6252532.18 -6252532.14 0.0275 0.0262

Uranus -21832-07-04 18:43 J -6252529.78 -6252529.72 -6252529.65 0.0142 0.0124

Earth -21832-07-05 08:09 J -6252529.25 -6252529.16 -6252529.06 0.2698 0.1516

Moon -21832-07-05 08:52 J -6252529.22 -6252529.13 -6252529.03 0.2695 0.1369 *

Saturn -21832-09-28 18:14 J -6252443.85 -6252443.74 -6252443.62 0.0274 0.0143

Mars -21832-12-23 20:23 J -6252357.72 -6252357.65 -6252357.59 0.1641 0.1334

Saturn -21832-12-26 05:02 J -6252355.42 -6252355.29 -6252355.16 0.0273 0.0024

Jupiter -21831-03-22 07:55 J -6252269.28 -6252269.17 -6252269.06 0.0530 0.0247

Saturn -21831-03-24 15:36 J -6252266.97 -6252266.85 -6252266.72 0.0272 0.0095

Jupiter -21831-06-19 14:23 J -6252180.00 -6252179.90 -6252179.80 0.0528 0.0333

Saturn -21831-06-21 02:23 J -6252178.48 -6252178.40 -6252178.32 0.0272 0.0213

Mars -21830-11-28 23:16 J -6251652.64 -6251652.53 -6251652.42 0.1651 0.0551

Moon -21828-01-10 06:57 J -6251244.36 -6251244.21 -6251244.06 0.2637 0.0207

Earth -21828-01-10 08:23 J -6251244.30 -6251244.15 -6251244.00 0.2637 0.0051 *

Jupiter -21825-05-17 18:00 J -6250020.91 -6250020.75 -6250020.58 0.0497 0.0227

Jupiter -21825-08-16 02:23 J -6249930.43 -6249930.40 -6249930.36 0.0499 0.0487

Mars -21820-04-20 10:33 J -6248222.18 -6248222.06 -6248221.94 0.1649 0.0085

Jupiter -21819-01-08 12:28 J -6247959.07 -6247958.98 -6247958.89 0.0530 0.0381

Jupiter -21819-04-07 18:43 J -6247869.84 -6247869.72 -6247869.60 0.0528 0.0197

Earth -21819-07-08 02:52 J -6247778.49 -6247778.38 -6247778.26 0.2697 0.0411

Moon -21819-07-08 03:21 J -6247778.48 -6247778.36 -6247778.25 0.2691 0.0435 *

Mars -21817-02-02 15:21 J -6247203.93 -6247203.86 -6247203.79 0.1866 0.1655

Saturn -21816-10-11 02:23 J -6246587.54 -6246587.40 -6246587.26 0.0287 0.0188

Saturn -21815-01-08 02:23 J -6246498.58 -6246498.40 -6246498.21 0.0288 0.0011

Moon -21815-01-13 11:02 J -6246493.15 -6246493.04 -6246492.93 0.2644 0.1638

Earth -21815-01-13 11:45 J -6246493.12 -6246493.01 -6246492.89 0.2639 0.1726 *

Saturn -21815-04-07 02:09 J -6246409.53 -6246409.41 -6246409.28 0.0289 0.0207

Jupiter -21813-03-05 15:50 J -6245710.94 -6245710.84 -6245710.73 0.0497 0.0399

Jupiter -21813-06-04 00:43 J -6245620.61 -6245620.47 -6245620.33 0.0498 0.0319

Mars -21811-09-10 21:36 J -6244791.71 -6244791.60 -6244791.48 0.1646 0.0381

Mars -21809-08-16 01:26 J -6244086.48 -6244086.44 -6244086.41 0.1657 0.1561

Venus -21809-11-10 05:16 J -6244000.36 -6244000.28 -6244000.19 0.3753 0.1925

Mars -21808-06-24 10:04 J -6243774.25 -6243774.08 -6243773.92 0.1870 0.0359

Jupiter -21808-10-27 16:33 J -6243648.82 -6243648.81 -6243648.79 0.0530 0.0524

Jupiter -21807-01-24 22:48 J -6243559.68 -6243559.55 -6243559.43 0.0528 0.0052

Moon -21806-07-10 21:36 J -6243027.71 -6243027.60 -6243027.49 0.2688 0.0740

Earth -21806-07-10 21:50 J -6243027.70 -6243027.59 -6243027.48 0.2695 0.0725 *

Venus -21803-05-26 21:07 J -6241976.72 -6241976.62 -6241976.52 0.3755 0.0255

Saturn -21802-02-15 20:09 J -6241711.75 -6241711.66 -6241711.56 0.0275 0.0185

Saturn -21802-05-15 06:57 J -6241623.34 -6241623.21 -6241623.08 0.0275 0.0065

Saturn -21802-08-11 17:31 J -6241534.90 -6241534.77 -6241534.64 0.0274 0.0055

Saturn -21802-11-08 04:19 J -6241446.42 -6241446.32 -6241446.22 0.0273 0.0174

Mars -21801-02-01 08:52 J -6241361.23 -6241361.13 -6241361.03 0.1644 0.0832

Jupiter -21801-03-22 22:19 J -6241310.75 -6241310.57 -6241310.40 0.0498 0.0143

Mars -21799-01-06 12:14 J -6240656.08 -6240655.99 -6240655.90 0.1654 0.1081

Earth -21799-07-03 18:28 J -6240477.78 -6240477.73 -6240477.68 0.2700 0.2397

Moon -21799-07-03 19:11 J -6240477.75 -6240477.70 -6240477.64 0.2701 0.2295 *

Mars -21799-11-14 03:50 J -6240344.48 -6240344.34 -6240344.19 0.1874 0.0995

Venus -21798-12-10 12:57 J -6239953.04 -6239952.96 -6239952.89 0.3756 0.2443

Jupiter -21796-11-13 02:52 J -6239249.51 -6239249.38 -6239249.26 0.0529 0.0096

Moon -21795-01-08 09:21 J -6239193.22 -6239193.11 -6239193.00 0.2633 0.1761

Earth -21795-01-08 10:48 J -6239193.17 -6239193.05 -6239192.93 0.2635 0.1528 *

Jupiter -21795-02-10 09:07 J -6239160.16 -6239160.12 -6239160.07 0.0527 0.0484

Uranus -21795-06-28 16:48 J -6239021.88 -6239021.80 -6239021.73 0.0137 0.0126

Uranus -21795-09-25 00:00 J -6238933.63 -6238933.50 -6238933.37 0.0137 0.0098

Uranus -21795-12-22 06:43 J -6238845.37 -6238845.22 -6238845.04 0.0137 0.0070

Uranus -21794-03-20 14:09 J -6238757.09 -6238756.91 -6238756.73 0.0137 0.0042

Uranus -21794-06-16 21:07 J -6238668.80 -6238668.62 -6238668.43 0.0137 0.0015

Uranus -21794-09-13 04:19 J -6238580.51 -6238580.32 -6238580.14 0.0137 0.0013

Uranus -21794-12-10 11:16 J -6238492.21 -6238492.03 -6238491.86 0.0137 0.0040

Uranus -21793-03-07 18:00 J -6238403.91 -6238403.75 -6238403.59 0.0136 0.0067

Uranus -21793-06-04 00:43 J -6238315.60 -6238315.47 -6238315.33 0.0136 0.0093

Moon -21793-07-12 16:04 J -6238276.92 -6238276.83 -6238276.75 0.2691 0.1768

Earth -21793-07-12 16:48 J -6238276.88 -6238276.80 -6238276.72 0.2693 0.1872 *

Uranus -21793-08-31 07:26 J -6238227.27 -6238227.19 -6238227.09 0.0136 0.0120

Mars -21792-06-23 20:23 J -6237930.72 -6237930.65 -6237930.58 0.1641 0.1274

Mars -21790-05-29 23:16 J -6237225.63 -6237225.53 -6237225.42 0.1651 0.0613

Jupiter -21789-01-09 19:55 J -6237000.86 -6237000.67 -6237000.49 0.0498 0.0035

Saturn -21786-02-28 01:11 J -6235855.55 -6235855.45 -6235855.35 0.0286 0.0240

Saturn -21786-05-28 01:11 J -6235766.63 -6235766.45 -6235766.26 0.0287 0.0043

Earth -21786-07-06 13:11 J -6235727.05 -6235726.95 -6235726.85 0.2698 0.1303

Moon -21786-07-06 13:55 J -6235727.02 -6235726.92 -6235726.82 0.2695 0.1289 *

Saturn -21786-08-25 00:57 J -6235677.61 -6235677.46 -6235677.30 0.0289 0.0155

Jupiter -21784-09-01 06:43 J -6234939.33 -6234939.22 -6234939.11 0.0529 0.0242

Jupiter -21784-11-29 12:57 J -6234850.05 -6234849.96 -6234849.86 0.0528 0.0337

Venus -21782-01-03 12:43 J -6234450.08 -6234449.97 -6234449.85 0.3618 0.2451

Moon -21782-01-11 13:11 J -6234442.09 -6234441.95 -6234441.80 0.2639 0.0235

Earth -21782-01-11 14:38 J -6234442.04 -6234441.89 -6234441.74 0.2637 0.0293 *

Pluto -21782-08-18 23:31 J -6234222.55 -6234222.52 -6234222.45 0.0071 0.0067

Pluto -21782-11-15 01:11 J -6234134.53 -6234134.45 -6234134.36 0.0071 0.0059

Pluto -21781-02-11 02:23 J -6234046.50 -6234046.40 -6234046.28 0.0071 0.0052

Pluto -21781-05-09 03:50 J -6233958.45 -6233958.34 -6233958.21 0.0071 0.0045

Pluto -21781-08-05 05:16 J -6233870.41 -6233870.28 -6233870.14 0.0072 0.0037

Mars -21781-10-19 10:33 J -6233795.18 -6233795.06 -6233794.95 0.1649 0.0148

Pluto -21781-11-01 06:43 J -6233782.36 -6233782.22 -6233782.07 0.0072 0.0029

Pluto -21780-01-28 07:55 J -6233694.31 -6233694.17 -6233694.00 0.0072 0.0022

Pluto -21780-04-26 09:21 J -6233606.26 -6233606.11 -6233605.94 0.0072 0.0014

Pluto -21780-07-23 11:02 J -6233518.20 -6233518.04 -6233517.88 0.0072 0.0005

Pluto -21780-10-19 12:28 J -6233430.14 -6233429.98 -6233429.82 0.0072 0.0003

Pluto -21779-01-15 13:55 J -6233342.08 -6233341.92 -6233341.76 0.0072 0.0011

Pluto -21779-04-13 15:21 J -6233254.02 -6233253.86 -6233253.70 0.0072 0.0019

Pluto -21779-07-10 16:33 J -6233165.95 -6233165.81 -6233165.65 0.0072 0.0027

Pluto -21779-10-06 18:00 J -6233077.88 -6233077.75 -6233077.60 0.0073 0.0036

Pluto -21778-01-02 19:26 J -6232989.81 -6232989.69 -6232989.55 0.0073 0.0044

Pluto -21778-03-31 21:07 J -6232901.73 -6232901.62 -6232901.50 0.0073 0.0052

Pluto -21778-06-27 22:19 J -6232813.64 -6232813.57 -6232813.46 0.0073 0.0061

Mars -21778-08-03 16:04 J -6232776.87 -6232776.83 -6232776.78 0.1866 0.1780

Pluto -21778-09-24 00:14 J -6232725.53 -6232725.49 -6232725.44 0.0073 0.0069

Jupiter -21778-10-28 17:16 J -6232690.95 -6232690.78 -6232690.61 0.0497 0.0211

Saturn -21773-07-04 22:33 J -6230979.63 -6230979.56 -6230979.48 0.0275 0.0220

Moon -21773-07-08 08:09 J -6230976.28 -6230976.16 -6230976.05 0.2690 0.0142

Earth -21773-07-08 07:55 J -6230976.28 -6230976.17 -6230976.06 0.2697 0.0189 *

Saturn -21773-10-01 09:21 J -6230891.24 -6230891.11 -6230890.99 0.0274 0.0100

Saturn -21773-12-28 19:55 J -6230802.80 -6230802.67 -6230802.53 0.0273 0.0021

Saturn -21772-03-27 06:43 J -6230714.33 -6230714.22 -6230714.10 0.0272 0.0139

Jupiter -21772-06-20 11:02 J -6230629.13 -6230629.04 -6230628.95 0.0530 0.0381

Saturn -21772-06-23 17:16 J -6230625.81 -6230625.78 -6230625.73 0.0272 0.0258

Jupiter -21772-09-17 17:16 J -6230539.90 -6230539.78 -6230539.66 0.0528 0.0196

Mars -21771-03-11 21:36 J -6230364.71 -6230364.60 -6230364.48 0.1646 0.0321

Moon -21769-01-14 17:02 J -6229690.88 -6229690.79 -6229690.69 0.2645 0.1988

Earth -21769-01-14 18:00 J -6229690.84 -6229690.75 -6229690.66 0.2639 0.2052 *

Mars -21769-02-15 01:26 J -6229659.46 -6229659.44 -6229659.42 0.1657 0.1624

Mars -21769-12-23 10:33 J -6229347.22 -6229347.06 -6229346.90 0.1870 0.0475

Jupiter -21766-08-16 14:23 J -6228381.01 -6228380.90 -6228380.79 0.0497 0.0392

Jupiter -21766-11-14 23:02 J -6228290.67 -6228290.54 -6228290.40 0.0498 0.0325

Mars -21762-08-02 08:52 J -6226934.23 -6226934.13 -6226934.03 0.1643 0.0773

Jupiter -21760-04-08 15:36 J -6226318.88 -6226318.85 -6226318.83 0.0531 0.0516

Jupiter -21760-07-06 21:50 J -6226229.72 -6226229.59 -6226229.47 0.0529 0.0061

Mars -21760-07-07 12:14 J -6226229.07 -6226228.99 -6226228.90 0.1654 0.1144

Moon -21760-07-11 02:23 J -6226225.51 -6226225.40 -6226225.29 0.2689 0.0860

Earth -21760-07-11 02:52 J -6226225.49 -6226225.38 -6226225.28 0.2695 0.0950 *

Mars -21759-05-15 04:33 J -6225917.46 -6225917.31 -6225917.16 0.1874 0.0879

Venus -21758-12-02 11:16 J -6225351.08 -6225351.03 -6225350.99 0.3752 0.3273

Neptune -21757-04-16 12:28 J -6225214.99 -6225214.98 -6225214.95 0.0088 0.0087

Neptune -21757-07-13 16:04 J -6225126.91 -6225126.83 -6225126.73 0.0088 0.0077

Neptune -21757-10-09 19:11 J -6225038.80 -6225038.70 -6225038.55 0.0088 0.0068

Saturn -21757-10-13 21:21 J -6225034.78 -6225034.61 -6225034.44 0.0287 0.0117

Neptune -21756-01-05 23:02 J -6224950.67 -6224950.54 -6224950.38 0.0088 0.0058

Saturn -21756-01-10 21:07 J -6224945.79 -6224945.62 -6224945.44 0.0288 0.0080

Neptune -21756-04-04 02:38 J -6224862.54 -6224862.39 -6224862.22 0.0088 0.0048

Saturn -21756-04-09 20:38 J -6224856.68 -6224856.64 -6224856.58 0.0289 0.0276

Neptune -21756-07-01 06:14 J -6224774.41 -6224774.24 -6224774.06 0.0088 0.0038

Neptune -21756-09-27 09:50 J -6224686.27 -6224686.09 -6224685.90 0.0088 0.0028

Neptune -21756-12-24 13:26 J -6224598.13 -6224597.94 -6224597.75 0.0088 0.0018

Neptune -21755-03-22 16:48 J -6224509.98 -6224509.80 -6224509.60 0.0088 0.0009

Neptune -21755-06-18 20:38 J -6224421.84 -6224421.64 -6224421.45 0.0088 0.0002

Neptune -21755-09-15 00:00 J -6224333.69 -6224333.50 -6224333.31 0.0088 0.0011

Neptune -21755-12-12 03:21 J -6224245.54 -6224245.36 -6224245.16 0.0088 0.0021

Neptune -21754-03-10 06:43 J -6224157.39 -6224157.22 -6224157.03 0.0088 0.0031

Neptune -21754-06-06 10:19 J -6224069.23 -6224069.07 -6224068.89 0.0088 0.0040

Neptune -21754-09-02 13:40 J -6223981.07 -6223980.93 -6223980.76 0.0088 0.0050

Jupiter -21754-09-02 21:07 J -6223980.80 -6223980.62 -6223980.45 0.0498 0.0154 *

Neptune -21754-11-29 17:02 J -6223892.91 -6223892.79 -6223892.63 0.0088 0.0060

Neptune -21753-02-25 20:38 J -6223804.74 -6223804.64 -6223804.51 0.0088 0.0069

Neptune -21753-05-24 00:00 J -6223716.57 -6223716.50 -6223716.40 0.0088 0.0079

Earth -21753-07-03 23:31 J -6223675.59 -6223675.52 -6223675.46 0.2700 0.2184

Moon -21753-07-04 00:14 J -6223675.56 -6223675.49 -6223675.42 0.2700 0.2113 *

Mars -21753-12-22 20:23 J -6223503.73 -6223503.65 -6223503.58 0.1641 0.1217

Venus -21752-06-17 02:52 J -6223327.48 -6223327.38 -6223327.28 0.3753 0.1124

Uranus -21751-09-01 05:45 J -6222886.29 -6222886.26 -6222886.21 0.0141 0.0135

Mars -21751-11-27 23:16 J -6222798.64 -6222798.53 -6222798.42 0.1651 0.0667

Uranus -21751-11-28 09:21 J -6222798.18 -6222798.11 -6222798.03 0.0141 0.0114

Uranus -21750-02-24 12:57 J -6222710.06 -6222709.96 -6222709.86 0.0141 0.0093

Uranus -21750-05-23 16:33 J -6222621.92 -6222621.81 -6222621.69 0.0141 0.0072

Uranus -21750-08-19 20:09 J -6222533.79 -6222533.66 -6222533.53 0.0141 0.0050

Uranus -21750-11-15 23:45 J -6222445.64 -6222445.51 -6222445.38 0.0142 0.0029

Moon -21749-01-09 15:36 J -6222390.98 -6222390.85 -6222390.72 0.2633 0.1216

Earth -21749-01-09 17:02 J -6222390.92 -6222390.79 -6222390.65 0.2636 0.1184 *

Uranus -21749-02-12 03:21 J -6222357.49 -6222357.36 -6222357.22 0.0142 0.0007

Uranus -21749-05-10 06:57 J -6222269.34 -6222269.21 -6222269.07 0.0142 0.0016

Uranus -21749-08-06 10:33 J -6222181.18 -6222181.06 -6222180.92 0.0142 0.0038

Uranus -21749-11-02 14:23 J -6222093.02 -6222092.90 -6222092.78 0.0142 0.0060

Uranus -21748-01-29 18:00 J -6222004.85 -6222004.75 -6222004.63 0.0142 0.0082

Jupiter -21748-04-25 01:40 J -6221919.55 -6221919.43 -6221919.30 0.0529 0.0087

Uranus -21748-04-27 21:50 J -6221916.68 -6221916.59 -6221916.50 0.0142 0.0105

Jupiter -21748-07-23 08:09 J -6221830.20 -6221830.16 -6221830.11 0.0527 0.0493

Uranus -21748-07-25 01:40 J -6221828.49 -6221828.43 -6221828.37 0.0142 0.0128

Moon -21747-07-13 20:52 J -6221474.70 -6221474.63 -6221474.55 0.2691 0.2051

Earth -21747-07-13 21:50 J -6221474.66 -6221474.59 -6221474.52 0.2693 0.2097 *

Venus -21747-12-31 18:43 J -6221303.82 -6221303.72 -6221303.63 0.3755 0.1064

Saturn -21744-11-22 00:28 J -6220247.52 -6220247.48 -6220247.44 0.0276 0.0262

Saturn -21743-02-18 11:16 J -6220159.14 -6220159.03 -6220158.92 0.0275 0.0141

Saturn -21743-05-17 21:50 J -6220070.72 -6220070.59 -6220070.45 0.0274 0.0023

Saturn -21743-08-14 08:38 J -6219982.26 -6219982.14 -6219982.01 0.0274 0.0099

Saturn -21743-11-10 19:26 J -6219893.77 -6219893.69 -6219893.61 0.0273 0.0218

Jupiter -21742-06-21 18:14 J -6219670.92 -6219670.74 -6219670.55 0.0498 0.0029

Mars -21741-04-19 10:33 J -6219368.18 -6219368.06 -6219367.95 0.1649 0.0208

Venus -21741-07-16 10:19 J -6219280.11 -6219280.07 -6219280.02 0.3756 0.3255

Earth -21740-07-06 18:14 J -6218924.85 -6218924.74 -6218924.64 0.2698 0.1095

Moon -21740-07-06 18:43 J -6218924.82 -6218924.72 -6218924.61 0.2695 0.0970 *

Moon -21736-01-11 19:40 J -6217639.83 -6217639.68 -6217639.54 0.2641 0.0442

Earth -21736-01-11 20:52 J -6217639.78 -6217639.63 -6217639.49 0.2637 0.0633 *

Jupiter -21736-02-11 05:45 J -6217609.37 -6217609.26 -6217609.14 0.0529 0.0230

Jupiter -21736-05-11 12:14 J -6217520.09 -6217519.99 -6217519.90 0.0527 0.0348

Mars -21732-09-09 21:36 J -6215937.71 -6215937.60 -6215937.48 0.1646 0.0258

Venus -21731-01-24 06:14 J -6215801.38 -6215801.24 -6215801.10 0.3620 0.1688

Jupiter -21730-04-09 15:50 J -6215361.01 -6215360.84 -6215360.67 0.0497 0.0205

Mars -21729-06-23 11:31 J -6214920.18 -6214920.02 -6214919.87 0.1870 0.0600

Saturn -21727-03-02 20:23 J -6214302.79 -6214302.65 -6214302.49 0.0287 0.0166

Saturn -21727-05-30 20:23 J -6214213.83 -6214213.65 -6214213.46 0.0288 0.0032

Earth -21727-07-09 12:57 J -6214174.08 -6214173.96 -6214173.85 0.2696 0.0109

Moon -21727-07-09 12:57 J -6214174.07 -6214173.96 -6214173.84 0.2689 0.0026 *

Saturn -21727-08-27 20:09 J -6214124.77 -6214124.66 -6214124.55 0.0289 0.0228

Jupiter -21725-11-30 09:36 J -6213299.18 -6213299.10 -6213299.01 0.0530 0.0379

Jupiter -21724-02-27 15:50 J -6213209.95 -6213209.84 -6213209.72 0.0528 0.0199

Moon -21723-01-14 23:31 J -6212888.59 -6212888.52 -6212888.46 0.2645 0.2353

Earth -21723-01-15 00:14 J -6212888.55 -6212888.49 -6212888.43 0.2639 0.2388 *

Mars -21722-01-31 08:52 J -6212507.23 -6212507.13 -6212507.02 0.1643 0.0711

Mars -21720-01-05 12:14 J -6211802.07 -6211801.99 -6211801.91 0.1654 0.1204

Mars -21720-11-13 05:31 J -6211490.43 -6211490.27 -6211490.12 0.1874 0.0747

Jupiter -21718-01-26 13:11 J -6211051.07 -6211050.95 -6211050.84 0.0497 0.0382

Jupiter -21718-04-26 21:50 J -6210960.72 -6210960.59 -6210960.45 0.0498 0.0336

Saturn -21714-07-08 13:55 J -6209427.02 -6209426.92 -6209426.82 0.0275 0.0173

Moon -21714-07-12 07:11 J -6209423.30 -6209423.20 -6209423.09 0.2690 0.1178

Earth -21714-07-12 07:40 J -6209423.28 -6209423.18 -6209423.07 0.2695 0.1169 *

Saturn -21714-10-05 00:43 J -6209338.60 -6209338.47 -6209338.34 0.0274 0.0052

Saturn -21713-01-01 11:31 J -6209250.15 -6209250.02 -6209249.89 0.0273 0.0068

Saturn -21713-03-29 22:04 J -6209161.67 -6209161.58 -6209161.48 0.0272 0.0187

Mars -21713-06-22 20:09 J -6209076.74 -6209076.66 -6209076.57 0.1641 0.1158

Jupiter -21713-09-18 13:55 J -6208988.94 -6208988.92 -6208988.90 0.0530 0.0519

Jupiter -21713-12-16 20:09 J -6208899.79 -6208899.66 -6208899.53 0.0529 0.0057

Mars -21711-05-28 23:16 J -6208371.63 -6208371.53 -6208371.42 0.1651 0.0732

Uranus -21711-07-18 23:31 J -6208320.60 -6208320.52 -6208320.42 0.0137 0.0120

Uranus -21711-10-15 06:43 J -6208232.35 -6208232.22 -6208232.07 0.0137 0.0092

Uranus -21710-01-11 13:55 J -6208144.08 -6208143.92 -6208143.75 0.0137 0.0064

Uranus -21710-04-09 21:07 J -6208055.80 -6208055.62 -6208055.44 0.0137 0.0036

Uranus -21710-07-07 04:04 J -6207967.51 -6207967.33 -6207967.14 0.0137 0.0009

Uranus -21710-10-03 11:02 J -6207879.22 -6207879.04 -6207878.85 0.0137 0.0020

Uranus -21710-12-30 18:00 J -6207790.92 -6207790.75 -6207790.57 0.0137 0.0046

Uranus -21709-03-28 00:43 J -6207702.61 -6207702.47 -6207702.30 0.0136 0.0074

Uranus -21709-06-24 07:40 J -6207614.30 -6207614.18 -6207614.05 0.0136 0.0100

Uranus -21709-09-20 14:23 J -6207525.95 -6207525.90 -6207525.82 0.0136 0.0126

Earth -21707-07-05 04:33 J -6206873.39 -6206873.31 -6206873.24 0.2699 0.1976

Moon -21707-07-05 05:16 J -6206873.36 -6206873.28 -6206873.20 0.2700 0.1891 *

Jupiter -21706-02-12 19:11 J -6206650.88 -6206650.70 -6206650.53 0.0498 0.0155

Mars -21704-11-13 07:40 J -6205646.20 -6205646.18 -6205646.16 0.1639 0.1600

Moon -21703-01-09 21:50 J -6205588.72 -6205588.59 -6205588.45 0.2635 0.1060

Earth -21703-01-09 23:16 J -6205588.67 -6205588.53 -6205588.39 0.2636 0.0835 *

Mars -21702-10-19 10:19 J -6204941.18 -6204941.07 -6204940.95 0.1648 0.0263

Venus -21701-07-08 08:38 J -6204678.22 -6204678.14 -6204678.07 0.3752 0.2480

Moon -21701-07-14 01:55 J -6204672.48 -6204672.42 -6204672.35 0.2691 0.2195

Earth -21701-07-14 02:52 J -6204672.44 -6204672.38 -6204672.33 0.2693 0.2328 *

Jupiter -21701-10-05 00:28 J -6204589.60 -6204589.48 -6204589.35 0.0529 0.0082

Jupiter -21700-01-02 06:57 J -6204500.25 -6204500.21 -6204500.17 0.0527 0.0499

Saturn -21698-07-20 17:16 J -6203570.88 -6203570.78 -6203570.67 0.0286 0.0234

Saturn -21698-10-17 17:16 J -6203481.96 -6203481.78 -6203481.59 0.0287 0.0038

Saturn -21697-01-14 17:02 J -6203392.94 -6203392.79 -6203392.63 0.0288 0.0159

Pluto -21697-07-23 10:33 J -6203202.11 -6203202.06 -6203201.99 0.0073 0.0067

Pluto -21697-10-19 11:45 J -6203114.09 -6203114.01 -6203113.90 0.0073 0.0059

Pluto -21696-01-15 13:11 J -6203026.05 -6203025.95 -6203025.82 0.0073 0.0050

Pluto -21696-04-13 14:38 J -6202938.01 -6202937.89 -6202937.75 0.0073 0.0042

Pluto -21696-07-10 15:50 J -6202849.96 -6202849.84 -6202849.69 0.0073 0.0034

Pluto -21696-10-06 17:16 J -6202761.91 -6202761.78 -6202761.62 0.0073 0.0026

Pluto -21695-01-02 18:43 J -6202673.86 -6202673.72 -6202673.56 0.0073 0.0018

Venus -21695-01-22 00:14 J -6202654.59 -6202654.49 -6202654.39 0.3754 0.0353

Pluto -21695-03-31 20:09 J -6202585.81 -6202585.66 -6202585.51 0.0072 0.0009

Pluto -21695-06-27 21:21 J -6202497.76 -6202497.61 -6202497.45 0.0072 0.0002

Pluto -21695-09-23 22:48 J -6202409.71 -6202409.55 -6202409.40 0.0072 0.0006

Jupiter -21695-12-01 16:48 J -6202340.98 -6202340.80 -6202340.61 0.0498 0.0020

Pluto -21695-12-20 23:45 J -6202321.65 -6202321.51 -6202321.35 0.0072 0.0015

Pluto -21694-03-19 01:11 J -6202233.59 -6202233.45 -6202233.30 0.0072 0.0021

Pluto -21694-06-15 02:23 J -6202145.54 -6202145.40 -6202145.26 0.0072 0.0029

Earth -21694-07-07 23:02 J -6202122.65 -6202122.54 -6202122.43 0.2698 0.0871

Moon -21694-07-07 23:31 J -6202122.62 -6202122.52 -6202122.41 0.2693 0.0847 *

Pluto -21694-09-11 03:21 J -6202057.48 -6202057.36 -6202057.21 0.0072 0.0037

Pluto -21694-12-08 04:48 J -6201969.41 -6201969.30 -6201969.17 0.0072 0.0044

Pluto -21693-03-05 05:45 J -6201881.35 -6201881.26 -6201881.14 0.0072 0.0052

Pluto -21693-06-01 07:11 J -6201793.28 -6201793.20 -6201793.11 0.0071 0.0059

Pluto -21693-08-28 08:23 J -6201705.20 -6201705.15 -6201705.09 0.0071 0.0066

Mars -21692-03-10 21:36 J -6201510.72 -6201510.60 -6201510.49 0.1646 0.0200

Moon -21690-01-13 01:40 J -6200837.56 -6200837.43 -6200837.29 0.2642 0.0954

Earth -21690-01-13 03:07 J -6200837.51 -6200837.37 -6200837.24 0.2637 0.0970 *

Venus -21690-08-07 16:04 J -6200630.92 -6200630.83 -6200630.74 0.3755 0.1852

Mars -21690-12-23 12:14 J -6200493.14 -6200492.99 -6200492.84 0.1870 0.0725

Jupiter -21689-07-24 04:48 J -6200279.42 -6200279.30 -6200279.19 0.0529 0.0224

Jupiter -21689-10-21 11:02 J -6200190.14 -6200190.04 -6200189.95 0.0527 0.0353

Saturn -21685-11-24 16:04 J -6198694.91 -6198694.83 -6198694.75 0.0276 0.0213

Saturn -21684-02-21 02:52 J -6198606.51 -6198606.38 -6198606.26 0.0275 0.0092

Saturn -21684-05-20 13:26 J -6198518.07 -6198517.94 -6198517.80 0.0274 0.0030

Saturn -21684-08-17 00:14 J -6198429.60 -6198429.49 -6198429.38 0.0273 0.0149

Saturn -21684-11-13 11:02 J -6198341.05 -6198341.04 -6198341.02 0.0273 0.0269

Mars -21683-08-01 08:52 J -6198080.24 -6198080.13 -6198080.02 0.1644 0.0650

Jupiter -21683-09-19 13:40 J -6198031.09 -6198030.93 -6198030.76 0.0498 0.0204

Mars -21681-07-06 12:14 J -6197375.06 -6197374.99 -6197374.92 0.1654 0.1266

Moon -21681-07-09 18:00 J -6197371.87 -6197371.75 -6197371.64 0.2689 0.0323

Earth -21681-07-09 17:45 J -6197371.87 -6197371.76 -6197371.64 0.2696 0.0260 *

Mars -21680-05-14 06:28 J -6197063.39 -6197063.23 -6197063.08 0.1874 0.0614

Jupiter -21677-05-12 08:52 J -6195969.22 -6195969.13 -6195969.04 0.0529 0.0368

Jupiter -21677-08-09 14:52 J -6195879.99 -6195879.88 -6195879.76 0.0527 0.0208

Neptune -21676-07-25 15:36 J -6195529.88 -6195529.85 -6195529.80 0.0089 0.0084

Neptune -21676-10-21 16:48 J -6195441.85 -6195441.80 -6195441.72 0.0089 0.0078

Neptune -21675-01-17 18:14 J -6195353.81 -6195353.74 -6195353.65 0.0089 0.0070

Neptune -21675-04-15 19:40 J -6195265.77 -6195265.68 -6195265.58 0.0089 0.0063

Neptune -21675-07-12 20:52 J -6195177.72 -6195177.63 -6195177.52 0.0089 0.0057

Venus -21675-08-31 08:09 J -6195128.32 -6195128.16 -6195128.01 0.3620 0.0420

Neptune -21675-10-08 22:19 J -6195089.67 -6195089.57 -6195089.45 0.0089 0.0050

Neptune -21674-01-04 23:45 J -6195001.62 -6195001.51 -6195001.39 0.0089 0.0042

Neptune -21674-04-03 00:57 J -6194913.57 -6194913.46 -6194913.33 0.0089 0.0036

Neptune -21674-06-30 02:23 J -6194825.52 -6194825.40 -6194825.27 0.0089 0.0028

Neptune -21674-09-26 03:50 J -6194737.47 -6194737.34 -6194737.21 0.0089 0.0021

Mars -21674-12-22 20:09 J -6194649.74 -6194649.66 -6194649.57 0.1641 0.1099

Neptune -21674-12-23 05:16 J -6194649.41 -6194649.28 -6194649.15 0.0089 0.0014

Neptune -21673-03-20 06:28 J -6194561.36 -6194561.23 -6194561.09 0.0089 0.0008

Neptune -21673-06-16 07:55 J -6194473.30 -6194473.17 -6194473.04 0.0089 0.0001

Neptune -21673-09-12 09:07 J -6194385.25 -6194385.12 -6194384.98 0.0089 0.0008

Neptune -21673-12-09 10:33 J -6194297.19 -6194297.06 -6194296.93 0.0089 0.0014

Neptune -21672-03-07 12:00 J -6194209.13 -6194209.00 -6194208.87 0.0089 0.0021

Neptune -21672-06-03 13:11 J -6194121.07 -6194120.95 -6194120.82 0.0089 0.0028

Neptune -21672-08-30 14:23 J -6194033.01 -6194032.90 -6194032.77 0.0089 0.0036

Neptune -21672-11-26 15:50 J -6193944.95 -6193944.84 -6193944.71 0.0089 0.0042

Mars -21672-11-26 23:16 J -6193944.63 -6193944.53 -6193944.43 0.1651 0.0791

Neptune -21671-02-22 17:16 J -6193856.89 -6193856.78 -6193856.66 0.0089 0.0049

Neptune -21671-05-21 18:28 J -6193768.82 -6193768.73 -6193768.61 0.0089 0.0057

Jupiter -21671-07-08 11:02 J -6193721.15 -6193721.04 -6193720.92 0.0497 0.0383

Neptune -21671-08-17 19:55 J -6193680.75 -6193680.67 -6193680.57 0.0089 0.0064

Jupiter -21671-10-06 19:55 J -6193630.80 -6193630.67 -6193630.53 0.0499 0.0337

Neptune -21671-11-13 21:21 J -6193592.68 -6193592.61 -6193592.52 0.0089 0.0070

Moon -21670-01-08 00:14 J -6193537.53 -6193537.49 -6193537.44 0.2630 0.2493

Earth -21670-01-08 01:26 J -6193537.50 -6193537.44 -6193537.37 0.2634 0.2346 *

Neptune -21670-02-09 22:48 J -6193504.61 -6193504.55 -6193504.48 0.0089 0.0077

Neptune -21670-05-09 00:14 J -6193416.53 -6193416.49 -6193416.45 0.0089 0.0085

Saturn -21669-12-06 17:16 J -6192838.82 -6192838.78 -6192838.72 0.0286 0.0275

Saturn -21668-03-05 17:31 J -6192749.95 -6192749.77 -6192749.59 0.0287 0.0079

Saturn -21668-06-02 17:16 J -6192660.95 -6192660.78 -6192660.61 0.0288 0.0118

Moon -21668-07-12 12:14 J -6192621.09 -6192620.99 -6192620.89 0.2690 0.1260

Earth -21668-07-12 12:43 J -6192621.07 -6192620.97 -6192620.87 0.2695 0.1391 *

Uranus -21667-09-21 12:43 J -6192185.01 -6192184.97 -6192184.92 0.0141 0.0132

Uranus -21667-12-18 16:04 J -6192096.90 -6192096.83 -6192096.74 0.0141 0.0111

Uranus -21666-03-16 19:55 J -6192008.77 -6192008.67 -6192008.57 0.0141 0.0089

Uranus -21666-06-12 23:16 J -6191920.64 -6191920.53 -6191920.41 0.0141 0.0069

Uranus -21666-09-09 02:52 J -6191832.50 -6191832.38 -6191832.25 0.0141 0.0047

Uranus -21666-12-06 06:28 J -6191744.36 -6191744.23 -6191744.09 0.0141 0.0026

Jupiter -21665-02-29 12:28 J -6191659.00 -6191658.98 -6191658.96 0.0530 0.0518

Uranus -21665-03-03 10:19 J -6191656.21 -6191656.07 -6191655.94 0.0142 0.0005

Jupiter -21665-05-28 18:43 J -6191569.85 -6191569.72 -6191569.60 0.0528 0.0059

Uranus -21665-05-30 13:55 J -6191568.06 -6191567.92 -6191567.79 0.0142 0.0019

Uranus -21665-08-26 17:31 J -6191479.90 -6191479.77 -6191479.64 0.0142 0.0041

Uranus -21665-11-22 21:07 J -6191391.73 -6191391.62 -6191391.49 0.0142 0.0063

Uranus -21664-02-19 00:57 J -6191303.57 -6191303.46 -6191303.35 0.0142 0.0085

Mars -21664-05-14 07:40 J -6191219.22 -6191219.18 -6191219.15 0.1639 0.1539

Uranus -21664-05-18 04:33 J -6191215.39 -6191215.31 -6191215.22 0.0142 0.0108

Uranus -21664-08-14 08:23 J -6191127.20 -6191127.15 -6191127.09 0.0142 0.0131

Mars -21662-04-19 10:19 J -6190514.18 -6190514.07 -6190513.95 0.1649 0.0327

Earth -21661-07-05 09:21 J -6190071.19 -6190071.11 -6190071.02 0.2699 0.1762

Moon -21661-07-05 10:04 J -6190071.16 -6190071.08 -6190070.99 0.2699 0.1669 *

Jupiter -21659-07-25 17:31 J -6189320.94 -6189320.77 -6189320.60 0.0498 0.0160

Moon -21657-01-11 04:04 J -6188786.48 -6188786.33 -6188786.18 0.2637 0.0552

Earth -21657-01-11 05:31 J -6188786.42 -6188786.27 -6188786.12 0.2636 0.0496 *

Saturn -21655-04-13 18:57 J -6187962.76 -6187962.71 -6187962.64 0.0276 0.0241

Saturn -21655-07-11 05:45 J -6187874.37 -6187874.26 -6187874.14 0.0275 0.0120

Moon -21655-07-15 06:57 J -6187870.24 -6187870.21 -6187870.17 0.2692 0.2524

Earth -21655-07-15 07:55 J -6187870.21 -6187870.17 -6187870.14 0.2693 0.2552 *

Saturn -21655-10-07 16:33 J -6187785.94 -6187785.81 -6187785.68 0.0274 0.0004

Saturn -21654-01-04 03:21 J -6187697.48 -6187697.36 -6187697.24 0.0273 0.0121

Saturn -21654-04-02 14:09 J -6187608.97 -6187608.91 -6187608.85 0.0272 0.0240

Jupiter -21653-03-16 22:48 J -6187259.68 -6187259.55 -6187259.43 0.0529 0.0089

Jupiter -21653-06-14 05:16 J -6187170.33 -6187170.28 -6187170.24 0.0527 0.0492

Mars -21653-09-08 21:36 J -6187083.72 -6187083.60 -6187083.48 0.1646 0.0138

Mars -21650-06-23 12:57 J -6186066.11 -6186065.96 -6186065.81 0.1870 0.0843

Earth -21648-07-08 04:04 J -6185320.44 -6185320.33 -6185320.22 0.2698 0.0659

Moon -21648-07-08 04:33 J -6185320.43 -6185320.31 -6185320.20 0.2692 0.0609 *

Jupiter -21647-05-13 14:38 J -6185011.08 -6185010.89 -6185010.71 0.0497 0.0026

Moon -21644-01-13 07:55 J -6184035.30 -6184035.17 -6184035.03 0.2642 0.1108

Earth -21644-01-13 09:07 J -6184035.25 -6184035.12 -6184034.99 0.2638 0.1308 *

Venus -21644-02-12 06:00 J -6184005.34 -6184005.25 -6184005.16 0.3753 0.1695

Mars -21643-01-30 08:52 J -6183653.24 -6183653.13 -6183653.03 0.1643 0.0596

Jupiter -21641-01-04 03:07 J -6182949.49 -6182949.37 -6182949.26 0.0530 0.0226

Mars -21641-01-05 12:14 J -6182948.06 -6182947.99 -6182947.92 0.1654 0.1326

Jupiter -21641-04-02 09:21 J -6182860.20 -6182860.11 -6182860.01 0.0528 0.0353

Mars -21641-11-12 06:43 J -6182636.38 -6182636.22 -6182636.06 0.1874 0.0511

Saturn -21639-07-23 15:07 J -6182018.03 -6182017.87 -6182017.70 0.0286 0.0140

Venus -21639-08-28 21:50 J -6181981.69 -6181981.59 -6181981.49 0.3754 0.0477

Saturn -21639-10-20 15:07 J -6181929.05 -6181928.87 -6181928.69 0.0287 0.0056

Saturn -21638-01-17 14:38 J -6181839.97 -6181839.89 -6181839.80 0.0288 0.0252

Jupiter -21635-03-01 12:00 J -6180701.17 -6180701.00 -6180700.83 0.0497 0.0200

Moon -21635-07-10 22:48 J -6180569.66 -6180569.55 -6180569.44 0.2690 0.0424

Earth -21635-07-10 22:48 J -6180569.66 -6180569.55 -6180569.44 0.2696 0.0472 *

Mars -21634-06-22 20:09 J -6180222.75 -6180222.66 -6180222.57 0.1641 0.1040

Venus -21633-03-13 13:26 J -6179958.01 -6179957.94 -6179957.87 0.3755 0.2656

Mars -21632-05-27 23:16 J -6179517.63 -6179517.53 -6179517.43 0.1651 0.0850

Mars -21631-04-04 00:57 J -6179206.48 -6179206.46 -6179206.44 0.1877 0.1861

Jupiter -21630-10-23 07:26 J -6178639.28 -6178639.19 -6178639.10 0.0529 0.0367

Jupiter -21629-01-20 13:26 J -6178550.05 -6178549.94 -6178549.82 0.0528 0.0209

Earth -21628-07-03 19:40 J -6178019.70 -6178019.68 -6178019.66 0.2700 0.2644

Moon -21628-07-03 20:23 J -6178019.69 -6178019.65 -6178019.61 0.2703 0.2509 *

Uranus -21627-08-08 05:31 J -6177619.36 -6177619.27 -6177619.17 0.0137 0.0117

Uranus -21627-11-04 12:43 J -6177531.11 -6177530.97 -6177530.82 0.0137 0.0089

Uranus -21626-01-31 20:09 J -6177442.83 -6177442.66 -6177442.49 0.0137 0.0061

Uranus -21626-04-30 03:07 J -6177354.55 -6177354.37 -6177354.18 0.0137 0.0033

Uranus -21626-07-27 10:19 J -6177266.26 -6177266.07 -6177265.88 0.0137 0.0005

Uranus -21626-10-23 17:16 J -6177177.96 -6177177.78 -6177177.59 0.0137 0.0022

Saturn -21626-11-28 08:09 J -6177142.27 -6177142.16 -6177142.06 0.0276 0.0158

Uranus -21625-01-20 00:00 J -6177089.66 -6177089.50 -6177089.31 0.0137 0.0050

Saturn -21625-02-24 18:43 J -6177053.85 -6177053.72 -6177053.58 0.0275 0.0038

Uranus -21625-04-17 06:57 J -6177001.35 -6177001.21 -6177001.05 0.0137 0.0077

Saturn -21625-05-23 05:31 J -6176965.39 -6176965.27 -6176965.14 0.0274 0.0084

Uranus -21625-07-14 13:55 J -6176913.03 -6176912.92 -6176912.79 0.0136 0.0103

Saturn -21625-08-19 16:19 J -6176876.90 -6176876.82 -6176876.73 0.0273 0.0204

Uranus -21625-10-10 20:38 J -6176824.69 -6176824.64 -6176824.57 0.0136 0.0129

Mars -21625-11-12 07:40 J -6176792.23 -6176792.18 -6176792.14 0.1639 0.1481

Moon -21624-01-08 06:28 J -6176735.32 -6176735.23 -6176735.14 0.2630 0.2093

Earth -21624-01-08 07:40 J -6176735.27 -6176735.18 -6176735.08 0.2634 0.2003 *

Jupiter -21624-12-18 08:23 J -6176391.26 -6176391.15 -6176391.03 0.0497 0.0388

Jupiter -21623-03-18 17:31 J -6176300.90 -6176300.77 -6176300.63 0.0499 0.0332

Mars -21623-10-18 10:19 J -6176087.18 -6176087.07 -6176086.95 0.1649 0.0385

Moon -21622-07-13 17:02 J -6175818.88 -6175818.79 -6175818.69 0.2690 0.1612

Earth -21622-07-13 17:45 J -6175818.85 -6175818.76 -6175818.67 0.2694 0.1617 *

Venus -21618-04-07 10:04 J -6174455.19 -6174455.08 -6174454.97 0.3619 0.2537

Jupiter -21618-08-11 11:31 J -6174329.05 -6174329.02 -6174328.99 0.0530 0.0510

Jupiter -21618-11-08 17:31 J -6174239.90 -6174239.77 -6174239.64 0.0528 0.0063

Earth -21615-07-06 14:23 J -6173269.00 -6173268.90 -6173268.81 0.2699 0.1555

Moon -21615-07-06 15:07 J -6173268.97 -6173268.87 -6173268.78 0.2698 0.1512 *

Mars -21613-03-09 21:36 J -6172656.72 -6172656.60 -6172656.49 0.1646 0.0083

Jupiter -21611-01-04 15:07 J -6171991.05 -6171990.87 -6171990.70 0.0498 0.0155

Moon -21611-01-11 10:19 J -6171984.22 -6171984.07 -6171983.92 0.2638 0.0344

Earth -21611-01-11 11:45 J -6171984.16 -6171984.01 -6171983.86 0.2636 0.0149 *

Mars -21611-12-22 13:40 J -6171639.07 -6171638.93 -6171638.79 0.1870 0.0964

Saturn -21610-12-10 15:36 J -6171285.99 -6171285.85 -6171285.70 0.0286 0.0178

Saturn -21609-03-08 15:36 J -6171197.04 -6171196.85 -6171196.67 0.0287 0.0018

Saturn -21609-06-05 15:07 J -6171107.99 -6171107.87 -6171107.74 0.0288 0.0214

Moon -21609-07-15 12:00 J -6171068.02 -6171068.00 -6171067.98 0.2694 0.2636

Jupiter -21606-08-27 21:07 J -6169929.75 -6169929.62 -6169929.49 0.0529 0.0091

Jupiter -21606-11-25 03:36 J -6169840.40 -6169840.35 -6169840.31 0.0527 0.0487

Mars -21604-07-31 08:52 J -6169226.24 -6169226.13 -6169226.02 0.1643 0.0534

Mars -21602-07-06 12:14 J -6168521.05 -6168520.99 -6168520.93 0.1654 0.1388

Earth -21602-07-09 08:52 J -6168518.24 -6168518.13 -6168518.01 0.2697 0.0448

Moon -21602-07-09 09:21 J -6168518.22 -6168518.11 -6168518.00 0.2691 0.0390 *

Mars -21601-05-13 07:55 J -6168209.34 -6168209.17 -6168209.01 0.1874 0.0370

Jupiter -21600-10-23 12:28 J -6167681.16 -6167680.98 -6167680.80 0.0498 0.0023

Moon -21598-01-14 14:09 J -6167233.02 -6167232.91 -6167232.79 0.2642 0.1643

Earth -21598-01-14 15:21 J -6167232.98 -6167232.86 -6167232.75 0.2638 0.1640 *

Saturn -21596-04-16 11:31 J -6166410.12 -6166410.02 -6166409.92 0.0276 0.0183

Saturn -21596-07-13 22:04 J -6166321.70 -6166321.58 -6166321.45 0.0275 0.0063

Saturn -21596-10-10 08:52 J -6166233.26 -6166233.13 -6166233.00 0.0274 0.0059

Saturn -21595-01-06 19:40 J -6166144.78 -6166144.68 -6166144.58 0.0273 0.0179

Mars -21595-12-21 20:09 J -6165795.75 -6165795.66 -6165795.57 0.1641 0.0981

Jupiter -21594-06-16 01:11 J -6165619.57 -6165619.45 -6165619.34 0.0529 0.0236

Jupiter -21594-09-13 07:26 J -6165530.29 -6165530.19 -6165530.09 0.0528 0.0342

Venus -21593-03-05 11:45 J -6165356.06 -6165356.01 -6165355.95 0.3751 0.3045

Mars -21593-11-25 23:16 J -6165090.63 -6165090.53 -6165090.43 0.1651 0.0913

Neptune -21592-01-11 10:48 J -6165044.09 -6165044.05 -6165043.97 0.0088 0.0083

Neptune -21592-04-09 14:23 J -6164955.99 -6164955.90 -6164955.77 0.0088 0.0073

Neptune -21592-07-06 18:00 J -6164867.87 -6164867.75 -6164867.60 0.0088 0.0063

Neptune -21592-10-02 21:50 J -6164779.74 -6164779.59 -6164779.43 0.0088 0.0053

Mars -21592-10-03 01:11 J -6164779.50 -6164779.45 -6164779.39 0.1877 0.1760 *

Neptune -21592-12-30 01:26 J -6164691.61 -6164691.44 -6164691.27 0.0088 0.0043

Neptune -21591-03-28 05:02 J -6164603.47 -6164603.29 -6164603.11 0.0088 0.0033

Neptune -21591-06-24 08:23 J -6164515.33 -6164515.15 -6164514.95 0.0088 0.0024

Neptune -21591-09-20 12:00 J -6164427.19 -6164427.00 -6164426.80 0.0088 0.0014

Neptune -21591-12-17 15:36 J -6164339.04 -6164338.85 -6164338.65 0.0088 0.0004

Neptune -21590-03-15 19:11 J -6164250.89 -6164250.70 -6164250.51 0.0088 0.0006

Neptune -21590-06-11 22:33 J -6164162.75 -6164162.56 -6164162.36 0.0088 0.0016

Neptune -21590-09-08 02:09 J -6164074.59 -6164074.41 -6164074.22 0.0088 0.0025

Neptune -21590-12-05 05:31 J -6163986.44 -6163986.27 -6163986.09 0.0088 0.0035

Neptune -21589-03-02 08:52 J -6163898.28 -6163898.13 -6163897.95 0.0088 0.0045

Neptune -21589-05-29 12:14 J -6163810.12 -6163809.99 -6163809.82 0.0088 0.0055

Moon -21589-07-11 03:36 J -6163767.46 -6163767.35 -6163767.24 0.2690 0.0684

Earth -21589-07-11 03:50 J -6163767.45 -6163767.34 -6163767.23 0.2696 0.0693 *

Neptune -21589-08-25 15:50 J -6163721.96 -6163721.84 -6163721.70 0.0088 0.0064

Neptune -21589-11-21 19:11 J -6163633.79 -6163633.70 -6163633.58 0.0088 0.0074

Neptune -21588-02-17 23:02 J -6163545.60 -6163545.54 -6163545.48 0.0088 0.0083

Jupiter -21588-08-11 09:21 J -6163371.28 -6163371.11 -6163370.94 0.0497 0.0207

Venus -21588-09-19 03:36 J -6163332.45 -6163332.35 -6163332.26 0.3753 0.0908

Mars -21585-05-13 07:26 J -6162365.24 -6162365.19 -6162365.13 0.1639 0.1423

Mars -21583-04-18 10:19 J -6161660.18 -6161660.07 -6161659.96 0.1648 0.0444

Uranus -21583-10-11 19:55 J -6161483.72 -6161483.67 -6161483.61 0.0141 0.0127

Uranus -21582-01-07 23:16 J -6161395.61 -6161395.53 -6161395.43 0.0141 0.0106

Jupiter -21582-04-04 05:31 J -6161309.36 -6161309.27 -6161309.18 0.0530 0.0375

Venus -21582-04-04 19:11 J -6161308.79 -6161308.70 -6161308.60 0.3754 0.1257

Uranus -21582-04-06 02:52 J -6161307.48 -6161307.38 -6161307.27 0.0141 0.0085

Jupiter -21582-07-02 11:45 J -6161220.13 -6161220.01 -6161219.89 0.0528 0.0202

Uranus -21582-07-03 06:28 J -6161219.35 -6161219.23 -6161219.11 0.0141 0.0064

Earth -21582-07-05 00:43 J -6161217.52 -6161217.47 -6161217.43 0.2700 0.2431

Moon -21582-07-05 01:26 J -6161217.49 -6161217.44 -6161217.39 0.2703 0.2429 *

Uranus -21582-09-29 10:04 J -6161131.21 -6161131.08 -6161130.95 0.0141 0.0042

Uranus -21582-12-26 13:40 J -6161043.06 -6161042.93 -6161042.79 0.0141 0.0021

Uranus -21581-03-23 17:16 J -6160954.91 -6160954.78 -6160954.64 0.0142 0.0004

Uranus -21581-06-19 20:52 J -6160866.76 -6160866.63 -6160866.49 0.0142 0.0024

Uranus -21581-09-16 00:43 J -6160778.60 -6160778.47 -6160778.34 0.0142 0.0045

Uranus -21581-12-13 04:19 J -6160690.44 -6160690.32 -6160690.20 0.0142 0.0068

Uranus -21580-03-11 07:55 J -6160602.27 -6160602.17 -6160602.06 0.0142 0.0090

Saturn -21580-04-28 14:09 J -6160554.01 -6160553.91 -6160553.79 0.0286 0.0232

Uranus -21580-06-07 11:45 J -6160514.09 -6160514.01 -6160513.93 0.0142 0.0113

Saturn -21580-07-26 14:23 J -6160465.09 -6160464.90 -6160464.72 0.0287 0.0036

Uranus -21580-09-03 15:21 J -6160425.89 -6160425.86 -6160425.81 0.0142 0.0136

Saturn -21580-10-23 13:55 J -6160376.07 -6160375.92 -6160375.76 0.0288 0.0161

Moon -21578-01-09 12:43 J -6159933.08 -6159932.97 -6159932.86 0.2632 0.1758

Earth -21578-01-09 13:55 J -6159933.03 -6159932.92 -6159932.80 0.2635 0.1655 *

Venus -21577-10-18 11:02 J -6159285.08 -6159285.04 -6159285.00 0.3756 0.3462

Jupiter -21576-05-30 06:28 J -6159061.34 -6159061.23 -6159061.11 0.0497 0.0387

Moon -21576-07-13 22:04 J -6159016.67 -6159016.58 -6159016.49 0.2690 0.1713

Earth -21576-07-13 22:48 J -6159016.63 -6159016.55 -6159016.47 0.2694 0.1844 *

Jupiter -21576-08-28 15:21 J -6158970.99 -6158970.86 -6158970.72 0.0498 0.0332

Mars -21574-09-08 21:21 J -6158229.72 -6158229.61 -6158229.49 0.1646 0.0066

Mars -21571-06-22 14:38 J -6157212.03 -6157211.89 -6157211.76 0.1870 0.1094

Jupiter -21570-01-21 09:50 J -6156999.12 -6156999.09 -6156999.06 0.0530 0.0513

Jupiter -21570-04-20 15:50 J -6156909.96 -6156909.84 -6156909.71 0.0528 0.0062

Earth -21569-07-06 19:11 J -6156466.80 -6156466.70 -6156466.60 0.2699 0.1340

Moon -21569-07-06 19:55 J -6156466.77 -6156466.67 -6156466.57 0.2695 0.1213 *

Venus -21567-04-28 03:21 J -6155806.50 -6155806.36 -6155806.22 0.3621 0.1667

Saturn -21567-09-03 13:55 J -6155678.00 -6155677.92 -6155677.84 0.0277 0.0219

Saturn -21567-12-01 00:43 J -6155589.60 -6155589.47 -6155589.35 0.0276 0.0098

Saturn -21566-02-27 11:31 J -6155501.16 -6155501.02 -6155500.89 0.0275 0.0025

Saturn -21566-05-26 22:04 J -6155412.69 -6155412.58 -6155412.46 0.0274 0.0144

Saturn -21566-08-23 08:52 J -6155324.15 -6155324.13 -6155324.09 0.0273 0.0264

Moon -21565-01-12 16:19 J -6155181.96 -6155181.82 -6155181.67 0.2638 0.0111

Earth -21565-01-12 18:00 J -6155181.90 -6155181.75 -6155181.61 0.2636 0.0198 *

Mars -21564-01-29 08:52 J -6154799.25 -6154799.13 -6154799.02 0.1643 0.0476

Jupiter -21564-06-16 12:14 J -6154661.17 -6154660.99 -6154660.82 0.0498 0.0145

Mars -21562-01-04 12:14 J -6154094.05 -6154093.99 -6154093.94 0.1654 0.1449

Mars -21562-11-12 08:38 J -6153782.31 -6153782.14 -6153781.98 0.1874 0.0248

Jupiter -21558-02-06 19:55 J -6152599.80 -6152599.67 -6152599.54 0.0528 0.0085

Jupiter -21558-05-07 02:23 J -6152510.45 -6152510.40 -6152510.36 0.0526 0.0492

Earth -21556-07-09 13:55 J -6151716.03 -6151715.92 -6151715.81 0.2697 0.0224

Moon -21556-07-09 14:23 J -6151716.02 -6151715.90 -6151715.79 0.2691 0.0228 *

Mars -21555-06-21 20:09 J -6151368.76 -6151368.66 -6151368.57 0.1641 0.0921

Mars -21553-05-26 23:16 J -6150663.63 -6150663.53 -6150663.44 0.1651 0.0976

Moon -21552-01-14 20:38 J -6150430.74 -6150430.64 -6150430.53 0.2644 0.1840

Earth -21552-01-14 21:21 J -6150430.70 -6150430.61 -6150430.51 0.2638 0.1975 *

Mars -21552-04-03 02:23 J -6150352.49 -6150352.40 -6150352.32 0.1877 0.1619

Jupiter -21552-04-04 09:36 J -6150351.29 -6150351.10 -6150350.92 0.0498 0.0035

Saturn -21551-09-15 14:38 J -6149821.94 -6149821.89 -6149821.81 0.0285 0.0269

Saturn -21551-12-13 14:52 J -6149733.06 -6149732.88 -6149732.70 0.0286 0.0072

Saturn -21550-03-12 14:38 J -6149644.05 -6149643.89 -6149643.72 0.0287 0.0125

Jupiter -21547-11-25 23:16 J -6148289.64 -6148289.53 -6148289.41 0.0529 0.0241

Jupiter -21546-02-23 05:45 J -6148200.36 -6148200.26 -6148200.17 0.0527 0.0336

Mars -21546-11-12 07:26 J -6147938.25 -6147938.19 -6147938.13 0.1639 0.1363

Mars -21544-10-17 10:19 J -6147233.18 -6147233.07 -6147232.96 0.1648 0.0504

Moon -21543-07-12 08:23 J -6146965.26 -6146965.15 -6146965.04 0.2689 0.0871

Earth -21543-07-12 08:52 J -6146965.24 -6146965.13 -6146965.03 0.2696 0.0918 *

Uranus -21543-08-28 11:31 J -6146918.11 -6146918.02 -6146917.90 0.0137 0.0114

Uranus -21543-11-24 19:11 J -6146829.85 -6146829.70 -6146829.55 0.0137 0.0085

Uranus -21542-02-21 02:09 J -6146741.57 -6146741.41 -6146741.23 0.0137 0.0057

Uranus -21542-05-20 09:21 J -6146653.29 -6146653.11 -6146652.92 0.0137 0.0029

Uranus -21542-08-16 16:33 J -6146565.00 -6146564.81 -6146564.62 0.0137 0.0001

Uranus -21542-11-12 23:31 J -6146476.70 -6146476.52 -6146476.33 0.0137 0.0026

Uranus -21541-02-09 06:28 J -6146388.40 -6146388.23 -6146388.05 0.0137 0.0054

Uranus -21541-05-07 13:11 J -6146300.09 -6146299.95 -6146299.79 0.0137 0.0081

Uranus -21541-08-03 20:23 J -6146211.76 -6146211.65 -6146211.54 0.0136 0.0107

Uranus -21541-10-31 02:52 J -6146123.40 -6146123.38 -6146123.33 0.0136 0.0134

Jupiter -21540-01-21 06:57 J -6146041.38 -6146041.21 -6146041.04 0.0497 0.0212

Saturn -21537-01-21 17:31 J -6144945.83 -6144945.77 -6144945.71 0.0277 0.0242

Saturn -21537-04-19 04:04 J -6144857.44 -6144857.33 -6144857.20 0.0276 0.0122

Saturn -21537-07-16 14:52 J -6144769.01 -6144768.88 -6144768.74 0.0275 0.0010

Venus -21537-10-10 09:21 J -6144683.19 -6144683.11 -6144683.03 0.3752 0.2263

Saturn -21537-10-13 01:40 J -6144680.55 -6144680.43 -6144680.31 0.0274 0.0121

Saturn -21536-01-09 12:28 J -6144592.04 -6144591.98 -6144591.92 0.0273 0.0241

Earth -21536-07-05 05:31 J -6144415.33 -6144415.27 -6144415.21 0.2700 0.2227

Moon -21536-07-05 06:14 J -6144415.31 -6144415.24 -6144415.17 0.2702 0.2088 *

Pluto -21535-01-06 13:11 J -6144229.98 -6144229.95 -6144229.88 0.0071 0.0068

Pluto -21535-04-04 14:52 J -6144141.96 -6144141.88 -6144141.79 0.0071 0.0060

Pluto -21535-07-01 16:04 J -6144053.93 -6144053.83 -6144053.71 0.0071 0.0052

Jupiter -21535-09-14 03:21 J -6143979.44 -6143979.36 -6143979.27 0.0530 0.0386

Pluto -21535-09-27 17:31 J -6143965.89 -6143965.77 -6143965.64 0.0071 0.0045

Jupiter -21535-12-12 09:36 J -6143890.22 -6143890.10 -6143889.98 0.0528 0.0190

Pluto -21535-12-24 18:57 J -6143877.84 -6143877.71 -6143877.57 0.0072 0.0037

Mars -21534-03-09 21:21 J -6143802.72 -6143802.61 -6143802.49 0.1646 0.0075

Pluto -21534-03-22 20:23 J -6143789.79 -6143789.65 -6143789.50 0.0072 0.0029

Pluto -21534-06-18 21:36 J -6143701.74 -6143701.60 -6143701.44 0.0072 0.0022

Pluto -21534-09-14 23:02 J -6143613.69 -6143613.54 -6143613.37 0.0072 0.0014

Pluto -21534-12-12 00:28 J -6143525.63 -6143525.48 -6143525.31 0.0072 0.0007

Pluto -21533-03-09 02:09 J -6143437.57 -6143437.41 -6143437.25 0.0072 0.0003

Pluto -21533-06-05 03:36 J -6143349.51 -6143349.35 -6143349.19 0.0072 0.0011

Pluto -21533-09-01 05:02 J -6143261.45 -6143261.29 -6143261.14 0.0072 0.0019

Pluto -21533-11-28 06:14 J -6143173.38 -6143173.24 -6143173.08 0.0073 0.0027

Moon -21532-01-09 18:43 J -6143130.84 -6143130.72 -6143130.59 0.2634 0.1492

Earth -21532-01-09 20:09 J -6143130.79 -6143130.66 -6143130.53 0.2635 0.1304 *

Pluto -21532-02-24 07:40 J -6143085.31 -6143085.18 -6143085.03 0.0073 0.0036

Pluto -21532-05-23 09:07 J -6142997.23 -6142997.12 -6142996.98 0.0073 0.0044

Pluto -21532-08-19 10:48 J -6142909.16 -6142909.05 -6142908.93 0.0073 0.0052

Pluto -21532-11-15 12:00 J -6142821.07 -6142821.00 -6142820.89 0.0073 0.0061

Mars -21532-12-21 15:07 J -6142784.99 -6142784.87 -6142784.74 0.1870 0.1205

Pluto -21531-02-11 13:55 J -6142732.96 -6142732.92 -6142732.87 0.0073 0.0070

Venus -21531-04-26 00:57 J -6142659.56 -6142659.46 -6142659.36 0.3753 0.0132

Moon -21530-07-15 03:07 J -6142214.45 -6142214.37 -6142214.30 0.2691 0.2034

Earth -21530-07-15 03:50 J -6142214.41 -6142214.34 -6142214.27 0.2694 0.2072 *

Jupiter -21529-11-09 03:36 J -6141731.46 -6141731.35 -6141731.24 0.0497 0.0397

Jupiter -21528-02-07 12:28 J -6141641.11 -6141640.98 -6141640.84 0.0498 0.0322

Venus -21526-11-09 16:33 J -6140635.89 -6140635.81 -6140635.72 0.3754 0.2062

Mars -21525-07-30 08:38 J -6140372.25 -6140372.14 -6140372.02 0.1643 0.0417

Jupiter -21523-07-03 07:40 J -6139669.19 -6139669.18 -6139669.17 0.0530 0.0527

Mars -21523-07-05 12:14 J -6139667.04 -6139666.99 -6139666.95 0.1654 0.1511

Earth -21523-07-08 00:14 J -6139664.60 -6139664.49 -6139664.39 0.2699 0.1123

Moon -21523-07-08 00:43 J -6139664.57 -6139664.47 -6139664.36 0.2694 0.1122 *

Jupiter -21523-09-30 13:40 J -6139580.05 -6139579.93 -6139579.80 0.0529 0.0050

Mars -21522-05-13 09:21 J -6139355.28 -6139355.11 -6139354.95 0.1874 0.0138

Saturn -21521-05-01 14:23 J -6139001.07 -6139000.90 -6139000.73 0.0286 0.0120

Saturn -21521-07-29 14:09 J -6138912.09 -6138911.91 -6138911.73 0.0287 0.0076

Saturn -21521-10-26 13:40 J -6138822.98 -6138822.93 -6138822.87 0.0288 0.0271

Moon -21519-01-12 22:48 J -6138379.70 -6138379.55 -6138379.41 0.2638 0.0377

Earth -21519-01-13 00:14 J -6138379.64 -6138379.49 -6138379.35 0.2637 0.0536 *

Jupiter -21517-11-26 09:50 J -6137331.26 -6137331.09 -6137330.91 0.0498 0.0143

Mars -21516-12-20 20:09 J -6136941.76 -6136941.66 -6136941.57 0.1641 0.0864

Mars -21514-11-25 23:02 J -6136236.63 -6136236.54 -6136236.45 0.1651 0.1033

Mars -21513-10-02 03:07 J -6135925.47 -6135925.37 -6135925.27 0.1877 0.1488

Neptune -21511-01-23 13:55 J -6135446.92 -6135446.92 -6135446.88 0.0089 0.0088

Neptune -21511-04-21 15:21 J -6135358.90 -6135358.86 -6135358.80 0.0089 0.0081

Neptune -21511-07-18 16:33 J -6135270.87 -6135270.81 -6135270.72 0.0089 0.0075

Jupiter -21511-07-19 18:00 J -6135269.87 -6135269.75 -6135269.62 0.0529 0.0093

Neptune -21511-10-14 18:00 J -6135182.82 -6135182.75 -6135182.65 0.0089 0.0067

Jupiter -21511-10-17 00:28 J -6135180.53 -6135180.48 -6135180.43 0.0527 0.0486

Venus -21511-12-03 05:16 J -6135133.43 -6135133.28 -6135133.12 0.3621 0.0491

Neptune -21510-01-10 19:26 J -6135094.78 -6135094.69 -6135094.59 0.0089 0.0060

Neptune -21510-04-08 20:38 J -6135006.73 -6135006.64 -6135006.52 0.0089 0.0054

Neptune -21510-07-05 22:04 J -6134918.68 -6134918.58 -6134918.46 0.0089 0.0047

Earth -21510-07-10 18:57 J -6134913.83 -6134913.71 -6134913.60 0.2697 0.0046

Moon -21510-07-10 19:11 J -6134913.82 -6134913.70 -6134913.59 0.2691 0.0101 *

Neptune -21510-10-01 23:31 J -6134830.63 -6134830.52 -6134830.40 0.0089 0.0039

Neptune -21510-12-29 00:57 J -6134742.58 -6134742.46 -6134742.34 0.0089 0.0032

Neptune -21509-03-26 02:09 J -6134654.53 -6134654.41 -6134654.28 0.0089 0.0026

Neptune -21509-06-22 03:36 J -6134566.48 -6134566.35 -6134566.22 0.0089 0.0018

Neptune -21509-09-18 05:02 J -6134478.42 -6134478.29 -6134478.16 0.0089 0.0011

Neptune -21509-12-15 06:14 J -6134390.37 -6134390.24 -6134390.10 0.0089 0.0005

Neptune -21508-03-13 07:40 J -6134302.31 -6134302.18 -6134302.05 0.0089 0.0003

Neptune -21508-06-09 09:07 J -6134214.25 -6134214.12 -6134213.99 0.0089 0.0010

Saturn -21508-06-09 20:09 J -6134213.66 -6134213.66 -6134213.66 0.0277 0.0276

Neptune -21508-09-05 10:19 J -6134126.20 -6134126.07 -6134125.94 0.0089 0.0017

Saturn -21508-09-06 06:57 J -6134125.32 -6134125.21 -6134125.11 0.0276 0.0155

Neptune -21508-12-02 11:45 J -6134038.14 -6134038.01 -6134037.88 0.0089 0.0024

Saturn -21508-12-03 17:31 J -6134036.90 -6134036.77 -6134036.64 0.0275 0.0034

Neptune -21507-02-28 12:57 J -6133950.08 -6133949.96 -6133949.83 0.0089 0.0031

Saturn -21507-03-02 04:19 J -6133948.44 -6133948.32 -6133948.19 0.0274 0.0087

Neptune -21507-05-27 14:23 J -6133862.02 -6133861.90 -6133861.78 0.0089 0.0038

Saturn -21507-05-29 15:07 J -6133859.95 -6133859.87 -6133859.78 0.0273 0.0208

Neptune -21507-08-23 15:36 J -6133773.95 -6133773.85 -6133773.73 0.0089 0.0046

Neptune -21507-11-19 17:02 J -6133685.89 -6133685.79 -6133685.68 0.0089 0.0053

Moon -21506-01-16 02:52 J -6133628.44 -6133628.38 -6133628.31 0.2645 0.2326

Earth -21506-01-16 03:36 J -6133628.42 -6133628.35 -6133628.28 0.2638 0.2305 *

Neptune -21506-02-15 18:28 J -6133597.82 -6133597.73 -6133597.63 0.0089 0.0060

Mars -21506-05-13 07:26 J -6133511.26 -6133511.19 -6133511.12 0.1639 0.1304

Neptune -21506-05-14 19:55 J -6133509.76 -6133509.67 -6133509.58 0.0089 0.0067

Neptune -21506-08-10 21:21 J -6133421.68 -6133421.61 -6133421.54 0.0089 0.0074

Neptune -21506-11-06 22:48 J -6133333.61 -6133333.55 -6133333.50 0.0089 0.0081

Neptune -21505-02-02 23:45 J -6133245.52 -6133245.51 -6133245.48 0.0089 0.0088

Jupiter -21505-09-14 06:28 J -6133021.42 -6133021.23 -6133021.05 0.0498 0.0048

Mars -21504-04-17 10:19 J -6132806.18 -6132806.07 -6132805.96 0.1649 0.0566

Jupiter -21499-05-07 22:04 J -6130959.69 -6130959.58 -6130959.46 0.0529 0.0236

Jupiter -21499-08-05 04:19 J -6130870.41 -6130870.32 -6130870.22 0.0527 0.0340

Uranus -21499-11-01 03:07 J -6130782.42 -6130782.37 -6130782.29 0.0141 0.0121

Uranus -21498-01-28 06:43 J -6130694.30 -6130694.22 -6130694.12 0.0141 0.0100

Uranus -21498-04-26 10:33 J -6130606.17 -6130606.06 -6130605.95 0.0141 0.0079

Uranus -21498-07-23 13:55 J -6130518.04 -6130517.92 -6130517.79 0.0141 0.0057

Uranus -21498-10-19 17:31 J -6130429.90 -6130429.77 -6130429.64 0.0141 0.0036

Uranus -21497-01-15 21:07 J -6130341.75 -6130341.62 -6130341.48 0.0141 0.0015

Uranus -21497-04-13 00:43 J -6130253.60 -6130253.47 -6130253.33 0.0142 0.0009

Uranus -21497-07-10 04:33 J -6130165.44 -6130165.31 -6130165.18 0.0142 0.0030

Moon -21497-07-12 13:26 J -6130163.05 -6130162.94 -6130162.84 0.2689 0.1082

Earth -21497-07-12 13:40 J -6130163.03 -6130162.93 -6130162.82 0.2695 0.1142 *

Uranus -21497-10-06 08:09 J -6130077.29 -6130077.16 -6130077.03 0.0142 0.0052

Uranus -21496-01-02 11:45 J -6129989.12 -6129989.01 -6129988.89 0.0142 0.0074

Uranus -21496-03-31 15:36 J -6129900.95 -6129900.85 -6129900.75 0.0142 0.0096

Uranus -21496-06-27 19:11 J -6129812.77 -6129812.70 -6129812.62 0.0142 0.0119

Uranus -21496-09-23 23:02 J -6129724.55 -6129724.54 -6129724.53 0.0142 0.0142

Mars -21495-09-07 21:21 J -6129375.72 -6129375.61 -6129375.49 0.1646 0.0115

Jupiter -21493-07-03 03:36 J -6128711.51 -6128711.35 -6128711.18 0.0497 0.0227

Jupiter -21493-10-01 12:28 J -6128621.01 -6128620.98 -6128620.95 0.0499 0.0491

Mars -21492-06-21 15:50 J -6128357.95 -6128357.84 -6128357.72 0.1870 0.1333

Saturn -21492-09-18 14:38 J -6128269.04 -6128268.89 -6128268.73 0.0286 0.0159

Saturn -21492-12-16 14:38 J -6128180.07 -6128179.89 -6128179.70 0.0287 0.0039

Saturn -21491-03-15 14:23 J -6128091.00 -6128090.90 -6128090.79 0.0288 0.0234

Earth -21490-07-06 10:33 J -6127613.14 -6127613.06 -6127612.99 0.2700 0.2013

Moon -21490-07-06 11:16 J -6127613.11 -6127613.03 -6127612.96 0.2700 0.1994 *

Jupiter -21487-02-24 01:26 J -6126649.52 -6126649.44 -6126649.35 0.0530 0.0393

Jupiter -21487-05-24 07:40 J -6126560.30 -6126560.18 -6126560.06 0.0528 0.0183

Moon -21486-01-11 00:57 J -6126328.60 -6126328.46 -6126328.32 0.2635 0.1025

Earth -21486-01-11 02:23 J -6126328.53 -6126328.40 -6126328.26 0.2635 0.0959 *

Venus -21486-11-01 15:07 J -6126033.90 -6126033.87 -6126033.85 0.3750 0.3603

Mars -21485-01-29 08:38 J -6125945.25 -6125945.14 -6125945.02 0.1643 0.0356

Moon -21484-07-15 07:55 J -6125412.23 -6125412.17 -6125412.10 0.2693 0.2199

Earth -21484-07-15 08:38 J -6125412.19 -6125412.14 -6125412.08 0.2694 0.2299 *

Mars -21483-01-03 12:14 J -6125240.03 -6125239.99 -6125239.96 0.1654 0.1572

Mars -21483-11-11 10:04 J -6124928.25 -6124928.08 -6124927.91 0.1874 0.0021

Jupiter -21481-04-21 00:57 J -6124401.56 -6124401.46 -6124401.35 0.0497 0.0404

Jupiter -21481-07-20 10:04 J -6124311.22 -6124311.08 -6124310.94 0.0498 0.0316

Venus	-21480-05-17 06:43 J	-6124010.31	-6124010.22	-6124010.13	0.3752	0.1477
Saturn	-21478-01-24 10:33 J	-6123393.16	-6123393.06	-6123392.96	0.0276	0.0176
Saturn	-21478-04-22 21:21 J	-6123304.74	-6123304.61	-6123304.48	0.0275	0.0055
Saturn	-21478-07-20 08:09 J	-6123216.29	-6123216.16	-6123216.03	0.0274	0.0066
Saturn	-21478-10-16 18:57 J	-6123127.81	-6123127.71	-6123127.62	0.0273	0.0187
Earth	-21477-07-08 05:02 J	-6122862.39	-6122862.29	-6122862.18	0.2698	0.0914
Moon	-21477-07-08 05:45 J	-6122862.37	-6122862.26	-6122862.15	0.2694	0.0774 *
Mars	-21476-06-20 19:55 J	-6122514.77	-6122514.67	-6122514.56	0.1641	0.0806
Jupiter	-21475-03-12 11:31 J	-6122250.14	-6122250.02	-6122249.89	0.0529	0.0038
Venus	-21475-11-30 22:19 J	-6121986.67	-6121986.57	-6121986.47	0.3753	0.0682
Mars	-21474-05-26 23:16 J	-6121809.62	-6121809.53	-6121809.45	0.1651	0.1097
Moon	-21473-01-14 05:02 J	-6121577.43	-6121577.29	-6121577.15	0.2640	0.0757
Earth	-21473-01-14 06:14 J	-6121577.38	-6121577.24	-6121577.10	0.2637	0.0875 *
Mars	-21473-04-02 03:36 J	-6121498.46	-6121498.35	-6121498.23	0.1877	0.1376
Jupiter	-21469-05-08 06:57 J	-6120001.38	-6120001.21	-6120001.03	0.0498	0.0132
Venus	-21469-06-15 14:09 J	-6119962.97	-6119962.91	-6119962.85	0.3755	0.2865
Mars	-21467-11-11 07:26 J	-6119084.27	-6119084.19	-6119084.12	0.1639	0.1249
Mars	-21465-10-16 10:19 J	-6118379.18	-6118379.07	-6118378.97	0.1648	0.0626
Moon	-21464-07-11 00:00 J	-6118111.62	-6118111.50	-6118111.39	0.2690	0.0185
Earth	-21464-07-11 00:00 J	-6118111.62	-6118111.50	-6118111.39	0.2697	0.0245 *
Jupiter	-21464-12-29 15:50 J	-6117939.97	-6117939.84	-6117939.72	0.0529	0.0107
Jupiter	-21463-03-28 22:04 J	-6117850.63	-6117850.58	-6117850.52	0.0527	0.0472
Saturn	-21462-02-05 14:38 J	-6117537.02	-6117536.89	-6117536.76	0.0286	0.0203
Saturn	-21462-05-05 14:38 J	-6117448.07	-6117447.89	-6117447.70	0.0287	0.0007
Saturn	-21462-08-02 14:23 J	-6117359.04	-6117358.90	-6117358.76	0.0288	0.0190
Moon	-21460-01-16 09:07 J	-6116826.15	-6116826.12	-6116826.08	0.2645	0.2557
Uranus	-21459-06-21 10:48 J	-6116305.05	-6116305.05	-6116305.03	0.0137	0.0137
Uranus	-21459-09-17 18:14 J	-6116216.85	-6116216.74	-6116216.62	0.0137	0.0109
Uranus	-21459-12-15 01:26 J	-6116128.59	-6116128.44	-6116128.28	0.0137	0.0080
Uranus	-21458-03-13 08:38 J	-6116040.31	-6116040.14	-6116039.96	0.0137	0.0052

Uranus -21458-06-09 15:50 J -6115952.02 -6115951.84 -6115951.65 0.0137 0.0025

Uranus -21458-09-05 23:02 J -6115863.73 -6115863.54 -6115863.35 0.0137 0.0003

Uranus -21458-12-03 06:00 J -6115775.43 -6115775.25 -6115775.07 0.0137 0.0030

Jupiter -21457-02-25 04:04 J -6115691.51 -6115691.33 -6115691.14 0.0497 0.0050

Uranus -21457-02-29 12:57 J -6115687.13 -6115686.96 -6115686.79 0.0137 0.0058

Uranus -21457-05-27 19:40 J -6115598.81 -6115598.68 -6115598.52 0.0137 0.0085

Uranus -21457-08-24 02:23 J -6115510.49 -6115510.40 -6115510.28 0.0136 0.0112

Mars -21455-03-08 21:21 J -6114948.72 -6114948.61 -6114948.49 0.1646 0.0163

Venus -21454-07-10 07:26 J -6114460.30 -6114460.19 -6114460.08 0.3620 0.2625

Moon -21453-01-09 03:21 J -6114277.40 -6114277.36 -6114277.31 0.2630 0.2494

Earth -21453-01-09 04:33 J -6114277.35 -6114277.31 -6114277.26 0.2634 0.2483 *

Mars -21453-12-20 16:48 J -6113930.90 -6113930.80 -6113930.70 0.1870 0.1460

Jupiter -21452-10-17 20:09 J -6113629.77 -6113629.66 -6113629.55 0.0529 0.0246

Jupiter -21451-01-15 02:23 J -6113540.50 -6113540.40 -6113540.30 0.0527 0.0332

Moon -21451-07-13 18:14 J -6113360.84 -6113360.74 -6113360.64 0.2689 0.1344

Earth -21451-07-13 18:43 J -6113360.82 -6113360.72 -6113360.62 0.2695 0.1365 *

Pluto -21451-12-12 00:28 J -6113209.53 -6113209.48 -6113209.40 0.0073 0.0066

Pluto -21450-03-10 02:09 J -6113121.50 -6113121.41 -6113121.31 0.0073 0.0058

Pluto -21450-06-06 03:21 J -6113033.47 -6113033.36 -6113033.24 0.0073 0.0049

Pluto -21450-09-02 04:48 J -6112945.42 -6112945.30 -6112945.17 0.0073 0.0041

Pluto -21450-11-29 06:00 J -6112857.38 -6112857.25 -6112857.10 0.0073 0.0033

Pluto -21449-02-25 07:26 J -6112769.33 -6112769.19 -6112769.04 0.0073 0.0025

Pluto -21449-05-23 08:52 J -6112681.28 -6112681.13 -6112680.98 0.0073 0.0017

Saturn -21449-06-12 13:11 J -6112661.03 -6112660.95 -6112660.86 0.0276 0.0210

Pluto -21449-08-19 10:04 J -6112593.23 -6112593.08 -6112592.92 0.0072 0.0009

Saturn -21449-09-09 00:00 J -6112572.62 -6112572.50 -6112572.38 0.0275 0.0088

Pluto -21449-11-15 11:16 J -6112505.18 -6112505.03 -6112504.87 0.0072 0.0003

Saturn -21449-12-06 10:48 J -6112484.18 -6112484.05 -6112483.92 0.0274 0.0033

Pluto -21448-02-11 12:43 J -6112417.13 -6112416.97 -6112416.82 0.0072 0.0007

Saturn -21448-03-04 21:21 J -6112395.71 -6112395.61 -6112395.49 0.0274 0.0154

Pluto -21448-05-10 13:55 J -6112329.07 -6112328.92 -6112328.77 0.0072 0.0015

Pluto -21448-08-06 15:07 J -6112241.01 -6112240.87 -6112240.72 0.0072 0.0022

Pluto -21448-11-02 16:19 J -6112152.96 -6112152.82 -6112152.67 0.0072 0.0030

Pluto -21447-01-29 17:16 J -6112064.89 -6112064.78 -6112064.63 0.0072 0.0038

Pluto -21447-04-27 18:43 J -6111976.83 -6111976.72 -6111976.59 0.0072 0.0045

Pluto -21447-07-24 19:40 J -6111888.77 -6111888.68 -6111888.56 0.0071 0.0053

Pluto -21447-10-20 20:52 J -6111800.70 -6111800.63 -6111800.53 0.0071 0.0060

Pluto -21446-01-16 22:19 J -6111712.61 -6111712.57 -6111712.51 0.0071 0.0067

Mars -21446-07-30 08:38 J -6111518.25 -6111518.14 -6111518.02 0.1643 0.0295

Jupiter -21446-12-14 00:28 J -6111381.64 -6111381.48 -6111381.32 0.0497 0.0240

Jupiter -21445-03-13 09:07 J -6111291.16 -6111291.12 -6111291.06 0.0499 0.0477

Mars -21444-07-04 12:14 J -6110813.01 -6110812.99 -6110812.98 0.1654 0.1634

Earth -21444-07-06 15:21 J -6110810.94 -6110810.86 -6110810.77 0.2700 0.1805

Moon -21444-07-06 16:04 J -6110810.91 -6110810.83 -6110810.74 0.2699 0.1683 *

Mars -21443-05-12 11:02 J -6110501.21 -6110501.04 -6110500.88 0.1874 0.0133

Moon -21440-01-11 07:11 J -6109526.34 -6109526.20 -6109526.05 0.2635 0.0829

Earth -21440-01-11 08:52 J -6109526.28 -6109526.13 -6109525.99 0.2635 0.0603 *

Jupiter -21440-08-06 00:14 J -6109319.57 -6109319.49 -6109319.40 0.0530 0.0388

Jupiter -21440-11-03 06:28 J -6109230.35 -6109230.23 -6109230.11 0.0528 0.0187

Moon -21438-07-16 12:57 J -6108610.01 -6108609.96 -6108609.91 0.2693 0.2433

Earth -21438-07-16 13:40 J -6108609.96 -6108609.93 -6108609.89 0.2693 0.2528 *

Mars -21437-12-19 19:55 J -6108087.77 -6108087.67 -6108087.56 0.1641 0.0745

Mars -21435-11-24 23:02 J -6107382.62 -6107382.54 -6107382.45 0.1651 0.1158

Jupiter -21434-10-01 21:50 J -6107071.69 -6107071.59 -6107071.50 0.0497 0.0419

Mars -21434-10-02 04:33 J -6107071.43 -6107071.31 -6107071.19 0.1877 0.1247

Jupiter -21434-12-31 06:43 J -6106981.36 -6106981.22 -6106981.07 0.0499 0.0302

Saturn -21433-06-24 14:38 J -6106804.98 -6106804.89 -6106804.80 0.0285 0.0245

Saturn -21433-09-21 14:38 J -6106716.07 -6106715.89 -6106715.71 0.0286 0.0048

Saturn -21433-12-19 14:23 J -6106627.05 -6106626.90 -6106626.74 0.0287 0.0148

Earth -21431-07-09 10:04 J -6106060.19 -6106060.08 -6106059.97 0.2698 0.0693

Moon -21431-07-09 10:33 J -6106060.17 -6106060.06 -6106059.95 0.2694 0.0699 *

Venus -21429-06-07 12:28 J -6105361.04 -6105360.98 -6105360.91 0.3750 0.2817

Neptune -21428-07-12 06:28 J -6104961.24 -6104961.23 -6104961.20 0.0088 0.0087

Jupiter -21428-08-22 09:50 J -6104920.22 -6104920.09 -6104919.97 0.0528 0.0031

Neptune -21428-10-08 10:04 J -6104873.16 -6104873.08 -6104872.98 0.0088 0.0077

Neptune -21427-01-04 13:55 J -6104785.05 -6104784.92 -6104784.80 0.0088 0.0067

Moon -21427-01-14 11:31 J -6104775.15 -6104775.02 -6104774.89 0.2642 0.1166

Earth -21427-01-14 12:28 J -6104775.11 -6104774.98 -6104774.85 0.2637 0.1216 *

Neptune -21427-04-02 17:02 J -6104696.92 -6104696.79 -6104696.63 0.0088 0.0058

Mars -21427-05-12 07:26 J -6104657.27 -6104657.19 -6104657.11 0.1639 0.1186

Neptune -21427-06-29 20:38 J -6104608.79 -6104608.64 -6104608.46 0.0088 0.0048

Neptune -21427-09-26 00:14 J -6104520.65 -6104520.49 -6104520.30 0.0088 0.0038

Neptune -21427-12-23 03:50 J -6104432.51 -6104432.34 -6104432.15 0.0088 0.0028

Neptune -21426-03-21 07:26 J -6104344.37 -6104344.19 -6104343.99 0.0088 0.0018

Neptune -21426-06-17 11:02 J -6104256.23 -6104256.04 -6104255.84 0.0088 0.0009

Neptune -21426-09-13 14:38 J -6104168.08 -6104167.89 -6104167.69 0.0088 0.0002

Neptune -21426-12-10 18:14 J -6104079.93 -6104079.74 -6104079.55 0.0088 0.0011

Neptune -21425-03-07 21:36 J -6103991.78 -6103991.60 -6103991.41 0.0088 0.0021

Mars -21425-04-16 10:19 J -6103952.18 -6103952.07 -6103951.97 0.1648 0.0689

Neptune -21425-06-04 00:57 J -6103903.63 -6103903.46 -6103903.27 0.0088 0.0031

Neptune -21425-08-31 04:19 J -6103815.48 -6103815.32 -6103815.13 0.0088 0.0041

Neptune -21425-11-27 07:55 J -6103727.32 -6103727.17 -6103727.00 0.0088 0.0050

Neptune -21424-02-23 11:16 J -6103639.15 -6103639.03 -6103638.87 0.0088 0.0060

Neptune -21424-05-22 14:38 J -6103550.99 -6103550.89 -6103550.75 0.0088 0.0070

Neptune -21424-08-18 18:28 J -6103462.81 -6103462.73 -6103462.64 0.0088 0.0079

Venus -21424-12-22 04:04 J -6103337.43 -6103337.33 -6103337.23 0.3752 0.0694

Jupiter -21422-10-19 04:33 J -6102671.49 -6102671.31 -6102671.13 0.0498 0.0127

Saturn -21420-10-30 17:02 J -6101928.86 -6101928.79 -6101928.72 0.0277 0.0231

Saturn -21419-01-27 03:50 J -6101840.46 -6101840.34 -6101840.22 0.0276 0.0110

Saturn -21419-04-25 14:38 J -6101752.03 -6101751.89 -6101751.76 0.0275 0.0013

Saturn -21419-07-23 01:11 J -6101663.56 -6101663.45 -6101663.33 0.0274 0.0132

Saturn -21419-10-19 12:00 J -6101575.04 -6101575.00 -6101574.95 0.0273 0.0252

Venus -21418-07-07 19:55 J -6101313.77 -6101313.67 -6101313.58 0.3753 0.1475

Moon -21418-07-12 04:48 J -6101309.41 -6101309.30 -6101309.19 0.2689 0.0494

Earth -21418-07-12 04:48 J -6101309.41 -6101309.30 -6101309.19 0.2697 0.0439 *

Mars -21418-10-02 18:43 J -6101226.73 -6101226.72 -6101226.71 0.1637 0.1627

Jupiter -21416-06-10 13:40 J -6100610.05 -6100609.93 -6100609.81 0.0529 0.0119

Mars -21416-09-06 21:21 J -6100521.72 -6100521.61 -6100521.49 0.1646 0.0224

Jupiter -21416-09-07 19:55 J -6100520.73 -6100520.67 -6100520.60 0.0527 0.0459

Uranus -21415-08-25 07:26 J -6100169.22 -6100169.19 -6100169.16 0.0141 0.0135

Uranus -21415-11-21 10:33 J -6100081.12 -6100081.06 -6100080.97 0.0141 0.0115

Uranus -21414-02-17 14:23 J -6099993.00 -6099992.90 -6099992.80 0.0141 0.0093

Uranus -21414-05-16 17:45 J -6099904.87 -6099904.76 -6099904.64 0.0141 0.0073

Uranus -21414-08-12 21:21 J -6099816.73 -6099816.61 -6099816.48 0.0141 0.0051

Uranus -21414-11-09 00:57 J -6099728.59 -6099728.46 -6099728.32 0.0141 0.0030

Uranus -21413-02-05 04:33 J -6099640.44 -6099640.31 -6099640.17 0.0142 0.0009

Uranus -21413-05-03 08:23 J -6099552.29 -6099552.15 -6099552.02 0.0142 0.0015

Mars -21413-06-20 17:31 J -6099503.86 -6099503.77 -6099503.69 0.1870 0.1572

Uranus -21413-07-30 12:00 J -6099464.13 -6099464.00 -6099463.87 0.0142 0.0036

Uranus -21413-10-26 15:36 J -6099375.97 -6099375.85 -6099375.73 0.0142 0.0058

Venus -21412-01-20 11:45 J -6099290.03 -6099290.01 -6099290.00 0.3755 0.3674

Uranus -21412-01-22 19:11 J -6099287.81 -6099287.70 -6099287.58 0.0142 0.0081

Uranus -21412-04-20 22:48 J -6099199.63 -6099199.55 -6099199.45 0.0142 0.0104

Uranus -21412-07-18 02:52 J -6099111.45 -6099111.38 -6099111.32 0.0142 0.0126

Earth -21411-07-05 01:55 J -6098759.43 -6098759.42 -6098759.41 0.2701 0.2679

Moon -21411-07-05 02:23 J -6098759.42 -6098759.40 -6098759.37 0.2705 0.2623 *

Jupiter -21410-08-07 01:26 J -6098361.62 -6098361.44 -6098361.26 0.0497 0.0058

Moon -21407-01-09 09:36 J -6097475.17 -6097475.10 -6097475.03 0.2631 0.2334

Earth -21407-01-09 10:48 J -6097475.13 -6097475.05 -6097474.96 0.2634 0.2127 *

Mars -21406-01-28 08:38 J -6097091.26 -6097091.14 -6097091.03 0.1643 0.0240

Moon -21405-07-13 23:16 J -6096558.63 -6096558.53 -6096558.44 0.2691 0.1479

Earth -21405-07-13 23:45 J -6096558.60 -6096558.51 -6096558.42 0.2695 0.1587 *

Jupiter -21404-03-29 17:45 J -6096299.87 -6096299.76 -6096299.65 0.0530 0.0262

Jupiter -21404-06-27 00:00 J -6096210.60 -6096210.50 -6096210.39 0.0528 0.0316

Mars -21404-11-10 11:31 J -6096074.19 -6096074.02 -6096073.86 0.1874 0.0239

Saturn -21403-02-08 14:23 J -6095984.07 -6095983.90 -6095983.72 0.0286 0.0093

Saturn -21403-05-08 14:23 J -6095895.07 -6095894.90 -6095894.73 0.0287 0.0104

Venus -21403-07-31 00:43 J -6095811.61 -6095811.47 -6095811.33 0.3622 0.1603

Jupiter -21398-05-25 22:19 J -6094051.73 -6094051.57 -6094051.41 0.0497 0.0240

Earth -21398-07-07 20:23 J -6094008.74 -6094008.65 -6094008.56 0.2700 0.1588

Moon -21398-07-07 21:07 J -6094008.71 -6094008.62 -6094008.53 0.2698 0.1538 *

Jupiter -21398-08-24 06:57 J -6093961.25 -6093961.21 -6093961.15 0.0499 0.0476

Mars -21397-06-19 19:55 J -6093660.77 -6093660.67 -6093660.56 0.1641 0.0685

Mars -21395-05-25 23:02 J -6092955.62 -6092955.54 -6092955.46 0.1651 0.1216

Moon -21394-01-12 13:26 J -6092724.09 -6092723.94 -6092723.79 0.2635 0.0311

Earth -21394-01-12 14:52 J -6092724.02 -6092723.88 -6092723.73 0.2635 0.0274 *

Mars -21394-04-02 05:45 J -6092644.40 -6092644.26 -6092644.13 0.1877 0.1101

Jupiter -21392-01-15 22:19 J -6091989.65 -6091989.57 -6091989.49 0.0530 0.0399

Jupiter -21392-04-15 04:19 J -6091900.43 -6091900.32 -6091900.19 0.0528 0.0179

Moon -21392-07-16 18:00 J -6091807.76 -6091807.75 -6091807.75 0.2693 0.2680

Saturn -21390-03-19 19:40 J -6091196.71 -6091196.68 -6091196.63 0.0276 0.0264

Saturn -21390-06-16 06:28 J -6091108.34 -6091108.23 -6091108.11 0.0276 0.0142

Saturn -21390-09-12 17:16 J -6091019.91 -6091019.78 -6091019.65 0.0275 0.0021

Saturn -21390-12-10 04:04 J -6090931.46 -6090931.33 -6090931.21 0.0274 0.0100

Saturn -21389-03-07 14:38 J -6090842.96 -6090842.89 -6090842.81 0.0273 0.0220

Mars -21388-11-10 07:26 J -6090230.28 -6090230.19 -6090230.11 0.1639 0.1129

Jupiter -21386-03-13 18:43 J -6089741.81 -6089741.72 -6089741.63 0.0497 0.0431

Jupiter -21386-06-12 03:50 J -6089651.49 -6089651.34 -6089651.19 0.0498 0.0289

Mars -21386-10-16 10:19 J -6089525.18 -6089525.07 -6089524.97 0.1648 0.0750

Earth -21385-07-09 15:07 J -6089257.99 -6089257.87 -6089257.76 0.2698 0.0483

Moon -21385-07-09 15:21 J -6089257.97 -6089257.86 -6089257.74 0.2693 0.0386 *

Moon -21381-01-15 17:45 J -6087972.89 -6087972.76 -6087972.64 0.2643 0.1402

Earth -21381-01-15 18:43 J -6087972.84 -6087972.72 -6087972.60 0.2637 0.1554 *

Jupiter -21380-02-01 08:38 J -6087590.27 -6087590.14 -6087590.01 0.0528 0.0035

Mars -21378-04-02 18:43 J -6086799.75 -6086799.72 -6086799.69 0.1637 0.1566

Mars -21376-03-07 21:21 J -6086094.73 -6086094.61 -6086094.50 0.1646 0.0283

Uranus -21375-07-11 17:45 J -6085603.81 -6085603.76 -6085603.69 0.0137 0.0131

Uranus -21375-10-08 00:57 J -6085515.57 -6085515.46 -6085515.32 0.0137 0.0103

Uranus -21374-01-04 08:23 J -6085427.30 -6085427.15 -6085426.99 0.0137 0.0074

Jupiter -21374-03-31 01:26 J -6085341.62 -6085341.44 -6085341.26 0.0498 0.0113

Uranus -21374-04-02 15:36 J -6085339.02 -6085338.85 -6085338.67 0.0137 0.0046

Saturn -21374-06-28 13:40 J -6085252.08 -6085251.93 -6085251.76 0.0286 0.0141

Uranus -21374-06-29 22:48 J -6085250.73 -6085250.55 -6085250.36 0.0137 0.0018

Saturn -21374-09-25 13:40 J -6085163.11 -6085162.93 -6085162.74 0.0287 0.0057

Uranus -21374-09-26 06:00 J -6085162.44 -6085162.25 -6085162.06 0.0137 0.0009

Mars -21374-12-20 18:14 J -6085076.81 -6085076.74 -6085076.68 0.1870 0.1693

Uranus -21374-12-23 12:57 J -6085074.14 -6085073.96 -6085073.78 0.0137 0.0037

Saturn -21374-12-23 13:26 J -6085074.02 -6085073.94 -6085073.85 0.0288 0.0253 *

Uranus -21373-03-20 19:55 J -6084985.83 -6084985.67 -6084985.50 0.0137 0.0064

Uranus -21373-06-17 02:52 J -6084897.51 -6084897.38 -6084897.24 0.0136 0.0091

Uranus -21373-09-13 09:36 J -6084809.18 -6084809.10 -6084809.00 0.0136 0.0117

Venus -21372-01-12 10:04 J -6084688.17 -6084688.08 -6084688.00 0.3751 0.2039

Moon -21372-07-12 09:50 J -6084507.21 -6084507.09 -6084506.98 0.2689 0.0590

Earth -21372-07-12 09:50 J -6084507.20 -6084507.09 -6084506.98 0.2697 0.0660 *

Jupiter -21369-11-20 11:45 J -6083280.13 -6083280.01 -6083279.88 0.0529 0.0126

Jupiter -21368-02-17 18:14 J -6083190.80 -6083190.74 -6083190.68 0.0527 0.0453

Venus -21367-07-29 01:40 J -6082664.53 -6082664.43 -6082664.33 0.3752 0.0143

Mars -21367-07-29 08:38 J -6082664.26 -6082664.14 -6082664.02 0.1643 0.0174

Earth -21365-07-05 06:43 J -6081957.26 -6081957.22 -6081957.18 0.2701 0.2474

Moon -21365-07-05 07:26 J -6081957.24 -6081957.19 -6081957.14 0.2703 0.2379 *

Mars -21364-05-11 12:28 J -6081647.14 -6081646.98 -6081646.81 0.1874 0.0379

Jupiter -21362-01-16 23:02 J -6081031.72 -6081031.54 -6081031.35 0.0498 0.0061

Moon -21361-01-10 15:50 J -6080672.95 -6080672.84 -6080672.73 0.2631 0.1822

Earth -21361-01-10 17:16 J -6080672.89 -6080672.78 -6080672.67 0.2634 0.1772 *

Venus -21361-02-11 17:16 J -6080640.86 -6080640.78 -6080640.70 0.3754 0.2277

Saturn -21361-11-02 10:19 J -6080376.18 -6080376.07 -6080375.97 0.0276 0.0165

Saturn -21360-01-29 20:52 J -6080287.76 -6080287.63 -6080287.50 0.0275 0.0044

Saturn -21360-04-28 07:40 J -6080199.31 -6080199.18 -6080199.05 0.0274 0.0077

Saturn -21360-07-25 18:28 J -6080110.82 -6080110.73 -6080110.64 0.0273 0.0198

Moon -21359-07-15 04:04 J -6079756.42 -6079756.33 -6079756.25 0.2692 0.1800

Earth -21359-07-15 04:48 J -6079756.39 -6079756.30 -6079756.22 0.2695 0.1814 *

Mars -21358-12-19 19:55 J -6079233.78 -6079233.67 -6079233.56 0.1641 0.0626

Jupiter -21357-09-08 15:50 J -6078969.95 -6078969.84 -6078969.73 0.0529 0.0271

Jupiter -21357-12-06 22:04 J -6078880.68 -6078880.58 -6078880.48 0.0528 0.0305

Mars -21356-11-23 23:02 J -6078528.61 -6078528.54 -6078528.46 0.1651 0.1279

Mars -21355-10-01 06:00 J -6078217.39 -6078217.25 -6078217.11 0.1877 0.1001

Earth -21352-07-08 01:11 J -6077206.54 -6077206.45 -6077206.35 0.2699 0.1378

Moon -21352-07-08 02:09 J -6077206.51 -6077206.41 -6077206.31 0.2698 0.1271 *

Jupiter -21351-11-04 19:55 J -6076721.83 -6076721.67 -6076721.51 0.0497 0.0244

Jupiter -21350-02-03 04:33 J -6076631.36 -6076631.31 -6076631.25 0.0499 0.0472

Moon -21348-01-12 19:55 J -6075921.82 -6075921.67 -6075921.52 0.2637 0.0135

Earth -21348-01-12 21:07 J -6075921.76 -6075921.62 -6075921.47 0.2636 0.0122 *

Mars -21348-05-11 07:11 J -6075803.28 -6075803.20 -6075803.11 0.1639 0.1072

Neptune -21347-10-20 13:55 J -6075275.95 -6075275.92 -6075275.87 0.0089 0.0085

Neptune -21346-01-16 15:21 J -6075187.92 -6075187.86 -6075187.79 0.0089 0.0077

Venus -21346-03-07 02:38 J -6075138.54 -6075138.39 -6075138.23 0.3621 0.0575

Neptune -21346-04-14 16:48 J -6075099.88 -6075099.80 -6075099.72 0.0089 0.0070

Mars -21346-04-16 10:04 J -6075098.18 -6075098.08 -6075097.98 0.1648 0.0807

Neptune -21346-07-11 18:00 J -6075011.83 -6075011.75 -6075011.65 0.0089 0.0064

Neptune -21346-10-07 19:26 J -6074923.79 -6074923.69 -6074923.59 0.0089 0.0057

Neptune -21345-01-03 20:52 J -6074835.74 -6074835.63 -6074835.52 0.0089 0.0050

Neptune -21345-03-31 22:04 J -6074747.69 -6074747.58 -6074747.46 0.0089 0.0043

Jupiter -21345-06-27 19:55 J -6074659.74 -6074659.67 -6074659.59 0.0530 0.0414

Neptune -21345-06-27 23:31 J -6074659.64 -6074659.52 -6074659.40 0.0089 0.0036 *

Neptune -21345-09-24 00:57 J -6074571.59 -6074571.46 -6074571.34 0.0089 0.0029

Jupiter -21345-09-25 02:09 J -6074570.53 -6074570.41 -6074570.29 0.0528 0.0162

Saturn -21345-11-14 13:26 J -6074520.07 -6074519.94 -6074519.79 0.0286 0.0187

Neptune -21345-12-21 02:09 J -6074483.54 -6074483.41 -6074483.28 0.0089 0.0022

Saturn -21344-02-11 13:26 J -6074431.12 -6074430.94 -6074430.75 0.0287 0.0013

Neptune -21344-03-19 03:36 J -6074395.48 -6074395.35 -6074395.22 0.0089 0.0015

Saturn -21344-05-11 13:26 J -6074342.07 -6074341.94 -6074341.82 0.0288 0.0207

Neptune -21344-06-15 04:48 J -6074307.43 -6074307.30 -6074307.16 0.0089 0.0008

Neptune -21344-09-11 06:14 J -6074219.37 -6074219.24 -6074219.11 0.0089 0.0001

Neptune -21344-12-08 07:40 J -6074131.32 -6074131.18 -6074131.05 0.0089 0.0007

Neptune -21343-03-06 08:52 J -6074043.26 -6074043.13 -6074043.00 0.0089 0.0014

Neptune -21343-06-02 10:19 J -6073955.20 -6073955.07 -6073954.94 0.0089 0.0021

Neptune -21343-08-29 11:45 J -6073867.14 -6073867.01 -6073866.89 0.0089 0.0028

Neptune -21343-11-25 12:43 J -6073779.08 -6073778.97 -6073778.83 0.0089 0.0036

Neptune -21342-02-21 14:09 J -6073691.02 -6073690.91 -6073690.78 0.0089 0.0042

Neptune -21342-05-20 15:36 J -6073602.96 -6073602.85 -6073602.73 0.0089 0.0049

Neptune -21342-08-16 16:48 J -6073514.89 -6073514.80 -6073514.68 0.0089 0.0057

Neptune -21342-11-12 18:14 J -6073426.82 -6073426.74 -6073426.64 0.0089 0.0063

Neptune -21341-02-08 19:40 J -6073338.75 -6073338.68 -6073338.59 0.0089 0.0070

Neptune -21341-05-06 21:07 J -6073250.68 -6073250.62 -6073250.55 0.0089 0.0077

Neptune -21341-08-02 22:19 J -6073162.60 -6073162.57 -6073162.52 0.0089 0.0085

Earth -21339-07-10 19:55 J -6072455.78 -6072455.67 -6072455.55 0.2698 0.0268

Moon -21339-07-10 20:23 J -6072455.77 -6072455.65 -6072455.54 0.2691 0.0276 *

Jupiter -21339-08-23 16:48 J -6072411.89 -6072411.80 -6072411.70 0.0496 0.0427

Mars -21339-10-01 18:43 J -6072372.76 -6072372.72 -6072372.68 0.1637 0.1509

Jupiter -21339-11-22 01:55 J -6072321.57 -6072321.42 -6072321.27 0.0498 0.0292

Mars -21337-09-05 21:21 J -6071667.73 -6071667.61 -6071667.50 0.1646 0.0343

Moon -21335-01-15 23:45 J -6071170.61 -6071170.51 -6071170.41 0.2643 0.1882

Earth -21335-01-16 00:43 J -6071170.57 -6071170.47 -6071170.36 0.2637 0.1891 *

Mars -21334-06-20 19:11 J -6070649.73 -6070649.70 -6070649.67 0.1870 0.1827

Jupiter -21333-07-14 06:43 J -6070260.35 -6070260.22 -6070260.10 0.0529 0.0029

Saturn -21331-03-22 12:57 J -6069644.05 -6069643.96 -6069643.87 0.0276 0.0198

Saturn -21331-06-18 23:31 J -6069555.64 -6069555.52 -6069555.39 0.0275 0.0077

Uranus -21331-09-14 14:38 J -6069467.94 -6069467.89 -6069467.84 0.0141 0.0130

Saturn -21331-09-15 10:19 J -6069467.20 -6069467.07 -6069466.94 0.0274 0.0044

Uranus -21331-12-11 18:00 J -6069379.82 -6069379.75 -6069379.66 0.0141 0.0109

Saturn -21331-12-12 20:52 J -6069378.73 -6069378.63 -6069378.52 0.0273 0.0164

Uranus -21330-03-09 21:36 J -6069291.70 -6069291.60 -6069291.49 0.0141 0.0088

Uranus -21330-06-06 01:11 J -6069203.57 -6069203.45 -6069203.33 0.0141 0.0067

Uranus -21330-09-02 04:48 J -6069115.43 -6069115.30 -6069115.17 0.0141 0.0045

Uranus -21330-11-29 08:23 J -6069027.28 -6069027.15 -6069027.02 0.0141 0.0024

Uranus -21329-02-25 12:00 J -6068939.14 -6068939.00 -6068938.87 0.0142 0.0002

Uranus -21329-05-23 15:36 J -6068850.98 -6068850.85 -6068850.72 0.0142 0.0020

Uranus -21329-08-19 19:11 J -6068762.83 -6068762.70 -6068762.57 0.0142 0.0042

Uranus -21329-11-15 22:48 J -6068674.67 -6068674.55 -6068674.43 0.0142 0.0064

Uranus -21328-02-12 02:38 J -6068586.50 -6068586.39 -6068586.28 0.0142 0.0086

Uranus -21328-05-11 06:14 J -6068498.32 -6068498.24 -6068498.15 0.0142 0.0109

Uranus -21328-08-07 10:04 J -6068410.13 -6068410.08 -6068410.03 0.0142 0.0131

Mars -21327-01-27 08:38 J -6068237.26 -6068237.14 -6068237.03 0.1643 0.0117

Jupiter -21327-09-09 22:33 J -6068011.74 -6068011.56 -6068011.38 0.0498 0.0106

Moon -21326-07-13 14:38 J -6067705.00 -6067704.89 -6067704.78 0.2690 0.0920

Earth -21326-07-13 14:52 J -6067704.99 -6067704.88 -6067704.78 0.2696 0.0886 *

Mars -21325-11-09 13:11 J -6067220.11 -6067219.95 -6067219.79 0.1874 0.0499

Venus -21321-02-03 15:50 J -6066038.88 -6066038.84 -6066038.80 0.3750 0.3370

Jupiter -21321-05-02 10:48 J -6065950.17 -6065950.05 -6065949.92 0.0529 0.0117

Jupiter -21321-07-30 17:02 J -6065860.84 -6065860.79 -6065860.72 0.0527 0.0462

Earth -21319-07-06 11:45 J -6065155.07 -6065155.01 -6065154.95 0.2701 0.2262

Moon -21319-07-06 12:28 J -6065155.04 -6065154.98 -6065154.92 0.2702 0.2230 *

Mars -21318-06-19 19:55 J -6064806.78 -6064806.67 -6064806.56 0.1641 0.0565

Mars -21316-05-24 23:02 J -6064101.60 -6064101.54 -6064101.47 0.1651 0.1341

Venus -21316-08-19 07:26 J -6064015.29 -6064015.19 -6064015.10 0.3751 0.1251

Moon -21315-01-10 22:04 J -6063870.70 -6063870.58 -6063870.46 0.2631 0.1615

Earth -21315-01-10 23:31 J -6063870.65 -6063870.52 -6063870.40 0.2634 0.1421 *

Mars -21315-04-01 07:11 J -6063790.35 -6063790.20 -6063790.06 0.1877 0.0863

Saturn -21315-04-03 11:45 J -6063788.11 -6063788.01 -6063787.91 0.0285 0.0243

Jupiter -21315-06-28 20:09 J -6063701.84 -6063701.66 -6063701.47 0.0497 0.0071

Saturn -21315-07-01 11:45 J -6063699.19 -6063699.01 -6063698.82 0.0286 0.0046

Saturn -21315-09-28 11:45 J -6063610.17 -6063610.01 -6063609.86 0.0287 0.0151

Moon -21313-07-15 08:52 J -6062954.21 -6062954.13 -6062954.05 0.2691 0.1887

Earth -21313-07-15 09:36 J -6062954.17 -6062954.10 -6062954.02 0.2695 0.2041 *

Venus -21310-03-04 23:02 J -6061991.64 -6061991.54 -6061991.44 0.3753 0.0892

Jupiter -21309-02-19 14:09 J -6061640.02 -6061639.91 -6061639.80 0.0529 0.0274

Jupiter -21309-05-18 20:23 J -6061550.75 -6061550.65 -6061550.54 0.0528 0.0302

Mars -21309-11-09 07:11 J -6061376.29 -6061376.20 -6061376.11 0.1639 0.1012

Mars -21307-10-15 10:04 J -6060671.18 -6060671.08 -6060670.98 0.1648 0.0868

Earth -21306-07-09 06:14 J -6060404.34 -6060404.24 -6060404.14 0.2699 0.1160

Moon -21306-07-09 06:57 J -6060404.31 -6060404.21 -6060404.11 0.2697 0.1088 *

Venus -21305-09-17 14:52 J -6059967.94 -6059967.88 -6059967.83 0.3754 0.3075

Jupiter -21303-04-16 18:00 J -6059391.91 -6059391.75 -6059391.59 0.0497 0.0243

Jupiter -21303-07-16 02:38 J -6059301.44 -6059301.39 -6059301.33 0.0499 0.0474

Moon -21302-01-14 02:09 J -6059119.56 -6059119.41 -6059119.27 0.2639 0.0405

Earth -21302-01-14 03:21 J -6059119.50 -6059119.36 -6059119.21 0.2636 0.0436 *

Saturn -21302-08-09 16:33 J -6058911.89 -6058911.81 -6058911.74 0.0276 0.0223

Saturn -21302-11-06 03:07 J -6058823.49 -6058823.37 -6058823.25 0.0275 0.0102

Saturn -21301-02-02 13:55 J -6058735.06 -6058734.92 -6058734.79 0.0274 0.0021

Saturn -21301-05-01 00:28 J -6058646.59 -6058646.48 -6058646.36 0.0274 0.0140

Saturn -21301-07-28 11:16 J -6058558.07 -6058558.03 -6058557.99 0.0273 0.0260

Mars -21299-04-01 18:43 J -6057945.77 -6057945.72 -6057945.67 0.1637 0.1451

Jupiter -21298-12-08 18:14 J -6057329.82 -6057329.74 -6057329.67 0.0530 0.0419

Mars -21297-03-06 21:21 J -6057240.72 -6057240.61 -6057240.50 0.1646 0.0404

Jupiter -21297-03-07 00:14 J -6057240.61 -6057240.49 -6057240.36 0.0528 0.0156 *

Earth -21293-07-11 00:57 J -6055653.57 -6055653.46 -6055653.35 0.2698 0.0037

Moon -21293-07-11 01:11 J -6055653.56 -6055653.45 -6055653.33 0.2691 0.0027 *

Jupiter -21291-02-02 14:52 J -6055081.97 -6055081.88 -6055081.79 0.0496 0.0426

Jupiter -21291-05-04 00:00 J -6054991.65 -6054991.50 -6054991.35 0.0498 0.0293

Uranus -21291-08-01 00:43 J -6054902.54 -6054902.47 -6054902.38 0.0137 0.0124

Uranus -21291-10-28 07:55 J -6054814.29 -6054814.17 -6054814.02 0.0137 0.0096

Uranus -21290-01-24 15:07 J -6054726.02 -6054725.87 -6054725.69 0.0137 0.0069

Uranus -21290-04-22 22:33 J -6054637.74 -6054637.56 -6054637.38 0.0137 0.0040

Uranus -21290-07-20 05:45 J -6054549.45 -6054549.26 -6054549.07 0.0137 0.0012

Venus -21290-10-12 04:33 J -6054465.42 -6054465.31 -6054465.20 0.3621 0.2653

Uranus -21290-10-16 12:43 J -6054461.15 -6054460.97 -6054460.78 0.0137 0.0016

Uranus -21289-01-12 19:55 J -6054372.85 -6054372.67 -6054372.49 0.0137 0.0043

Moon -21289-01-17 06:14 J -6054368.33 -6054368.24 -6054368.15 0.2643 0.2085

Earth -21289-01-17 06:57 J -6054368.28 -6054368.21 -6054368.13 0.2638 0.2234 *

Uranus -21289-04-10 02:52 J -6054284.54 -6054284.38 -6054284.22 0.0136 0.0070

Pluto -21289-05-27 02:23 J -6054237.41 -6054237.40 -6054237.35 0.0071 0.0070

Uranus -21289-07-07 09:36 J -6054196.22 -6054196.10 -6054195.96 0.0136 0.0097

Pluto -21289-08-23 03:50 J -6054149.40 -6054149.34 -6054149.25 0.0071 0.0062

Uranus -21289-10-03 16:19 J -6054107.88 -6054107.82 -6054107.73 0.0136 0.0123

Pluto -21289-11-19 05:16 J -6054061.37 -6054061.28 -6054061.17 0.0071 0.0055

Pluto -21288-02-15 06:28 J -6053973.34 -6053973.23 -6053973.10 0.0071 0.0047

Pluto -21288-05-14 07:55 J -6053885.29 -6053885.17 -6053885.03 0.0072 0.0040

Mars -21288-07-28 08:23 J -6053810.26 -6053810.15 -6053810.03 0.1643 0.0087

Pluto -21288-08-10 09:21 J -6053797.25 -6053797.11 -6053796.96 0.0072 0.0032

Pluto -21288-11-06 10:48 J -6053709.20 -6053709.05 -6053708.90 0.0072 0.0024

Pluto -21287-02-02 12:14 J -6053621.15 -6053620.99 -6053620.83 0.0072 0.0016

Pluto -21287-05-01 13:40 J -6053533.09 -6053532.93 -6053532.77 0.0072 0.0008

Pluto -21287-07-28 15:07 J -6053445.03 -6053444.87 -6053444.71 0.0072 0.0001

Pluto -21287-10-24 16:19 J -6053356.97 -6053356.82 -6053356.65 0.0072 0.0009

Pluto -21286-01-20 17:45 J -6053268.91 -6053268.76 -6053268.59 0.0072 0.0017

Pluto -21286-04-18 19:11 J -6053180.84 -6053180.70 -6053180.54 0.0072 0.0025

Pluto -21286-07-15 20:38 J -6053092.77 -6053092.64 -6053092.49 0.0073 0.0033

Pluto -21286-10-11 22:19 J -6053004.70 -6053004.57 -6053004.44 0.0073 0.0041

Saturn -21286-11-18 11:02 J -6052967.21 -6052967.04 -6052966.86 0.0287 0.0095

Jupiter -21286-12-25 04:19 J -6052930.44 -6052930.32 -6052930.19 0.0529 0.0023

Pluto -21285-01-07 23:31 J -6052916.62 -6052916.52 -6052916.39 0.0073 0.0050

Saturn -21285-02-15 11:02 J -6052878.21 -6052878.04 -6052877.87 0.0288 0.0103

Pluto -21285-04-05 01:11 J -6052828.54 -6052828.45 -6052828.35 0.0073 0.0058

Mars -21285-05-10 13:55 J -6052793.08 -6052792.92 -6052792.76 0.1874 0.0618

Pluto -21285-07-02 02:23 J -6052740.44 -6052740.40 -6052740.32 0.0073 0.0067

Moon -21280-07-13 19:26 J -6050902.80 -6050902.69 -6050902.58 0.2691 0.1023

Earth -21280-07-13 19:40 J -6050902.78 -6050902.68 -6050902.57 0.2696 0.1115 *

Jupiter -21279-02-19 21:07 J -6050681.80 -6050681.62 -6050681.44 0.0498 0.0113

Mars -21279-12-18 19:55 J -6050379.78 -6050379.67 -6050379.56 0.1641 0.0508

Mars -21277-11-22 23:02 J -6049674.60 -6049674.54 -6049674.48 0.1651 0.1397

Mars -21276-09-30 07:55 J -6049363.32 -6049363.17 -6049363.01 0.1877 0.0731

Jupiter -21274-10-13 08:52 J -6048620.25 -6048620.13 -6048620.00 0.0529 0.0125

Jupiter -21273-01-10 15:21 J -6048530.92 -6048530.86 -6048530.80 0.0528 0.0454

Earth -21273-07-06 16:33 J -6048352.88 -6048352.81 -6048352.74 0.2701 0.2054

Moon -21273-07-06 17:16 J -6048352.85 -6048352.78 -6048352.70 0.2702 0.1920 *

Saturn -21273-12-26 18:57 J -6048179.75 -6048179.71 -6048179.66 0.0276 0.0257

Saturn -21272-03-25 05:31 J -6048091.38 -6048091.27 -6048091.15 0.0275 0.0137

Saturn -21272-06-21 16:19 J -6048002.95 -6048002.82 -6048002.69 0.0274 0.0016

Saturn -21272-09-18 02:52 J -6047914.50 -6047914.38 -6047914.25 0.0273 0.0105

Saturn -21272-12-15 13:40 J -6047826.00 -6047825.93 -6047825.85 0.0273 0.0225

Moon -21269-01-12 04:19 J -6047068.46 -6047068.32 -6047068.19 0.2633 0.1163

Earth -21269-01-12 05:45 J -6047068.40 -6047068.26 -6047068.12 0.2634 0.1071 *

Mars -21269-05-10 07:11 J -6046949.29 -6046949.20 -6046949.10 0.1639 0.0951

Jupiter -21268-12-08 17:45 J -6046371.94 -6046371.76 -6046371.57 0.0497 0.0074

Mars -21267-04-15 10:04 J -6046244.17 -6046244.08 -6046243.98 0.1648 0.0931

Moon -21267-07-16 13:55 J -6046151.98 -6046151.92 -6046151.86 0.2691 0.2257

Earth -21267-07-16 14:38 J -6046151.95 -6046151.89 -6046151.83 0.2694 0.2271 *

Venus -21265-09-09 13:11 J -6045366.02 -6045365.95 -6045365.88 0.3750 0.2596

Neptune -21263-04-08 05:16 J -6044790.33 -6044790.28 -6044790.19 0.0088 0.0082

Neptune -21263-07-05 08:52 J -6044702.22 -6044702.13 -6044702.00 0.0088 0.0072

Neptune -21263-10-01 12:28 J -6044614.10 -6044613.98 -6044613.82 0.0088 0.0063

Neptune -21263-12-28 16:19 J -6044525.97 -6044525.82 -6044525.66 0.0088 0.0052

Neptune -21262-03-26 19:55 J -6044437.84 -6044437.67 -6044437.50 0.0088 0.0042

Neptune -21262-06-22 23:31 J -6044349.70 -6044349.52 -6044349.34 0.0088 0.0032

Jupiter -21262-08-01 13:11 J -6044310.06 -6044309.95 -6044309.84 0.0530 0.0264

Neptune -21262-09-19 02:52 J -6044261.56 -6044261.38 -6044261.18 0.0088 0.0023

Jupiter -21262-10-29 19:26 J -6044220.79 -6044220.69 -6044220.58 0.0528 0.0314

Neptune -21262-12-16 06:28 J -6044173.42 -6044173.23 -6044173.03 0.0088 0.0013

Neptune -21261-03-13 10:04 J -6044085.27 -6044085.08 -6044084.88 0.0088 0.0003

Neptune -21261-06-09 13:40 J -6043997.12 -6043996.93 -6043996.74 0.0088 0.0007

Neptune -21261-09-05 17:02 J -6043908.97 -6043908.79 -6043908.59 0.0088 0.0017

Neptune -21261-12-02 20:23 J -6043820.82 -6043820.65 -6043820.45 0.0088 0.0027

Neptune -21260-03-01 00:00 J -6043732.67 -6043732.50 -6043732.31 0.0088 0.0037

Neptune -21260-05-28 03:21 J -6043644.51 -6043644.36 -6043644.18 0.0088 0.0047

Earth -21260-07-09 11:16 J -6043602.14 -6043602.03 -6043601.93 0.2699 0.0946

Moon -21260-07-09 11:45 J -6043602.12 -6043602.01 -6043601.90 0.2695 0.0905 *

Neptune -21260-08-24 06:43 J -6043556.35 -6043556.22 -6043556.05 0.0088 0.0056

Mars -21260-09-30 18:43 J -6043518.78 -6043518.72 -6043518.66 0.1637 0.1391

Neptune -21260-11-20 10:33 J -6043468.18 -6043468.06 -6043467.93 0.0088 0.0065

Neptune -21259-02-16 13:55 J -6043380.01 -6043379.92 -6043379.81 0.0088 0.0075

Venus -21259-03-26 04:48 J -6043342.40 -6043342.30 -6043342.20 0.3751 0.0478

Neptune -21259-05-15 17:02 J -6043291.81 -6043291.79 -6043291.72 0.0088 0.0085

Mars -21258-09-05 21:21 J -6042813.72 -6042813.61 -6042813.50 0.1646 0.0466

Moon -21256-01-14 08:23 J -6042317.30 -6042317.15 -6042317.01 0.2639 0.0579

Earth -21256-01-14 09:36 J -6042317.24 -6042317.10 -6042316.96 0.2636 0.0781 *

Saturn -21256-04-06 08:23 J -6042235.30 -6042235.15 -6042234.99 0.0286 0.0158

Saturn -21256-07-04 08:38 J -6042146.33 -6042146.14 -6042145.96 0.0287 0.0040

Jupiter -21256-09-26 15:21 J -6042062.01 -6042061.86 -6042061.69 0.0497 0.0248

Saturn -21256-10-01 08:09 J -6042057.25 -6042057.16 -6042057.05 0.0288 0.0237

Jupiter -21256-12-26 00:14 J -6041971.54 -6041971.49 -6041971.43 0.0499 0.0469

Venus -21254-10-09 20:23 J -6041318.74 -6041318.65 -6041318.56 0.3753 0.1687

Jupiter -21250-05-20 16:48 J -6039999.88 -6039999.80 -6039999.73 0.0530 0.0418

Jupiter -21250-08-17 22:48 J -6039910.67 -6039910.55 -6039910.43 0.0528 0.0157

Mars -21248-01-26 08:38 J -6039383.26 -6039383.14 -6039383.03 0.1643 0.0060

Earth -21247-07-12 06:00 J -6038851.37 -6038851.25 -6038851.14 0.2698 0.0200

Moon -21247-07-12 06:14 J -6038851.36 -6038851.24 -6038851.13 0.2691 0.0214 *

Uranus -21247-10-04 21:36 J -6038766.65 -6038766.60 -6038766.54 0.0141 0.0126

Uranus -21246-01-01 01:11 J -6038678.54 -6038678.45 -6038678.37 0.0141 0.0105

Uranus -21246-03-30 04:33 J -6038590.41 -6038590.31 -6038590.20 0.0141 0.0084

Uranus -21246-06-26 08:09 J -6038502.28 -6038502.16 -6038502.04 0.0141 0.0063

Uranus -21246-09-22 11:45 J -6038414.14 -6038414.01 -6038413.88 0.0141 0.0042

Mars -21246-11-09 14:38 J -6038366.04 -6038365.89 -6038365.73 0.1874 0.0746

Uranus -21246-12-19 15:21 J -6038326.00 -6038325.86 -6038325.73 0.0142 0.0021

Uranus -21245-03-16 18:57 J -6038237.85 -6038237.71 -6038237.58 0.0142 0.0004

Uranus -21245-06-12 22:33 J -6038149.70 -6038149.56 -6038149.43 0.0142 0.0024

Uranus -21245-09-09 02:09 J -6038061.54 -6038061.41 -6038061.28 0.0142 0.0045

Uranus -21245-12-06 05:45 J -6037973.38 -6037973.26 -6037973.14 0.0142 0.0068

Uranus -21244-03-04 09:21 J -6037885.21 -6037885.11 -6037885.00 0.0142 0.0090

Uranus -21244-05-31 13:11 J -6037797.03 -6037796.95 -6037796.87 0.0142 0.0113

Jupiter -21244-07-15 13:11 J -6037752.05 -6037751.95 -6037751.85 0.0497 0.0420

Uranus -21244-08-27 16:48 J -6037708.83 -6037708.80 -6037708.75 0.0142 0.0135

Jupiter -21244-10-13 22:19 J -6037661.71 -6037661.57 -6037661.42 0.0498 0.0300

Moon -21243-01-17 12:28 J -6037565.99 -6037565.98 -6037565.96 0.2644 0.2615

Earth -21243-01-17 13:11 J -6037565.98 -6037565.95 -6037565.92 0.2638 0.2566 *

Saturn -21243-08-12 08:52 J -6037359.23 -6037359.13 -6037359.03 0.0276 0.0165

Saturn -21243-11-08 19:26 J -6037270.82 -6037270.69 -6037270.56 0.0275 0.0045

Saturn -21242-02-05 06:14 J -6037182.37 -6037182.24 -6037182.11 0.0274 0.0077

Saturn -21242-05-04 17:02 J -6037093.88 -6037093.79 -6037093.70 0.0273 0.0197

Mars -21239-06-18 19:40 J -6035952.79 -6035952.68 -6035952.56 0.1641 0.0452

Venus -21239-11-01 21:50 J -6035816.74 -6035816.59 -6035816.45 0.3622 0.1581

Jupiter -21238-06-06 02:52 J -6035600.51 -6035600.38 -6035600.25 0.0529 0.0012

Mars -21237-05-23 23:02 J -6035247.59 -6035247.54 -6035247.49 0.1651 0.1462

Earth -21236-01-09 07:40 J -6035017.19 -6035017.18 -6035017.17 0.2633 0.2613

Mars -21236-03-31 08:23 J -6034936.30 -6034936.15 -6034935.99 0.1877 0.0620

Moon -21234-07-15 00:14 J -6034100.59 -6034100.49 -6034100.39 0.2690 0.1307

Earth -21234-07-15 00:43 J -6034100.57 -6034100.47 -6034100.37 0.2696 0.1332 *

Jupiter -21232-08-01 19:40 J -6033351.86 -6033351.68 -6033351.50 0.0498 0.0120

Mars -21230-11-09 07:11 J -6032522.30 -6032522.20 -6032522.10 0.1639 0.0894

Mars -21228-10-14 10:04 J -6031817.17 -6031817.08 -6031816.99 0.1648 0.0988

Earth -21227-07-07 21:36 J -6031550.68 -6031550.60 -6031550.52 0.2700 0.1838

Moon -21227-07-07 22:19 J -6031550.65 -6031550.57 -6031550.49 0.2701 0.1819 *

Saturn -21227-08-24 06:57 J -6031503.33 -6031503.21 -6031503.08 0.0286 0.0213

Saturn -21227-11-21 07:11 J -6031414.39 -6031414.20 -6031414.02 0.0287 0.0015

Saturn -21226-02-18 06:57 J -6031325.35 -6031325.21 -6031325.06 0.0288 0.0182

Jupiter -21226-03-25 06:57 J -6031290.33 -6031290.21 -6031290.08 0.0529 0.0133

Jupiter -21226-06-22 13:26 J -6031201.01 -6031200.94 -6031200.88 0.0528 0.0446

Moon -21223-01-12 10:33 J -6030266.21 -6030266.06 -6030265.92 0.2635 0.0858

Earth -21223-01-12 12:00 J -6030266.15 -6030266.00 -6030265.86 0.2635 0.0722 *

Moon -21221-07-16 18:57 J -6029349.76 -6029349.71 -6029349.66 0.2692 0.2355

Earth -21221-07-16 19:40 J -6029349.72 -6029349.68 -6029349.64 0.2694 0.2501 *

Mars -21220-03-31 18:43 J -6029091.79 -6029091.72 -6029091.66 0.1637 0.1332

Jupiter -21220-05-20 16:48 J -6029041.98 -6029041.80 -6029041.61 0.0497 0.0060

Mars -21218-03-06 21:21 J -6028386.72 -6028386.61 -6028386.50 0.1646 0.0527

Jupiter -21214-01-11 11:31 J -6026980.13 -6026980.02 -6026979.91 0.0530 0.0268

Jupiter -21214-04-10 17:45 J -6026890.86 -6026890.76 -6026890.65 0.0528 0.0310

Earth -21214-07-10 16:04 J -6026799.94 -6026799.83 -6026799.72 0.2699 0.0731

Moon -21214-07-10 16:48 J -6026799.91 -6026799.80 -6026799.69 0.2694 0.0629 *

Saturn -21214-12-30 11:16 J -6026627.12 -6026627.03 -6026626.94 0.0276 0.0201

Saturn -21213-03-27 21:50 J -6026538.71 -6026538.59 -6026538.46 0.0275 0.0080

Saturn -21213-06-24 08:38 J -6026450.27 -6026450.14 -6026450.01 0.0274 0.0041

Saturn -21213-09-20 19:11 J -6026361.80 -6026361.70 -6026361.59 0.0273 0.0161

Moon -21210-01-15 14:23 J -6025515.03 -6025514.90 -6025514.76 0.2640 0.1070

Earth -21210-01-15 15:50 J -6025514.98 -6025514.84 -6025514.71 0.2636 0.1117 *

Mars -21209-07-27 08:23 J -6024956.26 -6024956.15 -6024956.03 0.1643 0.0084

Jupiter -21208-03-08 13:40 J -6024732.09 -6024731.93 -6024731.77 0.0497 0.0245

Venus -21208-04-16 10:33 J -6024693.15 -6024693.06 -6024692.97 0.3750 0.1827

Jupiter -21208-06-06 22:19 J -6024641.62 -6024641.57 -6024641.51 0.0499 0.0472

Uranus -21207-08-21 07:26 J -6024201.27 -6024201.19 -6024201.08 0.0137 0.0119

Uranus -21207-11-17 14:52 J -6024113.01 -6024112.88 -6024112.73 0.0137 0.0090

Uranus -21206-02-13 22:04 J -6024024.73 -6024024.58 -6024024.40 0.0137 0.0062

Mars -21206-05-10 15:36 J -6023938.99 -6023938.85 -6023938.70 0.1874 0.0874

Uranus -21206-05-13 05:31 J -6023936.45 -6023936.27 -6023936.08 0.0137 0.0034

Uranus -21206-08-09 12:43 J -6023848.16 -6023847.97 -6023847.78 0.0137 0.0006

Uranus -21206-11-05 19:40 J -6023759.86 -6023759.68 -6023759.49 0.0137 0.0022

Uranus -21205-02-02 02:38 J -6023671.56 -6023671.39 -6023671.21 0.0137 0.0049

Uranus -21205-04-30 09:36 J -6023583.25 -6023583.10 -6023582.94 0.0136 0.0076

Uranus -21205-07-27 16:19 J -6023494.93 -6023494.82 -6023494.68 0.0136 0.0103

Uranus -21205-10-23 23:31 J -6023406.58 -6023406.52 -6023406.46 0.0136 0.0129

Pluto -21204-05-01 13:11 J -6023216.98 -6023216.95 -6023216.89 0.0073 0.0070

Pluto -21204-07-28 14:23 J -6023128.96 -6023128.90 -6023128.80 0.0073 0.0063

Pluto -21204-10-24 16:04 J -6023040.93 -6023040.83 -6023040.71 0.0073 0.0054

Pluto -21203-01-20 17:31 J -6022952.89 -6022952.77 -6022952.64 0.0073 0.0045

Pluto -21203-04-18 18:43 J -6022864.84 -6022864.72 -6022864.57 0.0073 0.0037

Pluto -21203-07-15 20:09 J -6022776.79 -6022776.66 -6022776.51 0.0073 0.0029

Pluto -21203-10-11 21:36 J -6022688.75 -6022688.60 -6022688.45 0.0073 0.0021

Jupiter -21203-10-30 16:04 J -6022669.91 -6022669.83 -6022669.75 0.0530 0.0405

Venus -21203-10-31 02:09 J -6022669.51 -6022669.41 -6022669.31 0.3752 0.0333

Pluto -21202-01-07 23:02 J -6022600.70 -6022600.54 -6022600.39 0.0072 0.0013

Jupiter -21202-01-27 22:04 J -6022580.70 -6022580.58 -6022580.45 0.0528 0.0172

Pluto -21202-04-06 00:14 J -6022512.64 -6022512.49 -6022512.33 0.0072 0.0005

Pluto -21202-07-03 01:26 J -6022424.59 -6022424.44 -6022424.28 0.0072 0.0004

Pluto -21202-09-29 02:38 J -6022336.54 -6022336.39 -6022336.23 0.0072 0.0011

Pluto -21202-12-26 03:50 J -6022248.48 -6022248.34 -6022248.18 0.0072 0.0019

Pluto -21201-03-23 05:16 J -6022160.42 -6022160.28 -6022160.14 0.0072 0.0026

Pluto -21201-06-19 06:28 J -6022072.36 -6022072.23 -6022072.09 0.0072 0.0034

Moon -21201-07-12 11:02 J -6022049.16 -6022049.04 -6022048.93 0.2691 0.0416

Earth -21201-07-12 10:48 J -6022049.16 -6022049.05 -6022048.93 0.2697 0.0410 *

Pluto -21201-09-15 07:26 J -6021984.30 -6021984.19 -6021984.05 0.0072 0.0042

Pluto -21201-12-12 08:52 J -6021896.24 -6021896.13 -6021896.01 0.0071 0.0049

Pluto -21200-03-10 09:50 J -6021808.17 -6021808.09 -6021807.98 0.0071 0.0056

Pluto -21200-06-06 11:02 J -6021720.10 -6021720.04 -6021719.96 0.0071 0.0064

Pluto -21200-09-02 12:28 J -6021631.99 -6021631.98 -6021631.96 0.0071 0.0071

Mars -21200-12-17 19:40 J -6021525.79 -6021525.68 -6021525.56 0.1641 0.0392

Mars -21198-11-22 23:02 J -6020820.58 -6020820.54 -6020820.50 0.1651 0.1523

Saturn -21197-01-11 03:36 J -6020771.37 -6020771.35 -6020771.34 0.0285 0.0284

Saturn -21197-04-09 03:36 J -6020682.52 -6020682.35 -6020682.17 0.0286 0.0086

Venus -21197-05-15 18:00 J -6020645.83 -6020645.75 -6020645.68 0.3753 0.2475

Saturn -21197-07-07 03:36 J -6020593.52 -6020593.35 -6020593.18 0.0287 0.0112

Mars -21197-09-29 09:21 J -6020509.27 -6020509.11 -6020508.95 0.1877 0.0488

Jupiter -21197-12-25 11:02 J -6020422.13 -6020422.04 -6020421.93 0.0497 0.0419

Jupiter -21196-03-25 20:23 J -6020331.79 -6020331.65 -6020331.50 0.0498 0.0301

Jupiter -21191-11-16 01:40 J -6018270.56 -6018270.43 -6018270.30 0.0529 0.0016

Moon -21190-01-10 12:57 J -6018215.04 -6018214.96 -6018214.89 0.2629 0.2285

Earth -21190-01-10 13:55 J -6018214.99 -6018214.92 -6018214.84 0.2633 0.2254 *

Mars -21190-05-10 07:11 J -6018095.30 -6018095.20 -6018095.10 0.1639 0.0832

Mars -21188-04-14 10:04 J -6017390.17 -6017390.08 -6017389.99 0.1648 0.1051

Moon -21188-07-15 05:16 J -6017298.38 -6017298.28 -6017298.19 0.2690 0.1476

Earth -21188-07-15 05:45 J -6017298.35 -6017298.26 -6017298.17 0.2696 0.1559 *

Mars -21187-02-19 02:52 J -6017079.39 -6017079.38 -6017079.38 0.1881 0.1877

Jupiter -21184-01-11 18:28 J -6016021.91 -6016021.73 -6016021.55 0.0498 0.0132

Saturn -21184-05-18 14:09 J -6015894.98 -6015894.91 -6015894.84 0.0277 0.0233

Saturn -21184-08-15 00:43 J -6015806.59 -6015806.47 -6015806.35 0.0276 0.0112

Saturn -21184-11-11 11:31 J -6015718.15 -6015718.02 -6015717.89 0.0275 0.0011

Saturn -21183-02-07 22:04 J -6015629.69 -6015629.58 -6015629.46 0.0274 0.0130

Saturn -21183-05-07 08:52 J -6015541.18 -6015541.13 -6015541.08 0.0273 0.0250

Neptune -21182-04-20 12:43 J -6015192.99 -6015192.97 -6015192.94 0.0089 0.0087

Venus -21182-06-08 23:45 J -6015143.66 -6015143.51 -6015143.35 0.3622 0.0589

Neptune -21182-07-17 14:09 J -6015104.96 -6015104.91 -6015104.85 0.0089 0.0080

Neptune -21182-10-13 15:21 J -6015016.92 -6015016.86 -6015016.78 0.0089 0.0074

Neptune -21181-01-09 16:48 J -6014928.88 -6014928.80 -6014928.71 0.0089 0.0067

Neptune -21181-04-06 18:14 J -6014840.84 -6014840.74 -6014840.64 0.0089 0.0060

Neptune -21181-07-03 19:26 J -6014752.79 -6014752.69 -6014752.58 0.0089 0.0053

Earth -21181-07-08 02:23 J -6014748.49 -6014748.40 -6014748.31 0.2700 0.1629

Moon -21181-07-08 03:07 J -6014748.46 -6014748.37 -6014748.27 0.2700 0.1487 *

Mars -21181-09-29 18:28 J -6014664.80 -6014664.73 -6014664.66 0.1637 0.1277

Neptune -21181-09-29 20:52 J -6014664.74 -6014664.63 -6014664.52 0.0089 0.0046 *

Neptune -21181-12-26 22:19 J -6014576.69 -6014576.57 -6014576.46 0.0089 0.0039

Neptune -21180-03-24 23:31 J -6014488.64 -6014488.52 -6014488.40 0.0089 0.0032

Neptune -21180-06-21 00:57 J -6014400.59 -6014400.46 -6014400.34 0.0089 0.0025

Neptune -21180-09-17 02:09 J -6014312.54 -6014312.41 -6014312.28 0.0089 0.0018

Neptune -21180-12-14 03:36 J -6014224.48 -6014224.35 -6014224.22 0.0089 0.0011

Neptune -21179-03-12 04:48 J -6014136.43 -6014136.30 -6014136.16 0.0089 0.0005

Neptune -21179-06-08 06:14 J -6014048.37 -6014048.24 -6014048.11 0.0089 0.0003

Jupiter -21179-09-04 05:45 J -6013960.39 -6013960.26 -6013960.14 0.0529 0.0129

Neptune -21179-09-04 07:40 J -6013960.31 -6013960.18 -6013960.05 0.0089 0.0011 *

Mars -21179-09-04 21:07 J -6013959.72 -6013959.62 -6013959.51 0.1646 0.0588

Neptune -21179-12-01 08:52 J -6013872.26 -6013872.13 -6013872.00 0.0089 0.0018

Jupiter -21179-12-02 12:00 J -6013871.07 -6013871.00 -6013870.93 0.0527 0.0448

Neptune -21178-02-27 10:19 J -6013784.20 -6013784.07 -6013783.94 0.0089 0.0025

Neptune -21178-05-26 11:45 J -6013696.14 -6013696.01 -6013695.89 0.0089 0.0032

Neptune -21178-08-22 12:43 J -6013608.08 -6013607.97 -6013607.84 0.0089 0.0040

Neptune -21178-11-18 14:09 J -6013520.01 -6013519.91 -6013519.79 0.0089 0.0046

Moon -21177-01-13 16:48 J -6013463.95 -6013463.80 -6013463.66 0.2636 0.0545

Earth -21177-01-13 18:14 J -6013463.89 -6013463.74 -6013463.59 0.2635 0.0365 *

Neptune -21177-02-14 15:36 J -6013431.95 -6013431.85 -6013431.74 0.0089 0.0053

Neptune -21177-05-12 16:48 J -6013343.88 -6013343.80 -6013343.69 0.0089 0.0061

Neptune -21177-08-08 18:14 J -6013255.82 -6013255.74 -6013255.64 0.0089 0.0068

Neptune -21177-11-04 19:40 J -6013167.74 -6013167.68 -6013167.60 0.0089 0.0074

Neptune -21176-01-31 21:07 J -6013079.67 -6013079.62 -6013079.56 0.0089 0.0081

Neptune -21176-04-29 22:33 J -6012991.57 -6012991.56 -6012991.54 0.0089 0.0089

Moon -21175-07-18 00:00 J -6012547.50 -6012547.50 -6012547.50 0.2694 0.2693

Jupiter -21173-10-30 15:50 J -6011712.03 -6011711.84 -6011711.66 0.0497 0.0049

Mars -21169-01-26 08:23 J -6010529.27 -6010529.15 -6010529.03 0.1643 0.0123

Earth -21168-07-10 21:07 J -6009997.73 -6009997.62 -6009997.51 0.2699 0.0506

Moon -21168-07-10 21:36 J -6009997.71 -6009997.60 -6009997.49 0.2693 0.0504 *

Saturn -21168-08-27 01:55 J -6009950.58 -6009950.42 -6009950.26 0.0286 0.0143

Saturn -21168-11-24 01:55 J -6009861.60 -6009861.42 -6009861.23 0.0287 0.0055

Saturn -21167-02-21 01:40 J -6009772.51 -6009772.43 -6009772.34 0.0288 0.0253

Jupiter -21167-06-23 09:50 J -6009650.20 -6009650.09 -6009649.98 0.0530 0.0272

Jupiter -21167-09-20 16:04 J -6009560.93 -6009560.83 -6009560.73 0.0528 0.0305

Mars -21167-11-08 16:04 J -6009511.97 -6009511.83 -6009511.68 0.1874 0.0986

Moon -21164-01-15 20:52 J -6008712.76 -6008712.63 -6008712.50 0.2640 0.1318

Earth -21164-01-15 22:04 J -6008712.71 -6008712.58 -6008712.46 0.2637 0.1464 *

Uranus -21163-10-25 04:04 J -6008065.38 -6008065.33 -6008065.27 0.0141 0.0125

Uranus -21162-01-21 07:26 J -6007977.27 -6007977.19 -6007977.09 0.0141 0.0104

Uranus -21162-04-19 11:02 J -6007889.14 -6007889.04 -6007888.93 0.0141 0.0083

Uranus -21162-07-16 14:38 J -6007801.01 -6007800.89 -6007800.77 0.0141 0.0062

Uranus -21162-10-12 18:14 J -6007712.87 -6007712.74 -6007712.61 0.0141 0.0040

Uranus -21161-01-08 21:50 J -6007624.72 -6007624.59 -6007624.46 0.0142 0.0019

Uranus -21161-04-06 01:26 J -6007536.58 -6007536.44 -6007536.31 0.0142 0.0004

Uranus -21161-07-03 05:02 J -6007448.42 -6007448.29 -6007448.16 0.0142 0.0025

Jupiter -21161-08-18 12:57 J -6007402.12 -6007401.96 -6007401.80 0.0497 0.0227

Uranus -21161-09-29 08:38 J -6007360.27 -6007360.14 -6007360.01 0.0142 0.0047

Jupiter -21161-11-16 21:50 J -6007311.62 -6007311.59 -6007311.56 0.0498 0.0489

Uranus -21161-12-26 12:14 J -6007272.10 -6007271.99 -6007271.87 0.0142 0.0069

Uranus -21160-03-24 15:50 J -6007183.94 -6007183.84 -6007183.73 0.0142 0.0092

Mars -21160-06-17 19:40 J -6007098.79 -6007098.68 -6007098.56 0.1641 0.0330

Uranus -21160-06-20 19:40 J -6007095.76 -6007095.68 -6007095.60 0.0142 0.0114

Uranus -21160-09-16 23:31 J -6007007.56 -6007007.52 -6007007.49 0.0142 0.0137

Mars -21158-05-23 23:02 J -6006393.57 -6006393.54 -6006393.51 0.1651 0.1583

Mars -21157-03-30 10:33 J -6006082.23 -6006082.06 -6006081.90 0.1877 0.0344

Venus -21157-05-07 16:19 J -6006043.87 -6006043.82 -6006043.76 0.3749 0.3161

Jupiter -21155-04-11 14:23 J -6005339.98 -6005339.90 -6005339.82 0.0530 0.0407

Jupiter -21155-07-09 20:38 J -6005250.76 -6005250.64 -6005250.52 0.0529 0.0169

Moon -21155-07-13 15:36 J -6005246.96 -6005246.85 -6005246.73 0.2691 0.0653

Earth -21155-07-13 15:50 J -6005246.95 -6005246.84 -6005246.73 0.2697 0.0628 *

Saturn -21155-10-05 16:19 J -6005162.84 -6005162.82 -6005162.80 0.0276 0.0271

Saturn -21154-01-02 02:52 J -6005074.49 -6005074.38 -6005074.27 0.0275 0.0150

Saturn -21154-03-31 13:40 J -6004986.07 -6004985.93 -6004985.80 0.0274 0.0030

Saturn -21154-06-28 00:14 J -6004897.61 -6004897.49 -6004897.36 0.0273 0.0091

Saturn -21154-09-24 10:48 J -6004809.13 -6004809.05 -6004808.96 0.0273 0.0212

Venus -21152-11-21 07:55 J -6004020.26 -6004020.17 -6004020.07 0.3750 0.1054

Mars -21151-11-08 07:11 J -6003668.30 -6003668.20 -6003668.10 0.1639 0.0775

Jupiter -21149-06-06 09:36 J -6003092.19 -6003092.10 -6003091.99 0.0496 0.0411

Jupiter -21149-09-04 18:57 J -6003001.85 -6003001.71 -6003001.57 0.0498 0.0308

Mars -21149-10-13 10:04 J -6002963.17 -6002963.08 -6002963.00 0.1648 0.1111

Earth -21148-07-06 12:57 J -6002697.00 -6002696.96 -6002696.92 0.2702 0.2513

Moon -21148-07-06 13:26 J -6002696.99 -6002696.94 -6002696.89 0.2706 0.2399 *

Mars -21148-08-20 03:36 J -6002652.41 -6002652.35 -6002652.30 0.1881 0.1757

Venus -21146-06-06 23:45 J -6001996.61 -6001996.51 -6001996.42 0.3752 0.1107

Moon -21144-01-10 18:57 J -6001412.80 -6001412.71 -6001412.62 0.2630 0.2096

Earth -21144-01-10 20:23 J -6001412.76 -6001412.65 -6001412.55 0.2633 0.1895 *

Jupiter -21143-04-28 00:57 J -6000940.58 -6000940.46 -6000940.33 0.0529 0.0036

Moon -21142-07-16 10:04 J -6000496.16 -6000496.08 -6000495.99 0.2690 0.1728

Earth -21142-07-16 10:48 J -6000496.14 -6000496.05 -6000495.97 0.2695 0.1785 *

Mars -21141-03-30 18:28 J -6000237.80 -6000237.73 -6000237.65 0.1637 0.1215

Venus -21141-12-20 15:21 J -5999972.90 -5999972.86 -5999972.81 0.3753 0.3273

Mars -21139-03-05 21:07 J -5999532.72 -5999532.62 -5999532.51 0.1646 0.0647

Saturn -21138-01-13 21:21 J -5999218.72 -5999218.61 -5999218.49 0.0285 0.0222

Saturn -21138-04-12 21:36 J -5999129.78 -5999129.60 -5999129.41 0.0287 0.0024

Saturn -21138-07-10 21:21 J -5999040.75 -5999040.61 -5999040.46 0.0288 0.0175

Jupiter -21137-06-23 16:48 J -5998691.97 -5998691.80 -5998691.62 0.0498 0.0139

Earth -21135-07-09 07:26 J -5997946.29 -5997946.19 -5997946.10 0.2700 0.1411

Moon -21135-07-09 08:09 J -5997946.26 -5997946.16 -5997946.07 0.2698 0.1397 *

Moon -21131-01-13 22:48 J -5996661.70 -5996661.55 -5996661.40 0.2636 0.0133

Earth -21131-01-14 00:28 J -5996661.63 -5996661.48 -5996661.33 0.2635 0.0027 *

Jupiter -21131-02-14 04:33 J -5996630.43 -5996630.31 -5996630.18 0.0529 0.0121

Jupiter -21131-05-14 11:02 J -5996541.11 -5996541.04 -5996540.98 0.0527 0.0456

Mars -21130-07-27 08:23 J -5996102.26 -5996102.15 -5996102.03 0.1643 0.0189

Mars -21127-05-09 17:16 J -5995084.91 -5995084.78 -5995084.65 0.1874 0.1122

Venus -21125-01-14 01:55 J -5994470.53 -5994470.42 -5994470.32 0.3621 0.2722

Jupiter -21125-04-11 14:52 J -5994382.07 -5994381.88 -5994381.70 0.0498 0.0033

Saturn -21125-05-21 05:31 J -5994342.37 -5994342.27 -5994342.18 0.0276 0.0186

Saturn -21125-08-17 16:04 J -5994253.96 -5994253.83 -5994253.70 0.0275 0.0065

Saturn -21125-11-14 02:52 J -5994165.51 -5994165.38 -5994165.25 0.0274 0.0057

Saturn -21124-02-10 13:26 J -5994077.04 -5994076.94 -5994076.84 0.0274 0.0178

Uranus -21123-09-10 13:55 J -5993500.01 -5993499.92 -5993499.80 0.0137 0.0115

Uranus -21123-12-07 21:07 J -5993411.75 -5993411.62 -5993411.46 0.0137 0.0087

Uranus -21122-03-06 04:33 J -5993323.47 -5993323.31 -5993323.13 0.0137 0.0058

Uranus -21122-06-02 11:45 J -5993235.19 -5993235.01 -5993234.82 0.0137 0.0030

Earth -21122-07-12 01:55 J -5993195.53 -5993195.42 -5993195.30 0.2699 0.0312

Moon -21122-07-12 02:23 J -5993195.51 -5993195.40 -5993195.28 0.2693 0.0204 *

Uranus -21122-08-29 18:57 J -5993146.89 -5993146.71 -5993146.52 0.0137 0.0004

Uranus -21122-11-26 02:09 J -5993058.60 -5993058.41 -5993058.23 0.0137 0.0025

Uranus -21121-02-22 08:52 J -5992970.29 -5992970.13 -5992969.95 0.0137 0.0053

Uranus -21121-05-20 15:50 J -5992881.98 -5992881.84 -5992881.68 0.0137 0.0080

Uranus -21121-08-16 23:02 J -5992793.66 -5992793.54 -5992793.43 0.0136 0.0106

Uranus -21121-11-13 05:31 J -5992705.30 -5992705.27 -5992705.21 0.0136 0.0133

Mars -21121-12-16 19:40 J -5992671.79 -5992671.68 -5992671.56 0.1641 0.0269

Jupiter -21120-12-03 08:52 J -5992320.24 -5992320.13 -5992320.02 0.0529 0.0264

Jupiter -21119-03-02 14:52 J -5992230.98 -5992230.88 -5992230.77 0.0528 0.0312

Mars -21119-11-21 23:02 J -5991966.55 -5991966.54 -5991966.54 0.1651 0.1645

Moon -21118-01-17 03:21 J -5991910.47 -5991910.36 -5991910.25 0.2642 0.1744

Earth -21118-01-17 04:04 J -5991910.43 -5991910.33 -5991910.22 0.2637 0.1811 *

Mars -21118-09-29 10:48 J -5991655.22 -5991655.05 -5991654.88 0.1877 0.0246

Jupiter -21113-01-29 12:00 J -5990072.16 -5990072.00 -5990071.83 0.0497 0.0212

Mars -21111-05-09 06:57 J -5989241.31 -5989241.21 -5989241.10 0.1639 0.0719

Mars -21109-04-13 10:04 J -5988536.16 -5988536.08 -5988536.00 0.1648 0.1171

Saturn -21109-06-01 19:11 J -5988486.72 -5988486.70 -5988486.67 0.0285 0.0282

Moon -21109-07-13 20:38 J -5988444.75 -5988444.64 -5988444.53 0.2690 0.0780

Earth -21109-07-13 20:52 J -5988444.74 -5988444.63 -5988444.53 0.2697 0.0858 *

Saturn -21109-08-29 19:26 J -5988397.87 -5988397.69 -5988397.51 0.0286 0.0084

Saturn -21109-11-26 19:26 J -5988308.86 -5988308.69 -5988308.52 0.0287 0.0114

Mars -21108-02-18 04:33 J -5988225.39 -5988225.31 -5988225.23 0.1881 0.1618

Jupiter -21108-09-21 12:57 J -5988010.04 -5988009.96 -5988009.88 0.0530 0.0406

Jupiter -21108-12-19 19:11 J -5987920.82 -5987920.70 -5987920.58 0.0528 0.0170

Earth -21102-07-07 17:45 J -5985894.81 -5985894.76 -5985894.70 0.2701 0.2301

Moon -21102-07-07 18:28 J -5985894.79 -5985894.73 -5985894.67 0.2705 0.2272 *

Mars -21102-09-29 18:28 J -5985810.81 -5985810.73 -5985810.65 0.1637 0.1157

Jupiter -21102-11-17 09:21 J -5985762.22 -5985762.11 -5985761.99 0.0497 0.0389

Jupiter -21101-02-15 18:28 J -5985671.86 -5985671.73 -5985671.59 0.0498 0.0330

Venus -21101-12-12 13:55 J -5985371.00 -5985370.92 -5985370.85 0.3749 0.2383

Mars -21100-09-03 21:07 J -5985105.72 -5985105.62 -5985105.51 0.1646 0.0706

Neptune -21099-10-07 00:57 J -5984707.48 -5984707.46 -5984707.40 0.0088 0.0086

Neptune -21098-01-03 04:33 J -5984619.39 -5984619.31 -5984619.20 0.0088 0.0076

Moon -21098-01-12 01:11 J -5984610.57 -5984610.45 -5984610.33 0.2632 0.1581

Earth -21098-01-12 02:38 J -5984610.51 -5984610.39 -5984610.27 0.2634 0.1544 *

Neptune -21098-04-01 08:09 J -5984531.27 -5984531.16 -5984531.02 0.0088 0.0066

Neptune -21098-06-28 11:45 J -5984443.14 -5984443.01 -5984442.84 0.0088 0.0057

Neptune -21098-09-24 15:36 J -5984355.01 -5984354.85 -5984354.68 0.0088 0.0046

Neptune -21098-12-21 19:11 J -5984266.87 -5984266.70 -5984266.52 0.0088 0.0036

Neptune -21097-03-18 22:48 J -5984178.73 -5984178.55 -5984178.36 0.0088 0.0026

Neptune -21097-06-15 02:23 J -5984090.59 -5984090.40 -5984090.21 0.0088 0.0017

Neptune -21097-09-11 05:45 J -5984002.45 -5984002.26 -5984002.06 0.0088 0.0007

Neptune -21097-12-08 09:21 J -5983914.30 -5983914.11 -5983913.91 0.0088 0.0004

Neptune -21096-03-06 12:57 J -5983826.15 -5983825.96 -5983825.77 0.0088 0.0013

Neptune -21096-06-02 16:19 J -5983738.00 -5983737.82 -5983737.63 0.0088 0.0023

Moon -21096-07-16 15:07 J -5983693.95 -5983693.87 -5983693.79 0.2692 0.1958

Earth -21096-07-16 15:36 J -5983693.92 -5983693.85 -5983693.77 0.2695 0.2015 *

Neptune -21096-08-29 19:55 J -5983649.85 -5983649.67 -5983649.49 0.0088 0.0033

Jupiter -21096-10-07 23:31 J -5983610.64 -5983610.52 -5983610.39 0.0529 0.0039

Saturn -21096-10-08 07:26 J -5983610.26 -5983610.19 -5983610.11 0.0276 0.0226

Neptune -21096-11-25 23:16 J -5983561.69 -5983561.53 -5983561.35 0.0088 0.0042

Saturn -21095-01-04 18:14 J -5983521.86 -5983521.74 -5983521.62 0.0275 0.0105

Neptune -21095-02-22 02:38 J -5983473.53 -5983473.39 -5983473.22 0.0088 0.0052

Saturn -21095-04-03 04:48 J -5983433.43 -5983433.30 -5983433.17 0.0274 0.0017

Neptune -21095-05-21 06:00 J -5983385.37 -5983385.25 -5983385.09 0.0088 0.0062

Venus -21095-06-28 05:31 J -5983347.37 -5983347.27 -5983347.17 0.3751 0.0260

Saturn -21095-06-30 15:36 J -5983344.97 -5983344.85 -5983344.74 0.0273 0.0137

Neptune -21095-08-17 09:50 J -5983297.20 -5983297.09 -5983296.97 0.0088 0.0071

Saturn -21095-09-27 02:09 J -5983256.45 -5983256.41 -5983256.37 0.0272 0.0257

Neptune -21095-11-13 12:57 J -5983209.01 -5983208.96 -5983208.87 0.0088 0.0082

Mars -21092-02-19 06:00 J -5982380.27 -5982380.25 -5982380.23 0.1635 0.1591

Mars -21090-01-25 08:23 J -5981675.26 -5981675.15 -5981675.03 0.1643 0.0246

Jupiter -21090-12-04 15:50 J -5981362.02 -5981361.84 -5981361.67 0.0498 0.0150

Venus -21089-01-11 21:07 J -5981323.70 -5981323.62 -5981323.53 0.3752 0.1898

Earth -21089-07-09 12:14 J -5981144.09 -5981143.99 -5981143.88 0.2700 0.1201

Moon -21089-07-09 12:57 J -5981144.06 -5981143.96 -5981143.85 0.2697 0.1064 *

Mars -21088-11-07 17:45 J -5980657.88 -5980657.76 -5980657.63 0.1874 0.1241

Moon -21085-01-15 05:16 J -5979859.43 -5979859.28 -5979859.13 0.2636 0.0144

Earth -21085-01-15 06:43 J -5979859.37 -5979859.22 -5979859.07 0.2635 0.0337 *

Jupiter -21084-07-27 04:04 J -5979300.45 -5979300.33 -5979300.20 0.0529 0.0104

Jupiter -21084-10-24 10:33 J -5979211.11 -5979211.06 -5979211.01 0.0528 0.0476

Mars -21081-06-16 19:40 J -5978244.79 -5978244.68 -5978244.56 0.1641 0.0208

Saturn -21079-01-16 14:23 J -5977666.04 -5977665.90 -5977665.74 0.0286 0.0166

Saturn -21079-04-15 14:38 J -5977577.07 -5977576.89 -5977576.70 0.0287 0.0033

Saturn -21079-07-13 14:38 J -5977488.00 -5977487.89 -5977487.78 0.0288 0.0230

Uranus -21079-11-14 10:33 J -5977364.11 -5977364.06 -5977363.99 0.0141 0.0123

Uranus -21078-02-10 14:09 J -5977276.00 -5977275.91 -5977275.82 0.0141 0.0102

Mars -21078-03-30 12:00 J -5977228.17 -5977228.00 -5977227.84 0.1877 0.0117

Uranus -21078-05-09 17:31 J -5977187.87 -5977187.77 -5977187.65 0.0141 0.0081

Uranus -21078-08-05 21:07 J -5977099.74 -5977099.62 -5977099.49 0.0141 0.0060

Jupiter -21078-09-22 13:40 J -5977052.11 -5977051.93 -5977051.74 0.0497 0.0021

Uranus -21078-11-02 00:43 J -5977011.60 -5977011.47 -5977011.34 0.0141 0.0039

Uranus -21077-01-29 04:19 J -5976923.45 -5976923.32 -5976923.19 0.0142 0.0017

Uranus -21077-04-26 07:55 J -5976835.30 -5976835.17 -5976835.04 0.0142 0.0005

Uranus -21077-07-23 11:31 J -5976747.15 -5976747.02 -5976746.89 0.0142 0.0027

Uranus -21077-10-19 15:07 J -5976658.99 -5976658.87 -5976658.74 0.0142 0.0049

Uranus -21076-01-15 18:43 J -5976570.83 -5976570.72 -5976570.60 0.0142 0.0071

Uranus -21076-04-13 22:19 J -5976482.66 -5976482.57 -5976482.46 0.0142 0.0093

Uranus -21076-07-11 02:09 J -5976394.49 -5976394.41 -5976394.33 0.0142 0.0116

Earth -21076-07-12 06:57 J -5976393.32 -5976393.21 -5976393.10 0.2698 0.0073

Moon -21076-07-12 07:11 J -5976393.31 -5976393.20 -5976393.08 0.2693 0.0136 *

Uranus -21076-10-07 05:45 J -5976306.28 -5976306.26 -5976306.22 0.0142 0.0138

Venus -21074-02-03 18:57 J -5975821.85 -5975821.71 -5975821.56 0.3623 0.1511

Moon -21072-01-17 09:36 J -5975108.18 -5975108.10 -5975108.01 0.2643 0.2111

Earth -21072-01-17 10:19 J -5975108.15 -5975108.07 -5975107.98 0.2637 0.2150 *

Jupiter -21072-05-15 07:55 J -5974990.28 -5974990.17 -5974990.06 0.0529 0.0252

Jupiter -21072-08-12 14:09 J -5974901.01 -5974900.91 -5974900.81 0.0527 0.0323

Mars -21072-11-07 06:57 J -5974814.31 -5974814.21 -5974814.10 0.1639 0.0659

Mars -21070-10-13 10:04 J -5974109.16 -5974109.08 -5974109.01 0.1648 0.1233

Mars -21069-08-19 05:02 J -5973798.39 -5973798.29 -5973798.19 0.1881 0.1502

Saturn -21066-02-25 09:36 J -5972878.13 -5972878.10 -5972878.06 0.0277 0.0266

Saturn -21066-05-24 20:23 J -5972789.76 -5972789.65 -5972789.54 0.0276 0.0144

Jupiter -21066-07-11 11:31 J -5972742.19 -5972742.02 -5972741.85 0.0497 0.0193

Saturn -21066-08-21 06:57 J -5972701.34 -5972701.21 -5972701.07 0.0275 0.0024

Saturn -21066-11-17 17:45 J -5972612.88 -5972612.76 -5972612.64 0.0274 0.0099

Saturn -21065-02-14 04:19 J -5972524.39 -5972524.32 -5972524.23 0.0273 0.0221

Moon -21063-07-15 01:26 J -5971642.54 -5971642.44 -5971642.33 0.2690 0.1101

Earth -21063-07-15 01:40 J -5971642.53 -5971642.43 -5971642.32 0.2697 0.1075 *

Mars -21062-03-30 18:28 J -5971383.82 -5971383.73 -5971383.65 0.1637 0.1099

Jupiter -21060-03-03 12:14 J -5970680.08 -5970679.99 -5970679.91 0.0530 0.0394

Mars -21060-03-04 21:07 J -5970678.72 -5970678.62 -5970678.51 0.1646 0.0767

Jupiter -21060-05-31 18:14 J -5970590.86 -5970590.74 -5970590.62 0.0528 0.0180

Earth -21056-07-07 22:48 J -5969092.62 -5969092.55 -5969092.48 0.2701 0.2088

Moon -21056-07-07 23:31 J -5969092.60 -5969092.52 -5969092.45 0.2703 0.2003 *

Jupiter -21054-04-29 08:52 J -5968432.25 -5968432.13 -5968432.01 0.0497 0.0371

Jupiter -21054-07-28 18:00 J -5968341.88 -5968341.75 -5968341.62 0.0498 0.0349

Mars -21053-08-20 06:00 J -5967953.29 -5967953.25 -5967953.22 0.1635 0.1535

Moon -21052-01-12 07:11 J -5967808.32 -5967808.20 -5967808.07 0.2632 0.1431

Earth -21052-01-12 08:52 J -5967808.27 -5967808.13 -5967808.00 0.2634 0.1185 *

Mars -21051-07-26 08:23 J -5967248.27 -5967248.15 -5967248.04 0.1643 0.0305

Saturn -21050-06-05 12:00 J -5966934.10 -5966934.00 -5966933.87 0.0285 0.0228

Moon -21050-07-17 19:55 J -5966891.74 -5966891.67 -5966891.60 0.2693 0.2115

Earth -21050-07-17 20:38 J -5966891.70 -5966891.64 -5966891.58 0.2695 0.2240 *

Saturn -21050-09-02 12:28 J -5966845.17 -5966844.98 -5966844.80 0.0286 0.0030

Saturn -21050-11-30 12:14 J -5966756.14 -5966755.99 -5966755.84 0.0288 0.0168

Venus -21049-01-03 19:40 J -5966721.69 -5966721.68 -5966721.67 0.3748 0.3700

Jupiter -21048-03-19 22:19 J -5966280.70 -5966280.57 -5966280.44 0.0529 0.0037

Mars -21048-05-08 18:43 J -5966230.84 -5966230.72 -5966230.61 0.1874 0.1362

Venus -21044-07-19 11:16 J -5964698.12 -5964698.03 -5964697.94 0.3749 0.1602

Earth -21043-07-10 17:16 J -5964341.88 -5964341.78 -5964341.67 0.2700 0.0977

Moon -21043-07-10 18:00 J -5964341.85 -5964341.75 -5964341.64 0.2697 0.0950 *

Pluto -21042-01-11 15:36 J -5964156.87 -5964156.85 -5964156.79 0.0071 0.0069

Pluto -21042-04-09 17:02 J -5964068.85 -5964068.79 -5964068.69 0.0071 0.0062

Jupiter -21042-05-16 15:36 J -5964032.03 -5964031.85 -5964031.68 0.0498 0.0173

Pluto -21042-07-06 18:28 J -5963980.82 -5963980.73 -5963980.61 0.0071 0.0054

Pluto -21042-10-02 20:09 J -5963892.78 -5963892.66 -5963892.54 0.0071 0.0046

Mars -21042-12-16 19:40 J -5963817.80 -5963817.68 -5963817.57 0.1641 0.0150

Pluto -21042-12-29 21:07 J -5963804.74 -5963804.62 -5963804.47 0.0072 0.0039

Pluto -21041-03-26 22:33 J -5963716.69 -5963716.56 -5963716.41 0.0072 0.0031

Pluto -21041-06-23 00:00 J -5963628.64 -5963628.50 -5963628.34 0.0072 0.0023

Pluto -21041-09-19 01:26 J -5963540.59 -5963540.44 -5963540.28 0.0072 0.0015

Pluto -21041-12-16 02:52 J -5963452.54 -5963452.38 -5963452.22 0.0072 0.0007

Pluto -21040-03-14 04:19 J -5963364.48 -5963364.32 -5963364.16 0.0072 0.0002

Pluto -21040-06-10 05:45 J -5963276.42 -5963276.26 -5963276.10 0.0072 0.0010

Pluto -21040-09-06 07:11 J -5963188.35 -5963188.20 -5963188.04 0.0072 0.0018

Pluto -21040-12-03 08:23 J -5963100.29 -5963100.15 -5963099.99 0.0073 0.0027

Moon -21039-01-15 11:31 J -5963057.16 -5963057.02 -5963056.87 0.2638 0.0638

Earth -21039-01-15 12:57 J -5963057.11 -5963056.96 -5963056.82 0.2635 0.0681 *

Pluto -21039-03-01 09:50 J -5963012.22 -5963012.09 -5963011.93 0.0073 0.0035

Pluto -21039-05-28 11:31 J -5962924.15 -5962924.02 -5962923.89 0.0073 0.0043

Pluto -21039-08-24 12:43 J -5962836.07 -5962835.97 -5962835.84 0.0073 0.0052

Mars -21039-09-28 12:43 J -5962801.14 -5962800.97 -5962800.80 0.1877 0.0033

Uranus -21039-09-30 20:09 J -5962798.77 -5962798.66 -5962798.55 0.0137 0.0112

Pluto -21039-11-20 14:23 J -5962747.98 -5962747.90 -5962747.80 0.0073 0.0060

Uranus -21039-12-28 03:21 J -5962710.51 -5962710.36 -5962710.21 0.0137 0.0083

Venus -21038-02-02 02:52 J -5962674.48 -5962674.38 -5962674.28 0.3751 0.0534

Pluto -21038-02-16 15:36 J -5962659.88 -5962659.85 -5962659.77 0.0073 0.0069

Uranus -21038-03-26 10:33 J -5962622.23 -5962622.06 -5962621.88 0.0137 0.0055

Uranus -21038-06-22 17:45 J -5962533.94 -5962533.76 -5962533.57 0.0137 0.0028

Uranus -21038-09-19 00:57 J -5962445.65 -5962445.46 -5962445.27 0.0137 0.0001

Uranus -21038-12-16 07:55 J -5962357.35 -5962357.17 -5962356.98 0.0137 0.0028

Uranus -21037-03-13 15:07 J -5962269.04 -5962268.87 -5962268.70 0.0137 0.0055

Uranus -21037-06-09 21:50 J -5962180.73 -5962180.59 -5962180.43 0.0137 0.0082

Uranus -21037-09-06 04:48 J -5962092.40 -5962092.30 -5962092.18 0.0137 0.0109

Saturn -21037-10-10 22:19 J -5962057.67 -5962057.57 -5962057.48 0.0276 0.0185

Uranus -21037-12-03 11:45 J -5962004.03 -5962004.01 -5962003.98 0.0136 0.0135

Jupiter -21036-01-06 02:52 J -5961970.51 -5961970.38 -5961970.26 0.0529 0.0099

Saturn -21036-01-07 08:52 J -5961969.26 -5961969.13 -5961969.00 0.0275 0.0064

Jupiter -21036-04-05 09:07 J -5961881.17 -5961881.12 -5961881.07 0.0528 0.0479

Saturn -21036-04-05 19:40 J -5961880.81 -5961880.68 -5961880.55 0.0274 0.0058

Saturn -21036-07-03 06:14 J -5961792.34 -5961792.24 -5961792.14 0.0273 0.0179

Venus -21033-08-17 18:43 J -5960650.79 -5960650.72 -5960650.66 0.3752 0.2689

Mars -21032-05-08 06:57 J -5960387.31 -5960387.21 -5960387.10 0.1639 0.0598

Jupiter -21030-03-04 12:43 J -5959722.16 -5959721.97 -5959721.79 0.0497 0.0008

Mars -21030-04-13 10:04 J -5959682.15 -5959682.08 -5959682.01 0.1648 0.1296

Earth -21030-07-13 12:00 J -5959591.12 -5959591.00 -5959590.89 0.2698 0.0163

Moon -21030-07-13 12:00 J -5959591.11 -5959591.00 -5959590.88 0.2692 0.0235 *

Mars -21029-02-18 06:00 J -5959371.36 -5959371.25 -5959371.13 0.1881 0.1366

Moon -21026-01-18 15:50 J -5958305.90 -5958305.84 -5958305.78 0.2643 0.2397

Earth -21026-01-18 16:33 J -5958305.86 -5958305.81 -5958305.76 0.2637 0.2491 *

Jupiter -21025-10-25 07:26 J -5957660.30 -5957660.19 -5957660.08 0.0530 0.0234

Jupiter -21024-01-22 13:40 J -5957571.03 -5957570.93 -5957570.83 0.0528 0.0343

Mars -21023-09-28 18:28 J -5956956.82 -5956956.73 -5956956.64 0.1637 0.1038

Mars -21021-09-02 21:07 J -5956251.72 -5956251.62 -5956251.52 0.1646 0.0827

Saturn -21020-01-19 07:11 J -5956113.37 -5956113.20 -5956113.03 0.0286 0.0114

Saturn -21020-04-18 07:11 J -5956024.38 -5956024.20 -5956024.02 0.0287 0.0084

Saturn -21020-07-16 06:57 J -5955935.24 -5955935.21 -5955935.17 0.0288 0.0281

Jupiter -21019-12-21 10:33 J -5955412.23 -5955412.06 -5955411.89 0.0497 0.0178

Venus -21018-09-10 20:52 J -5955148.78 -5955148.63 -5955148.47 0.3623 0.0612

Neptune -21017-01-15 12:43 J -5955022.00 -5955021.97 -5955021.91 0.0089 0.0084

Neptune -21017-04-12 14:09 J -5954933.97 -5954933.91 -5954933.84 0.0089 0.0077

Neptune -21017-07-09 15:36 J -5954845.93 -5954845.85 -5954845.77 0.0089 0.0070

Moon -21017-07-15 06:28 J -5954840.33 -5954840.23 -5954840.13 0.2690 0.1203

Earth -21017-07-15 06:43 J -5954840.32 -5954840.22 -5954840.12 0.2697 0.1303 *

Neptune -21017-10-05 16:48 J -5954757.89 -5954757.80 -5954757.70 0.0089 0.0063

Neptune -21016-01-01 18:14 J -5954669.84 -5954669.74 -5954669.64 0.0089 0.0056

Neptune -21016-03-30 19:40 J -5954581.79 -5954581.68 -5954581.57 0.0089 0.0049

Neptune -21016-06-26 20:52 J -5954493.75 -5954493.63 -5954493.51 0.0089 0.0042

Neptune -21016-09-22 22:04 J -5954405.70 -5954405.58 -5954405.45 0.0089 0.0035

Neptune -21016-12-19 23:31 J -5954317.64 -5954317.52 -5954317.39 0.0089 0.0028

Neptune -21015-03-18 00:43 J -5954229.59 -5954229.47 -5954229.33 0.0089 0.0021

Neptune -21015-06-14 02:09 J -5954141.54 -5954141.41 -5954141.28 0.0089 0.0014

Neptune -21015-09-10 03:36 J -5954053.48 -5954053.35 -5954053.22 0.0089 0.0007

Neptune -21015-12-07 04:48 J -5953965.43 -5953965.30 -5953965.16 0.0089 0.0003

Neptune -21014-03-05 06:14 J -5953877.37 -5953877.24 -5953877.11 0.0089 0.0007

Neptune -21014-06-01 07:40 J -5953789.31 -5953789.18 -5953789.05 0.0089 0.0015

Neptune -21014-08-28 08:52 J -5953701.26 -5953701.13 -5953701.00 0.0089 0.0022

Neptune -21014-11-24 10:19 J -5953613.20 -5953613.07 -5953612.95 0.0089 0.0029

Mars -21013-02-19 05:45 J -5953526.30 -5953526.26 -5953526.21 0.1635 0.1478

Neptune -21013-02-20 11:31 J -5953525.14 -5953525.02 -5953524.89 0.0089 0.0036

Neptune -21013-05-18 12:57 J -5953437.07 -5953436.96 -5953436.84 0.0089 0.0043

Jupiter -21013-08-13 11:16 J -5953350.11 -5953350.03 -5953349.94 0.0529 0.0380

Neptune -21013-08-14 14:23 J -5953349.01 -5953348.90 -5953348.79 0.0089 0.0050

Neptune -21013-11-10 15:21 J -5953260.95 -5953260.86 -5953260.74 0.0089 0.0058

Jupiter -21013-11-10 17:31 J -5953260.89 -5953260.77 -5953260.66 0.0528 0.0194 *

Neptune -21012-02-06 16:48 J -5953172.88 -5953172.80 -5953172.70 0.0089 0.0065

Neptune -21012-05-05 18:14 J -5953084.81 -5953084.74 -5953084.65 0.0089 0.0071

Neptune -21012-08-01 19:40 J -5952996.73 -5952996.68 -5952996.61 0.0089 0.0078

Neptune -21012-10-28 21:07 J -5952908.65 -5952908.62 -5952908.58 0.0089 0.0085

Mars -21011-01-24 08:23 J -5952821.27 -5952821.15 -5952821.04 0.1643 0.0366

Earth -21010-07-09 03:36 J -5952290.43 -5952290.35 -5952290.27 0.2701 0.1878

Moon -21010-07-09 04:33 J -5952290.40 -5952290.31 -5952290.23 0.2701 0.1784 *

Mars -21009-11-06 19:26 J -5951803.79 -5951803.69 -5951803.59 0.1874 0.1484

Saturn -21007-02-28 00:14 J -5951325.56 -5951325.49 -5951325.42 0.0277 0.0228

Saturn -21007-05-27 10:48 J -5951237.17 -5951237.05 -5951236.92 0.0276 0.0106

Saturn -21007-08-23 21:36 J -5951148.73 -5951148.60 -5951148.47 0.0275 0.0017

Jupiter -21007-10-09 08:09 J -5951102.29 -5951102.16 -5951102.03 0.0497 0.0353

Saturn -21007-11-20 08:23 J -5951060.27 -5951060.15 -5951060.04 0.0274 0.0139

Jupiter -21006-01-07 17:16 J -5951011.90 -5951011.78 -5951011.65 0.0499 0.0368

Moon -21006-01-13 13:40 J -5951006.07 -5951005.93 -5951005.79 0.2632 0.0873

Earth -21006-01-13 15:07 J -5951006.01 -5951005.87 -5951005.73 0.2634 0.0828 *

Saturn -21006-02-16 18:57 J -5950971.74 -5950971.71 -5950971.66 0.0273 0.0260

Moon -21004-07-18 00:57 J -5950089.51 -5950089.46 -5950089.42 0.2693 0.2439

Earth -21004-07-18 01:40 J -5950089.47 -5950089.43 -5950089.39 0.2695 0.2470 *

Mars -21002-06-16 19:40 J -5949390.80 -5949390.68 -5949390.57 0.1641 0.0093

Jupiter -21001-06-01 15:36 J -5949039.87 -5949039.85 -5949039.83 0.0530 0.0521

Jupiter -21001-08-29 21:36 J -5948950.73 -5948950.60 -5948950.47 0.0528 0.0051

21ST MILLENNIUM BCE

This is a list of transits of Mercury in the 21st millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Mars -20999-03-29 13:26 J -5948374.11 -5948373.94 -5948373.78 0.1877 0.0148

Earth -20997-07-10 22:19 J -5947539.68 -5947539.57 -5947539.47 0.2700 0.0763

Moon -20997-07-10 22:48 J -5947539.66 -5947539.55 -5947539.44 0.2696 0.0656 *

Uranus -20995-09-07 14:09 J -5946750.92 -5946750.91 -5946750.90 0.0141 0.0140

Jupiter -20995-10-26 14:52 J -5946702.04 -5946701.88 -5946701.71 0.0498 0.0192

Uranus -20995-12-04 17:31 J -5946662.83 -5946662.77 -5946662.70 0.0141 0.0119

Uranus -20994-03-02 20:52 J -5946574.71 -5946574.63 -5946574.52 0.0141 0.0099

Uranus -20994-05-30 00:43 J -5946486.58 -5946486.47 -5946486.36 0.0141 0.0078

Uranus -20994-08-26 04:04 J -5946398.45 -5946398.33 -5946398.20 0.0141 0.0056

Uranus -20994-11-22 07:40 J -5946310.31 -5946310.18 -5946310.05 0.0141 0.0035

Moon -20993-01-16 18:00 J -5946254.89 -5946254.75 -5946254.61 0.2640 0.0830

Earth -20993-01-16 19:11 J -5946254.84 -5946254.70 -5946254.57 0.2636 0.1033 *

Uranus -20993-02-18 11:16 J -5946222.17 -5946222.03 -5946221.90 0.0141 0.0014

Uranus -20993-05-16 14:52 J -5946134.02 -5946133.88 -5946133.75 0.0142 0.0008

Venus -20993-08-09 17:02 J -5946048.85 -5946048.79 -5946048.73 0.3748 0.2936

Uranus -20993-08-12 18:28 J -5946045.86 -5946045.73 -5946045.60 0.0142 0.0030

Mars -20993-11-06 06:57 J -5945960.32 -5945960.21 -5945960.10 0.1639 0.0538

Uranus -20993-11-08 22:04 J -5945957.71 -5945957.58 -5945957.46 0.0142 0.0052

Uranus -20992-02-05 01:40 J -5945869.54 -5945869.43 -5945869.31 0.0142 0.0074

Uranus -20992-05-04 05:16 J -5945781.37 -5945781.28 -5945781.18 0.0142 0.0097

Uranus -20992-07-31 08:52 J -5945693.19 -5945693.13 -5945693.05 0.0142 0.0119

Uranus -20992-10-27 12:43 J -5945604.97 -5945604.97 -5945604.96 0.0142 0.0142

Saturn -20991-06-08 04:48 J -5945381.44 -5945381.30 -5945381.15 0.0285 0.0175

Saturn -20991-09-05 05:02 J -5945292.48 -5945292.29 -5945292.11 0.0286 0.0023

Mars -20991-10-12 09:50 J -5945255.15 -5945255.09 -5945255.02 0.1648 0.1353

Saturn -20991-12-03 04:48 J -5945203.42 -5945203.30 -5945203.18 0.0288 0.0220

Mars -20990-08-19 06:57 J -5944944.34 -5944944.21 -5944944.08 0.1881 0.1237

Jupiter -20989-06-18 01:40 J -5944640.56 -5944640.43 -5944640.31 0.0529 0.0094

Jupiter -20989-09-15 07:55 J -5944551.22 -5944551.17 -5944551.12 0.0527 0.0483

Venus -20987-02-23 08:38 J -5944025.24 -5944025.14 -5944025.04 0.3750 0.0833

Moon -20984-07-13 17:02 J -5942788.91 -5942788.79 -5942788.68 0.2691 0.0332

Earth -20984-07-13 16:48 J -5942788.91 -5942788.80 -5942788.68 0.2698 0.0390 *

Mars -20983-03-29 18:28 J -5942529.82 -5942529.73 -5942529.64 0.1637 0.0980

Jupiter -20983-08-14 12:28 J -5942392.16 -5942391.98 -5942391.80 0.0498 0.0016

Venus -20982-09-09 00:28 J -5942001.58 -5942001.48 -5942001.39 0.3751 0.1322

Mars -20981-03-03 21:07 J -5941824.72 -5941824.62 -5941824.52 0.1646 0.0886

Saturn -20978-07-18 02:09 J -5940593.44 -5940593.41 -5940593.38 0.0277 0.0268

Saturn -20978-10-14 12:43 J -5940505.07 -5940504.97 -5940504.85 0.0276 0.0146

Saturn -20977-01-10 23:31 J -5940416.65 -5940416.52 -5940416.39 0.0275 0.0024

Jupiter -20977-04-06 06:14 J -5940330.36 -5940330.24 -5940330.13 0.0530 0.0230

Saturn -20977-04-08 10:19 J -5940328.20 -5940328.07 -5940327.95 0.0274 0.0098

Jupiter -20977-07-04 12:28 J -5940241.08 -5940240.98 -5940240.89 0.0528 0.0347

Saturn -20977-07-05 21:07 J -5940239.70 -5940239.62 -5940239.55 0.0273 0.0219

Moon -20977-07-06 14:38 J -5940238.91 -5940238.89 -5940238.88 0.2707 0.2667

Venus -20976-03-24 16:04 J -5939977.87 -5939977.83 -5939977.80 0.3753 0.3469

Mars -20974-08-20 05:45 J -5939099.31 -5939099.26 -5939099.20 0.1635 0.1418

Moon -20973-01-11 15:50 J -5938954.89 -5938954.84 -5938954.80 0.2629 0.2487

Earth -20973-01-11 17:02 J -5938954.85 -5938954.79 -5938954.73 0.2632 0.2385 *

Mars -20972-07-25 08:23 J -5938394.26 -5938394.15 -5938394.04 0.1643 0.0428

Jupiter -20971-06-02 09:36 J -5938082.27 -5938082.10 -5938081.93 0.0497 0.0164

Moon -20971-07-16 11:16 J -5938038.12 -5938038.03 -5938037.94 0.2691 0.1535

Earth -20971-07-16 11:45 J -5938038.10 -5938038.01 -5938037.92 0.2696 0.1529 *

Mars -20969-05-07 20:23 J -5937376.73 -5937376.65 -5937376.57 0.1874 0.1614

Jupiter -20965-01-24 10:48 J -5936020.14 -5936020.05 -5936019.96 0.0530 0.0364

Jupiter -20965-04-22 17:02 J -5935930.91 -5935930.79 -5935930.68 0.0528 0.0212

Earth -20964-07-09 08:38 J -5935488.23 -5935488.14 -5935488.05 0.2701 0.1660

Moon -20964-07-09 09:21 J -5935488.20 -5935488.11 -5935488.02 0.2701 0.1602 *

Mars -20963-12-15 19:40 J -5934963.80 -5934963.68 -5934963.57 0.1641 0.0046

Saturn -20962-10-25 23:45 J -5934649.59 -5934649.51 -5934649.43 0.0285 0.0258

Saturn -20961-01-22 23:45 J -5934560.69 -5934560.51 -5934560.32 0.0286 0.0061

Venus -20961-04-16 23:02 J -5934475.64 -5934475.54 -5934475.44 0.3622 0.2755

Saturn -20961-04-20 23:45 J -5934471.67 -5934471.51 -5934471.35 0.0287 0.0136

Moon -20960-01-13 19:55 J -5934203.81 -5934203.67 -5934203.52 0.2633 0.0694

Earth -20960-01-13 21:21 J -5934203.76 -5934203.61 -5934203.46 0.2634 0.0478 *

Mars -20960-09-27 14:09 J -5933947.07 -5933946.91 -5933946.74 0.1878 0.0270

Jupiter -20959-03-21 07:26 J -5933772.33 -5933772.19 -5933772.06 0.0497 0.0336

Jupiter -20959-06-19 16:33 J -5933681.92 -5933681.81 -5933681.69 0.0498 0.0383

Moon -20958-07-19 05:45 J -5933287.29 -5933287.26 -5933287.22 0.2693 0.2551

Pluto -20958-12-17 02:52 J -5933136.43 -5933136.38 -5933136.32 0.0073 0.0068

Pluto -20957-03-14 04:04 J -5933048.40 -5933048.33 -5933048.23 0.0073 0.0060

Pluto -20957-06-10 05:16 J -5932960.37 -5932960.28 -5932960.15 0.0073 0.0052

Pluto -20957-09-06 07:11 J -5932872.33 -5932872.20 -5932872.08 0.0073 0.0043

Pluto -20957-12-03 08:23 J -5932784.28 -5932784.15 -5932784.01 0.0073 0.0035

Pluto -20956-03-01 09:50 J -5932696.23 -5932696.09 -5932695.94 0.0073 0.0027

Pluto -20956-05-28 11:02 J -5932608.19 -5932608.04 -5932607.88 0.0072 0.0019

Pluto -20956-08-24 12:28 J -5932520.13 -5932519.98 -5932519.83 0.0072 0.0011

Pluto -20956-11-20 13:40 J -5932432.08 -5932431.93 -5932431.77 0.0072 0.0003

Pluto -20955-02-16 15:07 J -5932344.03 -5932343.87 -5932343.72 0.0072 0.0005

Pluto -20955-05-15 16:19 J -5932255.97 -5932255.82 -5932255.67 0.0072 0.0013

Pluto -20955-08-11 17:16 J -5932167.92 -5932167.78 -5932167.62 0.0072 0.0021

Uranus -20955-10-21 01:40 J -5932097.53 -5932097.43 -5932097.30 0.0137 0.0110

Pluto -20955-11-07 18:43 J -5932079.86 -5932079.72 -5932079.57 0.0072 0.0028

Uranus -20954-01-17 09:07 J -5932009.27 -5932009.12 -5932008.96 0.0137 0.0081

Pluto -20954-02-03 19:55 J -5931991.80 -5931991.67 -5931991.53 0.0072 0.0036

Uranus -20954-04-15 16:19 J -5931920.99 -5931920.82 -5931920.64 0.0137 0.0053

Pluto -20954-05-02 20:52 J -5931903.73 -5931903.63 -5931903.49 0.0072 0.0044

Uranus -20954-07-12 23:45 J -5931832.70 -5931832.51 -5931832.33 0.0137 0.0025

Pluto -20954-07-29 22:19 J -5931815.67 -5931815.57 -5931815.45 0.0071 0.0051

Uranus -20954-10-09 06:57 J -5931744.40 -5931744.21 -5931744.03 0.0137 0.0004

Pluto -20954-10-25 23:16 J -5931727.60 -5931727.53 -5931727.42 0.0071 0.0058

Jupiter -20954-11-12 14:52 J -5931709.91 -5931709.88 -5931709.85 0.0530 0.0507

Uranus -20953-01-05 13:55 J -5931656.10 -5931655.92 -5931655.74 0.0137 0.0030

Pluto -20953-01-22 00:28 J -5931639.52 -5931639.48 -5931639.40 0.0071 0.0066

Jupiter -20953-02-09 20:52 J -5931620.76 -5931620.63 -5931620.50 0.0528 0.0064

Uranus -20953-04-02 20:38 J -5931567.80 -5931567.64 -5931567.46 0.0137 0.0058

Mars -20953-05-07 06:57 J -5931533.32 -5931533.21 -5931533.10 0.1639 0.0478

Uranus -20953-06-30 03:36 J -5931479.48 -5931479.35 -5931479.19 0.0137 0.0085

Uranus -20953-09-26 10:48 J -5931391.15 -5931391.05 -5931390.94 0.0137 0.0111

Mars -20951-04-12 10:04 J -5930828.14 -5930828.08 -5930828.03 0.1648 0.1417

Earth -20951-07-12 03:07 J -5930737.48 -5930737.37 -5930737.26 0.2699 0.0544

Moon -20951-07-12 03:36 J -5930737.46 -5930737.35 -5930737.24 0.2694 0.0501 *

Mars -20950-02-17 07:40 J -5930517.31 -5930517.18 -5930517.04 0.1881 0.1113

Saturn -20948-03-02 14:23 J -5929772.99 -5929772.90 -5929772.80 0.0277 0.0192

Saturn -20948-05-30 01:11 J -5929684.57 -5929684.45 -5929684.32 0.0276 0.0069

Saturn -20948-08-26 12:00 J -5929596.13 -5929596.00 -5929595.87 0.0275 0.0055

Saturn -20948-11-22 22:48 J -5929507.65 -5929507.55 -5929507.45 0.0274 0.0176

Moon -20947-01-17 00:14 J -5929452.62 -5929452.49 -5929452.37 0.2640 0.1374

Earth -20947-01-17 01:26 J -5929452.57 -5929452.44 -5929452.32 0.2636 0.1378 *

Jupiter -20947-04-07 14:09 J -5929372.07 -5929371.91 -5929371.74 0.0498 0.0210

Mars -20944-09-27 18:14 J -5928102.83 -5928102.74 -5928102.64 0.1637 0.0925

Mars -20942-09-02 21:07 J -5927397.72 -5927397.62 -5927397.53 0.1645 0.0947

Jupiter -20942-11-29 00:57 J -5927310.58 -5927310.46 -5927310.33 0.0528 0.0079

Jupiter -20941-02-26 07:11 J -5927221.24 -5927221.20 -5927221.16 0.0527 0.0497

Moon -20938-07-14 21:50 J -5925986.70 -5925986.59 -5925986.48 0.2691 0.0649

Earth -20938-07-14 21:50 J -5925986.70 -5925986.59 -5925986.48 0.2698 0.0598 *

Venus -20936-03-16 14:38 J -5925375.98 -5925375.89 -5925375.81 0.3748 0.2171

Jupiter -20935-01-24 11:45 J -5925062.19 -5925062.01 -5925061.82 0.0498 0.0034

Mars -20934-02-18 05:45 J -5924672.32 -5924672.26 -5924672.19 0.1635 0.1360

Neptune -20934-07-04 00:14 J -5924536.56 -5924536.49 -5924536.40 0.0088 0.0080

Neptune -20934-09-30 03:50 J -5924448.44 -5924448.34 -5924448.21 0.0088 0.0070

Neptune -20934-12-27 07:26 J -5924360.32 -5924360.19 -5924360.04 0.0088 0.0060

Neptune -20933-03-24 11:16 J -5924272.19 -5924272.03 -5924271.87 0.0088 0.0050

Neptune -20933-06-20 14:52 J -5924184.05 -5924183.88 -5924183.71 0.0088 0.0040

Neptune -20933-09-16 18:28 J -5924095.91 -5924095.73 -5924095.55 0.0088 0.0030

Neptune -20933-12-13 21:50 J -5924007.77 -5924007.59 -5924007.39 0.0088 0.0021

Mars -20932-01-23 08:09 J -5923967.27 -5923967.16 -5923967.04 0.1643 0.0486

Neptune -20932-03-12 01:26 J -5923919.63 -5923919.44 -5923919.24 0.0088 0.0011

Neptune -20932-06-08 05:16 J -5923831.48 -5923831.28 -5923831.09 0.0088 0.0002

Saturn -20932-06-10 21:36 J -5923828.76 -5923828.60 -5923828.42 0.0285 0.0121

Neptune -20932-09-04 08:38 J -5923743.33 -5923743.14 -5923742.94 0.0088 0.0009

Saturn -20932-09-07 21:36 J -5923739.77 -5923739.60 -5923739.41 0.0286 0.0078

Neptune -20932-12-01 12:14 J -5923655.18 -5923654.99 -5923654.80 0.0088 0.0019

Saturn -20932-12-05 21:21 J -5923650.66 -5923650.61 -5923650.55 0.0287 0.0274

Neptune -20931-02-27 15:36 J -5923567.03 -5923566.85 -5923566.66 0.0088 0.0029

Neptune -20931-05-26 18:57 J -5923478.87 -5923478.71 -5923478.52 0.0088 0.0039

Earth -20931-07-07 18:57 J -5923436.74 -5923436.71 -5923436.67 0.2702 0.2552

Moon -20931-07-07 19:40 J -5923436.71 -5923436.68 -5923436.65 0.2705 0.2550 *

Neptune -20931-08-22 22:48 J -5923390.71 -5923390.55 -5923390.39 0.0088 0.0048

Venus -20931-09-30 06:14 J -5923352.35 -5923352.24 -5923352.14 0.3750 0.0153

Neptune -20931-11-19 02:09 J -5923302.55 -5923302.41 -5923302.26 0.0088 0.0058

Neptune -20930-02-15 05:16 J -5923214.38 -5923214.28 -5923214.14 0.0088 0.0069

Neptune -20930-05-14 09:07 J -5923126.20 -5923126.12 -5923126.02 0.0088 0.0078

Neptune -20930-08-10 12:28 J -5923037.99 -5923037.98 -5923037.94 0.0088 0.0087

Jupiter -20930-09-17 05:02 J -5923000.40 -5923000.29 -5923000.17 0.0529 0.0223

Mars -20930-11-06 20:52 J -5922949.69 -5922949.63 -5922949.57 0.1874 0.1729

Jupiter -20930-12-15 11:16 J -5922911.13 -5922911.03 -5922910.94 0.0528 0.0352

Moon -20927-01-11 22:04 J -5922152.67 -5922152.58 -5922152.50 0.2629 0.2150

Earth -20927-01-11 23:16 J -5922152.62 -5922152.53 -5922152.43 0.2633 0.2030 *

Venus -20925-04-14 21:50 J -5921328.68 -5921328.59 -5921328.51 0.3751 0.2093

Moon -20925-07-16 16:04 J -5921235.92 -5921235.83 -5921235.74 0.2692 0.1633

Earth -20925-07-16 16:48 J -5921235.89 -5921235.80 -5921235.72 0.2696 0.1761 *

Jupiter -20924-11-12 09:07 J -5920752.29 -5920752.12 -5920751.94 0.0497 0.0144

Mars -20923-06-15 19:40 J -5920536.80 -5920536.68 -5920536.57 0.1641 0.0053

Mars -20920-03-28 15:21 J -5919520.03 -5919519.86 -5919519.70 0.1877 0.0410

Saturn -20919-07-20 16:33 J -5919040.88 -5919040.81 -5919040.74 0.0277 0.0231

Saturn -20919-10-17 03:21 J -5918952.48 -5918952.36 -5918952.24 0.0276 0.0108

Saturn -20918-01-13 14:09 J -5918864.05 -5918863.91 -5918863.78 0.0275 0.0017

Saturn -20918-04-12 00:43 J -5918775.58 -5918775.47 -5918775.35 0.0274 0.0137

Jupiter -20918-07-06 09:36 J -5918690.19 -5918690.10 -5918690.01 0.0530 0.0360

Saturn -20918-07-09 11:31 J -5918687.06 -5918687.02 -5918686.98 0.0273 0.0258

Earth -20918-07-10 13:26 J -5918686.03 -5918685.94 -5918685.84 0.2701 0.1450

Moon -20918-07-10 14:09 J -5918686.00 -5918685.91 -5918685.81 0.2700 0.1334 *

Jupiter -20918-10-03 15:36 J -5918600.96 -5918600.85 -5918600.73 0.0528 0.0215

Moon -20914-01-15 02:09 J -5917401.56 -5917401.41 -5917401.26 0.2635 0.0210

Earth -20914-01-15 03:36 J -5917401.50 -5917401.35 -5917401.20 0.2634 0.0129 *

Mars -20914-11-06 06:57 J -5917106.32 -5917106.21 -5917106.10 0.1639 0.0419

Jupiter -20912-08-31 06:14 J -5916442.38 -5916442.24 -5916442.10 0.0497 0.0324

Mars -20912-10-11 09:50 J -5916401.13 -5916401.09 -5916401.04 0.1648 0.1478

Jupiter -20912-11-29 15:21 J -5916351.97 -5916351.86 -5916351.75 0.0498 0.0395

Mars -20911-08-18 08:23 J -5916090.29 -5916090.15 -5916090.01 0.1881 0.0990

Uranus -20911-09-27 21:21 J -5916049.64 -5916049.61 -5916049.57 0.0141 0.0135

Uranus -20911-12-25 00:43 J -5915961.54 -5915961.47 -5915961.39 0.0141 0.0115

Uranus -20910-03-23 04:19 J -5915873.42 -5915873.32 -5915873.22 0.0141 0.0093

Venus -20910-05-08 15:50 J -5915826.98 -5915826.84 -5915826.69 0.3624 0.1538

Uranus -20910-06-19 07:55 J -5915785.29 -5915785.17 -5915785.06 0.0141 0.0072

Uranus -20910-09-15 11:16 J -5915697.15 -5915697.03 -5915696.90 0.0141 0.0051

Uranus -20910-12-12 14:52 J -5915609.01 -5915608.88 -5915608.75 0.0141 0.0030

Uranus -20909-03-09 18:28 J -5915520.86 -5915520.73 -5915520.60 0.0142 0.0008

Uranus -20909-06-05 22:04 J -5915432.71 -5915432.58 -5915432.45 0.0142 0.0014

Uranus -20909-09-02 01:40 J -5915344.56 -5915344.43 -5915344.30 0.0142 0.0036

Uranus -20909-11-29 05:16 J -5915256.40 -5915256.28 -5915256.16 0.0142 0.0058

Uranus -20908-02-25 08:52 J -5915168.24 -5915168.13 -5915168.01 0.0142 0.0080

Uranus -20908-05-24 12:28 J -5915080.06 -5915079.98 -5915079.88 0.0142 0.0102

Uranus -20908-08-20 16:19 J -5914991.88 -5914991.82 -5914991.75 0.0142 0.0125

Jupiter -20906-04-24 14:09 J -5914379.95 -5914379.91 -5914379.87 0.0530 0.0494

Jupiter -20906-07-22 20:09 J -5914290.79 -5914290.66 -5914290.53 0.0529 0.0080

Earth -20905-07-12 08:09 J -5913935.28 -5913935.16 -5913935.05 0.2699 0.0329

Moon -20905-07-12 08:23 J -5913935.26 -5913935.15 -5913935.03 0.2693 0.0306 *

Mars -20904-03-28 18:14 J -5913675.83 -5913675.74 -5913675.64 0.1637 0.0864

Saturn -20903-10-28 16:48 J -5913096.92 -5913096.80 -5913096.66 0.0285 0.0202

Saturn	-20902-01-25 17:02 J	-5913007.98	-5913007.79	-5913007.61	0.0286	0.0007
Mars	-20902-03-03 21:07 J	-5912970.71	-5912970.62	-5912970.53	0.1645	0.1009
Saturn	-20902-04-24 16:48 J	-5912918.94	-5912918.80	-5912918.66	0.0287	0.0192
Moon	-20901-01-18 06:14 J	-5912650.35	-5912650.24	-5912650.12	0.2640	0.1528
Earth	-20901-01-18 07:26 J	-5912650.30	-5912650.19	-5912650.08	0.2636	0.1720 *
Jupiter	-20900-09-17 13:26 J	-5912042.10	-5912041.94	-5912041.78	0.0498	0.0225
Mars	-20895-08-19 05:45 J	-5910245.33	-5910245.26	-5910245.19	0.1635	0.1301
Jupiter	-20894-05-11 00:14 J	-5909980.62	-5909980.49	-5909980.36	0.0528	0.0065
Jupiter	-20894-08-08 06:28 J	-5909891.26	-5909891.23	-5909891.20	0.0527	0.0509
Mars	-20893-07-24 08:23 J	-5909540.26	-5909540.15	-5909540.04	0.1643	0.0550
Moon	-20892-07-15 02:52 J	-5909184.49	-5909184.38	-5909184.28	0.2691	0.0793
Earth	-20892-07-15 02:52 J	-5909184.49	-5909184.38	-5909184.27	0.2698	0.0823 *
Mars	-20890-05-07 21:50 J	-5908522.60	-5908522.59	-5908522.57	0.1874	0.1859
Saturn	-20890-12-07 18:14 J	-5908308.75	-5908308.74	-5908308.73	0.0278	0.0277
Saturn	-20889-03-05 05:02 J	-5908220.40	-5908220.29	-5908220.18	0.0277	0.0153
Saturn	-20889-06-01 15:50 J	-5908131.97	-5908131.84	-5908131.71	0.0276	0.0030
Saturn	-20889-08-29 02:38 J	-5908043.52	-5908043.39	-5908043.27	0.0275	0.0094
Saturn	-20889-11-25 13:26 J	-5907955.02	-5907954.94	-5907954.86	0.0274	0.0216
Jupiter	-20888-07-06 10:48 J	-5907732.23	-5907732.05	-5907731.87	0.0498	0.0047
Venus	-20885-04-06 20:23 J	-5906726.68	-5906726.65	-5906726.62	0.3747	0.3490
Earth	-20885-07-08 00:00 J	-5906634.56	-5906634.50	-5906634.45	0.2702	0.2341
Moon	-20885-07-08 00:43 J	-5906634.54	-5906634.47	-5906634.41	0.2705	0.2201 *
Mars	-20884-12-14 19:26 J	-5906109.80	-5906109.69	-5906109.57	0.1641	0.0099
Jupiter	-20882-02-27 04:19 J	-5905670.43	-5905670.32	-5905670.20	0.0529	0.0208
Jupiter	-20882-05-27 10:33 J	-5905581.15	-5905581.06	-5905580.97	0.0527	0.0366
Moon	-20881-01-13 04:19 J	-5905350.43	-5905350.32	-5905350.21	0.2629	0.1805
Earth	-20881-01-13 05:45 J	-5905350.38	-5905350.26	-5905350.15	0.2633	0.1668 *
Mars	-20881-09-26 15:36 J	-5905093.01	-5905092.85	-5905092.69	0.1878	0.0507
Venus	-20880-10-21 12:00 J	-5904703.10	-5904703.00	-5904702.91	0.3749	0.1389
Moon	-20879-07-17 21:07 J	-5904433.70	-5904433.62	-5904433.55	0.2692	0.1961

Earth -20879-07-17 21:36 J -5904433.67 -5904433.60 -5904433.52 0.2696 0.1984 *

Jupiter -20876-04-24 08:09 J -5903422.34 -5903422.16 -5903421.98 0.0498 0.0131

Venus -20874-05-07 03:36 J -5902679.45 -5902679.35 -5902679.25 0.3750 0.0732

Mars -20874-05-07 06:57 J -5902679.33 -5902679.21 -5902679.10 0.1639 0.0361 *

Saturn -20873-03-16 15:21 J -5902364.94 -5902364.86 -5902364.78 0.0284 0.0255

Saturn -20873-06-13 15:21 J -5902276.04 -5902275.86 -5902275.67 0.0285 0.0059

Saturn -20873-09-10 15:07 J -5902187.02 -5902186.87 -5902186.70 0.0286 0.0138

Mars -20872-04-11 09:50 J -5901974.13 -5901974.09 -5901974.05 0.1648 0.1535

Earth -20872-07-10 18:28 J -5901883.83 -5901883.73 -5901883.63 0.2700 0.1233

Moon -20872-07-10 19:11 J -5901883.80 -5901883.70 -5901883.60 0.2699 0.1205 *

Mars -20871-02-16 09:36 J -5901663.25 -5901663.10 -5901662.95 0.1881 0.0848

Uranus -20871-08-14 00:43 J -5901484.50 -5901484.47 -5901484.41 0.0137 0.0134

Uranus -20871-11-10 08:23 J -5901396.27 -5901396.15 -5901396.03 0.0137 0.0105

Jupiter -20871-12-16 08:23 J -5901360.24 -5901360.15 -5901360.06 0.0529 0.0354

Uranus -20870-02-06 15:36 J -5901308.00 -5901307.85 -5901307.69 0.0137 0.0077

Jupiter -20870-03-15 14:23 J -5901271.01 -5901270.90 -5901270.78 0.0528 0.0220

Uranus -20870-05-05 23:02 J -5901219.72 -5901219.54 -5901219.37 0.0137 0.0048

Uranus -20870-08-02 06:00 J -5901131.43 -5901131.25 -5901131.06 0.0137 0.0021

Uranus -20870-10-29 13:11 J -5901043.13 -5901042.95 -5901042.76 0.0137 0.0008

Uranus -20869-01-25 20:09 J -5900954.83 -5900954.66 -5900954.47 0.0137 0.0035

Uranus -20869-04-23 03:21 J -5900866.52 -5900866.36 -5900866.19 0.0137 0.0062

Uranus -20869-07-20 10:19 J -5900778.21 -5900778.07 -5900777.93 0.0137 0.0089

Uranus -20869-10-16 17:02 J -5900689.87 -5900689.79 -5900689.68 0.0136 0.0116

Venus -20869-11-19 19:11 J -5900655.76 -5900655.70 -5900655.63 0.3752 0.2881

Moon -20868-01-15 08:23 J -5900599.30 -5900599.15 -5900599.00 0.2637 0.0068

Earth -20868-01-15 09:50 J -5900599.24 -5900599.09 -5900598.94 0.2635 0.0226 *

Mars -20865-09-26 18:14 J -5899248.84 -5899248.74 -5899248.64 0.1637 0.0804

Jupiter -20864-02-10 05:31 J -5899112.41 -5899112.27 -5899112.12 0.0497 0.0308

Jupiter -20864-05-11 14:38 J -5899021.98 -5899021.89 -5899021.78 0.0499 0.0413

Mars -20863-09-01 21:07 J -5898543.71 -5898543.62 -5898543.53 0.1646 0.1069

Saturn -20860-07-23 07:11 J -5897488.29 -5897488.20 -5897488.10 0.0277 0.0191

Saturn -20860-10-19 18:00 J -5897399.88 -5897399.75 -5897399.62 0.0276 0.0068

Saturn -20859-01-16 04:48 J -5897311.43 -5897311.30 -5897311.17 0.0275 0.0056

Saturn -20859-04-14 15:21 J -5897222.95 -5897222.86 -5897222.75 0.0274 0.0178

Earth -20859-07-13 12:57 J -5897133.07 -5897132.96 -5897132.84 0.2699 0.0122

Moon -20859-07-13 13:26 J -5897133.06 -5897132.94 -5897132.83 0.2692 0.0045 *

Jupiter -20859-10-04 12:43 J -5897050.01 -5897049.97 -5897049.92 0.0530 0.0492

Jupiter -20858-01-01 18:43 J -5896960.84 -5896960.72 -5896960.59 0.0528 0.0082

Moon -20855-01-18 12:43 J -5895848.06 -5895847.97 -5895847.88 0.2641 0.2057

Earth -20855-01-18 13:40 J -5895848.02 -5895847.93 -5895847.84 0.2636 0.2059 *

Mars -20855-02-17 05:45 J -5895818.33 -5895818.26 -5895818.19 0.1635 0.1241

Venus -20854-12-13 18:00 J -5895153.90 -5895153.75 -5895153.59 0.3624 0.0657

Mars -20853-01-23 08:09 J -5895113.26 -5895113.16 -5895113.05 0.1643 0.0608

Neptune -20853-07-15 11:31 J -5894939.04 -5894939.02 -5894938.98 0.0089 0.0086

Neptune -20853-10-11 12:57 J -5894851.01 -5894850.96 -5894850.89 0.0089 0.0079

Jupiter -20853-11-29 02:23 J -5894802.42 -5894802.40 -5894802.37 0.0497 0.0489

Neptune -20852-01-07 14:09 J -5894762.97 -5894762.91 -5894762.82 0.0089 0.0073

Jupiter -20852-02-27 12:00 J -5894712.16 -5894712.00 -5894711.84 0.0498 0.0233

Neptune -20852-04-05 15:36 J -5894674.93 -5894674.85 -5894674.75 0.0089 0.0065

Neptune -20852-07-02 17:02 J -5894586.89 -5894586.79 -5894586.69 0.0089 0.0058

Neptune -20852-09-28 18:14 J -5894498.84 -5894498.74 -5894498.63 0.0089 0.0052

Neptune -20852-12-25 19:40 J -5894410.79 -5894410.68 -5894410.56 0.0089 0.0044

Neptune -20851-03-23 20:52 J -5894322.74 -5894322.63 -5894322.50 0.0089 0.0038

Neptune -20851-06-19 22:19 J -5894234.69 -5894234.57 -5894234.44 0.0089 0.0031

Neptune -20851-09-15 23:45 J -5894146.64 -5894146.51 -5894146.39 0.0089 0.0024

Neptune -20851-12-13 00:57 J -5894058.59 -5894058.46 -5894058.33 0.0089 0.0017

Neptune -20850-03-11 02:23 J -5893970.53 -5893970.40 -5893970.27 0.0089 0.0010

Neptune -20850-06-07 03:36 J -5893882.48 -5893882.35 -5893882.21 0.0089 0.0003

Neptune -20850-09-03 05:02 J -5893794.42 -5893794.29 -5893794.16 0.0089 0.0005

Neptune -20850-11-30 06:14 J -5893706.37 -5893706.24 -5893706.10 0.0089 0.0012

Neptune -20849-02-26 07:40 J -5893618.31 -5893618.18 -5893618.05 0.0089 0.0019

Neptune -20849-05-24 09:07 J -5893530.25 -5893530.12 -5893530.00 0.0089 0.0026

Neptune -20849-08-20 10:19 J -5893442.19 -5893442.07 -5893441.94 0.0089 0.0033

Neptune -20849-11-16 11:31 J -5893354.13 -5893354.02 -5893353.89 0.0089 0.0040

Neptune -20848-02-12 12:57 J -5893266.07 -5893265.96 -5893265.84 0.0089 0.0047

Neptune -20848-05-11 14:09 J -5893178.00 -5893177.91 -5893177.79 0.0089 0.0055

Neptune -20848-08-07 15:36 J -5893089.94 -5893089.85 -5893089.74 0.0089 0.0061

Neptune -20848-11-03 17:02 J -5893001.87 -5893001.79 -5893001.70 0.0089 0.0068

Neptune -20847-01-30 18:28 J -5892913.80 -5892913.73 -5892913.66 0.0089 0.0075

Neptune -20847-04-28 19:40 J -5892825.72 -5892825.68 -5892825.62 0.0089 0.0083

Jupiter -20847-10-20 23:16 J -5892650.65 -5892650.53 -5892650.40 0.0529 0.0056

Jupiter -20846-01-18 05:31 J -5892561.28 -5892561.27 -5892561.25 0.0527 0.0522

Moon -20846-07-16 07:26 J -5892382.29 -5892382.19 -5892382.08 0.2691 0.1018

Earth -20846-07-16 07:40 J -5892382.28 -5892382.18 -5892382.07 0.2697 0.1051 *

Mars -20844-06-14 19:26 J -5891682.80 -5891682.69 -5891682.57 0.1641 0.0161

Saturn -20844-10-31 11:16 J -5891544.20 -5891544.03 -5891543.87 0.0285 0.0136

Saturn -20843-01-28 11:02 J -5891455.22 -5891455.04 -5891454.86 0.0286 0.0060

Saturn -20843-04-27 10:48 J -5891366.13 -5891366.05 -5891365.97 0.0287 0.0256

Mars -20841-03-27 16:48 J -5890665.96 -5890665.80 -5890665.65 0.1877 0.0651

Jupiter -20841-12-16 09:50 J -5890402.27 -5890402.09 -5890401.91 0.0498 0.0060

Earth -20839-07-09 04:48 J -5889832.36 -5889832.30 -5889832.23 0.2702 0.2129

Moon -20839-07-09 05:31 J -5889832.33 -5889832.27 -5889832.20 0.2705 0.2123 *

Moon -20835-01-13 10:33 J -5888548.19 -5888548.06 -5888547.93 0.2631 0.1379

Earth -20835-01-13 12:00 J -5888548.13 -5888548.00 -5888547.87 0.2633 0.1301 *

Jupiter -20835-08-09 03:36 J -5888340.47 -5888340.35 -5888340.23 0.0529 0.0197

Mars -20835-11-05 06:57 J -5888252.33 -5888252.21 -5888252.10 0.1639 0.0303

Jupiter -20835-11-06 09:36 J -5888251.19 -5888251.10 -5888251.01 0.0527 0.0376

Moon -20833-07-18 01:55 J -5887631.49 -5887631.42 -5887631.35 0.2692 0.2096

Earth -20833-07-18 02:38 J -5887631.45 -5887631.39 -5887631.33 0.2696 0.2215 *

Mars -20833-10-10 09:50 J -5887547.11 -5887547.09 -5887547.06 0.1648 0.1599

Mars -20832-08-17 10:04 J -5887236.23 -5887236.08 -5887235.93 0.1881 0.0735

Saturn -20831-12-10 08:52 J -5886756.19 -5886756.13 -5886756.06 0.0278 0.0236

Saturn -20830-03-08 19:40 J -5886667.80 -5886667.68 -5886667.56 0.0277 0.0112

Saturn -20830-06-05 06:28 J -5886579.36 -5886579.23 -5886579.10 0.0276 0.0012

Saturn -20830-09-01 17:16 J -5886490.89 -5886490.78 -5886490.66 0.0275 0.0135

Saturn -20830-11-29 04:04 J -5886402.37 -5886402.33 -5886402.28 0.0274 0.0257

Jupiter -20829-10-04 06:43 J -5886092.39 -5886092.22 -5886092.04 0.0498 0.0123

Venus -20829-11-11 17:45 J -5886053.83 -5886053.76 -5886053.69 0.3747 0.2721

Uranus -20827-10-18 04:33 J -5885348.35 -5885348.31 -5885348.26 0.0141 0.0130

Uranus -20826-01-14 08:09 J -5885260.24 -5885260.16 -5885260.08 0.0141 0.0109

Uranus -20826-04-12 11:31 J -5885172.12 -5885172.02 -5885171.91 0.0141 0.0088

Uranus -20826-07-09 14:52 J -5885083.99 -5885083.88 -5885083.75 0.0141 0.0068

Earth -20826-07-11 23:16 J -5885081.63 -5885081.53 -5885081.42 0.2700 0.1017

Moon -20826-07-12 00:00 J -5885081.61 -5885081.50 -5885081.39 0.2697 0.0881 *

Uranus -20826-10-05 18:43 J -5884995.85 -5884995.72 -5884995.60 0.0141 0.0046

Uranus -20825-01-01 22:04 J -5884907.71 -5884907.58 -5884907.44 0.0141 0.0025

Mars -20825-03-27 18:14 J -5884821.84 -5884821.74 -5884821.64 0.1637 0.0746

Uranus -20825-03-30 01:40 J -5884819.56 -5884819.43 -5884819.29 0.0142 0.0004

Uranus -20825-06-26 05:16 J -5884731.41 -5884731.28 -5884731.14 0.0142 0.0020

Uranus -20825-09-22 08:52 J -5884643.25 -5884643.13 -5884643.00 0.0142 0.0042

Uranus -20825-12-19 12:28 J -5884555.09 -5884554.98 -5884554.85 0.0142 0.0064

Uranus -20824-03-17 16:04 J -5884466.93 -5884466.83 -5884466.71 0.0142 0.0086

Uranus -20824-06-13 19:55 J -5884378.75 -5884378.67 -5884378.58 0.0142 0.0108

Uranus -20824-09-09 23:45 J -5884290.56 -5884290.51 -5884290.46 0.0142 0.0131

Mars -20823-03-02 21:07 J -5884116.71 -5884116.62 -5884116.54 0.1645 0.1129

Jupiter -20823-05-28 07:40 J -5884030.27 -5884030.18 -5884030.08 0.0529 0.0339

Venus -20823-05-28 09:21 J -5884030.21 -5884030.11 -5884030.01 0.3749 0.0614 *

Jupiter -20823-08-25 13:40 J -5883941.04 -5883940.93 -5883940.81 0.0527 0.0233

Moon -20822-01-16 14:38 J -5883797.04 -5883796.89 -5883796.74 0.2637 0.0453

Earth -20822-01-16 16:04 J -5883796.97 -5883796.83 -5883796.68 0.2635 0.0584 *

Venus -20818-12-12 00:57 J -5882006.55 -5882006.46 -5882006.37 0.3750 0.1516

Jupiter -20817-07-23 04:04 J -5881782.47 -5881782.33 -5881782.18 0.0497 0.0301

Jupiter -20817-10-21 13:26 J -5881692.03 -5881691.94 -5881691.84 0.0499 0.0421

Mars -20816-08-18 05:45 J -5881391.34 -5881391.26 -5881391.18 0.1635 0.1184

Saturn -20814-03-20 10:04 J -5880812.22 -5880812.08 -5880811.94 0.0284 0.0187

Saturn -20814-06-17 10:04 J -5880723.27 -5880723.08 -5880722.90 0.0285 0.0011

Mars -20814-07-24 08:09 J -5880686.27 -5880686.16 -5880686.05 0.1643 0.0664

Saturn -20814-09-14 09:36 J -5880634.22 -5880634.10 -5880633.96 0.0286 0.0206

Earth -20813-07-13 18:00 J -5880330.86 -5880330.75 -5880330.64 0.2699 0.0120

Moon -20813-07-13 18:14 J -5880330.85 -5880330.74 -5880330.62 0.2693 0.0149 *

Venus -20812-06-26 16:48 J -5879982.82 -5879982.80 -5879982.79 0.3752 0.3678

Jupiter -20811-03-16 11:31 J -5879720.06 -5879720.02 -5879719.97 0.0530 0.0487

Jupiter -20811-06-13 17:31 J -5879630.89 -5879630.77 -5879630.64 0.0528 0.0086

Moon -20809-01-19 19:11 J -5879045.77 -5879045.70 -5879045.63 0.2642 0.2302

Earth -20809-01-19 19:55 J -5879045.73 -5879045.67 -5879045.62 0.2637 0.2408 *

Mars -20806-01-08 17:16 J -5877960.79 -5877960.78 -5877960.77 0.1633 0.1618

Jupiter -20805-05-11 01:26 J -5877472.49 -5877472.44 -5877472.39 0.0497 0.0478

Jupiter -20805-08-09 11:02 J -5877382.20 -5877382.04 -5877381.88 0.0498 0.0245

Mars -20805-12-13 19:26 J -5877255.80 -5877255.69 -5877255.57 0.1641 0.0215

Mars -20802-09-26 17:31 J -5876238.92 -5876238.77 -5876238.62 0.1877 0.0777

Saturn -20801-04-28 11:31 J -5876024.05 -5876024.02 -5876023.99 0.0278 0.0270

Saturn -20801-07-25 22:19 J -5875935.68 -5875935.57 -5875935.46 0.0277 0.0146

Saturn -20801-10-22 09:07 J -5875847.25 -5875847.12 -5875846.99 0.0276 0.0024

Saturn -20800-01-18 19:55 J -5875758.80 -5875758.67 -5875758.55 0.0275 0.0101

Saturn -20800-04-17 06:28 J -5875670.30 -5875670.23 -5875670.15 0.0274 0.0223

Moon -20800-07-16 12:28 J -5875580.09 -5875579.98 -5875579.88 0.2691 0.1252

Earth -20800-07-16 12:43 J -5875580.07 -5875579.97 -5875579.87 0.2697 0.1273 *

Jupiter -20799-04-01 21:50 J -5875320.72 -5875320.59 -5875320.46 0.0529 0.0056

Jupiter -20799-06-30 04:04 J -5875231.35 -5875231.33 -5875231.31 0.0527 0.0520

Venus -20797-07-19 20:09 J -5874480.76 -5874480.66 -5874480.56 0.3623 0.2813

Pluto -20796-08-28 04:19 J -5874076.32 -5874076.32 -5874076.28 0.0071 0.0070

Pluto -20796-11-24 06:00 J -5873988.32 -5873988.25 -5873988.17 0.0071 0.0063

Pluto -20795-02-20 06:57 J -5873900.29 -5873900.21 -5873900.09 0.0071 0.0056

Mars -20795-05-06 06:57 J -5873825.33 -5873825.21 -5873825.10 0.1639 0.0245

Pluto -20795-05-19 08:23 J -5873812.25 -5873812.15 -5873812.02 0.0071 0.0048

Pluto -20795-08-15 09:50 J -5873724.21 -5873724.09 -5873723.95 0.0072 0.0040

Pluto -20795-11-11 11:16 J -5873636.16 -5873636.03 -5873635.88 0.0072 0.0032

Pluto -20794-02-07 12:43 J -5873548.11 -5873547.97 -5873547.81 0.0072 0.0024

Pluto -20794-05-06 14:09 J -5873460.06 -5873459.91 -5873459.75 0.0072 0.0016

Pluto -20794-08-02 15:36 J -5873372.01 -5873371.85 -5873371.69 0.0072 0.0008

Pluto -20794-10-29 17:02 J -5873283.95 -5873283.79 -5873283.63 0.0072 0.0000

Pluto -20793-01-25 18:28 J -5873195.89 -5873195.73 -5873195.57 0.0072 0.0008

Pluto -20793-04-22 19:40 J -5873107.83 -5873107.68 -5873107.51 0.0072 0.0017

Jupiter -20793-05-28 08:09 J -5873072.35 -5873072.16 -5873071.98 0.0498 0.0065

Earth -20793-07-09 09:50 J -5873030.17 -5873030.09 -5873030.01 0.2702 0.1913

Moon -20793-07-09 10:33 J -5873030.15 -5873030.06 -5873029.98 0.2704 0.1777 *

Pluto -20793-07-19 21:21 J -5873019.76 -5873019.61 -5873019.46 0.0073 0.0025

Pluto -20793-10-15 22:48 J -5872931.69 -5872931.55 -5872931.41 0.0073 0.0033

Pluto -20792-01-12 00:00 J -5872843.62 -5872843.50 -5872843.36 0.0073 0.0042

Mars -20792-02-15 11:02 J -5872809.20 -5872809.04 -5872808.88 0.1881 0.0601

Pluto -20792-04-10 01:40 J -5872755.54 -5872755.43 -5872755.31 0.0073 0.0050

Pluto -20792-07-07 02:52 J -5872667.46 -5872667.38 -5872667.27 0.0073 0.0059

Pluto -20792-10-03 04:33 J -5872579.36 -5872579.31 -5872579.24 0.0073 0.0068

Moon -20789-01-14 16:48 J -5871745.93 -5871745.80 -5871745.66 0.2633 0.1165

Earth -20789-01-14 18:14 J -5871745.88 -5871745.74 -5871745.60 0.2633 0.0945 *

Jupiter -20787-01-19 02:23 J -5871010.52 -5871010.40 -5871010.29 0.0529 0.0193

Jupiter -20787-04-18 08:23 J -5870921.23 -5870921.15 -5870921.06 0.0528 0.0383

Moon -20787-07-19 06:57 J -5870829.26 -5870829.21 -5870829.16 0.2693 0.2384

Earth -20787-07-19 07:40 J -5870829.23 -5870829.18 -5870829.14 0.2696 0.2443 *

Uranus -20787-09-03 07:40 J -5870783.24 -5870783.18 -5870783.10 0.0137 0.0127

Uranus -20787-11-30 14:52 J -5870694.99 -5870694.88 -5870694.73 0.0137 0.0100

Uranus -20786-02-26 22:33 J -5870606.72 -5870606.56 -5870606.40 0.0137 0.0071

Uranus -20786-05-26 05:31 J -5870518.44 -5870518.27 -5870518.08 0.0137 0.0043

Uranus -20786-08-22 12:57 J -5870430.15 -5870429.96 -5870429.77 0.0137 0.0015

Mars -20786-09-26 18:14 J -5870394.85 -5870394.74 -5870394.64 0.1637 0.0686

Uranus -20786-11-18 20:09 J -5870341.85 -5870341.66 -5870341.47 0.0137 0.0013

Uranus -20785-02-15 03:07 J -5870253.55 -5870253.37 -5870253.19 0.0137 0.0040

Uranus -20785-05-13 10:04 J -5870165.24 -5870165.08 -5870164.91 0.0137 0.0068

Saturn -20785-08-06 06:28 J -5870080.30 -5870080.23 -5870080.14 0.0284 0.0256

Uranus -20785-08-09 17:02 J -5870076.92 -5870076.79 -5870076.65 0.0136 0.0094

Saturn -20785-11-03 06:43 J -5869991.40 -5869991.22 -5869991.04 0.0285 0.0060

Uranus -20785-11-05 23:45 J -5869988.58 -5869988.51 -5869988.41 0.0136 0.0121

Saturn -20784-01-31 06:28 J -5869902.39 -5869902.23 -5869902.07 0.0286 0.0136

Mars -20784-08-31 21:07 J -5869689.70 -5869689.62 -5869689.54 0.1645 0.1191

Jupiter -20781-03-16 05:31 J -5868762.45 -5868762.27 -5868762.09 0.0498 0.0112

Earth -20780-07-12 04:19 J -5868279.43 -5868279.32 -5868279.21 0.2700 0.0796

Moon -20780-07-12 05:02 J -5868279.40 -5868279.29 -5868279.19 0.2696 0.0803 *

Moon -20776-01-16 20:52 J -5866994.77 -5866994.63 -5866994.48 0.2637 0.0821

Earth -20776-01-16 22:19 J -5866994.71 -5866994.57 -5866994.43 0.2635 0.0937 *

Mars -20776-02-16 05:45 J -5866964.35 -5866964.26 -5866964.18 0.1635 0.1127

Jupiter -20776-11-07 06:28 J -5866700.32 -5866700.23 -5866700.13 0.0529 0.0333

Jupiter -20775-02-04 12:43 J -5866611.09 -5866610.97 -5866610.86 0.0527 0.0240

Mars -20774-01-22 08:09 J -5866259.26 -5866259.16 -5866259.05 0.1643 0.0727

Venus -20772-06-18 15:07 J -5865380.95 -5865380.87 -5865380.78 0.3748 0.1952

Saturn -20772-12-13 00:00 J -5865203.59 -5865203.50 -5865203.40 0.0278 0.0190

Saturn -20771-03-11 10:48 J -5865115.17 -5865115.05 -5865114.92 0.0277 0.0066

Saturn -20771-06-07 21:36 J -5865026.72 -5865026.60 -5865026.47 0.0276 0.0060

Saturn -20771-09-04 08:23 J -5864938.24 -5864938.15 -5864938.05 0.0275 0.0182

Neptune -20769-01-01 19:55 J -5864453.72 -5864453.67 -5864453.61 0.0088 0.0084

Jupiter -20769-01-03 02:09 J -5864452.55 -5864452.41 -5864452.26 0.0498 0.0299

Neptune -20769-03-29 23:31 J -5864365.62 -5864365.52 -5864365.41 0.0088 0.0075

Jupiter -20769-04-02 11:31 J -5864362.11 -5864362.02 -5864361.92 0.0499 0.0425

Neptune -20769-06-26 03:21 J -5864277.50 -5864277.36 -5864277.23 0.0088 0.0064

Neptune -20769-09-22 06:28 J -5864189.37 -5864189.23 -5864189.06 0.0088 0.0055

Neptune -20769-12-19 10:04 J -5864101.23 -5864101.08 -5864100.90 0.0088 0.0045

Neptune -20768-03-17 13:40 J -5864013.09 -5864012.93 -5864012.73 0.0088 0.0035

Neptune -20768-06-13 17:31 J -5863924.95 -5863924.77 -5863924.58 0.0088 0.0025

Neptune -20768-09-09 21:07 J -5863836.81 -5863836.62 -5863836.42 0.0088 0.0015

Neptune -20768-12-07 00:43 J -5863748.66 -5863748.47 -5863748.27 0.0088 0.0005

Neptune -20767-03-05 04:19 J -5863660.51 -5863660.32 -5863660.12 0.0088 0.0005

Neptune -20767-06-01 07:55 J -5863572.36 -5863572.17 -5863571.98 0.0088 0.0015

Mars -20767-07-09 17:16 J -5863533.81 -5863533.78 -5863533.75 0.1633 0.1561

Earth -20767-07-14 23:02 J -5863528.66 -5863528.54 -5863528.43 0.2699 0.0350

Moon -20767-07-14 23:02 J -5863528.65 -5863528.54 -5863528.42 0.2692 0.0421 *

Neptune -20767-08-28 11:16 J -5863484.21 -5863484.03 -5863483.84 0.0088 0.0025

Neptune -20767-11-24 14:38 J -5863396.05 -5863395.89 -5863395.70 0.0088 0.0035

Venus -20766-01-02 06:43 J -5863357.32 -5863357.22 -5863357.12 0.3749 0.0204

Neptune -20766-02-20 18:28 J -5863307.89 -5863307.73 -5863307.56 0.0088 0.0044

Neptune -20766-05-19 21:50 J -5863219.73 -5863219.59 -5863219.43 0.0088 0.0054

Neptune -20766-08-16 01:11 J -5863131.57 -5863131.45 -5863131.30 0.0088 0.0064

Neptune -20766-11-12 04:33 J -5863043.39 -5863043.31 -5863043.18 0.0088 0.0074

Neptune -20765-02-08 08:23 J -5862955.20 -5862955.15 -5862955.08 0.0088 0.0083

Mars -20765-06-13 19:26 J -5862828.80 -5862828.69 -5862828.57 0.1641 0.0269

Jupiter -20764-08-26 10:48 J -5862390.10 -5862390.05 -5862389.99 0.0529 0.0474

Jupiter -20764-11-23 16:48 J -5862300.93 -5862300.80 -5862300.68 0.0528 0.0098

Mars -20762-03-27 18:00 J -5861811.89 -5861811.75 -5861811.60 0.1878 0.0891

Venus -20761-07-17 22:33 J -5861333.64 -5861333.56 -5861333.49 0.3751 0.2304

Jupiter -20758-10-21 23:31 J -5860142.57 -5860142.52 -5860142.47 0.0497 0.0478

Jupiter -20757-01-20 09:07 J -5860052.28 -5860052.12 -5860051.96 0.0499 0.0247

Earth -20756-01-11 20:09 J -5859694.70 -5859694.66 -5859694.62 0.2632 0.2516

Mars -20756-11-04 06:43 J -5859398.33 -5859398.22 -5859398.10 0.1639 0.0188

Saturn -20755-03-23 06:14 J -5859259.41 -5859259.24 -5859259.07 0.0284 0.0105

Saturn -20755-06-20 06:00 J -5859170.42 -5859170.25 -5859170.07 0.0286 0.0091

Saturn -20755-09-17 05:45 J -5859081.27 -5859081.26 -5859081.25 0.0287 0.0286

Moon -20754-07-17 17:16 J -5858777.88 -5858777.78 -5858777.68 0.2691 0.1417

Earth -20754-07-17 17:45 J -5858777.86 -5858777.76 -5858777.67 0.2697 0.1501 *

Mars -20753-08-16 12:00 J -5858382.17 -5858382.00 -5858381.84 0.1881 0.0474

Jupiter -20752-09-11 20:23 J -5857990.77 -5857990.65 -5857990.52 0.0528 0.0055

Jupiter -20752-12-10 02:38 J -5857901.40 -5857901.39 -5857901.37 0.0527 0.0520

Earth -20747-07-10 14:38 J -5856227.97 -5856227.89 -5856227.80 0.2701 0.1698

Moon -20747-07-10 15:21 J -5856227.95 -5856227.86 -5856227.77 0.2702 0.1666 *

Mars -20746-03-27 18:14 J -5855967.85 -5855967.74 -5855967.64 0.1637 0.0627

Venus -20746-08-10 12:57 J -5855832.10 -5855831.96 -5855831.81 0.3625 0.1506

Jupiter -20746-11-08 06:28 J -5855742.41 -5855742.23 -5855742.04 0.0498 0.0071

Mars -20744-03-01 21:07 J -5855262.70 -5855262.62 -5855262.55 0.1645 0.1251

Mars -20743-01-06 05:02 J -5854952.29 -5854952.29 -5854952.29 0.1883 0.1883

Moon -20743-01-14 23:02 J -5854943.69 -5854943.54 -5854943.40 0.2633 0.0640

Earth -20743-01-15 00:28 J -5854943.62 -5854943.48 -5854943.33 0.2633 0.0590 *

Uranus -20743-11-07 11:31 J -5854647.07 -5854647.02 -5854646.95 0.0141 0.0126

Uranus -20742-02-03 15:07 J -5854558.95 -5854558.87 -5854558.78 0.0141 0.0105

Saturn -20742-05-02 02:52 J -5854471.45 -5854471.38 -5854471.30 0.0278 0.0221

Uranus -20742-05-02 18:43 J -5854470.83 -5854470.72 -5854470.61 0.0141 0.0084

Saturn -20742-07-29 13:40 J -5854383.05 -5854382.93 -5854382.80 0.0277 0.0097

Uranus -20742-07-29 22:04 J -5854382.69 -5854382.58 -5854382.45 0.0141 0.0063

Saturn -20742-10-26 00:28 J -5854294.61 -5854294.48 -5854294.35 0.0276 0.0027

Uranus -20742-10-26 01:40 J -5854294.55 -5854294.43 -5854294.30 0.0141 0.0041 *

Uranus -20741-01-22 05:16 J -5854206.41 -5854206.28 -5854206.14 0.0141 0.0020

Saturn -20741-01-22 11:16 J -5854206.14 -5854206.03 -5854205.92 0.0275 0.0150 *

Uranus -20741-04-19 08:52 J -5854118.26 -5854118.13 -5854117.99 0.0142 0.0003

Saturn -20741-04-19 22:04 J -5854117.58 -5854117.58 -5854117.57 0.0274 0.0273

Uranus -20741-07-16 12:28 J -5854030.11 -5854029.98 -5854029.85 0.0142 0.0024

Moon -20741-07-19 11:45 J -5854027.03 -5854027.01 -5854026.98 0.2694 0.2600

Earth -20741-07-19 12:43 J -5854026.98 -5854026.97 -5854026.96 0.2695 0.2676 *

Uranus -20741-10-12 16:04 J -5853941.95 -5853941.83 -5853941.70 0.0142 0.0046

Uranus -20740-01-08 19:40 J -5853853.79 -5853853.68 -5853853.56 0.0142 0.0069

Uranus -20740-04-06 23:16 J -5853765.62 -5853765.53 -5853765.42 0.0142 0.0091

Jupiter -20740-07-01 00:43 J -5853680.59 -5853680.47 -5853680.36 0.0529 0.0197

Uranus -20740-07-04 03:07 J -5853677.45 -5853677.37 -5853677.29 0.0142 0.0113

Jupiter -20740-09-28 06:43 J -5853591.31 -5853591.22 -5853591.13 0.0527 0.0378

Uranus -20740-09-30 06:43 J -5853589.25 -5853589.22 -5853589.17 0.0142 0.0136

Mars -20737-08-17 05:45 J -5852537.35 -5852537.26 -5852537.18 0.1635 0.1067

Mars -20735-07-23 08:09 J -5851832.26 -5851832.16 -5851832.06 0.1643 0.0788

Earth -20734-07-13 09:07 J -5851477.23 -5851477.12 -5851477.00 0.2700 0.0587

Moon -20734-07-13 09:50 J -5851477.20 -5851477.09 -5851476.98 0.2696 0.0440 *

Jupiter -20734-08-27 03:21 J -5851432.54 -5851432.36 -5851432.18 0.0497 0.0113

Moon -20730-01-18 03:21 J -5850192.49 -5850192.36 -5850192.23 0.2638 0.1138

Earth -20730-01-18 04:33 J -5850192.44 -5850192.31 -5850192.18 0.2635 0.1286 *

Jupiter -20728-04-19 05:02 J -5849370.39 -5849370.29 -5849370.19 0.0530 0.0334

Jupiter -20728-07-17 11:02 J -5849281.15 -5849281.04 -5849280.92 0.0528 0.0241

Mars -20727-01-07 17:16 J -5849106.83 -5849106.78 -5849106.74 0.1633 0.1502

Saturn -20726-08-10 03:36 J -5848527.50 -5848527.35 -5848527.20 0.0284 0.0169

Saturn -20726-11-07 03:36 J -5848438.54 -5848438.35 -5848438.16 0.0285 0.0027

Mars -20726-12-13 19:26 J -5848401.80 -5848401.69 -5848401.57 0.1641 0.0331

Saturn -20725-02-04 03:21 J -5848349.48 -5848349.36 -5848349.25 0.0286 0.0222

Mars -20723-09-25 18:57 J -5847384.85 -5847384.71 -5847384.57 0.1878 0.1018

Jupiter -20722-06-15 00:43 J -5847122.62 -5847122.47 -5847122.32 0.0497 0.0291

Jupiter -20722-09-13 09:50 J -5847032.17 -5847032.09 -5847031.99 0.0499 0.0430

Venus -20721-07-09 21:07 J -5846731.67 -5846731.62 -5846731.57 0.3746 0.3267

Moon -20721-07-15 03:50 J -5846726.45 -5846726.34 -5846726.22 0.2692 0.0515

Earth -20721-07-15 03:50 J -5846726.45 -5846726.34 -5846726.23 0.2698 0.0574 *

Jupiter -20716-02-05 09:21 J -5845060.16 -5845060.11 -5845060.05 0.0529 0.0473

Mars -20716-05-05 06:43 J -5844971.33 -5844971.22 -5844971.10 0.1639 0.0126

Jupiter -20716-05-05 15:21 J -5844970.98 -5844970.86 -5844970.73 0.0528 0.0099

Venus -20715-01-23 12:43 J -5844708.07 -5844707.97 -5844707.88 0.3748 0.1172

Earth -20714-07-09 01:11 J -5844176.48 -5844176.45 -5844176.42 0.2703 0.2588

Moon -20714-07-09 01:40 J -5844176.46 -5844176.43 -5844176.39 0.2708 0.2536 *

Mars -20713-02-15 12:28 J -5843955.14 -5843954.98 -5843954.81 0.1881 0.0354

Saturn -20713-09-18 05:02 J -5843739.33 -5843739.29 -5843739.25 0.0279 0.0262

Saturn -20713-12-15 15:50 J -5843650.95 -5843650.84 -5843650.72 0.0278 0.0137

Saturn -20712-03-14 02:38 J -5843562.52 -5843562.39 -5843562.26 0.0277 0.0013

Saturn -20712-06-10 13:26 J -5843474.06 -5843473.94 -5843473.82 0.0276 0.0112

Saturn -20712-09-07 00:14 J -5843385.55 -5843385.49 -5843385.42 0.0275 0.0235

Pluto -20711-08-02 14:52 J -5843055.89 -5843055.88 -5843055.82 0.0073 0.0072

Pluto -20711-10-29 16:33 J -5842967.88 -5842967.81 -5842967.72 0.0073 0.0063

Moon -20710-01-13 01:11 J -5842892.53 -5842892.45 -5842892.37 0.2628 0.2185

Earth -20710-01-13 02:23 J -5842892.48 -5842892.40 -5842892.31 0.2632 0.2153 *

Pluto -20710-01-25 18:00 J -5842879.85 -5842879.75 -5842879.64 0.0073 0.0054

Jupiter -20710-04-02 20:52 J -5842812.66 -5842812.63 -5842812.58 0.0497 0.0482

Pluto -20710-04-23 19:11 J -5842791.81 -5842791.70 -5842791.56 0.0073 0.0046

Jupiter -20710-07-02 06:43 J -5842722.38 -5842722.22 -5842722.06 0.0499 0.0244

Pluto -20710-07-20 20:38 J -5842703.76 -5842703.64 -5842703.50 0.0073 0.0038

Venus -20710-08-09 04:19 J -5842684.42 -5842684.32 -5842684.23 0.3750 0.0949

Pluto -20710-10-16 21:50 J -5842615.72 -5842615.59 -5842615.43 0.0073 0.0030

Pluto -20709-01-12 23:16 J -5842527.67 -5842527.53 -5842527.37 0.0072 0.0022

Pluto -20709-04-10 00:43 J -5842439.62 -5842439.47 -5842439.31 0.0072 0.0013

Pluto -20709-07-07 02:09 J -5842351.57 -5842351.41 -5842351.25 0.0072 0.0005

Pluto -20709-10-03 03:21 J -5842263.51 -5842263.36 -5842263.20 0.0072 0.0003

Pluto -20709-12-30 04:33 J -5842175.46 -5842175.31 -5842175.15 0.0072 0.0011

Pluto -20708-03-28 06:00 J -5842087.40 -5842087.25 -5842087.10 0.0072 0.0018

Pluto -20708-06-24 07:11 J -5841999.34 -5841999.20 -5841999.05 0.0072 0.0026

Moon -20708-07-17 22:19 J -5841975.66 -5841975.57 -5841975.49 0.2691 0.1719

Earth -20708-07-17 22:48 J -5841975.64 -5841975.55 -5841975.47 0.2697 0.1729 *

Pluto -20708-09-20 08:09 J -5841911.28 -5841911.16 -5841911.01 0.0072 0.0034

Pluto -20708-12-17 09:36 J -5841823.22 -5841823.10 -5841822.97 0.0072 0.0041

Pluto -20707-03-15 10:33 J -5841735.16 -5841735.06 -5841734.93 0.0071 0.0049

Pluto -20707-06-11 11:45 J -5841647.09 -5841647.01 -5841646.90 0.0071 0.0056

Pluto -20707-09-07 12:57 J -5841559.01 -5841558.96 -5841558.88 0.0071 0.0063

Mars -20707-09-25 18:14 J -5841540.85 -5841540.74 -5841540.64 0.1637 0.0574

Pluto -20707-12-04 14:23 J -5841470.91 -5841470.90 -5841470.88 0.0071 0.0070

Mars -20705-08-30 20:52 J -5840835.69 -5840835.63 -5840835.56 0.1645 0.1311

Jupiter -20704-02-21 19:26 J -5840660.81 -5840660.69 -5840660.56 0.0528 0.0047

Venus -20704-02-21 19:55 J -5840660.73 -5840660.67 -5840660.61 0.3751 0.3087 *

Mars -20704-07-07 05:31 J -5840525.32 -5840525.27 -5840525.21 0.1884 0.1766

Uranus -20703-09-23 14:52 J -5840081.96 -5840081.88 -5840081.78 0.0137 0.0121

Uranus -20703-12-20 22:04 J -5839993.71 -5839993.58 -5839993.43 0.0137 0.0092

Uranus -20702-03-19 05:31 J -5839905.43 -5839905.27 -5839905.10 0.0137 0.0064

Uranus -20702-06-15 12:43 J -5839817.15 -5839816.97 -5839816.78 0.0137 0.0036

Uranus -20702-09-11 19:55 J -5839728.85 -5839728.67 -5839728.48 0.0137 0.0009

Uranus -20702-12-09 03:07 J -5839640.55 -5839640.37 -5839640.18 0.0137 0.0020

Uranus -20701-03-06 10:04 J -5839552.25 -5839552.08 -5839551.90 0.0137 0.0047

Uranus -20701-06-02 17:16 J -5839463.94 -5839463.78 -5839463.62 0.0136 0.0074

Earth -20701-07-10 19:40 J -5839425.78 -5839425.68 -5839425.59 0.2701 0.1484

Moon -20701-07-10 20:23 J -5839425.75 -5839425.65 -5839425.56 0.2700 0.1379 *

Uranus -20701-08-30 00:14 J -5839375.61 -5839375.49 -5839375.36 0.0136 0.0101

Uranus -20701-11-26 06:57 J -5839287.26 -5839287.21 -5839287.14 0.0136 0.0127

Jupiter -20698-04-20 04:04 J -5838412.51 -5838412.33 -5838412.14 0.0498 0.0066

Moon -20697-01-16 05:16 J -5838141.43 -5838141.28 -5838141.13 0.2633 0.0479

Earth -20697-01-16 06:43 J -5838141.37 -5838141.22 -5838141.07 0.2634 0.0236 *

Mars -20697-02-16 05:31 J -5838110.36 -5838110.27 -5838110.18 0.1635 0.1009

Saturn -20697-12-27 03:50 J -5837795.47 -5837795.34 -5837795.22 0.0284 0.0209

Saturn -20696-03-26 03:36 J -5837706.53 -5837706.35 -5837706.16 0.0285 0.0015

Saturn -20696-06-23 03:21 J -5837617.50 -5837617.36 -5837617.21 0.0286 0.0182

Mars -20695-01-21 08:09 J -5837405.26 -5837405.16 -5837405.06 0.1643 0.0845

Jupiter -20693-12-10 23:16 J -5836350.65 -5836350.53 -5836350.42 0.0529 0.0198

Jupiter -20692-03-10 05:16 J -5836261.37 -5836261.28 -5836261.19 0.0527 0.0376

Venus -20689-03-16 15:07 J -5835159.02 -5835158.87 -5835158.71 0.3625 0.0694

Neptune -20688-01-13 10:19 J -5834856.07 -5834856.07 -5834856.05 0.0089 0.0089

Neptune -20688-04-11 11:31 J -5834768.05 -5834768.02 -5834767.96 0.0089 0.0083

Neptune -20688-07-08 12:57 J -5834680.02 -5834679.96 -5834679.88 0.0089 0.0075

Mars -20688-07-08 17:02 J -5834679.84 -5834679.79 -5834679.73 0.1633 0.1444

Earth -20688-07-13 14:09 J -5834675.02 -5834674.91 -5834674.80 0.2700 0.0355

Moon -20688-07-13 14:38 J -5834675.00 -5834674.89 -5834674.77 0.2695 0.0366 *

Neptune -20688-10-04 14:23 J -5834591.98 -5834591.90 -5834591.81 0.0089 0.0068

Neptune -20688-12-31 15:36 J -5834503.94 -5834503.85 -5834503.75 0.0089 0.0062

Neptune -20687-03-29 17:02 J -5834415.89 -5834415.79 -5834415.68 0.0089 0.0054

Neptune -20687-06-25 18:14 J -5834327.84 -5834327.74 -5834327.62 0.0089 0.0048

Neptune -20687-09-21 19:40 J -5834239.79 -5834239.68 -5834239.56 0.0089 0.0041

Neptune -20687-12-18 21:07 J -5834151.74 -5834151.62 -5834151.50 0.0089 0.0033

Jupiter -20686-02-06 01:26 J -5834102.62 -5834102.44 -5834102.26 0.0498 0.0113

Neptune -20686-03-16 22:19 J -5834063.69 -5834063.57 -5834063.44 0.0089 0.0027

Neptune -20686-06-12 23:45 J -5833975.64 -5833975.51 -5833975.38 0.0089 0.0019

Mars -20686-06-13 19:26 J -5833974.80 -5833974.69 -5833974.58 0.1641 0.0390

Neptune -20686-09-09 00:57 J -5833887.59 -5833887.46 -5833887.32 0.0089 0.0013

Neptune -20686-12-06 02:23 J -5833799.53 -5833799.40 -5833799.27 0.0089 0.0005

Neptune -20685-03-03 03:50 J -5833711.48 -5833711.34 -5833711.21 0.0089 0.0003

Neptune -20685-05-30 05:02 J -5833623.42 -5833623.29 -5833623.16 0.0089 0.0009

Neptune -20685-08-26 06:28 J -5833535.36 -5833535.23 -5833535.10 0.0089 0.0016

Neptune -20685-11-22 07:40 J -5833447.31 -5833447.18 -5833447.05 0.0089 0.0023

Moon -20684-01-18 09:50 J -5833390.21 -5833390.09 -5833389.98 0.2640 0.1615

Earth -20684-01-18 10:48 J -5833390.17 -5833390.05 -5833389.94 0.2635 0.1630 *

Neptune -20684-02-18 09:07 J -5833359.25 -5833359.12 -5833359.00 0.0089 0.0030

Neptune -20684-05-17 10:19 J -5833271.19 -5833271.07 -5833270.94 0.0089 0.0037

Neptune -20684-08-13 11:31 J -5833183.12 -5833183.02 -5833182.89 0.0089 0.0044

Neptune -20684-11-09 12:57 J -5833095.06 -5833094.96 -5833094.84 0.0089 0.0051

Neptune -20683-02-05 14:09 J -5833007.00 -5833006.91 -5833006.80 0.0089 0.0059

Mars -20683-03-26 19:55 J -5832957.80 -5832957.67 -5832957.54 0.1877 0.1155

Neptune -20683-05-04 15:36 J -5832918.93 -5832918.85 -5832918.75 0.0089 0.0065

Saturn -20683-05-04 18:57 J -5832918.81 -5832918.71 -5832918.60 0.0278 0.0165 *

Neptune -20683-07-31 17:02 J -5832830.86 -5832830.79 -5832830.71 0.0089 0.0072

Saturn -20683-08-01 05:45 J -5832830.39 -5832830.26 -5832830.13 0.0277 0.0041

Neptune -20683-10-27 18:28 J -5832742.78 -5832742.73 -5832742.67 0.0089 0.0079

Saturn -20683-10-28 16:33 J -5832741.93 -5832741.81 -5832741.68 0.0276 0.0084

Neptune -20682-01-23 19:55 J -5832654.70 -5832654.67 -5832654.64 0.0089 0.0086

Saturn -20682-01-25 03:36 J -5832653.44 -5832653.35 -5832653.27 0.0275 0.0207

Jupiter -20681-09-29 03:21 J -5832040.46 -5832040.36 -5832040.27 0.0529 0.0341

Jupiter -20681-12-27 09:21 J -5831951.23 -5831951.11 -5831951.00 0.0528 0.0232

Mars -20677-11-03 06:43 J -5830544.34 -5830544.22 -5830544.10 0.1639 0.0064

Moon -20675-07-16 08:52 J -5829924.24 -5829924.13 -5829924.03 0.2691 0.0851

Earth -20675-07-16 08:52 J -5829924.24 -5829924.13 -5829924.02 0.2698 0.0791 *

Jupiter -20675-11-24 22:04 J -5829792.72 -5829792.58 -5829792.43 0.0497 0.0297

Jupiter -20674-02-23 07:26 J -5829702.28 -5829702.19 -5829702.09 0.0499 0.0424

Mars -20674-08-16 13:26 J -5829528.11 -5829527.94 -5829527.78 0.1881 0.0231

Jupiter -20669-07-18 07:40 J -5827730.23 -5827730.18 -5827730.13 0.0530 0.0480

Jupiter -20669-10-15 13:40 J -5827641.06 -5827640.93 -5827640.81 0.0528 0.0094

Earth -20668-07-09 06:00 J -5827374.30 -5827374.25 -5827374.20 0.2702 0.2380

Moon -20668-07-09 06:43 J -5827374.28 -5827374.22 -5827374.17 0.2707 0.2340 *

Mars -20667-03-26 18:14 J -5827113.85 -5827113.74 -5827113.63 0.1637 0.0510

Saturn -20667-05-16 02:09 J -5827063.47 -5827063.41 -5827063.34 0.0283 0.0263

Saturn -20667-08-13 02:09 J -5826974.59 -5826974.41 -5826974.22 0.0285 0.0069

Saturn -20667-11-10 01:55 J -5826885.58 -5826885.42 -5826885.25 0.0286 0.0128

Mars -20665-02-29 20:52 J -5826408.69 -5826408.63 -5826408.56 0.1645 0.1372

Mars -20664-01-05 06:28 J -5826098.31 -5826098.23 -5826098.14 0.1884 0.1628

Moon -20664-01-13 07:26 J -5826090.29 -5826090.19 -5826090.10 0.2630 0.1982

Earth -20664-01-13 08:38 J -5826090.25 -5826090.14 -5826090.03 0.2632 0.1790 *

Venus -20664-02-13 18:28 J -5826058.80 -5826058.73 -5826058.65 0.3747 0.2497

Jupiter -20663-09-12 19:11 J -5825482.75 -5825482.70 -5825482.65 0.0497 0.0478

Jupiter -20663-12-12 04:48 J -5825392.46 -5825392.30 -5825392.14 0.0498 0.0246

Moon -20662-07-19 03:07 J -5825173.45 -5825173.37 -5825173.29 0.2692 0.1835

Earth -20662-07-19 03:36 J -5825173.42 -5825173.35 -5825173.27 0.2697 0.1960 *

Venus -20659-08-30 10:04 J -5824035.18 -5824035.08 -5824034.98 0.3748 0.0398

Uranus -20659-11-27 18:14 J -5823945.79 -5823945.74 -5823945.66 0.0141 0.0123

Uranus -20658-02-23 21:50 J -5823857.67 -5823857.59 -5823857.49 0.0141 0.0102

Uranus -20658-05-23 01:26 J -5823769.54 -5823769.44 -5823769.33 0.0141 0.0081

Mars -20658-08-17 05:31 J -5823683.36 -5823683.27 -5823683.17 0.1635 0.0951

Uranus -20658-08-19 05:02 J -5823681.41 -5823681.29 -5823681.17 0.0141 0.0059

Uranus -20658-11-15 08:38 J -5823593.27 -5823593.14 -5823593.01 0.0141 0.0038

Uranus -20657-02-11 12:14 J -5823505.13 -5823504.99 -5823504.86 0.0142 0.0017

Uranus -20657-05-09 15:50 J -5823416.98 -5823416.84 -5823416.71 0.0142 0.0007

Jupiter -20657-08-03 18:00 J -5823330.88 -5823330.75 -5823330.63 0.0528 0.0048

Uranus -20657-08-05 19:26 J -5823328.82 -5823328.69 -5823328.56 0.0142 0.0028

Uranus -20657-11-01 22:48 J -5823240.67 -5823240.55 -5823240.42 0.0142 0.0050

Uranus -20656-01-29 02:23 J -5823152.51 -5823152.40 -5823152.27 0.0142 0.0072

Uranus -20656-04-27 06:14 J -5823064.34 -5823064.24 -5823064.14 0.0142 0.0094

Mars -20656-07-22 08:09 J -5822978.26 -5822978.16 -5822978.06 0.1643 0.0907

Uranus -20656-07-24 10:04 J -5822976.16 -5822976.08 -5822976.01 0.0142 0.0116

Uranus -20656-10-20 13:40 J -5822887.95 -5822887.93 -5822887.90 0.0142 0.0139

Earth -20655-07-12 00:28 J -5822623.58 -5822623.48 -5822623.38 0.2701 0.1267

Moon -20655-07-12 01:11 J -5822623.55 -5822623.45 -5822623.35 0.2699 0.1195 *

Saturn -20654-09-21 21:21 J -5822186.69 -5822186.61 -5822186.52 0.0279 0.0202

Saturn -20654-12-19 08:09 J -5822098.28 -5822098.16 -5822098.03 0.0278 0.0078

Venus -20653-03-15 01:40 J -5822011.52 -5822011.43 -5822011.34 0.3750 0.1722

Saturn -20653-03-16 18:57 J -5822009.84 -5822009.71 -5822009.58 0.0277 0.0048

Saturn -20653-06-13 05:45 J -5821921.36 -5821921.26 -5821921.15 0.0276 0.0171

Moon -20651-01-16 11:31 J -5821339.17 -5821339.02 -5821338.87 0.2634 0.0089

Earth -20651-01-16 12:57 J -5821339.11 -5821338.96 -5821338.81 0.2634 0.0146 *

Jupiter -20651-09-30 01:26 J -5821082.63 -5821082.44 -5821082.26 0.0498 0.0057

Mars -20648-01-06 17:02 J -5820252.85 -5820252.79 -5820252.73 0.1633 0.1387

Mars -20647-12-12 19:26 J -5819547.81 -5819547.69 -5819547.58 0.1640 0.0449

Jupiter -20645-05-22 22:04 J -5819020.70 -5819020.58 -5819020.46 0.0528 0.0190

Jupiter -20645-08-20 04:04 J -5818931.42 -5818931.33 -5818931.24 0.0527 0.0382

Mars -20644-09-24 20:23 J -5818530.78 -5818530.65 -5818530.53 0.1878 0.1256

Earth -20642-07-14 19:11 J -5817872.82 -5817872.70 -5817872.59 0.2700 0.0148

Moon -20642-07-14 19:26 J -5817872.80 -5817872.69 -5817872.57 0.2694 0.0102 *

Jupiter -20639-07-18 22:33 J -5816772.74 -5816772.56 -5816772.38 0.0498 0.0124

Moon -20638-01-19 16:04 J -5816587.94 -5816587.83 -5816587.73 0.2641 0.1814

Earth -20638-01-19 17:02 J -5816587.89 -5816587.79 -5816587.70 0.2636 0.1983 *

Saturn -20638-12-31 02:23 J -5816242.57 -5816242.40 -5816242.22 0.0284 0.0108

Saturn -20637-03-29 02:23 J -5816153.58 -5816153.40 -5816153.22 0.0285 0.0088

Mars -20637-05-04 06:43 J -5816117.34 -5816117.22 -5816117.10 0.1639 0.0003

Saturn -20637-06-26 01:55 J -5816064.44 -5816064.42 -5816064.39 0.0286 0.0283

Mars -20634-02-14 14:23 J -5815101.06 -5815100.90 -5815100.73 0.1881 0.0093

Jupiter -20633-03-11 01:40 J -5814710.53 -5814710.43 -5814710.34 0.0529 0.0344

Jupiter -20633-06-08 07:26 J -5814621.30 -5814621.19 -5814621.07 0.0527 0.0229

Venus -20633-10-21 17:16 J -5814485.88 -5814485.78 -5814485.68 0.3624 0.2821

Moon -20629-07-16 13:40 J -5813122.04 -5813121.93 -5813121.82 0.2691 0.0939

Earth -20629-07-16 13:55 J -5813122.03 -5813121.92 -5813121.82 0.2698 0.1023 *

Mars -20628-09-24 18:00 J -5812686.86 -5812686.75 -5812686.63 0.1637 0.0453

Jupiter -20627-05-06 19:55 J -5812462.82 -5812462.67 -5812462.53 0.0497 0.0302

Jupiter -20627-08-05 05:16 J -5812372.38 -5812372.28 -5812372.18 0.0499 0.0420

Mars -20626-08-30 20:52 J -5811981.68 -5811981.63 -5811981.57 0.1645 0.1432

Mars -20625-07-06 07:26 J -5811671.29 -5811671.19 -5811671.09 0.1884 0.1500

Saturn -20624-02-08 00:57 J -5811454.53 -5811454.46 -5811454.38 0.0279 0.0227

Saturn -20624-05-07 11:45 J -5811366.13 -5811366.01 -5811365.89 0.0278 0.0102

Saturn -20624-08-03 22:33 J -5811277.69 -5811277.56 -5811277.43 0.0277 0.0023

Saturn -20624-10-31 09:21 J -5811189.22 -5811189.11 -5811189.00 0.0276 0.0147

Saturn -20623-01-27 20:09 J -5811100.68 -5811100.66 -5811100.63 0.0275 0.0270

Earth -20622-07-10 11:02 J -5810572.11 -5810572.04 -5810571.98 0.2702 0.2166

Moon -20622-07-10 11:31 J -5810572.09 -5810572.02 -5810571.94 0.2705 0.2055 *

Jupiter -20622-12-29 05:31 J -5810400.31 -5810400.27 -5810400.22 0.0530 0.0490

Jupiter -20621-03-27 11:31 J -5810311.14 -5810311.02 -5810310.89 0.0528 0.0082

Uranus -20619-10-13 21:50 J -5809380.69 -5809380.59 -5809380.48 0.0137 0.0114

Uranus -20618-01-10 05:02 J -5809292.43 -5809292.29 -5809292.13 0.0137 0.0086

Moon -20618-01-14 13:26 J -5809288.06 -5809287.94 -5809287.81 0.2630 0.1522

Earth -20618-01-14 15:07 J -5809288.00 -5809287.87 -5809287.75 0.2632 0.1433 *

Mars -20618-02-15 05:31 J -5809256.37 -5809256.27 -5809256.17 0.1635 0.0891

Uranus -20618-04-08 12:28 J -5809204.15 -5809203.98 -5809203.80 0.0137 0.0058

Uranus -20618-07-05 19:40 J -5809115.86 -5809115.68 -5809115.49 0.0137 0.0030

Uranus -20618-10-02 02:52 J -5809027.56 -5809027.38 -5809027.19 0.0137 0.0004

Uranus -20618-12-29 10:04 J -5808939.26 -5808939.08 -5808938.89 0.0137 0.0025

Uranus -20617-03-26 17:02 J -5808850.96 -5808850.79 -5808850.61 0.0137 0.0053

Uranus -20617-06-23 00:14 J -5808762.64 -5808762.49 -5808762.34 0.0136 0.0080

Uranus -20617-09-19 06:57 J -5808674.31 -5808674.21 -5808674.08 0.0136 0.0107

Uranus -20617-12-16 13:55 J -5808585.95 -5808585.92 -5808585.88 0.0136 0.0133

Mars -20616-01-20 08:09 J -5808551.26 -5808551.16 -5808551.07 0.1643 0.0967

Moon -20616-07-19 07:55 J -5808371.23 -5808371.17 -5808371.10 0.2693 0.2174

Earth -20616-07-19 08:38 J -5808371.20 -5808371.14 -5808371.08 0.2696 0.2186 *

Jupiter -20615-02-22 16:19 J -5808152.85 -5808152.82 -5808152.78 0.0497 0.0487

Jupiter -20615-05-24 02:09 J -5808062.57 -5808062.41 -5808062.25 0.0498 0.0236

Jupiter -20609-01-14 15:50 J -5806000.97 -5806000.84 -5806000.71 0.0529 0.0059

Jupiter -20609-04-12 22:04 J -5805911.60 -5805911.58 -5805911.56 0.0527 0.0516

Mars -20609-07-07 17:02 J -5805825.85 -5805825.79 -5805825.72 0.1633 0.1326

Earth -20609-07-12 05:31 J -5805821.38 -5805821.27 -5805821.17 0.2701 0.1050

Moon -20609-07-12 06:14 J -5805821.35 -5805821.24 -5805821.14 0.2699 0.0967 *

Saturn -20608-05-19 01:55 J -5805510.57 -5805510.42 -5805510.26 0.0284 0.0155

Saturn -20608-08-16 01:55 J -5805421.61 -5805421.42 -5805421.24 0.0285 0.0040

Venus -20608-09-20 15:50 J -5805385.92 -5805385.84 -5805385.75 0.3747 0.1736

Saturn -20608-11-13 01:26 J -5805332.54 -5805332.44 -5805332.33 0.0286 0.0235

Mars -20607-06-12 19:26 J -5805120.80 -5805120.69 -5805120.58 0.1641 0.0511

Moon -20605-01-17 18:00 J -5804536.90 -5804536.75 -5804536.60 0.2636 0.0270

Earth -20605-01-17 19:11 J -5804536.84 -5804536.70 -5804536.55 0.2634 0.0483 *

Neptune -20605-09-27 18:43 J -5804282.78 -5804282.72 -5804282.61 0.0088 0.0079

Neptune -20605-12-24 22:19 J -5804194.67 -5804194.57 -5804194.43 0.0088 0.0069

Neptune -20604-03-23 02:09 J -5804106.54 -5804106.41 -5804106.25 0.0088 0.0059

Mars -20604-03-25 21:21 J -5804103.71 -5804103.61 -5804103.49 0.1878 0.1400

Neptune -20604-06-19 05:45 J -5804018.41 -5804018.26 -5804018.08 0.0088 0.0049

Neptune -20604-09-15 09:21 J -5803930.27 -5803930.11 -5803929.92 0.0088 0.0039

Neptune -20604-12-12 12:57 J -5803842.13 -5803841.96 -5803841.76 0.0088 0.0029

Neptune -20603-03-10 16:48 J -5803753.99 -5803753.80 -5803753.61 0.0088 0.0019

Jupiter -20603-03-11 23:16 J -5803752.72 -5803752.53 -5803752.35 0.0498 0.0056

Neptune -20603-06-06 20:23 J -5803665.84 -5803665.65 -5803665.45 0.0088 0.0009

Neptune -20603-09-03 00:00 J -5803577.69 -5803577.50 -5803577.30 0.0088 0.0001

Neptune -20603-11-30 03:36 J -5803489.54 -5803489.35 -5803489.16 0.0088 0.0011

Neptune -20602-02-26 06:57 J -5803401.39 -5803401.21 -5803401.01 0.0088 0.0021

Venus -20602-04-06 07:26 J -5803362.29 -5803362.19 -5803362.09 0.3749 0.0368

Neptune -20602-05-25 10:19 J -5803313.24 -5803313.07 -5803312.87 0.0088 0.0031

Neptune -20602-08-21 13:55 J -5803225.08 -5803224.92 -5803224.73 0.0088 0.0041

Neptune -20602-11-17 17:45 J -5803136.92 -5803136.76 -5803136.60 0.0088 0.0050

Neptune -20601-02-13 21:07 J -5803048.75 -5803048.62 -5803048.47 0.0088 0.0060

Neptune -20601-05-12 00:28 J -5802960.58 -5802960.48 -5802960.35 0.0088 0.0070

Neptune -20601-08-08 03:50 J -5802872.40 -5802872.34 -5802872.24 0.0088 0.0080

Jupiter -20598-11-02 20:09 J -5801690.77 -5801690.66 -5801690.54 0.0529 0.0198

Mars -20598-11-03 06:43 J -5801690.34 -5801690.22 -5801690.11 0.1638 0.0060

Jupiter -20597-01-31 02:23 J -5801601.49 -5801601.40 -5801601.31 0.0527 0.0376

Venus -20597-10-19 23:02 J -5801338.61 -5801338.54 -5801338.46 0.3750 0.2505

Earth -20596-07-15 00:00 J -5801070.61 -5801070.50 -5801070.38 0.2699 0.0110

Moon -20596-07-15 00:14 J -5801070.60 -5801070.49 -5801070.37 0.2693 0.0135 *

Saturn -20595-06-28 03:21 J -5800722.39 -5800722.36 -5800722.31 0.0279 0.0263

Mars -20595-08-15 14:52 J -5800674.05 -5800673.88 -5800673.71 0.1881 0.0025

Saturn -20595-09-24 14:23 J -5800634.01 -5800633.90 -5800633.79 0.0278 0.0137

Saturn -20595-12-22 01:11 J -5800545.58 -5800545.45 -5800545.32 0.0277 0.0012

Saturn -20594-03-20 12:00 J -5800457.12 -5800457.00 -5800456.88 0.0276 0.0112

Saturn -20594-06-16 22:33 J -5800368.62 -5800368.56 -5800368.48 0.0275 0.0237

Moon -20592-01-19 22:19 J -5799785.64 -5799785.57 -5799785.51 0.2641 0.2350

Earth -20592-01-19 23:16 J -5799785.60 -5799785.53 -5799785.47 0.2636 0.2331 *

Jupiter -20592-12-28 19:26 J -5799442.87 -5799442.69 -5799442.51 0.0498 0.0137

Mars -20588-03-25 18:00 J -5798259.86 -5798259.75 -5798259.64 0.1637 0.0393

Mars -20586-02-28 20:52 J -5797554.68 -5797554.63 -5797554.58 0.1645 0.1489

Jupiter -20586-08-22 00:28 J -5797380.58 -5797380.48 -5797380.39 0.0529 0.0339

Jupiter -20586-11-19 06:28 J -5797291.35 -5797291.23 -5797291.12 0.0527 0.0233

Mars -20585-01-05 08:09 J -5797244.28 -5797244.16 -5797244.05 0.1884 0.1382

Moon -20583-07-17 18:28 J -5796319.83 -5796319.73 -5796319.63 0.2691 0.1272

Earth -20583-07-17 18:43 J -5796319.82 -5796319.72 -5796319.62 0.2698 0.1246 *

Venus -20582-11-12 10:04 J -5795837.23 -5795837.08 -5795836.94 0.3626 0.1499

Jupiter -20580-10-16 16:33 J -5795132.95 -5795132.81 -5795132.67 0.0497 0.0317

Jupiter -20579-01-15 02:09 J -5795042.52 -5795042.41 -5795042.31 0.0499 0.0406

Mars -20579-08-16 05:31 J -5794829.37 -5794829.27 -5794829.17 0.1635 0.0832

Saturn -20579-10-06 02:09 J -5794778.54 -5794778.41 -5794778.26 0.0284 0.0194

Saturn -20578-01-03 02:23 J -5794689.59 -5794689.40 -5794689.21 0.0285 0.0003

Saturn -20578-04-02 02:09 J -5794600.54 -5794600.41 -5794600.28 0.0286 0.0198

Mars -20577-07-21 08:09 J -5794124.25 -5794124.16 -5794124.07 0.1643 0.1027

Earth -20576-07-10 15:50 J -5793769.91 -5793769.84 -5793769.76 0.2702 0.1952

Moon -20576-07-10 16:33 J -5793769.88 -5793769.81 -5793769.73 0.2703 0.1934 *

Uranus -20575-12-18 00:57 J -5793244.52 -5793244.46 -5793244.39 0.0141 0.0121

Uranus -20574-03-16 04:33 J -5793156.40 -5793156.31 -5793156.22 0.0141 0.0100

Jupiter -20574-06-10 03:50 J -5793070.38 -5793070.34 -5793070.29 0.0529 0.0494

Uranus -20574-06-12 07:55 J -5793068.27 -5793068.17 -5793068.05 0.0141 0.0079

Jupiter -20574-09-07 09:50 J -5792981.22 -5792981.09 -5792980.97 0.0528 0.0076

Uranus -20574-09-08 11:31 J -5792980.14 -5792980.02 -5792979.90 0.0141 0.0058

Uranus -20574-12-05 15:07 J -5792892.00 -5792891.87 -5792891.74 0.0141 0.0036

Uranus -20573-03-02 18:43 J -5792803.85 -5792803.72 -5792803.59 0.0142 0.0015

Uranus -20573-05-29 22:19 J -5792715.71 -5792715.57 -5792715.44 0.0142 0.0007

Uranus -20573-08-26 01:55 J -5792627.55 -5792627.42 -5792627.29 0.0142 0.0029

Uranus -20573-11-22 05:31 J -5792539.40 -5792539.27 -5792539.15 0.0142 0.0051

Moon -20572-01-14 19:55 J -5792485.81 -5792485.67 -5792485.54 0.2630 0.1237

Earth -20572-01-14 21:21 J -5792485.75 -5792485.61 -5792485.47 0.2633 0.1065 *

Uranus -20572-02-18 09:07 J -5792451.23 -5792451.12 -5792451.00 0.0142 0.0073

Uranus -20572-05-17 12:43 J -5792363.06 -5792362.97 -5792362.87 0.0142 0.0096

Uranus -20572-08-13 16:19 J -5792274.89 -5792274.82 -5792274.74 0.0142 0.0118

Uranus -20572-11-09 20:09 J -5792186.67 -5792186.66 -5792186.64 0.0142 0.0141

Moon -20570-07-20 12:57 J -5791569.02 -5791568.96 -5791568.90 0.2693 0.2266

Earth -20570-07-20 13:40 J -5791568.98 -5791568.93 -5791568.88 0.2696 0.2420 *

Mars -20569-01-06 17:02 J -5791398.86 -5791398.79 -5791398.72 0.1633 0.1269

Jupiter -20568-08-04 13:55 J -5790822.94 -5790822.92 -5790822.91 0.0497 0.0494

Jupiter -20568-11-02 23:31 J -5790732.68 -5790732.52 -5790732.35 0.0498 0.0230

Mars -20568-12-11 19:26 J -5790693.80 -5790693.69 -5790693.58 0.1641 0.0571

Saturn -20565-02-11 18:00 J -5789901.85 -5789901.75 -5789901.64 0.0278 0.0159

Saturn -20565-05-10 04:48 J -5789813.43 -5789813.30 -5789813.17 0.0277 0.0035

Saturn -20565-08-06 15:36 J -5789724.97 -5789724.85 -5789724.72 0.0276 0.0090

Mars -20565-09-23 22:19 J -5789676.67 -5789676.57 -5789676.48 0.1877 0.1521

Saturn -20565-11-03 02:23 J -5789636.48 -5789636.40 -5789636.31 0.0275 0.0214

Earth -20563-07-13 10:19 J -5789019.17 -5789019.07 -5789018.96 0.2701 0.0833

Moon -20563-07-13 11:02 J -5789019.15 -5789019.04 -5789018.93 0.2698 0.0737 *

Jupiter -20562-06-26 13:40 J -5788671.05 -5788670.93 -5788670.80 0.0528 0.0071

Jupiter -20562-09-23 19:55 J -5788581.71 -5788581.67 -5788581.64 0.0527 0.0503

Moon -20559-01-18 00:14 J -5787734.63 -5787734.49 -5787734.35 0.2638 0.0784

Earth -20559-01-18 01:26 J -5787734.58 -5787734.44 -5787734.29 0.2634 0.0838 *

Mars -20558-05-04 06:43 J -5787263.34 -5787263.22 -5787263.11 0.1639 0.0120

Venus -20557-10-11 21:50 J -5786736.65 -5786736.59 -5786736.54 0.3746 0.3050

Jupiter -20556-08-21 20:23 J -5786422.84 -5786422.65 -5786422.47 0.0498 0.0045

Mars -20555-02-13 15:50 J -5786247.01 -5786246.84 -5786246.67 0.1881 0.0158

Venus -20551-04-27 13:11 J -5784713.04 -5784712.95 -5784712.85 0.3747 0.0980

Jupiter -20550-04-14 18:00 J -5784360.87 -5784360.75 -5784360.64 0.0529 0.0213

Jupiter -20550-07-13 00:00 J -5784271.59 -5784271.50 -5784271.41 0.0527 0.0362

Moon -20550-07-16 05:16 J -5784268.40 -5784268.28 -5784268.17 0.2692 0.0344

Earth -20550-07-16 05:02 J -5784268.40 -5784268.29 -5784268.18 0.2699 0.0314 *

Saturn -20549-02-23 02:09 J -5784046.51 -5784046.41 -5784046.30 0.0284 0.0238

Saturn -20549-05-22 02:09 J -5783957.59 -5783957.41 -5783957.22 0.0285 0.0042

Pluto -20549-07-10 17:31 J -5783907.81 -5783907.77 -5783907.72 0.0071 0.0068

Saturn -20549-08-19 01:55 J -5783868.57 -5783868.42 -5783868.26 0.0286 0.0154

Mars -20549-09-23 18:00 J -5783832.86 -5783832.75 -5783832.64 0.1637 0.0332

Pluto -20549-10-06 18:28 J -5783819.79 -5783819.73 -5783819.63 0.0071 0.0061

Pluto -20548-01-02 20:09 J -5783731.76 -5783731.66 -5783731.55 0.0071 0.0053

Pluto -20548-03-31 21:36 J -5783643.72 -5783643.60 -5783643.47 0.0072 0.0045

Pluto -20548-06-27 23:02 J -5783555.68 -5783555.54 -5783555.41 0.0072 0.0037

Pluto -20548-09-24 00:00 J -5783467.63 -5783467.50 -5783467.34 0.0072 0.0030

Pluto -20548-12-21 01:40 J -5783379.58 -5783379.43 -5783379.27 0.0072 0.0021

Pluto -20547-03-19 03:07 J -5783291.53 -5783291.37 -5783291.21 0.0072 0.0013

Pluto -20547-06-15 04:33 J -5783203.47 -5783203.31 -5783203.15 0.0072 0.0005

Mars -20547-08-29 20:52 J -5783127.66 -5783127.63 -5783127.59 0.1645 0.1552

Pluto -20547-09-11 06:00 J -5783115.41 -5783115.25 -5783115.09 0.0072 0.0003

Pluto -20547-12-08 07:11 J -5783027.35 -5783027.20 -5783027.03 0.0072 0.0012

Moon -20546-01-21 04:33 J -5782983.35 -5782983.31 -5782983.27 0.2641 0.2526

Pluto -20546-03-06 08:38 J -5782939.29 -5782939.14 -5782938.98 0.0072 0.0020

Pluto -20546-06-02 10:04 J -5782851.22 -5782851.08 -5782850.92 0.0073 0.0028

Mars -20546-07-06 09:07 J -5782817.25 -5782817.12 -5782817.00 0.1884 0.1246

Pluto -20546-08-29 11:45 J -5782763.15 -5782763.01 -5782762.87 0.0073 0.0036

Venus -20546-11-11 04:48 J -5782689.39 -5782689.30 -5782689.20 0.3749 0.1153

Pluto -20546-11-25 12:57 J -5782675.08 -5782674.96 -5782674.82 0.0073 0.0045

Pluto -20545-02-21 14:38 J -5782587.00 -5782586.89 -5782586.78 0.0073 0.0053

Pluto -20545-05-19 15:50 J -5782498.91 -5782498.84 -5782498.74 0.0073 0.0062

Pluto -20545-08-15 17:16 J -5782410.80 -5782410.78 -5782410.72 0.0073 0.0071

Jupiter -20544-06-09 17:16 J -5782112.96 -5782112.78 -5782112.60 0.0497 0.0138

Venus -20540-05-26 20:38 J -5780665.69 -5780665.64 -5780665.60 0.3750 0.3284

Mars -20539-02-14 05:31 J -5780402.37 -5780402.27 -5780402.17 0.1635 0.0775

Jupiter -20538-01-31 22:33 J -5780050.66 -5780050.56 -5780050.47 0.0529 0.0350

Jupiter -20538-05-01 04:19 J -5779961.43 -5779961.32 -5779961.20 0.0528 0.0223

Mars -20537-01-20 08:09 J -5779697.25 -5779697.16 -5779697.08 0.1643 0.1089

Moon -20537-07-17 23:16 J -5779517.62 -5779517.53 -5779517.43 0.2692 0.1398

Earth -20537-07-17 23:45 J -5779517.61 -5779517.51 -5779517.42 0.2698 0.1471 *

Saturn -20536-06-30 20:52 J -5779169.72 -5779169.63 -5779169.54 0.0278 0.0192

Saturn -20536-09-27 07:40 J -5779081.31 -5779081.18 -5779081.05 0.0277 0.0068

Saturn -20536-12-24 18:28 J -5778992.86 -5778992.73 -5778992.60 0.0276 0.0057

Saturn -20535-03-23 05:16 J -5778904.38 -5778904.28 -5778904.18 0.0276 0.0181

Uranus -20535-11-03 04:19 J -5778679.43 -5778679.32 -5778679.20 0.0137 0.0110

Uranus -20534-01-30 11:45 J -5778591.16 -5778591.01 -5778590.86 0.0137 0.0081

Uranus -20534-04-28 18:57 J -5778502.88 -5778502.71 -5778502.53 0.0137 0.0053

Uranus -20534-07-26 02:23 J -5778414.59 -5778414.40 -5778414.22 0.0137 0.0025

Uranus -20534-10-22 09:36 J -5778326.29 -5778326.10 -5778325.91 0.0137 0.0003

Uranus -20533-01-18 16:33 J -5778237.99 -5778237.81 -5778237.62 0.0137 0.0030

Uranus -20533-04-15 23:31 J -5778149.68 -5778149.52 -5778149.34 0.0137 0.0058

Uranus -20533-07-13 06:43 J -5778061.36 -5778061.22 -5778061.07 0.0136 0.0085

Uranus -20533-10-09 13:26 J -5777973.03 -5777972.94 -5777972.82 0.0136 0.0112

Jupiter -20532-03-28 13:11 J -5777803.08 -5777802.95 -5777802.81 0.0497 0.0331

Jupiter -20532-06-26 22:48 J -5777712.66 -5777712.55 -5777712.43 0.0499 0.0392

Mars -20530-07-07 17:02 J -5776971.87 -5776971.79 -5776971.72 0.1633 0.1213

Earth -20530-07-11 20:52 J -5776967.72 -5776967.63 -5776967.55 0.2702 0.1737

Moon -20530-07-11 21:36 J -5776967.69 -5776967.60 -5776967.51 0.2703 0.1587 *

Mars -20528-06-11 19:11 J -5776266.80 -5776266.70 -5776266.59 0.1640 0.0629

Jupiter -20527-11-20 02:38 J -5775740.43 -5775740.39 -5775740.34 0.0530 0.0491

Moon -20526-01-16 02:09 J -5775683.55 -5775683.41 -5775683.27 0.2631 0.0835

Earth -20526-01-16 03:36 J -5775683.49 -5775683.35 -5775683.20 0.2633 0.0701 *

Jupiter -20526-02-17 08:23 J -5775651.27 -5775651.15 -5775651.02 0.0528 0.0081

Mars -20525-03-24 22:48 J -5775249.63 -5775249.55 -5775249.47 0.1878 0.1633

Venus -20525-06-18 12:14 J -5775164.15 -5775163.99 -5775163.83 0.3625 0.0686

Moon -20524-07-20 17:45 J -5774766.78 -5774766.76 -5774766.73 0.2693 0.2630

Earth -20524-07-20 18:43 J -5774766.74 -5774766.72 -5774766.71 0.2696 0.2650 *

Neptune -20524-10-10 10:19 J -5774685.09 -5774685.07 -5774685.02 0.0089 0.0086

Neptune -20523-01-06 11:45 J -5774597.06 -5774597.01 -5774596.94 0.0089 0.0078

Neptune -20523-04-04 12:57 J -5774509.02 -5774508.96 -5774508.87 0.0089 0.0072

Neptune -20523-07-01 14:23 J -5774420.98 -5774420.90 -5774420.80 0.0089 0.0064

Neptune -20523-09-27 15:50 J -5774332.94 -5774332.84 -5774332.74 0.0089 0.0057

Neptune -20523-12-24 17:02 J -5774244.89 -5774244.79 -5774244.67 0.0089 0.0051

Neptune -20522-03-22 18:28 J -5774156.84 -5774156.73 -5774156.61 0.0089 0.0043

Neptune -20522-06-18 19:40 J -5774068.79 -5774068.68 -5774068.55 0.0089 0.0037

Neptune -20522-09-14 21:07 J -5773980.74 -5773980.62 -5773980.49 0.0089 0.0029

Neptune -20522-12-11 22:33 J -5773892.69 -5773892.56 -5773892.43 0.0089 0.0022

Neptune -20521-03-08 23:45 J -5773804.64 -5773804.51 -5773804.38 0.0089 0.0015

Neptune -20521-06-05 01:11 J -5773716.58 -5773716.45 -5773716.32 0.0089 0.0009

Neptune -20521-09-01 02:23 J -5773628.53 -5773628.40 -5773628.27 0.0089 0.0002

Neptune -20521-11-28 03:50 J -5773540.47 -5773540.34 -5773540.21 0.0089 0.0006

Neptune -20520-02-24 05:02 J -5773452.42 -5773452.29 -5773452.15 0.0089 0.0013

Jupiter -20520-04-14 20:09 J -5773402.82 -5773402.66 -5773402.49 0.0498 0.0214

Neptune -20520-05-23 06:28 J -5773364.36 -5773364.23 -5773364.10 0.0089 0.0020

Saturn -20520-07-12 02:09 J -5773314.43 -5773314.41 -5773314.37 0.0283 0.0278

Neptune -20520-08-19 07:40 J -5773276.30 -5773276.18 -5773276.05 0.0089 0.0027

Saturn -20520-10-09 02:23 J -5773225.58 -5773225.40 -5773225.22 0.0284 0.0083

Neptune -20520-11-15 09:07 J -5773188.24 -5773188.12 -5773188.00 0.0089 0.0034

Saturn -20519-01-06 02:09 J -5773136.58 -5773136.41 -5773136.24 0.0285 0.0113

Neptune -20519-02-11 10:19 J -5773100.18 -5773100.07 -5773099.95 0.0089 0.0041

Neptune -20519-05-10 11:31 J -5773012.12 -5773012.02 -5773011.90 0.0089 0.0049

Neptune -20519-08-06 12:57 J -5772924.05 -5772923.96 -5772923.85 0.0089 0.0055

Mars -20519-11-02 06:28 J -5772836.34 -5772836.23 -5772836.11 0.1639 0.0184

Neptune -20519-11-02 14:23 J -5772835.99 -5772835.90 -5772835.80 0.0089 0.0062

Neptune -20518-01-29 15:36 J -5772747.92 -5772747.85 -5772747.76 0.0089 0.0070

Neptune -20518-04-27 17:02 J -5772659.85 -5772659.79 -5772659.71 0.0089 0.0076

Neptune -20518-07-24 18:28 J -5772571.77 -5772571.73 -5772571.68 0.0089 0.0083

Earth -20517-07-13 15:21 J -5772216.97 -5772216.86 -5772216.75 0.2701 0.0610

Moon -20517-07-13 15:50 J -5772216.95 -5772216.84 -5772216.73 0.2696 0.0592 *

Mars -20516-08-14 16:48 J -5771819.97 -5771819.80 -5771819.63 0.1881 0.0290

Jupiter -20515-12-06 12:00 J -5771341.13 -5771341.00 -5771340.88 0.0528 0.0079

Jupiter -20514-03-05 18:00 J -5771251.79 -5771251.75 -5771251.71 0.0527 0.0496

Moon -20513-01-19 06:28 J -5770932.37 -5770932.23 -5770932.09 0.2638 0.1016

Earth -20513-01-19 07:40 J -5770932.31 -5770932.18 -5770932.04 0.2635 0.1192 *

Mars -20509-03-24 18:00 J -5769405.86 -5769405.75 -5769405.64 0.1637 0.0272

Jupiter -20508-01-31 17:45 J -5769092.95 -5769092.76 -5769092.58 0.0498 0.0039

Mars -20507-02-27 20:52 J -5768700.65 -5768700.63 -5768700.61 0.1645 0.1612

Saturn -20507-11-18 00:43 J -5768437.55 -5768437.47 -5768437.39 0.0279 0.0214

Mars -20506-01-04 09:50 J -5768390.22 -5768390.09 -5768389.95 0.1884 0.1116

Saturn -20506-02-14 11:31 J -5768349.15 -5768349.02 -5768348.90 0.0278 0.0089

Saturn -20506-05-13 22:19 J -5768260.70 -5768260.57 -5768260.44 0.0277 0.0036

Saturn -20506-08-10 08:52 J -5768172.23 -5768172.13 -5768172.01 0.0276 0.0160

Earth -20504-07-16 09:50 J -5767466.20 -5767466.09 -5767465.98 0.2699 0.0542

Moon -20504-07-16 10:04 J -5767466.19 -5767466.08 -5767465.97 0.2692 0.0562 *

Jupiter -20503-09-24 15:50 J -5767030.95 -5767030.84 -5767030.72 0.0529 0.0224

Jupiter -20503-12-22 21:50 J -5766941.68 -5766941.59 -5766941.49 0.0527 0.0349

Venus -20500-05-18 19:11 J -5766063.78 -5766063.70 -5766063.62 0.3746 0.2290

Mars -20500-08-15 05:31 J -5765975.38 -5765975.27 -5765975.17 0.1635 0.0716

Mars -20498-07-21 07:55 J -5765270.25 -5765270.17 -5765270.08 0.1643 0.1150

Earth -20497-07-09 07:11 J -5764916.22 -5764916.20 -5764916.17 0.2703 0.2631

Moon -20497-07-09 07:55 J -5764916.21 -5764916.17 -5764916.13 0.2707 0.2524 *

Jupiter -20497-11-19 14:23 J -5764783.08 -5764782.90 -5764782.72 0.0497 0.0147

Venus -20495-12-02 10:48 J -5764040.15 -5764040.05 -5764039.95 0.3748 0.0233

Moon -20493-01-14 04:19 J -5763632.37 -5763632.32 -5763632.27 0.2627 0.2468

Earth -20493-01-14 05:31 J -5763632.35 -5763632.27 -5763632.20 0.2631 0.2278 *

Jupiter -20491-07-13 20:09 J -5762720.75 -5762720.66 -5762720.57 0.0530 0.0367

Moon -20491-07-19 04:04 J -5762715.42 -5762715.33 -5762715.24 0.2692 0.1654

Earth -20491-07-19 04:48 J -5762715.39 -5762715.30 -5762715.22 0.2698 0.1703 *

Jupiter -20491-10-11 01:55 J -5762631.53 -5762631.42 -5762631.30 0.0528 0.0207

Uranus -20491-10-11 04:04 J -5762631.33 -5762631.33 -5762631.31 0.0141 0.0140 *

Mars -20490-01-05 16:48 J -5762544.88 -5762544.80 -5762544.71 0.1633 0.1155

Uranus -20490-01-07 07:40 J -5762543.25 -5762543.18 -5762543.11 0.0141 0.0119

Saturn -20490-02-26 02:38 J -5762493.56 -5762493.39 -5762493.22 0.0284 0.0125

Uranus -20490-04-05 11:02 J -5762455.13 -5762455.04 -5762454.94 0.0141 0.0098

Saturn -20490-05-26 02:23 J -5762404.58 -5762404.40 -5762404.22 0.0285 0.0072

Uranus -20490-07-02 14:38 J -5762367.00 -5762366.89 -5762366.78 0.0141 0.0077

Saturn -20490-08-23 01:55 J -5762315.47 -5762315.42 -5762315.34 0.0286 0.0268

Uranus -20490-09-28 18:00 J -5762278.86 -5762278.75 -5762278.62 0.0141 0.0056

Uranus -20490-12-25 21:50 J -5762190.72 -5762190.59 -5762190.46 0.0141 0.0035

Uranus -20489-03-23 01:11 J -5762102.58 -5762102.45 -5762102.31 0.0141 0.0014

Venus -20489-06-17 02:23 J -5762016.49 -5762016.40 -5762016.32 0.3749 0.1926

Uranus -20489-06-19 04:48 J -5762014.43 -5762014.30 -5762014.16 0.0142 0.0009

Uranus -20489-09-15 08:23 J -5761926.28 -5761926.15 -5761926.02 0.0142 0.0031

Mars -20489-12-10 19:11 J -5761839.80 -5761839.70 -5761839.59 0.1640 0.0689

Uranus -20489-12-12 12:00 J -5761838.12 -5761838.00 -5761837.87 0.0142 0.0053

Uranus -20488-03-10 15:36 J -5761749.96 -5761749.85 -5761749.73 0.0142 0.0075

Uranus -20488-06-06 19:11 J -5761661.79 -5761661.70 -5761661.59 0.0142 0.0098

Uranus -20488-09-02 23:02 J -5761573.61 -5761573.54 -5761573.47 0.0142 0.0120

Uranus -20488-11-30 02:38 J -5761485.39 -5761485.39 -5761485.38 0.0142 0.0142

Mars -20486-09-23 23:45 J -5760822.57 -5760822.51 -5760822.46 0.1878 0.1760

Jupiter -20485-09-07 11:02 J -5760473.17 -5760473.04 -5760472.90 0.0497 0.0331

Jupiter -20485-12-06 20:38 J -5760382.75 -5760382.64 -5760382.52 0.0499 0.0390

Earth -20484-07-12 01:40 J -5760165.52 -5760165.43 -5760165.34 0.2702 0.1518

Moon -20484-07-12 02:23 J -5760165.49 -5760165.40 -5760165.30 0.2703 0.1507 *

Mars -20481-05-28 04:19 J -5759114.34 -5759114.32 -5759114.29 0.1632 0.1588

Moon -20480-01-16 08:23 J -5758881.29 -5758881.15 -5758881.00 0.2634 0.0442

Earth -20480-01-16 10:04 J -5758881.23 -5758881.08 -5758880.93 0.2633 0.0342 *

Jupiter -20479-05-02 00:28 J -5758410.51 -5758410.48 -5758410.44 0.0530 0.0503

Mars -20479-05-03 06:28 J -5758409.34 -5758409.23 -5758409.11 0.1638 0.0243

Jupiter -20479-07-30 06:28 J -5758321.36 -5758321.23 -5758321.10 0.0528 0.0069

Saturn -20477-04-06 03:21 J -5757705.41 -5757705.36 -5757705.29 0.0279 0.0247

Saturn -20477-07-03 14:09 J -5757617.02 -5757616.91 -5757616.79 0.0278 0.0122

Saturn -20477-09-30 00:57 J -5757528.59 -5757528.46 -5757528.32 0.0277 0.0010

Saturn -20477-12-27 11:45 J -5757440.12 -5757440.01 -5757439.89 0.0276 0.0127

Mars -20476-02-12 17:16 J -5757392.94 -5757392.78 -5757392.61 0.1881 0.0407

Saturn -20476-03-25 22:33 J -5757351.61 -5757351.56 -5757351.50 0.0275 0.0251

Jupiter -20473-09-24 17:02 J -5756072.96 -5756072.79 -5756072.62 0.0498 0.0201

Earth -20471-07-14 20:09 J -5755414.77 -5755414.66 -5755414.54 0.2701 0.0402

Moon -20471-07-14 20:52 J -5755414.75 -5755414.63 -5755414.52 0.2695 0.0289 *

Mars -20470-09-23 18:00 J -5754978.87 -5754978.75 -5754978.64 0.1637 0.0223

Venus -20468-01-23 14:23 J -5754490.99 -5754490.90 -5754490.80 0.3625 0.2865

Moon -20467-01-19 12:43 J -5754130.09 -5754129.97 -5754129.84 0.2638 0.1473

Earth -20467-01-19 14:09 J -5754130.03 -5754129.91 -5754129.79 0.2635 0.1548 *

Jupiter -20467-05-18 10:48 J -5754011.18 -5754011.05 -5754010.93 0.0529 0.0075

Mars -20467-07-05 10:33 J -5753963.20 -5753963.06 -5753962.92 0.1884 0.0995

Jupiter -20467-08-15 16:48 J -5753921.84 -5753921.80 -5753921.76 0.0527 0.0500

Pluto -20464-06-15 04:19 J -5752887.37 -5752887.32 -5752887.26 0.0073 0.0068

Pluto -20464-09-11 05:31 J -5752799.35 -5752799.27 -5752799.17 0.0073 0.0059

Pluto -20464-12-08 06:57 J -5752711.31 -5752711.21 -5752711.09 0.0073 0.0051

Pluto -20463-03-06 08:09 J -5752623.27 -5752623.16 -5752623.02 0.0073 0.0043

Pluto -20463-06-02 09:50 J -5752535.23 -5752535.09 -5752534.95 0.0073 0.0034

Pluto -20463-08-29 11:16 J -5752447.18 -5752447.03 -5752446.89 0.0073 0.0026

Pluto -20463-11-25 12:14 J -5752359.13 -5752358.99 -5752358.83 0.0072 0.0019

Pluto -20462-02-21 13:40 J -5752271.08 -5752270.93 -5752270.77 0.0072 0.0010

Pluto -20462-05-20 15:07 J -5752183.02 -5752182.87 -5752182.71 0.0072 0.0002

Pluto -20462-08-16 16:19 J -5752094.97 -5752094.82 -5752094.66 0.0072 0.0006

Pluto -20462-11-12 17:31 J -5752006.91 -5752006.77 -5752006.61 0.0072 0.0014

Pluto -20461-02-08 18:43 J -5751918.86 -5751918.72 -5751918.56 0.0072 0.0022

Pluto -20461-05-06 20:09 J -5751830.80 -5751830.66 -5751830.52 0.0072 0.0029

Jupiter -20461-07-13 14:23 J -5751763.08 -5751762.90 -5751762.72 0.0498 0.0023

Saturn -20461-07-15 02:09 J -5751761.56 -5751761.41 -5751761.26 0.0284 0.0170

Pluto -20461-08-02 21:21 J -5751742.74 -5751742.61 -5751742.47 0.0072 0.0037

Saturn -20461-10-12 02:09 J -5751672.60 -5751672.41 -5751672.23 0.0285 0.0026

Pluto -20461-10-29 22:19 J -5751654.67 -5751654.57 -5751654.43 0.0071 0.0045

Saturn -20460-01-09 01:40 J -5751583.54 -5751583.43 -5751583.31 0.0286 0.0222

Pluto -20460-01-25 23:45 J -5751566.61 -5751566.51 -5751566.40 0.0071 0.0052

Mars -20460-02-13 05:31 J -5751548.38 -5751548.27 -5751548.17 0.1635 0.0659

Pluto -20460-04-24 00:43 J -5751478.54 -5751478.47 -5751478.37 0.0071 0.0059

Pluto -20460-07-21 02:09 J -5751390.46 -5751390.41 -5751390.35 0.0071 0.0066

Mars -20458-01-19 07:55 J -5750843.25 -5750843.17 -5750843.09 0.1643 0.1205

Moon -20458-07-17 14:52 J -5750663.99 -5750663.88 -5750663.77 0.2692 0.0742

Earth -20458-07-17 14:52 J -5750663.99 -5750663.88 -5750663.77 0.2699 0.0761 *

Jupiter -20455-03-06 14:09 J -5749701.03 -5749700.91 -5749700.80 0.0529 0.0230

Jupiter -20455-06-03 20:09 J -5749611.76 -5749611.66 -5749611.57 0.0527 0.0343

Mars -20451-07-06 16:48 J -5748117.88 -5748117.80 -5748117.71 0.1633 0.1095

Earth -20451-07-10 12:14 J -5748114.04 -5748113.99 -5748113.94 0.2703 0.2414

Moon -20451-07-10 12:57 J -5748114.01 -5748113.96 -5748113.91 0.2707 0.2392 *

Uranus -20451-08-27 02:38 J -5748066.40 -5748066.39 -5748066.34 0.0137 0.0136

Uranus -20451-11-23 10:19 J -5747978.18 -5747978.07 -5747977.94 0.0137 0.0107

Uranus -20450-02-19 17:45 J -5747889.91 -5747889.76 -5747889.60 0.0137 0.0078

Uranus -20450-05-19 00:57 J -5747801.63 -5747801.46 -5747801.27 0.0137 0.0050

Uranus -20450-08-15 08:23 J -5747713.33 -5747713.15 -5747712.96 0.0137 0.0022

Uranus -20450-11-11 15:36 J -5747625.04 -5747624.85 -5747624.66 0.0137 0.0006

Uranus -20449-02-07 22:48 J -5747536.73 -5747536.55 -5747536.37 0.0137 0.0034

Jupiter -20449-05-01 12:00 J -5747453.18 -5747453.00 -5747452.83 0.0498 0.0153

Uranus -20449-05-06 06:00 J -5747448.42 -5747448.25 -5747448.08 0.0137 0.0061

Venus -20449-06-09 01:11 J -5747414.48 -5747414.45 -5747414.43 0.3745 0.3594

Mars -20449-06-10 19:11 J -5747412.80 -5747412.70 -5747412.59 0.1641 0.0749

Uranus -20449-08-02 12:57 J -5747360.10 -5747359.96 -5747359.82 0.0136 0.0088

Uranus -20449-10-29 19:55 J -5747271.77 -5747271.67 -5747271.57 0.0136 0.0115

Saturn -20448-08-24 07:11 J -5746973.23 -5746973.20 -5746973.17 0.0279 0.0270

Saturn -20448-11-20 18:00 J -5746884.86 -5746884.75 -5746884.64 0.0278 0.0145

Moon -20447-01-14 10:33 J -5746830.16 -5746830.06 -5746829.96 0.2627 0.1934

Earth -20447-01-14 11:45 J -5746830.11 -5746830.01 -5746829.91 0.2632 0.1913 *

Saturn -20447-02-17 04:48 J -5746796.43 -5746796.30 -5746796.17 0.0277 0.0020

Saturn -20447-05-16 15:36 J -5746707.97 -5746707.85 -5746707.73 0.0276 0.0104

Saturn -20447-08-13 02:09 J -5746619.47 -5746619.41 -5746619.33 0.0275 0.0228

Moon -20445-07-19 09:07 J -5745913.20 -5745913.12 -5745913.04 0.2692 0.1862

Earth -20445-07-19 09:36 J -5745913.18 -5745913.10 -5745913.02 0.2697 0.1929 *

Venus -20444-12-23 16:33 J -5745390.90 -5745390.81 -5745390.72 0.3746 0.1523

Jupiter -20444-12-23 18:00 J -5745390.83 -5745390.75 -5745390.66 0.0529 0.0376 *

Jupiter -20443-03-23 00:00 J -5745301.62 -5745301.50 -5745301.38 0.0528 0.0196

Mars -20442-11-27 04:19 J -5744687.35 -5744687.32 -5744687.28 0.1632 0.1527

Neptune -20440-03-28 14:38 J -5744199.95 -5744199.89 -5744199.83 0.0088 0.0084

Neptune -20440-06-24 18:14 J -5744111.85 -5744111.74 -5744111.64 0.0088 0.0073

Neptune -20440-09-20 21:50 J -5744023.73 -5744023.59 -5744023.46 0.0088 0.0063

Mars -20440-11-01 06:28 J -5743982.34 -5743982.23 -5743982.11 0.1638 0.0296

Neptune -20440-12-18 01:26 J -5743935.60 -5743935.44 -5743935.29 0.0088 0.0053

Neptune -20439-03-16 05:02 J -5743847.46 -5743847.29 -5743847.12 0.0088 0.0044

Neptune -20439-06-12 08:23 J -5743759.32 -5743759.15 -5743758.96 0.0088 0.0034

Neptune -20439-09-08 12:00 J -5743671.18 -5743671.00 -5743670.80 0.0088 0.0024

Neptune -20439-12-05 15:36 J -5743583.03 -5743582.85 -5743582.65 0.0088 0.0014

Neptune -20438-03-03 19:26 J -5743494.89 -5743494.69 -5743494.50 0.0088 0.0004

Neptune -20438-05-30 23:02 J -5743406.74 -5743406.54 -5743406.35 0.0088 0.0006

Venus -20438-07-09 08:09 J -5743367.26 -5743367.16 -5743367.06 0.3748 0.0579

Earth -20438-07-13 06:43 J -5743363.32 -5743363.22 -5743363.12 0.2702 0.1300

Moon -20438-07-13 07:26 J -5743363.29 -5743363.19 -5743363.09 0.2701 0.1158 *

Neptune -20438-08-27 02:23 J -5743318.59 -5743318.40 -5743318.20 0.0088 0.0016

Neptune -20438-11-23 06:00 J -5743230.43 -5743230.25 -5743230.06 0.0088 0.0026

Jupiter -20437-02-18 08:38 J -5743143.28 -5743143.14 -5743143.01 0.0497 0.0337

Neptune -20437-02-19 09:21 J -5743142.27 -5743142.11 -5743141.92 0.0088 0.0036

Neptune -20437-05-17 12:57 J -5743054.11 -5743053.96 -5743053.78 0.0088 0.0046

Jupiter -20437-05-18 18:00 J -5743052.86 -5743052.75 -5743052.63 0.0498 0.0385

Neptune -20437-08-13 16:19 J -5742965.95 -5742965.82 -5742965.65 0.0088 0.0056

Mars -20437-08-13 18:14 J -5742965.90 -5742965.74 -5742965.58 0.1881 0.0531 *

Neptune -20437-11-09 20:09 J -5742877.78 -5742877.66 -5742877.53 0.0088 0.0065

Neptune -20436-02-05 23:31 J -5742789.61 -5742789.52 -5742789.41 0.0088 0.0075

Neptune -20436-05-05 02:52 J -5742701.41 -5742701.38 -5742701.31 0.0088 0.0085

Moon -20434-01-17 14:38 J -5742079.04 -5742078.89 -5742078.74 0.2635 0.0193

Earth -20434-01-17 16:19 J -5742078.98 -5742078.82 -5742078.67 0.2633 0.0076 *

Venus -20432-01-21 23:45 J -5741343.58 -5741343.51 -5741343.44 0.3749 0.2709

Jupiter -20432-10-11 22:19 J -5741080.59 -5741080.57 -5741080.55 0.0530 0.0519

Saturn -20432-12-02 01:55 J -5741029.54 -5741029.42 -5741029.29 0.0284 0.0214

Jupiter -20431-01-09 04:04 J -5740991.45 -5740991.33 -5740991.20 0.0528 0.0053

Saturn -20431-03-01 02:09 J -5740940.60 -5740940.41 -5740940.23 0.0285 0.0019

Saturn -20431-05-29 01:40 J -5740851.57 -5740851.43 -5740851.28 0.0286 0.0179

Mars -20430-03-24 18:00 J -5740551.87 -5740551.75 -5740551.64 0.1636 0.0157

Mars -20427-01-03 11:31 J -5739536.17 -5739536.02 -5739535.87 0.1884 0.0864

Jupiter -20425-03-06 15:07 J -5738743.04 -5738742.87 -5738742.70 0.0498 0.0203

Earth -20425-07-15 01:11 J -5738612.56 -5738612.45 -5738612.34 0.2700 0.0165

Moon -20425-07-15 01:40 J -5738612.54 -5738612.43 -5738612.32 0.2695 0.0177 *

Moon -20421-01-20 19:11 J -5737327.80 -5737327.70 -5737327.59 0.2639 0.1797

Earth -20421-01-20 20:23 J -5737327.76 -5737327.65 -5737327.55 0.2635 0.1903 *

Mars -20421-08-14 05:16 J -5737121.39 -5737121.28 -5737121.17 0.1635 0.0601

Jupiter -20420-10-28 08:38 J -5736681.27 -5736681.14 -5736681.01 0.0529 0.0084

Jupiter -20419-01-25 14:52 J -5736591.93 -5736591.88 -5736591.84 0.0527 0.0490

Mars -20419-07-20 07:55 J -5736416.24 -5736416.17 -5736416.09 0.1643 0.1267

Saturn -20418-04-09 20:52 J -5736152.73 -5736152.63 -5736152.53 0.0278 0.0177

Saturn -20418-07-07 07:26 J -5736064.31 -5736064.19 -5736064.06 0.0277 0.0053

Saturn -20418-10-03 18:14 J -5735975.87 -5735975.74 -5735975.61 0.0276 0.0072

Saturn -20418-12-31 05:02 J -5735887.38 -5735887.29 -5735887.20 0.0275 0.0195

Venus -20417-02-14 07:11 J -5735842.35 -5735842.20 -5735842.06 0.3627 0.1477

Jupiter -20414-12-24 11:31 J -5734433.21 -5734433.02 -5734432.84 0.0498 0.0013

Moon -20412-07-17 19:40 J -5733861.78 -5733861.68 -5733861.57 0.2692 0.1018

Earth -20412-07-17 19:55 J -5733861.78 -5733861.67 -5733861.57 0.2699 0.0990 *

Mars -20411-01-04 16:48 J -5733690.89 -5733690.80 -5733690.71 0.1633 0.1038

Mars -20410-12-10 19:11 J -5732985.80 -5732985.70 -5732985.60 0.1640 0.0805

Jupiter -20408-08-16 12:57 J -5732371.08 -5732370.96 -5732370.85 0.0529 0.0224

Jupiter -20408-11-13 18:57 J -5732281.81 -5732281.71 -5732281.62 0.0527 0.0349

Uranus -20407-10-31 11:02 J -5731930.06 -5731930.04 -5731930.00 0.0141 0.0136

Uranus -20406-01-27 14:38 J -5731841.96 -5731841.89 -5731841.81 0.0141 0.0115

Uranus -20406-04-25 18:14 J -5731753.84 -5731753.74 -5731753.64 0.0141 0.0094

Uranus -20406-07-22 21:36 J -5731665.71 -5731665.60 -5731665.48 0.0141 0.0073

Uranus -20406-10-19 01:11 J -5731577.57 -5731577.45 -5731577.33 0.0141 0.0052

Uranus -20405-01-15 04:48 J -5731489.43 -5731489.30 -5731489.17 0.0141 0.0031

Uranus -20405-04-12 08:09 J -5731401.29 -5731401.16 -5731401.02 0.0142 0.0010

Uranus -20405-07-09 11:45 J -5731313.14 -5731313.01 -5731312.87 0.0142 0.0014

Earth -20405-07-10 17:02 J -5731311.85 -5731311.79 -5731311.72 0.2703 0.2204

Moon -20405-07-10 17:45 J -5731311.83 -5731311.76 -5731311.69 0.2707 0.2102 *

Uranus -20405-10-05 15:21 J -5731224.99 -5731224.86 -5731224.73 0.0142 0.0035

Uranus -20404-01-01 18:57 J -5731136.83 -5731136.71 -5731136.58 0.0142 0.0057

Uranus -20404-03-30 22:33 J -5731048.67 -5731048.56 -5731048.44 0.0142 0.0079

Uranus -20404-06-27 02:09 J -5730960.49 -5730960.41 -5730960.31 0.0142 0.0102

Uranus -20404-09-23 06:00 J -5730872.31 -5730872.25 -5730872.18 0.0142 0.0124

Saturn -20402-04-21 00:28 J -5730297.53 -5730297.48 -5730297.41 0.0283 0.0266

Mars -20402-05-28 04:19 J -5730260.37 -5730260.32 -5730260.27 0.1632 0.1469

Saturn -20402-07-19 00:43 J -5730208.65 -5730208.47 -5730208.29 0.0284 0.0070

Jupiter -20402-10-12 08:52 J -5730123.31 -5730123.13 -5730122.96 0.0497 0.0165

Saturn -20402-10-16 00:43 J -5730119.64 -5730119.47 -5730119.30 0.0285 0.0126

Moon -20401-01-15 16:48 J -5730027.91 -5730027.80 -5730027.69 0.2629 0.1766

Earth -20401-01-15 18:00 J -5730027.87 -5730027.75 -5730027.62 0.2632 0.1548 *

Mars -20400-05-02 06:28 J -5729555.34 -5729555.23 -5729555.11 0.1639 0.0354

Moon -20399-07-20 14:09 J -5729110.98 -5729110.91 -5729110.84 0.2692 0.2078

Earth -20399-07-20 14:38 J -5729110.96 -5729110.89 -5729110.82 0.2697 0.2160 *

Mars -20397-02-12 19:11 J -5728538.85 -5728538.70 -5728538.54 0.1881 0.0674

Jupiter -20396-06-04 16:19 J -5728060.90 -5728060.82 -5728060.73 0.0529 0.0380

Jupiter -20396-09-01 22:19 J -5727971.69 -5727971.57 -5727971.45 0.0528 0.0192

Venus -20392-01-13 22:33 J -5726741.63 -5726741.56 -5726741.50 0.3745 0.2828

Earth -20392-07-13 11:31 J -5726561.12 -5726561.02 -5726560.92 0.2702 0.1083

Moon -20392-07-13 12:14 J -5726561.09 -5726560.99 -5726560.89 0.2699 0.1057 *

Mars -20391-09-22 17:45 J -5726124.87 -5726124.76 -5726124.64 0.1637 0.0115

Jupiter -20390-07-31 06:14 J -5725813.37 -5725813.24 -5725813.10 0.0497 0.0339

Jupiter -20390-10-29 15:50 J -5725722.95 -5725722.84 -5725722.72 0.0499 0.0384

Saturn -20389-08-27 00:14 J -5725420.57 -5725420.49 -5725420.40 0.0279 0.0203

Saturn -20389-11-23 11:02 J -5725332.16 -5725332.04 -5725331.91 0.0278 0.0078

Moon -20388-01-17 20:52 J -5725276.78 -5725276.63 -5725276.48 0.2635 0.0319

Earth -20388-01-17 22:33 J -5725276.71 -5725276.56 -5725276.41 0.2633 0.0385 *

Saturn -20388-02-19 21:50 J -5725243.72 -5725243.59 -5725243.46 0.0277 0.0047

Saturn -20388-05-19 08:38 J -5725155.24 -5725155.14 -5725155.04 0.0276 0.0171

Mars -20388-07-04 12:14 J -5725109.15 -5725108.99 -5725108.84 0.1884 0.0738

Venus -20387-07-30 13:55 J -5724718.01 -5724717.92 -5724717.82 0.3746 0.0768

Jupiter -20384-03-23 20:23 J -5723750.66 -5723750.65 -5723750.63 0.0530 0.0524

Jupiter -20384-06-21 02:09 J -5723661.53 -5723661.41 -5723661.28 0.0528 0.0048

Mars -20381-02-13 05:16 J -5722694.39 -5722694.28 -5722694.17 0.1635 0.0540

Venus -20381-02-13 05:31 J -5722694.36 -5722694.27 -5722694.17 0.3748 0.1364 *

Mars -20379-01-18 07:55 J -5721989.24 -5721989.17 -5721989.10 0.1643 0.1327

Earth -20379-07-16 06:14 J -5721810.36 -5721810.24 -5721810.13 0.2700 0.0120

Moon -20379-07-16 06:28 J -5721810.34 -5721810.23 -5721810.11 0.2695 0.0191 *

Jupiter -20378-08-17 12:57 J -5721413.13 -5721412.96 -5721412.79 0.0498 0.0201

Venus -20376-08-28 21:21 J -5720670.65 -5720670.61 -5720670.58 0.3750 0.3489

Moon -20375-01-21 01:40 J -5720525.51 -5720525.43 -5720525.35 0.2640 0.2158

Earth -20375-01-21 02:23 J -5720525.47 -5720525.40 -5720525.32 0.2635 0.2252 *

Saturn -20373-12-05 00:14 J -5719476.66 -5719476.49 -5719476.31 0.0284 0.0117

Saturn -20372-03-04 00:14 J -5719387.67 -5719387.49 -5719387.31 0.0285 0.0080

Jupiter -20372-04-09 06:28 J -5719351.36 -5719351.23 -5719351.11 0.0529 0.0099

Saturn -20372-06-01 00:00 J -5719298.54 -5719298.50 -5719298.45 0.0286 0.0276

Mars -20372-07-05 16:48 J -5719263.89 -5719263.80 -5719263.71 0.1633 0.0978

Jupiter -20372-07-07 12:28 J -5719262.03 -5719261.98 -5719261.93 0.0527 0.0477

Mars -20370-06-10 19:11 J -5718558.80 -5718558.70 -5718558.60 0.1640 0.0868

Uranus -20367-09-16 09:21 J -5717365.16 -5717365.11 -5717365.05 0.0137 0.0131

Uranus -20367-12-13 16:33 J -5717276.92 -5717276.81 -5717276.67 0.0137 0.0103

Uranus -20366-03-12 00:00 J -5717188.65 -5717188.50 -5717188.33 0.0137 0.0074

Jupiter -20366-06-05 09:50 J -5717103.27 -5717103.09 -5717102.90 0.0498 0.0022

Uranus -20366-06-08 07:40 J -5717100.36 -5717100.18 -5717100.00 0.0137 0.0046

Moon -20366-07-19 00:28 J -5717059.58 -5717059.48 -5717059.37 0.2692 0.1127

Earth -20366-07-19 00:43 J -5717059.57 -5717059.47 -5717059.37 0.2699 0.1220 *

Uranus -20366-09-04 14:52 J -5717012.07 -5717011.88 -5717011.69 0.0137 0.0017

Uranus -20366-12-01 22:04 J -5716923.77 -5716923.58 -5716923.39 0.0137 0.0010

Uranus -20365-02-28 05:16 J -5716835.46 -5716835.28 -5716835.10 0.0137 0.0038

Uranus -20365-05-26 12:14 J -5716747.15 -5716746.99 -5716746.82 0.0137 0.0065

Uranus -20365-08-22 19:11 J -5716658.83 -5716658.70 -5716658.55 0.0137 0.0093

Uranus -20365-11-19 02:09 J -5716570.49 -5716570.41 -5716570.31 0.0136 0.0119

Mars -20363-11-26 04:19 J -5715833.38 -5715833.32 -5715833.27 0.1632 0.1414

Venus -20361-09-20 09:07 J -5715169.27 -5715169.12 -5715168.96 0.3626 0.0695

Mars -20361-10-31 06:28 J -5715128.34 -5715128.23 -5715128.12 0.1638 0.0411

Jupiter -20360-01-26 11:02 J -5715041.16 -5715041.04 -5715040.93 0.0529 0.0234

Jupiter -20360-04-25 17:02 J -5714951.89 -5714951.79 -5714951.69 0.0528 0.0340

Saturn -20359-01-14 02:52 J -5714688.44 -5714688.38 -5714688.31 0.0278 0.0237

Neptune -20359-04-10 09:07 J -5714602.13 -5714602.12 -5714602.09 0.0089 0.0089

Saturn -20359-04-12 13:40 J -5714600.05 -5714599.93 -5714599.81 0.0277 0.0112

Neptune -20359-07-07 10:33 J -5714514.11 -5714514.06 -5714514.00 0.0089 0.0081

Saturn -20359-07-10 00:28 J -5714511.61 -5714511.48 -5714511.35 0.0276 0.0012

Earth -20359-07-11 22:04 J -5714509.66 -5714509.58 -5714509.51 0.2703 0.1985

Moon -20359-07-11 22:48 J -5714509.63 -5714509.55 -5714509.48 0.2706 0.1936 *

Neptune -20359-10-03 11:45 J -5714426.07 -5714426.01 -5714425.93 0.0089 0.0075

Saturn -20359-10-06 11:16 J -5714423.15 -5714423.03 -5714422.92 0.0275 0.0136

Neptune -20359-12-30 13:11 J -5714338.03 -5714337.95 -5714337.86 0.0089 0.0068

Saturn -20358-01-02 21:50 J -5714334.63 -5714334.59 -5714334.54 0.0274 0.0259

Neptune -20358-03-28 14:23 J -5714249.99 -5714249.90 -5714249.80 0.0089 0.0061

Neptune -20358-06-24 15:50 J -5714161.94 -5714161.84 -5714161.73 0.0089 0.0054

Mars -20358-08-13 19:40 J -5714111.83 -5714111.68 -5714111.53 0.1881 0.0772

Neptune -20358-09-20 17:16 J -5714073.89 -5714073.78 -5714073.67 0.0089 0.0047

Neptune -20358-12-17 18:28 J -5713985.85 -5713985.73 -5713985.61 0.0089 0.0040

Neptune -20357-03-14 19:55 J -5713897.79 -5713897.67 -5713897.55 0.0089 0.0033

Neptune -20357-06-10 21:07 J -5713809.74 -5713809.62 -5713809.49 0.0089 0.0026

Neptune -20357-09-06 22:33 J -5713721.69 -5713721.56 -5713721.43 0.0089 0.0019

Neptune -20357-12-03 23:45 J -5713633.64 -5713633.51 -5713633.38 0.0089 0.0012

Neptune -20356-03-02 01:11 J -5713545.58 -5713545.45 -5713545.32 0.0089 0.0005

Neptune -20356-05-29 02:23 J -5713457.53 -5713457.40 -5713457.26 0.0089 0.0003

Neptune -20356-08-25 03:50 J -5713369.47 -5713369.34 -5713369.21 0.0089 0.0010

Neptune -20356-11-21 05:02 J -5713281.42 -5713281.29 -5713281.16 0.0089 0.0017

Moon -20355-01-15 22:48 J -5713225.68 -5713225.55 -5713225.41 0.2631 0.1234

Earth -20355-01-16 00:28 J -5713225.62 -5713225.48 -5713225.35 0.2632 0.1186 *

Neptune -20355-02-17 06:28 J -5713193.36 -5713193.23 -5713193.10 0.0089 0.0024

Neptune -20355-05-16 07:55 J -5713105.30 -5713105.17 -5713105.05 0.0089 0.0031

Neptune -20355-08-12 09:07 J -5713017.24 -5713017.12 -5713017.00 0.0089 0.0038

Neptune -20355-11-08 10:33 J -5712929.18 -5712929.06 -5712928.95 0.0089 0.0045

Neptune -20354-02-04 11:31 J -5712841.11 -5712841.02 -5712840.90 0.0089 0.0053

Jupiter -20354-03-24 06:14 J -5712793.41 -5712793.24 -5712793.06 0.0497 0.0170

Neptune -20354-05-03 12:57 J -5712753.05 -5712752.96 -5712752.85 0.0089 0.0059

Neptune -20354-07-30 14:23 J -5712664.98 -5712664.90 -5712664.80 0.0089 0.0066

Neptune -20354-10-26 15:36 J -5712576.91 -5712576.85 -5712576.76 0.0089 0.0074

Neptune -20353-01-22 17:02 J -5712488.84 -5712488.79 -5712488.72 0.0089 0.0080

Neptune -20353-04-19 18:28 J -5712400.75 -5712400.73 -5712400.70 0.0089 0.0087

Moon -20353-07-20 18:57 J -5712308.76 -5712308.71 -5712308.65 0.2693 0.2352

Earth -20353-07-20 19:40 J -5712308.73 -5712308.68 -5712308.63 0.2697 0.2391 *

Mars -20351-03-23 17:45 J -5711697.87 -5711697.76 -5711697.64 0.1636 0.0047

Jupiter -20349-11-14 15:21 J -5710730.95 -5710730.86 -5710730.77 0.0530 0.0372

Mars -20348-01-02 12:57 J -5710682.12 -5710681.96 -5710681.80 0.1884 0.0614

Jupiter -20348-02-11 21:21 J -5710641.73 -5710641.61 -5710641.49 0.0528 0.0201

Earth -20346-07-14 16:33 J -5709758.92 -5709758.81 -5709758.71 0.2701 0.0864

Moon -20346-07-14 17:16 J -5709758.89 -5709758.78 -5709758.68 0.2698 0.0747 *

Saturn -20343-04-23 21:50 J -5708744.73 -5708744.59 -5708744.44 0.0284 0.0178

Saturn -20343-07-21 22:04 J -5708655.77 -5708655.58 -5708655.39 0.0285 0.0019

Saturn -20343-10-18 21:50 J -5708566.71 -5708566.59 -5708566.46 0.0286 0.0216

Jupiter -20342-01-10 03:36 J -5708483.48 -5708483.35 -5708483.21 0.0497 0.0346

Moon -20342-01-19 03:21 J -5708474.51 -5708474.36 -5708474.22 0.2635 0.0521

Earth -20342-01-19 04:48 J -5708474.45 -5708474.30 -5708474.16 0.2634 0.0741 *

Jupiter -20342-04-10 13:11 J -5708393.06 -5708392.95 -5708392.82 0.0499 0.0377

Mars -20342-08-14 05:16 J -5708267.39 -5708267.28 -5708267.17 0.1635 0.0481

Mars -20340-07-19 07:55 J -5707562.23 -5707562.17 -5707562.11 0.1643 0.1386

Jupiter -20337-09-02 18:57 J -5706420.72 -5706420.71 -5706420.70 0.0530 0.0524

Jupiter -20337-12-01 00:43 J -5706331.60 -5706331.47 -5706331.34 0.0528 0.0045

Venus -20336-08-20 19:55 J -5706068.75 -5706068.67 -5706068.59 0.3745 0.2070

Earth -20333-07-16 11:02 J -5705008.15 -5705008.04 -5705007.93 0.2700 0.0282

Moon -20333-07-16 11:16 J -5705008.14 -5705008.03 -5705007.91 0.2694 0.0267 *

Mars -20332-01-03 16:48 J -5704836.90 -5704836.80 -5704836.71 0.1633 0.0921

Mars -20331-12-09 19:11 J -5704131.80 -5704131.70 -5704131.61 0.1640 0.0927

Jupiter -20330-01-27 11:16 J -5704083.20 -5704083.03 -5704082.87 0.0498 0.0205

Venus -20330-03-06 11:31 J -5704045.12 -5704045.02 -5704044.92 0.3747 0.0126

Saturn -20330-06-03 06:14 J -5703956.28 -5703956.24 -5703956.20 0.0279 0.0266

Saturn -20330-08-30 17:02 J -5703867.90 -5703867.79 -5703867.68 0.0278 0.0141

Saturn -20330-11-27 03:36 J -5703779.48 -5703779.35 -5703779.21 0.0277 0.0019

Moon -20329-01-22 08:09 J -5703723.18 -5703723.16 -5703723.15 0.2642 0.2610

Earth -20329-01-22 08:38 J -5703723.16 -5703723.14 -5703723.12 0.2635 0.2602 *

Saturn -20329-02-23 14:23 J -5703691.02 -5703690.90 -5703690.78 0.0276 0.0108

Saturn -20329-05-22 01:11 J -5703602.52 -5703602.45 -5703602.38 0.0275 0.0231

Venus -20325-09-19 03:07 J -5702021.46 -5702021.37 -5702021.29 0.3749 0.2132

Jupiter -20325-09-19 04:48 J -5702021.42 -5702021.30 -5702021.17 0.0529 0.0100 *

Jupiter -20325-12-17 10:48 J -5701932.10 -5701932.05 -5701931.99 0.0527 0.0473

Mars -20323-05-27 04:19 J -5701406.38 -5701406.32 -5701406.26 0.1632 0.1353

Uranus -20323-11-20 18:43 J -5701228.77 -5701228.72 -5701228.68 0.0141 0.0130

Uranus -20322-02-16 22:04 J -5701140.66 -5701140.58 -5701140.50 0.0141 0.0109

Uranus -20322-05-16 01:26 J -5701052.54 -5701052.44 -5701052.33 0.0141 0.0089

Uranus -20322-08-12 05:02 J -5700964.41 -5700964.29 -5700964.17 0.0141 0.0067

Uranus -20322-11-08 08:23 J -5700876.27 -5700876.15 -5700876.02 0.0141 0.0046

Uranus -20321-02-04 12:00 J -5700788.13 -5700788.00 -5700787.87 0.0141 0.0025

Mars -20321-05-01 06:28 J -5700701.34 -5700701.23 -5700701.12 0.1638 0.0472

Uranus -20321-05-02 15:36 J -5700699.98 -5700699.85 -5700699.72 0.0142 0.0003

Uranus -20321-07-29 19:11 J -5700611.83 -5700611.70 -5700611.57 0.0142 0.0019

Uranus -20321-10-25 22:48 J -5700523.68 -5700523.55 -5700523.42 0.0142 0.0040

Uranus -20320-01-22 02:09 J -5700435.52 -5700435.41 -5700435.28 0.0142 0.0063

Uranus -20320-04-20 05:45 J -5700347.36 -5700347.26 -5700347.14 0.0142 0.0085

Uranus -20320-07-17 09:36 J -5700259.18 -5700259.10 -5700259.01 0.0142 0.0107

Moon -20320-07-19 05:31 J -5700257.37 -5700257.27 -5700257.18 0.2691 0.1475

Earth -20320-07-19 05:45 J -5700257.35 -5700257.26 -5700257.16 0.2698 0.1444 *

Uranus -20320-10-13 13:11 J -5700171.00 -5700170.95 -5700170.89 0.0142 0.0130

Jupiter -20319-11-15 08:09 J -5699773.34 -5699773.16 -5699772.97 0.0498 0.0025

Mars -20318-02-11 20:38 J -5699684.79 -5699684.64 -5699684.49 0.1881 0.0909

Saturn -20314-09-10 20:38 J -5698012.74 -5698012.64 -5698012.52 0.0284 0.0230

Saturn -20314-12-08 20:52 J -5697923.81 -5697923.63 -5697923.44 0.0285 0.0034

Saturn -20313-03-06 20:52 J -5697834.78 -5697834.63 -5697834.48 0.0286 0.0164

Jupiter -20313-07-08 08:52 J -5697711.24 -5697711.13 -5697711.01 0.0529 0.0244

Earth -20313-07-12 02:52 J -5697707.46 -5697707.38 -5697707.29 0.2703 0.1772

Moon -20313-07-12 03:36 J -5697707.43 -5697707.35 -5697707.26 0.2704 0.1706 *

Jupiter -20313-10-05 14:52 J -5697621.97 -5697621.88 -5697621.78 0.0528 0.0331

Mars -20312-09-21 17:45 J -5697270.87 -5697270.76 -5697270.64 0.1636 0.0048

Moon -20309-01-17 05:16 J -5696423.42 -5696423.28 -5696423.15 0.2631 0.1052

Earth -20309-01-17 06:43 J -5696423.36 -5696423.22 -5696423.07 0.2632 0.0813 *

Mars -20309-07-03 13:55 J -5696255.08 -5696254.92 -5696254.76 0.1884 0.0482

Moon -20307-07-22 00:00 J -5695506.55 -5695506.50 -5695506.46 0.2695 0.2489

Earth -20307-07-22 00:43 J -5695506.50 -5695506.47 -5695506.45 0.2697 0.2629 *

Jupiter -20307-09-03 05:02 J -5695463.46 -5695463.29 -5695463.11 0.0497 0.0159

Venus -20304-04-27 11:31 J -5694496.12 -5694496.02 -5694495.93 0.3626 0.2861

Mars -20302-02-12 05:16 J -5693840.39 -5693840.28 -5693840.17 0.1635 0.0426

Pluto -20302-05-24 05:31 J -5693739.30 -5693739.27 -5693739.20 0.0071 0.0067

Pluto -20302-08-20 06:57 J -5693651.28 -5693651.21 -5693651.11 0.0071 0.0060

Pluto -20302-11-16 08:38 J -5693563.25 -5693563.14 -5693563.03 0.0071 0.0052

Pluto -20301-02-12 09:36 J -5693475.21 -5693475.10 -5693474.96 0.0072 0.0045

Jupiter -20301-04-26 13:26 J -5693401.02 -5693400.94 -5693400.85 0.0530 0.0379

Pluto -20301-05-10 11:02 J -5693387.17 -5693387.04 -5693386.89 0.0072 0.0037

Jupiter -20301-07-24 19:26 J -5693311.81 -5693311.69 -5693311.57 0.0528 0.0195

Pluto -20301-08-06 12:28 J -5693299.12 -5693298.98 -5693298.83 0.0072 0.0029

Pluto -20301-11-02 13:55 J -5693211.07 -5693210.92 -5693210.76 0.0072 0.0021

Saturn -20300-01-16 19:26 J -5693135.79 -5693135.69 -5693135.59 0.0278 0.0177

Mars -20300-01-17 07:55 J -5693135.22 -5693135.17 -5693135.12 0.1643 0.1446

Pluto -20300-01-29 15:21 J -5693123.01 -5693122.86 -5693122.70 0.0072 0.0013

Saturn -20300-04-15 06:14 J -5693047.37 -5693047.24 -5693047.12 0.0277 0.0053

Pluto -20300-04-27 16:48 J -5693034.96 -5693034.80 -5693034.64 0.0072 0.0005

Saturn -20300-07-12 16:48 J -5692958.92 -5692958.80 -5692958.67 0.0276 0.0072

Earth -20300-07-14 21:21 J -5692956.72 -5692956.61 -5692956.50 0.2701 0.0642

Moon -20300-07-14 22:04 J -5692956.69 -5692956.58 -5692956.47 0.2698 0.0596 *

Pluto -20300-07-24 18:14 J -5692946.90 -5692946.74 -5692946.58 0.0072 0.0004

Saturn -20300-10-09 03:36 J -5692870.44 -5692870.35 -5692870.26 0.0275 0.0195

Pluto -20300-10-20 19:40 J -5692858.84 -5692858.68 -5692858.52 0.0072 0.0012

Pluto -20299-01-16 20:52 J -5692770.78 -5692770.63 -5692770.47 0.0072 0.0021

Pluto -20299-04-14 22:19 J -5692682.71 -5692682.57 -5692682.41 0.0073 0.0029

Pluto -20299-07-12 00:00 J -5692594.64 -5692594.50 -5692594.36 0.0073 0.0037

Pluto -20299-10-08 01:11 J -5692506.56 -5692506.45 -5692506.31 0.0073 0.0046

Pluto -20298-01-04 02:52 J -5692418.48 -5692418.38 -5692418.27 0.0073 0.0054

Pluto -20298-04-02 04:04 J -5692330.39 -5692330.33 -5692330.23 0.0073 0.0063

Pluto -20298-06-29 06:00 J -5692242.28 -5692242.25 -5692242.22 0.0073 0.0072

Moon -20296-01-19 09:50 J -5691672.23 -5691672.09 -5691671.96 0.2636 0.1073

Earth -20296-01-19 11:02 J -5691672.18 -5691672.04 -5691671.90 0.2634 0.1097 *

Jupiter -20295-06-22 01:40 J -5691153.56 -5691153.43 -5691153.30 0.0497 0.0345

Jupiter -20295-09-20 11:16 J -5691063.15 -5691063.03 -5691062.91 0.0498 0.0377

Mars -20293-07-04 16:48 J -5690409.90 -5690409.80 -5690409.71 0.1633 0.0865

Mars -20291-06-09 18:57 J -5689704.80 -5689704.71 -5689704.61 0.1640 0.0986

Jupiter -20289-02-13 18:00 J -5689090.77 -5689090.75 -5689090.72 0.0530 0.0514

Jupiter -20289-05-13 00:00 J -5689001.63 -5689001.50 -5689001.38 0.0529 0.0059

Moon -20287-07-17 16:04 J -5688205.94 -5688205.83 -5688205.72 0.2693 0.0569

Earth -20287-07-17 16:04 J -5688205.94 -5688205.83 -5688205.72 0.2700 0.0510 *

Venus -20285-09-11 01:55 J -5687419.46 -5687419.42 -5687419.38 0.3744 0.3378

Saturn -20284-04-26 17:45 J -5687191.93 -5687191.76 -5687191.58 0.0284 0.0101

Saturn -20284-07-24 17:45 J -5687102.93 -5687102.76 -5687102.58 0.0285 0.0096

Mars -20284-11-25 04:19 J -5686979.39 -5686979.32 -5686979.26 0.1632 0.1297

Jupiter -20283-07-09 09:07 J -5686753.29 -5686753.12 -5686752.96 0.0498 0.0205

Uranus -20283-10-06 16:19 J -5686663.89 -5686663.82 -5686663.73 0.0137 0.0124

Uranus -20282-01-03 00:00 J -5686575.64 -5686575.50 -5686575.37 0.0137 0.0096

Uranus -20282-04-01 07:11 J -5686487.36 -5686487.20 -5686487.03 0.0137 0.0067

Uranus -20282-06-28 14:23 J -5686399.07 -5686398.90 -5686398.71 0.0137 0.0039

Uranus -20282-09-24 21:50 J -5686310.78 -5686310.59 -5686310.40 0.0137 0.0011

Mars -20282-10-31 06:28 J -5686274.34 -5686274.23 -5686274.12 0.1638 0.0532

Uranus -20282-12-22 05:02 J -5686222.48 -5686222.29 -5686222.10 0.0137 0.0017

Uranus -20281-03-19 12:14 J -5686134.17 -5686133.99 -5686133.81 0.0137 0.0044

Uranus -20281-06-15 19:11 J -5686045.85 -5686045.70 -5686045.53 0.0137 0.0071

Uranus -20281-09-12 02:09 J -5685957.53 -5685957.41 -5685957.27 0.0136 0.0099

Uranus -20281-12-09 09:07 J -5685869.18 -5685869.12 -5685869.04 0.0136 0.0125

Earth -20280-07-10 13:26 J -5685655.95 -5685655.94 -5685655.92 0.2704 0.2667

Moon -20280-07-10 13:55 J -5685655.93 -5685655.92 -5685655.91 0.2710 0.2678 *

Venus -20279-03-27 17:16 J -5685395.87 -5685395.78 -5685395.69 0.3746 0.1317

Mars -20279-08-12 21:36 J -5685257.74 -5685257.60 -5685257.46 0.1881 0.1041

Jupiter -20277-03-01 03:36 J -5684691.48 -5684691.35 -5684691.23 0.0529 0.0098

Jupiter -20277-05-29 09:36 J -5684602.15 -5684602.10 -5684602.05 0.0527 0.0476

Moon -20276-01-14 07:11 J -5684372.24 -5684372.20 -5684372.16 0.2627 0.2519

Earth -20276-01-14 08:23 J -5684372.21 -5684372.15 -5684372.09 0.2631 0.2409 *

Neptune -20276-12-23 13:11 J -5684029.02 -5684028.95 -5684028.85 0.0088 0.0078

Neptune -20275-03-21 16:48 J -5683940.91 -5683940.80 -5683940.66 0.0088 0.0068

Neptune -20275-06-17 20:38 J -5683852.78 -5683852.64 -5683852.49 0.0088 0.0058

Neptune -20275-09-14 00:14 J -5683764.65 -5683764.49 -5683764.32 0.0088 0.0048

Neptune -20275-12-11 03:50 J -5683676.51 -5683676.34 -5683676.16 0.0088 0.0038

Neptune -20274-03-09 07:26 J -5683588.37 -5683588.19 -5683588.00 0.0088 0.0028

Neptune -20274-06-05 11:02 J -5683500.23 -5683500.04 -5683499.84 0.0088 0.0018

Moon -20274-07-20 10:19 J -5683455.16 -5683455.07 -5683454.97 0.2692 0.1571

Earth -20274-07-20 10:48 J -5683455.14 -5683455.05 -5683454.96 0.2698 0.1675 *

Neptune -20274-09-01 14:38 J -5683412.08 -5683411.89 -5683411.69 0.0088 0.0009

Venus -20274-10-11 08:52 J -5683372.23 -5683372.13 -5683372.03 0.3747 0.0784

Neptune -20274-11-28 18:14 J -5683323.93 -5683323.74 -5683323.54 0.0088 0.0003

Neptune -20273-02-24 21:50 J -5683235.78 -5683235.59 -5683235.39 0.0088 0.0012

Neptune -20273-05-23 01:26 J -5683147.63 -5683147.44 -5683147.25 0.0088 0.0021

Neptune -20273-08-19 05:02 J -5683059.47 -5683059.29 -5683059.11 0.0088 0.0031

Neptune -20273-11-15 08:23 J -5682971.31 -5682971.15 -5682970.97 0.0088 0.0041

Neptune -20272-02-11 12:00 J -5682883.15 -5682883.00 -5682882.84 0.0088 0.0051

Mars -20272-03-22 17:45 J -5682843.87 -5682843.76 -5682843.64 0.1636 0.0083

Neptune -20272-05-10 15:21 J -5682794.98 -5682794.86 -5682794.71 0.0088 0.0061

Neptune -20272-08-06 18:43 J -5682706.81 -5682706.72 -5682706.58 0.0088 0.0071

Neptune -20272-11-02 22:33 J -5682618.63 -5682618.56 -5682618.48 0.0088 0.0081

Jupiter -20271-04-27 06:43 J -5682443.40 -5682443.22 -5682443.03 0.0498 0.0033

Saturn -20271-06-05 22:04 J -5682403.66 -5682403.58 -5682403.49 0.0279 0.0211

Saturn -20271-09-02 08:52 J -5682315.25 -5682315.13 -5682315.00 0.0278 0.0086

Saturn -20271-11-29 19:40 J -5682226.81 -5682226.68 -5682226.55 0.0277 0.0040

Saturn -20270-02-26 06:28 J -5682138.34 -5682138.23 -5682138.12 0.0276 0.0163

Mars -20269-01-02 14:38 J -5681828.05 -5681827.89 -5681827.72 0.1884 0.0357

Venus -20268-04-26 00:28 J -5681348.55 -5681348.48 -5681348.42 0.3749 0.2892

Earth -20267-07-13 07:55 J -5680905.26 -5680905.17 -5680905.08 0.2702 0.1553

Moon -20267-07-13 08:38 J -5680905.24 -5680905.14 -5680905.05 0.2702 0.1435 *

Jupiter -20266-12-19 07:40 J -5680381.30 -5680381.18 -5680381.07 0.0529 0.0241

Jupiter -20265-03-17 13:26 J -5680292.03 -5680291.94 -5680291.84 0.0527 0.0333

Moon -20263-01-17 11:31 J -5679621.17 -5679621.02 -5679620.87 0.2631 0.0526

Earth -20263-01-17 12:57 J -5679621.11 -5679620.96 -5679620.81 0.2632 0.0455 *

Mars -20263-08-13 05:16 J -5679413.40 -5679413.28 -5679413.17 0.1635 0.0365

Mars -20261-07-18 07:55 J -5678708.22 -5678708.17 -5678708.13 0.1643 0.1506

Mars -20260-05-24 07:26 J -5678398.24 -5678398.19 -5678398.13 0.1886 0.1778

Jupiter -20259-02-13 03:50 J -5678133.51 -5678133.34 -5678133.16 0.0497 0.0148

Saturn -20255-09-13 16:04 J -5676459.98 -5676459.83 -5676459.67 0.0284 0.0157

Saturn -20255-12-11 16:04 J -5676371.01 -5676370.83 -5676370.64 0.0285 0.0040

Saturn -20254-03-10 16:04 J -5676281.93 -5676281.83 -5676281.73 0.0286 0.0237

Earth -20254-07-16 02:23 J -5676154.51 -5676154.40 -5676154.29 0.2701 0.0424

Moon -20254-07-16 02:52 J -5676154.49 -5676154.38 -5676154.26 0.2697 0.0345 *

Jupiter -20254-10-07 11:45 J -5676071.09 -5676071.01 -5676070.92 0.0530 0.0383

Mars -20253-01-03 16:33 J -5675982.91 -5675982.81 -5675982.71 0.1633 0.0806

Jupiter -20253-01-04 17:45 J -5675981.88 -5675981.76 -5675981.64 0.0528 0.0189

Venus -20253-05-18 03:50 J -5675847.48 -5675847.34 -5675847.19 0.3627 0.1541

Mars -20252-12-08 19:11 J -5675277.79 -5675277.70 -5675277.61 0.1640 0.1046

Moon -20250-01-20 16:04 J -5674869.96 -5674869.83 -5674869.70 0.2638 0.1266

Earth -20250-01-20 17:16 J -5674869.90 -5674869.78 -5674869.66 0.2634 0.1458 *

Jupiter -20248-12-02 00:43 J -5673823.60 -5673823.47 -5673823.32 0.0497 0.0329

Jupiter -20247-03-02 10:19 J -5673733.17 -5673733.07 -5673732.95 0.0498 0.0394

Mars -20244-05-26 04:04 J -5672552.40 -5672552.33 -5672552.25 0.1632 0.1241

Mars -20242-05-01 06:28 J -5671847.34 -5671847.23 -5671847.13 0.1638 0.0593

Jupiter -20242-07-26 16:19 J -5671760.84 -5671760.82 -5671760.79 0.0530 0.0518

Jupiter -20242-10-23 22:19 J -5671671.70 -5671671.57 -5671671.44 0.0529 0.0054

Saturn -20242-10-24 00:28 J -5671671.53 -5671671.48 -5671671.42 0.0278 0.0249 *

Saturn -20241-01-20 11:16 J -5671583.15 -5671583.03 -5671582.92 0.0277 0.0124

Saturn -20241-04-17 21:50 J -5671494.72 -5671494.59 -5671494.45 0.0276 0.0008

Saturn -20241-07-15 08:38 J -5671406.26 -5671406.14 -5671406.02 0.0275 0.0124

Moon -20241-07-17 21:07 J -5671403.73 -5671403.62 -5671403.51 0.2692 0.0705

Earth -20241-07-17 20:52 J -5671403.73 -5671403.63 -5671403.52 0.2700 0.0740 *

Saturn -20241-10-11 19:26 J -5671317.74 -5671317.69 -5671317.63 0.0274 0.0247

Mars -20239-02-10 22:04 J -5670830.71 -5670830.58 -5670830.45 0.1881 0.1151

Uranus -20239-12-11 01:40 J -5670527.48 -5670527.43 -5670527.36 0.0141 0.0125

Uranus -20238-03-09 05:16 J -5670439.36 -5670439.28 -5670439.19 0.0141 0.0104

Uranus -20238-06-05 08:38 J -5670351.24 -5670351.14 -5670351.03 0.0141 0.0084

Uranus -20238-09-01 12:14 J -5670263.11 -5670262.99 -5670262.87 0.0141 0.0062

Uranus -20238-11-28 15:50 J -5670174.97 -5670174.84 -5670174.71 0.0141 0.0041

Uranus -20237-02-24 19:26 J -5670086.83 -5670086.69 -5670086.56 0.0142 0.0019

Uranus -20237-05-22 22:48 J -5669998.68 -5669998.55 -5669998.41 0.0142 0.0005

Uranus -20237-08-19 02:23 J -5669910.53 -5669910.40 -5669910.26 0.0142 0.0024

Uranus -20237-11-15 06:00 J -5669822.37 -5669822.25 -5669822.12 0.0142 0.0046

Uranus -20236-02-11 09:36 J -5669734.21 -5669734.10 -5669733.98 0.0142 0.0068

Uranus -20236-05-10 13:26 J -5669646.05 -5669645.94 -5669645.84 0.0142 0.0091

Uranus -20236-08-06 16:48 J -5669557.87 -5669557.80 -5669557.71 0.0142 0.0113

Uranus -20236-11-02 20:38 J -5669469.68 -5669469.64 -5669469.60 0.0142 0.0135

Jupiter -20236-12-19 07:26 J -5669423.36 -5669423.19 -5669423.02 0.0498 0.0210

Earth -20234-07-11 18:28 J -5668853.78 -5668853.73 -5668853.69 0.2704 0.2454

Moon -20234-07-11 18:57 J -5668853.77 -5668853.71 -5668853.66 0.2709 0.2347 *

Mars -20233-09-20 17:45 J -5668416.88 -5668416.76 -5668416.65 0.1636 0.0140

Moon -20230-01-15 13:26 J -5667570.02 -5667569.94 -5667569.86 0.2628 0.2193

Earth -20230-01-15 14:52 J -5667569.98 -5667569.88 -5667569.79 0.2631 0.2041 *

Mars -20230-07-03 15:21 J -5667401.02 -5667400.86 -5667400.69 0.1884 0.0235

Jupiter -20230-08-12 02:52 J -5667361.51 -5667361.38 -5667361.26 0.0529 0.0083

Jupiter -20230-11-09 08:52 J -5667272.17 -5667272.13 -5667272.08 0.0527 0.0492

Venus -20228-04-17 23:16 J -5666746.60 -5666746.53 -5666746.46 0.3744 0.2633

Moon -20228-07-20 15:07 J -5666652.94 -5666652.87 -5666652.79 0.2693 0.1905

Earth -20228-07-20 15:36 J -5666652.92 -5666652.85 -5666652.77 0.2698 0.1908 *

Saturn -20225-01-31 12:00 J -5665728.11 -5665728.00 -5665727.90 0.0283 0.0233

Saturn -20225-04-29 12:00 J -5665639.19 -5665639.00 -5665638.81 0.0284 0.0036

Saturn -20225-07-27 12:00 J -5665550.15 -5665550.00 -5665549.85 0.0285 0.0161

Jupiter -20224-10-07 05:02 J -5665113.47 -5665113.29 -5665113.10 0.0498 0.0039

Mars -20223-02-11 05:02 J -5664986.40 -5664986.29 -5664986.17 0.1635 0.0313

Venus -20223-11-01 14:38 J -5664722.99 -5664722.89 -5664722.79 0.3746 0.0558

Mars -20221-01-17 07:55 J -5664281.21 -5664281.17 -5664281.14 0.1643 0.1565

Earth -20221-07-13 12:43 J -5664103.07 -5664102.97 -5664102.87 0.2702 0.1337

Moon -20221-07-13 13:26 J -5664103.03 -5664102.94 -5664102.84 0.2702 0.1302 *

Mars -20221-11-22 08:23 J -5663971.23 -5663971.15 -5663971.07 0.1886 0.1645

Jupiter -20218-05-31 06:28 J -5663051.34 -5663051.23 -5663051.11 0.0529 0.0233

Jupiter -20218-08-28 12:28 J -5662962.08 -5662961.98 -5662961.88 0.0527 0.0339

Moon -20217-01-18 18:00 J -5662818.90 -5662818.75 -5662818.60 0.2632 0.0285

Earth -20217-01-18 19:26 J -5662818.84 -5662818.69 -5662818.54 0.2633 0.0088 *

Pluto -20217-04-27 16:33 J -5662718.86 -5662718.81 -5662718.76 0.0073 0.0068

Venus -20217-05-17 06:14 J -5662699.33 -5662699.24 -5662699.15 0.3747 0.1548

Pluto -20217-07-24 17:45 J -5662630.84 -5662630.76 -5662630.66 0.0073 0.0060

Pluto -20217-10-20 18:57 J -5662542.80 -5662542.71 -5662542.58 0.0073 0.0052

Pluto -20216-01-16 20:38 J -5662454.76 -5662454.64 -5662454.51 0.0073 0.0043

Pluto -20216-04-14 22:04 J -5662366.72 -5662366.58 -5662366.44 0.0073 0.0035

Pluto -20216-07-11 23:16 J -5662278.67 -5662278.53 -5662278.38 0.0072 0.0027

Pluto -20216-10-08 00:43 J -5662190.62 -5662190.47 -5662190.32 0.0072 0.0019

Pluto -20215-01-04 01:55 J -5662102.57 -5662102.42 -5662102.26 0.0072 0.0011

Pluto -20215-04-02 03:21 J -5662014.52 -5662014.36 -5662014.21 0.0072 0.0003

Pluto -20215-06-29 04:33 J -5661926.46 -5661926.31 -5661926.15 0.0072 0.0005

Pluto -20215-09-25 05:45 J -5661838.41 -5661838.26 -5661838.10 0.0072 0.0013

Pluto -20215-12-22 06:57 J -5661750.35 -5661750.21 -5661750.06 0.0072 0.0021

Pluto -20214-03-20 08:09 J -5661662.29 -5661662.16 -5661662.01 0.0072 0.0029

Pluto -20214-06-16 09:21 J -5661574.23 -5661574.11 -5661573.97 0.0072 0.0036

Mars -20214-07-04 16:33 J -5661555.91 -5661555.81 -5661555.70 0.1633 0.0747

Pluto -20214-09-12 10:48 J -5661486.17 -5661486.05 -5661485.93 0.0071 0.0044

Pluto -20214-12-09 11:45 J -5661398.10 -5661398.01 -5661397.89 0.0071 0.0051

Pluto -20213-03-06 13:11 J -5661310.03 -5661309.95 -5661309.86 0.0071 0.0059

Pluto -20213-06-02 14:09 J -5661221.95 -5661221.91 -5661221.84 0.0071 0.0066

Saturn -20212-06-08 13:40 J -5660851.03 -5660850.93 -5660850.82 0.0279 0.0161

Mars -20212-06-08 19:11 J -5660850.79 -5660850.70 -5660850.62 0.1640 0.1108

Jupiter -20212-07-26 02:52 J -5660803.56 -5660803.38 -5660803.20 0.0498 0.0136

Saturn -20212-09-05 00:28 J -5660762.61 -5660762.48 -5660762.35 0.0277 0.0036

Venus -20212-11-30 21:50 J -5660675.60 -5660675.59 -5660675.57 0.3749 0.3672

Saturn -20212-12-02 11:16 J -5660674.15 -5660674.03 -5660673.91 0.0276 0.0089

Saturn -20211-02-28 22:04 J -5660585.66 -5660585.58 -5660585.50 0.0275 0.0213

Earth -20208-07-16 07:11 J -5659352.31 -5659352.20 -5659352.09 0.2701 0.0207

Moon -20208-07-16 07:40 J -5659352.29 -5659352.18 -5659352.06 0.2696 0.0152 *

Jupiter -20206-03-19 10:48 J -5658741.14 -5658741.05 -5658740.96 0.0529 0.0375

Jupiter -20206-06-16 16:33 J -5658651.93 -5658651.81 -5658651.69 0.0528 0.0196

Mars -20205-11-24 04:04 J -5658125.40 -5658125.33 -5658125.25 0.1632 0.1181

Moon -20204-01-20 22:19 J -5658067.67 -5658067.57 -5658067.46 0.2639 0.1806

Earth -20204-01-20 23:31 J -5658067.63 -5658067.52 -5658067.41 0.2634 0.1811 *

Mars -20203-10-30 06:14 J -5657420.34 -5657420.24 -5657420.13 0.1638 0.0651

Jupiter -20200-05-14 00:00 J -5656493.64 -5656493.50 -5656493.36 0.0497 0.0315

Mars -20200-08-11 22:48 J -5656403.67 -5656403.55 -5656403.42 0.1881 0.1278

Jupiter -20200-08-12 09:36 J -5656403.20 -5656403.10 -5656402.99 0.0499 0.0408

Uranus -20199-10-26 23:45 J -5655962.60 -5655962.51 -5655962.40 0.0137 0.0116

Uranus -20198-01-23 07:26 J -5655874.34 -5655874.19 -5655874.04 0.0137 0.0087

Uranus -20198-04-21 14:38 J -5655786.06 -5655785.89 -5655785.71 0.0137 0.0059

Uranus -20198-07-18 22:04 J -5655697.77 -5655697.58 -5655697.40 0.0137 0.0031

Uranus -20198-10-15 05:16 J -5655609.47 -5655609.28 -5655609.09 0.0137 0.0003

Uranus -20197-01-11 12:28 J -5655521.16 -5655520.98 -5655520.79 0.0137 0.0024

Uranus -20197-04-08 19:40 J -5655432.85 -5655432.68 -5655432.51 0.0137 0.0052

Uranus -20197-07-06 02:23 J -5655344.54 -5655344.40 -5655344.23 0.0136 0.0080

Uranus -20197-10-02 09:21 J -5655256.21 -5655256.11 -5655255.98 0.0136 0.0107

Venus -20197-12-23 06:14 J -5655174.39 -5655174.24 -5655174.08 0.3627 0.0698

Uranus -20197-12-29 16:33 J -5655167.84 -5655167.81 -5655167.76 0.0136 0.0133

Saturn -20196-09-16 09:50 J -5654907.26 -5654907.09 -5654906.91 0.0284 0.0096

Saturn -20196-12-14 09:50 J -5654818.26 -5654818.09 -5654817.91 0.0285 0.0102

Mars -20195-04-16 15:36 J -5654694.86 -5654694.85 -5654694.83 0.1630 0.1613

Moon -20195-07-19 01:55 J -5654601.53 -5654601.42 -5654601.31 0.2692 0.0983

Earth -20195-07-19 01:55 J -5654601.53 -5654601.42 -5654601.31 0.2699 0.0960 *

Neptune -20194-01-05 08:52 J -5654431.15 -5654431.13 -5654431.08 0.0089 0.0085

Jupiter -20194-01-05 14:52 J -5654430.90 -5654430.88 -5654430.85 0.0530 0.0518

Neptune -20194-04-03 10:19 J -5654343.12 -5654343.07 -5654343.00 0.0089 0.0078

Jupiter -20194-04-04 20:52 J -5654341.76 -5654341.63 -5654341.51 0.0528 0.0055

Neptune -20194-06-30 11:31 J -5654255.08 -5654255.02 -5654254.93 0.0089 0.0072

Neptune -20194-09-26 12:57 J -5654167.04 -5654166.96 -5654166.86 0.0089 0.0064

Neptune -20194-12-23 14:23 J -5654079.00 -5654078.90 -5654078.80 0.0089 0.0057

Neptune -20193-03-20 15:36 J -5653990.95 -5653990.85 -5653990.73 0.0089 0.0050

Mars -20193-03-21 17:45 J -5653989.88 -5653989.76 -5653989.65 0.1636 0.0200

Neptune -20193-06-16 17:02 J -5653902.90 -5653902.79 -5653902.67 0.0089 0.0043

Neptune -20193-09-12 18:14 J -5653814.85 -5653814.74 -5653814.61 0.0089 0.0037

Neptune -20193-12-09 19:40 J -5653726.80 -5653726.68 -5653726.55 0.0089 0.0029

Neptune -20192-03-07 20:52 J -5653638.75 -5653638.63 -5653638.49 0.0089 0.0023

Neptune -20192-06-03 22:19 J -5653550.70 -5653550.57 -5653550.44 0.0089 0.0015

Neptune -20192-08-30 23:45 J -5653462.64 -5653462.51 -5653462.38 0.0089 0.0008

Neptune -20192-11-27 00:57 J -5653374.59 -5653374.46 -5653374.32 0.0089 0.0002

Neptune -20191-02-23 02:23 J -5653286.53 -5653286.40 -5653286.27 0.0089 0.0006

Neptune -20191-05-22 03:36 J -5653198.48 -5653198.35 -5653198.22 0.0089 0.0013

Neptune -20191-08-18 05:02 J -5653110.42 -5653110.29 -5653110.16 0.0089 0.0020

Neptune -20191-11-14 06:14 J -5653022.36 -5653022.24 -5653022.11 0.0089 0.0027

Mars -20190-01-01 16:19 J -5652973.99 -5652973.82 -5652973.65 0.1884 0.0111

Neptune -20190-02-10 07:40 J -5652934.30 -5652934.18 -5652934.06 0.0089 0.0034

Neptune -20190-05-09 08:52 J -5652846.24 -5652846.13 -5652846.01 0.0089 0.0041

Neptune -20190-08-05 10:19 J -5652758.18 -5652758.07 -5652757.96 0.0089 0.0048

Neptune -20190-11-01 11:31 J -5652670.11 -5652670.02 -5652669.91 0.0089 0.0056

Neptune -20189-01-28 12:57 J -5652582.05 -5652581.96 -5652581.86 0.0089 0.0062

Neptune -20189-04-25 14:23 J -5652493.98 -5652493.90 -5652493.82 0.0089 0.0069

Neptune -20189-07-22 15:36 J -5652405.91 -5652405.85 -5652405.78 0.0089 0.0077

Neptune -20189-10-18 17:02 J -5652317.83 -5652317.79 -5652317.74 0.0089 0.0084

Jupiter -20188-03-01 21:07 J -5652183.64 -5652183.62 -5652183.61 0.0497 0.0494

Jupiter -20188-05-31 06:57 J -5652093.37 -5652093.21 -5652093.05 0.0498 0.0230

Earth -20188-07-11 23:16 J -5652051.59 -5652051.53 -5652051.47 0.2704 0.2235

Moon -20188-07-12 00:00 J -5652051.56 -5652051.50 -5652051.44 0.2707 0.2234 *

Moon -20184-01-15 19:40 J -5650767.79 -5650767.68 -5650767.57 0.2628 0.1759

Earth -20184-01-15 21:07 J -5650767.74 -5650767.62 -5650767.50 0.2631 0.1668 *

Mars -20184-08-12 05:02 J -5650559.40 -5650559.29 -5650559.17 0.1634 0.0251

Saturn -20183-10-26 15:50 J -5650118.93 -5650118.84 -5650118.75 0.0278 0.0202

Jupiter -20182-01-22 01:26 J -5650031.57 -5650031.44 -5650031.32 0.0529 0.0084

Saturn -20182-01-23 02:23 J -5650030.52 -5650030.40 -5650030.27 0.0277 0.0077

Jupiter -20182-04-21 07:26 J -5649942.23 -5649942.19 -5649942.15 0.0527 0.0492

Saturn -20182-04-21 13:11 J -5649942.08 -5649941.95 -5649941.82 0.0276 0.0048

Mars -20182-07-18 07:55 J -5649854.19 -5649854.17 -5649854.16 0.1643 0.1626

Saturn -20182-07-19 00:00 J -5649853.60 -5649853.50 -5649853.40 0.0275 0.0172

Moon -20182-07-21 20:09 J -5649850.74 -5649850.66 -5649850.59 0.2694 0.2022

Earth -20182-07-21 20:38 J -5649850.71 -5649850.64 -5649850.57 0.2698 0.2134 *

Mars -20181-05-23 08:52 J -5649544.22 -5649544.13 -5649544.03 0.1886 0.1534

Jupiter -20176-03-19 03:50 J -5647783.52 -5647783.34 -5647783.15 0.0498 0.0049

Earth -20175-07-14 17:45 J -5647300.86 -5647300.76 -5647300.66 0.2702 0.1118

Moon -20175-07-14 18:28 J -5647300.84 -5647300.73 -5647300.63 0.2702 0.0979 *

Mars -20174-01-02 16:33 J -5647128.91 -5647128.81 -5647128.71 0.1633 0.0688

Mars -20173-12-07 18:57 J -5646423.79 -5646423.71 -5646423.63 0.1640 0.1162

Venus -20172-11-22 20:38 J -5646073.73 -5646073.64 -5646073.56 0.3744 0.1868

Moon -20171-01-19 00:14 J -5646016.64 -5646016.49 -5646016.34 0.2634 0.0162

Earth -20171-01-19 01:40 J -5646016.58 -5646016.43 -5646016.28 0.2633 0.0281 *

Jupiter -20171-11-10 06:00 J -5645721.37 -5645721.25 -5645721.14 0.0529 0.0217

Jupiter -20170-02-07 12:00 J -5645632.09 -5645632.00 -5645631.91 0.0528 0.0357

Saturn -20166-02-03 05:16 J -5644175.43 -5644175.28 -5644175.14 0.0283 0.0176

Saturn -20166-05-03 05:16 J -5644086.47 -5644086.28 -5644086.09 0.0285 0.0021

Venus -20166-06-08 12:14 J -5644050.10 -5644049.99 -5644049.89 0.3746 0.0271

Saturn -20166-07-31 05:02 J -5643997.40 -5643997.29 -5643997.17 0.0286 0.0218

Mars -20165-05-25 04:04 J -5643698.41 -5643698.33 -5643698.25 0.1632 0.1123

Jupiter -20164-01-05 01:40 J -5643473.61 -5643473.43 -5643473.25 0.0497 0.0125

Mars -20163-04-30 06:14 J -5642993.34 -5642993.24 -5642993.13 0.1638 0.0710

Earth -20162-07-17 12:14 J -5642550.10 -5642549.99 -5642549.88 0.2701 0.0042

Moon -20162-07-17 12:28 J -5642550.09 -5642549.98 -5642549.86 0.2695 0.0109 *

Venus -20161-12-22 03:36 J -5642026.42 -5642026.35 -5642026.27 0.3748 0.2327

Mars -20160-02-10 00:00 J -5641976.61 -5641976.50 -5641976.39 0.1881 0.1416

Jupiter -20159-08-29 09:50 J -5641411.18 -5641411.09 -5641411.00 0.0529 0.0364

Jupiter -20159-11-26 15:36 J -5641321.96 -5641321.85 -5641321.73 0.0528 0.0207

Moon -20158-01-22 04:33 J -5641265.40 -5641265.31 -5641265.21 0.2639 0.2001

Earth -20158-01-22 05:45 J -5641265.34 -5641265.26 -5641265.18 0.2634 0.2169 *

Mars -20156-10-15 15:36 J -5640267.88 -5640267.85 -5640267.82 0.1630 0.1555

Uranus -20155-12-31 09:07 J -5639826.19 -5639826.12 -5639826.05 0.0141 0.0120

Uranus -20154-03-29 12:28 J -5639738.07 -5639737.98 -5639737.88 0.0141 0.0099

Uranus -20154-06-25 16:04 J -5639649.94 -5639649.83 -5639649.72 0.0141 0.0078

Mars -20154-09-20 17:45 J -5639562.88 -5639562.76 -5639562.65 0.1636 0.0262

Uranus -20154-09-21 19:26 J -5639561.81 -5639561.69 -5639561.57 0.0141 0.0057

Uranus -20154-12-18 23:02 J -5639473.67 -5639473.54 -5639473.41 0.0141 0.0036

Saturn -20153-03-14 17:45 J -5639386.81 -5639386.76 -5639386.69 0.0279 0.0244

Uranus -20153-03-16 02:38 J -5639385.53 -5639385.39 -5639385.26 0.0142 0.0015

Saturn -20153-06-11 04:33 J -5639298.42 -5639298.31 -5639298.19 0.0278 0.0118

Uranus -20153-06-12 06:00 J -5639297.38 -5639297.25 -5639297.11 0.0142 0.0009

Saturn -20153-09-07 15:21 J -5639209.99 -5639209.86 -5639209.72 0.0277 0.0011

Uranus -20153-09-08 09:36 J -5639209.23 -5639209.10 -5639208.96 0.0142 0.0030

Jupiter -20153-10-23 23:02 J -5639163.68 -5639163.54 -5639163.39 0.0497 0.0299

Saturn -20153-12-05 02:09 J -5639121.52 -5639121.41 -5639121.29 0.0276 0.0133

Uranus -20153-12-05 13:11 J -5639121.07 -5639120.95 -5639120.82 0.0142 0.0051

Jupiter -20152-01-22 08:52 J -5639073.22 -5639073.13 -5639073.04 0.0499 0.0424

Saturn -20152-03-03 12:57 J -5639033.00 -5639032.96 -5639032.91 0.0275 0.0256

Uranus -20152-03-03 16:48 J -5639032.91 -5639032.80 -5639032.68 0.0142 0.0073 *

Uranus -20152-05-30 20:38 J -5638944.74 -5638944.64 -5638944.54 0.0142 0.0096

Uranus -20152-08-27 00:00 J -5638856.56 -5638856.50 -5638856.42 0.0142 0.0118

Uranus -20152-11-23 03:50 J -5638768.35 -5638768.34 -5638768.32 0.0142 0.0141

Mars -20151-07-02 17:02 J -5638546.96 -5638546.79 -5638546.62 0.1884 0.0021

Moon -20149-07-19 06:43 J -5637799.32 -5637799.22 -5637799.12 0.2693 0.1169

Earth -20149-07-19 06:57 J -5637799.32 -5637799.21 -5637799.11 0.2699 0.1190 *

Jupiter -20147-06-17 14:09 J -5637100.95 -5637100.91 -5637100.88 0.0529 0.0505

Jupiter -20147-09-14 19:55 J -5637011.80 -5637011.67 -5637011.55 0.0528 0.0065

Mars -20144-02-10 05:02 J -5636132.40 -5636132.29 -5636132.17 0.1634 0.0190

Earth -20142-07-13 04:19 J -5635249.40 -5635249.32 -5635249.25 0.2703 0.2025

Moon -20142-07-13 04:48 J -5635249.37 -5635249.30 -5635249.22 0.2706 0.1887 *

Mars -20142-11-22 10:04 J -5635117.20 -5635117.08 -5635116.97 0.1886 0.1397

Jupiter -20141-08-11 20:09 J -5634853.70 -5634853.66 -5634853.60 0.0497 0.0478

Jupiter -20141-11-10 06:14 J -5634763.40 -5634763.24 -5634763.08 0.0498 0.0248

Venus -20140-07-30 08:38 J -5634501.24 -5634501.14 -5634501.05 0.3626 0.2896

Moon -20138-01-17 02:09 J -5633965.54 -5633965.41 -5633965.29 0.2628 0.1481

Earth -20138-01-17 03:36 J -5633965.49 -5633965.35 -5633965.22 0.2631 0.1295 *

Saturn -20137-06-22 02:23 J -5633443.49 -5633443.40 -5633443.29 0.0283 0.0239

Saturn -20137-09-19 02:38 J -5633354.57 -5633354.39 -5633354.20 0.0284 0.0042

Saturn -20137-12-17 02:38 J -5633265.54 -5633265.39 -5633265.23 0.0285 0.0155

Moon -20136-07-22 00:57 J -5633048.52 -5633048.46 -5633048.41 0.2693 0.2318

Earth -20136-07-22 01:40 J -5633048.48 -5633048.43 -5633048.38 0.2697 0.2367 *

Mars -20135-07-03 16:33 J -5632701.92 -5632701.81 -5632701.70 0.1633 0.0629

Jupiter -20135-07-04 00:00 J -5632701.62 -5632701.50 -5632701.37 0.0529 0.0079

Jupiter -20135-10-01 06:00 J -5632612.29 -5632612.25 -5632612.20 0.0527 0.0494

Mars -20133-06-07 18:57 J -5631996.78 -5631996.71 -5631996.63 0.1640 0.1225

Earth -20129-07-14 22:33 J -5630498.66 -5630498.56 -5630498.45 0.2702 0.0893

Moon -20129-07-14 23:16 J -5630498.63 -5630498.53 -5630498.42 0.2701 0.0875 *

Jupiter -20129-08-29 03:36 J -5630453.53 -5630453.35 -5630453.17 0.0498 0.0070

Mars -20126-11-24 04:04 J -5629271.42 -5629271.33 -5629271.25 0.1631 0.1069

Moon -20125-01-20 06:28 J -5629214.37 -5629214.23 -5629214.08 0.2636 0.0532

Earth -20125-01-20 07:55 J -5629214.31 -5629214.17 -5629214.02 0.2633 0.0645 *

Mars -20124-10-29 06:14 J -5628566.34 -5628566.24 -5628566.14 0.1638 0.0765

Saturn -20124-10-29 06:28 J -5628566.33 -5628566.23 -5628566.12 0.0278 0.0159 *

Saturn -20123-01-25 17:16 J -5628477.91 -5628477.78 -5628477.65 0.0277 0.0035

Jupiter -20123-04-22 04:33 J -5628391.42 -5628391.31 -5628391.19 0.0529 0.0215

Saturn -20123-04-24 04:04 J -5628389.45 -5628389.33 -5628389.20 0.0276 0.0091

Jupiter -20123-07-20 10:33 J -5628302.15 -5628302.06 -5628301.96 0.0528 0.0359

Saturn -20123-07-21 14:52 J -5628300.96 -5628300.88 -5628300.80 0.0275 0.0215

Mars -20121-08-11 00:14 J -5627549.58 -5627549.49 -5627549.39 0.1881 0.1515

Venus -20121-12-14 02:23 J -5627424.45 -5627424.40 -5627424.34 0.3743 0.3172

Jupiter -20117-06-17 00:28 J -5626143.66 -5626143.48 -5626143.29 0.0497 0.0112

Mars -20116-04-15 15:36 J -5625840.89 -5625840.85 -5625840.81 0.1630 0.1497

Earth -20116-07-17 17:16 J -5625747.90 -5625747.78 -5625747.67 0.2701 0.0273

Moon -20116-07-17 17:31 J -5625747.88 -5625747.77 -5625747.66 0.2694 0.0338 *

Venus -20115-06-29 18:00 J -5625400.85 -5625400.75 -5625400.65 0.3745 0.1102

Uranus -20115-08-19 23:45 J -5625349.51 -5625349.51 -5625349.47 0.0137 0.0137

Uranus -20115-11-16 07:26 J -5625261.30 -5625261.19 -5625261.06 0.0137 0.0108

Uranus -20114-02-12 14:52 J -5625173.03 -5625172.88 -5625172.72 0.0137 0.0079

Mars -20114-03-21 17:31 J -5625135.88 -5625135.77 -5625135.65 0.1636 0.0319

Uranus -20114-05-11 22:04 J -5625084.74 -5625084.58 -5625084.39 0.0137 0.0051

Uranus -20114-08-08 05:31 J -5624996.45 -5624996.27 -5624996.08 0.0137 0.0023

Uranus -20114-11-04 12:57 J -5624908.15 -5624907.96 -5624907.77 0.0137 0.0006

Uranus -20113-01-31 19:55 J -5624819.85 -5624819.67 -5624819.48 0.0137 0.0033

Uranus -20113-04-29 03:07 J -5624731.54 -5624731.37 -5624731.20 0.0137 0.0060

Uranus -20113-07-26 09:50 J -5624643.22 -5624643.09 -5624642.93 0.0136 0.0088

Uranus -20113-10-22 17:16 J -5624554.88 -5624554.78 -5624554.68 0.0136 0.0114

Moon -20112-01-22 11:02 J -5624463.08 -5624463.04 -5624463.00 0.2640 0.2505

Earth -20112-01-22 12:00 J -5624463.04 -5624463.00 -5624462.96 0.2635 0.2522 *

Mars -20112-12-31 17:45 J -5624119.92 -5624119.76 -5624119.59 0.1884 0.0155

Jupiter -20111-02-08 09:07 J -5624081.21 -5624081.12 -5624081.02 0.0530 0.0349

Jupiter -20111-05-08 15:07 J -5623991.98 -5623991.87 -5623991.75 0.0528 0.0224

Neptune -20111-06-23 07:55 J -5623946.20 -5623946.17 -5623946.08 0.0088 0.0084

Neptune -20111-09-19 11:45 J -5623858.10 -5623858.01 -5623857.89 0.0088 0.0074

Neptune -20111-12-16 15:21 J -5623769.97 -5623769.86 -5623769.71 0.0088 0.0064

Neptune -20110-03-14 18:57 J -5623681.84 -5623681.71 -5623681.54 0.0088 0.0054

Neptune -20110-06-10 22:48 J -5623593.71 -5623593.55 -5623593.37 0.0088 0.0044

Neptune -20110-09-07 02:23 J -5623505.57 -5623505.40 -5623505.21 0.0088 0.0034

Neptune -20110-12-04 06:00 J -5623417.43 -5623417.25 -5623417.05 0.0088 0.0024

Venus -20109-01-13 09:36 J -5623377.20 -5623377.10 -5623377.00 0.3746 0.0990

Neptune -20109-03-01 09:36 J -5623329.28 -5623329.10 -5623328.90 0.0088 0.0015

Neptune -20109-05-28 13:26 J -5623241.14 -5623240.94 -5623240.74 0.0088 0.0004

Neptune -20109-08-24 17:02 J -5623152.99 -5623152.79 -5623152.60 0.0088 0.0006

Neptune -20109-11-20 20:38 J -5623064.83 -5623064.64 -5623064.45 0.0088 0.0016

Neptune -20108-02-17 00:00 J -5622976.68 -5622976.50 -5622976.31 0.0088 0.0026

Neptune -20108-05-16 03:36 J -5622888.52 -5622888.35 -5622888.17 0.0088 0.0036

Neptune -20108-08-12 06:57 J -5622800.36 -5622800.21 -5622800.03 0.0088 0.0046

Neptune -20108-11-08 10:19 J -5622712.20 -5622712.07 -5622711.90 0.0088 0.0056

Neptune -20107-02-04 14:23 J -5622624.03 -5622623.90 -5622623.77 0.0088 0.0065

Saturn -20107-02-05 21:36 J -5622622.76 -5622622.60 -5622622.43 0.0284 0.0125

Neptune -20107-05-03 17:45 J -5622535.85 -5622535.76 -5622535.65 0.0088 0.0075

Saturn -20107-05-05 21:36 J -5622533.78 -5622533.60 -5622533.41 0.0285 0.0072

Neptune -20107-07-30 21:07 J -5622447.65 -5622447.62 -5622447.56 0.0088 0.0085

Saturn -20107-08-02 21:21 J -5622444.66 -5622444.61 -5622444.54 0.0286 0.0269

Jupiter -20105-04-04 22:04 J -5621833.73 -5621833.58 -5621833.42 0.0497 0.0284

Jupiter -20105-07-04 07:55 J -5621743.25 -5621743.17 -5621743.08 0.0499 0.0438

Mars -20105-08-11 05:02 J -5621705.41 -5621705.29 -5621705.17 0.1635 0.0130

Venus -20104-07-29 01:11 J -5621353.51 -5621353.45 -5621353.40 0.3748 0.3097

Moon -20103-07-20 11:31 J -5620997.12 -5620997.02 -5620996.92 0.2693 0.1361

Earth -20103-07-20 11:45 J -5620997.10 -5620997.01 -5620996.91 0.2699 0.1417 *

Mars -20102-05-23 11:02 J -5620690.17 -5620690.04 -5620689.92 0.1886 0.1257

Jupiter -20100-11-27 13:26 J -5619770.99 -5619770.94 -5619770.90 0.0529 0.0492

Jupiter -20099-02-24 19:11 J -5619681.83 -5619681.70 -5619681.58 0.0528 0.0078

Earth -20096-07-13 09:07 J -5618447.20 -5618447.12 -5618447.04 0.2703 0.1803

Moon -20096-07-13 09:50 J -5618447.17 -5618447.09 -5618447.01 0.2706 0.1784 *

Mars -20095-01-01 16:33 J -5618274.92 -5618274.81 -5618274.70 0.1633 0.0574

Saturn -20094-03-18 08:23 J -5617834.23 -5617834.15 -5617834.06 0.0279 0.0203

Saturn -20094-06-14 19:11 J -5617745.82 -5617745.70 -5617745.57 0.0278 0.0077

Saturn -20094-09-11 06:00 J -5617657.38 -5617657.25 -5617657.12 0.0277 0.0049

Mars -20094-12-07 18:57 J -5617569.78 -5617569.71 -5617569.64 0.1640 0.1282

Saturn -20094-12-08 16:48 J -5617568.90 -5617568.80 -5617568.70 0.0276 0.0174

Jupiter -20093-01-22 19:26 J -5617523.75 -5617523.69 -5617523.62 0.0497 0.0462

Jupiter -20093-04-22 05:31 J -5617433.42 -5617433.27 -5617433.11 0.0499 0.0266

Moon -20092-01-17 08:23 J -5617163.29 -5617163.15 -5617163.01 0.2630 0.0985

Earth -20092-01-17 09:50 J -5617163.23 -5617163.09 -5617162.95 0.2631 0.0928 *

Moon -20090-07-23 06:00 J -5616246.29 -5616246.25 -5616246.21 0.2693 0.2496

Earth -20090-07-23 06:28 J -5616246.25 -5616246.23 -5616246.20 0.2697 0.2598 *

Venus -20089-08-20 00:57 J -5615852.60 -5615852.46 -5615852.31 0.3628 0.1521

Jupiter -20088-12-13 23:16 J -5615371.65 -5615371.53 -5615371.40 0.0528 0.0066

Jupiter -20087-03-13 05:16 J -5615282.31 -5615282.28 -5615282.25 0.0526 0.0507

Mars -20086-05-25 04:04 J -5614844.42 -5614844.33 -5614844.24 0.1631 0.1007

Mars -20084-04-29 06:14 J -5614139.34 -5614139.24 -5614139.14 0.1638 0.0827

Earth -20083-07-16 03:36 J -5613696.46 -5613696.35 -5613696.24 0.2702 0.0676

Moon -20083-07-16 04:04 J -5613696.44 -5613696.33 -5613696.22 0.2698 0.0545 *

Jupiter -20081-02-09 03:07 J -5613123.55 -5613123.37 -5613123.19 0.0498 0.0089

Mars -20081-02-10 01:11 J -5613122.52 -5613122.45 -5613122.37 0.1881 0.1653

Moon -20079-01-20 12:43 J -5612412.11 -5612411.97 -5612411.83 0.2636 0.0840

Earth -20079-01-20 14:09 J -5612412.05 -5612411.91 -5612411.77 0.2633 0.1008 *

Saturn -20078-06-25 19:11 J -5611890.84 -5611890.70 -5611890.55 0.0283 0.0186

Saturn -20078-09-22 19:11 J -5611801.88 -5611801.70 -5611801.51 0.0284 0.0013

Saturn -20078-12-20 18:57 J -5611712.83 -5611712.71 -5611712.57 0.0285 0.0208

Mars -20077-10-14 15:36 J -5611413.90 -5611413.85 -5611413.80 0.1630 0.1440

Jupiter -20076-10-02 03:36 J -5611061.47 -5611061.35 -5611061.24 0.0529 0.0209

Jupiter -20076-12-30 09:21 J -5610972.20 -5610972.11 -5610972.01 0.0527 0.0364

Mars -20075-09-19 17:31 J -5610708.88 -5610708.77 -5610708.65 0.1636 0.0379

Mars -20072-07-01 18:43 J -5609692.89 -5609692.72 -5609692.56 0.1884 0.0274

Uranus -20071-10-24 12:28 J -5609213.00 -5609212.98 -5609212.96 0.0141 0.0138

Uranus -20070-01-20 15:36 J -5609124.91 -5609124.85 -5609124.77 0.0141 0.0118

Uranus -20070-04-18 19:11 J -5609036.79 -5609036.70 -5609036.60 0.0141 0.0097

Uranus -20070-07-15 22:48 J -5608948.66 -5608948.55 -5608948.44 0.0141 0.0076

Earth -20070-07-18 22:04 J -5608945.69 -5608945.58 -5608945.47 0.2700 0.0481

Moon -20070-07-18 22:19 J -5608945.68 -5608945.57 -5608945.45 0.2694 0.0473 *

Uranus -20070-10-12 02:09 J -5608860.53 -5608860.41 -5608860.28 0.0141 0.0055

Jupiter -20070-11-28 00:28 J -5608813.67 -5608813.48 -5608813.30 0.0498 0.0089

Uranus -20069-01-08 05:45 J -5608772.39 -5608772.26 -5608772.13 0.0142 0.0033

Uranus -20069-04-05 09:21 J -5608684.25 -5608684.11 -5608683.98 0.0142 0.0012

Uranus -20069-07-02 12:57 J -5608596.10 -5608595.96 -5608595.83 0.0142 0.0011

Uranus -20069-09-28 16:33 J -5608507.95 -5608507.81 -5608507.68 0.0142 0.0032

Uranus -20069-12-25 19:55 J -5608419.79 -5608419.67 -5608419.54 0.0142 0.0054

Uranus -20068-03-23 23:31 J -5608331.63 -5608331.52 -5608331.40 0.0142 0.0076

Uranus -20068-06-20 03:07 J -5608243.46 -5608243.37 -5608243.27 0.0142 0.0099

Uranus -20068-09-16 06:57 J -5608155.28 -5608155.21 -5608155.14 0.0142 0.0121

Mars -20065-02-10 05:02 J -5607278.41 -5607278.29 -5607278.18 0.1634 0.0087

Saturn -20065-08-04 10:19 J -5607102.12 -5607102.07 -5607102.01 0.0279 0.0246

Saturn -20065-10-31 21:07 J -5607013.73 -5607013.62 -5607013.50 0.0278 0.0119

Saturn -20064-01-28 07:55 J -5606925.30 -5606925.17 -5606925.04 0.0277 0.0008

Saturn -20064-04-26 18:43 J -5606836.83 -5606836.72 -5606836.60 0.0276 0.0131

Venus -20064-07-21 00:00 J -5606751.58 -5606751.50 -5606751.43 0.3743 0.2413

Jupiter -20064-07-21 07:55 J -5606751.26 -5606751.17 -5606751.07 0.0530 0.0345

Saturn -20064-07-24 05:31 J -5606748.31 -5606748.27 -5606748.22 0.0275 0.0255

Jupiter -20064-10-18 13:55 J -5606662.03 -5606661.92 -5606661.80 0.0528 0.0228

Earth -20063-07-11 19:40 J -5606395.68 -5606395.68 -5606395.68 0.2704 0.2702

Moon -20063-07-11 20:09 J -5606395.68 -5606395.66 -5606395.64 0.2709 0.2661 *

Mars -20063-11-21 11:16 J -5606263.16 -5606263.03 -5606262.90 0.1887 0.1157

Moon -20059-01-15 10:19 J -5605112.11 -5605112.07 -5605112.04 0.2625 0.2544

Earth -20059-01-15 11:16 J -5605112.06 -5605112.03 -5605111.99 0.2630 0.2547 *

Venus -20058-02-03 15:21 J -5604727.96 -5604727.86 -5604727.76 0.3745 0.0354

Jupiter -20058-09-15 21:21 J -5604503.77 -5604503.61 -5604503.45 0.0497 0.0270

Jupiter -20058-12-15 06:57 J -5604413.28 -5604413.21 -5604413.13 0.0499 0.0452

Moon -20057-07-20 16:19 J -5604194.91 -5604194.82 -5604194.73 0.2693 0.1642

Earth -20057-07-20 16:48 J -5604194.89 -5604194.80 -5604194.71 0.2699 0.1649 *

Mars -20056-07-02 16:19 J -5603847.92 -5603847.82 -5603847.71 0.1633 0.0518

Pluto -20055-04-05 17:02 J -5603570.80 -5603570.79 -5603570.75 0.0071 0.0071

Pluto -20055-07-02 18:43 J -5603482.79 -5603482.72 -5603482.65 0.0071 0.0063

Pluto -20055-09-28 19:40 J -5603394.77 -5603394.68 -5603394.57 0.0071 0.0055

Pluto -20055-12-25 21:07 J -5603306.73 -5603306.62 -5603306.49 0.0072 0.0048

Pluto -20054-03-23 22:33 J -5603218.69 -5603218.56 -5603218.42 0.0072 0.0040

Mars -20054-06-07 18:57 J -5603142.78 -5603142.71 -5603142.65 0.1640 0.1340

Pluto -20054-06-19 23:45 J -5603130.64 -5603130.51 -5603130.36 0.0072 0.0032

Pluto -20054-09-16 01:11 J -5603042.59 -5603042.45 -5603042.29 0.0072 0.0024

Pluto -20054-12-13 02:38 J -5602954.54 -5602954.39 -5602954.23 0.0072 0.0016

Pluto -20053-03-10 04:04 J -5602866.49 -5602866.33 -5602866.17 0.0072 0.0008

Pluto -20053-06-06 05:31 J -5602778.43 -5602778.27 -5602778.11 0.0072 0.0000

Venus -20053-08-19 06:57 J -5602704.30 -5602704.21 -5602704.12 0.3747 0.1755

Pluto -20053-09-02 06:57 J -5602690.37 -5602690.21 -5602690.05 0.0072 0.0008

Pluto -20053-11-29 08:23 J -5602602.31 -5602602.15 -5602602.00 0.0072 0.0017

Pluto -20052-02-25 09:36 J -5602514.24 -5602514.10 -5602513.94 0.0073 0.0025

Jupiter -20052-05-09 12:43 J -5602441.02 -5602440.97 -5602440.92 0.0530 0.0477

Pluto -20052-05-24 11:02 J -5602426.17 -5602426.04 -5602425.89 0.0073 0.0034

Jupiter -20052-08-06 18:28 J -5602351.85 -5602351.73 -5602351.60 0.0528 0.0095

Pluto -20052-08-20 12:28 J -5602338.10 -5602337.98 -5602337.84 0.0073 0.0042

Pluto -20052-11-16 13:40 J -5602250.02 -5602249.93 -5602249.80 0.0073 0.0051

Pluto -20051-02-12 15:36 J -5602161.94 -5602161.85 -5602161.76 0.0073 0.0059

Pluto -20051-05-11 16:48 J -5602073.84 -5602073.80 -5602073.73 0.0073 0.0068

Earth -20050-07-14 13:55 J -5601645.01 -5601644.92 -5601644.83 0.2703 0.1590

Moon -20050-07-14 14:38 J -5601644.98 -5601644.89 -5601644.79 0.2705 0.1463 *

Saturn -20049-11-11 13:55 J -5601158.97 -5601158.92 -5601158.86 0.0282 0.0269

Saturn -20048-02-08 14:09 J -5601070.09 -5601069.91 -5601069.73 0.0284 0.0074

Saturn -20048-05-08 13:55 J -5600981.08 -5600980.92 -5600980.75 0.0285 0.0122

Mars -20047-11-23 04:04 J -5600417.43 -5600417.33 -5600417.24 0.1632 0.0951

Moon -20046-01-18 14:38 J -5600361.03 -5600360.89 -5600360.74 0.2632 0.0795

Earth -20046-01-18 16:04 J -5600360.97 -5600360.83 -5600360.68 0.2632 0.0558 *

Jupiter -20046-07-04 18:57 J -5600193.79 -5600193.71 -5600193.63 0.0497 0.0443

Jupiter -20046-10-03 04:48 J -5600103.45 -5600103.30 -5600103.15 0.0498 0.0282

Mars -20045-10-28 06:14 J -5599712.34 -5599712.24 -5599712.14 0.1638 0.0886

Mars -20042-08-11 02:09 J -5598695.46 -5598695.41 -5598695.36 0.1881 0.1784

Jupiter -20040-05-25 22:33 J -5598041.68 -5598041.56 -5598041.43 0.0528 0.0052

Jupiter -20040-08-23 04:33 J -5597952.32 -5597952.31 -5597952.29 0.0526 0.0520

Mars -20037-04-14 15:36 J -5596986.91 -5596986.85 -5596986.79 0.1630 0.1382

Earth -20037-07-16 08:23 J -5596894.26 -5596894.15 -5596894.04 0.2702 0.0454

Moon -20037-07-16 09:07 J -5596894.23 -5596894.12 -5596894.01 0.2697 0.0447 *

Mars -20035-03-20 17:31 J -5596281.88 -5596281.77 -5596281.66 0.1636 0.0435

Saturn -20035-03-20 22:48 J -5596281.65 -5596281.55 -5596281.44 0.0280 0.0165

Saturn -20035-06-17 09:36 J -5596193.22 -5596193.10 -5596192.96 0.0278 0.0040

Saturn -20035-09-13 20:23 J -5596104.77 -5596104.65 -5596104.52 0.0277 0.0088

Saturn -20035-12-11 07:26 J -5596016.28 -5596016.19 -5596016.11 0.0276 0.0213

Jupiter -20034-07-22 02:23 J -5595793.58 -5595793.40 -5595793.22 0.0498 0.0106

Moon -20033-01-21 19:11 J -5595609.83 -5595609.70 -5595609.57 0.2636 0.1292

Earth -20033-01-21 20:23 J -5595609.78 -5595609.65 -5595609.52 0.2633 0.1369 *

Mars -20033-12-30 19:26 J -5595265.86 -5595265.69 -5595265.53 0.1884 0.0396

Venus -20032-03-27 03:21 J -5595179.52 -5595179.36 -5595179.21 0.3628 0.0695

Uranus -20031-09-09 07:11 J -5594648.25 -5594648.20 -5594648.11 0.0137 0.0129

Uranus -20031-12-06 14:52 J -5594560.00 -5594559.88 -5594559.74 0.0137 0.0100

Uranus -20030-03-04 22:19 J -5594471.73 -5594471.57 -5594471.40 0.0137 0.0071

Uranus -20030-06-01 05:45 J -5594383.44 -5594383.26 -5594383.08 0.0137 0.0043

Neptune -20030-07-06 07:40 J -5594348.19 -5594348.18 -5594348.17 0.0089 0.0089

Uranus -20030-08-28 13:11 J -5594295.14 -5594294.95 -5594294.77 0.0137 0.0015

Neptune -20030-10-02 09:07 J -5594260.17 -5594260.12 -5594260.07 0.0089 0.0082

Uranus -20030-11-24 20:23 J -5594206.84 -5594206.65 -5594206.47 0.0137 0.0013

Neptune -20030-12-29 10:04 J -5594172.14 -5594172.08 -5594172.00 0.0089 0.0075

Uranus -20029-02-21 03:21 J -5594118.54 -5594118.36 -5594118.18 0.0137 0.0040

Neptune -20029-03-26 11:31 J -5594084.10 -5594084.02 -5594083.93 0.0089 0.0068

Uranus -20029-05-19 10:19 J -5594030.22 -5594030.07 -5594029.90 0.0137 0.0068

Neptune -20029-06-22 12:43 J -5593996.05 -5593995.97 -5593995.86 0.0089 0.0061

Uranus -20029-08-15 17:31 J -5593941.90 -5593941.77 -5593941.63 0.0136 0.0095

Neptune -20029-09-18 14:09 J -5593908.01 -5593907.91 -5593907.80 0.0089 0.0054

Uranus -20029-11-12 00:14 J -5593853.56 -5593853.49 -5593853.39 0.0136 0.0122

Neptune -20029-12-15 15:21 J -5593819.96 -5593819.86 -5593819.74 0.0089 0.0048

Neptune -20028-03-13 16:48 J -5593731.91 -5593731.80 -5593731.68 0.0089 0.0040

Jupiter -20028-03-14 02:52 J -5593731.50 -5593731.38 -5593731.26 0.0528 0.0192

Neptune -20028-06-09 18:00 J -5593643.86 -5593643.75 -5593643.62 0.0089 0.0034

Jupiter -20028-06-11 08:38 J -5593642.22 -5593642.14 -5593642.05 0.0527 0.0379

Neptune -20028-09-05 19:26 J -5593555.81 -5593555.69 -5593555.56 0.0089 0.0026

Neptune -20028-12-02 20:52 J -5593467.76 -5593467.63 -5593467.50 0.0089 0.0019

Neptune -20027-02-28 22:04 J -5593379.70 -5593379.58 -5593379.44 0.0089 0.0013

Neptune -20027-05-27 23:31 J -5593291.65 -5593291.52 -5593291.39 0.0089 0.0005

Neptune -20027-08-24 00:57 J -5593203.60 -5593203.46 -5593203.33 0.0089 0.0003

Neptune -20027-11-20 02:09 J -5593115.54 -5593115.41 -5593115.28 0.0089 0.0009

Neptune -20026-02-16 03:36 J -5593027.48 -5593027.35 -5593027.22 0.0089 0.0016

Neptune -20026-05-15 04:48 J -5592939.42 -5592939.30 -5592939.17 0.0089 0.0023

Mars -20026-08-11 05:02 J -5592851.41 -5592851.29 -5592851.18 0.1634 0.0051

Neptune -20026-08-11 06:14 J -5592851.36 -5592851.24 -5592851.12 0.0089 0.0030 *

Neptune -20026-11-07 07:26 J -5592763.30 -5592763.19 -5592763.06 0.0089 0.0038

Neptune -20025-02-03 08:52 J -5592675.24 -5592675.13 -5592675.01 0.0089 0.0044

Neptune -20025-05-01 10:19 J -5592587.18 -5592587.07 -5592586.96 0.0089 0.0052

Neptune -20025-07-28 11:31 J -5592499.12 -5592499.02 -5592498.92 0.0089 0.0059

Neptune -20025-10-24 12:57 J -5592411.05 -5592410.96 -5592410.87 0.0089 0.0066

Neptune -20024-01-20 13:55 J -5592322.98 -5592322.92 -5592322.83 0.0089 0.0073

Neptune -20024-04-18 15:21 J -5592234.90 -5592234.86 -5592234.79 0.0089 0.0080

Neptune -20024-07-15 16:33 J -5592146.82 -5592146.81 -5592146.77 0.0089 0.0088

Earth -20024-07-19 03:07 J -5592143.48 -5592143.37 -5592143.26 0.2700 0.0708

Moon -20024-07-19 03:07 J -5592143.47 -5592143.37 -5592143.26 0.2694 0.0787 *

Mars -20023-05-22 12:28 J -5591836.12 -5591835.98 -5591835.84 0.1886 0.1010

Jupiter -20022-05-09 23:45 J -5591483.70 -5591483.51 -5591483.33 0.0498 0.0072

Saturn -20019-06-28 11:45 J -5590338.17 -5590338.01 -5590337.84 0.0283 0.0133

Saturn -20019-09-25 11:45 J -5590249.19 -5590249.01 -5590248.82 0.0284 0.0063

Saturn -20019-12-23 11:31 J -5590160.09 -5590160.02 -5590159.94 0.0285 0.0259

Earth -20017-07-12 00:28 J -5589593.52 -5589593.48 -5589593.44 0.2704 0.2487

Moon -20017-07-12 01:11 J -5589593.50 -5589593.45 -5589593.41 0.2709 0.2446 *

Jupiter -20017-12-31 06:57 J -5589421.30 -5589421.21 -5589421.11 0.0529 0.0336

Mars -20017-12-31 16:19 J -5589420.93 -5589420.82 -5589420.70 0.1633 0.0459

Jupiter -20016-03-30 12:43 J -5589332.08 -5589331.97 -5589331.85 0.0528 0.0235

Mars -20015-12-06 18:57 J -5588715.77 -5588715.71 -5588715.65 0.1640 0.1402

Moon -20013-01-16 16:33 J -5588309.87 -5588309.81 -5588309.74 0.2626 0.2353

Earth -20013-01-16 17:45 J -5588309.84 -5588309.76 -5588309.68 0.2630 0.2167 *

Venus -20013-08-11 05:45 J -5588102.27 -5588102.26 -5588102.25 0.3742 0.3706

Moon -20011-07-21 21:21 J -5587392.70 -5587392.61 -5587392.53 0.2692 0.1772

Earth -20011-07-21 21:50 J -5587392.67 -5587392.59 -5587392.51 0.2699 0.1881 *

Jupiter -20010-02-25 20:52 J -5587173.79 -5587173.63 -5587173.46 0.0497 0.0249

Jupiter -20010-05-27 06:43 J -5587083.27 -5587083.22 -5587083.16 0.0499 0.0474

Venus -20007-02-24 21:21 J -5586078.70 -5586078.61 -5586078.52 0.3744 0.1658

Mars -20007-05-24 03:50 J -5585990.43 -5585990.34 -5585990.24 0.1631 0.0895

Saturn -20006-08-08 00:43 J -5585549.55 -5585549.47 -5585549.38 0.0279 0.0207

Saturn -20006-11-04 11:45 J -5585461.14 -5585461.01 -5585460.89 0.0278 0.0080

Saturn -20005-01-31 22:33 J -5585372.69 -5585372.56 -5585372.43 0.0277 0.0047

Mars -20005-04-28 06:14 J -5585285.34 -5585285.24 -5585285.15 0.1638 0.0945

Saturn -20005-04-29 09:21 J -5585284.21 -5585284.11 -5585284.01 0.0276 0.0171

Jupiter -20005-10-19 11:31 J -5585111.08 -5585111.02 -5585110.97 0.0530 0.0472

Jupiter -20004-01-16 17:16 J -5585021.90 -5585021.78 -5585021.65 0.0528 0.0098

Earth -20004-07-14 18:57 J -5584842.81 -5584842.71 -5584842.62 0.2703 0.1368

Moon -20004-07-14 19:40 J -5584842.78 -5584842.68 -5584842.58 0.2703 0.1316 *

Venus -20002-09-10 12:43 J -5584055.07 -5584054.97 -5584054.87 0.3745 0.0460

20TH MILLENNIUM BCE

This is a list of transits of Mercury in the 20th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Moon	**-20000-01-18 20:52**	**J**	**-5583558.78**	**-5583558.63**	**-5583558.48**	**0.2633**	**0.0248**	
Earth	**-20000-01-18 22:19**	**J**	**-5583558.72**	**-5583558.57**	**-5583558.41**	**0.2632**	**0.0206**	*****
Jupiter	**-19999-12-14 17:45**	**J**	**-5582863.84**	**-5582863.76**	**-5582863.66**	**0.0497**	**0.0430**	
Jupiter	**-19998-03-15 03:50**	**J**	**-5582773.49**	**-5582773.34**	**-5582773.19**	**0.0498**	**0.0295**	
Mars	**-19998-10-14 15:21**	**J**	**-5582559.92**	**-5582559.86**	**-5582559.79**	**0.1630**	**0.1327**	
Venus	**-19996-03-26 04:19**	**J**	**-5582031.39**	**-5582031.32**	**-5582031.24**	**0.3747**	**0.2518**	
Mars	**-19996-09-18 17:31**	**J**	**-5581854.88**	**-5581854.77**	**-5581854.66**	**0.1636**	**0.0490**	
Mars	**-19993-06-30 20:09**	**J**	**-5580838.82**	**-5580838.66**	**-5580838.49**	**0.1884**	**0.0527**	
Jupiter	**-19993-11-04 21:50**	**J**	**-5580711.71**	**-5580711.59**	**-5580711.46**	**0.0529**	**0.0039**	
Earth	**-19991-07-17 13:26**	**J**	**-5580092.05**	**-5580091.94**	**-5580091.83**	**0.2701**	**0.0231**	
Moon	**-19991-07-17 13:55**	**J**	**-5580092.03**	**-5580091.92**	**-5580091.80**	**0.2697**	**0.0127**	*****
Saturn	**-19990-11-15 06:57**	**J**	**-5579606.32**	**-5579606.21**	**-5579606.08**	**0.0282**	**0.0213**	
Saturn	**-19989-02-12 07:11**	**J**	**-5579517.39**	**-5579517.20**	**-5579517.02**	**0.0284**	**0.0019**	
Saturn	**-19989-05-11 06:57**	**J**	**-5579428.35**	**-5579428.21**	**-5579428.06**	**0.0285**	**0.0178**	
Moon	**-19987-01-22 01:26**	**J**	**-5578807.56**	**-5578807.44**	**-5578807.32**	**0.2637**	**0.1551**	
Earth	**-19987-01-22 02:38**	**J**	**-5578807.50**	**-5578807.39**	**-5578807.28**	**0.2633**	**0.1723**	*****
Uranus	**-19987-11-13 18:43**	**J**	**-5578511.74**	**-5578511.72**	**-5578511.68**	**0.0141**	**0.0137**	
Jupiter	**-19986-01-01 01:40**	**J**	**-5578463.61**	**-5578463.43**	**-5578463.25**	**0.0498**	**0.0123**	
Mars	**-19986-02-09 05:02**	**J**	**-5578424.41**	**-5578424.29**	**-5578424.18**	**0.1635**	**0.0078**	
Uranus	**-19986-02-09 22:19**	**J**	**-5578423.64**	**-5578423.57**	**-5578423.49**	**0.0141**	**0.0116**	
Uranus	**-19986-05-09 01:40**	**J**	**-5578335.52**	**-5578335.43**	**-5578335.32**	**0.0141**	**0.0095**	
Uranus	**-19986-08-05 05:16**	**J**	**-5578247.39**	**-5578247.28**	**-5578247.16**	**0.0141**	**0.0074**	
Uranus	**-19986-11-01 08:52**	**J**	**-5578159.25**	**-5578159.13**	**-5578159.01**	**0.0141**	**0.0053**	
Uranus	**-19985-01-28 12:14**	**J**	**-5578071.11**	**-5578070.99**	**-5578070.85**	**0.0142**	**0.0032**	
Uranus	**-19985-04-25 15:50**	**J**	**-5577982.97**	**-5577982.84**	**-5577982.70**	**0.0142**	**0.0010**	

Uranus -19985-07-22 19:26 J -5577894.82 -5577894.69 -5577894.56 0.0142 0.0012

Uranus -19985-10-18 23:02 J -5577806.67 -5577806.54 -5577806.41 0.0142 0.0034

Uranus -19984-01-15 02:38 J -5577718.51 -5577718.39 -5577718.27 0.0142 0.0056

Uranus -19984-04-13 06:00 J -5577630.35 -5577630.25 -5577630.13 0.0142 0.0079

Uranus -19984-07-10 09:50 J -5577542.18 -5577542.09 -5577541.99 0.0142 0.0100

Uranus -19984-10-06 13:26 J -5577454.00 -5577453.94 -5577453.87 0.0142 0.0123

Mars -19984-11-20 13:26 J -5577409.09 -5577408.94 -5577408.80 0.1886 0.0882

Jupiter -19981-08-24 02:09 J -5576401.53 -5576401.41 -5576401.29 0.0528 0.0179

Jupiter -19981-11-21 07:55 J -5576312.25 -5576312.17 -5576312.08 0.0527 0.0392

Moon -19978-07-20 07:55 J -5575341.28 -5575341.17 -5575341.06 0.2693 0.0869

Earth -19978-07-20 07:55 J -5575341.27 -5575341.17 -5575341.06 0.2700 0.0933 *

Mars -19977-07-01 16:19 J -5574993.93 -5574993.82 -5574993.71 0.1633 0.0397

Saturn -19977-12-25 02:23 J -5574817.45 -5574817.40 -5574817.34 0.0281 0.0254

Saturn -19976-03-23 13:11 J -5574729.06 -5574728.95 -5574728.83 0.0280 0.0127

Saturn -19976-06-20 00:14 J -5574640.62 -5574640.49 -5574640.36 0.0278 0.0007

Saturn -19976-09-16 11:02 J -5574552.16 -5574552.04 -5574551.93 0.0277 0.0127

Venus -19976-11-01 05:31 J -5574506.37 -5574506.27 -5574506.18 0.3627 0.2868

Saturn -19976-12-13 21:50 J -5574463.64 -5574463.59 -5574463.54 0.0276 0.0252

Mars -19975-06-06 18:57 J -5574288.76 -5574288.71 -5574288.66 0.1640 0.1463

Jupiter -19975-10-19 22:48 J -5574153.74 -5574153.55 -5574153.37 0.0498 0.0059

Earth -19971-07-13 05:31 J -5572791.33 -5572791.27 -5572791.22 0.2704 0.2277

Moon -19971-07-13 06:00 J -5572791.31 -5572791.25 -5572791.19 0.2709 0.2195 *

Pluto -19970-03-11 03:36 J -5572550.36 -5572550.35 -5572550.31 0.0073 0.0072

Pluto -19970-06-07 05:16 J -5572462.35 -5572462.28 -5572462.20 0.0073 0.0063

Pluto -19970-09-03 06:28 J -5572374.32 -5572374.23 -5572374.12 0.0073 0.0055

Pluto -19970-11-30 07:40 J -5572286.28 -5572286.18 -5572286.04 0.0073 0.0047

Pluto -19969-02-26 09:36 J -5572198.24 -5572198.10 -5572197.97 0.0073 0.0038

Pluto -19969-05-24 10:48 J -5572110.19 -5572110.05 -5572109.91 0.0072 0.0030

Jupiter -19969-06-12 06:28 J -5572091.33 -5572091.23 -5572091.13 0.0529 0.0319

Pluto -19969-08-20 12:00 J -5572022.14 -5572022.00 -5572021.84 0.0072 0.0022

Jupiter -19969-09-09 12:14 J -5572002.10 -5572001.99 -5572001.88 0.0527 0.0250

Pluto -19969-11-16 13:26 J -5571934.09 -5571933.94 -5571933.78 0.0072 0.0014

Pluto -19968-02-12 14:38 J -5571846.04 -5571845.89 -5571845.73 0.0072 0.0006

Pluto -19968-05-11 16:04 J -5571757.99 -5571757.83 -5571757.67 0.0072 0.0002

Pluto -19968-08-07 17:16 J -5571669.93 -5571669.78 -5571669.62 0.0072 0.0010

Pluto -19968-11-03 18:43 J -5571581.87 -5571581.72 -5571581.57 0.0072 0.0018

Mars -19968-11-22 03:50 J -5571563.44 -5571563.34 -5571563.24 0.1631 0.0835

Moon -19967-01-16 22:48 J -5571507.66 -5571507.55 -5571507.44 0.2627 0.1857

Earth -19967-01-17 00:14 J -5571507.60 -5571507.49 -5571507.38 0.2631 0.1792 *

Pluto -19967-01-30 19:55 J -5571493.82 -5571493.67 -5571493.53 0.0072 0.0026

Pluto -19967-04-28 20:52 J -5571405.76 -5571405.63 -5571405.48 0.0072 0.0034

Pluto -19967-07-25 22:04 J -5571317.70 -5571317.58 -5571317.44 0.0071 0.0041

Pluto -19967-10-21 23:31 J -5571229.63 -5571229.52 -5571229.41 0.0071 0.0049

Pluto -19966-01-18 00:28 J -5571141.56 -5571141.48 -5571141.37 0.0071 0.0056

Pluto -19966-04-16 01:55 J -5571053.49 -5571053.42 -5571053.35 0.0071 0.0063

Pluto -19966-07-13 02:52 J -5570965.38 -5570965.38 -5570965.36 0.0071 0.0071

Mars -19966-10-28 06:14 J -5570858.34 -5570858.24 -5570858.15 0.1638 0.1005

Moon -19965-07-22 02:09 J -5570590.48 -5570590.41 -5570590.34 0.2693 0.2112

Earth -19965-07-22 02:38 J -5570590.46 -5570590.39 -5570590.32 0.2698 0.2110 *

Jupiter -19963-08-07 19:55 J -5569843.83 -5569843.67 -5569843.50 0.0498 0.0236

Jupiter -19963-11-06 06:00 J -5569753.29 -5569753.25 -5569753.22 0.0499 0.0489

Saturn -19960-04-03 05:02 J -5568874.34 -5568874.29 -5568874.23 0.0282 0.0269

Saturn -19960-07-01 05:02 J -5568785.46 -5568785.29 -5568785.10 0.0283 0.0075

Saturn -19960-09-28 05:02 J -5568696.46 -5568696.29 -5568696.12 0.0284 0.0121

Mars -19958-04-14 15:21 J -5568132.93 -5568132.86 -5568132.79 0.1630 0.1269

Earth -19958-07-15 23:45 J -5568040.61 -5568040.51 -5568040.41 0.2703 0.1149

Moon -19958-07-16 00:28 J -5568040.58 -5568040.48 -5568040.37 0.2701 0.1068 *

Jupiter -19957-03-31 10:33 J -5567781.12 -5567781.06 -5567781.00 0.0529 0.0464

Jupiter -19957-06-28 16:19 J -5567691.95 -5567691.82 -5567691.70 0.0528 0.0105

Venus -19956-03-18 03:07 J -5567429.42 -5567429.37 -5567429.31 0.3742 0.2961

Mars -19956-03-19 17:31 J -5567427.88 -5567427.77 -5567427.66 0.1636 0.0551

Moon -19954-01-20 03:07 J -5566756.52 -5566756.37 -5566756.22 0.2633 0.0080

Earth -19954-01-20 04:48 J -5566756.45 -5566756.30 -5566756.15 0.2632 0.0183 *

Mars -19954-12-30 21:07 J -5566411.78 -5566411.62 -5566411.47 0.1884 0.0649

Jupiter -19951-05-26 17:16 J -5565533.88 -5565533.78 -5565533.68 0.0497 0.0413

Jupiter -19951-08-25 03:21 J -5565443.50 -5565443.36 -5565443.22 0.0499 0.0313

Venus -19951-10-01 18:43 J -5565405.82 -5565405.72 -5565405.62 0.3744 0.0894

Mars -19947-08-10 04:48 J -5563997.41 -5563997.30 -5563997.18 0.1634 0.0104

Saturn -19947-08-10 15:21 J -5563996.96 -5563996.86 -5563996.75 0.0280 0.0167

Uranus -19947-09-29 14:09 J -5563946.98 -5563946.91 -5563946.81 0.0137 0.0123

Saturn -19947-11-07 02:09 J -5563908.53 -5563908.41 -5563908.28 0.0278 0.0040

Uranus -19947-12-26 21:36 J -5563858.72 -5563858.60 -5563858.45 0.0137 0.0094

Saturn -19946-02-03 13:11 J -5563820.08 -5563819.95 -5563819.83 0.0277 0.0087

Neptune -19946-03-20 06:57 J -5563775.29 -5563775.21 -5563775.12 0.0088 0.0079

Uranus -19946-03-25 05:16 J -5563770.45 -5563770.28 -5563770.11 0.0137 0.0065

Saturn -19946-05-03 00:00 J -5563731.59 -5563731.50 -5563731.42 0.0276 0.0212

Neptune -19946-06-16 10:33 J -5563687.17 -5563687.06 -5563686.93 0.0088 0.0069

Uranus -19946-06-21 12:28 J -5563682.16 -5563681.98 -5563681.79 0.0137 0.0038

Neptune -19946-09-12 14:09 J -5563599.05 -5563598.91 -5563598.76 0.0088 0.0060

Uranus -19946-09-17 19:55 J -5563593.86 -5563593.67 -5563593.48 0.0137 0.0009

Neptune -19946-12-09 17:45 J -5563510.91 -5563510.76 -5563510.59 0.0088 0.0050

Uranus -19946-12-15 03:07 J -5563505.56 -5563505.37 -5563505.18 0.0137 0.0018

Neptune -19945-03-06 21:36 J -5563422.78 -5563422.60 -5563422.43 0.0088 0.0039

Uranus -19945-03-12 10:19 J -5563417.25 -5563417.07 -5563416.89 0.0137 0.0046

Venus -19945-04-16 10:19 J -5563382.17 -5563382.07 -5563381.98 0.3746 0.1190

Jupiter -19945-04-16 20:38 J -5563381.77 -5563381.64 -5563381.51 0.0528 0.0034

Neptune -19945-06-03 01:11 J -5563334.64 -5563334.45 -5563334.27 0.0088 0.0029

Uranus -19945-06-08 17:02 J -5563328.93 -5563328.79 -5563328.62 0.0137 0.0074

Earth -19945-07-17 18:14 J -5563289.85 -5563289.74 -5563289.62 0.2701 0.0087

Moon -19945-07-17 18:57 J -5563289.83 -5563289.71 -5563289.60 0.2697 0.0080 *

Neptune -19945-08-30 04:48 J -5563246.49 -5563246.30 -5563246.11 0.0088 0.0020

Uranus -19945-09-05 00:14 J -5563240.61 -5563240.49 -5563240.35 0.0136 0.0100

Neptune -19945-11-26 08:09 J -5563158.35 -5563158.16 -5563157.96 0.0088 0.0010

Uranus -19945-12-02 06:57 J -5563152.25 -5563152.21 -5563152.12 0.0136 0.0128

Neptune -19944-02-22 12:00 J -5563070.20 -5563070.00 -5563069.81 0.0088 0.0001

Mars -19944-05-21 13:55 J -5562982.07 -5562981.92 -5562981.77 0.1887 0.0767

Neptune -19944-05-21 15:36 J -5562982.05 -5562981.85 -5562981.66 0.0088 0.0010 *

Neptune -19944-08-17 18:57 J -5562893.90 -5562893.71 -5562893.52 0.0088 0.0020

Neptune -19944-11-13 22:33 J -5562805.74 -5562805.56 -5562805.37 0.0088 0.0030

Neptune -19943-02-10 01:55 J -5562717.58 -5562717.42 -5562717.24 0.0088 0.0040

Neptune -19943-05-09 05:31 J -5562629.42 -5562629.27 -5562629.10 0.0088 0.0050

Neptune -19943-08-05 08:52 J -5562541.25 -5562541.13 -5562540.97 0.0088 0.0060

Neptune -19943-11-01 12:14 J -5562453.08 -5562452.99 -5562452.85 0.0088 0.0070

Neptune -19942-01-28 16:04 J -5562364.90 -5562364.83 -5562364.74 0.0088 0.0080

Moon -19941-01-23 07:55 J -5562005.26 -5562005.17 -5562005.08 0.2639 0.2089

Earth -19941-01-23 08:52 J -5562005.22 -5562005.13 -5562005.04 0.2634 0.2079 *

Venus -19940-10-31 01:55 J -5561358.47 -5561358.42 -5561358.38 0.3748 0.3295

Jupiter -19939-06-13 00:28 J -5561133.66 -5561133.48 -5561133.30 0.0498 0.0133

Mars -19938-12-31 16:19 J -5560566.93 -5560566.82 -5560566.71 0.1633 0.0339

Mars -19936-12-05 18:43 J -5559861.76 -5559861.72 -5559861.68 0.1640 0.1518

Jupiter -19933-02-04 01:11 J -5559071.57 -5559071.45 -5559071.33 0.0529 0.0169

Jupiter -19933-05-03 07:11 J -5558982.28 -5558982.20 -5558982.12 0.0527 0.0404

Moon -19932-07-20 12:43 J -5558539.07 -5558538.97 -5558538.87 0.2693 0.1202

Earth -19932-07-20 12:57 J -5558539.06 -5558538.96 -5558538.86 0.2700 0.1160 *

Saturn -19931-11-18 00:57 J -5558053.62 -5558053.46 -5558053.30 0.0282 0.0151

Saturn -19930-02-15 00:57 J -5557964.65 -5557964.46 -5557964.28 0.0284 0.0044

Saturn -19930-05-15 00:28 J -5557875.57 -5557875.48 -5557875.37 0.0285 0.0239

Mars -19928-05-23 03:50 J -5557136.44 -5557136.34 -5557136.24 0.1632 0.0777

Jupiter -19927-03-31 21:50 J -5556823.77 -5556823.59 -5556823.40 0.0498 0.0044

Mars -19926-04-28 06:00 J -5556431.33 -5556431.25 -5556431.16 0.1638 0.1065

Earth -19925-07-13 10:19 J -5555989.14 -5555989.07 -5555989.00 0.2704 0.2058

Moon -19925-07-13 11:02 J -5555989.12 -5555989.04 -5555988.97 0.2708 0.2038 *

Venus -19925-11-21 21:50 J -5555857.73 -5555857.59 -5555857.44 0.3629 0.1542

Jupiter -19922-11-23 05:31 J -5554761.37 -5554761.27 -5554761.16 0.0529 0.0308

Moon -19921-01-18 05:02 J -5554705.41 -5554705.29 -5554705.17 0.2629 0.1582

Earth -19921-01-18 06:28 J -5554705.36 -5554705.23 -5554705.10 0.2631 0.1415 *

Jupiter -19921-02-20 11:16 J -5554672.14 -5554672.03 -5554671.92 0.0527 0.0262

Moon -19919-07-23 07:11 J -5553788.27 -5553788.20 -5553788.14 0.2694 0.2212

Earth -19919-07-23 07:40 J -5553788.24 -5553788.18 -5553788.13 0.2698 0.2341 *

Mars -19919-10-13 15:21 J -5553705.93 -5553705.86 -5553705.78 0.1630 0.1210

Saturn -19918-12-28 17:02 J -5553264.87 -5553264.79 -5553264.70 0.0281 0.0213

Saturn -19917-03-26 03:50 J -5553176.46 -5553176.34 -5553176.21 0.0280 0.0086

Saturn -19917-06-22 14:52 J -5553088.01 -5553087.88 -5553087.75 0.0278 0.0043

Mars -19917-09-17 17:31 J -5553000.88 -5553000.77 -5553000.66 0.1636 0.0611

Saturn -19917-09-19 01:40 J -5552999.53 -5552999.43 -5552999.33 0.0277 0.0169

Jupiter -19915-01-17 18:43 J -5552513.88 -5552513.72 -5552513.55 0.0498 0.0227

Jupiter -19915-04-18 04:33 J -5552423.31 -5552423.31 -5552423.30 0.0499 0.0499

Mars -19914-06-30 21:50 J -5551984.74 -5551984.59 -5551984.44 0.1884 0.0774

Earth -19912-07-16 04:48 J -5551238.41 -5551238.30 -5551238.20 0.2703 0.0931

Moon -19912-07-16 05:31 J -5551238.38 -5551238.27 -5551238.16 0.2700 0.0830 *

Jupiter -19910-09-11 09:50 J -5550451.15 -5550451.09 -5550451.02 0.0529 0.0448

Jupiter -19910-12-09 15:36 J -5550361.97 -5550361.85 -5550361.73 0.0527 0.0120

Moon -19908-01-20 09:36 J -5549954.25 -5549954.10 -5549953.96 0.2633 0.0494

Earth -19908-01-20 11:02 J -5549954.19 -5549954.04 -5549953.89 0.2632 0.0539 *

Mars -19907-02-08 04:48 J -5549570.41 -5549570.30 -5549570.18 0.1634 0.0164

Mars -19905-11-19 14:52 J -5548555.04 -5548554.88 -5548554.72 0.1886 0.0634

Jupiter -19904-11-05 15:50 J -5548203.94 -5548203.84 -5548203.73 0.0498 0.0405

Jupiter -19903-02-04 01:55 J -5548113.55 -5548113.42 -5548113.27 0.0499 0.0323

Uranus -19903-12-04 01:40 J -5547810.47 -5547810.43 -5547810.39 0.0141 0.0134

Uranus -19902-03-02 05:02 J -5547722.36 -5547722.29 -5547722.21 0.0141 0.0113

Uranus -19902-05-29 08:38 J -5547634.24 -5547634.14 -5547634.04 0.0141 0.0092

Uranus -19902-08-25 12:00 J -5547546.11 -5547546.00 -5547545.88 0.0141 0.0072

Uranus -19902-11-21 15:21 J -5547457.98 -5547457.86 -5547457.73 0.0141 0.0051

Uranus -19901-02-17 18:57 J -5547369.84 -5547369.71 -5547369.58 0.0141 0.0029

Saturn -19901-04-05 23:45 J -5547321.64 -5547321.51 -5547321.38 0.0282 0.0201

Uranus -19901-05-15 22:33 J -5547281.69 -5547281.56 -5547281.43 0.0142 0.0007

Saturn -19901-07-03 23:45 J -5547232.70 -5547232.51 -5547232.33 0.0283 0.0009

Uranus -19901-08-12 02:09 J -5547193.54 -5547193.41 -5547193.28 0.0142 0.0014

Saturn -19901-09-30 23:16 J -5547143.66 -5547143.53 -5547143.38 0.0284 0.0188

Uranus -19901-11-08 05:45 J -5547105.39 -5547105.26 -5547105.13 0.0142 0.0036

Uranus -19900-02-04 09:07 J -5547017.24 -5547017.12 -5547016.99 0.0142 0.0058

Uranus -19900-05-03 12:43 J -5546929.07 -5546928.97 -5546928.85 0.0142 0.0081

Uranus -19900-07-30 16:33 J -5546840.90 -5546840.81 -5546840.72 0.0142 0.0102

Venus -19900-10-23 00:43 J -5546756.55 -5546756.47 -5546756.39 0.3743 0.2206

Uranus -19900-10-26 19:55 J -5546752.72 -5546752.67 -5546752.60 0.0142 0.0126

Earth -19899-07-18 23:16 J -5546487.64 -5546487.53 -5546487.42 0.2701 0.0223

Moon -19899-07-18 23:31 J -5546487.63 -5546487.52 -5546487.40 0.2696 0.0307 *

Mars -19898-07-01 16:19 J -5546139.94 -5546139.82 -5546139.71 0.1633 0.0282

Jupiter -19898-09-27 19:26 J -5546051.81 -5546051.69 -5546051.56 0.0528 0.0033

Mars -19896-06-05 18:43 J -5545434.74 -5545434.72 -5545434.69 0.1640 0.1581

Moon -19895-01-23 14:23 J -5545202.97 -5545202.90 -5545202.83 0.2640 0.2279

Earth -19895-01-23 15:07 J -5545202.92 -5545202.87 -5545202.81 0.2634 0.2445 *

Venus -19894-05-08 16:04 J -5544732.93 -5544732.83 -5544732.73 0.3744 0.0141

Jupiter -19892-11-22 23:31 J -5543803.70 -5543803.52 -5543803.34 0.0498 0.0146

Mars -19889-11-21 03:50 J -5542709.45 -5542709.34 -5542709.24 0.1631 0.0722

Venus -19889-11-21 07:40 J -5542709.27 -5542709.18 -5542709.10 0.3746 0.1948 *

Saturn -19888-05-16 19:26 J -5542532.74 -5542532.69 -5542532.63 0.0281 0.0251

Saturn -19888-08-13 06:14 J -5542444.35 -5542444.24 -5542444.12 0.0280 0.0123

Saturn -19888-11-09 17:16 J -5542355.91 -5542355.78 -5542355.65 0.0279 0.0009

Saturn -19887-02-06 04:04 J -5542267.45 -5542267.33 -5542267.22 0.0277 0.0132

Saturn -19887-05-05 14:52 J -5542178.92 -5542178.88 -5542178.83 0.0276 0.0257

Mars -19887-10-27 06:00 J -5542004.33 -5542004.25 -5542004.16 0.1638 0.1121

Jupiter -19886-07-16 23:45 J -5541741.63 -5541741.51 -5541741.39 0.0529 0.0168

Moon -19886-07-21 17:45 J -5541736.86 -5541736.76 -5541736.66 0.2692 0.1319

Earth -19886-07-21 17:45 J -5541736.85 -5541736.76 -5541736.66 0.2700 0.1395 *

Jupiter -19886-10-14 05:45 J -5541652.34 -5541652.26 -5541652.18 0.0527 0.0404

Jupiter -19880-09-10 20:23 J -5539493.84 -5539493.65 -5539493.46 0.0498 0.0036

Mars -19879-04-13 15:21 J -5539278.94 -5539278.86 -5539278.78 0.1630 0.1152

Earth -19879-07-14 15:21 J -5539186.95 -5539186.86 -5539186.78 0.2704 0.1844

Moon -19879-07-14 15:50 J -5539186.92 -5539186.84 -5539186.75 0.2706 0.1715 *

Mars -19877-03-18 17:16 J -5538573.88 -5538573.78 -5538573.67 0.1636 0.0671

Moon -19875-01-18 11:16 J -5537903.17 -5537903.03 -5537902.89 0.2629 0.1185

Earth -19875-01-18 12:43 J -5537903.10 -5537902.97 -5537902.83 0.2631 0.1047 *

Mars -19875-12-29 22:33 J -5537557.70 -5537557.56 -5537557.41 0.1884 0.0903

Jupiter -19874-05-05 04:19 J -5537431.42 -5537431.32 -5537431.21 0.0529 0.0303

Jupiter -19874-08-02 10:19 J -5537342.18 -5537342.07 -5537341.96 0.0528 0.0268

Moon -19873-07-23 12:00 J -5536986.04 -5536986.00 -5536985.97 0.2695 0.2557

Earth -19873-07-23 12:43 J -5536986.00 -5536985.97 -5536985.94 0.2698 0.2577 *

Saturn -19872-08-23 20:09 J -5536589.70 -5536589.66 -5536589.60 0.0281 0.0271

Saturn -19872-11-20 20:09 J -5536500.84 -5536500.66 -5536500.47 0.0283 0.0077

Saturn -19871-02-17 19:55 J -5536411.83 -5536411.67 -5536411.49 0.0284 0.0118

Mars -19870-09-04 02:52 J -5535848.40 -5535848.38 -5535848.35 0.1629 0.1583

Venus -19868-06-29 00:14 J -5535184.65 -5535184.49 -5535184.33 0.3628 0.0687

Jupiter -19868-06-29 17:45 J -5535183.93 -5535183.76 -5535183.59 0.0498 0.0213

Mars -19868-08-09 04:48 J -5535143.42 -5535143.30 -5535143.18 0.1634 0.0221

Earth -19866-07-17 09:36 J -5534436.21 -5534436.10 -5534435.99 0.2703 0.0708

Moon -19866-07-17 10:19 J -5534436.18 -5534436.07 -5534435.96 0.2700 0.0654 *

Neptune -19865-04-01 07:11 J -5534177.22 -5534177.20 -5534177.16 0.0089 0.0086

Mars -19865-05-20 15:50 J -5534128.00 -5534127.84 -5534127.68 0.1886 0.0497

Neptune -19865-06-28 08:23 J -5534089.19 -5534089.15 -5534089.08 0.0089 0.0080

Neptune -19865-09-24 09:50 J -5534001.16 -5534001.09 -5534001.01 0.0089 0.0072

Neptune -19865-12-21 11:16 J -5533913.11 -5533913.03 -5533912.94 0.0089 0.0065

Neptune -19864-03-19 12:28 J -5533825.07 -5533824.98 -5533824.87 0.0089 0.0059

Neptune -19864-06-15 13:55 J -5533737.02 -5533736.92 -5533736.81 0.0089 0.0051

Neptune -19864-09-11 15:07 J -5533648.98 -5533648.87 -5533648.75 0.0089 0.0045

Neptune -19864-12-08 16:33 J -5533560.93 -5533560.81 -5533560.69 0.0089 0.0037

Neptune -19863-03-06 17:45 J -5533472.88 -5533472.76 -5533472.63 0.0089 0.0031

Neptune -19863-06-02 19:11 J -5533384.82 -5533384.70 -5533384.57 0.0089 0.0023

Neptune -19863-08-29 20:38 J -5533296.77 -5533296.64 -5533296.51 0.0089 0.0016

Uranus -19863-10-19 20:52 J -5533245.72 -5533245.63 -5533245.52 0.0138 0.0118

Neptune -19863-11-25 21:50 J -5533208.72 -5533208.59 -5533208.46 0.0089 0.0009

Uranus -19862-01-16 04:04 J -5533157.46 -5533157.33 -5533157.17 0.0137 0.0090

Moon -19862-01-21 16:04 J -5533151.98 -5533151.83 -5533151.69 0.2635 0.0723

Earth -19862-01-21 17:16 J -5533151.92 -5533151.78 -5533151.64 0.2632 0.0914 *

Jupiter -19862-02-21 08:52 J -5533121.20 -5533121.13 -5533121.06 0.0529 0.0440

Neptune -19862-02-21 23:16 J -5533120.66 -5533120.53 -5533120.40 0.0089 0.0003

Uranus -19862-04-14 11:45 J -5533069.17 -5533069.01 -5533068.83 0.0137 0.0061

Neptune -19862-05-21 00:28 J -5533032.61 -5533032.48 -5533032.34 0.0089 0.0005

Jupiter -19862-05-21 14:38 J -5533032.02 -5533031.89 -5533031.77 0.0527 0.0127

Uranus -19862-07-11 19:11 J -5532980.88 -5532980.70 -5532980.51 0.0137 0.0032

Neptune -19862-08-17 01:55 J -5532944.55 -5532944.42 -5532944.29 0.0089 0.0012

Uranus -19862-10-08 02:23 J -5532892.59 -5532892.40 -5532892.21 0.0137 0.0005

Neptune -19862-11-13 03:07 J -5532856.49 -5532856.37 -5532856.24 0.0089 0.0019

Uranus -19861-01-04 09:36 J -5532804.28 -5532804.10 -5532803.91 0.0137 0.0024

Neptune -19861-02-09 04:33 J -5532768.44 -5532768.31 -5532768.18 0.0089 0.0026

Uranus -19861-04-01 16:48 J -5532715.97 -5532715.80 -5532715.62 0.0137 0.0051

Neptune -19861-05-07 05:45 J -5532680.38 -5532680.26 -5532680.13 0.0089 0.0033

Uranus -19861-06-28 23:45 J -5532627.65 -5532627.51 -5532627.34 0.0137 0.0079

Neptune -19861-08-03 07:11 J -5532592.32 -5532592.20 -5532592.08 0.0089 0.0040

Uranus -19861-09-25 06:43 J -5532539.32 -5532539.22 -5532539.09 0.0137 0.0106

Neptune -19861-10-30 08:23 J -5532504.25 -5532504.15 -5532504.03 0.0089 0.0047

Uranus -19861-12-22 13:40 J -5532450.95 -5532450.93 -5532450.87 0.0136 0.0133

Neptune -19860-01-26 09:50 J -5532416.19 -5532416.09 -5532415.98 0.0089 0.0054

Neptune -19860-04-24 11:02 J -5532328.12 -5532328.04 -5532327.93 0.0089 0.0062

Neptune -19860-07-21 12:28 J -5532240.06 -5532239.98 -5532239.89 0.0089 0.0069

Neptune -19860-10-17 13:55 J -5532151.99 -5532151.92 -5532151.85 0.0089 0.0075

Neptune -19859-01-13 15:21 J -5532063.91 -5532063.86 -5532063.81 0.0089 0.0083

Mars -19859-12-30 16:19 J -5531712.94 -5531712.82 -5531712.71 0.1633 0.0227

Saturn -19859-12-31 07:55 J -5531712.27 -5531712.17 -5531712.06 0.0281 0.0168

Saturn -19858-03-29 18:57 J -5531623.84 -5531623.71 -5531623.58 0.0279 0.0040

Saturn -19858-06-26 05:45 J -5531535.38 -5531535.26 -5531535.13 0.0278 0.0088

Saturn -19858-09-22 16:33 J -5531446.89 -5531446.81 -5531446.72 0.0277 0.0214

Mars -19857-12-04 18:43 J -5531007.72 -5531007.72 -5531007.72 0.1640 0.1639

Jupiter -19856-04-17 14:09 J -5530874.02 -5530873.91 -5530873.80 0.0498 0.0402

Jupiter -19856-07-17 00:14 J -5530783.62 -5530783.49 -5530783.35 0.0499 0.0327

Earth -19853-07-19 04:04 J -5529685.44 -5529685.33 -5529685.22 0.2701 0.0456

Moon -19853-07-19 04:19 J -5529685.43 -5529685.32 -5529685.20 0.2694 0.0483 *

Jupiter -19850-03-09 18:43 J -5528721.84 -5528721.72 -5528721.59 0.0528 0.0019

Mars -19849-05-22 03:50 J -5528282.45 -5528282.34 -5528282.24 0.1631 0.0660

Venus -19849-11-13 06:28 J -5528107.26 -5528107.23 -5528107.19 0.3741 0.3501

Mars -19847-04-27 06:00 J -5527577.33 -5527577.25 -5527577.17 0.1638 0.1183

Moon -19846-07-13 02:09 J -5527135.43 -5527135.41 -5527135.39 0.2712 0.2647

Jupiter -19844-05-04 21:36 J -5526473.77 -5526473.60 -5526473.42 0.0499 0.0149

Venus -19843-05-29 22:04 J -5526083.67 -5526083.58 -5526083.49 0.3743 0.1452

Saturn -19842-04-09 19:26 J -5525768.86 -5525768.69 -5525768.52 0.0282 0.0124

Saturn -19842-07-07 19:26 J -5525679.88 -5525679.69 -5525679.51 0.0283 0.0070

Saturn -19842-10-04 18:57 J -5525590.77 -5525590.71 -5525590.64 0.0284 0.0265

Moon -19840-07-21 22:33 J -5524934.65 -5524934.56 -5524934.47 0.2693 0.1625

Earth -19840-07-21 22:48 J -5524934.64 -5524934.55 -5524934.46 0.2699 0.1619 *

Mars -19840-10-12 15:21 J -5524851.95 -5524851.86 -5524851.78 0.1630 0.1098

Jupiter -19839-12-26 22:33 J -5524411.68 -5524411.56 -5524411.44 0.0528 0.0164

Jupiter -19838-03-26 04:33 J -5524322.39 -5524322.31 -5524322.23 0.0527 0.0407

Mars -19838-09-17 17:16 J -5524146.88 -5524146.78 -5524146.67 0.1636 0.0730

Venus -19838-12-13 13:26 J -5524060.04 -5524059.94 -5524059.84 0.3745 0.0628

Mars -19835-06-29 23:16 J -5523130.67 -5523130.53 -5523130.38 0.1884 0.1023

Earth -19833-07-14 20:09 J -5522384.75 -5522384.66 -5522384.57 0.2704 0.1618

Moon -19833-07-14 20:52 J -5522384.72 -5522384.63 -5522384.54 0.2705 0.1604 *

Jupiter -19832-02-20 18:57 J -5522163.89 -5522163.71 -5522163.52 0.0498 0.0029

Venus -19832-06-28 05:02 J -5522036.36 -5522036.29 -5522036.22 0.3746 0.2719

Mars -19830-03-05 02:52 J -5521421.42 -5521421.38 -5521421.34 0.1629 0.1527

Moon -19829-01-19 17:31 J -5521100.91 -5521100.77 -5521100.62 0.2629 0.0813

Earth -19829-01-19 19:11 J -5521100.85 -5521100.70 -5521100.56 0.2631 0.0673 *

Saturn -19829-05-19 10:33 J -5520980.14 -5520980.06 -5520979.96 0.0281 0.0203

Saturn -19829-08-15 21:36 J -5520891.73 -5520891.60 -5520891.47 0.0280 0.0074

Saturn -19829-11-12 08:23 J -5520803.28 -5520803.15 -5520803.02 0.0278 0.0054

Mars -19828-02-07 04:48 J -5520716.42 -5520716.30 -5520716.19 0.1634 0.0283

Saturn -19828-02-08 19:11 J -5520714.79 -5520714.70 -5520714.59 0.0277 0.0181

Moon -19827-07-24 16:48 J -5520183.81 -5520183.80 -5520183.78 0.2695 0.2665

Jupiter -19827-10-15 02:52 J -5520101.48 -5520101.38 -5520101.28 0.0529 0.0305

Jupiter -19826-01-12 08:38 J -5520012.25 -5520012.14 -5520012.03 0.0527 0.0266

Mars -19826-11-19 16:19 J -5519700.99 -5519700.82 -5519700.66 0.1887 0.0395

Jupiter -19821-12-09 15:50 J -5517854.01 -5517853.84 -5517853.67 0.0498 0.0212

Earth -19820-07-17 14:38 J -5517634.00 -5517633.89 -5517633.78 0.2702 0.0483

Moon -19820-07-17 15:21 J -5517633.98 -5517633.86 -5517633.75 0.2700 0.0378 *

Mars -19819-06-30 16:19 J -5517285.94 -5517285.82 -5517285.71 0.1633 0.0172

Uranus -19819-12-24 08:52 J -5517109.17 -5517109.13 -5517109.07 0.0141 0.0129

Uranus -19818-03-22 12:14 J -5517021.06 -5517020.99 -5517020.90 0.0141 0.0108

Uranus -19818-06-18 15:50 J -5516932.94 -5516932.84 -5516932.73 0.0141 0.0087

Uranus -19818-09-14 19:11 J -5516844.81 -5516844.70 -5516844.58 0.0141 0.0066

Uranus -19818-12-11 22:48 J -5516756.67 -5516756.55 -5516756.42 0.0141 0.0045

Uranus -19817-03-09 02:23 J -5516668.53 -5516668.40 -5516668.27 0.0141 0.0023

Uranus -19817-06-05 05:45 J -5516580.39 -5516580.26 -5516580.12 0.0142 0.0005

Uranus -19817-09-01 09:21 J -5516492.24 -5516492.11 -5516491.97 0.0142 0.0020

Uranus -19817-11-28 12:57 J -5516404.09 -5516403.96 -5516403.83 0.0142 0.0042

Moon -19816-01-21 22:19 J -5516349.70 -5516349.57 -5516349.43 0.2637 0.1195

Earth -19816-01-21 23:31 J -5516349.65 -5516349.52 -5516349.38 0.2633 0.1274 *

Uranus -19816-02-24 16:33 J -5516315.93 -5516315.81 -5516315.69 0.0142 0.0064

Mars -19816-04-10 09:21 J -5516271.15 -5516271.11 -5516271.06 0.1889 0.1796

Uranus -19816-05-23 20:09 J -5516227.76 -5516227.66 -5516227.55 0.0142 0.0086

Uranus -19816-08-19 23:45 J -5516139.59 -5516139.51 -5516139.42 0.0142 0.0108

Uranus -19816-11-16 03:36 J -5516051.40 -5516051.35 -5516051.30 0.0142 0.0131

Jupiter -19815-08-03 07:26 J -5515791.26 -5515791.19 -5515791.12 0.0529 0.0441

Jupiter -19815-10-31 13:11 J -5515702.08 -5515701.95 -5515701.83 0.0528 0.0128

Saturn -19813-08-26 17:02 J -5515036.93 -5515036.79 -5515036.65 0.0282 0.0186

Saturn -19813-11-23 16:48 J -5514947.99 -5514947.80 -5514947.61 0.0283 0.0009

Saturn -19812-02-20 16:33 J -5514858.94 -5514858.81 -5514858.68 0.0284 0.0202

Venus -19811-02-03 02:38 J -5514511.49 -5514511.39 -5514511.30 0.3628 0.2877

Mars -19810-11-21 03:36 J -5513855.45 -5513855.35 -5513855.24 0.1631 0.0607

Jupiter -19809-09-27 12:57 J -5513544.08 -5513543.96 -5513543.85 0.0497 0.0392

Jupiter -19809-12-26 23:02 J -5513453.68 -5513453.54 -5513453.41 0.0499 0.0335

Pluto -19808-05-15 05:02 J -5513314.31 -5513314.29 -5513314.23 0.0071 0.0069

Pluto -19808-08-11 06:28 J -5513226.30 -5513226.23 -5513226.13 0.0071 0.0061

Mars -19808-10-26 06:00 J -5513150.32 -5513150.25 -5513150.17 0.1638 0.1240

Pluto -19808-11-07 07:55 J -5513138.27 -5513138.17 -5513138.06 0.0071 0.0053

Pluto -19807-02-03 09:21 J -5513050.23 -5513050.11 -5513049.99 0.0072 0.0045

Pluto -19807-05-02 10:19 J -5512962.19 -5512962.07 -5512961.92 0.0072 0.0038

Earth -19807-07-20 09:07 J -5512883.23 -5512883.12 -5512883.01 0.2701 0.0675

Moon -19807-07-20 09:21 J -5512883.22 -5512883.11 -5512883.00 0.2694 0.0678 *

Pluto -19807-07-29 11:45 J -5512874.14 -5512874.01 -5512873.85 0.0072 0.0030

Pluto -19807-10-25 13:26 J -5512786.09 -5512785.94 -5512785.79 0.0072 0.0021

Pluto -19806-01-21 14:52 J -5512698.04 -5512697.88 -5512697.73 0.0072 0.0013

Pluto -19806-04-19 16:04 J -5512609.98 -5512609.83 -5512609.67 0.0072 0.0006

Pluto -19806-07-16 17:31 J -5512521.93 -5512521.77 -5512521.61 0.0072 0.0003

Pluto -19806-10-12 18:57 J -5512433.87 -5512433.71 -5512433.55 0.0072 0.0011

Pluto -19805-01-08 20:23 J -5512345.80 -5512345.65 -5512345.49 0.0073 0.0020

Pluto -19805-04-05 21:50 J -5512257.74 -5512257.59 -5512257.44 0.0073 0.0028

Pluto -19805-07-02 23:02 J -5512169.67 -5512169.54 -5512169.39 0.0073 0.0037

Pluto -19805-09-29 00:43 J -5512081.59 -5512081.47 -5512081.34 0.0073 0.0045

Pluto -19805-12-26 01:55 J -5511993.51 -5511993.42 -5511993.30 0.0073 0.0054

Pluto -19804-03-24 03:36 J -5511905.43 -5511905.35 -5511905.26 0.0073 0.0063

Pluto -19804-06-20 04:48 J -5511817.32 -5511817.30 -5511817.25 0.0073 0.0072

Jupiter -19803-08-19 17:31 J -5511391.90 -5511391.77 -5511391.64 0.0528 0.0012

Mars -19800-04-12 15:21 J -5510424.95 -5510424.86 -5510424.78 0.1630 0.1038

Earth -19800-07-13 06:43 J -5510333.26 -5510333.22 -5510333.18 0.2705 0.2524

Moon -19800-07-13 07:11 J -5510333.24 -5510333.20 -5510333.17 0.2710 0.2539 *

Saturn -19800-10-06 12:43 J -5510248.03 -5510247.97 -5510247.91 0.0281 0.0245

Saturn -19799-01-02 23:31 J -5510159.64 -5510159.52 -5510159.40 0.0280 0.0116

Saturn -19799-04-01 10:33 J -5510071.19 -5510071.06 -5510070.93 0.0279 0.0014

Saturn -19799-06-28 21:21 J -5509982.72 -5509982.61 -5509982.50 0.0278 0.0139

Saturn -19799-09-25 08:09 J -5509894.19 -5509894.16 -5509894.12 0.0277 0.0266

Mars -19798-03-18 17:16 J -5509719.88 -5509719.78 -5509719.68 0.1636 0.0787

Jupiter -19797-10-14 19:26 J -5509143.87 -5509143.69 -5509143.51 0.0499 0.0146

Moon -19796-01-16 19:26 J -5509049.76 -5509049.69 -5509049.62 0.2626 0.2319

Earth -19796-01-16 20:38 J -5509049.71 -5509049.64 -5509049.56 0.2630 0.2294 *

Mars -19796-12-29 00:14 J -5508703.63 -5508703.49 -5508703.36 0.1884 0.1145

Moon -19794-07-23 03:21 J -5508132.44 -5508132.36 -5508132.27 0.2694 0.1793

Earth -19794-07-23 03:50 J -5508132.42 -5508132.34 -5508132.26 0.2699 0.1853 *

Venus -19792-06-20 04:04 J -5507434.40 -5507434.33 -5507434.27 0.3742 0.2748

Jupiter -19791-06-07 21:50 J -5507081.71 -5507081.59 -5507081.47 0.0528 0.0153

Mars -19791-09-03 02:52 J -5506994.43 -5506994.38 -5506994.33 0.1629 0.1468

Jupiter -19791-09-05 03:36 J -5506992.43 -5506992.35 -5506992.27 0.0526 0.0416

Mars -19789-08-08 04:48 J -5506289.42 -5506289.30 -5506289.19 0.1634 0.0340

Earth -19787-07-16 01:11 J -5505582.55 -5505582.45 -5505582.36 0.2704 0.1404

Moon -19787-07-16 01:55 J -5505582.52 -5505582.42 -5505582.32 0.2704 0.1246 *

Venus -19786-01-03 19:26 J -5505410.79 -5505410.69 -5505410.59 0.3743 0.0691

Mars -19786-05-20 17:31 J -5505273.94 -5505273.77 -5505273.61 0.1886 0.0251

Jupiter -19785-08-02 16:33 J -5504833.99 -5504833.81 -5504833.62 0.0498 0.0034

Saturn -19783-01-13 16:33 J -5504304.91 -5504304.81 -5504304.69 0.0281 0.0228

Moon -19783-01-20 00:00 J -5504298.65 -5504298.50 -5504298.35 0.2630 0.0473

Earth -19783-01-20 01:26 J -5504298.59 -5504298.44 -5504298.29 0.2631 0.0300 *

Saturn -19783-04-12 16:48 J -5504215.99 -5504215.80 -5504215.62 0.0282 0.0035

Saturn -19783-07-10 16:33 J -5504126.97 -5504126.81 -5504126.66 0.0283 0.0160

Neptune -19782-09-18 01:11 J -5503692.47 -5503692.45 -5503692.39 0.0088 0.0086

Neptune -19782-12-15 04:48 J -5503604.38 -5503604.30 -5503604.18 0.0088 0.0076

Neptune -19781-03-12 08:38 J -5503516.26 -5503516.14 -5503516.00 0.0088 0.0066

Neptune -19781-06-08 12:14 J -5503428.13 -5503427.99 -5503427.83 0.0088 0.0056

Venus -19781-07-19 11:02 J -5503387.14 -5503387.04 -5503386.95 0.3745 0.1393

Neptune -19781-09-04 15:50 J -5503339.99 -5503339.84 -5503339.66 0.0088 0.0046

Neptune -19781-12-01 19:26 J -5503251.85 -5503251.69 -5503251.50 0.0088 0.0036

Neptune -19780-02-27 23:16 J -5503163.71 -5503163.53 -5503163.34 0.0088 0.0026

Neptune -19780-05-27 02:52 J -5503075.57 -5503075.38 -5503075.18 0.0088 0.0016

Neptune -19780-08-23 06:28 J -5502987.42 -5502987.23 -5502987.03 0.0088 0.0006

Neptune -19780-11-19 10:04 J -5502899.27 -5502899.08 -5502898.88 0.0088 0.0005

Mars -19780-12-29 16:04 J -5502858.94 -5502858.83 -5502858.71 0.1633 0.0117

Neptune -19779-02-15 13:40 J -5502811.12 -5502810.93 -5502810.73 0.0088 0.0014

Jupiter -19779-03-27 01:26 J -5502771.54 -5502771.44 -5502771.33 0.0528 0.0304

Neptune -19779-05-14 17:16 J -5502722.97 -5502722.78 -5502722.59 0.0088 0.0024

Jupiter -19779-06-24 07:11 J -5502682.31 -5502682.20 -5502682.09 0.0527 0.0266

Neptune -19779-08-10 20:38 J -5502634.81 -5502634.64 -5502634.45 0.0088 0.0034

Neptune -19779-11-07 00:14 J -5502546.65 -5502546.49 -5502546.31 0.0088 0.0044

Uranus -19779-11-09 03:36 J -5502544.44 -5502544.35 -5502544.22 0.0137 0.0112

Neptune -19778-02-03 03:36 J -5502458.49 -5502458.35 -5502458.18 0.0088 0.0054

Uranus -19778-02-05 11:16 J -5502456.17 -5502456.03 -5502455.87 0.0137 0.0083

Neptune -19778-05-02 07:26 J -5502370.32 -5502370.19 -5502370.05 0.0088 0.0063

Uranus -19778-05-04 18:43 J -5502367.89 -5502367.72 -5502367.54 0.0137 0.0054

Neptune -19778-07-29 10:48 J -5502282.14 -5502282.05 -5502281.93 0.0088 0.0073

Uranus -19778-08-01 02:09 J -5502279.60 -5502279.41 -5502279.22 0.0137 0.0026

Neptune -19778-10-25 14:23 J -5502193.95 -5502193.90 -5502193.83 0.0088 0.0083

Uranus -19778-10-28 09:21 J -5502191.30 -5502191.11 -5502190.92 0.0137 0.0003

Uranus -19777-01-24 16:33 J -5502102.99 -5502102.81 -5502102.62 0.0137 0.0030

Uranus -19777-04-21 23:45 J -5502014.68 -5502014.51 -5502014.33 0.0137 0.0057

Uranus -19777-07-19 06:43 J -5501926.36 -5501926.22 -5501926.06 0.0137 0.0085

Mars -19777-10-09 09:50 J -5501844.16 -5501844.09 -5501844.02 0.1889 0.1692

Uranus -19777-10-15 13:55 J -5501838.02 -5501837.92 -5501837.81 0.0137 0.0112

Venus -19775-02-02 02:23 J -5501363.43 -5501363.40 -5501363.36 0.3747 0.3492

Earth -19774-07-18 19:26 J -5500831.80 -5500831.69 -5500831.58 0.2702 0.0263

Moon -19774-07-18 20:09 J -5500831.78 -5500831.66 -5500831.55 0.2698 0.0256 *

Jupiter -19773-05-21 13:55 J -5500524.09 -5500523.92 -5500523.75 0.0498 0.0211

Moon -19770-01-23 04:33 J -5499547.43 -5499547.31 -5499547.18 0.2637 0.1514

Earth -19770-01-23 06:00 J -5499547.37 -5499547.25 -5499547.14 0.2633 0.1641 *

Saturn -19770-02-23 15:36 J -5499515.87 -5499515.85 -5499515.83 0.0282 0.0277

Mars -19770-05-22 03:36 J -5499428.46 -5499428.35 -5499428.24 0.1631 0.0548

Saturn -19770-05-23 02:23 J -5499427.50 -5499427.40 -5499427.28 0.0280 0.0149

Saturn -19770-08-19 13:26 J -5499339.07 -5499338.94 -5499338.81 0.0279 0.0019

Saturn -19770-11-16 00:14 J -5499250.61 -5499250.49 -5499250.37 0.0278 0.0108

Saturn -19769-02-12 11:02 J -5499162.10 -5499162.04 -5499161.96 0.0277 0.0235

Mars -19768-04-26 06:00 J -5498723.32 -5498723.25 -5498723.18 0.1638 0.1298

Jupiter -19767-01-13 05:45 J -5498461.33 -5498461.26 -5498461.20 0.0529 0.0446

Jupiter -19767-04-12 11:16 J -5498372.15 -5498372.03 -5498371.90 0.0528 0.0123

Jupiter -19761-03-09 10:19 J -5496214.17 -5496214.07 -5496213.95 0.0497 0.0396

Jupiter -19761-06-07 20:38 J -5496123.78 -5496123.64 -5496123.50 0.0499 0.0330

Earth -19761-07-20 14:09 J -5496081.02 -5496080.91 -5496080.81 0.2701 0.0911

Moon -19761-07-20 14:09 J -5496081.01 -5496080.91 -5496080.80 0.2694 0.0951 *

Mars -19761-10-11 15:07 J -5495997.96 -5495997.87 -5495997.78 0.1630 0.0981

Venus -19760-02-23 18:57 J -5495862.86 -5495862.71 -5495862.57 0.3630 0.1559

Mars -19759-09-16 17:16 J -5495292.88 -5495292.78 -5495292.68 0.1636 0.0844

Mars -19756-06-29 01:11 J -5494276.58 -5494276.45 -5494276.33 0.1884 0.1279

Jupiter -19755-01-29 15:50 J -5494061.97 -5494061.84 -5494061.72 0.0528 0.0020

Earth -19754-07-14 11:31 J -5493531.07 -5493531.02 -5493530.96 0.2705 0.2311

Moon -19754-07-14 12:14 J -5493531.05 -5493530.99 -5493530.93 0.2709 0.2217 *

Saturn -19754-08-30 15:07 J -5493484.05 -5493483.87 -5493483.69 0.0282 0.0090

Saturn -19754-11-27 14:52 J -5493395.05 -5493394.88 -5493394.70 0.0283 0.0104

Mars -19751-03-04 02:52 J -5492567.44 -5492567.38 -5492567.33 0.1629 0.1410

Moon -19750-01-18 01:40 J -5492247.51 -5492247.43 -5492247.34 0.2626 0.2139

Earth -19750-01-18 03:07 J -5492247.48 -5492247.37 -5492247.27 0.2630 0.1916 *

Mars -19749-02-07 04:33 J -5491862.42 -5491862.31 -5491862.19 0.1634 0.0402

Jupiter -19749-03-26 17:45 J -5491813.94 -5491813.76 -5491813.58 0.0498 0.0151

Moon -19748-07-23 08:09 J -5491330.23 -5491330.16 -5491330.08 0.2694 0.2008

Earth -19748-07-23 08:38 J -5491330.21 -5491330.14 -5491330.07 0.2699 0.2087 *

Mars -19747-11-18 18:14 J -5490846.91 -5490846.74 -5490846.57 0.1886 0.0122

Jupiter -19744-11-17 20:09 J -5489751.78 -5489751.66 -5489751.53 0.0528 0.0155

Jupiter -19743-02-15 02:09 J -5489662.49 -5489662.41 -5489662.34 0.0526 0.0415

Earth -19741-07-16 06:00 J -5488780.35 -5488780.25 -5488780.15 0.2703 0.1179

Moon -19741-07-16 06:43 J -5488780.32 -5488780.22 -5488780.12 0.2704 0.1162 *

Saturn -19741-10-09 04:48 J -5488695.40 -5488695.30 -5488695.20 0.0281 0.0188

Saturn -19740-01-05 15:36 J -5488606.97 -5488606.85 -5488606.72 0.0280 0.0059

Saturn -19740-04-04 02:38 J -5488518.52 -5488518.39 -5488518.27 0.0279 0.0070

Mars -19740-06-29 16:04 J -5488431.94 -5488431.83 -5488431.71 0.1633 0.0060

Saturn -19740-07-01 13:26 J -5488430.03 -5488429.94 -5488429.85 0.0278 0.0197

Jupiter -19737-01-13 13:55 J -5487504.11 -5487503.92 -5487503.73 0.0498 0.0041

Moon -19737-01-21 06:14 J -5487496.39 -5487496.24 -5487496.09 0.2632 0.0048

Earth -19737-01-21 07:40 J -5487496.33 -5487496.18 -5487496.02 0.2631 0.0109 *

Mars -19737-04-09 10:48 J -5487417.14 -5487417.05 -5487416.95 0.1889 0.1553

Venus -19735-01-25 01:26 J -5486761.53 -5486761.44 -5486761.36 0.3742 0.1991

Uranus -19734-01-13 16:19 J -5486407.88 -5486407.82 -5486407.75 0.0141 0.0123

Uranus -19734-04-11 19:40 J -5486319.76 -5486319.68 -5486319.58 0.0141 0.0102

Uranus -19734-07-08 23:16 J -5486231.64 -5486231.53 -5486231.42 0.0141 0.0081

Uranus -19734-10-05 02:52 J -5486143.50 -5486143.38 -5486143.26 0.0141 0.0060

Uranus -19733-01-01 06:14 J -5486055.36 -5486055.24 -5486055.11 0.0141 0.0039

Uranus -19733-03-29 09:50 J -5485967.22 -5485967.09 -5485966.96 0.0141 0.0017

Uranus -19733-06-25 13:26 J -5485879.08 -5485878.94 -5485878.81 0.0142 0.0006

Uranus -19733-09-21 16:48 J -5485790.93 -5485790.80 -5485790.66 0.0142 0.0027

Uranus -19733-12-18 20:23 J -5485702.77 -5485702.65 -5485702.52 0.0142 0.0049

Uranus -19732-03-17 00:00 J -5485614.61 -5485614.50 -5485614.38 0.0142 0.0071

Uranus -19732-06-13 03:36 J -5485526.44 -5485526.35 -5485526.24 0.0142 0.0093

Jupiter -19732-09-06 00:28 J -5485441.58 -5485441.48 -5485441.38 0.0528 0.0295

Uranus -19732-09-09 07:11 J -5485438.27 -5485438.20 -5485438.11 0.0142 0.0115

Jupiter -19732-12-04 06:14 J -5485352.35 -5485352.24 -5485352.13 0.0527 0.0272

Uranus -19732-12-06 11:02 J -5485350.07 -5485350.04 -5485350.01 0.0142 0.0137

Mars -19731-11-20 03:36 J -5485001.46 -5485001.35 -5485001.24 0.1631 0.0488

Venus -19730-08-10 16:48 J -5484737.90 -5484737.80 -5484737.70 0.3744 0.0086

Mars -19729-10-25 06:00 J -5484296.32 -5484296.25 -5484296.19 0.1638 0.1358

Earth -19728-07-19 00:28 J -5484029.59 -5484029.48 -5484029.37 0.2702 0.0068

Moon -19728-07-19 00:57 J -5484029.58 -5484029.46 -5484029.35 0.2696 0.0107 *

Jupiter -19726-11-01 11:02 J -5483194.21 -5483194.04 -5483193.88 0.0498 0.0222

Saturn -19724-01-16 15:21 J -5482752.03 -5482751.86 -5482751.69 0.0282 0.0130

Moon -19724-01-23 11:02 J -5482745.14 -5482745.04 -5482744.94 0.2637 0.1899

Earth -19724-01-23 12:14 J -5482745.09 -5482744.99 -5482744.90 0.2633 0.2006 *

Venus -19724-02-23 08:23 J -5482714.23 -5482714.15 -5482714.07 0.3746 0.2150

Saturn -19724-04-15 15:07 J -5482663.05 -5482662.87 -5482662.69 0.0283 0.0064

Saturn -19724-07-13 14:52 J -5482573.96 -5482573.88 -5482573.81 0.0284 0.0258

Pluto -19723-04-19 15:21 J -5482293.88 -5482293.86 -5482293.81 0.0073 0.0071

Pluto -19723-07-16 17:02 J -5482205.87 -5482205.79 -5482205.71 0.0073 0.0062

Pluto -19723-10-12 18:14 J -5482117.83 -5482117.74 -5482117.62 0.0073 0.0054

Pluto -19722-01-08 19:26 J -5482029.79 -5482029.69 -5482029.55 0.0073 0.0046

Pluto -19722-04-06 20:52 J -5481941.75 -5481941.63 -5481941.48 0.0073 0.0038

Pluto -19722-07-03 22:33 J -5481853.70 -5481853.56 -5481853.42 0.0072 0.0029

Pluto -19722-09-29 23:45 J -5481765.65 -5481765.51 -5481765.35 0.0072 0.0021

Pluto -19722-12-27 01:11 J -5481677.60 -5481677.45 -5481677.29 0.0072 0.0012

Pluto -19721-03-24 02:23 J -5481589.55 -5481589.40 -5481589.24 0.0072 0.0005

Mars -19721-04-11 15:07 J -5481570.96 -5481570.87 -5481570.77 0.1630 0.0923

Pluto -19721-06-20 03:50 J -5481501.50 -5481501.34 -5481501.18 0.0072 0.0003

Pluto -19721-09-16 05:02 J -5481413.44 -5481413.29 -5481413.13 0.0072 0.0011

Pluto -19721-12-13 06:14 J -5481325.38 -5481325.24 -5481325.08 0.0072 0.0019

Pluto -19720-03-11 07:40 J -5481237.32 -5481237.18 -5481237.04 0.0072 0.0027

Pluto -19720-06-07 08:52 J -5481149.26 -5481149.13 -5481148.99 0.0071 0.0035

Jupiter -19720-06-25 04:04 J -5481131.39 -5481131.33 -5481131.26 0.0529 0.0448

Pluto -19720-09-03 09:50 J -5481061.20 -5481061.09 -5481060.95 0.0071 0.0043

Jupiter -19720-09-22 09:50 J -5481042.21 -5481042.09 -5481041.97 0.0527 0.0120

Pluto -19720-11-30 11:16 J -5480973.14 -5480973.03 -5480972.92 0.0071 0.0050

Pluto -19719-02-26 12:14 J -5480885.07 -5480884.99 -5480884.89 0.0071 0.0057

Mars -19719-03-17 17:16 J -5480865.88 -5480865.78 -5480865.68 0.1636 0.0905

Pluto -19719-05-25 13:11 J -5480796.99 -5480796.95 -5480796.86 0.0071 0.0065

Mars -19717-12-28 01:40 J -5479849.54 -5479849.43 -5479849.31 0.1884 0.1396

Moon -19715-07-21 18:57 J -5479278.81 -5479278.71 -5479278.60 0.2694 0.1098

Earth -19715-07-21 18:57 J -5479278.81 -5479278.71 -5479278.61 0.2701 0.1137 *

Jupiter -19714-08-20 07:55 J -5478884.27 -5478884.17 -5478884.05 0.0498 0.0401

Jupiter -19714-11-18 18:14 J -5478793.87 -5478793.74 -5478793.60 0.0499 0.0328

Mars -19712-09-02 02:38 J -5478140.45 -5478140.39 -5478140.32 0.1629 0.1355

Saturn -19711-02-26 08:09 J -5477963.24 -5477963.16 -5477963.08 0.0281 0.0215

Saturn -19711-05-25 18:57 J -5477874.83 -5477874.71 -5477874.58 0.0280 0.0086

Saturn -19711-08-22 06:00 J -5477786.38 -5477786.25 -5477786.12 0.0279 0.0043

Saturn -19711-11-18 16:48 J -5477697.90 -5477697.80 -5477697.70 0.0278 0.0170

Mars -19710-08-08 04:33 J -5477435.42 -5477435.31 -5477435.20 0.1634 0.0454

Jupiter -19708-07-11 13:55 J -5476732.05 -5476731.92 -5476731.79 0.0528 0.0025

Earth -19708-07-14 16:33 J -5476728.88 -5476728.81 -5476728.74 0.2704 0.2092

Moon -19708-07-14 17:16 J -5476728.86 -5476728.78 -5476728.71 0.2708 0.2046 *

Mars -19707-05-19 18:43 J -5476419.89 -5476419.72 -5476419.55 0.1887 0.0034

Moon -19704-01-18 07:55 J -5475445.29 -5475445.17 -5475445.04 0.2626 0.1572

Earth -19704-01-18 09:21 J -5475445.23 -5475445.11 -5475444.99 0.2630 0.1547 *

Venus -19704-09-30 21:07 J -5475189.78 -5475189.62 -5475189.46 0.3630 0.0635

Moon -19702-07-24 13:11 J -5474528.01 -5474527.95 -5474527.89 0.2694 0.2275

Earth -19702-07-24 13:40 J -5474527.98 -5474527.93 -5474527.87 0.2699 0.2321 *

Jupiter -19702-09-06 15:07 J -5474484.05 -5474483.87 -5474483.69 0.0498 0.0143

Neptune -19701-12-27 06:57 J -5474006.25 -5474006.21 -5474006.16 0.0089 0.0084

Mars -19701-12-28 16:04 J -5474004.95 -5474004.83 -5474004.71 0.1633 0.0011

Neptune -19700-03-25 08:23 J -5473918.21 -5473918.15 -5473918.08 0.0089 0.0077

Neptune -19700-06-21 09:36 J -5473830.17 -5473830.10 -5473830.01 0.0089 0.0070

Neptune -19700-09-17 11:02 J -5473742.13 -5473742.04 -5473741.95 0.0089 0.0063

Neptune -19700-12-14 12:00 J -5473654.09 -5473654.00 -5473653.88 0.0089 0.0056

Neptune -19699-03-12 13:26 J -5473566.04 -5473565.94 -5473565.82 0.0089 0.0049

Neptune -19699-06-08 14:38 J -5473477.99 -5473477.89 -5473477.76 0.0089 0.0043

Neptune -19699-09-04 16:04 J -5473389.94 -5473389.83 -5473389.70 0.0089 0.0035

Neptune -19699-12-01 17:31 J -5473301.89 -5473301.77 -5473301.64 0.0089 0.0028

Neptune -19698-02-27 18:43 J -5473213.84 -5473213.72 -5473213.59 0.0089 0.0021

Neptune -19698-05-26 20:09 J -5473125.79 -5473125.66 -5473125.53 0.0089 0.0014

Neptune -19698-08-22 21:36 J -5473037.73 -5473037.60 -5473037.47 0.0089 0.0007

Mars -19698-10-09 11:45 J -5472990.12 -5472990.01 -5472989.90 0.1889 0.1418

Neptune -19698-11-18 22:48 J -5472949.68 -5472949.55 -5472949.42 0.0089 0.0001

Neptune -19697-02-15 00:14 J -5472861.62 -5472861.49 -5472861.36 0.0089 0.0008

Neptune -19697-05-13 01:26 J -5472773.57 -5472773.44 -5472773.31 0.0089 0.0014

Neptune -19697-08-09 02:52 J -5472685.51 -5472685.38 -5472685.25 0.0089 0.0021

Neptune -19697-11-05 04:04 J -5472597.45 -5472597.33 -5472597.20 0.0089 0.0028

Neptune -19696-02-01 05:31 J -5472509.39 -5472509.27 -5472509.15 0.0089 0.0035

Jupiter -19696-04-29 18:14 J -5472421.86 -5472421.74 -5472421.62 0.0529 0.0166

Neptune -19696-04-30 06:43 J -5472421.33 -5472421.22 -5472421.10 0.0089 0.0043

Neptune -19696-07-27 08:09 J -5472333.27 -5472333.16 -5472333.05 0.0089 0.0050

Jupiter -19696-07-28 00:00 J -5472332.58 -5472332.50 -5472332.42 0.0527 0.0405

Neptune -19696-10-23 09:36 J -5472245.20 -5472245.10 -5472245.00 0.0089 0.0057

Neptune -19695-01-19 10:33 J -5472157.14 -5472157.06 -5472156.96 0.0089 0.0064

Neptune -19695-04-17 12:00 J -5472069.07 -5472069.00 -5472068.91 0.0089 0.0071

Saturn -19695-06-05 14:38 J -5472020.03 -5472019.89 -5472019.74 0.0282 0.0177

Neptune -19695-07-14 13:11 J -5471981.00 -5471980.95 -5471980.87 0.0089 0.0078

Earth -19695-07-17 10:48 J -5471978.15 -5471978.05 -5471977.94 0.2703 0.0963

Moon -19695-07-17 11:31 J -5471978.12 -5471978.02 -5471977.91 0.2703 0.0827 *

Uranus -19695-09-02 04:04 J -5471931.38 -5471931.33 -5471931.26 0.0138 0.0131

Saturn -19695-09-02 14:38 J -5471931.08 -5471930.89 -5471930.71 0.0283 0.0017

Neptune -19695-10-10 14:38 J -5471892.92 -5471892.89 -5471892.84 0.0089 0.0085

Uranus -19695-11-29 11:31 J -5471843.13 -5471843.02 -5471842.88 0.0137 0.0102

Saturn -19695-11-30 14:09 J -5471842.03 -5471841.91 -5471841.78 0.0284 0.0210

Uranus -19694-02-25 19:11 J -5471754.86 -5471754.70 -5471754.54 0.0137 0.0074

Uranus -19694-05-25 02:23 J -5471666.57 -5471666.40 -5471666.21 0.0137 0.0046

Uranus -19694-08-21 09:50 J -5471578.28 -5471578.09 -5471577.90 0.0137 0.0017

Uranus -19694-11-17 17:16 J -5471489.97 -5471489.78 -5471489.59 0.0137 0.0011

Uranus -19693-02-14 00:14 J -5471401.66 -5471401.49 -5471401.30 0.0137 0.0039

Uranus -19693-05-12 07:40 J -5471313.35 -5471313.18 -5471313.02 0.0137 0.0066

Uranus -19693-08-08 14:23 J -5471225.02 -5471224.90 -5471224.75 0.0137 0.0094

Uranus -19693-11-04 21:36 J -5471136.68 -5471136.60 -5471136.50 0.0136 0.0120

Moon -19691-01-21 12:43 J -5470694.12 -5470693.97 -5470693.82 0.2634 0.0214

Earth -19691-01-21 14:09 J -5470694.06 -5470693.91 -5470693.76 0.2632 0.0444 *

Mars -19691-05-21 03:36 J -5470574.46 -5470574.35 -5470574.24 0.1631 0.0428

Jupiter -19690-06-25 12:00 J -5470174.19 -5470174.00 -5470173.82 0.0498 0.0040

Mars -19689-04-25 06:00 J -5469869.31 -5469869.25 -5469869.20 0.1638 0.1419

Venus -19684-02-15 07:11 J -5468112.24 -5468112.20 -5468112.15 0.3741 0.3285

Jupiter -19684-02-15 22:48 J -5468111.66 -5468111.55 -5468111.45 0.0529 0.0302

Jupiter -19684-05-16 04:33 J -5468022.42 -5468022.31 -5468022.20 0.0527 0.0267

Saturn -19682-07-16 10:33 J -5467231.11 -5467231.06 -5467231.00 0.0281 0.0252

Earth -19682-07-20 05:16 J -5467227.39 -5467227.28 -5467227.17 0.2702 0.0201

Moon -19682-07-20 05:45 J -5467227.37 -5467227.26 -5467227.14 0.2696 0.0185 *

Mars -19682-10-11 15:07 J -5467143.97 -5467143.87 -5467143.77 0.1630 0.0864

Saturn -19682-10-12 21:21 J -5467142.72 -5467142.61 -5467142.49 0.0280 0.0123

Saturn -19681-01-09 08:23 J -5467054.28 -5467054.15 -5467054.02 0.0279 0.0007

Saturn -19681-04-06 19:11 J -5466965.81 -5466965.70 -5466965.58 0.0278 0.0133

Saturn -19681-07-04 06:00 J -5466877.29 -5466877.25 -5466877.20 0.0277 0.0260

Mars -19680-09-15 17:16 J -5466438.87 -5466438.78 -5466438.69 0.1636 0.0964

Venus -19679-08-31 22:48 J -5466088.65 -5466088.55 -5466088.46 0.3742 0.1236

Moon -19678-01-24 17:31 J -5465942.84 -5465942.77 -5465942.70 0.2638 0.2303

Earth -19678-01-24 18:28 J -5465942.80 -5465942.73 -5465942.67 0.2633 0.2365 *

Jupiter -19678-04-13 07:55 J -5465864.33 -5465864.17 -5465864.01 0.0498 0.0234

Jupiter -19678-07-12 18:00 J -5465773.78 -5465773.75 -5465773.72 0.0499 0.0492

Mars -19677-06-28 02:38 J -5465422.49 -5465422.39 -5465422.30 0.1884 0.1521

Venus -19673-03-16 14:09 J -5464065.01 -5464064.91 -5464064.81 0.3744 0.0828

Jupiter -19673-12-05 02:52 J -5463801.44 -5463801.38 -5463801.31 0.0529 0.0443

Mars -19672-03-03 02:38 J -5463713.45 -5463713.39 -5463713.32 0.1629 0.1297

Jupiter -19672-03-04 08:38 J -5463712.26 -5463712.14 -5463712.02 0.0527 0.0124

Mars -19670-02-06 04:33 J -5463008.42 -5463008.31 -5463008.20 0.1634 0.0514

Moon -19669-07-21 23:45 J -5462476.61 -5462476.51 -5462476.41 0.2694 0.1399

Earth -19669-07-22 00:00 J -5462476.60 -5462476.50 -5462476.41 0.2700 0.1364 *

Venus -19668-09-30 05:45 J -5462041.32 -5462041.26 -5462041.20 0.3746 0.2916

Mars -19668-11-17 19:40 J -5461992.85 -5461992.68 -5461992.51 0.1887 0.0128

Jupiter -19666-01-30 04:48 J -5461554.40 -5461554.30 -5461554.20 0.0498 0.0416

Jupiter -19666-04-30 15:07 J -5461464.01 -5461463.87 -5461463.73 0.0499 0.0313

Saturn -19666-10-23 14:52 J -5461288.00 -5461287.88 -5461287.76 0.0281 0.0216

Saturn -19665-01-20 14:52 J -5461199.07 -5461198.88 -5461198.69 0.0282 0.0023

Saturn -19665-04-18 14:23 J -5461110.04 -5461109.90 -5461109.74 0.0283 0.0171

Earth -19662-07-15 21:21 J -5459926.69 -5459926.61 -5459926.53 0.2704 0.1874

Moon -19662-07-15 22:04 J -5459926.66 -5459926.58 -5459926.50 0.2708 0.1791 *

Mars -19661-06-28 16:04 J -5459577.95 -5459577.83 -5459577.72 0.1633 0.0070

Jupiter -19661-12-21 12:14 J -5459402.12 -5459401.99 -5459401.87 0.0528 0.0032

Moon -19658-01-19 14:23 J -5458643.03 -5458642.90 -5458642.77 0.2628 0.1388

Earth -19658-01-19 15:50 J -5458642.98 -5458642.84 -5458642.71 0.2630 0.1167 *

Mars -19658-04-09 12:28 J -5458563.10 -5458562.98 -5458562.86 0.1889 0.1301

Moon -19656-07-24 18:00 J -5457725.79 -5457725.75 -5457725.70 0.2694 0.2445

Earth -19656-07-24 18:43 J -5457725.76 -5457725.72 -5457725.69 0.2699 0.2553 *

Jupiter -19654-02-16 12:28 J -5457154.16 -5457153.98 -5457153.80 0.0498 0.0136

Saturn -19653-12-02 14:09 J -5456498.93 -5456498.91 -5456498.89 0.0282 0.0278

Saturn -19652-03-01 00:57 J -5456410.56 -5456410.46 -5456410.34 0.0281 0.0148

Saturn -19652-05-28 12:00 J -5456322.13 -5456322.00 -5456321.87 0.0280 0.0020

Saturn -19652-08-24 22:48 J -5456233.67 -5456233.55 -5456233.43 0.0279 0.0109

Mars -19652-11-19 03:36 J -5456147.47 -5456147.35 -5456147.24 0.1631 0.0376

Saturn -19652-11-21 09:36 J -5456145.16 -5456145.10 -5456145.03 0.0278 0.0236

Uranus -19651-11-06 20:38 J -5455794.67 -5455794.64 -5455794.60 0.0141 0.0136

Uranus -19650-02-03 00:14 J -5455706.57 -5455706.49 -5455706.42 0.0141 0.0115

Uranus -19650-05-02 03:36 J -5455618.45 -5455618.35 -5455618.25 0.0141 0.0094

Uranus -19650-07-29 06:57 J -5455530.32 -5455530.21 -5455530.09 0.0141 0.0073

Mars -19650-10-25 05:45 J -5455442.30 -5455442.26 -5455442.21 0.1638 0.1476

Uranus -19650-10-25 10:33 J -5455442.18 -5455442.06 -5455441.94 0.0141 0.0052

Uranus -19649-01-21 13:55 J -5455354.04 -5455353.92 -5455353.78 0.0141 0.0031

Uranus -19649-04-18 17:31 J -5455265.90 -5455265.77 -5455265.63 0.0142 0.0010

Uranus -19649-07-15 21:07 J -5455177.75 -5455177.62 -5455177.49 0.0142 0.0012

Earth -19649-07-17 15:50 J -5455175.95 -5455175.84 -5455175.73 0.2703 0.0738

Moon -19649-07-17 16:33 J -5455175.92 -5455175.81 -5455175.71 0.2700 0.0701 *

Jupiter -19649-10-09 16:04 J -5455091.95 -5455091.83 -5455091.71 0.0528 0.0176

Uranus -19649-10-12 00:28 J -5455089.60 -5455089.48 -5455089.34 0.0142 0.0035

Jupiter -19648-01-06 22:04 J -5455002.67 -5455002.58 -5455002.50 0.0527 0.0394

Uranus -19648-01-08 04:19 J -5455001.45 -5455001.32 -5455001.20 0.0142 0.0056

Uranus -19648-04-06 07:55 J -5454913.28 -5454913.17 -5454913.06 0.0142 0.0078

Uranus -19648-07-03 11:31 J -5454825.11 -5454825.02 -5454824.93 0.0142 0.0101

Uranus -19648-09-29 14:52 J -5454736.93 -5454736.88 -5454736.80 0.0142 0.0124

Venus -19647-05-07 23:16 J -5454516.62 -5454516.53 -5454516.43 0.3629 0.2834

Moon -19645-01-22 18:57 J -5453891.86 -5453891.71 -5453891.57 0.2634 0.0764

Earth -19645-01-22 20:23 J -5453891.79 -5453891.65 -5453891.51 0.2632 0.0806 *

Jupiter -19643-12-05 09:07 J -5452844.31 -5452844.12 -5452843.94 0.0498 0.0050

Mars -19642-04-11 15:07 J -5452716.97 -5452716.87 -5452716.77 0.1630 0.0806

Mars -19640-03-16 17:16 J -5452011.87 -5452011.78 -5452011.69 0.1636 0.1022

Mars -19638-12-28 03:21 J -5450995.43 -5450995.36 -5450995.28 0.1884 0.1651

Jupiter -19637-07-28 20:23 J -5450781.75 -5450781.65 -5450781.55 0.0529 0.0317

Jupiter -19637-10-26 02:09 J -5450692.52 -5450692.41 -5450692.30 0.0527 0.0252

Saturn -19636-03-11 14:38 J -5450555.95 -5450555.89 -5450555.81 0.0281 0.0260

Saturn -19636-06-08 14:38 J -5450467.07 -5450466.89 -5450466.71 0.0282 0.0067

Earth -19636-07-20 10:19 J -5450425.18 -5450425.07 -5450424.96 0.2702 0.0422

Moon -19636-07-20 10:33 J -5450425.17 -5450425.06 -5450424.94 0.2696 0.0538 *

Saturn -19636-09-05 14:23 J -5450378.06 -5450377.90 -5450377.73 0.0283 0.0127

Mars -19633-09-01 02:38 J -5449286.46 -5449286.39 -5449286.32 0.1629 0.1239

Moon -19632-01-25 00:00 J -5449140.52 -5449140.50 -5449140.48 0.2639 0.2611

Mars -19631-08-07 04:33 J -5448581.42 -5448581.31 -5448581.20 0.1634 0.0572

Jupiter -19631-09-23 05:45 J -5448534.42 -5448534.26 -5448534.10 0.0498 0.0234

Jupiter -19631-12-22 15:36 J -5448443.88 -5448443.85 -5448443.81 0.0499 0.0490

Mars -19628-05-18 20:38 J -5447565.80 -5447565.64 -5447565.47 0.1886 0.0265

Venus -19628-09-22 04:48 J -5447439.38 -5447439.30 -5447439.23 0.3741 0.2538

Jupiter -19625-05-17 00:57 J -5446471.52 -5446471.46 -5446471.40 0.0529 0.0453

Jupiter -19625-08-14 06:43 J -5446382.35 -5446382.22 -5446382.10 0.0528 0.0115

Saturn -19623-07-19 03:50 J -5445678.44 -5445678.34 -5445678.24 0.0281 0.0182

Moon -19623-07-23 04:33 J -5445674.40 -5445674.31 -5445674.21 0.2694 0.1495

Earth -19623-07-23 04:48 J -5445674.39 -5445674.30 -5445674.21 0.2700 0.1598 *

Saturn -19623-10-15 14:38 J -5445590.02 -5445589.89 -5445589.76 0.0280 0.0053

Saturn -19622-01-12 01:26 J -5445501.56 -5445501.44 -5445501.31 0.0279 0.0076

Venus -19622-04-07 20:09 J -5445415.76 -5445415.66 -5445415.56 0.3743 0.0498

Saturn -19622-04-10 12:28 J -5445413.07 -5445412.98 -5445412.89 0.0278 0.0202

Mars -19622-12-28 16:04 J -5445150.95 -5445150.83 -5445150.72 0.1633 0.0130

Jupiter -19619-07-12 01:26 J -5444224.53 -5444224.44 -5444224.34 0.0497 0.0430

Mars -19619-10-08 13:11 J -5444136.08 -5444135.95 -5444135.82 0.1889 0.1173

Jupiter -19619-10-10 11:45 J -5444134.15 -5444134.01 -5444133.86 0.0499 0.0298

Neptune -19617-06-13 22:48 J -5443521.58 -5443521.55 -5443521.47 0.0088 0.0084

Neptune -19617-09-10 03:07 J -5443433.48 -5443433.37 -5443433.27 0.0088 0.0074

Venus -19617-10-21 11:31 J -5443392.11 -5443392.02 -5443391.92 0.3745 0.1587

Neptune -19617-12-07 06:28 J -5443345.36 -5443345.23 -5443345.09 0.0088 0.0064

Neptune -19616-03-05 10:19 J -5443257.23 -5443257.07 -5443256.92 0.0088 0.0053

Neptune -19616-06-01 13:55 J -5443169.09 -5443168.92 -5443168.75 0.0088 0.0043

Earth -19616-07-16 02:23 J -5443124.49 -5443124.40 -5443124.32 0.2704 0.1658

Moon -19616-07-16 02:52 J -5443124.46 -5443124.38 -5443124.29 0.2707 0.1583 *

Neptune -19616-08-28 17:31 J -5443080.95 -5443080.77 -5443080.59 0.0088 0.0033

Neptune -19616-11-24 21:07 J -5442992.81 -5442992.62 -5442992.43 0.0088 0.0023

Neptune -19615-02-21 00:43 J -5442904.66 -5442904.47 -5442904.27 0.0088 0.0013

Neptune -19615-05-20 04:19 J -5442816.51 -5442816.32 -5442816.12 0.0088 0.0004

Neptune -19615-08-16 07:55 J -5442728.36 -5442728.17 -5442727.97 0.0088 0.0007

Neptune -19615-11-12 11:31 J -5442640.21 -5442640.02 -5442639.82 0.0088 0.0017

Neptune -19614-02-08 14:52 J -5442552.05 -5442551.88 -5442551.68 0.0088 0.0027

Neptune -19614-05-07 18:43 J -5442463.90 -5442463.72 -5442463.54 0.0088 0.0036

Neptune -19614-08-03 22:04 J -5442375.74 -5442375.58 -5442375.41 0.0088 0.0047

Neptune -19614-10-31 01:40 J -5442287.57 -5442287.43 -5442287.27 0.0088 0.0056

Neptune -19613-01-27 05:02 J -5442199.40 -5442199.29 -5442199.15 0.0088 0.0066

Neptune -19613-04-24 08:38 J -5442111.22 -5442111.14 -5442111.03 0.0088 0.0076

Jupiter -19613-06-02 10:48 J -5442072.17 -5442072.05 -5442071.92 0.0528 0.0030

Neptune -19613-07-21 12:00 J -5442023.02 -5442023.00 -5442022.94 0.0088 0.0086

Moon -19612-01-19 20:38 J -5441840.78 -5441840.64 -5441840.49 0.2630 0.0858

Earth -19612-01-19 22:04 J -5441840.72 -5441840.58 -5441840.43 0.2630 0.0786 *

Mars -19612-05-20 03:36 J -5441720.47 -5441720.35 -5441720.24 0.1631 0.0314

Venus -19611-05-07 03:07 J -5441368.39 -5441368.37 -5441368.35 0.3746 0.3667

Uranus -19611-09-22 12:14 J -5441230.07 -5441229.99 -5441229.89 0.0137 0.0120

Uranus -19611-12-19 19:55 J -5441141.81 -5441141.67 -5441141.53 0.0137 0.0092

Uranus -19610-03-18 03:07 J -5441053.53 -5441053.37 -5441053.19 0.0137 0.0063

Mars -19610-04-25 06:00 J -5441015.29 -5441015.25 -5441015.22 0.1638 0.1538

Uranus -19610-06-14 10:33 J -5440965.24 -5440965.06 -5440964.87 0.0137 0.0035

Uranus -19610-09-10 18:00 J -5440876.94 -5440876.75 -5440876.56 0.0137 0.0007

Uranus -19610-12-08 01:11 J -5440788.63 -5440788.45 -5440788.26 0.0137 0.0022

Uranus -19609-03-05 08:23 J -5440700.32 -5440700.15 -5440699.97 0.0137 0.0049

Uranus -19609-06-01 15:36 J -5440612.00 -5440611.85 -5440611.69 0.0137 0.0076

Uranus -19609-08-28 22:33 J -5440523.67 -5440523.56 -5440523.43 0.0136 0.0104

Uranus -19609-11-25 05:45 J -5440435.30 -5440435.26 -5440435.20 0.0136 0.0130

Jupiter -19607-07-29 09:07 J -5439824.30 -5439824.12 -5439823.94 0.0499 0.0119

Saturn -19607-10-26 14:52 J -5439735.05 -5439734.88 -5439734.71 0.0282 0.0107

Saturn -19606-01-23 14:38 J -5439646.06 -5439645.89 -5439645.71 0.0283 0.0087

Saturn -19606-04-22 14:09 J -5439556.92 -5439556.91 -5439556.88 0.0284 0.0282

Earth -19603-07-18 20:38 J -5438373.75 -5438373.64 -5438373.53 0.2703 0.0514

Moon -19603-07-18 21:21 J -5438373.72 -5438373.61 -5438373.50 0.2699 0.0416 *

Mars -19603-10-10 14:52 J -5438289.98 -5438289.88 -5438289.77 0.1630 0.0754

Jupiter -19601-03-21 14:23 J -5437762.02 -5437761.90 -5437761.78 0.0528 0.0182

Jupiter -19601-06-18 20:09 J -5437672.74 -5437672.66 -5437672.57 0.0527 0.0387

Mars -19601-09-14 17:02 J -5437584.87 -5437584.79 -5437584.70 0.1636 0.1082

Moon -19599-01-23 01:26 J -5437089.58 -5437089.44 -5437089.30 0.2634 0.0953

Earth -19599-01-23 02:38 J -5437089.52 -5437089.39 -5437089.25 0.2632 0.1186 *

Mars -19598-06-28 04:04 J -5436568.38 -5436568.33 -5436568.27 0.1884 0.1768

Venus -19596-05-28 15:36 J -5435867.99 -5435867.85 -5435867.71 0.3631 0.1640

Jupiter -19595-05-17 06:14 J -5435514.42 -5435514.24 -5435514.05 0.0498 0.0059

Saturn -19594-12-06 07:26 J -5434946.27 -5434946.19 -5434946.10 0.0281 0.0206

Mars -19593-03-02 02:38 J -5434859.47 -5434859.39 -5434859.31 0.1629 0.1182

Saturn -19593-03-03 18:28 J -5434857.86 -5434857.73 -5434857.61 0.0280 0.0077

Saturn -19593-05-31 05:16 J -5434769.41 -5434769.28 -5434769.15 0.0279 0.0052

Saturn -19593-08-27 16:04 J -5434680.93 -5434680.83 -5434680.73 0.0278 0.0179

Mars -19591-02-05 04:33 J -5434154.42 -5434154.31 -5434154.21 0.1634 0.0629

Earth -19590-07-21 15:07 J -5433622.98 -5433622.87 -5433622.76 0.2701 0.0656

Moon -19590-07-21 15:36 J -5433622.96 -5433622.85 -5433622.74 0.2695 0.0638 *

Jupiter -19589-01-08 18:28 J -5433451.83 -5433451.73 -5433451.64 0.0529 0.0328

Jupiter -19589-04-07 00:00 J -5433362.61 -5433362.50 -5433362.38 0.0527 0.0242

Mars -19589-11-16 21:07 J -5433138.78 -5433138.62 -5433138.45 0.1887 0.0371

Mars -19584-07-23 14:09 J -5431428.92 -5431428.91 -5431428.89 0.1628 0.1609

Jupiter -19583-03-05 02:52 J -5431204.54 -5431204.38 -5431204.22 0.0497 0.0245

Jupiter -19583-06-03 12:43 J -5431114.01 -5431113.97 -5431113.92 0.0499 0.0480

Earth -19583-07-14 12:57 J -5431072.99 -5431072.96 -5431072.93 0.2706 0.2561

Moon -19583-07-14 13:26 J -5431072.99 -5431072.94 -5431072.90 0.2711 0.2461 *

Mars -19582-06-28 16:04 J -5430723.95 -5430723.83 -5430723.72 0.1633 0.0192

Moon -19579-01-17 22:33 J -5429789.60 -5429789.56 -5429789.51 0.2624 0.2503

Earth -19579-01-17 23:31 J -5429789.57 -5429789.52 -5429789.46 0.2629 0.2422 *

Mars -19579-04-08 14:23 J -5429709.04 -5429708.90 -5429708.76 0.1889 0.1025

Jupiter -19578-10-27 22:33 J -5429141.61 -5429141.56 -5429141.50 0.0529 0.0470

Jupiter -19577-01-25 04:19 J -5429052.45 -5429052.32 -5429052.20 0.0528 0.0098

Saturn -19577-03-14 15:07 J -5429003.03 -5429002.87 -5429002.71 0.0282 0.0148

Saturn -19577-06-11 14:52 J -5428914.06 -5428913.88 -5428913.69 0.0283 0.0046

Moon -19577-07-23 09:36 J -5428872.18 -5428872.10 -5428872.02 0.2693 0.1852

Earth -19577-07-23 09:50 J -5428872.17 -5428872.09 -5428872.01 0.2700 0.1827 *

Saturn -19577-09-08 14:23 J -5428824.98 -5428824.90 -5428824.79 0.0284 0.0241

Mars -19573-11-18 03:21 J -5427293.47 -5427293.36 -5427293.24 0.1631 0.0262

Jupiter -19572-12-21 23:16 J -5426894.61 -5426894.53 -5426894.43 0.0497 0.0430

Jupiter -19571-03-22 09:36 J -5426804.24 -5426804.10 -5426803.95 0.0499 0.0297

Venus -19571-04-29 02:09 J -5426766.50 -5426766.41 -5426766.33 0.3741 0.1802

Mars -19571-10-24 05:45 J -5426588.28 -5426588.26 -5426588.23 0.1638 0.1595

Earth -19570-07-17 07:11 J -5426322.29 -5426322.20 -5426322.11 0.2704 0.1433

Moon -19570-07-17 07:55 J -5426322.26 -5426322.17 -5426322.07 0.2705 0.1385 *

Uranus -19567-11-27 03:50 J -5425093.38 -5425093.34 -5425093.28 0.0141 0.0131

Moon -19566-01-21 02:52 J -5425038.53 -5425038.38 -5425038.23 0.2630 0.0620

Earth -19566-01-21 04:33 J -5425038.46 -5425038.31 -5425038.16 0.2631 0.0406 *

Uranus -19566-02-23 07:26 J -5425005.27 -5425005.19 -5425005.11 0.0141 0.0110

Uranus -19566-05-22 10:48 J -5424917.15 -5424917.05 -5424916.94 0.0141 0.0089

Uranus -19566-08-18 14:09 J -5424829.02 -5424828.91 -5424828.78 0.0141 0.0069

Venus -19566-11-12 17:31 J -5424742.87 -5424742.77 -5424742.67 0.3743 0.0262

Jupiter -19566-11-13 08:52 J -5424742.26 -5424742.13 -5424742.01 0.0528 0.0039

Uranus -19566-11-14 18:00 J -5424740.88 -5424740.75 -5424740.63 0.0141 0.0047

Uranus -19565-02-10 21:21 J -5424652.74 -5424652.61 -5424652.48 0.0141 0.0025

Uranus -19565-05-09 00:57 J -5424564.59 -5424564.46 -5424564.33 0.0142 0.0004

Uranus -19565-08-05 04:33 J -5424476.45 -5424476.31 -5424476.18 0.0142 0.0018

Uranus -19565-11-01 08:09 J -5424388.29 -5424388.16 -5424388.04 0.0142 0.0040

Uranus -19564-01-28 11:31 J -5424300.14 -5424300.02 -5424299.89 0.0142 0.0062

Saturn -19564-04-24 10:19 J -5424214.13 -5424214.07 -5424214.00 0.0281 0.0238

Uranus -19564-04-26 15:07 J -5424211.97 -5424211.87 -5424211.76 0.0142 0.0084

Saturn -19564-07-21 21:07 J -5424125.73 -5424125.62 -5424125.49 0.0280 0.0110

Uranus -19564-07-23 18:57 J -5424123.80 -5424123.71 -5424123.62 0.0142 0.0106

Saturn -19564-10-18 08:09 J -5424037.29 -5424037.16 -5424037.03 0.0279 0.0019

Uranus -19564-10-19 22:19 J -5424035.61 -5424035.57 -5424035.51 0.0142 0.0129

Saturn -19563-01-14 18:57 J -5423948.82 -5423948.71 -5423948.60 0.0278 0.0146

Mars -19563-04-10 14:52 J -5423862.98 -5423862.88 -5423862.77 0.1630 0.0694

Saturn -19563-04-13 05:45 J -5423860.28 -5423860.26 -5423860.24 0.0277 0.0273

Mars -19561-03-15 17:02 J -5423157.87 -5423157.79 -5423157.70 0.1636 0.1142

Pluto -19561-06-23 16:19 J -5423057.84 -5423057.82 -5423057.81 0.0071 0.0071

Pluto -19561-09-19 17:16 J -5422969.84 -5422969.78 -5422969.70 0.0071 0.0063

Pluto -19561-12-16 18:43 J -5422881.81 -5422881.72 -5422881.61 0.0071 0.0056

Pluto -19560-03-14 19:55 J -5422793.77 -5422793.67 -5422793.54 0.0072 0.0048

Venus -19560-05-28 09:07 J -5422719.20 -5422719.12 -5422719.05 0.3745 0.2342

Pluto -19560-06-10 21:21 J -5422705.73 -5422705.61 -5422705.47 0.0072 0.0040

Pluto -19560-09-06 22:48 J -5422617.69 -5422617.55 -5422617.40 0.0072 0.0032

Pluto -19560-12-04 00:14 J -5422529.64 -5422529.49 -5422529.34 0.0072 0.0024

Jupiter -19559-01-08 05:45 J -5422494.44 -5422494.26 -5422494.08 0.0498 0.0104

Pluto -19559-03-02 01:26 J -5422441.59 -5422441.44 -5422441.28 0.0072 0.0016

Pluto -19559-05-29 02:52 J -5422353.53 -5422353.38 -5422353.22 0.0072 0.0008

Pluto -19559-08-25 04:19 J -5422265.48 -5422265.32 -5422265.16 0.0072 0.0001

Pluto -19559-11-21 05:45 J -5422177.42 -5422177.26 -5422177.10 0.0072 0.0009

Pluto -19558-02-17 07:11 J -5422089.36 -5422089.20 -5422089.04 0.0073 0.0017

Pluto -19558-05-16 08:23 J -5422001.29 -5422001.15 -5422000.99 0.0073 0.0026

Pluto -19558-08-12 09:50 J -5421913.22 -5421913.09 -5421912.94 0.0073 0.0034

Pluto -19558-11-08 11:02 J -5421825.15 -5421825.04 -5421824.89 0.0073 0.0043

Pluto -19557-02-04 12:43 J -5421737.07 -5421736.97 -5421736.85 0.0073 0.0051

Pluto -19557-05-02 14:09 J -5421648.99 -5421648.91 -5421648.81 0.0073 0.0060

Earth -19557-07-19 01:40 J -5421571.54 -5421571.43 -5421571.32 0.2703 0.0299

Moon -19557-07-19 02:09 J -5421571.52 -5421571.41 -5421571.29 0.2699 0.0250 *

Pluto -19557-07-29 15:21 J -5421560.89 -5421560.86 -5421560.78 0.0073 0.0070

Mars -19554-09-01 02:38 J -5420432.47 -5420432.39 -5420432.31 0.1629 0.1124

Jupiter -19554-09-01 13:11 J -5420432.07 -5420431.95 -5420431.83 0.0528 0.0180

Jupiter -19554-11-29 18:57 J -5420342.80 -5420342.71 -5420342.63 0.0527 0.0390

Moon -19553-01-24 07:55 J -5420287.29 -5420287.17 -5420287.05 0.2635 0.1531

Earth -19553-01-24 09:07 J -5420287.24 -5420287.12 -5420287.00 0.2632 0.1553 *

Mars -19552-08-06 04:33 J -5419727.42 -5419727.31 -5419727.21 0.1634 0.0691

Mars -19549-05-17 22:19 J -5418711.73 -5418711.57 -5418711.41 0.1887 0.0515

Saturn -19548-08-01 14:23 J -5418271.02 -5418270.90 -5418270.75 0.0281 0.0194

Jupiter -19548-10-27 02:52 J -5418184.56 -5418184.38 -5418184.20 0.0498 0.0076

Saturn -19548-10-29 14:38 J -5418182.08 -5418181.89 -5418181.70 0.0282 0.0004

Saturn -19547-01-26 14:23 J -5418093.04 -5418092.90 -5418092.77 0.0283 0.0195

Mars -19544-01-21 14:09 J -5417001.94 -5417001.91 -5417001.88 0.1628 0.1554

Earth -19544-07-21 20:09 J -5416820.77 -5416820.66 -5416820.55 0.2701 0.0877

Moon -19544-07-21 20:09 J -5416820.76 -5416820.66 -5416820.55 0.2695 0.0919 *

Mars -19543-12-27 15:50 J -5416296.95 -5416296.84 -5416296.72 0.1632 0.0251

Jupiter -19542-06-20 16:33 J -5416121.90 -5416121.81 -5416121.71 0.0529 0.0334

Jupiter -19542-09-17 22:19 J -5416032.68 -5416032.57 -5416032.46 0.0527 0.0234

Mars -19540-10-07 14:38 J -5415282.03 -5415281.89 -5415281.74 0.1889 0.0926

Venus -19539-01-02 18:00 J -5415194.91 -5415194.75 -5415194.59 0.3630 0.0598

Earth -19537-07-14 17:45 J -5414270.81 -5414270.76 -5414270.70 0.2705 0.2342

Moon -19537-07-14 18:14 J -5414270.79 -5414270.74 -5414270.69 0.2711 0.2361 *

Neptune -19536-06-27 05:16 J -5413923.29 -5413923.28 -5413923.26 0.0089 0.0088

Jupiter -19536-08-15 00:00 J -5413874.65 -5413874.50 -5413874.33 0.0498 0.0253

Neptune -19536-09-23 06:28 J -5413835.27 -5413835.23 -5413835.17 0.0089 0.0082

Jupiter -19536-11-13 10:19 J -5413784.13 -5413784.07 -5413784.02 0.0499 0.0473

Neptune -19536-12-20 07:55 J -5413747.24 -5413747.17 -5413747.10 0.0089 0.0075

Neptune -19535-03-18 09:07 J -5413659.20 -5413659.12 -5413659.03 0.0089 0.0068

Neptune -19535-06-14 10:33 J -5413571.16 -5413571.06 -5413570.97 0.0089 0.0061

Neptune -19535-09-10 11:31 J -5413483.11 -5413483.02 -5413482.90 0.0089 0.0055

Saturn -19535-09-11 14:09 J -5413481.95 -5413481.91 -5413481.86 0.0282 0.0262

Neptune -19535-12-07 12:57 J -5413395.06 -5413394.96 -5413394.84 0.0089 0.0047

Saturn -19535-12-09 00:57 J -5413393.57 -5413393.46 -5413393.34 0.0281 0.0133

Neptune -19534-03-05 14:09 J -5413307.02 -5413306.91 -5413306.78 0.0089 0.0041

Saturn -19534-03-07 12:00 J -5413305.14 -5413305.00 -5413304.87 0.0279 0.0010

Neptune -19534-06-01 15:36 J -5413218.97 -5413218.85 -5413218.72 0.0089 0.0033

Saturn -19534-06-03 22:48 J -5413216.67 -5413216.55 -5413216.44 0.0278 0.0124

Neptune -19534-08-28 17:02 J -5413130.91 -5413130.79 -5413130.66 0.0089 0.0026

Saturn -19534-08-31 09:36 J -5413128.15 -5413128.10 -5413128.04 0.0277 0.0251

Neptune -19534-11-24 18:14 J -5413042.86 -5413042.74 -5413042.61 0.0089 0.0019

Moon -19533-01-19 04:48 J -5412987.39 -5412987.30 -5412987.21 0.2626 0.2130

Earth -19533-01-19 06:00 J -5412987.35 -5412987.25 -5412987.16 0.2629 0.2044 *

Neptune -19533-02-20 19:40 J -5412954.81 -5412954.68 -5412954.55 0.0089 0.0012

Neptune -19533-05-18 21:07 J -5412866.76 -5412866.62 -5412866.49 0.0089 0.0006

Mars -19533-05-19 03:21 J -5412866.47 -5412866.36 -5412866.24 0.1631 0.0199

Neptune -19533-08-14 22:19 J -5412778.70 -5412778.57 -5412778.44 0.0089 0.0002

Neptune -19533-11-10 23:45 J -5412690.65 -5412690.51 -5412690.38 0.0089 0.0010

Neptune -19532-02-07 00:57 J -5412602.59 -5412602.46 -5412602.33 0.0089 0.0016

Neptune -19532-05-06 02:09 J -5412514.53 -5412514.41 -5412514.28 0.0089 0.0024

Neptune -19532-08-02 03:36 J -5412426.47 -5412426.35 -5412426.22 0.0089 0.0030

Neptune -19532-10-29 04:48 J -5412338.41 -5412338.30 -5412338.17 0.0089 0.0038

Neptune -19531-01-25 06:14 J -5412250.35 -5412250.24 -5412250.12 0.0089 0.0045

Neptune -19531-04-23 07:40 J -5412162.29 -5412162.18 -5412162.07 0.0089 0.0052

Neptune -19531-07-20 08:52 J -5412074.22 -5412074.13 -5412074.03 0.0089 0.0059

Moon -19531-07-24 14:23 J -5412069.98 -5412069.90 -5412069.82 0.2693 0.1957

Earth -19531-07-24 14:52 J -5412069.95 -5412069.88 -5412069.81 0.2700 0.2064 *

Neptune -19531-10-16 10:19 J -5411986.16 -5411986.07 -5411985.98 0.0089 0.0066

Neptune -19530-01-12 11:16 J -5411898.09 -5411898.03 -5411897.94 0.0089 0.0074

Jupiter -19530-04-08 20:38 J -5411811.69 -5411811.64 -5411811.59 0.0529 0.0479

Neptune -19530-04-10 12:43 J -5411810.01 -5411809.97 -5411809.90 0.0089 0.0080

Jupiter -19530-07-07 02:09 J -5411722.53 -5411722.41 -5411722.28 0.0528 0.0089

Neptune -19530-07-07 14:09 J -5411721.93 -5411721.91 -5411721.88 0.0089 0.0087

Uranus -19527-07-16 13:26 J -5410616.94 -5410616.94 -5410616.94 0.0138 0.0138

Uranus -19527-10-12 20:52 J -5410528.74 -5410528.63 -5410528.51 0.0137 0.0109

Uranus -19526-01-09 04:04 J -5410440.47 -5410440.33 -5410440.16 0.0137 0.0081

Uranus -19526-04-07 11:45 J -5410352.18 -5410352.01 -5410351.83 0.0137 0.0052

Uranus -19526-07-04 19:11 J -5410263.89 -5410263.70 -5410263.51 0.0137 0.0023

Uranus -19526-10-01 02:23 J -5410175.58 -5410175.40 -5410175.20 0.0137 0.0006

Uranus -19526-12-28 09:36 J -5410087.28 -5410087.10 -5410086.91 0.0137 0.0033

Uranus -19525-03-25 17:02 J -5409998.96 -5409998.79 -5409998.62 0.0137 0.0060

Uranus -19525-06-22 00:00 J -5409910.64 -5409910.50 -5409910.35 0.0137 0.0088

Uranus -19525-09-18 06:57 J -5409822.30 -5409822.21 -5409822.10 0.0136 0.0115

Jupiter -19524-06-02 20:38 J -5409564.72 -5409564.64 -5409564.55 0.0497 0.0438

Earth -19524-07-17 12:00 J -5409520.09 -5409520.00 -5409519.90 0.2704 0.1217

Moon -19524-07-17 12:57 J -5409520.07 -5409519.96 -5409519.86 0.2704 0.1084 *

Jupiter -19524-09-01 06:57 J -5409474.36 -5409474.21 -5409474.06 0.0498 0.0289

Mars -19524-10-09 14:52 J -5409435.98 -5409435.88 -5409435.77 0.1630 0.0635

Mars -19522-09-14 17:02 J -5408730.87 -5408730.79 -5408730.71 0.1636 0.1199

Moon -19520-01-21 09:21 J -5408236.26 -5408236.11 -5408235.96 0.2630 0.0142

Earth -19520-01-21 11:02 J -5408236.20 -5408236.04 -5408235.89 0.2631 0.0079 *

Venus -19520-05-20 07:55 J -5408117.22 -5408117.17 -5408117.11 0.3740 0.3082

Saturn -19519-12-19 14:38 J -5407538.99 -5407538.89 -5407538.78 0.0281 0.0235

Saturn -19518-03-18 14:38 J -5407450.07 -5407449.89 -5407449.70 0.0282 0.0041

Jupiter -19518-04-25 06:28 J -5407412.36 -5407412.23 -5407412.11 0.0528 0.0057

Saturn -19518-06-15 14:23 J -5407361.05 -5407360.90 -5407360.74 0.0284 0.0154

Jupiter -19518-07-23 12:14 J -5407323.01 -5407322.99 -5407322.96 0.0527 0.0515

Venus -19515-12-03 23:31 J -5406093.62 -5406093.52 -5406093.43 0.3742 0.1050

Mars -19514-03-02 02:38 J -5406005.48 -5406005.39 -5406005.31 0.1629 0.1067

Mars -19512-02-04 04:33 J -5405300.42 -5405300.31 -5405300.21 0.1634 0.0750

Jupiter -19512-06-20 03:50 J -5405164.52 -5405164.34 -5405164.16 0.0498 0.0105

Earth -19511-07-20 06:28 J -5404769.34 -5404769.23 -5404769.12 0.2703 0.0080

Moon -19511-07-20 07:11 J -5404769.32 -5404769.20 -5404769.09 0.2699 0.0050 *

Mars -19510-11-16 23:02 J -5404284.70 -5404284.54 -5404284.38 0.1886 0.0636

Venus -19509-06-18 14:52 J -5404069.97 -5404069.88 -5404069.78 0.3743 0.1025

Moon -19507-01-24 14:23 J -5403485.01 -5403484.90 -5403484.79 0.2637 0.1754

Earth -19507-01-24 15:21 J -5403484.96 -5403484.86 -5403484.76 0.2632 0.1922 *

Jupiter -19506-02-11 11:02 J -5403102.16 -5403102.04 -5403101.93 0.0529 0.0192

Jupiter -19506-05-11 16:48 J -5403012.89 -5403012.80 -5403012.71 0.0527 0.0378

Saturn -19505-04-27 03:50 J -5402661.44 -5402661.34 -5402661.23 0.0280 0.0165

Mars -19505-07-22 14:09 J -5402574.95 -5402574.91 -5402574.87 0.1628 0.1495

Saturn -19505-07-24 14:52 J -5402573.01 -5402572.88 -5402572.75 0.0279 0.0037

Saturn -19505-10-21 01:40 J -5402484.56 -5402484.43 -5402484.31 0.0278 0.0092

Saturn -19504-01-17 12:28 J -5402396.06 -5402395.98 -5402395.90 0.0277 0.0218

Venus -19503-01-02 06:28 J -5402046.29 -5402046.23 -5402046.18 0.3745 0.3101

Mars -19503-06-27 15:50 J -5401869.95 -5401869.84 -5401869.72 0.1633 0.0306

Mars -19500-04-07 15:50 J -5400854.99 -5400854.84 -5400854.69 0.1889 0.0782

Jupiter -19500-04-07 23:45 J -5400854.69 -5400854.51 -5400854.32 0.0498 0.0088 *

Moon -19498-07-23 01:11 J -5400018.56 -5400018.45 -5400018.35 0.2694 0.1093

Earth -19498-07-23 01:11 J -5400018.56 -5400018.45 -5400018.35 0.2701 0.1112 *

Jupiter -19495-11-30 15:21 J -5398791.96 -5398791.86 -5398791.76 0.0529 0.0330

Jupiter -19494-02-27 21:07 J -5398702.74 -5398702.62 -5398702.51 0.0527 0.0238

Mars -19494-11-18 03:21 J -5398439.47 -5398439.36 -5398439.24 0.1631 0.0140

Earth -19491-07-15 22:48 J -5397468.62 -5397468.55 -5397468.49 0.2705 0.2127

Moon -19491-07-15 23:16 J -5397468.61 -5397468.53 -5397468.46 0.2710 0.2010 *

Saturn -19489-08-04 13:40 J -5396718.10 -5396717.93 -5396717.75 0.0282 0.0090

Saturn -19489-11-01 13:40 J -5396629.10 -5396628.93 -5396628.76 0.0283 0.0105

Jupiter -19488-01-24 20:52 J -5396544.79 -5396544.63 -5396544.47 0.0498 0.0267

Jupiter -19488-04-25 06:57 J -5396454.28 -5396454.21 -5396454.14 0.0499 0.0459

Moon -19487-01-19 11:02 J -5396185.15 -5396185.04 -5396184.94 0.2627 0.1861

Earth -19487-01-19 12:28 J -5396185.10 -5396184.98 -5396184.87 0.2629 0.1660 *

Moon -19485-07-24 19:11 J -5395267.76 -5395267.70 -5395267.64 0.2695 0.2271

Earth -19485-07-24 19:40 J -5395267.74 -5395267.68 -5395267.62 0.2700 0.2291 *

Mars -19484-04-09 14:52 J -5395008.99 -5395008.88 -5395008.77 0.1630 0.0576

Venus -19483-08-09 20:23 J -5394521.75 -5394521.65 -5394521.55 0.3630 0.2840

Jupiter -19483-09-18 18:57 J -5394481.76 -5394481.71 -5394481.66 0.0529 0.0484

Jupiter -19483-12-17 00:28 J -5394392.60 -5394392.48 -5394392.35 0.0528 0.0083

Uranus -19483-12-17 11:02 J -5394392.09 -5394392.04 -5394391.97 0.0141 0.0126

Uranus -19482-03-15 14:38 J -5394303.97 -5394303.89 -5394303.80 0.0141 0.0105

Mars -19482-03-15 17:02 J -5394303.86 -5394303.79 -5394303.71 0.1636 0.1258 *

Uranus -19482-06-11 18:00 J -5394215.85 -5394215.75 -5394215.64 0.0141 0.0084

Uranus -19482-09-07 21:36 J -5394127.72 -5394127.60 -5394127.48 0.0141 0.0063

Uranus -19482-12-05 01:11 J -5394039.58 -5394039.45 -5394039.32 0.0141 0.0041

Uranus -19481-03-02 04:33 J -5393951.44 -5393951.31 -5393951.17 0.0141 0.0020

Uranus -19481-05-29 08:09 J -5393863.29 -5393863.16 -5393863.03 0.0142 0.0002

Uranus -19481-08-25 11:45 J -5393775.14 -5393775.01 -5393774.88 0.0142 0.0023

Uranus -19481-11-21 15:21 J -5393686.99 -5393686.86 -5393686.74 0.0142 0.0045

Uranus -19480-02-17 18:57 J -5393598.83 -5393598.71 -5393598.59 0.0142 0.0067

Uranus -19480-05-16 22:33 J -5393510.67 -5393510.56 -5393510.46 0.0142 0.0089

Uranus -19480-08-13 02:09 J -5393422.49 -5393422.41 -5393422.33 0.0142 0.0112

Uranus -19480-11-09 05:31 J -5393334.30 -5393334.27 -5393334.22 0.0142 0.0135

Earth -19478-07-18 17:02 J -5392717.89 -5392717.79 -5392717.69 0.2704 0.0989

Moon -19478-07-18 17:45 J -5392717.86 -5392717.76 -5392717.65 0.2703 0.0964 *

Jupiter -19477-11-12 18:00 J -5392234.82 -5392234.75 -5392234.66 0.0497 0.0444

Jupiter -19476-02-11 04:33 J -5392144.46 -5392144.31 -5392144.16 0.0499 0.0285

Pluto -19476-05-29 02:38 J -5392037.39 -5392037.39 -5392037.39 0.0073 0.0073

Pluto -19476-08-25 04:04 J -5391949.40 -5391949.33 -5391949.26 0.0073 0.0064

Saturn -19476-09-14 07:40 J -5391929.28 -5391929.18 -5391929.09 0.0281 0.0190

Pluto -19476-11-21 05:16 J -5391861.37 -5391861.28 -5391861.17 0.0073 0.0056

Saturn -19476-12-11 18:28 J -5391840.86 -5391840.73 -5391840.61 0.0280 0.0062

Pluto -19475-02-17 06:28 J -5391773.34 -5391773.23 -5391773.10 0.0073 0.0048

Saturn -19475-03-10 05:16 J -5391752.41 -5391752.28 -5391752.15 0.0279 0.0067

Pluto -19475-05-16 08:09 J -5391685.29 -5391685.16 -5391685.03 0.0073 0.0039

Saturn -19475-06-06 16:04 J -5391663.92 -5391663.83 -5391663.74 0.0278 0.0194

Pluto -19475-08-12 09:21 J -5391597.25 -5391597.11 -5391596.96 0.0072 0.0031

Mars -19475-08-31 02:23 J -5391578.49 -5391578.40 -5391578.31 0.1629 0.1011

Pluto -19475-11-08 10:48 J -5391509.20 -5391509.05 -5391508.90 0.0072 0.0023

Moon -19474-01-22 15:36 J -5391434.00 -5391433.85 -5391433.69 0.2631 0.0185

Earth -19474-01-22 17:16 J -5391433.93 -5391433.78 -5391433.63 0.2631 0.0346 *

Pluto -19474-02-04 12:14 J -5391421.15 -5391420.99 -5391420.84 0.0072 0.0014

Pluto -19474-05-03 13:26 J -5391333.09 -5391332.94 -5391332.78 0.0072 0.0006

Pluto -19474-07-30 14:52 J -5391245.04 -5391244.88 -5391244.73 0.0072 0.0002

Pluto -19474-10-26 16:04 J -5391156.98 -5391156.83 -5391156.67 0.0072 0.0010

Pluto -19473-01-22 17:16 J -5391068.93 -5391068.78 -5391068.63 0.0072 0.0017

Pluto -19473-04-19 18:28 J -5390980.87 -5390980.73 -5390980.58 0.0072 0.0025

Pluto -19473-07-16 19:55 J -5390892.81 -5390892.67 -5390892.53 0.0071 0.0033

Mars -19473-08-05 04:19 J -5390873.42 -5390873.32 -5390873.22 0.1634 0.0806

Pluto -19473-10-12 20:52 J -5390804.75 -5390804.63 -5390804.49 0.0071 0.0041

Pluto -19472-01-08 22:04 J -5390716.68 -5390716.58 -5390716.46 0.0071 0.0048

Pluto -19472-04-06 23:31 J -5390628.61 -5390628.52 -5390628.42 0.0071 0.0056

Pluto -19472-07-04 00:28 J -5390540.54 -5390540.48 -5390540.40 0.0071 0.0063

Pluto -19472-09-30 01:55 J -5390452.43 -5390452.42 -5390452.40 0.0071 0.0070

Jupiter -19471-10-05 04:33 J -5390082.44 -5390082.31 -5390082.18 0.0528 0.0063

Jupiter -19470-01-02 10:19 J -5389993.10 -5389993.07 -5389993.03 0.0526 0.0506

Mars -19470-05-17 23:45 J -5389857.67 -5389857.51 -5389857.36 0.1887 0.0756

Mars -19465-01-21 14:09 J -5388147.96 -5388147.91 -5388147.86 0.1628 0.1439

Earth -19465-07-20 11:31 J -5387967.13 -5387967.02 -5387966.91 0.2702 0.0172

Moon -19465-07-20 12:00 J -5387967.11 -5387967.00 -5387966.89 0.2698 0.0253 *

Jupiter -19465-11-30 01:26 J -5387834.62 -5387834.44 -5387834.26 0.0498 0.0102

Venus -19464-12-25 05:31 J -5387444.35 -5387444.27 -5387444.20 0.3740 0.2335

Mars -19464-12-26 15:50 J -5387442.95 -5387442.84 -5387442.72 0.1633 0.0362

Moon -19461-01-25 20:38 J -5386682.72 -5386682.64 -5386682.57 0.2638 0.2259

Earth -19461-01-25 21:36 J -5386682.67 -5386682.60 -5386682.53 0.2633 0.2281 *

Mars -19461-10-06 16:48 J -5386427.96 -5386427.80 -5386427.64 0.1889 0.0646

Saturn -19460-12-22 13:26 J -5385986.11 -5385985.94 -5385985.78 0.0282 0.0136

Saturn -19459-03-21 13:11 J -5385897.13 -5385896.95 -5385896.76 0.0283 0.0059

Saturn -19459-06-18 12:57 J -5385808.03 -5385807.96 -5385807.87 0.0284 0.0254

Jupiter -19459-07-24 08:38 J -5385772.25 -5385772.14 -5385772.02 0.0529 0.0207

Jupiter -19459-10-21 14:38 J -5385682.99 -5385682.89 -5385682.80 0.0527 0.0364

Venus -19458-07-10 20:52 J -5385420.73 -5385420.63 -5385420.53 0.3742 0.0286

Mars -19454-05-19 03:21 J -5384012.48 -5384012.36 -5384012.24 0.1631 0.0079

Jupiter -19453-09-17 22:04 J -5383524.76 -5383524.58 -5383524.39 0.0498 0.0083

Venus -19452-01-23 12:28 J -5383397.07 -5383396.98 -5383396.90 0.3744 0.1789

Neptune -19452-03-10 20:23 J -5383350.70 -5383350.65 -5383350.56 0.0088 0.0082

Neptune -19452-06-07 00:00 J -5383262.59 -5383262.50 -5383262.37 0.0088 0.0072

Moon -19452-07-23 06:00 J -5383216.35 -5383216.25 -5383216.15 0.2694 0.1333

Earth -19452-07-23 06:00 J -5383216.35 -5383216.25 -5383216.15 0.2701 0.1337 *

Neptune -19452-09-03 04:04 J -5383174.47 -5383174.33 -5383174.19 0.0088 0.0061

Neptune -19452-11-30 07:40 J -5383086.33 -5383086.18 -5383086.01 0.0088 0.0051

Neptune -19451-02-26 11:16 J -5382998.20 -5382998.03 -5382997.85 0.0088 0.0041

Neptune -19451-05-25 15:07 J -5382910.05 -5382909.87 -5382909.69 0.0088 0.0031

Neptune -19451-08-21 18:43 J -5382821.91 -5382821.72 -5382821.53 0.0088 0.0021

Neptune -19451-11-17 22:19 J -5382733.76 -5382733.57 -5382733.37 0.0088 0.0011

Neptune -19450-02-14 01:55 J -5382645.61 -5382645.42 -5382645.22 0.0088 0.0002

Neptune -19450-05-13 05:31 J -5382557.46 -5382557.27 -5382557.07 0.0088 0.0009

Neptune -19450-08-09 08:52 J -5382469.31 -5382469.13 -5382468.93 0.0088 0.0020

Neptune -19450-11-05 12:28 J -5382381.15 -5382380.98 -5382380.78 0.0088 0.0029

Neptune -19449-02-01 16:04 J -5382292.99 -5382292.83 -5382292.64 0.0088 0.0039

Neptune -19449-04-29 19:26 J -5382204.83 -5382204.69 -5382204.51 0.0088 0.0049

Neptune -19449-07-26 23:31 J -5382116.67 -5382116.52 -5382116.38 0.0088 0.0058

Neptune -19449-10-23 02:52 J -5382028.49 -5382028.38 -5382028.25 0.0088 0.0068

Neptune -19448-01-19 06:14 J -5381940.31 -5381940.24 -5381940.14 0.0088 0.0079

Neptune -19448-04-17 10:04 J -5381852.08 -5381852.08 -5381852.07 0.0088 0.0088

Jupiter -19447-05-12 13:11 J -5381462.04 -5381461.95 -5381461.85 0.0529 0.0342

Jupiter -19447-08-09 18:57 J -5381372.82 -5381372.71 -5381372.59 0.0528 0.0228

Saturn -19446-02-01 10:19 J -5381197.14 -5381197.07 -5381196.99 0.0281 0.0223

Saturn -19446-04-30 21:07 J -5381108.74 -5381108.62 -5381108.49 0.0280 0.0095

Saturn -19446-07-28 08:09 J -5381020.29 -5381020.16 -5381020.03 0.0279 0.0035

Saturn -19446-10-24 18:57 J -5380931.82 -5380931.71 -5380931.61 0.0278 0.0161

Earth -19445-07-16 03:36 J -5380666.43 -5380666.35 -5380666.27 0.2705 0.1908

Moon -19445-07-16 04:19 J -5380666.40 -5380666.32 -5380666.25 0.2708 0.1902 *

Mars -19445-10-08 14:52 J -5380581.99 -5380581.88 -5380581.77 0.1630 0.0517

Uranus -19443-08-05 21:07 J -5379915.67 -5379915.62 -5379915.53 0.0138 0.0128

Mars -19443-09-13 17:02 J -5379876.86 -5379876.79 -5379876.72 0.1636 0.1317

Uranus -19443-11-02 04:48 J -5379827.42 -5379827.30 -5379827.16 0.0137 0.0099

Uranus -19442-01-29 12:28 J -5379739.14 -5379738.98 -5379738.81 0.0137 0.0070

Uranus -19442-04-27 19:55 J -5379650.85 -5379650.67 -5379650.49 0.0137 0.0041

Uranus -19442-07-25 03:21 J -5379562.55 -5379562.36 -5379562.17 0.0137 0.0013

Uranus -19442-10-21 10:33 J -5379474.24 -5379474.06 -5379473.87 0.0137 0.0015

Uranus -19441-01-17 17:45 J -5379385.93 -5379385.76 -5379385.57 0.0137 0.0043

Moon -19441-01-20 17:16 J -5379382.91 -5379382.78 -5379382.65 0.2627 0.1344

Earth -19441-01-20 18:43 J -5379382.85 -5379382.72 -5379382.58 0.2630 0.1279 *

Uranus -19441-04-15 00:57 J -5379297.61 -5379297.46 -5379297.29 0.0137 0.0070

Jupiter -19441-07-06 18:14 J -5379214.89 -5379214.74 -5379214.58 0.0497 0.0274

Uranus -19441-07-12 08:09 J -5379209.29 -5379209.16 -5379209.02 0.0137 0.0098

Jupiter -19441-10-05 04:19 J -5379124.39 -5379124.32 -5379124.24 0.0499 0.0451

Uranus -19441-10-08 15:07 J -5379120.93 -5379120.87 -5379120.78 0.0136 0.0125

Moon -19439-07-26 00:00 J -5378465.54 -5378465.50 -5378465.45 0.2696 0.2431

Earth -19439-07-26 00:43 J -5378465.51 -5378465.47 -5378465.44 0.2699 0.2528 *

Jupiter -19435-02-28 17:45 J -5377151.81 -5377151.76 -5377151.71 0.0529 0.0479

Mars -19435-03-01 02:23 J -5377151.49 -5377151.40 -5377151.31 0.1629 0.0952

Jupiter -19435-05-28 23:31 J -5377062.65 -5377062.52 -5377062.40 0.0528 0.0090

Mars -19433-02-04 04:19 J -5376446.41 -5376446.32 -5376446.22 0.1634 0.0867

Earth -19432-07-18 21:50 J -5375915.69 -5375915.59 -5375915.48 0.2704 0.0771

Moon -19432-07-18 22:33 J -5375915.66 -5375915.56 -5375915.45 0.2703 0.0626 *

Venus -19432-08-30 12:28 J -5375873.12 -5375872.98 -5375872.84 0.3632 0.1664

Mars -19431-11-16 00:43 J -5375430.62 -5375430.47 -5375430.33 0.1887 0.0888

Saturn	-19430-05-11 11:31 J	-5375254.15	-5375254.02	-5375253.88	0.0281	0.0193
Saturn	-19430-08-08 11:31 J	-5375165.21	-5375165.02	-5375164.83	0.0282	0.0002
Saturn	-19430-11-05 11:16 J	-5375076.16	-5375076.03	-5375075.89	0.0283	0.0197
Jupiter	-19429-04-24 15:21 J	-5374904.93	-5374904.86	-5374904.78	0.0497	0.0452
Jupiter	-19429-07-24 01:40 J	-5374814.58	-5374814.43	-5374814.27	0.0499	0.0276
Moon	-19428-01-22 22:04 J	-5374631.73	-5374631.58	-5374631.43	0.2633	0.0565
Earth	-19428-01-22 23:31 J	-5374631.66	-5374631.52	-5374631.37	0.2631	0.0718 *
Mars	-19426-07-22 13:55 J	-5373720.97	-5373720.92	-5373720.86	0.1628	0.1383
Mars	-19424-06-26 15:50 J	-5373015.95	-5373015.84	-5373015.73	0.1632	0.0420
Jupiter	-19423-03-17 02:52 J	-5372752.50	-5372752.38	-5372752.25	0.0528	0.0067
Jupiter	-19423-06-14 08:52 J	-5372663.17	-5372663.13	-5372663.10	0.0526	0.0504
Mars	-19421-04-06 17:31 J	-5372000.94	-5372000.77	-5372000.61	0.1889	0.0532
Earth	-19419-07-21 16:19 J	-5371164.93	-5371164.82	-5371164.71	0.2702	0.0402
Moon	-19419-07-21 16:48 J	-5371164.91	-5371164.80	-5371164.69	0.2696	0.0385 *
Jupiter	-19417-05-11 23:16 J	-5370504.71	-5370504.53	-5370504.34	0.0498	0.0103
Saturn	-19417-06-20 13:40 J	-5370464.98	-5370464.93	-5370464.87	0.0282	0.0252
Saturn	-19417-09-17 00:28 J	-5370376.59	-5370376.48	-5370376.36	0.0280	0.0123
Saturn	-19417-12-14 11:31 J	-5370288.16	-5370288.02	-5370287.89	0.0279	0.0012
Saturn	-19416-03-12 22:04 J	-5370199.69	-5370199.58	-5370199.46	0.0278	0.0134
Saturn	-19416-06-09 09:07 J	-5370111.16	-5370111.12	-5370111.08	0.0277	0.0260
Moon	-19415-01-26 02:52 J	-5369880.42	-5369880.38	-5369880.34	0.2638	0.2518
Mars	-19415-11-17 03:21 J	-5369585.48	-5369585.36	-5369585.25	0.1631	0.0050
Venus	-19412-01-15 11:31 J	-5368795.05	-5368795.02	-5368795.00	0.3739	0.3607
Jupiter	-19411-01-03 06:57 J	-5368442.32	-5368442.21	-5368442.09	0.0528	0.0210
Jupiter	-19411-04-02 12:43 J	-5368353.06	-5368352.97	-5368352.87	0.0527	0.0359
Venus	-19407-08-01 02:52 J	-5366771.47	-5366771.38	-5366771.29	0.3741	0.1583
Moon	-19406-07-24 10:48 J	-5366414.14	-5366414.05	-5366413.96	0.2694	0.1570
Earth	-19406-07-24 11:02 J	-5366414.13	-5366414.04	-5366413.95	0.2701	0.1572 *
Jupiter	-19405-02-28 20:09 J	-5366194.84	-5366194.66	-5366194.47	0.0498	0.0081
Mars	-19405-04-08 14:52 J	-5366154.99	-5366154.88	-5366154.77	0.1630	0.0460

Mars -19403-03-14 17:02 J -5365449.85 -5365449.79 -5365449.73 0.1636 0.1375

Venus -19401-02-14 18:14 J -5364747.84 -5364747.74 -5364747.64 0.3742 0.0472

Saturn -19401-09-27 10:33 J -5364522.14 -5364522.06 -5364521.95 0.0281 0.0241

Saturn -19401-12-25 10:48 J -5364433.23 -5364433.05 -5364432.86 0.0282 0.0046

Saturn -19400-03-24 10:48 J -5364344.21 -5364344.05 -5364343.89 0.0284 0.0149

Jupiter -19400-10-22 11:16 J -5364132.12 -5364132.03 -5364131.94 0.0529 0.0353

Jupiter -19399-01-19 17:02 J -5364042.91 -5364042.79 -5364042.68 0.0528 0.0216

Earth -19399-07-17 08:23 J -5363864.23 -5363864.15 -5363864.06 0.2705 0.1689

Moon -19399-07-17 09:07 J -5363864.21 -5363864.12 -5363864.03 0.2707 0.1561 *

Uranus -19398-01-06 18:00 J -5363690.81 -5363690.75 -5363690.68 0.0141 0.0123

Uranus -19398-04-04 21:21 J -5363602.69 -5363602.61 -5363602.51 0.0141 0.0102

Uranus -19398-07-02 00:57 J -5363514.57 -5363514.46 -5363514.35 0.0141 0.0081

Uranus -19398-09-28 04:19 J -5363426.43 -5363426.32 -5363426.19 0.0141 0.0060

Uranus -19398-12-25 07:55 J -5363338.30 -5363338.17 -5363338.04 0.0141 0.0039

Uranus -19397-03-22 11:31 J -5363250.15 -5363250.02 -5363249.89 0.0141 0.0017

Uranus -19397-06-18 14:52 J -5363162.01 -5363161.88 -5363161.74 0.0142 0.0006

Uranus -19397-09-14 18:28 J -5363073.86 -5363073.73 -5363073.60 0.0142 0.0026

Uranus -19397-12-11 22:04 J -5362985.71 -5362985.58 -5362985.45 0.0142 0.0048

Uranus -19396-03-10 01:40 J -5362897.55 -5362897.43 -5362897.31 0.0142 0.0070

Uranus -19396-06-06 05:16 J -5362809.38 -5362809.28 -5362809.18 0.0142 0.0092

Mars -19396-08-30 02:23 J -5362724.50 -5362724.40 -5362724.30 0.1629 0.0893

Venus -19396-08-30 09:50 J -5362724.17 -5362724.09 -5362724.02 0.3744 0.2541

Uranus -19396-09-02 08:52 J -5362721.21 -5362721.13 -5362721.05 0.0142 0.0114

Uranus -19396-11-29 12:28 J -5362633.01 -5362632.98 -5362632.94 0.0142 0.0137

Moon -19395-01-20 23:45 J -5362580.65 -5362580.51 -5362580.38 0.2627 0.1130

Earth -19395-01-21 01:11 J -5362580.60 -5362580.45 -5362580.31 0.2630 0.0901 *

Mars -19394-08-05 04:19 J -5362019.41 -5362019.32 -5362019.22 0.1634 0.0927

Jupiter -19394-12-17 16:48 J -5361884.95 -5361884.80 -5361884.64 0.0497 0.0264

Jupiter -19393-03-17 02:52 J -5361794.44 -5361794.38 -5361794.30 0.0499 0.0461

Moon -19393-07-26 05:02 J -5361663.30 -5361663.29 -5361663.29 0.2695 0.2689

Mars -19391-05-17 01:40 J -5361003.57 -5361003.43 -5361003.29 0.1887 0.1022

Jupiter -19388-08-10 15:50 J -5359821.89 -5359821.84 -5359821.79 0.0530 0.0487

Jupiter -19388-11-07 21:36 J -5359732.73 -5359732.60 -5359732.48 0.0528 0.0082

Saturn -19387-02-04 03:07 J -5359644.47 -5359644.37 -5359644.26 0.0280 0.0158

Saturn -19387-05-03 13:55 J -5359556.05 -5359555.92 -5359555.79 0.0279 0.0030

Saturn -19387-07-31 00:43 J -5359467.59 -5359467.47 -5359467.34 0.0278 0.0099

Saturn -19387-10-27 11:31 J -5359379.09 -5359379.02 -5359378.94 0.0277 0.0225

Mars -19386-01-20 13:55 J -5359293.98 -5359293.92 -5359293.85 0.1628 0.1323

Earth -19386-07-20 02:52 J -5359113.49 -5359113.38 -5359113.27 0.2703 0.0544

Moon -19386-07-20 03:36 J -5359113.46 -5359113.35 -5359113.24 0.2702 0.0530 *

Mars -19385-12-25 15:50 J -5358588.95 -5358588.84 -5358588.73 0.1632 0.0479

Moon -19382-01-24 04:33 J -5357829.45 -5357829.31 -5357829.17 0.2635 0.1016

Earth -19382-01-24 05:45 J -5357829.39 -5357829.26 -5357829.12 0.2631 0.1088 *

Jupiter -19382-10-05 13:11 J -5357575.02 -5357574.95 -5357574.88 0.0497 0.0453

Mars -19382-10-06 18:14 J -5357573.90 -5357573.74 -5357573.57 0.1889 0.0402

Jupiter -19381-01-03 23:31 J -5357484.67 -5357484.52 -5357484.36 0.0498 0.0274

Jupiter -19376-08-27 01:55 J -5355422.54 -5355422.42 -5355422.29 0.0528 0.0058

Jupiter -19376-11-24 07:55 J -5355333.20 -5355333.17 -5355333.15 0.0527 0.0514

Venus -19375-04-06 14:52 J -5355200.04 -5355199.88 -5355199.72 0.3631 0.0579

Mars -19375-05-18 03:21 J -5355158.48 -5355158.36 -5355158.25 0.1631 0.0054

Earth -19373-07-21 21:21 J -5354362.72 -5354362.61 -5354362.50 0.2702 0.0621

Moon -19373-07-21 21:36 J -5354362.71 -5354362.60 -5354362.49 0.2695 0.0715 *

Mars -19372-02-25 10:48 J -5354144.08 -5354144.05 -5354144.01 0.1891 0.1840

Neptune -19371-03-24 04:19 J -5353752.33 -5353752.32 -5353752.28 0.0089 0.0088

Saturn -19371-05-14 07:55 J -5353701.34 -5353701.17 -5353701.00 0.0282 0.0111

Neptune -19371-06-20 05:45 J -5353664.30 -5353664.26 -5353664.19 0.0089 0.0080

Saturn -19371-08-11 07:55 J -5353612.35 -5353612.17 -5353611.99 0.0283 0.0084

Neptune -19371-09-16 06:57 J -5353576.27 -5353576.21 -5353576.12 0.0089 0.0074

Saturn -19371-11-08 07:40 J -5353523.21 -5353523.18 -5353523.15 0.0284 0.0279

Neptune -19371-12-13 08:23 J -5353488.23 -5353488.15 -5353488.05 0.0089 0.0066

Neptune -19370-03-11 09:50 J -5353400.18 -5353400.09 -5353399.99 0.0089 0.0059

Neptune -19370-06-07 11:02 J -5353312.14 -5353312.04 -5353311.93 0.0089 0.0052

Neptune -19370-09-03 12:28 J -5353224.09 -5353223.98 -5353223.87 0.0089 0.0045

Jupiter -19370-10-22 20:52 J -5353174.81 -5353174.63 -5353174.44 0.0498 0.0100

Neptune -19370-11-30 13:40 J -5353136.04 -5353135.93 -5353135.80 0.0089 0.0038

Neptune -19369-02-26 15:07 J -5353047.99 -5353047.87 -5353047.75 0.0089 0.0031

Neptune -19369-05-24 16:19 J -5352959.94 -5352959.82 -5352959.69 0.0089 0.0025

Neptune -19369-08-20 17:45 J -5352871.89 -5352871.76 -5352871.63 0.0089 0.0017

Neptune -19369-11-16 18:57 J -5352783.84 -5352783.71 -5352783.57 0.0089 0.0011

Neptune -19368-02-12 20:23 J -5352695.78 -5352695.65 -5352695.52 0.0089 0.0003

Neptune -19368-05-11 21:36 J -5352607.73 -5352607.60 -5352607.46 0.0089 0.0005

Neptune -19368-08-07 23:02 J -5352519.67 -5352519.54 -5352519.41 0.0089 0.0011

Neptune -19368-11-04 00:14 J -5352431.62 -5352431.49 -5352431.36 0.0089 0.0018

Neptune -19367-01-31 01:26 J -5352343.56 -5352343.44 -5352343.30 0.0089 0.0025

Neptune -19367-04-29 02:52 J -5352255.50 -5352255.38 -5352255.25 0.0089 0.0032

Neptune -19367-07-26 04:04 J -5352167.44 -5352167.33 -5352167.20 0.0089 0.0039

Neptune -19367-10-22 05:31 J -5352079.38 -5352079.27 -5352079.15 0.0089 0.0046

Neptune -19366-01-18 06:43 J -5351991.32 -5351991.22 -5351991.10 0.0089 0.0053

Neptune -19366-04-16 08:09 J -5351903.25 -5351903.16 -5351903.06 0.0089 0.0060

Neptune -19366-07-13 09:21 J -5351815.18 -5351815.11 -5351815.01 0.0089 0.0067

Earth -19366-07-15 19:11 J -5351812.73 -5351812.70 -5351812.68 0.2706 0.2600

Moon -19366-07-15 19:26 J -5351812.72 -5351812.69 -5351812.66 0.2712 0.2561 *

Mars -19366-10-08 14:38 J -5351728.00 -5351727.89 -5351727.77 0.1630 0.0408

Neptune -19366-10-09 10:48 J -5351727.12 -5351727.05 -5351726.97 0.0089 0.0074

Neptune -19365-01-05 12:00 J -5351639.04 -5351639.00 -5351638.94 0.0089 0.0082

Neptune -19365-04-02 13:26 J -5351550.95 -5351550.94 -5351550.92 0.0089 0.0089

Jupiter -19364-06-15 05:45 J -5351112.38 -5351112.26 -5351112.15 0.0528 0.0208

Jupiter -19364-09-12 11:31 J -5351023.11 -5351023.02 -5351022.93 0.0527 0.0360

Mars -19364-09-12 17:02 J -5351022.85 -5351022.79 -5351022.74 0.1636 0.1434

Earth -19362-01-19 02:23 J -5350529.43 -5350529.40 -5350529.37 0.2628 0.2558

Moon -19360-07-24 15:36 J -5349611.94 -5349611.85 -5349611.76 0.2695 0.1729

Earth -19360-07-24 15:50 J -5349611.92 -5349611.84 -5349611.75 0.2701 0.1806 *

Uranus -19359-08-26 05:02 J -5349214.37 -5349214.29 -5349214.18 0.0138 0.0119

Uranus -19359-11-22 12:43 J -5349126.11 -5349125.97 -5349125.82 0.0137 0.0090

Uranus -19358-02-18 20:09 J -5349037.83 -5349037.66 -5349037.48 0.0137 0.0061

Uranus -19358-05-18 03:36 J -5348949.53 -5348949.35 -5348949.16 0.0137 0.0033

Saturn -19358-06-24 06:00 J -5348912.34 -5348912.25 -5348912.15 0.0281 0.0191

Jupiter -19358-08-10 18:28 J -5348864.91 -5348864.73 -5348864.54 0.0498 0.0076

Uranus -19358-08-14 11:02 J -5348861.23 -5348861.04 -5348860.85 0.0137 0.0004

Saturn -19358-09-20 17:02 J -5348823.92 -5348823.79 -5348823.67 0.0280 0.0062

Uranus -19358-11-10 18:14 J -5348772.92 -5348772.74 -5348772.55 0.0137 0.0024

Saturn -19358-12-18 03:50 J -5348735.47 -5348735.34 -5348735.21 0.0279 0.0067

Uranus -19357-02-07 01:26 J -5348684.61 -5348684.44 -5348684.25 0.0137 0.0052

Saturn -19357-03-15 14:38 J -5348646.98 -5348646.89 -5348646.80 0.0278 0.0194

Uranus -19357-05-05 08:52 J -5348596.28 -5348596.13 -5348595.98 0.0137 0.0079

Uranus -19357-08-01 15:50 J -5348507.95 -5348507.84 -5348507.71 0.0137 0.0107

Uranus -19357-10-28 22:48 J -5348419.57 -5348419.55 -5348419.50 0.0136 0.0134

Mars -19356-02-28 02:23 J -5348297.50 -5348297.40 -5348297.30 0.1629 0.0836

Venus -19356-08-22 08:52 J -5348122.20 -5348122.13 -5348122.07 0.3739 0.2870

Mars -19354-02-03 04:19 J -5347592.41 -5347592.32 -5347592.23 0.1634 0.0981

Earth -19353-07-17 13:26 J -5347062.04 -5347061.94 -5347061.85 0.2705 0.1470

Moon -19353-07-17 14:09 J -5347062.01 -5347061.91 -5347061.82 0.2707 0.1430 *

Jupiter -19352-04-03 09:50 J -5346802.18 -5346802.09 -5346802.00 0.0529 0.0351

Jupiter -19352-07-01 15:36 J -5346712.97 -5346712.85 -5346712.74 0.0527 0.0217

Mars -19352-11-15 02:09 J -5346576.55 -5346576.41 -5346576.28 0.1887 0.1132

Venus -19350-03-08 00:14 J -5346098.59 -5346098.49 -5346098.39 0.3741 0.0841

Moon -19349-01-22 06:00 J -5345778.40 -5345778.25 -5345778.10 0.2629 0.0570

Earth -19349-01-22 07:26 J -5345778.34 -5345778.19 -5345778.04 0.2630 0.0525 *

Mars -19347-07-21 13:55 J -5344866.99 -5344866.92 -5344866.85 0.1628 0.1266

Jupiter -19346-05-29 15:36 J -5344555.01 -5344554.85 -5344554.70 0.0498 0.0257

Jupiter -19346-08-28 01:26 J -5344464.49 -5344464.44 -5344464.37 0.0499 0.0469

Mars -19345-06-25 15:50 J -5344161.95 -5344161.84 -5344161.73 0.1633 0.0538

Venus -19345-09-20 15:36 J -5344074.94 -5344074.85 -5344074.75 0.3743 0.1223

Mars -19342-04-06 19:26 J -5343146.86 -5343146.69 -5343146.52 0.1889 0.0256

Saturn -19342-10-01 06:28 J -5342969.38 -5342969.23 -5342969.07 0.0282 0.0165

Saturn -19342-12-29 06:28 J -5342880.42 -5342880.23 -5342880.04 0.0283 0.0030

Saturn -19341-03-27 06:14 J -5342791.35 -5342791.24 -5342791.12 0.0284 0.0226

Jupiter -19340-01-20 14:09 J -5342491.96 -5342491.91 -5342491.87 0.0529 0.0494

Jupiter -19340-04-19 19:40 J -5342402.80 -5342402.68 -5342402.55 0.0528 0.0074

Earth -19340-07-20 07:40 J -5342311.29 -5342311.18 -5342311.07 0.2703 0.0326

Moon -19340-07-20 08:23 J -5342311.26 -5342311.15 -5342311.04 0.2700 0.0192 *

Venus -19339-04-06 07:11 J -5342051.25 -5342051.20 -5342051.16 0.3744 0.3286

Moon -19336-01-24 10:48 J -5341027.18 -5341027.05 -5341026.92 0.2635 0.1262

Earth -19336-01-24 12:14 J -5341027.12 -5341026.99 -5341026.87 0.2631 0.1462 *

Mars -19336-11-16 03:07 J -5340731.48 -5340731.37 -5340731.25 0.1631 0.0108

Jupiter -19334-03-17 12:14 J -5340245.07 -5340244.99 -5340244.90 0.0497 0.0439

Jupiter -19334-06-15 22:48 J -5340154.70 -5340154.55 -5340154.40 0.0498 0.0289

Mars -19333-08-26 11:31 J -5339717.08 -5339717.02 -5339716.95 0.1891 0.1716

Saturn -19329-11-10 08:23 J -5338180.22 -5338180.15 -5338180.07 0.0281 0.0229

Jupiter -19328-02-06 00:14 J -5338092.61 -5338092.49 -5338092.36 0.0529 0.0062

Saturn -19328-02-06 19:26 J -5338091.81 -5338091.69 -5338091.57 0.0280 0.0100

Saturn -19328-05-06 06:14 J -5338003.37 -5338003.24 -5338003.11 0.0279 0.0029

Jupiter -19328-05-06 06:14 J -5338003.27 -5338003.24 -5338003.21 0.0527 0.0509 *

Saturn -19328-08-02 17:02 J -5337914.90 -5337914.79 -5337914.68 0.0278 0.0156

Earth -19327-07-23 02:09 J -5337560.51 -5337560.41 -5337560.30 0.2702 0.0856

Moon -19327-07-23 02:38 J -5337560.50 -5337560.39 -5337560.29 0.2695 0.0824 *

Mars -19326-04-08 14:52 J -5337301.00 -5337300.88 -5337300.77 0.1630 0.0345

Mars -19324-03-13 17:02 J -5336595.84 -5336595.79 -5336595.75 0.1636 0.1495

Jupiter -19322-04-03 19:11 J -5335844.88 -5335844.70 -5335844.51 0.0498 0.0104

Earth -19320-07-16 00:00 J -5335010.55 -5335010.50 -5335010.45 0.2706 0.2379

Moon -19320-07-16 00:28 J -5335010.54 -5335010.48 -5335010.43 0.2711 0.2313 *

Venus -19319-11-11 17:16 J -5334526.88 -5334526.78 -5334526.68 0.3631 0.2793

Mars -19317-08-29 02:23 J -5333870.50 -5333870.40 -5333870.30 0.1629 0.0779

Jupiter -19317-11-25 04:48 J -5333782.41 -5333782.30 -5333782.18 0.0529 0.0197

Moon -19316-01-19 07:40 J -5333727.26 -5333727.18 -5333727.10 0.2624 0.2200

Earth -19316-01-19 08:52 J -5333727.21 -5333727.13 -5333727.04 0.2629 0.2168 *

Jupiter -19316-02-22 10:33 J -5333693.14 -5333693.06 -5333692.97 0.0527 0.0374

Mars -19315-08-04 04:19 J -5333165.41 -5333165.32 -5333165.23 0.1634 0.1044

Uranus -19315-10-30 21:50 J -5333077.60 -5333077.59 -5333077.55 0.0141 0.0138

Uranus -19314-01-27 01:26 J -5332989.51 -5332989.44 -5332989.36 0.0141 0.0117

Uranus -19314-04-25 04:48 J -5332901.39 -5332901.30 -5332901.20 0.0141 0.0096

Uranus -19314-07-22 08:23 J -5332813.26 -5332813.15 -5332813.04 0.0141 0.0075

Moon -19314-07-25 20:23 J -5332809.72 -5332809.65 -5332809.58 0.2694 0.2036

Earth -19314-07-25 20:52 J -5332809.70 -5332809.63 -5332809.56 0.2700 0.2034 *

Uranus -19314-10-18 11:45 J -5332725.13 -5332725.01 -5332724.88 0.0141 0.0054

Pluto -19314-10-30 03:21 J -5332713.39 -5332713.36 -5332713.31 0.0071 0.0069

Uranus -19313-01-14 15:21 J -5332636.99 -5332636.86 -5332636.73 0.0141 0.0033

Pluto -19313-01-26 04:48 J -5332625.38 -5332625.30 -5332625.22 0.0071 0.0061

Uranus -19313-04-11 18:43 J -5332548.85 -5332548.72 -5332548.58 0.0141 0.0012

Pluto -19313-04-23 05:45 J -5332537.35 -5332537.26 -5332537.14 0.0071 0.0054

Uranus -19313-07-08 22:19 J -5332460.70 -5332460.57 -5332460.44 0.0142 0.0010

Pluto -19313-07-20 07:11 J -5332449.31 -5332449.20 -5332449.06 0.0072 0.0046

Uranus -19313-10-05 01:55 J -5332372.55 -5332372.42 -5332372.29 0.0142 0.0032

Pluto -19313-10-16 08:38 J -5332361.27 -5332361.14 -5332361.00 0.0072 0.0038

Uranus -19312-01-01 05:16 J -5332284.40 -5332284.28 -5332284.15 0.0142 0.0054

Pluto -19312-01-12 09:50 J -5332273.22 -5332273.09 -5332272.93 0.0072 0.0030

Saturn -19312-02-17 02:38 J -5332237.48 -5332237.39 -5332237.28 0.0281 0.0236

Uranus -19312-03-30 08:52 J -5332196.24 -5332196.13 -5332196.01 0.0142 0.0076

Pluto -19312-04-10 11:16 J -5332185.17 -5332185.03 -5332184.87 0.0072 0.0022

Mars -19312-05-16 03:07 J -5332149.49 -5332149.37 -5332149.24 0.1887 0.1271

Saturn -19312-05-17 02:52 J -5332148.57 -5332148.38 -5332148.19 0.0282 0.0041

Uranus -19312-06-26 12:28 J -5332108.07 -5332107.98 -5332107.88 0.0142 0.0098

Pluto -19312-07-07 12:57 J -5332097.12 -5332096.96 -5332096.80 0.0072 0.0013

Saturn -19312-08-14 02:52 J -5332059.54 -5332059.38 -5332059.23 0.0283 0.0154

Uranus -19312-09-22 16:04 J -5332019.89 -5332019.83 -5332019.75 0.0142 0.0120

Pluto -19312-10-03 14:23 J -5332009.06 -5332008.90 -5332008.74 0.0072 0.0006

Uranus -19312-12-19 19:55 J -5331931.67 -5331931.67 -5331931.67 0.0142 0.0142

Pluto -19312-12-30 15:36 J -5331921.01 -5331920.85 -5331920.69 0.0072 0.0003

Pluto -19311-03-28 17:02 J -5331832.95 -5331832.79 -5331832.63 0.0072 0.0011

Pluto -19311-06-24 18:28 J -5331744.88 -5331744.73 -5331744.57 0.0073 0.0020

Pluto -19311-09-20 19:55 J -5331656.82 -5331656.67 -5331656.52 0.0073 0.0028

Pluto -19311-12-17 21:07 J -5331568.75 -5331568.62 -5331568.47 0.0073 0.0037

Jupiter -19310-01-20 16:48 J -5331534.99 -5331534.80 -5331534.62 0.0498 0.0072

Pluto -19310-03-15 22:48 J -5331480.67 -5331480.55 -5331480.42 0.0073 0.0045

Pluto -19310-06-12 00:00 J -5331392.59 -5331392.50 -5331392.38 0.0073 0.0054

Pluto -19310-09-08 01:26 J -5331304.51 -5331304.44 -5331304.35 0.0073 0.0063

Pluto -19310-12-05 02:38 J -5331216.39 -5331216.39 -5331216.34 0.0073 0.0073

Mars -19307-01-19 13:55 J -5330440.00 -5330439.92 -5330439.85 0.1628 0.1211

Earth -19307-07-18 18:14 J -5330259.84 -5330259.74 -5330259.64 0.2704 0.1246

Moon -19307-07-18 18:57 J -5330259.81 -5330259.71 -5330259.61 0.2706 0.1134 *

Mars -19306-12-25 15:36 J -5329734.95 -5329734.85 -5329734.74 0.1632 0.0598

Jupiter -19305-09-13 08:38 J -5329472.23 -5329472.14 -5329472.04 0.0529 0.0345

Jupiter -19305-12-11 14:23 J -5329383.02 -5329382.90 -5329382.79 0.0527 0.0222

Moon -19303-01-22 12:14 J -5328976.14 -5328975.99 -5328975.83 0.2631 0.0390

Earth -19303-01-22 13:55 J -5328976.08 -5328975.92 -5328975.77 0.2630 0.0148 *

Mars -19303-10-05 19:40 J -5328719.84 -5328719.68 -5328719.51 0.1889 0.0161

Venus -19299-03-29 06:14 J -5327449.33 -5327449.24 -5327449.16 0.3740 0.2135

Saturn -19299-03-30 11:02 J -5327448.08 -5327448.04 -5327448.00 0.0282 0.0267

Saturn -19299-06-26 21:50 J -5327359.70 -5327359.59 -5327359.47 0.0281 0.0137

Saturn -19299-09-23 08:52 J -5327271.26 -5327271.13 -5327271.00 0.0280 0.0011

Jupiter -19299-11-08 14:09 J -5327225.07 -5327224.91 -5327224.75 0.0498 0.0247

Saturn -19299-12-20 19:40 J -5327182.80 -5327182.68 -5327182.56 0.0279 0.0121

Jupiter -19298-02-07 00:28 J -5327134.53 -5327134.48 -5327134.43 0.0499 0.0479

Saturn -19298-03-19 06:28 J -5327094.29 -5327094.23 -5327094.17 0.0278 0.0248

Mars -19296-05-17 03:07 J -5326304.48 -5326304.37 -5326304.25 0.1631 0.0159

Earth -19294-07-21 12:43 J -5325509.08 -5325508.97 -5325508.86 0.2703 0.0104

Moon -19294-07-21 13:11 J -5325509.06 -5325508.95 -5325508.84 0.2698 0.0088 *

Venus -19294-10-12 21:36 J -5325425.70 -5325425.60 -5325425.50 0.3741 0.0101

Mars -19293-02-25 12:43 J -5325290.06 -5325289.97 -5325289.88 0.1891 0.1575

Jupiter -19293-07-02 12:57 J -5325162.01 -5325161.96 -5325161.91 0.0529 0.0486

Jupiter -19293-09-29 18:28 J -5325072.85 -5325072.73 -5325072.60 0.0528 0.0082

Moon -19290-01-25 17:02 J -5324224.90 -5324224.79 -5324224.68 0.2635 0.1782

Earth -19290-01-25 18:28 J -5324224.84 -5324224.73 -5324224.63 0.2632 0.1825 *

Venus -19288-04-27 12:57 J -5323402.04 -5323401.96 -5323401.87 0.3743 0.1964

Neptune -19288-12-05 17:16 J -5323179.83 -5323179.78 -5323179.68 0.0088 0.0081

Neptune -19287-03-03 21:07 J -5323091.72 -5323091.62 -5323091.49 0.0088 0.0071

Neptune -19287-05-31 00:43 J -5323003.59 -5323003.47 -5323003.31 0.0088 0.0061

Neptune -19287-08-27 04:48 J -5322915.46 -5322915.30 -5322915.14 0.0088 0.0050

Jupiter -19287-08-27 11:02 J -5322915.13 -5322915.04 -5322914.94 0.0497 0.0427

Mars -19287-10-07 14:38 J -5322874.00 -5322873.89 -5322873.77 0.1630 0.0289

Neptune -19287-11-23 08:23 J -5322827.32 -5322827.15 -5322826.97 0.0088 0.0040

Jupiter -19287-11-25 21:36 J -5322824.74 -5322824.60 -5322824.45 0.0499 0.0301

Neptune -19286-02-19 12:00 J -5322739.18 -5322739.00 -5322738.81 0.0088 0.0030

Neptune -19286-05-18 15:50 J -5322651.03 -5322650.84 -5322650.65 0.0088 0.0020

Neptune -19286-08-14 19:26 J -5322562.89 -5322562.69 -5322562.50 0.0088 0.0010

Neptune -19286-11-10 23:02 J -5322474.74 -5322474.54 -5322474.34 0.0088 0.0000

Neptune -19285-02-07 02:38 J -5322386.58 -5322386.39 -5322386.19 0.0088 0.0010

Neptune -19285-05-05 06:00 J -5322298.43 -5322298.25 -5322298.05 0.0088 0.0020

Neptune -19285-08-01 09:36 J -5322210.27 -5322210.10 -5322209.90 0.0088 0.0030

Mars -19285-09-11 17:02 J -5322168.83 -5322168.79 -5322168.76 0.1636 0.1554

Neptune -19285-10-28 13:11 J -5322122.11 -5322121.95 -5322121.76 0.0088 0.0040

Neptune -19284-01-24 16:48 J -5322033.95 -5322033.80 -5322033.63 0.0088 0.0050

Neptune -19284-04-22 20:09 J -5321945.78 -5321945.66 -5321945.50 0.0088 0.0060

Neptune -19284-07-20 00:14 J -5321857.61 -5321857.49 -5321857.37 0.0088 0.0070

Neptune -19284-10-16 03:36 J -5321769.42 -5321769.35 -5321769.26 0.0088 0.0079

Saturn -19283-10-04 00:57 J -5321416.63 -5321416.46 -5321416.28 0.0282 0.0098

Saturn -19282-01-01 00:57 J -5321327.64 -5321327.46 -5321327.28 0.0283 0.0097

Jupiter -19281-07-18 22:48 J -5320762.68 -5320762.55 -5320762.43 0.0528 0.0063

Moon -19281-07-23 07:11 J -5320758.30 -5320758.20 -5320758.09 0.2695 0.1155

Earth -19281-07-23 07:11 J -5320758.30 -5320758.20 -5320758.10 0.2702 0.1080 *

Jupiter -19281-10-16 04:33 J -5320673.34 -5320673.31 -5320673.28 0.0527 0.0507

Mars -19277-02-28 02:23 J -5319443.51 -5319443.40 -5319443.30 0.1629 0.0722

Mars -19275-02-02 04:19 J -5318738.41 -5318738.32 -5318738.24 0.1634 0.1101

Jupiter -19275-09-13 18:43 J -5318514.90 -5318514.72 -5318514.54 0.0498 0.0122

Uranus -19275-09-15 12:28 J -5318513.08 -5318512.98 -5318512.86 0.0138 0.0111

Uranus -19275-12-12 20:09 J -5318424.81 -5318424.66 -5318424.50 0.0138 0.0082

Uranus -19274-03-11 03:36 J -5318336.52 -5318336.35 -5318336.17 0.0137 0.0053

Uranus -19274-06-07 11:02 J -5318248.22 -5318248.04 -5318247.85 0.0137 0.0025

Earth -19274-07-17 04:48 J -5318208.36 -5318208.30 -5318208.23 0.2706 0.2162

Moon -19274-07-17 05:31 J -5318208.34 -5318208.27 -5318208.21 0.2710 0.2138 *

Uranus -19274-09-03 18:28 J -5318159.92 -5318159.73 -5318159.54 0.0137 0.0004

Uranus -19274-12-01 01:40 J -5318071.61 -5318071.43 -5318071.24 0.0137 0.0032

Uranus -19273-02-27 09:07 J -5317983.29 -5317983.12 -5317982.95 0.0137 0.0059

Uranus -19273-05-25 16:19 J -5317894.96 -5317894.82 -5317894.67 0.0137 0.0087

Uranus -19273-08-21 23:31 J -5317806.62 -5317806.52 -5317806.42 0.0137 0.0114

Mars -19273-11-14 03:50 J -5317722.45 -5317722.34 -5317722.23 0.1887 0.1390

Moon -19270-01-20 14:09 J -5316925.01 -5316924.91 -5316924.81 0.2625 0.1952

Earth -19270-01-20 15:21 J -5316924.97 -5316924.86 -5316924.75 0.2629 0.1778 *

Saturn -19270-11-14 00:00 J -5316627.60 -5316627.50 -5316627.40 0.0281 0.0178

Saturn -19269-02-10 10:48 J -5316539.18 -5316539.05 -5316538.92 0.0280 0.0049

Jupiter -19269-05-07 03:21 J -5316452.48 -5316452.36 -5316452.24 0.0529 0.0198

Saturn -19269-05-08 21:36 J -5316450.72 -5316450.60 -5316450.47 0.0278 0.0079

Jupiter -19269-08-04 09:07 J -5316363.21 -5316363.12 -5316363.03 0.0527 0.0372

Saturn -19269-08-05 08:23 J -5316362.23 -5316362.15 -5316362.06 0.0277 0.0206

Mars -19268-07-20 13:55 J -5316013.00 -5316012.92 -5316012.84 0.1628 0.1151

Moon -19268-07-26 01:11 J -5316007.51 -5316007.45 -5316007.38 0.2694 0.2148

Earth -19268-07-26 01:40 J -5316007.49 -5316007.43 -5316007.37 0.2700 0.2272 *

Venus -19268-12-02 09:21 J -5315878.25 -5315878.11 -5315877.97 0.3633 0.1728

Mars -19266-06-25 15:50 J -5315307.95 -5315307.84 -5315307.74 0.1632 0.0658

Mars -19263-04-05 20:52 J -5314292.80 -5314292.63 -5314292.46 0.1889 0.0019

Jupiter -19263-07-02 15:21 J -5314205.04 -5314204.86 -5314204.67 0.0498 0.0063

Earth -19261-07-18 23:16 J -5313457.64 -5313457.53 -5313457.43 0.2704 0.1027

Moon -19261-07-19 00:00 J -5313457.61 -5313457.50 -5313457.40 0.2705 0.0954 *

Mars -19259-12-11 01:26 J -5312582.46 -5312582.44 -5312582.41 0.1627 0.1579

Moon -19257-01-23 18:43 J -5312173.87 -5312173.72 -5312173.57 0.2632 0.0186

Earth -19257-01-23 20:09 J -5312173.81 -5312173.66 -5312173.50 0.2630 0.0251 *

Jupiter -19257-02-24 07:55 J -5312142.26 -5312142.17 -5312142.07 0.0529 0.0332

Jupiter -19257-05-23 13:40 J -5312053.04 -5312052.93 -5312052.82 0.0528 0.0238

Mars -19257-11-15 03:07 J -5311877.48 -5311877.37 -5311877.25 0.1631 0.0213

Mars -19254-08-26 13:26 J -5310863.05 -5310862.94 -5310862.84 0.1891 0.1457

Saturn -19253-02-20 20:38 J -5310684.79 -5310684.64 -5310684.50 0.0281 0.0176

Saturn -19253-05-19 20:23 J -5310595.83 -5310595.65 -5310595.46 0.0282 0.0021

Saturn -19253-08-16 20:09 J -5310506.77 -5310506.66 -5310506.53 0.0283 0.0215

Jupiter -19251-04-20 12:57 J -5309895.13 -5309894.96 -5309894.80 0.0498 0.0237

Jupiter -19251-07-19 23:02 J -5309804.57 -5309804.54 -5309804.51 0.0499 0.0488

Venus -19248-04-19 12:00 J -5308800.03 -5308800.00 -5308799.96 0.3738 0.3413

Earth -19248-07-21 17:31 J -5308706.88 -5308706.77 -5308706.66 0.2703 0.0145

Moon -19248-07-21 18:14 J -5308706.86 -5308706.74 -5308706.63 0.2698 0.0258 *

Mars -19247-04-07 14:38 J -5308447.00 -5308446.89 -5308446.77 0.1630 0.0229

Jupiter -19246-12-13 12:00 J -5307832.05 -5307832.00 -5307831.95 0.0529 0.0477

Jupiter -19245-03-11 17:31 J -5307742.89 -5307742.77 -5307742.64 0.0528 0.0090

Mars -19245-03-12 16:48 J -5307741.81 -5307741.80 -5307741.78 0.1636 0.1612

Moon -19244-01-25 23:31 J -5307422.61 -5307422.52 -5307422.42 0.2636 0.2016

Earth -19244-01-26 00:43 J -5307422.55 -5307422.47 -5307422.39 0.2632 0.2199 *

Venus -19243-11-03 03:36 J -5306776.45 -5306776.35 -5306776.26 0.3740 0.1387

Saturn -19240-04-02 01:55 J -5305895.49 -5305895.42 -5305895.33 0.0282 0.0221

Saturn -19240-06-29 12:57 J -5305807.08 -5305806.96 -5305806.84 0.0281 0.0090

Saturn -19240-09-25 23:45 J -5305718.63 -5305718.51 -5305718.38 0.0280 0.0040

Saturn -19240-12-23 10:33 J -5305630.16 -5305630.06 -5305629.95 0.0279 0.0168

Jupiter -19239-02-06 10:04 J -5305585.18 -5305585.08 -5305584.98 0.0498 0.0414

Jupiter -19239-05-07 20:38 J -5305494.78 -5305494.64 -5305494.50 0.0499 0.0315

Mars -19238-08-29 02:09 J -5305016.51 -5305016.41 -5305016.30 0.1629 0.0665

Venus -19237-05-18 18:57 J -5304752.81 -5304752.71 -5304752.61 0.3742 0.0657

Mars -19236-08-03 04:19 J -5304311.40 -5304311.32 -5304311.24 0.1634 0.1159

Moon -19235-07-24 12:00 J -5303956.10 -5303956.00 -5303955.90 0.2695 0.1251

Earth -19235-07-24 12:00 J -5303956.09 -5303956.00 -5303955.90 0.2701 0.1313 *

Jupiter -19234-12-29 21:50 J -5303432.72 -5303432.59 -5303432.46 0.0528 0.0052

Jupiter -19233-03-28 03:36 J -5303343.37 -5303343.35 -5303343.33 0.0526 0.0516

Mars -19233-05-15 04:33 J -5303295.40 -5303295.31 -5303295.21 0.1887 0.1517

Venus -19232-12-02 10:33 J -5302729.13 -5302729.06 -5302729.00 0.3743 0.2725

Uranus -19231-11-20 05:31 J -5302376.30 -5302376.27 -5302376.21 0.0141 0.0131

Uranus -19230-02-16 09:07 J -5302288.20 -5302288.12 -5302288.04 0.0141 0.0110

Uranus -19230-05-15 12:28 J -5302200.08 -5302199.98 -5302199.87 0.0141 0.0089

Uranus -19230-08-11 16:04 J -5302111.95 -5302111.83 -5302111.72 0.0141 0.0068

Uranus -19230-11-07 19:26 J -5302023.81 -5302023.69 -5302023.56 0.0141 0.0047

Uranus -19229-02-03 22:48 J -5301935.68 -5301935.55 -5301935.41 0.0141 0.0027

Uranus -19229-05-02 02:23 J -5301847.53 -5301847.40 -5301847.27 0.0141 0.0005

Uranus -19229-07-29 06:00 J -5301759.39 -5301759.25 -5301759.12 0.0142 0.0017

Pluto -19229-10-03 13:40 J -5301692.96 -5301692.93 -5301692.90 0.0073 0.0071

Uranus -19229-10-25 09:21 J -5301671.23 -5301671.11 -5301670.98 0.0142 0.0039

Pluto -19229-12-30 14:38 J -5301604.95 -5301604.89 -5301604.80 0.0073 0.0063

Mars -19228-01-18 13:55 J -5301586.01 -5301585.92 -5301585.84 0.1628 0.1094

Uranus -19228-01-21 12:57 J -5301583.08 -5301582.96 -5301582.84 0.0142 0.0060

Pluto -19228-03-28 16:04 J -5301516.92 -5301516.83 -5301516.71 0.0073 0.0055

Uranus -19228-04-19 16:33 J -5301494.92 -5301494.81 -5301494.70 0.0142 0.0082

Pluto -19228-06-24 17:45 J -5301428.88 -5301428.76 -5301428.64 0.0073 0.0046

Uranus -19228-07-16 20:09 J -5301406.75 -5301406.66 -5301406.57 0.0142 0.0104

Earth -19228-07-17 09:50 J -5301406.17 -5301406.09 -5301406.02 0.2706 0.1942

Moon -19228-07-17 10:19 J -5301406.15 -5301406.07 -5301405.99 0.2710 0.1834 *

Pluto -19228-09-20 18:57 J -5301340.84 -5301340.71 -5301340.57 0.0072 0.0038

Uranus -19228-10-12 23:45 J -5301318.57 -5301318.51 -5301318.45 0.0142 0.0127

Pluto -19228-12-17 20:23 J -5301252.79 -5301252.65 -5301252.50 0.0072 0.0029

Jupiter -19227-02-23 18:00 J -5301184.93 -5301184.75 -5301184.57 0.0498 0.0138

Pluto -19227-03-15 21:36 J -5301164.74 -5301164.60 -5301164.44 0.0072 0.0021

Pluto -19227-06-11 23:02 J -5301076.69 -5301076.54 -5301076.38 0.0072 0.0013

Pluto -19227-09-08 00:28 J -5300988.64 -5300988.48 -5300988.32 0.0072 0.0005

Pluto -19227-12-05 01:40 J -5300900.58 -5300900.43 -5300900.27 0.0072 0.0003

Mars -19227-12-24 15:36 J -5300880.95 -5300880.85 -5300880.74 0.1632 0.0716

Pluto -19226-03-03 03:07 J -5300812.53 -5300812.37 -5300812.22 0.0072 0.0011

Pluto -19226-05-30 04:19 J -5300724.47 -5300724.32 -5300724.17 0.0072 0.0019

Pluto -19226-08-26 05:31 J -5300636.41 -5300636.27 -5300636.12 0.0071 0.0027

Pluto -19226-11-22 06:43 J -5300548.35 -5300548.22 -5300548.08 0.0071 0.0034

Pluto -19225-02-18 07:40 J -5300460.29 -5300460.18 -5300460.04 0.0071 0.0043

Pluto -19225-05-16 09:07 J -5300372.22 -5300372.12 -5300372.00 0.0071 0.0050

Pluto -19225-08-12 10:19 J -5300284.15 -5300284.07 -5300283.97 0.0071 0.0057

Pluto -19225-11-08 11:45 J -5300196.07 -5300196.01 -5300195.95 0.0071 0.0064

Moon -19224-01-20 20:23 J -5300122.78 -5300122.65 -5300122.53 0.2626 0.1508

Earth -19224-01-20 21:36 J -5300122.72 -5300122.60 -5300122.47 0.2629 0.1400 *

Saturn -19224-07-09 18:14 J -5299952.84 -5299952.74 -5299952.64 0.0281 0.0235

Mars -19224-10-04 21:50 J -5299865.76 -5299865.59 -5299865.42 0.1889 0.0123

Saturn -19224-10-06 18:14 J -5299863.93 -5299863.74 -5299863.55 0.0282 0.0041

Saturn -19223-01-03 18:00 J -5299774.90 -5299774.75 -5299774.59 0.0283 0.0154

Moon -19222-07-27 06:14 J -5299205.28 -5299205.24 -5299205.20 0.2694 0.2506

Earth -19222-07-27 06:43 J -5299205.26 -5299205.22 -5299205.18 0.2700 0.2502 *

Jupiter -19222-10-18 02:09 J -5299122.53 -5299122.41 -5299122.30 0.0528 0.0195

Jupiter -19221-01-15 07:55 J -5299033.26 -5299033.17 -5299033.09 0.0527 0.0374

Mars -19219-06-11 01:26 J -5298155.48 -5298155.44 -5298155.40 0.1627 0.1520

Mars -19217-05-16 03:07 J -5297450.48 -5297450.37 -5297450.25 0.1631 0.0271

Jupiter -19216-12-12 15:07 J -5296875.06 -5296874.87 -5296874.68 0.0498 0.0041

Earth -19215-07-20 04:04 J -5296655.44 -5296655.33 -5296655.22 0.2704 0.0797

Moon -19215-07-20 04:48 J -5296655.41 -5296655.30 -5296655.19 0.2703 0.0737 *

Mars -19214-02-24 14:23 J -5296436.02 -5296435.90 -5296435.78 0.1891 0.1322

Moon -19211-01-24 00:57 J -5295371.61 -5295371.46 -5295371.31 0.2632 0.0379

Earth -19211-01-24 02:38 J -5295371.54 -5295371.39 -5295371.25 0.2630 0.0618 *

Venus -19211-07-09 12:00 J -5295205.16 -5295205.00 -5295204.85 0.3632 0.0566

Saturn -19211-08-20 04:04 J -5295163.37 -5295163.33 -5295163.29 0.0282 0.0263

Saturn -19211-11-16 14:52 J -5295074.99 -5295074.88 -5295074.76 0.0281 0.0133

Saturn -19210-02-13 01:55 J -5294986.56 -5294986.42 -5294986.29 0.0279 0.0011

Saturn -19210-05-12 12:43 J -5294898.09 -5294897.97 -5294897.86 0.0278 0.0124

Jupiter -19210-08-06 06:43 J -5294812.32 -5294812.22 -5294812.12 0.0529 0.0329

Saturn -19210-08-08 23:31 J -5294809.57 -5294809.52 -5294809.47 0.0277 0.0251

Jupiter -19210-11-03 12:28 J -5294723.10 -5294722.98 -5294722.87 0.0528 0.0240

Mars -19208-10-06 14:38 J -5294020.00 -5294019.89 -5294019.77 0.1630 0.0169

Neptune -19207-12-19 03:50 J -5293581.37 -5293581.34 -5293581.30 0.0089 0.0086

Neptune -19206-03-17 05:16 J -5293493.34 -5293493.28 -5293493.22 0.0089 0.0079

Neptune -19206-06-13 06:14 J -5293405.30 -5293405.24 -5293405.15 0.0089 0.0073

Neptune -19206-09-09 07:40 J -5293317.26 -5293317.18 -5293317.08 0.0089 0.0065

Neptune -19206-12-06 08:52 J -5293229.22 -5293229.13 -5293229.02 0.0089 0.0059

Neptune -19205-03-03 10:19 J -5293141.17 -5293141.07 -5293140.95 0.0089 0.0051

Neptune -19205-05-30 11:31 J -5293053.12 -5293053.02 -5293052.89 0.0089 0.0045

Neptune -19205-08-26 12:57 J -5292965.07 -5292964.96 -5292964.83 0.0089 0.0037

Neptune -19205-11-22 14:23 J -5292877.02 -5292876.90 -5292876.78 0.0089 0.0030

Neptune -19204-02-18 15:36 J -5292788.97 -5292788.85 -5292788.72 0.0089 0.0023

Neptune -19204-05-17 17:02 J -5292700.92 -5292700.79 -5292700.66 0.0089 0.0016

Neptune -19204-08-13 18:14 J -5292612.87 -5292612.74 -5292612.60 0.0089 0.0010

Jupiter -19204-09-30 11:45 J -5292565.17 -5292565.01 -5292564.84 0.0497 0.0224

Neptune -19204-11-09 19:40 J -5292524.81 -5292524.68 -5292524.55 0.0089 0.0002

Neptune -19203-02-05 20:52 J -5292436.76 -5292436.63 -5292436.49 0.0089 0.0006

Neptune -19203-05-04 22:19 J -5292348.70 -5292348.57 -5292348.44 0.0089 0.0012

Neptune -19203-07-31 23:31 J -5292260.64 -5292260.52 -5292260.39 0.0089 0.0019

Neptune -19203-10-28 00:43 J -5292172.59 -5292172.47 -5292172.33 0.0089 0.0027

Neptune -19202-01-24 02:09 J -5292084.53 -5292084.41 -5292084.28 0.0089 0.0033

Neptune -19202-04-22 03:21 J -5291996.47 -5291996.36 -5291996.23 0.0089 0.0041

Neptune -19202-07-19 04:48 J -5291908.41 -5291908.30 -5291908.18 0.0089 0.0047

Earth -19202-07-22 22:33 J -5291904.67 -5291904.56 -5291904.45 0.2703 0.0369

Moon -19202-07-22 23:02 J -5291904.65 -5291904.54 -5291904.43 0.2698 0.0394 *

Neptune -19202-10-15 06:00 J -5291820.34 -5291820.25 -5291820.14 0.0089 0.0055

Neptune -19201-01-11 07:26 J -5291732.28 -5291732.19 -5291732.09 0.0089 0.0061

Neptune -19201-04-08 08:38 J -5291644.21 -5291644.14 -5291644.05 0.0089 0.0069

Neptune -19201-07-05 10:04 J -5291556.14 -5291556.08 -5291556.01 0.0089 0.0076

Neptune -19201-10-01 11:31 J -5291468.07 -5291468.02 -5291467.97 0.0089 0.0083

Moon -19198-01-27 06:14 J -5290620.26 -5290620.24 -5290620.22 0.2637 0.2594

Earth -19198-01-27 06:57 J -5290620.23 -5290620.21 -5290620.18 0.2632 0.2572 *

Mars -19198-02-27 02:09 J -5290589.51 -5290589.41 -5290589.30 0.1629 0.0606

Jupiter -19198-05-25 11:16 J -5290502.08 -5290502.03 -5290501.97 0.0529 0.0462

Jupiter -19198-08-22 17:02 J -5290412.91 -5290412.79 -5290412.67 0.0528 0.0106

Mars -19196-02-01 04:19 J -5289884.40 -5289884.32 -5289884.25 0.1634 0.1220

Saturn -19194-02-23 13:11 J -5289132.11 -5289131.95 -5289131.77 0.0281 0.0122

Saturn -19194-05-23 13:11 J -5289043.13 -5289042.95 -5289042.76 0.0282 0.0073

Saturn -19194-08-20 12:57 J -5288954.01 -5288953.96 -5288953.89 0.0283 0.0268

Mars -19194-11-14 05:31 J -5288868.35 -5288868.27 -5288868.19 0.1887 0.1643

Jupiter -19192-07-19 09:21 J -5288255.22 -5288255.11 -5288255.00 0.0497 0.0398

Jupiter -19192-10-17 19:40 J -5288164.81 -5288164.68 -5288164.54 0.0499 0.0330

Venus -19192-11-24 09:36 J -5288127.17 -5288127.10 -5288127.04 0.3738 0.2670

Uranus -19191-07-09 12:57 J -5287900.01 -5287899.96 -5287899.89 0.0138 0.0130

Uranus -19191-10-05 20:38 J -5287811.76 -5287811.64 -5287811.50 0.0138 0.0101

Uranus -19190-01-02 04:19 J -5287723.48 -5287723.32 -5287723.16 0.0138 0.0072

Uranus -19190-03-31 11:31 J -5287635.19 -5287635.02 -5287634.83 0.0137 0.0044

Uranus -19190-06-27 19:11 J -5287546.89 -5287546.70 -5287546.51 0.0137 0.0015

Uranus -19190-09-24 02:38 J -5287458.58 -5287458.39 -5287458.20 0.0137 0.0014

Uranus -19190-12-21 09:50 J -5287370.27 -5287370.09 -5287369.90 0.0137 0.0042

Uranus -19189-03-18 17:16 J -5287281.95 -5287281.78 -5287281.62 0.0137 0.0069

Uranus -19189-06-15 00:14 J -5287193.61 -5287193.49 -5287193.35 0.0137 0.0097

Mars -19189-07-19 13:40 J -5287159.01 -5287158.93 -5287158.84 0.1628 0.1038

Moon -19189-07-24 16:48 J -5287153.89 -5287153.80 -5287153.71 0.2694 0.1562

Earth -19189-07-24 17:02 J -5287153.88 -5287153.79 -5287153.70 0.2701 0.1543 *

Uranus -19189-09-11 07:26 J -5287105.26 -5287105.19 -5287105.11 0.0137 0.0124

Mars -19187-06-24 15:36 J -5286453.95 -5286453.85 -5286453.75 0.1632 0.0771

Venus -19186-06-10 00:57 J -5286103.56 -5286103.46 -5286103.36 0.3740 0.0636

Jupiter -19186-06-10 21:07 J -5286102.75 -5286102.62 -5286102.50 0.0528 0.0041

Mars -19184-04-04 22:19 J -5285438.73 -5285438.57 -5285438.40 0.1889 0.0240

Earth -19182-07-18 14:38 J -5284603.97 -5284603.89 -5284603.81 0.2705 0.1720

Moon -19182-07-18 15:21 J -5284603.95 -5284603.86 -5284603.78 0.2709 0.1712 *

Saturn -19181-04-04 16:33 J -5284342.90 -5284342.81 -5284342.71 0.0282 0.0180

Saturn -19181-07-02 03:36 J -5284254.48 -5284254.35 -5284254.22 0.0281 0.0050

Saturn -19181-09-28 14:23 J -5284166.02 -5284165.90 -5284165.77 0.0280 0.0080

Venus -19181-12-23 16:19 J -5284079.91 -5284079.82 -5284079.73 0.3742 0.1412

Saturn -19181-12-26 01:11 J -5284077.53 -5284077.45 -5284077.36 0.0278 0.0208

Jupiter -19180-08-05 17:16 J -5283854.96 -5283854.78 -5283854.61 0.0499 0.0154

Mars -19180-12-10 01:26 J -5283728.49 -5283728.44 -5283728.39 0.1627 0.1464

Moon -19178-01-22 02:23 J -5283320.53 -5283320.40 -5283320.26 0.2628 0.1153

Earth -19178-01-22 04:04 J -5283320.47 -5283320.33 -5283320.19 0.2629 0.1017 *

Mars -19178-11-15 03:07 J -5283023.49 -5283023.37 -5283023.26 0.1631 0.0328

Moon -19176-07-27 11:02 J -5282403.06 -5282403.04 -5282403.01 0.2696 0.2609

Venus -19175-07-09 07:55 J -5282056.21 -5282056.17 -5282056.14 0.3744 0.3482

Mars -19175-08-25 15:07 J -5282009.00 -5282008.87 -5282008.74 0.1891 0.1193

Jupiter -19174-03-30 01:26 J -5281792.56 -5281792.44 -5281792.32 0.0528 0.0180

Jupiter -19174-06-27 07:11 J -5281703.29 -5281703.20 -5281703.12 0.0526 0.0388

Earth -19169-07-20 08:52 J -5279853.23 -5279853.13 -5279853.02 0.2704 0.0581

Moon -19169-07-20 09:36 J -5279853.21 -5279853.10 -5279852.99 0.2702 0.0463 *

Mars -19168-04-06 14:38 J -5279593.01 -5279592.89 -5279592.77 0.1630 0.0110

Jupiter -19168-05-24 14:23 J -5279545.08 -5279544.90 -5279544.71 0.0498 0.0027

Moon -19165-01-25 07:26 J -5278569.33 -5278569.19 -5278569.05 0.2632 0.0919

Earth -19165-01-25 08:52 J -5278569.27 -5278569.13 -5278568.99 0.2631 0.0992 *

Saturn -19165-07-12 10:33 J -5278400.19 -5278400.06 -5278399.91 0.0281 0.0184

Saturn -19165-10-09 10:48 J -5278311.24 -5278311.05 -5278310.86 0.0282 0.0011

Saturn -19164-01-06 10:33 J -5278222.19 -5278222.06 -5278221.93 0.0283 0.0205

Jupiter -19162-01-16 05:31 J -5277482.37 -5277482.27 -5277482.17 0.0529 0.0323

Jupiter -19162-04-15 11:16 J -5277393.14 -5277393.03 -5277392.92 0.0527 0.0245

Mars -19159-08-28 02:09 J -5276162.52 -5276162.41 -5276162.30 0.1629 0.0546

Mars -19157-08-02 04:19 J -5275457.39 -5275457.32 -5275457.25 0.1634 0.1280

Jupiter -19156-03-12 11:45 J -5275235.18 -5275235.01 -5275234.84 0.0498 0.0202

Earth -19156-07-23 03:21 J -5275102.47 -5275102.36 -5275102.25 0.2703 0.0596

Moon -19156-07-23 03:50 J -5275102.45 -5275102.34 -5275102.23 0.2697 0.0641 *

Venus -19154-02-13 14:23 J -5274532.01 -5274531.90 -5274531.80 0.3631 0.2783

Mars -19154-05-15 06:28 J -5274441.28 -5274441.23 -5274441.18 0.1887 0.1774

Saturn -19152-08-22 18:28 J -5273610.80 -5273610.73 -5273610.65 0.0282 0.0224

Saturn -19152-11-19 05:16 J -5273522.40 -5273522.28 -5273522.15 0.0281 0.0094

Saturn -19151-02-15 16:19 J -5273433.95 -5273433.82 -5273433.69 0.0280 0.0036

Saturn -19151-05-15 03:07 J -5273345.47 -5273345.37 -5273345.26 0.0278 0.0164

Jupiter -19151-11-04 10:04 J -5273172.14 -5273172.08 -5273172.01 0.0529 0.0458

Jupiter -19150-02-01 15:50 J -5273082.97 -5273082.84 -5273082.72 0.0528 0.0110

Mars -19149-01-18 13:40 J -5272732.02 -5272731.93 -5272731.84 0.1628 0.0979

Earth -19149-07-16 01:11 J -5272552.47 -5272552.45 -5272552.42 0.2707 0.2632

Moon -19149-07-16 01:40 J -5272552.45 -5272552.43 -5272552.41 0.2713 0.2665 *

Mars -19148-12-23 15:36 J -5272026.95 -5272026.85 -5272026.75 0.1632 0.0831

Uranus -19147-12-10 13:55 J -5271674.99 -5271674.92 -5271674.86 0.0141 0.0121

Uranus -19146-03-08 17:02 J -5271586.87 -5271586.79 -5271586.69 0.0141 0.0101

Uranus -19146-06-04 20:38 J -5271498.75 -5271498.64 -5271498.53 0.0141 0.0080

Uranus -19146-09-01 00:00 J -5271410.61 -5271410.50 -5271410.37 0.0141 0.0059

Uranus -19146-11-28 03:36 J -5271322.48 -5271322.35 -5271322.22 0.0141 0.0038

Uranus -19145-02-24 06:57 J -5271234.34 -5271234.21 -5271234.07 0.0141 0.0017

Uranus -19145-05-22 10:33 J -5271146.19 -5271146.06 -5271145.93 0.0141 0.0005

Uranus -19145-08-18 14:09 J -5271058.04 -5271057.91 -5271057.78 0.0142 0.0027

Mars -19145-10-03 23:16 J -5271011.69 -5271011.53 -5271011.36 0.1889 0.0367

Uranus -19145-11-14 17:31 J -5270969.89 -5270969.77 -5270969.64 0.0142 0.0048

Jupiter -19145-12-29 08:23 J -5270925.26 -5270925.15 -5270925.03 0.0497 0.0384

Uranus -19144-02-10 21:07 J -5270881.73 -5270881.62 -5270881.50 0.0142 0.0070

Jupiter -19144-03-29 18:57 J -5270834.85 -5270834.71 -5270834.58 0.0499 0.0344

Uranus -19144-05-10 00:43 J -5270793.57 -5270793.47 -5270793.37 0.0142 0.0092

Uranus -19144-08-06 04:19 J -5270705.40 -5270705.32 -5270705.24 0.0142 0.0114

Uranus -19144-11-02 07:55 J -5270617.20 -5270617.17 -5270617.13 0.0142 0.0137

Moon -19143-07-25 21:50 J -5270351.68 -5270351.59 -5270351.51 0.2694 0.1716

Earth -19143-07-25 21:50 J -5270351.67 -5270351.59 -5270351.50 0.2701 0.1779 *

Mars -19140-06-10 01:26 J -5269301.50 -5269301.44 -5269301.39 0.1627 0.1408

Jupiter -19139-11-20 20:23 J -5268772.77 -5268772.65 -5268772.52 0.0528 0.0027

Mars -19138-05-16 03:07 J -5268596.48 -5268596.37 -5268596.26 0.1631 0.0388

Earth -19136-07-18 19:26 J -5267801.78 -5267801.69 -5267801.59 0.2705 0.1503

Moon -19136-07-18 20:09 J -5267801.75 -5267801.66 -5267801.56 0.2707 0.1364 *

Saturn -19136-11-29 05:31 J -5267668.32 -5267668.27 -5267668.20 0.0280 0.0265

Mars -19135-02-23 16:04 J -5267581.97 -5267581.83 -5267581.69 0.1891 0.1063

Saturn -19135-02-26 05:45 J -5267579.45 -5267579.26 -5267579.08 0.0281 0.0072

Saturn -19135-05-26 05:31 J -5267490.44 -5267490.27 -5267490.10 0.0282 0.0122

Venus -19135-07-01 06:57 J -5267454.30 -5267454.21 -5267454.13 0.3739 0.1921

Jupiter -19132-01-15 16:33 J -5266524.99 -5266524.81 -5266524.64 0.0498 0.0171

Moon -19132-01-22 08:52 J -5266518.28 -5266518.13 -5266517.99 0.2628 0.0826

Earth -19132-01-22 10:19 J -5266518.21 -5266518.07 -5266517.92 0.2629 0.0638 *

Venus -19129-01-14 22:19 J -5265430.67 -5265430.57 -5265430.47 0.3740 0.0113

Mars -19129-10-05 14:38 J -5265166.01 -5265165.89 -5265165.78 0.1630 0.0073

Jupiter -19127-09-09 00:43 J -5264462.59 -5264462.47 -5264462.35 0.0528 0.0167

Jupiter -19127-12-07 06:14 J -5264373.32 -5264373.24 -5264373.15 0.0526 0.0401

Venus -19124-07-30 13:40 J -5263407.01 -5263406.93 -5263406.85 0.3742 0.2165

Earth -19123-07-21 13:55 J -5263051.03 -5263050.92 -5263050.81 0.2704 0.0347

Moon -19123-07-21 14:38 J -5263051.00 -5263050.89 -5263050.78 0.2701 0.0310 *

Neptune -19123-09-01 14:23 J -5263008.96 -5263008.90 -5263008.81 0.0088 0.0080

Neptune -19123-11-28 18:00 J -5262920.85 -5262920.75 -5262920.62 0.0088 0.0070

Saturn -19122-01-09 20:09 J -5262878.69 -5262878.66 -5262878.63 0.0283 0.0273

Neptune -19122-02-24 21:50 J -5262832.72 -5262832.59 -5262832.44 0.0088 0.0060

Saturn -19122-04-08 06:57 J -5262790.32 -5262790.21 -5262790.10 0.0282 0.0142

Neptune -19122-05-24 01:26 J -5262744.59 -5262744.44 -5262744.27 0.0088 0.0050

Saturn -19122-07-05 18:00 J -5262701.89 -5262701.75 -5262701.62 0.0281 0.0015

Neptune -19122-08-20 05:02 J -5262656.45 -5262656.29 -5262656.10 0.0088 0.0040

Saturn -19122-10-02 04:48 J -5262613.42 -5262613.30 -5262613.18 0.0280 0.0118

Neptune -19122-11-16 08:52 J -5262568.31 -5262568.13 -5262567.94 0.0088 0.0030

Saturn -19122-12-29 15:36 J -5262524.91 -5262524.85 -5262524.79 0.0279 0.0247

Neptune -19121-02-12 12:28 J -5262480.17 -5262479.98 -5262479.78 0.0088 0.0020

Neptune -19121-05-10 16:04 J -5262392.02 -5262391.83 -5262391.63 0.0088 0.0010

Neptune -19121-08-06 19:55 J -5262303.87 -5262303.67 -5262303.47 0.0088 0.0001

Neptune -19121-11-02 23:31 J -5262215.72 -5262215.52 -5262215.33 0.0088 0.0010

Jupiter -19121-11-03 13:40 J -5262215.11 -5262214.93 -5262214.74 0.0499 0.0009

Neptune -19120-01-30 03:07 J -5262127.56 -5262127.37 -5262127.18 0.0088 0.0020

Neptune -19120-04-28 06:43 J -5262039.40 -5262039.22 -5262039.04 0.0088 0.0030

Neptune -19120-07-25 10:19 J -5261951.24 -5261951.07 -5261950.90 0.0088 0.0040

Neptune -19120-10-21 13:40 J -5261863.08 -5261862.93 -5261862.76 0.0088 0.0050

Neptune -19119-01-17 17:16 J -5261774.91 -5261774.78 -5261774.63 0.0088 0.0060

Moon -19119-01-25 13:55 J -5261767.06 -5261766.92 -5261766.79 0.2634 0.1208

Earth -19119-01-25 15:07 J -5261767.00 -5261766.87 -5261766.74 0.2631 0.1365 *

Mars -19119-02-26 02:09 J -5261735.52 -5261735.41 -5261735.30 0.1629 0.0489

Neptune -19119-04-15 20:52 J -5261686.74 -5261686.63 -5261686.50 0.0088 0.0070

Neptune -19119-07-13 00:14 J -5261598.55 -5261598.49 -5261598.39 0.0088 0.0080

Mars -19117-02-01 04:04 J -5261030.39 -5261030.33 -5261030.26 0.1634 0.1335

Jupiter -19115-06-28 05:02 J -5260152.39 -5260152.29 -5260152.19 0.0528 0.0305

Jupiter -19115-09-25 10:33 J -5260063.17 -5260063.06 -5260062.95 0.0527 0.0261

Mars -19110-07-19 13:40 J -5258305.02 -5258304.93 -5258304.83 0.1628 0.0921

Earth -19110-07-24 08:23 J -5258300.26 -5258300.15 -5258300.05 0.2703 0.0827

Moon -19110-07-24 08:38 J -5258300.25 -5258300.14 -5258300.04 0.2696 0.0873 *

Jupiter -19109-08-22 11:02 J -5257905.21 -5257905.04 -5257904.87 0.0498 0.0185

Mars -19108-06-23 15:36 J -5257599.95 -5257599.85 -5257599.75 0.1632 0.0889

Uranus -19107-07-29 21:36 J -5257198.68 -5257198.60 -5257198.49 0.0138 0.0118

Uranus -19107-10-26 05:16 J -5257110.42 -5257110.28 -5257110.12 0.0138 0.0088

Uranus -19106-01-22 12:57 J -5257022.13 -5257021.96 -5257021.78 0.0138 0.0059

Uranus -19106-04-20 20:23 J -5256933.83 -5256933.65 -5256933.46 0.0137 0.0031

Saturn -19106-07-16 03:07 J -5256847.53 -5256847.37 -5256847.20 0.0281 0.0132

Uranus -19106-07-18 03:50 J -5256845.53 -5256845.34 -5256845.15 0.0137 0.0003

Saturn -19106-10-13 03:07 J -5256758.55 -5256758.37 -5256758.19 0.0282 0.0061

Uranus -19106-10-14 11:16 J -5256757.22 -5256757.03 -5256756.84 0.0137 0.0026

Saturn -19105-01-10 02:52 J -5256669.46 -5256669.38 -5256669.30 0.0283 0.0255

Uranus -19105-01-10 18:14 J -5256668.90 -5256668.74 -5256668.55 0.0137 0.0054

Mars -19105-04-04 00:28 J -5256584.64 -5256584.48 -5256584.32 0.1889 0.0512

Uranus -19105-04-08 01:40 J -5256580.58 -5256580.43 -5256580.27 0.0137 0.0081

Uranus -19105-07-05 08:38 J -5256492.24 -5256492.14 -5256492.01 0.0137 0.0109

Uranus -19105-10-01 15:50 J -5256403.85 -5256403.84 -5256403.81 0.0137 0.0136

Venus -19103-03-06 06:14 J -5255883.38 -5255883.24 -5255883.10 0.3634 0.1760

Jupiter -19103-04-16 09:07 J -5255842.18 -5255842.12 -5255842.05 0.0529 0.0449

Jupiter -19103-07-14 14:52 J -5255753.01 -5255752.88 -5255752.76 0.0527 0.0118

Earth -19103-07-17 06:14 J -5255750.29 -5255750.24 -5255750.20 0.2706 0.2416

Moon -19103-07-17 06:28 J -5255750.28 -5255750.23 -5255750.17 0.2713 0.2327 *

Mars -19101-12-09 01:26 J -5254874.50 -5254874.44 -5254874.38 0.1627 0.1348

Moon -19099-01-20 10:33 J -5254467.10 -5254467.06 -5254467.02 0.2624 0.2501

Earth -19099-01-20 11:45 J -5254467.08 -5254467.01 -5254466.94 0.2628 0.2299 *

Mars -19099-11-14 03:07 J -5254169.49 -5254169.37 -5254169.26 0.1631 0.0448

Jupiter -19097-06-10 08:09 J -5253595.28 -5253595.16 -5253595.03 0.0498 0.0363

Moon -19097-07-26 02:38 J -5253549.46 -5253549.39 -5253549.31 0.2695 0.1994

Earth -19097-07-26 02:52 J -5253549.45 -5253549.38 -5253549.31 0.2701 0.2012 *

Jupiter -19097-09-08 18:43 J -5253504.85 -5253504.72 -5253504.60 0.0499 0.0366

Mars -19096-08-24 16:48 J -5253154.95 -5253154.80 -5253154.65 0.1891 0.0937

Saturn -19093-08-25 08:38 J -5252058.23 -5252058.14 -5252058.04 0.0282 0.0187

Saturn -19093-11-21 19:40 J -5251969.81 -5251969.68 -5251969.55 0.0281 0.0056

Saturn -19092-02-18 06:28 J -5251881.35 -5251881.23 -5251881.10 0.0280 0.0074

Saturn -19092-05-17 17:16 J -5251792.86 -5251792.78 -5251792.68 0.0278 0.0202

Jupiter -19091-05-02 19:11 J -5251442.82 -5251442.70 -5251442.57 0.0528 0.0026

Earth -19090-07-20 00:28 J -5250999.58 -5250999.48 -5250999.38 0.2705 0.1276

Moon -19090-07-20 01:11 J -5250999.55 -5250999.45 -5250999.35 0.2706 0.1258 *

Mars -19089-04-05 14:38 J -5250739.01 -5250738.89 -5250738.78 0.1630 0.0032

Moon -19086-01-23 15:07 J -5249716.02 -5249715.87 -5249715.71 0.2628 0.0364

Earth -19086-01-23 16:48 J -5249715.95 -5249715.80 -5249715.65 0.2629 0.0251 *

Jupiter -19085-06-27 15:36 J -5249195.02 -5249194.85 -5249194.67 0.0498 0.0186

Venus -19084-07-22 12:57 J -5248805.01 -5248804.96 -5248804.91 0.3737 0.3200

Mars -19080-08-27 02:09 J -5247308.52 -5247308.41 -5247308.30 0.1629 0.0434

Jupiter -19079-02-19 00:00 J -5247132.62 -5247132.50 -5247132.38 0.0528 0.0152

Jupiter -19079-05-19 05:45 J -5247043.34 -5247043.26 -5247043.18 0.0527 0.0417

Venus -19078-02-05 04:19 J -5246781.42 -5246781.32 -5246781.23 0.3739 0.1177

Mars -19078-08-02 04:04 J -5246603.38 -5246603.33 -5246603.27 0.1634 0.1397

Earth -19077-07-21 18:43 J -5246248.83 -5246248.72 -5246248.61 0.2704 0.0137

Moon -19077-07-21 19:26 J -5246248.80 -5246248.69 -5246248.58 0.2701 0.0011 *

Saturn -19077-12-01 22:04 J -5246115.69 -5246115.58 -5246115.45 0.0280 0.0213

Saturn -19076-02-28 22:19 J -5246026.76 -5246026.57 -5246026.38 0.0281 0.0020

Saturn -19076-05-28 21:50 J -5245937.73 -5245937.59 -5245937.44 0.0282 0.0174

Moon -19073-01-26 20:23 J -5244964.77 -5244964.65 -5244964.53 0.2635 0.1632

Earth -19073-01-26 21:36 J -5244964.72 -5244964.60 -5244964.49 0.2631 0.1742 *

Jupiter -19073-04-15 13:11 J -5244885.14 -5244884.95 -5244884.76 0.0498 0.0012

Venus -19073-08-20 19:40 J -5244757.78 -5244757.68 -5244757.58 0.3741 0.0859

Mars -19070-01-17 13:40 J -5243878.03 -5243877.93 -5243877.83 0.1628 0.0866

Mars -19069-12-22 15:36 J -5243172.95 -5243172.85 -5243172.76 0.1632 0.0947

Jupiter -19068-12-08 04:19 J -5242822.42 -5242822.32 -5242822.21 0.0528 0.0292

Venus -19067-03-06 11:16 J -5242734.10 -5242734.03 -5242733.97 0.3743 0.2917

Jupiter -19067-03-07 09:50 J -5242733.19 -5242733.09 -5242732.98 0.0527 0.0275

Pluto -19066-06-02 14:09 J -5242280.96 -5242280.91 -5242280.83 0.0071 0.0065

Pluto -19066-08-29 15:36 J -5242192.94 -5242192.85 -5242192.75 0.0071 0.0057

Mars -19066-10-04 00:43 J -5242157.63 -5242157.47 -5242157.31 0.1889 0.0614

Pluto -19066-11-25 16:48 J -5242104.90 -5242104.80 -5242104.67 0.0072 0.0049

Pluto -19065-02-21 18:00 J -5242016.86 -5242016.75 -5242016.60 0.0072 0.0042

Pluto -19065-05-19 19:26 J -5241928.82 -5241928.69 -5241928.54 0.0072 0.0034

Pluto -19065-08-15 21:07 J -5241840.77 -5241840.62 -5241840.47 0.0072 0.0025

Pluto -19065-11-11 22:19 J -5241752.72 -5241752.57 -5241752.41 0.0072 0.0017

Pluto -19064-02-07 23:45 J -5241664.66 -5241664.51 -5241664.35 0.0072 0.0009

Pluto -19064-05-07 01:11 J -5241576.61 -5241576.45 -5241576.29 0.0072 0.0001

Moon -19064-07-24 13:26 J -5241498.05 -5241497.94 -5241497.84 0.2695 0.1029

Earth -19064-07-24 13:11 J -5241498.05 -5241497.95 -5241497.84 0.2702 0.1057 *

Pluto -19064-08-03 02:38 J -5241488.55 -5241488.39 -5241488.23 0.0072 0.0007

Pluto -19064-10-30 04:04 J -5241400.49 -5241400.33 -5241400.18 0.0073 0.0016

Saturn -19063-01-12 10:04 J -5241326.15 -5241326.08 -5241326.01 0.0283 0.0237

Pluto -19063-01-26 05:16 J -5241312.42 -5241312.28 -5241312.12 0.0073 0.0024

Saturn -19063-04-10 21:07 J -5241237.74 -5241237.62 -5241237.50 0.0282 0.0106

Pluto -19063-04-24 06:43 J -5241224.35 -5241224.22 -5241224.07 0.0073 0.0033

Saturn -19063-07-08 07:55 J -5241149.30 -5241149.17 -5241149.03 0.0281 0.0027

Pluto -19063-07-21 08:23 J -5241136.28 -5241136.15 -5241136.02 0.0073 0.0041

Uranus -19063-10-03 18:14 J -5241061.77 -5241061.74 -5241061.70 0.0141 0.0134

Saturn -19063-10-04 18:57 J -5241060.82 -5241060.71 -5241060.60 0.0280 0.0155

Pluto -19063-10-17 09:36 J -5241048.21 -5241048.10 -5241047.98 0.0073 0.0050

Uranus -19063-12-30 21:36 J -5240973.67 -5240973.60 -5240973.52 0.0141 0.0113

Pluto -19062-01-13 10:48 J -5240960.12 -5240960.05 -5240959.94 0.0073 0.0060

Uranus -19062-03-29 00:57 J -5240885.55 -5240885.46 -5240885.35 0.0141 0.0093

Pluto -19062-04-11 12:43 J -5240872.03 -5240871.97 -5240871.91 0.0073 0.0068

Uranus -19062-06-25 04:33 J -5240797.42 -5240797.31 -5240797.20 0.0141 0.0072

Uranus -19062-09-21 07:55 J -5240709.29 -5240709.17 -5240709.04 0.0141 0.0051

Uranus -19062-12-18 11:16 J -5240621.15 -5240621.03 -5240620.89 0.0141 0.0030

Jupiter -19061-02-02 10:04 J -5240575.26 -5240575.08 -5240574.91 0.0498 0.0172

Uranus -19061-03-15 14:52 J -5240533.01 -5240532.88 -5240532.75 0.0141 0.0008

Mars -19061-06-09 01:26 J -5240447.51 -5240447.44 -5240447.38 0.1627 0.1292

Uranus -19061-06-11 18:28 J -5240444.87 -5240444.73 -5240444.60 0.0141 0.0013

Uranus -19061-09-07 21:50 J -5240356.72 -5240356.59 -5240356.46 0.0142 0.0035

Uranus -19061-12-05 01:26 J -5240268.56 -5240268.44 -5240268.32 0.0142 0.0056

Uranus -19060-03-03 04:48 J -5240180.40 -5240180.30 -5240180.18 0.0142 0.0079

Uranus -19060-05-30 08:38 J -5240092.23 -5240092.14 -5240092.05 0.0142 0.0100

Uranus -19060-08-26 12:14 J -5240004.06 -5240003.99 -5240003.93 0.0142 0.0123

Mars -19059-05-15 02:52 J -5239742.49 -5239742.38 -5239742.27 0.1631 0.0508

Earth -19057-07-17 11:02 J -5238948.10 -5238948.04 -5238947.98 0.2706 0.2195

Moon -19057-07-17 11:31 J -5238948.08 -5238948.02 -5238947.96 0.2712 0.2192 *

Mars -19056-02-22 18:00 J -5238727.91 -5238727.75 -5238727.60 0.1891 0.0796

Jupiter -19056-09-26 08:38 J -5238512.21 -5238512.14 -5238512.06 0.0528 0.0430

Jupiter -19056-12-24 14:23 J -5238423.03 -5238422.90 -5238422.78 0.0527 0.0136

Moon -19053-01-21 16:48 J -5237664.91 -5237664.80 -5237664.70 0.2625 0.1944

Earth -19053-01-21 18:00 J -5237664.85 -5237664.75 -5237664.64 0.2628 0.1914 *

Moon -19051-07-27 07:26 J -5236747.25 -5236747.19 -5236747.13 0.2695 0.2205

Earth -19051-07-27 07:55 J -5236747.23 -5236747.17 -5236747.11 0.2701 0.2247 *

Mars -19050-10-05 14:38 J -5236312.01 -5236311.89 -5236311.78 0.1630 0.0091

Jupiter -19050-11-21 07:11 J -5236265.33 -5236265.20 -5236265.06 0.0498 0.0349

Jupiter -19049-02-19 17:45 J -5236174.87 -5236174.76 -5236174.64 0.0499 0.0382

Saturn -19047-04-20 19:55 J -5235383.71 -5235383.67 -5235383.62 0.0279 0.0271

Saturn -19047-07-18 19:55 J -5235294.85 -5235294.67 -5235294.49 0.0281 0.0079

Venus -19047-10-11 08:38 J -5235210.30 -5235210.14 -5235209.98 0.3633 0.0468

Saturn -19047-10-15 19:40 J -5235205.85 -5235205.68 -5235205.51 0.0282 0.0114

Earth -19044-07-20 05:16 J -5234197.38 -5234197.28 -5234197.18 0.2705 0.1054

Moon -19044-07-20 06:00 J -5234197.35 -5234197.25 -5234197.14 0.2705 0.0907 *

Jupiter -19044-10-12 18:28 J -5234112.86 -5234112.73 -5234112.61 0.0528 0.0021

Neptune -19042-09-15 02:52 J -5233410.41 -5233410.38 -5233410.33 0.0089 0.0085

Neptune -19042-12-12 04:04 J -5233322.38 -5233322.33 -5233322.26 0.0089 0.0079

Neptune -19041-03-09 05:31 J -5233234.34 -5233234.27 -5233234.19 0.0089 0.0071

Neptune -19041-06-05 06:43 J -5233146.30 -5233146.22 -5233146.12 0.0089 0.0065

Neptune -19041-09-01 08:09 J -5233058.25 -5233058.16 -5233058.05 0.0089 0.0057

Neptune -19041-11-28 09:36 J -5232970.21 -5232970.10 -5232969.99 0.0089 0.0050

Moon -19040-01-23 21:36 J -5232913.75 -5232913.60 -5232913.45 0.2629 0.0093

Earth -19040-01-23 23:02 J -5232913.69 -5232913.54 -5232913.38 0.2630 0.0150 *

Neptune -19040-02-24 10:48 J -5232882.16 -5232882.05 -5232881.93 0.0089 0.0043

Mars -19040-02-25 02:09 J -5232881.53 -5232881.41 -5232881.30 0.1629 0.0378

Neptune -19040-05-23 12:14 J -5232794.11 -5232793.99 -5232793.87 0.0089 0.0036

Neptune -19040-08-19 13:26 J -5232706.06 -5232705.94 -5232705.81 0.0089 0.0029

Neptune -19040-11-15 14:52 J -5232618.01 -5232617.88 -5232617.75 0.0089 0.0022

Neptune -19039-02-11 16:04 J -5232529.96 -5232529.83 -5232529.70 0.0089 0.0015

Neptune -19039-05-10 17:31 J -5232441.90 -5232441.77 -5232441.64 0.0089 0.0009

Neptune -19039-08-06 18:43 J -5232353.85 -5232353.72 -5232353.59 0.0089 0.0002

Neptune -19039-11-02 20:09 J -5232265.80 -5232265.66 -5232265.53 0.0089 0.0006

Neptune -19038-01-29 21:21 J -5232177.74 -5232177.61 -5232177.48 0.0089 0.0013

Mars -19038-01-31 04:04 J -5232176.38 -5232176.33 -5232176.28 0.1634 0.1454

Neptune -19038-04-27 22:33 J -5232089.68 -5232089.56 -5232089.43 0.0089 0.0020

Neptune -19038-07-25 00:00 J -5232001.63 -5232001.50 -5232001.37 0.0089 0.0027

Neptune -19038-10-21 01:11 J -5231913.57 -5231913.45 -5231913.32 0.0089 0.0034

Jupiter -19038-12-08 15:21 J -5231865.03 -5231864.86 -5231864.70 0.0499 0.0205

Neptune -19037-01-17 02:23 J -5231825.51 -5231825.40 -5231825.27 0.0089 0.0041

Neptune -19037-04-14 03:50 J -5231737.45 -5231737.34 -5231737.22 0.0089 0.0048

Neptune -19037-07-11 05:02 J -5231649.38 -5231649.29 -5231649.18 0.0089 0.0055

Neptune -19037-10-07 06:28 J -5231561.32 -5231561.23 -5231561.13 0.0089 0.0062

Neptune -19036-01-03 07:40 J -5231473.25 -5231473.18 -5231473.09 0.0089 0.0069

Neptune -19036-04-01 09:07 J -5231385.18 -5231385.12 -5231385.05 0.0089 0.0076

Neptune -19036-06-28 10:19 J -5231297.10 -5231297.07 -5231297.01 0.0089 0.0084

Saturn -19034-06-01 12:00 J -5230594.01 -5230594.00 -5230593.98 0.0283 0.0281

Saturn -19034-08-28 23:02 J -5230505.65 -5230505.54 -5230505.43 0.0282 0.0149

Saturn -19034-11-25 10:04 J -5230417.21 -5230417.08 -5230416.95 0.0281 0.0020

Saturn -19033-02-21 20:52 J -5230328.75 -5230328.63 -5230328.51 0.0280 0.0112

Saturn -19033-05-20 07:55 J -5230240.24 -5230240.17 -5230240.11 0.0279 0.0241

Jupiter -19032-07-31 22:48 J -5229802.67 -5229802.55 -5229802.43 0.0528 0.0147

Jupiter -19032-10-29 04:33 J -5229713.39 -5229713.31 -5229713.24 0.0527 0.0421

Mars -19031-07-18 13:40 J -5229451.03 -5229450.93 -5229450.83 0.1628 0.0805

Earth -19031-07-22 23:45 J -5229446.63 -5229446.51 -5229446.40 0.2704 0.0129

Moon -19031-07-23 00:14 J -5229446.60 -5229446.49 -5229446.38 0.2699 0.0107 *

Mars -19029-06-22 15:36 J -5228745.94 -5228745.85 -5228745.76 0.1632 0.1008

Moon -19027-01-27 02:38 J -5228162.48 -5228162.39 -5228162.29 0.2636 0.2038

Earth -19027-01-27 03:50 J -5228162.43 -5228162.34 -5228162.25 0.2631 0.2115 *

Venus -19027-02-26 10:19 J -5228132.15 -5228132.07 -5228132.00 0.3738 0.2460

Mars -19026-04-04 01:55 J -5227730.57 -5227730.42 -5227730.26 0.1889 0.0760

Jupiter -19026-09-26 12:14 J -5227555.18 -5227554.99 -5227554.81 0.0498 0.0025

Uranus -19023-05-22 23:02 J -5226585.57 -5226585.54 -5226585.47 0.0138 0.0133

Uranus -19023-08-19 06:43 J -5226497.33 -5226497.22 -5226497.08 0.0138 0.0104

Uranus -19023-11-15 14:23 J -5226409.05 -5226408.90 -5226408.73 0.0138 0.0075

Uranus -19022-02-11 22:04 J -5226320.76 -5226320.58 -5226320.40 0.0137 0.0046

Uranus -19022-05-11 05:31 J -5226232.46 -5226232.27 -5226232.08 0.0137 0.0018

Uranus -19022-08-07 12:57 J -5226144.15 -5226143.96 -5226143.77 0.0137 0.0011

Venus -19022-09-12 01:40 J -5226108.53 -5226108.43 -5226108.33 0.3740 0.0436

Uranus -19022-11-03 20:09 J -5226055.84 -5226055.66 -5226055.47 0.0137 0.0039

Mars -19022-12-09 01:11 J -5226020.52 -5226020.45 -5226020.37 0.1627 0.1236

Uranus -19021-01-31 03:21 J -5225967.52 -5225967.36 -5225967.19 0.0137 0.0067

Uranus -19021-04-28 10:48 J -5225879.19 -5225879.05 -5225878.91 0.0137 0.0094

Uranus -19021-07-25 17:31 J -5225790.83 -5225790.77 -5225790.67 0.0137 0.0122

Jupiter -19020-05-20 03:21 J -5225492.46 -5225492.36 -5225492.25 0.0529 0.0282

Jupiter -19020-08-17 09:07 J -5225403.22 -5225403.12 -5225403.01 0.0527 0.0287

Mars -19020-11-13 02:52 J -5225315.49 -5225315.38 -5225315.27 0.1631 0.0564

Moon -19018-07-25 18:14 J -5224695.84 -5224695.74 -5224695.64 0.2695 0.1345

Earth -19018-07-25 18:14 J -5224695.84 -5224695.74 -5224695.64 0.2702 0.1287 *

Saturn -19018-12-05 15:36 J -5224563.01 -5224562.85 -5224562.69 0.0280 0.0155

Saturn -19017-03-03 15:21 J -5224474.05 -5224473.86 -5224473.67 0.0281 0.0037

Saturn -19017-05-31 15:07 J -5224384.98 -5224384.87 -5224384.76 0.0282 0.0231

Mars -19017-08-23 18:28 J -5224300.89 -5224300.73 -5224300.57 0.1891 0.0683

Venus -19016-03-27 17:02 J -5224084.88 -5224084.79 -5224084.70 0.3741 0.1602

Jupiter -19014-07-15 09:36 J -5223245.28 -5223245.10 -5223244.93 0.0498 0.0152

Earth -19011-07-18 15:50 J -5222145.91 -5222145.84 -5222145.76 0.2706 0.1980

Moon -19011-07-18 16:33 J -5222145.89 -5222145.81 -5222145.73 0.2710 0.1902 *

Venus -19011-10-11 08:38 J -5222061.16 -5222061.14 -5222061.13 0.3743 0.3666

Mars -19010-04-05 14:23 J -5221885.01 -5221884.90 -5221884.78 0.1630 0.0122

Jupiter -19008-03-08 07:55 J -5221182.24 -5221182.17 -5221182.09 0.0528 0.0418

Jupiter	**-19008-06-05 13:26 J**	**-5221093.06**	**-5221092.94**	**-5221092.82**	**0.0527**	**0.0146**		
Moon	**-19007-01-21 23:02 J**	**-5220862.65**	**-5220862.54**	**-5220862.42**	**0.2625**	**0.1765**		
Earth	**-19007-01-22 00:28 J**	**-5220862.60**	**-5220862.48**	**-5220862.35**	**0.2628**	**0.1525**	*****
Moon	**-19005-07-27 12:14 J**	**-5219945.04**	**-5219944.99**	**-5219944.94**	**0.2696**	**0.2382**		
Earth	**-19005-07-27 12:43 J**	**-5219945.01**	**-5219944.97**	**-5219944.92**	**0.2701**	**0.2485**	*****
Saturn	**-19004-01-15 00:28 J**	**-5219773.57**	**-5219773.48**	**-5219773.39**	**0.0283**	**0.0199**		
Saturn	**-19004-04-13 11:31 J**	**-5219685.15**	**-5219685.02**	**-5219684.90**	**0.0282**	**0.0067**		
Saturn	**-19004-07-10 22:19 J**	**-5219596.69**	**-5219596.57**	**-5219596.44**	**0.0281**	**0.0065**		
Saturn	**-19004-10-07 09:07 J**	**-5219508.20**	**-5219508.12**	**-5219508.02**	**0.0280**	**0.0195**		
Jupiter	**-19002-05-03 06:00 J**	**-5218935.38**	**-5218935.25**	**-5218935.11**	**0.0498**	**0.0339**		
Jupiter	**-19002-08-01 16:33 J**	**-5218844.92**	**-5218844.81**	**-5218844.69**	**0.0500**	**0.0393**		
Mars	**-19001-08-26 01:55 J**	**-5218454.53**	**-5218454.42**	**-5218454.30**	**0.1629**	**0.0321**		

19TH MILLENNIUM BCE

This is a list of transits of Mercury in the 19th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Mars	**-18999-08-01 04:04 J**	**-5217749.37**	**-5217749.33**	**-5217749.29**	**0.1634**	**0.1512**		
Earth	**-18998-07-21 10:04 J**	**-5217395.18**	**-5217395.08**	**-5217394.97**	**0.2705**	**0.0838**		
Moon	**-18998-07-21 11:02 J**	**-5217395.15**	**-5217395.04**	**-5217394.94**	**0.2705**	**0.0806**	*****
Jupiter	**-18996-03-24 17:45 J**	**-5216782.88**	**-5216782.76**	**-5216782.63**	**0.0527**	**0.0013**		
Moon	**-18994-01-25 04:04 J**	**-5216111.48**	**-5216111.33**	**-5216111.18**	**0.2631**	**0.0460**		
Earth	**-18994-01-25 05:31 J**	**-5216111.42**	**-5216111.27**	**-5216111.12**	**0.2630**	**0.0511**	*****
Mars	**-18991-01-16 13:40 J**	**-5215024.04**	**-5215023.93**	**-5215023.83**	**0.1628**	**0.0750**		

Venus -18990-05-18 11:02 J -5214537.15 -5214537.04 -5214536.94 0.3632 0.2691

Jupiter -18990-05-20 14:09 J -5214535.08 -5214534.91 -5214534.75 0.0499 0.0216

Mars -18990-12-22 15:36 J -5214318.94 -5214318.85 -5214318.77 0.1632 0.1067

Saturn -18988-04-23 13:40 J -5213831.05 -5213830.93 -5213830.80 0.0279 0.0209

Saturn -18988-07-21 13:40 J -5213742.12 -5213741.93 -5213741.74 0.0281 0.0017

Saturn -18988-10-18 13:11 J -5213653.09 -5213652.95 -5213652.79 0.0282 0.0176

Mars -18987-10-03 02:52 J -5213303.53 -5213303.38 -5213303.23 0.1889 0.0887

Earth -18985-07-23 04:33 J -5212644.42 -5212644.31 -5212644.20 0.2703 0.0336

Moon -18985-07-23 05:02 J -5212644.40 -5212644.29 -5212644.18 0.2698 0.0449 *

Jupiter -18984-01-10 21:50 J -5212472.71 -5212472.59 -5212472.47 0.0528 0.0139

Jupiter -18984-04-10 03:36 J -5212383.42 -5212383.35 -5212383.28 0.0526 0.0428

Mars -18982-06-09 01:11 J -5211593.53 -5211593.45 -5211593.37 0.1627 0.1177

Moon -18981-01-28 08:52 J -5211360.19 -5211360.13 -5211360.06 0.2636 0.2349

Earth -18981-01-28 10:04 J -5211360.13 -5211360.08 -5211360.03 0.2631 0.2485 *

Pluto -18981-05-07 00:43 J -5211260.53 -5211260.47 -5211260.40 0.0073 0.0066

Pluto -18981-08-03 01:55 J -5211172.50 -5211172.42 -5211172.31 0.0073 0.0058

Pluto -18981-10-30 03:07 J -5211084.46 -5211084.37 -5211084.23 0.0073 0.0050

Pluto -18980-01-26 04:48 J -5210996.42 -5210996.30 -5210996.16 0.0072 0.0041

Pluto -18980-04-24 06:14 J -5210908.38 -5210908.24 -5210908.10 0.0072 0.0032

Mars -18980-05-14 02:52 J -5210888.48 -5210888.38 -5210888.27 0.1631 0.0621

Pluto -18980-07-21 07:26 J -5210820.33 -5210820.19 -5210820.03 0.0072 0.0025

Pluto -18980-10-17 08:52 J -5210732.28 -5210732.13 -5210731.97 0.0072 0.0016

Pluto -18979-01-13 10:19 J -5210644.23 -5210644.07 -5210643.91 0.0072 0.0008

Pluto -18979-04-11 11:31 J -5210556.17 -5210556.02 -5210555.86 0.0072 0.0002

Pluto -18979-07-08 12:57 J -5210468.12 -5210467.96 -5210467.81 0.0072 0.0008

Pluto -18979-10-04 14:09 J -5210380.06 -5210379.91 -5210379.75 0.0072 0.0016

Uranus -18979-10-24 02:09 J -5210360.46 -5210360.41 -5210360.35 0.0141 0.0126

Pluto -18979-12-31 15:21 J -5210292.00 -5210291.86 -5210291.71 0.0071 0.0024

Uranus -18978-01-20 05:31 J -5210272.35 -5210272.27 -5210272.18 0.0141 0.0105

Jupiter -18978-03-08 11:16 J -5210225.21 -5210225.03 -5210224.84 0.0499 0.0040

Pluto -18978-03-29 16:33 J -5210203.94 -5210203.81 -5210203.66 0.0071 0.0032

Uranus -18978-04-18 08:52 J -5210184.23 -5210184.13 -5210184.02 0.0141 0.0085

Pluto -18978-06-25 17:45 J -5210115.88 -5210115.76 -5210115.62 0.0071 0.0039

Uranus -18978-07-15 12:14 J -5210096.10 -5210095.99 -5210095.86 0.0141 0.0064

Pluto -18978-09-21 18:57 J -5210027.81 -5210027.71 -5210027.58 0.0071 0.0047

Uranus -18978-10-11 15:50 J -5210007.96 -5210007.84 -5210007.71 0.0141 0.0043

Pluto -18978-12-18 20:23 J -5209939.75 -5209939.65 -5209939.55 0.0071 0.0054

Uranus -18977-01-07 19:26 J -5209919.83 -5209919.69 -5209919.56 0.0141 0.0022

Mars -18977-02-22 19:26 J -5209873.85 -5209873.69 -5209873.53 0.1891 0.0546

Pluto -18977-03-15 21:21 J -5209851.67 -5209851.61 -5209851.52 0.0071 0.0062

Uranus -18977-04-04 22:48 J -5209831.68 -5209831.55 -5209831.42 0.0141 0.0001

Pluto -18977-06-11 22:48 J -5209763.58 -5209763.55 -5209763.52 0.0071 0.0069

Uranus -18977-07-02 02:23 J -5209743.54 -5209743.40 -5209743.27 0.0142 0.0022

Uranus -18977-09-28 05:45 J -5209655.38 -5209655.26 -5209655.13 0.0142 0.0043

Uranus -18977-12-25 09:21 J -5209567.23 -5209567.11 -5209566.99 0.0142 0.0065

Venus -18976-03-19 16:19 J -5209482.82 -5209482.82 -5209482.82 0.3736 0.3730

Uranus -18976-03-23 12:57 J -5209479.06 -5209478.96 -5209478.86 0.0142 0.0087

Uranus -18976-06-19 16:33 J -5209390.89 -5209390.81 -5209390.73 0.0142 0.0109

Uranus -18976-09-15 20:09 J -5209302.71 -5209302.66 -5209302.61 0.0142 0.0131

Saturn -18975-06-04 02:38 J -5209041.46 -5209041.39 -5209041.33 0.0283 0.0240

Saturn -18975-08-31 13:26 J -5208953.06 -5208952.94 -5208952.82 0.0282 0.0108

Saturn -18975-11-28 00:28 J -5208864.61 -5208864.48 -5208864.35 0.0281 0.0023

Saturn -18974-02-24 11:16 J -5208776.13 -5208776.03 -5208775.91 0.0280 0.0154

Mars -18973-10-29 12:57 J -5208162.98 -5208162.96 -5208162.95 0.1626 0.1605

Jupiter -18973-10-30 02:09 J -5208162.51 -5208162.41 -5208162.30 0.0528 0.0278

Jupiter -18972-01-27 07:55 J -5208073.28 -5208073.17 -5208073.07 0.0527 0.0289

Moon -18972-07-25 23:02 J -5207893.63 -5207893.54 -5207893.44 0.2695 0.1464

Earth -18972-07-25 23:02 J -5207893.63 -5207893.54 -5207893.44 0.2702 0.1521 *

Venus -18971-10-03 07:40 J -5207459.27 -5207459.18 -5207459.09 0.3738 0.1719

Mars -18971-10-04 14:23 J -5207458.01 -5207457.90 -5207457.78 0.1630 0.0184

Jupiter -18967-12-25 08:09 J -5205915.34 -5205915.16 -5205914.98 0.0498 0.0144

Venus -18965-04-17 23:02 J -5205435.64 -5205435.54 -5205435.44 0.3740 0.0301

Earth -18965-07-18 20:52 J -5205343.72 -5205343.63 -5205343.55 0.2706 0.1754

Moon -18965-07-18 21:36 J -5205343.69 -5205343.60 -5205343.52 0.2709 0.1681 *

Moon -18961-01-23 05:31 J -5204060.41 -5204060.27 -5204060.13 0.2625 0.1178

Earth -18961-01-23 06:57 J -5204060.35 -5204060.21 -5204060.07 0.2628 0.1136 *

Mars -18961-02-25 01:55 J -5204027.53 -5204027.42 -5204027.30 0.1628 0.0259

Jupiter -18961-08-18 06:57 J -5203852.29 -5203852.21 -5203852.14 0.0529 0.0412

Jupiter -18961-11-15 12:28 J -5203763.10 -5203762.98 -5203762.86 0.0527 0.0154

Venus -18960-11-01 14:23 J -5203411.97 -5203411.90 -5203411.82 0.3742 0.2354

Mars -18959-01-30 04:04 J -5203322.36 -5203322.33 -5203322.30 0.1634 0.1573

Moon -18959-07-28 17:02 J -5203142.79 -5203142.79 -5203142.78 0.2696 0.2689

Saturn -18959-12-08 09:50 J -5203010.27 -5203010.09 -5203009.91 0.0280 0.0089

Saturn -18958-03-07 09:36 J -5202921.27 -5202921.10 -5202920.92 0.0281 0.0103

Neptune -18958-05-29 11:02 J -5202838.10 -5202838.04 -5202837.95 0.0088 0.0080

Neptune -18958-08-25 14:38 J -5202749.99 -5202749.89 -5202749.76 0.0088 0.0070

Neptune -18958-11-21 18:28 J -5202661.86 -5202661.73 -5202661.58 0.0088 0.0060

Neptune -18957-02-17 22:04 J -5202573.73 -5202573.58 -5202573.41 0.0088 0.0050

Neptune -18957-05-16 01:40 J -5202485.59 -5202485.43 -5202485.24 0.0088 0.0040

Neptune -18957-08-12 05:31 J -5202397.45 -5202397.27 -5202397.08 0.0088 0.0030

Neptune -18957-11-08 09:07 J -5202309.30 -5202309.12 -5202308.92 0.0088 0.0020

Neptune -18956-02-04 12:57 J -5202221.16 -5202220.96 -5202220.77 0.0088 0.0010

Neptune -18956-05-03 16:33 J -5202133.01 -5202132.81 -5202132.61 0.0088 0.0001

Neptune -18956-07-30 20:09 J -5202044.85 -5202044.66 -5202044.46 0.0088 0.0010

Neptune -18956-10-26 23:45 J -5201956.70 -5201956.51 -5201956.32 0.0088 0.0020

Neptune -18955-01-23 03:21 J -5201868.54 -5201868.36 -5201868.17 0.0088 0.0030

Neptune -18955-04-21 06:57 J -5201780.38 -5201780.21 -5201780.03 0.0088 0.0040

Neptune -18955-07-18 10:33 J -5201692.22 -5201692.06 -5201691.90 0.0088 0.0050

Jupiter -18955-10-13 05:16 J -5201605.42 -5201605.28 -5201605.13 0.0498 0.0322

Neptune -18955-10-14 14:09 J -5201604.05 -5201603.91 -5201603.76 0.0088 0.0060

Neptune -18954-01-10 17:45 J -5201515.87 -5201515.76 -5201515.64 0.0088 0.0070

Jupiter -18954-01-11 15:50 J -5201514.94 -5201514.84 -5201514.73 0.0499 0.0407

Neptune -18954-04-08 21:07 J -5201427.68 -5201427.62 -5201427.53 0.0088 0.0080

Mars -18952-07-17 13:26 J -5200597.04 -5200596.94 -5200596.83 0.1628 0.0694

Earth -18952-07-21 15:07 J -5200592.98 -5200592.87 -5200592.76 0.2705 0.0607

Moon -18952-07-21 15:50 J -5200592.95 -5200592.84 -5200592.73 0.2704 0.0484 *

Mars -18950-06-22 15:21 J -5199891.94 -5199891.86 -5199891.77 0.1632 0.1123

Jupiter -18949-09-03 16:48 J -5199452.92 -5199452.80 -5199452.67 0.0527 0.0024

Moon -18948-01-25 10:33 J -5199309.21 -5199309.06 -5199308.92 0.2633 0.0656

Earth -18948-01-25 12:00 J -5199309.15 -5199309.00 -5199308.86 0.2630 0.0896 *

Mars -18947-04-03 03:21 J -5198876.50 -5198876.36 -5198876.22 0.1889 0.1000

Saturn -18945-01-18 15:07 J -5198220.98 -5198220.87 -5198220.76 0.0283 0.0156

Saturn -18945-04-16 02:09 J -5198132.54 -5198132.41 -5198132.28 0.0282 0.0023

Saturn -18945-07-13 13:11 J -5198044.07 -5198043.95 -5198043.83 0.0281 0.0108

Saturn -18945-10-10 00:00 J -5197955.56 -5197955.50 -5197955.43 0.0280 0.0238

Jupiter -18943-10-30 12:28 J -5197205.15 -5197204.98 -5197204.81 0.0499 0.0221

Mars -18943-12-08 01:11 J -5197166.53 -5197166.45 -5197166.37 0.1627 0.1120

Mars -18941-11-12 02:52 J -5196461.49 -5196461.38 -5196461.28 0.1631 0.0677

Venus -18939-06-08 02:52 J -5195888.52 -5195888.38 -5195888.24 0.3634 0.1850

Uranus -18939-06-12 08:23 J -5195884.24 -5195884.15 -5195884.05 0.0138 0.0119

Earth -18939-07-24 09:36 J -5195842.21 -5195842.10 -5195841.99 0.2703 0.0572

Moon -18939-07-24 09:50 J -5195842.20 -5195842.09 -5195841.98 0.2697 0.0557 *

Uranus -18939-09-08 16:04 J -5195795.97 -5195795.83 -5195795.68 0.0138 0.0090

Uranus -18939-12-05 23:31 J -5195707.69 -5195707.52 -5195707.34 0.0138 0.0061

Uranus -18938-03-04 07:11 J -5195619.39 -5195619.20 -5195619.02 0.0137 0.0033

Uranus -18938-05-31 14:38 J -5195531.08 -5195530.89 -5195530.70 0.0137 0.0005

Mars -18938-08-23 20:23 J -5195446.82 -5195446.65 -5195446.49 0.1891 0.0414

Uranus -18938-08-27 21:50 J -5195442.77 -5195442.59 -5195442.40 0.0137 0.0024

Uranus -18938-11-24 05:02 J -5195354.46 -5195354.29 -5195354.11 0.0137 0.0052

Uranus -18937-02-20 12:14 J -5195266.13 -5195265.99 -5195265.82 0.0137 0.0080

Uranus -18937-05-18 19:26 J -5195177.79 -5195177.69 -5195177.56 0.0137 0.0107

Jupiter -18937-06-22 21:21 J -5195142.74 -5195142.61 -5195142.49 0.0527 0.0125

Uranus -18937-08-15 02:52 J -5195089.41 -5195089.38 -5195089.35 0.0137 0.0134

Jupiter -18937-09-20 02:52 J -5195053.45 -5195053.38 -5195053.31 0.0526 0.0442

Mars -18933-04-29 12:57 J -5193736.00 -5193735.96 -5193735.93 0.1626 0.1546

Earth -18932-07-17 07:26 J -5193292.20 -5193292.19 -5193292.17 0.2707 0.2668

Moon -18932-07-17 07:40 J -5193292.20 -5193292.18 -5193292.15 0.2713 0.2611 *

Mars -18931-04-04 14:23 J -5193031.01 -5193030.90 -5193030.78 0.1630 0.0240

Jupiter -18931-08-18 09:50 J -5192895.28 -5192895.09 -5192894.91 0.0499 0.0044

Saturn -18929-04-26 08:38 J -5192278.30 -5192278.14 -5192277.97 0.0280 0.0139

Saturn -18929-07-24 08:23 J -5192189.33 -5192189.15 -5192188.96 0.0281 0.0054

Saturn -18929-10-21 08:09 J -5192100.25 -5192100.16 -5192100.07 0.0282 0.0246

Mars -18928-01-12 12:28 J -5192017.00 -5192016.98 -5192016.95 0.1892 0.1867

Moon -18926-07-27 03:50 J -5191091.42 -5191091.34 -5191091.26 0.2696 0.1784

Earth -18926-07-27 04:04 J -5191091.42 -5191091.33 -5191091.25 0.2702 0.1751 *

Jupiter -18925-04-11 01:11 J -5190832.56 -5190832.45 -5190832.34 0.0528 0.0271

Jupiter -18925-07-09 06:43 J -5190743.32 -5190743.22 -5190743.11 0.0527 0.0295

Mars -18922-08-26 01:55 J -5189600.53 -5189600.42 -5189600.30 0.1628 0.0199

Mars -18920-07-31 04:04 J -5188895.33 -5188895.33 -5188895.33 0.1634 0.1631

Venus -18920-10-24 13:40 J -5188809.99 -5188809.93 -5188809.87 0.3737 0.2994

Jupiter -18919-06-06 06:57 J -5188585.39 -5188585.21 -5188585.03 0.0498 0.0135

Earth -18919-07-20 01:40 J -5188541.52 -5188541.43 -5188541.34 0.2706 0.1532

Moon -18919-07-20 02:23 J -5188541.49 -5188541.40 -5188541.31 0.2709 0.1470 *

Saturn -18916-06-06 17:31 J -5187488.86 -5187488.77 -5187488.67 0.0283 0.0194

Saturn -18916-09-03 04:33 J -5187400.44 -5187400.31 -5187400.18 0.0282 0.0061

Saturn -18916-11-30 15:36 J -5187311.98 -5187311.85 -5187311.72 0.0281 0.0070

Moon -18915-01-23 12:00 J -5187258.14 -5187258.00 -5187257.86 0.2627 0.0955

Earth -18915-01-23 13:26 J -5187258.09 -5187257.94 -5187257.79 0.2629 0.0743 *

Saturn -18915-02-27 02:23 J -5187223.48 -5187223.40 -5187223.30 0.0280 0.0201

Venus -18914-05-10 05:02 J -5186786.39 -5186786.29 -5186786.20 0.3738 0.0990

Jupiter -18913-01-29 05:31 J -5186522.35 -5186522.27 -5186522.19 0.0528 0.0411

Jupiter -18913-04-27 11:02 J -5186433.16 -5186433.04 -5186432.92 0.0527 0.0154

Mars -18912-01-15 13:26 J -5186170.04 -5186169.94 -5186169.83 0.1627 0.0635

Mars -18911-12-21 15:21 J -5185464.94 -5185464.86 -5185464.78 0.1632 0.1183

Venus -18909-11-22 20:23 J -5184762.75 -5184762.65 -5184762.55 0.3740 0.1047

Mars -18908-10-02 04:19 J -5184449.45 -5184449.32 -5184449.18 0.1889 0.1132

Jupiter -18907-03-25 03:36 J -5184275.49 -5184275.35 -5184275.21 0.0498 0.0319

Jupiter -18907-06-23 14:09 J -5184185.01 -5184184.91 -5184184.81 0.0499 0.0410

Earth -18906-07-22 19:55 J -5183790.78 -5183790.67 -5183790.56 0.2705 0.0385

Moon -18906-07-22 20:38 J -5183790.75 -5183790.64 -5183790.53 0.2702 0.0317 *

Mars -18903-06-08 01:11 J -5182739.54 -5182739.45 -5182739.37 0.1627 0.1064

Venus -18903-06-08 11:45 J -5182739.06 -5182739.01 -5182738.95 0.3742 0.3103

Moon -18902-01-26 16:48 J -5182506.93 -5182506.80 -5182506.67 0.2633 0.1238

Earth -18902-01-26 18:14 J -5182506.87 -5182506.74 -5182506.60 0.2630 0.1275 *

Jupiter -18901-02-14 15:36 J -5182122.98 -5182122.85 -5182122.73 0.0528 0.0021

Mars -18901-05-13 02:52 J -5182034.48 -5182034.38 -5182034.28 0.1631 0.0738

Saturn -18900-09-13 06:00 J -5181546.37 -5181546.25 -5181546.11 0.0279 0.0201

Saturn -18900-12-11 06:00 J -5181457.44 -5181457.25 -5181457.06 0.0280 0.0011

Saturn -18899-03-10 05:31 J -5181368.41 -5181368.27 -5181368.13 0.0282 0.0182

Mars -18898-02-21 21:07 J -5181019.79 -5181019.62 -5181019.45 0.1891 0.0289

Jupiter -18895-04-11 11:16 J -5179875.19 -5179875.03 -5179874.86 0.0499 0.0233

Uranus -18895-11-13 09:21 J -5179659.17 -5179659.11 -5179659.04 0.0141 0.0121

Uranus -18894-02-09 12:43 J -5179571.06 -5179570.97 -5179570.87 0.0141 0.0100

Uranus -18894-05-08 16:04 J -5179482.93 -5179482.83 -5179482.71 0.0141 0.0080

Uranus -18894-08-04 19:26 J -5179394.80 -5179394.69 -5179394.56 0.0141 0.0059

Mars -18894-10-29 12:43 J -5179309.01 -5179308.97 -5179308.92 0.1626 0.1490

Uranus -18894-10-31 23:02 J -5179306.67 -5179306.54 -5179306.41 0.0141 0.0038

Uranus -18893-01-28 02:38 J -5179218.52 -5179218.39 -5179218.26 0.0141 0.0016

Uranus -18893-04-25 06:00 J -5179130.38 -5179130.25 -5179130.11 0.0141 0.0006

Uranus -18893-07-22 09:36 J -5179042.23 -5179042.10 -5179041.97 0.0142 0.0027

Earth -18893-07-24 14:23 J -5179040.01 -5179039.90 -5179039.79 0.2703 0.0796

Moon -18893-07-24 14:52 J -5179039.99 -5179039.88 -5179039.78 0.2697 0.0890 *

Uranus -18893-10-18 12:57 J -5178954.08 -5178953.96 -5178953.83 0.0142 0.0049

Uranus -18892-01-14 16:33 J -5178865.92 -5178865.81 -5178865.69 0.0142 0.0070

Uranus -18892-04-12 20:09 J -5178777.76 -5178777.66 -5178777.56 0.0142 0.0092

Uranus -18892-07-09 23:45 J -5178689.59 -5178689.51 -5178689.43 0.0142 0.0114

Mars -18892-10-03 14:23 J -5178604.02 -5178603.90 -5178603.79 0.1629 0.0296

Uranus -18892-10-06 03:21 J -5178601.39 -5178601.36 -5178601.32 0.0142 0.0136

Jupiter -18890-12-03 20:09 J -5177812.79 -5177812.66 -5177812.54 0.0528 0.0120

Jupiter -18889-03-02 01:40 J -5177723.49 -5177723.43 -5177723.36 0.0526 0.0447

Mars -18889-07-13 13:11 J -5177590.01 -5177589.95 -5177589.89 0.1893 0.1751

Saturn -18887-10-24 19:26 J -5176756.76 -5176756.69 -5176756.62 0.0284 0.0239

Saturn -18886-01-21 06:28 J -5176668.35 -5176668.23 -5176668.11 0.0283 0.0106

Saturn -18886-04-19 17:31 J -5176579.90 -5176579.77 -5176579.64 0.0282 0.0027

Saturn -18886-07-17 04:19 J -5176491.42 -5176491.32 -5176491.21 0.0281 0.0157

Earth -18886-07-18 12:28 J -5176490.03 -5176489.98 -5176489.94 0.2707 0.2450

Moon -18886-07-18 12:43 J -5176490.01 -5176489.97 -5176489.92 0.2713 0.2468 *

Jupiter -18883-01-28 07:40 J -5175565.37 -5175565.18 -5175565.00 0.0499 0.0042

Venus -18882-01-13 05:16 J -5175215.44 -5175215.28 -5175215.12 0.3634 0.0411

Moon -18882-01-21 13:26 J -5175206.98 -5175206.94 -5175206.90 0.2622 0.2520

Earth -18882-01-21 14:38 J -5175206.95 -5175206.89 -5175206.84 0.2627 0.2428 *

Mars -18882-02-24 01:55 J -5175173.54 -5175173.42 -5175173.31 0.1629 0.0142

Moon -18880-07-27 08:38 J -5174289.22 -5174289.14 -5174289.06 0.2695 0.1884

Earth -18880-07-27 08:52 J -5174289.20 -5174289.13 -5174289.05 0.2702 0.1989 *

Jupiter -18878-09-22 00:28 J -5173502.59 -5173502.48 -5173502.37 0.0528 0.0258

Jupiter -18878-12-20 06:00 J -5173413.35 -5173413.25 -5173413.15 0.0526 0.0306

Neptune -18877-06-11 01:40 J -5173239.45 -5173239.43 -5173239.37 0.0089 0.0086

Neptune -18877-09-07 03:07 J -5173151.42 -5173151.37 -5173151.29 0.0089 0.0078

Neptune -18877-12-04 04:33 J -5173063.38 -5173063.31 -5173063.22 0.0089 0.0071

Neptune -18876-03-02 05:45 J -5172975.34 -5172975.26 -5172975.16 0.0089 0.0064

Neptune -18876-05-29 07:11 J -5172887.29 -5172887.20 -5172887.09 0.0089 0.0057

Neptune -18876-08-25 08:23 J -5172799.25 -5172799.15 -5172799.03 0.0089 0.0050

Neptune -18876-11-21 09:50 J -5172711.20 -5172711.09 -5172710.97 0.0089 0.0043

Neptune -18875-02-17 11:02 J -5172623.15 -5172623.04 -5172622.91 0.0089 0.0037

Neptune -18875-05-16 12:28 J -5172535.10 -5172534.98 -5172534.85 0.0089 0.0029

Neptune -18875-08-12 13:40 J -5172447.05 -5172446.93 -5172446.79 0.0089 0.0023

Neptune -18875-11-08 15:07 J -5172359.00 -5172358.87 -5172358.74 0.0089 0.0015

Neptune -18874-02-04 16:33 J -5172270.94 -5172270.81 -5172270.68 0.0089 0.0008

Neptune -18874-05-03 17:45 J -5172182.89 -5172182.76 -5172182.63 0.0089 0.0001

Neptune -18874-07-30 19:11 J -5172094.84 -5172094.70 -5172094.57 0.0089 0.0007

Neptune -18874-10-26 20:23 J -5172006.78 -5172006.65 -5172006.52 0.0089 0.0013

Neptune -18873-01-22 21:36 J -5171918.72 -5171918.60 -5171918.47 0.0089 0.0021

Neptune -18873-04-19 23:02 J -5171830.67 -5171830.54 -5171830.41 0.0089 0.0027

Mars -18873-07-16 13:26 J -5171743.05 -5171742.94 -5171742.83 0.1628 0.0576

Neptune -18873-07-17 00:14 J -5171742.61 -5171742.49 -5171742.36 0.0089 0.0034

Earth -18873-07-20 06:28 J -5171739.32 -5171739.23 -5171739.13 0.2706 0.1312

Moon -18873-07-20 07:11 J -5171739.30 -5171739.20 -5171739.10 0.2709 0.1207 *

Neptune -18873-10-13 01:26 J -5171654.55 -5171654.44 -5171654.31 0.0089 0.0042

Neptune -18872-01-09 02:52 J -5171566.49 -5171566.38 -5171566.26 0.0089 0.0048

Neptune -18872-04-07 04:19 J -5171478.42 -5171478.32 -5171478.22 0.0089 0.0055

Neptune -18872-07-04 05:31 J -5171390.36 -5171390.27 -5171390.17 0.0089 0.0063

Neptune -18872-09-30 06:57 J -5171302.29 -5171302.21 -5171302.13 0.0089 0.0070

Jupiter -18872-11-16 04:33 J -5171255.48 -5171255.31 -5171255.12 0.0499 0.0139

Neptune -18872-12-27 08:09 J -5171214.22 -5171214.16 -5171214.09 0.0089 0.0077

Neptune -18871-03-25 09:36 J -5171126.14 -5171126.10 -5171126.06 0.0089 0.0084

Mars -18871-06-21 15:21 J -5171037.93 -5171037.86 -5171037.78 0.1632 0.1242

Saturn -18870-01-31 05:16 J -5170814.36 -5170814.28 -5170814.19 0.0279 0.0247

Saturn -18870-04-30 05:16 J -5170725.47 -5170725.28 -5170725.10 0.0280 0.0056

Saturn -18870-07-28 05:02 J -5170636.46 -5170636.29 -5170636.13 0.0281 0.0136

Moon -18869-01-24 18:14 J -5170455.89 -5170455.74 -5170455.59 0.2629 0.0474

Earth	-18869-01-24 19:40 J	-5170455.83	-5170455.68	-5170455.52	0.2629	0.0367 *
Mars	-18868-04-02 05:31 J	-5170022.40	-5170022.27	-5170022.15	0.1889	0.1274
Jupiter	-18866-07-11 04:19 J	-5169192.40	-5169192.32	-5169192.24	0.0528	0.0407
Jupiter	-18866-10-08 09:50 J	-5169103.21	-5169103.09	-5169102.97	0.0527	0.0158
Mars	-18864-12-07 01:11 J	-5168312.54	-5168312.45	-5168312.36	0.1627	0.1005
Venus	-18863-05-31 11:02 J	-5168137.12	-5168137.04	-5168136.96	0.3737	0.2262
Mars	-18862-11-12 02:52 J	-5167607.48	-5167607.38	-5167607.28	0.1631	0.0796
Earth	-18860-07-23 00:57 J	-5166988.57	-5166988.46	-5166988.35	0.2704	0.0154
Moon	-18860-07-23 01:40 J	-5166988.55	-5166988.43	-5166988.32	0.2700	0.0131 *
Jupiter	-18860-09-04 01:40 J	-5166945.57	-5166945.43	-5166945.28	0.0498	0.0317
Jupiter	-18860-12-03 12:28 J	-5166855.08	-5166854.98	-5166854.88	0.0499	0.0415
Mars	-18859-08-22 21:50 J	-5166592.76	-5166592.59	-5166592.42	0.1891	0.0164
Venus	-18858-12-15 02:23 J	-5166113.50	-5166113.40	-5166113.30	0.3739	0.0255
Saturn	-18857-03-12 22:04 J	-5166024.60	-5166024.58	-5166024.54	0.0284	0.0274
Saturn	-18857-06-09 09:07 J	-5165936.23	-5165936.12	-5165936.00	0.0283	0.0141
Saturn	-18857-09-05 20:09 J	-5165847.79	-5165847.66	-5165847.53	0.0282	0.0010
Saturn	-18857-12-03 07:11 J	-5165759.32	-5165759.20	-5165759.08	0.0281	0.0124
Moon	-18856-01-26 23:16 J	-5165704.66	-5165704.53	-5165704.40	0.2633	0.1430
Earth	-18856-01-27 00:43 J	-5165704.59	-5165704.47	-5165704.36	0.2630	0.1657 *
Saturn	-18856-03-01 18:14 J	-5165670.79	-5165670.74	-5165670.69	0.0280	0.0254
Uranus	-18855-04-05 09:07 J	-5165271.13	-5165271.12	-5165271.08	0.0138	0.0137
Uranus	-18855-07-02 16:48 J	-5165182.91	-5165182.80	-5165182.67	0.0138	0.0108
Uranus	-18855-09-29 00:28 J	-5165094.63	-5165094.48	-5165094.32	0.0138	0.0079
Uranus	-18855-12-26 08:09 J	-5165006.34	-5165006.16	-5165005.98	0.0138	0.0050
Uranus	-18854-03-24 15:36 J	-5164918.04	-5164917.85	-5164917.66	0.0138	0.0021
Mars	-18854-04-29 12:43 J	-5164882.02	-5164881.97	-5164881.92	0.1626	0.1432
Uranus	-18854-06-20 23:02 J	-5164829.73	-5164829.54	-5164829.35	0.0137	0.0007
Jupiter	-18854-07-27 13:55 J	-5164793.05	-5164792.92	-5164792.79	0.0527	0.0016
Uranus	-18854-09-17 06:14 J	-5164741.42	-5164741.24	-5164741.05	0.0137	0.0036
Uranus	-18854-12-14 13:40 J	-5164653.10	-5164652.93	-5164652.76	0.0137	0.0063

Uranus -18853-03-11 20:38 J -5164564.77 -5164564.64 -5164564.48 0.0137 0.0091

Uranus -18853-06-08 04:04 J -5164476.42 -5164476.33 -5164476.23 0.0137 0.0118

Mars -18852-04-03 14:23 J -5164177.01 -5164176.90 -5164176.79 0.1629 0.0356

Venus -18852-06-29 17:45 J -5164089.84 -5164089.76 -5164089.67 0.3741 0.1797

Mars -18849-01-12 14:09 J -5163162.99 -5163162.91 -5163162.82 0.1892 0.1612

Jupiter -18848-09-21 09:07 J -5162545.28 -5162545.12 -5162544.95 0.0499 0.0231

Earth -18847-07-25 19:26 J -5162237.80 -5162237.69 -5162237.59 0.2703 0.1031

Moon -18847-07-25 19:40 J -5162237.79 -5162237.68 -5162237.58 0.2697 0.1022 *

Mars -18843-08-25 01:55 J -5160746.54 -5160746.42 -5160746.31 0.1628 0.0099

Jupiter -18842-05-15 18:28 J -5160482.86 -5160482.73 -5160482.61 0.0528 0.0123

Jupiter -18842-08-13 00:00 J -5160393.56 -5160393.50 -5160393.43 0.0526 0.0444

Saturn -18841-09-16 03:36 J -5159993.52 -5159993.35 -5159993.18 0.0280 0.0111

Saturn -18841-12-14 03:07 J -5159904.54 -5159904.37 -5159904.18 0.0281 0.0081

Saturn -18840-03-13 02:38 J -5159815.42 -5159815.39 -5159815.33 0.0282 0.0273

Earth -18840-07-18 17:16 J -5159687.84 -5159687.78 -5159687.72 0.2707 0.2230

Moon -18840-07-18 17:45 J -5159687.83 -5159687.76 -5159687.69 0.2712 0.2117 *

Moon -18836-01-21 19:55 J -5158404.76 -5158404.67 -5158404.59 0.2623 0.2178

Earth -18836-01-21 20:52 J -5158404.72 -5158404.63 -5158404.53 0.2627 0.2041 *

Jupiter -18836-07-10 06:14 J -5158235.43 -5158235.24 -5158235.06 0.0499 0.0050

Moon -18834-07-28 13:26 J -5157487.00 -5157486.94 -5157486.87 0.2695 0.2235

Earth -18834-07-28 13:55 J -5157486.98 -5157486.92 -5157486.86 0.2702 0.2223 *

Mars -18833-01-15 13:26 J -5157316.05 -5157315.94 -5157315.83 0.1627 0.0519

Mars -18832-12-20 15:21 J -5156610.93 -5156610.86 -5156610.79 0.1632 0.1297

Jupiter -18830-03-03 23:02 J -5156172.65 -5156172.54 -5156172.43 0.0528 0.0258

Jupiter -18830-06-01 04:33 J -5156083.41 -5156083.31 -5156083.21 0.0526 0.0307

Mars -18829-10-01 05:45 J -5155595.37 -5155595.26 -5155595.14 0.1889 0.1376

Saturn -18828-10-27 11:16 J -5155204.12 -5155204.03 -5155203.93 0.0283 0.0182

Saturn -18827-01-23 22:19 J -5155115.70 -5155115.57 -5155115.44 0.0282 0.0049

Saturn -18827-04-22 09:21 J -5155027.24 -5155027.11 -5155026.99 0.0281 0.0083

Saturn -18827-07-19 20:09 J -5154938.73 -5154938.66 -5154938.57 0.0280 0.0215

Earth -18827-07-21 11:31 J -5154937.12 -5154937.02 -5154936.92 0.2706 0.1085

Moon -18827-07-21 12:14 J -5154937.09 -5154936.99 -5154936.89 0.2707 0.1053 *

Venus -18826-08-20 07:55 J -5154542.28 -5154542.17 -5154542.06 0.3633 0.2655

Jupiter -18824-04-28 02:09 J -5153925.59 -5153925.41 -5153925.23 0.0499 0.0145

Mars -18824-06-07 01:11 J -5153885.55 -5153885.45 -5153885.36 0.1627 0.0950

Moon -18823-01-25 00:28 J -5153653.63 -5153653.48 -5153653.32 0.2630 0.0157

Earth -18823-01-25 02:09 J -5153653.56 -5153653.41 -5153653.26 0.2629 0.0037 *

Mars -18822-05-13 02:52 J -5153180.48 -5153180.38 -5153180.28 0.1631 0.0855

Mars -18819-02-20 23:02 J -5152165.71 -5152165.54 -5152165.37 0.1891 0.0023

Jupiter -18819-12-21 03:21 J -5151862.44 -5151862.36 -5151862.28 0.0528 0.0397

Pluto -18818-01-04 00:14 J -5151848.55 -5151848.49 -5151848.41 0.0071 0.0064

Jupiter -18818-03-20 08:52 J -5151773.25 -5151773.13 -5151773.01 0.0527 0.0166

Pluto -18818-04-02 01:26 J -5151760.52 -5151760.44 -5151760.33 0.0071 0.0057

Pluto -18818-06-29 02:52 J -5151672.49 -5151672.38 -5151672.26 0.0072 0.0049

Pluto -18818-09-25 04:19 J -5151584.45 -5151584.32 -5151584.19 0.0072 0.0041

Pluto -18818-12-22 05:45 J -5151496.40 -5151496.26 -5151496.12 0.0072 0.0033

Pluto -18817-03-19 06:57 J -5151408.35 -5151408.21 -5151408.06 0.0072 0.0025

Pluto -18817-06-15 08:23 J -5151320.30 -5151320.15 -5151319.99 0.0072 0.0017

Pluto -18817-09-11 09:36 J -5151232.25 -5151232.10 -5151231.93 0.0072 0.0010

Pluto -18817-12-08 11:02 J -5151144.19 -5151144.04 -5151143.88 0.0072 0.0002

Pluto -18816-03-06 12:28 J -5151056.14 -5151055.98 -5151055.82 0.0072 0.0008

Pluto -18816-06-02 13:40 J -5150968.07 -5150967.93 -5150967.76 0.0073 0.0017

Pluto -18816-08-29 15:07 J -5150880.01 -5150879.87 -5150879.71 0.0073 0.0025

Pluto -18816-11-25 16:48 J -5150791.94 -5150791.80 -5150791.66 0.0073 0.0033

Pluto -18815-02-21 18:00 J -5150703.87 -5150703.75 -5150703.61 0.0073 0.0042

Pluto -18815-05-20 19:40 J -5150615.79 -5150615.68 -5150615.56 0.0073 0.0050

Pluto -18815-08-16 20:52 J -5150527.71 -5150527.63 -5150527.53 0.0073 0.0059

Mars -18815-10-28 12:43 J -5150455.03 -5150454.97 -5150454.91 0.1626 0.1376

Pluto -18815-11-12 22:19 J -5150439.61 -5150439.57 -5150439.50 0.0073 0.0068

Earth -18814-07-24 05:45 J -5150186.37 -5150186.26 -5150186.15 0.2704 0.0106

Moon -18814-07-24 06:28 J -5150186.34 -5150186.23 -5150186.12 0.2700 0.0170 *

Mars -18813-10-02 14:23 J -5149750.02 -5149749.90 -5149749.79 0.1630 0.0416

Jupiter -18812-02-13 23:02 J -5149615.68 -5149615.54 -5149615.40 0.0498 0.0326

Jupiter -18812-05-15 09:50 J -5149525.20 -5149525.09 -5149524.98 0.0500 0.0406

Venus -18812-06-21 17:02 J -5149487.82 -5149487.79 -5149487.76 0.3736 0.3521

Saturn -18811-02-03 03:36 J -5149261.51 -5149261.35 -5149261.19 0.0279 0.0151

Saturn -18811-05-03 03:21 J -5149172.55 -5149172.36 -5149172.17 0.0280 0.0040

Saturn -18811-07-31 02:38 J -5149083.48 -5149083.39 -5149083.27 0.0281 0.0233

Uranus -18811-09-06 13:26 J -5149045.97 -5149045.94 -5149045.90 0.0140 0.0135

Uranus -18811-12-03 16:48 J -5148957.87 -5148957.80 -5148957.72 0.0140 0.0115

Moon -18810-01-28 05:45 J -5148902.36 -5148902.26 -5148902.16 0.2634 0.1999

Earth -18810-01-28 06:57 J -5148902.31 -5148902.21 -5148902.12 0.2630 0.2032 *

Uranus -18810-03-01 20:09 J -5148869.75 -5148869.66 -5148869.56 0.0141 0.0094

Uranus -18810-05-28 23:31 J -5148781.63 -5148781.52 -5148781.40 0.0141 0.0074

Mars -18810-07-13 15:07 J -5148735.97 -5148735.87 -5148735.77 0.1892 0.1480

Uranus -18810-08-25 02:52 J -5148693.49 -5148693.38 -5148693.25 0.0141 0.0053

Uranus -18810-11-21 06:28 J -5148605.36 -5148605.23 -5148605.10 0.0141 0.0032

Uranus -18809-02-17 09:50 J -5148517.22 -5148517.09 -5148516.95 0.0141 0.0011

Uranus -18809-05-15 13:26 J -5148429.07 -5148428.94 -5148428.81 0.0141 0.0011

Uranus -18809-08-11 17:02 J -5148340.92 -5148340.79 -5148340.66 0.0141 0.0033

Uranus -18809-11-07 20:23 J -5148252.77 -5148252.65 -5148252.52 0.0142 0.0054

Uranus -18808-02-04 00:00 J -5148164.61 -5148164.50 -5148164.39 0.0142 0.0076

Uranus -18808-05-03 03:36 J -5148076.45 -5148076.35 -5148076.26 0.0142 0.0098

Uranus -18808-07-30 06:57 J -5147988.27 -5147988.21 -5147988.13 0.0142 0.0120

Venus -18806-01-05 08:23 J -5147464.24 -5147464.15 -5147464.06 0.3737 0.1522

Jupiter -18806-01-06 12:28 J -5147463.10 -5147462.98 -5147462.85 0.0527 0.0017

Mars -18803-02-23 01:55 J -5146319.54 -5146319.42 -5146319.31 0.1628 0.0051

Venus -18801-07-20 23:45 J -5145440.61 -5145440.51 -5145440.41 0.3739 0.0499

Earth -18801-07-26 00:14 J -5145435.59 -5145435.49 -5145435.39 0.2703 0.1265

Moon -18801-07-26 00:28 J -5145435.58 -5145435.48 -5145435.39 0.2696 0.1280 *

Jupiter -18800-03-03 06:57 J -5145215.37 -5145215.21 -5145215.04 0.0499 0.0229

Saturn -18798-03-16 14:23 J -5144471.98 -5144471.90 -5144471.81 0.0284 0.0213

Saturn -18798-06-13 01:26 J -5144383.56 -5144383.44 -5144383.31 0.0283 0.0080

Saturn -18798-09-09 12:28 J -5144295.11 -5144294.98 -5144294.85 0.0282 0.0053

Saturn -18798-12-06 23:31 J -5144206.62 -5144206.52 -5144206.42 0.0280 0.0184

Venus -18795-02-03 15:07 J -5143416.94 -5143416.87 -5143416.79 0.3741 0.2547

Jupiter -18795-10-25 16:33 J -5143152.93 -5143152.81 -5143152.68 0.0528 0.0130

Jupiter -18794-01-22 22:19 J -5143063.64 -5143063.57 -5143063.50 0.0526 0.0437

Mars -18794-07-16 13:26 J -5142889.05 -5142888.94 -5142888.83 0.1627 0.0459

Earth -18794-07-19 22:04 J -5142885.65 -5142885.58 -5142885.51 0.2707 0.2007

Moon -18794-07-19 22:33 J -5142885.63 -5142885.56 -5142885.49 0.2712 0.2025 *

Neptune -18793-02-23 07:40 J -5142667.25 -5142667.18 -5142667.09 0.0088 0.0080

Neptune -18793-05-21 11:31 J -5142579.13 -5142579.02 -5142578.90 0.0088 0.0070

Neptune -18793-08-17 15:07 J -5142491.01 -5142490.87 -5142490.72 0.0088 0.0060

Neptune -18793-11-13 18:43 J -5142402.87 -5142402.72 -5142402.55 0.0088 0.0050

Neptune -18792-02-09 22:19 J -5142314.74 -5142314.57 -5142314.39 0.0088 0.0040

Neptune -18792-05-09 01:55 J -5142226.59 -5142226.42 -5142226.22 0.0088 0.0030

Mars -18792-06-20 15:21 J -5142183.92 -5142183.86 -5142183.80 0.1632 0.1359

Neptune -18792-08-05 05:45 J -5142138.45 -5142138.26 -5142138.07 0.0088 0.0020

Neptune -18792-11-01 09:21 J -5142050.30 -5142050.11 -5142049.91 0.0088 0.0010

Neptune -18791-01-28 12:57 J -5141962.15 -5141961.96 -5141961.76 0.0088 0.0002

Neptune -18791-04-26 16:33 J -5141874.00 -5141873.81 -5141873.61 0.0088 0.0010

Neptune -18791-07-23 20:09 J -5141785.84 -5141785.66 -5141785.46 0.0088 0.0020

Neptune -18791-10-19 23:45 J -5141697.69 -5141697.51 -5141697.32 0.0088 0.0030

Neptune -18790-01-16 03:21 J -5141609.53 -5141609.36 -5141609.18 0.0088 0.0040

Moon -18790-01-23 02:09 J -5141602.53 -5141602.41 -5141602.30 0.2625 0.1714

Earth -18790-01-23 03:21 J -5141602.48 -5141602.36 -5141602.24 0.2628 0.1649 *

Neptune -18790-04-14 06:57 J -5141521.36 -5141521.21 -5141521.04 0.0088 0.0050

Neptune -18790-07-11 10:33 J -5141433.19 -5141433.06 -5141432.91 0.0088 0.0060

Neptune -18790-10-07 13:55 J -5141345.02 -5141344.92 -5141344.78 0.0088 0.0070

Neptune -18789-01-03 17:31 J -5141256.83 -5141256.77 -5141256.67 0.0088 0.0080

Mars -18789-04-01 06:57 J -5141168.31 -5141168.21 -5141168.11 0.1889 0.1520

Jupiter -18789-12-20 03:36 J -5140905.53 -5140905.35 -5140905.16 0.0498 0.0044

Moon -18788-07-28 18:28 J -5140684.78 -5140684.73 -5140684.68 0.2695 0.2360

Earth -18788-07-28 18:57 J -5140684.76 -5140684.71 -5140684.67 0.2701 0.2461 *

Mars -18785-12-06 00:57 J -5139458.55 -5139458.46 -5139458.36 0.1627 0.0893

Jupiter -18783-08-13 20:52 J -5138842.73 -5138842.63 -5138842.52 0.0528 0.0269

Jupiter -18783-11-11 02:38 J -5138753.50 -5138753.39 -5138753.29 0.0527 0.0298

Mars -18783-11-11 02:38 J -5138753.48 -5138753.39 -5138753.29 0.1631 0.0914 *

Saturn -18782-06-23 02:38 J -5138529.51 -5138529.39 -5138529.25 0.0279 0.0200

Saturn -18782-09-20 02:38 J -5138440.58 -5138440.39 -5138440.20 0.0280 0.0010

Saturn -18782-12-18 02:09 J -5138351.55 -5138351.41 -5138351.27 0.0281 0.0183

Earth -18781-07-21 16:19 J -5138134.92 -5138134.82 -5138134.71 0.2705 0.0862

Moon -18781-07-21 17:02 J -5138134.89 -5138134.79 -5138134.68 0.2705 0.0716 *

Mars -18780-08-21 23:31 J -5137738.69 -5137738.52 -5137738.35 0.1891 0.0090

Moon -18777-01-26 06:57 J -5136851.37 -5136851.21 -5136851.06 0.2629 0.0260

Earth -18777-01-26 08:23 J -5136851.30 -5136851.15 -5136850.99 0.2629 0.0417 *

Jupiter -18777-10-08 00:28 J -5136595.66 -5136595.48 -5136595.30 0.0498 0.0140

Mars -18775-04-28 12:43 J -5136028.04 -5136027.97 -5136027.91 0.1626 0.1319

Venus -18775-09-09 23:31 J -5135893.65 -5135893.52 -5135893.38 0.3635 0.1928

Mars -18773-04-02 14:09 J -5135323.02 -5135322.91 -5135322.80 0.1629 0.0471

Uranus -18771-04-25 16:48 J -5134569.85 -5134569.80 -5134569.71 0.0138 0.0129

Jupiter -18771-06-02 01:40 J -5134532.51 -5134532.43 -5134532.35 0.0528 0.0403

Uranus -18771-07-23 00:57 J -5134481.60 -5134481.46 -5134481.33 0.0138 0.0098

Jupiter -18771-08-30 07:11 J -5134443.32 -5134443.20 -5134443.08 0.0527 0.0162

Uranus -18771-10-19 08:09 J -5134393.31 -5134393.16 -5134392.98 0.0138 0.0070

Mars -18770-01-11 15:50 J -5134308.96 -5134308.84 -5134308.72 0.1893 0.1359

Uranus -18770-01-15 15:50 J -5134305.02 -5134304.84 -5134304.65 0.0138 0.0041

Uranus -18770-04-13 23:31 J -5134216.71 -5134216.52 -5134216.33 0.0138 0.0012

Uranus -18770-07-11 06:57 J -5134128.40 -5134128.21 -5134128.02 0.0137 0.0016

Uranus -18770-10-07 14:09 J -5134040.09 -5134039.91 -5134039.73 0.0137 0.0045

Uranus -18769-01-03 21:21 J -5133951.76 -5133951.61 -5133951.44 0.0137 0.0073

Uranus -18769-04-01 04:33 J -5133863.43 -5133863.31 -5133863.17 0.0137 0.0100

Uranus -18769-06-28 12:00 J -5133775.06 -5133775.00 -5133774.93 0.0137 0.0127

Saturn -18769-08-02 16:48 J -5133739.85 -5133739.80 -5133739.74 0.0284 0.0252

Saturn -18769-10-30 03:50 J -5133651.46 -5133651.34 -5133651.22 0.0283 0.0118

Saturn -18768-01-26 14:52 J -5133563.01 -5133562.88 -5133562.75 0.0282 0.0015

Saturn -18768-04-25 01:55 J -5133474.53 -5133474.42 -5133474.31 0.0281 0.0146

Saturn -18768-07-22 12:43 J -5133385.98 -5133385.97 -5133385.95 0.0280 0.0277

Earth -18768-07-24 10:48 J -5133384.16 -5133384.05 -5133383.94 0.2704 0.0313

Moon -18768-07-24 11:16 J -5133384.14 -5133384.03 -5133383.92 0.2700 0.0353 *

Jupiter -18765-07-26 19:55 J -5132285.80 -5132285.67 -5132285.53 0.0498 0.0337

Jupiter -18765-10-25 06:43 J -5132195.33 -5132195.22 -5132195.10 0.0500 0.0395

Moon -18764-01-28 12:14 J -5132100.06 -5132099.99 -5132099.92 0.2636 0.2275

Earth -18764-01-28 13:11 J -5132100.01 -5132099.95 -5132099.89 0.2631 0.2405 *

Mars -18764-08-24 01:40 J -5131892.54 -5131892.43 -5131892.31 0.1628 0.0069

Jupiter -18759-06-18 11:16 J -5130133.15 -5130133.03 -5130132.90 0.0527 0.0028

Venus -18755-01-26 14:23 J -5128814.97 -5128814.90 -5128814.83 0.3736 0.2783

Moon -18755-07-27 05:16 J -5128633.38 -5128633.28 -5128633.19 0.2695 0.1497

Earth -18755-07-27 05:16 J -5128633.38 -5128633.28 -5128633.19 0.2703 0.1496 *

Mars -18754-01-14 13:26 J -5128462.05 -5128461.94 -5128461.83 0.1627 0.0404

Jupiter -18753-08-13 03:50 J -5127885.51 -5127885.34 -5127885.17 0.0499 0.0215

Saturn -18753-11-09 02:52 J -5127797.47 -5127797.38 -5127797.28 0.0278 0.0239

Mars -18753-12-19 15:21 J -5127756.92 -5127756.86 -5127756.81 0.1632 0.1416

Saturn -18752-02-06 02:52 J -5127708.57 -5127708.38 -5127708.20 0.0279 0.0048

Saturn -18752-05-06 02:23 J -5127619.56 -5127619.40 -5127619.23 0.0281 0.0144

Venus -18750-08-12 05:45 J -5126791.36 -5126791.26 -5126791.16 0.3738 0.0782

Mars -18750-10-01 07:40 J -5126741.26 -5126741.18 -5126741.09 0.1889 0.1645

Earth -18748-07-20 02:52 J -5126083.46 -5126083.38 -5126083.29 0.2707 0.1792

Moon -18748-07-20 03:36 J -5126083.44 -5126083.35 -5126083.27 0.2711 0.1674 *

Jupiter -18747-04-06 15:07 J -5125823.00 -5125822.87 -5125822.75 0.0527 0.0133

Jupiter -18747-07-04 20:38 J -5125733.71 -5125733.64 -5125733.57 0.0526 0.0433

Mars -18745-06-06 00:57 J -5125031.56 -5125031.46 -5125031.36 0.1627 0.0833

Moon -18744-01-23 08:23 J -5124800.28 -5124800.15 -5124800.03 0.2626 0.1492

Earth -18744-01-23 09:50 J -5124800.22 -5124800.09 -5124799.95 0.2628 0.1253 *

Venus -18744-02-24 21:07 J -5124767.71 -5124767.62 -5124767.52 0.3740 0.1248

Mars -18743-05-12 02:38 J -5124326.48 -5124326.39 -5124326.29 0.1631 0.0973

Moon -18742-07-29 23:16 J -5123882.55 -5123882.53 -5123882.51 0.2696 0.2656

Earth -18742-07-29 23:45 J -5123882.51 -5123882.51 -5123882.51 0.2701 0.2696 *

Jupiter -18741-06-01 01:11 J -5123575.64 -5123575.45 -5123575.27 0.0499 0.0039

Mars -18740-02-20 00:28 J -5123311.65 -5123311.48 -5123311.31 0.1891 0.0228

Saturn -18740-12-20 20:23 J -5123007.67 -5123007.65 -5123007.63 0.0284 0.0279

Saturn -18739-03-19 07:26 J -5122919.30 -5122919.19 -5122919.08 0.0283 0.0145

Saturn -18739-06-15 18:28 J -5122830.86 -5122830.73 -5122830.60 0.0282 0.0013

Venus -18739-09-10 12:43 J -5122744.02 -5122743.97 -5122743.93 0.3741 0.3290

Saturn -18739-09-12 05:16 J -5122742.39 -5122742.28 -5122742.16 0.0281 0.0120

Saturn -18739-12-09 16:19 J -5122653.87 -5122653.82 -5122653.76 0.0280 0.0251

Mars -18736-10-27 12:43 J -5121601.04 -5121600.97 -5121600.90 0.1626 0.1263

Jupiter -18735-01-23 19:11 J -5121512.81 -5121512.70 -5121512.60 0.0528 0.0277

Jupiter -18735-04-23 00:43 J -5121423.58 -5121423.47 -5121423.37 0.0527 0.0289

Earth -18735-07-22 21:21 J -5121332.72 -5121332.61 -5121332.51 0.2705 0.0638

Moon -18735-07-22 22:04 J -5121332.69 -5121332.58 -5121332.47 0.2704 0.0615 *

Mars -18734-10-02 14:09 J -5120896.02 -5120895.91 -5120895.80 0.1629 0.0532

Pluto -18734-12-09 10:33 J -5120828.12 -5120828.06 -5120828.00 0.0073 0.0067

Pluto -18733-03-06 11:31 J -5120740.10 -5120740.02 -5120739.91 0.0073 0.0059

Pluto -18733-06-02 12:57 J -5120652.06 -5120651.96 -5120651.83 0.0073 0.0050

Pluto -18733-08-29 14:23 J -5120564.02 -5120563.90 -5120563.76 0.0072 0.0042

Pluto -18733-11-25 15:50 J -5120475.97 -5120475.84 -5120475.69 0.0072 0.0033

Pluto -18732-02-21 17:02 J -5120387.93 -5120387.79 -5120387.63 0.0072 0.0026

Pluto -18732-05-20 18:28 J -5120299.88 -5120299.73 -5120299.57 0.0072 0.0017

Pluto -18732-08-16 19:55 J -5120211.82 -5120211.67 -5120211.51 0.0072 0.0009

Pluto -18732-11-12 21:21 J -5120123.77 -5120123.61 -5120123.46 0.0072 0.0002

Moon -18731-01-26 13:26 J -5120049.09 -5120048.94 -5120048.80 0.2630 0.0668

Earth -18731-01-26 14:52 J -5120049.03 -5120048.88 -5120048.73 0.2629 0.0793 *

Pluto -18731-02-08 22:33 J -5120035.72 -5120035.56 -5120035.40 0.0072 0.0008

Pluto -18731-05-07 23:45 J -5119947.66 -5119947.51 -5119947.35 0.0072 0.0016

Mars -18731-07-12 16:48 J -5119881.93 -5119881.80 -5119881.67 0.1892 0.1221

Pluto -18731-08-04 00:57 J -5119859.60 -5119859.46 -5119859.31 0.0071 0.0023

Pluto -18731-10-31 02:09 J -5119771.54 -5119771.41 -5119771.26 0.0071 0.0031

Pluto -18730-01-27 03:36 J -5119683.48 -5119683.35 -5119683.22 0.0071 0.0039

Pluto -18730-04-25 04:48 J -5119595.41 -5119595.30 -5119595.18 0.0071 0.0046

Pluto -18730-07-22 05:45 J -5119507.35 -5119507.26 -5119507.15 0.0071 0.0054

Pluto -18730-10-18 07:11 J -5119419.27 -5119419.20 -5119419.12 0.0071 0.0061

Pluto -18729-01-14 08:09 J -5119331.18 -5119331.16 -5119331.11 0.0071 0.0069

Jupiter -18729-03-19 21:36 J -5119265.78 -5119265.60 -5119265.42 0.0498 0.0150

Uranus -18727-09-26 21:07 J -5118344.67 -5118344.62 -5118344.57 0.0140 0.0129

Uranus -18727-12-24 00:14 J -5118256.56 -5118256.49 -5118256.40 0.0140 0.0109

Uranus -18726-03-22 03:50 J -5118168.44 -5118168.34 -5118168.24 0.0140 0.0088

Uranus -18726-06-18 07:11 J -5118080.32 -5118080.20 -5118080.08 0.0141 0.0067

Uranus -18726-09-14 10:33 J -5117992.18 -5117992.06 -5117991.93 0.0141 0.0046

Uranus -18726-12-11 13:55 J -5117904.05 -5117903.92 -5117903.78 0.0141 0.0026

Uranus -18725-03-08 17:31 J -5117815.90 -5117815.77 -5117815.64 0.0141 0.0004

Uranus -18725-06-04 20:52 J -5117727.76 -5117727.63 -5117727.50 0.0141 0.0018

Uranus -18725-09-01 00:28 J -5117639.61 -5117639.48 -5117639.35 0.0141 0.0039

Uranus -18725-11-28 03:50 J -5117551.45 -5117551.34 -5117551.21 0.0141 0.0061

Mars -18724-02-22 01:40 J -5117465.54 -5117465.43 -5117465.31 0.1628 0.0093

Uranus -18724-02-24 07:26 J -5117463.29 -5117463.19 -5117463.08 0.0142 0.0082

Uranus -18724-05-23 10:48 J -5117375.13 -5117375.05 -5117374.95 0.0142 0.0105

Uranus -18724-08-19 14:38 J -5117286.95 -5117286.89 -5117286.83 0.0142 0.0126

Jupiter -18724-11-11 23:16 J -5117202.60 -5117202.53 -5117202.45 0.0529 0.0418

Jupiter -18723-02-09 04:48 J -5117113.42 -5117113.30 -5117113.17 0.0527 0.0149

Saturn -18723-06-26 02:38 J -5116976.56 -5116976.39 -5116976.20 0.0280 0.0091

Saturn -18723-09-23 02:23 J -5116887.57 -5116887.40 -5116887.22 0.0281 0.0102

Earth -18722-07-25 15:36 J -5116581.96 -5116581.85 -5116581.74 0.2704 0.0543

Moon -18722-07-25 16:04 J -5116581.94 -5116581.83 -5116581.72 0.2699 0.0636 *

Venus -18718-04-17 02:09 J -5115220.57 -5115220.41 -5115220.25 0.3635 0.0350

Jupiter -18717-01-06 18:00 J -5114955.88 -5114955.75 -5114955.61 0.0498 0.0335

Jupiter -18717-04-06 04:48 J -5114865.41 -5114865.30 -5114865.19 0.0499 0.0395

Mars -18715-07-15 13:11 J -5114035.06 -5114034.95 -5114034.83 0.1627 0.0351

Moon -18715-07-18 13:55 J -5114031.94 -5114031.92 -5114031.90 0.2715 0.2669

Earth -18715-07-18 13:40 J -5114031.93 -5114031.93 -5114031.93 0.2708 0.2707 *

Mars -18713-06-19 15:07 J -5113329.91 -5113329.87 -5113329.82 0.1632 0.1474

Neptune -18712-03-08 00:43 J -5113068.49 -5113068.47 -5113068.42 0.0089 0.0085

Neptune -18712-06-04 02:09 J -5112980.47 -5112980.41 -5112980.34 0.0089 0.0078

Neptune -18712-08-31 03:21 J -5112892.43 -5112892.36 -5112892.27 0.0089 0.0071

Neptune -18712-11-27 04:48 J -5112804.39 -5112804.30 -5112804.21 0.0089 0.0064

Jupiter -18712-11-28 09:21 J -5112803.23 -5112803.11 -5112802.98 0.0527 0.0023

Neptune -18711-02-23 06:00 J -5112716.34 -5112716.25 -5112716.14 0.0089 0.0058

Neptune -18711-05-22 07:26 J -5112628.29 -5112628.19 -5112628.08 0.0089 0.0050

Neptune -18711-08-18 08:38 J -5112540.25 -5112540.14 -5112540.02 0.0089 0.0044

Neptune -18711-11-14 10:04 J -5112452.20 -5112452.08 -5112451.96 0.0089 0.0036

Neptune -18710-02-10 11:16 J -5112364.15 -5112364.03 -5112363.90 0.0089 0.0030

Mars -18710-04-01 08:23 J -5112314.21 -5112314.15 -5112314.09 0.1889 0.1759

Neptune -18710-05-09 12:43 J -5112276.09 -5112275.97 -5112275.84 0.0089 0.0022

Neptune -18710-08-05 13:55 J -5112188.04 -5112187.92 -5112187.78 0.0089 0.0016

Saturn -18710-08-06 10:04 J -5112187.18 -5112187.08 -5112186.98 0.0283 0.0180

Neptune -18710-11-01 15:21 J -5112099.99 -5112099.86 -5112099.73 0.0089 0.0008

Saturn -18710-11-02 21:07 J -5112098.75 -5112098.62 -5112098.49 0.0282 0.0047

Neptune -18709-01-28 16:48 J -5112011.94 -5112011.80 -5112011.67 0.0089 0.0003

Saturn -18709-01-30 08:09 J -5112010.29 -5112010.16 -5112010.04 0.0281 0.0086

Neptune -18709-04-25 18:00 J -5111923.88 -5111923.75 -5111923.62 0.0089 0.0006

Saturn -18709-04-27 18:57 J -5111921.79 -5111921.71 -5111921.62 0.0280 0.0216

Neptune -18709-07-22 19:11 J -5111835.83 -5111835.70 -5111835.56 0.0089 0.0014

Moon -18709-07-27 10:04 J -5111831.17 -5111831.08 -5111830.99 0.2695 0.1693

Earth -18709-07-27 10:04 J -5111831.16 -5111831.08 -5111830.99 0.2702 0.1728 *

Neptune -18709-10-18 20:38 J -5111747.77 -5111747.64 -5111747.51 0.0089 0.0020

Neptune -18708-01-14 21:50 J -5111659.71 -5111659.59 -5111659.46 0.0089 0.0027

Neptune -18708-04-12 23:16 J -5111571.65 -5111571.53 -5111571.41 0.0089 0.0034

Neptune -18708-07-10 00:28 J -5111483.59 -5111483.48 -5111483.36 0.0089 0.0041

Neptune -18708-10-06 01:55 J -5111395.53 -5111395.42 -5111395.31 0.0089 0.0048

Neptune -18707-01-02 03:07 J -5111307.47 -5111307.37 -5111307.26 0.0089 0.0056

Neptune -18707-03-31 04:33 J -5111219.40 -5111219.31 -5111219.22 0.0089 0.0063

Neptune -18707-06-27 05:45 J -5111131.34 -5111131.26 -5111131.17 0.0089 0.0070

Neptune -18707-09-23 07:11 J -5111043.26 -5111043.20 -5111043.13 0.0089 0.0077

Neptune -18707-12-20 08:09 J -5110955.19 -5110955.16 -5110955.10 0.0089 0.0084

Mars -18706-12-06 00:57 J -5110604.56 -5110604.46 -5110604.36 0.1627 0.0776

Jupiter -18705-01-24 00:43 J -5110555.64 -5110555.47 -5110555.30 0.0499 0.0200

Mars -18704-11-10 02:38 J -5109899.48 -5109899.39 -5109899.30 0.1631 0.1029

Earth -18702-07-21 07:55 J -5109281.26 -5109281.17 -5109281.08 0.2706 0.1566

Moon -18702-07-21 08:23 J -5109281.24 -5109281.15 -5109281.06 0.2709 0.1544 *

Mars -18701-08-21 01:26 J -5108884.60 -5108884.44 -5108884.27 0.1891 0.0363

Jupiter -18700-09-16 13:40 J -5108493.05 -5108492.93 -5108492.80 0.0528 0.0130

Jupiter -18700-12-14 19:26 J -5108403.76 -5108403.69 -5108403.62 0.0526 0.0436

Venus -18699-09-02 11:45 J -5108142.09 -5108142.01 -5108141.93 0.3736 0.2053

Moon -18698-01-24 14:38 J -5107998.04 -5107997.89 -5107997.75 0.2626 0.0919

Earth -18698-01-24 16:19 J -5107997.97 -5107997.82 -5107997.68 0.2628 0.0866 *

Mars -18696-04-27 12:28 J -5107174.05 -5107173.98 -5107173.90 0.1626 0.1205

Mars -18694-04-02 14:09 J -5106469.02 -5106468.91 -5106468.80 0.1629 0.0588

Jupiter -18694-11-11 21:36 J -5106245.79 -5106245.60 -5106245.41 0.0499 0.0019

Saturn -18694-11-13 03:07 J -5106244.54 -5106244.37 -5106244.20 0.0279 0.0129

Saturn -18693-02-10 02:52 J -5106155.56 -5106155.38 -5106155.20 0.0280 0.0062

Venus -18693-03-18 03:07 J -5106118.47 -5106118.37 -5106118.27 0.3738 0.0048

Saturn -18693-05-09 02:23 J -5106066.47 -5106066.40 -5106066.32 0.0281 0.0254

Mars -18691-01-10 17:45 J -5105454.90 -5105454.76 -5105454.62 0.1892 0.1091

Earth -18689-07-23 02:09 J -5104530.52 -5104530.41 -5104530.30 0.2705 0.0408

Moon -18689-07-23 02:52 J -5104530.49 -5104530.38 -5104530.27 0.2704 0.0255 *

Jupiter -18688-07-05 17:16 J -5104182.88 -5104182.78 -5104182.67 0.0528 0.0283

Venus -18688-10-01 18:28 J -5104094.81 -5104094.73 -5104094.64 0.3740 0.1990

Jupiter -18688-10-02 22:48 J -5104093.65 -5104093.55 -5104093.44 0.0526 0.0283

Uranus -18687-05-16 00:28 J -5103868.56 -5103868.48 -5103868.38 0.0138 0.0120

Uranus -18687-08-12 08:23 J -5103780.29 -5103780.15 -5103780.01 0.0138 0.0091

Uranus -18687-11-08 15:36 J -5103692.01 -5103691.85 -5103691.66 0.0138 0.0062

Uranus -18686-02-04 23:16 J -5103603.71 -5103603.53 -5103603.33 0.0138 0.0033

Uranus -18686-05-04 06:57 J -5103515.40 -5103515.21 -5103515.02 0.0138 0.0004

Uranus -18686-07-31 14:23 J -5103427.09 -5103426.90 -5103426.71 0.0138 0.0025

Uranus -18686-10-27 21:50 J -5103338.77 -5103338.59 -5103338.42 0.0137 0.0053

Uranus -18685-01-24 05:02 J -5103250.44 -5103250.29 -5103250.13 0.0137 0.0081

Moon -18685-01-27 19:55 J -5103246.81 -5103246.67 -5103246.53 0.2632 0.0990

Earth -18685-01-27 21:07 J -5103246.75 -5103246.62 -5103246.48 0.2630 0.1178 *

Uranus -18685-04-21 12:14 J -5103162.10 -5103161.99 -5103161.87 0.0137 0.0109

Uranus -18685-07-18 19:11 J -5103073.70 -5103073.70 -5103073.66 0.0137 0.0137

Mars -18685-08-23 01:40 J -5103038.54 -5103038.43 -5103038.31 0.1628 0.0149

Jupiter -18682-08-30 18:43 J -5101935.90 -5101935.72 -5101935.54 0.0498 0.0159

Saturn -18681-12-23 13:40 J -5101455.02 -5101454.93 -5101454.84 0.0284 0.0206

Saturn -18680-03-22 00:43 J -5101366.60 -5101366.47 -5101366.35 0.0283 0.0073

Saturn -18680-06-18 11:31 J -5101278.14 -5101278.02 -5101277.89 0.0282 0.0061

Saturn -18680-09-14 22:33 J -5101189.65 -5101189.56 -5101189.46 0.0281 0.0191

Jupiter -18676-04-23 21:21 J -5099872.68 -5099872.61 -5099872.53 0.0528 0.0427

Jupiter -18676-07-22 02:52 J -5099783.50 -5099783.38 -5099783.26 0.0527 0.0137

Earth -18676-07-25 20:38 J -5099779.75 -5099779.64 -5099779.54 0.2704 0.0774

Moon -18676-07-25 20:52 J -5099779.74 -5099779.63 -5099779.52 0.2697 0.0745 *

Mars -18675-01-13 13:11 J -5099608.06 -5099607.95 -5099607.83 0.1627 0.0293

Mars -18674-12-19 15:21 J -5098902.90 -5098902.86 -5098902.83 0.1632 0.1534

Jupiter -18670-06-18 15:07 J -5097626.00 -5097625.87 -5097625.73 0.0498 0.0346

Jupiter -18670-09-17 01:55 J -5097535.54 -5097535.42 -5097535.30 0.0499 0.0384

Earth -18669-07-18 18:28 J -5097229.77 -5097229.73 -5097229.69 0.2707 0.2486

Moon -18669-07-18 18:43 J -5097229.76 -5097229.72 -5097229.67 0.2714 0.2478 *

Mars -18666-06-06 00:57 J -5096177.57 -5096177.46 -5096177.36 0.1627 0.0721

Moon -18665-01-22 16:04 J -5095946.84 -5095946.83 -5095946.81 0.2622 0.2597

Earth -18665-01-22 17:16 J -5095946.81 -5095946.78 -5095946.75 0.2627 0.2564 *

Saturn -18664-04-01 03:21 J -5095512.51 -5095512.36 -5095512.21 0.0279 0.0169

Jupiter -18664-05-10 07:11 J -5095473.33 -5095473.20 -5095473.08 0.0528 0.0018

Mars -18664-05-11 02:38 J -5095472.47 -5095472.39 -5095472.30 0.1631 0.1088

Saturn -18664-06-29 03:07 J -5095423.56 -5095423.37 -5095423.18 0.0280 0.0022

Saturn -18664-09-26 02:38 J -5095334.50 -5095334.39 -5095334.26 0.0281 0.0214

Moon -18663-07-28 14:52 J -5095028.95 -5095028.88 -5095028.80 0.2696 0.1978

Earth -18663-07-28 15:07 J -5095028.95 -5095028.87 -5095028.80 0.2702 0.1965 *

Venus -18662-11-22 04:33 J -5094547.42 -5094547.31 -5094547.19 0.3634 0.2588

Mars -18661-02-20 02:09 J -5094457.58 -5094457.41 -5094457.25 0.1891 0.0479

Jupiter -18658-07-05 22:33 J -5093225.73 -5093225.56 -5093225.39 0.0499 0.0200

Mars -18657-10-26 12:28 J -5092747.06 -5092746.98 -5092746.90 0.1626 0.1149

Earth -18656-07-21 12:43 J -5092479.06 -5092478.97 -5092478.87 0.2706 0.1343

Moon -18656-07-21 13:26 J -5092479.04 -5092478.94 -5092478.84 0.2708 0.1232 *

Mars -18655-10-01 14:09 J -5092042.02 -5092041.91 -5092041.81 0.1629 0.0642

Moon -18652-01-24 21:07 J -5091195.77 -5091195.62 -5091195.47 0.2626 0.0722

Earth -18652-01-24 22:48 J -5091195.71 -5091195.55 -5091195.40 0.2628 0.0473 *

Jupiter -18652-02-26 11:45 J -5091163.13 -5091163.01 -5091162.89 0.0528 0.0141

Jupiter -18652-05-26 17:16 J -5091073.85 -5091073.78 -5091073.71 0.0526 0.0425

Mars -18652-07-11 18:28 J -5091027.88 -5091027.73 -5091027.59 0.1893 0.0973

Saturn -18651-05-12 16:33 J -5090722.88 -5090722.81 -5090722.74 0.0284 0.0239

Saturn -18651-08-09 03:36 J -5090634.47 -5090634.35 -5090634.23 0.0283 0.0106

Saturn -18651-11-05 14:23 J -5090546.02 -5090545.90 -5090545.77 0.0282 0.0029

Saturn -18650-02-02 01:26 J -5090457.54 -5090457.44 -5090457.33 0.0280 0.0158

Venus -18648-09-23 17:45 J -5089492.80 -5089492.76 -5089492.72 0.3735 0.3316

Mars -18647-03-19 00:14 J -5089316.52 -5089316.49 -5089316.47 0.1626 0.1573

Jupiter -18646-04-23 18:14 J -5088915.92 -5088915.74 -5088915.55 0.0499 0.0006

Mars -18645-02-22 01:40 J -5088611.55 -5088611.43 -5088611.32 0.1628 0.0206

Uranus -18643-07-21 01:55 J -5087731.43 -5087731.42 -5087731.42 0.0140 0.0140

Earth -18643-07-24 06:57 J -5087728.32 -5087728.21 -5087728.09 0.2705 0.0206

Moon -18643-07-24 07:40 J -5087728.29 -5087728.18 -5087728.06 0.2703 0.0181 *

Uranus -18643-10-17 05:02 J -5087643.35 -5087643.29 -5087643.22 0.0140 0.0119

Uranus -18642-01-13 08:38 J -5087555.23 -5087555.14 -5087555.05 0.0140 0.0099

Venus -18642-04-09 09:07 J -5087469.21 -5087469.12 -5087469.03 0.3737 0.1330

Uranus -18642-04-11 11:45 J -5087467.11 -5087467.01 -5087466.89 0.0140 0.0079

Uranus -18642-07-08 15:21 J -5087378.98 -5087378.86 -5087378.74 0.0141 0.0057

Uranus -18642-10-04 18:43 J -5087290.85 -5087290.72 -5087290.59 0.0141 0.0037

Uranus -18642-12-31 22:19 J -5087202.71 -5087202.57 -5087202.44 0.0141 0.0016

Uranus -18641-03-29 01:40 J -5087114.56 -5087114.43 -5087114.30 0.0141 0.0006

Uranus -18641-06-25 05:02 J -5087026.42 -5087026.29 -5087026.16 0.0141 0.0028

Uranus -18641-09-21 08:38 J -5086938.26 -5086938.14 -5086938.02 0.0141 0.0049

Jupiter -18641-12-15 16:04 J -5086852.94 -5086852.83 -5086852.73 0.0528 0.0280

Uranus -18641-12-18 12:00 J -5086850.11 -5086850.00 -5086849.88 0.0141 0.0071

Jupiter -18640-03-14 21:36 J -5086763.71 -5086763.60 -5086763.49 0.0527 0.0285

Uranus -18640-03-16 15:36 J -5086761.94 -5086761.85 -5086761.74 0.0142 0.0092

Uranus -18640-06-12 18:57 J -5086673.77 -5086673.71 -5086673.62 0.0142 0.0115

Uranus -18640-09-08 22:33 J -5086585.58 -5086585.56 -5086585.51 0.0142 0.0137

Moon -18639-01-28 02:23 J -5086444.53 -5086444.40 -5086444.28 0.2634 0.1527

Earth -18639-01-28 03:36 J -5086444.47 -5086444.35 -5086444.23 0.2630 0.1563 *

Venus -18637-10-23 00:28 J -5085445.58 -5085445.48 -5085445.38 0.3739 0.0690

Mars -18636-07-14 13:11 J -5085181.06 -5085180.95 -5085180.83 0.1627 0.0232

Saturn -18635-08-19 03:21 J -5084780.48 -5084780.36 -5084780.24 0.0279 0.0211

Saturn -18635-11-16 03:07 J -5084691.56 -5084691.37 -5084691.18 0.0280 0.0020

Jupiter -18634-02-09 15:07 J -5084606.04 -5084605.87 -5084605.69 0.0498 0.0178

Saturn -18634-02-13 02:38 J -5084602.53 -5084602.39 -5084602.23 0.0281 0.0173

Mars -18634-06-19 15:07 J -5084475.89 -5084475.87 -5084475.84 0.1632 0.1594

Venus -18631-05-08 15:50 J -5083421.91 -5083421.84 -5083421.77 0.3740 0.2716

Earth -18630-07-27 01:26 J -5082977.54 -5082977.44 -5082977.34 0.2704 0.1002

Moon -18630-07-27 01:40 J -5082977.53 -5082977.43 -5082977.33 0.2697 0.1097 *

Jupiter -18629-10-03 19:40 J -5082542.75 -5082542.68 -5082542.61 0.0528 0.0433

Neptune -18629-11-19 04:19 J -5082496.39 -5082496.32 -5082496.23 0.0088 0.0080

Jupiter -18628-01-01 00:57 J -5082453.58 -5082453.46 -5082453.33 0.0527 0.0131

Neptune -18628-02-15 07:55 J -5082408.27 -5082408.17 -5082408.04 0.0088 0.0070

Neptune -18628-05-14 11:45 J -5082320.15 -5082320.01 -5082319.86 0.0088 0.0060

Neptune -18628-08-10 15:21 J -5082232.01 -5082231.86 -5082231.69 0.0088 0.0050

Neptune -18628-11-06 18:57 J -5082143.87 -5082143.71 -5082143.52 0.0088 0.0040

Neptune -18627-02-02 22:33 J -5082055.73 -5082055.56 -5082055.36 0.0088 0.0030

Neptune -18627-05-02 02:23 J -5081967.59 -5081967.40 -5081967.20 0.0088 0.0020

Neptune -18627-07-29 06:00 J -5081879.44 -5081879.25 -5081879.05 0.0088 0.0010

Neptune -18627-10-25 09:50 J -5081791.29 -5081791.09 -5081790.90 0.0088 0.0001

Mars -18627-12-05 00:57 J -5081750.57 -5081750.46 -5081750.36 0.1627 0.0662

Neptune -18626-01-21 13:26 J -5081703.14 -5081702.94 -5081702.75 0.0088 0.0010

Neptune -18626-04-19 17:02 J -5081614.98 -5081614.79 -5081614.60 0.0088 0.0020

Neptune -18626-07-16 20:38 J -5081526.82 -5081526.64 -5081526.46 0.0088 0.0030

Neptune -18626-10-13 00:00 J -5081438.66 -5081438.50 -5081438.32 0.0088 0.0040

Neptune -18625-01-09 03:36 J -5081350.50 -5081350.35 -5081350.18 0.0088 0.0050

Neptune -18625-04-06 07:11 J -5081262.33 -5081262.20 -5081262.05 0.0088 0.0060

Neptune -18625-07-03 10:48 J -5081174.16 -5081174.05 -5081173.92 0.0088 0.0070

Neptune -18625-09-29 14:09 J -5081085.97 -5081085.91 -5081085.81 0.0088 0.0080

Mars -18625-11-09 02:38 J -5081045.47 -5081045.39 -5081045.31 0.1631 0.1145

Earth -18623-07-19 23:31 J -5080427.58 -5080427.52 -5080427.46 0.2707 0.2261

Moon	-18623-07-19 23:45 J	-5080427.57	-5080427.51	-5080427.45	0.2713	0.2240 *
Jupiter	-18623-11-28 12:14 J	-5080296.12	-5080295.99	-5080295.86	0.0498	0.0356
Jupiter	-18622-02-26 23:02 J	-5080205.66	-5080205.54	-5080205.42	0.0499	0.0376
Mars	-18622-08-21 02:52 J	-5080030.54	-5080030.38	-5080030.22	0.1891	0.0604
Saturn	-18622-09-29 20:09 J	-5079990.70	-5079990.66	-5079990.61	0.0284	0.0264
Saturn	-18622-12-27 07:11 J	-5079902.31	-5079902.20	-5079902.08	0.0283	0.0130
Saturn	-18621-03-24 18:14 J	-5079813.87	-5079813.74	-5079813.61	0.0282	0.0004
Saturn	-18621-06-21 05:16 J	-5079725.40	-5079725.28	-5079725.17	0.0281	0.0134
Saturn	-18621-09-17 16:04 J	-5079636.86	-5079636.83	-5079636.79	0.0280	0.0265
Moon	-18619-01-22 22:33 J	-5079144.63	-5079144.56	-5079144.49	0.2623	0.2344
Earth	-18619-01-22 23:45 J	-5079144.59	-5079144.51	-5079144.42	0.2627	0.2162 *
Mars	-18617-04-26 12:28 J	-5078320.06	-5078319.98	-5078319.90	0.1626	0.1091
Moon	-18617-07-28 19:40 J	-5078226.75	-5078226.68	-5078226.61	0.2696	0.2106
Earth	-18617-07-28 19:55 J	-5078226.73	-5078226.67	-5078226.60	0.2702	0.2199 *
Jupiter	-18617-10-20 05:02 J	-5078143.41	-5078143.29	-5078143.16	0.0527	0.0018
Mars	-18615-04-01 14:09 J	-5077615.02	-5077614.91	-5077614.81	0.1629	0.0703
Mars	-18612-01-09 19:26 J	-5076600.84	-5076600.69	-5076600.54	0.1892	0.0834
Venus	-18611-12-12 20:23 J	-5075898.79	-5075898.65	-5075898.52	0.3636	0.2012
Jupiter	-18611-12-15 19:40 J	-5075895.85	-5075895.68	-5075895.51	0.0499	0.0190
Earth	-18610-07-22 17:45 J	-5075676.86	-5075676.76	-5075676.66	0.2706	0.1116
Moon	-18610-07-22 18:28 J	-5075676.83	-5075676.73	-5075676.63	0.2708	0.1050 *
Mars	-18608-09-17 00:00 J	-5074889.53	-5074889.50	-5074889.46	0.1626	0.1520
Moon	-18606-01-26 03:36 J	-5074393.51	-5074393.35	-5074393.20	0.2628	0.0136
Earth	-18606-01-26 05:02 J	-5074393.44	-5074393.29	-5074393.13	0.2628	0.0090 *
Mars	-18606-08-23 01:40 J	-5074184.55	-5074184.43	-5074184.32	0.1628	0.0265
Saturn	-18605-01-06 03:36 J	-5074048.43	-5074048.35	-5074048.27	0.0279	0.0251
Saturn	-18605-04-04 03:21 J	-5073959.54	-5073959.36	-5073959.17	0.0280	0.0060
Saturn	-18605-07-02 03:07 J	-5073870.53	-5073870.37	-5073870.20	0.0281	0.0133
Jupiter	-18605-08-08 09:21 J	-5073833.23	-5073833.11	-5073832.99	0.0528	0.0159
Jupiter	-18605-11-05 14:52 J	-5073743.96	-5073743.88	-5073743.80	0.0527	0.0407

Uranus -18603-06-05 08:38 J -5073167.24 -5073167.14 -5073167.01 0.0138 0.0109

Uranus -18603-09-01 16:19 J -5073078.96 -5073078.82 -5073078.65 0.0138 0.0080

Uranus -18603-11-29 00:00 J -5072990.67 -5072990.50 -5072990.31 0.0138 0.0051

Uranus -18602-02-25 07:40 J -5072902.37 -5072902.18 -5072901.99 0.0138 0.0022

Uranus -18602-05-24 15:07 J -5072814.06 -5072813.87 -5072813.67 0.0138 0.0008

Uranus -18602-08-20 22:33 J -5072725.74 -5072725.56 -5072725.37 0.0138 0.0036

Uranus -18602-11-17 06:00 J -5072637.41 -5072637.25 -5072637.08 0.0137 0.0064

Uranus -18601-02-13 13:11 J -5072549.08 -5072548.95 -5072548.80 0.0137 0.0092

Uranus -18601-05-11 20:23 J -5072460.73 -5072460.65 -5072460.54 0.0137 0.0119

Jupiter -18599-10-03 16:19 J -5071586.01 -5071585.82 -5071585.64 0.0498 0.0009

Earth -18597-07-24 12:00 J -5070926.11 -5070926.00 -5070925.89 0.2705 0.0052

Moon -18597-07-24 12:28 J -5070926.09 -5070925.98 -5070925.86 0.2701 0.0192 *

Mars -18596-01-12 13:11 J -5070754.07 -5070753.95 -5070753.84 0.1627 0.0173

Moon -18593-01-29 08:38 J -5069642.25 -5069642.14 -5069642.03 0.2634 0.1731

Earth -18593-01-29 10:04 J -5069642.19 -5069642.08 -5069641.98 0.2630 0.1946 *

Jupiter -18593-05-27 13:55 J -5069523.03 -5069522.92 -5069522.82 0.0528 0.0294

Jupiter -18593-08-24 19:26 J -5069433.80 -5069433.69 -5069433.58 0.0527 0.0272

Saturn -18592-05-15 10:04 J -5069170.18 -5069170.08 -5069169.97 0.0283 0.0163

Saturn -18592-08-11 21:07 J -5069081.75 -5069081.62 -5069081.49 0.0282 0.0030

Saturn -18592-11-08 08:09 J -5068993.28 -5068993.16 -5068993.04 0.0281 0.0101

Saturn -18591-02-04 18:57 J -5068904.78 -5068904.71 -5068904.63 0.0280 0.0232

Venus -18591-04-30 15:07 J -5068819.94 -5068819.87 -5068819.80 0.3735 0.2597

Mars -18587-06-05 00:43 J -5067323.57 -5067323.47 -5067323.36 0.1627 0.0607

Jupiter -18587-07-22 12:00 J -5067276.17 -5067276.00 -5067275.83 0.0498 0.0191

Venus -18586-11-14 06:28 J -5066796.33 -5066796.23 -5066796.13 0.3737 0.0594

Mars -18585-05-10 02:38 J -5066618.47 -5066618.39 -5066618.31 0.1631 0.1203

Earth -18584-07-27 06:28 J -5066175.33 -5066175.23 -5066175.14 0.2703 0.1239

Moon -18584-07-27 06:43 J -5066175.33 -5066175.22 -5066175.12 0.2697 0.1197 *

Mars -18582-02-19 04:04 J -5065603.48 -5065603.33 -5065603.17 0.1891 0.0749

Jupiter -18581-03-15 18:14 J -5065212.81 -5065212.74 -5065212.67 0.0529 0.0432

Jupiter -18581-06-12 23:45 J -5065123.63 -5065123.51 -5065123.39 0.0527 0.0133

Venus -18580-05-29 21:50 J -5064772.68 -5064772.59 -5064772.50 0.3739 0.1426

Mars -18578-10-26 12:28 J -5063893.07 -5063892.98 -5063892.89 0.1626 0.1034

Earth -18577-07-20 04:19 J -5063625.39 -5063625.32 -5063625.25 0.2707 0.2042

Moon -18577-07-20 04:48 J -5063625.37 -5063625.30 -5063625.22 0.2712 0.1953 *

Saturn -18576-08-22 02:38 J -5063227.56 -5063227.39 -5063227.21 0.0279 0.0107

Mars -18576-09-30 14:09 J -5063188.01 -5063187.91 -5063187.81 0.1629 0.0761

Saturn -18576-11-19 02:38 J -5063138.57 -5063138.39 -5063138.21 0.0280 0.0086

Saturn -18575-02-16 01:55 J -5063049.43 -5063049.42 -5063049.38 0.0281 0.0279

Jupiter -18575-05-10 08:52 J -5062966.25 -5062966.13 -5062966.01 0.0498 0.0372

Jupiter -18575-08-08 19:40 J -5062875.81 -5062875.68 -5062875.55 0.0499 0.0359

Venus -18575-12-13 13:11 J -5062748.98 -5062748.95 -5062748.91 0.3741 0.3465

Moon -18573-01-24 05:02 J -5062342.40 -5062342.29 -5062342.18 0.2623 0.1849

Earth -18573-01-24 06:14 J -5062342.35 -5062342.24 -5062342.12 0.2627 0.1765 *

Mars -18573-07-10 20:09 J -5062173.81 -5062173.66 -5062173.50 0.1892 0.0706

Moon -18571-07-30 00:28 J -5061424.53 -5061424.48 -5061424.44 0.2696 0.2439

Earth -18571-07-30 00:57 J -5061424.51 -5061424.46 -5061424.42 0.2702 0.2435 *

Pluto -18571-08-07 08:52 J -5061416.16 -5061416.13 -5061416.10 0.0071 0.0070

Pluto -18571-11-03 09:36 J -5061328.15 -5061328.10 -5061328.00 0.0071 0.0063

Pluto -18570-01-30 11:02 J -5061240.12 -5061240.04 -5061239.92 0.0071 0.0055

Pluto -18570-04-28 12:28 J -5061152.09 -5061151.98 -5061151.85 0.0072 0.0047

Pluto -18570-07-25 13:40 J -5061064.05 -5061063.93 -5061063.78 0.0072 0.0039

Pluto -18570-10-21 15:07 J -5060976.00 -5060975.87 -5060975.72 0.0072 0.0031

Pluto -18569-01-17 16:33 J -5060887.95 -5060887.81 -5060887.65 0.0072 0.0023

Jupiter -18569-04-01 03:21 J -5060813.49 -5060813.36 -5060813.23 0.0527 0.0022

Pluto -18569-04-14 18:00 J -5060799.90 -5060799.75 -5060799.59 0.0072 0.0015

Pluto -18569-07-11 19:26 J -5060711.85 -5060711.69 -5060711.53 0.0072 0.0006

Pluto -18569-10-07 20:52 J -5060623.79 -5060623.63 -5060623.47 0.0072 0.0002

Pluto -18568-01-03 22:04 J -5060535.73 -5060535.58 -5060535.42 0.0072 0.0010

Mars -18568-03-18 00:14 J -5060462.54 -5060462.49 -5060462.45 0.1626 0.1459

Pluto -18568-04-01 23:31 J -5060447.67 -5060447.52 -5060447.36 0.0073 0.0019

Pluto -18568-06-29 00:43 J -5060359.61 -5060359.47 -5060359.31 0.0073 0.0028

Pluto -18568-09-25 02:09 J -5060271.54 -5060271.41 -5060271.26 0.0073 0.0036

Pluto -18568-12-22 03:21 J -5060183.47 -5060183.36 -5060183.21 0.0073 0.0045

Pluto -18567-03-20 05:02 J -5060095.39 -5060095.29 -5060095.17 0.0073 0.0053

Pluto -18567-06-16 06:28 J -5060007.30 -5060007.23 -5060007.13 0.0073 0.0062

Pluto -18567-09-12 07:40 J -5059919.19 -5059919.18 -5059919.12 0.0073 0.0072

Mars -18566-02-21 01:40 J -5059757.55 -5059757.43 -5059757.32 0.1628 0.0325

Earth -18564-07-22 22:33 J -5058874.66 -5058874.56 -5058874.45 0.2706 0.0887

Moon -18564-07-22 23:16 J -5058874.63 -5058874.53 -5058874.42 0.2708 0.0795 *

Jupiter -18563-05-27 17:02 J -5058565.96 -5058565.79 -5058565.62 0.0499 0.0184

Saturn -18563-10-02 13:40 J -5058438.02 -5058437.93 -5058437.83 0.0284 0.0190

Saturn -18563-12-30 00:43 J -5058349.59 -5058349.47 -5058349.34 0.0283 0.0056

Saturn -18562-03-28 11:45 J -5058261.14 -5058261.01 -5058260.89 0.0281 0.0076

Saturn -18562-06-24 22:33 J -5058172.64 -5058172.56 -5058172.47 0.0280 0.0207

Moon -18560-01-26 10:04 J -5057591.24 -5057591.08 -5057590.93 0.2630 0.0097

Earth -18560-01-26 11:31 J -5057591.17 -5057591.02 -5057590.87 0.2628 0.0313 *

Uranus -18559-08-10 09:50 J -5057030.13 -5057030.09 -5057030.04 0.0140 0.0130

Uranus -18559-11-06 13:11 J -5056942.02 -5056941.95 -5056941.86 0.0140 0.0110

Uranus -18558-02-02 16:33 J -5056853.90 -5056853.81 -5056853.70 0.0140 0.0090

Uranus -18558-05-01 20:09 J -5056765.78 -5056765.66 -5056765.55 0.0140 0.0069

Uranus -18558-07-28 23:31 J -5056677.64 -5056677.52 -5056677.40 0.0141 0.0048

Uranus -18558-10-25 02:52 J -5056589.51 -5056589.38 -5056589.25 0.0141 0.0027

Jupiter -18557-01-19 07:26 J -5056503.31 -5056503.19 -5056503.07 0.0528 0.0167

Uranus -18557-01-21 06:28 J -5056501.37 -5056501.23 -5056501.10 0.0141 0.0007

Jupiter -18557-04-17 12:57 J -5056414.04 -5056413.96 -5056413.88 0.0526 0.0398

Uranus -18557-04-18 09:50 J -5056413.22 -5056413.09 -5056412.96 0.0141 0.0016

Mars -18557-07-13 13:11 J -5056327.07 -5056326.95 -5056326.83 0.1627 0.0115

Uranus -18557-07-15 13:11 J -5056325.07 -5056324.95 -5056324.82 0.0141 0.0037

Uranus -18557-10-11 16:48 J -5056236.92 -5056236.80 -5056236.68 0.0141 0.0059

Uranus -18556-01-07 20:09 J -5056148.76 -5056148.66 -5056148.54 0.0141 0.0081

Uranus -18556-04-05 23:45 J -5056060.59 -5056060.51 -5056060.41 0.0142 0.0102

Uranus -18556-07-03 03:36 J -5055972.42 -5055972.35 -5055972.29 0.0142 0.0124

Venus -18554-07-19 23:02 J -5055225.70 -5055225.54 -5055225.38 0.3635 0.0289

Jupiter -18551-03-15 13:40 J -5054256.12 -5054255.93 -5054255.74 0.0498 0.0004

Earth -18551-07-25 16:48 J -5054123.91 -5054123.80 -5054123.69 0.2705 0.0299

Moon -18551-07-25 17:31 J -5054123.88 -5054123.77 -5054123.66 0.2700 0.0326 *

Neptune -18548-12-02 23:45 J -5052897.54 -5052897.51 -5052897.47 0.0089 0.0085

Mars -18548-12-04 00:43 J -5052896.58 -5052896.47 -5052896.36 0.1626 0.0549

Moon -18547-01-29 15:07 J -5052839.94 -5052839.87 -5052839.80 0.2634 0.2308

Earth -18547-01-29 16:19 J -5052839.89 -5052839.82 -5052839.75 0.2630 0.2324 *

Neptune -18547-03-01 00:57 J -5052809.51 -5052809.46 -5052809.39 0.0089 0.0079

Neptune -18547-05-28 02:23 J -5052721.47 -5052721.40 -5052721.32 0.0089 0.0072

Neptune -18547-08-24 03:36 J -5052633.43 -5052633.35 -5052633.25 0.0089 0.0065

Neptune -18547-11-20 05:02 J -5052545.39 -5052545.29 -5052545.19 0.0089 0.0058

Saturn -18546-01-09 02:38 J -5052495.55 -5052495.39 -5052495.23 0.0279 0.0150

Neptune -18546-02-16 06:14 J -5052457.34 -5052457.24 -5052457.13 0.0089 0.0051

Saturn -18546-04-08 02:23 J -5052406.58 -5052406.40 -5052406.21 0.0280 0.0043

Neptune -18546-05-15 07:40 J -5052369.29 -5052369.18 -5052369.07 0.0089 0.0044

Saturn -18546-07-06 02:09 J -5052317.51 -5052317.41 -5052317.31 0.0282 0.0236

Neptune -18546-08-11 08:52 J -5052281.24 -5052281.13 -5052281.01 0.0089 0.0037

Neptune -18546-11-07 10:19 J -5052193.20 -5052193.07 -5052192.95 0.0089 0.0029

Jupiter -18546-11-07 11:31 J -5052193.12 -5052193.02 -5052192.92 0.0528 0.0310 *

Mars -18546-11-09 02:38 J -5052191.46 -5052191.39 -5052191.32 0.1630 0.1261

Neptune -18545-02-03 11:31 J -5052105.14 -5052105.02 -5052104.89 0.0089 0.0023

Jupiter -18545-02-04 17:02 J -5052103.90 -5052103.79 -5052103.68 0.0527 0.0255

Neptune -18545-05-01 12:57 J -5052017.09 -5052016.96 -5052016.83 0.0089 0.0015

Neptune -18545-07-28 14:09 J -5051929.04 -5051928.91 -5051928.78 0.0089 0.0009

Neptune -18545-10-24 15:36 J -5051840.98 -5051840.85 -5051840.72 0.0089 0.0002

Neptune -18544-01-20 16:48 J -5051752.93 -5051752.80 -5051752.67 0.0089 0.0006

Neptune -18544-04-18 18:00 J -5051664.87 -5051664.75 -5051664.61 0.0089 0.0013

Neptune -18544-07-15 19:26 J -5051576.82 -5051576.69 -5051576.56 0.0089 0.0020

Neptune -18544-10-11 20:38 J -5051488.76 -5051488.64 -5051488.51 0.0089 0.0027

Neptune -18543-01-07 21:50 J -5051400.70 -5051400.59 -5051400.46 0.0089 0.0035

Neptune -18543-04-05 23:16 J -5051312.64 -5051312.53 -5051312.41 0.0089 0.0041

Neptune -18543-07-03 00:28 J -5051224.58 -5051224.48 -5051224.36 0.0089 0.0049

Mars -18543-08-20 04:33 J -5051176.46 -5051176.31 -5051176.16 0.1891 0.0855

Neptune -18543-09-29 01:55 J -5051136.52 -5051136.42 -5051136.31 0.0089 0.0055

Neptune -18543-12-26 03:07 J -5051048.45 -5051048.37 -5051048.26 0.0089 0.0063

Neptune -18542-03-24 04:33 J -5050960.38 -5050960.31 -5050960.22 0.0089 0.0070

Neptune -18542-06-20 06:00 J -5050872.31 -5050872.25 -5050872.18 0.0089 0.0076

Neptune -18542-09-16 07:11 J -5050784.24 -5050784.20 -5050784.15 0.0089 0.0084

Jupiter -18539-01-01 10:04 J -5049946.25 -5049946.08 -5049945.90 0.0498 0.0188

Mars -18538-04-26 12:28 J -5049466.07 -5049465.98 -5049465.89 0.1626 0.0977

Moon -18538-07-28 11:31 J -5049373.12 -5049373.02 -5049372.93 0.2697 0.1534

Earth -18538-07-28 11:16 J -5049373.12 -5049373.03 -5049372.94 0.2703 0.1468 *

Mars -18536-03-31 13:55 J -5048761.02 -5048760.92 -5048760.82 0.1629 0.0819

Venus -18535-12-05 12:28 J -5048147.07 -5048146.98 -5048146.89 0.3736 0.1864

Jupiter -18534-08-26 16:04 J -5047882.89 -5047882.83 -5047882.76 0.0529 0.0445

Jupiter -18534-11-23 21:36 J -5047793.72 -5047793.60 -5047793.47 0.0527 0.0121

Mars -18533-01-09 21:07 J -5047746.79 -5047746.62 -5047746.46 0.1893 0.0582

Saturn -18533-02-19 16:48 J -5047705.88 -5047705.80 -5047705.72 0.0283 0.0222

Saturn -18533-05-18 03:36 J -5047617.47 -5047617.35 -5047617.22 0.0282 0.0089

Saturn -18533-08-14 14:38 J -5047529.02 -5047528.89 -5047528.76 0.0281 0.0043

Saturn -18533-11-11 01:26 J -5047440.54 -5047440.44 -5047440.33 0.0280 0.0174

Earth -18531-07-21 09:07 J -5046823.20 -5046823.12 -5046823.04 0.2707 0.1820

Moon -18531-07-21 09:50 J -5046823.17 -5046823.09 -5046823.01 0.2711 0.1807 *

Venus -18529-06-20 03:50 J -5046123.44 -5046123.34 -5046123.24 0.3737 0.0157

Mars -18529-09-16 00:00 J -5046035.55 -5046035.50 -5046035.44 0.1626 0.1404

Jupiter -18528-10-20 06:00 J -5045636.37 -5045636.25 -5045636.13 0.0498 0.0381

Jupiter -18527-01-18 16:48 J -5045545.93 -5045545.80 -5045545.67 0.0499 0.0350

Moon -18527-01-24 11:16 J -5045540.15 -5045540.03 -5045539.90 0.2623 0.1523

Earth -18527-01-24 12:43 J -5045540.10 -5045539.97 -5045539.84 0.2627 0.1371 *

Mars -18527-08-22 01:26 J -5045330.55 -5045330.44 -5045330.32 0.1628 0.0385

Moon -18525-07-30 05:16 J -5044622.31 -5044622.28 -5044622.24 0.2696 0.2538

Earth -18525-07-30 05:45 J -5044622.27 -5044622.26 -5044622.24 0.2702 0.2673 *

Venus -18523-01-03 19:11 J -5044099.78 -5044099.70 -5044099.62 0.3739 0.2170

Jupiter -18522-09-12 02:09 J -5043483.54 -5043483.41 -5043483.29 0.0528 0.0023

Uranus -18519-03-29 09:36 J -5042554.16 -5042554.10 -5042554.01 0.0138 0.0127

Uranus -18519-06-25 17:16 J -5042465.91 -5042465.78 -5042465.63 0.0138 0.0097

Uranus -18519-09-22 00:57 J -5042377.62 -5042377.46 -5042377.28 0.0138 0.0068

Uranus -18519-12-19 08:38 J -5042289.32 -5042289.14 -5042288.95 0.0138 0.0039

Uranus -18518-03-17 16:19 J -5042201.01 -5042200.82 -5042200.63 0.0138 0.0010

Uranus -18518-06-13 23:45 J -5042112.70 -5042112.51 -5042112.32 0.0138 0.0019

Earth -18518-07-24 03:21 J -5042072.46 -5042072.36 -5042072.25 0.2706 0.0667

Moon -18518-07-24 04:04 J -5042072.44 -5042072.33 -5042072.22 0.2706 0.0572 *

Uranus -18518-09-10 07:11 J -5042024.38 -5042024.20 -5042024.02 0.0138 0.0047

Uranus -18518-12-07 14:23 J -5041936.05 -5041935.90 -5041935.73 0.0137 0.0075

Mars -18517-01-12 13:11 J -5041900.07 -5041899.95 -5041899.84 0.1627 0.0071

Uranus -18517-03-04 21:36 J -5041847.71 -5041847.60 -5041847.46 0.0137 0.0104

Saturn -18517-05-28 01:11 J -5041763.58 -5041763.45 -5041763.32 0.0279 0.0203

Uranus -18517-06-01 05:16 J -5041759.33 -5041759.28 -5041759.23 0.0137 0.0131

Saturn -18517-08-25 00:57 J -5041674.64 -5041674.46 -5041674.27 0.0280 0.0013

Saturn -18517-11-22 00:43 J -5041585.61 -5041585.47 -5041585.32 0.0281 0.0182

Jupiter -18516-11-06 13:55 J -5041236.09 -5041235.92 -5041235.74 0.0499 0.0171

Moon -18514-01-27 16:19 J -5040788.97 -5040788.82 -5040788.67 0.2631 0.0611

Earth -18514-01-27 17:45 J -5040788.90 -5040788.76 -5040788.61 0.2629 0.0697 *

Jupiter -18510-07-01 05:45 J -5039173.38 -5039173.26 -5039173.14 0.0528 0.0170

Jupiter -18510-09-28 11:16 J -5039084.11 -5039084.03 -5039083.95 0.0526 0.0394

Mars -18508-06-04 00:43 J -5038469.58 -5038469.47 -5038469.36 0.1627 0.0489

Mars -18506-05-10 02:38 J -5037764.46 -5037764.39 -5037764.33 0.1631 0.1321

Earth -18505-07-25 21:50 J -5037321.70 -5037321.59 -5037321.48 0.2705 0.0516

Moon -18505-07-25 22:19 J -5037321.68 -5037321.57 -5037321.46 0.2699 0.0591 *

Saturn -18504-07-08 19:55 J -5036973.72 -5036973.67 -5036973.61 0.0284 0.0252

Jupiter -18504-08-25 11:16 J -5036926.22 -5036926.03 -5036925.84 0.0499 0.0006

Saturn -18504-10-05 06:57 J -5036885.33 -5036885.21 -5036885.09 0.0283 0.0118

Saturn -18503-01-01 18:00 J -5036796.88 -5036796.75 -5036796.62 0.0282 0.0015

Mars -18503-02-18 05:31 J -5036749.41 -5036749.27 -5036749.13 0.1891 0.0993

Saturn -18503-03-31 04:48 J -5036708.41 -5036708.30 -5036708.18 0.0281 0.0147

Saturn -18503-06-27 15:50 J -5036619.86 -5036619.84 -5036619.82 0.0280 0.0276

Moon -18501-01-30 21:36 J -5036037.64 -5036037.60 -5036037.56 0.2635 0.2528

Mars -18499-10-25 12:14 J -5035039.08 -5035038.99 -5035038.89 0.1626 0.0922

Jupiter -18498-04-19 09:50 J -5034863.19 -5034863.09 -5034862.99 0.0528 0.0314

Jupiter -18498-07-17 15:21 J -5034773.97 -5034773.86 -5034773.75 0.0527 0.0250

Venus -18497-02-24 01:26 J -5034552.55 -5034552.44 -5034552.32 0.3635 0.2547

Mars -18497-09-29 13:55 J -5034334.01 -5034333.92 -5034333.82 0.1629 0.0879

Mars -18494-07-10 21:50 J -5033319.75 -5033319.59 -5033319.42 0.1892 0.0451

Jupiter -18492-06-13 07:55 J -5032616.34 -5032616.17 -5032615.99 0.0498 0.0189

Moon -18492-07-28 16:04 J -5032570.92 -5032570.83 -5032570.74 0.2697 0.1657

Earth -18492-07-28 16:19 J -5032570.91 -5032570.82 -5032570.74 0.2703 0.1709 *

Mars -18489-03-17 00:00 J -5031608.56 -5031608.50 -5031608.44 0.1626 0.1348

Saturn -18488-10-15 00:28 J -5031031.55 -5031031.48 -5031031.39 0.0279 0.0249

Saturn -18487-01-12 00:28 J -5030942.66 -5030942.48 -5030942.29 0.0280 0.0057

Mars -18487-02-20 01:26 J -5030903.55 -5030903.44 -5030903.33 0.1628 0.0435

Saturn -18487-04-11 00:14 J -5030853.65 -5030853.49 -5030853.32 0.0281 0.0135

Jupiter -18486-02-05 13:55 J -5030552.98 -5030552.92 -5030552.86 0.0529 0.0457

Jupiter -18486-05-05 19:26 J -5030463.81 -5030463.69 -5030463.56 0.0527 0.0107

Pluto -18486-10-08 19:55 J -5030307.72 -5030307.67 -5030307.58 0.0073 0.0065

Pluto -18485-01-04 21:36 J -5030219.70 -5030219.60 -5030219.50 0.0073 0.0056

Pluto -18485-04-01 22:48 J -5030131.66 -5030131.55 -5030131.42 0.0072 0.0048

Pluto -18485-06-29 00:14 J -5030043.61 -5030043.49 -5030043.35 0.0072 0.0039

Earth -18485-07-21 14:09 J -5030021.00 -5030020.91 -5030020.82 0.2707 0.1598

Moon -18485-07-21 14:38 J -5030020.98 -5030020.89 -5030020.80 0.2711 0.1472 *

Pluto -18485-09-25 01:40 J -5029955.57 -5029955.43 -5029955.28 0.0072 0.0031

Pluto -18485-12-22 03:07 J -5029867.52 -5029867.37 -5029867.22 0.0072 0.0022

Pluto -18484-03-20 04:19 J -5029779.47 -5029779.32 -5029779.16 0.0072 0.0014

Pluto -18484-06-16 05:45 J -5029691.42 -5029691.26 -5029691.10 0.0072 0.0006

Pluto -18484-09-12 07:11 J -5029603.36 -5029603.20 -5029603.05 0.0072 0.0003

Pluto -18484-12-09 08:23 J -5029515.31 -5029515.15 -5029514.99 0.0072 0.0010

Venus -18484-12-26 18:28 J -5029497.78 -5029497.73 -5029497.68 0.3734 0.3118

Pluto -18483-03-07 09:21 J -5029427.25 -5029427.11 -5029426.95 0.0072 0.0019

Pluto -18483-06-03 10:33 J -5029339.19 -5029339.06 -5029338.90 0.0071 0.0027

Pluto -18483-08-30 12:14 J -5029251.13 -5029250.99 -5029250.85 0.0071 0.0034

Pluto -18483-11-26 13:11 J -5029163.07 -5029162.95 -5029162.81 0.0071 0.0042

Pluto -18482-02-22 14:23 J -5029075.00 -5029074.90 -5029074.78 0.0071 0.0049

Pluto -18482-05-21 15:21 J -5028986.93 -5028986.86 -5028986.75 0.0071 0.0057

Pluto -18482-08-17 16:48 J -5028898.85 -5028898.80 -5028898.72 0.0071 0.0064

Moon -18481-01-25 17:45 J -5028737.90 -5028737.76 -5028737.63 0.2625 0.1142

Earth -18481-01-25 19:11 J -5028737.85 -5028737.70 -5028737.56 0.2627 0.0984 *

Jupiter -18480-04-01 04:33 J -5028306.43 -5028306.31 -5028306.19 0.0498 0.0374

Jupiter -18480-06-30 15:21 J -5028215.99 -5028215.86 -5028215.73 0.0499 0.0357

Venus -18478-07-12 09:50 J -5027474.18 -5027474.09 -5027473.99 0.3736 0.1128

Mars -18478-07-13 13:11 J -5027473.07 -5027472.95 -5027472.84 0.1627 0.0063

Uranus -18475-08-30 18:14 J -5026328.81 -5026328.74 -5026328.68 0.0140 0.0121

Uranus -18475-11-26 21:21 J -5026240.69 -5026240.61 -5026240.51 0.0140 0.0100

Jupiter -18474-02-22 00:00 J -5026153.62 -5026153.50 -5026153.37 0.0528 0.0031

Saturn -18474-02-22 09:36 J -5026153.20 -5026153.10 -5026152.99 0.0283 0.0153

Uranus -18474-02-23 00:43 J -5026152.57 -5026152.47 -5026152.35 0.0140 0.0080

Saturn -18474-05-21 20:38 J -5026064.77 -5026064.64 -5026064.51 0.0282 0.0020

Uranus -18474-05-22 04:19 J -5026064.44 -5026064.32 -5026064.20 0.0141 0.0059

Uranus -18474-08-18 07:40 J -5025976.31 -5025976.18 -5025976.05 0.0141 0.0038

Saturn -18474-08-18 07:40 J -5025976.30 -5025976.18 -5025976.06 0.0281 0.0111 *

Uranus -18474-11-14 11:02 J -5025888.17 -5025888.04 -5025887.90 0.0141 0.0018

Saturn -18474-11-14 18:28 J -5025887.79 -5025887.73 -5025887.66 0.0279 0.0241

Uranus -18473-02-10 14:38 J -5025800.02 -5025799.89 -5025799.76 0.0141 0.0005

Uranus -18473-05-08 18:00 J -5025711.88 -5025711.75 -5025711.62 0.0141 0.0026

Uranus -18473-08-04 21:36 J -5025623.73 -5025623.60 -5025623.48 0.0141 0.0047

Uranus -18473-11-01 00:57 J -5025535.57 -5025535.46 -5025535.34 0.0141 0.0069

Venus -18472-01-25 01:11 J -5025450.54 -5025450.45 -5025450.35 0.3738 0.0894

Uranus -18472-01-28 04:33 J -5025447.41 -5025447.31 -5025447.21 0.0141 0.0091

Uranus -18472-04-26 07:55 J -5025359.24 -5025359.17 -5025359.08 0.0142 0.0113

Uranus -18472-07-23 11:31 J -5025271.05 -5025271.02 -5025270.97 0.0142 0.0135

Earth -18472-07-24 08:23 J -5025270.26 -5025270.15 -5025270.04 0.2706 0.0440

Moon -18472-07-24 09:07 J -5025270.23 -5025270.12 -5025270.01 0.2704 0.0402 *

Mars -18469-12-03 00:43 J -5024042.58 -5024042.47 -5024042.36 0.1627 0.0432

Moon -18468-01-27 22:48 J -5023986.70 -5023986.55 -5023986.41 0.2631 0.0885

Earth -18468-01-28 00:14 J -5023986.63 -5023986.49 -5023986.35 0.2629 0.1086 *

Jupiter -18468-04-18 11:31 J -5023906.19 -5023906.02 -5023905.84 0.0498 0.0167

Venus -18467-08-10 16:33 J -5023426.87 -5023426.81 -5023426.74 0.3739 0.2915

Mars -18467-11-08 02:23 J -5023337.45 -5023337.40 -5023337.33 0.1631 0.1379

Neptune -18464-08-16 00:57 J -5022325.52 -5022325.46 -5022325.37 0.0088 0.0080

Mars -18464-08-19 06:28 J -5022322.36 -5022322.23 -5022322.09 0.1891 0.1127

Neptune -18464-11-12 04:48 J -5022237.41 -5022237.30 -5022237.17 0.0088 0.0070

Neptune -18463-02-08 08:23 J -5022149.28 -5022149.15 -5022149.00 0.0088 0.0060

Neptune -18463-05-07 12:00 J -5022061.15 -5022061.00 -5022060.83 0.0088 0.0050

Neptune -18463-08-03 15:36 J -5021973.01 -5021972.85 -5021972.66 0.0088 0.0040

Neptune -18463-10-30 19:26 J -5021884.87 -5021884.69 -5021884.50 0.0088 0.0030

Jupiter -18463-12-11 04:33 J -5021843.43 -5021843.31 -5021843.19 0.0528 0.0165

Neptune -18462-01-26 23:02 J -5021796.72 -5021796.54 -5021796.34 0.0088 0.0020

Jupiter -18462-03-10 10:19 J -5021754.15 -5021754.07 -5021753.99 0.0527 0.0402

Neptune -18462-04-25 02:52 J -5021708.58 -5021708.38 -5021708.19 0.0088 0.0010

Neptune -18462-07-22 06:28 J -5021620.43 -5021620.23 -5021620.03 0.0088 0.0000

Neptune -18462-10-18 10:04 J -5021532.27 -5021532.08 -5021531.88 0.0088 0.0010

Neptune -18461-01-14 13:40 J -5021444.12 -5021443.93 -5021443.74 0.0088 0.0020

Neptune -18461-04-11 17:16 J -5021355.96 -5021355.78 -5021355.59 0.0088 0.0030

Neptune -18461-07-08 20:52 J -5021267.80 -5021267.63 -5021267.45 0.0088 0.0040

Neptune -18461-10-05 00:28 J -5021179.64 -5021179.48 -5021179.32 0.0088 0.0050

Neptune -18460-01-01 03:50 J -5021091.47 -5021091.34 -5021091.18 0.0088 0.0060

Neptune -18460-03-30 07:26 J -5021003.29 -5021003.19 -5021003.06 0.0088 0.0070

Neptune -18460-06-26 11:02 J -5020915.11 -5020915.04 -5020914.95 0.0088 0.0080

Mars -18459-04-25 12:14 J -5020612.08 -5020611.99 -5020611.89 0.1626 0.0863

Earth -18459-07-27 02:38 J -5020519.50 -5020519.39 -5020519.28 0.2704 0.0746

Moon -18459-07-27 03:07 J -5020519.48 -5020519.37 -5020519.26 0.2699 0.0796 *

Saturn -18458-05-31 21:50 J -5020210.75 -5020210.59 -5020210.41 0.0279 0.0119

Saturn -18458-08-28 21:50 J -5020121.77 -5020121.59 -5020121.41 0.0280 0.0074

Saturn -18458-11-25 21:36 J -5020032.66 -5020032.60 -5020032.54 0.0281 0.0267

Mars -18457-03-30 13:55 J -5019907.01 -5019906.92 -5019906.82 0.1629 0.0935

Jupiter -18456-02-04 08:38 J -5019596.32 -5019596.14 -5019595.95 0.0498 0.0016

Mars -18454-01-08 22:48 J -5018892.72 -5018892.55 -5018892.38 0.1892 0.0322

Earth -18452-07-20 00:43 J -5017969.51 -5017969.47 -5017969.43 0.2708 0.2519

Moon -18452-07-20 00:57 J -5017969.50 -5017969.46 -5017969.41 0.2714 0.2440 *

Jupiter -18451-09-29 08:23 J -5017533.25 -5017533.15 -5017533.05 0.0528 0.0314

Jupiter -18451-12-27 13:55 J -5017444.03 -5017443.92 -5017443.81 0.0527 0.0250

Mars -18450-09-16 00:00 J -5017181.57 -5017181.50 -5017181.43 0.1626 0.1290

Mars -18448-08-21 01:26 J -5016476.55 -5016476.44 -5016476.33 0.1628 0.0495

Venus -18446-03-16 17:02 J -5015903.92 -5015903.79 -5015903.65 0.3637 0.2072

Moon -18446-07-29 20:52 J -5015768.70 -5015768.63 -5015768.55 0.2696 0.1934

Earth -18446-07-29 21:07 J -5015768.70 -5015768.62 -5015768.54 0.2703 0.1940 *

Mars -18445-05-30 14:52 J -5015462.93 -5015462.88 -5015462.82 0.1894 0.1779

Saturn -18445-07-11 12:43 J -5015421.06 -5015420.97 -5015420.87 0.0284 0.0186

Saturn -18445-10-07 23:45 J -5015332.64 -5015332.51 -5015332.38 0.0283 0.0052

Jupiter -18445-11-23 06:00 J -5015286.42 -5015286.25 -5015286.08 0.0498 0.0188

Saturn -18444-01-04 10:48 J -5015244.18 -5015244.05 -5015243.93 0.0281 0.0081

Saturn -18444-04-02 21:36 J -5015155.68 -5015155.60 -5015155.51 0.0280 0.0211

Jupiter -18439-07-18 12:28 J -5013223.04 -5013222.98 -5013222.91 0.0528 0.0457

Earth -18439-07-22 18:57 J -5013218.80 -5013218.71 -5013218.61 0.2707 0.1369

Moon -18439-07-22 19:40 J -5013218.78 -5013218.68 -5013218.59 0.2711 0.1366 *

Jupiter -18439-10-15 18:00 J -5013133.87 -5013133.75 -5013133.63 0.0527 0.0107

Mars -18438-01-11 12:57 J -5013046.07 -5013045.96 -5013045.84 0.1627 0.0086

Moon -18435-01-26 00:00 J -5011935.65 -5011935.50 -5011935.35 0.2627 0.0692

Earth -18435-01-26 01:26 J -5011935.59 -5011935.44 -5011935.29 0.2627 0.0591 *

Uranus -18435-04-18 18:57 J -5011852.82 -5011852.71 -5011852.60 0.0138 0.0113

Uranus -18435-07-16 02:23 J -5011764.54 -5011764.40 -5011764.24 0.0138 0.0084

Uranus -18435-10-12 10:04 J -5011676.25 -5011676.08 -5011675.90 0.0138 0.0054

Uranus -18434-01-08 17:45 J -5011587.94 -5011587.76 -5011587.57 0.0138 0.0025

Uranus -18434-04-07 01:26 J -5011499.63 -5011499.44 -5011499.25 0.0138 0.0004

Uranus -18434-07-04 08:38 J -5011411.32 -5011411.14 -5011410.94 0.0138 0.0033

Uranus -18434-09-30 16:04 J -5011322.99 -5011322.83 -5011322.65 0.0137 0.0061

Uranus -18434-12-27 23:31 J -5011234.66 -5011234.52 -5011234.37 0.0137 0.0089

Uranus -18433-03-25 06:43 J -5011146.31 -5011146.22 -5011146.11 0.0137 0.0117

Jupiter -18433-09-11 02:52 J -5010976.51 -5010976.38 -5010976.26 0.0498 0.0370

Jupiter -18433-12-10 13:40 J -5010886.05 -5010885.93 -5010885.80 0.0499 0.0361

Mars -18429-06-03 00:43 J -5009615.59 -5009615.47 -5009615.36 0.1626 0.0382

Saturn -18429-10-17 20:52 J -5009478.78 -5009478.63 -5009478.48 0.0279 0.0170

Saturn -18428-01-14 20:38 J -5009389.83 -5009389.64 -5009389.45 0.0280 0.0023

Saturn -18428-04-13 20:23 J -5009300.77 -5009300.65 -5009300.53 0.0281 0.0216

Mars -18427-05-09 02:23 J -5008910.45 -5008910.40 -5008910.34 0.1630 0.1436

Venus -18427-08-02 15:50 J -5008824.91 -5008824.84 -5008824.76 0.3734 0.2391

Jupiter -18427-08-03 22:04 J -5008823.70 -5008823.58 -5008823.45 0.0528 0.0042

Earth -18426-07-25 13:11 J -5008468.06 -5008467.95 -5008467.84 0.2705 0.0208

Moon -18426-07-25 13:55 J -5008468.03 -5008467.92 -5008467.81 0.2703 0.0070 *

Mars -18424-02-17 06:57 J -5007895.33 -5007895.21 -5007895.08 0.1891 0.1238

Moon -18422-01-29 05:02 J -5007184.42 -5007184.29 -5007184.16 0.2631 0.1359

Earth -18422-01-29 06:28 J -5007184.35 -5007184.23 -5007184.10 0.2629 0.1466 *

Venus -18421-02-16 07:11 J -5006801.30 -5006801.20 -5006801.10 0.3736 0.0401

Jupiter -18421-09-28 10:33 J -5006576.23 -5006576.06 -5006575.89 0.0499 0.0179

Mars -18420-10-24 12:14 J -5006185.09 -5006184.99 -5006184.89 0.1626 0.0807

Mars -18418-09-29 13:55 J -5005480.01 -5005479.92 -5005479.83 0.1629 0.0989

Venus -18416-08-31 22:33 J -5004777.65 -5004777.56 -5004777.47 0.3738 0.1626

Saturn -18416-11-28 15:21 J -5004688.94 -5004688.86 -5004688.79 0.0283 0.0223

Saturn -18415-02-25 02:09 J -5004600.53 -5004600.41 -5004600.28 0.0282 0.0090

Jupiter -18415-05-23 02:52 J -5004513.50 -5004513.38 -5004513.26 0.0528 0.0172

Saturn -18415-05-24 13:11 J -5004512.08 -5004511.95 -5004511.82 0.0281 0.0043

Mars -18415-07-09 23:31 J -5004465.69 -5004465.52 -5004465.35 0.1893 0.0196

Jupiter -18415-08-20 08:23 J -5004424.23 -5004424.15 -5004424.07 0.0527 0.0395

Saturn -18415-08-21 00:00 J -5004423.60 -5004423.50 -5004423.39 0.0280 0.0174

Earth -18413-07-27 07:40 J -5003717.29 -5003717.18 -5003717.08 0.2704 0.0981

Moon -18413-07-27 07:55 J -5003717.27 -5003717.17 -5003717.07 0.2698 0.0996 *

Mars -18410-03-17 00:00 J -5002754.58 -5002754.50 -5002754.43 0.1626 0.1233

Venus -18410-03-17 14:09 J -5002753.93 -5002753.91 -5002753.90 0.3740 0.3651

Jupiter -18409-07-17 06:57 J -5002266.40 -5002266.21 -5002266.03 0.0498 0.0014

Mars -18408-02-19 01:26 J -5002049.55 -5002049.44 -5002049.33 0.1628 0.0552

Earth -18406-07-21 05:45 J -5001167.32 -5001167.26 -5001167.21 0.2708 0.2300

Moon -18406-07-21 06:00 J -5001167.30 -5001167.25 -5001167.19 0.2714 0.2313 *

Mars -18406-11-29 15:50 J -5001035.92 -5001035.84 -5001035.76 0.1893 0.1645

Jupiter -18403-03-11 07:26 J -5000203.29 -5000203.19 -5000203.09 0.0529 0.0306

Jupiter -18403-06-08 12:57 J -5000114.07 -5000113.96 -5000113.85 0.0527 0.0260

Moon -18402-01-24 01:26 J -4999884.51 -4999884.44 -4999884.36 0.2622 0.2299

Earth -18402-01-24 02:38 J -4999884.47 -4999884.39 -4999884.32 0.2626 0.2294 *

Moon -18400-07-30 01:55 J -4998966.49 -4998966.42 -4998966.35 0.2696 0.2133

Earth -18400-07-30 02:09 J -4998966.48 -4998966.41 -4998966.35 0.2703 0.2178 *

Saturn -18399-03-06 17:31 J -4998746.86 -4998746.77 -4998746.67 0.0279 0.0237

Saturn -18399-06-03 17:31 J -4998657.96 -4998657.77 -4998657.58 0.0280 0.0045

Mars -18399-07-12 12:57 J -4998619.07 -4998618.96 -4998618.84 0.1627 0.0121

Saturn -18399-08-31 17:16 J -4998568.94 -4998568.78 -4998568.62 0.0281 0.0148

Jupiter -18397-05-05 04:04 J -4997956.50 -4997956.33 -4997956.16 0.0498 0.0186

Earth -18393-07-22 23:45 J -4996416.61 -4996416.51 -4996416.41 0.2707 0.1150

Moon -18393-07-23 00:28 J -4996416.58 -4996416.48 -4996416.38 0.2709 0.1008 *

Jupiter -18392-12-28 11:16 J -4995893.09 -4995893.03 -4995892.96 0.0528 0.0453

Jupiter -18391-03-27 16:48 J -4995803.93 -4995803.80 -4995803.68 0.0527 0.0110

Uranus -18391-06-23 22:33 J -4995715.59 -4995715.56 -4995715.52 0.0140 0.0133

Uranus -18391-09-20 01:40 J -4995627.49 -4995627.43 -4995627.34 0.0140 0.0113

Uranus -18391-12-17 05:16 J -4995539.38 -4995539.28 -4995539.18 0.0140 0.0092

Uranus -18390-03-15 08:38 J -4995451.25 -4995451.14 -4995451.02 0.0140 0.0072

Uranus -18390-06-11 12:00 J -4995363.12 -4995363.00 -4995362.87 0.0141 0.0051

Uranus -18390-09-07 15:21 J -4995274.98 -4995274.86 -4995274.72 0.0141 0.0031

Venus -18390-10-21 19:26 J -4995230.85 -4995230.69 -4995230.52 0.3636 0.0184

Mars -18390-12-03 00:43 J -4995188.59 -4995188.47 -4995188.36 0.1626 0.0324

Uranus -18390-12-04 18:57 J -4995186.84 -4995186.71 -4995186.58 0.0141 0.0009

Moon -18389-01-27 06:14 J -4995133.39 -4995133.24 -4995133.08 0.2627 0.0428

Earth -18389-01-27 07:55 J -4995133.32 -4995133.17 -4995133.01 0.2628 0.0193 *

Uranus -18389-03-01 22:19 J -4995098.70 -4995098.57 -4995098.43 0.0141 0.0013

Uranus -18389-05-29 01:55 J -4995010.55 -4995010.42 -4995010.29 0.0141 0.0034

Uranus -18389-08-25 05:16 J -4994922.40 -4994922.28 -4994922.15 0.0141 0.0055

Uranus -18389-11-21 08:52 J -4994834.24 -4994834.13 -4994834.02 0.0141 0.0077

Uranus -18388-02-17 12:14 J -4994746.08 -4994745.99 -4994745.89 0.0141 0.0099

Uranus -18388-05-16 15:50 J -4994657.90 -4994657.84 -4994657.77 0.0142 0.0121

Mars -18388-11-07 02:23 J -4994483.44 -4994483.40 -4994483.35 0.1630 0.1493

Saturn -18386-04-17 17:45 J -4993956.80 -4993956.76 -4993956.71 0.0285 0.0261

Saturn -18386-07-15 04:48 J -4993868.41 -4993868.30 -4993868.18 0.0283 0.0127

Saturn -18386-10-11 15:50 J -4993779.97 -4993779.84 -4993779.71 0.0282 0.0008

Saturn -18385-01-08 02:38 J -4993691.50 -4993691.39 -4993691.27 0.0281 0.0138

Jupiter -18385-02-22 01:11 J -4993646.58 -4993646.45 -4993646.32 0.0498 0.0364

Saturn -18385-04-05 13:40 J -4993602.96 -4993602.93 -4993602.90 0.0280 0.0268

Jupiter -18385-05-22 12:14 J -4993556.12 -4993555.99 -4993555.87 0.0499 0.0368

Mars -18385-08-18 07:55 J -4993468.29 -4993468.17 -4993468.06 0.1891 0.1365

Neptune -18383-08-29 22:48 J -4992726.59 -4992726.55 -4992726.52 0.0089 0.0086

Neptune -18383-11-26 00:00 J -4992638.56 -4992638.50 -4992638.44 0.0089 0.0079

Neptune -18382-02-22 01:26 J -4992550.52 -4992550.44 -4992550.37 0.0089 0.0072

Neptune -18382-05-21 02:38 J -4992462.48 -4992462.39 -4992462.30 0.0089 0.0065

Neptune -18382-08-17 03:36 J -4992374.43 -4992374.35 -4992374.24 0.0089 0.0059

Neptune -18382-11-13 05:16 J -4992286.39 -4992286.28 -4992286.17 0.0089 0.0051

Neptune -18381-02-09 06:28 J -4992198.34 -4992198.23 -4992198.11 0.0089 0.0044

Neptune -18381-05-07 07:55 J -4992110.29 -4992110.17 -4992110.05 0.0089 0.0037

Neptune -18381-08-03 09:07 J -4992022.24 -4992022.12 -4992022.00 0.0089 0.0030

Neptune -18381-10-30 10:19 J -4991934.19 -4991934.07 -4991933.94 0.0089 0.0023

Neptune -18380-01-26 11:45 J -4991846.14 -4991846.01 -4991845.88 0.0089 0.0016

Mars -18380-04-24 12:14 J -4991758.09 -4991757.99 -4991757.89 0.1626 0.0749

Neptune -18380-04-24 12:57 J -4991758.09 -4991757.96 -4991757.82 0.0089 0.0009 *

Neptune -18380-07-21 14:23 J -4991670.03 -4991669.90 -4991669.77 0.0089 0.0002

Earth -18380-07-25 18:00 J -4991665.86 -4991665.75 -4991665.63 0.2705 0.0113

Moon -18380-07-25 18:43 J -4991665.83 -4991665.72 -4991665.60 0.2703 0.0116 *

Neptune -18380-10-17 15:36 J -4991581.98 -4991581.85 -4991581.71 0.0089 0.0006

Neptune -18379-01-13 17:02 J -4991493.92 -4991493.79 -4991493.66 0.0089 0.0013

Jupiter -18379-01-13 20:52 J -4991493.75 -4991493.63 -4991493.50 0.0527 0.0037 *

Neptune -18379-04-11 18:14 J -4991405.86 -4991405.74 -4991405.61 0.0089 0.0020

Neptune -18379-07-08 19:40 J -4991317.81 -4991317.68 -4991317.56 0.0089 0.0027

Neptune -18379-10-04 20:52 J -4991229.75 -4991229.63 -4991229.50 0.0089 0.0034

Neptune -18379-12-31 22:04 J -4991141.69 -4991141.58 -4991141.45 0.0089 0.0041

Neptune -18378-03-29 23:31 J -4991053.63 -4991053.52 -4991053.40 0.0089 0.0048

Mars -18378-03-30 13:55 J -4991053.01 -4991052.92 -4991052.83 0.1629 0.1051

Neptune -18378-06-26 00:43 J -4990965.56 -4990965.47 -4990965.36 0.0089 0.0056

Neptune -18378-09-22 02:09 J -4990877.50 -4990877.41 -4990877.31 0.0089 0.0062

Neptune -18378-12-19 03:21 J -4990789.43 -4990789.36 -4990789.27 0.0089 0.0070

Neptune -18377-03-16 04:48 J -4990701.36 -4990701.30 -4990701.23 0.0089 0.0077

Neptune -18377-06-12 06:14 J -4990613.28 -4990613.24 -4990613.19 0.0089 0.0084

Moon -18376-01-29 11:45 J -4990382.12 -4990382.01 -4990381.90 0.2633 0.1738

Earth -18376-01-29 12:57 J -4990382.07 -4990381.96 -4990381.85 0.2629 0.1852 *

Venus -18376-08-23 21:50 J -4990175.60 -4990175.59 -4990175.57 0.3733 0.3644

Mars -18375-01-08 00:28 J -4990038.65 -4990038.48 -4990038.31 0.1893 0.0064

Jupiter -18373-03-10 09:07 J -4989246.29 -4989246.12 -4989245.94 0.0499 0.0189

Mars -18371-09-14 23:45 J -4988327.58 -4988327.51 -4988327.43 0.1626 0.1179

Venus -18370-03-09 13:11 J -4988152.04 -4988151.95 -4988151.86 0.3735 0.1666

Saturn -18370-10-21 15:36 J -4987926.03 -4987925.85 -4987925.67 0.0279 0.0101

Saturn -18369-01-18 15:21 J -4987837.04 -4987836.86 -4987836.68 0.0280 0.0091

Mars -18369-08-20 01:26 J -4987622.55 -4987622.44 -4987622.34 0.1628 0.0610

Jupiter -18368-11-02 01:11 J -4987183.57 -4987183.45 -4987183.33 0.0528 0.0174

Jupiter -18367-01-30 06:43 J -4987094.30 -4987094.22 -4987094.13 0.0527 0.0391

Earth -18367-07-28 12:28 J -4986915.08 -4986914.98 -4986914.88 0.2704 0.1212

Moon -18367-07-28 12:43 J -4986915.07 -4986914.97 -4986914.87 0.2697 0.1269 *

Mars -18366-05-30 16:33 J -4986608.91 -4986608.81 -4986608.72 0.1894 0.1533

Venus -18365-09-22 04:33 J -4986128.41 -4986128.31 -4986128.21 0.3737 0.0352

Jupiter -18362-12-28 06:14 J -4984936.43 -4984936.24 -4984936.06 0.0498 0.0014

Mars -18361-02-05 11:31 J -4984897.03 -4984897.02 -4984897.00 0.1625 0.1602

Earth -18360-07-21 10:33 J -4984365.13 -4984365.06 -4984364.99 0.2708 0.2075

Moon -18360-07-21 11:02 J -4984365.12 -4984365.04 -4984364.97 0.2714 0.1998 *

Mars -18359-01-10 12:57 J -4984192.08 -4984191.96 -4984191.84 0.1627 0.0171

Venus -18359-04-07 19:55 J -4984104.74 -4984104.67 -4984104.59 0.3739 0.2349

Saturn -18357-12-01 06:57 J -4983136.31 -4983136.21 -4983136.10 0.0283 0.0167

Moon -18356-01-24 07:40 J -4983082.27 -4983082.18 -4983082.08 0.2623 0.2107

Earth -18356-01-24 09:07 J -4983082.23 -4983082.12 -4983082.01 0.2626 0.1886 *

Saturn -18356-02-27 18:00 J -4983047.88 -4983047.75 -4983047.62 0.0282 0.0034

Saturn -18356-05-27 05:02 J -4982959.41 -4982959.29 -4982959.17 0.0281 0.0098

Jupiter -18356-08-21 05:45 J -4982873.36 -4982873.26 -4982873.16 0.0529 0.0309

Saturn -18356-08-23 15:50 J -4982870.91 -4982870.84 -4982870.76 0.0280 0.0229

Jupiter -18356-11-18 11:16 J -4982784.14 -4982784.03 -4982783.92 0.0527 0.0257

Moon -18354-07-31 06:43 J -4982164.27 -4982164.22 -4982164.17 0.2696 0.2369

Earth -18354-07-31 06:57 J -4982164.25 -4982164.21 -4982164.16 0.2702 0.2415 *

Uranus -18351-02-09 19:40 J -4981239.74 -4981239.68 -4981239.62 0.0138 0.0131

Uranus -18351-05-09 03:07 J -4981151.49 -4981151.37 -4981151.23 0.0138 0.0102

Uranus -18351-08-05 10:48 J -4981063.20 -4981063.05 -4981062.87 0.0138 0.0072

Uranus -18351-11-01 18:28 J -4980974.90 -4980974.73 -4980974.54 0.0138 0.0043

Uranus -18350-01-29 02:23 J -4980886.59 -4980886.40 -4980886.21 0.0138 0.0014

Uranus -18350-04-27 09:50 J -4980798.28 -4980798.09 -4980797.90 0.0138 0.0015

Mars -18350-06-03 00:28 J -4980761.59 -4980761.48 -4980761.36 0.1627 0.0263

Uranus -18350-07-24 17:16 J -4980709.96 -4980709.78 -4980709.60 0.0138 0.0044

Jupiter -18350-10-16 02:38 J -4980626.57 -4980626.39 -4980626.22 0.0498 0.0179

Uranus -18350-10-21 00:43 J -4980621.63 -4980621.47 -4980621.31 0.0137 0.0072

Uranus -18349-01-17 07:40 J -4980533.29 -4980533.18 -4980533.03 0.0137 0.0101

Uranus -18349-04-14 15:21 J -4980444.92 -4980444.86 -4980444.79 0.0137 0.0128

Mars -18348-05-08 02:23 J -4980056.43 -4980056.40 -4980056.37 0.1630 0.1552

Earth -18347-07-24 04:48 J -4979614.41 -4979614.30 -4979614.20 0.2707 0.0921

Moon -18347-07-24 05:31 J -4979614.38 -4979614.27 -4979614.17 0.2707 0.0891 *

Mars -18345-02-17 09:07 J -4979041.22 -4979041.12 -4979041.02 0.1891 0.1510

Jupiter -18344-06-09 10:33 J -4978563.13 -4978563.06 -4978563.00 0.0529 0.0442

Jupiter -18344-09-06 16:04 J -4978473.96 -4978473.83 -4978473.71 0.0528 0.0124

Moon -18343-01-27 12:43 J -4978331.12 -4978330.97 -4978330.82 0.2627 0.0125

Earth -18343-01-27 14:23 J -4978331.05 -4978330.90 -4978330.75 0.2628 0.0203 *

Mars -18341-10-23 12:14 J -4977331.10 -4977330.99 -4977330.89 0.1626 0.0691

Saturn -18340-03-09 11:31 J -4977194.16 -4977194.02 -4977193.87 0.0279 0.0174

Saturn -18340-06-06 11:31 J -4977105.21 -4977105.02 -4977104.83 0.0280 0.0018

Saturn -18340-09-03 11:02 J -4977016.16 -4977016.04 -4977015.91 0.0281 0.0211

Mars -18339-09-28 13:55 J -4976626.01 -4976625.92 -4976625.84 0.1629 0.1108

Jupiter -18338-08-03 23:45 J -4976316.64 -4976316.51 -4976316.38 0.0498 0.0355

Jupiter -18338-11-02 10:33 J -4976226.17 -4976226.06 -4976225.93 0.0499 0.0376

Mars -18336-07-09 01:11 J -4975611.62 -4975611.45 -4975611.28 0.1893 0.0080

Earth -18334-07-26 23:02 J -4974863.65 -4974863.54 -4974863.43 0.2705 0.0256

Moon -18334-07-26 23:31 J -4974863.63 -4974863.52 -4974863.40 0.2702 0.0403 *

Venus -18333-05-27 22:04 J -4974557.70 -4974557.58 -4974557.46 0.3636 0.2419

Jupiter -18332-06-25 19:55 J -4974163.80 -4974163.67 -4974163.54 0.0527 0.0025

Mars -18331-03-15 23:45 J -4973900.59 -4973900.51 -4973900.42 0.1625 0.1120

Moon -18330-01-30 18:14 J -4973579.83 -4973579.74 -4973579.65 0.2634 0.2102

Earth -18330-01-30 19:26 J -4973579.77 -4973579.69 -4973579.62 0.2629 0.2242 *

Mars -18329-02-19 01:26 J -4973195.55 -4973195.44 -4973195.34 0.1628 0.0668

Saturn -18327-04-20 09:21 J -4972404.20 -4972404.11 -4972404.03 0.0284 0.0209

Saturn -18327-07-17 20:23 J -4972315.78 -4972315.65 -4972315.53 0.0283 0.0075

Saturn -18327-10-14 07:11 J -4972227.32 -4972227.20 -4972227.07 0.0282 0.0059

Mars -18327-11-28 17:16 J -4972181.89 -4972181.78 -4972181.66 0.1894 0.1399

Saturn -18326-01-10 18:14 J -4972138.83 -4972138.74 -4972138.64 0.0281 0.0190

Jupiter -18326-08-21 07:55 J -4971916.33 -4971916.17 -4971915.99 0.0499 0.0200

Pluto -18323-06-06 17:45 J -4970895.77 -4970895.76 -4970895.74 0.0071 0.0071

Pluto -18323-09-02 18:43 J -4970807.78 -4970807.72 -4970807.63 0.0071 0.0063

Pluto -18323-11-29 19:55 J -4970719.75 -4970719.67 -4970719.55 0.0071 0.0056

Pluto -18322-02-25 21:21 J -4970631.72 -4970631.61 -4970631.48 0.0072 0.0048

Pluto -18322-05-24 22:33 J -4970543.68 -4970543.56 -4970543.41 0.0072 0.0040

Mars -18322-08-06 11:31 J -4970470.05 -4970470.02 -4970469.99 0.1625 0.1547

Pluto -18322-08-21 00:00 J -4970455.63 -4970455.50 -4970455.35 0.0072 0.0032

Pluto -18322-11-17 01:26 J -4970367.58 -4970367.44 -4970367.28 0.0072 0.0024

Pluto -18321-02-13 02:52 J -4970279.53 -4970279.38 -4970279.22 0.0072 0.0015

Pluto -18321-05-11 04:19 J -4970191.48 -4970191.32 -4970191.16 0.0072 0.0007

Earth -18321-07-28 17:31 J -4970112.87 -4970112.77 -4970112.68 0.2704 0.1450

Moon -18321-07-28 17:31 J -4970112.86 -4970112.77 -4970112.67 0.2697 0.1398 *

Pluto -18321-08-07 05:31 J -4970103.42 -4970103.27 -4970103.11 0.0072 0.0003

Pluto -18321-11-03 06:57 J -4970015.36 -4970015.21 -4970015.05 0.0072 0.0009

Pluto -18320-01-30 08:23 J -4969927.30 -4969927.15 -4969926.99 0.0073 0.0018

Jupiter -18320-04-14 00:14 J -4969853.61 -4969853.49 -4969853.37 0.0527 0.0164

Pluto -18320-04-28 09:36 J -4969839.24 -4969839.10 -4969838.94 0.0073 0.0027

Mars -18320-07-11 12:57 J -4969765.08 -4969764.96 -4969764.85 0.1627 0.0231

Jupiter -18320-07-12 05:45 J -4969764.34 -4969764.26 -4969764.18 0.0526 0.0400

Pluto -18320-07-25 11:02 J -4969751.17 -4969751.04 -4969750.89 0.0073 0.0035

Pluto -18320-10-21 12:14 J -4969663.10 -4969662.99 -4969662.84 0.0073 0.0044

Pluto -18319-01-17 13:55 J -4969575.02 -4969574.92 -4969574.80 0.0073 0.0052

Venus -18319-03-30 19:11 J -4969502.76 -4969502.70 -4969502.64 0.3733 0.2926

Pluto -18319-04-15 15:21 J -4969486.94 -4969486.86 -4969486.76 0.0073 0.0061

Pluto -18319-07-12 16:33 J -4969398.83 -4969398.81 -4969398.75 0.0073 0.0071

Jupiter -18314-06-09 05:16 J -4967606.47 -4967606.28 -4967606.10 0.0499 0.0022

Earth -18314-07-22 15:21 J -4967562.94 -4967562.86 -4967562.78 0.2708 0.1850

Moon -18314-07-22 15:50 J -4967562.92 -4967562.84 -4967562.76 0.2713 0.1824 *

Venus -18314-10-14 10:33 J -4967479.15 -4967479.06 -4967478.96 0.3735 0.0939

Saturn -18311-07-27 09:21 J -4966462.21 -4966462.11 -4966462.00 0.0278 0.0232

Saturn -18311-10-24 09:21 J -4966373.30 -4966373.11 -4966372.92 0.0279 0.0040

Mars -18311-12-02 00:28 J -4966334.59 -4966334.48 -4966334.37 0.1626 0.0206

Saturn -18310-01-21 08:52 J -4966284.28 -4966284.13 -4966283.96 0.0281 0.0153

Moon -18310-01-25 13:55 J -4966280.04 -4966279.92 -4966279.79 0.2624 0.1550

Earth -18310-01-25 15:36 J -4966279.98 -4966279.85 -4966279.73 0.2627 0.1496 *

Mars -18309-11-06 02:23 J -4965629.42 -4965629.40 -4965629.39 0.1630 0.1608

Jupiter -18308-01-31 04:33 J -4965543.41 -4965543.31 -4965543.21 0.0528 0.0307

Venus -18308-04-29 01:55 J -4965455.51 -4965455.42 -4965455.32 0.3737 0.1065

Jupiter -18308-04-30 10:04 J -4965454.19 -4965454.08 -4965453.97 0.0527 0.0258

Moon -18308-07-31 11:31 J -4965362.04 -4965362.02 -4965362.00 0.2697 0.2627

Earth -18308-07-31 12:00 J -4965362.02 -4965362.00 -4965361.98 0.2702 0.2654 *

Uranus -18307-07-14 06:00 J -4965014.30 -4965014.25 -4965014.19 0.0140 0.0127

Uranus -18307-10-10 09:21 J -4964926.19 -4964926.11 -4964926.02 0.0140 0.0107

Uranus -18306-01-06 12:43 J -4964838.07 -4964837.97 -4964837.86 0.0140 0.0086

Uranus -18306-04-04 16:04 J -4964749.94 -4964749.83 -4964749.71 0.0140 0.0066

Uranus -18306-07-01 19:26 J -4964661.81 -4964661.69 -4964661.56 0.0141 0.0045

Mars -18306-08-18 09:21 J -4964614.19 -4964614.11 -4964614.02 0.1891 0.1612

Uranus -18306-09-27 23:02 J -4964573.67 -4964573.54 -4964573.41 0.0141 0.0024

Uranus -18306-12-25 02:23 J -4964485.53 -4964485.40 -4964485.27 0.0141 0.0003

Uranus -18305-03-22 05:45 J -4964397.39 -4964397.26 -4964397.12 0.0141 0.0019

Uranus -18305-06-18 09:21 J -4964309.24 -4964309.11 -4964308.98 0.0141 0.0040

Uranus -18305-09-14 12:43 J -4964221.09 -4964220.97 -4964220.85 0.0141 0.0061

Uranus -18305-12-11 16:19 J -4964132.93 -4964132.82 -4964132.71 0.0141 0.0083

Uranus -18304-03-09 19:40 J -4964044.76 -4964044.68 -4964044.58 0.0141 0.0105

Uranus -18304-06-05 23:16 J -4963956.58 -4963956.53 -4963956.47 0.0142 0.0126

Venus -18303-11-12 17:16 J -4963431.83 -4963431.78 -4963431.72 0.3739 0.3091

Jupiter -18302-03-28 02:09 J -4963296.59 -4963296.41 -4963296.23 0.0498 0.0160

Mars -18301-04-23 12:14 J -4962904.10 -4962903.99 -4962903.89 0.1626 0.0637

Earth -18301-07-24 09:36 J -4962812.21 -4962812.10 -4962811.99 0.2707 0.0693

Moon -18301-07-24 10:19 J -4962812.18 -4962812.07 -4962811.96 0.2706 0.0555 *

Mars -18299-03-29 13:40 J -4962199.01 -4962198.93 -4962198.85 0.1629 0.1165

Neptune -18299-05-12 22:19 J -4962154.65 -4962154.57 -4962154.49 0.0088 0.0079

Neptune -18299-08-09 01:55 J -4962066.54 -4962066.42 -4962066.30 0.0088 0.0069

Neptune -18299-11-05 05:31 J -4961978.41 -4961978.27 -4961978.12 0.0088 0.0059

Neptune -18298-02-01 09:07 J -4961890.28 -4961890.12 -4961889.95 0.0088 0.0049

Neptune -18298-04-30 12:43 J -4961802.14 -4961801.97 -4961801.78 0.0088 0.0039

Neptune -18298-07-27 16:33 J -4961713.99 -4961713.81 -4961713.62 0.0088 0.0029

Saturn -18298-09-07 11:16 J -4961672.09 -4961672.03 -4961671.97 0.0284 0.0252

Neptune -18298-10-23 20:09 J -4961625.85 -4961625.66 -4961625.46 0.0088 0.0019

Saturn -18298-12-04 22:19 J -4961583.69 -4961583.57 -4961583.45 0.0283 0.0118

Neptune -18297-01-19 23:45 J -4961537.70 -4961537.51 -4961537.31 0.0088 0.0009

Moon -18297-01-28 19:26 J -4961528.85 -4961528.69 -4961528.54 0.2628 0.0368

Earth -18297-01-28 20:52 J -4961528.78 -4961528.63 -4961528.48 0.2628 0.0601 *

Saturn -18297-03-02 09:21 J -4961495.24 -4961495.11 -4961494.98 0.0282 0.0016

Neptune -18297-04-17 03:36 J -4961449.55 -4961449.35 -4961449.16 0.0088 0.0002

Saturn -18297-05-29 20:09 J -4961406.77 -4961406.66 -4961406.55 0.0281 0.0147

Neptune -18297-07-14 07:11 J -4961361.40 -4961361.20 -4961361.01 0.0088 0.0011

Saturn -18297-08-26 07:11 J -4961318.21 -4961318.20 -4961318.19 0.0280 0.0277

Neptune -18297-10-10 10:33 J -4961273.24 -4961273.06 -4961272.86 0.0088 0.0021

Jupiter -18297-11-19 09:07 J -4961233.19 -4961233.12 -4961233.05 0.0529 0.0441

Neptune -18296-01-06 14:09 J -4961185.09 -4961184.91 -4961184.72 0.0088 0.0031

Mars -18296-01-07 02:09 J -4961184.58 -4961184.41 -4961184.24 0.1893 0.0192

Jupiter -18296-02-16 14:38 J -4961144.02 -4961143.89 -4961143.77 0.0527 0.0123

Neptune -18296-04-04 17:45 J -4961096.92 -4961096.76 -4961096.58 0.0088 0.0041

Neptune -18296-07-01 21:21 J -4961008.76 -4961008.61 -4961008.44 0.0088 0.0051

Neptune -18296-09-28 00:43 J -4960920.59 -4960920.47 -4960920.31 0.0088 0.0061

Neptune -18296-12-25 04:19 J -4960832.42 -4960832.32 -4960832.19 0.0088 0.0071

Neptune -18295-03-23 07:55 J -4960744.23 -4960744.17 -4960744.08 0.0088 0.0081

Mars -18292-09-13 23:45 J -4959473.59 -4959473.51 -4959473.42 0.1626 0.1064

Jupiter -18290-01-13 22:48 J -4958986.69 -4958986.55 -4958986.42 0.0498 0.0344

Jupiter -18290-04-14 09:36 J -4958896.22 -4958896.10 -4958895.98 0.0499 0.0387

Mars -18290-08-20 01:11 J -4958768.55 -4958768.45 -4958768.34 0.1628 0.0727

Earth -18288-07-27 03:50 J -4958061.45 -4958061.34 -4958061.23 0.2705 0.0490

Moon -18288-07-27 04:19 J -4958061.43 -4958061.32 -4958061.21 0.2701 0.0497 *

Mars -18287-05-29 18:28 J -4957754.86 -4957754.73 -4957754.60 0.1894 0.1255

Jupiter -18285-12-05 19:11 J -4956833.82 -4956833.70 -4956833.57 0.0528 0.0013

Moon -18284-01-31 00:43 J -4956777.50 -4956777.47 -4956777.45 0.2635 0.2598

Earth -18284-01-31 01:40 J -4956777.44 -4956777.43 -4956777.43 0.2630 0.2624

Mars -18282-02-04 11:31 J -4956043.07 -4956043.02 -4956042.98 0.1625 0.1488

Venus -18282-06-18 13:40 J -4955909.06 -4955908.93 -4955908.80 0.3638 0.2197

Saturn -18281-03-12 04:48 J -4955641.47 -4955641.30 -4955641.13 0.0279 0.0118

Saturn -18281-06-09 04:33 J -4955552.49 -4955552.31 -4955552.13 0.0280 0.0074

Saturn -18281-09-06 04:19 J -4955463.38 -4955463.32 -4955463.26 0.0281 0.0266

Mars -18280-01-09 12:57 J -4955338.08 -4955337.96 -4955337.85 0.1627 0.0290

Jupiter -18278-01-31 06:57 J -4954586.37 -4954586.21 -4954586.04 0.0499 0.0213

Earth -18275-07-29 22:19 J -4953310.66 -4953310.57 -4953310.48 0.2704 0.1679

Moon -18275-07-29 22:19 J -4953310.65 -4953310.57 -4953310.48 0.2696 0.1744 *

Jupiter -18273-09-23 23:31 J -4952523.65 -4952523.52 -4952523.40 0.0527 0.0155

Jupiter -18273-12-22 04:48 J -4952434.37 -4952434.30 -4952434.22 0.0526 0.0410

Mars -18271-06-02 00:28 J -4951907.60 -4951907.48 -4951907.37 0.1626 0.0145

Saturn -18268-04-23 00:14 J -4950851.60 -4950851.49 -4950851.39 0.0284 0.0165

Saturn -18268-07-20 11:02 J -4950763.16 -4950763.04 -4950762.91 0.0283 0.0032

Earth -18268-07-22 20:23 J -4950760.74 -4950760.65 -4950760.57 0.2708 0.1627

Moon -18268-07-22 20:52 J -4950760.72 -4950760.63 -4950760.54 0.2711 0.1565 *

Saturn -18268-10-16 22:04 J -4950674.70 -4950674.58 -4950674.46 0.0282 0.0103

Saturn -18267-01-13 09:07 J -4950586.19 -4950586.12 -4950586.05 0.0281 0.0235

Uranus -18267-03-02 04:04 J -4950538.42 -4950538.33 -4950538.24 0.0138 0.0120

Uranus -18267-05-29 11:31 J -4950450.15 -4950450.02 -4950449.86 0.0138 0.0091

Uranus -18267-08-25 19:11 J -4950361.86 -4950361.70 -4950361.52 0.0138 0.0061

Jupiter -18267-11-19 04:04 J -4950276.51 -4950276.33 -4950276.14 0.0499 0.0036

Uranus -18267-11-22 02:52 J -4950273.56 -4950273.38 -4950273.19 0.0138 0.0032

Mars -18266-02-16 10:33 J -4950187.13 -4950187.06 -4950187.00 0.1891 0.1749

Uranus -18266-02-18 10:33 J -4950185.25 -4950185.06 -4950184.86 0.0138 0.0004

Uranus -18266-05-17 18:14 J -4950096.93 -4950096.74 -4950096.55 0.0138 0.0026

Uranus -18266-08-14 01:26 J -4950008.61 -4950008.44 -4950008.26 0.0138 0.0055

Uranus -18266-11-10 08:52 J -4949920.27 -4949920.13 -4949919.97 0.0137 0.0083

Uranus -18265-02-06 16:19 J -4949831.93 -4949831.82 -4949831.70 0.0137 0.0111

Moon -18264-01-25 20:23 J -4949477.78 -4949477.65 -4949477.52 0.2624 0.1331

Earth -18264-01-25 21:50 J -4949477.73 -4949477.59 -4949477.44 0.2627 0.1097 *

Venus -18263-11-04 16:33 J -4948829.89 -4948829.81 -4948829.73 0.3734 0.2198

Mars -18262-10-23 12:00 J -4948477.10 -4948477.00 -4948476.89 0.1626 0.0580

Jupiter -18261-07-13 03:50 J -4948213.45 -4948213.34 -4948213.24 0.0528 0.0292

Jupiter -18261-10-10 09:07 J -4948124.22 -4948124.12 -4948124.01 0.0526 0.0271

Mars -18260-09-27 13:40 J -4947772.00 -4947771.93 -4947771.85 0.1629 0.1224

Venus -18257-05-20 07:55 J -4946806.27 -4946806.17 -4946806.07 0.3736 0.0219

Mars -18257-07-08 02:52 J -4946757.54 -4946757.38 -4946757.21 0.1893 0.0320

Earth -18255-07-25 14:23 J -4946010.01 -4946009.90 -4946009.79 0.2706 0.0470

Moon -18255-07-25 15:21 J -4946009.97 -4946009.86 -4946009.75 0.2706 0.0426 *

Jupiter -18255-09-07 01:26 J -4945966.62 -4945966.44 -4945966.26 0.0499 0.0144

Mars -18252-03-14 23:45 J -4945046.60 -4945046.51 -4945046.42 0.1625 0.1008

Saturn -18252-07-30 02:23 J -4944909.55 -4944909.40 -4944909.25 0.0278 0.0177

Saturn -18252-10-27 02:09 J -4944820.60 -4944820.41 -4944820.22 0.0279 0.0014

Venus -18252-12-03 23:16 J -4944782.61 -4944782.53 -4944782.44 0.3737 0.1803

Saturn -18251-01-24 01:55 J -4944731.55 -4944731.42 -4944731.29 0.0281 0.0206

Moon -18251-01-29 01:40 J -4944726.57 -4944726.43 -4944726.29 0.2630 0.0942

Earth -18251-01-29 03:07 J -4944726.51 -4944726.37 -4944726.23 0.2628 0.0983 *

Mars -18250-02-18 01:11 J -4944341.55 -4944341.45 -4944341.35 0.1628 0.0780

Jupiter -18249-05-01 07:55 J -4943903.24 -4943903.17 -4943903.10 0.0528 0.0435

Jupiter -18249-07-29 13:26 J -4943814.06 -4943813.94 -4943813.82 0.0527 0.0128

Mars -18248-11-27 18:57 J -4943327.85 -4943327.71 -4943327.58 0.1894 0.1152

Jupiter -18243-06-25 22:19 J -4941656.71 -4941656.57 -4941656.42 0.0498 0.0323

Mars -18243-08-05 11:31 J -4941616.08 -4941616.02 -4941615.97 0.1625 0.1433

Jupiter -18243-09-24 09:21 J -4941566.21 -4941566.11 -4941566.01 0.0499 0.0409

Earth -18242-07-28 08:52 J -4941259.24 -4941259.13 -4941259.02 0.2705 0.0719

Moon -18242-07-28 09:07 J -4941259.22 -4941259.12 -4941259.01 0.2699 0.0825 *

Mars -18241-07-10 12:43 J -4940911.08 -4940910.97 -4940910.85 0.1627 0.0352

Saturn -18239-09-10 01:55 J -4940119.50 -4940119.42 -4940119.33 0.0284 0.0209

Saturn -18239-12-07 12:57 J -4940031.08 -4940030.96 -4940030.83 0.0283 0.0075

Saturn -18238-03-06 00:00 J -4939942.63 -4939942.50 -4939942.37 0.0282 0.0059

Saturn -18238-06-02 11:02 J -4939854.14 -4939854.04 -4939853.95 0.0281 0.0191

Pluto -18238-08-08 04:19 J -4939787.36 -4939787.32 -4939787.25 0.0073 0.0068

Pluto -18238-11-04 06:00 J -4939699.34 -4939699.25 -4939699.15 0.0073 0.0059

Pluto -18237-01-31 07:11 J -4939611.30 -4939611.20 -4939611.07 0.0072 0.0051

Pluto -18237-04-28 08:52 J -4939523.26 -4939523.13 -4939523.00 0.0072 0.0042

Jupiter -18237-05-17 18:00 J -4939503.88 -4939503.75 -4939503.62 0.0528 0.0007

Pluto -18237-07-25 10:04 J -4939435.21 -4939435.08 -4939434.93 0.0072 0.0034

Pluto -18237-10-21 11:31 J -4939347.16 -4939347.02 -4939346.87 0.0072 0.0025

Pluto -18236-01-17 12:43 J -4939259.11 -4939258.97 -4939258.81 0.0072 0.0017

Pluto -18236-04-15 14:09 J -4939171.06 -4939170.91 -4939170.75 0.0072 0.0009

Pluto -18236-07-12 15:36 J -4939083.01 -4939082.85 -4939082.69 0.0072 0.0000

Pluto -18236-10-08 16:48 J -4938994.95 -4938994.80 -4938994.64 0.0072 0.0008

Pluto -18235-01-04 18:00 J -4938906.90 -4938906.75 -4938906.59 0.0072 0.0016

Pluto -18235-04-02 19:26 J -4938818.84 -4938818.69 -4938818.54 0.0071 0.0024

Pluto -18235-06-29 20:38 J -4938730.78 -4938730.64 -4938730.50 0.0071 0.0031

Earth -18235-07-21 06:57 J -4938709.24 -4938709.21 -4938709.17 0.2708 0.2552

Moon -18235-07-21 07:11 J -4938709.23 -4938709.20 -4938709.17 0.2716 0.2587 *

Pluto -18235-09-25 21:50 J -4938642.71 -4938642.59 -4938642.45 0.0071 0.0039

Pluto -18235-12-22 22:48 J -4938554.65 -4938554.55 -4938554.42 0.0071 0.0047

Pluto -18234-03-21 00:28 J -4938466.58 -4938466.48 -4938466.38 0.0071 0.0054

Pluto -18234-06-17 01:26 J -4938378.50 -4938378.44 -4938378.36 0.0071 0.0062

Pluto -18234-09-13 02:23 J -4938290.41 -4938290.40 -4938290.35 0.0071 0.0070

Mars -18232-12-01 00:28 J -4937480.60 -4937480.48 -4937480.37 0.1626 0.0099

Jupiter -18231-07-13 06:14 J -4937256.41 -4937256.24 -4937256.08 0.0499 0.0227

Moon -18229-07-30 03:21 J -4936508.45 -4936508.36 -4936508.28 0.2697 0.1850

Earth -18229-07-30 03:21 J -4936508.44 -4936508.36 -4936508.29 0.2704 0.1919 *

Mars -18227-08-17 11:31 J -4935760.04 -4935760.02 -4935760.01 0.1891 0.1881

Venus -18225-01-23 16:19 J -4935235.98 -4935235.82 -4935235.66 0.3637 0.0097

Jupiter -18225-03-05 22:48 J -4935193.67 -4935193.55 -4935193.43 0.0528 0.0140

Jupiter -18225-06-03 04:19 J -4935104.39 -4935104.32 -4935104.25 0.0527 0.0426

Uranus -18223-08-03 13:26 J -4934313.00 -4934312.94 -4934312.87 0.0140 0.0121

Uranus -18223-10-30 16:48 J -4934224.89 -4934224.80 -4934224.71 0.0140 0.0101

Saturn -18223-12-16 21:36 J -4934177.67 -4934177.60 -4934177.52 0.0278 0.0255

Uranus -18222-01-26 20:09 J -4934136.77 -4934136.66 -4934136.55 0.0140 0.0081

Saturn -18222-03-15 21:36 J -4934088.79 -4934088.60 -4934088.42 0.0279 0.0065

Mars -18222-04-23 12:00 J -4934050.11 -4934050.00 -4934049.89 0.1626 0.0521

Uranus -18222-04-24 23:31 J -4934048.64 -4934048.52 -4934048.40 0.0140 0.0060

Saturn -18222-06-12 21:07 J -4933999.78 -4933999.62 -4933999.45 0.0280 0.0127

Uranus -18222-07-22 02:52 J -4933960.50 -4933960.38 -4933960.25 0.0140 0.0039

Earth -18222-07-24 01:11 J -4933958.55 -4933958.45 -4933958.36 0.2707 0.1402

Moon -18222-07-24 01:55 J -4933958.52 -4933958.42 -4933958.33 0.2710 0.1302 *

Uranus -18222-10-18 06:14 J -4933872.37 -4933872.24 -4933872.11 0.0141 0.0019

Uranus -18221-01-14 09:36 J -4933784.23 -4933784.10 -4933783.96 0.0141 0.0006

Uranus -18221-04-11 13:11 J -4933696.08 -4933695.95 -4933695.82 0.0141 0.0024

Uranus -18221-07-08 16:33 J -4933607.93 -4933607.81 -4933607.68 0.0141 0.0045

Uranus -18221-10-04 20:09 J -4933519.78 -4933519.66 -4933519.55 0.0141 0.0066

Uranus -18221-12-31 23:31 J -4933431.62 -4933431.52 -4933431.41 0.0141 0.0088

Mars -18220-03-28 13:40 J -4933345.00 -4933344.93 -4933344.86 0.1629 0.1281

Uranus -18220-03-30 03:07 J -4933343.45 -4933343.37 -4933343.29 0.0141 0.0110

Uranus -18220-06-26 06:28 J -4933255.27 -4933255.23 -4933255.18 0.0142 0.0132

Jupiter -18219-05-01 03:36 J -4932946.54 -4932946.35 -4932946.16 0.0499 0.0052

Moon -18218-01-27 02:52 J -4932675.53 -4932675.38 -4932675.23 0.2624 0.0771

Earth -18218-01-27 04:19 J -4932675.46 -4932675.32 -4932675.17 0.2627 0.0699 *

Neptune -18218-05-26 21:21 J -4932555.63 -4932555.61 -4932555.56 0.0089 0.0086

Neptune -18218-08-22 22:33 J -4932467.60 -4932467.56 -4932467.48 0.0089 0.0080

Neptune -18218-11-19 00:00 J -4932379.56 -4932379.50 -4932379.41 0.0089 0.0072

Mars -18217-01-07 03:50 J -4932330.51 -4932330.34 -4932330.18 0.1893 0.0446

Neptune -18217-02-15 01:11 J -4932291.52 -4932291.45 -4932291.35 0.0089 0.0066

Neptune -18217-05-13 02:38 J -4932203.48 -4932203.39 -4932203.28 0.0089 0.0058

Neptune -18217-08-09 03:50 J -4932115.43 -4932115.34 -4932115.22 0.0089 0.0052

Neptune -18217-11-05 05:16 J -4932027.39 -4932027.28 -4932027.16 0.0089 0.0044

Neptune -18216-02-01 06:28 J -4931939.34 -4931939.23 -4931939.10 0.0089 0.0038

Neptune -18216-04-30 07:55 J -4931851.29 -4931851.17 -4931851.04 0.0089 0.0030

Neptune -18216-07-27 09:07 J -4931763.24 -4931763.12 -4931762.98 0.0089 0.0024

Neptune -18216-10-23 10:33 J -4931675.19 -4931675.06 -4931674.93 0.0089 0.0016

Neptune -18215-01-19 12:00 J -4931587.13 -4931587.00 -4931586.87 0.0089 0.0009

Neptune -18215-04-17 13:11 J -4931499.08 -4931498.95 -4931498.82 0.0089 0.0002

Neptune -18215-07-14 14:38 J -4931411.02 -4931410.89 -4931410.76 0.0089 0.0006

Neptune -18215-10-10 15:50 J -4931322.97 -4931322.84 -4931322.71 0.0089 0.0012

Neptune -18214-01-06 17:16 J -4931234.91 -4931234.78 -4931234.66 0.0089 0.0020

Neptune -18214-04-04 18:28 J -4931146.85 -4931146.73 -4931146.60 0.0089 0.0027

Neptune -18214-07-01 19:55 J -4931058.79 -4931058.67 -4931058.55 0.0089 0.0034

Neptune -18214-09-27 21:07 J -4930970.73 -4930970.62 -4930970.50 0.0089 0.0041

Jupiter -18214-12-24 03:07 J -4930883.48 -4930883.37 -4930883.27 0.0528 0.0280

Neptune -18214-12-24 22:33 J -4930882.67 -4930882.56 -4930882.45 0.0089 0.0048

Neptune -18213-03-21 23:31 J -4930794.61 -4930794.52 -4930794.40 0.0089 0.0056

Jupiter -18213-03-22 08:23 J -4930794.25 -4930794.15 -4930794.04 0.0526 0.0283

Neptune -18213-06-18 00:57 J -4930706.54 -4930706.46 -4930706.36 0.0089 0.0062

Mars -18213-09-12 23:45 J -4930619.60 -4930619.51 -4930619.42 0.1625 0.0950

Neptune -18213-09-14 02:09 J -4930618.48 -4930618.41 -4930618.31 0.0089 0.0070

Neptune -18213-12-11 03:36 J -4930530.41 -4930530.35 -4930530.27 0.0089 0.0076

Neptune -18212-03-09 05:02 J -4930442.33 -4930442.29 -4930442.24 0.0089 0.0083

Venus -18212-11-25 22:48 J -4930180.59 -4930180.55 -4930180.52 0.3732 0.3452

Mars -18211-08-19 01:11 J -4929914.55 -4929914.45 -4929914.35 0.1628 0.0842

Saturn -18209-01-28 03:21 J -4929387.40 -4929387.36 -4929387.30 0.0285 0.0260

Saturn -18209-04-25 14:38 J -4929299.01 -4929298.89 -4929298.78 0.0284 0.0124

Saturn -18209-07-23 01:40 J -4929210.56 -4929210.43 -4929210.30 0.0283 0.0012

Earth -18209-07-25 19:26 J -4929207.80 -4929207.69 -4929207.58 0.2706 0.0237

Moon -18209-07-25 20:09 J -4929207.77 -4929207.66 -4929207.55 0.2705 0.0143 *

Saturn -18209-10-19 12:43 J -4929122.08 -4929121.97 -4929121.86 0.0282 0.0144

Saturn -18208-01-15 23:31 J -4929033.53 -4929033.52 -4929033.49 0.0281 0.0276

Mars -18208-05-28 20:09 J -4928900.81 -4928900.66 -4928900.52 0.1894 0.1004

Jupiter -18207-02-17 00:28 J -4928636.66 -4928636.48 -4928636.30 0.0499 0.0130

Venus -18206-06-11 13:55 J -4928157.01 -4928156.92 -4928156.82 0.3734 0.1475

Moon -18205-01-30 08:09 J -4927924.29 -4927924.16 -4927924.02 0.2632 0.1150

Earth -18205-01-30 09:36 J -4927924.23 -4927924.10 -4927923.97 0.2628 0.1379 *

Mars -18203-02-03 11:16 J -4927189.09 -4927189.03 -4927188.97 0.1625 0.1377

Jupiter -18202-10-12 07:26 J -4926573.26 -4926573.19 -4926573.11 0.0528 0.0417

Mars -18201-01-09 12:43 J -4926484.08 -4926483.97 -4926483.85 0.1627 0.0405

Jupiter -18201-01-09 12:57 J -4926484.08 -4926483.96 -4926483.84 0.0526 0.0145 *

Venus -18201-12-25 05:16 J -4926133.38 -4926133.28 -4926133.18 0.3736 0.0538

Earth -18196-07-28 13:40 J -4924457.03 -4924456.93 -4924456.82 0.2705 0.0958

Moon -18196-07-28 14:09 J -4924457.02 -4924456.91 -4924456.81 0.2698 0.0951 *

Jupiter -18196-12-05 21:36 J -4924326.74 -4924326.60 -4924326.45 0.0498 0.0308

Jupiter -18195-03-06 08:38 J -4924236.23 -4924236.14 -4924236.04 0.0500 0.0426

Venus -18195-07-10 20:52 J -4924109.71 -4924109.63 -4924109.56 0.3738 0.2543

Saturn -18193-08-01 18:57 J -4923356.88 -4923356.71 -4923356.54 0.0278 0.0124

Saturn -18193-10-29 18:43 J -4923267.90 -4923267.72 -4923267.53 0.0279 0.0066

Saturn -18192-01-26 18:28 J -4923178.80 -4923178.73 -4923178.66 0.0280 0.0258

Mars -18192-06-01 00:14 J -4923053.60 -4923053.49 -4923053.37 0.1626 0.0062

Jupiter -18190-10-28 17:02 J -4922173.91 -4922173.79 -4922173.66 0.0527 0.0007

Earth -18189-07-21 12:00 J -4921907.06 -4921907.00 -4921906.95 0.2708 0.2332

Moon -18189-07-21 12:14 J -4921907.05 -4921906.99 -4921906.94 0.2715 0.2258 *

Moon -18185-01-25 04:04 J -4920624.36 -4920624.33 -4920624.30 0.2621 0.2569

Earth -18185-01-25 05:16 J -4920624.33 -4920624.28 -4920624.22 0.2626 0.2422 *

Jupiter -18184-09-23 18:43 J -4920016.76 -4920016.72 -4920016.68 0.0498 0.0486

Jupiter -18184-12-23 06:00 J -4919926.41 -4919926.25 -4919926.09 0.0499 0.0248

Uranus -18183-03-22 10:48 J -4919837.15 -4919837.05 -4919836.94 0.0139 0.0114

Uranus -18183-06-18 18:28 J -4919748.87 -4919748.73 -4919748.57 0.0138 0.0084

Moon -18183-07-31 07:55 J -4919706.23 -4919706.17 -4919706.10 0.2697 0.2180

Earth -18183-07-31 08:09 J -4919706.22 -4919706.16 -4919706.09 0.2703 0.2155 *

Uranus -18183-09-15 02:09 J -4919660.58 -4919660.41 -4919660.23 0.0138 0.0055

Mars -18183-10-22 12:00 J -4919623.11 -4919623.00 -4919622.89 0.1626 0.0465

Uranus -18183-12-12 09:50 J -4919572.27 -4919572.09 -4919571.90 0.0138 0.0026

Uranus -18182-03-10 17:31 J -4919483.96 -4919483.77 -4919483.58 0.0138 0.0004

Uranus -18182-06-07 00:57 J -4919395.64 -4919395.46 -4919395.27 0.0138 0.0032

Uranus -18182-09-03 08:23 J -4919307.31 -4919307.15 -4919306.97 0.0138 0.0061

Uranus -18182-11-30 15:50 J -4919218.98 -4919218.84 -4919218.69 0.0138 0.0089

Uranus -18181-02-26 23:16 J -4919130.62 -4919130.53 -4919130.43 0.0137 0.0117

Mars -18181-09-26 13:40 J -4918917.99 -4918917.93 -4918917.87 0.1629 0.1336

Saturn -18180-09-12 16:19 J -4918566.92 -4918566.82 -4918566.72 0.0285 0.0171

Saturn -18180-12-10 03:21 J -4918478.49 -4918478.36 -4918478.23 0.0283 0.0036

Saturn -18179-03-08 14:23 J -4918390.02 -4918389.90 -4918389.78 0.0282 0.0098

Saturn -18179-06-05 01:26 J -4918301.52 -4918301.44 -4918301.37 0.0281 0.0230

Mars -18178-07-08 04:33 J -4917903.47 -4917903.31 -4917903.14 0.1893 0.0576

Jupiter -18178-08-16 21:36 J -4917863.72 -4917863.60 -4917863.48 0.0528 0.0134

Jupiter -18178-11-14 03:07 J -4917774.44 -4917774.37 -4917774.30 0.0526 0.0431

Earth -18176-07-24 06:00 J -4917156.35 -4917156.25 -4917156.15 0.2707 0.1174

Moon -18176-07-24 06:43 J -4917156.32 -4917156.22 -4917156.12 0.2710 0.1131 *

Mars -18173-03-13 23:45 J -4916192.61 -4916192.51 -4916192.42 0.1625 0.0894

Moon -18172-01-27 09:21 J -4915873.26 -4915873.11 -4915872.96 0.2626 0.0490

Earth -18172-01-27 10:48 J -4915873.20 -4915873.05 -4915872.90 0.2627 0.0301 *

Jupiter -18172-10-11 02:52 J -4915616.57 -4915616.38 -4915616.20 0.0499 0.0067

Mars -18171-02-17 01:11 J -4915487.55 -4915487.45 -4915487.35 0.1628 0.0897

Venus -18169-08-29 18:57 J -4914562.83 -4914562.71 -4914562.59 0.3637 0.2363

Mars -18169-11-26 20:52 J -4914473.78 -4914473.63 -4914473.48 0.1894 0.0874

Jupiter -18166-06-05 02:23 J -4913553.51 -4913553.40 -4913553.29 0.0528 0.0266

Jupiter -18166-09-02 07:40 J -4913464.28 -4913464.18 -4913464.07 0.0527 0.0299

Mars -18164-08-04 11:16 J -4912762.09 -4912762.03 -4912761.96 0.1625 0.1319

Saturn -18164-12-19 14:23 J -4912625.03 -4912624.90 -4912624.77 0.0278 0.0202

Saturn -18163-03-18 14:09 J -4912536.10 -4912535.91 -4912535.72 0.0279 0.0012

Saturn -18163-06-15 13:40 J -4912447.07 -4912446.93 -4912446.78 0.0280 0.0179

Earth -18163-07-27 00:14 J -4912405.60 -4912405.49 -4912405.38 0.2706 0.0042

Moon -18163-07-27 00:57 J -4912405.57 -4912405.46 -4912405.35 0.2703 0.0083 *

Mars -18162-07-10 12:43 J -4912057.08 -4912056.97 -4912056.86 0.1627 0.0461

Jupiter -18160-07-30 00:00 J -4911306.68 -4911306.50 -4911306.31 0.0498 0.0110

Moon -18159-01-30 14:38 J -4911122.01 -4911121.89 -4911121.78 0.2632 0.1725

Earth -18159-01-30 15:50 J -4911121.95 -4911121.84 -4911121.72 0.2629 0.1769 *

Venus -18155-07-02 20:09 J -4909507.73 -4909507.66 -4909507.60 0.3733 0.2724

Jupiter -18154-03-24 06:43 J -4909243.29 -4909243.22 -4909243.14 0.0528 0.0404

Jupiter -18154-06-21 12:14 J -4909154.11 -4909153.99 -4909153.87 0.0527 0.0158

Mars -18153-11-30 00:14 J -4908626.60 -4908626.49 -4908626.37 0.1626 0.0051

Saturn -18150-01-30 17:45 J -4907834.84 -4907834.76 -4907834.68 0.0286 0.0222

Saturn -18150-04-29 04:48 J -4907746.42 -4907746.30 -4907746.18 0.0284 0.0086

Saturn -18150-07-26 15:50 J -4907657.97 -4907657.84 -4907657.71 0.0283 0.0049

Earth -18150-07-29 18:43 J -4907654.82 -4907654.72 -4907654.62 0.2705 0.1190

Moon -18150-07-29 18:57 J -4907654.81 -4907654.71 -4907654.61 0.2698 0.1262 *

Saturn -18150-10-23 02:52 J -4907569.48 -4907569.38 -4907569.28 0.0282 0.0182

Venus -18149-01-16 11:16 J -4907484.12 -4907484.03 -4907483.93 0.3734 0.0755

Jupiter -18148-05-17 20:38 J -4906996.79 -4906996.64 -4906996.49 0.0499 0.0295

Jupiter -18148-08-16 07:40 J -4906906.26 -4906906.18 -4906906.09 0.0500 0.0440

Venus -18144-08-01 02:38 J -4905460.48 -4905460.39 -4905460.29 0.3736 0.1262

Mars -18143-04-22 12:00 J -4905196.11 -4905196.00 -4905195.89 0.1626 0.0408

Earth -18143-07-22 16:48 J -4905104.87 -4905104.80 -4905104.73 0.2708 0.2105

Moon -18143-07-22 17:16 J -4905104.85 -4905104.78 -4905104.72 0.2714 0.2126 *

Jupiter -18142-04-09 16:33 J -4904843.94 -4904843.81 -4904843.68 0.0527 0.0020

Mars -18141-03-27 13:40 J -4904490.99 -4904490.93 -4904490.87 0.1629 0.1396

Moon -18139-01-25 10:33 J -4903822.15 -4903822.06 -4903821.97 0.2621 0.2094

Earth -18139-01-25 11:45 J -4903822.11 -4903822.01 -4903821.91 0.2626 0.2026 *

Uranus -18139-05-27 18:00 J -4903699.79 -4903699.75 -4903699.72 0.0140 0.0134

Uranus -18139-08-23 21:07 J -4903611.69 -4903611.62 -4903611.54 0.0140 0.0114

Uranus -18139-11-20 00:28 J -4903523.57 -4903523.48 -4903523.38 0.0140 0.0094

Mars -18138-01-06 05:31 J -4903476.43 -4903476.27 -4903476.11 0.1893 0.0700

Venus -18138-02-14 18:14 J -4903436.79 -4903436.74 -4903436.70 0.3738 0.3276

Uranus -18138-02-16 03:50 J -4903435.45 -4903435.34 -4903435.23 0.0140 0.0073

Uranus -18138-05-15 07:11 J -4903347.32 -4903347.20 -4903347.08 0.0140 0.0053

Uranus -18138-08-11 10:33 J -4903259.19 -4903259.06 -4903258.93 0.0140 0.0032

Uranus -18138-11-07 13:55 J -4903171.05 -4903170.92 -4903170.78 0.0141 0.0012

Uranus -18137-02-03 17:16 J -4903082.91 -4903082.78 -4903082.64 0.0141 0.0011

Uranus -18137-05-01 20:52 J -4902994.76 -4902994.63 -4902994.50 0.0141 0.0031

Uranus -18137-07-29 00:14 J -4902906.61 -4902906.49 -4902906.37 0.0141 0.0052

Moon -18137-07-31 12:43 J -4902904.02 -4902903.97 -4902903.91 0.2697 0.2301

Earth -18137-07-31 13:11 J -4902904.00 -4902903.95 -4902903.90 0.2703 0.2399 *

Uranus -18137-10-25 03:50 J -4902818.46 -4902818.34 -4902818.23 0.0141 0.0073

Uranus -18136-01-21 06:57 J -4902730.30 -4902730.21 -4902730.10 0.0141 0.0096

Jupiter -18136-03-05 17:45 J -4902686.81 -4902686.76 -4902686.70 0.0498 0.0473

Uranus -18136-04-19 10:33 J -4902642.13 -4902642.06 -4902641.98 0.0141 0.0117

Jupiter -18136-06-04 05:02 J -4902596.44 -4902596.29 -4902596.13 0.0499 0.0264

Uranus -18136-07-16 14:09 J -4902553.93 -4902553.91 -4902553.88 0.0141 0.0138

Neptune -18134-02-06 19:11 J -4901983.78 -4901983.70 -4901983.60 0.0088 0.0078

Neptune -18134-05-05 23:02 J -4901895.66 -4901895.54 -4901895.41 0.0088 0.0068

Saturn -18134-05-08 12:00 J -4901893.06 -4901893.00 -4901892.93 0.0277 0.0259

Neptune -18134-08-02 02:38 J -4901807.53 -4901807.39 -4901807.23 0.0088 0.0058

Saturn -18134-08-05 12:00 J -4901804.19 -4901804.00 -4901803.82 0.0278 0.0070

Mars -18134-09-12 23:31 J -4901765.62 -4901765.52 -4901765.42 0.1625 0.0838

Neptune -18134-10-29 06:14 J -4901719.39 -4901719.24 -4901719.06 0.0088 0.0048

Saturn -18134-11-02 11:31 J -4901715.19 -4901715.02 -4901714.85 0.0279 0.0120

Neptune -18133-01-25 09:50 J -4901631.25 -4901631.09 -4901630.90 0.0088 0.0038

Neptune -18133-04-22 13:40 J -4901543.11 -4901542.93 -4901542.74 0.0088 0.0028

Neptune -18133-07-19 17:16 J -4901454.96 -4901454.78 -4901454.58 0.0088 0.0018

Neptune -18133-10-15 21:07 J -4901366.82 -4901366.62 -4901366.42 0.0088 0.0008

Neptune -18132-01-12 00:43 J -4901278.66 -4901278.47 -4901278.27 0.0088 0.0003

Neptune -18132-04-10 04:19 J -4901190.51 -4901190.32 -4901190.12 0.0088 0.0013

Neptune -18132-07-07 07:55 J -4901102.35 -4901102.17 -4901101.97 0.0088 0.0023

Mars -18132-08-18 01:11 J -4901060.55 -4901060.45 -4901060.36 0.1628 0.0953

Neptune -18132-10-03 11:16 J -4901014.20 -4901014.03 -4901013.83 0.0088 0.0033

Neptune -18132-12-30 14:52 J -4900926.03 -4900925.88 -4900925.69 0.0088 0.0043

Neptune -18131-03-28 18:28 J -4900837.87 -4900837.73 -4900837.56 0.0088 0.0053

Neptune -18131-06-24 22:33 J -4900749.70 -4900749.56 -4900749.43 0.0088 0.0062

Neptune -18131-09-21 01:55 J -4900661.52 -4900661.42 -4900661.30 0.0088 0.0072

Neptune -18131-12-18 05:31 J -4900573.33 -4900573.27 -4900573.20 0.0088 0.0082

Jupiter -18130-01-26 20:38 J -4900533.76 -4900533.64 -4900533.51 0.0527 0.0125

Jupiter -18130-04-26 02:09 J -4900444.48 -4900444.41 -4900444.34 0.0526 0.0439

Earth -18130-07-25 10:48 J -4900354.15 -4900354.05 -4900353.94 0.2707 0.0954

Moon -18130-07-25 11:31 J -4900354.12 -4900354.02 -4900353.91 0.2710 0.0826 *

Mars -18129-05-27 21:36 J -4900046.76 -4900046.60 -4900046.45 0.1894 0.0761

Moon -18126-01-28 15:36 J -4899071.00 -4899070.85 -4899070.69 0.2628 0.0094

Earth -18126-01-28 17:16 J -4899070.93 -4899070.78 -4899070.63 0.2627 0.0096 *

Mars -18124-02-02 11:16 J -4898335.10 -4898335.03 -4898334.96 0.1625 0.1264

Jupiter -18124-03-23 02:23 J -4898286.59 -4898286.40 -4898286.22 0.0499 0.0086

Mars -18122-01-08 12:43 J -4897630.08 -4897629.97 -4897629.86 0.1627 0.0516

Saturn -18121-06-18 19:26 J -4897102.73 -4897102.69 -4897102.65 0.0286 0.0268

Saturn -18121-09-15 06:28 J -4897014.34 -4897014.23 -4897014.11 0.0285 0.0132

Saturn -18121-12-12 17:31 J -4896925.89 -4896925.77 -4896925.64 0.0283 0.0011

Saturn -18120-03-11 04:33 J -4896837.42 -4896837.31 -4896837.19 0.0282 0.0137

Saturn -18120-06-07 15:36 J -4896748.88 -4896748.85 -4896748.81 0.0281 0.0270

Jupiter -18119-11-15 01:11 J -4896223.56 -4896223.45 -4896223.34 0.0528 0.0260

Jupiter -18118-02-12 06:43 J -4896134.32 -4896134.22 -4896134.12 0.0527 0.0303

Venus -18118-09-20 10:19 J -4895914.20 -4895914.07 -4895913.95 0.3639 0.2316

Earth -18117-07-27 05:16 J -4895603.39 -4895603.28 -4895603.17 0.2706 0.0246

Moon -18117-07-27 05:45 J -4895603.37 -4895603.26 -4895603.15 0.2702 0.0279 *

Moon -18113-01-31 20:52 J -4894319.72 -4894319.63 -4894319.52 0.2632 0.1959

Earth -18113-01-31 22:19 J -4894319.66 -4894319.57 -4894319.48 0.2629 0.2157 *

Mars -18113-05-31 00:14 J -4894199.60 -4894199.49 -4894199.37 0.1626 0.0088

Jupiter -18112-01-08 23:02 J -4893976.72 -4893976.54 -4893976.35 0.0498 0.0097

Jupiter -18107-09-03 06:00 J -4891913.33 -4891913.25 -4891913.17 0.0528 0.0393

Jupiter -18107-12-01 11:16 J -4891824.15 -4891824.03 -4891823.91 0.0527 0.0171

Saturn -18105-12-22 07:40 J -4891072.34 -4891072.18 -4891072.02 0.0278 0.0145

Saturn -18104-03-21 07:11 J -4890983.38 -4890983.20 -4890983.01 0.0279 0.0046

Saturn -18104-06-18 06:43 J -4890894.31 -4890894.22 -4890894.11 0.0280 0.0236

Earth -18104-07-29 23:31 J -4890852.61 -4890852.52 -4890852.42 0.2704 0.1425

Moon -18104-07-29 23:45 J -4890852.60 -4890852.51 -4890852.41 0.2698 0.1431 *

Mars -18104-10-21 12:00 J -4890769.12 -4890769.00 -4890768.89 0.1626 0.0353

Mars -18102-09-26 13:40 J -4890063.98 -4890063.93 -4890063.88 0.1629 0.1453

Jupiter -18101-10-27 20:23 J -4889666.81 -4889666.65 -4889666.50 0.0498 0.0273

Jupiter -18100-01-26 07:26 J -4889576.26 -4889576.19 -4889576.12 0.0499 0.0459

Uranus -18099-01-13 10:33 J -4889224.10 -4889224.06 -4889224.03 0.0139 0.0136

Uranus -18099-04-11 18:00 J -4889135.86 -4889135.75 -4889135.62 0.0139 0.0107

Mars -18099-07-07 06:14 J -4889049.39 -4889049.24 -4889049.09 0.1893 0.0826

Uranus -18099-07-09 01:55 J -4889047.58 -4889047.42 -4889047.26 0.0138 0.0077

Uranus -18099-10-05 09:36 J -4888959.28 -4888959.10 -4888958.92 0.0138 0.0047

Uranus -18098-01-01 17:16 J -4888870.97 -4888870.78 -4888870.59 0.0138 0.0018

Venus -18098-02-06 17:31 J -4888834.86 -4888834.77 -4888834.69 0.3733 0.2000

Uranus -18098-03-31 00:57 J -4888782.65 -4888782.46 -4888782.27 0.0138 0.0011

Uranus -18098-06-27 08:23 J -4888694.33 -4888694.15 -4888693.96 0.0138 0.0040

Uranus -18098-09-23 15:50 J -4888606.00 -4888605.84 -4888605.67 0.0138 0.0068

Uranus -18098-12-20 23:02 J -4888517.66 -4888517.54 -4888517.39 0.0138 0.0097

Uranus -18097-03-18 06:28 J -4888429.30 -4888429.23 -4888429.14 0.0138 0.0125

Earth -18097-07-22 21:36 J -4888302.68 -4888302.60 -4888302.52 0.2708 0.1882

Moon -18097-07-22 22:04 J -4888302.66 -4888302.58 -4888302.50 0.2713 0.1764 *

Jupiter -18095-09-19 15:50 J -4887513.97 -4887513.84 -4887513.71 0.0527 0.0032

Mars -18094-03-13 23:31 J -4887338.62 -4887338.52 -4887338.42 0.1625 0.0780

Moon -18093-01-26 17:02 J -4887019.90 -4887019.79 -4887019.68 0.2622 0.1805

Earth -18093-01-26 18:14 J -4887019.86 -4887019.74 -4887019.62 0.2626 0.1617 *

Venus -18093-08-22 08:38 J -4886811.24 -4886811.14 -4886811.03 0.3735 0.0176

Mars -18092-02-16 01:11 J -4886633.54 -4886633.45 -4886633.36 0.1628 0.1012

Saturn -18091-02-02 07:55 J -4886282.27 -4886282.17 -4886282.08 0.0286 0.0185

Saturn -18091-05-01 18:57 J -4886193.84 -4886193.71 -4886193.58 0.0284 0.0049

Saturn -18091-07-29 06:00 J -4886105.37 -4886105.25 -4886105.13 0.0283 0.0087

Moon -18091-08-01 17:31 J -4886101.79 -4886101.77 -4886101.74 0.2697 0.2620

Earth -18091-08-01 18:00 J -4886101.77 -4886101.75 -4886101.73 0.2703 0.2631 *

Saturn -18091-10-25 17:02 J -4886016.87 -4886016.79 -4886016.71 0.0282 0.0220

Mars -18090-11-26 22:33 J -4885619.72 -4885619.56 -4885619.40 0.1894 0.0627

Jupiter -18089-08-15 16:33 J -4885356.87 -4885356.81 -4885356.74 0.0499 0.0463

Jupiter -18089-11-14 03:50 J -4885266.49 -4885266.34 -4885266.18 0.0500 0.0275

Venus -18087-03-08 00:14 J -4884787.58 -4884787.49 -4884787.41 0.3737 0.1994

Mars -18085-08-03 11:02 J -4883908.11 -4883908.04 -4883907.96 0.1625 0.1210

Earth -18084-07-25 15:50 J -4883551.95 -4883551.84 -4883551.74 0.2707 0.0720

Moon -18084-07-25 16:33 J -4883551.92 -4883551.81 -4883551.71 0.2708 0.0698 *

Jupiter -18083-07-08 20:23 J -4883203.78 -4883203.65 -4883203.53 0.0527 0.0107

Mars -18083-07-09 12:43 J -4883203.08 -4883202.97 -4883202.86 0.1627 0.0574

Jupiter -18083-10-06 01:40 J -4883114.49 -4883114.43 -4883114.37 0.0525 0.0456

Moon -18080-01-28 22:04 J -4882268.74 -4882268.58 -4882268.43 0.2629 0.0359

Earth -18080-01-28 23:31 J -4882268.67 -4882268.52 -4882268.36 0.2627 0.0496 *

Jupiter -18077-09-02 01:11 J -4880956.63 -4880956.45 -4880956.26 0.0499 0.0097

Saturn -18075-05-11 05:31 J -4880340.39 -4880340.27 -4880340.13 0.0277 0.0200

Pluto -18075-07-03 02:52 J -4880287.42 -4880287.38 -4880287.32 0.0071 0.0068

Saturn -18075-08-08 05:16 J -4880251.47 -4880251.28 -4880251.09 0.0278 0.0012

Pluto -18075-09-29 04:19 J -4880199.40 -4880199.32 -4880199.23 0.0071 0.0060

Saturn -18075-11-05 04:48 J -4880162.44 -4880162.30 -4880162.15 0.0279 0.0179

Pluto -18075-12-26 05:31 J -4880111.37 -4880111.27 -4880111.16 0.0072 0.0052

Pluto -18074-03-24 06:57 J -4880023.33 -4880023.21 -4880023.09 0.0072 0.0044

Pluto -18074-06-20 08:09 J -4879935.29 -4879935.16 -4879935.02 0.0072 0.0036

Pluto -18074-09-16 09:21 J -4879847.25 -4879847.11 -4879846.96 0.0072 0.0028

Mars -18074-11-30 00:14 J -4879772.61 -4879772.49 -4879772.38 0.1626 0.0140

Pluto -18074-12-13 10:48 J -4879759.20 -4879759.05 -4879758.90 0.0072 0.0020

Pluto -18073-03-10 12:00 J -4879671.15 -4879671.00 -4879670.84 0.0072 0.0012

Pluto -18073-06-06 13:26 J -4879583.09 -4879582.94 -4879582.78 0.0072 0.0004

Pluto -18073-09-02 14:52 J -4879495.04 -4879494.88 -4879494.72 0.0072 0.0005

Pluto -18073-11-29 16:04 J -4879406.98 -4879406.83 -4879406.67 0.0072 0.0014

Pluto -18072-02-25 17:31 J -4879318.92 -4879318.77 -4879318.61 0.0073 0.0022

Pluto -18072-05-24 18:43 J -4879230.85 -4879230.72 -4879230.56 0.0073 0.0031

Pluto -18072-08-20 20:23 J -4879142.78 -4879142.65 -4879142.51 0.0073 0.0039

Pluto -18072-11-16 21:36 J -4879054.71 -4879054.60 -4879054.47 0.0073 0.0048

Pluto -18071-02-12 23:16 J -4878966.63 -4878966.53 -4878966.43 0.0073 0.0056

Jupiter -18071-04-27 00:28 J -4878893.59 -4878893.48 -4878893.37 0.0527 0.0250

Pluto -18071-05-12 00:28 J -4878878.53 -4878878.48 -4878878.40 0.0073 0.0066

Jupiter -18071-07-25 05:45 J -4878804.36 -4878804.26 -4878804.16 0.0526 0.0312

Earth -18071-07-28 10:04 J -4878801.19 -4878801.08 -4878800.97 0.2706 0.0461

Moon -18071-07-28 10:48 J -4878801.16 -4878801.05 -4878800.94 0.2701 0.0577 *

Moon -18067-02-01 03:36 J -4877517.40 -4877517.35 -4877517.31 0.2633 0.2485

Earth -18067-02-01 04:33 J -4877517.34 -4877517.31 -4877517.27 0.2629 0.2537 *

Jupiter -18065-06-20 22:19 J -4876646.75 -4876646.57 -4876646.38 0.0499 0.0082

Mars -18064-04-21 11:45 J -4876342.12 -4876342.01 -4876341.89 0.1626 0.0300

Mars -18062-03-27 13:26 J -4875636.98 -4875636.94 -4875636.89 0.1629 0.1510

Saturn -18062-06-22 09:36 J -4875550.17 -4875550.10 -4875550.02 0.0286 0.0230

Saturn -18062-09-18 20:52 J -4875461.75 -4875461.63 -4875461.51 0.0285 0.0093

Saturn -18062-12-16 07:55 J -4875373.30 -4875373.17 -4875373.04 0.0284 0.0043

Saturn -18061-03-13 18:57 J -4875284.81 -4875284.71 -4875284.61 0.0282 0.0177

Venus -18061-04-26 12:57 J -4875241.12 -4875240.96 -4875240.79 0.3638 0.0050

Mars -18059-01-05 07:11 J -4874622.35 -4874622.20 -4874622.06 0.1893 0.0954

Jupiter -18059-02-13 04:48 J -4874583.38 -4874583.30 -4874583.21 0.0528 0.0388

Jupiter -18059-05-13 10:04 J -4874494.19 -4874494.08 -4874493.96 0.0527 0.0176

Moon -18058-07-31 04:33 J -4874050.40 -4874050.31 -4874050.22 0.2698 0.1646

Earth -18058-07-31 04:33 J -4874050.40 -4874050.31 -4874050.23 0.2704 0.1661 *

Uranus -18055-06-17 01:40 J -4872998.48 -4872998.43 -4872998.37 0.0140 0.0126

Mars -18055-09-11 23:31 J -4872911.62 -4872911.52 -4872911.42 0.1625 0.0724

Uranus -18055-09-13 05:02 J -4872910.37 -4872910.29 -4872910.20 0.0140 0.0106

Uranus -18055-12-10 08:23 J -4872822.25 -4872822.15 -4872822.04 0.0140 0.0085

Uranus -18054-03-08 11:45 J -4872734.12 -4872734.01 -4872733.89 0.0140 0.0065

Uranus -18054-06-04 15:07 J -4872645.99 -4872645.87 -4872645.74 0.0140 0.0044

Uranus -18054-08-31 18:28 J -4872557.86 -4872557.73 -4872557.59 0.0140 0.0024

Uranus -18054-11-27 22:04 J -4872469.72 -4872469.58 -4872469.45 0.0140 0.0005

Neptune -18053-02-20 20:38 J -4872384.67 -4872384.64 -4872384.60 0.0089 0.0086

Uranus -18053-02-24 01:26 J -4872381.57 -4872381.44 -4872381.31 0.0141 0.0019

Jupiter -18053-04-08 19:11 J -4872336.86 -4872336.70 -4872336.54 0.0498 0.0263

Neptune -18053-05-18 21:50 J -4872296.64 -4872296.59 -4872296.52 0.0089 0.0079

Uranus -18053-05-22 04:48 J -4872293.43 -4872293.30 -4872293.17 0.0141 0.0040

Jupiter -18053-07-08 06:14 J -4872246.30 -4872246.24 -4872246.18 0.0499 0.0469

Neptune -18053-08-14 23:16 J -4872208.60 -4872208.53 -4872208.45 0.0089 0.0072

Mars -18053-08-17 01:11 J -4872206.54 -4872206.45 -4872206.37 0.1628 0.1071

Uranus -18053-08-18 08:09 J -4872205.27 -4872205.16 -4872205.04 0.0141 0.0061

Neptune -18053-11-11 00:28 J -4872120.56 -4872120.48 -4872120.38 0.0089 0.0065

Uranus -18053-11-14 11:45 J -4872117.12 -4872117.01 -4872116.90 0.0141 0.0082

Neptune -18052-02-07 01:55 J -4872032.52 -4872032.42 -4872032.32 0.0089 0.0058

Uranus -18052-02-10 15:07 J -4872028.95 -4872028.87 -4872028.78 0.0141 0.0104

Neptune -18052-05-06 03:07 J -4871944.47 -4871944.37 -4871944.26 0.0089 0.0051

Uranus -18052-05-09 18:43 J -4871940.78 -4871940.72 -4871940.66 0.0141 0.0125

Neptune -18052-08-02 04:33 J -4871856.42 -4871856.31 -4871856.20 0.0089 0.0044

Neptune -18052-10-29 05:45 J -4871768.38 -4871768.26 -4871768.14 0.0089 0.0037

Neptune -18051-01-25 06:57 J -4871680.33 -4871680.21 -4871680.08 0.0089 0.0030

Neptune -18051-04-23 08:23 J -4871592.28 -4871592.15 -4871592.02 0.0089 0.0022

Neptune -18051-07-20 09:36 J -4871504.22 -4871504.10 -4871503.97 0.0089 0.0016

Earth -18051-07-24 02:23 J -4871500.48 -4871500.40 -4871500.31 0.2708 0.1660

Moon -18051-07-24 02:52 J -4871500.46 -4871500.38 -4871500.29 0.2713 0.1669 *

Neptune -18051-10-16 11:02 J -4871416.17 -4871416.04 -4871415.91 0.0089 0.0008

Neptune -18050-01-12 12:14 J -4871328.12 -4871327.99 -4871327.85 0.0089 0.0003

Neptune -18050-04-10 13:40 J -4871240.06 -4871239.93 -4871239.80 0.0089 0.0006

Mars -18050-05-27 23:31 J -4871192.68 -4871192.52 -4871192.35 0.1894 0.0484

Neptune -18050-07-07 14:52 J -4871152.01 -4871151.88 -4871151.75 0.0089 0.0013

Neptune -18050-10-03 16:04 J -4871063.95 -4871063.83 -4871063.69 0.0089 0.0021

Neptune -18050-12-30 17:31 J -4870975.89 -4870975.77 -4870975.64 0.0089 0.0027

Neptune -18049-03-27 18:43 J -4870887.83 -4870887.72 -4870887.59 0.0089 0.0034

Neptune -18049-06-23 20:09 J -4870799.77 -4870799.66 -4870799.54 0.0089 0.0041

Neptune -18049-09-19 21:21 J -4870711.71 -4870711.61 -4870711.49 0.0089 0.0049

Neptune -18049-12-16 22:48 J -4870623.65 -4870623.55 -4870623.44 0.0089 0.0055

Neptune -18048-03-15 00:00 J -4870535.58 -4870535.50 -4870535.40 0.0089 0.0063

Neptune -18048-06-11 01:26 J -4870447.52 -4870447.44 -4870447.36 0.0089 0.0070

Neptune -18048-09-07 02:38 J -4870359.45 -4870359.39 -4870359.31 0.0089 0.0077

Jupiter -18048-12-02 09:36 J -4870273.12 -4870273.10 -4870273.09 0.0528 0.0521

Neptune -18048-12-04 04:04 J -4870271.37 -4870271.33 -4870271.28 0.0089 0.0084

Moon -18047-01-26 23:16 J -4870217.66 -4870217.53 -4870217.39 0.2624 0.1262

Earth -18047-01-27 00:43 J -4870217.60 -4870217.47 -4870217.33 0.2626 0.1212 *

Venus -18047-02-27 23:31 J -4870185.57 -4870185.52 -4870185.47 0.3732 0.3245

Jupiter -18047-03-01 14:52 J -4870184.01 -4870183.88 -4870183.76 0.0527 0.0041

Saturn -18046-09-28 01:55 J -4869608.45 -4869608.42 -4869608.37 0.0277 0.0269

Saturn -18046-12-26 01:40 J -4869519.61 -4869519.43 -4869519.25 0.0278 0.0081

Mars -18045-02-02 11:16 J -4869481.11 -4869481.03 -4869480.95 0.1625 0.1149

Saturn -18045-03-24 01:11 J -4869430.62 -4869430.45 -4869430.27 0.0279 0.0108

Mars -18043-01-07 12:43 J -4868776.08 -4868775.97 -4868775.87 0.1627 0.0634

Venus -18042-09-13 14:52 J -4868161.98 -4868161.88 -4868161.79 0.3734 0.1276

Jupiter -18041-01-26 16:04 J -4868026.91 -4868026.83 -4868026.74 0.0498 0.0442

Jupiter -18041-04-26 03:21 J -4867936.51 -4867936.36 -4867936.21 0.0499 0.0293

Earth -18038-07-26 20:38 J -4866749.75 -4866749.64 -4866749.53 0.2707 0.0493

Moon -18038-07-26 21:21 J -4866749.72 -4866749.61 -4866749.50 0.2706 0.0343 *

Venus -18036-03-29 06:00 J -4866138.34 -4866138.25 -4866138.15 0.3735 0.0728

Mars -18036-06-24 22:48 J -4866050.57 -4866050.55 -4866050.52 0.1625 0.1575

Jupiter -18036-12-18 19:26 J -4865873.82 -4865873.69 -4865873.57 0.0527 0.0096

Jupiter -18035-03-18 00:57 J -4865784.52 -4865784.46 -4865784.41 0.0525 0.0466

Moon -18034-01-30 04:33 J -4865466.46 -4865466.31 -4865466.17 0.2629 0.0695

Earth -18034-01-30 06:00 J -4865466.39 -4865466.25 -4865466.10 0.2628 0.0894 *

Mars -18034-05-31 00:14 J -4865345.61 -4865345.49 -4865345.38 0.1626 0.0198

Saturn -18033-11-08 11:02 J -4864818.06 -4864818.04 -4864818.01 0.0287 0.0281

Saturn -18032-02-04 22:19 J -4864729.68 -4864729.57 -4864729.46 0.0285 0.0143

Saturn -18032-05-04 09:21 J -4864641.24 -4864641.11 -4864640.98 0.0284 0.0009

Saturn -18032-07-31 20:23 J -4864552.76 -4864552.65 -4864552.53 0.0283 0.0128

Saturn -18032-10-28 07:26 J -4864464.23 -4864464.19 -4864464.14 0.0282 0.0262

Venus -18031-10-12 21:36 J -4864114.67 -4864114.60 -4864114.54 0.3737 0.2724

Jupiter -18029-02-12 23:45 J -4863626.69 -4863626.51 -4863626.33 0.0499 0.0103

Earth -18025-07-28 14:52 J -4861998.98 -4861998.88 -4861998.77 0.2706 0.0703

Moon -18025-07-28 15:36 J -4861998.96 -4861998.85 -4861998.74 0.2701 0.0716 *

Mars -18025-10-20 11:45 J -4861915.12 -4861915.01 -4861914.89 0.1626 0.0239

Jupiter -18024-10-06 23:45 J -4861563.62 -4861563.51 -4861563.39 0.0527 0.0234

Jupiter -18023-01-04 05:16 J -4861474.38 -4861474.28 -4861474.18 0.0526 0.0328

Mars -18023-09-25 13:26 J -4861209.96 -4861209.94 -4861209.91 0.1629 0.1568

Mars -18020-07-06 07:55 J -4860195.31 -4860195.17 -4860195.03 0.1893 0.1080

Earth -18018-07-22 13:11 J -4859448.98 -4859448.95 -4859448.92 0.2709 0.2584

Moon -18018-07-22 13:26 J -4859448.97 -4859448.94 -4859448.91 0.2716 0.2584 *

Jupiter -18018-12-01 20:52 J -4859316.81 -4859316.63 -4859316.44 0.0499 0.0075

Saturn -18016-05-14 00:14 J -4858787.66 -4858787.49 -4858787.32 0.0277 0.0132

Saturn -18016-08-10 23:45 J -4858698.69 -4858698.51 -4858698.32 0.0278 0.0057

Saturn -18016-11-07 23:16 J -4858609.61 -4858609.53 -4858609.44 0.0279 0.0246

Uranus -18015-02-02 17:31 J -4858522.83 -4858522.77 -4858522.69 0.0139 0.0129

Mars -18015-03-12 23:31 J -4858484.63 -4858484.52 -4858484.42 0.1625 0.0668

Uranus -18015-05-02 01:26 J -4858434.57 -4858434.44 -4858434.30 0.0139 0.0099

Uranus -18015-07-29 09:07 J -4858346.28 -4858346.12 -4858345.95 0.0138 0.0069

Uranus -18015-10-25 16:48 J -4858257.98 -4858257.80 -4858257.61 0.0138 0.0040

Uranus -18014-01-22 00:28 J -4858169.66 -4858169.48 -4858169.28 0.0138 0.0012

Uranus -18014-04-20 08:09 J -4858081.35 -4858081.16 -4858080.97 0.0138 0.0018

Uranus -18014-07-17 15:36 J -4857993.02 -4857992.85 -4857992.66 0.0138 0.0047

Uranus -18014-10-13 23:02 J -4857904.69 -4857904.54 -4857904.37 0.0138 0.0076

Uranus -18013-01-10 06:28 J -4857816.34 -4857816.23 -4857816.10 0.0138 0.0104

Mars -18013-02-16 00:57 J -4857779.54 -4857779.46 -4857779.37 0.1628 0.1125

Uranus -18013-04-07 13:55 J -4857727.96 -4857727.92 -4857727.86 0.0138 0.0132

Jupiter -18012-07-26 03:50 J -4857253.42 -4857253.34 -4857253.25 0.0528 0.0379

Moon -18012-07-31 09:21 J -4857248.19 -4857248.11 -4857248.03 0.2697 0.1912

Earth -18012-07-31 09:21 J -4857248.19 -4857248.11 -4857248.03 0.2704 0.1895 *

Jupiter -18012-10-23 09:07 J -4857164.24 -4857164.12 -4857164.00 0.0526 0.0182

Mars -18011-11-26 00:00 J -4856765.67 -4856765.50 -4856765.33 0.1894 0.0379

Mars -18006-08-03 11:02 J -4855054.12 -4855054.04 -4855053.95 0.1625 0.1094

Jupiter -18006-09-19 18:00 J -4855006.91 -4855006.75 -4855006.59 0.0499 0.0253

Jupiter -18006-12-19 05:02 J -4854916.33 -4854916.29 -4854916.24 0.0500 0.0480

Earth -18005-07-24 07:26 J -4854698.29 -4854698.19 -4854698.10 0.2708 0.1434

Moon -18005-07-24 07:55 J -4854698.27 -4854698.17 -4854698.08 0.2712 0.1320 *

Venus -18005-12-01 15:36 J -4854567.97 -4854567.85 -4854567.72 0.3637 0.2269

Mars -18004-07-08 12:28 J -4854349.08 -4854348.98 -4854348.87 0.1627 0.0691

Saturn -18003-06-25 00:28 J -4853997.58 -4853997.48 -4853997.38 0.0286 0.0186

Saturn -18003-09-21 11:31 J -4853909.15 -4853909.02 -4853908.89 0.0285 0.0049

Saturn -18003-12-18 22:33 J -4853820.68 -4853820.56 -4853820.43 0.0283 0.0087

Saturn -18002-03-17 09:36 J -4853732.17 -4853732.10 -4853732.01 0.0282 0.0221

Moon -18001-01-28 05:45 J -4853415.41 -4853415.26 -4853415.12 0.2625 0.1069

Earth	**-18001-01-28 07:11 J**	**-4853415.35**	**-4853415.20**	**-4853415.05**	**0.2626**	**0.0809**	*
Mars	**-18001-04-16 16:33 J**	**-4853335.86**	**-4853335.81**	**-4853335.77**	**0.1895**	**0.1819**	

18TH MILLENNIUM BCE

This is a list of transits of Mercury in the 18th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Jupiter	**-18000-05-14 08:09 J**		**-4852943.18**	**-4852943.16**	**-4852943.14**	**0.0528**	**0.0518**	
Jupiter	**-18000-08-11 13:26 J**		**-4852854.06**	**-4852853.94**	**-4852853.81**	**0.0527**	**0.0046**	
Mars	**-17997-12-23 22:48 J**		**-4851623.59**	**-4851623.55**	**-4851623.51**	**0.1625**	**0.1518**	
Mars	**-17995-11-29 00:14 J**		**-4850918.61**	**-4850918.49**	**-4850918.38**	**0.1626**	**0.0260**	
Jupiter	**-17994-07-08 14:38 J**		**-4850696.98**	**-4850696.89**	**-4850696.80**	**0.0498**	**0.0437**	
Jupiter	**-17994-10-07 01:55 J**		**-4850606.57**	**-4850606.42**	**-4850606.27**	**0.0499**	**0.0298**	
Earth	**-17992-07-27 01:40 J**		**-4849947.55**	**-4849947.43**	**-4849947.32**	**0.2707**	**0.0281**	
Moon	**-17992-07-27 02:23 J**		**-4849947.51**	**-4849947.40**	**-4849947.29**	**0.2705**	**0.0250**	*
Venus	**-17991-10-04 20:52 J**		**-4849512.70**	**-4849512.63**	**-4849512.56**	**0.3732**	**0.2524**	
Pluto	**-17990-09-03 13:26 J**		**-4849178.99**	**-4849178.94**	**-4849178.85**	**0.0073**	**0.0065**	
Pluto	**-17990-11-30 15:07 J**		**-4849090.96**	**-4849090.87**	**-4849090.76**	**0.0073**	**0.0056**	
Pluto	**-17989-02-26 16:19 J**		**-4849002.92**	**-4849002.82**	**-4849002.68**	**0.0072**	**0.0047**	
Pluto	**-17989-05-24 18:00 J**		**-4848914.88**	**-4848914.75**	**-4848914.61**	**0.0072**	**0.0038**	
Pluto	**-17989-08-20 19:11 J**		**-4848826.83**	**-4848826.70**	**-4848826.55**	**0.0072**	**0.0030**	
Pluto	**-17989-11-16 20:38 J**		**-4848738.78**	**-4848738.64**	**-4848738.48**	**0.0072**	**0.0022**	
Moon	**-17988-01-30 11:02 J**		**-4848664.18**	**-4848664.04**	**-4848663.91**	**0.2629**	**0.1195**	
Earth	**-17988-01-30 12:28 J**		**-4848664.11**	**-4848663.98**	**-4848663.85**	**0.2628**	**0.1284**	*

Pluto -17988-02-12 22:04 J -4848650.73 -4848650.58 -4848650.42 0.0072 0.0013

Pluto -17988-05-11 23:31 J -4848562.68 -4848562.52 -4848562.36 0.0072 0.0005

Jupiter -17988-05-30 18:00 J -4848543.87 -4848543.75 -4848543.62 0.0527 0.0094

Pluto -17988-08-08 00:43 J -4848474.63 -4848474.47 -4848474.31 0.0072 0.0003

Jupiter -17988-08-27 23:31 J -4848454.57 -4848454.52 -4848454.46 0.0526 0.0471

Pluto -17988-11-04 01:55 J -4848386.57 -4848386.42 -4848386.26 0.0072 0.0011

Pluto -17987-01-31 03:07 J -4848298.51 -4848298.37 -4848298.21 0.0071 0.0020

Pluto -17987-04-29 04:19 J -4848210.45 -4848210.32 -4848210.16 0.0071 0.0028

Pluto -17987-07-26 05:31 J -4848122.39 -4848122.27 -4848122.12 0.0071 0.0035

Saturn -17987-09-30 21:21 J -4848055.74 -4848055.61 -4848055.47 0.0277 0.0196

Pluto -17987-10-22 07:11 J -4848034.33 -4848034.20 -4848034.08 0.0071 0.0042

Saturn -17987-12-28 20:52 J -4847966.82 -4847966.63 -4847966.43 0.0278 0.0011

Pluto -17986-01-18 08:09 J -4847946.26 -4847946.16 -4847946.04 0.0071 0.0050

Saturn -17986-03-27 20:23 J -4847877.79 -4847877.65 -4847877.50 0.0279 0.0182

Pluto -17986-04-16 09:21 J -4847858.19 -4847858.11 -4847858.01 0.0071 0.0058

Pluto -17986-07-13 10:48 J -4847770.11 -4847770.05 -4847769.99 0.0071 0.0065

Venus -17985-04-19 12:14 J -4847489.09 -4847488.99 -4847488.90 0.3734 0.0579

Mars -17985-04-20 11:45 J -4847488.12 -4847488.01 -4847487.89 0.1626 0.0180

Mars -17983-03-26 13:26 J -4846782.94 -4846782.94 -4846782.93 0.1629 0.1627

Jupiter -17982-07-25 23:02 J -4846296.72 -4846296.54 -4846296.36 0.0499 0.0119

Mars -17980-01-04 08:38 J -4845768.27 -4845768.14 -4845768.01 0.1893 0.1207

Venus -17980-11-03 03:36 J -4845465.45 -4845465.35 -4845465.26 0.3736 0.1449

Earth -17979-07-29 19:55 J -4845196.78 -4845196.67 -4845196.57 0.2705 0.0927

Moon -17979-07-29 20:23 J -4845196.76 -4845196.65 -4845196.55 0.2700 0.1034 *

Jupiter -17976-03-18 22:48 J -4844233.66 -4844233.55 -4844233.44 0.0527 0.0227

Jupiter -17976-06-16 04:04 J -4844144.42 -4844144.33 -4844144.23 0.0526 0.0334

Mars -17976-09-10 23:16 J -4844057.63 -4844057.53 -4844057.42 0.1625 0.0613

Venus -17974-05-19 18:57 J -4843441.75 -4843441.71 -4843441.68 0.3737 0.3445

Mars -17974-08-17 00:57 J -4843352.53 -4843352.46 -4843352.38 0.1628 0.1186

Saturn -17974-11-12 01:55 J -4843265.49 -4843265.42 -4843265.34 0.0286 0.0235

Saturn -17973-02-08 13:11 J -4843177.07 -4843176.95 -4843176.83 0.0285 0.0098

Saturn -17973-05-07 00:14 J -4843088.62 -4843088.49 -4843088.36 0.0284 0.0039

Saturn -17973-08-03 11:16 J -4843000.13 -4843000.03 -4842999.92 0.0283 0.0174

Earth -17972-07-22 18:00 J -4842646.80 -4842646.75 -4842646.69 0.2709 0.2363

Moon -17972-07-22 18:14 J -4842646.79 -4842646.74 -4842646.68 0.2716 0.2343 *

Uranus -17971-04-10 06:28 J -4842385.25 -4842385.23 -4842385.20 0.0140 0.0137

Mars -17971-05-27 01:11 J -4842338.62 -4842338.45 -4842338.28 0.1894 0.0235

Uranus -17971-07-07 09:50 J -4842297.16 -4842297.09 -4842297.02 0.0140 0.0117

Uranus -17971-10-03 12:57 J -4842209.05 -4842208.96 -4842208.86 0.0140 0.0097

Uranus -17971-12-30 16:33 J -4842120.92 -4842120.81 -4842120.70 0.0140 0.0076

Uranus -17970-03-28 19:40 J -4842032.79 -4842032.68 -4842032.55 0.0140 0.0056

Jupiter -17970-05-13 18:57 J -4841986.90 -4841986.71 -4841986.53 0.0499 0.0075

Uranus -17970-06-24 23:16 J -4841944.66 -4841944.53 -4841944.41 0.0140 0.0035

Neptune -17970-08-07 12:43 J -4841900.98 -4841900.97 -4841900.92 0.0088 0.0087

Uranus -17970-09-21 02:38 J -4841856.52 -4841856.39 -4841856.26 0.0140 0.0015

Neptune -17970-11-03 16:19 J -4841812.89 -4841812.82 -4841812.70 0.0088 0.0077

Uranus -17970-12-18 06:00 J -4841768.38 -4841768.25 -4841768.12 0.0141 0.0006

Neptune -17969-01-30 20:38 J -4841724.77 -4841724.64 -4841724.51 0.0088 0.0066

Uranus -17969-03-15 09:21 J -4841680.24 -4841680.11 -4841679.98 0.0141 0.0027

Neptune -17969-04-28 00:14 J -4841636.64 -4841636.49 -4841636.34 0.0088 0.0056

Uranus -17969-06-11 12:43 J -4841592.09 -4841591.97 -4841591.84 0.0141 0.0049

Neptune -17969-07-25 03:50 J -4841548.50 -4841548.34 -4841548.17 0.0088 0.0046

Uranus -17969-09-07 16:19 J -4841503.94 -4841503.82 -4841503.71 0.0141 0.0070

Neptune -17969-10-21 07:26 J -4841460.36 -4841460.19 -4841460.00 0.0088 0.0036

Uranus -17969-12-04 19:40 J -4841415.78 -4841415.68 -4841415.58 0.0141 0.0091

Neptune -17968-01-17 11:02 J -4841372.22 -4841372.04 -4841371.84 0.0088 0.0026

Earth -17968-01-25 07:55 J -4841364.20 -4841364.17 -4841364.13 0.2625 0.2556

Uranus -17968-03-02 23:02 J -4841327.61 -4841327.54 -4841327.45 0.0141 0.0113

Neptune -17968-04-15 14:52 J -4841284.07 -4841283.88 -4841283.68 0.0088 0.0016

Uranus -17968-05-30 02:38 J -4841239.42 -4841239.39 -4841239.35 0.0141 0.0135

Neptune -17968-07-12 18:28 J -4841195.92 -4841195.73 -4841195.53 0.0088 0.0006

Neptune -17968-10-08 22:04 J -4841107.77 -4841107.58 -4841107.38 0.0088 0.0005

Neptune -17967-01-05 01:55 J -4841019.62 -4841019.42 -4841019.23 0.0088 0.0014

Neptune -17967-04-03 05:31 J -4840931.46 -4840931.27 -4840931.08 0.0088 0.0024

Neptune -17967-06-30 09:07 J -4840843.30 -4840843.12 -4840842.94 0.0088 0.0034

Neptune -17967-09-26 12:43 J -4840755.14 -4840754.97 -4840754.80 0.0088 0.0044

Neptune -17967-12-23 16:19 J -4840666.97 -4840666.82 -4840666.66 0.0088 0.0054

Mars -17966-02-01 11:02 J -4840627.13 -4840627.04 -4840626.95 0.1625 0.1039

Neptune -17966-03-21 19:55 J -4840578.80 -4840578.67 -4840578.53 0.0088 0.0064

Neptune -17966-06-17 23:31 J -4840490.62 -4840490.52 -4840490.41 0.0088 0.0074

Moon -17966-08-01 14:09 J -4840445.98 -4840445.91 -4840445.84 0.2697 0.2073

Earth -17966-08-01 14:09 J -4840445.97 -4840445.91 -4840445.84 0.2704 0.2137 *

Neptune -17966-09-14 02:52 J -4840402.42 -4840402.38 -4840402.31 0.0088 0.0084

Jupiter -17964-01-05 03:07 J -4839923.45 -4839923.37 -4839923.28 0.0527 0.0365

Mars -17964-01-06 12:28 J -4839922.08 -4839921.98 -4839921.88 0.1627 0.0745

Jupiter -17964-04-04 08:38 J -4839834.26 -4839834.14 -4839834.03 0.0526 0.0196

Mars -17962-10-16 16:48 J -4838908.87 -4838908.80 -4838908.73 0.1894 0.1715

Earth -17959-07-25 12:14 J -4837896.09 -4837895.99 -4837895.89 0.2708 0.1203

Moon -17959-07-25 12:57 J -4837896.06 -4837895.96 -4837895.86 0.2710 0.1162 *

Jupiter -17958-03-01 15:50 J -4837677.00 -4837676.84 -4837676.68 0.0499 0.0255

Jupiter -17958-05-31 03:07 J -4837586.42 -4837586.37 -4837586.32 0.0500 0.0480

Saturn -17957-02-17 20:23 J -4837323.73 -4837323.65 -4837323.56 0.0276 0.0243

Saturn -17957-05-16 19:55 J -4837234.85 -4837234.67 -4837234.48 0.0277 0.0056

Mars -17957-06-23 22:48 J -4837196.60 -4837196.55 -4837196.50 0.1625 0.1463

Saturn -17957-08-13 19:26 J -4837145.85 -4837145.69 -4837145.52 0.0278 0.0133

Moon -17955-01-28 12:00 J -4836613.15 -4836613.00 -4836612.85 0.2625 0.0468

Earth -17955-01-28 13:40 J -4836613.08 -4836612.93 -4836612.78 0.2626 0.0411 *

Mars -17955-05-30 00:00 J -4836491.61 -4836491.50 -4836491.38 0.1626 0.0311

Venus -17954-12-23 06:57 J -4835919.33 -4835919.21 -4835919.09 0.3640 0.2401

Jupiter -17953-10-24 07:11 J -4835613.23 -4835613.20 -4835613.17 0.0528 0.0511

Jupiter -17952-01-21 12:28 J -4835524.11 -4835523.98 -4835523.86 0.0527 0.0049

Jupiter -17947-12-18 12:57 J -4833367.05 -4833366.96 -4833366.87 0.0498 0.0433

Jupiter -17946-03-19 00:14 J -4833276.63 -4833276.49 -4833276.34 0.0500 0.0304

Earth -17946-07-28 06:28 J -4833145.34 -4833145.23 -4833145.12 0.2707 0.0031

Moon -17946-07-28 07:11 J -4833145.31 -4833145.20 -4833145.09 0.2705 0.0121 *

Mars -17946-10-20 11:45 J -4833061.13 -4833061.01 -4833060.90 0.1626 0.0123

Saturn -17944-03-31 04:33 J -4832533.34 -4832533.31 -4832533.27 0.0287 0.0273

Saturn -17944-06-27 15:36 J -4832444.96 -4832444.85 -4832444.73 0.0286 0.0136

Saturn -17944-09-24 02:52 J -4832356.51 -4832356.38 -4832356.25 0.0285 0.0005

Saturn -17944-12-21 13:55 J -4832268.03 -4832267.92 -4832267.81 0.0283 0.0136

Saturn -17943-03-20 00:57 J -4832179.49 -4832179.46 -4832179.42 0.0282 0.0270

Moon -17942-01-31 17:31 J -4831861.89 -4831861.77 -4831861.64 0.2631 0.1477

Earth -17942-01-31 18:57 J -4831861.83 -4831861.71 -4831861.59 0.2628 0.1682 *

Mars -17941-07-05 09:36 J -4831341.21 -4831341.10 -4831340.98 0.1893 0.1340

Jupiter -17941-11-09 16:48 J -4831213.93 -4831213.80 -4831213.68 0.0527 0.0094

Jupiter -17940-02-06 22:04 J -4831124.63 -4831124.58 -4831124.52 0.0526 0.0469

Mars -17936-03-11 23:16 J -4829630.64 -4829630.53 -4829630.42 0.1625 0.0554

Jupiter -17934-01-04 20:52 J -4828966.81 -4828966.63 -4828966.44 0.0499 0.0120

Mars -17934-02-15 00:57 J -4828925.53 -4828925.46 -4828925.39 0.1628 0.1241

Venus -17934-05-11 18:14 J -4828839.83 -4828839.74 -4828839.66 0.3732 0.1815

Earth -17933-07-30 00:43 J -4828394.57 -4828394.47 -4828394.37 0.2705 0.1166

Moon -17933-07-30 00:57 J -4828394.56 -4828394.46 -4828394.35 0.2699 0.1136 *

Mars -17932-11-25 01:55 J -4827911.59 -4827911.42 -4827911.25 0.1894 0.0108

Uranus -17931-02-23 01:40 J -4827821.51 -4827821.43 -4827821.31 0.0139 0.0118

Uranus -17931-05-22 09:50 J -4827733.24 -4827733.09 -4827732.94 0.0138 0.0088

Uranus -17931-08-18 17:31 J -4827644.94 -4827644.77 -4827644.59 0.0138 0.0058

Uranus -17931-11-15 01:11 J -4827556.63 -4827556.45 -4827556.26 0.0138 0.0029

Uranus -17930-02-11 08:52 J -4827468.32 -4827468.13 -4827467.94 0.0138 0.0002

Uranus -17930-05-10 16:33 J -4827380.00 -4827379.81 -4827379.62 0.0138 0.0029

Uranus -17930-08-06 23:45 J -4827291.67 -4827291.51 -4827291.33 0.0138 0.0058

Uranus -17930-11-03 07:26 J -4827203.34 -4827203.19 -4827203.04 0.0138 0.0086

Uranus -17929-01-30 14:38 J -4827114.98 -4827114.89 -4827114.77 0.0138 0.0114

Jupiter -17929-08-28 21:07 J -4826903.73 -4826903.62 -4826903.50 0.0528 0.0230

Venus -17929-11-24 09:36 J -4826816.20 -4826816.10 -4826816.00 0.3734 0.0228

Jupiter -17929-11-26 02:38 J -4826814.49 -4826814.39 -4826814.29 0.0526 0.0332

Saturn -17928-10-03 18:14 J -4826502.92 -4826502.74 -4826502.57 0.0277 0.0112

Saturn -17928-12-31 17:45 J -4826413.94 -4826413.76 -4826413.58 0.0278 0.0077

Saturn -17927-03-30 17:02 J -4826324.84 -4826324.79 -4826324.73 0.0279 0.0266

Mars -17927-08-02 11:02 J -4826200.13 -4826200.04 -4826199.95 0.1625 0.0980

Earth -17926-07-23 23:02 J -4825844.61 -4825844.54 -4825844.48 0.2709 0.2137

Moon -17926-07-23 23:16 J -4825844.60 -4825844.53 -4825844.46 0.2716 0.2099 *

Mars -17925-07-07 12:28 J -4825495.08 -4825494.98 -4825494.88 0.1627 0.0803

Venus -17923-06-10 00:57 J -4824792.54 -4824792.46 -4824792.38 0.3736 0.2172

Jupiter -17923-10-23 17:45 J -4824656.94 -4824656.76 -4824656.57 0.0499 0.0063

Moon -17922-01-26 13:11 J -4824562.03 -4824561.95 -4824561.86 0.2621 0.2225

Earth -17922-01-26 14:38 J -4824561.98 -4824561.89 -4824561.80 0.2625 0.2144 *

Mars -17922-04-16 18:00 J -4824481.84 -4824481.75 -4824481.66 0.1895 0.1571

Moon -17920-08-01 18:57 J -4823643.76 -4823643.71 -4823643.66 0.2697 0.2393

Earth -17920-08-01 19:11 J -4823643.75 -4823643.70 -4823643.65 0.2704 0.2369 *

Mars -17918-12-23 22:48 J -4822769.61 -4822769.55 -4822769.50 0.1625 0.1407

Jupiter -17917-06-17 01:55 J -4822593.51 -4822593.42 -4822593.33 0.0528 0.0364

Jupiter -17917-09-14 07:11 J -4822504.32 -4822504.20 -4822504.08 0.0526 0.0197

Mars -17916-11-28 00:00 J -4822064.61 -4822064.50 -4822064.38 0.1626 0.0371

Saturn -17915-11-14 17:31 J -4821712.87 -4821712.77 -4821712.67 0.0286 0.0181

Saturn -17914-02-11 04:48 J -4821624.43 -4821624.30 -4821624.17 0.0285 0.0044

Saturn -17914-05-10 15:50 J -4821535.96 -4821535.84 -4821535.72 0.0284 0.0092

Saturn -17914-08-07 02:52 J -4821447.45 -4821447.38 -4821447.30 0.0283 0.0227

Earth -17913-07-25 17:02 J -4821093.89 -4821093.79 -4821093.68 0.2708 0.0978

Moon -17913-07-25 17:45 J -4821093.86 -4821093.76 -4821093.65 0.2709 0.0887 *

Jupiter -17911-08-11 13:26 J -4820347.10 -4820346.94 -4820346.78 0.0499 0.0260

Jupiter -17911-11-10 00:28 J -4820256.52 -4820256.48 -4820256.42 0.0500 0.0476

Moon -17909-01-29 18:28 J -4819810.88 -4819810.73 -4819810.57 0.2625 0.0268

Earth -17909-01-29 20:09 J -4819810.82 -4819810.66 -4819810.51 0.2627 0.0039 *

Mars -17906-04-20 11:45 J -4818634.13 -4818634.01 -4818633.90 0.1626 0.0083

Jupiter -17905-04-05 06:14 J -4818283.27 -4818283.24 -4818283.20 0.0528 0.0501

Jupiter -17905-07-03 11:31 J -4818194.14 -4818194.02 -4818193.89 0.0526 0.0059

Mars -17901-01-04 10:19 J -4816914.17 -4816914.07 -4816913.96 0.1893 0.1456

Earth -17900-07-28 11:16 J -4816343.14 -4816343.03 -4816342.92 0.2706 0.0224

Moon -17900-07-28 12:00 J -4816343.11 -4816343.00 -4816342.89 0.2704 0.0241 *

Jupiter -17899-05-30 10:19 J -4816037.15 -4816037.07 -4816036.98 0.0499 0.0441

Jupiter -17899-08-28 21:36 J -4815946.74 -4815946.60 -4815946.44 0.0500 0.0297

Saturn -17898-02-20 17:45 J -4815770.92 -4815770.76 -4815770.60 0.0276 0.0155

Saturn -17898-05-20 17:16 J -4815681.97 -4815681.78 -4815681.59 0.0277 0.0033

Saturn -17898-08-17 16:48 J -4815592.91 -4815592.80 -4815592.69 0.0279 0.0222

Venus -17897-07-29 09:50 J -4815246.26 -4815246.09 -4815245.93 0.3639 0.0115

Mars -17897-09-09 23:16 J -4815203.64 -4815203.53 -4815203.42 0.1625 0.0498

Moon -17896-02-01 00:00 J -4815059.59 -4815059.50 -4815059.40 0.2633 0.2057

Earth -17896-02-01 01:11 J -4815059.54 -4815059.45 -4815059.35 0.2628 0.2068 *

Mars -17895-08-16 00:57 J -4814498.53 -4814498.46 -4814498.39 0.1628 0.1297

Jupiter -17893-04-21 15:21 J -4813883.98 -4813883.86 -4813883.73 0.0527 0.0091

Jupiter -17893-07-19 20:38 J -4813794.69 -4813794.64 -4813794.58 0.0525 0.0471

Mars -17892-05-26 02:38 J -4813484.56 -4813484.39 -4813484.22 0.1894 0.0019

Neptune -17889-11-16 19:55 J -4812213.71 -4812213.67 -4812213.63 0.0089 0.0085

Neptune -17888-02-12 21:07 J -4812125.68 -4812125.62 -4812125.55 0.0089 0.0078

Neptune -17888-05-11 22:33 J -4812037.64 -4812037.56 -4812037.48 0.0089 0.0071

Neptune -17888-08-07 23:45 J -4811949.60 -4811949.51 -4811949.42 0.0089 0.0064

Neptune -17888-11-04 01:11 J -4811861.55 -4811861.45 -4811861.35 0.0089 0.0057

Neptune -17887-01-31 02:23 J -4811773.51 -4811773.40 -4811773.29 0.0089 0.0050

Mars -17887-01-31 11:02 J -4811773.14 -4811773.04 -4811772.95 0.1625 0.0925

Neptune -17887-04-29 03:36 J -4811685.46 -4811685.35 -4811685.23 0.0089 0.0043

Uranus -17887-04-30 14:23 J -4811683.95 -4811683.90 -4811683.85 0.0140 0.0129

Jupiter -17887-06-16 18:57 J -4811636.89 -4811636.71 -4811636.53 0.0499 0.0119

Neptune -17887-07-26 05:02 J -4811597.41 -4811597.29 -4811597.17 0.0089 0.0036

Uranus -17887-07-27 17:31 J -4811595.84 -4811595.77 -4811595.68 0.0140 0.0109

Earth -17887-07-31 05:45 J -4811592.36 -4811592.26 -4811592.17 0.2705 0.1402

Moon -17887-07-31 06:00 J -4811592.35 -4811592.25 -4811592.16 0.2698 0.1487 *

Neptune -17887-10-22 06:14 J -4811509.36 -4811509.24 -4811509.11 0.0089 0.0029

Uranus -17887-10-23 20:52 J -4811507.72 -4811507.63 -4811507.52 0.0140 0.0089

Neptune -17886-01-18 07:40 J -4811421.31 -4811421.18 -4811421.06 0.0089 0.0022

Uranus -17886-01-20 00:14 J -4811419.60 -4811419.49 -4811419.37 0.0140 0.0068

Neptune -17886-04-16 08:52 J -4811333.26 -4811333.13 -4811333.00 0.0089 0.0015

Uranus -17886-04-18 03:36 J -4811331.47 -4811331.35 -4811331.22 0.0140 0.0048

Neptune -17886-07-13 10:04 J -4811245.21 -4811245.08 -4811244.94 0.0089 0.0008

Uranus -17886-07-15 06:57 J -4811243.33 -4811243.21 -4811243.08 0.0140 0.0027

Neptune -17886-10-09 11:31 J -4811157.15 -4811157.02 -4811156.89 0.0089 0.0001

Uranus -17886-10-11 10:33 J -4811155.20 -4811155.06 -4811154.93 0.0140 0.0007

Neptune -17885-01-05 12:43 J -4811069.10 -4811068.97 -4811068.83 0.0089 0.0007

Mars -17885-01-06 12:28 J -4811068.08 -4811067.98 -4811067.88 0.1627 0.0860

Uranus -17885-01-07 13:55 J -4811067.05 -4811066.92 -4811066.79 0.0141 0.0015

Neptune -17885-04-02 14:09 J -4810981.04 -4810980.91 -4810980.78 0.0089 0.0014

Saturn -17885-04-02 20:23 J -4810980.73 -4810980.65 -4810980.56 0.0287 0.0216

Uranus -17885-04-04 17:16 J -4810978.91 -4810978.78 -4810978.65 0.0141 0.0036

Neptune -17885-06-29 15:21 J -4810892.98 -4810892.86 -4810892.73 0.0089 0.0021

Saturn -17885-06-30 07:40 J -4810892.31 -4810892.18 -4810892.06 0.0285 0.0078

Uranus -17885-07-01 20:38 J -4810890.76 -4810890.64 -4810890.51 0.0141 0.0057

Neptune -17885-09-25 16:48 J -4810804.93 -4810804.80 -4810804.68 0.0089 0.0028

Saturn -17885-09-26 18:43 J -4810803.85 -4810803.72 -4810803.59 0.0284 0.0058

Uranus -17885-09-28 00:00 J -4810802.60 -4810802.50 -4810802.38 0.0141 0.0079

Neptune -17885-12-22 18:00 J -4810716.87 -4810716.75 -4810716.62 0.0089 0.0035

Saturn -17885-12-24 05:45 J -4810715.35 -4810715.26 -4810715.16 0.0283 0.0194

Uranus -17885-12-25 03:36 J -4810714.44 -4810714.35 -4810714.25 0.0141 0.0100

Neptune -17884-03-20 19:11 J -4810628.81 -4810628.70 -4810628.58 0.0089 0.0042

Uranus -17884-03-23 07:11 J -4810626.26 -4810626.20 -4810626.13 0.0141 0.0122

Neptune -17884-06-16 20:23 J -4810540.75 -4810540.65 -4810540.53 0.0089 0.0050

Neptune -17884-09-12 21:50 J -4810452.68 -4810452.59 -4810452.48 0.0089 0.0056

Neptune -17884-12-09 23:02 J -4810364.62 -4810364.54 -4810364.43 0.0089 0.0064

Neptune -17883-03-08 00:28 J -4810276.55 -4810276.48 -4810276.39 0.0089 0.0071

Venus -17883-06-02 00:14 J -4810190.55 -4810190.49 -4810190.44 0.3731 0.3055

Neptune -17883-06-04 01:55 J -4810188.48 -4810188.42 -4810188.35 0.0089 0.0077

Neptune -17883-08-31 03:07 J -4810100.40 -4810100.37 -4810100.32 0.0089 0.0085

Mars -17883-10-15 18:57 J -4810054.82 -4810054.71 -4810054.60 0.1895 0.1436

Jupiter -17881-02-08 19:26 J -4809573.80 -4809573.69 -4809573.57 0.0527 0.0234

Jupiter -17881-05-08 00:57 J -4809484.56 -4809484.46 -4809484.36 0.0526 0.0328

Earth -17880-07-24 03:50 J -4809042.42 -4809042.34 -4809042.26 0.2709 0.1913

Moon -17880-07-24 04:19 J -4809042.40 -4809042.32 -4809042.25 0.2714 0.1910 *

Mars -17878-06-23 22:48 J -4808342.62 -4808342.55 -4808342.49 0.1625 0.1350

Venus -17878-12-16 15:36 J -4808166.95 -4808166.85 -4808166.76 0.3733 0.1096

Moon -17876-01-26 19:40 J -4807759.79 -4807759.68 -4807759.58 0.2622 0.1896

Earth -17876-01-26 21:07 J -4807759.74 -4807759.62 -4807759.51 0.2625 0.1737 *

Mars -17876-05-29 00:00 J -4807637.61 -4807637.50 -4807637.39 0.1626 0.0426

Jupiter -17875-04-04 15:21 J -4807327.04 -4807326.86 -4807326.67 0.0499 0.0068

Moon -17874-08-02 23:45 J -4806841.55 -4806841.51 -4806841.47 0.2698 0.2508

Earth -17874-08-03 00:14 J -4806841.52 -4806841.49 -4806841.47 0.2704 0.2615 *

Venus -17872-07-01 06:57 J -4806143.31 -4806143.21 -4806143.12 0.3735 0.0907

Jupiter -17870-11-28 00:00 J -4805263.59 -4805263.50 -4805263.41 0.0528 0.0372

Jupiter -17869-02-25 05:16 J -4805174.40 -4805174.28 -4805174.16 0.0527 0.0190

Saturn -17869-07-09 16:33 J -4805038.93 -4805038.81 -4805038.68 0.0276 0.0206

Saturn -17869-10-06 16:19 J -4804950.01 -4804949.82 -4804949.63 0.0277 0.0018

Saturn -17868-01-03 15:36 J -4804860.99 -4804860.85 -4804860.70 0.0279 0.0172

Earth -17867-07-26 22:04 J -4804291.69 -4804291.58 -4804291.48 0.2708 0.0748

Moon -17867-07-26 22:48 J -4804291.66 -4804291.55 -4804291.44 0.2709 0.0654 *

Mars -17867-10-19 11:45 J -4804207.13 -4804207.01 -4804206.90 0.1626 0.0060

Venus -17866-01-14 22:19 J -4804119.63 -4804119.57 -4804119.51 0.3736 0.2898

Jupiter -17863-01-21 12:00 J -4803017.16 -4803017.00 -4803016.84 0.0498 0.0252

Moon -17863-01-30 00:57 J -4803008.61 -4803008.46 -4803008.30 0.2627 0.0328

Earth -17863-01-30 02:38 J -4803008.54 -4803008.39 -4803008.24 0.2627 0.0396 *

Jupiter -17863-04-21 23:02 J -4802926.58 -4802926.54 -4802926.49 0.0500 0.0482

Mars -17862-07-05 11:16 J -4802487.12 -4802487.03 -4802486.94 0.1893 0.1585

Jupiter -17858-09-16 04:33 J -4800953.34 -4800953.31 -4800953.27 0.0528 0.0505

Jupiter -17858-12-14 09:50 J -4800864.21 -4800864.09 -4800863.96 0.0527 0.0058

Mars -17857-03-10 23:16 J -4800776.64 -4800776.53 -4800776.42 0.1625 0.0440

Saturn -17856-08-20 22:33 J -4800248.61 -4800248.56 -4800248.50 0.0287 0.0257

Saturn -17856-11-17 09:50 J -4800160.20 -4800160.09 -4800159.97 0.0286 0.0119

Saturn -17855-02-13 21:07 J -4800071.75 -4800071.62 -4800071.49 0.0284 0.0019

Mars -17855-02-14 00:57 J -4800071.52 -4800071.46 -4800071.40 0.1628 0.1357 *

Saturn -17855-05-13 08:09 J -4799983.27 -4799983.16 -4799983.05 0.0283 0.0154

Earth -17854-07-29 16:19 J -4799540.93 -4799540.82 -4799540.71 0.2706 0.0444

Moon -17854-07-29 16:48 J -4799540.91 -4799540.80 -4799540.69 0.2702 0.0535 *

Mars -17853-11-24 03:36 J -4799057.52 -4799057.35 -4799057.18 0.1894 0.0146

Jupiter -17852-11-09 07:26 J -4798707.27 -4798707.19 -4798707.11 0.0498 0.0451

Jupiter -17851-02-07 18:43 J -4798616.86 -4798616.72 -4798616.56 0.0500 0.0287

Moon -17850-02-02 06:28 J -4798257.30 -4798257.23 -4798257.15 0.2633 0.2254

Earth -17850-02-02 07:40 J -4798257.23 -4798257.18 -4798257.13 0.2628 0.2464 *

Mars -17848-08-01 10:48 J -4797346.14 -4797346.05 -4797345.95 0.1625 0.0871

Uranus -17848-12-17 01:55 J -4797208.43 -4797208.42 -4797208.38 0.0139 0.0138

Uranus -17847-03-15 09:50 J -4797120.20 -4797120.09 -4797119.96 0.0139 0.0108

Uranus -17847-06-11 17:31 J -4797031.92 -4797031.77 -4797031.60 0.0138 0.0078

Uranus -17847-09-08 01:26 J -4796943.62 -4796943.44 -4796943.26 0.0138 0.0049

Uranus -17847-12-05 09:07 J -4796855.31 -4796855.12 -4796854.93 0.0138 0.0019

Uranus -17846-03-03 16:48 J -4796766.99 -4796766.80 -4796766.61 0.0138 0.0010

Uranus -17846-05-31 00:14 J -4796678.67 -4796678.49 -4796678.30 0.0138 0.0038

Mars -17846-07-07 12:28 J -4796641.08 -4796640.98 -4796640.89 0.1627 0.0919

Uranus -17846-08-27 07:40 J -4796590.34 -4796590.18 -4796590.01 0.0138 0.0067

Jupiter -17846-10-02 14:23 J -4796554.03 -4796553.90 -4796553.78 0.0527 0.0084

Uranus -17846-11-23 15:07 J -4796502.00 -4796501.87 -4796501.73 0.0138 0.0095

Jupiter -17846-12-30 19:40 J -4796464.73 -4796464.68 -4796464.63 0.0525 0.0477

Uranus -17845-02-19 22:33 J -4796413.64 -4796413.56 -4796413.47 0.0138 0.0123

Mars -17843-04-15 19:40 J -4795627.80 -4795627.68 -4795627.56 0.1894 0.1317

Earth -17841-07-31 10:33 J -4794790.15 -4794790.06 -4794789.97 0.2705 0.1639

Moon -17841-07-31 10:48 J -4794790.14 -4794790.05 -4794789.96 0.2698 0.1599 *

Venus -17840-03-05 12:28 J -4794573.11 -4794572.98 -4794572.85 0.3638 0.2187

Jupiter -17840-11-26 15:50 J -4794307.02 -4794306.84 -4794306.66 0.0499 0.0105

Saturn -17840-11-26 16:48 J -4794306.89 -4794306.80 -4794306.72 0.0276 0.0245 *

Saturn -17839-02-23 16:19 J -4794218.01 -4794217.82 -4794217.63 0.0277 0.0058

Saturn -17839-05-23 15:36 J -4794129.01 -4794128.85 -4794128.67 0.0278 0.0131

Mars -17839-12-22 22:33 J -4793915.62 -4793915.56 -4793915.49 0.1625 0.1294

Mars -17837-11-27 00:00 J -4793210.61 -4793210.50 -4793210.39 0.1626 0.0481

Jupiter -17834-07-21 18:00 J -4792243.86 -4792243.75 -4792243.63 0.0527 0.0235

Earth -17834-07-25 08:38 J -4792240.22 -4792240.14 -4792240.05 0.2709 0.1688

Moon -17834-07-25 09:07 J -4792240.20 -4792240.12 -4792240.03 0.2713 0.1582 *

Jupiter -17834-10-18 23:16 J -4792154.62 -4792154.53 -4792154.43 0.0526 0.0327

Moon -17830-01-28 01:55 J -4790957.54 -4790957.42 -4790957.29 0.2622 0.1476

Earth -17830-01-28 03:36 J -4790957.49 -4790957.35 -4790957.22 0.2626 0.1335 *

Jupiter -17828-09-14 12:57 J -4789997.15 -4789996.96 -4789996.78 0.0499 0.0074

Mars -17827-04-19 11:31 J -4789780.13 -4789780.02 -4789779.90 0.1626 0.0065

Pluto -17827-07-29 11:31 J -4789679.06 -4789679.02 -4789678.95 0.0071 0.0066

Pluto -17827-10-25 12:43 J -4789591.04 -4789590.97 -4789590.87 0.0071 0.0059

Venus -17826-01-06 21:36 J -4789517.68 -4789517.60 -4789517.52 0.3731 0.2332

Saturn -17826-01-08 01:55 J -4789516.42 -4789516.42 -4789516.41 0.0287 0.0287

Pluto -17826-01-21 14:09 J -4789503.01 -4789502.91 -4789502.79 0.0072 0.0051

Saturn -17826-04-06 13:11 J -4789428.06 -4789427.95 -4789427.84 0.0286 0.0149

Pluto -17826-04-19 15:21 J -4789414.97 -4789414.86 -4789414.72 0.0072 0.0043

Saturn -17826-07-04 00:14 J -4789339.62 -4789339.49 -4789339.36 0.0285 0.0013

Pluto -17826-07-16 16:48 J -4789326.93 -4789326.80 -4789326.66 0.0072 0.0035

Saturn -17826-09-30 11:16 J -4789251.14 -4789251.03 -4789250.91 0.0284 0.0125

Pluto -17826-10-12 18:00 J -4789238.88 -4789238.75 -4789238.59 0.0072 0.0027

Saturn -17826-12-27 22:33 J -4789162.61 -4789162.56 -4789162.51 0.0283 0.0259

Pluto -17825-01-08 19:26 J -4789150.84 -4789150.69 -4789150.53 0.0072 0.0019

Pluto -17825-04-05 20:52 J -4789062.79 -4789062.63 -4789062.47 0.0072 0.0010

Pluto -17825-07-02 22:19 J -4788974.73 -4788974.57 -4788974.41 0.0072 0.0002

Pluto -17825-09-28 23:31 J -4788886.67 -4788886.52 -4788886.36 0.0072 0.0007

Pluto -17825-12-26 00:57 J -4788798.61 -4788798.46 -4788798.30 0.0072 0.0015

Pluto -17824-03-24 02:09 J -4788710.55 -4788710.41 -4788710.25 0.0073 0.0024

Pluto -17824-06-20 03:36 J -4788622.49 -4788622.35 -4788622.20 0.0073 0.0032

Pluto -17824-09-16 04:48 J -4788534.42 -4788534.30 -4788534.15 0.0073 0.0041

Pluto -17824-12-13 06:28 J -4788446.34 -4788446.23 -4788446.11 0.0073 0.0049

Pluto -17823-03-11 07:40 J -4788358.26 -4788358.18 -4788358.07 0.0073 0.0058

Pluto -17823-06-07 09:07 J -4788270.17 -4788270.12 -4788270.04 0.0073 0.0067

Mars -17822-01-03 12:14 J -4788060.06 -4788059.99 -4788059.92 0.1893 0.1716

Jupiter -17822-05-09 22:19 J -4787933.66 -4787933.57 -4787933.49 0.0528 0.0378

Jupiter -17822-08-07 03:36 J -4787844.47 -4787844.35 -4787844.23 0.0526 0.0183

Venus -17821-07-22 12:57 J -4787494.06 -4787493.96 -4787493.86 0.3733 0.0366

Earth -17821-07-27 02:52 J -4787489.49 -4787489.38 -4787489.27 0.2707 0.0516

Moon -17821-07-27 03:36 J -4787489.46 -4787489.35 -4787489.24 0.2709 0.0446 *

Mars -17818-09-09 23:16 J -4786349.64 -4786349.53 -4786349.42 0.1625 0.0384

Moon -17817-01-31 07:26 J -4786206.34 -4786206.19 -4786206.04 0.2629 0.0590

Earth -17817-01-31 08:52 J -4786206.27 -4786206.13 -4786205.98 0.2627 0.0790 *

Jupiter -17816-07-03 09:21 J -4785687.27 -4785687.11 -4785686.95 0.0498 0.0260

Mars -17816-08-15 00:57 J -4785644.52 -4785644.46 -4785644.41 0.1628 0.1415

Jupiter -17816-10-01 20:23 J -4785596.70 -4785596.65 -4785596.59 0.0500 0.0473

Venus -17815-02-05 04:19 J -4785470.41 -4785470.32 -4785470.23 0.3735 0.1629

Mars -17813-05-25 04:33 J -4784630.48 -4784630.31 -4784630.14 0.1894 0.0286

Jupiter -17810-02-26 02:38 J -4783623.41 -4783623.39 -4783623.37 0.0528 0.0518

Jupiter -17810-05-26 07:55 J -4783534.30 -4783534.17 -4783534.05 0.0527 0.0045

Saturn -17810-07-13 16:04 J -4783486.00 -4783485.83 -4783485.65 0.0277 0.0101

Venus -17810-08-21 19:40 J -4783446.70 -4783446.68 -4783446.66 0.3737 0.3626

Saturn -17810-10-10 15:36 J -4783397.03 -4783396.85 -4783396.67 0.0278 0.0087

Saturn -17809-01-07 14:52 J -4783307.89 -4783307.88 -4783307.85 0.0279 0.0277

Mars -17808-01-30 10:48 J -4782919.15 -4782919.05 -4782918.95 0.1625 0.0812

Earth -17808-07-29 21:07 J -4782738.73 -4782738.62 -4782738.51 0.2706 0.0670

Moon -17808-07-29 21:36 J -4782738.71 -4782738.60 -4782738.49 0.2701 0.0721 *

Mars -17806-01-05 12:28 J -4782214.08 -4782213.98 -4782213.89 0.1627 0.0977

Neptune -17805-05-03 10:48 J -4781730.10 -4781730.05 -4781729.98 0.0088 0.0084

Neptune -17805-07-30 14:23 J -4781641.99 -4781641.90 -4781641.78 0.0088 0.0074

Neptune -17805-10-26 18:00 J -4781553.87 -4781553.75 -4781553.60 0.0088 0.0064

Neptune -17804-01-22 21:36 J -4781465.73 -4781465.60 -4781465.42 0.0088 0.0054

Neptune -17804-04-21 01:26 J -4781377.60 -4781377.44 -4781377.25 0.0088 0.0044

Jupiter -17804-04-21 05:45 J -4781377.34 -4781377.26 -4781377.18 0.0498 0.0446 *

Neptune -17804-07-18 05:31 J -4781289.46 -4781289.27 -4781289.09 0.0088 0.0033

Jupiter -17804-07-20 17:02 J -4781286.94 -4781286.79 -4781286.64 0.0499 0.0289

Neptune -17804-10-14 09:07 J -4781201.31 -4781201.12 -4781200.93 0.0088 0.0023

Mars -17804-10-14 20:23 J -4781200.78 -4781200.65 -4781200.52 0.1895 0.1190

Neptune -17803-01-10 12:43 J -4781113.16 -4781112.97 -4781112.77 0.0088 0.0013

Neptune -17803-04-08 16:19 J -4781025.01 -4781024.82 -4781024.62 0.0088 0.0004

Uranus -17803-05-20 21:50 J -4780982.65 -4780982.59 -4780982.53 0.0140 0.0123

Neptune -17803-07-05 20:09 J -4780936.86 -4780936.66 -4780936.47 0.0088 0.0007

Uranus -17803-08-17 01:11 J -4780894.54 -4780894.45 -4780894.36 0.0140 0.0103

Neptune -17803-10-01 23:45 J -4780848.70 -4780848.51 -4780848.32 0.0088 0.0017

Uranus -17803-11-13 04:19 J -4780806.42 -4780806.32 -4780806.21 0.0140 0.0083

Neptune -17803-12-29 03:21 J -4780760.55 -4780760.36 -4780760.17 0.0088 0.0027

Uranus -17802-02-09 07:55 J -4780718.29 -4780718.17 -4780718.06 0.0140 0.0062

Neptune -17802-03-27 06:57 J -4780672.38 -4780672.21 -4780672.03 0.0088 0.0037

Uranus -17802-05-08 11:02 J -4780630.16 -4780630.04 -4780629.91 0.0140 0.0042

Neptune -17802-06-23 10:33 J -4780584.22 -4780584.06 -4780583.89 0.0088 0.0047

Uranus -17802-08-04 14:23 J -4780542.03 -4780541.90 -4780541.76 0.0140 0.0022

Neptune -17802-09-19 14:09 J -4780496.05 -4780495.91 -4780495.76 0.0088 0.0057

Uranus -17802-10-31 18:00 J -4780453.89 -4780453.75 -4780453.62 0.0140 0.0004

Neptune -17802-12-16 17:45 J -4780407.88 -4780407.76 -4780407.63 0.0088 0.0067

Uranus -17801-01-27 21:21 J -4780365.74 -4780365.61 -4780365.48 0.0141 0.0021

Neptune -17801-03-13 21:21 J -4780319.69 -4780319.61 -4780319.51 0.0088 0.0077

Uranus -17801-04-25 00:43 J -4780277.59 -4780277.47 -4780277.34 0.0141 0.0042

Neptune -17801-06-10 00:43 J -4780231.48 -4780231.47 -4780231.43 0.0088 0.0087

Uranus -17801-07-22 04:04 J -4780189.44 -4780189.33 -4780189.21 0.0141 0.0063

Moon -17801-07-22 19:26 J -4780188.72 -4780188.69 -4780188.66 0.2717 0.2566

Earth -17801-07-22 19:26 J -4780188.71 -4780188.69 -4780188.66 0.2710 0.2620 *

Uranus -17801-10-18 07:26 J -4780101.29 -4780101.19 -4780101.08 0.0141 0.0085

Uranus -17800-01-14 11:02 J -4780013.12 -4780013.04 -4780012.95 0.0141 0.0106

Uranus -17800-04-12 14:23 J -4779924.94 -4779924.90 -4779924.83 0.0141 0.0128

Mars -17799-06-22 22:33 J -4779488.63 -4779488.56 -4779488.49 0.1625 0.1238

Jupiter -17798-03-14 12:28 J -4779224.10 -4779223.98 -4779223.86 0.0527 0.0092

Jupiter -17798-06-11 17:45 J -4779134.81 -4779134.76 -4779134.70 0.0526 0.0470

Mars -17797-05-28 00:00 J -4778783.61 -4778783.50 -4778783.39 0.1626 0.0540

Saturn -17797-08-23 15:36 J -4778695.94 -4778695.85 -4778695.75 0.0286 0.0186

Saturn -17797-11-20 02:52 J -4778607.51 -4778607.38 -4778607.25 0.0285 0.0049

Saturn -17796-02-16 13:55 J -4778519.04 -4778518.92 -4778518.79 0.0284 0.0088

Saturn -17796-05-16 00:57 J -4778430.53 -4778430.46 -4778430.38 0.0283 0.0222

Moon -17795-08-01 15:36 J -4777987.93 -4777987.85 -4777987.77 0.2698 0.1919

Earth -17795-08-01 15:36 J -4777987.93 -4777987.85 -4777987.77 0.2705 0.1877 *

Jupiter -17792-05-08 12:43 J -4776977.16 -4776976.97 -4776976.79 0.0499 0.0092

Venus -17789-03-26 03:50 J -4775924.46 -4775924.34 -4775924.23 0.3641 0.2494

Earth -17788-07-25 13:40 J -4775438.03 -4775437.93 -4775437.84 0.2708 0.1465

Moon -17788-07-25 14:09 J -4775438.00 -4775437.91 -4775437.82 0.2712 0.1456 *

Mars -17788-10-18 11:31 J -4775353.14 -4775353.02 -4775352.90 0.1625 0.0104

Jupiter -17787-12-31 16:48 J -4774913.91 -4774913.80 -4774913.68 0.0527 0.0231

Jupiter -17786-03-30 22:04 J -4774824.67 -4774824.58 -4774824.48 0.0526 0.0330

Moon -17784-01-28 08:23 J -4774155.29 -4774155.15 -4774155.00 0.2623 0.1057

Earth -17784-01-28 09:50 J -4774155.23 -4774155.09 -4774154.94 0.2626 0.0935 *

Mars -17783-07-04 12:57 J -4773633.00 -4773632.96 -4773632.92 0.1893 0.1837

Saturn -17781-11-29 16:04 J -4772753.99 -4772753.83 -4772753.66 0.0276 0.0142

Jupiter -17780-02-24 09:21 J -4772667.29 -4772667.11 -4772666.92 0.0499 0.0091

Saturn -17780-02-26 15:36 J -4772665.03 -4772664.85 -4772664.66 0.0277 0.0048

Saturn -17780-05-26 15:21 J -4772575.96 -4772575.86 -4772575.77 0.0279 0.0236

Mars -17778-03-10 23:02 J -4771922.65 -4771922.54 -4771922.42 0.1625 0.0332

Mars -17776-02-13 00:43 J -4771217.51 -4771217.47 -4771217.42 0.1628 0.1469

Venus -17775-01-28 03:36 J -4770868.37 -4770868.35 -4770868.32 0.3730 0.3568

Earth -17775-07-28 07:40 J -4770687.29 -4770687.18 -4770687.07 0.2707 0.0293

Moon -17775-07-28 08:23 J -4770687.26 -4770687.15 -4770687.04 0.2707 0.0176 *

Jupiter -17775-10-19 20:23 J -4770603.73 -4770603.65 -4770603.56 0.0527 0.0383

Jupiter -17774-01-17 01:55 J -4770514.54 -4770514.42 -4770514.30 0.0526 0.0178

Mars -17774-11-24 05:02 J -4770203.46 -4770203.29 -4770203.12 0.1894 0.0391

Moon -17771-01-31 13:55 J -4769404.06 -4769403.92 -4769403.78 0.2630 0.1070

Earth -17771-01-31 15:21 J -4769403.99 -4769403.86 -4769403.72 0.2627 0.1189 *

Venus -17770-08-13 18:57 J -4768844.80 -4768844.71 -4768844.62 0.3732 0.1609

Mars -17769-07-31 10:48 J -4768492.15 -4768492.05 -4768491.95 0.1625 0.0755

Jupiter -17769-12-13 06:28 J -4768357.39 -4768357.23 -4768357.08 0.0499 0.0270

Jupiter -17768-03-13 17:31 J -4768266.83 -4768266.77 -4768266.70 0.0500 0.0465

Saturn -17767-01-10 19:11 J -4767963.78 -4767963.70 -4767963.61 0.0287 0.0213

Saturn -17767-04-09 06:28 J -4767875.36 -4767875.23 -4767875.11 0.0285 0.0076

Mars -17767-07-06 12:14 J -4767787.07 -4767786.99 -4767786.90 0.1627 0.1033

Saturn -17767-07-06 17:31 J -4767786.90 -4767786.77 -4767786.64 0.0284 0.0061 *

Saturn -17767-10-03 04:33 J -4767698.40 -4767698.31 -4767698.21 0.0283 0.0196

Venus -17764-02-26 10:19 J -4766821.17 -4766821.07 -4766820.97 0.3734 0.0369

Mars -17764-04-14 21:36 J -4766773.74 -4766773.60 -4766773.46 0.1895 0.1043

Uranus -17763-01-06 09:50 J -4766507.14 -4766507.09 -4766507.00 0.0139 0.0128

Uranus -17763-04-04 18:00 J -4766418.88 -4766418.75 -4766418.61 0.0139 0.0098

Uranus -17763-07-02 01:40 J -4766330.59 -4766330.43 -4766330.26 0.0138 0.0068

Jupiter -17763-08-08 00:43 J -4766293.48 -4766293.47 -4766293.47 0.0528 0.0526

Uranus -17763-09-28 09:36 J -4766242.29 -4766242.10 -4766241.92 0.0138 0.0039

Jupiter -17763-11-05 05:45 J -4766204.38 -4766204.26 -4766204.13 0.0527 0.0039

Uranus -17763-12-25 17:02 J -4766153.98 -4766153.79 -4766153.59 0.0138 0.0010

Uranus -17762-03-24 00:43 J -4766065.66 -4766065.47 -4766065.28 0.0138 0.0019

Uranus -17762-06-20 08:09 J -4765977.33 -4765977.16 -4765976.97 0.0138 0.0048

Earth -17762-07-31 01:55 J -4765936.52 -4765936.42 -4765936.31 0.2706 0.0909

Moon -17762-07-31 02:23 J -4765936.50 -4765936.40 -4765936.29 0.2700 0.0960 *

Uranus -17762-09-16 15:36 J -4765889.00 -4765888.85 -4765888.68 0.0138 0.0077

Uranus -17762-12-13 23:02 J -4765800.65 -4765800.54 -4765800.41 0.0138 0.0105

Uranus -17761-03-11 06:28 J -4765712.27 -4765712.23 -4765712.18 0.0138 0.0133

Mars -17760-12-21 22:33 J -4765061.64 -4765061.56 -4765061.48 0.1625 0.1180

Venus -17759-09-12 01:40 J -4764797.51 -4764797.43 -4764797.35 0.3735 0.2356

Mars -17758-11-27 00:00 J -4764356.61 -4764356.50 -4764356.40 0.1626 0.0599

Jupiter -17757-10-01 02:38 J -4764047.46 -4764047.39 -4764047.31 0.0498 0.0457

Jupiter -17757-12-30 14:09 J -4763957.06 -4763956.91 -4763956.76 0.0499 0.0278

Earth -17755-07-24 00:14 J -4763386.53 -4763386.49 -4763386.44 0.2710 0.2395

Moon -17755-07-24 00:28 J -4763386.52 -4763386.48 -4763386.43 0.2716 0.2435 *

Saturn -17751-04-18 16:33 J -4762021.95 -4762021.81 -4762021.67 0.0277 0.0181

Saturn -17751-07-16 16:04 J -4761933.02 -4761932.83 -4761932.64 0.0278 0.0007

Jupiter -17751-08-24 10:04 J -4761894.20 -4761894.08 -4761893.96 0.0527 0.0109

Saturn -17751-10-13 15:21 J -4761843.98 -4761843.86 -4761843.72 0.0279 0.0197

Jupiter -17751-11-21 15:36 J -4761804.91 -4761804.85 -4761804.79 0.0526 0.0453

Mars -17750-05-14 10:19 J -4761631.09 -4761631.07 -4761631.06 0.1625 0.1604

Moon -17749-08-01 20:23 J -4761185.72 -4761185.65 -4761185.58 0.2698 0.2075

Earth -17749-08-01 20:23 J -4761185.72 -4761185.65 -4761185.58 0.2705 0.2111 *

Mars -17748-04-18 11:31 J -4760926.13 -4760926.02 -4760925.90 0.1625 0.0165

Jupiter -17745-10-18 10:33 J -4759647.24 -4759647.06 -4759646.87 0.0499 0.0092

Earth -17742-07-26 18:28 J -4758635.83 -4758635.73 -4758635.63 0.2708 0.1234

Moon -17742-07-26 18:57 J -4758635.81 -4758635.71 -4758635.60 0.2712 0.1101 *

Pluto -17742-09-29 21:50 J -4758570.64 -4758570.59 -4758570.50 0.0073 0.0065

Pluto -17742-12-26 23:16 J -4758482.61 -4758482.53 -4758482.42 0.0072 0.0056

Pluto -17741-03-24 00:43 J -4758394.58 -4758394.47 -4758394.34 0.0072 0.0048

Pluto -17741-06-20 02:09 J -4758306.53 -4758306.41 -4758306.27 0.0072 0.0039

Pluto -17741-09-16 03:50 J -4758218.49 -4758218.34 -4758218.20 0.0072 0.0030

Pluto -17741-12-13 05:02 J -4758130.44 -4758130.29 -4758130.13 0.0072 0.0022

Pluto -17740-03-11 06:28 J -4758042.39 -4758042.23 -4758042.07 0.0072 0.0014

Pluto -17740-06-07 07:40 J -4757954.33 -4757954.18 -4757954.02 0.0072 0.0006

Pluto -17740-09-03 09:07 J -4757866.28 -4757866.12 -4757865.96 0.0072 0.0003

Pluto -17740-11-30 10:19 J -4757778.22 -4757778.07 -4757777.91 0.0072 0.0011

Pluto -17739-02-26 11:45 J -4757690.16 -4757690.01 -4757689.86 0.0071 0.0019

Pluto -17739-05-25 12:57 J -4757602.10 -4757601.96 -4757601.81 0.0071 0.0027

Jupiter -17739-06-12 14:38 J -4757584.00 -4757583.89 -4757583.77 0.0528 0.0244

Pluto -17739-08-21 14:09 J -4757514.04 -4757513.91 -4757513.77 0.0071 0.0035

Mars -17739-09-08 23:02 J -4757495.65 -4757495.54 -4757495.42 0.1625 0.0272

Jupiter -17739-09-09 20:09 J -4757494.76 -4757494.66 -4757494.56 0.0526 0.0319

Pluto -17739-11-17 15:21 J -4757425.98 -4757425.86 -4757425.73 0.0071 0.0042

Moon -17738-01-29 14:52 J -4757353.03 -4757352.88 -4757352.73 0.2625 0.0726

Earth -17738-01-29 16:33 J -4757352.97 -4757352.81 -4757352.66 0.2626 0.0525 *

Pluto -17738-02-13 16:33 J -4757337.91 -4757337.81 -4757337.69 0.0071 0.0050

Pluto -17738-05-12 17:31 J -4757249.84 -4757249.77 -4757249.66 0.0071 0.0058

Saturn -17738-05-30 22:04 J -4757231.64 -4757231.58 -4757231.51 0.0286 0.0247

Pluto -17738-08-08 19:11 J -4757161.76 -4757161.70 -4757161.64 0.0071 0.0065

Saturn -17738-08-27 09:21 J -4757143.23 -4757143.11 -4757142.99 0.0285 0.0109

Saturn -17738-11-23 20:23 J -4757054.78 -4757054.65 -4757054.52 0.0284 0.0028

Saturn -17737-02-20 07:26 J -4756966.29 -4756966.19 -4756966.08 0.0283 0.0163

Mars -17737-08-14 00:43 J -4756790.50 -4756790.47 -4756790.43 0.1628 0.1530

Mars -17734-05-25 06:14 J -4755776.40 -4755776.24 -4755776.08 0.1894 0.0535

Jupiter -17733-08-06 06:00 J -4755337.43 -4755337.25 -4755337.06 0.0499 0.0107

Venus -17733-10-31 06:14 J -4755251.40 -4755251.24 -4755251.08 0.3640 0.0236

Mars -17729-01-30 10:48 J -4754065.16 -4754065.05 -4754064.95 0.1625 0.0701

Earth -17729-07-28 12:43 J -4753885.09 -4753884.97 -4753884.86 0.2707 0.0112

Moon -17729-07-28 13:11 J -4753885.06 -4753884.95 -4753884.83 0.2705 0.0111 *

Mars -17727-01-04 12:14 J -4753360.07 -4753359.99 -4753359.90 0.1627 0.1088

Jupiter -17727-03-31 19:11 J -4753273.79 -4753273.70 -4753273.62 0.0528 0.0381

Jupiter -17727-06-29 00:28 J -4753184.60 -4753184.48 -4753184.36 0.0526 0.0180

Moon -17725-02-01 20:09 J -4752601.78 -4752601.66 -4752601.53 0.2630 0.1426

Earth -17725-02-01 21:50 J -4752601.71 -4752601.59 -4752601.47 0.2627 0.1583 *

Mars -17725-10-13 22:04 J -4752346.73 -4752346.58 -4752346.43 0.1895 0.0939

Neptune -17724-08-13 19:11 J -4752042.74 -4752042.70 -4752042.65 0.0089 0.0083

Neptune -17724-11-09 20:23 J -4751954.70 -4751954.65 -4751954.57 0.0089 0.0077

Neptune -17723-02-05 21:36 J -4751866.67 -4751866.60 -4751866.50 0.0089 0.0070

Neptune -17723-05-04 23:02 J -4751778.62 -4751778.54 -4751778.44 0.0089 0.0062

Neptune -17723-08-01 00:14 J -4751690.58 -4751690.49 -4751690.38 0.0089 0.0056

Neptune -17723-10-28 01:40 J -4751602.53 -4751602.43 -4751602.31 0.0089 0.0048

Neptune -17722-01-24 02:52 J -4751514.49 -4751514.38 -4751514.25 0.0089 0.0042

Neptune -17722-04-22 04:19 J -4751426.44 -4751426.32 -4751426.20 0.0089 0.0034

Neptune -17722-07-19 05:31 J -4751338.39 -4751338.27 -4751338.14 0.0089 0.0028

Saturn -17722-09-05 16:33 J -4751289.92 -4751289.81 -4751289.69 0.0276 0.0221

Neptune -17722-10-15 06:57 J -4751250.34 -4751250.21 -4751250.08 0.0089 0.0020

Saturn -17722-12-03 16:19 J -4751201.01 -4751200.82 -4751200.63 0.0277 0.0033

Neptune -17721-01-11 08:09 J -4751162.28 -4751162.16 -4751162.02 0.0089 0.0014

Saturn -17721-03-01 15:50 J -4751112.00 -4751111.84 -4751111.69 0.0278 0.0156

Neptune -17721-04-08 09:36 J -4751074.23 -4751074.10 -4751073.97 0.0089 0.0006

Jupiter -17721-05-25 02:38 J -4751027.54 -4751027.39 -4751027.23 0.0499 0.0290

Neptune -17721-07-05 10:48 J -4750986.18 -4750986.05 -4750985.91 0.0089 0.0003

Jupiter -17721-08-23 13:55 J -4750937.00 -4750936.92 -4750936.83 0.0500 0.0446

Neptune -17721-10-01 12:14 J -4750898.12 -4750897.99 -4750897.86 0.0089 0.0008

Neptune -17721-12-28 13:26 J -4750810.07 -4750809.94 -4750809.81 0.0089 0.0015

Neptune -17720-03-26 14:52 J -4750722.01 -4750721.88 -4750721.75 0.0089 0.0022

Mars -17720-06-21 22:33 J -4750634.64 -4750634.56 -4750634.48 0.1625 0.1124

Neptune -17720-06-22 16:04 J -4750633.95 -4750633.83 -4750633.70 0.0089 0.0029

Neptune -17720-09-18 17:16 J -4750545.89 -4750545.78 -4750545.65 0.0089 0.0037

Neptune -17720-12-15 18:43 J -4750457.83 -4750457.72 -4750457.60 0.0089 0.0043

Neptune -17719-03-13 19:55 J -4750369.77 -4750369.67 -4750369.56 0.0089 0.0051

Uranus -17719-03-14 01:40 J -4750369.44 -4750369.43 -4750369.42 0.0140 0.0139

Neptune -17719-06-09 21:21 J -4750281.71 -4750281.61 -4750281.51 0.0089 0.0058

Uranus -17719-06-10 04:48 J -4750281.36 -4750281.30 -4750281.22 0.0140 0.0119

Venus -17719-09-04 00:57 J -4750195.52 -4750195.46 -4750195.39 0.3730 0.2855

Neptune -17719-09-05 22:33 J -4750193.64 -4750193.56 -4750193.46 0.0089 0.0065

Uranus -17719-09-06 08:09 J -4750193.24 -4750193.16 -4750193.06 0.0140 0.0099

Neptune -17719-12-03 00:00 J -4750105.58 -4750105.50 -4750105.42 0.0089 0.0072

Uranus -17719-12-03 11:31 J -4750105.12 -4750105.02 -4750104.91 0.0140 0.0078

Neptune -17718-03-01 01:11 J -4750017.50 -4750017.45 -4750017.38 0.0089 0.0079

Uranus -17718-03-01 14:52 J -4750017.00 -4750016.88 -4750016.76 0.0140 0.0058

Mars -17718-05-27 23:45 J -4749929.61 -4749929.51 -4749929.40 0.1626 0.0655

Neptune -17718-05-28 02:38 J -4749929.42 -4749929.39 -4749929.36 0.0089 0.0086 *

Uranus -17718-05-28 18:14 J -4749928.86 -4749928.74 -4749928.61 0.0140 0.0037

Uranus -17718-08-24 21:36 J -4749840.73 -4749840.60 -4749840.46 0.0140 0.0017

Uranus -17718-11-21 00:57 J -4749752.59 -4749752.46 -4749752.32 0.0140 0.0006

Uranus -17717-02-17 04:33 J -4749664.44 -4749664.31 -4749664.18 0.0141 0.0026

Uranus -17717-05-15 07:55 J -4749576.30 -4749576.17 -4749576.05 0.0141 0.0047

Uranus -17717-08-11 11:16 J -4749488.14 -4749488.03 -4749487.91 0.0141 0.0068

Uranus -17717-11-07 14:52 J -4749399.98 -4749399.88 -4749399.78 0.0141 0.0089

Uranus -17716-02-03 18:00 J -4749311.82 -4749311.75 -4749311.66 0.0141 0.0111

Uranus -17716-05-02 21:36 J -4749223.63 -4749223.60 -4749223.55 0.0141 0.0133

Earth -17716-07-31 06:57 J -4749134.31 -4749134.21 -4749134.11 0.2706 0.1140

Moon -17716-07-31 07:26 J -4749134.29 -4749134.19 -4749134.09 0.2700 0.1209 *

Jupiter -17715-04-17 04:04 J -4748874.45 -4748874.33 -4748874.20 0.0527 0.0027

Venus -17713-03-19 16:19 J -4748171.92 -4748171.82 -4748171.72 0.3732 0.0896

Mars -17711-11-12 10:04 J -4747204.11 -4747204.08 -4747204.05 0.1625 0.1549

Jupiter -17709-03-12 23:45 J -4746717.57 -4746717.51 -4746717.45 0.0498 0.0468

Jupiter -17709-06-11 11:16 J -4746627.19 -4746627.03 -4746626.87 0.0500 0.0268

Earth -17709-07-24 05:16 J -4746584.35 -4746584.28 -4746584.22 0.2709 0.2170

Moon -17709-07-24 05:31 J -4746584.34 -4746584.27 -4746584.20 0.2715 0.2096 *

Saturn -17709-10-17 01:40 J -4746499.46 -4746499.43 -4746499.39 0.0287 0.0274

Mars -17709-10-17 11:31 J -4746499.14 -4746499.02 -4746498.91 0.1626 0.0222

Saturn -17708-01-13 12:57 J -4746411.07 -4746410.96 -4746410.84 0.0286 0.0135

Saturn -17708-04-12 00:00 J -4746322.62 -4746322.50 -4746322.37 0.0285 0.0011

Saturn -17708-07-09 11:16 J -4746234.15 -4746234.03 -4746233.92 0.0284 0.0138

Venus -17708-10-03 07:40 J -4746148.28 -4746148.18 -4746148.09 0.3734 0.1084

Saturn -17708-10-05 22:04 J -4746145.60 -4746145.58 -4746145.54 0.0283 0.0273

Moon -17705-01-27 16:04 J -4745301.87 -4745301.83 -4745301.78 0.2619 0.2476

Earth -17705-01-27 17:16 J -4745301.86 -4745301.78 -4745301.70 0.2625 0.2270 *

Jupiter -17703-02-03 08:09 J -4744564.28 -4744564.16 -4744564.04 0.0527 0.0118

Jupiter -17703-05-03 13:26 J -4744475.00 -4744474.94 -4744474.87 0.0526 0.0443

Moon -17703-08-03 01:11 J -4744383.51 -4744383.45 -4744383.40 0.2698 0.2317

Earth -17703-08-03 01:26 J -4744383.50 -4744383.44 -4744383.39 0.2704 0.2353 *

Venus -17702-04-18 23:02 J -4744124.60 -4744124.54 -4744124.49 0.3736 0.3069

Mars -17699-03-09 23:02 J -4743068.65 -4743068.54 -4743068.42 0.1625 0.0213

Mars -17697-02-13 00:43 J -4742363.49 -4742363.47 -4742363.45 0.1628 0.1585

Jupiter -17697-03-30 07:40 J -4742317.36 -4742317.18 -4742316.99 0.0499 0.0082

Earth -17696-07-26 23:16 J -4741833.63 -4741833.53 -4741833.43 0.2708 0.1004

Moon -17696-07-27 00:00 J -4741833.60 -4741833.50 -4741833.40 0.2712 0.0996 *

Mars -17695-11-23 06:57 J -4741349.37 -4741349.21 -4741349.05 0.1894 0.0659

Saturn -17692-01-22 16:48 J -4740557.85 -4740557.80 -4740557.73 0.0276 0.0260

Moon -17692-01-29 21:21 J -4740550.76 -4740550.61 -4740550.45 0.2626 0.0186

Earth -17692-01-29 23:02 J -4740550.70 -4740550.54 -4740550.39 0.2626 0.0111 *

Saturn -17692-04-21 16:33 J -4740468.99 -4740468.81 -4740468.62 0.0277 0.0072

Saturn -17692-07-19 16:04 J -4740380.00 -4740379.83 -4740379.66 0.0278 0.0117

Jupiter -17692-11-22 12:14 J -4740254.09 -4740253.99 -4740253.88 0.0528 0.0262

Jupiter -17691-02-19 17:45 J -4740164.86 -4740164.76 -4740164.66 0.0526 0.0301

Mars -17690-07-31 10:48 J -4739638.16 -4739638.05 -4739637.95 0.1625 0.0640

Mars -17688-07-05 12:14 J -4738933.07 -4738932.99 -4738932.91 0.1627 0.1148

Jupiter -17685-01-17 04:04 J -4738007.51 -4738007.33 -4738007.15 0.0499 0.0106

Mars -17685-04-13 23:16 J -4737919.69 -4737919.53 -4737919.38 0.1895 0.0793

Earth -17683-07-29 17:31 J -4737082.88 -4737082.77 -4737082.66 0.2707 0.0178

Moon -17683-07-29 18:14 J -4737082.85 -4737082.74 -4737082.63 0.2704 0.0328 *

Mars -17681-12-20 22:19 J -4736207.65 -4736207.57 -4736207.48 0.1625 0.1070

Jupiter -17680-09-10 17:02 J -4735943.87 -4735943.79 -4735943.71 0.0528 0.0395

Jupiter -17680-12-08 22:19 J -4735854.69 -4735854.57 -4735854.45 0.0527 0.0166

Uranus -17679-01-26 17:02 J -4735805.88 -4735805.79 -4735805.70 0.0139 0.0122

Moon -17679-02-02 02:52 J -4735799.49 -4735799.38 -4735799.27 0.2630 0.1845

Earth -17679-02-02 04:19 J -4735799.42 -4735799.32 -4735799.22 0.2627 0.1986 *

Uranus -17679-04-25 00:28 J -4735717.61 -4735717.48 -4735717.32 0.0139 0.0093

Saturn -17679-06-02 16:04 J -4735678.94 -4735678.83 -4735678.73 0.0286 0.0167

Uranus -17679-07-22 08:23 J -4735629.32 -4735629.15 -4735628.97 0.0139 0.0063

Saturn -17679-08-30 03:07 J -4735590.50 -4735590.37 -4735590.24 0.0285 0.0030

Uranus -17679-10-18 16:04 J -4735541.01 -4735540.83 -4735540.64 0.0138 0.0034

Mars -17679-11-25 23:45 J -4735502.61 -4735502.51 -4735502.40 0.1626 0.0712

Saturn -17679-11-26 14:09 J -4735502.03 -4735501.91 -4735501.79 0.0283 0.0106

Uranus -17678-01-14 23:45 J -4735452.70 -4735452.51 -4735452.31 0.0138 0.0005

Saturn -17678-02-23 01:11 J -4735413.51 -4735413.45 -4735413.38 0.0282 0.0240

Uranus -17678-04-13 07:26 J -4735364.38 -4735364.19 -4735364.00 0.0138 0.0025

Uranus -17678-07-10 15:07 J -4735276.05 -4735275.87 -4735275.70 0.0138 0.0053

Uranus -17678-10-06 22:19 J -4735187.71 -4735187.57 -4735187.41 0.0138 0.0082

Uranus -17677-01-03 06:00 J -4735099.36 -4735099.25 -4735099.14 0.0138 0.0110

Venus -17676-06-07 08:52 J -4734578.26 -4734578.13 -4734577.99 0.3639 0.2029

Jupiter -17674-11-04 23:31 J -4733697.67 -4733697.52 -4733697.37 0.0498 0.0303

Jupiter -17673-02-03 10:48 J -4733607.14 -4733607.05 -4733606.96 0.0500 0.0431

Mars -17671-05-13 10:04 J -4732777.12 -4732777.08 -4732777.04 0.1625 0.1493

Earth -17670-08-01 11:45 J -4732332.10 -4732332.01 -4732331.91 0.2706 0.1378

Moon -17670-08-01 12:14 J -4732332.09 -4732331.99 -4732331.90 0.2700 0.1377 *

Mars -17669-04-17 11:31 J -4732072.14 -4732072.02 -4732071.91 0.1625 0.0283

Jupiter -17668-09-27 02:38 J -4731544.51 -4731544.39 -4731544.26 0.0527 0.0033

Earth -17663-07-25 10:04 J -4729782.16 -4729782.08 -4729782.00 0.2709 0.1941

Moon -17663-07-25 10:33 J -4729782.14 -4729782.06 -4729781.99 0.2716 0.1932 *

Saturn -17663-09-08 16:19 J -4729737.00 -4729736.82 -4729736.65 0.0277 0.0116

Saturn -17663-12-06 15:50 J -4729648.02 -4729647.84 -4729647.65 0.0278 0.0073

Saturn -17662-03-05 15:21 J -4729558.92 -4729558.86 -4729558.80 0.0279 0.0263

Venus -17662-04-10 22:19 J -4729522.65 -4729522.57 -4729522.49 0.3731 0.2145

Jupiter -17662-08-23 20:09 J -4729387.69 -4729387.66 -4729387.62 0.0498 0.0486

Jupiter -17662-11-22 07:40 J -4729297.34 -4729297.18 -4729297.02 0.0499 0.0250

Mars -17660-09-07 23:02 J -4728641.66 -4728641.54 -4728641.43 0.1625 0.0157

Moon -17659-01-27 22:33 J -4728499.67 -4728499.56 -4728499.45 0.2621 0.1876

Earth -17659-01-27 23:45 J -4728499.62 -4728499.51 -4728499.40 0.2625 0.1859 *

Moon -17657-08-03 06:00 J -4727581.28 -4727581.25 -4727581.22 0.2697 0.2563

Earth -17657-08-03 06:14 J -4727581.27 -4727581.24 -4727581.21 0.2704 0.2590 *

Venus -17657-10-24 13:40 J -4727499.03 -4727498.93 -4727498.83 0.3733 0.0180

Jupiter -17656-07-16 06:28 J -4727234.36 -4727234.23 -4727234.11 0.0527 0.0125

Jupiter -17656-10-13 11:45 J -4727145.08 -4727145.01 -4727144.94 0.0526 0.0436

Mars -17655-05-24 07:40 J -4726922.33 -4726922.18 -4726922.02 0.1894 0.0783

Venus -17651-05-10 05:02 J -4725475.38 -4725475.29 -4725475.21 0.3734 0.1800

Mars -17650-01-29 10:48 J -4725211.16 -4725211.05 -4725210.95 0.1625 0.0586

Earth -17650-07-28 04:04 J -4725031.43 -4725031.33 -4725031.22 0.2708 0.0781

Moon -17650-07-28 04:48 J -4725031.40 -4725031.30 -4725031.19 0.2710 0.0642 *

Jupiter -17650-09-10 04:48 J -4724987.48 -4724987.30 -4724987.11 0.0499 0.0073

Saturn -17650-10-20 19:40 J -4724946.78 -4724946.68 -4724946.59 0.0286 0.0193

Saturn -17649-01-17 06:43 J -4724858.34 -4724858.22 -4724858.09 0.0285 0.0056

Saturn -17649-04-14 17:45 J -4724769.88 -4724769.76 -4724769.63 0.0284 0.0081

Saturn -17649-07-12 04:48 J -4724681.38 -4724681.30 -4724681.21 0.0283 0.0216

Mars -17648-01-03 12:14 J -4724506.07 -4724505.99 -4724505.91 0.1627 0.1204

Moon -17646-01-31 03:50 J -4723748.50 -4723748.34 -4723748.19 0.2627 0.0054

Earth -17646-01-31 05:31 J -4723748.43 -4723748.27 -4723748.12 0.2626 0.0297 *

Mars -17646-10-14 00:14 J -4723492.65 -4723492.49 -4723492.33 0.1895 0.0660

Jupiter -17644-05-04 10:33 J -4722924.17 -4722924.06 -4722923.96 0.0527 0.0269

Jupiter -17644-08-01 15:50 J -4722834.95 -4722834.84 -4722834.74 0.0526 0.0292

Mars -17641-06-20 22:19 J -4721780.66 -4721780.57 -4721780.48 0.1625 0.1011

Neptune -17640-01-28 08:38 J -4721559.20 -4721559.14 -4721559.05 0.0088 0.0081

Neptune -17640-04-26 12:14 J -4721471.09 -4721470.99 -4721470.86 0.0088 0.0071

Neptune -17640-07-23 16:04 J -4721382.96 -4721382.83 -4721382.68 0.0088 0.0061

Neptune -17640-10-19 19:40 J -4721294.83 -4721294.68 -4721294.50 0.0088 0.0051

Neptune -17639-01-15 23:16 J -4721206.69 -4721206.53 -4721206.34 0.0088 0.0041

Neptune -17639-04-14 03:21 J -4721118.54 -4721118.36 -4721118.17 0.0088 0.0030

Mars -17639-05-26 23:45 J -4721075.61 -4721075.51 -4721075.41 0.1626 0.0768

Neptune -17639-07-11 07:11 J -4721030.40 -4721030.20 -4721030.01 0.0088 0.0020

Neptune -17639-10-07 10:48 J -4720942.25 -4720942.05 -4720941.86 0.0088 0.0010

Neptune -17638-01-03 14:23 J -4720854.10 -4720853.90 -4720853.70 0.0088 0.0000

Neptune -17638-04-01 18:00 J -4720765.94 -4720765.75 -4720765.55 0.0088 0.0010

Neptune -17638-06-28 21:36 J -4720677.79 -4720677.60 -4720677.40 0.0088 0.0020

Jupiter -17638-06-29 01:11 J -4720677.63 -4720677.45 -4720677.26 0.0499 0.0115 *

Neptune -17638-09-25 01:11 J -4720589.63 -4720589.45 -4720589.26 0.0088 0.0030

Neptune -17638-12-22 05:02 J -4720501.46 -4720501.29 -4720501.12 0.0088 0.0040

Neptune -17637-03-19 08:38 J -4720413.30 -4720413.14 -4720412.98 0.0088 0.0050

Neptune -17637-06-15 12:14 J -4720325.13 -4720324.99 -4720324.84 0.0088 0.0060

Earth -17637-07-29 22:19 J -4720280.68 -4720280.57 -4720280.46 0.2707 0.0419

Moon -17637-07-29 23:02 J -4720280.65 -4720280.54 -4720280.43 0.2704 0.0427 *

Neptune -17637-09-11 15:50 J -4720236.95 -4720236.84 -4720236.72 0.0088 0.0070

Neptune -17637-12-08 19:26 J -4720148.76 -4720148.69 -4720148.61 0.0088 0.0080

Uranus -17635-04-03 08:38 J -4719668.16 -4719668.14 -4719668.10 0.0139 0.0135

Uranus -17635-06-30 12:00 J -4719580.07 -4719580.00 -4719579.92 0.0140 0.0115

Uranus -17635-09-26 15:21 J -4719491.95 -4719491.86 -4719491.76 0.0140 0.0094

Uranus -17635-12-23 18:43 J -4719403.83 -4719403.72 -4719403.61 0.0140 0.0074

Uranus -17634-03-21 22:04 J -4719315.70 -4719315.58 -4719315.46 0.0140 0.0054

Uranus -17634-06-18 01:26 J -4719227.57 -4719227.44 -4719227.31 0.0140 0.0033

Uranus -17634-09-14 04:48 J -4719139.43 -4719139.30 -4719139.17 0.0140 0.0013

Uranus -17634-12-11 08:09 J -4719051.29 -4719051.16 -4719051.03 0.0140 0.0008

Saturn -17633-01-26 16:19 J -4719004.97 -4719004.82 -4719004.65 0.0277 0.0156

Moon -17633-02-03 09:36 J -4718997.17 -4718997.10 -4718997.03 0.2632 0.2315

Earth -17633-02-03 10:33 J -4718997.12 -4718997.06 -4718996.99 0.2628 0.2384 *

Uranus -17633-03-08 11:31 J -4718963.15 -4718963.02 -4718962.89 0.0140 0.0029

Saturn -17633-04-24 16:04 J -4718916.02 -4718915.83 -4718915.64 0.0278 0.0034

Uranus -17633-06-04 14:52 J -4718875.00 -4718874.88 -4718874.75 0.0141 0.0051

Saturn -17633-07-22 15:36 J -4718826.96 -4718826.85 -4718826.73 0.0279 0.0224

Uranus -17633-08-31 18:14 J -4718786.85 -4718786.74 -4718786.62 0.0141 0.0072

Uranus -17633-11-27 21:50 J -4718698.69 -4718698.59 -4718698.49 0.0141 0.0093

Jupiter -17632-02-20 14:38 J -4718613.97 -4718613.89 -4718613.81 0.0528 0.0412

Uranus -17632-02-24 01:11 J -4718610.52 -4718610.45 -4718610.37 0.0141 0.0115

Jupiter -17632-05-20 19:55 J -4718524.79 -4718524.67 -4718524.55 0.0527 0.0149

Uranus -17632-05-23 04:48 J -4718522.33 -4718522.30 -4718522.27 0.0141 0.0136

Mars -17632-11-11 10:04 J -4718350.13 -4718350.08 -4718350.03 0.1625 0.1436

Mars -17630-10-17 11:16 J -4717645.14 -4717645.03 -4717644.91 0.1625 0.0338

Jupiter -17626-04-16 21:36 J -4716367.75 -4716367.60 -4716367.45 0.0498 0.0301

Jupiter -17626-07-16 08:52 J -4716277.22 -4716277.13 -4716277.04 0.0499 0.0433

Venus -17625-06-28 00:14 J -4715929.60 -4715929.49 -4715929.38 0.3641 0.2640

Earth -17624-08-01 16:48 J -4715529.89 -4715529.80 -4715529.71 0.2706 0.1614

Moon -17624-08-01 16:48 J -4715529.88 -4715529.80 -4715529.71 0.2699 0.1680 *

Mars -17620-03-08 23:02 J -4714214.66 -4714214.54 -4714214.43 0.1625 0.0100

Saturn -17620-03-08 22:33 J -4714214.63 -4714214.56 -4714214.48 0.0286 0.0225 *

Jupiter -17620-03-09 00:28 J -4714214.60 -4714214.48 -4714214.35 0.0527 0.0019 *

Saturn -17620-06-05 09:50 J -4714126.21 -4714126.09 -4714125.97 0.0285 0.0088

Saturn -17620-09-01 20:52 J -4714037.76 -4714037.63 -4714037.50 0.0284 0.0048

Saturn -17620-11-29 07:55 J -4713949.27 -4713949.17 -4713949.07 0.0283 0.0183

Earth -17617-07-25 14:52 J -4712979.96 -4712979.88 -4712979.79 0.2709 0.1718

Moon -17617-07-25 15:21 J -4712979.95 -4712979.86 -4712979.77 0.2715 0.1652 *

Mars -17616-11-22 08:38 J -4712495.29 -4712495.14 -4712494.99 0.1894 0.0914

Jupiter -17614-02-02 17:16 J -4712057.79 -4712057.78 -4712057.77 0.0498 0.0496

Jupiter -17614-05-04 04:33 J -4711967.47 -4711967.31 -4711967.14 0.0499 0.0239

Moon -17613-01-29 04:48 J -4711697.42 -4711697.30 -4711697.18 0.2622 0.1672

Earth -17613-01-29 06:14 J -4711697.37 -4711697.24 -4711697.11 0.2625 0.1452 *

Venus -17611-05-02 04:19 J -4710873.36 -4710873.32 -4710873.28 0.3729 0.3387

Mars -17611-07-30 10:33 J -4710784.17 -4710784.06 -4710783.95 0.1625 0.0530

Mars -17609-07-04 12:14 J -4710079.06 -4710078.99 -4710078.92 0.1627 0.1261

Jupiter -17609-12-26 05:02 J -4709904.41 -4709904.29 -4709904.17 0.0527 0.0123

Jupiter -17608-03-25 10:19 J -4709815.13 -4709815.07 -4709815.00 0.0526 0.0439

Mars -17606-04-14 00:43 J -4709065.63 -4709065.47 -4709065.30 0.1895 0.0545

Venus -17606-11-15 19:40 J -4708849.77 -4708849.68 -4708849.59 0.3731 0.1427

Saturn -17604-06-14 15:21 J -4708272.98 -4708272.86 -4708272.73 0.0276 0.0205

Earth -17604-07-28 09:07 J -4708229.23 -4708229.12 -4708229.01 0.2708 0.0547

Moon -17604-07-28 09:50 J -4708229.20 -4708229.09 -4708228.98 0.2708 0.0500 *

Saturn -17604-09-11 15:07 J -4708184.06 -4708183.87 -4708183.68 0.0277 0.0016

Saturn -17604-12-09 14:38 J -4708095.03 -4708094.89 -4708094.74 0.0278 0.0174

Jupiter -17602-02-20 01:40 J -4707657.62 -4707657.43 -4707657.25 0.0499 0.0059

Mars -17602-12-20 22:19 J -4707353.66 -4707353.57 -4707353.48 0.1625 0.0955

Moon -17600-01-31 10:19 J -4706946.22 -4706946.07 -4706945.92 0.2627 0.0636

Earth -17600-01-31 12:00 J -4706946.15 -4706946.00 -4706945.86 0.2626 0.0698 *

Venus -17600-05-31 11:02 J -4706826.14 -4706826.04 -4706825.94 0.3733 0.0541

Mars -17600-11-24 23:45 J -4706648.61 -4706648.51 -4706648.41 0.1626 0.0823

Jupiter -17597-10-14 08:38 J -4705594.24 -4705594.14 -4705594.03 0.0527 0.0275

Jupiter -17596-01-11 14:09 J -4705505.02 -4705504.91 -4705504.81 0.0526 0.0287

Uranus -17595-02-15 23:16 J -4705104.63 -4705104.53 -4705104.43 0.0139 0.0118

Uranus -17595-05-15 07:11 J -4705016.35 -4705016.20 -4705016.05 0.0139 0.0088

Uranus -17595-08-11 14:52 J -4704928.05 -4704927.88 -4704927.70 0.0139 0.0059

Uranus -17595-11-07 22:33 J -4704839.74 -4704839.56 -4704839.37 0.0138 0.0029

Venus -17595-12-15 02:23 J -4704802.47 -4704802.40 -4704802.33 0.3735 0.2522

Uranus -17594-02-04 06:14 J -4704751.43 -4704751.24 -4704751.04 0.0138 0.0003

Uranus -17594-05-03 13:55 J -4704663.11 -4704662.92 -4704662.73 0.0138 0.0029

Uranus -17594-07-30 21:21 J -4704574.78 -4704574.61 -4704574.43 0.0138 0.0058

Uranus -17594-10-27 04:48 J -4704486.44 -4704486.30 -4704486.14 0.0138 0.0087

Uranus -17593-01-23 12:14 J -4704398.08 -4704397.99 -4704397.87 0.0138 0.0115

Mars -17592-05-12 10:04 J -4703923.14 -4703923.08 -4703923.02 0.1625 0.1380

Saturn -17591-07-27 01:55 J -4703482.47 -4703482.42 -4703482.36 0.0287 0.0255

Earth -17591-07-31 03:21 J -4703478.47 -4703478.36 -4703478.25 0.2707 0.0650

Moon -17591-07-31 03:50 J -4703478.44 -4703478.34 -4703478.23 0.2703 0.0785 *

Saturn -17591-10-23 13:11 J -4703394.07 -4703393.95 -4703393.83 0.0286 0.0117

Jupiter -17591-12-08 22:48 J -4703347.74 -4703347.55 -4703347.37 0.0499 0.0121

Saturn -17590-01-20 00:14 J -4703305.62 -4703305.49 -4703305.36 0.0285 0.0020

Mars -17590-04-17 11:16 J -4703218.14 -4703218.03 -4703217.91 0.1625 0.0394

Saturn -17590-04-18 11:16 J -4703217.14 -4703217.03 -4703216.92 0.0284 0.0155

Moon -17587-02-03 16:04 J -4702194.84 -4702194.83 -4702194.82 0.2633 0.2617

Jupiter -17585-08-02 12:57 J -4701284.04 -4701283.96 -4701283.88 0.0528 0.0416

Jupiter -17585-10-30 18:14 J -4701194.86 -4701194.74 -4701194.62 0.0526 0.0143

Earth -17584-07-24 01:40 J -4700928.45 -4700928.43 -4700928.41 0.2710 0.2649

Moon -17584-07-24 01:55 J -4700928.44 -4700928.42 -4700928.41 0.2717 0.2686 *

Mars -17581-09-06 23:02 J -4699787.66 -4699787.54 -4699787.43 0.1625 0.0072

Pluto -17579-08-24 19:40 J -4699070.71 -4699070.68 -4699070.62 0.0071 0.0068

Jupiter -17579-09-26 19:11 J -4699037.84 -4699037.70 -4699037.55 0.0498 0.0305

Pluto -17579-11-20 21:07 J -4698982.70 -4698982.62 -4698982.53 0.0071 0.0060

Jupiter -17579-12-26 06:28 J -4698947.32 -4698947.23 -4698947.13 0.0500 0.0429

Pluto -17578-02-16 22:19 J -4698894.67 -4698894.57 -4698894.45 0.0072 0.0052

Pluto -17578-05-15 23:45 J -4698806.63 -4698806.51 -4698806.38 0.0072 0.0044

Moon -17578-08-02 21:36 J -4698727.68 -4698727.60 -4698727.51 0.2698 0.1793

Earth -17578-08-02 21:36 J -4698727.68 -4698727.60 -4698727.52 0.2705 0.1855 *

Pluto -17578-08-12 00:57 J -4698718.59 -4698718.46 -4698718.32 0.0072 0.0036

Pluto -17578-11-08 02:09 J -4698630.54 -4698630.41 -4698630.25 0.0072 0.0028

Pluto -17577-02-04 03:36 J -4698542.50 -4698542.35 -4698542.19 0.0072 0.0020

Pluto -17577-05-02 05:02 J -4698454.44 -4698454.29 -4698454.13 0.0072 0.0012

Pluto -17577-07-29 06:28 J -4698366.39 -4698366.23 -4698366.07 0.0072 0.0003

Pluto -17577-10-25 07:40 J -4698278.33 -4698278.18 -4698278.02 0.0072 0.0005

Pluto -17576-01-21 09:07 J -4698190.28 -4698190.12 -4698189.96 0.0073 0.0014

Pluto -17576-04-19 10:19 J -4698102.21 -4698102.07 -4698101.91 0.0073 0.0022

Mars -17576-05-23 09:36 J -4698068.24 -4698068.10 -4698067.96 0.1894 0.1049

Pluto -17576-07-16 11:45 J -4698014.15 -4698014.01 -4698013.86 0.0073 0.0031

Pluto -17576-10-12 12:57 J -4697926.08 -4697925.96 -4697925.81 0.0073 0.0040

Pluto -17575-01-08 14:38 J -4697838.01 -4697837.89 -4697837.77 0.0073 0.0048

Pluto -17575-04-06 15:50 J -4697749.93 -4697749.84 -4697749.73 0.0073 0.0057

Pluto -17575-07-03 17:16 J -4697661.83 -4697661.78 -4697661.70 0.0073 0.0066

Saturn -17575-11-01 15:07 J -4697540.94 -4697540.87 -4697540.78 0.0276 0.0248

Saturn -17574-01-29 14:52 J -4697452.06 -4697451.88 -4697451.69 0.0277 0.0060

Saturn -17574-04-28 14:23 J -4697363.06 -4697362.90 -4697362.73 0.0278 0.0130

Jupiter -17573-08-18 22:19 J -4696884.69 -4696884.57 -4696884.44 0.0527 0.0007

Mars -17571-01-28 10:33 J -4696357.17 -4696357.06 -4696356.95 0.1625 0.0472

Earth -17571-07-26 19:40 J -4696177.77 -4696177.68 -4696177.58 0.2709 0.1493

Moon -17571-07-26 20:09 J -4696177.75 -4696177.66 -4696177.56 0.2714 0.1441 *

Mars -17569-01-03 12:14 J -4695652.06 -4695651.99 -4695651.93 0.1627 0.1320

Venus -17568-02-02 02:52 J -4695256.54 -4695256.38 -4695256.21 0.3641 0.0344

Moon -17567-01-29 11:16 J -4694895.18 -4694895.03 -4694894.89 0.2623 0.1137

Earth -17567-01-29 12:43 J -4694895.11 -4694894.97 -4694894.82 0.2625 0.1044 *

Jupiter -17567-07-15 15:36 J -4694727.87 -4694727.85 -4694727.82 0.0498 0.0491

Mars -17567-10-13 01:40 J -4694638.60 -4694638.43 -4694638.26 0.1895 0.0413

Jupiter -17567-10-14 03:07 J -4694637.53 -4694637.37 -4694637.21 0.0499 0.0244

Mars -17562-06-20 22:19 J -4692926.67 -4692926.57 -4692926.48 0.1625 0.0899

Saturn -17561-03-11 16:04 J -4692661.94 -4692661.83 -4692661.72 0.0285 0.0151

Jupiter -17561-06-07 02:52 J -4692574.50 -4692574.38 -4692574.25 0.0528 0.0136

Saturn -17561-06-08 03:07 J -4692573.50 -4692573.37 -4692573.24 0.0284 0.0014

Jupiter -17561-09-04 08:23 J -4692485.22 -4692485.15 -4692485.08 0.0526 0.0427

Saturn -17561-09-04 14:09 J -4692485.02 -4692484.91 -4692484.79 0.0283 0.0122

Saturn -17561-12-02 01:11 J -4692396.50 -4692396.45 -4692396.39 0.0282 0.0256

Mars -17560-05-25 23:45 J -4692221.61 -4692221.51 -4692221.41 0.1626 0.0883

Neptune -17559-02-11 17:16 J -4691959.78 -4691959.78 -4691959.75 0.0089 0.0089

Neptune -17559-05-10 18:43 J -4691871.76 -4691871.72 -4691871.66 0.0089 0.0081

Neptune -17559-08-06 19:55 J -4691783.73 -4691783.67 -4691783.59 0.0089 0.0075

Neptune -17559-11-02 21:21 J -4691695.69 -4691695.61 -4691695.52 0.0089 0.0067

Neptune -17558-01-29 22:33 J -4691607.64 -4691607.56 -4691607.45 0.0089 0.0061

Neptune -17558-04-28 00:00 J -4691519.60 -4691519.50 -4691519.39 0.0089 0.0053

Neptune -17558-07-25 01:11 J -4691431.55 -4691431.45 -4691431.33 0.0089 0.0046

Earth -17558-07-29 13:55 J -4691427.03 -4691426.92 -4691426.81 0.2708 0.0313

Moon -17558-07-29 14:38 J -4691427.00 -4691426.89 -4691426.78 0.2707 0.0200 *

Neptune -17558-10-21 02:23 J -4691343.51 -4691343.40 -4691343.27 0.0089 0.0040

Neptune -17557-01-17 03:50 J -4691255.46 -4691255.34 -4691255.21 0.0089 0.0032

Mars -17557-03-03 17:45 J -4691208.78 -4691208.76 -4691208.74 0.1895 0.1878

Neptune -17557-04-14 05:16 J -4691167.40 -4691167.28 -4691167.15 0.0089 0.0025

Neptune -17557-07-11 06:28 J -4691079.35 -4691079.23 -4691079.10 0.0089 0.0018

Neptune -17557-10-07 07:55 J -4690991.30 -4690991.17 -4690991.04 0.0089 0.0011

Neptune -17556-01-03 09:07 J -4690903.25 -4690903.12 -4690902.99 0.0089 0.0004

Neptune -17556-04-01 10:33 J -4690815.19 -4690815.06 -4690814.93 0.0089 0.0004

Neptune -17556-06-28 11:45 J -4690727.14 -4690727.01 -4690726.88 0.0089 0.0010

Neptune -17556-09-24 12:57 J -4690639.08 -4690638.96 -4690638.82 0.0089 0.0018

Neptune -17556-12-21 14:23 J -4690551.03 -4690550.90 -4690550.77 0.0089 0.0024

Neptune -17555-03-19 15:36 J -4690462.97 -4690462.85 -4690462.72 0.0089 0.0032

Neptune -17555-06-15 17:02 J -4690374.91 -4690374.79 -4690374.67 0.0089 0.0038

Jupiter -17555-08-01 23:02 J -4690327.72 -4690327.54 -4690327.35 0.0499 0.0052

Neptune -17555-09-11 18:14 J -4690286.85 -4690286.74 -4690286.62 0.0089 0.0046

Venus -17555-12-07 01:40 J -4690200.49 -4690200.43 -4690200.36 0.3729 0.2671

Neptune -17555-12-08 19:40 J -4690198.79 -4690198.68 -4690198.58 0.0089 0.0053

Moon -17554-02-01 16:48 J -4690143.95 -4690143.80 -4690143.66 0.2628 0.0844

Earth -17554-02-01 18:14 J -4690143.88 -4690143.74 -4690143.60 0.2626 0.1092 *

Neptune -17554-03-06 20:52 J -4690110.72 -4690110.63 -4690110.53 0.0089 0.0060

Neptune -17554-06-02 22:19 J -4690022.66 -4690022.57 -4690022.49 0.0089 0.0067

Neptune -17554-08-29 23:16 J -4689934.59 -4689934.53 -4689934.44 0.0089 0.0074

Neptune -17554-11-26 00:28 J -4689846.51 -4689846.48 -4689846.41 0.0089 0.0082

Neptune -17553-02-22 01:55 J -4689758.43 -4689758.42 -4689758.39 0.0089 0.0088

Mars -17553-11-10 10:04 J -4689496.15 -4689496.08 -4689496.02 0.1625 0.1325

Uranus -17551-04-23 16:04 J -4688966.87 -4688966.83 -4688966.77 0.0139 0.0129

Uranus -17551-07-20 19:26 J -4688878.77 -4688878.69 -4688878.60 0.0140 0.0109

Mars -17551-10-16 11:16 J -4688791.14 -4688791.03 -4688790.92 0.1625 0.0446

Uranus -17551-10-16 22:48 J -4688790.65 -4688790.55 -4688790.45 0.0140 0.0088

Uranus -17550-01-13 02:09 J -4688702.52 -4688702.41 -4688702.29 0.0140 0.0068

Uranus -17550-04-11 05:31 J -4688614.39 -4688614.27 -4688614.15 0.0140 0.0048

Uranus -17550-07-08 08:52 J -4688526.26 -4688526.13 -4688526.00 0.0140 0.0027

Uranus -17550-10-04 12:14 J -4688438.12 -4688437.99 -4688437.86 0.0140 0.0006

Uranus -17550-12-31 15:36 J -4688349.98 -4688349.85 -4688349.72 0.0140 0.0014

Jupiter -17549-03-26 07:26 J -4688264.29 -4688264.19 -4688264.08 0.0528 0.0271

Uranus -17549-03-28 18:57 J -4688261.84 -4688261.71 -4688261.58 0.0140 0.0036

Venus -17549-06-21 17:02 J -4688176.89 -4688176.79 -4688176.69 0.3731 0.0710

Jupiter -17549-06-23 12:57 J -4688175.07 -4688174.96 -4688174.86 0.0527 0.0291

Uranus -17549-06-24 22:19 J -4688173.69 -4688173.57 -4688173.44 0.0141 0.0057

Uranus -17549-09-21 01:55 J -4688085.53 -4688085.42 -4688085.31 0.0141 0.0078

Uranus -17549-12-18 05:16 J -4687997.37 -4687997.28 -4687997.18 0.0141 0.0099

Uranus -17548-03-16 08:38 J -4687909.20 -4687909.14 -4687909.06 0.0141 0.0121

Saturn -17545-06-17 12:57 J -4686720.13 -4686719.96 -4686719.78 0.0277 0.0116

Earth -17545-07-31 08:09 J -4686676.26 -4686676.16 -4686676.05 0.2707 0.0883

Moon -17545-07-31 08:38 J -4686676.24 -4686676.14 -4686676.03 0.2702 0.0887 *

Saturn -17545-09-14 12:43 J -4686631.15 -4686630.97 -4686630.79 0.0278 0.0074

Saturn -17545-12-12 12:14 J -4686542.04 -4686541.99 -4686541.93 0.0279 0.0264

Venus -17543-01-05 08:23 J -4686153.24 -4686153.15 -4686153.06 0.3733 0.1264

Jupiter -17543-05-20 19:55 J -4686017.85 -4686017.67 -4686017.49 0.0499 0.0129

Mars -17541-03-07 22:48 J -4685360.66 -4685360.55 -4685360.43 0.1625 0.0058

Venus -17538-07-21 23:45 J -4684129.56 -4684129.51 -4684129.46 0.3735 0.3251

Moon -17538-07-25 06:43 J -4684126.27 -4684126.22 -4684126.17 0.2717 0.2370

Earth -17538-07-25 06:28 J -4684126.27 -4684126.23 -4684126.18 0.2710 0.2428 *

Jupiter -17537-01-13 11:16 J -4683954.10 -4683954.03 -4683953.95 0.0528 0.0419

Jupiter -17537-04-11 16:33 J -4683864.93 -4683864.81 -4683864.68 0.0526 0.0141

Mars -17537-11-21 10:04 J -4683641.21 -4683641.08 -4683640.94 0.1895 0.1160

Mars -17532-07-29 10:33 J -4681930.17 -4681930.06 -4681929.95 0.1625 0.0414

Saturn -17532-07-29 19:11 J -4681929.80 -4681929.70 -4681929.60 0.0286 0.0184

Moon -17532-08-03 02:38 J -4681925.46 -4681925.39 -4681925.33 0.2698 0.2153

Earth -17532-08-03 02:38 J -4681925.46 -4681925.39 -4681925.32 0.2705 0.2093 *

Saturn -17532-10-26 06:14 J -4681841.37 -4681841.24 -4681841.11 0.0285 0.0046

Saturn -17531-01-22 17:16 J -4681752.90 -4681752.78 -4681752.65 0.0284 0.0091

Jupiter -17531-03-08 17:02 J -4681707.94 -4681707.79 -4681707.64 0.0499 0.0308

Saturn -17531-04-21 04:19 J -4681664.39 -4681664.32 -4681664.24 0.0283 0.0225

Jupiter -17531-06-07 04:19 J -4681617.41 -4681617.32 -4681617.22 0.0500 0.0428

Mars -17530-07-04 12:00 J -4681225.06 -4681225.00 -4681224.94 0.1627 0.1377

Mars -17527-04-13 02:52 J -4680211.55 -4680211.38 -4680211.21 0.1895 0.0265

Jupiter -17525-01-29 20:52 J -4679554.76 -4679554.63 -4679554.51 0.0527 0.0008

Earth -17525-07-27 00:43 J -4679375.57 -4679375.47 -4679375.38 0.2709 0.1264

Moon -17525-07-27 01:11 J -4679375.55 -4679375.45 -4679375.35 0.2712 0.1222 *

Mars -17523-12-19 22:19 J -4678499.67 -4678499.57 -4678499.47 0.1625 0.0840

Moon -17521-01-30 17:45 J -4678092.91 -4678092.76 -4678092.62 0.2623 0.0852

Earth -17521-01-30 19:11 J -4678092.85 -4678092.70 -4678092.55 0.2625 0.0634 *

Mars -17521-11-23 23:45 J -4677794.61 -4677794.51 -4677794.42 0.1626 0.0941

Jupiter -17520-12-25 13:40 J -4677397.96 -4677397.93 -4677397.90 0.0498 0.0491

Jupiter -17519-03-26 01:11 J -4677307.61 -4677307.45 -4677307.29 0.0499 0.0246

Mars -17518-09-02 18:28 J -4676781.79 -4676781.73 -4676781.67 0.1895 0.1753

Saturn -17516-11-04 12:14 J -4675988.14 -4675987.99 -4675987.83 0.0277 0.0163

Saturn -17515-02-01 12:00 J -4675899.19 -4675899.00 -4675898.81 0.0278 0.0026

Saturn -17515-05-01 11:31 J -4675810.14 -4675810.02 -4675809.90 0.0279 0.0216

Jupiter -17514-11-18 00:57 J -4675244.58 -4675244.46 -4675244.34 0.0527 0.0145

Jupiter -17513-02-15 06:14 J -4675155.31 -4675155.24 -4675155.16 0.0526 0.0417

Mars -17513-05-11 09:50 J -4675069.16 -4675069.09 -4675069.02 0.1625 0.1267

Earth -17512-07-29 18:43 J -4674624.83 -4674624.72 -4674624.61 0.2708 0.0120

Moon -17512-07-29 19:40 J -4674624.80 -4674624.68 -4674624.57 0.2707 0.0107 *

Venus -17512-09-09 05:31 J -4674583.40 -4674583.27 -4674583.13 0.3640 0.1939

Uranus -17511-03-08 05:02 J -4674403.38 -4674403.29 -4674403.17 0.0139 0.0115

Mars -17511-04-16 11:16 J -4674364.14 -4674364.03 -4674363.92 0.1625 0.0507

Uranus -17511-06-04 13:11 J -4674315.10 -4674314.95 -4674314.80 0.0139 0.0085

Uranus -17511-08-31 20:52 J -4674226.80 -4674226.63 -4674226.45 0.0139 0.0055

Uranus -17511-11-28 04:33 J -4674138.49 -4674138.31 -4674138.11 0.0138 0.0026

Uranus -17510-02-24 12:28 J -4674050.18 -4674049.98 -4674049.79 0.0138 0.0004

Uranus -17510-05-23 19:55 J -4673961.85 -4673961.67 -4673961.48 0.0138 0.0033

Uranus -17510-08-20 03:36 J -4673873.52 -4673873.35 -4673873.18 0.0138 0.0061

Uranus -17510-11-16 11:02 J -4673785.18 -4673785.04 -4673784.89 0.0138 0.0090

Uranus -17509-02-12 18:28 J -4673696.82 -4673696.73 -4673696.63 0.0138 0.0118

Moon -17508-02-01 23:16 J -4673341.66 -4673341.53 -4673341.40 0.2629 0.1446

Earth -17508-02-02 00:43 J -4673341.60 -4673341.47 -4673341.34 0.2627 0.1492 *

Jupiter -17507-01-11 21:50 J -4672997.78 -4672997.59 -4672997.41 0.0499 0.0062

Saturn -17503-12-16 21:36 J -4671197.68 -4671197.60 -4671197.52 0.0286 0.0221

Saturn -17502-03-15 08:38 J -4671109.26 -4671109.14 -4671109.01 0.0285 0.0085

Saturn -17502-06-11 19:55 J -4671020.80 -4671020.67 -4671020.55 0.0284 0.0053

Jupiter -17502-09-06 05:31 J -4670934.37 -4670934.27 -4670934.16 0.0528 0.0280

Mars -17502-09-06 22:48 J -4670933.66 -4670933.55 -4670933.43 0.1625 0.0076

Saturn -17502-09-08 06:57 J -4670932.31 -4670932.21 -4670932.12 0.0283 0.0188

Jupiter -17502-12-04 11:02 J -4670845.15 -4670845.04 -4670844.94 0.0527 0.0283

Earth -17499-08-01 13:11 J -4669874.06 -4669873.95 -4669873.85 0.2706 0.1122

Moon -17499-08-01 13:26 J -4669874.04 -4669873.94 -4669873.84 0.2700 0.1197 *

Venus -17498-07-13 23:16 J -4669527.62 -4669527.53 -4669527.45 0.3730 0.1953

Mars -17497-05-22 11:16 J -4669214.15 -4669214.03 -4669213.91 0.1894 0.1302

Jupiter -17496-10-30 17:45 J -4668687.94 -4668687.76 -4668687.57 0.0498 0.0129

Pluto -17494-10-26 06:00 J -4667962.30 -4667962.25 -4667962.17 0.0073 0.0066

Pluto -17493-01-22 07:11 J -4667874.28 -4667874.20 -4667874.08 0.0072 0.0058

Pluto -17493-04-19 08:52 J -4667786.24 -4667786.13 -4667786.00 0.0072 0.0049

Pluto -17493-07-16 10:04 J -4667698.20 -4667698.08 -4667697.93 0.0072 0.0040

Pluto -17493-10-12 11:45 J -4667610.15 -4667610.01 -4667609.86 0.0072 0.0031

Pluto -17492-01-08 12:57 J -4667522.10 -4667521.96 -4667521.80 0.0072 0.0023

Venus -17492-01-26 14:23 J -4667504.00 -4667503.90 -4667503.80 0.3732 0.0086

Mars -17492-01-27 10:33 J -4667503.17 -4667503.06 -4667502.95 0.1625 0.0360

Pluto -17492-04-06 14:23 J -4667434.05 -4667433.90 -4667433.74 0.0072 0.0015

Pluto -17492-07-03 15:50 J -4667346.00 -4667345.84 -4667345.68 0.0072 0.0006

Earth -17492-07-25 11:31 J -4667324.09 -4667324.02 -4667323.96 0.2710 0.2203

Moon -17492-07-25 11:31 J -4667324.08 -4667324.02 -4667323.96 0.2717 0.2247 *

Pluto -17492-09-29 17:16 J -4667257.94 -4667257.78 -4667257.62 0.0072 0.0002

Pluto -17492-12-26 18:28 J -4667169.88 -4667169.73 -4667169.57 0.0071 0.0010

Pluto -17491-03-24 19:40 J -4667081.83 -4667081.68 -4667081.52 0.0071 0.0018

Pluto -17491-06-20 20:52 J -4666993.77 -4666993.63 -4666993.47 0.0071 0.0026

Pluto -17491-09-16 22:04 J -4666905.71 -4666905.58 -4666905.43 0.0071 0.0034

Pluto -17491-12-13 23:16 J -4666817.64 -4666817.53 -4666817.39 0.0071 0.0042

Mars -17490-01-02 12:00 J -4666798.05 -4666798.00 -4666797.94 0.1626 0.1433

Pluto -17490-03-12 00:43 J -4666729.57 -4666729.47 -4666729.35 0.0071 0.0049

Pluto -17490-06-08 01:55 J -4666641.50 -4666641.42 -4666641.32 0.0071 0.0057

Jupiter -17490-06-25 10:19 J -4666624.15 -4666624.07 -4666624.00 0.0528 0.0414

Pluto -17490-09-04 02:52 J -4666553.42 -4666553.38 -4666553.30 0.0071 0.0065

Jupiter -17490-09-22 15:36 J -4666534.97 -4666534.85 -4666534.73 0.0527 0.0148

Moon -17488-01-27 18:43 J -4666041.77 -4666041.72 -4666041.67 0.2620 0.2467

Earth -17488-01-27 19:55 J -4666041.73 -4666041.67 -4666041.61 0.2624 0.2401 *

Mars -17488-10-12 03:07 J -4665784.53 -4665784.37 -4665784.20 0.1895 0.0172

Venus -17487-08-12 05:45 J -4665480.34 -4665480.26 -4665480.18 0.3734 0.1985

Saturn -17486-03-24 09:21 J -4665256.21 -4665256.11 -4665256.00 0.0276 0.0226

Saturn -17486-06-21 09:07 J -4665167.31 -4665167.12 -4665166.93 0.0277 0.0038

Moon -17486-08-04 07:26 J -4665123.25 -4665123.19 -4665123.13 0.2698 0.2258

Earth -17486-08-04 07:26 J -4665123.24 -4665123.19 -4665123.14 0.2705 0.2332 *

Saturn -17486-09-18 08:38 J -4665078.29 -4665078.14 -4665077.98 0.0278 0.0152

Jupiter -17484-08-18 14:52 J -4664378.03 -4664377.88 -4664377.74 0.0498 0.0308

Jupiter -17484-11-17 01:55 J -4664287.50 -4664287.42 -4664287.31 0.0499 0.0427

Mars -17483-06-19 22:19 J -4664072.67 -4664072.57 -4664072.47 0.1625 0.0787

Mars -17481-05-24 23:31 J -4663367.61 -4663367.52 -4663367.43 0.1626 0.0998

Earth -17479-07-28 05:31 J -4662573.37 -4662573.27 -4662573.17 0.2709 0.1033

Moon -17479-07-28 06:14 J -4662573.35 -4662573.24 -4662573.14 0.2711 0.0909 *

Mars -17478-03-03 19:26 J -4662354.77 -4662354.69 -4662354.60 0.1895 0.1614

Jupiter -17478-07-11 19:26 J -4662224.81 -4662224.69 -4662224.56 0.0527 0.0006

Neptune -17476-07-29 03:21 J -4661476.37 -4661476.36 -4661476.32 0.0088 0.0087

Neptune -17476-10-25 07:11 J -4661388.28 -4661388.20 -4661388.10 0.0088 0.0077

Neptune -17475-01-21 10:48 J -4661300.17 -4661300.05 -4661299.91 0.0088 0.0067

Moon -17475-01-31 00:00 J -4661290.65 -4661290.50 -4661290.34 0.2624 0.0358

Earth -17475-01-31 01:40 J -4661290.58 -4661290.43 -4661290.27 0.2625 0.0230 *

Neptune -17475-04-19 14:23 J -4661212.03 -4661211.90 -4661211.73 0.0088 0.0057

Neptune -17475-07-16 18:00 J -4661123.90 -4661123.75 -4661123.56 0.0088 0.0047

Neptune -17475-10-12 21:50 J -4661035.76 -4661035.59 -4661035.40 0.0088 0.0037

Neptune -17474-01-09 01:26 J -4660947.61 -4660947.44 -4660947.24 0.0088 0.0027

Neptune -17474-04-07 05:31 J -4660859.47 -4660859.27 -4660859.08 0.0088 0.0016

Neptune -17474-07-04 09:07 J -4660771.32 -4660771.12 -4660770.92 0.0088 0.0006

Neptune -17474-09-30 12:43 J -4660683.16 -4660682.97 -4660682.77 0.0088 0.0004

Mars -17474-11-10 09:50 J -4660642.16 -4660642.09 -4660642.01 0.1625 0.1211

Neptune -17474-12-27 16:19 J -4660595.01 -4660594.82 -4660594.62 0.0088 0.0014

Neptune -17473-03-24 19:55 J -4660506.85 -4660506.67 -4660506.47 0.0088 0.0024

Saturn -17473-05-05 00:14 J -4660465.54 -4660465.49 -4660465.44 0.0287 0.0260

Neptune -17473-06-20 23:31 J -4660418.69 -4660418.52 -4660418.33 0.0088 0.0034

Saturn -17473-08-01 11:31 J -4660377.14 -4660377.02 -4660376.91 0.0286 0.0121

Neptune -17473-09-17 03:21 J -4660330.53 -4660330.36 -4660330.19 0.0088 0.0044

Saturn -17473-10-28 22:33 J -4660288.69 -4660288.56 -4660288.43 0.0285 0.0016

Neptune -17473-12-14 06:57 J -4660242.36 -4660242.21 -4660242.05 0.0088 0.0054

Saturn -17472-01-25 09:36 J -4660200.21 -4660200.10 -4660199.99 0.0284 0.0152

Neptune -17472-03-12 10:33 J -4660154.19 -4660154.06 -4660153.92 0.0088 0.0064

Jupiter -17472-06-06 11:45 J -4660068.04 -4660068.01 -4660067.98 0.0498 0.0488

Neptune -17472-06-08 14:09 J -4660066.01 -4660065.91 -4660065.80 0.0088 0.0074

Neptune -17472-09-04 17:45 J -4659977.80 -4659977.76 -4659977.70 0.0088 0.0084

Jupiter -17472-09-04 23:16 J -4659977.69 -4659977.53 -4659977.36 0.0500 0.0250

Mars -17472-10-15 11:16 J -4659937.14 -4659937.03 -4659936.92 0.1625 0.0563

Uranus -17467-05-13 23:31 J -4658265.57 -4658265.52 -4658265.44 0.0139 0.0123

Uranus -17467-08-10 03:07 J -4658177.46 -4658177.37 -4658177.28 0.0140 0.0102

Uranus -17467-11-06 06:14 J -4658089.34 -4658089.24 -4658089.13 0.0140 0.0082

Uranus -17466-02-02 09:36 J -4658001.21 -4658001.10 -4658000.97 0.0140 0.0062

Jupiter -17466-04-29 23:45 J -4657914.63 -4657914.51 -4657914.39 0.0527 0.0141

Uranus -17466-05-01 13:11 J -4657913.08 -4657912.95 -4657912.83 0.0140 0.0041

Jupiter -17466-07-28 05:02 J -4657825.36 -4657825.29 -4657825.21 0.0526 0.0420

Uranus -17466-07-28 16:33 J -4657824.94 -4657824.81 -4657824.68 0.0140 0.0020

Earth -17466-07-30 23:45 J -4657822.62 -4657822.51 -4657822.40 0.2707 0.0164

Moon -17466-07-31 00:28 J -4657822.59 -4657822.48 -4657822.37 0.2706 0.0248 *

Uranus -17466-10-24 19:55 J -4657736.80 -4657736.67 -4657736.54 0.0140 0.0003

Uranus -17465-01-20 23:16 J -4657648.66 -4657648.53 -4657648.40 0.0140 0.0021

Uranus -17465-04-18 02:38 J -4657560.52 -4657560.39 -4657560.26 0.0140 0.0042

Uranus -17465-07-15 06:00 J -4657472.36 -4657472.25 -4657472.13 0.0141 0.0064

Uranus -17465-10-11 09:36 J -4657384.21 -4657384.10 -4657384.00 0.0141 0.0085

Uranus -17464-01-07 12:57 J -4657296.04 -4657295.96 -4657295.87 0.0141 0.0106

Uranus -17464-04-05 16:19 J -4657207.87 -4657207.82 -4657207.76 0.0141 0.0128

Moon -17462-02-03 05:45 J -4656539.37 -4656539.26 -4656539.14 0.2631 0.1693

Earth -17462-02-03 06:57 J -4656539.31 -4656539.21 -4656539.10 0.2627 0.1892 *

Mars -17462-03-07 22:48 J -4656506.66 -4656506.55 -4656506.43 0.1625 0.0131

Venus -17461-09-29 20:38 J -4655934.74 -4655934.64 -4655934.53 0.3643 0.2785

Jupiter -17460-06-23 20:23 J -4655667.84 -4655667.65 -4655667.47 0.0499 0.0069

Mars -17458-11-21 12:00 J -4654787.11 -4654787.00 -4654786.89 0.1894 0.1425

Saturn -17457-11-07 07:26 J -4654435.36 -4654435.19 -4654435.00 0.0277 0.0091

Saturn -17456-02-04 07:11 J -4654346.38 -4654346.20 -4654346.02 0.0278 0.0099

Jupiter -17454-02-16 04:04 J -4653604.44 -4653604.33 -4653604.23 0.0528 0.0284

Jupiter -17454-05-16 09:21 J -4653515.22 -4653515.11 -4653515.01 0.0526 0.0278

Mars -17453-07-28 10:33 J -4653076.17 -4653076.06 -4653075.95 0.1625 0.0300

Earth -17453-08-01 18:00 J -4653071.85 -4653071.75 -4653071.65 0.2706 0.1355

Moon -17453-08-01 18:14 J -4653071.83 -4653071.74 -4653071.64 0.2700 0.1369 *

Mars -17451-07-03 12:00 J -4652371.04 -4652371.00 -4652370.95 0.1626 0.1492

Jupiter -17448-04-11 17:02 J -4651357.97 -4651357.79 -4651357.61 0.0499 0.0115

Mars -17448-04-12 04:19 J -4651357.49 -4651357.32 -4651357.14 0.1895 0.0055

Venus -17447-08-04 05:16 J -4650878.33 -4650878.28 -4650878.23 0.3728 0.3184

Earth -17446-07-26 16:19 J -4650521.90 -4650521.82 -4650521.75 0.2710 0.1976

Moon -17446-07-26 16:33 J -4650521.89 -4650521.81 -4650521.73 0.2716 0.1890 *

Mars -17444-12-18 22:04 J -4649645.68 -4649645.58 -4649645.48 0.1624 0.0730

Saturn -17444-12-19 13:40 J -4649645.03 -4649644.93 -4649644.82 0.0286 0.0161

Saturn -17443-03-18 00:57 J -4649556.59 -4649556.46 -4649556.33 0.0285 0.0025

Saturn -17443-06-14 12:00 J -4649468.12 -4649468.00 -4649467.88 0.0284 0.0112

Saturn -17443-09-10 23:02 J -4649379.60 -4649379.54 -4649379.48 0.0282 0.0247

Jupiter -17443-12-05 08:38 J -4649294.22 -4649294.14 -4649294.07 0.0528 0.0418

Moon -17442-01-29 01:11 J -4649239.54 -4649239.45 -4649239.37 0.2620 0.2192

Earth -17442-01-29 02:23 J -4649239.50 -4649239.40 -4649239.30 0.2624 0.1987 *

Jupiter -17442-03-04 13:55 J -4649205.04 -4649204.92 -4649204.80 0.0527 0.0143

Mars -17442-11-23 23:31 J -4648940.60 -4648940.52 -4648940.43 0.1626 0.1055

Venus -17441-02-17 20:38 J -4648854.74 -4648854.64 -4648854.55 0.3730 0.1242

Moon -17440-08-04 12:00 J -4648321.03 -4648321.00 -4648320.97 0.2699 0.2581

Earth -17440-08-04 12:14 J -4648321.02 -4648320.99 -4648320.95 0.2705 0.2574 *

Mars -17439-09-01 20:09 J -4647927.76 -4647927.66 -4647927.56 0.1895 0.1496

Jupiter -17436-01-28 13:11 J -4647048.09 -4647047.95 -4647047.80 0.0498 0.0303

Jupiter -17436-04-29 00:28 J -4646957.57 -4646957.48 -4646957.38 0.0499 0.0431

Venus -17436-09-02 11:45 J -4646831.11 -4646831.01 -4646830.91 0.3732 0.0735

Mars -17434-05-11 09:50 J -4646215.17 -4646215.09 -4646215.01 0.1625 0.1155

Earth -17433-07-28 10:19 J -4645771.17 -4645771.07 -4645770.96 0.2709 0.0805

Moon -17433-07-28 11:02 J -4645771.14 -4645771.04 -4645770.93 0.2711 0.0777 *

Mars -17432-04-15 11:02 J -4645510.14 -4645510.04 -4645509.93 0.1625 0.0620

Jupiter -17431-12-21 18:28 J -4644894.85 -4644894.73 -4644894.60 0.0527 0.0019

Venus -17430-03-19 03:07 J -4644807.44 -4644807.37 -4644807.30 0.3734 0.2702

Moon -17429-02-01 06:43 J -4644488.38 -4644488.22 -4644488.07 0.2625 0.0063

Earth -17429-02-01 08:09 J -4644488.31 -4644488.16 -4644488.00 0.2626 0.0184 *

Uranus -17428-12-30 04:19 J -4643790.33 -4643790.32 -4643790.29 0.0139 0.0138

Saturn -17427-03-27 04:04 J -4643703.49 -4643703.33 -4643703.17 0.0276 0.0159

Uranus -17427-03-28 12:14 J -4643702.10 -4643701.99 -4643701.86 0.0139 0.0108

Saturn -17427-06-24 03:36 J -4643614.54 -4643614.35 -4643614.16 0.0277 0.0030

Uranus -17427-06-24 19:55 J -4643613.81 -4643613.67 -4643613.50 0.0139 0.0079

Uranus -17427-09-21 03:50 J -4643525.51 -4643525.34 -4643525.15 0.0138 0.0049

Saturn -17427-09-21 03:07 J -4643525.48 -4643525.37 -4643525.25 0.0278 0.0220 *

Uranus -17427-12-18 11:45 J -4643437.20 -4643437.01 -4643436.82 0.0138 0.0019

Uranus -17426-03-16 19:26 J -4643348.88 -4643348.69 -4643348.50 0.0138 0.0010

Uranus -17426-06-13 03:07 J -4643260.55 -4643260.37 -4643260.19 0.0138 0.0039

Uranus -17426-09-09 10:33 J -4643172.22 -4643172.06 -4643171.89 0.0138 0.0068

Uranus -17426-12-06 18:00 J -4643083.87 -4643083.75 -4643083.60 0.0138 0.0097

Uranus -17425-03-04 01:26 J -4642995.51 -4642995.44 -4642995.35 0.0138 0.0125

Mars -17425-09-30 21:36 J -4642784.62 -4642784.60 -4642784.58 0.1625 0.1578

Jupiter -17425-11-16 10:04 J -4642738.12 -4642738.08 -4642738.03 0.0498 0.0481

Jupiter -17424-02-14 21:36 J -4642647.75 -4642647.60 -4642647.43 0.0499 0.0256

Mars -17423-09-05 22:48 J -4642079.67 -4642079.55 -4642079.44 0.1625 0.0187

Earth -17420-07-31 04:33 J -4641020.42 -4641020.31 -4641020.20 0.2707 0.0387

Moon -17420-07-31 05:16 J -4641020.39 -4641020.28 -4641020.17 0.2704 0.0492 *

Jupiter -17419-10-09 22:33 J -4640584.68 -4640584.56 -4640584.43 0.0527 0.0136

Jupiter -17418-01-07 04:04 J -4640495.41 -4640495.33 -4640495.26 0.0526 0.0425

Mars -17418-05-22 12:57 J -4640360.06 -4640359.96 -4640359.87 0.1895 0.1552

Moon -17416-02-03 12:14 J -4639737.07 -4639736.99 -4639736.91 0.2631 0.2228

Earth -17416-02-03 13:26 J -4639737.01 -4639736.94 -4639736.86 0.2627 0.2291 *

Saturn -17414-05-08 15:50 J -4638912.93 -4638912.84 -4638912.75 0.0287 0.0205

Saturn -17414-08-05 03:07 J -4638824.50 -4638824.37 -4638824.25 0.0286 0.0067

Saturn -17414-11-01 14:09 J -4638736.03 -4638735.91 -4638735.78 0.0285 0.0071

Mars -17413-01-27 10:33 J -4638649.18 -4638649.06 -4638648.95 0.1625 0.0252

Saturn -17413-01-29 01:11 J -4638647.53 -4638647.45 -4638647.36 0.0283 0.0206

Jupiter -17413-12-03 18:57 J -4638337.90 -4638337.71 -4638337.53 0.0499 0.0076

Mars -17411-01-01 12:00 J -4637944.03 -4637944.00 -4637943.97 0.1626 0.1548

Mars -17409-10-11 05:16 J -4636930.45 -4636930.28 -4636930.11 0.1895 0.0116

Jupiter -17407-07-29 03:07 J -4636274.48 -4636274.37 -4636274.27 0.0527 0.0274

Earth -17407-08-02 22:48 J -4636269.64 -4636269.55 -4636269.46 0.2706 0.1595

Moon -17407-08-02 23:16 J -4636269.62 -4636269.53 -4636269.45 0.2700 0.1640 *

Jupiter -17407-10-26 08:09 J -4636185.26 -4636185.16 -4636185.05 0.0526 0.0286

Venus -17404-05-06 23:31 J -4635261.69 -4635261.52 -4635261.36 0.3642 0.0493

Mars -17404-06-18 22:04 J -4635218.68 -4635218.58 -4635218.47 0.1625 0.0671

Mars -17402-05-24 23:31 J -4634513.60 -4634513.52 -4634513.43 0.1626 0.1111

Jupiter -17401-09-21 15:50 J -4634028.02 -4634027.84 -4634027.66 0.0499 0.0104

Earth -17400-07-26 21:07 J -4633719.70 -4633719.62 -4633719.54 0.2710 0.1744

Moon -17400-07-26 21:36 J -4633719.68 -4633719.60 -4633719.52 0.2715 0.1755 *

Mars -17399-03-02 21:07 J -4633500.74 -4633500.62 -4633500.50 0.1895 0.1358

Saturn -17398-08-14 02:09 J -4632971.53 -4632971.41 -4632971.30 0.0276 0.0215

Saturn -17398-11-11 01:40 J -4632882.62 -4632882.43 -4632882.24 0.0277 0.0027

Saturn -17397-02-08 01:11 J -4632793.60 -4632793.45 -4632793.29 0.0278 0.0162

Moon -17396-01-29 07:40 J -4632437.30 -4632437.18 -4632437.06 0.2620 0.1621

Earth -17396-01-29 09:07 J -4632437.25 -4632437.12 -4632437.00 0.2624 0.1572 *

Jupiter -17395-05-17 07:11 J -4631964.27 -4631964.20 -4631964.12 0.0528 0.0416

Jupiter -17395-08-14 12:28 J -4631875.10 -4631874.98 -4631874.86 0.0527 0.0144

Neptune -17395-11-08 17:16 J -4631788.81 -4631788.78 -4631788.75 0.0089 0.0086

Mars -17395-11-09 09:50 J -4631788.18 -4631788.09 -4631788.01 0.1625 0.1097

Neptune -17394-02-04 18:28 J -4631700.78 -4631700.73 -4631700.67 0.0089 0.0079

Neptune -17394-05-03 19:55 J -4631612.75 -4631612.67 -4631612.59 0.0089 0.0072

Neptune -17394-07-30 21:07 J -4631524.71 -4631524.62 -4631524.53 0.0089 0.0065

Neptune -17394-10-26 22:33 J -4631436.66 -4631436.56 -4631436.46 0.0089 0.0058

Neptune -17393-01-22 23:45 J -4631348.62 -4631348.51 -4631348.40 0.0089 0.0051

Neptune -17393-04-20 00:57 J -4631260.57 -4631260.46 -4631260.34 0.0089 0.0044

Neptune -17393-07-17 02:23 J -4631172.52 -4631172.40 -4631172.28 0.0089 0.0037

Neptune -17393-10-13 03:36 J -4631084.47 -4631084.35 -4631084.22 0.0089 0.0030

Mars -17393-10-14 11:02 J -4631083.14 -4631083.04 -4631082.93 0.1625 0.0681

Neptune -17392-01-09 05:02 J -4630996.42 -4630996.29 -4630996.17 0.0089 0.0023

Neptune -17392-04-07 06:14 J -4630908.37 -4630908.24 -4630908.11 0.0089 0.0016

Neptune -17392-07-04 07:40 J -4630820.31 -4630820.18 -4630820.05 0.0089 0.0009

Neptune -17392-09-30 08:52 J -4630732.26 -4630732.13 -4630732.00 0.0089 0.0001

Neptune -17392-12-27 10:04 J -4630644.21 -4630644.08 -4630643.94 0.0089 0.0007

Neptune -17391-03-25 11:31 J -4630556.15 -4630556.02 -4630555.89 0.0089 0.0013

Neptune -17391-06-21 12:43 J -4630468.09 -4630467.97 -4630467.84 0.0089 0.0020

Neptune -17391-09-17 13:55 J -4630380.04 -4630379.92 -4630379.79 0.0089 0.0027

Neptune -17391-12-14 15:21 J -4630291.98 -4630291.86 -4630291.74 0.0089 0.0034

Venus -17390-03-11 02:38 J -4630205.47 -4630205.39 -4630205.32 0.3729 0.2475

Neptune -17390-03-12 16:33 J -4630203.92 -4630203.81 -4630203.69 0.0089 0.0041

Neptune -17390-06-08 17:45 J -4630115.86 -4630115.76 -4630115.64 0.0089 0.0049

Neptune -17390-09-04 19:11 J -4630027.80 -4630027.70 -4630027.59 0.0089 0.0055

Neptune -17390-12-01 20:23 J -4629939.73 -4629939.65 -4629939.55 0.0089 0.0063

Neptune -17389-02-27 21:50 J -4629851.67 -4629851.59 -4629851.50 0.0089 0.0069

Neptune -17389-05-25 23:02 J -4629763.60 -4629763.54 -4629763.46 0.0089 0.0077

Jupiter -17389-07-10 12:43 J -4629718.13 -4629717.97 -4629717.82 0.0498 0.0285

Neptune -17389-08-22 00:28 J -4629675.52 -4629675.48 -4629675.43 0.0089 0.0084

Jupiter -17389-10-09 00:00 J -4629627.58 -4629627.50 -4629627.42 0.0500 0.0449

Earth -17387-07-29 15:21 J -4628968.97 -4628968.86 -4628968.76 0.2708 0.0580

Moon -17387-07-29 15:50 J -4628968.94 -4628968.84 -4628968.73 0.2711 0.0445 *

Mars -17385-03-31 21:36 J -4628357.64 -4628357.60 -4628357.57 0.1625 0.1523

Venus -17385-09-23 17:45 J -4628181.85 -4628181.76 -4628181.66 0.3731 0.0541

Saturn -17385-09-24 18:00 J -4628180.81 -4628180.75 -4628180.69 0.0287 0.0249

Saturn -17385-12-22 05:02 J -4628092.41 -4628092.29 -4628092.17 0.0286 0.0111

Saturn -17384-03-20 16:04 J -4628003.95 -4628003.83 -4628003.70 0.0285 0.0028

Saturn -17384-06-17 03:21 J -4627915.47 -4627915.36 -4627915.26 0.0283 0.0163

Moon -17383-02-01 13:11 J -4627686.11 -4627685.95 -4627685.80 0.2627 0.0400

Earth -17383-02-01 14:38 J -4627686.04 -4627685.89 -4627685.74 0.2626 0.0590 *

Mars -17383-03-06 22:48 J -4627652.67 -4627652.55 -4627652.44 0.1625 0.0246

Uranus -17383-03-07 04:04 J -4627652.35 -4627652.33 -4627652.29 0.0139 0.0135

Jupiter -17383-06-02 17:02 J -4627564.91 -4627564.79 -4627564.66 0.0527 0.0014

Uranus -17383-06-03 07:11 J -4627564.26 -4627564.20 -4627564.11 0.0139 0.0116

Uranus -17383-08-30 10:48 J -4627476.14 -4627476.05 -4627475.95 0.0140 0.0095

Uranus -17383-11-26 13:55 J -4627388.02 -4627387.92 -4627387.80 0.0140 0.0075

Uranus -17382-02-22 17:31 J -4627299.89 -4627299.77 -4627299.65 0.0140 0.0054

Uranus -17382-05-21 20:38 J -4627211.76 -4627211.64 -4627211.51 0.0140 0.0034

Uranus -17382-08-18 00:14 J -4627123.62 -4627123.49 -4627123.36 0.0140 0.0013

Uranus -17382-11-14 03:36 J -4627035.48 -4627035.35 -4627035.22 0.0140 0.0008

Uranus -17381-02-10 06:57 J -4626947.34 -4626947.21 -4626947.08 0.0140 0.0029

Uranus -17381-05-08 10:19 J -4626859.19 -4626859.07 -4626858.95 0.0140 0.0050

Uranus -17381-08-04 13:40 J -4626771.04 -4626770.93 -4626770.81 0.0141 0.0071

Uranus -17381-10-31 17:02 J -4626682.88 -4626682.79 -4626682.68 0.0141 0.0093

Uranus -17380-01-27 20:38 J -4626594.71 -4626594.64 -4626594.56 0.0141 0.0114

Uranus -17380-04-26 00:14 J -4626506.53 -4626506.49 -4626506.46 0.0141 0.0135

Venus -17379-04-09 09:07 J -4626158.21 -4626158.12 -4626158.03 0.3733 0.1440

Mars -17379-11-20 13:40 J -4625933.00 -4625932.93 -4625932.85 0.1894 0.1678

Jupiter -17377-04-28 08:52 J -4625408.18 -4625408.13 -4625408.06 0.0498 0.0471

Jupiter -17377-07-27 20:38 J -4625317.80 -4625317.64 -4625317.48 0.0499 0.0265

Mars -17374-07-28 10:19 J -4624222.18 -4624222.07 -4624221.95 0.1625 0.0192

Earth -17374-08-01 09:21 J -4624218.21 -4624218.11 -4624218.00 0.2707 0.0631

Moon -17374-08-01 10:04 J -4624218.19 -4624218.08 -4624217.97 0.2703 0.0642 *

Venus -17374-10-24 00:28 J -4624134.52 -4624134.48 -4624134.44 0.3734 0.3420

Mars -17372-07-02 12:00 J -4623517.02 -4623517.00 -4623516.99 0.1626 0.1604

Jupiter -17371-03-21 21:50 J -4623254.71 -4623254.59 -4623254.47 0.0528 0.0124

Jupiter -17371-06-19 03:07 J -4623165.43 -4623165.37 -4623165.30 0.0526 0.0438

Moon -17370-02-04 18:43 J -4622934.76 -4622934.72 -4622934.68 0.2631 0.2532

Mars -17369-04-11 06:00 J -4622503.42 -4622503.25 -4622503.08 0.1895 0.0231

Saturn -17368-03-29 21:21 J -4622150.79 -4622150.61 -4622150.43 0.0276 0.0102

Saturn -17368-06-26 20:52 J -4622061.81 -4622061.63 -4622061.44 0.0277 0.0087

Saturn -17368-09-23 20:23 J -4621972.66 -4621972.65 -4621972.62 0.0279 0.0276

Earth -17367-07-25 07:55 J -4621668.18 -4621668.17 -4621668.15 0.2711 0.2680

Jupiter -17365-05-15 17:45 J -4621007.94 -4621007.76 -4621007.57 0.0499 0.0088

Mars -17365-12-17 22:04 J -4620791.69 -4620791.58 -4620791.47 0.1625 0.0615

Mars -17363-11-22 23:31 J -4620086.60 -4620086.52 -4620086.44 0.1626 0.1167

Moon -17361-08-03 03:50 J -4619467.42 -4619467.34 -4619467.26 0.2700 0.1854

Earth -17361-08-03 03:50 J -4619467.42 -4619467.34 -4619467.26 0.2706 0.1831 *

Mars -17360-08-31 22:04 J -4619073.71 -4619073.58 -4619073.45 0.1896 0.1228

Jupiter -17359-01-08 02:09 J -4618944.52 -4618944.41 -4618944.30 0.0527 0.0265

Jupiter -17359-04-07 07:11 J -4618855.30 -4618855.20 -4618855.09 0.0526 0.0295

Mars -17355-05-10 09:50 J -4617361.18 -4617361.09 -4617361.01 0.1625 0.1040

Saturn -17355-05-11 06:43 J -4617360.32 -4617360.22 -4617360.11 0.0287 0.0158

Saturn -17355-08-07 18:00 J -4617271.88 -4617271.75 -4617271.62 0.0286 0.0019

Saturn -17355-11-04 05:02 J -4617183.40 -4617183.29 -4617183.17 0.0285 0.0119

Saturn -17354-01-31 16:19 J -4617094.88 -4617094.82 -4617094.77 0.0283 0.0254

Earth -17354-07-28 01:55 J -4616917.51 -4616917.42 -4616917.33 0.2710 0.1521

Moon -17354-07-28 02:38 J -4616917.49 -4616917.39 -4616917.30 0.2715 0.1408 *

Jupiter -17353-03-03 14:38 J -4616698.07 -4616697.89 -4616697.70 0.0499 0.0094

Mars -17353-04-14 11:02 J -4616656.14 -4616656.04 -4616655.93 0.1625 0.0735

Moon -17350-01-30 14:09 J -4615635.04 -4615634.91 -4615634.78 0.2621 0.1385

Earth -17350-01-30 15:36 J -4615634.99 -4615634.85 -4615634.71 0.2625 0.1158 *

Jupiter -17348-10-27 06:28 J -4614634.31 -4614634.23 -4614634.15 0.0527 0.0402

Venus -17348-12-12 02:09 J -4614588.55 -4614588.41 -4614588.27 0.3641 0.1816

Jupiter -17347-01-24 11:45 J -4614545.13 -4614545.01 -4614544.89 0.0526 0.0156

Mars -17346-09-30 21:36 J -4613930.65 -4613930.60 -4613930.56 0.1625 0.1466

Mars -17344-09-04 22:48 J -4613225.67 -4613225.55 -4613225.44 0.1625 0.0305

Uranus -17343-01-19 11:31 J -4613089.07 -4613089.02 -4613088.95 0.0139 0.0131

Uranus -17343-04-17 19:26 J -4613000.81 -4613000.69 -4613000.55 0.0139 0.0101

Uranus -17343-07-15 03:07 J -4612912.52 -4612912.37 -4612912.19 0.0139 0.0072

Uranus -17343-10-11 11:02 J -4612824.22 -4612824.04 -4612823.85 0.0138 0.0042

Uranus -17342-01-07 18:57 J -4612735.90 -4612735.71 -4612735.52 0.0138 0.0012

Uranus -17342-04-06 02:38 J -4612647.58 -4612647.39 -4612647.20 0.0138 0.0017

Uranus -17342-07-03 10:04 J -4612559.25 -4612559.08 -4612558.89 0.0138 0.0046

Uranus -17342-09-29 17:45 J -4612470.92 -4612470.76 -4612470.59 0.0138 0.0075

Jupiter -17342-12-21 11:45 J -4612388.17 -4612388.01 -4612387.85 0.0499 0.0272

Uranus -17342-12-27 01:26 J -4612382.57 -4612382.44 -4612382.32 0.0138 0.0103

Jupiter -17341-03-20 23:16 J -4612297.60 -4612297.53 -4612297.47 0.0500 0.0464

Uranus -17341-03-24 08:38 J -4612294.18 -4612294.14 -4612294.08 0.0138 0.0132

Earth -17341-07-29 20:09 J -4612166.77 -4612166.66 -4612166.55 0.2708 0.0336

Moon -17341-07-29 20:52 J -4612166.74 -4612166.63 -4612166.52 0.2709 0.0318 *

Venus -17339-04-01 08:38 J -4611556.15 -4611556.14 -4611556.13 0.3727 0.3704

Mars -17339-05-21 14:38 J -4611505.93 -4611505.89 -4611505.84 0.1894 0.1811

Saturn -17339-08-16 18:57 J -4611418.86 -4611418.71 -4611418.55 0.0276 0.0160

Saturn -17339-11-13 18:28 J -4611329.92 -4611329.73 -4611329.54 0.0277 0.0028

Saturn -17338-02-10 18:00 J -4611240.86 -4611240.75 -4611240.63 0.0278 0.0217

Moon -17337-02-02 19:26 J -4610883.83 -4610883.69 -4610883.54 0.2628 0.0908

Earth -17337-02-02 21:07 J -4610883.76 -4610883.62 -4610883.48 0.2626 0.0997 *

Jupiter -17336-11-12 16:04 J -4610234.96 -4610234.83 -4610234.71 0.0527 0.0022

Mars -17334-01-26 10:19 J -4609795.18 -4609795.07 -4609794.95 0.1624 0.0133

Venus -17334-10-16 00:00 J -4609532.59 -4609532.50 -4609532.41 0.3729 0.1762

Pluto -17331-09-20 03:21 J -4608462.36 -4608462.36 -4608462.35 0.0071 0.0071

Pluto -17331-12-17 04:19 J -4608374.37 -4608374.32 -4608374.23 0.0071 0.0064

Pluto -17330-03-15 05:45 J -4608286.35 -4608286.26 -4608286.15 0.0071 0.0056

Pluto -17330-06-11 06:57 J -4608198.31 -4608198.21 -4608198.08 0.0072 0.0048

Pluto -17330-09-07 08:09 J -4608110.27 -4608110.16 -4608110.01 0.0072 0.0040

Jupiter -17330-10-09 08:38 J -4608078.21 -4608078.14 -4608078.06 0.0498 0.0452

Mars -17330-10-11 06:57 J -4608076.38 -4608076.21 -4608076.04 0.1895 0.0364

Pluto -17330-12-04 09:36 J -4608022.23 -4608022.10 -4608021.95 0.0072 0.0032

Jupiter -17329-01-07 20:09 J -4607987.81 -4607987.66 -4607987.50 0.0499 0.0286

Pluto -17329-03-01 10:48 J -4607934.18 -4607934.05 -4607933.89 0.0072 0.0024

Pluto -17329-05-28 12:28 J -4607846.13 -4607845.98 -4607845.83 0.0072 0.0015

Pluto -17329-08-24 13:40 J -4607758.08 -4607757.93 -4607757.77 0.0072 0.0007

Pluto -17329-11-20 15:07 J -4607670.03 -4607669.87 -4607669.71 0.0072 0.0002

Pluto -17328-02-16 16:33 J -4607581.97 -4607581.81 -4607581.66 0.0072 0.0010

Venus -17328-04-30 15:07 J -4607508.97 -4607508.87 -4607508.77 0.3731 0.0220

Pluto -17328-05-15 17:45 J -4607493.91 -4607493.76 -4607493.60 0.0073 0.0018

Earth -17328-08-01 14:23 J -4607416.01 -4607415.90 -4607415.80 0.2707 0.0858

Moon -17328-08-01 14:52 J -4607415.98 -4607415.88 -4607415.77 0.2702 0.0982 *

Pluto -17328-08-11 19:11 J -4607405.85 -4607405.70 -4607405.55 0.0073 0.0027

Pluto -17328-11-07 20:23 J -4607317.78 -4607317.65 -4607317.50 0.0073 0.0036

Pluto -17327-02-03 21:36 J -4607229.71 -4607229.60 -4607229.46 0.0073 0.0045

Pluto -17327-05-02 23:16 J -4607141.63 -4607141.53 -4607141.42 0.0073 0.0053

Pluto -17327-07-30 00:28 J -4607053.55 -4607053.48 -4607053.38 0.0073 0.0063

Pluto -17327-10-26 01:55 J -4606965.44 -4606965.42 -4606965.37 0.0073 0.0072

Saturn -17326-09-28 08:38 J -4606628.23 -4606628.14 -4606628.05 0.0287 0.0205

Saturn -17326-12-25 19:40 J -4606539.80 -4606539.68 -4606539.55 0.0286 0.0067

Saturn -17325-03-23 06:57 J -4606451.34 -4606451.21 -4606451.09 0.0285 0.0072

Mars -17325-06-17 22:04 J -4606364.69 -4606364.58 -4606364.47 0.1624 0.0559

Saturn -17325-06-19 18:00 J -4606362.84 -4606362.75 -4606362.66 0.0283 0.0207

Jupiter -17324-08-31 20:38 J -4605924.76 -4605924.64 -4605924.52 0.0527 0.0120

Jupiter -17324-11-29 01:55 J -4605835.49 -4605835.42 -4605835.35 0.0526 0.0441

Mars -17323-05-23 23:31 J -4605659.59 -4605659.52 -4605659.45 0.1626 0.1227

Venus -17323-11-14 06:28 J -4605485.31 -4605485.23 -4605485.15 0.3733 0.2159

Moon -17321-07-25 12:57 J -4604866.01 -4604865.96 -4604865.92 0.2717 0.2445

Earth -17321-07-25 12:43 J -4604866.01 -4604865.97 -4604865.92 0.2710 0.2460 *

Mars -17320-03-01 23:02 J -4604646.68 -4604646.54 -4604646.41 0.1895 0.1098

Jupiter -17318-10-26 17:02 J -4603677.98 -4603677.79 -4603677.61 0.0499 0.0102

Mars -17316-11-08 09:36 J -4602934.19 -4602934.10 -4602934.01 0.1625 0.0987

Moon -17315-08-04 08:38 J -4602665.21 -4602665.14 -4602665.07 0.2699 0.2029

Earth -17315-08-04 08:38 J -4602665.21 -4602665.14 -4602665.07 0.2706 0.2068 *

Mars -17314-10-14 11:02 J -4602229.14 -4602229.04 -4602228.94 0.1625 0.0788

Jupiter -17312-06-20 01:26 J -4601614.55 -4601614.44 -4601614.33 0.0528 0.0253

Jupiter -17312-09-17 06:43 J -4601525.32 -4601525.22 -4601525.12 0.0526 0.0309

Neptune -17311-04-25 01:55 J -4601305.47 -4601305.42 -4601305.34 0.0088 0.0083

Neptune -17311-07-22 05:31 J -4601217.36 -4601217.27 -4601217.14 0.0088 0.0073

Neptune -17311-10-18 09:07 J -4601129.23 -4601129.12 -4601128.96 0.0088 0.0063

Neptune -17310-01-14 13:26 J -4601041.10 -4601040.94 -4601040.79 0.0088 0.0052

Neptune -17310-04-12 17:02 J -4600952.96 -4600952.79 -4600952.62 0.0088 0.0042

Neptune -17310-07-09 20:38 J -4600864.82 -4600864.64 -4600864.45 0.0088 0.0032

Neptune -17310-10-06 00:14 J -4600776.68 -4600776.49 -4600776.29 0.0088 0.0022

Neptune -17309-01-02 04:04 J -4600688.53 -4600688.33 -4600688.13 0.0088 0.0012

Saturn -17309-01-03 14:23 J -4600686.99 -4600686.90 -4600686.80 0.0275 0.0236

Neptune -17309-03-30 07:40 J -4600600.38 -4600600.18 -4600599.98 0.0088 0.0002

Saturn -17309-04-01 14:09 J -4600598.10 -4600597.91 -4600597.72 0.0276 0.0049

Neptune -17309-06-26 11:16 J -4600512.22 -4600512.03 -4600511.83 0.0088 0.0009

Saturn -17309-06-29 13:26 J -4600509.10 -4600508.94 -4600508.77 0.0277 0.0140

Neptune -17309-09-22 14:52 J -4600424.07 -4600423.88 -4600423.68 0.0088 0.0019

Neptune -17309-12-19 18:28 J -4600335.91 -4600335.73 -4600335.53 0.0088 0.0029

Neptune -17308-03-17 22:04 J -4600247.74 -4600247.58 -4600247.39 0.0088 0.0039

Neptune -17308-06-14 01:40 J -4600159.58 -4600159.43 -4600159.25 0.0088 0.0049

Earth -17308-07-28 06:57 J -4600115.31 -4600115.21 -4600115.12 0.2709 0.1292

Moon -17308-07-28 07:26 J -4600115.29 -4600115.19 -4600115.09 0.2714 0.1276 *

Neptune -17308-09-10 05:16 J -4600071.41 -4600071.28 -4600071.12 0.0088 0.0059

Neptune -17308-12-07 08:52 J -4599983.23 -4599983.13 -4599982.99 0.0088 0.0069

Neptune -17307-03-05 12:28 J -4599895.04 -4599894.98 -4599894.87 0.0088 0.0079

Mars -17306-03-31 21:21 J -4599503.66 -4599503.61 -4599503.55 0.1625 0.1410

Jupiter -17306-08-14 14:09 J -4599368.10 -4599367.91 -4599367.73 0.0499 0.0075

Moon -17304-01-30 20:23 J -4598832.80 -4598832.65 -4598832.50 0.2623 0.0802

Earth -17304-01-30 22:04 J -4598832.73 -4598832.58 -4598832.44 0.2625 0.0753 *

Mars -17304-03-05 22:33 J -4598798.67 -4598798.56 -4598798.44 0.1625 0.0362

Jupiter -17300-04-08 05:45 J -4597304.34 -4597304.26 -4597304.18 0.0527 0.0391

Jupiter -17300-07-06 11:02 J -4597215.16 -4597215.04 -4597214.92 0.0526 0.0168

Uranus -17299-03-27 11:31 J -4596951.06 -4596951.02 -4596950.97 0.0139 0.0129

Uranus -17299-06-23 14:52 J -4596862.96 -4596862.88 -4596862.80 0.0140 0.0109

Uranus -17299-09-19 18:00 J -4596774.84 -4596774.75 -4596774.64 0.0140 0.0090

Uranus -17299-12-16 21:36 J -4596686.72 -4596686.60 -4596686.49 0.0140 0.0069

Uranus -17298-03-15 00:43 J -4596598.59 -4596598.47 -4596598.34 0.0140 0.0049

Uranus -17298-06-11 04:04 J -4596510.45 -4596510.33 -4596510.20 0.0140 0.0028

Uranus -17298-09-07 07:40 J -4596422.32 -4596422.18 -4596422.05 0.0140 0.0008

Uranus -17298-12-04 11:02 J -4596334.17 -4596334.04 -4596333.91 0.0140 0.0014

Uranus -17297-03-01 14:23 J -4596246.03 -4596245.90 -4596245.77 0.0140 0.0035

Uranus -17297-05-28 17:45 J -4596157.88 -4596157.76 -4596157.64 0.0141 0.0056

Uranus -17297-08-24 21:07 J -4596069.73 -4596069.62 -4596069.51 0.0141 0.0077

Uranus -17297-11-21 00:43 J -4595981.57 -4595981.47 -4595981.38 0.0141 0.0098

Venus -17296-01-01 17:16 J -4595939.87 -4595939.78 -4595939.68 0.3643 0.2906

Saturn -17296-02-14 10:04 J -4595896.14 -4595896.08 -4595896.02 0.0288 0.0257

Uranus -17296-02-17 03:50 J -4595893.40 -4595893.34 -4595893.26 0.0141 0.0120

Saturn -17296-05-13 21:21 J -4595807.73 -4595807.61 -4595807.49 0.0287 0.0117

Saturn -17296-08-10 08:23 J -4595719.28 -4595719.15 -4595719.02 0.0286 0.0023

Saturn -17296-11-06 19:26 J -4595630.79 -4595630.69 -4595630.58 0.0285 0.0160

Mars -17295-07-27 10:19 J -4595368.18 -4595368.07 -4595367.95 0.1625 0.0073

Earth -17295-07-31 00:57 J -4595364.57 -4595364.46 -4595364.35 0.2708 0.0122

Moon -17295-07-31 01:40 J -4595364.54 -4595364.43 -4595364.32 0.2707 0.0057 *

Jupiter -17294-06-02 10:48 J -4595058.21 -4595058.05 -4595057.89 0.0499 0.0260

Jupiter -17294-08-31 22:04 J -4594967.62 -4594967.58 -4594967.52 0.0500 0.0479

Moon -17291-02-03 01:55 J -4594081.56 -4594081.42 -4594081.28 0.2628 0.1166

Earth -17291-02-03 03:36 J -4594081.48 -4594081.35 -4594081.22 0.2626 0.1399 *

Mars -17290-04-11 08:09 J -4593649.33 -4593649.16 -4593649.00 0.1895 0.0510

Jupiter -17288-01-25 10:19 J -4592994.07 -4592994.07 -4592994.06 0.0527 0.0526

Jupiter -17288-04-24 15:21 J -4592904.98 -4592904.86 -4592904.73 0.0526 0.0035

Mars -17286-12-17 22:04 J -4591937.69 -4591937.58 -4591937.47 0.1624 0.0502

Mars -17284-11-21 23:31 J -4591232.59 -4591232.52 -4591232.45 0.1626 0.1283

Venus -17283-11-06 06:00 J -4590883.31 -4590883.25 -4590883.19 0.3728 0.2992

Jupiter -17282-03-21 07:55 J -4590748.26 -4590748.17 -4590748.08 0.0499 0.0438

Jupiter -17282-06-19 19:26 J -4590657.83 -4590657.69 -4590657.54 0.0500 0.0301

Earth -17282-08-02 19:11 J -4590613.80 -4590613.70 -4590613.60 0.2707 0.1096

Moon -17282-08-02 19:40 J -4590613.78 -4590613.68 -4590613.57 0.2702 0.1102 *

Mars -17281-08-30 23:45 J -4590219.66 -4590219.51 -4590219.37 0.1895 0.0974

Saturn -17280-08-19 11:16 J -4589866.20 -4589866.03 -4589865.85 0.0276 0.0110

Saturn -17280-11-16 10:48 J -4589777.23 -4589777.05 -4589776.86 0.0277 0.0078

Saturn -17279-02-13 10:04 J -4589688.12 -4589688.08 -4589688.01 0.0278 0.0267

Venus -17277-05-21 21:21 J -4588859.71 -4588859.61 -4588859.52 0.3730 0.1062

Jupiter -17276-02-10 19:40 J -4588594.80 -4588594.68 -4588594.56 0.0527 0.0111

Mars -17276-05-09 09:36 J -4588507.19 -4588507.10 -4588507.00 0.1625 0.0929

Jupiter -17276-05-11 00:57 J -4588505.52 -4588505.46 -4588505.39 0.0526 0.0448

Moon -17275-07-26 18:00 J -4588063.82 -4588063.75 -4588063.69 0.2717 0.2207

Earth -17275-07-26 17:45 J -4588063.82 -4588063.76 -4588063.70 0.2710 0.2234 *

Mars -17274-04-14 11:02 J -4587802.14 -4587802.04 -4587801.94 0.1625 0.0849

Venus -17272-12-05 12:28 J -4586836.07 -4586835.98 -4586835.88 0.3731 0.0915

Moon -17271-01-28 21:36 J -4586781.63 -4586781.60 -4586781.57 0.2618 0.2557

Earth -17271-01-28 22:33 J -4586781.60 -4586781.56 -4586781.53 0.2624 0.2539 *

Jupiter -17270-04-07 16:33 J -4586347.99 -4586347.81 -4586347.63 0.0499 0.0123

Moon -17269-08-04 13:26 J -4585862.99 -4585862.94 -4585862.89 0.2699 0.2337

Earth -17269-08-04 13:26 J -4585862.99 -4585862.94 -4585862.88 0.2706 0.2313 *

Mars -17267-09-29 21:21 J -4585076.67 -4585076.61 -4585076.55 0.1625 0.1355

Saturn -17267-09-30 23:02 J -4585075.65 -4585075.54 -4585075.44 0.0287 0.0165

Saturn -17267-12-28 10:04 J -4584987.21 -4584987.08 -4584986.95 0.0286 0.0027

Saturn -17266-03-26 21:21 J -4584898.73 -4584898.61 -4584898.49 0.0285 0.0112

Venus -17266-06-21 03:50 J -4584812.40 -4584812.34 -4584812.28 0.3733 0.2879

Saturn -17266-06-23 08:23 J -4584810.21 -4584810.15 -4584810.09 0.0283 0.0248

Mars -17265-09-03 22:33 J -4584371.67 -4584371.56 -4584371.45 0.1625 0.0415

Jupiter -17265-11-30 00:14 J -4584284.60 -4584284.49 -4584284.38 0.0527 0.0246

Jupiter -17264-02-27 05:31 J -4584195.37 -4584195.27 -4584195.17 0.0526 0.0314

Earth -17262-07-29 11:45 J -4583313.11 -4583313.01 -4583312.91 0.2709 0.1062

Moon -17262-07-29 12:14 J -4583313.09 -4583312.99 -4583312.88 0.2713 0.0964 *

Uranus -17259-02-08 19:26 J -4582387.78 -4582387.69 -4582387.60 0.0139 0.0122

Uranus -17259-05-08 02:52 J -4582299.51 -4582299.38 -4582299.22 0.0139 0.0093

Uranus -17259-08-04 11:02 J -4582211.21 -4582211.04 -4582210.87 0.0138 0.0062

Uranus -17259-10-31 18:43 J -4582122.90 -4582122.72 -4582122.53 0.0138 0.0033

Jupiter -17258-01-24 13:26 J -4582038.13 -4582037.94 -4582037.76 0.0499 0.0061

Uranus -17258-01-28 02:38 J -4582034.59 -4582034.39 -4582034.20 0.0138 0.0004

Moon -17258-02-01 02:52 J -4582030.53 -4582030.38 -4582030.23 0.2624 0.0600

Earth -17258-02-01 04:19 J -4582030.47 -4582030.32 -4582030.16 0.2625 0.0348 *

Uranus -17258-04-26 10:04 J -4581946.26 -4581946.08 -4581945.88 0.0138 0.0026

Uranus -17258-07-23 17:45 J -4581857.93 -4581857.76 -4581857.58 0.0138 0.0054

Uranus -17258-10-20 01:11 J -4581769.59 -4581769.45 -4581769.29 0.0138 0.0083

Uranus -17257-01-16 08:38 J -4581681.24 -4581681.14 -4581681.02 0.0138 0.0112

Mars -17255-01-25 10:19 J -4580941.19 -4580941.07 -4580940.96 0.1624 0.0034

Jupiter -17253-09-18 05:02 J -4579974.38 -4579974.29 -4579974.20 0.0528 0.0378

Jupiter -17253-12-16 10:19 J -4579885.19 -4579885.07 -4579884.95 0.0527 0.0182

Mars -17251-10-10 08:23 J -4579222.31 -4579222.15 -4579221.99 0.1895 0.0610

Saturn -17250-01-06 06:57 J -4579134.35 -4579134.21 -4579134.07 0.0275 0.0185

Saturn -17250-04-05 06:28 J -4579045.42 -4579045.23 -4579045.04 0.0276 0.0002

Saturn -17250-07-03 05:45 J -4578956.39 -4578956.26 -4578956.12 0.0277 0.0190

Earth -17249-07-31 06:00 J -4578562.37 -4578562.25 -4578562.14 0.2708 0.0168

Moon -17249-07-31 06:43 J -4578562.33 -4578562.22 -4578562.11 0.2706 0.0183 *

Jupiter -17247-11-12 10:19 J -4577728.23 -4577728.07 -4577727.90 0.0499 0.0238

Jupiter -17246-02-10 21:50 J -4577637.60 -4577637.59 -4577637.58 0.0500 0.0498

Mars -17246-06-17 21:50 J -4577510.70 -4577510.59 -4577510.48 0.1625 0.0448

Pluto -17246-11-21 12:43 J -4577353.97 -4577353.97 -4577353.92 0.0073 0.0072

Moon -17245-02-04 08:23 J -4577279.26 -4577279.15 -4577279.03 0.2628 0.1751

Earth -17245-02-04 10:04 J -4577279.19 -4577279.08 -4577278.97 0.2626 0.1806 *

Pluto -17245-02-17 14:23 J -4577265.97 -4577265.90 -4577265.81 0.0072 0.0063

Pluto -17245-05-15 16:04 J -4577177.93 -4577177.83 -4577177.72 0.0072 0.0054

Pluto -17245-08-11 17:16 J -4577089.89 -4577089.78 -4577089.65 0.0072 0.0045

Pluto -17245-11-07 18:57 J -4577001.85 -4577001.71 -4577001.58 0.0072 0.0037

Pluto -17244-02-03 20:09 J -4576913.80 -4576913.66 -4576913.51 0.0072 0.0028

Pluto -17244-05-02 21:36 J -4576825.75 -4576825.60 -4576825.44 0.0072 0.0020

Mars -17244-05-22 23:31 J -4576805.59 -4576805.52 -4576805.46 0.1626 0.1340

Pluto -17244-07-29 22:48 J -4576737.70 -4576737.55 -4576737.38 0.0072 0.0012

Pluto -17244-10-26 00:14 J -4576649.64 -4576649.49 -4576649.33 0.0072 0.0004

Pluto -17243-01-22 01:40 J -4576561.59 -4576561.43 -4576561.27 0.0072 0.0005

Pluto -17243-04-20 02:52 J -4576473.53 -4576473.38 -4576473.22 0.0071 0.0013

Pluto -17243-07-17 04:04 J -4576385.47 -4576385.33 -4576385.17 0.0071 0.0021

Pluto -17243-10-13 05:16 J -4576297.41 -4576297.28 -4576297.12 0.0071 0.0029

Pluto -17242-01-09 06:28 J -4576209.35 -4576209.23 -4576209.08 0.0071 0.0037

Pluto -17242-04-07 07:40 J -4576121.28 -4576121.18 -4576121.04 0.0071 0.0045

Pluto -17242-07-04 08:52 J -4576033.21 -4576033.13 -4576033.01 0.0071 0.0053

Pluto -17242-09-30 10:33 J -4575945.14 -4575945.06 -4575944.98 0.0071 0.0060

Pluto -17242-12-27 11:31 J -4575857.05 -4575857.02 -4575856.97 0.0071 0.0068

Mars -17241-03-01 00:43 J -4575792.62 -4575792.47 -4575792.31 0.1896 0.0832

Jupiter -17241-07-07 09:36 J -4575664.13 -4575664.10 -4575664.08 0.0527 0.0514

Jupiter -17241-10-04 14:38 J -4575575.01 -4575574.89 -4575574.76 0.0526 0.0045

Venus -17240-08-08 20:09 J -4575266.82 -4575266.66 -4575266.50 0.3643 0.0584

Saturn -17237-02-18 00:14 J -4574343.57 -4574343.49 -4574343.41 0.0288 0.0218

Saturn -17237-05-16 11:31 J -4574255.15 -4574255.02 -4574254.90 0.0287 0.0078

Saturn -17237-08-12 22:33 J -4574166.68 -4574166.56 -4574166.43 0.0286 0.0061

Mars -17237-11-07 09:36 J -4574080.20 -4574080.10 -4574080.00 0.1625 0.0872

Saturn -17237-11-09 09:50 J -4574078.18 -4574078.09 -4574078.00 0.0285 0.0198

Earth -17236-08-03 00:00 J -4573811.59 -4573811.50 -4573811.40 0.2707 0.1338

Moon -17236-08-03 00:28 J -4573811.57 -4573811.48 -4573811.38 0.2701 0.1435 *

Jupiter -17235-08-31 06:43 J -4573418.31 -4573418.22 -4573418.12 0.0499 0.0426

Mars -17235-10-13 11:02 J -4573375.14 -4573375.04 -4573374.95 0.1625 0.0905

Jupiter -17235-11-29 18:43 J -4573327.87 -4573327.72 -4573327.58 0.0500 0.0315

Neptune -17230-08-05 17:02 J -4571617.83 -4571617.79 -4571617.74 0.0089 0.0083

Neptune -17230-11-01 18:28 J -4571529.80 -4571529.73 -4571529.66 0.0089 0.0076

Neptune -17229-01-28 19:40 J -4571441.76 -4571441.68 -4571441.59 0.0089 0.0069

Neptune -17229-04-25 20:52 J -4571353.72 -4571353.63 -4571353.53 0.0089 0.0062

Neptune -17229-07-22 22:19 J -4571265.67 -4571265.57 -4571265.47 0.0089 0.0055

Jupiter -17229-07-23 19:11 J -4571264.82 -4571264.70 -4571264.57 0.0526 0.0093

Earth -17229-07-26 22:33 J -4571261.63 -4571261.56 -4571261.49 0.2710 0.2004

Moon -17229-07-26 22:48 J -4571261.62 -4571261.55 -4571261.48 0.2717 0.1999 *

Neptune -17229-10-18 23:31 J -4571177.62 -4571177.52 -4571177.40 0.0089 0.0048

Jupiter -17229-10-21 00:28 J -4571175.53 -4571175.48 -4571175.42 0.0525 0.0465

Neptune -17228-01-15 00:57 J -4571089.58 -4571089.46 -4571089.34 0.0089 0.0041

Neptune -17228-04-13 02:09 J -4571001.53 -4571001.41 -4571001.28 0.0089 0.0034

Neptune -17228-07-10 03:36 J -4570913.48 -4570913.35 -4570913.23 0.0089 0.0026

Neptune -17228-10-06 04:48 J -4570825.43 -4570825.30 -4570825.17 0.0089 0.0019

Neptune -17227-01-02 06:14 J -4570737.37 -4570737.24 -4570737.11 0.0089 0.0012

Mars -17227-03-30 21:21 J -4570649.68 -4570649.61 -4570649.54 0.1625 0.1294

Neptune -17227-03-31 07:26 J -4570649.32 -4570649.19 -4570649.06 0.0089 0.0005

Neptune -17227-06-27 08:52 J -4570561.27 -4570561.13 -4570561.00 0.0089 0.0003

Neptune -17227-09-23 10:04 J -4570473.21 -4570473.08 -4570472.95 0.0089 0.0009

Neptune -17227-12-20 11:16 J -4570385.16 -4570385.03 -4570384.90 0.0089 0.0016

Neptune -17226-03-18 12:28 J -4570297.10 -4570296.98 -4570296.84 0.0089 0.0024

Venus -17226-06-13 03:21 J -4570210.44 -4570210.36 -4570210.28 0.3728 0.2283

Neptune -17226-06-14 13:55 J -4570209.04 -4570208.92 -4570208.79 0.0089 0.0030

Neptune -17226-09-10 15:07 J -4570120.98 -4570120.87 -4570120.74 0.0089 0.0037

Neptune -17226-12-07 16:19 J -4570032.92 -4570032.82 -4570032.69 0.0089 0.0045

Moon -17225-01-30 03:50 J -4569979.41 -4569979.34 -4569979.26 0.2619 0.2268

Earth -17225-01-30 05:02 J -4569979.38 -4569979.29 -4569979.20 0.2624 0.2118 *

Neptune -17225-03-04 17:45 J -4569944.86 -4569944.76 -4569944.65 0.0089 0.0051

Mars -17225-03-04 22:33 J -4569944.67 -4569944.56 -4569944.45 0.1625 0.0474 *

Neptune -17225-05-31 18:57 J -4569856.80 -4569856.71 -4569856.60 0.0089 0.0059

Neptune -17225-08-27 20:23 J -4569768.73 -4569768.65 -4569768.56 0.0089 0.0066

Neptune -17225-11-23 21:36 J -4569680.67 -4569680.60 -4569680.52 0.0089 0.0073

Neptune -17224-02-19 23:02 J -4569592.59 -4569592.54 -4569592.48 0.0089 0.0080

Neptune -17224-05-19 00:28 J -4569504.51 -4569504.48 -4569504.45 0.0089 0.0087

Moon -17223-08-05 18:14 J -4569060.78 -4569060.74 -4569060.69 0.2698 0.2471

Earth -17223-08-05 18:28 J -4569060.76 -4569060.73 -4569060.70 0.2706 0.2553 *

Jupiter -17223-09-17 15:50 J -4569018.02 -4569017.84 -4569017.66 0.0500 0.0137

Saturn -17221-05-25 04:19 J -4568402.40 -4568402.32 -4568402.22 0.0274 0.0244

Saturn -17221-08-22 04:04 J -4568313.52 -4568313.33 -4568313.14 0.0276 0.0058

Saturn -17221-11-19 03:21 J -4568224.52 -4568224.36 -4568224.19 0.0277 0.0130

Venus -17221-12-26 18:43 J -4568186.82 -4568186.72 -4568186.62 0.3730 0.0372

Jupiter -17217-05-11 23:31 J -4566954.63 -4566954.52 -4566954.41 0.0527 0.0235

Jupiter -17217-08-09 04:48 J -4566865.40 -4566865.30 -4566865.21 0.0526 0.0324

Mars -17216-07-26 10:19 J -4566514.19 -4566514.07 -4566513.96 0.1624 0.0052

Earth -17216-07-29 16:33 J -4566510.91 -4566510.81 -4566510.70 0.2709 0.0830

Moon -17216-07-29 17:16 J -4566510.89 -4566510.78 -4566510.68 0.2711 0.0760 *

Uranus -17215-04-16 18:43 J -4566249.77 -4566249.72 -4566249.66 0.0139 0.0125

Venus -17215-07-12 09:50 J -4566163.17 -4566163.09 -4566163.00 0.3732 0.1631

Uranus -17215-07-13 21:50 J -4566161.67 -4566161.59 -4566161.50 0.0140 0.0106

Uranus -17215-10-10 01:11 J -4566073.55 -4566073.45 -4566073.34 0.0140 0.0085

Uranus -17214-01-06 04:33 J -4565985.42 -4565985.31 -4565985.19 0.0140 0.0065

Uranus -17214-04-04 07:55 J -4565897.29 -4565897.17 -4565897.04 0.0140 0.0045

Uranus -17214-07-01 11:16 J -4565809.16 -4565809.03 -4565808.90 0.0140 0.0024

Uranus -17214-09-27 14:38 J -4565721.02 -4565720.89 -4565720.76 0.0140 0.0003

Uranus -17214-12-24 18:00 J -4565632.88 -4565632.75 -4565632.62 0.0140 0.0018

Uranus -17213-03-21 21:21 J -4565544.74 -4565544.61 -4565544.48 0.0141 0.0039

Uranus -17213-06-18 00:43 J -4565456.59 -4565456.47 -4565456.35 0.0141 0.0060

Uranus -17213-09-14 04:04 J -4565368.43 -4565368.33 -4565368.22 0.0141 0.0081

Uranus -17213-12-11 07:40 J -4565280.27 -4565280.18 -4565280.09 0.0141 0.0102

Moon -17212-02-01 09:07 J -4565228.27 -4565228.12 -4565227.96 0.2625 0.0051

Earth -17212-02-01 10:48 J -4565228.20 -4565228.05 -4565227.89 0.2625 0.0108 *

Uranus -17212-03-09 11:02 J -4565192.10 -4565192.04 -4565191.97 0.0141 0.0124

Mars -17211-04-10 09:36 J -4564795.25 -4564795.10 -4564794.94 0.1895 0.0757

Jupiter -17211-07-06 12:57 J -4564708.15 -4564707.96 -4564707.77 0.0499 0.0041

Venus -17209-01-26 01:11 J -4564139.47 -4564139.45 -4564139.42 0.3734 0.3596

Saturn -17208-07-07 01:40 J -4563611.47 -4563611.43 -4563611.38 0.0288 0.0268

Saturn -17208-10-03 13:11 J -4563523.07 -4563522.95 -4563522.84 0.0287 0.0128

Saturn -17208-12-31 00:14 J -4563434.62 -4563434.49 -4563434.36 0.0286 0.0013

Saturn -17207-03-29 11:31 J -4563346.13 -4563346.02 -4563345.91 0.0285 0.0150

Mars -17207-12-16 21:50 J -4563083.70 -4563083.59 -4563083.48 0.1624 0.0390

Jupiter -17205-02-29 04:04 J -4562644.42 -4562644.33 -4562644.24 0.0527 0.0371

Jupiter -17205-05-28 09:07 J -4562555.23 -4562555.12 -4562555.00 0.0526 0.0189

Mars -17205-11-20 23:16 J -4562378.58 -4562378.53 -4562378.47 0.1626 0.1397

Earth -17203-08-01 10:48 J -4561760.16 -4561760.05 -4561759.94 0.2708 0.0363

Moon -17203-08-01 11:31 J -4561760.13 -4561760.02 -4561759.91 0.2706 0.0497 *

Mars -17202-08-31 01:26 J -4561365.60 -4561365.44 -4561365.28 0.1895 0.0716

Moon -17199-02-04 15:07 J -4560476.97 -4560476.87 -4560476.77 0.2630 0.1994

Earth -17199-02-04 16:19 J -4560476.90 -4560476.82 -4560476.74 0.2626 0.2205 *

Jupiter -17199-04-24 09:36 J -4560398.26 -4560398.10 -4560397.93 0.0499 0.0224

Mars -17197-05-08 09:36 J -4559653.20 -4559653.10 -4559653.00 0.1625 0.0815

Mars -17195-04-13 11:02 J -4558948.14 -4558948.04 -4558947.95 0.1625 0.0963

Jupiter -17194-12-18 08:38 J -4558334.17 -4558334.14 -4558334.10 0.0528 0.0503

Jupiter -17193-03-16 13:55 J -4558245.04 -4558244.92 -4558244.79 0.0527 0.0056

Saturn -17191-01-08 23:45 J -4557581.68 -4557581.51 -4557581.35 0.0275 0.0133

Saturn -17191-04-07 23:02 J -4557492.73 -4557492.54 -4557492.35 0.0276 0.0054

Saturn -17191-07-05 22:19 J -4557403.65 -4557403.57 -4557403.47 0.0277 0.0242

Earth -17190-08-04 05:02 J -4557009.38 -4557009.29 -4557009.20 0.2707 0.1571

Moon -17190-08-04 05:16 J -4557009.37 -4557009.28 -4557009.19 0.2700 0.1537 *

Mars -17188-09-28 21:21 J -4556222.68 -4556222.61 -4556222.54 0.1625 0.1241

Jupiter -17187-02-10 06:43 J -4556088.33 -4556088.22 -4556088.11 0.0499 0.0402

Jupiter -17187-05-11 18:14 J -4555997.87 -4555997.74 -4555997.60 0.0500 0.0336

Mars -17186-09-03 22:33 J -4555517.67 -4555517.56 -4555517.45 0.1625 0.0529

Venus -17183-03-15 23:02 J -4554593.69 -4554593.54 -4554593.40 0.3642 0.1716

Earth -17183-07-28 03:21 J -4554459.44 -4554459.36 -4554459.28 0.2710 0.1778

Moon -17183-07-28 03:36 J -4554459.43 -4554459.35 -4554459.26 0.2717 0.1714 *

Jupiter -17181-01-03 18:28 J -4553934.85 -4553934.73 -4553934.60 0.0526 0.0081

Jupiter -17181-04-01 23:45 J -4553845.56 -4553845.51 -4553845.46 0.0525 0.0478

Moon -17179-01-30 10:19 J -4553177.19 -4553177.07 -4553176.96 0.2621 0.1838

Earth -17179-01-30 11:31 J -4553177.13 -4553177.02 -4553176.90 0.2624 0.1701 *

Saturn -17178-02-20 14:09 J -4552791.00 -4552790.91 -4552790.80 0.0288 0.0182

Saturn -17178-05-20 01:26 J -4552702.56 -4552702.44 -4552702.31 0.0287 0.0042

Saturn -17178-08-16 12:43 J -4552614.09 -4552613.97 -4552613.85 0.0286 0.0098

Saturn -17178-11-13 00:00 J -4552525.57 -4552525.50 -4552525.43 0.0285 0.0236

Mars -17176-01-24 10:19 J -4552087.19 -4552087.07 -4552086.96 0.1624 0.0117

Jupiter -17175-02-27 14:38 J -4551688.06 -4551687.89 -4551687.71 0.0500 0.0149

Uranus -17175-03-01 02:09 J -4551686.50 -4551686.41 -4551686.29 0.0139 0.0116

Uranus -17175-05-28 10:19 J -4551598.22 -4551598.07 -4551597.92 0.0139 0.0086

Venus -17175-07-04 09:21 J -4551561.14 -4551561.11 -4551561.07 0.3727 0.3511

Uranus -17175-08-24 18:00 J -4551509.92 -4551509.75 -4551509.57 0.0138 0.0056

Uranus -17175-11-21 01:55 J -4551421.61 -4551421.42 -4551421.23 0.0138 0.0027

Uranus -17174-02-17 09:36 J -4551333.29 -4551333.10 -4551332.91 0.0138 0.0003

Uranus -17174-05-16 17:02 J -4551244.97 -4551244.79 -4551244.59 0.0138 0.0032

Uranus -17174-08-13 00:43 J -4551156.64 -4551156.47 -4551156.29 0.0138 0.0061

Uranus -17174-11-09 08:23 J -4551068.29 -4551068.15 -4551068.00 0.0138 0.0089

Uranus -17173-02-05 15:36 J -4550979.93 -4550979.85 -4550979.74 0.0138 0.0118

Mars -17172-10-09 10:33 J -4550368.21 -4550368.06 -4550367.91 0.1895 0.0886

Earth -17170-07-30 21:36 J -4549708.71 -4549708.60 -4549708.50 0.2709 0.0606

Moon -17170-07-30 22:19 J -4549708.68 -4549708.57 -4549708.47 0.2710 0.0537 *

Jupiter -17170-10-22 23:02 J -4549624.65 -4549624.54 -4549624.42 0.0527 0.0216

Venus -17169-01-18 00:43 J -4549537.56 -4549537.47 -4549537.38 0.3728 0.1573

Jupiter -17169-01-20 04:19 J -4549535.42 -4549535.32 -4549535.23 0.0525 0.0342

Mars -17167-06-16 21:50 J -4548656.70 -4548656.59 -4548656.48 0.1624 0.0330

Moon -17166-02-02 15:50 J -4548426.00 -4548425.84 -4548425.69 0.2625 0.0243

Earth -17166-02-02 17:31 J -4548425.93 -4548425.77 -4548425.62 0.2625 0.0490 *

Mars -17165-05-21 23:16 J -4547951.57 -4547951.53 -4547951.48 0.1626 0.1456

Venus -17164-08-02 16:04 J -4547513.93 -4547513.83 -4547513.73 0.3730 0.0395

Jupiter -17164-12-16 12:00 J -4547378.19 -4547378.00 -4547377.82 0.0500 0.0031

Mars -17162-03-01 02:23 J -4546938.56 -4546938.40 -4546938.23 0.1895 0.0578

Saturn -17162-05-28 21:21 J -4546849.74 -4546849.61 -4546849.46 0.0274 0.0188

Saturn -17162-08-25 20:52 J -4546760.82 -4546760.63 -4546760.44 0.0275 0.0006

Saturn -17162-11-22 20:09 J -4546671.79 -4546671.66 -4546671.51 0.0277 0.0185

Venus -17158-02-16 07:11 J -4545490.27 -4545490.20 -4545490.12 0.3732 0.2344

Jupiter -17158-08-11 03:07 J -4545314.46 -4545314.37 -4545314.27 0.0527 0.0359

Mars -17158-11-07 09:36 J -4545226.20 -4545226.10 -4545226.00 0.1624 0.0758

Jupiter -17158-11-08 08:23 J -4545225.27 -4545225.15 -4545225.03 0.0526 0.0199

Earth -17157-08-01 15:36 J -4544957.96 -4544957.85 -4544957.74 0.2708 0.0601

Moon -17157-08-01 16:19 J -4544957.93 -4544957.82 -4544957.71 0.2705 0.0644 *

Mars -17156-10-12 10:48 J -4544521.13 -4544521.05 -4544520.96 0.1625 0.1022

Moon -17153-02-05 21:50 J -4543674.61 -4543674.59 -4543674.58 0.2632 0.2607

Earth -17153-02-05 22:48 J -4543674.56 -4543674.55 -4543674.53 0.2626 0.2606

Jupiter -17152-10-04 09:07 J -4543068.29 -4543068.12 -4543067.95 0.0499 0.0208

Moon -17150-07-26 14:09 J -4542407.93 -4542407.91 -4542407.89 0.2718 0.2668

Saturn -17149-07-09 16:04 J -4542058.91 -4542058.83 -4542058.75 0.0289 0.0229

Saturn -17149-10-06 03:21 J -4541970.48 -4541970.36 -4541970.24 0.0287 0.0088

Saturn -17148-01-02 14:38 J -4541882.02 -4541881.89 -4541881.76 0.0286 0.0052

Mars -17148-03-29 21:07 J -4541795.69 -4541795.62 -4541795.54 0.1625 0.1187

Saturn -17148-04-01 01:40 J -4541793.52 -4541793.43 -4541793.33 0.0285 0.0190

Neptune -17147-10-23 21:21 J -4541222.61 -4541222.61 -4541222.61 0.0088 0.0088

Neptune -17146-01-20 00:43 J -4541134.54 -4541134.47 -4541134.36 0.0088 0.0078

Mars -17146-03-04 22:33 J -4541090.67 -4541090.56 -4541090.45 0.1625 0.0586

Neptune -17146-04-18 04:19 J -4541046.42 -4541046.32 -4541046.17 0.0088 0.0068

Jupiter -17146-05-30 07:40 J -4541004.22 -4541004.18 -4541004.14 0.0527 0.0496

Neptune -17146-07-15 08:09 J -4540958.29 -4540958.16 -4540958.00 0.0088 0.0058

Jupiter -17146-08-27 12:57 J -4540915.09 -4540914.96 -4540914.84 0.0526 0.0064

Neptune -17146-10-11 12:14 J -4540870.16 -4540869.99 -4540869.83 0.0088 0.0047

Neptune -17145-01-07 15:50 J -4540782.02 -4540781.84 -4540781.66 0.0088 0.0037

Neptune -17145-04-04 19:26 J -4540693.87 -4540693.69 -4540693.50 0.0088 0.0027

Neptune -17145-07-01 23:02 J -4540605.73 -4540605.54 -4540605.34 0.0088 0.0017

Neptune -17145-09-28 02:52 J -4540517.58 -4540517.38 -4540517.18 0.0088 0.0007

Neptune -17145-12-25 06:28 J -4540429.43 -4540429.23 -4540429.03 0.0088 0.0003

Neptune -17144-03-23 10:04 J -4540341.27 -4540341.08 -4540340.88 0.0088 0.0013

Neptune -17144-06-19 13:55 J -4540253.11 -4540252.92 -4540252.73 0.0088 0.0023

Earth -17144-08-04 09:50 J -4540207.17 -4540207.09 -4540207.01 0.2707 0.1811

Moon -17144-08-04 10:04 J -4540207.16 -4540207.08 -4540207.00 0.2699 0.1875 *

Neptune -17144-09-15 17:31 J -4540164.95 -4540164.77 -4540164.59 0.0088 0.0033

Neptune -17144-12-12 21:07 J -4540076.79 -4540076.62 -4540076.45 0.0088 0.0043

Neptune -17143-03-11 00:14 J -4539988.62 -4539988.49 -4539988.31 0.0088 0.0054

Neptune -17143-06-07 04:04 J -4539900.45 -4539900.33 -4539900.18 0.0088 0.0064

Neptune -17143-09-03 07:40 J -4539812.27 -4539812.18 -4539812.06 0.0088 0.0074

Neptune -17143-11-30 11:16 J -4539724.07 -4539724.03 -4539723.95 0.0088 0.0084

Jupiter -17140-07-23 05:45 J -4538758.38 -4538758.26 -4538758.15 0.0499 0.0390

Jupiter -17140-10-21 17:16 J -4538667.91 -4538667.78 -4538667.64 0.0500 0.0348

Mars -17139-08-20 08:52 J -4538365.14 -4538365.13 -4538365.12 0.1625 0.1609

Mars -17137-07-25 10:04 J -4537660.19 -4537660.08 -4537659.96 0.1624 0.0156

Earth -17137-07-28 08:09 J -4537657.25 -4537657.16 -4537657.07 0.2710 0.1550

Moon -17137-07-28 08:38 J -4537657.23 -4537657.14 -4537657.05 0.2716 0.1554 *

Jupiter -17134-06-15 17:31 J -4536604.89 -4536604.77 -4536604.64 0.0527 0.0072

Jupiter -17134-09-12 22:48 J -4536515.59 -4536515.55 -4536515.50 0.0526 0.0488

Moon -17133-01-31 16:33 J -4536374.94 -4536374.81 -4536374.68 0.2621 0.1407

Earth -17133-01-31 18:14 J -4536374.88 -4536374.74 -4536374.61 0.2624 0.1279 *

Saturn -17133-10-14 18:00 J -4536117.81 -4536117.75 -4536117.68 0.0274 0.0256

Saturn -17132-01-11 17:16 J -4536028.96 -4536028.78 -4536028.59 0.0275 0.0072

Venus -17132-04-05 13:55 J -4535945.01 -4535944.92 -4535944.83 0.3644 0.3042

Mars -17132-04-09 11:02 J -4535941.18 -4535941.04 -4535940.89 0.1895 0.1004

Saturn -17132-04-10 16:48 J -4535939.98 -4535939.80 -4535939.63 0.0276 0.0115

Uranus -17131-05-07 01:11 J -4535548.50 -4535548.45 -4535548.38 0.0139 0.0124

Uranus -17131-08-03 04:33 J -4535460.39 -4535460.31 -4535460.22 0.0140 0.0104

Uranus -17131-10-30 07:55 J -4535372.27 -4535372.17 -4535372.06 0.0140 0.0083

Uranus -17130-01-26 11:16 J -4535284.15 -4535284.03 -4535283.91 0.0140 0.0063

Uranus -17130-04-24 14:38 J -4535196.02 -4535195.89 -4535195.77 0.0140 0.0043

Uranus -17130-07-21 18:00 J -4535107.88 -4535107.75 -4535107.62 0.0140 0.0022

Uranus -17130-10-17 21:21 J -4535019.74 -4535019.61 -4535019.48 0.0140 0.0003

Uranus -17129-01-14 00:43 J -4534931.60 -4534931.47 -4534931.34 0.0140 0.0019

Uranus -17129-04-11 04:04 J -4534843.46 -4534843.33 -4534843.20 0.0141 0.0040

Uranus -17129-07-08 07:26 J -4534755.31 -4534755.19 -4534755.07 0.0141 0.0061

Uranus -17129-10-04 10:48 J -4534667.15 -4534667.05 -4534666.94 0.0141 0.0083

Uranus -17129-12-31 14:09 J -4534578.99 -4534578.91 -4534578.82 0.0141 0.0104

Uranus -17128-03-29 17:45 J -4534490.82 -4534490.76 -4534490.70 0.0141 0.0125

Jupiter -17128-08-09 14:23 J -4534358.08 -4534357.90 -4534357.72 0.0500 0.0170

Mars -17128-12-15 21:50 J -4534229.70 -4534229.59 -4534229.48 0.1624 0.0274

Mars -17126-11-20 23:16 J -4533524.57 -4533524.53 -4533524.49 0.1626 0.1510

Earth -17124-07-31 02:23 J -4532906.51 -4532906.40 -4532906.29 0.2709 0.0372

Moon -17124-07-31 03:07 J -4532906.48 -4532906.37 -4532906.26 0.2710 0.0249 *

Mars -17123-08-30 03:21 J -4532511.52 -4532511.36 -4532511.19 0.1896 0.0445

Jupiter -17122-04-03 22:19 J -4532294.69 -4532294.57 -4532294.46 0.0527 0.0206

Jupiter -17122-07-02 03:21 J -4532205.45 -4532205.36 -4532205.26 0.0525 0.0352

Moon -17120-02-02 22:19 J -4531623.72 -4531623.57 -4531623.42 0.2626 0.0790

Earth -17120-02-02 23:45 J -4531623.65 -4531623.51 -4531623.36 0.2625 0.0894 *

Saturn -17120-11-26 17:16 J -4531326.80 -4531326.78 -4531326.75 0.0289 0.0283

Saturn -17119-02-23 04:33 J -4531238.42 -4531238.31 -4531238.19 0.0288 0.0141

Saturn -17119-05-22 15:50 J -4531149.97 -4531149.84 -4531149.71 0.0287 0.0005

Saturn -17119-08-19 03:07 J -4531061.48 -4531061.37 -4531061.26 0.0286 0.0138

Saturn -17119-11-15 14:23 J -4530972.93 -4530972.90 -4530972.87 0.0285 0.0276

Venus -17118-02-08 06:43 J -4530888.28 -4530888.22 -4530888.15 0.3727 0.2801

Mars -17118-05-08 09:36 J -4530799.21 -4530799.10 -4530799.00 0.1625 0.0702

Mars -17116-04-12 10:48 J -4530094.13 -4530094.05 -4530093.96 0.1625 0.1078

Jupiter -17116-05-28 10:33 J -4530048.25 -4530048.06 -4530047.87 0.0500 0.0023

Venus -17113-08-23 22:04 J -4528864.68 -4528864.58 -4528864.48 0.3729 0.0863

Earth -17111-08-02 20:23 J -4528155.75 -4528155.65 -4528155.54 0.2708 0.0840

Moon -17111-08-02 21:07 J -4528155.73 -4528155.62 -4528155.52 0.2704 0.0907 *

Jupiter -17110-01-21 02:52 J -4527984.48 -4527984.38 -4527984.29 0.0527 0.0341

Jupiter -17110-04-20 07:55 J -4527895.28 -4527895.17 -4527895.05 0.0525 0.0216

Mars -17109-09-27 21:07 J -4527368.70 -4527368.62 -4527368.53 0.1625 0.1129

Venus -17107-03-09 13:26 J -4526841.04 -4526840.94 -4526840.85 0.3731 0.1095

Mars -17107-09-02 22:33 J -4526663.67 -4526663.56 -4526663.46 0.1625 0.0644

Jupiter -17104-03-16 07:26 J -4525738.36 -4525738.19 -4525738.01 0.0499 0.0201

Earth -17104-07-26 18:57 J -4525605.75 -4525605.71 -4525605.66 0.2711 0.2490

Moon -17104-07-26 19:11 J -4525605.74 -4525605.70 -4525605.67 0.2718 0.2562 *

Saturn -17103-05-31 15:36 J -4525297.02 -4525296.85 -4525296.68 0.0274 0.0125

Saturn -17103-08-28 14:52 J -4525208.06 -4525207.88 -4525207.69 0.0275 0.0061

Saturn -17103-11-25 14:09 J -4525118.98 -4525118.91 -4525118.82 0.0277 0.0247

Venus -17102-09-23 04:48 J -4524817.36 -4524817.30 -4524817.25 0.3733 0.3056

Mars -17099-02-18 08:52 J -4523938.16 -4523938.13 -4523938.10 0.1625 0.1552

Jupiter -17099-11-09 06:57 J -4523674.26 -4523674.21 -4523674.17 0.0527 0.0484

Jupiter -17098-02-06 12:00 J -4523585.12 -4523585.00 -4523584.87 0.0526 0.0072

Moon -17098-08-05 14:52 J -4523404.95 -4523404.88 -4523404.80 0.2699 0.2022

Earth -17098-08-05 14:52 J -4523404.95 -4523404.88 -4523404.81 0.2706 0.2052 *

Mars -17097-01-24 10:04 J -4523233.19 -4523233.08 -4523232.96 0.1624 0.0216

Mars -17093-10-08 12:14 J -4521514.13 -4521513.99 -4521513.86 0.1895 0.1138

Jupiter -17092-01-02 04:33 J -4521428.43 -4521428.31 -4521428.19 0.0499 0.0379

Jupiter -17092-04-02 16:19 J -4521337.95 -4521337.82 -4521337.69 0.0500 0.0361

Uranus -17091-03-21 08:38 J -4520985.25 -4520985.14 -4520985.02 0.0139 0.0112

Uranus -17091-06-17 16:33 J -4520896.96 -4520896.81 -4520896.65 0.0139 0.0082

Earth -17091-07-29 13:11 J -4520855.05 -4520854.95 -4520854.86 0.2710 0.1323

Moon -17091-07-29 13:40 J -4520855.03 -4520854.93 -4520854.83 0.2714 0.1200 *

Uranus -17091-09-14 00:14 J -4520808.66 -4520808.49 -4520808.30 0.0138 0.0053

Uranus -17091-12-11 08:09 J -4520720.35 -4520720.16 -4520719.97 0.0138 0.0023

Uranus -17090-03-09 15:50 J -4520632.03 -4520631.84 -4520631.64 0.0138 0.0007

Uranus -17090-06-05 23:31 J -4520543.70 -4520543.52 -4520543.33 0.0138 0.0036

Saturn -17090-07-13 06:28 J -4520506.32 -4520506.23 -4520506.13 0.0289 0.0187

Uranus -17090-09-02 06:57 J -4520455.37 -4520455.21 -4520455.03 0.0138 0.0065

Saturn -17090-10-09 17:45 J -4520417.88 -4520417.76 -4520417.63 0.0287 0.0047

Uranus -17090-11-29 14:38 J -4520367.02 -4520366.89 -4520366.74 0.0138 0.0093

Saturn -17089-01-06 05:02 J -4520329.41 -4520329.29 -4520329.17 0.0286 0.0094

Uranus -17089-02-25 22:04 J -4520278.66 -4520278.58 -4520278.48 0.0138 0.0122

Saturn -17089-04-03 16:04 J -4520240.90 -4520240.83 -4520240.75 0.0285 0.0232

Mars -17088-06-15 21:50 J -4519802.71 -4519802.59 -4519802.48 0.1624 0.0225

Moon -17087-01-31 23:02 J -4519572.68 -4519572.54 -4519572.39 0.2621 0.1065

Earth -17087-02-01 00:43 J -4519572.62 -4519572.47 -4519572.32 0.2624 0.0866 *

Jupiter -17087-11-25 16:19 J -4519274.94 -4519274.82 -4519274.69 0.0527 0.0069

Jupiter -17086-02-22 21:36 J -4519185.64 -4519185.60 -4519185.55 0.0525 0.0492

Mars -17086-05-21 23:16 J -4519097.56 -4519097.53 -4519097.50 0.1625 0.1569

Mars -17083-02-28 04:04 J -4518084.49 -4518084.33 -4518084.16 0.1895 0.0325

Pluto -17082-01-12 11:16 J -4517766.05 -4517766.03 -4517765.98 0.0071 0.0069

Pluto -17082-04-10 12:28 J -4517678.04 -4517677.98 -4517677.88 0.0071 0.0062

Pluto -17082-07-07 13:55 J -4517590.01 -4517589.92 -4517589.80 0.0072 0.0054

Pluto -17082-10-03 15:07 J -4517501.97 -4517501.87 -4517501.73 0.0072 0.0046

Pluto -17082-12-30 16:33 J -4517413.93 -4517413.81 -4517413.67 0.0072 0.0038

Pluto -17081-03-27 18:00 J -4517325.89 -4517325.75 -4517325.60 0.0072 0.0029

Pluto -17081-06-23 19:11 J -4517237.84 -4517237.70 -4517237.54 0.0072 0.0021

Pluto -17081-09-19 20:38 J -4517149.79 -4517149.64 -4517149.48 0.0072 0.0013

Pluto -17081-12-16 22:04 J -4517061.74 -4517061.58 -4517061.42 0.0072 0.0005

Jupiter -17080-01-19 12:57 J -4517028.13 -4517027.96 -4517027.78 0.0500 0.0178

Pluto -17080-03-14 23:16 J -4516973.68 -4516973.53 -4516973.37 0.0072 0.0005

Pluto -17080-06-11 00:43 J -4516885.62 -4516885.47 -4516885.31 0.0073 0.0012

Pluto -17080-09-07 02:09 J -4516797.56 -4516797.41 -4516797.26 0.0073 0.0021

Pluto -17080-12-04 03:21 J -4516709.50 -4516709.36 -4516709.21 0.0073 0.0030

Pluto -17079-03-02 04:33 J -4516621.43 -4516621.31 -4516621.16 0.0073 0.0039

Pluto -17079-05-29 06:14 J -4516533.36 -4516533.24 -4516533.12 0.0073 0.0047

Pluto -17079-08-25 07:26 J -4516445.28 -4516445.19 -4516445.08 0.0073 0.0056

Mars -17079-11-06 09:21 J -4516372.21 -4516372.11 -4516372.00 0.1624 0.0649

Pluto -17079-11-21 08:52 J -4516357.19 -4516357.13 -4516357.05 0.0073 0.0065

Earth -17078-08-01 07:11 J -4516104.31 -4516104.20 -4516104.09 0.2709 0.0135

Moon -17078-08-01 07:55 J -4516104.28 -4516104.17 -4516104.06 0.2710 0.0084 *

Mars -17077-10-11 10:48 J -4515667.13 -4515667.05 -4515666.97 0.1625 0.1130

Venus -17076-11-10 16:33 J -4515271.97 -4515271.81 -4515271.65 0.3643 0.0745

Jupiter -17075-09-13 21:07 J -4514964.74 -4514964.62 -4514964.51 0.0527 0.0201

Jupiter -17075-12-12 02:09 J -4514875.50 -4514875.41 -4514875.31 0.0526 0.0359

Moon -17074-02-04 05:02 J -4514821.43 -4514821.29 -4514821.16 0.2628 0.1154

Earth -17074-02-04 06:28 J -4514821.37 -4514821.23 -4514821.10 0.2626 0.1309 *

Mars -17074-07-20 19:40 J -4514654.72 -4514654.68 -4514654.63 0.1896 0.1807

Saturn -17074-10-18 12:43 J -4514565.10 -4514564.97 -4514564.83 0.0274 0.0188

Saturn -17073-01-15 12:14 J -4514476.19 -4514475.99 -4514475.80 0.0275 0.0006

Saturn -17073-04-13 11:16 J -4514387.16 -4514387.03 -4514386.88 0.0276 0.0184

Mars -17069-03-28 21:07 J -4512941.70 -4512941.62 -4512941.53 0.1625 0.1071

Jupiter -17069-11-07 10:04 J -4512718.27 -4512718.08 -4512717.90 0.0499 0.0008

Mars -17067-03-03 22:33 J -4512236.67 -4512236.56 -4512236.46 0.1625 0.0702

Neptune -17065-02-03 15:36 J -4511534.87 -4511534.85 -4511534.81 0.0089 0.0087

Neptune -17065-05-01 16:48 J -4511446.85 -4511446.80 -4511446.73 0.0089 0.0080

Neptune -17065-07-28 18:14 J -4511358.81 -4511358.74 -4511358.66 0.0089 0.0073

Earth -17065-08-03 01:26 J -4511353.54 -4511353.44 -4511353.34 0.2708 0.1072

Moon -17065-08-03 01:55 J -4511353.52 -4511353.42 -4511353.32 0.2702 0.1142 *

Neptune -17065-10-24 19:26 J -4511270.77 -4511270.69 -4511270.59 0.0089 0.0066

Neptune -17064-01-20 20:52 J -4511182.72 -4511182.63 -4511182.53 0.0089 0.0058

Neptune -17064-04-18 22:04 J -4511094.68 -4511094.58 -4511094.47 0.0089 0.0052

Neptune -17064-07-15 23:31 J -4511006.63 -4511006.52 -4511006.41 0.0089 0.0044

Neptune -17064-10-12 00:43 J -4510918.58 -4510918.47 -4510918.35 0.0089 0.0037

Neptune -17063-01-08 02:09 J -4510830.53 -4510830.41 -4510830.29 0.0089 0.0030

Neptune -17063-04-06 03:21 J -4510742.48 -4510742.36 -4510742.23 0.0089 0.0023

Jupiter -17063-07-03 01:40 J -4510654.52 -4510654.43 -4510654.33 0.0527 0.0334

Neptune -17063-07-03 04:48 J -4510654.43 -4510654.30 -4510654.17 0.0089 0.0016 *

Neptune -17063-09-29 06:00 J -4510566.38 -4510566.25 -4510566.12 0.0089 0.0009

Jupiter -17063-09-30 06:57 J -4510565.32 -4510565.21 -4510565.10 0.0526 0.0224

Neptune -17063-12-26 07:26 J -4510478.32 -4510478.19 -4510478.06 0.0089 0.0003

Neptune -17062-03-24 08:38 J -4510390.27 -4510390.14 -4510390.01 0.0089 0.0005

Neptune -17062-06-20 10:04 J -4510302.21 -4510302.08 -4510301.95 0.0089 0.0012

Venus -17062-09-15 04:04 J -4510215.41 -4510215.33 -4510215.24 0.3727 0.2096

Neptune -17062-09-16 11:16 J -4510214.16 -4510214.03 -4510213.90 0.0089 0.0019

Neptune -17062-12-13 12:28 J -4510126.10 -4510125.98 -4510125.85 0.0089 0.0026

Neptune -17061-03-10 13:55 J -4510038.04 -4510037.92 -4510037.80 0.0089 0.0033

Neptune -17061-06-06 15:07 J -4509949.98 -4509949.87 -4509949.75 0.0089 0.0041

Neptune -17061-09-02 16:33 J -4509861.92 -4509861.81 -4509861.70 0.0089 0.0048

Saturn -17061-11-29 07:55 J -4509774.24 -4509774.17 -4509774.09 0.0289 0.0238

Neptune -17061-11-29 17:45 J -4509773.86 -4509773.76 -4509773.65 0.0089 0.0055

Saturn -17060-02-25 19:11 J -4509685.82 -4509685.70 -4509685.57 0.0288 0.0097

Neptune -17060-02-25 19:11 J -4509685.80 -4509685.70 -4509685.61 0.0089 0.0062 *

Neptune -17060-05-24 20:09 J -4509597.73 -4509597.66 -4509597.57 0.0089 0.0069

Saturn -17060-05-25 06:28 J -4509597.35 -4509597.23 -4509597.10 0.0287 0.0046

Mars -17060-08-19 08:52 J -4509511.17 -4509511.13 -4509511.09 0.1625 0.1494

Neptune -17060-08-20 21:21 J -4509509.66 -4509509.61 -4509509.53 0.0089 0.0077

Saturn -17060-08-21 17:45 J -4509508.85 -4509508.76 -4509508.66 0.0286 0.0184

Neptune -17060-11-16 22:48 J -4509421.58 -4509421.55 -4509421.49 0.0089 0.0083

Mars -17058-07-25 10:04 J -4508806.19 -4508806.08 -4508805.97 0.1624 0.0269

Moon -17058-07-28 00:00 J -4508803.56 -4508803.50 -4508803.44 0.2718 0.2205

Earth -17058-07-28 00:00 J -4508803.56 -4508803.50 -4508803.44 0.2711 0.2262 *

Jupiter -17057-08-26 05:45 J -4508408.43 -4508408.26 -4508408.09 0.0499 0.0198

Venus -17056-03-30 19:26 J -4508191.79 -4508191.69 -4508191.59 0.3729 0.0162

Mars -17053-04-08 13:11 J -4507087.07 -4507086.95 -4507086.82 0.1895 0.1279

Earth -17052-08-05 19:40 J -4506602.74 -4506602.68 -4506602.62 0.2706 0.2289

Moon -17052-08-05 19:40 J -4506602.73 -4506602.68 -4506602.62 0.2700 0.2310 *

Jupiter -17051-04-21 06:14 J -4506344.29 -4506344.24 -4506344.18 0.0527 0.0469

Jupiter -17051-07-19 11:31 J -4506255.15 -4506255.02 -4506254.90 0.0526 0.0088

Venus -17051-10-14 10:48 J -4506168.14 -4506168.05 -4506167.97 0.3731 0.1803

Mars -17049-12-14 21:50 J -4505375.71 -4505375.59 -4505375.48 0.1624 0.0168

Uranus -17047-05-27 07:55 J -4504847.22 -4504847.17 -4504847.10 0.0139 0.0122

Uranus -17047-08-23 11:16 J -4504759.11 -4504759.03 -4504758.93 0.0140 0.0101

Uranus -17047-11-19 14:38 J -4504670.99 -4504670.89 -4504670.78 0.0140 0.0081

Mars -17047-11-19 23:16 J -4504670.53 -4504670.53 -4504670.53 0.1626 0.1625

Uranus -17046-02-15 18:00 J -4504582.87 -4504582.75 -4504582.63 0.0140 0.0061

Uranus -17046-05-14 21:21 J -4504494.74 -4504494.61 -4504494.48 0.0140 0.0040

Uranus -17046-08-11 00:43 J -4504406.60 -4504406.47 -4504406.34 0.0140 0.0020

Uranus -17046-11-07 04:04 J -4504318.46 -4504318.33 -4504318.20 0.0140 0.0002

Uranus -17045-02-03 07:26 J -4504230.32 -4504230.19 -4504230.06 0.0140 0.0022

Uranus -17045-05-01 10:48 J -4504142.18 -4504142.05 -4504141.93 0.0140 0.0042

Jupiter -17045-06-14 02:38 J -4504098.51 -4504098.39 -4504098.27 0.0499 0.0379

Uranus -17045-07-28 14:09 J -4504054.03 -4504053.91 -4504053.79 0.0141 0.0063

Earth -17045-07-29 18:00 J -4504052.85 -4504052.75 -4504052.65 0.2710 0.1085

Moon -17045-07-29 18:43 J -4504052.82 -4504052.72 -4504052.62 0.2713 0.1083 *

Jupiter -17045-09-12 14:23 J -4504008.02 -4504007.90 -4504007.77 0.0500 0.0362

Uranus -17045-10-24 17:31 J -4503965.87 -4503965.77 -4503965.66 0.0141 0.0085

Uranus -17044-01-20 20:52 J -4503877.71 -4503877.63 -4503877.54 0.0141 0.0106

Saturn -17044-03-06 11:31 J -4503833.11 -4503833.02 -4503832.91 0.0273 0.0236

Uranus -17044-04-19 00:28 J -4503789.53 -4503789.48 -4503789.43 0.0141 0.0127

Saturn -17044-06-03 11:02 J -4503744.23 -4503744.04 -4503743.85 0.0275 0.0051

Mars -17044-08-29 05:02 J -4503657.46 -4503657.29 -4503657.12 0.1896 0.0196

Saturn -17044-08-31 10:19 J -4503655.23 -4503655.07 -4503654.90 0.0276 0.0134

Moon -17041-02-02 05:31 J -4502770.42 -4502770.27 -4502770.11 0.2622 0.0550

Earth -17041-02-02 07:11 J -4502770.35 -4502770.20 -4502770.05 0.2624 0.0449 *

Mars -17039-05-07 09:21 J -4501945.21 -4501945.11 -4501945.00 0.1624 0.0590

Jupiter -17039-05-07 15:21 J -4501944.98 -4501944.86 -4501944.73 0.0526 0.0060

Jupiter -17039-08-04 20:38 J -4501855.67 -4501855.64 -4501855.60 0.0525 0.0499

Mars -17037-04-11 10:48 J -4501240.13 -4501240.05 -4501239.97 0.1625 0.1191

Mars -17034-01-18 20:52 J -4500227.71 -4500227.63 -4500227.55 0.1895 0.1661

Jupiter -17033-07-01 11:31 J -4499698.19 -4499698.02 -4499697.84 0.0500 0.0185

Earth -17032-08-01 12:00 J -4499302.11 -4499302.00 -4499301.89 0.2709 0.0119

Moon -17032-08-01 12:43 J -4499302.08 -4499301.97 -4499301.86 0.2708 0.0240 *

Saturn -17031-04-18 10:19 J -4499042.10 -4499042.07 -4499042.04 0.0290 0.0280

Saturn -17031-07-15 21:36 J -4498953.71 -4498953.60 -4498953.48 0.0288 0.0138

Saturn -17031-10-12 08:52 J -4498865.26 -4498865.13 -4498865.00 0.0287 0.0006

Saturn -17030-01-08 20:09 J -4498776.77 -4498776.66 -4498776.55 0.0286 0.0143

Saturn -17030-04-07 07:11 J -4498688.21 -4498688.20 -4498688.17 0.0285 0.0281

Mars -17030-09-27 21:07 J -4498514.71 -4498514.62 -4498514.53 0.1625 0.1016

Moon -17028-02-04 11:16 J -4498019.15 -4498019.03 -4498018.90 0.2629 0.1559

Earth -17028-02-04 12:43 J -4498019.08 -4498018.97 -4498018.85 0.2626 0.1713 *

Mars -17028-09-01 22:19 J -4497809.67 -4497809.57 -4497809.46 0.1624 0.0758

Jupiter -17027-02-23 19:40 J -4497634.79 -4497634.68 -4497634.56 0.0527 0.0199

Jupiter -17027-05-24 00:57 J -4497545.55 -4497545.46 -4497545.37 0.0525 0.0360

Jupiter -17021-04-19 08:09 J -4495388.34 -4495388.16 -4495387.97 0.0499 0.0009

Mars -17020-02-17 08:52 J -4495084.18 -4495084.13 -4495084.08 0.1625 0.1439

Venus -17019-06-17 19:26 J -4494598.84 -4494598.69 -4494598.54 0.3643 0.1546

Earth -17019-08-04 06:14 J -4494551.34 -4494551.24 -4494551.14 0.2707 0.1308

Moon -17019-08-04 06:43 J -4494551.32 -4494551.22 -4494551.12 0.2701 0.1327 *

Mars -17018-01-23 10:04 J -4494379.20 -4494379.08 -4494378.97 0.1624 0.0326

Jupiter -17016-12-13 00:14 J -4493324.58 -4493324.49 -4493324.39 0.0527 0.0335

Jupiter -17015-03-12 05:31 J -4493235.39 -4493235.27 -4493235.16 0.0526 0.0224

Saturn -17015-10-21 09:07 J -4493012.30 -4493012.12 -4493011.94 0.0274 0.0107

Saturn -17014-01-18 08:23 J -4492923.33 -4492923.15 -4492922.97 0.0276 0.0078

Saturn -17014-04-17 07:40 J -4492834.23 -4492834.18 -4492834.12 0.0277 0.0264

Mars -17014-10-08 13:40 J -4492660.05 -4492659.93 -4492659.82 0.1895 0.1379

Earth -17012-07-28 04:48 J -4492001.37 -4492001.30 -4492001.23 0.2711 0.2034

Moon -17012-07-28 05:02 J -4492001.36 -4492001.29 -4492001.22 0.2717 0.2059 *

Venus -17011-10-06 10:19 J -4491566.12 -4491566.07 -4491566.03 0.3726 0.3315

Jupiter -17009-02-06 04:48 J -4491078.47 -4491078.30 -4491078.12 0.0499 0.0183

Mars -17009-06-14 21:36 J -4490948.71 -4490948.60 -4490948.48 0.1624 0.0115

Moon -17008-01-30 06:28 J -4490719.31 -4490719.23 -4490719.16 0.2619 0.2264

Earth -17008-01-30 07:40 J -4490719.26 -4490719.18 -4490719.10 0.2623 0.2245 *

Uranus -17007-04-10 13:55 J -4490284.02 -4490283.92 -4490283.79 0.0139 0.0111

Uranus -17007-07-07 22:04 J -4490195.73 -4490195.58 -4490195.42 0.0139 0.0081

Uranus -17007-10-04 05:45 J -4490107.43 -4490107.26 -4490107.07 0.0139 0.0051

Uranus -17007-12-31 13:40 J -4490019.12 -4490018.93 -4490018.74 0.0138 0.0022

Uranus -17006-03-29 21:21 J -4489930.80 -4489930.61 -4489930.41 0.0138 0.0008

Uranus -17006-06-26 05:02 J -4489842.47 -4489842.29 -4489842.10 0.0138 0.0037

Moon -17006-08-07 00:28 J -4489800.52 -4489800.48 -4489800.44 0.2700 0.2506

Earth -17006-08-07 00:43 J -4489800.51 -4489800.47 -4489800.44 0.2706 0.2531 *

Uranus -17006-09-22 12:28 J -4489754.14 -4489753.98 -4489753.80 0.0138 0.0066

Uranus -17006-12-19 20:23 J -4489665.79 -4489665.65 -4489665.51 0.0138 0.0094

Uranus -17005-03-17 03:36 J -4489577.42 -4489577.35 -4489577.25 0.0138 0.0123

Venus -17005-04-21 01:26 J -4489542.53 -4489542.44 -4489542.35 0.3728 0.1393

Mars -17004-02-27 06:14 J -4489230.41 -4489230.24 -4489230.07 0.1896 0.0049

Jupiter -17004-10-01 05:02 J -4489014.34 -4489014.29 -4489014.23 0.0527 0.0466

Jupiter	**-17004-12-29 10:04 J**	**-4488925.20**	**-4488925.08**	**-4488924.95**	**0.0526**	**0.0092**		
Saturn	**-17002-12-02 23:16 J**	**-4488221.63**	**-4488221.53**	**-4488221.43**	**0.0289**	**0.0187**		
Saturn	**-17001-02-29 10:33 J**	**-4488133.18**	**-4488133.06**	**-4488132.93**	**0.0288**	**0.0045**		
Saturn	**-17001-05-27 21:50 J**	**-4488044.71**	**-4488044.59**	**-4488044.46**	**0.0287**	**0.0096**		
Saturn	**-17001-08-24 09:07 J**	**-4487956.19**	**-4487956.12**	**-4487956.05**	**0.0285**	**0.0234**		

17TH MILLENNIUM BCE

This is a list of transits of Mercury in the 17th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Venus	**-17000-11-04 16:48 J**		**-4487518.90**	**-4487518.80**	**-4487518.70**	**0.3730**	**0.0556**	
Mars	**-17000-11-05 09:21 J**		**-4487518.22**	**-4487518.11**	**-4487518.00**	**0.1624**	**0.0532**	
Earth	**-16999-07-30 22:48 J**		**-4487250.65**	**-4487250.55**	**-4487250.44**	**0.2710**	**0.0857**	
Moon	**-16999-07-30 23:31 J**		**-4487250.63**	**-4487250.52**	**-4487250.42**	**0.2713**	**0.0715**	*****
Mars	**-16998-10-11 10:48 J**		**-4486813.12**	**-4486813.05**	**-4486812.98**	**0.1625**	**0.1247**	
Jupiter	**-16998-11-25 00:28 J**		**-4486768.60**	**-4486768.48**	**-4486768.36**	**0.0499**	**0.0381**	
Jupiter	**-16997-02-23 12:14 J**		**-4486678.12**	**-4486677.99**	**-4486677.86**	**0.0500**	**0.0359**	
Pluto	**-16997-03-14 21:07 J**		**-4486657.65**	**-4486657.62**	**-4486657.55**	**0.0073**	**0.0069**	
Pluto	**-16997-06-10 22:48 J**		**-4486569.63**	**-4486569.55**	**-4486569.45**	**0.0072**	**0.0060**	
Pluto	**-16997-09-07 00:28 J**		**-4486481.59**	**-4486481.48**	**-4486481.37**	**0.0072**	**0.0051**	
Pluto	**-16997-12-04 01:40 J**		**-4486393.55**	**-4486393.43**	**-4486393.29**	**0.0072**	**0.0042**	
Pluto	**-16996-03-02 02:52 J**		**-4486305.51**	**-4486305.38**	**-4486305.22**	**0.0072**	**0.0034**	
Pluto	**-16996-05-29 04:33 J**		**-4486217.46**	**-4486217.31**	**-4486217.16**	**0.0072**	**0.0025**	
Pluto	**-16996-08-25 05:45 J**		**-4486129.41**	**-4486129.26**	**-4486129.10**	**0.0072**	**0.0017**	

Pluto -16996-11-21 07:11 J -4486041.35 -4486041.20 -4486041.04 0.0072 0.0009

Moon -16995-02-02 12:14 J -4485968.15 -4485967.99 -4485967.84 0.2624 0.0269

Earth -16995-02-02 13:40 J -4485968.08 -4485967.93 -4485967.77 0.2624 0.0047 *

Pluto -16995-02-17 08:38 J -4485953.30 -4485953.14 -4485952.98 0.0072 0.0000

Pluto -16995-05-16 09:50 J -4485865.24 -4485865.09 -4485864.93 0.0071 0.0008

Mars -16995-07-19 21:50 J -4485800.69 -4485800.59 -4485800.49 0.1895 0.1531

Pluto -16995-08-12 11:02 J -4485777.18 -4485777.04 -4485776.88 0.0071 0.0017

Pluto -16995-11-08 12:28 J -4485689.12 -4485688.98 -4485688.83 0.0071 0.0024

Pluto -16994-02-04 13:40 J -4485601.06 -4485600.93 -4485600.78 0.0071 0.0032

Pluto -16994-05-03 14:52 J -4485513.00 -4485512.88 -4485512.74 0.0071 0.0040

Venus -16994-05-21 07:55 J -4485495.24 -4485495.17 -4485495.09 0.3731 0.2508

Pluto -16994-07-30 16:04 J -4485424.93 -4485424.83 -4485424.70 0.0071 0.0048

Pluto -16994-10-26 17:16 J -4485336.86 -4485336.78 -4485336.67 0.0071 0.0056

Pluto -16993-01-22 18:43 J -4485248.78 -4485248.72 -4485248.64 0.0071 0.0063

Jupiter -16992-10-17 14:38 J -4484615.01 -4484614.89 -4484614.76 0.0526 0.0046

Jupiter -16991-01-14 19:55 J -4484525.70 -4484525.67 -4484525.65 0.0525 0.0510

Mars -16990-03-28 21:07 J -4484087.71 -4484087.62 -4484087.53 0.1625 0.0956

Mars -16988-03-02 22:19 J -4483382.67 -4483382.57 -4483382.47 0.1624 0.0816

Earth -16986-08-02 17:02 J -4482499.90 -4482499.79 -4482499.68 0.2709 0.0354

Moon -16986-08-02 17:31 J -4482499.88 -4482499.77 -4482499.66 0.2706 0.0370 *

Jupiter -16986-12-12 09:07 J -4482368.29 -4482368.12 -4482367.94 0.0500 0.0179

Saturn -16985-03-09 08:23 J -4482280.30 -4482280.15 -4482279.98 0.0274 0.0152

Saturn -16985-06-06 07:55 J -4482191.36 -4482191.17 -4482190.98 0.0275 0.0033

Saturn -16985-09-03 07:11 J -4482102.32 -4482102.20 -4482102.09 0.0276 0.0218

Moon -16982-02-05 17:45 J -4481216.85 -4481216.76 -4481216.66 0.2629 0.2017

Earth -16982-02-05 19:11 J -4481216.78 -4481216.70 -4481216.61 0.2626 0.2123 *

Neptune -16982-07-20 19:55 J -4481051.71 -4481051.67 -4481051.58 0.0088 0.0083

Neptune -16982-10-17 00:00 J -4480963.60 -4480963.50 -4480963.38 0.0088 0.0072

Neptune -16981-01-13 03:36 J -4480875.48 -4480875.35 -4480875.20 0.0088 0.0062

Neptune -16981-04-10 07:11 J -4480787.34 -4480787.20 -4480787.03 0.0088 0.0052

Neptune -16981-07-07 11:02 J -4480699.20 -4480699.04 -4480698.86 0.0088 0.0042

Mars -16981-08-18 08:38 J -4480657.19 -4480657.14 -4480657.08 0.1625 0.1386

Neptune -16981-10-03 14:38 J -4480611.06 -4480610.89 -4480610.69 0.0088 0.0032

Neptune -16981-12-30 18:28 J -4480522.92 -4480522.73 -4480522.53 0.0088 0.0022

Neptune -16980-03-28 22:04 J -4480434.77 -4480434.58 -4480434.38 0.0088 0.0012

Neptune -16980-06-25 01:55 J -4480346.62 -4480346.42 -4480346.22 0.0088 0.0002

Jupiter -16980-08-05 18:28 J -4480304.84 -4480304.73 -4480304.61 0.0526 0.0195

Neptune -16980-09-21 05:31 J -4480258.46 -4480258.27 -4480258.07 0.0088 0.0009

Jupiter -16980-11-02 23:45 J -4480215.60 -4480215.51 -4480215.42 0.0525 0.0363

Neptune -16980-12-18 09:07 J -4480170.31 -4480170.12 -4480169.92 0.0088 0.0019

Neptune -16979-03-16 12:43 J -4480082.15 -4480081.97 -4480081.77 0.0088 0.0029

Neptune -16979-06-12 16:19 J -4479993.98 -4479993.82 -4479993.63 0.0088 0.0039

Mars -16979-07-24 10:04 J -4479952.19 -4479952.08 -4479951.97 0.1624 0.0384

Neptune -16979-09-08 19:55 J -4479905.82 -4479905.67 -4479905.49 0.0088 0.0049

Neptune -16979-12-05 23:45 J -4479817.65 -4479817.51 -4479817.36 0.0088 0.0059

Neptune -16978-03-04 03:21 J -4479729.47 -4479729.36 -4479729.23 0.0088 0.0069

Neptune -16978-05-31 06:57 J -4479641.28 -4479641.21 -4479641.12 0.0088 0.0079

Mars -16974-04-08 14:52 J -4478232.98 -4478232.88 -4478232.78 0.1896 0.1527

Jupiter -16974-09-30 06:14 J -4478058.43 -4478058.24 -4478058.05 0.0500 0.0002

Earth -16973-08-04 11:16 J -4477749.12 -4477749.03 -4477748.94 0.2707 0.1551

Moon -16973-08-04 11:31 J -4477749.10 -4477749.02 -4477748.93 0.2702 0.1635 *

Saturn -16972-04-21 01:55 J -4477489.49 -4477489.42 -4477489.34 0.0289 0.0225

Saturn -16972-07-18 13:11 J -4477401.07 -4477400.95 -4477400.82 0.0288 0.0083

Saturn -16972-10-15 00:28 J -4477312.60 -4477312.48 -4477312.35 0.0287 0.0059

Saturn -16971-01-11 11:45 J -4477224.10 -4477224.01 -4477223.91 0.0286 0.0198

Mars -16970-12-14 21:36 J -4476521.71 -4476521.60 -4476521.48 0.1624 0.0049

Jupiter -16968-05-24 22:48 J -4475994.64 -4475994.55 -4475994.45 0.0527 0.0335

Venus -16968-07-08 10:19 J -4475950.14 -4475950.07 -4475949.99 0.3645 0.3182

Jupiter -16968-08-22 04:04 J -4475905.45 -4475905.33 -4475905.22 0.0526 0.0223

Earth -16966-07-29 09:36 J -4475199.18 -4475199.10 -4475199.02 0.2711 0.1807

Moon -16966-07-29 10:04 J -4475199.17 -4475199.08 -4475199.00 0.2716 0.1749 *

Mars -16965-08-28 06:43 J -4474803.39 -4474803.22 -4474803.05 0.1896 0.0063

Uranus -16963-03-20 11:45 J -4474234.02 -4474234.01 -4474233.98 0.0139 0.0137

Uranus -16963-06-16 15:07 J -4474145.93 -4474145.87 -4474145.80 0.0139 0.0117

Uranus -16963-09-12 18:14 J -4474057.82 -4474057.74 -4474057.64 0.0140 0.0098

Uranus -16963-12-09 21:36 J -4473969.70 -4473969.60 -4473969.48 0.0140 0.0077

Moon -16962-01-31 12:57 J -4473917.05 -4473916.96 -4473916.86 0.2619 0.2042

Earth -16962-01-31 14:23 J -4473917.02 -4473916.90 -4473916.79 0.2623 0.1819 *

Uranus -16962-03-08 00:57 J -4473881.57 -4473881.46 -4473881.33 0.0140 0.0057

Uranus -16962-06-04 04:19 J -4473793.44 -4473793.32 -4473793.19 0.0140 0.0037

Jupiter -16962-07-19 02:38 J -4473748.56 -4473748.39 -4473748.21 0.0499 0.0186

Uranus -16962-08-31 07:40 J -4473705.31 -4473705.18 -4473705.05 0.0140 0.0016

Uranus -16962-11-27 11:02 J -4473617.17 -4473617.04 -4473616.91 0.0140 0.0005

Uranus -16961-02-23 14:23 J -4473529.03 -4473528.90 -4473528.77 0.0140 0.0025

Uranus -16961-05-21 17:45 J -4473440.88 -4473440.76 -4473440.63 0.0140 0.0046

Uranus -16961-08-17 21:07 J -4473352.73 -4473352.62 -4473352.50 0.0141 0.0067

Uranus -16961-11-14 00:28 J -4473264.58 -4473264.48 -4473264.37 0.0141 0.0089

Uranus -16960-02-10 03:50 J -4473176.41 -4473176.34 -4473176.25 0.0141 0.0110

Mars -16960-05-06 09:21 J -4473091.22 -4473091.11 -4473091.00 0.1624 0.0475

Uranus -16960-05-09 07:26 J -4473088.23 -4473088.19 -4473088.14 0.0141 0.0131

Mars -16958-04-11 10:48 J -4472386.12 -4472386.05 -4472385.99 0.1625 0.1304

Jupiter -16956-03-13 03:07 J -4471684.42 -4471684.37 -4471684.31 0.0527 0.0474

Jupiter -16956-06-10 08:23 J -4471595.27 -4471595.15 -4471595.02 0.0526 0.0084

Saturn -16956-07-27 07:26 J -4471548.32 -4471548.19 -4471548.06 0.0274 0.0201

Saturn -16956-10-24 06:43 J -4471459.41 -4471459.22 -4471459.02 0.0275 0.0018

Mars -16955-01-17 22:33 J -4471373.67 -4471373.56 -4471373.45 0.1896 0.1410

Saturn -16955-01-21 06:00 J -4471370.40 -4471370.25 -4471370.10 0.0276 0.0169

Venus -16954-05-13 07:40 J -4470893.25 -4470893.18 -4470893.11 0.3726 0.2625

Earth -16953-07-31 03:36 J -4470448.45 -4470448.35 -4470448.24 0.2709 0.0626

Moon -16953-07-31 04:19 J -4470448.43 -4470448.32 -4470448.21 0.2713 0.0605 *

Mars	-16951-09-26 21:07 J	-4469660.72	-4469660.62	-4469660.53	0.1625	0.0904
Jupiter	-16950-05-06 23:16 J	-4469438.66	-4469438.53	-4469438.41	0.0499	0.0370
Jupiter	-16950-08-05 10:48 J	-4469348.17	-4469348.05	-4469347.92	0.0500	0.0369
Moon	-16949-02-03 18:28 J	-4469165.88	-4469165.73	-4469165.57	0.2626	0.0327
Earth	-16949-02-03 20:09 J	-4469165.81	-4469165.66	-4469165.50	0.2625	0.0382 *
Mars	-16949-08-31 22:19 J	-4468955.67	-4468955.57	-4468955.47	0.1625	0.0870
Venus	-16949-11-25 22:48 J	-4468869.65	-4468869.55	-4468869.45	0.3728	0.0689
Jupiter	-16944-03-29 13:11 J	-4467285.08	-4467284.95	-4467284.83	0.0526	0.0049
Jupiter	-16944-06-26 18:14 J	-4467195.76	-4467195.74	-4467195.71	0.0525	0.0509
Venus	-16943-06-11 14:09 J	-4466846.01	-4466845.91	-4466845.82	0.3730	0.1261
Saturn	-16943-09-08 04:04 J	-4466757.37	-4466757.33	-4466757.28	0.0289	0.0268
Saturn	-16943-12-05 15:21 J	-4466668.97	-4466668.86	-4466668.74	0.0288	0.0126
Saturn	-16942-03-04 02:38 J	-4466580.52	-4466580.39	-4466580.26	0.0287	0.0018
Saturn	-16942-05-31 13:55 J	-4466492.03	-4466491.92	-4466491.81	0.0286	0.0155
Mars	-16941-02-17 08:38 J	-4466230.20	-4466230.14	-4466230.07	0.1625	0.1327
Earth	-16940-08-02 21:50 J	-4465697.70	-4465697.59	-4465697.48	0.2708	0.0574
Moon	-16940-08-02 22:33 J	-4465697.67	-4465697.56	-4465697.46	0.2705	0.0723 *
Mars	-16939-01-22 09:50 J	-4465525.20	-4465525.09	-4465524.97	0.1624	0.0443
Jupiter	-16938-05-24 06:28 J	-4465038.41	-4465038.23	-4465038.05	0.0500	0.0171
Venus	-16938-12-26 05:31 J	-4464822.32	-4464822.27	-4464822.23	0.3732	0.3217
Moon	-16936-02-06 00:28 J	-4464414.55	-4464414.48	-4464414.42	0.2630	0.2356
Earth	-16936-02-06 01:40 J	-4464414.47	-4464414.43	-4464414.39	0.2626	0.2529 *
Mars	-16935-10-07 15:36 J	-4463805.93	-4463805.85	-4463805.76	0.1895	0.1655
Jupiter	-16932-01-15 17:31 J	-4462974.88	-4462974.77	-4462974.65	0.0526	0.0186
Jupiter	-16932-04-14 22:48 J	-4462885.64	-4462885.55	-4462885.46	0.0525	0.0371
Mars	-16930-06-14 21:36 J	-4462094.71	-4462094.60	-4462094.48	0.1624	0.0030
Earth	-16927-08-05 16:04 J	-4460946.91	-4460946.83	-4460946.75	0.2707	0.1792
Moon	-16927-08-05 16:19 J	-4460946.90	-4460946.82	-4460946.73	0.2701	0.1771 *
Saturn	-16927-12-14 07:26 J	-4460816.27	-4460816.19	-4460816.10	0.0273	0.0241
Jupiter	-16926-03-12 03:21 J	-4460728.55	-4460728.36	-4460728.18	0.0500	0.0016

Saturn -16926-03-13 06:43 J -4460727.40 -4460727.22 -4460727.03 0.0274 0.0058

Saturn -16926-06-10 06:00 J -4460638.42 -4460638.25 -4460638.08 0.0275 0.0127

Mars -16925-02-27 07:40 J -4460376.34 -4460376.18 -4460376.01 0.1896 0.0209

Uranus -16923-02-01 12:00 J -4459671.01 -4459671.00 -4459670.97 0.0139 0.0138

Uranus -16923-04-30 20:09 J -4459582.78 -4459582.66 -4459582.54 0.0139 0.0108

Uranus -16923-07-28 03:50 J -4459494.49 -4459494.34 -4459494.17 0.0139 0.0078

Uranus -16923-10-24 11:45 J -4459406.19 -4459406.01 -4459405.82 0.0139 0.0049

Uranus -16922-01-20 19:26 J -4459317.87 -4459317.69 -4459317.49 0.0138 0.0020

Uranus -16922-04-19 03:21 J -4459229.55 -4459229.36 -4459229.17 0.0138 0.0010

Uranus -16922-07-16 11:02 J -4459141.22 -4459141.04 -4459140.86 0.0138 0.0039

Uranus -16922-10-12 18:28 J -4459052.89 -4459052.73 -4459052.56 0.0138 0.0068

Uranus -16921-01-09 01:55 J -4458964.54 -4458964.42 -4458964.27 0.0138 0.0097

Uranus -16921-04-06 09:36 J -4458876.17 -4458876.10 -4458876.01 0.0138 0.0125

Jupiter -16921-11-03 21:21 J -4458664.70 -4458664.61 -4458664.51 0.0527 0.0335

Mars -16921-11-04 09:21 J -4458664.22 -4458664.11 -4458664.00 0.1624 0.0421

Jupiter -16920-02-01 02:38 J -4458575.51 -4458575.39 -4458575.28 0.0525 0.0223

Earth -16920-07-29 14:23 J -4458396.98 -4458396.90 -4458396.81 0.2710 0.1579

Moon -16920-07-29 14:52 J -4458396.97 -4458396.88 -4458396.79 0.2716 0.1538 *

Mars -16919-10-10 10:48 J -4457959.11 -4457959.05 -4457958.99 0.1625 0.1362

Moon -16916-01-31 19:26 J -4457114.82 -4457114.69 -4457114.56 0.2620 0.1455

Earth -16916-01-31 20:52 J -4457114.77 -4457114.63 -4457114.50 0.2623 0.1408 *

Mars -16916-07-18 23:31 J -4456946.64 -4456946.52 -4456946.39 0.1895 0.1273

Jupiter -16915-12-29 00:14 J -4456418.66 -4456418.49 -4456418.32 0.0499 0.0191

Saturn -16913-04-23 18:28 J -4455936.84 -4455936.73 -4455936.63 0.0289 0.0160

Saturn -16913-07-21 05:45 J -4455848.39 -4455848.26 -4455848.13 0.0288 0.0020

Saturn -16913-10-17 16:48 J -4455759.91 -4455759.80 -4455759.68 0.0287 0.0122

Saturn -16912-01-14 04:04 J -4455671.38 -4455671.33 -4455671.28 0.0285 0.0260

Venus -16911-02-12 13:11 J -4455277.11 -4455276.95 -4455276.79 0.3644 0.0870

Mars -16911-03-27 20:52 J -4455233.72 -4455233.63 -4455233.53 0.1625 0.0848

Mars -16909-03-01 22:19 J -4454528.67 -4454528.57 -4454528.48 0.1624 0.0926

Jupiter -16909-08-23 01:40 J -4454354.48 -4454354.43 -4454354.38 0.0527 0.0476

Jupiter -16909-11-20 06:43 J -4454265.34 -4454265.22 -4454265.09 0.0526 0.0080

Earth -16907-08-01 08:38 J -4453646.25 -4453646.14 -4453646.04 0.2709 0.0407

Moon -16907-08-01 09:07 J -4453646.23 -4453646.12 -4453646.01 0.2711 0.0284 *

Moon -16903-02-04 00:57 J -4452363.61 -4452363.46 -4452363.30 0.2626 0.0532

Earth -16903-02-04 02:38 J -4452363.53 -4452363.39 -4452363.24 0.2625 0.0801 *

Jupiter -16903-10-16 20:38 J -4452108.76 -4452108.64 -4452108.52 0.0499 0.0377

Jupiter -16902-01-15 08:23 J -4452018.28 -4452018.15 -4452018.02 0.0500 0.0362

Mars -16902-08-18 08:38 J -4451803.21 -4451803.14 -4451803.07 0.1625 0.1271

Neptune -16901-10-30 15:50 J -4451363.89 -4451363.84 -4451363.79 0.0089 0.0083

Neptune -16900-01-26 17:02 J -4451275.85 -4451275.79 -4451275.72 0.0089 0.0076

Neptune -16900-04-24 18:28 J -4451187.81 -4451187.73 -4451187.65 0.0089 0.0069

Neptune -16900-07-21 19:40 J -4451099.77 -4451099.68 -4451099.58 0.0089 0.0062

Mars -16900-07-23 09:50 J -4451098.20 -4451098.09 -4451097.98 0.1624 0.0497

Neptune -16900-10-17 20:52 J -4451011.73 -4451011.63 -4451011.52 0.0089 0.0055

Neptune -16899-01-13 22:19 J -4450923.68 -4450923.57 -4450923.46 0.0089 0.0048

Neptune -16899-04-11 23:31 J -4450835.63 -4450835.52 -4450835.40 0.0089 0.0041

Neptune -16899-07-09 00:57 J -4450747.58 -4450747.46 -4450747.34 0.0089 0.0034

Neptune -16899-10-05 02:09 J -4450659.53 -4450659.41 -4450659.28 0.0089 0.0027

Neptune -16898-01-01 03:21 J -4450571.48 -4450571.36 -4450571.23 0.0089 0.0020

Neptune -16898-03-30 04:48 J -4450483.43 -4450483.30 -4450483.17 0.0089 0.0012

Neptune -16898-06-26 06:00 J -4450395.38 -4450395.25 -4450395.12 0.0089 0.0006

Neptune -16898-09-22 07:26 J -4450307.32 -4450307.19 -4450307.06 0.0089 0.0002

Venus -16898-12-18 04:48 J -4450220.38 -4450220.30 -4450220.21 0.3727 0.1922

Neptune -16898-12-19 08:38 J -4450219.27 -4450219.14 -4450219.01 0.0089 0.0009

Neptune -16897-03-16 09:50 J -4450131.21 -4450131.09 -4450130.95 0.0089 0.0016

Neptune -16897-06-12 11:16 J -4450043.16 -4450043.03 -4450042.90 0.0089 0.0023

Saturn -16897-07-30 06:28 J -4449995.41 -4449995.23 -4449995.05 0.0274 0.0102

Jupiter -16897-09-08 11:02 J -4449955.16 -4449955.04 -4449954.91 0.0527 0.0061

Neptune -16897-09-08 12:28 J -4449955.10 -4449954.98 -4449954.85 0.0089 0.0030 *

Saturn -16897-10-27 05:45 J -4449906.44 -4449906.26 -4449906.08 0.0275 0.0083

Neptune -16897-12-05 13:40 J -4449867.04 -4449866.93 -4449866.80 0.0089 0.0038

Jupiter -16897-12-06 16:19 J -4449865.86 -4449865.82 -4449865.78 0.0525 0.0498

Saturn -16896-01-24 04:48 J -4449817.33 -4449817.30 -4449817.25 0.0276 0.0270

Neptune -16896-03-03 15:07 J -4449778.98 -4449778.87 -4449778.75 0.0089 0.0044

Neptune -16896-05-30 16:19 J -4449690.92 -4449690.82 -4449690.70 0.0089 0.0052

Neptune -16896-08-26 17:45 J -4449602.86 -4449602.76 -4449602.66 0.0089 0.0058

Neptune -16896-11-22 18:57 J -4449514.79 -4449514.71 -4449514.61 0.0089 0.0066

Neptune -16895-02-18 20:23 J -4449426.72 -4449426.65 -4449426.57 0.0089 0.0073

Mars -16895-04-07 16:19 J -4449378.87 -4449378.82 -4449378.76 0.1896 0.1772

Neptune -16895-05-17 21:36 J -4449338.65 -4449338.60 -4449338.54 0.0089 0.0080

Neptune -16895-08-13 23:02 J -4449250.57 -4449250.54 -4449250.51 0.0089 0.0087

Earth -16894-08-04 02:38 J -4448895.49 -4448895.39 -4448895.28 0.2708 0.0815

Moon -16894-08-04 03:21 J -4448895.47 -4448895.36 -4448895.25 0.2704 0.0824 *

Venus -16892-07-02 20:09 J -4448196.76 -4448196.66 -4448196.56 0.3729 0.0067

Jupiter -16891-11-03 04:48 J -4447708.47 -4447708.30 -4447708.12 0.0500 0.0176

Mars -16891-12-13 21:36 J -4447667.72 -4447667.60 -4447667.49 0.1624 0.0070

Moon -16887-07-28 01:11 J -4446345.48 -4446345.45 -4446345.41 0.2718 0.2501

Earth -16887-07-28 01:26 J -4446345.48 -4446345.44 -4446345.41 0.2711 0.2522 *

Venus -16886-01-16 11:31 J -4446173.11 -4446173.02 -4446172.94 0.3730 0.1971

Mars -16886-08-28 08:38 J -4445949.30 -4445949.14 -4445948.97 0.1896 0.0339

Jupiter -16885-06-27 15:50 J -4445644.96 -4445644.84 -4445644.72 0.0527 0.0193

Jupiter -16885-09-24 20:52 J -4445555.71 -4445555.63 -4445555.54 0.0525 0.0365

Saturn -16884-09-10 20:52 J -4445204.72 -4445204.63 -4445204.54 0.0289 0.0199

Saturn -16884-12-08 08:09 J -4445116.29 -4445116.16 -4445116.03 0.0288 0.0057

Saturn -16883-03-06 19:26 J -4445027.81 -4445027.69 -4445027.57 0.0287 0.0083

Saturn -16883-06-03 06:28 J -4444939.30 -4444939.23 -4444939.14 0.0285 0.0223

Mars -16881-05-05 09:21 J -4444237.23 -4444237.11 -4444237.00 0.1624 0.0364

Earth -16881-08-05 20:52 J -4444144.70 -4444144.63 -4444144.55 0.2707 0.2032

Moon -16881-08-05 21:07 J -4444144.69 -4444144.62 -4444144.55 0.2700 0.2094 *

Uranus -16879-04-09 18:57 J -4443532.74 -4443532.71 -4443532.66 0.0139 0.0133

Mars -16879-04-10 10:33 J -4443532.11 -4443532.06 -4443532.00 0.1625 0.1419

Uranus -16879-07-06 22:19 J -4443444.64 -4443444.57 -4443444.49 0.0139 0.0113

Jupiter -16879-08-22 00:14 J -4443398.68 -4443398.49 -4443398.30 0.0500 0.0025

Uranus -16879-10-03 01:40 J -4443356.52 -4443356.43 -4443356.33 0.0140 0.0092

Uranus -16879-12-30 05:02 J -4443268.40 -4443268.29 -4443268.18 0.0140 0.0072

Uranus -16878-03-28 08:23 J -4443180.28 -4443180.15 -4443180.03 0.0140 0.0052

Uranus -16878-06-24 11:31 J -4443092.14 -4443092.02 -4443091.89 0.0140 0.0032

Uranus -16878-09-20 14:52 J -4443004.01 -4443003.88 -4443003.74 0.0140 0.0012

Uranus -16878-12-17 18:14 J -4442915.87 -4442915.74 -4442915.60 0.0140 0.0010

Uranus -16877-03-14 21:36 J -4442827.73 -4442827.60 -4442827.47 0.0140 0.0031

Uranus -16877-06-11 00:57 J -4442739.58 -4442739.46 -4442739.33 0.0140 0.0052

Uranus -16877-09-07 04:19 J -4442651.43 -4442651.32 -4442651.20 0.0141 0.0073

Uranus -16877-12-04 07:55 J -4442563.27 -4442563.17 -4442563.07 0.0141 0.0094

Mars -16876-01-17 00:28 J -4442519.62 -4442519.48 -4442519.34 0.1895 0.1142

Uranus -16876-03-02 11:16 J -4442475.10 -4442475.03 -4442474.95 0.0141 0.0115

Uranus -16876-05-29 14:52 J -4442386.91 -4442386.88 -4442386.85 0.0141 0.0136

Earth -16874-07-30 19:11 J -4441594.79 -4441594.70 -4441594.60 0.2710 0.1350

Moon -16874-07-30 19:40 J -4441594.77 -4441594.68 -4441594.58 0.2716 0.1301 *

Jupiter -16873-04-15 20:09 J -4441334.75 -4441334.66 -4441334.56 0.0527 0.0330

Jupiter -16873-07-14 01:26 J -4441245.56 -4441245.44 -4441245.33 0.0526 0.0227

Mars -16872-09-25 20:52 J -4440806.73 -4440806.63 -4440806.53 0.1625 0.0789

Moon -16870-02-02 01:55 J -4440312.56 -4440312.42 -4440312.28 0.2622 0.1187

Earth -16870-02-02 03:21 J -4440312.51 -4440312.36 -4440312.22 0.2624 0.0983 *

Mars -16870-08-31 22:19 J -4440101.66 -4440101.57 -4440101.48 0.1624 0.0985

Saturn -16868-12-17 06:28 J -4439263.39 -4439263.23 -4439263.06 0.0274 0.0141

Saturn -16867-03-16 05:45 J -4439174.44 -4439174.26 -4439174.07 0.0275 0.0044

Jupiter -16867-06-09 20:52 J -4439088.80 -4439088.63 -4439088.46 0.0499 0.0208

Saturn -16867-06-13 05:02 J -4439085.39 -4439085.29 -4439085.18 0.0276 0.0229

Mars -16862-02-16 08:38 J -4437376.21 -4437376.14 -4437376.06 0.1625 0.1215

Jupiter -16861-02-03 00:00 J -4437024.55 -4437024.50 -4437024.45 0.0527 0.0479

Jupiter -16861-05-02 05:02 J -4436935.41 -4436935.29 -4436935.16 0.0526 0.0079

Earth -16861-08-01 13:26 J -4436844.05 -4436843.94 -4436843.83 0.2709 0.0161

Moon -16861-08-01 14:09 J -4436844.02 -4436843.91 -4436843.80 0.2709 0.0095 *

Mars -16860-01-21 09:50 J -4436671.20 -4436671.09 -4436670.98 0.1624 0.0553

Moon -16857-02-05 07:26 J -4435561.33 -4435561.19 -4435561.05 0.2626 0.1144

Earth -16857-02-05 09:07 J -4435561.26 -4435561.12 -4435560.98 0.2625 0.1203 *

Jupiter -16855-03-28 17:45 J -4434778.88 -4434778.76 -4434778.64 0.0499 0.0387

Jupiter -16855-06-27 05:31 J -4434688.40 -4434688.27 -4434688.14 0.0500 0.0353

Venus -16855-09-19 16:04 J -4434603.99 -4434603.83 -4434603.68 0.3644 0.1407

Saturn -16854-01-29 00:14 J -4434472.57 -4434472.49 -4434472.41 0.0289 0.0229

Saturn -16854-04-27 11:31 J -4434384.14 -4434384.02 -4434383.90 0.0288 0.0087

Saturn -16854-07-24 22:48 J -4434295.68 -4434295.55 -4434295.42 0.0287 0.0054

Saturn -16854-10-21 10:04 J -4434207.18 -4434207.08 -4434206.99 0.0286 0.0193

Mars -16851-06-13 21:36 J -4433240.72 -4433240.60 -4433240.49 0.1624 0.0134

Jupiter -16849-02-19 09:21 J -4432625.24 -4432625.11 -4432624.99 0.0526 0.0069

Jupiter -16849-05-18 14:23 J -4432535.94 -4432535.90 -4432535.85 0.0525 0.0490

Earth -16848-08-04 07:40 J -4432093.29 -4432093.18 -4432093.08 0.2708 0.1051

Moon -16848-08-04 08:09 J -4432093.26 -4432093.16 -4432093.06 0.2704 0.1173 *

Venus -16846-01-08 11:02 J -4431571.09 -4431571.04 -4431570.99 0.3725 0.3128

Mars -16846-02-26 09:21 J -4431522.27 -4431522.11 -4431521.94 0.1896 0.0454

Jupiter -16843-04-15 01:55 J -4430378.59 -4430378.42 -4430378.24 0.0500 0.0166

Mars -16842-11-04 09:07 J -4429810.23 -4429810.12 -4429810.00 0.1624 0.0310

Venus -16841-07-24 02:23 J -4429547.50 -4429547.40 -4429547.31 0.3727 0.1213

Earth -16841-07-28 06:14 J -4429543.30 -4429543.24 -4429543.19 0.2711 0.2294

Moon -16841-07-28 06:14 J -4429543.29 -4429543.24 -4429543.18 0.2718 0.2340 *

Mars -16840-10-09 10:33 J -4429105.11 -4429105.06 -4429105.01 0.1625 0.1472

Uranus -16839-02-21 18:14 J -4428969.77 -4428969.74 -4428969.67 0.0139 0.0134

Uranus -16839-05-21 02:23 J -4428881.52 -4428881.40 -4428881.26 0.0139 0.0104

Uranus -16839-08-17 10:19 J -4428793.23 -4428793.07 -4428792.90 0.0139 0.0074

Uranus -16839-11-13 18:00 J -4428704.92 -4428704.75 -4428704.55 0.0138 0.0045

Uranus -16838-02-10 01:55 J -4428616.61 -4428616.42 -4428616.22 0.0138 0.0015

Saturn -16838-05-06 06:43 J -4428531.36 -4428531.22 -4428531.07 0.0274 0.0181

Uranus -16838-05-09 09:36 J -4428528.29 -4428528.10 -4428527.90 0.0138 0.0015

Saturn -16838-08-03 06:14 J -4428442.44 -4428442.24 -4428442.05 0.0275 0.0007

Uranus -16838-08-05 17:16 J -4428439.96 -4428439.78 -4428439.59 0.0138 0.0044

Saturn -16838-10-31 05:16 J -4428353.41 -4428353.28 -4428353.14 0.0276 0.0190

Uranus -16838-11-02 00:57 J -4428351.62 -4428351.46 -4428351.29 0.0138 0.0072

Jupiter -16838-12-08 13:26 J -4428315.05 -4428314.94 -4428314.82 0.0527 0.0209

Uranus -16837-01-29 08:23 J -4428263.27 -4428263.15 -4428263.01 0.0138 0.0101

Jupiter -16837-03-06 18:43 J -4428225.81 -4428225.72 -4428225.63 0.0526 0.0349

Uranus -16837-04-26 16:04 J -4428174.89 -4428174.83 -4428174.76 0.0138 0.0129

Mars -16837-07-18 01:11 J -4428092.59 -4428092.45 -4428092.31 0.1896 0.1021

Venus -16835-02-06 17:31 J -4427523.87 -4427523.77 -4427523.67 0.3729 0.0743

Moon -16835-08-07 01:55 J -4427342.49 -4427342.42 -4427342.36 0.2700 0.2198

Earth -16835-08-07 01:55 J -4427342.48 -4427342.42 -4427342.36 0.2707 0.2271 *

Pluto -16834-05-06 18:57 J -4427069.73 -4427069.71 -4427069.67 0.0071 0.0070

Pluto -16834-08-02 20:23 J -4426981.72 -4426981.65 -4426981.57 0.0071 0.0062

Pluto -16834-10-29 21:36 J -4426893.70 -4426893.60 -4426893.49 0.0072 0.0054

Pluto -16833-01-25 22:48 J -4426805.66 -4426805.55 -4426805.42 0.0072 0.0046

Pluto -16833-04-23 00:14 J -4426717.62 -4426717.49 -4426717.36 0.0072 0.0038

Pluto -16833-07-20 01:26 J -4426629.58 -4426629.44 -4426629.29 0.0072 0.0030

Pluto -16833-10-16 02:38 J -4426541.53 -4426541.39 -4426541.23 0.0072 0.0022

Pluto -16832-01-12 04:04 J -4426453.48 -4426453.33 -4426453.17 0.0072 0.0014

Mars -16832-03-26 20:52 J -4426379.73 -4426379.63 -4426379.53 0.1625 0.0732

Pluto -16832-04-10 05:31 J -4426365.43 -4426365.27 -4426365.11 0.0072 0.0005

Pluto -16832-07-07 06:43 J -4426277.37 -4426277.22 -4426277.06 0.0072 0.0004

Pluto -16832-10-03 08:09 J -4426189.32 -4426189.16 -4426189.00 0.0072 0.0012

Pluto -16832-12-30 09:21 J -4426101.25 -4426101.11 -4426100.95 0.0073 0.0021

Jupiter -16831-01-31 22:19 J -4426068.76 -4426068.57 -4426068.38 0.0499 0.0022

Pluto -16831-03-28 10:48 J -4426013.19 -4426013.05 -4426012.90 0.0073 0.0029

Pluto -16831-06-24 12:00 J -4425925.12 -4425925.00 -4425924.85 0.0073 0.0038

Pluto -16831-09-20 13:26 J -4425837.05 -4425836.94 -4425836.81 0.0073 0.0047

Pluto -16831-12-17 15:07 J -4425748.97 -4425748.87 -4425748.77 0.0073 0.0056

Mars -16830-03-01 22:19 J -4425674.66 -4425674.57 -4425674.49 0.1624 0.1042

Pluto -16830-03-15 16:19 J -4425660.88 -4425660.82 -4425660.74 0.0073 0.0065

Venus -16830-08-23 08:52 J -4425500.20 -4425500.13 -4425500.06 0.3731 0.2681

Earth -16828-07-31 00:14 J -4424792.59 -4424792.49 -4424792.39 0.2710 0.1121

Moon -16828-07-31 00:43 J -4424792.57 -4424792.47 -4424792.37 0.2715 0.1041 *

Jupiter -16826-09-26 18:14 J -4424004.83 -4424004.74 -4424004.65 0.0527 0.0342

Jupiter -16826-12-24 23:16 J -4423915.64 -4423915.53 -4423915.41 0.0526 0.0217

Saturn -16825-06-17 02:52 J -4423740.42 -4423740.38 -4423740.33 0.0289 0.0265

Saturn -16825-09-13 14:23 J -4423652.02 -4423651.90 -4423651.79 0.0288 0.0123

Saturn -16825-12-11 01:26 J -4423563.56 -4423563.44 -4423563.31 0.0287 0.0021

Moon -16824-02-02 08:09 J -4423510.31 -4423510.16 -4423510.01 0.2623 0.0702

Earth -16824-02-02 09:50 J -4423510.24 -4423510.09 -4423509.93 0.2624 0.0561 *

Saturn -16824-03-09 12:43 J -4423475.07 -4423474.97 -4423474.86 0.0286 0.0158

Mars -16823-08-17 08:38 J -4422949.22 -4422949.14 -4422949.06 0.1625 0.1157

Mars -16821-07-22 09:50 J -4422244.20 -4422244.09 -4422243.98 0.1624 0.0609

Jupiter -16820-11-19 17:31 J -4421758.94 -4421758.77 -4421758.60 0.0499 0.0222

Neptune -16817-01-18 15:36 J -4420968.86 -4420968.85 -4420968.82 0.0088 0.0087

Neptune -16817-04-15 19:11 J -4420880.78 -4420880.70 -4420880.60 0.0088 0.0077

Neptune -16817-07-12 22:48 J -4420792.66 -4420792.55 -4420792.41 0.0088 0.0067

Neptune -16817-10-09 02:38 J -4420704.53 -4420704.39 -4420704.23 0.0088 0.0057

Neptune -16816-01-05 06:14 J -4420616.39 -4420616.24 -4420616.06 0.0088 0.0047

Neptune -16816-04-03 09:50 J -4420528.25 -4420528.09 -4420527.89 0.0088 0.0037

Neptune -16816-06-30 13:55 J -4420440.11 -4420439.92 -4420439.73 0.0088 0.0026

Neptune -16816-09-26 17:31 J -4420351.96 -4420351.77 -4420351.57 0.0088 0.0016

Neptune -16816-12-23 21:21 J -4420263.81 -4420263.61 -4420263.41 0.0088 0.0006

Neptune -16815-03-22 00:57 J -4420175.66 -4420175.46 -4420175.26 0.0088 0.0004

Neptune -16815-06-18 04:33 J -4420087.50 -4420087.31 -4420087.11 0.0088 0.0014

Earth -16815-08-02 18:14 J -4420041.85 -4420041.74 -4420041.63 0.2709 0.0082

Moon -16815-08-02 18:57 J -4420041.82 -4420041.71 -4420041.60 0.2708 0.0184 *

Neptune -16815-09-14 08:23 J -4419999.34 -4419999.15 -4419998.96 0.0088 0.0024

Neptune -16815-12-11 12:00 J -4419911.18 -4419911.00 -4419910.82 0.0088 0.0034

Neptune -16814-03-09 15:21 J -4419823.02 -4419822.86 -4419822.68 0.0088 0.0045

Neptune -16814-06-05 18:57 J -4419734.85 -4419734.71 -4419734.54 0.0088 0.0055

Jupiter -16814-07-15 22:33 J -4419694.60 -4419694.56 -4419694.50 0.0527 0.0479

Neptune -16814-09-01 22:33 J -4419646.67 -4419646.56 -4419646.41 0.0088 0.0065

Jupiter -16814-10-13 03:50 J -4419605.47 -4419605.34 -4419605.22 0.0526 0.0078

Neptune -16814-11-29 02:09 J -4419558.49 -4419558.41 -4419558.29 0.0088 0.0075

Mars -16813-01-07 20:23 J -4419518.67 -4419518.65 -4419518.63 0.1626 0.1583

Neptune -16813-02-25 05:45 J -4419470.29 -4419470.26 -4419470.19 0.0088 0.0085

Mars -16812-12-12 21:36 J -4418813.72 -4418813.60 -4418813.49 0.1624 0.0189

Moon -16811-02-05 14:09 J -4418759.04 -4418758.91 -4418758.78 0.2627 0.1383

Earth -16811-02-05 15:36 J -4418758.97 -4418758.85 -4418758.73 0.2625 0.1619 *

Saturn -16809-09-22 06:43 J -4417799.32 -4417799.22 -4417799.10 0.0273 0.0221

Saturn -16809-12-20 06:14 J -4417710.43 -4417710.24 -4417710.05 0.0274 0.0036

Saturn -16808-03-19 05:31 J -4417621.42 -4417621.27 -4417621.11 0.0275 0.0150

Jupiter -16808-09-07 13:55 J -4417449.02 -4417448.92 -4417448.81 0.0499 0.0407

Jupiter -16808-12-07 01:55 J -4417358.56 -4417358.42 -4417358.28 0.0500 0.0334

Mars -16807-08-27 10:19 J -4417095.23 -4417095.07 -4417094.91 0.1896 0.0582

Venus -16804-10-10 06:57 J -4415955.28 -4415955.21 -4415955.15 0.3646 0.3348

Mars -16802-05-05 09:07 J -4415383.23 -4415383.12 -4415383.00 0.1624 0.0252

Jupiter -16802-08-01 07:26 J -4415295.31 -4415295.19 -4415295.06 0.0526 0.0075

Earth -16802-08-05 12:28 J -4415291.08 -4415290.98 -4415290.88 0.2708 0.1289

Moon -16802-08-05 12:57 J -4415291.06 -4415290.96 -4415290.86 0.2703 0.1303 *

Jupiter -16802-10-29 12:43 J -4415206.01 -4415205.97 -4415205.92 0.0525 0.0484

Mars -16800-04-09 10:33 J -4414678.09 -4414678.06 -4414678.02 0.1625 0.1533

Mars -16797-01-17 02:09 J -4413665.56 -4413665.41 -4413665.25 0.1896 0.0882

Jupiter -16796-09-24 23:02 J -4413048.72 -4413048.54 -4413048.36 0.0500 0.0155

Saturn -16795-01-31 17:45 J -4412919.87 -4412919.76 -4412919.65 0.0289 0.0151

Uranus -16795-04-30 02:23 J -4412831.45 -4412831.40 -4412831.35 0.0139 0.0128

Saturn -16795-04-30 05:02 J -4412831.42 -4412831.29 -4412831.16 0.0288 0.0010 *

Uranus -16795-07-27 05:45 J -4412743.34 -4412743.26 -4412743.18 0.0140 0.0108

Saturn -16795-07-27 16:19 J -4412742.94 -4412742.82 -4412742.71 0.0287 0.0130

Moon -16795-07-29 11:16 J -4412741.11 -4412741.03 -4412740.96 0.2719 0.1994

Earth -16795-07-29 11:02 J -4412741.11 -4412741.04 -4412740.97 0.2711 0.2067 *

Uranus -16795-10-23 08:52 J -4412655.23 -4412655.13 -4412655.02 0.0140 0.0088

Saturn -16795-10-24 03:36 J -4412654.39 -4412654.35 -4412654.31 0.0285 0.0269

Uranus -16794-01-19 12:14 J -4412567.10 -4412566.99 -4412566.87 0.0140 0.0067

Uranus -16794-04-17 15:36 J -4412478.97 -4412478.85 -4412478.73 0.0140 0.0047

Uranus -16794-07-14 18:57 J -4412390.84 -4412390.71 -4412390.58 0.0140 0.0027

Uranus -16794-10-10 22:19 J -4412302.71 -4412302.57 -4412302.44 0.0140 0.0007

Uranus -16793-01-07 01:40 J -4412214.56 -4412214.43 -4412214.30 0.0140 0.0015

Uranus -16793-04-04 05:02 J -4412126.42 -4412126.29 -4412126.17 0.0140 0.0036

Uranus -16793-07-01 08:23 J -4412038.27 -4412038.15 -4412038.03 0.0141 0.0057

Mars -16793-09-24 20:52 J -4411952.74 -4411952.63 -4411952.53 0.1624 0.0679

Uranus -16793-09-27 11:45 J -4411950.12 -4411950.01 -4411949.90 0.0141 0.0078

Uranus -16793-12-24 15:07 J -4411861.96 -4411861.87 -4411861.77 0.0141 0.0099

Uranus -16792-03-22 18:28 J -4411773.79 -4411773.73 -4411773.66 0.0141 0.0121

Moon -16791-01-31 09:21 J -4411459.15 -4411459.11 -4411459.07 0.2618 0.2518

Earth -16791-01-31 10:19 J -4411459.13 -4411459.07 -4411459.00 0.2623 0.2366 *

Mars -16791-08-30 22:04 J -4411247.66 -4411247.58 -4411247.49 0.1624 0.1098

Jupiter -16790-05-20 11:45 J -4410985.13 -4410985.01 -4410984.90 0.0527 0.0217

Venus -16790-08-15 08:23 J -4410898.22 -4410898.15 -4410898.08 0.3726 0.2424

Jupiter -16790-08-17 16:48 J -4410895.89 -4410895.80 -4410895.70 0.0525 0.0340

Earth -16789-08-07 06:43 J -4410540.26 -4410540.22 -4410540.18 0.2707 0.2510

Moon -16789-08-07 06:43 J -4410540.25 -4410540.22 -4410540.19 0.2699 0.2558 *

Venus -16784-02-27 23:45 J -4408874.61 -4408874.51 -4408874.42 0.3728 0.0516

Jupiter -16784-07-13 19:26 J -4408738.88 -4408738.69 -4408738.51 0.0499 0.0035

Mars -16783-02-15 08:38 J -4408522.23 -4408522.14 -4408522.06 0.1625 0.1103

Earth -16782-08-01 05:02 J -4407990.39 -4407990.29 -4407990.19 0.2710 0.0884

Moon -16782-08-01 05:31 J -4407990.37 -4407990.27 -4407990.16 0.2713 0.0864 *

Mars -16781-01-21 09:50 J -4407817.20 -4407817.09 -4407816.99 0.1624 0.0665

Saturn -16779-02-09 07:11 J -4407067.25 -4407067.20 -4407067.13 0.0274 0.0259

Saturn -16779-05-09 06:43 J -4406978.41 -4406978.22 -4406978.04 0.0275 0.0074

Saturn -16779-08-06 06:00 J -4406889.42 -4406889.25 -4406889.07 0.0276 0.0111

Venus -16779-09-13 14:52 J -4406850.97 -4406850.88 -4406850.79 0.3729 0.1445

Moon -16778-02-03 14:38 J -4406708.04 -4406707.89 -4406707.73 0.2623 0.0325

Earth -16778-02-03 16:19 J -4406707.97 -4406707.82 -4406707.66 0.2624 0.0155 *

Jupiter -16778-03-08 15:50 J -4406674.93 -4406674.84 -4406674.75 0.0527 0.0359

Jupiter -16778-06-05 20:52 J -4406585.74 -4406585.63 -4406585.51 0.0526 0.0199

Mars -16774-07-08 20:09 J -4405091.69 -4405091.66 -4405091.62 0.1626 0.1528

Venus -16773-03-29 06:14 J -4404827.28 -4404827.24 -4404827.20 0.3731 0.3388

Jupiter -16772-05-01 15:21 J -4404429.02 -4404428.86 -4404428.68 0.0499 0.0222

Mars -16772-06-12 21:21 J -4404386.72 -4404386.61 -4404386.49 0.1624 0.0241

Earth -16769-08-02 23:02 J -4403239.65 -4403239.54 -4403239.43 0.2709 0.0326

Moon -16769-08-03 00:00 J -4403239.61 -4403239.50 -4403239.40 0.2708 0.0422 *

Mars -16767-02-25 11:31 J -4402668.18 -4402668.02 -4402667.86 0.1896 0.0729

Jupiter -16767-12-25 20:23 J -4402364.69 -4402364.65 -4402364.60 0.0528 0.0493

Jupiter -16766-03-25 01:40 J -4402275.56 -4402275.43 -4402275.31 0.0526 0.0065

Saturn -16766-06-20 20:52 J -4402187.73 -4402187.63 -4402187.53 0.0288 0.0183

Saturn -16766-09-17 08:09 J -4402099.29 -4402099.16 -4402099.03 0.0287 0.0042

Saturn -16766-12-14 19:11 J -4402010.82 -4402010.70 -4402010.57 0.0286 0.0099

Moon -16765-02-06 20:38 J -4401956.74 -4401956.64 -4401956.54 0.2629 0.1967

Earth -16765-02-06 22:04 J -4401956.68 -4401956.58 -4401956.48 0.2625 0.2028 *

Saturn -16765-03-12 06:28 J -4401922.30 -4401922.23 -4401922.16 0.0285 0.0236

Mars -16763-11-03 09:07 J -4400956.23 -4400956.12 -4400956.00 0.1624 0.0192

Mars -16761-10-08 10:33 J -4400251.08 -4400251.06 -4400251.04 0.1625 0.1588

Jupiter -16760-02-17 10:48 J -4400119.15 -4400119.05 -4400118.95 0.0499 0.0421

Jupiter -16760-05-18 22:33 J -4400028.70 -4400028.56 -4400028.41 0.0500 0.0318

Mars -16758-07-18 03:07 J -4399238.53 -4399238.37 -4399238.21 0.1896 0.0753

Earth -16756-08-05 17:16 J -4398488.87 -4398488.78 -4398488.69 0.2708 0.1528

Moon -16756-08-05 17:45 J -4398488.85 -4398488.76 -4398488.67 0.2702 0.1580 *

Uranus -16755-03-14 01:26 J -4398268.50 -4398268.44 -4398268.35 0.0139 0.0127

Uranus -16755-06-10 09:36 J -4398180.24 -4398180.10 -4398179.96 0.0139 0.0097

Uranus -16755-09-06 17:16 J -4398091.94 -4398091.78 -4398091.60 0.0139 0.0068

Uranus -16755-12-04 01:11 J -4398003.63 -4398003.45 -4398003.26 0.0138 0.0038

Jupiter -16754-01-11 06:00 J -4397965.37 -4397965.25 -4397965.12 0.0527 0.0074

Uranus -16754-03-02 09:07 J -4397915.32 -4397915.12 -4397914.93 0.0138 0.0009

Jupiter -16754-04-10 11:16 J -4397876.07 -4397876.03 -4397875.98 0.0525 0.0484

Uranus -16754-05-29 16:33 J -4397826.99 -4397826.81 -4397826.61 0.0138 0.0022

Uranus -16754-08-26 00:14 J -4397738.66 -4397738.49 -4397738.30 0.0138 0.0050

Uranus -16754-11-22 07:40 J -4397650.32 -4397650.18 -4397650.01 0.0138 0.0079

Uranus -16753-02-18 15:21 J -4397561.97 -4397561.86 -4397561.73 0.0138 0.0107

Mars -16753-03-25 20:52 J -4397525.74 -4397525.63 -4397525.53 0.1624 0.0620

Uranus -16753-05-16 22:33 J -4397473.57 -4397473.56 -4397473.50 0.0138 0.0136

Mars -16751-02-28 22:04 J -4396820.66 -4396820.58 -4396820.50 0.1624 0.1156

Saturn -16750-09-26 06:28 J -4396246.40 -4396246.23 -4396246.05 0.0274 0.0117

Saturn -16750-12-24 05:45 J -4396157.44 -4396157.26 -4396157.07 0.0275 0.0070

Saturn -16749-03-22 05:16 J -4396068.35 -4396068.28 -4396068.21 0.0276 0.0256

Pluto -16749-07-07 04:48 J -4395961.34 -4395961.30 -4395961.26 0.0073 0.0070

Earth -16749-07-29 15:50 J -4395938.92 -4395938.84 -4395938.76 0.2711 0.1833

Moon -16749-07-29 16:04 J -4395938.91 -4395938.83 -4395938.75 0.2718 0.1878 *

Pluto -16749-10-03 05:45 J -4395873.33 -4395873.26 -4395873.16 0.0072 0.0062

Pluto -16749-12-30 07:26 J -4395785.29 -4395785.19 -4395785.08 0.0072 0.0053

Jupiter -16748-03-06 19:11 J -4395718.88 -4395718.70 -4395718.52 0.0500 0.0135

Pluto -16748-03-28 08:38 J -4395697.25 -4395697.14 -4395697.00 0.0072 0.0044

Pluto -16748-06-24 10:19 J -4395609.21 -4395609.07 -4395608.93 0.0072 0.0035

Pluto -16748-09-20 11:31 J -4395521.16 -4395521.02 -4395520.86 0.0072 0.0027

Pluto -16748-12-17 12:57 J -4395433.11 -4395432.96 -4395432.80 0.0072 0.0018

Pluto -16747-03-15 14:23 J -4395345.06 -4395344.90 -4395344.74 0.0072 0.0010

Venus -16747-05-17 09:36 J -4395282.25 -4395282.10 -4395281.94 0.3645 0.1049

Pluto -16747-06-11 15:50 J -4395257.00 -4395256.84 -4395256.68 0.0072 0.0002

Pluto -16747-09-07 17:02 J -4395168.94 -4395168.79 -4395168.63 0.0071 0.0007

Pluto -16747-12-04 18:28 J -4395080.89 -4395080.73 -4395080.58 0.0071 0.0015

Pluto -16746-03-02 19:40 J -4394992.83 -4394992.68 -4394992.53 0.0071 0.0023

Pluto -16746-05-29 20:38 J -4394904.77 -4394904.64 -4394904.48 0.0071 0.0032

Pluto -16746-08-25 22:04 J -4394816.70 -4394816.58 -4394816.44 0.0071 0.0039

Pluto -16746-11-21 23:31 J -4394728.63 -4394728.52 -4394728.40 0.0071 0.0046

Moon -16745-02-01 15:36 J -4394656.95 -4394656.85 -4394656.75 0.2619 0.2000

Earth -16745-02-01 16:48 J -4394656.90 -4394656.80 -4394656.69 0.2623 0.1949 *

Pluto -16745-02-18 00:43 J -4394640.56 -4394640.47 -4394640.36 0.0071 0.0054

Pluto -16745-05-16 01:55 J -4394552.49 -4394552.42 -4394552.34 0.0071 0.0062

Pluto -16745-08-12 02:52 J -4394464.38 -4394464.38 -4394464.34 0.0070 0.0070

Mars -16744-08-16 08:23 J -4394095.23 -4394095.15 -4394095.06 0.1625 0.1049

Moon -16743-08-08 11:31 J -4393738.03 -4393738.02 -4393738.01 0.2700 0.2686

Jupiter -16743-10-30 09:50 J -4393655.20 -4393655.09 -4393654.98 0.0527 0.0223

Jupiter -16742-01-27 14:52 J -4393565.97 -4393565.88 -4393565.78 0.0525 0.0334

Mars -16742-07-22 09:50 J -4393390.20 -4393390.09 -4393389.99 0.1624 0.0724

Venus -16739-09-05 14:23 J -4392248.91 -4392248.90 -4392248.88 0.3724 0.3641

Saturn -16737-11-07 00:28 J -4391455.57 -4391455.48 -4391455.40 0.0289 0.0212

Jupiter -16737-12-23 16:19 J -4391409.01 -4391408.82 -4391408.63 0.0500 0.0045

Saturn -16736-02-03 11:45 J -4391367.14 -4391367.01 -4391366.89 0.0288 0.0070

Neptune -16736-04-30 14:38 J -4391280.92 -4391280.89 -4391280.86 0.0089 0.0086

Saturn -16736-05-02 22:48 J -4391278.67 -4391278.55 -4391278.42 0.0287 0.0071

Neptune -16736-07-27 15:36 J -4391192.89 -4391192.85 -4391192.78 0.0089 0.0080

Saturn -16736-07-30 10:04 J -4391190.17 -4391190.08 -4391189.99 0.0286 0.0210

Earth -16736-08-01 09:50 J -4391188.19 -4391188.09 -4391187.98 0.2710 0.0653

Moon -16736-08-01 10:33 J -4391188.17 -4391188.06 -4391187.95 0.2712 0.0509 *

Neptune -16736-10-23 17:16 J -4391104.86 -4391104.78 -4391104.70 0.0089 0.0072

Neptune -16735-01-19 18:28 J -4391016.82 -4391016.73 -4391016.64 0.0089 0.0065

Neptune -16735-04-17 19:26 J -4390928.77 -4390928.69 -4390928.58 0.0089 0.0059

Neptune -16735-07-14 21:07 J -4390840.73 -4390840.62 -4390840.51 0.0089 0.0051

Neptune -16735-10-10 22:04 J -4390752.68 -4390752.58 -4390752.45 0.0089 0.0045

Mars -16734-01-06 20:09 J -4390664.70 -4390664.66 -4390664.61 0.1626 0.1472

Neptune -16734-01-06 23:45 J -4390664.63 -4390664.51 -4390664.39 0.0089 0.0037 *

Neptune -16734-04-05 00:57 J -4390576.58 -4390576.46 -4390576.34 0.0089 0.0030

Neptune -16734-07-02 02:09 J -4390488.53 -4390488.41 -4390488.28 0.0089 0.0023

Neptune -16734-09-28 03:36 J -4390400.48 -4390400.35 -4390400.22 0.0089 0.0016

Neptune -16734-12-25 04:48 J -4390312.43 -4390312.30 -4390312.17 0.0089 0.0009

Venus -16733-03-21 05:45 J -4390225.35 -4390225.26 -4390225.17 0.3726 0.1729

Neptune -16733-03-22 06:14 J -4390224.37 -4390224.24 -4390224.11 0.0089 0.0002

Neptune -16733-06-18 07:26 J -4390136.32 -4390136.19 -4390136.06 0.0089 0.0006

Neptune -16733-09-14 08:38 J -4390048.26 -4390048.14 -4390048.00 0.0089 0.0013

Neptune -16733-12-11 10:04 J -4389960.21 -4389960.08 -4389959.95 0.0089 0.0020

Mars -16733-12-11 21:21 J -4389959.72 -4389959.61 -4389959.50 0.1624 0.0292

Moon -16732-02-03 21:21 J -4389905.77 -4389905.61 -4389905.46 0.2623 0.0113

Earth -16732-02-03 23:02 J -4389905.70 -4389905.54 -4389905.39 0.2624 0.0286 *

Neptune -16732-03-09 11:16 J -4389872.15 -4389872.03 -4389871.90 0.0089 0.0027

Neptune -16732-06-05 12:28 J -4389784.09 -4389783.98 -4389783.85 0.0089 0.0034

Neptune -16732-09-01 13:40 J -4389696.03 -4389695.93 -4389695.80 0.0089 0.0042

Neptune -16732-11-28 15:07 J -4389607.97 -4389607.87 -4389607.75 0.0089 0.0048

Neptune -16731-02-24 16:19 J -4389519.91 -4389519.82 -4389519.71 0.0089 0.0056

Neptune -16731-05-23 17:45 J -4389431.85 -4389431.76 -4389431.66 0.0089 0.0062

Jupiter -16731-08-18 13:55 J -4389345.01 -4389344.92 -4389344.83 0.0527 0.0367

Neptune -16731-08-19 18:57 J -4389343.78 -4389343.71 -4389343.62 0.0089 0.0070

Jupiter -16731-11-15 18:57 J -4389255.82 -4389255.71 -4389255.59 0.0526 0.0190

Neptune -16731-11-15 20:23 J -4389255.71 -4389255.65 -4389255.58 0.0089 0.0076 *

Neptune -16730-02-11 21:50 J -4389167.63 -4389167.59 -4389167.54 0.0089 0.0083

Mars -16728-08-26 12:00 J -4388241.15 -4388241.00 -4388240.85 0.1896 0.0835

Venus -16728-10-04 20:52 J -4388201.73 -4388201.63 -4388201.53 0.3728 0.0269

Jupiter -16725-10-11 12:28 J -4387099.14 -4387098.98 -4387098.81 0.0499 0.0232

Mars -16723-05-04 09:07 J -4386529.24 -4386529.12 -4386529.01 0.1624 0.0137

Earth -16723-08-04 04:04 J -4386437.44 -4386437.33 -4386437.22 0.2709 0.0553

Moon -16723-08-04 04:48 J -4386437.41 -4386437.30 -4386437.20 0.2707 0.0617 *

Venus -16722-04-20 12:14 J -4386178.07 -4386177.99 -4386177.91 0.3730 0.2137

Saturn -16720-02-12 06:43 J -4385514.37 -4385514.22 -4385514.05 0.0274 0.0155

Saturn -16720-05-12 06:14 J -4385425.43 -4385425.24 -4385425.05 0.0275 0.0031

Saturn -16720-08-09 05:31 J -4385336.38 -4385336.27 -4385336.15 0.0276 0.0218

Moon -16719-02-07 03:21 J -4385154.43 -4385154.36 -4385154.29 0.2630 0.2296

Earth -16719-02-07 04:33 J -4385154.36 -4385154.31 -4385154.26 0.2625 0.2444 *

Jupiter -16719-06-06 18:00 J -4385034.77 -4385034.75 -4385034.72 0.0527 0.0511

Jupiter -16719-09-03 23:16 J -4384945.66 -4384945.53 -4384945.41 0.0526 0.0047

Mars -16718-01-16 03:50 J -4384811.50 -4384811.34 -4384811.18 0.1896 0.0631

Mars -16714-09-24 20:38 J -4383098.74 -4383098.64 -4383098.53 0.1625 0.0567

Jupiter -16713-07-30 08:52 J -4382789.23 -4382789.13 -4382789.03 0.0499 0.0420

Jupiter -16713-10-28 20:38 J -4382698.78 -4382698.64 -4382698.50 0.0500 0.0319

Mars -16712-08-29 22:04 J -4382393.65 -4382393.58 -4382393.50 0.1624 0.1210

Uranus -16711-05-20 09:36 J -4382130.16 -4382130.10 -4382130.04 0.0139 0.0124

Uranus -16711-08-16 12:43 J -4382042.05 -4382041.97 -4382041.88 0.0140 0.0104

Uranus -16711-11-12 16:04 J -4381953.93 -4381953.83 -4381953.73 0.0140 0.0084

Uranus -16710-02-08 19:11 J -4381865.81 -4381865.70 -4381865.58 0.0140 0.0064

Uranus -16710-05-07 22:33 J -4381777.68 -4381777.56 -4381777.43 0.0140 0.0043

Uranus -16710-08-04 01:55 J -4381689.55 -4381689.42 -4381689.29 0.0140 0.0023

Earth -16710-08-06 22:19 J -4381686.66 -4381686.57 -4381686.49 0.2708 0.1769

Moon -16710-08-06 22:33 J -4381686.64 -4381686.56 -4381686.48 0.2701 0.1795 *

Uranus -16710-10-31 05:16 J -4381601.41 -4381601.28 -4381601.15 0.0140 0.0002

Uranus -16709-01-27 08:38 J -4381513.27 -4381513.14 -4381513.01 0.0140 0.0019

Uranus -16709-04-24 12:00 J -4381425.12 -4381425.00 -4381424.87 0.0140 0.0040

Uranus -16709-07-21 15:21 J -4381336.97 -4381336.86 -4381336.74 0.0141 0.0061

Uranus -16709-10-17 18:43 J -4381248.82 -4381248.72 -4381248.61 0.0141 0.0082

Uranus -16708-01-13 22:04 J -4381160.66 -4381160.58 -4381160.48 0.0141 0.0104

Uranus -16708-04-12 01:40 J -4381072.49 -4381072.43 -4381072.37 0.0141 0.0125

Saturn -16707-03-27 03:21 J -4380723.42 -4380723.36 -4380723.29 0.0289 0.0244

Jupiter -16707-06-23 03:50 J -4380635.46 -4380635.34 -4380635.21 0.0527 0.0088

Saturn -16707-06-23 14:38 J -4380635.01 -4380634.89 -4380634.76 0.0288 0.0102

Saturn -16707-09-20 01:55 J -4380546.55 -4380546.42 -4380546.29 0.0287 0.0039

Jupiter -16707-09-20 09:07 J -4380546.17 -4380546.12 -4380546.07 0.0525 0.0470

Saturn -16707-12-17 13:11 J -4380458.05 -4380457.95 -4380457.85 0.0285 0.0178

Mars -16704-02-14 08:23 J -4379668.24 -4379668.15 -4379668.06 0.1625 0.0990

Earth -16703-07-30 20:38 J -4379136.72 -4379136.64 -4379136.55 0.2711 0.1605

Moon -16703-07-30 21:07 J -4379136.71 -4379136.62 -4379136.53 0.2717 0.1515 *

Mars -16702-01-20 09:50 J -4378963.20 -4378963.09 -4378962.99 0.1624 0.0782

Jupiter -16701-08-16 16:19 J -4378389.01 -4378388.82 -4378388.64 0.0499 0.0123

Moon -16699-02-01 22:04 J -4377854.70 -4377854.58 -4377854.47 0.2620 0.1765

Earth -16699-02-01 23:31 J -4377854.65 -4377854.52 -4377854.39 0.2623 0.1517 *

Jupiter -16695-04-11 08:23 J -4376325.26 -4376325.15 -4376325.04 0.0527 0.0224

Mars -16695-07-07 20:09 J -4376237.71 -4376237.66 -4376237.60 0.1625 0.1414

Jupiter -16695-07-09 13:40 J -4376236.03 -4376235.93 -4376235.84 0.0526 0.0334

Mars -16693-06-11 21:21 J -4375532.72 -4375532.61 -4375532.50 0.1624 0.0351

Saturn -16691-07-02 05:45 J -4374782.37 -4374782.26 -4374782.12 0.0274 0.0203

Saturn -16691-09-29 05:31 J -4374693.46 -4374693.27 -4374693.08 0.0275 0.0017

Venus -16691-12-22 12:28 J -4374609.13 -4374608.98 -4374608.82 0.3645 0.1259

Saturn -16691-12-27 04:48 J -4374604.45 -4374604.30 -4374604.15 0.0276 0.0169

Earth -16690-08-02 14:52 J -4374385.99 -4374385.88 -4374385.78 0.2710 0.0425

Moon -16690-08-02 15:36 J -4374385.96 -4374385.85 -4374385.74 0.2712 0.0401 *

Jupiter -16689-06-04 12:57 J -4374079.15 -4374078.96 -4374078.78 0.0499 0.0062

Mars -16688-02-24 12:57 J -4373814.10 -4373813.96 -4373813.81 0.1896 0.0973

Moon -16686-02-05 03:50 J -4373103.49 -4373103.34 -4373103.19 0.2624 0.0577

Earth -16686-02-05 05:16 J -4373103.43 -4373103.28 -4373103.12 0.2624 0.0698 *

Mars -16684-11-02 09:07 J -4372102.24 -4372102.12 -4372102.01 0.1624 0.0095

Jupiter -16683-01-28 12:14 J -4372015.08 -4372014.99 -4372014.90 0.0527 0.0373

Jupiter -16683-04-27 17:16 J -4371925.90 -4371925.78 -4371925.66 0.0526 0.0183

Venus -16682-04-12 11:45 J -4371576.07 -4371576.01 -4371575.95 0.3725 0.2949

Mars -16679-07-17 04:48 J -4370384.46 -4370384.30 -4370384.13 0.1896 0.0496

Saturn -16678-08-14 06:57 J -4369991.25 -4369991.21 -4369991.17 0.0290 0.0273

Saturn -16678-11-10 18:14 J -4369902.85 -4369902.74 -4369902.63 0.0289 0.0130

Saturn -16677-02-07 05:31 J -4369814.40 -4369814.27 -4369814.14 0.0287 0.0012

Jupiter -16677-03-23 09:50 J -4369769.26 -4369769.09 -4369768.93 0.0499 0.0241

Saturn -16677-05-05 16:33 J -4369725.91 -4369725.81 -4369725.69 0.0286 0.0151

Jupiter -16677-06-21 21:36 J -4369678.62 -4369678.60 -4369678.59 0.0500 0.0498

Earth -16677-08-04 08:52 J -4369635.23 -4369635.13 -4369635.02 0.2709 0.0790

Moon -16677-08-04 09:36 J -4369635.21 -4369635.10 -4369635.00 0.2705 0.0909 *

Venus -16677-10-26 03:07 J -4369552.47 -4369552.37 -4369552.28 0.3727 0.1027

Mars -16674-03-25 20:38 J -4368671.75 -4368671.64 -4368671.53 0.1624 0.0509

Mars -16672-02-27 22:04 J -4367966.65 -4367966.58 -4367966.51 0.1624 0.1267

Jupiter -16672-11-16 16:19 J -4367704.84 -4367704.82 -4367704.79 0.0527 0.0515

Jupiter -16671-02-13 21:21 J -4367615.73 -4367615.61 -4367615.48 0.0526 0.0045

Uranus -16671-04-03 08:52 J -4367567.22 -4367567.13 -4367567.03 0.0139 0.0120

Venus -16671-05-11 18:14 J -4367528.83 -4367528.74 -4367528.64 0.3728 0.0906

Uranus -16671-06-30 16:33 J -4367478.95 -4367478.81 -4367478.66 0.0139 0.0090

Uranus -16671-09-27 00:28 J -4367390.65 -4367390.48 -4367390.30 0.0138 0.0061

Uranus -16671-12-24 08:09 J -4367302.34 -4367302.16 -4367301.96 0.0138 0.0032

Uranus -16670-03-22 16:04 J -4367214.02 -4367213.83 -4367213.64 0.0138 0.0002

Uranus -16670-06-18 23:45 J -4367125.70 -4367125.51 -4367125.32 0.0138 0.0027

Moon -16670-07-29 07:26 J -4367085.22 -4367085.19 -4367085.15 0.2719 0.2540

Earth -16670-07-29 07:40 J -4367085.22 -4367085.18 -4367085.15 0.2712 0.2552 *

Uranus -16670-09-15 07:26 J -4367037.37 -4367037.19 -4367037.01 0.0138 0.0056

Uranus -16670-12-12 14:52 J -4366949.02 -4366948.88 -4366948.72 0.0138 0.0085

Uranus -16669-03-09 22:33 J -4366860.67 -4366860.56 -4366860.45 0.0138 0.0113

Venus -16666-11-25 09:36 J -4365505.16 -4365505.10 -4365505.04 0.3730 0.2844

Jupiter -16665-01-10 06:14 J -4365459.34 -4365459.24 -4365459.15 0.0499 0.0427

Jupiter -16665-04-09 18:00 J -4365368.89 -4365368.75 -4365368.60 0.0500 0.0313

Mars -16665-08-15 08:23 J -4365241.24 -4365241.15 -4365241.06 0.1625 0.0934

Earth -16664-08-07 03:07 J -4364884.44 -4364884.37 -4364884.30 0.2708 0.2008

Moon -16664-08-07 03:21 J -4364884.43 -4364884.36 -4364884.29 0.2701 0.2022 *

Mars -16663-07-21 09:36 J -4364536.20 -4364536.10 -4364536.00 0.1624 0.0836

Saturn -16662-11-19 06:00 J -4364050.33 -4364050.25 -4364050.16 0.0274 0.0243

Saturn -16661-02-16 05:31 J -4363961.46 -4363961.27 -4363961.08 0.0275 0.0058

Saturn -16661-05-15 04:48 J -4363872.46 -4363872.30 -4363872.12 0.0276 0.0129

Jupiter -16660-12-03 01:40 J -4363305.56 -4363305.43 -4363305.31 0.0527 0.0104

Jupiter -16659-03-02 06:43 J -4363216.28 -4363216.22 -4363216.15 0.0525 0.0455

Earth -16657-07-31 01:26 J -4362334.53 -4362334.44 -4362334.34 0.2711 0.1379

Moon -16657-07-31 02:09 J -4362334.51 -4362334.41 -4362334.32 0.2716 0.1373 *

Mars -16655-01-05 20:09 J -4361810.72 -4361810.66 -4361810.60 0.1626 0.1358

Mars -16654-12-11 21:21 J -4361105.72 -4361105.61 -4361105.50 0.1624 0.0406

Jupiter -16653-01-27 14:23 J -4361059.08 -4361058.90 -4361058.72 0.0499 0.0126

Moon -16653-02-03 04:33 J -4361052.45 -4361052.31 -4361052.17 0.2620 0.1142

Earth -16653-02-03 06:00 J -4361052.39 -4361052.25 -4361052.11 0.2623 0.1095 *

Neptune -16653-10-14 14:23 J -4360797.95 -4360797.90 -4360797.81 0.0088 0.0082

Neptune -16652-01-10 18:28 J -4360709.84 -4360709.73 -4360709.61 0.0088 0.0071

Neptune -16652-04-08 22:04 J -4360621.71 -4360621.58 -4360621.43 0.0088 0.0061

Neptune -16652-07-06 01:55 J -4360533.57 -4360533.42 -4360533.25 0.0088 0.0051

Neptune -16652-10-02 05:31 J -4360445.43 -4360445.27 -4360445.08 0.0088 0.0041

Neptune -16652-12-29 09:07 J -4360357.29 -4360357.12 -4360356.92 0.0088 0.0031

Neptune -16651-03-27 12:57 J -4360269.14 -4360268.96 -4360268.76 0.0088 0.0021

Neptune -16651-06-23 16:48 J -4360180.99 -4360180.80 -4360180.60 0.0088 0.0010

Neptune -16651-09-19 20:38 J -4360092.84 -4360092.64 -4360092.45 0.0088 0.0001

Neptune -16651-12-17 00:14 J -4360004.69 -4360004.49 -4360004.29 0.0088 0.0010

Neptune -16650-03-15 03:50 J -4359916.53 -4359916.34 -4359916.14 0.0088 0.0020

Neptune -16650-06-11 07:26 J -4359828.37 -4359828.19 -4359828.00 0.0088 0.0030

Neptune -16650-09-07 11:16 J -4359740.21 -4359740.03 -4359739.85 0.0088 0.0040

Neptune -16650-12-04 14:52 J -4359652.04 -4359651.88 -4359651.72 0.0088 0.0050

Neptune -16649-03-01 18:00 J -4359563.87 -4359563.75 -4359563.58 0.0088 0.0062

Neptune -16649-05-28 21:50 J -4359475.69 -4359475.59 -4359475.46 0.0088 0.0071

Neptune -16649-08-25 01:26 J -4359387.50 -4359387.44 -4359387.34 0.0088 0.0081

Mars -16649-08-25 13:55 J -4359387.05 -4359386.92 -4359386.78 0.1896 0.1107

Saturn -16648-03-29 21:07 J -4359170.72 -4359170.62 -4359170.51 0.0288 0.0163

Saturn -16648-06-26 08:23 J -4359082.27 -4359082.15 -4359082.02 0.0287 0.0023

Jupiter -16648-09-21 06:14 J -4358995.35 -4358995.24 -4358995.13 0.0527 0.0238

Saturn -16648-09-22 19:40 J -4358993.80 -4358993.68 -4358993.56 0.0286 0.0118

Jupiter -16648-12-19 11:16 J -4358906.12 -4358906.03 -4358905.93 0.0526 0.0321

Saturn -16648-12-20 06:43 J -4358905.27 -4358905.22 -4358905.16 0.0285 0.0256

Mars -16644-05-03 09:07 J -4357675.24 -4357675.12 -4357675.01 0.1624 0.0067

Earth -16644-08-02 19:40 J -4357583.79 -4357583.68 -4357583.57 0.2710 0.0183

Moon -16644-08-02 20:23 J -4357583.76 -4357583.65 -4357583.54 0.2712 0.0055 *

Jupiter -16642-11-15 10:04 J -4356749.26 -4356749.08 -4356748.89 0.0499 0.0069

Moon -16640-02-05 10:19 J -4356301.21 -4356301.07 -4356300.92 0.2626 0.0889

Earth -16640-02-05 12:00 J -4356301.14 -4356301.00 -4356300.86 0.2624 0.1115 *

Venus -16639-01-12 03:21 J -4355960.40 -4355960.36 -4355960.32 0.3647 0.3503

Mars -16639-01-15 05:45 J -4355957.43 -4355957.26 -4355957.09 0.1896 0.0366

Jupiter -16636-07-10 10:48 J -4354685.14 -4354685.05 -4354684.96 0.0527 0.0373

Jupiter -16636-10-07 15:50 J -4354595.95 -4354595.84 -4354595.72 0.0526 0.0186

Mars -16635-09-23 20:38 J -4354244.75 -4354244.64 -4354244.53 0.1624 0.0451

Venus -16634-07-29 15:21 J -4353935.89 -4353935.86 -4353935.83 0.3644 0.3553

Mars -16633-08-28 22:04 J -4353539.65 -4353539.58 -4353539.52 0.1624 0.1325

Saturn -16632-07-05 04:04 J -4353229.50 -4353229.33 -4353229.15 0.0274 0.0110

Saturn -16632-10-02 03:36 J -4353140.54 -4353140.35 -4353140.17 0.0275 0.0076

Saturn -16632-12-30 02:52 J -4353051.43 -4353051.38 -4353051.32 0.0276 0.0263

Earth -16631-08-05 13:40 J -4352833.03 -4352832.93 -4352832.82 0.2709 0.1036

Moon -16631-08-05 14:23 J -4352833.01 -4352832.90 -4352832.80 0.2704 0.1036 *

Mars -16630-06-06 21:21 J -4352527.64 -4352527.61 -4352527.57 0.1895 0.1841

Jupiter -16630-09-03 06:43 J -4352439.38 -4352439.22 -4352439.06 0.0499 0.0252

Jupiter -16630-12-02 18:28 J -4352348.77 -4352348.73 -4352348.69 0.0500 0.0486

Uranus -16627-06-09 16:04 J -4351428.88 -4351428.83 -4351428.76 0.0140 0.0122

Uranus -16627-09-05 19:26 J -4351340.78 -4351340.69 -4351340.60 0.0140 0.0102

Uranus -16627-12-02 22:33 J -4351252.66 -4351252.56 -4351252.44 0.0140 0.0082

Uranus -16626-03-01 02:09 J -4351164.53 -4351164.41 -4351164.30 0.0140 0.0061

Uranus -16626-05-28 05:16 J -4351076.40 -4351076.28 -4351076.15 0.0140 0.0041

Uranus -16626-08-24 08:38 J -4350988.27 -4350988.14 -4350988.01 0.0140 0.0021

Venus -16626-11-17 09:07 J -4350903.20 -4350903.12 -4350903.04 0.3725 0.2247

Uranus -16626-11-20 12:00 J -4350900.13 -4350900.00 -4350899.87 0.0140 0.0003

Mars -16625-02-14 08:23 J -4350814.25 -4350814.15 -4350814.06 0.1625 0.0879

Uranus -16625-02-16 15:21 J -4350811.99 -4350811.86 -4350811.73 0.0140 0.0021

Uranus -16625-05-14 18:43 J -4350723.84 -4350723.72 -4350723.59 0.0140 0.0042

Uranus -16625-08-10 22:04 J -4350635.69 -4350635.58 -4350635.46 0.0141 0.0064

Uranus -16625-11-07 01:26 J -4350547.54 -4350547.44 -4350547.33 0.0141 0.0085

Uranus -16624-02-03 05:02 J -4350459.38 -4350459.29 -4350459.20 0.0141 0.0106

Jupiter -16624-04-28 14:38 J -4350374.90 -4350374.89 -4350374.87 0.0527 0.0520

Uranus -16624-05-02 08:23 J -4350371.20 -4350371.15 -4350371.09 0.0141 0.0127

Jupiter -16624-07-26 19:40 J -4350285.80 -4350285.68 -4350285.55 0.0526 0.0041

Moon -16624-07-29 12:14 J -4350283.04 -4350282.99 -4350282.93 0.2719 0.2359

Earth -16624-07-29 12:28 J -4350283.04 -4350282.98 -4350282.93 0.2712 0.2324 *

Mars -16623-01-19 09:36 J -4350109.19 -4350109.10 -4350109.00 0.1624 0.0892

Venus -16620-06-02 00:28 J -4348879.58 -4348879.48 -4348879.38 0.3727 0.0343

Saturn -16619-08-17 00:14 J -4348438.58 -4348438.49 -4348438.39 0.0289 0.0196

Saturn -16619-11-13 11:31 J -4348350.14 -4348350.02 -4348349.89 0.0288 0.0055

Saturn -16618-02-09 22:48 J -4348261.67 -4348261.55 -4348261.42 0.0287 0.0087

Saturn -16618-05-09 09:50 J -4348173.16 -4348173.09 -4348173.00 0.0286 0.0226

Jupiter -16618-06-22 03:36 J -4348129.44 -4348129.35 -4348129.26 0.0499 0.0433

Earth -16618-08-08 07:55 J -4348082.23 -4348082.17 -4348082.11 0.2707 0.2253

Moon -16618-08-08 08:09 J -4348082.22 -4348082.16 -4348082.10 0.2701 0.2288 *

Jupiter -16618-09-20 15:36 J -4348039.00 -4348038.85 -4348038.70 0.0500 0.0307

Mars -16616-07-06 20:09 J -4347383.73 -4347383.66 -4347383.60 0.1626 0.1304

Venus -16615-12-16 15:36 J -4346855.94 -4346855.85 -4346855.76 0.3729 0.1611

Mars -16614-06-11 21:21 J -4346678.73 -4346678.61 -4346678.50 0.1624 0.0465

Jupiter -16612-05-15 00:00 J -4345975.62 -4345975.50 -4345975.38 0.0526 0.0106

Jupiter -16612-08-12 05:02 J -4345886.35 -4345886.29 -4345886.22 0.0525 0.0451

Earth -16611-08-01 06:28 J -4345532.33 -4345532.23 -4345532.13 0.2711 0.1144

Moon -16611-08-01 06:57 J -4345532.31 -4345532.21 -4345532.11 0.2715 0.1039 *

Mars -16609-02-24 14:38 J -4344960.02 -4344959.89 -4344959.76 0.1896 0.1222

Venus -16609-07-01 06:57 J -4344832.24 -4344832.21 -4344832.18 0.3730 0.3556

Moon -16607-02-03 11:02 J -4344250.19 -4344250.04 -4344249.89 0.2620 0.0926

Earth -16607-02-03 12:28 J -4344250.13 -4344249.98 -4344249.83 0.2623 0.0675 *

Jupiter -16606-07-09 12:14 J -4343729.17 -4343728.99 -4343728.81 0.0500 0.0123

Mars -16605-11-01 08:52 J -4343248.24 -4343248.13 -4343248.01 0.1624 0.0055

Saturn -16603-11-22 03:21 J -4342497.51 -4342497.36 -4342497.19 0.0274 0.0155

Saturn -16602-02-19 02:52 J -4342408.57 -4342408.38 -4342408.19 0.0275 0.0030

Saturn -16602-05-19 02:09 J -4342319.52 -4342319.41 -4342319.29 0.0276 0.0217

Jupiter -16600-03-03 04:04 J -4341665.43 -4341665.33 -4341665.21 0.0527 0.0250

Jupiter -16600-05-31 09:21 J -4341576.21 -4341576.11 -4341576.01 0.0526 0.0308

Mars -16600-07-16 06:28 J -4341530.40 -4341530.23 -4341530.06 0.1896 0.0241

Earth -16598-08-04 00:28 J -4340781.59 -4340781.48 -4340781.37 0.2710 0.0058

Moon -16598-08-04 01:11 J -4340781.56 -4340781.45 -4340781.34 0.2710 0.0078 *

Mars -16595-03-24 20:38 J -4339817.75 -4339817.64 -4339817.53 0.1624 0.0394

Moon -16594-02-06 16:48 J -4339498.93 -4339498.80 -4339498.67 0.2627 0.1465

Earth -16594-02-06 18:14 J -4339498.86 -4339498.74 -4339498.61 0.2624 0.1523 *

Jupiter -16594-04-27 08:38 J -4339419.33 -4339419.14 -4339418.95 0.0499 0.0063

Mars -16593-02-27 22:04 J -4339112.64 -4339112.58 -4339112.52 0.1624 0.1381

Mars -16591-12-05 22:19 J -4338100.64 -4338100.57 -4338100.50 0.1895 0.1709

Saturn -16589-01-04 03:07 J -4337706.44 -4337706.37 -4337706.29 0.0289 0.0231

Saturn -16589-04-01 14:23 J -4337618.02 -4337617.90 -4337617.78 0.0288 0.0089

Saturn -16589-06-29 01:40 J -4337529.56 -4337529.43 -4337529.30 0.0287 0.0051

Saturn -16589-09-25 12:43 J -4337441.06 -4337440.97 -4337440.87 0.0285 0.0191

Jupiter -16589-12-20 08:52 J -4337355.22 -4337355.13 -4337355.05 0.0527 0.0384

Jupiter -16588-03-19 13:55 J -4337266.04 -4337265.92 -4337265.80 0.0526 0.0174

Uranus -16587-04-23 15:21 J -4336865.95 -4336865.86 -4336865.74 0.0139 0.0115

Uranus -16587-07-20 23:16 J -4336777.67 -4336777.53 -4336777.37 0.0139 0.0085

Uranus -16587-10-17 07:11 J -4336689.37 -4336689.20 -4336689.02 0.0138 0.0055

Uranus -16586-01-13 15:07 J -4336601.06 -4336600.87 -4336600.68 0.0138 0.0026

Uranus -16586-04-11 22:48 J -4336512.74 -4336512.55 -4336512.35 0.0138 0.0004

Uranus -16586-07-09 06:28 J -4336424.41 -4336424.23 -4336424.04 0.0138 0.0033

Mars -16586-08-15 08:23 J -4336387.25 -4336387.15 -4336387.05 0.1625 0.0821

Uranus -16586-10-05 13:55 J -4336336.08 -4336335.92 -4336335.73 0.0138 0.0062

Pluto -16586-11-25 03:21 J -4336285.42 -4336285.36 -4336285.28 0.0071 0.0064

Uranus -16585-01-01 21:50 J -4336247.73 -4336247.59 -4336247.45 0.0138 0.0090

Pluto -16585-02-21 04:48 J -4336197.39 -4336197.30 -4336197.20 0.0072 0.0056

Uranus -16585-03-30 05:02 J -4336159.37 -4336159.29 -4336159.18 0.0138 0.0119

Pluto -16585-05-19 06:00 J -4336109.36 -4336109.25 -4336109.13 0.0072 0.0048

Earth -16585-08-05 18:43 J -4336030.82 -4336030.72 -4336030.63 0.2709 0.1268

Moon -16585-08-05 19:11 J -4336030.80 -4336030.70 -4336030.61 0.2703 0.1393 *

Pluto -16585-08-15 07:11 J -4336021.32 -4336021.20 -4336021.06 0.0072 0.0040

Pluto -16585-11-11 08:23 J -4335933.28 -4335933.15 -4335933.00 0.0072 0.0032

Pluto -16584-02-07 09:50 J -4335845.23 -4335845.09 -4335844.94 0.0072 0.0024

Pluto -16584-05-06 11:16 J -4335757.18 -4335757.03 -4335756.88 0.0072 0.0015

Mars -16584-07-20 09:36 J -4335682.19 -4335682.10 -4335682.01 0.1624 0.0949

Pluto -16584-08-02 12:28 J -4335669.13 -4335668.98 -4335668.82 0.0072 0.0008

Pluto -16584-10-29 13:55 J -4335581.08 -4335580.92 -4335580.76 0.0072 0.0002

Pluto -16583-01-25 15:21 J -4335493.02 -4335492.86 -4335492.71 0.0072 0.0010

Pluto -16583-04-23 16:33 J -4335404.96 -4335404.81 -4335404.65 0.0073 0.0019

Pluto -16583-07-20 18:00 J -4335316.89 -4335316.75 -4335316.60 0.0073 0.0027

Venus -16583-08-19 06:14 J -4335287.39 -4335287.24 -4335287.08 0.3646 0.1171

Pluto -16583-10-16 19:11 J -4335228.83 -4335228.70 -4335228.55 0.0073 0.0036

Pluto -16582-01-12 20:38 J -4335140.76 -4335140.64 -4335140.51 0.0073 0.0045

Jupiter -16582-02-13 04:33 J -4335109.47 -4335109.31 -4335109.15 0.0499 0.0254

Pluto -16582-04-10 21:50 J -4335052.68 -4335052.59 -4335052.47 0.0073 0.0054

Jupiter -16582-05-14 16:04 J -4335018.87 -4335018.83 -4335018.78 0.0500 0.0483

Pluto -16582-07-07 23:45 J -4334964.59 -4334964.51 -4334964.43 0.0073 0.0063

Pluto -16582-10-04 00:57 J -4334876.48 -4334876.46 -4334876.42 0.0073 0.0072

Earth -16578-07-30 17:16 J -4333480.85 -4333480.78 -4333480.71 0.2712 0.2094

Moon -16578-07-30 17:16 J -4333480.84 -4333480.78 -4333480.71 0.2718 0.2096 *

Jupiter -16577-10-08 13:26 J -4333044.96 -4333044.94 -4333044.92 0.0528 0.0518

Mars -16576-01-04 19:55 J -4332956.74 -4332956.67 -4332956.59 0.1625 0.1249

Jupiter -16576-01-05 18:28 J -4332955.85 -4332955.73 -4332955.60 0.0527 0.0042

Venus -16575-12-08 15:21 J -4332253.90 -4332253.86 -4332253.83 0.3723 0.3458

Mars -16575-12-10 21:21 J -4332251.72 -4332251.61 -4332251.50 0.1624 0.0523

Earth -16574-02-01 12:57 J -4332199.01 -4332198.96 -4332198.92 0.2622 0.2506

Saturn -16573-04-10 01:11 J -4331765.56 -4331765.45 -4331765.33 0.0274 0.0213

Saturn -16573-07-08 00:43 J -4331676.66 -4331676.47 -4331676.28 0.0275 0.0028

Saturn -16573-10-05 00:00 J -4331587.65 -4331587.50 -4331587.34 0.0276 0.0158

Moon -16572-08-08 12:57 J -4331280.01 -4331279.96 -4331279.92 0.2701 0.2436

Earth -16572-08-08 12:57 J -4331280.00 -4331279.96 -4331279.92 0.2707 0.2497 *

Neptune -16572-10-29 13:11 J -4331197.95 -4331197.95 -4331197.93 0.0089 0.0089

Neptune -16571-01-25 14:23 J -4331109.93 -4331109.90 -4331109.83 0.0089 0.0083

Neptune -16571-04-23 15:50 J -4331021.90 -4331021.84 -4331021.76 0.0089 0.0075

Neptune -16571-07-20 17:02 J -4330933.86 -4330933.79 -4330933.69 0.0089 0.0069

Neptune -16571-10-16 18:28 J -4330845.82 -4330845.73 -4330845.63 0.0089 0.0061

Jupiter -16571-12-02 01:11 J -4330799.54 -4330799.45 -4330799.36 0.0499 0.0436

Neptune -16570-01-12 19:40 J -4330757.77 -4330757.68 -4330757.56 0.0089 0.0054

Jupiter -16570-03-02 13:11 J -4330709.10 -4330708.95 -4330708.80 0.0500 0.0303

Neptune -16570-04-10 21:07 J -4330669.73 -4330669.62 -4330669.50 0.0089 0.0047

Neptune -16570-07-07 22:19 J -4330581.68 -4330581.57 -4330581.44 0.0089 0.0040

Mars -16570-08-25 15:36 J -4330532.97 -4330532.85 -4330532.74 0.1896 0.1352

Neptune -16570-10-03 23:31 J -4330493.63 -4330493.52 -4330493.39 0.0089 0.0034

Neptune -16570-12-31 00:57 J -4330405.58 -4330405.46 -4330405.33 0.0089 0.0026

Neptune -16569-03-28 02:23 J -4330317.53 -4330317.40 -4330317.27 0.0089 0.0019

Venus -16569-06-23 06:28 J -4330230.32 -4330230.23 -4330230.14 0.3725 0.1545

Neptune -16569-06-24 03:36 J -4330229.48 -4330229.35 -4330229.22 0.0089 0.0012

Neptune -16569-09-20 05:02 J -4330141.42 -4330141.29 -4330141.16 0.0089 0.0005

Neptune -16569-12-17 06:14 J -4330053.37 -4330053.24 -4330053.11 0.0089 0.0002

Neptune -16568-03-15 07:26 J -4329965.32 -4329965.19 -4329965.05 0.0089 0.0010

Neptune -16568-06-11 08:52 J -4329877.26 -4329877.13 -4329877.00 0.0089 0.0016

Neptune -16568-09-07 10:04 J -4329789.20 -4329789.08 -4329788.95 0.0089 0.0024

Neptune -16568-12-04 11:16 J -4329701.15 -4329701.03 -4329700.90 0.0089 0.0031

Neptune -16567-03-02 12:43 J -4329613.09 -4329612.97 -4329612.85 0.0089 0.0038

Neptune -16567-05-29 14:09 J -4329525.03 -4329524.91 -4329524.80 0.0089 0.0045

Neptune -16567-08-25 15:21 J -4329436.97 -4329436.86 -4329436.75 0.0089 0.0052

Neptune -16567-11-21 16:19 J -4329348.90 -4329348.82 -4329348.71 0.0089 0.0060

Neptune -16566-02-17 17:45 J -4329260.84 -4329260.76 -4329260.66 0.0089 0.0066

Neptune -16566-05-16 18:57 J -4329172.77 -4329172.71 -4329172.62 0.0089 0.0074

Neptune -16566-08-12 20:23 J -4329084.70 -4329084.65 -4329084.59 0.0089 0.0080

Neptune -16566-11-08 21:36 J -4328996.61 -4328996.60 -4328996.56 0.0089 0.0088

Mars -16565-05-02 08:52 J -4328821.24 -4328821.13 -4328821.01 0.1624 0.0090

Earth -16565-08-01 11:16 J -4328730.13 -4328730.03 -4328729.93 0.2711 0.0910

Moon -16565-08-01 11:45 J -4328730.11 -4328730.01 -4328729.90 0.2715 0.0877 *

Jupiter -16565-10-24 22:33 J -4328645.68 -4328645.56 -4328645.44 0.0526 0.0107

Jupiter -16564-01-22 03:36 J -4328556.41 -4328556.35 -4328556.28 0.0525 0.0450

Venus -16563-01-06 21:50 J -4328206.69 -4328206.59 -4328206.49 0.3727 0.0390

Moon	-16561-02-04 17:31 J	-4327447.93	-4327447.77	-4327447.62	0.2622	0.0336
Earth	-16561-02-04 18:57 J	-4327447.86	-4327447.71	-4327447.55	0.2623	0.0262 *
Mars	-16560-01-14 07:26 J	-4327103.36	-4327103.19	-4327103.02	0.1896	0.0110
Saturn	-16560-05-23 05:45 J	-4326974.30	-4326974.26	-4326974.21	0.0290	0.0269
Saturn	-16560-08-19 17:16 J	-4326885.90	-4326885.78	-4326885.67	0.0289	0.0126
Saturn	-16560-11-16 04:33 J	-4326797.44	-4326797.31	-4326797.18	0.0288	0.0017
Saturn	-16559-02-12 15:36 J	-4326708.95	-4326708.85	-4326708.74	0.0286	0.0156
Jupiter	-16559-12-19 10:04 J	-4326399.26	-4326399.08	-4326398.90	0.0500	0.0123
Venus	-16558-07-23 12:57 J	-4326183.03	-4326182.96	-4326182.88	0.3729	0.2322
Mars	-16556-09-22 20:38 J	-4325390.76	-4325390.64	-4325390.53	0.1624	0.0345
Mars	-16554-08-28 21:50 J	-4324685.64	-4324685.59	-4324685.53	0.1624	0.1436
Jupiter	-16553-08-13 02:52 J	-4324335.49	-4324335.38	-4324335.27	0.0527	0.0246
Jupiter	-16553-11-10 07:55 J	-4324246.27	-4324246.17	-4324246.06	0.0525	0.0310
Earth	-16552-08-04 05:16 J	-4323979.39	-4323979.28	-4323979.17	0.2710	0.0297
Moon	-16552-08-04 06:00 J	-4323979.36	-4323979.25	-4323979.14	0.2708	0.0423 *
Mars	-16551-06-05 23:02 J	-4323673.63	-4323673.54	-4323673.45	0.1895	0.1596
Moon	-16548-02-06 23:16 J	-4322696.64	-4322696.53	-4322696.41	0.2627	0.1693
Earth	-16548-02-07 00:57 J	-4322696.57	-4322696.46	-4322696.36	0.2625	0.1942 *
Jupiter	-16547-10-07 06:57 J	-4322089.40	-4322089.21	-4322089.03	0.0499	0.0060
Mars	-16546-02-13 08:23 J	-4321960.26	-4321960.15	-4321960.05	0.1625	0.0768
Mars	-16544-01-18 09:36 J	-4321255.19	-4321255.10	-4321255.01	0.1624	0.1005
Saturn	-16544-08-28 00:00 J	-4321033.54	-4321033.50	-4321033.43	0.0273	0.0261
Saturn	-16544-11-24 23:31 J	-4320944.70	-4320944.52	-4320944.33	0.0274	0.0077
Saturn	-16543-02-21 23:02 J	-4320855.72	-4320855.54	-4320855.36	0.0275	0.0109
Uranus	-16543-06-29 22:33 J	-4320727.62	-4320727.56	-4320727.49	0.0139	0.0121
Uranus	-16543-09-26 01:55 J	-4320639.51	-4320639.42	-4320639.33	0.0140	0.0101
Uranus	-16543-12-23 05:02 J	-4320551.39	-4320551.29	-4320551.17	0.0140	0.0081
Uranus	-16542-03-21 08:38 J	-4320463.26	-4320463.14	-4320463.02	0.0140	0.0060
Uranus	-16542-06-17 11:45 J	-4320375.13	-4320375.01	-4320374.88	0.0140	0.0040
Uranus	-16542-09-13 15:07 J	-4320287.00	-4320286.87	-4320286.73	0.0140	0.0020

Uranus -16542-12-10 18:28 J -4320198.86 -4320198.73 -4320198.59 0.0140 0.0005

Uranus -16541-03-07 21:50 J -4320110.72 -4320110.59 -4320110.46 0.0140 0.0023

Jupiter -16541-06-01 07:11 J -4320025.29 -4320025.20 -4320025.12 0.0527 0.0389

Uranus -16541-06-04 01:11 J -4320022.57 -4320022.45 -4320022.32 0.0140 0.0044

Jupiter -16541-08-29 12:14 J -4319936.11 -4319935.99 -4319935.87 0.0526 0.0168

Uranus -16541-08-31 04:33 J -4319934.42 -4319934.31 -4319934.19 0.0141 0.0065

Uranus -16541-11-27 07:55 J -4319846.27 -4319846.17 -4319846.06 0.0141 0.0086

Uranus -16540-02-23 11:31 J -4319758.10 -4319758.02 -4319757.93 0.0141 0.0107

Uranus -16540-05-22 14:52 J -4319669.93 -4319669.88 -4319669.82 0.0141 0.0128

Earth -16539-08-06 23:31 J -4319228.61 -4319228.52 -4319228.43 0.2708 0.1507

Moon -16539-08-07 00:00 J -4319228.59 -4319228.50 -4319228.41 0.2703 0.1499 *

Mars -16537-07-05 19:55 J -4318529.74 -4318529.67 -4318529.59 0.1625 0.1191

Mars -16535-06-10 21:07 J -4317824.72 -4317824.62 -4317824.51 0.1624 0.0578

Jupiter -16535-07-26 03:21 J -4317779.52 -4317779.36 -4317779.19 0.0499 0.0244

Jupiter -16535-10-24 15:07 J -4317688.89 -4317688.87 -4317688.84 0.0500 0.0494

Earth -16532-07-30 22:04 J -4316678.66 -4316678.58 -4316678.50 0.2712 0.1865

Moon -16532-07-30 22:19 J -4316678.65 -4316678.57 -4316678.49 0.2718 0.1810 *

Saturn -16530-01-06 19:40 J -4316153.78 -4316153.68 -4316153.57 0.0289 0.0165

Mars -16530-02-23 16:48 J -4316105.91 -4316105.80 -4316105.70 0.1896 0.1496

Saturn -16530-04-05 06:57 J -4316065.34 -4316065.21 -4316065.08 0.0288 0.0023

Saturn -16530-07-02 18:14 J -4315976.86 -4315976.74 -4315976.62 0.0286 0.0117

Saturn -16530-09-29 05:16 J -4315888.33 -4315888.28 -4315888.22 0.0285 0.0255

Jupiter -16529-03-20 11:45 J -4315715.02 -4315715.01 -4315715.00 0.0528 0.0524

Jupiter -16529-06-17 16:48 J -4315625.93 -4315625.80 -4315625.67 0.0527 0.0033

Moon -16528-02-01 18:14 J -4315396.83 -4315396.74 -4315396.65 0.2617 0.2149

Earth -16528-02-01 19:26 J -4315396.78 -4315396.69 -4315396.59 0.2622 0.2071 *

Mars -16528-11-26 07:40 J -4315099.19 -4315099.18 -4315099.17 0.1626 0.1614

Venus -16526-03-26 09:07 J -4314614.27 -4314614.12 -4314613.96 0.3646 0.1128

Mars -16526-11-01 08:52 J -4314394.25 -4314394.13 -4314394.02 0.1624 0.0146

Jupiter -16523-05-13 23:31 J -4313469.61 -4313469.52 -4313469.43 0.0498 0.0433

Jupiter -16523-08-12 11:16 J -4313379.17 -4313379.03 -4313378.88 0.0500 0.0306

Mars -16521-07-15 08:23 J -4312676.33 -4312676.15 -4312675.98 0.1896 0.0053

Earth -16519-08-02 16:04 J -4311927.93 -4311927.83 -4311927.72 0.2710 0.0677

Moon -16519-08-02 16:48 J -4311927.91 -4311927.80 -4311927.70 0.2714 0.0596 *

Venus -16518-07-15 12:43 J -4311581.04 -4311580.97 -4311580.91 0.3724 0.2756

Jupiter -16517-04-05 21:36 J -4311315.73 -4311315.60 -4311315.48 0.0527 0.0102

Jupiter -16517-07-04 02:38 J -4311226.45 -4311226.39 -4311226.33 0.0526 0.0458

Mars -16516-03-23 20:38 J -4310963.76 -4310963.64 -4310963.53 0.1624 0.0288

Moon -16515-02-05 00:00 J -4310645.66 -4310645.50 -4310645.35 0.2624 0.0105

Earth -16515-02-05 01:26 J -4310645.59 -4310645.44 -4310645.28 0.2623 0.0179 *

Mars -16514-02-26 21:50 J -4310258.63 -4310258.59 -4310258.54 0.1624 0.1494

Saturn -16514-04-13 20:38 J -4310212.80 -4310212.64 -4310212.48 0.0274 0.0141

Saturn -16514-07-11 19:55 J -4310123.86 -4310123.67 -4310123.48 0.0275 0.0044

Saturn -16514-10-08 19:11 J -4310034.79 -4310034.70 -4310034.59 0.0276 0.0231

Venus -16512-01-28 03:50 J -4309557.44 -4309557.34 -4309557.24 0.3726 0.0842

Mars -16512-12-05 00:00 J -4309246.61 -4309246.50 -4309246.39 0.1895 0.1458

Jupiter -16511-05-31 08:23 J -4309069.33 -4309069.15 -4309068.97 0.0499 0.0127

Venus -16507-08-13 19:11 J -4307533.80 -4307533.70 -4307533.61 0.3728 0.1087

Mars -16507-08-14 08:09 J -4307533.26 -4307533.16 -4307533.05 0.1625 0.0711

Earth -16506-08-05 10:19 J -4307177.18 -4307177.07 -4307176.97 0.2709 0.0539

Moon -16506-08-05 11:02 J -4307177.15 -4307177.04 -4307176.94 0.2707 0.0587 *

Jupiter -16505-01-24 01:40 J -4307005.54 -4307005.43 -4307005.32 0.0527 0.0244

Jupiter -16505-04-22 06:43 J -4306916.32 -4306916.22 -4306916.12 0.0525 0.0313

Mars -16505-07-19 09:36 J -4306828.19 -4306828.10 -4306828.02 0.1624 0.1063

Uranus -16503-05-13 21:21 J -4306164.71 -4306164.61 -4306164.49 0.0139 0.0112

Uranus -16503-08-10 05:31 J -4306076.43 -4306076.27 -4306076.11 0.0139 0.0082

Uranus -16503-11-06 13:11 J -4305988.12 -4305987.95 -4305987.76 0.0138 0.0052

Uranus -16502-02-02 21:07 J -4305899.81 -4305899.62 -4305899.43 0.0138 0.0023

Moon -16502-02-08 05:45 J -4305894.33 -4305894.26 -4305894.18 0.2628 0.2313

Earth -16502-02-08 07:11 J -4305894.26 -4305894.20 -4305894.13 0.2625 0.2348 *

Uranus -16502-05-02 04:48 J -4305811.49 -4305811.30 -4305811.10 0.0138 0.0007

Uranus -16502-07-29 12:28 J -4305723.16 -4305722.98 -4305722.79 0.0138 0.0036

Uranus -16502-10-25 20:09 J -4305634.82 -4305634.66 -4305634.48 0.0138 0.0065

Uranus -16501-01-22 03:50 J -4305546.48 -4305546.34 -4305546.20 0.0138 0.0093

Venus -16501-02-27 10:19 J -4305510.12 -4305510.07 -4305510.01 0.3730 0.3024

Uranus -16501-04-19 11:16 J -4305458.11 -4305458.03 -4305457.93 0.0138 0.0122

Saturn -16501-05-25 21:50 J -4305421.67 -4305421.59 -4305421.50 0.0290 0.0208

Saturn -16501-08-22 09:21 J -4305333.24 -4305333.11 -4305332.99 0.0289 0.0066

Pluto -16501-10-29 11:31 J -4305265.02 -4305265.02 -4305264.98 0.0073 0.0072

Saturn -16501-11-18 20:23 J -4305244.77 -4305244.65 -4305244.52 0.0287 0.0077

Pluto -16500-01-25 13:11 J -4305177.02 -4305176.95 -4305176.86 0.0072 0.0063

Saturn -16500-02-15 07:40 J -4305156.26 -4305156.18 -4305156.09 0.0286 0.0216

Pluto -16500-04-23 14:23 J -4305088.99 -4305088.90 -4305088.78 0.0072 0.0054

Pluto -16500-07-20 16:04 J -4305000.95 -4305000.83 -4305000.70 0.0072 0.0045

Pluto -16500-10-16 17:16 J -4304912.90 -4304912.78 -4304912.63 0.0072 0.0037

Pluto -16499-01-12 18:57 J -4304824.86 -4304824.71 -4304824.56 0.0072 0.0028

Jupiter -16499-03-19 05:16 J -4304759.47 -4304759.28 -4304759.10 0.0500 0.0057

Pluto -16499-04-10 20:09 J -4304736.80 -4304736.66 -4304736.50 0.0072 0.0020

Pluto -16499-07-07 21:36 J -4304648.75 -4304648.60 -4304648.44 0.0072 0.0011

Pluto -16499-10-03 23:02 J -4304560.70 -4304560.54 -4304560.38 0.0072 0.0003

Pluto -16499-12-31 00:28 J -4304472.64 -4304472.48 -4304472.33 0.0071 0.0006

Pluto -16498-03-29 01:40 J -4304384.58 -4304384.43 -4304384.27 0.0071 0.0014

Pluto -16498-06-25 03:07 J -4304296.53 -4304296.37 -4304296.22 0.0071 0.0022

Pluto -16498-09-21 04:04 J -4304208.46 -4304208.33 -4304208.18 0.0071 0.0030

Pluto -16498-12-18 05:16 J -4304120.40 -4304120.28 -4304120.13 0.0071 0.0038

Mars -16497-01-04 19:55 J -4304102.75 -4304102.67 -4304102.59 0.1625 0.1135

Pluto -16497-03-15 06:28 J -4304032.33 -4304032.23 -4304032.09 0.0071 0.0046

Pluto -16497-06-11 08:09 J -4303944.26 -4303944.16 -4303944.06 0.0071 0.0053

Pluto -16497-09-07 09:07 J -4303856.19 -4303856.12 -4303856.03 0.0071 0.0061

Pluto -16497-12-04 10:19 J -4303768.09 -4303768.07 -4303768.02 0.0070 0.0069

Mars -16496-12-09 21:07 J -4303397.73 -4303397.62 -4303397.51 0.1624 0.0629

Jupiter -16494-11-12 06:00 J -4302695.33 -4302695.25 -4302695.16 0.0527 0.0381

Jupiter -16493-02-09 11:02 J -4302606.16 -4302606.04 -4302605.92 0.0526 0.0175

Earth -16493-08-07 04:19 J -4302426.40 -4302426.32 -4302426.23 0.2708 0.1747

Moon -16493-08-07 04:48 J -4302426.38 -4302426.30 -4302426.22 0.2703 0.1840 *

Mars -16491-08-24 17:02 J -4301678.88 -4301678.79 -4301678.70 0.1896 0.1597

Neptune -16488-04-14 10:04 J -4300715.11 -4300715.08 -4300715.04 0.0088 0.0086

Mars -16488-05-27 07:40 J -4300672.21 -4300672.18 -4300672.15 0.1626 0.1560

Neptune -16488-07-11 13:40 J -4300627.01 -4300626.93 -4300626.82 0.0088 0.0076

Neptune -16488-10-07 17:16 J -4300538.89 -4300538.78 -4300538.63 0.0088 0.0066

Neptune -16487-01-03 21:07 J -4300450.76 -4300450.62 -4300450.46 0.0088 0.0056

Jupiter -16487-01-05 01:55 J -4300449.58 -4300449.42 -4300449.25 0.0499 0.0237

Neptune -16487-04-02 00:43 J -4300362.62 -4300362.47 -4300362.28 0.0088 0.0046

Neptune -16487-06-29 04:48 J -4300274.48 -4300274.30 -4300274.12 0.0088 0.0035

Neptune -16487-09-25 08:23 J -4300186.33 -4300186.15 -4300185.95 0.0088 0.0025

Neptune -16487-12-22 12:14 J -4300098.18 -4300097.99 -4300097.79 0.0088 0.0015

Neptune -16486-03-20 15:50 J -4300010.03 -4300009.84 -4300009.64 0.0088 0.0005

Mars -16486-05-02 08:52 J -4299967.25 -4299967.13 -4299967.02 0.1624 0.0204

Neptune -16486-06-16 19:40 J -4299921.88 -4299921.68 -4299921.48 0.0088 0.0005

Earth -16486-08-01 02:52 J -4299876.46 -4299876.38 -4299876.29 0.2712 0.1636

Moon -16486-08-01 03:21 J -4299876.45 -4299876.36 -4299876.28 0.2718 0.1643 *

Neptune -16486-09-12 23:16 J -4299833.72 -4299833.53 -4299833.33 0.0088 0.0016

Neptune -16486-12-10 02:52 J -4299745.56 -4299745.38 -4299745.18 0.0088 0.0026

Neptune -16485-03-07 06:28 J -4299657.40 -4299657.23 -4299657.04 0.0088 0.0036

Neptune -16485-06-03 10:04 J -4299569.23 -4299569.08 -4299568.90 0.0088 0.0046

Neptune -16485-08-30 13:55 J -4299481.06 -4299480.92 -4299480.76 0.0088 0.0056

Saturn -16485-08-30 18:57 J -4299480.84 -4299480.71 -4299480.57 0.0273 0.0194 *

Neptune -16485-11-26 17:31 J -4299392.89 -4299392.77 -4299392.63 0.0088 0.0066

Saturn -16485-11-27 18:14 J -4299391.93 -4299391.74 -4299391.54 0.0274 0.0011

Neptune -16484-02-22 21:07 J -4299304.70 -4299304.62 -4299304.51 0.0088 0.0076

Saturn -16484-02-24 17:31 J -4299302.91 -4299302.77 -4299302.62 0.0275 0.0177

Neptune -16484-05-22 00:57 J -4299216.49 -4299216.46 -4299216.42 0.0088 0.0086

Moon -16482-02-03 00:43 J -4298594.58 -4298594.47 -4298594.35 0.2619 0.1769

Earth -16482-02-03 02:09 J -4298594.53 -4298594.41 -4298594.29 0.2622 0.1642 *

Jupiter -16482-08-31 10:19 J -4298385.08 -4298385.07 -4298385.06 0.0527 0.0523

Jupiter -16482-11-28 15:21 J -4298295.99 -4298295.86 -4298295.73 0.0526 0.0032

Mars -16481-01-14 09:07 J -4298249.29 -4298249.12 -4298248.95 0.1896 0.0146

Mars -16477-09-21 20:23 J -4296536.76 -4296536.65 -4296536.53 0.1624 0.0229

Jupiter -16476-10-23 22:33 J -4296139.65 -4296139.56 -4296139.45 0.0499 0.0419

Jupiter -16475-01-22 10:33 J -4296049.20 -4296049.06 -4296048.91 0.0500 0.0322

Mars -16475-08-27 21:50 J -4295831.62 -4295831.59 -4295831.56 0.1624 0.1550

Earth -16473-08-02 20:52 J -4295125.73 -4295125.63 -4295125.52 0.2710 0.0456

Moon -16473-08-02 21:36 J -4295125.71 -4295125.60 -4295125.49 0.2713 0.0353 *

Mars -16472-06-05 01:11 J -4294819.57 -4294819.45 -4294819.33 0.1895 0.1315

Saturn -16472-10-13 00:00 J -4294689.56 -4294689.50 -4294689.44 0.0290 0.0252

Saturn -16471-01-09 11:16 J -4294601.14 -4294601.03 -4294600.91 0.0289 0.0109

Saturn -16471-04-07 22:33 J -4294512.68 -4294512.56 -4294512.43 0.0287 0.0034

Saturn -16471-07-05 09:50 J -4294424.19 -4294424.09 -4294423.99 0.0286 0.0173

Jupiter -16470-09-16 19:55 J -4293985.79 -4293985.67 -4293985.54 0.0527 0.0102

Venus -16470-10-31 11:45 J -4293941.07 -4293941.01 -4293940.95 0.3645 0.3360

Jupiter -16470-12-15 01:11 J -4293896.51 -4293896.45 -4293896.39 0.0525 0.0455

Moon -16469-02-06 06:28 J -4293843.39 -4293843.23 -4293843.08 0.2624 0.0485

Earth -16469-02-06 08:09 J -4293843.31 -4293843.16 -4293843.01 0.2624 0.0595 *

Mars -16467-02-12 08:09 J -4293106.26 -4293106.16 -4293106.05 0.1625 0.0653

Mars -16465-01-18 09:21 J -4292401.19 -4292401.11 -4292401.02 0.1624 0.1119

Jupiter -16464-11-10 06:57 J -4291739.39 -4291739.21 -4291739.03 0.0499 0.0135

Venus -16461-02-19 10:04 J -4290908.17 -4290908.08 -4290908.00 0.3724 0.2062

Earth -16460-08-05 15:07 J -4290374.98 -4290374.87 -4290374.77 0.2709 0.0768

Moon -16460-08-05 15:50 J -4290374.95 -4290374.84 -4290374.74 0.2707 0.0882 *

Uranus -16459-04-23 01:55 J -4290114.42 -4290114.42 -4290114.40 0.0139 0.0139

Uranus -16459-07-20 05:16 J -4290026.34 -4290026.28 -4290026.21 0.0139 0.0119

Uranus -16459-10-16 08:38 J -4289938.23 -4289938.14 -4289938.05 0.0140 0.0098

Uranus -16458-01-12 11:45 J -4289850.11 -4289850.01 -4289849.89 0.0140 0.0079

Uranus -16458-04-10 15:21 J -4289761.98 -4289761.86 -4289761.74 0.0140 0.0058

Mars -16458-07-05 19:55 J -4289675.76 -4289675.67 -4289675.59 0.1625 0.1079

Jupiter -16458-07-06 00:43 J -4289675.58 -4289675.47 -4289675.36 0.0527 0.0235

Uranus -16458-07-07 18:28 J -4289673.85 -4289673.73 -4289673.60 0.0140 0.0038

Jupiter -16458-10-03 05:45 J -4289586.35 -4289586.26 -4289586.16 0.0526 0.0324

Uranus -16458-10-03 21:50 J -4289585.72 -4289585.59 -4289585.46 0.0140 0.0017

Uranus -16458-12-31 01:11 J -4289497.58 -4289497.45 -4289497.32 0.0140 0.0004

Uranus -16457-03-28 04:33 J -4289409.44 -4289409.31 -4289409.18 0.0140 0.0024

Uranus -16457-06-24 07:55 J -4289321.29 -4289321.17 -4289321.04 0.0140 0.0045

Uranus -16457-09-20 11:16 J -4289233.14 -4289233.03 -4289232.91 0.0141 0.0066

Uranus -16457-12-17 14:38 J -4289144.99 -4289144.89 -4289144.78 0.0141 0.0088

Moon -16456-02-08 12:43 J -4289092.00 -4289091.97 -4289091.94 0.2629 0.2573

Uranus -16456-03-15 18:00 J -4289056.82 -4289056.75 -4289056.66 0.0141 0.0109

Mars -16456-06-09 21:07 J -4288970.72 -4288970.62 -4288970.51 0.1624 0.0689

Uranus -16456-06-11 21:36 J -4288968.64 -4288968.60 -4288968.55 0.0141 0.0130

Venus -16456-09-04 01:11 J -4288884.55 -4288884.45 -4288884.35 0.3726 0.0151

Saturn -16455-01-17 15:21 J -4288748.91 -4288748.86 -4288748.80 0.0273 0.0261

Saturn -16455-04-16 14:38 J -4288660.07 -4288659.89 -4288659.70 0.0274 0.0078

Saturn -16455-07-14 14:09 J -4288571.09 -4288570.91 -4288570.74 0.0275 0.0107

Moon -16453-07-29 13:40 J -4287824.95 -4287824.93 -4287824.91 0.2719 0.2661

Earth -16453-07-29 13:55 J -4287824.95 -4287824.92 -4287824.89 0.2712 0.2580 *

Jupiter -16452-08-29 04:04 J -4287429.52 -4287429.33 -4287429.15 0.0499 0.0045

Mars -16451-02-22 18:14 J -4287251.81 -4287251.74 -4287251.68 0.1896 0.1736

Venus -16450-03-20 16:33 J -4286860.90 -4286860.81 -4286860.73 0.3728 0.1784

Mars -16449-11-25 07:40 J -4286245.22 -4286245.18 -4286245.14 0.1626 0.1506

Earth -16447-08-08 09:21 J -4285624.19 -4285624.11 -4285624.04 0.2708 0.1992

Moon -16447-08-08 09:36 J -4285624.18 -4285624.10 -4285624.03 0.2701 0.1966 *

Mars -16447-10-31 08:38 J -4285540.25 -4285540.14 -4285540.02 0.1624 0.0261

Jupiter -16446-04-24 05:02 J -4285365.38 -4285365.29 -4285365.20 0.0527 0.0375

Jupiter -16446-07-22 10:04 J -4285276.20 -4285276.08 -4285275.96 0.0526 0.0181

Venus -16445-10-03 07:40 J -4284837.18 -4284837.18 -4284837.17 0.3730 0.3723

Saturn -16442-05-29 13:11 J -4283869.05 -4283868.95 -4283868.84 0.0290 0.0155

Mars -16442-07-15 10:04 J -4283822.25 -4283822.08 -4283821.91 0.1896 0.0277

Saturn -16442-08-26 00:28 J -4283780.60 -4283780.48 -4283780.35 0.0288 0.0017

Saturn -16442-11-22 11:45 J -4283692.12 -4283692.01 -4283691.89 0.0287 0.0129

Saturn -16441-02-18 23:02 J -4283603.58 -4283603.54 -4283603.49 0.0286 0.0268

Jupiter -16440-06-17 00:28 J -4283119.64 -4283119.48 -4283119.31 0.0500 0.0230

Earth -16440-08-01 07:55 J -4283074.27 -4283074.17 -4283074.08 0.2711 0.1403

Moon -16440-08-01 08:09 J -4283074.25 -4283074.16 -4283074.06 0.2718 0.1309 *

Mars -16437-03-22 20:23 J -4282109.76 -4282109.65 -4282109.53 0.1624 0.0172

Moon -16436-02-03 07:11 J -4281792.34 -4281792.20 -4281792.07 0.2620 0.1406

Earth -16436-02-03 08:38 J -4281792.28 -4281792.14 -4281792.00 0.2622 0.1212 *

Mars -16435-02-25 21:50 J -4281404.61 -4281404.59 -4281404.58 0.1624 0.1605

Jupiter -16434-02-10 09:36 J -4281055.13 -4281055.10 -4281055.07 0.0527 0.0510

Jupiter -16434-05-10 14:38 J -4280966.02 -4280965.89 -4280965.77 0.0526 0.0045

Mars -16433-12-04 01:26 J -4280392.57 -4280392.44 -4280392.31 0.1895 0.1213

Jupiter -16428-04-04 21:36 J -4278809.71 -4278809.60 -4278809.49 0.0499 0.0408

Jupiter -16428-07-04 09:36 J -4278719.23 -4278719.10 -4278718.96 0.0500 0.0333

Mars -16428-08-13 08:09 J -4278679.27 -4278679.16 -4278679.05 0.1625 0.0598

Earth -16427-08-04 01:55 J -4278323.53 -4278323.42 -4278323.31 0.2710 0.0217

Moon -16427-08-04 02:38 J -4278323.50 -4278323.39 -4278323.28 0.2711 0.0167 *

Mars -16426-07-19 09:21 J -4277974.19 -4277974.11 -4277974.03 0.1624 0.1174

Saturn -16426-09-03 12:28 J -4277928.14 -4277927.98 -4277927.81 0.0273 0.0134

Saturn -16426-12-01 12:00 J -4277839.19 -4277839.00 -4277838.81 0.0274 0.0051

Saturn -16425-02-28 11:02 J -4277750.13 -4277750.04 -4277749.94 0.0275 0.0236

Moon -16423-02-06 12:57 J -4277041.11 -4277040.96 -4277040.81 0.2624 0.0801

Earth -16423-02-06 14:38 J -4277041.03 -4277040.89 -4277040.75 0.2624 0.1014 *

Jupiter -16422-02-26 18:57 J -4276655.84 -4276655.71 -4276655.59 0.0526 0.0099

Jupiter -16422-05-27 00:00 J -4276566.56 -4276566.50 -4276566.44 0.0525 0.0459

Uranus -16419-06-03 02:52 J -4275463.48 -4275463.38 -4275463.25 0.0139 0.0111

Uranus -16419-08-30 10:48 J -4275375.20 -4275375.05 -4275374.88 0.0139 0.0081

Venus -16419-11-21 02:38 J -4275292.54 -4275292.39 -4275292.24 0.3647 0.1358

Uranus -16419-11-26 18:57 J -4275286.89 -4275286.71 -4275286.53 0.0139 0.0051

Mars -16418-01-03 19:55 J -4275248.76 -4275248.67 -4275248.58 0.1625 0.1024

Uranus -16418-02-23 02:38 J -4275198.58 -4275198.39 -4275198.19 0.0138 0.0021

Uranus -16418-05-22 10:33 J -4275110.25 -4275110.06 -4275109.87 0.0138 0.0008

Uranus -16418-08-18 18:14 J -4275021.92 -4275021.74 -4275021.55 0.0138 0.0037

Uranus -16418-11-15 01:55 J -4274933.59 -4274933.42 -4274933.25 0.0138 0.0066

Uranus -16417-02-11 09:36 J -4274845.24 -4274845.10 -4274844.96 0.0138 0.0095

Uranus -16417-05-09 16:48 J -4274756.86 -4274756.80 -4274756.70 0.0138 0.0124

Mars -16417-12-08 21:07 J -4274543.73 -4274543.62 -4274543.52 0.1624 0.0744

Jupiter -16416-04-22 06:28 J -4274409.40 -4274409.23 -4274409.05 0.0500 0.0153

Earth -16414-08-06 19:55 J -4273572.77 -4273572.67 -4273572.57 0.2709 0.1004

Moon -16414-08-06 20:38 J -4273572.74 -4273572.64 -4273572.54 0.2706 0.1069 *

Saturn -16413-10-15 15:07 J -4273136.96 -4273136.87 -4273136.78 0.0290 0.0204

Saturn -16412-01-12 02:23 J -4273048.53 -4273048.40 -4273048.28 0.0289 0.0061

Saturn -16412-04-10 13:40 J -4272960.06 -4272959.93 -4272959.81 0.0287 0.0081

Saturn -16412-07-08 00:43 J -4272871.54 -4272871.47 -4272871.38 0.0286 0.0221

Mars -16412-08-23 19:11 J -4272824.72 -4272824.70 -4272824.68 0.1896 0.1871

Jupiter -16411-12-15 23:31 J -4272345.63 -4272345.52 -4272345.41 0.0527 0.0232

Venus -16410-03-12 16:04 J -4272258.87 -4272258.83 -4272258.78 0.3723 0.3270

Jupiter -16410-03-15 04:33 J -4272256.41 -4272256.31 -4272256.21 0.0526 0.0325

Mars -16409-05-26 07:40 J -4271818.23 -4271818.18 -4271818.13 0.1626 0.1447

Mars -16407-05-01 08:38 J -4271113.25 -4271113.14 -4271113.02 0.1624 0.0322

Neptune -16407-07-26 13:40 J -4271026.97 -4271026.93 -4271026.89 0.0089 0.0085

Moon -16407-07-30 18:43 J -4271022.78 -4271022.72 -4271022.66 0.2719 0.2299

Earth -16407-07-30 18:43 J -4271022.77 -4271022.72 -4271022.67 0.2712 0.2351 *

Neptune -16407-10-22 14:38 J -4270938.94 -4270938.89 -4270938.81 0.0089 0.0078

Neptune -16406-01-18 15:50 J -4270850.90 -4270850.84 -4270850.74 0.0089 0.0072

Neptune -16406-04-16 17:31 J -4270762.86 -4270762.77 -4270762.68 0.0089 0.0064

Neptune -16406-07-13 18:28 J -4270674.81 -4270674.73 -4270674.62 0.0089 0.0058

Neptune -16406-10-09 20:09 J -4270586.77 -4270586.66 -4270586.55 0.0089 0.0050

Neptune -16405-01-05 21:21 J -4270498.72 -4270498.61 -4270498.49 0.0089 0.0043

Neptune -16405-04-02 22:33 J -4270410.67 -4270410.56 -4270410.43 0.0089 0.0036

Neptune -16405-06-30 00:00 J -4270322.62 -4270322.50 -4270322.38 0.0089 0.0029

Venus -16405-09-25 07:26 J -4270235.29 -4270235.19 -4270235.10 0.3725 0.1368

Neptune -16405-09-26 01:11 J -4270234.57 -4270234.45 -4270234.32 0.0089 0.0022

Neptune -16405-12-23 02:23 J -4270146.52 -4270146.40 -4270146.26 0.0089 0.0015

Jupiter -16404-02-08 03:07 J -4270099.56 -4270099.37 -4270099.19 0.0499 0.0033

Neptune -16404-03-21 03:50 J -4270058.47 -4270058.34 -4270058.21 0.0089 0.0008

Neptune -16404-06-17 05:02 J -4269970.42 -4269970.29 -4269970.16 0.0089 0.0003

Neptune -16404-09-13 06:28 J -4269882.36 -4269882.23 -4269882.10 0.0089 0.0007

Neptune -16404-12-10 07:40 J -4269794.31 -4269794.18 -4269794.05 0.0089 0.0014

Neptune -16403-03-08 08:52 J -4269706.25 -4269706.13 -4269706.00 0.0089 0.0021

Neptune -16403-06-04 10:19 J -4269618.20 -4269618.07 -4269617.95 0.0089 0.0028

Neptune -16403-08-31 11:31 J -4269530.14 -4269530.02 -4269529.90 0.0089 0.0035

Neptune -16403-11-27 12:57 J -4269442.08 -4269441.96 -4269441.85 0.0089 0.0042

Mars -16402-01-13 10:48 J -4269395.21 -4269395.05 -4269394.88 0.1896 0.0408

Neptune -16402-02-23 14:09 J -4269354.02 -4269353.91 -4269353.80 0.0089 0.0049

Neptune -16402-05-22 15:07 J -4269265.96 -4269265.87 -4269265.75 0.0089 0.0057

Neptune -16402-08-18 16:33 J -4269177.89 -4269177.81 -4269177.71 0.0089 0.0063

Neptune -16402-11-14 17:45 J -4269089.83 -4269089.76 -4269089.67 0.0089 0.0071

Neptune -16401-02-10 19:11 J -4269001.76 -4269001.70 -4269001.63 0.0089 0.0077

Neptune -16401-05-08 20:23 J -4268913.68 -4268913.65 -4268913.60 0.0089 0.0085

Earth -16401-08-08 14:09 J -4268821.97 -4268821.91 -4268821.85 0.2708 0.2231

Moon -16401-08-08 14:23 J -4268821.96 -4268821.90 -4268821.85 0.2701 0.2272 *

Venus -16399-04-10 22:33 J -4268211.66 -4268211.56 -4268211.46 0.3727 0.0551

Jupiter -16399-10-04 04:04 J -4268035.41 -4268035.33 -4268035.23 0.0527 0.0365

Jupiter -16398-01-01 09:21 J -4267946.23 -4267946.11 -4267945.99 0.0526 0.0193

Mars -16398-09-21 20:23 J -4267682.77 -4267682.65 -4267682.54 0.1624 0.0114

Saturn -16396-01-20 08:38 J -4267196.27 -4267196.14 -4267196.02 0.0273 0.0205

Saturn -16396-04-19 07:55 J -4267107.36 -4267107.17 -4267106.98 0.0274 0.0022

Saturn -16396-07-17 06:57 J -4267018.35 -4267018.21 -4267018.05 0.0275 0.0163

Earth -16394-08-02 12:43 J -4266272.07 -4266271.97 -4266271.87 0.2711 0.1167

Moon -16394-08-02 13:11 J -4266272.05 -4266271.95 -4266271.86 0.2717 0.1178 *

Venus -16394-10-25 13:55 J -4266188.00 -4266187.92 -4266187.85 0.3729 0.2486

Mars -16393-06-04 02:38 J -4265965.53 -4265965.39 -4265965.24 0.1896 0.1066

Jupiter -16393-11-27 00:00 J -4265789.67 -4265789.50 -4265789.33 0.0499 0.0211

Moon -16390-02-04 13:26 J -4264990.09 -4264989.94 -4264989.79 0.2621 0.0892

Earth -16390-02-04 15:07 J -4264990.02 -4264989.87 -4264989.72 0.2623 0.0793 *

Mars -16388-02-11 08:09 J -4264252.27 -4264252.16 -4264252.06 0.1625 0.0545

Jupiter -16387-07-23 08:38 J -4263725.17 -4263725.14 -4263725.10 0.0527 0.0501

Jupiter -16387-10-20 13:40 J -4263636.05 -4263635.93 -4263635.80 0.0526 0.0054

Mars -16386-01-17 09:21 J -4263547.18 -4263547.11 -4263547.04 0.1624 0.1229

Saturn -16383-03-04 16:33 J -4262404.87 -4262404.81 -4262404.75 0.0291 0.0256

Saturn -16383-06-01 03:50 J -4262316.46 -4262316.34 -4262316.22 0.0290 0.0112

Saturn -16383-08-28 15:07 J -4262227.99 -4262227.87 -4262227.74 0.0288 0.0033

Saturn -16383-11-25 02:23 J -4262139.50 -4262139.40 -4262139.29 0.0287 0.0173

Earth -16381-08-04 06:43 J -4261521.33 -4261521.22 -4261521.11 0.2710 0.0041

Moon -16381-08-04 07:26 J -4261521.30 -4261521.19 -4261521.08 0.2711 0.0172 *

Jupiter -16381-09-14 20:23 J -4261479.76 -4261479.65 -4261479.54 0.0499 0.0398

Jupiter -16381-12-14 08:38 J -4261389.28 -4261389.14 -4261389.01 0.0501 0.0345

Mars -16379-07-04 19:40 J -4260821.77 -4260821.68 -4260821.58 0.1625 0.0969

Moon -16377-02-07 19:40 J -4260238.82 -4260238.68 -4260238.55 0.2625 0.1297

Earth -16377-02-07 21:07 J -4260238.75 -4260238.62 -4260238.49 0.2624 0.1436 *

Mars -16377-06-08 21:07 J -4260116.72 -4260116.62 -4260116.52 0.1624 0.0801

Uranus -16375-05-13 09:07 J -4259413.14 -4259413.12 -4259413.08 0.0139 0.0134

Jupiter -16375-08-08 18:14 J -4259325.86 -4259325.74 -4259325.61 0.0526 0.0082

Uranus -16375-08-09 12:28 J -4259325.05 -4259324.98 -4259324.91 0.0139 0.0114

Uranus -16375-11-05 15:36 J -4259236.94 -4259236.85 -4259236.75 0.0139 0.0095

Jupiter -16375-11-05 23:16 J -4259236.58 -4259236.53 -4259236.47 0.0525 0.0473

Uranus -16374-02-01 18:57 J -4259148.82 -4259148.71 -4259148.60 0.0140 0.0074

Uranus -16374-04-30 22:19 J -4259060.69 -4259060.57 -4259060.45 0.0140 0.0054

Uranus -16374-07-28 01:40 J -4258972.56 -4258972.43 -4258972.30 0.0140 0.0034

Uranus -16374-10-24 05:02 J -4258884.42 -4258884.29 -4258884.16 0.0140 0.0013

Uranus -16373-01-20 08:23 J -4258796.29 -4258796.15 -4258796.02 0.0140 0.0008

Uranus -16373-04-17 11:45 J -4258708.14 -4258708.01 -4258707.88 0.0140 0.0029

Uranus -16373-07-14 14:52 J -4258620.00 -4258619.88 -4258619.75 0.0140 0.0050

Uranus -16373-10-10 18:14 J -4258531.84 -4258531.74 -4258531.62 0.0141 0.0071

Uranus -16372-01-06 21:36 J -4258443.69 -4258443.60 -4258443.49 0.0141 0.0092

Uranus -16372-04-05 01:11 J -4258355.52 -4258355.45 -4258355.37 0.0141 0.0113

Uranus -16372-07-02 04:33 J -4258267.34 -4258267.31 -4258267.26 0.0141 0.0134

Mars -16370-11-25 07:26 J -4257391.24 -4257391.19 -4257391.13 0.1626 0.1393

Jupiter -16369-10-02 05:45 J -4257079.44 -4257079.26 -4257079.09 0.0500 0.0167

Earth -16368-08-07 00:43 J -4256770.56 -4256770.47 -4256770.37 0.2709 0.1251

Moon -16368-08-07 01:26 J -4256770.54 -4256770.44 -4256770.35 0.2705 0.1296 *

Mars -16368-10-30 08:38 J -4256686.25 -4256686.14 -4256686.03 0.1624 0.0370

Saturn -16367-06-09 06:14 J -4256464.29 -4256464.24 -4256464.19 0.0272 0.0262

Saturn -16367-09-06 05:31 J -4256375.46 -4256375.27 -4256375.09 0.0273 0.0081

Saturn -16367-12-04 04:33 J -4256286.48 -4256286.31 -4256286.13 0.0274 0.0104

Jupiter -16363-05-27 22:33 J -4255015.67 -4255015.56 -4255015.45 0.0526 0.0223

Mars -16363-07-14 11:45 J -4254968.17 -4254968.01 -4254967.85 0.1896 0.0533

Jupiter -16363-08-25 03:36 J -4254926.45 -4254926.35 -4254926.25 0.0525 0.0333

Venus -16362-06-28 05:31 J -4254619.43 -4254619.27 -4254619.11 0.3646 0.0937

Moon -16361-07-30 23:31 J -4254220.58 -4254220.52 -4254220.45 0.2720 0.2181

Earth -16361-07-30 23:31 J -4254220.58 -4254220.52 -4254220.45 0.2712 0.2121 *

Mars -16358-03-22 20:23 J -4253255.77 -4253255.65 -4253255.54 0.1624 0.0067

Jupiter -16357-07-21 02:38 J -4252769.58 -4252769.39 -4252769.20 0.0500 0.0013

Earth -16355-08-09 18:57 J -4252019.75 -4252019.71 -4252019.66 0.2708 0.2476

Moon -16355-08-09 19:11 J -4252019.74 -4252019.70 -4252019.66 0.2701 0.2456 *

Venus -16354-10-17 13:26 J -4251586.01 -4251585.94 -4251585.87 0.3723 0.2573

Saturn -16354-10-19 05:31 J -4251584.38 -4251584.27 -4251584.17 0.0290 0.0162

Mars -16354-12-04 03:36 J -4251538.50 -4251538.35 -4251538.20 0.1895 0.0937

Saturn -16353-01-15 16:48 J -4251495.93 -4251495.80 -4251495.67 0.0289 0.0019

Saturn -16353-04-13 04:04 J -4251407.44 -4251407.33 -4251407.21 0.0287 0.0123

Saturn -16353-07-10 15:21 J -4251318.91 -4251318.86 -4251318.81 0.0286 0.0263

Jupiter -16351-03-16 03:07 J -4250705.46 -4250705.37 -4250705.28 0.0527 0.0357

Jupiter -16351-06-13 08:09 J -4250616.27 -4250616.16 -4250616.04 0.0526 0.0199

Mars -16349-08-12 08:09 J -4249825.27 -4249825.16 -4249825.05 0.1625 0.0487

Venus -16348-05-02 04:33 J -4249562.40 -4249562.31 -4249562.21 0.3725 0.0684

Earth -16348-08-02 17:31 J -4249469.87 -4249469.77 -4249469.67 0.2711 0.0934

Moon -16348-08-02 18:00 J -4249469.85 -4249469.75 -4249469.64 0.2715 0.0811 *

Mars -16347-07-18 09:21 J -4249120.18 -4249120.11 -4249120.04 0.1624 0.1287

Jupiter -16345-05-08 23:16 J -4248459.70 -4248459.53 -4248459.36 0.0499 0.0196

Moon -16344-02-04 20:09 J -4248187.82 -4248187.66 -4248187.51 0.2621 0.0616

Earth -16344-02-04 21:36 J -4248187.75 -4248187.60 -4248187.44 0.2623 0.0371 *

Venus -16343-11-15 19:55 J -4247538.76 -4247538.67 -4247538.58 0.3727 0.1251

Jupiter -16339-01-02 07:55 J -4246395.21 -4246395.17 -4246395.13 0.0527 0.0489

Mars -16339-01-02 19:40 J -4246394.77 -4246394.68 -4246394.58 0.1625 0.0912

Jupiter -16339-04-01 12:57 J -4246306.08 -4246305.96 -4246305.83 0.0526 0.0067

Mars -16338-12-08 21:07 J -4245689.72 -4245689.62 -4245689.53 0.1624 0.0860

Saturn -16337-01-24 01:11 J -4245643.60 -4245643.45 -4245643.29 0.0273 0.0153

Pluto -16337-03-18 09:50 J -4245589.12 -4245589.09 -4245589.04 0.0071 0.0069

Saturn -16337-04-22 00:28 J -4245554.67 -4245554.48 -4245554.29 0.0274 0.0031

Venus -16337-05-31 11:16 J -4245515.08 -4245515.03 -4245514.98 0.3729 0.3181

Pluto -16337-06-14 11:02 J -4245501.11 -4245501.04 -4245500.95 0.0071 0.0061

Saturn -16337-07-19 23:45 J -4245465.63 -4245465.51 -4245465.39 0.0275 0.0215

Pluto -16337-09-10 12:14 J -4245413.08 -4245412.99 -4245412.87 0.0072 0.0053

Pluto -16337-12-07 13:40 J -4245325.04 -4245324.93 -4245324.80 0.0072 0.0045

Pluto -16336-03-05 14:52 J -4245237.00 -4245236.88 -4245236.73 0.0072 0.0037

Pluto -16336-06-01 16:04 J -4245148.96 -4245148.83 -4245148.67 0.0072 0.0029

Pluto -16336-08-28 17:31 J -4245060.91 -4245060.77 -4245060.61 0.0072 0.0020

Pluto -16336-11-24 18:57 J -4244972.86 -4244972.71 -4244972.55 0.0072 0.0012

Pluto -16335-02-20 20:23 J -4244884.81 -4244884.65 -4244884.49 0.0072 0.0004

Uranus -16335-03-27 01:11 J -4244850.47 -4244850.45 -4244850.42 0.0139 0.0137

Pluto -16335-05-19 21:36 J -4244796.75 -4244796.60 -4244796.44 0.0072 0.0005

Uranus -16335-06-23 09:07 J -4244762.24 -4244762.12 -4244761.99 0.0139 0.0107

Earth -16335-08-05 11:31 J -4244719.13 -4244719.02 -4244718.91 0.2710 0.0272

Moon -16335-08-05 12:14 J -4244719.10 -4244718.99 -4244718.88 0.2710 0.0311 *

Pluto -16335-08-15 23:02 J -4244708.69 -4244708.54 -4244708.39 0.0073 0.0014

Uranus -16335-09-19 16:48 J -4244673.95 -4244673.80 -4244673.62 0.0139 0.0078

Pluto -16335-11-12 00:14 J -4244620.63 -4244620.49 -4244620.33 0.0073 0.0022

Uranus -16335-12-17 00:57 J -4244585.64 -4244585.46 -4244585.27 0.0138 0.0047

Pluto -16334-02-08 01:40 J -4244532.57 -4244532.43 -4244532.28 0.0073 0.0031

Uranus -16334-03-15 08:52 J -4244497.32 -4244497.13 -4244496.94 0.0138 0.0018

Pluto -16334-05-07 02:52 J -4244444.50 -4244444.38 -4244444.24 0.0073 0.0040

Uranus -16334-06-11 16:33 J -4244409.00 -4244408.81 -4244408.61 0.0138 0.0012

Pluto -16334-08-03 04:04 J -4244356.43 -4244356.33 -4244356.19 0.0073 0.0049

Uranus -16334-09-08 00:14 J -4244320.67 -4244320.49 -4244320.30 0.0138 0.0041

Pluto -16334-10-30 06:00 J -4244268.35 -4244268.25 -4244268.16 0.0073 0.0058

Uranus -16334-12-05 07:55 J -4244232.33 -4244232.17 -4244232.00 0.0138 0.0070

Pluto -16333-01-26 07:11 J -4244180.26 -4244180.20 -4244180.13 0.0073 0.0067

Jupiter -16333-02-25 20:09 J -4244149.78 -4244149.66 -4244149.53 0.0499 0.0375

Uranus -16333-03-02 15:21 J -4244143.98 -4244143.86 -4244143.71 0.0138 0.0099

Jupiter -16333-05-26 08:09 J -4244059.28 -4244059.16 -4244059.03 0.0500 0.0366

Uranus -16333-05-29 23:16 J -4244055.60 -4244055.53 -4244055.45 0.0138 0.0127

Moon -16331-02-08 02:09 J -4243436.52 -4243436.41 -4243436.29 0.2627 0.1743

Earth -16331-02-08 03:36 J -4243436.46 -4243436.35 -4243436.24 0.2624 0.1849 *

Mars -16330-05-26 07:26 J -4242964.25 -4242964.19 -4242964.13 0.1626 0.1338

Mars -16328-04-30 08:38 J -4242259.25 -4242259.14 -4242259.03 0.1624 0.0426

Jupiter -16327-01-18 17:31 J -4241995.89 -4241995.77 -4241995.64 0.0526 0.0070

Jupiter -16327-04-17 22:33 J -4241906.60 -4241906.56 -4241906.51 0.0525 0.0485

Saturn -16324-03-07 06:28 J -4240852.31 -4240852.23 -4240852.14 0.0291 0.0218

Saturn -16324-06-03 18:00 J -4240763.88 -4240763.75 -4240763.63 0.0290 0.0073

Saturn -16324-08-31 05:16 J -4240675.40 -4240675.28 -4240675.15 0.0288 0.0070

Saturn -16324-11-27 16:33 J -4240586.89 -4240586.81 -4240586.72 0.0287 0.0211

Neptune -16323-01-09 08:52 J -4240544.19 -4240544.13 -4240544.04 0.0088 0.0081

Mars -16323-01-12 12:43 J -4240541.13 -4240540.97 -4240540.81 0.1896 0.0660

Neptune -16323-04-07 12:28 J -4240456.07 -4240455.98 -4240455.84 0.0088 0.0071

Neptune -16323-07-04 16:48 J -4240367.94 -4240367.80 -4240367.66 0.0088 0.0060

Neptune -16323-09-30 20:23 J -4240279.81 -4240279.65 -4240279.48 0.0088 0.0050

Neptune -16323-12-28 00:00 J -4240191.67 -4240191.50 -4240191.32 0.0088 0.0040

Neptune -16322-03-26 03:36 J -4240103.52 -4240103.35 -4240103.15 0.0088 0.0030

Neptune -16322-06-22 07:26 J -4240015.38 -4240015.19 -4240014.99 0.0088 0.0020

Earth -16322-08-08 05:45 J -4239968.35 -4239968.26 -4239968.17 0.2709 0.1487

Moon -16322-08-08 06:14 J -4239968.33 -4239968.24 -4239968.15 0.2703 0.1575 *

Neptune -16322-09-18 11:16 J -4239927.23 -4239927.03 -4239926.83 0.0088 0.0010

Neptune -16322-12-15 15:07 J -4239839.07 -4239838.87 -4239838.68 0.0088 0.0002

Neptune -16321-03-12 18:43 J -4239750.92 -4239750.72 -4239750.52 0.0088 0.0011

Jupiter -16321-03-14 04:48 J -4239749.48 -4239749.30 -4239749.13 0.0500 0.0179

Neptune -16321-06-08 22:19 J -4239662.76 -4239662.57 -4239662.37 0.0088 0.0021

Neptune -16321-09-05 01:55 J -4239574.60 -4239574.42 -4239574.23 0.0088 0.0031

Neptune -16321-12-02 05:45 J -4239486.43 -4239486.26 -4239486.08 0.0088 0.0041

Neptune -16320-02-28 09:36 J -4239398.26 -4239398.10 -4239397.95 0.0088 0.0052

Neptune -16320-05-27 12:43 J -4239310.09 -4239309.97 -4239309.81 0.0088 0.0062

Neptune -16320-08-23 16:19 J -4239221.91 -4239221.82 -4239221.69 0.0088 0.0072

Neptune -16320-11-19 19:55 J -4239133.71 -4239133.67 -4239133.58 0.0088 0.0083

Mars -16319-09-20 20:09 J -4238828.77 -4238828.66 -4238828.54 0.1624 0.0058

Jupiter -16316-11-06 22:04 J -4237685.69 -4237685.58 -4237685.46 0.0526 0.0204

Jupiter -16315-02-04 03:07 J -4237596.46 -4237596.37 -4237596.27 0.0525 0.0351

Moon -16315-08-01 04:33 J -4237418.39 -4237418.31 -4237418.23 0.2719 0.1843

Earth -16315-08-01 04:19 J -4237418.39 -4237418.32 -4237418.24 0.2712 0.1893 *

Mars -16314-06-04 04:19 J -4237111.48 -4237111.32 -4237111.17 0.1896 0.0821

Moon -16311-02-02 20:38 J -4236136.69 -4236136.64 -4236136.58 0.2618 0.2426

Earth -16311-02-02 22:04 J -4236136.67 -4236136.58 -4236136.50 0.2622 0.2204 *

Jupiter -16309-01-01 01:55 J -4235439.61 -4235439.42 -4235439.23 0.0500 0.0008

Mars -16309-02-11 07:55 J -4235398.28 -4235398.17 -4235398.05 0.1625 0.0433

Saturn -16308-06-11 22:33 J -4234911.67 -4234911.56 -4234911.43 0.0272 0.0211

Saturn -16308-09-08 21:50 J -4234822.78 -4234822.59 -4234822.39 0.0273 0.0030

Saturn -16308-12-06 20:52 J -4234733.77 -4234733.63 -4234733.46 0.0274 0.0156

Mars -16307-01-16 09:21 J -4234693.18 -4234693.11 -4234693.05 0.1624 0.1343

Venus -16305-02-02 08:23 J -4233946.22 -4233946.15 -4233946.07 0.3646 0.3232

Jupiter -16304-08-26 02:23 J -4233375.49 -4233375.40 -4233375.31 0.0526 0.0345

Jupiter -16304-11-23 07:26 J -4233286.31 -4233286.19 -4233286.07 0.0525 0.0209

Earth -16302-08-03 22:19 J -4232667.67 -4232667.57 -4232667.46 0.2711 0.0702

Moon -16302-08-03 23:02 J -4232667.65 -4232667.54 -4232667.43 0.2714 0.0682 *

Mars -16300-07-03 19:40 J -4231967.78 -4231967.68 -4231967.58 0.1625 0.0855

Moon -16298-02-06 02:38 J -4231385.55 -4231385.39 -4231385.23 0.2621 0.0021

Earth -16298-02-06 04:19 J -4231385.48 -4231385.32 -4231385.16 0.2623 0.0066 *

Mars -16298-06-08 20:52 J -4231262.72 -4231262.63 -4231262.53 0.1624 0.0913

Jupiter -16298-10-19 22:48 J -4231129.72 -4231129.55 -4231129.37 0.0500 0.0177

Venus -16297-05-23 10:48 J -4230913.14 -4230913.05 -4230912.97 0.3724 0.1884

Saturn -16295-07-25 07:55 J -4230120.21 -4230120.17 -4230120.12 0.0291 0.0271

Saturn -16295-10-21 19:26 J -4230031.81 -4230031.69 -4230031.57 0.0290 0.0125

Saturn -16294-01-18 06:43 J -4229943.34 -4229943.22 -4229943.09 0.0289 0.0020

Saturn -16294-04-16 18:00 J -4229854.85 -4229854.75 -4229854.64 0.0288 0.0161

Jupiter -16292-06-14 06:57 J -4229065.26 -4229065.21 -4229065.16 0.0527 0.0480

Jupiter -16292-09-11 12:00 J -4228976.12 -4228976.00 -4228975.87 0.0526 0.0074

Venus -16292-12-07 01:55 J -4228889.52 -4228889.42 -4228889.32 0.3725 0.0140

Uranus -16291-06-02 16:33 J -4228711.86 -4228711.81 -4228711.77 0.0139 0.0130

Uranus -16291-08-29 19:40 J -4228623.76 -4228623.68 -4228623.60 0.0139 0.0110

Mars -16291-11-24 07:26 J -4228537.26 -4228537.19 -4228537.12 0.1626 0.1280

Uranus -16291-11-25 23:02 J -4228535.64 -4228535.54 -4228535.44 0.0140 0.0090

Uranus -16290-02-22 02:09 J -4228447.52 -4228447.41 -4228447.29 0.0140 0.0070

Uranus -16290-05-21 05:31 J -4228359.39 -4228359.27 -4228359.14 0.0140 0.0049

Uranus -16290-08-17 08:52 J -4228271.26 -4228271.13 -4228271.00 0.0140 0.0029

Uranus -16290-11-13 12:14 J -4228183.12 -4228182.99 -4228182.86 0.0140 0.0008

Uranus -16289-02-09 15:36 J -4228094.98 -4228094.85 -4228094.72 0.0140 0.0013

Uranus -16289-05-07 18:57 J -4228006.84 -4228006.71 -4228006.58 0.0140 0.0033

Uranus -16289-08-03 22:19 J -4227918.69 -4227918.57 -4227918.45 0.0140 0.0054

Earth -16289-08-05 16:19 J -4227916.92 -4227916.82 -4227916.71 0.2710 0.0516

Moon -16289-08-05 17:02 J -4227916.89 -4227916.79 -4227916.68 0.2709 0.0655 *

Mars -16289-10-29 08:38 J -4227832.25 -4227832.14 -4227832.03 0.1624 0.0484

Uranus -16289-10-31 01:40 J -4227830.54 -4227830.43 -4227830.32 0.0141 0.0075

Uranus -16288-01-27 05:02 J -4227742.38 -4227742.29 -4227742.19 0.0141 0.0097

Uranus -16288-04-25 08:23 J -4227654.21 -4227654.15 -4227654.07 0.0141 0.0118

Uranus -16288-07-22 11:45 J -4227566.02 -4227566.01 -4227565.98 0.0141 0.0139

Venus -16286-06-22 17:16 J -4226865.86 -4226865.78 -4226865.70 0.3727 0.1952

Jupiter -16286-08-07 19:26 J -4226819.82 -4226819.69 -4226819.56 0.0499 0.0360

Jupiter -16286-11-06 07:26 J -4226729.31 -4226729.19 -4226729.07 0.0500 0.0381

Moon -16285-02-09 08:52 J -4226634.22 -4226634.13 -4226634.04 0.2628 0.2087

Earth -16285-02-09 10:04 J -4226634.15 -4226634.08 -4226634.00 0.2624 0.2272 *

Mars -16284-07-13 13:26 J -4226114.09 -4226113.94 -4226113.78 0.1896 0.0787

Jupiter -16280-06-30 16:48 J -4224665.93 -4224665.80 -4224665.68 0.0526 0.0058

Jupiter -16280-09-27 21:50 J -4224576.62 -4224576.59 -4224576.55 0.0525 0.0499

Mars -16279-03-21 20:09 J -4224401.77 -4224401.66 -4224401.54 0.1624 0.0079

Saturn -16278-01-26 17:45 J -4224090.93 -4224090.76 -4224090.58 0.0273 0.0101

Saturn -16278-04-25 17:02 J -4224001.97 -4224001.79 -4224001.61 0.0274 0.0082

Saturn -16278-07-23 16:04 J -4223912.87 -4223912.83 -4223912.78 0.0275 0.0266

Earth -16276-08-08 10:33 J -4223166.14 -4223166.06 -4223165.97 0.2709 0.1732

Moon -16276-08-08 11:02 J -4223166.13 -4223166.04 -4223165.96 0.2702 0.1725 *

Mars -16275-12-03 05:16 J -4222684.44 -4222684.28 -4222684.12 0.1896 0.0683

Jupiter -16274-08-25 04:33 J -4222419.48 -4222419.31 -4222419.14 0.0500 0.0203

Mars -16270-08-12 07:55 J -4220971.28 -4220971.17 -4220971.06 0.1624 0.0375

Earth -16269-08-01 09:07 J -4220616.20 -4220616.12 -4220616.03 0.2712 0.1663

Moon -16269-08-01 09:21 J -4220616.19 -4220616.11 -4220616.02 0.2718 0.1663 *

Jupiter -16268-04-18 21:21 J -4220355.72 -4220355.61 -4220355.49 0.0526 0.0192

Jupiter -16268-07-17 02:23 J -4220266.49 -4220266.40 -4220266.31 0.0525 0.0363

Mars -16268-07-17 09:07 J -4220266.17 -4220266.12 -4220266.06 0.1624 0.1400

Moon -16265-02-04 03:07 J -4219334.48 -4219334.37 -4219334.26 0.2618 0.1821

Earth -16265-02-04 04:33 J -4219334.42 -4219334.31 -4219334.19 0.2622 0.1769 *

Saturn -16265-03-09 20:23 J -4219299.74 -4219299.65 -4219299.54 0.0291 0.0182

Saturn -16265-06-06 07:55 J -4219211.30 -4219211.17 -4219211.04 0.0290 0.0037

Saturn -16265-09-02 19:26 J -4219122.81 -4219122.69 -4219122.57 0.0288 0.0107

Saturn -16265-11-30 06:28 J -4219034.29 -4219034.23 -4219034.16 0.0287 0.0248

Jupiter -16262-06-13 00:43 J -4218109.66 -4218109.47 -4218109.28 0.0500 0.0013

Mars -16260-01-01 19:40 J -4217540.78 -4217540.68 -4217540.58 0.1625 0.0800

Mars -16259-12-07 20:52 J -4216835.72 -4216835.63 -4216835.54 0.1624 0.0966

Jupiter -16256-02-05 02:09 J -4216045.51 -4216045.41 -4216045.32 0.0526 0.0325

Jupiter -16256-05-05 06:57 J -4215956.32 -4215956.21 -4215956.09 0.0525 0.0229

Earth -16256-08-04 03:07 J -4215865.47 -4215865.37 -4215865.26 0.2711 0.0472

Moon -16256-08-04 03:50 J -4215865.45 -4215865.34 -4215865.23 0.2714 0.0329 *

Venus -16254-02-22 23:16 J -4215297.68 -4215297.53 -4215297.38 0.3648 0.1503

Moon -16252-02-06 09:07 J -4214583.27 -4214583.12 -4214582.96 0.2623 0.0240

Earth -16252-02-06 10:48 J -4214583.20 -4214583.05 -4214582.90 0.2623 0.0487 *

Pluto -16252-05-19 19:11 J -4214480.74 -4214480.70 -4214480.64 0.0072 0.0069

Pluto -16252-08-15 20:23 J -4214392.72 -4214392.65 -4214392.54 0.0072 0.0060

Pluto -16252-11-11 21:50 J -4214304.68 -4214304.59 -4214304.46 0.0072 0.0052

Pluto -16251-02-07 23:31 J -4214216.64 -4214216.52 -4214216.38 0.0072 0.0042

Uranus -16251-04-16 07:55 J -4214149.22 -4214149.17 -4214149.09 0.0139 0.0131

Pluto -16251-05-07 00:43 J -4214128.60 -4214128.47 -4214128.31 0.0072 0.0034

Mars -16251-05-25 07:26 J -4214110.27 -4214110.19 -4214110.12 0.1626 0.1226

Uranus -16251-07-13 16:04 J -4214060.96 -4214060.83 -4214060.69 0.0139 0.0101

Pluto -16251-08-03 02:23 J -4214040.55 -4214040.40 -4214040.25 0.0072 0.0025

Uranus -16251-10-10 00:00 J -4213972.66 -4213972.50 -4213972.33 0.0139 0.0071

Pluto -16251-10-30 03:36 J -4213952.50 -4213952.35 -4213952.19 0.0072 0.0017

Uranus -16250-01-06 07:55 J -4213884.35 -4213884.17 -4213883.98 0.0138 0.0041

Pluto -16250-01-26 05:02 J -4213864.44 -4213864.29 -4213864.13 0.0072 0.0009

Jupiter -16250-03-31 21:50 J -4213799.77 -4213799.59 -4213799.41 0.0500 0.0166

Uranus -16250-04-04 15:50 J -4213796.04 -4213795.84 -4213795.65 0.0138 0.0012

Pluto -16250-04-24 06:28 J -4213776.39 -4213776.23 -4213776.07 0.0071 0.0000

Uranus -16250-07-01 23:31 J -4213707.71 -4213707.52 -4213707.33 0.0138 0.0018

Pluto -16250-07-21 07:40 J -4213688.33 -4213688.18 -4213688.02 0.0071 0.0009

Uranus -16250-09-28 07:11 J -4213619.38 -4213619.20 -4213619.01 0.0138 0.0047

Pluto -16250-10-17 09:07 J -4213600.27 -4213600.12 -4213599.96 0.0071 0.0016

Uranus -16250-12-25 14:52 J -4213531.03 -4213530.88 -4213530.71 0.0138 0.0076

Pluto -16249-01-13 10:19 J -4213512.21 -4213512.07 -4213511.91 0.0071 0.0025

Uranus -16249-03-22 22:19 J -4213442.68 -4213442.57 -4213442.43 0.0138 0.0105

Pluto -16249-04-10 11:45 J -4213424.15 -4213424.01 -4213423.87 0.0071 0.0032

Mars -16249-04-29 08:23 J -4213405.25 -4213405.15 -4213405.04 0.1624 0.0543

Saturn -16249-06-14 15:36 J -4213359.01 -4213358.85 -4213358.70 0.0272 0.0158

Uranus -16249-06-19 06:00 J -4213354.29 -4213354.25 -4213354.19 0.0138 0.0133

Pluto -16249-07-07 12:57 J -4213336.09 -4213335.96 -4213335.83 0.0071 0.0040

Saturn -16249-09-11 14:38 J -4213270.08 -4213269.89 -4213269.70 0.0273 0.0024

Pluto -16249-10-03 14:09 J -4213248.02 -4213247.91 -4213247.79 0.0071 0.0048

Saturn -16249-12-09 13:40 J -4213181.05 -4213180.93 -4213180.80 0.0274 0.0207

Pluto -16249-12-30 15:21 J -4213159.94 -4213159.86 -4213159.76 0.0071 0.0056

Pluto -16248-03-28 16:33 J -4213071.86 -4213071.81 -4213071.73 0.0071 0.0064

Venus -16246-06-14 16:48 J -4212263.85 -4212263.80 -4212263.74 0.3722 0.3091

Jupiter -16245-11-24 06:14 J -4211735.29 -4211735.24 -4211735.18 0.0527 0.0467

Mars -16244-01-11 14:23 J -4211687.05 -4211686.90 -4211686.75 0.1897 0.0917

Jupiter -16244-02-21 11:16 J -4211646.16 -4211646.03 -4211645.91 0.0525 0.0087

Earth -16243-08-06 21:21 J -4211114.72 -4211114.61 -4211114.51 0.2710 0.0748

Moon -16243-08-06 21:50 J -4211114.69 -4211114.59 -4211114.48 0.2707 0.0767 *

Neptune -16242-01-24 12:14 J -4210944.00 -4210943.99 -4210943.96 0.0089 0.0088

Neptune -16242-04-22 13:26 J -4210855.98 -4210855.94 -4210855.88 0.0089 0.0082

Neptune -16242-07-19 14:52 J -4210767.94 -4210767.88 -4210767.80 0.0089 0.0074

Neptune -16242-10-15 16:04 J -4210679.90 -4210679.83 -4210679.74 0.0089 0.0068

Neptune -16241-01-11 17:16 J -4210591.86 -4210591.78 -4210591.67 0.0089 0.0061

Neptune -16241-04-08 18:43 J -4210503.82 -4210503.72 -4210503.61 0.0089 0.0053

Neptune -16241-07-05 19:55 J -4210415.77 -4210415.67 -4210415.55 0.0089 0.0047

Neptune -16241-10-01 21:21 J -4210327.72 -4210327.61 -4210327.49 0.0089 0.0039

Venus -16241-12-28 08:09 J -4210240.26 -4210240.16 -4210240.07 0.3724 0.1190

Neptune -16241-12-28 22:33 J -4210239.67 -4210239.56 -4210239.43 0.0089 0.0032

Neptune -16240-03-27 00:00 J -4210151.62 -4210151.50 -4210151.37 0.0089 0.0025

Neptune -16240-06-23 01:11 J -4210063.57 -4210063.45 -4210063.32 0.0089 0.0018

Neptune -16240-09-19 02:38 J -4209975.52 -4209975.39 -4209975.26 0.0089 0.0011

Mars -16240-09-19 20:09 J -4209974.77 -4209974.66 -4209974.54 0.1624 0.0113

Neptune -16240-12-16 03:50 J -4209887.47 -4209887.34 -4209887.21 0.0089 0.0004

Neptune -16239-03-14 05:16 J -4209799.42 -4209799.28 -4209799.15 0.0089 0.0004

Neptune -16239-06-10 06:28 J -4209711.36 -4209711.23 -4209711.10 0.0089 0.0010

Neptune -16239-09-06 07:40 J -4209623.31 -4209623.18 -4209623.05 0.0089 0.0017

Neptune -16239-12-03 08:52 J -4209535.25 -4209535.13 -4209535.00 0.0089 0.0025

Jupiter -16238-01-17 18:43 J -4209489.85 -4209489.72 -4209489.58 0.0500 0.0344

Neptune -16238-03-01 10:19 J -4209447.19 -4209447.07 -4209446.95 0.0089 0.0031

Jupiter -16238-04-18 06:57 J -4209399.32 -4209399.21 -4209399.10 0.0501 0.0399

Neptune -16238-05-28 11:31 J -4209359.13 -4209359.02 -4209358.90 0.0089 0.0039

Neptune -16238-08-24 12:57 J -4209271.07 -4209270.96 -4209270.85 0.0089 0.0045

Neptune -16238-11-20 14:09 J -4209183.01 -4209182.91 -4209182.80 0.0089 0.0053

Neptune -16237-02-16 15:36 J -4209094.95 -4209094.85 -4209094.75 0.0089 0.0060

Neptune -16237-05-14 16:48 J -4209006.88 -4209006.80 -4209006.71 0.0089 0.0067

Neptune -16237-08-10 18:14 J -4208918.82 -4208918.74 -4208918.67 0.0089 0.0074

Neptune -16237-11-06 19:26 J -4208830.74 -4208830.69 -4208830.64 0.0089 0.0081

Neptune -16236-02-02 20:23 J -4208742.65 -4208742.65 -4208742.61 0.0089 0.0089

Saturn -16236-07-27 21:50 J -4208567.66 -4208567.59 -4208567.51 0.0291 0.0235

Moon -16236-07-30 19:55 J -4208564.69 -4208564.67 -4208564.65 0.2720 0.2627

Earth -16236-07-30 20:09 J -4208564.69 -4208564.66 -4208564.63 0.2713 0.2611 *

Saturn -16236-10-24 09:21 J -4208479.23 -4208479.11 -4208478.98 0.0290 0.0089

Saturn -16235-01-20 20:52 J -4208390.76 -4208390.63 -4208390.51 0.0289 0.0055

Saturn -16235-04-19 08:09 J -4208302.25 -4208302.16 -4208302.07 0.0288 0.0197

Mars -16235-06-03 06:14 J -4208257.40 -4208257.24 -4208257.07 0.1896 0.0546

Venus -16235-07-13 23:16 J -4208216.62 -4208216.53 -4208216.43 0.3726 0.0737

Jupiter -16233-12-10 15:50 J -4207335.97 -4207335.84 -4207335.72 0.0526 0.0051

Jupiter -16232-03-09 20:52 J -4207246.66 -4207246.63 -4207246.60 0.0525 0.0505

Mars -16230-02-10 07:55 J -4206544.28 -4206544.17 -4206544.06 0.1624 0.0316

Earth -16230-08-09 15:36 J -4206363.93 -4206363.85 -4206363.78 0.2709 0.1974

Moon -16230-08-09 15:50 J -4206363.91 -4206363.84 -4206363.77 0.2703 0.2064 *

Venus -16229-01-27 14:38 J -4206192.96 -4206192.89 -4206192.82 0.3728 0.2650

Mars -16228-01-15 09:07 J -4205839.16 -4205839.12 -4205839.07 0.1624 0.1456

Jupiter -16226-02-04 03:36 J -4205089.51 -4205089.35 -4205089.18 0.0500 0.0217

Earth -16223-08-02 14:09 J -4203814.01 -4203813.91 -4203813.82 0.2712 0.1432

Moon -16223-08-02 14:23 J -4203813.99 -4203813.90 -4203813.80 0.2717 0.1386 *

Mars -16221-07-02 19:40 J -4203113.79 -4203113.68 -4203113.58 0.1625 0.0747

Jupiter -16221-09-28 20:23 J -4203025.76 -4203025.65 -4203025.53 0.0527 0.0183

Jupiter -16221-12-27 01:26 J -4202936.52 -4202936.44 -4202936.35 0.0525 0.0375

Saturn -16220-11-01 11:45 J -4202627.11 -4202627.01 -4202626.90 0.0272 0.0227

Saturn -16219-01-29 11:02 J -4202538.23 -4202538.04 -4202537.85 0.0273 0.0046

Moon -16219-02-04 09:50 J -4202532.22 -4202532.09 -4202531.97 0.2618 0.1561

Earth -16219-02-04 11:16 J -4202532.17 -4202532.03 -4202531.90 0.2622 0.1339 *

Saturn -16219-04-28 10:04 J -4202449.25 -4202449.08 -4202448.91 0.0274 0.0137

Mars -16219-06-07 20:52 J -4202408.72 -4202408.63 -4202408.54 0.1624 0.1025

Jupiter -16215-11-23 00:43 J -4200779.66 -4200779.47 -4200779.28 0.0500 0.0037

Mars -16212-11-23 07:11 J -4199683.27 -4199683.20 -4199683.12 0.1626 0.1172

Earth -16210-08-05 08:09 J -4199063.27 -4199063.16 -4199063.06 0.2711 0.0254

Moon -16210-08-05 08:38 J -4199063.25 -4199063.14 -4199063.03 0.2714 0.0211 *

Mars -16210-10-29 08:23 J -4198978.25 -4198978.15 -4198978.04 0.1624 0.0594

Jupiter -16209-07-18 01:11 J -4198715.55 -4198715.45 -4198715.35 0.0526 0.0314

Jupiter -16209-10-15 06:14 J -4198626.35 -4198626.24 -4198626.13 0.0525 0.0240

Uranus -16207-06-22 23:45 J -4198010.56 -4198010.51 -4198010.45 0.0139 0.0125

Uranus -16207-09-19 02:52 J -4197922.46 -4197922.38 -4197922.29 0.0140 0.0105

Saturn -16207-12-14 23:02 J -4197835.54 -4197835.54 -4197835.53 0.0292 0.0291

Uranus -16207-12-16 06:14 J -4197834.34 -4197834.24 -4197834.13 0.0140 0.0085

Moon -16206-02-07 15:50 J -4197780.99 -4197780.84 -4197780.70 0.2625 0.0856

Earth -16206-02-07 17:16 J -4197780.92 -4197780.78 -4197780.63 0.2623 0.0914 *

Saturn -16206-03-13 10:33 J -4197747.17 -4197747.06 -4197746.95 0.0291 0.0145

Uranus -16206-03-14 09:36 J -4197746.22 -4197746.10 -4197745.98 0.0140 0.0064

Saturn -16206-06-09 21:50 J -4197658.72 -4197658.59 -4197658.46 0.0290 0.0008

Uranus -16206-06-10 12:57 J -4197658.09 -4197657.96 -4197657.84 0.0140 0.0044

Saturn -16206-09-06 09:07 J -4197570.22 -4197570.12 -4197570.00 0.0288 0.0144

Uranus -16206-09-06 16:04 J -4197569.95 -4197569.83 -4197569.70 0.0140 0.0024

Uranus -16206-12-03 19:26 J -4197481.82 -4197481.69 -4197481.55 0.0140 0.0005

Saturn -16206-12-03 20:38 J -4197481.65 -4197481.64 -4197481.63 0.0287 0.0284 *

Uranus -16205-02-29 22:48 J -4197393.68 -4197393.55 -4197393.42 0.0140 0.0018

Uranus -16205-05-28 02:09 J -4197305.53 -4197305.41 -4197305.28 0.0140 0.0039

Mars -16205-07-12 15:07 J -4197260.01 -4197259.87 -4197259.72 0.1896 0.1044

Uranus -16205-08-24 05:31 J -4197217.39 -4197217.27 -4197217.15 0.0141 0.0060

Uranus -16205-11-20 08:52 J -4197129.23 -4197129.13 -4197129.02 0.0141 0.0081

Uranus -16204-02-16 12:14 J -4197041.07 -4197040.99 -4197040.89 0.0141 0.0102

Uranus -16204-05-15 15:50 J -4196952.90 -4196952.84 -4196952.78 0.0141 0.0123

Jupiter -16203-09-10 20:38 J -4196469.82 -4196469.64 -4196469.46 0.0500 0.0157

Mars -16202-04-15 18:57 J -4196252.73 -4196252.71 -4196252.69 0.1627 0.1595

Mars -16200-03-20 20:09 J -4195547.78 -4195547.66 -4195547.55 0.1624 0.0166

Venus -16198-09-30 01:55 J -4194624.58 -4194624.42 -4194624.26 0.3647 0.0768

Jupiter -16197-05-06 06:00 J -4194405.32 -4194405.25 -4194405.19 0.0526 0.0447

Jupiter -16197-08-03 10:48 J -4194316.17 -4194316.05 -4194315.92 0.0525 0.0107

Earth -16197-08-07 02:09 J -4194312.51 -4194312.41 -4194312.31 0.2710 0.0985

Moon -16197-08-07 02:52 J -4194312.48 -4194312.38 -4194312.28 0.2706 0.1122 *

Mars -16196-12-02 06:43 J -4193830.39 -4193830.22 -4193830.05 0.1896 0.0442

Jupiter -16191-06-29 17:31 J -4192159.91 -4192159.77 -4192159.63 0.0500 0.0336

Mars -16191-08-11 07:55 J -4192117.29 -4192117.17 -4192117.06 0.1625 0.0265

Jupiter -16191-09-28 05:45 J -4192069.37 -4192069.26 -4192069.15 0.0501 0.0408

Saturn -16190-06-18 08:52 J -4191806.31 -4191806.13 -4191805.95 0.0272 0.0101

Moon -16190-08-01 00:57 J -4191762.51 -4191762.46 -4191762.42 0.2720 0.2441

Earth -16190-08-01 00:57 J -4191762.51 -4191762.46 -4191762.41 0.2713 0.2380 *

Saturn -16190-09-15 07:55 J -4191717.35 -4191717.17 -4191716.98 0.0273 0.0081

Saturn -16190-12-13 06:43 J -4191628.25 -4191628.22 -4191628.16 0.0274 0.0264

Venus -16189-01-19 14:09 J -4191590.98 -4191590.91 -4191590.83 0.3722 0.2397

Mars -16189-07-16 09:07 J -4191412.16 -4191412.12 -4191412.08 0.1624 0.1510

Mars -16186-04-23 22:48 J -4190400.55 -4190400.55 -4190400.54 0.1895 0.1890

Jupiter -16185-05-22 15:07 J -4190006.00 -4190005.87 -4190005.75 0.0526 0.0038

Jupiter -16185-08-19 20:09 J -4189916.68 -4189916.66 -4189916.64 0.0524 0.0516

Venus -16184-08-04 05:31 J -4189567.37 -4189567.27 -4189567.17 0.3724 0.0493

Moon -16184-08-09 20:38 J -4189561.71 -4189561.64 -4189561.58 0.2702 0.2179

Earth -16184-08-09 20:24 J -4189561.71 -4189561.65 -4189561.59 0.2708 0.2215 *

Mars -16181-01-01 19:26 J -4188686.79 -4188686.69 -4188686.58 0.1625 0.0690

Mars -16180-12-06 20:52 J -4187981.72 -4187981.63 -4187981.55 0.1624 0.1081

Jupiter -16179-07-17 02:52 J -4187759.55 -4187759.38 -4187759.21 0.0500 0.0231

Venus -16178-02-17 20:38 J -4187543.73 -4187543.64 -4187543.54 0.3726 0.1433

Saturn -16177-07-30 12:14 J -4187015.08 -4187014.99 -4187014.90 0.0291 0.0195

Earth -16177-08-02 18:57 J -4187011.81 -4187011.71 -4187011.61 0.2712 0.1196

Moon -16177-08-02 19:26 J -4187011.79 -4187011.69 -4187011.59 0.2717 0.1124 *

Saturn -16177-10-26 23:45 J -4186926.64 -4186926.51 -4186926.39 0.0290 0.0050

Saturn -16176-01-23 11:02 J -4186838.16 -4186838.04 -4186837.92 0.0289 0.0095

Saturn -16176-04-21 22:19 J -4186749.64 -4186749.57 -4186749.50 0.0288 0.0237

Moon -16173-02-05 16:19 J -4185729.96 -4185729.82 -4185729.67 0.2619 0.0995

Earth -16173-02-05 17:45 J -4185729.90 -4185729.76 -4185729.61 0.2622 0.0903 *

Jupiter -16173-03-10 19:26 J -4185695.80 -4185695.69 -4185695.57 0.0526 0.0175

Jupiter -16173-06-08 00:28 J -4185606.56 -4185606.48 -4185606.39 0.0525 0.0380

Venus -16173-09-02 12:00 J -4185520.04 -4185520.00 -4185519.96 0.3728 0.3346

Mars -16172-05-24 07:11 J -4185256.28 -4185256.20 -4185256.11 0.1626 0.1114

Mars -16170-04-29 08:24 J -4184551.25 -4184551.15 -4184551.04 0.1624 0.0653

Jupiter -16167-05-04 23:31 J -4183449.71 -4183449.52 -4183449.33 0.0500 0.0047

Uranus -16167-05-06 15:21 J -4183447.93 -4183447.86 -4183447.75 0.0139 0.0123

Uranus -16167-08-02 23:31 J -4183359.66 -4183359.52 -4183359.37 0.0139 0.0093

Uranus -16167-10-30 07:26 J -4183271.36 -4183271.19 -4183271.01 0.0138 0.0063

Uranus -16166-01-26 15:21 J -4183183.04 -4183182.86 -4183182.67 0.0138 0.0033

Uranus -16166-04-24 23:16 J -4183094.72 -4183094.53 -4183094.34 0.0138 0.0004

Uranus -16166-07-22 06:57 J -4183006.40 -4183006.21 -4183006.02 0.0138 0.0026

Uranus -16166-10-18 14:38 J -4182918.06 -4182917.89 -4182917.71 0.0138 0.0055

Mars -16165-01-11 16:04 J -4182832.97 -4182832.83 -4182832.70 0.1896 0.1168

Uranus -16165-01-14 22:04 J -4182829.72 -4182829.58 -4182829.41 0.0138 0.0084

Uranus -16165-04-12 06:00 J -4182741.36 -4182741.25 -4182741.14 0.0138 0.0112

Earth -16164-08-05 12:57 J -4182261.07 -4182260.96 -4182260.85 0.2711 0.0041

Moon -16164-08-05 13:40 J -4182261.04 -4182260.93 -4182260.82 0.2712 0.0135 *

Mars -16163-10-14 18:57 J -4181825.74 -4181825.71 -4181825.68 0.1627 0.1541

Jupiter -16162-12-29 00:14 J -4181385.59 -4181385.49 -4181385.39 0.0527 0.0309

Jupiter -16161-03-27 05:16 J -4181296.39 -4181296.28 -4181296.17 0.0525 0.0247

Mars -16161-09-18 20:09 J -4181120.78 -4181120.66 -4181120.55 0.1624 0.0223

Saturn -16161-11-04 05:45 J -4181074.41 -4181074.26 -4181074.10 0.0272 0.0165

Saturn -16160-02-01 04:48 J -4180985.49 -4180985.30 -4180985.10 0.0273 0.0018

Moon -16160-02-07 22:19 J -4180978.72 -4180978.57 -4180978.43 0.2626 0.1081

Earth -16160-02-07 23:45 J -4180978.64 -4180978.51 -4180978.37 0.2623 0.1339 *

Saturn -16160-05-01 03:50 J -4180896.46 -4180896.34 -4180896.20 0.0274 0.0199

Neptune -16159-07-10 04:04 J -4180461.35 -4180461.33 -4180461.27 0.0088 0.0086

Neptune -16159-10-06 07:55 J -4180373.25 -4180373.17 -4180373.05 0.0088 0.0076

Neptune -16158-01-02 12:00 J -4180285.13 -4180285.00 -4180284.86 0.0088 0.0065

Neptune -16158-03-31 15:35 J -4180197.00 -4180196.85 -4180196.69 0.0088 0.0055

Neptune -16158-06-27 19:11 J -4180108.86 -4180108.70 -4180108.52 0.0088 0.0045

Neptune -16158-09-23 23:02 J -4180020.71 -4180020.54 -4180020.35 0.0088 0.0035

Neptune -16158-12-21 02:38 J -4179932.57 -4179932.39 -4179932.19 0.0088 0.0025

Neptune -16157-03-18 06:43 J -4179844.42 -4179844.22 -4179844.03 0.0088 0.0014

Neptune -16157-06-14 10:19 J -4179756.27 -4179756.07 -4179755.87 0.0088 0.0004

Neptune -16157-09-10 14:09 J -4179668.11 -4179667.91 -4179667.72 0.0088 0.0006

Neptune -16157-12-07 17:45 J -4179579.95 -4179579.76 -4179579.56 0.0088 0.0016

Neptune -16156-03-05 21:07 J -4179491.79 -4179491.62 -4179491.42 0.0088 0.0027

Neptune -16156-06-02 00:57 J -4179403.63 -4179403.46 -4179403.27 0.0088 0.0037

Mars -16156-06-02 07:55 J -4179403.34 -4179403.17 -4179403.00 0.1896 0.0295 *

Neptune -16156-08-29 04:33 J -4179315.46 -4179315.31 -4179315.13 0.0088 0.0047

Neptune -16156-11-25 08:09 J -4179227.29 -4179227.16 -4179226.99 0.0088 0.0057

Jupiter -16155-02-20 20:24 J -4179139.83 -4179139.65 -4179139.47 0.0500 0.0134

Neptune -16155-02-21 12:00 J -4179139.12 -4179139.00 -4179138.86 0.0088 0.0067

Neptune -16155-05-20 15:35 J -4179050.93 -4179050.85 -4179050.74 0.0088 0.0077

Neptune -16155-08-16 19:26 J -4178962.71 -4178962.69 -4178962.66 0.0088 0.0087

Mars -16151-02-09 07:40 J -4177690.29 -4177690.18 -4177690.06 0.1624 0.0213

Earth -16151-08-08 06:57 J -4177510.30 -4177510.21 -4177510.11 0.2710 0.1228

Moon -16151-08-08 07:40 J -4177510.28 -4177510.18 -4177510.08 0.2705 0.1245 *

Jupiter -16150-10-17 05:02 J -4177075.36 -4177075.29 -4177075.22 0.0526 0.0439

Jupiter -16149-01-14 09:50 J -4176986.21 -4176986.09 -4176985.96 0.0525 0.0116

Mars -16149-01-15 09:07 J -4176985.15 -4176985.12 -4176985.09 0.1623 0.1566

Saturn -16148-12-17 13:26 J -4176283.00 -4176282.94 -4176282.88 0.0292 0.0250

Saturn -16147-03-16 00:57 J -4176194.58 -4176194.46 -4176194.34 0.0291 0.0104

Saturn -16147-06-12 12:14 J -4176106.12 -4176105.99 -4176105.86 0.0289 0.0041

Saturn -16147-09-08 23:31 J -4176017.61 -4176017.52 -4176017.42 0.0288 0.0185

Mars -16147-10-22 23:16 J -4175973.58 -4175973.53 -4175973.47 0.1895 0.1783

Moon -16144-08-01 05:45 J -4174960.32 -4174960.26 -4174960.19 0.2719 0.2107

Earth -16144-08-01 05:45 J -4174960.32 -4174960.26 -4174960.19 0.2713 0.2150 *

Jupiter -16144-12-09 15:50 J -4174829.98 -4174829.84 -4174829.70 0.0500 0.0331

Jupiter -16143-03-10 04:04 J -4174739.43 -4174739.33 -4174739.22 0.0501 0.0413

Mars -16142-07-02 19:26 J -4174259.79 -4174259.69 -4174259.58 0.1625 0.0633

Venus -16141-05-06 04:48 J -4173951.38 -4173951.30 -4173951.21 0.3647 0.3061

Mars -16140-06-06 20:38 J -4173554.72 -4173554.64 -4173554.55 0.1623 0.1136

Venus -16138-02-09 20:24 J -4172941.67 -4172941.65 -4172941.63 0.3721 0.3590

Moon -16138-08-11 01:11 J -4172759.49 -4172759.45 -4172759.41 0.2702 0.2512

Earth -16138-08-11 01:11 J -4172759.49 -4172759.45 -4172759.41 0.2708 0.2456 *

Jupiter -16138-11-02 14:38 J -4172676.02 -4172675.89 -4172675.77 0.0525 0.0022

Venus -16133-08-25 11:31 J -4170918.11 -4170918.02 -4170917.93 0.3723 0.1700

Mars -16133-11-22 07:11 J -4170829.29 -4170829.20 -4170829.11 0.1626 0.1058

Jupiter -16132-12-27 01:11 J -4170429.62 -4170429.45 -4170429.29 0.0501 0.0234

Saturn -16131-03-24 04:19 J -4170342.43 -4170342.32 -4170342.20 0.0271 0.0215

Saturn -16131-06-21 03:21 J -4170253.55 -4170253.36 -4170253.17 0.0272 0.0035

Earth -16131-08-03 23:45 J -4170209.61 -4170209.51 -4170209.41 0.2712 0.0960

Moon -16131-08-04 00:14 J -4170209.59 -4170209.49 -4170209.39 0.2717 0.0930 *

Saturn -16131-09-18 02:24 J -4170164.56 -4170164.40 -4170164.24 0.0273 0.0147

Mars -16131-10-28 08:24 J -4170124.25 -4170124.15 -4170124.05 0.1624 0.0706

Moon -16127-02-05 22:48 J -4168927.70 -4168927.55 -4168927.40 0.2621 0.0641

Earth -16127-02-06 00:28 J -4168927.64 -4168927.48 -4168927.33 0.2622 0.0468 *

Venus -16127-03-11 02:52 J -4168894.48 -4168894.38 -4168894.28 0.3725 0.0225

Mars -16126-07-12 17:02 J -4168405.91 -4168405.79 -4168405.67 0.1897 0.1301

Jupiter -16126-08-21 18:43 J -4168365.84 -4168365.72 -4168365.60 0.0526 0.0164

Jupiter -16126-11-18 23:45 J -4168276.60 -4168276.51 -4168276.43 0.0525 0.0390

Mars -16123-04-14 18:57 J -4167398.75 -4167398.71 -4167398.67 0.1627 0.1482

Uranus -16123-07-13 06:43 J -4167309.28 -4167309.22 -4167309.15 0.0140 0.0121

Uranus -16123-10-09 10:04 J -4167221.17 -4167221.08 -4167220.99 0.0140 0.0101

Uranus -16122-01-05 13:11 J -4167133.05 -4167132.95 -4167132.84 0.0140 0.0081

Uranus -16122-04-03 16:33 J -4167044.92 -4167044.81 -4167044.69 0.0140 0.0061

Uranus -16122-06-30 19:55 J -4166956.79 -4166956.67 -4166956.54 0.0140 0.0040

Venus -16122-09-24 18:00 J -4166870.83 -4166870.75 -4166870.67 0.3727 0.2128

Uranus -16122-09-26 23:16 J -4166868.66 -4166868.53 -4166868.40 0.0140 0.0020

Uranus -16122-12-24 02:38 J -4166780.52 -4166780.39 -4166780.26 0.0140 0.0003

Mars -16121-03-19 20:09 J -4166693.78 -4166693.66 -4166693.55 0.1624 0.0284

Uranus -16121-03-21 06:00 J -4166692.38 -4166692.25 -4166692.12 0.0140 0.0022

Uranus -16121-06-17 09:21 J -4166604.24 -4166604.11 -4166603.99 0.0141 0.0043

Uranus -16121-09-13 12:28 J -4166516.09 -4166515.98 -4166515.85 0.0141 0.0064

Uranus -16121-12-10 15:50 J -4166427.94 -4166427.84 -4166427.73 0.0141 0.0085

Uranus -16120-03-08 19:11 J -4166339.77 -4166339.70 -4166339.60 0.0141 0.0106

Uranus -16120-06-04 22:48 J -4166251.60 -4166251.55 -4166251.49 0.0141 0.0127

Jupiter -16120-10-14 22:19 J -4166119.76 -4166119.57 -4166119.39 0.0500 0.0057

Saturn -16118-08-03 02:52 J -4165462.49 -4165462.38 -4165462.27 0.0291 0.0150

Earth -16118-08-06 17:45 J -4165458.87 -4165458.76 -4165458.65 0.2711 0.0248

Moon -16118-08-06 18:28 J -4165458.84 -4165458.73 -4165458.62 0.2710 0.0338 *

Saturn -16118-10-30 14:24 J -4165374.03 -4165373.90 -4165373.78 0.0290 0.0010

Saturn -16117-01-27 01:40 J -4165285.54 -4165285.43 -4165285.32 0.0289 0.0139

Saturn -16117-04-24 12:57 J -4165196.98 -4165196.96 -4165196.93 0.0288 0.0280

Mars -16117-12-01 08:52 J -4164976.30 -4164976.13 -4164975.96 0.1896 0.0167

Moon -16114-02-09 04:48 J -4164176.42 -4164176.30 -4164176.18 0.2626 0.1692

Earth -16114-02-09 06:28 J -4164176.35 -4164176.23 -4164176.12 0.2623 0.1765 *

Jupiter -16114-06-09 23:02 J -4164055.64 -4164055.54 -4164055.44 0.0526 0.0302

Jupiter -16114-09-07 04:04 J -4163966.44 -4163966.33 -4163966.22 0.0525 0.0252

Mars -16112-08-10 07:40 J -4163263.29 -4163263.18 -4163263.06 0.1624 0.0162

Jupiter -16108-08-02 18:43 J -4161809.90 -4161809.72 -4161809.53 0.0500 0.0129

Mars -16107-04-23 00:28 J -4161546.56 -4161546.48 -4161546.40 0.1895 0.1640

Earth -16105-08-08 12:00 J -4160708.10 -4160708.00 -4160707.91 0.2709 0.1469

Moon -16105-08-08 12:28 J -4160708.07 -4160707.98 -4160707.89 0.2705 0.1573 *

Mars -16103-12-31 19:26 J -4159832.80 -4159832.69 -4159832.58 0.1625 0.0577

Jupiter -16102-03-29 03:35 J -4159745.42 -4159745.35 -4159745.28 0.0527 0.0438

Jupiter -16102-06-26 08:38 J -4159656.26 -4159656.14 -4159656.02 0.0526 0.0116

Saturn -16102-11-08 00:57 J -4159521.64 -4159521.46 -4159521.27 0.0272 0.0094

Saturn -16101-02-05 00:00 J -4159432.68 -4159432.50 -4159432.31 0.0273 0.0088

Saturn -16101-05-03 22:48 J -4159343.56 -4159343.55 -4159343.51 0.0274 0.0271

Mars -16101-12-05 20:38 J -4159127.71 -4159127.64 -4159127.56 0.1623 0.1194

Earth -16098-08-02 10:33 J -4158158.13 -4158158.06 -4158157.98 0.2713 0.1920

Moon -16098-08-02 10:48 J -4158158.12 -4158158.05 -4158157.98 0.2719 0.1965 *

Jupiter -16096-05-21 15:21 J -4157500.00 -4157499.86 -4157499.71 0.0499 0.0312

Jupiter -16096-08-20 03:21 J -4157409.45 -4157409.36 -4157409.26 0.0501 0.0431

Moon -16094-02-03 23:31 J -4156876.58 -4156876.52 -4156876.45 0.2616 0.2362

Earth -16094-02-04 00:43 J -4156876.54 -4156876.47 -4156876.40 0.2621 0.2323 *

Mars -16093-05-23 07:11 J -4156402.29 -4156402.20 -4156402.11 0.1626 0.1004

Moon -16092-08-11 06:00 J -4155957.27 -4155957.25 -4155957.23 0.2701 0.2630

Earth -16092-08-11 06:00 J -4155957.25 -4155957.25 -4155957.24 0.2708 0.2702 *

Mars -16091-04-28 08:24 J -4155697.26 -4155697.15 -4155697.05 0.1624 0.0763

Jupiter -16090-04-14 13:26 J -4155346.07 -4155345.94 -4155345.82 0.0526 0.0016

Venus -16090-05-27 19:40 J -4155302.83 -4155302.68 -4155302.54 0.3649 0.1710

Pluto -16089-10-06 17:16 J -4154804.82 -4154804.78 -4154804.70 0.0071 0.0066

Saturn -16089-12-20 04:19 J -4154730.41 -4154730.32 -4154730.22 0.0292 0.0201

Pluto -16088-01-02 18:43 J -4154716.80 -4154716.72 -4154716.61 0.0072 0.0057

Saturn -16088-03-18 15:50 J -4154641.96 -4154641.84 -4154641.71 0.0290 0.0055

Pluto -16088-03-31 19:55 J -4154628.77 -4154628.67 -4154628.54 0.0072 0.0050

Saturn -16088-06-15 03:21 J -4154553.49 -4154553.36 -4154553.24 0.0289 0.0089

Pluto -16088-06-27 21:35 J -4154540.73 -4154540.60 -4154540.47 0.0072 0.0041

Saturn -16088-09-11 14:38 J -4154464.96 -4154464.89 -4154464.81 0.0288 0.0232

Pluto -16088-09-23 22:48 J -4154452.69 -4154452.55 -4154452.41 0.0072 0.0033

Pluto -16088-12-21 00:00 J -4154364.64 -4154364.50 -4154364.35 0.0072 0.0025

Pluto -16087-03-19 01:26 J -4154276.59 -4154276.44 -4154276.29 0.0072 0.0017

Pluto -16087-06-15 02:38 J -4154188.54 -4154188.39 -4154188.23 0.0072 0.0008

Pluto -16087-09-11 04:04 J -4154100.49 -4154100.33 -4154100.17 0.0072 0.0000

Pluto -16087-12-08 05:16 J -4154012.43 -4154012.28 -4154012.12 0.0072 0.0009

Mars -16086-01-10 17:45 J -4153978.87 -4153978.76 -4153978.65 0.1896 0.1420

Pluto -16086-03-06 06:43 J -4153924.37 -4153924.22 -4153924.07 0.0073 0.0017

Pluto -16086-06-02 08:09 J -4153836.31 -4153836.16 -4153836.02 0.0073 0.0026

Pluto -16086-08-29 09:21 J -4153748.24 -4153748.11 -4153747.97 0.0073 0.0035

Pluto -16086-11-25 10:33 J -4153660.17 -4153660.06 -4153659.92 0.0073 0.0044

Pluto -16085-02-21 11:45 J -4153572.10 -4153572.01 -4153571.88 0.0073 0.0054

Pluto -16085-05-19 13:40 J -4153484.01 -4153483.93 -4153483.85 0.0073 0.0062

Earth -16085-08-04 04:33 J -4153407.41 -4153407.31 -4153407.20 0.2712 0.0725

Moon -16085-08-04 05:02 J -4153407.39 -4153407.29 -4153407.18 0.2716 0.0625 *

Pluto -16085-08-15 15:07 J -4153395.91 -4153395.87 -4153395.83 0.0073 0.0071

Jupiter -16084-06-07 23:02 J -4153099.70 -4153099.54 -4153099.37 0.0501 0.0234

Mars -16084-10-13 18:57 J -4152971.77 -4152971.71 -4152971.66 0.1627 0.1429

Uranus -16083-05-26 23:16 J -4152746.63 -4152746.53 -4152746.41 0.0139 0.0114

Uranus -16083-08-23 07:26 J -4152658.35 -4152658.19 -4152658.04 0.0138 0.0084

Uranus -16083-11-19 15:07 J -4152570.04 -4152569.87 -4152569.68 0.0138 0.0054

Uranus -16082-02-15 23:02 J -4152481.73 -4152481.54 -4152481.35 0.0138 0.0025

Uranus -16082-05-15 06:57 J -4152393.41 -4152393.21 -4152393.02 0.0138 0.0005

Uranus -16082-08-11 14:38 J -4152305.08 -4152304.89 -4152304.70 0.0138 0.0034

Venus -16082-09-16 17:45 J -4152268.82 -4152268.76 -4152268.70 0.3721 0.2900

Mars -16082-09-18 19:55 J -4152266.78 -4152266.67 -4152266.55 0.1624 0.0336

Uranus -16082-11-07 22:19 J -4152216.74 -4152216.57 -4152216.40 0.0138 0.0063

Uranus -16081-02-04 05:45 J -4152128.39 -4152128.26 -4152128.11 0.0138 0.0092

Moon -16081-02-07 05:16 J -4152125.44 -4152125.28 -4152125.13 0.2622 0.0238

Earth -16081-02-07 06:57 J -4152125.37 -4152125.21 -4152125.05 0.2622 0.0049 *

Uranus -16081-05-02 13:40 J -4152040.02 -4152039.93 -4152039.84 0.0138 0.0120

Jupiter -16078-01-31 18:00 J -4151035.87 -4151035.75 -4151035.63 0.0526 0.0150

Jupiter -16078-04-30 23:02 J -4150946.62 -4150946.54 -4150946.46 0.0524 0.0403

Neptune -16078-10-21 12:28 J -4150773.02 -4150772.98 -4150772.94 0.0089 0.0085

Neptune -16077-01-17 13:40 J -4150684.99 -4150684.93 -4150684.86 0.0089 0.0078

Neptune -16077-04-14 14:52 J -4150596.95 -4150596.88 -4150596.79 0.0089 0.0071

Mars -16077-06-01 09:35 J -4150549.27 -4150549.10 -4150548.93 0.1896 0.0060

Neptune -16077-07-11 16:19 J -4150508.91 -4150508.82 -4150508.73 0.0089 0.0064

Neptune -16077-10-07 17:31 J -4150420.86 -4150420.77 -4150420.66 0.0089 0.0057

Neptune -16076-01-03 18:57 J -4150332.82 -4150332.71 -4150332.60 0.0089 0.0049

Venus -16076-04-01 08:52 J -4150245.22 -4150245.13 -4150245.03 0.3723 0.1010

Neptune -16076-04-01 20:09 J -4150244.77 -4150244.66 -4150244.54 0.0089 0.0043

Neptune -16076-06-28 21:21 J -4150156.72 -4150156.61 -4150156.48 0.0089 0.0036

Neptune -16076-09-24 22:48 J -4150068.67 -4150068.55 -4150068.43 0.0089 0.0028

Neptune -16076-12-22 00:00 J -4149980.62 -4149980.50 -4149980.37 0.0089 0.0021

Neptune -16075-03-20 01:26 J -4149892.57 -4149892.44 -4149892.31 0.0089 0.0014

Neptune -16075-06-16 02:38 J -4149804.52 -4149804.39 -4149804.26 0.0089 0.0007

Neptune -16075-09-12 03:50 J -4149716.47 -4149716.34 -4149716.20 0.0089 0.0003

Neptune -16075-12-09 05:16 J -4149628.41 -4149628.28 -4149628.15 0.0089 0.0007

Neptune -16074-03-07 06:28 J -4149540.36 -4149540.23 -4149540.10 0.0089 0.0014

Neptune -16074-06-03 07:40 J -4149452.30 -4149452.18 -4149452.05 0.0089 0.0021

Neptune -16074-08-30 08:52 J -4149364.24 -4149364.13 -4149364.00 0.0089 0.0029

Neptune -16074-11-26 10:19 J -4149276.19 -4149276.07 -4149275.95 0.0089 0.0035

Neptune -16073-02-22 11:31 J -4149188.13 -4149188.02 -4149187.90 0.0089 0.0043

Neptune -16073-05-20 12:57 J -4149100.07 -4149099.96 -4149099.85 0.0089 0.0049

Neptune -16073-08-16 14:09 J -4149012.00 -4149011.91 -4149011.80 0.0089 0.0056

Neptune -16073-11-12 15:21 J -4148923.94 -4148923.86 -4148923.76 0.0089 0.0064

Mars -16072-02-08 07:40 J -4148836.29 -4148836.18 -4148836.06 0.1624 0.0095

Neptune -16072-02-08 16:48 J -4148835.87 -4148835.80 -4148835.72 0.0089 0.0070

Jupiter -16072-03-26 19:55 J -4148789.85 -4148789.67 -4148789.48 0.0500 0.0053

Saturn -16072-03-27 00:00 J -4148789.66 -4148789.50 -4148789.33 0.0271 0.0140 *

Neptune -16072-05-07 18:00 J -4148747.80 -4148747.75 -4148747.68 0.0089 0.0078

Saturn -16072-06-23 23:16 J -4148700.72 -4148700.53 -4148700.34 0.0272 0.0041

Neptune -16072-08-03 19:26 J -4148659.73 -4148659.69 -4148659.65 0.0089 0.0085

Earth -16072-08-06 22:33 J -4148656.66 -4148656.56 -4148656.45 0.2711 0.0496

Moon -16072-08-06 23:31 J -4148656.63 -4148656.52 -4148656.42 0.2709 0.0567 *

Saturn -16072-09-20 22:19 J -4148611.68 -4148611.57 -4148611.46 0.0273 0.0223

Venus -16071-10-16 00:14 J -4148221.59 -4148221.49 -4148221.40 0.3725 0.0904

Moon -16068-02-09 11:31 J -4147374.12 -4147374.02 -4147373.92 0.2626 0.1979

Earth -16068-02-09 12:57 J -4147374.05 -4147373.96 -4147373.88 0.2624 0.2184 *

Mars -16068-10-22 01:26 J -4147119.54 -4147119.44 -4147119.34 0.1895 0.1508

Jupiter -16067-11-19 22:04 J -4146725.68 -4146725.58 -4146725.48 0.0526 0.0295

Jupiter -16066-02-17 02:52 J -4146636.48 -4146636.38 -4146636.26 0.0525 0.0259

Venus -16065-04-30 15:21 J -4146197.92 -4146197.86 -4146197.79 0.3727 0.2810

Mars -16063-07-01 19:26 J -4145405.80 -4145405.69 -4145405.58 0.1625 0.0521

Mars -16061-06-05 20:38 J -4144700.71 -4144700.64 -4144700.57 0.1624 0.1248

Jupiter -16060-01-12 17:02 J -4144479.97 -4144479.79 -4144479.61 0.0500 0.0126

Saturn -16059-05-09 06:43 J -4143998.29 -4143998.22 -4143998.15 0.0292 0.0244

Saturn -16059-08-05 18:14 J -4143909.86 -4143909.74 -4143909.62 0.0291 0.0097

Earth -16059-08-09 16:48 J -4143905.89 -4143905.80 -4143905.72 0.2709 0.1708

Moon -16059-08-09 17:16 J -4143905.87 -4143905.78 -4143905.70 0.2704 0.1738 *

Saturn -16059-11-02 05:45 J -4143821.39 -4143821.26 -4143821.14 0.0290 0.0049

Saturn -16058-01-29 17:02 J -4143732.89 -4143732.79 -4143732.69 0.0289 0.0191

Jupiter -16055-09-08 02:24 J -4142415.47 -4142415.40 -4142415.33 0.0526 0.0435

Jupiter -16055-12-06 07:11 J -4142326.32 -4142326.20 -4142326.07 0.0525 0.0120

Mars -16054-11-22 07:11 J -4141975.30 -4141975.20 -4141975.11 0.1626 0.0947

Earth -16052-08-02 15:21 J -4141355.94 -4141355.86 -4141355.77 0.2712 0.1692

Moon -16052-08-02 15:35 J -4141355.93 -4141355.85 -4141355.76 0.2719 0.1604 *

Mars -16052-10-27 08:24 J -4141270.25 -4141270.15 -4141270.06 0.1624 0.0821

Jupiter -16049-10-31 13:26 J -4140170.08 -4140169.94 -4140169.79 0.0499 0.0311

Jupiter -16048-01-30 01:40 J -4140079.53 -4140079.43 -4140079.34 0.0501 0.0431

Moon -16048-02-04 06:00 J -4140074.35 -4140074.25 -4140074.16 0.2617 0.2094

Earth -16048-02-04 07:11 J -4140074.31 -4140074.20 -4140074.09 0.2621 0.1890 *

Mars -16047-07-11 18:43 J -4139551.82 -4139551.72 -4139551.63 0.1897 0.1552

Mars -16044-04-13 18:43 J -4138544.77 -4138544.72 -4138544.66 0.1627 0.1374

Saturn -16043-08-13 22:48 J -4138057.68 -4138057.55 -4138057.41 0.0271 0.0191

Jupiter -16043-09-24 11:45 J -4138016.13 -4138016.01 -4138015.88 0.0526 0.0020

Saturn -16043-11-10 21:50 J -4137968.78 -4137968.59 -4137968.39 0.0272 0.0011

Saturn -16042-02-07 20:52 J -4137879.78 -4137879.63 -4137879.48 0.0273 0.0172

Mars -16042-03-19 19:55 J -4137839.78 -4137839.67 -4137839.56 0.1624 0.0393

Uranus -16039-05-06 10:19 J -4136696.08 -4136696.07 -4136696.06 0.0139 0.0139

Uranus -16039-08-02 13:26 J -4136608.00 -4136607.94 -4136607.87 0.0140 0.0119

Earth -16039-08-05 09:21 J -4136605.21 -4136605.11 -4136605.00 0.2711 0.0498

Moon -16039-08-05 10:04 J -4136605.19 -4136605.08 -4136604.97 0.2714 0.0470 *

Uranus -16039-10-29 16:48 J -4136519.89 -4136519.80 -4136519.71 0.0140 0.0099

Uranus -16038-01-25 19:55 J -4136431.77 -4136431.67 -4136431.55 0.0140 0.0079

Uranus -16038-04-23 23:16 J -4136343.64 -4136343.53 -4136343.41 0.0140 0.0059

Uranus -16038-07-21 02:38 J -4136255.51 -4136255.39 -4136255.26 0.0140 0.0038

Uranus -16038-10-17 06:00 J -4136167.38 -4136167.25 -4136167.12 0.0140 0.0018

Mars -16038-12-01 10:33 J -4136122.23 -4136122.06 -4136121.89 0.1896 0.0089

Uranus -16037-01-13 09:21 J -4136079.24 -4136079.11 -4136078.98 0.0140 0.0003

Uranus -16037-04-10 12:43 J -4135991.10 -4135990.97 -4135990.84 0.0140 0.0024

Uranus -16037-07-07 16:04 J -4135902.96 -4135902.83 -4135902.71 0.0141 0.0045

Jupiter -16037-08-19 09:50 J -4135860.10 -4135860.09 -4135860.07 0.0499 0.0496

Uranus -16037-10-03 19:26 J -4135814.81 -4135814.69 -4135814.57 0.0141 0.0066

Jupiter -16037-11-17 22:04 J -4135769.74 -4135769.58 -4135769.41 0.0500 0.0247

Uranus -16037-12-30 22:48 J -4135726.65 -4135726.55 -4135726.45 0.0141 0.0087

Uranus -16036-03-29 02:09 J -4135638.49 -4135638.41 -4135638.32 0.0141 0.0108

Uranus -16036-06-25 05:31 J -4135550.32 -4135550.27 -4135550.22 0.0141 0.0129

Moon -16035-02-07 11:45 J -4135323.17 -4135323.01 -4135322.86 0.2622 0.0247

Earth -16035-02-07 13:26 J -4135323.09 -4135322.94 -4135322.78 0.2623 0.0388 *

Venus -16033-01-01 22:33 J -4134629.72 -4134629.56 -4134629.40 0.3648 0.0614

Mars -16033-08-09 07:40 J -4134409.30 -4134409.18 -4134409.07 0.1624 0.0052

Jupiter -16031-07-13 16:33 J -4133705.93 -4133705.81 -4133705.69 0.0526 0.0150

Jupiter -16031-10-10 21:35 J -4133616.68 -4133616.60 -4133616.52 0.0525 0.0403

Saturn -16030-09-26 08:38 J -4133266.15 -4133266.14 -4133266.13 0.0292 0.0291

Saturn -16030-12-23 20:09 J -4133177.77 -4133177.66 -4133177.55 0.0291 0.0144

Saturn -16029-03-21 07:40 J -4133089.31 -4133089.18 -4133089.06 0.0290 0.0010

Saturn -16029-06-17 18:57 J -4133000.82 -4133000.71 -4133000.60 0.0289 0.0146

Mars -16028-04-22 02:09 J -4132692.53 -4132692.41 -4132692.30 0.1895 0.1392

Earth -16026-08-08 03:35 J -4131854.46 -4131854.35 -4131854.25 0.2710 0.0729

Moon -16026-08-08 04:19 J -4131854.43 -4131854.32 -4131854.22 0.2709 0.0846 *

Venus -16025-04-22 15:07 J -4131595.95 -4131595.87 -4131595.79 0.3722 0.2220

Jupiter -16025-09-05 17:31 J -4131459.96 -4131459.77 -4131459.59 0.0500 0.0047

Mars -16024-12-30 19:26 J -4130978.80 -4130978.69 -4130978.58 0.1625 0.0468

Moon -16022-02-10 18:14 J -4130571.78 -4130571.74 -4130571.70 0.2628 0.2518

Earth -16022-02-10 19:26 J -4130571.71 -4130571.69 -4130571.68 0.2624 0.2606 *

Mars -16022-12-05 20:38 J -4130273.71 -4130273.64 -4130273.58 0.1623 0.1302

Venus -16020-11-06 06:14 J -4129572.34 -4129572.24 -4129572.14 0.3724 0.0318

Jupiter -16019-05-01 21:07 J -4129395.72 -4129395.62 -4129395.51 0.0526 0.0285

Jupiter -16019-07-30 02:09 J -4129306.52 -4129306.41 -4129306.30 0.0525 0.0268

Moon -16019-08-01 02:09 J -4129304.43 -4129304.41 -4129304.38 0.2720 0.2635

Earth -16019-08-01 02:24 J -4129304.42 -4129304.40 -4129304.38 0.2713 0.2640 *

Venus -16014-05-22 21:21 J -4127548.70 -4127548.61 -4127548.52 0.3726 0.1596

Mars -16014-05-23 06:57 J -4127548.30 -4127548.21 -4127548.11 0.1626 0.0893

Saturn -16014-12-31 22:19 J -4127325.66 -4127325.57 -4127325.47 0.0271 0.0234

Saturn -16013-03-29 21:21 J -4127236.79 -4127236.61 -4127236.42 0.0272 0.0054

Jupiter -16013-06-24 14:09 J -4127150.09 -4127149.91 -4127149.73 0.0500 0.0136

Saturn -16013-06-26 20:24 J -4127147.81 -4127147.65 -4127147.48 0.0273 0.0128

Earth -16013-08-09 21:35 J -4127103.67 -4127103.60 -4127103.52 0.2709 0.1955

Moon -16013-08-09 21:50 J -4127103.66 -4127103.59 -4127103.51 0.2703 0.1979 *

Mars -16012-04-27 08:09 J -4126843.25 -4126843.16 -4126843.06 0.1624 0.0878

Venus -16009-12-05 12:43 J -4125525.00 -4125524.97 -4125524.94 0.3727 0.3502

Mars -16007-01-09 19:40 J -4125124.76 -4125124.68 -4125124.61 0.1897 0.1683

Jupiter -16007-02-18 01:11 J -4125085.52 -4125085.45 -4125085.38 0.0526 0.0432

Jupiter -16007-05-18 06:00 J -4124996.37 -4124996.25 -4124996.13 0.0525 0.0121

Earth -16006-08-03 20:24 J -4124553.75 -4124553.65 -4124553.56 0.2712 0.1454

Moon -16006-08-03 20:38 J -4124553.73 -4124553.64 -4124553.55 0.2719 0.1489 *

Mars -16005-10-12 18:43 J -4124117.78 -4124117.72 -4124117.65 0.1627 0.1316

Pluto -16004-12-08 03:07 J -4123696.43 -4123696.37 -4123696.29 0.0072 0.0065

Pluto -16003-03-06 04:19 J -4123608.40 -4123608.32 -4123608.20 0.0072 0.0056

Pluto -16003-06-02 05:45 J -4123520.36 -4123520.26 -4123520.12 0.0072 0.0048

Pluto -16003-08-29 07:26 J -4123432.32 -4123432.19 -4123432.05 0.0072 0.0038

Mars -16003-09-17 19:55 J -4123412.78 -4123412.67 -4123412.56 0.1624 0.0446

Pluto -16003-11-25 08:38 J -4123344.27 -4123344.14 -4123343.98 0.0072 0.0030

Moon -16002-02-05 12:14 J -4123272.12 -4123271.99 -4123271.86 0.2619 0.1504

Earth -16002-02-05 13:55 J -4123272.06 -4123271.92 -4123271.79 0.2621 0.1455 *

Pluto -16002-02-21 10:19 J -4123256.22 -4123256.07 -4123255.92 0.0072 0.0021

Pluto -16002-05-20 11:31 J -4123168.17 -4123168.02 -4123167.86 0.0072 0.0013

Pluto -16002-08-16 12:57 J -4123080.12 -4123079.96 -4123079.80 0.0072 0.0004

Pluto -16002-11-12 14:24 J -4122992.06 -4122991.90 -4122991.74 0.0071 0.0004

Pluto -16001-02-08 15:35 J -4122904.00 -4122903.85 -4122903.69 0.0071 0.0012

Jupiter -16001-04-12 11:02 J -4122840.18 -4122840.04 -4122839.89 0.0500 0.0315

Pluto -16001-05-06 16:48 J -4122815.94 -4122815.80 -4122815.64 0.0071 0.0021

Jupiter -16001-07-11 23:16 J -4122749.62 -4122749.53 -4122749.43 0.0501 0.0429

Pluto -16001-08-02 18:14 J -4122727.88 -4122727.74 -4122727.59 0.0071 0.0028

Pluto -16001-10-29 19:40 J -4122639.82 -4122639.68 -4122639.55 0.0071 0.0036

16TH MILLENNIUM BCE

This is a list of transits of Mercury in the 16th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Pluto	**-16000-01-25 20:52**	**J**	**-4122551.75**	**-4122551.63**	**-4122551.51**	**0.0071**	**0.0044**	
Pluto	**-16000-04-23 22:04**	**J**	**-4122463.68**	**-4122463.58**	**-4122463.47**	**0.0071**	**0.0052**	
Saturn	**-16000-05-11 22:48**	**J**	**-4122445.65**	**-4122445.55**	**-4122445.45**	**0.0292**	**0.0182**	
Pluto	**-16000-07-20 23:16**	**J**	**-4122375.61**	**-4122375.53**	**-4122375.44**	**0.0071**	**0.0060**	
Saturn	**-16000-08-08 10:19**	**J**	**-4122357.20**	**-4122357.07**	**-4122356.94**	**0.0291**	**0.0035**	
Pluto	**-16000-10-17 00:28**	**J**	**-4122287.51**	**-4122287.48**	**-4122287.43**	**0.0070**	**0.0068**	
Saturn	**-16000-11-04 21:50**	**J**	**-4122268.71**	**-4122268.59**	**-4122268.47**	**0.0289**	**0.0110**	
Saturn	**-15999-02-01 09:07**	**J**	**-4122180.18**	**-4122180.12**	**-4122180.06**	**0.0288**	**0.0252**	
Uranus	**-15999-03-19 22:19**	**J**	**-4122133.58**	**-4122133.57**	**-4122133.52**	**0.0139**	**0.0137**	
Uranus	**-15999-06-16 06:28**	**J**	**-4122045.34**	**-4122045.23**	**-4122045.10**	**0.0139**	**0.0107**	
Uranus	**-15999-09-12 14:38**	**J**	**-4121957.05**	**-4121956.89**	**-4121956.73**	**0.0139**	**0.0077**	
Uranus	**-15999-12-09 22:19**	**J**	**-4121868.75**	**-4121868.57**	**-4121868.38**	**0.0138**	**0.0047**	
Uranus	**-15998-03-08 06:14**	**J**	**-4121780.43**	**-4121780.24**	**-4121780.04**	**0.0138**	**0.0018**	
Mars	**-15998-06-01 11:31**	**J**	**-4121695.19**	**-4121695.02**	**-4121694.85**	**0.1896**	**0.0223**	
Uranus	**-15998-06-04 14:09**	**J**	**-4121692.11**	**-4121691.91**	**-4121691.72**	**0.0138**	**0.0012**	
Uranus	**-15998-08-31 21:35**	**J**	**-4121603.77**	**-4121603.60**	**-4121603.40**	**0.0138**	**0.0041**	
Uranus	**-15998-11-28 05:16**	**J**	**-4121515.43**	**-4121515.28**	**-4121515.10**	**0.0138**	**0.0070**	
Uranus	**-15997-02-24 13:11**	**J**	**-4121427.08**	**-4121426.95**	**-4121426.82**	**0.0138**	**0.0098**	
Uranus	**-15997-05-22 20:38**	**J**	**-4121338.71**	**-4121338.64**	**-4121338.56**	**0.0138**	**0.0127**	

Jupiter -15995-03-06 10:19 J -4120686.20 -4120686.07 -4120685.95 0.0526 0.0022

Neptune -15994-04-06 03:07 J -4120290.43 -4120290.37 -4120290.28 0.0088 0.0081

Neptune -15994-07-03 06:43 J -4120202.32 -4120202.22 -4120202.08 0.0088 0.0071

Neptune -15994-09-29 10:48 J -4120114.19 -4120114.05 -4120113.90 0.0088 0.0060

Neptune -15994-12-26 14:24 J -4120026.05 -4120025.90 -4120025.73 0.0088 0.0050

Mars -15993-02-08 07:40 J -4119982.30 -4119982.18 -4119982.07 0.1624 0.0032

Neptune -15993-03-23 18:00 J -4119937.91 -4119937.75 -4119937.56 0.0088 0.0040

Neptune -15993-06-19 21:50 J -4119849.77 -4119849.59 -4119849.40 0.0088 0.0030

Earth -15993-08-05 14:24 J -4119803.01 -4119802.90 -4119802.79 0.2711 0.0261

Moon -15993-08-05 15:07 J -4119802.98 -4119802.87 -4119802.76 0.2713 0.0135 *

Neptune -15993-09-16 01:26 J -4119761.62 -4119761.44 -4119761.23 0.0088 0.0020

Neptune -15993-12-13 05:16 J -4119673.47 -4119673.28 -4119673.08 0.0088 0.0010

Neptune -15992-03-11 09:07 J -4119585.32 -4119585.12 -4119584.92 0.0088 0.0001

Neptune -15992-06-07 12:43 J -4119497.16 -4119496.97 -4119496.77 0.0088 0.0011

Neptune -15992-09-03 16:19 J -4119409.00 -4119408.82 -4119408.62 0.0088 0.0021

Neptune -15992-11-30 20:09 J -4119320.84 -4119320.66 -4119320.47 0.0088 0.0031

Neptune -15991-02-26 23:45 J -4119232.68 -4119232.51 -4119232.33 0.0088 0.0041

Neptune -15991-05-26 03:07 J -4119144.51 -4119144.37 -4119144.19 0.0088 0.0052

Neptune -15991-08-22 06:57 J -4119056.34 -4119056.21 -4119056.06 0.0088 0.0062

Neptune -15991-11-18 10:33 J -4118968.15 -4118968.06 -4118967.93 0.0088 0.0072

Neptune -15990-02-14 14:09 J -4118879.96 -4118879.91 -4118879.82 0.0088 0.0082

Moon -15989-02-08 18:14 J -4118520.89 -4118520.74 -4118520.58 0.2622 0.0598

Earth -15989-02-08 19:55 J -4118520.82 -4118520.67 -4118520.52 0.2623 0.0817 *

Jupiter -15989-04-29 19:40 J -4118439.84 -4118439.68 -4118439.51 0.0500 0.0242

Mars -15989-10-21 02:52 J -4118265.50 -4118265.38 -4118265.25 0.1895 0.1263

Mars -15984-06-30 19:11 J -4116551.81 -4116551.70 -4116551.59 0.1625 0.0412

Saturn -15984-08-16 20:52 J -4116504.80 -4116504.63 -4116504.45 0.0272 0.0099

Saturn -15984-11-13 19:55 J -4116415.85 -4116415.67 -4116415.48 0.0273 0.0083

Jupiter -15984-12-23 14:38 J -4116376.01 -4116375.89 -4116375.77 0.0526 0.0160

Saturn -15983-02-10 18:43 J -4116326.75 -4116326.72 -4116326.66 0.0274 0.0266

Jupiter -15983-03-22 19:40 J -4116286.76 -4116286.68 -4116286.60 0.0525 0.0394

Mars -15982-06-05 20:38 J -4115846.70 -4115846.64 -4115846.58 0.1623 0.1361

Earth -15980-08-08 08:24 J -4115052.25 -4115052.15 -4115052.05 0.2710 0.0966

Moon -15980-08-08 09:07 J -4115052.22 -4115052.12 -4115052.02 0.2708 0.1007 *

Jupiter -15977-02-16 16:04 J -4114130.02 -4114129.83 -4114129.64 0.0500 0.0056

Venus -15977-08-08 01:26 J -4113956.53 -4113956.44 -4113956.34 0.3647 0.2907

Mars -15975-11-21 06:57 J -4113121.31 -4113121.21 -4113121.11 0.1626 0.0837

Venus -15974-05-14 21:07 J -4112946.66 -4112946.62 -4112946.58 0.3720 0.3420

Moon -15973-08-01 07:11 J -4112502.25 -4112502.20 -4112502.16 0.2720 0.2452

Earth -15973-08-01 07:11 J -4112502.25 -4112502.20 -4112502.15 0.2713 0.2409 *

Mars -15973-10-26 08:09 J -4112416.25 -4112416.16 -4112416.07 0.1623 0.0929

Jupiter -15972-10-11 19:26 J -4112065.79 -4112065.69 -4112065.59 0.0526 0.0291

Jupiter -15971-01-09 00:28 J -4111976.59 -4111976.48 -4111976.37 0.0525 0.0263

Saturn -15971-09-29 01:11 J -4111713.53 -4111713.45 -4111713.37 0.0292 0.0223

Saturn -15971-12-26 12:43 J -4111625.09 -4111624.97 -4111624.85 0.0291 0.0076

Saturn -15970-03-25 00:00 J -4111536.62 -4111536.50 -4111536.37 0.0289 0.0070

Saturn -15970-06-21 11:31 J -4111448.11 -4111448.02 -4111447.93 0.0288 0.0212

Venus -15969-11-27 12:28 J -4110923.08 -4110922.98 -4110922.89 0.3722 0.1535

Mars -15968-07-10 20:24 J -4110697.70 -4110697.65 -4110697.60 0.1897 0.1802

Earth -15967-08-11 02:24 J -4110301.46 -4110301.40 -4110301.33 0.2709 0.2199

Moon -15967-08-11 02:38 J -4110301.45 -4110301.39 -4110301.32 0.2702 0.2243 *

Jupiter -15966-12-05 11:16 J -4109820.21 -4109820.03 -4109819.85 0.0500 0.0146

Mars -15965-04-12 18:43 J -4109690.79 -4109690.72 -4109690.65 0.1627 0.1261

Mars -15963-03-18 19:55 J -4108985.78 -4108985.67 -4108985.56 0.1624 0.0502

Venus -15963-06-13 03:35 J -4108899.45 -4108899.35 -4108899.25 0.3724 0.0372

Jupiter -15960-07-31 00:00 J -4107755.57 -4107755.50 -4107755.43 0.0526 0.0426

Earth -15960-08-04 01:11 J -4107751.55 -4107751.45 -4107751.35 0.2712 0.1220

Moon -15960-08-04 01:26 J -4107751.54 -4107751.44 -4107751.34 0.2718 0.1134 *

Jupiter -15960-10-28 05:02 J -4107666.42 -4107666.29 -4107666.17 0.0525 0.0128

Mars -15959-11-30 12:00 J -4107268.17 -4107268.00 -4107267.83 0.1896 0.0330

Venus -15958-12-27 18:57 J -4106875.79 -4106875.71 -4106875.64 0.3726 0.2286

Moon -15956-02-05 18:43 J -4106469.86 -4106469.72 -4106469.58 0.2619 0.1290

Earth -15956-02-05 20:24 J -4106469.80 -4106469.65 -4106469.51 0.2622 0.1017 *

Uranus -15955-05-26 16:48 J -4105994.81 -4105994.80 -4105994.78 0.0139 0.0137

Uranus -15955-08-22 19:55 J -4105906.73 -4105906.67 -4105906.59 0.0140 0.0118

Uranus -15955-11-18 23:16 J -4105818.62 -4105818.53 -4105818.43 0.0140 0.0098

Saturn -15954-01-03 21:07 J -4105772.79 -4105772.62 -4105772.45 0.0271 0.0138

Uranus -15954-02-15 02:24 J -4105730.50 -4105730.40 -4105730.28 0.0140 0.0078

Saturn -15954-04-02 20:09 J -4105683.85 -4105683.66 -4105683.47 0.0272 0.0043

Uranus -15954-05-14 05:45 J -4105642.37 -4105642.26 -4105642.13 0.0140 0.0058

Saturn -15954-06-30 19:11 J -4105594.81 -4105594.70 -4105594.59 0.0273 0.0225

Mars -15954-08-09 07:26 J -4105555.30 -4105555.19 -4105555.07 0.1624 0.0094

Uranus -15954-08-10 09:07 J -4105554.24 -4105554.12 -4105553.99 0.0140 0.0037

Jupiter -15954-09-23 07:40 J -4105510.32 -4105510.18 -4105510.03 0.0500 0.0331

Uranus -15954-11-06 12:28 J -4105466.11 -4105465.98 -4105465.85 0.0140 0.0017

Jupiter -15954-12-22 19:55 J -4105419.77 -4105419.67 -4105419.56 0.0501 0.0414

Uranus -15953-02-02 15:50 J -4105377.97 -4105377.84 -4105377.71 0.0140 0.0004

Uranus -15953-04-30 19:11 J -4105289.83 -4105289.70 -4105289.57 0.0140 0.0025

Uranus -15953-07-27 22:33 J -4105201.69 -4105201.56 -4105201.44 0.0141 0.0046

Uranus -15953-10-24 01:55 J -4105113.54 -4105113.42 -4105113.31 0.0141 0.0067

Uranus -15952-01-20 05:02 J -4105025.38 -4105025.29 -4105025.18 0.0141 0.0088

Uranus -15952-04-18 08:38 J -4104937.22 -4104937.14 -4104937.05 0.0141 0.0109

Uranus -15952-07-15 12:00 J -4104849.04 -4104849.00 -4104848.95 0.0141 0.0130

Mars -15949-04-21 04:19 J -4103838.46 -4103838.32 -4103838.19 0.1895 0.1113

Jupiter -15948-08-16 08:52 J -4103356.26 -4103356.13 -4103356.01 0.0525 0.0024

Earth -15947-08-06 19:11 J -4103000.81 -4103000.70 -4103000.59 0.2711 0.0016

Moon -15947-08-06 19:55 J -4103000.78 -4103000.67 -4103000.56 0.2713 0.0018 *

Mars -15945-12-29 19:11 J -4102124.81 -4102124.70 -4102124.58 0.1625 0.0354

Moon -15943-02-09 00:57 J -4101718.60 -4101718.46 -4101718.32 0.2624 0.1162

Earth -15943-02-09 02:38 J -4101718.53 -4101718.39 -4101718.26 0.2623 0.1244 *

Mars -15943-12-04 20:24 J -4101419.70 -4101419.65 -4101419.59 0.1623 0.1417

Jupiter -15942-10-10 17:02 J -4101109.96 -4101109.79 -4101109.62 0.0501 0.0234

Saturn -15941-02-16 04:19 J -4100981.38 -4100981.32 -4100981.26 0.0292 0.0256

Saturn -15941-05-14 15:50 J -4100892.96 -4100892.84 -4100892.72 0.0291 0.0109

Saturn -15941-08-11 03:21 J -4100804.49 -4100804.36 -4100804.23 0.0290 0.0036

Saturn -15941-11-07 14:38 J -4100715.99 -4100715.89 -4100715.79 0.0289 0.0180

Jupiter -15936-06-04 12:57 J -4099046.08 -4099045.96 -4099045.84 0.0526 0.0164

Jupiter -15936-09-01 18:00 J -4098956.83 -4098956.75 -4098956.67 0.0525 0.0389

Mars -15935-05-22 06:57 J -4098694.31 -4098694.21 -4098694.11 0.1626 0.0779

Earth -15934-08-09 13:11 J -4098250.05 -4098249.95 -4098249.85 0.2710 0.1207

Moon -15934-08-09 13:55 J -4098250.02 -4098249.92 -4098249.83 0.2706 0.1335 *

Mars -15933-04-26 08:09 J -4097989.25 -4097989.16 -4097989.07 0.1623 0.0988

Jupiter -15930-07-29 13:26 J -4096800.13 -4096799.94 -4096799.75 0.0500 0.0047

Moon -15927-08-02 12:00 J -4095700.06 -4095700.00 -4095699.94 0.2721 0.2186

Earth -15927-08-02 12:00 J -4095700.06 -4095700.00 -4095699.93 0.2713 0.2181 *

Venus -15926-08-29 16:04 J -4095307.97 -4095307.83 -4095307.68 0.3650 0.1855

Mars -15926-10-12 18:43 J -4095263.80 -4095263.72 -4095263.65 0.1627 0.1208

Saturn -15925-05-22 21:07 J -4095040.76 -4095040.62 -4095040.47 0.0271 0.0178

Saturn -15925-08-19 20:24 J -4094951.85 -4094951.65 -4094951.46 0.0272 0.0006

Saturn -15925-11-16 19:11 J -4094862.83 -4094862.70 -4094862.55 0.0273 0.0186

Jupiter -15924-03-23 17:16 J -4094735.88 -4094735.78 -4094735.68 0.0526 0.0305

Jupiter -15924-06-20 22:19 J -4094646.68 -4094646.57 -4094646.46 0.0525 0.0249

Mars -15924-09-16 19:55 J -4094558.78 -4094558.67 -4094558.57 0.1624 0.0560

Earth -15921-08-11 07:26 J -4093499.24 -4093499.19 -4093499.15 0.2709 0.2441

Moon -15921-08-11 07:40 J -4093499.23 -4093499.18 -4093499.14 0.2702 0.2426 *

Mars -15919-05-31 13:11 J -4092841.11 -4092840.95 -4092840.78 0.1896 0.0479

Jupiter -15918-05-17 09:35 J -4092490.28 -4092490.10 -4092489.92 0.0500 0.0142

Venus -15918-12-19 18:28 J -4092273.80 -4092273.73 -4092273.66 0.3721 0.2728

Uranus -15915-04-09 04:48 J -4091432.34 -4091432.30 -4091432.23 0.0139 0.0133

Uranus -15915-07-06 12:43 J -4091344.09 -4091343.97 -4091343.83 0.0139 0.0103

Uranus -15915-10-02 20:52 J -4091255.79 -4091255.63 -4091255.46 0.0139 0.0073

Uranus -15915-12-30 04:33 J -4091167.48 -4091167.31 -4091167.11 0.0138 0.0044

Mars -15914-02-07 07:26 J -4091128.30 -4091128.19 -4091128.07 0.1624 0.0132

Uranus -15914-03-28 12:43 J -4091079.16 -4091078.97 -4091078.78 0.0138 0.0013

Uranus -15914-06-24 20:24 J -4090990.84 -4090990.65 -4090990.45 0.0138 0.0016

Earth -15914-08-05 06:00 J -4090949.35 -4090949.25 -4090949.15 0.2712 0.0984

Moon -15914-08-05 06:28 J -4090949.33 -4090949.23 -4090949.13 0.2717 0.0956 *

Uranus -15914-09-21 04:04 J -4090902.51 -4090902.33 -4090902.14 0.0138 0.0045

Uranus -15914-12-18 11:45 J -4090814.16 -4090814.01 -4090813.84 0.0138 0.0074

Uranus -15913-03-15 19:11 J -4090725.81 -4090725.70 -4090725.55 0.0138 0.0103

Neptune -15913-04-20 11:02 J -4090690.05 -4090690.04 -4090690.02 0.0089 0.0088

Uranus -15913-06-12 03:07 J -4090637.42 -4090637.37 -4090637.31 0.0138 0.0131

Neptune -15913-07-17 12:14 J -4090602.03 -4090601.99 -4090601.93 0.0089 0.0082

Neptune -15913-10-13 13:26 J -4090514.00 -4090513.94 -4090513.86 0.0089 0.0075

Neptune -15912-01-09 14:52 J -4090425.96 -4090425.88 -4090425.79 0.0089 0.0067

Jupiter -15912-01-09 21:50 J -4090425.65 -4090425.59 -4090425.51 0.0527 0.0438

Neptune -15912-04-07 16:04 J -4090337.92 -4090337.83 -4090337.72 0.0089 0.0061

Jupiter -15912-04-09 02:52 J -4090336.50 -4090336.38 -4090336.25 0.0526 0.0118

Venus -15912-07-04 09:50 J -4090250.19 -4090250.09 -4090250.00 0.3723 0.0845

Neptune -15912-07-04 17:31 J -4090249.87 -4090249.77 -4090249.66 0.0089 0.0053

Neptune -15912-09-30 18:43 J -4090161.82 -4090161.72 -4090161.60 0.0089 0.0046

Saturn -15912-10-01 18:28 J -4090160.84 -4090160.73 -4090160.62 0.0291 0.0147

Neptune -15912-12-27 19:55 J -4090073.78 -4090073.67 -4090073.54 0.0089 0.0040

Saturn -15912-12-29 06:00 J -4090072.38 -4090072.25 -4090072.12 0.0290 0.0003

Neptune -15911-03-25 21:21 J -4089985.73 -4089985.61 -4089985.48 0.0089 0.0032

Saturn -15911-03-27 17:16 J -4089983.89 -4089983.78 -4089983.66 0.0289 0.0143

Neptune -15911-06-21 22:33 J -4089897.68 -4089897.56 -4089897.43 0.0089 0.0026

Saturn -15911-06-24 04:33 J -4089895.32 -4089895.31 -4089895.29 0.0288 0.0285

Neptune -15911-09-18 00:00 J -4089809.63 -4089809.50 -4089809.37 0.0089 0.0018

Neptune -15911-12-15 01:11 J -4089721.57 -4089721.45 -4089721.31 0.0089 0.0011

Moon -15910-02-07 01:11 J -4089667.60 -4089667.45 -4089667.29 0.2619 0.0648

Earth -15910-02-07 02:52 J -4089667.53 -4089667.38 -4089667.22 0.2622 0.0587 *

Neptune -15910-03-13 02:38 J -4089633.52 -4089633.39 -4089633.26 0.0089 0.0004

Neptune -15910-06-09 03:50 J -4089545.47 -4089545.34 -4089545.21 0.0089 0.0004

Neptune -15910-09-05 05:16 J -4089457.41 -4089457.28 -4089457.15 0.0089 0.0010

Mars -15910-10-21 04:33 J -4089411.45 -4089411.31 -4089411.16 0.1895 0.1012

Neptune -15910-12-02 06:28 J -4089369.36 -4089369.23 -4089369.10 0.0089 0.0017

Neptune -15909-02-28 07:40 J -4089281.30 -4089281.18 -4089281.05 0.0089 0.0025

Neptune -15909-05-26 09:07 J -4089193.24 -4089193.12 -4089193.00 0.0089 0.0031

Neptune -15909-08-22 10:19 J -4089105.18 -4089105.07 -4089104.95 0.0089 0.0039

Neptune -15909-11-18 11:31 J -4089017.13 -4089017.02 -4089016.90 0.0089 0.0046

Neptune -15908-02-14 12:57 J -4088929.06 -4088928.96 -4088928.85 0.0089 0.0053

Neptune -15908-05-13 14:09 J -4088841.00 -4088840.91 -4088840.81 0.0089 0.0060

Neptune -15908-08-09 15:35 J -4088752.94 -4088752.85 -4088752.76 0.0089 0.0067

Neptune -15908-11-05 16:33 J -4088664.87 -4088664.81 -4088664.72 0.0089 0.0074

Neptune -15907-02-01 17:45 J -4088576.79 -4088576.76 -4088576.69 0.0089 0.0082

Neptune -15907-04-30 19:11 J -4088488.71 -4088488.70 -4088488.67 0.0089 0.0088

Venus -15906-01-18 00:57 J -4088226.56 -4088226.46 -4088226.36 0.3725 0.1067

Jupiter -15906-03-05 04:33 J -4088180.44 -4088180.31 -4088180.17 0.0499 0.0344

Jupiter -15906-06-03 16:48 J -4088089.91 -4088089.80 -4088089.69 0.0501 0.0399

Mars -15905-06-29 19:11 J -4087697.81 -4087697.70 -4087697.59 0.1625 0.0297

Mars -15903-06-04 20:24 J -4086992.69 -4086992.65 -4086992.60 0.1623 0.1471

Venus -15901-08-02 16:19 J -4086202.88 -4086202.82 -4086202.77 0.3726 0.2980

Earth -15901-08-07 00:00 J -4086198.61 -4086198.50 -4086198.39 0.2711 0.0225

Moon -15901-08-07 00:43 J -4086198.58 -4086198.47 -4086198.36 0.2712 0.0377 *

Jupiter -15900-01-26 07:26 J -4086026.31 -4086026.19 -4086026.06 0.0526 0.0021

Moon -15897-02-10 07:40 J -4084916.31 -4084916.18 -4084916.05 0.2626 0.1424

Earth -15897-02-10 09:07 J -4084916.24 -4084916.12 -4084916.00 0.2623 0.1665 *

Saturn -15896-10-09 21:21 J -4084308.72 -4084308.61 -4084308.49 0.0271 0.0216

Mars -15896-11-20 06:57 J -4084267.31 -4084267.21 -4084267.11 0.1626 0.0724

Saturn -15895-01-06 20:38 J -4084219.83 -4084219.64 -4084219.45 0.0272 0.0036

Saturn -15895-04-05 19:40 J -4084130.84 -4084130.68 -4084130.52 0.0273 0.0146

Jupiter -15894-03-22 13:26 J -4083780.11 -4083779.94 -4083779.77 0.0500 0.0215

Mars -15894-10-26 08:09 J -4083562.25 -4083562.16 -4083562.08 0.1624 0.1042

Jupiter -15889-11-14 11:16 J -4081716.15 -4081716.03 -4081715.91 0.0526 0.0168

Jupiter -15888-02-11 16:19 J -4081626.91 -4081626.82 -4081626.74 0.0525 0.0384

Earth -15888-08-09 18:00 J -4081447.84 -4081447.75 -4081447.65 0.2710 0.1451

Moon -15888-08-09 18:43 J -4081447.82 -4081447.72 -4081447.63 0.2705 0.1444 *

Mars -15886-04-12 18:43 J -4080836.80 -4080836.72 -4080836.64 0.1627 0.1149

Mars -15884-03-17 19:40 J -4080131.78 -4080131.68 -4080131.57 0.1624 0.0618

Jupiter -15882-01-08 10:19 J -4079470.26 -4079470.07 -4079469.88 0.0500 0.0035

Saturn -15882-02-18 21:50 J -4079428.69 -4079428.59 -4079428.48 0.0292 0.0177

Saturn -15882-05-18 09:21 J -4079340.24 -4079340.11 -4079339.98 0.0291 0.0031

Saturn -15882-08-14 20:38 J -4079251.75 -4079251.64 -4079251.52 0.0289 0.0115

Saturn -15882-11-11 08:09 J -4079163.22 -4079163.16 -4079163.10 0.0288 0.0257

Moon -15881-08-02 16:48 J -4078897.87 -4078897.80 -4078897.72 0.2720 0.1953

Earth -15881-08-02 16:48 J -4078897.87 -4078897.80 -4078897.72 0.2713 0.1950 *

Mars -15880-11-29 13:55 J -4078414.08 -4078413.92 -4078413.75 0.1896 0.0604

Moon -15877-02-05 01:55 J -4077616.46 -4077616.42 -4077616.39 0.2616 0.2550

Earth -15877-02-05 03:07 J -4077616.42 -4077616.37 -4077616.32 0.2621 0.2452 *

Mars -15877-09-02 06:14 J -4077406.26 -4077406.24 -4077406.21 0.1628 0.1577

Jupiter -15877-09-02 15:21 J -4077405.96 -4077405.86 -4077405.75 0.0526 0.0312

Jupiter -15877-11-30 20:24 J -4077316.76 -4077316.65 -4077316.54 0.0525 0.0242

Mars -15875-08-08 07:26 J -4076701.30 -4076701.19 -4076701.07 0.1624 0.0189

Earth -15875-08-12 12:14 J -4076697.00 -4076696.99 -4076696.98 0.2709 0.2685

Uranus -15871-06-15 23:45 J -4075293.54 -4075293.51 -4075293.48 0.0139 0.0135

Uranus -15871-09-12 02:52 J -4075205.45 -4075205.38 -4075205.30 0.0139 0.0115

Jupiter -15871-10-27 06:43 J -4075160.40 -4075160.22 -4075160.05 0.0500 0.0153

Uranus -15871-12-09 06:14 J -4075117.34 -4075117.24 -4075117.15 0.0140 0.0095

Uranus -15870-03-07 09:21 J -4075029.22 -4075029.11 -4075029.00 0.0140 0.0075

Mars -15870-04-21 05:45 J -4074984.41 -4074984.26 -4074984.11 0.1895 0.0867

Uranus -15870-06-03 12:43 J -4074941.09 -4074940.97 -4074940.85 0.0140 0.0055

Uranus -15870-08-30 16:04 J -4074852.96 -4074852.83 -4074852.70 0.0140 0.0034

Uranus -15870-11-26 19:11 J -4074764.83 -4074764.70 -4074764.56 0.0140 0.0015

Uranus -15869-02-22 22:33 J -4074676.69 -4074676.56 -4074676.42 0.0140 0.0008

Venus -15869-04-04 19:11 J -4074634.87 -4074634.70 -4074634.54 0.3649 0.0457

Uranus -15869-05-21 01:55 J -4074588.55 -4074588.42 -4074588.29 0.0140 0.0028

Uranus -15869-08-17 05:16 J -4074500.40 -4074500.28 -4074500.15 0.0140 0.0048

Uranus -15869-11-13 08:38 J -4074412.25 -4074412.14 -4074412.02 0.0141 0.0069

Uranus -15868-02-09 12:00 J -4074324.10 -4074324.00 -4074323.90 0.0141 0.0090

Uranus -15868-05-08 15:21 J -4074235.93 -4074235.86 -4074235.77 0.0141 0.0112

Uranus -15868-08-04 18:43 J -4074147.75 -4074147.72 -4074147.67 0.0141 0.0133

Earth -15868-08-05 10:48 J -4074147.15 -4074147.05 -4074146.94 0.2712 0.0754

Moon -15868-08-05 11:31 J -4074147.13 -4074147.02 -4074146.92 0.2716 0.0667 *

Saturn -15866-02-26 22:04 J -4073576.65 -4073576.58 -4073576.51 0.0271 0.0252

Saturn -15866-05-26 21:07 J -4073487.81 -4073487.62 -4073487.44 0.0272 0.0072

Saturn -15866-08-23 20:09 J -4073398.83 -4073398.66 -4073398.48 0.0273 0.0110

Mars -15866-12-29 19:11 J -4073270.82 -4073270.70 -4073270.59 0.1625 0.0245

Jupiter -15865-06-21 19:40 J -4073095.74 -4073095.68 -4073095.62 0.0527 0.0454

Jupiter -15865-09-19 00:43 J -4073006.60 -4073006.47 -4073006.35 0.0526 0.0101

Moon -15864-02-07 07:55 J -4072865.33 -4072865.17 -4072865.01 0.2620 0.0406

Earth -15864-02-07 09:35 J -4072865.26 -4072865.10 -4072864.95 0.2622 0.0165 *

Mars -15864-12-03 20:24 J -4072565.68 -4072565.65 -4072565.61 0.1623 0.1528

Venus -15861-07-25 15:50 J -4071600.92 -4071600.84 -4071600.76 0.3721 0.2032

Jupiter -15859-08-15 02:38 J -4070850.52 -4070850.39 -4070850.25 0.0499 0.0342

Jupiter -15859-11-13 14:52 J -4070759.99 -4070759.88 -4070759.77 0.0500 0.0400

Mars -15856-05-21 06:57 J -4069840.32 -4069840.21 -4069840.11 0.1626 0.0671

Venus -15855-02-08 07:11 J -4069577.30 -4069577.20 -4069577.10 0.3723 0.0207

Earth -15855-08-08 04:48 J -4069396.41 -4069396.30 -4069396.19 0.2711 0.0464

Moon -15855-08-08 05:31 J -4069396.38 -4069396.27 -4069396.16 0.2711 0.0497 *

Mars -15854-04-26 07:55 J -4069135.25 -4069135.17 -4069135.08 0.1623 0.1099

Saturn -15853-07-08 00:57 J -4068696.55 -4068696.46 -4068696.37 0.0291 0.0209

Jupiter -15853-07-08 05:16 J -4068696.40 -4068696.28 -4068696.15 0.0526 0.0034 *

Saturn -15853-10-04 12:28 J -4068608.11 -4068607.98 -4068607.86 0.0290 0.0064

Jupiter -15853-10-05 10:19 J -4068607.08 -4068607.07 -4068607.06 0.0525 0.0520

Saturn -15853-12-31 23:45 J -4068519.63 -4068519.51 -4068519.38 0.0289 0.0081

Saturn -15852-03-30 11:02 J -4068431.11 -4068431.04 -4068430.95 0.0288 0.0224

Moon -15851-02-10 14:09 J -4068114.01 -4068113.91 -4068113.82 0.2627 0.2058

Earth -15851-02-10 15:35 J -4068113.94 -4068113.85 -4068113.76 0.2623 0.2092 *

Venus -15850-08-24 22:19 J -4067553.66 -4067553.57 -4067553.48 0.3725 0.1761

Jupiter -15847-09-01 10:04 J -4066450.25 -4066450.08 -4066449.91 0.0500 0.0200

Mars -15847-10-11 18:28 J -4066409.81 -4066409.73 -4066409.64 0.1627 0.1096

Mars -15845-09-15 19:40 J -4065704.78 -4065704.68 -4065704.57 0.1624 0.0670

Venus -15844-03-09 13:40 J -4065529.95 -4065529.93 -4065529.92 0.3727 0.3672

Earth -15842-08-10 23:02 J -4064645.63 -4064645.54 -4064645.46 0.2710 0.1692

Moon -15842-08-10 23:31 J -4064645.60 -4064645.52 -4064645.44 0.2704 0.1813 *

Jupiter -15841-04-26 09:50 J -4064386.21 -4064386.09 -4064385.97 0.0526 0.0169

Jupiter -15841-07-24 14:52 J -4064296.97 -4064296.88 -4064296.80 0.0525 0.0384

Pluto -15840-04-27 00:28 J -4064020.53 -4064020.48 -4064020.39 0.0071 0.0065

Mars -15840-05-30 14:52 J -4063987.04 -4063986.88 -4063986.73 0.1896 0.0725

Pluto -15840-07-24 01:40 J -4063932.50 -4063932.43 -4063932.31 0.0072 0.0057

Pluto -15840-10-20 03:07 J -4063844.47 -4063844.37 -4063844.24 0.0072 0.0049

Pluto -15839-01-16 04:33 J -4063756.43 -4063756.31 -4063756.18 0.0072 0.0040

Pluto -15839-04-14 05:45 J -4063668.39 -4063668.26 -4063668.11 0.0072 0.0032

Pluto -15839-07-11 06:57 J -4063580.34 -4063580.21 -4063580.05 0.0072 0.0025

Pluto -15839-10-07 08:38 J -4063492.30 -4063492.14 -4063491.99 0.0072 0.0016

Pluto -15838-01-03 09:50 J -4063404.24 -4063404.09 -4063403.93 0.0072 0.0007

Pluto -15838-04-01 11:16 J -4063316.19 -4063316.03 -4063315.88 0.0072 0.0002

Pluto -15838-06-28 12:28 J -4063228.13 -4063227.98 -4063227.82 0.0073 0.0010

Pluto -15838-09-24 13:40 J -4063140.07 -4063139.93 -4063139.77 0.0073 0.0019

Pluto -15838-12-21 14:52 J -4063052.01 -4063051.88 -4063051.72 0.0073 0.0028

Mars -15837-03-03 06:14 J -4062979.28 -4062979.24 -4062979.20 0.1628 0.1519

Pluto -15837-03-18 16:33 J -4062963.95 -4062963.81 -4062963.67 0.0073 0.0036

Pluto -15837-06-14 17:45 J -4062875.87 -4062875.76 -4062875.63 0.0073 0.0045

Pluto -15837-09-10 18:57 J -4062787.80 -4062787.71 -4062787.59 0.0073 0.0054

Saturn -15837-10-12 21:07 J -4062755.79 -4062755.62 -4062755.44 0.0272 0.0112

Pluto -15837-12-07 20:24 J -4062699.71 -4062699.65 -4062699.56 0.0073 0.0063

Saturn -15836-01-09 20:24 J -4062666.84 -4062666.65 -4062666.47 0.0273 0.0070

Pluto -15836-03-05 21:50 J -4062611.60 -4062611.59 -4062611.55 0.0073 0.0072

Saturn -15836-04-08 19:26 J -4062577.76 -4062577.69 -4062577.62 0.0274 0.0253

Mars -15835-02-06 07:26 J -4062274.31 -4062274.19 -4062274.08 0.1624 0.0242

Jupiter -15835-06-20 06:43 J -4062140.41 -4062140.22 -4062140.04 0.0500 0.0019

Earth -15835-08-03 21:50 J -4062095.68 -4062095.59 -4062095.51 0.2713 0.1712

Moon -15835-08-03 21:50 J -4062095.67 -4062095.59 -4062095.50 0.2719 0.1727 *

Moon -15831-02-05 08:24 J -4060814.24 -4060814.15 -4060814.06 0.2616 0.2149

Earth -15831-02-05 09:50 J -4060814.19 -4060814.09 -4060813.99 0.2621 0.2009 *

Uranus -15831-04-29 11:16 J -4060731.10 -4060731.03 -4060730.97 0.0139 0.0129

Uranus -15831-07-26 18:43 J -4060642.84 -4060642.72 -4060642.57 0.0139 0.0100

Mars -15831-10-20 06:43 J -4060557.38 -4060557.22 -4060557.06 0.1895 0.0734

Uranus -15831-10-23 02:52 J -4060554.54 -4060554.38 -4060554.20 0.0139 0.0070

Uranus -15830-01-19 10:48 J -4060466.23 -4060466.05 -4060465.86 0.0139 0.0040

Uranus -15830-04-17 18:43 J -4060377.91 -4060377.72 -4060377.52 0.0138 0.0010

Uranus -15830-07-15 02:38 J -4060289.58 -4060289.39 -4060289.20 0.0138 0.0019

Neptune -15830-10-04 22:19 J -4060207.60 -4060207.57 -4060207.52 0.0088 0.0086

Uranus -15830-10-11 10:19 J -4060201.25 -4060201.07 -4060200.89 0.0138 0.0048

Neptune -15829-01-01 01:55 J -4060119.50 -4060119.42 -4060119.31 0.0088 0.0076

Uranus -15829-01-07 18:00 J -4060112.91 -4060112.75 -4060112.59 0.0138 0.0077

Jupiter -15829-02-13 13:40 J -4060076.03 -4060075.93 -4060075.83 0.0526 0.0318

Neptune -15829-03-29 05:31 J -4060031.38 -4060031.27 -4060031.12 0.0088 0.0066

Uranus -15829-04-05 01:26 J -4060024.55 -4060024.44 -4060024.31 0.0138 0.0106

Jupiter -15829-05-12 18:43 J -4059986.84 -4059986.72 -4059986.61 0.0525 0.0235

Neptune -15829-06-25 09:21 J -4059943.25 -4059943.11 -4059942.94 0.0088 0.0056

Uranus -15829-07-02 09:21 J -4059936.15 -4059936.11 -4059936.07 0.0138 0.0134

Neptune -15829-09-21 13:26 J -4059855.11 -4059854.94 -4059854.77 0.0088 0.0045

Neptune -15829-12-18 17:02 J -4059766.97 -4059766.79 -4059766.61 0.0088 0.0035

Neptune -15828-03-16 20:38 J -4059678.82 -4059678.64 -4059678.44 0.0088 0.0025

Neptune -15828-06-13 00:28 J -4059590.67 -4059590.48 -4059590.28 0.0088 0.0015

Neptune -15828-09-09 04:04 J -4059502.52 -4059502.33 -4059502.13 0.0088 0.0005

Neptune -15828-12-06 07:55 J -4059414.37 -4059414.17 -4059413.97 0.0088 0.0005

Neptune -15827-03-04 11:31 J -4059326.21 -4059326.02 -4059325.82 0.0088 0.0016

Neptune -15827-05-31 15:07 J -4059238.05 -4059237.87 -4059237.67 0.0088 0.0026

Neptune -15827-08-27 18:43 J -4059149.89 -4059149.72 -4059149.53 0.0088 0.0036

Neptune -15827-11-23 22:19 J -4059061.72 -4059061.57 -4059061.39 0.0088 0.0047

Neptune -15826-02-20 02:09 J -4058973.55 -4058973.41 -4058973.25 0.0088 0.0056

Neptune -15826-05-19 05:45 J -4058885.38 -4058885.26 -4058885.12 0.0088 0.0067

Mars -15826-06-29 19:11 J -4058843.82 -4058843.70 -4058843.59 0.1625 0.0191

Neptune -15826-08-15 09:35 J -4058797.19 -4058797.10 -4058797.00 0.0088 0.0076

Neptune -15826-11-11 12:43 J -4058708.97 -4058708.97 -4058708.91 0.0088 0.0087

Mars -15824-06-03 20:24 J -4058138.67 -4058138.65 -4058138.63 0.1623 0.1583

Saturn -15824-11-25 04:19 J -4057964.39 -4057964.32 -4057964.24 0.0292 0.0240

Saturn -15823-02-21 15:50 J -4057875.96 -4057875.84 -4057875.72 0.0291 0.0093

Jupiter -15823-04-08 03:21 J -4057830.53 -4057830.36 -4057830.18 0.0500 0.0166

Saturn -15823-05-21 03:21 J -4057787.49 -4057787.36 -4057787.24 0.0290 0.0052

Saturn -15823-08-17 14:38 J -4057698.98 -4057698.89 -4057698.80 0.0289 0.0195

Earth -15822-08-06 15:35 J -4057344.95 -4057344.85 -4057344.74 0.2712 0.0524

Moon -15822-08-06 16:19 J -4057344.93 -4057344.82 -4057344.71 0.2716 0.0443 *

Moon -15818-02-08 14:24 J -4056063.05 -4056062.90 -4056062.74 0.2622 0.0186

Earth -15818-02-08 16:04 J -4056062.99 -4056062.83 -4056062.67 0.2622 0.0281 *

Jupiter -15818-12-02 17:45 J -4055765.81 -4055765.76 -4055765.70 0.0526 0.0461

Jupiter -15817-02-29 22:48 J -4055676.67 -4055676.55 -4055676.43 0.0525 0.0092

Mars -15817-11-19 06:57 J -4055413.32 -4055413.21 -4055413.11 0.1626 0.0614

Mars -15815-10-25 08:09 J -4054708.24 -4054708.16 -4054708.08 0.1623 0.1157

Venus -15813-11-09 21:50 J -4053961.70 -4053961.59 -4053961.48 0.3648 0.2702

Jupiter -15811-01-24 23:45 J -4053520.64 -4053520.51 -4053520.38 0.0499 0.0353

Jupiter -15811-04-25 12:00 J -4053430.12 -4053430.00 -4053429.88 0.0501 0.0389

Venus -15810-08-16 22:04 J -4052951.63 -4052951.58 -4052951.54 0.3720 0.3231

Earth -15809-08-08 09:35 J -4052594.20 -4052594.10 -4052593.99 0.2711 0.0710

Moon -15809-08-08 10:19 J -4052594.17 -4052594.07 -4052593.96 0.2709 0.0816 *

Saturn -15807-03-01 21:35 J -4052023.75 -4052023.60 -4052023.43 0.0272 0.0149

Mars -15807-04-11 18:28 J -4051982.82 -4051982.73 -4051982.64 0.1627 0.1039

Saturn -15807-05-29 20:52 J -4051934.82 -4051934.63 -4051934.44 0.0273 0.0033

Saturn -15807-08-26 19:55 J -4051845.78 -4051845.67 -4051845.55 0.0274 0.0216

Jupiter -15806-12-19 02:52 J -4051366.50 -4051366.38 -4051366.25 0.0526 0.0053

Moon -15805-02-11 20:38 J -4051311.71 -4051311.64 -4051311.56 0.2627 0.2274

Earth -15805-02-11 22:04 J -4051311.62 -4051311.58 -4051311.54 0.2623 0.2517 *

Mars -15805-03-16 19:40 J -4051277.78 -4051277.68 -4051277.58 0.1624 0.0726

Jupiter -15805-03-17 07:55 J -4051277.20 -4051277.17 -4051277.13 0.0525 0.0503

Venus -15804-03-01 13:11 J -4050928.04 -4050927.95 -4050927.86 0.3722 0.1343

Earth -15802-08-02 08:38 J -4050044.15 -4050044.14 -4050044.12 0.2714 0.2668

Mars -15801-11-28 15:50 J -4049560.00 -4049559.84 -4049559.69 0.1896 0.0856

Jupiter -15799-02-11 08:09 J -4049120.33 -4049120.16 -4049119.99 0.0500 0.0200

Venus -15799-09-15 04:33 J -4048904.41 -4048904.31 -4048904.22 0.3724 0.0576

Mars -15798-09-02 06:14 J -4048552.29 -4048552.24 -4048552.19 0.1628 0.1466

Mars -15796-08-07 07:26 J -4047847.31 -4047847.19 -4047847.08 0.1624 0.0302

Earth -15796-08-11 03:50 J -4047843.42 -4047843.34 -4047843.26 0.2710 0.1931

Moon -15796-08-11 04:19 J -4047843.40 -4047843.32 -4047843.24 0.2704 0.1922 *

Saturn -15794-04-14 07:40 J -4047232.23 -4047232.18 -4047232.14 0.0292 0.0271

Saturn -15794-07-11 18:57 J -4047143.82 -4047143.71 -4047143.59 0.0291 0.0125

Jupiter -15794-10-07 07:40 J -4047056.30 -4047056.18 -4047056.07 0.0526 0.0185

Saturn -15794-10-08 06:28 J -4047055.36 -4047055.23 -4047055.10 0.0290 0.0020

Jupiter -15793-01-04 12:43 J -4046967.06 -4046966.97 -4046966.88 0.0525 0.0370

Saturn -15793-01-04 17:45 J -4046966.86 -4046966.76 -4046966.65 0.0288 0.0164

Venus -15793-03-30 19:40 J -4046880.75 -4046880.68 -4046880.61 0.3726 0.2447

Mars -15791-04-20 07:26 J -4046130.35 -4046130.19 -4046130.03 0.1895 0.0619

Earth -15789-08-04 02:38 J -4045293.48 -4045293.39 -4045293.30 0.2713 0.1479

Moon -15789-08-04 02:52 J -4045293.47 -4045293.38 -4045293.29 0.2719 0.1398 *

Jupiter -15788-11-30 03:21 J -4044810.54 -4044810.36 -4044810.17 0.0500 0.0011

Uranus -15787-07-06 06:43 J -4044592.26 -4044592.22 -4044592.17 0.0139 0.0131

Uranus -15787-10-02 10:04 J -4044504.16 -4044504.08 -4044504.00 0.0139 0.0111

Mars -15787-12-28 18:57 J -4044416.82 -4044416.71 -4044416.59 0.1625 0.0143

Uranus -15787-12-29 13:11 J -4044416.04 -4044415.95 -4044415.85 0.0140 0.0091

Uranus -15786-03-27 16:33 J -4044327.92 -4044327.81 -4044327.70 0.0140 0.0071

Uranus -15786-06-23 19:40 J -4044239.80 -4044239.68 -4044239.55 0.0140 0.0051

Uranus -15786-09-19 23:02 J -4044151.66 -4044151.54 -4044151.41 0.0140 0.0030

Uranus -15786-12-17 02:24 J -4044063.53 -4044063.40 -4044063.27 0.0140 0.0010

Moon -15785-02-06 14:52 J -4044011.99 -4044011.88 -4044011.76 0.2617 0.1718

Earth -15785-02-06 16:19 J -4044011.95 -4044011.82 -4044011.69 0.2621 0.1573 *

Uranus -15785-03-14 05:45 J -4043975.39 -4043975.26 -4043975.13 0.0140 0.0011

Uranus -15785-06-10 09:07 J -4043887.25 -4043887.12 -4043886.99 0.0140 0.0032

Uranus -15785-09-06 12:28 J -4043799.10 -4043798.98 -4043798.86 0.0140 0.0053

Uranus -15785-12-03 15:50 J -4043710.95 -4043710.84 -4043710.73 0.0141 0.0074

Uranus -15784-03-01 19:11 J -4043622.80 -4043622.70 -4043622.60 0.0141 0.0095

Uranus -15784-05-28 22:33 J -4043534.63 -4043534.56 -4043534.48 0.0141 0.0116

Uranus -15784-08-25 01:55 J -4043446.44 -4043446.42 -4043446.39 0.0141 0.0137

Jupiter -15782-07-26 12:14 J -4042746.09 -4042745.99 -4042745.90 0.0527 0.0321

Jupiter -15782-10-23 17:02 J -4042656.90 -4042656.79 -4042656.67 0.0525 0.0234

Saturn -15778-07-19 21:21 J -4041291.74 -4041291.61 -4041291.47 0.0271 0.0192

Saturn -15778-10-16 20:38 J -4041202.84 -4041202.64 -4041202.45 0.0272 0.0011

Saturn -15777-01-13 19:40 J -4041113.83 -4041113.68 -4041113.53 0.0273 0.0172

Mars -15777-05-20 06:43 J -4040986.32 -4040986.22 -4040986.11 0.1626 0.0557

Earth -15776-08-06 20:38 J -4040542.75 -4040542.64 -4040542.53 0.2712 0.0281

Moon -15776-08-06 21:07 J -4040542.73 -4040542.62 -4040542.51 0.2715 0.0219 *

Jupiter -15776-09-17 23:45 J -4040500.68 -4040500.51 -4040500.33 0.0500 0.0184

Mars -15775-04-25 07:55 J -4040281.24 -4040281.17 -4040281.09 0.1623 0.1211

Moon -15772-02-08 21:07 J -4039260.78 -4039260.62 -4039260.47 0.2623 0.0517

Earth -15772-02-08 22:48 J -4039260.71 -4039260.55 -4039260.40 0.2622 0.0721 *

Jupiter -15770-05-14 16:04 J -4038435.89 -4038435.83 -4038435.78 0.0527 0.0468

Jupiter -15770-08-11 20:52 J -4038346.75 -4038346.63 -4038346.50 0.0525 0.0086

Mars -15768-10-10 18:28 J -4037555.82 -4037555.73 -4037555.64 0.1627 0.0982

Mars -15766-09-15 19:40 J -4036850.78 -4036850.68 -4036850.58 0.1624 0.0781

Saturn -15765-11-27 22:33 J -4036411.67 -4036411.56 -4036411.45 0.0291 0.0155

Saturn -15764-02-24 09:50 J -4036323.22 -4036323.09 -4036322.96 0.0290 0.0010

Saturn -15764-05-23 21:07 J -4036234.73 -4036234.62 -4036234.50 0.0289 0.0136

Jupiter -15764-07-06 20:38 J -4036190.77 -4036190.64 -4036190.51 0.0500 0.0366

Saturn -15764-08-20 08:24 J -4036146.17 -4036146.15 -4036146.11 0.0288 0.0278

Jupiter -15764-10-05 08:52 J -4036100.25 -4036100.13 -4036100.01 0.0501 0.0378

Earth -15763-08-09 14:38 J -4035792.00 -4035791.89 -4035791.79 0.2711 0.0948

Moon -15763-08-09 15:21 J -4035791.97 -4035791.86 -4035791.76 0.2708 0.1018 *

Venus -15762-12-01 12:28 J -4035313.11 -4035312.98 -4035312.84 0.3651 0.2047

Mars -15761-05-29 16:48 J -4035132.95 -4035132.80 -4035132.66 0.1896 0.0990

Mars -15758-03-03 06:14 J -4034125.30 -4034125.24 -4034125.19 0.1628 0.1409

Jupiter -15758-05-31 01:11 J -4034036.58 -4034036.45 -4034036.33 0.0526 0.0058

Jupiter -15758-08-28 06:00 J -4033947.28 -4033947.25 -4033947.20 0.0524 0.0495

Mars -15756-02-05 07:26 J -4033420.31 -4033420.19 -4033420.08 0.1624 0.0360

Moon -15756-08-02 13:11 J -4033241.99 -4033241.95 -4033241.90 0.2720 0.2419

Earth -15756-08-02 13:26 J -4033241.98 -4033241.94 -4033241.89 0.2714 0.2441 *

Pluto -15755-06-28 09:50 J -4032912.15 -4032912.09 -4032912.01 0.0072 0.0064

Pluto -15755-09-24 11:16 J -4032824.12 -4032824.03 -4032823.92 0.0072 0.0056

Pluto -15755-12-21 12:57 J -4032736.08 -4032735.96 -4032735.84 0.0072 0.0047

Pluto -15754-03-19 14:09 J -4032648.04 -4032647.91 -4032647.76 0.0072 0.0038

Pluto -15754-06-15 15:35 J -4032559.99 -4032559.85 -4032559.70 0.0072 0.0029

Pluto -15754-09-11 17:02 J -4032471.94 -4032471.79 -4032471.63 0.0072 0.0021

Pluto -15754-12-08 18:28 J -4032383.89 -4032383.73 -4032383.57 0.0072 0.0012

Pluto -15753-03-05 19:55 J -4032295.83 -4032295.67 -4032295.51 0.0072 0.0004

Venus -15753-03-22 19:26 J -4032278.77 -4032278.69 -4032278.62 0.3720 0.2552

Pluto -15753-06-01 21:07 J -4032207.78 -4032207.62 -4032207.46 0.0071 0.0005

Pluto -15753-08-28 22:19 J -4032119.72 -4032119.57 -4032119.40 0.0071 0.0013

Pluto -15753-11-24 23:45 J -4032031.66 -4032031.51 -4032031.35 0.0071 0.0021

Pluto -15752-02-21 00:57 J -4031943.60 -4031943.46 -4031943.31 0.0071 0.0029

Pluto -15752-05-20 02:24 J -4031855.53 -4031855.40 -4031855.26 0.0071 0.0037

Jupiter -15752-07-24 05:16 J -4031790.45 -4031790.28 -4031790.10 0.0500 0.0192

Pluto -15752-08-16 03:35 J -4031767.47 -4031767.35 -4031767.22 0.0071 0.0045

Mars -15752-10-19 08:24 J -4031703.32 -4031703.15 -4031702.99 0.1895 0.0487

Pluto -15752-11-12 04:48 J -4031679.39 -4031679.30 -4031679.19 0.0071 0.0053

Pluto -15751-02-08 06:00 J -4031591.32 -4031591.25 -4031591.16 0.0071 0.0061

Pluto -15751-05-07 07:11 J -4031503.22 -4031503.20 -4031503.15 0.0070 0.0069

Earth -15750-08-12 08:38 J -4031041.20 -4031041.14 -4031041.07 0.2710 0.2179

Moon -15750-08-12 09:07 J -4031041.18 -4031041.12 -4031041.06 0.2704 0.2254 *

Saturn -15749-12-05 21:35 J -4030559.69 -4030559.60 -4030559.49 0.0271 0.0229

Neptune -15748-01-15 10:48 J -4030519.08 -4030519.05 -4030519.01 0.0089 0.0086

Saturn -15748-03-04 20:52 J -4030470.82 -4030470.63 -4030470.44 0.0272 0.0048

Neptune -15748-04-13 12:00 J -4030431.05 -4030431.00 -4030430.93 0.0089 0.0079

Saturn -15748-06-01 19:55 J -4030381.83 -4030381.67 -4030381.50 0.0273 0.0135

Neptune -15748-07-10 13:26 J -4030343.01 -4030342.94 -4030342.86 0.0089 0.0071

Venus -15748-10-06 10:33 J -4030255.16 -4030255.06 -4030254.96 0.3722 0.0659

Neptune -15748-10-06 14:38 J -4030254.97 -4030254.89 -4030254.79 0.0089 0.0065 *

Neptune -15747-01-02 16:04 J -4030166.93 -4030166.83 -4030166.73 0.0089 0.0057

Neptune -15747-03-31 17:16 J -4030078.88 -4030078.78 -4030078.67 0.0089 0.0050

Uranus -15747-05-19 17:31 J -4030029.84 -4030029.77 -4030029.67 0.0139 0.0124

Neptune -15747-06-27 18:28 J -4029990.83 -4029990.73 -4029990.61 0.0089 0.0044

Mars -15747-06-28 18:57 J -4029989.82 -4029989.71 -4029989.59 0.1625 0.0081

Uranus -15747-08-16 01:40 J -4029941.56 -4029941.43 -4029941.28 0.0139 0.0094

Neptune -15747-09-23 19:55 J -4029902.79 -4029902.67 -4029902.55 0.0089 0.0036

Uranus -15747-11-12 09:50 J -4029853.26 -4029853.09 -4029852.92 0.0139 0.0064

Neptune -15747-12-20 21:07 J -4029814.74 -4029814.62 -4029814.49 0.0089 0.0030

Uranus -15746-02-08 17:31 J -4029764.95 -4029764.77 -4029764.57 0.0138 0.0035

Neptune -15746-03-18 22:33 J -4029726.69 -4029726.56 -4029726.43 0.0089 0.0022

Jupiter -15746-03-19 05:16 J -4029726.40 -4029726.28 -4029726.16 0.0526 0.0201

Uranus -15746-05-08 01:26 J -4029676.63 -4029676.44 -4029676.24 0.0138 0.0005

Neptune -15746-06-14 23:45 J -4029638.63 -4029638.51 -4029638.38 0.0089 0.0015

Jupiter -15746-06-16 10:19 J -4029637.16 -4029637.07 -4029636.98 0.0525 0.0353

Uranus -15746-08-04 09:21 J -4029588.30 -4029588.11 -4029587.92 0.0138 0.0025

Neptune -15746-09-11 01:11 J -4029550.58 -4029550.45 -4029550.32 0.0089 0.0008

Uranus -15746-10-31 16:48 J -4029499.97 -4029499.80 -4029499.61 0.0138 0.0054

Neptune -15746-12-08 02:24 J -4029462.53 -4029462.40 -4029462.27 0.0089 0.0002

Uranus -15745-01-28 00:28 J -4029411.62 -4029411.48 -4029411.31 0.0138 0.0083

Neptune -15745-03-05 03:50 J -4029374.47 -4029374.34 -4029374.21 0.0089 0.0007

Uranus -15745-04-25 08:24 J -4029323.26 -4029323.15 -4029323.04 0.0138 0.0111

Neptune -15745-06-01 05:02 J -4029286.42 -4029286.29 -4029286.16 0.0089 0.0013

Neptune -15745-08-28 06:14 J -4029198.36 -4029198.24 -4029198.11 0.0089 0.0020

Neptune -15745-11-24 07:40 J -4029110.31 -4029110.18 -4029110.06 0.0089 0.0027

Neptune -15744-02-20 08:52 J -4029022.25 -4029022.13 -4029022.01 0.0089 0.0034

Neptune -15744-05-19 10:04 J -4028934.19 -4028934.08 -4028933.96 0.0089 0.0042

Neptune -15744-08-15 11:31 J -4028846.13 -4028846.02 -4028845.91 0.0089 0.0048

Neptune -15744-11-11 12:43 J -4028758.07 -4028757.97 -4028757.86 0.0089 0.0056

Neptune -15743-02-07 14:09 J -4028670.00 -4028669.91 -4028669.82 0.0089 0.0063

Neptune -15743-05-06 15:21 J -4028581.94 -4028581.86 -4028581.78 0.0089 0.0070

Neptune -15743-08-02 16:48 J -4028493.87 -4028493.80 -4028493.74 0.0089 0.0077

Earth -15743-08-05 07:26 J -4028491.29 -4028491.19 -4028491.09 0.2713 0.1243

Moon -15743-08-05 07:55 J -4028491.27 -4028491.17 -4028491.08 0.2719 0.1261 *

Neptune -15743-10-29 17:45 J -4028405.79 -4028405.76 -4028405.71 0.0089 0.0084

Venus -15742-04-22 01:40 J -4028231.52 -4028231.43 -4028231.33 0.3724 0.1233

Jupiter -15740-05-12 01:26 J -4027480.62 -4027480.44 -4027480.25 0.0500 0.0011

Moon -15739-02-06 21:35 J -4027209.74 -4027209.60 -4027209.46 0.2618 0.1236

Earth -15739-02-06 23:02 J -4027209.69 -4027209.54 -4027209.40 0.2621 0.1134 *

Mars -15738-11-19 06:43 J -4026559.33 -4026559.22 -4026559.11 0.1626 0.0501

Venus -15737-11-04 17:02 J -4026207.84 -4026207.79 -4026207.74 0.3726 0.3135

Mars -15736-10-24 07:55 J -4025854.24 -4025854.17 -4025854.10 0.1623 0.1264

Saturn -15735-04-17 01:26 J -4025679.53 -4025679.44 -4025679.34 0.0291 0.0188

Saturn -15735-07-14 12:57 J -4025591.09 -4025590.96 -4025590.83 0.0290 0.0042

Saturn -15735-10-11 00:14 J -4025502.61 -4025502.49 -4025502.37 0.0289 0.0102

Jupiter -15734-01-05 09:50 J -4025416.18 -4025416.09 -4025415.99 0.0527 0.0336

Saturn -15734-01-07 11:31 J -4025414.08 -4025414.02 -4025413.95 0.0288 0.0245

Jupiter -15734-04-04 14:52 J -4025326.99 -4025326.88 -4025326.76 0.0526 0.0219

Earth -15730-08-08 01:26 J -4023740.55 -4023740.44 -4023740.33 0.2712 0.0054

Moon -15730-08-08 02:09 J -4023740.52 -4023740.41 -4023740.30 0.2713 0.0127 *

Jupiter -15728-02-27 20:52 J -4023170.80 -4023170.63 -4023170.45 0.0499 0.0194

Mars -15728-04-10 18:28 J -4023128.83 -4023128.73 -4023128.64 0.1627 0.0927

Moon -15726-02-10 03:21 J -4022458.50 -4022458.36 -4022458.21 0.2624 0.0992

Earth -15726-02-10 05:16 J -4022458.42 -4022458.28 -4022458.14 0.2622 0.1145 *

Mars -15726-03-16 19:40 J -4022423.78 -4022423.68 -4022423.59 0.1624 0.0838

Jupiter -15723-10-24 14:24 J -4021105.95 -4021105.90 -4021105.84 0.0527 0.0471

Jupiter -15722-01-21 19:26 J -4021016.81 -4021016.69 -4021016.56 0.0526 0.0084

Mars -15722-11-28 17:16 J -4020705.92 -4020705.78 -4020705.64 0.1897 0.1102

Saturn -15719-07-22 19:55 J -4019738.85 -4019738.67 -4019738.49 0.0272 0.0097

Mars -15719-09-01 06:14 J -4019698.31 -4019698.24 -4019698.18 0.1628 0.1353

Saturn -15719-10-19 18:57 J -4019649.89 -4019649.71 -4019649.52 0.0273 0.0085

Saturn -15718-01-16 18:00 J -4019560.77 -4019560.75 -4019560.71 0.0274 0.0269

Mars -15717-08-06 07:11 J -4018993.31 -4018993.20 -4018993.09 0.1624 0.0413

Earth -15717-08-09 19:26 J -4018989.79 -4018989.69 -4018989.59 0.2711 0.1187

Moon -15717-08-09 20:09 J -4018989.76 -4018989.66 -4018989.56 0.2708 0.1273 *

Jupiter -15717-12-16 17:31 J -4018860.89 -4018860.77 -4018860.65 0.0499 0.0378

Jupiter -15716-03-17 05:45 J -4018770.39 -4018770.26 -4018770.13 0.0500 0.0364

Mars -15712-04-19 09:35 J -4017276.27 -4017276.10 -4017275.93 0.1895 0.0338

Jupiter -15711-11-09 23:31 J -4016706.65 -4016706.52 -4016706.40 0.0526 0.0066

Jupiter -15710-02-07 04:19 J -4016617.36 -4016617.32 -4016617.27 0.0524 0.0489

Earth -15710-08-03 18:28 J -4016439.80 -4016439.73 -4016439.67 0.2713 0.2206

Moon -15710-08-03 18:14 J -4016439.79 -4016439.74 -4016439.68 0.2720 0.2276 *

Mars -15708-12-27 18:57 J -4015562.82 -4015562.71 -4015562.59 0.1625 0.0023

Saturn -15706-09-04 04:33 J -4014947.39 -4014947.31 -4014947.22 0.0292 0.0220

Saturn -15706-12-01 16:04 J -4014858.95 -4014858.83 -4014858.70 0.0291 0.0074

Saturn -15705-02-28 03:35 J -4014770.48 -4014770.35 -4014770.23 0.0290 0.0072

Saturn -15705-05-26 14:52 J -4014681.97 -4014681.88 -4014681.80 0.0289 0.0214

Venus -15705-07-07 15:21 J -4014640.02 -4014639.86 -4014639.69 0.3650 0.0265

Jupiter -15704-01-03 02:38 J -4014460.57 -4014460.39 -4014460.22 0.0500 0.0183

Earth -15704-08-12 13:40 J -4014238.98 -4014238.93 -4014238.89 0.2710 0.2426

Moon -15704-08-12 13:40 J -4014238.97 -4014238.93 -4014238.88 0.2703 0.2411 *

Uranus -15703-07-26 13:55 J -4013890.96 -4013890.92 -4013890.85 0.0139 0.0126

Mars -15703-09-09 00:43 J -4013846.51 -4013846.47 -4013846.43 0.1894 0.1834

Uranus -15703-10-22 17:16 J -4013802.86 -4013802.78 -4013802.69 0.0140 0.0105

Uranus -15702-01-18 20:38 J -4013714.74 -4013714.64 -4013714.53 0.0140 0.0085

Uranus -15702-04-17 00:00 J -4013626.62 -4013626.50 -4013626.38 0.0140 0.0065

Uranus -15702-07-14 03:07 J -4013538.49 -4013538.37 -4013538.24 0.0140 0.0045

Uranus -15702-10-10 06:28 J -4013450.36 -4013450.23 -4013450.10 0.0140 0.0024

Uranus -15701-01-06 09:50 J -4013362.22 -4013362.09 -4013361.96 0.0140 0.0004

Uranus -15701-04-03 13:11 J -4013274.08 -4013273.95 -4013273.82 0.0140 0.0017

Uranus -15701-06-30 16:33 J -4013185.94 -4013185.81 -4013185.68 0.0140 0.0038

Uranus -15701-09-26 19:55 J -4013097.79 -4013097.67 -4013097.55 0.0141 0.0059

Uranus -15701-12-23 23:16 J -4013009.64 -4013009.53 -4013009.42 0.0141 0.0080

Uranus -15700-03-22 02:38 J -4012921.48 -4012921.39 -4012921.30 0.0141 0.0101

Uranus -15700-06-18 06:00 J -4012833.31 -4012833.25 -4012833.18 0.0141 0.0122

Jupiter -15699-08-29 03:35 J -4012396.46 -4012396.35 -4012396.23 0.0526 0.0205

Jupiter -15699-11-26 08:38 J -4012307.23 -4012307.14 -4012307.05 0.0525 0.0348

Mars -15698-05-20 06:43 J -4012132.33 -4012132.22 -4012132.11 0.1625 0.0444

Earth -15697-08-05 12:14 J -4011689.09 -4011688.99 -4011688.89 0.2712 0.1011

Moon -15697-08-05 12:43 J -4011689.07 -4011688.97 -4011688.87 0.2719 0.0902 *

Venus -15697-10-27 16:33 J -4011605.89 -4011605.81 -4011605.72 0.3721 0.1867

Mars -15696-04-24 07:55 J -4011427.23 -4011427.17 -4011427.10 0.1623 0.1323

Moon -15693-02-08 03:50 J -4010407.49 -4010407.34 -4010407.19 0.2620 0.0943

Earth -15693-02-08 05:31 J -4010407.42 -4010407.27 -4010407.12 0.2621 0.0702 *

Jupiter -15693-10-21 23:02 J -4010150.73 -4010150.54 -4010150.35 0.0500 0.0007

Venus -15691-05-13 07:55 J -4009582.27 -4009582.17 -4009582.07 0.3722 0.0089

Saturn -15690-12-09 19:40 J -4009006.85 -4009006.68 -4009006.52 0.0272 0.0139

Saturn -15689-03-07 18:43 J -4008917.91 -4008917.72 -4008917.53 0.0273 0.0043

Saturn -15689-06-04 17:45 J -4008828.86 -4008828.76 -4008828.65 0.0274 0.0226

Mars -15689-10-09 18:14 J -4008701.83 -4008701.74 -4008701.64 0.1626 0.0874

Jupiter -15687-06-17 07:55 J -4008086.27 -4008086.17 -4008086.08 0.0526 0.0348

Jupiter -15687-09-14 12:43 J -4007997.08 -4007996.97 -4007996.85 0.0525 0.0207

Mars -15687-09-14 19:40 J -4007996.78 -4007996.68 -4007996.59 0.1624 0.0895

Venus -15686-11-26 23:02 J -4007558.62 -4007558.54 -4007558.45 0.3724 0.1920

Earth -15684-08-08 06:14 J -4006938.35 -4006938.24 -4006938.13 0.2712 0.0203

Moon -15684-08-08 06:57 J -4006938.32 -4006938.21 -4006938.10 0.2712 0.0237 *

Mars -15682-05-29 18:28 J -4006278.86 -4006278.73 -4006278.60 0.1896 0.1248

Jupiter -15681-08-09 19:11 J -4005840.87 -4005840.70 -4005840.52 0.0500 0.0191

Moon -15680-02-10 10:04 J -4005656.21 -4005656.08 -4005655.95 0.2624 0.1411

Earth -15680-02-10 11:45 J -4005656.13 -4005656.01 -4005655.88 0.2622 0.1578 *

Mars -15679-03-02 06:00 J -4005271.31 -4005271.25 -4005271.18 0.1628 0.1299

Mars -15677-02-05 07:11 J -4004566.31 -4004566.20 -4004566.09 0.1624 0.0464

Saturn -15676-01-21 07:40 J -4004215.24 -4004215.18 -4004215.12 0.0292 0.0255

Saturn -15676-04-19 18:57 J -4004126.83 -4004126.71 -4004126.59 0.0291 0.0109

Saturn -15676-07-17 06:28 J -4004038.36 -4004038.23 -4004038.10 0.0290 0.0037

Saturn -15676-10-13 17:45 J -4003949.86 -4003949.76 -4003949.66 0.0288 0.0180

Jupiter -15675-04-05 12:28 J -4003776.03 -4003775.98 -4003775.93 0.0527 0.0483

Jupiter -15675-07-03 17:31 J -4003686.90 -4003686.77 -4003686.65 0.0526 0.0073

Mars -15673-10-18 09:50 J -4002849.26 -4002849.09 -4002848.92 0.1895 0.0241

Earth -15671-08-11 00:14 J -4002187.58 -4002187.49 -4002187.39 0.2711 0.1431

Moon -15671-08-11 00:57 J -4002187.55 -4002187.46 -4002187.37 0.2707 0.1514 *

Jupiter -15669-05-28 15:07 J -4001530.99 -4001530.87 -4001530.75 0.0499 0.0383

Jupiter -15669-08-27 03:07 J -4001440.49 -4001440.37 -4001440.23 0.0500 0.0358

Mars -15668-06-27 18:57 J -4001135.83 -4001135.71 -4001135.60 0.1625 0.0041

Neptune -15665-06-30 20:52 J -4000036.69 -4000036.63 -4000036.56 0.0088 0.0082

Neptune -15665-09-27 00:28 J -3999948.58 -3999948.48 -3999948.36 0.0088 0.0072

Neptune -15665-12-24 04:04 J -3999860.46 -3999860.33 -3999860.18 0.0088 0.0062

Neptune -15664-03-22 07:40 J -3999772.32 -3999772.18 -3999772.00 0.0088 0.0052

Neptune -15664-06-18 11:31 J -3999684.18 -3999684.02 -3999683.83 0.0088 0.0042

Earth -15664-08-03 23:16 J -3999637.61 -3999637.53 -3999637.46 0.2713 0.1973

Moon -15664-08-03 23:16 J -3999637.60 -3999637.53 -3999637.45 0.2721 0.1923 *

Neptune -15664-09-14 15:21 J -3999596.04 -3999595.86 -3999595.67 0.0088 0.0031

Neptune -15664-12-11 19:11 J -3999507.89 -3999507.70 -3999507.51 0.0088 0.0021

Neptune -15663-03-09 22:48 J -3999419.74 -3999419.55 -3999419.35 0.0088 0.0011

Mars -15663-03-10 01:55 J -3999419.49 -3999419.42 -3999419.35 0.1894 0.1695 *

Jupiter -15663-04-21 22:04 J -3999376.71 -3999376.58 -3999376.46 0.0526 0.0063

Neptune -15663-06-06 02:38 J -3999331.59 -3999331.39 -3999331.19 0.0088 0.0001

Uranus -15663-06-09 01:11 J -3999328.55 -3999328.45 -3999328.33 0.0139 0.0116

Jupiter -15663-07-20 03:07 J -3999287.41 -3999287.37 -3999287.33 0.0525 0.0491

Neptune -15663-09-02 06:14 J -3999243.43 -3999243.24 -3999243.04 0.0088 0.0009

Uranus -15663-09-05 09:07 J -3999240.26 -3999240.12 -3999239.96 0.0139 0.0086

Neptune -15663-11-29 09:50 J -3999155.28 -3999155.09 -3999154.89 0.0088 0.0020

Uranus -15663-12-02 17:16 J -3999151.96 -3999151.78 -3999151.60 0.0139 0.0056

Neptune -15662-02-25 13:26 J -3999067.12 -3999066.94 -3999066.74 0.0088 0.0030

Uranus -15662-03-01 00:57 J -3999063.64 -3999063.46 -3999063.26 0.0138 0.0027

Neptune -15662-05-24 17:02 J -3998978.95 -3998978.79 -3998978.60 0.0088 0.0040

Uranus -15662-05-28 08:52 J -3998975.32 -3998975.13 -3998974.93 0.0138 0.0005

Neptune -15662-08-20 20:52 J -3998890.79 -3998890.63 -3998890.46 0.0088 0.0050

Uranus -15662-08-24 16:48 J -3998886.99 -3998886.80 -3998886.61 0.0138 0.0033

Neptune -15662-11-17 00:28 J -3998802.61 -3998802.48 -3998802.33 0.0088 0.0060

Uranus -15662-11-21 00:14 J -3998798.65 -3998798.49 -3998798.31 0.0138 0.0062

Neptune -15661-02-13 04:19 J -3998714.43 -3998714.32 -3998714.20 0.0088 0.0070

Uranus -15661-02-17 07:55 J -3998710.30 -3998710.17 -3998710.01 0.0138 0.0091

Neptune -15661-05-11 07:55 J -3998626.24 -3998626.17 -3998626.09 0.0088 0.0080

Uranus -15661-05-15 15:50 J -3998621.93 -3998621.84 -3998621.74 0.0138 0.0119

Earth -15660-02-05 05:31 J -3998356.29 -3998356.27 -3998356.25 0.2620 0.2581

Saturn -15660-04-27 17:45 J -3998274.89 -3998274.76 -3998274.62 0.0271 0.0193

Saturn -15660-07-25 17:02 J -3998185.98 -3998185.79 -3998185.60 0.0272 0.0011

Saturn -15660-10-22 16:19 J -3998096.97 -3998096.82 -3998096.67 0.0273 0.0172

Mars -15659-11-18 06:43 J -3997705.34 -3997705.22 -3997705.11 0.1626 0.0392

Moon -15658-08-13 18:28 J -3997436.74 -3997436.73 -3997436.72 0.2702 0.2678

Earth -15658-08-13 18:28 J -3997436.74 -3997436.73 -3997436.72 0.2709 0.2670 *

Jupiter -15657-06-15 00:00 J -3997130.68 -3997130.50 -3997130.33 0.0500 0.0176

Mars -15657-10-23 07:55 J -3997000.23 -3997000.17 -3997000.11 0.1623 0.1378

Jupiter -15651-02-08 02:09 J -3995066.53 -3995066.41 -3995066.30 0.0526 0.0208

Jupiter -15651-05-08 06:57 J -3994977.30 -3994977.21 -3994977.11 0.0525 0.0345

Earth -15651-08-06 17:02 J -3994886.89 -3994886.79 -3994886.68 0.2712 0.0774

Moon -15651-08-06 17:31 J -3994886.87 -3994886.77 -3994886.66 0.2718 0.0779 *

Mars -15649-04-09 18:28 J -3994274.83 -3994274.73 -3994274.64 0.1626 0.0815

Venus -15648-02-11 18:28 J -3993966.85 -3993966.73 -3993966.62 0.3649 0.2532

Moon -15647-02-08 10:19 J -3993605.23 -3993605.07 -3993604.91 0.2621 0.0346

Earth -15647-02-08 12:00 J -3993605.15 -3993605.00 -3993604.84 0.2621 0.0272 *

Mars -15647-03-15 19:26 J -3993569.78 -3993569.69 -3993569.59 0.1624 0.0952

Saturn -15647-09-06 21:50 J -3993394.70 -3993394.59 -3993394.48 0.0292 0.0146

Saturn -15647-12-04 09:21 J -3993306.24 -3993306.11 -3993305.99 0.0290 0.0010

Saturn -15646-03-02 20:38 J -3993217.75 -3993217.64 -3993217.53 0.0289 0.0145

Saturn -15646-05-30 07:55 J -3993129.18 -3993129.17 -3993129.16 0.0288 0.0287

Venus -15646-11-18 22:48 J -3992956.60 -3992956.55 -3992956.50 0.3719 0.3055

Jupiter -15645-04-02 20:38 J -3992820.83 -3992820.64 -3992820.45 0.0500 0.0008

Mars -15643-11-27 19:11 J -3991851.82 -3991851.70 -3991851.58 0.1896 0.1367

Venus -15640-06-03 13:55 J -3990933.01 -3990932.92 -3990932.82 0.3721 0.1181

Mars -15640-08-31 06:00 J -3990844.32 -3990844.25 -3990844.18 0.1628 0.1243

Jupiter -15640-11-27 06:28 J -3990756.32 -3990756.23 -3990756.14 0.0526 0.0347

Jupiter -15639-02-24 11:16 J -3990667.14 -3990667.03 -3990666.91 0.0525 0.0206

Mars -15638-08-06 07:11 J -3990139.31 -3990139.20 -3990139.09 0.1624 0.0522

Earth -15638-08-09 11:02 J -3990136.15 -3990136.04 -3990135.93 0.2711 0.0444

Moon -15638-08-09 11:45 J -3990136.11 -3990136.01 -3990135.90 0.2711 0.0601 *

Venus -15635-12-18 05:16 J -3988909.38 -3988909.28 -3988909.18 0.3723 0.0719

Moon -15634-02-11 16:48 J -3988853.91 -3988853.80 -3988853.69 0.2625 0.1825

Earth -15634-02-11 18:14 J -3988853.84 -3988853.74 -3988853.64 0.2623 0.2000 *

Jupiter -15633-01-20 17:16 J -3988510.95 -3988510.78 -3988510.61 0.0500 0.0191

Mars -15633-04-18 11:02 J -3988422.21 -3988422.04 -3988421.87 0.1896 0.0098

Saturn -15631-09-14 17:02 J -3987542.87 -3987542.79 -3987542.70 0.0271 0.0238

Saturn -15631-12-12 16:19 J -3987454.01 -3987453.82 -3987453.63 0.0272 0.0058

Saturn -15630-03-11 15:21 J -3987365.03 -3987364.86 -3987364.69 0.0273 0.0124

Venus -15629-07-02 20:24 J -3986885.72 -3986885.65 -3986885.58 0.3725 0.2612

Mars -15629-12-26 18:57 J -3986708.83 -3986708.71 -3986708.60 0.1624 0.0108

Jupiter -15628-09-15 10:33 J -3986446.10 -3986446.06 -3986446.01 0.0527 0.0490

Jupiter -15628-12-13 15:35 J -3986356.98 -3986356.85 -3986356.73 0.0526 0.0064

Earth -15625-08-11 05:16 J -3985385.37 -3985385.28 -3985385.20 0.2710 0.1674

Moon -15625-08-11 05:45 J -3985385.35 -3985385.26 -3985385.18 0.2706 0.1695 *

Mars -15624-09-08 02:38 J -3984992.48 -3984992.39 -3984992.30 0.1894 0.1572

Jupiter -15622-11-08 13:26 J -3984201.05 -3984200.94 -3984200.81 0.0499 0.0377

Jupiter -15621-02-07 01:55 J -3984110.54 -3984110.42 -3984110.29 0.0500 0.0367

Mars -15619-05-19 06:43 J -3983278.34 -3983278.22 -3983278.11 0.1625 0.0339

Uranus -15619-08-15 21:21 J -3983189.67 -3983189.61 -3983189.54 0.0139 0.0120

Uranus -15619-11-12 00:43 J -3983101.56 -3983101.47 -3983101.38 0.0140 0.0100

Uranus -15618-02-08 04:04 J -3983013.44 -3983013.33 -3983013.22 0.0140 0.0080

Uranus -15618-05-07 07:11 J -3982925.31 -3982925.20 -3982925.08 0.0140 0.0060

Uranus -15618-08-03 10:33 J -3982837.18 -3982837.06 -3982836.93 0.0140 0.0039

Moon -15618-08-05 04:04 J -3982835.41 -3982835.33 -3982835.25 0.2721 0.1774

Earth -15618-08-05 04:04 J -3982835.41 -3982835.33 -3982835.25 0.2713 0.1741 *

Uranus -15618-10-30 13:55 J -3982749.05 -3982748.92 -3982748.79 0.0140 0.0019

Saturn -15617-01-25 00:14 J -3982662.58 -3982662.49 -3982662.39 0.0292 0.0185

Uranus -15617-01-26 17:16 J -3982660.91 -3982660.78 -3982660.65 0.0140 0.0003

Saturn -15617-04-22 11:45 J -3982574.14 -3982574.01 -3982573.88 0.0290 0.0039

Mars -15617-04-23 07:55 J -3982573.23 -3982573.17 -3982573.12 0.1623 0.1434

Uranus -15617-04-23 20:38 J -3982572.77 -3982572.64 -3982572.51 0.0140 0.0023

Saturn -15617-07-19 23:02 J -3982485.65 -3982485.54 -3982485.41 0.0289 0.0107

Uranus -15617-07-20 23:45 J -3982484.63 -3982484.51 -3982484.38 0.0140 0.0044

Saturn -15617-10-16 10:33 J -3982397.12 -3982397.06 -3982397.00 0.0288 0.0248

Uranus -15617-10-17 03:07 J -3982396.48 -3982396.37 -3982396.25 0.0141 0.0065

Uranus -15616-01-13 06:28 J -3982308.33 -3982308.23 -3982308.12 0.0141 0.0086

Uranus -15616-04-11 09:50 J -3982220.16 -3982220.09 -3982220.00 0.0141 0.0107

Uranus -15616-07-08 13:26 J -3982131.99 -3982131.94 -3982131.88 0.0141 0.0128

Jupiter -15616-10-01 20:09 J -3982046.78 -3982046.66 -3982046.53 0.0526 0.0071

Jupiter -15616-12-30 01:11 J -3981957.50 -3981957.45 -3981957.40 0.0525 0.0483

Moon -15614-02-06 10:48 J -3981554.13 -3981554.05 -3981553.96 0.2616 0.2178

Earth -15614-02-06 12:14 J -3981554.08 -3981553.99 -3981553.90 0.2620 0.2146 *

Mars -15610-10-09 18:14 J -3979847.84 -3979847.74 -3979847.64 0.1627 0.0760

Jupiter -15610-11-25 21:50 J -3979800.76 -3979800.59 -3979800.41 0.0500 0.0176

Mars -15608-09-13 19:26 J -3979142.78 -3979142.69 -3979142.60 0.1624 0.1005

Earth -15605-08-06 21:50 J -3978084.69 -3978084.59 -3978084.48 0.2712 0.0545

Moon -15605-08-06 22:33 J -3978084.67 -3978084.56 -3978084.45 0.2716 0.0415 *

Jupiter -15604-07-21 00:57 J -3977736.58 -3977736.46 -3977736.35 0.0527 0.0206

Jupiter -15604-10-18 05:45 J -3977647.35 -3977647.26 -3977647.16 0.0525 0.0350

Mars -15603-05-28 20:09 J -3977424.77 -3977424.66 -3977424.56 0.1897 0.1493

Moon -15601-02-09 17:02 J -3976802.95 -3976802.79 -3976802.64 0.2621 0.0118

Earth -15601-02-09 18:43 J -3976802.88 -3976802.72 -3976802.56 0.2622 0.0177 *

Saturn -15601-04-30 13:40 J -3976722.10 -3976721.93 -3976721.76 0.0271 0.0118

Saturn -15601-07-28 12:43 J -3976633.15 -3976632.97 -3976632.78 0.0272 0.0064

Saturn -15601-10-25 11:45 J -3976544.08 -3976544.01 -3976543.92 0.0274 0.0247

Mars -15600-03-01 06:00 J -3976417.33 -3976417.25 -3976417.17 0.1628 0.1185

Mars -15598-02-04 07:11 J -3975712.31 -3975712.20 -3975712.10 0.1624 0.0578

Jupiter -15598-09-13 18:43 J -3975490.91 -3975490.72 -3975490.53 0.0500 0.0008

Venus -15597-03-04 09:07 J -3975318.25 -3975318.12 -3975317.99 0.3652 0.2204

Mars -15594-10-18 12:00 J -3973995.17 -3973995.00 -3973994.82 0.1895 0.0060

Jupiter -15592-05-09 05:02 J -3973426.38 -3973426.29 -3973426.19 0.0526 0.0347

Jupiter -15592-08-06 10:04 J -3973337.20 -3973337.08 -3973336.97 0.0525 0.0206

Earth -15592-08-09 15:50 J -3973333.94 -3973333.84 -3973333.73 0.2711 0.0692

Moon -15592-08-09 16:48 J -3973333.91 -3973333.80 -3973333.70 0.2711 0.0718 *

Pluto -15592-08-19 06:57 J -3973324.23 -3973324.21 -3973324.17 0.0071 0.0070

Pluto -15592-11-15 08:09 J -3973236.23 -3973236.16 -3973236.07 0.0071 0.0062

Pluto -15591-02-11 09:21 J -3973148.20 -3973148.11 -3973148.00 0.0072 0.0054

Pluto -15591-05-10 10:33 J -3973060.17 -3973060.06 -3973059.93 0.0072 0.0046

Mars -15591-07-22 17:45 J -3972986.77 -3972986.76 -3972986.75 0.1629 0.1611

Pluto -15591-08-06 11:45 J -3972972.13 -3972972.01 -3972971.86 0.0072 0.0038

Pluto -15591-11-02 13:26 J -3972884.08 -3972883.94 -3972883.80 0.0072 0.0029

Pluto -15590-01-29 14:38 J -3972796.04 -3972795.89 -3972795.74 0.0072 0.0021

Pluto -15590-04-27 15:50 J -3972707.99 -3972707.84 -3972707.68 0.0072 0.0013

Pluto -15590-07-24 17:16 J -3972619.93 -3972619.78 -3972619.62 0.0072 0.0004

Pluto -15590-10-20 18:43 J -3972531.88 -3972531.72 -3972531.57 0.0072 0.0005

Pluto -15589-01-16 19:55 J -3972443.82 -3972443.67 -3972443.51 0.0073 0.0013

Pluto -15589-04-13 21:07 J -3972355.76 -3972355.62 -3972355.46 0.0073 0.0022

Venus -15589-06-24 20:09 J -3972283.74 -3972283.66 -3972283.58 0.3719 0.2367

Mars -15589-06-26 18:57 J -3972281.83 -3972281.71 -3972281.60 0.1625 0.0160

Pluto -15589-07-10 22:19 J -3972267.70 -3972267.57 -3972267.41 0.0073 0.0031

Pluto -15589-10-06 23:45 J -3972179.63 -3972179.51 -3972179.37 0.0073 0.0039

Pluto -15588-01-03 01:11 J -3972091.56 -3972091.45 -3972091.32 0.0073 0.0048

Moon -15588-02-11 23:31 J -3972051.58 -3972051.52 -3972051.46 0.2627 0.2372

Earth -15588-02-12 00:43 J -3972051.52 -3972051.47 -3972051.41 0.2623 0.2429 *

Pluto -15588-04-01 02:24 J -3972003.48 -3972003.40 -3972003.29 0.0073 0.0058

Saturn -15588-06-13 02:38 J -3971930.46 -3971930.39 -3971930.31 0.0292 0.0227

Pluto -15588-06-28 03:50 J -3971915.39 -3971915.34 -3971915.26 0.0073 0.0067

Saturn -15588-09-09 14:09 J -3971842.03 -3971841.91 -3971841.78 0.0291 0.0080

Saturn -15588-12-07 01:40 J -3971753.56 -3971753.43 -3971753.31 0.0290 0.0066

Saturn -15587-03-05 12:57 J -3971665.04 -3971664.96 -3971664.87 0.0289 0.0210

Jupiter -15586-07-02 15:07 J -3971181.04 -3971180.87 -3971180.69 0.0500 0.0191

Earth -15585-08-02 15:07 J -3970783.88 -3970783.87 -3970783.87 0.2714 0.2701

Mars -15584-03-09 03:35 J -3970565.46 -3970565.35 -3970565.24 0.1894 0.1438

Neptune -15584-10-12 10:48 J -3970348.10 -3970348.05 -3970348.00 0.0089 0.0083

Venus -15583-01-08 11:16 J -3970260.13 -3970260.03 -3970259.93 0.3721 0.0498

Neptune -15583-01-08 12:00 J -3970260.06 -3970260.00 -3970259.93 0.0089 0.0076 *

Neptune -15583-04-06 13:11 J -3970172.02 -3970171.95 -3970171.86 0.0089 0.0069

Neptune -15583-07-03 14:38 J -3970083.98 -3970083.89 -3970083.80 0.0089 0.0062

Neptune -15583-09-29 15:50 J -3969995.94 -3969995.84 -3969995.73 0.0089 0.0055

Neptune -15583-12-26 17:16 J -3969907.89 -3969907.78 -3969907.67 0.0089 0.0048

Neptune -15582-03-24 18:28 J -3969819.85 -3969819.73 -3969819.61 0.0089 0.0041

Neptune -15582-06-20 19:40 J -3969731.80 -3969731.68 -3969731.55 0.0089 0.0034

Neptune -15582-09-16 21:07 J -3969643.75 -3969643.62 -3969643.50 0.0089 0.0026

Neptune -15582-12-13 22:19 J -3969555.70 -3969555.57 -3969555.44 0.0089 0.0019

Neptune -15581-03-10 23:45 J -3969467.64 -3969467.51 -3969467.38 0.0089 0.0013

Neptune -15581-06-07 00:57 J -3969379.59 -3969379.46 -3969379.33 0.0089 0.0005

Neptune -15581-09-03 02:09 J -3969291.54 -3969291.41 -3969291.28 0.0089 0.0003

Neptune -15581-11-30 03:35 J -3969203.48 -3969203.35 -3969203.22 0.0089 0.0009

Jupiter -15580-02-25 09:35 J -3969116.15 -3969116.10 -3969116.05 0.0526 0.0483

Neptune -15580-02-26 04:48 J -3969115.43 -3969115.30 -3969115.17 0.0089 0.0016

Neptune -15580-05-25 06:00 J -3969027.37 -3969027.25 -3969027.12 0.0089 0.0023

Jupiter -15580-05-25 14:24 J -3969027.02 -3969026.90 -3969026.77 0.0525 0.0069

Neptune -15580-08-21 07:11 J -3968939.31 -3968939.20 -3968939.07 0.0089 0.0031

Mars -15580-11-17 06:28 J -3968851.34 -3968851.23 -3968851.11 0.1625 0.0279

Neptune -15580-11-17 08:38 J -3968851.25 -3968851.14 -3968851.02 0.0089 0.0037 *

Neptune -15579-02-13 09:50 J -3968763.19 -3968763.09 -3968762.97 0.0089 0.0045

Uranus -15579-04-02 01:40 J -3968715.47 -3968715.43 -3968715.39 0.0139 0.0135

Neptune -15579-05-12 11:16 J -3968675.13 -3968675.03 -3968674.92 0.0089 0.0051

Uranus -15579-06-29 09:07 J -3968627.23 -3968627.12 -3968626.98 0.0139 0.0106

Neptune -15579-08-08 12:28 J -3968587.07 -3968586.98 -3968586.88 0.0089 0.0058

Earth -15579-08-12 10:04 J -3968583.16 -3968583.08 -3968583.00 0.2710 0.1916

Moon -15579-08-12 10:19 J -3968583.14 -3968583.07 -3968582.99 0.2704 0.2014 *

Uranus -15579-09-25 17:16 J -3968538.93 -3968538.78 -3968538.61 0.0139 0.0076

Neptune -15579-11-04 13:40 J -3968499.01 -3968498.93 -3968498.83 0.0089 0.0066

Uranus -15579-12-23 01:11 J -3968450.63 -3968450.45 -3968450.26 0.0138 0.0046

Neptune -15578-01-31 15:07 J -3968410.94 -3968410.87 -3968410.79 0.0089 0.0073

Uranus -15578-03-21 09:07 J -3968362.31 -3968362.12 -3968361.92 0.0138 0.0017

Neptune -15578-04-29 16:33 J -3968322.87 -3968322.81 -3968322.75 0.0089 0.0080

Uranus -15578-06-17 17:02 J -3968273.98 -3968273.79 -3968273.59 0.0138 0.0013

Venus -15578-07-25 02:38 J -3968236.48 -3968236.39 -3968236.30 0.3723 0.1404

Neptune -15578-07-26 17:45 J -3968234.78 -3968234.76 -3968234.73 0.0089 0.0087

Uranus -15578-09-14 00:43 J -3968185.65 -3968185.47 -3968185.28 0.0138 0.0043

Mars -15578-10-23 07:55 J -3968146.22 -3968146.17 -3968146.13 0.1623 0.1492

Uranus -15578-12-11 08:24 J -3968097.31 -3968097.15 -3968096.98 0.0138 0.0072

Uranus -15577-03-08 16:19 J -3968008.95 -3968008.82 -3968008.69 0.0138 0.0100

Uranus -15577-06-04 23:45 J -3967920.57 -3967920.51 -3967920.44 0.0138 0.0129

Jupiter -15574-04-20 12:00 J -3966871.12 -3966871.00 -3966870.88 0.0500 0.0373

Jupiter -15574-07-20 00:14 J -3966780.61 -3966780.49 -3966780.36 0.0501 0.0372

Venus -15572-02-06 17:45 J -3966212.80 -3966212.76 -3966212.71 0.3725 0.3299

Moon -15572-08-05 09:07 J -3966033.22 -3966033.12 -3966033.03 0.2720 0.1472

Earth -15572-08-05 08:52 J -3966033.22 -3966033.13 -3966033.04 0.2713 0.1507 *

Saturn -15572-09-17 12:14 J -3965990.14 -3965989.99 -3965989.84 0.0271 0.0168

Saturn -15572-12-15 11:16 J -3965901.22 -3965901.03 -3965900.84 0.0272 0.0013

Saturn -15571-03-14 10:19 J -3965812.20 -3965812.07 -3965811.93 0.0273 0.0195

Mars -15570-04-09 18:14 J -3965420.84 -3965420.74 -3965420.64 0.1626 0.0705

Moon -15568-02-06 17:16 J -3964751.88 -3964751.78 -3964751.67 0.2617 0.1912

Earth -15568-02-06 18:57 J -3964751.83 -3964751.71 -3964751.59 0.2621 0.1692 *

Jupiter -15568-03-13 18:43 J -3964716.85 -3964716.72 -3964716.60 0.0526 0.0074

Mars -15568-03-14 19:26 J -3964715.78 -3964715.69 -3964715.60 0.1623 0.1060

Jupiter -15568-06-10 23:31 J -3964627.56 -3964627.52 -3964627.46 0.0525 0.0480

Mars -15564-11-26 20:52 J -3962997.71 -3962997.63 -3962997.54 0.1897 0.1623

Jupiter -15562-05-07 20:52 J -3962470.80 -3962470.63 -3962470.45 0.0500 0.0189

Mars -15561-08-30 06:00 J -3961990.33 -3961990.25 -3961990.17 0.1628 0.1132

Mars -15559-08-05 06:57 J -3961285.31 -3961285.21 -3961285.10 0.1624 0.0634

Earth -15559-08-08 02:52 J -3961282.49 -3961282.38 -3961282.28 0.2712 0.0320

Moon -15559-08-08 03:21 J -3961282.47 -3961282.36 -3961282.25 0.2715 0.0274 *

Saturn -15559-10-31 04:48 J -3961198.34 -3961198.30 -3961198.25 0.0292 0.0271

Saturn -15558-01-27 16:19 J -3961109.93 -3961109.82 -3961109.70 0.0291 0.0123

Saturn -15558-04-26 03:50 J -3961021.47 -3961021.34 -3961021.21 0.0290 0.0023

Saturn -15558-07-23 15:07 J -3960932.97 -3960932.87 -3960932.76 0.0289 0.0167

Jupiter -15557-12-30 23:16 J -3960406.64 -3960406.53 -3960406.41 0.0526 0.0208

Jupiter -15556-03-30 04:19 J -3960317.42 -3960317.32 -3960317.23 0.0525 0.0346

Moon -15555-02-09 23:31 J -3960000.67 -3960000.52 -3960000.36 0.2621 0.0541

Earth -15555-02-10 01:11 J -3960000.60 -3960000.45 -3960000.30 0.2622 0.0608 *

Mars -15554-04-18 12:43 J -3959568.14 -3959567.97 -3959567.80 0.1896 0.0155

Mars -15551-01-20 17:45 J -3958559.79 -3958559.76 -3958559.73 0.1629 0.1557

Jupiter -15550-02-23 17:16 J -3958160.97 -3958160.78 -3958160.60 0.0500 0.0009

Mars -15550-12-26 18:43 J -3957854.83 -3957854.72 -3957854.60 0.1625 0.0215

Earth -15546-08-10 20:52 J -3956531.74 -3956531.63 -3956531.53 0.2711 0.0926

Moon -15546-08-10 21:21 J -3956531.71 -3956531.61 -3956531.50 0.2710 0.1076 *

Mars -15545-09-07 04:33 J -3956138.43 -3956138.31 -3956138.19 0.1894 0.1310

Jupiter -15545-10-19 04:04 J -3956096.43 -3956096.33 -3956096.24 0.0527 0.0341

Jupiter -15544-01-16 08:52 J -3956007.24 -3956007.13 -3956007.01 0.0526 0.0214

Saturn -15542-02-04 08:52 J -3955258.22 -3955258.13 -3955258.02 0.0271 0.0232

Saturn -15542-05-04 08:09 J -3955169.35 -3955169.16 -3955168.97 0.0272 0.0052

Saturn -15542-08-01 07:11 J -3955080.37 -3955080.20 -3955080.03 0.0273 0.0130

Venus -15541-10-09 11:45 J -3954645.17 -3954645.01 -3954644.84 0.3651 0.0094

Mars -15540-05-18 06:28 J -3954424.34 -3954424.23 -3954424.11 0.1625 0.0221

Moon -15539-08-03 19:40 J -3953981.72 -3953981.68 -3953981.64 0.2721 0.2527

Earth -15539-08-03 19:55 J -3953981.72 -3953981.67 -3953981.63 0.2714 0.2464 *

Jupiter -15539-12-12 13:55 J -3953851.09 -3953850.92 -3953850.74 0.0500 0.0181

Mars -15538-04-23 07:40 J -3953719.21 -3953719.18 -3953719.14 0.1623 0.1546

Venus -15538-07-17 02:24 J -3953634.43 -3953634.40 -3953634.38 0.3718 0.3559

Uranus -15535-06-09 01:11 J -3952576.46 -3952576.45 -3952576.41 0.0139 0.0136

Uranus -15535-09-05 04:33 J -3952488.37 -3952488.31 -3952488.23 0.0140 0.0116

Uranus -15535-12-02 07:55 J -3952400.26 -3952400.17 -3952400.07 0.0140 0.0095

Uranus -15534-02-28 11:16 J -3952312.14 -3952312.03 -3952311.92 0.0140 0.0075

Uranus -15534-05-27 14:24 J -3952224.01 -3952223.90 -3952223.77 0.0140 0.0055

Uranus -15534-08-23 18:00 J -3952135.88 -3952135.75 -3952135.63 0.0140 0.0034

Uranus -15534-11-19 21:07 J -3952047.75 -3952047.62 -3952047.49 0.0140 0.0014

Uranus -15533-02-16 00:28 J -3951959.61 -3951959.48 -3951959.35 0.0140 0.0007

Uranus -15533-05-14 03:50 J -3951871.47 -3951871.34 -3951871.21 0.0140 0.0028

Jupiter -15533-08-07 08:24 J -3951786.20 -3951786.15 -3951786.10 0.0526 0.0479

Uranus -15533-08-10 07:11 J -3951783.32 -3951783.20 -3951783.07 0.0141 0.0049

Earth -15533-08-12 14:52 J -3951780.94 -3951780.88 -3951780.81 0.2710 0.2162

Moon -15533-08-12 15:21 J -3951780.93 -3951780.86 -3951780.80 0.2704 0.2137 *

Jupiter -15533-11-04 13:11 J -3951697.07 -3951696.95 -3951696.82 0.0525 0.0075

Uranus -15533-11-06 10:33 J -3951695.17 -3951695.06 -3951694.94 0.0141 0.0070

Venus -15532-01-29 17:31 J -3951610.86 -3951610.77 -3951610.68 0.3720 0.1682

Uranus -15532-02-02 13:55 J -3951607.02 -3951606.92 -3951606.82 0.0141 0.0091

Uranus -15532-05-01 17:16 J -3951518.85 -3951518.78 -3951518.70 0.0141 0.0112

Uranus -15532-07-28 20:38 J -3951430.67 -3951430.64 -3951430.59 0.0141 0.0133

Mars -15531-10-08 18:14 J -3950993.85 -3950993.74 -3950993.64 0.1626 0.0647

Saturn -15529-06-15 18:14 J -3950377.84 -3950377.74 -3950377.63 0.0292 0.0170

Saturn -15529-09-12 05:45 J -3950289.39 -3950289.26 -3950289.13 0.0291 0.0024

Mars -15529-09-12 19:26 J -3950288.77 -3950288.69 -3950288.61 0.1623 0.1117

Saturn -15529-12-09 17:16 J -3950200.90 -3950200.78 -3950200.66 0.0290 0.0122

Saturn -15528-03-08 04:33 J -3950112.35 -3950112.31 -3950112.26 0.0289 0.0266

Venus -15527-08-15 08:38 J -3949587.24 -3949587.14 -3949587.04 0.3722 0.0218

Jupiter -15527-09-30 10:19 J -3949541.19 -3949541.07 -3949540.94 0.0500 0.0368

Jupiter -15527-12-29 22:48 J -3949450.67 -3949450.55 -3949450.43 0.0501 0.0377

Earth -15526-08-06 13:40 J -3949231.03 -3949230.93 -3949230.83 0.2713 0.1269

Moon -15526-08-06 13:55 J -3949231.01 -3949230.92 -3949230.82 0.2719 0.1243 *

Mars -15524-05-27 22:04 J -3948570.65 -3948570.58 -3948570.52 0.1897 0.1756

Moon -15522-02-07 23:45 J -3947949.64 -3947949.51 -3947949.37 0.2618 0.1361

Earth -15522-02-08 01:26 J -3947949.58 -3947949.44 -3947949.30 0.2621 0.1257 *

Venus -15521-02-29 00:00 J -3947563.58 -3947563.50 -3947563.42 0.3724 0.2090

Mars -15521-02-29 06:00 J -3947563.34 -3947563.25 -3947563.17 0.1627 0.1075

Jupiter -15521-08-23 17:45 J -3947386.88 -3947386.76 -3947386.63 0.0525 0.0064

Jupiter -15521-11-20 22:48 J -3947297.59 -3947297.55 -3947297.51 0.0524 0.0488

Mars -15519-02-03 07:11 J -3946858.31 -3946858.20 -3946858.10 0.1624 0.0693

Mars -15515-10-17 13:40 J -3945141.10 -3945140.93 -3945140.76 0.1896 0.0289

Jupiter -15515-10-17 19:40 J -3945140.85 -3945140.68 -3945140.51 0.0501 0.0197 *

Earth -15513-08-08 07:40 J -3944480.29 -3944480.18 -3944480.07 0.2712 0.0082

Moon -15513-08-08 08:24 J -3944480.26 -3944480.15 -3944480.04 0.2715 0.0101 *

Saturn -15513-09-20 06:00 J -3944437.42 -3944437.25 -3944437.07 0.0271 0.0107

Saturn -15513-12-18 05:02 J -3944348.47 -3944348.29 -3944348.10 0.0272 0.0074

Saturn -15512-03-17 04:04 J -3944259.39 -3944259.33 -3944259.26 0.0273 0.0256

Mars -15512-07-21 17:31 J -3944132.81 -3944132.77 -3944132.73 0.1629 0.1502

Mars -15510-06-26 18:43 J -3943427.83 -3943427.72 -3943427.61 0.1624 0.0262

Moon -15509-02-11 06:14 J -3943198.39 -3943198.24 -3943198.09 0.2623 0.0796

Earth -15509-02-11 07:55 J -3943198.32 -3943198.17 -3943198.03 0.2622 0.1051 *

Jupiter -15509-06-11 22:04 J -3943076.70 -3943076.58 -3943076.46 0.0526 0.0204

Jupiter -15509-09-09 02:52 J -3942987.47 -3942987.38 -3942987.28 0.0525 0.0349

Pluto -15507-10-20 15:50 J -3942215.86 -3942215.84 -3942215.79 0.0072 0.0071

Pluto -15506-01-16 17:16 J -3942127.85 -3942127.78 -3942127.68 0.0072 0.0062

Pluto -15506-04-14 18:57 J -3942039.81 -3942039.71 -3942039.60 0.0072 0.0053

Pluto -15506-07-11 20:09 J -3941951.77 -3941951.66 -3941951.52 0.0072 0.0044

Pluto -15506-10-07 21:35 J -3941863.73 -3941863.60 -3941863.45 0.0072 0.0035

Pluto -15505-01-03 23:02 J -3941775.68 -3941775.54 -3941775.38 0.0072 0.0027

Mars -15505-03-08 05:31 J -3941711.41 -3941711.27 -3941711.14 0.1894 0.1180

Pluto -15505-04-01 00:28 J -3941687.63 -3941687.48 -3941687.32 0.0072 0.0018

Pluto -15505-06-28 01:55 J -3941599.57 -3941599.42 -3941599.26 0.0072 0.0010

Pluto -15505-09-24 03:21 J -3941511.52 -3941511.36 -3941511.20 0.0071 0.0001

Pluto -15505-12-21 04:48 J -3941423.46 -3941423.30 -3941423.14 0.0071 0.0008

Pluto -15504-03-19 06:00 J -3941335.40 -3941335.25 -3941335.09 0.0071 0.0016

Pluto -15504-06-15 07:11 J -3941247.34 -3941247.20 -3941247.04 0.0071 0.0024

Pluto -15504-09-11 08:24 J -3941159.28 -3941159.15 -3941159.00 0.0071 0.0032

Pluto -15504-12-08 09:50 J -3941071.22 -3941071.09 -3941070.95 0.0071 0.0040

Pluto -15503-03-06 11:02 J -3940983.15 -3940983.04 -3940982.92 0.0071 0.0048

Pluto -15503-06-02 12:14 J -3940895.07 -3940894.99 -3940894.88 0.0071 0.0056

Jupiter -15503-08-05 16:33 J -3940831.00 -3940830.81 -3940830.63 0.0500 0.0018

Pluto -15503-08-29 13:26 J -3940806.99 -3940806.94 -3940806.86 0.0071 0.0064

Mars -15501-11-16 06:28 J -3939997.35 -3939997.23 -3939997.12 0.1625 0.0167

Neptune -15500-03-27 18:43 J -3939865.79 -3939865.72 -3939865.62 0.0088 0.0079

Neptune -15500-06-23 22:19 J -3939777.67 -3939777.57 -3939777.43 0.0088 0.0069

Earth -15500-08-11 01:40 J -3939729.53 -3939729.43 -3939729.33 0.2711 0.1166

Moon -15500-08-11 02:24 J -3939729.50 -3939729.40 -3939729.31 0.2708 0.1191 *

Neptune -15500-09-20 02:09 J -3939689.54 -3939689.41 -3939689.25 0.0088 0.0059

Saturn -15500-11-02 20:09 J -3939645.74 -3939645.66 -3939645.57 0.0292 0.0218

Neptune -15500-12-17 06:14 J -3939601.40 -3939601.24 -3939601.07 0.0088 0.0048

Saturn -15499-01-30 07:40 J -3939557.30 -3939557.18 -3939557.05 0.0291 0.0071

Neptune -15499-03-15 09:50 J -3939513.26 -3939513.09 -3939512.91 0.0088 0.0038

Saturn -15499-04-28 19:11 J -3939468.82 -3939468.70 -3939468.58 0.0290 0.0076

Neptune -15499-06-11 13:26 J -3939425.12 -3939424.94 -3939424.74 0.0088 0.0028

Saturn -15499-07-26 06:28 J -3939380.31 -3939380.23 -3939380.14 0.0289 0.0220

Neptune -15499-09-07 17:16 J -3939336.97 -3939336.78 -3939336.58 0.0088 0.0018

Mars -15499-10-22 07:40 J -3939292.20 -3939292.18 -3939292.16 0.1623 0.1598

Neptune -15499-12-04 20:52 J -3939248.82 -3939248.63 -3939248.42 0.0088 0.0008

Neptune -15498-03-03 00:43 J -3939160.67 -3939160.47 -3939160.27 0.0088 0.0003

Neptune -15498-05-30 04:19 J -3939072.51 -3939072.32 -3939072.12 0.0088 0.0013

Neptune -15498-08-26 07:55 J -3938984.35 -3938984.17 -3938983.97 0.0088 0.0023

Neptune -15498-11-22 11:45 J -3938896.19 -3938896.01 -3938895.82 0.0088 0.0033

Neptune -15497-02-18 15:21 J -3938808.02 -3938807.86 -3938807.68 0.0088 0.0043

Jupiter -15497-03-31 02:38 J -3938766.48 -3938766.39 -3938766.29 0.0526 0.0339

Neptune -15497-05-16 19:11 J -3938719.86 -3938719.70 -3938719.54 0.0088 0.0053

Jupiter -15497-06-28 07:40 J -3938677.30 -3938677.18 -3938677.07 0.0525 0.0214

Neptune -15497-08-12 22:19 J -3938631.68 -3938631.57 -3938631.41 0.0088 0.0064

Neptune -15497-11-09 02:09 J -3938543.50 -3938543.41 -3938543.29 0.0088 0.0074

Neptune -15496-02-05 05:45 J -3938455.30 -3938455.26 -3938455.18 0.0088 0.0084

Uranus -15495-04-22 09:35 J -3938014.18 -3938014.10 -3938014.01 0.0139 0.0125

Uranus -15495-07-19 17:31 J -3937925.90 -3937925.77 -3937925.62 0.0139 0.0095

Uranus -15495-10-16 01:26 J -3937837.60 -3937837.44 -3937837.26 0.0139 0.0065

Uranus -15494-01-12 09:21 J -3937749.29 -3937749.11 -3937748.92 0.0138 0.0036

Uranus -15494-04-10 17:16 J -3937660.97 -3937660.78 -3937660.58 0.0138 0.0006

Uranus -15494-07-08 01:11 J -3937572.64 -3937572.45 -3937572.26 0.0138 0.0023

Uranus -15494-10-04 08:38 J -3937484.31 -3937484.14 -3937483.95 0.0138 0.0053

Uranus -15494-12-31 16:19 J -3937395.96 -3937395.82 -3937395.65 0.0138 0.0082

Uranus -15493-03-29 00:14 J -3937307.60 -3937307.49 -3937307.37 0.0138 0.0110

Moon -15493-08-04 00:28 J -3937179.54 -3937179.48 -3937179.42 0.2721 0.2219

Earth -15493-08-04 00:43 J -3937179.53 -3937179.47 -3937179.41 0.2714 0.2232 *

Mars -15491-04-08 18:14 J -3936566.85 -3936566.74 -3936566.64 0.1626 0.0593

Jupiter -15491-05-24 12:43 J -3936521.14 -3936520.97 -3936520.79 0.0500 0.0171

Mars -15489-03-13 19:26 J -3935861.77 -3935861.69 -3935861.61 0.1623 0.1174

Earth -15487-08-13 19:40 J -3934978.72 -3934978.68 -3934978.63 0.2710 0.2407

Moon -15487-08-13 20:09 J -3934978.70 -3934978.66 -3934978.62 0.2704 0.2499 *

Jupiter -15485-01-18 07:26 J -3934456.24 -3934456.19 -3934456.14 0.0527 0.0471

Jupiter -15485-04-16 12:28 J -3934367.11 -3934366.98 -3934366.86 0.0526 0.0084

Mars -15485-11-25 22:33 J -3934143.58 -3934143.56 -3934143.53 0.1897 0.1872

Venus -15484-05-16 14:38 J -3933972.01 -3933971.89 -3933971.76 0.3650 0.2320

Saturn -15483-02-07 02:38 J -3933705.54 -3933705.39 -3933705.24 0.0271 0.0174

Saturn -15483-05-07 01:40 J -3933616.63 -3933616.43 -3933616.24 0.0272 0.0008

Saturn -15483-08-04 00:28 J -3933527.61 -3933527.48 -3933527.33 0.0273 0.0187

Mars -15482-08-30 06:00 J -3933136.34 -3933136.25 -3933136.17 0.1628 0.1019

Venus -15481-02-20 23:31 J -3932961.58 -3932961.52 -3932961.45 0.3718 0.2877

Mars -15480-08-04 06:57 J -3932431.31 -3932431.21 -3932431.11 0.1624 0.0746

Earth -15480-08-06 18:28 J -3932428.83 -3932428.73 -3932428.63 0.2713 0.1031

Moon -15480-08-06 18:57 J -3932428.81 -3932428.71 -3932428.61 0.2718 0.1002 *

Jupiter -15479-03-12 09:35 J -3932211.23 -3932211.10 -3932210.96 0.0499 0.0351

Jupiter -15479-06-10 21:50 J -3932120.70 -3932120.59 -3932120.47 0.0500 0.0392

Moon -15476-02-08 06:28 J -3931147.38 -3931147.23 -3931147.08 0.2618 0.1014

Earth -15476-02-08 08:09 J -3931147.31 -3931147.16 -3931147.01 0.2621 0.0812 *

Venus -15476-09-05 14:52 J -3930937.98 -3930937.88 -3930937.79 0.3720 0.1003

Mars -15475-04-17 14:52 J -3930714.05 -3930713.88 -3930713.71 0.1896 0.0434

Jupiter -15473-02-03 16:48 J -3930056.92 -3930056.80 -3930056.67 0.0525 0.0056

Jupiter -15473-05-02 21:50 J -3929967.63 -3929967.59 -3929967.55 0.0524 0.0496

Mars -15472-01-19 17:31 J -3929705.82 -3929705.77 -3929705.72 0.1629 0.1445

Mars -15471-12-25 18:43 J -3929000.83 -3929000.72 -3929000.61 0.1624 0.0320

Venus -15470-03-22 06:00 J -3928914.35 -3928914.25 -3928914.15 0.3722 0.0883

Saturn -15470-03-22 21:50 J -3928913.64 -3928913.59 -3928913.54 0.0293 0.0270

Saturn -15470-06-19 09:21 J -3928825.23 -3928825.11 -3928825.00 0.0292 0.0121

Saturn -15470-09-15 20:52 J -3928736.76 -3928736.63 -3928736.51 0.0291 0.0027

Saturn -15470-12-13 08:09 J -3928648.26 -3928648.16 -3928648.05 0.0290 0.0171

Jupiter -15467-03-29 18:28 J -3927810.90 -3927810.73 -3927810.56 0.0501 0.0206

Earth -15467-08-09 12:28 J -3927678.09 -3927677.98 -3927677.87 0.2712 0.0184

Moon -15467-08-09 13:11 J -3927678.06 -3927677.95 -3927677.84 0.2714 0.0244 *

Mars -15466-09-07 06:14 J -3927284.38 -3927284.24 -3927284.10 0.1894 0.1058

Venus -15465-10-04 21:21 J -3926890.68 -3926890.61 -3926890.55 0.3724 0.2773

Moon -15463-02-11 12:43 J -3926396.10 -3926395.97 -3926395.83 0.2625 0.1407

Earth -15463-02-11 14:24 J -3926396.03 -3926395.90 -3926395.77 0.2622 0.1479 *

Jupiter -15462-11-22 21:21 J -3925746.72 -3925746.61 -3925746.49 0.0526 0.0191

Jupiter -15461-02-20 02:24 J -3925657.49 -3925657.40 -3925657.31 0.0524 0.0362

Mars -15461-05-17 06:28 J -3925570.35 -3925570.23 -3925570.12 0.1625 0.0114

Jupiter -15455-01-15 15:21 J -3923501.04 -3923500.86 -3923500.67 0.0500 0.0028

Saturn -15454-06-27 00:28 J -3922973.58 -3922973.48 -3922973.38 0.0270 0.0229

Earth -15454-08-12 06:28 J -3922927.32 -3922927.23 -3922927.13 0.2711 0.1410

Moon -15454-08-12 07:11 J -3922927.29 -3922927.20 -3922927.11 0.2706 0.1523 *

Saturn -15454-09-23 23:16 J -3922884.72 -3922884.53 -3922884.34 0.0271 0.0051

Saturn -15454-12-21 22:04 J -3922795.74 -3922795.58 -3922795.40 0.0272 0.0130

Mars -15452-10-07 18:00 J -3922139.85 -3922139.75 -3922139.64 0.1626 0.0539

Uranus -15451-06-29 08:09 J -3921875.19 -3921875.16 -3921875.11 0.0139 0.0133

Uranus -15451-09-25 11:31 J -3921787.09 -3921787.02 -3921786.94 0.0140 0.0113

Uranus -15451-12-22 14:38 J -3921698.98 -3921698.89 -3921698.78 0.0140 0.0093

Uranus -15450-03-20 18:00 J -3921610.86 -3921610.75 -3921610.63 0.0140 0.0073

Uranus -15450-06-16 21:21 J -3921522.73 -3921522.61 -3921522.49 0.0140 0.0052

Jupiter -15450-09-11 01:40 J -3921436.52 -3921436.43 -3921436.33 0.0526 0.0331

Mars -15450-09-12 19:11 J -3921434.77 -3921434.70 -3921434.62 0.1623 0.1230

Uranus -15450-09-13 00:43 J -3921434.60 -3921434.47 -3921434.34 0.0140 0.0032

Jupiter -15450-12-09 06:43 J -3921347.34 -3921347.22 -3921347.11 0.0525 0.0222

Uranus -15450-12-10 04:04 J -3921346.46 -3921346.33 -3921346.20 0.0140 0.0011

Uranus -15449-03-07 07:26 J -3921258.32 -3921258.19 -3921258.06 0.0140 0.0010

Uranus -15449-06-03 10:33 J -3921170.18 -3921170.06 -3921169.93 0.0140 0.0031

Uranus -15449-08-30 13:55 J -3921082.04 -3921081.92 -3921081.79 0.0141 0.0051

Uranus -15449-11-26 17:31 J -3920993.89 -3920993.77 -3920993.66 0.0141 0.0072

Uranus -15448-02-22 20:52 J -3920905.73 -3920905.63 -3920905.53 0.0141 0.0093

Uranus -15448-05-22 00:14 J -3920817.57 -3920817.49 -3920817.41 0.0141 0.0114

Uranus -15448-08-18 03:21 J -3920729.38 -3920729.36 -3920729.31 0.0141 0.0136

Moon -15447-08-05 05:16 J -3920377.34 -3920377.28 -3920377.21 0.2721 0.2070

Earth -15447-08-05 05:31 J -3920377.34 -3920377.27 -3920377.20 0.2714 0.1999 *

Jupiter -15444-11-03 12:14 J -3919191.17 -3919190.99 -3919190.81 0.0500 0.0154

Mars -15442-02-28 05:45 J -3918709.35 -3918709.26 -3918709.17 0.1627 0.0964

Moon -15441-08-14 00:43 J -3918176.49 -3918176.47 -3918176.44 0.2704 0.2607

Earth -15441-08-14 00:43 J -3918176.49 -3918176.47 -3918176.45 0.2710 0.2651 *

Saturn -15441-11-05 10:48 J -3918093.15 -3918093.05 -3918092.94 0.0293 0.0173

Saturn -15440-02-01 22:19 J -3918004.70 -3918004.57 -3918004.44 0.0291 0.0026

Mars -15440-02-02 06:57 J -3918004.31 -3918004.21 -3918004.11 0.1624 0.0799

Saturn -15440-05-01 09:50 J -3917916.21 -3917916.09 -3917915.97 0.0290 0.0121

Saturn -15440-07-28 21:07 J -3917827.66 -3917827.62 -3917827.57 0.0289 0.0265

Jupiter -15438-06-30 06:14 J -3917126.29 -3917126.24 -3917126.18 0.0526 0.0465

Jupiter -15438-09-27 11:16 J -3917037.15 -3917037.03 -3917036.91 0.0525 0.0088

Mars -15436-10-16 15:07 J -3916287.03 -3916286.87 -3916286.70 0.1896 0.0534

Earth -15434-08-07 23:16 J -3915626.63 -3915626.53 -3915626.42 0.2713 0.0801

Moon -15434-08-07 23:45 J -3915626.61 -3915626.51 -3915626.40 0.2718 0.0706 *

Venus -15433-06-06 05:16 J -3915323.40 -3915323.28 -3915323.16 0.3652 0.2448

Mars -15433-07-20 17:31 J -3915278.83 -3915278.77 -3915278.71 0.1629 0.1390

Jupiter -15432-08-22 08:52 J -3914881.27 -3914881.13 -3914880.99 0.0499 0.0338

Jupiter -15432-11-20 21:07 J -3914790.73 -3914790.62 -3914790.51 0.0501 0.0405

Mars -15431-06-25 18:43 J -3914573.83 -3914573.72 -3914573.61 0.1625 0.0375

Moon -15430-02-09 13:11 J -3914345.11 -3914344.95 -3914344.80 0.2619 0.0521

Earth -15430-02-09 14:38 J -3914345.04 -3914344.89 -3914344.73 0.2621 0.0370 *

Mars -15426-03-08 07:26 J -3912857.34 -3912857.19 -3912857.04 0.1895 0.0913

Jupiter -15426-07-16 16:04 J -3912726.96 -3912726.83 -3912726.71 0.0526 0.0044

Jupiter -15426-10-13 21:07 J -3912637.65 -3912637.62 -3912637.59 0.0525 0.0509

Venus -15425-09-26 20:52 J -3912288.71 -3912288.63 -3912288.55 0.3719 0.2195

Saturn -15424-02-09 19:26 J -3912152.86 -3912152.69 -3912152.52 0.0270 0.0120

Saturn -15424-05-09 18:14 J -3912063.92 -3912063.74 -3912063.55 0.0271 0.0060

Saturn -15424-08-06 17:02 J -3911974.86 -3911974.79 -3911974.69 0.0273 0.0241

Mars -15422-11-16 06:28 J -3911143.35 -3911143.23 -3911143.12 0.1625 0.0075

Earth -15421-08-09 17:16 J -3910875.89 -3910875.78 -3910875.67 0.2712 0.0431

Moon -15421-08-09 18:00 J -3910875.86 -3910875.75 -3910875.64 0.2713 0.0511 *

Jupiter -15420-09-08 18:00 J -3910480.91 -3910480.75 -3910480.58 0.0500 0.0227

Neptune -15419-04-12 08:52 J -3910265.14 -3910265.13 -3910265.09 0.0089 0.0088

Venus -15419-04-12 12:14 J -3910265.09 -3910264.99 -3910264.89 0.3721 0.0347 *

Neptune -15419-07-09 10:19 J -3910177.12 -3910177.07 -3910177.01 0.0089 0.0080

Neptune -15419-10-05 11:31 J -3910089.08 -3910089.02 -3910088.94 0.0089 0.0074

Neptune -15418-01-01 12:57 J -3910001.04 -3910000.96 -3910000.87 0.0089 0.0066

Neptune -15418-03-30 14:09 J -3909913.00 -3909912.91 -3909912.81 0.0089 0.0060

Neptune -15418-06-26 15:21 J -3909824.96 -3909824.86 -3909824.75 0.0089 0.0053

Neptune -15418-09-22 16:48 J -3909736.91 -3909736.80 -3909736.69 0.0089 0.0045

Neptune -15418-12-19 18:00 J -3909648.86 -3909648.75 -3909648.63 0.0089 0.0039

Moon -15417-02-12 19:26 J -3909593.81 -3909593.69 -3909593.57 0.2625 0.1696

Earth -15417-02-12 20:52 J -3909593.73 -3909593.63 -3909593.52 0.2622 0.1918 *

Neptune -15417-03-16 19:26 J -3909560.81 -3909560.69 -3909560.57 0.0089 0.0031

Neptune -15417-06-12 20:38 J -3909472.76 -3909472.64 -3909472.51 0.0089 0.0024

Neptune -15417-09-08 21:50 J -3909384.71 -3909384.59 -3909384.46 0.0089 0.0018

Neptune -15417-12-05 23:16 J -3909296.66 -3909296.53 -3909296.40 0.0089 0.0010

Neptune -15416-03-04 00:28 J -3909208.61 -3909208.48 -3909208.35 0.0089 0.0004

Neptune -15416-05-31 01:55 J -3909120.55 -3909120.42 -3909120.29 0.0089 0.0004

Neptune -15416-08-27 03:07 J -3909032.50 -3909032.37 -3909032.24 0.0089 0.0011

Neptune -15416-11-23 04:19 J -3908944.44 -3908944.32 -3908944.19 0.0089 0.0018

Neptune -15415-02-19 05:45 J -3908856.39 -3908856.26 -3908856.14 0.0089 0.0025

Neptune -15415-05-18 06:57 J -3908768.33 -3908768.21 -3908768.08 0.0089 0.0032

Neptune -15415-08-14 08:09 J -3908680.27 -3908680.16 -3908680.03 0.0089 0.0040

Neptune -15415-11-10 09:35 J -3908592.21 -3908592.10 -3908591.99 0.0089 0.0046

Neptune -15414-02-06 10:48 J -3908504.15 -3908504.05 -3908503.94 0.0089 0.0054

Jupiter -15414-05-04 20:38 J -3908416.76 -3908416.64 -3908416.52 0.0526 0.0179

Neptune -15414-05-05 12:14 J -3908416.09 -3908415.99 -3908415.89 0.0089 0.0060

Neptune -15414-08-01 13:26 J -3908328.02 -3908327.94 -3908327.85 0.0089 0.0068

Jupiter -15414-08-02 01:40 J -3908327.52 -3908327.43 -3908327.35 0.0524 0.0372

Venus -15414-10-27 03:21 J -3908241.45 -3908241.36 -3908241.27 0.3723 0.1564

Neptune -15414-10-28 14:52 J -3908239.95 -3908239.88 -3908239.81 0.0089 0.0075

Neptune -15413-01-24 16:04 J -3908151.88 -3908151.83 -3908151.78 0.0089 0.0082

Neptune -15413-04-21 17:31 J -3908063.78 -3908063.77 -3908063.76 0.0089 0.0089

Mars -15412-04-07 18:00 J -3907712.86 -3907712.75 -3907712.64 0.1626 0.0481

Saturn -15411-03-25 12:00 J -3907361.08 -3907361.00 -3907360.92 0.0293 0.0228

Uranus -15411-05-12 17:16 J -3907312.88 -3907312.78 -3907312.67 0.0139 0.0116

Saturn -15411-06-21 23:31 J -3907272.64 -3907272.52 -3907272.39 0.0292 0.0080

Uranus -15411-08-09 01:26 J -3907224.59 -3907224.44 -3907224.29 0.0139 0.0086

Saturn -15411-09-18 11:02 J -3907184.16 -3907184.04 -3907183.91 0.0291 0.0068

Uranus -15411-11-05 09:07 J -3907136.29 -3907136.12 -3907135.93 0.0139 0.0057

Saturn -15411-12-15 22:33 J -3907095.64 -3907095.56 -3907095.47 0.0290 0.0213

Uranus -15410-02-01 17:16 J -3907047.97 -3907047.78 -3907047.59 0.0138 0.0027

Mars -15410-03-13 19:11 J -3907007.77 -3907007.70 -3907007.63 0.1623 0.1286

Uranus -15410-05-01 01:11 J -3906959.65 -3906959.45 -3906959.26 0.0138 0.0003

Uranus -15410-07-28 08:52 J -3906871.31 -3906871.13 -3906870.94 0.0138 0.0032

Uranus -15410-10-24 16:48 J -3906782.97 -3906782.80 -3906782.63 0.0138 0.0061

Uranus -15409-01-21 00:28 J -3906694.62 -3906694.48 -3906694.33 0.0138 0.0090

Uranus -15409-04-18 07:55 J -3906606.25 -3906606.17 -3906606.06 0.0138 0.0119

Venus -15408-05-11 18:28 J -3906217.76 -3906217.73 -3906217.69 0.3724 0.3451

Jupiter -15408-06-27 14:24 J -3906171.09 -3906170.90 -3906170.72 0.0501 0.0038

Earth -15408-08-12 11:16 J -3906125.11 -3906125.03 -3906124.94 0.2711 0.1661

Moon -15408-08-12 12:00 J -3906125.09 -3906125.00 -3906124.92 0.2706 0.1690 *

Mars -15403-08-29 05:45 J -3904282.35 -3904282.26 -3904282.16 0.1627 0.0908

Jupiter -15402-02-21 01:11 J -3904106.54 -3904106.45 -3904106.34 0.0526 0.0313

Jupiter -15402-05-21 06:14 J -3904017.35 -3904017.24 -3904017.13 0.0524 0.0239

Mars -15401-08-03 06:57 J -3903577.31 -3903577.21 -3903577.11 0.1624 0.0857

Moon -15401-08-05 10:19 J -3903575.15 -3903575.07 -3903574.99 0.2720 0.1709

Earth -15401-08-05 10:19 J -3903575.15 -3903575.07 -3903574.99 0.2714 0.1768 *

Moon -15397-02-07 13:26 J -3902293.99 -3902293.94 -3902293.89 0.2615 0.2465

Earth -15397-02-07 14:38 J -3902293.97 -3902293.89 -3902293.81 0.2620 0.2263 *

Jupiter -15396-04-15 11:16 J -3901861.21 -3901861.03 -3901860.85 0.0500 0.0142

Mars -15396-04-16 16:33 J -3901859.97 -3901859.81 -3901859.65 0.1896 0.0683

Saturn -15395-06-29 17:02 J -3901420.93 -3901420.79 -3901420.64 0.0270 0.0177

Saturn -15395-09-26 16:04 J -3901332.03 -3901331.83 -3901331.64 0.0271 0.0006

Saturn -15395-12-24 14:38 J -3901243.02 -3901242.89 -3901242.74 0.0272 0.0182

Mars -15393-01-19 17:31 J -3900851.84 -3900851.77 -3900851.71 0.1629 0.1335

Mars -15392-12-24 18:43 J -3900146.83 -3900146.72 -3900146.61 0.1624 0.0433

Jupiter -15391-12-10 05:31 J -3899796.33 -3899796.27 -3899796.20 0.0526 0.0453

Jupiter -15390-03-09 10:33 J -3899707.19 -3899707.06 -3899706.94 0.0525 0.0099

Earth -15388-08-08 04:04 J -3898824.43 -3898824.33 -3898824.22 0.2713 0.0571

Moon -15388-08-08 04:48 J -3898824.41 -3898824.30 -3898824.20 0.2718 0.0545 *

Mars -15387-09-06 08:09 J -3898430.32 -3898430.16 -3898430.01 0.1894 0.0798

Jupiter -15384-02-01 08:09 J -3897551.30 -3897551.16 -3897551.01 0.0500 0.0320

Moon -15384-02-09 19:40 J -3897542.84 -3897542.68 -3897542.53 0.2621 0.0095

Earth -15384-02-09 21:07 J -3897542.77 -3897542.62 -3897542.46 0.2621 0.0099 *

Jupiter -15384-05-02 20:38 J -3897460.73 -3897460.64 -3897460.54 0.0501 0.0425

Mars -15382-05-17 06:14 J -3896716.35 -3896716.24 -3896716.12 0.1625 0.0044

Saturn -15382-08-12 13:26 J -3896628.97 -3896628.94 -3896628.90 0.0294 0.0282

Saturn -15382-11-09 01:11 J -3896540.57 -3896540.45 -3896540.34 0.0293 0.0133

Saturn -15381-02-05 12:43 J -3896452.10 -3896451.97 -3896451.84 0.0292 0.0016

Saturn -15381-05-04 00:00 J -3896363.60 -3896363.50 -3896363.39 0.0290 0.0162

Jupiter -15379-12-26 15:07 J -3895397.00 -3895396.87 -3895396.75 0.0526 0.0037

Jupiter -15378-03-25 19:55 J -3895307.68 -3895307.67 -3895307.65 0.0524 0.0516

Venus -15376-01-11 08:24 J -3894650.32 -3894650.15 -3894649.99 0.3652 0.0153

Earth -15375-08-10 22:04 J -3894073.68 -3894073.58 -3894073.47 0.2712 0.0672

Moon -15375-08-10 22:48 J -3894073.65 -3894073.55 -3894073.44 0.2710 0.0782 *

Venus -15374-10-19 03:07 J -3893639.41 -3893639.37 -3893639.33 0.3717 0.3377

Mars -15373-10-06 18:00 J -3893285.86 -3893285.75 -3893285.64 0.1626 0.0425

Jupiter -15372-02-18 17:16 J -3893150.94 -3893150.78 -3893150.61 0.0500 0.0242

Moon -15371-02-13 01:55 J -3892791.50 -3892791.42 -3892791.34 0.2625 0.2245

Earth -15371-02-13 03:21 J -3892791.42 -3892791.36 -3892791.29 0.2622 0.2344 *

Mars -15371-09-11 19:11 J -3892580.76 -3892580.70 -3892580.64 0.1623 0.1339

Venus -15368-05-03 18:14 J -3891615.83 -3891615.74 -3891615.65 0.3719 0.1516

Uranus -15367-07-19 15:07 J -3891173.91 -3891173.87 -3891173.82 0.0139 0.0129

Jupiter -15367-10-14 19:55 J -3891086.79 -3891086.67 -3891086.56 0.0526 0.0169

Uranus -15367-10-15 18:28 J -3891085.81 -3891085.73 -3891085.65 0.0139 0.0109

Uranus -15366-01-11 21:35 J -3890997.69 -3890997.60 -3890997.49 0.0140 0.0090

Jupiter -15366-01-12 00:43 J -3890997.55 -3890997.47 -3890997.38 0.0525 0.0385 *

Uranus -15366-04-10 00:57 J -3890909.57 -3890909.46 -3890909.34 0.0140 0.0069

Uranus -15366-07-07 04:19 J -3890821.44 -3890821.32 -3890821.20 0.0140 0.0049

Uranus -15366-10-03 07:40 J -3890733.31 -3890733.18 -3890733.05 0.0140 0.0029

Saturn -15366-11-16 13:11 J -3890689.02 -3890688.95 -3890688.86 0.0269 0.0245

Uranus -15366-12-30 11:02 J -3890645.18 -3890645.04 -3890644.91 0.0140 0.0009

Saturn -15365-02-13 12:14 J -3890600.18 -3890599.99 -3890599.80 0.0270 0.0067

Uranus -15365-03-27 14:09 J -3890557.04 -3890556.91 -3890556.77 0.0140 0.0013

Saturn -15365-05-12 11:02 J -3890511.21 -3890511.04 -3890510.86 0.0271 0.0112

Uranus -15365-06-23 17:31 J -3890468.89 -3890468.77 -3890468.64 0.0140 0.0033

Uranus -15365-09-19 20:52 J -3890380.75 -3890380.63 -3890380.51 0.0140 0.0054

Uranus -15365-12-17 00:14 J -3890292.60 -3890292.49 -3890292.38 0.0141 0.0075

Uranus -15364-03-15 03:35 J -3890204.44 -3890204.35 -3890204.25 0.0141 0.0096

Uranus -15364-06-11 07:11 J -3890116.27 -3890116.20 -3890116.13 0.0141 0.0117

Uranus -15364-09-07 10:33 J -3890028.08 -3890028.06 -3890028.04 0.0141 0.0138

Mars -15363-02-27 05:45 J -3889855.36 -3889855.26 -3889855.16 0.1627 0.0850

Venus -15363-11-17 09:35 J -3889592.20 -3889592.10 -3889592.00 0.3721 0.0395

Earth -15362-08-13 16:19 J -3889322.90 -3889322.82 -3889322.75 0.2711 0.1900

Moon -15362-08-13 16:48 J -3889322.88 -3889322.80 -3889322.73 0.2706 0.1980 *

Mars -15361-02-02 06:57 J -3889150.31 -3889150.21 -3889150.12 0.1624 0.0914

Jupiter -15361-12-07 14:09 J -3888841.09 -3888840.91 -3888840.72 0.0500 0.0063

Venus -15357-06-02 00:43 J -3887568.55 -3887568.47 -3887568.39 0.3723 0.2241

Mars -15357-10-15 17:31 J -3887432.93 -3887432.77 -3887432.62 0.1896 0.0814

Jupiter -15355-08-03 00:28 J -3886776.58 -3886776.48 -3886776.37 0.0526 0.0301

Earth -15355-08-06 15:07 J -3886772.96 -3886772.87 -3886772.78 0.2714 0.1530

Moon -15355-08-06 15:21 J -3886772.95 -3886772.86 -3886772.77 0.2720 0.1568 *

Jupiter -15355-10-31 05:31 J -3886687.38 -3886687.27 -3886687.16 0.0525 0.0251

Mars -15354-07-20 17:31 J -3886424.84 -3886424.77 -3886424.70 0.1629 0.1277

Saturn -15352-03-28 02:09 J -3885808.51 -3885808.41 -3885808.31 0.0293 0.0190

Saturn -15352-06-24 13:40 J -3885720.05 -3885719.93 -3885719.80 0.0292 0.0042

Mars -15352-06-24 18:43 J -3885719.83 -3885719.72 -3885719.61 0.1624 0.0490 *

Saturn -15352-09-21 01:11 J -3885631.57 -3885631.45 -3885631.33 0.0291 0.0106

Saturn -15352-12-18 12:43 J -3885543.03 -3885542.97 -3885542.91 0.0290 0.0251

Moon -15351-02-07 19:55 J -3885491.78 -3885491.67 -3885491.56 0.2615 0.1860

Earth -15351-02-07 21:07 J -3885491.73 -3885491.62 -3885491.50 0.2620 0.1829 *

Jupiter -15349-09-25 10:04 J -3884531.26 -3884531.08 -3884530.89 0.0501 0.0132

Mars -15347-03-07 09:07 J -3884003.28 -3884003.12 -3884002.96 0.1894 0.0663

Pluto -15343-03-09 13:40 J -3882539.95 -3882539.93 -3882539.88 0.0071 0.0070

Jupiter -15343-05-22 05:16 J -3882466.35 -3882466.28 -3882466.21 0.0526 0.0432

Pluto -15343-06-05 14:52 J -3882451.94 -3882451.88 -3882451.78 0.0071 0.0062

Jupiter -15343-08-19 10:04 J -3882377.20 -3882377.08 -3882376.95 0.0525 0.0119

Pluto -15343-09-01 16:19 J -3882363.91 -3882363.82 -3882363.71 0.0072 0.0054

Mars -15343-11-15 06:14 J -3882289.35 -3882289.24 -3882289.12 0.1625 0.0061

Pluto -15343-11-28 17:31 J -3882275.88 -3882275.77 -3882275.64 0.0072 0.0046

Pluto -15342-02-24 18:57 J -3882187.84 -3882187.71 -3882187.57 0.0072 0.0037

Pluto -15342-05-23 20:09 J -3882099.79 -3882099.66 -3882099.51 0.0072 0.0029

Earth -15342-08-09 09:07 J -3882022.23 -3882022.12 -3882022.01 0.2713 0.0329

Moon -15342-08-09 09:35 J -3882022.21 -3882022.10 -3882021.99 0.2717 0.0197 *

Pluto -15342-08-19 21:21 J -3882011.75 -3882011.61 -3882011.45 0.0072 0.0021

Pluto -15342-11-15 22:48 J -3881923.70 -3881923.55 -3881923.39 0.0072 0.0013

Pluto -15341-02-12 00:14 J -3881835.64 -3881835.49 -3881835.33 0.0072 0.0004

Pluto -15341-05-10 01:26 J -3881747.59 -3881747.44 -3881747.28 0.0072 0.0006

Pluto -15341-08-06 02:52 J -3881659.53 -3881659.38 -3881659.22 0.0073 0.0013

Pluto -15341-11-02 04:19 J -3881571.47 -3881571.32 -3881571.17 0.0073 0.0022

Pluto -15340-01-29 05:31 J -3881483.41 -3881483.27 -3881483.12 0.0073 0.0031

Pluto -15340-04-27 06:43 J -3881395.34 -3881395.22 -3881395.08 0.0073 0.0040

Pluto -15340-07-24 07:55 J -3881307.27 -3881307.17 -3881307.04 0.0073 0.0049

Pluto -15340-10-20 09:50 J -3881219.19 -3881219.09 -3881219.00 0.0073 0.0058

Pluto -15339-01-16 11:02 J -3881131.10 -3881131.04 -3881130.97 0.0073 0.0067

Moon -15338-02-11 02:09 J -3880740.57 -3880740.41 -3880740.26 0.2622 0.0269

Earth -15338-02-11 03:50 J -3880740.50 -3880740.34 -3880740.19 0.2621 0.0505 *

Jupiter -15337-07-14 07:11 J -3880221.35 -3880221.20 -3880221.05 0.0500 0.0309

Jupiter -15337-10-12 19:40 J -3880130.76 -3880130.68 -3880130.59 0.0501 0.0438

Saturn -15336-07-02 09:50 J -3879868.26 -3879868.09 -3879867.91 0.0270 0.0124

Neptune -15336-09-25 12:43 J -3879782.98 -3879782.97 -3879782.92 0.0088 0.0087

Saturn -15336-09-29 08:52 J -3879779.32 -3879779.13 -3879778.94 0.0271 0.0054

Neptune -15336-12-22 16:19 J -3879694.89 -3879694.82 -3879694.70 0.0088 0.0077

Saturn -15336-12-27 07:40 J -3879690.27 -3879690.18 -3879690.08 0.0272 0.0234

Neptune -15335-03-20 20:24 J -3879606.77 -3879606.65 -3879606.51 0.0088 0.0066

Neptune -15335-06-17 00:00 J -3879518.64 -3879518.50 -3879518.33 0.0088 0.0056

Neptune -15335-09-13 03:50 J -3879430.50 -3879430.34 -3879430.16 0.0088 0.0046

Neptune -15335-12-10 07:26 J -3879342.36 -3879342.19 -3879342.00 0.0088 0.0036

Neptune -15334-03-08 11:31 J -3879254.21 -3879254.02 -3879253.83 0.0088 0.0025

Neptune -15334-06-04 15:07 J -3879166.06 -3879165.87 -3879165.67 0.0088 0.0015

Neptune -15334-08-31 18:57 J -3879077.91 -3879077.71 -3879077.51 0.0088 0.0005

Neptune -15334-11-27 22:33 J -3878989.76 -3878989.56 -3878989.36 0.0088 0.0005

Neptune -15333-02-24 02:09 J -3878901.60 -3878901.41 -3878901.21 0.0088 0.0016

Mars -15333-04-06 18:00 J -3878858.86 -3878858.75 -3878858.64 0.1626 0.0370

Neptune -15333-05-22 05:45 J -3878813.44 -3878813.26 -3878813.06 0.0088 0.0026

Neptune -15333-08-18 09:35 J -3878725.27 -3878725.10 -3878724.91 0.0088 0.0036

Neptune -15333-11-14 13:11 J -3878637.11 -3878636.95 -3878636.77 0.0088 0.0046

Neptune -15332-02-10 16:48 J -3878548.94 -3878548.80 -3878548.64 0.0088 0.0056

Neptune -15332-05-09 20:38 J -3878460.76 -3878460.64 -3878460.50 0.0088 0.0066

Neptune -15332-08-06 00:28 J -3878372.58 -3878372.48 -3878372.38 0.0088 0.0076

Neptune -15332-11-02 03:35 J -3878284.36 -3878284.35 -3878284.29 0.0088 0.0087

Mars -15331-03-12 19:11 J -3878153.76 -3878153.70 -3878153.64 0.1623 0.1395

Jupiter -15331-06-07 14:24 J -3878067.03 -3878066.90 -3878066.77 0.0525 0.0023

Earth -15329-08-11 03:07 J -3877271.48 -3877271.37 -3877271.27 0.2712 0.0908

Moon -15329-08-11 03:50 J -3877271.45 -3877271.34 -3877271.24 0.2710 0.0953 *

Uranus -15327-06-02 00:00 J -3876611.60 -3876611.50 -3876611.37 0.0139 0.0111

Uranus -15327-08-29 07:55 J -3876523.31 -3876523.17 -3876523.00 0.0139 0.0081

Uranus -15327-11-25 16:04 J -3876435.01 -3876434.83 -3876434.64 0.0139 0.0051

Uranus -15326-02-22 00:14 J -3876346.69 -3876346.49 -3876346.30 0.0139 0.0021

Uranus -15326-05-21 07:55 J -3876258.36 -3876258.17 -3876257.97 0.0138 0.0010

Uranus -15326-08-17 15:50 J -3876170.02 -3876169.84 -3876169.65 0.0138 0.0038

Uranus -15326-11-13 23:45 J -3876081.68 -3876081.51 -3876081.34 0.0138 0.0068

Uranus -15325-02-10 07:26 J -3875993.33 -3875993.19 -3875993.05 0.0138 0.0096

Jupiter -15325-05-02 04:04 J -3875911.36 -3875911.33 -3875911.28 0.0500 0.0487

Uranus -15325-05-08 15:07 J -3875904.95 -3875904.87 -3875904.79 0.0138 0.0125

Jupiter -15325-07-31 16:48 J -3875820.96 -3875820.80 -3875820.64 0.0501 0.0260

Mars	-15324-08-28 05:45 J	-3875428.36	-3875428.26	-3875428.16	0.1627	0.0796
Saturn	-15323-08-15 03:21 J	-3875076.42	-3875076.36	-3875076.29	0.0294	0.0246
Saturn	-15323-11-11 15:07 J	-3874987.99	-3874987.87	-3874987.75	0.0293	0.0096
Saturn	-15322-02-08 02:38 J	-3874899.52	-3874899.39	-3874899.26	0.0292	0.0052
Saturn	-15322-05-07 14:09 J	-3874811.01	-3874810.91	-3874810.82	0.0290	0.0198
Mars	-15322-08-03 06:57 J	-3874723.31	-3874723.21	-3874723.12	0.1624	0.0970
Moon	-15322-08-05 01:40 J	-3874721.46	-3874721.43	-3874721.39	0.2720	0.2586
Earth	-15322-08-05 02:09 J	-3874721.45	-3874721.41	-3874721.37	0.2714	0.2496 *
Venus	-15320-08-18 11:16 J	-3873977.16	-3873977.03	-3873976.89	0.3651	0.2169
Jupiter	-15319-03-26 18:57 J	-3873756.83	-3873756.71	-3873756.59	0.0526	0.0158
Jupiter	-15319-06-23 23:45 J	-3873667.59	-3873667.51	-3873667.42	0.0524	0.0393
Mars	-15317-04-15 18:00 J	-3873005.90	-3873005.75	-3873005.60	0.1896	0.0928
Venus	-15317-05-25 00:28 J	-3872966.55	-3872966.48	-3872966.42	0.3718	0.2705
Earth	-15316-08-13 21:07 J	-3872520.69	-3872520.62	-3872520.56	0.2711	0.2143
Moon	-15316-08-13 21:21 J	-3872520.67	-3872520.61	-3872520.54	0.2705	0.2191 *
Mars	-15314-01-18 17:16 J	-3871997.85	-3871997.78	-3871997.70	0.1629	0.1223
Jupiter	-15313-05-19 13:26 J	-3871511.12	-3871510.94	-3871510.75	0.0500	0.0077
Mars	-15313-12-23 18:28 J	-3871292.84	-3871292.73	-3871292.62	0.1624	0.0543
Venus	-15312-12-08 15:35 J	-3870942.95	-3870942.85	-3870942.75	0.3720	0.0836
Earth	-15309-08-06 19:55 J	-3869970.76	-3869970.67	-3869970.57	0.2714	0.1295
Moon	-15309-08-06 20:09 J	-3869970.75	-3869970.66	-3869970.56	0.2720	0.1207 *
Mars	-15308-09-05 10:04 J	-3869576.25	-3869576.08	-3869575.92	0.1895	0.0533
Jupiter	-15307-01-12 23:45 J	-3869446.62	-3869446.51	-3869446.41	0.0526	0.0291
Jupiter	-15307-04-12 04:33 J	-3869357.42	-3869357.31	-3869357.20	0.0525	0.0262
Saturn	-15307-11-19 06:28 J	-3869136.36	-3869136.23	-3869136.09	0.0269	0.0190
Saturn	-15306-02-16 05:16 J	-3869047.47	-3869047.28	-3869047.08	0.0270	0.0013
Saturn	-15306-05-16 04:04 J	-3868958.48	-3868958.33	-3868958.17	0.0271	0.0167
Venus	-15306-06-24 06:57 J	-3868919.31	-3868919.21	-3868919.12	0.3721	0.1057
Moon	-15305-02-09 02:38 J	-3868689.52	-3868689.39	-3868689.27	0.2617	0.1614
Earth	-15305-02-09 03:50 J	-3868689.47	-3868689.34	-3868689.20	0.2620	0.1374 *

Mars -15303-05-16 06:14 J -3867862.35 -3867862.24 -3867862.13 0.1625 0.0115

Jupiter -15301-03-07 10:19 J -3867201.25 -3867201.07 -3867200.89 0.0500 0.0104

Venus -15300-01-06 22:04 J -3866895.64 -3866895.58 -3866895.52 0.3723 0.2924

Earth -15296-08-09 13:55 J -3865220.03 -3865219.92 -3865219.81 0.2713 0.0081

Moon -15296-08-09 14:38 J -3865220.00 -3865219.89 -3865219.78 0.2715 0.0111 *

Jupiter -15296-11-01 04:33 J -3865136.38 -3865136.31 -3865136.24 0.0526 0.0421

Jupiter -15295-01-29 09:21 J -3865047.23 -3865047.11 -3865046.99 0.0525 0.0129

Mars -15294-10-06 18:00 J -3864431.86 -3864431.75 -3864431.64 0.1626 0.0312

Saturn -15293-03-30 16:04 J -3864255.94 -3864255.83 -3864255.72 0.0293 0.0153

Saturn -15293-06-27 03:35 J -3864167.47 -3864167.35 -3864167.22 0.0292 0.0010

Saturn -15293-09-23 15:07 J -3864078.98 -3864078.87 -3864078.75 0.0291 0.0143

Saturn -15293-12-21 02:38 J -3863990.40 -3863990.39 -3863990.38 0.0290 0.0288

Moon -15292-02-11 08:38 J -3863938.29 -3863938.14 -3863937.99 0.2622 0.0838

Earth -15292-02-11 10:19 J -3863938.22 -3863938.07 -3863937.92 0.2621 0.0941 *

Mars -15292-09-10 19:11 J -3863726.75 -3863726.70 -3863726.65 0.1623 0.1453

Jupiter -15290-12-25 06:00 J -3862891.40 -3862891.25 -3862891.10 0.0500 0.0300

Jupiter -15289-03-24 18:28 J -3862800.81 -3862800.73 -3862800.64 0.0501 0.0447

Mars -15284-02-26 05:45 J -3861001.37 -3861001.26 -3861001.16 0.1627 0.0742

Jupiter -15284-11-17 14:09 J -3860737.04 -3860736.91 -3860736.79 0.0525 0.0012

Uranus -15283-08-08 22:19 J -3860472.62 -3860472.57 -3860472.51 0.0139 0.0125

Earth -15283-08-12 07:55 J -3860469.27 -3860469.17 -3860469.07 0.2712 0.1147

Moon -15283-08-12 08:38 J -3860469.24 -3860469.14 -3860469.05 0.2710 0.1284 *

Uranus -15283-11-05 01:26 J -3860384.52 -3860384.44 -3860384.35 0.0139 0.0106

Uranus -15282-02-01 04:48 J -3860296.40 -3860296.30 -3860296.19 0.0139 0.0086

Mars -15282-02-01 06:43 J -3860296.30 -3860296.22 -3860296.13 0.1623 0.1027 *

Uranus -15282-04-30 07:55 J -3860208.28 -3860208.17 -3860208.05 0.0140 0.0066

Uranus -15282-07-27 11:16 J -3860120.15 -3860120.03 -3860119.90 0.0140 0.0046

Uranus -15282-10-23 14:38 J -3860032.02 -3860031.89 -3860031.76 0.0140 0.0025

Uranus -15281-01-19 18:00 J -3859943.88 -3859943.75 -3859943.62 0.0140 0.0004

Uranus -15281-04-16 21:21 J -3859855.74 -3859855.61 -3859855.48 0.0140 0.0016

Uranus -15281-07-14 00:28 J -3859767.60 -3859767.48 -3859767.35 0.0140 0.0037

Uranus -15281-10-10 04:04 J -3859679.45 -3859679.33 -3859679.21 0.0140 0.0058

Uranus -15280-01-06 07:11 J -3859591.30 -3859591.20 -3859591.09 0.0141 0.0079

Uranus -15280-04-04 10:33 J -3859503.15 -3859503.06 -3859502.96 0.0141 0.0100

Uranus -15280-07-01 13:55 J -3859414.98 -3859414.92 -3859414.85 0.0141 0.0121

Jupiter -15278-10-13 02:52 J -3858581.43 -3858581.38 -3858581.33 0.0500 0.0479

Mars -15278-10-15 18:57 J -3858578.85 -3858578.71 -3858578.56 0.1896 0.1062

Jupiter -15277-01-11 15:35 J -3858491.01 -3858490.85 -3858490.69 0.0501 0.0269

Saturn -15277-04-07 04:33 J -3858404.39 -3858404.31 -3858404.23 0.0269 0.0243

Saturn -15277-07-05 03:07 J -3858315.55 -3858315.37 -3858315.17 0.0269 0.0068

Saturn -15277-10-02 02:09 J -3858226.59 -3858226.41 -3858226.24 0.0270 0.0111

Moon -15276-08-05 06:43 J -3857919.28 -3857919.22 -3857919.16 0.2721 0.2269

Earth -15276-08-05 06:57 J -3857919.27 -3857919.21 -3857919.15 0.2714 0.2262 *

Mars -15275-07-19 17:16 J -3857570.86 -3857570.78 -3857570.70 0.1629 0.1168

Mars -15273-06-23 18:28 J -3856865.84 -3856865.73 -3856865.62 0.1624 0.0596

Jupiter -15272-09-05 18:14 J -3856426.86 -3856426.74 -3856426.62 0.0525 0.0145

Jupiter -15272-12-03 23:02 J -3856337.61 -3856337.54 -3856337.46 0.0524 0.0406

Earth -15270-08-15 01:55 J -3855718.47 -3855718.42 -3855718.37 0.2711 0.2388

Moon -15270-08-15 02:09 J -3855718.46 -3855718.41 -3855718.36 0.2704 0.2381 *

Venus -15269-09-08 01:55 J -3855328.54 -3855328.42 -3855328.31 0.3653 0.2623

Mars -15268-03-06 10:48 J -3855149.22 -3855149.05 -3855148.88 0.1894 0.0405

Jupiter -15266-10-30 12:43 J -3854181.16 -3854180.97 -3854180.79 0.0501 0.0091

Mars -15266-12-10 05:02 J -3854140.31 -3854140.29 -3854140.27 0.1630 0.1594

Saturn -15264-08-17 17:31 J -3853523.86 -3853523.77 -3853523.68 0.0294 0.0207

Saturn -15264-11-14 05:16 J -3853435.41 -3853435.28 -3853435.16 0.0293 0.0057

Mars -15264-11-14 06:14 J -3853435.36 -3853435.24 -3853435.13 0.1625 0.0174 *

Saturn -15263-02-10 16:48 J -3853346.92 -3853346.80 -3853346.68 0.0292 0.0091

Saturn -15263-05-10 04:19 J -3853258.39 -3853258.32 -3853258.25 0.0291 0.0238

Earth -15263-08-08 00:43 J -3853168.57 -3853168.47 -3853168.37 0.2713 0.1061

Moon -15263-08-08 01:11 J -3853168.55 -3853168.45 -3853168.35 0.2720 0.1081 *

Venus -15261-12-29 21:50 J -3852293.68 -3852293.59 -3852293.51 0.3718 0.2027

Jupiter -15260-06-24 22:48 J -3852116.66 -3852116.55 -3852116.44 0.0526 0.0281

Jupiter -15260-09-22 03:35 J -3852027.45 -3852027.35 -3852027.24 0.0525 0.0270

Moon -15259-02-09 08:52 J -3851887.28 -3851887.13 -3851886.98 0.2619 0.0995

Earth -15259-02-09 10:33 J -3851887.21 -3851887.06 -3851886.91 0.2620 0.0928 *

Mars -15259-07-27 02:09 J -3851719.42 -3851719.41 -3851719.40 0.1893 0.1888

Pluto -15258-05-10 22:33 J -3851431.58 -3851431.56 -3851431.51 0.0072 0.0071

Pluto -15258-08-07 00:00 J -3851343.57 -3851343.50 -3851343.40 0.0072 0.0062

Pluto -15258-11-03 01:40 J -3851255.53 -3851255.43 -3851255.32 0.0072 0.0053

Pluto -15257-01-30 02:52 J -3851167.49 -3851167.38 -3851167.24 0.0072 0.0044

Pluto -15257-04-27 04:19 J -3851079.45 -3851079.32 -3851079.17 0.0072 0.0035

Pluto -15257-07-24 06:00 J -3850991.40 -3850991.25 -3850991.10 0.0072 0.0026

Pluto -15257-10-20 07:11 J -3850903.35 -3850903.20 -3850903.04 0.0072 0.0018

Pluto -15256-01-16 08:38 J -3850815.29 -3850815.14 -3850814.98 0.0072 0.0009

Pluto -15256-04-14 10:04 J -3850727.24 -3850727.08 -3850726.92 0.0071 0.0001

Pluto -15256-07-11 11:16 J -3850639.18 -3850639.03 -3850638.86 0.0071 0.0008

Pluto -15256-10-07 12:43 J -3850551.12 -3850550.97 -3850550.81 0.0071 0.0016

Pluto -15255-01-03 13:55 J -3850463.06 -3850462.92 -3850462.76 0.0071 0.0025

Pluto -15255-04-01 15:21 J -3850375.00 -3850374.86 -3850374.72 0.0071 0.0032

Pluto -15255-06-28 16:19 J -3850286.93 -3850286.82 -3850286.67 0.0071 0.0041

Venus -15255-07-15 12:57 J -3850270.06 -3850269.96 -3850269.86 0.3720 0.0153

Pluto -15255-09-24 17:31 J -3850198.86 -3850198.77 -3850198.64 0.0071 0.0049

Pluto -15255-12-21 18:57 J -3850110.79 -3850110.71 -3850110.60 0.0071 0.0057

Neptune -15254-01-07 08:38 J -3850094.17 -3850094.14 -3850094.10 0.0089 0.0085

Pluto -15254-03-19 20:09 J -3850022.71 -3850022.66 -3850022.58 0.0071 0.0065

Neptune -15254-04-05 09:50 J -3850006.14 -3850006.09 -3850006.02 0.0089 0.0079

Mars -15254-04-06 18:00 J -3850004.87 -3850004.75 -3850004.64 0.1626 0.0261

Neptune -15254-07-02 11:02 J -3849918.10 -3849918.04 -3849917.95 0.0089 0.0072

Jupiter -15254-08-18 09:21 J -3849871.30 -3849871.11 -3849870.93 0.0500 0.0093

Neptune -15254-09-28 12:28 J -3849830.06 -3849829.98 -3849829.88 0.0089 0.0064

Neptune -15254-12-25 13:40 J -3849742.02 -3849741.93 -3849741.82 0.0089 0.0058

Neptune -15253-03-22 15:07 J -3849653.97 -3849653.87 -3849653.76 0.0089 0.0050

Neptune -15253-06-18 16:19 J -3849565.93 -3849565.82 -3849565.70 0.0089 0.0043

Neptune -15253-09-14 17:31 J -3849477.88 -3849477.77 -3849477.64 0.0089 0.0037

Neptune -15253-12-11 18:57 J -3849389.83 -3849389.71 -3849389.58 0.0089 0.0029

Neptune -15252-03-09 20:09 J -3849301.78 -3849301.66 -3849301.53 0.0089 0.0023

Mars -15252-03-11 19:11 J -3849299.74 -3849299.70 -3849299.66 0.1623 0.1509

Neptune -15252-06-05 21:35 J -3849213.73 -3849213.60 -3849213.47 0.0089 0.0015

Neptune -15252-09-01 22:48 J -3849125.68 -3849125.55 -3849125.42 0.0089 0.0008

Neptune -15252-11-29 00:14 J -3849037.62 -3849037.49 -3849037.36 0.0089 0.0002

Neptune -15251-02-25 01:26 J -3848949.57 -3848949.44 -3848949.31 0.0089 0.0006

Neptune -15251-05-24 02:38 J -3848861.52 -3848861.39 -3848861.26 0.0089 0.0013

Neptune -15251-08-20 03:50 J -3848773.46 -3848773.34 -3848773.20 0.0089 0.0021

Neptune -15251-11-16 05:16 J -3848685.40 -3848685.28 -3848685.15 0.0089 0.0027

Neptune -15250-02-12 06:28 J -3848597.35 -3848597.23 -3848597.10 0.0089 0.0034

Neptune -15250-05-11 07:40 J -3848509.29 -3848509.18 -3848509.06 0.0089 0.0042

Neptune -15250-08-07 09:07 J -3848421.23 -3848421.12 -3848421.01 0.0089 0.0048

Earth -15250-08-10 18:43 J -3848417.83 -3848417.72 -3848417.61 0.2713 0.0161

Moon -15250-08-10 19:26 J -3848417.80 -3848417.69 -3848417.58 0.2714 0.0311 *

Neptune -15250-11-03 10:19 J -3848333.17 -3848333.07 -3848332.96 0.0089 0.0056

Venus -15249-01-29 04:04 J -3848246.41 -3848246.33 -3848246.24 0.3722 0.1730

Neptune -15249-01-30 11:31 J -3848245.10 -3848245.02 -3848244.92 0.0089 0.0063

Neptune -15249-04-27 12:57 J -3848157.04 -3848156.96 -3848156.88 0.0089 0.0069

Neptune -15249-07-24 14:09 J -3848068.97 -3848068.91 -3848068.84 0.0089 0.0077

Neptune -15249-10-20 15:35 J -3847980.89 -3847980.85 -3847980.80 0.0089 0.0084

Jupiter -15248-04-13 03:21 J -3847806.43 -3847806.36 -3847806.28 0.0526 0.0415

Jupiter -15248-07-11 08:24 J -3847717.27 -3847717.15 -3847717.03 0.0525 0.0137

Saturn -15248-11-22 00:14 J -3847583.65 -3847583.49 -3847583.31 0.0269 0.0129

Saturn -15247-02-18 23:16 J -3847494.72 -3847494.53 -3847494.34 0.0270 0.0049

Saturn -15247-05-18 21:50 J -3847405.69 -3847405.59 -3847405.48 0.0271 0.0227

Moon -15246-02-12 15:21 J -3847136.00 -3847135.86 -3847135.72 0.2622 0.1133

Earth -15246-02-12 17:02 J -3847135.92 -3847135.79 -3847135.66 0.2621 0.1388 *

Mars -15245-08-27 05:31 J -3846574.37 -3846574.27 -3846574.16 0.1627 0.0685

Venus -15244-08-13 19:26 J -3846222.71 -3846222.69 -3846222.67 0.3724 0.3608

Uranus -15243-03-25 22:48 J -3845998.58 -3845998.55 -3845998.49 0.0139 0.0135

Uranus -15243-06-22 07:11 J -3845910.33 -3845910.20 -3845910.07 0.0139 0.0104

Mars -15243-08-02 06:43 J -3845869.30 -3845869.22 -3845869.13 0.1624 0.1081

Uranus -15243-09-18 15:07 J -3845822.03 -3845821.87 -3845821.70 0.0139 0.0074

Uranus -15243-12-15 23:02 J -3845733.72 -3845733.54 -3845733.35 0.0139 0.0044

Uranus -15242-03-14 07:11 J -3845645.40 -3845645.20 -3845645.01 0.0139 0.0015

Jupiter -15242-06-06 06:00 J -3845561.41 -3845561.25 -3845561.09 0.0500 0.0274

Uranus -15242-06-10 14:52 J -3845557.07 -3845556.88 -3845556.68 0.0138 0.0016

Jupiter -15242-09-04 18:14 J -3845470.79 -3845470.74 -3845470.67 0.0501 0.0471

Uranus -15242-09-06 22:48 J -3845468.73 -3845468.55 -3845468.36 0.0138 0.0045

Uranus -15242-12-04 06:28 J -3845380.38 -3845380.23 -3845380.06 0.0138 0.0074

Uranus -15241-03-01 14:09 J -3845292.03 -3845291.91 -3845291.77 0.0138 0.0103

Uranus -15241-05-28 21:50 J -3845203.63 -3845203.59 -3845203.52 0.0138 0.0132

Mars -15238-04-15 20:09 J -3844151.79 -3844151.66 -3844151.52 0.1896 0.1205

Earth -15237-08-12 12:43 J -3843667.06 -3843666.97 -3843666.88 0.2711 0.1393

Moon -15237-08-12 13:26 J -3843667.04 -3843666.94 -3843666.85 0.2709 0.1417 *

Jupiter -15236-04-29 13:11 J -3843407.08 -3843406.95 -3843406.82 0.0525 0.0007

Mars -15235-01-17 17:16 J -3843143.86 -3843143.78 -3843143.70 0.1628 0.1110

Saturn -15234-01-04 18:28 J -3842791.78 -3842791.73 -3842791.67 0.0294 0.0265

Saturn -15234-04-03 06:14 J -3842703.36 -3842703.24 -3842703.12 0.0293 0.0114

Saturn -15234-06-30 17:45 J -3842614.88 -3842614.76 -3842614.63 0.0292 0.0036

Saturn -15234-09-27 05:16 J -3842526.37 -3842526.28 -3842526.18 0.0291 0.0182

Mars -15234-12-23 18:28 J -3842438.83 -3842438.73 -3842438.62 0.1624 0.0655

Jupiter -15230-03-25 01:26 J -3841251.50 -3841251.44 -3841251.38 0.0500 0.0472

Jupiter -15230-06-23 14:09 J -3841161.07 -3841160.91 -3841160.75 0.0501 0.0275

Moon -15230-08-06 11:45 J -3841117.08 -3841117.01 -3841116.94 0.2722 0.2038

Earth -15230-08-06 11:45 J -3841117.08 -3841117.01 -3841116.94 0.2714 0.2027 *

Mars -15229-09-04 11:45 J -3840722.18 -3840722.01 -3840721.85 0.1895 0.0284

Mars -15226-06-10 05:02 J -3839713.33 -3839713.29 -3839713.26 0.1630 0.1538

Jupiter -15224-02-15 18:00 J -3839096.88 -3839096.75 -3839096.63 0.0525 0.0127

Mars -15224-05-15 06:14 J -3839008.36 -3839008.24 -3839008.13 0.1625 0.0231

Jupiter -15224-05-15 22:48 J -3839007.62 -3839007.55 -3839007.48 0.0524 0.0423

Earth -15224-08-15 06:43 J -3838916.24 -3838916.22 -3838916.19 0.2710 0.2638

Moon -15224-08-15 06:57 J -3838916.21 -3838916.21 -3838916.20 0.2703 0.2692 *

Mars -15219-01-25 03:21 J -3837292.42 -3837292.36 -3837292.29 0.1893 0.1743

Saturn -15218-04-10 22:33 J -3836851.69 -3836851.56 -3836851.41 0.0269 0.0181

Jupiter -15218-04-11 11:02 J -3836851.22 -3836851.04 -3836850.85 0.0501 0.0096

Saturn -15218-07-08 21:35 J -3836762.80 -3836762.60 -3836762.41 0.0270 0.0006

Saturn -15218-10-05 20:24 J -3836673.80 -3836673.65 -3836673.51 0.0271 0.0174

Earth -15217-08-08 05:45 J -3836366.37 -3836366.26 -3836366.16 0.2713 0.0829

Moon -15217-08-08 06:00 J -3836366.35 -3836366.25 -3836366.14 0.2719 0.0741 *

Mars -15215-10-05 17:45 J -3835577.87 -3835577.76 -3835577.64 0.1626 0.0204

Moon -15213-02-10 15:35 J -3835085.01 -3835084.85 -3835084.70 0.2619 0.0754

Earth -15213-02-10 17:16 J -3835084.94 -3835084.78 -3835084.63 0.2620 0.0481 *

Mars -15213-09-09 18:57 J -3834872.73 -3834872.71 -3834872.68 0.1623 0.1563

Jupiter -15213-12-04 22:04 J -3834786.69 -3834786.58 -3834786.47 0.0525 0.0268

Jupiter -15212-03-04 02:52 J -3834697.48 -3834697.38 -3834697.27 0.0524 0.0281

Venus -15212-04-15 04:48 J -3834655.46 -3834655.30 -3834655.14 0.3653 0.0325

Venus -15209-01-21 03:50 J -3833644.38 -3833644.34 -3833644.29 0.3716 0.3205

Jupiter -15206-01-28 08:09 J -3832541.35 -3832541.16 -3832540.98 0.0501 0.0083

Mars -15205-02-26 05:31 J -3832147.37 -3832147.27 -3832147.16 0.1627 0.0629

Saturn -15205-08-20 07:55 J -3831971.27 -3831971.17 -3831971.06 0.0294 0.0165

Saturn -15205-11-16 19:40 J -3831882.81 -3831882.68 -3831882.55 0.0293 0.0016

Saturn -15204-02-13 07:11 J -3831794.32 -3831794.20 -3831794.09 0.0292 0.0133

Saturn -15204-05-12 18:28 J -3831705.75 -3831705.73 -3831705.69 0.0290 0.0280

Venus -15204-08-05 19:11 J -3831620.80 -3831620.70 -3831620.61 0.3718 0.1345

Earth -15204-08-10 23:31 J -3831615.63 -3831615.52 -3831615.41 0.2712 0.0403

Moon -15204-08-11 00:14 J -3831615.59 -3831615.49 -3831615.38 0.2713 0.0439 *

Mars -15203-01-31 06:43 J -3831442.30 -3831442.22 -3831442.14 0.1623 0.1134

Jupiter -15201-09-23 02:24 J -3830476.47 -3830476.40 -3830476.32 0.0526 0.0406

Jupiter -15201-12-21 07:11 J -3830387.32 -3830387.20 -3830387.07 0.0525 0.0146

Moon -15200-02-12 22:04 J -3830333.70 -3830333.58 -3830333.47 0.2624 0.1764

Earth -15200-02-12 23:31 J -3830333.63 -3830333.52 -3830333.41 0.2622 0.1820 *

Uranus -15199-06-02 02:38 J -3829859.39 -3829859.39 -3829859.37 0.0139 0.0138

Uranus -15199-08-29 06:00 J -3829771.31 -3829771.25 -3829771.18 0.0139 0.0118

Mars -15199-10-14 20:38 J -3829724.76 -3829724.64 -3829724.52 0.1896 0.1305

Uranus -15199-11-25 09:21 J -3829683.20 -3829683.11 -3829683.02 0.0139 0.0099

Venus -15198-02-19 10:19 J -3829597.17 -3829597.07 -3829596.97 0.3720 0.0534

Uranus -15198-02-21 12:28 J -3829595.08 -3829594.98 -3829594.87 0.0140 0.0079

Uranus -15198-05-20 15:35 J -3829506.96 -3829506.85 -3829506.72 0.0140 0.0059

Uranus -15198-08-16 18:57 J -3829418.83 -3829418.71 -3829418.58 0.0140 0.0039

Uranus -15198-11-12 22:19 J -3829330.70 -3829330.57 -3829330.44 0.0140 0.0018

Uranus -15197-02-09 01:40 J -3829242.56 -3829242.43 -3829242.30 0.0140 0.0003

Uranus -15197-05-07 05:02 J -3829154.42 -3829154.29 -3829154.16 0.0140 0.0023

Uranus -15197-08-03 08:09 J -3829066.28 -3829066.16 -3829066.03 0.0140 0.0044

Uranus -15197-10-30 11:31 J -3828978.13 -3828978.02 -3828977.90 0.0140 0.0065

Uranus -15196-01-26 14:52 J -3828889.98 -3828889.88 -3828889.77 0.0141 0.0086

Uranus -15196-04-24 18:14 J -3828801.82 -3828801.74 -3828801.65 0.0141 0.0107

Mars -15196-07-18 17:16 J -3828716.87 -3828716.78 -3828716.70 0.1629 0.1055

Uranus -15196-07-21 21:35 J -3828713.65 -3828713.60 -3828713.54 0.0141 0.0128

Jupiter -15195-11-16 04:33 J -3828231.46 -3828231.31 -3828231.15 0.0500 0.0267

Jupiter -15194-02-14 17:16 J -3828140.84 -3828140.78 -3828140.73 0.0501 0.0479

Mars -15194-06-23 18:28 J -3828011.83 -3828011.73 -3828011.63 0.1624 0.0710

Venus -15193-09-04 01:26 J -3827573.51 -3827573.44 -3827573.36 0.3722 0.2409

Earth -15191-08-13 17:31 J -3826864.85 -3826864.77 -3826864.68 0.2711 0.1633

Moon -15191-08-13 18:00 J -3826864.83 -3826864.75 -3826864.66 0.2707 0.1759 *

Mars -15189-03-05 12:57 J -3826295.13 -3826294.96 -3826294.79 0.1895 0.0139

Saturn -15189-08-27 20:24 J -3826119.73 -3826119.65 -3826119.56 0.0269 0.0238

Jupiter -15189-10-09 12:00 J -3826077.13 -3826077.00 -3826076.88 0.0525 0.0012

Saturn -15189-11-24 19:11 J -3826030.89 -3826030.70 -3826030.51 0.0270 0.0062

Saturn -15188-02-21 18:00 J -3825941.93 -3825941.75 -3825941.58 0.0271 0.0116

Mars -15187-12-09 05:02 J -3825286.34 -3825286.29 -3825286.25 0.1630 0.1479

Mars -15185-11-13 06:00 J -3824581.36 -3824581.25 -3824581.13 0.1625 0.0288

Moon -15184-08-06 16:33 J -3824314.89 -3824314.81 -3824314.73 0.2722 0.1811

Earth -15184-08-06 16:33 J -3824314.89 -3824314.81 -3824314.73 0.2714 0.1790 *

Jupiter -15183-09-04 01:11 J -3823921.53 -3823921.45 -3823921.37 0.0500 0.0450

Jupiter -15183-12-03 13:55 J -3823831.07 -3823830.92 -3823830.77 0.0501 0.0296

Moon -15180-02-07 15:50 J -3823033.88 -3823033.84 -3823033.80 0.2615 0.2523

Earth -15180-02-07 17:02 J -3823033.85 -3823033.79 -3823033.73 0.2619 0.2394 *

Mars -15180-07-26 04:19 J -3822865.41 -3822865.32 -3822865.24 0.1893 0.1615

Jupiter -15177-07-28 16:48 J -3821766.92 -3821766.80 -3821766.68 0.0525 0.0120

Jupiter -15177-10-25 21:35 J -3821677.67 -3821677.60 -3821677.53 0.0524 0.0430

Saturn -15175-01-07 09:21 J -3821239.19 -3821239.11 -3821239.03 0.0294 0.0219

Mars -15175-04-05 17:45 J -3821150.87 -3821150.76 -3821150.64 0.1626 0.0151

Saturn -15175-04-05 20:52 J -3821150.75 -3821150.63 -3821150.50 0.0293 0.0069 *

Saturn -15175-07-03 08:38 J -3821062.27 -3821062.14 -3821062.02 0.0292 0.0081

Saturn -15175-09-29 20:09 J -3820973.74 -3820973.66 -3820973.58 0.0291 0.0227

Mars -15173-03-10 18:57 J -3820445.71 -3820445.71 -3820445.70 0.1623 0.1620

Neptune -15171-06-22 10:04 J -3819612.11 -3819612.08 -3819612.02 0.0088 0.0085

Earth -15171-08-09 10:33 J -3819564.17 -3819564.06 -3819563.96 0.2713 0.0585

Moon -15171-08-09 11:02 J -3819564.15 -3819564.04 -3819563.93 0.2717 0.0524 *

Neptune -15171-09-18 13:55 J -3819524.01 -3819523.92 -3819523.81 0.0088 0.0075

Jupiter -15171-09-21 09:07 J -3819521.30 -3819521.12 -3819520.93 0.0501 0.0098

Neptune -15171-12-15 17:31 J -3819435.89 -3819435.77 -3819435.62 0.0088 0.0065

Neptune -15170-03-13 21:07 J -3819347.75 -3819347.62 -3819347.44 0.0088 0.0055

Neptune -15170-06-10 01:11 J -3819259.61 -3819259.45 -3819259.27 0.0088 0.0044

Neptune -15170-09-06 05:02 J -3819171.47 -3819171.29 -3819171.10 0.0088 0.0034

Neptune -15170-12-03 08:38 J -3819083.32 -3819083.14 -3819082.94 0.0088 0.0024

Neptune -15169-02-29 12:28 J -3818995.17 -3818994.98 -3818994.78 0.0088 0.0014

Neptune -15169-05-27 16:19 J -3818907.02 -3818906.82 -3818906.62 0.0088 0.0004

Neptune -15169-08-23 19:55 J -3818818.87 -3818818.67 -3818818.47 0.0088 0.0007

Neptune -15169-11-19 23:31 J -3818730.71 -3818730.52 -3818730.32 0.0088 0.0017

Neptune -15168-02-16 03:21 J -3818642.55 -3818642.36 -3818642.17 0.0088 0.0027

Neptune -15168-05-15 06:43 J -3818554.38 -3818554.22 -3818554.02 0.0088 0.0038

Neptune -15168-08-11 10:19 J -3818466.22 -3818466.07 -3818465.88 0.0088 0.0048

Neptune -15168-11-07 14:09 J -3818378.04 -3818377.91 -3818377.75 0.0088 0.0058

Neptune -15167-02-03 17:45 J -3818289.87 -3818289.76 -3818289.62 0.0088 0.0068

Moon -15167-02-10 22:04 J -3818282.74 -3818282.58 -3818282.42 0.2619 0.0139

Earth -15167-02-10 23:45 J -3818282.67 -3818282.51 -3818282.35 0.2621 0.0043 *

Neptune -15167-05-02 21:35 J -3818201.68 -3818201.60 -3818201.50 0.0088 0.0078

Mars -15166-08-27 05:31 J -3817720.38 -3817720.27 -3817720.16 0.1627 0.0573

Jupiter -15165-05-16 21:35 J -3817456.71 -3817456.60 -3817456.49 0.0525 0.0253

Jupiter -15165-08-14 02:24 J -3817367.51 -3817367.40 -3817367.30 0.0524 0.0297

Mars -15164-08-01 06:43 J -3817015.30 -3817015.22 -3817015.14 0.1623 0.1192

Saturn -15159-04-13 18:00 J -3815298.92 -3815298.75 -3815298.57 0.0269 0.0110

Mars -15159-04-14 21:50 J -3815297.69 -3815297.59 -3815297.48 0.1896 0.1456

Uranus -15159-04-15 06:28 J -3815297.30 -3815297.23 -3815297.14 0.0139 0.0126

Jupiter -15159-07-10 06:00 J -3815211.44 -3815211.25 -3815211.06 0.0501 0.0084

Saturn -15159-07-11 16:48 J -3815209.98 -3815209.80 -3815209.61 0.0270 0.0068

Uranus -15159-07-12 14:38 J -3815209.02 -3815208.89 -3815208.74 0.0139 0.0096

Saturn -15159-10-08 15:35 J -3815120.92 -3815120.85 -3815120.77 0.0271 0.0246

Uranus -15159-10-08 22:33 J -3815120.72 -3815120.56 -3815120.37 0.0139 0.0066

Uranus -15158-01-05 06:43 J -3815032.40 -3815032.22 -3815032.03 0.0139 0.0036

Uranus -15158-04-03 14:38 J -3814944.08 -3814943.89 -3814943.69 0.0139 0.0007

Uranus -15158-06-30 22:33 J -3814855.75 -3814855.56 -3814855.36 0.0138 0.0024

Earth -15158-08-12 04:19 J -3814813.42 -3814813.32 -3814813.21 0.2712 0.0646

Moon -15158-08-12 05:02 J -3814813.39 -3814813.29 -3814813.18 0.2713 0.0789 *

Uranus -15158-09-27 06:14 J -3814767.41 -3814767.24 -3814767.05 0.0138 0.0054

Uranus -15158-12-24 14:09 J -3814679.06 -3814678.91 -3814678.75 0.0138 0.0082

Uranus -15157-03-21 21:50 J -3814590.69 -3814590.59 -3814590.47 0.0138 0.0111

Mars -15156-01-16 17:16 J -3814289.87 -3814289.78 -3814289.69 0.1628 0.1000

Venus -15156-11-20 07:40 J -3813982.32 -3813982.18 -3813982.04 0.3652 0.1949

Mars -15155-12-22 18:28 J -3813584.84 -3813584.73 -3813584.63 0.1624 0.0767

Moon -15154-02-14 04:48 J -3813531.39 -3813531.30 -3813531.20 0.2625 0.2030

Earth -15154-02-14 06:14 J -3813531.32 -3813531.24 -3813531.17 0.2622 0.2263 *

Jupiter -15153-03-05 01:40 J -3813146.51 -3813146.43 -3813146.35 0.0526 0.0396

Jupiter -15153-06-02 06:28 J -3813057.35 -3813057.23 -3813057.11 0.0524 0.0153

Venus -15153-08-27 01:11 J -3812971.52 -3812971.45 -3812971.37 0.3717 0.2525

Mars -15150-09-04 13:26 J -3811868.11 -3811867.94 -3811867.77 0.1895 0.0023

Venus -15147-03-12 16:33 J -3810947.91 -3810947.81 -3810947.72 0.3719 0.0671

Jupiter -15147-04-28 02:52 J -3810901.54 -3810901.38 -3810901.22 0.0500 0.0263

Mars -15147-06-09 04:48 J -3810859.35 -3810859.30 -3810859.24 0.1630 0.1428

Jupiter -15147-07-27 15:21 J -3810810.90 -3810810.86 -3810810.81 0.0501 0.0485

Saturn -15146-05-27 11:16 J -3810507.08 -3810507.03 -3810506.98 0.0295 0.0267

Saturn -15146-08-23 23:02 J -3810418.66 -3810418.54 -3810418.43 0.0294 0.0116

Saturn -15146-11-20 10:33 J -3810330.19 -3810330.06 -3810329.93 0.0293 0.0034

Saturn -15145-02-16 22:04 J -3810241.68 -3810241.58 -3810241.48 0.0291 0.0181

Mars -15145-05-14 06:00 J -3810154.36 -3810154.25 -3810154.14 0.1625 0.0339

Earth -15145-08-13 22:19 J -3810062.64 -3810062.57 -3810062.49 0.2711 0.1882

Moon -15145-08-13 22:48 J -3810062.62 -3810062.55 -3810062.47 0.2706 0.1872 *

Venus -15142-09-26 07:40 J -3808924.27 -3808924.18 -3808924.09 0.3721 0.1212

Jupiter -15141-03-21 10:48 J -3808747.18 -3808747.05 -3808746.93 0.0525 0.0015

Mars -15140-01-24 05:02 J -3808438.40 -3808438.29 -3808438.19 0.1893 0.1499

Earth -15138-08-07 21:21 J -3807512.70 -3807512.61 -3807512.52 0.2714 0.1556

Moon -15138-08-07 21:21 J -3807512.69 -3807512.61 -3807512.52 0.2721 0.1532 *

Venus -15136-04-10 22:48 J -3806900.60 -3806900.55 -3806900.49 0.3723 0.3084

Mars	-15136-10-04 17:45 J	-3806723.88	-3806723.76	-3806723.65	0.1626	0.0090
Jupiter	-15135-02-13 23:16 J	-3806591.60	-3806591.53	-3806591.44	0.0500	0.0447
Jupiter	-15135-05-15 12:00 J	-3806501.15	-3806501.00	-3806500.85	0.0501	0.0299
Moon	-15134-02-08 22:19 J	-3806231.66	-3806231.57	-3806231.48	0.2616	0.2106
Earth	-15134-02-08 23:45 J	-3806231.62	-3806231.51	-3806231.40	0.2619	0.1940 *
Saturn	-15130-08-31 16:33 J	-3804566.96	-3804566.81	-3804566.65	0.0269	0.0161
Saturn	-15130-11-28 15:21 J	-3804478.05	-3804477.86	-3804477.67	0.0270	0.0015
Jupiter	-15129-01-08 15:21 J	-3804436.99	-3804436.86	-3804436.74	0.0525	0.0123
Saturn	-15129-02-25 13:55 J	-3804389.05	-3804388.92	-3804388.78	0.0271	0.0194
Jupiter	-15129-04-06 20:09 J	-3804347.73	-3804347.66	-3804347.59	0.0524	0.0428
Mars	-15126-02-25 05:31 J	-3803293.38	-3803293.27	-3803293.16	0.1627	0.0514
Earth	-15125-08-09 15:21 J	-3802761.97	-3802761.86	-3802761.75	0.2713	0.0343
Moon	-15125-08-09 15:50 J	-3802761.94	-3802761.84	-3802761.73	0.2717	0.0289 *
Mars	-15124-01-30 06:43 J	-3802588.29	-3802588.22	-3802588.15	0.1623	0.1248
Jupiter	-15123-03-03 08:24 J	-3802191.33	-3802191.15	-3802190.96	0.0501	0.0115
Moon	-15121-02-12 04:48 J	-3801480.46	-3801480.30	-3801480.14	0.2620	0.0174
Earth	-15121-02-12 06:28 J	-3801480.39	-3801480.23	-3801480.08	0.2621	0.0410 *
Mars	-15120-10-13 22:48 J	-3800870.64	-3800870.55	-3800870.46	0.1896	0.1583
Jupiter	-15118-10-27 20:09 J	-3800126.77	-3800126.66	-3800126.55	0.0526	0.0252
Jupiter	-15117-01-25 00:57 J	-3800037.56	-3800037.46	-3800037.36	0.0524	0.0298
Mars	-15117-07-17 17:02 J	-3799862.88	-3799862.79	-3799862.69	0.1628	0.0945
Saturn	-15116-01-10 00:43 J	-3799686.58	-3799686.47	-3799686.37	0.0294	0.0165
Saturn	-15116-04-08 12:14 J	-3799598.12	-3799597.99	-3799597.86	0.0293	0.0016
Saturn	-15116-07-05 23:45 J	-3799509.62	-3799509.51	-3799509.39	0.0292	0.0133
Saturn	-15116-10-02 11:16 J	-3799421.06	-3799421.03	-3799420.99	0.0290	0.0279
Uranus	-15115-06-22 10:19 J	-3799158.10	-3799158.07	-3799158.03	0.0139	0.0132
Mars	-15115-06-22 18:28 J	-3799157.83	-3799157.73	-3799157.64	0.1624	0.0825
Uranus	-15115-09-18 13:26 J	-3799070.01	-3799069.94	-3799069.85	0.0139	0.0112
Uranus	-15115-12-15 16:48 J	-3798981.89	-3798981.80	-3798981.70	0.0139	0.0092
Uranus	-15114-03-13 19:55 J	-3798893.77	-3798893.67	-3798893.55	0.0140	0.0073

Uranus -15114-06-09 23:16 J -3798805.65 -3798805.53 -3798805.40 0.0140 0.0052

Uranus -15114-09-06 02:38 J -3798717.52 -3798717.39 -3798717.26 0.0140 0.0032

Uranus -15114-12-03 06:00 J -3798629.38 -3798629.25 -3798629.12 0.0140 0.0012

Uranus -15113-02-29 09:21 J -3798541.25 -3798541.11 -3798540.98 0.0140 0.0010

Uranus -15113-05-27 12:28 J -3798453.10 -3798452.98 -3798452.85 0.0140 0.0030

Uranus -15113-08-23 15:50 J -3798364.96 -3798364.84 -3798364.72 0.0140 0.0050

Uranus -15113-11-19 19:11 J -3798276.81 -3798276.70 -3798276.59 0.0141 0.0071

Uranus -15112-02-15 22:19 J -3798188.66 -3798188.57 -3798188.46 0.0141 0.0093

Uranus -15112-05-15 01:55 J -3798100.49 -3798100.42 -3798100.34 0.0141 0.0113

Uranus -15112-08-11 05:02 J -3798012.31 -3798012.29 -3798012.24 0.0141 0.0135

Earth -15112-08-12 09:21 J -3798011.22 -3798011.11 -3798011.01 0.2712 0.0892

Moon -15112-08-12 09:50 J -3798011.19 -3798011.09 -3798010.98 0.2712 0.0944 *

Jupiter -15112-12-20 03:35 J -3797881.53 -3797881.35 -3797881.16 0.0501 0.0088

Mars -15110-03-05 14:24 J -3797441.07 -3797440.90 -3797440.73 0.1895 0.0114

Mars -15108-12-08 04:48 J -3796432.36 -3796432.30 -3796432.24 0.1630 0.1372

Jupiter -15106-08-16 00:43 J -3795816.55 -3795816.47 -3795816.38 0.0526 0.0385

Jupiter -15106-11-13 05:31 J -3795727.39 -3795727.27 -3795727.15 0.0524 0.0166

Mars -15106-11-13 06:00 J -3795727.36 -3795727.25 -3795727.14 0.1625 0.0393 *

Moon -15105-08-05 08:09 J -3795461.20 -3795461.16 -3795461.12 0.2722 0.2505

Earth -15105-08-05 08:24 J -3795461.19 -3795461.15 -3795461.11 0.2715 0.2522 *

Venus -15105-12-10 22:19 J -3795333.68 -3795333.57 -3795333.47 0.3654 0.2818

Venus -15102-09-18 07:26 J -3794322.20 -3794322.19 -3794322.19 0.3715 0.3700

Mars -15101-07-25 06:00 J -3794011.36 -3794011.25 -3794011.13 0.1893 0.1358

Saturn -15100-01-17 15:50 J -3793834.96 -3793834.84 -3793834.71 0.0268 0.0206

Saturn -15100-04-16 14:38 J -3793746.08 -3793745.89 -3793745.70 0.0269 0.0030

Saturn -15100-07-14 13:11 J -3793657.10 -3793656.95 -3793656.78 0.0270 0.0148

Jupiter -15100-10-08 00:14 J -3793571.65 -3793571.49 -3793571.33 0.0500 0.0270

Jupiter -15099-01-06 12:57 J -3793481.02 -3793480.96 -3793480.91 0.0502 0.0477

Earth -15099-08-15 03:21 J -3793260.43 -3793260.36 -3793260.30 0.2711 0.2124

Moon -15099-08-15 03:50 J -3793260.40 -3793260.34 -3793260.28 0.2705 0.2232 *

Venus -15096-04-02 22:33 J -3792298.65 -3792298.56 -3792298.47 0.3718 0.1851

Mars -15096-04-04 17:45 J -3792296.88 -3792296.76 -3792296.65 0.1626 0.0041

Pluto -15095-09-27 21:21 J -3791755.65 -3791755.61 -3791755.54 0.0071 0.0067

Pluto -15095-12-24 22:33 J -3791667.63 -3791667.56 -3791667.46 0.0072 0.0059

Pluto -15094-03-23 00:14 J -3791579.60 -3791579.49 -3791579.38 0.0072 0.0050

Pluto -15094-06-19 01:11 J -3791491.57 -3791491.45 -3791491.32 0.0072 0.0042

Jupiter -15094-09-01 09:35 J -3791417.22 -3791417.10 -3791416.97 0.0525 0.0021

Pluto -15094-09-15 02:24 J -3791403.53 -3791403.40 -3791403.25 0.0072 0.0034

Pluto -15094-12-12 03:35 J -3791315.48 -3791315.35 -3791315.19 0.0072 0.0026

Pluto -15093-03-09 05:02 J -3791227.43 -3791227.29 -3791227.13 0.0072 0.0018

Pluto -15093-06-05 06:28 J -3791139.38 -3791139.23 -3791139.07 0.0072 0.0009

Pluto -15093-09-01 07:55 J -3791051.33 -3791051.17 -3791051.02 0.0072 0.0002

Pluto -15093-11-28 09:07 J -3790963.27 -3790963.12 -3790962.96 0.0073 0.0008

Pluto -15092-02-24 10:19 J -3790875.22 -3790875.07 -3790874.91 0.0073 0.0017

Pluto -15092-05-23 11:31 J -3790787.15 -3790787.02 -3790786.86 0.0073 0.0026

Earth -15092-08-08 02:09 J -3790710.50 -3790710.41 -3790710.31 0.2714 0.1322

Moon -15092-08-08 02:24 J -3790710.49 -3790710.40 -3790710.30 0.2720 0.1343 *

Pluto -15092-08-19 12:57 J -3790699.09 -3790698.96 -3790698.81 0.0073 0.0035

Pluto -15092-11-15 14:24 J -3790611.02 -3790610.90 -3790610.77 0.0073 0.0043

Pluto -15091-02-11 15:50 J -3790522.95 -3790522.84 -3790522.73 0.0073 0.0052

Pluto -15091-05-10 17:02 J -3790434.86 -3790434.79 -3790434.69 0.0073 0.0062

Pluto -15091-08-06 18:28 J -3790346.76 -3790346.73 -3790346.68 0.0073 0.0071

Venus -15091-10-17 13:55 J -3790275.02 -3790274.92 -3790274.83 0.3720 0.0176

Neptune -15090-10-04 07:55 J -3789923.20 -3789923.17 -3789923.12 0.0089 0.0084

Neptune -15090-12-31 09:07 J -3789835.17 -3789835.12 -3789835.04 0.0089 0.0077

Neptune -15089-03-28 10:33 J -3789747.13 -3789747.06 -3789746.97 0.0089 0.0070

Neptune -15089-06-24 11:45 J -3789659.09 -3789659.01 -3789658.91 0.0089 0.0063

Neptune -15089-09-20 12:57 J -3789571.05 -3789570.96 -3789570.84 0.0089 0.0057

Neptune -15089-12-17 14:24 J -3789483.00 -3789482.90 -3789482.78 0.0089 0.0049

Moon -15088-02-09 04:48 J -3789429.42 -3789429.30 -3789429.17 0.2616 0.1610

Earth -15088-02-09 06:28 J -3789429.36 -3789429.23 -3789429.10 0.2620 0.1497 *

Neptune -15088-03-15 15:35 J -3789394.95 -3789394.85 -3789394.72 0.0089 0.0042

Neptune -15088-06-11 17:02 J -3789306.91 -3789306.79 -3789306.67 0.0089 0.0035

Jupiter -15088-07-26 21:07 J -3789261.70 -3789261.62 -3789261.54 0.0500 0.0449

Neptune -15088-09-07 18:28 J -3789218.86 -3789218.73 -3789218.61 0.0089 0.0028

Jupiter -15088-10-25 09:50 J -3789171.24 -3789171.09 -3789170.94 0.0501 0.0298

Neptune -15088-12-04 19:40 J -3789130.80 -3789130.68 -3789130.55 0.0089 0.0021

Neptune -15087-03-02 20:52 J -3789042.75 -3789042.63 -3789042.50 0.0089 0.0014

Neptune -15087-05-29 22:19 J -3788954.70 -3788954.57 -3788954.44 0.0089 0.0007

Saturn -15087-05-30 03:07 J -3788954.46 -3788954.37 -3788954.28 0.0295 0.0207 *

Neptune -15087-08-25 23:31 J -3788866.65 -3788866.52 -3788866.39 0.0089 0.0002

Mars -15087-08-26 05:31 J -3788866.38 -3788866.27 -3788866.16 0.1627 0.0463

Saturn -15087-08-26 14:52 J -3788866.01 -3788865.88 -3788865.76 0.0293 0.0057

Neptune -15087-11-22 00:57 J -3788778.59 -3788778.46 -3788778.33 0.0089 0.0008

Saturn -15087-11-23 02:24 J -3788777.52 -3788777.40 -3788777.28 0.0292 0.0092

Neptune -15086-02-18 02:09 J -3788690.54 -3788690.41 -3788690.28 0.0089 0.0014

Saturn -15086-02-19 13:55 J -3788688.99 -3788688.92 -3788688.85 0.0291 0.0239

Neptune -15086-05-17 03:21 J -3788602.48 -3788602.36 -3788602.23 0.0089 0.0022

Neptune -15086-08-13 04:48 J -3788514.43 -3788514.30 -3788514.18 0.0089 0.0029

Neptune -15086-11-09 06:00 J -3788426.37 -3788426.25 -3788426.13 0.0089 0.0036

Neptune -15085-02-05 07:11 J -3788338.31 -3788338.20 -3788338.08 0.0089 0.0043

Venus -15085-05-02 05:02 J -3788251.38 -3788251.29 -3788251.21 0.3721 0.1881

Neptune -15085-05-03 08:38 J -3788250.25 -3788250.14 -3788250.03 0.0089 0.0050

Neptune -15085-07-30 09:50 J -3788162.19 -3788162.09 -3788161.99 0.0089 0.0057

Mars -15085-07-31 06:43 J -3788161.29 -3788161.22 -3788161.16 0.1623 0.1304

Neptune -15085-10-26 10:48 J -3788074.13 -3788074.05 -3788073.94 0.0089 0.0065

Neptune -15084-01-22 12:14 J -3787986.06 -3787985.99 -3787985.90 0.0089 0.0071

Neptune -15084-04-20 13:26 J -3787897.99 -3787897.94 -3787897.87 0.0089 0.0078

Neptune -15084-07-17 14:38 J -3787809.91 -3787809.89 -3787809.84 0.0089 0.0086

Jupiter -15082-06-20 13:55 J -3787107.04 -3787106.92 -3787106.80 0.0525 0.0121

Jupiter -15082-09-17 18:43 J -3787017.79 -3787017.72 -3787017.65 0.0524 0.0429

Mars -15080-04-13 23:31 J -3786443.60 -3786443.52 -3786443.45 0.1896 0.1696

Earth -15079-08-10 20:09 J -3785959.77 -3785959.66 -3785959.55 0.2713 0.0103

Moon -15079-08-10 20:52 J -3785959.74 -3785959.63 -3785959.52 0.2717 0.0090 *

Mars -15077-01-16 17:02 J -3785435.88 -3785435.79 -3785435.69 0.1628 0.0889

Jupiter -15076-08-13 06:14 J -3784861.42 -3784861.24 -3784861.05 0.0501 0.0112

Mars -15076-12-21 18:14 J -3784730.83 -3784730.74 -3784730.64 0.1624 0.0877

Moon -15075-02-12 11:16 J -3784678.18 -3784678.03 -3784677.87 0.2622 0.0714

Earth -15075-02-12 12:57 J -3784678.11 -3784677.96 -3784677.81 0.2621 0.0850 *

Uranus -15075-05-05 15:07 J -3784595.97 -3784595.87 -3784595.75 0.0139 0.0114

Uranus -15075-08-01 23:16 J -3784507.68 -3784507.53 -3784507.37 0.0139 0.0084

Uranus -15075-10-29 07:26 J -3784419.37 -3784419.19 -3784419.01 0.0139 0.0054

Uranus -15074-01-25 15:21 J -3784331.05 -3784330.86 -3784330.66 0.0139 0.0024

Uranus -15074-04-23 23:16 J -3784242.72 -3784242.53 -3784242.33 0.0138 0.0007

Uranus -15074-07-21 07:11 J -3784154.39 -3784154.20 -3784154.01 0.0138 0.0035

Uranus -15074-10-17 15:07 J -3784066.04 -3784065.87 -3784065.70 0.0138 0.0065

Uranus -15073-01-13 22:33 J -3783977.69 -3783977.56 -3783977.40 0.0138 0.0094

Uranus -15073-04-11 06:14 J -3783889.31 -3783889.24 -3783889.14 0.0138 0.0123

Saturn -15071-06-06 15:07 J -3783102.93 -3783102.87 -3783102.80 0.0268 0.0251

Saturn -15071-09-03 13:55 J -3783014.10 -3783013.92 -3783013.73 0.0269 0.0076

Mars -15071-09-03 15:21 J -3783014.03 -3783013.86 -3783013.69 0.1895 0.0251 *

Saturn -15071-12-01 12:28 J -3782925.15 -3782924.98 -3782924.79 0.0270 0.0103

Jupiter -15070-04-08 18:14 J -3782796.84 -3782796.74 -3782796.63 0.0526 0.0260

Jupiter -15070-07-06 23:16 J -3782707.64 -3782707.53 -3782707.43 0.0525 0.0292

Mars -15068-06-08 04:48 J -3782005.36 -3782005.30 -3782005.23 0.1630 0.1314

Mars -15066-05-14 06:00 J -3781300.36 -3781300.25 -3781300.14 0.1625 0.0451

Earth -15066-08-13 14:09 J -3781209.01 -3781208.91 -3781208.81 0.2712 0.1132

Moon -15066-08-13 14:38 J -3781208.98 -3781208.89 -3781208.79 0.2709 0.1223 *

Jupiter -15064-06-01 02:38 J -3780551.58 -3780551.39 -3780551.21 0.0500 0.0076

Mars -15061-01-24 06:57 J -3779584.34 -3779584.21 -3779584.08 0.1893 0.1226

Moon -15059-08-06 12:57 J -3778659.01 -3778658.96 -3778658.91 0.2722 0.2394

Earth -15059-08-06 13:11 J -3778659.00 -3778658.95 -3778658.89 0.2715 0.2287 *

Jupiter -15058-01-25 23:16 J -3778486.62 -3778486.53 -3778486.45 0.0526 0.0390

Jupiter -15058-04-25 04:04 J -3778397.45 -3778397.33 -3778397.21 0.0525 0.0161

Saturn -15058-10-17 05:16 J -3778222.34 -3778222.28 -3778222.22 0.0294 0.0252

Saturn -15057-01-13 16:48 J -3778133.91 -3778133.80 -3778133.67 0.0293 0.0102

Saturn -15057-04-11 04:33 J -3778045.44 -3778045.31 -3778045.19 0.0292 0.0048

Saturn -15057-07-08 16:04 J -3777956.93 -3777956.83 -3777956.74 0.0291 0.0195

Mars -15057-10-03 17:45 J -3777869.88 -3777869.76 -3777869.65 0.1626 0.0036

Earth -15053-08-15 08:09 J -3776458.21 -3776458.16 -3776458.11 0.2711 0.2375

Moon -15053-08-15 08:38 J -3776458.19 -3776458.14 -3776458.09 0.2705 0.2372 *

Jupiter -15052-03-19 21:35 J -3776241.76 -3776241.60 -3776241.44 0.0500 0.0278

Jupiter -15052-06-18 10:04 J -3776151.14 -3776151.08 -3776151.01 0.0501 0.0468

Venus -15048-07-18 01:11 J -3774660.61 -3774660.45 -3774660.28 0.3653 0.0520

Mars -15047-02-24 05:16 J -3774439.39 -3774439.28 -3774439.17 0.1627 0.0408

Jupiter -15047-11-14 03:50 J -3774176.35 -3774176.34 -3774176.33 0.0526 0.0523

Jupiter -15046-02-11 08:38 J -3774087.27 -3774087.14 -3774087.01 0.0525 0.0027

Earth -15046-08-09 06:57 J -3773908.30 -3773908.21 -3773908.11 0.2714 0.1088

Moon -15046-08-09 07:26 J -3773908.29 -3773908.19 -3773908.09 0.2720 0.0982 *

Mars -15045-01-30 06:28 J -3773734.29 -3773734.23 -3773734.16 0.1623 0.1360

Venus -15045-04-24 04:48 J -3773649.36 -3773649.30 -3773649.25 0.3716 0.3036

Moon -15042-02-10 11:31 J -3772627.16 -3772627.02 -3772626.88 0.2616 0.1250

Earth -15042-02-10 12:57 J -3772627.10 -3772626.96 -3772626.81 0.2620 0.1044 *

Saturn -15041-01-21 13:40 J -3772282.10 -3772281.93 -3772281.75 0.0269 0.0117

Saturn -15041-04-19 12:28 J -3772193.16 -3772192.98 -3772192.79 0.0270 0.0060

Saturn -15041-07-17 11:02 J -3772104.11 -3772104.04 -3772103.94 0.0271 0.0239

Mars -15041-10-13 00:28 J -3772016.52 -3772016.48 -3772016.44 0.1896 0.1830

Jupiter -15040-01-05 18:00 J -3771931.82 -3771931.75 -3771931.68 0.0500 0.0463

Jupiter -15040-04-06 06:43 J -3771841.37 -3771841.22 -3771841.06 0.0501 0.0285

Venus -15040-11-07 19:55 J -3771625.76 -3771625.67 -3771625.57 0.3718 0.1174

Mars -15038-07-17 17:02 J -3771008.89 -3771008.79 -3771008.69 0.1628 0.0833

Mars -15036-06-21 18:14 J -3770303.83 -3770303.74 -3770303.65 0.1624 0.0931

Jupiter -15035-11-30 12:28 J -3769777.10 -3769776.98 -3769776.85 0.0525 0.0121

Jupiter -15034-02-27 17:16 J -3769687.84 -3769687.78 -3769687.70 0.0524 0.0430

Venus -15034-05-24 11:02 J -3769602.14 -3769602.04 -3769601.94 0.3720 0.0693

Earth -15033-08-11 00:57 J -3769157.57 -3769157.46 -3769157.35 0.2713 0.0139

Moon -15033-08-11 01:40 J -3769157.54 -3769157.43 -3769157.32 0.2716 0.0198 *

Mars -15031-03-04 16:19 J -3768586.99 -3768586.82 -3768586.66 0.1895 0.0371

Uranus -15031-07-12 18:00 J -3768456.79 -3768456.75 -3768456.68 0.0139 0.0125

Uranus -15031-10-08 21:21 J -3768368.69 -3768368.61 -3768368.52 0.0139 0.0105

Uranus -15030-01-05 00:43 J -3768280.57 -3768280.47 -3768280.37 0.0140 0.0084

Uranus -15030-04-03 03:50 J -3768192.45 -3768192.34 -3768192.22 0.0140 0.0065

Uranus -15030-06-30 07:11 J -3768104.32 -3768104.20 -3768104.07 0.0140 0.0044

Uranus -15030-09-26 10:33 J -3768016.19 -3768016.06 -3768015.93 0.0140 0.0024

Uranus -15030-12-23 13:40 J -3767928.06 -3767927.93 -3767927.79 0.0140 0.0006

Moon -15029-02-13 18:00 J -3767875.89 -3767875.75 -3767875.61 0.2623 0.1132

Earth -15029-02-13 19:26 J -3767875.82 -3767875.69 -3767875.55 0.2621 0.1287 *

Uranus -15029-03-20 17:02 J -3767839.92 -3767839.79 -3767839.66 0.0140 0.0017

Uranus -15029-06-16 20:24 J -3767751.78 -3767751.65 -3767751.52 0.0140 0.0038

Uranus -15029-09-12 23:45 J -3767663.63 -3767663.51 -3767663.39 0.0140 0.0058

Venus -15029-12-07 02:24 J -3767578.47 -3767578.40 -3767578.33 0.3722 0.2558

Mars -15029-12-07 04:48 J -3767578.37 -3767578.30 -3767578.23 0.1630 0.1259 *

Uranus -15029-12-10 02:52 J -3767575.48 -3767575.38 -3767575.26 0.0141 0.0080

Jupiter -15028-01-23 03:35 J -3767531.53 -3767531.35 -3767531.16 0.0501 0.0105

Saturn -15028-03-05 07:55 J -3767490.18 -3767490.17 -3767490.14 0.0295 0.0290

Uranus -15028-03-08 06:14 J -3767487.32 -3767487.24 -3767487.14 0.0141 0.0101

Saturn -15028-06-01 19:40 J -3767401.79 -3767401.68 -3767401.56 0.0294 0.0139

Uranus -15028-06-04 09:35 J -3767399.15 -3767399.10 -3767399.02 0.0141 0.0122

Saturn -15028-08-29 07:26 J -3767313.32 -3767313.19 -3767313.07 0.0293 0.0014

Saturn -15028-11-25 18:57 J -3767224.82 -3767224.71 -3767224.61 0.0292 0.0159

Mars -15027-11-12 06:00 J -3766873.36 -3766873.25 -3766873.14 0.1625 0.0507

Jupiter -15023-09-18 16:48 J -3765466.91 -3765466.80 -3765466.69 0.0525 0.0261

Jupiter -15023-12-16 21:35 J -3765377.70 -3765377.60 -3765377.49 0.0524 0.0289

Mars -15022-07-25 07:40 J -3765157.32 -3765157.18 -3765157.04 0.1893 0.1109

Earth -15020-08-13 18:57 J -3764406.80 -3764406.71 -3764406.62 0.2712 0.1372

Moon -15020-08-13 19:40 J -3764406.77 -3764406.68 -3764406.59 0.2708 0.1463 *

Mars -15017-04-03 17:31 J -3763442.88 -3763442.77 -3763442.65 0.1626 0.0103

Jupiter -15017-11-11 00:00 J -3763221.69 -3763221.50 -3763221.31 0.0500 0.0083

Moon -15013-08-06 17:45 J -3761856.83 -3761856.76 -3761856.68 0.2721 0.2029

Earth -15013-08-06 18:00 J -3761856.82 -3761856.75 -3761856.68 0.2715 0.2054 *

Saturn -15012-06-09 13:40 J -3761550.09 -3761549.93 -3761549.77 0.0269 0.0158

Saturn -15012-09-06 12:28 J -3761461.18 -3761460.98 -3761460.79 0.0270 0.0019

Saturn -15012-12-04 11:02 J -3761372.16 -3761372.04 -3761371.90 0.0271 0.0197

Jupiter -15011-07-07 21:07 J -3761156.70 -3761156.62 -3761156.54 0.0526 0.0402

Jupiter -15011-10-05 01:55 J -3761067.54 -3761067.42 -3761067.30 0.0525 0.0149

Pluto -15010-11-29 06:00 J -3760647.29 -3760647.25 -3760647.18 0.0072 0.0068

Pluto -15009-02-25 07:40 J -3760559.27 -3760559.18 -3760559.08 0.0072 0.0058

Pluto -15009-05-23 09:07 J -3760471.23 -3760471.12 -3760471.00 0.0072 0.0049

Pluto -15009-08-19 10:19 J -3760383.19 -3760383.07 -3760382.92 0.0072 0.0041

Pluto -15009-11-15 12:00 J -3760295.14 -3760295.00 -3760294.85 0.0072 0.0032

Pluto -15008-02-11 13:26 J -3760207.09 -3760206.94 -3760206.78 0.0072 0.0023

Pluto -15008-05-10 14:52 J -3760119.04 -3760118.88 -3760118.72 0.0072 0.0014

Pluto -15008-08-06 16:19 J -3760030.98 -3760030.82 -3760030.66 0.0071 0.0006

Mars -15008-08-25 05:16 J -3760012.39 -3760012.28 -3760012.16 0.1627 0.0351

Pluto -15008-11-02 17:31 J -3759942.93 -3759942.77 -3759942.60 0.0071 0.0003

Pluto -15007-01-29 18:57 J -3759854.87 -3759854.71 -3759854.55 0.0071 0.0011

Pluto -15007-04-27 20:09 J -3759766.81 -3759766.66 -3759766.50 0.0071 0.0019

Pluto -15007-07-24 21:35 J -3759678.75 -3759678.60 -3759678.45 0.0071 0.0027

Earth -15007-08-16 12:57 J -3759655.98 -3759655.96 -3759655.93 0.2711 0.2623

Moon -15007-08-16 13:11 J -3759655.96 -3759655.95 -3759655.93 0.2705 0.2673 *

Pluto -15007-10-20 22:33 J -3759590.68 -3759590.56 -3759590.41 0.0071 0.0036

Pluto -15006-01-17 00:00 J -3759502.61 -3759502.50 -3759502.36 0.0071 0.0044

Neptune -15006-03-19 07:11 J -3759441.24 -3759441.20 -3759441.13 0.0088 0.0084

Pluto -15006-04-15 01:11 J -3759414.54 -3759414.45 -3759414.33 0.0071 0.0052

Neptune -15006-06-15 10:48 J -3759353.13 -3759353.05 -3759352.92 0.0088 0.0074

Pluto -15006-07-12 02:24 J -3759326.47 -3759326.40 -3759326.30 0.0071 0.0060

Mars -15006-07-31 06:28 J -3759307.28 -3759307.23 -3759307.17 0.1623 0.1415

Neptune -15006-09-11 14:38 J -3759265.01 -3759264.89 -3759264.74 0.0088 0.0064

Pluto -15006-10-08 03:35 J -3759238.37 -3759238.35 -3759238.29 0.0070 0.0068

Neptune -15006-12-08 18:43 J -3759176.87 -3759176.72 -3759176.56 0.0088 0.0053

Neptune -15005-03-05 22:19 J -3759088.73 -3759088.57 -3759088.39 0.0088 0.0043

Neptune -15005-06-02 01:55 J -3759000.59 -3759000.42 -3759000.22 0.0088 0.0033

Neptune -15005-08-29 05:45 J -3758912.44 -3758912.26 -3758912.06 0.0088 0.0023

Jupiter -15005-08-29 20:09 J -3758911.82 -3758911.66 -3758911.51 0.0500 0.0271

Neptune -15005-11-25 09:35 J -3758824.29 -3758824.10 -3758823.90 0.0088 0.0013

Jupiter -15005-11-28 08:24 J -3758821.20 -3758821.15 -3758821.08 0.0501 0.0475

Neptune -15004-02-21 13:26 J -3758736.14 -3758735.94 -3758735.74 0.0088 0.0002

Neptune -15004-05-20 17:02 J -3758647.98 -3758647.79 -3758647.59 0.0088 0.0008

Neptune -15004-08-16 20:52 J -3758559.82 -3758559.63 -3758559.44 0.0088 0.0018

Neptune -15004-11-13 00:14 J -3758471.66 -3758471.49 -3758471.29 0.0088 0.0029

Neptune -15003-02-09 04:04 J -3758383.50 -3758383.33 -3758383.14 0.0088 0.0039

Neptune -15003-05-08 07:40 J -3758295.33 -3758295.18 -3758295.00 0.0088 0.0049

Neptune -15003-08-04 11:31 J -3758207.16 -3758207.02 -3758206.87 0.0088 0.0059

Neptune -15003-10-31 15:07 J -3758118.98 -3758118.87 -3758118.74 0.0088 0.0069

Neptune -15002-01-27 18:57 J -3758030.79 -3758030.71 -3758030.62 0.0088 0.0079

15TH MILLENNIUM BCE

This is a list of transits of Mercury in the 15th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Earth	**-15000-08-09 12:00 J**		**-3757106.11**	**-3757106.00**	**-3757105.90**	**0.2714**	**0.0848**	
Moon	**-15000-08-09 12:14 J**		**-3757106.09**	**-3757105.99**	**-3757105.88**	**0.2720**	**0.0862**	*
Jupiter	**-14999-07-24 06:43 J**		**-3756757.35**	**-3756757.22**	**-3756757.09**	**0.0525**	**0.0018**	
Saturn	**-14999-10-19 22:19 J**		**-3756669.67**	**-3756669.57**	**-3756669.47**	**0.0294**	**0.0177**	
Mars	**-14998-01-15 17:02 J**		**-3756581.89**	**-3756581.79**	**-3756581.69**	**0.1628**	**0.0776**	
Saturn	**-14998-01-16 09:50 J**		**-3756581.21**	**-3756581.09**	**-3756580.96**	**0.0293**	**0.0029**	
Saturn	**-14998-04-14 21:35 J**		**-3756492.72**	**-3756492.60**	**-3756492.49**	**0.0292**	**0.0121**	
Saturn	**-14998-07-12 08:52 J**		**-3756404.17**	**-3756404.13**	**-3756404.08**	**0.0290**	**0.0267**	
Mars	**-14997-12-20 18:14 J**		**-3755876.83**	**-3755876.74**	**-3755876.65**	**0.1624**	**0.0990**	
Moon	**-14996-02-10 18:00 J**		**-3755824.90**	**-3755824.75**	**-3755824.59**	**0.2618**	**0.0685**	
Earth	**-14996-02-10 19:40 J**		**-3755824.84**	**-3755824.68**	**-3755824.53**	**0.2620**	**0.0607**	*
Jupiter	**-14993-06-17 14:52 J**		**-3754601.93**	**-3754601.88**	**-3754601.82**	**0.0500**	**0.0474**	
Jupiter	**-14993-09-16 03:35 J**		**-3754511.50**	**-3754511.35**	**-3754511.19**	**0.0501**	**0.0272**	
Mars	**-14992-09-02 17:02 J**		**-3754159.95**	**-3754159.79**	**-3754159.62**	**0.1895**	**0.0496**	
Venus	**-14991-02-22 04:04 J**		**-3753987.47**	**-3753987.33**	**-3753987.18**	**0.3653**	**0.1754**	
Uranus	**-14991-02-26 16:04 J**		**-3753982.88**	**-3753982.83**	**-3753982.75**	**0.0139**	**0.0131**	
Uranus	**-14991-05-26 00:14 J**		**-3753894.61**	**-3753894.49**	**-3753894.35**	**0.0139**	**0.0101**	
Uranus	**-14991-08-22 08:09 J**		**-3753806.31**	**-3753806.16**	**-3753805.98**	**0.0139**	**0.0071**	
Uranus	**-14991-11-18 16:19 J**		**-3753718.00**	**-3753717.82**	**-3753717.63**	**0.0139**	**0.0041**	
Uranus	**-14990-02-15 00:28 J**		**-3753629.68**	**-3753629.48**	**-3753629.29**	**0.0139**	**0.0011**	
Uranus	**-14990-05-14 08:24 J**		**-3753541.35**	**-3753541.15**	**-3753540.96**	**0.0138**	**0.0019**	
Uranus	**-14990-08-10 16:04 J**		**-3753453.01**	**-3753452.83**	**-3753452.64**	**0.0138**	**0.0048**	

Uranus -14990-11-06 23:45 J -3753364.66 -3753364.51 -3753364.34 0.0138 0.0078

Uranus -14989-02-03 07:40 J -3753276.30 -3753276.18 -3753276.05 0.0138 0.0106

Uranus -14989-05-01 15:07 J -3753187.89 -3753187.87 -3753187.82 0.0138 0.0135

Mars -14989-06-07 04:48 J -3753151.38 -3753151.30 -3753151.23 0.1630 0.1205

Venus -14989-11-29 02:09 J -3752976.49 -3752976.41 -3752976.34 0.3716 0.2364

Jupiter -14987-05-12 11:16 J -3752447.15 -3752447.03 -3752446.91 0.0525 0.0117

Mars -14987-05-13 05:45 J -3752446.36 -3752446.26 -3752446.15 0.1625 0.0565

Jupiter -14987-08-09 16:04 J -3752357.90 -3752357.83 -3752357.76 0.0524 0.0433

Earth -14987-08-12 05:45 J -3752355.37 -3752355.26 -3752355.15 0.2713 0.0381

Moon -14987-08-12 06:28 J -3752355.34 -3752355.23 -3752355.12 0.2714 0.0515 *

Moon -14983-02-14 00:28 J -3751073.61 -3751073.48 -3751073.35 0.2623 0.1530

Earth -14983-02-14 02:09 J -3751073.53 -3751073.41 -3751073.29 0.2621 0.1726 *

Venus -14983-06-14 17:16 J -3750952.88 -3750952.78 -3750952.68 0.3718 0.0502

Saturn -14983-10-27 13:40 J -3750818.06 -3750817.93 -3750817.80 0.0269 0.0197

Mars -14982-01-23 08:52 J -3750730.28 -3750730.13 -3750729.99 0.1893 0.0971

Saturn -14982-01-24 12:28 J -3750729.17 -3750728.98 -3750728.78 0.0269 0.0021

Saturn -14982-04-23 11:16 J -3750640.18 -3750640.03 -3750639.87 0.0270 0.0157

Jupiter -14981-07-05 00:00 J -3750201.68 -3750201.50 -3750201.31 0.0501 0.0088

Mars -14978-10-03 17:31 J -3749015.88 -3749015.77 -3749015.65 0.1626 0.0135

Venus -14978-12-29 08:24 J -3748929.24 -3748929.15 -3748929.06 0.3720 0.1365

Jupiter -14975-02-28 15:07 J -3748136.97 -3748136.87 -3748136.76 0.0525 0.0265

Jupiter -14975-05-28 19:55 J -3748047.77 -3748047.67 -3748047.56 0.0524 0.0286

Earth -14974-08-14 23:45 J -3747604.59 -3747604.51 -3747604.42 0.2712 0.1618

Moon -14974-08-15 00:28 J -3747604.57 -3747604.48 -3747604.39 0.2708 0.1674 *

Venus -14972-07-13 23:45 J -3746905.56 -3746905.51 -3746905.47 0.3722 0.3238

Saturn -14969-03-08 01:26 J -3745937.52 -3745937.44 -3745937.35 0.0294 0.0211

Jupiter -14969-04-22 20:52 J -3745891.81 -3745891.63 -3745891.44 0.0501 0.0094

Saturn -14969-06-04 13:11 J -3745849.08 -3745848.95 -3745848.83 0.0293 0.0061

Saturn -14969-09-01 00:43 J -3745760.59 -3745760.47 -3745760.35 0.0292 0.0088

Saturn -14969-11-28 12:14 J -3745672.06 -3745671.99 -3745671.92 0.0291 0.0235

Mars	-14968-02-23 05:16 J	-3745585.39	-3745585.28	-3745585.17	0.1627	0.0293
Earth	-14967-08-07 22:48 J	-3745054.63	-3745054.55	-3745054.47	0.2715	0.1819
Moon	-14967-08-07 22:48 J	-3745054.62	-3745054.55	-3745054.47	0.2721	0.1870 *
Mars	-14966-01-29 06:28 J	-3744880.28	-3744880.23	-3744880.18	0.1623	0.1469
Jupiter	-14964-12-17 19:26 J	-3743826.77	-3743826.69	-3743826.61	0.0526	0.0406
Moon	-14963-02-08 18:28 J	-3743773.77	-3743773.73	-3743773.69	0.2614	0.2520
Earth	-14963-02-08 19:26 J	-3743773.73	-3743773.69	-3743773.65	0.2619	0.2517 *
Jupiter	-14963-03-17 00:14 J	-3743737.61	-3743737.49	-3743737.37	0.0525	0.0144
Mars	-14959-07-16 17:02 J	-3742154.89	-3742154.79	-3742154.69	0.1628	0.0720
Jupiter	-14957-02-09 17:02 J	-3741581.94	-3741581.79	-3741581.63	0.0500	0.0282
Jupiter	-14957-05-10 05:45 J	-3741491.33	-3741491.26	-3741491.19	0.0501	0.0464
Mars	-14957-06-20 18:14 J	-3741449.83	-3741449.74	-3741449.66	0.1624	0.1045
Earth	-14954-08-10 16:48 J	-3740303.91	-3740303.80	-3740303.70	0.2714	0.0611
Moon	-14954-08-10 17:02 J	-3740303.89	-3740303.79	-3740303.68	0.2720	0.0498 *
Saturn	-14953-03-15 14:09 J	-3740086.00	-3740085.91	-3740085.81	0.0269	0.0234
Saturn	-14953-06-12 12:57 J	-3739997.15	-3739996.96	-3739996.77	0.0270	0.0058
Saturn	-14953-09-09 11:45 J	-3739908.18	-3739908.01	-3739907.84	0.0270	0.0120
Mars	-14952-03-03 18:14 J	-3739732.90	-3739732.74	-3739732.58	0.1895	0.0641
Jupiter	-14951-01-03 04:33 J	-3739427.44	-3739427.31	-3739427.19	0.0525	0.0019
Moon	-14950-02-12 00:43 J	-3739022.63	-3739022.47	-3739022.32	0.2620	0.0424
Earth	-14950-02-12 02:09 J	-3739022.56	-3739022.41	-3739022.25	0.2620	0.0166 *
Mars	-14950-12-07 04:48 J	-3738724.38	-3738724.30	-3738724.22	0.1630	0.1147
Mars	-14948-11-11 05:45 J	-3738019.36	-3738019.26	-3738019.15	0.1625	0.0619
Uranus	-14947-05-05 22:19 J	-3737843.57	-3737843.57	-3737843.56	0.0139	0.0139
Uranus	-14947-08-02 01:26 J	-3737755.50	-3737755.44	-3737755.37	0.0139	0.0119
Uranus	-14947-10-29 04:48 J	-3737667.39	-3737667.30	-3737667.21	0.0139	0.0099
Uranus	-14946-01-25 07:55 J	-3737579.27	-3737579.17	-3737579.06	0.0140	0.0080
Uranus	-14946-04-23 11:16 J	-3737491.15	-3737491.03	-3737490.91	0.0140	0.0059
Uranus	-14946-07-20 14:38 J	-3737403.02	-3737402.89	-3737402.77	0.0140	0.0039
Uranus	-14946-10-16 18:00 J	-3737314.88	-3737314.75	-3737314.62	0.0140	0.0019

Jupiter -14946-11-28 13:11 J -3737272.01 -3737271.95 -3737271.89 0.0500 0.0471

Uranus -14945-01-12 21:07 J -3737226.75 -3737226.62 -3737226.49 0.0140 0.0003

Jupiter -14945-02-27 01:40 J -3737181.58 -3737181.43 -3737181.27 0.0501 0.0275

Uranus -14945-04-10 00:28 J -3737138.61 -3737138.48 -3737138.35 0.0140 0.0022

Uranus -14945-07-07 03:35 J -3737050.47 -3737050.35 -3737050.22 0.0140 0.0044

Uranus -14945-10-03 07:11 J -3736962.32 -3736962.20 -3736962.09 0.0141 0.0064

Uranus -14945-12-30 10:19 J -3736874.17 -3736874.07 -3736873.96 0.0141 0.0085

Uranus -14944-03-28 13:40 J -3736786.01 -3736785.93 -3736785.84 0.0141 0.0106

Uranus -14944-06-24 17:02 J -3736697.84 -3736697.79 -3736697.73 0.0141 0.0127

Mars -14943-07-24 09:35 J -3736303.25 -3736303.10 -3736302.94 0.1893 0.0843

Earth -14941-08-12 10:33 J -3735553.16 -3735553.06 -3735552.95 0.2713 0.0628

Moon -14941-08-12 11:16 J -3735553.13 -3735553.03 -3735552.92 0.2712 0.0653 *

Venus -14940-03-14 18:43 J -3735338.81 -3735338.72 -3735338.63 0.3655 0.2992

Mars -14940-04-28 16:19 J -3735293.84 -3735293.82 -3735293.79 0.1631 0.1577

Saturn -14940-07-26 04:33 J -3735205.38 -3735205.31 -3735205.24 0.0294 0.0245

Jupiter -14940-10-22 09:07 J -3735117.24 -3735117.12 -3735117.00 0.0526 0.0131

Saturn -14940-10-22 16:04 J -3735116.95 -3735116.83 -3735116.71 0.0293 0.0095

Saturn -14939-01-19 03:35 J -3735028.47 -3735028.35 -3735028.22 0.0292 0.0054

Jupiter -14939-01-19 13:55 J -3735027.99 -3735027.92 -3735027.84 0.0524 0.0420

Saturn -14939-04-17 15:07 J -3734939.96 -3734939.87 -3734939.78 0.0291 0.0200

Mars -14938-04-03 17:31 J -3734588.88 -3734588.77 -3734588.65 0.1626 0.0194

Venus -14938-12-21 08:09 J -3734327.18 -3734327.16 -3734327.13 0.3715 0.3534

Moon -14937-02-15 06:57 J -3734271.30 -3734271.21 -3734271.11 0.2624 0.2045

Earth -14937-02-15 08:38 J -3734271.23 -3734271.14 -3734271.05 0.2621 0.2159 *

Jupiter -14934-12-15 20:52 J -3732871.82 -3732871.63 -3732871.44 0.0500 0.0072

Venus -14932-07-05 23:31 J -3732303.61 -3732303.52 -3732303.44 0.3717 0.1685

Mars -14929-08-24 05:16 J -3731158.40 -3731158.28 -3731158.17 0.1627 0.0239

Jupiter -14928-08-10 13:40 J -3730807.03 -3730806.93 -3730806.82 0.0526 0.0266

Earth -14928-08-15 04:33 J -3730802.38 -3730802.31 -3730802.23 0.2712 0.1865

Moon -14928-08-15 05:16 J -3730802.36 -3730802.28 -3730802.21 0.2708 0.1963 *

Jupiter -14928-11-07 18:28 J -3730717.83 -3730717.73 -3730717.62 0.0525 0.0286

Mars -14927-07-30 06:28 J -3730453.27 -3730453.23 -3730453.19 0.1623 0.1526

Venus -14926-01-19 14:38 J -3730279.99 -3730279.89 -3730279.79 0.3719 0.0183

Neptune -14925-06-30 07:11 J -3729752.23 -3729752.20 -3729752.14 0.0089 0.0083

Neptune -14925-09-26 08:24 J -3729664.20 -3729664.15 -3729664.07 0.0089 0.0077

Neptune -14925-12-23 09:50 J -3729576.16 -3729576.09 -3729576.00 0.0089 0.0069

Neptune -14924-03-21 11:02 J -3729488.12 -3729488.04 -3729487.93 0.0089 0.0062

Neptune -14924-06-17 12:14 J -3729400.08 -3729399.99 -3729399.87 0.0089 0.0056

Neptune -14924-09-13 13:55 J -3729312.03 -3729311.92 -3729311.81 0.0089 0.0048

Saturn -14924-10-30 12:57 J -3729265.14 -3729264.96 -3729264.78 0.0269 0.0098

Neptune -14924-12-10 15:07 J -3729223.98 -3729223.87 -3729223.75 0.0089 0.0041

Saturn -14923-01-27 11:45 J -3729176.19 -3729176.01 -3729175.82 0.0270 0.0080

Neptune -14923-03-08 16:33 J -3729135.93 -3729135.81 -3729135.69 0.0089 0.0034

Saturn -14923-04-26 10:33 J -3729087.11 -3729087.06 -3729087.00 0.0271 0.0259

Neptune -14923-06-04 17:45 J -3729047.89 -3729047.76 -3729047.64 0.0089 0.0027

Neptune -14923-08-31 18:57 J -3728959.83 -3728959.71 -3728959.58 0.0089 0.0020

Neptune -14923-11-27 20:09 J -3728871.78 -3728871.66 -3728871.52 0.0089 0.0013

Neptune -14922-02-23 21:35 J -3728783.73 -3728783.60 -3728783.47 0.0089 0.0006

Neptune -14922-05-22 22:48 J -3728695.68 -3728695.55 -3728695.42 0.0089 0.0003

Neptune -14922-08-19 00:14 J -3728607.62 -3728607.49 -3728607.36 0.0089 0.0009

Jupiter -14922-10-03 17:16 J -3728561.97 -3728561.78 -3728561.60 0.0500 0.0114

Neptune -14922-11-15 01:26 J -3728519.57 -3728519.44 -3728519.31 0.0089 0.0015

Neptune -14921-02-11 02:38 J -3728431.51 -3728431.39 -3728431.26 0.0089 0.0023

Neptune -14921-05-09 04:04 J -3728343.46 -3728343.33 -3728343.21 0.0089 0.0030

Venus -14921-08-04 05:45 J -3728256.34 -3728256.26 -3728256.17 0.3721 0.2046

Neptune -14921-08-05 05:16 J -3728255.40 -3728255.28 -3728255.16 0.0089 0.0037

Moon -14921-08-08 03:50 J -3728252.43 -3728252.34 -3728252.25 0.2722 0.1542

Earth -14921-08-08 03:35 J -3728252.43 -3728252.35 -3728252.26 0.2714 0.1584 *

Neptune -14921-11-01 06:28 J -3728167.34 -3728167.23 -3728167.11 0.0089 0.0044

Neptune -14920-01-28 07:55 J -3728079.28 -3728079.17 -3728079.07 0.0089 0.0051

Neptune -14920-04-26 09:07 J -3727991.22 -3727991.12 -3727991.02 0.0089 0.0058

Neptune -14920-07-23 10:04 J -3727903.15 -3727903.08 -3727902.98 0.0089 0.0065

Neptune -14920-10-19 11:16 J -3727815.09 -3727815.03 -3727814.94 0.0089 0.0073

Mars -14919-01-14 17:02 J -3727727.90 -3727727.79 -3727727.69 0.1628 0.0668

Neptune -14919-01-15 12:43 J -3727727.02 -3727726.97 -3727726.90 0.0089 0.0079

Neptune -14919-04-13 13:55 J -3727638.94 -3727638.92 -3727638.87 0.0089 0.0086

Mars -14918-12-20 18:00 J -3727022.83 -3727022.75 -3727022.66 0.1624 0.1099

Moon -14917-02-10 00:57 J -3726971.54 -3726971.46 -3726971.38 0.2614 0.2272

Earth -14917-02-10 02:09 J -3726971.51 -3726971.41 -3726971.31 0.2619 0.2066 *

Jupiter -14916-05-29 17:45 J -3726496.84 -3726496.76 -3726496.69 0.0526 0.0413

Jupiter -14916-08-26 22:33 J -3726407.68 -3726407.56 -3726407.44 0.0525 0.0138

Mars -14913-09-01 18:43 J -3725305.87 -3725305.72 -3725305.56 0.1895 0.0747

Saturn -14911-12-13 07:40 J -3724473.21 -3724473.18 -3724473.13 0.0295 0.0277

Saturn -14910-03-11 19:26 J -3724384.80 -3724384.69 -3724384.57 0.0294 0.0126

Mars -14910-06-07 04:33 J -3724297.39 -3724297.31 -3724297.22 0.1630 0.1094

Saturn -14910-06-08 07:11 J -3724296.33 -3724296.20 -3724296.08 0.0293 0.0026

Jupiter -14910-07-22 13:55 J -3724252.07 -3724251.92 -3724251.77 0.0500 0.0296

Saturn -14910-09-04 18:28 J -3724207.83 -3724207.73 -3724207.62 0.0292 0.0172

Jupiter -14910-10-21 02:38 J -3724161.47 -3724161.39 -3724161.31 0.0501 0.0450

Mars -14908-05-12 05:45 J -3723592.36 -3723592.26 -3723592.15 0.1625 0.0673

Earth -14908-08-10 21:35 J -3723501.71 -3723501.60 -3723501.49 0.2714 0.0370

Moon -14908-08-10 22:04 J -3723501.69 -3723501.58 -3723501.47 0.2718 0.0361 *

Uranus -14907-03-19 01:11 J -3723281.54 -3723281.45 -3723281.34 0.0139 0.0118

Uranus -14907-06-15 09:07 J -3723193.25 -3723193.12 -3723192.95 0.0139 0.0088

Uranus -14907-09-11 17:16 J -3723104.95 -3723104.78 -3723104.59 0.0139 0.0058

Uranus -14907-12-09 01:26 J -3723016.63 -3723016.44 -3723016.25 0.0139 0.0028

Uranus -14906-03-07 09:21 J -3722928.30 -3722928.11 -3722927.91 0.0139 0.0003

Uranus -14906-06-03 17:16 J -3722839.97 -3722839.78 -3722839.59 0.0138 0.0032

Uranus -14906-08-31 00:57 J -3722751.62 -3722751.46 -3722751.28 0.0138 0.0061

Uranus -14906-11-27 08:38 J -3722663.27 -3722663.14 -3722662.98 0.0138 0.0091

Uranus -14905-02-23 16:19 J -3722574.90 -3722574.82 -3722574.71 0.0138 0.0120

Moon -14904-02-12 07:11 J -3722220.36 -3722220.20 -3722220.04 0.2620 0.0229

Earth -14904-02-12 08:52 J -3722220.29 -3722220.13 -3722219.97 0.2620 0.0302 *

Jupiter -14904-06-15 02:38 J -3722097.52 -3722097.39 -3722097.26 0.0525 0.0005

Mars -14903-01-22 10:33 J -3721876.22 -3721876.06 -3721875.91 0.1894 0.0721

Mars -14901-10-27 16:19 J -3720866.86 -3720866.82 -3720866.78 0.1631 0.1520

Mars -14899-10-02 17:31 J -3720161.88 -3720161.77 -3720161.66 0.1626 0.0246

Jupiter -14898-05-10 10:04 J -3719942.12 -3719942.08 -3719942.03 0.0500 0.0483

Jupiter -14898-08-08 22:48 J -3719851.71 -3719851.55 -3719851.39 0.0501 0.0263

Earth -14895-08-13 15:35 J -3718750.96 -3718750.85 -3718750.75 0.2713 0.0870

Moon -14895-08-13 16:19 J -3718750.93 -3718750.82 -3718750.72 0.2712 0.1029 *

Saturn -14894-03-19 13:40 J -3718533.10 -3718532.93 -3718532.76 0.0269 0.0133

Saturn -14894-06-16 12:28 J -3718444.17 -3718443.98 -3718443.79 0.0270 0.0044

Saturn -14894-09-13 11:16 J -3718355.13 -3718355.03 -3718354.92 0.0271 0.0223

Jupiter -14892-04-03 06:43 J -3717787.34 -3717787.22 -3717787.09 0.0525 0.0149

Jupiter -14892-07-01 11:45 J -3717698.09 -3717698.01 -3717697.93 0.0524 0.0403

Moon -14891-02-15 13:55 J -3717468.98 -3717468.92 -3717468.86 0.2624 0.2405

Earth -14891-02-15 15:21 J -3717468.88 -3717468.86 -3717468.85 0.2621 0.2607 *

Mars -14889-02-23 05:16 J -3716731.40 -3716731.28 -3716731.17 0.1627 0.0182

Moon -14888-08-06 14:24 J -3716200.93 -3716200.90 -3716200.88 0.2721 0.2612

Earth -14888-08-06 14:38 J -3716200.92 -3716200.89 -3716200.85 0.2715 0.2550 *

Mars -14887-01-28 06:28 J -3716026.25 -3716026.23 -3716026.21 0.1623 0.1581

Jupiter -14886-05-27 18:57 J -3715541.90 -3715541.71 -3715541.53 0.0500 0.0073

Venus -14884-10-19 21:35 J -3714665.76 -3714665.60 -3714665.44 0.3654 0.0749

Earth -14882-08-16 09:35 J -3714000.17 -3714000.10 -3714000.04 0.2712 0.2111

Moon -14882-08-16 10:04 J -3714000.15 -3714000.08 -3714000.02 0.2707 0.2112 *

Venus -14881-07-27 05:31 J -3713654.33 -3713654.27 -3713654.20 0.3715 0.2856

Saturn -14881-07-28 22:33 J -3713652.66 -3713652.56 -3713652.45 0.0293 0.0158

Saturn -14881-10-25 10:19 J -3713564.20 -3713564.07 -3713563.94 0.0292 0.0008

Jupiter -14880-01-20 11:31 J -3713477.13 -3713477.02 -3713476.92 0.0526 0.0281

Saturn -14880-01-21 21:50 J -3713475.70 -3713475.59 -3713475.48 0.0291 0.0140

Jupiter -14880-04-19 16:19 J -3713387.93 -3713387.82 -3713387.71 0.0525 0.0270

Saturn -14880-04-20 09:21 J -3713387.13 -3713387.11 -3713387.09 0.0290 0.0286

Mars -14880-07-15 16:48 J -3713300.90 -3713300.80 -3713300.69 0.1628 0.0612

Mars -14878-06-20 18:00 J -3712595.82 -3712595.75 -3712595.67 0.1624 0.1157

Venus -14875-02-09 20:52 J -3711630.73 -3711630.63 -3711630.54 0.3717 0.1010

Earth -14875-08-09 08:24 J -3711450.24 -3711450.15 -3711450.05 0.2714 0.1347

Moon -14875-08-09 08:38 J -3711450.23 -3711450.14 -3711450.04 0.2722 0.1344 *

Jupiter -14874-03-15 13:55 J -3711232.10 -3711231.92 -3711231.73 0.0500 0.0129

Mars -14873-03-02 19:55 J -3710878.82 -3710878.67 -3710878.52 0.1895 0.0886

Moon -14871-02-10 07:26 J -3710169.31 -3710169.19 -3710169.07 0.2616 0.1691

Earth -14871-02-10 08:52 J -3710169.26 -3710169.13 -3710169.01 0.2619 0.1612 *

Mars -14871-12-06 04:33 J -3709870.40 -3709870.31 -3709870.22 0.1630 0.1038

Venus -14870-08-26 12:00 J -3709607.10 -3709607.00 -3709606.90 0.3719 0.0858

Jupiter -14869-11-08 16:04 J -3709166.91 -3709166.83 -3709166.76 0.0526 0.0417

Mars -14869-11-10 05:45 J -3709165.36 -3709165.26 -3709165.16 0.1625 0.0727

Jupiter -14868-02-05 20:52 J -3709077.75 -3709077.63 -3709077.51 0.0525 0.0135

Saturn -14865-08-05 13:26 J -3707801.08 -3707800.94 -3707800.78 0.0269 0.0174

Saturn -14865-11-02 12:28 J -3707712.17 -3707711.98 -3707711.79 0.0270 0.0004

Saturn -14864-01-30 11:02 J -3707623.17 -3707623.04 -3707622.89 0.0271 0.0183

Venus -14864-03-11 03:07 J -3707583.43 -3707583.37 -3707583.30 0.3721 0.2721

Mars -14864-07-23 11:31 J -3707449.18 -3707449.02 -3707448.86 0.1893 0.0583

Uranus -14863-05-26 05:45 J -3707142.29 -3707142.26 -3707142.22 0.0139 0.0133

Uranus -14863-08-22 09:07 J -3707054.20 -3707054.12 -3707054.05 0.0139 0.0114

Uranus -14863-11-18 12:14 J -3706966.09 -3706965.99 -3706965.89 0.0139 0.0094

Jupiter -14862-01-01 10:19 J -3706922.22 -3706922.07 -3706921.92 0.0500 0.0315

Uranus -14862-02-14 15:21 J -3706877.97 -3706877.86 -3706877.74 0.0140 0.0074

Jupiter -14862-04-01 22:48 J -3706831.64 -3706831.55 -3706831.45 0.0501 0.0431

Uranus -14862-05-13 18:43 J -3706789.84 -3706789.72 -3706789.60 0.0140 0.0054

Uranus -14862-08-09 21:50 J -3706701.71 -3706701.59 -3706701.46 0.0140 0.0034

Earth -14862-08-12 02:24 J -3706699.51 -3706699.40 -3706699.29 0.2714 0.0125

Moon -14862-08-12 02:52 J -3706699.48 -3706699.38 -3706699.27 0.2717 0.0107 *

Uranus -14862-11-06 01:11 J -3706613.58 -3706613.45 -3706613.32 0.0140 0.0013

Uranus -14861-02-02 04:33 J -3706525.44 -3706525.31 -3706525.18 0.0140 0.0007

Mars -14861-04-27 16:19 J -3706439.87 -3706439.82 -3706439.77 0.1631 0.1465

Uranus -14861-04-30 07:40 J -3706437.30 -3706437.18 -3706437.05 0.0140 0.0028

Uranus -14861-07-27 11:02 J -3706349.16 -3706349.04 -3706348.91 0.0140 0.0048

Uranus -14861-10-23 14:24 J -3706261.01 -3706260.90 -3706260.78 0.0140 0.0069

Uranus -14860-01-19 17:45 J -3706172.86 -3706172.76 -3706172.66 0.0141 0.0090

Uranus -14860-04-17 21:07 J -3706084.70 -3706084.62 -3706084.54 0.0141 0.0111

Uranus -14860-07-15 00:28 J -3705996.52 -3705996.48 -3705996.43 0.0141 0.0132

Mars -14859-04-02 17:31 J -3705734.89 -3705734.77 -3705734.66 0.1626 0.0302

Moon -14858-02-13 13:40 J -3705418.08 -3705417.93 -3705417.77 0.2620 0.0456

Earth -14858-02-13 15:35 J -3705418.01 -3705417.85 -3705417.70 0.2620 0.0747 *

Jupiter -14857-11-25 00:43 J -3704767.59 -3704767.47 -3704767.34 0.0525 0.0020

Saturn -14852-12-16 02:09 J -3702920.51 -3702920.41 -3702920.32 0.0294 0.0188

Saturn -14851-03-14 13:40 J -3702832.06 -3702831.93 -3702831.80 0.0293 0.0037

Saturn -14851-06-11 01:11 J -3702743.57 -3702743.45 -3702743.33 0.0292 0.0111

Saturn -14851-09-07 12:43 J -3702655.03 -3702654.97 -3702654.91 0.0291 0.0257

Jupiter -14851-10-20 06:43 J -3702612.22 -3702612.22 -3702612.20 0.0500 0.0498

Jupiter -14850-01-18 19:40 J -3702521.84 -3702521.68 -3702521.52 0.0501 0.0249

Mars -14850-08-24 05:02 J -3702304.40 -3702304.29 -3702304.17 0.1627 0.0140

Earth -14849-08-13 20:24 J -3701948.75 -3701948.65 -3701948.55 0.2713 0.1110

Moon -14849-08-13 21:07 J -3701948.72 -3701948.62 -3701948.52 0.2712 0.1134 *

Pluto -14846-04-18 04:19 J -3700971.36 -3700971.32 -3700971.24 0.0071 0.0066

Pluto -14846-07-15 05:45 J -3700883.34 -3700883.26 -3700883.16 0.0072 0.0057

Pluto -14846-10-11 07:11 J -3700795.31 -3700795.20 -3700795.09 0.0072 0.0049

Pluto -14845-01-07 08:24 J -3700707.27 -3700707.15 -3700707.02 0.0072 0.0041

Pluto -14845-04-04 09:35 J -3700619.23 -3700619.10 -3700618.96 0.0072 0.0033

Pluto -14845-07-01 10:48 J -3700531.19 -3700531.05 -3700530.90 0.0072 0.0025

Jupiter -14845-09-13 05:02 J -3700457.41 -3700457.29 -3700457.17 0.0525 0.0154

Pluto -14845-09-27 12:14 J -3700443.14 -3700442.99 -3700442.84 0.0072 0.0016

Jupiter -14845-12-11 09:50 J -3700368.17 -3700368.09 -3700368.01 0.0524 0.0395

Pluto -14845-12-24 13:26 J -3700355.09 -3700354.94 -3700354.78 0.0072 0.0008

Pluto -14844-03-22 14:52 J -3700267.04 -3700266.88 -3700266.72 0.0072 0.0001

Pluto -14844-06-18 16:04 J -3700178.98 -3700178.83 -3700178.67 0.0073 0.0010

Pluto -14844-09-14 17:31 J -3700090.92 -3700090.77 -3700090.62 0.0073 0.0018

Pluto -14844-12-11 18:43 J -3700002.86 -3700002.72 -3700002.57 0.0073 0.0027

Pluto -14843-03-09 19:55 J -3699914.79 -3699914.67 -3699914.52 0.0073 0.0036

Pluto -14843-06-05 21:07 J -3699826.72 -3699826.62 -3699826.48 0.0073 0.0046

Pluto -14843-09-01 23:02 J -3699738.65 -3699738.54 -3699738.44 0.0073 0.0054

Pluto -14843-11-29 00:28 J -3699650.56 -3699650.48 -3699650.41 0.0073 0.0063

Pluto -14842-02-25 01:11 J -3699562.45 -3699562.45 -3699562.40 0.0073 0.0073

Moon -14842-08-07 19:11 J -3699398.75 -3699398.70 -3699398.64 0.2721 0.2320

Earth -14842-08-07 19:26 J -3699398.74 -3699398.69 -3699398.63 0.2715 0.2315 *

Neptune -14842-12-14 03:50 J -3699270.37 -3699270.34 -3699270.26 0.0088 0.0084

Neptune -14841-03-11 07:40 J -3699182.27 -3699182.18 -3699182.06 0.0088 0.0074

Neptune -14841-06-07 11:45 J -3699094.14 -3699094.01 -3699093.87 0.0088 0.0063

Neptune -14841-09-03 15:21 J -3699006.01 -3699005.86 -3699005.70 0.0088 0.0053

Neptune -14841-11-30 18:57 J -3698917.87 -3698917.71 -3698917.52 0.0088 0.0043

Mars -14840-01-13 16:48 J -3698873.91 -3698873.80 -3698873.69 0.1628 0.0554

Neptune -14840-02-26 22:48 J -3698829.73 -3698829.55 -3698829.36 0.0088 0.0033

Neptune -14840-05-26 02:24 J -3698741.58 -3698741.40 -3698741.19 0.0088 0.0023

Neptune -14840-08-22 06:28 J -3698653.43 -3698653.23 -3698653.03 0.0088 0.0012

Neptune -14840-11-18 10:04 J -3698565.28 -3698565.08 -3698564.88 0.0088 0.0002

Neptune -14839-02-14 13:55 J -3698477.12 -3698476.92 -3698476.72 0.0088 0.0008

Neptune -14839-05-13 17:16 J -3698388.96 -3698388.78 -3698388.57 0.0088 0.0019

Neptune -14839-08-09 21:07 J -3698300.80 -3698300.62 -3698300.42 0.0088 0.0029

Neptune -14839-11-06 00:43 J -3698212.63 -3698212.47 -3698212.28 0.0088 0.0039

Jupiter -14839-11-06 16:04 J -3698212.02 -3698211.83 -3698211.65 0.0501 0.0062

Mars -14839-12-19 18:00 J -3698168.82 -3698168.75 -3698168.67 0.1624 0.1210

Neptune -14838-02-02 04:33 J -3698124.47 -3698124.31 -3698124.14 0.0088 0.0049

Neptune -14838-05-01 08:24 J -3698036.29 -3698036.15 -3698036.00 0.0088 0.0059

Neptune -14838-07-28 12:14 J -3697948.11 -3697947.99 -3697947.87 0.0088 0.0069

Neptune -14838-10-24 15:21 J -3697859.92 -3697859.86 -3697859.76 0.0088 0.0080

Earth -14836-08-16 14:24 J -3697197.95 -3697197.90 -3697197.85 0.2712 0.2354

Moon -14836-08-16 14:38 J -3697197.93 -3697197.89 -3697197.84 0.2705 0.2449 *

Saturn -14836-12-23 13:55 J -3697069.03 -3697068.92 -3697068.79 0.0269 0.0210

Saturn -14835-03-22 12:57 J -3696980.15 -3696979.96 -3696979.77 0.0270 0.0033

Saturn -14835-06-19 11:31 J -3696891.17 -3696891.02 -3696890.85 0.0271 0.0146

Mars -14834-09-01 20:52 J -3696451.77 -3696451.63 -3696451.49 0.1895 0.1021

Jupiter -14833-07-02 09:07 J -3696147.22 -3696147.12 -3696147.01 0.0526 0.0298

Jupiter -14833-09-29 13:55 J -3696058.03 -3696057.92 -3696057.81 0.0525 0.0253

Mars -14831-06-06 04:33 J -3695443.40 -3695443.31 -3695443.22 0.1630 0.0979

Mars -14829-05-11 05:45 J -3694738.36 -3694738.26 -3694738.16 0.1625 0.0785

Earth -14829-08-09 13:26 J -3694648.04 -3694647.94 -3694647.84 0.2714 0.1108

Moon -14829-08-09 13:26 J -3694648.03 -3694647.94 -3694647.84 0.2721 0.1085 *

Venus -14827-05-27 00:28 J -3693992.63 -3693992.48 -3693992.33 0.3654 0.1519

Jupiter -14827-08-25 12:00 J -3693902.18 -3693902.00 -3693901.82 0.0500 0.0128

Moon -14825-02-11 13:55 J -3693367.06 -3693366.92 -3693366.79 0.2617 0.1363

Earth -14825-02-11 15:21 J -3693367.00 -3693366.86 -3693366.71 0.2619 0.1166 *

Mars -14824-01-21 12:28 J -3693022.15 -3693021.98 -3693021.82 0.1893 0.0455

Venus -14824-03-03 02:52 J -3692981.46 -3692981.38 -3692981.30 0.3716 0.2182

Uranus -14823-01-10 01:26 J -3692668.46 -3692668.44 -3692668.40 0.0139 0.0138

Uranus -14823-04-08 09:35 J -3692580.22 -3692580.10 -3692579.97 0.0139 0.0107

Uranus -14823-07-05 17:31 J -3692491.92 -3692491.77 -3692491.60 0.0139 0.0077

Uranus -14823-10-02 01:40 J -3692403.61 -3692403.43 -3692403.24 0.0139 0.0047

Uranus -14823-12-29 09:50 J -3692315.29 -3692315.09 -3692314.90 0.0139 0.0017

Uranus -14822-03-27 17:45 J -3692226.96 -3692226.76 -3692226.57 0.0139 0.0013

Saturn -14822-05-05 05:16 J -3692188.36 -3692188.28 -3692188.20 0.0294 0.0219

Uranus -14822-06-24 01:26 J -3692138.62 -3692138.44 -3692138.25 0.0139 0.0042

Saturn -14822-08-01 16:48 J -3692099.92 -3692099.80 -3692099.67 0.0293 0.0070

Uranus -14822-09-20 09:21 J -3692050.27 -3692050.11 -3692049.94 0.0138 0.0071

Mars -14822-10-27 16:04 J -3692012.88 -3692012.83 -3692012.77 0.1631 0.1413

Saturn -14822-10-29 04:19 J -3692011.44 -3692011.32 -3692011.19 0.0292 0.0080

Uranus -14822-12-17 17:02 J -3691961.91 -3691961.79 -3691961.65 0.0138 0.0101

Saturn -14821-01-25 15:50 J -3691922.92 -3691922.84 -3691922.76 0.0291 0.0226

Uranus -14821-03-15 00:43 J -3691873.52 -3691873.47 -3691873.39 0.0138 0.0130

Jupiter -14821-04-20 13:40 J -3691836.99 -3691836.93 -3691836.86 0.0526 0.0433

Jupiter -14821-07-18 18:43 J -3691747.85 -3691747.72 -3691747.60 0.0525 0.0120

Mars -14820-10-01 17:31 J -3691307.89 -3691307.77 -3691307.66 0.1626 0.0360

Venus -14819-09-16 18:00 J -3690957.84 -3690957.75 -3690957.65 0.3718 0.0369

Earth -14816-08-12 07:11 J -3689897.31 -3689897.20 -3689897.09 0.2713 0.0123

Moon -14816-08-12 07:55 J -3689897.28 -3689897.17 -3689897.06 0.2716 0.0182 *

Jupiter -14815-06-13 07:11 J -3689592.34 -3689592.20 -3689592.05 0.0500 0.0327

Jupiter -14815-09-11 19:55 J -3689501.77 -3689501.67 -3689501.57 0.0501 0.0418

Venus -14813-04-01 09:21 J -3688934.20 -3688934.11 -3688934.02 0.3720 0.1528

Moon -14812-02-13 20:24 J -3688615.79 -3688615.65 -3688615.51 0.2621 0.1113

Earth -14812-02-13 22:04 J -3688615.72 -3688615.58 -3688615.44 0.2620 0.1187 *

Mars -14810-02-22 05:02 J -3687877.40 -3687877.29 -3687877.17 0.1627 0.0077

Jupiter -14809-05-06 23:16 J -3687437.66 -3687437.53 -3687437.41 0.0526 0.0017

Venus -14808-10-16 00:28 J -3686910.52 -3686910.48 -3686910.44 0.3722 0.3391

Saturn -14806-05-12 13:26 J -3686336.99 -3686336.94 -3686336.87 0.0269 0.0253

Saturn -14806-08-09 12:14 J -3686248.17 -3686247.99 -3686247.80 0.0269 0.0078

Saturn -14806-11-06 11:02 J -3686159.21 -3686159.04 -3686158.85 0.0270 0.0102

Jupiter -14803-06-30 16:19 J -3685191.99 -3685191.82 -3685191.65 0.0501 0.0233

Earth -14803-08-15 01:11 J -3685146.54 -3685146.45 -3685146.36 0.2713 0.1355

Moon -14803-08-15 01:55 J -3685146.51 -3685146.42 -3685146.33 0.2711 0.1495 *

Mars -14801-07-14 16:48 J -3684446.91 -3684446.80 -3684446.69 0.1628 0.0498

Mars -14799-06-19 18:00 J -3683741.82 -3683741.75 -3683741.68 0.1624 0.1264

Jupiter -14797-02-24 03:07 J -3683127.48 -3683127.37 -3683127.25 0.0525 0.0163

Jupiter -14797-05-23 08:09 J -3683038.25 -3683038.16 -3683038.08 0.0524 0.0388

Moon -14796-08-08 00:14 J -3682596.55 -3682596.49 -3682596.43 0.2722 0.2152

Earth -14796-08-08 00:28 J -3682596.55 -3682596.48 -3682596.42 0.2715 0.2080 *

Mars -14794-03-02 21:35 J -3682024.74 -3682024.60 -3682024.47 0.1895 0.1136

Saturn -14793-09-21 08:24 J -3681456.21 -3681456.15 -3681456.08 0.0295 0.0252

Saturn -14793-12-18 20:09 J -3681367.78 -3681367.66 -3681367.54 0.0294 0.0100

Saturn -14792-03-17 07:40 J -3681279.30 -3681279.18 -3681279.05 0.0293 0.0049

Saturn -14792-06-13 19:11 J -3681190.79 -3681190.70 -3681190.60 0.0291 0.0196

Mars -14792-12-05 04:33 J -3681016.41 -3681016.31 -3681016.22 0.1630 0.0926

Jupiter -14791-04-18 12:57 J -3680882.15 -3680881.96 -3680881.77 0.0501 0.0050

Earth -14790-08-17 19:11 J -3680395.73 -3680395.70 -3680395.67 0.2711 0.2605

Moon -14790-08-17 19:26 J -3680395.72 -3680395.69 -3680395.65 0.2705 0.2568 *

Mars -14790-11-10 05:45 J -3680311.36 -3680311.26 -3680311.17 0.1625 0.0840

Jupiter -14786-12-13 07:26 J -3678817.29 -3678817.19 -3678817.08 0.0526 0.0303

Jupiter -14785-03-11 12:14 J -3678728.10 -3678727.99 -3678727.88 0.0524 0.0248

Mars -14785-07-22 13:11 J -3678595.12 -3678594.95 -3678594.78 0.1894 0.0335

Earth -14783-08-10 18:14 J -3677845.85 -3677845.74 -3677845.64 0.2714 0.0868

Moon -14783-08-10 18:28 J -3677845.83 -3677845.73 -3677845.63 0.2720 0.0807 *

Mars -14782-04-27 16:19 J -3677585.89 -3677585.82 -3677585.76 0.1631 0.1354

Mars -14780-04-01 17:16 J -3676880.89 -3676880.78 -3676880.66 0.1626 0.0417

Jupiter -14779-02-04 09:21 J -3676572.29 -3676572.11 -3676571.93 0.0500 0.0136

Moon -14779-02-11 20:24 J -3676564.80 -3676564.65 -3676564.50 0.2617 0.0874

Earth -14779-02-11 22:04 J -3676564.73 -3676564.58 -3676564.43 0.2619 0.0711 *

Uranus -14779-06-15 12:57 J -3676441.00 -3676440.96 -3676440.91 0.0139 0.0129

Uranus -14779-09-11 16:04 J -3676352.90 -3676352.83 -3676352.75 0.0139 0.0110

Uranus -14779-12-08 19:11 J -3676264.79 -3676264.70 -3676264.59 0.0139 0.0090

Uranus -14778-03-06 22:33 J -3676176.67 -3676176.56 -3676176.45 0.0139 0.0070

Uranus -14778-06-03 01:55 J -3676088.55 -3676088.42 -3676088.30 0.0140 0.0050

Uranus -14778-08-30 05:02 J -3676000.42 -3676000.29 -3676000.16 0.0140 0.0030

Uranus -14778-11-26 08:24 J -3675912.28 -3675912.15 -3675912.02 0.0140 0.0010

Uranus -14777-02-22 11:31 J -3675824.15 -3675824.02 -3675823.89 0.0140 0.0011

Uranus -14777-05-20 14:52 J -3675736.01 -3675735.88 -3675735.75 0.0140 0.0031

Uranus -14777-08-16 18:14 J -3675647.86 -3675647.74 -3675647.62 0.0140 0.0052

Uranus -14777-11-12 21:35 J -3675559.71 -3675559.60 -3675559.49 0.0140 0.0073

Saturn -14777-12-26 12:28 J -3675516.15 -3675515.98 -3675515.80 0.0269 0.0116

Uranus -14776-02-09 00:43 J -3675471.56 -3675471.47 -3675471.37 0.0140 0.0094

Saturn -14776-03-25 11:31 J -3675427.21 -3675427.02 -3675426.84 0.0270 0.0063

Uranus -14776-05-08 04:04 J -3675383.40 -3675383.33 -3675383.25 0.0141 0.0115

Venus -14776-06-16 14:52 J -3675343.95 -3675343.88 -3675343.80 0.3656 0.3244

Saturn -14776-06-22 10:19 J -3675338.16 -3675338.07 -3675337.99 0.0271 0.0241

Uranus -14776-08-04 07:26 J -3675295.21 -3675295.19 -3675295.15 0.0141 0.0136

Mars -14776-12-12 05:02 J -3675165.35 -3675165.29 -3675165.24 0.1891 0.1791

Jupiter -14774-10-01 11:31 J -3674507.08 -3674507.02 -3674506.95 0.0526 0.0446

Jupiter -14774-12-29 16:33 J -3674417.94 -3674417.81 -3674417.69 0.0525 0.0105

Venus -14773-03-24 09:07 J -3674332.16 -3674332.12 -3674332.08 0.3714 0.3360

Mars -14771-08-23 05:02 J -3673450.40 -3673450.29 -3673450.17 0.1627 0.0024

Earth -14770-08-13 12:00 J -3673095.10 -3673095.00 -3673094.89 0.2713 0.0372

Moon -14770-08-13 12:43 J -3673095.07 -3673094.97 -3673094.86 0.2715 0.0474 *

Venus -14768-10-08 00:14 J -3672308.58 -3672308.49 -3672308.40 0.3716 0.1510

Jupiter -14768-11-23 05:16 J -3672262.41 -3672262.28 -3672262.13 0.0500 0.0325

Jupiter -14767-02-21 18:00 J -3672171.85 -3672171.75 -3672171.65 0.0501 0.0421

Moon -14766-02-15 03:07 J -3671813.50 -3671813.37 -3671813.24 0.2622 0.1403

Earth -14766-02-15 04:33 J -3671813.43 -3671813.31 -3671813.18 0.2620 0.1634 *

Saturn -14763-02-08 11:31 J -3670724.05 -3670724.02 -3670723.99 0.0295 0.0285

Saturn -14763-05-07 23:16 J -3670635.65 -3670635.53 -3670635.42 0.0293 0.0134

Saturn -14763-08-04 10:48 J -3670547.18 -3670547.05 -3670546.92 0.0292 0.0015

Saturn -14763-10-31 22:19 J -3670458.68 -3670458.57 -3670458.46 0.0291 0.0163

Venus -14762-04-23 15:21 J -3670284.96 -3670284.86 -3670284.76 0.3718 0.0342

Jupiter -14762-10-17 21:07 J -3670107.75 -3670107.62 -3670107.50 0.0526 0.0030

Mars -14761-01-13 16:48 J -3670019.91 -3670019.80 -3670019.69 0.1628 0.0442

Jupiter -14761-01-15 01:55 J -3670018.43 -3670018.42 -3670018.41 0.0524 0.0521

Pluto -14761-06-18 13:11 J -3669863.00 -3669862.95 -3669862.88 0.0072 0.0066

Pluto -14761-09-14 14:38 J -3669774.98 -3669774.89 -3669774.78 0.0072 0.0057

Pluto -14761-12-11 16:04 J -3669686.94 -3669686.83 -3669686.70 0.0072 0.0048

Pluto -14760-03-09 17:45 J -3669598.90 -3669598.76 -3669598.63 0.0072 0.0039

Neptune -14760-03-27 06:28 J -3669581.27 -3669581.23 -3669581.17 0.0089 0.0083

Pluto -14760-06-05 18:57 J -3669510.85 -3669510.71 -3669510.56 0.0072 0.0031

Neptune -14760-06-23 07:40 J -3669493.24 -3669493.18 -3669493.10 0.0089 0.0076

Pluto -14760-09-01 20:24 J -3669422.80 -3669422.65 -3669422.49 0.0072 0.0022

Neptune -14760-09-19 09:07 J -3669405.20 -3669405.12 -3669405.03 0.0089 0.0068

Pluto -14760-11-28 21:50 J -3669334.75 -3669334.59 -3669334.43 0.0072 0.0013

Neptune -14760-12-16 10:19 J -3669317.16 -3669317.07 -3669316.97 0.0089 0.0061

Mars -14760-12-18 18:00 J -3669314.82 -3669314.75 -3669314.69 0.1624 0.1322

Pluto -14759-02-24 23:16 J -3669246.69 -3669246.53 -3669246.37 0.0071 0.0005

Neptune -14759-03-14 11:45 J -3669229.11 -3669229.01 -3669228.91 0.0089 0.0054

Pluto -14759-05-24 00:28 J -3669158.63 -3669158.48 -3669158.31 0.0071 0.0005

Neptune -14759-06-10 12:57 J -3669141.06 -3669140.96 -3669140.84 0.0089 0.0047

Pluto -14759-08-20 01:55 J -3669070.58 -3669070.42 -3669070.26 0.0071 0.0012

Neptune -14759-09-06 14:09 J -3669053.02 -3669052.91 -3669052.78 0.0089 0.0041

Pluto -14759-11-16 03:21 J -3668982.52 -3668982.36 -3668982.21 0.0071 0.0021

Neptune -14759-12-03 15:35 J -3668964.97 -3668964.85 -3668964.73 0.0089 0.0033

Pluto -14758-02-12 04:19 J -3668894.45 -3668894.32 -3668894.16 0.0071 0.0029

Neptune -14758-03-01 16:48 J -3668876.92 -3668876.80 -3668876.67 0.0089 0.0026

Pluto -14758-05-11 05:45 J -3668806.39 -3668806.26 -3668806.12 0.0071 0.0037

Neptune -14758-05-28 18:14 J -3668788.87 -3668788.74 -3668788.61 0.0089 0.0019

Pluto -14758-08-07 06:57 J -3668718.32 -3668718.21 -3668718.08 0.0071 0.0045

Neptune -14758-08-24 19:26 J -3668700.82 -3668700.69 -3668700.56 0.0089 0.0012

Pluto -14758-11-03 08:24 J -3668630.25 -3668630.15 -3668630.04 0.0071 0.0053

Neptune -14758-11-20 20:52 J -3668612.76 -3668612.63 -3668612.50 0.0089 0.0006

Pluto -14757-01-30 09:35 J -3668542.17 -3668542.10 -3668542.01 0.0071 0.0061

Neptune -14757-02-16 22:04 J -3668524.71 -3668524.58 -3668524.45 0.0089 0.0002

Pluto -14757-04-27 10:48 J -3668454.07 -3668454.05 -3668454.01 0.0070 0.0069

Neptune -14757-05-14 23:16 J -3668436.66 -3668436.53 -3668436.40 0.0089 0.0009

Neptune -14757-08-11 00:43 J -3668348.60 -3668348.47 -3668348.34 0.0089 0.0016

Earth -14757-08-15 06:00 J -3668344.33 -3668344.25 -3668344.16 0.2712 0.1603

Moon -14757-08-15 06:43 J -3668344.31 -3668344.22 -3668344.14 0.2709 0.1634 *

Venus -14757-11-06 06:43 J -3668261.30 -3668261.22 -3668261.14 0.3720 0.2202

Neptune -14757-11-07 01:55 J -3668260.55 -3668260.42 -3668260.29 0.0089 0.0023

Neptune -14756-02-03 03:07 J -3668172.49 -3668172.37 -3668172.24 0.0089 0.0030

Neptune -14756-05-02 04:19 J -3668084.43 -3668084.32 -3668084.19 0.0089 0.0038

Neptune -14756-07-29 05:45 J -3667996.37 -3667996.26 -3667996.15 0.0089 0.0044

Neptune -14756-10-25 06:57 J -3667908.31 -3667908.21 -3667908.10 0.0089 0.0051

Jupiter -14756-12-10 13:40 J -3667862.10 -3667861.93 -3667861.76 0.0500 0.0225

Neptune -14755-01-21 08:09 J -3667820.25 -3667820.16 -3667820.05 0.0089 0.0059

Neptune -14755-04-19 09:35 J -3667732.19 -3667732.10 -3667732.01 0.0089 0.0065

Neptune -14755-07-16 10:48 J -3667644.12 -3667644.05 -3667643.97 0.0089 0.0073

Mars -14755-08-31 22:19 J -3667597.69 -3667597.57 -3667597.44 0.1895 0.1264

Neptune -14755-10-12 12:00 J -3667556.05 -3667556.00 -3667555.93 0.0089 0.0080

Neptune -14754-01-08 13:26 J -3667467.97 -3667467.94 -3667467.91 0.0089 0.0087

Mars -14752-06-05 04:33 J -3666589.41 -3666589.31 -3666589.22 0.1630 0.0874

Mars -14750-05-11 05:31 J -3665884.36 -3665884.27 -3665884.17 0.1625 0.0896

Jupiter -14750-08-06 01:40 J -3665797.55 -3665797.43 -3665797.31 0.0526 0.0164

Moon -14750-08-09 05:02 J -3665794.37 -3665794.29 -3665794.21 0.2722 0.1806

Earth -14750-08-09 05:02 J -3665794.36 -3665794.29 -3665794.21 0.2715 0.1845 *

Jupiter -14750-11-03 06:28 J -3665708.31 -3665708.23 -3665708.14 0.0525 0.0387

Saturn -14747-05-15 11:16 J -3664784.17 -3664784.03 -3664783.87 0.0269 0.0164

Saturn -14747-08-12 10:19 J -3664695.26 -3664695.07 -3664694.88 0.0270 0.0013

Saturn -14747-11-09 09:07 J -3664606.25 -3664606.12 -3664605.98 0.0271 0.0192

Mars -14745-01-21 14:09 J -3664168.08 -3664167.91 -3664167.74 0.1894 0.0200

Jupiter -14744-09-28 10:04 J -3663552.27 -3663552.08 -3663551.89 0.0500 0.0041

Mars -14743-10-26 16:04 J -3663158.89 -3663158.83 -3663158.76 0.1631 0.1300

Mars -14741-09-30 17:16 J -3662453.89 -3662453.78 -3662453.67 0.1626 0.0466

Uranus -14739-01-30 08:38 J -3661967.19 -3661967.14 -3661967.05 0.0139 0.0131

Uranus -14739-04-28 17:02 J -3661878.92 -3661878.79 -3661878.65 0.0139 0.0100

Uranus -14739-07-26 01:11 J -3661790.62 -3661790.45 -3661790.28 0.0139 0.0069

Uranus -14739-10-22 09:07 J -3661702.30 -3661702.12 -3661701.93 0.0139 0.0039

Uranus -14738-01-18 17:16 J -3661613.98 -3661613.78 -3661613.59 0.0139 0.0009

Uranus -14738-04-17 01:11 J -3661525.64 -3661525.45 -3661525.26 0.0139 0.0021

Jupiter -14738-05-25 05:45 J -3661487.36 -3661487.26 -3661487.16 0.0526 0.0308

Uranus -14738-07-14 09:07 J -3661437.30 -3661437.12 -3661436.94 0.0139 0.0050

Jupiter -14738-08-22 10:33 J -3661398.17 -3661398.06 -3661397.95 0.0524 0.0242

Uranus -14738-10-10 16:48 J -3661348.95 -3661348.80 -3661348.64 0.0139 0.0079

Uranus -14737-01-07 00:28 J -3661260.59 -3661260.48 -3661260.35 0.0138 0.0109

Uranus -14737-04-04 08:09 J -3661172.16 -3661172.16 -3661172.13 0.0138 0.0138

Earth -14737-08-10 23:02 J -3661043.65 -3661043.54 -3661043.44 0.2714 0.0627

Moon -14737-08-10 23:31 J -3661043.63 -3661043.52 -3661043.42 0.2719 0.0611 *

Mars -14736-06-12 05:31 J -3660738.34 -3660738.27 -3660738.19 0.1891 0.1677

Saturn -14734-09-25 02:09 J -3659903.52 -3659903.41 -3659903.31 0.0294 0.0171

Saturn -14734-12-22 13:40 J -3659815.06 -3659814.93 -3659814.80 0.0293 0.0020

Moon -14733-02-13 03:07 J -3659762.53 -3659762.37 -3659762.21 0.2617 0.0432

Earth -14733-02-13 04:48 J -3659762.46 -3659762.30 -3659762.14 0.2620 0.0262 *

Saturn -14733-03-20 01:11 J -3659726.56 -3659726.45 -3659726.33 0.0292 0.0128

Saturn -14733-06-16 12:43 J -3659638.01 -3659637.97 -3659637.93 0.0291 0.0274

Jupiter -14732-07-17 06:28 J -3659242.40 -3659242.23 -3659242.04 0.0500 0.0146

Mars -14731-02-21 05:02 J -3659023.41 -3659023.29 -3659023.18 0.1627 0.0041

Jupiter -14726-03-13 10:04 J -3657177.14 -3657177.08 -3657177.01 0.0526 0.0446

Jupiter -14726-06-10 14:52 J -3657088.00 -3657087.88 -3657087.75 0.0525 0.0105

Earth -14724-08-13 17:02 J -3656292.90 -3656292.79 -3656292.69 0.2713 0.0613

Moon -14724-08-13 17:31 J -3656292.87 -3656292.77 -3656292.66 0.2715 0.0702 *

Mars -14722-07-14 16:48 J -3655592.92 -3655592.80 -3655592.69 0.1628 0.0390

Moon -14720-02-15 09:50 J -3655011.19 -3655011.09 -3655010.99 0.2624 0.1979

Earth -14720-02-15 11:16 J -3655011.12 -3655011.03 -3655010.93 0.2621 0.2079 *

Jupiter -14720-05-05 03:07 J -3654932.51 -3654932.37 -3654932.23 0.0500 0.0329

Mars -14720-06-18 18:00 J -3654887.81 -3654887.75 -3654887.70 0.1624 0.1377

Jupiter -14720-08-03 15:50 J -3654841.94 -3654841.84 -3654841.74 0.0501 0.0418

Venus -14719-01-21 18:00 J -3654670.91 -3654670.75 -3654670.59 0.3655 0.0958

Saturn -14718-10-02 10:48 J -3654052.16 -3654052.05 -3654051.92 0.0268 0.0207

Saturn -14718-12-30 09:50 J -3653963.28 -3653963.09 -3653962.90 0.0269 0.0030

Saturn -14717-03-28 08:24 J -3653874.30 -3653874.15 -3653873.98 0.0270 0.0149

Venus -14717-10-29 06:28 J -3653659.30 -3653659.23 -3653659.17 0.3715 0.2690

Mars -14715-03-01 23:31 J -3653170.63 -3653170.52 -3653170.40 0.1896 0.1408

Jupiter -14714-03-29 19:11 J -3652777.83 -3652777.70 -3652777.58 0.0525 0.0039

Jupiter -14714-06-27 00:00 J -3652688.52 -3652688.50 -3652688.47 0.0524 0.0510

Mars -14713-12-04 04:33 J -3652162.41 -3652162.31 -3652162.22 0.1629 0.0815

Venus -14711-05-14 21:35 J -3651635.70 -3651635.60 -3651635.50 0.3717 0.0846

Earth -14711-08-16 10:48 J -3651542.12 -3651542.05 -3651541.97 0.2712 0.1850

Moon -14711-08-16 11:31 J -3651542.10 -3651542.02 -3651541.95 0.2707 0.1935 *

Mars -14711-11-09 05:31 J -3651457.36 -3651457.27 -3651457.17 0.1625 0.0951

Jupiter -14708-05-22 12:00 J -3650532.16 -3650532.00 -3650531.83 0.0501 0.0232

Mars -14706-07-22 15:07 J -3649741.04 -3649740.87 -3649740.70 0.1894 0.0074

Venus -14706-11-28 12:43 J -3649612.06 -3649611.97 -3649611.87 0.3719 0.1009

Saturn -14704-02-11 04:48 J -3649171.39 -3649171.30 -3649171.21 0.0294 0.0208

Saturn -14704-05-10 16:19 J -3649082.94 -3649082.82 -3649082.69 0.0293 0.0059

Saturn -14704-08-07 04:04 J -3648994.46 -3648994.33 -3648994.21 0.0292 0.0091

Moon -14704-08-09 09:50 J -3648992.17 -3648992.09 -3648992.00 0.2722 0.1677

Earth -14704-08-09 09:50 J -3648992.17 -3648992.09 -3648992.00 0.2715 0.1610 *

Saturn -14704-11-03 15:21 J -3648905.93 -3648905.86 -3648905.78 0.0291 0.0238

Mars -14703-04-26 16:04 J -3648731.90 -3648731.83 -3648731.76 0.1631 0.1243

Jupiter -14702-01-15 23:45 J -3648467.63 -3648467.51 -3648467.39 0.0526 0.0174

Jupiter -14702-04-15 04:33 J -3648378.39 -3648378.31 -3648378.22 0.0525 0.0377

Mars -14701-03-31 17:16 J -3648026.89 -3648026.78 -3648026.67 0.1625 0.0525

Moon -14700-02-10 03:07 J -3647711.45 -3647711.37 -3647711.29 0.2615 0.2237

Earth -14700-02-10 04:33 J -3647711.40 -3647711.31 -3647711.23 0.2619 0.2195 *

Venus -14700-06-13 03:50 J -3647588.40 -3647588.34 -3647588.27 0.3720 0.2869

Mars -14697-12-11 06:28 J -3646311.32 -3646311.23 -3646311.13 0.1891 0.1544

Jupiter -14696-03-10 07:55 J -3646222.36 -3646222.17 -3646221.98 0.0500 0.0039

Uranus -14695-07-05 20:38 J -3645739.70 -3645739.64 -3645739.58 0.0139 0.0122

Uranus -14695-10-01 23:45 J -3645651.59 -3645651.51 -3645651.42 0.0139 0.0103

Uranus -14695-12-29 03:07 J -3645563.47 -3645563.37 -3645563.27 0.0139 0.0083

Uranus -14694-03-27 06:14 J -3645475.35 -3645475.24 -3645475.12 0.0139 0.0063

Uranus -14694-06-23 09:35 J -3645387.23 -3645387.10 -3645386.98 0.0139 0.0043

Uranus -14694-09-19 12:43 J -3645299.10 -3645298.97 -3645298.84 0.0140 0.0023

Uranus -14694-12-16 16:04 J -3645210.96 -3645210.83 -3645210.70 0.0140 0.0002

Uranus -14693-03-13 19:11 J -3645122.82 -3645122.70 -3645122.56 0.0140 0.0019

Uranus -14693-06-09 22:33 J -3645034.68 -3645034.56 -3645034.43 0.0140 0.0039

Uranus -14693-09-06 01:55 J -3644946.54 -3644946.42 -3644946.30 0.0140 0.0059

Uranus -14693-12-03 05:02 J -3644858.39 -3644858.29 -3644858.17 0.0140 0.0081

Uranus -14692-03-01 08:24 J -3644770.23 -3644770.15 -3644770.05 0.0140 0.0101

Uranus -14692-05-28 12:00 J -3644682.06 -3644682.00 -3644681.94 0.0141 0.0122

Mars -14692-08-22 05:02 J -3644596.41 -3644596.29 -3644596.18 0.1627 0.0115

Earth -14691-08-12 03:50 J -3644241.45 -3644241.34 -3644241.23 0.2714 0.0386

Moon -14691-08-12 04:19 J -3644241.43 -3644241.32 -3644241.21 0.2719 0.0267 *

Jupiter -14691-11-04 04:19 J -3644157.42 -3644157.32 -3644157.21 0.0526 0.0308

Jupiter -14690-02-01 09:21 J -3644068.22 -3644068.11 -3644068.00 0.0525 0.0244

Saturn -14688-02-18 09:07 J -3643320.16 -3643320.12 -3643320.07 0.0268 0.0259

Saturn -14688-05-18 07:55 J -3643231.35 -3643231.17 -3643230.98 0.0269 0.0084

Saturn -14688-08-15 06:43 J -3643142.40 -3643142.22 -3643142.04 0.0270 0.0094

Moon -14687-02-13 09:35 J -3642960.26 -3642960.10 -3642959.94 0.2618 0.0064

Earth -14687-02-13 11:16 J -3642960.19 -3642960.03 -3642959.87 0.2620 0.0190 *

Jupiter -14685-12-27 04:33 J -3641912.49 -3641912.31 -3641912.13 0.0500 0.0146

Mars -14682-01-12 16:33 J -3641165.92 -3641165.81 -3641165.69 0.1628 0.0337

Mars -14681-12-17 17:45 J -3640460.81 -3640460.76 -3640460.71 0.1624 0.1429

Jupiter -14679-08-23 08:38 J -3639847.20 -3639847.14 -3639847.07 0.0526 0.0449

Jupiter -14679-11-20 13:26 J -3639758.06 -3639757.94 -3639757.81 0.0525 0.0103

Earth -14678-08-14 21:50 J -3639490.70 -3639490.59 -3639490.49 0.2713 0.0851

Moon -14678-08-14 22:33 J -3639490.67 -3639490.56 -3639490.46 0.2713 0.0918 *

Neptune -14677-09-09 00:28 J -3639099.51 -3639099.48 -3639099.40 0.0088 0.0084

Neptune -14677-12-06 04:48 J -3639011.41 -3639011.30 -3639011.19 0.0088 0.0073

Neptune -14676-03-04 08:24 J -3638923.28 -3638923.15 -3638923.01 0.0088 0.0063

Neptune -14676-05-31 12:00 J -3638835.15 -3638835.00 -3638834.83 0.0088 0.0053

Neptune -14676-08-27 15:35 J -3638747.01 -3638746.85 -3638746.66 0.0088 0.0043

Mars -14676-08-31 00:00 J -3638743.60 -3638743.50 -3638743.39 0.1895 0.1511

Neptune -14676-11-23 19:26 J -3638658.87 -3638658.69 -3638658.50 0.0088 0.0033

Neptune -14675-02-19 23:02 J -3638570.72 -3638570.54 -3638570.33 0.0088 0.0023

Neptune -14675-05-19 03:07 J -3638482.57 -3638482.37 -3638482.17 0.0088 0.0012

Saturn -14675-07-01 07:11 J -3638439.26 -3638439.20 -3638439.13 0.0295 0.0249

Neptune -14675-08-15 06:43 J -3638394.41 -3638394.22 -3638394.02 0.0088 0.0003

Saturn -14675-09-27 18:57 J -3638350.83 -3638350.71 -3638350.59 0.0294 0.0098

Neptune -14675-11-11 10:33 J -3638306.26 -3638306.06 -3638305.86 0.0088 0.0008

Saturn -14675-12-25 06:28 J -3638262.35 -3638262.23 -3638262.10 0.0293 0.0052

Neptune -14674-02-07 13:55 J -3638218.10 -3638217.92 -3638217.71 0.0088 0.0019

Moon -14674-02-16 16:19 J -3638208.88 -3638208.82 -3638208.75 0.2625 0.2350

Earth -14674-02-16 17:45 J -3638208.80 -3638208.76 -3638208.72 0.2621 0.2515 *

Saturn -14674-03-23 18:00 J -3638173.84 -3638173.75 -3638173.65 0.0292 0.0200

Neptune -14674-05-06 17:45 J -3638129.94 -3638129.76 -3638129.56 0.0088 0.0029

Neptune -14674-08-02 21:21 J -3638041.77 -3638041.61 -3638041.42 0.0088 0.0039

Neptune -14674-10-30 01:11 J -3637953.61 -3637953.45 -3637953.28 0.0088 0.0049

Neptune -14673-01-26 04:48 J -3637865.43 -3637865.30 -3637865.14 0.0088 0.0059

Neptune -14673-04-23 08:38 J -3637777.25 -3637777.14 -3637777.01 0.0088 0.0069

Mars -14673-06-04 04:19 J -3637735.42 -3637735.32 -3637735.22 0.1630 0.0760

Neptune -14673-07-20 12:00 J -3637689.06 -3637689.00 -3637688.90 0.0088 0.0080

Jupiter -14673-10-15 00:43 J -3637602.60 -3637602.47 -3637602.32 0.0500 0.0333

Jupiter -14672-01-13 13:26 J -3637512.04 -3637511.94 -3637511.83 0.0501 0.0415

Mars -14671-05-10 05:31 J -3637030.36 -3637030.27 -3637030.18 0.1625 0.1006

Earth -14671-08-07 21:07 J -3636940.66 -3636940.62 -3636940.59 0.2716 0.2577

Moon -14671-08-07 20:38 J -3636940.65 -3636940.64 -3636940.63 0.2722 0.2682 *

Jupiter -14667-09-08 18:00 J -3635447.87 -3635447.75 -3635447.62 0.0525 0.0035

Jupiter -14667-12-06 22:48 J -3635358.57 -3635358.55 -3635358.53 0.0524 0.0512

Mars -14666-01-20 15:50 J -3635314.01 -3635313.84 -3635313.67 0.1894 0.0061

Earth -14665-08-16 15:50 J -3634739.91 -3634739.84 -3634739.78 0.2712 0.2094

Moon -14665-08-16 16:19 J -3634739.89 -3634739.82 -3634739.76 0.2707 0.2143 *

Mars -14664-10-25 16:04 J -3634304.91 -3634304.83 -3634304.75 0.1631 0.1187

Venus -14663-08-28 21:07 J -3633997.78 -3633997.62 -3633997.47 0.3655 0.1344

Mars -14662-09-30 17:16 J -3633599.89 -3633599.78 -3633599.67 0.1626 0.0579

Jupiter -14661-11-01 10:19 J -3633202.24 -3633202.07 -3633201.90 0.0501 0.0232

Venus -14660-06-05 03:35 J -3632986.43 -3632986.35 -3632986.26 0.3715 0.2026

Saturn -14659-10-05 06:57 J -3632499.38 -3632499.21 -3632499.04 0.0269 0.0131

Saturn -14658-01-02 05:45 J -3632410.45 -3632410.26 -3632410.07 0.0270 0.0046

Saturn -14658-04-01 04:19 J -3632321.42 -3632321.32 -3632321.20 0.0271 0.0225

Earth -14658-08-10 14:52 J -3632189.98 -3632189.88 -3632189.79 0.2715 0.1372

Moon -14658-08-10 14:52 J -3632189.97 -3632189.88 -3632189.78 0.2721 0.1303 *

Mars -14657-06-11 07:40 J -3631884.29 -3631884.18 -3631884.06 0.1891 0.1402

Uranus -14655-02-19 16:33 J -3631265.90 -3631265.81 -3631265.71 0.0139 0.0122

Uranus -14655-05-19 00:28 J -3631177.61 -3631177.48 -3631177.32 0.0139 0.0092

Jupiter -14655-06-27 22:19 J -3631137.69 -3631137.57 -3631137.46 0.0525 0.0178

Uranus -14655-08-15 08:38 J -3631089.31 -3631089.14 -3631088.96 0.0139 0.0061

Jupiter -14655-09-25 03:07 J -3631048.46 -3631048.37 -3631048.29 0.0524 0.0372

Uranus -14655-11-11 16:48 J -3631000.99 -3631000.80 -3631000.61 0.0139 0.0031

Venus -14655-12-19 18:57 J -3630962.81 -3630962.71 -3630962.61 0.3717 0.0185

Uranus -14654-02-08 00:43 J -3630912.66 -3630912.47 -3630912.27 0.0139 0.0003

Moon -14654-02-11 09:50 J -3630909.20 -3630909.09 -3630908.99 0.2615 0.1989

Earth -14654-02-11 11:16 J -3630909.15 -3630909.03 -3630908.92 0.2619 0.1740 *

Mars -14654-03-18 03:50 J -3630874.36 -3630874.34 -3630874.33 0.1633 0.1618

Uranus -14654-05-07 08:38 J -3630824.33 -3630824.14 -3630823.95 0.0139 0.0029

Uranus -14654-08-03 16:19 J -3630735.98 -3630735.82 -3630735.63 0.0139 0.0059

Uranus -14654-10-31 00:28 J -3630647.63 -3630647.48 -3630647.33 0.0139 0.0088

Uranus -14653-01-27 08:09 J -3630559.26 -3630559.16 -3630559.05 0.0138 0.0117

Mars -14652-02-20 05:02 J -3630169.41 -3630169.29 -3630169.18 0.1627 0.0163

Venus -14649-07-04 10:04 J -3628939.17 -3628939.08 -3628938.99 0.3719 0.1684

Jupiter -14649-08-20 06:43 J -3628892.41 -3628892.22 -3628892.03 0.0501 0.0048

Saturn -14646-11-18 09:21 J -3627707.11 -3627707.11 -3627707.10 0.0295 0.0294

Saturn -14645-02-14 21:07 J -3627618.73 -3627618.62 -3627618.51 0.0294 0.0142

Saturn -14645-05-13 08:52 J -3627530.26 -3627530.13 -3627530.01 0.0293 0.0011

Saturn -14645-08-09 20:24 J -3627441.76 -3627441.65 -3627441.54 0.0292 0.0156

Earth -14645-08-12 08:38 J -3627439.25 -3627439.14 -3627439.03 0.2714 0.0147

Moon -14645-08-12 09:07 J -3627439.22 -3627439.12 -3627439.01 0.2719 0.0181 *

Venus -14643-01-18 01:11 J -3626915.47 -3626915.45 -3626915.42 0.3721 0.3541

Jupiter -14643-04-16 02:38 J -3626827.48 -3626827.39 -3626827.28 0.0526 0.0313

Mars -14643-07-13 16:33 J -3626738.92 -3626738.81 -3626738.69 0.1628 0.0278

Jupiter -14643-07-14 07:40 J -3626738.29 -3626738.18 -3626738.07 0.0525 0.0239

Moon -14641-02-14 16:19 J -3626157.98 -3626157.82 -3626157.67 0.2621 0.0535

Earth -14641-02-14 18:00 J -3626157.91 -3626157.75 -3626157.60 0.2620 0.0635 *

Mars -14641-06-17 17:45 J -3626033.80 -3626033.76 -3626033.71 0.1624 0.1488

Jupiter -14637-06-08 02:52 J -3624582.56 -3624582.38 -3624582.20 0.0500 0.0142

Mars -14636-03-01 01:11 J -3624316.53 -3624316.45 -3624316.37 0.1896 0.1651

Mars -14634-12-04 04:19 J -3623308.42 -3623308.32 -3623308.22 0.1629 0.0704

Earth -14632-08-15 02:38 J -3622688.49 -3622688.39 -3622688.29 0.2713 0.1092

Moon -14632-08-15 03:21 J -3622688.46 -3622688.36 -3622688.27 0.2711 0.1226 *

Mars -14632-11-08 05:31 J -3622603.36 -3622603.27 -3622603.18 0.1624 0.1059

Jupiter -14631-02-02 07:26 J -3622517.25 -3622517.19 -3622517.12 0.0526 0.0445

Jupiter -14631-05-02 12:14 J -3622428.11 -3622427.99 -3622427.86 0.0525 0.0107

Saturn -14629-02-22 04:19 J -3621767.45 -3621767.32 -3621767.18 0.0268 0.0189

Saturn -14629-05-21 03:07 J -3621678.56 -3621678.37 -3621678.18 0.0269 0.0014

Saturn -14629-08-18 01:55 J -3621589.57 -3621589.42 -3621589.27 0.0270 0.0164

Mars -14627-07-21 16:48 J -3620886.97 -3620886.80 -3620886.63 0.1894 0.0187

Jupiter -14625-03-26 23:16 J -3620272.67 -3620272.53 -3620272.38 0.0500 0.0325

Jupiter -14625-06-25 12:00 J -3620182.10 -3620182.00 -3620181.90 0.0501 0.0421

Moon -14625-08-08 01:26 J -3620138.49 -3620138.44 -3620138.39 0.2722 0.2354

Earth -14625-08-08 01:55 J -3620138.48 -3620138.42 -3620138.37 0.2716 0.2341 *

Mars -14624-04-25 16:04 J -3619877.91 -3619877.83 -3619877.75 0.1631 0.1134

Mars -14622-03-31 17:16 J -3619172.89 -3619172.78 -3619172.68 0.1625 0.0636

Jupiter -14619-02-18 16:48 J -3618117.93 -3618117.80 -3618117.68 0.0525 0.0035

Jupiter -14619-05-18 21:35 J -3618028.62 -3618028.60 -3618028.58 0.0524 0.0515

Earth -14619-08-17 20:38 J -3617937.70 -3617937.64 -3617937.59 0.2712 0.2341

Moon -14619-08-17 21:07 J -3617937.67 -3617937.62 -3617937.57 0.2707 0.2392 *

Mars -14618-12-11 08:09 J -3617457.29 -3617457.16 -3617457.04 0.1892 0.1301

Saturn -14616-07-03 23:16 J -3616886.63 -3616886.53 -3616886.43 0.0295 0.0188

Saturn -14616-09-30 10:48 J -3616798.17 -3616798.05 -3616797.92 0.0294 0.0038

Saturn -14616-12-27 22:33 J -3616709.68 -3616709.56 -3616709.45 0.0293 0.0113

Saturn -14615-03-26 10:04 J -3616621.14 -3616621.08 -3616621.03 0.0291 0.0260

Mars -14615-09-16 03:35 J -3616447.38 -3616447.35 -3616447.32 0.1633 0.1564

Jupiter -14613-04-13 08:24 J -3615872.31 -3615872.15 -3615871.98 0.0501 0.0235

Mars -14613-08-21 04:48 J -3615742.41 -3615742.30 -3615742.18 0.1627 0.0209

Earth -14612-08-10 19:40 J -3615387.78 -3615387.68 -3615387.58 0.2715 0.1128

Moon -14612-08-10 19:55 J -3615387.77 -3615387.67 -3615387.57 0.2721 0.1147 *

Venus -14612-09-18 11:31 J -3615349.08 -3615349.02 -3615348.97 0.3657 0.3434

Uranus -14611-04-29 01:11 J -3615126.47 -3615126.45 -3615126.41 0.0139 0.0134

Uranus -14611-07-26 04:33 J -3615038.38 -3615038.31 -3615038.24 0.0139 0.0114

Uranus -14611-10-22 07:26 J -3614950.27 -3614950.19 -3614950.08 0.0139 0.0095

Uranus -14610-01-18 10:48 J -3614862.15 -3614862.05 -3614861.93 0.0139 0.0075

Uranus -14610-04-16 14:09 J -3614774.03 -3614773.91 -3614773.79 0.0139 0.0055

Uranus -14610-07-13 17:16 J -3614685.90 -3614685.78 -3614685.65 0.0139 0.0035

Uranus -14610-10-09 20:38 J -3614597.77 -3614597.64 -3614597.51 0.0140 0.0015

Uranus -14609-01-06 00:00 J -3614509.63 -3614509.50 -3614509.37 0.0140 0.0006

Uranus -14609-04-03 03:07 J -3614421.49 -3614421.37 -3614421.24 0.0140 0.0026

Venus -14609-06-26 09:50 J -3614337.14 -3614337.09 -3614337.04 0.3713 0.3187

Uranus -14609-06-30 06:28 J -3614333.35 -3614333.23 -3614333.11 0.0140 0.0047

Uranus -14609-09-26 09:50 J -3614245.21 -3614245.09 -3614244.98 0.0140 0.0067

Uranus -14609-12-23 12:57 J -3614157.05 -3614156.96 -3614156.85 0.0140 0.0088

Moon -14608-02-11 16:33 J -3614106.95 -3614106.81 -3614106.68 0.2615 0.1320

Earth -14608-02-11 18:00 J -3614106.89 -3614106.75 -3614106.61 0.2619 0.1280 *

Uranus -14608-03-21 16:19 J -3614068.89 -3614068.82 -3614068.73 0.0140 0.0109

Uranus -14608-06-17 19:55 J -3613980.72 -3613980.67 -3613980.62 0.0141 0.0130

Jupiter -14608-12-07 21:21 J -3613807.73 -3613807.61 -3613807.49 0.0525 0.0169

Jupiter -14607-03-07 02:09 J -3613718.50 -3613718.41 -3613718.33 0.0524 0.0380

Venus -14606-04-05 00:00 J -3613324.52 -3613324.50 -3613324.48 0.3654 0.3606

Venus -14603-01-10 00:57 J -3612313.55 -3612313.46 -3612313.36 0.3715 0.1353

Mars -14603-01-11 16:33 J -3612311.92 -3612311.81 -3612311.69 0.1628 0.0220

Mars -14602-12-17 17:45 J -3611606.79 -3611606.76 -3611606.73 0.1624 0.1541

Jupiter -14601-01-31 05:16 J -3611562.47 -3611562.28 -3611562.09 0.0501 0.0053

Saturn -14600-07-11 02:24 J -3611035.47 -3611035.40 -3611035.30 0.0268 0.0241

Saturn -14600-10-08 01:26 J -3610946.63 -3610946.44 -3610946.25 0.0269 0.0066

Saturn -14599-01-05 00:00 J -3610857.67 -3610857.50 -3610857.32 0.0270 0.0112

Earth -14599-08-13 13:26 J -3610637.05 -3610636.94 -3610636.83 0.2714 0.0117

Moon -14599-08-13 14:09 J -3610637.02 -3610636.91 -3610636.80 0.2718 0.0246 *

Venus -14598-07-26 16:19 J -3610289.92 -3610289.82 -3610289.72 0.3717 0.0510

Pluto -14598-08-10 11:02 J -3610275.06 -3610275.04 -3610274.98 0.0071 0.0070

Pluto -14598-11-06 12:14 J -3610187.05 -3610186.99 -3610186.89 0.0072 0.0062

Pluto -14597-02-02 13:55 J -3610099.02 -3610098.92 -3610098.82 0.0072 0.0053

Pluto -14597-04-30 14:52 J -3610010.99 -3610010.88 -3610010.75 0.0072 0.0045

Pluto -14597-07-27 16:04 J -3609922.95 -3609922.83 -3609922.68 0.0072 0.0037

Mars -14597-08-30 02:09 J -3609889.46 -3609889.41 -3609889.35 0.1896 0.1786

Pluto -14597-10-23 17:31 J -3609834.91 -3609834.77 -3609834.62 0.0072 0.0029

Pluto -14596-01-19 18:43 J -3609746.86 -3609746.72 -3609746.56 0.0072 0.0020

Pluto -14596-04-17 20:09 J -3609658.81 -3609658.66 -3609658.51 0.0072 0.0012

Pluto -14596-07-14 21:21 J -3609570.76 -3609570.61 -3609570.45 0.0072 0.0004

Jupiter -14596-09-26 01:26 J -3609497.54 -3609497.44 -3609497.33 0.0525 0.0310

Pluto -14596-10-10 22:48 J -3609482.71 -3609482.55 -3609482.40 0.0073 0.0006

Neptune -14596-12-22 05:31 J -3609410.31 -3609410.27 -3609410.22 0.0089 0.0083

Jupiter -14596-12-24 06:14 J -3609408.35 -3609408.24 -3609408.12 0.0524 0.0240

Pluto -14595-01-07 00:00 J -3609394.65 -3609394.50 -3609394.34 0.0073 0.0014

Moon -14595-02-14 23:02 J -3609355.69 -3609355.54 -3609355.39 0.2622 0.0825

Earth -14595-02-15 00:43 J -3609355.62 -3609355.47 -3609355.33 0.2620 0.1093 *

Neptune -14595-03-20 06:43 J -3609322.28 -3609322.22 -3609322.14 0.0089 0.0076

Pluto -14595-04-05 01:11 J -3609306.59 -3609306.45 -3609306.29 0.0073 0.0023

Neptune -14595-06-16 08:09 J -3609234.24 -3609234.16 -3609234.08 0.0089 0.0068

Pluto -14595-07-02 02:24 J -3609218.53 -3609218.40 -3609218.25 0.0073 0.0032

Neptune -14595-09-12 09:21 J -3609146.20 -3609146.11 -3609146.01 0.0089 0.0062

Pluto -14595-09-28 03:50 J -3609130.46 -3609130.34 -3609130.20 0.0073 0.0041

Neptune -14595-12-09 10:33 J -3609058.15 -3609058.06 -3609057.95 0.0089 0.0055

Pluto -14595-12-25 05:02 J -3609042.39 -3609042.29 -3609042.16 0.0073 0.0050

Neptune -14594-03-07 12:00 J -3608970.11 -3608970.00 -3608969.89 0.0089 0.0047

Pluto -14594-03-23 06:28 J -3608954.31 -3608954.23 -3608954.12 0.0073 0.0059

Neptune -14594-06-03 13:11 J -3608882.06 -3608881.95 -3608881.83 0.0089 0.0041

Mars -14594-06-04 04:19 J -3608881.43 -3608881.32 -3608881.22 0.1629 0.0647

Pluto -14594-06-19 07:40 J -3608866.21 -3608866.18 -3608866.10 0.0073 0.0069

Neptune -14594-08-30 14:38 J -3608794.01 -3608793.89 -3608793.77 0.0089 0.0033

Neptune -14594-11-26 15:50 J -3608705.96 -3608705.84 -3608705.71 0.0089 0.0026

Neptune -14593-02-22 17:02 J -3608617.91 -3608617.79 -3608617.65 0.0089 0.0020

Neptune -14593-05-20 18:28 J -3608529.86 -3608529.73 -3608529.60 0.0089 0.0012

Neptune -14593-08-16 19:40 J -3608441.81 -3608441.68 -3608441.54 0.0089 0.0006

Neptune -14593-11-12 21:07 J -3608353.75 -3608353.62 -3608353.49 0.0089 0.0002

Venus -14592-02-08 07:26 J -3608266.27 -3608266.19 -3608266.11 0.3719 0.2355

Neptune -14592-02-08 22:19 J -3608265.70 -3608265.57 -3608265.44 0.0089 0.0009

Neptune -14592-05-07 23:31 J -3608177.64 -3608177.52 -3608177.39 0.0089 0.0016

Mars -14592-05-09 05:31 J -3608176.35 -3608176.27 -3608176.19 0.1624 0.1117

Neptune -14592-08-04 00:57 J -3608089.59 -3608089.46 -3608089.34 0.0089 0.0023

Neptune -14592-10-31 02:09 J -3608001.53 -3608001.41 -3608001.29 0.0089 0.0030

Neptune -14591-01-27 03:21 J -3607913.47 -3607913.36 -3607913.24 0.0089 0.0038

Neptune -14591-04-25 04:33 J -3607825.41 -3607825.31 -3607825.19 0.0089 0.0045

Neptune -14591-07-22 06:00 J -3607737.35 -3607737.25 -3607737.14 0.0089 0.0051

Neptune -14591-10-18 07:11 J -3607649.29 -3607649.20 -3607649.10 0.0089 0.0059

Neptune -14590-01-14 08:38 J -3607561.23 -3607561.14 -3607561.05 0.0089 0.0066

Neptune -14590-04-12 09:50 J -3607473.16 -3607473.09 -3607473.01 0.0089 0.0073

Neptune -14590-07-09 11:02 J -3607385.09 -3607385.04 -3607384.98 0.0089 0.0080

Neptune -14590-10-05 12:28 J -3607297.01 -3607296.98 -3607296.95 0.0089 0.0087

Jupiter -14590-11-19 01:55 J -3607252.60 -3607252.42 -3607252.24 0.0500 0.0129

Mars -14587-01-19 17:45 J -3606459.93 -3606459.76 -3606459.59 0.1894 0.0311

Saturn -14587-11-21 00:57 J -3606154.53 -3606154.46 -3606154.38 0.0295 0.0237

Saturn -14586-02-17 12:43 J -3606066.09 -3606065.97 -3606065.84 0.0294 0.0085

Saturn -14586-05-17 00:28 J -3605977.61 -3605977.48 -3605977.36 0.0293 0.0065

Saturn -14586-08-13 12:00 J -3605889.09 -3605889.00 -3605888.92 0.0292 0.0213

Earth -14586-08-16 07:26 J -3605886.29 -3605886.19 -3605886.10 0.2713 0.1336

Moon -14586-08-16 08:09 J -3605886.26 -3605886.16 -3605886.07 0.2710 0.1364 *

Mars -14585-10-24 15:50 J -3605450.92 -3605450.84 -3605450.75 0.1631 0.1080

Jupiter -14584-07-15 06:14 J -3605187.31 -3605187.24 -3605187.18 0.0526 0.0444

Jupiter -14584-10-12 11:02 J -3605098.17 -3605098.04 -3605097.92 0.0525 0.0107

Mars -14583-09-29 17:02 J -3604745.89 -3604745.79 -3604745.68 0.1625 0.0692

Moon -14579-08-09 06:28 J -3603336.30 -3603336.23 -3603336.17 0.2722 0.2166

Earth -14579-08-09 06:43 J -3603336.29 -3603336.22 -3603336.16 0.2715 0.2103 *

Mars -14578-06-11 09:21 J -3603030.24 -3603030.11 -3603029.97 0.1892 0.1154

Jupiter -14578-09-06 22:04 J -3602942.72 -3602942.58 -3602942.43 0.0500 0.0316

Jupiter -14578-12-06 10:48 J -3602852.14 -3602852.05 -3602851.95 0.0501 0.0429

Mars -14575-03-17 03:35 J -3602020.39 -3602020.35 -3602020.31 0.1633 0.1507

Mars -14573-02-20 04:48 J -3601315.41 -3601315.30 -3601315.19 0.1626 0.0261

Earth -14573-08-18 01:26 J -3601135.47 -3601135.44 -3601135.41 0.2712 0.2587

Moon -14573-08-18 01:40 J -3601135.45 -3601135.43 -3601135.41 0.2706 0.2647 *

Jupiter -14572-07-31 15:35 J -3600787.97 -3600787.85 -3600787.72 0.0525 0.0031

Jupiter -14572-10-28 20:38 J -3600698.64 -3600698.64 -3600698.64 0.0524 0.0524

Uranus -14571-03-12 00:28 J -3600564.58 -3600564.48 -3600564.34 0.0139 0.0112

Uranus -14571-06-08 08:52 J -3600476.28 -3600476.13 -3600475.97 0.0139 0.0081

Uranus -14571-09-04 17:02 J -3600387.97 -3600387.79 -3600387.61 0.0139 0.0050

Uranus -14571-12-02 01:11 J -3600299.65 -3600299.45 -3600299.26 0.0139 0.0020

Saturn -14570-02-24 22:19 J -3600214.74 -3600214.57 -3600214.40 0.0268 0.0128

Uranus -14570-02-28 09:07 J -3600211.32 -3600211.12 -3600210.93 0.0139 0.0010

Saturn -14570-05-24 21:07 J -3600125.81 -3600125.62 -3600125.43 0.0269 0.0048

Uranus -14570-05-27 16:48 J -3600122.98 -3600122.80 -3600122.60 0.0139 0.0040

Saturn -14570-08-21 19:40 J -3600036.78 -3600036.68 -3600036.57 0.0270 0.0225

Uranus -14570-08-24 00:57 J -3600034.63 -3600034.46 -3600034.29 0.0139 0.0069

Uranus -14570-11-20 08:24 J -3599946.27 -3599946.15 -3599946.00 0.0139 0.0099

Uranus -14569-02-16 16:19 J -3599857.88 -3599857.82 -3599857.74 0.0138 0.0128

Jupiter -14566-06-25 18:43 J -3598632.73 -3598632.72 -3598632.70 0.0500 0.0497

Earth -14566-08-12 00:28 J -3598585.58 -3598585.48 -3598585.38 0.2715 0.0887

Moon -14566-08-12 00:43 J -3598585.57 -3598585.47 -3598585.36 0.2721 0.0807 *

Jupiter -14566-09-24 07:26 J -3598542.35 -3598542.19 -3598542.02 0.0501 0.0249

Mars -14564-07-12 16:33 J -3597884.93 -3597884.81 -3597884.70 0.1628 0.0166

Moon -14562-02-12 23:02 J -3597304.69 -3597304.54 -3597304.39 0.2617 0.1075

Earth -14562-02-13 00:28 J -3597304.63 -3597304.48 -3597304.33 0.2619 0.0824 *

Mars -14562-06-17 17:45 J -3597179.78 -3597179.76 -3597179.75 0.1624 0.1595

Jupiter -14560-05-19 20:09 J -3596477.77 -3596477.66 -3596477.54 0.0525 0.0163

Jupiter -14560-08-17 00:57 J -3596388.54 -3596388.46 -3596388.37 0.0524 0.0386

Mars -14557-02-29 02:52 J -3595462.38 -3595462.38 -3595462.38 0.1896 0.1895

Saturn -14557-04-09 02:24 J -3595422.41 -3595422.40 -3595422.37 0.0296 0.0290

Saturn -14557-07-06 14:24 J -3595334.02 -3595333.90 -3595333.79 0.0295 0.0137

Saturn -14557-10-03 01:55 J -3595245.55 -3595245.42 -3595245.29 0.0294 0.0014

Saturn -14557-12-30 13:26 J -3595157.04 -3595156.94 -3595156.83 0.0293 0.0164

Venus -14555-04-25 14:24 J -3594676.06 -3594675.90 -3594675.74 0.3656 0.1157

Mars -14555-12-03 04:19 J -3594454.43 -3594454.32 -3594454.22 0.1629 0.0596

Jupiter -14554-07-13 03:50 J -3594232.53 -3594232.34 -3594232.15 0.0501 0.0060

Earth -14553-08-13 18:14 J -3593834.84 -3593834.74 -3593834.63 0.2714 0.0361

Moon -14553-08-13 18:57 J -3593834.82 -3593834.71 -3593834.60 0.2716 0.0371 *

Mars -14553-11-07 05:16 J -3593749.35 -3593749.28 -3593749.20 0.1624 0.1172

Venus -14552-01-31 07:11 J -3593664.27 -3593664.20 -3593664.13 0.3714 0.2517

Moon -14549-02-16 05:31 J -3592553.40 -3592553.27 -3592553.14 0.2622 0.1472

Earth -14549-02-16 07:11 J -3592553.32 -3592553.20 -3592553.07 0.2620 0.1546 *

Jupiter -14548-03-08 00:57 J -3592167.56 -3592167.46 -3592167.36 0.0525 0.0295

Jupiter -14548-06-05 05:45 J -3592078.37 -3592078.26 -3592078.15 0.0524 0.0253

Mars -14548-07-20 18:28 J -3592032.89 -3592032.73 -3592032.56 0.1894 0.0439

Venus -14547-08-16 22:19 J -3591640.66 -3591640.57 -3591640.47 0.3716 0.0690

Mars -14545-04-24 15:50 J -3591023.92 -3591023.84 -3591023.75 0.1631 0.1022

Mars -14543-03-30 17:02 J -3590318.89 -3590318.79 -3590318.69 0.1625 0.0745

Jupiter -14542-05-01 00:43 J -3589922.65 -3589922.47 -3589922.29 0.0501 0.0121

Venus -14541-03-01 13:40 J -3589617.03 -3589616.93 -3589616.84 0.3718 0.1176

Saturn -14541-07-13 20:09 J -3589482.80 -3589482.66 -3589482.52 0.0268 0.0183

Saturn -14541-10-10 18:57 J -3589393.91 -3589393.71 -3589393.52 0.0269 0.0010

Saturn -14540-01-07 17:31 J -3589304.92 -3589304.77 -3589304.62 0.0270 0.0168

Earth -14540-08-16 12:14 J -3589084.08 -3589083.99 -3589083.90 0.2713 0.1582

Moon -14540-08-16 12:57 J -3589084.04 -3589083.96 -3589083.88 0.2710 0.1729 *

Mars -14539-12-10 10:19 J -3588603.21 -3588603.07 -3588602.93 0.1892 0.1024

Jupiter -14537-12-25 05:16 J -3587857.35 -3587857.28 -3587857.21 0.0526 0.0436

Jupiter -14536-03-24 10:04 J -3587768.21 -3587768.08 -3587767.96 0.0525 0.0114

Mars -14536-09-15 03:35 J -3587593.40 -3587593.35 -3587593.30 0.1633 0.1451

Venus -14536-09-15 04:48 J -3587593.36 -3587593.30 -3587593.24 0.3720 0.3021 *

Mars -14534-08-21 04:48 J -3586888.41 -3586888.30 -3586888.19 0.1626 0.0319

Moon -14533-08-09 11:16 J -3586534.10 -3586534.03 -3586533.95 0.2722 0.1890

Earth -14533-08-09 11:31 J -3586534.10 -3586534.02 -3586533.94 0.2715 0.1867 *

Jupiter -14530-02-16 21:21 J -3585612.76 -3585612.61 -3585612.46 0.0500 0.0301

Jupiter -14530-05-18 10:19 J -3585522.16 -3585522.07 -3585521.99 0.0501 0.0447

Saturn -14528-11-23 15:50 J -3584601.94 -3584601.84 -3584601.74 0.0295 0.0190

Saturn -14527-02-20 03:35 J -3584513.48 -3584513.35 -3584513.23 0.0294 0.0039

Uranus -14527-05-19 09:21 J -3584425.16 -3584425.11 -3584425.05 0.0139 0.0125

Saturn -14527-05-19 15:07 J -3584424.99 -3584424.87 -3584424.75 0.0293 0.0112

Uranus -14527-08-15 12:28 J -3584337.05 -3584336.98 -3584336.89 0.0139 0.0105

Saturn -14527-08-16 02:38 J -3584336.44 -3584336.39 -3584336.33 0.0292 0.0259

Uranus -14527-11-11 15:50 J -3584248.94 -3584248.84 -3584248.73 0.0139 0.0085

Uranus -14526-02-07 18:57 J -3584160.82 -3584160.71 -3584160.59 0.0139 0.0066

Uranus -14526-05-06 22:19 J -3584072.69 -3584072.57 -3584072.44 0.0139 0.0045

Uranus -14526-08-03 01:40 J -3583984.56 -3583984.43 -3583984.30 0.0140 0.0025

Uranus -14526-10-30 04:48 J -3583896.43 -3583896.30 -3583896.16 0.0140 0.0007

Uranus -14525-01-26 08:09 J -3583808.29 -3583808.16 -3583808.03 0.0140 0.0016

Uranus -14525-04-23 11:31 J -3583720.15 -3583720.02 -3583719.89 0.0140 0.0036

Uranus -14525-07-20 14:38 J -3583632.00 -3583631.89 -3583631.76 0.0140 0.0057

Uranus -14525-10-16 18:00 J -3583543.85 -3583543.75 -3583543.64 0.0140 0.0078

Jupiter -14524-01-10 14:38 J -3583458.02 -3583457.89 -3583457.77 0.0525 0.0024

Mars -14524-01-10 16:33 J -3583457.93 -3583457.81 -3583457.70 0.1628 0.0120 *

Uranus -14524-01-12 21:21 J -3583455.70 -3583455.61 -3583455.51 0.0140 0.0098

Uranus -14524-04-11 00:28 J -3583367.53 -3583367.48 -3583367.40 0.0140 0.0120

Uranus -14524-07-08 04:04 J -3583279.33 -3583279.33 -3583279.32 0.0141 0.0140

Earth -14520-08-12 05:16 J -3581783.38 -3581783.28 -3581783.17 0.2715 0.0645

Moon -14520-08-12 05:45 J -3581783.37 -3581783.26 -3581783.16 0.2721 0.0644 *

Jupiter -14519-12-05 17:45 J -3581302.79 -3581302.76 -3581302.71 0.0500 0.0485

Jupiter -14518-03-06 06:43 J -3581212.38 -3581212.22 -3581212.06 0.0501 0.0261

Moon -14516-02-13 05:31 J -3580502.43 -3580502.27 -3580502.11 0.2618 0.0466

Earth -14516-02-13 07:11 J -3580502.36 -3580502.20 -3580502.04 0.2619 0.0368 *

Mars -14515-06-03 04:04 J -3580027.43 -3580027.33 -3580027.22 0.1629 0.0541

Mars -14513-05-08 05:16 J -3579322.35 -3579322.28 -3579322.20 0.1624 0.1225

Pluto -14513-10-10 19:11 J -3579166.70 -3579166.70 -3579166.65 0.0072 0.0072

Jupiter -14513-10-29 19:26 J -3579147.81 -3579147.69 -3579147.57 0.0526 0.0154

Pluto -14512-01-06 20:38 J -3579078.70 -3579078.64 -3579078.54 0.0072 0.0063

Jupiter -14512-01-27 00:14 J -3579058.57 -3579058.49 -3579058.41 0.0524 0.0397

Pluto -14512-04-04 22:19 J -3578990.67 -3578990.57 -3578990.45 0.0072 0.0053

Neptune -14512-06-05 21:07 J -3578928.65 -3578928.62 -3578928.54 0.0088 0.0084

Pluto -14512-07-01 23:45 J -3578902.63 -3578902.51 -3578902.37 0.0072 0.0044

Neptune -14512-09-02 00:57 J -3578840.55 -3578840.46 -3578840.34 0.0088 0.0074

Pluto -14512-09-28 01:26 J -3578814.58 -3578814.44 -3578814.30 0.0072 0.0035

Neptune -14512-11-29 04:33 J -3578752.42 -3578752.31 -3578752.15 0.0088 0.0064

Saturn -14512-11-30 16:33 J -3578750.87 -3578750.81 -3578750.73 0.0267 0.0248

Pluto -14512-12-25 02:38 J -3578726.53 -3578726.39 -3578726.23 0.0072 0.0027

Neptune -14511-02-25 08:38 J -3578664.29 -3578664.14 -3578663.98 0.0088 0.0053

Saturn -14511-02-27 15:21 J -3578662.05 -3578661.86 -3578661.68 0.0268 0.0075

Pluto -14511-03-23 04:04 J -3578638.48 -3578638.33 -3578638.17 0.0072 0.0018

Neptune -14511-05-24 12:14 J -3578576.15 -3578575.99 -3578575.81 0.0088 0.0043

Saturn -14511-05-27 13:55 J -3578573.10 -3578572.92 -3578572.74 0.0269 0.0101

Pluto -14511-06-19 05:31 J -3578550.43 -3578550.27 -3578550.11 0.0072 0.0009

Neptune -14511-08-20 16:04 J -3578488.01 -3578487.83 -3578487.64 0.0088 0.0033

Pluto -14511-09-15 06:57 J -3578462.37 -3578462.21 -3578462.05 0.0071 0.0001

Neptune -14511-11-16 19:40 J -3578399.86 -3578399.68 -3578399.48 0.0088 0.0023

Pluto -14511-12-12 08:24 J -3578374.31 -3578374.15 -3578373.99 0.0071 0.0008

Neptune -14510-02-12 23:31 J -3578311.71 -3578311.52 -3578311.32 0.0088 0.0013

Pluto -14510-03-10 09:35 J -3578286.25 -3578286.10 -3578285.94 0.0071 0.0017

Neptune -14510-05-12 03:21 J -3578223.56 -3578223.36 -3578223.16 0.0088 0.0002

Pluto -14510-06-06 10:48 J -3578198.19 -3578198.05 -3578197.89 0.0071 0.0025

Neptune -14510-08-08 06:57 J -3578135.40 -3578135.21 -3578135.01 0.0088 0.0008

Pluto -14510-09-02 12:14 J -3578110.13 -3578109.99 -3578109.84 0.0071 0.0033

Neptune -14510-11-04 10:48 J -3578047.24 -3578047.05 -3578046.86 0.0088 0.0018

Pluto -14510-11-29 13:26 J -3578022.06 -3578021.94 -3578021.80 0.0071 0.0041

Neptune -14509-01-31 14:09 J -3577959.08 -3577958.91 -3577958.71 0.0088 0.0029

Pluto -14509-02-25 14:52 J -3577933.99 -3577933.88 -3577933.76 0.0071 0.0049

Neptune -14509-04-28 18:00 J -3577870.92 -3577870.75 -3577870.56 0.0088 0.0039

Pluto -14509-05-23 15:50 J -3577845.91 -3577845.84 -3577845.73 0.0071 0.0058

Neptune -14509-07-25 21:35 J -3577782.75 -3577782.60 -3577782.42 0.0088 0.0049

Pluto -14509-08-19 17:02 J -3577757.83 -3577757.79 -3577757.71 0.0070 0.0066

Neptune -14509-10-22 01:26 J -3577694.58 -3577694.44 -3577694.28 0.0088 0.0059

Neptune -14508-01-18 05:02 J -3577606.40 -3577606.29 -3577606.16 0.0088 0.0069

Mars -14508-01-18 19:26 J -3577605.85 -3577605.69 -3577605.52 0.1894 0.0567

Neptune -14508-04-16 08:52 J -3577518.20 -3577518.13 -3577518.04 0.0088 0.0079

Earth -14507-08-14 23:16 J -3577032.64 -3577032.53 -3577032.43 0.2714 0.0596

Moon -14507-08-15 00:00 J -3577032.61 -3577032.50 -3577032.40 0.2714 0.0737 *

Jupiter -14507-12-23 03:21 J -3576902.54 -3576902.36 -3576902.17 0.0501 0.0081

Mars -14506-10-24 15:50 J -3576596.93 -3576596.84 -3576596.75 0.1631 0.0967

Mars -14504-09-28 17:02 J -3575891.89 -3575891.79 -3575891.69 0.1625 0.0798

Moon -14503-02-16 12:14 J -3575751.11 -3575750.99 -3575750.87 0.2622 0.1720

Earth -14503-02-16 13:55 J -3575751.02 -3575750.92 -3575750.82 0.2620 0.1988 *

Venus -14501-02-22 13:26 J -3575014.95 -3575014.94 -3575014.93 0.3713 0.3683

Jupiter -14501-08-18 00:00 J -3574837.60 -3574837.50 -3574837.39 0.0525 0.0286

Jupiter -14501-11-15 04:48 J -3574748.41 -3574748.30 -3574748.19 0.0524 0.0262

Mars -14499-06-10 11:02 J -3574176.19 -3574176.04 -3574175.89 0.1892 0.0911

Venus -14499-11-30 17:16 J -3574002.94 -3574002.78 -3574002.62 0.3655 0.1095

Saturn -14498-04-12 17:02 J -3573869.86 -3573869.79 -3573869.72 0.0296 0.0247

Saturn -14498-07-10 04:48 J -3573781.42 -3573781.30 -3573781.18 0.0295 0.0094

Saturn -14498-10-06 16:19 J -3573692.94 -3573692.82 -3573692.69 0.0294 0.0058

Saturn -14497-01-03 04:04 J -3573604.42 -3573604.33 -3573604.24 0.0293 0.0207

Mars -14496-03-16 03:35 J -3573166.41 -3573166.35 -3573166.29 0.1633 0.1396

Venus -14496-09-07 04:33 J -3572991.40 -3572991.31 -3572991.22 0.3714 0.1846

Jupiter -14495-10-10 23:31 J -3572592.71 -3572592.52 -3572592.34 0.0501 0.0112

Mars -14494-02-19 04:48 J -3572461.42 -3572461.30 -3572461.19 0.1626 0.0376

Earth -14494-08-17 17:02 J -3572281.87 -3572281.79 -3572281.71 0.2713 0.1832

Moon -14494-08-17 17:45 J -3572281.84 -3572281.76 -3572281.68 0.2710 0.1843 *

Venus -14490-03-23 19:40 J -3570967.78 -3570967.68 -3570967.58 0.3717 0.0084

Jupiter -14489-06-06 04:48 J -3570527.38 -3570527.30 -3570527.23 0.0525 0.0418

Jupiter -14489-09-03 09:21 J -3570438.23 -3570438.11 -3570437.98 0.0524 0.0132

Uranus -14487-01-03 01:40 J -3569951.49 -3569951.43 -3569951.34 0.0140 0.0128

Uranus -14487-04-01 09:50 J -3569863.22 -3569863.09 -3569862.94 0.0139 0.0097

Uranus -14487-06-28 18:14 J -3569774.91 -3569774.74 -3569774.57 0.0139 0.0067

Moon -14487-08-10 16:19 J -3569731.91 -3569731.82 -3569731.73 0.2722 0.1606

Earth -14487-08-10 16:19 J -3569731.91 -3569731.82 -3569731.73 0.2715 0.1628 *

Uranus -14487-09-25 02:09 J -3569686.60 -3569686.41 -3569686.22 0.0139 0.0037

Uranus -14487-12-22 10:19 J -3569598.27 -3569598.07 -3569597.88 0.0139 0.0007

Uranus -14486-03-20 18:00 J -3569509.93 -3569509.75 -3569509.55 0.0139 0.0024

Uranus -14486-06-17 02:09 J -3569421.59 -3569421.41 -3569421.23 0.0139 0.0053

Uranus -14486-09-13 09:50 J -3569333.24 -3569333.09 -3569332.93 0.0139 0.0083

Uranus -14486-12-10 17:45 J -3569244.87 -3569244.76 -3569244.64 0.0138 0.0112

Mars -14485-07-11 16:33 J -3569030.93 -3569030.81 -3569030.70 0.1628 0.0085

Venus -14485-10-06 11:02 J -3568944.13 -3568944.04 -3568943.96 0.3718 0.1847

Moon -14483-02-11 05:45 J -3568451.32 -3568451.26 -3568451.20 0.2613 0.2419

Earth -14483-02-11 06:57 J -3568451.28 -3568451.21 -3568451.14 0.2618 0.2321 *

Jupiter -14483-07-29 20:24 J -3568282.80 -3568282.65 -3568282.50 0.0501 0.0290

Jupiter -14483-10-28 09:07 J -3568192.19 -3568192.12 -3568192.04 0.0502 0.0459

Saturn -14482-07-17 12:43 J -3567930.13 -3567929.97 -3567929.79 0.0267 0.0132

Saturn -14482-10-14 11:31 J -3567841.21 -3567841.02 -3567840.83 0.0268 0.0043

Saturn -14481-01-11 10:04 J -3567752.18 -3567752.08 -3567751.96 0.0269 0.0220

Venus -14479-04-22 02:09 J -3566920.42 -3566920.41 -3566920.40 0.3720 0.3683

Jupiter -14477-06-22 13:55 J -3566128.05 -3566127.92 -3566127.80 0.0525 0.0022

Mars -14476-12-02 04:04 J -3565600.44 -3565600.33 -3565600.22 0.1629 0.0482

Earth -14474-08-13 10:04 J -3564981.19 -3564981.08 -3564980.97 0.2714 0.0409

Moon -14474-08-13 10:33 J -3564981.17 -3564981.06 -3564980.95 0.2719 0.0339 *

Mars -14474-11-07 05:16 J -3564895.35 -3564895.28 -3564895.21 0.1624 0.1282

Jupiter -14471-05-17 17:16 J -3563972.84 -3563972.78 -3563972.72 0.0500 0.0469

Jupiter -14471-08-16 06:00 J -3563882.40 -3563882.25 -3563882.09 0.0501 0.0280

Moon -14470-02-14 12:00 J -3563700.16 -3563700.00 -3563699.84 0.2619 0.0170

Earth -14470-02-14 13:55 J -3563700.08 -3563699.92 -3563699.76 0.2619 0.0105 *

Mars -14469-07-19 20:24 J -3563178.81 -3563178.65 -3563178.49 0.1894 0.0693

Saturn -14469-11-26 06:00 J -3563049.36 -3563049.25 -3563049.14 0.0295 0.0150

Saturn -14468-02-22 17:45 J -3562960.89 -3562960.76 -3562960.63 0.0294 0.0002

Saturn -14468-05-22 05:16 J -3562872.39 -3562872.28 -3562872.17 0.0293 0.0152

Mars -14466-04-24 15:50 J -3562169.94 -3562169.84 -3562169.75 0.1631 0.0912

Jupiter -14465-04-10 18:28 J -3561817.85 -3561817.73 -3561817.61 0.0525 0.0145

Jupiter -14465-07-08 23:02 J -3561728.61 -3561728.54 -3561728.45 0.0524 0.0405

Mars -14464-03-29 17:02 J -3561464.89 -3561464.79 -3561464.69 0.1625 0.0855

Earth -14461-08-15 04:04 J -3560230.44 -3560230.33 -3560230.23 0.2714 0.0835

Moon -14461-08-15 04:48 J -3560230.41 -3560230.30 -3560230.20 0.2714 0.0882 *

Mars -14460-12-09 12:00 J -3559749.16 -3559749.00 -3559748.85 0.1892 0.0777

Jupiter -14459-06-04 02:38 J -3559572.57 -3559572.39 -3559572.20 0.0501 0.0096

Moon -14457-02-17 18:57 J -3558948.77 -3558948.71 -3558948.64 0.2623 0.2393

Earth -14457-02-17 20:24 J -3558948.70 -3558948.65 -3558948.59 0.2620 0.2437 *

Mars -14457-09-14 03:21 J -3558739.42 -3558739.36 -3558739.29 0.1633 0.1344

Mars -14455-08-20 04:33 J -3558034.42 -3558034.31 -3558034.20 0.1626 0.0428

Moon -14454-08-09 02:52 J -3557680.41 -3557680.38 -3557680.35 0.2721 0.2614

Earth -14454-08-09 03:21 J -3557680.39 -3557680.36 -3557680.33 0.2716 0.2602 *

Jupiter -14453-01-28 23:02 J -3557507.64 -3557507.54 -3557507.43 0.0526 0.0277

Jupiter -14453-04-27 03:50 J -3557418.44 -3557418.34 -3557418.23 0.0525 0.0274

Saturn -14453-12-03 09:21 J -3557198.24 -3557198.11 -3557197.98 0.0267 0.0197

Saturn -14452-03-02 07:55 J -3557109.36 -3557109.17 -3557108.98 0.0268 0.0024

Saturn -14452-05-30 06:28 J -3557020.38 -3557020.23 -3557020.07 0.0269 0.0152

Earth -14448-08-17 22:04 J -3555479.65 -3555479.58 -3555479.52 0.2713 0.2081

Moon -14448-08-17 22:33 J -3555479.63 -3555479.56 -3555479.50 0.2708 0.2195 *

Venus -14448-12-21 07:40 J -3555354.19 -3555354.18 -3555354.16 0.3658 0.3642

Jupiter -14447-03-22 23:31 J -3555262.71 -3555262.52 -3555262.33 0.0500 0.0085

Mars -14445-01-10 16:19 J -3554603.93 -3554603.82 -3554603.70 0.1628 0.0035

Venus -14445-09-28 10:48 J -3554342.11 -3554342.05 -3554342.00 0.3713 0.3016

Uranus -14443-03-12 14:09 J -3553811.93 -3553811.91 -3553811.88 0.0139 0.0136

Uranus -14443-06-08 17:31 J -3553723.84 -3553723.77 -3553723.70 0.0139 0.0116

Uranus -14443-09-04 20:38 J -3553635.73 -3553635.64 -3553635.54 0.0139 0.0096

Uranus -14443-12-02 00:00 J -3553547.61 -3553547.50 -3553547.40 0.0139 0.0077

Uranus -14442-02-28 03:07 J -3553459.49 -3553459.37 -3553459.25 0.0139 0.0057

Uranus -14442-05-27 06:28 J -3553371.36 -3553371.23 -3553371.11 0.0139 0.0037

Venus -14442-07-07 20:24 J -3553329.71 -3553329.65 -3553329.59 0.3655 0.3365

Uranus -14442-08-23 09:35 J -3553283.23 -3553283.10 -3553282.97 0.0140 0.0017

Jupiter -14442-11-17 04:04 J -3553197.41 -3553197.33 -3553197.26 0.0525 0.0407

Uranus -14442-11-19 12:57 J -3553195.09 -3553194.96 -3553194.83 0.0140 0.0004

Jupiter -14441-02-14 08:38 J -3553108.26 -3553108.14 -3553108.02 0.0524 0.0142

Uranus -14441-02-15 16:04 J -3553106.95 -3553106.83 -3553106.70 0.0140 0.0025

Uranus -14441-05-13 19:26 J -3553018.81 -3553018.69 -3553018.56 0.0140 0.0045

Uranus -14441-08-09 22:48 J -3552930.66 -3552930.55 -3552930.43 0.0140 0.0065

Moon -14441-08-10 21:07 J -3552929.71 -3552929.62 -3552929.53 0.2723 0.1424

Earth -14441-08-10 21:07 J -3552929.71 -3552929.62 -3552929.53 0.2715 0.1388 *

Uranus -14441-11-06 01:55 J -3552842.51 -3552842.42 -3552842.31 0.0140 0.0087

Uranus -14440-02-02 05:16 J -3552754.35 -3552754.28 -3552754.19 0.0140 0.0107

Uranus -14440-05-01 08:52 J -3552666.18 -3552666.13 -3552666.08 0.0140 0.0128

Venus -14439-04-14 01:55 J -3552318.52 -3552318.42 -3552318.33 0.3715 0.1184

Saturn -14439-04-15 06:57 J -3552317.30 -3552317.21 -3552317.12 0.0296 0.0210

Saturn -14439-07-12 18:43 J -3552228.85 -3552228.72 -3552228.60 0.0295 0.0057

Saturn -14439-10-09 06:28 J -3552140.36 -3552140.23 -3552140.11 0.0294 0.0095

Saturn -14438-01-05 18:00 J -3552051.82 -3552051.75 -3552051.68 0.0293 0.0244

Moon -14437-02-12 12:14 J -3551649.10 -3551648.99 -3551648.89 0.2615 0.1965

Earth -14437-02-12 13:40 J -3551649.04 -3551648.93 -3551648.82 0.2618 0.1859 *

Mars -14436-06-02 04:04 J -3551173.44 -3551173.33 -3551173.22 0.1629 0.0427

Jupiter -14435-01-08 19:11 J -3550952.85 -3550952.70 -3550952.54 0.0501 0.0280

Jupiter -14435-04-09 08:09 J -3550862.22 -3550862.16 -3550862.10 0.0502 0.0470

Mars -14434-05-08 05:16 J -3550468.34 -3550468.28 -3550468.22 0.1624 0.1336

Venus -14434-10-28 17:02 J -3550294.89 -3550294.79 -3550294.69 0.3717 0.0663

Neptune -14431-09-18 04:33 J -3549239.36 -3549239.31 -3549239.26 0.0089 0.0083

Neptune -14431-12-15 05:45 J -3549151.32 -3549151.26 -3549151.19 0.0089 0.0076

Neptune -14430-03-13 07:11 J -3549063.28 -3549063.20 -3549063.12 0.0089 0.0069

Neptune -14430-06-09 08:24 J -3548975.24 -3548975.15 -3548975.06 0.0089 0.0062

Neptune -14430-09-05 09:35 J -3548887.20 -3548887.10 -3548886.99 0.0089 0.0055

Neptune -14430-12-02 11:02 J -3548799.15 -3548799.04 -3548798.93 0.0089 0.0048

Jupiter -14430-12-03 13:26 J -3548798.06 -3548797.94 -3548797.81 0.0524 0.0015

Mars -14429-01-18 21:21 J -3548751.77 -3548751.61 -3548751.46 0.1894 0.0821

Neptune -14429-02-28 12:14 J -3548711.10 -3548710.99 -3548710.87 0.0089 0.0041

Neptune -14429-05-26 13:26 J -3548623.05 -3548622.94 -3548622.81 0.0089 0.0034

Neptune -14429-08-22 14:52 J -3548535.00 -3548534.88 -3548534.75 0.0089 0.0026

Neptune -14429-11-18 16:04 J -3548446.95 -3548446.83 -3548446.70 0.0089 0.0020

Neptune -14428-02-14 17:31 J -3548358.90 -3548358.77 -3548358.64 0.0089 0.0012

Venus -14428-05-13 08:09 J -3548271.23 -3548271.16 -3548271.08 0.3719 0.2503

Neptune -14428-05-13 18:43 J -3548270.85 -3548270.72 -3548270.59 0.0089 0.0005

Neptune -14428-08-09 19:55 J -3548182.80 -3548182.67 -3548182.53 0.0089 0.0004

Earth -14428-08-13 14:52 J -3548178.99 -3548178.88 -3548178.77 0.2714 0.0175

Moon -14428-08-13 15:35 J -3548178.96 -3548178.85 -3548178.75 0.2718 0.0116 *

Neptune -14428-11-05 21:21 J -3548094.74 -3548094.61 -3548094.48 0.0089 0.0009

Neptune -14427-02-01 22:33 J -3548006.69 -3548006.56 -3548006.43 0.0089 0.0016

Neptune -14427-04-30 23:45 J -3547918.63 -3547918.51 -3547918.38 0.0089 0.0023

Neptune -14427-07-28 00:57 J -3547830.57 -3547830.46 -3547830.33 0.0089 0.0031

Mars -14427-10-23 15:50 J -3547742.94 -3547742.84 -3547742.75 0.1631 0.0856

Neptune -14427-10-24 02:24 J -3547742.52 -3547742.40 -3547742.28 0.0089 0.0037

Neptune -14426-01-20 03:35 J -3547654.46 -3547654.35 -3547654.23 0.0089 0.0045

Neptune -14426-04-18 04:48 J -3547566.40 -3547566.30 -3547566.18 0.0089 0.0052

Neptune -14426-07-15 06:14 J -3547478.33 -3547478.24 -3547478.14 0.0089 0.0058

Neptune -14426-10-11 07:26 J -3547390.27 -3547390.19 -3547390.10 0.0089 0.0066

Neptune -14425-01-07 08:52 J -3547302.20 -3547302.13 -3547302.06 0.0089 0.0073

Neptune -14425-04-04 10:04 J -3547214.13 -3547214.08 -3547214.02 0.0089 0.0080

Neptune -14425-07-01 11:16 J -3547126.05 -3547126.03 -3547125.99 0.0089 0.0087

Mars -14425-09-27 16:48 J -3547037.89 -3547037.80 -3547037.70 0.1625 0.0912

Moon -14424-02-14 18:43 J -3546897.88 -3546897.72 -3546897.56 0.2619 0.0402

Earth -14424-02-14 20:24 J -3546897.80 -3546897.65 -3546897.49 0.2619 0.0540 *

Jupiter -14424-10-27 16:04 J -3546642.90 -3546642.83 -3546642.75 0.0501 0.0459

Jupiter -14423-01-26 05:02 J -3546552.44 -3546552.29 -3546552.13 0.0502 0.0292

Saturn -14423-04-22 06:57 J -3546466.27 -3546466.21 -3546466.16 0.0266 0.0254

Saturn -14423-07-20 05:16 J -3546377.46 -3546377.28 -3546377.09 0.0267 0.0082

Saturn -14423-10-17 03:50 J -3546288.52 -3546288.34 -3546288.15 0.0268 0.0093

Saturn -14422-01-14 02:24 J -3546199.40 -3546199.40 -3546199.39 0.0269 0.0269

Mars -14420-06-09 12:57 J -3545322.12 -3545321.96 -3545321.80 0.1892 0.0638

Jupiter -14418-09-21 17:45 J -3544487.88 -3544487.76 -3544487.64 0.0525 0.0130

Jupiter -14418-12-19 22:33 J -3544398.63 -3544398.56 -3544398.49 0.0524 0.0417

Mars -14417-03-15 03:21 J -3544312.42 -3544312.36 -3544312.29 0.1633 0.1287

Mars -14415-02-18 04:33 J -3543607.42 -3543607.31 -3543607.20 0.1626 0.0487

Earth -14415-08-16 08:52 J -3543428.23 -3543428.13 -3543428.03 0.2713 0.1075

Moon -14415-08-16 09:35 J -3543428.20 -3543428.10 -3543428.00 0.2714 0.1201 *

Jupiter -14412-11-14 02:09 J -3542242.59 -3542242.41 -3542242.22 0.0501 0.0113

Saturn -14410-09-02 08:09 J -3541585.21 -3541585.16 -3541585.11 0.0296 0.0267

Saturn -14410-11-29 19:55 J -3541496.79 -3541496.67 -3541496.55 0.0295 0.0113

Saturn -14409-02-26 07:40 J -3541408.31 -3541408.18 -3541408.05 0.0294 0.0039

Saturn -14409-05-24 19:11 J -3541319.79 -3541319.70 -3541319.60 0.0293 0.0189

Moon -14408-08-09 07:55 J -3540878.22 -3540878.17 -3540878.13 0.2722 0.2473

Earth -14408-08-09 08:09 J -3540878.21 -3540878.16 -3540878.11 0.2716 0.2365 *

Jupiter -14406-07-10 22:19 J -3540177.68 -3540177.57 -3540177.46 0.0525 0.0265

Mars -14406-07-11 16:19 J -3540176.93 -3540176.82 -3540176.70 0.1628 0.0057

Jupiter -14406-10-08 03:07 J -3540088.47 -3540088.37 -3540088.26 0.0524 0.0284

Uranus -14403-01-23 11:02 J -3539250.15 -3539250.04 -3539249.92 0.0140 0.0114

Uranus -14403-04-21 18:57 J -3539161.85 -3539161.71 -3539161.54 0.0139 0.0084

Uranus -14403-07-19 03:07 J -3539073.54 -3539073.37 -3539073.18 0.0139 0.0053

Uranus -14403-10-15 11:16 J -3538985.22 -3538985.03 -3538984.83 0.0139 0.0023

Uranus -14402-01-11 19:26 J -3538896.88 -3538896.69 -3538896.49 0.0139 0.0007

Uranus -14402-04-10 03:21 J -3538808.54 -3538808.36 -3538808.17 0.0139 0.0037

Uranus -14402-07-07 11:16 J -3538720.20 -3538720.03 -3538719.86 0.0139 0.0067

Earth -14402-08-19 02:52 J -3538677.44 -3538677.38 -3538677.33 0.2712 0.2326

Moon -14402-08-19 03:21 J -3538677.42 -3538677.36 -3538677.31 0.2706 0.2324 *

Uranus -14402-10-03 18:57 J -3538631.84 -3538631.71 -3538631.56 0.0139 0.0097

Uranus -14402-12-31 02:52 J -3538543.45 -3538543.38 -3538543.29 0.0138 0.0126

Jupiter -14400-09-01 22:48 J -3537932.74 -3537932.55 -3537932.36 0.0501 0.0070

Mars -14397-12-01 04:04 J -3536746.45 -3536746.33 -3536746.22 0.1629 0.0376

Earth -14395-08-12 01:55 J -3536127.52 -3536127.42 -3536127.32 0.2715 0.1150

Moon -14395-08-12 01:55 J -3536127.51 -3536127.42 -3536127.32 0.2722 0.1100 *

Mars -14395-11-06 05:16 J -3536041.34 -3536041.28 -3536041.23 0.1624 0.1389

Jupiter -14394-04-29 03:07 J -3535867.45 -3535867.37 -3535867.29 0.0526 0.0398

Jupiter -14394-07-27 07:55 J -3535778.29 -3535778.17 -3535778.05 0.0525 0.0152

Saturn -14394-12-07 01:55 J -3535645.58 -3535645.42 -3535645.26 0.0267 0.0147

Saturn -14393-03-05 00:28 J -3535556.67 -3535556.48 -3535556.29 0.0268 0.0027

Saturn -14393-06-01 23:02 J -3535467.66 -3535467.54 -3535467.41 0.0269 0.0202

Moon -14391-02-12 18:43 J -3534846.85 -3534846.72 -3534846.60 0.2616 0.1633

Earth -14391-02-12 20:09 J -3534846.79 -3534846.66 -3534846.52 0.2619 0.1403 *

Venus -14391-07-28 10:48 J -3534681.20 -3534681.05 -3534680.89 0.3657 0.1358

Mars -14390-07-19 22:04 J -3534324.73 -3534324.58 -3534324.43 0.1894 0.0946

Venus -14388-05-05 07:55 J -3533669.24 -3533669.17 -3533669.09 0.3713 0.2360

Jupiter -14388-06-20 19:26 J -3533622.85 -3533622.69 -3533622.52 0.0500 0.0252

Jupiter -14388-09-19 08:09 J -3533532.18 -3533532.16 -3533532.13 0.0501 0.0496

Mars -14387-04-23 15:35 J -3533315.95 -3533315.85 -3533315.75 0.1631 0.0803

Mars -14385-03-28 16:48 J -3532610.89 -3532610.80 -3532610.70 0.1625 0.0965

Venus -14383-11-18 23:16 J -3531645.63 -3531645.53 -3531645.43 0.3715 0.0522

Jupiter -14382-05-15 12:43 J -3531468.10 -3531467.97 -3531467.84 0.0524 0.0022

Earth -14382-08-14 19:40 J -3531376.79 -3531376.68 -3531376.57 0.2714 0.0114

Moon -14382-08-14 20:24 J -3531376.76 -3531376.65 -3531376.54 0.2717 0.0131 *

Mars -14381-12-08 13:26 J -3530895.10 -3530894.94 -3530894.77 0.1892 0.0535

Saturn -14380-04-17 20:38 J -3530764.74 -3530764.64 -3530764.53 0.0296 0.0174

Saturn -14380-07-15 08:38 J -3530676.27 -3530676.14 -3530676.02 0.0295 0.0022

Saturn -14380-10-11 20:09 J -3530587.77 -3530587.66 -3530587.54 0.0294 0.0131

Saturn -14379-01-08 07:55 J -3530499.20 -3530499.17 -3530499.14 0.0293 0.0280

Moon -14378-02-16 01:26 J -3530095.59 -3530095.44 -3530095.29 0.2620 0.0796

Earth -14378-02-16 03:07 J -3530095.52 -3530095.37 -3530095.22 0.2619 0.0994 *

Mars -14378-09-14 03:21 J -3529885.43 -3529885.36 -3529885.29 0.1633 0.1231

Venus -14377-06-03 14:24 J -3529621.99 -3529621.90 -3529621.81 0.3717 0.1322

Jupiter -14376-04-08 15:07 J -3529312.95 -3529312.87 -3529312.79 0.0501 0.0448

Jupiter -14376-07-08 04:04 J -3529222.48 -3529222.33 -3529222.18 0.0502 0.0302

Mars -14376-08-19 04:33 J -3529180.42 -3529180.31 -3529180.20 0.1626 0.0538

Venus -14372-12-18 05:31 J -3527598.32 -3527598.27 -3527598.22 0.3719 0.3166

Jupiter -14370-03-03 17:31 J -3527157.89 -3527157.77 -3527157.65 0.0525 0.0109

Jupiter -14370-05-31 22:04 J -3527068.64 -3527068.58 -3527068.51 0.0523 0.0438

Earth -14369-08-16 13:40 J -3526626.03 -3526625.93 -3526625.84 0.2713 0.1321

Moon -14369-08-16 14:24 J -3526626.00 -3526625.90 -3526625.81 0.2712 0.1395 *

Mars -14366-01-09 16:19 J -3525749.94 -3525749.82 -3525749.71 0.1628 0.0112

Saturn -14364-04-24 23:45 J -3524913.63 -3524913.51 -3524913.38 0.0266 0.0202

Jupiter -14364-04-26 00:57 J -3524912.64 -3524912.46 -3524912.28 0.0501 0.0123

Saturn -14364-07-22 22:19 J -3524824.77 -3524824.57 -3524824.38 0.0267 0.0030

Saturn -14364-10-19 20:38 J -3524735.80 -3524735.64 -3524735.47 0.0268 0.0145

Moon -14362-08-10 12:43 J -3524076.04 -3524075.97 -3524075.90 0.2723 0.2106

Earth -14362-08-10 12:57 J -3524076.03 -3524075.96 -3524075.89 0.2716 0.2131 *

Uranus -14359-04-01 22:04 J -3523110.62 -3523110.58 -3523110.53 0.0139 0.0128

Uranus -14359-06-29 01:26 J -3523022.52 -3523022.44 -3523022.36 0.0139 0.0108

Uranus -14359-09-25 04:33 J -3522934.41 -3522934.31 -3522934.21 0.0139 0.0089

Jupiter -14359-12-20 21:50 J -3522847.70 -3522847.59 -3522847.48 0.0525 0.0249

Uranus -14359-12-22 07:40 J -3522846.29 -3522846.18 -3522846.06 0.0139 0.0069

Jupiter -14358-03-20 02:24 J -3522758.50 -3522758.40 -3522758.29 0.0524 0.0298

Uranus -14358-03-20 11:02 J -3522758.16 -3522758.04 -3522757.92 0.0139 0.0049

Uranus -14358-06-16 14:09 J -3522670.03 -3522669.91 -3522669.78 0.0139 0.0029

Uranus -14358-09-12 17:31 J -3522581.90 -3522581.77 -3522581.64 0.0140 0.0008

Uranus -14358-12-09 20:52 J -3522493.76 -3522493.63 -3522493.50 0.0140 0.0012

Uranus -14357-03-07 00:00 J -3522405.62 -3522405.50 -3522405.37 0.0140 0.0033

Mars -14357-06-01 04:04 J -3522319.45 -3522319.33 -3522319.22 0.1629 0.0320

Uranus -14357-06-03 03:21 J -3522317.48 -3522317.36 -3522317.24 0.0140 0.0053

Uranus -14357-08-30 06:43 J -3522229.33 -3522229.22 -3522229.11 0.0140 0.0073

Uranus -14357-11-26 09:50 J -3522141.18 -3522141.09 -3522140.99 0.0140 0.0094

Uranus -14356-02-22 13:11 J -3522053.02 -3522052.95 -3522052.87 0.0140 0.0115

Uranus -14356-05-21 16:48 J -3521964.83 -3521964.80 -3521964.77 0.0141 0.0136

Earth -14356-08-19 07:40 J -3521875.21 -3521875.18 -3521875.15 0.2712 0.2574

Moon -14356-08-19 08:09 J -3521875.18 -3521875.16 -3521875.15 0.2706 0.2656 *

Mars -14355-05-07 05:16 J -3521614.33 -3521614.28 -3521614.23 0.1624 0.1447

Jupiter -14352-02-11 22:04 J -3520602.77 -3520602.58 -3520602.39 0.0501 0.0055

Saturn -14351-09-04 21:50 J -3520032.66 -3520032.59 -3520032.50 0.0297 0.0232

Saturn -14351-12-02 09:50 J -3519944.21 -3519944.09 -3519943.97 0.0295 0.0077

Mars -14350-01-17 23:02 J -3519897.68 -3519897.54 -3519897.40 0.1894 0.1071

Saturn -14350-02-28 21:35 J -3519855.73 -3519855.60 -3519855.48 0.0294 0.0075

Saturn -14350-05-28 09:07 J -3519767.20 -3519767.12 -3519767.04 0.0293 0.0225

Pluto -14349-02-28 18:28 J -3519490.77 -3519490.73 -3519490.67 0.0071 0.0067

Pluto -14349-05-26 19:40 J -3519402.75 -3519402.68 -3519402.58 0.0072 0.0060

Earth -14349-08-12 06:43 J -3519325.32 -3519325.22 -3519325.12 0.2715 0.0910

Moon -14349-08-12 06:57 J -3519325.31 -3519325.21 -3519325.11 0.2721 0.0936 *

Pluto -14349-08-22 21:07 J -3519314.72 -3519314.62 -3519314.51 0.0072 0.0051

Pluto -14349-11-18 22:19 J -3519226.69 -3519226.57 -3519226.44 0.0072 0.0043

Pluto -14348-02-14 23:31 J -3519138.65 -3519138.52 -3519138.38 0.0072 0.0035

Pluto -14348-05-14 00:57 J -3519050.61 -3519050.46 -3519050.32 0.0072 0.0026

Pluto -14348-08-10 01:55 J -3518962.56 -3518962.42 -3518962.26 0.0072 0.0019

Mars -14348-10-22 15:35 J -3518888.95 -3518888.85 -3518888.75 0.1631 0.0747

Pluto -14348-11-06 03:21 J -3518874.51 -3518874.36 -3518874.20 0.0072 0.0010

Pluto -14347-02-02 04:48 J -3518786.46 -3518786.30 -3518786.15 0.0072 0.0002

Neptune -14347-03-02 18:00 J -3518757.79 -3518757.75 -3518757.68 0.0088 0.0084

Pluto -14347-05-01 06:00 J -3518698.40 -3518698.25 -3518698.10 0.0073 0.0008

Neptune -14347-05-29 21:35 J -3518669.69 -3518669.60 -3518669.48 0.0088 0.0074

Pluto -14347-07-28 07:11 J -3518610.35 -3518610.20 -3518610.04 0.0073 0.0016

Neptune -14347-08-26 01:11 J -3518581.57 -3518581.45 -3518581.29 0.0088 0.0064

Jupiter -14347-10-09 02:24 J -3518537.49 -3518537.40 -3518537.32 0.0525 0.0385

Pluto -14347-10-24 08:38 J -3518522.29 -3518522.14 -3518521.99 0.0073 0.0025

Neptune -14347-11-22 05:02 J -3518493.43 -3518493.29 -3518493.12 0.0088 0.0054

Jupiter -14346-01-06 06:57 J -3518448.33 -3518448.21 -3518448.09 0.0524 0.0164

Pluto -14346-01-20 09:50 J -3518434.22 -3518434.09 -3518433.95 0.0073 0.0034

Neptune -14346-02-18 09:07 J -3518405.29 -3518405.12 -3518404.95 0.0088 0.0043

Pluto -14346-04-18 11:02 J -3518346.15 -3518346.04 -3518345.90 0.0073 0.0043

Neptune -14346-05-17 12:43 J -3518317.15 -3518316.97 -3518316.78 0.0088 0.0033

Pluto -14346-07-15 12:14 J -3518258.08 -3518257.99 -3518257.86 0.0073 0.0053

Neptune -14346-08-13 16:19 J -3518229.00 -3518228.82 -3518228.62 0.0088 0.0023

Mars -14346-09-27 16:48 J -3518183.89 -3518183.80 -3518183.71 0.1625 0.1019

Pluto -14346-10-11 13:40 J -3518170.00 -3518169.93 -3518169.83 0.0073 0.0061

Neptune -14346-11-09 20:09 J -3518140.85 -3518140.66 -3518140.46 0.0088 0.0013

Pluto -14345-01-07 15:07 J -3518081.90 -3518081.87 -3518081.81 0.0073 0.0071

Neptune -14345-02-06 00:00 J -3518052.70 -3518052.50 -3518052.30 0.0088 0.0003

Moon -14345-02-14 01:11 J -3518044.59 -3518044.45 -3518044.30 0.2616 0.1031

Earth -14345-02-14 02:52 J -3518044.52 -3518044.38 -3518044.23 0.2619 0.0939 *

Neptune -14345-05-04 03:35 J -3517964.55 -3517964.35 -3517964.15 0.0088 0.0008

Neptune -14345-07-31 07:11 J -3517876.39 -3517876.20 -3517876.00 0.0088 0.0018

Neptune -14345-10-27 10:48 J -3517788.23 -3517788.05 -3517787.85 0.0088 0.0028

Neptune -14344-01-23 14:38 J -3517700.06 -3517699.89 -3517699.71 0.0088 0.0038

Neptune -14344-04-21 18:28 J -3517611.90 -3517611.73 -3517611.57 0.0088 0.0048

Neptune -14344-07-18 21:35 J -3517523.72 -3517523.60 -3517523.43 0.0088 0.0059

Neptune -14344-10-15 01:26 J -3517435.54 -3517435.44 -3517435.30 0.0088 0.0069

Neptune -14343-01-11 05:02 J -3517347.35 -3517347.29 -3517347.18 0.0088 0.0079

Mars -14341-06-08 14:38 J -3516468.05 -3516467.89 -3516467.72 0.1892 0.0389

Jupiter -14341-11-30 18:43 J -3516292.89 -3516292.72 -3516292.56 0.0501 0.0238

Mars -14338-03-15 03:21 J -3515458.44 -3515458.36 -3515458.28 0.1633 0.1175

Venus -14337-05-26 14:09 J -3515019.94 -3515019.91 -3515019.88 0.3712 0.3521

Mars -14336-02-17 04:33 J -3514753.42 -3514753.31 -3514753.20 0.1626 0.0593

Earth -14336-08-15 00:28 J -3514574.58 -3514574.48 -3514574.37 0.2714 0.0336

Moon -14336-08-15 01:11 J -3514574.56 -3514574.45 -3514574.34 0.2717 0.0451 *

Jupiter -14335-07-28 06:57 J -3514227.23 -3514227.21 -3514227.19 0.0526 0.0519

Saturn -14335-09-11 20:24 J -3514181.66 -3514181.65 -3514181.62 0.0266 0.0264

Jupiter -14335-10-25 11:45 J -3514138.14 -3514138.01 -3514137.89 0.0525 0.0030

Saturn -14335-12-09 18:57 J -3514092.89 -3514092.71 -3514092.52 0.0267 0.0093

Venus -14334-03-04 13:55 J -3514008.08 -3514007.92 -3514007.76 0.3656 0.0904

Saturn -14334-03-08 17:31 J -3514003.95 -3514003.77 -3514003.58 0.0268 0.0081

Saturn -14334-06-05 15:50 J -3513914.88 -3513914.84 -3513914.77 0.0269 0.0257

Moon -14332-02-16 08:09 J -3513293.30 -3513293.16 -3513293.02 0.2621 0.1259

Earth -14332-02-16 09:50 J -3513293.23 -3513293.09 -3513292.96 0.2620 0.1443 *

Mars -14332-10-29 06:00 J -3513038.27 -3513038.25 -3513038.22 0.1889 0.1862

Venus -14332-12-10 05:16 J -3512996.36 -3512996.28 -3512996.19 0.3714 0.1692

Mars -14329-08-04 14:52 J -3512027.89 -3512027.88 -3512027.86 0.1635 0.1608

Jupiter -14329-09-18 15:21 J -3511982.96 -3511982.86 -3511982.76 0.0500 0.0419

Jupiter -14329-12-18 04:04 J -3511892.47 -3511892.33 -3511892.18 0.0501 0.0329

Mars -14327-07-10 16:19 J -3511322.94 -3511322.82 -3511322.71 0.1628 0.0173

Venus -14326-06-25 20:38 J -3510972.74 -3510972.64 -3510972.54 0.3716 0.0199

Jupiter -14323-08-13 16:48 J -3509827.93 -3509827.80 -3509827.68 0.0525 0.0101

Earth -14323-08-17 18:28 J -3509823.82 -3509823.73 -3509823.64 0.2713 0.1568

Moon -14323-08-17 19:11 J -3509823.79 -3509823.70 -3509823.62 0.2710 0.1628 *

Jupiter -14323-11-10 21:21 J -3509738.67 -3509738.61 -3509738.54 0.0523 0.0448

Saturn -14321-01-22 23:02 J -3509300.56 -3509300.54 -3509300.52 0.0297 0.0291

Saturn -14321-04-20 10:48 J -3509212.16 -3509212.05 -3509211.94 0.0296 0.0137

Saturn -14321-07-17 22:33 J -3509123.69 -3509123.56 -3509123.43 0.0295 0.0016

Saturn -14321-10-14 10:19 J -3509035.18 -3509035.07 -3509034.97 0.0294 0.0168

Venus -14320-01-08 11:45 J -3508949.09 -3508949.01 -3508948.93 0.3718 0.1988

Uranus -14320-11-16 12:14 J -3508637.05 -3508636.99 -3508636.92 0.0140 0.0130

Uranus -14319-02-12 20:09 J -3508548.78 -3508548.66 -3508548.51 0.0140 0.0100

Uranus -14319-05-12 04:19 J -3508460.48 -3508460.32 -3508460.14 0.0139 0.0070

Uranus -14319-08-08 12:43 J -3508372.16 -3508371.97 -3508371.78 0.0139 0.0039

Uranus -14319-11-04 20:38 J -3508283.83 -3508283.64 -3508283.44 0.0139 0.0009

Uranus -14318-02-01 04:33 J -3508195.49 -3508195.31 -3508195.11 0.0139 0.0022

Uranus -14318-04-30 12:28 J -3508107.15 -3508106.98 -3508106.79 0.0139 0.0052

Uranus -14318-07-27 20:38 J -3508018.80 -3508018.64 -3508018.48 0.0139 0.0081

Uranus -14318-10-24 04:04 J -3507930.43 -3507930.33 -3507930.19 0.0139 0.0111

Mars -14318-12-01 03:50 J -3507892.45 -3507892.34 -3507892.22 0.1629 0.0265

Jupiter -14317-10-05 23:45 J -3507582.70 -3507582.51 -3507582.33 0.0501 0.0131

Moon -14316-08-10 17:31 J -3507273.84 -3507273.77 -3507273.69 0.2723 0.1982

Earth -14316-08-10 17:45 J -3507273.83 -3507273.76 -3507273.68 0.2716 0.1888 *

Mars -14316-11-05 05:02 J -3507187.33 -3507187.29 -3507187.25 0.1624 0.1500

Jupiter -14311-06-01 21:21 J -3505517.72 -3505517.61 -3505517.49 0.0525 0.0230

Mars -14311-07-19 00:00 J -3505470.63 -3505470.50 -3505470.37 0.1895 0.1204

Jupiter -14311-08-30 02:09 J -3505428.51 -3505428.41 -3505428.31 0.0524 0.0317

Mars -14308-04-22 15:35 J -3504461.95 -3504461.85 -3504461.74 0.1631 0.0688

Mars -14306-03-28 16:48 J -3503756.88 -3503756.80 -3503756.71 0.1625 0.1075

Saturn -14305-04-27 17:16 J -3503360.94 -3503360.78 -3503360.62 0.0266 0.0145

Jupiter -14305-07-24 20:38 J -3503272.83 -3503272.64 -3503272.46 0.0501 0.0050

Saturn -14305-07-25 15:50 J -3503272.04 -3503271.84 -3503271.65 0.0267 0.0028

Saturn -14305-10-22 14:09 J -3503183.03 -3503182.91 -3503182.78 0.0268 0.0202

Earth -14303-08-13 11:31 J -3502523.12 -3502523.02 -3502522.91 0.2715 0.0672

Moon -14303-08-13 12:00 J -3502523.11 -3502523.00 -3502522.90 0.2720 0.0561 *

Mars -14302-12-08 15:35 J -3502041.02 -3502040.85 -3502040.68 0.1892 0.0261

Moon -14299-02-14 07:55 J -3501242.32 -3501242.17 -3501242.01 0.2616 0.0741

Earth -14299-02-14 09:35 J -3501242.26 -3501242.10 -3501241.94 0.2619 0.0479 *

Jupiter -14299-03-21 01:40 J -3501207.52 -3501207.43 -3501207.34 0.0525 0.0370

Jupiter -14299-06-18 06:28 J -3501118.35 -3501118.23 -3501118.11 0.0524 0.0177

Mars -14299-09-13 03:21 J -3501031.44 -3501031.36 -3501031.28 0.1633 0.1121

Mars -14297-08-18 04:33 J -3500326.42 -3500326.31 -3500326.21 0.1626 0.0650

Jupiter -14293-05-12 17:31 J -3498962.93 -3498962.77 -3498962.60 0.0501 0.0227

Mars -14292-04-29 07:11 J -3498611.27 -3498611.20 -3498611.13 0.1889 0.1724

Saturn -14292-09-07 12:14 J -3498480.09 -3498479.99 -3498479.89 0.0297 0.0191

Saturn -14292-12-05 00:00 J -3498391.63 -3498391.50 -3498391.37 0.0295 0.0037

Saturn -14291-03-03 11:45 J -3498303.13 -3498303.01 -3498302.89 0.0294 0.0115

Saturn -14291-05-30 23:16 J -3498214.58 -3498214.53 -3498214.47 0.0293 0.0265

Earth -14290-08-16 05:31 J -3497772.38 -3497772.27 -3497772.17 0.2714 0.0576

Moon -14290-08-16 06:00 J -3497772.35 -3497772.25 -3497772.14 0.2717 0.0603 *

Mars -14289-02-03 14:52 J -3497600.91 -3497600.88 -3497600.85 0.1635 0.1553

Jupiter -14287-01-07 06:14 J -3496897.27 -3496897.24 -3496897.21 0.0525 0.0507

Mars -14287-01-08 16:04 J -3496895.94 -3496895.83 -3496895.71 0.1627 0.0229

Jupiter	-14287-04-06 10:48 J	-3496808.17	-3496808.05	-3496807.92	0.0524	0.0045
Moon	-14286-02-17 14:52 J	-3496490.99	-3496490.88	-3496490.77	0.2623	0.1797
Earth	-14286-02-17 16:19 J	-3496490.92	-3496490.82	-3496490.71	0.2620	0.1897 *
Jupiter	-14281-02-29 14:09 J	-3494653.01	-3494652.91	-3494652.80	0.0500	0.0409
Jupiter	-14281-05-30 03:07 J	-3494562.51	-3494562.37	-3494562.23	0.0501	0.0339
Venus	-14281-12-31 11:31 J	-3494347.08	-3494347.02	-3494346.96	0.3712	0.2853
Mars	-14278-06-01 03:50 J	-3493465.45	-3493465.34	-3493465.23	0.1629	0.0207
Venus	-14278-10-09 16:48 J	-3493334.89	-3493334.80	-3493334.72	0.3656	0.3137
Earth	-14277-08-17 23:16 J	-3493021.61	-3493021.53	-3493021.45	0.2713	0.1816
Moon	-14277-08-18 00:00 J	-3493021.58	-3493021.50	-3493021.42	0.2709	0.1922 *
Mars	-14276-05-06 05:02 J	-3492760.32	-3492760.29	-3492760.26	0.1624	0.1554
Saturn	-14276-09-14 14:38 J	-3492629.00	-3492628.89	-3492628.75	0.0266	0.0203
Saturn	-14276-12-12 13:26 J	-3492540.14	-3492539.94	-3492539.75	0.0267	0.0030
Jupiter	-14275-01-23 15:35 J	-3492497.98	-3492497.85	-3492497.73	0.0525	0.0095
Saturn	-14275-03-11 11:45 J	-3492451.17	-3492451.01	-3492450.85	0.0268	0.0144
Uranus	-14275-04-22 05:45 J	-3492409.32	-3492409.26	-3492409.20	0.0139	0.0122
Jupiter	-14275-04-22 20:09 J	-3492408.71	-3492408.66	-3492408.59	0.0524	0.0454
Venus	-14275-07-17 02:38 J	-3492323.48	-3492323.39	-3492323.29	0.3714	0.1028
Uranus	-14275-07-19 08:38 J	-3492321.22	-3492321.14	-3492321.04	0.0139	0.0103
Uranus	-14275-10-15 12:00 J	-3492233.10	-3492233.00	-3492232.89	0.0139	0.0083
Uranus	-14274-01-11 15:07 J	-3492144.98	-3492144.87	-3492144.75	0.0139	0.0063
Uranus	-14274-04-09 18:28 J	-3492056.85	-3492056.73	-3492056.60	0.0139	0.0043
Uranus	-14274-07-06 21:35 J	-3491968.72	-3491968.60	-3491968.47	0.0139	0.0024
Uranus	-14274-10-03 00:57 J	-3491880.59	-3491880.46	-3491880.33	0.0139	0.0003
Uranus	-14274-12-30 04:19 J	-3491792.45	-3491792.32	-3491792.19	0.0140	0.0018
Uranus	-14273-03-27 07:26 J	-3491704.31	-3491704.19	-3491704.06	0.0140	0.0038
Uranus	-14273-06-23 10:48 J	-3491616.17	-3491616.05	-3491615.93	0.0140	0.0058
Uranus	-14273-09-19 13:55 J	-3491528.02	-3491527.92	-3491527.80	0.0140	0.0079
Uranus	-14273-12-16 17:16 J	-3491439.87	-3491439.78	-3491439.68	0.0140	0.0100
Uranus	-14272-03-14 20:38 J	-3491351.70	-3491351.64	-3491351.57	0.0140	0.0120

Mars -14271-01-17 00:43 J -3491043.59 -3491043.47 -3491043.35 0.1894 0.1326

Moon -14270-08-11 22:33 J -3490471.65 -3490471.56 -3490471.48 0.2722 0.1626

Earth -14270-08-11 22:33 J -3490471.64 -3490471.56 -3490471.47 0.2716 0.1650 *

Venus -14269-01-30 18:00 J -3490299.85 -3490299.75 -3490299.66 0.3716 0.0827

Jupiter -14269-03-17 23:31 J -3490252.69 -3490252.52 -3490252.34 0.0501 0.0157

Mars -14269-10-21 15:35 J -3490034.96 -3490034.85 -3490034.75 0.1631 0.0636

Mars -14267-09-26 16:48 J -3489329.88 -3489329.80 -3489329.72 0.1625 0.1129

Earth -14266-02-12 09:21 J -3489191.17 -3489191.11 -3489191.06 0.2618 0.2435

Neptune -14266-06-15 03:07 J -3489068.40 -3489068.37 -3489068.32 0.0089 0.0084

Neptune -14266-09-11 04:33 J -3488980.37 -3488980.31 -3488980.24 0.0089 0.0076

Neptune -14266-12-08 05:45 J -3488892.33 -3488892.26 -3488892.17 0.0089 0.0070

Neptune -14265-03-05 07:11 J -3488804.29 -3488804.20 -3488804.10 0.0089 0.0062

Neptune -14265-06-01 08:24 J -3488716.24 -3488716.15 -3488716.04 0.0089 0.0055

Neptune -14265-08-28 09:35 J -3488628.20 -3488628.10 -3488627.98 0.0089 0.0049

Neptune -14265-11-24 11:02 J -3488540.15 -3488540.04 -3488539.92 0.0089 0.0041

Neptune -14264-02-20 12:14 J -3488452.10 -3488451.99 -3488451.86 0.0089 0.0034

Pluto -14264-05-01 02:24 J -3488382.42 -3488382.40 -3488382.33 0.0072 0.0070

Neptune -14264-05-19 13:40 J -3488364.05 -3488363.93 -3488363.80 0.0089 0.0027

Pluto -14264-07-28 03:50 J -3488294.40 -3488294.34 -3488294.23 0.0072 0.0061

Venus -14264-08-15 09:07 J -3488276.19 -3488276.12 -3488276.05 0.3718 0.2654

Neptune -14264-08-15 14:52 J -3488276.00 -3488275.88 -3488275.75 0.0089 0.0020

Pluto -14264-10-24 05:31 J -3488206.37 -3488206.27 -3488206.14 0.0072 0.0051

Neptune -14264-11-11 16:19 J -3488187.95 -3488187.82 -3488187.69 0.0089 0.0013

Jupiter -14264-11-11 20:24 J -3488187.76 -3488187.65 -3488187.53 0.0525 0.0223 *

Pluto -14263-01-20 06:57 J -3488118.33 -3488118.21 -3488118.06 0.0072 0.0042

Neptune -14263-02-07 17:31 J -3488099.90 -3488099.77 -3488099.64 0.0089 0.0006

Jupiter -14263-02-09 01:11 J -3488098.55 -3488098.45 -3488098.35 0.0524 0.0325

Pluto -14263-04-18 08:38 J -3488030.28 -3488030.14 -3488029.99 0.0072 0.0033

Neptune -14263-05-06 18:57 J -3488011.84 -3488011.71 -3488011.58 0.0089 0.0002

Pluto -14263-07-15 10:04 J -3487942.23 -3487942.08 -3487941.92 0.0072 0.0024

Neptune -14263-08-02 20:09 J -3487923.79 -3487923.66 -3487923.53 0.0089 0.0008

Pluto -14263-10-11 11:16 J -3487854.18 -3487854.03 -3487853.86 0.0072 0.0016

Neptune -14263-10-29 21:21 J -3487835.73 -3487835.61 -3487835.48 0.0089 0.0016

Pluto -14262-01-07 12:57 J -3487766.12 -3487765.96 -3487765.80 0.0071 0.0007

Saturn -14262-01-25 13:11 J -3487748.01 -3487747.95 -3487747.87 0.0297 0.0249

Neptune -14262-01-25 22:48 J -3487747.68 -3487747.55 -3487747.43 0.0089 0.0023

Pluto -14262-04-05 14:09 J -3487678.07 -3487677.91 -3487677.74 0.0071 0.0003

Neptune -14262-04-24 00:00 J -3487659.62 -3487659.50 -3487659.38 0.0089 0.0030

Saturn -14262-04-24 01:11 J -3487659.57 -3487659.45 -3487659.33 0.0296 0.0094 *

Mars -14262-06-08 16:19 J -3487613.99 -3487613.82 -3487613.65 0.1892 0.0150

Pluto -14262-07-02 15:35 J -3487590.01 -3487589.85 -3487589.69 0.0071 0.0010

Neptune -14262-07-21 01:26 J -3487571.56 -3487571.44 -3487571.33 0.0089 0.0037

Saturn -14262-07-21 12:57 J -3487571.09 -3487570.96 -3487570.83 0.0295 0.0059

Pluto -14262-09-28 16:48 J -3487501.95 -3487501.80 -3487501.64 0.0071 0.0019

Neptune -14262-10-17 02:38 J -3487483.50 -3487483.39 -3487483.28 0.0089 0.0044

Saturn -14262-10-18 00:43 J -3487482.56 -3487482.47 -3487482.38 0.0293 0.0210

Pluto -14262-12-25 18:14 J -3487413.88 -3487413.74 -3487413.59 0.0071 0.0027

Neptune -14261-01-13 03:35 J -3487395.44 -3487395.35 -3487395.23 0.0089 0.0052

Pluto -14261-03-22 19:11 J -3487325.82 -3487325.70 -3487325.54 0.0071 0.0036

Neptune -14261-04-10 05:02 J -3487307.38 -3487307.29 -3487307.18 0.0089 0.0058

Pluto -14261-06-18 20:38 J -3487237.75 -3487237.64 -3487237.50 0.0071 0.0044

Neptune -14261-07-07 06:14 J -3487219.32 -3487219.24 -3487219.14 0.0089 0.0065

Pluto -14261-09-14 21:50 J -3487149.68 -3487149.59 -3487149.47 0.0071 0.0052

Neptune -14261-10-03 07:26 J -3487131.25 -3487131.19 -3487131.10 0.0089 0.0073

Pluto -14261-12-11 23:16 J -3487061.60 -3487061.53 -3487061.44 0.0071 0.0060

Neptune -14261-12-30 08:52 J -3487043.18 -3487043.13 -3487043.06 0.0089 0.0079

Pluto -14260-03-10 00:28 J -3486973.51 -3486973.48 -3486973.43 0.0070 0.0068

Neptune -14260-03-28 10:04 J -3486955.10 -3486955.08 -3486955.04 0.0089 0.0087

Mars -14259-03-14 03:21 J -3486604.45 -3486604.36 -3486604.28 0.1633 0.1067

Jupiter -14257-01-04 18:57 J -3485942.90 -3485942.71 -3485942.52 0.0501 0.0045

Mars -14257-02-17 04:19 J -3485899.42 -3485899.32 -3485899.21 0.1626 0.0706

Earth -14257-08-13 16:19 J -3485720.92 -3485720.82 -3485720.71 0.2715 0.0429

Moon -14257-08-13 16:48 J -3485720.90 -3485720.80 -3485720.69 0.2720 0.0433 *

Moon -14253-02-15 14:38 J -3484440.05 -3484439.89 -3484439.73 0.2617 0.0099

Earth -14253-02-15 16:19 J -3484439.98 -3484439.82 -3484439.66 0.2619 0.0028 *

Mars -14253-10-28 08:09 J -3484184.25 -3484184.16 -3484184.07 0.1890 0.1593

Jupiter -14252-08-31 01:11 J -3483877.54 -3483877.45 -3483877.36 0.0525 0.0353

Jupiter -14252-11-28 06:00 J -3483788.37 -3483788.25 -3483788.14 0.0524 0.0194

Mars -14250-08-04 14:52 J -3483173.92 -3483173.88 -3483173.84 0.1635 0.1495

Mars -14248-07-09 16:04 J -3482468.94 -3482468.83 -3482468.71 0.1628 0.0280

Saturn -14246-02-01 13:26 J -3481896.99 -3481896.94 -3481896.87 0.0266 0.0251

Saturn -14246-05-01 12:00 J -3481808.19 -3481808.00 -3481807.82 0.0267 0.0080

Saturn -14246-07-29 10:19 J -3481719.25 -3481719.07 -3481718.89 0.0267 0.0094

Jupiter -14246-10-23 15:35 J -3481633.02 -3481632.85 -3481632.68 0.0501 0.0226

Saturn -14246-10-26 08:52 J -3481630.13 -3481630.13 -3481630.12 0.0268 0.0268

Earth -14244-08-16 10:19 J -3480970.18 -3480970.07 -3480969.97 0.2714 0.0812

Moon -14244-08-16 11:02 J -3480970.15 -3480970.04 -3480969.94 0.2715 0.0963 *

Moon -14240-02-17 21:21 J -3479688.70 -3479688.61 -3479688.52 0.2623 0.2119

Earth -14240-02-17 23:02 J -3479688.61 -3479688.54 -3479688.47 0.2620 0.2346 *

Jupiter -14240-06-19 05:16 J -3479567.31 -3479567.28 -3479567.24 0.0525 0.0495

Jupiter -14240-09-16 10:04 J -3479478.20 -3479478.08 -3479477.95 0.0524 0.0052

Mars -14239-11-30 03:50 J -3479038.45 -3479038.34 -3479038.23 0.1629 0.0150

Moon -14237-08-09 09:07 J -3478420.13 -3478420.12 -3478420.11 0.2722 0.2696

Earth -14237-08-09 09:35 J -3478420.12 -3478420.10 -3478420.07 0.2716 0.2627 *

Mars -14237-11-04 05:02 J -3478333.30 -3478333.29 -3478333.28 0.1624 0.1610

Uranus -14236-12-06 19:55 J -3477935.75 -3477935.67 -3477935.56 0.0140 0.0121

Uranus -14235-03-05 04:04 J -3477847.46 -3477847.33 -3477847.17 0.0140 0.0091

Uranus -14235-06-01 12:28 J -3477759.15 -3477758.98 -3477758.80 0.0139 0.0060

Uranus -14235-08-28 20:38 J -3477670.83 -3477670.64 -3477670.45 0.0139 0.0029

Uranus -14235-11-25 04:48 J -3477582.50 -3477582.30 -3477582.11 0.0139 0.0003

Uranus -14234-02-21 12:43 J -3477494.16 -3477493.97 -3477493.78 0.0139 0.0031

Uranus -14234-05-20 20:38 J -3477405.81 -3477405.64 -3477405.46 0.0139 0.0061

Jupiter -14234-08-11 12:28 J -3477323.08 -3477322.98 -3477322.86 0.0501 0.0404

Uranus -14234-08-17 04:19 J -3477317.45 -3477317.32 -3477317.16 0.0139 0.0091

Jupiter -14234-11-10 01:26 J -3477232.57 -3477232.44 -3477232.30 0.0502 0.0347

Uranus -14234-11-13 12:14 J -3477229.07 -3477228.99 -3477228.88 0.0139 0.0120

Saturn -14233-09-10 02:52 J -3476927.49 -3476927.38 -3476927.27 0.0296 0.0145

Saturn -14233-12-07 14:38 J -3476839.02 -3476838.89 -3476838.76 0.0295 0.0010

Saturn -14232-03-06 02:24 J -3476750.51 -3476750.40 -3476750.29 0.0294 0.0160

Mars -14232-07-18 01:40 J -3476616.54 -3476616.43 -3476616.32 0.1894 0.1453

Earth -14231-08-19 04:19 J -3476219.39 -3476219.32 -3476219.25 0.2713 0.2062

Moon -14231-08-19 04:48 J -3476219.37 -3476219.30 -3476219.23 0.2709 0.2090 *

Mars -14229-04-21 15:21 J -3475607.96 -3475607.86 -3475607.75 0.1631 0.0585

Jupiter -14228-07-05 14:24 J -3475168.02 -3475167.90 -3475167.77 0.0525 0.0088

Jupiter -14228-10-02 19:11 J -3475078.76 -3475078.70 -3475078.64 0.0523 0.0460

Mars -14227-03-27 16:48 J -3474902.88 -3474902.80 -3474902.73 0.1625 0.1185

Venus -14227-10-30 06:57 J -3474686.35 -3474686.21 -3474686.06 0.3658 0.1625

Venus -14224-08-07 08:52 J -3473674.21 -3473674.13 -3473674.05 0.3713 0.2182

Moon -14224-08-12 03:21 J -3473669.45 -3473669.36 -3473669.27 0.2722 0.1437

Earth -14224-08-12 03:21 J -3473669.45 -3473669.36 -3473669.27 0.2715 0.1411 *

Mars -14223-12-07 17:16 J -3473186.95 -3473186.78 -3473186.61 0.1892 0.0016

Jupiter -14222-08-28 22:04 J -3472922.76 -3472922.58 -3472922.40 0.0501 0.0162

Moon -14220-02-12 14:38 J -3472388.99 -3472388.89 -3472388.79 0.2613 0.2031

Earth -14220-02-12 15:50 J -3472388.94 -3472388.84 -3472388.73 0.2618 0.1982 *

Mars -14220-09-12 03:07 J -3472177.46 -3472177.37 -3472177.28 0.1633 0.1012

Venus -14218-02-21 00:00 J -3471650.60 -3471650.50 -3471650.40 0.3715 0.0368

Mars -14218-08-18 04:19 J -3471472.42 -3471472.32 -3471472.22 0.1626 0.0756

Saturn -14217-09-17 10:19 J -3471076.24 -3471076.07 -3471075.90 0.0267 0.0132

Saturn -14217-12-15 08:38 J -3470987.33 -3470987.14 -3470986.95 0.0268 0.0041

Saturn -14216-03-14 06:57 J -3470898.31 -3470898.21 -3470898.09 0.0268 0.0216

Jupiter -14216-04-23 18:57 J -3470857.82 -3470857.71 -3470857.59 0.0525 0.0223

Jupiter -14216-07-21 23:45 J -3470768.61 -3470768.51 -3470768.41 0.0524 0.0326

Mars -14213-04-28 08:52 J -3469757.23 -3469757.13 -3469757.02 0.1889 0.1473

Venus -14213-09-05 15:21 J -3469626.96 -3469626.86 -3469626.77 0.3717 0.1491

Earth -14211-08-14 21:07 J -3468918.72 -3468918.62 -3468918.51 0.2715 0.0205

Moon -14211-08-14 21:35 J -3468918.70 -3468918.60 -3468918.49 0.2720 0.0117 *

Mars -14210-02-02 14:52 J -3468746.93 -3468746.88 -3468746.83 0.1635 0.1441

Jupiter -14210-06-16 18:28 J -3468612.92 -3468612.73 -3468612.54 0.0501 0.0025

Mars -14208-01-07 16:04 J -3468041.94 -3468041.83 -3468041.72 0.1627 0.0332

Moon -14207-02-15 21:21 J -3467637.77 -3467637.61 -3467637.45 0.2619 0.0164

Earth -14207-02-15 23:02 J -3467637.70 -3467637.54 -3467637.38 0.2619 0.0442 *

Venus -14207-03-22 06:28 J -3467603.27 -3467603.23 -3467603.19 0.3719 0.3318

Jupiter -14204-02-10 00:00 J -3466547.59 -3466547.50 -3466547.41 0.0525 0.0351

Jupiter -14204-05-10 04:48 J -3466458.42 -3466458.30 -3466458.19 0.0524 0.0197

Saturn -14203-01-28 04:19 J -3466195.41 -3466195.32 -3466195.22 0.0296 0.0198

Saturn -14203-04-26 16:19 J -3466106.95 -3466106.82 -3466106.69 0.0295 0.0043

Saturn -14203-07-24 04:04 J -3466018.45 -3466018.33 -3466018.21 0.0294 0.0109

Saturn -14203-10-20 15:50 J -3465929.90 -3465929.84 -3465929.79 0.0293 0.0260

Mars -14199-05-31 03:50 J -3464611.46 -3464611.34 -3464611.23 0.1629 0.0108

Jupiter -14198-04-04 13:26 J -3464303.10 -3464302.94 -3464302.77 0.0501 0.0227

Earth -14198-08-17 15:07 J -3464167.97 -3464167.87 -3464167.77 0.2714 0.1060

Moon -14198-08-17 15:50 J -3464167.94 -3464167.84 -3464167.74 0.2713 0.1085 *

Jupiter -14193-11-29 04:33 J -3462237.35 -3462237.31 -3462237.26 0.0525 0.0483

Mars -14192-01-16 02:38 J -3462189.48 -3462189.39 -3462189.30 0.1895 0.1582

Jupiter -14192-02-26 09:21 J -3462148.23 -3462148.11 -3462147.98 0.0524 0.0067

Uranus -14191-02-13 10:04 J -3461796.10 -3461796.08 -3461796.05 0.0138 0.0135

Uranus -14191-05-12 13:11 J -3461708.01 -3461707.95 -3461707.87 0.0139 0.0116

Uranus -14191-08-08 16:33 J -3461619.90 -3461619.81 -3461619.72 0.0139 0.0096

Moon -14191-08-10 13:55 J -3461617.96 -3461617.92 -3461617.87 0.2722 0.2444

Earth -14191-08-10 14:24 J -3461617.95 -3461617.90 -3461617.85 0.2716 0.2391 *

Uranus -14191-11-04 19:40 J -3461531.79 -3461531.68 -3461531.57 0.0139 0.0076

Uranus -14190-01-31 22:48 J -3461443.67 -3461443.55 -3461443.43 0.0139 0.0057

Uranus -14190-04-30 01:55 J -3461355.54 -3461355.42 -3461355.29 0.0139 0.0037

Uranus -14190-07-27 05:16 J -3461267.41 -3461267.28 -3461267.15 0.0139 0.0017

Mars -14190-10-21 15:21 J -3461180.96 -3461180.86 -3461180.75 0.1631 0.0528

Uranus -14190-10-23 08:38 J -3461179.27 -3461179.14 -3461179.01 0.0139 0.0005

Uranus -14189-01-19 11:45 J -3461091.14 -3461091.01 -3461090.88 0.0140 0.0024

Uranus -14189-04-16 15:07 J -3461003.00 -3461002.87 -3461002.75 0.0140 0.0044

Uranus -14189-07-13 18:14 J -3460914.85 -3460914.74 -3460914.62 0.0140 0.0065

Uranus -14189-10-09 21:35 J -3460826.70 -3460826.60 -3460826.49 0.0140 0.0085

Uranus -14188-01-06 00:57 J -3460738.55 -3460738.46 -3460738.38 0.0140 0.0106

Uranus -14188-04-04 04:04 J -3460650.38 -3460650.33 -3460650.27 0.0140 0.0127

Mars -14188-09-25 16:33 J -3460475.88 -3460475.81 -3460475.73 0.1625 0.1239

Saturn -14187-02-04 09:35 J -3460344.24 -3460344.10 -3460343.96 0.0266 0.0176

Saturn -14187-05-04 07:55 J -3460255.36 -3460255.17 -3460254.97 0.0267 0.0006

Saturn -14187-08-01 06:14 J -3460166.38 -3460166.24 -3460166.08 0.0268 0.0170

Jupiter -14186-01-21 10:04 J -3459993.18 -3459993.08 -3459992.97 0.0501 0.0409

Jupiter -14186-04-21 23:02 J -3459902.67 -3459902.54 -3459902.40 0.0502 0.0342

Earth -14185-08-19 09:07 J -3459417.18 -3459417.12 -3459417.07 0.2713 0.2311

Moon -14185-08-19 09:35 J -3459417.15 -3459417.10 -3459417.05 0.2709 0.2424 *

Mars -14183-06-07 18:14 J -3458759.91 -3458759.74 -3458759.56 0.1892 0.0135

Neptune -14183-11-27 14:38 J -3458586.93 -3458586.89 -3458586.81 0.0088 0.0084

Neptune -14182-02-23 18:14 J -3458498.82 -3458498.74 -3458498.61 0.0088 0.0074

Neptune -14182-05-22 22:19 J -3458410.70 -3458410.57 -3458410.42 0.0088 0.0063

Neptune -14182-08-19 02:09 J -3458322.56 -3458322.41 -3458322.25 0.0088 0.0053

Neptune -14182-11-15 05:45 J -3458234.42 -3458234.26 -3458234.08 0.0088 0.0043

Neptune -14181-02-11 09:21 J -3458146.28 -3458146.11 -3458145.91 0.0088 0.0033

Neptune -14181-05-09 13:11 J -3458058.13 -3458057.95 -3458057.75 0.0088 0.0023

Neptune -14181-08-05 17:02 J -3457969.99 -3457969.79 -3457969.59 0.0088 0.0012

Neptune -14181-11-01 20:38 J -3457881.83 -3457881.64 -3457881.44 0.0088 0.0003

Jupiter -14181-12-15 13:26 J -3457838.06 -3457837.94 -3457837.81 0.0524 0.0081

Neptune -14180-01-29 00:28 J -3457793.68 -3457793.48 -3457793.28 0.0088 0.0008

Mars -14180-03-13 03:07 J -3457750.46 -3457750.37 -3457750.28 0.1632 0.0955

Jupiter -14180-03-14 18:14 J -3457748.79 -3457748.74 -3457748.68 0.0523 0.0467

Neptune -14180-04-27 04:04 J -3457705.52 -3457705.33 -3457705.13 0.0088 0.0018

Neptune -14180-07-24 07:55 J -3457617.36 -3457617.17 -3457616.98 0.0088 0.0028

Neptune -14180-10-20 11:16 J -3457529.20 -3457529.03 -3457528.84 0.0088 0.0039

Neptune -14179-01-16 14:52 J -3457441.03 -3457440.88 -3457440.70 0.0088 0.0049

Neptune -14179-04-14 18:28 J -3457352.86 -3457352.73 -3457352.56 0.0088 0.0059

Neptune -14179-07-11 22:19 J -3457264.68 -3457264.57 -3457264.43 0.0088 0.0069

Neptune -14179-10-08 02:09 J -3457176.49 -3457176.41 -3457176.32 0.0088 0.0079

Mars -14178-02-16 04:19 J -3457045.42 -3457045.32 -3457045.22 0.1626 0.0815

Earth -14178-08-13 08:09 J -3456867.26 -3456867.16 -3456867.06 0.2715 0.1173

Moon -14178-08-13 08:24 J -3456867.25 -3456867.15 -3456867.05 0.2722 0.1147 *

Jupiter -14174-02-07 20:09 J -3455592.84 -3455592.66 -3455592.48 0.0501 0.0163

Moon -14174-02-13 21:21 J -3455586.73 -3455586.61 -3455586.49 0.2614 0.1711

Earth -14174-02-13 22:48 J -3455586.68 -3455586.55 -3455586.42 0.2618 0.1511 *

Saturn -14174-06-17 06:43 J -3455463.29 -3455463.22 -3455463.15 0.0297 0.0243

Saturn -14174-09-13 18:28 J -3455374.85 -3455374.73 -3455374.61 0.0296 0.0089

Mars -14174-10-28 09:50 J -3455330.21 -3455330.09 -3455329.97 0.1890 0.1348

Saturn -14174-12-11 06:14 J -3455286.37 -3455286.24 -3455286.12 0.0295 0.0064

Saturn -14173-03-08 17:45 J -3455197.84 -3455197.76 -3455197.67 0.0294 0.0216

Venus -14173-08-28 15:07 J -3455024.91 -3455024.87 -3455024.83 0.3711 0.3346

Mars -14171-08-03 14:38 J -3454319.94 -3454319.89 -3454319.83 0.1634 0.1389

Venus -14170-06-06 10:04 J -3454013.24 -3454013.08 -3454012.92 0.3657 0.0650

Mars -14169-07-08 16:04 J -3453614.94 -3453614.83 -3453614.72 0.1627 0.0387

Jupiter -14169-10-03 18:00 J -3453527.87 -3453527.75 -3453527.64 0.0525 0.0217

Jupiter -14169-12-31 22:33 J -3453438.65 -3453438.56 -3453438.46 0.0524 0.0330

Venus -14167-03-14 06:14 J -3453001.33 -3453001.24 -3453001.15 0.3713 0.1517

Earth -14165-08-15 01:55 J -3452116.52 -3452116.42 -3452116.31 0.2715 0.0130

Moon -14165-08-15 02:38 J -3452116.50 -3452116.39 -3452116.28 0.2719 0.0106 *

Jupiter -14163-11-26 16:33 J -3451283.00 -3451282.81 -3451282.62 0.0501 0.0023

Venus -14162-09-27 21:21 J -3450977.71 -3450977.61 -3450977.51 0.3715 0.0326

Moon -14161-02-17 03:50 J -3450835.49 -3450835.34 -3450835.19 0.2620 0.0807

Earth -14161-02-17 05:31 J -3450835.42 -3450835.27 -3450835.12 0.2619 0.0891 *

Mars -14160-11-29 03:35 J -3450184.46 -3450184.35 -3450184.23 0.1629 0.0065

Saturn -14158-06-24 08:38 J -3449612.24 -3449612.14 -3449612.03 0.0266 0.0222

Saturn -14158-09-21 07:11 J -3449523.39 -3449523.20 -3449523.01 0.0267 0.0051

Saturn -14158-12-19 05:31 J -3449434.44 -3449434.27 -3449434.10 0.0268 0.0123

Jupiter -14157-07-22 22:19 J -3449217.66 -3449217.57 -3449217.48 0.0525 0.0355

Jupiter -14157-10-20 03:07 J -3449128.49 -3449128.37 -3449128.26 0.0524 0.0193

Venus -14156-04-12 12:28 J -3448954.06 -3448953.98 -3448953.89 0.3717 0.2146

Mars -14153-07-17 03:21 J -3447762.43 -3447762.36 -3447762.29 0.1895 0.1704

Earth -14152-08-17 19:55 J -3447365.76 -3447365.67 -3447365.57 0.2714 0.1305

Moon -14152-08-17 20:38 J -3447365.73 -3447365.64 -3447365.55 0.2712 0.1460 *

Uranus -14152-12-27 03:21 J -3447234.46 -3447234.36 -3447234.23 0.0140 0.0113

Uranus -14151-03-25 11:31 J -3447146.16 -3447146.02 -3447145.85 0.0140 0.0083

Uranus -14151-06-21 19:55 J -3447057.85 -3447057.67 -3447057.48 0.0140 0.0052

Jupiter -14151-09-14 12:43 J -3446973.14 -3446972.97 -3446972.79 0.0501 0.0211

Uranus -14151-09-18 04:04 J -3446969.52 -3446969.33 -3446969.13 0.0139 0.0021

Uranus -14151-12-15 12:14 J -3446881.19 -3446880.99 -3446880.80 0.0139 0.0009

Uranus -14150-03-13 20:09 J -3446792.84 -3446792.66 -3446792.47 0.0139 0.0039

Mars -14150-04-21 15:21 J -3446753.97 -3446753.86 -3446753.75 0.1631 0.0471

Uranus -14150-06-10 04:04 J -3446704.49 -3446704.33 -3446704.15 0.0139 0.0069

Uranus -14150-09-06 12:00 J -3446616.13 -3446616.00 -3446615.86 0.0139 0.0099

Uranus -14150-12-03 19:55 J -3446527.73 -3446527.67 -3446527.59 0.0139 0.0128

Mars -14148-03-26 16:33 J -3446048.88 -3446048.81 -3446048.74 0.1625 0.1293

Jupiter -14145-05-11 03:07 J -3444907.41 -3444907.37 -3444907.32 0.0526 0.0485

Jupiter -14145-08-08 07:55 J -3444818.29 -3444818.17 -3444818.05 0.0524 0.0063

Moon -14145-08-10 18:57 J -3444815.77 -3444815.71 -3444815.65 0.2722 0.2228

Earth -14145-08-10 19:11 J -3444815.76 -3444815.70 -3444815.63 0.2716 0.2151 *

Saturn -14145-11-03 08:24 J -3444731.16 -3444731.15 -3444731.12 0.0297 0.0292

Saturn -14144-01-30 20:24 J -3444642.76 -3444642.65 -3444642.54 0.0296 0.0137

Saturn -14144-04-29 08:09 J -3444554.29 -3444554.16 -3444554.03 0.0295 0.0017

Saturn -14144-07-26 19:55 J -3444465.78 -3444465.67 -3444465.57 0.0294 0.0168

Mars -14144-12-06 18:43 J -3444332.89 -3444332.72 -3444332.55 0.1893 0.0234

Mars -14141-09-11 03:07 J -3443323.47 -3443323.37 -3443323.28 0.1633 0.0899

Jupiter -14139-07-03 07:40 J -3442663.28 -3442663.18 -3442663.07 0.0500 0.0414

Mars -14139-08-17 04:19 J -3442618.42 -3442618.32 -3442618.22 0.1626 0.0868

Earth -14139-08-20 13:55 J -3442614.95 -3442614.92 -3442614.89 0.2713 0.2562

Moon -14139-08-20 14:24 J -3442614.94 -3442614.90 -3442614.87 0.2708 0.2548 *

Jupiter -14139-10-01 20:38 J -3442572.78 -3442572.64 -3442572.50 0.0502 0.0336

Mars -14134-04-28 11:02 J -3440903.17 -3440903.04 -3440902.91 0.1890 0.1202

Jupiter -14133-05-27 12:43 J -3440508.10 -3440507.97 -3440507.85 0.0525 0.0072

Jupiter -14133-08-24 17:16 J -3440418.83 -3440418.78 -3440418.73 0.0523 0.0476

Earth -14132-08-13 12:57 J -3440065.06 -3440064.96 -3440064.86 0.2715 0.0933

Moon -14132-08-13 13:11 J -3440065.05 -3440064.95 -3440064.85 0.2722 0.0899 *

Mars -14131-02-01 14:38 J -3439892.95 -3439892.89 -3439892.82 0.1634 0.1331

Mars -14129-01-07 16:04 J -3439187.94 -3439187.83 -3439187.72 0.1627 0.0445

Saturn -14129-11-10 08:09 J -3438880.17 -3438880.16 -3438880.12 0.0266 0.0264

Saturn -14128-02-07 06:43 J -3438791.40 -3438791.22 -3438791.03 0.0267 0.0093

Moon -14128-02-14 03:50 J -3438784.48 -3438784.34 -3438784.20 0.2616 0.1196

Earth -14128-02-14 05:16 J -3438784.42 -3438784.28 -3438784.13 0.2618 0.1058 *

Saturn -14128-05-07 05:16 J -3438702.46 -3438702.28 -3438702.09 0.0267 0.0081

Saturn -14128-08-04 03:35 J -3438613.40 -3438613.35 -3438613.28 0.0268 0.0255

Jupiter -14127-07-20 17:16 J -3438262.96 -3438262.78 -3438262.60 0.0501 0.0152

Jupiter -14121-03-15 16:33 J -3436197.92 -3436197.81 -3436197.69 0.0525 0.0214

Jupiter -14121-06-12 21:21 J -3436108.71 -3436108.61 -3436108.51 0.0524 0.0332

Mars -14120-05-30 03:35 J -3435757.46 -3435757.35 -3435757.23 0.1629 0.0046

Earth -14119-08-16 06:57 J -3435314.32 -3435314.21 -3435314.11 0.2714 0.0313

Moon -14119-08-16 07:26 J -3435314.29 -3435314.19 -3435314.08 0.2717 0.0408 *

Venus -14116-04-04 12:28 J -3434352.05 -3434351.98 -3434351.92 0.3712 0.2690

Moon -14115-02-17 10:33 J -3434033.21 -3434033.06 -3434032.92 0.2620 0.1075

Earth -14115-02-17 12:14 J -3434033.13 -3434032.99 -3434032.85 0.2619 0.1347 *

Jupiter -14115-05-08 13:55 J -3433953.10 -3433952.92 -3433952.73 0.0501 0.0031

Saturn -14115-06-19 22:48 J -3433910.65 -3433910.55 -3433910.44 0.0297 0.0178

Saturn -14115-09-16 10:48 J -3433822.18 -3433822.05 -3433821.92 0.0296 0.0024

Saturn -14115-12-13 22:33 J -3433733.68 -3433733.56 -3433733.45 0.0295 0.0129

Saturn -14114-03-12 10:04 J -3433645.11 -3433645.08 -3433645.04 0.0294 0.0279

Venus -14113-01-11 13:11 J -3433340.05 -3433339.95 -3433339.85 0.3656 0.2916

Mars -14113-01-16 04:19 J -3433335.36 -3433335.32 -3433335.28 0.1895 0.1830

Venus -14111-10-19 03:35 J -3432328.45 -3432328.35 -3432328.25 0.3714 0.0860

Mars -14111-10-20 15:21 J -3432326.97 -3432326.86 -3432326.75 0.1631 0.0416

Jupiter -14109-01-02 20:52 J -3431887.72 -3431887.63 -3431887.54 0.0525 0.0354

Jupiter -14109-04-01 01:40 J -3431798.55 -3431798.43 -3431798.32 0.0524 0.0193

Mars -14109-09-24 16:33 J -3431621.87 -3431621.81 -3431621.75 0.1625 0.1348

Uranus -14107-03-05 17:45 J -3431094.80 -3431094.76 -3431094.70 0.0138 0.0127

Uranus -14107-06-01 21:07 J -3431006.70 -3431006.62 -3431006.54 0.0138 0.0108

Uranus -14107-08-29 00:14 J -3430918.59 -3430918.49 -3430918.39 0.0139 0.0088

Uranus -14107-11-25 03:21 J -3430830.47 -3430830.36 -3430830.24 0.0139 0.0069

Uranus -14106-02-21 06:43 J -3430742.34 -3430742.22 -3430742.10 0.0139 0.0049

Uranus -14106-05-20 09:50 J -3430654.21 -3430654.09 -3430653.96 0.0139 0.0029

Uranus -14106-08-16 13:11 J -3430566.08 -3430565.95 -3430565.82 0.0139 0.0009

Earth -14106-08-19 00:43 J -3430563.56 -3430563.47 -3430563.38 0.2714 0.1554

Moon -14106-08-19 01:26 J -3430563.53 -3430563.44 -3430563.35 0.2712 0.1586 *

Uranus -14106-11-12 16:19 J -3430477.95 -3430477.82 -3430477.69 0.0139 0.0011

Uranus -14105-02-08 19:40 J -3430389.81 -3430389.68 -3430389.55 0.0139 0.0031

Venus -14105-05-03 18:43 J -3430304.82 -3430304.72 -3430304.62 0.3716 0.0966

Uranus -14105-05-06 22:48 J -3430301.67 -3430301.55 -3430301.43 0.0140 0.0052

Uranus -14105-08-03 02:09 J -3430213.52 -3430213.41 -3430213.30 0.0140 0.0072

Uranus -14105-10-30 05:16 J -3430125.37 -3430125.28 -3430125.18 0.0140 0.0093

Uranus -14104-01-26 08:38 J -3430037.21 -3430037.14 -3430037.06 0.0140 0.0113

Uranus -14104-04-24 12:00 J -3429949.03 -3429949.00 -3429948.96 0.0140 0.0134

Mars -14104-06-06 20:09 J -3429905.83 -3429905.66 -3429905.49 0.1893 0.0378

Jupiter -14103-02-24 10:19 J -3429643.24 -3429643.07 -3429642.90 0.0501 0.0216

Neptune -14101-03-11 01:55 J -3428897.45 -3428897.42 -3428897.36 0.0089 0.0085

Mars -14101-03-12 03:07 J -3428896.47 -3428896.37 -3428896.28 0.1632 0.0846

Neptune -14101-06-07 03:35 J -3428809.41 -3428809.35 -3428809.29 0.0089 0.0077

Pluto -14101-06-22 01:26 J -3428794.45 -3428794.44 -3428794.41 0.0071 0.0071

Neptune -14101-09-03 04:48 J -3428721.38 -3428721.30 -3428721.22 0.0089 0.0070

Pluto -14101-09-18 02:24 J -3428706.45 -3428706.40 -3428706.31 0.0072 0.0063

Neptune -14101-11-30 06:14 J -3428633.33 -3428633.24 -3428633.15 0.0089 0.0063

Pluto -14101-12-15 03:35 J -3428618.43 -3428618.35 -3428618.23 0.0072 0.0055

Neptune -14100-02-26 07:26 J -3428545.29 -3428545.19 -3428545.09 0.0089 0.0056

Pluto -14100-03-13 05:16 J -3428530.40 -3428530.28 -3428530.16 0.0072 0.0046

Neptune -14100-05-25 08:38 J -3428457.24 -3428457.14 -3428457.03 0.0089 0.0049

Pluto -14100-06-09 06:14 J -3428442.36 -3428442.24 -3428442.10 0.0072 0.0038

Neptune -14100-08-21 10:04 J -3428369.20 -3428369.08 -3428368.97 0.0089 0.0042

Pluto -14100-09-05 07:26 J -3428354.32 -3428354.19 -3428354.04 0.0072 0.0030

Venus -14100-11-17 09:50 J -3428281.15 -3428281.09 -3428281.02 0.3718 0.2801

Neptune -14100-11-17 11:16 J -3428281.15 -3428281.03 -3428280.91 0.0089 0.0035 *

Pluto -14100-12-02 08:52 J -3428266.27 -3428266.13 -3428265.98 0.0072 0.0021

Neptune -14099-02-13 12:28 J -3428193.10 -3428192.98 -3428192.85 0.0089 0.0028

Mars -14099-02-15 04:19 J -3428191.42 -3428191.32 -3428191.23 0.1626 0.0923

Pluto -14099-02-28 10:04 J -3428178.23 -3428178.08 -3428177.92 0.0072 0.0013

Neptune -14099-05-12 13:55 J -3428105.05 -3428104.92 -3428104.79 0.0089 0.0020

Pluto -14099-05-27 11:31 J -3428090.18 -3428090.02 -3428089.87 0.0072 0.0004

Saturn -14099-06-27 06:28 J -3428059.39 -3428059.23 -3428059.05 0.0267 0.0134

Neptune -14099-08-08 15:07 J -3428017.00 -3428016.87 -3428016.74 0.0089 0.0013

Moon -14099-08-12 00:00 J -3428013.58 -3428013.50 -3428013.43 0.2723 0.1896

Earth -14099-08-12 00:00 J -3428013.57 -3428013.50 -3428013.42 0.2716 0.1915 *

Pluto -14099-08-23 12:43 J -3428002.12 -3428001.97 -3428001.81 0.0073 0.0004

Saturn -14099-09-24 05:02 J -3427970.48 -3427970.29 -3427970.10 0.0268 0.0039

Neptune -14099-11-04 16:19 J -3427928.94 -3427928.82 -3427928.68 0.0089 0.0007

Pluto -14099-11-19 14:09 J -3427914.07 -3427913.91 -3427913.76 0.0073 0.0013

Saturn -14099-12-22 03:35 J -3427881.46 -3427881.35 -3427881.23 0.0268 0.0214

Neptune -14098-01-31 17:45 J -3427840.89 -3427840.76 -3427840.63 0.0089 0.0001

Pluto -14098-02-15 15:07 J -3427826.01 -3427825.87 -3427825.71 0.0073 0.0022

Neptune -14098-04-29 18:57 J -3427752.84 -3427752.71 -3427752.58 0.0089 0.0008

Pluto -14098-05-14 16:19 J -3427737.95 -3427737.82 -3427737.66 0.0073 0.0031

Neptune -14098-07-26 20:09 J -3427664.78 -3427664.66 -3427664.52 0.0089 0.0016

Pluto -14098-08-10 17:45 J -3427649.88 -3427649.76 -3427649.62 0.0073 0.0040

Jupiter -14098-10-22 01:11 J -3427577.49 -3427577.45 -3427577.41 0.0526 0.0494

Neptune -14098-10-22 21:35 J -3427576.73 -3427576.60 -3427576.47 0.0089 0.0022

Pluto -14098-11-06 18:57 J -3427561.81 -3427561.71 -3427561.58 0.0073 0.0049

Neptune -14097-01-18 22:48 J -3427488.67 -3427488.55 -3427488.42 0.0089 0.0029

Jupiter -14097-01-19 06:00 J -3427488.38 -3427488.25 -3427488.13 0.0524 0.0054

Pluto -14097-02-02 20:09 J -3427473.73 -3427473.66 -3427473.54 0.0073 0.0059

Neptune -14097-04-16 00:00 J -3427400.61 -3427400.50 -3427400.37 0.0089 0.0037

Pluto -14097-04-30 21:35 J -3427385.64 -3427385.60 -3427385.52 0.0073 0.0068

Neptune -14097-07-13 01:26 J -3427312.55 -3427312.44 -3427312.32 0.0089 0.0043

Neptune -14097-10-09 02:38 J -3427224.49 -3427224.39 -3427224.28 0.0089 0.0051

Neptune -14096-01-05 04:04 J -3427136.43 -3427136.33 -3427136.23 0.0089 0.0057

Neptune -14096-04-03 05:16 J -3427048.36 -3427048.28 -3427048.19 0.0089 0.0065

Neptune -14096-06-30 06:28 J -3426960.30 -3426960.23 -3426960.15 0.0089 0.0072

Neptune -14096-09-26 07:55 J -3426872.23 -3426872.17 -3426872.11 0.0089 0.0079

Neptune -14096-12-23 09:21 J -3426784.15 -3426784.11 -3426784.08 0.0089 0.0086

Mars -14095-10-27 11:16 J -3426476.16 -3426476.03 -3426475.89 0.1890 0.1103

Mars -14092-08-02 14:38 J -3425465.96 -3425465.89 -3425465.82 0.1635 0.1277

Jupiter -14092-12-13 06:28 J -3425333.34 -3425333.23 -3425333.12 0.0500 0.0404

Jupiter -14091-03-13 19:26 J -3425242.83 -3425242.69 -3425242.56 0.0501 0.0345

Mars -14090-07-08 15:50 J -3424760.95 -3424760.84 -3424760.73 0.1627 0.0499

Earth -14086-08-14 17:45 J -3423262.86 -3423262.76 -3423262.65 0.2715 0.0692

Moon -14086-08-14 18:00 J -3423262.85 -3423262.75 -3423262.64 0.2722 0.0686 *

Saturn -14086-11-07 01:26 J -3423178.52 -3423178.44 -3423178.35 0.0296 0.0218

Jupiter -14086-11-07 10:48 J -3423178.17 -3423178.05 -3423177.93 0.0525 0.0077

Saturn -14085-02-03 13:11 J -3423090.07 -3423089.95 -3423089.82 0.0295 0.0065

Jupiter -14085-02-04 15:35 J -3423088.90 -3423088.85 -3423088.80 0.0524 0.0470

Saturn -14085-05-02 00:57 J -3423001.58 -3423001.46 -3423001.34 0.0294 0.0088

Saturn -14085-07-29 12:28 J -3422913.05 -3422912.98 -3422912.90 0.0293 0.0239

Moon -14082-02-15 10:19 J -3421982.22 -3421982.07 -3421981.92 0.2617 0.0756

Earth -14082-02-15 12:00 J -3421982.15 -3421982.00 -3421981.84 0.2618 0.0594 *

Mars -14081-11-28 03:35 J -3421330.46 -3421330.35 -3421330.24 0.1629 0.0069

Jupiter -14080-12-30 14:09 J -3420933.09 -3420932.91 -3420932.72 0.0501 0.0142

Jupiter -14074-08-26 15:21 J -3418867.97 -3418867.86 -3418867.74 0.0525 0.0211

Jupiter -14074-11-23 20:09 J -3418778.76 -3418778.66 -3418778.56 0.0524 0.0337

Earth -14073-08-16 11:45 J -3418512.12 -3418512.01 -3418511.90 0.2714 0.0552

Moon -14073-08-16 12:28 J -3418512.09 -3418511.98 -3418511.88 0.2716 0.0644 *

Mars -14071-04-20 15:21 J -3417899.97 -3417899.86 -3417899.75 0.1630 0.0357

Saturn -14070-11-14 06:43 J -3417327.36 -3417327.22 -3417327.07 0.0266 0.0172

Saturn -14069-02-11 05:16 J -3417238.48 -3417238.28 -3417238.09 0.0267 0.0002

Moon -14069-02-18 17:02 J -3417230.90 -3417230.79 -3417230.67 0.2621 0.1701

Earth -14069-02-18 18:43 J -3417230.83 -3417230.72 -3417230.60 0.2619 0.1798 *

Mars -14069-03-25 16:33 J -3417194.87 -3417194.81 -3417194.76 0.1625 0.1404

Saturn -14069-05-10 03:35 J -3417149.49 -3417149.35 -3417149.20 0.0268 0.0174

Jupiter -14068-10-18 10:33 J -3416623.24 -3416623.06 -3416622.87 0.0501 0.0046

Uranus -14068-10-20 02:09 J -3416621.43 -3416621.41 -3416621.36 0.0140 0.0137

Uranus -14067-01-16 10:33 J -3416533.18 -3416533.06 -3416532.92 0.0140 0.0106

Uranus -14067-04-14 18:43 J -3416444.87 -3416444.72 -3416444.54 0.0140 0.0076

Uranus -14067-07-12 03:07 J -3416356.55 -3416356.37 -3416356.18 0.0140 0.0045

Uranus -14067-10-08 11:16 J -3416268.22 -3416268.03 -3416267.84 0.0139 0.0014

Uranus -14066-01-04 19:11 J -3416179.89 -3416179.70 -3416179.50 0.0139 0.0017

Uranus -14066-04-03 03:21 J -3416091.54 -3416091.36 -3416091.17 0.0139 0.0046

Uranus -14066-06-30 11:16 J -3416003.19 -3416003.03 -3416002.86 0.0139 0.0076

Uranus -14066-09-26 18:57 J -3415914.82 -3415914.71 -3415914.57 0.0139 0.0106

Uranus -14066-12-24 03:07 J -3415826.40 -3415826.37 -3415826.32 0.0139 0.0135

Mars -14065-12-05 20:52 J -3415478.80 -3415478.63 -3415478.47 0.1892 0.0499

Venus -14062-02-01 03:35 J -3414691.50 -3414691.35 -3414691.21 0.3659 0.1834

Jupiter -14062-06-14 19:26 J -3414557.78 -3414557.69 -3414557.60 0.0525 0.0356

Mars -14062-09-11 02:52 J -3414469.48 -3414469.38 -3414469.28 0.1632 0.0792

Jupiter -14062-09-12 00:14 J -3414468.61 -3414468.49 -3414468.38 0.0524 0.0192

Mars -14060-08-16 04:19 J -3413764.41 -3413764.32 -3413764.23 0.1626 0.0980

Earth -14060-08-19 05:31 J -3413761.35 -3413761.27 -3413761.18 0.2713 0.1801

Moon -14060-08-19 06:14 J -3413761.32 -3413761.24 -3413761.16 0.2711 0.1920 *

Venus -14060-11-09 09:35 J -3413679.18 -3413679.10 -3413679.01 0.3712 0.2029

Saturn -14056-03-26 04:19 J -3412446.38 -3412446.32 -3412446.26 0.0297 0.0257

Saturn -14056-06-22 16:04 J -3412357.95 -3412357.83 -3412357.71 0.0296 0.0102

Jupiter -14056-08-06 07:26 J -3412313.36 -3412313.19 -3412313.02 0.0501 0.0226

Saturn -14056-09-19 03:50 J -3412269.47 -3412269.34 -3412269.21 0.0295 0.0051

Saturn -14056-12-16 15:21 J -3412180.94 -3412180.86 -3412180.76 0.0294 0.0203

Mars -14055-04-27 12:28 J -3412049.12 -3412048.98 -3412048.83 0.1890 0.0961

Venus -14054-05-26 00:57 J -3411655.56 -3411655.46 -3411655.36 0.3714 0.0245

Moon -14053-08-12 04:48 J -3411211.38 -3411211.30 -3411211.22 0.2723 0.1751

Earth -14053-08-12 04:48 J -3411211.38 -3411211.30 -3411211.21 0.2716 0.1676 *

Mars -14052-01-31 14:38 J -3411038.97 -3411038.89 -3411038.82 0.1634 0.1221

Mars -14050-01-06 15:50 J -3410333.95 -3410333.84 -3410333.73 0.1627 0.0551

Jupiter -14050-04-02 23:45 J -3410247.55 -3410247.51 -3410247.47 0.0525 0.0496

Jupiter -14050-07-01 04:19 J -3410158.44 -3410158.32 -3410158.19 0.0524 0.0053

Moon -14049-02-13 10:33 J -3409931.08 -3409931.06 -3409931.05 0.2613 0.2593

Earth -14049-02-13 11:31 J -3409931.04 -3409931.02 -3409930.99 0.2618 0.2570

Venus -14049-12-08 16:04 J -3409631.92 -3409631.83 -3409631.74 0.3716 0.1626

Jupiter -14044-05-25 03:35 J -3408003.45 -3408003.35 -3408003.24 0.0500 0.0413

Jupiter -14044-08-23 16:33 J -3407912.95 -3407912.81 -3407912.67 0.0501 0.0336

Venus -14043-06-24 07:11 J -3407608.23 -3407608.20 -3407608.16 0.3718 0.3455

Mars -14041-05-29 03:35 J -3406903.47 -3406903.35 -3406903.24 0.1629 0.0125

Saturn -14040-04-02 06:57 J -3406595.32 -3406595.21 -3406595.08 0.0266 0.0210

Saturn -14040-06-30 05:31 J -3406506.46 -3406506.27 -3406506.08 0.0267 0.0038

Earth -14040-08-14 22:33 J -3406460.66 -3406460.56 -3406460.45 0.2715 0.0461

Moon -14040-08-14 23:02 J -3406460.65 -3406460.54 -3406460.43 0.2721 0.0361 *

Saturn -14040-09-27 04:04 J -3406417.50 -3406417.33 -3406417.16 0.0268 0.0137

Jupiter -14038-04-19 08:38 J -3405848.26 -3405848.14 -3405848.02 0.0525 0.0091

Jupiter -14038-07-17 13:26 J -3405759.00 -3405758.94 -3405758.88 0.0524 0.0456

Moon -14036-02-15 16:48 J -3405179.95 -3405179.80 -3405179.64 0.2617 0.0362

Earth -14036-02-15 18:43 J -3405179.88 -3405179.72 -3405179.56 0.2618 0.0132 *

Jupiter -14032-06-11 12:28 J -3403603.15 -3403602.98 -3403602.79 0.0501 0.0146

Mars -14032-10-19 15:07 J -3403472.98 -3403472.87 -3403472.75 0.1631 0.0313

Mars -14030-09-24 16:19 J -3402767.86 -3402767.82 -3402767.77 0.1625 0.1457

Saturn -14027-08-13 06:57 J -3401714.22 -3401714.21 -3401714.18 0.0297 0.0293

Earth -14027-08-17 16:33 J -3401709.91 -3401709.81 -3401709.71 0.2714 0.0797

Moon -14027-08-17 17:16 J -3401709.88 -3401709.78 -3401709.68 0.2716 0.0878 *

Saturn -14027-11-09 18:57 J -3401625.82 -3401625.71 -3401625.60 0.0296 0.0138

Jupiter -14026-02-05 13:26 J -3401538.06 -3401537.94 -3401537.83 0.0525 0.0223

Saturn -14026-02-06 06:43 J -3401537.35 -3401537.22 -3401537.09 0.0295 0.0015

Jupiter -14026-05-05 18:00 J -3401448.84 -3401448.75 -3401448.65 0.0524 0.0326

Saturn -14026-05-05 18:14 J -3401448.84 -3401448.74 -3401448.63 0.0294 0.0167 *

Mars -14025-06-05 21:35 J -3401051.76 -3401051.60 -3401051.44 0.1893 0.0617

Uranus -14024-12-27 22:48 J -3400481.55 -3400481.55 -3400481.54 0.0138 0.0138

Moon -14023-02-19 00:00 J -3400428.59 -3400428.50 -3400428.40 0.2622 0.2073

Earth -14023-02-19 01:26 J -3400428.52 -3400428.44 -3400428.36 0.2619 0.2256 *

Uranus -14023-03-26 01:55 J -3400393.48 -3400393.42 -3400393.35 0.0138 0.0118

Uranus -14023-06-22 05:16 J -3400305.37 -3400305.28 -3400305.19 0.0139 0.0099

Uranus -14023-09-18 08:09 J -3400217.26 -3400217.16 -3400217.05 0.0139 0.0080

Uranus -14023-12-15 11:31 J -3400129.14 -3400129.02 -3400128.90 0.0139 0.0060

Mars -14022-03-12 02:52 J -3400042.48 -3400042.38 -3400042.27 0.1632 0.0735

Uranus -14022-03-13 14:38 J -3400041.01 -3400040.89 -3400040.76 0.0139 0.0040

Uranus -14022-06-09 18:00 J -3399952.88 -3399952.75 -3399952.62 0.0139 0.0020

Uranus -14022-09-05 21:07 J -3399864.75 -3399864.62 -3399864.49 0.0139 0.0003

Uranus -14022-12-03 00:28 J -3399776.61 -3399776.48 -3399776.35 0.0139 0.0020

Uranus -14021-02-29 03:35 J -3399688.47 -3399688.35 -3399688.22 0.0140 0.0040

Uranus -14021-05-27 06:57 J -3399600.33 -3399600.21 -3399600.09 0.0140 0.0060

Uranus -14021-08-23 10:04 J -3399512.18 -3399512.08 -3399511.97 0.0140 0.0081

Uranus -14021-11-19 13:26 J -3399424.03 -3399423.94 -3399423.85 0.0140 0.0101

Mars -14020-02-14 04:04 J -3399337.42 -3399337.33 -3399337.24 0.1626 0.1033

Uranus -14020-02-15 16:33 J -3399335.86 -3399335.81 -3399335.74 0.0140 0.0122

Jupiter -14020-03-30 07:26 J -3399293.37 -3399293.19 -3399293.00 0.0501 0.0059

Earth -14020-08-10 16:04 J -3399159.85 -3399159.83 -3399159.81 0.2717 0.2651

Neptune -14018-08-24 11:45 J -3398416.06 -3398416.01 -3398415.94 0.0088 0.0083

Neptune -14018-11-20 15:21 J -3398327.96 -3398327.86 -3398327.74 0.0088 0.0073

Neptune -14017-02-16 19:11 J -3398239.83 -3398239.70 -3398239.55 0.0088 0.0063

Neptune -14017-05-14 22:48 J -3398151.70 -3398151.55 -3398151.38 0.0088 0.0053

Neptune -14017-08-11 02:24 J -3398063.56 -3398063.40 -3398063.21 0.0088 0.0043

Neptune -14017-11-07 06:14 J -3397975.41 -3397975.24 -3397975.04 0.0088 0.0033

Neptune -14016-02-03 10:04 J -3397887.27 -3397887.08 -3397886.88 0.0088 0.0022

Neptune -14016-05-02 13:55 J -3397799.12 -3397798.92 -3397798.72 0.0088 0.0012

Neptune -14016-07-29 17:31 J -3397710.96 -3397710.77 -3397710.57 0.0088 0.0003

Neptune -14016-10-25 21:21 J -3397622.81 -3397622.61 -3397622.41 0.0088 0.0008

Mars -14016-10-26 13:40 J -3397622.09 -3397621.93 -3397621.78 0.1890 0.0828

Pluto -14016-11-19 10:33 J -3397598.12 -3397598.06 -3397597.97 0.0072 0.0064

Neptune -14015-01-22 00:57 J -3397534.65 -3397534.46 -3397534.26 0.0088 0.0019

Pluto -14015-02-15 12:14 J -3397510.09 -3397509.99 -3397509.88 0.0072 0.0054

Neptune -14015-04-20 04:33 J -3397446.49 -3397446.31 -3397446.11 0.0088 0.0029

Pluto -14015-05-14 13:40 J -3397422.05 -3397421.93 -3397421.80 0.0072 0.0045

Neptune -14015-07-17 08:09 J -3397358.33 -3397358.16 -3397357.97 0.0088 0.0039

Pluto -14015-08-10 14:52 J -3397334.01 -3397333.88 -3397333.73 0.0072 0.0037

Neptune -14015-10-13 12:00 J -3397270.16 -3397270.00 -3397269.83 0.0088 0.0049

Pluto -14015-11-06 16:19 J -3397245.96 -3397245.82 -3397245.66 0.0072 0.0028

Jupiter -14015-11-24 18:00 J -3397227.84 -3397227.75 -3397227.66 0.0526 0.0357

Neptune -14014-01-09 15:35 J -3397181.98 -3397181.85 -3397181.69 0.0088 0.0059

Pluto -14014-02-02 18:00 J -3397157.90 -3397157.75 -3397157.59 0.0072 0.0019

Jupiter -14014-02-21 22:48 J -3397138.67 -3397138.55 -3397138.44 0.0524 0.0192

Neptune -14014-04-07 19:26 J -3397093.81 -3397093.69 -3397093.57 0.0088 0.0069

Pluto -14014-05-01 19:11 J -3397069.85 -3397069.70 -3397069.53 0.0071 0.0011

Neptune -14014-07-04 22:33 J -3397005.61 -3397005.56 -3397005.45 0.0088 0.0080

Pluto -14014-07-28 20:52 J -3396981.79 -3396981.63 -3396981.47 0.0071 0.0002

Earth -14014-08-20 10:33 J -3396959.13 -3396959.06 -3396958.99 0.2713 0.2052

Moon -14014-08-20 11:02 J -3396959.11 -3396959.04 -3396958.97 0.2709 0.2097 *

Pluto -14014-10-24 22:04 J -3396893.74 -3396893.58 -3396893.42 0.0071 0.0007

Pluto -14013-01-20 23:31 J -3396805.68 -3396805.52 -3396805.36 0.0071 0.0016

Pluto -14013-04-18 00:43 J -3396717.61 -3396717.47 -3396717.31 0.0071 0.0024

Pluto -14013-07-15 02:09 J -3396629.55 -3396629.41 -3396629.27 0.0071 0.0032

Mars -14013-08-01 14:38 J -3396611.97 -3396611.89 -3396611.81 0.1634 0.1164

Pluto -14013-10-11 03:07 J -3396541.48 -3396541.37 -3396541.22 0.0071 0.0041

Pluto -14012-01-07 04:33 J -3396453.41 -3396453.31 -3396453.18 0.0071 0.0049

Pluto -14012-04-05 05:45 J -3396365.34 -3396365.26 -3396365.15 0.0071 0.0057

Pluto -14012-07-02 07:11 J -3396277.25 -3396277.20 -3396277.13 0.0070 0.0065

Mars -14011-07-07 15:50 J -3395906.94 -3395906.84 -3395906.73 0.1627 0.0609

Saturn -14011-08-20 07:11 J -3395863.26 -3395863.20 -3395863.13 0.0266 0.0248

Saturn -14011-11-17 05:45 J -3395774.45 -3395774.26 -3395774.07 0.0267 0.0076

Saturn -14010-02-14 04:19 J -3395685.50 -3395685.32 -3395685.14 0.0268 0.0098

Venus -14009-11-30 15:50 J -3395029.89 -3395029.84 -3395029.79 0.3711 0.3185

Jupiter	**-14008-01-16 03:35 J**	**-3394983.51**	**-3394983.35**	**-3394983.18**	**0.0501**	**0.0246**		
Moon	**-14007-08-13 09:35 J**	**-3394409.19**	**-3394409.10**	**-3394409.01**	**0.2723**	**0.1384**		
Earth	**-14007-08-13 09:35 J**	**-3394409.19**	**-3394409.10**	**-3394409.00**	**0.2716**	**0.1439**	*	
Venus	**-14006-09-08 06:28 J**	**-3394018.39**	**-3394018.23**	**-3394018.06**	**0.3658**	**0.0460**		
Mars	**-14004-12-23 02:09 J**	**-3393181.43**	**-3393181.41**	**-3393181.39**	**0.1636**	**0.1598**		
Moon	**-14003-02-13 17:02 J**	**-3393128.86**	**-3393128.79**	**-3393128.72**	**0.2614**	**0.2329**		
Earth	**-14003-02-13 18:28 J**	**-3393128.83**	**-3393128.73**	**-3393128.64**	**0.2618**	**0.2096**	*	
Venus	**-14003-06-16 06:57 J**	**-3393006.30**	**-3393006.21**	**-3393006.11**	**0.3713**	**0.1367**		
Jupiter	**-14003-09-12 21:50 J**	**-3392917.62**	**-3392917.59**	**-3392917.55**	**0.0525**	**0.0503**		
Jupiter	**-14003-12-11 02:38 J**	**-3392828.51**	**-3392828.39**	**-3392828.26**	**0.0524**	**0.0046**		
Mars	**-14002-11-28 03:35 J**	**-3392476.47**	**-3392476.35**	**-3392476.24**	**0.1629**	**0.0186**		

14TH MILLENNIUM BCE

This is a list of transits of Mercury in the 14th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Venus	**-13998-12-30 22:19 J**	**-3390982.67**	**-3390982.57**	**-3390982.48**	**0.3715**	**0.0490**		
Saturn	**-13997-03-28 22:04 J**	**-3390893.68**	**-3390893.58**	**-3390893.47**	**0.0296**	**0.0171**		
Saturn	**-13997-06-25 09:50 J**	**-3390805.21**	**-3390805.09**	**-3390804.96**	**0.0295**	**0.0019**		
Saturn	**-13997-09-21 21:35 J**	**-3390716.71**	**-3390716.60**	**-3390716.48**	**0.0294**	**0.0135**		
Jupiter	**-13997-11-04 00:14 J**	**-3390673.58**	**-3390673.49**	**-3390673.39**	**0.0501**	**0.0428**		
Saturn	**-13997-12-19 09:21 J**	**-3390628.14**	**-3390628.11**	**-3390628.09**	**0.0293**	**0.0285**		
Jupiter	**-13996-02-02 13:26 J**	**-3390583.09**	**-3390582.94**	**-3390582.80**	**0.0502**	**0.0322**		
Earth	**-13994-08-16 03:35 J**	**-3389658.46**	**-3389658.35**	**-3389658.25**	**0.2715**	**0.0225**		

Moon -13994-08-16 04:04 J -3389658.44 -3389658.33 -3389658.22 0.2720 0.0201 *

Mars -13992-04-19 15:07 J -3389045.98 -3389045.87 -3389045.75 0.1630 0.0254

Venus -13992-07-15 13:26 J -3388959.02 -3388958.94 -3388958.86 0.3716 0.2291

Jupiter -13991-09-29 06:57 J -3388518.34 -3388518.21 -3388518.09 0.0525 0.0097

Jupiter -13991-12-27 11:31 J -3388429.08 -3388429.02 -3388428.95 0.0523 0.0450

Moon -13990-02-16 23:31 J -3388377.68 -3388377.52 -3388377.36 0.2617 0.0202

Earth -13990-02-17 01:26 J -3388377.60 -3388377.44 -3388377.29 0.2619 0.0335 *

Mars -13990-03-25 16:19 J -3388340.86 -3388340.82 -3388340.78 0.1625 0.1513

Mars -13986-12-05 22:33 J -3386624.71 -3386624.56 -3386624.40 0.1893 0.0752

Jupiter -13985-11-21 09:35 J -3386273.28 -3386273.10 -3386272.92 0.0501 0.0134

Uranus -13984-11-09 10:33 J -3385920.13 -3385920.06 -3385919.96 0.0140 0.0126

Uranus -13983-02-05 18:57 J -3385831.84 -3385831.71 -3385831.56 0.0140 0.0095

Uranus -13983-05-05 03:21 J -3385743.53 -3385743.36 -3385743.18 0.0140 0.0064

Uranus -13983-08-01 11:31 J -3385655.21 -3385655.02 -3385654.83 0.0140 0.0033

Mars -13983-09-10 02:52 J -3385615.48 -3385615.38 -3385615.28 0.1632 0.0680

Uranus -13983-10-28 19:40 J -3385566.88 -3385566.68 -3385566.48 0.0139 0.0003

Uranus -13982-01-25 03:35 J -3385478.54 -3385478.35 -3385478.15 0.0139 0.0028

Uranus -13982-04-23 11:45 J -3385390.19 -3385390.01 -3385389.83 0.0139 0.0057

Uranus -13982-07-20 19:40 J -3385301.83 -3385301.68 -3385301.52 0.0139 0.0087

Uranus -13982-10-17 03:21 J -3385213.45 -3385213.36 -3385213.24 0.0139 0.0117

Saturn -13981-04-05 06:14 J -3385042.41 -3385042.24 -3385042.06 0.0267 0.0111

Saturn -13981-07-03 04:48 J -3384953.48 -3384953.30 -3384953.11 0.0268 0.0063

Mars -13981-08-15 04:04 J -3384910.41 -3384910.33 -3384910.25 0.1626 0.1086

Earth -13981-08-17 21:21 J -3384907.71 -3384907.61 -3384907.51 0.2714 0.1040

Moon -13981-08-17 22:04 J -3384907.68 -3384907.58 -3384907.48 0.2715 0.1155 *

Saturn -13981-09-30 03:21 J -3384864.44 -3384864.36 -3384864.27 0.0269 0.0238

Jupiter -13979-07-18 11:02 J -3384208.15 -3384208.04 -3384207.93 0.0525 0.0239

Jupiter -13979-10-15 15:50 J -3384118.94 -3384118.84 -3384118.74 0.0524 0.0308

Moon -13977-02-20 06:43 J -3383626.24 -3383626.22 -3383626.19 0.2624 0.2576

Mars -13976-04-26 14:09 J -3383195.07 -3383194.91 -3383194.75 0.1890 0.0713

Moon -13974-08-11 20:24 J -3382357.70 -3382357.65 -3382357.60 0.2722 0.2425

Earth -13974-08-11 20:52 J -3382357.68 -3382357.63 -3382357.59 0.2716 0.2414 *

Mars -13973-01-31 14:38 J -3382184.98 -3382184.89 -3382184.81 0.1634 0.1111

Jupiter -13973-09-09 05:31 J -3381963.46 -3381963.27 -3381963.08 0.0501 0.0057

Mars -13971-01-05 15:50 J -3381479.95 -3381479.84 -3381479.74 0.1627 0.0662

Saturn -13968-08-16 01:11 J -3380161.54 -3380161.45 -3380161.35 0.0296 0.0204

Earth -13968-08-20 15:21 J -3380156.92 -3380156.86 -3380156.81 0.2713 0.2297

Moon -13968-08-20 15:50 J -3380156.89 -3380156.84 -3380156.79 0.2708 0.2351 *

Saturn -13968-11-12 12:57 J -3380073.08 -3380072.96 -3380072.83 0.0295 0.0051

Saturn -13967-02-09 00:43 J -3379984.59 -3379984.47 -3379984.35 0.0294 0.0101

Jupiter -13967-05-06 15:35 J -3379897.93 -3379897.85 -3379897.76 0.0526 0.0373

Saturn -13967-05-08 12:28 J -3379896.05 -3379895.98 -3379895.92 0.0293 0.0251

Jupiter -13967-08-03 20:24 J -3379808.76 -3379808.65 -3379808.53 0.0524 0.0177

Mars -13964-06-23 02:09 J -3378754.44 -3378754.41 -3378754.37 0.1636 0.1541

Mars -13962-05-29 03:21 J -3378049.47 -3378049.36 -3378049.24 0.1629 0.0242

Jupiter -13961-06-28 00:28 J -3377653.64 -3377653.48 -3377653.32 0.0500 0.0259

Moon -13961-08-13 14:38 J -3377606.99 -3377606.89 -3377606.80 0.2723 0.1254

Earth -13961-08-13 14:38 J -3377606.99 -3377606.89 -3377606.80 0.2716 0.1195 *

Jupiter -13961-09-26 13:11 J -3377562.98 -3377562.95 -3377562.90 0.0501 0.0489

Moon -13957-02-14 23:16 J -3376326.65 -3376326.53 -3376326.40 0.2615 0.1695

Earth -13957-02-15 00:57 J -3376326.58 -3376326.46 -3376326.33 0.2618 0.1639 *

Jupiter -13955-02-22 20:24 J -3375587.68 -3375587.65 -3375587.62 0.0526 0.0507

Jupiter -13955-05-23 00:57 J -3375498.58 -3375498.46 -3375498.33 0.0525 0.0046

Mars -13953-10-18 15:07 J -3374618.98 -3374618.87 -3374618.75 0.1630 0.0197

Venus -13952-07-07 13:11 J -3374357.02 -3374356.95 -3374356.88 0.3711 0.2518

Saturn -13952-08-23 06:28 J -3374310.39 -3374310.23 -3374310.07 0.0267 0.0150

Saturn -13952-11-20 05:02 J -3374221.48 -3374221.29 -3374221.10 0.0268 0.0024

Saturn -13951-02-17 03:21 J -3374132.48 -3374132.36 -3374132.22 0.0268 0.0199

Mars -13951-09-23 16:19 J -3373913.85 -3373913.82 -3373913.79 0.1625 0.1567

Venus -13949-04-14 09:35 J -3373345.21 -3373345.10 -3373344.99 0.3657 0.2706

Jupiter -13949-04-15 20:38 J -3373343.72 -3373343.64 -3373343.55 0.0500 0.0446

Jupiter -13949-07-15 09:35 J -3373253.25 -3373253.10 -3373252.95 0.0501 0.0302

Earth -13948-08-16 08:24 J -3372856.26 -3372856.15 -3372856.04 0.2715 0.0070

Moon -13948-08-16 08:52 J -3372856.24 -3372856.13 -3372856.02 0.2719 0.0188 *

Venus -13946-01-21 04:19 J -3372333.42 -3372333.32 -3372333.22 0.3713 0.0706

Mars -13946-06-05 23:45 J -3372197.66 -3372197.51 -3372197.36 0.1893 0.0888

Moon -13944-02-17 06:14 J -3371575.39 -3371575.24 -3371575.08 0.2619 0.0549

Earth -13944-02-17 07:55 J -3371575.32 -3371575.17 -3371575.01 0.2619 0.0793 *

Mars -13943-03-11 02:52 J -3371188.49 -3371188.38 -3371188.28 0.1632 0.0623

Jupiter -13943-03-11 05:02 J -3371188.41 -3371188.29 -3371188.16 0.0525 0.0105 *

Jupiter -13943-06-08 09:50 J -3371099.16 -3371099.09 -3371099.03 0.0523 0.0442

Mars -13941-02-14 04:04 J -3370483.41 -3370483.33 -3370483.25 0.1626 0.1144

Venus -13941-08-05 19:40 J -3370309.78 -3370309.68 -3370309.59 0.3715 0.1135

Uranus -13939-01-17 06:57 J -3369780.26 -3369780.21 -3369780.17 0.0138 0.0129

Uranus -13939-04-15 10:04 J -3369692.16 -3369692.08 -3369692.00 0.0138 0.0110

Uranus -13939-07-12 12:57 J -3369604.05 -3369603.96 -3369603.85 0.0139 0.0091

Uranus -13939-10-08 16:19 J -3369515.93 -3369515.82 -3369515.70 0.0139 0.0071

Saturn -13938-01-03 04:33 J -3369429.39 -3369429.31 -3369429.24 0.0297 0.0236

Uranus -13938-01-04 19:26 J -3369427.80 -3369427.69 -3369427.56 0.0139 0.0051

Saturn -13938-04-01 16:19 J -3369340.94 -3369340.82 -3369340.70 0.0296 0.0082

Uranus -13938-04-02 22:48 J -3369339.68 -3369339.55 -3369339.42 0.0139 0.0031

Saturn -13938-06-29 04:04 J -3369252.45 -3369252.33 -3369252.21 0.0295 0.0071

Uranus -13938-06-30 01:55 J -3369251.55 -3369251.42 -3369251.28 0.0139 0.0012

Saturn -13938-09-25 15:35 J -3369163.93 -3369163.85 -3369163.76 0.0294 0.0222

Uranus -13938-09-26 05:16 J -3369163.41 -3369163.28 -3369163.15 0.0139 0.0009

Uranus -13938-12-23 08:24 J -3369075.27 -3369075.15 -3369075.02 0.0139 0.0029

Uranus -13937-03-20 11:45 J -3368987.13 -3368987.01 -3368986.89 0.0140 0.0049

Jupiter -13937-05-03 06:14 J -3368943.42 -3368943.24 -3368943.05 0.0501 0.0118

Uranus -13937-06-16 14:52 J -3368898.99 -3368898.88 -3368898.76 0.0140 0.0070

Uranus -13937-09-12 18:14 J -3368810.84 -3368810.74 -3368810.64 0.0140 0.0090

Mars -13937-10-25 15:07 J -3368768.03 -3368767.87 -3368767.71 0.1890 0.0584

Neptune -13937-12-06 00:57 J -3368726.49 -3368726.46 -3368726.41 0.0089 0.0085

Uranus -13937-12-09 21:21 J -3368722.68 -3368722.61 -3368722.52 0.0140 0.0111

Neptune -13936-03-04 02:24 J -3368638.46 -3368638.40 -3368638.33 0.0089 0.0077

Uranus -13936-03-08 00:43 J -3368634.50 -3368634.47 -3368634.42 0.0140 0.0131

Neptune -13936-05-31 03:35 J -3368550.42 -3368550.35 -3368550.26 0.0089 0.0070

Neptune -13936-08-27 04:48 J -3368462.38 -3368462.30 -3368462.19 0.0089 0.0064

Neptune -13936-11-23 06:14 J -3368374.33 -3368374.24 -3368374.13 0.0089 0.0056

Neptune -13935-02-19 07:26 J -3368286.29 -3368286.19 -3368286.07 0.0089 0.0049

Venus -13935-02-19 10:48 J -3368286.11 -3368286.05 -3368285.99 0.3717 0.2951 *

Neptune -13935-05-18 08:38 J -3368198.24 -3368198.14 -3368198.01 0.0089 0.0043

Neptune -13935-08-14 10:19 J -3368110.19 -3368110.07 -3368109.95 0.0089 0.0035

Earth -13935-08-19 02:09 J -3368105.50 -3368105.41 -3368105.31 0.2714 0.1286

Moon -13935-08-19 02:52 J -3368105.48 -3368105.38 -3368105.29 0.2714 0.1330 *

Neptune -13935-11-10 11:31 J -3368022.14 -3368022.02 -3368021.89 0.0089 0.0028

Neptune -13934-02-06 12:43 J -3367934.09 -3367933.97 -3367933.84 0.0089 0.0021

Neptune -13934-05-05 14:09 J -3367846.04 -3367845.91 -3367845.78 0.0089 0.0014

Neptune -13934-08-01 15:21 J -3367757.99 -3367757.86 -3367757.73 0.0089 0.0007

Mars -13934-08-01 14:24 J -3367757.98 -3367757.90 -3367757.81 0.1634 0.1056 *

Neptune -13934-10-28 16:33 J -3367669.94 -3367669.81 -3367669.67 0.0089 0.0004

Neptune -13933-01-24 18:00 J -3367581.88 -3367581.75 -3367581.62 0.0089 0.0008

Neptune -13933-04-21 19:11 J -3367493.83 -3367493.70 -3367493.57 0.0089 0.0015

Neptune -13933-07-18 20:24 J -3367405.77 -3367405.65 -3367405.52 0.0089 0.0022

Neptune -13933-10-14 21:35 J -3367317.71 -3367317.60 -3367317.47 0.0089 0.0030

Neptune -13932-01-10 23:02 J -3367229.65 -3367229.54 -3367229.42 0.0089 0.0036

Neptune -13932-04-09 00:14 J -3367141.60 -3367141.49 -3367141.37 0.0089 0.0044

Neptune -13932-07-06 01:40 J -3367053.53 -3367053.43 -3367053.32 0.0089 0.0050

Mars -13932-07-06 15:50 J -3367052.95 -3367052.84 -3367052.74 0.1627 0.0718

Neptune -13932-10-02 02:52 J -3366965.47 -3366965.38 -3366965.27 0.0089 0.0057

Jupiter -13932-12-28 09:21 J -3366878.22 -3366878.11 -3366878.00 0.0525 0.0245

Neptune -13932-12-29 04:04 J -3366877.41 -3366877.33 -3366877.23 0.0089 0.0065

Neptune -13931-03-27 05:31 J -3366789.34 -3366789.27 -3366789.19 0.0089 0.0072

Jupiter -13931-03-27 13:55 J -3366789.02 -3366788.92 -3366788.81 0.0524 0.0302

Neptune -13931-06-23 06:43 J -3366701.27 -3366701.22 -3366701.15 0.0089 0.0079

Neptune -13931-09-19 08:09 J -3366613.19 -3366613.16 -3366613.12 0.0089 0.0086

Moon -13928-08-12 01:11 J -3365555.51 -3365555.45 -3365555.39 0.2723 0.2255

Earth -13928-08-12 01:40 J -3365555.50 -3365555.43 -3365555.37 0.2716 0.2176 *

Jupiter -13925-02-20 02:24 J -3364633.58 -3364633.40 -3364633.21 0.0501 0.0071

Mars -13925-12-22 02:09 J -3364327.45 -3364327.41 -3364327.37 0.1636 0.1487

Mars -13923-11-27 03:21 J -3363622.47 -3363622.36 -3363622.25 0.1629 0.0289

Saturn -13922-01-10 06:43 J -3363578.34 -3363578.22 -3363578.07 0.0267 0.0186

Saturn -13922-04-09 05:31 J -3363489.46 -3363489.27 -3363489.07 0.0267 0.0012

Saturn -13922-07-07 04:04 J -3363400.48 -3363400.33 -3363400.18 0.0268 0.0162

Earth -13922-08-21 20:09 J -3363354.70 -3363354.66 -3363354.63 0.2713 0.2545

Moon -13922-08-21 20:38 J -3363354.67 -3363354.64 -3363354.62 0.2708 0.2614 *

Jupiter -13920-10-16 13:26 J -3362568.02 -3362567.94 -3362567.86 0.0525 0.0389

Jupiter -13919-01-13 18:14 J -3362478.86 -3362478.74 -3362478.62 0.0524 0.0159

Earth -13915-08-14 19:26 J -3360804.80 -3360804.69 -3360804.59 0.2716 0.0952

Moon -13915-08-14 19:26 J -3360804.79 -3360804.69 -3360804.58 0.2722 0.0886 *

Jupiter -13914-12-08 22:19 J -3360323.72 -3360323.57 -3360323.40 0.0500 0.0261

Jupiter -13913-03-08 11:16 J -3360233.07 -3360233.03 -3360232.99 0.0502 0.0488

Mars -13913-04-18 15:07 J -3360191.98 -3360191.87 -3360191.76 0.1630 0.0139

Moon -13911-02-15 06:14 J -3359524.38 -3359524.24 -3359524.11 0.2614 0.1441

Earth -13911-02-15 07:40 J -3359524.32 -3359524.18 -3359524.04 0.2618 0.1166 *

Mars -13911-03-24 16:19 J -3359486.82 -3359486.82 -3359486.82 0.1625 0.1622

Saturn -13909-05-22 07:40 J -3358697.23 -3358697.18 -3358697.12 0.0297 0.0268

Saturn -13909-08-18 19:40 J -3358608.80 -3358608.68 -3358608.56 0.0296 0.0113

Saturn -13909-11-15 07:26 J -3358520.32 -3358520.19 -3358520.07 0.0294 0.0040

Saturn -13908-02-11 18:57 J -3358431.80 -3358431.71 -3358431.61 0.0293 0.0190

Jupiter -13908-08-04 18:00 J -3358257.76 -3358257.75 -3358257.74 0.0526 0.0524

Jupiter -13908-11-01 22:48 J -3358168.67 -3358168.55 -3358168.42 0.0525 0.0026

Mars -13907-12-05 00:14 J -3357770.64 -3357770.49 -3357770.35 0.1893 0.0994

Mars -13904-09-09 02:52 J -3356761.49 -3356761.38 -3356761.28 0.1632 0.0571

Mars -13902-08-15 04:04 J -3356056.41 -3356056.33 -3356056.26 0.1626 0.1197

Earth -13902-08-17 13:11 J -3356054.06 -3356053.95 -3356053.84 0.2715 0.0292

Moon -13902-08-17 13:40 J -3356054.03 -3356053.93 -3356053.82 0.2719 0.0319 *

Jupiter -13902-09-26 17:31 J -3356013.83 -3356013.77 -3356013.69 0.0500 0.0459

Jupiter -13902-12-26 06:28 J -3355923.38 -3355923.23 -3355923.07 0.0501 0.0288

Venus -13901-07-28 19:26 J -3355707.70 -3355707.69 -3355707.68 0.3710 0.3675

Uranus -13900-11-29 18:57 J -3355218.80 -3355218.71 -3355218.58 0.0140 0.0115

Uranus -13899-02-26 03:21 J -3355130.51 -3355130.36 -3355130.20 0.0140 0.0084

Uranus -13899-05-25 11:45 J -3355042.19 -3355042.01 -3355041.83 0.0140 0.0053

Uranus -13899-08-21 19:55 J -3354953.87 -3354953.67 -3354953.48 0.0140 0.0023

Uranus -13899-11-18 03:50 J -3354865.53 -3354865.34 -3354865.14 0.0139 0.0009

Uranus -13898-02-14 11:45 J -3354777.19 -3354777.01 -3354776.81 0.0139 0.0039

Moon -13898-02-18 12:57 J -3354773.10 -3354772.96 -3354772.81 0.2620 0.1178

Earth -13898-02-18 14:38 J -3354773.03 -3354772.89 -3354772.75 0.2619 0.1248 *

Venus -13898-05-06 00:00 J -3354696.64 -3354696.50 -3354696.37 0.3660 0.2033

Uranus -13898-05-13 19:55 J -3354688.83 -3354688.67 -3354688.49 0.0139 0.0068

Uranus -13898-08-10 03:35 J -3354600.47 -3354600.35 -3354600.19 0.0139 0.0098

Uranus -13898-11-06 11:45 J -3354512.08 -3354512.01 -3354511.93 0.0139 0.0127

Mars -13897-04-25 16:19 J -3354340.98 -3354340.82 -3354340.65 0.1890 0.0440

Jupiter -13896-08-21 03:21 J -3353858.48 -3353858.36 -3353858.24 0.0525 0.0110

Jupiter -13896-11-18 08:09 J -3353769.23 -3353769.16 -3353769.09 0.0524 0.0438

Venus -13895-02-11 10:33 J -3353684.15 -3353684.06 -3353683.97 0.3712 0.1856

Mars -13894-01-30 14:24 J -3353330.99 -3353330.90 -3353330.81 0.1634 0.0999

Saturn -13893-05-29 06:57 J -3352846.31 -3352846.21 -3352846.11 0.0266 0.0226

Saturn -13893-08-26 05:16 J -3352757.47 -3352757.28 -3352757.09 0.0267 0.0054

Saturn -13893-11-23 03:50 J -3352668.51 -3352668.34 -3352668.16 0.0268 0.0121

Mars -13892-01-04 15:50 J -3352625.95 -3352625.84 -3352625.74 0.1627 0.0775

Venus -13890-08-28 01:40 J -3351660.53 -3351660.43 -3351660.33 0.3714 0.0092

Jupiter -13890-10-14 02:52 J -3351613.57 -3351613.38 -3351613.20 0.0501 0.0101

Earth -13889-08-19 06:57 J -3351303.30 -3351303.21 -3351303.12 0.2714 0.1536

Moon -13889-08-19 07:40 J -3351303.27 -3351303.18 -3351303.09 0.2712 0.1677 *

Mars -13885-06-22 02:09 J -3349900.47 -3349900.41 -3349900.36 0.1636 0.1433

Venus -13884-03-12 16:48 J -3349636.88 -3349636.80 -3349636.71 0.3716 0.1792

Jupiter -13884-06-09 07:26 J -3349548.30 -3349548.19 -3349548.08 0.0525 0.0254

Jupiter -13884-09-06 12:14 J -3349459.10 -3349458.99 -3349458.89 0.0524 0.0293

Mars -13883-05-28 03:21 J -3349195.47 -3349195.36 -3349195.25 0.1629 0.0346

Moon -13882-08-13 06:00 J -3348753.32 -3348753.25 -3348753.17 0.2723 0.1966

Earth -13882-08-13 06:28 J -3348753.31 -3348753.23 -3348753.16 0.2716 0.1938 *

Saturn -13879-01-05 22:48 J -3347876.66 -3347876.55 -3347876.44 0.0296 0.0146

Saturn -13879-04-04 10:33 J -3347788.19 -3347788.06 -3347787.93 0.0295 0.0009

Saturn -13879-07-01 22:19 J -3347699.68 -3347699.57 -3347699.46 0.0294 0.0159

Venus -13879-09-26 08:09 J -3347613.18 -3347613.16 -3347613.14 0.3717 0.3608

Jupiter -13878-08-01 23:16 J -3347303.72 -3347303.53 -3347303.34 0.0501 0.0084

Mars -13874-10-18 15:07 J -3345764.99 -3345764.87 -3345764.76 0.1630 0.0093

Jupiter -13872-03-28 11:45 J -3345238.09 -3345238.01 -3345237.93 0.0525 0.0394

Jupiter -13872-06-25 16:33 J -3345148.93 -3345148.81 -3345148.69 0.0524 0.0154

Earth -13869-08-15 00:14 J -3344002.60 -3344002.49 -3344002.39 0.2715 0.0710

Moon -13869-08-15 00:28 J -3344002.58 -3344002.48 -3344002.37 0.2722 0.0701 *

Mars -13867-06-05 01:26 J -3343343.58 -3343343.44 -3343343.30 0.1893 0.1138

Jupiter -13866-08-19 08:24 J -3342903.20 -3342903.15 -3342903.09 0.0502 0.0478

Moon -13865-02-16 12:43 J -3342722.12 -3342721.97 -3342721.81 0.2615 0.0774

Earth -13865-02-16 14:24 J -3342722.05 -3342721.90 -3342721.75 0.2618 0.0706 *

Mars -13864-03-10 02:38 J -3342334.49 -3342334.39 -3342334.28 0.1632 0.0516

Saturn -13864-10-16 07:11 J -3342114.23 -3342114.20 -3342114.17 0.0266 0.0262

Saturn -13863-01-13 05:31 J -3342025.45 -3342025.27 -3342025.08 0.0267 0.0091

Saturn -13863-04-12 04:04 J -3341936.51 -3341936.33 -3341936.14 0.0268 0.0084

Saturn -13863-07-10 02:38 J -3341847.43 -3341847.39 -3341847.33 0.0269 0.0259

Mars -13862-02-13 03:50 J -3341629.41 -3341629.34 -3341629.26 0.1626 0.1252

Jupiter -13860-04-13 20:38 J -3340838.77 -3340838.64 -3340838.52 0.0525 0.0012

Mars -13858-10-25 16:48 J -3339913.97 -3339913.80 -3339913.63 0.1890 0.0340

Earth -13856-08-17 18:00 J -3339251.86 -3339251.75 -3339251.64 0.2715 0.0533

Moon -13856-08-17 18:43 J -3339251.83 -3339251.72 -3339251.62 0.2718 0.0684 *

Uranus -13855-02-06 14:38 J -3339078.94 -3339078.89 -3339078.82 0.0138 0.0121

Uranus -13855-05-05 18:00 J -3338990.84 -3338990.75 -3338990.66 0.0139 0.0102

Mars -13855-07-31 14:24 J -3338903.99 -3338903.90 -3338903.81 0.1634 0.0945

Uranus -13855-08-01 20:52 J -3338902.72 -3338902.63 -3338902.51 0.0139 0.0083

Uranus -13855-10-29 00:14 J -3338814.60 -3338814.49 -3338814.37 0.0139 0.0063

Uranus -13854-01-25 03:35 J -3338726.48 -3338726.35 -3338726.23 0.0139 0.0043

Jupiter -13854-03-08 15:35 J -3338683.92 -3338683.85 -3338683.78 0.0500 0.0460

Uranus -13854-04-23 06:43 J -3338638.35 -3338638.22 -3338638.09 0.0139 0.0023

Jupiter -13854-06-07 04:33 J -3338593.46 -3338593.31 -3338593.16 0.0501 0.0288

Uranus -13854-07-20 09:50 J -3338550.22 -3338550.09 -3338549.96 0.0139 0.0005

Uranus -13854-10-16 13:11 J -3338462.08 -3338461.95 -3338461.82 0.0139 0.0017

Uranus -13853-01-12 16:19 J -3338373.94 -3338373.82 -3338373.69 0.0139 0.0037

Uranus -13853-04-09 19:40 J -3338285.80 -3338285.68 -3338285.56 0.0140 0.0057

Neptune -13853-05-20 08:52 J -3338245.19 -3338245.13 -3338245.05 0.0088 0.0082

Mars -13853-07-05 15:35 J -3338198.95 -3338198.85 -3338198.75 0.1627 0.0826

Uranus -13853-07-06 22:48 J -3338197.65 -3338197.55 -3338197.44 0.0140 0.0078

Neptune -13853-08-16 12:28 J -3338157.08 -3338156.98 -3338156.85 0.0088 0.0072

Uranus -13853-10-03 02:09 J -3338109.50 -3338109.41 -3338109.31 0.0140 0.0098

Neptune -13853-11-12 16:19 J -3338068.95 -3338068.82 -3338068.67 0.0088 0.0062

Uranus -13853-12-30 05:16 J -3338021.34 -3338021.28 -3338021.20 0.0140 0.0119

Pluto -13852-01-10 08:38 J -3338010.17 -3338010.14 -3338010.09 0.0072 0.0069

Neptune -13852-02-08 19:55 J -3337980.81 -3337980.67 -3337980.49 0.0088 0.0052

Moon -13852-02-18 19:40 J -3337970.81 -3337970.68 -3337970.54 0.2622 0.1444

Earth -13852-02-18 21:21 J -3337970.73 -3337970.61 -3337970.49 0.2619 0.1715 *

Uranus -13852-03-28 08:52 J -3337933.14 -3337933.13 -3337933.12 0.0140 0.0139

Pluto -13852-04-08 09:50 J -3337922.16 -3337922.09 -3337922.00 0.0072 0.0061

Neptune -13852-05-07 23:31 J -3337892.67 -3337892.52 -3337892.32 0.0088 0.0042

Pluto -13852-07-05 11:16 J -3337834.13 -3337834.03 -3337833.92 0.0072 0.0052

Neptune -13852-08-04 03:35 J -3337804.53 -3337804.35 -3337804.16 0.0088 0.0031

Pluto -13852-10-01 12:28 J -3337746.10 -3337745.98 -3337745.86 0.0072 0.0044

Neptune -13852-10-31 07:26 J -3337716.38 -3337716.19 -3337716.00 0.0088 0.0021

Pluto -13852-12-28 13:26 J -3337658.06 -3337657.94 -3337657.79 0.0072 0.0036

Neptune -13851-01-27 11:02 J -3337628.23 -3337628.04 -3337627.84 0.0088 0.0011

Pluto -13851-03-26 14:52 J -3337570.02 -3337569.88 -3337569.73 0.0072 0.0028

Neptune -13851-04-25 14:52 J -3337540.08 -3337539.88 -3337539.68 0.0088 0.0001

Pluto -13851-06-22 16:04 J -3337481.97 -3337481.83 -3337481.67 0.0072 0.0019

Neptune -13851-07-22 18:28 J -3337451.92 -3337451.73 -3337451.53 0.0088 0.0010

Pluto -13851-09-18 17:31 J -3337393.92 -3337393.77 -3337393.62 0.0072 0.0011

Neptune -13851-10-18 22:04 J -3337363.77 -3337363.58 -3337363.38 0.0088 0.0020

Pluto -13851-12-15 18:43 J -3337305.87 -3337305.72 -3337305.56 0.0072 0.0002

Neptune -13850-01-15 01:55 J -3337275.60 -3337275.42 -3337275.23 0.0088 0.0030

Pluto -13850-03-13 19:55 J -3337217.82 -3337217.67 -3337217.51 0.0073 0.0007

Neptune -13850-04-13 05:31 J -3337187.44 -3337187.27 -3337187.09 0.0088 0.0040

Saturn -13850-05-26 01:55 J -3337144.52 -3337144.42 -3337144.32 0.0296 0.0179

Pluto -13850-06-09 21:07 J -3337129.76 -3337129.62 -3337129.46 0.0073 0.0016

Neptune -13850-07-10 09:21 J -3337099.27 -3337099.11 -3337098.95 0.0088 0.0050

Saturn -13850-08-22 13:40 J -3337056.06 -3337055.93 -3337055.80 0.0295 0.0026

Pluto -13850-09-05 22:33 J -3337041.70 -3337041.56 -3337041.41 0.0073 0.0024

Neptune -13850-10-06 12:28 J -3337011.10 -3337010.98 -3337010.81 0.0088 0.0061

Saturn -13850-11-19 01:26 J -3336967.56 -3336967.44 -3336967.33 0.0294 0.0126

Pluto -13850-12-02 23:45 J -3336953.64 -3336953.51 -3336953.36 0.0073 0.0033

Neptune -13849-01-02 16:19 J -3336922.92 -3336922.82 -3336922.68 0.0088 0.0071

Saturn -13849-02-15 12:57 J -3336879.00 -3336878.96 -3336878.92 0.0293 0.0275

Pluto -13849-02-29 01:11 J -3336865.57 -3336865.45 -3336865.32 0.0073 0.0042

Neptune -13849-03-30 19:55 J -3336834.72 -3336834.67 -3336834.57 0.0088 0.0081

Pluto -13849-05-27 02:24 J -3336777.50 -3336777.40 -3336777.28 0.0073 0.0051

Pluto -13849-08-23 03:35 J -3336689.42 -3336689.35 -3336689.25 0.0073 0.0061

Pluto -13849-11-19 05:02 J -3336601.32 -3336601.29 -3336601.23 0.0073 0.0070

Jupiter -13848-01-31 01:11 J -3336528.57 -3336528.45 -3336528.33 0.0525 0.0124

Mars -13848-03-16 08:38 J -3336484.19 -3336484.14 -3336484.08 0.1888 0.1775

Jupiter -13848-04-30 06:00 J -3336439.32 -3336439.25 -3336439.18 0.0524 0.0423

Mars -13846-12-22 02:09 J -3335473.47 -3335473.41 -3335473.35 0.1636 0.1374

Venus -13844-03-04 16:48 J -3335034.86 -3335034.80 -3335034.75 0.3710 0.3015

Mars -13844-11-26 03:21 J -3334768.47 -3334768.36 -3334768.25 0.1629 0.0400

Earth -13843-08-20 11:45 J -3334501.09 -3334501.01 -3334500.92 0.2714 0.1791

Moon -13843-08-20 12:28 J -3334501.06 -3334500.98 -3334500.90 0.2711 0.1804 *

Jupiter -13842-03-26 00:00 J -3334283.69 -3334283.50 -3334283.31 0.0501 0.0091

Venus -13842-12-11 02:52 J -3334023.54 -3334023.38 -3334023.21 0.3659 0.0202

Venus -13839-09-18 07:55 J -3333011.27 -3333011.17 -3333011.08 0.3712 0.1200

Jupiter -13837-11-19 05:45 J -3332218.37 -3332218.26 -3332218.15 0.0526 0.0259

Jupiter -13836-02-16 10:33 J -3332129.16 -3332129.06 -3332128.96 0.0524 0.0290

Moon -13836-08-13 11:02 J -3331951.12 -3331951.04 -3331950.96 0.2723 0.1728

Earth -13836-08-13 11:16 J -3331951.12 -3331951.03 -3331950.95 0.2716 0.1697 *

Mars -13834-04-18 15:07 J -3331337.99 -3331337.87 -3331337.76 0.1630 0.0043

Saturn -13834-06-02 04:48 J -3331293.46 -3331293.30 -3331293.13 0.0267 0.0136

Saturn -13834-08-30 03:21 J -3331204.55 -3331204.36 -3331204.17 0.0268 0.0038

Saturn -13834-11-27 01:55 J -3331115.53 -3331115.42 -3331115.30 0.0269 0.0213

Venus -13833-04-02 23:02 J -3330987.64 -3330987.54 -3330987.44 0.3714 0.0618

Jupiter -13830-01-11 20:09 J -3329973.84 -3329973.66 -3329973.47 0.0500 0.0097

Venus -13828-10-17 14:09 J -3328963.98 -3328963.91 -3328963.83 0.3716 0.2442

Mars -13828-12-04 02:09 J -3328916.54 -3328916.41 -3328916.28 0.1893 0.1258

Jupiter -13825-09-07 09:50 J -3327908.16 -3327908.09 -3327908.01 0.0525 0.0402

Mars -13825-09-08 02:38 J -3327907.50 -3327907.39 -3327907.28 0.1632 0.0460

Jupiter -13825-12-05 14:38 J -3327819.01 -3327818.89 -3327818.77 0.0524 0.0146

Mars -13823-08-14 03:50 J -3327202.40 -3327202.34 -3327202.27 0.1626 0.1308

Earth -13823-08-16 05:02 J -3327200.40 -3327200.29 -3327200.19 0.2715 0.0467

Moon -13823-08-16 05:16 J -3327200.38 -3327200.28 -3327200.17 0.2722 0.0405 *

Saturn -13821-10-12 04:48 J -3326412.38 -3326412.30 -3326412.21 0.0297 0.0214

Saturn -13820-01-08 16:48 J -3326323.93 -3326323.80 -3326323.68 0.0296 0.0060

Saturn -13820-04-07 04:33 J -3326235.43 -3326235.31 -3326235.19 0.0295 0.0093

Saturn -13820-07-04 16:04 J -3326146.90 -3326146.83 -3326146.76 0.0294 0.0244

Moon -13819-02-16 19:26 J -3325919.85 -3325919.69 -3325919.53 0.2617 0.0479

Earth -13819-02-16 21:07 J -3325919.78 -3325919.62 -3325919.46 0.2618 0.0236 *

Jupiter -13819-10-30 16:33 J -3325663.96 -3325663.81 -3325663.65 0.0501 0.0283

Jupiter -13818-01-29 05:31 J -3325573.33 -3325573.27 -3325573.20 0.0502 0.0467

Mars -13818-04-25 18:00 J -3325486.92 -3325486.75 -3325486.58 0.1890 0.0194

Uranus -13816-09-22 19:55 J -3324605.72 -3324605.67 -3324605.59 0.0140 0.0132

Uranus -13816-12-20 04:19 J -3324517.45 -3324517.32 -3324517.18 0.0140 0.0101

Mars -13815-01-29 14:24 J -3324477.00 -3324476.90 -3324476.81 0.1634 0.0890

Uranus -13815-03-18 12:14 J -3324429.14 -3324428.99 -3324428.80 0.0140 0.0071

Uranus -13815-06-14 20:38 J -3324340.82 -3324340.64 -3324340.45 0.0140 0.0040

Uranus -13815-09-11 04:48 J -3324252.49 -3324252.30 -3324252.10 0.0139 0.0010

Uranus -13815-12-08 12:57 J -3324164.15 -3324163.96 -3324163.77 0.0139 0.0021

Uranus -13814-03-06 20:52 J -3324075.81 -3324075.63 -3324075.44 0.0139 0.0051

Uranus -13814-06-03 04:48 J -3323987.45 -3323987.30 -3323987.13 0.0139 0.0081

Uranus -13814-08-30 12:43 J -3323899.08 -3323898.97 -3323898.84 0.0139 0.0110

Mars -13813-01-04 15:35 J -3323771.95 -3323771.85 -3323771.75 0.1627 0.0881

Jupiter -13813-09-23 18:57 J -3323508.83 -3323508.71 -3323508.58 0.0524 0.0018

Earth -13810-08-18 22:48 J -3322449.65 -3322449.55 -3322449.45 0.2715 0.0780

Moon -13810-08-18 23:31 J -3322449.63 -3322449.52 -3322449.42 0.2716 0.0820 *

Mars -13809-09-14 09:35 J -3322057.18 -3322057.10 -3322057.02 0.1887 0.1654

Jupiter -13807-08-18 12:57 J -3321354.02 -3321353.96 -3321353.89 0.0500 0.0468

Jupiter -13807-11-17 01:55 J -3321263.57 -3321263.42 -3321263.26 0.0501 0.0282

Moon -13806-02-20 02:24 J -3321168.49 -3321168.40 -3321168.31 0.2622 0.2108

Earth -13806-02-20 04:04 J -3321168.42 -3321168.33 -3321168.25 0.2619 0.2166 *

Mars -13806-06-22 01:55 J -3321046.48 -3321046.42 -3321046.35 0.1636 0.1322

Saturn -13805-10-19 04:48 J -3320561.45 -3320561.30 -3320561.16 0.0266 0.0176

Saturn -13804-01-16 03:07 J -3320472.56 -3320472.37 -3320472.17 0.0267 0.0007

Saturn -13804-04-15 01:40 J -3320383.57 -3320383.43 -3320383.28 0.0268 0.0171

Mars -13804-05-27 03:21 J -3320341.47 -3320341.36 -3320341.25 0.1629 0.0457

Moon -13803-08-11 21:35 J -3319899.60 -3319899.60 -3319899.59 0.2722 0.2704

Earth -13803-08-11 22:19 J -3319899.59 -3319899.57 -3319899.56 0.2717 0.2676 *

Jupiter -13801-07-12 23:16 J -3319198.65 -3319198.53 -3319198.41 0.0525 0.0135

Jupiter -13801-10-10 03:50 J -3319109.41 -3319109.34 -3319109.26 0.0524 0.0412

Earth -13797-08-20 16:48 J -3317698.87 -3317698.80 -3317698.73 0.2714 0.2035

Moon -13797-08-20 17:16 J -3317698.84 -3317698.78 -3317698.71 0.2711 0.2181 *

Jupiter -13795-09-04 22:19 J -3316953.76 -3316953.57 -3316953.39 0.0501 0.0094

Mars -13795-10-17 14:52 J -3316910.99 -3316910.88 -3316910.76 0.1630 0.0056

Saturn -13791-03-01 07:40 J -3315680.24 -3315680.18 -3315680.11 0.0297 0.0251

Saturn -13791-05-28 19:40 J -3315591.80 -3315591.68 -3315591.56 0.0296 0.0096

Saturn -13791-08-25 07:26 J -3315503.32 -3315503.19 -3315503.07 0.0295 0.0057

Saturn -13791-11-21 18:57 J -3315414.80 -3315414.71 -3315414.62 0.0294 0.0208

Moon -13790-08-14 16:04 J -3315148.92 -3315148.83 -3315148.74 0.2723 0.1489

Earth -13790-08-14 16:04 J -3315148.92 -3315148.83 -3315148.74 0.2716 0.1454 *

Jupiter -13789-05-01 03:50 J -3314888.45 -3314888.34 -3314888.23 0.0525 0.0271

Jupiter -13789-07-29 08:24 J -3314799.25 -3314799.15 -3314799.04 0.0524 0.0279

Mars -13788-06-04 03:07 J -3314489.49 -3314489.37 -3314489.26 0.1893 0.1383

Venus -13788-10-09 14:09 J -3314361.99 -3314361.91 -3314361.84 0.3711 0.2360

Moon -13786-02-14 19:11 J -3313868.76 -3313868.70 -3313868.63 0.2612 0.2347

Earth -13786-02-14 20:38 J -3313868.73 -3313868.64 -3313868.56 0.2617 0.2233 *

Mars -13785-03-09 02:38 J -3313480.50 -3313480.39 -3313480.28 0.1632 0.0401

Venus -13785-07-17 06:00 J -3313350.38 -3313350.25 -3313350.13 0.3658 0.2449

Mars -13783-02-12 03:50 J -3312775.40 -3312775.34 -3312775.28 0.1626 0.1362

Jupiter -13783-06-23 18:00 J -3312643.94 -3312643.75 -3312643.57 0.0500 0.0102

Venus -13782-04-25 05:16 J -3312338.38 -3312338.28 -3312338.18 0.3713 0.0562

Mars -13779-10-24 18:57 J -3311059.88 -3311059.71 -3311059.54 0.1890 0.0063

Jupiter -13777-02-18 08:24 J -3310578.23 -3310578.15 -3310578.07 0.0526 0.0405

Jupiter -13777-05-17 13:11 J -3310489.07 -3310488.95 -3310488.83 0.0525 0.0144

Earth -13777-08-16 09:50 J -3310398.20 -3310398.09 -3310397.98 0.2715 0.0223

Moon -13777-08-16 10:19 J -3310398.18 -3310398.07 -3310397.97 0.2721 0.0210 *

Venus -13777-11-07 20:24 J -3310314.74 -3310314.65 -3310314.56 0.3715 0.1272

Mars -13776-07-30 14:24 J -3310050.00 -3310049.90 -3310049.80 0.1634 0.0833

Saturn -13775-03-08 03:21 J -3309829.46 -3309829.36 -3309829.25 0.0266 0.0224

Saturn -13775-06-05 01:55 J -3309740.61 -3309740.42 -3309740.23 0.0267 0.0052

Saturn -13775-09-02 00:14 J -3309651.65 -3309651.49 -3309651.31 0.0268 0.0122

Mars -13774-07-05 15:35 J -3309344.94 -3309344.85 -3309344.76 0.1627 0.0938

Moon -13773-02-18 01:55 J -3309117.58 -3309117.42 -3309117.26 0.2618 0.0089

Earth -13773-02-18 03:50 J -3309117.50 -3309117.34 -3309117.19 0.2618 0.0231 *

Neptune -13772-09-02 00:00 J -3308555.53 -3308555.50 -3308555.44 0.0089 0.0085

Neptune -13772-11-29 01:11 J -3308467.50 -3308467.45 -3308467.37 0.0089 0.0078

Uranus -13772-11-30 19:11 J -3308465.72 -3308465.70 -3308465.67 0.0138 0.0134

Neptune -13771-02-25 02:38 J -3308379.46 -3308379.39 -3308379.30 0.0089 0.0070

Uranus -13771-02-26 22:19 J -3308377.63 -3308377.57 -3308377.49 0.0138 0.0115

Jupiter -13771-04-11 14:09 J -3308334.06 -3308333.91 -3308333.75 0.0500 0.0286

Neptune -13771-05-24 03:50 J -3308291.42 -3308291.34 -3308291.23 0.0089 0.0064

Venus -13771-05-24 11:31 J -3308291.07 -3308291.02 -3308290.97 0.3716 0.3087

Uranus -13771-05-26 01:26 J -3308289.53 -3308289.44 -3308289.34 0.0139 0.0096

Jupiter -13771-07-11 02:52 J -3308243.44 -3308243.38 -3308243.30 0.0501 0.0462

Neptune -13771-08-20 05:31 J -3308203.37 -3308203.27 -3308203.17 0.0089 0.0056

Uranus -13771-08-22 04:48 J -3308201.41 -3308201.30 -3308201.19 0.0139 0.0076

Neptune -13771-11-16 06:43 J -3308115.33 -3308115.22 -3308115.11 0.0089 0.0049

Uranus -13771-11-18 07:55 J -3308113.29 -3308113.17 -3308113.05 0.0139 0.0056

Neptune -13770-02-12 07:55 J -3308027.28 -3308027.17 -3308027.05 0.0089 0.0042

Uranus -13770-02-14 11:02 J -3308025.16 -3308025.04 -3308024.91 0.0139 0.0037

Neptune -13770-05-11 09:21 J -3307939.23 -3307939.11 -3307938.99 0.0089 0.0035

Uranus -13770-05-13 14:24 J -3307937.03 -3307936.90 -3307936.77 0.0139 0.0017

Neptune -13770-08-07 10:33 J -3307851.18 -3307851.06 -3307850.93 0.0089 0.0028

Uranus -13770-08-09 17:31 J -3307848.90 -3307848.77 -3307848.64 0.0139 0.0004

Neptune -13770-11-03 11:45 J -3307763.13 -3307763.01 -3307762.88 0.0089 0.0021

Uranus -13770-11-05 20:38 J -3307760.76 -3307760.64 -3307760.51 0.0139 0.0024

Neptune -13769-01-30 13:11 J -3307675.08 -3307674.95 -3307674.82 0.0089 0.0014

Uranus -13769-02-02 00:00 J -3307672.62 -3307672.50 -3307672.38 0.0139 0.0044

Mars -13769-03-15 10:33 J -3307630.16 -3307630.06 -3307629.96 0.1887 0.1522

Neptune -13769-04-27 14:24 J -3307587.03 -3307586.90 -3307586.77 0.0089 0.0007

Uranus -13769-04-30 03:21 J -3307584.48 -3307584.36 -3307584.25 0.0140 0.0064

Neptune -13769-07-24 15:35 J -3307498.98 -3307498.85 -3307498.71 0.0089 0.0004

Uranus -13769-07-27 06:14 J -3307496.33 -3307496.24 -3307496.12 0.0140 0.0085

Neptune -13769-10-20 17:02 J -3307410.92 -3307410.79 -3307410.66 0.0089 0.0008

Uranus -13769-10-23 09:35 J -3307408.18 -3307408.10 -3307408.01 0.0140 0.0105

Neptune -13768-01-16 18:14 J -3307322.87 -3307322.74 -3307322.61 0.0089 0.0015

Uranus -13768-01-19 12:57 J -3307320.01 -3307319.96 -3307319.90 0.0140 0.0125

Neptune -13768-04-14 19:26 J -3307234.81 -3307234.69 -3307234.56 0.0089 0.0022

Neptune -13768-07-11 20:38 J -3307146.75 -3307146.64 -3307146.51 0.0089 0.0030

Neptune -13768-10-07 22:04 J -3307058.70 -3307058.58 -3307058.46 0.0089 0.0036

Neptune -13767-01-03 23:16 J -3306970.64 -3306970.53 -3306970.41 0.0089 0.0043

Pluto -13767-03-13 16:04 J -3306901.84 -3306901.83 -3306901.77 0.0072 0.0071

Neptune -13767-04-02 00:28 J -3306882.58 -3306882.48 -3306882.36 0.0089 0.0051

Pluto -13767-06-09 18:14 J -3306813.83 -3306813.74 -3306813.66 0.0072 0.0061

Neptune -13767-06-29 01:55 J -3306794.51 -3306794.42 -3306794.31 0.0089 0.0057

Pluto -13767-09-05 19:40 J -3306725.79 -3306725.68 -3306725.57 0.0072 0.0051

Neptune -13767-09-25 03:07 J -3306706.45 -3306706.37 -3306706.27 0.0089 0.0065

Pluto -13767-12-02 20:38 J -3306637.75 -3306637.64 -3306637.49 0.0072 0.0043

Mars -13767-12-21 01:55 J -3306619.49 -3306619.42 -3306619.35 0.1636 0.1267

Neptune -13767-12-22 04:33 J -3306618.38 -3306618.31 -3306618.23 0.0089 0.0071

Pluto -13766-02-28 22:19 J -3306549.70 -3306549.57 -3306549.42 0.0072 0.0034

Neptune -13766-03-20 05:45 J -3306530.31 -3306530.26 -3306530.19 0.0089 0.0079

Pluto -13766-05-27 23:45 J -3306461.65 -3306461.51 -3306461.35 0.0072 0.0025

Neptune -13766-06-16 06:57 J -3306442.23 -3306442.21 -3306442.16 0.0089 0.0086

Pluto -13766-08-24 01:26 J -3306373.60 -3306373.44 -3306373.28 0.0072 0.0016

Pluto -13766-11-20 02:38 J -3306285.54 -3306285.39 -3306285.22 0.0071 0.0008

Pluto -13765-02-16 04:04 J -3306197.49 -3306197.33 -3306197.16 0.0071 0.0002

Jupiter -13765-03-05 17:31 J -3306178.90 -3306178.77 -3306178.65 0.0525 0.0014

Pluto -13765-05-14 05:31 J -3306109.43 -3306109.27 -3306109.11 0.0071 0.0010

Pluto -13765-08-10 06:57 J -3306021.37 -3306021.21 -3306021.06 0.0071 0.0019

Pluto -13765-11-06 08:09 J -3305933.30 -3305933.16 -3305933.01 0.0071 0.0027

Mars -13765-11-25 03:07 J -3305914.47 -3305914.37 -3305914.26 0.1628 0.0513

Pluto -13764-02-02 09:35 J -3305845.24 -3305845.10 -3305844.96 0.0071 0.0035

Pluto -13764-05-01 10:33 J -3305757.17 -3305757.06 -3305756.92 0.0071 0.0044

Pluto -13764-07-28 12:00 J -3305669.10 -3305669.00 -3305668.88 0.0071 0.0052

Earth -13764-08-19 03:35 J -3305647.45 -3305647.35 -3305647.25 0.2715 0.1024

Moon -13764-08-19 04:19 J -3305647.42 -3305647.32 -3305647.22 0.2714 0.1147 *

Pluto -13764-10-24 13:11 J -3305581.02 -3305580.95 -3305580.85 0.0071 0.0060

Pluto -13763-01-20 14:38 J -3305492.92 -3305492.89 -3305492.84 0.0070 0.0068

Saturn -13762-07-19 10:19 J -3304948.09 -3304948.07 -3304948.04 0.0297 0.0291

Saturn -13762-10-15 22:19 J -3304859.69 -3304859.57 -3304859.46 0.0296 0.0135

Saturn -13761-01-12 10:04 J -3304771.21 -3304771.08 -3304770.95 0.0295 0.0019

Saturn -13761-04-09 21:50 J -3304682.70 -3304682.59 -3304682.49 0.0294 0.0170

Moon -13760-02-20 09:07 J -3304366.18 -3304366.12 -3304366.05 0.2622 0.2374

Jupiter -13759-01-28 10:19 J -3304024.12 -3304024.07 -3304024.01 0.0501 0.0475

Jupiter -13759-04-28 23:31 J -3303933.68 -3303933.52 -3303933.36 0.0502 0.0275

Moon -13757-08-12 02:38 J -3303097.42 -3303097.39 -3303097.36 0.2721 0.2567

Earth -13757-08-12 03:07 J -3303097.42 -3303097.37 -3303097.33 0.2717 0.2438 *

Mars -13755-04-17 14:52 J -3302483.99 -3302483.88 -3302483.76 0.1630 0.0084

Jupiter -13754-12-23 21:50 J -3301868.71 -3301868.59 -3301868.47 0.0525 0.0134

Jupiter -13753-03-22 02:38 J -3301779.47 -3301779.39 -3301779.32 0.0523 0.0412

Earth -13751-08-21 21:35 J -3300896.66 -3300896.60 -3300896.55 0.2714 0.2284

Moon -13751-08-21 22:04 J -3300896.63 -3300896.58 -3300896.52 0.2710 0.2295 *

Mars -13749-12-03 04:04 J -3300062.43 -3300062.33 -3300062.23 0.1893 0.1513

Jupiter -13747-02-14 19:55 J -3299623.85 -3299623.67 -3299623.48 0.0501 0.0091

Mars -13746-09-08 02:38 J -3299053.50 -3299053.39 -3299053.28 0.1632 0.0349

Saturn -13746-10-23 00:57 J -3299008.64 -3299008.46 -3299008.27 0.0267 0.0098

Saturn -13745-01-19 23:31 J -3298919.70 -3298919.52 -3298919.33 0.0267 0.0075

Saturn -13745-04-17 21:50 J -3298830.64 -3298830.59 -3298830.51 0.0268 0.0251

Mars -13744-08-13 03:50 J -3298348.39 -3298348.34 -3298348.29 0.1626 0.1415

Earth -13744-08-14 20:52 J -3298346.73 -3298346.63 -3298346.53 0.2716 0.1214

Moon -13744-08-14 20:52 J -3298346.72 -3298346.63 -3298346.53 0.2723 0.1164 *

Jupiter -13742-10-12 02:09 J -3297558.52 -3297558.41 -3297558.31 0.0525 0.0276

Jupiter -13741-01-09 06:43 J -3297469.32 -3297469.22 -3297469.11 0.0524 0.0272

Moon -13740-02-15 01:55 J -3297066.52 -3297066.42 -3297066.31 0.2613 0.1926

Earth -13740-02-15 03:21 J -3297066.48 -3297066.36 -3297066.24 0.2617 0.1754 *

Mars -13739-04-24 19:40 J -3296632.86 -3296632.68 -3296632.51 0.1890 0.0061

Venus -13737-10-30 20:09 J -3295712.69 -3295712.66 -3295712.63 0.3709 0.3510

Mars -13736-01-28 14:09 J -3295623.01 -3295622.91 -3295622.81 0.1634 0.0780

Jupiter -13736-12-03 16:19 J -3295314.00 -3295313.82 -3295313.63 0.0501 0.0095

Mars -13734-01-03 15:35 J -3294917.94 -3294917.85 -3294917.76 0.1627 0.0992

Venus -13734-08-07 20:24 J -3294701.78 -3294701.65 -3294701.52 0.3660 0.2246

Saturn -13732-03-04 00:43 J -3294127.57 -3294127.47 -3294127.37 0.0297 0.0177

Saturn -13732-05-31 12:28 J -3294039.11 -3294038.98 -3294038.85 0.0296 0.0023

Saturn -13732-08-28 00:14 J -3293950.60 -3293950.49 -3293950.37 0.0294 0.0129

Uranus -13732-10-13 03:35 J -3293904.42 -3293904.35 -3293904.24 0.0140 0.0123

Saturn -13732-11-24 11:45 J -3293862.04 -3293862.01 -3293861.97 0.0293 0.0280

Uranus -13731-01-09 12:00 J -3293816.13 -3293816.00 -3293815.84 0.0140 0.0092

Uranus -13731-04-07 20:24 J -3293727.82 -3293727.65 -3293727.47 0.0140 0.0061

Venus -13731-05-16 11:16 J -3293689.12 -3293689.03 -3293688.94 0.3711 0.1707

Uranus -13731-07-05 04:33 J -3293639.50 -3293639.31 -3293639.11 0.0140 0.0031

Earth -13731-08-17 14:38 J -3293596.00 -3293595.89 -3293595.78 0.2715 0.0046

Moon -13731-08-17 15:07 J -3293595.98 -3293595.87 -3293595.76 0.2720 0.0084 *

Uranus -13731-10-01 12:43 J -3293551.16 -3293550.97 -3293550.77 0.0140 0.0001

Uranus -13731-12-28 20:38 J -3293462.82 -3293462.64 -3293462.44 0.0139 0.0030

Uranus -13730-03-27 04:33 J -3293374.47 -3293374.31 -3293374.12 0.0139 0.0061

Uranus -13730-06-23 12:28 J -3293286.11 -3293285.98 -3293285.82 0.0139 0.0090

Jupiter -13730-07-31 06:28 J -3293248.30 -3293248.23 -3293248.15 0.0526 0.0412

Mars -13730-09-14 11:16 J -3293203.14 -3293203.03 -3293202.91 0.1888 0.1400

Uranus -13730-09-19 20:38 J -3293197.73 -3293197.64 -3293197.54 0.0139 0.0119

Jupiter -13730-10-28 11:16 J -3293159.15 -3293159.03 -3293158.90 0.0525 0.0138

Moon -13727-02-18 08:38 J -3292315.30 -3292315.14 -3292314.98 0.2619 0.0478

Earth -13727-02-18 10:19 J -3292315.22 -3292315.07 -3292314.91 0.2618 0.0688 *

Mars -13727-06-21 01:55 J -3292192.49 -3292192.42 -3292192.34 0.1636 0.1209

Venus -13726-11-30 02:38 J -3291665.49 -3291665.39 -3291665.29 0.3713 0.0187

Mars -13725-05-26 03:07 J -3291487.47 -3291487.37 -3291487.26 0.1629 0.0567

Jupiter -13724-09-21 12:14 J -3291004.14 -3291003.99 -3291003.83 0.0500 0.0286

Jupiter -13724-12-21 01:11 J -3290913.52 -3290913.45 -3290913.38 0.0501 0.0462

Venus -13720-06-14 17:45 J -3289641.85 -3289641.76 -3289641.68 0.3715 0.1926

Jupiter -13718-08-16 16:04 J -3288848.96 -3288848.83 -3288848.70 0.0525 0.0004

Earth -13718-08-20 08:24 J -3288845.24 -3288845.15 -3288845.05 0.2714 0.1274

Moon -13718-08-20 09:07 J -3288845.21 -3288845.12 -3288845.02 0.2714 0.1349 *

Saturn -13716-03-10 23:16 J -3288276.69 -3288276.53 -3288276.37 0.0266 0.0151

Saturn -13716-06-07 21:35 J -3288187.79 -3288187.60 -3288187.40 0.0267 0.0022

Saturn -13716-09-04 19:55 J -3288098.79 -3288098.67 -3288098.53 0.0268 0.0196

Mars -13716-10-16 14:52 J -3288056.99 -3288056.88 -3288056.76 0.1630 0.0141

Jupiter -13712-07-10 08:38 J -3286694.20 -3286694.14 -3286694.07 0.0500 0.0470

Jupiter -13712-10-08 21:35 J -3286603.75 -3286603.60 -3286603.44 0.0501 0.0278

Moon -13711-08-13 07:26 J -3286295.25 -3286295.19 -3286295.13 0.2722 0.2199

Earth -13711-08-13 07:55 J -3286295.23 -3286295.17 -3286295.11 0.2717 0.2199 *

Mars -13709-06-03 05:02 J -3285635.37 -3285635.29 -3285635.21 0.1893 0.1646

Mars -13706-03-09 02:38 J -3284626.51 -3284626.39 -3284626.28 0.1632 0.0299

Jupiter -13706-06-04 20:24 J -3284538.77 -3284538.65 -3284538.52 0.0525 0.0136

Jupiter -13706-09-02 01:11 J -3284449.53 -3284449.45 -3284449.37 0.0523 0.0411

Earth -13705-08-22 02:24 J -3284094.44 -3284094.40 -3284094.36 0.2714 0.2531

Moon -13705-08-22 02:52 J -3284094.40 -3284094.38 -3284094.36 0.2709 0.2627 *

Mars -13704-02-11 03:50 J -3283921.39 -3283921.34 -3283921.29 0.1625 0.1471

Saturn -13703-07-22 02:52 J -3283395.46 -3283395.38 -3283395.29 0.0297 0.0221

Saturn -13703-10-18 14:52 J -3283307.01 -3283306.88 -3283306.76 0.0296 0.0067

Saturn -13702-01-15 02:38 J -3283218.52 -3283218.39 -3283218.27 0.0295 0.0088

Saturn -13702-04-13 14:09 J -3283129.98 -3283129.91 -3283129.83 0.0294 0.0239

Jupiter -13700-07-27 17:45 J -3282293.94 -3282293.76 -3282293.57 0.0501 0.0090

Mars -13700-10-23 20:38 J -3282205.82 -3282205.64 -3282205.47 0.1891 0.0185

Moon -13698-08-16 01:40 J -3281544.53 -3281544.43 -3281544.33 0.2723 0.1018

Earth -13698-08-16 01:40 J -3281544.53 -3281544.43 -3281544.33 0.2716 0.0972 *

Mars -13697-07-29 14:09 J -3281196.01 -3281195.91 -3281195.81 0.1634 0.0724

Mars -13695-07-04 15:21 J -3280490.94 -3280490.86 -3280490.77 0.1627 0.1046

Moon -13694-02-16 08:24 J -3280264.28 -3280264.15 -3280264.01 0.2615 0.1376

Earth -13694-02-16 10:04 J -3280264.22 -3280264.08 -3280263.94 0.2618 0.1289 *

Jupiter -13694-03-24 01:11 J -3280228.56 -3280228.45 -3280228.35 0.0525 0.0269

Jupiter -13694-06-21 05:45 J -3280139.37 -3280139.26 -3280139.15 0.0524 0.0277

Mars -13690-03-15 12:14 J -3278776.11 -3278775.99 -3278775.86 0.1887 0.1268

Neptune -13688-02-14 06:00 J -3278074.30 -3278074.25 -3278074.15 0.0088 0.0081

Neptune -13688-05-13 09:50 J -3277986.19 -3277986.09 -3277985.96 0.0088 0.0071

Jupiter -13688-05-15 14:38 J -3277984.08 -3277983.89 -3277983.71 0.0501 0.0094

Neptune -13688-08-09 13:55 J -3277898.06 -3277897.92 -3277897.78 0.0088 0.0060

Neptune -13688-11-05 17:31 J -3277809.93 -3277809.77 -3277809.60 0.0088 0.0050

Mars -13688-12-20 01:55 J -3277765.50 -3277765.42 -3277765.34 0.1636 0.1155

Uranus -13688-12-21 02:24 J -3277764.43 -3277764.40 -3277764.35 0.0138 0.0129

Neptune -13687-02-01 21:07 J -3277721.79 -3277721.62 -3277721.43 0.0088 0.0040

Uranus -13687-03-19 05:31 J -3277676.34 -3277676.27 -3277676.18 0.0138 0.0110

Neptune -13687-05-01 00:57 J -3277633.64 -3277633.46 -3277633.27 0.0088 0.0030

Uranus -13687-06-15 08:52 J -3277588.23 -3277588.13 -3277588.03 0.0139 0.0091

Neptune -13687-07-28 04:33 J -3277545.49 -3277545.31 -3277545.10 0.0088 0.0020

Saturn -13687-07-28 21:50 J -3277544.71 -3277544.59 -3277544.46 0.0266 0.0198

Uranus -13687-09-11 12:00 J -3277500.11 -3277500.00 -3277499.89 0.0139 0.0071

Neptune -13687-10-24 08:38 J -3277457.34 -3277457.14 -3277456.95 0.0088 0.0009

Saturn -13687-10-25 20:24 J -3277455.84 -3277455.65 -3277455.46 0.0267 0.0027

Uranus -13687-12-08 15:07 J -3277411.99 -3277411.87 -3277411.75 0.0139 0.0052

Neptune -13686-01-20 12:14 J -3277369.19 -3277368.99 -3277368.79 0.0088 0.0001

Saturn -13686-01-22 18:43 J -3277366.88 -3277366.72 -3277366.55 0.0267 0.0146

Uranus -13686-03-06 18:28 J -3277323.86 -3277323.73 -3277323.61 0.0139 0.0032

Neptune -13686-04-18 16:04 J -3277281.03 -3277280.83 -3277280.64 0.0088 0.0011

Uranus -13686-06-02 21:35 J -3277235.73 -3277235.60 -3277235.47 0.0139 0.0012

Neptune -13686-07-15 19:26 J -3277192.87 -3277192.69 -3277192.49 0.0088 0.0022

Uranus -13686-08-30 00:43 J -3277147.60 -3277147.47 -3277147.34 0.0139 0.0009

Neptune -13686-10-11 23:16 J -3277104.71 -3277104.53 -3277104.34 0.0088 0.0032

Mars -13686-11-25 03:07 J -3277060.47 -3277060.37 -3277060.26 0.1628 0.0620

Uranus -13686-11-26 04:04 J -3277059.46 -3277059.33 -3277059.20 0.0139 0.0028

Neptune -13685-01-08 02:52 J -3277016.54 -3277016.38 -3277016.19 0.0088 0.0042

Uranus -13685-02-22 07:11 J -3276971.32 -3276971.20 -3276971.08 0.0139 0.0048

Neptune -13685-04-05 06:43 J -3276928.37 -3276928.22 -3276928.06 0.0088 0.0052

Uranus -13685-05-20 10:19 J -3276883.18 -3276883.07 -3276882.95 0.0140 0.0069

Neptune -13685-07-02 10:19 J -3276840.20 -3276840.07 -3276839.92 0.0088 0.0062

Uranus -13685-08-16 13:40 J -3276795.03 -3276794.93 -3276794.83 0.0140 0.0089

Earth -13685-08-17 19:26 J -3276793.80 -3276793.69 -3276793.58 0.2715 0.0268

Moon -13685-08-17 19:55 J -3276793.77 -3276793.67 -3276793.56 0.2718 0.0391 *

Neptune -13685-09-28 14:09 J -3276752.02 -3276751.91 -3276751.79 0.0088 0.0072

Uranus -13685-11-12 17:02 J -3276706.87 -3276706.79 -3276706.71 0.0140 0.0109

Neptune -13685-12-25 17:31 J -3276663.82 -3276663.77 -3276663.69 0.0088 0.0083

Uranus -13684-02-08 20:09 J -3276618.70 -3276618.66 -3276618.61 0.0140 0.0130

Jupiter -13682-01-10 05:16 J -3275918.35 -3275918.28 -3275918.20 0.0525 0.0410

Jupiter -13682-04-09 10:04 J -3275829.20 -3275829.08 -3275828.96 0.0524 0.0137

Moon -13681-02-19 15:21 J -3275513.01 -3275512.86 -3275512.71 0.2619 0.0972

Earth -13681-02-19 17:02 J -3275512.93 -3275512.79 -3275512.64 0.2618 0.1159 *

Venus -13680-06-06 17:31 J -3275039.83 -3275039.77 -3275039.71 0.3709 0.2856

Mars -13678-05-12 13:26 J -3274334.96 -3274334.94 -3274334.91 0.1639 0.1589

Venus -13677-03-13 23:31 J -3274028.69 -3274028.52 -3274028.36 0.3660 0.0100

Jupiter -13676-03-03 11:02 J -3273674.19 -3273674.04 -3273673.88 0.0501 0.0277

Mars -13676-04-16 14:52 J -3273630.00 -3273629.88 -3273629.77 0.1630 0.0193

Jupiter -13676-06-02 00:00 J -3273583.55 -3273583.50 -3273583.43 0.0502 0.0473

Venus -13675-12-21 08:38 J -3273016.23 -3273016.14 -3273016.04 0.3711 0.1051

Saturn -13674-12-09 04:48 J -3272663.35 -3272663.30 -3272663.24 0.0298 0.0269

Saturn -13673-03-06 16:48 J -3272574.92 -3272574.80 -3272574.68 0.0297 0.0114

Saturn -13673-06-03 04:33 J -3272486.44 -3272486.31 -3272486.18 0.0295 0.0040

Saturn -13673-08-30 16:19 J -3272397.92 -3272397.82 -3272397.72 0.0294 0.0192

Earth -13672-08-20 13:11 J -3272043.04 -3272042.95 -3272042.86 0.2714 0.1523

Moon -13672-08-20 13:55 J -3272043.00 -3272042.92 -3272042.83 0.2714 0.1625 *

Jupiter -13670-01-26 14:38 J -3271519.02 -3271518.89 -3271518.76 0.0525 0.0003

Mars -13670-12-03 05:31 J -3271208.33 -3271208.27 -3271208.20 0.1894 0.1757

Venus -13669-07-06 00:00 J -3270992.60 -3270992.50 -3270992.41 0.3713 0.0784

Mars -13667-09-07 02:24 J -3270199.51 -3270199.40 -3270199.28 0.1632 0.0244

Mars -13665-08-12 03:50 J -3269494.38 -3269494.34 -3269494.31 0.1626 0.1526

Moon -13665-08-13 12:28 J -3269493.05 -3269492.98 -3269492.91 0.2723 0.2052

Earth -13665-08-13 12:43 J -3269493.04 -3269492.97 -3269492.90 0.2717 0.1957 *

Jupiter -13665-12-20 07:11 J -3269364.26 -3269364.20 -3269364.13 0.0500 0.0464

Jupiter -13664-03-20 20:09 J -3269273.81 -3269273.66 -3269273.50 0.0501 0.0284

Venus -13663-01-19 15:07 J -3268968.94 -3268968.87 -3268968.80 0.3715 0.2583

Mars -13660-04-23 21:50 J -3267778.76 -3267778.59 -3267778.42 0.1891 0.0326

Jupiter -13659-11-14 19:26 J -3267208.82 -3267208.69 -3267208.57 0.0525 0.0131

Jupiter -13658-02-12 00:00 J -3267119.57 -3267119.50 -3267119.42 0.0524 0.0418

Saturn -13658-12-15 19:40 J -3266812.73 -3266812.68 -3266812.63 0.0266 0.0255

Mars -13657-01-28 14:09 J -3266769.01 -3266768.91 -3266768.80 0.1634 0.0667

Saturn -13657-03-13 18:00 J -3266723.94 -3266723.75 -3266723.57 0.0266 0.0085

Saturn -13657-06-10 16:19 J -3266635.00 -3266634.82 -3266634.64 0.0267 0.0088

Saturn -13657-09-07 14:52 J -3266545.92 -3266545.88 -3266545.84 0.0268 0.0262

Mars -13655-01-02 15:21 J -3266063.94 -3266063.86 -3266063.77 0.1627 0.1104

Jupiter -13652-01-06 16:48 J -3264963.98 -3264963.80 -3264963.61 0.0501 0.0101

Earth -13652-08-16 06:28 J -3264742.34 -3264742.23 -3264742.13 0.2716 0.0729

Moon -13652-08-16 06:43 J -3264742.33 -3264742.22 -3264742.12 0.2723 0.0658 *

Mars -13651-09-13 13:11 J -3264349.09 -3264348.95 -3264348.82 0.1888 0.1145

Moon -13648-02-16 15:07 J -3263462.02 -3263461.87 -3263461.72 0.2616 0.1087

Earth -13648-02-16 16:48 J -3263461.95 -3263461.80 -3263461.65 0.2618 0.0810 *

Mars -13648-06-20 01:55 J -3263338.51 -3263338.42 -3263338.34 0.1636 0.1101

Uranus -13648-11-02 11:16 J -3263203.13 -3263203.03 -3263202.91 0.0140 0.0115

Uranus -13647-01-29 19:40 J -3263114.84 -3263114.68 -3263114.53 0.0140 0.0084

Uranus -13647-04-28 03:35 J -3263026.52 -3263026.35 -3263026.16 0.0140 0.0054

Uranus -13647-07-25 12:00 J -3262938.19 -3262938.00 -3262937.81 0.0140 0.0023

Jupiter -13647-09-03 00:00 J -3262898.61 -3262898.50 -3262898.39 0.0525 0.0266

Uranus -13647-10-21 20:09 J -3262849.86 -3262849.66 -3262849.47 0.0140 0.0008

Jupiter -13647-12-01 04:33 J -3262809.41 -3262809.31 -3262809.20 0.0524 0.0281

Uranus -13646-01-18 04:04 J -3262761.52 -3262761.33 -3262761.14 0.0139 0.0038

Uranus -13646-04-16 12:00 J -3262673.16 -3262673.00 -3262672.82 0.0139 0.0068

Mars -13646-05-26 03:07 J -3262633.47 -3262633.37 -3262633.27 0.1628 0.0675

Uranus -13646-07-13 19:55 J -3262584.80 -3262584.67 -3262584.52 0.0139 0.0098

Uranus -13646-10-10 03:50 J -3262496.40 -3262496.34 -3262496.25 0.0139 0.0127

Saturn -13644-07-24 18:28 J -3261842.84 -3261842.73 -3261842.62 0.0297 0.0164

Saturn -13644-10-21 06:14 J -3261754.36 -3261754.24 -3261754.11 0.0296 0.0012

Saturn -13643-01-17 18:00 J -3261665.86 -3261665.75 -3261665.63 0.0295 0.0144

Jupiter -13641-10-25 12:43 J -3260654.15 -3260653.97 -3260653.78 0.0501 0.0092

Earth -13639-08-19 00:14 J -3259991.60 -3259991.49 -3259991.38 0.2715 0.0514

Moon -13639-08-19 00:57 J -3259991.57 -3259991.46 -3259991.36 0.2718 0.0552 *

Mars -13639-11-10 13:26 J -3259907.98 -3259907.94 -3259907.90 0.1638 0.1534

Mars -13637-10-15 14:52 J -3259203.00 -3259202.88 -3259202.77 0.1630 0.0254

Moon -13635-02-19 22:04 J -3258710.71 -3258710.58 -3258710.45 0.2620 0.1467

Earth -13635-02-19 23:45 J -3258710.63 -3258710.51 -3258710.38 0.2618 0.1616 *

Jupiter -13635-06-22 04:33 J -3258588.39 -3258588.31 -3258588.23 0.0525 0.0398

Jupiter -13635-09-19 09:21 J -3258499.23 -3258499.11 -3258498.99 0.0524 0.0149

Jupiter -13629-08-13 09:35 J -3256344.26 -3256344.10 -3256343.94 0.0501 0.0271

Jupiter -13629-11-11 22:33 J -3256253.60 -3256253.56 -3256253.50 0.0502 0.0480

Saturn -13628-07-31 16:04 J -3255991.99 -3255991.83 -3255991.66 0.0266 0.0136

Saturn -13628-10-28 14:24 J -3255903.09 -3255902.90 -3255902.71 0.0266 0.0035

Saturn -13627-01-25 12:57 J -3255814.08 -3255813.96 -3255813.84 0.0267 0.0208

Mars -13627-03-08 02:24 J -3255772.51 -3255772.40 -3255772.28 0.1632 0.0185

Earth -13626-08-21 18:00 J -3255240.83 -3255240.75 -3255240.66 0.2714 0.1771

Moon -13626-08-21 18:43 J -3255240.80 -3255240.72 -3255240.64 0.2713 0.1864 *

Mars -13625-02-11 03:35 J -3255067.37 -3255067.35 -3255067.32 0.1625 0.1579

Venus -13623-01-11 14:52 J -3254366.96 -3254366.88 -3254366.80 0.3710 0.2198

Jupiter -13623-07-08 13:40 J -3254189.06 -3254188.93 -3254188.81 0.0524 0.0021

Venus -13621-10-19 02:09 J -3253355.54 -3253355.41 -3253355.28 0.3659 0.2189

Mars -13621-10-22 22:04 J -3253351.74 -3253351.58 -3253351.41 0.1891 0.0429

Moon -13619-08-14 17:16 J -3252690.86 -3252690.78 -3252690.69 0.2724 0.1694

Earth -13619-08-14 17:31 J -3252690.85 -3252690.77 -3252690.69 0.2716 0.1716 *

Venus -13618-07-28 06:00 J -3252343.35 -3252343.25 -3252343.15 0.3712 0.0395

Mars -13618-07-29 14:09 J -3252342.02 -3252341.91 -3252341.81 0.1634 0.0612

Jupiter -13617-06-01 06:14 J -3252034.31 -3252034.24 -3252034.16 0.0501 0.0452

Jupiter -13617-08-30 19:26 J -3251943.84 -3251943.69 -3251943.54 0.0502 0.0298

Mars -13616-07-03 15:21 J -3251636.94 -3251636.86 -3251636.78 0.1627 0.1156

Saturn -13615-12-11 20:09 J -3251110.75 -3251110.66 -3251110.58 0.0298 0.0217

Saturn -13614-03-10 07:55 J -3251022.29 -3251022.17 -3251022.04 0.0297 0.0061

Saturn -13614-06-06 19:40 J -3250933.80 -3250933.68 -3250933.55 0.0296 0.0093

Saturn -13614-09-03 07:26 J -3250845.26 -3250845.19 -3250845.12 0.0294 0.0245

Venus -13612-02-09 21:07 J -3250319.71 -3250319.62 -3250319.52 0.3714 0.1432

Mars -13611-03-14 14:09 J -3249922.05 -3249921.91 -3249921.76 0.1888 0.1008

Jupiter -13611-04-26 18:14 J -3249878.87 -3249878.74 -3249878.62 0.0525 0.0127

Jupiter -13611-07-24 22:48 J -3249789.62 -3249789.55 -3249789.48 0.0524 0.0420

Mars -13609-12-19 01:55 J -3248911.51 -3248911.42 -3248911.34 0.1636 0.1043

Neptune -13607-05-29 23:16 J -3248384.56 -3248384.53 -3248384.47 0.0089 0.0084

Neptune -13607-08-26 00:43 J -3248296.53 -3248296.47 -3248296.40 0.0089 0.0076

Venus -13607-08-26 12:28 J -3248296.03 -3248295.98 -3248295.94 0.3716 0.3238

Neptune -13607-11-22 01:55 J -3248208.49 -3248208.42 -3248208.33 0.0089 0.0069

Mars -13607-11-24 03:07 J -3248206.47 -3248206.37 -3248206.27 0.1628 0.0731

Neptune -13606-02-18 03:07 J -3248120.45 -3248120.37 -3248120.26 0.0089 0.0063

Neptune -13606-05-17 04:33 J -3248032.40 -3248032.31 -3248032.20 0.0089 0.0055

Neptune -13606-08-13 05:45 J -3247944.36 -3247944.26 -3247944.14 0.0089 0.0048

Earth -13606-08-17 11:16 J -3247940.14 -3247940.03 -3247939.92 0.2716 0.0482

Moon -13606-08-17 11:31 J -3247940.12 -3247940.02 -3247939.91 0.2722 0.0506 *

Neptune -13606-11-09 06:57 J -3247856.31 -3247856.21 -3247856.08 0.0089 0.0042

Neptune -13605-02-05 08:38 J -3247768.26 -3247768.14 -3247768.02 0.0089 0.0034

Neptune -13605-05-03 09:50 J -3247680.21 -3247680.09 -3247679.96 0.0089 0.0027

Jupiter -13605-06-18 15:50 J -3247634.03 -3247633.84 -3247633.66 0.0501 0.0112

Neptune -13605-07-30 11:02 J -3247592.16 -3247592.04 -3247591.91 0.0089 0.0020

Neptune -13605-10-26 12:28 J -3247504.11 -3247503.98 -3247503.85 0.0089 0.0013

Neptune -13604-01-22 13:40 J -3247416.06 -3247415.93 -3247415.80 0.0089 0.0006

Neptune -13604-04-20 14:52 J -3247328.01 -3247327.88 -3247327.74 0.0089 0.0003

Neptune -13604-07-17 16:19 J -3247239.95 -3247239.82 -3247239.69 0.0089 0.0009

Pluto -13604-07-31 16:48 J -3247225.86 -3247225.80 -3247225.73 0.0072 0.0064

Neptune -13604-10-13 17:31 J -3247151.90 -3247151.77 -3247151.64 0.0089 0.0016

Pluto -13604-10-27 17:45 J -3247137.84 -3247137.76 -3247137.65 0.0072 0.0056

Neptune -13603-01-09 18:57 J -3247063.84 -3247063.71 -3247063.59 0.0089 0.0023

Uranus -13603-01-10 09:50 J -3247063.14 -3247063.09 -3247063.03 0.0138 0.0124

Pluto -13603-01-23 18:57 J -3247049.81 -3247049.71 -3247049.58 0.0072 0.0048

Neptune -13603-04-07 20:09 J -3246975.78 -3246975.66 -3246975.54 0.0089 0.0030

Uranus -13603-04-08 12:57 J -3246975.04 -3246974.96 -3246974.87 0.0138 0.0105

Pluto -13603-04-21 20:24 J -3246961.77 -3246961.65 -3246961.52 0.0072 0.0039

Neptune -13603-07-04 21:21 J -3246887.73 -3246887.61 -3246887.49 0.0089 0.0037

Uranus -13603-07-05 16:04 J -3246886.92 -3246886.83 -3246886.72 0.0138 0.0085

Pluto -13603-07-18 21:35 J -3246873.73 -3246873.60 -3246873.46 0.0072 0.0031

Neptune -13603-09-30 22:33 J -3246799.67 -3246799.56 -3246799.44 0.0089 0.0044

Uranus -13603-10-01 19:26 J -3246798.80 -3246798.69 -3246798.58 0.0139 0.0066

Pluto -13603-10-14 23:02 J -3246785.69 -3246785.54 -3246785.40 0.0072 0.0023

Neptune -13603-12-27 23:45 J -3246711.61 -3246711.51 -3246711.39 0.0089 0.0051

Uranus -13603-12-28 22:33 J -3246710.68 -3246710.56 -3246710.44 0.0139 0.0046

Pluto -13602-01-11 00:00 J -3246697.64 -3246697.50 -3246697.34 0.0072 0.0015

Moon -13602-02-17 21:35 J -3246659.76 -3246659.60 -3246659.44 0.2616 0.0433

Earth -13602-02-17 23:31 J -3246659.68 -3246659.52 -3246659.36 0.2618 0.0354 *

Neptune -13602-03-26 00:57 J -3246623.54 -3246623.46 -3246623.35 0.0089 0.0059

Uranus -13602-03-27 01:40 J -3246622.55 -3246622.43 -3246622.30 0.0139 0.0027

Pluto -13602-04-09 01:26 J -3246609.59 -3246609.44 -3246609.29 0.0072 0.0006

Neptune -13602-06-22 02:24 J -3246535.48 -3246535.40 -3246535.30 0.0089 0.0065

Uranus -13602-06-23 05:02 J -3246534.42 -3246534.29 -3246534.16 0.0139 0.0007

Pluto -13602-07-06 02:38 J -3246521.54 -3246521.39 -3246521.23 0.0073 0.0003

Neptune -13602-09-18 03:35 J -3246447.41 -3246447.35 -3246447.26 0.0089 0.0073

Uranus -13602-09-19 08:09 J -3246446.29 -3246446.16 -3246446.03 0.0139 0.0013

Pluto -13602-10-02 04:04 J -3246433.49 -3246433.33 -3246433.18 0.0073 0.0012

Neptune -13602-12-15 04:48 J -3246359.34 -3246359.30 -3246359.23 0.0089 0.0080

Uranus -13602-12-16 11:16 J -3246358.15 -3246358.03 -3246357.90 0.0139 0.0034

Pluto -13602-12-29 05:02 J -3246345.43 -3246345.29 -3246345.13 0.0073 0.0021

Neptune -13601-03-12 06:14 J -3246271.26 -3246271.24 -3246271.20 0.0089 0.0086

Uranus -13601-03-13 14:38 J -3246270.01 -3246269.89 -3246269.77 0.0139 0.0054

Pluto -13601-03-26 06:14 J -3246257.37 -3246257.24 -3246257.08 0.0073 0.0030

Uranus -13601-06-09 17:45 J -3246181.87 -3246181.76 -3246181.65 0.0139 0.0074

Pluto -13601-06-22 07:55 J -3246169.30 -3246169.17 -3246169.04 0.0073 0.0039

Uranus -13601-09-05 20:52 J -3246093.72 -3246093.63 -3246093.52 0.0140 0.0095

Pluto -13601-09-18 09:07 J -3246081.23 -3246081.12 -3246081.00 0.0073 0.0048

Uranus -13601-12-03 00:14 J -3246005.56 -3246005.49 -3246005.41 0.0140 0.0115

Pluto -13601-12-15 10:33 J -3245993.16 -3245993.06 -3245992.96 0.0073 0.0057

Uranus -13600-03-01 03:35 J -3245917.38 -3245917.35 -3245917.31 0.0140 0.0135

Pluto -13600-03-13 11:31 J -3245905.07 -3245905.02 -3245904.94 0.0073 0.0066

Jupiter -13599-02-12 22:48 J -3245568.65 -3245568.55 -3245568.44 0.0525 0.0259

Mars -13599-05-11 13:26 J -3245480.99 -3245480.94 -3245480.90 0.1638 0.1479

Jupiter -13599-05-13 03:35 J -3245479.45 -3245479.35 -3245479.25 0.0524 0.0289

Saturn -13599-12-18 13:11 J -3245260.07 -3245259.95 -3245259.81 0.0265 0.0196

Saturn -13598-03-17 11:31 J -3245171.21 -3245171.02 -3245170.82 0.0266 0.0026

Saturn -13598-06-14 09:50 J -3245082.25 -3245082.09 -3245081.92 0.0267 0.0147

Mars -13597-04-15 14:52 J -3244776.00 -3244775.88 -3244775.77 0.1630 0.0308

Jupiter -13593-04-06 12:28 J -3243324.17 -3243323.98 -3243323.80 0.0501 0.0071

Earth -13593-08-19 05:02 J -3243189.39 -3243189.29 -3243189.18 0.2715 0.0762

Moon -13593-08-19 05:45 J -3243189.36 -3243189.26 -3243189.16 0.2718 0.0910 *

Moon -13589-02-21 05:02 J -3241908.40 -3241908.29 -3241908.18 0.2621 0.1867

Earth -13589-02-21 06:28 J -3241908.32 -3241908.23 -3241908.13 0.2619 0.2081 *

Mars -13588-09-06 02:24 J -3241345.52 -3241345.40 -3241345.29 0.1632 0.0128

Jupiter -13588-12-02 03:35 J -3241258.43 -3241258.35 -3241258.27 0.0525 0.0391

Jupiter -13587-03-01 08:09 J -3241169.27 -3241169.16 -3241169.03 0.0524 0.0157

Earth -13586-08-13 04:33 J -3240639.31 -3240639.31 -3240639.30 0.2717 0.2702

Saturn -13585-04-29 21:21 J -3240378.66 -3240378.61 -3240378.56 0.0298 0.0272

Saturn -13585-07-27 09:21 J -3240290.23 -3240290.11 -3240289.99 0.0297 0.0116

Saturn -13585-10-23 21:07 J -3240201.74 -3240201.62 -3240201.49 0.0296 0.0040

Saturn -13584-01-20 08:52 J -3240113.22 -3240113.13 -3240113.03 0.0295 0.0192

Jupiter -13581-01-24 08:09 J -3239014.32 -3239014.16 -3239014.00 0.0501 0.0265

Mars -13581-04-22 23:31 J -3238924.69 -3238924.52 -3238924.36 0.1891 0.0572

Jupiter -13581-04-23 21:21 J -3238923.65 -3238923.61 -3238923.57 0.0502 0.0487

Earth -13580-08-21 23:02 J -3238438.61 -3238438.54 -3238438.47 0.2714 0.2020

Moon -13580-08-21 23:31 J -3238438.59 -3238438.52 -3238438.45 0.2711 0.2055 *

Mars -13578-01-27 14:09 J -3237915.02 -3237914.91 -3237914.81 0.1634 0.0558

Mars -13576-01-01 15:21 J -3237209.94 -3237209.86 -3237209.79 0.1627 0.1210

Jupiter -13576-09-20 08:24 J -3236948.16 -3236948.15 -3236948.14 0.0525 0.0521

Jupiter -13576-12-18 12:57 J -3236859.08 -3236858.96 -3236858.83 0.0524 0.0028

Moon -13573-08-14 22:19 J -3235888.66 -3235888.57 -3235888.49 0.2724 0.1547

Earth -13573-08-14 22:19 J -3235888.66 -3235888.57 -3235888.48 0.2716 0.1474 *

Venus -13572-02-01 21:07 J -3235717.66 -3235717.62 -3235717.58 0.3708 0.3348

Mars -13572-09-12 14:52 J -3235495.03 -3235494.88 -3235494.73 0.1888 0.0893

Venus -13570-11-09 16:33 J -3234706.93 -3234706.81 -3234706.69 0.3661 0.2524

Jupiter -13570-11-12 05:02 J -3234704.37 -3234704.29 -3234704.20 0.0501 0.0444

Jupiter -13569-02-10 18:14 J -3234613.89 -3234613.74 -3234613.59 0.0502 0.0308

Moon -13569-02-15 21:35 J -3234608.66 -3234608.60 -3234608.54 0.2613 0.2408

Earth -13569-02-15 23:02 J -3234608.61 -3234608.54 -3234608.48 0.2617 0.2345 *

Saturn -13569-05-06 11:16 J -3234528.09 -3234528.03 -3234527.97 0.0265 0.0249

Mars -13569-06-19 01:40 J -3234484.52 -3234484.43 -3234484.34 0.1636 0.0990

Saturn -13569-08-03 09:21 J -3234439.29 -3234439.11 -3234438.92 0.0265 0.0081

Saturn -13569-10-31 07:40 J -3234350.36 -3234350.18 -3234349.99 0.0266 0.0091

Saturn -13568-01-28 06:14 J -3234261.27 -3234261.24 -3234261.21 0.0267 0.0263

Mars -13567-05-25 03:07 J -3233779.47 -3233779.37 -3233779.27 0.1628 0.0786

Venus -13567-08-18 12:14 J -3233694.08 -3233693.99 -3233693.90 0.3710 0.1541

Jupiter -13564-10-06 17:16 J -3232548.90 -3232548.78 -3232548.65 0.0524 0.0116

Uranus -13564-11-22 17:16 J -3232501.89 -3232501.78 -3232501.66 0.0140 0.0113

Jupiter -13563-01-03 22:04 J -3232459.65 -3232459.58 -3232459.51 0.0523 0.0430

Uranus -13563-02-19 01:11 J -3232413.60 -3232413.45 -3232413.28 0.0140 0.0082

Uranus -13563-05-18 09:35 J -3232325.28 -3232325.10 -3232324.91 0.0140 0.0051

Uranus -13563-08-14 17:45 J -3232236.95 -3232236.76 -3232236.56 0.0140 0.0021

Uranus -13563-11-11 01:55 J -3232148.61 -3232148.42 -3232148.22 0.0140 0.0010

Uranus -13562-02-07 09:50 J -3232060.27 -3232060.09 -3232059.89 0.0139 0.0041

Uranus -13562-05-06 18:00 J -3231971.91 -3231971.75 -3231971.58 0.0139 0.0070

Uranus -13562-08-03 01:55 J -3231883.54 -3231883.42 -3231883.28 0.0139 0.0100

Uranus -13562-10-30 09:50 J -3231795.14 -3231795.09 -3231795.01 0.0139 0.0130

Venus -13561-03-03 03:21 J -3231670.46 -3231670.36 -3231670.26 0.3712 0.0280

Earth -13560-08-17 16:04 J -3231137.94 -3231137.83 -3231137.72 0.2716 0.0238

Moon -13560-08-17 16:33 J -3231137.92 -3231137.81 -3231137.70 0.2721 0.0129 *

Mars -13560-11-09 13:26 J -3231054.00 -3231053.94 -3231053.89 0.1638 0.1423

Mars -13558-10-15 14:38 J -3230349.00 -3230348.89 -3230348.78 0.1630 0.0357

Jupiter -13558-11-29 15:07 J -3230304.05 -3230303.87 -3230303.69 0.0502 0.0128

Moon -13556-02-18 04:33 J -3229857.47 -3229857.31 -3229857.15 0.2616 0.0171

Earth -13556-02-18 06:14 J -3229857.40 -3229857.24 -3229857.08 0.2618 0.0129 *

Venus -13556-09-16 18:28 J -3229646.81 -3229646.73 -3229646.64 0.3714 0.2080

Saturn -13556-12-14 10:33 J -3229558.16 -3229558.06 -3229557.96 0.0298 0.0174

Saturn -13555-03-12 22:19 J -3229469.69 -3229469.57 -3229469.44 0.0297 0.0019

Saturn -13555-06-09 10:04 J -3229381.19 -3229381.08 -3229380.96 0.0296 0.0137

Saturn -13555-09-05 21:50 J -3229292.61 -3229292.59 -3229292.56 0.0294 0.0288

Jupiter -13552-07-25 21:50 J -3228238.69 -3228238.59 -3228238.47 0.0525 0.0250

Jupiter -13552-10-23 02:38 J -3228149.49 -3228149.39 -3228149.29 0.0524 0.0297

Mars -13548-03-07 02:24 J -3226918.51 -3226918.40 -3226918.29 0.1632 0.0069

Earth -13547-08-20 09:50 J -3226387.19 -3226387.09 -3226386.99 0.2715 0.1015

Moon -13547-08-20 10:33 J -3226387.16 -3226387.06 -3226386.96 0.2717 0.1039 *

Jupiter -13546-09-17 11:31 J -3225994.20 -3225994.02 -3225993.83 0.0501 0.0058

Moon -13543-02-21 11:45 J -3225106.06 -3225106.01 -3225105.97 0.2623 0.2485

Earth -13543-02-21 12:57 J -3225105.99 -3225105.96 -3225105.92 0.2619 0.2535 *

Mars -13542-10-23 00:28 J -3224497.64 -3224497.48 -3224497.32 0.1891 0.0701

Jupiter -13540-05-14 02:38 J -3223928.47 -3223928.39 -3223928.30 0.0525 0.0382

Jupiter -13540-08-11 07:26 J -3223839.31 -3223839.19 -3223839.07 0.0524 0.0166

Moon -13540-08-13 08:52 J -3223837.16 -3223837.13 -3223837.09 0.2723 0.2517

Earth -13540-08-13 09:21 J -3223837.15 -3223837.11 -3223837.06 0.2717 0.2462 *

Saturn -13540-12-21 06:14 J -3223707.39 -3223707.24 -3223707.07 0.0265 0.0143

Saturn -13539-03-20 04:33 J -3223618.50 -3223618.31 -3223618.11 0.0266 0.0029

Saturn -13539-06-17 02:52 J -3223529.50 -3223529.38 -3223529.25 0.0267 0.0200

Mars -13539-07-28 14:09 J -3223488.02 -3223487.91 -3223487.81 0.1634 0.0505

Mars -13537-07-02 15:21 J -3222782.93 -3222782.86 -3222782.79 0.1627 0.1267

Jupiter -13534-07-06 08:09 J -3221684.32 -3221684.16 -3221683.99 0.0501 0.0239

Earth -13534-08-23 03:50 J -3221636.40 -3221636.34 -3221636.28 0.2714 0.2269

Moon -13534-08-23 04:19 J -3221636.37 -3221636.32 -3221636.27 0.2709 0.2391 *

Mars -13532-03-13 16:04 J -3221067.99 -3221067.83 -3221067.68 0.1888 0.0760

Mars -13530-12-19 01:40 J -3220057.52 -3220057.43 -3220057.34 0.1636 0.0934

Jupiter -13528-03-02 07:26 J -3219618.21 -3219618.19 -3219618.16 0.0525 0.0512

Jupiter -13528-05-30 12:14 J -3219529.12 -3219528.99 -3219528.87 0.0524 0.0035

Mars -13528-11-23 02:52 J -3219352.47 -3219352.38 -3219352.28 0.1628 0.0841

Moon -13527-08-16 03:07 J -3219086.47 -3219086.37 -3219086.28 0.2723 0.1219

Earth -13527-08-16 03:07 J -3219086.47 -3219086.37 -3219086.27 0.2716 0.1234 *

Saturn -13526-05-03 11:31 J -3218826.10 -3218826.02 -3218825.94 0.0298 0.0233

Saturn -13526-07-30 23:31 J -3218737.65 -3218737.52 -3218737.40 0.0297 0.0077

Saturn -13526-10-27 11:16 J -3218649.15 -3218649.03 -3218648.91 0.0296 0.0079

Saturn -13525-01-23 23:02 J -3218560.62 -3218560.54 -3218560.46 0.0295 0.0232

Neptune -13524-11-11 03:35 J -3217903.41 -3217903.35 -3217903.24 0.0088 0.0079

Neptune -13523-02-07 07:40 J -3217815.29 -3217815.18 -3217815.05 0.0088 0.0068

Moon -13523-02-16 04:04 J -3217806.42 -3217806.33 -3217806.23 0.2613 0.2093

Earth -13523-02-16 05:31 J -3217806.38 -3217806.27 -3217806.16 0.2617 0.1879 *

Neptune -13523-05-06 11:31 J -3217727.16 -3217727.02 -3217726.87 0.0088 0.0058

Neptune -13523-08-02 15:07 J -3217639.03 -3217638.87 -3217638.69 0.0088 0.0048

Neptune -13523-10-29 18:43 J -3217550.89 -3217550.72 -3217550.53 0.0088 0.0038

Neptune -13522-01-25 22:33 J -3217462.74 -3217462.56 -3217462.36 0.0088 0.0028

Neptune -13522-04-24 02:24 J -3217374.59 -3217374.40 -3217374.20 0.0088 0.0017

Jupiter -13522-04-24 03:50 J -3217374.43 -3217374.34 -3217374.25 0.0501 0.0434 *

Neptune -13522-07-21 06:14 J -3217286.44 -3217286.24 -3217286.04 0.0088 0.0007

Jupiter -13522-07-23 17:02 J -3217283.93 -3217283.79 -3217283.64 0.0502 0.0318

Neptune -13522-10-17 09:50 J -3217198.28 -3217198.09 -3217197.89 0.0088 0.0004

Neptune -13521-01-13 13:26 J -3217110.13 -3217109.94 -3217109.73 0.0088 0.0014

Neptune -13521-04-10 17:02 J -3217021.97 -3217021.79 -3217021.58 0.0088 0.0024

Neptune -13521-07-07 20:52 J -3216933.80 -3216933.63 -3216933.44 0.0088 0.0034

Neptune -13521-10-04 00:28 J -3216845.64 -3216845.48 -3216845.30 0.0088 0.0044

Neptune -13521-12-31 04:19 J -3216757.47 -3216757.32 -3216757.16 0.0088 0.0054

Neptune -13520-03-29 07:40 J -3216669.29 -3216669.18 -3216669.02 0.0088 0.0065

Mars -13520-05-10 13:11 J -3216627.01 -3216626.95 -3216626.88 0.1638 0.1369

Neptune -13520-06-25 11:31 J -3216581.11 -3216581.02 -3216580.90 0.0088 0.0075

Neptune -13520-09-21 15:07 J -3216492.90 -3216492.87 -3216492.80 0.0088 0.0085

Uranus -13520-11-03 14:09 J -3216449.91 -3216449.91 -3216449.88 0.0138 0.0137

Uranus -13519-01-30 17:31 J -3216361.84 -3216361.77 -3216361.70 0.0138 0.0117

Uranus -13519-04-28 20:38 J -3216273.73 -3216273.64 -3216273.55 0.0138 0.0098

Uranus -13519-07-25 23:45 J -3216185.61 -3216185.51 -3216185.40 0.0138 0.0079

Pluto -13519-10-02 00:28 J -3216117.55 -3216117.48 -3216117.41 0.0072 0.0065

Uranus -13519-10-22 02:52 J -3216097.49 -3216097.38 -3216097.26 0.0138 0.0059

Pluto -13519-12-29 01:55 J -3216029.52 -3216029.42 -3216029.31 0.0072 0.0055

Uranus -13518-01-18 06:14 J -3216009.37 -3216009.24 -3216009.12 0.0139 0.0040

Pluto -13518-03-27 03:21 J -3215941.48 -3215941.36 -3215941.23 0.0072 0.0046

Mars -13518-04-15 14:38 J -3215922.00 -3215921.89 -3215921.78 0.1630 0.0413

Uranus -13518-04-16 09:21 J -3215921.24 -3215921.11 -3215920.98 0.0139 0.0020

Pluto -13518-06-23 04:48 J -3215853.43 -3215853.30 -3215853.16 0.0072 0.0037

Uranus -13518-07-13 12:28 J -3215833.11 -3215832.98 -3215832.85 0.0139 0.0003

Pluto -13518-09-19 06:00 J -3215765.38 -3215765.25 -3215765.09 0.0072 0.0029

Uranus -13518-10-09 15:50 J -3215744.97 -3215744.84 -3215744.71 0.0139 0.0020

Pluto -13518-12-16 07:40 J -3215677.33 -3215677.18 -3215677.02 0.0072 0.0020

Uranus -13517-01-05 18:57 J -3215656.83 -3215656.71 -3215656.58 0.0139 0.0040

Pluto -13517-03-13 09:07 J -3215589.28 -3215589.12 -3215588.96 0.0071 0.0011

Uranus -13517-04-02 22:04 J -3215568.69 -3215568.58 -3215568.46 0.0139 0.0060

Pluto -13517-06-09 10:33 J -3215501.22 -3215501.06 -3215500.90 0.0071 0.0002

Uranus -13517-06-30 01:26 J -3215480.54 -3215480.44 -3215480.33 0.0139 0.0080

Pluto -13517-09-05 12:00 J -3215413.16 -3215413.00 -3215412.84 0.0071 0.0007

Uranus -13517-09-26 04:33 J -3215392.39 -3215392.31 -3215392.21 0.0139 0.0101

Pluto -13517-12-02 13:11 J -3215325.10 -3215324.95 -3215324.79 0.0071 0.0015

Uranus -13517-12-23 07:55 J -3215304.23 -3215304.17 -3215304.10 0.0140 0.0121

Pluto -13516-02-28 14:24 J -3215237.04 -3215236.90 -3215236.74 0.0071 0.0024

Jupiter -13516-03-18 17:02 J -3215218.91 -3215218.79 -3215218.67 0.0524 0.0096

Pluto -13516-05-27 15:50 J -3215148.97 -3215148.84 -3215148.69 0.0071 0.0032

Jupiter -13516-06-15 21:35 J -3215129.66 -3215129.60 -3215129.54 0.0523 0.0448

Pluto -13516-08-23 17:16 J -3215060.91 -3215060.78 -3215060.64 0.0071 0.0040

Venus -13516-09-08 18:28 J -3215044.80 -3215044.73 -3215044.67 0.3709 0.2693

Pluto -13516-11-19 18:14 J -3214972.84 -3214972.74 -3214972.61 0.0071 0.0049

Pluto -13515-02-15 19:40 J -3214884.76 -3214884.68 -3214884.57 0.0071 0.0057

Pluto -13515-05-14 21:07 J -3214796.67 -3214796.62 -3214796.55 0.0070 0.0065

Earth -13514-08-18 20:52 J -3214335.74 -3214335.63 -3214335.52 0.2716 0.0023

Moon -13514-08-18 21:21 J -3214335.71 -3214335.61 -3214335.50 0.2721 0.0080 *

Venus -13513-06-15 19:40 J -3214033.85 -3214033.68 -3214033.52 0.3660 0.0305

Moon -13510-02-19 11:16 J -3213055.19 -3213055.03 -3213054.88 0.2618 0.0517

Earth -13510-02-19 12:57 J -3213055.12 -3213054.96 -3213054.81 0.2618 0.0592 *

Venus -13510-03-25 09:35 J -3213021.20 -3213021.10 -3213021.00 0.3711 0.0889

Saturn -13510-05-10 03:50 J -3212975.45 -3212975.34 -3212975.20 0.0264 0.0198

Jupiter -13510-05-11 13:55 J -3212974.10 -3212973.92 -3212973.73 0.0502 0.0139

Saturn -13510-08-07 02:24 J -3212886.60 -3212886.40 -3212886.21 0.0265 0.0028

Saturn -13510-11-04 00:28 J -3212797.64 -3212797.48 -3212797.31 0.0266 0.0143

Mars -13509-09-05 02:24 J -3212491.52 -3212491.40 -3212491.29 0.1632 0.0060

Venus -13505-10-08 00:43 J -3210997.57 -3210997.47 -3210997.37 0.3713 0.0923

Jupiter -13504-01-04 21:21 J -3210908.72 -3210908.61 -3210908.50 0.0524 0.0235

Jupiter -13504-04-04 01:55 J -3210819.52 -3210819.42 -3210819.32 0.0523 0.0310

Mars -13502-04-23 00:57 J -3210070.61 -3210070.46 -3210070.30 0.1891 0.0813

Earth -13501-08-20 14:38 J -3209584.98 -3209584.89 -3209584.79 0.2715 0.1263

Moon -13501-08-20 15:21 J -3209584.95 -3209584.86 -3209584.76 0.2715 0.1409 *

Mars -13499-01-26 13:55 J -3209061.03 -3209060.92 -3209060.81 0.1634 0.0449

Venus -13499-04-23 15:50 J -3208973.90 -3208973.84 -3208973.77 0.3715 0.2724

Jupiter -13498-02-27 11:02 J -3208664.23 -3208664.04 -3208663.85 0.0501 0.0041

Mars -13497-01-01 15:07 J -3208355.93 -3208355.87 -3208355.80 0.1627 0.1321

Saturn -13497-09-19 12:28 J -3208094.00 -3208093.98 -3208093.95 0.0299 0.0293

Saturn -13497-12-17 00:28 J -3208005.59 -3208005.48 -3208005.36 0.0298 0.0135

Saturn -13496-03-15 12:28 J -3207917.11 -3207916.98 -3207916.85 0.0297 0.0021

Saturn -13496-06-12 00:14 J -3207828.59 -3207828.49 -3207828.39 0.0296 0.0175

Moon -13494-08-14 13:55 J -3207034.98 -3207034.92 -3207034.87 0.2723 0.2312

Earth -13494-08-14 14:09 J -3207034.97 -3207034.91 -3207034.85 0.2717 0.2223 *

Mars -13493-09-11 16:48 J -3206640.96 -3206640.80 -3206640.63 0.1888 0.0632

Jupiter -13493-10-24 01:55 J -3206598.51 -3206598.42 -3206598.33 0.0525 0.0369

Jupiter -13492-01-21 06:28 J -3206509.34 -3206509.23 -3206509.11 0.0524 0.0177

Mars -13490-06-19 01:40 J -3205630.53 -3205630.43 -3205630.33 0.1636 0.0876

Mars -13488-05-24 02:52 J -3204925.47 -3204925.38 -3204925.28 0.1628 0.0897

Earth -13488-08-23 08:38 J -3204834.18 -3204834.14 -3204834.10 0.2714 0.2523

Moon -13488-08-23 09:07 J -3204834.15 -3204834.12 -3204834.08 0.2709 0.2531 *

Jupiter -13487-12-16 07:26 J -3204354.35 -3204354.19 -3204354.02 0.0501 0.0224

Jupiter -13481-08-12 06:28 J -3202288.26 -3202288.23 -3202288.19 0.0525 0.0503

Moon -13481-08-16 07:55 J -3202284.27 -3202284.17 -3202284.07 0.2723 0.0991

Earth -13481-08-16 07:55 J -3202284.27 -3202284.17 -3202284.07 0.2716 0.0991 *

Saturn -13481-09-26 00:57 J -3202243.49 -3202243.46 -3202243.42 0.0264 0.0259

Mars -13481-11-08 13:11 J -3202200.01 -3202199.95 -3202199.88 0.1638 0.1313

Jupiter -13481-11-09 11:16 J -3202199.15 -3202199.03 -3202198.90 0.0524 0.0045

Saturn -13481-12-23 23:16 J -3202154.71 -3202154.53 -3202154.35 0.0265 0.0090

Saturn -13480-03-22 21:21 J -3202065.79 -3202065.61 -3202065.42 0.0266 0.0080

Saturn -13480-06-19 19:26 J -3201976.74 -3201976.69 -3201976.61 0.0267 0.0252

Uranus -13480-09-15 15:21 J -3201888.87 -3201888.86 -3201888.81 0.0140 0.0138

Uranus -13480-12-12 23:45 J -3201800.62 -3201800.51 -3201800.37 0.0140 0.0107

Uranus -13479-03-11 08:09 J -3201712.32 -3201712.16 -3201711.99 0.0140 0.0076

Uranus -13479-06-07 16:33 J -3201624.00 -3201623.81 -3201623.63 0.0140 0.0045

Uranus -13479-09-04 00:43 J -3201535.67 -3201535.47 -3201535.28 0.0140 0.0015

Mars -13479-10-14 14:38 J -3201495.00 -3201494.89 -3201494.78 0.1630 0.0469

Uranus -13479-12-01 08:52 J -3201447.33 -3201447.13 -3201446.94 0.0140 0.0016

Uranus -13478-02-27 16:48 J -3201358.98 -3201358.80 -3201358.61 0.0139 0.0046

Uranus -13478-05-27 00:43 J -3201270.62 -3201270.47 -3201270.30 0.0139 0.0076

Uranus -13478-08-23 08:38 J -3201182.25 -3201182.14 -3201182.00 0.0139 0.0106

Uranus -13478-11-19 17:02 J -3201093.83 -3201093.79 -3201093.75 0.0139 0.0136

Moon -13477-02-17 10:48 J -3201004.18 -3201004.05 -3201003.92 0.2613 0.1518

Earth -13477-02-17 12:28 J -3201004.12 -3201003.98 -3201003.85 0.2617 0.1405 *

Jupiter -13475-10-04 04:04 J -3200044.43 -3200044.33 -3200044.21 0.0501 0.0405

Jupiter -13474-01-02 17:16 J -3199953.91 -3199953.78 -3199953.64 0.0502 0.0345

Mars -13469-03-06 02:09 J -3198064.52 -3198064.41 -3198064.29 0.1632 0.0067

Jupiter -13469-08-28 16:19 J -3197888.95 -3197888.82 -3197888.70 0.0524 0.0086

Jupiter -13469-11-25 20:52 J -3197799.69 -3197799.63 -3197799.57 0.0523 0.0459

Earth -13468-08-19 01:40 J -3197533.54 -3197533.43 -3197533.32 0.2716 0.0253

Moon -13468-08-19 02:09 J -3197533.51 -3197533.41 -3197533.30 0.2721 0.0372 *

Saturn -13467-05-06 01:11 J -3197273.54 -3197273.45 -3197273.35 0.0298 0.0198

Saturn -13467-08-02 13:11 J -3197185.07 -3197184.95 -3197184.82 0.0297 0.0041

Saturn -13467-10-30 01:11 J -3197096.57 -3197096.45 -3197096.34 0.0296 0.0114

Saturn -13466-01-26 12:43 J -3197008.01 -3197007.97 -3197007.91 0.0295 0.0268

Moon -13464-02-19 17:45 J -3196252.91 -3196252.76 -3196252.60 0.2619 0.0798

Earth -13464-02-19 19:26 J -3196252.83 -3196252.69 -3196252.54 0.2618 0.1053 *

Jupiter -13463-10-21 12:57 J -3195644.14 -3195643.96 -3195643.78 0.0502 0.0149

Mars -13463-10-22 01:55 J -3195643.56 -3195643.42 -3195643.27 0.1891 0.0947

Mars -13460-07-27 13:55 J -3194634.03 -3194633.92 -3194633.81 0.1634 0.0392

Venus -13459-04-15 15:35 J -3194371.93 -3194371.85 -3194371.76 0.3709 0.2045

Mars -13458-07-02 15:07 J -3193928.93 -3193928.87 -3193928.81 0.1627 0.1374

Jupiter -13457-06-16 21:07 J -3193578.74 -3193578.62 -3193578.51 0.0524 0.0214

Jupiter -13457-09-14 01:40 J -3193489.53 -3193489.43 -3193489.33 0.0523 0.0330

Venus -13456-01-20 22:33 J -3193360.69 -3193360.56 -3193360.42 0.3660 0.1962

Earth -13455-08-21 19:40 J -3192782.77 -3192782.68 -3192782.59 0.2715 0.1510

Moon -13455-08-21 20:09 J -3192782.74 -3192782.66 -3192782.57 0.2713 0.1541 *

Venus -13454-10-30 06:57 J -3192348.31 -3192348.21 -3192348.11 0.3711 0.0254

Mars -13453-03-12 17:45 J -3192213.92 -3192213.76 -3192213.59 0.1888 0.0504

Saturn -13451-05-12 20:52 J -3191422.79 -3191422.63 -3191422.46 0.0264 0.0146

Jupiter -13451-08-09 09:50 J -3191334.28 -3191334.09 -3191333.90 0.0502 0.0031

Saturn -13451-08-09 19:11 J -3191333.89 -3191333.70 -3191333.51 0.0265 0.0023

Saturn -13451-11-06 17:16 J -3191244.91 -3191244.78 -3191244.64 0.0266 0.0194

Mars -13451-12-18 01:40 J -3191203.53 -3191203.43 -3191203.33 0.1636 0.0823

Mars -13449-11-22 02:52 J -3190498.47 -3190498.38 -3190498.29 0.1628 0.0949

Venus -13448-05-14 22:04 J -3190324.67 -3190324.58 -3190324.49 0.3713 0.1565

Moon -13448-08-14 18:43 J -3190232.80 -3190232.72 -3190232.65 0.2723 0.2006

Earth -13448-08-14 18:57 J -3190232.78 -3190232.71 -3190232.63 0.2717 0.1983 *

Jupiter -13445-04-05 01:26 J -3189268.53 -3189268.44 -3189268.35 0.0525 0.0353

Jupiter -13445-07-03 06:00 J -3189179.36 -3189179.25 -3189179.13 0.0523 0.0192

Neptune -13443-11-27 21:35 J -3188301.60 -3188301.60 -3188301.59 0.0089 0.0089

Venus -13443-11-28 13:11 J -3188300.99 -3188300.95 -3188300.91 0.3715 0.3374

Neptune -13442-02-23 22:33 J -3188213.59 -3188213.56 -3188213.49 0.0089 0.0083

Neptune -13442-05-23 00:00 J -3188125.56 -3188125.50 -3188125.42 0.0089 0.0075

Neptune -13442-08-19 01:11 J -3188037.52 -3188037.45 -3188037.35 0.0089 0.0069

Neptune -13442-11-15 02:52 J -3187949.48 -3187949.38 -3187949.29 0.0089 0.0061

Neptune -13441-02-11 04:04 J -3187861.43 -3187861.33 -3187861.23 0.0089 0.0054

Neptune -13441-05-09 05:16 J -3187773.39 -3187773.28 -3187773.17 0.0089 0.0047

Mars -13441-05-09 13:11 J -3187773.02 -3187772.95 -3187772.88 0.1638 0.1256

Neptune -13441-08-05 06:43 J -3187685.34 -3187685.22 -3187685.11 0.0089 0.0040

Neptune -13441-11-01 07:55 J -3187597.29 -3187597.17 -3187597.05 0.0089 0.0033

Neptune -13440-01-28 09:07 J -3187509.24 -3187509.12 -3187508.99 0.0089 0.0026

Neptune -13440-04-26 10:33 J -3187421.19 -3187421.06 -3187420.93 0.0089 0.0019

Neptune -13440-07-23 11:45 J -3187333.14 -3187333.01 -3187332.88 0.0089 0.0011

Neptune -13440-10-19 13:11 J -3187245.08 -3187244.95 -3187244.82 0.0089 0.0005

Neptune -13439-01-15 14:24 J -3187157.03 -3187156.90 -3187156.77 0.0089 0.0003

Neptune -13439-04-13 15:35 J -3187068.98 -3187068.85 -3187068.72 0.0089 0.0010

Mars -13439-04-14 14:38 J -3187068.00 -3187067.89 -3187067.78 0.1630 0.0524

Jupiter -13439-05-28 06:43 J -3187024.39 -3187024.22 -3187024.04 0.0501 0.0208

Neptune -13439-07-10 16:48 J -3186980.92 -3186980.80 -3186980.67 0.0089 0.0017

Neptune -13439-10-06 18:00 J -3186892.87 -3186892.75 -3186892.61 0.0089 0.0025

Neptune -13438-01-02 19:26 J -3186804.81 -3186804.69 -3186804.56 0.0089 0.0031

Neptune -13438-03-31 20:38 J -3186716.75 -3186716.64 -3186716.51 0.0089 0.0038

Neptune -13438-06-27 21:50 J -3186628.69 -3186628.59 -3186628.47 0.0089 0.0046

Saturn -13438-09-23 02:24 J -3186541.46 -3186541.40 -3186541.34 0.0299 0.0258

Neptune -13438-09-23 23:16 J -3186540.63 -3186540.53 -3186540.42 0.0089 0.0052

Saturn -13438-12-20 14:24 J -3186453.02 -3186452.90 -3186452.78 0.0298 0.0101

Neptune -13438-12-21 00:28 J -3186452.57 -3186452.48 -3186452.37 0.0089 0.0060

Saturn -13437-03-18 02:09 J -3186364.53 -3186364.41 -3186364.28 0.0297 0.0056

Neptune -13437-03-18 01:40 J -3186364.50 -3186364.43 -3186364.33 0.0089 0.0067 *

Neptune -13437-06-14 03:07 J -3186276.44 -3186276.37 -3186276.29 0.0089 0.0073

Saturn -13437-06-14 13:55 J -3186276.00 -3186275.92 -3186275.83 0.0296 0.0210

Neptune -13437-09-10 04:19 J -3186188.37 -3186188.32 -3186188.26 0.0089 0.0081

Neptune -13437-12-07 05:31 J -3186100.28 -3186100.27 -3186100.23 0.0089 0.0088

Uranus -13436-11-23 22:04 J -3185748.62 -3185748.58 -3185748.53 0.0138 0.0129

Uranus -13435-02-20 01:11 J -3185660.52 -3185660.45 -3185660.37 0.0138 0.0110

Uranus -13435-05-19 04:19 J -3185572.41 -3185572.32 -3185572.22 0.0138 0.0091

Uranus -13435-08-15 07:26 J -3185484.29 -3185484.19 -3185484.07 0.0138 0.0072

Earth -13435-08-17 12:43 J -3185482.07 -3185481.97 -3185481.87 0.2716 0.0748

Moon -13435-08-17 12:57 J -3185482.06 -3185481.96 -3185481.86 0.2723 0.0738 *

Uranus -13435-11-11 10:48 J -3185396.17 -3185396.05 -3185395.93 0.0139 0.0052

Uranus -13434-02-07 13:55 J -3185308.05 -3185307.92 -3185307.79 0.0139 0.0032

Uranus -13434-05-06 17:02 J -3185219.92 -3185219.79 -3185219.65 0.0139 0.0013

Uranus -13434-08-02 20:24 J -3185131.78 -3185131.65 -3185131.52 0.0139 0.0008

Uranus -13434-10-29 23:31 J -3185043.65 -3185043.52 -3185043.39 0.0139 0.0028

Jupiter -13433-01-23 06:00 J -3184958.29 -3184958.25 -3184958.21 0.0525 0.0488

Uranus -13433-01-26 02:38 J -3184955.51 -3184955.39 -3184955.26 0.0139 0.0048

Jupiter -13433-04-21 10:33 J -3184869.18 -3184869.06 -3184868.93 0.0524 0.0058

Uranus -13433-04-23 06:00 J -3184867.36 -3184867.25 -3184867.13 0.0139 0.0068

Uranus -13433-07-20 09:07 J -3184779.21 -3184779.12 -3184779.01 0.0139 0.0089

Uranus -13433-10-16 12:28 J -3184691.05 -3184690.98 -3184690.89 0.0140 0.0109

Uranus -13432-01-12 15:50 J -3184602.88 -3184602.84 -3184602.79 0.0140 0.0129

Moon -13431-02-17 17:31 J -3184201.92 -3184201.77 -3184201.63 0.2614 0.1115

Earth -13431-02-17 18:57 J -3184201.86 -3184201.71 -3184201.56 0.2617 0.0937 *

Mars -13430-09-05 02:09 J -3183637.52 -3183637.41 -3183637.29 0.1632 0.0106

Jupiter -13427-03-16 03:21 J -3182714.47 -3182714.36 -3182714.24 0.0501 0.0390

Jupiter -13427-06-14 16:33 J -3182623.94 -3182623.81 -3182623.68 0.0502 0.0360

Mars -13423-04-22 03:21 J -3181216.50 -3181216.36 -3181216.22 0.1891 0.1091

Earth -13422-08-20 06:28 J -3180731.33 -3180731.23 -3180731.12 0.2715 0.0502

Moon -13422-08-20 07:11 J -3180731.31 -3180731.20 -3180731.10 0.2719 0.0556 *

Saturn -13422-09-29 18:00 J -3180690.87 -3180690.75 -3180690.63 0.0264 0.0207

Saturn -13422-12-27 16:04 J -3180602.02 -3180601.83 -3180601.63 0.0265 0.0039

Jupiter -13421-02-08 15:21 J -3180558.99 -3180558.86 -3180558.74 0.0525 0.0076

Saturn -13421-03-25 14:09 J -3180513.07 -3180512.91 -3180512.73 0.0266 0.0132

Jupiter -13421-05-07 19:55 J -3180469.72 -3180469.67 -3180469.61 0.0523 0.0469

Mars -13420-01-25 13:55 J -3180207.03 -3180206.92 -3180206.81 0.1633 0.0335

Mars -13419-12-31 15:07 J -3179501.92 -3179501.87 -3179501.81 0.1626 0.1433

Moon -13418-02-21 00:28 J -3179450.62 -3179450.48 -3179450.35 0.2620 0.1404

Earth -13418-02-21 02:09 J -3179450.54 -3179450.41 -3179450.28 0.2618 0.1512 *

Jupiter -13415-04-02 13:11 J -3178314.13 -3178313.95 -3178313.77 0.0502 0.0178

Mars -13414-09-11 18:43 J -3177786.89 -3177786.72 -3177786.55 0.1888 0.0382

Mars -13411-06-18 01:26 J -3176776.54 -3176776.44 -3176776.34 0.1636 0.0770

Jupiter -13410-11-27 20:09 J -3176248.77 -3176248.66 -3176248.54 0.0524 0.0205

Jupiter -13409-02-25 00:57 J -3176159.56 -3176159.46 -3176159.37 0.0523 0.0341

Mars -13409-05-23 02:52 J -3176071.47 -3176071.38 -3176071.29 0.1628 0.1004

Earth -13409-08-22 00:28 J -3175980.57 -3175980.48 -3175980.40 0.2715 0.1756

Moon -13409-08-22 01:11 J -3175980.53 -3175980.45 -3175980.38 0.2713 0.1896 *

Venus -13408-05-06 21:50 J -3175722.64 -3175722.59 -3175722.54 0.3708 0.3190

Saturn -13408-05-08 15:07 J -3175720.98 -3175720.87 -3175720.76 0.0298 0.0162

Saturn -13408-08-05 03:07 J -3175632.50 -3175632.37 -3175632.24 0.0297 0.0007

Saturn -13408-11-01 14:52 J -3175543.99 -3175543.88 -3175543.77 0.0296 0.0150

Venus -13405-02-11 12:57 J -3174712.07 -3174711.96 -3174711.85 0.3662 0.2737

Mars -13404-01-31 10:19 J -3174357.10 -3174357.07 -3174357.02 0.1885 0.1821

Jupiter -13403-01-19 08:38 J -3174004.33 -3174004.14 -3174003.96 0.0502 0.0024

Venus -13403-11-20 12:57 J -3173699.05 -3173698.96 -3173698.86 0.3710 0.1393

Moon -13402-08-15 23:31 J -3173430.60 -3173430.52 -3173430.44 0.2723 0.1827

Earth -13402-08-15 23:45 J -3173430.59 -3173430.51 -3173430.42 0.2717 0.1741 *

Mars -13402-11-08 13:11 J -3173346.03 -3173345.95 -3173345.87 0.1638 0.1202

Mars -13400-10-13 14:24 J -3172641.00 -3172640.90 -3172640.79 0.1630 0.0578

Jupiter -13398-09-16 01:11 J -3171938.55 -3171938.45 -3171938.36 0.0525 0.0333

Jupiter -13398-12-14 05:45 J -3171849.37 -3171849.26 -3171849.15 0.0523 0.0212

Venus -13397-06-05 04:19 J -3171675.42 -3171675.32 -3171675.23 0.3712 0.0445

Uranus -13396-10-05 22:33 J -3171187.61 -3171187.56 -3171187.48 0.0140 0.0131

Uranus -13395-01-02 06:57 J -3171099.34 -3171099.21 -3171099.07 0.0140 0.0100

Uranus -13395-03-31 15:21 J -3171011.03 -3171010.86 -3171010.69 0.0140 0.0069

Uranus -13395-06-27 23:16 J -3170922.71 -3170922.53 -3170922.33 0.0140 0.0039

Uranus -13395-09-24 07:40 J -3170834.38 -3170834.18 -3170833.98 0.0140 0.0008

Uranus -13395-12-21 15:50 J -3170746.03 -3170745.84 -3170745.65 0.0140 0.0022

Uranus -13394-03-19 23:45 J -3170657.68 -3170657.51 -3170657.32 0.0139 0.0053

Uranus -13394-06-16 07:55 J -3170569.32 -3170569.17 -3170569.01 0.0139 0.0083

Uranus -13394-09-12 15:50 J -3170480.95 -3170480.84 -3170480.72 0.0139 0.0113

Saturn -13392-02-15 16:04 J -3169958.86 -3169958.83 -3169958.80 0.0264 0.0259

Mars -13392-03-31 00:43 J -3169915.47 -3169915.47 -3169915.46 0.1641 0.1637

Saturn -13392-05-15 14:09 J -3169870.09 -3169869.91 -3169869.73 0.0264 0.0092

Saturn -13392-08-12 12:14 J -3169781.17 -3169780.99 -3169780.80 0.0265 0.0077

Jupiter -13392-11-07 05:16 J -3169694.45 -3169694.28 -3169694.10 0.0501 0.0202

Saturn -13392-11-09 10:19 J -3169692.13 -3169692.07 -3169691.99 0.0266 0.0248

Venus -13392-12-19 19:26 J -3169651.77 -3169651.69 -3169651.61 0.3714 0.2216

Mars -13390-03-06 02:09 J -3169210.52 -3169210.41 -3169210.29 0.1632 0.0151

Earth -13389-08-17 17:31 J -3168679.87 -3168679.77 -3168679.66 0.2716 0.0505

Moon -13389-08-17 17:45 J -3168679.86 -3168679.76 -3168679.65 0.2723 0.0445 *

Jupiter -13386-07-05 05:16 J -3167628.33 -3167628.28 -3167628.22 0.0525 0.0473

Jupiter -13386-10-02 10:04 J -3167539.21 -3167539.08 -3167538.96 0.0524 0.0073

Moon -13385-02-19 00:14 J -3167399.65 -3167399.49 -3167399.34 0.2616 0.0655

Earth -13385-02-19 01:55 J -3167399.58 -3167399.42 -3167399.27 0.2617 0.0461 *

Mars -13384-10-21 03:35 J -3166789.48 -3166789.35 -3166789.21 0.1891 0.1190

Mars -13381-07-26 13:55 J -3165780.03 -3165779.92 -3165779.81 0.1634 0.0282

Jupiter -13380-08-26 02:24 J -3165384.52 -3165384.40 -3165384.28 0.0501 0.0378

Jupiter -13380-11-24 15:35 J -3165293.97 -3165293.85 -3165293.72 0.0502 0.0374

Mars -13379-07-01 15:07 J -3165074.91 -3165074.87 -3165074.83 0.1627 0.1484

Saturn -13379-09-25 16:04 J -3164988.91 -3164988.83 -3164988.74 0.0299 0.0222

Saturn -13379-12-23 04:04 J -3164900.45 -3164900.33 -3164900.20 0.0298 0.0065

Saturn -13378-03-21 16:04 J -3164811.95 -3164811.83 -3164811.71 0.0297 0.0092

Saturn -13378-06-18 03:50 J -3164723.41 -3164723.34 -3164723.27 0.0296 0.0246

Earth -13376-08-20 11:16 J -3163929.13 -3163929.03 -3163928.92 0.2715 0.0750

Moon -13376-08-20 12:00 J -3163929.10 -3163929.00 -3163928.90 0.2717 0.0825 *

Mars -13374-03-12 19:40 J -3163359.85 -3163359.68 -3163359.50 0.1889 0.0246

Jupiter -13374-07-21 14:38 J -3163229.02 -3163228.89 -3163228.77 0.0524 0.0064

Jupiter -13374-10-18 19:11 J -3163139.75 -3163139.70 -3163139.65 0.0523 0.0480

Moon -13372-02-21 07:11 J -3162648.32 -3162648.20 -3162648.09 0.2620 0.1749

Earth -13372-02-21 08:52 J -3162648.24 -3162648.13 -3162648.03 0.2618 0.1979 *

Mars -13372-12-17 01:26 J -3162349.54 -3162349.44 -3162349.33 0.1636 0.0713

Mars -13370-11-22 02:52 J -3161644.47 -3161644.38 -3161644.30 0.1628 0.1060

Jupiter -13368-09-12 12:14 J -3160984.16 -3160983.99 -3160983.82 0.0502 0.0190

Mars -13365-08-01 11:16 J -3159930.10 -3159930.03 -3159929.95 0.1885 0.1693

Earth -13363-08-23 05:16 J -3159178.35 -3159178.28 -3159178.21 0.2715 0.2006

Moon -13363-08-23 06:00 J -3159178.32 -3159178.25 -3159178.18 0.2712 0.2054 *

Saturn -13363-10-02 11:31 J -3159138.17 -3159138.02 -3159137.86 0.0265 0.0150

Saturn -13363-12-30 09:50 J -3159049.29 -3159049.09 -3159048.90 0.0265 0.0020

Saturn -13362-03-29 07:40 J -3158960.31 -3158960.18 -3158960.04 0.0266 0.0189

Mars -13362-05-09 13:11 J -3158919.03 -3158918.95 -3158918.87 0.1638 0.1146

Jupiter -13362-05-09 19:11 J -3158918.82 -3158918.70 -3158918.58 0.0525 0.0197

Jupiter -13362-08-06 23:45 J -3158829.60 -3158829.51 -3158829.41 0.0524 0.0348

Mars -13360-04-13 14:24 J -3158214.00 -3158213.90 -3158213.79 0.1630 0.0638

Neptune -13359-05-11 21:50 J -3157820.60 -3157820.59 -3157820.52 0.0088 0.0086

Neptune -13359-08-08 02:09 J -3157732.51 -3157732.41 -3157732.31 0.0088 0.0075

Neptune -13359-11-04 05:45 J -3157644.38 -3157644.26 -3157644.12 0.0088 0.0065

Neptune -13358-01-31 09:21 J -3157556.25 -3157556.11 -3157555.94 0.0088 0.0055

Neptune -13358-04-29 13:11 J -3157468.11 -3157467.95 -3157467.77 0.0088 0.0045

Neptune -13358-07-26 16:48 J -3157379.97 -3157379.80 -3157379.61 0.0088 0.0035

Neptune -13358-10-22 20:52 J -3157291.82 -3157291.63 -3157291.44 0.0088 0.0024

Neptune -13357-01-19 00:28 J -3157203.67 -3157203.48 -3157203.28 0.0088 0.0014

Neptune -13357-04-16 04:19 J -3157115.52 -3157115.32 -3157115.12 0.0088 0.0004

Neptune -13357-07-13 07:55 J -3157027.37 -3157027.17 -3157026.97 0.0088 0.0006

Neptune -13357-10-09 11:31 J -3156939.21 -3156939.02 -3156938.82 0.0088 0.0017

Neptune -13356-01-05 15:07 J -3156851.05 -3156850.87 -3156850.67 0.0088 0.0027

Neptune -13356-04-03 18:57 J -3156762.88 -3156762.71 -3156762.52 0.0088 0.0037

Neptune -13356-06-30 22:48 J -3156674.71 -3156674.55 -3156674.38 0.0088 0.0047

Jupiter -13356-07-01 08:52 J -3156674.32 -3156674.13 -3156673.95 0.0501 0.0013

Moon -13356-08-16 04:33 J -3156628.40 -3156628.31 -3156628.22 0.2724 0.1460

Earth -13356-08-16 04:33 J -3156628.40 -3156628.31 -3156628.22 0.2717 0.1498 *

Neptune -13356-09-27 02:38 J -3156586.54 -3156586.39 -3156586.24 0.0088 0.0057

Pluto -13356-11-22 22:19 J -3156529.57 -3156529.57 -3156529.52 0.0072 0.0071

Neptune -13356-12-24 05:45 J -3156498.36 -3156498.26 -3156498.11 0.0088 0.0068

Pluto -13355-02-18 23:31 J -3156441.57 -3156441.52 -3156441.43 0.0072 0.0063

Neptune -13355-03-22 09:35 J -3156410.17 -3156410.10 -3156409.99 0.0088 0.0078

Pluto -13355-05-18 00:57 J -3156353.55 -3156353.46 -3156353.35 0.0072 0.0054

Pluto -13355-08-14 02:09 J -3156265.52 -3156265.41 -3156265.28 0.0072 0.0046

Pluto -13355-11-10 03:21 J -3156177.48 -3156177.36 -3156177.22 0.0072 0.0038

Pluto -13354-02-06 04:33 J -3156089.44 -3156089.31 -3156089.16 0.0072 0.0030

Pluto -13354-05-05 05:45 J -3156001.39 -3156001.26 -3156001.10 0.0072 0.0022

Pluto -13354-08-01 07:11 J -3155913.35 -3155913.20 -3155913.04 0.0072 0.0012

Pluto -13354-10-28 08:38 J -3155825.30 -3155825.14 -3155824.99 0.0072 0.0004

Pluto -13353-01-24 09:50 J -3155737.24 -3155737.09 -3155736.94 0.0073 0.0005

Pluto -13353-04-21 11:02 J -3155649.19 -3155649.04 -3155648.88 0.0073 0.0014

Pluto -13353-07-18 12:14 J -3155561.13 -3155560.99 -3155560.84 0.0073 0.0023

Mars -13353-09-29 00:43 J -3155488.50 -3155488.47 -3155488.44 0.1641 0.1582

Pluto -13353-10-14 13:26 J -3155473.07 -3155472.94 -3155472.79 0.0073 0.0032

Pluto -13352-01-10 14:38 J -3155385.00 -3155384.89 -3155384.75 0.0073 0.0041

Earth -13352-02-16 01:11 J -3155348.50 -3155348.45 -3155348.40 0.2617 0.2471

Pluto -13352-04-08 16:04 J -3155296.93 -3155296.83 -3155296.71 0.0073 0.0050

Pluto -13352-07-05 17:16 J -3155208.85 -3155208.78 -3155208.67 0.0073 0.0059

Pluto -13352-10-01 18:43 J -3155120.76 -3155120.72 -3155120.65 0.0073 0.0068

Venus -13352-12-11 19:11 J -3155049.77 -3155049.70 -3155049.63 0.3708 0.2538

Uranus -13352-12-14 05:45 J -3155047.31 -3155047.26 -3155047.20 0.0138 0.0122

Uranus -13351-03-12 08:52 J -3154959.21 -3154959.13 -3154959.04 0.0138 0.0103

Uranus -13351-06-08 12:14 J -3154871.10 -3154870.99 -3154870.89 0.0138 0.0084

Mars -13351-09-04 02:09 J -3154783.52 -3154783.41 -3154783.30 0.1631 0.0204

Uranus -13351-09-04 15:07 J -3154782.98 -3154782.87 -3154782.75 0.0138 0.0065

Uranus -13351-12-01 18:28 J -3154694.85 -3154694.73 -3154694.61 0.0139 0.0045

Jupiter -13350-02-26 00:14 J -3154608.59 -3154608.49 -3154608.40 0.0525 0.0325

Uranus -13350-02-27 21:35 J -3154606.72 -3154606.60 -3154606.47 0.0139 0.0025

Jupiter	-13350-05-26 04:48 J	-3154519.41	-3154519.30	-3154519.19	0.0524	0.0220
Uranus	-13350-05-27 00:57 J	-3154518.59	-3154518.46	-3154518.33	0.0139	0.0006
Uranus	-13350-08-23 04:04 J	-3154430.46	-3154430.33	-3154430.20	0.0139	0.0015
Uranus	-13350-11-19 07:11 J	-3154342.32	-3154342.20	-3154342.07	0.0139	0.0035
Saturn	-13349-02-12 17:02 J	-3154256.82	-3154256.79	-3154256.74	0.0299	0.0282
Uranus	-13349-02-15 10:33 J	-3154254.18	-3154254.06	-3154253.94	0.0139	0.0055
Saturn	-13349-05-11 05:02 J	-3154168.40	-3154168.29	-3154168.17	0.0298	0.0124
Uranus	-13349-05-13 13:40 J	-3154166.03	-3154165.93	-3154165.81	0.0139	0.0075
Saturn	-13349-08-07 17:02 J	-3154079.91	-3154079.79	-3154079.66	0.0297	0.0033
Uranus	-13349-08-09 17:02 J	-3154077.88	-3154077.79	-3154077.69	0.0139	0.0096
Venus	-13349-09-17 16:04 J	-3154039.00	-3154038.83	-3154038.67	0.3661	0.0511
Saturn	-13349-11-04 05:02 J	-3153991.39	-3153991.29	-3153991.19	0.0296	0.0187
Uranus	-13349-11-05 20:24 J	-3153989.72	-3153989.65	-3153989.58	0.0140	0.0116
Uranus	-13348-02-01 23:31 J	-3153901.54	-3153901.52	-3153901.49	0.0140	0.0137
Venus	-13346-06-27 10:19 J	-3153026.17	-3153026.07	-3153025.97	0.3710	0.0739
Jupiter	-13344-04-19 03:50 J	-3152364.51	-3152364.34	-3152364.16	0.0501	0.0195
Mars	-13344-04-21 04:48 J	-3152362.42	-3152362.30	-3152362.18	0.1891	0.1336
Earth	-13343-08-18 22:19 J	-3151877.67	-3151877.57	-3151877.46	0.2716	0.0268
Moon	-13343-08-18 22:48 J	-3151877.66	-3151877.55	-3151877.45	0.2723	0.0273 *
Mars	-13341-01-25 13:55 J	-3151353.04	-3151352.92	-3151352.81	0.1633	0.0233
Venus	-13340-01-10 01:26 J	-3151002.53	-3151002.44	-3151002.34	0.3712	0.1073
Mars	-13340-12-30 15:07 J	-3150647.91	-3150647.87	-3150647.84	0.1626	0.1538
Moon	-13339-02-19 06:43 J	-3150597.38	-3150597.22	-3150597.06	0.2617	0.0111
Earth	-13339-02-19 08:38 J	-3150597.31	-3150597.14	-3150596.98	0.2617	0.0077 *
Jupiter	-13339-12-15 05:02 J	-3150298.35	-3150298.29	-3150298.23	0.0525	0.0454
Jupiter	-13338-03-14 09:35 J	-3150209.22	-3150209.10	-3150208.97	0.0524	0.0091
Venus	-13335-07-26 16:48 J	-3148978.86	-3148978.80	-3148978.74	0.3714	0.2869
Mars	-13335-09-10 20:24 J	-3148932.82	-3148932.65	-3148932.48	0.1888	0.0129
Saturn	-13333-02-19 09:50 J	-3148406.21	-3148406.09	-3148405.96	0.0264	0.0201
Saturn	-13333-05-18 07:55 J	-3148317.36	-3148317.17	-3148316.97	0.0265	0.0034

Saturn -13333-08-15 06:00 J -3148228.41 -3148228.25 -3148228.08 0.0265 0.0137

Jupiter -13332-02-05 00:43 J -3148054.60 -3148054.47 -3148054.35 0.0501 0.0376

Jupiter -13332-05-06 13:55 J -3147964.04 -3147963.92 -3147963.80 0.0502 0.0377

Mars -13332-06-17 01:26 J -3147922.54 -3147922.44 -3147922.33 0.1636 0.0657

Mars -13330-05-23 02:52 J -3147217.47 -3147217.38 -3147217.30 0.1628 0.1116

Earth -13330-08-21 16:04 J -3147126.93 -3147126.83 -3147126.72 0.2715 0.0999

Moon -13330-08-21 16:48 J -3147126.89 -3147126.80 -3147126.70 0.2716 0.1117 *

Jupiter -13327-12-31 13:55 J -3145899.04 -3145898.92 -3145898.80 0.0524 0.0049

Moon -13326-02-22 13:55 J -3145845.99 -3145845.92 -3145845.85 0.2621 0.2323

Earth -13326-02-22 15:35 J -3145845.90 -3145845.85 -3145845.80 0.2618 0.2451 *

Jupiter -13326-03-30 18:28 J -3145809.77 -3145809.73 -3145809.69 0.0523 0.0493

Mars -13325-01-31 12:00 J -3145503.09 -3145503.00 -3145502.90 0.1885 0.1575

Moon -13323-08-14 15:07 J -3144576.91 -3144576.87 -3144576.83 0.2721 0.2506

Earth -13323-08-14 15:50 J -3144576.88 -3144576.84 -3144576.80 0.2717 0.2485 *

Mars -13323-11-07 13:11 J -3144492.04 -3144491.95 -3144491.87 0.1638 0.1090

Mars -13321-10-12 14:24 J -3143787.00 -3143786.90 -3143786.79 0.1630 0.0688

Jupiter -13320-02-22 10:48 J -3143654.22 -3143654.05 -3143653.87 0.0502 0.0199

Saturn -13320-09-28 06:43 J -3143436.32 -3143436.22 -3143436.12 0.0299 0.0179

Saturn -13320-12-25 18:43 J -3143347.85 -3143347.72 -3143347.60 0.0298 0.0024

Saturn -13319-03-24 06:28 J -3143259.34 -3143259.23 -3143259.12 0.0297 0.0134

Saturn -13319-06-20 18:14 J -3143170.76 -3143170.74 -3143170.71 0.0296 0.0287

Earth -13317-08-23 10:04 J -3142376.14 -3142376.08 -3142376.02 0.2715 0.2255

Moon -13317-08-23 10:33 J -3142376.11 -3142376.06 -3142376.00 0.2712 0.2353 *

Jupiter -13315-10-19 18:14 J -3141588.85 -3141588.74 -3141588.62 0.0524 0.0187

Jupiter -13314-01-16 23:02 J -3141499.63 -3141499.54 -3141499.45 0.0523 0.0358

Mars -13313-03-30 00:43 J -3141061.51 -3141061.47 -3141061.43 0.1640 0.1524

Uranus -13312-10-26 06:43 J -3140486.31 -3140486.22 -3140486.11 0.0140 0.0121

Uranus -13311-01-22 14:52 J -3140398.02 -3140397.88 -3140397.72 0.0140 0.0090

Mars -13311-03-05 02:09 J -3140356.52 -3140356.41 -3140356.30 0.1631 0.0262

Uranus -13311-04-20 23:16 J -3140309.70 -3140309.53 -3140309.35 0.0140 0.0059

Uranus -13311-07-18 07:26 J -3140221.37 -3140221.19 -3140220.99 0.0140 0.0029

Uranus -13311-10-14 15:50 J -3140133.04 -3140132.84 -3140132.65 0.0140 0.0003

Uranus -13310-01-10 23:45 J -3140044.69 -3140044.51 -3140044.31 0.0139 0.0033

Uranus -13310-04-09 07:55 J -3139956.34 -3139956.17 -3139955.99 0.0139 0.0063

Uranus -13310-07-06 15:50 J -3139867.98 -3139867.84 -3139867.69 0.0139 0.0093

Moon -13310-08-17 09:21 J -3139826.20 -3139826.11 -3139826.01 0.2724 0.1324

Earth -13310-08-17 09:21 J -3139826.20 -3139826.11 -3139826.01 0.2717 0.1256 *

Uranus -13310-10-02 23:45 J -3139779.59 -3139779.51 -3139779.41 0.0139 0.0123

Jupiter -13309-12-11 07:26 J -3139344.38 -3139344.19 -3139344.00 0.0501 0.0015

Moon -13306-02-17 06:43 J -3138546.32 -3138546.22 -3138546.12 0.2613 0.2026

Earth -13306-02-17 07:55 J -3138546.27 -3138546.17 -3138546.07 0.2617 0.1995 *

Mars -13305-10-20 05:45 J -3137935.36 -3137935.26 -3137935.15 0.1891 0.1462

Saturn -13304-07-08 07:55 J -3137674.21 -3137674.17 -3137674.11 0.0264 0.0254

Saturn -13304-10-05 06:00 J -3137585.43 -3137585.25 -3137585.06 0.0265 0.0087

Saturn -13303-01-02 04:04 J -3137496.51 -3137496.33 -3137496.14 0.0266 0.0083

Saturn -13303-04-01 02:24 J -3137407.46 -3137407.40 -3137407.34 0.0266 0.0253

Jupiter -13303-08-07 22:48 J -3137278.64 -3137278.55 -3137278.45 0.0525 0.0323

Jupiter -13303-11-05 03:35 J -3137189.47 -3137189.35 -3137189.24 0.0524 0.0223

Mars -13302-07-26 13:55 J -3136926.04 -3136925.92 -3136925.81 0.1633 0.0182

Venus -13300-01-02 01:26 J -3136400.45 -3136400.44 -3136400.44 0.3707 0.3681

Mars -13300-06-30 15:07 J -3136220.89 -3136220.87 -3136220.85 0.1626 0.1595

Earth -13297-08-19 03:07 J -3135075.47 -3135075.37 -3135075.26 0.2716 0.0093

Moon -13297-08-19 03:35 J -3135075.46 -3135075.35 -3135075.24 0.2721 0.0101 *

Jupiter -13297-09-29 03:50 J -3135034.52 -3135034.34 -3135034.16 0.0501 0.0170

Mars -13295-03-11 21:35 J -3134505.78 -3134505.60 -3134505.43 0.1889 0.0036

Venus -13295-07-18 16:33 J -3134376.90 -3134376.81 -3134376.72 0.3709 0.1882

Moon -13293-02-20 13:26 J -3133795.10 -3133794.94 -3133794.78 0.2617 0.0216

Earth -13293-02-20 15:07 J -3133795.02 -3133794.87 -3133794.71 0.2617 0.0489 *

Mars -13293-12-16 01:26 J -3133495.55 -3133495.44 -3133495.33 0.1636 0.0602

Venus -13292-04-24 19:11 J -3133365.85 -3133365.70 -3133365.56 0.3661 0.1741

Jupiter -13291-05-27 03:50 J -3132968.40 -3132968.34 -3132968.28 0.0525 0.0450

Jupiter -13291-08-24 08:24 J -3132879.27 -3132879.15 -3132879.02 0.0524 0.0098

Mars -13291-11-21 02:38 J -3132790.46 -3132790.39 -3132790.31 0.1628 0.1170

Saturn -13290-02-15 07:55 J -3132704.25 -3132704.17 -3132704.09 0.0299 0.0235

Saturn -13290-05-14 19:55 J -3132615.79 -3132615.67 -3132615.55 0.0298 0.0077

Saturn -13290-08-11 07:55 J -3132527.30 -3132527.17 -3132527.05 0.0297 0.0079

Saturn -13290-11-07 19:40 J -3132438.76 -3132438.68 -3132438.60 0.0296 0.0233

Venus -13289-02-01 07:40 J -3132353.28 -3132353.18 -3132353.08 0.3711 0.0110

Mars -13286-08-01 13:11 J -3131076.06 -3131075.95 -3131075.84 0.1885 0.1439

Jupiter -13285-07-17 22:48 J -3130724.67 -3130724.55 -3130724.42 0.0501 0.0373

Jupiter -13285-10-16 12:00 J -3130634.12 -3130634.00 -3130633.88 0.0502 0.0379

Venus -13284-08-16 22:48 J -3130329.63 -3130329.55 -3130329.46 0.3713 0.1722

Earth -13284-08-21 21:07 J -3130324.72 -3130324.62 -3130324.53 0.2715 0.1248

Moon -13284-08-21 21:50 J -3130324.69 -3130324.59 -3130324.50 0.2716 0.1305 *

Mars -13283-05-08 12:57 J -3130065.04 -3130064.96 -3130064.87 0.1638 0.1037

Mars -13281-04-12 14:24 J -3129360.00 -3129359.90 -3129359.80 0.1630 0.0742

Jupiter -13279-06-12 13:11 J -3128569.07 -3128568.95 -3128568.82 0.0524 0.0040

Jupiter -13279-09-09 18:00 J -3128479.78 -3128479.75 -3128479.73 0.0523 0.0508

Venus -13278-03-02 14:09 J -3128305.94 -3128305.91 -3128305.88 0.3714 0.3517

Neptune -13278-08-24 20:52 J -3128130.64 -3128130.63 -3128130.59 0.0089 0.0088

Neptune -13278-11-20 22:19 J -3128042.62 -3128042.57 -3128042.51 0.0089 0.0080

Neptune -13277-02-16 23:31 J -3127954.58 -3127954.52 -3127954.43 0.0089 0.0074

Neptune -13277-05-15 00:43 J -3127866.54 -3127866.47 -3127866.37 0.0089 0.0067

Neptune -13277-08-11 02:09 J -3127778.50 -3127778.41 -3127778.30 0.0089 0.0059

Moon -13277-08-14 20:09 J -3127774.71 -3127774.66 -3127774.61 0.2722 0.2348

Earth -13277-08-14 20:38 J -3127774.70 -3127774.64 -3127774.58 0.2717 0.2244 *

Neptune -13277-11-07 03:21 J -3127690.45 -3127690.36 -3127690.24 0.0089 0.0053

Neptune -13276-02-03 05:02 J -3127602.40 -3127602.29 -3127602.18 0.0089 0.0045

Neptune -13276-05-02 06:14 J -3127514.36 -3127514.24 -3127514.12 0.0089 0.0038

Neptune -13276-07-29 07:26 J -3127426.31 -3127426.19 -3127426.06 0.0089 0.0031

Neptune -13276-10-25 08:52 J -3127338.26 -3127338.13 -3127338.01 0.0089 0.0024

Neptune -13275-01-21 10:04 J -3127250.21 -3127250.08 -3127249.95 0.0089 0.0017

Neptune -13275-04-19 11:31 J -3127162.15 -3127162.02 -3127161.89 0.0089 0.0010

Neptune -13275-07-16 12:43 J -3127074.10 -3127073.97 -3127073.84 0.0089 0.0003

Neptune -13275-10-12 13:55 J -3126986.05 -3126985.92 -3126985.79 0.0089 0.0005

Neptune -13274-01-08 15:07 J -3126897.99 -3126897.87 -3126897.73 0.0089 0.0012

Saturn -13274-02-22 05:02 J -3126853.46 -3126853.29 -3126853.12 0.0264 0.0134

Neptune -13274-04-06 16:33 J -3126809.94 -3126809.81 -3126809.68 0.0089 0.0019

Saturn -13274-05-22 03:07 J -3126764.56 -3126764.37 -3126764.18 0.0265 0.0034

Neptune -13274-07-03 17:45 J -3126721.88 -3126721.76 -3126721.63 0.0089 0.0026

Saturn -13274-08-19 01:11 J -3126675.57 -3126675.45 -3126675.32 0.0266 0.0204

Mars -13274-09-29 00:43 J -3126634.52 -3126634.47 -3126634.43 0.1641 0.1473

Neptune -13274-09-29 18:57 J -3126633.82 -3126633.71 -3126633.58 0.0089 0.0033

Neptune -13274-12-26 20:09 J -3126545.77 -3126545.66 -3126545.53 0.0089 0.0041

Neptune -13273-03-23 21:21 J -3126457.71 -3126457.61 -3126457.49 0.0089 0.0048

Neptune -13273-06-19 22:48 J -3126369.65 -3126369.55 -3126369.44 0.0089 0.0054

Jupiter -13273-08-04 08:38 J -3126324.31 -3126324.14 -3126323.96 0.0502 0.0197

Neptune -13273-09-16 00:00 J -3126281.58 -3126281.50 -3126281.40 0.0089 0.0062

Neptune -13273-12-13 01:11 J -3126193.52 -3126193.45 -3126193.35 0.0089 0.0069

Neptune -13272-03-11 02:38 J -3126105.45 -3126105.39 -3126105.31 0.0089 0.0075

Neptune -13272-06-07 03:50 J -3126017.38 -3126017.34 -3126017.28 0.0089 0.0083

Mars -13272-09-03 02:09 J -3125929.53 -3125929.41 -3125929.30 0.1631 0.0320

Neptune -13272-09-03 05:16 J -3125929.28 -3125929.28 -3125929.28 0.0089 0.0089

Earth -13271-08-24 14:52 J -3125573.92 -3125573.88 -3125573.84 0.2715 0.2504

Moon -13271-08-24 15:21 J -3125573.89 -3125573.86 -3125573.83 0.2710 0.2569 *

Pluto -13270-01-24 05:45 J -3125421.27 -3125421.26 -3125421.22 0.0072 0.0072

Pluto -13270-04-22 07:11 J -3125333.26 -3125333.20 -3125333.10 0.0072 0.0062

Pluto -13270-07-19 08:38 J -3125245.23 -3125245.14 -3125245.01 0.0072 0.0054

Pluto -13270-10-15 10:19 J -3125157.19 -3125157.07 -3125156.93 0.0072 0.0044

Pluto -13269-01-11 11:45 J -3125069.14 -3125069.01 -3125068.86 0.0072 0.0035

Pluto -13269-04-08 13:26 J -3124981.09 -3124980.94 -3124980.79 0.0072 0.0026

Pluto -13269-07-05 14:52 J -3124893.04 -3124892.88 -3124892.72 0.0072 0.0017

Pluto -13269-10-01 16:19 J -3124804.98 -3124804.82 -3124804.66 0.0071 0.0008

Pluto -13269-12-28 17:45 J -3124716.92 -3124716.76 -3124716.60 0.0071 0.0001

Pluto -13268-03-26 19:11 J -3124628.86 -3124628.70 -3124628.54 0.0071 0.0009

Pluto -13268-06-22 20:24 J -3124540.80 -3124540.65 -3124540.49 0.0071 0.0018

Pluto -13268-09-18 21:50 J -3124452.74 -3124452.59 -3124452.44 0.0071 0.0026

Uranus -13268-10-07 10:19 J -3124434.09 -3124434.07 -3124434.05 0.0138 0.0135

Pluto -13268-12-15 23:02 J -3124364.67 -3124364.54 -3124364.39 0.0071 0.0035

Uranus -13267-01-03 13:26 J -3124346.01 -3124345.94 -3124345.87 0.0138 0.0116

Pluto -13267-03-14 00:28 J -3124276.60 -3124276.48 -3124276.35 0.0071 0.0043

Jupiter -13267-03-31 17:31 J -3124258.89 -3124258.77 -3124258.65 0.0524 0.0176

Uranus -13267-04-01 16:19 J -3124257.90 -3124257.82 -3124257.72 0.0138 0.0098

Pluto -13267-06-10 01:26 J -3124188.53 -3124188.44 -3124188.31 0.0071 0.0052

Uranus -13267-06-28 19:40 J -3124169.78 -3124169.68 -3124169.57 0.0138 0.0078

Jupiter -13267-06-28 22:04 J -3124169.67 -3124169.58 -3124169.49 0.0523 0.0368 *

Pluto -13267-09-06 02:52 J -3124100.45 -3124100.38 -3124100.28 0.0071 0.0060

Uranus -13267-09-24 23:02 J -3124081.66 -3124081.54 -3124081.43 0.0139 0.0058

Pluto -13267-12-03 04:04 J -3124012.35 -3124012.33 -3124012.27 0.0070 0.0068

Uranus -13267-12-22 02:09 J -3123993.54 -3123993.41 -3123993.29 0.0139 0.0038

Uranus -13266-03-20 05:16 J -3123905.41 -3123905.28 -3123905.15 0.0139 0.0019

Uranus -13266-06-16 08:24 J -3123817.28 -3123817.15 -3123817.01 0.0139 0.0005

Uranus -13266-09-12 11:45 J -3123729.14 -3123729.01 -3123728.88 0.0139 0.0021

Uranus -13266-12-09 14:52 J -3123641.00 -3123640.88 -3123640.75 0.0139 0.0042

Uranus -13265-03-06 18:14 J -3123552.86 -3123552.74 -3123552.62 0.0139 0.0062

Mars -13265-04-20 06:28 J -3123508.32 -3123508.23 -3123508.14 0.1892 0.1577

Uranus -13265-06-02 21:21 J -3123464.71 -3123464.61 -3123464.50 0.0139 0.0082

Uranus -13265-08-30 00:28 J -3123376.56 -3123376.48 -3123376.38 0.0140 0.0103

Uranus -13265-11-26 03:50 J -3123288.39 -3123288.34 -3123288.27 0.0140 0.0123

Moon -13264-08-17 14:09 J -3123024.01 -3123023.91 -3123023.80 0.2724 0.0958

Earth -13264-08-17 14:09 J -3123024.01 -3123023.91 -3123023.81 0.2717 0.1016 *

Mars -13262-01-24 13:40 J -3122499.04 -3122498.93 -3122498.81 0.1633 0.0120

Jupiter -13261-05-23 05:31 J -3122014.45 -3122014.27 -3122014.08 0.0502 0.0021

Saturn -13261-07-04 09:35 J -3121972.13 -3121972.10 -3121972.06 0.0299 0.0287

Saturn -13261-09-30 21:35 J -3121883.71 -3121883.60 -3121883.48 0.0299 0.0129

Saturn -13261-12-28 09:35 J -3121795.23 -3121795.10 -3121794.97 0.0298 0.0028

Moon -13260-02-17 12:57 J -3121744.07 -3121743.96 -3121743.84 0.2614 0.1783

Earth -13260-02-17 14:38 J -3121744.02 -3121743.89 -3121743.76 0.2617 0.1523 *

Saturn -13260-03-26 21:21 J -3121706.71 -3121706.61 -3121706.51 0.0297 0.0184

Mars -13256-09-09 22:33 J -3120078.73 -3120078.56 -3120078.39 0.1889 0.0142

Jupiter -13255-01-17 21:50 J -3119948.69 -3119948.59 -3119948.49 0.0524 0.0314

Jupiter -13255-04-17 02:24 J -3119859.51 -3119859.40 -3119859.28 0.0523 0.0231

Mars -13253-06-16 01:26 J -3119068.55 -3119068.44 -3119068.33 0.1636 0.0543

Mars -13251-05-22 02:38 J -3118363.46 -3118363.39 -3118363.31 0.1628 0.1226

Earth -13251-08-20 07:55 J -3118273.27 -3118273.17 -3118273.06 0.2716 0.0260

Moon -13251-08-20 08:38 J -3118273.25 -3118273.14 -3118273.03 0.2720 0.0251 *

Jupiter -13249-03-11 02:09 J -3117704.59 -3117704.41 -3117704.23 0.0501 0.0167

Moon -13247-02-20 19:55 J -3116992.82 -3116992.67 -3116992.51 0.2618 0.0850

Earth -13247-02-20 21:50 J -3116992.74 -3116992.59 -3116992.44 0.2618 0.0947 *

Mars -13246-01-30 14:09 J -3116649.03 -3116648.91 -3116648.79 0.1885 0.1310

Saturn -13245-07-11 03:35 J -3116121.48 -3116121.35 -3116121.21 0.0264 0.0183

Saturn -13245-10-08 01:40 J -3116032.62 -3116032.43 -3116032.23 0.0265 0.0016

Saturn -13244-01-04 23:45 J -3115943.66 -3115943.51 -3115943.35 0.0266 0.0155

Venus -13244-08-08 22:48 J -3115727.61 -3115727.55 -3115727.50 0.3707 0.3026

Jupiter -13244-11-06 02:24 J -3115638.46 -3115638.40 -3115638.34 0.0525 0.0452

Mars -13244-11-06 12:57 J -3115638.05 -3115637.96 -3115637.87 0.1638 0.0980

Jupiter -13243-02-03 06:57 J -3115549.33 -3115549.21 -3115549.09 0.0524 0.0094

Mars -13242-10-12 14:24 J -3114933.00 -3114932.90 -3114932.80 0.1629 0.0798

Venus -13241-05-15 09:21 J -3114717.20 -3114717.11 -3114717.01 0.3663 0.2970

Venus -13238-02-22 13:55 J -3113704.01 -3113703.92 -3113703.83 0.3709 0.1226

Earth -13238-08-23 01:55 J -3113522.51 -3113522.42 -3113522.33 0.2715 0.1495

Moon -13238-08-23 02:24 J -3113522.48 -3113522.40 -3113522.31 0.2716 0.1633 *

Jupiter -13238-12-28 22:19 J -3113394.70 -3113394.57 -3113394.44 0.0501 0.0353

Jupiter -13237-03-28 11:31 J -3113304.13 -3113304.02 -3113303.91 0.0502 0.0397

Mars -13234-03-30 00:43 J -3112207.53 -3112207.47 -3112207.42 0.1640 0.1417

Venus -13233-09-07 05:02 J -3111680.39 -3111680.29 -3111680.19 0.3711 0.0570

Mars -13232-03-04 01:55 J -3111502.53 -3111502.42 -3111502.30 0.1631 0.0372

Jupiter -13232-11-22 12:00 J -3111239.13 -3111239.00 -3111238.88 0.0524 0.0039

Saturn -13231-02-17 23:31 J -3111151.62 -3111151.52 -3111151.42 0.0298 0.0178

Jupiter -13231-02-19 16:33 J -3111149.84 -3111149.81 -3111149.79 0.0523 0.0509

Saturn -13231-05-17 11:31 J -3111063.15 -3111063.02 -3111062.90 0.0297 0.0023

Saturn -13231-08-13 23:16 J -3110974.64 -3110974.53 -3110974.42 0.0296 0.0134

Moon -13231-08-16 00:57 J -3110972.53 -3110972.46 -3110972.39 0.2723 0.2032

Earth -13231-08-16 01:26 J -3110972.51 -3110972.44 -3110972.37 0.2717 0.2005 *

Saturn -13231-11-10 11:02 J -3110886.06 -3110886.04 -3110886.01 0.0295 0.0287

Uranus -13228-11-15 14:24 J -3109785.00 -3109784.90 -3109784.77 0.0140 0.0112

Uranus -13227-02-11 22:48 J -3109696.70 -3109696.55 -3109696.38 0.0140 0.0081

Venus -13227-03-23 20:09 J -3109656.73 -3109656.66 -3109656.58 0.3713 0.2368

Uranus -13227-05-11 06:57 J -3109608.38 -3109608.21 -3109608.02 0.0140 0.0051

Uranus -13227-08-07 15:21 J -3109520.05 -3109519.86 -3109519.67 0.0140 0.0020

Uranus -13227-11-03 23:31 J -3109431.72 -3109431.52 -3109431.32 0.0139 0.0011

Uranus -13226-01-31 07:26 J -3109343.37 -3109343.19 -3109342.99 0.0139 0.0042

Uranus -13226-04-29 15:35 J -3109255.01 -3109254.85 -3109254.68 0.0139 0.0071

Uranus -13226-07-26 23:31 J -3109166.64 -3109166.52 -3109166.38 0.0139 0.0101

Mars -13226-10-20 07:26 J -3109081.26 -3109081.19 -3109081.11 0.1892 0.1711

Uranus -13226-10-23 07:26 J -3109078.24 -3109078.19 -3109078.11 0.0139 0.0131

Jupiter -13225-01-15 06:28 J -3108994.41 -3108994.23 -3108994.06 0.0502 0.0194

Mars -13223-07-25 13:40 J -3108072.04 -3108071.93 -3108071.81 0.1633 0.0062

Jupiter -13220-09-10 16:33 J -3106928.92 -3106928.81 -3106928.69 0.0524 0.0166

Jupiter -13220-12-08 21:21 J -3106839.70 -3106839.61 -3106839.53 0.0523 0.0378

Earth -13218-08-18 19:11 J -3106221.81 -3106221.70 -3106221.60 0.2717 0.0773

Moon -13218-08-18 19:11 J -3106221.80 -3106221.70 -3106221.60 0.2723 0.0807 *

Mars -13216-03-10 23:16 J -3105651.70 -3105651.53 -3105651.36 0.1889 0.0259

Saturn -13216-11-28 03:07 J -3105389.47 -3105389.37 -3105389.27 0.0264 0.0226

Saturn -13215-02-25 01:11 J -3105300.64 -3105300.45 -3105300.26 0.0265 0.0059

Saturn -13215-05-24 23:16 J -3105211.70 -3105211.53 -3105211.35 0.0265 0.0111

Moon -13214-02-18 19:40 J -3104941.83 -3104941.68 -3104941.54 0.2615 0.1132

Earth -13214-02-18 21:21 J -3104941.76 -3104941.61 -3104941.46 0.2617 0.1046 *

Jupiter -13214-11-03 02:52 J -3104684.57 -3104684.38 -3104684.19 0.0502 0.0009

Mars -13214-12-16 01:26 J -3104641.55 -3104641.44 -3104641.34 0.1636 0.0495

Mars -13212-11-20 02:38 J -3103936.46 -3103936.39 -3103936.32 0.1628 0.1277

Jupiter -13208-06-29 20:52 J -3102618.73 -3102618.63 -3102618.53 0.0524 0.0309

Jupiter -13208-09-27 01:26 J -3102529.55 -3102529.44 -3102529.33 0.0523 0.0236

Mars -13207-07-31 14:52 J -3102222.01 -3102221.88 -3102221.75 0.1885 0.1196

Earth -13205-08-20 12:43 J -3101471.07 -3101470.97 -3101470.86 0.2716 0.0496

Moon -13205-08-20 13:26 J -3101471.04 -3101470.94 -3101470.83 0.2719 0.0629 *

Mars -13204-05-07 12:57 J -3101211.05 -3101210.96 -3101210.86 0.1638 0.0923

Mars -13202-04-12 14:24 J -3100506.00 -3100505.90 -3100505.81 0.1630 0.0854

Saturn -13202-07-08 01:40 J -3100419.51 -3100419.43 -3100419.35 0.0299 0.0224

Jupiter -13202-08-21 23:45 J -3100374.69 -3100374.51 -3100374.33 0.0501 0.0171

Saturn -13202-10-04 13:40 J -3100331.06 -3100330.93 -3100330.81 0.0298 0.0066

Saturn -13201-01-01 01:26 J -3100242.56 -3100242.44 -3100242.31 0.0297 0.0091

Moon -13201-02-22 02:52 J -3100190.52 -3100190.38 -3100190.24 0.2619 0.1149

Earth -13201-02-22 04:33 J -3100190.44 -3100190.31 -3100190.18 0.2618 0.1420 *

Saturn -13201-03-29 13:26 J -3100154.01 -3100153.94 -3100153.87 0.0296 0.0244

Jupiter -13196-04-18 01:11 J -3098308.52 -3098308.45 -3098308.39 0.0525 0.0448

Jupiter -13196-07-16 05:45 J -3098219.38 -3098219.26 -3098219.14 0.0524 0.0097

Mars -13195-09-28 00:28 J -3097780.54 -3097780.48 -3097780.41 0.1640 0.1361

Neptune -13194-02-05 20:24 J -3097649.70 -3097649.65 -3097649.57 0.0088 0.0082

Neptune -13194-05-05 00:00 J -3097561.59 -3097561.50 -3097561.37 0.0088 0.0072

Neptune -13194-08-01 03:50 J -3097473.47 -3097473.34 -3097473.19 0.0088 0.0062

Neptune -13194-10-28 07:26 J -3097385.33 -3097385.19 -3097385.01 0.0088 0.0052

Neptune -13193-01-24 11:31 J -3097297.19 -3097297.02 -3097296.84 0.0088 0.0041

Neptune -13193-04-21 15:07 J -3097209.05 -3097208.87 -3097208.68 0.0088 0.0031

Neptune -13193-07-18 18:57 J -3097120.90 -3097120.71 -3097120.52 0.0088 0.0021

Mars -13193-09-02 01:55 J -3097075.53 -3097075.42 -3097075.31 0.1631 0.0429

Neptune -13193-10-14 22:33 J -3097032.75 -3097032.56 -3097032.36 0.0088 0.0011

Neptune -13192-01-11 02:24 J -3096944.60 -3096944.40 -3096944.20 0.0088 0.0001

Neptune -13192-04-09 06:00 J -3096856.44 -3096856.25 -3096856.05 0.0088 0.0010

Neptune -13192-07-06 09:50 J -3096768.28 -3096768.09 -3096767.89 0.0088 0.0020

Earth -13192-08-23 06:43 J -3096720.31 -3096720.22 -3096720.14 0.2715 0.1744

Moon -13192-08-23 07:11 J -3096720.28 -3096720.20 -3096720.11 0.2714 0.1775 *

Neptune -13192-10-02 13:26 J -3096680.12 -3096679.94 -3096679.75 0.0088 0.0030

Neptune -13192-12-29 17:16 J -3096591.95 -3096591.78 -3096591.60 0.0088 0.0040

Neptune -13191-03-27 20:38 J -3096503.79 -3096503.64 -3096503.46 0.0088 0.0051

Neptune -13191-06-24 00:28 J -3096415.61 -3096415.48 -3096415.33 0.0088 0.0061

Neptune -13191-09-20 04:04 J -3096327.43 -3096327.33 -3096327.20 0.0088 0.0071

Neptune -13191-12-17 07:55 J -3096239.23 -3096239.17 -3096239.08 0.0088 0.0081

Jupiter -13190-06-09 20:09 J -3096064.79 -3096064.66 -3096064.53 0.0501 0.0356

Jupiter -13190-09-08 09:21 J -3095974.23 -3095974.11 -3095974.00 0.0502 0.0395

Venus -13187-03-15 20:09 J -3095054.74 -3095054.66 -3095054.59 0.3708 0.2378

Mars -13186-04-20 08:38 J -3094654.17 -3094654.14 -3094654.10 0.1892 0.1851

Saturn -13186-07-15 00:43 J -3094568.65 -3094568.47 -3094568.29 0.0265 0.0102

Saturn -13186-10-11 22:48 J -3094479.73 -3094479.55 -3094479.36 0.0265 0.0068

Saturn -13185-01-08 20:52 J -3094390.70 -3094390.63 -3094390.54 0.0266 0.0239

Moon -13185-08-16 05:45 J -3094170.33 -3094170.26 -3094170.18 0.2724 0.1811

Earth -13185-08-16 06:14 J -3094170.32 -3094170.24 -3094170.16 0.2717 0.1762 *

Venus -13185-12-20 12:28 J -3094044.14 -3094043.98 -3094043.82 0.3662 0.0740

Jupiter -13184-05-04 10:04 J -3093909.20 -3093909.08 -3093908.95 0.0524 0.0042

Jupiter -13184-08-01 14:38 J -3093819.92 -3093819.89 -3093819.85 0.0523 0.0502

Uranus -13184-10-27 17:31 J -3093732.81 -3093732.77 -3093732.73 0.0138 0.0131

Mars -13183-01-23 13:40 J -3093645.05 -3093644.93 -3093644.82 0.1633 0.0006

Uranus -13183-01-23 20:24 J -3093644.71 -3093644.65 -3093644.56 0.0138 0.0113

Uranus -13183-04-21 23:45 J -3093556.60 -3093556.51 -3093556.41 0.0138 0.0093

Uranus -13183-07-19 02:52 J -3093468.48 -3093468.38 -3093468.27 0.0138 0.0073

Uranus -13183-10-15 06:00 J -3093380.36 -3093380.25 -3093380.12 0.0139 0.0054

Uranus -13182-01-11 09:21 J -3093292.24 -3093292.11 -3093291.98 0.0139 0.0034

Uranus -13182-04-09 12:28 J -3093204.11 -3093203.98 -3093203.85 0.0139 0.0014

Uranus -13182-07-06 15:35 J -3093115.98 -3093115.85 -3093115.71 0.0139 0.0008

Venus -13182-09-29 11:16 J -3093031.13 -3093031.03 -3093030.93 0.3710 0.0580

Uranus -13182-10-02 18:57 J -3093027.84 -3093027.71 -3093027.58 0.0139 0.0026

Uranus -13182-12-29 22:04 J -3092939.70 -3092939.58 -3092939.45 0.0139 0.0046

Uranus -13181-03-27 01:26 J -3092851.56 -3092851.44 -3092851.33 0.0139 0.0066

Uranus -13181-06-23 04:19 J -3092763.41 -3092763.32 -3092763.21 0.0139 0.0087

Uranus -13181-09-19 07:40 J -3092675.25 -3092675.18 -3092675.09 0.0140 0.0107

Uranus -13181-12-16 11:02 J -3092587.09 -3092587.04 -3092586.98 0.0140 0.0127

Jupiter -13178-06-27 05:16 J -3091664.45 -3091664.28 -3091664.10 0.0502 0.0207

Mars -13177-09-09 00:14 J -3091224.66 -3091224.49 -3091224.33 0.1889 0.0386

Venus -13176-04-14 02:24 J -3091007.49 -3091007.40 -3091007.31 0.3712 0.1211

Mars -13174-06-16 01:11 J -3090214.56 -3090214.45 -3090214.34 0.1635 0.0438

Saturn -13173-11-24 03:50 J -3089687.39 -3089687.34 -3089687.28 0.0299 0.0268

Jupiter -13172-02-20 14:52 J -3089598.99 -3089598.88 -3089598.76 0.0525 0.0172

Saturn -13172-02-20 15:50 J -3089598.95 -3089598.84 -3089598.72 0.0298 0.0111 *

Saturn -13172-05-20 03:50 J -3089510.47 -3089510.34 -3089510.21 0.0297 0.0046

Jupiter -13172-05-20 19:40 J -3089509.77 -3089509.68 -3089509.60 0.0523 0.0373

Mars -13172-05-21 02:38 J -3089509.46 -3089509.39 -3089509.33 0.1628 0.1332

Saturn -13172-08-16 15:35 J -3089421.94 -3089421.85 -3089421.75 0.0296 0.0201

Earth -13172-08-19 00:00 J -3089419.61 -3089419.50 -3089419.40 0.2716 0.0533

Moon -13172-08-19 00:14 J -3089419.60 -3089419.49 -3089419.39 0.2723 0.0474 *

Venus -13171-10-28 17:31 J -3088983.82 -3088983.77 -3088983.71 0.3714 0.3011

Moon -13168-02-19 02:24 J -3088139.56 -3088139.40 -3088139.25 0.2615 0.0849

Earth -13168-02-19 04:04 J -3088139.49 -3088139.33 -3088139.18 0.2617 0.0577 *

Mars -13167-01-29 15:50 J -3087794.98 -3087794.84 -3087794.69 0.1885 0.1060

Jupiter -13166-04-15 00:14 J -3087354.68 -3087354.49 -3087354.30 0.0501 0.0002

Mars -13165-11-05 12:57 J -3086784.06 -3086783.96 -3086783.86 0.1638 0.0869

Mars -13163-10-11 14:09 J -3086079.00 -3086078.91 -3086078.81 0.1629 0.0906

Jupiter -13161-12-09 19:40 J -3085288.78 -3085288.68 -3085288.58 0.0525 0.0304

Jupiter -13160-03-09 00:14 J -3085199.60 -3085199.49 -3085199.38 0.0524 0.0242

Earth -13159-08-21 17:45 J -3084668.87 -3084668.76 -3084668.66 0.2716 0.0738

Moon -13159-08-21 18:14 J -3084668.84 -3084668.74 -3084668.63 0.2719 0.0755 *

Saturn -13157-12-01 00:28 J -3083836.64 -3083836.48 -3083836.31 0.0264 0.0142

Saturn -13156-02-27 22:48 J -3083747.75 -3083747.55 -3083747.36 0.0265 0.0027

Saturn -13156-05-27 20:52 J -3083658.76 -3083658.63 -3083658.50 0.0266 0.0197

Moon -13155-02-22 09:35 J -3083388.21 -3083388.10 -3083387.98 0.2620 0.1837

Earth -13155-02-22 11:16 J -3083388.14 -3083388.03 -3083387.92 0.2618 0.1891 *

Mars -13155-03-29 00:28 J -3083353.54 -3083353.48 -3083353.41 0.1640 0.1305

Jupiter -13154-01-31 20:38 J -3083044.82 -3083044.64 -3083044.47 0.0501 0.0184

Mars -13153-03-03 01:55 J -3082648.53 -3082648.42 -3082648.31 0.1631 0.0481

Jupiter -13149-09-27 23:45 J -3080978.57 -3080978.51 -3080978.45 0.0525 0.0447

Jupiter -13149-12-26 04:19 J -3080889.44 -3080889.32 -3080889.19 0.0524 0.0099

Earth -13146-08-24 11:31 J -3079918.09 -3079918.02 -3079917.95 0.2715 0.1992

Moon -13146-08-24 12:00 J -3079918.06 -3079918.00 -3079917.93 0.2712 0.2136 *

Mars -13144-07-24 13:40 J -3079218.05 -3079217.93 -3079217.82 0.1633 0.0067

Uranus -13144-09-08 13:40 J -3079171.97 -3079171.93 -3079171.87 0.0140 0.0135

Uranus -13144-12-05 22:04 J -3079083.70 -3079083.58 -3079083.44 0.0140 0.0104

Uranus -13143-03-04 06:14 J -3078995.40 -3078995.24 -3078995.06 0.0140 0.0073

Uranus -13143-05-31 14:38 J -3078907.07 -3078906.89 -3078906.70 0.0140 0.0042

Saturn -13143-07-10 18:28 J -3078866.84 -3078866.73 -3078866.62 0.0299 0.0151

Uranus -13143-08-27 23:02 J -3078818.74 -3078818.54 -3078818.35 0.0140 0.0012

Saturn -13143-10-07 06:28 J -3078778.36 -3078778.23 -3078778.10 0.0298 0.0007

Jupiter -13143-11-19 17:16 J -3078734.91 -3078734.78 -3078734.65 0.0501 0.0365

Uranus -13143-11-24 06:57 J -3078730.40 -3078730.21 -3078730.01 0.0140 0.0019

Saturn -13142-01-03 18:14 J -3078689.84 -3078689.74 -3078689.63 0.0297 0.0162

Jupiter -13142-02-18 06:28 J -3078644.35 -3078644.23 -3078644.11 0.0502 0.0387

Uranus -13142-02-20 15:07 J -3078642.05 -3078641.87 -3078641.68 0.0139 0.0049

Uranus -13142-05-19 23:02 J -3078553.69 -3078553.54 -3078553.37 0.0139 0.0079

Uranus -13142-08-16 06:57 J -3078465.31 -3078465.21 -3078465.07 0.0139 0.0110

Uranus -13142-11-12 15:07 J -3078376.87 -3078376.87 -3078376.85 0.0139 0.0139

Moon -13139-08-17 10:48 J -3077368.14 -3077368.05 -3077367.97 0.2724 0.1566

Earth -13139-08-17 11:02 J -3077368.13 -3077368.04 -3077367.95 0.2717 0.1521 *

Mars -13137-03-10 01:26 J -3076797.61 -3076797.44 -3076797.28 0.1889 0.0527

Jupiter -13137-10-14 08:38 J -3076579.26 -3076579.14 -3076579.01 0.0524 0.0042

Jupiter -13136-01-11 13:11 J -3076489.98 -3076489.95 -3076489.91 0.0523 0.0500

Venus -13136-04-06 02:09 J -3076405.44 -3076405.41 -3076405.38 0.3706 0.3519

Earth -13135-02-17 03:21 J -3076088.37 -3076088.36 -3076088.35 0.2616 0.2603

Mars -13135-12-15 01:11 J -3075787.56 -3075787.45 -3075787.33 0.1635 0.0381

Mars -13133-11-19 02:38 J -3075082.45 -3075082.39 -3075082.34 0.1628 0.1389

Venus -13131-10-20 17:16 J -3074381.86 -3074381.78 -3074381.69 0.3708 0.1733

Jupiter -13131-12-07 02:38 J -3074334.56 -3074334.39 -3074334.21 0.0502 0.0200

Venus -13128-07-27 15:21 J -3073371.01 -3073370.86 -3073370.70 0.3661 0.1493

Mars -13128-07-30 16:48 J -3073367.95 -3073367.80 -3073367.65 0.1885 0.0931

Saturn -13127-04-20 00:43 J -3073104.61 -3073104.47 -3073104.32 0.0264 0.0180

Saturn -13127-07-17 22:48 J -3073015.74 -3073015.55 -3073015.35 0.0265 0.0014

Saturn -13127-10-14 20:52 J -3072926.77 -3072926.63 -3072926.46 0.0266 0.0159

Earth -13126-08-20 04:48 J -3072617.41 -3072617.30 -3072617.20 0.2716 0.0298

Moon -13126-08-20 05:02 J -3072617.40 -3072617.29 -3072617.18 0.2722 0.0240 *

Venus -13125-05-05 08:38 J -3072358.24 -3072358.14 -3072358.04 0.3710 0.0160

Mars -13125-05-06 12:57 J -3072357.06 -3072356.96 -3072356.86 0.1638 0.0814

Jupiter -13125-08-02 12:57 J -3072269.08 -3072268.96 -3072268.84 0.0525 0.0183

Jupiter -13125-10-30 17:31 J -3072179.86 -3072179.77 -3072179.68 0.0523 0.0362

Mars -13123-04-11 14:09 J -3071652.00 -3071651.91 -3071651.81 0.1629 0.0966

Moon -13122-02-20 09:07 J -3071337.28 -3071337.12 -3071336.96 0.2615 0.0211

Earth -13122-02-20 10:48 J -3071337.21 -3071337.05 -3071336.89 0.2617 0.0100 *

Venus -13120-11-18 23:45 J -3070334.60 -3070334.51 -3070334.43 0.3712 0.1857

Jupiter -13119-09-24 22:48 J -3070024.74 -3070024.55 -3070024.36 0.0501 0.0009

Mars -13116-09-27 00:28 J -3068926.55 -3068926.48 -3068926.41 0.1640 0.1250

Venus -13114-06-04 14:52 J -3068310.90 -3068310.88 -3068310.86 0.3714 0.3643

Mars -13114-09-02 01:55 J -3068221.53 -3068221.42 -3068221.31 0.1631 0.0534

Saturn -13114-11-27 21:21 J -3068134.71 -3068134.61 -3068134.51 0.0298 0.0188

Saturn -13113-02-24 09:21 J -3068046.24 -3068046.11 -3068045.98 0.0297 0.0031

Neptune -13113-05-20 20:52 J -3067959.67 -3067959.63 -3067959.59 0.0089 0.0085

Jupiter -13113-05-21 17:31 J -3067958.86 -3067958.77 -3067958.66 0.0525 0.0315

Saturn -13113-05-22 21:07 J -3067957.73 -3067957.62 -3067957.50 0.0296 0.0124

Neptune -13113-08-16 22:04 J -3067871.64 -3067871.58 -3067871.51 0.0089 0.0078

Jupiter -13113-08-18 22:19 J -3067869.68 -3067869.57 -3067869.46 0.0524 0.0231

Saturn -13113-08-19 08:52 J -3067869.17 -3067869.13 -3067869.08 0.0295 0.0277

Earth -13113-08-21 22:19 J -3067866.67 -3067866.57 -3067866.46 0.2716 0.0985

Moon -13113-08-21 23:02 J -3067866.64 -3067866.54 -3067866.44 0.2718 0.1114 *

Neptune -13113-11-12 23:31 J -3067783.60 -3067783.52 -3067783.44 0.0089 0.0071

Neptune -13112-02-09 00:43 J -3067695.56 -3067695.47 -3067695.38 0.0089 0.0064

Neptune -13112-05-08 01:55 J -3067607.51 -3067607.42 -3067607.31 0.0089 0.0057

Neptune -13112-08-04 03:21 J -3067519.47 -3067519.36 -3067519.25 0.0089 0.0049

Neptune -13112-10-31 04:33 J -3067431.42 -3067431.31 -3067431.19 0.0089 0.0043

Neptune -13111-01-27 05:45 J -3067343.37 -3067343.26 -3067343.13 0.0089 0.0036

Neptune -13111-04-25 07:11 J -3067255.32 -3067255.20 -3067255.07 0.0089 0.0028

Neptune -13111-07-22 08:24 J -3067167.27 -3067167.15 -3067167.02 0.0089 0.0022

Neptune -13111-10-18 09:50 J -3067079.22 -3067079.09 -3067078.96 0.0089 0.0014

Neptune -13110-01-14 11:02 J -3066991.17 -3066991.04 -3066990.91 0.0089 0.0008

Neptune -13110-04-12 12:28 J -3066903.11 -3066902.98 -3066902.85 0.0089 0.0001

Neptune -13110-07-09 13:40 J -3066815.06 -3066814.93 -3066814.80 0.0089 0.0007

Neptune -13110-10-05 14:52 J -3066727.00 -3066726.88 -3066726.75 0.0089 0.0015

Neptune -13109-01-01 16:19 J -3066638.95 -3066638.82 -3066638.69 0.0089 0.0021

Moon -13109-02-23 16:19 J -3066585.91 -3066585.82 -3066585.72 0.2622 0.2102

Earth -13109-02-23 17:45 J -3066585.82 -3066585.76 -3066585.69 0.2618 0.2354 *

Neptune -13109-03-29 17:31 J -3066550.89 -3066550.77 -3066550.64 0.0089 0.0028

Neptune -13109-06-25 18:43 J -3066462.83 -3066462.72 -3066462.59 0.0089 0.0036

Neptune -13109-09-21 20:09 J -3066374.77 -3066374.66 -3066374.55 0.0089 0.0043

Neptune -13109-12-18 21:21 J -3066286.72 -3066286.61 -3066286.50 0.0089 0.0050

Neptune -13108-03-16 22:33 J -3066198.65 -3066198.56 -3066198.45 0.0089 0.0057

Neptune -13108-06-13 00:00 J -3066110.59 -3066110.50 -3066110.41 0.0089 0.0064

Neptune -13108-09-09 01:11 J -3066022.52 -3066022.45 -3066022.37 0.0089 0.0071

Neptune -13108-12-06 02:38 J -3065934.46 -3065934.39 -3065934.33 0.0089 0.0078

Neptune -13107-03-04 03:50 J -3065846.38 -3065846.34 -3065846.30 0.0089 0.0085

Pluto -13107-06-13 06:00 J -3065745.28 -3065745.25 -3065745.17 0.0072 0.0067

Jupiter -13107-07-13 17:31 J -3065714.94 -3065714.77 -3065714.59 0.0501 0.0195

Pluto -13107-09-09 07:40 J -3065657.26 -3065657.18 -3065657.09 0.0072 0.0058

Pluto -13107-12-06 08:38 J -3065569.23 -3065569.14 -3065569.02 0.0072 0.0050

Pluto -13106-03-04 09:50 J -3065481.20 -3065481.09 -3065480.95 0.0072 0.0042

Pluto -13106-05-31 11:16 J -3065393.16 -3065393.03 -3065392.89 0.0072 0.0033

Moon -13106-08-15 21:35 J -3065316.62 -3065316.60 -3065316.58 0.2723 0.2636

Earth -13106-08-15 22:04 J -3065316.62 -3065316.58 -3065316.54 0.2718 0.2506 *

Pluto -13106-08-27 12:28 J -3065305.12 -3065304.98 -3065304.83 0.0072 0.0025

Pluto -13106-11-23 13:40 J -3065217.07 -3065216.93 -3065216.77 0.0072 0.0017

Pluto -13105-02-19 15:07 J -3065129.02 -3065128.87 -3065128.72 0.0072 0.0008

Pluto -13105-05-17 16:19 J -3065040.97 -3065040.82 -3065040.66 0.0073 0.0002

Pluto -13105-08-13 17:31 J -3064952.92 -3064952.77 -3064952.61 0.0073 0.0010

Pluto -13105-11-09 18:43 J -3064864.86 -3064864.72 -3064864.56 0.0073 0.0019

Mars -13104-01-22 13:40 J -3064791.05 -3064790.93 -3064790.82 0.1633 0.0123

Pluto -13104-02-05 19:55 J -3064776.80 -3064776.67 -3064776.51 0.0073 0.0028

Pluto -13104-05-04 21:07 J -3064688.74 -3064688.62 -3064688.47 0.0073 0.0037

Pluto -13104-07-31 22:48 J -3064600.67 -3064600.55 -3064600.43 0.0073 0.0046

Pluto -13104-10-27 23:45 J -3064512.59 -3064512.51 -3064512.39 0.0073 0.0055

Pluto -13103-01-24 01:11 J -3064424.51 -3064424.45 -3064424.36 0.0073 0.0064

Pluto -13103-04-22 02:38 J -3064336.39 -3064336.39 -3064336.37 0.0074 0.0073

Jupiter -13101-03-09 22:19 J -3063648.63 -3063648.57 -3063648.51 0.0525 0.0448

Jupiter -13101-06-07 02:52 J -3063559.50 -3063559.38 -3063559.25 0.0524 0.0100

Earth -13100-08-24 16:19 J -3063115.88 -3063115.82 -3063115.76 0.2715 0.2243

Moon -13100-08-24 17:02 J -3063115.85 -3063115.79 -3063115.74 0.2711 0.2257 *

Uranus -13100-11-17 00:14 J -3063031.52 -3063031.49 -3063031.43 0.0138 0.0128

Uranus -13099-02-13 03:35 J -3062943.42 -3062943.35 -3062943.27 0.0138 0.0109

Uranus -13099-05-12 06:43 J -3062855.31 -3062855.22 -3062855.12 0.0138 0.0089

Uranus -13099-08-08 10:04 J -3062767.20 -3062767.08 -3062766.97 0.0138 0.0070

Uranus -13099-11-04 12:57 J -3062679.07 -3062678.96 -3062678.83 0.0139 0.0051

Uranus -13098-01-31 16:19 J -3062590.95 -3062590.82 -3062590.69 0.0139 0.0031

Uranus -13098-04-29 19:26 J -3062502.82 -3062502.69 -3062502.56 0.0139 0.0011

Uranus -13098-07-26 22:48 J -3062414.68 -3062414.55 -3062414.42 0.0139 0.0010

Saturn -13098-09-07 00:57 J -3062372.56 -3062372.46 -3062372.35 0.0264 0.0217

Mars -13098-09-09 01:55 J -3062370.58 -3062370.42 -3062370.26 0.1889 0.0635

Uranus -13098-10-23 01:55 J -3062326.55 -3062326.42 -3062326.29 0.0139 0.0029

Saturn -13098-12-04 23:02 J -3062283.72 -3062283.54 -3062283.34 0.0265 0.0050

Uranus -13097-01-19 05:02 J -3062238.41 -3062238.29 -3062238.17 0.0139 0.0049

Saturn -13097-03-02 21:21 J -3062194.78 -3062194.61 -3062194.44 0.0266 0.0121

Uranus -13097-04-16 08:09 J -3062150.27 -3062150.16 -3062150.04 0.0139 0.0069

Uranus -13097-07-13 11:16 J -3062062.12 -3062062.03 -3062061.92 0.0139 0.0090

Uranus -13097-10-09 14:38 J -3061973.96 -3061973.89 -3061973.80 0.0140 0.0110

Uranus -13096-01-05 18:00 J -3061885.79 -3061885.75 -3061885.70 0.0140 0.0130

Jupiter -13095-05-01 13:55 J -3061405.05 -3061404.92 -3061404.80 0.0501 0.0382

Mars -13095-06-15 01:11 J -3061360.56 -3061360.45 -3061360.34 0.1635 0.0325

Jupiter -13095-07-31 02:52 J -3061314.50 -3061314.38 -3061314.25 0.0502 0.0369

Mars -13093-05-20 02:38 J -3060655.44 -3060655.39 -3060655.34 0.1628 0.1444

Moon -13093-08-17 15:35 J -3060565.94 -3060565.85 -3060565.75 0.2724 0.1275

Earth -13093-08-17 15:50 J -3060565.94 -3060565.84 -3060565.75 0.2717 0.1275 *

Moon -13089-02-18 08:38 J -3059286.21 -3059286.14 -3059286.07 0.2612 0.2312

Earth -13089-02-18 10:04 J -3059286.17 -3059286.08 -3059285.99 0.2616 0.2121 *

Jupiter -13089-03-26 06:57 J -3059249.33 -3059249.21 -3059249.08 0.0524 0.0047

Jupiter -13089-06-23 11:31 J -3059160.05 -3059160.02 -3059159.98 0.0523 0.0497

Mars -13088-01-28 17:45 J -3058940.92 -3058940.76 -3058940.61 0.1886 0.0812

Mars -13086-11-05 12:57 J -3057930.06 -3057929.96 -3057929.86 0.1638 0.0759

Saturn -13084-04-16 00:14 J -3057402.57 -3057402.49 -3057402.40 0.0299 0.0224

Saturn -13084-07-13 12:14 J -3057314.11 -3057313.99 -3057313.86 0.0298 0.0067

Saturn -13084-10-10 00:14 J -3057225.61 -3057225.49 -3057225.37 0.0297 0.0090

Mars -13084-10-10 14:09 J -3057225.00 -3057224.91 -3057224.82 0.1629 0.1016

Saturn -13083-01-06 12:00 J -3057137.07 -3057137.00 -3057136.93 0.0296 0.0243

Jupiter -13083-05-18 23:31 J -3057004.69 -3057004.52 -3057004.34 0.0502 0.0186

Earth -13080-08-20 09:35 J -3055815.21 -3055815.10 -3055815.00 0.2716 0.0117

Moon -13080-08-20 09:50 J -3055815.19 -3055815.09 -3055814.98 0.2722 0.0097 *

Venus -13080-11-10 23:31 J -3055732.58 -3055732.52 -3055732.46 0.3707 0.2870

Jupiter -13077-01-13 11:16 J -3054939.15 -3054939.03 -3054938.91 0.0524 0.0186

Jupiter -13077-04-11 15:50 J -3054849.93 -3054849.84 -3054849.75 0.0523 0.0357

Venus -13077-08-17 05:45 J -3054722.34 -3054722.26 -3054722.18 0.3664 0.3186

Moon -13076-02-20 15:50 J -3054535.00 -3054534.84 -3054534.68 0.2617 0.0166

Earth -13076-02-20 17:31 J -3054534.93 -3054534.77 -3054534.61 0.2617 0.0374 *

Mars -13076-03-28 00:28 J -3054499.56 -3054499.48 -3054499.40 0.1640 0.1192

Mars -13074-03-03 01:55 J -3053794.53 -3053794.42 -3053794.31 0.1631 0.0592

Venus -13074-05-27 14:38 J -3053708.98 -3053708.89 -3053708.79 0.3709 0.1086

Jupiter -13071-03-06 19:55 J -3052694.86 -3052694.67 -3052694.48 0.0501 0.0009

Venus -13069-12-10 05:45 J -3051685.35 -3051685.26 -3051685.16 0.3711 0.0728

Saturn -13068-01-24 01:26 J -3051640.49 -3051640.44 -3051640.38 0.0264 0.0252

Saturn -13068-04-22 23:45 J -3051551.69 -3051551.51 -3051551.33 0.0265 0.0084

Saturn -13068-07-20 21:50 J -3051462.77 -3051462.59 -3051462.40 0.0266 0.0086

Saturn -13068-10-17 20:09 J -3051373.71 -3051373.66 -3051373.61 0.0266 0.0257

Mars -13067-08-18 12:00 J -3051069.01 -3051069.00 -3051068.99 0.1643 0.1633

Earth -13067-08-23 03:21 J -3051064.46 -3051064.36 -3051064.27 0.2716 0.1230

Moon -13067-08-23 03:50 J -3051064.43 -3051064.34 -3051064.24 0.2716 0.1289 *

Jupiter -13066-11-01 15:21 J -3050628.95 -3050628.86 -3050628.76 0.0525 0.0330

Jupiter -13065-01-29 20:09 J -3050539.78 -3050539.66 -3050539.55 0.0524 0.0216

Mars -13065-07-23 13:26 J -3050364.05 -3050363.94 -3050363.82 0.1633 0.0168

Venus -13063-06-25 21:07 J -3049661.70 -3049661.62 -3049661.55 0.3712 0.2500

Moon -13060-08-16 02:24 J -3048514.46 -3048514.40 -3048514.34 0.2723 0.2274

Earth -13060-08-16 02:52 J -3048514.44 -3048514.38 -3048514.32 0.2718 0.2265 *

Uranus -13060-09-28 19:40 J -3048470.73 -3048470.68 -3048470.60 0.0140 0.0132

Jupiter -13060-12-23 15:50 J -3048385.02 -3048384.84 -3048384.67 0.0501 0.0193

Uranus -13060-12-26 04:04 J -3048382.46 -3048382.33 -3048382.18 0.0140 0.0101

Uranus -13059-03-24 12:28 J -3048294.15 -3048293.98 -3048293.81 0.0140 0.0070

Uranus -13059-06-20 20:52 J -3048205.82 -3048205.63 -3048205.44 0.0140 0.0039

Uranus -13059-09-17 05:02 J -3048117.49 -3048117.29 -3048117.09 0.0140 0.0008

Uranus -13059-12-14 13:11 J -3048029.14 -3048028.95 -3048028.76 0.0140 0.0022

Mars -13058-03-10 03:07 J -3047943.53 -3047943.37 -3047943.22 0.1889 0.0773

Uranus -13058-03-12 21:07 J -3047940.79 -3047940.62 -3047940.43 0.0139 0.0053

Uranus -13058-06-09 05:16 J -3047852.43 -3047852.28 -3047852.12 0.0139 0.0082

Uranus -13058-09-05 13:11 J -3047764.05 -3047763.95 -3047763.82 0.0139 0.0113

Mars -13056-12-14 01:11 J -3046933.56 -3046933.45 -3046933.34 0.1635 0.0271

Saturn -13055-09-03 03:21 J -3046670.42 -3046670.36 -3046670.30 0.0299 0.0258

Saturn -13055-11-30 15:21 J -3046581.98 -3046581.86 -3046581.74 0.0298 0.0101

Saturn -13054-02-27 03:21 J -3046493.49 -3046493.36 -3046493.24 0.0297 0.0056

Saturn -13054-05-26 15:07 J -3046404.96 -3046404.87 -3046404.78 0.0296 0.0209

Jupiter -13054-08-20 20:09 J -3046318.72 -3046318.66 -3046318.60 0.0525 0.0462

Earth -13054-08-25 21:07 J -3046313.66 -3046313.62 -3046313.58 0.2715 0.2493

Moon -13054-08-25 21:50 J -3046313.62 -3046313.59 -3046313.57 0.2711 0.2630 *

Jupiter -13054-11-18 00:43 J -3046229.59 -3046229.47 -3046229.34 0.0524 0.0086

Mars -13054-11-19 02:24 J -3046228.44 -3046228.40 -3046228.36 0.1628 0.1496

Mars -13049-07-29 18:43 J -3044513.88 -3044513.72 -3044513.56 0.1886 0.0679

Jupiter -13048-10-11 10:33 J -3044075.17 -3044075.06 -3044074.94 0.0500 0.0395

Jupiter -13047-01-09 23:45 J -3043984.64 -3043984.51 -3043984.38 0.0502 0.0354

Moon -13047-08-18 20:38 J -3043763.74 -3043763.64 -3043763.54 0.2724 0.1070

Earth -13047-08-18 20:38 J -3043763.74 -3043763.64 -3043763.54 0.2717 0.1028 *

Mars -13046-05-06 12:43 J -3043503.07 -3043502.97 -3043502.86 0.1638 0.0705

Mars -13044-04-10 14:09 J -3042798.00 -3042797.91 -3042797.83 0.1629 0.1071

Moon -13043-02-18 15:21 J -3042483.98 -3042483.86 -3042483.73 0.2612 0.1731

Earth -13043-02-18 16:48 J -3042483.92 -3042483.80 -3042483.67 0.2616 0.1639 *

Jupiter -13042-09-06 05:31 J -3041919.40 -3041919.27 -3041919.15 0.0525 0.0052

Jupiter -13042-12-04 10:04 J -3041830.12 -3041830.08 -3041830.04 0.0523 0.0494

Saturn -13039-09-10 00:00 J -3040819.67 -3040819.50 -3040819.32 0.0265 0.0121

Saturn -13039-12-07 22:19 J -3040730.76 -3040730.57 -3040730.38 0.0265 0.0048

Saturn -13038-03-06 20:24 J -3040641.75 -3040641.65 -3040641.54 0.0266 0.0220

Mars -13037-09-26 00:28 J -3040072.56 -3040072.48 -3040072.40 0.1640 0.1140

Jupiter -13036-10-28 19:55 J -3039674.85 -3039674.67 -3039674.49 0.0501 0.0166

Mars -13035-09-01 01:40 J -3039367.53 -3039367.43 -3039367.32 0.1631 0.0648

Earth -13034-08-21 14:24 J -3039013.01 -3039012.90 -3039012.80 0.2716 0.0243

Moon -13034-08-21 14:38 J -3039012.99 -3039012.89 -3039012.78 0.2722 0.0312 *

Moon -13030-02-21 22:33 J -3037732.72 -3037732.56 -3037732.41 0.2619 0.0662

Earth -13030-02-22 00:14 J -3037732.64 -3037732.49 -3037732.34 0.2617 0.0852 *

Jupiter -13030-06-25 09:35 J -3037609.22 -3037609.10 -3037608.99 0.0524 0.0195

Neptune -13030-08-06 15:35 J -3037566.85 -3037566.85 -3037566.84 0.0088 0.0088

Jupiter -13030-09-22 14:09 J -3037520.00 -3037519.91 -3037519.82 0.0523 0.0350

Neptune -13030-11-02 18:57 J -3037478.78 -3037478.71 -3037478.60 0.0088 0.0078

Neptune -13029-01-29 22:33 J -3037390.67 -3037390.56 -3037390.41 0.0088 0.0068

Neptune -13029-04-27 02:38 J -3037302.53 -3037302.39 -3037302.24 0.0088 0.0057

Neptune -13029-07-24 06:14 J -3037214.40 -3037214.24 -3037214.06 0.0088 0.0047

Neptune -13029-10-20 10:04 J -3037126.26 -3037126.08 -3037125.90 0.0088 0.0037

Neptune -13028-01-16 13:40 J -3037038.11 -3037037.93 -3037037.73 0.0088 0.0027

Neptune -13028-04-14 17:16 J -3036949.96 -3036949.78 -3036949.57 0.0088 0.0017

Neptune -13028-07-11 21:07 J -3036861.81 -3036861.62 -3036861.41 0.0088 0.0007

Neptune -13028-10-08 00:57 J -3036773.66 -3036773.46 -3036773.26 0.0088 0.0004

Neptune -13027-01-04 04:33 J -3036685.50 -3036685.31 -3036685.11 0.0088 0.0014

Mars -13027-02-16 12:00 J -3036642.03 -3036642.00 -3036641.97 0.1643 0.1573

Neptune -13027-04-02 08:24 J -3036597.34 -3036597.15 -3036596.96 0.0088 0.0024

Neptune -13027-06-29 11:45 J -3036509.18 -3036509.01 -3036508.81 0.0088 0.0035

Neptune -13027-09-25 15:35 J -3036421.01 -3036420.85 -3036420.67 0.0088 0.0045

Neptune -13027-12-22 19:11 J -3036332.84 -3036332.70 -3036332.53 0.0088 0.0055

Neptune -13026-03-20 23:02 J -3036244.66 -3036244.54 -3036244.40 0.0088 0.0065

Neptune -13026-06-17 02:52 J -3036156.47 -3036156.38 -3036156.27 0.0088 0.0075

Neptune -13026-09-13 06:14 J -3036068.26 -3036068.24 -3036068.17 0.0088 0.0086

Saturn -13025-01-21 06:28 J -3035938.25 -3035938.23 -3035938.20 0.0299 0.0292

Mars -13025-01-22 13:26 J -3035937.05 -3035936.94 -3035936.82 0.1633 0.0219

Saturn -13025-04-18 18:28 J -3035849.84 -3035849.73 -3035849.61 0.0298 0.0134

Saturn -13025-07-16 06:28 J -3035761.36 -3035761.23 -3035761.10 0.0297 0.0024

Saturn -13025-10-12 18:14 J -3035672.84 -3035672.74 -3035672.63 0.0296 0.0179

Jupiter -13024-08-16 16:33 J -3035365.00 -3035364.81 -3035364.62 0.0501 0.0020

Venus -13023-06-17 20:52 J -3035059.71 -3035059.63 -3035059.55 0.3707 0.2224

Pluto -13022-08-14 13:11 J -3034636.99 -3034636.95 -3034636.87 0.0072 0.0068

Pluto -13022-11-10 15:07 J -3034548.96 -3034548.87 -3034548.77 0.0072 0.0058

Pluto -13021-02-06 16:33 J -3034460.92 -3034460.81 -3034460.68 0.0072 0.0048

Pluto -13021-05-04 18:14 J -3034372.88 -3034372.74 -3034372.60 0.0072 0.0039

Pluto -13021-07-31 19:40 J -3034284.83 -3034284.68 -3034284.53 0.0072 0.0030

Earth -13021-08-23 08:09 J -3034262.25 -3034262.16 -3034262.07 0.2716 0.1477

Moon -13021-08-23 08:52 J -3034262.22 -3034262.13 -3034262.05 0.2715 0.1576 *

Pluto -13021-10-27 20:52 J -3034196.78 -3034196.63 -3034196.47 0.0072 0.0022

Pluto -13020-01-23 22:19 J -3034108.72 -3034108.57 -3034108.40 0.0072 0.0013

Venus -13020-03-24 08:52 J -3034049.29 -3034049.13 -3034048.97 0.3663 0.0953

Pluto -13020-04-22 00:00 J -3034020.66 -3034020.50 -3034020.34 0.0071 0.0004

Pluto -13020-07-19 01:26 J -3033932.60 -3033932.44 -3033932.28 0.0071 0.0005

Pluto -13020-10-15 02:38 J -3033844.54 -3033844.39 -3033844.23 0.0071 0.0014

Pluto -13019-01-11 04:04 J -3033756.48 -3033756.33 -3033756.17 0.0071 0.0022

Pluto -13019-04-09 05:16 J -3033668.42 -3033668.28 -3033668.13 0.0071 0.0031

Pluto -13019-07-06 06:43 J -3033580.35 -3033580.22 -3033580.08 0.0071 0.0039

Mars -13019-09-08 04:04 J -3033516.48 -3033516.33 -3033516.18 0.1889 0.0903

Pluto -13019-10-02 07:55 J -3033492.28 -3033492.17 -3033492.04 0.0071 0.0048

Pluto -13019-12-29 09:07 J -3033404.20 -3033404.12 -3033404.01 0.0071 0.0056

Pluto -13018-03-27 10:33 J -3033316.11 -3033316.06 -3033315.98 0.0070 0.0064

Jupiter -13018-04-13 13:40 J -3033299.02 -3033298.93 -3033298.83 0.0525 0.0335

Jupiter -13018-07-11 18:28 J -3033209.85 -3033209.73 -3033209.62 0.0523 0.0211

Venus -13017-01-01 12:00 J -3033036.10 -3033036.00 -3033035.90 0.3709 0.0442

Mars -13016-06-14 01:11 J -3032506.57 -3032506.45 -3032506.34 0.1635 0.0216

Uranus -13016-12-07 07:26 J -3032330.24 -3032330.19 -3032330.13 0.0138 0.0124

Uranus -13015-03-05 10:33 J -3032242.14 -3032242.06 -3032241.97 0.0138 0.0105

Uranus -13015-06-01 13:55 J -3032154.02 -3032153.92 -3032153.82 0.0138 0.0086

Uranus -13015-08-28 16:48 J -3032065.91 -3032065.80 -3032065.68 0.0138 0.0067

Uranus -13015-11-24 20:09 J -3031977.78 -3031977.66 -3031977.54 0.0138 0.0047

Uranus -13014-02-20 23:16 J -3031889.66 -3031889.53 -3031889.40 0.0139 0.0027

Uranus -13014-05-20 02:24 J -3031801.53 -3031801.40 -3031801.27 0.0139 0.0009

Mars -13014-05-20 02:24 J -3031801.43 -3031801.40 -3031801.37 0.1628 0.1552 *

Uranus -13014-08-16 05:45 J -3031713.39 -3031713.26 -3031713.13 0.0139 0.0013

Moon -13014-08-17 07:11 J -3031712.26 -3031712.20 -3031712.13 0.2723 0.2150

Earth -13014-08-17 07:40 J -3031712.25 -3031712.18 -3031712.11 0.2717 0.2022 *

Uranus -13014-11-12 08:52 J -3031625.26 -3031625.13 -3031625.00 0.0139 0.0032

Uranus -13013-02-08 12:00 J -3031537.12 -3031537.00 -3031536.87 0.0139 0.0052

Uranus -13013-05-06 15:07 J -3031448.97 -3031448.87 -3031448.75 0.0139 0.0073

Uranus -13013-08-02 18:28 J -3031360.82 -3031360.73 -3031360.63 0.0139 0.0092

Uranus -13013-10-29 21:35 J -3031272.67 -3031272.60 -3031272.52 0.0139 0.0113

Uranus -13012-01-26 00:57 J -3031184.49 -3031184.46 -3031184.42 0.0140 0.0133

Jupiter -13012-06-04 12:43 J -3031055.14 -3031054.97 -3031054.80 0.0501 0.0206

Venus -13012-07-17 03:21 J -3031012.46 -3031012.36 -3031012.27 0.3711 0.1367

Saturn -13009-01-28 00:43 J -3030087.62 -3030087.47 -3030087.31 0.0265 0.0155

Mars -13009-01-28 19:40 J -3030086.85 -3030086.68 -3030086.52 0.1886 0.0553

Saturn -13009-04-25 23:02 J -3029998.74 -3029998.54 -3029998.35 0.0265 0.0014

Saturn -13009-07-23 21:07 J -3029909.75 -3029909.62 -3029909.48 0.0266 0.0185

Mars -13007-11-04 12:43 J -3029076.07 -3029075.97 -3029075.86 0.1638 0.0649

Jupiter -13006-01-30 17:45 J -3028988.80 -3028988.76 -3028988.71 0.0525 0.0478

Venus -13006-01-30 18:28 J -3028988.78 -3028988.73 -3028988.68 0.3713 0.3146 *

Jupiter -13006-04-29 22:33 J -3028899.69 -3028899.56 -3028899.44 0.0524 0.0068

Mars -13005-10-09 14:09 J -3028370.99 -3028370.91 -3028370.83 0.1629 0.1127

Earth -13001-08-19 01:26 J -3026961.55 -3026961.44 -3026961.34 0.2717 0.0786

Moon -13001-08-19 01:26 J -3026961.54 -3026961.44 -3026961.33 0.2724 0.0715 *

13TH MILLENNIUM BCE

This is a list of transits of Mercury in the 13th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Jupiter -13000-03-23 08:24 J -3026745.25 -3026745.15 -3026745.03 0.0501 0.0397

Jupiter -13000-06-21 21:35 J -3026654.73 -3026654.60 -3026654.46 0.0502 0.0354

Moon -12997-02-19 22:04 J -3025681.71 -3025681.58 -3025681.44 0.2613 0.1397

Earth -12997-02-19 23:31 J -3025681.66 -3025681.52 -3025681.37 0.2617 0.1165 *

Mars -12997-03-27 00:14 J -3025645.57 -3025645.49 -3025645.40 0.1640 0.1085

Saturn -12996-09-05 21:50 J -3025117.69 -3025117.59 -3025117.48 0.0298 0.0165

Saturn -12996-12-03 09:50 J -3025029.22 -3025029.09 -3025028.96 0.0297 0.0008

Saturn -12995-03-01 21:35 J -3024940.71 -3024940.60 -3024940.49 0.0296 0.0147

Mars -12995-03-02 01:40 J -3024940.53 -3024940.43 -3024940.32 0.1631 0.0701 *

Jupiter -12994-02-16 03:07 J -3024589.49 -3024589.37 -3024589.24 0.0525 0.0066

Jupiter -12994-05-16 07:40 J -3024500.22 -3024500.18 -3024500.13 0.0523 0.0479

Jupiter -12988-04-09 16:48 J -3022344.98 -3022344.80 -3022344.62 0.0501 0.0152

Mars -12988-08-17 12:00 J -3022215.04 -3022215.00 -3022214.96 0.1643 0.1522

Earth -12988-08-21 19:11 J -3022210.81 -3022210.70 -3022210.60 0.2716 0.0474

Moon -12988-08-21 19:40 J -3022210.79 -3022210.68 -3022210.58 0.2721 0.0504 *

Mars -12986-07-23 13:26 J -3021510.05 -3021509.94 -3021509.83 0.1633 0.0271

Moon -12984-02-22 05:16 J -3020930.43 -3020930.28 -3020930.14 0.2619 0.1175

Earth -12984-02-22 06:57 J -3020930.35 -3020930.21 -3020930.07 0.2617 0.1329 *

Jupiter -12983-12-05 07:40 J -3020279.29 -3020279.18 -3020279.06 0.0525 0.0201

Jupiter -12982-03-04 12:28 J -3020190.08 -3020189.98 -3020189.89 0.0524 0.0345

Saturn -12980-06-16 00:57 J -3019355.59 -3019355.46 -3019355.32 0.0265 0.0192

Saturn -12980-09-12 23:16 J -3019266.72 -3019266.53 -3019266.34 0.0265 0.0023

Saturn -12980-12-10 21:21 J -3019177.76 -3019177.61 -3019177.44 0.0266 0.0147

Mars -12979-03-09 04:48 J -3019089.45 -3019089.30 -3019089.16 0.1889 0.1018

Mars -12977-12-13 00:57 J -3018079.57 -3018079.46 -3018079.34 0.1635 0.0170

Jupiter -12976-01-26 12:57 J -3018035.15 -3018034.96 -3018034.77 0.0501 0.0036

Uranus -12976-10-19 01:40 J -3017769.50 -3017769.43 -3017769.35 0.0140 0.0129

Uranus -12975-01-15 10:04 J -3017681.22 -3017681.08 -3017680.94 0.0140 0.0098

Uranus -12975-04-13 18:00 J -3017592.91 -3017592.75 -3017592.56 0.0140 0.0068

Uranus -12975-07-11 02:24 J -3017504.58 -3017504.40 -3017504.20 0.0140 0.0037

Earth -12975-08-24 12:57 J -3017460.04 -3017459.96 -3017459.88 0.2716 0.1727

Moon -12975-08-24 13:40 J -3017460.01 -3017459.93 -3017459.85 0.2714 0.1826 *

Uranus -12975-10-07 10:48 J -3017416.24 -3017416.05 -3017415.85 0.0140 0.0006

Mars -12975-11-18 02:24 J -3017374.42 -3017374.40 -3017374.39 0.1628 0.1604

Uranus -12974-01-03 18:57 J -3017327.90 -3017327.71 -3017327.51 0.0140 0.0025

Uranus -12974-04-02 03:07 J -3017239.55 -3017239.37 -3017239.19 0.0139 0.0055

Uranus -12974-06-29 11:02 J -3017151.19 -3017151.04 -3017150.88 0.0139 0.0085

Uranus -12974-09-25 18:57 J -3017062.80 -3017062.71 -3017062.59 0.0139 0.0115

Venus -12972-07-09 03:07 J -3016410.41 -3016410.37 -3016410.33 0.3706 0.3361

Jupiter -12971-09-23 11:45 J -3015969.10 -3015969.01 -3015968.91 0.0525 0.0345

Jupiter -12971-12-21 16:33 J -3015879.93 -3015879.81 -3015879.70 0.0524 0.0201

Mars -12970-07-29 20:24 J -3015659.82 -3015659.65 -3015659.48 0.1886 0.0431

Moon -12968-08-17 12:14 J -3014910.07 -3014909.99 -3014909.91 0.2723 0.1777

Earth -12968-08-17 12:28 J -3014910.06 -3014909.98 -3014909.90 0.2717 0.1782 *

Mars -12967-05-05 12:43 J -3014649.08 -3014648.97 -3014648.86 0.1638 0.0591

Venus -12966-01-22 18:14 J -3014386.83 -3014386.74 -3014386.65 0.3708 0.1572

Saturn -12966-01-24 00:57 J -3014385.55 -3014385.46 -3014385.36 0.0299 0.0198

Saturn -12966-04-22 12:57 J -3014297.09 -3014296.96 -3014296.83 0.0298 0.0041

Saturn -12966-07-20 00:57 J -3014208.58 -3014208.46 -3014208.35 0.0297 0.0115

Saturn -12966-10-16 12:43 J -3014120.02 -3014119.97 -3014119.92 0.0296 0.0268

Mars -12965-04-09 13:55 J -3013943.99 -3013943.92 -3013943.84 0.1629 0.1183

Jupiter -12965-11-14 09:07 J -3013725.28 -3013725.12 -3013724.94 0.0501 0.0224

Venus -12964-10-29 11:45 J -3013376.17 -3013376.01 -3013375.86 0.3662 0.1208

Venus -12961-08-07 09:21 J -3012363.21 -3012363.11 -3012363.01 0.3709 0.0225

Mars -12961-12-18 12:14 J -3012230.01 -3012229.99 -3012229.96 0.1882 0.1856

Jupiter -12959-07-12 16:04 J -3011658.87 -3011658.83 -3011658.78 0.0525 0.0484

Jupiter -12959-10-09 20:52 J -3011569.76 -3011569.63 -3011569.51 0.0524 0.0063

Mars -12958-09-26 00:14 J -3011218.57 -3011218.49 -3011218.40 0.1640 0.1029

Mars -12956-08-31 01:40 J -3010513.53 -3010513.43 -3010513.33 0.1631 0.0757

Venus -12955-02-21 00:28 J -3010339.56 -3010339.48 -3010339.39 0.3711 0.2009

Earth -12955-08-20 06:14 J -3010159.35 -3010159.24 -3010159.14 0.2717 0.0541

Moon -12955-08-20 06:28 J -3010159.34 -3010159.23 -3010159.13 0.2724 0.0588 *

Jupiter -12953-09-02 05:31 J -3009415.37 -3009415.27 -3009415.16 0.0501 0.0409

Jupiter -12953-12-01 18:43 J -3009324.85 -3009324.72 -3009324.58 0.0502 0.0342

Moon -12951-02-20 04:48 J -3008879.46 -3008879.30 -3008879.15 0.2615 0.0759

Earth -12951-02-20 06:28 J -3008879.39 -3008879.23 -3008879.08 0.2617 0.0683 *

Saturn -12951-11-03 01:40 J -3008623.53 -3008623.43 -3008623.34 0.0264 0.0227

Saturn -12950-01-30 23:45 J -3008534.70 -3008534.51 -3008534.32 0.0265 0.0059

Saturn -12950-04-29 21:50 J -3008445.76 -3008445.59 -3008445.41 0.0266 0.0112

Neptune -12949-11-18 19:11 J -3007876.70 -3007876.70 -3007876.68 0.0089 0.0089

Neptune -12948-02-14 20:24 J -3007788.69 -3007788.65 -3007788.59 0.0089 0.0083

Mars -12948-02-15 11:45 J -3007788.05 -3007788.01 -3007787.96 0.1643 0.1467

Neptune -12948-05-13 21:50 J -3007700.65 -3007700.59 -3007700.51 0.0089 0.0075

Neptune -12948-08-09 23:02 J -3007612.61 -3007612.54 -3007612.44 0.0089 0.0068

Neptune -12948-11-06 00:14 J -3007524.57 -3007524.49 -3007524.38 0.0089 0.0062

Neptune -12947-02-02 01:55 J -3007436.52 -3007436.42 -3007436.32 0.0089 0.0054

Neptune -12947-05-01 03:07 J -3007348.48 -3007348.37 -3007348.26 0.0089 0.0047

Neptune -12947-07-28 04:33 J -3007260.43 -3007260.31 -3007260.20 0.0089 0.0040

Jupiter -12947-07-29 00:57 J -3007259.58 -3007259.46 -3007259.34 0.0524 0.0081

Neptune -12947-10-24 05:45 J -3007172.38 -3007172.26 -3007172.14 0.0089 0.0033

Jupiter -12947-10-26 05:31 J -3007170.32 -3007170.27 -3007170.21 0.0523 0.0462

Neptune -12946-01-20 06:57 J -3007084.33 -3007084.21 -3007084.08 0.0089 0.0026

Mars -12946-01-21 13:26 J -3007083.05 -3007082.94 -3007082.83 0.1633 0.0327

Neptune -12946-04-18 08:24 J -3006996.28 -3006996.15 -3006996.02 0.0089 0.0018

Neptune -12946-07-15 09:35 J -3006908.23 -3006908.10 -3006907.97 0.0089 0.0012

Neptune -12946-10-11 11:02 J -3006820.17 -3006820.04 -3006819.91 0.0089 0.0005

Neptune -12945-01-07 12:14 J -3006732.12 -3006731.99 -3006731.86 0.0089 0.0003

Neptune -12945-04-04 13:26 J -3006644.07 -3006643.94 -3006643.81 0.0089 0.0010

Neptune -12945-07-01 14:38 J -3006556.01 -3006555.89 -3006555.75 0.0089 0.0018

Neptune -12945-09-27 16:04 J -3006467.95 -3006467.83 -3006467.70 0.0089 0.0024

Neptune -12945-12-24 17:16 J -3006379.90 -3006379.78 -3006379.65 0.0089 0.0031

Neptune -12944-03-22 18:28 J -3006291.84 -3006291.73 -3006291.60 0.0089 0.0039

Neptune -12944-06-18 19:55 J -3006203.78 -3006203.67 -3006203.56 0.0089 0.0045

Neptune -12944-09-14 21:07 J -3006115.72 -3006115.62 -3006115.51 0.0089 0.0052

Neptune -12944-12-11 22:19 J -3006027.66 -3006027.57 -3006027.46 0.0089 0.0060

Neptune -12943-03-09 23:45 J -3005939.59 -3005939.51 -3005939.42 0.0089 0.0067

Neptune -12943-06-06 00:57 J -3005851.53 -3005851.46 -3005851.38 0.0089 0.0074

Neptune -12943-09-02 02:09 J -3005763.45 -3005763.41 -3005763.35 0.0089 0.0081

Neptune -12943-11-29 03:35 J -3005675.37 -3005675.35 -3005675.33 0.0089 0.0088

Earth -12942-08-23 00:00 J -3005408.61 -3005408.50 -3005408.40 0.2716 0.0719

Moon -12942-08-23 00:28 J -3005408.58 -3005408.48 -3005408.38 0.2719 0.0852 *

Jupiter -12941-09-19 14:38 J -3005015.07 -3005014.89 -3005014.71 0.0501 0.0151

Mars -12940-09-07 05:31 J -3004662.40 -3004662.27 -3004662.13 0.1889 0.1146

Moon -12938-02-23 11:45 J -3004128.13 -3004128.01 -3004127.88 0.2619 0.1570

Earth -12938-02-23 13:40 J -3004128.05 -3004127.93 -3004127.82 0.2617 0.1797 *

Saturn -12937-06-12 04:19 J -3003653.40 -3003653.32 -3003653.24 0.0299 0.0231

Mars -12937-06-13 00:57 J -3003652.57 -3003652.46 -3003652.34 0.1635 0.0108

Saturn -12937-09-08 16:19 J -3003564.95 -3003564.82 -3003564.70 0.0298 0.0074

Saturn -12937-12-06 04:04 J -3003476.45 -3003476.33 -3003476.21 0.0297 0.0083

Saturn -12936-03-04 15:50 J -3003387.91 -3003387.84 -3003387.76 0.0296 0.0236

Jupiter -12935-05-17 05:31 J -3002949.38 -3002949.27 -3002949.16 0.0525 0.0216

Jupiter -12935-08-14 10:04 J -3002860.17 -3002860.08 -3002859.98 0.0524 0.0330

Uranus -12932-12-27 14:52 J -3001628.94 -3001628.88 -3001628.82 0.0138 0.0119

Uranus -12931-03-25 17:45 J -3001540.84 -3001540.76 -3001540.66 0.0138 0.0101

Uranus -12931-06-21 20:52 J -3001452.72 -3001452.63 -3001452.52 0.0138 0.0081

Uranus -12931-09-18 00:14 J -3001364.61 -3001364.49 -3001364.37 0.0138 0.0061

Uranus -12931-12-15 03:21 J -3001276.48 -3001276.36 -3001276.23 0.0138 0.0042

Mars -12930-01-27 21:21 J -3001232.78 -3001232.61 -3001232.44 0.1886 0.0300

Uranus -12930-03-13 06:28 J -3001188.35 -3001188.23 -3001188.10 0.0139 0.0023

Uranus -12930-06-09 09:50 J -3001100.22 -3001100.09 -3001099.96 0.0139 0.0004

Uranus -12930-09-05 12:57 J -3001012.09 -3001011.96 -3001011.83 0.0139 0.0017

Uranus -12930-12-02 16:04 J -3000923.95 -3000923.83 -3000923.70 0.0139 0.0037

Uranus -12929-02-28 19:11 J -3000835.81 -3000835.70 -3000835.57 0.0139 0.0057

Uranus -12929-05-26 22:33 J -3000747.67 -3000747.56 -3000747.45 0.0139 0.0077

Jupiter -12929-07-08 10:04 J -3000705.27 -3000705.08 -3000704.89 0.0501 0.0048

Uranus -12929-08-23 01:40 J -3000659.52 -3000659.43 -3000659.33 0.0139 0.0097

Earth -12929-08-24 17:45 J -3000657.83 -3000657.76 -3000657.69 0.2715 0.1979

Moon -12929-08-24 18:28 J -3000657.80 -3000657.73 -3000657.66 0.2714 0.2055 *

Uranus -12929-11-19 04:48 J -3000571.36 -3000571.30 -3000571.22 0.0139 0.0118

Uranus -12928-02-15 08:09 J -3000483.17 -3000483.16 -3000483.13 0.0140 0.0138

Mars -12928-11-03 12:43 J -3000222.08 -3000221.97 -3000221.86 0.1638 0.0538

Mars -12926-10-09 13:55 J -2999516.99 -2999516.92 -2999516.84 0.1629 0.1234

Jupiter -12923-03-05 10:04 J -2998639.17 -2998639.08 -2998638.99 0.0525 0.0352

Jupiter -12923-06-02 14:52 J -2998550.00 -2998549.88 -2998549.77 0.0524 0.0196

Moon -12922-08-18 17:02 J -2998107.87 -2998107.79 -2998107.70 0.2724 0.1613

Earth -12922-08-18 17:16 J -2998107.87 -2998107.78 -2998107.69 0.2717 0.1536 *

Mars -12921-06-18 12:57 J -2997803.02 -2997802.96 -2997802.90 0.1882 0.1745

Saturn -12921-06-18 23:31 J -2997802.70 -2997802.52 -2997802.34 0.0265 0.0099

Saturn -12921-09-15 21:35 J -2997713.78 -2997713.60 -2997713.41 0.0266 0.0071

Saturn -12921-12-13 19:55 J -2997624.74 -2997624.67 -2997624.59 0.0266 0.0242

Mars -12918-03-27 00:14 J -2996791.58 -2996791.49 -2996791.40 0.1640 0.0972

Jupiter -12917-04-26 06:14 J -2996395.41 -2996395.24 -2996395.08 0.0501 0.0236

Mars -12916-03-01 01:40 J -2996086.53 -2996086.43 -2996086.33 0.1631 0.0808

Venus -12915-02-13 00:28 J -2995737.55 -2995737.48 -2995737.42 0.3706 0.2713

Venus -12913-11-19 02:09 J -2994727.46 -2994727.41 -2994727.36 0.3665 0.3446

Jupiter -12912-12-22 14:24 J -2994328.94 -2994328.90 -2994328.86 0.0525 0.0493

Jupiter -12911-03-21 18:57 J -2994239.83 -2994239.71 -2994239.58 0.0524 0.0053

Venus -12910-08-29 15:35 J -2993713.95 -2993713.85 -2993713.75 0.3708 0.0924

Mars -12909-08-16 11:45 J -2993361.06 -2993361.01 -2993360.95 0.1643 0.1410

Earth -12909-08-20 11:02 J -2993357.15 -2993357.04 -2993356.93 0.2717 0.0299

Moon -12909-08-20 11:16 J -2993357.14 -2993357.03 -2993356.93 0.2723 0.0214 *

Saturn -12908-10-30 07:26 J -2992921.25 -2992921.19 -2992921.14 0.0299 0.0264

Saturn -12907-01-26 19:11 J -2992832.81 -2992832.70 -2992832.57 0.0298 0.0107

Saturn -12907-04-25 07:11 J -2992744.32 -2992744.20 -2992744.07 0.0297 0.0050

Venus -12907-06-05 14:38 J -2992702.94 -2992702.89 -2992702.83 0.3662 0.3424

Mars -12907-07-22 13:26 J -2992656.06 -2992655.94 -2992655.83 0.1633 0.0385

Saturn -12907-07-22 18:57 J -2992655.80 -2992655.71 -2992655.61 0.0296 0.0205

Jupiter -12905-02-13 02:24 J -2992085.50 -2992085.40 -2992085.30 0.0501 0.0424

Moon -12905-02-21 11:16 J -2992077.19 -2992077.03 -2992076.87 0.2616 0.0507

Earth -12905-02-21 12:57 J -2992077.12 -2992076.96 -2992076.79 0.2617 0.0218 *

Jupiter -12905-05-13 15:35 J -2991994.99 -2991994.85 -2991994.71 0.0502 0.0328

Venus -12904-03-14 06:43 J -2991690.32 -2991690.22 -2991690.12 0.3710 0.0862

Mars -12900-03-08 06:57 J -2990235.34 -2990235.21 -2990235.09 0.1890 0.1288

Jupiter -12899-01-07 23:16 J -2989929.65 -2989929.53 -2989929.40 0.0524 0.0086

Jupiter -12899-04-07 03:50 J -2989840.39 -2989840.34 -2989840.28 0.0523 0.0458

Venus -12899-09-27 21:50 J -2989666.66 -2989666.59 -2989666.52 0.3712 0.2645

Mars -12898-12-13 00:57 J -2989225.57 -2989225.46 -2989225.34 0.1635 0.0057

Earth -12896-08-23 04:48 J -2988606.40 -2988606.30 -2988606.20 0.2716 0.0965

Moon -12896-08-23 05:31 J -2988606.37 -2988606.27 -2988606.17 0.2718 0.0994 *

Jupiter -12893-03-01 12:00 J -2987685.18 -2987685.00 -2987684.82 0.0502 0.0141

Moon -12892-02-23 18:43 J -2987325.81 -2987325.72 -2987325.63 0.2620 0.2170

Earth -12892-02-23 20:24 J -2987325.73 -2987325.65 -2987325.58 0.2618 0.2269 *

Saturn -12892-11-05 23:45 J -2987070.68 -2987070.51 -2987070.35 0.0265 0.0137

Uranus -12892-11-08 07:40 J -2987068.26 -2987068.18 -2987068.09 0.0140 0.0126

Saturn -12891-02-02 21:50 J -2986981.78 -2986981.59 -2986981.40 0.0265 0.0032

Uranus -12891-02-04 16:04 J -2986979.97 -2986979.83 -2986979.68 0.0140 0.0095

Saturn -12891-05-02 19:55 J -2986892.78 -2986892.67 -2986892.54 0.0266 0.0203

Uranus -12891-05-04 00:28 J -2986891.66 -2986891.48 -2986891.31 0.0140 0.0064

Mars -12891-07-28 22:19 J -2986805.74 -2986805.57 -2986805.40 0.1886 0.0173

Uranus -12891-07-31 08:38 J -2986803.33 -2986803.14 -2986802.95 0.0140 0.0034

Uranus -12891-10-27 16:48 J -2986714.99 -2986714.80 -2986714.60 0.0140 0.0003

Uranus -12890-01-24 00:57 J -2986626.65 -2986626.46 -2986626.27 0.0140 0.0027

Uranus -12890-04-22 09:07 J -2986538.30 -2986538.12 -2986537.94 0.0139 0.0058

Uranus -12890-07-19 17:16 J -2986449.93 -2986449.78 -2986449.63 0.0139 0.0088

Uranus -12890-10-16 01:11 J -2986361.55 -2986361.45 -2986361.34 0.0139 0.0117

Moon -12889-08-16 03:50 J -2986056.36 -2986056.34 -2986056.32 0.2721 0.2628

Earth -12889-08-16 04:19 J -2986056.35 -2986056.32 -2986056.28 0.2718 0.2532 *

Mars -12888-05-04 12:43 J -2985795.08 -2985794.97 -2985794.86 0.1637 0.0485

Jupiter -12888-10-27 03:35 J -2985619.47 -2985619.35 -2985619.24 0.0525 0.0229

Jupiter -12887-01-24 08:09 J -2985530.26 -2985530.16 -2985530.06 0.0523 0.0317

Mars -12886-04-09 13:55 J -2985089.99 -2985089.92 -2985089.85 0.1629 0.1291

Earth -12883-08-25 22:33 J -2983855.62 -2983855.56 -2983855.50 0.2715 0.2231

Moon -12883-08-25 23:16 J -2983855.58 -2983855.53 -2983855.48 0.2713 0.2346 *

Mars -12882-12-18 13:55 J -2983376.00 -2983375.92 -2983375.83 0.1882 0.1614

Jupiter -12882-12-19 07:55 J -2983375.35 -2983375.17 -2983374.98 0.0501 0.0049

Mars -12879-09-25 00:14 J -2982364.59 -2982364.49 -2982364.40 0.1640 0.0919

Saturn -12878-06-15 22:19 J -2982100.68 -2982100.57 -2982100.46 0.0298 0.0144

Saturn -12878-09-12 10:04 J -2982012.20 -2982012.08 -2982011.95 0.0297 0.0016

Saturn -12878-12-09 21:50 J -2981923.69 -2981923.59 -2981923.48 0.0296 0.0169

Mars -12877-08-30 01:40 J -2981659.53 -2981659.43 -2981659.34 0.1631 0.0862

Jupiter -12876-08-15 07:55 J -2981309.25 -2981309.17 -2981309.08 0.0525 0.0364

Moon -12876-08-18 22:04 J -2981305.68 -2981305.58 -2981305.49 0.2725 0.1280

Earth -12876-08-18 22:04 J -2981305.67 -2981305.58 -2981305.48 0.2717 0.1292 *

Jupiter -12876-11-12 12:43 J -2981220.09 -2981219.97 -2981219.85 0.0524 0.0183

Moon -12872-02-18 11:02 J -2980026.09 -2980026.04 -2980025.98 0.2612 0.2436

Earth -12872-02-18 12:14 J -2980026.07 -2980025.99 -2980025.90 0.2616 0.2243 *

Jupiter -12870-10-07 03:35 J -2979065.51 -2979065.35 -2979065.18 0.0501 0.0243

Mars -12869-02-15 11:45 J -2978934.07 -2978934.01 -2978933.95 0.1643 0.1355

Mars -12867-01-20 13:11 J -2978229.06 -2978228.95 -2978228.84 0.1633 0.0438

Neptune -12865-05-02 14:09 J -2977395.96 -2977395.91 -2977395.84 0.0088 0.0083

Neptune -12865-07-29 17:45 J -2977307.85 -2977307.76 -2977307.64 0.0088 0.0073

Neptune -12865-10-25 21:21 J -2977219.73 -2977219.61 -2977219.45 0.0088 0.0063

Neptune -12864-01-22 01:11 J -2977131.60 -2977131.45 -2977131.28 0.0088 0.0053

Neptune -12864-04-20 04:48 J -2977043.46 -2977043.30 -2977043.11 0.0088 0.0043

Jupiter -12864-06-03 12:28 J -2976999.01 -2976998.98 -2976998.94 0.0526 0.0499

Neptune -12864-07-17 08:52 J -2976955.31 -2976955.13 -2976954.94 0.0088 0.0032

Jupiter -12864-08-31 17:16 J -2976909.90 -2976909.78 -2976909.65 0.0525 0.0049

Neptune -12864-10-13 12:28 J -2976867.17 -2976866.98 -2976866.78 0.0088 0.0022

Neptune -12863-01-09 16:19 J -2976779.02 -2976778.82 -2976778.62 0.0088 0.0012

Neptune -12863-04-07 19:55 J -2976690.86 -2976690.67 -2976690.47 0.0088 0.0003

Neptune -12863-07-04 23:45 J -2976602.71 -2976602.51 -2976602.31 0.0088 0.0009

Earth -12863-08-21 15:50 J -2976554.95 -2976554.84 -2976554.73 0.2717 0.0067

Moon -12863-08-21 16:04 J -2976554.93 -2976554.83 -2976554.72 0.2722 0.0096 *

Neptune -12863-10-01 03:21 J -2976514.55 -2976514.36 -2976514.16 0.0088 0.0019

Neptune -12863-12-28 06:57 J -2976426.39 -2976426.21 -2976426.01 0.0088 0.0029

Saturn -12862-03-25 23:02 J -2976338.68 -2976338.54 -2976338.40 0.0264 0.0181

Neptune -12862-03-26 10:48 J -2976338.22 -2976338.05 -2976337.87 0.0088 0.0039

Neptune -12862-06-22 14:38 J -2976250.05 -2976249.89 -2976249.73 0.0088 0.0049

Saturn -12862-06-22 21:07 J -2976249.81 -2976249.62 -2976249.43 0.0265 0.0012 *

Neptune -12862-09-18 18:00 J -2976161.88 -2976161.75 -2976161.59 0.0088 0.0060

Saturn -12862-09-19 19:11 J -2976160.85 -2976160.70 -2976160.54 0.0266 0.0158

Neptune -12862-12-15 21:35 J -2976073.70 -2976073.60 -2976073.46 0.0088 0.0070

Neptune -12861-03-13 01:26 J -2975985.51 -2975985.44 -2975985.35 0.0088 0.0080

Mars -12861-09-06 07:26 J -2975808.31 -2975808.19 -2975808.08 0.1889 0.1391

Moon -12859-02-21 18:00 J -2975274.91 -2975274.75 -2975274.59 0.2616 0.0187

Earth -12859-02-21 19:55 J -2975274.83 -2975274.67 -2975274.51 0.2617 0.0277 *

Venus -12859-09-19 21:50 J -2975064.68 -2975064.59 -2975064.51 0.3707 0.2070

Pluto -12859-10-05 12:43 J -2975048.97 -2975048.97 -2975048.96 0.0071 0.0071

Pluto -12858-01-01 13:40 J -2974960.99 -2974960.93 -2974960.85 0.0072 0.0064

Pluto -12858-03-30 15:07 J -2974872.96 -2974872.87 -2974872.77 0.0072 0.0055

Mars -12858-06-13 00:57 J -2974798.58 -2974798.46 -2974798.35 0.1635 0.0013

Pluto -12858-06-26 16:04 J -2974784.93 -2974784.83 -2974784.70 0.0072 0.0047

Jupiter -12858-07-25 23:45 J -2974755.60 -2974755.51 -2974755.41 0.0500 0.0429

Pluto -12858-09-22 17:16 J -2974696.90 -2974696.78 -2974696.64 0.0072 0.0039

Jupiter -12858-10-24 12:57 J -2974665.11 -2974664.96 -2974664.82 0.0501 0.0320

Pluto -12858-12-19 18:43 J -2974608.86 -2974608.72 -2974608.58 0.0072 0.0030

Pluto -12857-03-16 19:40 J -2974520.81 -2974520.68 -2974520.52 0.0072 0.0023

Pluto -12857-06-12 21:07 J -2974432.77 -2974432.62 -2974432.46 0.0072 0.0013

Pluto -12857-09-08 22:33 J -2974344.72 -2974344.56 -2974344.41 0.0072 0.0005

Pluto -12857-12-05 23:45 J -2974256.67 -2974256.51 -2974256.36 0.0073 0.0004

Pluto -12856-03-04 00:57 J -2974168.61 -2974168.46 -2974168.31 0.0073 0.0013

Pluto -12856-05-31 02:09 J -2974080.55 -2974080.41 -2974080.26 0.0073 0.0022

Venus -12856-06-26 05:02 J -2974054.44 -2974054.29 -2974054.13 0.3664 0.1251

Pluto -12856-08-27 03:21 J -2973992.49 -2973992.36 -2973992.21 0.0073 0.0031

Pluto -12856-11-23 04:33 J -2973904.43 -2973904.31 -2973904.17 0.0073 0.0040

Pluto -12855-02-19 05:45 J -2973816.36 -2973816.26 -2973816.13 0.0073 0.0050

Pluto -12855-05-18 07:11 J -2973728.28 -2973728.20 -2973728.09 0.0073 0.0058

Pluto -12855-08-14 08:38 J -2973640.19 -2973640.14 -2973640.07 0.0073 0.0068

Venus -12853-04-04 12:57 J -2973041.06 -2973040.96 -2973040.86 0.3709 0.0302

Jupiter -12852-06-19 21:35 J -2972599.72 -2972599.60 -2972599.48 0.0524 0.0092

Jupiter -12852-09-17 02:09 J -2972510.47 -2972510.41 -2972510.35 0.0523 0.0451

Mars -12851-01-26 23:02 J -2972378.71 -2972378.54 -2972378.36 0.1886 0.0065

Earth -12850-08-24 09:35 J -2971804.20 -2971804.10 -2971804.00 0.2716 0.1213

Moon -12850-08-24 10:19 J -2971804.16 -2971804.07 -2971803.98 0.2718 0.1374 *

Saturn -12849-11-02 00:57 J -2971368.56 -2971368.46 -2971368.36 0.0299 0.0181

Mars -12849-11-02 12:28 J -2971368.09 -2971367.98 -2971367.86 0.1637 0.0432

Saturn -12848-01-29 12:57 J -2971280.09 -2971279.96 -2971279.83 0.0298 0.0024

Saturn -12848-04-28 00:43 J -2971191.58 -2971191.47 -2971191.35 0.0297 0.0132

Saturn -12848-07-25 12:43 J -2971103.00 -2971102.97 -2971102.94 0.0296 0.0285

Venus -12848-10-19 04:04 J -2971017.42 -2971017.33 -2971017.24 0.3711 0.1501

Uranus -12848-10-20 18:43 J -2971015.73 -2971015.72 -2971015.68 0.0138 0.0134

Uranus -12847-01-16 22:04 J -2970927.65 -2970927.58 -2970927.50 0.0138 0.0114

Uranus -12847-04-15 01:11 J -2970839.54 -2970839.45 -2970839.35 0.0138 0.0095

Uranus -12847-07-12 04:19 J -2970751.42 -2970751.32 -2970751.21 0.0138 0.0076

Uranus -12847-10-08 07:26 J -2970663.30 -2970663.19 -2970663.06 0.0138 0.0057

Mars -12847-10-08 13:55 J -2970662.98 -2970662.92 -2970662.86 0.1629 0.1343

Uranus -12846-01-04 10:48 J -2970575.18 -2970575.05 -2970574.93 0.0139 0.0037

Moon -12846-02-25 01:40 J -2970523.47 -2970523.43 -2970523.39 0.2621 0.2511

Uranus -12846-04-02 13:55 J -2970487.05 -2970486.92 -2970486.79 0.0139 0.0017

Uranus -12846-06-29 17:02 J -2970398.92 -2970398.79 -2970398.66 0.0139 0.0004

Jupiter -12846-08-12 09:07 J -2970355.30 -2970355.12 -2970354.94 0.0502 0.0131

Uranus -12846-09-25 20:09 J -2970310.78 -2970310.66 -2970310.53 0.0139 0.0023

Uranus -12846-12-22 23:31 J -2970222.65 -2970222.52 -2970222.40 0.0139 0.0042

Uranus -12845-03-20 02:38 J -2970134.50 -2970134.39 -2970134.27 0.0139 0.0062

Uranus -12845-06-16 05:45 J -2970046.36 -2970046.26 -2970046.15 0.0139 0.0083

Uranus -12845-09-12 09:07 J -2969958.20 -2969958.12 -2969958.03 0.0139 0.0102

Uranus -12845-12-09 12:14 J -2969870.04 -2969869.99 -2969869.92 0.0140 0.0123

Moon -12843-08-17 08:38 J -2969254.19 -2969254.14 -2969254.09 0.2722 0.2369

Earth -12843-08-17 09:07 J -2969254.17 -2969254.12 -2969254.06 0.2718 0.2291 *

Venus -12842-05-04 19:11 J -2968993.74 -2968993.70 -2968993.65 0.3712 0.3274

Mars -12842-06-18 15:07 J -2968948.97 -2968948.87 -2968948.76 0.1882 0.1476

Jupiter -12840-04-08 02:09 J -2968289.52 -2968289.41 -2968289.30 0.0524 0.0228

Jupiter -12840-07-06 06:43 J -2968200.32 -2968200.22 -2968200.12 0.0523 0.0316

Mars -12839-03-26 00:14 J -2967937.59 -2967937.49 -2967937.39 0.1640 0.0861

Mars -12837-02-29 01:40 J -2967232.53 -2967232.43 -2967232.34 0.1631 0.0920

Earth -12837-08-26 03:21 J -2967053.40 -2967053.36 -2967053.32 0.2715 0.2484

Moon -12837-08-26 04:04 J -2967053.37 -2967053.33 -2967053.29 0.2711 0.2498 *

Jupiter -12834-05-31 05:31 J -2966045.46 -2966045.27 -2966045.08 0.0501 0.0054

Saturn -12833-08-11 22:19 J -2965606.66 -2965606.57 -2965606.46 0.0264 0.0223

Saturn -12833-11-08 20:38 J -2965517.83 -2965517.64 -2965517.45 0.0265 0.0055

Saturn -12832-02-05 18:43 J -2965428.89 -2965428.72 -2965428.54 0.0265 0.0114

Mars -12830-08-16 11:45 J -2964507.08 -2964507.01 -2964506.94 0.1643 0.1300

Moon -12830-08-20 02:52 J -2964503.48 -2964503.38 -2964503.29 0.2724 0.1090

Earth -12830-08-20 02:52 J -2964503.48 -2964503.38 -2964503.28 0.2717 0.1048 *

Jupiter -12828-01-25 06:14 J -2963979.33 -2963979.24 -2963979.15 0.0525 0.0370

Jupiter -12828-04-24 10:48 J -2963890.16 -2963890.05 -2963889.93 0.0524 0.0176

Mars -12828-07-21 13:11 J -2963802.06 -2963801.95 -2963801.84 0.1633 0.0491

Moon -12826-02-19 17:31 J -2963223.88 -2963223.77 -2963223.66 0.2613 0.1894

Earth -12826-02-19 18:57 J -2963223.82 -2963223.71 -2963223.59 0.2616 0.1767 *

Jupiter -12822-03-19 01:55 J -2961735.59 -2961735.42 -2961735.26 0.0501 0.0240

Mars -12821-03-07 08:24 J -2961381.25 -2961381.15 -2961381.05 0.1890 0.1529

Saturn -12819-03-22 03:35 J -2960636.44 -2960636.35 -2960636.27 0.0299 0.0222

Saturn -12819-06-18 15:35 J -2960547.98 -2960547.85 -2960547.73 0.0298 0.0065

Saturn -12819-09-15 03:21 J -2960459.48 -2960459.36 -2960459.24 0.0297 0.0092

Mars -12819-12-12 00:57 J -2960371.58 -2960371.46 -2960371.35 0.1635 0.0083

Saturn -12819-12-12 15:07 J -2960370.93 -2960370.87 -2960370.80 0.0296 0.0246

Earth -12817-08-21 20:38 J -2959752.75 -2959752.64 -2959752.53 0.2717 0.0205

Moon -12817-08-21 21:07 J -2959752.73 -2959752.62 -2959752.51 0.2721 0.0308 *

Jupiter -12817-11-13 10:48 J -2959669.08 -2959669.05 -2959669.02 0.0525 0.0506

Jupiter -12816-02-10 15:21 J -2959579.98 -2959579.86 -2959579.73 0.0524 0.0044

Moon -12813-02-23 00:43 J -2958472.63 -2958472.47 -2958472.31 0.2616 0.0462

Earth -12813-02-23 02:38 J -2958472.55 -2958472.39 -2958472.24 0.2617 0.0753 *

Mars -12812-07-28 00:00 J -2957951.67 -2957951.50 -2957951.32 0.1886 0.0087

Jupiter -12810-01-04 21:35 J -2957425.69 -2957425.60 -2957425.50 0.0500 0.0431

Jupiter -12810-04-05 10:48 J -2957335.19 -2957335.05 -2957334.90 0.0501 0.0318

Mars -12809-05-03 12:28 J -2956941.09 -2956940.98 -2956940.87 0.1637 0.0375

Venus -12808-10-11 03:50 J -2956415.39 -2956415.34 -2956415.29 0.3705 0.3201

Uranus -12808-11-28 14:24 J -2956366.98 -2956366.90 -2956366.78 0.0140 0.0121

Uranus -12807-02-24 22:48 J -2956278.69 -2956278.55 -2956278.39 0.0140 0.0089

Mars -12807-04-08 13:55 J -2956235.98 -2956235.92 -2956235.87 0.1629 0.1398

Uranus -12807-05-24 07:11 J -2956190.37 -2956190.20 -2956190.01 0.0140 0.0058

Uranus -12807-08-20 15:35 J -2956102.04 -2956101.85 -2956101.66 0.0140 0.0027

Uranus -12807-11-16 23:45 J -2956013.71 -2956013.51 -2956013.31 0.0140 0.0003

Uranus -12806-02-13 07:55 J -2955925.36 -2955925.17 -2955924.98 0.0140 0.0033

Uranus -12806-05-12 15:50 J -2955837.01 -2955836.84 -2955836.66 0.0139 0.0064

Uranus -12806-08-09 00:00 J -2955748.64 -2955748.50 -2955748.35 0.0139 0.0094

Uranus -12806-11-05 07:55 J -2955660.25 -2955660.17 -2955660.07 0.0139 0.0123

Jupiter -12805-11-29 20:09 J -2955269.78 -2955269.66 -2955269.54 0.0525 0.0094

Jupiter -12804-02-27 00:43 J -2955180.53 -2955180.47 -2955180.41 0.0524 0.0451

Earth -12804-08-24 14:24 J -2955001.99 -2955001.90 -2955001.81 0.2716 0.1465

Moon -12804-08-24 15:07 J -2955001.96 -2955001.87 -2955001.78 0.2717 0.1492 *

Saturn -12803-03-28 19:11 J -2954785.88 -2954785.70 -2954785.52 0.0265 0.0104

Saturn -12803-06-25 17:16 J -2954696.96 -2954696.78 -2954696.59 0.0265 0.0065

Saturn -12803-09-22 15:35 J -2954607.94 -2954607.85 -2954607.76 0.0266 0.0236

Mars -12803-12-17 15:35 J -2954521.97 -2954521.85 -2954521.73 0.1882 0.1374

Venus -12802-04-26 18:57 J -2954391.80 -2954391.71 -2954391.61 0.3707 0.1431

Mars -12800-09-24 00:00 J -2953510.59 -2953510.50 -2953510.40 0.1640 0.0810

Venus -12799-01-31 08:09 J -2953381.32 -2953381.16 -2953381.00 0.3663 0.0967

Jupiter -12798-01-22 07:11 J -2953025.38 -2953025.20 -2953025.02 0.0501 0.0132

Mars -12798-08-30 01:26 J -2952805.53 -2952805.44 -2952805.34 0.1631 0.0974

Moon -12797-08-17 13:40 J -2952452.00 -2952451.93 -2952451.86 0.2724 0.2072

Earth -12797-08-17 13:55 J -2952451.98 -2952451.92 -2952451.85 0.2718 0.2049 *

Venus -12797-11-09 10:19 J -2952368.17 -2952368.07 -2952367.97 0.3709 0.0376

Jupiter -12793-09-18 00:28 J -2950959.59 -2950959.48 -2950959.36 0.0525 0.0232

Jupiter -12793-12-16 05:16 J -2950870.38 -2950870.28 -2950870.18 0.0523 0.0313

Venus -12791-05-26 01:26 J -2950344.52 -2950344.44 -2950344.36 0.3711 0.2134

Mars -12790-02-14 11:45 J -2950080.08 -2950080.01 -2950079.94 0.1642 0.1242

Saturn -12790-08-09 05:45 J -2949904.31 -2949904.26 -2949904.20 0.0299 0.0266

Saturn -12790-11-05 17:45 J -2949815.88 -2949815.76 -2949815.64 0.0298 0.0108

Saturn -12789-02-02 05:45 J -2949727.39 -2949727.26 -2949727.13 0.0298 0.0049

Saturn -12789-04-30 17:31 J -2949638.86 -2949638.77 -2949638.67 0.0297 0.0204

Mars -12788-01-19 13:11 J -2949375.06 -2949374.95 -2949374.84 0.1633 0.0545

Jupiter -12787-11-10 03:07 J -2948715.56 -2948715.37 -2948715.18 0.0502 0.0060

Neptune -12784-08-15 19:26 J -2947705.72 -2947705.69 -2947705.66 0.0089 0.0086

Moon -12784-08-20 07:40 J -2947701.28 -2947701.18 -2947701.08 0.2724 0.0802

Earth -12784-08-20 07:40 J -2947701.28 -2947701.18 -2947701.08 0.2717 0.0805 *

Neptune -12784-11-11 20:38 J -2947617.70 -2947617.64 -2947617.58 0.0089 0.0079

Neptune -12783-02-07 21:50 J -2947529.66 -2947529.59 -2947529.51 0.0089 0.0072

Neptune -12783-05-06 23:16 J -2947441.62 -2947441.53 -2947441.44 0.0089 0.0065

Neptune -12783-08-03 00:28 J -2947353.57 -2947353.48 -2947353.38 0.0089 0.0058

Neptune -12783-10-30 01:40 J -2947265.53 -2947265.43 -2947265.31 0.0089 0.0051

Neptune -12782-01-26 03:07 J -2947177.48 -2947177.37 -2947177.25 0.0089 0.0043

Neptune -12782-04-24 04:19 J -2947089.43 -2947089.32 -2947089.19 0.0089 0.0037

Neptune -12782-07-21 05:45 J -2947001.38 -2947001.26 -2947001.14 0.0089 0.0029

Mars -12782-09-06 09:21 J -2946954.19 -2946954.11 -2946954.03 0.1890 0.1659

Neptune -12782-10-17 06:57 J -2946913.33 -2946913.21 -2946913.08 0.0089 0.0022

Neptune -12781-01-13 08:24 J -2946825.28 -2946825.15 -2946825.02 0.0089 0.0015

Neptune -12781-04-10 09:35 J -2946737.23 -2946737.10 -2946736.97 0.0089 0.0008

Jupiter -12781-07-07 05:16 J -2946649.37 -2946649.28 -2946649.20 0.0525 0.0366

Neptune -12781-07-07 11:02 J -2946649.17 -2946649.04 -2946648.91 0.0089 0.0003

Neptune -12781-10-03 12:14 J -2946561.12 -2946560.99 -2946560.86 0.0089 0.0006

Jupiter -12781-10-04 09:50 J -2946560.21 -2946560.09 -2946559.97 0.0523 0.0179

Neptune -12781-12-30 13:26 J -2946473.07 -2946472.94 -2946472.81 0.0089 0.0013

Moon -12780-02-20 00:14 J -2946421.63 -2946421.49 -2946421.36 0.2614 0.1463

Earth -12780-02-20 01:55 J -2946421.56 -2946421.42 -2946421.28 0.2616 0.1274 *

Neptune -12780-03-28 14:52 J -2946385.01 -2946384.88 -2946384.76 0.0089 0.0020

Neptune -12780-06-24 16:04 J -2946296.95 -2946296.83 -2946296.71 0.0089 0.0027

Neptune -12780-09-20 17:16 J -2946208.90 -2946208.78 -2946208.66 0.0089 0.0035

Neptune -12780-12-17 18:43 J -2946120.84 -2946120.72 -2946120.61 0.0089 0.0042

Neptune -12779-03-15 19:55 J -2946032.78 -2946032.67 -2946032.56 0.0089 0.0049

Neptune -12779-06-11 21:07 J -2945944.72 -2945944.62 -2945944.51 0.0089 0.0056

Mars -12779-06-12 00:57 J -2945944.58 -2945944.46 -2945944.35 0.1635 0.0127 *

Neptune -12779-09-07 22:33 J -2945856.65 -2945856.56 -2945856.47 0.0089 0.0063

Neptune -12779-12-04 23:31 J -2945768.59 -2945768.52 -2945768.43 0.0089 0.0070

Neptune -12778-03-03 00:43 J -2945680.52 -2945680.47 -2945680.39 0.0089 0.0078

Neptune -12778-05-30 02:09 J -2945592.44 -2945592.41 -2945592.36 0.0089 0.0084

Jupiter -12775-08-28 23:45 J -2944405.67 -2944405.51 -2944405.34 0.0501 0.0242

Saturn -12774-08-15 18:14 J -2944053.90 -2944053.74 -2944053.58 0.0264 0.0150

Saturn -12774-11-12 16:19 J -2943965.02 -2943964.82 -2943964.63 0.0265 0.0018

Saturn -12773-02-09 14:09 J -2943876.03 -2943875.91 -2943875.76 0.0265 0.0188

Pluto -12773-03-03 20:52 J -2943852.70 -2943852.63 -2943852.55 0.0072 0.0063

Pluto -12773-05-30 22:19 J -2943764.67 -2943764.57 -2943764.45 0.0072 0.0054

Pluto -12773-08-26 23:45 J -2943676.63 -2943676.51 -2943676.37 0.0072 0.0045

Pluto -12773-11-23 01:11 J -2943588.58 -2943588.45 -2943588.30 0.0072 0.0036

Mars -12772-01-26 00:57 J -2943524.63 -2943524.46 -2943524.29 0.1886 0.0205

Pluto -12772-02-19 02:52 J -2943500.53 -2943500.38 -2943500.23 0.0072 0.0027

Pluto -12772-05-18 04:19 J -2943412.48 -2943412.32 -2943412.16 0.0072 0.0018

Pluto -12772-08-14 05:45 J -2943324.42 -2943324.26 -2943324.10 0.0071 0.0009

Pluto -12772-11-10 07:11 J -2943236.36 -2943236.20 -2943236.04 0.0071 0.0001

Pluto -12771-02-06 08:38 J -2943148.30 -2943148.14 -2943147.98 0.0071 0.0009

Pluto -12771-05-05 09:50 J -2943060.24 -2943060.09 -2943059.92 0.0071 0.0018

Pluto -12771-08-01 11:16 J -2942972.18 -2942972.03 -2942971.87 0.0071 0.0026

Earth -12771-08-23 01:26 J -2942950.55 -2942950.44 -2942950.33 0.2716 0.0451

Moon -12771-08-23 01:55 J -2942950.52 -2942950.42 -2942950.31 0.2721 0.0501 *

Pluto -12771-10-28 12:43 J -2942884.11 -2942883.97 -2942883.83 0.0071 0.0034

Pluto -12770-01-24 13:55 J -2942796.04 -2942795.92 -2942795.78 0.0071 0.0043

Pluto -12770-04-22 15:21 J -2942707.96 -2942707.86 -2942707.74 0.0071 0.0051

Pluto -12770-07-19 16:19 J -2942619.88 -2942619.82 -2942619.71 0.0071 0.0060

Pluto -12770-10-15 17:45 J -2942531.79 -2942531.76 -2942531.70 0.0070 0.0068

Mars -12770-11-02 12:28 J -2942514.09 -2942513.98 -2942513.87 0.1637 0.0318

Jupiter -12769-04-25 09:21 J -2942339.14 -2942339.11 -2942339.08 0.0525 0.0507

Jupiter -12769-07-23 13:55 J -2942250.04 -2942249.92 -2942249.79 0.0524 0.0043

Mars -12768-10-07 13:55 J -2941808.97 -2941808.92 -2941808.87 0.1629 0.1453

Moon -12767-02-23 07:26 J -2941670.33 -2941670.19 -2941670.04 0.2618 0.1127

Earth -12767-02-23 09:07 J -2941670.26 -2941670.12 -2941669.97 0.2617 0.1225 *

Uranus -12764-11-10 02:09 J -2940314.44 -2940314.41 -2940314.36 0.0138 0.0129

Uranus -12763-02-06 05:31 J -2940226.35 -2940226.27 -2940226.19 0.0138 0.0109

Uranus -12763-05-05 08:38 J -2940138.24 -2940138.14 -2940138.04 0.0138 0.0090

Jupiter -12763-06-16 20:09 J -2940095.75 -2940095.66 -2940095.56 0.0501 0.0425

Mars -12763-06-17 16:48 J -2940094.93 -2940094.80 -2940094.67 0.1883 0.1229

Uranus -12763-08-01 11:45 J -2940050.12 -2940050.01 -2940049.90 0.0138 0.0071

Jupiter -12763-09-15 09:21 J -2940005.25 -2940005.11 -2940004.96 0.0502 0.0326

Uranus -12763-10-28 14:52 J -2939962.00 -2939961.88 -2939961.76 0.0139 0.0051

Uranus -12762-01-24 18:00 J -2939873.87 -2939873.75 -2939873.62 0.0139 0.0032

Uranus -12762-04-22 21:21 J -2939785.74 -2939785.61 -2939785.48 0.0139 0.0013

Uranus -12762-07-20 00:28 J -2939697.61 -2939697.48 -2939697.35 0.0139 0.0008

Uranus -12762-10-16 03:35 J -2939609.48 -2939609.35 -2939609.22 0.0139 0.0028

Uranus -12761-01-12 06:57 J -2939521.34 -2939521.21 -2939521.09 0.0139 0.0048

Uranus -12761-04-09 10:04 J -2939433.19 -2939433.08 -2939432.97 0.0139 0.0067

Uranus -12761-07-06 13:11 J -2939345.05 -2939344.95 -2939344.85 0.0139 0.0088

Uranus -12761-10-02 16:33 J -2939256.89 -2939256.81 -2939256.73 0.0140 0.0108

Uranus -12761-12-29 19:26 J -2939168.72 -2939168.69 -2939168.62 0.0140 0.0129

Saturn -12760-03-24 19:55 J -2939083.78 -2939083.67 -2939083.56 0.0299 0.0155

Mars -12760-03-25 00:00 J -2939083.60 -2939083.50 -2939083.39 0.1640 0.0754 *

Saturn -12760-06-21 07:55 J -2938995.30 -2938995.17 -2938995.05 0.0298 0.0008

Saturn -12760-09-17 19:40 J -2938906.79 -2938906.68 -2938906.57 0.0297 0.0158

Mars -12758-02-28 01:26 J -2938378.53 -2938378.44 -2938378.35 0.1631 0.1026

Earth -12758-08-25 19:11 J -2938199.78 -2938199.70 -2938199.62 0.2716 0.1714

Moon -12758-08-25 19:55 J -2938199.75 -2938199.67 -2938199.59 0.2715 0.1855 *

Jupiter -12757-05-11 18:28 J -2937939.85 -2937939.73 -2937939.60 0.0524 0.0098

Jupiter -12757-08-08 23:16 J -2937850.60 -2937850.53 -2937850.47 0.0523 0.0448

Venus -12751-05-18 01:11 J -2935742.52 -2935742.45 -2935742.38 0.3706 0.2561

Jupiter -12751-07-04 05:31 J -2935695.45 -2935695.27 -2935695.09 0.0501 0.0135

Mars -12751-08-15 11:31 J -2935653.09 -2935653.02 -2935652.94 0.1643 0.1193

Moon -12751-08-18 18:28 J -2935649.81 -2935649.73 -2935649.66 0.2724 0.1900

Earth	-12751-08-18 18:43 J	-2935649.80	-2935649.72	-2935649.64	0.2718	0.1801 *
Mars	-12749-07-20 13:11 J	-2934948.06	-2934947.95	-2934947.85	0.1633	0.0600
Venus	-12748-02-20 22:33 J	-2934732.56	-2934732.56	-2934732.55	0.3665	0.3660
Venus	-12746-12-01 16:19 J	-2933718.91	-2933718.82	-2933718.72	0.3708	0.0789
Jupiter	-12745-02-28 23:16 J	-2933629.64	-2933629.53	-2933629.42	0.0525	0.0230
Jupiter	-12745-05-28 03:50 J	-2933540.44	-2933540.34	-2933540.24	0.0524	0.0316
Saturn	-12744-01-01 15:50 J	-2933321.95	-2933321.84	-2933321.70	0.0264	0.0204
Saturn	-12744-03-31 14:09 J	-2933233.10	-2933232.91	-2933232.72	0.0265	0.0036
Saturn	-12744-06-28 12:14 J	-2933144.15	-2933143.99	-2933143.82	0.0265	0.0133
Venus	-12743-09-07 11:16 J	-2932708.11	-2932708.03	-2932707.95	0.3662	0.3195
Mars	-12742-03-07 10:04 J	-2932527.14	-2932527.08	-2932527.02	0.1890	0.1770
Mars	-12741-01-05 23:16 J	-2932222.54	-2932222.53	-2932222.52	0.1645	0.1628
Venus	-12740-06-16 07:26 J	-2931695.28	-2931695.19	-2931695.09	0.3709	0.1012
Mars	-12740-12-11 00:43 J	-2931517.58	-2931517.47	-2931517.35	0.1635	0.0174
Jupiter	-12739-04-22 01:55 J	-2931385.61	-2931385.42	-2931385.23	0.0501	0.0049
Earth	-12738-08-21 12:28 J	-2930899.09	-2930898.98	-2930898.87	0.2717	0.0557
Moon	-12738-08-21 12:43 J	-2930899.08	-2930898.97	-2930898.87	0.2723	0.0520 *
Venus	-12735-12-30 22:48 J	-2929671.62	-2929671.55	-2929671.49	0.3711	0.2775
Moon	-12734-02-21 06:57 J	-2929619.36	-2929619.21	-2929619.06	0.2613	0.0980
Earth	-12734-02-21 08:38 J	-2929619.29	-2929619.14	-2929618.99	0.2616	0.0796 *
Jupiter	-12734-12-18 03:50 J	-2929319.43	-2929319.34	-2929319.25	0.0525	0.0365
Jupiter	-12733-03-16 08:24 J	-2929230.27	-2929230.15	-2929230.03	0.0524	0.0181
Mars	-12733-07-27 01:55 J	-2929097.59	-2929097.42	-2929097.25	0.1887	0.0330
Saturn	-12731-08-11 21:35 J	-2928351.69	-2928351.60	-2928351.50	0.0299	0.0204
Saturn	-12731-11-08 09:50 J	-2928263.22	-2928263.09	-2928262.97	0.0298	0.0046
Saturn	-12730-02-04 21:50 J	-2928174.71	-2928174.59	-2928174.48	0.0297	0.0112
Mars	-12730-05-03 12:28 J	-2928087.09	-2928086.98	-2928086.87	0.1637	0.0260
Saturn	-12730-05-04 09:35 J	-2928086.15	-2928086.10	-2928086.05	0.0296	0.0266
Mars	-12728-04-07 13:40 J	-2927381.97	-2927381.93	-2927381.88	0.1629	0.1508
Jupiter	-12727-02-07 21:50 J	-2927075.76	-2927075.59	-2927075.43	0.0501	0.0243

Earth -12725-08-23 06:14 J -2926148.34 -2926148.24 -2926148.14 0.2716 0.0696

Moon -12725-08-23 06:43 J -2926148.32 -2926148.22 -2926148.11 0.2721 0.0798 *

Mars -12724-12-16 17:45 J -2925667.90 -2925667.76 -2925667.62 0.1883 0.1104

Uranus -12724-12-18 21:50 J -2925665.69 -2925665.59 -2925665.46 0.0140 0.0113

Uranus -12723-03-17 06:14 J -2925577.39 -2925577.24 -2925577.07 0.0140 0.0082

Uranus -12723-06-13 14:38 J -2925489.07 -2925488.89 -2925488.71 0.0140 0.0051

Uranus -12723-09-09 22:48 J -2925400.74 -2925400.55 -2925400.35 0.0140 0.0020

Uranus -12723-12-07 06:57 J -2925312.40 -2925312.21 -2925312.01 0.0140 0.0010

Uranus -12722-03-05 14:52 J -2925224.06 -2925223.88 -2925223.68 0.0139 0.0041

Uranus -12722-06-01 23:02 J -2925135.70 -2925135.54 -2925135.36 0.0139 0.0070

Uranus -12722-08-29 06:57 J -2925047.33 -2925047.21 -2925047.06 0.0139 0.0101

Jupiter -12722-10-06 08:24 J -2925009.18 -2925009.15 -2925009.11 0.0525 0.0497

Uranus -12722-11-25 14:52 J -2924958.93 -2924958.88 -2924958.79 0.0139 0.0130

Jupiter -12721-01-03 13:11 J -2924920.08 -2924919.95 -2924919.83 0.0524 0.0049

Moon -12721-02-24 14:24 J -2924868.03 -2924867.90 -2924867.77 0.2620 0.1490

Earth -12721-02-24 15:50 J -2924867.96 -2924867.84 -2924867.71 0.2617 0.1703 *

Mars -12721-09-23 00:00 J -2924656.60 -2924656.50 -2924656.40 0.1640 0.0698

Mars -12719-08-29 01:26 J -2923951.52 -2923951.44 -2923951.35 0.1631 0.1082

Jupiter -12716-11-26 18:28 J -2922765.83 -2922765.73 -2922765.63 0.0501 0.0423

Jupiter -12715-02-25 07:40 J -2922675.32 -2922675.18 -2922675.03 0.0502 0.0330

Saturn -12715-05-21 14:38 J -2922589.94 -2922589.89 -2922589.84 0.0263 0.0252

Saturn -12715-08-18 12:28 J -2922501.16 -2922500.98 -2922500.79 0.0264 0.0087

Saturn -12715-11-15 10:33 J -2922412.24 -2922412.06 -2922411.87 0.0265 0.0082

Saturn -12714-02-12 08:52 J -2922323.19 -2922323.13 -2922323.07 0.0265 0.0251

Earth -12712-08-26 00:00 J -2921397.57 -2921397.50 -2921397.43 0.2716 0.1964

Moon -12712-08-26 00:43 J -2921397.54 -2921397.47 -2921397.40 0.2713 0.2011 *

Mars -12711-02-13 11:31 J -2921226.10 -2921226.02 -2921225.93 0.1642 0.1136

Jupiter -12710-10-22 17:31 J -2920609.90 -2920609.77 -2920609.65 0.0524 0.0092

Mars -12709-01-19 13:11 J -2920521.06 -2920520.95 -2920520.85 0.1633 0.0656

Jupiter -12709-01-19 22:04 J -2920520.64 -2920520.58 -2920520.52 0.0523 0.0451

Moon -12705-08-18 23:16 J -2918847.62 -2918847.53 -2918847.44 0.2724 0.1552

Earth -12705-08-18 23:31 J -2918847.60 -2918847.52 -2918847.43 0.2718 0.1559 *

Jupiter -12704-12-14 04:19 J -2918365.50 -2918365.32 -2918365.14 0.0502 0.0147

Mars -12702-07-06 23:16 J -2917795.56 -2917795.53 -2917795.50 0.1645 0.1575

Saturn -12702-12-29 23:16 J -2917619.59 -2917619.53 -2917619.46 0.0300 0.0257

Saturn -12701-03-27 11:31 J -2917531.15 -2917531.02 -2917530.90 0.0299 0.0098

Saturn -12701-06-23 23:16 J -2917442.65 -2917442.53 -2917442.40 0.0298 0.0060

Saturn -12701-09-20 11:16 J -2917354.12 -2917354.03 -2917353.94 0.0297 0.0215

Neptune -12700-01-27 12:57 J -2917225.03 -2917224.96 -2917224.86 0.0088 0.0078

Neptune -12700-04-25 16:33 J -2917136.92 -2917136.81 -2917136.67 0.0088 0.0068

Venus -12700-06-08 07:26 J -2917093.20 -2917093.19 -2917093.19 0.3704 0.3698

Mars -12700-06-11 00:43 J -2917090.58 -2917090.47 -2917090.36 0.1635 0.0224

Neptune -12700-07-22 20:24 J -2917048.79 -2917048.65 -2917048.49 0.0088 0.0058

Neptune -12700-10-19 00:00 J -2916960.65 -2916960.50 -2916960.32 0.0088 0.0048

Neptune -12699-01-15 04:04 J -2916872.51 -2916872.33 -2916872.15 0.0088 0.0037

Neptune -12699-04-13 07:40 J -2916784.36 -2916784.18 -2916783.98 0.0088 0.0027

Neptune -12699-07-10 11:31 J -2916696.21 -2916696.02 -2916695.82 0.0088 0.0017

Neptune -12699-10-06 15:07 J -2916608.06 -2916607.87 -2916607.67 0.0088 0.0007

Neptune -12698-01-02 18:57 J -2916519.91 -2916519.71 -2916519.51 0.0088 0.0003

Neptune -12698-03-31 22:33 J -2916431.75 -2916431.56 -2916431.36 0.0088 0.0014

Neptune -12698-06-28 02:09 J -2916343.59 -2916343.41 -2916343.21 0.0088 0.0024

Jupiter -12698-08-10 22:04 J -2916299.69 -2916299.58 -2916299.47 0.0525 0.0227

Neptune -12698-09-24 06:00 J -2916255.43 -2916255.25 -2916255.06 0.0088 0.0034

Jupiter -12698-11-08 02:38 J -2916210.49 -2916210.39 -2916210.29 0.0523 0.0318

Neptune -12698-12-21 09:35 J -2916167.26 -2916167.10 -2916166.92 0.0088 0.0044

Neptune -12697-03-18 13:11 J -2916079.09 -2916078.95 -2916078.78 0.0088 0.0055

Neptune -12697-06-14 16:48 J -2915990.91 -2915990.80 -2915990.65 0.0088 0.0065

Neptune -12697-09-10 20:38 J -2915902.73 -2915902.64 -2915902.52 0.0088 0.0075

Neptune -12697-12-08 00:14 J -2915814.52 -2915814.49 -2915814.42 0.0088 0.0085

Venus -12695-12-22 22:33 J -2915069.65 -2915069.56 -2915069.48 0.3706 0.1917

Mars -12693-01-26 02:52 J -2914670.55 -2914670.38 -2914670.22 0.1886 0.0456

Earth -12692-08-21 17:16 J -2914096.89 -2914096.78 -2914096.67 0.2717 0.0308

Moon -12692-08-21 17:31 J -2914096.87 -2914096.77 -2914096.66 0.2723 0.0325 *

Venus -12692-09-28 01:26 J -2914059.59 -2914059.44 -2914059.28 0.3665 0.1477

Jupiter -12692-10-02 00:43 J -2914055.66 -2914055.47 -2914055.28 0.0501 0.0040

Mars -12691-11-01 12:28 J -2913660.10 -2913659.98 -2913659.87 0.1637 0.0214

Venus -12689-07-07 13:40 J -2913046.03 -2913045.93 -2913045.83 0.3708 0.0161

Mars -12689-10-06 13:40 J -2912954.96 -2912954.93 -2912954.90 0.1629 0.1558

Moon -12688-02-21 13:40 J -2912817.09 -2912816.93 -2912816.77 0.2614 0.0457

Earth -12688-02-21 15:21 J -2912817.02 -2912816.86 -2912816.70 0.2616 0.0311 *

Jupiter -12686-05-30 02:38 J -2911989.48 -2911989.39 -2911989.30 0.0525 0.0360

Jupiter -12686-08-27 07:26 J -2911900.31 -2911900.19 -2911900.08 0.0524 0.0186

Saturn -12685-01-05 10:04 J -2911769.24 -2911769.08 -2911768.91 0.0264 0.0143

Saturn -12685-04-03 08:09 J -2911680.35 -2911680.16 -2911679.96 0.0265 0.0024

Saturn -12685-07-01 06:14 J -2911591.37 -2911591.24 -2911591.10 0.0265 0.0193

Mars -12684-06-16 18:28 J -2911240.88 -2911240.73 -2911240.59 0.1883 0.0994

Venus -12683-01-21 04:48 J -2911022.38 -2911022.30 -2911022.21 0.3710 0.1647

Mars -12681-03-24 00:00 J -2910229.61 -2910229.50 -2910229.40 0.1640 0.0642

Jupiter -12680-07-20 21:07 J -2909745.78 -2909745.62 -2909745.45 0.0501 0.0224

Uranus -12680-11-30 09:21 J -2909613.16 -2909613.11 -2909613.05 0.0138 0.0125

Uranus -12679-02-26 12:28 J -2909525.06 -2909524.98 -2909524.89 0.0138 0.0106

Mars -12679-02-27 01:26 J -2909524.52 -2909524.44 -2909524.36 0.1631 0.1135

Uranus -12679-05-25 15:35 J -2909436.94 -2909436.85 -2909436.74 0.0138 0.0087

Uranus -12679-08-21 18:43 J -2909348.83 -2909348.72 -2909348.60 0.0139 0.0068

Earth -12679-08-24 11:02 J -2909346.14 -2909346.04 -2909345.94 0.2716 0.0951

Moon -12679-08-24 11:45 J -2909346.11 -2909346.01 -2909345.91 0.2720 0.1037 *

Uranus -12679-11-17 22:04 J -2909260.70 -2909260.58 -2909260.46 0.0139 0.0048

Uranus -12678-02-14 01:11 J -2909172.58 -2909172.45 -2909172.32 0.0139 0.0028

Uranus -12678-05-13 04:19 J -2909084.45 -2909084.32 -2909084.19 0.0139 0.0009

Venus -12678-08-06 20:09 J -2908998.70 -2908998.66 -2908998.63 0.3712 0.3414

Uranus -12678-08-09 07:40 J -2908996.31 -2908996.18 -2908996.05 0.0139 0.0012

Uranus -12678-11-05 10:48 J -2908908.18 -2908908.05 -2908907.92 0.0139 0.0031

Uranus -12677-02-01 13:55 J -2908820.04 -2908819.92 -2908819.80 0.0139 0.0051

Uranus -12677-04-29 17:02 J -2908731.89 -2908731.79 -2908731.67 0.0139 0.0072

Uranus -12677-07-26 20:24 J -2908643.75 -2908643.65 -2908643.55 0.0139 0.0092

Uranus -12677-10-22 23:31 J -2908555.59 -2908555.52 -2908555.44 0.0140 0.0112

Uranus -12676-01-19 02:52 J -2908467.42 -2908467.38 -2908467.34 0.0140 0.0132

Moon -12675-02-24 21:07 J -2908065.72 -2908065.62 -2908065.52 0.2620 0.2036

Earth -12675-02-24 22:33 J -2908065.64 -2908065.56 -2908065.47 0.2617 0.2179 *

Jupiter -12674-03-18 07:26 J -2907679.23 -2907679.19 -2907679.15 0.0525 0.0492

Jupiter -12674-06-15 12:00 J -2907590.12 -2907590.00 -2907589.87 0.0524 0.0055

Mars -12672-08-14 11:31 J -2906799.10 -2906799.02 -2906798.93 0.1642 0.1079

Saturn -12672-08-14 12:43 J -2906799.08 -2906798.97 -2906798.86 0.0299 0.0153 *

Moon -12672-08-17 10:04 J -2906796.11 -2906796.08 -2906796.04 0.2722 0.2576

Earth -12672-08-17 10:48 J -2906796.08 -2906796.05 -2906796.02 0.2718 0.2552 *

Saturn -12672-11-11 00:43 J -2906710.60 -2906710.47 -2906710.34 0.0298 0.0009

Saturn -12671-02-07 12:43 J -2906622.08 -2906621.97 -2906621.86 0.0297 0.0162

Mars -12670-07-20 12:57 J -2906094.06 -2906093.96 -2906093.85 0.1633 0.0711

Jupiter -12668-05-08 16:48 J -2905435.90 -2905435.80 -2905435.69 0.0501 0.0419

Jupiter -12668-08-07 06:14 J -2905345.38 -2905345.24 -2905345.10 0.0502 0.0334

Earth -12666-08-27 04:48 J -2904595.36 -2904595.30 -2904595.24 0.2716 0.2216

Moon -12666-08-27 05:31 J -2904595.32 -2904595.27 -2904595.22 0.2713 0.2329 *

Mars -12662-01-04 23:02 J -2903368.58 -2903368.54 -2903368.49 0.1645 0.1520

Jupiter -12662-04-03 16:48 J -2903279.92 -2903279.80 -2903279.67 0.0524 0.0078

Jupiter -12662-07-01 21:21 J -2903190.66 -2903190.61 -2903190.55 0.0523 0.0464

Mars -12661-12-10 00:43 J -2902663.58 -2902663.47 -2902663.36 0.1635 0.0281

Moon -12659-08-20 04:04 J -2902045.42 -2902045.33 -2902045.23 0.2724 0.1403

Earth -12659-08-20 04:19 J -2902045.41 -2902045.32 -2902045.22 0.2717 0.1313 *

Saturn -12656-05-24 07:55 J -2901037.29 -2901037.17 -2901037.03 0.0263 0.0196

Jupiter -12656-05-26 03:07 J -2901035.55 -2901035.37 -2901035.19 0.0502 0.0154

Saturn -12656-08-21 06:00 J -2900948.44 -2900948.25 -2900948.05 0.0264 0.0031

Saturn -12656-11-18 04:04 J -2900859.49 -2900859.33 -2900859.16 0.0264 0.0138

Moon -12655-02-19 13:11 J -2900766.01 -2900765.95 -2900765.89 0.2611 0.2397

Earth -12655-02-19 14:38 J -2900765.96 -2900765.89 -2900765.83 0.2616 0.2366 *

Mars -12654-07-27 03:35 J -2900243.51 -2900243.35 -2900243.18 0.1887 0.0581

Mars -12651-05-02 12:14 J -2899233.10 -2899232.99 -2899232.87 0.1637 0.0162

Jupiter -12650-01-20 21:07 J -2898969.73 -2898969.62 -2898969.50 0.0524 0.0217

Jupiter -12650-04-20 01:40 J -2898880.52 -2898880.43 -2898880.33 0.0523 0.0327

Mars -12649-04-06 13:40 J -2898527.94 -2898527.93 -2898527.92 0.1629 0.1614

Earth -12646-08-22 22:04 J -2897294.69 -2897294.58 -2897294.47 0.2717 0.0077

Moon -12646-08-22 22:33 J -2897294.67 -2897294.56 -2897294.46 0.2723 0.0096 *

Mars -12645-12-15 19:26 J -2896813.84 -2896813.69 -2896813.54 0.1883 0.0861

Jupiter -12644-03-13 23:45 J -2896725.70 -2896725.51 -2896725.32 0.0502 0.0028

Venus -12643-01-13 04:48 J -2896420.36 -2896420.30 -2896420.25 0.3705 0.3052

Saturn -12642-01-01 13:55 J -2896067.00 -2896066.92 -2896066.82 0.0300 0.0210

Moon -12642-02-22 20:24 J -2896014.81 -2896014.65 -2896014.49 0.2616 0.0083

Earth -12642-02-22 22:04 J -2896014.74 -2896014.58 -2896014.42 0.2617 0.0173 *

Saturn -12642-03-31 02:09 J -2895978.54 -2895978.41 -2895978.29 0.0299 0.0051

Saturn -12642-06-27 13:55 J -2895890.03 -2895889.92 -2895889.79 0.0298 0.0107

Mars -12642-09-23 00:00 J -2895802.61 -2895802.50 -2895802.40 0.1640 0.0590

Saturn -12642-09-24 01:55 J -2895801.48 -2895801.42 -2895801.36 0.0297 0.0262

Mars -12640-08-28 01:11 J -2895097.52 -2895097.45 -2895097.37 0.1631 0.1190

Uranus -12640-10-11 20:52 J -2895052.66 -2895052.63 -2895052.57 0.0140 0.0136

Uranus -12639-01-08 05:16 J -2894964.40 -2894964.28 -2894964.14 0.0140 0.0105

Uranus -12639-04-06 13:40 J -2894876.09 -2894875.93 -2894875.76 0.0140 0.0074

Uranus -12639-07-03 21:50 J -2894787.77 -2894787.59 -2894787.39 0.0140 0.0044

Uranus -12639-09-30 06:14 J -2894699.44 -2894699.24 -2894699.04 0.0140 0.0013

Jupiter -12639-11-09 01:40 J -2894659.52 -2894659.43 -2894659.33 0.0525 0.0351

Uranus -12639-12-27 14:24 J -2894611.10 -2894610.90 -2894610.71 0.0140 0.0017

Jupiter -12638-02-06 06:14 J -2894570.35 -2894570.24 -2894570.12 0.0524 0.0195

Uranus -12638-03-25 22:19 J -2894522.75 -2894522.57 -2894522.38 0.0139 0.0048

Uranus -12638-06-22 06:28 J -2894434.39 -2894434.23 -2894434.06 0.0139 0.0078

Venus -12638-07-29 19:55 J -2894396.76 -2894396.67 -2894396.58 0.3706 0.1272

Uranus -12638-09-18 14:24 J -2894346.01 -2894345.90 -2894345.77 0.0139 0.0108

Uranus -12638-12-15 22:19 J -2894257.59 -2894257.57 -2894257.53 0.0139 0.0137

Venus -12635-05-05 04:33 J -2893386.47 -2893386.31 -2893386.15 0.3664 0.0725

Earth -12633-08-24 15:50 J -2892543.94 -2892543.84 -2892543.74 0.2716 0.1204

Moon -12633-08-24 16:33 J -2892543.91 -2892543.81 -2892543.71 0.2718 0.1262 *

Jupiter -12633-12-30 20:24 J -2892415.82 -2892415.65 -2892415.48 0.0501 0.0211

Venus -12632-02-11 11:02 J -2892373.14 -2892373.04 -2892372.94 0.3708 0.0508

Mars -12632-02-12 11:31 J -2892372.11 -2892372.02 -2892371.93 0.1642 0.1024

Mars -12630-01-18 12:57 J -2891667.06 -2891666.96 -2891666.86 0.1633 0.0763

Moon -12629-02-26 03:50 J -2891263.39 -2891263.34 -2891263.29 0.2620 0.2488

Venus -12627-08-28 02:09 J -2890349.48 -2890349.41 -2890349.33 0.3710 0.2282

Jupiter -12627-08-28 06:28 J -2890349.28 -2890349.23 -2890349.19 0.0525 0.0485

Saturn -12627-10-11 05:16 J -2890305.32 -2890305.28 -2890305.22 0.0263 0.0254

Jupiter -12627-11-25 11:02 J -2890260.16 -2890260.04 -2890259.91 0.0524 0.0062

Saturn -12626-01-08 03:21 J -2890216.54 -2890216.36 -2890216.18 0.0264 0.0089

Saturn -12626-04-07 01:11 J -2890127.63 -2890127.45 -2890127.26 0.0264 0.0078

Saturn -12626-07-04 23:16 J -2890038.59 -2890038.53 -2890038.46 0.0265 0.0247

Moon -12626-08-18 14:52 J -2889993.92 -2889993.88 -2889993.83 0.2722 0.2444

Earth -12626-08-18 15:35 J -2889993.91 -2889993.85 -2889993.80 0.2718 0.2307 *

Mars -12623-07-05 23:02 J -2888941.59 -2888941.54 -2888941.49 0.1645 0.1463

Mars -12621-06-10 00:43 J -2888236.59 -2888236.47 -2888236.36 0.1635 0.0336

Jupiter -12621-10-18 16:48 J -2888105.91 -2888105.80 -2888105.68 0.0501 0.0393

Jupiter -12620-01-17 06:00 J -2888015.38 -2888015.25 -2888015.11 0.0502 0.0358

Earth -12620-08-27 09:35 J -2887793.14 -2887793.10 -2887793.06 0.2716 0.2473

Moon -12620-08-27 10:19 J -2887793.11 -2887793.07 -2887793.03 0.2713 0.2539 *

Neptune -12619-05-12 19:11 J -2887534.74 -2887534.70 -2887534.64 0.0089 0.0083

Neptune -12619-08-08 20:38 J -2887446.70 -2887446.64 -2887446.57 0.0089 0.0075

Neptune -12619-11-04 21:50 J -2887358.66 -2887358.59 -2887358.50 0.0089 0.0068

Neptune -12618-01-31 23:02 J -2887270.62 -2887270.54 -2887270.43 0.0089 0.0062

Neptune -12618-04-30 00:28 J -2887182.58 -2887182.48 -2887182.37 0.0089 0.0054

Neptune -12618-07-27 01:40 J -2887094.53 -2887094.43 -2887094.31 0.0089 0.0047

Neptune -12618-10-23 03:07 J -2887006.48 -2887006.37 -2887006.25 0.0089 0.0040

Neptune -12617-01-19 04:19 J -2886918.43 -2886918.32 -2886918.19 0.0089 0.0033

Neptune -12617-04-16 05:45 J -2886830.38 -2886830.26 -2886830.13 0.0089 0.0026

Neptune -12617-07-13 06:57 J -2886742.33 -2886742.21 -2886742.08 0.0089 0.0019

Neptune -12617-10-09 08:24 J -2886654.28 -2886654.15 -2886654.02 0.0089 0.0012

Neptune -12616-01-05 09:35 J -2886566.23 -2886566.10 -2886565.97 0.0089 0.0005

Neptune -12616-04-03 10:48 J -2886478.18 -2886478.05 -2886477.91 0.0089 0.0004

Neptune -12616-06-30 12:14 J -2886390.12 -2886389.99 -2886389.86 0.0089 0.0010

Neptune -12616-09-26 13:26 J -2886302.07 -2886301.94 -2886301.81 0.0089 0.0017

Neptune -12616-12-23 14:38 J -2886214.01 -2886213.89 -2886213.76 0.0089 0.0024

Neptune -12615-03-21 16:04 J -2886125.95 -2886125.83 -2886125.71 0.0089 0.0031

Neptune -12615-06-17 17:16 J -2886037.89 -2886037.78 -2886037.66 0.0089 0.0038

Jupiter -12615-09-13 15:50 J -2885949.96 -2885949.84 -2885949.71 0.0524 0.0071

Neptune -12615-09-13 18:28 J -2885949.83 -2885949.73 -2885949.61 0.0089 0.0045 *

Neptune -12615-12-10 19:40 J -2885861.77 -2885861.68 -2885861.56 0.0089 0.0053

Jupiter -12615-12-11 20:24 J -2885860.70 -2885860.65 -2885860.60 0.0523 0.0473

Mars -12614-01-25 04:33 J -2885816.47 -2885816.31 -2885816.15 0.1887 0.0705

Neptune -12614-03-08 21:07 J -2885773.71 -2885773.62 -2885773.52 0.0089 0.0059

Neptune -12614-06-04 22:19 J -2885685.65 -2885685.57 -2885685.48 0.0089 0.0066

Neptune -12614-08-31 23:31 J -2885597.58 -2885597.52 -2885597.43 0.0089 0.0074

Neptune -12614-11-28 00:57 J -2885509.51 -2885509.46 -2885509.40 0.0089 0.0080

Neptune -12613-02-24 02:09 J -2885421.42 -2885421.41 -2885421.38 0.0089 0.0088

Saturn -12613-05-20 15:07 J -2885334.93 -2885334.87 -2885334.82 0.0300 0.0269

Saturn -12613-08-17 03:07 J -2885246.49 -2885246.37 -2885246.25 0.0299 0.0110

Moon -12613-08-20 09:07 J -2885243.22 -2885243.12 -2885243.02 0.2724 0.1021

Earth -12613-08-20 09:07 J -2885243.21 -2885243.12 -2885243.02 0.2717 0.1072 *

Saturn -12613-11-13 15:07 J -2885157.99 -2885157.87 -2885157.74 0.0298 0.0050

Saturn -12612-02-10 03:07 J -2885069.46 -2885069.37 -2885069.28 0.0297 0.0206

Mars -12612-10-31 12:14 J -2884806.10 -2884805.99 -2884805.87 0.1637 0.0109

Pluto -12610-04-25 20:52 J -2884264.68 -2884264.63 -2884264.56 0.0072 0.0065

Pluto -12610-07-22 22:04 J -2884176.66 -2884176.58 -2884176.48 0.0072 0.0057

Pluto -12610-10-18 23:02 J -2884088.63 -2884088.54 -2884088.41 0.0072 0.0049

Pluto -12609-01-15 00:28 J -2884000.60 -2884000.48 -2884000.35 0.0072 0.0040

Moon -12609-02-20 19:55 J -2883963.76 -2883963.67 -2883963.57 0.2611 0.2123

Earth -12609-02-20 21:21 J -2883963.72 -2883963.61 -2883963.50 0.2616 0.1875 *

Pluto -12609-04-12 01:40 J -2883912.56 -2883912.43 -2883912.28 0.0072 0.0032

Pluto -12609-07-09 02:52 J -2883824.52 -2883824.38 -2883824.23 0.0072 0.0024

Pluto -12609-10-05 04:04 J -2883736.47 -2883736.33 -2883736.17 0.0072 0.0015

Jupiter -12609-11-05 01:40 J -2883705.61 -2883705.43 -2883705.25 0.0502 0.0162

Pluto -12608-01-01 05:31 J -2883648.42 -2883648.27 -2883648.12 0.0072 0.0006

Pluto -12608-03-30 06:43 J -2883560.37 -2883560.22 -2883560.06 0.0073 0.0003

Pluto -12608-06-26 07:55 J -2883472.32 -2883472.17 -2883472.01 0.0073 0.0012

Pluto -12608-09-22 09:21 J -2883384.26 -2883384.11 -2883383.96 0.0073 0.0020

Pluto -12608-12-19 10:33 J -2883296.20 -2883296.06 -2883295.92 0.0073 0.0029

Pluto -12607-03-17 11:45 J -2883208.13 -2883208.01 -2883207.87 0.0073 0.0038

Pluto -12607-06-13 12:57 J -2883120.07 -2883119.96 -2883119.83 0.0073 0.0048

Pluto -12607-09-09 14:24 J -2883031.99 -2883031.90 -2883031.80 0.0073 0.0057

Pluto -12607-12-06 15:50 J -2882943.90 -2882943.84 -2882943.77 0.0073 0.0066

Mars -12605-06-15 20:38 J -2882386.80 -2882386.64 -2882386.48 0.1883 0.0724

Jupiter -12603-07-02 20:52 J -2881639.75 -2881639.63 -2881639.52 0.0524 0.0199

Jupiter -12603-09-30 01:11 J -2881550.54 -2881550.45 -2881550.35 0.0523 0.0345

Mars -12602-03-24 00:00 J -2881375.61 -2881375.50 -2881375.40 0.1640 0.0534

Mars -12600-02-26 01:26 J -2880670.52 -2880670.44 -2880670.37 0.1630 0.1247

Earth -12600-08-23 02:52 J -2880492.49 -2880492.38 -2880492.27 0.2717 0.0198

Moon -12600-08-23 03:21 J -2880492.47 -2880492.36 -2880492.25 0.2723 0.0186 *

Saturn -12597-05-27 01:11 J -2879484.61 -2879484.45 -2879484.29 0.0263 0.0143

Jupiter -12597-08-23 22:33 J -2879395.75 -2879395.56 -2879395.37 0.0502 0.0018

Saturn -12597-08-23 23:02 J -2879395.73 -2879395.54 -2879395.34 0.0264 0.0023 *

Saturn -12597-11-20 20:52 J -2879306.75 -2879306.63 -2879306.49 0.0264 0.0191

Moon -12596-02-23 03:07 J -2879212.53 -2879212.37 -2879212.21 0.2618 0.0560

Earth -12596-02-23 04:48 J -2879212.45 -2879212.30 -2879212.14 0.2616 0.0653 *

Uranus -12596-12-20 16:04 J -2878911.88 -2878911.83 -2878911.77 0.0138 0.0123

Uranus -12595-03-18 19:26 J -2878823.78 -2878823.69 -2878823.61 0.0138 0.0104

Uranus -12595-06-14 22:33 J -2878735.66 -2878735.56 -2878735.46 0.0138 0.0084

Uranus -12595-09-11 01:40 J -2878647.54 -2878647.43 -2878647.31 0.0138 0.0065

Uranus -12595-12-08 04:48 J -2878559.42 -2878559.30 -2878559.18 0.0139 0.0045

Uranus -12594-03-06 07:55 J -2878471.29 -2878471.17 -2878471.04 0.0139 0.0026

Uranus -12594-06-02 11:16 J -2878383.16 -2878383.03 -2878382.90 0.0139 0.0007

Uranus -12594-08-29 14:24 J -2878295.03 -2878294.90 -2878294.77 0.0139 0.0014

Uranus -12594-11-25 17:31 J -2878206.89 -2878206.77 -2878206.64 0.0139 0.0034

Uranus -12593-02-21 20:38 J -2878118.75 -2878118.64 -2878118.51 0.0139 0.0054

Uranus -12593-05-20 00:00 J -2878030.61 -2878030.50 -2878030.39 0.0139 0.0074

Mars -12593-08-13 11:31 J -2877945.11 -2877945.02 -2877944.93 0.1642 0.0970

Uranus -12593-08-16 03:07 J -2877942.46 -2877942.37 -2877942.27 0.0139 0.0094

Uranus -12593-11-12 06:14 J -2877854.30 -2877854.24 -2877854.16 0.0140 0.0115

Uranus -12592-02-08 09:35 J -2877766.13 -2877766.10 -2877766.06 0.0140 0.0135

Jupiter -12591-04-21 01:11 J -2877329.55 -2877329.45 -2877329.36 0.0524 0.0337

Jupiter -12591-07-19 05:45 J -2877240.38 -2877240.26 -2877240.15 0.0523 0.0207

Mars -12591-07-19 12:57 J -2877240.06 -2877239.96 -2877239.86 0.1633 0.0817

Venus -12587-08-20 02:09 J -2875747.49 -2875747.41 -2875747.34 0.3705 0.2406

Earth -12587-08-25 20:38 J -2875741.73 -2875741.64 -2875741.55 0.2716 0.1452

Moon -12587-08-25 21:21 J -2875741.70 -2875741.61 -2875741.52 0.2716 0.1593 *

Jupiter -12585-06-11 19:26 J -2875085.86 -2875085.69 -2875085.51 0.0502 0.0197

Mars -12583-01-03 23:02 J -2874514.60 -2874514.54 -2874514.48 0.1645 0.1409

Saturn -12583-01-04 04:19 J -2874514.43 -2874514.32 -2874514.22 0.0300 0.0170

Saturn -12583-04-02 16:19 J -2874425.95 -2874425.82 -2874425.69 0.0299 0.0012

Saturn -12583-06-30 04:04 J -2874337.43 -2874337.33 -2874337.21 0.0298 0.0147

Mars -12582-12-10 00:28 J -2873809.59 -2873809.48 -2873809.36 0.1635 0.0392

Venus -12581-03-04 17:16 J -2873723.88 -2873723.78 -2873723.68 0.3707 0.0629

Moon -12580-08-18 19:55 J -2873191.74 -2873191.67 -2873191.61 0.2722 0.2096

Earth -12580-08-18 20:24 J -2873191.72 -2873191.65 -2873191.58 0.2718 0.2064 *

Jupiter -12579-02-07 05:45 J -2873019.31 -2873019.26 -2873019.21 0.0525 0.0472

Jupiter -12579-05-07 10:19 J -2872930.19 -2872930.07 -2872929.95 0.0524 0.0073

Venus -12579-12-10 07:26 J -2872713.28 -2872713.19 -2872713.09 0.3663 0.2908

Venus -12576-09-18 08:24 J -2871700.24 -2871700.15 -2871700.05 0.3709 0.1145

Mars -12575-07-26 05:31 J -2871389.42 -2871389.27 -2871389.12 0.1887 0.0831

Jupiter -12573-03-30 16:04 J -2870775.95 -2870775.83 -2870775.70 0.0501 0.0379

Jupiter -12573-06-29 05:16 J -2870685.40 -2870685.28 -2870685.15 0.0502 0.0373

Mars -12572-05-01 12:14 J -2870379.10 -2870378.99 -2870378.87 0.1637 0.0044

Venus -12570-04-03 23:31 J -2869676.58 -2869676.52 -2869676.46 0.3711 0.2913

Saturn -12568-10-13 22:19 J -2868752.69 -2868752.57 -2868752.45 0.0263 0.0203

Saturn -12567-01-10 20:09 J -2868663.85 -2868663.66 -2868663.47 0.0264 0.0038

Jupiter -12567-02-23 15:07 J -2868620.00 -2868619.87 -2868619.75 0.0524 0.0061

Saturn -12567-04-09 18:00 J -2868574.91 -2868574.75 -2868574.58 0.0264 0.0129

Jupiter -12567-05-23 19:40 J -2868530.73 -2868530.68 -2868530.64 0.0523 0.0483

Earth -12567-08-21 13:55 J -2868441.02 -2868440.92 -2868440.81 0.2717 0.0826

Moon -12567-08-21 14:09 J -2868441.01 -2868440.91 -2868440.81 0.2725 0.0870 *

Mars -12566-12-15 20:52 J -2867959.79 -2867959.63 -2867959.46 0.1883 0.0625

Moon -12563-02-21 02:38 J -2867161.53 -2867161.39 -2867161.26 0.2613 0.1456

Earth -12563-02-21 04:04 J -2867161.47 -2867161.33 -2867161.20 0.2616 0.1398 *

Mars -12563-09-21 23:45 J -2866948.62 -2866948.51 -2866948.40 0.1640 0.0480

Jupiter -12561-04-17 01:55 J -2866375.59 -2866375.42 -2866375.24 0.0502 0.0190

Mars -12561-08-27 01:11 J -2866243.52 -2866243.45 -2866243.38 0.1631 0.1297

Uranus -12556-11-01 03:35 J -2864351.40 -2864351.35 -2864351.27 0.0140 0.0131

Jupiter -12556-12-12 19:55 J -2864309.78 -2864309.67 -2864309.55 0.0524 0.0188

Uranus -12555-01-28 12:00 J -2864263.13 -2864263.00 -2864262.85 0.0140 0.0100

Jupiter -12555-03-12 00:28 J -2864220.57 -2864220.48 -2864220.39 0.0523 0.0355

Uranus -12555-04-26 20:24 J -2864174.82 -2864174.65 -2864174.48 0.0140 0.0069

Uranus -12555-07-24 04:33 J -2864086.49 -2864086.31 -2864086.12 0.0140 0.0039

Uranus -12555-10-20 12:43 J -2863998.16 -2863997.97 -2863997.77 0.0140 0.0009

Uranus -12554-01-16 20:52 J -2863909.82 -2863909.63 -2863909.43 0.0140 0.0023

Uranus -12554-04-15 05:02 J -2863821.47 -2863821.29 -2863821.10 0.0139 0.0053

Saturn -12554-05-24 05:02 J -2863782.37 -2863782.29 -2863782.21 0.0300 0.0232

Uranus -12554-07-12 13:11 J -2863733.11 -2863732.95 -2863732.79 0.0139 0.0082

Saturn -12554-08-20 17:02 J -2863693.91 -2863693.79 -2863693.66 0.0299 0.0073

Earth -12554-08-24 07:40 J -2863690.28 -2863690.18 -2863690.07 0.2717 0.0439

Moon -12554-08-24 08:09 J -2863690.26 -2863690.16 -2863690.05 0.2721 0.0559 *

Uranus -12554-10-08 21:07 J -2863644.73 -2863644.62 -2863644.50 0.0139 0.0112

Saturn -12554-11-17 05:02 J -2863605.41 -2863605.29 -2863605.16 0.0298 0.0087

Mars -12553-02-12 11:31 J -2863518.12 -2863518.02 -2863517.93 0.1642 0.0913

Saturn -12553-02-13 17:02 J -2863516.86 -2863516.79 -2863516.71 0.0297 0.0243

Mars -12551-01-17 12:57 J -2862813.06 -2862812.96 -2862812.87 0.1632 0.0872

Moon -12550-02-24 09:50 J -2862410.25 -2862410.09 -2862409.94 0.2618 0.0829

Earth -12550-02-24 11:31 J -2862410.16 -2862410.02 -2862409.87 0.2617 0.1126 *

Jupiter -12549-02-03 21:21 J -2862065.80 -2862065.61 -2862065.42 0.0502 0.0011

Mars -12544-07-04 23:02 J -2860087.60 -2860087.54 -2860087.48 0.1645 0.1355

Jupiter -12544-10-01 00:57 J -2859999.56 -2859999.46 -2859999.36 0.0524 0.0317

Jupiter -12544-12-29 05:31 J -2859910.39 -2859910.27 -2859910.16 0.0523 0.0227

Mars -12542-06-10 00:28 J -2859382.59 -2859382.48 -2859382.37 0.1635 0.0448

Earth -12541-08-26 01:26 J -2858939.52 -2858939.44 -2858939.35 0.2716 0.1703

Moon -12541-08-26 02:09 J -2858939.49 -2858939.41 -2858939.33 0.2716 0.1744 *

Saturn -12538-03-02 20:09 J -2858020.69 -2858020.66 -2858020.62 0.0262 0.0256

Saturn -12538-05-30 18:00 J -2857931.93 -2857931.75 -2857931.57 0.0263 0.0092

Saturn -12538-08-27 15:50 J -2857843.02 -2857842.84 -2857842.65 0.0263 0.0074

Jupiter -12538-11-22 18:14 J -2857755.91 -2857755.74 -2857755.56 0.0502 0.0188

Saturn -12538-11-24 13:40 J -2857754.00 -2857753.93 -2857753.84 0.0264 0.0241

Neptune -12536-07-28 08:09 J -2857142.20 -2857142.16 -2857142.08 0.0088 0.0083

Venus -12536-09-10 08:09 J -2857098.18 -2857098.16 -2857098.13 0.3704 0.3536

Neptune -12536-10-24 12:00 J -2857054.10 -2857054.00 -2857053.88 0.0088 0.0073

Neptune -12535-01-20 15:35 J -2856965.97 -2856965.85 -2856965.69 0.0088 0.0063

Mars -12535-01-24 06:28 J -2856962.38 -2856962.23 -2856962.09 0.1887 0.0957

Neptune -12535-04-18 19:40 J -2856877.83 -2856877.68 -2856877.52 0.0088 0.0052

Neptune -12535-07-15 23:16 J -2856789.69 -2856789.53 -2856789.35 0.0088 0.0042

Neptune -12535-10-12 03:07 J -2856701.55 -2856701.37 -2856701.18 0.0088 0.0032

Neptune -12534-01-08 06:43 J -2856613.40 -2856613.22 -2856613.02 0.0088 0.0022

Neptune -12534-04-06 10:33 J -2856525.25 -2856525.06 -2856524.86 0.0088 0.0012

Neptune -12534-07-03 14:24 J -2856437.10 -2856436.90 -2856436.70 0.0088 0.0001

Moon -12534-08-20 00:43 J -2856389.54 -2856389.47 -2856389.39 0.2723 0.1900

Earth -12534-08-20 01:11 J -2856389.53 -2856389.45 -2856389.37 0.2718 0.1822 *

Neptune -12534-09-29 18:00 J -2856348.94 -2856348.75 -2856348.55 0.0088 0.0009

Neptune -12534-12-26 21:50 J -2856260.78 -2856260.59 -2856260.40 0.0088 0.0019

Neptune -12533-03-24 01:11 J -2856172.62 -2856172.45 -2856172.25 0.0088 0.0030

Neptune -12533-06-20 05:02 J -2856084.46 -2856084.29 -2856084.10 0.0088 0.0040

Neptune -12533-09-16 08:38 J -2855996.29 -2855996.14 -2855995.96 0.0088 0.0050

Mars -12533-10-30 12:14 J -2855952.11 -2855951.99 -2855951.88 0.1637 0.0031

Neptune -12533-12-13 12:28 J -2855908.11 -2855907.98 -2855907.83 0.0088 0.0060

Neptune -12532-03-11 16:19 J -2855819.93 -2855819.82 -2855819.70 0.0088 0.0070

Neptune -12532-06-07 20:09 J -2855731.74 -2855731.66 -2855731.58 0.0088 0.0080

Jupiter -12532-07-20 05:16 J -2855689.34 -2855689.28 -2855689.22 0.0524 0.0455

Jupiter -12532-10-17 09:50 J -2855600.21 -2855600.09 -2855599.97 0.0523 0.0089

Venus -12530-03-26 23:31 J -2855074.61 -2855074.52 -2855074.44 0.3706 0.1768

Venus -12528-12-30 22:04 J -2854064.73 -2854064.58 -2854064.44 0.3665 0.1715

Mars -12526-06-15 22:19 J -2853532.74 -2853532.57 -2853532.41 0.1883 0.0479

Jupiter -12526-09-10 15:21 J -2853445.99 -2853445.86 -2853445.73 0.0501 0.0364

Jupiter -12526-12-10 04:33 J -2853355.42 -2853355.31 -2853355.19 0.0503 0.0389

Pluto -12525-06-26 03:21 J -2853156.41 -2853156.36 -2853156.28 0.0072 0.0066

Pluto -12525-09-22 04:48 J -2853068.38 -2853068.30 -2853068.18 0.0072 0.0057

Venus -12525-10-09 14:38 J -2853050.99 -2853050.89 -2853050.79 0.3707 0.0043

Saturn -12525-10-10 05:45 J -2853050.27 -2853050.26 -2853050.23 0.0301 0.0295

Pluto -12525-12-19 06:14 J -2852980.34 -2852980.24 -2852980.10 0.0072 0.0048

Saturn -12524-01-06 18:00 J -2852961.86 -2852961.75 -2852961.63 0.0300 0.0134

Pluto -12524-03-17 07:40 J -2852892.30 -2852892.18 -2852892.02 0.0072 0.0039

Saturn -12524-04-05 06:14 J -2852873.37 -2852873.24 -2852873.12 0.0299 0.0027

Pluto -12524-06-13 09:21 J -2852804.25 -2852804.11 -2852803.95 0.0072 0.0030

Saturn -12524-07-02 18:00 J -2852784.84 -2852784.75 -2852784.64 0.0298 0.0184

Pluto -12524-09-09 10:48 J -2852716.20 -2852716.05 -2852715.88 0.0072 0.0021

Pluto -12524-12-06 12:28 J -2852628.14 -2852627.98 -2852627.82 0.0072 0.0011

Pluto -12523-03-04 13:55 J -2852540.08 -2852539.92 -2852539.76 0.0071 0.0003

Mars -12523-03-22 23:45 J -2852521.62 -2852521.51 -2852521.40 0.1640 0.0423

Pluto -12523-05-31 15:21 J -2852452.02 -2852451.86 -2852451.70 0.0071 0.0006

Pluto -12523-08-27 16:33 J -2852363.96 -2852363.81 -2852363.64 0.0071 0.0015

Pluto -12523-11-23 17:45 J -2852275.90 -2852275.76 -2852275.59 0.0071 0.0024

Pluto -12522-02-19 19:26 J -2852187.83 -2852187.69 -2852187.54 0.0071 0.0032

Pluto -12522-05-18 20:24 J -2852099.76 -2852099.65 -2852099.50 0.0071 0.0041

Pluto -12522-08-14 22:04 J -2852011.69 -2852011.58 -2852011.46 0.0071 0.0049

Pluto -12522-11-10 23:02 J -2851923.61 -2851923.54 -2851923.43 0.0071 0.0058

Pluto -12521-02-07 00:28 J -2851835.52 -2851835.48 -2851835.41 0.0070 0.0066

Mars -12521-02-26 01:11 J -2851816.51 -2851816.45 -2851816.39 0.1630 0.1350

Moon -12521-08-21 18:57 J -2851638.82 -2851638.71 -2851638.61 0.2725 0.0515

Earth -12521-08-21 18:43 J -2851638.82 -2851638.72 -2851638.61 0.2717 0.0584 *

Jupiter -12520-08-05 14:24 J -2851290.03 -2851289.90 -2851289.78 0.0524 0.0046

Jupiter -12520-11-02 18:57 J -2851200.75 -2851200.71 -2851200.68 0.0523 0.0495

Venus -12519-04-25 05:45 J -2851027.35 -2851027.26 -2851027.17 0.3709 0.1775

Moon -12517-02-22 09:07 J -2850359.26 -2850359.12 -2850358.97 0.2614 0.1164

Earth -12517-02-22 10:48 J -2850359.20 -2850359.05 -2850358.90 0.2616 0.0907 *

Mars -12514-08-13 11:16 J -2849091.12 -2849091.03 -2849090.93 0.1642 0.0863

Jupiter -12514-09-28 01:11 J -2849045.62 -2849045.45 -2849045.27 0.0502 0.0206

Venus -12514-11-08 20:52 J -2849003.65 -2849003.63 -2849003.60 0.3711 0.3547

Mars -12512-07-18 12:43 J -2848386.06 -2848385.97 -2848385.87 0.1633 0.0927

Uranus -12511-01-09 22:48 J -2848210.61 -2848210.55 -2848210.49 0.0138 0.0121

Uranus -12511-04-08 01:55 J -2848122.50 -2848122.42 -2848122.33 0.0138 0.0102

Uranus -12511-07-05 05:02 J -2848034.39 -2848034.29 -2848034.18 0.0138 0.0083

Uranus -12511-10-01 08:09 J -2847946.27 -2847946.16 -2847946.04 0.0138 0.0064

Uranus -12511-12-28 11:16 J -2847858.15 -2847858.03 -2847857.90 0.0139 0.0045

Uranus -12510-03-26 14:38 J -2847770.02 -2847769.89 -2847769.76 0.0139 0.0024

Uranus -12510-06-22 17:45 J -2847681.89 -2847681.76 -2847681.63 0.0139 0.0005

Uranus -12510-09-18 20:52 J -2847593.76 -2847593.63 -2847593.50 0.0139 0.0016

Uranus -12510-12-16 00:14 J -2847505.62 -2847505.49 -2847505.37 0.0139 0.0035

Uranus -12509-03-13 03:21 J -2847417.48 -2847417.36 -2847417.24 0.0139 0.0055

Uranus -12509-06-09 06:28 J -2847329.33 -2847329.23 -2847329.12 0.0139 0.0075

Uranus -12509-09-05 09:35 J -2847241.18 -2847241.10 -2847241.00 0.0139 0.0096

Saturn -12509-10-16 15:21 J -2847200.02 -2847199.86 -2847199.70 0.0263 0.0151

Uranus -12509-12-02 12:57 J -2847153.03 -2847152.96 -2847152.88 0.0139 0.0116

Saturn -12508-01-13 13:11 J -2847111.15 -2847110.95 -2847110.76 0.0264 0.0014

Uranus -12508-02-28 16:19 J -2847064.84 -2847064.82 -2847064.79 0.0140 0.0136

Saturn -12508-04-12 10:48 J -2847022.18 -2847022.05 -2847021.90 0.0264 0.0182

Jupiter -12508-05-24 18:57 J -2846979.82 -2846979.71 -2846979.59 0.0524 0.0179

Jupiter -12508-08-21 23:31 J -2846890.60 -2846890.52 -2846890.43 0.0523 0.0365

Earth -12508-08-24 12:28 J -2846888.08 -2846887.98 -2846887.87 0.2717 0.0690

Moon -12508-08-24 13:11 J -2846888.06 -2846887.95 -2846887.85 0.2720 0.0712 *

Mars -12504-01-02 23:02 J -2845660.61 -2845660.54 -2845660.47 0.1645 0.1297

Moon -12504-02-24 16:33 J -2845607.94 -2845607.81 -2845607.68 0.2618 0.1523

Earth -12504-02-24 18:14 J -2845607.87 -2845607.74 -2845607.61 0.2617 0.1601 *

Mars -12503-12-09 00:28 J -2844955.59 -2844955.48 -2844955.37 0.1635 0.0498

Jupiter -12502-07-16 21:50 J -2844735.78 -2844735.59 -2844735.40 0.0502 0.0023

Jupiter -12496-03-13 00:00 J -2842669.60 -2842669.50 -2842669.40 0.0524 0.0306

Jupiter -12496-06-10 04:33 J -2842580.42 -2842580.31 -2842580.20 0.0523 0.0237

Mars -12496-07-25 07:26 J -2842535.33 -2842535.19 -2842535.05 0.1887 0.1085

Saturn -12495-05-26 18:57 J -2842229.81 -2842229.71 -2842229.62 0.0300 0.0196

Saturn -12495-08-23 06:57 J -2842141.34 -2842141.21 -2842141.08 0.0299 0.0036

Earth -12495-08-27 06:14 J -2842137.31 -2842137.24 -2842137.16 0.2716 0.1953

Moon -12495-08-27 06:57 J -2842137.28 -2842137.21 -2842137.14 0.2716 0.2105 *

Saturn -12495-11-19 18:57 J -2842052.83 -2842052.71 -2842052.59 0.0298 0.0122

Saturn -12494-02-16 06:57 J -2841964.25 -2841964.21 -2841964.17 0.0297 0.0278

Mars -12493-04-30 12:14 J -2841525.11 -2841524.99 -2841524.88 0.1637 0.0076

Jupiter -12490-05-04 17:02 J -2840425.96 -2840425.79 -2840425.61 0.0502 0.0178

Moon -12488-08-20 05:45 J -2839587.35 -2839587.26 -2839587.18 0.2724 0.1622

Earth -12488-08-20 06:00 J -2839587.34 -2839587.25 -2839587.17 0.2718 0.1578 *

Mars -12487-12-14 23:02 J -2839105.71 -2839105.54 -2839105.37 0.1883 0.0358

Jupiter -12485-12-30 04:48 J -2838359.36 -2838359.30 -2838359.23 0.0524 0.0434

Jupiter -12484-03-29 09:35 J -2838270.23 -2838270.10 -2838269.98 0.0523 0.0111

Mars -12484-09-20 23:45 J -2838094.62 -2838094.51 -2838094.40 0.1639 0.0369

Mars -12482-08-27 01:11 J -2837389.51 -2837389.45 -2837389.39 0.1630 0.1406

Saturn -12479-03-05 13:26 J -2836468.06 -2836467.94 -2836467.82 0.0262 0.0203

Venus -12479-04-17 05:31 J -2836425.33 -2836425.27 -2836425.21 0.3704 0.2896

Saturn -12479-06-02 11:02 J -2836379.23 -2836379.04 -2836378.84 0.0263 0.0040

Saturn -12479-08-30 08:52 J -2836290.29 -2836290.13 -2836289.95 0.0263 0.0127

Jupiter -12478-02-20 13:55 J -2836116.05 -2836115.92 -2836115.79 0.0502 0.0357

Jupiter -12478-05-22 03:21 J -2836025.47 -2836025.36 -2836025.25 0.0503 0.0397

Mars -12477-05-05 14:52 J -2835675.93 -2835675.88 -2835675.82 0.1879 0.1780

Moon -12475-08-22 23:45 J -2834836.62 -2834836.51 -2834836.40 0.2724 0.0341

Earth -12475-08-22 23:31 J -2834836.62 -2834836.52 -2834836.41 0.2717 0.0343 *

Mars -12474-02-11 11:16 J -2834664.13 -2834664.03 -2834663.93 0.1642 0.0805

Venus -12474-10-31 20:38 J -2834401.73 -2834401.64 -2834401.54 0.3706 0.1135

Jupiter -12472-01-15 13:55 J -2833960.05 -2833959.92 -2833959.80 0.0524 0.0030

Mars -12472-01-16 12:43 J -2833959.06 -2833958.97 -2833958.88 0.1632 0.0980

Jupiter -12472-04-14 18:14 J -2833870.76 -2833870.74 -2833870.71 0.0522 0.0511

Uranus -12472-11-21 09:21 J -2833650.18 -2833650.11 -2833650.03 0.0140 0.0129

Uranus -12471-02-17 17:45 J -2833561.90 -2833561.76 -2833561.62 0.0140 0.0098

Moon -12471-02-22 15:50 J -2833557.00 -2833556.84 -2833556.68 0.2615 0.0561

Earth -12471-02-22 17:31 J -2833556.93 -2833556.77 -2833556.61 0.2616 0.0428 *

Uranus -12471-05-17 01:40 J -2833473.59 -2833473.43 -2833473.24 0.0140 0.0068

Venus -12471-08-07 00:57 J -2833391.62 -2833391.46 -2833391.30 0.3665 0.0482

Uranus -12471-08-13 10:04 J -2833385.26 -2833385.08 -2833384.88 0.0140 0.0037

Uranus -12471-11-09 18:28 J -2833296.93 -2833296.73 -2833296.53 0.0140 0.0006

Uranus -12470-02-06 02:38 J -2833208.58 -2833208.39 -2833208.20 0.0140 0.0024

Uranus -12470-05-05 10:33 J -2833120.23 -2833120.06 -2833119.87 0.0139 0.0055

Uranus -12470-08-01 18:43 J -2833031.87 -2833031.72 -2833031.56 0.0139 0.0085

Uranus -12470-10-29 02:38 J -2832943.49 -2832943.39 -2832943.27 0.0139 0.0115

Venus -12468-05-16 12:00 J -2832378.10 -2832378.00 -2832377.91 0.3708 0.0655

Jupiter -12466-03-10 00:28 J -2831715.65 -2831715.48 -2831715.31 0.0502 0.0220

Saturn -12466-10-13 19:40 J -2831497.74 -2831497.68 -2831497.61 0.0301 0.0259

Saturn -12465-01-10 07:55 J -2831409.29 -2831409.17 -2831409.05 0.0300 0.0098

Saturn -12465-04-07 19:55 J -2831320.79 -2831320.67 -2831320.54 0.0299 0.0061

Mars -12465-07-03 23:02 J -2831233.62 -2831233.54 -2831233.47 0.1645 0.1245

Saturn -12465-07-05 07:55 J -2831232.25 -2831232.17 -2831232.08 0.0298 0.0219

Mars -12463-06-09 00:28 J -2830528.59 -2830528.48 -2830528.37 0.1635 0.0551

Venus -12463-11-30 03:07 J -2830354.45 -2830354.37 -2830354.30 0.3710 0.2409

Earth -12462-08-25 17:16 J -2830085.88 -2830085.78 -2830085.68 0.2717 0.0937

Moon -12462-08-25 18:00 J -2830085.85 -2830085.75 -2830085.65 0.2720 0.1078 *

Jupiter -12461-11-03 18:28 J -2829649.85 -2829649.73 -2829649.61 0.0524 0.0164

Jupiter -12460-01-31 22:48 J -2829560.63 -2829560.55 -2829560.46 0.0523 0.0378

Moon -12458-02-25 23:31 J -2828805.64 -2828805.52 -2828805.41 0.2619 0.1819

Earth -12458-02-26 00:57 J -2828805.55 -2828805.46 -2828805.36 0.2617 0.2086 *

Mars -12456-01-23 08:09 J -2828108.29 -2828108.16 -2828108.03 0.1887 0.1203

Moon -12455-08-18 16:33 J -2827535.82 -2827535.81 -2827535.80 0.2720 0.2694

Earth -12455-08-18 17:02 J -2827535.82 -2827535.79 -2827535.75 0.2718 0.2571 *

Neptune -12455-11-10 18:14 J -2827451.77 -2827451.74 -2827451.70 0.0089 0.0086

Jupiter -12455-12-26 21:07 J -2827405.81 -2827405.62 -2827405.44 0.0502 0.0038

Neptune -12454-02-06 19:26 J -2827363.74 -2827363.69 -2827363.62 0.0089 0.0079

Neptune -12454-05-05 20:38 J -2827275.71 -2827275.64 -2827275.55 0.0089 0.0072

Neptune -12454-08-01 22:04 J -2827187.66 -2827187.58 -2827187.49 0.0089 0.0064

Neptune -12454-10-28 23:16 J -2827099.62 -2827099.53 -2827099.42 0.0089 0.0058

Mars -12454-10-30 12:00 J -2827098.11 -2827098.00 -2827097.88 0.1637 0.0126

Neptune -12453-01-25 00:28 J -2827011.58 -2827011.48 -2827011.36 0.0089 0.0051

Neptune -12453-04-22 01:55 J -2826923.53 -2826923.42 -2826923.30 0.0089 0.0043

Neptune -12453-07-19 03:07 J -2826835.48 -2826835.37 -2826835.24 0.0089 0.0037

Neptune -12453-10-15 04:33 J -2826747.43 -2826747.31 -2826747.18 0.0089 0.0029

Neptune -12452-01-11 05:45 J -2826659.38 -2826659.26 -2826659.13 0.0089 0.0022

Neptune -12452-04-09 07:11 J -2826571.33 -2826571.20 -2826571.07 0.0089 0.0015

Neptune -12452-07-06 08:24 J -2826483.28 -2826483.15 -2826483.02 0.0089 0.0008

Neptune -12452-10-02 09:50 J -2826395.22 -2826395.09 -2826394.96 0.0089 0.0002

Neptune -12452-12-29 11:02 J -2826307.17 -2826307.04 -2826306.91 0.0089 0.0006

Neptune -12451-03-27 12:14 J -2826219.12 -2826218.99 -2826218.86 0.0089 0.0014

Neptune -12451-06-23 13:26 J -2826131.06 -2826130.94 -2826130.81 0.0089 0.0021

Neptune -12451-09-19 14:52 J -2826043.00 -2826042.88 -2826042.76 0.0089 0.0028

Neptune -12451-12-16 16:04 J -2825954.95 -2825954.83 -2825954.71 0.0089 0.0035

Neptune -12450-03-14 17:16 J -2825866.89 -2825866.78 -2825866.66 0.0089 0.0042

Neptune -12450-06-10 18:43 J -2825778.83 -2825778.72 -2825778.61 0.0089 0.0049

Saturn -12450-07-23 11:02 J -2825736.06 -2825736.04 -2825736.02 0.0262 0.0260

Neptune -12450-09-06 19:55 J -2825690.77 -2825690.67 -2825690.56 0.0089 0.0056

Saturn -12450-10-20 08:38 J -2825647.32 -2825647.14 -2825646.96 0.0263 0.0096

Neptune -12450-12-03 21:21 J -2825602.70 -2825602.61 -2825602.52 0.0089 0.0063

Saturn -12449-01-17 06:28 J -2825558.41 -2825558.23 -2825558.04 0.0264 0.0069

Neptune -12449-02-29 22:19 J -2825514.64 -2825514.57 -2825514.48 0.0089 0.0070

Saturn -12449-04-15 04:19 J -2825469.40 -2825469.32 -2825469.23 0.0264 0.0236

Neptune -12449-05-27 23:31 J -2825426.57 -2825426.52 -2825426.44 0.0089 0.0078

Jupiter -12449-08-22 23:02 J -2825339.64 -2825339.54 -2825339.44 0.0525 0.0299

Neptune -12449-08-24 00:57 J -2825338.49 -2825338.46 -2825338.41 0.0089 0.0084

Earth -12449-08-27 11:02 J -2825335.10 -2825335.04 -2825334.98 0.2716 0.2210

Moon -12449-08-27 11:45 J -2825335.07 -2825335.01 -2825334.95 0.2714 0.2231 *

Jupiter -12449-11-20 03:35 J -2825250.46 -2825250.35 -2825250.24 0.0523 0.0245

Mars -12447-06-14 23:45 J -2824678.68 -2824678.51 -2824678.34 0.1883 0.0243

Mars -12444-03-21 23:45 J -2823667.62 -2823667.51 -2823667.40 0.1640 0.0314

Jupiter -12443-10-14 17:31 J -2823095.95 -2823095.77 -2823095.59 0.0501 0.0147

Mars -12442-02-25 01:11 J -2822962.50 -2822962.45 -2822962.41 0.1630 0.1460

Moon -12442-08-21 10:33 J -2822785.15 -2822785.06 -2822784.97 0.2725 0.1343

Earth -12442-08-21 10:48 J -2822785.14 -2822785.05 -2822784.96 0.2718 0.1330 *

Earth -12438-02-20 16:48 J -2821505.85 -2821505.80 -2821505.75 0.2616 0.2483

Mars -12438-11-04 15:50 J -2821248.91 -2821248.84 -2821248.75 0.1879 0.1652

Jupiter -12437-06-11 04:04 J -2821029.40 -2821029.33 -2821029.26 0.0525 0.0426

Jupiter -12437-09-08 08:38 J -2820940.26 -2820940.14 -2820940.02 0.0523 0.0119

Saturn -12436-05-29 08:52 J -2820677.24 -2820677.13 -2820677.02 0.0300 0.0159

Saturn -12436-08-25 20:52 J -2820588.75 -2820588.63 -2820588.50 0.0299 0.0007

Saturn -12436-11-22 08:52 J -2820500.23 -2820500.13 -2820500.02 0.0298 0.0159

Mars -12435-08-12 11:16 J -2820237.13 -2820237.03 -2820236.93 0.1642 0.0748

Mars -12433-07-17 12:43 J -2819532.06 -2819531.97 -2819531.88 0.1632 0.1036

Jupiter -12431-08-02 12:28 J -2818786.11 -2818785.98 -2818785.84 0.0501 0.0349

Jupiter -12431-11-01 01:55 J -2818695.53 -2818695.42 -2818695.31 0.0503 0.0405

Earth -12429-08-23 04:19 J -2818034.42 -2818034.32 -2818034.21 0.2717 0.0133

Moon -12429-08-23 04:48 J -2818034.41 -2818034.30 -2818034.20 0.2723 0.0073 *

Uranus -12428-11-03 02:38 J -2817597.39 -2817597.39 -2817597.39 0.0138 0.0138

Uranus -12427-01-30 05:31 J -2817509.33 -2817509.27 -2817509.20 0.0138 0.0119

Uranus -12427-04-28 08:52 J -2817421.22 -2817421.13 -2817421.04 0.0138 0.0100

Uranus -12427-07-25 11:45 J -2817333.11 -2817333.01 -2817332.90 0.0138 0.0081

Uranus -12427-10-21 14:52 J -2817244.99 -2817244.88 -2817244.76 0.0138 0.0061

Uranus -12426-01-17 18:14 J -2817156.86 -2817156.74 -2817156.62 0.0138 0.0041

Uranus -12426-04-15 21:21 J -2817068.74 -2817068.61 -2817068.48 0.0139 0.0022

Uranus -12426-07-13 00:28 J -2816980.61 -2816980.48 -2816980.35 0.0139 0.0005

Uranus -12426-10-09 03:50 J -2816892.47 -2816892.34 -2816892.21 0.0139 0.0018

Mars -12425-01-02 22:48 J -2816806.63 -2816806.55 -2816806.47 0.1645 0.1189

Uranus -12425-01-05 06:57 J -2816804.33 -2816804.21 -2816804.08 0.0139 0.0038

Moon -12425-02-23 22:33 J -2816754.72 -2816754.56 -2816754.40 0.2615 0.0179

Earth -12425-02-24 00:28 J -2816754.64 -2816754.48 -2816754.32 0.2616 0.0078 *

Uranus -12425-04-02 10:04 J -2816716.19 -2816716.08 -2816715.96 0.0139 0.0058

Jupiter -12425-06-27 13:26 J -2816630.06 -2816629.94 -2816629.81 0.0524 0.0018

Uranus -12425-06-29 13:26 J -2816628.05 -2816627.94 -2816627.83 0.0139 0.0077

Uranus -12425-09-25 16:33 J -2816539.90 -2816539.81 -2816539.71 0.0139 0.0098

Uranus -12425-12-22 19:55 J -2816451.74 -2816451.67 -2816451.60 0.0139 0.0118

Uranus -12424-03-20 23:02 J -2816363.55 -2816363.54 -2816363.52 0.0140 0.0138

Mars -12424-12-08 00:28 J -2816101.59 -2816101.48 -2816101.38 0.1634 0.0607

Venus -12423-11-22 02:52 J -2815752.46 -2815752.38 -2815752.30 0.3705 0.2256

Saturn -12420-03-08 06:57 J -2814915.36 -2814915.21 -2814915.04 0.0262 0.0147

Saturn -12420-06-05 04:48 J -2814826.49 -2814826.30 -2814826.10 0.0263 0.0019

Saturn -12420-09-02 02:38 J -2814737.52 -2814737.39 -2814737.25 0.0264 0.0184

Jupiter -12419-08-19 22:48 J -2814385.72 -2814385.55 -2814385.38 0.0502 0.0224

Venus -12417-06-06 18:00 J -2813728.85 -2813728.75 -2813728.65 0.3706 0.0503

Mars -12417-07-24 09:07 J -2813681.24 -2813681.12 -2813681.00 0.1887 0.1330

Mars -12416-05-25 10:19 J -2813376.08 -2813376.07 -2813376.06 0.1648 0.1631

Earth -12416-08-25 22:04 J -2813283.68 -2813283.58 -2813283.48 0.2717 0.1186

Moon -12416-08-25 22:48 J -2813283.65 -2813283.55 -2813283.45 0.2720 0.1228 *

Venus -12414-03-14 04:04 J -2812718.44 -2812718.33 -2812718.22 0.3664 0.2677

Mars -12414-04-30 12:00 J -2812671.11 -2812671.00 -2812670.88 0.1637 0.0175

Jupiter -12413-04-15 17:45 J -2812319.88 -2812319.76 -2812319.64 0.0524 0.0150

Jupiter -12413-07-13 22:19 J -2812230.65 -2812230.57 -2812230.49 0.0522 0.0392

Moon -12412-02-26 06:14 J -2812003.28 -2812003.24 -2812003.20 0.2621 0.2504

Earth -12412-02-26 07:40 J -2812003.21 -2812003.18 -2812003.15 0.2617 0.2560 *

Venus -12412-12-21 09:21 J -2811705.21 -2811705.11 -2811705.02 0.3708 0.1285

Moon -12409-08-18 21:21 J -2810733.66 -2810733.61 -2810733.56 0.2722 0.2348

Earth -12409-08-18 21:50 J -2810733.64 -2810733.59 -2810733.53 0.2718 0.2328 *

Mars -12408-12-14 00:57 J -2810251.64 -2810251.46 -2810251.29 0.1883 0.0115

Jupiter -12407-06-07 19:40 J -2810075.86 -2810075.68 -2810075.49 0.0502 0.0047

Saturn -12407-10-16 10:04 J -2809945.17 -2809945.08 -2809945.00 0.0301 0.0218

Saturn -12406-01-12 22:04 J -2809856.70 -2809856.58 -2809856.45 0.0300 0.0058

Saturn -12406-04-11 10:19 J -2809768.19 -2809768.07 -2809767.95 0.0299 0.0102

Venus -12406-07-07 00:28 J -2809681.54 -2809681.48 -2809681.43 0.3710 0.3040

Saturn -12406-07-08 22:04 J -2809679.64 -2809679.58 -2809679.51 0.0298 0.0259

Mars -12405-09-19 23:31 J -2809240.63 -2809240.52 -2809240.40 0.1639 0.0267

Mars -12403-08-26 00:57 J -2808535.50 -2808535.46 -2808535.42 0.1630 0.1513

Earth -12403-08-28 15:50 J -2808532.88 -2808532.84 -2808532.79 0.2716 0.2460

Moon -12403-08-28 16:33 J -2808532.84 -2808532.81 -2808532.78 0.2712 0.2590 *

Jupiter -12401-02-02 22:19 J -2808009.67 -2808009.57 -2808009.46 0.0524 0.0285

Jupiter -12401-05-02 02:52 J -2807920.49 -2807920.38 -2807920.27 0.0523 0.0258

Mars -12398-05-05 16:33 J -2806821.90 -2806821.81 -2806821.71 0.1879 0.1537

Moon -12396-08-21 15:21 J -2805982.96 -2805982.86 -2805982.76 0.2725 0.1139

Earth -12396-08-21 15:35 J -2805982.95 -2805982.85 -2805982.75 0.2718 0.1079 *

Mars -12395-02-10 11:16 J -2805810.13 -2805810.03 -2805809.93 0.1642 0.0695

Jupiter -12395-03-26 16:19 J -2805766.00 -2805765.82 -2805765.64 0.0502 0.0137

Mars -12393-01-16 12:43 J -2805105.06 -2805104.97 -2805104.89 0.1632 0.1088

Moon -12392-02-20 22:04 J -2804703.68 -2804703.58 -2804703.49 0.2612 0.2093

Earth -12392-02-20 23:31 J -2804703.62 -2804703.52 -2804703.42 0.2616 0.1997 *

Saturn -12391-07-26 05:02 J -2804183.41 -2804183.29 -2804183.16 0.0262 0.0200

Saturn -12391-10-23 02:52 J -2804094.57 -2804094.38 -2804094.18 0.0263 0.0036

Saturn -12390-01-20 00:43 J -2804005.63 -2804005.47 -2804005.30 0.0264 0.0130

Jupiter -12390-11-22 02:52 J -2803699.45 -2803699.38 -2803699.31 0.0525 0.0421

Jupiter -12389-02-19 07:26 J -2803610.31 -2803610.19 -2803610.07 0.0524 0.0123

Uranus -12388-12-11 14:24 J -2802948.96 -2802948.90 -2802948.81 0.0140 0.0129

Uranus -12387-03-09 22:48 J -2802860.68 -2802860.55 -2802860.40 0.0140 0.0098

Uranus -12387-06-06 07:11 J -2802772.37 -2802772.20 -2802772.02 0.0140 0.0067

Uranus -12387-09-02 15:35 J -2802684.04 -2802683.85 -2802683.66 0.0140 0.0036

Uranus -12387-11-29 23:45 J -2802595.71 -2802595.51 -2802595.31 0.0140 0.0006

Uranus -12386-02-26 07:55 J -2802507.36 -2802507.17 -2802506.98 0.0140 0.0025

Uranus -12386-05-25 15:50 J -2802419.01 -2802418.84 -2802418.65 0.0139 0.0056

Mars -12386-07-03 22:48 J -2802379.63 -2802379.55 -2802379.47 0.1645 0.1133

Uranus -12386-08-22 00:00 J -2802330.64 -2802330.50 -2802330.34 0.0139 0.0085

Uranus -12386-11-18 07:55 J -2802242.26 -2802242.17 -2802242.04 0.0139 0.0115

Mars -12384-06-08 00:28 J -2801674.59 -2801674.48 -2801674.38 0.1635 0.0663

Jupiter -12383-01-12 12:43 J -2801456.11 -2801455.97 -2801455.82 0.0501 0.0322

Jupiter -12383-04-13 01:55 J -2801365.51 -2801365.42 -2801365.32 0.0502 0.0432

Earth -12383-08-24 09:07 J -2801232.22 -2801232.12 -2801232.01 0.2717 0.0207

Moon -12383-08-24 09:35 J -2801232.20 -2801232.10 -2801231.99 0.2722 0.0258 *

Moon -12379-02-24 05:16 J -2799952.44 -2799952.28 -2799952.12 0.2615 0.0383

Earth -12379-02-24 07:11 J -2799952.36 -2799952.20 -2799952.05 0.2616 0.0547 *

Jupiter -12378-12-08 12:28 J -2799300.11 -2799299.98 -2799299.86 0.0524 0.0007

Mars -12377-01-23 10:04 J -2799254.19 -2799254.08 -2799253.97 0.1888 0.1458

Saturn -12377-03-04 11:02 J -2799213.08 -2799213.04 -2799212.99 0.0301 0.0277

Saturn -12377-05-31 23:16 J -2799124.65 -2799124.53 -2799124.41 0.0300 0.0116

Saturn -12377-08-28 11:16 J -2799036.15 -2799036.03 -2799035.90 0.0299 0.0044

Mars -12377-11-23 10:19 J -2798949.10 -2798949.07 -2798949.04 0.1648 0.1574

Saturn -12377-11-24 23:16 J -2798947.62 -2798947.53 -2798947.43 0.0298 0.0201

Mars -12375-10-29 12:00 J -2798244.11 -2798244.00 -2798243.89 0.1637 0.0231

Venus -12372-12-13 09:07 J -2797103.16 -2797103.12 -2797103.09 0.3703 0.3390

Jupiter -12371-01-29 21:07 J -2797055.79 -2797055.62 -2797055.45 0.0502 0.0228

Neptune -12371-04-24 07:11 J -2796971.27 -2796971.20 -2796971.09 0.0088 0.0078

Neptune -12371-07-21 10:48 J -2796883.15 -2796883.05 -2796882.90 0.0088 0.0068

Neptune -12371-10-17 14:52 J -2796795.02 -2796794.88 -2796794.72 0.0088 0.0057

Neptune -12370-01-13 18:28 J -2796706.88 -2796706.73 -2796706.55 0.0088 0.0047

Neptune -12370-04-11 22:19 J -2796618.74 -2796618.57 -2796618.38 0.0088 0.0037

Neptune -12370-07-09 01:55 J -2796530.60 -2796530.42 -2796530.22 0.0088 0.0027

Earth -12370-08-27 02:52 J -2796481.47 -2796481.38 -2796481.29 0.2717 0.1438

Moon -12370-08-27 03:35 J -2796481.44 -2796481.35 -2796481.26 0.2719 0.1557 *

Neptune -12370-10-05 05:45 J -2796442.45 -2796442.26 -2796442.06 0.0088 0.0017

Neptune -12369-01-01 09:35 J -2796354.29 -2796354.10 -2796353.90 0.0088 0.0006

Neptune -12369-03-29 13:26 J -2796266.14 -2796265.94 -2796265.74 0.0088 0.0004

Neptune -12369-06-25 17:02 J -2796177.98 -2796177.79 -2796177.59 0.0088 0.0014

Neptune -12369-09-21 20:38 J -2796089.82 -2796089.64 -2796089.44 0.0088 0.0025

Neptune -12369-12-19 00:14 J -2796001.66 -2796001.49 -2796001.29 0.0088 0.0035

Neptune -12368-03-17 04:04 J -2795913.49 -2795913.33 -2795913.15 0.0088 0.0045

Neptune -12368-06-13 07:55 J -2795825.32 -2795825.17 -2795825.01 0.0088 0.0055

Mars -12368-06-14 01:55 J -2795824.59 -2795824.42 -2795824.25 0.1883 0.0025

Neptune -12368-09-09 11:45 J -2795737.14 -2795737.01 -2795736.88 0.0088 0.0065

Neptune -12368-12-06 14:52 J -2795648.95 -2795648.88 -2795648.75 0.0088 0.0076

Neptune -12367-03-04 18:43 J -2795560.74 -2795560.72 -2795560.66 0.0088 0.0086

Venus -12366-06-29 00:14 J -2795079.58 -2795079.49 -2795079.40 0.3705 0.1620

Jupiter -12366-09-26 17:16 J -2794989.90 -2794989.78 -2794989.66 0.0524 0.0133

Jupiter -12366-12-24 21:50 J -2794900.67 -2794900.59 -2794900.51 0.0523 0.0409

Mars -12365-03-20 23:31 J -2794813.63 -2794813.52 -2794813.40 0.1639 0.0210

Mars -12363-02-24 00:57 J -2794108.48 -2794108.46 -2794108.43 0.1630 0.1569

Venus -12363-04-03 18:28 J -2794069.87 -2794069.73 -2794069.59 0.3666 0.1947

Moon -12363-08-20 02:09 J -2793931.47 -2793931.41 -2793931.34 0.2723 0.2215

Earth -12363-08-20 02:38 J -2793931.45 -2793931.39 -2793931.32 0.2718 0.2084 *

Pluto -12362-08-18 04:04 J -2793568.37 -2793568.33 -2793568.26 0.0072 0.0066

Pluto -12362-11-14 05:16 J -2793480.36 -2793480.28 -2793480.18 0.0072 0.0058

Saturn -12362-12-13 03:50 J -2793451.39 -2793451.34 -2793451.27 0.0262 0.0247

Pluto -12361-02-10 06:28 J -2793392.33 -2793392.23 -2793392.11 0.0072 0.0050

Saturn -12361-03-11 01:40 J -2793362.61 -2793362.43 -2793362.24 0.0262 0.0084

Pluto -12361-05-08 07:40 J -2793304.29 -2793304.18 -2793304.04 0.0072 0.0041

Saturn -12361-06-07 23:31 J -2793273.70 -2793273.52 -2793273.33 0.0263 0.0082

Pluto -12361-08-04 08:52 J -2793216.25 -2793216.13 -2793215.98 0.0072 0.0033

Saturn -12361-09-04 21:35 J -2793184.67 -2793184.60 -2793184.54 0.0264 0.0248

Pluto -12361-10-31 10:19 J -2793128.21 -2793128.07 -2793127.92 0.0072 0.0024

Venus -12360-01-11 15:21 J -2793055.96 -2793055.86 -2793055.76 0.3707 0.0169

Pluto -12360-01-27 11:31 J -2793040.17 -2793040.02 -2793039.87 0.0072 0.0016

Pluto -12360-04-25 12:43 J -2792952.12 -2792951.97 -2792951.81 0.0072 0.0007

Pluto -12360-07-22 14:09 J -2792864.07 -2792863.91 -2792863.76 0.0073 0.0002

Pluto -12360-10-18 15:21 J -2792776.01 -2792775.86 -2792775.71 0.0073 0.0011

Jupiter -12360-11-17 17:45 J -2792745.95 -2792745.76 -2792745.57 0.0502 0.0046

Pluto -12359-01-14 16:19 J -2792687.96 -2792687.82 -2792687.66 0.0073 0.0020

Pluto -12359-04-12 17:31 J -2792599.90 -2792599.77 -2792599.61 0.0073 0.0029

Pluto -12359-07-09 19:11 J -2792511.83 -2792511.70 -2792511.57 0.0073 0.0037

Pluto -12359-10-05 20:24 J -2792423.77 -2792423.65 -2792423.53 0.0073 0.0047

Mars -12359-11-03 17:31 J -2792394.88 -2792394.77 -2792394.66 0.1879 0.1414

Pluto -12358-01-01 21:21 J -2792335.69 -2792335.61 -2792335.49 0.0073 0.0056

Pluto -12358-03-30 22:33 J -2792247.61 -2792247.56 -2792247.47 0.0073 0.0066

Earth -12357-08-28 20:52 J -2791730.63 -2791730.63 -2791730.63 0.2716 0.2715

Mars -12356-08-11 11:16 J -2791383.14 -2791383.03 -2791382.93 0.1642 0.0644

Venus -12355-07-28 06:43 J -2791032.31 -2791032.22 -2791032.14 0.3709 0.1920

Jupiter -12354-07-15 21:35 J -2790679.71 -2790679.60 -2790679.49 0.0524 0.0273

Mars -12354-07-17 12:43 J -2790678.05 -2790677.97 -2790677.89 0.1632 0.1142

Jupiter -12354-10-13 02:09 J -2790590.52 -2790590.41 -2790590.31 0.0523 0.0270

Moon -12350-08-22 20:24 J -2789180.76 -2789180.65 -2789180.55 0.2724 0.0811

Earth -12350-08-22 20:24 J -2789180.75 -2789180.65 -2789180.55 0.2718 0.0834 *

Venus -12349-02-10 21:50 J -2789008.60 -2789008.59 -2789008.58 0.3710 0.3676

Jupiter -12348-09-05 14:38 J -2788436.07 -2788435.89 -2788435.71 0.0502 0.0133

Saturn -12348-10-19 00:43 J -2788392.57 -2788392.47 -2788392.36 0.0301 0.0171

Saturn -12347-01-15 12:57 J -2788304.09 -2788303.96 -2788303.84 0.0300 0.0014

Saturn -12347-04-14 00:57 J -2788215.57 -2788215.46 -2788215.35 0.0299 0.0148

Mars -12346-01-01 22:48 J -2787952.64 -2787952.55 -2787952.47 0.1645 0.1079

Moon -12346-02-22 04:48 J -2787901.42 -2787901.30 -2787901.18 0.2612 0.1760

Earth -12346-02-22 06:14 J -2787901.37 -2787901.24 -2787901.10 0.2616 0.1504 *

Mars -12345-12-07 00:14 J -2787247.59 -2787247.49 -2787247.38 0.1634 0.0714

Uranus -12344-11-23 09:35 J -2786896.13 -2786896.10 -2786896.08 0.0138 0.0134

Uranus -12343-02-19 12:43 J -2786808.04 -2786807.97 -2786807.90 0.0138 0.0115

Uranus -12343-05-18 15:35 J -2786719.93 -2786719.85 -2786719.75 0.0138 0.0097

Uranus -12343-08-14 18:57 J -2786631.82 -2786631.71 -2786631.60 0.0138 0.0077

Uranus -12343-11-10 22:04 J -2786543.70 -2786543.58 -2786543.46 0.0138 0.0057

Uranus -12342-02-07 01:11 J -2786455.57 -2786455.45 -2786455.32 0.0138 0.0038

Jupiter -12342-05-04 01:55 J -2786369.49 -2786369.42 -2786369.34 0.0524 0.0410

Uranus -12342-05-06 04:33 J -2786367.44 -2786367.31 -2786367.18 0.0139 0.0019

Jupiter -12342-08-01 06:28 J -2786280.35 -2786280.23 -2786280.11 0.0523 0.0134

Uranus -12342-08-02 07:40 J -2786279.31 -2786279.18 -2786279.05 0.0139 0.0002

Uranus -12342-10-29 10:48 J -2786191.18 -2786191.05 -2786190.92 0.0139 0.0021

Uranus -12341-01-25 13:55 J -2786103.04 -2786102.92 -2786102.79 0.0139 0.0042

Uranus -12341-04-22 17:16 J -2786014.90 -2786014.78 -2786014.66 0.0139 0.0061

Uranus -12341-07-19 20:24 J -2785926.75 -2785926.65 -2785926.54 0.0139 0.0081

Uranus -12341-10-15 23:45 J -2785838.60 -2785838.51 -2785838.42 0.0139 0.0101

Uranus -12340-01-12 02:52 J -2785750.44 -2785750.38 -2785750.31 0.0139 0.0122

Mars -12338-07-24 10:48 J -2784827.14 -2784827.05 -2784826.95 0.1887 0.1580

Mars -12337-05-24 10:19 J -2784522.11 -2784522.07 -2784522.03 0.1648 0.1520

Earth -12337-08-24 13:55 J -2784430.02 -2784429.92 -2784429.81 0.2717 0.0439

Moon -12337-08-24 14:38 J -2784430.00 -2784429.89 -2784429.79 0.2723 0.0478 *

Jupiter -12336-06-24 11:02 J -2784126.18 -2784126.04 -2784125.89 0.0501 0.0317

Jupiter -12336-09-23 00:28 J -2784035.57 -2784035.48 -2784035.38 0.0502 0.0437

Mars -12335-04-29 12:00 J -2783817.11 -2783817.00 -2783816.89 0.1637 0.0285

Moon -12333-02-25 12:14 J -2783150.14 -2783149.99 -2783149.84 0.2617 0.0866

Earth -12333-02-25 13:55 J -2783150.07 -2783149.92 -2783149.77 0.2616 0.1030 *

Saturn -12332-07-29 00:14 J -2782630.65 -2782630.49 -2782630.32 0.0263 0.0133

Saturn -12332-10-25 22:04 J -2782541.77 -2782541.58 -2782541.38 0.0263 0.0033

Saturn -12331-01-22 19:55 J -2782452.79 -2782452.67 -2782452.54 0.0264 0.0199

Jupiter -12330-05-20 11:02 J -2781970.17 -2781970.04 -2781969.92 0.0524 0.0005

Mars -12329-12-13 02:24 J -2781397.57 -2781397.40 -2781397.23 0.1884 0.0127

Mars -12326-09-19 23:31 J -2780386.63 -2780386.52 -2780386.41 0.1639 0.0150

Jupiter -12324-04-12 07:26 J -2779816.19 -2779816.19 -2779816.19 0.0501 0.0501

Jupiter -12324-07-11 20:52 J -2779725.79 -2779725.63 -2779725.47 0.0502 0.0250

Mars -12324-08-25 00:57 J -2779681.47 -2779681.46 -2779681.45 0.1630 0.1620

Earth -12324-08-27 07:40 J -2779679.26 -2779679.18 -2779679.09 0.2716 0.1696

Moon -12324-08-27 08:24 J -2779679.23 -2779679.15 -2779679.07 0.2716 0.1777 *

Mars -12319-05-04 18:43 J -2777967.84 -2777967.72 -2777967.59 0.1880 0.1273

Saturn -12318-03-08 02:24 J -2777660.48 -2777660.40 -2777660.32 0.0300 0.0223

Jupiter -12318-03-08 16:04 J -2777659.96 -2777659.83 -2777659.71 0.0524 0.0132

Saturn -12318-06-04 14:24 J -2777572.02 -2777571.90 -2777571.77 0.0300 0.0064

Jupiter -12318-06-05 20:24 J -2777570.72 -2777570.65 -2777570.57 0.0523 0.0411

Saturn -12318-09-01 02:38 J -2777483.51 -2777483.39 -2777483.27 0.0299 0.0096

Saturn -12318-11-28 14:38 J -2777394.96 -2777394.89 -2777394.83 0.0298 0.0253

Moon -12317-08-20 06:57 J -2777129.28 -2777129.21 -2777129.13 0.2724 0.1842

Earth -12317-08-20 07:26 J -2777129.26 -2777129.19 -2777129.11 0.2718 0.1841 *

Mars -12316-02-09 11:16 J -2776956.14 -2776956.03 -2776955.93 0.1642 0.0585

Venus -12315-07-20 06:28 J -2776430.30 -2776430.23 -2776430.17 0.3703 0.2745

Mars -12314-01-15 12:43 J -2776251.05 -2776250.97 -2776250.90 0.1632 0.1198

Jupiter -12312-04-29 15:35 J -2775416.04 -2775415.85 -2775415.66 0.0502 0.0046

Venus -12309-02-02 21:35 J -2774406.70 -2774406.60 -2774406.50 0.3705 0.0979

Mars -12307-07-02 22:48 J -2773525.64 -2773525.55 -2773525.47 0.1645 0.1026

Venus -12307-11-08 21:07 J -2773396.78 -2773396.62 -2773396.45 0.3666 0.0214

Jupiter -12307-12-25 20:52 J -2773349.74 -2773349.63 -2773349.52 0.0524 0.0262

Jupiter -12306-03-25 01:26 J -2773260.55 -2773260.44 -2773260.34 0.0523 0.0282

Mars -12305-06-07 00:14 J -2772820.59 -2772820.49 -2772820.39 0.1634 0.0771

Venus -12304-08-18 12:43 J -2772383.07 -2772382.97 -2772382.87 0.3707 0.0792

Earth -12304-08-23 01:11 J -2772378.56 -2772378.45 -2772378.35 0.2717 0.0589

Moon -12304-08-23 01:11 J -2772378.55 -2772378.45 -2772378.34 0.2724 0.0633 *

Uranus -12304-12-31 20:24 J -2772247.72 -2772247.65 -2772247.55 0.0140 0.0126

Uranus -12303-03-30 04:48 J -2772159.43 -2772159.30 -2772159.15 0.0140 0.0095

Uranus -12303-06-26 13:11 J -2772071.12 -2772070.95 -2772070.77 0.0140 0.0064

Uranus -12303-09-22 21:21 J -2771982.79 -2771982.61 -2771982.41 0.0140 0.0034

Saturn -12303-12-15 23:31 J -2771898.65 -2771898.52 -2771898.37 0.0262 0.0177

Uranus -12303-12-20 05:45 J -2771894.46 -2771894.26 -2771894.06 0.0140 0.0003

Saturn -12302-03-14 21:21 J -2771809.80 -2771809.61 -2771809.41 0.0263 0.0014

Uranus -12302-03-18 13:55 J -2771806.11 -2771805.92 -2771805.73 0.0139 0.0028

Saturn -12302-06-11 19:26 J -2771720.85 -2771720.69 -2771720.54 0.0263 0.0154

Uranus -12302-06-14 21:50 J -2771717.76 -2771717.59 -2771717.40 0.0139 0.0058

Uranus -12302-09-11 06:00 J -2771629.39 -2771629.25 -2771629.09 0.0139 0.0088

Uranus -12302-12-08 13:55 J -2771541.00 -2771540.92 -2771540.80 0.0139 0.0118

Jupiter -12300-02-15 12:14 J -2771106.18 -2771105.99 -2771105.81 0.0502 0.0139

Moon -12300-02-22 11:31 J -2771099.17 -2771099.02 -2771098.88 0.2613 0.1104

Earth -12300-02-22 12:57 J -2771099.10 -2771098.96 -2771098.81 0.2616 0.1026 *

Mars -12298-01-22 11:45 J -2770400.08 -2770400.01 -2770399.94 0.1887 0.1702

Venus -12298-03-04 04:04 J -2770359.41 -2770359.33 -2770359.26 0.3709 0.2552

Mars -12298-11-23 10:19 J -2770095.12 -2770095.07 -2770095.02 0.1648 0.1466

Mars -12296-10-28 11:45 J -2769390.12 -2769390.01 -2769389.89 0.1637 0.0341

Jupiter -12295-10-14 00:57 J -2769039.54 -2769039.46 -2769039.38 0.0524 0.0402

Jupiter -12294-01-11 05:31 J -2768950.39 -2768950.27 -2768950.15 0.0523 0.0141

Earth -12291-08-25 18:57 J -2767627.82 -2767627.71 -2767627.61 0.2717 0.0683

Moon -12291-08-25 19:26 J -2767627.80 -2767627.69 -2767627.59 0.2722 0.0785 *

Neptune -12290-05-11 17:02 J -2767368.80 -2767368.79 -2767368.77 0.0089 0.0089

Neptune -12290-08-07 18:28 J -2767280.78 -2767280.73 -2767280.68 0.0089 0.0082

Neptune -12290-11-03 19:40 J -2767192.75 -2767192.68 -2767192.61 0.0089 0.0075

Neptune -12289-01-30 20:52 J -2767104.71 -2767104.63 -2767104.54 0.0089 0.0068

Neptune -12289-04-27 22:04 J -2767016.66 -2767016.58 -2767016.47 0.0089 0.0061

Mars -12289-06-13 03:35 J -2766970.52 -2766970.35 -2766970.18 0.1884 0.0270

Neptune -12289-07-24 23:31 J -2766928.62 -2766928.52 -2766928.41 0.0089 0.0054

Saturn -12289-07-25 04:04 J -2766928.37 -2766928.33 -2766928.28 0.0301 0.0275

Neptune -12289-10-21 00:43 J -2766840.57 -2766840.47 -2766840.35 0.0089 0.0047

Saturn -12289-10-21 16:19 J -2766839.94 -2766839.82 -2766839.70 0.0300 0.0113

Jupiter -12289-12-04 09:07 J -2766796.27 -2766796.12 -2766795.98 0.0502 0.0318

Neptune -12288-01-17 02:09 J -2766752.53 -2766752.41 -2766752.29 0.0089 0.0039

Saturn -12288-01-18 04:19 J -2766751.44 -2766751.32 -2766751.19 0.0299 0.0048

Jupiter -12288-03-04 22:19 J -2766705.66 -2766705.57 -2766705.47 0.0503 0.0437

Neptune -12288-04-15 03:21 J -2766664.48 -2766664.36 -2766664.23 0.0089 0.0032

Saturn -12288-04-16 16:19 J -2766662.91 -2766662.82 -2766662.72 0.0299 0.0204

Neptune -12288-07-12 04:33 J -2766576.43 -2766576.31 -2766576.18 0.0089 0.0026

Neptune -12288-10-08 06:00 J -2766488.38 -2766488.25 -2766488.12 0.0089 0.0018

Neptune -12287-01-04 07:11 J -2766400.32 -2766400.20 -2766400.06 0.0089 0.0012

Moon -12287-02-25 18:57 J -2766347.85 -2766347.71 -2766347.57 0.2619 0.1285

Earth -12287-02-25 20:38 J -2766347.77 -2766347.64 -2766347.51 0.2616 0.1516 *

Neptune -12287-04-02 08:38 J -2766312.27 -2766312.14 -2766312.01 0.0089 0.0004

Neptune -12287-06-29 09:50 J -2766224.22 -2766224.09 -2766223.96 0.0089 0.0003

Neptune -12287-09-25 11:02 J -2766136.16 -2766136.04 -2766135.90 0.0089 0.0011

Neptune -12287-12-22 12:28 J -2766048.11 -2766047.98 -2766047.85 0.0089 0.0017

Neptune -12286-03-20 13:40 J -2765960.05 -2765959.93 -2765959.80 0.0089 0.0024

Mars -12286-03-20 23:31 J -2765959.64 -2765959.52 -2765959.41 0.1639 0.0096

Neptune -12286-06-16 14:52 J -2765872.00 -2765871.88 -2765871.75 0.0089 0.0032

Neptune -12286-09-12 16:04 J -2765783.94 -2765783.83 -2765783.70 0.0089 0.0039

Neptune -12286-12-09 17:31 J -2765695.88 -2765695.77 -2765695.66 0.0089 0.0045

Neptune -12285-03-06 18:43 J -2765607.82 -2765607.72 -2765607.61 0.0089 0.0053

Neptune -12285-06-02 20:09 J -2765519.76 -2765519.66 -2765519.56 0.0089 0.0060

Neptune -12285-08-29 21:21 J -2765431.69 -2765431.61 -2765431.52 0.0089 0.0067

Neptune -12285-11-25 22:33 J -2765343.63 -2765343.56 -2765343.48 0.0089 0.0074

Neptune -12284-02-22 00:00 J -2765255.55 -2765255.50 -2765255.45 0.0089 0.0081

Neptune -12284-05-21 01:11 J -2765167.47 -2765167.45 -2765167.42 0.0089 0.0088

Jupiter -12283-10-30 10:04 J -2764640.21 -2764640.08 -2764639.96 0.0523 0.0019

Mars -12280-11-02 19:11 J -2763540.83 -2763540.70 -2763540.57 0.1879 0.1172

Earth -12278-08-28 12:43 J -2762877.05 -2762876.97 -2762876.90 0.2716 0.1949

Moon -12278-08-28 13:11 J -2762877.02 -2762876.95 -2762876.87 0.2715 0.2021 *

Mars -12277-08-10 11:02 J -2762529.15 -2762529.04 -2762528.93 0.1642 0.0532

Pluto -12277-10-18 10:04 J -2762460.11 -2762460.08 -2762460.00 0.0072 0.0068

Jupiter -12277-12-21 18:43 J -2762395.88 -2762395.72 -2762395.55 0.0502 0.0251

Pluto -12276-01-14 12:00 J -2762372.09 -2762372.00 -2762371.89 0.0072 0.0058

Pluto -12276-04-12 13:26 J -2762284.05 -2762283.94 -2762283.81 0.0072 0.0048

Pluto -12276-07-09 14:52 J -2762196.01 -2762195.88 -2762195.73 0.0072 0.0039

Pluto -12276-10-05 16:19 J -2762107.96 -2762107.82 -2762107.66 0.0072 0.0030

Pluto -12275-01-01 18:00 J -2762019.90 -2762019.75 -2762019.59 0.0072 0.0021

Pluto -12275-03-30 19:26 J -2761931.85 -2761931.69 -2761931.52 0.0072 0.0012

Pluto -12275-06-26 20:52 J -2761843.79 -2761843.63 -2761843.46 0.0071 0.0003

Mars -12275-07-16 12:28 J -2761824.05 -2761823.98 -2761823.90 0.1632 0.1250

Pluto -12275-09-22 22:19 J -2761755.73 -2761755.57 -2761755.41 0.0071 0.0006

Pluto -12275-12-19 23:45 J -2761667.67 -2761667.51 -2761667.35 0.0071 0.0015

Pluto -12274-03-18 01:11 J -2761579.60 -2761579.45 -2761579.30 0.0071 0.0023

Pluto -12274-06-14 02:24 J -2761491.54 -2761491.40 -2761491.25 0.0071 0.0032

Pluto -12274-09-10 03:35 J -2761403.47 -2761403.35 -2761403.20 0.0071 0.0041

Pluto -12274-12-07 05:02 J -2761315.40 -2761315.29 -2761315.16 0.0071 0.0049

Pluto -12273-03-04 06:43 J -2761227.32 -2761227.22 -2761227.13 0.0071 0.0057

Saturn -12273-05-03 22:48 J -2761166.64 -2761166.55 -2761166.44 0.0262 0.0221

Pluto -12273-05-31 07:40 J -2761139.22 -2761139.18 -2761139.11 0.0070 0.0066

Saturn -12273-07-31 20:38 J -2761077.82 -2761077.64 -2761077.45 0.0263 0.0057

Saturn -12273-10-28 18:28 J -2760988.90 -2760988.73 -2760988.55 0.0264 0.0109

Jupiter -12271-08-18 14:24 J -2760330.02 -2760329.90 -2760329.78 0.0524 0.0136

Moon -12271-08-21 12:00 J -2760327.09 -2760327.00 -2760326.92 0.2724 0.1712

Earth -12271-08-21 12:14 J -2760327.07 -2760326.99 -2760326.90 0.2718 0.1594 *

Jupiter -12271-11-15 18:57 J -2760240.79 -2760240.71 -2760240.64 0.0523 0.0406

Mars -12268-12-31 22:48 J -2759098.65 -2759098.55 -2759098.46 0.1645 0.0968

Mars -12266-12-07 00:14 J -2758393.59 -2758393.49 -2758393.39 0.1634 0.0823

Jupiter -12265-10-09 14:52 J -2758086.06 -2758085.88 -2758085.69 0.0502 0.0062

Uranus -12260-12-13 16:48 J -2756194.84 -2756194.80 -2756194.76 0.0138 0.0130

Saturn -12259-03-10 18:28 J -2756107.84 -2756107.73 -2756107.62 0.0300 0.0160

Uranus -12259-03-11 19:40 J -2756106.75 -2756106.68 -2756106.60 0.0138 0.0111

Jupiter -12259-06-06 19:11 J -2756019.81 -2756019.70 -2756019.59 0.0524 0.0265

Saturn -12259-06-07 06:28 J -2756019.36 -2756019.23 -2756019.10 0.0299 0.0006

Uranus -12259-06-07 22:48 J -2756018.64 -2756018.55 -2756018.44 0.0138 0.0092

Mars -12259-07-23 12:43 J -2755973.01 -2755972.97 -2755972.93 0.1888 0.1834

Saturn -12259-09-03 18:28 J -2755930.83 -2755930.73 -2755930.62 0.0298 0.0158

Jupiter -12259-09-03 23:45 J -2755930.62 -2755930.51 -2755930.40 0.0523 0.0278 *

Uranus -12259-09-04 02:09 J -2755930.52 -2755930.41 -2755930.30 0.0138 0.0072 *

Uranus -12259-12-01 05:16 J -2755842.40 -2755842.28 -2755842.16 0.0138 0.0053

Venus -12258-02-24 03:50 J -2755757.42 -2755757.34 -2755757.26 0.3704 0.2104

Uranus -12258-02-27 08:24 J -2755754.27 -2755754.15 -2755754.02 0.0139 0.0034

Mars -12258-05-24 10:04 J -2755668.13 -2755668.08 -2755668.02 0.1648 0.1411

Uranus -12258-05-26 11:31 J -2755666.14 -2755666.02 -2755665.88 0.0139 0.0015

Uranus -12258-08-22 14:52 J -2755578.01 -2755577.88 -2755577.75 0.0139 0.0006

Earth -12258-08-24 06:00 J -2755576.36 -2755576.25 -2755576.15 0.2717 0.0347

Moon -12258-08-24 06:14 J -2755576.35 -2755576.24 -2755576.14 0.2724 0.0266 *

Uranus -12258-11-18 18:00 J -2755489.88 -2755489.75 -2755489.62 0.0139 0.0026

Uranus -12257-02-14 21:07 J -2755401.74 -2755401.62 -2755401.49 0.0139 0.0046

Uranus -12257-05-13 00:14 J -2755313.60 -2755313.49 -2755313.37 0.0139 0.0066

Uranus -12257-08-09 03:35 J -2755225.45 -2755225.35 -2755225.24 0.0139 0.0086

Uranus -12257-11-05 06:43 J -2755137.29 -2755137.22 -2755137.13 0.0139 0.0106

Uranus -12256-02-01 10:04 J -2755049.13 -2755049.08 -2755049.02 0.0140 0.0126

Mars -12256-04-28 11:45 J -2754963.12 -2754963.01 -2754962.89 0.1637 0.0399

Moon -12254-02-23 18:14 J -2754296.89 -2754296.74 -2754296.58 0.2614 0.0805

Earth -12254-02-23 19:55 J -2754296.83 -2754296.67 -2754296.51 0.2616 0.0531 *

Jupiter -12253-07-28 09:35 J -2753776.28 -2753776.10 -2753775.91 0.0501 0.0144

Venus -12253-09-08 18:57 J -2753733.81 -2753733.71 -2753733.61 0.3706 0.0339

Venus -12250-06-16 00:14 J -2752723.61 -2752723.49 -2752723.36 0.3665 0.2380

Mars -12250-12-13 04:33 J -2752543.48 -2752543.31 -2752543.15 0.1884 0.0394

Venus -12247-03-25 10:04 J -2751710.17 -2751710.08 -2751709.99 0.3708 0.1422

Jupiter -12247-03-26 00:00 J -2751709.58 -2751709.50 -2751709.42 0.0525 0.0397

Jupiter -12247-06-23 04:33 J -2751620.43 -2751620.31 -2751620.19 0.0523 0.0148

Mars -12247-09-18 23:31 J -2751532.64 -2751532.52 -2751532.41 0.1639 0.0063

Earth -12245-08-25 23:45 J -2750825.62 -2750825.51 -2750825.41 0.2717 0.0931

Moon -12245-08-26 00:14 J -2750825.59 -2750825.49 -2750825.39 0.2721 0.0949 *

Saturn -12244-09-20 22:33 J -2750434.56 -2750434.56 -2750434.54 0.0262 0.0262

Saturn -12244-12-18 20:24 J -2750345.83 -2750345.65 -2750345.47 0.0263 0.0098

Saturn -12243-03-17 18:14 J -2750256.92 -2750256.74 -2750256.55 0.0263 0.0067

Saturn -12243-06-14 16:04 J -2750167.91 -2750167.83 -2750167.74 0.0264 0.0234

Venus -12242-10-09 01:11 J -2749686.50 -2749686.45 -2749686.40 0.3710 0.3180

Moon -12241-02-27 01:40 J -2749545.54 -2749545.43 -2749545.32 0.2619 0.1893

Earth -12241-02-27 03:21 J -2749545.47 -2749545.36 -2749545.26 0.2616 0.1993 *

Jupiter -12241-05-16 06:00 J -2749466.39 -2749466.25 -2749466.11 0.0501 0.0329

Jupiter -12241-08-14 19:26 J -2749375.79 -2749375.69 -2749375.59 0.0503 0.0425

Mars -12240-05-03 20:24 J -2749113.79 -2749113.65 -2749113.51 0.1880 0.1033

Moon -12238-08-19 22:48 J -2748275.56 -2748275.55 -2748275.54 0.2722 0.2696

Earth -12238-08-19 23:31 J -2748275.55 -2748275.52 -2748275.49 0.2718 0.2592 *

Mars -12237-02-09 11:02 J -2748102.15 -2748102.04 -2748101.93 0.1642 0.0476

Mars -12235-01-14 12:28 J -2747397.05 -2747396.98 -2747396.91 0.1632 0.1303

Jupiter -12235-04-11 08:38 J -2747310.26 -2747310.14 -2747310.01 0.0524 0.0012

Earth -12232-08-28 17:31 J -2746074.84 -2746074.77 -2746074.71 0.2716 0.2198

Moon -12232-08-28 18:14 J -2746074.80 -2746074.74 -2746074.69 0.2714 0.2321 *

Saturn -12230-07-28 20:52 J -2745375.73 -2745375.63 -2745375.54 0.0301 0.0204

Saturn -12230-10-25 08:52 J -2745287.26 -2745287.13 -2745287.00 0.0300 0.0043

Saturn -12229-01-21 20:52 J -2745198.75 -2745198.63 -2745198.51 0.0299 0.0115

Saturn -12229-04-19 08:52 J -2745110.18 -2745110.13 -2745110.08 0.0298 0.0272

Jupiter -12229-06-02 16:04 J -2745065.99 -2745065.83 -2745065.66 0.0502 0.0243

Mars -12228-07-01 22:33 J -2744671.65 -2744671.56 -2744671.46 0.1645 0.0915

Mars -12226-06-07 00:14 J -2743966.59 -2743966.49 -2743966.40 0.1634 0.0877

Moon -12225-08-21 16:48 J -2743524.89 -2743524.80 -2743524.71 0.2724 0.1342

Earth -12225-08-21 17:02 J -2743524.88 -2743524.79 -2743524.69 0.2718 0.1347 *

Jupiter -12223-01-28 12:57 J -2743000.08 -2742999.96 -2742999.84 0.0524 0.0134

Jupiter -12223-04-27 17:31 J -2742910.85 -2742910.77 -2742910.69 0.0523 0.0407

Earth -12221-02-21 18:57 J -2742245.72 -2742245.71 -2742245.71 0.2615 0.2615

Uranus -12219-01-21 03:07 J -2741546.45 -2741546.37 -2741546.25 0.0140 0.0121

Uranus -12219-04-19 11:45 J -2741458.16 -2741458.01 -2741457.85 0.0140 0.0089

Uranus -12219-07-16 20:09 J -2741369.84 -2741369.66 -2741369.48 0.0140 0.0058

Uranus -12219-10-13 04:19 J -2741281.51 -2741281.32 -2741281.12 0.0140 0.0028

Mars -12219-11-22 10:04 J -2741241.14 -2741241.08 -2741241.01 0.1648 0.1356

Uranus -12218-01-09 12:28 J -2741193.17 -2741192.98 -2741192.78 0.0140 0.0005

Uranus -12218-04-07 20:38 J -2741104.82 -2741104.64 -2741104.44 0.0139 0.0034

Uranus -12218-07-05 04:48 J -2741016.47 -2741016.30 -2741016.12 0.0139 0.0064

Uranus -12218-10-01 12:43 J -2740928.10 -2740927.97 -2740927.81 0.0139 0.0094

Uranus -12218-12-28 21:07 J -2740839.71 -2740839.62 -2740839.53 0.0139 0.0123

Jupiter -12217-03-21 12:28 J -2740756.17 -2740755.98 -2740755.79 0.0502 0.0056

Mars -12217-10-27 11:45 J -2740536.12 -2740536.01 -2740535.90 0.1637 0.0446

Saturn -12214-05-07 20:09 J -2739613.82 -2739613.66 -2739613.49 0.0263 0.0138

Saturn -12214-08-04 18:14 J -2739524.93 -2739524.74 -2739524.55 0.0263 0.0028

Saturn -12214-11-01 16:04 J -2739435.96 -2739435.83 -2739435.70 0.0264 0.0194

Earth -12212-08-24 10:48 J -2738774.16 -2738774.05 -2738773.94 0.2717 0.0110

Moon -12212-08-24 11:02 J -2738774.15 -2738774.04 -2738773.93 0.2724 0.0125 *

Jupiter -12212-11-16 17:16 J -2738689.89 -2738689.78 -2738689.67 0.0524 0.0274

Jupiter -12211-02-13 21:50 J -2738600.70 -2738600.59 -2738600.48 0.0523 0.0269

Mars -12210-06-13 05:16 J -2738116.45 -2738116.28 -2738116.12 0.1884 0.0510

Moon -12208-02-24 00:43 J -2737494.63 -2737494.47 -2737494.30 0.2616 0.0145

Earth -12208-02-24 02:38 J -2737494.56 -2737494.39 -2737494.23 0.2616 0.0082 *

Venus -12207-03-17 09:50 J -2737108.13 -2737108.09 -2737108.04 0.3703 0.3229

Mars -12207-03-19 23:31 J -2737105.64 -2737105.52 -2737105.41 0.1639 0.0057

Neptune -12207-10-23 02:52 J -2736888.44 -2736888.38 -2736888.31 0.0088 0.0082

Neptune -12206-01-19 06:28 J -2736800.33 -2736800.23 -2736800.11 0.0088 0.0072

Neptune -12206-04-17 10:04 J -2736712.20 -2736712.08 -2736711.92 0.0088 0.0062

Neptune -12206-07-14 13:55 J -2736624.07 -2736623.92 -2736623.75 0.0088 0.0052

Neptune -12206-10-10 17:31 J -2736535.93 -2736535.77 -2736535.58 0.0088 0.0042

Neptune -12205-01-06 21:35 J -2736447.78 -2736447.60 -2736447.41 0.0088 0.0031

Jupiter -12205-01-08 08:24 J -2736446.33 -2736446.15 -2736445.96 0.0501 0.0134

Neptune -12205-04-04 01:11 J -2736359.64 -2736359.45 -2736359.25 0.0088 0.0021

Neptune -12205-07-01 05:02 J -2736271.48 -2736271.29 -2736271.09 0.0088 0.0011

Neptune -12205-09-27 08:52 J -2736183.33 -2736183.13 -2736182.93 0.0088 0.0001

Neptune -12205-12-24 12:28 J -2736095.17 -2736094.98 -2736094.78 0.0088 0.0010

Neptune -12204-03-22 16:04 J -2736007.01 -2736006.83 -2736006.63 0.0088 0.0020

Neptune -12204-06-18 19:55 J -2735918.85 -2735918.67 -2735918.48 0.0088 0.0030

Neptune -12204-09-14 23:45 J -2735830.69 -2735830.51 -2735830.33 0.0088 0.0040

Neptune -12204-12-12 03:07 J -2735742.52 -2735742.37 -2735742.19 0.0088 0.0051

Neptune -12203-03-10 06:57 J -2735654.34 -2735654.21 -2735654.06 0.0088 0.0061

Neptune -12203-06-06 10:33 J -2735566.16 -2735566.06 -2735565.93 0.0088 0.0071

Neptune -12203-09-02 14:24 J -2735477.96 -2735477.90 -2735477.82 0.0088 0.0081

Venus -12202-10-01 01:11 J -2735084.55 -2735084.45 -2735084.36 0.3704 0.1474

Mars -12201-11-01 21:21 J -2734686.76 -2734686.61 -2734686.46 0.1880 0.0905

Saturn -12201-12-14 23:16 J -2734643.60 -2734643.53 -2734643.46 0.0300 0.0244

Saturn -12200-03-13 11:31 J -2734555.15 -2734555.02 -2734554.90 0.0299 0.0084

Saturn -12200-06-09 23:31 J -2734466.64 -2734466.52 -2734466.40 0.0299 0.0074

Jupiter -12200-09-04 22:04 J -2734379.66 -2734379.58 -2734379.50 0.0525 0.0406

Saturn -12200-09-06 11:31 J -2734378.10 -2734378.02 -2734377.94 0.0298 0.0231

Jupiter -12200-12-03 02:38 J -2734290.51 -2734290.39 -2734290.27 0.0524 0.0139

Venus -12199-07-06 14:38 J -2734075.02 -2734074.89 -2734074.76 0.3667 0.2235

Earth -12199-08-27 04:33 J -2734023.41 -2734023.31 -2734023.22 0.2717 0.1177

Moon -12199-08-27 05:02 J -2734023.38 -2734023.29 -2734023.19 0.2719 0.1323 *

Mars -12198-08-10 11:02 J -2733675.15 -2733675.04 -2733674.93 0.1642 0.0419

Venus -12196-04-15 16:19 J -2733060.92 -2733060.82 -2733060.72 0.3706 0.0300

Mars -12196-07-15 12:28 J -2732970.04 -2732969.98 -2732969.92 0.1632 0.1359

Moon -12195-02-27 08:24 J -2732743.23 -2732743.15 -2732743.07 0.2619 0.2217

Earth -12195-02-27 10:04 J -2732743.13 -2732743.08 -2732743.03 0.2617 0.2473 *

Jupiter -12194-10-27 03:21 J -2732136.50 -2732136.36 -2732136.22 0.0501 0.0337

Jupiter -12193-01-25 16:33 J -2732045.91 -2732045.81 -2732045.70 0.0502 0.0414

Moon -12192-08-20 03:35 J -2731473.39 -2731473.35 -2731473.30 0.2722 0.2431

Earth -12192-08-20 04:19 J -2731473.37 -2731473.32 -2731473.27 0.2718 0.2348 *

Venus -12191-10-30 07:26 J -2731037.27 -2731037.19 -2731037.11 0.3708 0.2049

Mars -12189-12-30 22:33 J -2730244.66 -2730244.56 -2730244.46 0.1645 0.0860

Jupiter -12188-09-21 07:26 J -2729980.32 -2729980.19 -2729980.07 0.0524 0.0015

Mars -12187-12-06 00:14 J -2729539.59 -2729539.49 -2729539.40 0.1634 0.0933

Earth -12186-08-29 22:19 J -2729272.62 -2729272.57 -2729272.53 0.2716 0.2452

Moon -12186-08-29 23:02 J -2729272.58 -2729272.54 -2729272.51 0.2714 0.2502 *

Saturn -12185-09-23 20:24 J -2728881.79 -2728881.65 -2728881.50 0.0263 0.0176

Saturn -12185-12-21 18:14 J -2728792.93 -2728792.74 -2728792.54 0.0263 0.0011

Saturn -12184-03-20 16:04 J -2728703.98 -2728703.83 -2728703.67 0.0264 0.0156

Jupiter -12182-11-13 12:43 J -2727736.14 -2727735.97 -2727735.80 0.0502 0.0227

Mars -12179-05-23 10:04 J -2726814.15 -2726814.08 -2726814.01 0.1648 0.1300

Moon -12179-08-22 21:50 J -2726722.69 -2726722.59 -2726722.50 0.2725 0.1148

Earth -12179-08-22 21:50 J -2726722.69 -2726722.59 -2726722.49 0.2718 0.1101 *

Mars -12177-04-27 11:45 J -2726109.12 -2726109.01 -2726108.90 0.1637 0.0502

Jupiter -12176-07-10 11:31 J -2725670.14 -2725670.02 -2725669.90 0.0524 0.0136

Jupiter -12176-10-07 16:04 J -2725580.91 -2725580.83 -2725580.75 0.0523 0.0405

Uranus -12175-01-02 23:45 J -2725493.55 -2725493.51 -2725493.45 0.0138 0.0126

Moon -12175-02-22 00:28 J -2725443.57 -2725443.48 -2725443.39 0.2611 0.2184

Earth -12175-02-22 01:40 J -2725443.52 -2725443.43 -2725443.33 0.2616 0.2114 *

Uranus -12175-04-01 02:52 J -2725405.45 -2725405.38 -2725405.29 0.0138 0.0107

Uranus -12175-06-28 06:00 J -2725317.34 -2725317.25 -2725317.14 0.0138 0.0088

Uranus -12175-09-24 09:21 J -2725229.22 -2725229.11 -2725229.00 0.0138 0.0068

Uranus -12175-12-21 12:28 J -2725141.10 -2725140.98 -2725140.86 0.0139 0.0049

Uranus -12174-03-19 15:35 J -2725052.97 -2725052.85 -2725052.72 0.0139 0.0029

Uranus -12174-06-15 18:43 J -2724964.84 -2724964.72 -2724964.59 0.0139 0.0011

Uranus -12174-09-11 22:04 J -2724876.71 -2724876.58 -2724876.45 0.0139 0.0010

Uranus -12174-12-09 01:11 J -2724788.58 -2724788.45 -2724788.32 0.0139 0.0030

Uranus -12173-03-06 04:19 J -2724700.44 -2724700.32 -2724700.19 0.0139 0.0050

Uranus -12173-06-02 07:26 J -2724612.29 -2724612.19 -2724612.07 0.0139 0.0071

Uranus -12173-08-29 10:48 J -2724524.15 -2724524.05 -2724523.95 0.0139 0.0090

Uranus -12173-11-25 13:55 J -2724435.99 -2724435.92 -2724435.83 0.0140 0.0111

Uranus -12172-02-21 17:16 J -2724347.82 -2724347.78 -2724347.73 0.0140 0.0131

Saturn -12171-05-04 01:55 J -2723911.45 -2723911.42 -2723911.38 0.0301 0.0284

Saturn -12171-07-31 14:09 J -2723823.03 -2723822.91 -2723822.79 0.0300 0.0123

Saturn -12171-10-28 02:09 J -2723734.53 -2723734.41 -2723734.28 0.0299 0.0037

Mars -12171-12-12 06:14 J -2723689.40 -2723689.24 -2723689.08 0.1884 0.0639

Saturn -12170-01-24 14:09 J -2723646.00 -2723645.91 -2723645.81 0.0298 0.0193

Jupiter -12170-09-01 09:21 J -2723426.30 -2723426.11 -2723425.92 0.0502 0.0044

Mars -12168-09-17 23:16 J -2722678.64 -2722678.53 -2722678.41 0.1639 0.0081

Earth -12166-08-25 15:35 J -2721971.96 -2721971.85 -2721971.74 0.2717 0.0171

Moon -12166-08-25 15:50 J -2721971.95 -2721971.84 -2721971.73 0.2724 0.0254 *

Jupiter -12164-04-28 15:50 J -2721359.95 -2721359.84 -2721359.74 0.0524 0.0276

Jupiter -12164-07-26 20:24 J -2721270.76 -2721270.65 -2721270.55 0.0523 0.0267

Moon -12162-02-25 07:40 J -2720692.35 -2720692.18 -2720692.02 0.2617 0.0168

Earth -12162-02-25 09:21 J -2720692.27 -2720692.11 -2720691.95 0.2616 0.0443 *

Mars -12161-05-02 22:04 J -2720259.74 -2720259.58 -2720259.43 0.1880 0.0794

Mars -12158-02-08 11:02 J -2719248.16 -2719248.04 -2719247.93 0.1642 0.0370

Jupiter -12158-06-20 05:31 J -2719116.45 -2719116.27 -2719116.08 0.0502 0.0144

Mars -12156-01-13 12:28 J -2718543.04 -2718542.98 -2718542.93 0.1632 0.1411

Saturn -12155-02-10 20:38 J -2718149.75 -2718149.64 -2718149.52 0.0263 0.0212

Saturn -12155-05-10 18:28 J -2718060.92 -2718060.73 -2718060.54 0.0263 0.0048

Saturn -12155-08-07 16:19 J -2717971.99 -2717971.82 -2717971.64 0.0264 0.0119

Earth -12153-08-27 09:21 J -2717221.20 -2717221.11 -2717221.02 0.2717 0.1431

Moon -12153-08-27 10:04 J -2717221.17 -2717221.08 -2717220.99 0.2718 0.1460 *

Jupiter -12152-02-14 19:55 J -2717049.74 -2717049.67 -2717049.59 0.0525 0.0419

Jupiter -12152-05-15 00:28 J -2716960.60 -2716960.48 -2716960.35 0.0524 0.0126

Venus -12151-10-22 07:11 J -2716435.27 -2716435.20 -2716435.13 0.3703 0.2593

Mars -12149-06-30 22:33 J -2715817.66 -2715817.56 -2715817.46 0.1645 0.0802

Mars -12147-06-06 00:00 J -2715112.59 -2715112.50 -2715112.41 0.1634 0.0986

Jupiter -12146-04-08 01:26 J -2714806.57 -2714806.44 -2714806.29 0.0501 0.0334

Jupiter -12146-07-07 14:52 J -2714715.98 -2714715.88 -2714715.78 0.0502 0.0418

Moon -12146-08-21 08:24 J -2714671.21 -2714671.15 -2714671.08 0.2722 0.2174

Earth -12146-08-21 09:07 J -2714671.19 -2714671.12 -2714671.06 0.2718 0.2101 *

Venus -12145-05-06 22:19 J -2714411.66 -2714411.57 -2714411.47 0.3705 0.0853

Venus -12142-02-10 17:45 J -2713401.93 -2713401.76 -2713401.60 0.3666 0.0064

Saturn -12142-12-18 17:02 J -2713090.89 -2713090.79 -2713090.67 0.0300 0.0159

Saturn -12141-03-16 05:16 J -2713002.41 -2713002.28 -2713002.15 0.0299 0.0003

Saturn -12141-06-12 17:16 J -2712913.89 -2712913.78 -2712913.67 0.0298 0.0158

Jupiter -12140-03-03 05:16 J -2712650.41 -2712650.28 -2712650.16 0.0524 0.0008

Earth -12140-08-30 03:07 J -2712470.38 -2712470.37 -2712470.37 0.2716 0.2704

Venus -12140-11-20 13:40 J -2712388.03 -2712387.93 -2712387.84 0.3707 0.0925

Mars -12140-11-21 10:04 J -2712387.15 -2712387.08 -2712387.01 0.1647 0.1244

Mars -12138-10-27 11:45 J -2711682.12 -2711682.01 -2711681.90 0.1636 0.0558

Uranus -12135-02-10 10:48 J -2710845.16 -2710845.05 -2710844.92 0.0140 0.0112

Uranus -12135-05-09 19:11 J -2710756.85 -2710756.70 -2710756.54 0.0140 0.0081

Uranus -12135-08-06 03:21 J -2710668.53 -2710668.36 -2710668.17 0.0140 0.0051

Uranus -12135-11-02 11:45 J -2710580.20 -2710580.01 -2710579.81 0.0140 0.0020

Uranus -12134-01-29 19:55 J -2710491.86 -2710491.67 -2710491.47 0.0139 0.0011

Jupiter -12134-04-25 09:35 J -2710406.27 -2710406.10 -2710405.92 0.0502 0.0214

Uranus -12134-04-28 04:04 J -2710403.51 -2710403.33 -2710403.14 0.0139 0.0041

Venus -12134-06-06 04:48 J -2710364.37 -2710364.30 -2710364.23 0.3709 0.2671

Uranus -12134-07-25 12:00 J -2710315.15 -2710315.00 -2710314.82 0.0139 0.0072

Uranus -12134-10-21 20:09 J -2710226.78 -2710226.66 -2710226.52 0.0139 0.0101

Uranus -12133-01-18 04:04 J -2710138.38 -2710138.33 -2710138.25 0.0139 0.0131

Moon -12133-08-23 02:38 J -2709920.49 -2709920.39 -2709920.29 0.2725 0.0850

Earth -12133-08-23 02:38 J -2709920.49 -2709920.39 -2709920.29 0.2718 0.0853 *

Mars -12131-06-12 07:11 J -2709262.35 -2709262.20 -2709262.04 0.1884 0.0771

Moon -12129-02-23 06:57 J -2708641.32 -2708641.21 -2708641.09 0.2612 0.1803

Earth -12129-02-23 08:24 J -2708641.27 -2708641.15 -2708641.02 0.2616 0.1625 *

Jupiter -12129-12-20 09:50 J -2708340.21 -2708340.09 -2708339.97 0.0524 0.0140

Mars -12128-03-18 23:16 J -2708251.64 -2708251.53 -2708251.41 0.1639 0.0124

Jupiter -12128-03-19 14:24 J -2708250.98 -2708250.90 -2708250.82 0.0523 0.0403

Saturn -12126-06-30 20:52 J -2707417.68 -2707417.63 -2707417.56 0.0263 0.0249

Saturn -12126-09-27 18:57 J -2707328.89 -2707328.71 -2707328.53 0.0263 0.0084

Saturn -12126-12-25 16:48 J -2707239.98 -2707239.80 -2707239.61 0.0264 0.0082

Neptune -12125-02-05 17:02 J -2707197.82 -2707197.79 -2707197.74 0.0089 0.0085

Saturn -12125-03-23 14:38 J -2707150.94 -2707150.89 -2707150.82 0.0264 0.0250

Neptune -12125-05-03 18:14 J -2707109.79 -2707109.74 -2707109.66 0.0089 0.0078

Neptune -12125-07-30 19:55 J -2707021.75 -2707021.67 -2707021.59 0.0089 0.0071

Neptune -12125-10-26 21:07 J -2706933.71 -2706933.62 -2706933.53 0.0089 0.0064

Neptune -12124-01-22 22:19 J -2706845.66 -2706845.57 -2706845.46 0.0089 0.0057

Neptune -12124-04-20 23:45 J -2706757.62 -2706757.51 -2706757.40 0.0089 0.0050

Neptune -12124-07-18 00:57 J -2706669.57 -2706669.46 -2706669.34 0.0089 0.0043

Neptune -12124-10-14 02:09 J -2706581.52 -2706581.41 -2706581.28 0.0089 0.0036

Neptune -12123-01-10 03:35 J -2706493.47 -2706493.35 -2706493.23 0.0089 0.0028

Neptune -12123-04-08 04:48 J -2706405.42 -2706405.30 -2706405.17 0.0089 0.0022

Neptune -12123-07-05 06:14 J -2706317.37 -2706317.24 -2706317.11 0.0089 0.0014

Neptune -12123-10-01 07:26 J -2706229.32 -2706229.19 -2706229.06 0.0089 0.0007

Neptune -12123-12-28 08:38 J -2706141.27 -2706141.14 -2706141.01 0.0089 0.0002

Jupiter -12122-02-11 05:45 J -2706096.45 -2706096.26 -2706096.07 0.0502 0.0026

Neptune -12122-03-26 10:04 J -2706053.21 -2706053.08 -2706052.95 0.0089 0.0007

Neptune -12122-06-22 11:16 J -2705965.16 -2705965.03 -2705964.90 0.0089 0.0014

Neptune -12122-09-18 12:28 J -2705877.10 -2705876.98 -2705876.85 0.0089 0.0021

Mars -12122-11-01 22:48 J -2705832.71 -2705832.55 -2705832.38 0.1880 0.0670

Neptune -12122-12-15 13:40 J -2705789.05 -2705788.93 -2705788.80 0.0089 0.0028

Neptune -12121-03-12 14:52 J -2705700.99 -2705700.88 -2705700.75 0.0089 0.0036

Neptune -12121-06-08 16:19 J -2705612.93 -2705612.82 -2705612.70 0.0089 0.0042

Neptune -12121-09-04 17:31 J -2705524.87 -2705524.77 -2705524.65 0.0089 0.0049

Neptune -12121-12-01 18:43 J -2705436.81 -2705436.72 -2705436.61 0.0089 0.0057

Neptune -12120-02-27 19:55 J -2705348.75 -2705348.67 -2705348.57 0.0089 0.0064

Neptune -12120-05-26 21:21 J -2705260.68 -2705260.61 -2705260.52 0.0089 0.0070

Neptune -12120-08-22 22:33 J -2705172.61 -2705172.56 -2705172.49 0.0089 0.0078

Earth -12120-08-25 20:24 J -2705169.76 -2705169.65 -2705169.55 0.2717 0.0410

Moon -12120-08-25 20:52 J -2705169.74 -2705169.63 -2705169.53 0.2722 0.0439 *

Neptune -12120-11-18 23:45 J -2705084.54 -2705084.51 -2705084.46 0.0089 0.0085

Mars -12119-08-09 10:48 J -2704821.16 -2704821.05 -2704820.93 0.1642 0.0318

Mars -12117-07-14 12:14 J -2704116.03 -2704115.99 -2704115.94 0.1632 0.1465

Jupiter -12117-10-08 13:55 J -2704030.02 -2704029.92 -2704029.81 0.0524 0.0284

Jupiter -12116-01-05 18:28 J -2703940.83 -2703940.73 -2703940.62 0.0523 0.0260

Moon -12116-02-25 14:09 J -2703890.06 -2703889.91 -2703889.75 0.2617 0.0827

Earth -12116-02-25 16:04 J -2703889.98 -2703889.83 -2703889.68 0.2616 0.0933 *

Pluto -12114-09-13 11:31 J -2702960.04 -2702960.02 -2702959.98 0.0072 0.0070

Pluto -12114-12-10 12:28 J -2702872.04 -2702871.98 -2702871.89 0.0072 0.0062

Pluto -12113-03-07 13:40 J -2702784.02 -2702783.93 -2702783.82 0.0072 0.0054

Pluto -12113-06-03 15:07 J -2702695.98 -2702695.87 -2702695.75 0.0072 0.0045

Pluto -12113-08-30 16:04 J -2702607.95 -2702607.83 -2702607.69 0.0072 0.0037

Pluto -12113-11-26 17:31 J -2702519.91 -2702519.77 -2702519.63 0.0072 0.0028

Pluto -12112-02-22 18:43 J -2702431.86 -2702431.72 -2702431.57 0.0072 0.0020

Saturn -12112-05-06 20:09 J -2702358.75 -2702358.66 -2702358.56 0.0300 0.0194

Pluto -12112-05-21 19:55 J -2702343.82 -2702343.67 -2702343.52 0.0072 0.0011

Saturn -12112-08-03 08:24 J -2702270.28 -2702270.15 -2702270.02 0.0300 0.0034

Pluto -12112-08-17 21:07 J -2702255.77 -2702255.62 -2702255.46 0.0072 0.0003

Saturn -12112-10-30 20:24 J -2702181.77 -2702181.65 -2702181.54 0.0299 0.0125

Pluto -12112-11-13 22:19 J -2702167.72 -2702167.57 -2702167.41 0.0073 0.0007

Saturn -12111-01-27 08:09 J -2702093.19 -2702093.16 -2702093.11 0.0298 0.0281

Pluto -12111-02-09 23:45 J -2702079.66 -2702079.51 -2702079.36 0.0073 0.0015

Pluto -12111-05-09 00:57 J -2701991.60 -2701991.46 -2701991.31 0.0073 0.0024

Pluto -12111-08-05 02:09 J -2701903.54 -2701903.41 -2701903.27 0.0073 0.0033

Pluto -12111-11-01 03:21 J -2701815.48 -2701815.36 -2701815.23 0.0073 0.0042

Jupiter -12111-11-30 02:09 J -2701786.59 -2701786.41 -2701786.23 0.0502 0.0160

Pluto -12110-01-28 04:33 J -2701727.41 -2701727.31 -2701727.19 0.0073 0.0051

Pluto -12110-04-26 06:00 J -2701639.33 -2701639.25 -2701639.16 0.0073 0.0061

Pluto -12110-07-23 07:26 J -2701551.23 -2701551.19 -2701551.14 0.0073 0.0070

Mars -12110-12-30 22:33 J -2701390.67 -2701390.56 -2701390.46 0.1644 0.0751

Mars -12108-12-05 00:00 J -2700685.59 -2700685.50 -2700685.41 0.1634 0.1039

Earth -12107-08-28 14:09 J -2700419.00 -2700418.91 -2700418.83 0.2717 0.1680

Moon -12107-08-28 14:52 J -2700418.96 -2700418.88 -2700418.80 0.2718 0.1841 *

Jupiter -12105-07-27 18:14 J -2699719.81 -2699719.74 -2699719.67 0.0525 0.0423

Jupiter -12105-10-24 22:48 J -2699630.67 -2699630.55 -2699630.43 0.0523 0.0121

Mars -12100-05-22 10:04 J -2697960.16 -2697960.08 -2697960.00 0.1648 0.1191

Moon -12100-08-21 13:26 J -2697869.01 -2697868.94 -2697868.87 0.2723 0.1950

Earth -12100-08-21 13:55 J -2697869.00 -2697868.92 -2697868.85 0.2718 0.1856 *

Jupiter -12099-09-17 22:19 J -2697476.70 -2697476.57 -2697476.43 0.0501 0.0347

Jupiter -12099-12-17 11:45 J -2697386.12 -2697386.01 -2697385.90 0.0502 0.0406

Mars -12098-04-27 11:31 J -2697255.12 -2697255.02 -2697254.91 0.1637 0.0612

Saturn -12096-02-13 19:26 J -2696596.86 -2696596.69 -2696596.51 0.0263 0.0119

Saturn -12096-05-13 17:16 J -2696507.97 -2696507.78 -2696507.58 0.0264 0.0048

Saturn -12096-08-10 15:21 J -2696418.97 -2696418.86 -2696418.75 0.0264 0.0214

Venus -12094-05-29 04:33 J -2695762.39 -2695762.31 -2695762.23 0.3703 0.1963

Jupiter -12093-08-13 03:07 J -2695320.50 -2695320.37 -2695320.25 0.0524 0.0028

Jupiter -12093-11-10 07:26 J -2695231.20 -2695231.19 -2695231.18 0.0523 0.0519

Mars -12092-12-11 07:40 J -2694835.33 -2694835.18 -2694835.02 0.1884 0.0876

Uranus -12091-01-23 06:43 J -2694792.27 -2694792.22 -2694792.16 0.0138 0.0123

Uranus -12091-04-21 09:50 J -2694704.17 -2694704.09 -2694704.00 0.0138 0.0104

Uranus -12091-07-18 13:11 J -2694616.05 -2694615.95 -2694615.85 0.0138 0.0085

Mars -12091-10-12 21:35 J -2694529.61 -2694529.60 -2694529.59 0.1651 0.1633

Uranus -12091-10-14 16:19 J -2694527.93 -2694527.82 -2694527.71 0.0138 0.0065

Uranus -12090-01-10 19:26 J -2694439.81 -2694439.69 -2694439.57 0.0139 0.0046

Uranus -12090-04-08 22:33 J -2694351.68 -2694351.56 -2694351.43 0.0139 0.0026

Uranus -12090-07-06 01:55 J -2694263.55 -2694263.42 -2694263.29 0.0139 0.0007

Uranus -12090-10-02 05:02 J -2694175.42 -2694175.29 -2694175.16 0.0139 0.0013

Uranus -12090-12-29 08:09 J -2694087.28 -2694087.16 -2694087.03 0.0139 0.0033

Uranus -12089-03-26 11:16 J -2693999.14 -2693999.03 -2693998.90 0.0139 0.0053

Uranus -12089-06-22 14:24 J -2693911.00 -2693910.90 -2693910.78 0.0139 0.0074

Mars -12089-09-16 23:16 J -2693824.64 -2693824.53 -2693824.42 0.1639 0.0178

Uranus -12089-09-18 17:45 J -2693822.85 -2693822.76 -2693822.66 0.0139 0.0093

Venus -12089-12-11 19:40 J -2693738.78 -2693738.68 -2693738.58 0.3705 0.0236

Uranus -12089-12-15 20:52 J -2693734.70 -2693734.63 -2693734.55 0.0140 0.0114

Uranus -12088-03-14 00:14 J -2693646.52 -2693646.49 -2693646.45 0.0140 0.0134

Moon -12087-08-24 07:26 J -2693118.29 -2693118.19 -2693118.08 0.2725 0.0605

Earth -12087-08-24 07:26 J -2693118.29 -2693118.19 -2693118.08 0.2718 0.0604 *

Jupiter -12087-10-05 07:40 J -2693076.35 -2693076.18 -2693076.01 0.0502 0.0214

Venus -12086-09-17 20:52 J -2692728.77 -2692728.63 -2692728.50 0.3666 0.2139

Moon -12083-02-23 13:40 J -2691839.07 -2691838.93 -2691838.79 0.2614 0.1326

Earth -12083-02-23 15:21 J -2691839.01 -2691838.86 -2691838.72 0.2616 0.1128 *

Venus -12083-06-27 11:02 J -2691715.14 -2691715.04 -2691714.95 0.3707 0.1557

Saturn -12083-09-23 23:31 J -2691626.61 -2691626.52 -2691626.44 0.0300 0.0226

Saturn -12083-12-21 11:31 J -2691538.14 -2691538.02 -2691537.89 0.0299 0.0066

Saturn -12082-03-19 23:31 J -2691449.64 -2691449.52 -2691449.40 0.0298 0.0092

Mars -12082-05-03 00:14 J -2691405.66 -2691405.49 -2691405.33 0.1880 0.0525

Saturn -12082-06-16 11:31 J -2691361.09 -2691361.02 -2691360.95 0.0298 0.0248

Jupiter -12081-06-01 07:40 J -2691010.30 -2691010.18 -2691010.06 0.0524 0.0156

Jupiter -12081-08-29 12:14 J -2690921.07 -2690920.99 -2690920.91 0.0523 0.0387

Mars -12079-02-07 10:48 J -2690394.16 -2690394.05 -2690393.93 0.1641 0.0261

Venus -12077-01-11 02:09 J -2689691.46 -2689691.41 -2689691.37 0.3709 0.3301

Mars -12077-01-13 12:14 J -2689689.02 -2689688.99 -2689688.95 0.1632 0.1522

Jupiter -12075-07-24 02:38 J -2688766.58 -2688766.39 -2688766.20 0.0501 0.0012

Earth -12074-08-27 01:11 J -2688367.56 -2688367.45 -2688367.35 0.2717 0.0660

Moon -12074-08-27 01:40 J -2688367.53 -2688367.43 -2688367.33 0.2721 0.0752 *

Moon -12070-02-26 21:07 J -2687087.76 -2687087.62 -2687087.48 0.2617 0.1158

Earth -12070-02-26 22:48 J -2687087.68 -2687087.55 -2687087.41 0.2616 0.1422 *

Mars -12070-06-30 22:19 J -2686963.67 -2686963.57 -2686963.46 0.1644 0.0697

Jupiter -12069-03-20 12:14 J -2686700.10 -2686699.99 -2686699.89 0.0525 0.0291

Jupiter -12069-06-17 16:48 J -2686610.91 -2686610.80 -2686610.69 0.0524 0.0254

Mars -12068-06-05 00:00 J -2686258.58 -2686258.50 -2686258.42 0.1634 0.1094

Saturn -12067-07-03 19:40 J -2685864.83 -2685864.68 -2685864.52 0.0263 0.0155

Saturn -12067-09-30 17:45 J -2685775.96 -2685775.76 -2685775.57 0.0264 0.0011

Saturn -12067-12-28 15:35 J -2685686.99 -2685686.85 -2685686.70 0.0264 0.0177

Jupiter -12063-05-11 22:48 J -2684456.73 -2684456.55 -2684456.38 0.0501 0.0178

Earth -12061-08-28 18:57 J -2683616.79 -2683616.71 -2683616.64 0.2717 0.1933

Moon -12061-08-28 19:40 J -2683616.76 -2683616.68 -2683616.61 0.2717 0.1969 *

Mars -12061-11-20 09:50 J -2683533.17 -2683533.09 -2683533.00 0.1647 0.1138

Mars -12059-10-26 11:31 J -2682828.12 -2682828.02 -2682827.91 0.1636 0.0662

Jupiter -12057-01-07 16:19 J -2682389.89 -2682389.82 -2682389.75 0.0525 0.0433

Jupiter -12057-04-05 20:52 J -2682300.75 -2682300.63 -2682300.50 0.0524 0.0113

Moon -12054-08-22 18:14 J -2681066.82 -2681066.74 -2681066.65 0.2724 0.1609

Earth -12054-08-22 18:43 J -2681066.81 -2681066.72 -2681066.64 0.2718 0.1611 *

Saturn -12053-02-11 02:38 J -2680894.45 -2680894.39 -2680894.33 0.0301 0.0259

Saturn -12053-05-09 14:38 J -2680806.01 -2680805.89 -2680805.76 0.0300 0.0099

Saturn -12053-08-06 02:52 J -2680717.51 -2680717.38 -2680717.26 0.0299 0.0061

Saturn -12053-11-02 14:38 J -2680628.97 -2680628.89 -2680628.80 0.0298 0.0218

Mars -12052-06-11 09:07 J -2680408.27 -2680408.12 -2680407.98 0.1884 0.1019

Uranus -12052-12-04 09:50 J -2680232.12 -2680232.09 -2680232.02 0.0140 0.0135

Jupiter -12051-02-27 18:57 J -2680146.83 -2680146.71 -2680146.58 0.0501 0.0365

Uranus -12051-03-02 18:14 J -2680143.86 -2680143.74 -2680143.60 0.0140 0.0104

Mars -12051-04-12 21:21 J -2680102.63 -2680102.61 -2680102.58 0.1651 0.1581

Jupiter -12051-05-29 08:24 J -2680056.27 -2680056.15 -2680056.03 0.0502 0.0388

Uranus -12051-05-30 02:52 J -2680055.55 -2680055.38 -2680055.21 0.0140 0.0073

Uranus -12051-08-26 11:02 J -2679967.23 -2679967.04 -2679966.85 0.0140 0.0043

Uranus -12051-11-22 19:11 J -2679878.89 -2679878.70 -2679878.50 0.0140 0.0012

Uranus -12050-02-19 03:21 J -2679790.55 -2679790.36 -2679790.16 0.0139 0.0019

Uranus -12050-05-18 11:45 J -2679702.20 -2679702.01 -2679701.83 0.0139 0.0049

Uranus -12050-08-14 19:26 J -2679613.84 -2679613.69 -2679613.51 0.0139 0.0079

Uranus -12050-11-11 03:50 J -2679525.46 -2679525.34 -2679525.22 0.0139 0.0108

Uranus -12049-02-07 11:45 J -2679437.02 -2679437.01 -2679436.98 0.0139 0.0138

Mars -12049-03-17 23:16 J -2679397.65 -2679397.53 -2679397.42 0.1639 0.0235

Jupiter -12045-01-24 01:26 J -2677990.57 -2677990.44 -2677990.32 0.0524 0.0033

Jupiter -12045-04-22 05:45 J -2677901.28 -2677901.26 -2677901.24 0.0522 0.0512

Venus -12043-06-19 10:48 J -2677113.11 -2677113.05 -2677113.00 0.3702 0.3086

Mars -12043-11-01 00:28 J -2676978.64 -2676978.48 -2676978.31 0.1880 0.0429

Neptune -12042-04-22 22:19 J -2676805.59 -2676805.57 -2676805.55 0.0088 0.0087

Neptune -12042-07-20 01:55 J -2676717.51 -2676717.42 -2676717.32 0.0088 0.0077

Neptune -12042-10-16 05:31 J -2676629.39 -2676629.27 -2676629.13 0.0088 0.0067

Neptune -12041-01-12 09:07 J -2676541.26 -2676541.12 -2676540.96 0.0088 0.0057

Neptune -12041-04-09 12:43 J -2676453.12 -2676452.97 -2676452.78 0.0088 0.0047

Neptune -12041-07-06 16:48 J -2676364.98 -2676364.80 -2676364.61 0.0088 0.0036

Earth -12041-08-24 12:14 J -2676316.10 -2676315.99 -2676315.88 0.2718 0.0355

Moon -12041-08-24 12:28 J -2676316.09 -2676315.98 -2676315.88 0.2724 0.0382 *

Neptune -12041-10-02 20:38 J -2676276.83 -2676276.64 -2676276.45 0.0088 0.0026

Neptune -12041-12-30 00:14 J -2676188.68 -2676188.49 -2676188.29 0.0088 0.0016

Neptune -12040-03-28 04:04 J -2676100.53 -2676100.33 -2676100.13 0.0088 0.0006

Neptune -12040-06-24 07:40 J -2676012.37 -2676012.18 -2676011.97 0.0088 0.0005

Mars -12040-08-08 10:48 J -2675967.16 -2675967.05 -2675966.94 0.1642 0.0203

Neptune -12040-09-20 11:31 J -2675924.21 -2675924.02 -2675923.82 0.0088 0.0015

Neptune -12040-12-17 15:07 J -2675836.05 -2675835.87 -2675835.67 0.0088 0.0025

Neptune -12039-03-15 18:57 J -2675747.89 -2675747.71 -2675747.52 0.0088 0.0035

Jupiter -12039-03-17 04:33 J -2675746.48 -2675746.31 -2675746.14 0.0502 0.0200

Neptune -12039-06-11 22:19 J -2675659.72 -2675659.57 -2675659.38 0.0088 0.0046

Neptune -12039-09-08 02:09 J -2675571.55 -2675571.41 -2675571.24 0.0088 0.0056

Neptune -12039-12-05 06:00 J -2675483.37 -2675483.25 -2675483.11 0.0088 0.0066

Neptune -12038-03-03 09:50 J -2675395.18 -2675395.09 -2675394.99 0.0088 0.0076

Neptune -12038-05-30 13:11 J -2675306.96 -2675306.95 -2675306.90 0.0088 0.0087

Mars -12038-07-14 12:14 J -2675262.02 -2675261.99 -2675261.96 0.1632 0.1573

Saturn -12038-11-20 20:24 J -2675132.78 -2675132.65 -2675132.52 0.0263 0.0189

Venus -12037-01-03 01:55 J -2675089.51 -2675089.42 -2675089.33 0.3704 0.1328

Saturn -12037-02-17 18:14 J -2675043.93 -2675043.74 -2675043.55 0.0263 0.0024

Moon -12037-02-24 20:09 J -2675036.81 -2675036.66 -2675036.50 0.2614 0.0799

Earth -12037-02-24 22:04 J -2675036.74 -2675036.58 -2675036.43 0.2616 0.0646 *

Saturn -12037-05-16 16:04 J -2674954.99 -2674954.83 -2674954.66 0.0264 0.0143

Venus -12035-10-08 11:02 J -2674080.16 -2674080.04 -2674079.92 0.3668 0.2462

Jupiter -12034-11-12 05:31 J -2673680.39 -2673680.27 -2673680.15 0.0524 0.0171

Jupiter -12033-02-09 09:50 J -2673591.17 -2673591.09 -2673591.00 0.0523 0.0372

Mars -12033-03-22 16:48 J -2673548.83 -2673548.80 -2673548.76 0.1876 0.1822

Venus -12032-07-18 17:02 J -2673065.89 -2673065.79 -2673065.69 0.3706 0.0448

Mars -12031-12-29 22:19 J -2672536.67 -2672536.57 -2672536.46 0.1644 0.0639

Mars -12029-12-04 00:00 J -2671831.58 -2671831.50 -2671831.42 0.1634 0.1148

Pluto -12028-02-09 18:28 J -2671763.79 -2671763.73 -2671763.64 0.0072 0.0064

Pluto -12028-05-08 19:55 J -2671675.76 -2671675.67 -2671675.55 0.0072 0.0054

Pluto -12028-08-04 21:35 J -2671587.72 -2671587.60 -2671587.46 0.0072 0.0045

Earth -12028-08-27 06:00 J -2671565.35 -2671565.25 -2671565.15 0.2717 0.0912

Moon -12028-08-27 06:28 J -2671565.33 -2671565.23 -2671565.13 0.2721 0.0998 *

Pluto -12028-10-31 23:02 J -2671499.67 -2671499.54 -2671499.39 0.0072 0.0036

Jupiter -12027-01-03 00:28 J -2671436.67 -2671436.48 -2671436.29 0.0502 0.0009

Pluto -12027-01-28 00:28 J -2671411.62 -2671411.48 -2671411.31 0.0072 0.0027

Pluto -12027-04-26 02:09 J -2671323.57 -2671323.41 -2671323.25 0.0072 0.0017

Pluto -12027-07-23 03:35 J -2671235.51 -2671235.35 -2671235.18 0.0071 0.0008

Pluto -12027-10-19 05:02 J -2671147.45 -2671147.29 -2671147.12 0.0071 0.0002

Pluto -12026-01-15 06:28 J -2671059.39 -2671059.23 -2671059.07 0.0071 0.0009

Venus -12026-02-01 08:24 J -2671042.23 -2671042.15 -2671042.07 0.3708 0.2185

Pluto -12026-04-13 07:55 J -2670971.33 -2670971.17 -2670971.01 0.0071 0.0018

Pluto -12026-07-10 09:07 J -2670883.26 -2670883.12 -2670882.96 0.0071 0.0027

Pluto -12026-10-06 10:48 J -2670795.19 -2670795.05 -2670794.91 0.0071 0.0035

Pluto -12025-01-02 11:45 J -2670707.12 -2670707.01 -2670706.87 0.0071 0.0044

Pluto -12025-03-30 12:57 J -2670619.05 -2670618.96 -2670618.83 0.0071 0.0053

Pluto -12025-06-26 14:24 J -2670530.96 -2670530.90 -2670530.80 0.0071 0.0061

Pluto -12025-09-22 16:04 J -2670442.86 -2670442.83 -2670442.80 0.0070 0.0069

Moon -12024-02-27 04:04 J -2670285.45 -2670285.33 -2670285.22 0.2618 0.1772

Earth -12024-02-27 05:31 J -2670285.38 -2670285.27 -2670285.16 0.2616 0.1901 *

Saturn -12024-06-30 05:45 J -2670162.28 -2670162.26 -2670162.23 0.0301 0.0291

Saturn -12024-09-26 18:00 J -2670073.86 -2670073.75 -2670073.63 0.0300 0.0131

Saturn -12024-12-24 06:14 J -2669985.37 -2669985.24 -2669985.12 0.0299 0.0030

Saturn -12023-03-22 18:00 J -2669896.84 -2669896.75 -2669896.65 0.0298 0.0186

Jupiter -12022-08-31 09:50 J -2669370.19 -2669370.09 -2669369.98 0.0525 0.0307

Jupiter -12022-11-28 14:38 J -2669281.00 -2669280.89 -2669280.78 0.0524 0.0238

Mars -12021-05-21 09:50 J -2669106.17 -2669106.09 -2669106.00 0.1647 0.1082

Moon -12021-08-20 05:16 J -2669015.31 -2669015.28 -2669015.26 0.2720 0.2639

Earth -12021-08-20 05:45 J -2669015.28 -2669015.26 -2669015.23 0.2718 0.2613 *

Mars -12019-04-26 11:31 J -2668401.12 -2668401.02 -2668400.92 0.1636 0.0721

Jupiter -12016-10-21 19:40 J -2667126.85 -2667126.68 -2667126.50 0.0501 0.0190

Earth -12015-08-29 23:45 J -2666814.57 -2666814.51 -2666814.45 0.2717 0.2187

Moon -12015-08-30 00:14 J -2666814.54 -2666814.49 -2666814.43 0.2715 0.2313 *

Mars -12013-12-10 09:50 J -2665981.23 -2665981.09 -2665980.95 0.1884 0.1138

Mars -12012-10-11 21:21 J -2665675.65 -2665675.61 -2665675.57 0.1651 0.1525

Jupiter -12010-06-19 14:24 J -2665059.96 -2665059.90 -2665059.83 0.0525 0.0443

Jupiter -12010-09-16 19:11 J -2664970.82 -2664970.70 -2664970.58 0.0524 0.0104

Mars -12010-09-16 23:16 J -2664970.65 -2664970.53 -2664970.42 0.1639 0.0294 *

Saturn -12008-04-08 20:24 J -2664400.73 -2664400.65 -2664400.54 0.0263 0.0226

Saturn -12008-07-06 18:28 J -2664311.92 -2664311.73 -2664311.54 0.0263 0.0061

Moon -12008-08-22 23:02 J -2664264.63 -2664264.54 -2664264.45 0.2725 0.1471

Earth -12008-08-22 23:31 J -2664264.62 -2664264.52 -2664264.43 0.2718 0.1365 *

Saturn -12008-10-03 16:19 J -2664222.99 -2664222.82 -2664222.64 0.0264 0.0105

Uranus -12007-02-12 13:26 J -2664090.99 -2664090.94 -2664090.88 0.0138 0.0122

Uranus -12007-05-11 16:33 J -2664002.89 -2664002.81 -2664002.72 0.0138 0.0102

Uranus -12007-08-07 19:40 J -2663914.78 -2663914.68 -2663914.57 0.0138 0.0083

Uranus -12007-11-03 23:02 J -2663826.66 -2663826.54 -2663826.43 0.0139 0.0064

Uranus -12006-01-31 02:09 J -2663738.53 -2663738.41 -2663738.29 0.0139 0.0044

Uranus -12006-04-29 05:16 J -2663650.41 -2663650.28 -2663650.15 0.0139 0.0025

Uranus -12006-07-26 08:24 J -2663562.28 -2663562.15 -2663562.02 0.0139 0.0006

Uranus -12006-10-22 11:45 J -2663474.14 -2663474.01 -2663473.88 0.0139 0.0015

Uranus -12005-01-18 14:52 J -2663386.01 -2663385.88 -2663385.75 0.0139 0.0035

Uranus -12005-04-15 18:00 J -2663297.87 -2663297.75 -2663297.63 0.0139 0.0055

Uranus -12005-07-12 21:21 J -2663209.72 -2663209.61 -2663209.50 0.0139 0.0075

Uranus -12005-10-09 00:28 J -2663121.57 -2663121.48 -2663121.38 0.0140 0.0095

Uranus -12004-01-05 03:35 J -2663033.42 -2663033.35 -2663033.27 0.0140 0.0115

Uranus -12004-04-03 06:57 J -2662945.24 -2662945.21 -2662945.18 0.0140 0.0135

Jupiter -12004-08-09 15:50 J -2662816.96 -2662816.84 -2662816.72 0.0501 0.0378

Jupiter -12004-11-08 05:02 J -2662726.41 -2662726.29 -2662726.16 0.0502 0.0372

Mars -12003-05-02 01:40 J -2662551.60 -2662551.43 -2662551.26 0.1880 0.0290

12TH MILLENNIUM BCE

This is a list of transits of Mercury in the 12th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Mars	**-12000-02-06 10:48 J**		**-2661540.17**	**-2661540.05**	**-2661539.94**	**0.1641**	**0.0149**	
Mars	**-11998-01-12 12:14 J**		**-2660835.00**	**-2660834.99**	**-2660834.99**	**0.1632**	**0.1625**	
Jupiter	**-11998-07-05 23:16 J**		**-2660660.65**	**-2660660.53**	**-2660660.40**	**0.0524**	**0.0043**	
Jupiter	**-11998-10-03 03:50 J**		**-2660571.37**	**-2660571.34**	**-2660571.31**	**0.0523**	**0.0503**	
Earth	**-11995-08-25 17:02 J**		**-2659513.90**	**-2659513.79**	**-2659513.68**	**0.2718**	**0.0117**	
Moon	**-11995-08-25 17:16 J**		**-2659513.89**	**-2659513.78**	**-2659513.67**	**0.2724**	**0.0060**	*
Saturn	**-11994-02-13 21:07 J**		**-2659341.72**	**-2659341.62**	**-2659341.51**	**0.0300**	**0.0164**	
Saturn	**-11994-05-13 09:21 J**		**-2659253.24**	**-2659253.11**	**-2659252.98**	**0.0299**	**0.0007**	
Saturn	**-11994-08-09 21:21 J**		**-2659164.72**	**-2659164.61**	**-2659164.50**	**0.0299**	**0.0154**	
Mars	**-11994-09-21 17:45 J**		**-2659121.83**	**-2659121.76**	**-2659121.69**	**0.1876**	**0.1705**	
Jupiter	**-11992-08-27 01:11 J**		**-2658416.62**	**-2658416.45**	**-2658416.27**	**0.0502**	**0.0184**	
Moon	**-11991-02-25 03:07 J**		**-2658234.53**	**-2658234.37**	**-2658234.21**	**0.2614**	**0.0397**	
Earth	**-11991-02-25 04:48 J**		**-2658234.46**	**-2658234.30**	**-2658234.14**	**0.2616**	**0.0149**	*
Mars	**-11991-06-29 22:19 J**		**-2658109.68**	**-2658109.57**	**-2658109.46**	**0.1644**	**0.0585**	
Mars	**-11989-06-03 23:45 J**		**-2657404.58**	**-2657404.51**	**-2657404.43**	**0.1634**	**0.1202**	
Venus	**-11986-01-24 08:09 J**		**-2656440.24**	**-2656440.16**	**-2656440.09**	**0.3702**	**0.2449**	
Jupiter	**-11986-04-24 03:50 J**		**-2656350.46**	**-2656350.34**	**-2656350.22**	**0.0524**	**0.0176**	
Jupiter	**-11986-07-22 08:09 J**		**-2656261.24**	**-2656261.16**	**-2656261.07**	**0.0523**	**0.0367**	

Earth -11982-08-28 10:48 J -2654763.15 -2654763.05 -2654762.95 0.2717 0.1166

Moon -11982-08-28 11:16 J -2654763.12 -2654763.03 -2654762.93 0.2721 0.1249 *

Mars -11982-11-20 09:50 J -2654679.18 -2654679.09 -2654679.00 0.1647 0.1025

Venus -11981-08-08 23:16 J -2654416.63 -2654416.53 -2654416.43 0.3704 0.0691

Jupiter -11980-06-14 21:35 J -2654106.79 -2654106.60 -2654106.41 0.0502 0.0011

Mars -11980-10-25 11:31 J -2653974.12 -2653974.02 -2653973.92 0.1636 0.0772

Saturn -11979-08-26 20:52 J -2653668.64 -2653668.63 -2653668.62 0.0262 0.0262

Saturn -11979-11-23 18:43 J -2653579.90 -2653579.72 -2653579.54 0.0263 0.0098

Saturn -11978-02-20 16:33 J -2653490.99 -2653490.81 -2653490.62 0.0264 0.0068

Moon -11978-02-28 10:48 J -2653483.13 -2653483.05 -2653482.97 0.2620 0.2238

Earth -11978-02-28 12:14 J -2653483.05 -2653482.99 -2653482.92 0.2616 0.2387 *

Venus -11978-05-15 14:09 J -2653407.07 -2653406.91 -2653406.75 0.3667 0.0298

Saturn -11978-05-20 14:24 J -2653401.98 -2653401.90 -2653401.80 0.0264 0.0235

Venus -11975-02-22 14:24 J -2652392.99 -2652392.90 -2652392.80 0.3706 0.1065

Moon -11975-08-21 10:04 J -2652213.12 -2652213.08 -2652213.04 0.2722 0.2499

Earth -11975-08-21 10:33 J -2652213.11 -2652213.06 -2652213.01 0.2718 0.2366 *

Jupiter -11974-02-10 07:55 J -2652040.27 -2652040.17 -2652040.07 0.0524 0.0319

Jupiter -11974-05-10 12:28 J -2651951.09 -2651950.98 -2651950.87 0.0523 0.0225

Mars -11973-06-10 10:33 J -2651554.18 -2651554.06 -2651553.93 0.1885 0.1260

Mars -11972-04-11 21:21 J -2651248.66 -2651248.61 -2651248.56 0.1650 0.1467

Mars -11970-03-17 23:02 J -2650543.65 -2650543.54 -2650543.42 0.1639 0.0349

Venus -11970-09-08 05:45 J -2650369.33 -2650369.26 -2650369.20 0.3708 0.2814

Earth -11969-08-30 04:33 J -2650012.36 -2650012.31 -2650012.27 0.2717 0.2442

Moon -11969-08-30 05:02 J -2650012.32 -2650012.29 -2650012.25 0.2713 0.2509 *

Jupiter -11968-04-02 17:31 J -2649796.94 -2649796.77 -2649796.59 0.0501 0.0192

Uranus -11968-12-24 16:48 J -2649530.86 -2649530.80 -2649530.72 0.0140 0.0129

Uranus -11967-03-23 01:11 J -2649442.58 -2649442.45 -2649442.31 0.0140 0.0098

Uranus -11967-06-19 09:21 J -2649354.27 -2649354.11 -2649353.93 0.0140 0.0068

Uranus -11967-09-15 17:45 J -2649265.95 -2649265.76 -2649265.57 0.0140 0.0037

Uranus -11967-12-13 02:09 J -2649177.61 -2649177.41 -2649177.22 0.0140 0.0007

Uranus -11966-03-11 10:04 J -2649089.26 -2649089.08 -2649088.88 0.0139 0.0025

Uranus -11966-06-07 18:14 J -2649000.91 -2649000.74 -2649000.55 0.0139 0.0055

Uranus -11966-09-04 02:24 J -2648912.55 -2648912.40 -2648912.24 0.0139 0.0084

Uranus -11966-12-01 10:19 J -2648824.16 -2648824.07 -2648823.94 0.0139 0.0114

Saturn -11965-07-03 00:14 J -2648609.59 -2648609.49 -2648609.40 0.0300 0.0199

Saturn -11965-09-29 12:14 J -2648521.11 -2648520.99 -2648520.86 0.0299 0.0040

Saturn -11965-12-27 00:14 J -2648432.60 -2648432.49 -2648432.37 0.0299 0.0120

Saturn -11964-03-25 12:14 J -2648344.03 -2648343.99 -2648343.94 0.0298 0.0275

Mars -11964-10-31 02:38 J -2648124.56 -2648124.39 -2648124.21 0.1880 0.0165

Jupiter -11963-11-29 12:14 J -2647730.04 -2647729.99 -2647729.92 0.0525 0.0456

Jupiter -11962-02-26 17:02 J -2647640.91 -2647640.79 -2647640.67 0.0524 0.0090

Moon -11962-08-24 03:50 J -2647462.43 -2647462.34 -2647462.24 0.2725 0.1099

Earth -11962-08-24 04:19 J -2647462.42 -2647462.32 -2647462.23 0.2718 0.1121 *

Neptune -11961-08-05 15:50 J -2647114.84 -2647114.84 -2647114.81 0.0089 0.0089

Mars -11961-08-07 10:48 J -2647113.17 -2647113.05 -2647112.94 0.1641 0.0098

Neptune -11961-11-01 17:02 J -2647026.83 -2647026.79 -2647026.72 0.0089 0.0082

Neptune -11960-01-28 18:28 J -2646938.79 -2646938.73 -2646938.65 0.0089 0.0074

Neptune -11960-04-26 19:40 J -2646850.75 -2646850.68 -2646850.58 0.0089 0.0068

Neptune -11960-07-23 21:07 J -2646762.71 -2646762.62 -2646762.52 0.0089 0.0060

Neptune -11960-10-19 22:19 J -2646674.66 -2646674.57 -2646674.45 0.0089 0.0053

Neptune -11959-01-15 23:45 J -2646586.62 -2646586.51 -2646586.39 0.0089 0.0046

Neptune -11959-04-14 01:11 J -2646498.57 -2646498.45 -2646498.33 0.0089 0.0039

Neptune -11959-07-11 02:24 J -2646410.52 -2646410.40 -2646410.28 0.0089 0.0032

Neptune -11959-10-07 03:50 J -2646322.47 -2646322.34 -2646322.22 0.0089 0.0025

Neptune -11958-01-03 05:02 J -2646234.42 -2646234.29 -2646234.16 0.0089 0.0018

Moon -11958-02-23 02:24 J -2646183.45 -2646183.40 -2646183.36 0.2612 0.2503

Earth -11958-02-23 03:50 J -2646183.42 -2646183.34 -2646183.26 0.2615 0.2239 *

Neptune -11958-04-01 06:14 J -2646146.37 -2646146.24 -2646146.11 0.0089 0.0011

Neptune -11958-06-28 07:40 J -2646058.31 -2646058.18 -2646058.05 0.0089 0.0004

Neptune -11958-09-24 08:52 J -2645970.26 -2645970.13 -2645970.00 0.0089 0.0004

Neptune -11958-12-21 10:04 J -2645882.21 -2645882.08 -2645881.95 0.0089 0.0011

Neptune -11957-03-18 11:16 J -2645794.15 -2645794.03 -2645793.90 0.0089 0.0018

Neptune -11957-06-14 12:43 J -2645706.10 -2645705.97 -2645705.85 0.0089 0.0025

Neptune -11957-09-10 13:55 J -2645618.04 -2645617.92 -2645617.80 0.0089 0.0032

Neptune -11957-12-07 15:07 J -2645529.98 -2645529.87 -2645529.75 0.0089 0.0039

Jupiter -11956-01-19 12:57 J -2645487.07 -2645486.96 -2645486.84 0.0501 0.0388

Neptune -11956-03-05 16:19 J -2645441.92 -2645441.82 -2645441.70 0.0089 0.0046

Jupiter -11956-04-20 02:09 J -2645396.53 -2645396.41 -2645396.27 0.0502 0.0363

Neptune -11956-06-01 17:31 J -2645353.86 -2645353.77 -2645353.65 0.0089 0.0054

Neptune -11956-08-28 18:57 J -2645265.80 -2645265.71 -2645265.61 0.0089 0.0060

Neptune -11956-11-24 20:09 J -2645177.73 -2645177.66 -2645177.57 0.0089 0.0067

Neptune -11955-02-20 21:21 J -2645089.67 -2645089.61 -2645089.53 0.0089 0.0075

Neptune -11955-05-19 22:33 J -2645001.60 -2645001.56 -2645001.49 0.0089 0.0082

Neptune -11955-08-16 00:00 J -2644913.51 -2644913.50 -2644913.47 0.0089 0.0088

Mars -11954-03-22 18:43 J -2644694.81 -2644694.72 -2644694.63 0.1876 0.1575

Mars -11952-12-28 22:19 J -2643682.68 -2643682.57 -2643682.46 0.1644 0.0531

Jupiter -11951-12-15 21:35 J -2643330.73 -2643330.60 -2643330.48 0.0524 0.0045

Jupiter -11950-03-15 02:09 J -2643241.44 -2643241.41 -2643241.37 0.0523 0.0497

Mars -11950-12-03 23:45 J -2642977.58 -2642977.51 -2642977.44 0.1634 0.1256

Saturn -11949-04-11 18:43 J -2642847.89 -2642847.72 -2642847.56 0.0263 0.0137

Saturn -11949-07-09 16:33 J -2642759.01 -2642758.81 -2642758.62 0.0264 0.0028

Earth -11949-08-25 21:50 J -2642711.70 -2642711.59 -2642711.48 0.2718 0.0156

Moon -11949-08-25 22:19 J -2642711.68 -2642711.57 -2642711.46 0.2724 0.0147 *

Saturn -11949-10-06 14:09 J -2642670.03 -2642669.91 -2642669.77 0.0264 0.0196

Moon -11945-02-26 09:50 J -2641432.25 -2641432.09 -2641431.93 0.2615 0.0226

Earth -11945-02-26 11:31 J -2641432.18 -2641432.02 -2641431.86 0.2616 0.0343 *

Jupiter -11944-02-05 22:19 J -2641086.74 -2641086.57 -2641086.39 0.0502 0.0174

Mars -11942-05-21 09:50 J -2640252.18 -2640252.09 -2640252.00 0.1647 0.0970

Mars -11940-04-25 11:31 J -2639547.12 -2639547.02 -2639546.92 0.1636 0.0828

Jupiter -11939-10-04 01:55 J -2639020.54 -2639020.42 -2639020.30 0.0524 0.0185

Jupiter -11938-01-01 06:28 J -2638931.32 -2638931.23 -2638931.14 0.0523 0.0358

Earth -11936-08-28 15:35 J -2637960.94 -2637960.85 -2637960.76 0.2717 0.1417

Moon -11936-08-28 16:19 J -2637960.91 -2637960.82 -2637960.74 0.2720 0.1531 *

Saturn -11936-11-20 03:07 J -2637877.45 -2637877.37 -2637877.29 0.0301 0.0235

Venus -11935-02-14 14:09 J -2637790.93 -2637790.91 -2637790.88 0.3701 0.3567

Saturn -11935-02-16 15:21 J -2637788.99 -2637788.86 -2637788.74 0.0300 0.0074

Saturn -11935-05-16 03:21 J -2637700.48 -2637700.36 -2637700.24 0.0299 0.0085

Saturn -11935-08-12 15:21 J -2637611.93 -2637611.86 -2637611.79 0.0298 0.0241

Mars -11934-12-10 11:31 J -2637127.13 -2637127.02 -2637126.90 0.1885 0.1386

Mars -11933-10-10 21:21 J -2636821.67 -2636821.61 -2636821.56 0.1651 0.1416

Jupiter -11933-11-24 18:28 J -2636776.92 -2636776.73 -2636776.54 0.0502 0.0017

Mars -11931-09-15 23:02 J -2636116.65 -2636116.54 -2636116.43 0.1639 0.0395

Venus -11930-08-31 05:31 J -2635767.36 -2635767.27 -2635767.19 0.3703 0.1814

Moon -11929-08-21 14:52 J -2635410.94 -2635410.88 -2635410.82 0.2723 0.2154

Earth -11929-08-21 15:21 J -2635410.92 -2635410.86 -2635410.79 0.2718 0.2122 *

Jupiter -11927-07-23 06:28 J -2634710.33 -2634710.23 -2634710.13 0.0524 0.0321

Jupiter -11927-10-20 11:02 J -2634621.15 -2634621.04 -2634620.93 0.0523 0.0222

Venus -11924-03-15 20:38 J -2633743.74 -2633743.64 -2633743.54 0.3705 0.0060

Mars -11924-05-01 03:21 J -2633697.53 -2633697.36 -2633697.19 0.1880 0.0050

Uranus -11923-03-04 19:55 J -2633389.72 -2633389.67 -2633389.60 0.0138 0.0120

Uranus -11923-05-31 23:16 J -2633301.62 -2633301.53 -2633301.44 0.0138 0.0101

Uranus -11923-08-28 02:24 J -2633213.50 -2633213.40 -2633213.29 0.0138 0.0081

Earth -11923-08-31 09:21 J -2633210.12 -2633210.11 -2633210.10 0.2716 0.2697

Uranus -11923-11-24 05:31 J -2633125.38 -2633125.27 -2633125.15 0.0138 0.0062

Uranus -11922-02-20 08:38 J -2633037.26 -2633037.14 -2633037.01 0.0139 0.0043

Uranus -11922-05-19 11:45 J -2632949.13 -2632949.01 -2632948.88 0.0139 0.0024

Uranus -11922-08-15 15:07 J -2632861.00 -2632860.87 -2632860.74 0.0139 0.0004

Uranus -11922-11-11 18:14 J -2632772.87 -2632772.74 -2632772.61 0.0139 0.0016

Venus -11922-12-20 17:02 J -2632733.93 -2632733.79 -2632733.65 0.3666 0.1859

Mars -11921-02-06 10:33 J -2632686.17 -2632686.06 -2632685.94 0.1641 0.0077

Uranus -11921-02-07 21:21 J -2632684.73 -2632684.61 -2632684.48 0.0139 0.0036

Uranus -11921-05-06 00:28 J -2632596.59 -2632596.48 -2632596.35 0.0139 0.0056

Uranus -11921-08-02 03:35 J -2632508.45 -2632508.35 -2632508.23 0.0139 0.0077

Jupiter -11921-09-12 14:52 J -2632467.05 -2632466.88 -2632466.71 0.0502 0.0202

Uranus -11921-10-29 06:57 J -2632420.30 -2632420.21 -2632420.11 0.0139 0.0096

Uranus -11920-01-25 10:19 J -2632332.14 -2632332.07 -2632332.00 0.0140 0.0116

Uranus -11920-04-23 13:11 J -2632243.96 -2632243.95 -2632243.91 0.0140 0.0137

Saturn -11920-08-29 18:28 J -2632115.87 -2632115.73 -2632115.59 0.0262 0.0176

Saturn -11920-11-26 16:19 J -2632027.01 -2632026.82 -2632026.63 0.0263 0.0012

Saturn -11919-02-23 14:09 J -2631938.06 -2631937.91 -2631937.75 0.0264 0.0154

Venus -11919-09-29 11:45 J -2631720.10 -2631720.01 -2631719.92 0.3707 0.1690

Moon -11916-08-24 08:52 J -2630660.23 -2630660.13 -2630660.03 0.2724 0.0945

Earth -11916-08-24 09:07 J -2630660.23 -2630660.12 -2630660.02 0.2718 0.0872 *

Jupiter -11915-05-11 10:33 J -2630400.12 -2630400.06 -2630400.00 0.0525 0.0463

Jupiter -11915-08-08 15:07 J -2630310.99 -2630310.87 -2630310.74 0.0524 0.0082

Mars -11915-09-20 19:26 J -2630267.79 -2630267.69 -2630267.58 0.1876 0.1454

Venus -11913-04-14 02:52 J -2629696.41 -2629696.38 -2629696.34 0.3709 0.3432

Moon -11912-02-23 09:07 J -2629381.24 -2629381.12 -2629381.01 0.2612 0.1805

Earth -11912-02-23 10:33 J -2629381.18 -2629381.06 -2629380.94 0.2615 0.1745 *

Mars -11912-06-28 22:19 J -2629255.68 -2629255.57 -2629255.46 0.1644 0.0473

Mars -11910-06-03 23:45 J -2628550.58 -2628550.51 -2628550.44 0.1634 0.1310

Jupiter -11909-07-01 11:02 J -2628157.16 -2628157.04 -2628156.92 0.0501 0.0388

Jupiter -11909-09-30 00:14 J -2628066.61 -2628066.49 -2628066.35 0.0502 0.0364

Saturn -11906-04-09 05:45 J -2627145.31 -2627145.26 -2627145.21 0.0301 0.0274

Saturn -11906-07-06 18:00 J -2627056.87 -2627056.75 -2627056.63 0.0300 0.0113

Saturn -11906-10-03 06:00 J -2626968.37 -2626968.25 -2626968.12 0.0299 0.0047

Saturn -11906-12-30 18:00 J -2626879.84 -2626879.75 -2626879.65 0.0298 0.0203

Jupiter -11903-05-27 19:40 J -2626000.80 -2626000.68 -2626000.55 0.0524 0.0055

Jupiter -11903-08-25 00:14 J -2625911.53 -2625911.49 -2625911.45 0.0523 0.0487

Earth -11903-08-27 02:38 J -2625909.49 -2625909.39 -2625909.28 0.2718 0.0398

Moon -11903-08-27 03:07 J -2625909.48 -2625909.37 -2625909.27 0.2724 0.0516 *

Mars -11903-11-19 09:50 J -2625825.19 -2625825.09 -2625825.00 0.1647 0.0915

Mars -11901-10-24 11:31 J -2625120.12 -2625120.02 -2625119.93 0.1636 0.0884

Moon -11899-02-26 16:48 J -2624629.96 -2624629.80 -2624629.65 0.2617 0.0558

Earth -11899-02-26 18:14 J -2624629.89 -2624629.74 -2624629.58 0.2616 0.0836 *

Jupiter -11897-07-18 20:09 J -2623756.84 -2623756.66 -2623756.48 0.0501 0.0169

Mars -11894-06-10 12:43 J -2622700.07 -2622699.97 -2622699.87 0.1885 0.1517

Mars -11893-04-10 21:21 J -2622394.68 -2622394.61 -2622394.55 0.1650 0.1360

Jupiter -11891-03-16 00:14 J -2621690.60 -2621690.49 -2621690.37 0.0525 0.0190

Mars -11891-03-16 23:02 J -2621689.65 -2621689.54 -2621689.43 0.1639 0.0450

Jupiter -11891-06-13 04:48 J -2621601.39 -2621601.30 -2621601.21 0.0524 0.0355

Saturn -11890-01-16 17:45 J -2621383.86 -2621383.76 -2621383.65 0.0262 0.0219

Saturn -11890-04-15 15:35 J -2621295.04 -2621294.85 -2621294.66 0.0263 0.0055

Saturn -11890-07-13 13:26 J -2621206.11 -2621205.94 -2621205.76 0.0264 0.0111

Earth -11890-08-29 20:24 J -2621158.74 -2621158.65 -2621158.57 0.2717 0.1669

Moon -11890-08-29 21:07 J -2621158.71 -2621158.62 -2621158.54 0.2718 0.1713 *

Jupiter -11885-05-06 16:19 J -2619447.01 -2619446.82 -2619446.63 0.0501 0.0018

Mars -11885-10-30 04:19 J -2619270.49 -2619270.32 -2619270.14 0.1881 0.0091

Uranus -11883-01-13 22:33 J -2618829.63 -2618829.56 -2618829.46 0.0140 0.0127

Uranus -11883-04-12 06:57 J -2618741.34 -2618741.21 -2618741.06 0.0140 0.0096

Uranus -11883-07-09 15:21 J -2618653.03 -2618652.86 -2618652.68 0.0140 0.0065

Moon -11883-08-22 19:40 J -2618608.75 -2618608.68 -2618608.61 0.2723 0.1984

Earth -11883-08-22 20:09 J -2618608.74 -2618608.66 -2618608.58 0.2718 0.1874 *

Uranus -11883-10-05 23:31 J -2618564.70 -2618564.52 -2618564.32 0.0140 0.0035

Uranus -11882-01-02 07:55 J -2618476.36 -2618476.17 -2618475.97 0.0140 0.0004

Uranus -11882-03-31 16:04 J -2618388.02 -2618387.83 -2618387.63 0.0139 0.0027

Uranus -11882-06-28 00:00 J -2618299.66 -2618299.50 -2618299.31 0.0139 0.0058

Mars -11882-08-07 10:33 J -2618259.17 -2618259.06 -2618258.94 0.1641 0.0034

Uranus -11882-09-24 08:09 J -2618211.30 -2618211.16 -2618210.99 0.0139 0.0087

Uranus -11882-12-21 16:19 J -2618122.91 -2618122.82 -2618122.70 0.0139 0.0117

Jupiter -11879-01-02 04:48 J -2617380.40 -2617380.30 -2617380.20 0.0525 0.0327

Jupiter -11879-04-01 09:21 J -2617291.22 -2617291.11 -2617291.00 0.0523 0.0217

Venus -11879-09-21 11:31 J -2617118.08 -2617118.02 -2617117.96 0.3701 0.2933

Neptune -11877-01-17 21:07 J -2616634.68 -2616634.62 -2616634.54 0.0088 0.0082

Neptune -11877-04-15 00:43 J -2616546.57 -2616546.47 -2616546.34 0.0088 0.0072

Neptune -11877-07-12 04:19 J -2616458.44 -2616458.32 -2616458.16 0.0088 0.0062

Neptune -11877-10-08 08:09 J -2616370.31 -2616370.16 -2616369.99 0.0088 0.0052

Saturn -11877-11-22 20:24 J -2616324.76 -2616324.65 -2616324.54 0.0300 0.0155

Neptune -11876-01-04 12:14 J -2616282.17 -2616281.99 -2616281.82 0.0088 0.0041

Saturn -11876-02-19 08:38 J -2616236.27 -2616236.14 -2616236.01 0.0300 0.0008

Neptune -11876-04-02 15:50 J -2616194.02 -2616193.84 -2616193.65 0.0088 0.0031

Saturn -11876-05-18 20:38 J -2616147.75 -2616147.64 -2616147.53 0.0299 0.0163

Neptune -11876-06-29 19:26 J -2616105.88 -2616105.69 -2616105.49 0.0088 0.0021

Neptune -11876-09-25 23:16 J -2616017.72 -2616017.53 -2616017.33 0.0088 0.0011

Neptune -11876-12-23 03:07 J -2615929.57 -2615929.37 -2615929.17 0.0088 0.0001

Neptune -11875-03-21 06:43 J -2615841.41 -2615841.22 -2615841.02 0.0088 0.0010

Mars -11875-03-21 20:24 J -2615840.77 -2615840.65 -2615840.52 0.1876 0.1327

Neptune -11875-06-17 10:19 J -2615753.25 -2615753.07 -2615752.87 0.0088 0.0020

Neptune -11875-09-13 14:09 J -2615665.09 -2615664.91 -2615664.72 0.0088 0.0030

Neptune -11875-12-10 18:00 J -2615576.93 -2615576.75 -2615576.57 0.0088 0.0040

Neptune -11874-03-08 21:21 J -2615488.76 -2615488.61 -2615488.43 0.0088 0.0051

Neptune -11874-06-05 01:11 J -2615400.58 -2615400.45 -2615400.30 0.0088 0.0061

Neptune -11874-09-01 04:48 J -2615312.40 -2615312.30 -2615312.17 0.0088 0.0071

Neptune -11874-11-28 08:52 J -2615224.20 -2615224.13 -2615224.06 0.0088 0.0081

Jupiter -11873-02-23 12:14 J -2615137.16 -2615136.99 -2615136.82 0.0502 0.0211

Venus -11873-04-06 02:52 J -2615094.48 -2615094.38 -2615094.29 0.3704 0.1191

Mars -11873-12-27 22:19 J -2614828.69 -2614828.57 -2614828.46 0.1644 0.0424

Mars -11871-12-02 23:45 J -2614123.57 -2614123.51 -2614123.45 0.1634 0.1362

Venus -11870-01-10 07:40 J -2614085.29 -2614085.18 -2614085.07 0.3669 0.2701

Moon -11870-08-25 13:55 J -2613858.03 -2613857.92 -2613857.82 0.2725 0.0575

Earth -11870-08-25 13:55 J -2613858.03 -2613857.92 -2613857.82 0.2718 0.0627 *

Venus -11868-10-20 18:00 J -2613070.85 -2613070.75 -2613070.65 0.3705 0.0569

Jupiter -11868-10-21 09:21 J -2613070.17 -2613070.11 -2613070.05 0.0525 0.0460

Jupiter -11867-01-18 13:55 J -2612981.04 -2612980.92 -2612980.80 0.0523 0.0083

Moon -11866-02-24 15:50 J -2612578.97 -2612578.84 -2612578.71 0.2612 0.1514

Earth -11866-02-24 17:16 J -2612578.92 -2612578.78 -2612578.63 0.2615 0.1251 *

Pluto -11865-01-05 20:09 J -2612263.71 -2612263.66 -2612263.58 0.0072 0.0065

Pluto -11865-04-02 21:35 J -2612175.69 -2612175.60 -2612175.50 0.0072 0.0056

Pluto -11865-06-29 22:33 J -2612087.66 -2612087.56 -2612087.44 0.0072 0.0048

Pluto -11865-09-26 00:00 J -2611999.63 -2611999.50 -2611999.37 0.0072 0.0039

Pluto -11865-12-23 00:57 J -2611911.59 -2611911.46 -2611911.31 0.0072 0.0031

Pluto -11864-03-21 02:24 J -2611823.54 -2611823.40 -2611823.25 0.0072 0.0023

Pluto -11864-06-17 03:35 J -2611735.50 -2611735.35 -2611735.20 0.0072 0.0014

Pluto -11864-09-13 04:48 J -2611647.45 -2611647.30 -2611647.14 0.0072 0.0005

Pluto -11864-12-10 06:00 J -2611559.40 -2611559.25 -2611559.09 0.0073 0.0004

Pluto -11863-03-08 07:11 J -2611471.34 -2611471.20 -2611471.04 0.0073 0.0013

Mars -11863-05-20 09:50 J -2611398.19 -2611398.09 -2611398.00 0.1647 0.0861

Pluto -11863-06-04 08:38 J -2611383.29 -2611383.14 -2611382.99 0.0073 0.0021

Pluto -11863-08-31 09:50 J -2611295.23 -2611295.09 -2611294.95 0.0073 0.0030

Pluto -11863-11-27 11:02 J -2611207.16 -2611207.04 -2611206.91 0.0073 0.0039

Pluto -11862-02-23 12:14 J -2611119.10 -2611118.99 -2611118.87 0.0073 0.0049

Venus -11862-05-06 09:07 J -2611047.20 -2611047.12 -2611047.04 0.3707 0.2307

Pluto -11862-05-22 13:40 J -2611031.02 -2611030.93 -2611030.83 0.0073 0.0058

Pluto -11862-08-18 14:38 J -2610942.93 -2610942.89 -2610942.81 0.0073 0.0068

Jupiter -11862-12-12 08:38 J -2610827.25 -2610827.14 -2610827.02 0.0501 0.0393

Jupiter -11861-03-11 22:04 J -2610736.71 -2610736.58 -2610736.45 0.0502 0.0360

Mars -11861-04-24 11:16 J -2610693.12 -2610693.03 -2610692.93 0.1636 0.0936

Saturn -11861-06-04 17:16 J -2610651.79 -2610651.78 -2610651.77 0.0262 0.0261

Saturn -11861-09-01 14:52 J -2610563.06 -2610562.88 -2610562.70 0.0262 0.0099

Saturn -11861-11-29 12:43 J -2610474.16 -2610473.97 -2610473.78 0.0263 0.0066

Saturn -11860-02-26 10:19 J -2610385.14 -2610385.07 -2610384.96 0.0264 0.0233

Earth -11857-08-27 07:26 J -2609107.29 -2609107.19 -2609107.08 0.2717 0.0649

Moon -11857-08-27 07:55 J -2609107.27 -2609107.17 -2609107.07 0.2723 0.0644 *

Jupiter -11856-11-06 18:14 J -2608670.87 -2608670.74 -2608670.62 0.0524 0.0059

Jupiter -11855-02-03 22:33 J -2608581.60 -2608581.56 -2608581.51 0.0523 0.0483

Mars -11855-12-09 13:11 J -2608273.03 -2608272.95 -2608272.86 0.1885 0.1627

Mars -11854-10-10 21:21 J -2607967.68 -2607967.61 -2607967.54 0.1650 0.1303

Moon -11853-02-27 23:16 J -2607827.67 -2607827.53 -2607827.39 0.2618 0.1240

Earth -11853-02-28 00:57 J -2607827.59 -2607827.46 -2607827.32 0.2616 0.1315 *

Mars -11852-09-14 23:02 J -2607262.65 -2607262.54 -2607262.43 0.1639 0.0506

Jupiter -11850-12-29 18:28 J -2606426.91 -2606426.73 -2606426.55 0.0502 0.0174

Saturn -11847-04-11 22:33 J -2605592.65 -2605592.56 -2605592.46 0.0301 0.0201

Saturn -11847-07-09 10:48 J -2605504.17 -2605504.05 -2605503.92 0.0300 0.0040

Saturn -11847-10-05 22:48 J -2605415.66 -2605415.55 -2605415.43 0.0299 0.0119

Saturn -11846-01-02 10:48 J -2605327.09 -2605327.05 -2605327.00 0.0298 0.0276

Mars -11845-04-30 05:31 J -2604843.44 -2604843.27 -2604843.09 0.1881 0.0228

Jupiter -11844-08-25 22:33 J -2604360.67 -2604360.56 -2604360.44 0.0524 0.0194

Earth -11844-08-30 01:11 J -2604356.53 -2604356.45 -2604356.38 0.2717 0.1921

Moon -11844-08-30 01:55 J -2604356.49 -2604356.42 -2604356.35 0.2716 0.2076 *

Jupiter -11844-11-23 03:07 J -2604271.46 -2604271.37 -2604271.27 0.0523 0.0350

Mars -11842-02-05 10:33 J -2603832.17 -2603832.06 -2603831.94 0.1641 0.0083

Uranus -11840-12-27 00:00 J -2602776.52 -2602776.50 -2602776.49 0.0138 0.0136

Uranus -11839-03-25 02:52 J -2602688.44 -2602688.38 -2602688.31 0.0138 0.0118

Uranus -11839-06-21 06:00 J -2602600.33 -2602600.25 -2602600.15 0.0138 0.0098

Uranus -11839-09-17 09:07 J -2602512.22 -2602512.12 -2602512.01 0.0138 0.0079

Uranus -11839-12-14 12:28 J -2602424.10 -2602423.98 -2602423.87 0.0138 0.0060

Uranus -11838-03-12 15:21 J -2602335.98 -2602335.86 -2602335.73 0.0139 0.0041

Uranus -11838-06-08 18:43 J -2602247.85 -2602247.72 -2602247.59 0.0139 0.0021

Uranus -11838-09-04 21:50 J -2602159.72 -2602159.59 -2602159.46 0.0139 0.0001

Jupiter -11838-10-17 14:24 J -2602117.09 -2602116.90 -2602116.71 0.0501 0.0018

Uranus -11838-12-02 00:57 J -2602071.59 -2602071.46 -2602071.33 0.0139 0.0019

Uranus -11837-02-28 04:04 J -2601983.45 -2601983.33 -2601983.20 0.0139 0.0039

Uranus -11837-05-26 07:26 J -2601895.31 -2601895.19 -2601895.07 0.0139 0.0058

Uranus -11837-08-22 10:33 J -2601807.16 -2601807.06 -2601806.95 0.0139 0.0078

Moon -11837-08-23 00:28 J -2601806.56 -2601806.48 -2601806.39 0.2723 0.1673

Earth -11837-08-23 00:57 J -2601806.54 -2601806.46 -2601806.37 0.2718 0.1627 *

Uranus -11837-11-18 13:40 J -2601719.01 -2601718.93 -2601718.83 0.0139 0.0099

Uranus -11836-02-14 16:48 J -2601630.86 -2601630.80 -2601630.72 0.0140 0.0119

Uranus -11836-05-13 20:09 J -2601542.66 -2601542.66 -2601542.64 0.0140 0.0139

Mars -11836-09-19 21:21 J -2601413.74 -2601413.61 -2601413.48 0.1876 0.1209

Mars -11833-06-27 22:04 J -2600401.69 -2600401.58 -2600401.47 0.1644 0.0367

Jupiter -11832-06-14 03:07 J -2600050.46 -2600050.37 -2600050.27 0.0525 0.0329

Jupiter -11832-09-11 07:55 J -2599961.29 -2599961.17 -2599961.06 0.0524 0.0217

Saturn -11831-01-19 13:40 J -2599831.09 -2599830.93 -2599830.77 0.0262 0.0146

Saturn -11831-04-18 11:31 J -2599742.22 -2599742.02 -2599741.83 0.0263 0.0018

Mars -11831-06-02 23:45 J -2599696.57 -2599696.51 -2599696.46 0.1634 0.1417

Saturn -11831-07-16 09:07 J -2599653.25 -2599653.12 -2599652.97 0.0264 0.0184

Jupiter -11826-08-05 10:48 J -2597807.22 -2597807.05 -2597806.88 0.0501 0.0202

Earth -11824-08-25 18:43 J -2597055.83 -2597055.72 -2597055.62 0.2718 0.0380

Moon -11824-08-25 18:43 J -2597055.82 -2597055.72 -2597055.61 0.2725 0.0394 *

Mars -11824-11-18 09:35 J -2596971.19 -2596971.10 -2596971.00 0.1647 0.0808

Venus -11822-04-28 08:52 J -2596445.21 -2596445.13 -2596445.05 0.3702 0.2304

Mars -11822-10-24 11:16 J -2596266.12 -2596266.03 -2596265.94 0.1636 0.0988

Moon -11820-02-24 22:33 J -2595776.71 -2595776.56 -2595776.40 0.2613 0.0849

Earth -11820-02-25 00:14 J -2595776.64 -2595776.49 -2595776.33 0.2615 0.0747 *

Jupiter -11820-04-02 07:55 J -2595740.23 -2595740.17 -2595740.11 0.0525 0.0462

Jupiter -11820-06-30 12:28 J -2595651.10 -2595650.98 -2595650.86 0.0524 0.0082

Saturn -11818-08-30 00:43 J -2594860.54 -2594860.47 -2594860.40 0.0301 0.0248

Saturn -11818-11-26 12:57 J -2594772.08 -2594771.96 -2594771.84 0.0300 0.0086

Saturn -11817-02-23 00:57 J -2594683.58 -2594683.46 -2594683.33 0.0300 0.0074

Saturn -11817-05-21 12:57 J -2594595.03 -2594594.96 -2594594.88 0.0299 0.0231

Venus -11817-11-11 00:14 J -2594421.59 -2594421.49 -2594421.40 0.3704 0.0576

Mars -11815-06-09 14:24 J -2593845.95 -2593845.90 -2593845.84 0.1885 0.1767

Mars -11814-04-10 21:07 J -2593540.69 -2593540.62 -2593540.54 0.1650 0.1249

Jupiter -11814-05-24 06:28 J -2593497.34 -2593497.23 -2593497.12 0.0501 0.0397

Venus -11814-08-17 10:33 J -2593412.22 -2593412.06 -2593411.89 0.3668 0.0545

Jupiter -11814-08-22 19:55 J -2593406.80 -2593406.67 -2593406.54 0.0503 0.0357

Mars -11812-03-15 23:02 J -2592835.65 -2592835.54 -2592835.44 0.1639 0.0561

Venus -11811-05-27 15:21 J -2592397.96 -2592397.86 -2592397.77 0.3706 0.1192

Earth -11811-08-28 12:14 J -2592305.09 -2592304.99 -2592304.89 0.2717 0.0898

Moon -11811-08-28 12:43 J -2592305.07 -2592304.97 -2592304.87 0.2722 0.1026 *

Jupiter -11808-04-18 17:16 J -2591340.91 -2591340.78 -2591340.66 0.0524 0.0051

Jupiter -11808-07-16 21:35 J -2591251.64 -2591251.60 -2591251.56 0.0522 0.0490

Moon -11807-02-28 06:14 J -2591025.37 -2591025.24 -2591025.11 0.2618 0.1514

Earth -11807-02-28 07:55 J -2591025.29 -2591025.17 -2591025.06 0.2616 0.1810 *

Mars -11806-10-30 06:00 J -2590416.42 -2590416.25 -2590416.08 0.1881 0.0320

Venus -11806-12-11 06:28 J -2590374.29 -2590374.23 -2590374.17 0.3708 0.2931

Earth -11804-08-21 12:14 J -2589755.02 -2589754.99 -2589754.97 0.2719 0.2629

Mars -11803-08-06 10:33 J -2589405.18 -2589405.06 -2589404.95 0.1641 0.0128

Saturn -11802-06-08 12:28 J -2589099.11 -2589098.98 -2589098.85 0.0262 0.0192

Jupiter -11802-06-10 16:33 J -2589096.99 -2589096.81 -2589096.63 0.0502 0.0174

Saturn -11802-09-05 10:19 J -2589010.27 -2589010.07 -2589009.88 0.0262 0.0030

Saturn -11802-12-03 07:55 J -2588921.33 -2588921.17 -2588921.00 0.0263 0.0135

Uranus -11799-02-03 04:33 J -2588128.39 -2588128.31 -2588128.22 0.0140 0.0124

Uranus -11799-05-02 12:57 J -2588040.10 -2588039.96 -2588039.81 0.0140 0.0093

Uranus -11799-07-29 21:07 J -2587951.79 -2587951.62 -2587951.44 0.0140 0.0063

Uranus -11799-10-26 05:31 J -2587863.46 -2587863.27 -2587863.08 0.0140 0.0032

Uranus -11798-01-22 13:40 J -2587775.12 -2587774.93 -2587774.73 0.0140 0.0003

Uranus -11798-04-20 21:50 J -2587686.78 -2587686.59 -2587686.39 0.0140 0.0029

Uranus -11798-07-18 06:00 J -2587598.42 -2587598.25 -2587598.07 0.0139 0.0059

Earth -11798-08-31 06:00 J -2587554.31 -2587554.25 -2587554.19 0.2717 0.2176

Moon -11798-08-31 06:43 J -2587554.28 -2587554.22 -2587554.16 0.2716 0.2206 *

Uranus -11798-10-14 13:55 J -2587510.05 -2587509.92 -2587509.75 0.0139 0.0090

Uranus -11797-01-10 22:04 J -2587421.67 -2587421.58 -2587421.47 0.0139 0.0119

Jupiter -11796-02-04 21:21 J -2587030.72 -2587030.61 -2587030.49 0.0524 0.0191

Mars -11796-03-20 22:19 J -2586986.71 -2586986.57 -2586986.43 0.1877 0.1076

Neptune -11796-05-02 15:50 J -2586943.87 -2586943.84 -2586943.79 0.0089 0.0085

Jupiter -11796-05-05 01:55 J -2586941.51 -2586941.42 -2586941.32 0.0523 0.0352

Neptune -11796-07-29 17:31 J -2586855.83 -2586855.77 -2586855.71 0.0089 0.0078

Neptune -11796-10-25 18:43 J -2586767.80 -2586767.72 -2586767.64 0.0089 0.0071

Neptune -11795-01-21 19:55 J -2586679.76 -2586679.67 -2586679.58 0.0089 0.0064

Neptune -11795-04-19 21:07 J -2586591.71 -2586591.62 -2586591.51 0.0089 0.0057

Neptune -11795-07-16 22:33 J -2586503.67 -2586503.56 -2586503.45 0.0089 0.0050

Neptune -11795-10-12 23:45 J -2586415.62 -2586415.51 -2586415.39 0.0089 0.0043

Neptune -11794-01-09 01:11 J -2586327.57 -2586327.45 -2586327.33 0.0089 0.0035

Neptune -11794-04-07 02:24 J -2586239.52 -2586239.40 -2586239.27 0.0089 0.0028

Neptune -11794-07-04 03:35 J -2586151.47 -2586151.35 -2586151.22 0.0089 0.0022

Neptune -11794-09-30 05:02 J -2586063.42 -2586063.29 -2586063.16 0.0089 0.0014

Neptune -11794-12-27 06:14 J -2585975.37 -2585975.24 -2585975.11 0.0089 0.0007

Mars -11794-12-27 22:04 J -2585974.69 -2585974.58 -2585974.46 0.1644 0.0310

Neptune -11793-03-24 07:40 J -2585887.31 -2585887.18 -2585887.05 0.0089 0.0002

Neptune -11793-06-20 08:52 J -2585799.26 -2585799.13 -2585799.00 0.0089 0.0007

Neptune -11793-09-16 10:04 J -2585711.21 -2585711.08 -2585710.95 0.0089 0.0014

Neptune -11793-12-13 11:16 J -2585623.15 -2585623.03 -2585622.90 0.0089 0.0022

Neptune -11792-03-11 12:43 J -2585535.09 -2585534.97 -2585534.85 0.0089 0.0028

Neptune -11792-06-07 13:55 J -2585447.04 -2585446.92 -2585446.80 0.0089 0.0035

Neptune -11792-09-03 15:07 J -2585358.98 -2585358.87 -2585358.75 0.0089 0.0043

Neptune -11792-11-30 16:33 J -2585270.92 -2585270.81 -2585270.70 0.0089 0.0049

Mars -11792-12-01 23:31 J -2585269.56 -2585269.52 -2585269.47 0.1634 0.1472

Neptune -11791-02-26 17:45 J -2585182.86 -2585182.76 -2585182.66 0.0089 0.0057

Neptune -11791-05-25 18:57 J -2585094.79 -2585094.71 -2585094.61 0.0089 0.0064

Neptune -11791-08-21 20:24 J -2585006.73 -2585006.65 -2585006.57 0.0089 0.0071

Moon -11791-08-24 05:31 J -2585004.36 -2585004.27 -2585004.18 0.2724 0.1427

Earth -11791-08-24 05:45 J -2585004.35 -2585004.26 -2585004.17 0.2718 0.1378 *

Neptune -11791-11-17 21:35 J -2584918.66 -2584918.60 -2584918.53 0.0089 0.0078

Neptune -11790-02-13 22:48 J -2584830.58 -2584830.55 -2584830.50 0.0089 0.0085

Jupiter -11790-03-29 13:11 J -2584787.14 -2584786.95 -2584786.77 0.0502 0.0015

Saturn -11788-01-16 02:09 J -2584128.41 -2584128.41 -2584128.40 0.0302 0.0302

Saturn -11788-04-14 14:24 J -2584040.01 -2584039.90 -2584039.78 0.0301 0.0140

Saturn -11788-07-12 02:38 J -2583951.52 -2583951.39 -2583951.26 0.0300 0.0022

Saturn -11788-10-08 14:38 J -2583862.99 -2583862.89 -2583862.78 0.0299 0.0180

Jupiter -11785-11-24 01:55 J -2582720.51 -2582720.42 -2582720.32 0.0524 0.0326

Jupiter -11784-02-21 06:28 J -2582631.34 -2582631.23 -2582631.11 0.0523 0.0219

Mars -11784-05-19 09:35 J -2582544.20 -2582544.10 -2582544.00 0.1647 0.0751

Mars -11782-04-24 11:16 J -2581839.12 -2581839.03 -2581838.94 0.1636 0.1046

Pluto -11780-03-08 01:55 J -2581155.47 -2581155.42 -2581155.34 0.0072 0.0066

Pluto -11780-06-04 03:21 J -2581067.45 -2581067.36 -2581067.24 0.0072 0.0056

Pluto -11780-08-31 05:16 J -2580979.41 -2580979.28 -2580979.16 0.0072 0.0046

Pluto -11780-11-27 06:43 J -2580891.36 -2580891.22 -2580891.08 0.0072 0.0037

Pluto -11779-02-23 08:09 J -2580803.31 -2580803.16 -2580803.00 0.0072 0.0028

Pluto -11779-05-22 09:35 J -2580715.25 -2580715.10 -2580714.94 0.0072 0.0019

Pluto -11779-08-18 11:16 J -2580627.20 -2580627.03 -2580626.87 0.0072 0.0010

Pluto -11779-11-14 12:28 J -2580539.14 -2580538.98 -2580538.81 0.0071 0.0002

Jupiter -11778-01-15 09:21 J -2580477.28 -2580477.11 -2580476.94 0.0501 0.0196

Pluto -11778-02-10 13:55 J -2580451.08 -2580450.92 -2580450.75 0.0071 0.0008

Pluto -11778-05-09 15:21 J -2580363.01 -2580362.86 -2580362.70 0.0071 0.0017

Pluto -11778-08-05 16:48 J -2580274.95 -2580274.80 -2580274.65 0.0071 0.0026

Earth -11778-08-26 23:31 J -2580253.63 -2580253.52 -2580253.42 0.2718 0.0158

Moon -11778-08-26 23:31 J -2580253.62 -2580253.52 -2580253.41 0.2725 0.0087 *

Pluto -11778-11-01 18:00 J -2580186.88 -2580186.75 -2580186.60 0.0071 0.0034

Pluto -11777-01-28 19:11 J -2580098.81 -2580098.70 -2580098.55 0.0071 0.0043

Pluto -11777-04-25 20:52 J -2580010.74 -2580010.63 -2580010.52 0.0071 0.0051

Pluto -11777-07-22 22:04 J -2579922.65 -2579922.58 -2579922.48 0.0071 0.0060

Pluto -11777-10-18 23:31 J -2579834.55 -2579834.52 -2579834.47 0.0070 0.0068

Mars -11776-12-08 15:21 J -2579418.86 -2579418.86 -2579418.86 0.1885 0.1884

Mars -11775-10-09 21:07 J -2579113.70 -2579113.62 -2579113.54 0.1650 0.1194

Moon -11774-02-26 05:16 J -2578974.44 -2578974.28 -2578974.12 0.2615 0.0483

Earth -11774-02-26 06:57 J -2578974.37 -2578974.21 -2578974.05 0.2615 0.0261 *

Jupiter -11773-09-12 06:28 J -2578410.28 -2578410.23 -2578410.17 0.0525 0.0461

Mars -11773-09-13 22:48 J -2578408.65 -2578408.55 -2578408.44 0.1638 0.0615

Saturn -11773-10-25 10:33 J -2578367.12 -2578367.06 -2578366.98 0.0262 0.0244

Jupiter -11773-12-10 11:16 J -2578321.15 -2578321.03 -2578320.91 0.0524 0.0085

Saturn -11772-01-22 08:24 J -2578278.33 -2578278.15 -2578277.97 0.0262 0.0082

Saturn -11772-04-21 06:00 J -2578189.43 -2578189.25 -2578189.06 0.0263 0.0083

Saturn -11772-07-19 03:50 J -2578100.40 -2578100.34 -2578100.27 0.0264 0.0248

Venus -11771-05-19 15:07 J -2577795.91 -2577795.87 -2577795.84 0.3700 0.3424

Jupiter -11767-11-03 05:45 J -2576167.38 -2576167.26 -2576167.14 0.0501 0.0380

Jupiter -11766-02-01 18:57 J -2576076.83 -2576076.71 -2576076.58 0.0502 0.0372

Mars -11766-04-30 07:11 J -2575989.36 -2575989.20 -2575989.03 0.1881 0.0463

Venus -11766-12-03 06:14 J -2575772.33 -2575772.24 -2575772.15 0.3703 0.1673

Mars -11765-03-01 08:38 J -2575683.15 -2575683.14 -2575683.13 0.1654 0.1640

Earth -11765-08-28 17:02 J -2575502.89 -2575502.79 -2575502.69 0.2717 0.1151

Moon -11765-08-28 17:45 J -2575502.86 -2575502.76 -2575502.67 0.2720 0.1193 *

Mars -11763-02-04 10:33 J -2574978.18 -2574978.06 -2574977.95 0.1641 0.0187

Moon -11761-02-29 12:57 J -2574223.04 -2574222.96 -2574222.88 0.2618 0.2229

Earth -11761-02-29 14:38 J -2574222.96 -2574222.89 -2574222.81 0.2616 0.2302 *

Jupiter -11761-09-28 16:04 J -2574010.96 -2574010.83 -2574010.71 0.0524 0.0048

Jupiter -11761-12-26 20:24 J -2573921.68 -2573921.65 -2573921.61 0.0522 0.0493

Venus -11760-06-17 21:21 J -2573748.71 -2573748.61 -2573748.51 0.3704 0.0164

Saturn -11759-09-01 16:04 J -2573307.93 -2573307.83 -2573307.73 0.0301 0.0192

Saturn -11759-11-29 04:19 J -2573219.45 -2573219.32 -2573219.19 0.0300 0.0031

Saturn -11758-02-25 16:19 J -2573130.93 -2573130.82 -2573130.70 0.0299 0.0129

Saturn -11758-05-25 04:19 J -2573042.35 -2573042.32 -2573042.28 0.0299 0.0286

Moon -11758-08-22 16:19 J -2572952.87 -2572952.82 -2572952.77 0.2721 0.2428

Earth -11758-08-22 17:02 J -2572952.84 -2572952.79 -2572952.74 0.2719 0.2385 *

Venus -11757-03-23 13:40 J -2572739.08 -2572738.93 -2572738.78 0.3667 0.1614

Mars -11757-09-18 23:02 J -2572559.68 -2572559.54 -2572559.39 0.1876 0.0962

Uranus -11755-01-16 06:43 J -2572075.24 -2572075.22 -2572075.17 0.0138 0.0133

Uranus -11755-04-14 10:04 J -2571987.15 -2571987.08 -2571987.01 0.0138 0.0113

Uranus -11755-07-11 13:11 J -2571899.04 -2571898.95 -2571898.85 0.0138 0.0094

Uranus -11755-10-07 16:19 J -2571810.93 -2571810.82 -2571810.71 0.0138 0.0075

Jupiter -11755-11-20 14:38 J -2571767.06 -2571766.89 -2571766.71 0.0502 0.0177

Venus -11754-01-01 12:43 J -2571725.06 -2571724.97 -2571724.89 0.3706 0.1817

Uranus -11754-01-03 19:26 J -2571722.81 -2571722.69 -2571722.57 0.0138 0.0056

Uranus -11754-04-01 22:33 J -2571634.68 -2571634.56 -2571634.43 0.0139 0.0036

Mars -11754-06-27 22:04 J -2571547.69 -2571547.58 -2571547.47 0.1644 0.0256

Uranus -11754-06-29 01:55 J -2571546.55 -2571546.42 -2571546.29 0.0139 0.0017

Uranus -11754-09-25 05:02 J -2571458.42 -2571458.29 -2571458.16 0.0139 0.0004

Uranus -11754-12-22 08:09 J -2571370.29 -2571370.16 -2571370.03 0.0139 0.0023

Uranus -11753-03-19 11:16 J -2571282.15 -2571282.03 -2571281.90 0.0139 0.0043

Uranus -11753-06-15 14:24 J -2571194.01 -2571193.90 -2571193.78 0.0139 0.0063

Uranus -11753-09-11 17:45 J -2571105.86 -2571105.76 -2571105.66 0.0139 0.0082

Uranus -11753-12-08 20:52 J -2571017.71 -2571017.63 -2571017.54 0.0139 0.0103

Uranus -11752-03-07 00:00 J -2570929.55 -2570929.50 -2570929.43 0.0140 0.0123

Mars -11752-06-01 23:31 J -2570842.56 -2570842.52 -2570842.48 0.1634 0.1525

Earth -11752-08-31 10:48 J -2570752.10 -2570752.05 -2570752.00 0.2717 0.2429

Moon -11752-08-31 11:31 J -2570752.05 -2570752.02 -2570751.99 0.2716 0.2585 *

Venus -11749-07-17 03:50 J -2569701.37 -2569701.34 -2569701.32 0.3708 0.3552

Jupiter -11749-07-17 20:52 J -2569700.75 -2569700.63 -2569700.52 0.0524 0.0177

Jupiter -11749-10-15 01:11 J -2569611.53 -2569611.45 -2569611.36 0.0523 0.0364

Moon -11745-08-24 10:19 J -2568202.16 -2568202.07 -2568201.97 0.2725 0.1189

Earth -11745-08-24 10:33 J -2568202.16 -2568202.06 -2568201.96 0.2718 0.1131 *

Mars -11745-11-17 09:35 J -2568117.20 -2568117.10 -2568116.99 0.1647 0.0694

Saturn -11743-06-11 06:28 J -2567546.39 -2567546.23 -2567546.06 0.0262 0.0133

Saturn -11743-09-08 04:19 J -2567457.51 -2567457.32 -2567457.13 0.0262 0.0030

Jupiter -11743-09-08 11:31 J -2567457.21 -2567457.02 -2567456.83 0.0502 0.0008 *

Mars -11743-10-23 11:16 J -2567412.12 -2567412.03 -2567411.95 0.1636 0.1098

Saturn -11743-12-06 01:55 J -2567368.54 -2567368.42 -2567368.28 0.0263 0.0195

Moon -11741-02-24 04:48 J -2566923.36 -2566923.30 -2566923.25 0.2610 0.2445

Earth -11741-02-24 06:00 J -2566923.32 -2566923.25 -2566923.18 0.2615 0.2357 *

Jupiter -11737-05-06 01:11 J -2565390.55 -2565390.45 -2565390.35 0.0524 0.0316

Jupiter -11737-08-03 05:45 J -2565301.38 -2565301.26 -2565301.15 0.0523 0.0227

Mars -11735-04-09 21:07 J -2564686.70 -2564686.62 -2564686.54 0.1650 0.1136

Mars -11733-03-14 22:48 J -2563981.65 -2563981.55 -2563981.44 0.1638 0.0671

Earth -11732-08-27 04:19 J -2563451.43 -2563451.32 -2563451.22 0.2718 0.0179

Moon -11732-08-27 04:19 J -2563451.42 -2563451.32 -2563451.21 0.2724 0.0187 *

Jupiter -11731-06-27 08:09 J -2563147.33 -2563147.16 -2563146.98 0.0502 0.0185

Saturn -11729-01-19 17:16 J -2562575.85 -2562575.78 -2562575.71 0.0302 0.0250

Saturn -11729-04-17 05:31 J -2562487.39 -2562487.27 -2562487.14 0.0301 0.0088

Saturn -11729-07-14 17:45 J -2562398.88 -2562398.76 -2562398.64 0.0300 0.0073

Saturn -11729-10-11 05:45 J -2562310.34 -2562310.26 -2562310.18 0.0299 0.0231

Moon -11728-02-26 12:00 J -2562172.16 -2562172.00 -2562171.84 0.2616 0.0055

Earth -11728-02-26 13:55 J -2562172.08 -2562171.92 -2562171.76 0.2615 0.0245 *

Mars -11727-10-29 08:09 J -2561562.32 -2561562.16 -2561561.99 0.1881 0.0588

Mars -11726-08-31 08:38 J -2561256.17 -2561256.14 -2561256.11 0.1654 0.1587

Jupiter -11725-02-23 05:31 J -2561080.33 -2561080.27 -2561080.20 0.0525 0.0452

Jupiter -11725-05-22 10:19 J -2560991.20 -2560991.07 -2560990.95 0.0523 0.0093

Mars -11724-08-05 10:33 J -2560551.18 -2560551.06 -2560550.95 0.1641 0.0242

Jupiter -11719-04-15 04:48 J -2558837.43 -2558837.30 -2558837.17 0.0501 0.0369

Jupiter -11719-07-14 18:00 J -2558746.87 -2558746.75 -2558746.63 0.0502 0.0383

Earth -11719-08-29 21:50 J -2558700.68 -2558700.59 -2558700.50 0.2717 0.1405

Moon -11719-08-29 22:33 J -2558700.65 -2558700.56 -2558700.47 0.2720 0.1533 *

Mars -11717-03-20 00:14 J -2558132.65 -2558132.49 -2558132.34 0.1877 0.0830

Uranus -11715-02-23 11:02 J -2557427.13 -2557427.04 -2557426.93 0.0140 0.0120

Moon -11715-03-01 19:55 J -2557420.70 -2557420.67 -2557420.64 0.2619 0.2551

Uranus -11715-05-22 19:11 J -2557338.84 -2557338.70 -2557338.53 0.0140 0.0089

Uranus -11715-08-19 03:35 J -2557250.52 -2557250.35 -2557250.16 0.0140 0.0058

Uranus -11715-11-15 12:00 J -2557162.19 -2557162.00 -2557161.80 0.0140 0.0027

Venus -11715-12-24 12:28 J -2557123.05 -2557122.98 -2557122.92 0.3701 0.2794

Mars -11715-12-26 22:04 J -2557120.70 -2557120.58 -2557120.47 0.1644 0.0203

Uranus -11714-02-11 20:24 J -2557073.85 -2557073.65 -2557073.46 0.0140 0.0004

Uranus -11714-05-11 04:33 J -2556985.50 -2556985.31 -2556985.12 0.0139 0.0034

Uranus -11714-08-07 12:43 J -2556897.15 -2556896.97 -2556896.80 0.0139 0.0064

Saturn -11714-10-29 04:04 J -2556814.45 -2556814.33 -2556814.18 0.0262 0.0188

Uranus -11714-11-03 20:24 J -2556808.78 -2556808.65 -2556808.49 0.0139 0.0094

Saturn -11713-01-26 01:55 J -2556725.61 -2556725.42 -2556725.22 0.0262 0.0025

Uranus -11713-01-31 04:48 J -2556720.38 -2556720.30 -2556720.21 0.0139 0.0123

Jupiter -11713-03-10 14:52 J -2556681.00 -2556680.88 -2556680.75 0.0524 0.0041

Saturn -11713-04-23 23:31 J -2556636.68 -2556636.52 -2556636.35 0.0263 0.0139

Jupiter -11713-06-07 19:26 J -2556591.72 -2556591.69 -2556591.66 0.0523 0.0500

Neptune -11713-07-17 16:19 J -2556551.83 -2556551.82 -2556551.79 0.0088 0.0087

Neptune -11713-10-13 19:55 J -2556463.75 -2556463.67 -2556463.56 0.0088 0.0077

Mars -11713-11-30 23:31 J -2556415.54 -2556415.52 -2556415.49 0.1633 0.1578

Neptune -11712-01-09 23:31 J -2556375.63 -2556375.52 -2556375.38 0.0088 0.0067

Neptune -11712-04-08 03:21 J -2556287.50 -2556287.36 -2556287.20 0.0088 0.0057

Neptune -11712-07-05 06:57 J -2556199.36 -2556199.21 -2556199.03 0.0088 0.0047

Moon -11712-08-22 21:07 J -2556150.67 -2556150.62 -2556150.56 0.2722 0.2274

Earth -11712-08-22 21:50 J -2556150.66 -2556150.59 -2556150.53 0.2719 0.2137 *

Neptune -11712-10-01 11:02 J -2556111.22 -2556111.04 -2556110.86 0.0088 0.0036

Neptune -11712-12-28 14:38 J -2556023.07 -2556022.89 -2556022.69 0.0088 0.0026

Neptune -11711-03-26 18:28 J -2555934.92 -2555934.73 -2555934.53 0.0088 0.0016

Neptune -11711-06-22 22:04 J -2555846.77 -2555846.58 -2555846.38 0.0088 0.0006

Neptune -11711-09-19 01:55 J -2555758.62 -2555758.42 -2555758.22 0.0088 0.0004

Neptune -11711-12-16 05:31 J -2555670.46 -2555670.27 -2555670.07 0.0088 0.0015

Neptune -11710-03-14 09:07 J -2555582.30 -2555582.12 -2555581.92 0.0088 0.0025

Neptune -11710-06-10 12:57 J -2555494.14 -2555493.96 -2555493.77 0.0088 0.0035

Neptune -11710-09-06 16:48 J -2555405.97 -2555405.80 -2555405.63 0.0088 0.0045

Neptune -11710-12-03 20:09 J -2555317.80 -2555317.66 -2555317.49 0.0088 0.0056

Neptune -11709-03-01 00:00 J -2555229.62 -2555229.50 -2555229.36 0.0088 0.0066

Neptune -11709-05-28 03:35 J -2555141.43 -2555141.35 -2555141.23 0.0088 0.0076

Venus -11709-07-09 03:35 J -2555099.45 -2555099.35 -2555099.25 0.3703 0.1043

Neptune -11709-08-24 07:40 J -2555053.21 -2555053.18 -2555053.14 0.0088 0.0086

Jupiter -11707-05-02 14:38 J -2554437.07 -2554436.89 -2554436.72 0.0502 0.0199

Venus -11706-04-14 04:04 J -2554090.43 -2554090.33 -2554090.23 0.3669 0.2933

Earth -11706-09-01 15:35 J -2553949.86 -2553949.85 -2553949.84 0.2717 0.2686

Moon -11706-09-01 16:19 J -2553949.82 -2553949.82 -2553949.82 0.2714 0.2709

Mars -11705-05-18 09:35 J -2553690.21 -2553690.10 -2553690.00 0.1647 0.0640

Venus -11703-01-22 18:43 J -2553075.82 -2553075.72 -2553075.62 0.3705 0.0709

Mars -11703-04-23 11:02 J -2552985.12 -2552985.04 -2552984.96 0.1636 0.1153

Jupiter -11702-12-28 19:40 J -2552370.79 -2552370.68 -2552370.56 0.0524 0.0171

Jupiter -11701-03-27 00:14 J -2552281.57 -2552281.49 -2552281.40 0.0523 0.0371

Saturn -11700-09-04 06:43 J -2551755.33 -2551755.22 -2551755.11 0.0301 0.0147

Saturn -11700-12-01 18:57 J -2551666.84 -2551666.71 -2551666.59 0.0300 0.0017

Saturn -11699-02-28 06:57 J -2551578.31 -2551578.21 -2551578.11 0.0299 0.0174

Moon -11699-08-25 15:21 J -2551399.97 -2551399.86 -2551399.76 0.2726 0.0869

Earth -11699-08-25 15:21 J -2551399.96 -2551399.86 -2551399.76 0.2718 0.0881 *

Venus -11698-08-08 10:04 J -2551052.16 -2551052.08 -2551052.01 0.3707 0.2443

Mars -11696-10-08 21:07 J -2550259.71 -2550259.62 -2550259.54 0.1650 0.1085

Jupiter -11695-02-18 10:04 J -2550127.27 -2550127.08 -2550126.89 0.0502 0.0005

Moon -11695-02-24 11:16 J -2550121.12 -2550121.03 -2550120.93 0.2612 0.2085

Earth -11695-02-24 12:43 J -2550121.08 -2550120.97 -2550120.85 0.2615 0.1858 *

Mars -11694-09-13 22:48 J -2549554.65 -2549554.55 -2549554.45 0.1638 0.0721

Jupiter -11690-10-17 00:43 J -2548060.57 -2548060.47 -2548060.37 0.0524 0.0299

Jupiter -11689-01-14 05:16 J -2547971.39 -2547971.28 -2547971.17 0.0523 0.0243

Mars -11687-04-29 08:52 J -2547135.29 -2547135.13 -2547134.97 0.1881 0.0702

Mars -11686-03-01 08:38 J -2546829.18 -2546829.14 -2546829.10 0.1653 0.1527

Earth -11686-08-28 08:52 J -2546649.23 -2546649.13 -2546649.02 0.2718 0.0401

Moon -11686-08-28 09:21 J -2546649.22 -2546649.11 -2546649.00 0.2723 0.0420 *

Mars -11684-02-03 10:19 J -2546124.18 -2546124.07 -2546123.95 0.1641 0.0293

Saturn -11684-03-17 02:09 J -2546082.47 -2546082.41 -2546082.33 0.0261 0.0240

Saturn -11684-06-14 00:00 J -2545993.69 -2545993.50 -2545993.32 0.0261 0.0079

Saturn -11684-09-10 21:35 J -2545904.78 -2545904.60 -2545904.42 0.0262 0.0084

Jupiter -11684-12-07 06:57 J -2545817.39 -2545817.21 -2545817.04 0.0502 0.0178

Saturn -11684-12-08 19:11 J -2545815.75 -2545815.70 -2545815.63 0.0263 0.0249

Moon -11682-02-27 18:43 J -2545369.88 -2545369.72 -2545369.56 0.2616 0.0528

Earth -11682-02-27 20:38 J -2545369.80 -2545369.64 -2545369.49 0.2616 0.0730 *

Jupiter -11678-08-05 05:02 J -2543750.36 -2543750.29 -2543750.22 0.0524 0.0437

Mars -11678-09-19 00:57 J -2543705.62 -2543705.46 -2543705.30 0.1877 0.0707

Jupiter -11678-11-02 09:35 J -2543661.22 -2543661.10 -2543660.98 0.0523 0.0106

Mars -11675-06-26 22:04 J -2542693.70 -2542693.58 -2542693.47 0.1644 0.0146

Mars -11673-05-31 23:31 J -2541988.52 -2541988.52 -2541988.52 0.1634 0.1633

Earth -11673-08-30 02:38 J -2541898.47 -2541898.39 -2541898.30 0.2717 0.1660

Moon -11673-08-30 03:21 J -2541898.44 -2541898.36 -2541898.28 0.2720 0.1728 *

Jupiter -11672-09-25 03:50 J -2541507.47 -2541507.34 -2541507.21 0.0502 0.0356

Jupiter -11672-12-24 17:02 J -2541416.89 -2541416.79 -2541416.67 0.0503 0.0399

Uranus -11671-02-05 14:09 J -2541373.95 -2541373.91 -2541373.86 0.0138 0.0128

Uranus -11671-05-04 17:16 J -2541285.86 -2541285.78 -2541285.70 0.0138 0.0109

Uranus -11671-07-31 20:24 J -2541197.75 -2541197.65 -2541197.55 0.0138 0.0090

Uranus -11671-10-27 23:31 J -2541109.63 -2541109.52 -2541109.41 0.0138 0.0071

Saturn -11670-01-22 07:40 J -2541023.27 -2541023.18 -2541023.09 0.0302 0.0209

Uranus -11670-01-24 02:38 J -2541021.51 -2541021.39 -2541021.27 0.0139 0.0052

Saturn -11670-04-20 19:55 J -2540934.80 -2540934.67 -2540934.55 0.0301 0.0048

Uranus -11670-04-22 05:45 J -2540933.38 -2540933.26 -2540933.13 0.0139 0.0032

Saturn -11670-07-18 07:55 J -2540846.29 -2540846.17 -2540846.05 0.0300 0.0113

Uranus -11670-07-19 09:07 J -2540845.25 -2540845.12 -2540844.99 0.0139 0.0013

Saturn -11670-10-14 19:55 J -2540757.72 -2540757.67 -2540757.61 0.0299 0.0272

Uranus -11670-10-15 12:14 J -2540757.12 -2540756.99 -2540756.86 0.0139 0.0008

Uranus -11669-01-11 15:21 J -2540668.99 -2540668.86 -2540668.73 0.0139 0.0027

Uranus -11669-04-08 18:28 J -2540580.85 -2540580.73 -2540580.60 0.0139 0.0047

Uranus -11669-07-05 21:35 J -2540492.71 -2540492.60 -2540492.48 0.0139 0.0067

Uranus -11669-10-02 00:43 J -2540404.56 -2540404.47 -2540404.36 0.0139 0.0088

Uranus -11669-12-29 04:04 J -2540316.41 -2540316.33 -2540316.24 0.0140 0.0107

Uranus -11668-03-27 07:11 J -2540228.24 -2540228.20 -2540228.14 0.0140 0.0128

Jupiter -11666-08-21 14:09 J -2539351.03 -2539350.91 -2539350.78 0.0524 0.0029

Moon -11666-08-24 02:09 J -2539348.49 -2539348.41 -2539348.34 0.2723 0.1904

Earth -11666-08-24 02:38 J -2539348.47 -2539348.39 -2539348.32 0.2718 0.1893 *

Mars -11666-11-17 09:35 J -2539263.21 -2539263.10 -2539263.00 0.1647 0.0587

Jupiter -11666-11-18 18:43 J -2539261.75 -2539261.72 -2539261.70 0.0522 0.0511

Mars -11664-10-22 11:02 J -2538558.11 -2538558.04 -2538557.96 0.1636 0.1208

Jupiter -11660-10-12 13:40 J -2537107.09 -2537106.93 -2537106.75 0.0502 0.0214

Venus -11658-07-31 09:50 J -2536450.17 -2536450.09 -2536450.01 0.3701 0.2160

Mars -11656-04-08 21:07 J -2535832.71 -2535832.62 -2535832.53 0.1650 0.1029

Saturn -11655-10-31 21:07 J -2535261.78 -2535261.62 -2535261.45 0.0261 0.0137

Saturn -11654-01-28 18:57 J -2535172.91 -2535172.71 -2535172.52 0.0262 0.0027

Mars -11654-03-14 22:48 J -2535127.65 -2535127.55 -2535127.45 0.1638 0.0777

Saturn -11654-04-27 16:19 J -2535083.94 -2535083.82 -2535083.68 0.0263 0.0190

Jupiter -11654-06-09 18:43 J -2535040.83 -2535040.72 -2535040.60 0.0524 0.0163

Jupiter -11654-09-06 23:16 J -2534951.61 -2534951.53 -2534951.44 0.0523 0.0380

Moon -11653-08-25 20:09 J -2534597.77 -2534597.66 -2534597.56 0.2725 0.0703

Earth -11653-08-25 20:09 J -2534597.76 -2534597.66 -2534597.55 0.2718 0.0631 *

Venus -11652-02-13 00:57 J -2534426.56 -2534426.46 -2534426.36 0.3703 0.0415

Venus -11650-11-19 06:57 J -2533417.37 -2533417.21 -2533417.05 0.3669 0.0847

Moon -11649-02-25 18:00 J -2533318.89 -2533318.75 -2533318.62 0.2613 0.1440

Earth -11649-02-25 19:40 J -2533318.82 -2533318.68 -2533318.54 0.2615 0.1356 *

Jupiter -11648-07-31 10:19 J -2532797.26 -2532797.07 -2532796.88 0.0502 0.0030

Mars -11648-10-28 09:50 J -2532708.24 -2532708.09 -2532707.93 0.1881 0.0833

Venus -11647-08-29 16:04 J -2532402.92 -2532402.83 -2532402.73 0.3705 0.1332

Mars -11647-08-30 08:24 J -2532402.19 -2532402.15 -2532402.10 0.1653 0.1476

Mars -11645-08-04 10:19 J -2531697.18 -2531697.07 -2531696.96 0.1641 0.0345

Jupiter -11642-03-28 23:45 J -2530730.61 -2530730.51 -2530730.40 0.0524 0.0290

Jupiter -11642-06-26 04:19 J -2530641.43 -2530641.32 -2530641.21 0.0523 0.0252

Venus -11641-03-14 07:26 J -2530379.25 -2530379.19 -2530379.14 0.3707 0.3064

Saturn -11641-06-10 08:24 J -2530291.20 -2530291.15 -2530291.10 0.0302 0.0271

Saturn -11641-09-06 20:38 J -2530202.76 -2530202.64 -2530202.52 0.0301 0.0109

Saturn -11641-12-04 08:52 J -2530114.26 -2530114.13 -2530114.00 0.0300 0.0053

Saturn -11640-03-02 20:52 J -2530025.71 -2530025.63 -2530025.54 0.0299 0.0212

Earth -11640-08-28 13:40 J -2529847.03 -2529846.93 -2529846.82 0.2718 0.0644

Moon -11640-08-28 14:09 J -2529847.01 -2529846.91 -2529846.80 0.2722 0.0750 *

Mars -11638-03-20 01:55 J -2529278.58 -2529278.42 -2529278.26 0.1877 0.0584

Moon -11636-02-28 01:40 J -2528567.58 -2528567.43 -2528567.28 0.2616 0.1009

Earth -11636-02-28 03:21 J -2528567.50 -2528567.36 -2528567.22 0.2616 0.1222 *

Jupiter -11636-05-19 05:31 J -2528487.44 -2528487.27 -2528487.09 0.0502 0.0169

Mars -11636-12-25 21:50 J -2528266.70 -2528266.59 -2528266.47 0.1644 0.0105

Neptune -11632-10-31 14:38 J -2526860.89 -2526860.89 -2526860.87 0.0089 0.0089

Neptune -11631-01-27 16:04 J -2526772.88 -2526772.83 -2526772.78 0.0089 0.0082

Uranus -11631-03-15 18:43 J -2526725.84 -2526725.72 -2526725.60 0.0140 0.0111

Neptune -11631-04-25 17:16 J -2526684.84 -2526684.78 -2526684.70 0.0089 0.0075

Uranus -11631-06-12 02:52 J -2526637.53 -2526637.38 -2526637.21 0.0140 0.0081

Neptune -11631-07-22 18:28 J -2526596.80 -2526596.73 -2526596.64 0.0089 0.0068

Uranus -11631-09-08 11:16 J -2526549.21 -2526549.03 -2526548.85 0.0140 0.0050

Neptune -11631-10-18 19:55 J -2526508.76 -2526508.67 -2526508.57 0.0089 0.0060

Uranus -11631-12-05 19:26 J -2526460.88 -2526460.69 -2526460.49 0.0140 0.0020

Neptune -11630-01-14 21:07 J -2526420.72 -2526420.62 -2526420.51 0.0089 0.0053

Jupiter -11630-01-15 04:48 J -2526420.38 -2526420.30 -2526420.23 0.0524 0.0418

Uranus -11630-03-04 03:35 J -2526372.54 -2526372.35 -2526372.15 0.0140 0.0011

Neptune -11630-04-12 22:19 J -2526332.67 -2526332.57 -2526332.45 0.0089 0.0047

Jupiter -11630-04-14 09:21 J -2526331.24 -2526331.11 -2526330.99 0.0523 0.0126

Uranus -11630-05-31 11:45 J -2526284.19 -2526284.01 -2526283.82 0.0139 0.0041

Neptune -11630-07-09 23:45 J -2526244.62 -2526244.51 -2526244.39 0.0089 0.0039

Uranus -11630-08-27 19:55 J -2526195.83 -2526195.67 -2526195.50 0.0139 0.0071

Neptune -11630-10-06 00:57 J -2526156.57 -2526156.46 -2526156.33 0.0089 0.0033

Uranus -11630-11-24 03:50 J -2526107.46 -2526107.34 -2526107.19 0.0139 0.0101

Neptune -11629-01-02 02:24 J -2526068.52 -2526068.40 -2526068.27 0.0089 0.0025

Uranus -11629-02-20 11:45 J -2526019.05 -2526019.01 -2526018.93 0.0139 0.0132

Neptune -11629-03-30 03:35 J -2525980.47 -2525980.35 -2525980.22 0.0089 0.0018

Neptune -11629-06-26 05:02 J -2525892.42 -2525892.29 -2525892.16 0.0089 0.0011

Neptune -11629-09-22 06:14 J -2525804.37 -2525804.24 -2525804.11 0.0089 0.0004

Neptune -11629-12-19 07:40 J -2525716.31 -2525716.18 -2525716.05 0.0089 0.0004

Neptune -11628-03-17 08:52 J -2525628.26 -2525628.13 -2525628.00 0.0089 0.0010

Neptune -11628-06-13 10:04 J -2525540.20 -2525540.08 -2525539.95 0.0089 0.0018

Neptune -11628-09-09 11:31 J -2525452.15 -2525452.02 -2525451.90 0.0089 0.0025

Neptune -11628-12-06 12:43 J -2525364.09 -2525363.97 -2525363.85 0.0089 0.0032

Neptune -11627-03-04 13:55 J -2525276.03 -2525275.92 -2525275.80 0.0089 0.0039

Neptune -11627-05-31 15:21 J -2525187.97 -2525187.86 -2525187.75 0.0089 0.0046

Neptune -11627-08-27 16:33 J -2525099.91 -2525099.81 -2525099.70 0.0089 0.0053

Earth -11627-08-31 07:26 J -2525096.26 -2525096.19 -2525096.11 0.2717 0.1915

Moon -11627-08-31 08:09 J -2525096.23 -2525096.16 -2525096.09 0.2718 0.2014 *

Neptune -11627-11-23 17:31 J -2525011.85 -2525011.77 -2525011.66 0.0089 0.0061

Neptune -11626-02-19 18:57 J -2524923.79 -2524923.71 -2524923.62 0.0089 0.0067

Mars -11626-05-18 09:35 J -2524836.21 -2524836.10 -2524835.99 0.1647 0.0531

Neptune -11626-05-18 20:09 J -2524835.72 -2524835.66 -2524835.58 0.0089 0.0074

Neptune -11626-08-14 21:21 J -2524747.65 -2524747.61 -2524747.54 0.0089 0.0082

Neptune -11626-11-10 22:33 J -2524659.56 -2524659.56 -2524659.52 0.0089 0.0089

Saturn -11625-03-19 18:57 J -2524529.83 -2524529.71 -2524529.57 0.0261 0.0190

Saturn -11625-06-16 16:33 J -2524441.00 -2524440.81 -2524440.61 0.0261 0.0030

Saturn -11625-09-13 14:09 J -2524352.07 -2524351.91 -2524351.74 0.0262 0.0134

Jupiter -11624-03-07 02:24 J -2524177.53 -2524177.40 -2524177.26 0.0502 0.0348

Mars -11624-04-22 11:02 J -2524131.11 -2524131.04 -2524130.97 0.1636 0.1260

Jupiter -11624-06-05 15:50 J -2524086.94 -2524086.84 -2524086.72 0.0503 0.0408

Moon -11620-08-24 06:57 J -2522546.29 -2522546.21 -2522546.13 0.2724 0.1763

Earth -11620-08-24 07:26 J -2522546.28 -2522546.19 -2522546.11 0.2718 0.1646 *

Jupiter -11618-01-31 13:40 J -2522021.06 -2522020.93 -2522020.81 0.0523 0.0012

Pluto -11618-11-05 03:35 J -2521743.36 -2521743.35 -2521743.31 0.0072 0.0071

Pluto -11617-02-01 04:48 J -2521655.36 -2521655.30 -2521655.21 0.0072 0.0063

Pluto -11617-04-29 06:14 J -2521567.34 -2521567.24 -2521567.14 0.0072 0.0054

Pluto -11617-07-26 07:11 J -2521479.31 -2521479.20 -2521479.07 0.0072 0.0046

Mars -11617-10-07 21:07 J -2521405.72 -2521405.62 -2521405.53 0.1650 0.0973

Pluto -11617-10-22 08:38 J -2521391.27 -2521391.14 -2521391.01 0.0072 0.0037

Pluto -11616-01-18 09:35 J -2521303.23 -2521303.10 -2521302.95 0.0072 0.0029

Pluto -11616-04-16 11:02 J -2521215.19 -2521215.04 -2521214.89 0.0072 0.0020

Pluto -11616-07-13 12:14 J -2521127.14 -2521126.99 -2521126.84 0.0072 0.0012

Pluto -11616-10-09 13:26 J -2521039.09 -2521038.94 -2521038.79 0.0073 0.0003

Pluto -11615-01-05 14:38 J -2520951.04 -2520950.89 -2520950.73 0.0073 0.0006

Pluto -11615-04-03 15:50 J -2520862.98 -2520862.84 -2520862.68 0.0073 0.0015

Pluto -11615-06-30 17:02 J -2520774.93 -2520774.79 -2520774.64 0.0073 0.0024

Mars -11615-09-12 22:48 J -2520700.65 -2520700.55 -2520700.45 0.1638 0.0833

Pluto -11615-09-26 18:14 J -2520686.87 -2520686.74 -2520686.59 0.0073 0.0033

Pluto -11615-12-23 19:26 J -2520598.80 -2520598.69 -2520598.55 0.0073 0.0042

Pluto -11614-03-21 20:38 J -2520510.73 -2520510.64 -2520510.51 0.0073 0.0052

Pluto -11614-06-17 22:04 J -2520422.65 -2520422.58 -2520422.48 0.0073 0.0060

Pluto -11614-09-13 23:31 J -2520334.56 -2520334.52 -2520334.47 0.0074 0.0070

Jupiter -11612-03-24 12:57 J -2519777.13 -2519776.96 -2519776.79 0.0503 0.0229

Saturn -11611-01-24 21:21 J -2519470.71 -2519470.61 -2519470.50 0.0302 0.0173

Saturn -11611-04-23 09:35 J -2519382.23 -2519382.10 -2519381.97 0.0301 0.0011

Saturn -11611-07-20 21:50 J -2519293.70 -2519293.59 -2519293.48 0.0300 0.0149

Mars -11608-04-28 11:02 J -2518281.18 -2518281.04 -2518280.89 0.1881 0.0971

Mars -11607-02-28 08:24 J -2517975.20 -2517975.15 -2517975.09 0.1653 0.1419

Venus -11607-08-21 15:50 J -2517800.88 -2517800.84 -2517800.79 0.3700 0.3272

Moon -11607-08-27 00:57 J -2517795.57 -2517795.46 -2517795.36 0.2725 0.0332

Earth -11607-08-27 00:57 J -2517795.57 -2517795.46 -2517795.35 0.2718 0.0384 *

Jupiter -11607-11-19 18:14 J -2517710.86 -2517710.74 -2517710.62 0.0524 0.0147

Jupiter -11606-02-16 22:48 J -2517621.63 -2517621.55 -2517621.47 0.0522 0.0394

Mars -11605-02-03 10:19 J -2517270.18 -2517270.07 -2517269.96 0.1641 0.0400

Moon -11603-02-26 00:28 J -2516516.62 -2516516.48 -2516516.33 0.2613 0.1172

Earth -11603-02-26 02:24 J -2516516.56 -2516516.40 -2516516.25 0.2615 0.0868 *

Venus -11601-03-06 07:11 J -2515777.29 -2515777.20 -2515777.11 0.3702 0.1527

Jupiter -11600-01-10 09:35 J -2515467.29 -2515467.10 -2515466.91 0.0502 0.0047

Mars -11599-09-18 02:38 J -2514851.55 -2514851.39 -2514851.22 0.1877 0.0466

Mars -11596-06-25 21:50 J -2513839.70 -2513839.59 -2513839.47 0.1644 0.0044

Saturn -11596-08-06 16:19 J -2513797.87 -2513797.82 -2513797.76 0.0261 0.0248

Venus -11596-09-19 22:19 J -2513753.67 -2513753.57 -2513753.47 0.3704 0.0215

Saturn -11596-11-03 13:55 J -2513709.10 -2513708.92 -2513708.74 0.0261 0.0087

Saturn -11595-01-31 11:31 J -2513620.21 -2513620.02 -2513619.83 0.0262 0.0075

Saturn -11595-04-30 09:07 J -2513531.19 -2513531.12 -2513531.04 0.0263 0.0239

Jupiter -11595-09-07 22:48 J -2513400.65 -2513400.55 -2513400.44 0.0524 0.0281

Jupiter -11595-12-06 03:21 J -2513311.47 -2513311.36 -2513311.25 0.0523 0.0262

Earth -11594-08-29 18:28 J -2513044.83 -2513044.73 -2513044.62 0.2718 0.0895

Moon -11594-08-29 19:11 J -2513044.80 -2513044.70 -2513044.60 0.2723 0.0917 *

Venus -11593-06-25 09:50 J -2512744.24 -2512744.09 -2512743.94 0.3668 0.1294

Moon -11590-03-01 08:24 J -2511765.27 -2511765.15 -2511765.02 0.2618 0.1601

Earth -11590-03-01 10:04 J -2511765.20 -2511765.08 -2511764.96 0.2616 0.1712 *

Venus -11590-04-05 13:26 J -2511730.02 -2511729.94 -2511729.85 0.3706 0.1951

Mars -11589-02-07 18:57 J -2511421.73 -2511421.71 -2511421.68 0.1872 0.1852

Jupiter -11589-10-29 06:14 J -2511157.42 -2511157.24 -2511157.06 0.0502 0.0137

Uranus -11587-02-25 21:21 J -2510672.66 -2510672.61 -2510672.55 0.0138 0.0124

Uranus -11587-05-25 00:28 J -2510584.56 -2510584.48 -2510584.39 0.0138 0.0105

Uranus -11587-08-21 03:35 J -2510496.45 -2510496.35 -2510496.24 0.0138 0.0086

Earth -11587-08-22 18:28 J -2510494.75 -2510494.73 -2510494.71 0.2719 0.2651

Mars -11587-11-16 09:21 J -2510409.22 -2510409.11 -2510409.00 0.1647 0.0478

Uranus -11587-11-17 06:43 J -2510408.33 -2510408.22 -2510408.10 0.0139 0.0066

Uranus -11586-02-13 10:04 J -2510320.21 -2510320.08 -2510319.96 0.0139 0.0047

Uranus -11586-05-12 13:11 J -2510232.08 -2510231.95 -2510231.82 0.0139 0.0027

Uranus -11586-08-08 16:19 J -2510143.95 -2510143.82 -2510143.69 0.0139 0.0008

Uranus -11586-11-04 19:26 J -2510055.82 -2510055.69 -2510055.56 0.0139 0.0012

Uranus -11585-01-31 22:33 J -2509967.68 -2509967.56 -2509967.43 0.0139 0.0032

Uranus -11585-04-29 01:40 J -2509879.54 -2509879.43 -2509879.30 0.0139 0.0053

Uranus -11585-07-26 05:02 J -2509791.40 -2509791.29 -2509791.18 0.0139 0.0072

Venus -11585-10-19 04:33 J -2509706.31 -2509706.31 -2509706.30 0.3707 0.3683

Mars -11585-10-21 11:02 J -2509704.11 -2509704.04 -2509703.97 0.1636 0.1313

Uranus -11585-10-22 08:09 J -2509703.25 -2509703.16 -2509703.06 0.0139 0.0092

Uranus -11584-01-18 11:16 J -2509615.10 -2509615.03 -2509614.94 0.0140 0.0113

Uranus -11584-04-16 14:38 J -2509526.92 -2509526.89 -2509526.85 0.0140 0.0132

Jupiter -11583-06-27 03:50 J -2509090.42 -2509090.34 -2509090.26 0.0524 0.0408

Jupiter -11583-09-24 08:24 J -2509001.27 -2509001.15 -2509001.03 0.0523 0.0136

Saturn -11582-06-13 22:04 J -2508738.66 -2508738.58 -2508738.50 0.0302 0.0237

Saturn -11582-09-10 10:19 J -2508650.19 -2508650.07 -2508649.94 0.0301 0.0075

Saturn -11582-12-07 22:33 J -2508561.68 -2508561.56 -2508561.44 0.0300 0.0086

Saturn -11581-03-05 10:33 J -2508473.13 -2508473.06 -2508472.98 0.0299 0.0246

Earth -11581-08-31 12:14 J -2508294.05 -2508293.99 -2508293.92 0.2717 0.2169

Moon -11581-08-31 12:57 J -2508294.02 -2508293.96 -2508293.90 0.2716 0.2275 *

Mars -11577-04-07 20:52 J -2506978.72 -2506978.63 -2506978.53 0.1650 0.0918

Jupiter -11577-08-17 01:26 J -2506847.58 -2506847.44 -2506847.30 0.0502 0.0337

Jupiter -11577-11-15 14:52 J -2506756.98 -2506756.88 -2506756.78 0.0503 0.0418

Mars -11575-03-13 22:33 J -2506273.65 -2506273.56 -2506273.46 0.1638 0.0889

Moon -11574-08-25 11:45 J -2505744.10 -2505744.01 -2505743.92 0.2725 0.1400

Earth -11574-08-25 12:14 J -2505744.09 -2505743.99 -2505743.90 0.2718 0.1403 *

Jupiter -11571-07-13 13:26 J -2504691.07 -2504690.94 -2504690.82 0.0523 0.0014

Mars -11569-10-27 11:31 J -2503854.16 -2503854.02 -2503853.88 0.1881 0.1067

Mars -11568-08-29 08:24 J -2503548.21 -2503548.15 -2503548.09 0.1653 0.1363

Saturn -11566-03-23 11:31 J -2502977.17 -2502977.02 -2502976.85 0.0261 0.0142

Saturn -11566-06-20 09:21 J -2502888.31 -2502888.11 -2502887.92 0.0261 0.0020

Mars -11566-08-04 10:19 J -2502843.18 -2502843.07 -2502842.96 0.1641 0.0455

Saturn -11566-09-17 06:43 J -2502799.35 -2502799.22 -2502799.07 0.0262 0.0183

Jupiter -11565-09-03 11:45 J -2502447.18 -2502447.01 -2502446.85 0.0503 0.0238

Earth -11561-08-27 05:45 J -2500993.37 -2500993.26 -2500993.15 0.2718 0.0143

Moon -11561-08-27 06:00 J -2500993.36 -2500993.25 -2500993.15 0.2724 0.0199 *

Mars -11559-03-19 03:50 J -2500424.51 -2500424.34 -2500424.17 0.1877 0.0328

Jupiter -11559-05-01 17:45 J -2500380.88 -2500380.76 -2500380.64 0.0524 0.0129

Jupiter -11559-07-29 22:19 J -2500291.65 -2500291.57 -2500291.50 0.0522 0.0410

Moon -11557-02-27 07:26 J -2499714.35 -2499714.19 -2499714.03 0.2613 0.0447

Earth -11557-02-27 09:07 J -2499714.28 -2499714.12 -2499713.96 0.2615 0.0371 *

Mars -11557-12-24 21:50 J -2499412.70 -2499412.59 -2499412.47 0.1644 0.0044

Jupiter -11553-06-22 08:38 J -2498137.32 -2498137.14 -2498136.95 0.0502 0.0061

Saturn -11553-10-30 22:48 J -2498006.55 -2498006.55 -2498006.55 0.0303 0.0302

Saturn -11552-01-27 11:02 J -2497918.15 -2497918.04 -2497917.92 0.0302 0.0139

Saturn -11552-04-25 23:16 J -2497829.65 -2497829.53 -2497829.40 0.0301 0.0025

Saturn -11552-07-23 11:31 J -2497741.12 -2497741.02 -2497740.92 0.0300 0.0183

Venus -11550-03-28 13:11 J -2497128.02 -2497127.95 -2497127.88 0.3701 0.2643

Mars -11550-08-08 19:55 J -2496994.73 -2496994.67 -2496994.61 0.1872 0.1729

Neptune -11548-04-13 14:52 J -2496380.93 -2496380.88 -2496380.80 0.0088 0.0083

Neptune -11548-07-10 18:28 J -2496292.82 -2496292.73 -2496292.60 0.0088 0.0073

Earth -11548-08-29 23:16 J -2496242.62 -2496242.53 -2496242.43 0.2718 0.1144

Moon -11548-08-30 00:00 J -2496242.60 -2496242.50 -2496242.41 0.2722 0.1274 *

Neptune -11548-10-06 22:04 J -2496204.70 -2496204.58 -2496204.42 0.0088 0.0063

Neptune -11547-01-03 02:24 J -2496116.56 -2496116.40 -2496116.24 0.0088 0.0052

Uranus -11547-01-06 18:00 J -2496112.79 -2496112.75 -2496112.67 0.0140 0.0133

Jupiter -11547-02-17 22:19 J -2496070.68 -2496070.57 -2496070.46 0.0524 0.0264

Neptune -11547-04-01 06:00 J -2496028.42 -2496028.25 -2496028.08 0.0088 0.0042

Uranus -11547-04-05 02:24 J -2496024.52 -2496024.40 -2496024.25 0.0140 0.0102

Mars -11547-05-17 09:21 J -2495982.22 -2495982.11 -2495982.00 0.1647 0.0421

Jupiter -11547-05-18 02:52 J -2495981.49 -2495981.38 -2495981.28 0.0523 0.0277

Neptune -11547-06-28 09:35 J -2495940.28 -2495940.10 -2495939.91 0.0088 0.0032

Uranus -11547-07-02 10:48 J -2495936.21 -2495936.05 -2495935.87 0.0140 0.0071

Neptune -11547-09-24 13:11 J -2495852.13 -2495851.95 -2495851.75 0.0088 0.0022

Uranus -11547-09-28 19:11 J -2495847.89 -2495847.70 -2495847.51 0.0140 0.0041

Neptune -11547-12-21 17:02 J -2495763.98 -2495763.79 -2495763.59 0.0088 0.0012

Uranus -11547-12-26 03:21 J -2495759.55 -2495759.36 -2495759.16 0.0140 0.0010

Neptune -11546-03-19 20:52 J -2495675.83 -2495675.63 -2495675.43 0.0088 0.0002

Uranus -11546-03-24 11:31 J -2495671.21 -2495671.02 -2495670.82 0.0140 0.0021

Neptune -11546-06-16 00:28 J -2495587.67 -2495587.48 -2495587.28 0.0088 0.0009

Uranus -11546-06-20 19:40 J -2495582.86 -2495582.68 -2495582.49 0.0139 0.0051

Neptune -11546-09-12 04:04 J -2495499.52 -2495499.33 -2495499.13 0.0088 0.0019

Uranus -11546-09-17 03:50 J -2495494.50 -2495494.34 -2495494.18 0.0139 0.0080

Neptune -11546-12-09 07:55 J -2495411.35 -2495411.17 -2495410.98 0.0088 0.0029

Uranus -11546-12-14 11:45 J -2495406.12 -2495406.01 -2495405.88 0.0139 0.0110

Neptune -11545-03-06 11:45 J -2495323.19 -2495323.01 -2495322.83 0.0088 0.0039

Mars -11545-04-21 11:02 J -2495277.10 -2495277.04 -2495276.98 0.1636 0.1370

Neptune -11545-06-02 15:07 J -2495235.02 -2495234.87 -2495234.69 0.0088 0.0050

Neptune -11545-08-29 18:43 J -2495146.85 -2495146.72 -2495146.56 0.0088 0.0060

Venus -11545-10-11 04:33 J -2495104.41 -2495104.31 -2495104.22 0.3702 0.0904

Neptune -11545-11-25 22:33 J -2495058.67 -2495058.56 -2495058.43 0.0088 0.0070

Neptune -11544-02-22 02:24 J -2494970.47 -2494970.40 -2494970.31 0.0088 0.0080

Moon -11544-03-01 15:21 J -2494962.97 -2494962.86 -2494962.76 0.2619 0.1948

Earth -11544-03-01 16:48 J -2494962.89 -2494962.80 -2494962.72 0.2616 0.2199 *

Venus -11542-07-17 00:28 J -2494095.56 -2494095.48 -2494095.41 0.3670 0.3207

Jupiter -11541-04-10 05:31 J -2493827.46 -2493827.27 -2493827.09 0.0502 0.0122

Moon -11541-08-22 22:48 J -2493692.59 -2493692.55 -2493692.51 0.2722 0.2477

Earth -11541-08-22 23:16 J -2493692.57 -2493692.53 -2493692.48 0.2719 0.2402 *

Venus -11539-04-26 19:40 J -2493080.78 -2493080.68 -2493080.58 0.3704 0.0832

Mars -11538-10-07 20:52 J -2492551.73 -2492551.63 -2492551.53 0.1650 0.0864

Saturn -11537-08-09 09:07 J -2492245.24 -2492245.12 -2492244.99 0.0261 0.0198

Saturn -11537-11-06 06:43 J -2492156.41 -2492156.22 -2492156.03 0.0261 0.0037

Venus -11536-01-30 12:57 J -2492071.01 -2492070.96 -2492070.91 0.3667 0.3468

Saturn -11536-02-03 04:19 J -2492067.49 -2492067.32 -2492067.15 0.0262 0.0125

Mars -11536-09-11 22:33 J -2491846.65 -2491846.56 -2491846.46 0.1638 0.0939

Jupiter -11536-12-07 02:52 J -2491760.46 -2491760.38 -2491760.30 0.0524 0.0399

Jupiter -11535-03-06 07:26 J -2491671.31 -2491671.19 -2491671.07 0.0523 0.0144

Earth -11535-09-01 17:02 J -2491491.83 -2491491.79 -2491491.74 0.2717 0.2423

Moon -11535-09-01 17:45 J -2491491.80 -2491491.76 -2491491.72 0.2715 0.2468 *

Venus -11534-11-10 10:48 J -2491057.12 -2491057.05 -2491056.98 0.3706 0.2570

Pluto -11532-04-03 10:04 J -2490547.13 -2490547.08 -2490546.98 0.0072 0.0064

Pluto -11532-06-30 12:00 J -2490459.10 -2490459.00 -2490458.89 0.0072 0.0054

Pluto -11532-09-26 13:26 J -2490371.06 -2490370.94 -2490370.80 0.0072 0.0045

Pluto -11532-12-23 14:52 J -2490283.01 -2490282.88 -2490282.73 0.0072 0.0036

Pluto -11531-03-21 16:19 J -2490194.96 -2490194.82 -2490194.66 0.0072 0.0027

Pluto -11531-06-17 17:45 J -2490106.91 -2490106.76 -2490106.59 0.0072 0.0018

Pluto -11531-09-13 19:26 J -2490018.85 -2490018.69 -2490018.52 0.0071 0.0008

Pluto -11531-12-10 20:52 J -2489930.79 -2489930.63 -2489930.46 0.0071 0.0002

Pluto -11530-03-08 22:19 J -2489842.73 -2489842.57 -2489842.40 0.0071 0.0010

Pluto -11530-06-04 23:45 J -2489754.67 -2489754.51 -2489754.35 0.0071 0.0018

Pluto -11530-09-01 01:11 J -2489666.60 -2489666.45 -2489666.30 0.0071 0.0027

Pluto -11530-11-28 02:24 J -2489578.53 -2489578.40 -2489578.25 0.0071 0.0036

Jupiter -11529-01-28 01:55 J -2489517.57 -2489517.42 -2489517.27 0.0502 0.0305

Pluto -11529-02-24 03:35 J -2489490.46 -2489490.35 -2489490.21 0.0071 0.0045

Mars -11529-04-27 12:43 J -2489427.10 -2489426.97 -2489426.84 0.1882 0.1213

Jupiter -11529-04-27 15:21 J -2489426.94 -2489426.86 -2489426.77 0.0503 0.0449 *

Pluto -11529-05-22 05:02 J -2489402.38 -2489402.29 -2489402.17 0.0071 0.0053

Pluto -11529-08-18 06:14 J -2489314.30 -2489314.24 -2489314.14 0.0071 0.0062

Pluto -11529-11-14 07:40 J -2489226.19 -2489226.18 -2489226.14 0.0070 0.0070

Mars -11528-02-27 08:24 J -2489121.22 -2489121.15 -2489121.08 0.1653 0.1308

Moon -11528-08-25 16:33 J -2488941.90 -2488941.81 -2488941.72 0.2725 0.1241

Earth -11528-08-25 16:48 J -2488941.89 -2488941.80 -2488941.70 0.2718 0.1151 *

Mars -11526-02-02 10:19 J -2488416.18 -2488416.07 -2488415.97 0.1641 0.0511

Moon -11524-02-24 06:43 J -2487663.25 -2487663.22 -2487663.20 0.2611 0.2577

Earth -11524-02-24 08:09 J -2487663.21 -2487663.16 -2487663.11 0.2615 0.2476 *

Jupiter -11524-12-23 12:28 J -2487361.10 -2487360.98 -2487360.85 0.0523 0.0020

Saturn -11523-06-16 12:00 J -2487186.10 -2487186.00 -2487185.91 0.0302 0.0202

Saturn -11523-09-13 00:14 J -2487097.62 -2487097.49 -2487097.37 0.0301 0.0040

Saturn -11523-12-10 12:14 J -2487009.10 -2487008.99 -2487008.87 0.0300 0.0122

Saturn -11522-03-09 00:14 J -2486920.52 -2486920.49 -2486920.44 0.0299 0.0281

Mars -11520-09-17 04:33 J -2485997.48 -2485997.31 -2485997.14 0.1877 0.0216

Jupiter -11517-02-14 10:19 J -2485117.23 -2485117.07 -2485116.90 0.0503 0.0248

Mars -11517-06-24 21:50 J -2484985.71 -2484985.59 -2484985.48 0.1644 0.0074

Earth -11515-08-28 10:33 J -2484191.17 -2484191.06 -2484190.95 0.2718 0.0126

Moon -11515-08-28 10:48 J -2484191.16 -2484191.05 -2484190.94 0.2724 0.0212 *

Jupiter -11512-10-11 17:31 J -2483050.89 -2483050.77 -2483050.65 0.0524 0.0109

Jupiter -11511-01-08 21:50 J -2482961.65 -2482961.59 -2482961.52 0.0522 0.0430

Moon -11511-02-27 14:09 J -2482912.07 -2482911.91 -2482911.74 0.2614 0.0167

Earth -11511-02-27 15:50 J -2482912.00 -2482911.84 -2482911.67 0.2615 0.0138 *

Mars -11510-02-06 20:38 J -2482567.72 -2482567.64 -2482567.56 0.1873 0.1616

Mars -11508-11-15 09:21 J -2481555.22 -2481555.11 -2481555.00 0.1647 0.0364

Saturn -11508-12-27 07:11 J -2481513.24 -2481513.20 -2481513.14 0.0260 0.0250

Saturn -11507-03-26 04:48 J -2481424.48 -2481424.30 -2481424.11 0.0261 0.0090

Saturn -11507-06-23 02:24 J -2481335.59 -2481335.40 -2481335.21 0.0261 0.0072

Saturn -11507-09-20 00:00 J -2481246.58 -2481246.50 -2481246.41 0.0262 0.0235

Mars -11506-10-21 11:02 J -2480850.10 -2480850.04 -2480849.99 0.1636 0.1422

Jupiter -11506-12-03 07:11 J -2480807.39 -2480807.20 -2480807.01 0.0502 0.0067

Uranus -11503-03-18 04:04 J -2479971.38 -2479971.33 -2479971.26 0.0138 0.0122

Uranus -11503-06-14 07:26 J -2479883.27 -2479883.19 -2479883.10 0.0138 0.0102

Uranus -11503-09-10 10:33 J -2479795.16 -2479795.06 -2479794.95 0.0138 0.0083

Uranus -11503-12-07 13:40 J -2479707.04 -2479706.93 -2479706.81 0.0139 0.0063

Uranus -11502-03-05 16:48 J -2479618.92 -2479618.80 -2479618.67 0.0139 0.0044

Uranus -11502-06-01 20:09 J -2479530.79 -2479530.66 -2479530.53 0.0139 0.0024

Uranus -11502-08-28 23:16 J -2479442.66 -2479442.53 -2479442.40 0.0139 0.0005

Earth -11502-08-31 04:04 J -2479440.42 -2479440.33 -2479440.23 0.2717 0.1397

Moon -11502-08-31 04:48 J -2479440.39 -2479440.30 -2479440.21 0.2721 0.1414 *

Uranus -11502-11-25 02:24 J -2479354.53 -2479354.40 -2479354.27 0.0139 0.0016

Uranus -11501-02-21 05:45 J -2479266.39 -2479266.26 -2479266.14 0.0139 0.0036

Uranus -11501-05-19 08:52 J -2479178.25 -2479178.13 -2479178.01 0.0139 0.0055

Uranus -11501-08-15 12:00 J -2479090.10 -2479090.00 -2479089.89 0.0139 0.0075

Uranus -11501-11-11 15:07 J -2479001.95 -2479001.87 -2479001.77 0.0140 0.0096

Uranus -11500-02-07 18:28 J -2478913.80 -2478913.73 -2478913.65 0.0140 0.0116

Uranus -11500-05-06 21:35 J -2478825.62 -2478825.60 -2478825.56 0.0140 0.0136

Jupiter -11500-07-30 21:50 J -2478740.70 -2478740.59 -2478740.48 0.0524 0.0247

Jupiter -11500-10-28 02:24 J -2478651.51 -2478651.40 -2478651.30 0.0522 0.0294

Mars -11498-04-07 20:52 J -2478124.73 -2478124.63 -2478124.53 0.1650 0.0805

Mars -11496-03-12 22:33 J -2477419.65 -2477419.56 -2477419.47 0.1638 0.0996

Moon -11495-08-24 03:35 J -2476890.41 -2476890.35 -2476890.29 0.2723 0.2229

Earth -11495-08-24 04:04 J -2476890.39 -2476890.33 -2476890.26 0.2719 0.2155 *

Jupiter -11494-09-21 04:19 J -2476497.51 -2476497.32 -2476497.14 0.0502 0.0111

Venus	-11494-11-02 10:33 J	-2476455.14	-2476455.06	-2476454.97	0.3701	0.2015
Saturn	-11494-11-03 12:43 J	-2476454.03	-2476453.97	-2476453.91	0.0303	0.0266
Saturn	-11493-01-31 00:57 J	-2476365.58	-2476365.46	-2476365.34	0.0302	0.0102
Saturn	-11493-04-28 13:11 J	-2476277.07	-2476276.95	-2476276.82	0.0301	0.0060
Saturn	-11493-07-26 01:26 J	-2476188.53	-2476188.44	-2476188.36	0.0300	0.0220
Mars	-11490-10-27 13:40 J	-2475000.05	-2474999.93	-2474999.81	0.1882	0.1338
Mars	-11489-08-28 08:24 J	-2474694.23	-2474694.15	-2474694.08	0.1653	0.1254
Earth	-11489-09-01 21:50 J	-2474689.60	-2474689.59	-2474689.57	0.2717	0.2677
Venus	-11488-05-18 01:55 J	-2474431.52	-2474431.42	-2474431.32	0.3703	0.0331
Jupiter	-11488-05-19 02:24 J	-2474430.49	-2474430.40	-2474430.32	0.0524	0.0383
Jupiter	-11488-08-16 06:57 J	-2474341.33	-2474341.21	-2474341.09	0.0523	0.0160
Mars	-11487-08-03 10:04 J	-2473989.18	-2473989.08	-2473988.97	0.1641	0.0567
Venus	-11485-02-21 03:21 J	-2473422.52	-2473422.36	-2473422.20	0.3669	0.1086
Venus	-11483-12-01 17:02 J	-2472407.88	-2472407.79	-2472407.70	0.3705	0.1455
Jupiter	-11482-07-10 00:57 J	-2472187.61	-2472187.46	-2472187.31	0.0502	0.0292
Moon	-11482-08-26 21:35 J	-2472139.71	-2472139.60	-2472139.50	0.2725	0.0907
Earth	-11482-08-26 21:35 J	-2472139.70	-2472139.60	-2472139.49	0.2718	0.0902 *
Jupiter	-11482-10-08 14:24 J	-2472096.97	-2472096.90	-2472096.82	0.0503	0.0462
Mars	-11480-03-18 05:45 J	-2471570.44	-2471570.26	-2471570.09	0.1877	0.0097
Moon	-11478-02-25 13:26 J	-2470861.03	-2470860.94	-2470860.85	0.2611	0.2167
Earth	-11478-02-25 14:52 J	-2470860.98	-2470860.88	-2470860.77	0.2615	0.1970 *
Saturn	-11478-08-13 02:38 J	-2470692.55	-2470692.39	-2470692.23	0.0261	0.0144
Saturn	-11478-11-10 00:14 J	-2470603.69	-2470603.49	-2470603.30	0.0261	0.0018
Mars	-11478-12-24 21:50 J	-2470558.71	-2470558.59	-2470558.48	0.1643	0.0133
Saturn	-11477-02-06 21:35 J	-2470514.73	-2470514.60	-2470514.45	0.0262	0.0180
Venus	-11477-06-16 08:09 J	-2470384.21	-2470384.16	-2470384.11	0.3706	0.3178
Jupiter	-11476-03-07 06:43 J	-2470120.23	-2470120.22	-2470120.20	0.0525	0.0520
Jupiter	-11476-06-04 11:31 J	-2470031.15	-2470031.02	-2470030.90	0.0524	0.0028
Mars	-11471-08-07 21:35 J	-2468140.70	-2468140.60	-2468140.49	0.1873	0.1485
Jupiter	-11470-04-27 21:21 J	-2467877.66	-2467877.61	-2467877.55	0.0501	0.0475

Jupiter -11470-07-27 10:48 J -2467787.20 -2467787.05 -2467786.89 0.0502 0.0277

Earth -11469-08-28 15:21 J -2467388.97 -2467388.86 -2467388.75 0.2718 0.0374

Moon -11469-08-28 15:35 J -2467388.95 -2467388.85 -2467388.74 0.2725 0.0369 *

Mars -11468-05-16 09:21 J -2467128.22 -2467128.11 -2467128.00 0.1647 0.0311

Neptune -11467-07-28 14:38 J -2466689.92 -2466689.89 -2466689.85 0.0089 0.0086

Neptune -11467-10-24 15:50 J -2466601.89 -2466601.84 -2466601.77 0.0089 0.0079

Neptune -11466-01-20 17:16 J -2466513.86 -2466513.78 -2466513.70 0.0089 0.0072

Neptune -11466-04-18 18:28 J -2466425.81 -2466425.73 -2466425.64 0.0089 0.0065

Mars -11466-04-21 10:48 J -2466423.09 -2466423.05 -2466423.00 0.1636 0.1476

Neptune -11466-07-15 19:40 J -2466337.77 -2466337.68 -2466337.57 0.0089 0.0058

Neptune -11466-10-11 21:07 J -2466249.73 -2466249.62 -2466249.51 0.0089 0.0050

Neptune -11465-01-07 22:19 J -2466161.68 -2466161.57 -2466161.45 0.0089 0.0043

Moon -11465-02-28 21:07 J -2466109.78 -2466109.62 -2466109.47 0.2616 0.0528

Earth -11465-02-28 22:48 J -2466109.71 -2466109.55 -2466109.39 0.2615 0.0629 *

Neptune -11465-04-04 23:31 J -2466073.63 -2466073.52 -2466073.39 0.0089 0.0037

Neptune -11465-07-02 00:57 J -2465985.58 -2465985.46 -2465985.33 0.0089 0.0029

Neptune -11465-09-28 02:09 J -2465897.53 -2465897.41 -2465897.28 0.0089 0.0022

Neptune -11465-12-25 03:35 J -2465809.48 -2465809.35 -2465809.22 0.0089 0.0015

Neptune -11464-03-23 04:48 J -2465721.43 -2465721.30 -2465721.17 0.0089 0.0008

Jupiter -11464-03-23 16:33 J -2465720.94 -2465720.81 -2465720.69 0.0524 0.0103

Saturn -11464-06-19 01:55 J -2465633.52 -2465633.42 -2465633.31 0.0302 0.0163

Neptune -11464-06-19 06:14 J -2465633.37 -2465633.24 -2465633.11 0.0089 0.0001 *

Jupiter -11464-06-20 20:52 J -2465631.69 -2465631.63 -2465631.56 0.0522 0.0438

Neptune -11464-09-15 07:26 J -2465545.32 -2465545.19 -2465545.06 0.0089 0.0006

Saturn -11464-09-15 14:24 J -2465545.03 -2465544.90 -2465544.78 0.0301 0.0008

Neptune -11464-12-12 08:38 J -2465457.26 -2465457.14 -2465457.01 0.0089 0.0014

Saturn -11464-12-13 02:24 J -2465456.50 -2465456.40 -2465456.29 0.0300 0.0161

Uranus -11463-01-27 02:09 J -2465411.49 -2465411.41 -2465411.31 0.0140 0.0123

Neptune -11463-03-10 10:04 J -2465369.21 -2465369.08 -2465368.95 0.0089 0.0020

Uranus -11463-04-25 10:33 J -2465323.20 -2465323.06 -2465322.91 0.0140 0.0092

Neptune -11463-06-06 11:16 J -2465281.15 -2465281.03 -2465280.90 0.0089 0.0028

Uranus -11463-07-22 18:43 J -2465234.89 -2465234.72 -2465234.53 0.0140 0.0062

Neptune -11463-09-02 12:43 J -2465193.09 -2465192.97 -2465192.85 0.0089 0.0035

Uranus -11463-10-19 03:07 J -2465146.56 -2465146.37 -2465146.17 0.0140 0.0031

Neptune -11463-11-29 13:55 J -2465105.03 -2465104.92 -2465104.80 0.0089 0.0042

Uranus -11462-01-15 11:31 J -2465058.22 -2465058.02 -2465057.83 0.0140 0.0002

Neptune -11462-02-25 15:07 J -2465016.97 -2465016.87 -2465016.76 0.0089 0.0049

Uranus -11462-04-13 19:40 J -2464969.87 -2464969.68 -2464969.49 0.0139 0.0030

Neptune -11462-05-24 16:33 J -2464928.91 -2464928.81 -2464928.71 0.0089 0.0056

Uranus -11462-07-11 03:35 J -2464881.52 -2464881.35 -2464881.16 0.0139 0.0060

Neptune -11462-08-20 17:45 J -2464840.85 -2464840.76 -2464840.67 0.0089 0.0063

Uranus -11462-10-07 11:31 J -2464793.15 -2464793.02 -2464792.85 0.0139 0.0091

Neptune -11462-11-16 18:43 J -2464752.78 -2464752.72 -2464752.63 0.0089 0.0071

Uranus -11461-01-03 19:40 J -2464704.76 -2464704.68 -2464704.57 0.0139 0.0120

Neptune -11461-02-12 19:55 J -2464664.72 -2464664.67 -2464664.59 0.0089 0.0078

Neptune -11461-05-10 21:21 J -2464576.64 -2464576.61 -2464576.56 0.0089 0.0084

Mars -11459-10-06 20:52 J -2463697.73 -2463697.63 -2463697.53 0.1650 0.0754

Jupiter -11458-05-15 05:45 J -2463477.45 -2463477.26 -2463477.07 0.0502 0.0073

Mars -11457-09-10 22:33 J -2462992.65 -2462992.56 -2462992.47 0.1638 0.1048

Earth -11456-08-31 09:07 J -2462638.21 -2462638.12 -2462638.04 0.2717 0.1650

Moon -11456-08-31 09:35 J -2462638.18 -2462638.10 -2462638.02 0.2719 0.1798 *

Jupiter -11452-01-09 21:21 J -2461410.72 -2461410.61 -2461410.50 0.0524 0.0230

Jupiter -11452-04-09 01:55 J -2461321.52 -2461321.42 -2461321.32 0.0523 0.0311

Mars -11450-04-27 14:24 J -2460573.01 -2460572.90 -2460572.79 0.1882 0.1451

Mars -11449-02-27 08:24 J -2460267.23 -2460267.15 -2460267.07 0.1653 0.1194

Moon -11449-08-24 08:24 J -2460088.22 -2460088.15 -2460088.08 0.2723 0.2012

Earth -11449-08-24 08:52 J -2460088.20 -2460088.13 -2460088.05 0.2719 0.1907 *

Saturn -11449-12-30 01:11 J -2459960.58 -2459960.45 -2459960.32 0.0261 0.0193

Saturn -11448-03-28 22:33 J -2459871.75 -2459871.56 -2459871.36 0.0261 0.0033

Saturn -11448-06-25 20:09 J -2459782.82 -2459782.66 -2459782.49 0.0262 0.0130

Mars -11447-02-01 10:04 J -2459562.18 -2459562.08 -2459561.97 0.1641 0.0619

Jupiter -11446-03-03 02:24 J -2459167.58 -2459167.40 -2459167.21 0.0502 0.0108

Venus -11443-11-23 16:48 J -2457805.85 -2457805.80 -2457805.75 0.3700 0.3132

Mars -11441-09-16 06:28 J -2457143.40 -2457143.23 -2457143.05 0.1878 0.0066

Jupiter -11441-10-29 01:40 J -2457100.52 -2457100.43 -2457100.34 0.0524 0.0368

Jupiter -11440-01-26 06:14 J -2457011.36 -2457011.24 -2457011.12 0.0523 0.0173

Mars -11440-07-19 19:40 J -2456836.69 -2456836.68 -2456836.67 0.1657 0.1647

Mars -11438-06-24 21:50 J -2456131.71 -2456131.59 -2456131.48 0.1643 0.0190

Venus -11437-06-08 07:55 J -2455782.26 -2455782.17 -2455782.08 0.3701 0.1392

Moon -11436-08-27 02:24 J -2455337.50 -2455337.40 -2455337.30 0.2725 0.0657

Earth -11436-08-27 02:24 J -2455337.50 -2455337.40 -2455337.29 0.2718 0.0650 *

Saturn -11435-11-06 03:07 J -2454901.45 -2454901.37 -2454901.28 0.0302 0.0221

Jupiter -11435-12-19 23:31 J -2454857.68 -2454857.52 -2454857.37 0.0502 0.0286

Saturn -11434-02-02 15:35 J -2454812.98 -2454812.85 -2454812.73 0.0302 0.0059

Jupiter -11434-03-20 12:57 J -2454767.02 -2454766.96 -2454766.89 0.0503 0.0469

Saturn -11434-05-02 03:35 J -2454724.46 -2454724.35 -2454724.22 0.0301 0.0104

Saturn -11434-07-29 15:50 J -2454635.90 -2454635.84 -2454635.78 0.0300 0.0263

Moon -11432-02-25 20:09 J -2454058.79 -2454058.66 -2454058.53 0.2611 0.1623

Earth -11432-02-25 21:35 J -2454058.73 -2454058.60 -2454058.46 0.2615 0.1479 *

Venus -11432-12-22 23:02 J -2453758.64 -2453758.54 -2453758.44 0.3703 0.0375

Mars -11431-02-05 22:33 J -2453713.67 -2453713.56 -2453713.44 0.1873 0.1360

Jupiter -11429-08-17 06:14 J -2452790.27 -2452790.24 -2452790.21 0.0524 0.0505

Venus -11429-09-27 06:14 J -2452749.39 -2452749.24 -2452749.08 0.3669 0.1059

Mars -11429-11-14 09:21 J -2452701.23 -2452701.11 -2452701.00 0.1647 0.0259

Jupiter -11429-11-14 10:48 J -2452701.18 -2452701.05 -2452700.93 0.0523 0.0039 *

Mars -11427-10-20 10:48 J -2451996.08 -2451996.05 -2451996.01 0.1635 0.1531

Venus -11426-07-08 14:24 J -2451734.98 -2451734.90 -2451734.82 0.3705 0.2073

Earth -11423-08-29 20:09 J -2450586.77 -2450586.66 -2450586.56 0.2718 0.0625

Moon -11423-08-29 20:24 J -2450586.75 -2450586.65 -2450586.54 0.2724 0.0721 *

Jupiter -11423-10-07 19:55 J -2450547.73 -2450547.67 -2450547.59 0.0501 0.0468

Jupiter -11422-01-06 09:21 J -2450457.26 -2450457.11 -2450456.95 0.0503 0.0286

Uranus -11419-01-09 08:09 J -2449358.17 -2449358.16 -2449358.15 0.0138 0.0137

Moon -11419-03-01 03:50 J -2449307.49 -2449307.34 -2449307.19 0.2617 0.0870

Earth -11419-03-01 05:31 J -2449307.41 -2449307.27 -2449307.12 0.2615 0.1125 *

Mars -11419-04-06 20:52 J -2449270.74 -2449270.63 -2449270.53 0.1650 0.0698

Uranus -11419-04-07 11:02 J -2449270.09 -2449270.04 -2449269.96 0.0138 0.0118

Saturn -11419-05-18 23:31 J -2449228.58 -2449228.52 -2449228.45 0.0261 0.0243

Uranus -11419-07-04 14:09 J -2449181.99 -2449181.91 -2449181.81 0.0138 0.0099

Saturn -11419-08-15 21:07 J -2449139.80 -2449139.62 -2449139.44 0.0261 0.0083

Uranus -11419-09-30 17:31 J -2449093.87 -2449093.77 -2449093.66 0.0138 0.0080

Saturn -11419-11-12 18:43 J -2449050.91 -2449050.72 -2449050.54 0.0262 0.0079

Uranus -11419-12-27 20:38 J -2449005.75 -2449005.64 -2449005.52 0.0138 0.0060

Saturn -11418-02-09 16:04 J -2448961.89 -2448961.83 -2448961.75 0.0262 0.0242

Uranus -11418-03-25 23:45 J -2448917.63 -2448917.51 -2448917.38 0.0139 0.0041

Uranus -11418-06-22 02:52 J -2448829.50 -2448829.38 -2448829.25 0.0139 0.0022

Uranus -11418-09-18 06:14 J -2448741.37 -2448741.24 -2448741.11 0.0139 0.0003

Uranus -11418-12-15 09:21 J -2448653.24 -2448653.11 -2448652.98 0.0139 0.0018

Mars -11417-03-11 22:33 J -2448565.65 -2448565.56 -2448565.48 0.1638 0.1102

Uranus -11417-03-12 12:28 J -2448565.10 -2448564.98 -2448564.85 0.0139 0.0038

Uranus -11417-06-08 15:35 J -2448476.96 -2448476.85 -2448476.72 0.0139 0.0059

Jupiter -11417-09-02 15:07 J -2448390.99 -2448390.87 -2448390.74 0.0524 0.0100

Uranus -11417-09-04 18:57 J -2448388.82 -2448388.71 -2448388.60 0.0139 0.0078

Jupiter -11417-11-30 19:40 J -2448301.74 -2448301.68 -2448301.61 0.0522 0.0441

Uranus -11417-12-01 22:04 J -2448300.66 -2448300.58 -2448300.48 0.0139 0.0098

Uranus -11416-02-28 01:11 J -2448212.50 -2448212.45 -2448212.37 0.0140 0.0119

Uranus -11416-05-27 04:33 J -2448124.32 -2448124.31 -2448124.29 0.0140 0.0139

Jupiter -11411-10-25 05:45 J -2446147.44 -2446147.26 -2446147.07 0.0502 0.0099

Mars -11411-10-26 15:21 J -2446145.95 -2446145.86 -2446145.76 0.1882 0.1582

Mars -11410-08-28 08:09 J -2445840.24 -2445840.16 -2445840.07 0.1653 0.1145

Earth -11410-09-01 13:55 J -2445836.00 -2445835.92 -2445835.85 0.2718 0.1907

Moon -11410-09-01 14:38 J -2445835.97 -2445835.89 -2445835.82 0.2718 0.1945 *

Mars -11408-08-02 10:04 J -2445135.18 -2445135.08 -2445134.98 0.1641 0.0671

Saturn -11405-03-25 04:33 J -2444169.35 -2444169.31 -2444169.25 0.0302 0.0276

Saturn -11405-06-21 17:02 J -2444080.91 -2444080.79 -2444080.67 0.0301 0.0113

Jupiter -11405-06-21 20:09 J -2444080.77 -2444080.66 -2444080.55 0.0524 0.0226 *

Saturn -11405-09-18 05:16 J -2443992.41 -2443992.28 -2443992.16 0.0301 0.0049

Jupiter -11405-09-19 00:43 J -2443991.57 -2443991.47 -2443991.37 0.0523 0.0315

Saturn -11405-12-15 17:16 J -2443903.87 -2443903.78 -2443903.69 0.0300 0.0208

Moon -11403-08-25 13:11 J -2443286.03 -2443285.95 -2443285.87 0.2723 0.1703

Earth -11403-08-25 13:40 J -2443286.01 -2443285.93 -2443285.85 0.2719 0.1661 *

Mars -11401-03-17 07:26 J -2442716.36 -2442716.19 -2442716.02 0.1877 0.0162

Mars -11400-01-17 19:40 J -2442409.71 -2442409.68 -2442409.65 0.1657 0.1591

Jupiter -11399-08-13 00:43 J -2441837.66 -2441837.47 -2441837.29 0.0502 0.0106

Mars -11399-12-23 21:35 J -2441704.71 -2441704.60 -2441704.48 0.1644 0.0245

Jupiter -11393-04-10 00:57 J -2439770.55 -2439770.46 -2439770.37 0.0524 0.0356

Jupiter -11393-07-08 05:31 J -2439681.38 -2439681.27 -2439681.15 0.0523 0.0187

Mars -11392-08-06 23:16 J -2439286.65 -2439286.53 -2439286.40 0.1873 0.1247

Moon -11390-08-28 07:11 J -2438535.30 -2438535.20 -2438535.09 0.2726 0.0425

Earth -11390-08-28 07:11 J -2438535.30 -2438535.20 -2438535.09 0.2718 0.0404 *

Saturn -11389-01-02 19:55 J -2438407.83 -2438407.67 -2438407.49 0.0261 0.0129

Saturn -11389-03-31 17:31 J -2438318.96 -2438318.77 -2438318.57 0.0261 0.0034

Mars -11389-05-15 09:21 J -2438274.23 -2438274.11 -2438274.00 0.1647 0.0205

Saturn -11389-06-28 15:07 J -2438229.99 -2438229.87 -2438229.73 0.0262 0.0196

Mars -11387-04-20 10:48 J -2437569.07 -2437569.05 -2437569.02 0.1636 0.1584

Jupiter -11387-05-31 21:07 J -2437527.77 -2437527.62 -2437527.46 0.0502 0.0288

Jupiter -11387-08-30 10:48 J -2437437.12 -2437437.05 -2437436.99 0.0503 0.0466

Moon -11386-02-27 02:52 J -2437256.53 -2437256.38 -2437256.23 0.2613 0.1124

Earth -11386-02-27 04:33 J -2437256.46 -2437256.31 -2437256.16 0.2615 0.0974 *

Venus -11386-06-30 14:09 J -2437132.99 -2437132.91 -2437132.84 0.3700 0.2507

Neptune -11383-01-08 13:11 J -2436210.01 -2436209.95 -2436209.84 0.0088 0.0079

Neptune -11383-04-06 17:02 J -2436121.89 -2436121.79 -2436121.65 0.0088 0.0069

Neptune -11383-07-03 21:07 J -2436033.76 -2436033.62 -2436033.47 0.0088 0.0058

Neptune -11383-09-30 00:43 J -2435945.63 -2435945.47 -2435945.30 0.0088 0.0048

Neptune -11383-12-27 04:19 J -2435857.49 -2435857.32 -2435857.13 0.0088 0.0038

Neptune -11382-03-25 08:09 J -2435769.34 -2435769.16 -2435768.97 0.0088 0.0028

Neptune -11382-06-21 11:45 J -2435681.19 -2435681.01 -2435680.81 0.0088 0.0018

Neptune -11382-09-17 15:35 J -2435593.04 -2435592.85 -2435592.65 0.0088 0.0008

Neptune -11382-12-14 19:26 J -2435504.89 -2435504.69 -2435504.49 0.0088 0.0003

Jupiter -11381-01-28 05:16 J -2435460.32 -2435460.28 -2435460.24 0.0524 0.0495

Neptune -11381-03-11 23:02 J -2435416.73 -2435416.54 -2435416.34 0.0088 0.0013

Jupiter -11381-04-26 09:50 J -2435371.21 -2435371.09 -2435370.96 0.0523 0.0048

Neptune -11381-06-08 02:38 J -2435328.57 -2435328.39 -2435328.19 0.0088 0.0023

Neptune -11381-09-04 06:28 J -2435240.41 -2435240.23 -2435240.04 0.0088 0.0033

Neptune -11381-12-01 09:50 J -2435152.25 -2435152.09 -2435151.90 0.0088 0.0044

Venus -11380-01-13 05:16 J -2435109.38 -2435109.28 -2435109.18 0.3702 0.0769

Neptune -11380-02-27 13:40 J -2435064.08 -2435063.93 -2435063.76 0.0088 0.0054

Neptune -11380-05-26 17:16 J -2434975.90 -2434975.78 -2434975.63 0.0088 0.0064

Neptune -11380-08-22 21:07 J -2434887.71 -2434887.62 -2434887.50 0.0088 0.0074

Mars -11380-10-05 20:52 J -2434843.74 -2434843.63 -2434843.53 0.1650 0.0643

Neptune -11380-11-19 00:57 J -2434799.51 -2434799.46 -2434799.40 0.0088 0.0084

Uranus -11379-02-16 09:21 J -2434710.21 -2434710.11 -2434710.00 0.0140 0.0116

Uranus -11379-05-15 17:45 J -2434621.91 -2434621.76 -2434621.60 0.0140 0.0085

Uranus -11379-08-12 01:55 J -2434533.59 -2434533.42 -2434533.23 0.0140 0.0055

Uranus -11379-11-08 10:19 J -2434445.26 -2434445.07 -2434444.87 0.0140 0.0024

Uranus -11378-02-04 18:28 J -2434356.92 -2434356.73 -2434356.53 0.0140 0.0007

Uranus -11378-05-04 02:38 J -2434268.57 -2434268.39 -2434268.19 0.0139 0.0037

Uranus -11378-07-31 11:02 J -2434180.21 -2434180.04 -2434179.87 0.0139 0.0067

Mars -11378-09-10 22:33 J -2434138.64 -2434138.56 -2434138.48 0.1638 0.1158

Venus -11378-10-18 20:52 J -2434100.68 -2434100.63 -2434100.58 0.3671 0.3458

Uranus -11378-10-27 18:43 J -2434091.84 -2434091.72 -2434091.56 0.0139 0.0098

Uranus -11377-01-24 03:21 J -2434003.44 -2434003.36 -2434003.29 0.0139 0.0127

Earth -11377-08-30 00:57 J -2433784.56 -2433784.46 -2433784.36 0.2718 0.0879

Moon -11377-08-30 01:26 J -2433784.54 -2433784.44 -2433784.34 0.2722 0.0929 *

Saturn -11376-11-08 18:28 J -2433348.84 -2433348.73 -2433348.63 0.0302 0.0168

Saturn -11375-02-05 06:43 J -2433260.35 -2433260.22 -2433260.09 0.0301 0.0006

Jupiter -11375-03-19 18:00 J -2433217.81 -2433217.75 -2433217.68 0.0502 0.0467

Saturn -11375-05-04 18:43 J -2433171.82 -2433171.72 -2433171.60 0.0301 0.0156

Jupiter -11375-06-18 07:26 J -2433127.34 -2433127.19 -2433127.03 0.0503 0.0287

Venus -11375-07-29 20:24 J -2433085.74 -2433085.65 -2433085.55 0.3704 0.0979

Moon -11373-03-01 10:33 J -2432505.20 -2432505.06 -2432504.93 0.2617 0.1476

Earth -11373-03-01 12:14 J -2432505.11 -2432504.99 -2432504.86 0.2615 0.1619 *

Venus -11372-05-04 09:21 J -2432076.18 -2432076.11 -2432076.03 0.3668 0.3206

Mars -11371-04-26 16:33 J -2431718.88 -2431718.81 -2431718.74 0.1882 0.1716

Mars -11370-02-26 08:09 J -2431413.24 -2431413.16 -2431413.07 0.1653 0.1088

Moon -11370-08-24 00:14 J -2431234.50 -2431234.49 -2431234.48 0.2720 0.2696

Earth -11370-08-24 00:57 J -2431234.48 -2431234.46 -2431234.44 0.2719 0.2667 *

Pluto -11370-12-01 12:43 J -2431135.01 -2431134.97 -2431134.90 0.0072 0.0067

Venus -11369-02-12 11:45 J -2431062.08 -2431062.01 -2431061.95 0.3705 0.2693

Jupiter -11369-02-13 14:24 J -2431061.03 -2431060.90 -2431060.78 0.0523 0.0091

Pluto -11369-02-27 13:55 J -2431046.99 -2431046.92 -2431046.82 0.0072 0.0059

Jupiter -11369-05-12 18:43 J -2430971.78 -2430971.72 -2430971.66 0.0522 0.0449

Pluto -11369-05-25 15:21 J -2430958.96 -2430958.86 -2430958.75 0.0072 0.0050

Pluto -11369-08-21 16:19 J -2430870.93 -2430870.82 -2430870.68 0.0072 0.0042

Pluto -11369-11-17 17:45 J -2430782.89 -2430782.76 -2430782.62 0.0072 0.0033

Mars -11368-01-31 10:04 J -2430708.18 -2430708.08 -2430707.98 0.1640 0.0726

Pluto -11368-02-13 18:57 J -2430694.85 -2430694.71 -2430694.57 0.0072 0.0025

Pluto -11368-05-12 20:09 J -2430606.81 -2430606.66 -2430606.51 0.0072 0.0016

Pluto -11368-08-08 21:21 J -2430518.76 -2430518.61 -2430518.46 0.0072 0.0007

Pluto -11368-11-04 22:33 J -2430430.71 -2430430.56 -2430430.40 0.0073 0.0002

Pluto -11367-01-31 23:45 J -2430342.66 -2430342.51 -2430342.35 0.0073 0.0011

Pluto -11367-04-30 01:11 J -2430254.60 -2430254.45 -2430254.30 0.0073 0.0019

Pluto -11367-07-27 02:24 J -2430166.54 -2430166.40 -2430166.26 0.0073 0.0028

Pluto -11367-10-23 03:35 J -2430078.48 -2430078.35 -2430078.21 0.0073 0.0037

Pluto -11366-01-19 04:48 J -2429990.41 -2429990.30 -2429990.17 0.0073 0.0047

Pluto -11366-04-17 06:14 J -2429902.34 -2429902.24 -2429902.14 0.0073 0.0056

Pluto -11366-07-14 07:11 J -2429814.25 -2429814.20 -2429814.11 0.0073 0.0065

Earth -11364-09-01 18:28 J -2429033.79 -2429033.73 -2429033.66 0.2717 0.2161

Moon -11364-09-01 19:11 J -2429033.75 -2429033.70 -2429033.64 0.2718 0.2311 *

Jupiter -11363-04-06 04:04 J -2428817.52 -2428817.33 -2428817.15 0.0502 0.0102

Mars -11362-09-16 08:24 J -2428289.32 -2428289.15 -2428288.98 0.1878 0.0289

Mars -11361-07-18 19:40 J -2427982.72 -2427982.68 -2427982.64 0.1656 0.1536

Saturn -11360-05-21 19:11 J -2427675.84 -2427675.70 -2427675.55 0.0261 0.0174

Saturn -11360-08-18 16:48 J -2427587.00 -2427586.80 -2427586.61 0.0261 0.0013

Saturn -11360-11-15 14:09 J -2427498.06 -2427497.91 -2427497.74 0.0262 0.0150

Mars -11359-06-23 21:35 J -2427277.71 -2427277.60 -2427277.49 0.1643 0.0293

Jupiter -11358-12-02 18:43 J -2426750.83 -2426750.72 -2426750.61 0.0524 0.0228

Jupiter -11357-02-29 23:02 J -2426661.63 -2426661.54 -2426661.43 0.0523 0.0314

Moon -11357-08-25 18:00 J -2426483.83 -2426483.75 -2426483.66 0.2724 0.1515

Earth -11357-08-25 18:28 J -2426483.82 -2426483.73 -2426483.64 0.2719 0.1410 *

Mars -11352-02-05 00:28 J -2424859.61 -2424859.48 -2424859.34 0.1873 0.1111

Jupiter -11351-01-23 00:14 J -2424507.68 -2424507.49 -2424507.30 0.0502 0.0086

Mars -11350-11-14 09:07 J -2423847.23 -2423847.12 -2423847.00 0.1646 0.0154

Saturn -11346-03-28 20:24 J -2422616.74 -2422616.65 -2422616.56 0.0302 0.0216

Saturn -11346-06-25 08:38 J -2422528.26 -2422528.14 -2422528.01 0.0301 0.0054

Jupiter -11346-09-20 23:31 J -2422440.61 -2422440.52 -2422440.43 0.0524 0.0357

Saturn -11346-09-21 20:52 J -2422439.75 -2422439.63 -2422439.51 0.0300 0.0107

Jupiter -11346-12-19 04:04 J -2422351.45 -2422351.33 -2422351.21 0.0523 0.0186

Saturn -11346-12-19 08:52 J -2422351.18 -2422351.13 -2422351.07 0.0299 0.0266

Moon -11344-08-28 12:14 J -2421733.10 -2421732.99 -2421732.89 0.2726 0.0149

Earth -11344-08-28 12:00 J -2421733.10 -2421733.00 -2421732.89 0.2718 0.0167 *

Moon -11340-02-27 09:35 J -2420454.26 -2420454.10 -2420453.95 0.2614 0.0742

Earth -11340-02-27 11:16 J -2420454.19 -2420454.03 -2420453.87 0.2615 0.0480 *

Mars -11340-04-05 20:38 J -2420416.74 -2420416.64 -2420416.53 0.1650 0.0587

Jupiter -11340-11-10 18:57 J -2420197.86 -2420197.71 -2420197.55 0.0501 0.0290

Jupiter -11339-02-09 08:24 J -2420107.22 -2420107.15 -2420107.08 0.0503 0.0464

Mars -11338-03-11 22:19 J -2419711.64 -2419711.57 -2419711.49 0.1638 0.1211

Uranus -11335-01-29 14:52 J -2418656.90 -2418656.88 -2418656.85 0.0138 0.0135

Uranus -11335-04-27 17:45 J -2418568.82 -2418568.76 -2418568.68 0.0138 0.0116

Venus -11335-07-21 20:09 J -2418483.68 -2418483.66 -2418483.64 0.3698 0.3612

Uranus -11335-07-24 21:07 J -2418480.71 -2418480.62 -2418480.53 0.0138 0.0097

Uranus -11335-10-21 00:14 J -2418392.59 -2418392.49 -2418392.38 0.0138 0.0077

Uranus -11334-01-17 03:21 J -2418304.47 -2418304.36 -2418304.24 0.0138 0.0058

Uranus -11334-04-15 06:28 J -2418216.35 -2418216.23 -2418216.10 0.0139 0.0039

Jupiter -11334-07-10 04:19 J -2418130.36 -2418130.32 -2418130.28 0.0525 0.0488

Uranus -11334-07-12 09:50 J -2418128.22 -2418128.09 -2418127.96 0.0139 0.0019

Jupiter -11334-10-07 08:52 J -2418041.25 -2418041.13 -2418041.00 0.0524 0.0056

Uranus -11334-10-08 12:57 J -2418040.09 -2418039.96 -2418039.83 0.0139 0.0001

Uranus -11333-01-04 16:04 J -2417951.96 -2417951.83 -2417951.70 0.0139 0.0021

Uranus -11333-04-01 19:26 J -2417863.82 -2417863.69 -2417863.57 0.0139 0.0040

Uranus -11333-06-28 22:33 J -2417775.68 -2417775.56 -2417775.44 0.0139 0.0060

Uranus -11333-09-25 01:40 J -2417687.53 -2417687.43 -2417687.32 0.0139 0.0080

Uranus -11333-12-22 04:48 J -2417599.38 -2417599.30 -2417599.20 0.0139 0.0100

Uranus -11332-03-20 07:55 J -2417511.22 -2417511.17 -2417511.09 0.0140 0.0121

Mars -11332-10-25 17:02 J -2417291.83 -2417291.79 -2417291.75 0.1882 0.1816

Mars -11331-08-27 08:09 J -2416986.24 -2416986.16 -2416986.07 0.1653 0.1031

Earth -11331-08-31 05:45 J -2416982.36 -2416982.26 -2416982.16 0.2718 0.1130

Moon -11331-08-31 06:14 J -2416982.33 -2416982.24 -2416982.14 0.2721 0.1206 *

Saturn -11331-10-08 18:43 J -2416943.82 -2416943.72 -2416943.60 0.0261 0.0215

Saturn -11330-01-05 16:19 J -2416855.01 -2416854.82 -2416854.63 0.0261 0.0054

Saturn -11330-04-04 13:55 J -2416766.10 -2416765.92 -2416765.74 0.0262 0.0108

Venus -11329-02-04 11:31 J -2416460.11 -2416460.02 -2416459.94 0.3700 0.1875

Mars -11329-08-01 10:04 J -2416281.18 -2416281.08 -2416280.98 0.1641 0.0782

Jupiter -11328-08-29 15:21 J -2415887.92 -2415887.86 -2415887.80 0.0501 0.0474

Jupiter -11328-11-28 04:48 J -2415797.46 -2415797.30 -2415797.14 0.0503 0.0278

Moon -11327-03-02 17:16 J -2415702.89 -2415702.78 -2415702.67 0.2617 0.1900

Earth -11327-03-02 18:57 J -2415702.80 -2415702.71 -2415702.61 0.2616 0.2111 *

Venus -11324-08-20 02:38 J -2414436.49 -2414436.39 -2414436.29 0.3702 0.0149

Moon -11324-08-24 05:02 J -2414432.32 -2414432.29 -2414432.26 0.2720 0.2579

Earth -11324-08-24 05:45 J -2414432.31 -2414432.26 -2414432.22 0.2719 0.2422 *

Mars -11322-03-17 09:35 J -2413862.27 -2413862.10 -2413861.94 0.1878 0.0426

Jupiter -11322-07-26 13:11 J -2413731.07 -2413730.95 -2413730.83 0.0524 0.0084

Jupiter -11322-10-23 17:31 J -2413641.82 -2413641.77 -2413641.71 0.0522 0.0455

Mars -11321-01-17 19:40 J -2413555.73 -2413555.68 -2413555.63 0.1656 0.1479

Venus -11321-05-24 23:45 J -2413427.66 -2413427.51 -2413427.36 0.3670 0.1343

Mars -11320-12-22 21:35 J -2412850.71 -2412850.60 -2412850.49 0.1643 0.0353

Venus -11318-03-05 17:45 J -2412412.85 -2412412.76 -2412412.67 0.3704 0.1595

Earth -11318-09-02 23:16 J -2412231.57 -2412231.53 -2412231.48 0.2717 0.2416

Moon -11318-09-03 00:00 J -2412231.54 -2412231.50 -2412231.45 0.2717 0.2468 *

Saturn -11317-08-14 22:19 J -2411884.63 -2411884.57 -2411884.51 0.0302 0.0265

Saturn -11317-11-11 10:48 J -2411796.17 -2411796.05 -2411795.93 0.0302 0.0102

Saturn -11316-02-07 22:48 J -2411707.67 -2411707.55 -2411707.42 0.0301 0.0061

Saturn -11316-05-07 11:02 J -2411619.13 -2411619.04 -2411618.95 0.0300 0.0220

Jupiter -11316-09-16 01:40 J -2411487.62 -2411487.43 -2411487.25 0.0502 0.0097

Mars -11313-08-06 01:26 J -2410432.59 -2410432.44 -2410432.30 0.1873 0.0990

Venus -11313-09-18 09:07 J -2410389.17 -2410389.12 -2410389.08 0.3706 0.3309

Moon -11311-08-26 23:02 J -2409681.64 -2409681.54 -2409681.45 0.2725 0.1144

Earth -11311-08-26 23:16 J -2409681.63 -2409681.53 -2409681.43 0.2718 0.1163 *

Jupiter -11310-05-14 17:31 J -2409420.88 -2409420.77 -2409420.66 0.0524 0.0223

Mars -11310-05-15 09:07 J -2409420.23 -2409420.12 -2409420.00 0.1646 0.0091

Jupiter -11310-08-11 22:04 J -2409331.68 -2409331.58 -2409331.48 0.0523 0.0318

Earth -11307-02-25 10:04 J -2408403.09 -2408403.08 -2408403.06 0.2615 0.2600

Jupiter -11304-07-04 22:04 J -2407177.77 -2407177.58 -2407177.40 0.0502 0.0089

Neptune -11302-04-24 14:09 J -2406518.94 -2406518.91 -2406518.85 0.0089 0.0084

Neptune -11302-07-21 15:35 J -2406430.91 -2406430.85 -2406430.77 0.0089 0.0076

Neptune -11302-10-17 16:48 J -2406342.87 -2406342.80 -2406342.71 0.0089 0.0069

Neptune -11301-01-13 18:00 J -2406254.83 -2406254.75 -2406254.64 0.0089 0.0063

Saturn -11301-02-25 18:14 J -2406211.76 -2406211.74 -2406211.69 0.0261 0.0256

Neptune -11301-04-10 19:40 J -2406166.78 -2406166.68 -2406166.58 0.0089 0.0055

Saturn -11301-05-24 16:04 J -2406123.01 -2406122.83 -2406122.65 0.0261 0.0095

Neptune -11301-07-07 20:52 J -2406078.74 -2406078.63 -2406078.52 0.0089 0.0048

Saturn -11301-08-21 13:40 J -2406034.12 -2406033.93 -2406033.74 0.0262 0.0067

Neptune -11301-10-03 22:19 J -2405990.69 -2405990.57 -2405990.46 0.0089 0.0041

Mars -11301-10-04 20:38 J -2405989.75 -2405989.64 -2405989.53 0.1650 0.0533

Saturn -11301-11-18 11:02 J -2405945.12 -2405945.04 -2405944.94 0.0262 0.0230

Neptune -11301-12-30 23:31 J -2405902.64 -2405902.52 -2405902.40 0.0089 0.0034

Neptune -11300-03-29 00:43 J -2405814.59 -2405814.47 -2405814.34 0.0089 0.0027

Neptune -11300-06-25 02:09 J -2405726.54 -2405726.41 -2405726.28 0.0089 0.0019

Neptune -11300-09-21 03:21 J -2405638.49 -2405638.36 -2405638.23 0.0089 0.0012

Neptune -11300-12-18 04:33 J -2405550.44 -2405550.31 -2405550.17 0.0089 0.0006

Neptune -11299-03-16 06:00 J -2405462.38 -2405462.25 -2405462.12 0.0089 0.0002

Neptune -11299-06-12 07:11 J -2405374.33 -2405374.20 -2405374.07 0.0089 0.0009

Neptune -11299-09-08 08:24 J -2405286.27 -2405286.15 -2405286.01 0.0089 0.0016

Mars -11299-09-09 22:19 J -2405284.64 -2405284.57 -2405284.50 0.1638 0.1263

Neptune -11299-12-05 09:50 J -2405198.22 -2405198.09 -2405197.96 0.0089 0.0023

Jupiter -11298-03-02 21:50 J -2405110.68 -2405110.59 -2405110.50 0.0524 0.0364

Neptune -11298-03-03 11:02 J -2405110.16 -2405110.04 -2405109.91 0.0089 0.0030

Neptune -11298-05-30 12:14 J -2405022.10 -2405021.99 -2405021.86 0.0089 0.0037

Jupiter -11298-05-31 02:24 J -2405021.52 -2405021.40 -2405021.28 0.0523 0.0179

Neptune -11298-08-26 13:26 J -2404934.04 -2404933.94 -2404933.82 0.0089 0.0045

Moon -11298-08-29 17:02 J -2404930.90 -2404930.79 -2404930.68 0.2725 0.0089

Earth -11298-08-29 16:48 J -2404930.90 -2404930.80 -2404930.69 0.2718 0.0135 *

Neptune -11298-11-22 14:52 J -2404845.98 -2404845.88 -2404845.77 0.0089 0.0051

Neptune -11297-02-18 16:04 J -2404757.92 -2404757.83 -2404757.72 0.0089 0.0059

Neptune -11297-05-16 17:16 J -2404669.86 -2404669.78 -2404669.68 0.0089 0.0066

Neptune -11297-08-12 18:43 J -2404581.79 -2404581.72 -2404581.64 0.0089 0.0072

Neptune -11297-11-08 19:55 J -2404493.72 -2404493.67 -2404493.60 0.0089 0.0080

Neptune -11296-02-04 21:07 J -2404405.64 -2404405.62 -2404405.58 0.0089 0.0087

Uranus -11295-03-08 15:35 J -2404008.95 -2404008.85 -2404008.72 0.0140 0.0112

Uranus -11295-06-05 00:00 J -2403920.65 -2403920.50 -2403920.33 0.0140 0.0081

Uranus -11295-09-01 08:24 J -2403832.33 -2403832.15 -2403831.96 0.0140 0.0050

Uranus -11295-11-28 16:48 J -2403743.99 -2403743.80 -2403743.60 0.0140 0.0020

Uranus -11294-02-25 00:57 J -2403655.65 -2403655.46 -2403655.26 0.0140 0.0011

Moon -11294-02-28 16:19 J -2403651.99 -2403651.82 -2403651.66 0.2615 0.0124

Earth -11294-02-28 18:00 J -2403651.91 -2403651.75 -2403651.58 0.2615 0.0071 *

Uranus -11294-05-24 09:07 J -2403567.30 -2403567.12 -2403566.92 0.0140 0.0042

Uranus -11294-08-20 17:16 J -2403478.94 -2403478.78 -2403478.60 0.0139 0.0072

Uranus -11294-11-17 01:40 J -2403390.56 -2403390.43 -2403390.30 0.0139 0.0102

Uranus -11293-02-13 09:35 J -2403302.15 -2403302.10 -2403302.03 0.0139 0.0132

Jupiter -11292-04-22 18:00 J -2402867.90 -2402867.75 -2402867.59 0.0501 0.0277

Jupiter -11292-07-22 07:26 J -2402777.24 -2402777.19 -2402777.13 0.0503 0.0477

Mars -11291-02-25 08:09 J -2402559.25 -2402559.16 -2402559.07 0.1653 0.0976

Mars -11289-01-31 09:50 J -2401854.18 -2401854.09 -2401853.99 0.1640 0.0838

Saturn -11287-03-31 12:57 J -2401064.07 -2401063.96 -2401063.84 0.0301 0.0146

Saturn -11287-06-28 01:11 J -2400975.57 -2400975.45 -2400975.32 0.0301 0.0018

Saturn -11287-09-24 13:26 J -2400887.04 -2400886.94 -2400886.84 0.0300 0.0176

Jupiter -11287-12-20 02:38 J -2400800.43 -2400800.39 -2400800.36 0.0525 0.0495

Jupiter -11286-03-19 07:11 J -2400711.33 -2400711.20 -2400711.08 0.0524 0.0050

Earth -11285-08-31 10:33 J -2400180.15 -2400180.06 -2400179.97 0.2718 0.1385

Moon -11285-08-31 11:02 J -2400180.12 -2400180.04 -2400179.95 0.2721 0.1501 *

Pluto -11284-01-31 18:00 J -2400026.79 -2400026.75 -2400026.67 0.0072 0.0068

Pluto -11284-04-29 19:55 J -2399938.76 -2399938.67 -2399938.57 0.0072 0.0058

Pluto -11284-07-26 21:21 J -2399850.72 -2399850.61 -2399850.48 0.0072 0.0048

Pluto -11284-10-22 22:48 J -2399762.68 -2399762.55 -2399762.40 0.0072 0.0039

Pluto -11283-01-19 00:14 J -2399674.63 -2399674.49 -2399674.33 0.0072 0.0030

Pluto -11283-04-17 01:40 J -2399586.57 -2399586.43 -2399586.26 0.0072 0.0021

Pluto -11283-07-14 03:21 J -2399498.52 -2399498.36 -2399498.19 0.0072 0.0011

Mars -11283-09-15 10:04 J -2399435.25 -2399435.08 -2399434.92 0.1878 0.0529

Pluto -11283-10-10 04:48 J -2399410.46 -2399410.30 -2399410.13 0.0071 0.0003

Pluto -11282-01-06 06:14 J -2399322.40 -2399322.24 -2399322.07 0.0071 0.0007

Pluto -11282-04-04 07:40 J -2399234.34 -2399234.18 -2399234.02 0.0071 0.0016

Pluto -11282-07-01 08:52 J -2399146.27 -2399146.13 -2399145.96 0.0071 0.0025

Mars -11282-07-18 19:40 J -2399128.74 -2399128.68 -2399128.63 0.1656 0.1425

Pluto -11282-09-27 10:33 J -2399058.20 -2399058.06 -2399057.92 0.0071 0.0033

Pluto -11282-12-24 11:45 J -2398970.13 -2398970.01 -2398969.87 0.0071 0.0042

Moon -11281-03-03 00:14 J -2398900.54 -2398900.49 -2398900.43 0.2619 0.2440

Earth -11281-03-03 01:55 J -2398900.44 -2398900.42 -2398900.41 0.2616 0.2603 *

Pluto -11281-03-21 12:57 J -2398882.06 -2398881.96 -2398881.83 0.0071 0.0051

Pluto -11281-06-17 14:38 J -2398793.97 -2398793.89 -2398793.80 0.0071 0.0059

Pluto -11281-09-13 15:35 J -2398705.87 -2398705.85 -2398705.79 0.0071 0.0068

Jupiter -11280-02-08 12:43 J -2398558.01 -2398557.97 -2398557.91 0.0501 0.0480

Jupiter -11280-05-10 02:09 J -2398467.57 -2398467.41 -2398467.25 0.0502 0.0271

Mars -11280-06-22 21:35 J -2398423.71 -2398423.60 -2398423.49 0.1643 0.0402

Venus -11278-02-25 17:31 J -2397810.82 -2397810.77 -2397810.71 0.3699 0.2985

Moon -11278-08-25 09:50 J -2397630.15 -2397630.09 -2397630.03 0.2721 0.2206

Earth -11278-08-25 10:33 J -2397630.13 -2397630.06 -2397630.00 0.2719 0.2179 *

Jupiter -11274-01-05 12:00 J -2396401.13 -2396401.00 -2396400.88 0.0524 0.0084

Jupiter -11274-04-04 16:19 J -2396311.87 -2396311.82 -2396311.76 0.0523 0.0458

Mars -11273-02-05 02:09 J -2396005.56 -2396005.41 -2396005.26 0.1873 0.0874

Venus -11273-09-10 08:52 J -2395787.23 -2395787.13 -2395787.04 0.3701 0.1248

Earth -11272-09-03 04:19 J -2395429.34 -2395429.32 -2395429.31 0.2717 0.2671

Saturn -11272-10-11 16:04 J -2395390.99 -2395390.83 -2395390.66 0.0261 0.0133

Saturn -11271-01-08 13:40 J -2395302.12 -2395301.93 -2395301.74 0.0262 0.0028

Saturn -11271-04-07 11:16 J -2395213.16 -2395213.03 -2395212.90 0.0262 0.0191

Mars -11271-11-13 09:07 J -2394993.23 -2394993.12 -2394993.01 0.1646 0.0035

Jupiter -11268-02-25 22:19 J -2394157.75 -2394157.57 -2394157.38 0.0502 0.0084

Venus -11267-03-27 00:00 J -2393763.60 -2393763.50 -2393763.40 0.3703 0.0483

Moon -11265-08-27 03:50 J -2392879.44 -2392879.34 -2392879.24 0.2726 0.1012

Earth -11265-08-27 04:04 J -2392879.43 -2392879.33 -2392879.23 0.2718 0.0914 *

Venus -11265-12-30 02:52 J -2392754.54 -2392754.38 -2392754.22 0.3669 0.0796

Jupiter -11263-10-24 16:04 J -2392090.94 -2392090.83 -2392090.72 0.0524 0.0224

Jupiter -11262-01-21 20:38 J -2392001.74 -2392001.64 -2392001.54 0.0523 0.0317

Venus -11262-10-10 15:07 J -2391739.95 -2391739.87 -2391739.79 0.3705 0.2208

Moon -11261-02-26 15:21 J -2391600.95 -2391600.86 -2391600.77 0.2612 0.2158

Earth -11261-02-26 17:02 J -2391600.89 -2391600.79 -2391600.70 0.2615 0.2101 *

Mars -11261-04-04 20:38 J -2391562.75 -2391562.64 -2391562.53 0.1649 0.0475

Mars -11259-03-10 22:19 J -2390857.63 -2390857.57 -2390857.50 0.1638 0.1321

Saturn -11258-08-18 15:35 J -2390331.95 -2390331.85 -2390331.75 0.0302 0.0187

Saturn -11258-11-15 03:50 J -2390243.47 -2390243.34 -2390243.21 0.0301 0.0025

Saturn -11257-02-11 16:04 J -2390154.95 -2390154.83 -2390154.72 0.0301 0.0136

Saturn -11257-05-10 04:04 J -2390066.35 -2390066.33 -2390066.31 0.0300 0.0294

Jupiter -11257-12-14 18:57 J -2389847.89 -2389847.71 -2389847.52 0.0502 0.0100

Mars -11252-08-26 08:09 J -2388132.26 -2388132.16 -2388132.07 0.1653 0.0922

Earth -11252-08-29 21:35 J -2388128.70 -2388128.60 -2388128.49 0.2718 0.0363

Moon -11252-08-29 22:04 J -2388128.69 -2388128.58 -2388128.48 0.2724 0.0470 *

Uranus -11251-02-18 22:04 J -2387955.61 -2387955.58 -2387955.54 0.0138 0.0130

Uranus -11251-05-18 01:11 J -2387867.52 -2387867.45 -2387867.37 0.0138 0.0111

Jupiter -11251-08-12 20:24 J -2387780.74 -2387780.65 -2387780.56 0.0524 0.0363

Uranus -11251-08-14 04:19 J -2387779.41 -2387779.32 -2387779.22 0.0138 0.0092

Jupiter -11251-11-10 00:57 J -2387691.58 -2387691.46 -2387691.34 0.0523 0.0179

Uranus -11251-11-10 07:26 J -2387691.29 -2387691.19 -2387691.07 0.0138 0.0073

Uranus -11250-02-06 10:33 J -2387603.17 -2387603.06 -2387602.93 0.0138 0.0054

Uranus -11250-05-05 13:40 J -2387515.05 -2387514.93 -2387514.80 0.0138 0.0035

Mars -11250-08-01 09:50 J -2387427.18 -2387427.09 -2387426.99 0.1640 0.0891

Uranus -11250-08-01 17:02 J -2387426.92 -2387426.79 -2387426.66 0.0139 0.0014

Uranus -11250-10-28 20:09 J -2387338.79 -2387338.66 -2387338.53 0.0139 0.0005

Uranus -11249-01-24 23:16 J -2387250.66 -2387250.53 -2387250.40 0.0139 0.0025

Uranus -11249-04-22 02:24 J -2387162.52 -2387162.40 -2387162.27 0.0139 0.0045

Uranus -11249-07-19 05:45 J -2387074.38 -2387074.26 -2387074.15 0.0139 0.0065

Uranus -11249-10-15 08:52 J -2386986.23 -2386986.13 -2386986.02 0.0139 0.0085

Uranus -11248-01-11 12:00 J -2386898.08 -2386898.00 -2386897.91 0.0139 0.0105

Moon -11248-02-28 23:02 J -2386849.70 -2386849.54 -2386849.38 0.2615 0.0224

Earth -11248-03-01 00:57 J -2386849.62 -2386849.46 -2386849.30 0.2615 0.0524 *

Uranus -11248-04-09 15:21 J -2386809.91 -2386809.86 -2386809.80 0.0140 0.0125

Jupiter -11245-10-02 15:21 J -2385538.01 -2385537.86 -2385537.71 0.0502 0.0286

Jupiter -11244-01-01 04:48 J -2385447.36 -2385447.30 -2385447.23 0.0503 0.0468

Mars -11243-03-16 11:02 J -2385008.20 -2385008.04 -2385007.87 0.1878 0.0665

Mars -11242-01-16 19:26 J -2384701.75 -2384701.69 -2384701.62 0.1656 0.1371

Saturn -11242-02-28 16:19 J -2384658.97 -2384658.82 -2384658.67 0.0261 0.0170

Saturn -11242-05-28 13:55 J -2384570.12 -2384569.92 -2384569.73 0.0262 0.0010

Saturn -11242-08-25 11:16 J -2384481.18 -2384481.03 -2384480.86 0.0262 0.0154

Mars -11241-12-21 21:35 J -2383996.71 -2383996.60 -2383996.49 0.1643 0.0458

Jupiter -11239-06-01 00:28 J -2383470.51 -2383470.48 -2383470.45 0.0525 0.0506

Jupiter -11239-08-29 05:16 J -2383381.41 -2383381.28 -2383381.16 0.0523 0.0042

Earth -11239-09-01 15:21 J -2383377.95 -2383377.86 -2383377.78 0.2718 0.1640

Moon -11239-09-01 15:50 J -2383377.92 -2383377.84 -2383377.75 0.2721 0.1701 *

Mars -11234-08-06 03:07 J -2381578.52 -2381578.37 -2381578.21 0.1873 0.0745

Jupiter -11233-07-21 11:16 J -2381228.08 -2381228.03 -2381227.97 0.0501 0.0474

Jupiter -11233-10-20 00:43 J -2381137.63 -2381137.47 -2381137.31 0.0502 0.0277

Moon -11232-08-25 14:38 J -2380827.96 -2380827.89 -2380827.82 0.2723 0.2040

Earth -11232-08-25 15:21 J -2380827.94 -2380827.86 -2380827.79 0.2719 0.1928 *

Mars -11231-05-14 09:07 J -2380566.24 -2380566.12 -2380566.01 0.1646 0.0030

Saturn -11228-01-04 18:28 J -2379599.81 -2379599.73 -2379599.65 0.0302 0.0224

Saturn -11228-04-03 06:43 J -2379511.35 -2379511.22 -2379511.10 0.0301 0.0062

Saturn -11228-06-30 18:43 J -2379422.83 -2379422.72 -2379422.59 0.0300 0.0100

Saturn -11228-09-27 06:57 J -2379334.27 -2379334.21 -2379334.15 0.0299 0.0257

Jupiter -11227-06-17 09:50 J -2379071.21 -2379071.09 -2379070.97 0.0524 0.0093

Jupiter -11227-09-14 14:24 J -2378981.96 -2378981.90 -2378981.84 0.0523 0.0447

Venus -11222-10-02 14:52 J -2377137.95 -2377137.88 -2377137.80 0.3699 0.2359

Mars -11222-10-04 20:38 J -2377135.75 -2377135.64 -2377135.53 0.1650 0.0423

Jupiter -11221-08-07 19:26 J -2376827.87 -2376827.69 -2376827.50 0.0502 0.0073

Mars -11220-09-08 22:19 J -2376430.63 -2376430.57 -2376430.51 0.1638 0.1372

Neptune -11219-07-09 07:40 J -2376127.20 -2376127.18 -2376127.12 0.0088 0.0086

Moon -11219-08-28 08:38 J -2376077.24 -2376077.14 -2376077.04 0.2725 0.0632

Earth -11219-08-28 08:52 J -2376077.24 -2376077.13 -2376077.03 0.2718 0.0665 *

Neptune -11219-10-05 11:16 J -2376039.11 -2376039.03 -2376038.91 0.0088 0.0076

Neptune -11218-01-01 15:07 J -2375950.98 -2375950.87 -2375950.72 0.0088 0.0066

Neptune -11218-03-30 19:11 J -2375862.85 -2375862.70 -2375862.55 0.0088 0.0055

Neptune -11218-06-26 22:48 J -2375774.71 -2375774.55 -2375774.37 0.0088 0.0045

Neptune -11218-09-23 02:24 J -2375686.57 -2375686.40 -2375686.21 0.0088 0.0035

Neptune -11218-12-20 06:14 J -2375598.42 -2375598.24 -2375598.04 0.0088 0.0025

Neptune -11217-03-17 09:50 J -2375510.28 -2375510.09 -2375509.88 0.0088 0.0015

Neptune -11217-06-13 13:40 J -2375422.12 -2375421.93 -2375421.73 0.0088 0.0005

Neptune -11217-09-09 17:31 J -2375333.97 -2375333.77 -2375333.57 0.0088 0.0006

Neptune -11217-12-06 21:07 J -2375245.81 -2375245.62 -2375245.42 0.0088 0.0016

Neptune -11216-03-05 00:57 J -2375157.65 -2375157.46 -2375157.27 0.0088 0.0026

Venus -11216-04-17 06:14 J -2375114.34 -2375114.24 -2375114.14 0.3701 0.0645

Neptune -11216-06-01 04:19 J -2375069.49 -2375069.32 -2375069.13 0.0088 0.0037

Neptune -11216-08-28 07:55 J -2374981.32 -2374981.17 -2374980.98 0.0088 0.0047

Neptune -11216-11-24 11:45 J -2374893.15 -2374893.01 -2374892.85 0.0088 0.0057

Neptune -11215-02-20 15:35 J -2374804.97 -2374804.85 -2374804.72 0.0088 0.0067

Moon -11215-02-26 22:04 J -2374798.69 -2374798.58 -2374798.46 0.2612 0.1863

Earth -11215-02-26 23:45 J -2374798.64 -2374798.51 -2374798.38 0.2615 0.1589 *

Jupiter -11215-04-05 14:24 J -2374761.01 -2374760.90 -2374760.78 0.0525 0.0228

Neptune -11215-05-19 19:26 J -2374716.78 -2374716.69 -2374716.60 0.0088 0.0077

Jupiter -11215-07-03 18:57 J -2374671.80 -2374671.71 -2374671.61 0.0523 0.0316

Neptune -11215-08-15 22:48 J -2374628.55 -2374628.55 -2374628.52 0.0088 0.0088

Saturn -11213-07-17 16:48 J -2373926.92 -2373926.80 -2373926.68 0.0261 0.0205

Saturn -11213-10-14 14:24 J -2373838.09 -2373837.90 -2373837.71 0.0262 0.0044

Saturn -11212-01-11 12:00 J -2373749.17 -2373749.00 -2373748.83 0.0262 0.0118

Mars -11212-02-24 08:09 J -2373705.26 -2373705.16 -2373705.06 0.1653 0.0863

Uranus -11212-12-30 13:40 J -2373395.94 -2373395.93 -2373395.88 0.0140 0.0139

Uranus -11211-03-28 22:04 J -2373307.69 -2373307.58 -2373307.44 0.0140 0.0108

Uranus -11211-06-25 06:43 J -2373219.38 -2373219.22 -2373219.05 0.0140 0.0076

Uranus -11211-09-21 15:07 J -2373131.06 -2373130.87 -2373130.68 0.0140 0.0045

Venus -11211-10-31 21:21 J -2373090.71 -2373090.61 -2373090.51 0.3703 0.1098

Uranus -11211-12-18 23:16 J -2373042.72 -2373042.53 -2373042.33 0.0140 0.0015

Mars -11210-01-30 09:50 J -2373000.18 -2373000.09 -2373000.00 0.1640 0.0944

Uranus -11210-03-17 07:40 J -2372954.38 -2372954.18 -2372953.99 0.0140 0.0016

Uranus -11210-06-13 15:35 J -2372866.03 -2372865.85 -2372865.65 0.0140 0.0047

Uranus -11210-09-10 00:00 J -2372777.66 -2372777.50 -2372777.33 0.0139 0.0076

Uranus -11210-12-07 08:09 J -2372689.28 -2372689.16 -2372689.03 0.0139 0.0106

Uranus -11209-03-04 16:04 J -2372600.85 -2372600.83 -2372600.78 0.0139 0.0137

Jupiter -11209-05-26 15:35 J -2372518.03 -2372517.85 -2372517.66 0.0501 0.0116

Venus -11208-08-06 05:45 J -2372081.36 -2372081.26 -2372081.16 0.3668 0.2917

Earth -11206-08-31 02:24 J -2371326.50 -2371326.40 -2371326.29 0.2718 0.0612

Moon -11206-08-31 02:52 J -2371326.48 -2371326.38 -2371326.28 0.2724 0.0609 *

Venus -11205-05-16 12:28 J -2371067.04 -2371066.98 -2371066.91 0.3705 0.2809

Mars -11204-09-14 12:14 J -2370581.15 -2370580.99 -2370580.84 0.1878 0.0792

Jupiter -11203-01-22 18:43 J -2370450.81 -2370450.72 -2370450.63 0.0524 0.0369

Jupiter -11203-04-21 23:16 J -2370361.65 -2370361.53 -2370361.41 0.0523 0.0174

Mars -11203-07-17 19:26 J -2370274.75 -2370274.69 -2370274.62 0.1656 0.1315

Moon -11202-03-02 06:00 J -2370047.40 -2370047.25 -2370047.10 0.2616 0.0936

Earth -11202-03-02 07:40 J -2370047.33 -2370047.18 -2370047.03 0.2615 0.1025 *

Mars -11201-06-21 21:35 J -2369569.71 -2369569.60 -2369569.49 0.1643 0.0514

Saturn -11199-05-24 21:07 J -2368867.68 -2368867.62 -2368867.56 0.0302 0.0263

Saturn -11199-08-21 09:21 J -2368779.23 -2368779.11 -2368778.98 0.0301 0.0101

Saturn -11199-11-17 21:35 J -2368690.72 -2368690.60 -2368690.47 0.0301 0.0061

Saturn -11198-02-14 09:50 J -2368602.18 -2368602.09 -2368602.01 0.0300 0.0220

Jupiter -11197-03-14 12:00 J -2368208.15 -2368208.00 -2368207.85 0.0502 0.0301

Jupiter -11197-06-13 01:26 J -2368117.51 -2368117.44 -2368117.36 0.0503 0.0454

Mars -11194-02-04 04:04 J -2367151.49 -2367151.33 -2367151.16 0.1873 0.0619

Earth -11193-09-01 20:09 J -2366575.74 -2366575.66 -2366575.59 0.2718 0.1893

Moon -11193-09-01 20:38 J -2366575.71 -2366575.64 -2366575.57 0.2720 0.2028 *

Jupiter -11192-11-10 23:02 J -2366140.57 -2366140.54 -2366140.51 0.0525 0.0508

Mars -11192-11-12 09:07 J -2366139.24 -2366139.12 -2366139.01 0.1646 0.0096

Jupiter -11191-02-08 03:35 J -2366051.48 -2366051.35 -2366051.22 0.0523 0.0035

Moon -11186-08-26 19:26 J -2364025.77 -2364025.69 -2364025.60 0.2724 0.1725

Earth -11186-08-26 19:55 J -2364025.75 -2364025.67 -2364025.58 0.2719 0.1677 *

Jupiter -11185-01-01 08:24 J -2363898.19 -2363898.15 -2363898.11 0.0501 0.0486

Jupiter -11185-03-31 21:35 J -2363807.75 -2363807.60 -2363807.43 0.0502 0.0266

Saturn -11184-12-04 17:02 J -2363194.85 -2363194.79 -2363194.70 0.0261 0.0240

Saturn -11183-03-03 14:38 J -2363106.07 -2363105.89 -2363105.70 0.0261 0.0080

Saturn -11183-05-31 12:28 J -2363017.17 -2363016.98 -2363016.80 0.0262 0.0083

Saturn -11183-08-28 10:04 J -2362928.14 -2362928.08 -2362928.01 0.0263 0.0247

Mars -11182-04-04 20:38 J -2362708.75 -2362708.64 -2362708.53 0.1649 0.0369

Mars -11180-03-09 22:19 J -2362003.63 -2362003.57 -2362003.52 0.1638 0.1426

Jupiter -11180-11-27 07:40 J -2361741.30 -2361741.18 -2361741.05 0.0524 0.0108

Jupiter -11179-02-24 12:14 J -2361652.06 -2361651.99 -2361651.92 0.0523 0.0433

Jupiter -11173-01-18 17:31 J -2359497.95 -2359497.77 -2359497.58 0.0502 0.0075

Mars -11173-08-25 07:55 J -2359278.26 -2359278.17 -2359278.07 0.1653 0.0815

Moon -11173-08-28 13:40 J -2359275.04 -2359274.93 -2359274.83 0.2725 0.0474

Earth -11173-08-28 13:40 J -2359275.04 -2359274.93 -2359274.83 0.2718 0.0409 *

Mars -11171-07-31 09:50 J -2358573.18 -2358573.09 -2358573.00 0.1640 0.0996

Venus -11171-10-23 21:07 J -2358488.65 -2358488.62 -2358488.59 0.3698 0.3466

Saturn -11170-10-12 00:14 J -2358135.51 -2358135.49 -2358135.47 0.0302 0.0297

Saturn -11169-01-08 12:28 J -2358047.09 -2358046.98 -2358046.86 0.0301 0.0134

Moon -11169-02-28 04:48 J -2357996.44 -2357996.30 -2357996.15 0.2612 0.1195

Earth -11169-02-28 06:43 J -2357996.37 -2357996.22 -2357996.08 0.2615 0.1091 *

Saturn -11169-04-06 00:43 J -2357958.59 -2357958.47 -2357958.34 0.0300 0.0029

Saturn -11169-07-03 12:57 J -2357870.06 -2357869.96 -2357869.86 0.0300 0.0187

Jupiter -11168-09-15 12:14 J -2357431.10 -2357430.99 -2357430.87 0.0524 0.0242

Jupiter -11168-12-13 16:48 J -2357341.90 -2357341.80 -2357341.69 0.0523 0.0302

Uranus -11167-03-11 05:16 J -2357254.32 -2357254.28 -2357254.22 0.0138 0.0126

Uranus -11167-06-07 08:38 J -2357166.22 -2357166.14 -2357166.06 0.0138 0.0106

Uranus -11167-09-03 11:45 J -2357078.11 -2357078.01 -2357077.91 0.0138 0.0087

Uranus -11167-11-30 14:38 J -2356989.99 -2356989.89 -2356989.77 0.0138 0.0069

Uranus -11166-02-26 18:00 J -2356901.87 -2356901.75 -2356901.63 0.0138 0.0049

Uranus -11166-05-25 21:07 J -2356813.75 -2356813.62 -2356813.49 0.0139 0.0029

Uranus -11166-08-22 00:14 J -2356725.62 -2356725.49 -2356725.36 0.0139 0.0010

Uranus -11166-11-18 03:21 J -2356637.49 -2356637.36 -2356637.23 0.0139 0.0011

Uranus -11165-02-14 06:43 J -2356549.35 -2356549.22 -2356549.10 0.0139 0.0030

Venus -11165-05-08 12:14 J -2356465.08 -2356464.99 -2356464.90 0.3700 0.1741

Uranus -11165-05-12 09:50 J -2356461.21 -2356461.09 -2356460.97 0.0139 0.0050

Uranus -11165-08-08 12:57 J -2356373.07 -2356372.96 -2356372.85 0.0139 0.0069

Uranus -11165-11-04 16:04 J -2356284.92 -2356284.83 -2356284.72 0.0139 0.0090

Uranus -11164-01-31 19:11 J -2356196.77 -2356196.70 -2356196.61 0.0139 0.0110

Mars -11164-03-15 12:57 J -2356154.11 -2356153.96 -2356153.81 0.1878 0.0906

Uranus -11164-04-29 22:33 J -2356108.60 -2356108.56 -2356108.51 0.0140 0.0130

Mars -11163-01-15 19:26 J -2355847.76 -2355847.69 -2355847.61 0.1656 0.1258

Jupiter -11162-11-06 12:28 J -2355188.16 -2355187.98 -2355187.79 0.0501 0.0130

Mars -11162-12-21 21:21 J -2355142.71 -2355142.61 -2355142.50 0.1643 0.0567

Earth -11160-08-31 07:11 J -2354524.30 -2354524.20 -2354524.10 0.2718 0.0863

Moon -11160-08-31 07:40 J -2354524.28 -2354524.18 -2354524.08 0.2724 0.0994 *

Venus -11160-11-22 03:35 J -2354441.45 -2354441.35 -2354441.25 0.3702 0.0134

Venus -11157-08-26 20:24 J -2353432.80 -2353432.65 -2353432.50 0.3671 0.1572

Moon -11156-03-02 12:57 J -2353245.10 -2353244.96 -2353244.82 0.2617 0.1244

Earth -11156-03-02 14:24 J -2353245.03 -2353244.90 -2353244.77 0.2615 0.1523 *

Jupiter -11156-07-04 16:48 J -2353120.88 -2353120.80 -2353120.71 0.0525 0.0377

Jupiter -11156-10-01 21:35 J -2353031.72 -2353031.60 -2353031.48 0.0524 0.0168

Mars -11155-08-05 05:02 J -2352724.46 -2352724.29 -2352724.13 0.1874 0.0504

Venus -11154-06-07 18:43 J -2352417.81 -2352417.72 -2352417.63 0.3704 0.1706

Saturn -11154-07-21 15:21 J -2352374.03 -2352373.86 -2352373.69 0.0262 0.0114

Saturn -11154-10-18 12:57 J -2352285.15 -2352284.96 -2352284.77 0.0262 0.0049

Saturn -11153-01-15 10:19 J -2352196.17 -2352196.07 -2352195.94 0.0263 0.0213

Earth -11153-08-24 07:11 J -2351974.21 -2351974.20 -2351974.18 0.2719 0.2685

Mars -11152-05-13 09:07 J -2351712.24 -2351712.12 -2351712.01 0.1646 0.0142

Jupiter -11150-08-25 08:38 J -2350878.28 -2350878.14 -2350877.99 0.0501 0.0317

Jupiter -11150-11-23 22:04 J -2350787.68 -2350787.58 -2350787.49 0.0502 0.0435

Venus -11149-12-21 09:50 J -2350394.12 -2350394.09 -2350394.05 0.3705 0.3420

Earth -11147-09-03 00:57 J -2349773.53 -2349773.46 -2349773.40 0.2718 0.2148

Moon -11147-09-03 01:40 J -2349773.50 -2349773.43 -2349773.37 0.2717 0.2180 *

Jupiter -11144-04-22 21:07 J -2348810.64 -2348810.62 -2348810.60 0.0525 0.0518

Jupiter -11144-07-21 01:40 J -2348721.55 -2348721.43 -2348721.30 0.0524 0.0029

Mars -11143-10-03 20:24 J -2348281.76 -2348281.65 -2348281.53 0.1649 0.0317

Mars -11141-09-07 22:19 J -2347576.62 -2347576.57 -2347576.53 0.1638 0.1482

Saturn -11140-05-27 15:35 J -2347314.95 -2347314.85 -2347314.74 0.0302 0.0168

Saturn -11140-08-24 04:04 J -2347226.46 -2347226.33 -2347226.21 0.0301 0.0009

Moon -11140-08-27 00:28 J -2347223.57 -2347223.48 -2347223.40 0.2724 0.1506

Earth -11140-08-27 00:57 J -2347223.56 -2347223.46 -2347223.37 0.2719 0.1429 *

Saturn -11140-11-20 16:04 J -2347137.94 -2347137.83 -2347137.72 0.0300 0.0154

Jupiter -11138-09-11 18:14 J -2346477.90 -2346477.74 -2346477.57 0.0502 0.0247

Neptune -11138-10-23 12:57 J -2346435.98 -2346435.96 -2346435.94 0.0089 0.0088

Neptune -11137-01-19 14:09 J -2346347.96 -2346347.91 -2346347.85 0.0089 0.0081

Neptune -11137-04-16 15:21 J -2346259.93 -2346259.86 -2346259.78 0.0089 0.0074

Neptune -11137-07-13 16:33 J -2346171.89 -2346171.81 -2346171.71 0.0089 0.0067

Neptune -11137-10-09 18:00 J -2346083.84 -2346083.75 -2346083.65 0.0089 0.0060

Neptune -11136-01-05 19:11 J -2345995.80 -2345995.70 -2345995.59 0.0089 0.0053

Neptune -11136-04-03 20:38 J -2345907.75 -2345907.64 -2345907.53 0.0089 0.0045

Neptune -11136-06-30 21:50 J -2345819.70 -2345819.59 -2345819.47 0.0089 0.0038

Neptune -11136-09-26 23:02 J -2345731.65 -2345731.54 -2345731.41 0.0089 0.0032

Neptune -11136-12-24 00:28 J -2345643.60 -2345643.48 -2345643.35 0.0089 0.0024

Neptune -11135-03-22 01:40 J -2345555.55 -2345555.43 -2345555.30 0.0089 0.0017

Neptune -11135-06-18 03:07 J -2345467.50 -2345467.37 -2345467.24 0.0089 0.0010

Neptune -11135-09-14 04:19 J -2345379.45 -2345379.32 -2345379.19 0.0089 0.0003

Neptune -11135-12-11 05:45 J -2345291.39 -2345291.26 -2345291.13 0.0089 0.0005

Neptune -11134-03-09 06:57 J -2345203.34 -2345203.21 -2345203.08 0.0089 0.0011

Neptune -11134-06-05 08:09 J -2345115.28 -2345115.16 -2345115.03 0.0089 0.0018

Neptune -11134-09-01 09:21 J -2345027.23 -2345027.11 -2345026.98 0.0089 0.0026

Neptune -11134-11-28 10:48 J -2344939.17 -2344939.05 -2344938.93 0.0089 0.0032

Mars -11133-02-24 07:55 J -2344851.27 -2344851.17 -2344851.06 0.1653 0.0758

Neptune -11133-02-24 12:00 J -2344851.11 -2344851.00 -2344850.88 0.0089 0.0040 *

Neptune -11133-05-22 13:26 J -2344763.05 -2344762.94 -2344762.83 0.0089 0.0046

Neptune -11133-08-18 14:38 J -2344674.99 -2344674.89 -2344674.78 0.0089 0.0054

Neptune -11133-11-14 15:50 J -2344586.93 -2344586.84 -2344586.74 0.0089 0.0061

Neptune -11132-02-10 17:16 J -2344498.86 -2344498.78 -2344498.70 0.0089 0.0068

Jupiter -11132-05-09 06:00 J -2344411.37 -2344411.25 -2344411.12 0.0524 0.0114

Neptune -11132-05-09 18:28 J -2344410.80 -2344410.73 -2344410.66 0.0089 0.0075

Neptune -11132-08-05 19:40 J -2344322.72 -2344322.68 -2344322.62 0.0089 0.0082

Jupiter -11132-08-06 10:33 J -2344322.13 -2344322.06 -2344321.99 0.0522 0.0427

Neptune -11132-11-01 21:07 J -2344234.63 -2344234.62 -2344234.61 0.0089 0.0089

Mars -11131-01-29 09:50 J -2344146.18 -2344146.09 -2344146.00 0.1640 0.1051

Uranus -11127-01-19 21:07 J -2342694.67 -2342694.62 -2342694.53 0.0140 0.0131

Uranus -11127-04-18 05:45 J -2342606.39 -2342606.26 -2342606.11 0.0140 0.0099

Uranus -11127-07-15 14:09 J -2342518.07 -2342517.91 -2342517.73 0.0140 0.0068

Earth -11127-08-29 18:28 J -2342472.84 -2342472.73 -2342472.62 0.2718 0.0161

Moon -11127-08-29 18:28 J -2342472.83 -2342472.73 -2342472.62 0.2725 0.0127 *

Uranus -11127-10-11 22:33 J -2342429.75 -2342429.56 -2342429.37 0.0140 0.0037

Uranus -11126-01-08 06:57 J -2342341.41 -2342341.21 -2342341.01 0.0140 0.0007

Uranus -11126-04-06 15:07 J -2342253.06 -2342252.87 -2342252.67 0.0140 0.0024

Jupiter -11126-06-30 14:24 J -2342168.09 -2342167.90 -2342167.71 0.0502 0.0060

Uranus -11126-07-03 23:16 J -2342164.71 -2342164.53 -2342164.34 0.0139 0.0054

Uranus -11126-09-30 07:26 J -2342076.34 -2342076.19 -2342076.03 0.0139 0.0085

Uranus -11126-12-27 15:35 J -2341987.95 -2341987.85 -2341987.73 0.0139 0.0115

Mars -11125-09-13 13:55 J -2341727.07 -2341726.92 -2341726.78 0.1878 0.1032

Saturn -11125-12-07 15:50 J -2341642.00 -2341641.84 -2341641.68 0.0261 0.0148

Saturn -11124-03-06 13:26 J -2341553.13 -2341552.94 -2341552.74 0.0262 0.0014

Saturn -11124-06-03 11:02 J -2341464.17 -2341464.04 -2341463.89 0.0262 0.0178

Mars -11124-07-16 19:26 J -2341420.77 -2341420.69 -2341420.61 0.1656 0.1203

Moon -11123-02-28 11:45 J -2341194.16 -2341194.01 -2341193.85 0.2612 0.0831

Earth -11123-02-28 13:26 J -2341194.10 -2341193.94 -2341193.78 0.2615 0.0578 *

Mars -11122-06-21 21:21 J -2340715.71 -2340715.61 -2340715.50 0.1643 0.0620

Pluto -11122-09-30 21:50 J -2340614.63 -2340614.59 -2340614.52 0.0072 0.0067

Pluto -11122-12-27 23:16 J -2340526.62 -2340526.53 -2340526.44 0.0072 0.0058

Pluto -11121-03-25 00:14 J -2340438.59 -2340438.49 -2340438.37 0.0072 0.0050

Pluto -11121-06-21 01:11 J -2340350.56 -2340350.45 -2340350.31 0.0072 0.0042

Pluto -11121-09-17 02:38 J -2340262.52 -2340262.39 -2340262.25 0.0072 0.0033

Pluto -11121-12-14 03:50 J -2340174.48 -2340174.34 -2340174.19 0.0072 0.0025

Jupiter -11120-02-25 10:04 J -2340101.18 -2340101.08 -2340100.97 0.0524 0.0257

Pluto -11120-03-12 05:02 J -2340086.43 -2340086.29 -2340086.14 0.0072 0.0016

Jupiter -11120-05-25 14:38 J -2340011.99 -2340011.89 -2340011.78 0.0523 0.0286

Pluto -11120-06-08 06:14 J -2339998.39 -2339998.24 -2339998.08 0.0072 0.0008

Pluto -11120-09-04 07:26 J -2339910.34 -2339910.19 -2339910.03 0.0073 0.0003

Pluto -11120-12-01 08:38 J -2339822.28 -2339822.14 -2339821.98 0.0073 0.0011

Pluto -11119-02-27 10:04 J -2339734.23 -2339734.08 -2339733.93 0.0073 0.0019

Pluto -11119-05-26 11:16 J -2339646.17 -2339646.03 -2339645.89 0.0073 0.0028

Pluto -11119-08-22 12:28 J -2339558.11 -2339557.98 -2339557.84 0.0073 0.0038

Pluto -11119-11-18 13:55 J -2339470.04 -2339469.92 -2339469.81 0.0073 0.0047

Pluto -11118-02-14 14:38 J -2339381.97 -2339381.89 -2339381.77 0.0073 0.0057

Pluto -11118-05-13 16:04 J -2339293.88 -2339293.83 -2339293.75 0.0073 0.0066

Mars -11115-02-03 06:00 J -2338297.42 -2338297.25 -2338297.08 0.1874 0.0371

Mars -11115-12-07 06:57 J -2337990.22 -2337990.21 -2337990.21 0.1660 0.1656

Jupiter -11114-04-18 10:19 J -2337858.25 -2337858.07 -2337857.88 0.0502 0.0131

Venus -11114-05-30 18:28 J -2337815.80 -2337815.73 -2337815.67 0.3699 0.2849

Earth -11114-09-01 12:00 J -2337722.10 -2337722.00 -2337721.90 0.2718 0.1122

Moon -11114-09-01 12:28 J -2337722.08 -2337721.98 -2337721.88 0.2723 0.1132 *

Mars -11113-11-11 08:52 J -2337285.24 -2337285.13 -2337285.01 0.1646 0.0183

Saturn -11111-10-14 18:57 J -2336582.80 -2336582.71 -2336582.62 0.0301 0.0201

Saturn -11110-01-11 07:11 J -2336494.33 -2336494.20 -2336494.07 0.0301 0.0039

Moon -11110-03-03 19:40 J -2336442.78 -2336442.68 -2336442.57 0.2619 0.1951

Earth -11110-03-03 21:21 J -2336442.71 -2336442.61 -2336442.51 0.2615 0.2021 *

Saturn -11110-04-09 19:26 J -2336405.81 -2336405.69 -2336405.58 0.0300 0.0122

Saturn -11110-07-07 07:26 J -2336317.23 -2336317.19 -2336317.15 0.0299 0.0279

Venus -11109-12-13 09:35 J -2335792.19 -2335792.10 -2335792.00 0.3700 0.1121

Jupiter -11109-12-14 14:38 J -2335790.97 -2335790.89 -2335790.81 0.0525 0.0392

Jupiter -11108-03-13 19:11 J -2335701.82 -2335701.70 -2335701.58 0.0524 0.0152

Moon -11107-08-25 11:31 J -2335172.07 -2335172.02 -2335171.98 0.2721 0.2484

Earth -11107-08-25 12:00 J -2335172.04 -2335172.00 -2335171.95 0.2719 0.2439 *

Mars -11106-06-25 22:04 J -2334867.64 -2334867.58 -2334867.53 0.1868 0.1769

Mars -11103-04-03 20:24 J -2333854.76 -2333854.65 -2333854.53 0.1649 0.0260

Venus -11103-06-29 00:57 J -2333768.56 -2333768.46 -2333768.37 0.3702 0.0627

Jupiter -11102-02-04 05:31 J -2333548.41 -2333548.27 -2333548.12 0.0501 0.0330

Jupiter -11102-05-05 18:43 J -2333457.81 -2333457.72 -2333457.61 0.0502 0.0421

Mars -11101-03-08 22:04 J -2333149.61 -2333149.58 -2333149.54 0.1638 0.1533

Earth -11101-09-03 05:45 J -2332971.31 -2332971.26 -2332971.21 0.2718 0.2404

Moon -11101-09-03 06:28 J -2332971.27 -2332971.23 -2332971.20 0.2716 0.2562 *

Venus -11100-04-02 23:16 J -2332759.69 -2332759.53 -2332759.37 0.3670 0.0544

Venus -11097-01-12 16:04 J -2331744.91 -2331744.83 -2331744.75 0.3704 0.2321

Jupiter -11097-12-30 23:45 J -2331391.63 -2331391.51 -2331391.38 0.0524 0.0022

Saturn -11095-04-26 16:19 J -2330909.95 -2330909.82 -2330909.68 0.0261 0.0182

Saturn -11095-07-24 13:55 J -2330821.11 -2330820.92 -2330820.72 0.0262 0.0021

Saturn -11095-10-21 11:31 J -2330732.18 -2330732.02 -2330731.85 0.0263 0.0143

Mars -11094-08-25 07:55 J -2330424.27 -2330424.17 -2330424.06 0.1653 0.0700

Moon -11094-08-28 05:16 J -2330421.38 -2330421.28 -2330421.19 0.2724 0.1239

Earth -11094-08-28 05:31 J -2330421.36 -2330421.27 -2330421.17 0.2719 0.1180 *

Mars -11092-07-30 09:50 J -2329719.18 -2329719.09 -2329719.01 0.1640 0.1107

Jupiter -11090-02-21 14:52 J -2329148.05 -2329147.88 -2329147.71 0.0502 0.0231

Mars -11085-03-14 15:07 J -2327300.01 -2327299.87 -2327299.74 0.1879 0.1170

Jupiter -11085-10-19 04:04 J -2327081.45 -2327081.33 -2327081.21 0.0524 0.0124

Mars -11084-01-14 19:26 J -2326993.77 -2326993.69 -2326993.61 0.1656 0.1148

Jupiter -11084-01-16 08:38 J -2326992.22 -2326992.14 -2326992.07 0.0523 0.0417

Uranus -11083-03-31 12:57 J -2326553.02 -2326552.96 -2326552.89 0.0138 0.0119

Uranus -11083-06-27 16:04 J -2326464.91 -2326464.83 -2326464.74 0.0138 0.0100

Uranus -11083-09-23 19:11 J -2326376.80 -2326376.70 -2326376.59 0.0138 0.0081

Mars -11083-12-20 21:21 J -2326288.71 -2326288.61 -2326288.50 0.1643 0.0676

Uranus -11083-12-20 22:19 J -2326288.68 -2326288.57 -2326288.45 0.0138 0.0062 *

Uranus -11082-03-19 01:26 J -2326200.56 -2326200.44 -2326200.31 0.0138 0.0043

Uranus -11082-06-15 04:48 J -2326112.43 -2326112.30 -2326112.17 0.0139 0.0023

Uranus -11082-09-11 07:55 J -2326024.30 -2326024.17 -2326024.04 0.0139 0.0003

Uranus -11082-12-08 11:02 J -2325936.17 -2325936.04 -2325935.91 0.0139 0.0016

Saturn -11081-03-02 22:04 J -2325850.66 -2325850.58 -2325850.50 0.0302 0.0234

Uranus -11081-03-05 14:09 J -2325848.03 -2325847.91 -2325847.78 0.0139 0.0036

Saturn -11081-05-30 10:19 J -2325762.19 -2325762.07 -2325761.94 0.0301 0.0072

Uranus -11081-06-01 17:16 J -2325759.89 -2325759.78 -2325759.65 0.0139 0.0056

Saturn -11081-08-26 22:33 J -2325673.68 -2325673.56 -2325673.44 0.0300 0.0089

Uranus -11081-08-28 20:24 J -2325671.75 -2325671.65 -2325671.53 0.0139 0.0077

Earth -11081-08-29 23:16 J -2325670.64 -2325670.53 -2325670.43 0.2718 0.0126

Moon -11081-08-29 23:31 J -2325670.63 -2325670.52 -2325670.42 0.2725 0.0156 *

Saturn -11081-11-23 10:33 J -2325585.13 -2325585.06 -2325584.99 0.0300 0.0248

Uranus -11081-11-24 23:45 J -2325583.60 -2325583.51 -2325583.41 0.0139 0.0096

Uranus -11080-02-21 03:07 J -2325495.44 -2325495.37 -2325495.30 0.0140 0.0116

Uranus -11080-05-20 06:14 J -2325407.26 -2325407.24 -2325407.21 0.0140 0.0136

Jupiter -11079-12-10 11:02 J -2324838.23 -2324838.04 -2324837.85 0.0502 0.0041

Moon -11077-02-29 18:28 J -2324391.89 -2324391.73 -2324391.57 0.2614 0.0240

Earth -11077-02-29 20:09 J -2324391.82 -2324391.66 -2324391.49 0.2615 0.0097 *

Mars -11076-08-04 06:57 J -2323870.39 -2323870.21 -2323870.04 0.1874 0.0257

Mars -11075-06-07 06:43 J -2323563.24 -2323563.22 -2323563.19 0.1660 0.1601

Mars -11073-05-12 08:52 J -2322858.24 -2322858.13 -2322858.02 0.1646 0.0237

Jupiter -11073-08-07 08:24 J -2322771.25 -2322771.15 -2322771.04 0.0524 0.0262

Jupiter -11073-11-04 12:57 J -2322682.06 -2322681.96 -2322681.85 0.0523 0.0280

Earth -11068-09-01 16:48 J -2320919.89 -2320919.80 -2320919.71 0.2718 0.1375

Moon -11068-09-01 17:16 J -2320919.86 -2320919.78 -2320919.69 0.2722 0.1501 *

Jupiter -11067-09-28 07:11 J -2320528.38 -2320528.20 -2320528.02 0.0502 0.0146

Mars -11067-12-24 23:02 J -2320440.62 -2320440.54 -2320440.46 0.1869 0.1638

Saturn -11066-09-13 16:33 J -2320177.91 -2320177.81 -2320177.70 0.0261 0.0218

Saturn -11066-12-11 14:09 J -2320089.09 -2320088.91 -2320088.72 0.0262 0.0058

Saturn -11065-03-09 12:00 J -2320000.18 -2320000.00 -2319999.83 0.0262 0.0106

Moon -11064-03-04 02:24 J -2319640.47 -2319640.40 -2319640.32 0.2619 0.2265

Earth -11064-03-04 04:04 J -2319640.37 -2319640.33 -2319640.29 0.2615 0.2524 *

Mars -11064-10-02 20:24 J -2319427.76 -2319427.65 -2319427.54 0.1649 0.0203

Mars -11062-09-07 22:04 J -2318722.61 -2318722.58 -2318722.56 0.1637 0.1586

Jupiter -11061-05-26 12:28 J -2318461.05 -2318460.98 -2318460.90 0.0524 0.0406

Jupiter -11061-08-23 17:16 J -2318371.91 -2318371.78 -2318371.66 0.0523 0.0139

Moon -11061-08-25 16:04 J -2318369.88 -2318369.83 -2318369.77 0.2722 0.2338

Earth -11061-08-25 16:48 J -2318369.86 -2318369.80 -2318369.74 0.2719 0.2188 *

Venus -11057-01-04 15:50 J -2317142.92 -2317142.84 -2317142.76 0.3699 0.2224

Jupiter -11055-07-17 03:07 J -2316218.50 -2316218.37 -2316218.22 0.0501 0.0335

Earth -11055-09-04 10:33 J -2316169.08 -2316169.06 -2316169.04 0.2718 0.2664

Moon -11055-09-04 11:16 J -2316169.04 -2316169.03 -2316169.02 0.2716 0.2692 *

Jupiter -11055-10-15 16:33 J -2316127.91 -2316127.81 -2316127.70 0.0502 0.0419

Mars -11054-02-23 07:55 J -2315997.27 -2315997.17 -2315997.06 0.1653 0.0646

Neptune -11054-04-05 05:45 J -2315956.31 -2315956.26 -2315956.19 0.0088 0.0083

Neptune -11054-07-02 09:21 J -2315868.20 -2315868.11 -2315867.99 0.0088 0.0073

Neptune -11054-09-28 13:11 J -2315780.08 -2315779.95 -2315779.81 0.0088 0.0063

Neptune -11054-12-25 16:48 J -2315691.95 -2315691.80 -2315691.63 0.0088 0.0053

Neptune -11053-03-22 20:24 J -2315603.81 -2315603.65 -2315603.46 0.0088 0.0043

Neptune -11053-06-19 00:14 J -2315515.66 -2315515.49 -2315515.30 0.0088 0.0033

Neptune -11053-09-15 04:04 J -2315427.52 -2315427.33 -2315427.13 0.0088 0.0022

Neptune -11053-12-12 07:55 J -2315339.37 -2315339.17 -2315338.97 0.0088 0.0012

Mars -11052-01-28 09:35 J -2315292.17 -2315292.10 -2315292.02 0.1640 0.1161

Neptune -11052-03-10 11:31 J -2315251.21 -2315251.02 -2315250.82 0.0088 0.0003

Neptune -11052-06-06 15:21 J -2315163.06 -2315162.86 -2315162.66 0.0088 0.0008

Venus -11052-07-20 06:57 J -2315119.31 -2315119.21 -2315119.11 0.3701 0.0503

Saturn -11052-07-21 01:11 J -2315118.51 -2315118.45 -2315118.39 0.0302 0.0268

Neptune -11052-09-02 18:57 J -2315074.90 -2315074.71 -2315074.51 0.0088 0.0019

Saturn -11052-10-17 13:26 J -2315030.06 -2315029.94 -2315029.82 0.0301 0.0106

Neptune -11052-11-29 22:33 J -2314986.74 -2314986.56 -2314986.36 0.0088 0.0029

Saturn -11051-01-14 01:40 J -2314941.56 -2314941.43 -2314941.30 0.0300 0.0055

Neptune -11051-02-26 02:09 J -2314898.57 -2314898.41 -2314898.22 0.0088 0.0039

Saturn -11051-04-12 13:40 J -2314853.01 -2314852.93 -2314852.84 0.0300 0.0215

Neptune -11051-05-25 06:00 J -2314810.41 -2314810.25 -2314810.08 0.0088 0.0049

Neptune -11051-08-21 09:21 J -2314722.23 -2314722.11 -2314721.94 0.0088 0.0060

Neptune -11051-11-17 13:11 J -2314634.05 -2314633.95 -2314633.81 0.0088 0.0070

Neptune -11050-02-13 17:02 J -2314545.86 -2314545.79 -2314545.70 0.0088 0.0080

Jupiter -11049-06-11 21:35 J -2314061.72 -2314061.60 -2314061.47 0.0524 0.0016

Moon -11048-08-28 10:04 J -2313619.18 -2313619.08 -2313618.98 0.2725 0.0942

Earth -11048-08-28 10:19 J -2313619.17 -2313619.07 -2313618.97 0.2719 0.0931 *

Venus -11046-02-02 22:19 J -2313095.67 -2313095.57 -2313095.48 0.3703 0.1233

Mars -11046-09-13 15:35 J -2312872.98 -2312872.85 -2312872.73 0.1878 0.1270

Mars -11045-07-15 19:26 J -2312566.78 -2312566.69 -2312566.61 0.1656 0.1094

Moon -11044-02-26 17:31 J -2312340.82 -2312340.77 -2312340.71 0.2610 0.2429

Earth -11044-02-26 18:57 J -2312340.79 -2312340.71 -2312340.62 0.2615 0.2216 *

Venus -11044-11-08 02:09 J -2312086.53 -2312086.41 -2312086.30 0.3669 0.2608

Uranus -11043-02-09 05:31 J -2311993.36 -2311993.27 -2311993.15 0.0140 0.0120

Uranus -11043-05-08 14:09 J -2311905.06 -2311904.91 -2311904.75 0.0140 0.0088

Mars -11043-06-20 21:21 J -2311861.71 -2311861.61 -2311861.51 0.1643 0.0728

Jupiter -11043-08-03 12:00 J -2311818.17 -2311818.00 -2311817.83 0.0502 0.0220

Uranus -11043-08-04 22:33 J -2311816.74 -2311816.56 -2311816.38 0.0140 0.0057

Uranus -11043-11-01 06:43 J -2311728.41 -2311728.22 -2311728.02 0.0140 0.0027

Uranus -11042-01-28 15:07 J -2311640.06 -2311639.87 -2311639.67 0.0140 0.0004

Uranus -11042-04-26 23:16 J -2311551.72 -2311551.53 -2311551.33 0.0140 0.0035

Uranus -11042-07-24 07:26 J -2311463.36 -2311463.19 -2311463.01 0.0139 0.0065

Uranus -11042-10-20 15:50 J -2311374.98 -2311374.84 -2311374.70 0.0139 0.0095

Uranus -11041-01-17 00:00 J -2311286.58 -2311286.50 -2311286.42 0.0139 0.0125

Venus -11041-08-18 13:26 J -2311072.00 -2311071.94 -2311071.88 0.3704 0.2935

Jupiter -11037-03-31 02:09 J -2309751.53 -2309751.41 -2309751.29 0.0525 0.0133

Jupiter -11037-06-28 06:43 J -2309662.29 -2309662.22 -2309662.14 0.0523 0.0409

Pluto -11037-12-01 02:38 J -2309506.43 -2309506.39 -2309506.32 0.0072 0.0068

Saturn -11036-01-30 16:48 J -2309445.83 -2309445.80 -2309445.75 0.0261 0.0254

Mars -11036-02-02 07:40 J -2309443.35 -2309443.18 -2309443.01 0.1874 0.0132

Pluto -11036-02-27 04:19 J -2309418.41 -2309418.32 -2309418.21 0.0072 0.0058

Saturn -11036-04-29 14:24 J -2309357.08 -2309356.90 -2309356.71 0.0262 0.0094

Pluto -11036-05-26 05:45 J -2309330.37 -2309330.26 -2309330.13 0.0072 0.0049

Saturn -11036-07-27 12:00 J -2309268.18 -2309268.00 -2309267.81 0.0262 0.0069

Pluto -11036-08-22 07:26 J -2309242.32 -2309242.19 -2309242.05 0.0072 0.0039

Saturn -11036-10-24 09:35 J -2309179.18 -2309179.10 -2309179.00 0.0263 0.0233

Pluto -11036-11-18 08:52 J -2309154.27 -2309154.13 -2309153.97 0.0072 0.0030

Mars -11036-12-06 06:43 J -2309136.25 -2309136.22 -2309136.18 0.1659 0.1543

Pluto -11035-02-14 10:19 J -2309066.22 -2309066.07 -2309065.90 0.0072 0.0021

Pluto -11035-05-13 12:00 J -2308978.16 -2308978.00 -2308977.84 0.0072 0.0011

Pluto -11035-08-09 13:26 J -2308890.10 -2308889.94 -2308889.77 0.0071 0.0002

Earth -11035-08-31 04:04 J -2308868.44 -2308868.33 -2308868.23 0.2718 0.0361

Moon -11035-08-31 04:19 J -2308868.43 -2308868.32 -2308868.22 0.2725 0.0397 *

Pluto -11035-11-05 14:52 J -2308802.04 -2308801.88 -2308801.71 0.0071 0.0007

Pluto -11034-02-01 16:19 J -2308713.98 -2308713.82 -2308713.66 0.0071 0.0016

Pluto -11034-04-30 17:45 J -2308625.91 -2308625.76 -2308625.61 0.0071 0.0024

Pluto -11034-07-27 18:57 J -2308537.85 -2308537.71 -2308537.56 0.0071 0.0033

Pluto -11034-10-23 20:24 J -2308449.77 -2308449.65 -2308449.51 0.0071 0.0042

Mars -11034-11-11 08:52 J -2308431.24 -2308431.13 -2308431.02 0.1646 0.0294

Pluto -11033-01-19 21:35 J -2308361.70 -2308361.60 -2308361.47 0.0071 0.0051

Pluto -11033-04-16 23:02 J -2308273.62 -2308273.54 -2308273.44 0.0071 0.0059

Pluto -11033-07-14 00:14 J -2308185.52 -2308185.49 -2308185.43 0.0071 0.0068

Moon -11031-03-02 01:26 J -2307589.61 -2307589.44 -2307589.28 0.2616 0.0254

Earth -11031-03-02 03:07 J -2307589.53 -2307589.37 -2307589.21 0.2615 0.0427 *

Jupiter -11031-05-22 08:09 J -2307508.35 -2307508.16 -2307507.97 0.0501 0.0032

Mars -11027-06-25 00:14 J -2306013.59 -2306013.49 -2306013.39 0.1869 0.1502

Jupiter -11025-01-18 06:28 J -2305441.33 -2305441.23 -2305441.12 0.0524 0.0273

Jupiter -11025-04-16 11:02 J -2305352.14 -2305352.04 -2305351.93 0.0523 0.0270

Mars -11024-04-02 20:24 J -2305000.76 -2305000.65 -2305000.54 0.1649 0.0146

Saturn -11022-03-06 16:33 J -2304297.93 -2304297.81 -2304297.70 0.0301 0.0141

Saturn -11022-06-03 04:48 J -2304209.43 -2304209.30 -2304209.18 0.0301 0.0023

Saturn	-11022-08-30 16:48 J	-2304120.90	-2304120.80	-2304120.70	0.0300	0.0181
Earth	-11022-09-02 21:35 J	-2304117.68	-2304117.60	-2304117.51	0.2718	0.1630
Moon	-11022-09-02 22:19 J	-2304117.66	-2304117.57	-2304117.49	0.2720	0.1696 *
Jupiter	-11019-03-10 04:04 J	-2303198.51	-2303198.33	-2303198.15	0.0502	0.0162
Mars	-11015-08-24 07:55 J	-2301570.28	-2301570.17	-2301570.07	0.1652	0.0593
Moon	-11015-08-26 20:52 J	-2301567.70	-2301567.63	-2301567.55	0.2722	0.1970
Earth	-11015-08-26 21:35 J	-2301567.67	-2301567.60	-2301567.53	0.2719	0.1940 *
Jupiter	-11014-11-06 11:02 J	-2301131.12	-2301131.04	-2301130.96	0.0524	0.0408
Jupiter	-11013-02-03 15:35 J	-2301041.97	-2301041.85	-2301041.73	0.0523	0.0135
Mars	-11013-07-29 09:35 J	-2300865.17	-2300865.10	-2300865.02	0.1640	0.1213
Jupiter	-11008-12-27 00:14 J	-2298888.62	-2298888.49	-2298888.35	0.0501	0.0347
Jupiter	-11007-03-27 13:40 J	-2298798.03	-2298797.93	-2298797.82	0.0503	0.0407
Saturn	-11007-09-16 14:24 J	-2298625.06	-2298624.90	-2298624.73	0.0261	0.0132
Saturn	-11007-12-14 12:00 J	-2298536.19	-2298536.00	-2298535.80	0.0262	0.0030
Venus	-11006-01-25 21:50 J	-2298493.63	-2298493.59	-2298493.55	0.3697	0.3327
Saturn	-11006-03-13 09:35 J	-2298447.22	-2298447.10	-2298446.96	0.0262	0.0193
Mars	-11006-03-14 16:33 J	-2298445.92	-2298445.81	-2298445.69	0.1879	0.1406
Mars	-11005-01-14 19:11 J	-2298139.78	-2298139.70	-2298139.61	0.1656	0.1040
Mars	-11004-12-19 21:21 J	-2297434.71	-2297434.61	-2297434.51	0.1643	0.0783
Moon	-11002-08-29 15:07 J	-2296816.97	-2296816.87	-2296816.77	0.2725	0.0738
Earth	-11002-08-29 15:07 J	-2296816.97	-2296816.87	-2296816.76	0.2719	0.0675 *
Jupiter	-11002-11-22 19:40 J	-2296731.80	-2296731.68	-2296731.55	0.0524	0.0016
Venus	-11001-08-10 13:11 J	-2296470.04	-2296469.95	-2296469.86	0.3699	0.1600

11TH MILLENNIUM BCE

This is a list of transits of Mercury in the 11th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Uranus	**-10999-01-22 17:02**	**J**	**-2295939.81**	**-2295939.79**	**-2295939.75**	**0.0138**	**0.0134**	
Uranus	**-10999-04-20 20:24**	**J**	**-2295851.72**	**-2295851.65**	**-2295851.58**	**0.0138**	**0.0114**	
Uranus	**-10999-07-17 23:31**	**J**	**-2295763.61**	**-2295763.52**	**-2295763.43**	**0.0138**	**0.0095**	
Uranus	**-10999-10-14 02:38**	**J**	**-2295675.50**	**-2295675.39**	**-2295675.28**	**0.0138**	**0.0076**	
Uranus	**-10998-01-10 05:45**	**J**	**-2295587.38**	**-2295587.26**	**-2295587.14**	**0.0138**	**0.0057**	
Moon	**-10998-02-28 00:28**	**J**	**-2295538.60**	**-2295538.48**	**-2295538.37**	**0.2611**	**0.1788**	
Earth	**-10998-02-28 01:55**	**J**	**-2295538.54**	**-2295538.42**	**-2295538.30**	**0.2615**	**0.1712**	*****
Uranus	**-10998-04-08 08:52**	**J**	**-2295499.25**	**-2295499.13**	**-2295499.00**	**0.0139**	**0.0037**	
Uranus	**-10998-07-05 12:00**	**J**	**-2295411.12**	**-2295411.00**	**-2295410.87**	**0.0139**	**0.0019**	
Uranus	**-10998-10-01 15:21**	**J**	**-2295322.99**	**-2295322.86**	**-2295322.73**	**0.0139**	**0.0004**	
Uranus	**-10998-12-28 18:28**	**J**	**-2295234.86**	**-2295234.73**	**-2295234.60**	**0.0139**	**0.0022**	
Uranus	**-10997-03-25 21:35**	**J**	**-2295146.72**	**-2295146.60**	**-2295146.47**	**0.0139**	**0.0041**	
Uranus	**-10997-06-22 00:43**	**J**	**-2295058.58**	**-2295058.47**	**-2295058.35**	**0.0139**	**0.0061**	
Mars	**-10997-08-03 08:52**	**J**	**-2295016.31**	**-2295016.13**	**-2295015.96**	**0.1874**	**0.0050**	
Uranus	**-10997-09-18 03:50**	**J**	**-2294970.44**	**-2294970.34**	**-2294970.23**	**0.0139**	**0.0081**	
Uranus	**-10997-12-15 07:11**	**J**	**-2294882.29**	**-2294882.20**	**-2294882.11**	**0.0139**	**0.0101**	
Uranus	**-10996-03-13 10:19**	**J**	**-2294794.13**	**-2294794.07**	**-2294794.00**	**0.0140**	**0.0121**	
Mars	**-10996-06-06 06:43**	**J**	**-2294709.27**	**-2294709.22**	**-2294709.17**	**0.1660**	**0.1490**	
Jupiter	**-10995-01-13 09:50**	**J**	**-2294488.26**	**-2294488.09**	**-2294487.92**	**0.0502**	**0.0218**	
Venus	**-10995-02-24 04:19**	**J**	**-2294446.42**	**-2294446.32**	**-2294446.22**	**0.3701**	**0.0147**	
Mars	**-10994-05-12 08:52**	**J**	**-2294004.24**	**-2294004.13**	**-2294004.02**	**0.1646**	**0.0350**	
Saturn	**-10993-07-23 19:11**	**J**	**-2293565.80**	**-2293565.70**	**-2293565.60**	**0.0302**	**0.0179**	
Saturn	**-10993-10-20 07:26**	**J**	**-2293477.32**	**-2293477.19**	**-2293477.06**	**0.0301**	**0.0018**	
Venus	**-10993-11-28 16:33**	**J**	**-2293437.95**	**-2293437.81**	**-2293437.67**	**0.3672**	**0.1864**	
Saturn	**-10992-01-16 19:40**	**J**	**-2293388.79**	**-2293388.68**	**-2293388.57**	**0.0300**	**0.0143**	
Venus	**-10990-09-09 19:40**	**J**	**-2292422.77**	**-2292422.68**	**-2292422.60**	**0.3703**	**0.1844**	

Jupiter -10990-09-11 00:14 J -2292421.61 -2292421.49 -2292421.37 0.0524 0.0144

Jupiter -10990-12-09 04:48 J -2292332.38 -2292332.30 -2292332.22 0.0523 0.0398

Earth -10989-08-31 08:52 J -2292066.24 -2292066.13 -2292066.03 0.2718 0.0611

Moon -10989-08-31 09:07 J -2292066.23 -2292066.12 -2292066.02 0.2725 0.0659 *

Mars -10988-12-24 00:28 J -2291586.59 -2291586.48 -2291586.36 0.1869 0.1408

Moon -10985-03-02 07:55 J -2290787.32 -2290787.17 -2290787.01 0.2616 0.0682

Earth -10985-03-02 09:50 J -2290787.24 -2290787.09 -2290786.94 0.2615 0.0920 *

Mars -10985-10-01 20:24 J -2290573.77 -2290573.65 -2290573.54 0.1649 0.0100

Venus -10984-03-25 10:48 J -2290399.08 -2290399.05 -2290399.03 0.3705 0.3547

Jupiter -10984-11-01 05:31 J -2290178.46 -2290178.27 -2290178.08 0.0501 0.0024

Jupiter -10978-06-30 04:48 J -2288111.41 -2288111.30 -2288111.20 0.0525 0.0280

Jupiter -10978-09-27 09:21 J -2288022.22 -2288022.11 -2288022.00 0.0524 0.0264

Saturn -10977-02-03 14:09 J -2287893.05 -2287892.91 -2287892.76 0.0261 0.0172

Saturn -10977-05-02 11:45 J -2287804.20 -2287804.01 -2287803.82 0.0262 0.0010

Saturn -10977-07-30 09:21 J -2287715.27 -2287715.11 -2287714.95 0.0262 0.0152

Earth -10976-09-03 02:24 J -2287315.48 -2287315.40 -2287315.32 0.2718 0.1884

Moon -10976-09-03 03:07 J -2287315.44 -2287315.37 -2287315.30 0.2719 0.1990 *

Mars -10975-02-22 07:55 J -2287143.28 -2287143.17 -2287143.06 0.1652 0.0534

Mars -10973-01-28 09:35 J -2286438.17 -2286438.10 -2286438.03 0.1640 0.1267

Neptune -10973-07-19 12:28 J -2286265.01 -2286264.98 -2286264.95 0.0089 0.0086

Neptune -10973-10-15 13:40 J -2286176.99 -2286176.93 -2286176.87 0.0089 0.0079

Neptune -10972-01-11 15:07 J -2286088.95 -2286088.87 -2286088.80 0.0089 0.0072

Neptune -10972-04-09 16:19 J -2286000.91 -2286000.82 -2286000.73 0.0089 0.0065

Neptune -10972-07-06 17:31 J -2285912.86 -2285912.77 -2285912.67 0.0089 0.0058

Jupiter -10972-08-20 01:40 J -2285868.61 -2285868.43 -2285868.25 0.0501 0.0165

Neptune -10972-10-02 18:57 J -2285824.82 -2285824.71 -2285824.60 0.0089 0.0051

Neptune -10972-12-29 20:09 J -2285736.77 -2285736.66 -2285736.54 0.0089 0.0044

Neptune -10971-03-27 21:21 J -2285648.72 -2285648.61 -2285648.48 0.0089 0.0037

Neptune -10971-06-23 22:48 J -2285560.67 -2285560.55 -2285560.43 0.0089 0.0029

Neptune -10971-09-20 00:00 J -2285472.62 -2285472.50 -2285472.37 0.0089 0.0022

Neptune -10971-12-17 01:26 J -2285384.57 -2285384.44 -2285384.31 0.0089 0.0015

Neptune -10970-03-15 02:38 J -2285296.52 -2285296.39 -2285296.26 0.0089 0.0008

Neptune -10970-06-11 03:50 J -2285208.47 -2285208.34 -2285208.20 0.0089 0.0003

Neptune -10970-09-07 05:16 J -2285120.41 -2285120.28 -2285120.15 0.0089 0.0006

Neptune -10970-12-04 06:28 J -2285032.36 -2285032.23 -2285032.10 0.0089 0.0013

Neptune -10969-03-01 07:40 J -2284944.30 -2284944.18 -2284944.05 0.0089 0.0020

Neptune -10969-05-28 08:52 J -2284856.25 -2284856.13 -2284856.00 0.0089 0.0028

Neptune -10969-08-24 10:19 J -2284768.19 -2284768.07 -2284767.95 0.0089 0.0034

Moon -10969-08-27 01:55 J -2284765.50 -2284765.42 -2284765.34 0.2722 0.1831

Earth -10969-08-27 02:24 J -2284765.48 -2284765.40 -2284765.32 0.2719 0.1691 *

Neptune -10969-11-20 11:31 J -2284680.13 -2284680.02 -2284679.90 0.0089 0.0041

Neptune -10968-02-16 12:43 J -2284592.07 -2284591.97 -2284591.85 0.0089 0.0048

Neptune -10968-05-15 13:55 J -2284504.01 -2284503.92 -2284503.81 0.0089 0.0056

Neptune -10968-08-11 15:21 J -2284415.95 -2284415.86 -2284415.76 0.0089 0.0062

Neptune -10968-11-07 16:33 J -2284327.88 -2284327.81 -2284327.72 0.0089 0.0069

Neptune -10967-02-03 17:45 J -2284239.81 -2284239.76 -2284239.68 0.0089 0.0077

Neptune -10967-05-02 19:11 J -2284151.74 -2284151.70 -2284151.65 0.0089 0.0083

Mars -10967-09-12 17:45 J -2284018.86 -2284018.76 -2284018.66 0.1879 0.1537

Jupiter -10966-04-18 09:07 J -2283801.19 -2283801.12 -2283801.04 0.0525 0.0417

Mars -10966-07-15 19:11 J -2283712.79 -2283712.70 -2283712.61 0.1656 0.0984

Jupiter -10966-07-16 13:40 J -2283712.05 -2283711.93 -2283711.80 0.0523 0.0129

Mars -10964-06-19 21:21 J -2283007.71 -2283007.61 -2283007.52 0.1643 0.0840

Saturn -10964-12-10 21:50 J -2282833.67 -2282833.59 -2282833.50 0.0302 0.0218

Saturn -10963-03-09 10:19 J -2282745.20 -2282745.07 -2282744.95 0.0301 0.0056

Saturn -10963-06-05 22:19 J -2282656.69 -2282656.57 -2282656.45 0.0301 0.0106

Saturn -10963-09-02 10:33 J -2282568.12 -2282568.06 -2282568.00 0.0300 0.0264

Jupiter -10960-06-07 21:21 J -2281558.74 -2281558.61 -2281558.48 0.0501 0.0358

Jupiter -10960-09-06 10:48 J -2281468.16 -2281468.05 -2281467.93 0.0503 0.0395

Uranus -10960-12-03 06:14 J -2281380.27 -2281380.24 -2281380.19 0.0140 0.0138

Uranus -10959-03-01 14:38 J -2281292.01 -2281291.89 -2281291.75 0.0140 0.0107

Uranus -10959-05-28 22:48 J -2281203.70 -2281203.55 -2281203.37 0.0140 0.0076

Uranus -10959-08-25 07:26 J -2281115.37 -2281115.19 -2281115.00 0.0140 0.0045

Uranus -10959-11-21 15:50 J -2281027.04 -2281026.84 -2281026.65 0.0140 0.0014

Uranus -10958-02-18 00:00 J -2280938.69 -2280938.50 -2280938.30 0.0140 0.0017

Uranus -10958-05-17 08:09 J -2280850.34 -2280850.16 -2280849.97 0.0140 0.0047

Uranus -10958-08-13 16:19 J -2280761.97 -2280761.82 -2280761.65 0.0139 0.0077

Uranus -10958-11-10 00:14 J -2280673.60 -2280673.49 -2280673.35 0.0139 0.0108

Mars -10957-02-02 09:35 J -2280589.27 -2280589.10 -2280588.93 0.1874 0.0119

Uranus -10957-02-06 08:24 J -2280585.16 -2280585.15 -2280585.10 0.0139 0.0137

Mars -10957-12-05 06:43 J -2280282.28 -2280282.22 -2280282.16 0.1659 0.1433

Moon -10956-08-29 19:55 J -2280014.78 -2280014.67 -2280014.57 0.2726 0.0375

Earth -10956-08-29 19:55 J -2280014.77 -2280014.67 -2280014.56 0.2719 0.0425 *

Mars -10955-11-10 08:38 J -2279577.25 -2279577.14 -2279577.02 0.1646 0.0405

Jupiter -10954-05-04 18:28 J -2279401.86 -2279401.73 -2279401.61 0.0523 0.0014

Moon -10952-02-28 07:11 J -2278736.34 -2278736.20 -2278736.07 0.2613 0.1472

Earth -10952-02-28 08:38 J -2278736.28 -2278736.14 -2278735.99 0.2615 0.1197 *

Venus -10950-09-01 19:11 J -2277820.76 -2277820.70 -2277820.63 0.3698 0.2703

Saturn -10948-06-22 13:40 J -2277161.03 -2277160.93 -2277160.81 0.0261 0.0212

Mars -10948-06-24 01:55 J -2277159.55 -2277159.42 -2277159.30 0.1869 0.1267

Jupiter -10948-06-25 07:11 J -2277158.37 -2277158.20 -2277158.03 0.0502 0.0211

Saturn -10948-09-19 11:16 J -2277072.22 -2277072.03 -2277071.84 0.0261 0.0052

Saturn -10948-12-17 08:52 J -2276983.31 -2276983.13 -2276982.95 0.0262 0.0110

Mars -10945-04-01 20:24 J -2276146.77 -2276146.65 -2276146.54 0.1649 0.0070

Venus -10944-03-17 10:33 J -2275797.16 -2275797.06 -2275796.96 0.3700 0.0980

Earth -10943-09-01 13:26 J -2275264.04 -2275263.94 -2275263.83 0.2718 0.0864

Moon -10943-09-01 13:55 J -2275264.02 -2275263.92 -2275263.82 0.2723 0.0883 *

Jupiter -10942-02-20 22:33 J -2275091.68 -2275091.56 -2275091.44 0.0524 0.0149

Jupiter -10942-05-21 03:07 J -2275002.45 -2275002.37 -2275002.29 0.0523 0.0392

Moon -10939-03-03 14:52 J -2273985.02 -2273984.88 -2273984.74 0.2616 0.1279

Earth -10939-03-03 16:33 J -2273984.94 -2273984.81 -2273984.67 0.2615 0.1425 *

Venus -10939-10-01 01:40 J -2273773.53 -2273773.43 -2273773.33 0.3702 0.0742

Jupiter -10936-04-13 03:35 J -2272848.54 -2272848.35 -2272848.16 0.0502 0.0024

Venus -10936-07-05 19:40 J -2272764.85 -2272764.68 -2272764.52 0.3671 0.0245

Mars -10936-08-23 07:40 J -2272716.28 -2272716.18 -2272716.07 0.1652 0.0486

Earth -10936-08-25 13:40 J -2272713.94 -2272713.93 -2272713.92 0.2719 0.2701

Saturn -10934-04-30 00:14 J -2272101.55 -2272101.49 -2272101.43 0.0302 0.0262

Saturn -10934-07-27 12:28 J -2272013.10 -2272012.98 -2272012.85 0.0302 0.0100

Mars -10934-07-29 09:35 J -2272011.17 -2272011.10 -2272011.03 0.1640 0.1320

Saturn -10934-10-24 00:43 J -2271924.59 -2271924.47 -2271924.34 0.0301 0.0063

Saturn -10933-01-20 12:57 J -2271836.04 -2271835.96 -2271835.88 0.0300 0.0222

Venus -10933-04-15 16:48 J -2271749.87 -2271749.80 -2271749.72 0.3704 0.2449

Jupiter -10931-12-10 03:07 J -2270781.48 -2270781.37 -2270781.27 0.0524 0.0285

Jupiter -10930-03-09 07:40 J -2270692.29 -2270692.18 -2270692.07 0.0523 0.0258

Earth -10930-09-04 07:11 J -2270513.26 -2270513.20 -2270513.13 0.2718 0.2142

Moon -10930-09-04 07:55 J -2270513.23 -2270513.17 -2270513.11 0.2719 0.2240 *

Mars -10927-03-13 18:14 J -2269591.82 -2269591.74 -2269591.65 0.1879 0.1646

Mars -10926-01-13 19:11 J -2269285.79 -2269285.70 -2269285.60 0.1656 0.0926

Mars -10925-12-18 21:07 J -2268580.71 -2268580.62 -2268580.52 0.1643 0.0891

Jupiter -10924-01-29 23:31 J -2268538.69 -2268538.52 -2268538.34 0.0501 0.0167

Moon -10923-08-28 06:43 J -2267963.31 -2267963.22 -2267963.13 0.2724 0.1449

Earth -10923-08-28 07:11 J -2267963.29 -2267963.20 -2267963.11 0.2719 0.1441 *

Jupiter -10919-09-28 07:26 J -2266471.26 -2266471.19 -2266471.11 0.0525 0.0422

Saturn -10919-11-09 13:11 J -2266428.99 -2266428.95 -2266428.91 0.0261 0.0255

Jupiter -10919-12-26 12:14 J -2266382.11 -2266381.99 -2266381.87 0.0524 0.0124

Saturn -10918-02-06 10:33 J -2266340.24 -2266340.06 -2266339.88 0.0261 0.0096

Saturn -10918-05-06 08:09 J -2266251.35 -2266251.16 -2266250.97 0.0262 0.0066

Saturn -10918-08-03 05:31 J -2266162.35 -2266162.27 -2266162.17 0.0262 0.0229

Mars -10918-08-03 10:33 J -2266162.23 -2266162.06 -2266161.89 0.1874 0.0243 *

Mars -10917-06-05 06:43 J -2265855.28 -2265855.22 -2265855.16 0.1659 0.1377

Uranus -10915-02-12 00:43 J -2265238.52 -2265238.47 -2265238.43 0.0138 0.0128

Uranus -10915-05-11 03:35 J -2265150.42 -2265150.35 -2265150.26 0.0138 0.0110

Mars -10915-05-11 08:38 J -2265150.25 -2265150.14 -2265150.03 0.1646 0.0460

Uranus -10915-08-07 06:43 J -2265062.31 -2265062.22 -2265062.11 0.0138 0.0091

Uranus -10915-11-03 10:04 J -2264974.19 -2264974.08 -2264973.97 0.0138 0.0071

Uranus -10914-01-30 13:11 J -2264886.07 -2264885.95 -2264885.83 0.0138 0.0052

Uranus -10914-04-28 16:19 J -2264797.95 -2264797.82 -2264797.69 0.0139 0.0032

Uranus -10914-07-25 19:26 J -2264709.82 -2264709.69 -2264709.56 0.0139 0.0013

Uranus -10914-10-21 22:33 J -2264621.69 -2264621.56 -2264621.43 0.0139 0.0008

Uranus -10913-01-18 01:40 J -2264533.55 -2264533.43 -2264533.30 0.0139 0.0027

Uranus -10913-04-15 05:02 J -2264445.41 -2264445.29 -2264445.17 0.0139 0.0046

Uranus -10913-07-12 08:09 J -2264357.27 -2264357.16 -2264357.04 0.0139 0.0066

Uranus -10913-10-08 11:16 J -2264269.13 -2264269.03 -2264268.92 0.0139 0.0086

Jupiter -10913-11-17 19:55 J -2264228.81 -2264228.67 -2264228.54 0.0501 0.0352

Uranus -10912-01-04 14:24 J -2264180.97 -2264180.90 -2264180.81 0.0140 0.0106

Jupiter -10912-02-16 09:07 J -2264138.23 -2264138.12 -2264138.01 0.0502 0.0399

Uranus -10912-04-02 17:31 J -2264092.81 -2264092.77 -2264092.70 0.0140 0.0127

Moon -10910-08-31 00:43 J -2263212.58 -2263212.47 -2263212.36 0.2726 0.0237

Earth -10910-08-31 00:43 J -2263212.58 -2263212.47 -2263212.36 0.2718 0.0171 *

Mars -10909-12-23 02:52 J -2262732.52 -2262732.38 -2262732.25 0.1869 0.1145

Jupiter -10907-10-14 16:48 J -2262071.92 -2262071.80 -2262071.67 0.0524 0.0014

Moon -10906-03-01 13:40 J -2261934.08 -2261933.93 -2261933.77 0.2614 0.0783

Earth -10906-03-01 15:35 J -2261934.01 -2261933.85 -2261933.70 0.2615 0.0695 *

Mars -10906-10-01 20:09 J -2261719.77 -2261719.66 -2261719.54 0.1649 0.0062

Saturn -10905-12-13 14:52 J -2261281.00 -2261280.88 -2261280.77 0.0302 0.0144

Saturn -10904-03-12 03:07 J -2261192.50 -2261192.37 -2261192.24 0.0301 0.0019

Saturn -10904-06-08 15:07 J -2261103.97 -2261103.87 -2261103.76 0.0300 0.0179

Jupiter -10901-12-05 04:48 J -2259828.47 -2259828.30 -2259828.13 0.0502 0.0204

Earth -10897-09-01 18:14 J -2258461.83 -2258461.74 -2258461.64 0.2718 0.1114

Moon -10897-09-01 18:57 J -2258461.81 -2258461.71 -2258461.62 0.2722 0.1240 *

Mars -10896-02-21 07:40 J -2258289.29 -2258289.18 -2258289.07 0.1652 0.0428

Jupiter -10895-08-02 21:35 J -2257761.72 -2257761.60 -2257761.48 0.0524 0.0143

Jupiter -10895-10-31 01:55 J -2257672.50 -2257672.42 -2257672.34 0.0522 0.0397

Mars -10894-01-27 09:35 J -2257584.16 -2257584.10 -2257584.04 0.1640 0.1374

Moon -10893-03-03 21:50 J -2257182.72 -2257182.59 -2257182.47 0.2617 0.1675

Earth -10893-03-03 23:31 J -2257182.63 -2257182.52 -2257182.41 0.2615 0.1928 *

Venus -10893-04-07 16:33 J -2257147.89 -2257147.81 -2257147.72 0.3699 0.2086

Moon -10890-08-26 17:45 J -2255911.80 -2255911.76 -2255911.72 0.2719 0.2512

Earth -10890-08-26 18:28 J -2255911.77 -2255911.73 -2255911.69 0.2719 0.2451 *

Neptune -10890-12-31 02:52 J -2255785.43 -2255785.38 -2255785.29 0.0088 0.0082

Neptune -10889-03-28 06:43 J -2255697.32 -2255697.22 -2255697.09 0.0088 0.0072

Neptune -10889-06-24 10:48 J -2255609.19 -2255609.05 -2255608.91 0.0088 0.0061

Saturn -10889-06-25 09:35 J -2255608.26 -2255608.10 -2255607.94 0.0261 0.0141

Neptune -10889-09-20 14:24 J -2255521.06 -2255520.90 -2255520.74 0.0088 0.0051

Saturn -10889-09-22 06:57 J -2255519.40 -2255519.21 -2255519.01 0.0261 0.0020

Jupiter -10889-09-23 01:26 J -2255518.63 -2255518.44 -2255518.25 0.0502 0.0023

Neptune -10889-12-17 18:00 J -2255432.92 -2255432.75 -2255432.57 0.0088 0.0041

Saturn -10889-12-20 04:19 J -2255430.45 -2255430.32 -2255430.17 0.0262 0.0182

Neptune -10888-03-15 21:35 J -2255344.77 -2255344.60 -2255344.40 0.0088 0.0031

Neptune -10888-06-12 01:26 J -2255256.62 -2255256.44 -2255256.24 0.0088 0.0021

Neptune -10888-09-08 05:16 J -2255168.47 -2255168.28 -2255168.08 0.0088 0.0010

Mars -10888-09-11 19:26 J -2255164.75 -2255164.69 -2255164.64 0.1879 0.1772

Venus -10888-10-22 07:55 J -2255124.27 -2255124.17 -2255124.07 0.3700 0.0368

Neptune -10888-12-05 09:07 J -2255080.32 -2255080.12 -2255079.92 0.0088 0.0001

Neptune -10887-03-03 12:43 J -2254992.16 -2254991.97 -2254991.77 0.0088 0.0010

Neptune -10887-05-30 16:33 J -2254904.01 -2254903.81 -2254903.62 0.0088 0.0020

Mars -10887-07-14 19:11 J -2254858.80 -2254858.70 -2254858.60 0.1656 0.0873

Neptune -10887-08-26 19:55 J -2254815.84 -2254815.67 -2254815.47 0.0088 0.0031

Neptune -10887-11-22 23:45 J -2254727.68 -2254727.51 -2254727.33 0.0088 0.0041

Neptune -10886-02-19 03:21 J -2254639.51 -2254639.36 -2254639.19 0.0088 0.0051

Neptune -10886-05-18 07:11 J -2254551.33 -2254551.20 -2254551.05 0.0088 0.0061

Neptune -10886-08-14 10:33 J -2254463.15 -2254463.06 -2254462.92 0.0088 0.0072

Neptune -10886-11-10 14:24 J -2254374.95 -2254374.90 -2254374.81 0.0088 0.0082

Mars -10885-06-18 21:07 J -2254153.71 -2254153.62 -2254153.53 0.1643 0.0943

Earth -10884-09-04 12:00 J -2253711.05 -2253711.00 -2253710.95 0.2718 0.2399

Moon -10884-09-04 12:43 J -2253711.01 -2253710.97 -2253710.93 0.2718 0.2474 *

Jupiter -10883-05-22 01:40 J -2253451.53 -2253451.43 -2253451.32 0.0524 0.0284

Jupiter -10883-08-19 06:14 J -2253362.35 -2253362.24 -2253362.13 0.0523 0.0258

Venus -10882-05-07 23:02 J -2253100.63 -2253100.54 -2253100.45 0.3702 0.1344

Venus -10879-02-09 22:33 J -2252091.68 -2252091.56 -2252091.43 0.3670 0.2341

Mars -10878-02-01 11:31 J -2251735.19 -2251735.02 -2251734.85 0.1874 0.0366

Mars -10878-12-05 06:43 J -2251428.29 -2251428.22 -2251428.16 0.1659 0.1326

Jupiter -10877-07-11 21:50 J -2251208.77 -2251208.59 -2251208.41 0.0502 0.0163

Moon -10877-08-28 11:31 J -2251161.11 -2251161.02 -2251160.92 0.2725 0.1290

Earth -10877-08-28 12:00 J -2251161.10 -2251161.00 -2251160.91 0.2719 0.1189 *

Venus -10877-11-20 14:09 J -2251076.96 -2251076.91 -2251076.85 0.3704 0.3057

Mars -10876-11-09 08:38 J -2250723.25 -2250723.14 -2250723.03 0.1646 0.0508

Uranus -10876-12-23 15:07 J -2250678.96 -2250678.87 -2250678.79 0.0140 0.0126

Uranus -10875-03-21 23:02 J -2250590.67 -2250590.54 -2250590.38 0.0140 0.0096

Saturn -10875-05-02 16:33 J -2250548.90 -2250548.81 -2250548.71 0.0302 0.0194

Uranus -10875-06-18 07:40 J -2250502.35 -2250502.18 -2250502.00 0.0140 0.0064

Saturn -10875-07-30 04:48 J -2250460.42 -2250460.30 -2250460.17 0.0302 0.0034

Uranus -10875-09-14 16:04 J -2250414.02 -2250413.83 -2250413.64 0.0140 0.0033

Saturn -10875-10-26 17:02 J -2250371.90 -2250371.79 -2250371.67 0.0301 0.0130

Uranus -10875-12-12 00:28 J -2250325.68 -2250325.48 -2250325.29 0.0140 0.0004

Saturn -10874-01-23 05:02 J -2250283.31 -2250283.29 -2250283.25 0.0300 0.0290

Uranus -10874-03-10 08:38 J -2250237.33 -2250237.14 -2250236.95 0.0140 0.0028

Uranus -10874-06-06 16:33 J -2250148.98 -2250148.81 -2250148.62 0.0140 0.0059

Pluto -10874-07-31 07:26 J -2250094.24 -2250094.19 -2250094.11 0.0072 0.0064

Uranus -10874-09-03 00:57 J -2250060.61 -2250060.46 -2250060.30 0.0139 0.0088

Pluto -10874-10-27 08:52 J -2250006.22 -2250006.13 -2250006.03 0.0072 0.0055

Uranus -10874-11-30 08:52 J -2249972.22 -2249972.13 -2249972.01 0.0139 0.0119

Pluto -10873-01-23 09:50 J -2249918.19 -2249918.09 -2249917.97 0.0072 0.0047

Pluto -10873-04-20 11:16 J -2249830.16 -2249830.03 -2249829.90 0.0072 0.0038

Pluto -10873-07-17 12:14 J -2249742.12 -2249741.99 -2249741.85 0.0072 0.0030

Pluto -10873-10-13 13:26 J -2249654.08 -2249653.94 -2249653.79 0.0072 0.0022

Pluto -10872-01-09 14:52 J -2249566.03 -2249565.88 -2249565.73 0.0072 0.0013

Pluto -10872-04-07 15:50 J -2249477.99 -2249477.84 -2249477.68 0.0073 0.0005

Pluto -10872-07-04 17:16 J -2249389.94 -2249389.78 -2249389.63 0.0073 0.0005

Pluto -10872-09-30 18:14 J -2249301.88 -2249301.74 -2249301.58 0.0073 0.0014

Pluto -10872-12-27 19:26 J -2249213.83 -2249213.69 -2249213.54 0.0073 0.0023

Jupiter -10871-03-10 06:14 J -2249141.31 -2249141.24 -2249141.17 0.0525 0.0420

Pluto -10871-03-25 20:38 J -2249125.77 -2249125.64 -2249125.49 0.0073 0.0032

Jupiter -10871-06-07 10:48 J -2249052.17 -2249052.05 -2249051.93 0.0523 0.0124

Pluto -10871-06-21 21:50 J -2249037.70 -2249037.59 -2249037.45 0.0073 0.0041

Pluto -10871-09-17 23:16 J -2248949.63 -2248949.53 -2248949.41 0.0073 0.0050

Pluto -10871-12-15 00:28 J -2248861.56 -2248861.48 -2248861.38 0.0073 0.0060

Pluto -10870-03-13 01:55 J -2248773.47 -2248773.42 -2248773.36 0.0074 0.0069

Mars -10869-06-23 03:21 J -2248305.50 -2248305.36 -2248305.21 0.1869 0.1036

Mars -10866-04-01 20:09 J -2247292.77 -2247292.66 -2247292.54 0.1649 0.0081

Jupiter -10865-04-29 18:00 J -2246898.88 -2246898.75 -2246898.61 0.0501 0.0349

Jupiter -10865-07-29 07:26 J -2246808.30 -2246808.19 -2246808.08 0.0502 0.0403

Earth -10864-08-31 05:31 J -2246410.38 -2246410.27 -2246410.16 0.2719 0.0082

Moon -10864-08-31 05:31 J -2246410.37 -2246410.27 -2246410.16 0.2725 0.0171 *

Moon -10860-03-01 20:38 J -2245131.80 -2245131.64 -2245131.48 0.2614 0.0495

Earth -10860-03-01 22:33 J -2245131.73 -2245131.56 -2245131.40 0.2615 0.0192 *

Saturn -10860-11-12 08:09 J -2244876.29 -2244876.16 -2244876.02 0.0261 0.0188

Saturn -10859-02-09 05:45 J -2244787.46 -2244787.26 -2244787.07 0.0261 0.0028

Jupiter -10859-03-26 15:21 J -2244741.98 -2244741.86 -2244741.73 0.0524 0.0017

Saturn -10859-05-09 03:07 J -2244698.53 -2244698.37 -2244698.20 0.0262 0.0133

Mars -10857-08-22 07:40 J -2243862.29 -2243862.18 -2243862.07 0.1652 0.0372

Mars -10855-07-28 09:35 J -2243157.16 -2243157.10 -2243157.05 0.1640 0.1429

Jupiter -10853-05-17 03:50 J -2242498.51 -2242498.34 -2242498.17 0.0502 0.0217

Earth -10851-09-02 23:02 J -2241659.63 -2241659.54 -2241659.44 0.2718 0.1369

Moon -10851-09-02 23:45 J -2241659.60 -2241659.51 -2241659.42 0.2722 0.1385 *

Mars -10847-01-12 19:11 J -2240431.80 -2240431.70 -2240431.60 0.1656 0.0820

Jupiter -10847-01-12 20:09 J -2240431.78 -2240431.66 -2240431.54 0.0524 0.0143 *

Moon -10847-03-05 04:48 J -2240380.37 -2240380.30 -2240380.24 0.2618 0.2363

Earth -10847-03-05 06:14 J -2240380.30 -2240380.24 -2240380.18 0.2615 0.2426 *

Jupiter -10847-04-12 00:43 J -2240342.55 -2240342.47 -2240342.39 0.0523 0.0397

Saturn -10846-09-19 18:28 J -2239816.81 -2239816.73 -2239816.66 0.0302 0.0245

Saturn -10846-12-17 06:43 J -2239728.34 -2239728.22 -2239728.09 0.0302 0.0081

Mars -10846-12-18 21:07 J -2239726.71 -2239726.62 -2239726.53 0.1642 0.0999

Saturn -10845-03-14 18:57 J -2239639.83 -2239639.71 -2239639.58 0.0301 0.0081

Saturn -10845-06-11 07:11 J -2239551.27 -2239551.20 -2239551.13 0.0300 0.0241

Moon -10844-08-26 22:33 J -2239109.61 -2239109.56 -2239109.50 0.2721 0.2301

Earth -10844-08-26 23:16 J -2239109.59 -2239109.53 -2239109.47 0.2719 0.2203 *

Venus -10842-04-29 22:48 J -2238498.60 -2238498.55 -2238498.50 0.3697 0.3189

Jupiter -10841-03-04 23:16 J -2238188.72 -2238188.53 -2238188.34 0.0502 0.0020

Mars -10839-08-02 12:14 J -2237308.15 -2237307.99 -2237307.82 0.1874 0.0486

Mars -10838-06-05 06:28 J -2237001.30 -2237001.23 -2237001.15 0.1659 0.1271

Earth -10838-09-05 16:48 J -2236908.82 -2236908.80 -2236908.78 0.2718 0.2652

Venus -10837-11-12 13:55 J -2236475.01 -2236474.92 -2236474.82 0.3699 0.1468

Mars -10836-05-10 08:38 J -2236296.25 -2236296.14 -2236296.03 0.1646 0.0563

Jupiter -10836-11-01 00:57 J -2236121.57 -2236121.46 -2236121.35 0.0524 0.0273

Jupiter -10835-01-29 05:31 J -2236032.38 -2236032.27 -2236032.17 0.0523 0.0268

Uranus -10831-03-04 07:40 J -2234537.23 -2234537.18 -2234537.13 0.0138 0.0125

Venus -10831-05-29 05:16 J -2234451.38 -2234451.28 -2234451.18 0.3701 0.0279

Uranus -10831-05-31 10:48 J -2234449.13 -2234449.05 -2234448.97 0.0138 0.0106

Uranus -10831-08-27 13:40 J -2234361.02 -2234360.93 -2234360.82 0.0138 0.0087

Moon -10831-08-29 16:19 J -2234358.92 -2234358.82 -2234358.72 0.2725 0.0949

Earth -10831-08-29 16:48 J -2234358.90 -2234358.80 -2234358.70 0.2719 0.0937 *

Uranus -10831-11-23 16:48 J -2234272.90 -2234272.80 -2234272.68 0.0138 0.0068

Uranus -10830-02-19 20:09 J -2234184.78 -2234184.66 -2234184.54 0.0138 0.0049

Saturn -10830-04-01 06:43 J -2234144.29 -2234144.22 -2234144.13 0.0260 0.0235

Uranus -10830-05-18 23:16 J -2234096.66 -2234096.53 -2234096.40 0.0139 0.0029

Saturn -10830-06-29 04:19 J -2234055.50 -2234055.32 -2234055.13 0.0260 0.0076

Uranus -10830-08-15 02:24 J -2234008.53 -2234008.40 -2234008.27 0.0139 0.0010

Saturn -10830-09-26 01:40 J -2233966.61 -2233966.43 -2233966.24 0.0261 0.0084

Uranus -10830-11-11 05:31 J -2233920.40 -2233920.27 -2233920.14 0.0139 0.0010

Jupiter -10830-12-22 19:55 J -2233878.85 -2233878.67 -2233878.49 0.0502 0.0162

Mars -10830-12-23 04:33 J -2233878.46 -2233878.31 -2233878.16 0.1869 0.0906

Saturn -10830-12-23 23:16 J -2233877.59 -2233877.53 -2233877.46 0.0262 0.0246

Uranus -10829-02-07 08:38 J -2233832.26 -2233832.14 -2233832.01 0.0139 0.0030

Uranus -10829-05-05 12:00 J -2233744.12 -2233744.00 -2233743.88 0.0139 0.0049

Uranus -10829-08-01 14:52 J -2233655.98 -2233655.88 -2233655.76 0.0139 0.0070

Uranus -10829-10-28 18:00 J -2233567.84 -2233567.75 -2233567.64 0.0139 0.0090

Uranus -10828-01-24 21:21 J -2233479.68 -2233479.61 -2233479.52 0.0139 0.0109

Venus -10828-03-02 13:11 J -2233443.08 -2233442.95 -2233442.82 0.3672 0.2103

Uranus -10828-04-23 00:43 J -2233391.52 -2233391.47 -2233391.42 0.0140 0.0129

Moon -10827-02-27 19:40 J -2233080.72 -2233080.68 -2233080.64 0.2611 0.2514

Earth -10827-02-27 21:07 J -2233080.69 -2233080.62 -2233080.55 0.2614 0.2327 *

Mars -10827-09-30 20:09 J -2232865.77 -2232865.66 -2232865.55 0.1649 0.0125

Venus -10826-12-12 20:24 J -2232427.73 -2232427.65 -2232427.57 0.3703 0.1954

Jupiter -10824-08-20 05:16 J -2231811.36 -2231811.28 -2231811.20 0.0524 0.0412

Jupiter -10824-11-17 09:50 J -2231722.21 -2231722.09 -2231721.97 0.0523 0.0130

Venus -10820-06-27 11:31 J -2230404.03 -2230404.02 -2230404.01 0.3704 0.3657

Earth -10818-09-01 10:19 J -2229608.18 -2229608.07 -2229607.96 0.2718 0.0340

Moon -10818-09-01 10:33 J -2229608.17 -2229608.06 -2229607.95 0.2725 0.0327 *

Jupiter -10818-10-10 16:48 J -2229568.94 -2229568.80 -2229568.66 0.0502 0.0342

Jupiter -10817-01-09 06:00 J -2229478.35 -2229478.25 -2229478.13 0.0503 0.0413

Mars -10817-02-21 07:40 J -2229435.29 -2229435.18 -2229435.07 0.1652 0.0318

Saturn -10816-02-05 19:40 J -2229084.69 -2229084.68 -2229084.67 0.0303 0.0302

Saturn -10816-05-05 08:09 J -2228996.27 -2228996.16 -2228996.05 0.0302 0.0137

Saturn -10816-08-01 20:24 J -2228907.78 -2228907.65 -2228907.52 0.0302 0.0026

Saturn -10816-10-29 08:38 J -2228819.24 -2228819.14 -2228819.04 0.0301 0.0186

Mars -10815-01-26 09:21 J -2228730.15 -2228730.11 -2228730.06 0.1640 0.1481

Moon -10814-03-03 03:21 J -2228329.52 -2228329.36 -2228329.20 0.2614 0.0220

Earth -10814-03-03 05:16 J -2228329.45 -2228329.28 -2228329.12 0.2615 0.0324 *

Jupiter -10812-09-05 14:24 J -2227412.03 -2227411.90 -2227411.78 0.0524 0.0007

Neptune -10808-04-15 11:45 J -2226094.04 -2226094.01 -2226093.96 0.0089 0.0084

Neptune -10808-07-12 12:57 J -2226006.01 -2226005.96 -2226005.88 0.0089 0.0078

Mars -10808-07-13 19:11 J -2226004.80 -2226004.70 -2226004.60 0.1656 0.0764

Neptune -10808-10-08 14:24 J -2225917.97 -2225917.90 -2225917.81 0.0089 0.0070

Neptune -10807-01-04 15:35 J -2225829.93 -2225829.85 -2225829.75 0.0089 0.0063

Neptune -10807-04-02 16:48 J -2225741.89 -2225741.80 -2225741.68 0.0089 0.0057

Neptune -10807-06-29 18:14 J -2225653.84 -2225653.74 -2225653.62 0.0089 0.0049

Neptune -10807-09-25 19:26 J -2225565.79 -2225565.69 -2225565.56 0.0089 0.0043

Neptune -10807-12-22 20:52 J -2225477.75 -2225477.63 -2225477.50 0.0089 0.0035

Neptune -10806-03-20 22:19 J -2225389.70 -2225389.57 -2225389.45 0.0089 0.0028

Neptune -10806-06-16 23:31 J -2225301.64 -2225301.52 -2225301.39 0.0089 0.0021

Mars -10806-06-18 21:07 J -2225299.71 -2225299.62 -2225299.54 0.1643 0.1052

Neptune -10806-09-13 00:57 J -2225213.59 -2225213.46 -2225213.33 0.0089 0.0014

Jupiter -10806-10-28 02:38 J -2225168.56 -2225168.39 -2225168.22 0.0502 0.0226

Neptune -10806-12-10 02:09 J -2225125.54 -2225125.41 -2225125.28 0.0089 0.0007

Neptune -10805-03-07 03:21 J -2225037.49 -2225037.36 -2225037.23 0.0089 0.0002

Neptune -10805-06-03 04:48 J -2224949.43 -2224949.30 -2224949.17 0.0089 0.0008

Neptune -10805-08-30 06:00 J -2224861.38 -2224861.25 -2224861.12 0.0089 0.0015

Earth -10805-09-03 04:04 J -2224857.42 -2224857.33 -2224857.25 0.2718 0.1623

Moon -10805-09-03 04:33 J -2224857.39 -2224857.31 -2224857.23 0.2722 0.1768 *

Neptune -10805-11-26 07:11 J -2224773.32 -2224773.20 -2224773.07 0.0089 0.0022

Neptune -10804-02-22 08:38 J -2224685.27 -2224685.14 -2224685.02 0.0089 0.0029

Neptune -10804-05-21 09:50 J -2224597.21 -2224597.09 -2224596.97 0.0089 0.0036

Neptune -10804-08-17 11:02 J -2224509.15 -2224509.04 -2224508.92 0.0089 0.0043

Neptune -10804-11-13 12:28 J -2224421.09 -2224420.98 -2224420.88 0.0089 0.0050

Neptune -10803-02-09 13:40 J -2224333.03 -2224332.93 -2224332.83 0.0089 0.0057

Neptune -10803-05-08 14:52 J -2224244.97 -2224244.88 -2224244.79 0.0089 0.0064

Neptune -10803-08-04 16:19 J -2224156.90 -2224156.82 -2224156.75 0.0089 0.0071

Neptune -10803-10-31 17:31 J -2224068.83 -2224068.77 -2224068.71 0.0089 0.0078

Neptune -10802-01-27 18:43 J -2223980.76 -2223980.72 -2223980.68 0.0089 0.0085

Saturn -10801-11-15 02:24 J -2223323.56 -2223323.40 -2223323.22 0.0261 0.0128

Saturn -10800-02-12 00:00 J -2223234.70 -2223234.50 -2223234.31 0.0261 0.0032

Saturn -10800-05-11 21:21 J -2223145.74 -2223145.61 -2223145.48 0.0262 0.0194

Jupiter -10800-06-24 18:57 J -2223101.83 -2223101.71 -2223101.59 0.0524 0.0139

Jupiter -10800-09-21 23:31 J -2223012.60 -2223012.52 -2223012.44 0.0523 0.0402

Mars -10799-01-31 13:11 J -2222881.11 -2222880.95 -2222880.79 0.1875 0.0609

Mars -10799-12-04 06:28 J -2222574.30 -2222574.23 -2222574.15 0.1659 0.1212

Moon -10798-08-28 03:21 J -2222307.43 -2222307.36 -2222307.29 0.2723 0.2052

Earth -10798-08-28 04:04 J -2222307.41 -2222307.33 -2222307.26 0.2719 0.1956 *

Mars -10797-11-08 08:38 J -2221869.25 -2221869.14 -2221869.04 0.1646 0.0620

Jupiter -10794-08-15 23:02 J -2220858.73 -2220858.54 -2220858.35 0.0502 0.0041

Uranus -10791-01-12 22:33 J -2219977.65 -2219977.56 -2219977.44 0.0140 0.0117

Uranus -10791-04-11 06:57 J -2219889.35 -2219889.21 -2219889.04 0.0140 0.0086

Uranus -10791-07-08 15:21 J -2219801.03 -2219800.86 -2219800.67 0.0140 0.0055

Uranus -10791-10-05 00:00 J -2219712.70 -2219712.50 -2219712.31 0.0140 0.0024

Uranus -10790-01-01 08:09 J -2219624.35 -2219624.16 -2219623.96 0.0140 0.0007

Uranus -10790-03-30 16:19 J -2219536.00 -2219535.82 -2219535.62 0.0140 0.0037

Mars -10790-06-23 05:31 J -2219451.42 -2219451.27 -2219451.11 0.1869 0.0774

Uranus -10790-06-27 00:28 J -2219447.64 -2219447.48 -2219447.30 0.0140 0.0068

Uranus -10790-09-23 08:38 J -2219359.27 -2219359.14 -2219358.99 0.0140 0.0098

Uranus -10790-12-20 16:48 J -2219270.87 -2219270.80 -2219270.71 0.0139 0.0128

Pluto -10789-09-30 12:28 J -2218986.04 -2218985.98 -2218985.88 0.0072 0.0063

Pluto -10789-12-27 14:09 J -2218898.01 -2218897.91 -2218897.79 0.0072 0.0053

Pluto -10788-03-25 15:35 J -2218809.97 -2218809.85 -2218809.70 0.0072 0.0044

Jupiter -10788-04-12 23:45 J -2218791.61 -2218791.51 -2218791.40 0.0524 0.0269

Pluto -10788-06-21 17:31 J -2218721.92 -2218721.77 -2218721.63 0.0072 0.0034

Jupiter -10788-07-11 04:19 J -2218702.42 -2218702.32 -2218702.21 0.0523 0.0273

Pluto -10788-09-17 18:43 J -2218633.86 -2218633.72 -2218633.55 0.0072 0.0025

Pluto -10788-12-14 20:24 J -2218545.81 -2218545.65 -2218545.49 0.0072 0.0016

Pluto -10787-03-12 21:50 J -2218457.75 -2218457.59 -2218457.42 0.0072 0.0007

Mars -10787-03-31 20:09 J -2218438.77 -2218438.66 -2218438.55 0.1649 0.0181

Pluto -10787-06-08 23:16 J -2218369.69 -2218369.53 -2218369.36 0.0071 0.0003

Pluto -10787-09-05 00:43 J -2218281.63 -2218281.47 -2218281.30 0.0071 0.0012

Saturn -10787-09-22 09:21 J -2218264.21 -2218264.11 -2218264.01 0.0303 0.0194

Pluto -10787-12-02 01:55 J -2218193.56 -2218193.42 -2218193.25 0.0071 0.0021

Saturn -10787-12-19 21:50 J -2218175.72 -2218175.59 -2218175.47 0.0302 0.0032

Pluto -10786-02-28 03:35 J -2218105.50 -2218105.35 -2218105.20 0.0071 0.0030

Saturn -10786-03-18 10:04 J -2218087.20 -2218087.08 -2218086.97 0.0301 0.0131

Pluto -10786-05-27 05:02 J -2218017.43 -2218017.29 -2218017.15 0.0071 0.0038

Saturn -10786-06-14 22:04 J -2217998.60 -2217998.58 -2217998.55 0.0300 0.0291

Pluto -10786-08-23 06:14 J -2217929.35 -2217929.24 -2217929.11 0.0071 0.0047

Pluto -10786-11-19 07:26 J -2217841.27 -2217841.19 -2217841.07 0.0071 0.0056

Venus -10786-12-04 20:09 J -2217825.73 -2217825.66 -2217825.59 0.3698 0.2569

Pluto -10785-02-15 09:07 J -2217753.18 -2217753.12 -2217753.05 0.0071 0.0064

Moon -10785-08-29 21:21 J -2217556.72 -2217556.61 -2217556.51 0.2725 0.0754

Earth -10785-08-29 21:35 J -2217556.71 -2217556.60 -2217556.50 0.2719 0.0687 *

Jupiter -10782-06-03 18:14 J -2216548.91 -2216548.74 -2216548.56 0.0502 0.0158

Moon -10781-02-29 02:24 J -2216278.51 -2216278.40 -2216278.30 0.2612 0.1993

Earth -10781-02-29 04:04 J -2216278.45 -2216278.33 -2216278.22 0.2615 0.1814 *

Venus -10780-06-19 11:16 J -2215802.13 -2215802.03 -2215801.93 0.3699 0.0857

Mars -10778-08-22 07:40 J -2215008.30 -2215008.18 -2215008.07 0.1652 0.0270

Jupiter -10776-01-30 04:48 J -2214481.38 -2214481.30 -2214481.22 0.0524 0.0397

Jupiter -10776-04-29 09:21 J -2214392.23 -2214392.11 -2214391.99 0.0523 0.0146

Mars -10776-07-27 09:21 J -2214303.15 -2214303.11 -2214303.07 0.1640 0.1533

Venus -10774-01-03 02:38 J -2213778.49 -2213778.39 -2213778.30 0.3701 0.0867

Earth -10772-09-01 15:07 J -2212805.97 -2212805.87 -2212805.76 0.2718 0.0594

Moon -10772-09-01 15:35 J -2212805.96 -2212805.85 -2212805.75 0.2725 0.0696 *

Venus -10772-10-07 16:04 J -2212769.99 -2212769.83 -2212769.66 0.3672 0.0044

Saturn -10771-04-04 00:57 J -2212591.60 -2212591.46 -2212591.32 0.0260 0.0177

Saturn -10771-07-01 22:19 J -2212502.77 -2212502.57 -2212502.38 0.0260 0.0019

Saturn -10771-09-28 19:26 J -2212413.84 -2212413.69 -2212413.52 0.0261 0.0142

Jupiter -10770-03-22 15:07 J -2212239.01 -2212238.87 -2212238.73 0.0502 0.0337

Jupiter -10770-06-21 04:33 J -2212148.41 -2212148.31 -2212148.20 0.0503 0.0418

Venus -10769-07-18 17:45 J -2211754.83 -2211754.76 -2211754.69 0.3703 0.2562

Mars -10768-01-11 18:57 J -2211577.81 -2211577.71 -2211577.60 0.1655 0.0711

Moon -10768-03-03 10:19 J -2211527.23 -2211527.07 -2211526.91 0.2615 0.0559

Earth -10768-03-03 12:00 J -2211527.15 -2211527.00 -2211526.85 0.2615 0.0828 *

Mars -10767-12-17 20:52 J -2210872.71 -2210872.63 -2210872.54 0.1642 0.1106

Jupiter -10764-02-15 13:40 J -2210082.06 -2210081.93 -2210081.81 0.0523 0.0009

Mars -10760-08-01 14:09 J -2208454.07 -2208453.91 -2208453.75 0.1875 0.0733

Mars -10759-06-04 06:28 J -2208147.31 -2208147.23 -2208147.15 0.1659 0.1159

Earth -10759-09-04 08:52 J -2208055.21 -2208055.13 -2208055.06 0.2718 0.1884

Moon -10759-09-04 09:21 J -2208055.18 -2208055.11 -2208055.03 0.2721 0.1908 *

Jupiter -10758-04-09 01:26 J -2207838.60 -2207838.44 -2207838.27 0.0503 0.0238

Saturn -10757-02-09 10:19 J -2207532.13 -2207532.07 -2207532.00 0.0303 0.0256

Saturn -10757-05-07 22:48 J -2207443.67 -2207443.55 -2207443.43 0.0303 0.0091

Mars -10757-05-09 08:38 J -2207442.25 -2207442.14 -2207442.04 0.1646 0.0674

Saturn -10757-08-04 11:02 J -2207355.16 -2207355.04 -2207354.91 0.0302 0.0072

Saturn -10757-10-31 23:16 J -2207266.61 -2207266.53 -2207266.45 0.0301 0.0232

Jupiter -10753-12-04 18:14 J -2205771.86 -2205771.74 -2205771.62 0.0524 0.0127

Jupiter -10752-03-03 22:33 J -2205682.63 -2205682.56 -2205682.48 0.0522 0.0412

Moon -10752-08-28 08:09 J -2205505.24 -2205505.16 -2205505.08 0.2724 0.1749

Earth -10752-08-28 08:38 J -2205505.22 -2205505.14 -2205505.05 0.2719 0.1709 *

Mars -10751-12-22 06:00 J -2205024.41 -2205024.25 -2205024.09 0.1870 0.0678

Mars -10750-10-25 17:45 J -2204716.78 -2204716.76 -2204716.73 0.1663 0.1613

Mars -10748-09-29 20:09 J -2204011.78 -2204011.66 -2204011.55 0.1649 0.0240

Uranus -10747-03-24 14:52 J -2203835.94 -2203835.88 -2203835.81 0.0138 0.0120

Uranus -10747-06-20 18:00 J -2203747.83 -2203747.75 -2203747.66 0.0138 0.0101

Uranus -10747-09-16 21:07 J -2203659.72 -2203659.62 -2203659.51 0.0138 0.0082

Uranus -10747-12-14 00:14 J -2203571.60 -2203571.49 -2203571.37 0.0138 0.0063

Jupiter -10746-01-25 22:04 J -2203528.77 -2203528.58 -2203528.39 0.0502 0.0054

Uranus -10746-03-12 03:21 J -2203483.48 -2203483.36 -2203483.23 0.0138 0.0044

Uranus -10746-06-08 06:28 J -2203395.35 -2203395.23 -2203395.10 0.0138 0.0025

Uranus -10746-09-04 09:35 J -2203307.23 -2203307.10 -2203306.97 0.0139 0.0007

Uranus -10746-12-01 12:43 J -2203219.09 -2203218.97 -2203218.84 0.0139 0.0015

Uranus -10745-02-27 16:04 J -2203130.96 -2203130.83 -2203130.71 0.0139 0.0034

Uranus -10745-05-25 19:11 J -2203042.82 -2203042.70 -2203042.58 0.0139 0.0054

Uranus -10745-08-21 22:19 J -2202954.68 -2202954.57 -2202954.46 0.0139 0.0074

Uranus -10745-11-18 01:26 J -2202866.53 -2202866.44 -2202866.34 0.0139 0.0093

Uranus -10744-02-14 04:33 J -2202778.38 -2202778.31 -2202778.23 0.0139 0.0114

Uranus -10744-05-13 07:40 J -2202690.20 -2202690.18 -2202690.13 0.0139 0.0134

Saturn -10742-08-21 22:33 J -2201859.63 -2201859.56 -2201859.46 0.0260 0.0231

Saturn -10742-11-18 20:09 J -2201770.85 -2201770.66 -2201770.48 0.0260 0.0073

Saturn -10741-02-15 17:31 J -2201681.96 -2201681.77 -2201681.59 0.0261 0.0087

Saturn -10741-05-14 14:38 J -2201592.94 -2201592.89 -2201592.82 0.0261 0.0249

Jupiter -10741-09-22 22:48 J -2201461.66 -2201461.55 -2201461.44 0.0524 0.0262

Jupiter -10741-12-21 03:21 J -2201372.47 -2201372.36 -2201372.26 0.0523 0.0280

Moon -10739-08-31 02:09 J -2200754.51 -2200754.41 -2200754.30 0.2725 0.0450

Earth -10739-08-31 02:24 J -2200754.51 -2200754.40 -2200754.30 0.2719 0.0444 *

Mars -10738-02-20 07:40 J -2200581.30 -2200581.18 -2200581.07 0.1652 0.0208

Mars -10736-01-25 09:21 J -2199876.13 -2199876.11 -2199876.08 0.1640 0.1588

Moon -10735-03-01 09:07 J -2199476.26 -2199476.12 -2199475.99 0.2611 0.1482

Earth -10735-03-01 10:48 J -2199476.19 -2199476.05 -2199475.91 0.2615 0.1311 *

Jupiter -10735-11-13 18:28 J -2199218.91 -2199218.73 -2199218.54 0.0502 0.0130

Venus -10735-12-26 02:09 J -2199176.42 -2199176.41 -2199176.40 0.3696 0.3672

Venus -10729-07-10 17:31 J -2197152.86 -2197152.77 -2197152.69 0.3698 0.1953

Jupiter -10729-07-12 03:35 J -2197151.43 -2197151.35 -2197151.26 0.0524 0.0390

Mars -10729-07-12 18:57 J -2197150.81 -2197150.71 -2197150.60 0.1655 0.0654

Jupiter -10729-10-09 08:09 J -2197062.28 -2197062.16 -2197062.04 0.0523 0.0154

Saturn -10728-09-24 23:45 J -2196711.62 -2196711.51 -2196711.40 0.0303 0.0151

Saturn -10728-12-22 12:00 J -2196623.12 -2196623.00 -2196622.87 0.0302 0.0016

Saturn -10727-03-21 00:14 J -2196534.59 -2196534.49 -2196534.38 0.0301 0.0174

Mars -10727-06-17 20:52 J -2196445.71 -2196445.63 -2196445.55 0.1642 0.1161

Earth -10726-09-02 19:55 J -2196003.77 -2196003.67 -2196003.57 0.2718 0.0847

Moon -10726-09-02 20:24 J -2196003.75 -2196003.65 -2196003.55 0.2725 0.0874 *

Neptune -10725-09-26 00:00 J -2195614.55 -2195614.50 -2195614.40 0.0088 0.0081

Neptune -10725-12-23 03:50 J -2195526.44 -2195526.34 -2195526.21 0.0088 0.0071

Neptune -10724-03-21 07:26 J -2195438.31 -2195438.19 -2195438.03 0.0088 0.0061

Neptune -10724-06-17 11:31 J -2195350.18 -2195350.02 -2195349.85 0.0088 0.0050

Neptune -10724-09-13 15:07 J -2195262.04 -2195261.87 -2195261.69 0.0088 0.0040

Neptune -10724-12-10 18:43 J -2195173.89 -2195173.72 -2195173.52 0.0088 0.0030

Venus -10723-01-24 08:38 J -2195129.24 -2195129.14 -2195129.04 0.3700 0.0251

Neptune -10723-03-08 22:33 J -2195085.75 -2195085.56 -2195085.36 0.0088 0.0020

Neptune -10723-06-05 02:24 J -2194997.60 -2194997.40 -2194997.20 0.0088 0.0010

Neptune -10723-09-01 06:14 J -2194909.44 -2194909.24 -2194909.05 0.0088 0.0002

Jupiter -10723-09-01 13:55 J -2194909.07 -2194908.92 -2194908.78 0.0502 0.0329 *

Neptune -10723-11-28 09:50 J -2194821.29 -2194821.09 -2194820.89 0.0088 0.0011

Jupiter -10723-12-01 03:07 J -2194818.46 -2194818.37 -2194818.26 0.0503 0.0426

Neptune -10722-02-24 13:26 J -2194733.13 -2194732.94 -2194732.74 0.0088 0.0021

Moon -10722-03-04 17:02 J -2194724.93 -2194724.79 -2194724.64 0.2617 0.1190

Earth -10722-03-04 18:43 J -2194724.86 -2194724.72 -2194724.58 0.2615 0.1328 *

Neptune -10722-05-23 17:16 J -2194644.96 -2194644.78 -2194644.59 0.0088 0.0031

Neptune -10722-08-19 20:38 J -2194556.80 -2194556.64 -2194556.45 0.0088 0.0042

Neptune -10722-11-16 00:28 J -2194468.63 -2194468.48 -2194468.31 0.0088 0.0052

Neptune -10721-02-12 04:19 J -2194380.45 -2194380.32 -2194380.17 0.0088 0.0062

Neptune -10721-05-10 08:09 J -2194292.27 -2194292.16 -2194292.05 0.0088 0.0072

Neptune -10721-08-06 11:16 J -2194204.07 -2194204.03 -2194203.94 0.0088 0.0083

Mars -10720-01-30 14:52 J -2194027.03 -2194026.88 -2194026.72 0.1875 0.0852

Mars -10720-12-03 06:28 J -2193720.32 -2193720.23 -2193720.15 0.1659 0.1103

Venus -10718-08-10 00:00 J -2193105.60 -2193105.50 -2193105.41 0.3702 0.1476

Mars -10718-11-08 08:24 J -2193015.25 -2193015.15 -2193015.05 0.1645 0.0724

Jupiter -10717-04-30 08:38 J -2192841.16 -2192841.14 -2192841.12 0.0524 0.0517

Jupiter -10717-07-28 13:11 J -2192752.07 -2192751.95 -2192751.82 0.0523 0.0026

Venus -10715-05-14 18:57 J -2192096.84 -2192096.71 -2192096.57 0.3671 0.2071

Earth -10713-09-04 13:26 J -2191253.00 -2191252.94 -2191252.87 0.2718 0.2139

Moon -10713-09-04 14:09 J -2191252.96 -2191252.91 -2191252.85 0.2718 0.2278 *

Venus -10712-02-22 15:07 J -2191081.92 -2191081.87 -2191081.82 0.3703 0.3172

Saturn -10712-04-06 18:14 J -2191038.91 -2191038.74 -2191038.57 0.0260 0.0124

Saturn -10712-07-04 15:21 J -2190950.05 -2190949.86 -2190949.66 0.0260 0.0036

Saturn -10712-10-01 12:43 J -2190861.09 -2190860.97 -2190860.83 0.0261 0.0195

Mars -10711-06-22 07:11 J -2190597.36 -2190597.20 -2190597.03 0.1870 0.0537

Jupiter -10711-09-19 00:00 J -2190508.66 -2190508.50 -2190508.33 0.0503 0.0246

Mars -10710-04-25 17:45 J -2190289.80 -2190289.76 -2190289.72 0.1663 0.1559

Mars -10708-03-30 20:09 J -2189584.78 -2189584.66 -2189584.55 0.1649 0.0295

Uranus -10707-02-02 05:45 J -2189276.38 -2189276.26 -2189276.14 0.0140 0.0111

Uranus -10707-05-01 14:09 J -2189188.07 -2189187.91 -2189187.75 0.0140 0.0080

Uranus -10707-07-28 22:19 J -2189099.75 -2189099.57 -2189099.38 0.0140 0.0049

Uranus -10707-10-25 06:43 J -2189011.41 -2189011.22 -2189011.02 0.0140 0.0019

Uranus -10706-01-21 15:07 J -2188923.07 -2188922.87 -2188922.67 0.0140 0.0013

Uranus -10706-04-19 23:16 J -2188834.71 -2188834.53 -2188834.34 0.0140 0.0043

Uranus -10706-07-17 07:26 J -2188746.35 -2188746.19 -2188746.01 0.0140 0.0074

Moon -10706-08-29 12:57 J -2188703.04 -2188702.96 -2188702.87 0.2724 0.1573

Earth -10706-08-29 13:26 J -2188703.03 -2188702.94 -2188702.85 0.2719 0.1456 *

Uranus -10706-10-13 15:35 J -2188657.97 -2188657.85 -2188657.71 0.0140 0.0104

Uranus -10705-01-09 23:45 J -2188569.55 -2188569.51 -2188569.44 0.0139 0.0134

Jupiter -10705-05-16 17:45 J -2188441.89 -2188441.76 -2188441.64 0.0523 0.0113

Jupiter -10705-08-13 22:04 J -2188352.65 -2188352.58 -2188352.51 0.0522 0.0427

Jupiter -10699-07-07 21:07 J -2186198.81 -2186198.62 -2186198.43 0.0502 0.0067

Mars -10699-08-21 07:26 J -2186154.30 -2186154.19 -2186154.07 0.1652 0.0157

Saturn -10698-02-12 00:28 J -2185979.57 -2185979.48 -2185979.40 0.0303 0.0218

Saturn -10698-05-11 12:43 J -2185891.09 -2185890.97 -2185890.84 0.0303 0.0054

Saturn -10698-08-08 00:57 J -2185802.57 -2185802.46 -2185802.34 0.0302 0.0110

Saturn -10698-11-04 13:11 J -2185714.00 -2185713.95 -2185713.89 0.0301 0.0270

Jupiter -10693-03-04 22:04 J -2184131.69 -2184131.58 -2184131.47 0.0524 0.0247

Jupiter -10693-06-02 02:38 J -2184042.49 -2184042.39 -2184042.29 0.0523 0.0294

Moon -10693-08-31 07:11 J -2183952.31 -2183952.20 -2183952.10 0.2725 0.0168

Earth -10693-08-31 07:11 J -2183952.31 -2183952.20 -2183952.10 0.2719 0.0205 *

Mars -10689-01-11 18:57 J -2182723.81 -2182723.71 -2182723.60 0.1655 0.0598

Moon -10689-03-01 16:04 J -2182673.99 -2182673.83 -2182673.68 0.2612 0.1025

Earth -10689-03-01 17:31 J -2182673.92 -2182673.77 -2182673.61 0.2615 0.0806 *

Mars -10688-12-16 20:52 J -2182018.71 -2182018.63 -2182018.56 0.1642 0.1212

Jupiter -10687-04-25 17:45 J -2181888.94 -2181888.76 -2181888.57 0.0502 0.0115

Saturn -10683-08-24 15:50 J -2180306.98 -2180306.84 -2180306.70 0.0260 0.0179

Saturn -10683-11-21 13:11 J -2180218.15 -2180217.95 -2180217.76 0.0260 0.0021

Saturn -10682-02-18 10:19 J -2180129.23 -2180129.07 -2180128.90 0.0261 0.0139

Jupiter -10682-12-23 02:52 J -2179821.47 -2179821.38 -2179821.30 0.0524 0.0382

Jupiter -10681-03-21 07:26 J -2179732.31 -2179732.19 -2179732.08 0.0523 0.0162

Mars -10681-07-31 15:50 J -2179599.98 -2179599.84 -2179599.69 0.1875 0.0977

Mars -10680-06-03 06:28 J -2179293.32 -2179293.23 -2179293.14 0.1659 0.1048

Earth -10680-09-03 00:43 J -2179201.57 -2179201.47 -2179201.37 0.2718 0.1102

Moon -10680-09-03 01:11 J -2179201.55 -2179201.45 -2179201.36 0.2724 0.1182 *

Mars	-10678-05-09 08:24 J	-2178588.25	-2178588.15	-2178588.05	0.1645	0.0782
Venus	-10678-08-01 23:31 J	-2178503.57	-2178503.52	-2178503.46	0.3697	0.3049
Moon	-10676-03-05 00:00 J	-2177922.63	-2177922.50	-2177922.38	0.2618	0.1639
Earth	-10676-03-05 01:40 J	-2177922.55	-2177922.43	-2177922.32	0.2615	0.1834 *
Jupiter	-10675-02-11 14:24 J	-2177579.05	-2177578.90	-2177578.75	0.0502	0.0297
Jupiter	-10675-05-13 03:50 J	-2177488.42	-2177488.34	-2177488.26	0.0503	0.0456
Moon	-10673-08-27 00:14 J	-2176651.52	-2176651.49	-2176651.47	0.2721	0.2625
Earth	-10673-08-27 00:43 J	-2176651.51	-2176651.47	-2176651.42	0.2719	0.2471 *
Venus	-10672-02-14 14:52 J	-2176479.98	-2176479.88	-2176479.79	0.3698	0.1333
Mars	-10672-12-21 08:09 J	-2176170.33	-2176170.16	-2176169.99	0.1870	0.0414
Mars	-10671-10-24 17:45 J	-2175862.81	-2175862.76	-2175862.71	0.1663	0.1504
Jupiter	-10670-10-11 07:40 J	-2175511.21	-2175511.18	-2175511.15	0.0525	0.0508
Jupiter	-10669-01-08 12:28 J	-2175422.11	-2175421.98	-2175421.86	0.0523	0.0040
Saturn	-10669-07-01 01:11 J	-2175247.49	-2175247.45	-2175247.40	0.0303	0.0280
Saturn	-10669-09-27 13:40 J	-2175159.05	-2175158.93	-2175158.81	0.0303	0.0116
Mars	-10669-09-28 19:55 J	-2175157.78	-2175157.67	-2175157.56	0.1648	0.0344
Saturn	-10669-12-25 01:55 J	-2175070.54	-2175070.42	-2175070.29	0.0302	0.0048
Saturn	-10668-03-23 14:09 J	-2174982.00	-2174981.91	-2174981.82	0.0301	0.0209
Venus	-10667-08-31 06:00 J	-2174456.35	-2174456.25	-2174456.15	0.3700	0.0396
Earth	-10667-09-05 18:14 J	-2174450.78	-2174450.74	-2174450.69	0.2718	0.2393
Moon	-10667-09-05 18:57 J	-2174450.75	-2174450.71	-2174450.66	0.2717	0.2449 *
Venus	-10664-06-04 09:35 J	-2173448.22	-2173448.10	-2173447.97	0.3673	0.2369
Jupiter	-10664-11-30 09:35 J	-2173269.12	-2173269.10	-2173269.08	0.0502	0.0497
Uranus	-10663-01-15 19:11 J	-2173222.72	-2173222.70	-2173222.67	0.0138	0.0134
Jupiter	-10663-02-28 22:48 J	-2173178.71	-2173178.55	-2173178.38	0.0503	0.0256
Uranus	-10663-04-13 22:19 J	-2173134.64	-2173134.57	-2173134.50	0.0138	0.0115
Uranus	-10663-07-11 01:26 J	-2173046.53	-2173046.44	-2173046.35	0.0138	0.0096
Uranus	-10663-10-07 04:33 J	-2172958.42	-2172958.31	-2172958.20	0.0138	0.0077
Uranus	-10662-01-03 07:40 J	-2172870.30	-2172870.18	-2172870.06	0.0138	0.0058
Uranus	-10662-04-01 10:48 J	-2172782.17	-2172782.05	-2172781.93	0.0138	0.0039

Mars -10662-05-13 00:28 J -2172740.52 -2172740.48 -2172740.43 0.1865 0.1784

Uranus -10662-06-28 13:55 J -2172694.05 -2172693.92 -2172693.79 0.0138 0.0019

Uranus -10662-09-24 17:02 J -2172605.92 -2172605.79 -2172605.66 0.0139 0.0001

Uranus -10662-12-21 20:09 J -2172517.79 -2172517.66 -2172517.53 0.0139 0.0020

Venus -10661-03-15 21:21 J -2172432.70 -2172432.61 -2172432.53 0.3702 0.2083

Uranus -10661-03-18 23:16 J -2172429.65 -2172429.53 -2172429.40 0.0139 0.0039

Uranus -10661-06-15 02:24 J -2172341.51 -2172341.40 -2172341.28 0.0139 0.0059

Uranus -10661-09-11 05:31 J -2172253.37 -2172253.27 -2172253.16 0.0139 0.0079

Uranus -10661-12-08 08:52 J -2172165.22 -2172165.13 -2172165.04 0.0139 0.0098

Uranus -10660-03-06 12:00 J -2172077.06 -2172077.00 -2172076.93 0.0139 0.0118

Uranus -10660-06-02 15:07 J -2171988.88 -2171988.87 -2171988.85 0.0139 0.0138

Moon -10660-08-29 17:45 J -2171900.85 -2171900.76 -2171900.66 0.2724 0.1221

Earth -10660-08-29 18:14 J -2171900.83 -2171900.74 -2171900.64 0.2719 0.1204 *

Mars -10659-02-19 07:26 J -2171727.30 -2171727.19 -2171727.07 0.1652 0.0100

Jupiter -10658-10-27 17:16 J -2171111.90 -2171111.78 -2171111.65 0.0523 0.0092

Jupiter -10657-01-24 21:50 J -2171022.66 -2171022.59 -2171022.53 0.0522 0.0447

Saturn -10653-01-11 13:55 J -2169575.00 -2169574.92 -2169574.83 0.0259 0.0231

Saturn -10653-04-09 11:16 J -2169486.22 -2169486.03 -2169485.85 0.0260 0.0074

Saturn -10653-07-07 08:24 J -2169397.33 -2169397.15 -2169396.96 0.0260 0.0085

Saturn -10653-10-04 06:00 J -2169308.32 -2169308.25 -2169308.19 0.0261 0.0245

Jupiter -10652-12-17 19:40 J -2168868.86 -2168868.68 -2168868.49 0.0503 0.0076

Mars -10650-07-12 18:57 J -2168296.82 -2168296.71 -2168296.60 0.1655 0.0546

Mars -10648-06-16 20:52 J -2167591.70 -2167591.63 -2167591.56 0.1642 0.1265

Moon -10647-09-01 12:00 J -2167150.11 -2167150.00 -2167149.89 0.2726 0.0056

Earth -10647-09-01 12:00 J -2167150.11 -2167150.00 -2167149.90 0.2718 0.0129 *

Jupiter -10646-08-15 21:50 J -2166801.70 -2166801.59 -2166801.48 0.0524 0.0228

Jupiter -10646-11-13 02:09 J -2166712.51 -2166712.41 -2166712.31 0.0522 0.0312

Neptune -10643-01-10 11:02 J -2165923.08 -2165923.04 -2165922.99 0.0089 0.0084

Moon -10643-03-02 22:33 J -2165871.72 -2165871.56 -2165871.40 0.2614 0.0423

Earth -10643-03-03 00:28 J -2165871.65 -2165871.48 -2165871.32 0.2615 0.0309 *

Neptune -10643-04-08 12:14 J -2165835.04 -2165834.99 -2165834.91 0.0089 0.0077

Neptune -10643-07-05 13:40 J -2165747.00 -2165746.93 -2165746.84 0.0089 0.0069

Neptune -10643-10-01 14:52 J -2165658.96 -2165658.88 -2165658.78 0.0089 0.0063

Neptune -10643-12-28 16:19 J -2165570.92 -2165570.82 -2165570.71 0.0089 0.0055

Neptune -10642-03-26 17:31 J -2165482.87 -2165482.77 -2165482.65 0.0089 0.0048

Neptune -10642-06-22 18:43 J -2165394.82 -2165394.72 -2165394.59 0.0089 0.0042

Neptune -10642-09-18 20:09 J -2165306.77 -2165306.66 -2165306.53 0.0089 0.0034

Neptune -10642-12-15 21:21 J -2165218.72 -2165218.61 -2165218.48 0.0089 0.0028

Mars -10641-01-30 16:48 J -2165172.94 -2165172.80 -2165172.66 0.1875 0.1097

Neptune -10641-03-12 22:48 J -2165130.67 -2165130.55 -2165130.42 0.0089 0.0020

Neptune -10641-06-09 00:00 J -2165042.62 -2165042.50 -2165042.36 0.0089 0.0013

Neptune -10641-09-05 01:26 J -2164954.57 -2164954.44 -2164954.31 0.0089 0.0006

Neptune -10641-12-02 02:38 J -2164866.52 -2164866.39 -2164866.25 0.0089 0.0003

Mars -10641-12-02 06:28 J -2164866.33 -2164866.23 -2164866.14 0.1659 0.0996 *

Neptune -10640-02-28 04:04 J -2164778.46 -2164778.33 -2164778.20 0.0089 0.0009

Neptune -10640-05-27 05:16 J -2164690.41 -2164690.28 -2164690.15 0.0089 0.0015

Neptune -10640-08-23 06:28 J -2164602.35 -2164602.23 -2164602.10 0.0089 0.0023

Jupiter -10640-10-05 16:48 J -2164558.98 -2164558.80 -2164558.61 0.0502 0.0102

Neptune -10640-11-19 07:55 J -2164514.30 -2164514.17 -2164514.05 0.0089 0.0030

Saturn -10639-02-14 14:09 J -2164427.01 -2164426.91 -2164426.80 0.0303 0.0182

Neptune -10639-02-15 09:07 J -2164426.24 -2164426.12 -2164426.00 0.0089 0.0037

Saturn -10639-05-14 02:38 J -2164338.52 -2164338.39 -2164338.26 0.0303 0.0017

Neptune -10639-05-14 10:19 J -2164338.18 -2164338.07 -2164337.95 0.0089 0.0044

Neptune -10639-08-10 11:45 J -2164250.12 -2164250.01 -2164249.91 0.0089 0.0051

Saturn -10639-08-10 14:52 J -2164249.99 -2164249.88 -2164249.77 0.0302 0.0145 *

Neptune -10639-11-06 12:57 J -2164162.06 -2164161.96 -2164161.86 0.0089 0.0058

Mars -10639-11-07 08:24 J -2164161.25 -2164161.15 -2164161.05 0.1645 0.0832

Neptune -10638-02-02 14:09 J -2164073.99 -2164073.91 -2164073.82 0.0089 0.0065

Neptune -10638-05-01 15:35 J -2163985.93 -2163985.85 -2163985.78 0.0089 0.0072

Neptune -10638-07-28 16:48 J -2163897.86 -2163897.80 -2163897.74 0.0089 0.0079

Neptune -10638-10-24 18:00 J -2163809.78 -2163809.75 -2163809.71 0.0089 0.0086

Jupiter -10634-06-04 02:09 J -2162491.49 -2162491.41 -2162491.31 0.0524 0.0364

Jupiter -10634-09-01 06:43 J -2162402.33 -2162402.22 -2162402.10 0.0523 0.0179

Earth -10634-09-04 05:31 J -2162399.36 -2162399.27 -2162399.18 0.2718 0.1357

Moon -10634-09-04 06:00 J -2162399.34 -2162399.25 -2162399.16 0.2722 0.1440 *

Mars -10632-06-21 08:52 J -2161743.30 -2161743.13 -2161742.96 0.1870 0.0307

Mars -10631-04-24 17:45 J -2161435.81 -2161435.76 -2161435.71 0.1663 0.1445

Moon -10630-03-06 06:43 J -2161120.31 -2161120.22 -2161120.13 0.2618 0.2148

Earth -10630-03-06 08:24 J -2161120.22 -2161120.15 -2161120.08 0.2615 0.2329 *

Mars -10629-03-29 19:55 J -2160730.78 -2160730.67 -2160730.56 0.1649 0.0398

Jupiter -10628-07-24 13:26 J -2160249.09 -2160248.94 -2160248.78 0.0502 0.0283

Jupiter -10628-10-23 03:07 J -2160158.43 -2160158.37 -2160158.31 0.0503 0.0472

Moon -10627-08-28 04:48 J -2159849.35 -2159849.30 -2159849.24 0.2721 0.2254

Earth -10627-08-28 05:31 J -2159849.33 -2159849.27 -2159849.21 0.2719 0.2220 *

Pluto -10626-03-03 17:02 J -2159661.84 -2159661.79 -2159661.71 0.0072 0.0065

Pluto -10626-05-30 18:28 J -2159573.82 -2159573.73 -2159573.64 0.0072 0.0056

Pluto -10626-08-26 19:26 J -2159485.79 -2159485.69 -2159485.57 0.0072 0.0048

Pluto -10626-11-22 20:38 J -2159397.76 -2159397.64 -2159397.51 0.0072 0.0039

Pluto -10625-02-18 21:35 J -2159309.72 -2159309.60 -2159309.45 0.0072 0.0032

Pluto -10625-05-16 23:02 J -2159221.68 -2159221.54 -2159221.39 0.0072 0.0022

Pluto -10625-08-13 00:14 J -2159133.64 -2159133.49 -2159133.34 0.0072 0.0014

Pluto -10625-11-09 01:26 J -2159045.59 -2159045.44 -2159045.28 0.0073 0.0005

Pluto -10624-02-05 02:38 J -2158957.54 -2158957.39 -2158957.23 0.0073 0.0004

Pluto -10624-05-04 03:50 J -2158869.49 -2158869.34 -2158869.19 0.0073 0.0013

Pluto -10624-07-31 05:02 J -2158781.43 -2158781.29 -2158781.14 0.0073 0.0022

Saturn -10624-08-27 08:52 J -2158754.30 -2158754.13 -2158753.96 0.0260 0.0129

Pluto -10624-10-27 06:14 J -2158693.37 -2158693.24 -2158693.09 0.0073 0.0031

Saturn -10624-11-24 06:00 J -2158665.44 -2158665.25 -2158665.05 0.0260 0.0030

Uranus -10624-11-26 04:33 J -2158663.35 -2158663.31 -2158663.25 0.0141 0.0135

Pluto -10623-01-23 07:26 J -2158605.31 -2158605.19 -2158605.05 0.0073 0.0041

Saturn -10623-02-21 03:21 J -2158576.49 -2158576.36 -2158576.22 0.0261 0.0189

Uranus -10623-02-22 12:57 J -2158575.08 -2158574.96 -2158574.82 0.0141 0.0104

Pluto -10623-04-21 08:52 J -2158517.24 -2158517.13 -2158517.02 0.0073 0.0050

Uranus -10623-05-21 21:21 J -2158486.77 -2158486.61 -2158486.43 0.0140 0.0073

Pluto -10623-07-18 10:19 J -2158429.16 -2158429.07 -2158428.98 0.0073 0.0059

Uranus -10623-08-18 05:45 J -2158398.44 -2158398.26 -2158398.07 0.0140 0.0042

Pluto -10623-10-14 11:02 J -2158341.07 -2158341.04 -2158340.97 0.0074 0.0069

Mars -10623-11-11 01:26 J -2158313.51 -2158313.44 -2158313.36 0.1865 0.1662

Uranus -10623-11-14 14:09 J -2158310.11 -2158309.91 -2158309.71 0.0140 0.0011

Uranus -10622-02-10 22:19 J -2158221.76 -2158221.57 -2158221.37 0.0140 0.0020

Jupiter -10622-03-23 06:43 J -2158181.25 -2158181.22 -2158181.18 0.0525 0.0500

Uranus -10622-05-10 06:28 J -2158133.40 -2158133.23 -2158133.04 0.0140 0.0051

Jupiter -10622-06-20 11:31 J -2158092.15 -2158092.02 -2158091.90 0.0523 0.0047

Uranus -10622-08-06 14:52 J -2158045.04 -2158044.88 -2158044.72 0.0140 0.0081

Uranus -10622-11-02 23:02 J -2157956.65 -2157956.54 -2157956.42 0.0140 0.0111

Venus -10621-03-07 20:52 J -2157830.70 -2157830.63 -2157830.55 0.3697 0.2432

Earth -10621-09-05 23:02 J -2157648.56 -2157648.54 -2157648.52 0.2718 0.2648

Mars -10620-08-20 07:26 J -2157300.30 -2157300.19 -2157300.08 0.1652 0.0043

Jupiter -10616-05-12 10:04 J -2155939.14 -2155939.08 -2155939.01 0.0501 0.0464

Jupiter -10616-08-10 23:31 J -2155848.67 -2155848.52 -2155848.36 0.0503 0.0287

Venus -10616-09-21 12:14 J -2155807.09 -2155806.99 -2155806.89 0.3699 0.0716

Moon -10614-08-30 22:48 J -2155098.65 -2155098.55 -2155098.45 0.2725 0.1053

Earth -10614-08-30 23:02 J -2155098.64 -2155098.54 -2155098.44 0.2719 0.0953 *

Mars -10610-01-10 18:57 J -2153869.82 -2153869.71 -2153869.60 0.1655 0.0492

Moon -10610-02-28 21:50 J -2153820.64 -2153820.59 -2153820.54 0.2610 0.2474

Earth -10610-02-28 23:16 J -2153820.59 -2153820.53 -2153820.48 0.2615 0.2445 *

Venus -10610-04-07 03:21 J -2153783.45 -2153783.36 -2153783.26 0.3701 0.0993

Jupiter -10610-04-08 16:33 J -2153781.94 -2153781.81 -2153781.69 0.0524 0.0084

Saturn -10610-07-04 14:52 J -2153694.95 -2153694.88 -2153694.80 0.0303 0.0246

Jupiter -10610-07-06 20:52 J -2153692.69 -2153692.63 -2153692.57 0.0522 0.0457

Saturn -10610-10-01 03:21 J -2153606.48 -2153606.36 -2153606.24 0.0302 0.0081

Saturn -10610-12-28 15:35 J -2153517.97 -2153517.85 -2153517.72 0.0302 0.0082

Saturn -10609-03-26 03:50 J -2153429.41 -2153429.34 -2153429.26 0.0301 0.0243

Mars -10609-12-15 20:52 J -2153164.70 -2153164.63 -2153164.57 0.1642 0.1320

Venus -10607-01-09 12:43 J -2152775.14 -2152774.97 -2152774.81 0.3672 0.0306

Venus -10605-10-20 18:43 J -2151759.79 -2151759.72 -2151759.66 0.3703 0.2690

Jupiter -10604-05-29 18:28 J -2151538.91 -2151538.73 -2151538.54 0.0502 0.0086

Mars -10602-07-31 17:45 J -2150745.89 -2150745.76 -2150745.63 0.1875 0.1220

Mars -10601-06-02 06:14 J -2150439.33 -2150439.24 -2150439.14 0.1659 0.0940

Earth -10601-09-01 16:48 J -2150347.91 -2150347.80 -2150347.70 0.2718 0.0346

Moon -10601-09-01 16:48 J -2150347.90 -2150347.80 -2150347.69 0.2726 0.0396 *

Mars -10599-05-08 08:24 J -2149734.25 -2149734.15 -2149734.06 0.1645 0.0887

Jupiter -10598-01-25 21:21 J -2149471.72 -2149471.61 -2149471.49 0.0524 0.0209

Jupiter -10598-04-25 01:55 J -2149382.52 -2149382.42 -2149382.32 0.0522 0.0331

Moon -10597-03-03 05:31 J -2149069.43 -2149069.27 -2149069.11 0.2615 0.0081

Earth -10597-03-03 07:11 J -2149069.36 -2149069.20 -2149069.03 0.2615 0.0224 *

Saturn -10594-01-14 06:57 J -2148022.34 -2148022.21 -2148022.07 0.0259 0.0180

Saturn -10594-04-13 04:19 J -2147933.52 -2147933.32 -2147933.13 0.0260 0.0023

Saturn -10594-07-11 01:26 J -2147844.60 -2147844.44 -2147844.27 0.0260 0.0137

Mars -10593-12-20 09:50 J -2147316.26 -2147316.09 -2147315.92 0.1870 0.0177

Jupiter -10592-03-17 15:21 J -2147229.05 -2147228.86 -2147228.68 0.0502 0.0095

Mars -10592-10-23 17:45 J -2147008.82 -2147008.76 -2147008.70 0.1663 0.1396

Mars -10590-09-28 19:55 J -2146303.78 -2146303.67 -2146303.56 0.1648 0.0450

Earth -10588-09-04 10:19 J -2145597.16 -2145597.07 -2145596.99 0.2718 0.1615

Moon -10588-09-04 10:48 J -2145597.13 -2145597.05 -2145596.96 0.2721 0.1673 *

Jupiter -10587-11-14 01:55 J -2145161.52 -2145161.42 -2145161.33 0.0524 0.0346

Jupiter -10586-02-11 06:14 J -2145072.35 -2145072.24 -2145072.12 0.0523 0.0196

Mars -10583-05-12 02:09 J -2143886.50 -2143886.41 -2143886.31 0.1865 0.1549

Moon -10581-08-28 09:35 J -2143047.16 -2143047.10 -2143047.03 0.2721 0.2116

Earth -10581-08-28 10:19 J -2143047.14 -2143047.07 -2143047.00 0.2719 0.1967 *

Jupiter -10580-01-03 12:14 J -2142919.14 -2142918.99 -2142918.82 0.0502 0.0273

Saturn -10580-02-17 04:04 J -2142874.44 -2142874.33 -2142874.22 0.0303 0.0147

Mars -10580-02-18 07:26 J -2142873.31 -2142873.19 -2142873.08 0.1652 0.0051

Jupiter -10580-04-04 01:55 J -2142828.46 -2142828.42 -2142828.37 0.0503 0.0484

Saturn -10580-05-16 16:19 J -2142785.95 -2142785.82 -2142785.69 0.0303 0.0018

Saturn -10580-08-13 04:33 J -2142697.41 -2142697.31 -2142697.20 0.0302 0.0180

Uranus -10579-02-05 02:52 J -2142521.42 -2142521.38 -2142521.32 0.0138 0.0127

Uranus -10579-05-04 06:00 J -2142433.32 -2142433.25 -2142433.16 0.0138 0.0108

Uranus -10579-07-31 09:07 J -2142345.21 -2142345.12 -2142345.02 0.0138 0.0089

Uranus -10579-10-27 12:14 J -2142257.10 -2142256.99 -2142256.87 0.0138 0.0070

Uranus -10578-01-23 15:35 J -2142168.97 -2142168.85 -2142168.73 0.0138 0.0051

Uranus -10578-04-21 18:43 J -2142080.85 -2142080.72 -2142080.60 0.0138 0.0031

Uranus -10578-07-18 21:50 J -2141992.72 -2141992.59 -2141992.46 0.0138 0.0012

Uranus -10578-10-15 00:57 J -2141904.59 -2141904.46 -2141904.33 0.0139 0.0008

Uranus -10577-01-11 04:04 J -2141816.46 -2141816.33 -2141816.20 0.0139 0.0027

Uranus -10577-04-08 07:11 J -2141728.32 -2141728.20 -2141728.08 0.0139 0.0047

Uranus -10577-07-05 10:19 J -2141640.18 -2141640.07 -2141639.95 0.0139 0.0067

Uranus -10577-10-01 13:26 J -2141552.04 -2141551.94 -2141551.83 0.0139 0.0086

Uranus -10577-12-28 16:33 J -2141463.88 -2141463.81 -2141463.72 0.0139 0.0107

Uranus -10576-03-26 19:40 J -2141375.72 -2141375.68 -2141375.62 0.0139 0.0127

Jupiter -10575-09-02 06:14 J -2140851.28 -2140851.24 -2140851.19 0.0524 0.0482

Jupiter -10575-11-30 10:48 J -2140762.17 -2140762.05 -2140761.92 0.0523 0.0063

Mars -10571-07-11 18:57 J -2139442.82 -2139442.71 -2139442.60 0.1655 0.0436

Venus -10570-03-30 03:07 J -2139181.40 -2139181.37 -2139181.35 0.3696 0.3526

Mars -10569-06-15 20:38 J -2138737.70 -2138737.64 -2138737.58 0.1642 0.1373

Jupiter -10569-10-22 09:21 J -2138609.19 -2138609.11 -2138609.03 0.0502 0.0451

Jupiter -10568-01-20 22:33 J -2138518.70 -2138518.56 -2138518.40 0.0503 0.0302

Moon -10568-08-31 03:35 J -2138296.45 -2138296.35 -2138296.24 0.2726 0.0673

Earth -10568-08-31 03:50 J -2138296.44 -2138296.34 -2138296.23 0.2719 0.0699 *

Saturn -10565-06-02 04:48 J -2137290.38 -2137290.30 -2137290.21 0.0259 0.0234

Saturn -10565-08-30 01:55 J -2137201.60 -2137201.42 -2137201.23 0.0260 0.0077

Venus -10565-10-12 18:14 J -2137157.82 -2137157.74 -2137157.65 0.3698 0.1817

Saturn -10565-11-26 23:16 J -2137112.71 -2137112.53 -2137112.34 0.0260 0.0082

Saturn -10564-02-23 20:24 J -2137023.71 -2137023.65 -2137023.57 0.0261 0.0242

Moon -10564-03-01 04:33 J -2137018.40 -2137018.31 -2137018.22 0.2611 0.2184

Earth -10564-03-01 06:00 J -2137018.36 -2137018.25 -2137018.14 0.2614 0.1933 *

Jupiter -10563-09-18 15:21 J -2136451.98 -2136451.86 -2136451.73 0.0524 0.0076

Jupiter -10563-12-16 19:55 J -2136362.73 -2136362.67 -2136362.62 0.0522 0.0464

Mars -10562-01-29 18:43 J -2136318.84 -2136318.72 -2136318.60 0.1876 0.1344

Mars -10562-12-02 06:14 J -2136012.33 -2136012.24 -2136012.14 0.1659 0.0883

Neptune -10560-06-22 21:07 J -2135443.68 -2135443.62 -2135443.53 0.0088 0.0080

Neptune -10560-09-19 00:57 J -2135355.57 -2135355.46 -2135355.33 0.0088 0.0070

Mars -10560-11-06 08:24 J -2135307.25 -2135307.15 -2135307.06 0.1645 0.0943

Neptune -10560-12-16 04:33 J -2135267.44 -2135267.31 -2135267.15 0.0088 0.0060

Neptune -10559-03-14 08:09 J -2135179.31 -2135179.16 -2135178.98 0.0088 0.0050

Venus -10559-04-28 09:35 J -2135134.20 -2135134.10 -2135134.00 0.3699 0.0137

Neptune -10559-06-10 12:00 J -2135091.17 -2135091.00 -2135090.81 0.0088 0.0040

Neptune -10559-09-06 15:35 J -2135003.02 -2135002.85 -2135002.65 0.0088 0.0030

Neptune -10559-12-03 19:40 J -2134914.87 -2134914.68 -2134914.49 0.0088 0.0019

Neptune -10558-03-01 23:16 J -2134826.72 -2134826.53 -2134826.33 0.0088 0.0009

Neptune -10558-05-29 03:07 J -2134738.57 -2134738.37 -2134738.17 0.0088 0.0001

Neptune -10558-08-25 06:43 J -2134650.41 -2134650.22 -2134650.02 0.0088 0.0012

Neptune -10558-11-21 10:19 J -2134562.25 -2134562.07 -2134561.87 0.0088 0.0022

Neptune -10557-02-17 13:55 J -2134474.09 -2134473.92 -2134473.72 0.0088 0.0032

Neptune -10557-05-15 17:45 J -2134385.93 -2134385.76 -2134385.58 0.0088 0.0042

Neptune -10557-08-11 21:35 J -2134297.75 -2134297.60 -2134297.44 0.0088 0.0052

Neptune -10557-11-08 00:57 J -2134209.58 -2134209.46 -2134209.30 0.0088 0.0063

Jupiter -10557-11-08 18:57 J -2134208.89 -2134208.71 -2134208.52 0.0502 0.0118

Neptune -10556-02-04 04:48 J -2134121.39 -2134121.30 -2134121.18 0.0088 0.0073

Neptune -10556-05-03 08:38 J -2134033.19 -2134033.14 -2134033.07 0.0088 0.0083

Earth -10555-09-02 21:21 J -2133545.71 -2133545.61 -2133545.50 0.2718 0.0592

Moon -10555-09-02 21:35 J -2133545.70 -2133545.60 -2133545.49 0.2725 0.0570 *

Venus -10554-11-12 00:43 J -2133110.56 -2133110.47 -2133110.38 0.3701 0.1596

Mars -10553-06-20 10:48 J -2132889.22 -2132889.05 -2132888.87 0.1870 0.0070

Mars -10552-04-23 17:31 J -2132581.83 -2132581.77 -2132581.70 0.1663 0.1340

Moon -10551-03-04 12:14 J -2132267.15 -2132266.99 -2132266.83 0.2616 0.0628

Earth -10551-03-04 14:09 J -2132267.07 -2132266.91 -2132266.76 0.2615 0.0724 *

Saturn -10551-07-07 05:02 J -2132142.38 -2132142.29 -2132142.20 0.0303 0.0207

Jupiter -10551-07-07 20:24 J -2132141.76 -2132141.65 -2132141.53 0.0524 0.0201

Venus -10551-08-16 15:35 J -2132101.99 -2132101.85 -2132101.71 0.3671 0.1799

Saturn -10551-10-03 17:31 J -2132053.90 -2132053.77 -2132053.65 0.0302 0.0044

Jupiter -10551-10-05 00:57 J -2132052.55 -2132052.46 -2132052.37 0.0523 0.0340

Saturn -10551-12-31 05:45 J -2131965.38 -2131965.26 -2131965.14 0.0302 0.0120

Saturn -10550-03-29 18:00 J -2131876.80 -2131876.75 -2131876.71 0.0301 0.0280

Mars -10550-03-29 19:55 J -2131876.78 -2131876.67 -2131876.56 0.1648 0.0506 *

Venus -10548-05-27 15:50 J -2131086.88 -2131086.84 -2131086.79 0.3703 0.3285

Jupiter -10545-08-27 13:55 J -2129899.10 -2129898.92 -2129898.73 0.0502 0.0087

Mars -10544-11-10 03:07 J -2129459.48 -2129459.37 -2129459.26 0.1865 0.1431

Earth -10542-09-05 15:07 J -2128794.95 -2128794.87 -2128794.80 0.2718 0.1869

Moon -10542-09-05 15:50 J -2128794.92 -2128794.84 -2128794.77 0.2721 0.2011 *

Pluto -10541-05-03 21:35 J -2128553.66 -2128553.60 -2128553.52 0.0072 0.0065

Pluto -10541-07-30 22:48 J -2128465.63 -2128465.55 -2128465.42 0.0072 0.0056

Mars -10541-08-19 07:11 J -2128446.31 -2128446.20 -2128446.08 0.1652 0.0086

Pluto -10541-10-27 00:43 J -2128377.59 -2128377.47 -2128377.33 0.0072 0.0045

Pluto -10540-01-23 02:09 J -2128289.54 -2128289.41 -2128289.26 0.0072 0.0036

Pluto -10540-04-21 03:35 J -2128201.49 -2128201.35 -2128201.18 0.0072 0.0027

Pluto -10540-07-18 05:31 J -2128113.43 -2128113.27 -2128113.11 0.0072 0.0017

Pluto -10540-10-14 06:57 J -2128025.37 -2128025.21 -2128025.05 0.0072 0.0008

Uranus -10540-12-16 12:57 J -2127962.05 -2127961.96 -2127961.87 0.0141 0.0124

Pluto -10539-01-10 08:24 J -2127937.31 -2127937.15 -2127936.98 0.0071 0.0001

Uranus -10539-03-14 21:21 J -2127873.76 -2127873.61 -2127873.46 0.0141 0.0093

Pluto -10539-04-08 09:50 J -2127849.25 -2127849.09 -2127848.93 0.0071 0.0011

Jupiter -10539-04-26 01:26 J -2127831.54 -2127831.44 -2127831.34 0.0524 0.0328

Uranus -10539-06-11 05:31 J -2127785.44 -2127785.27 -2127785.08 0.0140 0.0062

Pluto -10539-07-05 11:16 J -2127761.19 -2127761.03 -2127760.87 0.0071 0.0020

Jupiter -10539-07-24 06:00 J -2127742.37 -2127742.25 -2127742.14 0.0523 0.0214

Uranus -10539-09-07 13:55 J -2127697.11 -2127696.92 -2127696.72 0.0140 0.0031

Pluto -10539-10-01 12:43 J -2127673.12 -2127672.97 -2127672.82 0.0071 0.0028

Uranus -10539-12-04 22:19 J -2127608.76 -2127608.57 -2127608.37 0.0140 0.0002

Pluto -10539-12-28 14:09 J -2127585.05 -2127584.91 -2127584.77 0.0071 0.0037

Uranus -10538-03-03 06:43 J -2127520.41 -2127520.22 -2127520.03 0.0140 0.0030

Pluto -10538-03-26 15:21 J -2127496.97 -2127496.86 -2127496.73 0.0071 0.0046

Uranus -10538-05-30 14:38 J -2127432.06 -2127431.89 -2127431.70 0.0140 0.0061

Pluto -10538-06-22 16:33 J -2127408.90 -2127408.81 -2127408.69 0.0071 0.0055

Uranus -10538-08-26 23:02 J -2127343.68 -2127343.54 -2127343.39 0.0140 0.0091

Pluto -10538-09-18 17:45 J -2127320.81 -2127320.76 -2127320.67 0.0071 0.0064

Uranus -10538-11-23 07:26 J -2127255.29 -2127255.19 -2127255.10 0.0140 0.0121

Saturn -10535-01-17 00:28 J -2126469.65 -2126469.48 -2126469.31 0.0259 0.0126

Saturn -10535-04-15 21:50 J -2126380.79 -2126380.59 -2126380.40 0.0260 0.0032

Saturn -10535-07-13 18:57 J -2126291.83 -2126291.71 -2126291.57 0.0260 0.0191

Moon -10535-08-29 14:38 J -2126244.97 -2126244.89 -2126244.81 0.2722 0.1761

Earth -10535-08-29 15:07 J -2126244.95 -2126244.87 -2126244.79 0.2719 0.1716 *

Jupiter -10533-06-15 10:48 J -2125589.21 -2125589.05 -2125588.89 0.0502 0.0267

Jupiter -10533-09-14 00:14 J -2125498.53 -2125498.49 -2125498.44 0.0503 0.0488

Mars -10531-01-09 18:43 J -2125015.83 -2125015.72 -2125015.60 0.1655 0.0383

Mars -10530-12-15 20:38 J -2124310.69 -2124310.64 -2124310.58 0.1642 0.1425

Jupiter -10527-02-12 05:45 J -2123521.31 -2123521.26 -2123521.20 0.0524 0.0466

Jupiter -10527-05-12 10:19 J -2123432.19 -2123432.07 -2123431.94 0.0523 0.0077

Mars -10523-07-30 19:26 J -2121891.79 -2121891.69 -2121891.58 0.1875 0.1463

Mars -10522-06-02 06:14 J -2121585.34 -2121585.24 -2121585.14 0.1659 0.0830

Moon -10522-09-01 08:38 J -2121494.25 -2121494.14 -2121494.04 0.2726 0.0529

Earth -10522-09-01 08:38 J -2121494.24 -2121494.14 -2121494.03 0.2719 0.0445 *

Saturn -10522-11-24 05:45 J -2121410.31 -2121410.26 -2121410.20 0.0304 0.0271

Saturn -10521-02-20 18:14 J -2121321.86 -2121321.74 -2121321.62 0.0303 0.0106

Jupiter -10521-04-03 07:40 J -2121279.26 -2121279.18 -2121279.09 0.0502 0.0444

Saturn -10521-05-19 06:28 J -2121233.35 -2121233.23 -2121233.10 0.0302 0.0058

Jupiter -10521-07-02 21:21 J -2121188.76 -2121188.61 -2121188.46 0.0503 0.0310

Saturn -10521-08-15 18:43 J -2121144.80 -2121144.72 -2121144.63 0.0302 0.0219

Mars -10520-05-07 08:09 J -2120880.25 -2120880.16 -2120880.07 0.1645 0.0994

Moon -10518-03-02 11:16 J -2120216.17 -2120216.03 -2120215.90 0.2612 0.1531

Earth -10518-03-02 12:57 J -2120216.10 -2120215.96 -2120215.83 0.2615 0.1426 *

Jupiter -10515-02-28 14:52 J -2119122.01 -2119121.88 -2119121.76 0.0523 0.0059

Jupiter -10515-05-28 19:11 J -2119032.74 -2119032.70 -2119032.65 0.0522 0.0478

Venus -10514-11-04 00:28 J -2118508.54 -2118508.48 -2118508.42 0.3696 0.2909

Mars -10514-12-20 11:16 J -2118462.20 -2118462.03 -2118461.86 0.1870 0.0060

Mars -10513-10-22 17:31 J -2118154.84 -2118154.77 -2118154.69 0.1663 0.1283

Mars -10511-09-27 19:40 J -2117449.78 -2117449.68 -2117449.57 0.1648 0.0561

Jupiter -10509-04-20 18:00 J -2116878.93 -2116878.75 -2116878.57 0.0502 0.0127

Earth -10509-09-03 02:09 J -2116743.51 -2116743.41 -2116743.30 0.2719 0.0844

Moon -10509-09-03 02:38 J -2116743.49 -2116743.39 -2116743.29 0.2724 0.0951 *

Venus -10508-05-19 15:35 J -2116484.94 -2116484.85 -2116484.75 0.3698 0.1211

Saturn -10506-06-05 22:33 J -2115737.69 -2115737.56 -2115737.41 0.0260 0.0178

Saturn -10506-09-02 19:55 J -2115648.86 -2115648.67 -2115648.48 0.0260 0.0020

Saturn -10506-11-30 17:02 J -2115559.94 -2115559.79 -2115559.62 0.0260 0.0140

Moon -10505-03-04 19:11 J -2115464.85 -2115464.70 -2115464.55 0.2616 0.0928

Earth -10505-03-04 20:52 J -2115464.77 -2115464.63 -2115464.48 0.2615 0.1242 *

Mars -10504-05-11 04:19 J -2115032.44 -2115032.32 -2115032.20 0.1865 0.1292

Jupiter -10504-12-17 19:11 J -2114811.81 -2114811.70 -2114811.58 0.0524 0.0197

Jupiter -10503-03-16 23:45 J -2114722.60 -2114722.51 -2114722.42 0.0523 0.0344

Venus -10503-12-03 06:57 J -2114461.31 -2114461.21 -2114461.11 0.3700 0.0505

Mars -10501-02-18 07:11 J -2114019.31 -2114019.20 -2114019.08 0.1651 0.0138

Venus -10500-09-06 06:14 J -2113453.35 -2113453.24 -2113453.12 0.3674 0.2593

Jupiter -10497-02-07 14:24 J -2112569.09 -2112568.90 -2112568.72 0.0502 0.0060

Venus -10497-06-17 22:04 J -2112437.66 -2112437.58 -2112437.50 0.3702 0.2192

Earth -10496-09-05 19:55 J -2111992.74 -2111992.67 -2111992.61 0.2718 0.2128

Moon -10496-09-05 20:38 J -2111992.71 -2111992.64 -2111992.58 0.2721 0.2172 *

Uranus -10495-02-25 10:48 J -2111820.11 -2111820.05 -2111819.99 0.0138 0.0120

Uranus -10495-05-24 13:40 J -2111732.01 -2111731.93 -2111731.83 0.0138 0.0101

Uranus -10495-08-20 16:48 J -2111643.89 -2111643.80 -2111643.69 0.0138 0.0082

Uranus -10495-11-16 19:55 J -2111555.78 -2111555.67 -2111555.55 0.0138 0.0063

Uranus -10494-02-12 23:16 J -2111467.65 -2111467.53 -2111467.41 0.0138 0.0043

Uranus -10494-05-12 02:24 J -2111379.53 -2111379.40 -2111379.27 0.0138 0.0024

Uranus -10494-08-08 05:31 J -2111291.40 -2111291.27 -2111291.14 0.0138 0.0005

Uranus -10494-11-04 08:38 J -2111203.27 -2111203.14 -2111203.01 0.0139 0.0015

Uranus -10493-01-31 11:45 J -2111115.13 -2111115.01 -2111114.88 0.0139 0.0034

Uranus -10493-04-28 14:52 J -2111026.99 -2111026.88 -2111026.76 0.0139 0.0054

Uranus -10493-07-25 18:00 J -2110938.85 -2110938.75 -2110938.63 0.0139 0.0074

Uranus -10493-10-21 21:21 J -2110850.70 -2110850.61 -2110850.51 0.0139 0.0094

Uranus -10492-01-18 00:28 J -2110762.55 -2110762.48 -2110762.40 0.0139 0.0113

Uranus -10492-04-16 03:35 J -2110674.38 -2110674.35 -2110674.31 0.0139 0.0134

Saturn -10492-07-09 19:26 J -2110589.79 -2110589.69 -2110589.58 0.0303 0.0163

Mars -10492-07-10 18:43 J -2110588.83 -2110588.72 -2110588.61 0.1655 0.0327

Jupiter -10492-10-06 00:14 J -2110501.59 -2110501.49 -2110501.39 0.0524 0.0323

Saturn -10492-10-06 07:55 J -2110501.30 -2110501.17 -2110501.04 0.0302 0.0003

Saturn -10491-01-02 20:09 J -2110412.77 -2110412.66 -2110412.55 0.0301 0.0162

Jupiter -10491-01-03 04:48 J -2110412.41 -2110412.30 -2110412.19 0.0523 0.0219

Mars -10490-06-15 20:38 J -2109883.69 -2109883.64 -2109883.59 0.1642 0.1479

Moon -10489-08-29 19:26 J -2109442.78 -2109442.69 -2109442.60 0.2724 0.1549

Earth -10489-08-29 19:55 J -2109442.76 -2109442.67 -2109442.58 0.2719 0.1464 *

Jupiter -10486-11-26 09:07 J -2108259.28 -2108259.12 -2108258.96 0.0502 0.0262

Jupiter -10485-02-24 22:33 J -2108168.59 -2108168.56 -2108168.52 0.0503 0.0493

Mars -10483-01-28 20:24 J -2107464.74 -2107464.65 -2107464.56 0.1875 0.1581

Mars -10483-12-01 06:14 J -2107158.34 -2107158.24 -2107158.14 0.1659 0.0776

Mars -10481-11-05 08:09 J -2106453.25 -2106453.16 -2106453.07 0.1645 0.1046

Jupiter -10480-07-25 05:02 J -2106191.35 -2106191.29 -2106191.23 0.0525 0.0452

Jupiter -10480-10-22 09:35 J -2106102.22 -2106102.10 -2106101.97 0.0523 0.0094

Neptune -10479-10-07 10:04 J -2105752.11 -2105752.08 -2105752.02 0.0089 0.0083

Neptune -10478-01-03 11:16 J -2105664.08 -2105664.03 -2105663.95 0.0089 0.0077

Neptune -10478-04-01 12:57 J -2105576.04 -2105575.96 -2105575.88 0.0089 0.0069

Neptune -10478-06-28 14:09 J -2105488.00 -2105487.91 -2105487.81 0.0089 0.0062

Neptune -10478-09-24 15:35 J -2105399.95 -2105399.85 -2105399.75 0.0089 0.0055

Neptune -10478-12-21 16:48 J -2105311.91 -2105311.80 -2105311.69 0.0089 0.0048

Neptune -10477-03-18 18:14 J -2105223.86 -2105223.74 -2105223.63 0.0089 0.0041

Neptune -10477-06-14 19:26 J -2105135.81 -2105135.69 -2105135.57 0.0089 0.0033

Neptune -10477-09-10 20:38 J -2105047.76 -2105047.64 -2105047.51 0.0089 0.0027

Saturn -10477-10-22 21:21 J -2105005.70 -2105005.61 -2105005.51 0.0259 0.0224

Neptune -10477-12-07 22:04 J -2104959.71 -2104959.58 -2104959.45 0.0089 0.0019

Saturn -10476-01-19 18:43 J -2104916.91 -2104916.72 -2104916.53 0.0260 0.0067

Neptune -10476-03-05 23:16 J -2104871.66 -2104871.53 -2104871.40 0.0089 0.0012

Saturn -10476-04-18 16:04 J -2104828.01 -2104827.83 -2104827.65 0.0260 0.0091

Neptune -10476-06-02 00:43 J -2104783.60 -2104783.47 -2104783.34 0.0089 0.0006

Saturn -10476-07-16 13:11 J -2104738.99 -2104738.95 -2104738.89 0.0261 0.0252

Neptune -10476-08-29 01:55 J -2104695.55 -2104695.42 -2104695.29 0.0089 0.0002

Moon -10476-09-01 13:26 J -2104692.05 -2104691.94 -2104691.84 0.2726 0.0174

Earth -10476-09-01 13:26 J -2104692.05 -2104691.94 -2104691.83 0.2719 0.0192 *

Neptune -10476-11-25 03:07 J -2104607.50 -2104607.37 -2104607.24 0.0089 0.0009

Neptune -10475-02-21 04:19 J -2104519.44 -2104519.32 -2104519.18 0.0089 0.0017

Neptune -10475-05-20 05:45 J -2104431.39 -2104431.26 -2104431.13 0.0089 0.0023

Neptune -10475-08-16 06:57 J -2104343.33 -2104343.21 -2104343.08 0.0089 0.0030

Neptune -10475-11-12 08:09 J -2104255.27 -2104255.16 -2104255.04 0.0089 0.0037

Neptune -10474-02-08 09:21 J -2104167.21 -2104167.11 -2104166.99 0.0089 0.0045

Neptune -10474-05-07 10:48 J -2104079.15 -2104079.05 -2104078.94 0.0089 0.0051

Mars -10474-06-20 12:43 J -2104035.14 -2104034.97 -2104034.80 0.1870 0.0195

Neptune -10474-08-03 12:00 J -2103991.09 -2103991.00 -2103990.90 0.0089 0.0058

Jupiter -10474-09-14 05:45 J -2103949.34 -2103949.26 -2103949.17 0.0502 0.0443

Neptune -10474-10-30 13:11 J -2103903.03 -2103902.95 -2103902.85 0.0089 0.0065

Jupiter -10474-12-13 19:11 J -2103858.85 -2103858.70 -2103858.55 0.0503 0.0309

Neptune -10473-01-26 14:24 J -2103814.96 -2103814.90 -2103814.81 0.0089 0.0073

Mars -10473-04-22 17:31 J -2103727.84 -2103727.77 -2103727.69 0.1663 0.1229

Neptune -10473-04-23 15:50 J -2103726.89 -2103726.84 -2103726.78 0.0089 0.0079

Neptune -10473-07-20 17:02 J -2103638.81 -2103638.79 -2103638.75 0.0089 0.0086

Moon -10472-03-02 17:45 J -2103413.90 -2103413.76 -2103413.61 0.2613 0.1168

Earth -10472-03-02 19:40 J -2103413.83 -2103413.68 -2103413.53 0.2614 0.0912 *

Mars -10471-03-28 19:40 J -2103022.78 -2103022.68 -2103022.57 0.1648 0.0614

Jupiter -10468-08-10 14:09 J -2101792.04 -2101791.91 -2101791.79 0.0523 0.0048

Jupiter -10468-11-07 18:28 J -2101702.77 -2101702.73 -2101702.69 0.0522 0.0490

Mars -10465-11-09 04:48 J -2100605.43 -2100605.30 -2100605.17 0.1865 0.1194

Earth -10463-09-04 06:57 J -2099941.31 -2099941.21 -2099941.11 0.2718 0.1098

Moon -10463-09-04 07:26 J -2099941.28 -2099941.19 -2099941.09 0.2723 0.1113 *

Saturn -10463-11-26 20:38 J -2099857.72 -2099857.64 -2099857.55 0.0303 0.0221

Saturn -10462-02-23 09:07 J -2099769.25 -2099769.12 -2099768.99 0.0303 0.0057

Saturn -10462-05-22 21:21 J -2099680.73 -2099680.61 -2099680.49 0.0302 0.0106

Mars -10462-08-19 07:11 J -2099592.31 -2099592.20 -2099592.09 0.1652 0.0172

Saturn -10462-08-19 09:35 J -2099592.15 -2099592.10 -2099592.04 0.0302 0.0267 *

Jupiter -10462-10-01 16:04 J -2099549.01 -2099548.83 -2099548.65 0.0503 0.0130

Moon -10459-03-06 01:55 J -2098662.54 -2098662.42 -2098662.29 0.2616 0.1657

Earth -10459-03-06 03:50 J -2098662.47 -2098662.34 -2098662.22 0.2615 0.1738 *

Venus -10457-06-09 21:50 J -2097835.67 -2097835.59 -2097835.51 0.3697 0.2302

Jupiter -10456-05-29 18:28 J -2097481.84 -2097481.73 -2097481.61 0.0524 0.0184

Jupiter -10456-08-26 23:02 J -2097392.63 -2097392.54 -2097392.45 0.0522 0.0355

Moon -10456-08-28 06:28 J -2097391.26 -2097391.23 -2097391.20 0.2719 0.2551

Earth -10456-08-28 07:11 J -2097391.24 -2097391.20 -2097391.16 0.2719 0.2484 *

Uranus -10455-01-05 21:35 J -2097260.70 -2097260.60 -2097260.47 0.0141 0.0112

Uranus -10455-04-04 06:00 J -2097172.40 -2097172.25 -2097172.07 0.0141 0.0081

Uranus -10455-07-01 14:38 J -2097084.07 -2097083.89 -2097083.70 0.0140 0.0049

Uranus -10455-09-27 23:02 J -2096995.74 -2096995.54 -2096995.35 0.0140 0.0018

Uranus -10455-12-25 07:12 J -2096907.39 -2096907.20 -2096907.00 0.0140 0.0013

Uranus -10454-03-23 15:35 J -2096819.04 -2096818.85 -2096818.66 0.0140 0.0043

Uranus -10454-06-19 23:31 J -2096730.67 -2096730.52 -2096730.34 0.0140 0.0074

Uranus -10454-09-16 07:55 J -2096642.29 -2096642.17 -2096642.03 0.0140 0.0104

Uranus -10454-12-13 16:04 J -2096553.87 -2096553.83 -2096553.77 0.0140 0.0134

Mars -10452-01-08 18:43 J -2096161.83 -2096161.72 -2096161.61 0.1655 0.0270

Venus -10452-12-24 12:57 J -2095812.06 -2095811.96 -2095811.86 0.3698 0.0601

Mars -10451-12-14 20:38 J -2095456.68 -2095456.64 -2095456.61 0.1642 0.1531

Jupiter -10450-07-20 12:43 J -2095239.16 -2095238.97 -2095238.78 0.0502 0.0053

Earth -10450-09-07 00:43 J -2095190.52 -2095190.47 -2095190.42 0.2718 0.2386

Moon -10450-09-07 01:12 J -2095190.48 -2095190.45 -2095190.41 0.2719 0.2538 *

Saturn -10447-06-08 17:31 J -2094184.95 -2094184.77 -2094184.60 0.0260 0.0115

Saturn -10447-09-05 14:38 J -2094096.08 -2094095.89 -2094095.70 0.0260 0.0044

Saturn -10447-12-03 12:00 J -2094007.12 -2094007.00 -2094006.88 0.0261 0.0203

Venus -10446-07-10 04:19 J -2093788.42 -2093788.32 -2093788.23 0.3700 0.1110

Jupiter -10444-03-17 22:47 J -2093171.64 -2093171.55 -2093171.45 0.0524 0.0323

Jupiter -10444-06-15 03:21 J -2093082.47 -2093082.36 -2093082.24 0.0523 0.0219

Mars -10444-07-29 21:21 J -2093037.68 -2093037.61 -2093037.54 0.1876 0.1711

Venus -10443-04-13 09:07 J -2092780.28 -2092780.12 -2092779.96 0.3673 0.0542

Mars -10443-06-01 06:14 J -2092731.35 -2092731.24 -2092731.14 0.1659 0.0720

Moon -10443-08-31 00:14 J -2092640.58 -2092640.49 -2092640.39 0.2725 0.1279

Earth -10443-08-31 00:43 J -2092640.57 -2092640.47 -2092640.37 0.2719 0.1213 *

Mars -10441-05-06 08:09 J -2092026.24 -2092026.16 -2092026.07 0.1645 0.1104

Venus -10440-01-22 19:26 J -2091764.75 -2091764.69 -2091764.63 0.3702 0.2797

Jupiter -10438-05-08 08:52 J -2090929.29 -2090929.13 -2090928.96 0.0502 0.0240

Mars -10435-12-19 13:26 J -2089608.11 -2089607.94 -2089607.77 0.1870 0.0313

Mars -10434-10-22 17:31 J -2089300.85 -2089300.77 -2089300.69 0.1663 0.1175

Saturn -10433-04-14 22:19 J -2089125.62 -2089125.57 -2089125.51 0.0303 0.0273

Saturn -10433-07-12 10:47 J -2089037.17 -2089037.05 -2089036.93 0.0302 0.0108

Saturn -10433-10-08 23:16 J -2088948.66 -2088948.53 -2088948.41 0.0302 0.0055

Jupiter -10432-01-04 03:35 J -2088861.41 -2088861.35 -2088861.28 0.0525 0.0452

Saturn -10432-01-05 11:16 J -2088860.11 -2088860.03 -2088859.93 0.0301 0.0216

Jupiter -10432-04-03 08:24 J -2088772.28 -2088772.15 -2088772.03 0.0523 0.0092

Mars -10432-09-26 19:40 J -2088595.78 -2088595.68 -2088595.58 0.1648 0.0665

Earth -10430-09-02 18:14 J -2087889.85 -2087889.74 -2087889.63 0.2719 0.0072

Moon -10430-09-02 18:14 J -2087889.84 -2087889.74 -2087889.63 0.2725 0.0063 *

Jupiter -10426-02-24 03:50 J -2086619.42 -2086619.34 -2086619.25 0.0501 0.0442

Moon -10426-03-04 00:43 J -2086611.63 -2086611.47 -2086611.31 0.2613 0.0560

Earth -10426-03-04 02:38 J -2086611.55 -2086611.39 -2086611.23 0.2615 0.0396 *

Jupiter -10426-05-25 17:02 J -2086528.93 -2086528.79 -2086528.63 0.0503 0.0310

Mars -10425-05-10 05:45 J -2086178.40 -2086178.26 -2086178.11 0.1865 0.1064

Mars -10424-03-14 04:47 J -2085870.32 -2085870.30 -2085870.28 0.1666 0.1632

Mars -10422-02-17 07:12 J -2085165.32 -2085165.20 -2085165.09 0.1651 0.0228

Jupiter -10420-01-20 13:12 J -2084462.07 -2084461.95 -2084461.82 0.0524 0.0038

Jupiter -10420-04-19 17:45 J -2084372.80 -2084372.76 -2084372.73 0.0522 0.0501

Saturn -10418-10-26 16:47 J -2083452.95 -2083452.80 -2083452.65 0.0260 0.0158

Saturn -10417-01-23 14:09 J -2083364.11 -2083363.91 -2083363.72 0.0260 0.0006

Saturn -10417-04-21 11:16 J -2083275.18 -2083275.03 -2083274.87 0.0261 0.0160

Earth -10417-09-04 11:45 J -2083139.10 -2083139.01 -2083138.91 0.2718 0.1353

Moon -10417-09-04 12:14 J -2083139.07 -2083138.99 -2083138.90 0.2723 0.1487 *

Jupiter -10414-03-13 13:40 J -2082219.12 -2082218.93 -2082218.75 0.0502 0.0125

Moon -10413-03-06 09:07 J -2081860.22 -2081860.12 -2081860.02 0.2618 0.2004

Earth -10413-03-06 10:33 J -2081860.14 -2081860.06 -2081859.98 0.2615 0.2250 *

Mars -10413-07-09 18:43 J -2081734.84 -2081734.72 -2081734.61 0.1655 0.0220

Uranus -10412-12-19 15:35 J -2081206.89 -2081206.85 -2081206.81 0.0138 0.0131

Uranus -10411-03-17 18:43 J -2081118.79 -2081118.72 -2081118.65 0.0138 0.0112

Uranus -10411-06-13 21:50 J -2081030.68 -2081030.59 -2081030.50 0.0138 0.0093

Mars -10411-06-14 20:24 J -2081029.67 -2081029.65 -2081029.62 0.1642 0.1585

Uranus -10411-09-10 00:57 J -2080942.57 -2080942.46 -2080942.35 0.0138 0.0074

Uranus -10411-12-07 03:50 J -2080854.45 -2080854.34 -2080854.21 0.0138 0.0055

Uranus -10410-03-05 07:12 J -2080766.33 -2080766.20 -2080766.08 0.0138 0.0035

Uranus -10410-06-01 10:19 J -2080678.20 -2080678.07 -2080677.94 0.0138 0.0016

Uranus -10410-08-28 13:26 J -2080590.07 -2080589.94 -2080589.81 0.0138 0.0004

Moon -10410-08-29 11:16 J -2080589.08 -2080589.03 -2080588.98 0.2720 0.2363

Earth -10410-08-29 12:00 J -2080589.06 -2080589.00 -2080588.94 0.2719 0.2233 *

Uranus -10410-11-24 16:33 J -2080501.94 -2080501.81 -2080501.68 0.0139 0.0023

Uranus -10409-02-20 19:40 J -2080413.80 -2080413.68 -2080413.55 0.0139 0.0043

Uranus -10409-05-18 23:02 J -2080325.66 -2080325.54 -2080325.43 0.0139 0.0062

Uranus -10409-08-15 02:09 J -2080237.51 -2080237.41 -2080237.31 0.0139 0.0082

Jupiter -10409-11-08 17:31 J -2080151.89 -2080151.77 -2080151.65 0.0524 0.0177

Uranus -10409-11-11 05:16 J -2080149.36 -2080149.28 -2080149.19 0.0139 0.0102

Jupiter -10408-02-05 22:04 J -2080062.67 -2080062.58 -2080062.49 0.0522 0.0363

Uranus -10408-02-07 08:38 J -2080061.20 -2080061.14 -2080061.08 0.0139 0.0122

Venus -10406-07-02 03:50 J -2079186.38 -2079186.34 -2079186.30 0.3695 0.3395

Mars -10404-01-27 22:04 J -2078610.61 -2078610.58 -2078610.54 0.1876 0.1826

Earth -10404-09-07 05:31 J -2078388.29 -2078388.27 -2078388.25 0.2718 0.2646

Moon -10404-09-07 06:14 J -2078388.26 -2078388.24 -2078388.23 0.2717 0.2674 *

Saturn -10404-11-29 12:28 J -2078305.09 -2078304.98 -2078304.87 0.0303 0.0161

Mars -10404-11-30 06:00 J -2078304.35 -2078304.25 -2078304.14 0.1659 0.0667

Saturn -10403-02-26 00:57 J -2078216.59 -2078216.46 -2078216.34 0.0302 0.0010

Saturn -10403-05-25 13:12 J -2078128.06 -2078127.95 -2078127.85 0.0302 0.0165

Jupiter -10403-12-30 10:19 J -2077909.25 -2077909.07 -2077908.88 0.0502 0.0058

Mars -10402-11-05 08:09 J -2077599.24 -2077599.16 -2077599.08 0.1645 0.1154

Venus -10400-01-14 19:12 J -2077162.79 -2077162.70 -2077162.61 0.3697 0.1687

Jupiter -10397-08-27 21:50 J -2075841.69 -2075841.59 -2075841.49 0.0524 0.0315

Moon -10397-08-31 05:02 J -2075838.39 -2075838.29 -2075838.19 0.2725 0.1002

Earth -10397-08-31 05:31 J -2075838.37 -2075838.27 -2075838.17 0.2719 0.0961 *

Jupiter -10397-11-25 02:24 J -2075752.51 -2075752.40 -2075752.29 0.0523 0.0226

Neptune -10395-03-19 18:00 J -2075272.82 -2075272.75 -2075272.66 0.0088 0.0080

Neptune -10395-06-15 21:35 J -2075184.71 -2075184.60 -2075184.47 0.0088 0.0070

Mars -10395-06-19 14:09 J -2075181.08 -2075180.91 -2075180.74 0.1871 0.0424

Venus -10395-07-31 10:19 J -2075139.17 -2075139.07 -2075138.97 0.3699 0.0132

Neptune -10395-09-12 01:12 J -2075096.58 -2075096.45 -2075096.29 0.0088 0.0060

Neptune -10395-12-09 05:02 J -2075008.44 -2075008.29 -2075008.12 0.0088 0.0050

Neptune -10394-03-07 08:38 J -2074920.30 -2074920.14 -2074919.95 0.0088 0.0040

Mars -10394-04-22 17:31 J -2074873.85 -2074873.77 -2074873.69 0.1662 0.1116

Neptune -10394-06-03 12:14 J -2074832.16 -2074831.99 -2074831.79 0.0088 0.0030

Neptune -10394-08-30 16:19 J -2074744.01 -2074743.82 -2074743.63 0.0088 0.0019

Neptune -10394-11-26 19:55 J -2074655.86 -2074655.67 -2074655.47 0.0088 0.0009

Neptune -10393-02-22 23:45 J -2074567.71 -2074567.51 -2074567.31 0.0088 0.0001

Earth -10393-03-01 01:12 J -2074560.48 -2074560.45 -2074560.42 0.2614 0.2566

Neptune -10393-05-21 03:21 J -2074479.55 -2074479.36 -2074479.16 0.0088 0.0011

Neptune -10393-08-17 06:57 J -2074391.40 -2074391.21 -2074391.01 0.0088 0.0022

Neptune -10393-11-13 10:33 J -2074303.23 -2074303.06 -2074302.86 0.0088 0.0032

Neptune -10392-02-09 14:24 J -2074215.07 -2074214.90 -2074214.72 0.0088 0.0042

Mars -10392-03-27 19:40 J -2074168.78 -2074168.68 -2074168.58 0.1648 0.0721

Neptune -10392-05-08 18:00 J -2074126.90 -2074126.75 -2074126.58 0.0088 0.0052

Neptune -10392-08-04 21:50 J -2074038.72 -2074038.59 -2074038.44 0.0088 0.0062

Neptune -10392-11-01 01:12 J -2073950.54 -2073950.45 -2073950.32 0.0088 0.0073

Neptune -10391-01-28 05:02 J -2073862.34 -2073862.29 -2073862.21 0.0088 0.0083

Jupiter -10391-10-18 06:57 J -2073599.38 -2073599.21 -2073599.05 0.0502 0.0240

Venus -10389-02-14 01:40 J -2073115.52 -2073115.43 -2073115.34 0.3701 0.1714

Saturn -10388-03-14 15:50 J -2072720.95 -2072720.84 -2072720.71 0.0260 0.0202

Saturn -10388-06-11 13:12 J -2072632.14 -2072631.95 -2072631.76 0.0260 0.0044

Saturn -10388-09-08 10:33 J -2072543.23 -2072543.06 -2072542.88 0.0261 0.0115

Venus -10387-11-18 12:00 J -2072107.15 -2072107.00 -2072106.85 0.3672 0.1493

Mars -10386-11-09 06:43 J -2071751.36 -2071751.22 -2071751.07 0.1865 0.0941

Jupiter -10385-06-16 02:09 J -2071531.47 -2071531.41 -2071531.35 0.0524 0.0456

Mars -10385-09-12 04:47 J -2071443.34 -2071443.30 -2071443.27 0.1666 0.1578

Jupiter -10385-09-13 06:43 J -2071442.34 -2071442.22 -2071442.10 0.0523 0.0088

Venus -10384-08-29 16:47 J -2071091.84 -2071091.80 -2071091.76 0.3702 0.3401

Earth -10384-09-02 23:02 J -2071087.65 -2071087.54 -2071087.43 0.2719 0.0320

Moon -10384-09-02 23:16 J -2071087.64 -2071087.53 -2071087.43 0.2725 0.0360 *

Mars -10383-08-18 07:12 J -2070738.31 -2070738.20 -2070738.09 0.1651 0.0283

Moon -10380-03-04 07:26 J -2069809.35 -2069809.19 -2069809.02 0.2613 0.0129

Earth -10380-03-04 09:21 J -2069809.27 -2069809.11 -2069808.95 0.2615 0.0110 *

Pluto -10379-07-09 02:09 J -2069317.42 -2069317.41 -2069317.36 0.0072 0.0070

Jupiter -10379-08-06 03:07 J -2069289.47 -2069289.37 -2069289.27 0.0501 0.0426

Pluto -10379-10-05 03:35 J -2069229.42 -2069229.35 -2069229.27 0.0072 0.0061

Jupiter -10379-11-04 16:33 J -2069198.95 -2069198.81 -2069198.67 0.0503 0.0325

Pluto -10378-01-01 04:33 J -2069141.40 -2069141.31 -2069141.20 0.0072 0.0053

Pluto -10378-03-30 06:00 J -2069053.37 -2069053.25 -2069053.13 0.0072 0.0044

Pluto -10378-06-26 06:57 J -2068965.33 -2068965.21 -2068965.07 0.0072 0.0036

Pluto -10378-09-22 08:09 J -2068877.29 -2068877.16 -2068877.01 0.0072 0.0028

Pluto -10378-12-19 09:35 J -2068789.25 -2068789.10 -2068788.96 0.0072 0.0019

Pluto -10377-03-16 10:33 J -2068701.20 -2068701.06 -2068700.90 0.0073 0.0010

Pluto -10377-06-12 11:45 J -2068613.16 -2068613.01 -2068612.85 0.0073 0.0003

Pluto -10377-09-08 12:57 J -2068525.11 -2068524.96 -2068524.80 0.0073 0.0008

Pluto -10377-12-05 14:09 J -2068437.05 -2068436.91 -2068436.75 0.0073 0.0017

Pluto -10376-03-03 15:21 J -2068348.99 -2068348.86 -2068348.71 0.0073 0.0026

Pluto -10376-05-30 16:33 J -2068260.93 -2068260.81 -2068260.67 0.0073 0.0035

Pluto -10376-08-26 17:45 J -2068172.87 -2068172.76 -2068172.63 0.0073 0.0045

Pluto -10376-11-22 19:12 J -2068084.80 -2068084.70 -2068084.59 0.0073 0.0054

Pluto -10375-02-18 20:24 J -2067996.72 -2067996.65 -2067996.57 0.0074 0.0063

Pluto -10375-05-17 21:21 J -2067908.61 -2067908.61 -2067908.56 0.0074 0.0073

Saturn -10374-04-18 14:52 J -2067572.98 -2067572.88 -2067572.79 0.0303 0.0206

Saturn -10374-07-16 03:07 J -2067484.50 -2067484.37 -2067484.24 0.0302 0.0042

Saturn -10374-10-12 15:21 J -2067395.97 -2067395.86 -2067395.74 0.0301 0.0120

Mars -10373-01-08 18:43 J -2067307.84 -2067307.72 -2067307.61 0.1655 0.0175

Saturn -10373-01-09 03:35 J -2067307.39 -2067307.35 -2067307.30 0.0301 0.0280

Jupiter -10373-07-02 11:31 J -2067132.14 -2067132.02 -2067131.89 0.0524 0.0043

Jupiter -10373-09-29 16:04 J -2067042.87 -2067042.83 -2067042.80 0.0522 0.0496

Uranus -10372-10-29 22:47 J -2066647.62 -2066647.55 -2066647.46 0.0141 0.0128

Mars -10372-12-13 20:24 J -2066602.65 -2066602.65 -2066602.64 0.1642 0.1639

Uranus -10371-01-26 07:12 J -2066559.33 -2066559.20 -2066559.05 0.0141 0.0097

Uranus -10371-04-24 15:35 J -2066471.02 -2066470.85 -2066470.67 0.0140 0.0066

Uranus -10371-07-22 00:14 J -2066382.68 -2066382.49 -2066382.30 0.0140 0.0035

Earth -10371-09-05 16:33 J -2066336.89 -2066336.81 -2066336.72 0.2718 0.1608

Moon -10371-09-05 17:16 J -2066336.87 -2066336.78 -2066336.70 0.2723 0.1643 *

Uranus -10371-10-18 08:24 J -2066294.34 -2066294.15 -2066293.95 0.0140 0.0005

Uranus -10370-01-14 16:47 J -2066205.99 -2066205.80 -2066205.61 0.0140 0.0027

Uranus -10370-04-13 00:57 J -2066117.63 -2066117.46 -2066117.28 0.0140 0.0057

Uranus -10370-07-10 09:07 J -2066029.26 -2066029.12 -2066028.96 0.0140 0.0088

Uranus -10370-10-06 17:16 J -2065940.87 -2065940.78 -2065940.66 0.0140 0.0118

Jupiter -10367-08-23 11:16 J -2064889.22 -2064889.03 -2064888.85 0.0502 0.0120

Mars -10364-05-31 06:00 J -2063877.35 -2063877.25 -2063877.14 0.1659 0.0611

Moon -10364-08-29 16:04 J -2063786.90 -2063786.83 -2063786.76 0.2722 0.2010

Earth -10364-08-29 16:47 J -2063786.87 -2063786.80 -2063786.73 0.2719 0.1984 *

Mars -10362-05-06 08:09 J -2063172.24 -2063172.16 -2063172.09 0.1645 0.1209

Jupiter -10361-04-20 16:19 J -2062821.94 -2062821.82 -2062821.70 0.0524 0.0174

Jupiter -10361-07-18 20:52 J -2062732.72 -2062732.63 -2062732.54 0.0523 0.0367

Saturn -10359-08-01 15:50 J -2061988.90 -2061988.84 -2061988.76 0.0260 0.0240

Saturn -10359-10-29 13:12 J -2061900.13 -2061899.95 -2061899.77 0.0260 0.0083

Saturn -10358-01-26 10:19 J -2061811.25 -2061811.07 -2061810.88 0.0261 0.0077

Saturn -10358-04-25 07:55 J -2061722.25 -2061722.17 -2061722.09 0.0261 0.0236

Mars -10356-12-18 15:07 J -2060754.03 -2060753.87 -2060753.70 0.1871 0.0552

Jupiter -10355-06-11 07:26 J -2060579.37 -2060579.19 -2060579.00 0.0502 0.0067

Mars -10355-10-21 17:16 J -2060446.86 -2060446.78 -2060446.69 0.1662 0.1067

Mars -10353-09-25 19:40 J -2059741.79 -2059741.68 -2059741.58 0.1648 0.0775

Moon -10351-09-01 09:50 J -2059036.19 -2059036.09 -2059035.98 0.2725 0.0788

Earth -10351-09-01 10:19 J -2059036.18 -2059036.07 -2059035.97 0.2719 0.0711 *

Venus -10349-02-06 01:12 J -2058513.51 -2058513.45 -2058513.38 0.3696 0.2778

Jupiter -10349-02-07 20:38 J -2058511.74 -2058511.64 -2058511.54 0.0524 0.0314

Jupiter -10349-05-07 00:57 J -2058422.57 -2058422.46 -2058422.34 0.0523 0.0229

Moon -10347-03-02 06:14 J -2057758.33 -2057758.24 -2057758.14 0.2611 0.2143

Earth -10347-03-02 07:55 J -2057758.27 -2057758.17 -2057758.07 0.2615 0.2057 *

Mars -10346-05-10 07:26 J -2057324.34 -2057324.19 -2057324.03 0.1865 0.0829

Mars -10345-03-13 04:47 J -2057016.34 -2057016.30 -2057016.26 0.1666 0.1520

Saturn -10345-09-04 16:47 J -2056840.86 -2056840.80 -2056840.73 0.0303 0.0252

Saturn -10345-12-02 05:16 J -2056752.40 -2056752.28 -2056752.16 0.0303 0.0088

Saturn -10344-02-28 17:31 J -2056663.89 -2056663.77 -2056663.64 0.0302 0.0076

Saturn -10344-05-28 05:45 J -2056575.33 -2056575.26 -2056575.18 0.0301 0.0236

Venus -10344-08-21 16:33 J -2056489.91 -2056489.81 -2056489.71 0.3698 0.1071

Mars -10343-02-16 06:57 J -2056311.32 -2056311.21 -2056311.09 0.1651 0.0341

Jupiter -10343-03-30 04:04 J -2056269.49 -2056269.33 -2056269.16 0.0502 0.0249

Venus -10338-03-07 07:40 J -2054466.28 -2054466.18 -2054466.08 0.3699 0.0641

Earth -10338-09-04 03:50 J -2054285.45 -2054285.34 -2054285.24 0.2719 0.0576

Moon -10338-09-04 04:04 J -2054285.43 -2054285.33 -2054285.23 0.2725 0.0627 *

Jupiter -10338-11-27 00:57 J -2054201.52 -2054201.46 -2054201.40 0.0524 0.0453

Jupiter -10337-02-24 05:31 J -2054112.39 -2054112.27 -2054112.15 0.0523 0.0091

Venus -10336-12-09 02:38 J -2053458.49 -2053458.39 -2053458.29 0.3674 0.2877

Moon -10334-03-05 14:24 J -2053007.06 -2053006.90 -2053006.74 0.2615 0.0418

Earth -10334-03-05 16:19 J -2053006.98 -2053006.82 -2053006.67 0.2615 0.0628 *

Mars -10334-07-09 18:43 J -2052880.84 -2052880.72 -2052880.61 0.1655 0.0123

Venus -10333-09-19 23:02 J -2052442.62 -2052442.54 -2052442.47 0.3701 0.2319

Jupiter -10331-01-16 00:28 J -2051959.57 -2051959.48 -2051959.38 0.0501 0.0433

Jupiter -10331-04-16 13:55 J -2051869.06 -2051868.92 -2051868.77 0.0503 0.0320

Venus -10330-06-25 14:52 J -2051433.92 -2051433.88 -2051433.84 0.3672 0.3557

Saturn -10329-03-17 12:57 J -2051168.13 -2051167.96 -2051167.79 0.0260 0.0122

Saturn -10329-06-14 10:19 J -2051079.26 -2051079.07 -2051078.88 0.0260 0.0036

Saturn -10329-09-11 07:26 J -2050990.30 -2050990.19 -2050990.05 0.0261 0.0197

Uranus -10327-01-08 23:02 J -2050505.58 -2050505.54 -2050505.48 0.0138 0.0125

Uranus -10327-04-07 02:09 J -2050417.49 -2050417.41 -2050417.32 0.0138 0.0106

Uranus -10327-07-04 05:16 J -2050329.37 -2050329.28 -2050329.18 0.0138 0.0087

Uranus -10327-09-30 08:24 J -2050241.26 -2050241.15 -2050241.03 0.0138 0.0068

Uranus -10327-12-27 11:31 J -2050153.14 -2050153.02 -2050152.89 0.0138 0.0049

Uranus -10326-03-25 14:38 J -2050065.01 -2050064.89 -2050064.76 0.0138 0.0030

Uranus -10326-06-21 17:45 J -2049976.88 -2049976.76 -2049976.63 0.0138 0.0011

Uranus -10326-09-17 21:07 J -2049888.75 -2049888.62 -2049888.49 0.0138 0.0010

Jupiter -10326-12-13 09:35 J -2049802.22 -2049802.10 -2049801.97 0.0524 0.0053

Uranus -10326-12-15 00:14 J -2049800.62 -2049800.49 -2049800.36 0.0139 0.0029

Jupiter -10325-03-11 14:09 J -2049712.95 -2049712.91 -2049712.87 0.0522 0.0487

Uranus -10325-03-12 03:21 J -2049712.48 -2049712.36 -2049712.24 0.0139 0.0048

Uranus -10325-06-08 06:28 J -2049624.34 -2049624.23 -2049624.11 0.0139 0.0068

Uranus -10325-09-04 09:35 J -2049536.20 -2049536.10 -2049536.00 0.0139 0.0088

Earth -10325-09-05 21:21 J -2049534.69 -2049534.61 -2049534.53 0.2718 0.1864

Moon -10325-09-05 22:04 J -2049534.66 -2049534.58 -2049534.51 0.2721 0.1973 *

Mars -10325-11-29 06:00 J -2049450.36 -2049450.25 -2049450.14 0.1658 0.0555

Uranus -10325-12-01 12:43 J -2049448.04 -2049447.97 -2049447.88 0.0139 0.0108

Uranus -10324-02-27 16:04 J -2049359.88 -2049359.83 -2049359.78 0.0139 0.0128

Mars -10323-11-04 07:55 J -2048745.24 -2048745.17 -2048745.09 0.1645 0.1264

Jupiter -10319-02-02 10:04 J -2047559.27 -2047559.08 -2047558.90 0.0502 0.0130

Moon -10318-08-30 20:52 J -2046984.70 -2046984.63 -2046984.55 0.2723 0.1880

Earth -10318-08-30 21:35 J -2046984.68 -2046984.60 -2046984.52 0.2719 0.1730 *

Mars -10316-06-18 16:19 J -2046326.98 -2046326.82 -2046326.66 0.1871 0.0681

Saturn -10315-01-22 19:26 J -2046108.72 -2046108.69 -2046108.65 0.0303 0.0291

Saturn -10315-04-21 07:55 J -2046020.28 -2046020.17 -2046020.05 0.0302 0.0127

Mars -10315-04-21 17:16 J -2046019.87 -2046019.78 -2046019.69 0.1662 0.1010

Saturn -10315-07-18 20:24 J -2045931.78 -2045931.65 -2045931.53 0.0302 0.0036

Saturn -10315-10-15 08:24 J -2045843.24 -2045843.15 -2045843.05 0.0301 0.0197

Neptune -10314-07-04 09:07 J -2045581.15 -2045581.12 -2045581.06 0.0089 0.0083

Neptune -10314-09-30 10:19 J -2045493.12 -2045493.07 -2045492.99 0.0089 0.0077

Jupiter -10314-10-01 14:24 J -2045492.02 -2045491.90 -2045491.78 0.0524 0.0183

Neptune -10314-12-27 11:45 J -2045405.08 -2045405.01 -2045404.92 0.0089 0.0069

Jupiter -10314-12-29 18:57 J -2045402.80 -2045402.71 -2045402.62 0.0523 0.0358

Neptune -10313-03-24 12:57 J -2045317.04 -2045316.96 -2045316.85 0.0089 0.0063

Mars -10313-03-26 19:26 J -2045314.78 -2045314.69 -2045314.59 0.1648 0.0829

Neptune -10313-06-20 14:38 J -2045228.99 -2045228.89 -2045228.79 0.0089 0.0055

Neptune -10313-09-16 15:50 J -2045140.95 -2045140.84 -2045140.73 0.0089 0.0048

Neptune -10313-12-13 17:02 J -2045052.90 -2045052.79 -2045052.67 0.0089 0.0041

Neptune -10312-03-11 18:28 J -2044964.85 -2044964.73 -2044964.61 0.0089 0.0033

Neptune -10312-06-07 19:40 J -2044876.80 -2044876.68 -2044876.55 0.0089 0.0027

Neptune -10312-09-03 21:07 J -2044788.75 -2044788.62 -2044788.49 0.0089 0.0019

Neptune -10312-11-30 22:19 J -2044700.70 -2044700.57 -2044700.44 0.0089 0.0012

Neptune -10311-02-26 23:45 J -2044612.64 -2044612.51 -2044612.38 0.0089 0.0005

Neptune -10311-05-26 00:57 J -2044524.59 -2044524.46 -2044524.33 0.0089 0.0002

Neptune -10311-08-22 02:09 J -2044436.54 -2044436.41 -2044436.28 0.0089 0.0010

Neptune -10311-11-18 03:35 J -2044348.48 -2044348.35 -2044348.22 0.0089 0.0016

Neptune -10310-02-14 04:47 J -2044260.43 -2044260.30 -2044260.17 0.0089 0.0023

Neptune -10310-05-13 06:00 J -2044172.37 -2044172.25 -2044172.12 0.0089 0.0030

Neptune -10310-08-09 07:12 J -2044084.31 -2044084.20 -2044084.07 0.0089 0.0038

Neptune -10310-11-05 08:38 J -2043996.25 -2043996.14 -2043996.03 0.0089 0.0044

Neptune -10309-02-01 09:50 J -2043908.19 -2043908.09 -2043907.98 0.0089 0.0051

Neptune -10309-04-29 11:02 J -2043820.13 -2043820.04 -2043819.93 0.0089 0.0059

Neptune -10309-07-26 12:14 J -2043732.07 -2043731.99 -2043731.89 0.0089 0.0066

Neptune -10309-10-22 13:40 J -2043644.00 -2043643.93 -2043643.85 0.0089 0.0072

Neptune -10308-01-18 14:52 J -2043555.93 -2043555.88 -2043555.81 0.0089 0.0080

Neptune -10308-04-16 16:04 J -2043467.85 -2043467.83 -2043467.79 0.0089 0.0087

Jupiter -10308-11-21 04:47 J -2043249.49 -2043249.30 -2043249.11 0.0502 0.0075

Mars -10307-11-08 08:24 J -2042897.31 -2042897.15 -2042896.99 0.1866 0.0707

Mars -10306-09-12 04:47 J -2042589.36 -2042589.30 -2042589.25 0.1666 0.1468

Moon -10305-09-01 14:52 J -2042233.99 -2042233.88 -2042233.78 0.2725 0.0441

Earth -10305-09-01 15:07 J -2042233.98 -2042233.87 -2042233.77 0.2719 0.0464 *

Mars -10304-08-17 06:57 J -2041884.32 -2041884.21 -2041884.10 0.1651 0.0390

Jupiter -10302-07-20 18:57 J -2041181.81 -2041181.71 -2041181.61 0.0525 0.0317

Jupiter -10302-10-17 23:31 J -2041092.63 -2041092.52 -2041092.40 0.0523 0.0228

Moon -10301-03-02 13:12 J -2040956.06 -2040955.95 -2040955.83 0.2611 0.1812

Earth -10301-03-02 14:52 J -2040956.01 -2040955.88 -2040955.75 0.2614 0.1534 *

Saturn -10300-08-04 13:12 J -2040436.10 -2040435.95 -2040435.79 0.0260 0.0158

Saturn -10300-11-01 10:33 J -2040347.25 -2040347.06 -2040346.86 0.0261 0.0003

Saturn -10299-01-29 07:55 J -2040258.32 -2040258.17 -2040258.01 0.0261 0.0160

Jupiter -10296-09-09 00:57 J -2038939.62 -2038939.46 -2038939.30 0.0501 0.0262

Jupiter -10296-12-08 14:24 J -2038848.94 -2038848.90 -2038848.86 0.0503 0.0491

Mars -10294-01-07 18:28 J -2038453.84 -2038453.73 -2038453.61 0.1655 0.0062

Pluto -10294-09-09 06:14 J -2038209.26 -2038209.24 -2038209.17 0.0072 0.0070

Pluto -10294-12-06 07:55 J -2038121.25 -2038121.17 -2038121.06 0.0072 0.0060

Pluto -10293-03-03 09:50 J -2038033.21 -2038033.09 -2038032.97 0.0072 0.0050

Pluto -10293-05-30 11:16 J -2037945.16 -2037945.03 -2037944.89 0.0072 0.0040

Pluto -10293-08-26 12:43 J -2037857.11 -2037856.97 -2037856.81 0.0072 0.0031

Venus -10293-09-11 22:33 J -2037840.64 -2037840.56 -2037840.47 0.3696 0.2165

Pluto -10293-11-22 14:24 J -2037769.06 -2037768.90 -2037768.74 0.0072 0.0021

Pluto -10292-02-18 15:50 J -2037681.00 -2037680.84 -2037680.67 0.0072 0.0012

Pluto -10292-05-17 17:31 J -2037592.94 -2037592.77 -2037592.61 0.0072 0.0003

Pluto -10292-08-13 18:57 J -2037504.87 -2037504.71 -2037504.55 0.0071 0.0007

Earth -10292-09-04 08:38 J -2037483.25 -2037483.14 -2037483.04 0.2718 0.0832

Moon -10292-09-04 08:52 J -2037483.23 -2037483.13 -2037483.03 0.2725 0.0851 *

Pluto -10292-11-09 20:24 J -2037416.81 -2037416.65 -2037416.49 0.0071 0.0016

Pluto -10291-02-05 21:50 J -2037328.74 -2037328.59 -2037328.44 0.0071 0.0025

Pluto -10291-05-04 23:02 J -2037240.67 -2037240.54 -2037240.39 0.0071 0.0034

Pluto -10291-08-01 00:43 J -2037152.60 -2037152.47 -2037152.34 0.0071 0.0042

Pluto -10291-10-28 01:55 J -2037064.52 -2037064.42 -2037064.30 0.0071 0.0051

Pluto -10290-01-24 03:07 J -2036976.44 -2036976.37 -2036976.27 0.0071 0.0060

Pluto -10290-04-22 04:33 J -2036888.33 -2036888.31 -2036888.26 0.0071 0.0069

Jupiter -10290-05-08 23:16 J -2036871.59 -2036871.53 -2036871.47 0.0525 0.0457

Jupiter -10290-08-06 03:50 J -2036782.46 -2036782.34 -2036782.21 0.0523 0.0088

Moon -10288-03-05 21:21 J -2036204.76 -2036204.61 -2036204.46 0.2617 0.1006

Earth -10288-03-05 23:02 J -2036204.69 -2036204.54 -2036204.40 0.2615 0.1131 *

Uranus -10288-11-19 07:55 J -2035946.28 -2035946.17 -2035946.06 0.0141 0.0115

Uranus -10287-02-15 16:19 J -2035857.98 -2035857.82 -2035857.66 0.0141 0.0084

Venus -10287-03-28 13:55 J -2035817.02 -2035816.92 -2035816.82 0.3698 0.0460

Uranus -10287-05-15 00:43 J -2035769.65 -2035769.47 -2035769.29 0.0141 0.0053

Uranus -10287-08-11 08:52 J -2035681.32 -2035681.13 -2035680.93 0.0140 0.0023

Uranus -10287-11-07 17:16 J -2035592.97 -2035592.78 -2035592.58 0.0140 0.0009

Uranus -10286-02-04 01:40 J -2035504.62 -2035504.43 -2035504.24 0.0140 0.0040

Uranus -10286-05-03 09:50 J -2035416.25 -2035416.09 -2035415.91 0.0140 0.0070

Uranus -10286-07-30 18:00 J -2035327.87 -2035327.75 -2035327.60 0.0140 0.0101

Saturn -10286-09-08 10:33 J -2035288.16 -2035288.06 -2035287.95 0.0303 0.0167

Uranus -10286-10-27 02:09 J -2035239.46 -2035239.41 -2035239.33 0.0140 0.0131

Saturn -10286-12-05 23:02 J -2035199.67 -2035199.54 -2035199.41 0.0302 0.0007

Saturn -10285-03-03 11:16 J -2035111.14 -2035111.03 -2035110.92 0.0302 0.0158

Mars -10285-05-30 06:00 J -2035023.36 -2035023.25 -2035023.14 0.1659 0.0503

Jupiter -10284-06-27 21:21 J -2034629.69 -2034629.61 -2034629.52 0.0501 0.0447

Jupiter -10284-09-26 10:47 J -2034539.20 -2034539.05 -2034538.90 0.0503 0.0306

Mars -10283-05-05 07:55 J -2034318.24 -2034318.17 -2034318.10 0.1645 0.1314

Venus -10282-10-12 05:02 J -2033793.38 -2033793.29 -2033793.19 0.3700 0.1239

Venus -10279-07-16 05:31 J -2032785.43 -2032785.27 -2032785.11 0.3674 0.0836

Earth -10279-09-07 02:09 J -2032732.47 -2032732.41 -2032732.34 0.2718 0.2121

Moon -10279-09-07 02:52 J -2032732.44 -2032732.38 -2032732.32 0.2719 0.2215 *

Jupiter -10278-05-25 08:09 J -2032472.28 -2032472.16 -2032472.03 0.0523 0.0054

Jupiter -10278-08-22 12:43 J -2032383.01 -2032382.97 -2032382.93 0.0522 0.0486

Mars -10277-12-17 16:47 J -2031899.96 -2031899.80 -2031899.64 0.1871 0.0783

Venus -10276-04-26 20:24 J -2031769.71 -2031769.65 -2031769.59 0.3702 0.2915

Mars -10276-10-20 17:16 J -2031592.87 -2031592.78 -2031592.68 0.1662 0.0953

Mars -10274-09-25 19:26 J -2030887.78 -2030887.69 -2030887.59 0.1648 0.0882

Jupiter -10272-07-15 07:12 J -2030229.39 -2030229.20 -2030229.02 0.0502 0.0119

Moon -10272-08-31 01:40 J -2030182.52 -2030182.43 -2030182.34 0.2723 0.1495

Earth -10272-08-31 02:24 J -2030182.49 -2030182.40 -2030182.31 0.2719 0.1480 *

Saturn -10271-12-22 13:26 J -2029704.06 -2029703.94 -2029703.81 0.0260 0.0194

Saturn -10270-03-21 10:47 J -2029615.24 -2029615.05 -2029614.85 0.0260 0.0036

Saturn -10270-06-18 08:09 J -2029526.33 -2029526.16 -2029525.99 0.0261 0.0124

Mars -10267-05-09 09:35 J -2028470.26 -2028470.10 -2028469.93 0.1866 0.0570

Mars -10266-03-13 04:33 J -2028162.36 -2028162.31 -2028162.25 0.1666 0.1413

Jupiter -10266-03-13 12:28 J -2028162.10 -2028161.98 -2028161.87 0.0524 0.0195

Jupiter -10266-06-10 16:47 J -2028072.89 -2028072.80 -2028072.70 0.0523 0.0346

Mars -10264-02-15 06:57 J -2027457.32 -2027457.21 -2027457.10 0.1651 0.0447

Jupiter -10260-05-03 03:07 J -2025919.56 -2025919.37 -2025919.19 0.0502 0.0072

Moon -10259-09-02 19:40 J -2025431.78 -2025431.68 -2025431.57 0.2726 0.0283

Earth -10259-09-02 19:55 J -2025431.78 -2025431.67 -2025431.57 0.2719 0.0224 *

Saturn -10256-01-25 13:40 J -2024556.02 -2024555.93 -2024555.83 0.0303 0.0201

Saturn -10256-04-24 02:09 J -2024467.54 -2024467.41 -2024467.29 0.0302 0.0039

Saturn -10256-07-21 14:24 J -2024379.02 -2024378.90 -2024378.78 0.0301 0.0124

Saturn -10256-10-18 02:24 J -2024290.43 -2024290.40 -2024290.35 0.0301 0.0284

Moon -10255-03-03 20:09 J -2024153.81 -2024153.66 -2024153.51 0.2612 0.1087

Earth -10255-03-03 21:50 J -2024153.74 -2024153.59 -2024153.44 0.2615 0.1012 *

Mars -10255-07-08 18:28 J -2024026.85 -2024026.73 -2024026.62 0.1655 0.0016

Jupiter -10255-12-30 17:02 J -2023851.89 -2023851.79 -2023851.70 0.0525 0.0330

Jupiter -10254-03-29 21:35 J -2023762.72 -2023762.60 -2023762.49 0.0523 0.0214

Jupiter -10248-02-18 22:04 J -2021609.74 -2021609.58 -2021609.42 0.0501 0.0273

Jupiter -10248-05-20 11:16 J -2021519.08 -2021519.03 -2021518.97 0.0502 0.0478

Earth -10246-09-05 13:26 J -2020681.04 -2020680.94 -2020680.84 0.2719 0.1088

Moon -10246-09-05 13:40 J -2020681.02 -2020680.93 -2020680.83 0.2725 0.1176 *

Mars -10246-11-29 06:00 J -2020596.36 -2020596.25 -2020596.14 0.1658 0.0450

Uranus -10244-11-02 03:35 J -2019892.35 -2019892.35 -2019892.34 0.0137 0.0137

Mars -10244-11-03 07:55 J -2019891.23 -2019891.17 -2019891.11 0.1645 0.1366

Uranus -10243-01-29 06:43 J -2019804.28 -2019804.22 -2019804.15 0.0137 0.0118

Uranus -10243-04-27 09:50 J -2019716.17 -2019716.09 -2019716.00 0.0138 0.0100

Uranus -10243-07-24 12:57 J -2019628.06 -2019627.96 -2019627.85 0.0138 0.0081

Jupiter -10243-10-18 21:21 J -2019541.66 -2019541.61 -2019541.55 0.0525 0.0466

Uranus -10243-10-20 16:04 J -2019539.94 -2019539.83 -2019539.71 0.0138 0.0062

Jupiter -10242-01-16 02:09 J -2019452.53 -2019452.41 -2019452.29 0.0524 0.0080

Uranus -10242-01-16 19:12 J -2019451.82 -2019451.70 -2019451.57 0.0138 0.0042

Moon -10242-03-07 04:04 J -2019402.46 -2019402.33 -2019402.19 0.2617 0.1379

Earth -10242-03-07 06:00 J -2019402.38 -2019402.25 -2019402.13 0.2615 0.1653 *

Uranus -10242-04-14 22:19 J -2019363.70 -2019363.57 -2019363.44 0.0138 0.0023

Uranus -10242-07-12 01:26 J -2019275.57 -2019275.44 -2019275.31 0.0138 0.0005

Venus -10242-10-04 04:47 J -2019191.35 -2019191.30 -2019191.26 0.3695 0.3255

Uranus -10242-10-08 04:33 J -2019187.44 -2019187.31 -2019187.18 0.0138 0.0016

Uranus -10241-01-04 07:40 J -2019099.30 -2019099.18 -2019099.05 0.0139 0.0035

Uranus -10241-04-01 10:47 J -2019011.16 -2019011.05 -2019010.92 0.0139 0.0055

Saturn -10241-05-10 14:09 J -2018971.99 -2018971.91 -2018971.81 0.0260 0.0227

Uranus -10241-06-28 14:09 J -2018923.02 -2018922.91 -2018922.80 0.0139 0.0074

Saturn -10241-08-07 11:31 J -2018883.20 -2018883.02 -2018882.83 0.0261 0.0069

Uranus -10241-09-24 17:16 J -2018834.87 -2018834.78 -2018834.68 0.0139 0.0094

Saturn -10241-11-04 08:52 J -2018794.31 -2018794.13 -2018793.95 0.0261 0.0091

Uranus -10241-12-21 20:09 J -2018746.72 -2018746.66 -2018746.57 0.0139 0.0114

Saturn -10240-02-01 06:14 J -2018705.28 -2018705.24 -2018705.18 0.0261 0.0251

Uranus -10240-03-19 23:45 J -2018658.55 -2018658.51 -2018658.48 0.0139 0.0134

Moon -10239-08-29 12:57 J -2018131.00 -2018130.96 -2018130.93 0.2720 0.2562

Earth -10239-08-29 13:40 J -2018130.97 -2018130.93 -2018130.89 0.2719 0.2499 *

Mars -10237-06-17 18:00 J -2017472.90 -2017472.75 -2017472.60 0.1871 0.0923

Jupiter -10237-12-07 18:00 J -2017299.81 -2017299.75 -2017299.67 0.0501 0.0461

Jupiter -10236-03-08 07:26 J -2017209.34 -2017209.19 -2017209.04 0.0502 0.0288

Venus -10236-04-18 19:55 J -2017167.76 -2017167.67 -2017167.58 0.3697 0.1560

Mars -10236-04-20 17:16 J -2017165.88 -2017165.78 -2017165.68 0.1662 0.0899

Mars -10234-03-26 19:26 J -2016460.78 -2016460.69 -2016460.60 0.1648 0.0935

Earth -10233-09-07 06:57 J -2015930.26 -2015930.21 -2015930.16 0.2718 0.2380

Moon -10233-09-07 07:40 J -2015930.22 -2015930.18 -2015930.14 0.2719 0.2460 *

Venus -10231-11-02 11:16 J -2015144.13 -2015144.03 -2015143.93 0.3699 0.0146

Jupiter -10231-11-04 06:28 J -2015142.36 -2015142.23 -2015142.11 0.0524 0.0061

Neptune -10231-12-14 14:38 J -2015101.95 -2015101.89 -2015101.79 0.0088 0.0080

Jupiter -10230-02-01 10:47 J -2015053.10 -2015053.05 -2015053.00 0.0522 0.0478

Neptune -10230-03-12 18:14 J -2015013.84 -2015013.74 -2015013.60 0.0088 0.0070

Neptune -10230-06-08 22:04 J -2014925.71 -2014925.58 -2014925.43 0.0088 0.0060

Neptune -10230-09-05 01:40 J -2014837.58 -2014837.43 -2014837.25 0.0088 0.0050

Neptune -10230-12-02 05:16 J -2014749.44 -2014749.28 -2014749.09 0.0088 0.0040

Neptune -10229-02-28 09:07 J -2014661.30 -2014661.12 -2014660.92 0.0088 0.0030

Neptune -10229-05-26 12:43 J -2014573.15 -2014572.97 -2014572.76 0.0088 0.0020

Neptune -10229-08-22 16:47 J -2014485.00 -2014484.80 -2014484.61 0.0088 0.0009

Neptune -10229-11-18 20:24 J -2014396.85 -2014396.65 -2014396.45 0.0088 0.0001

Neptune -10228-02-15 00:00 J -2014308.69 -2014308.50 -2014308.30 0.0088 0.0011

Neptune -10228-05-14 03:50 J -2014220.53 -2014220.34 -2014220.15 0.0088 0.0021

Neptune -10228-08-10 07:12 J -2014132.37 -2014132.20 -2014132.00 0.0088 0.0032

Neptune -10228-11-06 10:47 J -2014044.21 -2014044.05 -2014043.86 0.0088 0.0042

Mars -10228-11-07 10:04 J -2014043.25 -2014043.08 -2014042.91 0.1866 0.0474

Neptune -10227-02-02 14:38 J -2013956.04 -2013955.89 -2013955.72 0.0088 0.0052

Neptune -10227-05-01 18:28 J -2013867.86 -2013867.73 -2013867.58 0.0088 0.0062

Saturn -10227-06-14 16:33 J -2013823.88 -2013823.81 -2013823.73 0.0303 0.0237

Neptune -10227-07-28 22:04 J -2013779.68 -2013779.58 -2013779.46 0.0088 0.0072

Saturn -10227-09-11 05:02 J -2013735.41 -2013735.29 -2013735.16 0.0302 0.0073

Mars -10227-09-11 04:33 J -2013735.37 -2013735.31 -2013735.24 0.1666 0.1357 *

Neptune -10227-10-25 01:26 J -2013691.48 -2013691.44 -2013691.35 0.0088 0.0083

Saturn -10227-12-08 17:16 J -2013646.90 -2013646.78 -2013646.65 0.0302 0.0090

Saturn -10226-03-07 05:31 J -2013558.34 -2013558.27 -2013558.20 0.0301 0.0249

Moon -10226-09-01 06:28 J -2013380.32 -2013380.23 -2013380.13 0.2723 0.1353

Earth -10226-09-01 06:57 J -2013380.30 -2013380.21 -2013380.11 0.2719 0.1227 *

Venus -10225-05-18 02:24 J -2013120.48 -2013120.40 -2013120.31 0.3700 0.1827

Mars -10225-08-16 06:57 J -2013030.32 -2013030.21 -2013030.10 0.1651 0.0496

Jupiter -10225-12-25 03:35 J -2012899.53 -2012899.35 -2012899.16 0.0502 0.0101

Venus -10222-02-20 08:24 J -2012112.30 -2012112.15 -2012111.99 0.3673 0.1225

Venus -10220-12-01 17:45 J -2011096.79 -2011096.76 -2011096.74 0.3702 0.3512

Jupiter -10219-08-23 10:47 J -2010832.17 -2010832.05 -2010831.94 0.0524 0.0199

Jupiter -10219-11-20 15:07 J -2010742.96 -2010742.87 -2010742.77 0.0523 0.0342

Mars -10218-03-30 02:52 J -2010613.41 -2010613.38 -2010613.34 0.1861 0.1812

Mars -10215-01-06 18:28 J -2009599.84 -2009599.73 -2009599.62 0.1655 0.0057

Moon -10213-09-03 00:28 J -2008629.58 -2008629.48 -2008629.37 0.2726 0.0170

Earth -10213-09-03 00:28 J -2008629.58 -2008629.48 -2008629.37 0.2719 0.0115 *

Jupiter -10213-10-13 00:00 J -2008589.69 -2008589.50 -2008589.32 0.0502 0.0087

Saturn -10212-12-25 12:00 J -2008151.17 -2008151.00 -2008150.82 0.0260 0.0104

Saturn -10211-03-24 09:21 J -2008062.30 -2008062.11 -2008061.92 0.0261 0.0055

Saturn -10211-06-21 06:43 J -2007973.32 -2007973.22 -2007973.11 0.0261 0.0216

Moon -10209-03-04 02:52 J -2007351.53 -2007351.38 -2007351.22 0.2614 0.0795

Earth -10209-03-04 04:33 J -2007351.47 -2007351.31 -2007351.15 0.2614 0.0503 *

Jupiter -10207-06-11 14:52 J -2006521.98 -2006521.88 -2006521.79 0.0524 0.0343

Jupiter -10207-09-08 19:26 J -2006432.81 -2006432.69 -2006432.58 0.0523 0.0200

Mars -10206-05-30 05:45 J -2006169.37 -2006169.26 -2006169.14 0.1658 0.0396

Mars -10204-05-04 07:55 J -2005464.22 -2005464.17 -2005464.11 0.1645 0.1424

Uranus -10204-09-12 07:12 J -2005333.23 -2005333.20 -2005333.14 0.0141 0.0137

Uranus -10204-12-09 15:50 J -2005244.96 -2005244.84 -2005244.70 0.0141 0.0105

Uranus -10203-03-08 00:14 J -2005156.65 -2005156.49 -2005156.32 0.0141 0.0074

Uranus -10203-06-04 08:52 J -2005068.32 -2005068.13 -2005067.95 0.0141 0.0043

Uranus -10203-08-31 17:02 J -2004979.98 -2004979.79 -2004979.59 0.0140 0.0012

Uranus -10203-11-28 01:26 J -2004891.63 -2004891.44 -2004891.24 0.0140 0.0019

Uranus -10202-02-24 09:35 J -2004803.27 -2004803.10 -2004802.90 0.0140 0.0050

Uranus -10202-05-23 18:00 J -2004714.90 -2004714.75 -2004714.58 0.0140 0.0080

Uranus -10202-08-20 02:09 J -2004626.52 -2004626.41 -2004626.28 0.0140 0.0111

Jupiter -10201-07-31 19:55 J -2004279.83 -2004279.67 -2004279.51 0.0501 0.0276

Jupiter -10201-10-30 09:07 J -2004189.17 -2004189.12 -2004189.06 0.0503 0.0478

Earth -10200-09-05 18:14 J -2003878.84 -2003878.74 -2003878.65 0.2719 0.1346

Moon -10200-09-05 18:43 J -2003878.81 -2003878.72 -2003878.63 0.2723 0.1362 *

Saturn -10198-11-01 19:40 J -2003091.73 -2003091.68 -2003091.62 0.0303 0.0271

Mars -10198-12-17 18:43 J -2003045.86 -2003045.72 -2003045.57 0.1871 0.1039

Saturn -10197-01-29 08:09 J -2003003.28 -2003003.16 -2003003.04 0.0302 0.0107

Saturn -10197-04-26 20:24 J -2002914.77 -2002914.65 -2002914.52 0.0302 0.0057

Saturn -10197-07-24 08:38 J -2002826.22 -2002826.14 -2002826.05 0.0301 0.0216

Mars -10197-10-19 17:16 J -2002738.88 -2002738.78 -2002738.68 0.1662 0.0846

Moon -10196-03-07 11:02 J -2002600.14 -2002600.04 -2002599.95 0.2617 0.2068

Earth -10196-03-07 12:43 J -2002600.06 -2002599.97 -2002599.88 0.2615 0.2162 *

Jupiter -10195-03-30 19:12 J -2002211.75 -2002211.70 -2002211.65 0.0525 0.0480

Jupiter -10195-06-28 00:00 J -2002122.63 -2002122.50 -2002122.38 0.0524 0.0066

Mars -10195-09-24 19:26 J -2002033.78 -2002033.69 -2002033.60 0.1648 0.0988

Moon -10193-08-29 17:45 J -2001328.82 -2001328.76 -2001328.71 0.2720 0.2362

Earth -10193-08-29 18:14 J -2001328.79 -2001328.74 -2001328.68 0.2719 0.2247 *

Jupiter -10189-05-19 15:07 J -1999969.92 -1999969.87 -1999969.81 0.0501 0.0473

Jupiter -10189-08-18 04:19 J -1999879.47 -1999879.32 -1999879.16 0.0502 0.0275

Mars -10188-05-08 11:16 J -1999616.20 -1999616.03 -1999615.86 0.1866 0.0340

Mars -10187-03-12 04:33 J -1999308.38 -1999308.31 -1999308.24 0.1666 0.1302

Earth -10187-09-08 11:45 J -1999128.03 -1999128.01 -1999127.99 0.2718 0.2638

Mars -10185-02-15 06:57 J -1998603.32 -1998603.21 -1998603.11 0.1651 0.0552

Venus -10185-05-10 02:09 J -1998518.48 -1998518.41 -1998518.34 0.3695 0.2650

Jupiter -10183-04-16 04:33 J -1997812.44 -1997812.31 -1997812.19 0.0524 0.0071

Jupiter -10183-07-14 09:07 J -1997723.18 -1997723.12 -1997723.07 0.0523 0.0470

Saturn -10182-05-14 12:57 J -1997419.13 -1997418.96 -1997418.80 0.0260 0.0136

Saturn -10182-08-11 10:19 J -1997330.27 -1997330.07 -1997329.88 0.0261 0.0024

Saturn -10182-11-08 07:40 J -1997241.32 -1997241.18 -1997241.04 0.0261 0.0184

Moon -10180-09-01 11:31 J -1996578.12 -1996578.02 -1996577.92 0.2724 0.0984

Earth -10180-09-01 11:45 J -1996578.11 -1996578.01 -1996577.91 0.2719 0.0974 *

Venus -10180-11-23 17:16 J -1996494.87 -1996494.78 -1996494.68 0.3697 0.0955

Mars -10179-09-28 03:50 J -1996186.41 -1996186.34 -1996186.27 0.1860 0.1695

Jupiter -10177-06-06 00:14 J -1995569.67 -1995569.49 -1995569.30 0.0502 0.0086

Mars -10176-07-07 18:28 J -1995172.85 -1995172.73 -1995172.62 0.1655 0.0122

Venus -10174-06-09 08:38 J -1994471.24 -1994471.14 -1994471.04 0.3699 0.0745

Jupiter -10171-02-02 08:52 J -1993502.25 -1993502.13 -1993502.02 0.0524 0.0211

Venus -10171-03-12 23:16 J -1993463.62 -1993463.53 -1993463.45 0.3675 0.3107

Jupiter -10171-05-02 13:26 J -1993413.04 -1993412.94 -1993412.85 0.0523 0.0331

Venus -10169-12-22 23:45 J -1992447.58 -1992447.51 -1992447.43 0.3701 0.2426

Saturn -10168-03-20 23:02 J -1992359.54 -1992359.54 -1992359.54 0.0303 0.0303

Saturn -10168-06-17 11:16 J -1992271.14 -1992271.03 -1992270.91 0.0302 0.0140

Saturn -10168-09-13 23:45 J -1992182.64 -1992182.51 -1992182.38 0.0302 0.0024

Saturn -10168-12-11 12:00 J -1992094.10 -1992094.00 -1992093.90 0.0301 0.0185

Moon -10167-09-04 05:31 J -1991827.38 -1991827.27 -1991827.17 0.2726 0.0274

Earth -10167-09-04 05:16 J -1991827.38 -1991827.28 -1991827.17 0.2719 0.0327 *

Mars -10167-11-28 05:45 J -1991742.37 -1991742.26 -1991742.15 0.1658 0.0339

Venus -10166-09-27 11:31 J -1991439.09 -1991439.02 -1991438.95 0.3672 0.3295

Jupiter -10165-03-24 20:24 J -1991259.83 -1991259.65 -1991259.46 0.0502 0.0105

Mars -10165-11-02 07:40 J -1991037.22 -1991037.18 -1991037.13 0.1645 0.1474

Moon -10163-03-05 09:35 J -1990549.26 -1990549.10 -1990548.94 0.2615 0.0098

Earth -10163-03-05 11:31 J -1990549.18 -1990549.02 -1990548.86 0.2615 0.0017 *

Jupiter -10160-11-21 13:12 J -1989192.04 -1989191.95 -1989191.86 0.0524 0.0348

Uranus -10160-11-22 11:02 J -1989191.06 -1989191.04 -1989190.99 0.0137 0.0131

Uranus -10159-02-18 14:09 J -1989102.97 -1989102.91 -1989102.83 0.0137 0.0113

Jupiter -10159-02-18 17:45 J -1989102.88 -1989102.76 -1989102.64 0.0523 0.0194 *

Uranus -10159-05-17 17:16 J -1989014.86 -1989014.78 -1989014.68 0.0137 0.0094

Uranus -10159-08-13 20:24 J -1988926.75 -1988926.65 -1988926.53 0.0138 0.0075

Uranus -10159-11-09 23:31 J -1988838.63 -1988838.52 -1988838.39 0.0138 0.0056

Uranus -10158-02-06 02:52 J -1988750.51 -1988750.38 -1988750.26 0.0138 0.0036

Uranus -10158-05-05 06:00 J -1988662.38 -1988662.25 -1988662.12 0.0138 0.0017

Mars -10158-06-17 19:40 J -1988618.82 -1988618.68 -1988618.55 0.1872 0.1153

Uranus -10158-08-01 09:07 J -1988574.25 -1988574.12 -1988573.99 0.0138 0.0003

Uranus -10158-10-28 12:14 J -1988486.12 -1988485.99 -1988485.86 0.0138 0.0022

Uranus -10157-01-24 15:21 J -1988397.99 -1988397.86 -1988397.74 0.0138 0.0041

Mars -10157-04-19 17:16 J -1988311.88 -1988311.78 -1988311.68 0.1662 0.0787

Uranus -10157-04-21 18:28 J -1988309.85 -1988309.73 -1988309.61 0.0139 0.0061

Uranus -10157-07-18 21:35 J -1988221.70 -1988221.60 -1988221.49 0.0139 0.0080

Uranus -10157-10-15 00:43 J -1988133.56 -1988133.47 -1988133.38 0.0139 0.0100

Uranus -10156-01-11 03:50 J -1988045.40 -1988045.34 -1988045.27 0.0139 0.0120

Mars -10155-03-25 19:26 J -1987606.78 -1987606.69 -1987606.61 0.1648 0.1044

Earth -10154-09-06 23:02 J -1987076.63 -1987076.54 -1987076.46 0.2719 0.1603

Moon -10154-09-06 23:31 J -1987076.60 -1987076.52 -1987076.44 0.2722 0.1749 *

Jupiter -10153-01-11 16:47 J -1986949.96 -1986949.80 -1986949.65 0.0502 0.0291

Jupiter -10153-04-11 06:00 J -1986859.31 -1986859.25 -1986859.17 0.0503 0.0463

Saturn -10153-09-30 13:12 J -1986687.09 -1986686.95 -1986686.80 0.0260 0.0170

Saturn -10153-12-28 10:33 J -1986598.25 -1986598.06 -1986597.86 0.0260 0.0013

Saturn -10152-03-27 07:55 J -1986509.32 -1986509.17 -1986509.00 0.0261 0.0148

Moon -10150-03-08 18:00 J -1985797.81 -1985797.75 -1985797.69 0.2618 0.2406

Neptune -10149-03-30 08:09 J -1985410.20 -1985410.16 -1985410.11 0.0089 0.0084

Neptune -10149-06-26 09:21 J -1985322.17 -1985322.11 -1985322.04 0.0089 0.0077

Neptune -10149-09-22 10:47 J -1985234.13 -1985234.05 -1985233.97 0.0089 0.0070

Mars -10149-11-06 12:14 J -1985189.16 -1985188.99 -1985188.82 0.1866 0.0215

Neptune -10149-12-19 12:00 J -1985146.09 -1985146.00 -1985145.90 0.0089 0.0063

Neptune -10148-03-17 13:12 J -1985058.04 -1985057.95 -1985057.84 0.0089 0.0056

Neptune -10148-06-13 14:38 J -1984969.99 -1984969.89 -1984969.77 0.0089 0.0048

Neptune -10148-09-09 15:50 J -1984881.95 -1984881.84 -1984881.71 0.0089 0.0042

Jupiter -10148-09-09 17:16 J -1984881.82 -1984881.78 -1984881.74 0.0525 0.0493 *

Mars -10148-09-10 04:33 J -1984881.39 -1984881.31 -1984881.24 0.1666 0.1247

Neptune -10148-12-06 17:16 J -1984793.90 -1984793.78 -1984793.65 0.0089 0.0034

Jupiter -10148-12-07 21:50 J -1984792.71 -1984792.59 -1984792.46 0.0523 0.0052

Neptune -10147-03-04 18:28 J -1984705.85 -1984705.73 -1984705.60 0.0089 0.0028

Neptune -10147-05-31 19:55 J -1984617.79 -1984617.67 -1984617.54 0.0089 0.0020

Neptune -10147-08-27 21:07 J -1984529.74 -1984529.62 -1984529.48 0.0089 0.0014

Moon -10147-08-30 22:33 J -1984526.63 -1984526.56 -1984526.50 0.2720 0.2082

Earth -10147-08-30 23:02 J -1984526.61 -1984526.54 -1984526.47 0.2719 0.1994 *

Neptune -10147-11-23 22:33 J -1984441.69 -1984441.56 -1984441.43 0.0089 0.0006

Neptune -10146-02-19 23:45 J -1984353.64 -1984353.51 -1984353.37 0.0089 0.0003

Neptune -10146-05-19 01:12 J -1984265.58 -1984265.45 -1984265.32 0.0089 0.0009

Neptune -10146-08-15 02:24 J -1984177.53 -1984177.40 -1984177.27 0.0089 0.0016

Mars -10146-08-16 06:57 J -1984176.32 -1984176.21 -1984176.11 0.1651 0.0608

Neptune -10146-11-11 03:50 J -1984089.47 -1984089.34 -1984089.22 0.0089 0.0023

Neptune -10145-02-07 05:02 J -1984001.41 -1984001.29 -1984001.17 0.0089 0.0030

Neptune -10145-05-05 06:14 J -1983913.36 -1983913.24 -1983913.12 0.0089 0.0037

Neptune -10145-08-01 07:26 J -1983825.30 -1983825.19 -1983825.07 0.0089 0.0044

Neptune -10145-10-28 08:38 J -1983737.24 -1983737.14 -1983737.02 0.0089 0.0051

Neptune -10144-01-24 09:50 J -1983649.17 -1983649.09 -1983648.98 0.0089 0.0059

Neptune -10144-04-22 11:16 J -1983561.11 -1983561.03 -1983560.93 0.0089 0.0065

Neptune -10144-07-19 12:28 J -1983473.05 -1983472.98 -1983472.89 0.0089 0.0072

Neptune -10144-10-15 13:40 J -1983384.97 -1983384.93 -1983384.86 0.0089 0.0080

Neptune -10143-01-11 14:52 J -1983296.89 -1983296.88 -1983296.83 0.0089 0.0087

Jupiter -10142-10-30 12:43 J -1982640.02 -1982639.97 -1982639.91 0.0501 0.0478

Jupiter -10141-01-29 01:55 J -1982549.57 -1982549.42 -1982549.25 0.0502 0.0272

Mars -10139-03-29 04:47 J -1981759.39 -1981759.30 -1981759.21 0.1860 0.1570

Saturn -10139-11-04 14:38 J -1981539.00 -1981538.89 -1981538.79 0.0303 0.0173

Saturn -10138-02-01 02:52 J -1981450.51 -1981450.38 -1981450.25 0.0302 0.0012

Saturn -10138-04-30 15:07 J -1981361.98 -1981361.87 -1981361.76 0.0301 0.0152

Mars -10136-01-05 18:14 J -1980745.85 -1980745.74 -1980745.62 0.1654 0.0175

Jupiter -10136-09-26 02:24 J -1980482.53 -1980482.40 -1980482.28 0.0524 0.0085

Jupiter -10136-12-24 06:43 J -1980393.27 -1980393.22 -1980393.16 0.0523 0.0456

Moon -10134-09-02 16:19 J -1979775.92 -1979775.82 -1979775.72 0.2726 0.0782

Earth -10134-09-02 16:33 J -1979775.91 -1979775.81 -1979775.70 0.2719 0.0717 *

Pluto -10132-11-13 12:43 J -1978972.99 -1978972.97 -1978972.92 0.0072 0.0070

Pluto -10131-02-09 13:40 J -1978884.98 -1978884.93 -1978884.83 0.0072 0.0062

Pluto -10131-05-08 15:07 J -1978796.96 -1978796.87 -1978796.76 0.0072 0.0053

Pluto -10131-08-04 16:04 J -1978708.93 -1978708.83 -1978708.70 0.0072 0.0045

Pluto -10131-10-31 17:31 J -1978620.90 -1978620.77 -1978620.64 0.0072 0.0036

Pluto -10130-01-27 18:43 J -1978532.86 -1978532.72 -1978532.58 0.0072 0.0028

Moon -10130-03-03 08:38 J -1978498.22 -1978498.14 -1978498.06 0.2611 0.2296

Earth -10130-03-03 10:04 J -1978498.17 -1978498.08 -1978497.99 0.2614 0.2163 *

Pluto -10130-04-25 19:40 J -1978444.81 -1978444.68 -1978444.52 0.0072 0.0020

Pluto -10130-07-22 21:07 J -1978356.77 -1978356.62 -1978356.47 0.0073 0.0010

Pluto -10130-10-18 22:19 J -1978268.72 -1978268.57 -1978268.42 0.0073 0.0001

Jupiter -10130-11-16 21:21 J -1978239.79 -1978239.61 -1978239.42 0.0502 0.0074

Pluto -10129-01-14 23:31 J -1978180.67 -1978180.52 -1978180.37 0.0073 0.0008

Pluto -10129-04-12 00:28 J -1978092.62 -1978092.48 -1978092.32 0.0073 0.0017

Pluto -10129-07-09 01:40 J -1978004.56 -1978004.43 -1978004.28 0.0073 0.0026

Pluto -10129-10-05 02:52 J -1977916.50 -1977916.38 -1977916.23 0.0073 0.0035

Venus -10129-12-14 23:31 J -1977845.61 -1977845.52 -1977845.44 0.3696 0.2039

Pluto -10128-01-01 04:04 J -1977828.44 -1977828.33 -1977828.19 0.0073 0.0045

Pluto -10128-03-30 05:31 J -1977740.37 -1977740.27 -1977740.16 0.0073 0.0053

Pluto -10128-06-26 06:43 J -1977652.29 -1977652.22 -1977652.13 0.0074 0.0063

Pluto -10128-09-22 07:55 J -1977564.18 -1977564.17 -1977564.13 0.0074 0.0073

Mars -10127-05-29 05:45 J -1977315.37 -1977315.26 -1977315.15 0.1658 0.0284

Mars -10125-05-03 07:40 J -1976610.22 -1976610.18 -1976610.14 0.1644 0.1527

Jupiter -10124-07-15 06:43 J -1976172.33 -1976172.22 -1976172.10 0.0525 0.0222

Jupiter -10124-10-12 11:16 J -1976083.12 -1976083.03 -1976082.93 0.0523 0.0322

Saturn -10123-02-17 14:09 J -1975955.03 -1975954.91 -1975954.79 0.0260 0.0203

Saturn -10123-05-17 11:16 J -1975866.22 -1975866.03 -1975865.84 0.0261 0.0045

Venus -10123-06-30 14:38 J -1975821.99 -1975821.89 -1975821.79 0.3697 0.0367

Saturn -10123-08-14 08:38 J -1975777.31 -1975777.14 -1975776.96 0.0261 0.0115

Earth -10121-09-04 10:04 J -1975025.18 -1975025.08 -1975024.97 0.2719 0.0575

Moon -10121-09-04 10:19 J -1975025.17 -1975025.07 -1975024.97 0.2725 0.0642 *

Uranus -10120-10-02 14:09 J -1974631.96 -1974631.91 -1974631.82 0.0141 0.0131

Uranus -10120-12-29 22:47 J -1974543.68 -1974543.55 -1974543.40 0.0141 0.0099

Uranus -10119-03-28 07:26 J -1974455.36 -1974455.19 -1974455.01 0.0141 0.0067

Uranus -10119-06-24 15:50 J -1974367.03 -1974366.84 -1974366.64 0.0141 0.0036

Uranus -10119-09-21 00:14 J -1974278.68 -1974278.49 -1974278.29 0.0140 0.0006

Mars -10119-12-16 20:38 J -1974191.77 -1974191.64 -1974191.52 0.1872 0.1278

Uranus -10119-12-18 08:38 J -1974190.33 -1974190.14 -1974189.94 0.0140 0.0026

Uranus -10118-03-16 16:47 J -1974101.97 -1974101.80 -1974101.61 0.0140 0.0057

Uranus -10118-06-13 01:26 J -1974013.59 -1974013.44 -1974013.29 0.0140 0.0087

Jupiter -10118-09-04 17:31 J -1973929.96 -1973929.77 -1973929.59 0.0501 0.0116

Uranus -10118-09-09 09:21 J -1973925.20 -1973925.11 -1973924.99 0.0140 0.0118

Mars -10118-10-19 17:02 J -1973884.89 -1973884.79 -1973884.68 0.1662 0.0738

Venus -10117-01-14 06:00 J -1973798.34 -1973798.25 -1973798.16 0.3699 0.1346

Moon -10117-03-05 16:19 J -1973746.98 -1973746.82 -1973746.65 0.2615 0.0232

Earth -10117-03-05 18:14 J -1973746.90 -1973746.74 -1973746.58 0.2615 0.0525 *

Mars -10116-09-23 19:12 J -1973179.78 -1973179.70 -1973179.61 0.1648 0.1095

Venus	-10115-10-18 02:09 J	-1972790.57	-1972790.41	-1972790.26	0.3675	0.1084
Jupiter	-10112-05-03 11:02 J	-1971862.12	-1971862.04	-1971861.94	0.0525	0.0361
Venus	-10112-07-29 21:07 J	-1971774.67	-1971774.62	-1971774.56	0.3701	0.3024
Jupiter	-10112-07-31 15:50 J	-1971772.96	-1971772.84	-1971772.73	0.0523	0.0184
Saturn	-10109-03-23 17:31 J	-1970806.86	-1970806.77	-1970806.67	0.0303	0.0207
Mars	-10109-05-07 12:57 J	-1970762.13	-1970761.96	-1970761.79	0.1866	0.0106
Saturn	-10109-06-20 06:00 J	-1970718.38	-1970718.25	-1970718.12	0.0302	0.0044
Saturn	-10109-09-16 18:14 J	-1970629.85	-1970629.74	-1970629.62	0.0302	0.0118
Saturn	-10109-12-14 06:28 J	-1970541.27	-1970541.23	-1970541.18	0.0301	0.0278
Mars	-10108-03-11 04:33 J	-1970454.39	-1970454.31	-1970454.23	0.1666	0.1188
Earth	-10108-09-07 03:50 J	-1970274.42	-1970274.34	-1970274.27	0.2718	0.1861
Moon	-10108-09-07 04:19 J	-1970274.39	-1970274.32	-1970274.24	0.2722	0.1886 *
Mars	-10106-02-14 06:43 J	-1969749.32	-1969749.22	-1969749.11	0.1651	0.0661
Jupiter	-10106-06-23 13:12 J	-1969620.09	-1969619.95	-1969619.80	0.0501	0.0308
Jupiter	-10106-09-22 02:38 J	-1969529.47	-1969529.39	-1969529.30	0.0503	0.0445
Moon	-10101-08-31 03:21 J	-1967724.44	-1967724.36	-1967724.29	0.2721	0.1816
Earth	-10101-08-31 03:50 J	-1967724.42	-1967724.34	-1967724.26	0.2719	0.1741 *
Jupiter	-10100-02-19 15:35 J	-1967551.89	-1967551.85	-1967551.81	0.0525	0.0497
Jupiter	-10100-05-19 20:09 J	-1967462.78	-1967462.66	-1967462.53	0.0523	0.0050
Mars	-10100-09-27 05:31 J	-1967332.38	-1967332.27	-1967332.16	0.1861	0.1457
Mars	-10099-08-01 15:50 J	-1967023.86	-1967023.84	-1967023.83	0.1670	0.1651
Mars	-10097-07-06 18:14 J	-1966318.85	-1966318.74	-1966318.62	0.1654	0.0226
Jupiter	-10094-04-11 09:35 J	-1965310.13	-1965310.10	-1965310.06	0.0501	0.0492
Saturn	-10094-07-07 14:09 J	-1965222.97	-1965222.91	-1965222.83	0.0260	0.0239
Jupiter	-10094-07-10 23:02 J	-1965219.70	-1965219.54	-1965219.38	0.0502	0.0258
Saturn	-10094-10-04 11:31 J	-1965134.20	-1965134.02	-1965133.83	0.0260	0.0081
Saturn	-10093-01-01 08:52 J	-1965045.31	-1965045.13	-1965044.94	0.0261	0.0077
Saturn	-10093-03-30 06:00 J	-1964956.31	-1964956.25	-1964956.16	0.0261	0.0238
Jupiter	-10088-03-08 00:14 J	-1963152.61	-1963152.49	-1963152.36	0.0524	0.0097
Jupiter	-10088-06-05 04:47 J	-1963063.36	-1963063.30	-1963063.24	0.0522	0.0444

Moon	-10088-09-02 21:07 J	-1962973.72	-1962973.62	-1962973.51	0.2726	0.0484
Earth	-10088-09-02 21:21 J	-1962973.71	-1962973.61	-1962973.50	0.2719	0.0463 *
Mars	-10088-11-27 05:45 J	-1962888.38	-1962888.26	-1962888.15	0.1658	0.0230
Mars	-10086-11-02 07:40 J	-1962183.20	-1962183.18	-1962183.15	0.1644	0.1582
Moon	-10084-03-03 15:21 J	-1961695.98	-1961695.86	-1961695.74	0.2612	0.1802
Earth	-10084-03-03 17:02 J	-1961695.92	-1961695.79	-1961695.67	0.2614	0.1643 *
Jupiter	-10082-04-28 19:12 J	-1960909.89	-1960909.70	-1960909.52	0.0502	0.0070
Saturn	-10080-08-10 20:24 J	-1960074.72	-1960074.65	-1960074.57	0.0303	0.0245
Saturn	-10080-11-07 08:52 J	-1959986.25	-1959986.13	-1959986.00	0.0302	0.0081
Saturn	-10079-02-03 21:07 J	-1959897.74	-1959897.62	-1959897.49	0.0302	0.0083
Saturn	-10079-05-03 09:21 J	-1959809.18	-1959809.11	-1959809.03	0.0301	0.0242
Mars	-10079-06-16 21:35 J	-1959764.71	-1959764.60	-1959764.48	0.1872	0.1409
Mars	-10078-04-19 17:02 J	-1959457.89	-1959457.79	-1959457.68	0.1662	0.0681
Venus	-10077-01-06 05:31 J	-1959196.32	-1959196.27	-1959196.22	0.3694	0.3127
Jupiter	-10077-12-25 04:47 J	-1958842.41	-1958842.30	-1958842.19	0.0524	0.0232
Jupiter	-10076-03-24 09:21 J	-1958753.21	-1958753.11	-1958753.01	0.0523	0.0309
Mars	-10076-03-24 19:12 J	-1958752.78	-1958752.70	-1958752.62	0.1648	0.1149
Uranus	-10076-12-12 18:57 J	-1958489.75	-1958489.71	-1958489.64	0.0137	0.0124
Uranus	-10075-03-10 22:04 J	-1958401.65	-1958401.58	-1958401.48	0.0137	0.0105
Uranus	-10075-06-07 01:12 J	-1958313.54	-1958313.45	-1958313.34	0.0137	0.0086
Uranus	-10075-09-03 04:19 J	-1958225.42	-1958225.32	-1958225.20	0.0138	0.0067
Earth	-10075-09-05 14:52 J	-1958222.98	-1958222.88	-1958222.77	0.2719	0.0829
Moon	-10075-09-05 15:21 J	-1958222.96	-1958222.86	-1958222.76	0.2724	0.0842 *
Uranus	-10075-11-30 07:40 J	-1958137.30	-1958137.18	-1958137.06	0.0138	0.0047
Uranus	-10074-02-26 10:47 J	-1958049.18	-1958049.05	-1958048.92	0.0138	0.0028
Uranus	-10074-05-25 13:55 J	-1957961.05	-1957960.92	-1957960.79	0.0138	0.0009
Uranus	-10074-08-21 17:02 J	-1957872.92	-1957872.79	-1957872.66	0.0138	0.0010
Uranus	-10074-11-17 20:09 J	-1957784.79	-1957784.66	-1957784.53	0.0138	0.0030
Uranus	-10073-02-13 23:16 J	-1957696.65	-1957696.53	-1957696.41	0.0138	0.0049
Uranus	-10073-05-12 02:24 J	-1957608.51	-1957608.40	-1957608.29	0.0139	0.0069

Uranus -10073-08-08 05:16 J -1957520.37 -1957520.28 -1957520.17 0.0139 0.0089

Uranus -10073-11-04 08:38 J -1957432.22 -1957432.14 -1957432.06 0.0139 0.0108

Uranus -10072-01-31 11:45 J -1957344.05 -1957344.01 -1957343.95 0.0139 0.0128

Venus -10072-07-21 20:52 J -1957172.72 -1957172.63 -1957172.54 0.3696 0.1429

Moon -10071-03-06 23:16 J -1956944.68 -1956944.53 -1956944.38 0.2615 0.0908

Earth -10071-03-07 01:12 J -1956944.60 -1956944.45 -1956944.30 0.2615 0.1042 *

Jupiter -10070-02-14 14:52 J -1956600.07 -1956599.88 -1956599.70 0.0501 0.0125

Mars -10070-11-06 13:55 J -1956335.10 -1956334.92 -1956334.75 0.1866 0.0036

Mars -10069-09-09 04:33 J -1956027.40 -1956027.31 -1956027.23 0.1666 0.1138

Mars -10067-08-15 06:43 J -1955322.32 -1955322.22 -1955322.12 0.1651 0.0712

Venus -10066-02-04 12:00 J -1955149.10 -1955149.00 -1955148.90 0.3698 0.0296

Neptune -10066-09-10 11:31 J -1954931.09 -1954931.02 -1954930.93 0.0088 0.0080

Neptune -10066-12-07 15:07 J -1954842.98 -1954842.87 -1954842.74 0.0088 0.0070

Neptune -10065-03-04 18:43 J -1954754.85 -1954754.72 -1954754.56 0.0088 0.0060

Neptune -10065-05-31 22:19 J -1954666.72 -1954666.57 -1954666.39 0.0088 0.0050

Neptune -10065-08-28 02:09 J -1954578.58 -1954578.41 -1954578.22 0.0088 0.0040

Jupiter -10065-10-13 09:07 J -1954532.20 -1954532.12 -1954532.03 0.0525 0.0371

Neptune -10065-11-24 05:45 J -1954490.43 -1954490.26 -1954490.06 0.0088 0.0030

Jupiter -10064-01-10 13:55 J -1954443.04 -1954442.92 -1954442.80 0.0524 0.0175

Neptune -10064-02-20 09:35 J -1954402.29 -1954402.10 -1954401.90 0.0088 0.0020

Saturn -10064-02-20 11:45 J -1954402.18 -1954402.01 -1954401.83 0.0260 0.0117 *

Neptune -10064-05-19 13:26 J -1954314.14 -1954313.94 -1954313.74 0.0088 0.0009

Saturn -10064-05-20 09:07 J -1954313.31 -1954313.12 -1954312.93 0.0261 0.0042

Neptune -10064-08-15 17:02 J -1954225.99 -1954225.79 -1954225.59 0.0088 0.0002

Saturn -10064-08-17 06:28 J -1954224.35 -1954224.23 -1954224.10 0.0261 0.0202

Neptune -10064-11-11 20:52 J -1954137.83 -1954137.63 -1954137.44 0.0088 0.0011

Neptune -10063-02-08 00:28 J -1954049.67 -1954049.48 -1954049.29 0.0088 0.0021

Neptune -10063-05-07 04:04 J -1953961.51 -1953961.33 -1953961.14 0.0088 0.0031

Neptune -10063-08-03 07:26 J -1953873.35 -1953873.19 -1953873.00 0.0088 0.0042

Neptune -10063-10-30 11:16 J -1953785.18 -1953785.03 -1953784.86 0.0088 0.0052

Neptune -10062-01-26 14:52 J -1953697.00 -1953696.88 -1953696.72 0.0088 0.0062

Neptune -10062-04-24 18:43 J -1953608.82 -1953608.72 -1953608.60 0.0088 0.0072

Neptune -10062-07-21 22:33 J -1953520.62 -1953520.56 -1953520.49 0.0088 0.0082

Earth -10062-09-08 08:38 J -1953472.21 -1953472.14 -1953472.08 0.2718 0.2119

Moon -10062-09-08 09:07 J -1953472.17 -1953472.12 -1953472.06 0.2722 0.2271 *

Venus -10061-08-20 03:21 J -1953125.45 -1953125.36 -1953125.28 0.3700 0.1948

Mars -10060-03-28 06:28 J -1952905.35 -1952905.23 -1952905.11 0.1861 0.1333

Mars -10059-01-30 15:35 J -1952596.88 -1952596.85 -1952596.82 0.1670 0.1599

Jupiter -10059-12-03 10:47 J -1952290.19 -1952290.05 -1952289.90 0.0501 0.0313

Jupiter -10058-03-04 00:00 J -1952199.58 -1952199.50 -1952199.40 0.0502 0.0438

Venus -10058-05-25 05:02 J -1952117.45 -1952117.29 -1952117.13 0.3674 0.0956

Mars -10057-01-05 18:14 J -1951891.85 -1951891.74 -1951891.63 0.1654 0.0272

Venus -10055-03-05 18:28 J -1951101.74 -1951101.73 -1951101.71 0.3701 0.3621

Moon -10055-09-01 08:09 J -1950922.25 -1950922.16 -1950922.08 0.2723 0.1603

Earth -10055-09-01 08:38 J -1950922.23 -1950922.14 -1950922.05 0.2719 0.1490 *

Jupiter -10053-08-01 13:40 J -1950221.96 -1950221.93 -1950221.90 0.0525 0.0507

Jupiter -10053-10-29 18:14 J -1950132.86 -1950132.74 -1950132.61 0.0524 0.0042

Saturn -10051-12-28 23:16 J -1949342.57 -1949342.53 -1949342.48 0.0303 0.0281

Saturn -10050-03-27 11:45 J -1949254.13 -1949254.01 -1949253.89 0.0303 0.0117

Saturn -10050-06-24 00:14 J -1949165.62 -1949165.49 -1949165.37 0.0302 0.0047

Saturn -10050-09-20 12:28 J -1949077.08 -1949076.98 -1949076.89 0.0301 0.0207

Mars -10048-05-28 05:45 J -1948461.38 -1948461.26 -1948461.15 0.1658 0.0178

Jupiter -10047-12-20 19:55 J -1947889.84 -1947889.67 -1947889.51 0.0502 0.0244

Pluto -10046-01-14 16:33 J -1947864.85 -1947864.81 -1947864.76 0.0072 0.0070

Pluto -10046-04-12 17:45 J -1947776.83 -1947776.76 -1947776.65 0.0072 0.0060

Mars -10046-05-03 07:40 J -1947756.19 -1947756.18 -1947756.17 0.1644 0.1633

Pluto -10046-07-09 19:26 J -1947688.79 -1947688.69 -1947688.56 0.0072 0.0051

Pluto -10046-10-05 20:52 J -1947600.75 -1947600.63 -1947600.47 0.0072 0.0041

Pluto -10045-01-01 22:47 J -1947512.70 -1947512.55 -1947512.40 0.0072 0.0031

Pluto -10045-03-30 00:14 J -1947424.64 -1947424.49 -1947424.33 0.0072 0.0022

Pluto -10045-06-26 01:40 J -1947336.58 -1947336.43 -1947336.26 0.0072 0.0013

Pluto -10045-09-22 03:21 J -1947248.52 -1947248.36 -1947248.19 0.0072 0.0003

Pluto -10045-12-19 04:47 J -1947160.46 -1947160.30 -1947160.13 0.0071 0.0006

Pluto -10044-03-17 06:14 J -1947072.40 -1947072.24 -1947072.07 0.0071 0.0015

Pluto -10044-06-13 07:40 J -1946984.33 -1946984.18 -1946984.02 0.0071 0.0024

Pluto -10044-09-09 09:07 J -1946896.26 -1946896.12 -1946895.97 0.0071 0.0033

Pluto -10044-12-06 10:33 J -1946808.19 -1946808.06 -1946807.92 0.0071 0.0042

Pluto -10043-03-04 11:45 J -1946720.11 -1946720.01 -1946719.88 0.0071 0.0051

Pluto -10043-05-31 13:12 J -1946632.02 -1946631.95 -1946631.85 0.0071 0.0060

Pluto -10043-08-27 14:24 J -1946543.92 -1946543.90 -1946543.84 0.0071 0.0069

Moon -10042-09-04 01:55 J -1946171.52 -1946171.42 -1946171.31 0.2726 0.0239

Earth -10042-09-04 02:09 J -1946171.52 -1946171.41 -1946171.30 0.2719 0.0208 *

Jupiter -10041-08-17 23:02 J -1945822.67 -1945822.54 -1945822.42 0.0524 0.0097

Jupiter -10041-11-15 03:21 J -1945733.42 -1945733.36 -1945733.29 0.0522 0.0442

Mars -10040-12-15 22:19 J -1945337.67 -1945337.57 -1945337.47 0.1872 0.1513

Mars -10039-10-18 17:02 J -1945030.89 -1945030.79 -1945030.68 0.1662 0.0624

Moon -10038-03-04 21:50 J -1944893.72 -1944893.59 -1944893.45 0.2613 0.1385

Earth -10038-03-04 23:45 J -1944893.66 -1944893.51 -1944893.36 0.2614 0.1131 *

Mars -10037-09-22 19:12 J -1944325.78 -1944325.70 -1944325.62 0.1648 0.1203

Uranus -10036-10-22 22:19 J -1943930.66 -1943930.57 -1943930.45 0.0141 0.0120

Uranus -10035-01-19 06:43 J -1943842.36 -1943842.22 -1943842.05 0.0141 0.0089

Uranus -10035-04-17 15:21 J -1943754.03 -1943753.86 -1943753.67 0.0141 0.0058

Saturn -10035-07-10 11:45 J -1943670.16 -1943670.01 -1943669.86 0.0260 0.0156

Uranus -10035-07-14 23:45 J -1943665.70 -1943665.51 -1943665.31 0.0141 0.0027

Saturn -10035-10-07 08:52 J -1943581.32 -1943581.13 -1943580.93 0.0260 0.0006

Jupiter -10035-10-08 16:19 J -1943580.01 -1943579.82 -1943579.63 0.0502 0.0059

Uranus -10035-10-11 08:24 J -1943577.35 -1943577.15 -1943576.95 0.0140 0.0005

Saturn -10034-01-04 06:14 J -1943492.39 -1943492.24 -1943492.08 0.0261 0.0161

Uranus -10034-01-07 16:33 J -1943488.99 -1943488.81 -1943488.61 0.0140 0.0036

Uranus -10034-04-06 00:57 J -1943400.63 -1943400.46 -1943400.28 0.0140 0.0067

Uranus -10034-07-03 09:07 J -1943312.25 -1943312.12 -1943311.97 0.0140 0.0097

Uranus -10034-09-29 17:16 J -1943223.84 -1943223.78 -1943223.68 0.0140 0.0128

Mars -10030-05-07 15:07 J -1941908.04 -1941907.87 -1941907.70 0.1867 0.0158

Mars -10029-03-10 04:19 J -1941600.40 -1941600.32 -1941600.23 0.1666 0.1082

Jupiter -10029-06-06 03:07 J -1941512.48 -1941512.37 -1941512.26 0.0524 0.0238

Jupiter -10029-09-03 07:40 J -1941423.28 -1941423.18 -1941423.08 0.0523 0.0303

Earth -10029-09-05 19:40 J -1941420.78 -1941420.68 -1941420.58 0.2719 0.1082

Moon -10029-09-05 20:09 J -1941420.76 -1941420.66 -1941420.56 0.2724 0.1162 *

Mars -10027-02-13 06:43 J -1940895.32 -1940895.22 -1940895.12 0.1651 0.0768

Moon -10025-03-07 06:14 J -1940142.38 -1940142.24 -1940142.10 0.2616 0.1327

Earth -10025-03-07 07:55 J -1940142.30 -1940142.17 -1940142.04 0.2615 0.1550 *

Jupiter -10023-07-27 12:28 J -1939270.16 -1939269.98 -1939269.79 0.0502 0.0128

Moon -10022-08-30 19:12 J -1938870.72 -1938870.70 -1938870.68 0.2718 0.2659

Earth -10022-08-30 19:55 J -1938870.71 -1938870.67 -1938870.63 0.2719 0.2508 *

Venus -10021-08-12 02:52 J -1938523.45 -1938523.38 -1938523.30 0.3695 0.2517

Saturn -10021-08-13 14:09 J -1938522.02 -1938521.91 -1938521.80 0.0303 0.0161

Mars -10021-09-26 07:12 J -1938478.32 -1938478.20 -1938478.07 0.1861 0.1219

Saturn -10021-11-10 02:38 J -1938433.52 -1938433.39 -1938433.27 0.0302 0.0011

Saturn -10020-02-06 14:52 J -1938344.99 -1938344.88 -1938344.78 0.0302 0.0164

Mars -10020-07-31 15:35 J -1938169.89 -1938169.85 -1938169.81 0.1670 0.1543

Mars -10018-07-06 18:14 J -1937464.85 -1937464.74 -1937464.63 0.1654 0.0326

Jupiter -10017-03-25 07:26 J -1937202.27 -1937202.19 -1937202.10 0.0525 0.0376

Jupiter -10017-06-22 12:00 J -1937113.11 -1937113.00 -1937112.88 0.0523 0.0168

Earth -10016-09-08 13:26 J -1936669.99 -1936669.94 -1936669.89 0.2718 0.2378

Moon -10016-09-08 13:55 J -1936669.96 -1936669.92 -1936669.87 0.2720 0.2417 *

Venus -10015-02-25 18:14 J -1936499.84 -1936499.74 -1936499.64 0.3697 0.0818

Jupiter -10011-05-15 08:38 J -1934960.28 -1934960.14 -1934959.99 0.0501 0.0316

Jupiter -10011-08-13 21:50 J -1934869.68 -1934869.59 -1934869.49 0.0502 0.0434

Venus -10010-09-11 09:21 J -1934476.20 -1934476.11 -1934476.01 0.3698 0.0885

Moon -10009-09-01 12:57 J -1934120.06 -1934119.96 -1934119.87 0.2724 0.1255

Earth	**-10009-09-01 13:26 J**	**-1934120.04**	**-1934119.94**	**-1934119.85**	**0.2719**	**0.1238**	*
Mars	**-10009-11-26 05:31 J**	**-1934034.38**	**-1934034.27**	**-1934034.15**	**0.1658**	**0.0135**	
Venus	**-10007-06-14 19:40 J**	**-1933468.74**	**-1933468.68**	**-1933468.61**	**0.3676**	**0.3367**	
Saturn	**-10006-11-27 11:31 J**	**-1932938.14**	**-1932938.02**	**-1932937.89**	**0.0260**	**0.0195**	
Jupiter	**-10005-01-12 11:45 J**	**-1932892.03**	**-1932892.01**	**-1932891.98**	**0.0525**	**0.0515**	
Saturn	**-10005-02-24 08:38 J**	**-1932849.33**	**-1932849.14**	**-1932848.95**	**0.0260**	**0.0038**	
Jupiter	**-10005-04-10 16:33 J**	**-1932802.93**	**-1932802.81**	**-1932802.68**	**0.0524**	**0.0033**	
Saturn	**-10005-05-23 06:00 J**	**-1932760.42**	**-1932760.25**	**-1932760.08**	**0.0261**	**0.0121**	
Venus	**-10004-03-27 00:43 J**	**-1932452.54**	**-1932452.47**	**-1932452.40**	**0.3700**	**0.2545**	
Venus	**-10002-12-30 07:55 J**	**-1931444.26**	**-1931444.17**	**-1931444.08**	**0.3673**	**0.2994**	

10TH MILLENNIUM BCE

This is a list of transits of Mercury in the 10th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Mars	**-10000-06-15 23:31 J**	**-1930910.60**	**-1930910.52**	**-1930910.44**	**0.1872**	**0.1650**		
Mars	**-9999-04-18 17:02 J**	**-1930603.90**	**-1930603.79**	**-1930603.68**	**0.1662**	**0.0570**		
Jupiter	**-9999-06-01 18:00 J**	**-1930559.91**	**-1930559.75**	**-1930559.58**	**0.0502**	**0.0246**		
Mars	**-9997-03-23 19:12 J**	**-1929898.77**	**-1929898.70**	**-1929898.63**	**0.1647**	**0.1256**		
Moon	**-9996-09-04 06:57 J**	**-1929369.32**	**-1929369.21**	**-1929369.11**	**0.2725**	**0.0056**		
Earth	**-9996-09-04 06:57 J**	**-1929369.32**	**-1929369.21**	**-1929369.10**	**0.2719**	**0.0046**	*	
Jupiter	**-9993-01-28 21:07 J**	**-1928492.74**	**-1928492.62**	**-1928492.49**	**0.0524**	**0.0104**		
Jupiter	**-9993-04-27 01:40 J**	**-1928403.50**	**-1928403.43**	**-1928403.36**	**0.0523**	**0.0436**		
Moon	**-9992-03-05 04:47 J**	**-1928091.46**	**-1928091.30**	**-1928091.14**	**0.2613**	**0.0748**		

Earth -9992-03-05 06:43 J -1928091.38 -1928091.22 -1928091.06 0.2615 0.0611 *

Uranus -9992-10-06 00:00 J -1927876.52 -1927876.50 -1927876.46 0.0137 0.0133

Saturn -9992-12-31 16:33 J -1927789.90 -1927789.81 -1927789.72 0.0303 0.0203

Uranus -9991-01-02 03:07 J -1927788.43 -1927788.37 -1927788.29 0.0137 0.0115

Saturn -9991-03-30 05:02 J -1927701.42 -1927701.29 -1927701.16 0.0302 0.0039

Uranus -9991-03-31 06:14 J -1927700.33 -1927700.24 -1927700.14 0.0137 0.0096

Saturn -9991-06-26 17:16 J -1927612.89 -1927612.78 -1927612.66 0.0302 0.0123

Uranus -9991-06-27 09:21 J -1927612.21 -1927612.11 -1927612.00 0.0137 0.0077

Saturn -9991-09-23 05:31 J -1927524.31 -1927524.27 -1927524.23 0.0301 0.0284

Uranus -9991-09-23 12:28 J -1927524.09 -1927523.98 -1927523.86 0.0138 0.0058

Mars -9991-11-05 15:21 J -1927481.03 -1927480.86 -1927480.69 0.1866 0.0252

Uranus -9991-12-20 15:35 J -1927435.97 -1927435.85 -1927435.72 0.0138 0.0039

Uranus -9990-03-18 18:43 J -1927347.85 -1927347.72 -1927347.59 0.0138 0.0020

Uranus -9990-06-14 21:50 J -1927259.72 -1927259.59 -1927259.46 0.0138 0.0003

Mars -9990-09-09 04:19 J -1927173.41 -1927173.32 -1927173.23 0.1666 0.1026

Uranus -9990-09-11 00:57 J -1927171.59 -1927171.46 -1927171.33 0.0138 0.0019

Uranus -9990-12-08 04:04 J -1927083.45 -1927083.33 -1927083.20 0.0138 0.0038

Uranus -9989-03-05 07:12 J -1926995.31 -1926995.20 -1926995.08 0.0138 0.0058

Uranus -9989-06-01 10:19 J -1926907.17 -1926907.07 -1926906.96 0.0139 0.0077

Uranus -9989-08-28 13:26 J -1926819.03 -1926818.94 -1926818.84 0.0139 0.0097

Uranus -9989-11-24 16:47 J -1926730.87 -1926730.80 -1926730.73 0.0139 0.0116

Uranus -9988-02-20 19:40 J -1926642.69 -1926642.68 -1926642.65 0.0139 0.0136

Mars -9988-08-14 06:43 J -1926468.32 -1926468.22 -1926468.12 0.1651 0.0820

Jupiter -9987-03-20 13:26 J -1926250.12 -1926249.94 -1926249.75 0.0502 0.0051

Neptune -9985-12-25 06:57 J -1925239.24 -1925239.21 -1925239.16 0.0089 0.0084

Neptune -9984-03-23 08:09 J -1925151.21 -1925151.16 -1925151.08 0.0089 0.0078

Neptune -9984-06-19 09:21 J -1925063.17 -1925063.11 -1925063.01 0.0089 0.0071

Neptune -9984-09-15 10:47 J -1924975.13 -1924975.05 -1924974.95 0.0089 0.0063

Neptune -9984-12-12 12:28 J -1924887.09 -1924886.98 -1924886.88 0.0089 0.0056

Neptune -9983-03-10 13:40 J -1924799.04 -1924798.93 -1924798.82 0.0089 0.0049

Neptune -9983-06-06 14:52 J -1924710.99 -1924710.88 -1924710.76 0.0089 0.0042

Neptune -9983-09-02 16:04 J -1924622.94 -1924622.83 -1924622.70 0.0089 0.0035

Earth -9983-09-07 00:28 J -1924618.57 -1924618.48 -1924618.39 0.2719 0.1338

Moon -9983-09-07 00:57 J -1924618.55 -1924618.46 -1924618.37 0.2724 0.1397 *

Neptune -9983-11-29 17:31 J -1924534.89 -1924534.77 -1924534.64 0.0089 0.0027

Neptune -9982-02-25 18:43 J -1924446.84 -1924446.72 -1924446.59 0.0089 0.0021

Neptune -9982-05-24 20:09 J -1924358.79 -1924358.66 -1924358.53 0.0089 0.0013

Neptune -9982-08-20 21:21 J -1924270.74 -1924270.61 -1924270.48 0.0089 0.0007

Neptune -9982-11-16 22:47 J -1924182.68 -1924182.55 -1924182.42 0.0089 0.0002

Jupiter -9982-11-17 01:55 J -1924182.53 -1924182.42 -1924182.31 0.0524 0.0235 *

Neptune -9981-02-13 00:00 J -1924094.63 -1924094.50 -1924094.37 0.0089 0.0008

Jupiter -9981-02-14 06:28 J -1924093.33 -1924093.23 -1924093.13 0.0523 0.0306

Mars -9981-03-27 08:24 J -1924051.29 -1924051.15 -1924051.01 0.1861 0.1090

Neptune -9981-05-11 01:12 J -1924006.57 -1924006.45 -1924006.31 0.0089 0.0016

Neptune -9981-08-07 02:38 J -1923918.52 -1923918.39 -1923918.26 0.0089 0.0022

Neptune -9981-11-03 03:50 J -1923830.46 -1923830.34 -1923830.21 0.0089 0.0029

Mars -9980-01-29 15:35 J -1923742.90 -1923742.85 -1923742.80 0.1670 0.1485

Neptune -9980-01-30 05:02 J -1923742.40 -1923742.29 -1923742.16 0.0089 0.0037

Neptune -9980-04-28 06:28 J -1923654.34 -1923654.23 -1923654.11 0.0089 0.0043

Neptune -9980-07-25 07:40 J -1923566.28 -1923566.18 -1923566.07 0.0089 0.0051

Neptune -9980-10-21 08:52 J -1923478.22 -1923478.13 -1923478.02 0.0089 0.0058

Neptune -9979-01-17 10:19 J -1923390.16 -1923390.07 -1923389.98 0.0089 0.0065

Moon -9979-03-08 13:12 J -1923340.06 -1923339.95 -1923339.84 0.2618 0.1890

Earth -9979-03-08 14:38 J -1923339.98 -1923339.89 -1923339.79 0.2615 0.2065 *

Neptune -9979-04-15 11:31 J -1923302.09 -1923302.02 -1923301.94 0.0089 0.0072

Neptune -9979-07-12 12:57 J -1923214.02 -1923213.96 -1923213.90 0.0089 0.0079

Neptune -9979-10-08 14:09 J -1923125.94 -1923125.91 -1923125.87 0.0089 0.0086

Mars -9978-01-04 18:14 J -1923037.85 -1923037.74 -1923037.63 0.1654 0.0384

Saturn -9976-04-15 10:47 J -1922206.12 -1922206.05 -1922205.97 0.0259 0.0237

Saturn -9976-07-13 07:55 J -1922117.35 -1922117.17 -1922116.98 0.0260 0.0081

Moon -9976-08-31 00:00 J -1922068.55 -1922068.50 -1922068.44 0.2720 0.2286

Earth -9976-08-31 00:43 J -1922068.53 -1922068.47 -1922068.41 0.2719 0.2257 *

Saturn -9976-10-10 05:02 J -1922028.47 -1922028.29 -1922028.10 0.0260 0.0077

Jupiter -9975-01-06 10:04 J -1921940.26 -1921940.08 -1921939.90 0.0502 0.0133

Saturn -9975-01-07 02:24 J -1921939.47 -1921939.40 -1921939.31 0.0261 0.0236

Venus -9970-09-03 09:07 J -1919874.14 -1919874.12 -1919874.10 0.3693 0.3602

Jupiter -9970-09-05 06:00 J -1919872.33 -1919872.25 -1919872.16 0.0524 0.0376

Earth -9970-09-09 18:00 J -1919867.77 -1919867.75 -1919867.72 0.2718 0.2635

Jupiter -9970-12-03 10:33 J -1919783.17 -1919783.06 -1919782.94 0.0523 0.0167

Mars -9969-05-27 05:31 J -1919607.38 -1919607.27 -1919607.15 0.1658 0.0079

Venus -9964-03-19 00:14 J -1917850.57 -1917850.49 -1917850.40 0.3695 0.1909

Jupiter -9964-10-25 06:43 J -1917630.37 -1917630.22 -1917630.08 0.0502 0.0316

Jupiter -9963-01-23 19:55 J -1917539.75 -1917539.67 -1917539.57 0.0503 0.0438

Moon -9963-09-02 17:45 J -1917317.86 -1917317.76 -1917317.66 0.2724 0.1106

Earth -9963-09-02 18:14 J -1917317.84 -1917317.74 -1917317.64 0.2719 0.0980 *

Saturn -9962-05-20 18:28 J -1917057.80 -1917057.73 -1917057.66 0.0303 0.0252

Saturn -9962-08-17 06:57 J -1916969.33 -1916969.21 -1916969.09 0.0303 0.0087

Saturn -9962-11-13 19:12 J -1916880.82 -1916880.70 -1916880.57 0.0302 0.0077

Saturn -9961-02-10 07:26 J -1916792.26 -1916792.19 -1916792.10 0.0302 0.0237

Mars -9961-12-15 00:14 J -1916483.54 -1916483.49 -1916483.44 0.1872 0.1763

Mars -9960-10-17 17:02 J -1916176.90 -1916176.79 -1916176.68 0.1662 0.0518

Venus -9959-10-02 15:35 J -1915826.95 -1915826.85 -1915826.75 0.3697 0.0213

Jupiter -9958-06-24 10:33 J -1915562.08 -1915562.06 -1915562.04 0.0525 0.0514

Jupiter -9958-09-21 15:07 J -1915472.99 -1915472.87 -1915472.74 0.0524 0.0032

Mars -9958-09-22 18:57 J -1915471.77 -1915471.71 -1915471.64 0.1647 0.1309

Venus -9953-04-17 06:43 J -1913803.31 -1913803.22 -1913803.12 0.3699 0.1472

Jupiter -9952-08-13 02:52 J -1913320.38 -1913320.38 -1913320.37 0.0501 0.0501

Uranus -9952-08-15 22:04 J -1913317.58 -1913317.58 -1913317.55 0.0141 0.0141

Jupiter -9952-11-11 16:04 J -1913229.99 -1913229.83 -1913229.66 0.0502 0.0248

Uranus -9952-11-12 06:43 J -1913229.34 -1913229.22 -1913229.09 0.0141 0.0109

Uranus -9951-02-08 15:07 J -1913141.02 -1913140.87 -1913140.70 0.0141 0.0078

Mars -9951-05-06 16:47 J -1913053.97 -1913053.80 -1913053.64 0.1867 0.0391

Uranus -9951-05-07 23:45 J -1913052.69 -1913052.51 -1913052.32 0.0141 0.0047

Uranus -9951-08-04 08:09 J -1912964.35 -1912964.16 -1912963.96 0.0141 0.0016

Uranus -9951-10-31 16:33 J -1912876.00 -1912875.81 -1912875.61 0.0140 0.0016

Venus -9950-01-19 22:33 J -1912795.71 -1912795.56 -1912795.41 0.3675 0.1346

Uranus -9950-01-28 00:57 J -1912787.64 -1912787.46 -1912787.27 0.0140 0.0047

Mars -9950-03-10 04:19 J -1912746.41 -1912746.32 -1912746.23 0.1666 0.0971

Uranus -9950-04-26 09:07 J -1912699.27 -1912699.12 -1912698.95 0.0140 0.0078

Uranus -9950-07-23 17:16 J -1912610.89 -1912610.78 -1912610.64 0.0140 0.0108

Earth -9950-09-05 11:45 J -1912567.12 -1912567.01 -1912566.90 0.2719 0.0303

Moon -9950-09-05 11:45 J -1912567.11 -1912567.01 -1912566.90 0.2726 0.0378 *

Uranus -9950-10-20 01:40 J -1912522.44 -1912522.43 -1912522.39 0.0140 0.0138

Mars -9948-02-12 06:43 J -1912041.32 -1912041.22 -1912041.13 0.1651 0.0876

Venus -9948-10-31 22:04 J -1911779.63 -1911779.58 -1911779.53 0.3701 0.3138

Saturn -9947-11-30 07:12 J -1911385.37 -1911385.20 -1911385.03 0.0260 0.0125

Saturn -9946-02-27 04:19 J -1911296.51 -1911296.32 -1911296.13 0.0260 0.0032

Moon -9946-03-06 11:45 J -1911289.17 -1911289.01 -1911288.85 0.2613 0.0370

Earth -9946-03-06 13:26 J -1911289.10 -1911288.94 -1911288.77 0.2614 0.0097 *

Saturn -9946-05-27 01:26 J -1911207.56 -1911207.44 -1911207.30 0.0261 0.0192

Jupiter -9946-07-10 19:40 J -1911162.80 -1911162.68 -1911162.56 0.0524 0.0105

Jupiter -9946-10-08 00:14 J -1911073.56 -1911073.49 -1911073.42 0.0523 0.0435

Mars -9942-09-26 09:07 J -1909624.27 -1909624.12 -1909623.97 0.1861 0.0978

Mars -9941-07-30 15:35 J -1909315.91 -1909315.85 -1909315.79 0.1670 0.1431

Jupiter -9940-08-30 12:28 J -1908920.17 -1908919.98 -1908919.80 0.0502 0.0061

Mars -9939-07-05 18:14 J -1908610.86 -1908610.74 -1908610.63 0.1654 0.0439

Earth -9937-09-07 05:16 J -1907816.37 -1907816.28 -1907816.19 0.2718 0.1593

Moon -9937-09-07 05:45 J -1907816.34 -1907816.26 -1907816.18 0.2724 0.1655 *

Jupiter -9934-04-29 00:14 J -1906852.60 -1906852.49 -1906852.37 0.0524 0.0239

Jupiter -9934-07-27 04:47 J -1906763.40 -1906763.30 -1906763.19 0.0523 0.0305

Moon	-9933-03-08 20:09 J	-1906537.72	-1906537.66	-1906537.61	0.2619	0.2452
Earth	-9933-03-08 21:35 J	-1906537.63	-1906537.60	-1906537.58	0.2615	0.2572 *
Saturn	-9933-10-06 20:24 J	-1906325.66	-1906325.65	-1906325.64	0.0303	0.0301
Saturn	-9932-01-03 08:52 J	-1906237.24	-1906237.13	-1906237.01	0.0303	0.0136
Saturn	-9932-04-01 21:21 J	-1906148.74	-1906148.61	-1906148.48	0.0302	0.0028
Saturn	-9932-06-29 09:35 J	-1906060.20	-1906060.10	-1906060.00	0.0302	0.0189
Moon	-9930-09-01 04:47 J	-1905266.36	-1905266.30	-1905266.24	0.2722	0.2147
Earth	-9930-09-01 05:31 J	-1905266.34	-1905266.27	-1905266.20	0.2719	0.2005 *
Mars	-9930-11-26 05:31 J	-1905180.38	-1905180.27	-1905180.15	0.1658	0.0014
Jupiter	-9928-06-18 07:55 J	-1904610.35	-1904610.17	-1904609.99	0.0502	0.0137
Jupiter	-9922-02-15 05:02 J	-1902542.37	-1902542.29	-1902542.20	0.0524	0.0368
Jupiter	-9922-05-15 09:50 J	-1902453.21	-1902453.09	-1902452.98	0.0523	0.0175
Mars	-9920-04-17 17:02 J	-1901749.90	-1901749.79	-1901749.68	0.1662	0.0458
Mars	-9918-03-23 19:12 J	-1901044.77	-1901044.70	-1901044.64	0.1647	0.1366
Saturn	-9917-04-18 06:00 J	-1900653.39	-1900653.25	-1900653.10	0.0259	0.0171
Saturn	-9917-07-16 03:07 J	-1900564.56	-1900564.37	-1900564.18	0.0260	0.0015
Moon	-9917-09-02 22:33 J	-1900515.66	-1900515.56	-1900515.46	0.2724	0.0724
Earth	-9917-09-02 23:02 J	-1900515.65	-1900515.54	-1900515.44	0.2719	0.0726 *
Saturn	-9917-10-13 00:14 J	-1900475.65	-1900475.49	-1900475.32	0.0260	0.0143
Jupiter	-9916-04-06 04:33 J	-1900300.46	-1900300.31	-1900300.17	0.0502	0.0318
Jupiter	-9916-07-05 18:00 J	-1900209.84	-1900209.75	-1900209.66	0.0503	0.0436
Moon	-9913-03-03 10:33 J	-1899238.09	-1899238.06	-1899238.03	0.2611	0.2546
Earth	-9913-03-03 12:14 J	-1899238.07	-1899237.99	-1899237.92	0.2614	0.2271 *
Venus	-9913-04-09 06:28 J	-1899201.29	-1899201.23	-1899201.18	0.3694	0.2994
Mars	-9912-11-04 17:45 J	-1898626.93	-1898626.76	-1898626.60	0.1867	0.0514
Mars	-9911-09-08 04:19 J	-1898319.42	-1898319.32	-1898319.23	0.1666	0.0916
Jupiter	-9911-12-04 09:21 J	-1898232.13	-1898232.11	-1898232.08	0.0524	0.0508
Jupiter	-9910-03-03 14:09 J	-1898143.04	-1898142.91	-1898142.79	0.0523	0.0037
Mars	-9909-08-13 06:43 J	-1897614.32	-1897614.22	-1897614.13	0.1650	0.0931
Venus	-9908-10-23 21:35 J	-1897177.69	-1897177.60	-1897177.50	0.3696	0.1308

Uranus -9908-10-26 08:09 J -1897175.20 -1897175.16 -1897175.10 0.0137 0.0125

Uranus -9907-01-22 11:31 J -1897087.11 -1897087.02 -1897086.94 0.0137 0.0106

Uranus -9907-04-20 14:24 J -1896999.00 -1896998.90 -1896998.80 0.0137 0.0087

Uranus -9907-07-17 17:31 J -1896910.88 -1896910.77 -1896910.65 0.0138 0.0068

Uranus -9907-10-13 20:38 J -1896822.76 -1896822.64 -1896822.52 0.0138 0.0049

Uranus -9906-01-09 23:45 J -1896734.64 -1896734.51 -1896734.38 0.0138 0.0030

Uranus -9906-04-08 02:52 J -1896646.51 -1896646.38 -1896646.25 0.0138 0.0011

Uranus -9906-07-05 06:00 J -1896558.38 -1896558.25 -1896558.12 0.0138 0.0008

Uranus -9906-10-01 09:07 J -1896470.25 -1896470.12 -1896469.99 0.0138 0.0028

Uranus -9906-12-28 12:14 J -1896382.11 -1896381.99 -1896381.87 0.0138 0.0047

Uranus -9905-03-25 15:21 J -1896293.97 -1896293.86 -1896293.74 0.0139 0.0066

Uranus -9905-06-21 18:28 J -1896205.83 -1896205.73 -1896205.63 0.0139 0.0086

Uranus -9905-09-17 21:35 J -1896117.68 -1896117.60 -1896117.51 0.0139 0.0106

Uranus -9905-12-15 00:43 J -1896029.52 -1896029.47 -1896029.41 0.0139 0.0125

Jupiter -9904-01-23 01:26 J -1895990.47 -1895990.44 -1895990.42 0.0501 0.0497

Jupiter -9904-04-23 14:38 J -1895900.05 -1895899.89 -1895899.73 0.0503 0.0254

Earth -9904-09-05 16:33 J -1895764.92 -1895764.81 -1895764.71 0.2719 0.0563

Moon -9904-09-05 16:47 J -1895764.91 -1895764.80 -1895764.70 0.2726 0.0539 *

Saturn -9903-05-23 10:04 J -1895505.17 -1895505.08 -1895504.97 0.0303 0.0193

Saturn -9903-08-19 22:47 J -1895416.68 -1895416.55 -1895416.43 0.0303 0.0029

Saturn -9903-11-16 11:02 J -1895328.15 -1895328.04 -1895327.93 0.0302 0.0135

Saturn -9902-02-12 23:16 J -1895239.55 -1895239.53 -1895239.51 0.0302 0.0295

Mars -9902-03-27 10:04 J -1895197.23 -1895197.08 -1895196.93 0.1861 0.0853

Venus -9902-05-09 12:57 J -1895154.06 -1895153.96 -1895153.86 0.3698 0.0381

Mars -9901-01-29 15:35 J -1894888.91 -1894888.85 -1894888.79 0.1670 0.1375

Neptune -9901-06-06 08:09 J -1894760.22 -1894760.16 -1894760.06 0.0088 0.0080

Neptune -9901-09-02 11:45 J -1894672.11 -1894672.01 -1894671.87 0.0088 0.0070

Neptune -9901-11-29 15:35 J -1894583.98 -1894583.85 -1894583.69 0.0088 0.0060

Neptune -9900-02-25 19:12 J -1894495.85 -1894495.70 -1894495.52 0.0088 0.0050

Moon -9900-03-06 18:43 J -1894486.89 -1894486.72 -1894486.56 0.2615 0.0341

Earth -9900-03-06 20:24 J -1894486.81 -1894486.65 -1894486.49 0.2614 0.0429 *

Neptune -9900-05-24 22:47 J -1894407.71 -1894407.55 -1894407.36 0.0088 0.0040

Neptune -9900-08-21 02:38 J -1894319.57 -1894319.39 -1894319.19 0.0088 0.0030

Neptune -9900-11-17 06:14 J -1894231.42 -1894231.24 -1894231.03 0.0088 0.0020

Mars -9899-01-03 18:00 J -1894183.86 -1894183.75 -1894183.64 0.1654 0.0490

Neptune -9899-02-13 10:19 J -1894143.27 -1894143.07 -1894142.88 0.0088 0.0009

Neptune -9899-05-12 13:55 J -1894055.12 -1894054.92 -1894054.72 0.0088 0.0001

Neptune -9899-08-08 17:31 J -1893966.96 -1893966.77 -1893966.57 0.0088 0.0011

Neptune -9899-11-04 21:07 J -1893878.81 -1893878.62 -1893878.42 0.0088 0.0021

Jupiter -9899-12-20 18:28 J -1893832.85 -1893832.73 -1893832.60 0.0524 0.0101

Neptune -9898-02-01 00:57 J -1893790.65 -1893790.46 -1893790.27 0.0088 0.0031

Jupiter -9898-03-19 23:02 J -1893743.61 -1893743.54 -1893743.47 0.0522 0.0439

Neptune -9898-04-30 04:19 J -1893702.48 -1893702.32 -1893702.13 0.0088 0.0042

Neptune -9898-07-27 07:55 J -1893614.31 -1893614.17 -1893613.99 0.0088 0.0052

Neptune -9898-10-23 11:31 J -1893526.14 -1893526.02 -1893525.86 0.0088 0.0062

Neptune -9897-01-19 15:21 J -1893437.96 -1893437.86 -1893437.73 0.0088 0.0072

Neptune -9897-04-16 19:12 J -1893349.76 -1893349.70 -1893349.62 0.0088 0.0082

Venus -9897-11-22 04:04 J -1893130.41 -1893130.33 -1893130.24 0.3699 0.2067

Venus -9894-08-27 01:40 J -1892122.59 -1892122.43 -1892122.27 0.3674 0.0700

Jupiter -9892-02-09 11:02 J -1891590.23 -1891590.04 -1891589.85 0.0502 0.0068

Earth -9891-09-08 10:04 J -1891014.16 -1891014.08 -1891014.00 0.2719 0.1853

Moon -9891-09-08 10:33 J -1891014.13 -1891014.06 -1891013.98 0.2722 0.1968 *

Mars -9890-05-27 05:31 J -1890753.39 -1890753.27 -1890753.16 0.1658 0.0045

Saturn -9888-09-05 04:19 J -1889921.41 -1889921.32 -1889921.21 0.0259 0.0220

Saturn -9888-12-03 01:40 J -1889832.62 -1889832.43 -1889832.24 0.0260 0.0064

Saturn -9887-03-01 22:47 J -1889743.73 -1889743.55 -1889743.37 0.0260 0.0094

Saturn -9887-05-29 19:55 J -1889654.70 -1889654.67 -1889654.62 0.0261 0.0253

Jupiter -9887-10-08 23:02 J -1889522.65 -1889522.54 -1889522.43 0.0524 0.0236

Jupiter -9886-01-06 03:35 J -1889433.45 -1889433.35 -1889433.25 0.0523 0.0306

Pluto -9884-03-21 00:14 J -1888628.54 -1888628.49 -1888628.42 0.0072 0.0065

Pluto -9884-06-17 01:12 J -1888540.52 -1888540.45 -1888540.34 0.0072 0.0057

Moon -9884-09-01 09:35 J -1888464.18 -1888464.10 -1888464.02 0.2722 0.1799

Earth -9884-09-01 10:19 J -1888464.15 -1888464.07 -1888463.99 0.2719 0.1755 *

Pluto -9884-09-13 02:38 J -1888452.50 -1888452.39 -1888452.27 0.0072 0.0048

Pluto -9884-12-10 03:35 J -1888364.46 -1888364.35 -1888364.21 0.0072 0.0040

Pluto -9883-03-08 04:47 J -1888276.43 -1888276.30 -1888276.15 0.0072 0.0032

Pluto -9883-06-04 06:14 J -1888188.38 -1888188.24 -1888188.10 0.0072 0.0023

Pluto -9883-08-31 07:26 J -1888100.34 -1888100.19 -1888100.04 0.0072 0.0014

Pluto -9883-11-27 08:38 J -1888012.29 -1888012.14 -1888011.99 0.0073 0.0005

Pluto -9882-02-23 09:50 J -1887924.24 -1887924.09 -1887923.94 0.0073 0.0004

Pluto -9882-05-22 10:47 J -1887836.19 -1887836.05 -1887835.89 0.0073 0.0013

Pluto -9882-08-18 12:00 J -1887748.14 -1887748.00 -1887747.85 0.0073 0.0022

Pluto -9882-11-14 13:12 J -1887660.08 -1887659.95 -1887659.80 0.0073 0.0031

Pluto -9881-02-10 14:24 J -1887572.01 -1887571.90 -1887571.76 0.0073 0.0041

Pluto -9881-05-08 15:50 J -1887483.95 -1887483.84 -1887483.73 0.0073 0.0050

Pluto -9881-08-04 16:47 J -1887395.87 -1887395.80 -1887395.69 0.0073 0.0059

Mars -9881-10-16 16:47 J -1887322.91 -1887322.80 -1887322.68 0.1662 0.0410

Pluto -9881-10-31 18:00 J -1887307.78 -1887307.75 -1887307.68 0.0074 0.0069

Jupiter -9881-11-28 07:26 J -1887280.38 -1887280.19 -1887280.01 0.0502 0.0118

Mars -9879-09-21 18:57 J -1886617.76 -1886617.71 -1886617.65 0.1647 0.1415

Jupiter -9875-07-28 03:50 J -1885212.43 -1885212.34 -1885212.25 0.0524 0.0366

Jupiter -9875-10-25 08:24 J -1885123.26 -1885123.15 -1885123.03 0.0523 0.0178

Saturn -9874-10-10 11:45 J -1884773.08 -1884773.01 -1884772.94 0.0303 0.0246

Saturn -9873-01-07 00:14 J -1884684.61 -1884684.49 -1884684.37 0.0303 0.0081

Saturn -9873-04-04 12:28 J -1884596.10 -1884595.98 -1884595.85 0.0302 0.0083

Saturn -9873-07-02 00:43 J -1884507.54 -1884507.47 -1884507.39 0.0302 0.0244

Mars -9872-05-05 18:14 J -1884199.90 -1884199.74 -1884199.57 0.1867 0.0621

Mars -9871-03-09 04:19 J -1883892.42 -1883892.32 -1883892.22 0.1666 0.0857

Moon -9871-09-04 03:35 J -1883713.46 -1883713.35 -1883713.25 0.2725 0.0564

Earth -9871-09-04 03:50 J -1883713.45 -1883713.34 -1883713.24 0.2719 0.0475 *

Mars -9869-02-12 06:28 J -1883187.32 -1883187.23 -1883187.14 0.1651 0.0983

Jupiter -9869-09-16 02:38 J -1882970.53 -1882970.39 -1882970.24 0.0502 0.0316

Jupiter -9869-12-15 16:04 J -1882879.92 -1882879.83 -1882879.74 0.0503 0.0438

Uranus -9868-09-05 07:40 J -1882616.25 -1882616.18 -1882616.08 0.0141 0.0126

Uranus -9868-12-02 16:04 J -1882527.96 -1882527.83 -1882527.67 0.0141 0.0095

Uranus -9867-03-01 00:57 J -1882439.64 -1882439.46 -1882439.29 0.0141 0.0063

Moon -9867-03-04 17:16 J -1882435.89 -1882435.78 -1882435.66 0.2611 0.1832

Earth -9867-03-04 18:57 J -1882435.83 -1882435.71 -1882435.59 0.2614 0.1758 *

Uranus -9867-05-28 09:21 J -1882351.31 -1882351.11 -1882350.92 0.0141 0.0032

Uranus -9867-08-24 17:45 J -1882262.96 -1882262.76 -1882262.56 0.0141 0.0002

Uranus -9867-11-21 01:55 J -1882174.61 -1882174.42 -1882174.22 0.0140 0.0030

Uranus -9866-02-17 10:04 J -1882086.24 -1882086.08 -1882085.89 0.0140 0.0062

Uranus -9866-05-16 18:43 J -1881997.87 -1881997.72 -1881997.57 0.0140 0.0091

Uranus -9866-08-13 02:38 J -1881909.47 -1881909.39 -1881909.28 0.0140 0.0123

Jupiter -9863-05-16 08:38 J -1880902.17 -1880902.14 -1880902.10 0.0525 0.0495

Jupiter -9863-08-13 13:26 J -1880813.07 -1880812.94 -1880812.82 0.0523 0.0050

Mars -9863-09-25 11:02 J -1880770.20 -1880770.04 -1880769.89 0.1862 0.0736

Mars -9862-07-30 15:35 J -1880461.92 -1880461.85 -1880461.78 0.1670 0.1321

Mars -9860-07-04 18:00 J -1879756.86 -1879756.75 -1879756.64 0.1654 0.0546

Saturn -9858-04-22 00:00 J -1879100.67 -1879100.50 -1879100.32 0.0259 0.0113

Saturn -9858-07-19 21:07 J -1879011.81 -1879011.62 -1879011.42 0.0259 0.0044

Earth -9858-09-06 21:21 J -1878962.71 -1878962.61 -1878962.51 0.2719 0.0820

Moon -9858-09-06 21:35 J -1878962.70 -1878962.60 -1878962.50 0.2726 0.0916 *

Saturn -9858-10-16 18:14 J -1878922.85 -1878922.74 -1878922.61 0.0260 0.0202

Jupiter -9857-07-04 23:31 J -1878660.55 -1878660.52 -1878660.49 0.0502 0.0494

Jupiter -9857-10-03 12:57 J -1878570.13 -1878569.96 -1878569.80 0.0503 0.0257

Venus -9857-11-14 03:50 J -1878528.42 -1878528.34 -1878528.27 0.3695 0.2385

Moon -9854-03-08 01:26 J -1877684.60 -1877684.44 -1877684.28 0.2616 0.0636

Earth -9854-03-08 03:07 J -1877684.52 -1877684.37 -1877684.22 0.2615 0.0941 *

Venus -9851-05-30 18:57 J -1876504.81 -1876504.71 -1876504.61 0.3696 0.0714

Jupiter -9851-06-01 17:45 J -1876502.88 -1876502.76 -1876502.64 0.0523 0.0089

Jupiter -9851-08-29 22:04 J -1876413.64 -1876413.58 -1876413.51 0.0522 0.0449

Mars -9851-11-25 05:31 J -1876326.39 -1876326.27 -1876326.16 0.1658 0.0104

Venus -9846-12-14 10:19 J -1874481.17 -1874481.07 -1874480.97 0.3698 0.0980

Jupiter -9845-07-22 09:35 J -1874260.28 -1874260.10 -1874259.91 0.0502 0.0077

Earth -9845-09-08 14:52 J -1874211.95 -1874211.88 -1874211.81 0.2719 0.2114

Moon -9845-09-08 15:35 J -1874211.92 -1874211.85 -1874211.79 0.2720 0.2155 *

Saturn -9844-05-26 01:12 J -1873952.56 -1873952.45 -1873952.34 0.0304 0.0142

Saturn -9844-08-22 13:40 J -1873864.06 -1873863.93 -1873863.80 0.0303 0.0022

Saturn -9844-11-19 01:55 J -1873775.52 -1873775.42 -1873775.32 0.0302 0.0184

Venus -9843-09-16 16:33 J -1873473.85 -1873473.81 -1873473.78 0.3677 0.3585

Mars -9841-04-16 16:47 J -1872895.91 -1872895.80 -1872895.68 0.1661 0.0354

Venus -9840-06-29 01:26 J -1872457.51 -1872457.44 -1872457.37 0.3700 0.2651

Jupiter -9839-03-20 22:19 J -1872192.68 -1872192.57 -1872192.46 0.0524 0.0224

Mars -9839-03-22 18:57 J -1872190.76 -1872190.71 -1872190.66 0.1647 0.1469

Jupiter -9839-06-18 02:38 J -1872103.48 -1872103.39 -1872103.29 0.0523 0.0317

Moon -9838-09-02 14:24 J -1871661.98 -1871661.90 -1871661.82 0.2722 0.1624

Earth -9838-09-02 15:07 J -1871661.96 -1871661.87 -1871661.79 0.2719 0.1501 *

Venus -9837-04-02 04:19 J -1871449.42 -1871449.32 -1871449.21 0.3674 0.2721

Jupiter -9833-05-10 06:14 J -1869950.42 -1869950.24 -1869950.05 0.0502 0.0107

Mars -9833-11-03 19:12 J -1869772.85 -1869772.70 -1869772.54 0.1867 0.0746

Mars -9832-09-07 04:04 J -1869465.42 -1869465.33 -1869465.23 0.1666 0.0809

Mars -9830-08-13 06:28 J -1868760.32 -1868760.23 -1868760.14 0.1650 0.1034

Saturn -9829-09-07 22:04 J -1868368.72 -1868368.58 -1868368.43 0.0259 0.0164

Saturn -9829-12-05 19:12 J -1868279.89 -1868279.70 -1868279.50 0.0260 0.0009

Saturn -9828-03-04 16:19 J -1868190.97 -1868190.82 -1868190.66 0.0260 0.0149

Jupiter -9827-01-07 02:38 J -1867882.48 -1867882.39 -1867882.30 0.0525 0.0361

Jupiter -9827-04-06 07:26 J -1867793.31 -1867793.19 -1867793.08 0.0523 0.0183

Moon -9825-09-04 08:24 J -1866911.25 -1866911.15 -1866911.04 0.2726 0.0190

Earth -9825-09-04 08:38 J -1866911.25 -1866911.14 -1866911.04 0.2719 0.0231 *

Uranus -9824-08-19 13:12 J -1866561.97 -1866561.95 -1866561.93 0.0137 0.0135

Uranus -9824-11-15 16:19 J -1866473.89 -1866473.82 -1866473.75 0.0137 0.0116

Uranus -9823-02-11 19:26 J -1866385.78 -1866385.69 -1866385.60 0.0137 0.0098

Mars -9823-03-26 12:00 J -1866343.17 -1866343.00 -1866342.84 0.1861 0.0615

Uranus -9823-05-10 22:19 J -1866297.67 -1866297.57 -1866297.46 0.0138 0.0079

Uranus -9823-08-07 01:26 J -1866209.55 -1866209.44 -1866209.32 0.0138 0.0060

Uranus -9823-11-03 04:33 J -1866121.43 -1866121.31 -1866121.18 0.0138 0.0041

Mars -9822-01-28 15:35 J -1866034.93 -1866034.85 -1866034.78 0.1670 0.1266

Uranus -9822-01-30 07:40 J -1866033.31 -1866033.18 -1866033.05 0.0138 0.0022

Uranus -9822-04-28 10:47 J -1865945.18 -1865945.05 -1865944.92 0.0138 0.0003

Uranus -9822-07-25 13:55 J -1865857.05 -1865856.92 -1865856.79 0.0138 0.0016

Uranus -9822-10-21 17:02 J -1865768.91 -1865768.79 -1865768.66 0.0138 0.0036

Uranus -9821-01-17 20:09 J -1865680.78 -1865680.66 -1865680.54 0.0138 0.0055

Jupiter -9821-02-27 02:52 J -1865640.54 -1865640.38 -1865640.23 0.0501 0.0289

Moon -9821-03-05 00:14 J -1865633.63 -1865633.49 -1865633.36 0.2612 0.1487

Earth -9821-03-05 01:40 J -1865633.57 -1865633.43 -1865633.28 0.2614 0.1240 *

Uranus -9821-04-14 23:16 J -1865592.64 -1865592.53 -1865592.42 0.0139 0.0074

Jupiter -9821-05-27 16:04 J -1865549.90 -1865549.83 -1865549.75 0.0503 0.0463

Uranus -9821-07-12 02:24 J -1865504.49 -1865504.40 -1865504.30 0.0139 0.0094

Uranus -9821-10-08 05:31 J -1865416.34 -1865416.27 -1865416.19 0.0139 0.0114

Mars -9820-01-02 18:00 J -1865329.86 -1865329.75 -1865329.64 0.1654 0.0597

Uranus -9820-01-04 08:38 J -1865328.17 -1865328.14 -1865328.10 0.0139 0.0133

Neptune -9820-09-21 05:31 J -1865068.29 -1865068.27 -1865068.21 0.0089 0.0086

Neptune -9820-12-18 07:12 J -1864980.26 -1864980.20 -1864980.13 0.0089 0.0078

Neptune -9819-03-16 08:38 J -1864892.22 -1864892.14 -1864892.06 0.0089 0.0071

Neptune -9819-06-12 09:50 J -1864804.18 -1864804.09 -1864804.00 0.0089 0.0064

Neptune -9819-09-08 11:02 J -1864716.13 -1864716.04 -1864715.93 0.0089 0.0057

Neptune -9819-12-05 12:28 J -1864628.09 -1864627.98 -1864627.87 0.0089 0.0049

Neptune -9818-03-03 13:40 J -1864540.04 -1864539.93 -1864539.81 0.0089 0.0042

Neptune -9818-05-30 14:52 J -1864451.99 -1864451.88 -1864451.75 0.0089 0.0036

Neptune -9818-08-26 16:19 J -1864363.94 -1864363.82 -1864363.69 0.0089 0.0028

Neptune -9818-11-22 17:31 J -1864275.89 -1864275.77 -1864275.64 0.0089 0.0022

Neptune -9817-02-18 18:57 J -1864187.84 -1864187.71 -1864187.58 0.0089 0.0014

Neptune -9817-05-16 20:09 J -1864099.79 -1864099.66 -1864099.52 0.0089 0.0008

Neptune -9817-08-12 21:35 J -1864011.73 -1864011.60 -1864011.47 0.0089 0.0001

Neptune -9817-11-08 22:47 J -1863923.68 -1863923.55 -1863923.42 0.0089 0.0008

Neptune -9816-02-05 00:14 J -1863835.62 -1863835.49 -1863835.36 0.0089 0.0015

Neptune -9816-05-04 01:26 J -1863747.57 -1863747.44 -1863747.31 0.0089 0.0022

Neptune -9816-07-31 02:38 J -1863659.51 -1863659.39 -1863659.26 0.0089 0.0029

Jupiter -9816-10-26 07:40 J -1863572.22 -1863572.18 -1863572.14 0.0525 0.0489

Neptune -9816-10-27 04:04 J -1863571.45 -1863571.33 -1863571.21 0.0089 0.0036

Neptune -9815-01-23 05:16 J -1863483.39 -1863483.28 -1863483.16 0.0089 0.0043

Jupiter -9815-01-23 12:14 J -1863483.11 -1863482.99 -1863482.86 0.0523 0.0057

Neptune -9815-04-21 06:43 J -1863395.33 -1863395.22 -1863395.11 0.0089 0.0050

Neptune -9815-07-18 07:55 J -1863307.27 -1863307.17 -1863307.07 0.0089 0.0057

Saturn -9815-10-13 02:09 J -1863220.50 -1863220.41 -1863220.31 0.0303 0.0202

Neptune -9815-10-14 08:52 J -1863219.20 -1863219.13 -1863219.02 0.0089 0.0065

Saturn -9814-01-09 14:38 J -1863132.01 -1863131.89 -1863131.76 0.0303 0.0039

Neptune -9814-01-10 10:19 J -1863131.14 -1863131.07 -1863130.98 0.0089 0.0071

Saturn -9814-04-08 03:07 J -1863043.49 -1863043.37 -1863043.25 0.0302 0.0126

Neptune -9814-04-08 11:31 J -1863043.07 -1863043.02 -1863042.95 0.0089 0.0078

Neptune -9814-07-05 12:43 J -1862954.99 -1862954.97 -1862954.92 0.0089 0.0086

Saturn -9814-07-05 15:21 J -1862954.89 -1862954.86 -1862954.82 0.0302 0.0287

Earth -9812-09-07 02:09 J -1862160.51 -1862160.41 -1862160.32 0.2719 0.1079

Moon -9812-09-07 02:24 J -1862160.50 -1862160.40 -1862160.30 0.2725 0.1061 *

Mars -9811-05-26 05:31 J -1861899.39 -1861899.27 -1861899.16 0.1658 0.0161

Jupiter -9810-12-15 22:04 J -1861330.62 -1861330.58 -1861330.54 0.0501 0.0488

Jupiter -9809-03-15 11:16 J -1861240.19 -1861240.03 -1861239.87 0.0503 0.0263

Moon -9808-03-08 08:09 J -1860882.29 -1860882.16 -1860882.02 0.2617 0.1372

Earth -9808-03-08 10:04 J -1860882.22 -1860882.08 -1860881.95 0.2614 0.1458 *

Venus	-9806-12-06 09:50 J	-1859879.12	-1859879.09	-1859879.06	0.3693	0.3475
Moon	-9805-08-31 01:40 J	-1859610.46	-1859610.43	-1859610.40	0.2719	0.2590
Earth	-9805-08-31 02:24 J	-1859610.44	-1859610.40	-1859610.37	0.2719	0.2525 *
Jupiter	-9804-11-11 17:16 J	-1859172.90	-1859172.78	-1859172.65	0.0523	0.0072
Jupiter	-9803-02-08 21:35 J	-1859083.65	-1859083.60	-1859083.54	0.0522	0.0466
Mars	-9802-10-16 16:47 J	-1858468.91	-1858468.80	-1858468.68	0.1661	0.0297
Venus	-9800-06-21 01:12 J	-1857855.54	-1857855.45	-1857855.36	0.3695	0.1783
Mars	-9800-09-20 18:57 J	-1857763.75	-1857763.71	-1857763.67	0.1647	0.1523
Saturn	-9799-01-25 20:24 J	-1857636.76	-1857636.65	-1857636.54	0.0259	0.0215
Saturn	-9799-04-24 17:16 J	-1857547.96	-1857547.78	-1857547.59	0.0259	0.0060
Pluto	-9799-05-22 04:19 J	-1857520.40	-1857520.32	-1857520.24	0.0072	0.0063
Saturn	-9799-07-22 14:24 J	-1857459.08	-1857458.90	-1857458.72	0.0259	0.0096
Pluto	-9799-08-18 05:31 J	-1857432.37	-1857432.27	-1857432.15	0.0072	0.0053
Earth	-9799-09-09 19:40 J	-1857409.73	-1857409.68	-1857409.63	0.2718	0.2371
Moon	-9799-09-09 20:24 J	-1857409.69	-1857409.65	-1857409.62	0.2720	0.2531 *
Saturn	-9799-10-19 11:31 J	-1857370.05	-1857370.02	-1857369.97	0.0260	0.0254
Pluto	-9799-11-14 07:12 J	-1857344.33	-1857344.20	-1857344.06	0.0072	0.0043
Pluto	-9798-02-10 08:38 J	-1857256.27	-1857256.14	-1857255.98	0.0072	0.0034
Pluto	-9798-05-09 10:19 J	-1857168.22	-1857168.07	-1857167.91	0.0072	0.0024
Pluto	-9798-08-05 11:45 J	-1857080.16	-1857080.01	-1857079.84	0.0072	0.0015
Pluto	-9798-11-01 13:26 J	-1856992.10	-1856991.94	-1856991.77	0.0072	0.0005
Jupiter	-9797-01-02 08:09 J	-1856930.35	-1856930.16	-1856929.97	0.0503	0.0083
Pluto	-9797-01-28 14:52 J	-1856904.04	-1856903.88	-1856903.71	0.0071	0.0004
Pluto	-9797-04-25 16:19 J	-1856815.98	-1856815.82	-1856815.65	0.0071	0.0013
Pluto	-9797-07-22 17:45 J	-1856727.91	-1856727.76	-1856727.60	0.0071	0.0022
Pluto	-9797-10-18 19:12 J	-1856639.84	-1856639.70	-1856639.55	0.0071	0.0031
Pluto	-9796-01-14 20:38 J	-1856551.77	-1856551.64	-1856551.50	0.0071	0.0040
Pluto	-9796-04-12 21:50 J	-1856463.69	-1856463.59	-1856463.46	0.0071	0.0049
Pluto	-9796-07-09 23:16 J	-1856375.61	-1856375.53	-1856375.42	0.0071	0.0058
Pluto	-9796-10-06 00:28 J	-1856287.51	-1856287.48	-1856287.40	0.0071	0.0067

Venus	-9794-01-04 16:19 J	-1855831.92	-1855831.82	-1855831.72	0.3697	0.0175
Mars	-9793-05-04 20:24 J	-1855345.80	-1855345.65	-1855345.49	0.1867	0.0882
Mars	-9792-03-08 04:04 J	-1855038.43	-1855038.33	-1855038.22	0.1665	0.0752
Jupiter	-9792-08-30 21:35 J	-1854862.71	-1854862.60	-1854862.48	0.0524	0.0210
Moon	-9792-09-02 19:12 J	-1854859.79	-1854859.70	-1854859.60	0.2723	0.1304
Earth	-9792-09-02 19:55 J	-1854859.77	-1854859.67	-1854859.58	0.2719	0.1249 *
Jupiter	-9792-11-28 02:09 J	-1854773.50	-1854773.41	-1854773.31	0.0522	0.0331
Mars	-9790-02-11 06:28 J	-1854333.31	-1854333.23	-1854333.14	0.1650	0.1090
Venus	-9789-07-20 07:40 J	-1853808.27	-1853808.18	-1853808.09	0.3698	0.1577
Venus	-9786-04-23 19:12 J	-1852800.84	-1852800.70	-1852800.55	0.3676	0.1589
Jupiter	-9786-10-21 05:16 J	-1852620.47	-1852620.28	-1852620.10	0.0502	0.0096
Saturn	-9785-03-01 02:52 J	-1852488.44	-1852488.38	-1852488.32	0.0304	0.0268
Saturn	-9785-05-28 15:21 J	-1852399.98	-1852399.86	-1852399.74	0.0304	0.0102
Saturn	-9785-08-25 03:50 J	-1852311.46	-1852311.34	-1852311.21	0.0303	0.0062
Saturn	-9785-11-21 16:04 J	-1852222.91	-1852222.83	-1852222.74	0.0303	0.0225
Mars	-9784-09-24 12:43 J	-1851916.13	-1851915.97	-1851915.80	0.1862	0.0496
Uranus	-9784-09-25 16:33 J	-1851914.91	-1851914.81	-1851914.68	0.0141	0.0113
Uranus	-9784-12-23 01:12 J	-1851826.60	-1851826.45	-1851826.28	0.0141	0.0082
Venus	-9783-02-02 22:47 J	-1851784.59	-1851784.55	-1851784.50	0.3700	0.3244
Uranus	-9783-03-21 09:50 J	-1851738.27	-1851738.09	-1851737.91	0.0141	0.0050
Uranus	-9783-06-17 18:14 J	-1851649.94	-1851649.74	-1851649.54	0.0141	0.0019
Mars	-9783-07-29 15:21 J	-1851607.93	-1851607.86	-1851607.78	0.1670	0.1211
Uranus	-9783-09-14 02:38 J	-1851561.59	-1851561.39	-1851561.19	0.0141	0.0012
Uranus	-9783-12-11 11:02 J	-1851473.23	-1851473.04	-1851472.85	0.0140	0.0043
Uranus	-9782-03-09 19:12 J	-1851384.86	-1851384.70	-1851384.52	0.0140	0.0074
Uranus	-9782-06-06 03:21 J	-1851296.48	-1851296.36	-1851296.21	0.0140	0.0104
Uranus	-9782-09-02 11:45 J	-1851208.05	-1851208.01	-1851207.95	0.0140	0.0134
Mars	-9781-07-03 18:00 J	-1850902.86	-1850902.75	-1850902.65	0.1654	0.0652
Jupiter	-9780-06-19 02:09 J	-1850552.50	-1850552.41	-1850552.31	0.0524	0.0345
Jupiter	-9780-09-16 06:43 J	-1850463.33	-1850463.22	-1850463.10	0.0523	0.0197

Moon -9779-09-05 13:12 J -1850109.05 -1850108.95 -1850108.84 0.2726 0.0070

Earth -9779-09-05 13:26 J -1850109.05 -1850108.94 -1850108.84 0.2719 0.0117 *

Moon -9775-03-06 06:57 J -1848831.37 -1848831.21 -1848831.06 0.2614 0.0891

Earth -9775-03-06 08:38 J -1848831.30 -1848831.14 -1848830.98 0.2614 0.0723 *

Mars -9774-02-14 05:45 J -1848486.29 -1848486.26 -1848486.24 0.1856 0.1824

Jupiter -9774-08-09 01:55 J -1848310.57 -1848310.42 -1848310.26 0.0502 0.0276

Jupiter -9774-11-07 15:21 J -1848219.91 -1848219.86 -1848219.80 0.0503 0.0478

Mars -9772-11-24 05:16 J -1847472.39 -1847472.28 -1847472.16 0.1658 0.0217

Saturn -9770-09-11 15:07 J -1846816.04 -1846815.87 -1846815.69 0.0259 0.0114

Saturn -9770-12-09 12:14 J -1846727.18 -1846726.99 -1846726.80 0.0259 0.0042

Saturn -9769-03-07 09:07 J -1846638.23 -1846638.12 -1846637.98 0.0260 0.0200

Jupiter -9768-04-07 06:43 J -1846242.27 -1846242.22 -1846242.17 0.0525 0.0481

Jupiter -9768-07-05 11:16 J -1846153.15 -1846153.03 -1846152.90 0.0523 0.0065

Earth -9766-09-08 06:57 J -1845358.31 -1845358.21 -1845358.12 0.2719 0.1334

Moon -9766-09-08 07:12 J -1845358.29 -1845358.20 -1845358.11 0.2723 0.1450 *

Moon -9762-03-09 15:07 J -1844079.99 -1844079.87 -1844079.75 0.2617 0.1675

Earth -9762-03-09 16:47 J -1844079.90 -1844079.80 -1844079.69 0.2615 0.1970 *

Mars -9762-04-16 16:47 J -1844041.91 -1844041.80 -1844041.69 0.1661 0.0242

Jupiter -9762-05-27 22:33 J -1844000.63 -1844000.56 -1844000.48 0.0501 0.0457

Jupiter -9762-08-26 11:45 J -1843910.16 -1843910.01 -1843909.85 0.0502 0.0294

Mars -9760-03-21 18:57 J -1843336.74 -1843336.71 -1843336.68 0.1647 0.1576

Moon -9759-09-01 06:14 J -1842808.28 -1842808.24 -1842808.19 0.2719 0.2410

Earth -9759-09-01 06:57 J -1842808.26 -1842808.21 -1842808.15 0.2719 0.2274 *

Jupiter -9756-04-23 16:19 J -1841842.94 -1841842.82 -1841842.69 0.0524 0.0064

Jupiter -9756-07-21 20:52 J -1841753.68 -1841753.63 -1841753.58 0.0522 0.0475

Saturn -9756-10-15 16:19 J -1841667.93 -1841667.82 -1841667.71 0.0303 0.0163

Saturn -9755-01-12 04:47 J -1841579.43 -1841579.30 -1841579.17 0.0303 0.0001

Saturn -9755-04-10 17:02 J -1841490.89 -1841490.79 -1841490.68 0.0302 0.0165

Mars -9754-11-03 20:52 J -1840918.77 -1840918.63 -1840918.48 0.1867 0.0977

Mars -9753-09-06 04:04 J -1840611.43 -1840611.33 -1840611.22 0.1665 0.0696

Earth -9753-09-10 00:28 J -1840607.50 -1840607.48 -1840607.46 0.2718 0.2630

Moon -9753-09-10 01:12 J -1840607.47 -1840607.45 -1840607.43 0.2720 0.2664 *

Mars -9751-08-12 06:28 J -1839906.31 -1839906.23 -1839906.15 0.1650 0.1143

Jupiter -9750-06-14 06:57 J -1839600.40 -1839600.21 -1839600.03 0.0502 0.0092

Venus -9749-07-12 07:12 J -1839206.26 -1839206.20 -1839206.14 0.3693 0.2868

Moon -9746-09-04 00:14 J -1838057.59 -1838057.49 -1838057.40 0.2724 0.1046

Earth -9746-09-04 00:28 J -1838057.58 -1838057.48 -1838057.38 0.2719 0.0996 *

Jupiter -9744-02-09 21:21 J -1837532.73 -1837532.61 -1837532.49 0.0524 0.0190

Mars -9744-03-25 13:55 J -1837489.09 -1837488.92 -1837488.75 0.1862 0.0366

Jupiter -9744-05-10 01:40 J -1837443.52 -1837443.43 -1837443.33 0.0522 0.0350

Venus -9743-01-25 22:33 J -1837182.66 -1837182.56 -1837182.47 0.3695 0.1178

Mars -9743-01-27 15:21 J -1837180.94 -1837180.86 -1837180.77 0.1669 0.1154

Mars -9741-01-02 18:00 J -1836475.85 -1836475.75 -1836475.65 0.1654 0.0709

Saturn -9740-01-28 13:12 J -1836084.09 -1836083.95 -1836083.80 0.0259 0.0165

Saturn -9740-04-27 10:19 J -1835995.26 -1835995.07 -1835994.88 0.0259 0.0010

Saturn -9740-07-25 07:26 J -1835906.35 -1835906.19 -1835906.03 0.0259 0.0146

Uranus -9740-09-08 20:52 J -1835860.67 -1835860.63 -1835860.58 0.0137 0.0129

Uranus -9740-12-05 23:45 J -1835772.57 -1835772.51 -1835772.42 0.0137 0.0110

Uranus -9739-03-04 02:52 J -1835684.47 -1835684.38 -1835684.27 0.0137 0.0092

Uranus -9739-05-31 06:00 J -1835596.35 -1835596.25 -1835596.13 0.0138 0.0073

Uranus -9739-08-27 09:07 J -1835508.23 -1835508.12 -1835507.99 0.0138 0.0054

Uranus -9739-11-23 12:14 J -1835420.11 -1835419.99 -1835419.86 0.0138 0.0035

Uranus -9738-02-19 15:21 J -1835331.99 -1835331.86 -1835331.73 0.0138 0.0016

Jupiter -9738-04-02 03:50 J -1835290.53 -1835290.34 -1835290.16 0.0502 0.0088

Uranus -9738-05-18 18:28 J -1835243.86 -1835243.73 -1835243.60 0.0138 0.0005

Venus -9738-08-11 13:55 J -1835159.02 -1835158.92 -1835158.83 0.3697 0.0528

Uranus -9738-08-14 21:35 J -1835155.73 -1835155.60 -1835155.47 0.0138 0.0023

Uranus -9738-11-11 00:43 J -1835067.59 -1835067.47 -1835067.35 0.0138 0.0042

Uranus -9737-02-07 03:50 J -1834979.45 -1834979.34 -1834979.22 0.0138 0.0062

Uranus -9737-05-05 06:57 J -1834891.31 -1834891.21 -1834891.10 0.0139 0.0081

Uranus -9737-08-01 10:04 J -1834803.16 -1834803.08 -1834802.99 0.0139 0.0100

Uranus -9737-10-28 13:12 J -1834715.01 -1834714.95 -1834714.88 0.0139 0.0120

Neptune -9736-03-03 05:31 J -1834589.35 -1834589.27 -1834589.18 0.0088 0.0079

Neptune -9736-05-30 09:07 J -1834501.23 -1834501.12 -1834500.99 0.0088 0.0069

Neptune -9736-08-26 12:43 J -1834413.11 -1834412.97 -1834412.82 0.0088 0.0059

Neptune -9736-11-22 16:19 J -1834324.97 -1834324.82 -1834324.65 0.0088 0.0049

Neptune -9735-02-18 20:09 J -1834236.83 -1834236.66 -1834236.48 0.0088 0.0039

Neptune -9735-05-17 23:45 J -1834148.69 -1834148.51 -1834148.32 0.0088 0.0029

Neptune -9735-08-14 03:21 J -1834060.54 -1834060.36 -1834060.16 0.0088 0.0019

Mars -9735-08-15 06:28 J -1834059.29 -1834059.23 -1834059.16 0.1856 0.1706

Neptune -9735-11-10 07:12 J -1833972.39 -1833972.20 -1833972.00 0.0088 0.0009

Neptune -9734-02-06 11:02 J -1833884.24 -1833884.04 -1833883.84 0.0088 0.0002

Neptune -9734-05-05 14:38 J -1833796.09 -1833795.89 -1833795.69 0.0088 0.0012

Mars -9734-06-20 02:38 J -1833750.41 -1833750.39 -1833750.36 0.1674 0.1619

Neptune -9734-08-01 18:14 J -1833707.93 -1833707.74 -1833707.54 0.0088 0.0022

Neptune -9734-10-28 21:50 J -1833619.77 -1833619.59 -1833619.40 0.0088 0.0032

Neptune -9733-01-25 01:40 J -1833531.60 -1833531.43 -1833531.26 0.0088 0.0042

Neptune -9733-04-22 05:16 J -1833443.43 -1833443.28 -1833443.12 0.0088 0.0052

Neptune -9733-07-19 08:38 J -1833355.26 -1833355.14 -1833354.98 0.0088 0.0063

Moon -9733-09-05 18:00 J -1833306.85 -1833306.75 -1833306.64 0.2726 0.0330

Earth -9733-09-05 18:00 J -1833306.85 -1833306.75 -1833306.64 0.2719 0.0315 *

Neptune -9733-10-15 12:14 J -1833267.08 -1833266.99 -1833266.86 0.0088 0.0073

Jupiter -9733-11-29 01:40 J -1833222.52 -1833222.43 -1833222.33 0.0524 0.0327

Neptune -9732-01-11 16:04 J -1833178.88 -1833178.83 -1833178.75 0.0088 0.0083

Venus -9732-02-24 05:02 J -1833135.37 -1833135.29 -1833135.21 0.3699 0.2172

Jupiter -9732-02-26 06:14 J -1833133.35 -1833133.24 -1833133.12 0.0523 0.0215

Mars -9732-05-25 05:16 J -1833045.39 -1833045.28 -1833045.16 0.1657 0.0263

Venus -9730-11-28 21:50 J -1832127.75 -1832127.59 -1832127.42 0.3675 0.0386

Moon -9729-03-06 13:40 J -1832029.09 -1832028.93 -1832028.77 0.2614 0.0410

Earth -9729-03-06 15:35 J -1832029.02 -1832028.85 -1832028.69 0.2614 0.0201 *

Jupiter	-9726-01-19 00:43 J	-1830980.62	-1830980.47	-1830980.30	0.0502	0.0264
Saturn	-9726-03-04 16:47 J	-1830935.88	-1830935.80	-1830935.72	0.0304	0.0232
Jupiter	-9726-04-19 14:24 J	-1830889.94	-1830889.90	-1830889.86	0.0503	0.0492
Saturn	-9726-06-01 05:16 J	-1830847.41	-1830847.28	-1830847.16	0.0304	0.0066
Saturn	-9726-08-28 17:45 J	-1830758.88	-1830758.76	-1830758.64	0.0303	0.0098
Saturn	-9726-11-25 06:00 J	-1830670.31	-1830670.25	-1830670.19	0.0303	0.0260
Mars	-9723-10-15 16:47 J	-1829614.92	-1829614.80	-1829614.69	0.1661	0.0189
Jupiter	-9721-09-17 06:14 J	-1828912.30	-1828912.24	-1828912.18	0.0524	0.0462
Mars	-9721-09-19 18:43 J	-1828909.73	-1828909.72	-1828909.70	0.1647	0.1629
Jupiter	-9721-12-15 10:47 J	-1828823.17	-1828823.05	-1828822.92	0.0523	0.0082
Earth	-9720-09-08 11:31 J	-1828556.10	-1828556.02	-1828555.93	0.2719	0.1594
Moon	-9720-09-08 12:14 J	-1828556.08	-1828555.99	-1828555.91	0.2723	0.1627 *
Moon	-9716-03-09 22:04 J	-1827277.64	-1827277.58	-1827277.52	0.2617	0.2396
Earth	-9716-03-09 23:45 J	-1827277.56	-1827277.51	-1827277.47	0.2615	0.2484 *
Jupiter	-9715-11-06 21:50 J	-1826670.68	-1826670.59	-1826670.50	0.0501	0.0442
Jupiter	-9714-02-05 11:02 J	-1826580.18	-1826580.04	-1826579.89	0.0503	0.0309
Mars	-9714-05-04 22:19 J	-1826491.71	-1826491.57	-1826491.44	0.1868	0.1119
Mars	-9713-03-07 04:04 J	-1826184.43	-1826184.33	-1826184.22	0.1665	0.0640
Moon	-9713-09-01 11:16 J	-1826006.10	-1826006.03	-1826005.97	0.2719	0.2069
Earth	-9713-09-01 11:45 J	-1826006.08	-1826006.01	-1826005.94	0.2719	0.2022 *
Mars	-9711-02-10 06:28 J	-1825479.31	-1825479.23	-1825479.16	0.1650	0.1198
Saturn	-9711-06-17 10:47 J	-1825352.14	-1825352.05	-1825351.94	0.0259	0.0220
Saturn	-9711-09-14 07:55 J	-1825263.35	-1825263.17	-1825262.98	0.0259	0.0065
Saturn	-9711-12-12 05:02 J	-1825174.47	-1825174.29	-1825174.11	0.0259	0.0091
Saturn	-9710-03-11 01:55 J	-1825085.46	-1825085.42	-1825085.35	0.0260	0.0249
Jupiter	-9709-10-03 15:21 J	-1824512.98	-1824512.86	-1824512.73	0.0524	0.0055
Jupiter	-9709-12-31 19:55 J	-1824423.72	-1824423.67	-1824423.63	0.0522	0.0483
Mars	-9705-09-23 14:38 J	-1823062.06	-1823061.89	-1823061.72	0.1862	0.0261
Mars	-9704-07-28 15:21 J	-1822753.94	-1822753.86	-1822753.77	0.1670	0.1099
Jupiter	-9703-11-24 07:40 J	-1822270.37	-1822270.18	-1822270.00	0.0502	0.0125

Mars -9702-07-03 17:45 J -1822048.86 -1822048.76 -1822048.66 0.1654 0.0760

Uranus -9700-07-19 16:47 J -1821301.85 -1821301.80 -1821301.71 0.0141 0.0133

Moon -9700-09-04 05:02 J -1821255.39 -1821255.29 -1821255.19 0.2725 0.0817

Earth -9700-09-04 05:16 J -1821255.38 -1821255.28 -1821255.17 0.2719 0.0740 *

Uranus -9700-10-16 01:40 J -1821213.56 -1821213.43 -1821213.29 0.0141 0.0100

Uranus -9699-01-12 10:04 J -1821125.24 -1821125.08 -1821124.90 0.0141 0.0069

Uranus -9699-04-10 18:28 J -1821036.91 -1821036.73 -1821036.53 0.0141 0.0038

Uranus -9699-07-08 03:07 J -1820948.57 -1820948.37 -1820948.17 0.0141 0.0007

Uranus -9699-10-04 11:16 J -1820860.22 -1820860.03 -1820859.83 0.0141 0.0025

Uranus -9699-12-31 19:40 J -1820771.85 -1820771.68 -1820771.49 0.0140 0.0055

Uranus -9698-03-30 04:19 J -1820683.48 -1820683.32 -1820683.17 0.0140 0.0086

Uranus -9698-06-26 12:14 J -1820595.09 -1820594.99 -1820594.87 0.0140 0.0117

Saturn -9697-07-21 17:31 J -1820203.80 -1820203.77 -1820203.74 0.0304 0.0294

Jupiter -9697-07-22 20:24 J -1820202.77 -1820202.65 -1820202.53 0.0524 0.0181

Saturn -9697-10-18 06:00 J -1820115.36 -1820115.25 -1820115.13 0.0303 0.0129

Jupiter -9697-10-20 00:57 J -1820113.55 -1820113.46 -1820113.37 0.0523 0.0359

Saturn -9696-01-14 18:28 J -1820026.86 -1820026.73 -1820026.60 0.0303 0.0036

Moon -9696-03-04 12:28 J -1819978.03 -1819977.98 -1819977.93 0.2611 0.2470

Earth -9696-03-04 13:55 J -1819977.98 -1819977.92 -1819977.85 0.2614 0.2394 *

Saturn -9696-04-13 06:57 J -1819938.31 -1819938.21 -1819938.12 0.0302 0.0198

Mars -9695-02-13 07:12 J -1819632.28 -1819632.20 -1819632.11 0.1856 0.1598

Mars -9695-12-19 02:38 J -1819323.42 -1819323.39 -1819323.35 0.1674 0.1560

Mars -9693-11-23 05:16 J -1818618.39 -1818618.28 -1818618.17 0.1658 0.0318

Venus -9692-02-16 04:33 J -1818533.39 -1818533.31 -1818533.23 0.3694 0.2258

Jupiter -9691-09-12 02:38 J -1817960.58 -1817960.39 -1817960.20 0.0502 0.0077

Venus -9687-09-01 19:55 J -1816509.77 -1816509.67 -1816509.57 0.3696 0.0573

Moon -9687-09-06 23:02 J -1816504.65 -1816504.54 -1816504.44 0.2725 0.0570

Earth -9687-09-06 22:47 J -1816504.65 -1816504.55 -1816504.44 0.2719 0.0554 *

Jupiter -9685-05-11 01:26 J -1815892.54 -1815892.44 -1815892.34 0.0524 0.0307

Jupiter -9685-08-08 06:00 J -1815803.36 -1815803.25 -1815803.14 0.0523 0.0234

Moon	-9683-03-07 20:24 J	-1815226.81	-1815226.65	-1815226.49	0.2614	0.0088
Earth	-9683-03-07 22:19 J	-1815226.73	-1815226.57	-1815226.41	0.2615	0.0316 *
Mars	-9683-04-15 16:47 J	-1815187.92	-1815187.80	-1815187.69	0.1661	0.0130
Saturn	-9681-02-01 06:14 J	-1814531.41	-1814531.24	-1814531.07	0.0259	0.0116
Venus	-9681-03-17 11:16 J	-1814486.13	-1814486.03	-1814485.94	0.3698	0.1111
Saturn	-9681-04-30 03:07 J	-1814442.56	-1814442.37	-1814442.17	0.0259	0.0040
Saturn	-9681-07-28 00:14 J	-1814353.61	-1814353.49	-1814353.36	0.0259	0.0196
Jupiter	-9679-06-30 23:31 J	-1813650.68	-1813650.52	-1813650.36	0.0502	0.0256
Jupiter	-9679-09-29 12:57 J	-1813559.98	-1813559.96	-1813559.94	0.0503	0.0499
Venus	-9676-10-01 02:24 J	-1812462.47	-1812462.40	-1812462.34	0.3699	0.2765
Mars	-9675-11-02 23:02 J	-1812064.66	-1812064.54	-1812064.41	0.1868	0.1240
Mars	-9674-09-06 04:04 J	-1811757.44	-1811757.33	-1811757.22	0.1665	0.0586
Earth	-9674-09-09 16:19 J	-1811753.89	-1811753.82	-1811753.74	0.2719	0.1851
Moon	-9674-09-09 17:02 J	-1811753.86	-1811753.79	-1811753.72	0.2723	0.1970 *
Jupiter	-9673-02-28 05:45 J	-1811582.32	-1811582.26	-1811582.19	0.0524	0.0444
Jupiter	-9673-05-27 10:33 J	-1811493.19	-1811493.06	-1811492.94	0.0523	0.0100
Venus	-9673-07-05 00:43 J	-1811454.59	-1811454.47	-1811454.34	0.3674	0.2394
Mars	-9672-08-11 06:14 J	-1811052.31	-1811052.24	-1811052.16	0.1650	0.1252
Saturn	-9667-03-07 06:28 J	-1809383.32	-1809383.23	-1809383.13	0.0304	0.0196
Jupiter	-9667-04-18 20:38 J	-1809340.73	-1809340.64	-1809340.54	0.0502	0.0431
Saturn	-9667-06-03 19:12 J	-1809294.83	-1809294.70	-1809294.58	0.0304	0.0032
Jupiter	-9667-07-18 10:04 J	-1809250.23	-1809250.08	-1809249.94	0.0503	0.0321
Saturn	-9667-08-31 07:26 J	-1809206.30	-1809206.19	-1809206.07	0.0303	0.0133
Moon	-9667-09-02 16:04 J	-1809203.91	-1809203.83	-1809203.76	0.2721	0.1904
Earth	-9667-09-02 16:33 J	-1809203.89	-1809203.81	-1809203.73	0.2719	0.1763 *
Saturn	-9667-11-27 19:55 J	-1809117.70	-1809117.67	-1809117.65	0.0303	0.0295
Mars	-9665-03-24 15:35 J	-1808635.02	-1808634.85	-1808634.68	0.1862	0.0133
Mars	-9664-01-26 15:21 J	-1808326.95	-1808326.86	-1808326.77	0.1669	0.1043
Mars	-9662-01-01 17:45 J	-1807621.86	-1807621.76	-1807621.66	0.1654	0.0813
Jupiter	-9661-03-15 15:07 J	-1807183.00	-1807182.87	-1807182.75	0.0523	0.0040

Jupiter -9661-06-12 19:26 J -1807093.72 -1807093.69 -1807093.66 0.0522 0.0500

Mars -9656-08-14 08:24 J -1805205.26 -1805205.15 -1805205.05 0.1856 0.1469

Uranus -9656-09-29 04:33 J -1805159.37 -1805159.31 -1805159.26 0.0137 0.0122

Uranus -9656-12-26 07:26 J -1805071.27 -1805071.19 -1805071.10 0.0137 0.0104

Uranus -9655-03-24 10:33 J -1804983.16 -1804983.06 -1804982.96 0.0137 0.0085

Jupiter -9655-05-06 06:43 J -1804940.40 -1804940.22 -1804940.03 0.0502 0.0140

Neptune -9655-06-18 04:33 J -1804897.33 -1804897.31 -1804897.26 0.0089 0.0086

Mars -9655-06-19 02:38 J -1804896.44 -1804896.39 -1804896.34 0.1674 0.1508

Uranus -9655-06-20 13:40 J -1804895.04 -1804894.93 -1804894.82 0.0137 0.0066

Neptune -9655-09-14 06:00 J -1804809.30 -1804809.25 -1804809.18 0.0089 0.0078

Uranus -9655-09-16 16:47 J -1804806.92 -1804806.80 -1804806.68 0.0138 0.0048

Neptune -9655-12-11 07:12 J -1804721.26 -1804721.20 -1804721.11 0.0089 0.0072

Uranus -9655-12-13 19:55 J -1804718.80 -1804718.67 -1804718.55 0.0138 0.0029

Neptune -9654-03-09 08:52 J -1804633.22 -1804633.13 -1804633.04 0.0089 0.0064

Uranus -9654-03-11 23:02 J -1804630.67 -1804630.54 -1804630.41 0.0138 0.0010

Neptune -9654-06-05 10:04 J -1804545.18 -1804545.08 -1804544.98 0.0089 0.0057

Uranus -9654-06-08 01:55 J -1804542.54 -1804542.42 -1804542.28 0.0138 0.0011

Neptune -9654-09-01 11:31 J -1804457.13 -1804457.02 -1804456.91 0.0089 0.0050

Uranus -9654-09-04 05:02 J -1804454.41 -1804454.29 -1804454.16 0.0138 0.0029

Moon -9654-09-05 09:50 J -1804453.20 -1804453.09 -1804452.99 0.2726 0.0491

Earth -9654-09-05 10:04 J -1804453.18 -1804453.08 -1804452.97 0.2719 0.0484 *

Neptune -9654-11-28 12:43 J -1804369.08 -1804368.97 -1804368.85 0.0089 0.0043

Uranus -9654-12-01 08:09 J -1804366.28 -1804366.16 -1804366.03 0.0138 0.0048

Neptune -9653-02-24 13:55 J -1804281.03 -1804280.92 -1804280.79 0.0089 0.0036

Uranus -9653-02-27 11:16 J -1804278.14 -1804278.03 -1804277.91 0.0138 0.0067

Neptune -9653-05-22 15:21 J -1804192.98 -1804192.86 -1804192.74 0.0089 0.0028

Mars -9653-05-24 05:16 J -1804191.39 -1804191.28 -1804191.17 0.1657 0.0371

Uranus -9653-05-25 14:24 J -1804190.00 -1804189.90 -1804189.80 0.0138 0.0087

Neptune -9653-08-18 16:33 J -1804104.93 -1804104.81 -1804104.68 0.0089 0.0022

Uranus -9653-08-21 17:31 J -1804101.85 -1804101.77 -1804101.68 0.0139 0.0106

Neptune -9653-11-14 18:00 J -1804016.88 -1804016.75 -1804016.62 0.0089 0.0014

Uranus -9653-11-17 20:38 J -1804013.69 -1804013.64 -1804013.58 0.0139 0.0126

Neptune -9652-02-10 19:12 J -1803928.83 -1803928.70 -1803928.57 0.0089 0.0007

Neptune -9652-05-09 20:24 J -1803840.78 -1803840.65 -1803840.51 0.0089 0.0003

Saturn -9652-06-20 03:50 J -1803799.47 -1803799.34 -1803799.18 0.0259 0.0170

Neptune -9652-08-05 21:50 J -1803752.72 -1803752.59 -1803752.46 0.0089 0.0007

Saturn -9652-09-17 00:57 J -1803710.65 -1803710.46 -1803710.26 0.0259 0.0016

Neptune -9652-11-01 23:02 J -1803664.67 -1803664.54 -1803664.41 0.0089 0.0014

Saturn -9652-12-14 22:04 J -1803621.74 -1803621.58 -1803621.42 0.0259 0.0142

Neptune -9651-01-29 00:14 J -1803576.61 -1803576.49 -1803576.36 0.0089 0.0022

Neptune -9651-04-27 01:40 J -1803488.55 -1803488.43 -1803488.31 0.0089 0.0028

Neptune -9651-07-24 02:52 J -1803400.49 -1803400.38 -1803400.26 0.0089 0.0035

Neptune -9651-10-20 04:04 J -1803312.43 -1803312.33 -1803312.21 0.0089 0.0043

Neptune -9650-01-16 05:31 J -1803224.37 -1803224.27 -1803224.16 0.0089 0.0049

Moon -9650-03-05 19:12 J -1803175.79 -1803175.70 -1803175.61 0.2612 0.2157

Earth -9650-03-05 20:52 J -1803175.74 -1803175.63 -1803175.52 0.2614 0.1870 *

Neptune -9650-04-14 06:43 J -1803136.31 -1803136.22 -1803136.11 0.0089 0.0057

Neptune -9650-07-11 08:09 J -1803048.25 -1803048.16 -1803048.07 0.0089 0.0064

Neptune -9650-10-07 09:21 J -1802960.18 -1802960.11 -1802960.03 0.0089 0.0071

Jupiter -9649-01-02 19:26 J -1802872.81 -1802872.69 -1802872.57 0.0524 0.0172

Neptune -9649-01-03 10:33 J -1802872.11 -1802872.06 -1802871.99 0.0089 0.0078

Neptune -9649-03-31 12:00 J -1802784.04 -1802784.00 -1802783.96 0.0089 0.0085

Jupiter -9649-04-01 00:00 J -1802783.59 -1802783.50 -1802783.41 0.0523 0.0367

Mars -9644-10-14 16:33 J -1800760.92 -1800760.81 -1800760.69 0.1661 0.0104

Jupiter -9643-02-22 03:21 J -1800630.55 -1800630.36 -1800630.17 0.0502 0.0045

Venus -9641-03-09 10:47 J -1799884.09 -1799884.05 -1799884.01 0.3693 0.3342

Earth -9641-09-07 03:35 J -1799702.45 -1799702.35 -1799702.25 0.2719 0.0808

Moon -9641-09-07 03:50 J -1799702.44 -1799702.34 -1799702.24 0.2725 0.0830 *

Saturn -9638-07-25 07:26 J -1798651.25 -1798651.19 -1798651.12 0.0304 0.0257

Saturn -9638-10-21 19:55 J -1798562.79 -1798562.67 -1798562.54 0.0303 0.0093

Jupiter -9638-10-22 00:28 J -1798562.58 -1798562.48 -1798562.38 0.0524 0.0299 *

Saturn -9637-01-18 08:24 J -1798474.27 -1798474.15 -1798474.02 0.0303 0.0073

Jupiter -9637-01-19 05:02 J -1798473.40 -1798473.29 -1798473.18 0.0523 0.0243

Moon -9637-03-08 03:21 J -1798424.51 -1798424.36 -1798424.20 0.2615 0.0677

Earth -9637-03-08 05:16 J -1798424.43 -1798424.28 -1798424.13 0.2615 0.0845 *

Saturn -9637-04-15 20:52 J -1798385.71 -1798385.63 -1798385.55 0.0302 0.0234

Pluto -9637-04-29 11:31 J -1798372.07 -1798372.02 -1798371.94 0.0072 0.0064

Pluto -9637-07-26 12:57 J -1798284.05 -1798283.96 -1798283.86 0.0072 0.0055

Pluto -9637-10-22 13:55 J -1798196.02 -1798195.92 -1798195.80 0.0072 0.0047

Pluto -9636-01-18 15:07 J -1798107.99 -1798107.87 -1798107.73 0.0072 0.0039

Pluto -9636-04-16 16:04 J -1798019.95 -1798019.83 -1798019.68 0.0072 0.0031

Pluto -9636-07-13 17:31 J -1797931.91 -1797931.77 -1797931.62 0.0072 0.0021

Venus -9636-09-23 01:55 J -1797860.50 -1797860.42 -1797860.33 0.3694 0.1659

Pluto -9636-10-09 18:43 J -1797843.87 -1797843.72 -1797843.57 0.0073 0.0012

Pluto -9635-01-05 19:55 J -1797755.82 -1797755.67 -1797755.52 0.0073 0.0004

Pluto -9635-04-03 21:07 J -1797667.77 -1797667.62 -1797667.47 0.0073 0.0006

Mars -9635-05-03 23:45 J -1797637.63 -1797637.51 -1797637.39 0.1868 0.1346

Pluto -9635-06-30 22:19 J -1797579.72 -1797579.57 -1797579.42 0.0073 0.0014

Pluto -9635-09-26 23:31 J -1797491.66 -1797491.52 -1797491.37 0.0073 0.0023

Pluto -9635-12-24 00:28 J -1797403.60 -1797403.48 -1797403.33 0.0073 0.0033

Mars -9634-03-07 04:04 J -1797330.44 -1797330.33 -1797330.22 0.1665 0.0527

Pluto -9634-03-22 01:40 J -1797315.54 -1797315.43 -1797315.29 0.0073 0.0043

Pluto -9634-06-18 03:07 J -1797227.47 -1797227.37 -1797227.25 0.0073 0.0051

Pluto -9634-09-14 04:19 J -1797139.39 -1797139.32 -1797139.22 0.0073 0.0061

Pluto -9634-12-11 05:16 J -1797051.30 -1797051.28 -1797051.21 0.0074 0.0071

Mars -9632-02-09 06:14 J -1796625.31 -1796625.24 -1796625.17 0.1650 0.1304

Jupiter -9632-12-10 22:04 J -1796320.74 -1796320.58 -1796320.41 0.0502 0.0247

Venus -9630-04-08 17:16 J -1795836.88 -1795836.78 -1795836.68 0.3696 0.0040

Earth -9628-09-09 21:07 J -1794951.68 -1794951.62 -1794951.55 0.2719 0.2107

Moon -9628-09-09 21:50 J -1794951.66 -1794951.59 -1794951.53 0.2722 0.2167 *

Jupiter -9626-08-10 05:16 J -1794252.35 -1794252.28 -1794252.20 0.0525 0.0427

Mars -9626-09-23 16:33 J -1794207.98 -1794207.81 -1794207.64 0.1862 0.0019

Jupiter -9626-11-07 10:04 J -1794163.20 -1794163.08 -1794162.96 0.0523 0.0117

Mars -9625-07-27 15:21 J -1793899.95 -1793899.86 -1793899.77 0.1669 0.0988

Venus -9625-10-22 08:38 J -1793813.23 -1793813.14 -1793813.05 0.3698 0.1699

Mars -9623-07-02 17:45 J -1793194.85 -1793194.76 -1793194.66 0.1654 0.0870

Saturn -9623-11-07 02:38 J -1793067.49 -1793067.39 -1793067.29 0.0258 0.0218

Saturn -9622-02-03 23:31 J -1792978.71 -1792978.52 -1792978.33 0.0259 0.0064

Saturn -9622-05-03 20:24 J -1792889.82 -1792889.65 -1792889.46 0.0259 0.0092

Venus -9622-07-26 15:35 J -1792805.98 -1792805.85 -1792805.71 0.3676 0.1875

Saturn -9622-07-31 17:45 J -1792800.81 -1792800.76 -1792800.71 0.0259 0.0249

Moon -9621-09-02 20:52 J -1792401.72 -1792401.63 -1792401.54 0.2723 0.1525

Earth -9621-09-02 21:21 J -1792401.70 -1792401.61 -1792401.52 0.2719 0.1509 *

Jupiter -9620-09-28 18:57 J -1792010.80 -1792010.71 -1792010.61 0.0502 0.0425

Jupiter -9620-12-28 08:24 J -1791920.29 -1791920.15 -1791920.01 0.0503 0.0327

Venus -9619-05-07 23:45 J -1791789.55 -1791789.51 -1791789.47 0.3700 0.3347

Mars -9616-02-12 09:21 J -1790778.23 -1790778.11 -1790777.99 0.1856 0.1346

Uranus -9616-08-08 23:45 J -1790600.58 -1790600.51 -1790600.41 0.0141 0.0126

Uranus -9616-11-05 08:38 J -1790512.29 -1790512.14 -1790512.00 0.0141 0.0095

Mars -9616-12-18 02:38 J -1790469.45 -1790469.39 -1790469.34 0.1673 0.1450

Uranus -9615-02-01 17:02 J -1790423.96 -1790423.79 -1790423.61 0.0141 0.0063

Uranus -9615-05-01 01:26 J -1790335.63 -1790335.44 -1790335.24 0.0141 0.0032

Uranus -9615-07-28 09:50 J -1790247.28 -1790247.09 -1790246.89 0.0141 0.0003

Uranus -9615-10-24 18:14 J -1790158.93 -1790158.74 -1790158.54 0.0141 0.0030

Uranus -9614-01-21 02:24 J -1790070.56 -1790070.40 -1790070.21 0.0141 0.0062

Uranus -9614-04-19 11:02 J -1789982.19 -1789982.04 -1789981.89 0.0140 0.0092

Uranus -9614-07-16 19:12 J -1789893.79 -1789893.70 -1789893.60 0.0140 0.0122

Jupiter -9614-08-26 14:24 J -1789853.02 -1789852.90 -1789852.77 0.0523 0.0028

Mars -9614-11-23 05:16 J -1789764.39 -1789764.28 -1789764.17 0.1657 0.0426

Jupiter -9614-11-23 18:57 J -1789763.73 -1789763.71 -1789763.70 0.0522 0.0517

Saturn -9608-03-09 20:38 J -1787830.75 -1787830.64 -1787830.53 0.0304 0.0158

Saturn -9608-06-06 09:07 J -1787742.25 -1787742.12 -1787741.99 0.0304 0.0008

Saturn -9608-09-02 21:21 J -1787653.71 -1787653.61 -1787653.50 0.0303 0.0171

Moon -9608-09-05 14:38 J -1787651.00 -1787650.89 -1787650.78 0.2725 0.0305

Earth -9608-09-05 14:52 J -1787650.99 -1787650.88 -1787650.77 0.2719 0.0221 *

Jupiter -9608-10-16 05:31 J -1787610.45 -1787610.27 -1787610.09 0.0503 0.0149

Moon -9604-03-06 01:55 J -1786373.56 -1786373.42 -1786373.28 0.2612 0.1437

Earth -9604-03-06 03:50 J -1786373.48 -1786373.34 -1786373.20 0.2614 0.1349 *

Mars -9604-04-14 16:33 J -1786333.92 -1786333.81 -1786333.69 0.1661 0.0058

Jupiter -9602-06-14 18:57 J -1785542.83 -1785542.71 -1785542.59 0.0524 0.0155

Jupiter -9602-09-11 23:31 J -1785453.61 -1785453.52 -1785453.44 0.0522 0.0384

Jupiter -9596-08-04 02:09 J -1783300.59 -1783300.41 -1783300.22 0.0502 0.0034

Mars -9596-11-02 00:43 J -1783210.57 -1783210.47 -1783210.36 0.1868 0.1475

Mars -9595-09-05 04:04 J -1782903.44 -1782903.33 -1782903.23 0.1665 0.0481

Earth -9595-09-08 08:24 J -1782900.25 -1782900.15 -1782900.05 0.2719 0.1068

Moon -9595-09-08 08:52 J -1782900.23 -1782900.13 -1782900.04 0.2725 0.1161 *

Saturn -9593-06-22 21:50 J -1782246.77 -1782246.59 -1782246.42 0.0259 0.0115

Mars -9593-08-10 06:14 J -1782198.30 -1782198.24 -1782198.18 0.1650 0.1356

Saturn -9593-09-19 18:43 J -1782157.91 -1782157.72 -1782157.53 0.0259 0.0040

Saturn -9593-12-17 15:50 J -1782068.97 -1782068.84 -1782068.72 0.0259 0.0197

Moon -9591-03-09 10:19 J -1781622.21 -1781622.07 -1781621.92 0.2616 0.1107

Earth -9591-03-09 12:00 J -1781622.14 -1781622.00 -1781621.86 0.2615 0.1360 *

Jupiter -9590-04-02 23:16 J -1781232.63 -1781232.53 -1781232.42 0.0524 0.0293

Jupiter -9590-07-01 03:50 J -1781143.45 -1781143.34 -1781143.23 0.0523 0.0250

Moon -9588-09-01 08:09 J -1780350.20 -1780350.16 -1780350.13 0.2717 0.2576

Earth -9588-09-01 08:38 J -1780350.17 -1780350.14 -1780350.10 0.2719 0.2537 *

Mars -9586-03-24 17:31 J -1779780.95 -1779780.77 -1779780.60 0.1862 0.0120

Mars -9585-01-26 15:21 J -1779472.96 -1779472.86 -1779472.77 0.1669 0.0932

Venus -9585-10-14 08:09 J -1779211.23 -1779211.16 -1779211.10 0.3693 0.2735

Jupiter -9584-05-22 22:33 J -1778990.72 -1778990.56 -1778990.38 0.0502 0.0217

Mars -9584-12-31 17:45 J -1778767.86 -1778767.76 -1778767.67 0.1654 0.0922

Earth -9582-09-11 01:55 J -1778149.47 -1778149.42 -1778149.37 0.2719 0.2365

Moon -9582-09-11 02:38 J -1778149.43 -1778149.39 -1778149.35 0.2721 0.2452 *

Venus -9579-04-29 23:16 J -1777187.62 -1777187.53 -1777187.43 0.3695 0.1064

Saturn -9579-07-27 21:50 J -1777098.68 -1777098.59 -1777098.50 0.0304 0.0215

Saturn -9579-10-24 10:19 J -1777010.19 -1777010.07 -1777009.94 0.0303 0.0050

Jupiter -9578-01-20 04:19 J -1776922.39 -1776922.32 -1776922.25 0.0525 0.0420

Saturn -9578-01-20 22:47 J -1776921.67 -1776921.55 -1776921.43 0.0303 0.0113

Jupiter -9578-04-19 08:52 J -1776833.25 -1776833.13 -1776833.01 0.0523 0.0124

Saturn -9578-04-19 11:02 J -1776833.09 -1776833.04 -1776832.99 0.0302 0.0275 *

Mars -9577-08-13 09:50 J -1776351.21 -1776351.09 -1776350.96 0.1857 0.1242

Mars -9576-06-18 02:38 J -1776042.45 -1776042.39 -1776042.33 0.1673 0.1393

Moon -9575-09-04 01:40 J -1775599.52 -1775599.43 -1775599.34 0.2724 0.1394

Earth -9575-09-04 02:09 J -1775599.50 -1775599.41 -1775599.31 0.2719 0.1253 *

Mars -9574-05-24 05:16 J -1775337.39 -1775337.28 -1775337.17 0.1657 0.0482

Venus -9574-11-13 14:38 J -1775163.99 -1775163.89 -1775163.79 0.3697 0.0621

Jupiter -9572-03-10 17:45 J -1774680.87 -1774680.76 -1774680.66 0.0501 0.0418

Jupiter -9572-06-09 06:57 J -1774590.35 -1774590.21 -1774590.07 0.0503 0.0333

Uranus -9572-07-23 08:52 J -1774546.14 -1774546.13 -1774546.10 0.0137 0.0135

Uranus -9572-10-19 12:00 J -1774458.06 -1774458.00 -1774457.93 0.0137 0.0116

Neptune -9572-11-28 02:09 J -1774418.47 -1774418.41 -1774418.30 0.0088 0.0079

Uranus -9571-01-15 15:07 J -1774369.96 -1774369.87 -1774369.78 0.0137 0.0098

Neptune -9571-02-24 05:45 J -1774330.36 -1774330.26 -1774330.11 0.0088 0.0069

Uranus -9571-04-13 18:00 J -1774281.85 -1774281.75 -1774281.64 0.0137 0.0079

Neptune -9571-05-23 09:35 J -1774242.23 -1774242.10 -1774241.94 0.0088 0.0059

Uranus -9571-07-10 21:07 J -1774193.73 -1774193.62 -1774193.50 0.0137 0.0060

Neptune -9571-08-19 13:40 J -1774154.09 -1774153.93 -1774153.76 0.0088 0.0048

Uranus -9571-10-07 00:14 J -1774105.61 -1774105.49 -1774105.36 0.0137 0.0042

Neptune -9571-11-15 17:16 J -1774065.95 -1774065.78 -1774065.60 0.0088 0.0038

Uranus -9570-01-03 03:21 J -1774017.48 -1774017.36 -1774017.23 0.0138 0.0023

Neptune -9570-02-11 20:52 J -1773977.81 -1773977.63 -1773977.44 0.0088 0.0028

Uranus -9570-04-01 06:28 J -1773929.36 -1773929.23 -1773929.10 0.0138 0.0004

Neptune -9570-05-11 00:43 J -1773889.66 -1773889.47 -1773889.28 0.0088 0.0018

Uranus -9570-06-28 09:35 J -1773841.23 -1773841.10 -1773840.97 0.0138 0.0016

Neptune -9570-08-07 04:19 J -1773801.51 -1773801.32 -1773801.12 0.0088 0.0008

Uranus -9570-09-24 12:43 J -1773753.10 -1773752.97 -1773752.84 0.0138 0.0035

Neptune -9570-11-03 08:09 J -1773713.36 -1773713.16 -1773712.96 0.0088 0.0003

Uranus -9570-12-21 15:50 J -1773664.96 -1773664.84 -1773664.72 0.0138 0.0054

Neptune -9569-01-30 11:31 J -1773625.21 -1773625.02 -1773624.81 0.0088 0.0013

Uranus -9569-03-18 18:57 J -1773576.82 -1773576.71 -1773576.60 0.0138 0.0073

Neptune -9569-04-27 15:21 J -1773537.05 -1773536.86 -1773536.66 0.0088 0.0023

Uranus -9569-06-14 22:04 J -1773488.68 -1773488.58 -1773488.48 0.0138 0.0093

Neptune -9569-07-24 18:57 J -1773448.89 -1773448.71 -1773448.52 0.0088 0.0033

Uranus -9569-09-11 00:57 J -1773400.52 -1773400.46 -1773400.37 0.0138 0.0113

Neptune -9569-10-20 22:33 J -1773360.72 -1773360.56 -1773360.38 0.0088 0.0043

Uranus -9569-12-08 04:19 J -1773312.36 -1773312.32 -1773312.28 0.0139 0.0132

Neptune -9568-01-17 02:24 J -1773272.55 -1773272.40 -1773272.24 0.0088 0.0053

Neptune -9568-04-15 06:14 J -1773184.38 -1773184.24 -1773184.10 0.0088 0.0063

Venus -9568-05-29 05:45 J -1773140.33 -1773140.26 -1773140.18 0.3698 0.2281

Neptune -9568-07-12 09:21 J -1773096.19 -1773096.11 -1773095.98 0.0088 0.0074

Neptune -9568-10-08 12:57 J -1773007.99 -1773007.96 -1773007.88 0.0088 0.0084

Jupiter -9566-02-05 13:55 J -1772523.05 -1772522.92 -1772522.79 0.0524 0.0004

Venus -9565-03-01 18:28 J -1772132.89 -1772132.73 -1772132.57 0.3676 0.0125

Mars -9565-10-13 16:33 J -1771906.92 -1771906.81 -1771906.69 0.1661 0.0049

Saturn -9564-11-09 20:24 J -1771514.79 -1771514.65 -1771514.49 0.0259 0.0162

Saturn -9563-02-06 17:31 J -1771425.96 -1771425.77 -1771425.58 0.0259 0.0007

Saturn -9563-05-06 14:38 J -1771337.05 -1771336.89 -1771336.73 0.0259 0.0150

Moon -9562-09-06 19:40 J -1770848.79 -1770848.68 -1770848.58 0.2725 0.0138

Earth -9562-09-06 19:40 J -1770848.79 -1770848.68 -1770848.57 0.2719 0.0034 *

Jupiter -9560-03-28 03:35 J -1770280.53 -1770280.35 -1770280.17 0.0503 0.0151

Moon -9558-03-07 08:52 J -1769571.28 -1769571.13 -1769570.98 0.2612 0.1130

Earth -9558-03-07 10:47 J -1769571.21 -1769571.05 -1769570.90 0.2614 0.0820 *

Mars -9556-05-03 01:55 J -1768783.50 -1768783.42 -1768783.33 0.1868 0.1610

Mars -9555-03-06 03:50 J -1768476.45 -1768476.34 -1768476.22 0.1665 0.0425

Jupiter -9555-11-24 18:14 J -1768212.86 -1768212.74 -1768212.61 0.0524 0.0142

Jupiter -9554-02-21 22:47 J -1768123.63 -1768123.55 -1768123.47 0.0522 0.0397

Mars -9553-02-09 06:14 J -1767771.30 -1767771.24 -1767771.18 0.1650 0.1412

Pluto -9552-04-03 13:40 J -1767351.94 -1767351.93 -1767351.90 0.0072 0.0072

Pluto -9552-06-30 15:21 J -1767263.94 -1767263.86 -1767263.77 0.0072 0.0062

Pluto -9552-09-26 16:33 J -1767175.91 -1767175.81 -1767175.68 0.0072 0.0052

Pluto -9552-12-23 18:14 J -1767087.86 -1767087.74 -1767087.59 0.0072 0.0042

Pluto -9551-03-21 19:40 J -1766999.81 -1766999.68 -1766999.52 0.0072 0.0033

Pluto -9551-06-17 21:21 J -1766911.76 -1766911.61 -1766911.44 0.0072 0.0023

Pluto -9551-09-13 23:02 J -1766823.70 -1766823.54 -1766823.37 0.0072 0.0014

Pluto -9551-12-11 00:28 J -1766735.64 -1766735.48 -1766735.31 0.0072 0.0005

Pluto -9550-03-09 01:55 J -1766647.58 -1766647.42 -1766647.25 0.0071 0.0006

Pluto -9550-06-05 03:21 J -1766559.51 -1766559.36 -1766559.19 0.0071 0.0015

Pluto -9550-09-01 05:02 J -1766471.45 -1766471.29 -1766471.13 0.0071 0.0024

Pluto -9550-11-28 06:28 J -1766383.38 -1766383.23 -1766383.08 0.0071 0.0033

Saturn -9550-12-14 22:47 J -1766366.60 -1766366.55 -1766366.50 0.0304 0.0277

Pluto -9549-02-24 07:55 J -1766295.30 -1766295.17 -1766295.04 0.0071 0.0041

Saturn -9549-03-12 11:16 J -1766278.15 -1766278.03 -1766277.91 0.0304 0.0111

Pluto -9549-05-22 09:21 J -1766207.22 -1766207.11 -1766207.00 0.0071 0.0050

Saturn -9549-06-08 23:45 J -1766189.64 -1766189.51 -1766189.38 0.0303 0.0053

Pluto -9549-08-18 10:33 J -1766119.14 -1766119.06 -1766118.96 0.0071 0.0059

Saturn -9549-09-05 12:14 J -1766101.08 -1766100.99 -1766100.91 0.0303 0.0216

Earth -9549-09-08 13:12 J -1766098.04 -1766097.95 -1766097.86 0.2719 0.1329

Moon -9549-09-08 13:40 J -1766098.03 -1766097.93 -1766097.84 0.2725 0.1343 *

Pluto -9549-11-14 12:00 J -1766031.03 -1766031.00 -1766030.95 0.0071 0.0068

Jupiter -9548-01-14 00:28 J -1765970.67 -1765970.48 -1765970.29 0.0502 0.0029

Mars -9547-09-22 18:14 J -1765353.91 -1765353.74 -1765353.57 0.1862 0.0227

Mars -9546-07-27 15:21 J -1765045.96 -1765045.86 -1765045.77 0.1669 0.0878

Moon -9545-03-09 17:16 J -1764819.89 -1764819.78 -1764819.66 0.2618 0.1806

Earth -9545-03-09 18:57 J -1764819.82 -1764819.71 -1764819.60 0.2614 0.1881 *

Mars -9544-07-01 17:45 J -1764340.85 -1764340.76 -1764340.67 0.1653 0.0975

Jupiter -9543-09-12 22:47 J -1763902.66 -1763902.55 -1763902.44 0.0524 0.0278

Jupiter -9543-12-11 03:21 J -1763813.47 -1763813.36 -1763813.25 0.0523 0.0263

Moon -9542-09-02 12:43 J -1763548.01 -1763547.97 -1763547.92 0.2719 0.2400

Earth -9542-09-02 13:26 J -1763547.99 -1763547.94 -1763547.88 0.2719 0.2282 *

Mars -9537-02-12 11:02 J -1761924.18 -1761924.04 -1761923.90 0.1857 0.1110

Jupiter -9537-11-01 21:21 J -1761660.78 -1761660.61 -1761660.44 0.0502 0.0209

Mars -9537-12-17 02:24 J -1761615.46 -1761615.40 -1761615.33 0.1673 0.1343

Earth -9536-09-11 06:43 J -1761347.24 -1761347.22 -1761347.19 0.2719 0.2629

Mars -9535-11-22 05:02 J -1760910.39 -1760910.29 -1760910.18 0.1657 0.0536

Saturn -9534-03-29 18:57 J -1760782.81 -1760782.71 -1760782.59 0.0259 0.0210

Saturn -9534-06-26 16:04 J -1760694.02 -1760693.83 -1760693.64 0.0259 0.0055

Saturn -9534-09-23 12:57 J -1760605.13 -1760604.96 -1760604.77 0.0259 0.0102

Saturn -9534-12-21 10:19 J -1760516.09 -1760516.07 -1760516.05 0.0260 0.0258

Uranus -9532-08-29 06:57 J -1759899.31 -1759899.21 -1759899.10 0.0141 0.0120

Uranus -9532-11-25 15:21 J -1759811.01 -1759810.86 -1759810.70 0.0141 0.0089

Uranus -9531-02-21 23:45 J -1759722.68 -1759722.51 -1759722.32 0.0141 0.0057

Uranus -9531-05-21 08:24 J -1759634.34 -1759634.15 -1759633.96 0.0141 0.0026

Jupiter -9531-07-02 03:07 J -1759592.45 -1759592.37 -1759592.30 0.0524 0.0417

Uranus -9531-08-17 16:47 J -1759546.00 -1759545.80 -1759545.60 0.0141 0.0005

Jupiter -9531-09-29 07:40 J -1759503.30 -1759503.18 -1759503.06 0.0523 0.0126

Uranus -9531-11-14 00:57 J -1759457.64 -1759457.46 -1759457.26 0.0141 0.0037

Uranus -9530-02-10 09:21 J -1759369.27 -1759369.11 -1759368.93 0.0141 0.0068

Uranus -9530-05-09 18:00 J -1759280.89 -1759280.75 -1759280.61 0.0140 0.0098

Uranus -9530-08-06 02:09 J -1759192.48 -1759192.41 -1759192.33 0.0140 0.0128

Moon -9529-09-04 06:28 J -1758797.33 -1758797.23 -1758797.13 0.2724 0.1022

Earth	-9529-09-04 06:57 J	-1758797.31	-1758797.21	-1758797.11	0.2719	0.1000 *
Venus	-9528-05-21 05:31 J	-1758538.35	-1758538.27	-1758538.19	0.3694	0.2138
Mars	-9525-04-13 16:33 J	-1757479.92	-1757479.81	-1757479.69	0.1661	0.0088
Jupiter	-9525-08-20 17:45 J	-1757350.88	-1757350.76	-1757350.65	0.0501	0.0393
Jupiter	-9525-11-19 06:57 J	-1757260.34	-1757260.21	-1757260.08	0.0503	0.0359
Venus	-9523-12-04 20:38 J	-1756514.74	-1756514.64	-1756514.54	0.3695	0.0486
Saturn	-9520-07-30 12:43 J	-1755546.07	-1755545.97	-1755545.86	0.0303	0.0165
Saturn	-9520-10-27 01:26 J	-1755457.57	-1755457.44	-1755457.31	0.0303	0.0007
Saturn	-9519-01-23 13:40 J	-1755369.03	-1755368.93	-1755368.82	0.0302	0.0162
Jupiter	-9519-07-18 12:43 J	-1755193.10	-1755192.97	-1755192.85	0.0524	0.0014
Venus	-9517-06-19 12:00 J	-1754491.09	-1754491.00	-1754490.91	0.3697	0.1208
Mars	-9517-11-01 02:24 J	-1754356.46	-1754356.40	-1754356.33	0.1868	0.1705
Mars	-9516-09-04 03:50 J	-1754049.45	-1754049.34	-1754049.22	0.1665	0.0368
Moon	-9516-09-07 00:28 J	-1754046.59	-1754046.48	-1754046.37	0.2726	0.0240
Earth	-9516-09-07 00:28 J	-1754046.59	-1754046.48	-1754046.38	0.2719	0.0294 *
Mars	-9514-08-10 06:14 J	-1753344.29	-1753344.24	-1753344.19	0.1650	0.1465
Jupiter	-9513-09-07 01:40 J	-1752950.60	-1752950.43	-1752950.24	0.0502	0.0154
Moon	-9512-03-07 15:35 J	-1752769.01	-1752768.85	-1752768.68	0.2613	0.0406
Earth	-9512-03-07 17:31 J	-1752768.93	-1752768.77	-1752768.61	0.2614	0.0306 *
Venus	-9511-01-03 03:07 J	-1752467.43	-1752467.37	-1752467.30	0.3699	0.2868
Venus	-9509-10-06 21:21 J	-1751459.74	-1751459.61	-1751459.47	0.3675	0.2143
Mars	-9507-03-23 19:26 J	-1750926.86	-1750926.69	-1750926.52	0.1863	0.0360
Jupiter	-9507-05-06 17:31 J	-1750882.89	-1750882.77	-1750882.65	0.0524	0.0131
Jupiter	-9507-08-03 22:04 J	-1750793.66	-1750793.58	-1750793.51	0.0523	0.0409
Mars	-9506-01-25 15:21 J	-1750618.96	-1750618.86	-1750618.77	0.1669	0.0823
Saturn	-9505-08-15 18:28 J	-1750050.77	-1750050.73	-1750050.69	0.0259	0.0252
Saturn	-9505-11-12 15:21 J	-1749962.04	-1749961.86	-1749961.68	0.0259	0.0098
Mars	-9505-12-30 17:45 J	-1749913.85	-1749913.76	-1749913.67	0.1653	0.1032
Saturn	-9504-02-09 12:28 J	-1749873.17	-1749872.98	-1749872.79	0.0259	0.0058
Saturn	-9504-05-09 09:21 J	-1749784.21	-1749784.11	-1749783.99	0.0260	0.0215

Earth -9503-09-09 18:00 J -1749295.84 -1749295.75 -1749295.66 0.2719 0.1586

Moon -9503-09-09 18:28 J -1749295.81 -1749295.73 -1749295.65 0.2724 0.1704 *

Jupiter -9501-06-25 22:19 J -1748640.76 -1748640.57 -1748640.38 0.0502 0.0030

Moon -9499-03-11 00:14 J -1748017.58 -1748017.49 -1748017.40 0.2618 0.2121

Earth -9499-03-11 01:40 J -1748017.49 -1748017.43 -1748017.36 0.2615 0.2401 *

Mars -9498-08-13 12:00 J -1747497.15 -1747497.00 -1747496.86 0.1857 0.0992

Mars -9497-06-17 02:24 J -1747188.47 -1747188.40 -1747188.32 0.1673 0.1286

Moon -9496-09-02 17:31 J -1746745.83 -1746745.77 -1746745.70 0.2721 0.2117

Earth -9496-09-02 18:14 J -1746745.81 -1746745.74 -1746745.67 0.2719 0.2026 *

Jupiter -9495-02-22 21:50 J -1746572.70 -1746572.59 -1746572.48 0.0524 0.0269

Jupiter -9495-05-23 02:24 J -1746483.51 -1746483.40 -1746483.29 0.0523 0.0272

Mars -9495-05-23 05:02 J -1746483.39 -1746483.29 -1746483.18 0.1657 0.0589 *

Saturn -9491-12-17 14:09 J -1744813.99 -1744813.91 -1744813.82 0.0304 0.0221

Neptune -9490-03-15 03:35 J -1744726.37 -1744726.35 -1744726.30 0.0089 0.0086

Saturn -9490-03-16 02:38 J -1744725.51 -1744725.39 -1744725.26 0.0304 0.0057

Neptune -9490-06-11 05:02 J -1744638.34 -1744638.29 -1744638.22 0.0089 0.0078

Saturn -9490-06-12 15:07 J -1744636.99 -1744636.87 -1744636.75 0.0303 0.0108

Neptune -9490-09-07 06:43 J -1744550.30 -1744550.22 -1744550.15 0.0089 0.0071

Saturn -9490-09-09 03:21 J -1744548.41 -1744548.36 -1744548.30 0.0303 0.0270

Neptune -9490-12-04 07:55 J -1744462.26 -1744462.17 -1744462.08 0.0089 0.0064

Neptune -9489-03-01 09:07 J -1744374.22 -1744374.12 -1744374.01 0.0089 0.0057

Jupiter -9489-04-13 19:12 J -1744330.87 -1744330.70 -1744330.53 0.0502 0.0210

Neptune -9489-05-28 10:19 J -1744286.17 -1744286.07 -1744285.95 0.0089 0.0050

Neptune -9489-08-24 11:45 J -1744198.12 -1744198.01 -1744197.89 0.0089 0.0043

Neptune -9489-11-20 12:57 J -1744110.07 -1744109.96 -1744109.83 0.0089 0.0036

Neptune -9488-02-16 14:24 J -1744022.02 -1744021.90 -1744021.77 0.0089 0.0028

Neptune -9488-05-15 15:35 J -1743933.97 -1743933.85 -1743933.72 0.0089 0.0021

Neptune -9488-08-11 17:02 J -1743845.92 -1743845.79 -1743845.66 0.0089 0.0014

Uranus -9488-08-12 16:33 J -1743844.84 -1743844.81 -1743844.76 0.0137 0.0128

Neptune -9488-11-07 18:14 J -1743757.87 -1743757.74 -1743757.61 0.0089 0.0007

Uranus -9488-11-08 19:40 J -1743756.75 -1743756.68 -1743756.60 0.0137 0.0109

Neptune -9487-02-03 19:40 J -1743669.81 -1743669.68 -1743669.55 0.0089 0.0001

Uranus -9487-02-04 22:47 J -1743668.64 -1743668.55 -1743668.45 0.0137 0.0090

Neptune -9487-05-02 20:52 J -1743581.76 -1743581.63 -1743581.50 0.0089 0.0007

Uranus -9487-05-04 01:55 J -1743580.53 -1743580.42 -1743580.31 0.0137 0.0072

Neptune -9487-07-29 22:04 J -1743493.70 -1743493.58 -1743493.45 0.0089 0.0015

Uranus -9487-07-31 04:47 J -1743492.41 -1743492.30 -1743492.17 0.0137 0.0054

Neptune -9487-10-25 23:31 J -1743405.65 -1743405.52 -1743405.39 0.0089 0.0021

Uranus -9487-10-27 08:09 J -1743404.29 -1743404.16 -1743404.04 0.0137 0.0034

Neptune -9486-01-22 00:43 J -1743317.59 -1743317.47 -1743317.34 0.0089 0.0028

Uranus -9486-01-23 11:16 J -1743316.16 -1743316.03 -1743315.90 0.0138 0.0015

Neptune -9486-04-20 01:55 J -1743229.53 -1743229.42 -1743229.29 0.0089 0.0036

Uranus -9486-04-21 14:24 J -1743228.03 -1743227.90 -1743227.77 0.0138 0.0006

Neptune -9486-07-17 03:21 J -1743141.47 -1743141.36 -1743141.24 0.0089 0.0042

Uranus -9486-07-18 17:16 J -1743139.90 -1743139.78 -1743139.65 0.0138 0.0024

Neptune -9486-10-13 04:33 J -1743053.41 -1743053.31 -1743053.20 0.0089 0.0050

Mars -9486-10-13 16:33 J -1743052.93 -1743052.81 -1743052.70 0.1661 0.0143

Uranus -9486-10-14 20:24 J -1743051.77 -1743051.65 -1743051.52 0.0138 0.0042

Neptune -9485-01-09 05:45 J -1742965.35 -1742965.26 -1742965.15 0.0089 0.0057

Uranus -9485-01-10 23:31 J -1742963.63 -1742963.52 -1742963.40 0.0138 0.0062

Neptune -9485-04-06 07:12 J -1742877.29 -1742877.20 -1742877.11 0.0089 0.0064

Uranus -9485-04-08 02:38 J -1742875.49 -1742875.39 -1742875.28 0.0138 0.0081

Neptune -9485-07-03 08:24 J -1742789.22 -1742789.15 -1742789.06 0.0089 0.0071

Uranus -9485-07-05 05:45 J -1742787.34 -1742787.26 -1742787.17 0.0138 0.0100

Neptune -9485-09-29 09:50 J -1742701.15 -1742701.09 -1742701.03 0.0089 0.0078

Uranus -9485-10-01 08:52 J -1742699.19 -1742699.13 -1742699.06 0.0138 0.0120

Neptune -9485-12-26 11:02 J -1742613.07 -1742613.04 -1742613.00 0.0089 0.0085

Jupiter -9484-12-12 02:09 J -1742262.48 -1742262.41 -1742262.33 0.0524 0.0407

Jupiter -9483-03-11 06:57 J -1742173.34 -1742173.21 -1742173.09 0.0523 0.0137

Moon -9483-09-05 11:16 J -1741995.13 -1741995.03 -1741994.93 0.2724 0.0850

Earth	-9483-09-05 11:45 J	-1741995.12	-1741995.01	-1741994.91	0.2719	0.0746 *
Earth	-9479-03-05 15:50 J	-1740717.88	-1740717.84	-1740717.79	0.2614	0.2516
Jupiter	-9477-01-31 15:50 J	-1740020.95	-1740020.84	-1740020.72	0.0502	0.0391
Jupiter	-9477-05-01 05:16 J	-1739930.41	-1739930.28	-1739930.15	0.0503	0.0361
Mars	-9477-05-02 03:50 J	-1739929.36	-1739929.34	-1739929.32	0.1868	0.1846
Venus	-9477-06-11 11:31 J	-1739889.07	-1739889.02	-1739888.97	0.3692	0.3218
Mars	-9476-03-05 03:50 J	-1739622.45	-1739622.34	-1739622.23	0.1665	0.0311
Saturn	-9475-04-01 14:24 J	-1739230.06	-1739229.90	-1739229.74	0.0259	0.0143
Saturn	-9475-06-29 11:31 J	-1739141.22	-1739141.02	-1739140.83	0.0259	0.0013
Saturn	-9475-09-26 08:38 J	-1739052.29	-1739052.14	-1739052.00	0.0260	0.0169
Mars	-9474-02-08 06:00 J	-1738917.29	-1738917.25	-1738917.20	0.1650	0.1519
Venus	-9472-12-26 02:52 J	-1737865.47	-1737865.38	-1737865.29	0.3694	0.1538
Jupiter	-9472-12-28 11:02 J	-1737863.16	-1737863.04	-1737862.91	0.0524	0.0019
Earth	-9470-09-08 05:16 J	-1737244.39	-1737244.28	-1737244.18	0.2719	0.0548
Moon	-9470-09-08 05:16 J	-1737244.38	-1737244.28	-1737244.17	0.2726	0.0623 *
Mars	-9468-09-21 19:55 J	-1736499.83	-1736499.67	-1736499.50	0.1863	0.0466
Mars	-9467-07-26 15:07 J	-1736191.97	-1736191.87	-1736191.77	0.1669	0.0768
Moon	-9466-03-08 22:33 J	-1735966.72	-1735966.56	-1735966.39	0.2615	0.0085
Earth	-9466-03-09 00:28 J	-1735966.65	-1735966.48	-1735966.32	0.2614	0.0227 *
Venus	-9466-07-11 18:00 J	-1735841.85	-1735841.75	-1735841.64	0.3696	0.0215
Jupiter	-9465-02-18 01:12 J	-1735620.62	-1735620.45	-1735620.27	0.0502	0.0173
Mars	-9465-06-30 17:31 J	-1735486.85	-1735486.77	-1735486.68	0.1653	0.1082
Saturn	-9461-05-05 16:19 J	-1734081.88	-1734081.82	-1734081.76	0.0304	0.0267
Saturn	-9461-08-02 04:47 J	-1733993.42	-1733993.30	-1733993.18	0.0303	0.0103
Saturn	-9461-10-29 17:16 J	-1733904.90	-1733904.78	-1733904.65	0.0303	0.0061
Venus	-9460-01-24 09:21 J	-1733818.20	-1733818.11	-1733818.02	0.3697	0.1800
Saturn	-9460-01-26 05:31 J	-1733816.35	-1733816.27	-1733816.18	0.0302	0.0223
Jupiter	-9460-10-16 15:50 J	-1733552.96	-1733552.84	-1733552.71	0.0524	0.0134
Jupiter	-9459-01-13 20:24 J	-1733463.72	-1733463.65	-1733463.57	0.0523	0.0407
Mars	-9458-02-11 12:43 J	-1733070.12	-1733069.97	-1733069.82	0.1857	0.0880

Venus -9458-10-28 12:14 J -1732811.12 -1732810.99 -1732810.86 0.3677 0.2135

Mars -9458-12-17 02:38 J -1732761.47 -1732761.39 -1732761.32 0.1673 0.1226

Earth -9457-09-09 22:47 J -1732493.63 -1732493.55 -1732493.47 0.2719 0.1844

Moon -9457-09-09 23:16 J -1732493.60 -1732493.53 -1732493.45 0.2722 0.1863 *

Mars -9456-11-21 05:02 J -1732056.39 -1732056.29 -1732056.18 0.1657 0.0645

Venus -9455-08-10 00:28 J -1731794.51 -1731794.48 -1731794.44 0.3699 0.3457

Jupiter -9454-12-06 20:09 J -1731310.85 -1731310.66 -1731310.47 0.0502 0.0032

Moon -9450-09-03 22:19 J -1729943.65 -1729943.57 -1729943.49 0.2721 0.1861

Earth -9450-09-03 23:02 J -1729943.62 -1729943.54 -1729943.46 0.2719 0.1774 *

Jupiter -9448-08-04 20:38 J -1729242.75 -1729242.64 -1729242.53 0.0525 0.0265

Uranus -9448-09-18 13:26 J -1729198.04 -1729197.94 -1729197.81 0.0141 0.0115

Jupiter -9448-11-02 01:12 J -1729153.55 -1729153.45 -1729153.34 0.0523 0.0278

Uranus -9448-12-15 21:50 J -1729109.73 -1729109.59 -1729109.42 0.0141 0.0084

Uranus -9447-03-14 06:28 J -1729021.41 -1729021.23 -1729021.04 0.0141 0.0052

Uranus -9447-06-10 14:52 J -1728933.07 -1728932.88 -1728932.68 0.0141 0.0021

Uranus -9447-09-06 23:31 J -1728844.72 -1728844.52 -1728844.32 0.0141 0.0011

Uranus -9447-12-04 07:40 J -1728756.36 -1728756.18 -1728755.98 0.0141 0.0042

Uranus -9446-03-02 16:04 J -1728667.99 -1728667.83 -1728667.65 0.0141 0.0073

Mars -9446-04-13 16:33 J -1728625.92 -1728625.81 -1728625.70 0.1661 0.0199

Uranus -9446-05-30 00:14 J -1728579.60 -1728579.49 -1728579.34 0.0140 0.0104

Saturn -9446-08-19 14:09 J -1728498.04 -1728497.91 -1728497.77 0.0259 0.0182

Uranus -9446-08-26 08:52 J -1728491.18 -1728491.13 -1728491.07 0.0140 0.0134

Saturn -9446-11-16 11:16 J -1728409.22 -1728409.03 -1728408.84 0.0259 0.0027

Saturn -9445-02-13 08:24 J -1728320.32 -1728320.15 -1728319.98 0.0260 0.0130

Jupiter -9442-09-24 16:33 J -1727000.98 -1727000.81 -1727000.64 0.0502 0.0217

Mars -9437-09-03 03:50 J -1725195.45 -1725195.34 -1725195.23 0.1665 0.0257

Moon -9437-09-05 16:04 J -1725192.93 -1725192.83 -1725192.72 0.2725 0.0516

Earth -9437-09-05 16:33 J -1725192.92 -1725192.81 -1725192.71 0.2719 0.0496 *

Jupiter -9436-05-24 00:57 J -1724932.54 -1724932.46 -1724932.38 0.0525 0.0404

Jupiter -9436-08-21 05:31 J -1724843.38 -1724843.27 -1724843.14 0.0523 0.0142

Mars -9435-08-09 06:00 J -1724490.28 -1724490.25 -1724490.21 0.1650 0.1571

Moon -9433-03-05 21:21 J -1723915.70 -1723915.61 -1723915.52 0.2610 0.2157

Earth -9433-03-05 22:47 J -1723915.65 -1723915.55 -1723915.44 0.2614 0.1987 *

Saturn -9432-12-20 06:28 J -1723261.33 -1723261.23 -1723261.11 0.0304 0.0153

Saturn -9431-03-18 19:12 J -1723172.83 -1723172.70 -1723172.58 0.0303 0.0015

Saturn -9431-06-15 07:26 J -1723084.29 -1723084.19 -1723084.08 0.0303 0.0174

Jupiter -9430-07-13 13:12 J -1722691.06 -1722690.95 -1722690.83 0.0501 0.0398

Jupiter -9430-10-12 02:24 J -1722600.52 -1722600.40 -1722600.26 0.0503 0.0355

Mars -9428-03-22 21:07 J -1722072.78 -1722072.62 -1722072.46 0.1863 0.0594

Mars -9427-01-24 15:07 J -1721764.97 -1721764.87 -1721764.76 0.1669 0.0712

Mars -9426-12-30 17:31 J -1721059.85 -1721059.77 -1721059.69 0.1653 0.1137

Jupiter -9424-06-09 10:04 J -1720533.21 -1720533.08 -1720532.95 0.0523 0.0003

Earth -9424-09-08 10:04 J -1720442.19 -1720442.08 -1720441.98 0.2719 0.0809

Moon -9424-09-08 10:04 J -1720442.18 -1720442.08 -1720441.97 0.2726 0.0782 *

Venus -9420-01-16 08:52 J -1719216.20 -1719216.13 -1719216.06 0.3693 0.2612

Moon -9420-03-09 05:16 J -1719164.44 -1719164.28 -1719164.12 0.2616 0.0589

Earth -9420-03-09 07:12 J -1719164.36 -1719164.20 -1719164.04 0.2614 0.0734 *

Mars -9419-08-12 13:55 J -1718643.08 -1718642.92 -1718642.77 0.1857 0.0753

Mars -9418-06-17 02:24 J -1718334.48 -1718334.40 -1718334.32 0.1673 0.1174

Jupiter -9418-07-30 23:02 J -1718290.72 -1718290.54 -1718290.36 0.0502 0.0169

Saturn -9416-01-05 13:40 J -1717766.02 -1717765.93 -1717765.83 0.0259 0.0223

Saturn -9416-04-04 10:47 J -1717677.24 -1717677.05 -1717676.86 0.0259 0.0069

Mars -9416-05-22 05:02 J -1717629.39 -1717629.29 -1717629.19 0.1657 0.0697

Saturn -9416-07-02 07:55 J -1717588.35 -1717588.17 -1717587.99 0.0260 0.0088

Saturn -9416-09-29 05:02 J -1717499.35 -1717499.29 -1717499.22 0.0260 0.0245

Venus -9415-08-02 00:14 J -1717192.59 -1717192.49 -1717192.39 0.3694 0.0937

Jupiter -9412-03-28 14:09 J -1716223.03 -1716222.91 -1716222.78 0.0524 0.0140

Jupiter -9412-06-25 18:43 J -1716133.80 -1716133.72 -1716133.64 0.0522 0.0400

Earth -9411-09-11 03:35 J -1715691.42 -1715691.35 -1715691.29 0.2719 0.2101

Moon -9411-09-11 04:04 J -1715691.38 -1715691.33 -1715691.27 0.2721 0.2254 *

Venus -9409-02-15 15:35 J -1715168.95 -1715168.85 -1715168.76 0.3696 0.0747

Mars -9409-11-06 13:40 J -1714903.95 -1714903.93 -1714903.91 0.1678 0.1640

Neptune -9407-05-28 20:09 J -1714335.67 -1714335.66 -1714335.62 0.0088 0.0087

Neptune -9407-08-24 23:45 J -1714247.58 -1714247.51 -1714247.40 0.0088 0.0077

Mars -9407-10-12 16:19 J -1714198.93 -1714198.82 -1714198.70 0.1661 0.0257

Neptune -9407-11-21 03:35 J -1714159.47 -1714159.35 -1714159.21 0.0088 0.0067

Neptune -9406-02-17 07:12 J -1714071.34 -1714071.20 -1714071.04 0.0088 0.0057

Neptune -9406-05-16 10:47 J -1713983.20 -1713983.05 -1713982.87 0.0088 0.0047

Jupiter -9406-05-18 19:12 J -1713980.89 -1713980.70 -1713980.51 0.0502 0.0020

Neptune -9406-08-12 14:38 J -1713895.06 -1713894.89 -1713894.70 0.0088 0.0037

Neptune -9406-11-08 18:14 J -1713806.92 -1713806.74 -1713806.54 0.0088 0.0027

Neptune -9405-02-04 22:04 J -1713718.77 -1713718.58 -1713718.38 0.0088 0.0016

Neptune -9405-05-03 01:55 J -1713630.62 -1713630.42 -1713630.22 0.0088 0.0006

Neptune -9405-07-30 05:31 J -1713542.47 -1713542.27 -1713542.07 0.0088 0.0004

Neptune -9405-10-26 09:21 J -1713454.31 -1713454.11 -1713453.92 0.0088 0.0014

Neptune -9404-01-22 12:57 J -1713366.15 -1713365.96 -1713365.77 0.0088 0.0024

Neptune -9404-04-20 16:19 J -1713277.99 -1713277.82 -1713277.62 0.0088 0.0035

Neptune -9404-07-17 19:55 J -1713189.82 -1713189.67 -1713189.48 0.0088 0.0045

Venus -9404-08-31 06:43 J -1713145.29 -1713145.22 -1713145.14 0.3698 0.2391

Uranus -9404-09-02 00:14 J -1713143.53 -1713143.49 -1713143.42 0.0137 0.0121

Moon -9404-09-04 03:07 J -1713141.46 -1713141.37 -1713141.29 0.2721 0.1631

Earth -9404-09-04 03:50 J -1713141.43 -1713141.34 -1713141.26 0.2719 0.1523 *

Neptune -9404-10-13 23:45 J -1713101.65 -1713101.51 -1713101.35 0.0088 0.0055

Uranus -9404-11-29 03:21 J -1713055.43 -1713055.36 -1713055.26 0.0137 0.0102

Neptune -9403-01-10 03:21 J -1713013.48 -1713013.36 -1713013.21 0.0088 0.0065

Uranus -9403-02-25 06:43 J -1712967.32 -1712967.22 -1712967.12 0.0137 0.0083

Neptune -9403-04-08 07:12 J -1712925.29 -1712925.20 -1712925.09 0.0088 0.0075

Uranus -9403-05-24 09:50 J -1712879.21 -1712879.09 -1712878.98 0.0137 0.0064

Neptune -9403-07-05 11:02 J -1712837.08 -1712837.04 -1712836.99 0.0088 0.0085

Uranus -9403-08-20 12:43 J -1712791.09 -1712790.97 -1712790.84 0.0137 0.0046

Uranus -9403-11-16 15:50 J -1712702.96 -1712702.84 -1712702.71 0.0137 0.0027

Uranus -9402-02-12 18:57 J -1712614.84 -1712614.71 -1712614.58 0.0138 0.0008

Saturn -9402-05-09 09:07 J -1712529.22 -1712529.12 -1712529.02 0.0303 0.0194

Uranus -9402-05-11 22:04 J -1712526.71 -1712526.58 -1712526.45 0.0138 0.0012

Saturn -9402-08-05 21:35 J -1712440.73 -1712440.60 -1712440.47 0.0303 0.0030

Uranus -9402-08-08 01:12 J -1712438.58 -1712438.45 -1712438.32 0.0138 0.0031

Saturn -9402-11-02 10:04 J -1712352.20 -1712352.08 -1712351.97 0.0302 0.0133

Uranus -9402-11-04 04:19 J -1712350.44 -1712350.32 -1712350.20 0.0138 0.0050

Saturn -9401-01-29 22:19 J -1712263.59 -1712263.57 -1712263.54 0.0302 0.0294

Uranus -9401-01-31 07:26 J -1712262.30 -1712262.19 -1712262.08 0.0138 0.0069

Uranus -9401-04-28 10:33 J -1712174.16 -1712174.06 -1712173.96 0.0138 0.0088

Venus -9401-06-03 15:07 J -1712138.03 -1712137.87 -1712137.71 0.3676 0.0144

Uranus -9401-07-25 13:40 J -1712086.01 -1712085.93 -1712085.85 0.0138 0.0108

Uranus -9401-10-21 16:47 J -1711997.84 -1711997.80 -1711997.75 0.0138 0.0127

Jupiter -9400-01-14 18:57 J -1711912.82 -1711912.71 -1711912.60 0.0524 0.0272

Jupiter -9400-04-13 23:31 J -1711823.63 -1711823.52 -1711823.41 0.0523 0.0271

Mars -9397-03-04 03:50 J -1710768.45 -1710768.34 -1710768.23 0.1665 0.0197

Mars -9395-02-07 06:00 J -1710063.26 -1710063.25 -1710063.23 0.1650 0.1625

Jupiter -9394-03-06 14:09 J -1709671.08 -1709670.91 -1709670.74 0.0501 0.0222

Moon -9391-09-06 21:07 J -1708390.73 -1708390.62 -1708390.52 0.2726 0.0267

Earth -9391-09-06 21:21 J -1708390.72 -1708390.61 -1708390.51 0.2719 0.0256 *

Pluto -9390-03-12 23:02 J -1708203.58 -1708203.54 -1708203.47 0.0072 0.0066

Pluto -9390-06-09 00:00 J -1708115.57 -1708115.50 -1708115.39 0.0072 0.0058

Pluto -9390-09-05 01:26 J -1708027.54 -1708027.44 -1708027.33 0.0072 0.0049

Pluto -9390-12-02 02:38 J -1707939.51 -1707939.39 -1707939.26 0.0072 0.0041

Pluto -9389-02-28 03:35 J -1707851.47 -1707851.35 -1707851.21 0.0072 0.0032

Pluto -9389-05-26 04:47 J -1707763.43 -1707763.30 -1707763.15 0.0072 0.0024

Pluto -9389-08-22 06:00 J -1707675.39 -1707675.25 -1707675.10 0.0073 0.0015

Mars -9389-09-20 22:04 J -1707645.74 -1707645.58 -1707645.42 0.1863 0.0720

Jupiter -9389-11-02 23:31 J -1707602.60 -1707602.52 -1707602.44 0.0525 0.0406

Pluto -9389-11-18 07:12 J -1707587.35 -1707587.20 -1707587.04 0.0073 0.0006

Jupiter -9388-01-31 04:19 J -1707513.44 -1707513.32 -1707513.20 0.0524 0.0140

Pluto -9388-02-14 08:24 J -1707499.30 -1707499.15 -1707498.99 0.0073 0.0004

Pluto -9388-05-13 09:35 J -1707411.25 -1707411.10 -1707410.95 0.0073 0.0012

Mars -9388-07-25 15:07 J -1707337.97 -1707337.87 -1707337.76 0.1669 0.0656

Pluto -9388-08-09 10:47 J -1707323.19 -1707323.05 -1707322.90 0.0073 0.0021

Pluto -9388-11-05 12:00 J -1707235.13 -1707235.00 -1707234.86 0.0073 0.0030

Pluto -9387-02-01 13:12 J -1707147.07 -1707146.95 -1707146.82 0.0073 0.0040

Moon -9387-03-07 04:04 J -1707113.45 -1707113.33 -1707113.20 0.2612 0.1669

Earth -9387-03-07 05:45 J -1707113.39 -1707113.26 -1707113.12 0.2615 0.1456 *

Pluto -9387-04-30 14:09 J -1707059.00 -1707058.91 -1707058.78 0.0073 0.0050

Saturn -9387-05-25 13:55 J -1707033.92 -1707033.92 -1707033.91 0.0259 0.0259

Pluto -9387-07-27 15:35 J -1706970.93 -1706970.85 -1706970.75 0.0073 0.0058

Saturn -9387-08-22 11:02 J -1706945.22 -1706945.04 -1706944.86 0.0259 0.0104

Pluto -9387-10-23 16:47 J -1706882.84 -1706882.80 -1706882.73 0.0074 0.0068

Saturn -9387-11-19 08:09 J -1706856.35 -1706856.16 -1706855.97 0.0260 0.0052

Saturn -9386-02-16 05:16 J -1706767.39 -1706767.28 -1706767.16 0.0260 0.0209

Mars -9386-06-30 17:31 J -1706632.85 -1706632.77 -1706632.69 0.1653 0.1193

Jupiter -9383-12-23 10:19 J -1705361.17 -1705361.07 -1705360.96 0.0501 0.0408

Jupiter -9382-03-23 23:31 J -1705270.66 -1705270.52 -1705270.38 0.0502 0.0342

Mars -9379-02-10 14:38 J -1704216.05 -1704215.89 -1704215.73 0.1857 0.0632

Mars -9379-12-16 02:24 J -1703907.48 -1703907.40 -1703907.31 0.1673 0.1117

Earth -9378-09-09 14:52 J -1703639.98 -1703639.88 -1703639.79 0.2719 0.1067

Moon -9378-09-09 15:07 J -1703639.97 -1703639.87 -1703639.78 0.2725 0.1137 *

Jupiter -9377-11-19 08:38 J -1703203.27 -1703203.14 -1703203.02 0.0524 0.0011

Mars -9377-11-20 05:02 J -1703202.39 -1703202.29 -1703202.19 0.1657 0.0750

Moon -9374-03-10 12:14 J -1702362.14 -1702361.99 -1702361.84 0.2616 0.1019

Earth -9374-03-10 14:09 J -1702362.06 -1702361.91 -1702361.77 0.2614 0.1265 *

Saturn -9373-09-25 11:31 J -1701797.10 -1701797.02 -1701796.94 0.0303 0.0236

Saturn -9373-12-23 00:00 J -1701708.62 -1701708.50 -1701708.37 0.0303 0.0072

Saturn	-9372-03-21 12:28 J	-1701620.10	-1701619.98	-1701619.86	0.0303	0.0091
Saturn	-9372-06-18 00:43 J	-1701531.53	-1701531.47	-1701531.40	0.0302	0.0253
Moon	-9371-09-02 14:24 J	-1701089.91	-1701089.90	-1701089.89	0.2718	0.2702
Earth	-9371-09-02 15:07 J	-1701089.91	-1701089.87	-1701089.84	0.2719	0.2546 *
Jupiter	-9370-01-09 19:55 J	-1700960.84	-1700960.67	-1700960.49	0.0502	0.0157
Mars	-9369-05-07 13:26 J	-1700476.97	-1700476.94	-1700476.90	0.1678	0.1588
Mars	-9367-04-12 16:19 J	-1699771.93	-1699771.82	-1699771.70	0.1661	0.0310
Jupiter	-9365-09-07 12:57 J	-1698893.08	-1698892.96	-1698892.84	0.0524	0.0138
Earth	-9365-09-11 08:24 J	-1698889.20	-1698889.15	-1698889.10	0.2719	0.2365
Moon	-9365-09-11 09:07 J	-1698889.17	-1698889.12	-1698889.08	0.2721	0.2404 *
Jupiter	-9365-12-05 17:16 J	-1698803.85	-1698803.78	-1698803.70	0.0522	0.0401
Uranus	-9364-07-12 12:57 J	-1698585.00	-1698584.96	-1698584.89	0.0141	0.0136
Venus	-9364-08-23 06:14 J	-1698543.32	-1698543.24	-1698543.15	0.3693	0.2012
Uranus	-9364-10-08 21:35 J	-1698496.72	-1698496.60	-1698496.46	0.0141	0.0105
Uranus	-9363-01-05 06:00 J	-1698408.41	-1698408.25	-1698408.07	0.0141	0.0073
Uranus	-9363-04-03 14:38 J	-1698320.08	-1698319.89	-1698319.70	0.0141	0.0042
Uranus	-9363-06-30 23:02 J	-1698231.73	-1698231.54	-1698231.34	0.0141	0.0011
Uranus	-9363-09-27 07:26 J	-1698143.38	-1698143.19	-1698142.99	0.0141	0.0021
Uranus	-9363-12-24 15:50 J	-1698055.02	-1698054.84	-1698054.65	0.0141	0.0052
Uranus	-9362-03-23 00:00 J	-1697966.65	-1697966.50	-1697966.33	0.0141	0.0083
Uranus	-9362-06-19 08:24 J	-1697878.25	-1697878.15	-1697878.02	0.0140	0.0113
Jupiter	-9359-10-28 16:19 J	-1696651.00	-1696650.82	-1696650.63	0.0502	0.0031
Venus	-9358-03-08 21:35 J	-1696519.70	-1696519.60	-1696519.50	0.3695	0.0338
Mars	-9358-09-03 03:50 J	-1696341.46	-1696341.34	-1696341.23	0.1665	0.0154
Moon	-9358-09-05 07:55 J	-1696339.26	-1696339.17	-1696339.08	0.2722	0.1310
Earth	-9358-09-05 08:38 J	-1696339.24	-1696339.14	-1696339.05	0.2719	0.1269 *
Saturn	-9357-01-09 10:47 J	-1696213.20	-1696213.05	-1696212.88	0.0259	0.0143
Saturn	-9357-04-07 08:09 J	-1696124.36	-1696124.16	-1696123.97	0.0260	0.0014
Saturn	-9357-07-05 05:16 J	-1696035.43	-1696035.28	-1696035.14	0.0260	0.0170
Jupiter	-9353-06-26 17:02 J	-1694582.90	-1694582.79	-1694582.69	0.0524	0.0281

Venus -9353-09-21 12:57 J -1694496.06 -1694495.96 -1694495.87 0.3697 0.1331

Jupiter -9353-09-23 21:35 J -1694493.71 -1694493.60 -1694493.49 0.0523 0.0261

Mars -9349-03-21 22:47 J -1693218.70 -1693218.55 -1693218.39 0.1863 0.0832

Mars -9348-01-23 15:07 J -1692910.98 -1692910.87 -1692910.76 0.1669 0.0600

Venus -9347-04-07 04:04 J -1692472.39 -1692472.33 -1692472.27 0.3699 0.2977

Jupiter -9347-08-16 12:28 J -1692341.15 -1692340.98 -1692340.81 0.0502 0.0217

Mars -9347-12-29 17:31 J -1692205.84 -1692205.77 -1692205.70 0.1653 0.1244

Moon -9345-09-07 01:55 J -1691588.53 -1691588.42 -1691588.32 0.2726 0.0055

Earth -9345-09-07 01:55 J -1691588.52 -1691588.42 -1691588.31 0.2719 0.0112 *

Venus -9344-01-08 18:00 J -1691464.89 -1691464.75 -1691464.61 0.3676 0.1852

Saturn -9343-02-12 14:24 J -1691064.95 -1691064.90 -1691064.85 0.0303 0.0273

Saturn -9343-05-12 02:52 J -1690976.50 -1690976.38 -1690976.26 0.0303 0.0109

Saturn -9343-08-08 15:21 J -1690887.99 -1690887.86 -1690887.73 0.0303 0.0054

Saturn -9343-11-05 03:35 J -1690799.43 -1690799.35 -1690799.26 0.0302 0.0216

Moon -9341-03-07 10:47 J -1690311.20 -1690311.05 -1690310.90 0.2614 0.1060

Earth -9341-03-07 12:43 J -1690311.13 -1690310.97 -1690310.82 0.2614 0.0934 *

Jupiter -9341-04-14 21:35 J -1690272.68 -1690272.60 -1690272.53 0.0525 0.0417

Jupiter -9341-07-13 02:09 J -1690183.53 -1690183.41 -1690183.29 0.0524 0.0129

Mars -9340-08-11 15:21 J -1689789.02 -1689788.86 -1689788.69 0.1858 0.0523

Mars -9339-06-16 02:24 J -1689480.49 -1689480.40 -1689480.31 0.1673 0.1060

Mars -9337-05-21 05:02 J -1688775.39 -1688775.29 -1688775.19 0.1657 0.0807

Jupiter -9335-06-04 07:40 J -1688031.28 -1688031.18 -1688031.08 0.0501 0.0417

Jupiter -9335-09-02 20:38 J -1687940.78 -1687940.64 -1687940.49 0.0502 0.0331

Earth -9332-09-09 19:26 J -1686837.78 -1686837.69 -1686837.59 0.2719 0.1325

Moon -9332-09-09 19:55 J -1686837.76 -1686837.67 -1686837.58 0.2724 0.1370 *

Mars -9330-01-01 08:38 J -1686359.16 -1686359.14 -1686359.12 0.1851 0.1828

Mars -9330-11-06 13:26 J -1686049.98 -1686049.94 -1686049.89 0.1677 0.1532

Jupiter -9329-05-01 06:43 J -1685873.34 -1685873.22 -1685873.09 0.0524 0.0015

Moon -9328-03-10 19:12 J -1685559.83 -1685559.70 -1685559.57 0.2616 0.1610

Earth -9328-03-10 20:52 J -1685559.75 -1685559.63 -1685559.51 0.2615 0.1785 *

Saturn -9328-05-28 11:31 J -1685481.15 -1685481.02 -1685480.87 0.0260 0.0176

Saturn -9328-08-25 08:38 J -1685392.33 -1685392.14 -1685391.94 0.0260 0.0021

Mars -9328-10-11 16:19 J -1685344.93 -1685344.82 -1685344.71 0.1660 0.0363

Saturn -9328-11-22 05:45 J -1685303.42 -1685303.26 -1685303.09 0.0260 0.0137

Neptune -9326-12-10 03:07 J -1684555.41 -1684555.37 -1684555.33 0.0089 0.0085

Neptune -9325-03-07 04:19 J -1684467.37 -1684467.32 -1684467.25 0.0089 0.0078

Neptune -9325-06-03 05:31 J -1684379.34 -1684379.27 -1684379.18 0.0089 0.0071

Neptune -9325-08-30 06:57 J -1684291.29 -1684291.21 -1684291.11 0.0089 0.0063

Moon -9325-09-02 19:12 J -1684287.76 -1684287.70 -1684287.65 0.2718 0.2320

Earth -9325-09-02 19:55 J -1684287.73 -1684287.67 -1684287.62 0.2719 0.2292 *

Neptune -9325-11-26 08:09 J -1684203.25 -1684203.16 -1684203.05 0.0089 0.0057

Neptune -9324-02-22 09:35 J -1684115.20 -1684115.10 -1684114.98 0.0089 0.0049

Neptune -9324-05-21 11:02 J -1684027.16 -1684027.04 -1684026.92 0.0089 0.0042

Neptune -9324-08-17 12:14 J -1683939.11 -1683938.99 -1683938.87 0.0089 0.0035

Neptune -9324-11-13 13:40 J -1683851.06 -1683850.93 -1683850.81 0.0089 0.0028

Neptune -9323-02-09 14:52 J -1683763.00 -1683762.88 -1683762.75 0.0089 0.0021

Neptune -9323-05-08 16:19 J -1683674.95 -1683674.82 -1683674.69 0.0089 0.0014

Jupiter -9323-06-21 16:47 J -1683630.98 -1683630.80 -1683630.62 0.0502 0.0142

Neptune -9323-08-04 17:31 J -1683586.90 -1683586.77 -1683586.64 0.0089 0.0006

Neptune -9323-10-31 18:43 J -1683498.85 -1683498.72 -1683498.58 0.0089 0.0003

Neptune -9322-01-27 20:09 J -1683410.79 -1683410.66 -1683410.53 0.0089 0.0008

Neptune -9322-04-25 21:21 J -1683322.74 -1683322.61 -1683322.48 0.0089 0.0015

Neptune -9322-07-22 22:47 J -1683234.68 -1683234.55 -1683234.43 0.0089 0.0022

Neptune -9322-10-19 00:00 J -1683146.62 -1683146.50 -1683146.38 0.0089 0.0029

Neptune -9321-01-15 01:12 J -1683058.57 -1683058.45 -1683058.33 0.0089 0.0036

Neptune -9321-04-12 02:24 J -1682970.51 -1682970.40 -1682970.28 0.0089 0.0043

Neptune -9321-07-09 03:35 J -1682882.45 -1682882.35 -1682882.23 0.0089 0.0051

Neptune -9321-10-05 05:02 J -1682794.38 -1682794.29 -1682794.18 0.0089 0.0057

Neptune -9320-01-01 06:14 J -1682706.32 -1682706.24 -1682706.14 0.0089 0.0064

Neptune -9320-03-30 07:26 J -1682618.25 -1682618.19 -1682618.10 0.0089 0.0072

Uranus -9320-06-26 05:16 J -1682530.31 -1682530.28 -1682530.24 0.0137 0.0132

Neptune -9320-06-26 08:38 J -1682530.18 -1682530.14 -1682530.06 0.0089 0.0079

Uranus -9320-09-22 08:24 J -1682442.22 -1682442.15 -1682442.08 0.0137 0.0113

Neptune -9320-09-22 10:04 J -1682442.11 -1682442.08 -1682442.03 0.0089 0.0085 *

Uranus -9320-12-19 11:31 J -1682354.11 -1682354.02 -1682353.93 0.0137 0.0094

Uranus -9319-03-17 14:24 J -1682266.00 -1682265.90 -1682265.79 0.0137 0.0076

Uranus -9319-06-13 17:31 J -1682177.88 -1682177.77 -1682177.65 0.0137 0.0057

Uranus -9319-09-09 20:38 J -1682089.76 -1682089.64 -1682089.51 0.0137 0.0038

Earth -9319-09-12 13:12 J -1682086.98 -1682086.95 -1682086.93 0.2719 0.2623

Uranus -9319-12-06 23:45 J -1682001.64 -1682001.51 -1682001.38 0.0138 0.0019

Mars -9318-03-04 03:50 J -1681914.46 -1681914.34 -1681914.23 0.1664 0.0112

Uranus -9318-03-05 02:52 J -1681913.51 -1681913.38 -1681913.25 0.0138 0.0000

Uranus -9318-06-01 06:00 J -1681825.38 -1681825.25 -1681825.12 0.0138 0.0019

Uranus -9318-08-28 09:07 J -1681737.25 -1681737.12 -1681737.00 0.0138 0.0038

Uranus -9318-11-24 12:14 J -1681649.11 -1681648.99 -1681648.87 0.0138 0.0057

Jupiter -9317-02-18 11:02 J -1681563.16 -1681563.04 -1681562.92 0.0524 0.0147

Uranus -9317-02-20 15:07 J -1681560.97 -1681560.87 -1681560.75 0.0138 0.0077

Jupiter -9317-05-17 15:35 J -1681473.93 -1681473.85 -1681473.77 0.0523 0.0394

Uranus -9317-05-18 18:14 J -1681472.82 -1681472.74 -1681472.64 0.0138 0.0097

Uranus -9317-08-14 21:35 J -1681384.67 -1681384.60 -1681384.53 0.0138 0.0116

Uranus -9317-11-11 00:28 J -1681296.49 -1681296.48 -1681296.44 0.0139 0.0136

Saturn -9314-09-29 05:45 J -1680244.37 -1680244.26 -1680244.15 0.0303 0.0146

Saturn -9314-12-26 18:14 J -1680155.87 -1680155.74 -1680155.62 0.0303 0.0019

Saturn -9313-03-24 06:28 J -1680067.33 -1680067.23 -1680067.13 0.0302 0.0179

Venus -9313-09-13 12:28 J -1679894.04 -1679893.98 -1679893.93 0.3692 0.3087

Moon -9312-09-05 12:57 J -1679537.06 -1679536.96 -1679536.87 0.2724 0.1133

Earth -9312-09-05 13:12 J -1679537.04 -1679536.95 -1679536.85 0.2719 0.1012 *

Jupiter -9311-04-09 12:57 J -1679321.14 -1679320.96 -1679320.77 0.0502 0.0047

Mars -9310-09-20 23:45 J -1678791.66 -1678791.51 -1678791.36 0.1863 0.0950

Mars -9309-07-24 15:07 J -1678483.98 -1678483.87 -1678483.76 0.1669 0.0547

Venus	-9307-03-30 03:35 J	-1677870.44	-1677870.35	-1677870.25	0.3694	0.1417
Mars	-9307-06-29 17:31 J	-1677778.84	-1677778.77	-1677778.70	0.1653	0.1297
Jupiter	-9306-12-07 15:21 J	-1677252.96	-1677252.86	-1677252.75	0.0524	0.0285
Jupiter	-9305-03-05 20:09 J	-1677163.77	-1677163.66	-1677163.56	0.0523	0.0258
Pluto	-9305-05-13 02:09 J	-1677095.47	-1677095.41	-1677095.31	0.0072	0.0063
Pluto	-9305-08-09 03:50 J	-1677007.44	-1677007.34	-1677007.22	0.0072	0.0053
Pluto	-9305-11-05 05:31 J	-1676919.40	-1676919.27	-1676919.13	0.0072	0.0043
Pluto	-9304-02-01 06:57 J	-1676831.34	-1676831.21	-1676831.05	0.0072	0.0034
Pluto	-9304-04-30 08:38 J	-1676743.29	-1676743.14	-1676742.98	0.0072	0.0024
Pluto	-9304-07-27 10:04 J	-1676655.23	-1676655.08	-1676654.91	0.0072	0.0015
Pluto	-9304-10-23 11:45 J	-1676567.17	-1676567.01	-1676566.84	0.0072	0.0005
Pluto	-9303-01-19 13:12 J	-1676479.11	-1676478.95	-1676478.78	0.0072	0.0005
Pluto	-9303-04-17 14:52 J	-1676391.05	-1676390.88	-1676390.72	0.0071	0.0014
Pluto	-9303-07-14 16:04 J	-1676302.98	-1676302.83	-1676302.66	0.0071	0.0023
Pluto	-9303-10-10 17:31 J	-1676214.91	-1676214.77	-1676214.61	0.0071	0.0032
Pluto	-9302-01-06 18:57 J	-1676126.84	-1676126.71	-1676126.57	0.0071	0.0041
Pluto	-9302-04-04 20:24 J	-1676038.76	-1676038.65	-1676038.53	0.0071	0.0050
Pluto	-9302-07-01 21:35 J	-1675950.67	-1675950.60	-1675950.49	0.0071	0.0059
Pluto	-9302-09-27 23:02 J	-1675862.57	-1675862.54	-1675862.48	0.0071	0.0068
Venus	-9302-10-13 18:57 J	-1675846.81	-1675846.71	-1675846.61	0.3695	0.0263
Mars	-9300-02-09 16:33 J	-1675361.98	-1675361.81	-1675361.64	0.1857	0.0395
Mars	-9300-12-15 02:24 J	-1675053.49	-1675053.40	-1675053.31	0.1673	0.1009
Jupiter	-9299-01-26 09:21 J	-1675011.27	-1675011.11	-1675010.94	0.0502	0.0231
Moon	-9299-09-08 06:43 J	-1674786.33	-1674786.22	-1674786.11	0.2726	0.0295
Earth	-9299-09-08 06:43 J	-1674786.32	-1674786.22	-1674786.11	0.2719	0.0305 *
Saturn	-9299-10-15 11:45 J	-1674749.11	-1674749.01	-1674748.90	0.0259	0.0212
Saturn	-9298-01-12 08:52 J	-1674660.32	-1674660.13	-1674659.94	0.0260	0.0057
Saturn	-9298-04-11 06:00 J	-1674571.43	-1674571.25	-1674571.07	0.0260	0.0100
Saturn	-9298-07-09 03:07 J	-1674482.39	-1674482.37	-1674482.34	0.0260	0.0258
Mars	-9298-11-20 05:02 J	-1674348.39	-1674348.29	-1674348.20	0.1657	0.0860

Venus -9296-04-28 10:19 J -1673823.16 -1673823.07 -1673822.99 0.3697 0.1915

Moon -9295-03-08 17:45 J -1673508.92 -1673508.76 -1673508.61 0.2614 0.0711

Earth -9295-03-08 19:26 J -1673508.85 -1673508.69 -1673508.52 0.2614 0.0409 *

Jupiter -9294-09-25 19:26 J -1672942.76 -1672942.69 -1672942.62 0.0525 0.0429

Jupiter -9294-12-24 00:14 J -1672853.62 -1672853.49 -1672853.37 0.0523 0.0116

Venus -9293-01-30 08:52 J -1672816.25 -1672816.13 -1672816.01 0.3678 0.2377

Mars -9291-07-02 09:21 J -1671932.17 -1671932.11 -1671932.05 0.1851 0.1723

Venus -9291-11-12 01:26 J -1671799.46 -1671799.44 -1671799.42 0.3699 0.3559

Mars -9290-05-07 13:40 J -1671622.99 -1671622.93 -1671622.88 0.1677 0.1474

Mars -9288-04-11 16:19 J -1670917.93 -1670917.82 -1670917.71 0.1661 0.0415

Jupiter -9288-11-14 05:31 J -1670701.37 -1670701.27 -1670701.17 0.0501 0.0418

Jupiter -9287-02-12 18:43 J -1670610.86 -1670610.72 -1670610.58 0.0502 0.0331

Earth -9286-09-11 00:14 J -1670035.57 -1670035.49 -1670035.40 0.2719 0.1583

Moon -9286-09-11 00:43 J -1670035.55 -1670035.47 -1670035.38 0.2724 0.1649 *

Saturn -9284-02-15 08:52 J -1669512.23 -1669512.13 -1669512.03 0.0303 0.0180

Saturn -9284-05-14 21:21 J -1669423.74 -1669423.61 -1669423.48 0.0303 0.0017

Saturn -9284-08-11 09:35 J -1669335.21 -1669335.10 -1669334.98 0.0302 0.0146

Moon -9282-03-12 02:24 J -1668757.49 -1668757.40 -1668757.31 0.2617 0.2159

Earth -9282-03-12 03:50 J -1668757.41 -1668757.34 -1668757.27 0.2615 0.2313 *

Jupiter -9282-10-12 04:47 J -1668543.43 -1668543.30 -1668543.18 0.0524 0.0026

Jupiter -9281-01-09 09:07 J -1668454.13 -1668454.12 -1668454.11 0.0523 0.0519

Uranus -9280-08-01 21:07 J -1667883.70 -1667883.62 -1667883.53 0.0141 0.0126

Uranus -9280-10-29 05:31 J -1667795.40 -1667795.27 -1667795.11 0.0141 0.0095

Uranus -9279-01-25 13:55 J -1667707.08 -1667706.92 -1667706.73 0.0141 0.0064

Uranus -9279-04-23 22:33 J -1667618.75 -1667618.56 -1667618.36 0.0141 0.0032

Uranus -9279-07-21 07:12 J -1667530.40 -1667530.20 -1667530.01 0.0141 0.0003

Mars -9279-09-02 03:50 J -1667487.46 -1667487.34 -1667487.23 0.1664 0.0068

Moon -9279-09-04 00:00 J -1667485.56 -1667485.50 -1667485.44 0.2718 0.2191

Earth -9279-09-04 00:43 J -1667485.54 -1667485.47 -1667485.40 0.2719 0.2039 *

Uranus -9279-10-17 15:35 J -1667442.05 -1667441.85 -1667441.66 0.0141 0.0030

Uranus -9278-01-13 23:45 J -1667353.68 -1667353.51 -1667353.33 0.0141 0.0061

Uranus -9278-04-12 08:09 J -1667265.30 -1667265.16 -1667265.01 0.0140 0.0092

Uranus -9278-07-09 16:19 J -1667176.90 -1667176.82 -1667176.71 0.0140 0.0122

Jupiter -9276-12-01 13:55 J -1666301.10 -1666300.92 -1666300.74 0.0502 0.0130

Mars -9270-03-22 00:57 J -1664364.60 -1664364.46 -1664364.32 0.1864 0.1085

Jupiter -9270-07-31 09:07 J -1664233.24 -1664233.12 -1664233.00 0.0525 0.0157

Jupiter -9270-10-28 13:40 J -1664144.01 -1664143.93 -1664143.84 0.0523 0.0386

Mars -9269-01-23 15:07 J -1664056.98 -1664056.87 -1664056.76 0.1668 0.0494

Saturn -9269-03-03 12:28 J -1664017.03 -1664016.98 -1664016.90 0.0260 0.0244

Saturn -9269-05-31 09:35 J -1663928.27 -1663928.10 -1663927.91 0.0260 0.0089

Saturn -9269-08-28 06:57 J -1663839.40 -1663839.21 -1663839.03 0.0260 0.0068

Saturn -9269-11-25 03:50 J -1663750.42 -1663750.34 -1663750.23 0.0260 0.0227

Mars -9268-12-28 17:31 J -1663351.84 -1663351.77 -1663351.71 0.1653 0.1353

Moon -9266-09-06 17:45 J -1662734.87 -1662734.76 -1662734.66 0.2725 0.0754

Earth -9266-09-06 18:00 J -1662734.85 -1662734.75 -1662734.64 0.2719 0.0756 *

Jupiter -9264-09-19 09:50 J -1661991.28 -1661991.09 -1661990.90 0.0501 0.0060

Mars -9261-08-10 17:16 J -1660934.95 -1660934.78 -1660934.61 0.1857 0.0280

Mars -9260-06-15 02:24 J -1660626.50 -1660626.40 -1660626.31 0.1673 0.0954

Jupiter -9258-05-19 13:26 J -1659923.04 -1659922.94 -1659922.83 0.0525 0.0296

Mars -9258-05-21 04:47 J -1659921.39 -1659921.30 -1659921.20 0.1657 0.0913

Jupiter -9258-08-16 18:00 J -1659833.86 -1659833.75 -1659833.64 0.0523 0.0248

Venus -9256-04-20 09:50 J -1659221.17 -1659221.09 -1659221.02 0.3692 0.2490

Saturn -9255-07-05 12:00 J -1658780.09 -1658780.00 -1658779.91 0.0303 0.0213

Saturn -9255-10-02 00:28 J -1658691.61 -1658691.48 -1658691.36 0.0303 0.0049

Saturn -9255-12-29 12:43 J -1658603.08 -1658602.97 -1658602.85 0.0302 0.0114

Saturn -9254-03-28 00:57 J -1658514.50 -1658514.46 -1658514.40 0.0302 0.0274

Moon -9253-09-08 11:45 J -1657984.12 -1657984.01 -1657983.91 0.2725 0.0522

Earth -9253-09-08 11:31 J -1657984.12 -1657984.02 -1657983.91 0.2719 0.0552 *

Jupiter -9252-07-08 06:00 J -1657681.41 -1657681.25 -1657681.09 0.0501 0.0249

Mars -9252-12-31 10:19 J -1657505.16 -1657505.07 -1657504.99 0.1852 0.1600

Venus -9251-11-04 01:12 J -1657197.55 -1657197.45 -1657197.36 0.3694 0.0831

Mars -9251-11-05 13:26 J -1657196.00 -1657195.94 -1657195.88 0.1677 0.1420

Moon -9249-03-09 00:28 J -1656706.65 -1656706.48 -1656706.32 0.2614 0.0025

Earth -9249-03-09 02:24 J -1656706.56 -1656706.40 -1656706.24 0.2614 0.0117 *

Mars -9249-10-10 16:19 J -1656490.93 -1656490.82 -1656490.71 0.1660 0.0468

Jupiter -9246-03-07 17:45 J -1655612.82 -1655612.76 -1655612.69 0.0525 0.0434

Jupiter -9246-06-04 22:33 J -1655523.68 -1655523.56 -1655523.44 0.0523 0.0111

Venus -9245-05-19 16:19 J -1655173.92 -1655173.82 -1655173.72 0.3696 0.0841

Neptune -9242-02-22 17:45 J -1654164.79 -1654164.76 -1654164.69 0.0088 0.0085

Neptune -9242-05-21 21:21 J -1654076.69 -1654076.61 -1654076.49 0.0088 0.0075

Neptune -9242-08-18 01:12 J -1653988.57 -1653988.45 -1653988.31 0.0088 0.0065

Neptune -9242-11-14 04:47 J -1653900.44 -1653900.30 -1653900.13 0.0088 0.0055

Neptune -9241-02-10 08:24 J -1653812.30 -1653812.15 -1653811.96 0.0088 0.0045

Neptune -9241-05-08 12:14 J -1653724.16 -1653723.99 -1653723.80 0.0088 0.0035

Neptune -9241-08-04 15:50 J -1653636.02 -1653635.84 -1653635.64 0.0088 0.0025

Neptune -9241-10-31 19:55 J -1653547.87 -1653547.67 -1653547.48 0.0088 0.0014

Neptune -9240-01-27 23:31 J -1653459.72 -1653459.52 -1653459.32 0.0088 0.0004

Neptune -9240-04-26 03:07 J -1653371.56 -1653371.37 -1653371.17 0.0088 0.0006

Jupiter -9240-04-26 02:24 J -1653371.50 -1653371.40 -1653371.31 0.0501 0.0434 *

Neptune -9240-07-23 06:57 J -1653283.41 -1653283.21 -1653283.02 0.0088 0.0016

Jupiter -9240-07-25 15:21 J -1653281.00 -1653280.86 -1653280.71 0.0503 0.0317

Earth -9240-09-11 05:02 J -1653233.36 -1653233.29 -1653233.21 0.2719 0.1842

Moon -9240-09-11 05:31 J -1653233.34 -1653233.27 -1653233.19 0.2724 0.1941 *

Saturn -9240-10-18 09:50 J -1653196.25 -1653196.09 -1653195.91 0.0259 0.0125

Neptune -9240-10-19 10:19 J -1653195.25 -1653195.07 -1653194.87 0.0088 0.0027

Venus -9240-12-03 07:40 J -1653150.26 -1653150.18 -1653150.11 0.3698 0.2499

Saturn -9239-01-15 07:12 J -1653107.39 -1653107.20 -1653107.01 0.0260 0.0032

Neptune -9239-01-15 13:55 J -1653107.08 -1653106.92 -1653106.72 0.0088 0.0037 *

Mars -9239-03-03 03:35 J -1653060.46 -1653060.35 -1653060.23 0.1664 0.0028

Neptune -9239-04-13 17:45 J -1653018.92 -1653018.76 -1653018.58 0.0088 0.0047

Saturn -9239-04-14 04:19 J -1653018.45 -1653018.32 -1653018.19 0.0260 0.0189

Neptune -9239-07-10 21:21 J -1652930.75 -1652930.61 -1652930.45 0.0088 0.0057

Neptune -9239-10-07 01:12 J -1652842.57 -1652842.45 -1652842.32 0.0088 0.0067

Neptune -9238-01-03 05:02 J -1652754.38 -1652754.29 -1652754.20 0.0088 0.0077

Neptune -9238-04-01 08:24 J -1652666.15 -1652666.15 -1652666.12 0.0088 0.0088

Venus -9237-09-05 11:45 J -1652143.17 -1652143.01 -1652142.85 0.3677 0.0394

Uranus -9236-07-16 12:43 J -1651829.01 -1651828.97 -1651828.91 0.0137 0.0126

Uranus -9236-10-12 15:50 J -1651740.91 -1651740.84 -1651740.75 0.0137 0.0107

Uranus -9235-01-08 18:57 J -1651652.80 -1651652.71 -1651652.60 0.0137 0.0089

Uranus -9235-04-06 22:04 J -1651564.69 -1651564.58 -1651564.46 0.0137 0.0070

Uranus -9235-07-04 01:12 J -1651476.57 -1651476.45 -1651476.33 0.0137 0.0051

Uranus -9235-09-30 04:19 J -1651388.45 -1651388.32 -1651388.19 0.0137 0.0032

Uranus -9235-12-27 07:26 J -1651300.32 -1651300.19 -1651300.06 0.0138 0.0013

Jupiter -9234-03-24 02:38 J -1651213.52 -1651213.39 -1651213.27 0.0524 0.0033

Uranus -9234-03-25 10:33 J -1651212.19 -1651212.06 -1651211.93 0.0138 0.0006

Jupiter -9234-06-21 06:57 J -1651124.23 -1651124.21 -1651124.18 0.0522 0.0505

Uranus -9234-06-21 13:40 J -1651124.06 -1651123.93 -1651123.80 0.0138 0.0025

Uranus -9234-09-17 16:33 J -1651035.92 -1651035.81 -1651035.68 0.0138 0.0045

Uranus -9234-12-14 19:40 J -1650947.79 -1650947.68 -1650947.56 0.0138 0.0064

Uranus -9233-03-11 22:47 J -1650859.64 -1650859.55 -1650859.44 0.0138 0.0084

Uranus -9233-06-08 02:09 J -1650771.50 -1650771.41 -1650771.32 0.0138 0.0102

Moon -9233-09-04 04:47 J -1650683.38 -1650683.30 -1650683.23 0.2720 0.1824

Earth -9233-09-04 05:16 J -1650683.36 -1650683.28 -1650683.20 0.2719 0.1787 *

Uranus -9233-09-04 05:16 J -1650683.34 -1650683.28 -1650683.22 0.0138 0.0122 *

Mars -9231-09-20 01:26 J -1649937.57 -1649937.44 -1649937.31 0.1863 0.1186

Mars -9230-07-24 15:07 J -1649629.98 -1649629.87 -1649629.76 0.1669 0.0439

Jupiter -9228-05-13 11:31 J -1648971.20 -1648971.02 -1648970.84 0.0502 0.0126

Mars -9228-06-28 17:16 J -1648924.83 -1648924.78 -1648924.72 0.1653 0.1404

Saturn -9226-11-22 15:07 J -1648047.94 -1648047.87 -1648047.80 0.0303 0.0248

Saturn -9225-02-19 03:35 J -1647959.48 -1647959.35 -1647959.23 0.0303 0.0084

Saturn -9225-05-17 15:50 J -1647870.96 -1647870.84 -1647870.71 0.0302 0.0080

Saturn -9225-08-14 04:19 J -1647782.40 -1647782.32 -1647782.25 0.0302 0.0240

Jupiter -9222-01-10 06:57 J -1646903.33 -1646903.21 -1646903.09 0.0524 0.0170

Jupiter -9222-04-09 11:31 J -1646814.10 -1646814.02 -1646813.93 0.0523 0.0372

Mars -9221-02-09 18:14 J -1646507.91 -1646507.74 -1646507.57 0.1858 0.0163

Mars -9221-12-14 02:24 J -1646199.50 -1646199.40 -1646199.31 0.1673 0.0894

Moon -9220-09-06 22:33 J -1645932.67 -1645932.56 -1645932.46 0.2725 0.0619

Earth -9220-09-06 22:47 J -1645932.65 -1645932.55 -1645932.44 0.2719 0.0501 *

Mars -9219-11-19 04:47 J -1645494.39 -1645494.30 -1645494.20 0.1657 0.0969

Jupiter -9216-03-01 06:57 J -1644661.40 -1644661.21 -1644661.02 0.0501 0.0072

Moon -9216-03-06 23:02 J -1644655.62 -1644655.54 -1644655.45 0.2612 0.2196

Earth -9216-03-07 00:57 J -1644655.56 -1644655.46 -1644655.37 0.2615 0.2094 *

Mars -9212-07-01 11:16 J -1643078.13 -1643078.03 -1643077.92 0.1852 0.1471

Mars -9211-05-06 13:26 J -1642769.00 -1642768.94 -1642768.88 0.1677 0.1364

Jupiter -9211-10-29 11:16 J -1642593.13 -1642593.03 -1642592.92 0.0525 0.0309

Jupiter -9210-01-26 16:04 J -1642503.94 -1642503.83 -1642503.72 0.0524 0.0236

Saturn -9210-03-07 10:47 J -1642464.20 -1642464.05 -1642463.89 0.0260 0.0155

Saturn -9210-06-04 07:55 J -1642375.36 -1642375.17 -1642374.97 0.0260 0.0003

Saturn -9210-09-01 05:02 J -1642286.44 -1642286.29 -1642286.13 0.0260 0.0158

Mars -9209-04-10 16:19 J -1642063.93 -1642063.82 -1642063.71 0.1660 0.0525

Earth -9207-09-09 16:19 J -1641181.92 -1641181.82 -1641181.71 0.2719 0.0804

Moon -9207-09-09 16:33 J -1641181.91 -1641181.81 -1641181.71 0.2725 0.0888 *

Venus -9205-05-11 15:50 J -1640571.86 -1640571.84 -1640571.82 0.3691 0.3569

Jupiter -9205-12-18 02:52 J -1640351.54 -1640351.38 -1640351.22 0.0501 0.0261

Jupiter -9204-03-18 16:04 J -1640260.86 -1640260.83 -1640260.79 0.0502 0.0490

Moon -9203-03-10 07:26 J -1639904.35 -1639904.19 -1639904.02 0.2614 0.0347

Earth -9203-03-10 09:21 J -1639904.27 -1639904.11 -1639903.95 0.2614 0.0651 *

Mars -9200-09-01 03:35 J -1638633.46 -1638633.35 -1638633.24 0.1664 0.0072

Venus -9200-11-25 07:12 J -1638548.29 -1638548.20 -1638548.12 0.3693 0.1890

Jupiter -9199-08-17 15:50 J -1638282.91 -1638282.84 -1638282.78 0.0525 0.0447

Jupiter -9199-11-14 20:24 J -1638193.77 -1638193.65 -1638193.52 0.0524 0.0099

Saturn -9196-04-10 18:00 J -1637315.79 -1637315.75 -1637315.69 0.0303 0.0281

Saturn -9196-07-08 06:43 J -1637227.34 -1637227.22 -1637227.10 0.0303 0.0116

Uranus -9196-08-22 05:31 J -1637182.37 -1637182.27 -1637182.14 0.0141 0.0115

Saturn -9196-10-04 19:12 J -1637138.83 -1637138.70 -1637138.58 0.0303 0.0047

Uranus -9196-11-18 14:09 J -1637094.06 -1637093.91 -1637093.74 0.0141 0.0084

Saturn -9195-01-01 07:26 J -1637050.28 -1637050.19 -1637050.10 0.0302 0.0209

Uranus -9195-02-14 22:33 J -1637005.73 -1637005.56 -1637005.37 0.0141 0.0053

Uranus -9195-05-14 07:12 J -1636917.39 -1636917.20 -1636917.00 0.0141 0.0021

Uranus -9195-08-10 15:35 J -1636829.05 -1636828.85 -1636828.65 0.0141 0.0010

Uranus -9195-11-07 00:00 J -1636740.69 -1636740.50 -1636740.31 0.0141 0.0041

Uranus -9194-02-03 08:09 J -1636652.32 -1636652.16 -1636651.98 0.0141 0.0073

Uranus -9194-05-02 16:47 J -1636563.93 -1636563.80 -1636563.67 0.0140 0.0103

Venus -9194-06-10 22:19 J -1636524.67 -1636524.57 -1636524.46 0.3694 0.0276

Uranus -9194-07-30 00:57 J -1636475.51 -1636475.46 -1636475.39 0.0140 0.0134

Earth -9194-09-12 09:50 J -1636431.15 -1636431.09 -1636431.02 0.2719 0.2103

Moon -9194-09-12 10:19 J -1636431.13 -1636431.07 -1636431.00 0.2723 0.2152 *

Jupiter -9193-10-05 22:47 J -1636041.63 -1636041.55 -1636041.47 0.0501 0.0451

Jupiter -9192-01-04 12:00 J -1635951.15 -1635951.00 -1635950.85 0.0502 0.0298

Mars -9191-03-21 02:38 J -1635510.51 -1635510.39 -1635510.27 0.1864 0.1317

Mars -9190-01-22 14:52 J -1635202.99 -1635202.88 -1635202.76 0.1668 0.0385

Venus -9189-12-24 13:40 J -1634501.02 -1634500.93 -1634500.84 0.3696 0.1429

Mars -9189-12-27 17:16 J -1634497.83 -1634497.78 -1634497.73 0.1653 0.1458

Jupiter -9187-09-03 00:57 J -1633883.58 -1633883.46 -1633883.33 0.0524 0.0038

Moon -9187-09-05 09:35 J -1633881.19 -1633881.10 -1633881.02 0.2722 0.1649

Earth -9187-09-05 10:04 J -1633881.16 -1633881.08 -1633880.99 0.2719 0.1529 *

Jupiter -9187-12-01 05:16 J -1633794.31 -1633794.28 -1633794.24 0.0522 0.0501

Venus -9183-07-10 05:02 J -1632477.35 -1632477.29 -1632477.24 0.3698 0.3079

Mars -9182-08-10 19:12 J -1632080.87 -1632080.70 -1632080.53 0.1858 0.0038

Mars -9181-06-14 02:09 J -1631772.51 -1631772.41 -1631772.31 0.1673 0.0843

Saturn -9181-07-24 11:02 J -1631732.16 -1631732.04 -1631731.90 0.0259 0.0191

Saturn -9181-10-21 08:09 J -1631643.35 -1631643.16 -1631642.96 0.0260 0.0036

Jupiter -9181-10-23 08:09 J -1631641.34 -1631641.16 -1631640.97 0.0502 0.0112

Saturn -9180-01-18 05:16 J -1631554.45 -1631554.28 -1631554.10 0.0260 0.0121

Venus -9180-04-12 14:38 J -1631470.04 -1631469.89 -1631469.74 0.3676 0.1581

Mars -9179-05-20 04:47 J -1631067.39 -1631067.30 -1631067.21 0.1656 0.1019

Jupiter -9175-06-22 05:02 J -1629573.41 -1629573.29 -1629573.17 0.0524 0.0181

Jupiter -9175-09-19 09:35 J -1629484.19 -1629484.10 -1629484.01 0.0523 0.0359

Moon -9174-09-08 03:21 J -1629130.47 -1629130.36 -1629130.26 0.2725 0.0232

Earth -9174-09-08 03:35 J -1629130.45 -1629130.35 -1629130.24 0.2719 0.0243 *

Mars -9173-12-30 11:45 J -1628651.12 -1628651.01 -1628650.89 0.1852 0.1377

Mars -9172-11-04 13:26 J -1628342.01 -1628341.94 -1628341.87 0.1677 0.1307

Moon -9170-03-08 06:00 J -1627853.37 -1627853.25 -1627853.14 0.2612 0.1839

Earth -9170-03-08 07:40 J -1627853.31 -1627853.18 -1627853.05 0.2614 0.1566 *

Mars -9170-10-10 16:04 J -1627636.93 -1627636.83 -1627636.72 0.1660 0.0578

Jupiter -9169-08-11 04:19 J -1627331.50 -1627331.32 -1627331.13 0.0502 0.0078

Saturn -9167-11-25 09:35 J -1626495.21 -1626495.10 -1626494.99 0.0303 0.0152

Saturn -9166-02-21 22:04 J -1626406.71 -1626406.58 -1626406.45 0.0303 0.0013

Saturn -9166-05-21 10:33 J -1626318.17 -1626318.06 -1626317.96 0.0302 0.0173

Jupiter -9163-04-10 09:21 J -1625263.21 -1625263.11 -1625263.01 0.0525 0.0320

Jupiter -9163-07-08 14:09 J -1625174.03 -1625173.91 -1625173.80 0.0523 0.0225

Neptune -9161-09-05 02:24 J -1624384.44 -1624384.40 -1624384.34 0.0089 0.0083

Earth -9161-09-09 21:07 J -1624379.72 -1624379.62 -1624379.52 0.2719 0.1059

Moon -9161-09-09 21:21 J -1624379.71 -1624379.61 -1624379.51 0.2726 0.1040 *

Neptune -9161-12-02 03:35 J -1624296.40 -1624296.35 -1624296.27 0.0089 0.0077

Neptune -9160-02-28 05:16 J -1624208.36 -1624208.28 -1624208.20 0.0089 0.0069

Mars -9160-03-02 03:35 J -1624206.46 -1624206.35 -1624206.23 0.1664 0.0133

Neptune -9160-05-27 06:28 J -1624120.32 -1624120.23 -1624120.13 0.0089 0.0062

Neptune -9160-08-23 07:40 J -1624032.28 -1624032.18 -1624032.07 0.0089 0.0055

Neptune -9160-11-19 09:07 J -1623944.23 -1623944.12 -1623944.01 0.0089 0.0048

Neptune -9159-02-15 10:19 J -1623856.18 -1623856.07 -1623855.95 0.0089 0.0041

Neptune -9159-05-14 11:45 J -1623768.13 -1623768.01 -1623767.89 0.0089 0.0033

Neptune -9159-08-10 12:57 J -1623680.08 -1623679.96 -1623679.83 0.0089 0.0027

Neptune -9159-11-06 14:24 J -1623592.03 -1623591.90 -1623591.77 0.0089 0.0019

Neptune -9158-02-02 15:35 J -1623503.98 -1623503.85 -1623503.72 0.0089 0.0012

Neptune -9158-05-01 17:02 J -1623415.92 -1623415.79 -1623415.66 0.0089 0.0005

Neptune -9158-07-28 18:14 J -1623327.87 -1623327.74 -1623327.61 0.0089 0.0002

Neptune -9158-10-24 19:26 J -1623239.81 -1623239.69 -1623239.55 0.0089 0.0010

Neptune -9157-01-20 20:52 J -1623151.76 -1623151.63 -1623151.50 0.0089 0.0016

Moon -9157-03-10 14:24 J -1623102.05 -1623101.90 -1623101.75 0.2616 0.1079

Earth -9157-03-10 16:04 J -1623101.98 -1623101.83 -1623101.68 0.2614 0.1164 *

Neptune -9157-04-17 22:04 J -1623063.70 -1623063.58 -1623063.45 0.0089 0.0023

Jupiter -9157-05-30 00:14 J -1623021.65 -1623021.49 -1623021.33 0.0501 0.0270

Neptune -9157-07-14 23:16 J -1622975.65 -1622975.53 -1622975.40 0.0089 0.0031

Jupiter -9157-08-28 13:26 J -1622930.99 -1622930.94 -1622930.89 0.0502 0.0480

Neptune -9157-10-11 00:43 J -1622887.59 -1622887.47 -1622887.35 0.0089 0.0037

Neptune -9156-01-07 01:55 J -1622799.53 -1622799.42 -1622799.30 0.0089 0.0044

Neptune -9156-04-05 03:07 J -1622711.47 -1622711.37 -1622711.26 0.0089 0.0052

Neptune -9156-07-02 04:33 J -1622623.41 -1622623.31 -1622623.21 0.0089 0.0058

Neptune -9156-09-28 05:45 J -1622535.34 -1622535.26 -1622535.17 0.0089 0.0066

Neptune -9156-12-25 06:57 J -1622447.28 -1622447.21 -1622447.13 0.0089 0.0073

Neptune -9155-03-23 08:09 J -1622359.20 -1622359.16 -1622359.09 0.0089 0.0080

Neptune -9155-06-19 09:35 J -1622271.12 -1622271.10 -1622271.06 0.0089 0.0087

Moon -9154-09-03 20:52 J -1621829.66 -1621829.63 -1621829.61 0.2716 0.2636

Earth -9154-09-03 21:21 J -1621829.64 -1621829.61 -1621829.57 0.2719 0.2559 *

Uranus -9152-08-05 20:24 J -1621127.71 -1621127.65 -1621127.59 0.0137 0.0120

Mars -9152-09-19 03:35 J -1621083.46 -1621083.35 -1621083.24 0.1864 0.1443

Uranus -9152-11-01 23:16 J -1621039.61 -1621039.53 -1621039.44 0.0137 0.0102

Saturn -9152-12-11 11:45 J -1621000.10 -1621000.01 -1620999.90 0.0260 0.0224

Jupiter -9151-01-27 13:40 J -1620952.99 -1620952.93 -1620952.87 0.0525 0.0460

Uranus -9151-01-29 02:24 J -1620951.50 -1620951.40 -1620951.29 0.0137 0.0083

Saturn -9151-03-10 08:52 J -1620911.31 -1620911.13 -1620910.94 0.0260 0.0069

Jupiter -9151-04-26 18:28 J -1620863.85 -1620863.73 -1620863.60 0.0524 0.0088

Uranus -9151-04-27 05:31 J -1620863.38 -1620863.27 -1620863.15 0.0137 0.0064

Saturn -9151-06-07 06:00 J -1620822.43 -1620822.25 -1620822.07 0.0260 0.0088

Mars -9151-07-23 14:52 J -1620775.99 -1620775.88 -1620775.77 0.1668 0.0328

Uranus -9151-07-24 08:38 J -1620775.26 -1620775.14 -1620775.02 0.0137 0.0045

Saturn -9151-09-04 03:07 J -1620733.43 -1620733.37 -1620733.30 0.0260 0.0246

Uranus -9151-10-20 11:45 J -1620687.14 -1620687.01 -1620686.88 0.0137 0.0027

Uranus -9150-01-16 14:52 J -1620599.01 -1620598.88 -1620598.75 0.0138 0.0008

Uranus -9150-04-14 18:00 J -1620510.88 -1620510.75 -1620510.62 0.0138 0.0012

Uranus -9150-07-11 21:07 J -1620422.75 -1620422.62 -1620422.50 0.0138 0.0031

Uranus -9150-10-08 00:00 J -1620334.61 -1620334.50 -1620334.37 0.0138 0.0050

Uranus -9149-01-04 03:07 J -1620246.48 -1620246.37 -1620246.25 0.0138 0.0069

Uranus -9149-04-01 06:14 J -1620158.33 -1620158.24 -1620158.13 0.0138 0.0089

Mars -9149-06-27 17:16 J -1620070.82 -1620070.78 -1620070.73 0.1653 0.1513

Uranus -9149-06-28 09:35 J -1620070.18 -1620070.10 -1620070.02 0.0138 0.0108

Uranus -9149-09-24 12:43 J -1619982.02 -1619981.97 -1619981.92 0.0138 0.0127

Venus -9149-12-16 13:12 J -1619899.01 -1619898.95 -1619898.89 0.3692 0.2967

Earth -9148-09-12 14:38 J -1619628.94 -1619628.89 -1619628.84 0.2719 0.2361

Moon -9148-09-12 15:21 J -1619628.90 -1619628.86 -1619628.82 0.2721 0.2499 *

Jupiter -9145-03-17 20:24 J -1618711.73 -1618711.65 -1618711.58 0.0501 0.0457

Jupiter -9145-06-16 09:21 J -1618621.26 -1618621.11 -1618620.96 0.0502 0.0289

Pluto -9143-01-23 11:31 J -1618035.08 -1618035.02 -1618034.94 0.0072 0.0064

Pluto -9143-04-21 12:43 J -1617947.06 -1617946.97 -1617946.87 0.0072 0.0055

Venus -9143-07-02 04:33 J -1617875.41 -1617875.31 -1617875.22 0.3693 0.1297

Pluto -9143-07-18 13:40 J -1617859.03 -1617858.93 -1617858.81 0.0072 0.0047

Pluto -9143-10-14 14:52 J -1617771.00 -1617770.88 -1617770.75 0.0072 0.0039

Pluto -9142-01-10 15:50 J -1617682.96 -1617682.84 -1617682.69 0.0072 0.0031

Mars -9142-02-08 20:09 J -1617653.84 -1617653.66 -1617653.49 0.1858 0.0089

Pluto	-9142-04-08 17:02 J	-1617594.92	-1617594.79	-1617594.63	0.0072	0.0022
Pluto	-9142-07-05 18:28 J	-1617506.88	-1617506.73	-1617506.58	0.0073	0.0012
Pluto	-9142-10-01 19:40 J	-1617418.83	-1617418.68	-1617418.53	0.0073	0.0003
Mars	-9142-12-14 02:09 J	-1617345.51	-1617345.41	-1617345.31	0.1673	0.0786
Pluto	-9142-12-28 20:52 J	-1617330.78	-1617330.63	-1617330.48	0.0073	0.0006
Pluto	-9141-03-25 21:50 J	-1617242.73	-1617242.59	-1617242.43	0.0073	0.0015
Pluto	-9141-06-21 23:02 J	-1617154.68	-1617154.54	-1617154.39	0.0073	0.0024
Moon	-9141-09-05 14:24 J	-1617079.00	-1617078.90	-1617078.81	0.2723	0.1339
Earth	-9141-09-05 14:52 J	-1617078.97	-1617078.88	-1617078.78	0.2719	0.1273 *
Pluto	-9141-09-18 00:14 J	-1617066.62	-1617066.49	-1617066.35	0.0073	0.0033
Pluto	-9141-12-15 01:26 J	-1616978.55	-1616978.44	-1616978.31	0.0073	0.0042
Pluto	-9140-03-13 02:38 J	-1616890.49	-1616890.39	-1616890.27	0.0073	0.0052
Pluto	-9140-06-09 04:04 J	-1616802.41	-1616802.33	-1616802.24	0.0074	0.0061
Pluto	-9140-09-05 05:02 J	-1616714.32	-1616714.29	-1616714.23	0.0074	0.0071
Mars	-9140-11-18 04:47 J	-1616640.39	-1616640.30	-1616640.22	0.1656	0.1072
Jupiter	-9139-02-12 23:02 J	-1616553.67	-1616553.54	-1616553.42	0.0524	0.0050
Jupiter	-9139-05-13 03:21 J	-1616464.40	-1616464.36	-1616464.31	0.0522	0.0490
Venus	-9137-01-15 19:55 J	-1615851.77	-1615851.67	-1615851.57	0.3695	0.0393
Saturn	-9137-04-13 12:28 J	-1615763.07	-1615762.98	-1615762.87	0.0303	0.0187
Saturn	-9137-07-11 01:12 J	-1615674.58	-1615674.45	-1615674.32	0.0303	0.0024
Saturn	-9137-10-07 13:26 J	-1615586.05	-1615585.94	-1615585.82	0.0302	0.0140
Saturn	-9136-01-04 01:40 J	-1615497.43	-1615497.43	-1615497.41	0.0302	0.0300
Jupiter	-9133-04-04 05:02 J	-1614311.48	-1614311.29	-1614311.11	0.0502	0.0095
Mars	-9133-06-30 12:57 J	-1614224.08	-1614223.96	-1614223.83	0.1852	0.1243
Mars	-9132-05-05 13:26 J	-1613915.02	-1613914.94	-1613914.87	0.1677	0.1253
Venus	-9132-07-31 11:02 J	-1613828.12	-1613828.04	-1613827.95	0.3697	0.2016
Mars	-9130-04-10 16:04 J	-1613209.93	-1613209.83	-1613209.72	0.1660	0.0634
Venus	-9129-05-03 05:45 J	-1612821.38	-1612821.26	-1612821.15	0.3678	0.2603
Moon	-9128-09-08 08:09 J	-1612328.26	-1612328.16	-1612328.05	0.2725	0.0115
Earth	-9128-09-08 08:24 J	-1612328.26	-1612328.15	-1612328.04	0.2719	0.0028 *

Jupiter -9128-12-02 03:35 J -1612243.47 -1612243.35 -1612243.23 0.0524 0.0184

Jupiter -9127-03-01 08:09 J -1612154.25 -1612154.16 -1612154.07 0.0523 0.0357

Venus -9126-02-14 02:24 J -1611804.41 -1611804.40 -1611804.39 0.3698 0.3659

Moon -9124-03-08 12:43 J -1611051.11 -1611050.97 -1611050.82 0.2612 0.1182

Earth -9124-03-08 14:38 J -1611051.04 -1611050.89 -1611050.74 0.2615 0.1046 *

Venus -9124-11-17 17:16 J -1610796.82 -1610796.78 -1610796.74 0.3676 0.3521

Saturn -9122-07-28 08:52 J -1610179.30 -1610179.13 -1610178.95 0.0259 0.0107

Saturn -9122-10-25 06:00 J -1610090.44 -1610090.25 -1610090.06 0.0259 0.0049

Jupiter -9121-01-22 01:26 J -1610001.63 -1610001.44 -1610001.26 0.0502 0.0091

Saturn -9121-01-22 02:52 J -1610001.49 -1610001.38 -1610001.25 0.0260 0.0206 *

Mars -9121-08-31 03:35 J -1609779.47 -1609779.35 -1609779.24 0.1664 0.0186

Jupiter -9116-09-20 07:40 J -1607933.28 -1607933.18 -1607933.08 0.0524 0.0327

Jupiter -9116-12-18 12:14 J -1607844.10 -1607843.99 -1607843.88 0.0523 0.0216

Earth -9115-09-11 01:55 J -1607577.51 -1607577.42 -1607577.33 0.2719 0.1317

Moon -9115-09-11 02:09 J -1607577.50 -1607577.41 -1607577.32 0.2725 0.1426 *

Mars -9112-03-20 04:19 J -1606656.41 -1606656.32 -1606656.23 0.1864 0.1549

Uranus -9112-06-15 04:04 J -1606569.34 -1606569.33 -1606569.29 0.0141 0.0140

Uranus -9112-09-11 12:43 J -1606481.09 -1606480.97 -1606480.83 0.0141 0.0108

Uranus -9112-12-08 21:21 J -1606392.77 -1606392.61 -1606392.44 0.0141 0.0077

Mars -9111-01-21 14:52 J -1606348.99 -1606348.88 -1606348.77 0.1668 0.0271

Uranus -9111-03-07 05:45 J -1606304.44 -1606304.26 -1606304.07 0.0141 0.0046

Moon -9111-03-11 21:21 J -1606299.74 -1606299.61 -1606299.47 0.2618 0.1420

Earth -9111-03-11 23:02 J -1606299.67 -1606299.54 -1606299.42 0.2614 0.1694 *

Uranus -9111-06-03 14:24 J -1606216.10 -1606215.90 -1606215.70 0.0141 0.0014

Uranus -9111-08-30 22:47 J -1606127.75 -1606127.55 -1606127.35 0.0141 0.0017

Uranus -9111-11-27 07:12 J -1606039.38 -1606039.20 -1606039.01 0.0141 0.0048

Uranus -9110-02-23 15:35 J -1605951.01 -1605950.85 -1605950.69 0.0141 0.0079

Uranus -9110-05-23 00:00 J -1605862.62 -1605862.50 -1605862.38 0.0140 0.0110

Uranus -9110-08-19 08:24 J -1605774.15 -1605774.15 -1605774.15 0.0140 0.0140

Jupiter -9110-11-09 21:50 J -1605691.75 -1605691.59 -1605691.44 0.0501 0.0276

Mars	-9110-12-27 17:16 J	-1605643.82	-1605643.78	-1605643.75	0.1653	0.1563
Jupiter	-9109-02-08 11:02 J	-1605601.10	-1605601.04	-1605600.98	0.0503	0.0477
Saturn	-9108-08-31 15:07 J	-1605030.95	-1605030.87	-1605030.78	0.0304	0.0228
Moon	-9108-09-04 01:40 J	-1605027.48	-1605027.43	-1605027.39	0.2719	0.2427
Earth	-9108-09-04 02:09 J	-1605027.46	-1605027.41	-1605027.35	0.2719	0.2304 *
Saturn	-9108-11-28 03:35 J	-1604942.47	-1604942.35	-1604942.22	0.0303	0.0065
Saturn	-9107-02-24 16:04 J	-1604853.95	-1604853.83	-1604853.71	0.0303	0.0099
Saturn	-9107-05-24 04:19 J	-1604765.38	-1604765.32	-1604765.25	0.0302	0.0260
Jupiter	-9104-07-09 12:00 J	-1603623.06	-1603623.00	-1603622.95	0.0525	0.0466
Jupiter	-9104-10-06 16:33 J	-1603533.93	-1603533.81	-1603533.68	0.0524	0.0082
Mars	-9103-08-09 20:52 J	-1603226.80	-1603226.63	-1603226.46	0.1858	0.0195
Mars	-9102-06-14 02:09 J	-1602918.51	-1602918.41	-1602918.31	0.1672	0.0730
Earth	-9102-09-13 19:26 J	-1602826.71	-1602826.69	-1602826.66	0.2719	0.2620
Moon	-9102-09-13 20:09 J	-1602826.68	-1602826.66	-1602826.64	0.2720	0.2652 *
Mars	-9100-05-19 04:47 J	-1602213.38	-1602213.30	-1602213.22	0.1656	0.1129
Jupiter	-9098-08-28 18:00 J	-1601381.82	-1601381.75	-1601381.69	0.0501	0.0463
Jupiter	-9098-11-27 06:57 J	-1601291.37	-1601291.21	-1601291.06	0.0502	0.0283
Moon	-9095-09-06 19:12 J	-1600276.80	-1600276.70	-1600276.61	0.2723	0.1114
Earth	-9095-09-06 19:40 J	-1600276.78	-1600276.68	-1600276.58	0.2719	0.1017 *
Mars	-9094-12-30 13:55 J	-1599797.05	-1599796.92	-1599796.78	0.1852	0.1122
Mars	-9093-11-03 13:26 J	-1599488.02	-1599487.94	-1599487.87	0.1677	0.1199
Saturn	-9093-12-14 09:07 J	-1599447.28	-1599447.12	-1599446.95	0.0259	0.0142
Saturn	-9092-03-13 06:14 J	-1599358.43	-1599358.24	-1599358.05	0.0260	0.0013
Saturn	-9092-06-10 03:07 J	-1599269.51	-1599269.37	-1599269.21	0.0260	0.0170
Venus	-9092-07-23 10:33 J	-1599226.14	-1599226.06	-1599225.98	0.3692	0.2368
Jupiter	-9092-07-25 21:07 J	-1599223.75	-1599223.62	-1599223.50	0.0524	0.0058
Jupiter	-9092-10-23 01:40 J	-1599134.48	-1599134.43	-1599134.39	0.0523	0.0482
Mars	-9091-10-09 16:04 J	-1598782.93	-1598782.83	-1598782.72	0.1660	0.0685
Venus	-9086-02-06 01:55 J	-1597202.52	-1597202.42	-1597202.32	0.3694	0.0700
Jupiter	-9086-09-15 02:52 J	-1596981.56	-1596981.38	-1596981.19	0.0502	0.0095

Mars -9083-03-27 00:28 J -1596057.49 -1596057.48 -1596057.47 0.1682 0.1669

Moon -9082-09-09 13:12 J -1595526.06 -1595525.95 -1595525.85 0.2726 0.0309

Earth -9082-09-09 13:12 J -1595526.06 -1595525.95 -1595525.84 0.2719 0.0279 *

Mars -9081-03-01 03:35 J -1595352.47 -1595352.35 -1595352.24 0.1664 0.0243

Venus -9081-08-21 17:16 J -1595178.88 -1595178.78 -1595178.69 0.3695 0.0963

Jupiter -9080-05-14 01:40 J -1594913.55 -1594913.43 -1594913.31 0.0524 0.0193

Jupiter -9080-08-11 06:14 J -1594824.33 -1594824.24 -1594824.15 0.0523 0.0348

Saturn -9078-01-18 17:45 J -1594298.81 -1594298.76 -1594298.70 0.0303 0.0267

Moon -9078-03-09 19:40 J -1594248.84 -1594248.68 -1594248.52 0.2613 0.0736

Earth -9078-03-09 21:21 J -1594248.77 -1594248.61 -1594248.44 0.2614 0.0520 *

Saturn -9078-04-17 06:28 J -1594210.35 -1594210.23 -1594210.11 0.0303 0.0103

Saturn -9078-07-14 18:57 J -1594121.84 -1594121.71 -1594121.59 0.0303 0.0061

Saturn -9078-10-11 07:12 J -1594033.28 -1594033.20 -1594033.11 0.0302 0.0223

Neptune -9078-11-19 15:50 J -1593993.89 -1593993.84 -1593993.76 0.0088 0.0082

Neptune -9077-02-15 19:26 J -1593905.78 -1593905.69 -1593905.56 0.0088 0.0072

Neptune -9077-05-13 23:16 J -1593817.66 -1593817.53 -1593817.38 0.0088 0.0062

Neptune -9077-08-10 02:52 J -1593729.53 -1593729.38 -1593729.21 0.0088 0.0052

Neptune -9077-11-06 06:28 J -1593641.39 -1593641.23 -1593641.04 0.0088 0.0042

Neptune -9076-02-02 10:19 J -1593553.25 -1593553.07 -1593552.88 0.0088 0.0032

Neptune -9076-05-01 13:55 J -1593465.10 -1593464.92 -1593464.72 0.0088 0.0022

Neptune -9076-07-28 17:45 J -1593376.95 -1593376.76 -1593376.56 0.0088 0.0012

Neptune -9076-10-24 21:21 J -1593288.80 -1593288.61 -1593288.41 0.0088 0.0002

Neptune -9075-01-21 00:57 J -1593200.65 -1593200.46 -1593200.26 0.0088 0.0009

Venus -9075-03-07 08:24 J -1593155.22 -1593155.15 -1593155.08 0.3697 0.2603

Neptune -9075-04-19 04:47 J -1593112.49 -1593112.30 -1593112.11 0.0088 0.0019

Neptune -9075-07-16 08:24 J -1593024.33 -1593024.15 -1593023.96 0.0088 0.0029

Neptune -9075-10-12 12:14 J -1592936.17 -1592935.99 -1592935.81 0.0088 0.0039

Neptune -9074-01-08 15:21 J -1592848.00 -1592847.86 -1592847.67 0.0088 0.0050

Neptune -9074-04-06 19:12 J -1592759.83 -1592759.70 -1592759.54 0.0088 0.0060

Jupiter -9074-07-03 22:19 J -1592671.75 -1592671.57 -1592671.38 0.0502 0.0103

Neptune -9074-07-03 22:47 J -1592671.65 -1592671.55 -1592671.41 0.0088 0.0070 *

Neptune -9074-09-30 02:38 J -1592583.45 -1592583.39 -1592583.29 0.0088 0.0080

Mars -9073-09-18 05:16 J -1592229.36 -1592229.28 -1592229.21 0.1864 0.1671

Venus -9073-12-08 08:09 J -1592148.32 -1592148.16 -1592148.00 0.3678 0.0699

Mars -9072-07-22 14:52 J -1591922.00 -1591921.88 -1591921.77 0.1668 0.0219

Mars -9070-06-27 17:16 J -1591216.80 -1591216.78 -1591216.76 0.1653 0.1616

Earth -9069-09-11 06:43 J -1590775.31 -1590775.22 -1590775.14 0.2719 0.1578

Moon -9069-09-11 06:57 J -1590775.29 -1590775.21 -1590775.12 0.2724 0.1584 *

Jupiter -9068-03-02 06:14 J -1590603.33 -1590603.24 -1590603.14 0.0524 0.0326

Uranus -9068-05-30 00:14 J -1590514.50 -1590514.49 -1590514.46 0.0137 0.0135

Jupiter -9068-05-30 10:47 J -1590514.16 -1590514.05 -1590513.93 0.0523 0.0218

Uranus -9068-08-26 03:35 J -1590426.42 -1590426.35 -1590426.28 0.0137 0.0116

Uranus -9068-11-22 06:43 J -1590338.31 -1590338.22 -1590338.13 0.0137 0.0097

Uranus -9067-02-18 09:35 J -1590250.20 -1590250.10 -1590249.99 0.0137 0.0079

Uranus -9067-05-17 12:43 J -1590162.08 -1590161.97 -1590161.85 0.0137 0.0060

Uranus -9067-08-13 15:50 J -1590073.96 -1590073.84 -1590073.71 0.0137 0.0041

Uranus -9067-11-09 18:57 J -1589985.84 -1589985.71 -1589985.58 0.0137 0.0022

Uranus -9066-02-05 22:04 J -1589897.71 -1589897.58 -1589897.45 0.0138 0.0004

Uranus -9066-05-05 01:12 J -1589809.58 -1589809.45 -1589809.32 0.0138 0.0016

Uranus -9066-08-01 04:04 J -1589721.45 -1589721.33 -1589721.20 0.0138 0.0035

Uranus -9066-10-28 07:12 J -1589633.31 -1589633.20 -1589633.07 0.0138 0.0054

Uranus -9065-01-24 10:19 J -1589545.17 -1589545.07 -1589544.95 0.0138 0.0073

Moon -9065-03-12 04:04 J -1589497.42 -1589497.33 -1589497.24 0.2618 0.2108

Earth -9065-03-12 05:45 J -1589497.35 -1589497.26 -1589497.17 0.2614 0.2204 *

Uranus -9065-04-21 13:26 J -1589457.03 -1589456.94 -1589456.84 0.0138 0.0092

Uranus -9065-07-18 16:33 J -1589368.88 -1589368.81 -1589368.73 0.0138 0.0112

Uranus -9065-10-14 19:55 J -1589280.71 -1589280.67 -1589280.63 0.0138 0.0131

Mars -9063-02-07 21:50 J -1588799.76 -1588799.59 -1588799.42 0.1858 0.0324

Saturn -9063-05-03 08:52 J -1588715.26 -1588715.13 -1588714.99 0.0259 0.0182

Saturn -9063-07-31 05:45 J -1588626.45 -1588626.26 -1588626.06 0.0259 0.0028

Saturn	-9063-10-28 02:52 J	-1588537.55	-1588537.38	-1588537.21	0.0259	0.0128
Mars	-9063-12-13 02:09 J	-1588491.52	-1588491.41	-1588491.31	0.1673	0.0677
Jupiter	-9062-04-21 18:57 J	-1588361.86	-1588361.71	-1588361.55	0.0502	0.0285
Jupiter	-9062-07-21 08:24 J	-1588271.22	-1588271.15	-1588271.09	0.0503	0.0468
Moon	-9062-09-05 06:14 J	-1588225.30	-1588225.24	-1588225.17	0.2720	0.2095
Earth	-9062-09-05 06:57 J	-1588225.28	-1588225.21	-1588225.14	0.2719	0.2048 *
Mars	-9061-11-17 04:33 J	-1587786.38	-1587786.31	-1587786.23	0.1656	0.1181
Pluto	-9059-12-28 12:28 J	-1587014.99	-1587014.98	-1587014.94	0.0072	0.0072
Pluto	-9058-03-26 14:09 J	-1586926.98	-1586926.91	-1586926.81	0.0072	0.0061
Pluto	-9058-06-22 15:50 J	-1586838.95	-1586838.84	-1586838.71	0.0072	0.0051
Pluto	-9058-09-18 17:31 J	-1586750.90	-1586750.77	-1586750.63	0.0072	0.0042
Pluto	-9058-12-15 18:57 J	-1586662.85	-1586662.71	-1586662.55	0.0072	0.0032
Pluto	-9057-03-12 20:38 J	-1586574.79	-1586574.64	-1586574.48	0.0072	0.0022
Pluto	-9057-06-08 22:04 J	-1586486.74	-1586486.58	-1586486.41	0.0072	0.0013
Pluto	-9057-09-04 23:45 J	-1586398.67	-1586398.51	-1586398.34	0.0072	0.0003
Pluto	-9057-12-02 01:12 J	-1586310.61	-1586310.45	-1586310.28	0.0071	0.0007
Jupiter	-9057-12-19 10:19 J	-1586293.12	-1586293.07	-1586293.01	0.0525	0.0468
Pluto	-9056-02-28 02:52 J	-1586222.54	-1586222.38	-1586222.22	0.0071	0.0016
Jupiter	-9056-03-18 15:07 J	-1586203.99	-1586203.87	-1586203.74	0.0523	0.0077
Pluto	-9056-05-27 04:04 J	-1586134.48	-1586134.33	-1586134.17	0.0071	0.0025
Pluto	-9056-08-23 05:31 J	-1586046.40	-1586046.27	-1586046.11	0.0071	0.0034
Pluto	-9056-11-19 06:57 J	-1585958.33	-1585958.21	-1585958.07	0.0071	0.0043
Pluto	-9055-02-15 08:24 J	-1585870.25	-1585870.15	-1585870.03	0.0071	0.0052
Pluto	-9055-05-14 09:50 J	-1585782.16	-1585782.09	-1585782.00	0.0071	0.0061
Pluto	-9055-08-10 11:02 J	-1585694.04	-1585694.04	-1585694.00	0.0071	0.0070
Mars	-9054-06-30 14:38 J	-1585370.03	-1585369.89	-1585369.75	0.1852	0.1017
Mars	-9053-05-04 13:26 J	-1585061.03	-1585060.94	-1585060.86	0.1677	0.1140
Mars	-9051-04-09 16:04 J	-1584355.93	-1584355.83	-1584355.73	0.1660	0.0739
Jupiter	-9050-02-07 15:35 J	-1584051.91	-1584051.85	-1584051.78	0.0501	0.0466
Jupiter	-9050-05-09 04:47 J	-1583961.46	-1583961.30	-1583961.15	0.0502	0.0283

Saturn	-9049-09-03 08:24 J	-1583478.26	-1583478.15	-1583478.03	0.0304	0.0150
Moon	-9049-09-07 00:00 J	-1583474.60	-1583474.50	-1583474.40	0.2723	0.0835
Earth	-9049-09-07 00:28 J	-1583474.58	-1583474.48	-1583474.38	0.2719	0.0759 *
Saturn	-9049-11-30 21:07 J	-1583389.75	-1583389.62	-1583389.50	0.0303	0.0018
Saturn	-9048-02-27 09:21 J	-1583301.21	-1583301.11	-1583301.00	0.0303	0.0177
Jupiter	-9044-01-04 19:40 J	-1581893.81	-1581893.68	-1581893.56	0.0524	0.0061
Jupiter	-9044-04-04 00:00 J	-1581804.54	-1581804.50	-1581804.45	0.0522	0.0479
Mars	-9044-09-25 00:28 J	-1581630.51	-1581630.48	-1581630.45	0.1681	0.1615
Mars	-9042-08-31 03:35 J	-1580925.47	-1580925.35	-1580925.24	0.1664	0.0299
Venus	-9041-08-13 16:33 J	-1580576.84	-1580576.81	-1580576.77	0.3691	0.3441
Jupiter	-9038-02-25 00:57 J	-1579651.65	-1579651.46	-1579651.28	0.0502	0.0093
Moon	-9036-09-09 18:00 J	-1578723.86	-1578723.75	-1578723.65	0.2726	0.0525
Earth	-9036-09-09 18:00 J	-1578723.86	-1578723.75	-1578723.65	0.2719	0.0538 *
Venus	-9035-02-27 07:55 J	-1578553.26	-1578553.17	-1578553.08	0.3692	0.1771
Saturn	-9034-09-20 08:38 J	-1577983.23	-1577983.14	-1577983.04	0.0259	0.0221
Saturn	-9034-12-18 05:31 J	-1577894.45	-1577894.27	-1577894.08	0.0259	0.0067
Saturn	-9033-03-16 02:38 J	-1577805.57	-1577805.39	-1577805.21	0.0260	0.0088
Mars	-9033-03-19 06:28 J	-1577802.27	-1577802.23	-1577802.19	0.1864	0.1806
Saturn	-9033-06-12 23:31 J	-1577716.57	-1577716.52	-1577716.45	0.0260	0.0245
Jupiter	-9033-10-24 00:00 J	-1577583.62	-1577583.50	-1577583.38	0.0525	0.0198
Mars	-9032-01-20 14:52 J	-1577495.00	-1577494.88	-1577494.77	0.1668	0.0166
Jupiter	-9032-01-21 04:33 J	-1577494.40	-1577494.31	-1577494.21	0.0523	0.0344
Moon	-9032-03-10 02:38 J	-1577446.55	-1577446.39	-1577446.23	0.2615	0.0203
Earth	-9032-03-10 04:19 J	-1577446.48	-1577446.32	-1577446.15	0.2614	0.0068 *
Venus	-9030-09-12 23:16 J	-1576529.63	-1576529.53	-1576529.43	0.3694	0.0117
Uranus	-9028-07-05 10:47 J	-1575868.10	-1575868.05	-1575867.99	0.0141	0.0135
Uranus	-9028-10-01 19:12 J	-1575779.82	-1575779.70	-1575779.56	0.0141	0.0104
Uranus	-9028-12-29 03:35 J	-1575691.51	-1575691.35	-1575691.17	0.0141	0.0072
Uranus	-9027-03-27 12:14 J	-1575603.17	-1575602.99	-1575602.79	0.0141	0.0041
Uranus	-9027-06-23 20:52 J	-1575514.83	-1575514.63	-1575514.43	0.0141	0.0009

Uranus -9027-09-20 05:16 J -1575426.47 -1575426.28 -1575426.08 0.0141 0.0022

Jupiter -9027-12-13 21:07 J -1575341.80 -1575341.62 -1575341.43 0.0501 0.0094

Uranus -9027-12-17 13:40 J -1575338.11 -1575337.93 -1575337.74 0.0141 0.0053

Uranus -9026-03-15 22:04 J -1575249.73 -1575249.58 -1575249.42 0.0141 0.0084

Uranus -9026-06-12 06:28 J -1575161.34 -1575161.23 -1575161.11 0.0140 0.0115

Venus -9024-03-28 14:38 J -1574505.98 -1574505.89 -1574505.80 0.3696 0.1545

Mars -9024-08-08 22:47 J -1574372.72 -1574372.55 -1574372.38 0.1858 0.0438

Mars -9023-06-13 02:09 J -1574064.52 -1574064.41 -1574064.31 0.1672 0.0624

Earth -9023-09-12 11:31 J -1573973.10 -1573973.02 -1573972.95 0.2719 0.1837

Moon -9023-09-12 12:00 J -1573973.08 -1573973.00 -1573972.93 0.2723 0.1947 *

Mars -9021-05-18 04:33 J -1573359.38 -1573359.31 -1573359.23 0.1656 0.1234

Jupiter -9021-08-12 04:33 J -1573273.40 -1573273.31 -1573273.21 0.0525 0.0331

Jupiter -9021-11-09 09:21 J -1573184.23 -1573184.11 -1573184.00 0.0523 0.0213

Saturn -9019-01-21 10:33 J -1572746.15 -1572746.06 -1572745.96 0.0304 0.0195

Moon -9019-03-13 11:02 J -1572695.08 -1572695.04 -1572694.99 0.2618 0.2495

Saturn -9019-04-19 23:16 J -1572657.66 -1572657.53 -1572657.41 0.0303 0.0033

Saturn -9019-07-17 11:31 J -1572569.13 -1572569.02 -1572568.90 0.0303 0.0132

Venus -9019-10-12 05:45 J -1572482.31 -1572482.26 -1572482.21 0.3697 0.3184

Saturn -9019-10-14 00:00 J -1572480.53 -1572480.50 -1572480.47 0.0302 0.0293

Venus -9016-07-15 11:02 J -1571475.19 -1571475.04 -1571474.89 0.3677 0.1260

Moon -9016-09-05 11:02 J -1571423.11 -1571423.04 -1571422.96 0.2720 0.1945

Earth -9016-09-05 11:45 J -1571423.09 -1571423.01 -1571422.93 0.2719 0.1790 *

Jupiter -9015-10-01 16:33 J -1571031.96 -1571031.81 -1571031.66 0.0502 0.0291

Mars -9015-12-29 15:35 J -1570943.00 -1570942.85 -1570942.70 0.1852 0.0895

Jupiter -9015-12-31 05:45 J -1570941.33 -1570941.26 -1570941.18 0.0503 0.0462

Mars -9014-11-03 13:12 J -1570634.03 -1570633.95 -1570633.86 0.1677 0.1089

Mars -9012-10-08 16:04 J -1569928.93 -1569928.83 -1569928.73 0.1660 0.0792

Jupiter -9009-05-31 09:21 J -1568963.16 -1568963.11 -1568963.05 0.0525 0.0462

Jupiter -9009-08-28 14:09 J -1568874.04 -1568873.91 -1568873.79 0.0523 0.0083

Mars -9004-03-26 00:28 J -1567203.52 -1567203.48 -1567203.44 0.1682 0.1559

Saturn -9004-05-06 04:47 J -1567162.47 -1567162.30 -1567162.12 0.0259 0.0111

Saturn -9004-08-03 01:55 J -1567073.61 -1567073.42 -1567073.23 0.0259 0.0044

Saturn -9004-10-30 22:47 J -1566984.67 -1566984.55 -1566984.42 0.0259 0.0200

Jupiter -9003-07-20 13:12 J -1566722.01 -1566721.95 -1566721.89 0.0501 0.0471

Moon -9003-09-08 04:47 J -1566672.40 -1566672.30 -1566672.19 0.2725 0.0526

Earth -9003-09-08 05:16 J -1566672.39 -1566672.28 -1566672.18 0.2719 0.0501 *

Jupiter -9003-10-19 02:24 J -1566631.56 -1566631.40 -1566631.24 0.0503 0.0278

Mars -9002-03-01 03:21 J -1566498.47 -1566498.36 -1566498.25 0.1664 0.0346

9TH MILLENNIUM BCE

This is a list of transits of Mercury in the 9th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Moon -8999-03-08 01:26 J -1565395.50 -1565395.44 -1565395.39 0.2611 0.2446

Earth -8999-03-08 02:52 J -1565395.47 -1565395.38 -1565395.29 0.2614 0.2199 *

Jupiter -8997-06-16 18:28 J -1564563.86 -1564563.73 -1564563.61 0.0524 0.0057

Jupiter -8997-09-13 22:47 J -1564474.59 -1564474.55 -1564474.50 0.0522 0.0481

Neptune -8996-03-06 00:43 J -1564301.48 -1564301.47 -1564301.45 0.0089 0.0089

Neptune -8996-06-02 01:55 J -1564213.46 -1564213.42 -1564213.36 0.0089 0.0082

Neptune -8996-08-29 03:07 J -1564125.43 -1564125.37 -1564125.29 0.0089 0.0075

Neptune -8996-11-25 04:33 J -1564037.39 -1564037.31 -1564037.22 0.0089 0.0067

Neptune -8995-02-21 05:45 J -1563949.34 -1563949.26 -1563949.15 0.0089 0.0061

Neptune -8995-05-20 07:12 J -1563861.30 -1563861.20 -1563861.09 0.0089 0.0053

Neptune -8995-08-16 08:24 J -1563773.25 -1563773.15 -1563773.03 0.0089 0.0047

Neptune -8995-11-12 10:04 J -1563685.20 -1563685.08 -1563684.97 0.0089 0.0039

Neptune -8994-02-08 11:16 J -1563597.15 -1563597.03 -1563596.91 0.0089 0.0032

Neptune -8994-05-07 12:28 J -1563509.10 -1563508.98 -1563508.85 0.0089 0.0025

Neptune -8994-08-03 13:55 J -1563421.05 -1563420.92 -1563420.79 0.0089 0.0017

Neptune -8994-10-30 15:07 J -1563333.00 -1563332.87 -1563332.74 0.0089 0.0011

Neptune -8993-01-26 16:33 J -1563244.94 -1563244.81 -1563244.68 0.0089 0.0003

Neptune -8993-04-23 17:45 J -1563156.89 -1563156.76 -1563156.63 0.0089 0.0004

Neptune -8993-07-20 18:57 J -1563068.83 -1563068.71 -1563068.57 0.0089 0.0012

Mars -8993-07-21 14:52 J -1563068.00 -1563067.88 -1563067.77 0.1668 0.0120

Neptune -8993-10-16 20:24 J -1562980.78 -1562980.65 -1562980.52 0.0089 0.0018

Neptune -8992-01-12 21:35 J -1562892.72 -1562892.60 -1562892.47 0.0089 0.0025

Neptune -8992-04-10 22:47 J -1562804.66 -1562804.55 -1562804.42 0.0089 0.0033

Neptune -8992-07-08 00:00 J -1562716.61 -1562716.50 -1562716.37 0.0089 0.0040

Neptune -8992-10-04 01:26 J -1562628.55 -1562628.44 -1562628.32 0.0089 0.0046

Neptune -8992-12-31 02:38 J -1562540.48 -1562540.39 -1562540.28 0.0089 0.0054

Neptune -8991-03-29 03:50 J -1562452.42 -1562452.34 -1562452.23 0.0089 0.0061

Neptune -8991-06-25 05:16 J -1562364.36 -1562364.28 -1562364.19 0.0089 0.0067

Jupiter -8991-08-06 23:02 J -1562321.73 -1562321.54 -1562321.35 0.0502 0.0096

Neptune -8991-09-21 06:28 J -1562276.29 -1562276.23 -1562276.15 0.0089 0.0074

Neptune -8991-12-18 07:40 J -1562188.22 -1562188.18 -1562188.12 0.0089 0.0082

Neptune -8990-03-16 08:52 J -1562100.13 -1562100.13 -1562100.10 0.0089 0.0089

Saturn -8990-06-10 12:00 J -1562014.06 -1562014.00 -1562013.92 0.0304 0.0249

Saturn -8990-09-07 00:43 J -1561925.59 -1561925.47 -1561925.35 0.0304 0.0084

Earth -8990-09-10 22:47 J -1561921.66 -1561921.55 -1561921.45 0.2719 0.0800

Moon -8990-09-10 22:47 J -1561921.65 -1561921.55 -1561921.45 0.2726 0.0809 *

Saturn -8990-12-04 13:12 J -1561837.07 -1561836.95 -1561836.83 0.0303 0.0080

Saturn -8989-03-02 01:40 J -1561748.51 -1561748.43 -1561748.36 0.0303 0.0242

Moon -8986-03-11 09:21 J -1560644.27 -1560644.11 -1560643.95 0.2616 0.0384

Earth -8986-03-11 11:16 J -1560644.19 -1560644.03 -1560643.87 0.2614 0.0542 *

Jupiter -8985-04-04 22:47 J -1560253.67 -1560253.55 -1560253.43 0.0524 0.0193

Jupiter -8985-07-03 03:21 J -1560164.45 -1560164.36 -1560164.27 0.0523 0.0347

Mars -8984-02-06 23:31 J -1559945.68 -1559945.52 -1559945.35 0.1859 0.0556

Venus -8984-03-20 14:09 J -1559903.98 -1559903.91 -1559903.85 0.3691 0.2842

Uranus -8984-06-19 07:40 J -1559813.21 -1559813.18 -1559813.13 0.0137 0.0130

Uranus -8984-09-15 10:47 J -1559725.12 -1559725.05 -1559724.97 0.0137 0.0111

Mars -8984-12-12 02:09 J -1559637.52 -1559637.41 -1559637.31 0.1672 0.0566

Uranus -8984-12-12 13:55 J -1559637.01 -1559636.92 -1559636.82 0.0137 0.0092

Uranus -8983-03-10 16:47 J -1559548.90 -1559548.80 -1559548.68 0.0137 0.0074

Uranus -8983-06-06 19:55 J -1559460.78 -1559460.67 -1559460.54 0.0137 0.0056

Uranus -8983-09-02 23:02 J -1559372.66 -1559372.54 -1559372.41 0.0137 0.0037

Uranus -8983-11-30 02:09 J -1559284.53 -1559284.41 -1559284.28 0.0137 0.0018

Uranus -8982-02-26 05:16 J -1559196.41 -1559196.28 -1559196.15 0.0137 0.0004

Uranus -8982-05-25 08:24 J -1559108.28 -1559108.15 -1559108.02 0.0138 0.0021

Uranus -8982-08-21 11:31 J -1559020.14 -1559020.02 -1559019.89 0.0138 0.0040

Mars -8982-11-17 04:33 J -1558932.38 -1558932.31 -1558932.24 0.1656 0.1288

Uranus -8982-11-17 14:38 J -1558932.01 -1558931.89 -1558931.77 0.0138 0.0059

Uranus -8981-02-13 17:45 J -1558843.87 -1558843.76 -1558843.65 0.0138 0.0078

Uranus -8981-05-11 20:38 J -1558755.72 -1558755.64 -1558755.54 0.0138 0.0098

Uranus -8981-08-07 23:45 J -1558667.57 -1558667.51 -1558667.43 0.0138 0.0117

Uranus -8981-11-04 03:07 J -1558579.39 -1558579.37 -1558579.35 0.0138 0.0136

Jupiter -8979-05-25 19:26 J -1558011.87 -1558011.69 -1558011.50 0.0502 0.0089

Venus -8979-10-04 05:16 J -1557880.37 -1557880.28 -1557880.18 0.3693 0.1184

Earth -8977-09-12 16:19 J -1557170.89 -1557170.82 -1557170.76 0.2719 0.2097

Moon -8977-09-12 16:47 J -1557170.86 -1557170.80 -1557170.73 0.2722 0.2164 *

Mars -8975-06-29 16:47 J -1556515.96 -1556515.80 -1556515.65 0.1852 0.0767

Saturn -8975-09-23 04:04 J -1556430.48 -1556430.33 -1556430.18 0.0259 0.0154

Saturn -8975-12-21 00:57 J -1556341.65 -1556341.46 -1556341.27 0.0259 0.0001

Saturn -8974-03-19 21:50 J -1556252.74 -1556252.59 -1556252.43 0.0259 0.0155

Mars -8974-05-04 13:12 J -1556207.04 -1556206.95 -1556206.86 0.1677 0.1033

Jupiter -8973-01-23 03:07 J -1555943.46 -1555943.37 -1555943.27 0.0525 0.0332

Venus	-8973-04-18 20:38 J	-1555856.74	-1555856.64	-1555856.54	0.3695	0.0484
Jupiter	-8973-04-21 07:55 J	-1555854.29	-1555854.17	-1555854.06	0.0523	0.0213
Mars	-8972-04-08 16:04 J	-1555501.93	-1555501.83	-1555501.74	0.1660	0.0847
Moon	-8970-09-06 15:50 J	-1554620.92	-1554620.84	-1554620.75	0.2720	0.1568
Earth	-8970-09-06 16:33 J	-1554620.90	-1554620.81	-1554620.72	0.2719	0.1534 *
Venus	-8968-11-02 12:00 J	-1553833.08	-1553833.00	-1553832.92	0.3696	0.2127
Jupiter	-8967-03-13 15:50 J	-1553702.00	-1553701.84	-1553701.68	0.0501	0.0274
Jupiter	-8967-06-12 05:02 J	-1553611.34	-1553611.29	-1553611.23	0.0502	0.0477
Venus	-8965-08-05 02:09 J	-1552826.51	-1552826.41	-1552826.31	0.3679	0.2867
Mars	-8965-09-24 00:28 J	-1552776.53	-1552776.48	-1552776.43	0.1681	0.1504
Mars	-8963-08-30 03:21 J	-1552071.47	-1552071.36	-1552071.25	0.1664	0.0398
Jupiter	-8962-11-11 07:55 J	-1551633.23	-1551633.17	-1551633.11	0.0525	0.0462
Jupiter	-8961-02-08 12:43 J	-1551544.09	-1551543.97	-1551543.85	0.0524	0.0083
Saturn	-8961-10-27 13:55 J	-1551281.94	-1551281.92	-1551281.90	0.0304	0.0299
Saturn	-8960-01-24 02:24 J	-1551193.51	-1551193.40	-1551193.28	0.0304	0.0135
Saturn	-8960-04-22 15:07 J	-1551105.00	-1551104.87	-1551104.75	0.0303	0.0031
Saturn	-8960-07-20 03:21 J	-1551016.45	-1551016.36	-1551016.26	0.0303	0.0193
Venus	-8959-02-19 13:55 J	-1550802.00	-1550801.92	-1550801.85	0.3676	0.3233
Moon	-8957-09-08 09:50 J	-1549870.20	-1549870.09	-1549869.99	0.2726	0.0342
Earth	-8957-09-08 10:04 J	-1549870.19	-1549870.08	-1549869.98	0.2719	0.0251 *
Jupiter	-8956-12-30 11:02 J	-1549392.09	-1549392.04	-1549391.97	0.0501	0.0471
Jupiter	-8955-03-31 00:14 J	-1549301.64	-1549301.49	-1549301.33	0.0503	0.0278
Mars	-8953-01-20 14:38 J	-1548641.00	-1548640.89	-1548640.77	0.1668	0.0081
Moon	-8953-03-08 07:55 J	-1548593.29	-1548593.17	-1548593.05	0.2612	0.1760
Earth	-8953-03-08 09:35 J	-1548593.22	-1548593.10	-1548592.97	0.2615	0.1681 *
Jupiter	-8950-11-27 17:31 J	-1547233.89	-1547233.77	-1547233.64	0.0524	0.0046
Jupiter	-8949-02-24 22:04 J	-1547144.62	-1547144.58	-1547144.54	0.0522	0.0492
Saturn	-8945-02-10 02:38 J	-1545698.50	-1545698.39	-1545698.26	0.0258	0.0201
Saturn	-8945-05-08 23:45 J	-1545609.70	-1545609.51	-1545609.32	0.0259	0.0047
Saturn	-8945-08-05 20:38 J	-1545520.81	-1545520.64	-1545520.46	0.0259	0.0108

Mars -8945-08-08 00:28 J -1545518.64 -1545518.48 -1545518.32 0.1859 0.0676

Mars -8944-06-12 01:55 J -1545210.53 -1545210.42 -1545210.31 0.1672 0.0513

Uranus -8944-07-25 16:33 J -1545166.87 -1545166.81 -1545166.74 0.0141 0.0133

Earth -8944-09-11 03:35 J -1545119.45 -1545119.35 -1545119.26 0.2719 0.1061

Moon -8944-09-11 03:35 J -1545119.44 -1545119.35 -1545119.25 0.2725 0.1108 *

Uranus -8944-10-22 00:57 J -1545078.59 -1545078.46 -1545078.32 0.0141 0.0101

Jupiter -8943-01-16 21:07 J -1544991.81 -1544991.62 -1544991.44 0.0502 0.0097

Uranus -8943-01-18 09:21 J -1544990.27 -1544990.11 -1544989.93 0.0141 0.0070

Uranus -8943-04-16 18:00 J -1544901.93 -1544901.75 -1544901.55 0.0141 0.0039

Uranus -8943-07-14 02:38 J -1544813.59 -1544813.39 -1544813.19 0.0141 0.0007

Uranus -8943-10-10 11:02 J -1544725.23 -1544725.04 -1544724.84 0.0141 0.0024

Uranus -8942-01-06 19:26 J -1544636.87 -1544636.69 -1544636.51 0.0141 0.0055

Uranus -8942-04-05 03:50 J -1544548.49 -1544548.34 -1544548.18 0.0141 0.0086

Mars -8942-05-18 04:33 J -1544505.38 -1544505.31 -1544505.25 0.1656 0.1339

Uranus -8942-07-02 12:14 J -1544460.10 -1544459.99 -1544459.88 0.0140 0.0117

Moon -8940-03-11 16:19 J -1543841.98 -1543841.82 -1543841.67 0.2616 0.0799

Earth -8940-03-11 18:14 J -1543841.89 -1543841.74 -1543841.59 0.2614 0.1076 *

Jupiter -8938-09-15 21:50 J -1542923.70 -1542923.59 -1542923.47 0.0524 0.0184

Jupiter -8938-12-14 02:24 J -1542834.49 -1542834.40 -1542834.31 0.0522 0.0356

Moon -8937-09-04 03:07 J -1542569.39 -1542569.37 -1542569.34 0.2717 0.2609

Earth -8937-09-04 03:50 J -1542569.37 -1542569.34 -1542569.31 0.2719 0.2568 *

Mars -8936-12-28 17:16 J -1542088.94 -1542088.78 -1542088.62 0.1853 0.0673

Mars -8935-11-02 13:12 J -1541780.04 -1541779.95 -1541779.85 0.1677 0.0975

Mars -8933-10-07 15:50 J -1541074.93 -1541074.84 -1541074.74 0.1660 0.0900

Jupiter -8932-11-04 18:00 J -1540681.94 -1540681.75 -1540681.57 0.0502 0.0084

Saturn -8931-06-13 03:21 J -1540461.45 -1540461.36 -1540461.26 0.0304 0.0195

Saturn -8931-09-09 16:04 J -1540372.96 -1540372.83 -1540372.70 0.0304 0.0030

Earth -8931-09-13 21:07 J -1540368.67 -1540368.62 -1540368.57 0.2719 0.2360

Moon -8931-09-13 21:35 J -1540368.64 -1540368.60 -1540368.55 0.2722 0.2463 *

Saturn -8931-12-07 04:33 J -1540284.43 -1540284.31 -1540284.20 0.0303 0.0134

Saturn -8930-03-05 17:02 J -1540195.82 -1540195.79 -1540195.77 0.0303 0.0295

Venus -8928-10-25 11:31 J -1539231.10 -1539231.02 -1539230.94 0.3692 0.2246

Jupiter -8926-07-05 02:24 J -1538613.50 -1538613.40 -1538613.30 0.0524 0.0320

Jupiter -8926-10-02 06:57 J -1538524.32 -1538524.21 -1538524.10 0.0523 0.0222

Mars -8925-03-25 00:28 J -1538349.54 -1538349.48 -1538349.43 0.1681 0.1448

Moon -8924-09-06 20:38 J -1537818.73 -1537818.64 -1537818.54 0.2722 0.1425

Earth -8924-09-06 21:21 J -1537818.70 -1537818.61 -1537818.52 0.2719 0.1278 *

Mars -8923-02-28 03:21 J -1537644.47 -1537644.36 -1537644.25 0.1664 0.0457

Venus -8922-05-11 02:38 J -1537207.49 -1537207.39 -1537207.29 0.3693 0.0605

Jupiter -8920-08-23 14:38 J -1536372.05 -1536371.89 -1536371.73 0.0501 0.0265

Jupiter -8920-11-22 03:50 J -1536281.38 -1536281.34 -1536281.29 0.0503 0.0487

Venus -8917-11-23 18:00 J -1535183.84 -1535183.75 -1535183.65 0.3695 0.1067

Saturn -8916-06-29 01:26 J -1534966.48 -1534966.44 -1534966.38 0.0258 0.0248

Saturn -8916-09-25 22:19 J -1534877.75 -1534877.57 -1534877.39 0.0259 0.0095

Saturn -8916-12-23 19:12 J -1534788.89 -1534788.70 -1534788.51 0.0259 0.0059

Saturn -8915-03-22 16:04 J -1534699.93 -1534699.83 -1534699.72 0.0259 0.0215

Jupiter -8914-04-23 06:43 J -1534303.28 -1534303.22 -1534303.16 0.0525 0.0459

Jupiter -8914-07-21 11:31 J -1534214.14 -1534214.02 -1534213.90 0.0524 0.0087

Mars -8914-07-21 14:38 J -1534214.00 -1534213.89 -1534213.77 0.1668 0.0008 *

Neptune -8913-08-15 13:55 J -1533822.98 -1533822.92 -1533822.81 0.0088 0.0079

Neptune -8913-11-11 17:45 J -1533734.86 -1533734.76 -1533734.62 0.0088 0.0069

Neptune -8912-02-07 21:21 J -1533646.74 -1533646.61 -1533646.45 0.0088 0.0059

Neptune -8912-05-07 01:26 J -1533558.60 -1533558.44 -1533558.28 0.0088 0.0048

Neptune -8912-08-03 05:02 J -1533470.47 -1533470.29 -1533470.11 0.0088 0.0038

Neptune -8912-10-30 08:38 J -1533382.32 -1533382.14 -1533381.95 0.0088 0.0028

Neptune -8911-01-26 12:14 J -1533294.18 -1533293.99 -1533293.79 0.0088 0.0018

Neptune -8911-04-24 16:04 J -1533206.03 -1533205.83 -1533205.63 0.0088 0.0008

Venus -8911-06-09 09:21 J -1533160.18 -1533160.11 -1533160.05 0.3697 0.2701

Neptune -8911-07-21 19:40 J -1533117.88 -1533117.68 -1533117.48 0.0088 0.0002

Moon -8911-09-09 14:38 J -1533068.00 -1533067.89 -1533067.79 0.2726 0.0127

Earth -8911-09-09 14:52 J -1533067.99 -1533067.88 -1533067.78 0.2719 0.0104 *

Neptune -8911-10-17 23:16 J -1533029.72 -1533029.53 -1533029.33 0.0088 0.0013

Neptune -8910-01-14 02:52 J -1532941.56 -1532941.38 -1532941.18 0.0088 0.0023

Neptune -8910-04-12 06:28 J -1532853.40 -1532853.23 -1532853.03 0.0088 0.0033

Neptune -8910-07-09 10:04 J -1532765.24 -1532765.08 -1532764.89 0.0088 0.0043

Neptune -8910-10-05 13:55 J -1532677.07 -1532676.92 -1532676.75 0.0088 0.0053

Neptune -8909-01-01 17:45 J -1532588.89 -1532588.76 -1532588.62 0.0088 0.0063

Neptune -8909-03-29 21:21 J -1532500.71 -1532500.61 -1532500.49 0.0088 0.0073

Neptune -8909-06-26 00:43 J -1532412.50 -1532412.47 -1532412.39 0.0088 0.0084

Venus -8908-03-12 05:02 J -1532153.45 -1532153.29 -1532153.14 0.3678 0.0942

Jupiter -8908-06-11 11:02 J -1532062.12 -1532062.04 -1532061.95 0.0501 0.0447

Jupiter -8908-09-10 00:14 J -1531971.64 -1531971.49 -1531971.34 0.0502 0.0301

Moon -8907-03-09 14:52 J -1531791.02 -1531790.88 -1531790.75 0.2613 0.1459

Earth -8907-03-09 16:33 J -1531790.96 -1531790.81 -1531790.66 0.2614 0.1147 *

Mars -8905-02-07 01:26 J -1531091.59 -1531091.44 -1531091.28 0.1859 0.0793

Mars -8905-12-11 01:55 J -1530783.53 -1530783.42 -1530783.31 0.1672 0.0457

Mars -8903-11-16 04:33 J -1530078.37 -1530078.31 -1530078.25 0.1656 0.1392

Jupiter -8902-05-09 16:19 J -1529903.94 -1529903.82 -1529903.69 0.0524 0.0044

Jupiter -8902-08-06 20:52 J -1529814.67 -1529814.63 -1529814.59 0.0522 0.0496

Saturn -8902-10-31 04:47 J -1529729.37 -1529729.30 -1529729.23 0.0304 0.0251

Saturn -8901-01-27 17:16 J -1529640.90 -1529640.78 -1529640.65 0.0304 0.0087

Saturn -8901-04-25 06:00 J -1529552.38 -1529552.25 -1529552.13 0.0303 0.0078

Saturn -8901-07-22 18:14 J -1529463.81 -1529463.74 -1529463.66 0.0303 0.0240

Uranus -8900-07-09 15:07 J -1529111.91 -1529111.87 -1529111.81 0.0137 0.0124

Uranus -8900-10-05 18:14 J -1529023.82 -1529023.74 -1529023.66 0.0137 0.0106

Uranus -8899-01-01 21:21 J -1528935.71 -1528935.61 -1528935.51 0.0137 0.0087

Uranus -8899-03-31 00:28 J -1528847.59 -1528847.48 -1528847.37 0.0137 0.0068

Uranus -8899-06-27 03:21 J -1528759.47 -1528759.36 -1528759.23 0.0137 0.0050

Uranus -8899-09-23 06:28 J -1528671.35 -1528671.23 -1528671.10 0.0137 0.0031

Uranus -8899-12-20 09:35 J -1528583.23 -1528583.10 -1528582.97 0.0137 0.0012

Uranus -8898-03-18 12:43 J -1528495.10 -1528494.97 -1528494.84 0.0138 0.0007

Uranus -8898-06-14 15:50 J -1528406.97 -1528406.84 -1528406.71 0.0138 0.0026

Uranus -8898-09-10 18:57 J -1528318.83 -1528318.71 -1528318.59 0.0138 0.0045

Earth -8898-09-12 08:24 J -1528317.25 -1528317.15 -1528317.06 0.2719 0.1322

Moon -8898-09-12 08:38 J -1528317.23 -1528317.14 -1528317.05 0.2724 0.1328 *

Uranus -8898-12-07 21:50 J -1528230.70 -1528230.59 -1528230.47 0.0138 0.0064

Uranus -8897-03-05 00:57 J -1528142.56 -1528142.46 -1528142.35 0.0138 0.0083

Uranus -8897-06-01 04:04 J -1528054.41 -1528054.33 -1528054.24 0.0138 0.0103

Uranus -8897-08-28 07:12 J -1527966.25 -1527966.20 -1527966.13 0.0138 0.0122

Pluto -8897-09-08 23:31 J -1527954.56 -1527954.52 -1527954.47 0.0072 0.0067

Pluto -8897-12-06 00:28 J -1527866.55 -1527866.48 -1527866.39 0.0072 0.0059

Pluto -8896-03-04 01:40 J -1527778.53 -1527778.43 -1527778.32 0.0072 0.0050

Pluto -8896-05-31 02:38 J -1527690.50 -1527690.39 -1527690.26 0.0072 0.0042

Mars -8896-06-28 18:28 J -1527661.90 -1527661.73 -1527661.57 0.1853 0.0536

Jupiter -8896-06-28 19:26 J -1527661.88 -1527661.69 -1527661.51 0.0502 0.0101 *

Pluto -8896-08-27 03:50 J -1527602.46 -1527602.34 -1527602.20 0.0072 0.0034

Pluto -8896-11-23 05:02 J -1527514.42 -1527514.29 -1527514.14 0.0072 0.0025

Pluto -8895-02-19 06:14 J -1527426.38 -1527426.24 -1527426.09 0.0073 0.0016

Mars -8895-05-03 13:12 J -1527353.05 -1527352.95 -1527352.86 0.1677 0.0922

Pluto -8895-05-18 07:26 J -1527338.34 -1527338.19 -1527338.04 0.0073 0.0007

Pluto -8895-08-14 08:38 J -1527250.29 -1527250.14 -1527249.99 0.0073 0.0002

Pluto -8895-11-10 09:50 J -1527162.24 -1527162.09 -1527161.94 0.0073 0.0011

Pluto -8894-02-06 11:02 J -1527074.18 -1527074.04 -1527073.89 0.0073 0.0020

Moon -8894-03-12 23:02 J -1527039.67 -1527039.54 -1527039.40 0.2616 0.1475

Earth -8894-03-13 00:57 J -1527039.59 -1527039.46 -1527039.33 0.2614 0.1591 *

Pluto -8894-05-05 12:14 J -1526986.13 -1526985.99 -1526985.85 0.0073 0.0029

Pluto -8894-08-01 13:26 J -1526898.07 -1526897.94 -1526897.81 0.0073 0.0039

Pluto -8894-10-28 14:24 J -1526810.00 -1526809.90 -1526809.77 0.0073 0.0048

Pluto -8893-01-24 15:35 J -1526721.93 -1526721.85 -1526721.74 0.0074 0.0058

Mars -8893-04-07 15:50 J -1526647.93 -1526647.84 -1526647.74 0.1660 0.0954

Pluto	-8893-04-21 17:02 J	-1526633.84	-1526633.79	-1526633.72	0.0074	0.0067
Moon	-8891-09-05 07:55 J	-1525767.21	-1525767.17	-1525767.13	0.2717	0.2446
Earth	-8891-09-05 08:38 J	-1525767.19	-1525767.14	-1525767.09	0.2719	0.2311 *
Jupiter	-8890-02-25 21:21 J	-1525593.73	-1525593.61	-1525593.49	0.0524	0.0169
Jupiter	-8890-05-26 01:55 J	-1525504.51	-1525504.42	-1525504.34	0.0522	0.0371
Saturn	-8886-02-12 20:38 J	-1524145.79	-1524145.64	-1524145.47	0.0258	0.0144
Saturn	-8886-05-12 17:45 J	-1524056.96	-1524056.76	-1524056.57	0.0258	0.0011
Saturn	-8886-08-09 14:24 J	-1523968.04	-1523967.90	-1523967.74	0.0259	0.0164
Mars	-8886-09-24 00:14 J	-1523922.55	-1523922.49	-1523922.42	0.1681	0.1394
Earth	-8885-09-14 01:55 J	-1523566.45	-1523566.42	-1523566.40	0.2719	0.2622
Moon	-8885-09-14 02:24 J	-1523566.40	-1523566.40	-1523566.39	0.2722	0.2715 *
Jupiter	-8884-04-16 16:04 J	-1523352.01	-1523351.83	-1523351.64	0.0502	0.0081
Mars	-8884-08-29 03:21 J	-1523217.47	-1523217.36	-1523217.25	0.1664	0.0508
Jupiter	-8879-12-15 01:40 J	-1521283.53	-1521283.43	-1521283.33	0.0524	0.0306
Jupiter	-8878-03-14 06:14 J	-1521194.35	-1521194.24	-1521194.12	0.0523	0.0236
Moon	-8878-09-08 01:26 J	-1521016.53	-1521016.44	-1521016.34	0.2723	0.1048
Earth	-8878-09-08 02:09 J	-1521016.51	-1521016.41	-1521016.31	0.2719	0.1025 *
Venus	-8877-11-15 17:31 J	-1520581.81	-1520581.77	-1520581.73	0.3690	0.3316
Mars	-8874-01-19 14:38 J	-1519787.00	-1519786.89	-1519786.77	0.1668	0.0058
Jupiter	-8872-02-02 13:12 J	-1519042.11	-1519041.95	-1519041.79	0.0502	0.0257
Jupiter	-8872-05-04 02:38 J	-1518951.41	-1518951.39	-1518951.36	0.0503	0.0497
Saturn	-8872-06-15 18:00 J	-1518908.86	-1518908.75	-1518908.64	0.0304	0.0150
Saturn	-8872-09-12 06:43 J	-1518820.35	-1518820.22	-1518820.10	0.0304	0.0017
Saturn	-8872-12-09 18:57 J	-1518731.81	-1518731.71	-1518731.60	0.0304	0.0178
Venus	-8871-06-01 08:52 J	-1518558.22	-1518558.13	-1518558.04	0.3692	0.1660
Jupiter	-8867-10-03 06:14 J	-1516973.31	-1516973.24	-1516973.18	0.0525	0.0443
Jupiter	-8867-12-31 10:47 J	-1516884.17	-1516884.05	-1516883.92	0.0523	0.0102
Mars	-8866-08-08 02:24 J	-1516664.55	-1516664.40	-1516664.25	0.1859	0.0912
Venus	-8866-12-16 00:14 J	-1516534.60	-1516534.49	-1516534.39	0.3694	0.0157
Mars	-8865-06-11 01:55 J	-1516356.53	-1516356.42	-1516356.31	0.1672	0.0401

Moon -8865-09-09 19:26 J -1516265.80 -1516265.69 -1516265.59 0.2725 0.0201

Earth -8865-09-09 19:26 J -1516265.79 -1516265.69 -1516265.58 0.2719 0.0300 *

Mars -8863-05-17 04:33 J -1515651.37 -1515651.31 -1515651.26 0.1656 0.1449

Moon -8861-03-09 21:35 J -1514988.76 -1514988.60 -1514988.44 0.2614 0.0724

Earth -8861-03-09 23:31 J -1514988.68 -1514988.52 -1514988.36 0.2615 0.0615 *

Jupiter -8861-11-21 10:04 J -1514732.17 -1514732.08 -1514731.98 0.0501 0.0435

Jupiter -8860-02-19 23:16 J -1514641.67 -1514641.53 -1514641.38 0.0502 0.0314

Venus -8860-06-30 15:21 J -1514510.95 -1514510.86 -1514510.77 0.3695 0.1643

Uranus -8860-08-14 23:02 J -1514465.61 -1514465.54 -1514465.45 0.0141 0.0128

Uranus -8860-11-11 07:26 J -1514377.32 -1514377.19 -1514377.03 0.0141 0.0097

Uranus -8859-02-07 16:19 J -1514289.00 -1514288.82 -1514288.64 0.0141 0.0065

Uranus -8859-05-07 00:43 J -1514200.66 -1514200.47 -1514200.27 0.0141 0.0033

Uranus -8859-08-03 09:21 J -1514112.31 -1514112.11 -1514111.92 0.0141 0.0003

Uranus -8859-10-30 17:45 J -1514023.95 -1514023.76 -1514023.57 0.0141 0.0029

Uranus -8858-01-27 02:09 J -1513935.59 -1513935.41 -1513935.23 0.0141 0.0060

Uranus -8858-04-25 10:33 J -1513847.21 -1513847.06 -1513846.91 0.0141 0.0091

Uranus -8858-07-22 18:43 J -1513758.81 -1513758.72 -1513758.61 0.0140 0.0122

Saturn -8857-07-01 18:57 J -1513413.83 -1513413.71 -1513413.58 0.0258 0.0195

Saturn -8857-09-28 15:50 J -1513325.03 -1513324.84 -1513324.65 0.0259 0.0042

Saturn -8857-12-26 12:43 J -1513236.15 -1513235.97 -1513235.80 0.0259 0.0112

Mars -8857-12-27 19:12 J -1513234.86 -1513234.70 -1513234.53 0.1853 0.0421

Mars -8856-11-01 13:12 J -1512926.05 -1512925.95 -1512925.86 0.1677 0.0868

Jupiter -8855-10-19 15:21 J -1512573.99 -1512573.86 -1512573.73 0.0524 0.0035

Venus -8854-01-14 06:43 J -1512487.27 -1512487.22 -1512487.18 0.3697 0.3276

Jupiter -8854-01-16 19:40 J -1512484.70 -1512484.68 -1512484.64 0.0522 0.0504

Mars -8854-10-07 15:50 J -1512220.93 -1512220.84 -1512220.75 0.1660 0.1006

Earth -8852-09-12 12:57 J -1511515.04 -1511514.96 -1511514.87 0.2719 0.1580

Moon -8852-09-12 13:26 J -1511515.02 -1511514.94 -1511514.86 0.2725 0.1696 *

Venus -8852-10-17 07:40 J -1511480.33 -1511480.18 -1511480.02 0.3678 0.1000

Jupiter -8849-12-08 19:40 J -1510331.86 -1510331.68 -1510331.49 0.0502 0.0130

Moon -8848-03-13 06:14 J -1510237.35 -1510237.24 -1510237.12 0.2617 0.1861

Earth -8848-03-13 07:55 J -1510237.27 -1510237.17 -1510237.08 0.2614 0.2127 *

Mars -8847-05-19 12:28 J -1509805.04 -1509804.98 -1509804.92 0.1847 0.1722

Mars -8846-03-25 00:14 J -1509495.56 -1509495.49 -1509495.42 0.1681 0.1338

Moon -8845-09-05 12:43 J -1508965.03 -1508964.97 -1508964.90 0.2718 0.2120

Earth -8845-09-05 13:26 J -1508965.01 -1508964.94 -1508964.87 0.2719 0.2058 *

Mars -8844-02-27 03:07 J -1508790.47 -1508790.37 -1508790.26 0.1664 0.0564

Jupiter -8843-08-07 20:09 J -1508263.77 -1508263.66 -1508263.54 0.0524 0.0163

Saturn -8843-11-02 18:57 J -1508176.80 -1508176.71 -1508176.62 0.0304 0.0211

Jupiter -8843-11-05 00:43 J -1508174.55 -1508174.47 -1508174.38 0.0523 0.0379

Saturn -8842-01-30 07:40 J -1508088.31 -1508088.18 -1508088.06 0.0304 0.0046

Saturn -8842-04-28 20:09 J -1507999.78 -1507999.66 -1507999.54 0.0303 0.0118

Saturn -8842-07-26 08:24 J -1507911.19 -1507911.15 -1507911.10 0.0303 0.0280

Jupiter -8837-09-26 14:52 J -1506022.07 -1506021.88 -1506021.69 0.0502 0.0071

Mars -8835-07-20 14:38 J -1505360.01 -1505359.89 -1505359.78 0.1668 0.0112

Moon -8832-09-08 06:14 J -1504214.34 -1504214.24 -1504214.13 0.2724 0.0889

Earth -8832-09-08 06:43 J -1504214.32 -1504214.22 -1504214.11 0.2719 0.0772 *

Neptune -8832-12-01 00:14 J -1504130.51 -1504130.49 -1504130.45 0.0089 0.0087

Neptune -8831-02-27 01:26 J -1504042.48 -1504042.44 -1504042.37 0.0089 0.0080

Neptune -8831-05-26 02:52 J -1503954.45 -1503954.38 -1503954.29 0.0089 0.0072

Jupiter -8831-05-27 01:12 J -1503953.55 -1503953.45 -1503953.34 0.0524 0.0289

Neptune -8831-08-22 04:33 J -1503866.40 -1503866.31 -1503866.23 0.0089 0.0065

Jupiter -8831-08-24 05:45 J -1503864.37 -1503864.26 -1503864.15 0.0523 0.0254

Neptune -8831-11-18 05:45 J -1503778.36 -1503778.26 -1503778.16 0.0089 0.0058

Neptune -8830-02-14 06:57 J -1503690.31 -1503690.21 -1503690.10 0.0089 0.0051

Neptune -8830-05-13 08:24 J -1503602.26 -1503602.15 -1503602.04 0.0089 0.0043

Neptune -8830-08-09 09:35 J -1503514.21 -1503514.10 -1503513.98 0.0089 0.0037

Neptune -8830-11-05 11:02 J -1503426.16 -1503426.04 -1503425.92 0.0089 0.0029

Neptune -8829-02-01 12:14 J -1503338.11 -1503337.99 -1503337.86 0.0089 0.0022

Neptune -8829-04-29 13:40 J -1503250.06 -1503249.93 -1503249.80 0.0089 0.0015

Neptune -8829-07-26 14:52 J -1503162.01 -1503161.88 -1503161.75 0.0089 0.0008

Neptune -8829-10-22 16:19 J -1503073.95 -1503073.82 -1503073.69 0.0089 0.0002

Neptune -8828-01-18 17:31 J -1502985.90 -1502985.77 -1502985.64 0.0089 0.0006

Neptune -8828-04-16 18:43 J -1502897.84 -1502897.72 -1502897.58 0.0089 0.0014

Neptune -8828-07-13 20:09 J -1502809.79 -1502809.66 -1502809.53 0.0089 0.0020

Neptune -8828-10-09 21:21 J -1502721.73 -1502721.61 -1502721.48 0.0089 0.0028

Saturn -8828-11-18 17:16 J -1502681.83 -1502681.78 -1502681.72 0.0258 0.0244

Neptune -8827-01-05 22:33 J -1502633.67 -1502633.56 -1502633.43 0.0089 0.0035

Saturn -8827-02-15 13:55 J -1502593.09 -1502592.92 -1502592.73 0.0258 0.0093

Neptune -8827-04-04 00:00 J -1502545.61 -1502545.50 -1502545.38 0.0089 0.0042

Saturn -8827-05-15 10:47 J -1502504.23 -1502504.05 -1502503.86 0.0258 0.0061

Neptune -8827-07-01 01:12 J -1502457.55 -1502457.45 -1502457.34 0.0089 0.0049

Saturn -8827-08-12 07:40 J -1502415.28 -1502415.18 -1502415.07 0.0259 0.0215

Neptune -8827-09-27 02:24 J -1502369.49 -1502369.40 -1502369.29 0.0089 0.0056

Neptune -8827-12-24 03:50 J -1502281.43 -1502281.34 -1502281.25 0.0089 0.0063

Mars -8826-02-06 03:21 J -1502237.51 -1502237.36 -1502237.22 0.1859 0.1031

Neptune -8826-03-22 05:02 J -1502193.37 -1502193.29 -1502193.20 0.0089 0.0070

Neptune -8826-06-18 06:14 J -1502105.30 -1502105.24 -1502105.17 0.0089 0.0077

Neptune -8826-09-14 07:40 J -1502017.22 -1502017.18 -1502017.13 0.0089 0.0084

Mars -8826-12-11 01:55 J -1501929.53 -1501929.42 -1501929.31 0.1672 0.0349

Jupiter -8825-07-15 11:45 J -1501712.17 -1501712.01 -1501711.85 0.0502 0.0250

Mars -8824-11-15 04:19 J -1501224.36 -1501224.32 -1501224.27 0.1656 0.1499

Venus -8820-06-22 14:52 J -1499908.95 -1499908.88 -1499908.81 0.3691 0.2725

Jupiter -8819-03-15 05:45 J -1499643.33 -1499643.26 -1499643.19 0.0524 0.0426

Jupiter -8819-06-12 10:19 J -1499554.19 -1499554.07 -1499553.95 0.0523 0.0118

Moon -8819-09-11 00:14 J -1499463.59 -1499463.49 -1499463.38 0.2725 0.0589

Earth -8819-09-11 00:14 J -1499463.59 -1499463.49 -1499463.38 0.2719 0.0537 *

Mars -8817-06-27 19:55 J -1498807.84 -1498807.67 -1498807.50 0.1853 0.0314

Mars -8816-05-02 13:12 J -1498499.05 -1498498.95 -1498498.85 0.1676 0.0809

Uranus -8816-07-29 22:33 J -1498410.61 -1498410.56 -1498410.49 0.0137 0.0119

Uranus -8816-10-26 01:40 J -1498322.51 -1498322.43 -1498322.34 0.0137 0.0100

Uranus -8815-01-22 04:47 J -1498234.40 -1498234.30 -1498234.19 0.0137 0.0082

Moon -8815-03-11 04:19 J -1498186.48 -1498186.32 -1498186.15 0.2614 0.0406

Earth -8815-03-11 06:14 J -1498186.40 -1498186.24 -1498186.07 0.2614 0.0095 *

Uranus -8815-04-20 07:55 J -1498146.28 -1498146.17 -1498146.05 0.0137 0.0063

Uranus -8815-07-17 11:02 J -1498058.16 -1498058.04 -1498057.92 0.0137 0.0044

Uranus -8815-10-13 14:09 J -1497970.04 -1497969.91 -1497969.79 0.0137 0.0026

Venus -8814-01-06 06:14 J -1497885.34 -1497885.24 -1497885.15 0.3692 0.1066

Uranus -8814-01-09 17:02 J -1497881.92 -1497881.79 -1497881.66 0.0138 0.0008

Mars -8814-04-07 15:50 J -1497793.93 -1497793.84 -1497793.75 0.1660 0.1060

Uranus -8814-04-07 20:09 J -1497793.79 -1497793.66 -1497793.53 0.0138 0.0013 *

Uranus -8814-07-04 23:16 J -1497705.66 -1497705.53 -1497705.40 0.0138 0.0031

Uranus -8814-10-01 02:24 J -1497617.52 -1497617.40 -1497617.28 0.0138 0.0050

Uranus -8814-12-28 05:16 J -1497529.38 -1497529.28 -1497529.16 0.0138 0.0070

Saturn -8813-03-21 19:12 J -1497444.74 -1497444.70 -1497444.65 0.0305 0.0280

Uranus -8813-03-25 08:24 J -1497441.24 -1497441.15 -1497441.04 0.0138 0.0089

Jupiter -8813-05-03 08:52 J -1497402.22 -1497402.13 -1497402.03 0.0502 0.0425

Saturn -8813-06-18 07:55 J -1497356.29 -1497356.17 -1497356.05 0.0304 0.0114

Uranus -8813-06-21 11:31 J -1497353.09 -1497353.02 -1497352.93 0.0138 0.0108

Jupiter -8813-08-01 22:04 J -1497311.72 -1497311.58 -1497311.43 0.0503 0.0326

Saturn -8813-09-14 20:38 J -1497267.77 -1497267.64 -1497267.52 0.0304 0.0052

Uranus -8813-09-17 14:38 J -1497264.93 -1497264.89 -1497264.83 0.0138 0.0128

Saturn -8813-12-12 08:52 J -1497179.21 -1497179.13 -1497179.04 0.0304 0.0214

Pluto -8812-11-10 01:40 J -1496846.49 -1496846.43 -1496846.33 0.0072 0.0064

Pluto -8811-02-06 03:21 J -1496758.46 -1496758.36 -1496758.23 0.0072 0.0054

Pluto -8811-05-05 05:02 J -1496670.41 -1496670.29 -1496670.15 0.0072 0.0044

Pluto -8811-08-01 06:28 J -1496582.36 -1496582.23 -1496582.07 0.0072 0.0034

Pluto -8811-10-28 08:09 J -1496494.31 -1496494.16 -1496493.99 0.0072 0.0024

Pluto -8810-01-24 09:50 J -1496406.25 -1496406.09 -1496405.92 0.0072 0.0014

Pluto -8810-04-22 11:31 J -1496318.19 -1496318.02 -1496317.85 0.0072 0.0005

Pluto	-8810-07-19 12:57 J	-1496230.12	-1496229.96	-1496229.79	0.0072	0.0005
Pluto	-8810-10-15 14:24 J	-1496142.06	-1496141.90	-1496141.73	0.0071	0.0014
Pluto	-8809-01-11 15:50 J	-1496053.99	-1496053.84	-1496053.68	0.0071	0.0024
Pluto	-8809-04-08 17:31 J	-1495965.92	-1495965.77	-1495965.62	0.0071	0.0033
Pluto	-8809-07-05 18:28 J	-1495877.84	-1495877.73	-1495877.58	0.0071	0.0043
Venus	-8809-07-21 21:35 J	-1495861.70	-1495861.60	-1495861.50	0.3694	0.0603
Pluto	-8809-10-01 19:55 J	-1495789.76	-1495789.67	-1495789.53	0.0071	0.0051
Pluto	-8809-12-28 21:21 J	-1495701.68	-1495701.61	-1495701.50	0.0071	0.0060
Pluto	-8808-03-26 22:47 J	-1495613.57	-1495613.55	-1495613.49	0.0071	0.0069
Mars	-8808-11-17 13:12 J	-1495378.03	-1495377.95	-1495377.86	0.1847	0.1606
Jupiter	-8807-03-31 14:52 J	-1495244.00	-1495243.88	-1495243.75	0.0523	0.0017
Jupiter	-8807-06-28 19:12 J	-1495154.70	-1495154.70	-1495154.69	0.0522	0.0520
Mars	-8807-09-23 00:14 J	-1495068.56	-1495068.49	-1495068.42	0.1681	0.1283
Earth	-8806-09-13 17:45 J	-1494712.83	-1494712.76	-1494712.68	0.2719	0.1839
Moon	-8806-09-13 18:14 J	-1494712.81	-1494712.74	-1494712.66	0.2724	0.1845 *
Mars	-8805-08-28 03:21 J	-1494363.47	-1494363.36	-1494363.26	0.1663	0.0619
Venus	-8803-02-04 12:43 J	-1493838.05	-1493837.97	-1493837.89	0.3696	0.2227
Moon	-8802-03-14 13:12 J	-1493434.96	-1493434.95	-1493434.94	0.2619	0.2609
Jupiter	-8801-05-20 18:57 J	-1493001.89	-1493001.71	-1493001.53	0.0502	0.0145
Venus	-8801-11-06 22:47 J	-1492831.63	-1492831.55	-1492831.47	0.3680	0.3131
Moon	-8799-09-06 17:31 J	-1492162.85	-1492162.77	-1492162.69	0.2720	0.1890
Earth	-8799-09-06 18:14 J	-1492162.82	-1492162.74	-1492162.66	0.2719	0.1801 *
Saturn	-8798-07-05 11:45 J	-1491861.16	-1491861.01	-1491860.85	0.0258	0.0146
Saturn	-8798-10-02 08:38 J	-1491772.33	-1491772.14	-1491771.95	0.0259	0.0007
Saturn	-8798-12-30 05:16 J	-1491683.42	-1491683.28	-1491683.12	0.0259	0.0161
Jupiter	-8795-01-17 19:26 J	-1490933.81	-1490933.69	-1490933.57	0.0524	0.0154
Mars	-8795-01-18 14:38 J	-1490933.01	-1490932.89	-1490932.78	0.1668	0.0174
Jupiter	-8795-04-17 00:00 J	-1490844.59	-1490844.50	-1490844.42	0.0523	0.0387
Venus	-8795-05-24 10:33 J	-1490807.16	-1490807.06	-1490806.97	0.3677	0.2955
Jupiter	-8789-03-08 15:35 J	-1488692.04	-1488691.85	-1488691.66	0.0502	0.0039

Mars	-8787-08-07 04:04 J	-1487810.46	-1487810.33	-1487810.19	0.1859	0.1149
Mars	-8786-06-11 01:55 J	-1487502.54	-1487502.42	-1487502.31	0.1672	0.0299
Moon	-8786-09-09 11:02 J	-1487412.14	-1487412.04	-1487411.93	0.2724	0.0543
Earth	-8786-09-09 11:31 J	-1487412.12	-1487412.02	-1487411.91	0.2719	0.0514 *
Mars	-8784-05-16 04:19 J	-1486797.36	-1486797.32	-1486797.28	0.1656	0.1551
Saturn	-8784-11-05 08:52 J	-1486624.23	-1486624.13	-1486624.02	0.0304	0.0175
Jupiter	-8784-11-06 00:14 J	-1486623.59	-1486623.49	-1486623.38	0.0524	0.0281
Saturn	-8783-02-01 21:35 J	-1486535.73	-1486535.60	-1486535.48	0.0304	0.0013
Jupiter	-8783-02-03 04:47 J	-1486534.40	-1486534.30	-1486534.19	0.0523	0.0263
Saturn	-8783-05-01 10:04 J	-1486447.19	-1486447.08	-1486446.97	0.0303	0.0154
Moon	-8782-03-09 02:52 J	-1486135.42	-1486135.38	-1486135.33	0.2612	0.2500
Earth	-8782-03-09 04:33 J	-1486135.38	-1486135.31	-1486135.23	0.2615	0.2325 *
Jupiter	-8778-12-26 10:33 J	-1484382.22	-1484382.06	-1484381.89	0.0502	0.0239
Mars	-8778-12-27 20:52 J	-1484380.80	-1484380.63	-1484380.46	0.1853	0.0192
Mars	-8777-10-31 12:57 J	-1484072.06	-1484071.96	-1484071.85	0.1677	0.0760
Uranus	-8776-09-04 06:28 J	-1483764.33	-1483764.23	-1483764.13	0.0141	0.0121
Uranus	-8776-12-01 14:52 J	-1483676.03	-1483675.88	-1483675.72	0.0141	0.0089
Uranus	-8775-02-27 23:16 J	-1483587.70	-1483587.53	-1483587.34	0.0141	0.0058
Uranus	-8775-05-27 07:55 J	-1483499.36	-1483499.17	-1483498.98	0.0141	0.0027
Uranus	-8775-08-23 16:19 J	-1483411.02	-1483410.82	-1483410.62	0.0141	0.0005
Mars	-8775-10-06 15:50 J	-1483366.93	-1483366.84	-1483366.76	0.1660	0.1113
Uranus	-8775-11-20 00:43 J	-1483322.66	-1483322.47	-1483322.28	0.0141	0.0035
Uranus	-8774-02-16 08:52 J	-1483234.29	-1483234.13	-1483233.94	0.0141	0.0067
Uranus	-8774-05-15 17:16 J	-1483145.91	-1483145.78	-1483145.63	0.0140	0.0097
Uranus	-8774-08-12 01:55 J	-1483057.50	-1483057.42	-1483057.34	0.0140	0.0128
Earth	-8773-09-11 05:02 J	-1482661.39	-1482661.29	-1482661.19	0.2719	0.0795
Moon	-8773-09-11 05:16 J	-1482661.38	-1482661.28	-1482661.18	0.2726	0.0767 *
Jupiter	-8772-08-25 05:16 J	-1482313.36	-1482313.28	-1482313.20	0.0525	0.0407
Jupiter	-8772-11-22 10:04 J	-1482224.20	-1482224.08	-1482223.96	0.0523	0.0138
Moon	-8769-03-11 11:16 J	-1481384.19	-1481384.03	-1481383.86	0.2615	0.0319

Earth	-8769-03-11 13:12 J	-1481384.11	-1481383.95	-1481383.79	0.2615	0.0439 *
Saturn	-8769-11-21 10:04 J	-1481129.20	-1481129.08	-1481128.96	0.0258	0.0196
Saturn	-8768-02-18 06:43 J	-1481040.41	-1481040.22	-1481040.03	0.0258	0.0045
Saturn	-8768-05-18 03:35 J	-1480951.52	-1480951.35	-1480951.17	0.0258	0.0109
Mars	-8768-05-18 14:09 J	-1480951.01	-1480950.91	-1480950.81	0.1847	0.1493
Mars	-8767-03-24 00:14 J	-1480641.57	-1480641.49	-1480641.41	0.1681	0.1225
Jupiter	-8766-10-14 07:40 J	-1480072.29	-1480072.18	-1480072.08	0.0501	0.0417
Jupiter	-8765-01-12 20:38 J	-1479981.78	-1479981.64	-1479981.50	0.0503	0.0334
Mars	-8765-02-27 03:07 J	-1479936.47	-1479936.37	-1479936.26	0.1664	0.0669
Venus	-8763-01-27 12:14 J	-1479236.07	-1479235.99	-1479235.91	0.3691	0.2129
Jupiter	-8760-09-10 14:24 J	-1477914.02	-1477913.90	-1477913.77	0.0523	0.0018
Earth	-8760-09-13 22:33 J	-1477910.62	-1477910.56	-1477910.49	0.2719	0.2097
Moon	-8760-09-13 23:02 J	-1477910.60	-1477910.54	-1477910.48	0.2724	0.2231 *
Venus	-8758-08-13 03:35 J	-1477212.45	-1477212.35	-1477212.25	0.3693	0.0474
Mars	-8756-07-19 14:38 J	-1476506.01	-1476505.89	-1476505.78	0.1668	0.0228
Saturn	-8754-03-25 09:07 J	-1475892.19	-1475892.12	-1475892.04	0.0305	0.0244
Saturn	-8754-06-21 21:50 J	-1475803.72	-1475803.59	-1475803.47	0.0304	0.0079
Saturn	-8754-09-18 10:19 J	-1475715.19	-1475715.07	-1475714.95	0.0304	0.0086
Jupiter	-8754-10-31 17:45 J	-1475671.94	-1475671.76	-1475671.58	0.0503	0.0157
Saturn	-8754-12-15 22:33 J	-1475626.62	-1475626.56	-1475626.48	0.0304	0.0249
Moon	-8753-09-06 22:19 J	-1475360.65	-1475360.57	-1475360.49	0.2721	0.1655
Earth	-8753-09-06 23:02 J	-1475360.63	-1475360.54	-1475360.46	0.2719	0.1545 *
Venus	-8752-02-25 18:57 J	-1475188.81	-1475188.71	-1475188.62	0.3694	0.1174
Neptune	-8748-02-13 08:52 J	-1473740.16	-1473740.13	-1473740.06	0.0088	0.0085
Neptune	-8748-05-12 12:28 J	-1473652.06	-1473651.98	-1473651.85	0.0088	0.0075
Jupiter	-8748-06-29 18:57 J	-1473603.83	-1473603.71	-1473603.59	0.0524	0.0134
Neptune	-8748-08-08 16:04 J	-1473563.94	-1473563.83	-1473563.67	0.0088	0.0065
Jupiter	-8748-09-26 23:31 J	-1473514.60	-1473514.52	-1473514.44	0.0522	0.0405
Neptune	-8748-11-04 19:55 J	-1473475.81	-1473475.67	-1473475.50	0.0088	0.0055
Neptune	-8747-01-31 23:31 J	-1473387.67	-1473387.52	-1473387.33	0.0088	0.0045

Mars -8747-02-05 05:02 J -1473383.42 -1473383.29 -1473383.17 0.1860 0.1265

Neptune -8747-04-30 03:35 J -1473299.53 -1473299.35 -1473299.17 0.0088 0.0034

Neptune -8747-07-27 07:12 J -1473211.39 -1473211.20 -1473211.01 0.0088 0.0024

Venus -8747-09-11 10:04 J -1473165.14 -1473165.08 -1473165.01 0.3696 0.2809

Neptune -8747-10-23 10:47 J -1473123.24 -1473123.05 -1473122.85 0.0088 0.0014

Mars -8747-12-10 01:40 J -1473075.54 -1473075.43 -1473075.31 0.1672 0.0248

Neptune -8746-01-19 14:24 J -1473035.09 -1473034.90 -1473034.70 0.0088 0.0005

Neptune -8746-04-17 18:14 J -1472946.94 -1472946.74 -1472946.55 0.0088 0.0006

Neptune -8746-07-14 21:50 J -1472858.78 -1472858.59 -1472858.39 0.0088 0.0016

Neptune -8746-10-11 01:26 J -1472770.63 -1472770.44 -1472770.25 0.0088 0.0026

Neptune -8745-01-07 05:16 J -1472682.46 -1472682.28 -1472682.10 0.0088 0.0036

Neptune -8745-04-04 08:24 J -1472594.30 -1472594.15 -1472593.96 0.0088 0.0047

Neptune -8745-07-01 12:14 J -1472506.13 -1472505.99 -1472505.83 0.0088 0.0057

Neptune -8745-09-27 15:50 J -1472417.95 -1472417.84 -1472417.69 0.0088 0.0067

Mars -8745-11-14 04:19 J -1472370.34 -1472370.32 -1472370.30 0.1656 0.1605

Neptune -8745-12-24 19:40 J -1472329.76 -1472329.68 -1472329.57 0.0088 0.0077

Neptune -8744-03-22 23:31 J -1472241.53 -1472241.52 -1472241.49 0.0088 0.0087

Venus -8744-06-14 01:40 J -1472158.59 -1472158.43 -1472158.28 0.3679 0.1213

Jupiter -8742-08-19 14:38 J -1471362.07 -1471361.89 -1471361.70 0.0502 0.0027

Moon -8740-09-09 16:04 J -1470609.94 -1470609.83 -1470609.73 0.2724 0.0333

Earth -8740-09-09 16:19 J -1470609.92 -1470609.82 -1470609.71 0.2719 0.0253 *

Saturn -8739-04-10 07:40 J -1470397.21 -1470397.18 -1470397.13 0.0258 0.0250

Saturn -8739-07-08 04:33 J -1470308.49 -1470308.31 -1470308.13 0.0258 0.0098

Saturn -8739-10-05 01:26 J -1470219.63 -1470219.44 -1470219.25 0.0259 0.0055

Saturn -8738-01-01 22:19 J -1470130.68 -1470130.57 -1470130.46 0.0259 0.0209

Mars -8738-06-27 22:04 J -1469953.75 -1469953.58 -1469953.41 0.1853 0.0065

Mars -8737-05-01 12:57 J -1469645.06 -1469644.96 -1469644.85 0.1676 0.0703

Moon -8736-03-09 09:50 J -1469333.19 -1469333.09 -1469332.98 0.2612 0.2005

Earth -8736-03-09 11:31 J -1469333.13 -1469333.02 -1469332.90 0.2615 0.1785 *

Jupiter -8736-04-17 23:31 J -1469293.63 -1469293.52 -1469293.42 0.0524 0.0271

Jupiter -8736-07-16 04:04 J -1469204.44 -1469204.33 -1469204.23 0.0523 0.0271

Mars -8735-04-06 15:50 J -1468939.92 -1468939.84 -1468939.76 0.1659 0.1168

Uranus -8732-05-23 02:52 J -1467797.40 -1467797.38 -1467797.34 0.0137 0.0133

Uranus -8732-08-19 06:00 J -1467709.31 -1467709.25 -1467709.17 0.0137 0.0114

Uranus -8732-11-15 09:07 J -1467621.21 -1467621.12 -1467621.02 0.0137 0.0095

Uranus -8731-02-11 12:00 J -1467533.10 -1467533.00 -1467532.88 0.0137 0.0077

Uranus -8731-05-10 15:07 J -1467444.98 -1467444.87 -1467444.74 0.0137 0.0059

Uranus -8731-08-06 18:14 J -1467356.86 -1467356.74 -1467356.61 0.0137 0.0040

Uranus -8731-11-02 21:21 J -1467268.73 -1467268.61 -1467268.48 0.0138 0.0021

Uranus -8730-01-30 00:28 J -1467180.61 -1467180.48 -1467180.35 0.0138 0.0003

Uranus -8730-04-28 03:35 J -1467092.48 -1467092.35 -1467092.22 0.0138 0.0017

Jupiter -8730-06-07 11:16 J -1467052.20 -1467052.03 -1467051.86 0.0502 0.0206

Uranus -8730-07-25 06:43 J -1467004.35 -1467004.22 -1467004.10 0.0138 0.0036

Uranus -8730-10-21 09:35 J -1466916.21 -1466916.10 -1466915.97 0.0138 0.0056

Uranus -8729-01-17 12:43 J -1466828.07 -1466827.97 -1466827.85 0.0138 0.0075

Uranus -8729-04-14 15:50 J -1466739.93 -1466739.84 -1466739.74 0.0138 0.0094

Uranus -8729-07-11 18:57 J -1466651.77 -1466651.71 -1466651.63 0.0138 0.0113

Uranus -8729-10-07 22:04 J -1466563.61 -1466563.58 -1466563.54 0.0138 0.0133

Mars -8729-11-16 14:52 J -1466523.99 -1466523.88 -1466523.77 0.1847 0.1379

Mars -8728-09-22 00:14 J -1466214.57 -1466214.49 -1466214.41 0.1681 0.1173

Earth -8727-09-12 09:50 J -1465859.19 -1465859.09 -1465858.99 0.2719 0.1052

Moon -8727-09-12 10:04 J -1465859.18 -1465859.08 -1465858.98 0.2726 0.1125 *

Mars -8726-08-28 03:07 J -1465509.47 -1465509.37 -1465509.27 0.1663 0.0721

Saturn -8725-11-07 22:33 J -1465071.67 -1465071.56 -1465071.44 0.0304 0.0141

Jupiter -8724-02-04 04:19 J -1464983.40 -1464983.32 -1464983.24 0.0525 0.0399

Saturn -8724-02-04 11:16 J -1464983.16 -1464983.03 -1464982.90 0.0303 0.0025

Saturn -8724-05-03 23:45 J -1464894.61 -1464894.51 -1464894.41 0.0303 0.0187

Jupiter -8724-05-04 09:07 J -1464894.24 -1464894.12 -1464894.00 0.0523 0.0146

Moon -8723-03-12 18:14 J -1464581.89 -1464581.74 -1464581.58 0.2616 0.0744

Earth -8723-03-12 19:55 J -1464581.82 -1464581.67 -1464581.51 0.2615 0.0971 *

Moon -8720-09-05 09:35 J -1463309.10 -1463309.10 -1463309.09 0.2716 0.2705

Earth -8720-09-05 10:19 J -1463309.10 -1463309.07 -1463309.04 0.2719 0.2575 *

Mars -8718-02-12 11:16 J -1462784.05 -1462784.03 -1462784.01 0.1686 0.1648

Jupiter -8718-03-26 06:14 J -1462742.34 -1462742.24 -1462742.12 0.0501 0.0406

Jupiter -8718-06-24 19:26 J -1462651.82 -1462651.69 -1462651.55 0.0503 0.0344

Mars -8716-01-17 14:24 J -1462079.01 -1462078.90 -1462078.79 0.1667 0.0273

Earth -8714-09-15 03:21 J -1461108.41 -1461108.36 -1461108.31 0.2719 0.2357

Moon -8714-09-15 04:04 J -1461108.38 -1461108.33 -1461108.29 0.2722 0.2388 *

Venus -8712-02-17 18:14 J -1460586.79 -1460586.74 -1460586.69 0.3690 0.3196

Jupiter -8712-02-20 14:09 J -1460584.04 -1460583.91 -1460583.79 0.0524 0.0027

Saturn -8710-11-25 02:52 J -1459576.53 -1459576.38 -1459576.22 0.0258 0.0148

Saturn -8709-02-21 23:45 J -1459487.71 -1459487.51 -1459487.32 0.0258 0.0006

Saturn -8709-05-20 20:24 J -1459398.80 -1459398.65 -1459398.49 0.0259 0.0158

Mars -8708-08-06 06:00 J -1458956.37 -1458956.25 -1458956.14 0.1859 0.1384

Mars -8707-06-10 01:40 J -1458648.54 -1458648.43 -1458648.31 0.1672 0.0187

Venus -8707-09-03 09:35 J -1458563.19 -1458563.10 -1458563.01 0.3692 0.1538

Moon -8707-09-08 03:07 J -1458558.47 -1458558.37 -1458558.28 0.2722 0.1345

Earth -8707-09-08 03:35 J -1458558.44 -1458558.35 -1458558.25 0.2719 0.1286 *

Jupiter -8706-04-12 16:19 J -1458342.00 -1458341.82 -1458341.64 0.0502 0.0163

Venus -8701-03-19 00:57 J -1456539.56 -1456539.46 -1456539.36 0.3693 0.0126

Jupiter -8701-12-09 18:28 J -1456273.85 -1456273.73 -1456273.60 0.0524 0.0117

Jupiter -8700-03-08 23:02 J -1456184.61 -1456184.54 -1456184.47 0.0522 0.0422

Mars -8699-12-26 22:33 J -1455526.73 -1455526.56 -1455526.39 0.1853 0.0040

Mars -8698-10-31 12:57 J -1455218.06 -1455217.96 -1455217.85 0.1676 0.0646

Venus -8696-10-02 16:19 J -1454515.91 -1454515.82 -1454515.73 0.3695 0.1755

Mars -8696-10-05 15:35 J -1454512.92 -1454512.85 -1454512.77 0.1660 0.1220

Saturn -8695-03-27 23:02 J -1454339.63 -1454339.54 -1454339.45 0.0304 0.0208

Saturn -8695-06-24 11:45 J -1454251.14 -1454251.01 -1454250.89 0.0304 0.0044

Saturn -8695-09-21 00:14 J -1454162.61 -1454162.49 -1454162.38 0.0304 0.0121

Saturn -8695-12-18 12:28 J -1454074.02 -1454073.98 -1454073.93 0.0303 0.0284

Jupiter -8694-01-29 13:26 J -1454032.13 -1454031.94 -1454031.75 0.0502 0.0014

Moon -8694-09-10 20:52 J -1453807.73 -1453807.63 -1453807.52 0.2725 0.0077

Earth -8694-09-10 21:07 J -1453807.73 -1453807.62 -1453807.51 0.2719 0.0052 *

Uranus -8692-09-24 14:09 J -1453063.02 -1453062.91 -1453062.78 0.0141 0.0112

Uranus -8692-12-21 22:47 J -1452974.71 -1452974.55 -1452974.38 0.0141 0.0080

Uranus -8691-03-20 07:12 J -1452886.38 -1452886.20 -1452886.01 0.0141 0.0049

Uranus -8691-06-16 15:50 J -1452798.04 -1452797.84 -1452797.65 0.0141 0.0018

Uranus -8691-09-13 00:14 J -1452709.69 -1452709.49 -1452709.29 0.0141 0.0013

Uranus -8691-12-10 08:24 J -1452621.33 -1452621.15 -1452620.95 0.0141 0.0045

Uranus -8690-03-08 16:47 J -1452532.96 -1452532.80 -1452532.62 0.0141 0.0075

Moon -8690-03-10 16:47 J -1452530.94 -1452530.80 -1452530.66 0.2612 0.1391

Earth -8690-03-10 18:28 J -1452530.87 -1452530.73 -1452530.58 0.2615 0.1250 *

Venus -8690-04-18 07:26 J -1452492.22 -1452492.19 -1452492.15 0.3697 0.3380

Uranus -8690-06-05 01:12 J -1452444.57 -1452444.45 -1452444.31 0.0140 0.0106

Uranus -8690-09-01 09:21 J -1452356.14 -1452356.11 -1452356.05 0.0140 0.0137

Mars -8689-05-17 16:04 J -1452096.96 -1452096.83 -1452096.71 0.1847 0.1251

Jupiter -8689-09-27 23:02 J -1451963.65 -1451963.54 -1451963.43 0.0524 0.0252

Jupiter -8689-12-26 03:35 J -1451874.45 -1451874.35 -1451874.25 0.0523 0.0289

Mars -8688-03-23 00:14 J -1451787.58 -1451787.49 -1451787.41 0.1681 0.1117

Venus -8687-01-19 04:19 J -1451485.48 -1451485.32 -1451485.16 0.3678 0.0723

Mars -8686-02-26 03:07 J -1451082.47 -1451082.37 -1451082.27 0.1663 0.0778

Jupiter -8683-11-17 10:19 J -1449722.24 -1449722.07 -1449721.89 0.0502 0.0193

Earth -8681-09-12 14:38 J -1449056.98 -1449056.89 -1449056.80 0.2719 0.1314

Moon -8681-09-12 14:52 J -1449056.97 -1449056.88 -1449056.79 0.2726 0.1319 *

Saturn -8680-04-13 00:43 J -1448844.58 -1448844.47 -1448844.35 0.0258 0.0201

Saturn -8680-07-10 21:35 J -1448755.79 -1448755.60 -1448755.41 0.0258 0.0049

Saturn -8680-10-07 18:14 J -1448666.91 -1448666.74 -1448666.56 0.0259 0.0105

Mars -8679-08-13 11:16 J -1448357.07 -1448357.03 -1448357.00 0.1686 0.1594

Moon -8677-03-13 01:12 J -1447779.59 -1447779.45 -1447779.31 0.2618 0.1326

Earth -8677-03-13 03:07 J -1447779.51 -1447779.37 -1447779.24 0.2615 0.1511 *

Jupiter -8677-07-17 03:21 J -1447653.44 -1447653.36 -1447653.28 0.0525 0.0391

Mars -8677-07-18 14:24 J -1447652.01 -1447651.90 -1447651.79 0.1667 0.0325

Jupiter -8677-10-14 08:09 J -1447564.28 -1447564.16 -1447564.04 0.0523 0.0154

Moon -8674-09-06 14:24 J -1446506.95 -1446506.90 -1446506.85 0.2718 0.2348

Earth -8674-09-06 15:07 J -1446506.93 -1446506.87 -1446506.82 0.2718 0.2323 *

Jupiter -8671-09-05 06:57 J -1445412.33 -1445412.21 -1445412.08 0.0501 0.0374

Jupiter -8671-12-04 20:09 J -1445321.78 -1445321.66 -1445321.54 0.0503 0.0376

Mars -8668-02-04 06:43 J -1444529.31 -1444529.22 -1444529.12 0.1860 0.1503

Earth -8668-09-15 08:09 J -1444306.19 -1444306.16 -1444306.13 0.2719 0.2617

Mars -8668-12-09 01:40 J -1444221.54 -1444221.43 -1444221.31 0.1672 0.0130

Neptune -8667-08-28 00:00 J -1443959.53 -1443959.50 -1443959.44 0.0089 0.0084

Neptune -8667-11-24 01:26 J -1443871.50 -1443871.44 -1443871.37 0.0089 0.0076

Neptune -8666-02-20 02:38 J -1443783.46 -1443783.39 -1443783.30 0.0089 0.0070

Neptune -8666-05-19 04:04 J -1443695.42 -1443695.33 -1443695.23 0.0089 0.0062

Saturn -8666-08-15 00:14 J -1443607.55 -1443607.49 -1443607.43 0.0304 0.0266

Neptune -8666-08-15 05:16 J -1443607.37 -1443607.28 -1443607.16 0.0089 0.0056

Neptune -8666-11-11 06:57 J -1443519.32 -1443519.21 -1443519.10 0.0089 0.0048

Saturn -8666-11-11 12:43 J -1443519.09 -1443518.97 -1443518.84 0.0304 0.0101

Neptune -8665-02-07 08:09 J -1443431.27 -1443431.16 -1443431.04 0.0089 0.0041

Saturn -8665-02-08 01:26 J -1443430.57 -1443430.44 -1443430.32 0.0303 0.0063

Neptune -8665-05-05 09:35 J -1443343.22 -1443343.10 -1443342.98 0.0089 0.0034

Jupiter -8665-05-05 08:09 J -1443343.17 -1443343.16 -1443343.14 0.0525 0.0520 *

Saturn -8665-05-06 13:55 J -1443342.01 -1443341.92 -1443341.84 0.0303 0.0225

Neptune -8665-08-01 10:47 J -1443255.17 -1443255.05 -1443254.92 0.0089 0.0027

Jupiter -8665-08-02 12:57 J -1443254.08 -1443253.96 -1443253.83 0.0524 0.0030

Neptune -8665-10-28 12:14 J -1443167.12 -1443166.99 -1443166.86 0.0089 0.0019

Neptune -8664-01-24 13:26 J -1443079.07 -1443078.94 -1443078.81 0.0089 0.0012

Neptune -8664-04-22 14:52 J -1442991.01 -1442990.88 -1442990.75 0.0089 0.0006

Neptune -8664-07-19 16:04 J -1442902.96 -1442902.83 -1442902.70 0.0089 0.0002

Neptune -8664-10-15 17:16 J -1442814.90 -1442814.78 -1442814.64 0.0089 0.0010

Neptune -8663-01-11 18:43 J -1442726.85 -1442726.72 -1442726.59 0.0089 0.0016

Neptune -8663-04-09 19:55 J -1442638.79 -1442638.67 -1442638.54 0.0089 0.0023

Neptune -8663-07-06 21:07 J -1442550.74 -1442550.62 -1442550.49 0.0089 0.0031

Neptune -8663-10-02 22:33 J -1442462.68 -1442462.56 -1442462.44 0.0089 0.0037

Neptune -8663-12-29 23:45 J -1442374.62 -1442374.51 -1442374.39 0.0089 0.0044

Neptune -8662-03-28 00:57 J -1442286.56 -1442286.46 -1442286.34 0.0089 0.0052

Neptune -8662-06-24 02:24 J -1442198.50 -1442198.40 -1442198.30 0.0089 0.0058

Neptune -8662-09-20 03:35 J -1442110.43 -1442110.35 -1442110.26 0.0089 0.0066

Neptune -8662-12-17 04:47 J -1442022.36 -1442022.30 -1442022.22 0.0089 0.0073

Neptune -8661-03-14 06:14 J -1441934.29 -1441934.24 -1441934.18 0.0089 0.0080

Neptune -8661-06-10 07:26 J -1441846.21 -1441846.19 -1441846.15 0.0089 0.0087

Moon -8661-09-08 07:55 J -1441756.27 -1441756.17 -1441756.08 0.2722 0.1157

Earth -8661-09-08 08:24 J -1441756.25 -1441756.15 -1441756.05 0.2719 0.1027 *

Mars -8659-06-26 23:45 J -1441099.68 -1441099.51 -1441099.34 0.1854 0.0169

Jupiter -8659-09-22 14:52 J -1441012.05 -1441011.88 -1441011.70 0.0502 0.0173

Mars -8658-05-01 12:57 J -1440791.07 -1440790.96 -1440790.85 0.1676 0.0593

Mars -8656-04-05 15:35 J -1440085.92 -1440085.85 -1440085.78 0.1659 0.1272

Venus -8656-09-24 15:35 J -1439913.92 -1439913.85 -1439913.77 0.3690 0.2605

Jupiter -8653-05-21 18:00 J -1438943.87 -1438943.75 -1438943.63 0.0524 0.0100

Jupiter -8653-08-18 22:33 J -1438854.63 -1438854.56 -1438854.50 0.0523 0.0439

Saturn -8651-08-30 23:31 J -1438112.57 -1438112.52 -1438112.47 0.0258 0.0248

Saturn -8651-11-27 20:09 J -1438023.84 -1438023.66 -1438023.48 0.0258 0.0096

Saturn -8650-02-24 17:02 J -1437934.98 -1437934.79 -1437934.60 0.0259 0.0057

Venus -8650-04-10 06:57 J -1437890.30 -1437890.21 -1437890.11 0.3692 0.0958

Pluto -8650-04-26 12:14 J -1437874.04 -1437873.99 -1437873.94 0.0072 0.0067

Saturn -8650-05-24 13:55 J -1437846.03 -1437845.92 -1437845.81 0.0259 0.0211

Pluto -8650-07-23 12:57 J -1437786.03 -1437785.96 -1437785.86 0.0072 0.0059

Pluto -8650-10-19 14:24 J -1437698.00 -1437697.90 -1437697.79 0.0072 0.0050

Mars -8650-11-16 16:33 J -1437669.94 -1437669.81 -1437669.68 0.1847 0.1155

Pluto -8649-01-15 15:21 J -1437609.97 -1437609.86 -1437609.73 0.0072 0.0042

Pluto -8649-04-12 16:33 J -1437521.94 -1437521.81 -1437521.67 0.0072 0.0033

Pluto -8649-07-09 17:45 J -1437433.90 -1437433.76 -1437433.62 0.0072 0.0025

Mars -8649-09-21 00:00 J -1437360.58 -1437360.50 -1437360.41 0.1681 0.1063

Pluto -8649-10-05 18:57 J -1437345.86 -1437345.71 -1437345.56 0.0073 0.0016

Pluto -8648-01-01 20:09 J -1437257.81 -1437257.66 -1437257.51 0.0073 0.0007

Pluto -8648-03-30 21:21 J -1437169.76 -1437169.61 -1437169.46 0.0073 0.0002

Uranus -8648-06-12 10:19 J -1437096.11 -1437096.07 -1437096.03 0.0137 0.0128

Pluto -8648-06-26 22:33 J -1437081.71 -1437081.56 -1437081.41 0.0073 0.0011

Uranus -8648-09-08 13:12 J -1437008.02 -1437007.95 -1437007.87 0.0137 0.0110

Moon -8648-09-11 01:55 J -1437005.53 -1437005.42 -1437005.32 0.2726 0.0299

Earth -8648-09-11 01:55 J -1437005.53 -1437005.42 -1437005.31 0.2719 0.0273 *

Pluto -8648-09-22 23:31 J -1436993.66 -1436993.52 -1436993.37 0.0073 0.0020

Uranus -8648-12-05 16:19 J -1436919.91 -1436919.82 -1436919.72 0.0137 0.0091

Pluto -8648-12-20 00:43 J -1436905.60 -1436905.47 -1436905.33 0.0073 0.0030

Uranus -8647-03-03 19:26 J -1436831.80 -1436831.69 -1436831.58 0.0137 0.0073

Pluto -8647-03-18 02:09 J -1436817.54 -1436817.41 -1436817.29 0.0073 0.0039

Uranus -8647-05-30 22:33 J -1436743.68 -1436743.56 -1436743.44 0.0137 0.0054

Pluto -8647-06-14 02:52 J -1436729.48 -1436729.38 -1436729.25 0.0073 0.0049

Jupiter -8647-07-11 11:45 J -1436702.20 -1436702.01 -1436701.82 0.0502 0.0010

Uranus -8647-08-27 01:26 J -1436655.56 -1436655.44 -1436655.31 0.0137 0.0036

Mars -8647-08-27 02:52 J -1436655.47 -1436655.38 -1436655.28 0.1663 0.0830 *

Pluto -8647-09-10 04:19 J -1436641.40 -1436641.32 -1436641.22 0.0074 0.0058

Uranus -8647-11-23 04:33 J -1436567.43 -1436567.31 -1436567.18 0.0138 0.0017

Pluto -8647-12-07 05:45 J -1436553.32 -1436553.26 -1436553.20 0.0074 0.0067

Uranus -8646-02-19 07:40 J -1436479.31 -1436479.18 -1436479.05 0.0138 0.0005

Uranus -8646-05-18 10:47 J -1436391.18 -1436391.05 -1436390.92 0.0138 0.0022

Uranus -8646-08-14 13:55 J -1436303.04 -1436302.92 -1436302.79 0.0138 0.0041

Uranus -8646-11-10 17:02 J -1436214.91 -1436214.79 -1436214.67 0.0138 0.0060

Uranus -8645-02-06 19:55 J -1436126.77 -1436126.67 -1436126.55 0.0138 0.0080

Uranus -8645-05-04 23:02 J -1436038.62 -1436038.54 -1436038.44 0.0138 0.0099

Uranus -8645-08-01 02:24 J -1435950.47 -1435950.40 -1435950.33 0.0138 0.0117

Venus -8645-10-23 22:19 J -1435866.67 -1435866.57 -1435866.47 0.3694 0.0704

Uranus -8645-10-28 05:31 J -1435862.29 -1435862.27 -1435862.25 0.0138 0.0137

Moon -8644-03-10 23:45 J -1435728.67 -1435728.51 -1435728.36 0.2613 0.0994

Earth -8644-03-11 01:26 J -1435728.60 -1435728.44 -1435728.28 0.2615 0.0719 *

Jupiter -8641-03-09 22:33 J -1434633.68 -1434633.56 -1434633.45 0.0524 0.0237

Jupiter -8641-06-07 03:07 J -1434544.47 -1434544.37 -1434544.27 0.0523 0.0305

Mars -8639-02-11 11:16 J -1433930.08 -1433930.03 -1433929.99 0.1685 0.1534

Venus -8639-05-09 13:40 J -1433843.01 -1433842.93 -1433842.85 0.3696 0.2327

Mars -8637-01-17 14:24 J -1433225.01 -1433224.90 -1433224.79 0.1667 0.0382

Venus -8636-02-08 19:40 J -1432836.75 -1432836.68 -1432836.62 0.3680 0.3360

Saturn -8636-03-30 13:26 J -1432787.05 -1432786.94 -1432786.83 0.0304 0.0166

Saturn -8636-06-27 01:55 J -1432698.54 -1432698.42 -1432698.29 0.0304 0.0009

Saturn -8636-09-23 14:24 J -1432610.00 -1432609.90 -1432609.79 0.0304 0.0162

Jupiter -8635-04-29 08:52 J -1432392.31 -1432392.13 -1432391.96 0.0502 0.0187

Earth -8635-09-13 19:26 J -1432254.78 -1432254.69 -1432254.60 0.2719 0.1575

Moon -8635-09-13 19:40 J -1432254.76 -1432254.68 -1432254.59 0.2725 0.1636 *

Moon -8631-03-14 08:09 J -1430977.27 -1430977.16 -1430977.05 0.2618 0.1861

Earth -8631-03-14 09:50 J -1430977.19 -1430977.09 -1430976.99 0.2615 0.2035 *

Venus -8631-08-26 07:12 J -1430812.31 -1430812.20 -1430812.09 0.3677 0.2674

Jupiter -8630-12-28 02:52 J -1430323.47 -1430323.38 -1430323.29 0.0524 0.0373

Jupiter -8629-03-26 07:26 J -1430234.30 -1430234.19 -1430234.07 0.0523 0.0171

Mars -8629-08-05 07:40 J -1430102.26 -1430102.18 -1430102.09 0.1860 0.1624

Mars -8628-06-09 01:40 J -1429794.54 -1429794.43 -1429794.32 0.1672 0.0074

Moon -8628-09-06 19:12 J -1429704.76 -1429704.70 -1429704.65 0.2719 0.2224

Earth -8628-09-06 19:40 J -1429704.74 -1429704.68 -1429704.61 0.2719 0.2063 *

Jupiter -8623-02-15 05:45 J -1428082.39 -1428082.26 -1428082.13 0.0501 0.0365

Jupiter -8623-05-16 18:57 J -1427991.83 -1427991.71 -1427991.59 0.0503 0.0386

Saturn -8621-04-15 18:14 J -1427291.89 -1427291.74 -1427291.58 0.0258 0.0147

Saturn -8621-07-13 15:07 J -1427203.06 -1427202.87 -1427202.68 0.0259 0.0006

Saturn	-8621-10-10 11:45 J	-1427114.15	-1427114.01	-1427113.85	0.0259	0.0160
Mars	-8620-12-26 00:28 J	-1426672.65	-1426672.48	-1426672.31	0.1854	0.0282
Mars	-8619-10-30 12:57 J	-1426364.07	-1426363.96	-1426363.86	0.1676	0.0541
Jupiter	-8618-10-16 07:12 J	-1426013.22	-1426013.20	-1426013.18	0.0525	0.0514
Jupiter	-8617-01-13 12:00 J	-1425924.13	-1425924.00	-1425923.88	0.0524	0.0035
Mars	-8617-10-04 15:35 J	-1425658.92	-1425658.85	-1425658.79	0.1659	0.1324
Moon	-8615-09-09 12:43 J	-1424954.07	-1424953.97	-1424953.87	0.2723	0.0791
Earth	-8615-09-09 13:12 J	-1424954.05	-1424953.95	-1424953.85	0.2719	0.0770 *
Jupiter	-8611-03-04 15:21 J	-1423682.04	-1423681.86	-1423681.69	0.0502	0.0200
Mars	-8610-05-17 17:45 J	-1423242.91	-1423242.76	-1423242.62	0.1847	0.1028
Mars	-8609-03-22 00:00 J	-1422933.59	-1422933.50	-1422933.41	0.1681	0.1007
Uranus	-8608-07-18 13:26 J	-1422449.99	-1422449.94	-1422449.88	0.0141	0.0135
Uranus	-8608-10-14 21:50 J	-1422361.72	-1422361.59	-1422361.45	0.0141	0.0103
Uranus	-8607-01-11 06:14 J	-1422273.40	-1422273.24	-1422273.06	0.0141	0.0072
Mars	-8607-02-25 02:52 J	-1422228.47	-1422228.38	-1422228.28	0.1663	0.0884
Uranus	-8607-04-09 14:52 J	-1422185.07	-1422184.88	-1422184.69	0.0141	0.0041
Uranus	-8607-07-06 23:16 J	-1422096.73	-1422096.53	-1422096.33	0.0141	0.0010
Saturn	-8607-08-17 14:52 J	-1422054.97	-1422054.88	-1422054.79	0.0304	0.0220
Uranus	-8607-10-03 07:40 J	-1422008.37	-1422008.18	-1422007.98	0.0141	0.0021
Saturn	-8607-11-14 03:21 J	-1421966.48	-1421966.36	-1421966.23	0.0304	0.0057
Uranus	-8607-12-30 16:04 J	-1421920.01	-1421919.83	-1421919.65	0.0141	0.0052
Saturn	-8606-02-10 16:04 J	-1421877.95	-1421877.83	-1421877.71	0.0303	0.0108
Uranus	-8606-03-29 00:14 J	-1421831.64	-1421831.49	-1421831.32	0.0141	0.0083
Saturn	-8606-05-10 04:19 J	-1421789.37	-1421789.32	-1421789.26	0.0303	0.0270
Uranus	-8606-06-25 08:38 J	-1421743.25	-1421743.14	-1421743.02	0.0140	0.0113
Jupiter	-8606-11-01 16:47 J	-1421613.92	-1421613.80	-1421613.68	0.0524	0.0096
Jupiter	-8605-01-29 21:21 J	-1421524.68	-1421524.61	-1421524.55	0.0523	0.0443
Venus	-8605-10-15 21:50 J	-1421264.60	-1421264.59	-1421264.59	0.3689	0.3672
Moon	-8602-09-12 06:43 J	-1420203.33	-1420203.22	-1420203.12	0.2726	0.0490
Earth	-8602-09-12 06:43 J	-1420203.32	-1420203.22	-1420203.11	0.2719	0.0532 *

Mars -8600-08-12 11:02 J -1419503.09 -1419503.04 -1419502.98 0.1686 0.1484

Jupiter -8600-12-21 10:19 J -1419372.26 -1419372.07 -1419371.89 0.0502 0.0012

Venus -8599-05-01 13:12 J -1419241.04 -1419240.95 -1419240.87 0.3691 0.2020

Moon -8598-03-12 06:28 J -1418926.39 -1418926.23 -1418926.07 0.2615 0.0292

Earth -8598-03-12 08:24 J -1418926.32 -1418926.15 -1418925.99 0.2615 0.0200 *

Mars -8598-07-18 14:24 J -1418798.01 -1418797.90 -1418797.79 0.1667 0.0437

Jupiter -8594-08-20 21:35 J -1417303.71 -1417303.60 -1417303.48 0.0525 0.0226

Venus -8594-11-15 04:33 J -1417217.42 -1417217.31 -1417217.21 0.3693 0.0395

Jupiter -8594-11-18 02:09 J -1417214.50 -1417214.41 -1417214.31 0.0523 0.0317

Saturn -8592-09-02 17:31 J -1416559.90 -1416559.77 -1416559.64 0.0258 0.0191

Saturn -8592-11-30 14:24 J -1416471.09 -1416470.90 -1416470.71 0.0259 0.0039

Saturn -8591-02-27 11:02 J -1416382.21 -1416382.04 -1416381.86 0.0259 0.0116

Mars -8589-02-04 08:38 J -1415675.20 -1415675.14 -1415675.08 0.1860 0.1736

Earth -8589-09-14 00:14 J -1415452.57 -1415452.49 -1415452.41 0.2719 0.1836

Moon -8589-09-14 00:43 J -1415452.55 -1415452.47 -1415452.40 0.2723 0.1923 *

Mars -8589-12-08 01:40 J -1415367.55 -1415367.43 -1415367.32 0.1672 0.0043

Venus -8588-05-30 19:40 J -1415193.77 -1415193.68 -1415193.58 0.3694 0.1272

Jupiter -8588-10-09 06:43 J -1415062.39 -1415062.22 -1415062.04 0.0502 0.0186

Moon -8585-03-14 15:07 J -1414174.94 -1414174.87 -1414174.80 0.2618 0.2359

Earth -8585-03-14 16:47 J -1414174.83 -1414174.80 -1414174.77 0.2614 0.2569 *

Neptune -8584-11-10 07:55 J -1413569.24 -1413569.17 -1413569.08 0.0088 0.0080

Neptune -8583-02-06 11:31 J -1413481.12 -1413481.02 -1413480.89 0.0088 0.0070

Neptune -8583-05-05 15:07 J -1413393.00 -1413392.87 -1413392.71 0.0088 0.0060

Neptune -8583-08-01 18:43 J -1413304.86 -1413304.72 -1413304.54 0.0088 0.0050

Neptune -8583-10-28 22:33 J -1413216.73 -1413216.56 -1413216.38 0.0088 0.0040

Venus -8583-12-14 11:02 J -1413170.10 -1413170.04 -1413169.98 0.3696 0.2900

Neptune -8582-01-25 02:09 J -1413128.59 -1413128.41 -1413128.21 0.0088 0.0030

Neptune -8582-04-23 05:45 J -1413040.44 -1413040.26 -1413040.06 0.0088 0.0020

Jupiter -8582-06-09 01:55 J -1412993.50 -1412993.42 -1412993.32 0.0525 0.0364

Neptune -8582-07-20 09:35 J -1412952.29 -1412952.10 -1412951.90 0.0088 0.0010

Jupiter -8582-09-06 06:43 J -1412904.34 -1412904.22 -1412904.10 0.0523 0.0181

Moon -8582-09-07 23:45 J -1412902.58 -1412902.51 -1412902.43 0.2719 0.1843

Earth -8582-09-08 00:28 J -1412902.56 -1412902.48 -1412902.40 0.2719 0.1807 *

Neptune -8582-10-16 13:26 J -1412864.14 -1412863.94 -1412863.75 0.0088 0.0002

Neptune -8581-01-12 16:47 J -1412775.99 -1412775.80 -1412775.59 0.0088 0.0011

Neptune -8581-04-09 20:24 J -1412687.83 -1412687.65 -1412687.45 0.0088 0.0021

Neptune -8581-07-07 00:14 J -1412599.67 -1412599.49 -1412599.30 0.0088 0.0031

Neptune -8581-10-03 03:50 J -1412511.51 -1412511.34 -1412511.16 0.0088 0.0041

Neptune -8581-12-30 07:26 J -1412423.34 -1412423.19 -1412423.02 0.0088 0.0051

Neptune -8580-03-28 11:16 J -1412335.17 -1412335.03 -1412334.89 0.0088 0.0061

Neptune -8580-06-24 14:38 J -1412246.99 -1412246.89 -1412246.76 0.0088 0.0072

Mars -8580-06-26 01:12 J -1412245.62 -1412245.45 -1412245.28 0.1854 0.0391

Venus -8580-09-15 22:19 J -1412163.72 -1412163.57 -1412163.42 0.3679 0.1448

Neptune -8580-09-20 18:14 J -1412158.79 -1412158.74 -1412158.65 0.0088 0.0082

Mars -8579-04-30 12:57 J -1411937.07 -1411936.96 -1411936.85 0.1676 0.0482

Saturn -8577-01-04 15:50 J -1411322.88 -1411322.84 -1411322.79 0.0304 0.0279

Saturn -8577-04-02 04:33 J -1411234.43 -1411234.31 -1411234.19 0.0304 0.0114

Mars -8577-04-04 15:35 J -1411231.91 -1411231.85 -1411231.79 0.1659 0.1379

Saturn -8577-06-29 17:02 J -1411145.91 -1411145.79 -1411145.66 0.0304 0.0051

Saturn -8577-09-26 05:31 J -1411057.36 -1411057.27 -1411057.18 0.0303 0.0213

Jupiter -8576-07-28 03:50 J -1410752.47 -1410752.34 -1410752.21 0.0501 0.0364

Jupiter -8576-10-26 17:02 J -1410661.91 -1410661.79 -1410661.67 0.0503 0.0387

Mars -8571-11-15 18:28 J -1408815.87 -1408815.73 -1408815.58 0.1848 0.0910

Jupiter -8570-03-28 06:28 J -1408683.27 -1408683.23 -1408683.20 0.0525 0.0501

Jupiter -8570-06-25 11:16 J -1408594.16 -1408594.03 -1408593.91 0.0523 0.0047

Mars -8570-09-21 00:00 J -1408506.59 -1408506.50 -1408506.41 0.1681 0.0952

Moon -8569-09-09 17:31 J -1408151.87 -1408151.77 -1408151.66 0.2724 0.0634

Earth -8569-09-09 18:00 J -1408151.85 -1408151.75 -1408151.64 0.2719 0.0509 *

Mars -8568-08-26 02:52 J -1407801.47 -1407801.38 -1407801.28 0.1663 0.0939

Moon -8565-03-09 05:02 J -1406875.33 -1406875.29 -1406875.24 0.2611 0.2490

Earth -8565-03-09 06:43 J -1406875.28 -1406875.22 -1406875.16 0.2615 0.2428 *

Pluto -8565-06-26 13:55 J -1406765.99 -1406765.92 -1406765.83 0.0072 0.0064

Pluto -8565-09-22 15:35 J -1406677.96 -1406677.85 -1406677.73 0.0072 0.0054

Pluto -8565-12-19 17:16 J -1406589.91 -1406589.78 -1406589.65 0.0072 0.0044

Pluto -8564-03-17 18:28 J -1406501.86 -1406501.73 -1406501.57 0.0072 0.0034

Pluto -8564-06-13 20:24 J -1406413.81 -1406413.65 -1406413.49 0.0072 0.0024

Uranus -8564-07-02 17:02 J -1406394.83 -1406394.79 -1406394.73 0.0137 0.0126

Jupiter -8564-08-14 13:40 J -1406352.10 -1406351.93 -1406351.76 0.0502 0.0204

Pluto -8564-09-09 21:50 J -1406325.75 -1406325.59 -1406325.42 0.0072 0.0015

Uranus -8564-09-28 20:09 J -1406306.74 -1406306.66 -1406306.58 0.0137 0.0107

Pluto -8564-12-06 23:31 J -1406237.69 -1406237.52 -1406237.35 0.0072 0.0005

Uranus -8564-12-25 23:16 J -1406218.63 -1406218.53 -1406218.43 0.0137 0.0088

Pluto -8563-03-05 00:57 J -1406149.62 -1406149.46 -1406149.29 0.0072 0.0005

Uranus -8563-03-24 02:09 J -1406130.51 -1406130.41 -1406130.29 0.0137 0.0070

Pluto -8563-06-01 02:24 J -1406061.56 -1406061.40 -1406061.23 0.0071 0.0014

Uranus -8563-06-20 05:16 J -1406042.39 -1406042.28 -1406042.15 0.0137 0.0052

Pluto -8563-08-28 03:50 J -1405973.49 -1405973.34 -1405973.17 0.0071 0.0024

Uranus -8563-09-16 08:24 J -1405954.27 -1405954.15 -1405954.02 0.0137 0.0033

Pluto -8563-11-24 05:31 J -1405885.42 -1405885.27 -1405885.12 0.0071 0.0033

Uranus -8563-12-13 11:31 J -1405866.15 -1405866.02 -1405865.89 0.0138 0.0014

Saturn -8562-01-20 16:04 J -1405827.89 -1405827.83 -1405827.75 0.0258 0.0238

Pluto -8562-02-20 06:43 J -1405797.34 -1405797.22 -1405797.07 0.0071 0.0042

Uranus -8562-03-11 14:38 J -1405778.02 -1405777.89 -1405777.76 0.0138 0.0006

Saturn -8562-04-19 12:57 J -1405739.14 -1405738.96 -1405738.78 0.0259 0.0086

Pluto -8562-05-19 08:09 J -1405709.26 -1405709.16 -1405709.03 0.0071 0.0051

Uranus -8562-06-07 17:45 J -1405689.89 -1405689.76 -1405689.63 0.0138 0.0025

Saturn -8562-07-17 09:50 J -1405650.28 -1405650.09 -1405649.90 0.0259 0.0067

Pluto -8562-08-15 09:35 J -1405621.17 -1405621.10 -1405621.00 0.0071 0.0060

Uranus -8562-09-03 20:52 J -1405601.75 -1405601.63 -1405601.51 0.0138 0.0044

Saturn -8562-10-14 06:43 J -1405561.31 -1405561.22 -1405561.12 0.0259 0.0222

Pluto -8562-11-11 11:02 J -1405533.06 -1405533.04 -1405532.99 0.0071 0.0069

Uranus -8562-11-30 23:45 J -1405513.62 -1405513.51 -1405513.39 0.0138 0.0063

Uranus -8561-02-27 02:52 J -1405425.48 -1405425.38 -1405425.27 0.0138 0.0082

Uranus -8561-05-25 06:00 J -1405337.33 -1405337.25 -1405337.15 0.0138 0.0101

Uranus -8561-08-21 09:07 J -1405249.17 -1405249.12 -1405249.05 0.0138 0.0121

Mars -8560-02-10 11:02 J -1405076.10 -1405076.04 -1405075.98 0.1685 0.1426

Mars -8558-01-16 14:09 J -1404371.01 -1404370.91 -1404370.80 0.1667 0.0491

Jupiter -8558-04-13 15:21 J -1404283.98 -1404283.86 -1404283.73 0.0524 0.0097

Jupiter -8558-07-11 19:55 J -1404194.73 -1404194.67 -1404194.60 0.0522 0.0444

Moon -8556-09-12 11:31 J -1403401.12 -1403401.02 -1403400.92 0.2726 0.0839

Earth -8556-09-12 11:31 J -1403401.12 -1403401.02 -1403400.92 0.2719 0.0792 *

Moon -8552-03-12 13:12 J -1402124.11 -1402123.95 -1402123.78 0.2616 0.0065

Earth -8552-03-12 15:07 J -1402124.03 -1402123.87 -1402123.70 0.2615 0.0347 *

Jupiter -8552-06-02 10:04 J -1402042.27 -1402042.08 -1402041.89 0.0502 0.0020

Mars -8550-08-05 09:35 J -1401248.11 -1401248.10 -1401248.10 0.1860 0.1856

Mars -8549-06-08 01:26 J -1400940.55 -1400940.44 -1400940.32 0.1672 0.0075

Venus -8548-05-22 19:12 J -1400591.76 -1400591.70 -1400591.65 0.3689 0.3086

Saturn -8548-08-20 06:28 J -1400502.34 -1400502.23 -1400502.12 0.0304 0.0163

Saturn -8548-11-16 18:57 J -1400413.84 -1400413.71 -1400413.58 0.0303 0.0005

Saturn -8547-02-13 07:26 J -1400325.29 -1400325.19 -1400325.08 0.0303 0.0164

Jupiter -8546-01-30 20:09 J -1399973.77 -1399973.66 -1399973.54 0.0525 0.0226

Jupiter -8546-04-30 00:43 J -1399884.56 -1399884.47 -1399884.37 0.0523 0.0318

Earth -8543-09-15 05:02 J -1398650.36 -1398650.29 -1398650.23 0.2719 0.2097

Moon -8543-09-15 05:31 J -1398650.33 -1398650.27 -1398650.21 0.2723 0.2145 *

Venus -8543-12-06 10:33 J -1398568.16 -1398568.06 -1398567.97 0.3691 0.1427

Mars -8541-12-25 02:09 J -1397818.57 -1397818.41 -1397818.24 0.1854 0.0516

Jupiter -8540-03-21 05:02 J -1397732.47 -1397732.29 -1397732.12 0.0501 0.0184

Mars -8540-10-29 12:43 J -1397510.08 -1397509.97 -1397509.86 0.1676 0.0433

Mars -8538-10-04 15:21 J -1396804.91 -1396804.86 -1396804.80 0.1659 0.1432

Venus -8537-06-21 01:55 J -1396544.53 -1396544.42 -1396544.32 0.3693 0.0274

Moon -8536-09-08 04:33 J -1396100.39 -1396100.31 -1396100.22 0.2719 0.1694

Earth -8536-09-08 05:16 J -1396100.37 -1396100.28 -1396100.19 0.2719 0.1548 *

Jupiter -8535-11-19 00:57 J -1395663.55 -1395663.46 -1395663.37 0.0525 0.0358

Jupiter -8534-02-16 05:45 J -1395574.38 -1395574.26 -1395574.15 0.0524 0.0188

Saturn -8533-09-05 12:28 J -1395007.14 -1395006.98 -1395006.80 0.0259 0.0126

Saturn -8533-12-03 09:21 J -1394918.30 -1394918.11 -1394917.91 0.0259 0.0028

Saturn -8532-03-02 06:14 J -1394829.37 -1394829.24 -1394829.10 0.0259 0.0182

Venus -8531-01-04 17:02 J -1394520.87 -1394520.79 -1394520.70 0.3695 0.1850

Mars -8531-05-16 19:12 J -1394388.85 -1394388.70 -1394388.54 0.1848 0.0802

Mars -8530-03-22 00:00 J -1394079.60 -1394079.50 -1394079.40 0.1681 0.0895

Jupiter -8528-01-07 01:26 J -1393422.56 -1393422.44 -1393422.31 0.0501 0.0367

Mars -8528-02-24 02:52 J -1393374.47 -1393374.38 -1393374.29 0.1663 0.0989

Jupiter -8528-04-07 14:24 J -1393332.01 -1393331.90 -1393331.77 0.0502 0.0383

Venus -8526-07-21 08:24 J -1392497.18 -1392497.15 -1392497.12 0.3696 0.3468

Uranus -8524-08-07 19:55 J -1391748.74 -1391748.67 -1391748.58 0.0141 0.0130

Uranus -8524-11-04 04:19 J -1391660.45 -1391660.32 -1391660.17 0.0141 0.0099

Uranus -8523-01-31 12:57 J -1391572.13 -1391571.96 -1391571.78 0.0141 0.0067

Venus -8523-04-23 01:12 J -1391490.61 -1391490.45 -1391490.29 0.3679 0.0478

Uranus -8523-04-29 21:21 J -1391483.79 -1391483.61 -1391483.41 0.0141 0.0036

Uranus -8523-07-27 06:00 J -1391395.45 -1391395.25 -1391395.05 0.0141 0.0005

Jupiter -8523-09-07 05:16 J -1391353.32 -1391353.28 -1391353.24 0.0525 0.0496

Moon -8523-09-10 22:19 J -1391349.67 -1391349.57 -1391349.46 0.2725 0.0265

Earth -8523-09-10 22:47 J -1391349.66 -1391349.55 -1391349.44 0.2719 0.0251 *

Uranus -8523-10-23 14:24 J -1391307.09 -1391306.90 -1391306.71 0.0141 0.0026

Jupiter -8523-12-05 10:04 J -1391264.20 -1391264.08 -1391263.95 0.0524 0.0051

Uranus -8522-01-19 22:33 J -1391218.73 -1391218.56 -1391218.37 0.0141 0.0058

Uranus -8522-04-18 07:12 J -1391130.35 -1391130.20 -1391130.05 0.0141 0.0088

Uranus -8522-07-15 15:21 J -1391041.96 -1391041.86 -1391041.75 0.0140 0.0119

Mars -8521-08-11 11:02 J -1390649.10 -1390649.04 -1390648.97 0.1685 0.1370

Moon -8519-03-10 11:45 J -1390073.10 -1390073.01 -1390072.91 0.2613 0.2148

Earth -8519-03-10 13:26 J -1390073.05 -1390072.94 -1390072.82 0.2615 0.1895 *

Mars -8519-07-17 14:09 J -1389944.02 -1389943.91 -1389943.80 0.1667 0.0544

Saturn -8518-01-07 07:55 J -1389770.26 -1389770.17 -1389770.08 0.0304 0.0216

Saturn -8518-04-05 20:38 J -1389681.77 -1389681.64 -1389681.52 0.0304 0.0052

Saturn -8518-07-03 09:07 J -1389593.24 -1389593.12 -1389593.00 0.0303 0.0112

Saturn -8518-09-29 21:21 J -1389504.66 -1389504.61 -1389504.55 0.0303 0.0274

Jupiter -8516-01-24 11:16 J -1389022.20 -1389022.03 -1389021.85 0.0502 0.0200

Jupiter -8511-09-23 14:38 J -1386954.02 -1386953.89 -1386953.77 0.0524 0.0088

Jupiter -8511-12-21 18:57 J -1386864.77 -1386864.71 -1386864.65 0.0522 0.0452

Earth -8510-09-13 16:19 J -1386598.92 -1386598.82 -1386598.72 0.2719 0.1054

Moon -8510-09-13 16:19 J -1386598.91 -1386598.82 -1386598.72 0.2725 0.1024 *

Mars -8510-12-08 01:26 J -1386513.55 -1386513.44 -1386513.32 0.1671 0.0111

Moon -8506-03-13 20:09 J -1385321.81 -1385321.66 -1385321.50 0.2615 0.0783

Earth -8506-03-13 22:04 J -1385321.73 -1385321.58 -1385321.42 0.2615 0.0881 *

Jupiter -8505-11-12 07:55 J -1384712.36 -1384712.17 -1384711.98 0.0502 0.0017

Saturn -8503-01-23 11:45 J -1384275.15 -1384275.01 -1384274.86 0.0259 0.0170

Saturn -8503-04-22 08:38 J -1384186.33 -1384186.14 -1384185.95 0.0259 0.0017

Saturn -8503-07-20 05:31 J -1384097.43 -1384097.27 -1384097.10 0.0259 0.0138

Moon -8503-09-06 16:04 J -1384048.85 -1384048.83 -1384048.82 0.2716 0.2672

Earth -8503-09-06 16:33 J -1384048.84 -1384048.81 -1384048.78 0.2718 0.2586 *

Neptune -8502-02-25 22:47 J -1383876.57 -1383876.55 -1383876.52 0.0089 0.0087

Neptune -8502-05-25 00:00 J -1383788.54 -1383788.50 -1383788.43 0.0089 0.0081

Neptune -8502-08-21 01:12 J -1383700.51 -1383700.45 -1383700.36 0.0089 0.0074

Neptune -8502-11-17 02:38 J -1383612.47 -1383612.39 -1383612.29 0.0089 0.0066

Neptune -8501-02-13 03:50 J -1383524.42 -1383524.34 -1383524.23 0.0089 0.0060

Neptune -8501-05-11 05:31 J -1383436.38 -1383436.27 -1383436.16 0.0089 0.0052

Mars -8501-06-25 03:21 J -1383391.52 -1383391.36 -1383391.20 0.1854 0.0641

Neptune -8501-08-07 06:43 J -1383348.33 -1383348.22 -1383348.10 0.0089 0.0045

Neptune -8501-11-03 08:09 J -1383260.28 -1383260.16 -1383260.04 0.0089 0.0038

Neptune -8500-01-30 09:21 J -1383172.23 -1383172.11 -1383171.98 0.0089 0.0031

Neptune -8500-04-28 10:47 J -1383084.18 -1383084.05 -1383083.92 0.0089 0.0023

Mars -8500-04-29 12:43 J -1383083.08 -1383082.97 -1383082.86 0.1676 0.0375

Neptune -8500-07-25 12:00 J -1382996.13 -1382996.00 -1382995.87 0.0089 0.0016

Neptune -8500-10-21 13:26 J -1382908.07 -1382907.94 -1382907.81 0.0089 0.0009

Neptune -8499-01-17 14:38 J -1382820.02 -1382819.89 -1382819.76 0.0089 0.0003

Neptune -8499-04-15 16:04 J -1382731.96 -1382731.83 -1382731.70 0.0089 0.0005

Neptune -8499-07-12 17:16 J -1382643.91 -1382643.78 -1382643.65 0.0089 0.0012

Jupiter -8499-07-12 18:43 J -1382643.83 -1382643.72 -1382643.61 0.0524 0.0229 *

Neptune -8499-10-08 18:28 J -1382555.85 -1382555.73 -1382555.60 0.0089 0.0019

Jupiter -8499-10-09 23:16 J -1382554.63 -1382554.53 -1382554.43 0.0523 0.0313

Neptune -8498-01-04 19:55 J -1382467.80 -1382467.67 -1382467.55 0.0089 0.0026

Neptune -8498-04-02 21:07 J -1382379.74 -1382379.62 -1382379.49 0.0089 0.0033

Mars -8498-04-04 15:21 J -1382377.90 -1382377.86 -1382377.81 0.1659 0.1485

Neptune -8498-06-29 22:19 J -1382291.68 -1382291.57 -1382291.45 0.0089 0.0041

Neptune -8498-09-25 23:45 J -1382203.62 -1382203.51 -1382203.40 0.0089 0.0047

Neptune -8498-12-23 00:57 J -1382115.56 -1382115.46 -1382115.35 0.0089 0.0055

Neptune -8497-03-20 02:09 J -1382027.49 -1382027.41 -1382027.31 0.0089 0.0062

Neptune -8497-06-16 03:35 J -1381939.43 -1381939.35 -1381939.26 0.0089 0.0069

Neptune -8497-09-12 04:47 J -1381851.36 -1381851.30 -1381851.23 0.0089 0.0076

Earth -8497-09-15 09:50 J -1381848.15 -1381848.09 -1381848.04 0.2719 0.2360

Moon -8497-09-15 10:19 J -1381848.11 -1381848.07 -1381848.03 0.2723 0.2487 *

Neptune -8497-12-09 06:00 J -1381763.29 -1381763.25 -1381763.19 0.0089 0.0083

Jupiter -8493-08-31 04:04 J -1380402.50 -1380402.33 -1380402.15 0.0501 0.0170

Mars -8492-11-14 20:09 J -1379961.82 -1379961.66 -1379961.50 0.1848 0.0684

Venus -8492-12-27 16:33 J -1379918.89 -1379918.81 -1379918.74 0.3690 0.2492

Mars -8491-09-20 00:00 J -1379652.60 -1379652.50 -1379652.40 0.1680 0.0844

Moon -8490-09-09 09:21 J -1379298.20 -1379298.11 -1379298.01 0.2721 0.1351

Earth -8490-09-09 10:04 J -1379298.17 -1379298.08 -1379297.99 0.2719 0.1293 *

Saturn -8489-05-26 10:19 J -1379038.13 -1379038.07 -1379038.00 0.0304 0.0259

Saturn -8489-08-22 23:02 J -1378949.67 -1378949.54 -1378949.42 0.0303 0.0095

Mars -8489-08-25 02:52 J -1378947.47 -1378947.38 -1378947.29 0.1663 0.1042

Saturn -8489-11-19 11:31 J -1378861.15 -1378861.02 -1378860.90 0.0303 0.0069

Saturn -8488-02-15 23:45 J -1378772.58 -1378772.51 -1378772.42 0.0303 0.0231

Jupiter -8487-04-30 23:16 J -1378333.62 -1378333.53 -1378333.44 0.0525 0.0362

Jupiter -8487-07-29 04:04 J -1378244.45 -1378244.33 -1378244.21 0.0524 0.0183

Venus -8486-07-13 07:55 J -1377895.27 -1377895.17 -1377895.07 0.3692 0.0840

Mars -8481-02-10 11:02 J -1376222.11 -1376222.04 -1376221.97 0.1685 0.1316

Jupiter -8481-06-18 23:16 J -1376092.65 -1376092.53 -1376092.40 0.0501 0.0369

Jupiter -8481-09-17 12:14 J -1376002.11 -1376001.99 -1376001.86 0.0502 0.0378

Venus -8480-01-25 23:16 J -1375871.63 -1375871.53 -1375871.43 0.3693 0.0806

Uranus -8480-07-23 00:00 J -1375693.55 -1375693.50 -1375693.44 0.0137 0.0123

Uranus -8480-10-19 03:07 J -1375605.45 -1375605.37 -1375605.29 0.0137 0.0104

Uranus -8479-01-15 06:00 J -1375517.34 -1375517.25 -1375517.14 0.0137 0.0086

Mars -8479-01-15 14:09 J -1375517.02 -1375516.91 -1375516.80 0.1667 0.0595

Uranus -8479-04-13 09:07 J -1375429.23 -1375429.12 -1375429.00 0.0137 0.0067

Uranus -8479-07-10 12:14 J -1375341.11 -1375340.99 -1375340.87 0.0137 0.0048

Uranus -8479-10-06 15:21 J -1375252.98 -1375252.86 -1375252.73 0.0137 0.0030

Uranus -8478-01-02 18:28 J -1375164.86 -1375164.73 -1375164.60 0.0137 0.0011

Uranus -8478-03-31 21:35 J -1375076.73 -1375076.60 -1375076.47 0.0138 0.0008

Uranus -8478-06-28 00:28 J -1374988.60 -1374988.48 -1374988.35 0.0138 0.0028

Uranus -8478-09-24 03:35 J -1374900.47 -1374900.35 -1374900.22 0.0138 0.0047

Uranus -8478-12-21 06:43 J -1374812.33 -1374812.22 -1374812.10 0.0138 0.0066

Uranus -8477-03-18 09:50 J -1374724.19 -1374724.09 -1374723.98 0.0138 0.0085

Uranus -8477-06-14 12:57 J -1374636.04 -1374635.96 -1374635.87 0.0138 0.0104

Uranus -8477-09-10 16:04 J -1374547.88 -1374547.83 -1374547.77 0.0138 0.0123

Moon -8477-09-11 03:07 J -1374547.47 -1374547.37 -1374547.26 0.2725 0.0142

Earth -8477-09-11 03:35 J -1374547.46 -1374547.35 -1374547.25 0.2719 0.0058 *

Jupiter -8475-02-17 03:50 J -1374023.38 -1374023.34 -1374023.30 0.0526 0.0497

Jupiter -8475-05-17 08:38 J -1373934.26 -1373934.14 -1373934.01 0.0524 0.0054

Venus -8475-08-11 14:24 J -1373847.97 -1373847.90 -1373847.82 0.3695 0.2428

Saturn -8474-06-12 12:00 J -1373543.11 -1373543.00 -1373542.88 0.0259 0.0205

Saturn -8474-09-09 08:52 J -1373454.32 -1373454.13 -1373453.94 0.0259 0.0052

Saturn -8474-12-07 05:45 J -1373365.44 -1373365.26 -1373365.08 0.0259 0.0102

Saturn -8473-03-05 02:38 J -1373276.41 -1373276.39 -1373276.36 0.0259 0.0257

Moon -8473-03-10 18:28 J -1373270.86 -1373270.73 -1373270.59 0.2614 0.1527

Earth -8473-03-10 20:24 J -1373270.79 -1373270.65 -1373270.51 0.2615 0.1361 *

Venus -8472-05-13 16:19 J -1372841.85 -1372841.82 -1372841.78 0.3681 0.3583

Mars -8470-06-08 01:26 J -1372086.55 -1372086.44 -1372086.32 0.1672 0.0144

Jupiter -8469-07-06 08:38 J -1371692.32 -1371692.14 -1371691.97 0.0502 0.0191

Venus -8467-11-28 03:35 J -1370817.47 -1370817.35 -1370817.22 0.3678 0.2351

Earth -8464-09-13 20:52 J -1369796.72 -1369796.63 -1369796.53 0.2719 0.1317

Moon -8464-09-13 21:21 J -1369796.70 -1369796.61 -1369796.52 0.2725 0.1416 *

Jupiter -8463-03-05 13:12 J -1369624.08 -1369623.95 -1369623.83 0.0524 0.0088

Jupiter -8463-06-02 17:31 J -1369534.83 -1369534.77 -1369534.70 0.0523 0.0452

Mars -8462-12-25 03:50 J -1368964.50 -1368964.34 -1368964.18 0.1854 0.0738

Mars -8461-10-28 12:43 J -1368656.08 -1368655.97 -1368655.85 0.1676 0.0319

Moon -8460-03-14 03:07 J -1368519.51 -1368519.37 -1368519.22 0.2616 0.1110

Earth -8460-03-14 05:02 J -1368519.43 -1368519.29 -1368519.16 0.2615 0.1409 *

Saturn -8460-10-13 12:28 J -1368305.98 -1368305.98 -1368305.98 0.0304 0.0303

Saturn -8459-01-10 01:12 J -1368217.57 -1368217.45 -1368217.34 0.0304 0.0139

Saturn -8459-04-08 13:40 J -1368129.06 -1368128.93 -1368128.80 0.0303 0.0025

Saturn -8459-07-06 01:55 J -1368040.51 -1368040.42 -1368040.31 0.0303 0.0187

Mars -8459-10-03 15:21 J -1367950.90 -1367950.86 -1367950.82 0.1659 0.1537

Jupiter -8457-04-24 05:02 J -1367382.47 -1367382.29 -1367382.10 0.0502 0.0012

Moon -8457-09-06 20:38 J -1367246.68 -1367246.64 -1367246.59 0.2716 0.2426

Earth -8457-09-06 21:21 J -1367246.66 -1367246.61 -1367246.56 0.2718 0.2325 *

Mars -8452-05-15 21:21 J -1365534.78 -1365534.61 -1365534.45 0.1848 0.0556

Jupiter -8452-12-22 17:31 J -1365313.88 -1365313.77 -1365313.66 0.0524 0.0225

Mars -8451-03-20 23:45 J -1365225.61 -1365225.51 -1365225.40 0.1680 0.0790

Jupiter -8451-03-21 22:04 J -1365224.68 -1365224.58 -1365224.48 0.0523 0.0316

Earth -8451-09-16 14:38 J -1365045.92 -1365045.89 -1365045.87 0.2719 0.2623

Moon -8451-09-16 15:07 J -1365045.89 -1365045.87 -1365045.85 0.2722 0.2655 *

Mars -8449-02-24 02:52 J -1364520.47 -1364520.38 -1364520.30 0.1663 0.1098

Jupiter -8445-02-11 01:40 J -1363072.61 -1363072.43 -1363072.25 0.0502 0.0176

Saturn -8445-10-29 11:45 J -1362811.07 -1362811.01 -1362810.95 0.0259 0.0245

Saturn -8444-01-26 08:24 J -1362722.32 -1362722.15 -1362721.96 0.0259 0.0093

Saturn -8444-04-25 05:31 J -1362633.46 -1362633.27 -1362633.08 0.0259 0.0061

Saturn -8444-07-23 02:09 J -1362544.50 -1362544.41 -1362544.29 0.0259 0.0217

Moon -8444-09-09 14:24 J -1362496.00 -1362495.90 -1362495.81 0.2723 0.1125

Earth -8444-09-09 14:52 J -1362495.98 -1362495.88 -1362495.78 0.2719 0.1031 *

Mars -8442-08-11 11:02 J -1361795.12 -1361795.04 -1361794.97 0.1685 0.1261

Venus -8440-01-17 22:33 J -1361269.59 -1361269.56 -1361269.54 0.3689 0.3556

Mars -8440-07-16 14:09 J -1361090.02 -1361089.91 -1361089.81 0.1667 0.0648

Uranus -8440-08-28 01:40 J -1361047.51 -1361047.43 -1361047.35 0.0141 0.0128

Jupiter -8440-10-10 21:35 J -1361003.69 -1361003.60 -1361003.51 0.0525 0.0369

Uranus -8440-11-24 10:04 J -1360959.22 -1360959.08 -1360958.93 0.0141 0.0097

Jupiter -8439-01-08 02:09 J -1360914.52 -1360914.41 -1360914.29 0.0523 0.0176

Uranus -8439-02-20 18:28 J -1360870.90 -1360870.73 -1360870.55 0.0141 0.0065

Uranus -8439-05-20 03:07 J -1360782.56 -1360782.37 -1360782.18 0.0141 0.0034

Uranus -8439-08-16 11:31 J -1360694.22 -1360694.02 -1360693.82 0.0141 0.0003

Uranus -8439-11-12 19:55 J -1360605.86 -1360605.67 -1360605.47 0.0141 0.0028

Uranus -8438-02-09 04:19 J -1360517.50 -1360517.32 -1360517.14 0.0141 0.0059

Uranus -8438-05-08 12:28 J -1360429.12 -1360428.98 -1360428.82 0.0141 0.0090

Uranus -8438-08-04 20:38 J -1360340.72 -1360340.64 -1360340.52 0.0140 0.0121

Venus -8435-08-03 13:55 J -1359246.01 -1359245.92 -1359245.83 0.3690 0.1899

Jupiter -8434-11-29 21:50 J -1358762.71 -1358762.59 -1358762.46 0.0501 0.0362

Jupiter -8433-02-28 11:02 J -1358672.16 -1358672.04 -1358671.92 0.0502 0.0387

Moon -8431-09-12 08:09 J -1357745.27 -1357745.16 -1357745.06 0.2725 0.0292

Earth -8431-09-12 08:24 J -1357745.26 -1357745.15 -1357745.05 0.2719 0.0279 *

Mars -8431-12-07 01:26 J -1357659.55 -1357659.44 -1357659.33 0.1671 0.0196

Saturn -8430-05-30 03:35 J -1357485.45 -1357485.35 -1357485.24 0.0303 0.0180

Saturn -8430-08-26 16:19 J -1357396.95 -1357396.82 -1357396.69 0.0303 0.0015

Saturn -8430-11-23 04:47 J -1357308.41 -1357308.30 -1357308.19 0.0303 0.0147

Venus -8429-02-17 05:16 J -1357222.38 -1357222.28 -1357222.18 0.3692 0.0254

Jupiter -8428-07-30 01:55 J -1356693.45 -1356693.42 -1356693.39 0.0525 0.0505

Jupiter -8428-10-27 06:57 J -1356604.34 -1356604.21 -1356604.09 0.0524 0.0045

Moon -8427-03-12 01:26 J -1356468.59 -1356468.44 -1356468.29 0.2614 0.1064

Earth -8427-03-12 03:21 J -1356468.52 -1356468.36 -1356468.20 0.2615 0.0824 *

Venus -8424-09-01 20:38 J -1355198.74 -1355198.64 -1355198.55 0.3694 0.1381

Mars -8422-06-25 05:02 J -1354537.44 -1354537.29 -1354537.14 0.1854 0.0870

Jupiter -8422-12-17 06:00 J -1354362.43 -1354362.25 -1354362.07 0.0502 0.0183

Mars -8421-04-28 12:43 J -1354229.08 -1354228.97 -1354228.86 0.1676 0.0267

Mars -8419-04-03 15:21 J -1353523.89 -1353523.86 -1353523.83 0.1659 0.1589

Neptune -8419-05-11 03:07 J -1353486.40 -1353486.37 -1353486.31 0.0088 0.0085

Neptune -8419-08-07 06:43 J -1353398.31 -1353398.22 -1353398.11 0.0088 0.0075

Neptune -8419-11-03 10:33 J -1353310.18 -1353310.06 -1353309.92 0.0088 0.0065

Neptune -8418-01-30 14:09 J -1353222.06 -1353221.91 -1353221.75 0.0088 0.0055

Venus -8418-03-18 11:45 J -1353175.06 -1353175.01 -1353174.95 0.3695 0.3003

Neptune -8418-04-28 17:45 J -1353133.92 -1353133.76 -1353133.58 0.0088 0.0045

Neptune -8418-07-25 21:21 J -1353045.78 -1353045.61 -1353045.42 0.0088 0.0035

Earth -8418-09-15 01:40 J -1352994.51 -1352994.43 -1352994.34 0.2719 0.1574

Moon -8418-09-15 02:09 J -1352994.50 -1352994.41 -1352994.32 0.2725 0.1569 *

Neptune -8418-10-22 01:12 J -1352957.64 -1352957.45 -1352957.26 0.0088 0.0025

Neptune -8417-01-18 04:47 J -1352869.49 -1352869.30 -1352869.10 0.0088 0.0015

Neptune -8417-04-15 08:38 J -1352781.34 -1352781.14 -1352780.95 0.0088 0.0005

Neptune -8417-07-12 12:14 J -1352693.19 -1352692.99 -1352692.79 0.0088 0.0005

Neptune -8417-10-08 15:35 J -1352605.03 -1352604.85 -1352604.64 0.0088 0.0016

Neptune -8416-01-04 19:12 J -1352516.87 -1352516.70 -1352516.50 0.0088 0.0026

Neptune -8416-04-02 23:02 J -1352428.71 -1352428.54 -1352428.35 0.0088 0.0036

Neptune -8416-06-30 02:38 J -1352340.55 -1352340.39 -1352340.21 0.0088 0.0046

Jupiter -8416-08-15 11:31 J -1352294.15 -1352294.02 -1352293.90 0.0525 0.0094

Neptune -8416-09-26 06:14 J -1352252.38 -1352252.24 -1352252.07 0.0088 0.0056

Jupiter -8416-11-12 16:04 J -1352204.89 -1352204.83 -1352204.77 0.0523 0.0448

Venus -8416-12-18 18:57 J -1352168.85 -1352168.71 -1352168.57 0.3680 0.1733

Neptune -8416-12-23 10:04 J -1352164.20 -1352164.08 -1352163.94 0.0088 0.0066

Neptune -8415-03-21 13:55 J -1352076.01 -1352075.92 -1352075.82 0.0088 0.0076

Saturn -8415-06-15 09:07 J -1351990.28 -1351990.12 -1351989.94 0.0259 0.0125

Neptune -8415-06-17 17:02 J -1351987.80 -1351987.79 -1351987.73 0.0088 0.0087

Saturn -8415-09-12 06:14 J -1351901.44 -1351901.24 -1351901.05 0.0259 0.0029

Saturn -8415-12-10 03:07 J -1351812.50 -1351812.37 -1351812.23 0.0260 0.0184

Moon -8414-03-15 10:19 J -1351717.18 -1351717.07 -1351716.96 0.2618 0.1854

Earth -8414-03-15 12:00 J -1351717.11 -1351717.00 -1351716.90 0.2615 0.1946 *

Mars -8413-11-13 21:50 J -1351107.76 -1351107.59 -1351107.43 0.1848 0.0462

Mars -8412-09-18 23:45 J -1350798.61 -1350798.51 -1350798.40 0.1680 0.0734

Moon -8411-09-08 01:26 J -1350444.50 -1350444.44 -1350444.37 0.2717 0.2127

Earth -8411-09-08 02:09 J -1350444.48 -1350444.41 -1350444.34 0.2718 0.2067 *

Mars -8410-08-25 02:38 J -1350093.47 -1350093.39 -1350093.30 0.1663 0.1149

Jupiter -8410-10-05 02:09 J -1350052.60 -1350052.41 -1350052.22 0.0501 0.0004

Jupiter -8404-06-03 15:50 J -1347983.95 -1347983.84 -1347983.73 0.0525 0.0232

Jupiter -8404-08-31 20:24 J -1347894.75 -1347894.65 -1347894.55 0.0523 0.0311

Pluto -8404-12-11 00:43 J -1347793.51 -1347793.47 -1347793.39 0.0072 0.0066

Pluto -8403-03-09 01:55 J -1347705.50 -1347705.42 -1347705.32 0.0072 0.0057

Mars -8403-04-05 15:21 J -1347677.91 -1347677.86 -1347677.80 0.1842 0.1729

Pluto -8403-06-05 03:21 J -1347617.47 -1347617.36 -1347617.25 0.0072 0.0048

Pluto -8403-09-01 04:04 J -1347529.44 -1347529.33 -1347529.19 0.0072 0.0041

Pluto -8403-11-28 05:16 J -1347441.40 -1347441.28 -1347441.13 0.0072 0.0032

Mars -8402-02-09 11:02 J -1347368.12 -1347368.04 -1347367.96 0.1685 0.1202

Pluto -8402-02-24 06:43 J -1347353.36 -1347353.22 -1347353.08 0.0072 0.0023

Pluto -8402-05-23 07:55 J -1347265.32 -1347265.17 -1347265.03 0.0073 0.0014

Pluto -8402-08-19 08:52 J -1347177.28 -1347177.13 -1347176.98 0.0073 0.0005

Pluto -8402-11-15 10:04 J -1347089.23 -1347089.08 -1347088.93 0.0073 0.0004

Pluto -8401-02-11 11:16 J -1347001.18 -1347001.03 -1347000.88 0.0073 0.0013

Pluto -8401-05-09 12:28 J -1346913.12 -1346912.98 -1346912.84 0.0073 0.0022

Pluto -8401-08-05 13:40 J -1346825.06 -1346824.93 -1346824.79 0.0073 0.0031

Saturn -8401-10-16 06:14 J -1346753.32 -1346753.24 -1346753.14 0.0303 0.0218

Pluto -8401-11-01 14:52 J -1346737.00 -1346736.88 -1346736.75 0.0073 0.0041

Saturn -8400-01-12 18:57 J -1346664.84 -1346664.71 -1346664.58 0.0303 0.0053

Mars -8400-01-14 14:09 J -1346663.01 -1346662.91 -1346662.81 0.1667 0.0705

Pluto -8400-01-28 15:50 J -1346648.94 -1346648.84 -1346648.72 0.0073 0.0050

Saturn -8400-04-11 07:26 J -1346576.31 -1346576.19 -1346576.07 0.0303 0.0109

Pluto -8400-04-26 17:02 J -1346560.86 -1346560.79 -1346560.69 0.0074 0.0060

Saturn -8400-07-08 19:55 J -1346487.73 -1346487.67 -1346487.62 0.0303 0.0270

Pluto -8400-07-23 18:14 J -1346472.77 -1346472.74 -1346472.68 0.0074 0.0070

Jupiter -8398-07-23 22:33 J -1345742.73 -1345742.56 -1345742.39 0.0501 0.0190

Moon -8398-09-10 19:12 J -1345693.81 -1345693.70 -1345693.60 0.2723 0.0861

Earth -8398-09-10 19:40 J -1345693.78 -1345693.68 -1345693.58 0.2719 0.0771 *

Uranus -8396-08-12 06:43 J -1344992.27 -1344992.22 -1344992.15 0.0137 0.0120

Uranus -8396-11-08 10:04 J -1344904.17 -1344904.08 -1344903.99 0.0137 0.0101

Uranus -8395-02-04 13:12 J -1344816.05 -1344815.95 -1344815.85 0.0137 0.0082

Uranus -8395-05-03 16:04 J -1344727.94 -1344727.83 -1344727.71 0.0137 0.0064

Uranus -8395-07-30 19:12 J -1344639.82 -1344639.70 -1344639.57 0.0137 0.0045

Uranus -8395-10-26 22:19 J -1344551.70 -1344551.57 -1344551.44 0.0137 0.0026

Uranus -8394-01-23 01:26 J -1344463.57 -1344463.44 -1344463.31 0.0137 0.0007

Uranus -8394-04-21 04:33 J -1344375.44 -1344375.31 -1344375.18 0.0138 0.0012

Uranus -8394-07-18 07:40 J -1344287.31 -1344287.18 -1344287.06 0.0138 0.0031

Uranus -8394-10-14 10:33 J -1344199.17 -1344199.06 -1344198.93 0.0138 0.0050

Uranus -8393-01-10 13:40 J -1344111.04 -1344110.93 -1344110.81 0.0138 0.0069

Uranus -8393-04-07 16:47 J -1344022.89 -1344022.80 -1344022.69 0.0138 0.0088

Mars -8393-07-01 22:04 J -1343937.59 -1343937.58 -1343937.58 0.1690 0.1686

Uranus -8393-07-04 19:55 J -1343934.74 -1343934.67 -1343934.58 0.0138 0.0107

Uranus -8393-09-30 23:02 J -1343846.58 -1343846.54 -1343846.48 0.0138 0.0126

Jupiter -8392-03-22 20:09 J -1343673.75 -1343673.66 -1343673.57 0.0525 0.0370

Jupiter -8392-06-20 00:43 J -1343584.58 -1343584.47 -1343584.35 0.0523 0.0176

Mars -8391-06-07 01:26 J -1343232.55 -1343232.44 -1343232.33 0.1671 0.0250

Jupiter -8386-05-11 18:57 J -1341432.83 -1341432.71 -1341432.58 0.0501 0.0374

Jupiter -8386-08-10 07:55 J -1341342.29 -1341342.17 -1341342.04 0.0502 0.0376

Saturn -8386-11-02 09:07 J -1341258.26 -1341258.12 -1341257.96 0.0259 0.0163

Saturn -8385-01-30 06:14 J -1341169.44 -1341169.24 -1341169.05 0.0259 0.0010

Saturn -8385-04-28 02:52 J -1341080.53 -1341080.38 -1341080.21 0.0259 0.0146

Moon -8385-09-12 12:57 J -1340943.06 -1340942.96 -1340942.85 0.2725 0.0502

Earth -8385-09-12 13:12 J -1340943.06 -1340942.95 -1340942.85 0.2719 0.0543 *

Venus -8384-08-24 19:55 J -1340596.73 -1340596.67 -1340596.61 0.3689 0.2961

Mars -8383-12-24 05:45 J -1340110.40 -1340110.26 -1340110.11 0.1854 0.0983

Mars -8382-10-28 12:43 J -1339802.09 -1339801.97 -1339801.86 0.1676 0.0220

Moon -8381-03-12 08:24 J -1339666.31 -1339666.15 -1339665.99 0.2614 0.0489

Earth -8381-03-12 10:19 J -1339666.23 -1339666.07 -1339665.91 0.2615 0.0285 *

Jupiter -8380-01-09 00:00 J -1339363.52 -1339363.50 -1339363.48 0.0525 0.0516

Jupiter -8380-04-08 05:02 J -1339274.42 -1339274.29 -1339274.17 0.0524 0.0037

Mars -8380-10-02 15:21 J -1339096.88 -1339096.86 -1339096.85 0.1659 0.1641

Venus -8378-03-10 11:16 J -1338573.12 -1338573.03 -1338572.93 0.3691 0.1313

Jupiter -8374-05-29 04:04 J -1337032.50 -1337032.33 -1337032.15 0.0502 0.0185

Mars -8373-05-14 23:02 J -1336680.71 -1336680.54 -1336680.37 0.1848 0.0330

Venus -8373-09-23 02:38 J -1336549.49 -1336549.39 -1336549.29 0.3692 0.0337

Mars -8372-03-19 23:45 J -1336371.61 -1336371.51 -1336371.40 0.1680 0.0678

Earth -8372-09-15 06:28 J -1336192.30 -1336192.23 -1336192.15 0.2719 0.1833

Moon -8372-09-15 06:57 J -1336192.28 -1336192.21 -1336192.14 0.2725 0.1945 *

Saturn -8371-03-05 09:21 J -1336021.18 -1336021.11 -1336021.04 0.0303 0.0252

Saturn -8371-06-01 22:04 J -1335932.71 -1335932.58 -1335932.46 0.0303 0.0089

Saturn -8371-08-29 10:33 J -1335844.19 -1335844.06 -1335843.94 0.0303 0.0074

Saturn -8371-11-25 22:47 J -1335755.62 -1335755.55 -1335755.47 0.0303 0.0236

Mars	-8370-02-23 02:38 J	-1335666.47	-1335666.39	-1335666.31	0.1663	0.1203
Jupiter	-8368-01-25 09:21 J	-1334964.23	-1334964.11	-1334963.98	0.0524	0.0104
Moon	-8368-03-15 17:16 J	-1334914.86	-1334914.78	-1334914.70	0.2619	0.2263
Earth	-8368-03-15 18:43 J	-1334914.77	-1334914.72	-1334914.67	0.2615	0.2473 *
Jupiter	-8368-04-24 13:55 J	-1334874.98	-1334874.92	-1334874.85	0.0523	0.0436
Venus	-8367-04-08 18:00 J	-1334525.84	-1334525.75	-1334525.67	0.3694	0.1954
Moon	-8365-09-08 06:14 J	-1333642.31	-1333642.24	-1333642.16	0.2719	0.1953
Earth	-8365-09-08 06:57 J	-1333642.29	-1333642.21	-1333642.13	0.2718	0.1810 *
Mars	-8364-10-04 16:19 J	-1333250.90	-1333250.82	-1333250.74	0.1842	0.1619
Mars	-8363-08-10 10:47 J	-1332941.13	-1332941.05	-1332940.96	0.1685	0.1153
Jupiter	-8362-03-16 23:16 J	-1332722.72	-1332722.53	-1332722.34	0.0501	0.0017
Venus	-8362-10-23 09:21 J	-1332502.14	-1332502.11	-1332502.09	0.3696	0.3571
Mars	-8361-07-15 13:55 J	-1332236.02	-1332235.92	-1332235.81	0.1667	0.0758
Venus	-8359-07-25 21:35 J	-1331495.76	-1331495.60	-1331495.44	0.3679	0.0168
Jupiter	-8357-11-13 13:55 J	-1330654.03	-1330653.92	-1330653.81	0.0525	0.0243
Jupiter	-8356-02-10 18:28 J	-1330564.83	-1330564.73	-1330564.63	0.0524	0.0303
Saturn	-8356-03-21 10:19 J	-1330526.19	-1330526.07	-1330525.94	0.0259	0.0193
Saturn	-8356-06-18 07:12 J	-1330437.39	-1330437.20	-1330437.01	0.0260	0.0039
Saturn	-8356-09-15 04:04 J	-1330348.50	-1330348.33	-1330348.16	0.0260	0.0115
Uranus	-8356-09-17 06:57 J	-1330346.28	-1330346.21	-1330346.11	0.0141	0.0127
Uranus	-8356-12-14 15:21 J	-1330257.99	-1330257.86	-1330257.70	0.0141	0.0096
Uranus	-8355-03-13 00:00 J	-1330169.67	-1330169.50	-1330169.32	0.0141	0.0064
Uranus	-8355-06-09 08:24 J	-1330081.33	-1330081.15	-1330080.95	0.0141	0.0033
Uranus	-8355-09-05 17:02 J	-1329992.99	-1329992.79	-1329992.59	0.0141	0.0002
Uranus	-8355-12-03 01:26 J	-1329904.63	-1329904.44	-1329904.24	0.0141	0.0030
Uranus	-8354-03-01 09:35 J	-1329816.26	-1329816.10	-1329815.91	0.0141	0.0061
Uranus	-8354-05-28 18:00 J	-1329727.89	-1329727.75	-1329727.59	0.0141	0.0092
Uranus	-8354-08-25 02:38 J	-1329639.48	-1329639.39	-1329639.29	0.0140	0.0122
Mars	-8354-12-31 22:04 J	-1329510.61	-1329510.58	-1329510.55	0.1690	0.1626
Moon	-8352-09-10 23:45 J	-1328891.61	-1328891.51	-1328891.40	0.2723	0.0584

Earth -8352-09-11 00:28 J -1328891.59 -1328891.48 -1328891.38 0.2719 0.0516 *

Mars -8352-12-06 01:26 J -1328805.56 -1328805.44 -1328805.33 0.1671 0.0307

Jupiter -8350-01-02 19:26 J -1328412.86 -1328412.69 -1328412.52 0.0501 0.0203

Earth -8348-03-10 08:38 J -1327615.18 -1327615.14 -1327615.10 0.2615 0.2533

Jupiter -8345-09-01 18:00 J -1326343.83 -1326343.75 -1326343.66 0.0525 0.0382

Jupiter -8345-11-29 22:47 J -1326254.66 -1326254.55 -1326254.43 0.0524 0.0165

Mars -8343-06-24 06:28 J -1325683.36 -1325683.23 -1325683.09 0.1855 0.1098

Mars -8342-04-28 12:43 J -1325375.09 -1325374.97 -1325374.86 0.1676 0.0155

Saturn -8342-07-23 12:14 J -1325289.02 -1325288.99 -1325288.95 0.0303 0.0287

Saturn -8342-10-20 00:57 J -1325200.58 -1325200.46 -1325200.34 0.0303 0.0123

Saturn -8341-01-16 13:26 J -1325112.07 -1325111.94 -1325111.81 0.0303 0.0040

Saturn -8341-04-14 01:55 J -1325023.52 -1325023.42 -1325023.33 0.0303 0.0201

Earth -8339-09-13 17:45 J -1324140.86 -1324140.76 -1324140.65 0.2719 0.0798

Moon -8339-09-13 18:00 J -1324140.85 -1324140.75 -1324140.65 0.2726 0.0810 *

Jupiter -8339-10-21 15:35 J -1324102.96 -1324102.85 -1324102.73 0.0501 0.0391

Jupiter -8338-01-20 04:33 J -1324012.44 -1324012.31 -1324012.18 0.0502 0.0358

Neptune -8338-11-22 23:02 J -1323705.58 -1323705.54 -1323705.50 0.0089 0.0084

Neptune -8337-02-19 00:14 J -1323617.55 -1323617.49 -1323617.42 0.0089 0.0077

Neptune -8337-05-17 01:26 J -1323529.51 -1323529.44 -1323529.35 0.0089 0.0070

Neptune -8337-08-13 02:52 J -1323441.47 -1323441.38 -1323441.28 0.0089 0.0062

Neptune -8337-11-09 04:04 J -1323353.42 -1323353.33 -1323353.22 0.0089 0.0056

Neptune -8336-02-05 05:31 J -1323265.38 -1323265.27 -1323265.16 0.0089 0.0048

Neptune -8336-05-04 06:43 J -1323177.33 -1323177.22 -1323177.10 0.0089 0.0041

Neptune -8336-07-31 08:09 J -1323089.28 -1323089.16 -1323089.04 0.0089 0.0034

Neptune -8336-10-27 09:21 J -1323001.23 -1323001.11 -1323000.98 0.0089 0.0027

Neptune -8335-01-23 10:47 J -1322913.18 -1322913.05 -1322912.92 0.0089 0.0020

Moon -8335-03-13 15:21 J -1322864.02 -1322863.86 -1322863.69 0.2615 0.0101

Earth -8335-03-13 17:16 J -1322863.95 -1322863.78 -1322863.62 0.2615 0.0257 *

Neptune -8335-04-21 12:00 J -1322825.12 -1322825.00 -1322824.86 0.0089 0.0013

Neptune -8335-07-18 13:26 J -1322737.07 -1322736.94 -1322736.81 0.0089 0.0006

Neptune -8335-10-14 14:38 J -1322649.02 -1322648.89 -1322648.75 0.0089 0.0003

Neptune -8334-01-10 16:04 J -1322560.96 -1322560.83 -1322560.70 0.0089 0.0009

Neptune -8334-04-08 17:16 J -1322472.91 -1322472.78 -1322472.65 0.0089 0.0016

Neptune -8334-07-05 18:43 J -1322384.85 -1322384.72 -1322384.60 0.0089 0.0023

Neptune -8334-10-01 19:55 J -1322296.79 -1322296.67 -1322296.55 0.0089 0.0030

Mars -8334-11-13 23:45 J -1322253.68 -1322253.51 -1322253.34 0.1848 0.0217

Neptune -8334-12-28 21:07 J -1322208.73 -1322208.62 -1322208.50 0.0089 0.0037

Neptune -8333-03-25 22:33 J -1322120.67 -1322120.56 -1322120.45 0.0089 0.0044

Jupiter -8333-06-20 22:33 J -1322033.58 -1322033.56 -1322033.55 0.0525 0.0520

Neptune -8333-06-21 23:31 J -1322032.61 -1322032.52 -1322032.40 0.0089 0.0052

Mars -8333-09-17 23:45 J -1321944.62 -1321944.51 -1321944.40 0.1680 0.0623

Neptune -8333-09-18 00:57 J -1321944.55 -1321944.46 -1321944.35 0.0089 0.0058 *

Jupiter -8333-09-18 03:21 J -1321944.49 -1321944.36 -1321944.24 0.0524 0.0029 *

Neptune -8333-12-15 02:09 J -1321856.49 -1321856.41 -1321856.31 0.0089 0.0065

Neptune -8332-03-13 03:21 J -1321768.42 -1321768.36 -1321768.27 0.0089 0.0073

Neptune -8332-06-09 04:47 J -1321680.35 -1321680.30 -1321680.23 0.0089 0.0079

Neptune -8332-09-05 06:00 J -1321592.27 -1321592.25 -1321592.20 0.0089 0.0086

Mars -8331-08-24 02:38 J -1321239.46 -1321239.39 -1321239.31 0.1663 0.1257

Venus -8327-03-31 17:16 J -1319923.85 -1319923.78 -1319923.70 0.3690 0.2373

Saturn -8327-08-08 10:33 J -1319794.15 -1319794.06 -1319793.97 0.0259 0.0228

Saturn -8327-11-05 07:26 J -1319705.38 -1319705.19 -1319705.01 0.0259 0.0076

Jupiter -8327-11-08 00:57 J -1319702.64 -1319702.46 -1319702.28 0.0502 0.0171

Saturn -8326-02-02 04:19 J -1319616.50 -1319616.32 -1319616.14 0.0259 0.0078

Saturn -8326-05-02 01:12 J -1319527.52 -1319527.45 -1319527.36 0.0260 0.0234

Earth -8326-09-16 11:16 J -1319390.09 -1319390.03 -1319389.96 0.2719 0.2099

Moon -8326-09-16 11:45 J -1319390.07 -1319390.01 -1319389.94 0.2724 0.2128 *

Mars -8324-04-04 17:16 J -1318823.88 -1318823.78 -1318823.69 0.1842 0.1500

Mars -8323-02-08 10:47 J -1318514.13 -1318514.05 -1318513.96 0.1685 0.1096

Venus -8322-10-15 08:38 J -1317900.23 -1317900.14 -1317900.04 0.3691 0.0740

Mars -8321-01-14 13:55 J -1317809.02 -1317808.92 -1317808.82 0.1667 0.0809

Jupiter -8321-07-07 07:26 J -1317634.32 -1317634.19 -1317634.07 0.0524 0.0117

Jupiter -8321-10-04 12:00 J -1317545.07 -1317545.00 -1317544.93 0.0523 0.0424

Moon -8319-09-09 11:02 J -1316840.13 -1316840.04 -1316839.95 0.2720 0.1587

Earth -8319-09-09 11:45 J -1316840.10 -1316840.01 -1316839.92 0.2718 0.1554 *

Pluto -8319-11-15 00:57 J -1316773.48 -1316773.46 -1316773.40 0.0073 0.0071

Pluto -8318-02-11 02:38 J -1316685.46 -1316685.39 -1316685.28 0.0072 0.0060

Pluto -8318-05-10 04:19 J -1316597.43 -1316597.32 -1316597.19 0.0072 0.0050

Pluto -8318-08-06 06:00 J -1316509.38 -1316509.25 -1316509.10 0.0072 0.0040

Pluto -8318-11-02 07:40 J -1316421.33 -1316421.18 -1316421.02 0.0072 0.0030

Pluto -8317-01-29 09:21 J -1316333.27 -1316333.11 -1316332.95 0.0072 0.0020

Pluto -8317-04-26 10:47 J -1316245.21 -1316245.05 -1316244.88 0.0072 0.0011

Pluto -8317-07-23 12:28 J -1316157.15 -1316156.98 -1316156.81 0.0072 0.0001

Pluto -8317-10-19 13:55 J -1316069.08 -1316068.92 -1316068.75 0.0072 0.0009

Pluto -8316-01-15 15:35 J -1315981.01 -1315980.85 -1315980.69 0.0071 0.0018

Pluto -8316-04-13 16:47 J -1315892.94 -1315892.80 -1315892.64 0.0071 0.0027

Venus -8316-04-30 00:00 J -1315876.60 -1315876.50 -1315876.40 0.3693 0.0907

Pluto -8316-07-10 18:14 J -1315804.87 -1315804.74 -1315804.59 0.0071 0.0037

Pluto -8316-10-06 19:55 J -1315716.79 -1315716.67 -1315716.54 0.0071 0.0046

Pluto -8315-01-02 21:07 J -1315628.71 -1315628.62 -1315628.50 0.0071 0.0055

Pluto -8315-03-31 22:33 J -1315540.62 -1315540.56 -1315540.47 0.0071 0.0064

Jupiter -8315-08-26 21:07 J -1315392.81 -1315392.62 -1315392.44 0.0502 0.0021

Mars -8314-07-01 21:50 J -1315083.62 -1315083.59 -1315083.55 0.1690 0.1576

Saturn -8312-03-08 04:04 J -1314468.44 -1314468.33 -1314468.22 0.0303 0.0158

Saturn -8312-06-04 16:33 J -1314379.94 -1314379.81 -1314379.68 0.0303 0.0006

Uranus -8312-06-05 11:02 J -1314379.06 -1314379.04 -1314379.02 0.0137 0.0134

Mars -8312-06-06 01:26 J -1314378.56 -1314378.44 -1314378.33 0.1671 0.0363

Saturn -8312-09-01 05:02 J -1314291.40 -1314291.29 -1314291.18 0.0303 0.0167

Uranus -8312-09-01 13:55 J -1314290.98 -1314290.92 -1314290.84 0.0137 0.0116

Uranus -8312-11-28 17:02 J -1314202.87 -1314202.79 -1314202.69 0.0137 0.0097

Uranus -8311-02-24 20:09 J -1314114.76 -1314114.66 -1314114.55 0.0137 0.0079

Uranus -8311-05-23 23:16 J -1314026.64 -1314026.53 -1314026.41 0.0137 0.0060

Uranus -8311-08-20 02:24 J -1313938.52 -1313938.40 -1313938.28 0.0137 0.0041

Venus -8311-11-13 15:21 J -1313852.93 -1313852.86 -1313852.79 0.3695 0.2525

Uranus -8311-11-16 05:31 J -1313850.40 -1313850.27 -1313850.14 0.0137 0.0022

Uranus -8310-02-12 08:38 J -1313762.27 -1313762.14 -1313762.01 0.0137 0.0005

Uranus -8310-05-11 11:31 J -1313674.14 -1313674.02 -1313673.88 0.0138 0.0017

Uranus -8310-08-07 14:38 J -1313586.01 -1313585.89 -1313585.76 0.0138 0.0035

Uranus -8310-11-03 17:45 J -1313497.87 -1313497.76 -1313497.64 0.0138 0.0054

Uranus -8309-01-30 20:52 J -1313409.74 -1313409.63 -1313409.52 0.0138 0.0073

Jupiter -8309-04-25 11:45 J -1313324.12 -1313324.01 -1313323.90 0.0525 0.0254

Uranus -8309-04-28 00:00 J -1313321.59 -1313321.50 -1313321.40 0.0138 0.0092

Jupiter -8309-07-23 16:19 J -1313234.92 -1313234.82 -1313234.71 0.0523 0.0290

Uranus -8309-07-25 03:07 J -1313233.44 -1313233.37 -1313233.29 0.0138 0.0111

Uranus -8309-10-21 06:14 J -1313145.27 -1313145.24 -1313145.19 0.0138 0.0130

Moon -8306-09-12 04:47 J -1312089.41 -1312089.30 -1312089.20 0.2724 0.0347

Earth -8306-09-12 05:16 J -1312089.39 -1312089.28 -1312089.18 0.2719 0.0277 *

Mars -8304-12-23 07:40 J -1311256.31 -1311256.18 -1311256.06 0.1855 0.1218

Jupiter -8303-06-14 16:33 J -1311082.98 -1311082.81 -1311082.64 0.0501 0.0214

Mars -8303-10-27 12:28 J -1310948.09 -1310947.98 -1310947.86 0.1676 0.0108

Venus -8302-03-02 00:14 J -1310822.62 -1310822.49 -1310822.35 0.3679 0.2075

Moon -8302-03-11 13:40 J -1310813.02 -1310812.93 -1310812.83 0.2611 0.2076

Earth -8302-03-11 15:35 J -1310812.96 -1310812.85 -1310812.75 0.2615 0.1996 *

Saturn -8298-12-26 11:31 J -1309062.03 -1309062.02 -1309061.99 0.0259 0.0258

Jupiter -8297-02-12 16:04 J -1309013.91 -1309013.83 -1309013.75 0.0526 0.0395

Saturn -8297-03-24 08:24 J -1308973.32 -1308973.15 -1308972.97 0.0259 0.0106

Jupiter -8297-05-11 20:52 J -1308924.75 -1308924.63 -1308924.51 0.0524 0.0153

Saturn -8297-06-21 05:16 J -1308884.47 -1308884.28 -1308884.09 0.0260 0.0049

Saturn -8297-09-18 02:09 J -1308795.52 -1308795.41 -1308795.28 0.0260 0.0204

Mars -8294-05-15 00:28 J -1307826.65 -1307826.48 -1307826.31 0.1848 0.0110

Mars -8293-03-18 23:45 J -1307517.62 -1307517.51 -1307517.40 0.1680 0.0565

Earth -8293-09-13 22:33 J -1307338.66 -1307338.56 -1307338.46 0.2719 0.1052

Moon -8293-09-13 22:47 J -1307338.65 -1307338.55 -1307338.46 0.2726 0.1085 *

Mars -8291-02-22 02:38 J -1306812.46 -1306812.39 -1306812.32 0.1663 0.1308

Jupiter -8291-04-02 12:43 J -1306773.08 -1306772.97 -1306772.86 0.0500 0.0401

Jupiter -8291-07-02 01:26 J -1306682.57 -1306682.44 -1306682.30 0.0502 0.0344

Moon -8289-03-13 22:19 J -1306061.73 -1306061.57 -1306061.41 0.2617 0.0516

Earth -8289-03-14 00:00 J -1306061.66 -1306061.50 -1306061.34 0.2615 0.0782 *

Moon -8286-09-07 22:33 J -1304788.59 -1304788.56 -1304788.54 0.2715 0.2612

Earth -8286-09-07 23:02 J -1304788.57 -1304788.54 -1304788.51 0.2718 0.2590 *

Jupiter -8285-02-29 01:12 J -1304614.57 -1304614.45 -1304614.32 0.0524 0.0022

Mars -8285-10-03 18:00 J -1304396.86 -1304396.75 -1304396.64 0.1842 0.1391

Mars -8284-08-09 10:47 J -1304087.14 -1304087.05 -1304086.96 0.1685 0.1040

Saturn -8283-07-26 07:12 J -1303736.30 -1303736.20 -1303736.10 0.0303 0.0189

Saturn -8283-10-22 19:40 J -1303647.80 -1303647.68 -1303647.55 0.0303 0.0028

Saturn -8282-01-19 08:09 J -1303559.27 -1303559.16 -1303559.04 0.0303 0.0136

Saturn -8282-04-17 20:24 J -1303470.66 -1303470.65 -1303470.62 0.0302 0.0297

Mars -8282-07-15 13:55 J -1303382.01 -1303381.92 -1303381.82 0.1667 0.0866

Earth -8280-09-16 16:04 J -1302587.88 -1302587.83 -1302587.78 0.2719 0.2361

Moon -8280-09-16 16:47 J -1302587.85 -1302587.80 -1302587.76 0.2722 0.2459 *

Jupiter -8279-04-19 21:21 J -1302372.79 -1302372.61 -1302372.43 0.0502 0.0152

Venus -8276-04-21 23:16 J -1301274.56 -1301274.53 -1301274.49 0.3688 0.3438

Mars -8275-12-30 21:50 J -1300656.63 -1300656.59 -1300656.54 0.1690 0.1519

Jupiter -8274-12-18 05:45 J -1300304.38 -1300304.26 -1300304.14 0.0524 0.0121

Jupiter -8273-03-16 10:19 J -1300215.14 -1300215.07 -1300215.00 0.0523 0.0419

Moon -8273-09-09 15:50 J -1300037.93 -1300037.84 -1300037.75 0.2720 0.1454

Earth -8273-09-09 16:33 J -1300037.91 -1300037.81 -1300037.72 0.2718 0.1294 *

Mars -8273-12-05 01:12 J -1299951.56 -1299951.45 -1299951.34 0.1671 0.0416

Uranus -8272-10-07 13:26 J -1299645.03 -1299644.94 -1299644.84 0.0141 0.0123

Uranus -8271-01-03 21:50 J -1299556.74 -1299556.59 -1299556.44 0.0141 0.0091

Uranus -8271-04-02 06:14 J -1299468.41 -1299468.24 -1299468.06 0.0141 0.0060

Uranus -8271-06-29 14:52 J -1299380.08 -1299379.88 -1299379.69 0.0141 0.0029

Uranus -8271-09-25 23:16 J -1299291.73 -1299291.53 -1299291.33 0.0141 0.0002

Venus -8271-11-05 14:52 J -1299250.97 -1299250.88 -1299250.80 0.3690 0.1788

Uranus -8271-12-23 07:40 J -1299203.37 -1299203.18 -1299202.99 0.0141 0.0033

Uranus -8270-03-21 16:04 J -1299115.01 -1299114.83 -1299114.65 0.0141 0.0064

Uranus -8270-06-18 00:14 J -1299026.62 -1299026.49 -1299026.33 0.0140 0.0095

Uranus -8270-09-14 08:24 J -1298938.22 -1298938.15 -1298938.04 0.0140 0.0126

Saturn -8268-08-11 08:38 J -1298241.29 -1298241.14 -1298240.97 0.0259 0.0142

Saturn -8268-11-08 05:31 J -1298152.46 -1298152.27 -1298152.07 0.0259 0.0013

Saturn -8267-02-05 02:24 J -1298063.54 -1298063.40 -1298063.24 0.0259 0.0167

Jupiter -8267-02-05 17:45 J -1298062.95 -1298062.76 -1298062.57 0.0502 0.0034

Venus -8265-05-21 06:00 J -1297227.35 -1297227.25 -1297227.14 0.3692 0.0215

Mars -8264-06-23 08:38 J -1296829.26 -1296829.14 -1296829.02 0.1855 0.1341

Mars -8263-04-27 12:28 J -1296521.09 -1296520.98 -1296520.86 0.1675 0.0055

Jupiter -8262-10-06 09:50 J -1295994.20 -1295994.09 -1295993.98 0.0525 0.0266

Jupiter -8261-01-03 14:24 J -1295905.00 -1295904.90 -1295904.79 0.0523 0.0278

Moon -8260-09-12 09:35 J -1295287.20 -1295287.10 -1295286.99 0.2725 0.0046

Earth -8260-09-12 09:50 J -1295287.19 -1295287.09 -1295286.98 0.2718 0.0083 *

Venus -8260-12-04 21:21 J -1295203.70 -1295203.61 -1295203.51 0.3693 0.1484

Moon -8256-03-11 20:38 J -1294010.76 -1294010.64 -1294010.51 0.2612 0.1759

Earth -8256-03-11 22:19 J -1294010.70 -1294010.57 -1294010.43 0.2615 0.1464 *

Jupiter -8256-11-24 14:09 J -1293753.08 -1293752.91 -1293752.75 0.0501 0.0221

Mars -8255-11-13 01:26 J -1293399.61 -1293399.44 -1293399.27 0.1849 0.0018

Neptune -8254-02-05 02:09 J -1293315.48 -1293315.41 -1293315.32 0.0088 0.0080

Neptune -8254-05-04 05:45 J -1293227.36 -1293227.26 -1293227.13 0.0088 0.0070

Venus -8254-06-20 12:43 J -1293180.02 -1293179.97 -1293179.92 0.3695 0.3088

Neptune -8254-07-31 09:21 J -1293139.24 -1293139.11 -1293138.95 0.0088 0.0060

Mars -8254-09-17 23:45 J -1293090.62 -1293090.51 -1293090.40 0.1680 0.0517

Neptune -8254-10-27 12:57 J -1293051.11 -1293050.96 -1293050.78 0.0088 0.0050

Saturn -8254-12-13 10:04 J -1293004.16 -1293004.08 -1293003.99 0.0303 0.0226

Neptune -8253-01-23 16:47 J -1292962.97 -1292962.80 -1292962.62 0.0088 0.0040

Saturn -8253-03-10 22:33 J -1292915.68 -1292915.56 -1292915.43 0.0303 0.0064

Neptune -8253-04-20 20:24 J -1292874.83 -1292874.65 -1292874.45 0.0088 0.0030

Saturn -8253-06-07 11:16 J -1292827.16 -1292827.03 -1292826.91 0.0303 0.0100

Neptune -8253-07-18 00:00 J -1292786.68 -1292786.50 -1292786.30 0.0088 0.0020

Saturn -8253-09-03 23:31 J -1292738.58 -1292738.52 -1292738.45 0.0303 0.0261

Neptune -8253-10-14 03:50 J -1292698.53 -1292698.34 -1292698.14 0.0088 0.0010

Neptune -8252-01-10 07:40 J -1292610.38 -1292610.18 -1292609.99 0.0088 0.0002

Neptune -8252-04-08 11:02 J -1292522.23 -1292522.04 -1292521.83 0.0088 0.0011

Neptune -8252-07-05 14:38 J -1292434.07 -1292433.89 -1292433.69 0.0088 0.0021

Mars -8252-08-23 02:38 J -1292385.46 -1292385.39 -1292385.33 0.1662 0.1361

Neptune -8252-10-01 18:28 J -1292345.91 -1292345.73 -1292345.54 0.0088 0.0031

Neptune -8252-12-28 22:04 J -1292257.75 -1292257.58 -1292257.40 0.0088 0.0041

Venus -8251-03-22 15:50 J -1292173.98 -1292173.84 -1292173.71 0.3681 0.1960

Neptune -8251-03-27 01:40 J -1292169.58 -1292169.43 -1292169.26 0.0088 0.0051

Neptune -8251-06-23 05:31 J -1292081.41 -1292081.27 -1292081.12 0.0088 0.0061

Neptune -8251-09-19 09:07 J -1291993.23 -1291993.12 -1291993.00 0.0088 0.0071

Neptune -8251-12-16 12:28 J -1291905.03 -1291904.98 -1291904.89 0.0088 0.0082

Jupiter -8250-07-25 14:09 J -1291683.99 -1291683.91 -1291683.84 0.0525 0.0406

Jupiter -8250-10-22 18:43 J -1291594.84 -1291594.72 -1291594.59 0.0524 0.0142

Earth -8247-09-15 03:21 J -1290536.45 -1290536.36 -1290536.27 0.2719 0.1312

Moon -8247-09-15 03:35 J -1290536.44 -1290536.35 -1290536.26 0.2726 0.1315 *

Mars -8245-04-03 18:57 J -1289969.83 -1289969.71 -1289969.59 0.1842 0.1270

Mars -8244-02-07 10:47 J -1289660.14 -1289660.05 -1289659.96 0.1685 0.0984

Jupiter -8244-09-12 09:50 J -1289443.19 -1289443.09 -1289442.98 0.0500 0.0411

Jupiter -8244-12-11 22:33 J -1289352.69 -1289352.56 -1289352.41 0.0502 0.0334

Moon -8243-03-15 05:16 J -1289259.43 -1289259.28 -1289259.14 0.2617 0.1218

Earth -8243-03-15 06:57 J -1289259.35 -1289259.21 -1289259.07 0.2615 0.1318 *

Mars -8242-01-13 13:55 J -1288955.02 -1288954.92 -1288954.83 0.1667 0.0917

Moon -8240-09-08 03:07 J -1287986.41 -1287986.37 -1287986.33 0.2717 0.2460

Earth -8240-09-08 03:50 J -1287986.39 -1287986.34 -1287986.29 0.2718 0.2332 *

Saturn -8239-12-29 09:35 J -1287509.24 -1287509.10 -1287508.95 0.0259 0.0172

Saturn -8238-03-28 06:28 J -1287420.42 -1287420.23 -1287420.04 0.0260 0.0019

Saturn -8238-06-25 03:21 J -1287331.52 -1287331.36 -1287331.19 0.0260 0.0136

Jupiter -8238-08-10 23:16 J -1287284.66 -1287284.53 -1287284.41 0.0525 0.0013

Mars -8235-06-30 21:50 J -1286229.64 -1286229.59 -1286229.53 0.1690 0.1461

Earth -8234-09-17 20:52 J -1285785.65 -1285785.63 -1285785.60 0.2719 0.2622

Mars -8233-06-05 01:12 J -1285524.56 -1285524.45 -1285524.34 0.1671 0.0467

Jupiter -8232-09-29 18:43 J -1285042.90 -1285042.72 -1285042.54 0.0501 0.0143

Uranus -8228-06-25 18:00 J -1283677.78 -1283677.75 -1283677.70 0.0137 0.0131

Uranus -8228-09-21 21:07 J -1283589.69 -1283589.62 -1283589.54 0.0137 0.0112

Uranus -8228-12-19 00:14 J -1283501.58 -1283501.49 -1283501.39 0.0137 0.0093

Uranus -8227-03-17 03:21 J -1283413.47 -1283413.36 -1283413.25 0.0137 0.0075

Uranus -8227-06-13 06:28 J -1283325.35 -1283325.23 -1283325.11 0.0137 0.0056

Uranus -8227-09-09 09:35 J -1283237.23 -1283237.10 -1283236.98 0.0137 0.0037

Moon -8227-09-10 20:38 J -1283235.74 -1283235.64 -1283235.54 0.2721 0.1063

Earth -8227-09-10 21:21 J -1283235.71 -1283235.61 -1283235.52 0.2718 0.1040 *

Uranus -8227-12-06 12:43 J -1283149.10 -1283148.97 -1283148.84 0.0137 0.0018

Uranus -8226-03-04 15:50 J -1283060.97 -1283060.84 -1283060.71 0.0138 0.0003

Jupiter -8226-05-30 03:35 J -1282974.47 -1282974.35 -1282974.23 0.0525 0.0134

Uranus -8226-05-31 18:57 J -1282972.84 -1282972.71 -1282972.59 0.0138 0.0020

Jupiter -8226-08-27 08:09 J -1282885.23 -1282885.16 -1282885.08 0.0523 0.0407

Uranus -8226-08-27 21:50 J -1282884.71 -1282884.59 -1282884.46 0.0138 0.0039

Uranus -8226-11-24 00:57 J -1282796.57 -1282796.46 -1282796.34 0.0138 0.0058

Uranus -8225-02-20 04:04 J -1282708.43 -1282708.33 -1282708.22 0.0138 0.0077

Uranus -8225-05-18 07:12 J -1282620.29 -1282620.20 -1282620.10 0.0138 0.0096

Uranus -8225-08-14 10:19 J -1282532.13 -1282532.07 -1282532.00 0.0138 0.0115

Uranus -8225-11-10 13:26 J -1282443.96 -1282443.94 -1282443.91 0.0138 0.0135

Mars -8225-12-22 09:07 J -1282402.22 -1282402.12 -1282402.01 0.1855 0.1442

Saturn -8224-05-01 13:12 J -1282272.02 -1282271.95 -1282271.89 0.0303 0.0260

Saturn -8224-07-29 01:40 J -1282183.55 -1282183.43 -1282183.30 0.0303 0.0096

Saturn -8224-10-25 14:09 J -1282095.03 -1282094.91 -1282094.78 0.0303 0.0068

Mars -8224-10-26 12:28 J -1282094.09 -1282093.98 -1282093.86 0.1675 0.0014

Saturn -8223-01-22 02:38 J -1282006.47 -1282006.39 -1282006.30 0.0303 0.0228

Jupiter -8220-07-18 14:24 J -1280733.09 -1280732.90 -1280732.71 0.0502 0.0051

Venus -8220-11-26 20:52 J -1280601.70 -1280601.63 -1280601.57 0.3689 0.2849

Mars -8215-05-14 02:38 J -1278972.56 -1278972.39 -1278972.22 0.1849 0.0143

Jupiter -8214-03-18 08:09 J -1278664.27 -1278664.16 -1278664.05 0.0525 0.0269

Mars -8214-03-18 23:45 J -1278663.62 -1278663.51 -1278663.40 0.1680 0.0461

Venus -8214-06-12 12:14 J -1278578.09 -1278577.99 -1278577.90 0.3690 0.1212

Jupiter -8214-06-15 12:43 J -1278575.07 -1278574.97 -1278574.86 0.0523 0.0275

Moon -8214-09-13 14:24 J -1278485.00 -1278484.90 -1278484.79 0.2726 0.0211

Earth -8214-09-13 14:38 J -1278484.99 -1278484.89 -1278484.78 0.2719 0.0271 *

Mars -8212-02-21 02:38 J -1277958.45 -1277958.39 -1277958.34 0.1662 0.1417

Moon -8210-03-13 03:35 J -1277208.51 -1277208.35 -1277208.20 0.2614 0.1031

Earth -8210-03-13 05:16 J -1277208.43 -1277208.28 -1277208.13 0.2615 0.0930 *

Saturn -8209-05-17 09:50 J -1276777.20 -1276777.09 -1276776.98 0.0259 0.0209

Saturn -8209-08-14 06:28 J -1276688.41 -1276688.23 -1276688.04 0.0259 0.0057

Saturn -8209-11-11 03:21 J -1276599.53 -1276599.36 -1276599.18 0.0259 0.0097

Venus -8209-12-26 03:35 J -1276554.45 -1276554.35 -1276554.25 0.3692 0.0454

Saturn -8208-02-08 00:28 J -1276510.52 -1276510.48 -1276510.44 0.0259 0.0252

Jupiter -8208-05-06 10:47 J -1276423.21 -1276423.05 -1276422.88 0.0501 0.0235

Mars -8206-10-03 19:40 J -1275542.81 -1275542.68 -1275542.55 0.1842 0.1159

Mars -8205-08-08 10:47 J -1275233.14 -1275233.05 -1275232.95 0.1685 0.0929

Venus -8203-07-11 18:43 J -1274530.80 -1274530.72 -1274530.63 0.3694 0.2050

Mars -8203-07-14 13:55 J -1274528.01 -1274527.92 -1274527.83 0.1667 0.0970

Jupiter -8202-01-04 12:14 J -1274354.07 -1274353.99 -1274353.92 0.0525 0.0413

Jupiter -8202-04-03 17:02 J -1274264.91 -1274264.79 -1274264.67 0.0524 0.0133

Earth -8201-09-15 08:09 J -1273734.25 -1273734.16 -1273734.07 0.2719 0.1573

Moon -8201-09-15 08:24 J -1273734.23 -1273734.15 -1273734.06 0.2725 0.1657 *

Venus -8197-01-25 10:04 J -1272507.09 -1272507.08 -1272507.07 0.3695 0.3654

Moon -8197-03-15 12:00 J -1272457.13 -1272457.00 -1272456.87 0.2617 0.1548

Earth -8197-03-15 13:40 J -1272457.04 -1272456.93 -1272456.81 0.2615 0.1847 *

Jupiter -8196-02-22 07:12 J -1272113.30 -1272113.20 -1272113.09 0.0501 0.0418

Jupiter -8196-05-23 20:09 J -1272022.80 -1272022.66 -1272022.52 0.0502 0.0329

Mars -8196-12-29 21:50 J -1271802.65 -1271802.59 -1271802.53 0.1690 0.1407

Saturn -8195-09-18 15:35 J -1271539.86 -1271539.85 -1271539.82 0.0304 0.0300

Venus -8195-10-27 18:14 J -1271500.90 -1271500.74 -1271500.58 0.3680 0.0128

Saturn -8195-12-16 04:19 J -1271451.43 -1271451.32 -1271451.20 0.0304 0.0136

Saturn -8194-03-14 17:02 J -1271362.92 -1271362.79 -1271362.66 0.0303 0.0028

Saturn -8194-06-11 05:31 J -1271274.37 -1271274.27 -1271274.17 0.0303 0.0190

Moon -8194-09-09 07:55 J -1271184.24 -1271184.17 -1271184.11 0.2717 0.2145

Earth -8194-09-09 08:38 J -1271184.21 -1271184.14 -1271184.08 0.2718 0.2078 *

Mars -8194-12-05 01:12 J -1271097.56 -1271097.45 -1271097.34 0.1671 0.0519

Jupiter -8190-01-20 21:21 J -1269954.74 -1269954.61 -1269954.49 0.0524 0.0008

Uranus -8188-10-27 20:24 J -1268943.76 -1268943.65 -1268943.54 0.0141 0.0116

Uranus -8187-01-24 04:47 J -1268855.45 -1268855.30 -1268855.14 0.0141 0.0085

Uranus -8187-04-22 13:12 J -1268767.12 -1268766.95 -1268766.76 0.0141 0.0054

Uranus -8187-07-19 21:50 J -1268678.79 -1268678.59 -1268678.40 0.0141 0.0023

Uranus -8187-10-16 06:14 J -1268590.44 -1268590.24 -1268590.04 0.0141 0.0008

Uranus -8186-01-12 14:38 J -1268502.08 -1268501.89 -1268501.70 0.0141 0.0039

Uranus -8186-04-10 23:02 J -1268413.71 -1268413.54 -1268413.37 0.0141 0.0070

Uranus -8186-07-08 07:12 J -1268325.33 -1268325.20 -1268325.05 0.0140 0.0101

Uranus -8186-10-04 15:21 J -1268236.91 -1268236.86 -1268236.77 0.0140 0.0132

Mars -8185-06-22 10:19 J -1267975.16 -1267975.07 -1267974.98 0.1855 0.1575

Jupiter -8184-03-11 16:04 J -1267713.01 -1267712.83 -1267712.65 0.0501 0.0136

Mars -8184-04-26 12:28 J -1267667.10 -1267666.98 -1267666.87 0.1675 0.0070

Moon -8181-09-11 01:26 J -1266433.54 -1266433.44 -1266433.34 0.2722 0.0907

Earth -8181-09-11 01:55 J -1266433.52 -1266433.42 -1266433.31 0.2718 0.0780 *

Saturn -8180-10-04 10:19 J -1266045.13 -1266045.07 -1266045.00 0.0259 0.0242

Saturn -8179-01-01 06:57 J -1265956.38 -1265956.21 -1265956.02 0.0259 0.0091

Saturn -8179-03-31 04:04 J -1265867.52 -1265867.33 -1265867.15 0.0259 0.0064

Saturn -8179-06-28 00:43 J -1265778.56 -1265778.47 -1265778.36 0.0260 0.0219

Jupiter -8179-11-09 01:40 J -1265644.55 -1265644.43 -1265644.31 0.0525 0.0145

Jupiter -8178-02-06 06:14 J -1265555.32 -1265555.24 -1265555.16 0.0523 0.0398

Mars -8176-11-12 03:07 J -1264545.54 -1264545.37 -1264545.20 0.1849 0.0238

Mars -8175-09-16 23:45 J -1264236.63 -1264236.51 -1264236.40 0.1680 0.0406

Neptune -8173-05-22 21:21 J -1263622.62 -1263622.61 -1263622.57 0.0089 0.0088

Neptune -8173-08-18 22:47 J -1263534.59 -1263534.55 -1263534.48 0.0089 0.0080

Mars -8173-08-22 02:24 J -1263531.45 -1263531.40 -1263531.35 0.1662 0.1467

Neptune -8173-11-15 00:00 J -1263446.56 -1263446.50 -1263446.41 0.0089 0.0074

Jupiter -8173-12-28 12:14 J -1263403.18 -1263402.99 -1263402.80 0.0501 0.0053

Neptune -8172-02-11 01:26 J -1263358.52 -1263358.44 -1263358.34 0.0089 0.0066

Neptune -8172-05-10 03:07 J -1263270.47 -1263270.37 -1263270.28 0.0089 0.0059

Neptune -8172-08-06 04:19 J -1263182.43 -1263182.32 -1263182.21 0.0089 0.0052

Neptune -8172-11-02 05:31 J -1263094.38 -1263094.27 -1263094.15 0.0089 0.0045

Neptune -8171-01-29 06:57 J -1263006.33 -1263006.21 -1263006.09 0.0089 0.0038

Neptune -8171-04-27 08:09 J -1262918.28 -1262918.16 -1262918.03 0.0089 0.0031

Neptune -8171-07-24 09:35 J -1262830.23 -1262830.10 -1262829.97 0.0089 0.0023

Neptune -8171-10-20 10:47 J -1262742.17 -1262742.05 -1262741.92 0.0089 0.0016

Neptune -8170-01-16 12:14 J -1262654.12 -1262653.99 -1262653.86 0.0089 0.0009

Neptune -8170-04-14 13:26 J -1262566.07 -1262565.94 -1262565.81 0.0089 0.0003

Neptune -8170-07-11 14:52 J -1262478.01 -1262477.88 -1262477.75 0.0089 0.0005

Neptune -8170-10-07 16:04 J -1262389.96 -1262389.83 -1262389.70 0.0089 0.0012

Neptune -8169-01-03 17:16 J -1262301.90 -1262301.78 -1262301.65 0.0089 0.0019

Neptune -8169-03-31 18:28 J -1262213.85 -1262213.73 -1262213.60 0.0089 0.0027

Neptune -8169-06-27 19:55 J -1262125.79 -1262125.67 -1262125.55 0.0089 0.0033

Neptune -8169-09-23 21:07 J -1262037.73 -1262037.62 -1262037.50 0.0089 0.0041

Neptune -8169-12-20 22:19 J -1261949.67 -1261949.57 -1261949.45 0.0089 0.0048

Neptune -8168-03-18 23:45 J -1261861.61 -1261861.51 -1261861.40 0.0089 0.0054

Neptune -8168-06-15 00:57 J -1261773.54 -1261773.46 -1261773.36 0.0089 0.0062

Neptune -8168-09-11 02:24 J -1261685.48 -1261685.40 -1261685.31 0.0089 0.0068

Moon -8168-09-13 19:12 J -1261682.80 -1261682.70 -1261682.59 0.2726 0.0578

Earth -8168-09-13 19:26 J -1261682.79 -1261682.69 -1261682.58 0.2718 0.0528 *

Neptune -8168-12-08 03:35 J -1261597.41 -1261597.35 -1261597.28 0.0089 0.0076

Neptune -8167-03-06 04:47 J -1261509.34 -1261509.30 -1261509.24 0.0089 0.0083

Jupiter -8167-08-28 06:14 J -1261334.35 -1261334.24 -1261334.14 0.0525 0.0281

Jupiter -8167-11-25 10:47 J -1261245.15 -1261245.05 -1261244.94 0.0523 0.0264

Mars -8166-04-03 20:38 J -1261115.78 -1261115.64 -1261115.50 0.1843 0.1039

Mars -8165-02-07 10:47 J -1260806.15 -1260806.05 -1260805.95 0.1684 0.0871

Saturn -8165-05-04 07:12 J -1260719.30 -1260719.20 -1260719.09 0.0303 0.0172

Saturn -8165-07-31 19:55 J -1260630.80 -1260630.67 -1260630.54 0.0303 0.0012

Saturn -8165-10-28 08:09 J -1260542.26 -1260542.16 -1260542.04 0.0303 0.0154

Moon -8164-03-13 10:19 J -1260406.23 -1260406.07 -1260405.91 0.2615 0.0685

Earth -8164-03-13 12:14 J -1260406.15 -1260405.99 -1260405.83 0.2615 0.0390 *

Mars -8163-01-12 13:55 J -1260101.01 -1260100.92 -1260100.83 0.1666 0.1027

Venus -8163-07-03 18:14 J -1259928.82 -1259928.74 -1259928.66 0.3689 0.2263

Jupiter -8161-10-16 07:40 J -1259093.34 -1259093.18 -1259093.01 0.0501 0.0248

Jupiter -8160-01-14 20:52 J -1259002.63 -1259002.63 -1259002.63 0.0503 0.0502

Venus -8157-01-17 09:35 J -1257905.20 -1257905.10 -1257905.00 0.3691 0.0628

Pluto -8157-04-30 13:40 J -1257800.96 -1257800.93 -1257800.87 0.0072 0.0068

Pluto -8157-07-27 15:07 J -1257712.95 -1257712.87 -1257712.79 0.0072 0.0059

Pluto -8157-10-23 15:50 J -1257624.93 -1257624.84 -1257624.72 0.0072 0.0051

Pluto -8156-01-19 17:02 J -1257536.90 -1257536.79 -1257536.66 0.0072 0.0043

Pluto -8156-04-17 18:14 J -1257448.87 -1257448.74 -1257448.60 0.0072 0.0034

Mars -8156-06-29 21:50 J -1257375.66 -1257375.59 -1257375.53 0.1689 0.1353

Pluto -8156-07-14 19:12 J -1257360.83 -1257360.70 -1257360.55 0.0072 0.0026

Pluto -8156-10-10 20:24 J -1257272.79 -1257272.65 -1257272.49 0.0073 0.0017

Pluto -8155-01-06 21:35 J -1257184.74 -1257184.60 -1257184.44 0.0073 0.0008

Pluto -8155-04-04 22:47 J -1257096.70 -1257096.55 -1257096.40 0.0073 0.0003

Jupiter -8155-06-16 10:47 J -1257024.13 -1257024.05 -1257023.97 0.0525 0.0414

Pluto -8155-07-02 00:00 J -1257008.65 -1257008.50 -1257008.35 0.0073 0.0011

Jupiter -8155-09-13 15:35 J -1256934.97 -1256934.85 -1256934.73 0.0524 0.0132

Earth -8155-09-16 12:57 J -1256932.04 -1256931.96 -1256931.88 0.2719 0.1837

Moon -8155-09-16 13:26 J -1256932.02 -1256931.94 -1256931.87 0.2724 0.1847 *

Pluto -8155-09-28 01:12 J -1256920.59 -1256920.45 -1256920.30 0.0073 0.0020

Pluto -8155-12-25 02:09 J -1256832.54 -1256832.41 -1256832.26 0.0073 0.0029

Pluto -8154-03-23 03:21 J -1256744.48 -1256744.36 -1256744.22 0.0073 0.0039

Mars -8154-06-05 01:12 J -1256670.56 -1256670.45 -1256670.34 0.1671 0.0574

Pluto -8154-06-19 04:47 J -1256656.41 -1256656.30 -1256656.18 0.0073 0.0048

Pluto -8154-09-15 05:45 J -1256568.34 -1256568.26 -1256568.15 0.0073 0.0057

Pluto -8154-12-12 06:57 J -1256480.26 -1256480.21 -1256480.13 0.0074 0.0067

Venus -8152-08-02 00:57 J -1255881.56 -1255881.46 -1255881.37 0.3693 0.1009

Moon -8151-03-16 18:57 J -1255654.78 -1255654.71 -1255654.63 0.2617 0.2308

Earth -8151-03-16 20:38 J -1255654.70 -1255654.64 -1255654.57 0.2615 0.2382 *

Saturn -8150-05-21 06:43 J -1255224.38 -1255224.22 -1255224.04 0.0259 0.0130

Saturn -8150-08-18 03:50 J -1255135.54 -1255135.34 -1255135.15 0.0259 0.0024

Saturn -8150-11-15 00:43 J -1255046.61 -1255046.47 -1255046.33 0.0259 0.0177

Jupiter -8149-08-04 04:19 J -1254783.41 -1254783.32 -1254783.22 0.0501 0.0430

Jupiter -8149-11-02 17:16 J -1254692.92 -1254692.78 -1254692.63 0.0502 0.0317

Moon -8148-09-09 12:43 J -1254382.05 -1254381.97 -1254381.90 0.2717 0.1933

Earth -8148-09-09 13:26 J -1254382.02 -1254381.94 -1254381.87 0.2718 0.1819 *

Venus -8146-02-15 16:04 J -1253857.90 -1253857.83 -1253857.76 0.3694 0.2623

Mars -8146-12-22 11:16 J -1253548.10 -1253548.03 -1253547.97 0.1855 0.1688

Mars -8145-10-25 12:28 J -1253240.10 -1253239.98 -1253239.87 0.1675 0.0127

Uranus -8144-07-16 01:12 J -1252976.49 -1252976.45 -1252976.40 0.0137 0.0127

Uranus -8144-10-12 04:19 J -1252888.39 -1252888.32 -1252888.24 0.0137 0.0108

Uranus -8143-01-08 07:26 J -1252800.28 -1252800.19 -1252800.09 0.0137 0.0090

Uranus -8143-04-06 10:33 J -1252712.17 -1252712.06 -1252711.95 0.0137 0.0071

Jupiter -8143-07-02 19:40 J -1252624.80 -1252624.68 -1252624.55 0.0524 0.0017

Uranus	-8143-07-03 13:40 J	-1252624.05	-1252623.93	-1252623.81	0.0137	0.0052
Uranus	-8143-09-29 16:47 J	-1252535.93	-1252535.80	-1252535.68	0.0137	0.0033
Uranus	-8143-12-26 19:55 J	-1252447.80	-1252447.67	-1252447.54	0.0138	0.0015
Uranus	-8142-03-24 23:02 J	-1252359.67	-1252359.54	-1252359.41	0.0138	0.0006
Uranus	-8142-06-21 02:09 J	-1252271.54	-1252271.41	-1252271.29	0.0138	0.0024
Uranus	-8142-09-17 05:02 J	-1252183.41	-1252183.29	-1252183.16	0.0138	0.0043
Uranus	-8142-12-14 08:09 J	-1252095.27	-1252095.16	-1252095.04	0.0138	0.0062
Uranus	-8141-03-11 11:16 J	-1252007.13	-1252007.03	-1252006.92	0.0138	0.0081
Uranus	-8141-06-07 14:24 J	-1251918.98	-1251918.90	-1251918.81	0.0138	0.0100
Uranus	-8141-09-03 17:31 J	-1251830.83	-1251830.77	-1251830.70	0.0138	0.0119
Venus	-8138-06-03 21:07 J	-1250827.76	-1250827.62	-1250827.48	0.3679	0.1799
Jupiter	-8137-08-21 13:40 J	-1250383.11	-1250382.93	-1250382.74	0.0502	0.0132
Mars	-8136-05-13 04:19 J	-1250118.49	-1250118.32	-1250118.15	0.1849	0.0371
Saturn	-8136-09-21 09:21 J	-1249987.20	-1249987.11	-1249987.02	0.0304	0.0218
Saturn	-8136-12-18 22:04 J	-1249898.71	-1249898.58	-1249898.46	0.0304	0.0054
Saturn	-8135-03-17 10:33 J	-1249810.18	-1249810.06	-1249809.94	0.0303	0.0109
Mars	-8135-03-17 23:31 J	-1249809.63	-1249809.52	-1249809.40	0.1680	0.0351
Saturn	-8135-06-13 22:47 J	-1249721.60	-1249721.55	-1249721.49	0.0303	0.0270
Moon	-8135-09-12 06:14 J	-1249631.34	-1249631.24	-1249631.13	0.2724	0.0549
Earth	-8135-09-12 06:43 J	-1249631.32	-1249631.22	-1249631.11	0.2718	0.0520 *
Mars	-8133-02-21 02:24 J	-1249104.44	-1249104.40	-1249104.36	0.1662	0.1521
Jupiter	-8131-04-21 00:00 J	-1248314.62	-1248314.50	-1248314.37	0.0524	0.0149
Jupiter	-8131-07-19 04:33 J	-1248225.38	-1248225.31	-1248225.22	0.0523	0.0394
Mars	-8127-10-02 21:21 J	-1246688.75	-1246688.61	-1246688.46	0.1842	0.0933
Mars	-8126-08-08 10:47 J	-1246379.15	-1246379.05	-1246378.95	0.1685	0.0821
Jupiter	-8125-06-09 10:04 J	-1246073.27	-1246073.08	-1246072.90	0.0501	0.0057
Mars	-8124-07-13 13:40 J	-1245674.01	-1245673.93	-1245673.84	0.1666	0.1077
Moon	-8122-09-15 00:14 J	-1244880.60	-1244880.49	-1244880.39	0.2725	0.0729
Earth	-8122-09-15 00:14 J	-1244880.59	-1244880.49	-1244880.39	0.2718	0.0788 *
Saturn	-8121-10-07 06:57 J	-1244492.35	-1244492.21	-1244492.06	0.0259	0.0167

Saturn -8120-01-04 03:50 J -1244403.53 -1244403.34 -1244403.15 0.0259 0.0014

Saturn -8120-04-03 00:43 J -1244314.63 -1244314.47 -1244314.31 0.0259 0.0140

Jupiter -8119-02-07 04:19 J -1244004.42 -1244004.32 -1244004.21 0.0525 0.0288

Jupiter -8119-05-07 09:07 J -1243915.23 -1243915.12 -1243915.01 0.0524 0.0257

Moon -8118-03-14 17:02 J -1243603.95 -1243603.79 -1243603.62 0.2615 0.0018

Earth -8118-03-14 18:57 J -1243603.87 -1243603.71 -1243603.54 0.2615 0.0149 *

Mars -8117-12-28 21:50 J -1242948.66 -1242948.59 -1242948.52 0.1689 0.1292

Mars -8115-12-04 01:12 J -1242243.56 -1242243.45 -1242243.35 0.1671 0.0629

Jupiter -8113-03-28 06:14 J -1241763.40 -1241763.24 -1241763.07 0.0501 0.0242

Venus -8112-07-25 00:14 J -1241279.53 -1241279.49 -1241279.45 0.3688 0.3325

Earth -8109-09-16 17:45 J -1240129.83 -1240129.76 -1240129.70 0.2718 0.2097

Moon -8109-09-16 18:14 J -1240129.80 -1240129.74 -1240129.68 0.2724 0.2236 *

Jupiter -8108-11-26 08:52 J -1239694.20 -1239694.13 -1239694.05 0.0525 0.0422

Jupiter -8107-02-23 13:40 J -1239605.05 -1239604.93 -1239604.80 0.0524 0.0126

Venus -8106-02-07 15:35 J -1239255.94 -1239255.85 -1239255.76 0.3690 0.1675

Saturn -8106-02-08 11:45 J -1239255.07 -1239255.01 -1239254.94 0.0304 0.0259

Saturn -8106-05-08 00:28 J -1239166.60 -1239166.48 -1239166.36 0.0303 0.0095

Mars -8106-06-22 12:00 J -1239121.03 -1239121.00 -1239120.96 0.1856 0.1804

Saturn -8106-08-04 12:57 J -1239078.08 -1239077.96 -1239077.83 0.0303 0.0068

Saturn -8106-11-01 01:26 J -1238989.52 -1238989.44 -1238989.36 0.0303 0.0229

Mars -8105-04-25 12:28 J -1238813.10 -1238812.98 -1238812.87 0.1675 0.0179

Uranus -8104-08-20 19:26 J -1238330.71 -1238330.69 -1238330.66 0.0141 0.0140

Uranus -8104-11-17 03:50 J -1238242.46 -1238242.34 -1238242.21 0.0141 0.0109

Uranus -8103-02-13 12:28 J -1238154.14 -1238153.98 -1238153.82 0.0141 0.0077

Uranus -8103-05-12 20:52 J -1238065.82 -1238065.63 -1238065.44 0.0141 0.0046

Uranus -8103-08-09 05:16 J -1237977.47 -1237977.28 -1237977.08 0.0141 0.0015

Uranus -8103-11-05 13:40 J -1237889.12 -1237888.93 -1237888.73 0.0141 0.0016

Uranus -8102-02-01 22:04 J -1237800.76 -1237800.58 -1237800.39 0.0141 0.0047

Uranus -8102-05-01 06:14 J -1237712.39 -1237712.24 -1237712.06 0.0140 0.0078

Uranus -8102-07-28 14:38 J -1237624.00 -1237623.89 -1237623.75 0.0140 0.0108

Moon -8102-09-10 17:31 J -1237579.86 -1237579.77 -1237579.69 0.2718 0.1647

Earth -8102-09-10 18:00 J -1237579.83 -1237579.75 -1237579.66 0.2718 0.1559 *

Uranus -8102-10-24 23:02 J -1237535.56 -1237535.54 -1237535.50 0.0140 0.0138

Jupiter -8101-01-15 01:40 J -1237453.52 -1237453.43 -1237453.34 0.0501 0.0438

Jupiter -8101-04-14 14:38 J -1237363.04 -1237362.89 -1237362.74 0.0502 0.0308

Venus -8101-08-23 06:57 J -1237232.31 -1237232.21 -1237232.11 0.3691 0.0044

Mars -8097-11-11 05:16 J -1235691.45 -1235691.28 -1235691.12 0.1849 0.0488

Mars -8096-09-15 23:31 J -1235382.63 -1235382.52 -1235382.41 0.1680 0.0295

Jupiter -8096-12-12 18:28 J -1235294.85 -1235294.73 -1235294.60 0.0524 0.0014

Venus -8095-03-08 22:19 J -1235208.66 -1235208.57 -1235208.48 0.3693 0.1579

Mars -8094-08-22 02:24 J -1234677.43 -1234677.40 -1234677.37 0.1662 0.1574

Saturn -8091-02-24 06:28 J -1233760.34 -1233760.23 -1233760.11 0.0258 0.0208

Saturn -8091-05-24 03:07 J -1233671.55 -1233671.37 -1233671.18 0.0259 0.0057

Saturn -8091-08-21 00:00 J -1233582.68 -1233582.50 -1233582.32 0.0259 0.0096

Saturn -8091-11-17 20:52 J -1233493.67 -1233493.63 -1233493.58 0.0259 0.0250

Neptune -8090-08-05 21:21 J -1233232.64 -1233232.61 -1233232.54 0.0088 0.0085

Venus -8090-09-22 13:40 J -1233184.98 -1233184.93 -1233184.89 0.3695 0.3191

Neptune -8090-11-02 01:12 J -1233144.54 -1233144.45 -1233144.34 0.0088 0.0075

Neptune -8089-01-29 04:47 J -1233056.42 -1233056.30 -1233056.16 0.0088 0.0065

Jupiter -8089-02-01 11:02 J -1233053.22 -1233053.04 -1233052.85 0.0502 0.0125

Neptune -8089-04-26 08:24 J -1232968.29 -1232968.15 -1232967.98 0.0088 0.0055

Neptune -8089-07-23 12:00 J -1232880.15 -1232880.00 -1232879.81 0.0088 0.0045

Moon -8089-09-12 11:02 J -1232829.14 -1232829.04 -1232828.93 0.2724 0.0350

Earth -8089-09-12 11:31 J -1232829.13 -1232829.02 -1232828.91 0.2718 0.0256 *

Neptune -8089-10-19 15:50 J -1232792.01 -1232791.84 -1232791.65 0.0088 0.0035

Neptune -8088-01-15 19:26 J -1232703.87 -1232703.69 -1232703.49 0.0088 0.0025

Neptune -8088-04-13 23:16 J -1232615.72 -1232615.53 -1232615.33 0.0088 0.0015

Neptune -8088-07-11 02:52 J -1232527.57 -1232527.38 -1232527.18 0.0088 0.0005

Neptune -8088-10-07 06:43 J -1232439.42 -1232439.22 -1232439.02 0.0088 0.0006

Neptune -8087-01-03 10:19 J -1232351.26 -1232351.07 -1232350.87 0.0088 0.0016

Neptune -8087-04-01 13:55 J -1232263.10 -1232262.92 -1232262.73 0.0088 0.0026

Mars -8087-04-02 22:19 J -1232261.72 -1232261.57 -1232261.41 0.1843 0.0812

Venus -8087-06-24 12:28 J -1232179.11 -1232178.98 -1232178.86 0.3681 0.2228

Neptune -8087-06-28 17:31 J -1232174.94 -1232174.77 -1232174.58 0.0088 0.0036

Neptune -8087-09-24 21:21 J -1232086.78 -1232086.61 -1232086.44 0.0088 0.0046

Neptune -8087-12-22 00:43 J -1231998.61 -1231998.47 -1231998.30 0.0088 0.0057

Mars -8086-02-06 10:47 J -1231952.16 -1231952.05 -1231951.95 0.1684 0.0764

Neptune -8086-03-20 04:19 J -1231910.43 -1231910.32 -1231910.17 0.0088 0.0067

Neptune -8086-06-16 07:55 J -1231822.24 -1231822.17 -1231822.05 0.0088 0.0077

Neptune -8086-09-12 11:45 J -1231734.02 -1231734.01 -1231733.97 0.0088 0.0087

Moon -8085-03-11 15:35 J -1231552.92 -1231552.85 -1231552.77 0.2613 0.2332

Earth -8085-03-11 17:16 J -1231552.87 -1231552.78 -1231552.68 0.2615 0.2109 *

Mars -8084-01-11 13:40 J -1231247.01 -1231246.93 -1231246.84 0.1666 0.1131

Jupiter -8084-09-30 22:47 J -1230984.67 -1230984.55 -1230984.43 0.0524 0.0146

Jupiter -8084-12-29 03:21 J -1230895.44 -1230895.36 -1230895.28 0.0523 0.0394

Jupiter -8078-11-20 07:55 J -1228743.36 -1228743.17 -1228742.99 0.0502 0.0058

Mars -8077-06-28 21:50 J -1228521.67 -1228521.59 -1228521.52 0.1689 0.1242

Saturn -8077-09-24 02:09 J -1228434.52 -1228434.41 -1228434.30 0.0304 0.0147

Saturn -8077-12-21 14:38 J -1228346.01 -1228345.89 -1228345.76 0.0304 0.0019

Saturn -8076-03-20 03:07 J -1228257.47 -1228257.37 -1228257.26 0.0303 0.0180

Earth -8076-09-15 05:02 J -1228078.39 -1228078.29 -1228078.19 0.2719 0.1048

Moon -8076-09-15 05:02 J -1228078.38 -1228078.29 -1228078.19 0.2725 0.1108 *

Mars -8075-06-04 01:12 J -1227816.56 -1227816.45 -1227816.35 0.1671 0.0685

Moon -8072-03-15 00:00 J -1226801.66 -1226801.50 -1226801.33 0.2615 0.0420

Earth -8072-03-15 01:55 J -1226801.58 -1226801.42 -1226801.26 0.2615 0.0688 *

Pluto -8072-07-01 14:38 J -1226692.95 -1226692.89 -1226692.80 0.0072 0.0065

Jupiter -8072-07-20 03:07 J -1226674.48 -1226674.37 -1226674.27 0.0525 0.0285

Pluto -8072-09-27 16:19 J -1226604.92 -1226604.82 -1226604.70 0.0072 0.0054

Jupiter -8072-10-17 07:40 J -1226585.28 -1226585.18 -1226585.07 0.0523 0.0260

Pluto -8072-12-24 18:00 J -1226516.87 -1226516.75 -1226516.61 0.0072 0.0044

Pluto -8071-03-22 19:40 J -1226428.82 -1226428.68 -1226428.53 0.0072 0.0034

Pluto -8071-06-18 21:21 J -1226340.77 -1226340.61 -1226340.45 0.0072 0.0024

Pluto -8071-09-14 22:47 J -1226252.71 -1226252.55 -1226252.38 0.0072 0.0015

Pluto -8071-12-12 00:28 J -1226164.65 -1226164.48 -1226164.31 0.0072 0.0005

Pluto -8070-03-10 02:09 J -1226076.58 -1226076.41 -1226076.25 0.0072 0.0005

Pluto -8070-06-06 03:21 J -1225988.51 -1225988.36 -1225988.19 0.0071 0.0015

Pluto -8070-09-02 05:02 J -1225900.44 -1225900.29 -1225900.13 0.0071 0.0024

Pluto -8070-11-29 06:14 J -1225812.37 -1225812.24 -1225812.08 0.0071 0.0034

Pluto -8069-02-25 07:55 J -1225724.30 -1225724.17 -1225724.03 0.0071 0.0042

Pluto -8069-05-23 09:35 J -1225636.22 -1225636.10 -1225635.99 0.0071 0.0051

Pluto -8069-08-19 10:33 J -1225548.13 -1225548.06 -1225547.96 0.0071 0.0061

Earth -8069-09-08 05:31 J -1225528.30 -1225528.27 -1225528.24 0.2718 0.2595

Pluto -8069-11-15 12:00 J -1225460.01 -1225460.00 -1225459.95 0.0071 0.0070

Jupiter -8066-09-08 04:19 J -1224433.48 -1224433.32 -1224433.15 0.0501 0.0240

Mars -8066-10-25 12:14 J -1224386.10 -1224385.99 -1224385.87 0.1675 0.0226

Earth -8063-09-17 22:33 J -1223327.61 -1223327.56 -1223327.51 0.2719 0.2360

Moon -8063-09-17 23:02 J -1223327.59 -1223327.54 -1223327.49 0.2724 0.2373 *

Saturn -8062-07-14 06:00 J -1223028.29 -1223028.25 -1223028.20 0.0259 0.0249

Saturn -8062-10-11 02:38 J -1222939.56 -1222939.39 -1222939.21 0.0259 0.0098

Saturn -8061-01-07 23:31 J -1222850.71 -1222850.52 -1222850.33 0.0259 0.0055

Saturn -8061-04-05 20:09 J -1222761.76 -1222761.66 -1222761.54 0.0259 0.0209

Jupiter -8060-05-08 07:26 J -1222364.26 -1222364.19 -1222364.12 0.0525 0.0425

Uranus -8060-08-05 08:09 J -1222275.21 -1222275.16 -1222275.10 0.0137 0.0124

Jupiter -8060-08-05 12:14 J -1222275.11 -1222274.99 -1222274.87 0.0524 0.0122 *

Uranus -8060-11-01 11:16 J -1222187.11 -1222187.03 -1222186.95 0.0137 0.0105

Uranus -8059-01-28 14:09 J -1222099.00 -1222098.91 -1222098.80 0.0137 0.0087

Uranus -8059-04-26 17:31 J -1222010.88 -1222010.77 -1222010.66 0.0137 0.0068

Uranus -8059-07-23 20:38 J -1221922.76 -1221922.64 -1221922.52 0.0137 0.0049

Uranus -8059-10-19 23:45 J -1221834.64 -1221834.51 -1221834.39 0.0137 0.0031

Uranus -8058-01-16 02:52 J -1221746.51 -1221746.38 -1221746.25 0.0138 0.0012

Uranus -8058-04-14 06:00 J -1221658.38 -1221658.25 -1221658.12 0.0138 0.0009

Uranus -8058-07-11 08:52 J -1221570.25 -1221570.13 -1221570.00 0.0138 0.0027

Uranus -8058-10-07 12:00 J -1221482.12 -1221482.00 -1221481.87 0.0138 0.0046

Uranus -8057-01-03 15:07 J -1221393.98 -1221393.87 -1221393.75 0.0138 0.0065

Uranus -8057-03-31 18:14 J -1221305.84 -1221305.74 -1221305.63 0.0138 0.0084

Mars -8057-05-12 05:45 J -1221264.42 -1221264.26 -1221264.09 0.1849 0.0594

Uranus -8057-06-27 21:21 J -1221217.69 -1221217.61 -1221217.52 0.0138 0.0103

Uranus -8057-09-24 00:28 J -1221129.53 -1221129.48 -1221129.42 0.0138 0.0122

Mars -8056-03-16 23:31 J -1220955.63 -1220955.52 -1220955.41 0.1680 0.0237

Moon -8056-09-10 22:19 J -1220777.66 -1220777.57 -1220777.48 0.2720 0.1362

Earth -8056-09-10 22:47 J -1220777.64 -1220777.55 -1220777.45 0.2718 0.1299 *

Venus -8055-02-28 21:35 J -1220606.67 -1220606.60 -1220606.53 0.3688 0.2731

Mars -8054-02-20 02:24 J -1220250.42 -1220250.40 -1220250.38 0.1662 0.1626

Jupiter -8054-06-27 00:43 J -1220123.56 -1220123.47 -1220123.37 0.0501 0.0424

Jupiter -8054-09-25 13:40 J -1220033.08 -1220032.93 -1220032.79 0.0502 0.0321

Venus -8050-09-14 12:57 J -1218583.05 -1218582.96 -1218582.86 0.3690 0.1093

Jupiter -8048-05-24 17:02 J -1217964.92 -1217964.79 -1217964.67 0.0524 0.0010

Mars -8048-10-01 23:16 J -1217834.69 -1217834.53 -1217834.37 0.1843 0.0696

Saturn -8047-02-11 04:04 J -1217702.43 -1217702.33 -1217702.23 0.0304 0.0195

Saturn -8047-05-10 16:47 J -1217613.93 -1217613.80 -1217613.68 0.0303 0.0031

Saturn -8047-08-07 05:16 J -1217525.40 -1217525.28 -1217525.17 0.0303 0.0132

Mars -8047-08-07 10:47 J -1217525.16 -1217525.05 -1217524.95 0.1684 0.0709

Saturn -8047-11-03 17:45 J -1217436.79 -1217436.76 -1217436.73 0.0303 0.0293

Mars -8045-07-12 13:40 J -1216820.01 -1216819.93 -1216819.85 0.1666 0.1187

Venus -8044-03-30 04:19 J -1216559.42 -1216559.32 -1216559.22 0.3692 0.0541

Moon -8043-09-13 15:50 J -1216026.94 -1216026.84 -1216026.73 0.2724 0.0080

Earth -8043-09-13 16:19 J -1216026.93 -1216026.82 -1216026.71 0.2718 0.0012 *

Jupiter -8042-07-14 08:52 J -1215723.31 -1215723.13 -1215722.95 0.0502 0.0122

Moon -8039-03-12 22:19 J -1214750.69 -1214750.57 -1214750.44 0.2613 0.1713

Earth -8039-03-13 00:14 J -1214750.62 -1214750.49 -1214750.36 0.2615 0.1569 *

Venus	-8039-10-13 19:40 J	-1214535.76	-1214535.68	-1214535.60	0.3693	0.2149
Mars	-8038-12-28 21:35 J	-1214094.68	-1214094.60	-1214094.51	0.1689	0.1186
Jupiter	-8036-03-12 21:50 J	-1213654.71	-1213654.59	-1213654.47	0.0524	0.0138
Jupiter	-8036-06-10 02:24 J	-1213565.48	-1213565.40	-1213565.32	0.0523	0.0403
Mars	-8036-12-03 00:57 J	-1213389.56	-1213389.46	-1213389.35	0.1670	0.0737
Saturn	-8032-02-27 01:40 J	-1212207.59	-1212207.43	-1212207.27	0.0258	0.0142
Saturn	-8032-05-26 22:33 J	-1212118.76	-1212118.56	-1212118.37	0.0258	0.0011
Saturn	-8032-08-23 18:57 J	-1212029.85	-1212029.71	-1212029.55	0.0259	0.0163
Venus	-8030-01-29 15:07 J	-1211506.03	-1211505.87	-1211505.71	0.3680	0.0356
Jupiter	-8030-05-02 05:31 J	-1211413.45	-1211413.27	-1211413.08	0.0502	0.0060
Earth	-8030-09-16 09:50 J	-1211276.19	-1211276.09	-1211276.00	0.2719	0.1315
Moon	-8030-09-16 10:04 J	-1211276.17	-1211276.08	-1211275.99	0.2725	0.1323 *
Mars	-8028-05-20 08:38 J	-1210664.15	-1210664.14	-1210664.12	0.1694	0.1670
Moon	-8026-03-16 07:12 J	-1209999.35	-1209999.20	-1209999.06	0.2616	0.1052
Earth	-8026-03-16 08:52 J	-1209999.28	-1209999.13	-1209998.99	0.2615	0.1220 *
Mars	-8026-04-25 12:14 J	-1209959.10	-1209958.99	-1209958.88	0.1675	0.0279
Jupiter	-8025-12-30 02:09 J	-1209344.52	-1209344.41	-1209344.30	0.0524	0.0277
Jupiter	-8024-03-29 06:43 J	-1209255.32	-1209255.22	-1209255.11	0.0523	0.0266
Moon	-8023-09-09 09:35 J	-1208726.15	-1208726.10	-1208726.05	0.2715	0.2362
Earth	-8023-09-09 10:04 J	-1208726.13	-1208726.08	-1208726.02	0.2718	0.2343 *
Uranus	-8020-09-10 02:38 J	-1207629.45	-1207629.39	-1207629.31	0.0141	0.0132
Uranus	-8020-12-07 11:02 J	-1207541.16	-1207541.04	-1207540.89	0.0141	0.0101
Uranus	-8019-03-05 19:40 J	-1207452.85	-1207452.68	-1207452.50	0.0141	0.0070
Uranus	-8019-06-02 04:04 J	-1207364.51	-1207364.33	-1207364.13	0.0141	0.0039
Uranus	-8019-08-29 12:43 J	-1207276.17	-1207275.97	-1207275.77	0.0141	0.0008
Uranus	-8019-11-25 21:07 J	-1207187.82	-1207187.62	-1207187.43	0.0141	0.0023
Jupiter	-8018-02-18 02:24 J	-1207103.56	-1207103.40	-1207103.23	0.0501	0.0238
Uranus	-8018-02-22 05:31 J	-1207099.45	-1207099.27	-1207099.09	0.0141	0.0054
Uranus	-8018-05-21 13:55 J	-1207011.08	-1207010.92	-1207010.76	0.0140	0.0085
Saturn	-8018-07-01 05:02 J	-1206970.35	-1206970.29	-1206970.21	0.0304	0.0254

Uranus -8018-08-17 22:04 J -1206922.68 -1206922.58 -1206922.46 0.0140 0.0115

Saturn -8018-09-27 17:45 J -1206881.88 -1206881.76 -1206881.63 0.0304 0.0089

Mars -8018-11-11 06:57 J -1206837.37 -1206837.21 -1206837.06 0.1850 0.0716

Saturn -8018-12-25 06:28 J -1206793.35 -1206793.23 -1206793.11 0.0304 0.0075

Saturn -8017-03-22 18:57 J -1206704.79 -1206704.71 -1206704.63 0.0304 0.0237

Mars -8017-09-14 23:31 J -1206528.64 -1206528.52 -1206528.41 0.1680 0.0186

Earth -8017-09-18 03:21 J -1206525.39 -1206525.36 -1206525.34 0.2719 0.2622

Jupiter -8013-10-18 06:28 J -1205034.30 -1205034.23 -1205034.15 0.0525 0.0415

Jupiter -8012-01-15 11:16 J -1204945.15 -1204945.03 -1204944.91 0.0524 0.0130

Moon -8010-09-12 03:07 J -1203975.47 -1203975.37 -1203975.28 0.2722 0.1174

Earth -8010-09-12 03:35 J -1203975.45 -1203975.35 -1203975.25 0.2718 0.1038 *

Neptune -8008-02-16 21:35 J -1203451.63 -1203451.60 -1203451.54 0.0089 0.0084

Mars -8008-04-02 00:14 J -1203407.65 -1203407.49 -1203407.33 0.1843 0.0579

Neptune -8008-05-15 23:02 J -1203363.60 -1203363.54 -1203363.46 0.0089 0.0076

Neptune -8008-08-12 00:14 J -1203275.56 -1203275.49 -1203275.39 0.0089 0.0070

Neptune -8008-11-08 01:40 J -1203187.51 -1203187.43 -1203187.33 0.0089 0.0062

Neptune -8007-02-04 03:07 J -1203099.47 -1203099.37 -1203099.26 0.0089 0.0055

Mars -8007-02-05 10:33 J -1203098.16 -1203098.06 -1203097.95 0.1684 0.0654

Neptune -8007-05-03 04:33 J -1203011.42 -1203011.31 -1203011.20 0.0089 0.0048

Neptune -8007-07-30 05:45 J -1202923.37 -1202923.26 -1202923.14 0.0089 0.0041

Neptune -8007-10-26 07:12 J -1202835.32 -1202835.20 -1202835.08 0.0089 0.0034

Jupiter -8007-12-06 23:16 J -1202793.63 -1202793.53 -1202793.42 0.0501 0.0417

Neptune -8006-01-22 08:24 J -1202747.27 -1202747.15 -1202747.02 0.0089 0.0027

Jupiter -8006-03-07 12:00 J -1202703.13 -1202703.00 -1202702.85 0.0502 0.0329

Neptune -8006-04-20 09:35 J -1202659.22 -1202659.10 -1202658.97 0.0089 0.0020

Neptune -8006-07-17 11:02 J -1202571.17 -1202571.04 -1202570.91 0.0089 0.0012

Neptune -8006-10-13 12:14 J -1202483.12 -1202482.99 -1202482.85 0.0089 0.0006

Neptune -8005-01-09 13:40 J -1202395.06 -1202394.93 -1202394.80 0.0089 0.0002

Mars -8005-01-11 13:40 J -1202393.01 -1202392.93 -1202392.86 0.1666 0.1237

Neptune -8005-04-06 14:52 J -1202307.01 -1202306.88 -1202306.75 0.0089 0.0009

Neptune -8005-07-03 16:04 J -1202218.95 -1202218.83 -1202218.69 0.0089 0.0017

Neptune -8005-09-29 17:31 J -1202130.90 -1202130.77 -1202130.64 0.0089 0.0023

Neptune -8005-12-26 18:43 J -1202042.84 -1202042.72 -1202042.59 0.0089 0.0030

Neptune -8004-03-24 19:55 J -1201954.78 -1201954.67 -1201954.54 0.0089 0.0038

Neptune -8004-06-20 21:07 J -1201866.72 -1201866.62 -1201866.49 0.0089 0.0045

Neptune -8004-09-16 22:33 J -1201778.66 -1201778.56 -1201778.45 0.0089 0.0051

Neptune -8004-12-13 23:45 J -1201690.60 -1201690.51 -1201690.40 0.0089 0.0059

Neptune -8003-03-12 00:57 J -1201602.53 -1201602.46 -1201602.36 0.0089 0.0066

Neptune -8003-06-08 02:24 J -1201514.47 -1201514.40 -1201514.32 0.0089 0.0072

Saturn -8003-07-17 00:28 J -1201475.60 -1201475.48 -1201475.33 0.0258 0.0188

Neptune -8003-09-04 03:35 J -1201426.40 -1201426.35 -1201426.28 0.0089 0.0080

Saturn -8003-10-13 21:21 J -1201386.80 -1201386.61 -1201386.42 0.0259 0.0036

Neptune -8003-12-01 04:47 J -1201338.31 -1201338.30 -1201338.25 0.0089 0.0087

Saturn -8002-01-10 18:00 J -1201297.91 -1201297.75 -1201297.57 0.0259 0.0117

Jupiter -8001-11-03 15:35 J -1200634.97 -1200634.85 -1200634.72 0.0524 0.0015

8TH MILLENNIUM BCE

This is a list of transits of Mercury in the 8th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S

Venus -7999-10-05 18:57 J -1199933.79 -1199933.71 -1199933.62 0.3689 0.2147

Mars -7998-06-28 21:50 J -1199667.68 -1199667.59 -1199667.51 0.1689 0.1128

Moon -7997-09-13 20:52 J -1199224.74 -1199224.63 -1199224.53 0.2724 0.0243

Earth -7997-09-13 21:07 J -1199224.73 -1199224.62 -1199224.51 0.2718 0.0268 *

Mars	-7996-06-03 00:57 J	-1198962.56	-1198962.46	-1198962.36	0.1671	0.0790
Jupiter	-7995-12-24 08:38 J	-1198393.32	-1198393.14	-1198392.96	0.0502	0.0143
Moon	-7993-03-13 05:16 J	-1197948.42	-1197948.28	-1197948.14	0.2613	0.1320
Earth	-7993-03-13 07:12 J	-1197948.35	-1197948.20	-1197948.05	0.2615	0.1028 *
Venus	-7993-04-20 10:19 J	-1197910.17	-1197910.07	-1197909.97	0.3691	0.0532
Jupiter	-7989-08-22 20:24 J	-1196324.77	-1196324.65	-1196324.52	0.0524	0.0138
Mars	-7989-11-18 08:38 J	-1196237.17	-1196237.14	-1196237.11	0.1694	0.1613
Jupiter	-7989-11-20 00:57 J	-1196235.53	-1196235.46	-1196235.38	0.0523	0.0405
Saturn	-7988-02-13 19:26 J	-1196149.80	-1196149.69	-1196149.57	0.0304	0.0140
Saturn	-7988-05-13 08:09 J	-1196061.29	-1196061.16	-1196061.03	0.0304	0.0024
Saturn	-7988-08-09 20:38 J	-1195972.74	-1195972.64	-1195972.54	0.0303	0.0186
Venus	-7988-11-04 01:40 J	-1195886.52	-1195886.43	-1195886.33	0.3692	0.1116
Mars	-7987-10-24 12:14 J	-1195532.10	-1195531.99	-1195531.88	0.1675	0.0335
Earth	-7984-09-16 14:38 J	-1194473.98	-1194473.89	-1194473.81	0.2719	0.1578
Moon	-7984-09-16 14:52 J	-1194473.97	-1194473.88	-1194473.80	0.2725	0.1641 *
Jupiter	-7983-10-12 03:35 J	-1194083.53	-1194083.35	-1194083.16	0.0502	0.0059
Venus	-7982-05-20 17:02 J	-1193862.86	-1193862.79	-1193862.72	0.3694	0.2708
Moon	-7980-03-16 14:09 J	-1193197.04	-1193196.91	-1193196.78	0.2618	0.1607
Earth	-7980-03-16 15:50 J	-1193196.96	-1193196.84	-1193196.72	0.2615	0.1762 *
Mars	-7978-05-12 08:09 J	-1192410.32	-1192410.16	-1192410.01	0.1850	0.0847
Mars	-7977-03-15 23:31 J	-1192101.64	-1192101.52	-1192101.41	0.1679	0.0134
Jupiter	-7977-06-11 01:26 J	-1192014.55	-1192014.44	-1192014.33	0.0525	0.0264
Jupiter	-7977-09-08 06:00 J	-1191925.35	-1191925.25	-1191925.14	0.0523	0.0279
Moon	-7977-09-09 14:24 J	-1191923.96	-1191923.90	-1191923.84	0.2716	0.2225
Earth	-7977-09-09 14:52 J	-1191923.94	-1191923.88	-1191923.81	0.2718	0.2081 *
Uranus	-7976-08-25 14:52 J	-1191573.93	-1191573.88	-1191573.82	0.0137	0.0122
Uranus	-7976-11-21 18:00 J	-1191485.83	-1191485.75	-1191485.66	0.0137	0.0103
Uranus	-7975-02-17 21:07 J	-1191397.72	-1191397.62	-1191397.52	0.0137	0.0085
Uranus	-7975-05-17 00:14 J	-1191309.60	-1191309.49	-1191309.38	0.0137	0.0066
Uranus	-7975-08-13 03:21 J	-1191221.48	-1191221.36	-1191221.24	0.0137	0.0047

Uranus -7975-11-09 06:28 J -1191133.36 -1191133.23 -1191133.10 0.0137 0.0028

Uranus -7974-02-05 09:35 J -1191045.23 -1191045.10 -1191044.97 0.0138 0.0010

Uranus -7974-05-04 12:43 J -1190957.10 -1190956.97 -1190956.84 0.0138 0.0010

Uranus -7974-07-31 15:35 J -1190868.97 -1190868.85 -1190868.72 0.0138 0.0029

Venus -7974-09-05 17:45 J -1190832.90 -1190832.76 -1190832.61 0.3680 0.1527

Uranus -7974-10-27 18:43 J -1190780.84 -1190780.72 -1190780.59 0.0138 0.0048

Saturn -7974-12-03 23:31 J -1190743.59 -1190743.52 -1190743.43 0.0258 0.0233

Uranus -7973-01-23 21:50 J -1190692.70 -1190692.59 -1190692.47 0.0138 0.0067

Saturn -7973-03-01 20:09 J -1190654.84 -1190654.66 -1190654.48 0.0258 0.0083

Uranus -7973-04-21 00:57 J -1190604.56 -1190604.46 -1190604.36 0.0138 0.0086

Saturn -7973-05-29 16:47 J -1190565.98 -1190565.80 -1190565.61 0.0258 0.0069

Uranus -7973-07-18 03:50 J -1190516.41 -1190516.34 -1190516.24 0.0138 0.0106

Saturn -7973-08-26 13:40 J -1190477.02 -1190476.93 -1190476.83 0.0258 0.0222

Uranus -7973-10-14 06:57 J -1190428.25 -1190428.21 -1190428.14 0.0138 0.0125

Jupiter -7971-07-31 00:28 J -1189773.64 -1189773.48 -1189773.31 0.0502 0.0237

Mars -7969-10-01 00:57 J -1188980.62 -1188980.46 -1188980.29 0.1843 0.0468

Mars -7968-08-06 10:33 J -1188671.16 -1188671.06 -1188670.95 0.1684 0.0599

Mars -7966-07-12 13:40 J -1187966.00 -1187965.93 -1187965.86 0.1666 0.1290

Jupiter -7965-03-30 05:45 J -1187704.34 -1187704.26 -1187704.18 0.0525 0.0403

Jupiter -7965-06-27 10:33 J -1187615.18 -1187615.06 -1187614.94 0.0523 0.0143

Moon -7964-09-12 07:40 J -1187173.28 -1187173.18 -1187173.07 0.2722 0.0819

Earth -7964-09-12 08:24 J -1187173.25 -1187173.15 -1187173.05 0.2718 0.0780 *

Mars -7959-02-20 18:43 J -1185550.77 -1185550.72 -1185550.66 0.1837 0.1725

Jupiter -7959-05-18 21:35 J -1185463.70 -1185463.60 -1185463.49 0.0501 0.0412

Saturn -7959-07-03 20:09 J -1185417.75 -1185417.66 -1185417.56 0.0304 0.0204

Jupiter -7959-08-17 10:33 J -1185373.19 -1185373.06 -1185372.92 0.0503 0.0336

Saturn -7959-09-30 08:52 J -1185329.26 -1185329.13 -1185329.00 0.0304 0.0040

Saturn -7959-12-27 21:21 J -1185240.73 -1185240.61 -1185240.49 0.0304 0.0124

Mars -7959-12-27 21:35 J -1185240.69 -1185240.60 -1185240.51 0.1689 0.1075 *

Saturn -7958-03-26 09:50 J -1185152.13 -1185152.09 -1185152.05 0.0304 0.0286

Mars	-7957-12-02 00:57 J	-1184535.56	-1184535.46	-1184535.36	0.1670	0.0842
Jupiter	-7953-04-15 14:52 J	-1183305.00	-1183304.88	-1183304.75	0.0524	0.0019
Moon	-7951-09-15 01:40 J	-1182422.53	-1182422.43	-1182422.32	0.2725	0.0486
Earth	-7951-09-15 01:55 J	-1182422.53	-1182422.42	-1182422.32	0.2718	0.0531 *
Mars	-7949-05-19 08:38 J	-1181810.18	-1181810.14	-1181810.10	0.1694	0.1556
Venus	-7948-10-27 00:57 J	-1181284.51	-1181284.46	-1181284.41	0.3688	0.3206
Moon	-7947-03-14 12:14 J	-1181146.15	-1181145.99	-1181145.83	0.2614	0.0610
Earth	-7947-03-14 14:09 J	-1181146.08	-1181145.91	-1181145.75	0.2615	0.0498 *
Mars	-7947-04-24 12:14 J	-1181105.10	-1181104.99	-1181104.88	0.1675	0.0388
Jupiter	-7947-06-05 07:26 J	-1181063.37	-1181063.19	-1181063.01	0.0502	0.0154
Saturn	-7944-07-19 18:43 J	-1179922.89	-1179922.72	-1179922.56	0.0258	0.0131
Saturn	-7944-10-16 15:21 J	-1179834.05	-1179833.86	-1179833.67	0.0258	0.0020
Saturn	-7943-01-13 12:00 J	-1179745.14	-1179745.00	-1179744.85	0.0259	0.0172
Venus	-7942-05-12 16:19 J	-1179260.91	-1179260.82	-1179260.72	0.3689	0.1575
Jupiter	-7941-02-02 19:26 J	-1178994.81	-1178994.69	-1178994.57	0.0524	0.0131
Jupiter	-7941-05-02 00:00 J	-1178905.58	-1178905.50	-1178905.42	0.0523	0.0410
Mars	-7939-11-10 08:24 J	-1177983.29	-1177983.15	-1177983.00	0.1850	0.0938
Mars	-7938-09-14 23:31 J	-1177674.64	-1177674.52	-1177674.41	0.1679	0.0080
Earth	-7938-09-17 19:12 J	-1177671.77	-1177671.70	-1177671.62	0.2718	0.1841
Moon	-7938-09-17 19:40 J	-1177671.76	-1177671.68	-1177671.61	0.2725	0.1882 *
Venus	-7937-11-25 07:40 J	-1177237.28	-1177237.18	-1177237.07	0.3691	0.0184
Uranus	-7936-09-30 09:07 J	-1176928.19	-1176928.12	-1176928.03	0.0141	0.0128
Uranus	-7936-12-27 17:45 J	-1176839.90	-1176839.76	-1176839.62	0.0141	0.0096
Jupiter	-7935-03-24 03:50 J	-1176753.52	-1176753.34	-1176753.15	0.0502	0.0032
Uranus	-7935-03-26 02:09 J	-1176751.58	-1176751.41	-1176751.23	0.0141	0.0065
Uranus	-7935-06-22 10:33 J	-1176663.25	-1176663.06	-1176662.86	0.0141	0.0034
Uranus	-7935-09-18 19:12 J	-1176574.90	-1176574.70	-1176574.51	0.0141	0.0004
Uranus	-7935-12-16 03:35 J	-1176486.55	-1176486.35	-1176486.16	0.0141	0.0028
Uranus	-7934-03-14 11:45 J	-1176398.18	-1176398.01	-1176397.82	0.0141	0.0059
Moon	-7934-03-17 21:07 J	-1176394.72	-1176394.62	-1176394.52	0.2619	0.2078

Earth -7934-03-17 22:33 J -1176394.63 -1176394.56 -1176394.48 0.2615 0.2295 *

Uranus -7934-06-10 20:09 J -1176309.80 -1176309.66 -1176309.50 0.0140 0.0089

Uranus -7934-09-07 04:47 J -1176221.40 -1176221.30 -1176221.20 0.0140 0.0120

Venus -7931-06-10 23:02 J -1175213.63 -1175213.54 -1175213.45 0.3693 0.1672

Moon -7931-09-10 18:57 J -1175121.78 -1175121.71 -1175121.63 0.2718 0.1857

Earth -7931-09-10 19:40 J -1175121.76 -1175121.68 -1175121.60 0.2718 0.1821 *

Saturn -7930-11-20 21:21 J -1174685.67 -1174685.61 -1174685.55 0.0304 0.0261

Jupiter -7930-11-22 00:14 J -1174684.60 -1174684.49 -1174684.38 0.0525 0.0260

Saturn -7929-02-17 10:04 J -1174597.20 -1174597.08 -1174596.96 0.0304 0.0097

Jupiter -7929-02-19 05:02 J -1174595.40 -1174595.29 -1174595.19 0.0523 0.0284

Mars -7929-04-01 02:09 J -1174553.58 -1174553.41 -1174553.24 0.1844 0.0345

Saturn -7929-05-15 22:33 J -1174508.68 -1174508.56 -1174508.43 0.0304 0.0068

Saturn -7929-08-12 11:02 J -1174420.12 -1174420.04 -1174419.95 0.0303 0.0229

Mars -7928-02-04 10:33 J -1174244.17 -1174244.06 -1174243.95 0.1684 0.0541

Mars -7926-01-10 13:40 J -1173539.00 -1173538.93 -1173538.87 0.1666 0.1347

Venus -7926-12-25 14:24 J -1173189.94 -1173189.90 -1173189.86 0.3694 0.3273

Neptune -7925-05-01 20:24 J -1173061.71 -1173061.65 -1173061.55 0.0088 0.0080

Neptune -7925-07-29 00:00 J -1172973.60 -1172973.50 -1172973.36 0.0088 0.0070

Neptune -7925-10-25 03:50 J -1172885.47 -1172885.34 -1172885.18 0.0088 0.0060

Neptune -7924-01-21 07:26 J -1172797.34 -1172797.19 -1172797.01 0.0088 0.0050

Neptune -7924-04-19 11:02 J -1172709.20 -1172709.04 -1172708.85 0.0088 0.0040

Neptune -7924-07-16 14:52 J -1172621.06 -1172620.88 -1172620.69 0.0088 0.0030

Neptune -7924-10-12 18:28 J -1172532.91 -1172532.73 -1172532.53 0.0088 0.0020

Neptune -7923-01-08 22:19 J -1172444.76 -1172444.57 -1172444.37 0.0088 0.0009

Jupiter -7923-01-09 23:02 J -1172443.70 -1172443.54 -1172443.37 0.0501 0.0230

Neptune -7923-04-07 01:55 J -1172356.61 -1172356.42 -1172356.22 0.0088 0.0002

Neptune -7923-07-04 05:31 J -1172268.46 -1172268.27 -1172268.07 0.0088 0.0011

Venus -7923-09-26 09:21 J -1172184.23 -1172184.11 -1172184.00 0.3682 0.2451

Neptune -7923-09-30 09:21 J -1172180.30 -1172180.11 -1172179.92 0.0088 0.0021

Neptune -7923-12-27 12:57 J -1172092.14 -1172091.96 -1172091.77 0.0088 0.0031

Neptune -7922-03-25 16:33 J -1172003.98 -1172003.81 -1172003.63 0.0088 0.0041

Neptune -7922-06-21 20:24 J -1171915.81 -1171915.65 -1171915.49 0.0088 0.0051

Neptune -7922-09-17 23:31 J -1171827.64 -1171827.52 -1171827.36 0.0088 0.0062

Neptune -7922-12-15 03:21 J -1171739.45 -1171739.36 -1171739.23 0.0088 0.0072

Neptune -7921-03-12 06:57 J -1171651.26 -1171651.21 -1171651.12 0.0088 0.0082

Mars -7920-08-21 19:40 J -1171123.76 -1171123.68 -1171123.60 0.1837 0.1611

Mars -7919-06-27 21:35 J -1170813.69 -1170813.60 -1170813.51 0.1689 0.1019

Jupiter -7918-09-10 05:16 J -1170374.37 -1170374.28 -1170374.20 0.0525 0.0387

Moon -7918-09-13 12:43 J -1170371.08 -1170370.97 -1170370.87 0.2722 0.0664

Earth -7918-09-13 13:12 J -1170371.06 -1170370.95 -1170370.85 0.2718 0.0517 *

Jupiter -7918-12-08 09:50 J -1170285.20 -1170285.09 -1170284.97 0.0524 0.0160

Venus -7917-04-11 20:24 J -1170159.70 -1170159.65 -1170159.59 0.3679 0.3408

Mars -7917-06-02 00:57 J -1170108.56 -1170108.46 -1170108.37 0.1670 0.0897

Saturn -7915-12-06 17:16 J -1169190.91 -1169190.78 -1169190.64 0.0258 0.0179

Saturn -7914-03-05 13:55 J -1169102.11 -1169101.92 -1169101.73 0.0258 0.0028

Saturn -7914-06-02 10:33 J -1169013.23 -1169013.06 -1169012.89 0.0258 0.0123

Jupiter -7912-10-28 19:55 J -1168133.77 -1168133.67 -1168133.55 0.0501 0.0407

Jupiter -7911-01-27 09:07 J -1168043.26 -1168043.12 -1168042.99 0.0503 0.0341

Pluto -7911-09-19 03:07 J -1167808.40 -1167808.37 -1167808.31 0.0072 0.0068

Pluto -7911-12-16 04:19 J -1167720.39 -1167720.32 -1167720.23 0.0072 0.0059

Pluto -7910-03-14 05:31 J -1167632.37 -1167632.27 -1167632.16 0.0072 0.0051

Pluto -7910-06-10 06:28 J -1167544.34 -1167544.23 -1167544.10 0.0072 0.0042

Pluto -7910-09-06 07:40 J -1167456.31 -1167456.18 -1167456.04 0.0072 0.0033

Mars -7910-11-18 08:38 J -1167383.19 -1167383.14 -1167383.09 0.1694 0.1500

Pluto -7910-12-03 08:52 J -1167368.27 -1167368.13 -1167367.99 0.0072 0.0025

Pluto -7909-02-29 10:04 J -1167280.23 -1167280.08 -1167279.94 0.0073 0.0016

Pluto -7909-05-27 11:02 J -1167192.18 -1167192.04 -1167191.89 0.0073 0.0007

Pluto -7909-08-23 12:14 J -1167104.14 -1167103.99 -1167103.84 0.0073 0.0002

Pluto -7909-11-19 13:26 J -1167016.09 -1167015.94 -1167015.79 0.0073 0.0011

Pluto -7908-02-15 14:38 J -1166928.04 -1166927.89 -1166927.75 0.0073 0.0020

Pluto -7908-05-14 15:50 J -1166839.98 -1166839.84 -1166839.70 0.0073 0.0030

Pluto -7908-08-10 16:33 J -1166751.92 -1166751.81 -1166751.67 0.0073 0.0040

Mars -7908-10-23 12:14 J -1166678.10 -1166677.99 -1166677.88 0.1675 0.0445

Pluto -7908-11-06 18:00 J -1166663.86 -1166663.75 -1166663.63 0.0073 0.0048

Pluto -7907-02-02 19:12 J -1166575.78 -1166575.70 -1166575.60 0.0074 0.0058

Pluto -7907-05-01 20:09 J -1166487.70 -1166487.66 -1166487.58 0.0074 0.0068

Jupiter -7906-06-29 09:35 J -1166064.10 -1166064.10 -1166064.10 0.0525 0.0525

Jupiter -7906-09-26 14:24 J -1165975.02 -1165974.90 -1165974.77 0.0524 0.0025

Moon -7905-09-15 06:43 J -1165620.33 -1165620.22 -1165620.12 0.2726 0.0842

Earth -7905-09-15 06:43 J -1165620.33 -1165620.22 -1165620.12 0.2718 0.0792 *

Moon -7901-03-14 19:12 J -1164343.86 -1164343.70 -1164343.54 0.2615 0.0259

Earth -7901-03-14 20:52 J -1164343.79 -1164343.63 -1164343.46 0.2615 0.0072 *

Saturn -7900-07-06 10:33 J -1163865.17 -1163865.06 -1163864.96 0.0304 0.0163

Saturn -7900-10-02 23:02 J -1163776.66 -1163776.54 -1163776.41 0.0304 0.0009

Jupiter -7900-11-15 06:00 J -1163733.42 -1163733.25 -1163733.07 0.0502 0.0164

Saturn -7900-12-30 11:31 J -1163688.12 -1163688.02 -1163687.91 0.0304 0.0165

Mars -7899-05-11 09:35 J -1163556.23 -1163556.10 -1163555.96 0.1850 0.1074

Mars -7898-03-15 23:16 J -1163247.64 -1163247.53 -1163247.41 0.1679 0.0071

Jupiter -7894-07-15 18:57 J -1161664.83 -1161664.71 -1161664.59 0.0524 0.0113

Jupiter -7894-10-12 23:31 J -1161575.59 -1161575.52 -1161575.45 0.0523 0.0426

Uranus -7892-09-14 21:35 J -1160872.65 -1160872.60 -1160872.53 0.0137 0.0120

Earth -7892-09-18 00:00 J -1160869.56 -1160869.50 -1160869.43 0.2718 0.2100

Moon -7892-09-18 00:28 J -1160869.54 -1160869.48 -1160869.42 0.2724 0.2144 *

Uranus -7892-12-12 00:43 J -1160784.55 -1160784.47 -1160784.38 0.0137 0.0101

Uranus -7891-03-10 03:50 J -1160696.44 -1160696.34 -1160696.23 0.0137 0.0083

Venus -7891-06-02 22:19 J -1160611.64 -1160611.57 -1160611.50 0.3688 0.2629

Uranus -7891-06-06 06:57 J -1160608.32 -1160608.21 -1160608.09 0.0137 0.0064

Uranus -7891-09-02 10:04 J -1160520.20 -1160520.08 -1160519.96 0.0137 0.0045

Uranus -7891-11-29 13:12 J -1160432.08 -1160431.95 -1160431.83 0.0137 0.0027

Uranus -7890-02-25 16:19 J -1160343.95 -1160343.82 -1160343.69 0.0138 0.0009

Uranus -7890-05-24 19:12 J -1160255.83 -1160255.70 -1160255.57 0.0138 0.0012

Uranus -7890-08-20 22:19 J -1160167.69 -1160167.57 -1160167.44 0.0138 0.0030

Mars -7890-10-01 02:52 J -1160126.55 -1160126.38 -1160126.21 0.1843 0.0243

Uranus -7890-11-17 01:26 J -1160079.56 -1160079.44 -1160079.32 0.0138 0.0049

Uranus -7889-02-13 04:33 J -1159991.42 -1159991.31 -1159991.20 0.0138 0.0068

Uranus -7889-05-11 07:40 J -1159903.28 -1159903.18 -1159903.08 0.0138 0.0087

Mars -7889-08-05 10:33 J -1159817.17 -1159817.06 -1159816.95 0.1684 0.0488

Uranus -7889-08-07 10:47 J -1159815.13 -1159815.05 -1159814.97 0.0138 0.0106

Uranus -7889-11-03 13:55 J -1159726.97 -1159726.92 -1159726.87 0.0138 0.0125

Jupiter -7888-09-03 03:07 J -1159423.56 -1159423.37 -1159423.18 0.0502 0.0017

Mars -7887-07-11 13:26 J -1159112.00 -1159111.94 -1159111.88 0.1666 0.1398

Venus -7886-12-17 13:55 J -1158588.02 -1158587.92 -1158587.83 0.3690 0.1000

Saturn -7885-04-24 15:21 J -1158458.94 -1158458.86 -1158458.77 0.0258 0.0230

Saturn -7885-07-22 12:00 J -1158370.18 -1158370.00 -1158369.82 0.0258 0.0080

Moon -7885-09-10 23:45 J -1158319.59 -1158319.51 -1158319.43 0.2719 0.1712

Earth -7885-09-11 00:28 J -1158319.57 -1158319.48 -1158319.39 0.2718 0.1562 *

Saturn -7885-10-19 08:38 J -1158281.32 -1158281.14 -1158280.95 0.0258 0.0072

Saturn -7884-01-16 05:16 J -1158192.37 -1158192.28 -1158192.18 0.0259 0.0224

Jupiter -7882-05-03 23:16 J -1157354.64 -1157354.53 -1157354.42 0.0525 0.0252

Jupiter -7882-08-01 03:50 J -1157265.44 -1157265.34 -1157265.23 0.0523 0.0293

Mars -7880-02-19 20:24 J -1156696.75 -1156696.65 -1156696.56 0.1837 0.1506

Venus -7880-07-02 05:16 J -1156564.38 -1156564.28 -1156564.18 0.3691 0.0645

Mars -7880-12-26 21:35 J -1156386.69 -1156386.60 -1156386.50 0.1689 0.0959

Mars -7878-12-02 00:57 J -1155681.56 -1155681.46 -1155681.37 0.1670 0.0953

Jupiter -7876-06-21 23:45 J -1155113.68 -1155113.51 -1155113.34 0.0501 0.0198

Venus -7874-01-15 20:24 J -1154540.73 -1154540.65 -1154540.57 0.3693 0.2240

Moon -7872-09-13 17:31 J -1153568.88 -1153568.77 -1153568.67 0.2723 0.0268

Earth -7872-09-13 18:00 J -1153568.86 -1153568.75 -1153568.65 0.2718 0.0265 *

Saturn -7871-11-23 11:31 J -1153133.10 -1153133.02 -1153132.93 0.0304 0.0222

Saturn -7870-02-20 00:14 J -1153044.62 -1153044.49 -1153044.36 0.0304 0.0057

Jupiter	-7870-02-20 04:04 J	-1153044.41	-1153044.33	-1153044.24	0.0525	0.0380 *
Mars	-7870-05-19 08:38 J	-1152956.20	-1152956.14	-1152956.08	0.1694	0.1445
Saturn	-7870-05-19 12:43 J	-1152956.09	-1152955.97	-1152955.85	0.0304	0.0106 *
Jupiter	-7870-05-20 08:52 J	-1152955.25	-1152955.13	-1152955.01	0.0524	0.0166
Saturn	-7870-08-16 01:12 J	-1152867.50	-1152867.45	-1152867.39	0.0303	0.0268
Moon	-7868-03-12 17:31 J	-1152292.81	-1152292.77	-1152292.72	0.2612	0.2487
Earth	-7868-03-12 19:12 J	-1152292.78	-1152292.70	-1152292.61	0.2615	0.2217 *
Mars	-7868-04-23 12:14 J	-1152251.10	-1152250.99	-1152250.88	0.1674	0.0500
Venus	-7866-05-03 12:00 J	-1151511.16	-1151511.00	-1151510.85	0.3681	0.0612
Jupiter	-7864-04-09 18:57 J	-1150803.83	-1150803.71	-1150803.60	0.0501	0.0397
Jupiter	-7864-07-09 07:40 J	-1150713.31	-1150713.18	-1150713.04	0.0502	0.0350
Mars	-7860-11-09 10:33 J	-1149129.19	-1149129.06	-1149128.93	0.1850	0.1189
Mars	-7859-09-13 23:16 J	-1148820.64	-1148820.53	-1148820.41	0.1679	0.0041
Moon	-7859-09-16 11:31 J	-1148818.12	-1148818.02	-1148817.93	0.2726	0.1010
Earth	-7859-09-16 11:16 J	-1148818.12	-1148818.03	-1148817.93	0.2718	0.1058 *
Jupiter	-7859-12-09 09:07 J	-1148734.15	-1148734.12	-1148734.09	0.0525	0.0508
Jupiter	-7858-03-08 13:55 J	-1148645.04	-1148644.92	-1148644.79	0.0524	0.0042
Saturn	-7856-12-09 10:33 J	-1147638.23	-1147638.06	-1147637.89	0.0258	0.0128
Saturn	-7855-03-08 07:12 J	-1147549.39	-1147549.20	-1147549.01	0.0258	0.0023
Moon	-7855-03-16 01:55 J	-1147541.58	-1147541.42	-1147541.25	0.2617	0.0493
Earth	-7855-03-16 03:50 J	-1147541.50	-1147541.34	-1147541.18	0.2615	0.0579 *
Saturn	-7855-06-05 03:50 J	-1147460.48	-1147460.34	-1147460.20	0.0258	0.0175
Jupiter	-7852-04-27 04:33 J	-1146403.49	-1146403.31	-1146403.13	0.0502	0.0170
Moon	-7852-09-09 11:16 J	-1146268.04	-1146268.03	-1146268.02	0.2714	0.2682
Earth	-7852-09-09 11:45 J	-1146268.03	-1146268.01	-1146267.98	0.2718	0.2603 *
Uranus	-7852-10-20 14:24 J	-1146226.97	-1146226.90	-1146226.79	0.0141	0.0127
Uranus	-7851-01-16 23:02 J	-1146138.67	-1146138.54	-1146138.38	0.0141	0.0095
Uranus	-7851-04-15 07:40 J	-1146050.35	-1146050.18	-1146050.00	0.0141	0.0064
Uranus	-7851-07-12 16:04 J	-1145962.01	-1145961.83	-1145961.63	0.0141	0.0033
Uranus	-7851-10-09 00:43 J	-1145873.67	-1145873.47	-1145873.27	0.0141	0.0002

Uranus -7850-01-05 09:07 J -1145785.31 -1145785.12 -1145784.93 0.0141 0.0029

Mars -7850-04-01 03:50 J -1145699.51 -1145699.34 -1145699.17 0.1844 0.0114

Uranus -7850-04-03 17:16 J -1145696.95 -1145696.78 -1145696.59 0.0141 0.0061

Uranus -7850-07-01 01:55 J -1145608.57 -1145608.42 -1145608.27 0.0140 0.0091

Uranus -7850-09-27 10:04 J -1145520.17 -1145520.08 -1145519.97 0.0140 0.0122

Mars -7849-02-04 10:33 J -1145390.17 -1145390.06 -1145389.95 0.1684 0.0431

Mars -7847-01-09 13:26 J -1144684.99 -1144684.94 -1144684.88 0.1666 0.1452

Jupiter -7847-12-25 18:28 J -1144334.85 -1144334.73 -1144334.61 0.0524 0.0095

Jupiter -7846-03-24 23:02 J -1144245.60 -1144245.54 -1144245.48 0.0522 0.0443

Earth -7846-09-19 04:47 J -1144067.35 -1144067.30 -1144067.25 0.2718 0.2360

Moon -7846-09-19 05:16 J -1144067.32 -1144067.28 -1144067.24 0.2722 0.2480 *

Neptune -7844-08-17 20:38 J -1143368.67 -1143368.64 -1143368.61 0.0089 0.0087

Neptune -7844-11-13 21:50 J -1143280.64 -1143280.59 -1143280.52 0.0089 0.0080

Neptune -7843-02-09 23:16 J -1143192.60 -1143192.53 -1143192.45 0.0089 0.0072

Neptune -7843-05-09 00:28 J -1143104.56 -1143104.48 -1143104.38 0.0089 0.0066

Neptune -7843-08-05 01:40 J -1143016.52 -1143016.43 -1143016.32 0.0089 0.0059

Neptune -7843-11-01 03:07 J -1142928.47 -1142928.37 -1142928.25 0.0089 0.0051

Neptune -7842-01-28 04:19 J -1142840.42 -1142840.32 -1142840.19 0.0089 0.0045

Neptune -7842-04-26 05:45 J -1142752.37 -1142752.26 -1142752.13 0.0089 0.0037

Neptune -7842-07-23 07:12 J -1142664.32 -1142664.20 -1142664.07 0.0089 0.0030

Neptune -7842-10-19 08:38 J -1142576.27 -1142576.14 -1142576.02 0.0089 0.0023

Neptune -7841-01-15 09:50 J -1142488.22 -1142488.09 -1142487.96 0.0089 0.0016

Saturn -7841-04-11 11:31 J -1142401.05 -1142401.02 -1142400.98 0.0304 0.0293

Neptune -7841-04-12 11:02 J -1142400.17 -1142400.04 -1142399.90 0.0089 0.0009

Saturn -7841-07-09 00:28 J -1142312.60 -1142312.48 -1142312.37 0.0304 0.0128

Neptune -7841-07-09 12:28 J -1142312.11 -1142311.98 -1142311.85 0.0089 0.0002

Mars -7841-08-20 21:21 J -1142269.72 -1142269.61 -1142269.50 0.1837 0.1383

Saturn -7841-10-05 12:57 J -1142224.09 -1142223.96 -1142223.83 0.0304 0.0037

Neptune -7841-10-05 13:40 J -1142224.06 -1142223.93 -1142223.80 0.0089 0.0006 *

Neptune -7840-01-01 15:07 J -1142136.00 -1142135.87 -1142135.74 0.0089 0.0013

Saturn -7840-01-02 01:26 J -1142135.53 -1142135.44 -1142135.34 0.0304 0.0200

Jupiter -7840-02-13 01:40 J -1142093.61 -1142093.43 -1142093.24 0.0502 0.0013

Neptune -7840-03-30 16:19 J -1142047.95 -1142047.82 -1142047.69 0.0089 0.0020

Venus -7840-06-24 04:19 J -1141962.32 -1141962.32 -1141962.32 0.3687 0.3686

Neptune -7840-06-26 17:45 J -1141959.89 -1141959.76 -1141959.64 0.0089 0.0027

Mars -7840-06-26 21:35 J -1141959.70 -1141959.60 -1141959.51 0.1689 0.0908 *

Neptune -7840-09-22 18:57 J -1141871.83 -1141871.71 -1141871.59 0.0089 0.0034

Neptune -7840-12-19 19:55 J -1141783.77 -1141783.67 -1141783.54 0.0089 0.0042

Neptune -7839-03-17 21:35 J -1141695.71 -1141695.60 -1141695.49 0.0089 0.0048

Neptune -7839-06-13 22:47 J -1141607.65 -1141607.55 -1141607.45 0.0089 0.0055

Neptune -7839-09-09 23:45 J -1141519.59 -1141519.51 -1141519.40 0.0089 0.0063

Moon -7839-09-12 04:33 J -1141517.40 -1141517.31 -1141517.22 0.2719 0.1355

Earth -7839-09-12 05:16 J -1141517.37 -1141517.28 -1141517.19 0.2718 0.1304 *

Neptune -7839-12-07 01:26 J -1141431.52 -1141431.44 -1141431.36 0.0089 0.0069

Neptune -7838-03-05 02:24 J -1141343.45 -1141343.40 -1141343.32 0.0089 0.0076

Neptune -7838-06-01 04:04 J -1141255.38 -1141255.33 -1141255.29 0.0089 0.0083

Mars -7838-06-02 00:57 J -1141254.55 -1141254.46 -1141254.37 0.1670 0.1006

Jupiter -7835-10-13 22:47 J -1140024.66 -1140024.55 -1140024.43 0.0524 0.0233

Venus -7834-01-07 19:55 J -1139938.76 -1139938.67 -1139938.59 0.3689 0.2048

Jupiter -7834-01-11 03:35 J -1139935.45 -1139935.35 -1139935.25 0.0523 0.0310

Mars -7831-11-17 08:38 J -1138529.20 -1138529.14 -1138529.08 0.1694 0.1388

Venus -7829-07-23 11:16 J -1137915.13 -1137915.03 -1137914.93 0.3690 0.0422

Mars -7829-10-22 12:00 J -1137824.11 -1137824.00 -1137823.89 0.1675 0.0549

Jupiter -7829-12-01 22:47 J -1137783.72 -1137783.55 -1137783.37 0.0501 0.0184

Saturn -7826-04-28 08:24 J -1136906.28 -1136906.15 -1136906.01 0.0258 0.0180

Saturn -7826-07-26 05:02 J -1136817.48 -1136817.29 -1136817.10 0.0258 0.0030

Moon -7826-09-14 22:19 J -1136766.67 -1136766.57 -1136766.46 0.2724 0.0124

Earth -7826-09-14 22:47 J -1136766.66 -1136766.55 -1136766.45 0.2718 0.0090 *

Saturn -7826-10-23 01:40 J -1136728.60 -1136728.43 -1136728.26 0.0258 0.0122

Pluto -7826-11-20 03:35 J -1136700.41 -1136700.35 -1136700.26 0.0072 0.0064

Pluto -7825-02-16 05:16 J -1136612.38 -1136612.28 -1136612.15 0.0072 0.0054

Pluto -7825-05-14 06:57 J -1136524.33 -1136524.21 -1136524.06 0.0072 0.0043

Pluto -7825-08-10 08:38 J -1136436.28 -1136436.14 -1136435.98 0.0072 0.0033

Pluto -7825-11-06 10:19 J -1136348.22 -1136348.07 -1136347.91 0.0072 0.0023

Pluto -7824-02-02 11:45 J -1136260.16 -1136260.01 -1136259.83 0.0072 0.0014

Pluto -7824-05-01 13:26 J -1136172.10 -1136171.94 -1136171.77 0.0072 0.0004

Pluto -7824-07-28 15:07 J -1136084.04 -1136083.87 -1136083.70 0.0072 0.0006

Pluto -7824-10-24 16:33 J -1135995.97 -1135995.81 -1135995.64 0.0071 0.0015

Pluto -7823-01-20 18:14 J -1135907.90 -1135907.74 -1135907.59 0.0071 0.0025

Venus -7823-02-06 02:38 J -1135891.49 -1135891.39 -1135891.30 0.3692 0.1205

Pluto -7823-04-18 19:26 J -1135819.83 -1135819.69 -1135819.53 0.0071 0.0034

Pluto -7823-07-15 21:07 J -1135731.75 -1135731.62 -1135731.49 0.0071 0.0043

Jupiter -7823-08-02 03:07 J -1135714.45 -1135714.37 -1135714.28 0.0525 0.0371

Pluto -7823-10-11 22:19 J -1135643.67 -1135643.57 -1135643.45 0.0071 0.0053

Jupiter -7823-10-30 07:55 J -1135625.28 -1135625.17 -1135625.05 0.0524 0.0176

Pluto -7822-01-07 23:45 J -1135555.57 -1135555.51 -1135555.41 0.0071 0.0062

Moon -7822-03-14 00:28 J -1135490.60 -1135490.48 -1135490.36 0.2613 0.1800

Earth -7822-03-14 02:09 J -1135490.54 -1135490.41 -1135490.28 0.2615 0.1677 *

Pluto -7822-04-06 01:40 J -1135467.43 -1135467.43 -1135467.43 0.0071 0.0071

Mars -7820-05-10 11:16 J -1134702.15 -1134702.03 -1134701.91 0.1850 0.1296

Mars -7819-03-14 23:16 J -1134393.64 -1134393.53 -1134393.41 0.1679 0.0114

Venus -7818-08-22 18:00 J -1133867.82 -1133867.75 -1133867.69 0.3693 0.2807

Jupiter -7817-09-19 19:26 J -1133473.81 -1133473.69 -1133473.56 0.0501 0.0364

Jupiter -7817-12-19 08:24 J -1133383.27 -1133383.15 -1133383.03 0.0502 0.0383

Moon -7813-09-16 16:19 J -1132015.92 -1132015.82 -1132015.73 0.2725 0.1389

Earth -7813-09-16 16:04 J -1132015.92 -1132015.83 -1132015.73 0.2718 0.1313 *

Saturn -7812-11-26 01:26 J -1131580.54 -1131580.44 -1131580.34 0.0304 0.0186

Saturn -7811-02-22 14:09 J -1131492.04 -1131491.91 -1131491.78 0.0304 0.0023

Jupiter -7811-05-21 07:55 J -1131404.20 -1131404.17 -1131404.13 0.0525 0.0501

Saturn -7811-05-22 02:38 J -1131403.50 -1131403.39 -1131403.28 0.0304 0.0141

Jupiter -7811-08-18 12:57 J -1131315.08 -1131314.96 -1131314.83 0.0524 0.0049

Saturn -7811-08-18 15:07 J -1131314.87 -1131314.87 -1131314.86 0.0303 0.0302 *

Mars -7811-09-30 04:47 J -1131272.47 -1131272.30 -1131272.13 0.1844 0.0029

Mars -7810-08-05 10:33 J -1130963.17 -1130963.06 -1130962.95 0.1684 0.0379

Venus -7810-12-08 14:24 J -1130838.06 -1130837.90 -1130837.75 0.3680 0.1208

Moon -7809-03-16 09:07 J -1130739.28 -1130739.12 -1130738.97 0.2617 0.0822

Earth -7809-03-16 10:47 J -1130739.20 -1130739.05 -1130738.90 0.2615 0.1130 *

Uranus -7808-07-09 01:26 J -1130259.45 -1130259.44 -1130259.42 0.0137 0.0136

Mars -7808-07-10 13:26 J -1130257.98 -1130257.94 -1130257.89 0.1666 0.1508

Uranus -7808-10-05 04:33 J -1130171.37 -1130171.31 -1130171.24 0.0137 0.0117

Uranus -7807-01-01 07:40 J -1130083.27 -1130083.18 -1130083.09 0.0137 0.0098

Uranus -7807-03-30 10:33 J -1129995.15 -1129995.06 -1129994.94 0.0137 0.0081

Uranus -7807-06-26 13:55 J -1129907.04 -1129906.92 -1129906.81 0.0137 0.0061

Uranus -7807-09-22 16:47 J -1129818.92 -1129818.80 -1129818.67 0.0137 0.0043

Uranus -7807-12-19 19:55 J -1129730.79 -1129730.67 -1129730.54 0.0137 0.0024

Uranus -7806-03-17 23:02 J -1129642.67 -1129642.54 -1129642.41 0.0137 0.0005

Uranus -7806-06-14 02:09 J -1129554.54 -1129554.41 -1129554.28 0.0138 0.0014

Uranus -7806-09-10 05:16 J -1129466.41 -1129466.28 -1129466.15 0.0138 0.0033

Moon -7806-09-10 15:50 J -1129465.88 -1129465.84 -1129465.79 0.2716 0.2447

Earth -7806-09-10 16:33 J -1129465.86 -1129465.81 -1129465.76 0.2718 0.2343 *

Uranus -7806-12-07 08:09 J -1129378.27 -1129378.16 -1129378.03 0.0138 0.0052

Uranus -7805-03-04 11:16 J -1129290.13 -1129290.03 -1129289.91 0.0138 0.0071

Uranus -7805-05-31 14:24 J -1129201.99 -1129201.90 -1129201.80 0.0138 0.0090

Uranus -7805-08-27 17:31 J -1129113.84 -1129113.77 -1129113.69 0.0138 0.0109

Jupiter -7805-10-07 03:21 J -1129073.53 -1129073.36 -1129073.18 0.0502 0.0180

Uranus -7805-11-23 20:38 J -1129025.68 -1129025.64 -1129025.59 0.0138 0.0128

Mars -7801-02-19 22:19 J -1127842.69 -1127842.57 -1127842.45 0.1837 0.1267

Mars -7801-12-25 21:35 J -1127532.70 -1127532.60 -1127532.50 0.1689 0.0851

Earth -7800-09-19 09:35 J -1127265.12 -1127265.10 -1127265.08 0.2718 0.2626

Moon -7800-09-19 10:19 J -1127265.09 -1127265.07 -1127265.06 0.2722 0.2664 *

Jupiter -7799-06-06 18:00 J -1127004.87 -1127004.75 -1127004.63 0.0524 0.0078

Jupiter -7799-09-03 22:33 J -1126915.62 -1126915.56 -1126915.50 0.0523 0.0462

Mars -7799-12-01 00:43 J -1126827.56 -1126827.47 -1126827.38 0.1670 0.1057

Saturn -7797-09-14 06:57 J -1126174.29 -1126174.21 -1126174.11 0.0258 0.0228

Saturn -7797-12-12 03:35 J -1126085.53 -1126085.35 -1126085.17 0.0258 0.0078

Saturn -7796-03-11 00:14 J -1125996.67 -1125996.49 -1125996.30 0.0258 0.0073

Saturn -7796-06-07 20:52 J -1125907.72 -1125907.63 -1125907.53 0.0258 0.0225

Jupiter -7793-07-26 00:14 J -1124763.68 -1124763.49 -1124763.30 0.0502 0.0005

Moon -7793-09-12 09:21 J -1124715.20 -1124715.11 -1124715.01 0.2720 0.1165

Earth -7793-09-12 10:04 J -1124715.18 -1124715.08 -1124714.98 0.2718 0.1041 *

Mars -7791-05-18 08:38 J -1124102.21 -1124102.14 -1124102.07 0.1694 0.1334

Mars -7789-04-22 12:00 J -1123397.10 -1123397.00 -1123396.89 0.1674 0.0606

Jupiter -7787-03-25 22:33 J -1122694.68 -1122694.56 -1122694.45 0.0524 0.0214

Jupiter -7787-06-23 03:07 J -1122605.47 -1122605.37 -1122605.27 0.0523 0.0328

Venus -7783-01-29 01:55 J -1121289.48 -1121289.42 -1121289.37 0.3687 0.3099

Saturn -7782-04-15 01:40 J -1120848.50 -1120848.43 -1120848.36 0.0304 0.0255

Saturn -7782-07-12 14:24 J -1120760.02 -1120759.90 -1120759.78 0.0304 0.0090

Saturn -7782-10-09 03:07 J -1120671.50 -1120671.37 -1120671.25 0.0304 0.0075

Saturn -7781-01-05 15:35 J -1120582.93 -1120582.85 -1120582.77 0.0304 0.0236

Jupiter -7781-05-13 21:35 J -1120453.78 -1120453.60 -1120453.43 0.0502 0.0175

Mars -7781-11-08 12:28 J -1120275.09 -1120274.98 -1120274.88 0.1850 0.1421

Mars -7780-09-12 23:16 J -1119966.64 -1119966.53 -1119966.42 0.1679 0.0144

Moon -7780-09-15 03:07 J -1119964.47 -1119964.37 -1119964.26 0.2725 0.0289

Earth -7780-09-15 03:21 J -1119964.46 -1119964.36 -1119964.25 0.2718 0.0287 *

Venus -7778-08-14 17:16 J -1119265.87 -1119265.78 -1119265.69 0.3689 0.1463

Moon -7776-03-14 07:26 J -1118688.34 -1118688.19 -1118688.05 0.2614 0.1354

Earth -7776-03-14 09:07 J -1118688.27 -1118688.12 -1118687.97 0.2615 0.1131 *

Jupiter -7775-01-12 02:52 J -1118384.47 -1118384.38 -1118384.28 0.0525 0.0351

Jupiter -7775-04-11 07:40 J -1118295.30 -1118295.18 -1118295.06 0.0523 0.0194

Venus -7772-02-27 08:38 J -1117242.24 -1117242.14 -1117242.04 0.3691 0.0163

Mars -7771-03-31 05:31 J -1116845.44 -1116845.27 -1116845.10 0.1844 0.0117

Mars -7770-02-03 10:33 J -1116536.18 -1116536.06 -1116535.95 0.1684 0.0327

Jupiter -7769-03-01 18:43 J -1116143.85 -1116143.72 -1116143.59 0.0501 0.0351

Jupiter -7769-05-31 07:26 J -1116053.30 -1116053.19 -1116053.07 0.0503 0.0397

Mars -7768-01-08 13:26 J -1115830.98 -1115830.94 -1115830.90 0.1666 0.1557

Uranus -7768-11-09 20:09 J -1115525.73 -1115525.66 -1115525.55 0.0141 0.0125

Uranus -7767-02-06 04:47 J -1115437.43 -1115437.30 -1115437.14 0.0141 0.0093

Saturn -7767-05-01 01:26 J -1115353.60 -1115353.44 -1115353.27 0.0258 0.0131

Uranus -7767-05-05 13:12 J -1115349.11 -1115348.95 -1115348.76 0.0141 0.0062

Saturn -7767-07-28 22:04 J -1115264.77 -1115264.58 -1115264.38 0.0258 0.0021

Uranus -7767-08-01 21:50 J -1115260.78 -1115260.59 -1115260.39 0.0141 0.0031

Venus -7767-09-13 00:00 J -1115218.59 -1115218.50 -1115218.41 0.3692 0.1771

Earth -7767-09-17 20:52 J -1115213.72 -1115213.63 -1115213.54 0.2718 0.1573

Moon -7767-09-17 21:07 J -1115213.71 -1115213.62 -1115213.53 0.2725 0.1554 *

Saturn -7767-10-25 18:43 J -1115175.86 -1115175.72 -1115175.57 0.0258 0.0172

Uranus -7767-10-29 06:28 J -1115172.43 -1115172.23 -1115172.03 0.0141 0.0001

Uranus -7766-01-25 14:38 J -1115084.07 -1115083.89 -1115083.69 0.0141 0.0032

Uranus -7766-04-23 23:02 J -1114995.71 -1114995.54 -1114995.35 0.0141 0.0062

Uranus -7766-07-21 07:40 J -1114907.33 -1114907.18 -1114907.03 0.0140 0.0093

Uranus -7766-10-17 15:50 J -1114818.92 -1114818.84 -1114818.74 0.0140 0.0123

Jupiter -7764-10-31 07:12 J -1114074.24 -1114074.20 -1114074.16 0.0525 0.0491

Jupiter -7763-01-28 12:00 J -1113985.12 -1113985.00 -1113984.87 0.0524 0.0058

Moon -7763-03-17 15:50 J -1113936.97 -1113936.84 -1113936.71 0.2617 0.1560

Earth -7763-03-17 17:45 J -1113936.89 -1113936.76 -1113936.64 0.2615 0.1664 *

Mars -7762-08-20 22:47 J -1113415.68 -1113415.55 -1113415.41 0.1837 0.1167

Venus -7761-03-28 15:21 J -1113194.90 -1113194.86 -1113194.82 0.3694 0.3368

Mars -7761-06-25 21:35 J -1113105.70 -1113105.60 -1113105.50 0.1689 0.0794

Neptune -7761-10-30 16:19 J -1112978.87 -1112978.82 -1112978.76 0.0088 0.0084

Neptune -7760-01-26 19:55 J -1112890.77 -1112890.67 -1112890.56 0.0088 0.0074

Neptune -7760-04-24 23:31 J -1112802.65 -1112802.52 -1112802.38 0.0088 0.0064

Neptune -7760-07-22 03:21 J -1112714.52 -1112714.36 -1112714.21 0.0088 0.0054

Moon -7760-09-10 20:38 J -1112663.70 -1112663.64 -1112663.57 0.2716 0.2147

Earth -7760-09-10 21:21 J -1112663.68 -1112663.61 -1112663.54 0.2718 0.2083 *

Neptune -7760-10-18 06:57 J -1112626.38 -1112626.21 -1112626.04 0.0088 0.0044

Neptune -7759-01-14 10:33 J -1112538.24 -1112538.06 -1112537.88 0.0088 0.0034

Neptune -7759-04-12 14:09 J -1112450.10 -1112449.91 -1112449.72 0.0088 0.0024

Mars -7759-06-01 00:43 J -1112400.55 -1112400.47 -1112400.38 0.1670 0.1113

Neptune -7759-07-09 17:45 J -1112361.95 -1112361.76 -1112361.56 0.0088 0.0014

Neptune -7759-10-05 21:21 J -1112273.80 -1112273.61 -1112273.41 0.0088 0.0005

Venus -7759-12-29 06:00 J -1112189.36 -1112189.25 -1112189.15 0.3682 0.2709

Neptune -7758-01-02 01:12 J -1112185.65 -1112185.45 -1112185.25 0.0088 0.0006

Neptune -7758-03-31 04:47 J -1112097.49 -1112097.30 -1112097.11 0.0088 0.0016

Neptune -7758-06-27 08:24 J -1112009.33 -1112009.15 -1112008.96 0.0088 0.0026

Neptune -7758-09-23 12:14 J -1111921.17 -1111920.99 -1111920.81 0.0088 0.0036

Neptune -7758-12-20 15:21 J -1111833.01 -1111832.86 -1111832.67 0.0088 0.0047

Neptune -7757-03-17 19:12 J -1111744.84 -1111744.70 -1111744.54 0.0088 0.0057

Jupiter -7757-03-19 04:04 J -1111743.50 -1111743.33 -1111743.16 0.0502 0.0213

Neptune -7757-06-13 22:47 J -1111656.66 -1111656.55 -1111656.41 0.0088 0.0067

Neptune -7757-09-10 02:38 J -1111568.47 -1111568.39 -1111568.29 0.0088 0.0077

Neptune -7757-12-07 06:14 J -1111480.25 -1111480.24 -1111480.20 0.0088 0.0087

Venus -7753-07-14 17:02 J -1110164.87 -1110164.79 -1110164.70 0.3680 0.3084

Saturn -7753-11-28 15:21 J -1110027.97 -1110027.86 -1110027.74 0.0304 0.0149

Saturn -7752-02-25 04:04 J -1109939.46 -1109939.33 -1109939.20 0.0304 0.0016

Saturn -7752-05-24 16:33 J -1109850.91 -1109850.81 -1109850.70 0.0303 0.0178

Mars -7752-11-16 08:38 J -1109675.22 -1109675.14 -1109675.07 0.1694 0.1279

Jupiter -7752-11-16 17:02 J -1109674.92 -1109674.79 -1109674.67 0.0524 0.0071

Jupiter -7751-02-13 21:35 J -1109585.65 -1109585.60 -1109585.55 0.0523 0.0469

Mars -7750-10-22 12:00 J -1108970.10 -1108970.00 -1108969.89 0.1674 0.0661

Moon -7747-09-13 14:09 J -1107913.01 -1107912.91 -1107912.81 0.2721 0.0856

Earth -7747-09-13 14:52 J -1107912.98 -1107912.88 -1107912.78 0.2718 0.0781 *

Jupiter	-7745-01-05 23:02 J	-1107433.73	-1107433.54	-1107433.35	0.0502	0.0011
Mars	-7741-05-09 13:26 J	-1105848.03	-1105847.94	-1105847.85	0.1851	0.1548
Mars	-7740-03-13 23:16 J	-1105539.64	-1105539.53	-1105539.42	0.1679	0.0200
Jupiter	-7740-09-04 21:50 J	-1105364.70	-1105364.59	-1105364.47	0.0525	0.0199
Jupiter	-7740-12-03 02:38 J	-1105275.49	-1105275.39	-1105275.30	0.0523	0.0344
Saturn	-7738-09-18 00:14 J	-1104621.62	-1104621.49	-1104621.35	0.0258	0.0177
Saturn	-7738-12-15 20:52 J	-1104532.82	-1104532.63	-1104532.44	0.0258	0.0026
Saturn	-7737-03-13 17:31 J	-1104443.94	-1104443.77	-1104443.60	0.0258	0.0125
Moon	-7734-09-16 07:55 J	-1103162.27	-1103162.17	-1103162.06	0.2725	0.0464
Earth	-7734-09-16 08:09 J	-1103162.26	-1103162.16	-1103162.05	0.2718	0.0533 *
Jupiter	-7734-10-24 19:55 J	-1103123.85	-1103123.67	-1103123.49	0.0501	0.0170
Mars	-7732-09-29 06:28 J	-1102418.40	-1102418.23	-1102418.06	0.1844	0.0232
Mars	-7731-08-04 10:19 J	-1102109.18	-1102109.07	-1102108.95	0.1684	0.0271
Moon	-7730-03-15 14:09 J	-1101886.07	-1101885.91	-1101885.76	0.2615	0.0825
Earth	-7730-03-15 16:04 J	-1101885.99	-1101885.83	-1101885.67	0.2615	0.0595 *
Mars	-7729-07-09 13:26 J	-1101403.97	-1101403.94	-1101403.92	0.1666	0.1609
Jupiter	-7728-06-24 02:24 J	-1101054.50	-1101054.40	-1101054.30	0.0525	0.0335
Jupiter	-7728-09-21 07:12 J	-1100965.32	-1100965.20	-1100965.09	0.0523	0.0210
Venus	-7727-09-04 23:16 J	-1100616.60	-1100616.53	-1100616.46	0.3688	0.2510
Uranus	-7724-07-29 08:24 J	-1099558.17	-1099558.15	-1099558.11	0.0137	0.0133
Uranus	-7724-10-25 11:31 J	-1099470.09	-1099470.02	-1099469.95	0.0137	0.0114
Uranus	-7723-01-21 14:38 J	-1099381.98	-1099381.89	-1099381.80	0.0137	0.0095
Saturn	-7723-04-17 15:50 J	-1099295.93	-1099295.84	-1099295.75	0.0304	0.0215
Uranus	-7723-04-19 17:31 J	-1099293.87	-1099293.77	-1099293.65	0.0137	0.0077
Saturn	-7723-07-15 04:33 J	-1099207.44	-1099207.31	-1099207.18	0.0304	0.0050
Uranus	-7723-07-16 20:52 J	-1099205.75	-1099205.63	-1099205.51	0.0137	0.0058
Saturn	-7723-10-11 17:16 J	-1099118.90	-1099118.78	-1099118.66	0.0304	0.0113
Uranus	-7723-10-13 00:00 J	-1099117.63	-1099117.50	-1099117.38	0.0137	0.0040
Saturn	-7722-01-08 05:31 J	-1099030.32	-1099030.27	-1099030.21	0.0304	0.0275
Uranus	-7722-01-09 02:52 J	-1099029.50	-1099029.38	-1099029.25	0.0137	0.0021

Mars -7722-02-19 00:00 J -1098988.64 -1098988.50 -1098988.36 0.1837 0.1039

Uranus -7722-04-07 06:00 J -1098941.38 -1098941.25 -1098941.12 0.0138 0.0003

Uranus -7722-07-04 09:07 J -1098853.25 -1098853.12 -1098852.99 0.0138 0.0017

Jupiter -7722-08-12 17:02 J -1098813.92 -1098813.79 -1098813.65 0.0501 0.0345

Uranus -7722-09-30 12:14 J -1098765.12 -1098764.99 -1098764.87 0.0138 0.0036

Jupiter -7722-11-11 06:00 J -1098723.36 -1098723.25 -1098723.14 0.0503 0.0404

Mars -7722-12-25 21:35 J -1098678.71 -1098678.60 -1098678.50 0.1689 0.0743

Uranus -7722-12-27 15:21 J -1098676.98 -1098676.86 -1098676.74 0.0138 0.0055

Venus -7721-03-20 14:38 J -1098592.99 -1098592.89 -1098592.79 0.3689 0.0885

Uranus -7721-03-24 18:14 J -1098588.84 -1098588.74 -1098588.62 0.0138 0.0074

Uranus -7721-06-20 21:21 J -1098500.70 -1098500.61 -1098500.51 0.0138 0.0093

Uranus -7721-09-17 00:28 J -1098412.55 -1098412.48 -1098412.40 0.0138 0.0112

Earth -7721-09-18 01:40 J -1098411.51 -1098411.43 -1098411.35 0.2719 0.1836

Moon -7721-09-18 01:55 J -1098411.49 -1098411.42 -1098411.34 0.2724 0.1948 *

Uranus -7721-12-14 03:35 J -1098324.38 -1098324.35 -1098324.30 0.0138 0.0131

Mars -7720-11-30 00:43 J -1097973.55 -1097973.47 -1097973.39 0.1670 0.1165

Moon -7717-03-17 23:02 J -1097134.64 -1097134.54 -1097134.43 0.2618 0.1960

Earth -7717-03-18 00:43 J -1097134.56 -1097134.47 -1097134.39 0.2615 0.2213 *

Jupiter -7716-04-12 06:43 J -1096744.27 -1096744.22 -1096744.16 0.0525 0.0472

Jupiter -7716-07-10 11:31 J -1096655.14 -1096655.02 -1096654.89 0.0524 0.0077

Venus -7716-10-04 06:00 J -1096569.35 -1096569.25 -1096569.15 0.3691 0.0739

Moon -7714-09-12 01:26 J -1095861.51 -1095861.44 -1095861.37 0.2716 0.1954

Earth -7714-09-12 02:09 J -1095861.49 -1095861.41 -1095861.33 0.2718 0.1823 *

Mars -7712-05-17 08:38 J -1095248.22 -1095248.14 -1095248.07 0.1694 0.1220

Venus -7710-04-19 21:21 J -1094545.69 -1094545.61 -1094545.53 0.3693 0.2334

Mars -7710-04-22 12:00 J -1094543.10 -1094543.00 -1094542.90 0.1674 0.0713

Jupiter -7710-08-30 02:52 J -1094413.55 -1094413.38 -1094413.21 0.0502 0.0224

Saturn -7708-02-03 22:19 J -1093889.65 -1093889.57 -1093889.48 0.0258 0.0228

Saturn -7708-05-03 18:57 J -1093800.89 -1093800.71 -1093800.53 0.0258 0.0078

Saturn -7708-07-31 15:35 J -1093712.04 -1093711.85 -1093711.67 0.0258 0.0073

Saturn -7708-10-28 12:14 J -1093623.08 -1093622.99 -1093622.89 0.0258 0.0225

Jupiter -7704-04-28 15:50 J -1092344.96 -1092344.84 -1092344.71 0.0524 0.0066

Jupiter -7704-07-26 20:24 J -1092255.70 -1092255.65 -1092255.60 0.0523 0.0475

Venus -7702-08-05 08:24 J -1091516.30 -1091516.15 -1091515.99 0.3682 0.0897

Mars -7702-11-08 13:55 J -1091421.00 -1091420.92 -1091420.84 0.1851 0.1641

Mars -7701-09-11 23:16 J -1091112.64 -1091112.53 -1091112.42 0.1679 0.0256

Moon -7701-09-13 18:57 J -1091110.81 -1091110.71 -1091110.60 0.2723 0.0586

Earth -7701-09-13 19:40 J -1091110.79 -1091110.68 -1091110.58 0.2718 0.0527 *

Jupiter -7698-06-17 23:31 J -1090103.71 -1090103.52 -1090103.34 0.0502 0.0040

Saturn -7694-09-04 17:16 J -1088563.84 -1088563.78 -1088563.72 0.0304 0.0269

Saturn -7694-12-02 06:00 J -1088475.37 -1088475.25 -1088475.13 0.0304 0.0105

Saturn -7693-02-28 18:43 J -1088386.85 -1088386.72 -1088386.60 0.0304 0.0059

Saturn -7693-05-27 07:12 J -1088298.29 -1088298.20 -1088298.11 0.0303 0.0221

Jupiter -7692-02-14 20:38 J -1088034.75 -1088034.64 -1088034.52 0.0525 0.0194

Mars -7692-03-30 07:26 J -1087991.35 -1087991.19 -1087991.02 0.1845 0.0359

Jupiter -7692-05-15 01:26 J -1087945.53 -1087945.44 -1087945.35 0.0523 0.0349

Mars -7691-02-02 10:19 J -1087682.18 -1087682.07 -1087681.95 0.1683 0.0214

Moon -7688-09-16 12:57 J -1086360.07 -1086359.96 -1086359.86 0.2725 0.0805

Earth -7688-09-16 12:57 J -1086360.06 -1086359.96 -1086359.86 0.2718 0.0792 *

Jupiter -7686-04-05 18:28 J -1085793.91 -1085793.73 -1085793.55 0.0501 0.0162

Moon -7684-03-15 20:52 J -1085083.79 -1085083.63 -1085083.46 0.2615 0.0246

Earth -7684-03-15 22:47 J -1085083.71 -1085083.55 -1085083.38 0.2615 0.0090 *

Uranus -7684-11-30 02:52 J -1084824.47 -1084824.38 -1084824.27 0.0141 0.0120

Uranus -7683-02-26 11:31 J -1084736.17 -1084736.02 -1084735.87 0.0141 0.0088

Uranus -7683-05-25 19:55 J -1084647.85 -1084647.67 -1084647.49 0.0141 0.0057

Mars -7683-08-20 00:57 J -1084561.61 -1084561.46 -1084561.31 0.1837 0.0924

Uranus -7683-08-22 04:19 J -1084559.51 -1084559.32 -1084559.12 0.0141 0.0027

Uranus -7683-11-18 12:43 J -1084471.16 -1084470.97 -1084470.77 0.0141 0.0006

Uranus -7682-02-14 21:07 J -1084382.81 -1084382.62 -1084382.42 0.0141 0.0036

Uranus -7682-05-14 05:16 J -1084294.44 -1084294.28 -1084294.09 0.0141 0.0067

Mars -7682-06-25 21:21 J -1084251.71 -1084251.61 -1084251.50 0.1688 0.0687

Uranus -7682-08-10 13:55 J -1084206.06 -1084205.92 -1084205.77 0.0140 0.0097

Uranus -7682-11-06 22:04 J -1084117.65 -1084117.58 -1084117.49 0.0140 0.0128

Jupiter -7681-12-04 01:26 J -1083724.53 -1083724.44 -1083724.34 0.0525 0.0325

Jupiter -7680-03-03 06:28 J -1083635.35 -1083635.23 -1083635.12 0.0524 0.0223

Mars -7680-05-31 00:43 J -1083546.55 -1083546.47 -1083546.40 0.1670 0.1219

Neptune -7679-05-14 20:24 J -1083197.68 -1083197.65 -1083197.59 0.0089 0.0084

Neptune -7679-08-10 21:50 J -1083109.65 -1083109.59 -1083109.51 0.0089 0.0076

Saturn -7679-09-20 18:00 J -1083068.92 -1083068.75 -1083068.58 0.0258 0.0122

Neptune -7679-11-06 23:31 J -1083021.61 -1083021.52 -1083021.44 0.0089 0.0069

Saturn -7679-12-18 14:38 J -1082980.08 -1082979.89 -1082979.70 0.0259 0.0029

Neptune -7678-02-03 00:43 J -1082933.56 -1082933.47 -1082933.37 0.0089 0.0062

Saturn -7678-03-17 11:16 J -1082891.16 -1082891.03 -1082890.89 0.0259 0.0181

Neptune -7678-05-02 01:55 J -1082845.52 -1082845.42 -1082845.31 0.0089 0.0055

Neptune -7678-07-29 03:21 J -1082757.47 -1082757.36 -1082757.25 0.0089 0.0047

Neptune -7678-10-25 04:33 J -1082669.42 -1082669.31 -1082669.19 0.0089 0.0041

Neptune -7677-01-21 06:00 J -1082581.37 -1082581.25 -1082581.13 0.0089 0.0033

Neptune -7677-04-18 07:12 J -1082493.32 -1082493.20 -1082493.07 0.0089 0.0027

Neptune -7677-07-15 08:38 J -1082405.27 -1082405.14 -1082405.01 0.0089 0.0019

Neptune -7677-10-11 09:50 J -1082317.22 -1082317.09 -1082316.95 0.0089 0.0012

Neptune -7676-01-07 11:16 J -1082229.16 -1082229.03 -1082228.90 0.0089 0.0005

Neptune -7676-04-05 12:28 J -1082141.11 -1082140.98 -1082140.84 0.0089 0.0003

Neptune -7676-07-02 13:55 J -1082053.05 -1082052.92 -1082052.79 0.0089 0.0009

Venus -7676-09-26 05:16 J -1081967.30 -1081967.28 -1081967.26 0.3687 0.3566

Neptune -7676-09-28 15:07 J -1081965.00 -1081964.87 -1081964.74 0.0089 0.0016

Neptune -7676-12-25 16:19 J -1081876.94 -1081876.82 -1081876.69 0.0089 0.0024

Neptune -7675-03-23 17:45 J -1081788.88 -1081788.76 -1081788.64 0.0089 0.0030

Neptune -7675-06-19 18:57 J -1081700.82 -1081700.71 -1081700.59 0.0089 0.0038

Neptune -7675-09-15 20:09 J -1081612.76 -1081612.66 -1081612.54 0.0089 0.0045

Earth -7675-09-19 06:28 J -1081609.30 -1081609.23 -1081609.17 0.2718 0.2102

Moon -7675-09-19 06:57 J -1081609.28 -1081609.21 -1081609.15 0.2724 0.2127 *

Neptune -7675-12-12 21:35 J -1081524.70 -1081524.60 -1081524.49 0.0089 0.0051

Jupiter -7674-01-22 15:21 J -1081484.00 -1081483.86 -1081483.72 0.0501 0.0342

Neptune -7674-03-10 22:47 J -1081436.64 -1081436.55 -1081436.45 0.0089 0.0059

Jupiter -7674-04-23 04:04 J -1081393.43 -1081393.33 -1081393.22 0.0502 0.0406

Neptune -7674-06-07 00:00 J -1081348.58 -1081348.50 -1081348.40 0.0089 0.0066

Neptune -7674-09-03 01:26 J -1081260.51 -1081260.44 -1081260.36 0.0089 0.0073

Neptune -7674-11-30 02:38 J -1081172.44 -1081172.39 -1081172.32 0.0089 0.0080

Neptune -7673-02-26 03:50 J -1081084.36 -1081084.34 -1081084.30 0.0089 0.0087

Mars -7673-11-15 08:24 J -1080821.23 -1080821.15 -1080821.06 0.1694 0.1167

Mars -7671-10-21 12:00 J -1080116.10 -1080116.00 -1080115.90 0.1674 0.0767

Venus -7670-04-11 20:38 J -1079943.72 -1079943.64 -1079943.55 0.3688 0.1932

Jupiter -7669-09-22 06:00 J -1079414.31 -1079414.25 -1079414.19 0.0525 0.0461

Jupiter -7669-12-20 10:47 J -1079325.17 -1079325.05 -1079324.92 0.0524 0.0089

Moon -7668-09-12 06:14 J -1079059.33 -1079059.24 -1079059.15 0.2717 0.1607

Earth -7668-09-12 06:57 J -1079059.30 -1079059.21 -1079059.13 0.2718 0.1567 *

Venus -7665-10-25 12:00 J -1077920.10 -1077920.00 -1077919.90 0.3690 0.0333

Pluto -7665-11-10 16:33 J -1077903.82 -1077903.81 -1077903.78 0.0072 0.0071

Pluto -7664-02-06 17:45 J -1077815.83 -1077815.76 -1077815.68 0.0072 0.0062

Saturn -7664-04-20 06:43 J -1077743.32 -1077743.22 -1077743.11 0.0304 0.0166

Pluto -7664-05-05 18:43 J -1077727.81 -1077727.72 -1077727.61 0.0072 0.0054

Saturn -7664-07-17 19:26 J -1077654.82 -1077654.69 -1077654.56 0.0304 0.0002

Pluto -7664-08-01 19:55 J -1077639.78 -1077639.67 -1077639.55 0.0072 0.0045

Saturn -7664-10-14 07:55 J -1077566.28 -1077566.17 -1077566.06 0.0304 0.0160

Pluto -7664-10-28 21:07 J -1077551.75 -1077551.62 -1077551.49 0.0072 0.0037

Pluto -7663-01-24 22:04 J -1077463.71 -1077463.58 -1077463.43 0.0072 0.0028

Mars -7663-04-07 19:26 J -1077390.71 -1077390.69 -1077390.67 0.1699 0.1655

Pluto -7663-04-22 23:16 J -1077375.67 -1077375.53 -1077375.38 0.0072 0.0019

Pluto -7663-07-20 00:28 J -1077287.63 -1077287.48 -1077287.33 0.0073 0.0010

Pluto -7663-10-16 01:40 J -1077199.58 -1077199.43 -1077199.28 0.0073 0.0001

Pluto	-7662-01-12 02:52 J	-1077111.53	-1077111.38	-1077111.23	0.0073	0.0008
Jupiter	-7662-02-09 01:12 J	-1077083.62	-1077083.45	-1077083.28	0.0502	0.0226
Pluto	-7662-04-10 03:50 J	-1077023.48	-1077023.34	-1077023.19	0.0073	0.0017
Mars	-7662-05-09 15:07 J	-1076993.91	-1076993.87	-1076993.82	0.1851	0.1778
Pluto	-7662-07-07 05:02 J	-1076935.42	-1076935.29	-1076935.14	0.0073	0.0026
Pluto	-7662-10-03 06:14 J	-1076847.37	-1076847.24	-1076847.10	0.0073	0.0035
Pluto	-7662-12-30 07:26 J	-1076759.30	-1076759.19	-1076759.07	0.0073	0.0045
Mars	-7661-03-12 23:16 J	-1076685.65	-1076685.53	-1076685.42	0.1679	0.0313
Pluto	-7661-03-27 08:24 J	-1076671.24	-1076671.15	-1076671.04	0.0073	0.0055
Pluto	-7661-06-23 09:50 J	-1076583.16	-1076583.09	-1076583.01	0.0074	0.0064
Pluto	-7661-09-19 11:02 J	-1076495.04	-1076495.04	-1076495.02	0.0074	0.0073
Venus	-7659-05-11 03:21 J	-1075896.45	-1075896.36	-1075896.26	0.3692	0.1299
Jupiter	-7657-10-08 15:21 J	-1075014.99	-1075014.86	-1075014.74	0.0524	0.0049
Jupiter	-7656-01-05 19:55 J	-1074925.71	-1074925.67	-1074925.63	0.0522	0.0489
Moon	-7655-09-14 23:45 J	-1074308.61	-1074308.51	-1074308.40	0.2723	0.0370
Earth	-7655-09-15 00:14 J	-1074308.59	-1074308.49	-1074308.38	0.2718	0.0274 *
Venus	-7654-11-24 18:43 J	-1073872.78	-1073872.72	-1073872.66	0.3693	0.2896
Mars	-7653-09-28 08:09 J	-1073564.32	-1073564.16	-1073563.99	0.1844	0.0460
Mars	-7652-08-03 10:19 J	-1073255.18	-1073255.07	-1073254.95	0.1684	0.0157
Moon	-7651-03-13 19:26 J	-1073032.75	-1073032.69	-1073032.63	0.2613	0.2411
Earth	-7651-03-13 21:07 J	-1073032.69	-1073032.62	-1073032.55	0.2615	0.2326 *
Jupiter	-7651-11-27 22:04 J	-1072773.77	-1072773.58	-1072773.40	0.0502	0.0047
Saturn	-7649-02-07 16:19 J	-1072336.96	-1072336.82	-1072336.67	0.0258	0.0172
Saturn	-7649-05-06 12:57 J	-1072248.15	-1072247.96	-1072247.77	0.0258	0.0021
Saturn	-7649-08-03 09:35 J	-1072159.26	-1072159.10	-1072158.93	0.0259	0.0131
Venus	-7645-03-11 11:02 J	-1070843.19	-1070843.04	-1070842.88	0.3681	0.0956
Jupiter	-7645-07-27 19:40 J	-1070704.80	-1070704.68	-1070704.57	0.0525	0.0191
Jupiter	-7645-10-25 00:14 J	-1070615.58	-1070615.49	-1070615.40	0.0523	0.0352
Mars	-7643-02-18 01:40 J	-1070134.58	-1070134.43	-1070134.28	0.1838	0.0818
Mars	-7643-12-24 21:35 J	-1069824.71	-1069824.60	-1069824.50	0.1688	0.0627

Moon -7642-09-17 17:45 J -1069557.86 -1069557.76 -1069557.66 0.2725 0.1061

Earth -7642-09-17 17:45 J -1069557.86 -1069557.76 -1069557.66 0.2718 0.1052 *

Mars -7641-11-29 00:43 J -1069119.54 -1069119.47 -1069119.40 0.1670 0.1274

Uranus -7640-08-18 15:35 J -1068856.89 -1068856.85 -1068856.81 0.0137 0.0129

Uranus -7640-11-14 18:43 J -1068768.80 -1068768.72 -1068768.65 0.0137 0.0110

Uranus -7639-02-10 21:35 J -1068680.69 -1068680.60 -1068680.50 0.0137 0.0092

Uranus -7639-05-10 00:43 J -1068592.57 -1068592.47 -1068592.36 0.0137 0.0074

Uranus -7639-08-06 03:50 J -1068504.46 -1068504.34 -1068504.22 0.0137 0.0055

Jupiter -7639-09-15 18:28 J -1068463.91 -1068463.73 -1068463.55 0.0501 0.0138

Uranus -7639-11-02 06:57 J -1068416.33 -1068416.21 -1068416.08 0.0137 0.0036

Uranus -7638-01-29 10:04 J -1068328.21 -1068328.08 -1068327.95 0.0138 0.0017

Moon -7638-03-17 04:04 J -1068281.50 -1068281.33 -1068281.17 0.2615 0.0240

Earth -7638-03-17 05:45 J -1068281.42 -1068281.26 -1068281.09 0.2615 0.0502 *

Uranus -7638-04-27 13:12 J -1068240.08 -1068239.95 -1068239.82 0.0138 0.0002

Uranus -7638-07-24 16:19 J -1068151.95 -1068151.82 -1068151.69 0.0138 0.0021

Uranus -7638-10-20 19:12 J -1068063.82 -1068063.70 -1068063.57 0.0138 0.0040

Uranus -7637-01-16 22:19 J -1067975.68 -1067975.57 -1067975.45 0.0138 0.0059

Uranus -7637-04-14 01:26 J -1067887.54 -1067887.44 -1067887.33 0.0138 0.0078

Uranus -7637-07-11 04:33 J -1067799.40 -1067799.31 -1067799.21 0.0138 0.0097

Uranus -7637-10-07 07:26 J -1067711.24 -1067711.19 -1067711.11 0.0138 0.0117

Uranus -7636-01-03 10:47 J -1067623.07 -1067623.05 -1067623.02 0.0138 0.0135

Saturn -7635-09-07 08:24 J -1067011.23 -1067011.15 -1067011.06 0.0304 0.0217

Moon -7635-09-10 17:45 J -1067007.79 -1067007.76 -1067007.74 0.2713 0.2620

Earth -7635-09-10 18:14 J -1067007.77 -1067007.74 -1067007.71 0.2717 0.2609 *

Saturn -7635-12-04 21:07 J -1066922.74 -1066922.62 -1066922.49 0.0303 0.0053

Saturn -7634-03-03 09:50 J -1066834.21 -1066834.09 -1066833.97 0.0303 0.0110

Saturn -7634-05-30 22:19 J -1066745.63 -1066745.57 -1066745.52 0.0303 0.0271

Jupiter -7633-05-16 00:14 J -1066394.59 -1066394.49 -1066394.39 0.0525 0.0322

Mars -7633-05-16 08:24 J -1066394.23 -1066394.15 -1066394.06 0.1693 0.1111

Jupiter -7633-08-13 05:02 J -1066305.40 -1066305.29 -1066305.18 0.0524 0.0224

Mars -7631-04-21 12:00 J -1065689.10 -1065689.00 -1065688.90 0.1674 0.0824

Earth -7629-09-19 11:16 J -1064807.08 -1064807.03 -1064806.98 0.2718 0.2366

Moon -7629-09-19 11:45 J -1064807.06 -1064807.01 -1064806.97 0.2724 0.2472 *

Jupiter -7627-07-04 13:40 J -1064154.07 -1064153.93 -1064153.79 0.0501 0.0337

Jupiter -7627-10-03 02:24 J -1064063.50 -1064063.40 -1064063.29 0.0502 0.0409

Mars -7624-10-06 19:26 J -1062963.73 -1062963.69 -1062963.66 0.1699 0.1599

Mars -7622-09-11 23:02 J -1062258.65 -1062258.54 -1062258.42 0.1679 0.0368

Moon -7622-09-13 11:02 J -1062257.13 -1062257.04 -1062256.95 0.2719 0.1454

Earth -7622-09-13 11:45 J -1062257.11 -1062257.01 -1062256.92 0.2718 0.1307 *

Jupiter -7621-03-04 05:02 J -1062084.35 -1062084.29 -1062084.23 0.0526 0.0455

Jupiter -7621-06-01 09:50 J -1061995.21 -1061995.09 -1061994.96 0.0524 0.0095

Saturn -7620-06-26 15:50 J -1061604.94 -1061604.84 -1061604.73 0.0259 0.0212

Saturn -7620-09-23 12:28 J -1061516.17 -1061515.98 -1061515.79 0.0259 0.0062

Saturn -7620-12-21 09:07 J -1061427.30 -1061427.12 -1061426.94 0.0259 0.0090

Saturn -7619-03-20 05:45 J -1061338.31 -1061338.26 -1061338.18 0.0259 0.0243

Venus -7619-05-03 02:38 J -1061294.45 -1061294.39 -1061294.33 0.3687 0.2987

Jupiter -7615-07-21 22:47 J -1059753.71 -1059753.55 -1059753.37 0.0502 0.0225

Venus -7614-11-16 18:00 J -1059270.84 -1059270.75 -1059270.65 0.3689 0.1362

Mars -7613-03-29 09:07 J -1059137.28 -1059137.12 -1059136.95 0.1845 0.0587

Mars -7612-02-01 10:19 J -1058828.18 -1058828.07 -1058827.96 0.1683 0.0100

Jupiter -7609-03-20 14:24 J -1057685.03 -1057684.90 -1057684.78 0.0524 0.0043

Jupiter -7609-06-17 18:57 J -1057595.75 -1057595.71 -1057595.68 0.0523 0.0497

Moon -7609-09-15 04:33 J -1057506.41 -1057506.31 -1057506.20 0.2723 0.0058

Earth -7609-09-15 05:02 J -1057506.40 -1057506.29 -1057506.18 0.2718 0.0037 *

Venus -7608-06-01 09:21 J -1057247.21 -1057247.11 -1057247.00 0.3690 0.0295

Saturn -7605-01-25 09:50 J -1056279.14 -1056279.09 -1056279.03 0.0304 0.0270

Moon -7605-03-14 02:09 J -1056230.50 -1056230.41 -1056230.31 0.2613 0.2101

Earth -7605-03-14 04:04 J -1056230.45 -1056230.33 -1056230.21 0.2615 0.1778 *

Saturn -7605-04-22 22:33 J -1056190.68 -1056190.56 -1056190.44 0.0304 0.0107

Saturn -7605-07-20 11:16 J -1056102.16 -1056102.03 -1056101.91 0.0304 0.0057

Saturn -7605-10-16 23:31 J -1056013.60 -1056013.52 -1056013.43 0.0303 0.0218

Mars -7604-08-19 02:38 J -1055707.54 -1055707.39 -1055707.23 0.1838 0.0697

Jupiter -7603-05-09 19:55 J -1055443.86 -1055443.67 -1055443.49 0.0502 0.0045

Mars -7603-06-24 21:21 J -1055397.72 -1055397.61 -1055397.50 0.1688 0.0575

Venus -7603-12-16 00:43 J -1055223.55 -1055223.47 -1055223.38 0.3692 0.1866

Mars -7601-05-30 00:28 J -1054692.54 -1054692.48 -1054692.41 0.1670 0.1327

Uranus -7600-12-20 10:04 J -1054123.18 -1054123.08 -1054122.95 0.0141 0.0113

Uranus -7599-03-18 18:43 J -1054034.88 -1054034.72 -1054034.55 0.0141 0.0081

Uranus -7599-06-15 03:07 J -1053946.55 -1053946.37 -1053946.18 0.0141 0.0050

Uranus -7599-09-11 11:31 J -1053858.21 -1053858.02 -1053857.82 0.0141 0.0020

Uranus -7599-12-08 20:09 J -1053769.86 -1053769.66 -1053769.47 0.0141 0.0012

Uranus -7598-03-07 04:19 J -1053681.50 -1053681.32 -1053681.12 0.0141 0.0042

Uranus -7598-06-03 12:43 J -1053593.13 -1053592.97 -1053592.80 0.0140 0.0073

Uranus -7598-08-30 20:52 J -1053504.75 -1053504.63 -1053504.48 0.0140 0.0104

Uranus -7598-11-27 05:31 J -1053416.32 -1053416.27 -1053416.21 0.0140 0.0134

Jupiter -7597-01-07 18:43 J -1053374.84 -1053374.72 -1053374.60 0.0525 0.0180

Jupiter -7597-04-05 23:16 J -1053285.61 -1053285.53 -1053285.44 0.0523 0.0363

Venus -7597-06-30 16:04 J -1053199.86 -1053199.83 -1053199.80 0.3693 0.3447

Neptune -7596-07-27 15:21 J -1052807.94 -1052807.86 -1052807.78 0.0088 0.0079

Earth -7596-09-17 22:33 J -1052755.66 -1052755.56 -1052755.47 0.2718 0.1313

Moon -7596-09-17 22:33 J -1052755.65 -1052755.56 -1052755.46 0.2725 0.1320 *

Neptune -7596-10-23 18:28 J -1052719.83 -1052719.73 -1052719.59 0.0088 0.0070

Neptune -7595-01-19 22:04 J -1052631.70 -1052631.58 -1052631.41 0.0088 0.0060

Neptune -7595-04-18 01:55 J -1052543.57 -1052543.42 -1052543.25 0.0088 0.0050

Neptune -7595-07-15 05:31 J -1052455.43 -1052455.27 -1052455.08 0.0088 0.0040

Neptune -7595-10-11 09:07 J -1052367.29 -1052367.12 -1052366.92 0.0088 0.0030

Neptune -7594-01-07 12:57 J -1052279.15 -1052278.96 -1052278.76 0.0088 0.0020

Venus -7594-04-02 02:52 J -1052194.48 -1052194.38 -1052194.29 0.3683 0.2933

Neptune -7594-04-05 16:47 J -1052191.00 -1052190.80 -1052190.61 0.0088 0.0009

Neptune -7594-07-02 20:24 J -1052102.85 -1052102.65 -1052102.45 0.0088 0.0001

Neptune -7594-09-29 00:00 J -1052014.69 -1052014.50 -1052014.30 0.0088 0.0011

Mars -7594-11-15 08:24 J -1051967.24 -1051967.15 -1051967.06 0.1693 0.1053

Neptune -7594-12-26 03:35 J -1051926.54 -1051926.35 -1051926.15 0.0088 0.0021

Neptune -7593-03-23 07:12 J -1051838.38 -1051838.20 -1051838.01 0.0088 0.0031

Neptune -7593-06-19 11:02 J -1051750.21 -1051750.04 -1051749.87 0.0088 0.0041

Neptune -7593-09-15 14:38 J -1051662.05 -1051661.89 -1051661.73 0.0088 0.0051

Neptune -7593-12-12 18:00 J -1051573.87 -1051573.75 -1051573.59 0.0088 0.0062

Neptune -7592-03-10 21:35 J -1051485.69 -1051485.60 -1051485.47 0.0088 0.0072

Moon -7592-03-17 11:02 J -1051479.20 -1051479.04 -1051478.89 0.2617 0.0911

Earth -7592-03-17 12:43 J -1051479.12 -1051478.97 -1051478.82 0.2615 0.1028 *

Neptune -7592-06-07 01:26 J -1051397.50 -1051397.44 -1051397.36 0.0088 0.0082

Mars -7592-10-20 11:45 J -1051262.10 -1051262.01 -1051261.91 0.1674 0.0876

Jupiter -7591-02-25 16:33 J -1051133.99 -1051133.81 -1051133.63 0.0501 0.0137

Saturn -7590-02-10 11:16 J -1050784.20 -1050784.03 -1050783.86 0.0259 0.0109

Saturn -7590-05-10 07:55 J -1050695.36 -1050695.17 -1050694.98 0.0259 0.0043

Saturn -7590-08-07 04:33 J -1050606.43 -1050606.31 -1050606.18 0.0259 0.0196

Moon -7589-09-10 22:33 J -1050205.61 -1050205.56 -1050205.52 0.2713 0.2480

Earth -7589-09-10 23:02 J -1050205.59 -1050205.54 -1050205.49 0.2718 0.2349 *

Venus -7589-10-16 13:55 J -1050170.02 -1050169.92 -1050169.82 0.3680 0.2817

Jupiter -7586-10-26 22:47 J -1049064.65 -1049064.55 -1049064.45 0.0525 0.0322

Jupiter -7585-01-24 03:35 J -1048975.46 -1048975.35 -1048975.24 0.0524 0.0223

Mars -7584-04-06 19:26 J -1048536.74 -1048536.69 -1048536.65 0.1698 0.1539

Earth -7583-09-20 16:04 J -1048004.86 -1048004.83 -1048004.81 0.2718 0.2628

Moon -7583-09-20 16:33 J -1048004.82 -1048004.81 -1048004.80 0.2723 0.2691 *

Mars -7582-03-12 23:16 J -1047831.64 -1047831.53 -1047831.42 0.1679 0.0425

Jupiter -7580-12-14 12:57 J -1046824.10 -1046823.96 -1046823.81 0.0501 0.0321

Pluto -7579-01-11 16:04 J -1046795.87 -1046795.83 -1046795.76 0.0072 0.0069

Jupiter -7579-03-15 01:40 J -1046733.52 -1046733.43 -1046733.32 0.0502 0.0428

Pluto -7579-04-09 17:45 J -1046707.85 -1046707.76 -1046707.65 0.0072 0.0058

Pluto -7579-07-06 19:26 J -1046619.81 -1046619.69 -1046619.55 0.0072 0.0048

Pluto	-7579-10-02 21:07 J	-1046531.76	-1046531.62	-1046531.47	0.0072	0.0038
Pluto	-7579-12-29 22:47 J	-1046443.70	-1046443.55	-1046443.39	0.0072	0.0028
Pluto	-7578-03-28 00:28 J	-1046355.64	-1046355.48	-1046355.32	0.0072	0.0018
Pluto	-7578-06-24 01:55 J	-1046267.58	-1046267.42	-1046267.25	0.0072	0.0009
Pluto	-7578-09-20 03:36 J	-1046179.52	-1046179.35	-1046179.18	0.0072	0.0002
Pluto	-7578-12-17 05:16 J	-1046091.45	-1046091.28	-1046091.12	0.0072	0.0011
Pluto	-7577-03-14 06:43 J	-1046003.38	-1046003.22	-1046003.06	0.0071	0.0021
Pluto	-7577-06-10 07:55 J	-1045915.31	-1045915.17	-1045915.00	0.0071	0.0031
Pluto	-7577-09-06 09:36 J	-1045827.23	-1045827.10	-1045826.95	0.0071	0.0039
Pluto	-7577-12-03 11:16 J	-1045739.15	-1045739.03	-1045738.91	0.0071	0.0049
Pluto	-7576-03-01 12:28 J	-1045651.06	-1045650.98	-1045650.87	0.0071	0.0058
Pluto	-7576-05-28 13:55 J	-1045562.96	-1045562.92	-1045562.85	0.0071	0.0067
Saturn	-7576-09-10 00:43 J	-1045458.58	-1045458.47	-1045458.36	0.0303	0.0153
Moon	-7576-09-13 15:50 J	-1045454.94	-1045454.84	-1045454.75	0.2721	0.1074
Earth	-7576-09-13 16:19 J	-1045454.91	-1045454.82	-1045454.72	0.2718	0.1049 *
Saturn	-7576-12-07 13:12 J	-1045370.07	-1045369.95	-1045369.82	0.0303	0.0014
Saturn	-7575-03-06 01:40 J	-1045281.53	-1045281.43	-1045281.32	0.0303	0.0172
Jupiter	-7574-08-15 03:21 J	-1044754.42	-1044754.36	-1044754.30	0.0526	0.0457
Mars	-7574-09-28 10:04 J	-1044710.23	-1044710.08	-1044709.92	0.1845	0.0704
Jupiter	-7574-11-12 08:23 J	-1044665.28	-1044665.15	-1044665.03	0.0524	0.0093
Mars	-7573-08-02 10:19 J	-1044401.19	-1044401.07	-1044400.96	0.1683	0.0052
Jupiter	-7568-12-31 20:52 J	-1042423.80	-1042423.63	-1042423.46	0.0502	0.0223
Mars	-7564-02-17 03:36 J	-1041280.51	-1041280.35	-1041280.19	0.1838	0.0580
Mars	-7564-12-23 21:21 J	-1040970.72	-1040970.61	-1040970.50	0.1688	0.0518
Moon	-7563-09-16 09:36 J	-1040704.21	-1040704.10	-1040704.00	0.2724	0.0202
Earth	-7563-09-16 09:50 J	-1040704.20	-1040704.09	-1040703.98	0.2718	0.0265 *
Venus	-7563-12-08 00:00 J	-1040621.57	-1040621.50	-1040621.42	0.3688	0.2408
Jupiter	-7562-08-31 12:57 J	-1040355.08	-1040354.96	-1040354.83	0.0525	0.0042
Jupiter	-7562-11-28 17:31 J	-1040265.80	-1040265.77	-1040265.73	0.0523	0.0500
Mars	-7562-11-29 00:28 J	-1040265.54	-1040265.48	-1040265.41	0.1670	0.1378

Saturn -7561-06-29 11:16 J -1040052.18 -1040052.03 -1040051.87 0.0259 0.0145

Saturn -7561-09-26 07:55 J -1039963.36 -1039963.17 -1039962.97 0.0259 0.0008

Saturn -7561-12-24 04:33 J -1039874.45 -1039874.31 -1039874.15 0.0259 0.0159

Moon -7559-03-15 09:07 J -1039428.26 -1039428.12 -1039427.98 0.2613 0.1344

Earth -7559-03-15 10:47 J -1039428.19 -1039428.05 -1039427.90 0.2615 0.1249 *

Venus -7557-06-22 15:21 J -1038597.95 -1038597.86 -1038597.76 0.3689 0.0804

Uranus -7556-09-07 22:33 J -1038155.61 -1038155.56 -1038155.51 0.0137 0.0126

Jupiter -7556-10-19 17:16 J -1038113.97 -1038113.78 -1038113.59 0.0501 0.0038

Uranus -7556-12-05 01:40 J -1038067.51 -1038067.43 -1038067.35 0.0137 0.0108

Uranus -7555-03-03 04:33 J -1037979.40 -1037979.31 -1037979.20 0.0137 0.0089

Uranus -7555-05-30 07:40 J -1037891.28 -1037891.18 -1037891.06 0.0137 0.0071

Mars -7555-07-09 21:21 J -1037850.62 -1037850.61 -1037850.59 0.1831 0.1823

Uranus -7555-08-26 10:47 J -1037803.17 -1037803.05 -1037802.93 0.0137 0.0052

Uranus -7555-11-22 13:55 J -1037715.04 -1037714.92 -1037714.79 0.0138 0.0033

Uranus -7554-02-18 17:02 J -1037626.92 -1037626.79 -1037626.66 0.0138 0.0014

Mars -7554-05-16 08:23 J -1037540.24 -1037540.15 -1037540.06 0.1693 0.0998

Uranus -7554-05-17 20:09 J -1037538.79 -1037538.66 -1037538.53 0.0138 0.0005

Uranus -7554-08-13 23:16 J -1037450.66 -1037450.53 -1037450.40 0.0138 0.0024

Uranus -7554-11-10 02:23 J -1037362.52 -1037362.40 -1037362.28 0.0138 0.0043

Uranus -7553-02-06 05:16 J -1037274.39 -1037274.28 -1037274.16 0.0138 0.0062

Uranus -7553-05-04 08:23 J -1037186.25 -1037186.15 -1037186.04 0.0138 0.0081

Uranus -7553-07-31 11:31 J -1037098.10 -1037098.02 -1037097.92 0.0138 0.0100

Uranus -7553-10-27 14:38 J -1037009.95 -1037009.89 -1037009.82 0.0138 0.0120

Uranus -7552-01-23 18:00 J -1036921.75 -1036921.75 -1036921.75 0.0139 0.0139

Mars -7552-04-20 11:45 J -1036835.10 -1036835.01 -1036834.91 0.1674 0.0932

Venus -7551-01-06 06:57 J -1036574.31 -1036574.21 -1036574.12 0.3691 0.0838

Jupiter -7550-06-19 17:16 J -1036044.89 -1036044.78 -1036044.66 0.0525 0.0180

Jupiter -7550-09-16 22:04 J -1035955.67 -1035955.58 -1035955.49 0.0523 0.0364

Earth -7550-09-19 03:21 J -1035953.45 -1035953.36 -1035953.28 0.2718 0.1577

Moon -7550-09-19 03:21 J -1035953.44 -1035953.36 -1035953.27 0.2726 0.1651 *

Saturn -7546-01-28 02:23 J -1034726.49 -1034726.40 -1034726.30 0.0303 0.0201

Moon -7546-03-18 18:00 J -1034676.89 -1034676.75 -1034676.61 0.2618 0.1293

Earth -7546-03-18 19:40 J -1034676.81 -1034676.68 -1034676.55 0.2615 0.1573 *

Saturn -7546-04-26 15:07 J -1034638.00 -1034637.87 -1034637.74 0.0303 0.0038

Venus -7546-07-22 22:04 J -1034550.65 -1034550.58 -1034550.50 0.3692 0.2426

Saturn -7546-07-24 03:36 J -1034549.46 -1034549.35 -1034549.23 0.0303 0.0125

Saturn -7546-10-20 16:04 J -1034460.87 -1034460.83 -1034460.79 0.0303 0.0285

Mars -7545-10-05 19:12 J -1034109.75 -1034109.70 -1034109.64 0.1699 0.1488

Jupiter -7544-08-07 13:55 J -1033804.10 -1033803.92 -1033803.74 0.0501 0.0145

Mars -7543-09-10 23:02 J -1033404.65 -1033404.54 -1033404.43 0.1679 0.0472

Moon -7543-09-12 03:07 J -1033403.43 -1033403.37 -1033403.30 0.2715 0.2133

Earth -7543-09-12 03:50 J -1033403.41 -1033403.34 -1033403.28 0.2718 0.2089 *

Jupiter -7538-04-07 21:50 J -1031734.69 -1031734.59 -1031734.49 0.0525 0.0317

Jupiter -7538-07-06 02:23 J -1031645.51 -1031645.40 -1031645.28 0.0523 0.0230

Venus -7538-11-07 05:16 J -1031521.43 -1031521.28 -1031521.13 0.3682 0.1150

Mars -7534-03-29 11:02 J -1030283.20 -1030283.04 -1030282.89 0.1845 0.0812

Mars -7533-02-01 10:19 J -1029974.19 -1029974.07 -1029973.96 0.1683 0.0047

Jupiter -7532-05-26 10:47 J -1029494.19 -1029494.05 -1029493.91 0.0501 0.0325

Jupiter -7532-08-24 23:31 J -1029403.62 -1029403.52 -1029403.42 0.0502 0.0422

Saturn -7532-11-16 10:19 J -1029320.19 -1029320.07 -1029319.93 0.0259 0.0189

Saturn -7531-02-13 07:12 J -1029231.39 -1029231.20 -1029231.01 0.0259 0.0038

Saturn -7531-05-13 03:50 J -1029142.51 -1029142.34 -1029142.16 0.0259 0.0115

Moon -7530-09-14 20:38 J -1028652.74 -1028652.64 -1028652.54 0.2721 0.0941

Earth -7530-09-14 21:07 J -1028652.72 -1028652.62 -1028652.51 0.2718 0.0786 *

Jupiter -7526-01-25 01:40 J -1027424.48 -1027424.43 -1027424.37 0.0525 0.0462

Jupiter -7526-04-24 06:43 J -1027335.34 -1027335.22 -1027335.10 0.0524 0.0087

Mars -7525-08-18 04:19 J -1026853.48 -1026853.32 -1026853.15 0.1838 0.0474

Mars -7524-06-23 21:21 J -1026543.72 -1026543.61 -1026543.50 0.1688 0.0461

Mars -7522-05-30 00:28 J -1025838.53 -1025838.48 -1025838.42 0.1670 0.1436

Jupiter -7520-06-12 19:40 J -1025093.84 -1025093.68 -1025093.51 0.0502 0.0234

Saturn -7517-06-16 05:02 J -1023994.37 -1023994.29 -1023994.21 0.0303 0.0241

Saturn -7517-09-12 17:45 J -1023905.89 -1023905.76 -1023905.64 0.0303 0.0078

Moon -7517-09-16 14:23 J -1023902.00 -1023901.90 -1023901.80 0.2725 0.0558

Earth -7517-09-16 14:38 J -1023902.00 -1023901.89 -1023901.79 0.2718 0.0528 *

Saturn -7517-12-10 06:14 J -1023817.36 -1023817.24 -1023817.11 0.0303 0.0084

Saturn -7516-03-08 18:43 J -1023728.79 -1023728.72 -1023728.64 0.0303 0.0245

Uranus -7516-10-13 09:36 J -1023510.15 -1023510.10 -1023510.04 0.0141 0.0135

Mars -7515-01-07 22:19 J -1023423.62 -1023423.57 -1023423.51 0.1831 0.1708

Uranus -7515-01-09 18:00 J -1023421.87 -1023421.75 -1023421.61 0.0141 0.0104

Uranus -7515-04-08 02:23 J -1023333.56 -1023333.40 -1023333.22 0.0141 0.0073

Uranus -7515-07-05 10:47 J -1023245.23 -1023245.05 -1023244.85 0.0141 0.0042

Uranus -7515-10-01 19:26 J -1023156.89 -1023156.69 -1023156.49 0.0141 0.0011

Neptune -7515-11-12 19:26 J -1023114.72 -1023114.69 -1023114.66 0.0089 0.0087

Mars -7515-11-14 08:23 J -1023113.25 -1023113.15 -1023113.06 0.1693 0.0943

Uranus -7515-12-29 03:50 J -1023068.54 -1023068.34 -1023068.15 0.0141 0.0020

Neptune -7514-02-08 20:38 J -1023026.69 -1023026.64 -1023026.57 0.0089 0.0080

Jupiter -7514-02-10 11:16 J -1023025.16 -1023025.03 -1023024.91 0.0525 0.0047

Uranus -7514-03-27 12:00 J -1022980.18 -1022980.00 -1022979.81 0.0141 0.0051

Neptune -7514-05-07 22:04 J -1022938.65 -1022938.58 -1022938.50 0.0089 0.0072

Jupiter -7514-05-10 15:50 J -1022935.88 -1022935.84 -1022935.80 0.0523 0.0493

Uranus -7514-06-23 20:09 J -1022891.80 -1022891.66 -1022891.48 0.0140 0.0082

Neptune -7514-08-03 23:16 J -1022850.61 -1022850.53 -1022850.43 0.0089 0.0066

Uranus -7514-09-20 04:47 J -1022803.41 -1022803.30 -1022803.18 0.0140 0.0112

Neptune -7514-10-31 00:28 J -1022762.56 -1022762.48 -1022762.37 0.0089 0.0059

Neptune -7513-01-27 01:55 J -1022674.52 -1022674.42 -1022674.30 0.0089 0.0051

Moon -7513-03-15 16:04 J -1022625.98 -1022625.83 -1022625.68 0.2614 0.0999

Earth -7513-03-15 17:45 J -1022625.91 -1022625.76 -1022625.60 0.2615 0.0699 *

Neptune -7513-04-24 03:21 J -1022586.47 -1022586.36 -1022586.24 0.0089 0.0044

Neptune -7513-07-21 04:47 J -1022498.42 -1022498.30 -1022498.18 0.0089 0.0037

Neptune -7513-10-17 06:00 J -1022410.37 -1022410.25 -1022410.12 0.0089 0.0030

Mars -7513-10-19 11:45 J -1022408.10 -1022408.01 -1022407.92 0.1674 0.0985

Neptune -7512-01-13 07:26 J -1022322.32 -1022322.19 -1022322.06 0.0089 0.0023

Neptune -7512-04-11 08:38 J -1022234.27 -1022234.14 -1022234.01 0.0089 0.0016

Neptune -7512-07-08 10:04 J -1022146.21 -1022146.08 -1022145.95 0.0089 0.0008

Neptune -7512-10-04 11:16 J -1022058.16 -1022058.03 -1022057.90 0.0089 0.0002

Venus -7512-12-29 06:00 J -1021972.28 -1021972.25 -1021972.22 0.3686 0.3463

Neptune -7512-12-31 12:43 J -1021970.10 -1021969.97 -1021969.84 0.0089 0.0006

Neptune -7511-03-29 13:55 J -1021882.05 -1021881.92 -1021881.79 0.0089 0.0013

Neptune -7511-06-25 15:07 J -1021793.99 -1021793.87 -1021793.74 0.0089 0.0020

Neptune -7511-09-21 16:19 J -1021705.93 -1021705.82 -1021705.68 0.0089 0.0028

Neptune -7511-12-18 17:45 J -1021617.88 -1021617.76 -1021617.63 0.0089 0.0034

Neptune -7510-03-16 18:57 J -1021529.82 -1021529.71 -1021529.59 0.0089 0.0041

Neptune -7510-06-12 20:09 J -1021441.76 -1021441.66 -1021441.54 0.0089 0.0049

Neptune -7510-09-08 21:36 J -1021353.70 -1021353.60 -1021353.49 0.0089 0.0055

Neptune -7510-12-05 22:47 J -1021265.63 -1021265.55 -1021265.45 0.0089 0.0063

Neptune -7509-03-03 00:00 J -1021177.57 -1021177.50 -1021177.40 0.0089 0.0070

Neptune -7509-05-30 01:26 J -1021089.50 -1021089.44 -1021089.37 0.0089 0.0076

Neptune -7509-08-26 02:38 J -1021001.42 -1021001.39 -1021001.33 0.0089 0.0083

Jupiter -7508-03-31 14:52 J -1020784.06 -1020783.88 -1020783.69 0.0501 0.0034

Venus -7506-07-14 21:21 J -1019948.69 -1019948.61 -1019948.52 0.3688 0.1839

Mars -7505-04-05 19:12 J -1019682.75 -1019682.70 -1019682.63 0.1698 0.1431

Earth -7504-09-19 08:09 J -1019151.24 -1019151.16 -1019151.09 0.2718 0.1843

Moon -7504-09-19 08:23 J -1019151.23 -1019151.15 -1019151.08 0.2725 0.1837 *

Mars -7503-03-11 23:02 J -1018977.65 -1018977.54 -1018977.43 0.1678 0.0526

Jupiter -7503-11-29 15:50 J -1018714.96 -1018714.84 -1018714.72 0.0525 0.0184

Jupiter -7502-02-26 20:23 J -1018625.73 -1018625.65 -1018625.56 0.0524 0.0362

Saturn -7502-04-05 11:16 J -1018588.13 -1018588.03 -1018587.94 0.0259 0.0222

Saturn -7502-07-03 07:40 J -1018499.36 -1018499.18 -1018498.99 0.0259 0.0071

Saturn -7502-09-30 04:33 J -1018410.50 -1018410.31 -1018410.13 0.0259 0.0082

Saturn -7502-12-28 01:12 J -1018321.52 -1018321.45 -1018321.36 0.0259 0.0235

Venus -7500-01-27 12:57 J -1017925.06 -1017924.96 -1017924.86 0.3689 0.0225

Moon -7500-03-19 00:43 J -1017874.57 -1017874.47 -1017874.37 0.2619 0.2044

Earth -7500-03-19 02:23 J -1017874.50 -1017874.40 -1017874.30 0.2615 0.2103 *

Moon -7497-09-12 07:55 J -1016601.25 -1016601.17 -1016601.10 0.2717 0.1936

Earth -7497-09-12 08:38 J -1016601.22 -1016601.14 -1016601.07 0.2718 0.1830 *

Jupiter -7496-01-17 11:16 J -1016474.21 -1016474.03 -1016473.85 0.0501 0.0153

Venus -7495-08-13 04:19 J -1015901.42 -1015901.32 -1015901.23 0.3691 0.1391

Mars -7495-09-27 11:45 J -1015856.15 -1015856.01 -1015855.86 0.1845 0.0929

Mars -7494-08-02 10:19 J -1015547.19 -1015547.07 -1015546.96 0.1683 0.0091

Jupiter -7491-09-17 20:09 J -1014404.76 -1014404.66 -1014404.56 0.0525 0.0322

Jupiter -7491-12-16 00:57 J -1014315.57 -1014315.46 -1014315.35 0.0524 0.0225

Venus -7489-02-26 19:40 J -1013877.74 -1013877.68 -1013877.63 0.3693 0.2983

Saturn -7488-11-03 07:26 J -1013262.23 -1013262.19 -1013262.14 0.0303 0.0281

Saturn -7487-01-30 20:09 J -1013173.78 -1013173.66 -1013173.54 0.0303 0.0118

Saturn -7487-04-29 08:52 J -1013085.26 -1013085.13 -1013085.01 0.0303 0.0045

Saturn -7487-07-26 21:07 J -1012996.71 -1012996.62 -1012996.52 0.0303 0.0205

Mars -7485-02-17 05:31 J -1012426.44 -1012426.27 -1012426.10 0.1838 0.0349

Jupiter -7485-11-05 07:40 J -1012164.31 -1012164.18 -1012164.04 0.0501 0.0337

Mars -7485-12-22 21:21 J -1012116.72 -1012116.61 -1012116.50 0.1688 0.0408

Jupiter -7484-02-03 20:38 J -1012073.75 -1012073.64 -1012073.54 0.0502 0.0410

Moon -7484-09-15 01:26 J -1011850.55 -1011850.44 -1011850.34 0.2721 0.0564

Earth -7484-09-15 01:55 J -1011850.52 -1011850.42 -1011850.31 0.2718 0.0522 *

Mars -7483-11-28 00:28 J -1011411.53 -1011411.48 -1011411.43 0.1669 0.1485

Venus -7481-06-13 07:55 J -1010848.33 -1010848.17 -1010848.01 0.3682 0.0686

Jupiter -7479-07-07 00:28 J -1010094.54 -1010094.48 -1010094.42 0.0526 0.0461

Jupiter -7479-10-04 05:16 J -1010005.40 -1010005.28 -1010005.15 0.0524 0.0089

Mars -7476-07-08 23:02 J -1008996.62 -1008996.54 -1008996.46 0.1831 0.1608

Mars -7475-05-15 08:23 J -1008686.25 -1008686.15 -1008686.05 0.1693 0.0884

Mars -7473-04-19 11:45 J -1007981.10 -1007981.01 -1007980.92 0.1674 0.1037

Saturn -7473-11-19 07:26 J -1007767.36 -1007767.19 -1007767.02 0.0259 0.0111

Jupiter -7473-11-22 16:47 J -1007763.96 -1007763.80 -1007763.62 0.0502 0.0225

Saturn -7472-02-16 04:04 J -1007678.52 -1007678.33 -1007678.14 0.0259 0.0041

Saturn -7472-05-16 00:57 J -1007589.59 -1007589.46 -1007589.33 0.0259 0.0193

Uranus -7472-09-28 05:31 J -1007454.32 -1007454.27 -1007454.22 0.0137 0.0123

Uranus -7472-12-25 08:23 J -1007366.22 -1007366.15 -1007366.06 0.0137 0.0105

Uranus -7471-03-23 11:31 J -1007278.11 -1007278.02 -1007277.91 0.0137 0.0086

Uranus -7471-06-19 14:38 J -1007190.00 -1007189.89 -1007189.77 0.0137 0.0068

Uranus -7471-09-15 17:45 J -1007101.88 -1007101.76 -1007101.64 0.0137 0.0049

Moon -7471-09-17 19:12 J -1007099.80 -1007099.70 -1007099.59 0.2725 0.0726

Earth -7471-09-17 19:26 J -1007099.79 -1007099.69 -1007099.59 0.2718 0.0792 *

Uranus -7471-12-12 20:52 J -1007013.76 -1007013.63 -1007013.50 0.0138 0.0030

Uranus -7470-03-11 00:00 J -1006925.63 -1006925.50 -1006925.37 0.0138 0.0011

Uranus -7470-06-07 03:07 J -1006837.50 -1006837.37 -1006837.24 0.0138 0.0008

Uranus -7470-09-03 06:14 J -1006749.37 -1006749.24 -1006749.11 0.0138 0.0027

Uranus -7470-11-30 09:07 J -1006661.23 -1006661.12 -1006660.99 0.0138 0.0046

Uranus -7469-02-26 12:14 J -1006573.10 -1006572.99 -1006572.87 0.0138 0.0065

Uranus -7469-05-24 15:21 J -1006484.96 -1006484.86 -1006484.75 0.0138 0.0084

Uranus -7469-08-20 18:28 J -1006396.81 -1006396.73 -1006396.64 0.0138 0.0103

Uranus -7469-11-16 21:36 J -1006308.65 -1006308.60 -1006308.53 0.0138 0.0122

Moon -7467-03-16 23:02 J -1005823.70 -1005823.54 -1005823.38 0.2616 0.0280

Earth -7467-03-17 00:57 J -1005823.63 -1005823.46 -1005823.30 0.2615 0.0163 *

Jupiter -7467-07-23 09:21 J -1005695.23 -1005695.11 -1005694.98 0.0524 0.0056

Jupiter -7467-10-20 13:55 J -1005605.96 -1005605.92 -1005605.87 0.0523 0.0484

Mars -7466-10-05 19:12 J -1005255.76 -1005255.70 -1005255.63 0.1698 0.1374

Mars -7464-09-09 23:02 J -1004550.65 -1004550.54 -1004550.43 0.1678 0.0583

Jupiter -7461-09-10 13:12 J -1003454.14 -1003453.95 -1003453.76 0.0501 0.0037

Saturn -7458-06-19 23:02 J -1002441.65 -1002441.54 -1002441.43 0.0303 0.0155

Saturn -7458-09-16 11:31 J -1002353.14 -1002353.02 -1002352.89 0.0303 0.0013

Earth -7458-09-20 12:43 J -1002349.03 -1002348.97 -1002348.90 0.2718 0.2105

Moon -7458-09-20 13:12 J -1002349.01 -1002348.95 -1002348.89 0.2724 0.2212 *

Saturn	-7458-12-14 00:14 J	-1002264.60	-1002264.49	-1002264.39	0.0303	0.0168
Mars	-7455-03-28 12:57 J	-1001429.10	-1001428.96	-1001428.82	0.1845	0.1059
Jupiter	-7455-05-11 13:55 J	-1001385.04	-1001384.92	-1001384.81	0.0525	0.0193
Venus	-7455-08-05 03:21 J	-1001299.42	-1001299.36	-1001299.29	0.3687	0.2884
Jupiter	-7455-08-08 18:28 J	-1001295.82	-1001295.73	-1001295.64	0.0524	0.0352
Mars	-7454-01-31 10:04 J	-1001120.19	-1001120.08	-1001119.96	0.1683	0.0137
Moon	-7454-03-20 07:55 J	-1001072.24	-1001072.17	-1001072.11	0.2619	0.2374
Moon	-7451-09-13 12:28 J	-999799.06	-999798.98	-999798.89	0.2718	0.1668
Earth	-7451-09-13 13:12 J	-999799.03	-999798.95	-999798.86	0.2718	0.1570 *
Venus	-7449-02-18 18:57 J	-999275.81	-999275.71	-999275.62	0.3688	0.1255
Jupiter	-7449-06-29 08:38 J	-999144.32	-999144.14	-999143.96	0.0500	0.0161
Mars	-7446-08-18 06:14 J	-997999.41	-997999.24	-997999.07	0.1838	0.0238
Mars	-7445-06-22 21:21 J	-997689.72	-997689.61	-997689.50	0.1688	0.0354
Venus	-7444-09-03 10:19 J	-997252.17	-997252.07	-997251.97	0.3690	0.0357
Jupiter	-7443-02-27 18:14 J	-997074.84	-997074.74	-997074.65	0.0526	0.0332
Saturn	-7443-04-08 08:23 J	-997035.31	-997035.15	-997034.99	0.0259	0.0142
Jupiter	-7443-05-27 23:02 J	-996985.65	-996985.54	-996985.42	0.0524	0.0216
Mars	-7443-05-29 00:28 J	-996984.52	-996984.48	-996984.44	0.1669	0.1538
Saturn	-7443-07-06 05:02 J	-996946.48	-996946.29	-996946.10	0.0259	0.0010
Saturn	-7443-10-03 01:40 J	-996857.57	-996857.43	-996857.27	0.0260	0.0164
Venus	-7438-03-20 01:40 J	-995228.52	-995228.43	-995228.34	0.3692	0.1955
Moon	-7438-09-16 06:14 J	-995048.35	-995048.24	-995048.14	0.2722	0.0364
Earth	-7438-09-16 06:43 J	-995048.33	-995048.22	-995048.11	0.2718	0.0259 *
Jupiter	-7437-04-17 05:02 J	-994834.43	-994834.29	-994834.16	0.0500	0.0346
Jupiter	-7437-07-16 17:31 J	-994743.88	-994743.77	-994743.66	0.0502	0.0397
Mars	-7436-01-07 00:00 J	-994569.60	-994569.50	-994569.40	0.1832	0.1490
Mars	-7436-11-13 08:23 J	-994259.25	-994259.15	-994259.05	0.1693	0.0834
Moon	-7434-03-14 21:36 J	-993772.61	-993772.60	-993772.60	0.2612	0.2606
Earth	-7434-03-14 23:02 J	-993772.60	-993772.54	-993772.48	0.2616	0.2423 *
Mars	-7434-10-19 11:45 J	-993554.10	-993554.01	-993553.93	0.1674	0.1089

Venus -7433-10-02 17:02 J -993204.82 -993204.79 -993204.77 0.3693 0.3539

Uranus -7432-11-02 17:02 J -992808.87 -992808.79 -992808.70 0.0141 0.0127

Jupiter -7432-12-16 22:19 J -992764.62 -992764.57 -992764.51 0.0526 0.0472

Neptune -7431-01-25 10:47 J -992725.10 -992725.05 -992725.00 0.0088 0.0084

Uranus -7431-01-30 01:12 J -992720.58 -992720.45 -992720.29 0.0141 0.0096

Jupiter -7431-03-16 03:21 J -992675.48 -992675.36 -992675.23 0.0524 0.0081

Neptune -7431-04-23 14:23 J -992637.00 -992636.90 -992636.80 0.0088 0.0074

Uranus -7431-04-28 09:50 J -992632.26 -992632.09 -992631.91 0.0141 0.0065

Neptune -7431-07-20 17:31 J -992548.88 -992548.77 -992548.62 0.0088 0.0065

Uranus -7431-07-25 18:14 J -992543.92 -992543.74 -992543.54 0.0141 0.0034

Neptune -7431-10-16 21:07 J -992460.75 -992460.62 -992460.45 0.0088 0.0055

Uranus -7431-10-22 02:52 J -992455.58 -992455.38 -992455.18 0.0141 0.0003

Neptune -7430-01-13 00:43 J -992372.62 -992372.47 -992372.28 0.0088 0.0045

Uranus -7430-01-18 11:16 J -992367.23 -992367.03 -992366.84 0.0141 0.0028

Neptune -7430-04-11 04:33 J -992284.48 -992284.31 -992284.12 0.0088 0.0035

Uranus -7430-04-16 19:26 J -992278.86 -992278.69 -992278.50 0.0141 0.0059

Venus -7430-07-04 23:31 J -992199.60 -992199.52 -992199.44 0.3683 0.3201

Neptune -7430-07-08 08:09 J -992196.34 -992196.16 -992195.96 0.0088 0.0025

Uranus -7430-07-14 04:04 J -992190.49 -992190.33 -992190.18 0.0140 0.0089

Neptune -7430-10-04 11:45 J -992108.19 -992108.01 -992107.80 0.0088 0.0015

Uranus -7430-10-10 12:00 J -992102.09 -992102.00 -992101.88 0.0140 0.0120

Neptune -7430-12-31 15:36 J -992020.04 -992019.85 -992019.65 0.0088 0.0005

Neptune -7429-03-28 19:12 J -991931.89 -991931.70 -991931.50 0.0088 0.0006

Neptune -7429-06-24 22:47 J -991843.74 -991843.55 -991843.35 0.0088 0.0016

Neptune -7429-09-21 02:23 J -991755.58 -991755.40 -991755.20 0.0088 0.0026

Saturn -7429-11-06 01:55 J -991709.52 -991709.42 -991709.32 0.0303 0.0190

Neptune -7429-12-18 06:00 J -991667.42 -991667.25 -991667.06 0.0088 0.0036

Saturn -7428-02-02 14:23 J -991621.02 -991620.90 -991620.77 0.0303 0.0030

Neptune -7428-03-16 09:36 J -991579.25 -991579.10 -991578.92 0.0088 0.0046

Saturn -7428-05-02 03:07 J -991532.49 -991532.37 -991532.26 0.0303 0.0133

Neptune	-7428-06-12 13:26 J	-991491.09	-991490.94	-991490.78	0.0088	0.0056
Saturn	-7428-07-29 15:21 J	-991443.88	-991443.86	-991443.83	0.0303	0.0293
Neptune	-7428-09-08 17:02 J	-991402.91	-991402.79	-991402.65	0.0088	0.0066
Neptune	-7428-12-05 20:52 J	-991314.72	-991314.63	-991314.53	0.0088	0.0076
Neptune	-7427-03-04 00:00 J	-991226.51	-991226.50	-991226.44	0.0088	0.0087
Mars	-7426-04-05 19:12 J	-990828.77	-990828.70	-990828.63	0.1698	0.1318
Jupiter	-7425-05-04 13:40 J	-990434.10	-990433.93	-990433.76	0.0502	0.0208
Moon	-7425-09-18 00:00 J	-990297.59	-990297.50	-990297.40	0.2726	0.1107
Earth	-7425-09-18 00:14 J	-990297.59	-990297.49	-990297.40	0.2718	0.1057 *
Venus	-7424-01-18 10:33 J	-990175.18	-990175.06	-990174.94	0.3681	0.2516
Mars	-7424-03-10 23:02 J	-990123.65	-990123.54	-990123.44	0.1678	0.0635
Moon	-7421-03-17 06:00 J	-989021.42	-989021.25	-989021.09	0.2617	0.0164
Earth	-7421-03-17 07:40 J	-989021.34	-989021.18	-989021.02	0.2615	0.0393 *
Jupiter	-7419-01-02 07:55 J	-988365.30	-988365.17	-988365.05	0.0525	0.0059
Jupiter	-7419-04-01 12:28 J	-988276.03	-988275.98	-988275.93	0.0523	0.0481
Pluto	-7418-04-01 07:26 J	-987911.25	-987911.19	-987911.12	0.0072	0.0064
Pluto	-7418-06-28 08:23 J	-987823.23	-987823.15	-987823.04	0.0072	0.0056
Earth	-7418-09-12 00:43 J	-987747.50	-987747.47	-987747.45	0.2717	0.2611
Pluto	-7418-09-24 09:36 J	-987735.20	-987735.10	-987734.98	0.0072	0.0047
Pluto	-7418-12-21 10:47 J	-987647.17	-987647.05	-987646.92	0.0072	0.0039
Pluto	-7417-03-18 12:00 J	-987559.14	-987559.00	-987558.87	0.0072	0.0030
Pluto	-7417-06-14 12:57 J	-987471.10	-987470.96	-987470.81	0.0072	0.0021
Pluto	-7417-09-10 14:09 J	-987383.05	-987382.91	-987382.76	0.0073	0.0012
Pluto	-7417-12-07 15:21 J	-987295.01	-987294.86	-987294.71	0.0073	0.0003
Pluto	-7416-03-05 16:33 J	-987206.96	-987206.81	-987206.66	0.0073	0.0006
Pluto	-7416-06-01 17:31 J	-987118.91	-987118.77	-987118.62	0.0073	0.0015
Pluto	-7416-08-28 18:43 J	-987030.86	-987030.72	-987030.58	0.0073	0.0024
Mars	-7416-09-26 13:40 J	-987002.07	-987001.93	-987001.80	0.1845	0.1156
Pluto	-7416-11-24 19:55 J	-986942.80	-986942.67	-986942.53	0.0073	0.0033
Pluto	-7415-02-20 20:52 J	-986854.74	-986854.63	-986854.50	0.0073	0.0043

Pluto	-7415-05-19 22:04 J	-986766.67	-986766.58	-986766.46	0.0073	0.0053
Mars	-7415-08-01 10:04 J	-986693.19	-986693.08	-986692.96	0.1683	0.0178
Pluto	-7415-08-15 23:31 J	-986678.60	-986678.52	-986678.44	0.0074	0.0062
Pluto	-7415-11-12 00:28 J	-986590.50	-986590.48	-986590.43	0.0074	0.0072
Saturn	-7414-08-26 08:23 J	-986303.29	-986303.15	-986303.01	0.0259	0.0179
Saturn	-7414-11-23 05:02 J	-986214.48	-986214.29	-986214.10	0.0259	0.0028
Saturn	-7413-02-20 01:40 J	-986125.59	-986125.43	-986125.25	0.0259	0.0125
Jupiter	-7413-02-21 10:04 J	-986124.27	-986124.08	-986123.89	0.0501	0.0023
Earth	-7412-09-20 17:31 J	-985546.82	-985546.77	-985546.72	0.2718	0.2368
Moon	-7412-09-20 18:00 J	-985546.79	-985546.75	-985546.70	0.2723	0.2385 *
Jupiter	-7408-10-21 12:00 J	-984055.12	-984055.00	-984054.89	0.0525	0.0204
Jupiter	-7407-01-18 16:33 J	-983965.90	-983965.81	-983965.71	0.0523	0.0340
Mars	-7406-02-16 06:57 J	-983572.38	-983572.21	-983572.03	0.1839	0.0135
Mars	-7406-12-22 21:21 J	-983262.72	-983262.61	-983262.50	0.1688	0.0295
Moon	-7405-09-13 17:16 J	-982996.87	-982996.78	-982996.69	0.2718	0.1396
Earth	-7405-09-13 18:00 J	-982996.84	-982996.75	-982996.65	0.2718	0.1306 *
Mars	-7404-11-27 00:28 J	-982557.51	-982557.48	-982557.45	0.1669	0.1593
Jupiter	-7402-12-10 06:28 J	-981814.41	-981814.23	-981814.06	0.0501	0.0164
Saturn	-7399-03-26 04:47 J	-980977.38	-980977.30	-980977.21	0.0303	0.0225
Saturn	-7399-06-22 17:31 J	-980888.90	-980888.77	-980888.64	0.0303	0.0063
Saturn	-7399-09-19 06:00 J	-980800.37	-980800.25	-980800.12	0.0303	0.0099
Saturn	-7399-12-16 18:28 J	-980711.79	-980711.73	-980711.66	0.0303	0.0259
Venus	-7398-03-12 00:57 J	-980626.54	-980626.46	-980626.38	0.3687	0.2300
Mars	-7397-07-08 01:12 J	-980142.57	-980142.45	-980142.34	0.1832	0.1366
Mars	-7396-05-14 08:23 J	-979832.26	-979832.15	-979832.05	0.1693	0.0779
Jupiter	-7396-08-09 16:04 J	-979744.92	-979744.83	-979744.73	0.0526	0.0343
Jupiter	-7396-11-06 21:07 J	-979655.74	-979655.62	-979655.51	0.0524	0.0205
Mars	-7394-04-19 11:45 J	-979127.09	-979127.01	-979126.93	0.1673	0.1146
Venus	-7393-09-24 16:19 J	-978602.92	-978602.82	-978602.72	0.3689	0.0679
Moon	-7392-09-16 11:02 J	-978246.14	-978246.04	-978245.93	0.2724	0.0061

Earth	-7392-09-16 11:31 J	-978246.13	-978246.02	-978245.92	0.2718	0.0051 *
Jupiter	-7390-09-28 02:09 J	-977504.54	-977504.41	-977504.28	0.0500	0.0356
Jupiter	-7390-12-27 14:38 J	-977414.00	-977413.89	-977413.77	0.0501	0.0386
Moon	-7388-03-15 04:19 J	-976970.43	-976970.32	-976970.22	0.2613	0.2031
Earth	-7388-03-15 06:00 J	-976970.37	-976970.25	-976970.14	0.2616	0.1891 *
Uranus	-7388-10-18 12:14 J	-976753.05	-976752.99	-976752.93	0.0137	0.0121
Uranus	-7387-01-14 15:07 J	-976664.95	-976664.87	-976664.78	0.0137	0.0103
Venus	-7387-04-10 07:40 J	-976579.28	-976579.18	-976579.08	0.3690	0.0926
Uranus	-7387-04-12 18:14 J	-976576.84	-976576.74	-976576.63	0.0137	0.0084
Uranus	-7387-07-09 21:21 J	-976488.72	-976488.61	-976488.49	0.0137	0.0066
Mars	-7387-10-04 19:12 J	-976401.77	-976401.70	-976401.62	0.1698	0.1262
Uranus	-7387-10-06 00:28 J	-976400.60	-976400.48	-976400.36	0.0137	0.0047
Uranus	-7386-01-02 03:36 J	-976312.48	-976312.35	-976312.22	0.0137	0.0028
Uranus	-7386-03-31 06:43 J	-976224.35	-976224.22	-976224.09	0.0138	0.0009
Uranus	-7386-06-27 09:50 J	-976136.22	-976136.09	-976135.96	0.0138	0.0010
Uranus	-7386-09-23 12:57 J	-976048.09	-976047.96	-976047.84	0.0138	0.0029
Uranus	-7386-12-20 15:50 J	-975959.95	-975959.84	-975959.71	0.0138	0.0048
Uranus	-7385-03-17 18:57 J	-975871.82	-975871.71	-975871.59	0.0138	0.0067
Uranus	-7385-06-13 22:04 J	-975783.67	-975783.58	-975783.47	0.0138	0.0086
Mars	-7385-09-08 23:02 J	-975696.65	-975696.54	-975696.44	0.1678	0.0691
Uranus	-7385-09-10 01:12 J	-975695.53	-975695.45	-975695.36	0.0138	0.0105
Uranus	-7385-12-07 04:19 J	-975607.37	-975607.32	-975607.26	0.0138	0.0124
Saturn	-7384-01-12 09:36 J	-975571.21	-975571.10	-975570.98	0.0260	0.0208
Saturn	-7384-04-11 06:14 J	-975482.43	-975482.24	-975482.05	0.0260	0.0056
Jupiter	-7384-05-28 20:23 J	-975434.70	-975434.65	-975434.60	0.0526	0.0485
Saturn	-7384-07-09 02:52 J	-975393.55	-975393.38	-975393.19	0.0260	0.0097
Jupiter	-7384-08-26 01:26 J	-975345.57	-975345.44	-975345.32	0.0525	0.0067
Saturn	-7384-10-05 23:45 J	-975304.55	-975304.51	-975304.45	0.0260	0.0250
Venus	-7382-10-24 23:02 J	-974555.61	-974555.54	-974555.47	0.3692	0.2514
Moon	-7379-09-19 05:02 J	-973495.39	-973495.29	-973495.20	0.2725	0.1282

Earth	-7379-09-19 05:02 J	-973495.39	-973495.29	-973495.20	0.2718	0.1322 *
Jupiter	-7378-10-15 10:47 J	-973104.22	-973104.05	-973103.88	0.0501	0.0197
Mars	-7376-03-27 14:38 J	-972575.01	-972574.89	-972574.77	0.1846	0.1282
Mars	-7375-01-30 10:04 J	-972266.19	-972266.08	-972265.96	0.1683	0.0230
Moon	-7375-03-18 12:43 J	-972219.13	-972218.97	-972218.81	0.2617	0.0745
Earth	-7375-03-18 14:38 J	-972219.05	-972218.89	-972218.74	0.2615	0.0935 *
Venus	-7373-02-09 02:09 J	-971526.56	-971526.41	-971526.26	0.3683	0.1386
Jupiter	-7372-06-14 05:45 J	-971035.38	-971035.26	-971035.13	0.0525	0.0073
Jupiter	-7372-09-11 10:33 J	-970946.12	-970946.06	-970946.01	0.0523	0.0470
Moon	-7372-09-12 04:47 J	-970945.35	-970945.30	-970945.25	0.2714	0.2376
Earth	-7372-09-12 05:31 J	-970945.33	-970945.27	-970945.22	0.2717	0.2354 *
Saturn	-7370-08-13 07:55 J	-970245.23	-970245.17	-970245.10	0.0303	0.0257
Saturn	-7370-11-09 20:38 J	-970156.76	-970156.64	-970156.52	0.0303	0.0095
Saturn	-7369-02-06 09:07 J	-970068.24	-970068.12	-970067.99	0.0303	0.0068
Saturn	-7369-05-04 21:36 J	-969979.68	-969979.60	-969979.51	0.0303	0.0228
Mars	-7367-08-17 08:09 J	-969145.33	-969145.16	-969144.99	0.1839	0.0036
Mars	-7366-06-22 21:07 J	-968835.73	-968835.62	-968835.50	0.1688	0.0250
Jupiter	-7366-08-03 06:43 J	-968794.41	-968794.22	-968794.03	0.0501	0.0006
Earth	-7366-09-21 22:19 J	-968744.59	-968744.57	-968744.54	0.2718	0.2631
Mars	-7364-05-28 00:14 J	-968130.50	-968130.49	-968130.47	0.1669	0.1646
Jupiter	-7360-04-02 10:19 J	-966725.19	-966725.07	-966724.96	0.0525	0.0208
Jupiter	-7360-06-30 14:52 J	-966635.97	-966635.88	-966635.78	0.0523	0.0336
Moon	-7359-09-14 22:04 J	-966194.67	-966194.58	-966194.48	0.2719	0.1164
Earth	-7359-09-14 22:47 J	-966194.65	-966194.55	-966194.45	0.2718	0.1045 *
Mars	-7357-01-07 01:26 J	-965715.56	-965715.44	-965715.31	0.1832	0.1274
Mars	-7357-11-12 08:23 J	-965405.26	-965405.15	-965405.05	0.1693	0.0719
Saturn	-7355-06-01 09:50 J	-964839.15	-964839.09	-964839.02	0.0259	0.0244
Saturn	-7355-08-29 06:28 J	-964750.41	-964750.23	-964750.05	0.0259	0.0093
Mars	-7355-10-18 11:45 J	-964700.09	-964700.01	-964699.94	0.1674	0.1198
Saturn	-7355-11-26 03:07 J	-964661.55	-964661.37	-964661.18	0.0259	0.0059

Saturn -7354-02-22 23:45 J -964572.60 -964572.51 -964572.39 0.0259 0.0213

Jupiter -7354-05-22 03:07 J -964484.54 -964484.37 -964484.19 0.0501 0.0179

Neptune -7350-08-09 19:12 J -962943.73 -962943.70 -962943.65 0.0089 0.0084

Neptune -7350-11-05 20:38 J -962855.70 -962855.64 -962855.57 0.0089 0.0076

Neptune -7349-02-01 21:50 J -962767.66 -962767.59 -962767.50 0.0089 0.0070

Neptune -7349-04-29 23:16 J -962679.62 -962679.53 -962679.43 0.0089 0.0062

Neptune -7349-07-27 00:28 J -962591.57 -962591.48 -962591.37 0.0089 0.0055

Neptune -7349-10-23 01:55 J -962503.52 -962503.42 -962503.30 0.0089 0.0048

Neptune -7348-01-19 03:21 J -962415.48 -962415.36 -962415.24 0.0089 0.0041

Jupiter -7348-01-19 14:09 J -962415.00 -962414.91 -962414.82 0.0525 0.0354

Neptune -7348-04-17 04:33 J -962327.43 -962327.31 -962327.18 0.0089 0.0034

Jupiter -7348-04-18 18:57 J -962325.82 -962325.71 -962325.59 0.0524 0.0194

Neptune -7348-07-14 06:00 J -962239.37 -962239.25 -962239.12 0.0089 0.0027

Neptune -7348-10-10 07:12 J -962151.32 -962151.20 -962151.07 0.0089 0.0020

Uranus -7348-11-22 23:45 J -962107.61 -962107.51 -962107.41 0.0141 0.0122

Neptune -7347-01-06 08:38 J -962063.27 -962063.14 -962063.01 0.0089 0.0012

Uranus -7347-02-19 08:09 J -962019.31 -962019.16 -962019.01 0.0141 0.0091

Venus -7347-04-02 06:57 J -961977.25 -961977.21 -961977.17 0.3686 0.3352

Neptune -7347-04-04 09:50 J -961975.22 -961975.09 -961974.95 0.0089 0.0006

Mars -7347-04-04 19:12 J -961974.78 -961974.70 -961974.62 0.1698 0.1204

Uranus -7347-05-18 16:19 J -961930.99 -961930.82 -961930.63 0.0141 0.0060

Neptune -7347-07-01 11:16 J -961887.16 -961887.03 -961886.90 0.0089 0.0002

Uranus -7347-08-15 00:57 J -961842.65 -961842.46 -961842.26 0.0141 0.0029

Neptune -7347-09-27 12:28 J -961799.11 -961798.98 -961798.84 0.0089 0.0010

Uranus -7347-11-11 09:21 J -961754.30 -961754.11 -961753.91 0.0141 0.0004

Neptune -7347-12-24 13:55 J -961711.05 -961710.92 -961710.79 0.0089 0.0016

Uranus -7346-02-07 17:45 J -961665.95 -961665.76 -961665.56 0.0141 0.0033

Neptune -7346-03-22 15:07 J -961622.99 -961622.87 -961622.74 0.0089 0.0023

Uranus -7346-05-07 02:09 J -961577.58 -961577.41 -961577.23 0.0141 0.0064

Neptune -7346-06-18 16:19 J -961534.94 -961534.82 -961534.69 0.0089 0.0031

Uranus -7346-08-03 10:19 J -961489.20 -961489.07 -961488.91 0.0140 0.0095

Neptune -7346-09-14 17:45 J -961446.88 -961446.76 -961446.64 0.0089 0.0037

Moon -7346-09-17 15:50 J -961443.94 -961443.84 -961443.73 0.2725 0.0230

Earth -7346-09-17 16:19 J -961443.93 -961443.82 -961443.72 0.2718 0.0278 *

Uranus -7346-10-30 18:57 J -961400.80 -961400.71 -961400.62 0.0140 0.0125

Neptune -7346-12-11 18:57 J -961358.82 -961358.71 -961358.59 0.0089 0.0044

Neptune -7345-03-08 20:09 J -961270.76 -961270.66 -961270.54 0.0089 0.0052

Mars -7345-03-09 23:02 J -961269.64 -961269.54 -961269.44 0.1678 0.0747

Neptune -7345-06-04 21:36 J -961182.69 -961182.60 -961182.50 0.0089 0.0058

Neptune -7345-08-31 22:47 J -961094.63 -961094.55 -961094.45 0.0089 0.0066

Neptune -7345-11-28 00:00 J -961006.56 -961006.50 -961006.41 0.0089 0.0073

Neptune -7344-02-24 01:26 J -960918.49 -960918.44 -960918.37 0.0089 0.0079

Neptune -7344-05-23 02:38 J -960830.41 -960830.39 -960830.35 0.0089 0.0086

Jupiter -7342-03-09 23:31 J -960174.65 -960174.52 -960174.39 0.0501 0.0363

Moon -7342-03-16 11:02 J -960168.17 -960168.04 -960167.91 0.2615 0.1627

Earth -7342-03-16 12:57 J -960168.11 -960167.96 -960167.82 0.2615 0.1341 *

Jupiter -7342-06-08 12:00 J -960084.11 -960084.00 -960083.87 0.0502 0.0382

Venus -7342-10-16 22:19 J -959953.66 -959953.57 -959953.48 0.3688 0.1722

Saturn -7341-12-30 10:47 J -959513.08 -959513.05 -959513.02 0.0303 0.0294

Saturn -7340-03-28 23:31 J -959424.63 -959424.52 -959424.40 0.0303 0.0131

Saturn -7340-06-25 12:14 J -959336.12 -959335.99 -959335.86 0.0303 0.0032

Saturn -7340-09-22 00:43 J -959247.57 -959247.47 -959247.37 0.0303 0.0192

Mars -7338-08-26 06:00 J -958544.25 -958544.25 -958544.24 0.1703 0.1700

Mars -7337-09-25 15:36 J -958147.96 -958147.85 -958147.74 0.1846 0.1401

Jupiter -7337-11-07 18:28 J -958104.77 -958104.73 -958104.69 0.0526 0.0495

Jupiter -7336-02-04 23:16 J -958015.65 -958015.53 -958015.40 0.0524 0.0059

Venus -7336-05-01 13:40 J -957930.03 -957929.93 -957929.83 0.3689 0.0149

Mars -7336-07-31 10:04 J -957839.19 -957839.08 -957838.97 0.1683 0.0281

Pluto -7333-03-05 05:16 J -956891.31 -956891.28 -956891.21 0.0073 0.0070

Pluto -7333-06-01 06:57 J -956803.29 -956803.21 -956803.10 0.0072 0.0059

Pluto	-7333-08-28 09:07 J	-956715.25	-956715.12	-956715.00	0.0072	0.0049
Earth	-7333-09-19 09:36 J	-956693.18	-956693.10	-956693.01	0.2718	0.1584
Moon	-7333-09-19 09:50 J	-956693.17	-956693.09	-956693.00	0.2724	0.1635 *
Pluto	-7333-11-24 10:33 J	-956627.20	-956627.06	-956626.91	0.0072	0.0039
Pluto	-7332-02-20 12:00 J	-956539.14	-956539.00	-956538.83	0.0072	0.0029
Pluto	-7332-05-19 13:40 J	-956451.09	-956450.93	-956450.76	0.0072	0.0019
Pluto	-7332-08-15 15:21 J	-956363.02	-956362.86	-956362.69	0.0072	0.0009
Pluto	-7332-11-11 17:02 J	-956274.96	-956274.79	-956274.62	0.0072	0.0001
Pluto	-7331-02-07 18:28 J	-956186.89	-956186.73	-956186.56	0.0072	0.0011
Pluto	-7331-05-06 19:55 J	-956098.82	-956098.67	-956098.50	0.0071	0.0020
Pluto	-7331-08-02 21:36 J	-956010.75	-956010.60	-956010.45	0.0071	0.0030
Pluto	-7331-10-29 22:47 J	-955922.68	-955922.55	-955922.40	0.0071	0.0039
Venus	-7331-11-15 05:02 J	-955906.38	-955906.29	-955906.19	0.3691	0.1492
Pluto	-7330-01-26 00:28 J	-955834.60	-955834.48	-955834.35	0.0071	0.0048
Jupiter	-7330-03-27 07:55 J	-955774.35	-955774.17	-955774.00	0.0501	0.0186
Pluto	-7330-04-24 01:40 J	-955746.51	-955746.43	-955746.32	0.0071	0.0058
Pluto	-7330-07-21 03:07 J	-955658.40	-955658.37	-955658.30	0.0071	0.0067
Moon	-7329-03-18 19:40 J	-955416.82	-955416.68	-955416.54	0.2617	0.1265
Earth	-7329-03-18 21:21 J	-955416.74	-955416.61	-955416.47	0.2615	0.1474 *
Mars	-7327-02-15 08:52 J	-954718.30	-954718.13	-954717.95	0.1839	0.0117
Mars	-7327-12-21 21:07 J	-954408.73	-954408.62	-954408.50	0.1688	0.0199
Moon	-7326-09-13 09:36 J	-954143.16	-954143.10	-954143.05	0.2714	0.2245
Earth	-7326-09-13 10:04 J	-954143.14	-954143.08	-954143.01	0.2717	0.2092 *
Saturn	-7325-01-16 07:40 J	-954018.35	-954018.18	-954018.01	0.0259	0.0121
Saturn	-7325-04-14 04:19 J	-953929.51	-953929.32	-953929.12	0.0260	0.0031
Venus	-7325-05-30 20:23 J	-953882.70	-953882.65	-953882.59	0.3692	0.3062
Saturn	-7325-07-12 01:12 J	-953840.58	-953840.45	-953840.31	0.0260	0.0183
Jupiter	-7325-11-24 03:36 J	-953705.47	-953705.35	-953705.22	0.0525	0.0086
Jupiter	-7324-02-21 08:23 J	-953616.21	-953616.15	-953616.09	0.0524	0.0458
Jupiter	-7318-01-13 04:04 J	-951464.52	-951464.33	-951464.15	0.0501	0.0010

Mars	-7318-07-08 02:38 J	-951288.52	-951288.39	-951288.25	0.1832	0.1146
Mars	-7317-05-13 08:09 J	-950978.26	-950978.16	-950978.05	0.1693	0.0666
Venus	-7317-09-15 04:47 J	-950853.46	-950853.30	-950853.14	0.3682	0.0431
Mars	-7315-04-18 11:45 J	-950273.09	-950273.01	-950272.94	0.1673	0.1253
Jupiter	-7313-09-12 08:09 J	-949395.28	-949395.16	-949395.05	0.0525	0.0222
Moon	-7313-09-15 02:52 J	-949392.48	-949392.38	-949392.28	0.2720	0.0826
Earth	-7313-09-15 03:36 J	-949392.45	-949392.35	-949392.25	0.2718	0.0786 *
Jupiter	-7313-12-10 12:43 J	-949306.06	-949305.97	-949305.87	0.0524	0.0324
Saturn	-7311-08-16 02:52 J	-948692.49	-948692.38	-948692.27	0.0303	0.0162
Saturn	-7311-11-12 15:21 J	-948603.99	-948603.86	-948603.73	0.0303	0.0008
Saturn	-7310-02-09 03:50 J	-948515.44	-948515.34	-948515.23	0.0303	0.0161
Mars	-7308-10-03 19:12 J	-947547.78	-947547.70	-947547.62	0.1698	0.1151
Jupiter	-7307-10-31 23:45 J	-947154.68	-947154.51	-947154.34	0.0501	0.0196
Mars	-7306-09-08 22:47 J	-946842.65	-946842.55	-946842.45	0.1678	0.0796
Uranus	-7304-08-11 16:04 J	-946139.83	-946139.83	-946139.83	0.0137	0.0137
Uranus	-7304-11-07 19:12 J	-946051.77	-946051.70	-946051.64	0.0137	0.0118
Uranus	-7303-02-03 22:04 J	-945963.66	-945963.58	-945963.49	0.0137	0.0100
Uranus	-7303-05-03 01:12 J	-945875.55	-945875.45	-945875.34	0.0137	0.0081
Uranus	-7303-07-30 04:19 J	-945787.43	-945787.32	-945787.20	0.0137	0.0063
Uranus	-7303-10-26 07:26 J	-945699.31	-945699.19	-945699.07	0.0137	0.0044
Uranus	-7302-01-22 10:33 J	-945611.19	-945611.06	-945610.93	0.0137	0.0025
Uranus	-7302-04-20 13:40 J	-945523.06	-945522.93	-945522.80	0.0137	0.0007
Uranus	-7302-07-17 16:33 J	-945434.93	-945434.81	-945434.67	0.0138	0.0014
Uranus	-7302-10-13 19:40 J	-945346.80	-945346.68	-945346.55	0.0138	0.0032
Uranus	-7301-01-09 22:47 J	-945258.67	-945258.55	-945258.43	0.0138	0.0051
Uranus	-7301-04-07 01:55 J	-945170.53	-945170.42	-945170.30	0.0138	0.0070
Jupiter	-7301-07-01 12:28 J	-945085.07	-945084.98	-945084.88	0.0525	0.0358
Uranus	-7301-07-04 05:02 J	-945082.38	-945082.29	-945082.19	0.0138	0.0089
Jupiter	-7301-09-28 17:31 J	-944995.89	-944995.77	-944995.66	0.0524	0.0190
Uranus	-7301-09-30 07:55 J	-944994.23	-944994.17	-944994.08	0.0138	0.0109

Uranus	-7301-12-27 11:02 J	-944906.07	-944906.04	-944905.98	0.0138	0.0128	
Moon	-7300-09-17 20:38 J	-944641.74	-944641.64	-944641.53	0.2724	0.0478	
Earth	-7300-09-17 21:07 J	-944641.73	-944641.62	-944641.52	0.2718	0.0539	*
Mars	-7298-02-24 06:00 J	-944117.27	-944117.25	-944117.22	0.1703	0.1640	
Mars	-7297-03-26 16:19 J	-943720.92	-943720.82	-943720.72	0.1846	0.1507	
Mars	-7296-01-29 10:04 J	-943412.19	-943412.08	-943411.97	0.1683	0.0338	
Moon	-7296-03-16 17:45 J	-943365.91	-943365.76	-943365.60	0.2615	0.0916	
Earth	-7296-03-16 19:40 J	-943365.83	-943365.68	-943365.52	0.2616	0.0801	*
Saturn	-7296-06-04 07:55 J	-943286.32	-943286.17	-943286.02	0.0259	0.0158	
Saturn	-7296-09-01 04:33 J	-943197.50	-943197.31	-943197.12	0.0259	0.0007	
Saturn	-7296-11-29 01:26 J	-943108.60	-943108.44	-943108.28	0.0259	0.0146	
Jupiter	-7295-08-19 20:09 J	-942844.77	-942844.66	-942844.53	0.0501	0.0379	
Jupiter	-7295-11-18 08:52 J	-942754.25	-942754.13	-942754.00	0.0502	0.0366	
Venus	-7291-11-07 04:19 J	-941304.39	-941304.32	-941304.26	0.3686	0.2771	
Jupiter	-7289-04-19 16:33 J	-940774.84	-940774.81	-940774.78	0.0526	0.0503	
Jupiter	-7289-07-17 21:36 J	-940685.73	-940685.60	-940685.48	0.0524	0.0047	
Mars	-7288-08-16 09:50 J	-940291.26	-940291.09	-940290.92	0.1839	0.0220	
Mars	-7287-06-21 21:07 J	-939981.73	-939981.62	-939981.50	0.1687	0.0144	
Earth	-7287-09-20 14:23 J	-939890.97	-939890.90	-939890.82	0.2718	0.1844	
Moon	-7287-09-20 14:52 J	-939890.96	-939890.88	-939890.81	0.2724	0.1893	*
Venus	-7285-05-22 19:40 J	-939280.77	-939280.68	-939280.58	0.3688	0.1158	
Moon	-7283-03-20 02:52 J	-938614.50	-938614.38	-938614.27	0.2618	0.1819	
Earth	-7283-03-20 04:19 J	-938614.42	-938614.32	-938614.21	0.2615	0.2026	*
Jupiter	-7283-09-06 05:16 J	-938444.46	-938444.28	-938444.10	0.0502	0.0179	
Saturn	-7281-01-03 05:31 J	-937960.37	-937960.27	-937960.17	0.0303	0.0200	
Saturn	-7281-03-31 18:14 J	-937871.87	-937871.74	-937871.61	0.0303	0.0038	
Saturn	-7281-06-28 06:43 J	-937783.34	-937783.22	-937783.10	0.0303	0.0124	
Saturn	-7281-09-24 19:12 J	-937694.74	-937694.70	-937694.66	0.0303	0.0283	
Moon	-7280-09-13 14:09 J	-937340.98	-937340.91	-937340.83	0.2715	0.1860	
Earth	-7280-09-13 14:52 J	-937340.96	-937340.88	-937340.80	0.2717	0.1834	*

Venus -7280-12-06 11:02 J -937257.14 -937257.04 -937256.93 0.3690 0.0477

Mars -7278-01-06 03:36 J -936861.49 -936861.35 -936861.21 0.1832 0.1032

Mars -7278-11-12 08:09 J -936551.26 -936551.16 -936551.05 0.1693 0.0610

Jupiter -7277-05-06 01:55 J -936375.55 -936375.42 -936375.30 0.0525 0.0094

Jupiter -7277-08-03 06:28 J -936286.29 -936286.23 -936286.17 0.0523 0.0449

Mars -7276-10-17 11:31 J -935846.09 -935846.02 -935845.95 0.1673 0.1305

Venus -7274-06-22 02:23 J -935233.48 -935233.40 -935233.31 0.3691 0.2045

Jupiter -7271-06-25 01:26 J -934134.63 -934134.44 -934134.26 0.0501 0.0015

Venus -7268-01-04 17:45 J -933209.77 -933209.76 -933209.74 0.3693 0.3615

Mars -7268-04-03 19:12 J -933120.79 -933120.70 -933120.62 0.1698 0.1094

Moon -7267-09-16 07:40 J -932590.28 -932590.18 -932590.07 0.2722 0.0669

Earth -7267-09-16 08:23 J -932590.26 -932590.15 -932590.05 0.2718 0.0526 *

Saturn -7267-10-22 08:52 J -932554.25 -932554.13 -932553.99 0.0259 0.0188

Neptune -7267-10-22 09:07 J -932554.18 -932554.12 -932554.02 0.0088 0.0080 *

Neptune -7266-01-18 12:57 J -932466.07 -932465.96 -932465.83 0.0088 0.0070

Saturn -7266-01-19 05:31 J -932465.46 -932465.27 -932465.08 0.0259 0.0037

Mars -7266-03-09 22:47 J -932415.65 -932415.55 -932415.45 0.1678 0.0851

Neptune -7266-04-16 16:33 J -932377.94 -932377.81 -932377.66 0.0088 0.0060

Saturn -7266-04-18 02:09 J -932376.57 -932376.41 -932376.23 0.0259 0.0116

Neptune -7266-07-13 20:09 J -932289.81 -932289.66 -932289.49 0.0088 0.0050

Venus -7266-10-06 20:38 J -932204.70 -932204.64 -932204.58 0.3684 0.3401

Neptune -7266-10-09 23:45 J -932201.68 -932201.51 -932201.33 0.0088 0.0040

Neptune -7265-01-06 03:21 J -932113.54 -932113.36 -932113.17 0.0088 0.0030

Jupiter -7265-02-23 06:00 J -932065.36 -932065.25 -932065.14 0.0526 0.0235

Neptune -7265-04-03 07:12 J -932025.39 -932025.20 -932025.01 0.0088 0.0020

Jupiter -7265-05-22 10:47 J -931976.15 -931976.05 -931975.95 0.0524 0.0312

Neptune -7265-06-30 10:47 J -931937.25 -931937.05 -931936.86 0.0088 0.0010

Neptune -7265-09-26 14:23 J -931849.10 -931848.90 -931848.70 0.0088 0.0000

Neptune -7265-12-23 18:00 J -931760.94 -931760.75 -931760.55 0.0088 0.0010

Neptune -7264-03-21 21:36 J -931672.79 -931672.60 -931672.40 0.0088 0.0020

Neptune	-7264-06-18 01:12 J	-931584.63	-931584.45	-931584.26	0.0088	0.0030
Neptune	-7264-09-14 04:47 J	-931496.47	-931496.30	-931496.12	0.0088	0.0040
Neptune	-7264-12-11 08:38 J	-931408.30	-931408.14	-931407.98	0.0088	0.0050
Uranus	-7264-12-13 05:31 J	-931406.36	-931406.27	-931406.15	0.0141	0.0119
Neptune	-7263-03-09 11:45 J	-931320.13	-931320.01	-931319.85	0.0088	0.0061
Uranus	-7263-03-11 14:09 J	-931318.06	-931317.91	-931317.75	0.0141	0.0088
Neptune	-7263-06-05 15:21 J	-931231.95	-931231.86	-931231.72	0.0088	0.0071
Uranus	-7263-06-07 22:19 J	-931229.74	-931229.57	-931229.38	0.0141	0.0057
Neptune	-7263-09-01 19:12 J	-931143.76	-931143.70	-931143.61	0.0088	0.0081
Uranus	-7263-09-04 06:57 J	-931141.40	-931141.21	-931141.01	0.0141	0.0026
Uranus	-7263-12-01 15:21 J	-931053.05	-931052.86	-931052.66	0.0141	0.0006
Uranus	-7262-02-27 23:45 J	-930964.70	-930964.51	-930964.31	0.0141	0.0036
Uranus	-7262-05-27 08:09 J	-930876.33	-930876.16	-930875.98	0.0141	0.0067
Uranus	-7262-08-23 16:33 J	-930787.95	-930787.81	-930787.66	0.0140	0.0097
Uranus	-7262-11-20 00:43 J	-930699.53	-930699.47	-930699.38	0.0140	0.0128
Venus	-7260-04-22 07:26 J	-930180.32	-930180.19	-930180.07	0.3681	0.2247
Jupiter	-7259-04-12 21:36 J	-929824.77	-929824.60	-929824.43	0.0500	0.0199
Mars	-7259-08-25 06:00 J	-929690.29	-929690.25	-929690.21	0.1703	0.1588
Mars	-7258-09-25 17:16 J	-929293.86	-929293.78	-929293.70	0.1846	0.1627
Mars	-7257-07-30 10:04 J	-928985.19	-928985.08	-928984.97	0.1683	0.0392
Moon	-7254-09-19 01:26 J	-927839.54	-927839.44	-927839.33	0.2724	0.0804
Earth	-7254-09-19 01:40 J	-927839.53	-927839.43	-927839.32	0.2718	0.0797 *
Jupiter	-7254-12-12 10:33 J	-927755.15	-927755.06	-927754.97	0.0526	0.0371
Jupiter	-7253-03-10 15:21 J	-927665.98	-927665.86	-927665.74	0.0524	0.0178
Saturn	-7252-05-22 08:23 J	-927228.23	-927228.15	-927228.07	0.0303	0.0236
Saturn	-7252-08-18 21:07 J	-927139.75	-927139.62	-927139.50	0.0303	0.0073
Saturn	-7252-11-15 09:36 J	-927051.22	-927051.10	-927050.97	0.0303	0.0089
Saturn	-7251-02-11 22:04 J	-926962.65	-926962.58	-926962.51	0.0303	0.0249
Moon	-7250-03-18 00:43 J	-926563.63	-926563.47	-926563.31	0.2615	0.0589
Earth	-7250-03-18 02:38 J	-926563.56	-926563.39	-926563.23	0.2615	0.0258 *

Mars	-7248-02-14 10:47 J	-925864.22	-925864.05	-925863.88	0.1839	0.0338
Mars	-7248-12-20 21:07 J	-925554.73	-925554.62	-925554.50	0.1688	0.0081
Jupiter	-7247-01-29 17:02 J	-925514.90	-925514.79	-925514.67	0.0500	0.0393
Jupiter	-7247-04-30 05:45 J	-925424.39	-925424.26	-925424.13	0.0502	0.0351
Jupiter	-7242-09-30 15:07 J	-923444.90	-923444.87	-923444.84	0.0526	0.0506
Jupiter	-7242-12-28 20:09 J	-923355.79	-923355.66	-923355.54	0.0524	0.0049
Earth	-7241-09-20 19:12 J	-923088.77	-923088.70	-923088.63	0.2718	0.2106
Moon	-7241-09-20 19:26 J	-923088.75	-923088.69	-923088.62	0.2725	0.2160 *
Mars	-7239-07-07 04:19 J	-922434.47	-922434.32	-922434.18	0.1832	0.0932
Mars	-7238-05-13 08:09 J	-922124.27	-922124.16	-922124.05	0.1693	0.0552
Saturn	-7237-03-10 09:07 J	-921822.21	-921822.12	-921822.03	0.0259	0.0225
Moon	-7237-03-20 09:50 J	-921812.14	-921812.09	-921812.04	0.2620	0.2481
Earth	-7237-03-20 11:16 J	-921812.06	-921812.03	-921812.00	0.2615	0.2558 *
Saturn	-7237-06-07 05:45 J	-921733.45	-921733.26	-921733.08	0.0259	0.0075
Saturn	-7237-09-04 02:23 J	-921644.59	-921644.40	-921644.22	0.0259	0.0076
Saturn	-7237-12-01 23:02 J	-921555.62	-921555.54	-921555.45	0.0259	0.0229
Mars	-7236-04-17 11:31 J	-921419.08	-921419.02	-921418.95	0.1673	0.1358
Jupiter	-7235-02-16 02:09 J	-921114.59	-921114.41	-921114.23	0.0502	0.0166
Venus	-7234-06-14 01:40 J	-920631.51	-920631.43	-920631.35	0.3687	0.2201
Moon	-7234-09-14 18:57 J	-920538.79	-920538.71	-920538.63	0.2716	0.1717
Earth	-7234-09-14 19:40 J	-920538.77	-920538.68	-920538.59	0.2717	0.1568 *
Jupiter	-7230-10-17 00:14 J	-919045.62	-919045.49	-919045.37	0.0525	0.0098
Jupiter	-7229-01-14 04:47 J	-918956.36	-918956.30	-918956.24	0.0523	0.0443
Mars	-7229-10-02 19:12 J	-918693.79	-918693.70	-918693.61	0.1698	0.1039
Venus	-7229-12-27 17:02 J	-918607.89	-918607.79	-918607.68	0.3688	0.0608
Mars	-7227-09-07 22:47 J	-917988.64	-917988.55	-917988.45	0.1678	0.0908
Jupiter	-7224-12-04 22:47 J	-916804.74	-916804.55	-916804.36	0.0501	0.0019
Venus	-7223-07-13 08:38 J	-916584.24	-916584.14	-916584.05	0.3690	0.1021
Saturn	-7223-10-09 10:33 J	-916496.10	-916496.06	-916496.01	0.0303	0.0280
Saturn	-7222-01-05 23:16 J	-916407.64	-916407.53	-916407.41	0.0304	0.0117

Saturn	-7222-04-04 12:00 J	-916319.13	-916319.00	-916318.87	0.0303	0.0046
Saturn	-7222-07-02 00:28 J	-916230.57	-916230.48	-916230.38	0.0303	0.0207
Moon	-7221-09-16 12:28 J	-915788.08	-915787.98	-915787.87	0.2722	0.0283
Earth	-7221-09-16 13:12 J	-915788.06	-915787.95	-915787.85	0.2718	0.0276 *
Uranus	-7220-08-31 22:47 J	-915438.56	-915438.55	-915438.51	0.0137	0.0134
Uranus	-7220-11-28 02:09 J	-915350.48	-915350.41	-915350.34	0.0137	0.0115
Mars	-7219-02-23 06:00 J	-915263.30	-915263.25	-915263.20	0.1703	0.1529
Uranus	-7219-02-24 05:02 J	-915262.37	-915262.29	-915262.19	0.0137	0.0097
Uranus	-7219-05-23 08:09 J	-915174.26	-915174.16	-915174.05	0.0137	0.0078
Uranus	-7219-08-19 11:16 J	-915086.14	-915086.03	-915085.91	0.0137	0.0059
Uranus	-7219-11-15 14:23 J	-914998.02	-914997.90	-914997.77	0.0137	0.0041
Uranus	-7218-02-11 17:31 J	-914909.90	-914909.77	-914909.64	0.0137	0.0022
Mars	-7218-03-26 18:28 J	-914866.78	-914866.73	-914866.68	0.1846	0.1754
Uranus	-7218-05-10 20:38 J	-914821.77	-914821.64	-914821.51	0.0137	0.0003
Jupiter	-7218-08-05 04:19 J	-914735.43	-914735.32	-914735.20	0.0525	0.0239
Uranus	-7218-08-06 23:45 J	-914733.64	-914733.51	-914733.38	0.0138	0.0016
Jupiter	-7218-11-02 09:07 J	-914646.22	-914646.12	-914646.02	0.0524	0.0307
Uranus	-7218-11-03 02:52 J	-914645.51	-914645.38	-914645.26	0.0138	0.0035
Venus	-7217-01-27 00:00 J	-914560.58	-914560.50	-914560.43	0.3692	0.2599
Mars	-7217-01-29 10:04 J	-914558.19	-914558.08	-914557.97	0.1682	0.0449
Uranus	-7217-01-30 05:45 J	-914557.37	-914557.26	-914557.13	0.0138	0.0054
Earth	-7217-03-15 00:43 J	-914512.50	-914512.47	-914512.43	0.2616	0.2543
Uranus	-7217-04-27 08:52 J	-914469.23	-914469.13	-914469.01	0.0138	0.0073
Uranus	-7217-07-24 12:00 J	-914381.09	-914381.00	-914380.90	0.0138	0.0092
Uranus	-7217-10-20 15:07 J	-914292.94	-914292.87	-914292.79	0.0138	0.0111
Uranus	-7216-01-16 18:14 J	-914204.77	-914204.74	-914204.69	0.0138	0.0130
Jupiter	-7212-09-22 19:12 J	-912494.87	-912494.70	-912494.53	0.0500	0.0203
Venus	-7209-05-12 23:02 J	-911531.68	-911531.54	-911531.40	0.3683	0.1621
Mars	-7209-08-15 11:31 J	-911437.18	-911437.02	-911436.85	0.1839	0.0452
Mars	-7208-06-20 21:07 J	-911127.73	-911127.62	-911127.51	0.1687	0.0024

Saturn	-7208-07-28 09:36 J	-911090.10	-911090.10	-911090.09	0.0259	0.0259
Moon	-7208-09-19 06:28 J	-911037.33	-911037.23	-911037.13	0.2725	0.1006
Earth	-7208-09-19 06:28 J	-911037.33	-911037.23	-911037.13	0.2718	0.1055 *
Saturn	-7208-10-25 06:00 J	-911001.42	-911001.25	-911001.07	0.0259	0.0109
Saturn	-7207-01-22 02:52 J	-910912.57	-910912.38	-910912.19	0.0259	0.0042
Saturn	-7207-04-20 23:31 J	-910823.64	-910823.52	-910823.39	0.0259	0.0195
Jupiter	-7206-05-24 08:38 J	-910425.23	-910425.14	-910425.06	0.0526	0.0381
Jupiter	-7206-08-21 13:26 J	-910336.06	-910335.94	-910335.82	0.0524	0.0169
Moon	-7204-03-18 07:40 J	-909761.35	-909761.18	-909761.02	0.2616	0.0186
Earth	-7204-03-18 09:36 J	-909761.27	-909761.10	-909760.94	0.2616	0.0290 *
Moon	-7201-09-12 06:28 J	-908487.23	-908487.23	-908487.22	0.2712	0.2701
Earth	-7201-09-12 06:57 J	-908487.23	-908487.21	-908487.18	0.2717	0.2614 *
Jupiter	-7200-07-11 15:21 J	-908184.97	-908184.86	-908184.74	0.0500	0.0388
Jupiter	-7200-10-10 03:50 J	-908094.47	-908094.34	-908094.20	0.0502	0.0354
Mars	-7199-01-05 05:16 J	-908007.43	-908007.28	-908007.13	0.1833	0.0811
Mars	-7199-11-11 08:09 J	-907697.27	-907697.16	-907697.05	0.1693	0.0500
Mars	-7197-10-16 11:31 J	-906992.08	-906992.02	-906991.96	0.1673	0.1410
Earth	-7195-09-22 00:00 J	-906286.55	-906286.50	-906286.45	0.2718	0.2371
Moon	-7195-09-22 00:14 J	-906286.53	-906286.49	-906286.44	0.2724	0.2457 *
Jupiter	-7194-03-12 12:57 J	-906114.98	-906114.96	-906114.93	0.0526	0.0516
Jupiter	-7194-06-09 18:00 J	-906025.87	-906025.75	-906025.62	0.0525	0.0041
Saturn	-7193-05-25 02:09 J	-905675.52	-905675.41	-905675.30	0.0303	0.0154
Saturn	-7193-08-21 14:38 J	-905587.01	-905586.89	-905586.76	0.0303	0.0013
Saturn	-7193-11-18 03:21 J	-905498.47	-905498.36	-905498.26	0.0303	0.0169
Mars	-7189-04-02 19:12 J	-904266.80	-904266.70	-904266.61	0.1698	0.0982
Jupiter	-7188-07-28 23:16 J	-903784.71	-903784.53	-903784.35	0.0502	0.0156
Moon	-7188-09-14 23:45 J	-903736.60	-903736.51	-903736.42	0.2719	0.1355
Earth	-7188-09-15 00:28 J	-903736.57	-903736.48	-903736.39	0.2717	0.1306 *
Mars	-7187-03-08 22:47 J	-903561.64	-903561.55	-903561.46	0.1678	0.0959
Neptune	-7185-02-07 17:45 J	-902860.77	-902860.76	-902860.73	0.0089	0.0088

Neptune -7185-05-05 19:12 J -902772.75 -902772.70 -902772.64 0.0089 0.0080

Neptune -7185-08-01 20:23 J -902684.71 -902684.65 -902684.57 0.0089 0.0074

Neptune -7185-10-28 21:50 J -902596.67 -902596.59 -902596.50 0.0089 0.0066

Neptune -7184-01-24 23:02 J -902508.63 -902508.54 -902508.43 0.0089 0.0059

Neptune -7184-04-23 00:28 J -902420.58 -902420.48 -902420.37 0.0089 0.0052

Neptune -7184-07-20 01:55 J -902332.53 -902332.42 -902332.30 0.0089 0.0045

Neptune -7184-10-16 03:21 J -902244.48 -902244.36 -902244.24 0.0089 0.0038

Neptune -7183-01-12 04:33 J -902156.43 -902156.31 -902156.18 0.0089 0.0031

Neptune -7183-04-10 06:00 J -902068.38 -902068.25 -902068.13 0.0089 0.0024

Venus -7183-07-05 07:40 J -901982.23 -901982.18 -901982.14 0.3686 0.3249

Neptune -7183-07-07 07:12 J -901980.33 -901980.20 -901980.07 0.0089 0.0016

Neptune -7183-10-03 08:38 J -901892.27 -901892.14 -901892.01 0.0089 0.0010

Neptune -7183-12-30 09:50 J -901804.22 -901804.09 -901803.96 0.0089 0.0002

Neptune -7182-03-28 11:16 J -901716.16 -901716.03 -901715.90 0.0089 0.0005

Jupiter -7182-03-28 22:47 J -901715.67 -901715.55 -901715.42 0.0525 0.0096

Neptune -7182-06-24 12:28 J -901628.11 -901627.98 -901627.85 0.0089 0.0012

Jupiter -7182-06-26 03:36 J -901626.42 -901626.35 -901626.29 0.0523 0.0446

Neptune -7182-09-20 13:40 J -901540.05 -901539.93 -901539.80 0.0089 0.0019

Neptune -7182-12-17 15:07 J -901451.99 -901451.87 -901451.74 0.0089 0.0026

Neptune -7181-03-14 16:19 J -901363.94 -901363.82 -901363.69 0.0089 0.0033

Neptune -7181-06-10 17:31 J -901275.88 -901275.77 -901275.64 0.0089 0.0041

Neptune -7181-09-06 18:57 J -901187.82 -901187.71 -901187.60 0.0089 0.0047

Neptune -7181-12-03 20:09 J -901099.75 -901099.66 -901099.55 0.0089 0.0055

Neptune -7180-03-01 21:21 J -901011.69 -901011.61 -901011.50 0.0089 0.0062

Neptune -7180-05-28 22:47 J -900923.63 -900923.55 -900923.46 0.0089 0.0068

Mars -7180-08-24 06:00 J -900836.30 -900836.25 -900836.19 0.1703 0.1472

Neptune -7180-08-25 00:00 J -900835.56 -900835.50 -900835.42 0.0089 0.0076

Neptune -7180-11-21 01:12 J -900747.48 -900747.45 -900747.39 0.0089 0.0083

Uranus -7179-01-02 12:00 J -900705.11 -900705.00 -900704.88 0.0141 0.0114

Neptune -7179-02-17 02:38 J -900659.39 -900659.39 -900659.38 0.0089 0.0089

Uranus	-7179-03-31 20:23 J	-900616.80	-900616.65	-900616.48	0.0141	0.0083
Uranus	-7179-06-28 05:02 J	-900528.47	-900528.29	-900528.10	0.0141	0.0052
Uranus	-7179-09-24 13:26 J	-900440.13	-900439.94	-900439.74	0.0141	0.0021
Uranus	-7179-12-21 21:50 J	-900351.78	-900351.59	-900351.39	0.0141	0.0010
Saturn	-7178-03-14 05:45 J	-900269.41	-900269.26	-900269.10	0.0259	0.0149
Uranus	-7178-03-20 06:14 J	-900263.42	-900263.24	-900263.05	0.0141	0.0041
Saturn	-7178-06-11 02:23 J	-900180.59	-900180.40	-900180.20	0.0259	0.0006
Uranus	-7178-06-16 14:38 J	-900175.05	-900174.89	-900174.71	0.0141	0.0071
Mars	-7178-07-30 09:50 J	-900131.19	-900131.09	-900130.98	0.1683	0.0505
Saturn	-7178-09-07 23:16 J	-900091.69	-900091.53	-900091.38	0.0259	0.0153
Uranus	-7178-09-12 23:16 J	-900086.67	-900086.53	-900086.40	0.0140	0.0102
Uranus	-7178-12-10 07:12 J	-899998.25	-899998.20	-899998.12	0.0140	0.0133
Venus	-7177-01-18 23:02 J	-899958.63	-899958.54	-899958.45	0.3687	0.1631
Jupiter	-7176-05-16 19:55 J	-899474.86	-899474.67	-899474.48	0.0501	0.0027
Moon	-7175-09-17 17:16 J	-898985.88	-898985.78	-898985.67	0.2722	0.0171
Earth	-7175-09-17 18:00 J	-898985.86	-898985.75	-898985.65	0.2718	0.0112 *
Pluto	-7172-02-24 20:52 J	-898094.65	-898094.63	-898094.59	0.0072	0.0070
Pluto	-7172-05-23 21:50 J	-898006.65	-898006.59	-898006.50	0.0072	0.0062
Venus	-7172-08-03 14:38 J	-897935.00	-897934.89	-897934.79	0.3689	0.0121
Pluto	-7172-08-19 23:02 J	-897918.63	-897918.54	-897918.43	0.0072	0.0053
Pluto	-7172-11-16 00:14 J	-897830.60	-897830.49	-897830.37	0.0072	0.0045
Pluto	-7171-02-12 01:12 J	-897742.57	-897742.45	-897742.31	0.0072	0.0036
Moon	-7171-03-16 06:00 J	-897710.35	-897710.25	-897710.16	0.2614	0.2135
Earth	-7171-03-16 07:55 J	-897710.28	-897710.17	-897710.07	0.2616	0.1989 *
Pluto	-7171-05-11 02:23 J	-897654.53	-897654.40	-897654.26	0.0072	0.0027
Pluto	-7171-08-07 03:36 J	-897566.49	-897566.35	-897566.20	0.0073	0.0018
Pluto	-7171-11-03 04:47 J	-897478.45	-897478.30	-897478.15	0.0073	0.0009
Jupiter	-7170-01-15 03:07 J	-897405.49	-897405.37	-897405.26	0.0525	0.0238
Pluto	-7170-01-30 06:00 J	-897390.40	-897390.25	-897390.10	0.0073	0.0002
Jupiter	-7170-04-14 07:40 J	-897316.28	-897316.18	-897316.07	0.0523	0.0307

Pluto	-7170-04-28 06:57 J	-897302.35	-897302.21	-897302.06	0.0073	0.0009	
Pluto	-7170-07-25 08:09 J	-897214.30	-897214.16	-897214.01	0.0073	0.0018	
Pluto	-7170-10-21 09:07 J	-897126.25	-897126.12	-897125.97	0.0073	0.0027	
Pluto	-7169-01-17 10:19 J	-897038.19	-897038.07	-897037.93	0.0073	0.0037	
Mars	-7169-02-14 12:28 J	-897010.15	-897009.98	-897009.82	0.1840	0.0563	
Pluto	-7169-04-14 11:31 J	-896950.13	-896950.02	-896949.89	0.0073	0.0046	
Pluto	-7169-07-11 12:28 J	-896862.06	-896861.98	-896861.86	0.0073	0.0056	
Pluto	-7169-10-07 13:55 J	-896773.98	-896773.92	-896773.84	0.0074	0.0065	
Mars	-7169-12-19 21:07 J	-896700.73	-896700.62	-896700.51	0.1687	0.0035	
Venus	-7166-02-17 06:00 J	-895911.34	-895911.25	-895911.16	0.3690	0.1576	
Jupiter	-7164-03-04 16:33 J	-895164.97	-895164.81	-895164.63	0.0501	0.0208	
Saturn	-7164-10-12 03:50 J	-894943.44	-894943.34	-894943.25	0.0304	0.0205	
Saturn	-7163-01-08 16:33 J	-894854.94	-894854.81	-894854.68	0.0304	0.0042	
Saturn	-7163-04-07 05:02 J	-894766.41	-894766.29	-894766.17	0.0304	0.0120	
Saturn	-7163-07-04 17:31 J	-894677.81	-894677.77	-894677.72	0.0303	0.0280	
Moon	-7162-09-20 11:16 J	-894235.12	-894235.03	-894234.94	0.2725	0.1397	
Earth	-7162-09-20 11:16 J	-894235.12	-894235.03	-894234.94	0.2718	0.1318	*
Venus	-7161-09-01 21:21 J	-893887.66	-893887.61	-893887.56	0.3692	0.3150	
Mars	-7160-07-06 06:14 J	-893580.39	-893580.24	-893580.08	0.1833	0.0690	
Mars	-7159-05-12 08:09 J	-893270.27	-893270.16	-893270.05	0.1692	0.0444	
Jupiter	-7159-11-03 07:12 J	-893095.28	-893095.20	-893095.11	0.0525	0.0378	
Jupiter	-7158-01-31 12:14 J	-893006.11	-893005.99	-893005.87	0.0524	0.0170	
Moon	-7158-03-19 14:52 J	-892959.04	-892958.88	-892958.72	0.2617	0.0546	
Earth	-7158-03-19 16:33 J	-892958.97	-892958.81	-892958.66	0.2615	0.0839	*
Mars	-7157-04-16 11:31 J	-892565.07	-892565.02	-892564.97	0.1673	0.1465	
Moon	-7155-09-13 11:16 J	-891685.08	-891685.03	-891684.98	0.2713	0.2412	
Earth	-7155-09-13 11:45 J	-891685.06	-891685.01	-891684.96	0.2717	0.2354	*
Venus	-7153-12-18 01:26 J	-890858.60	-890858.44	-890858.28	0.3683	0.0126	
Jupiter	-7153-12-21 13:26 J	-890855.05	-890854.94	-890854.82	0.0500	0.0388	
Jupiter	-7152-03-22 01:55 J	-890764.55	-890764.42	-890764.29	0.0502	0.0354	

Mars	-7150-10-02 18:57 J	-889839.80	-889839.71	-889839.61	0.1698	0.0930
Saturn	-7149-07-31 05:45 J	-889537.38	-889537.26	-889537.12	0.0259	0.0187
Earth	-7149-09-22 04:47 J	-889484.33	-889484.30	-889484.28	0.2718	0.2635
Moon	-7149-09-22 05:16 J	-889484.30	-889484.28	-889484.27	0.2723	0.2668 *
Saturn	-7149-10-28 02:23 J	-889448.59	-889448.40	-889448.21	0.0259	0.0037
Saturn	-7148-01-24 23:02 J	-889359.71	-889359.54	-889359.37	0.0259	0.0115
Mars	-7148-09-06 22:47 J	-889134.64	-889134.55	-889134.46	0.1678	0.1013
Jupiter	-7147-08-22 11:31 J	-888785.04	-888785.02	-888785.01	0.0526	0.0522
Jupiter	-7147-11-19 16:33 J	-888695.94	-888695.81	-888695.69	0.0525	0.0034
Moon	-7142-09-16 04:33 J	-886934.41	-886934.31	-886934.21	0.2720	0.1171
Earth	-7142-09-16 05:16 J	-886934.38	-886934.28	-886934.18	0.2717	0.1045 *
Jupiter	-7140-01-07 22:04 J	-886454.75	-886454.58	-886454.40	0.0501	0.0167
Mars	-7140-02-22 06:00 J	-886409.31	-886409.25	-886409.19	0.1703	0.1419
Mars	-7138-01-28 09:50 J	-885704.20	-885704.09	-885703.98	0.1682	0.0554
Uranus	-7136-09-21 06:14 J	-884737.28	-884737.24	-884737.20	0.0137	0.0129
Uranus	-7136-12-18 09:07 J	-884649.18	-884649.12	-884649.03	0.0137	0.0111
Uranus	-7135-03-16 12:28 J	-884561.08	-884560.98	-884560.88	0.0137	0.0092
Uranus	-7135-06-12 15:36 J	-884472.96	-884472.85	-884472.74	0.0137	0.0073
Jupiter	-7135-09-07 21:07 J	-884385.74	-884385.62	-884385.49	0.0525	0.0102
Uranus	-7135-09-08 18:28 J	-884384.84	-884384.73	-884384.60	0.0137	0.0055
Uranus	-7135-12-05 21:36 J	-884296.72	-884296.60	-884296.47	0.0137	0.0037
Jupiter	-7135-12-06 01:55 J	-884296.49	-884296.42	-884296.36	0.0523	0.0441 *
Saturn	-7134-03-01 06:00 J	-884211.32	-884211.25	-884211.18	0.0303	0.0249
Uranus	-7134-03-04 00:43 J	-884208.59	-884208.47	-884208.34	0.0137	0.0018
Saturn	-7134-05-28 18:43 J	-884122.84	-884122.72	-884122.60	0.0303	0.0086
Uranus	-7134-05-31 03:50 J	-884120.47	-884120.34	-884120.21	0.0138	0.0004
Saturn	-7134-08-25 07:26 J	-884034.32	-884034.19	-884034.07	0.0303	0.0076
Uranus	-7134-08-27 06:57 J	-884032.34	-884032.21	-884032.08	0.0138	0.0021
Saturn	-7134-11-21 19:40 J	-883945.75	-883945.68	-883945.59	0.0303	0.0237
Uranus	-7134-11-23 10:04 J	-883944.20	-883944.08	-883943.95	0.0138	0.0040

Uranus	-7133-02-19 13:12 J	-883856.07	-883855.95	-883855.83	0.0138	0.0058
Uranus	-7133-05-17 16:04 J	-883767.93	-883767.83	-883767.71	0.0138	0.0078
Uranus	-7133-08-13 19:26 J	-883679.78	-883679.69	-883679.60	0.0138	0.0097
Uranus	-7133-11-09 22:33 J	-883591.63	-883591.56	-883591.49	0.0138	0.0116
Uranus	-7132-02-06 01:40 J	-883503.45	-883503.43	-883503.40	0.0138	0.0135
Mars	-7130-08-15 13:26 J	-882583.10	-882582.94	-882582.78	0.1840	0.0680
Mars	-7129-06-19 21:07 J	-882273.74	-882273.62	-882273.51	0.1687	0.0096
Moon	-7129-09-17 22:19 J	-882183.68	-882183.57	-882183.47	0.2723	0.0275
Earth	-7129-09-17 22:33 J	-882183.66	-882183.56	-882183.45	0.2718	0.0285 *
Jupiter	-7129-10-26 17:31 J	-882144.96	-882144.77	-882144.58	0.0501	0.0032
Venus	-7126-02-09 05:02 J	-881309.36	-881309.29	-881309.22	0.3686	0.2670
Moon	-7125-03-16 12:57 J	-880908.09	-880907.96	-880907.84	0.2614	0.1693
Earth	-7125-03-16 14:38 J	-880908.02	-880907.89	-880907.75	0.2616	0.1445 *
Jupiter	-7123-06-27 01:55 J	-880075.53	-880075.42	-880075.31	0.0525	0.0232
Jupiter	-7123-09-24 06:43 J	-879986.32	-879986.22	-879986.12	0.0524	0.0313
Venus	-7121-08-24 20:38 J	-879285.74	-879285.64	-879285.55	0.3688	0.1060
Mars	-7120-01-04 06:43 J	-879153.38	-879153.22	-879153.06	0.1833	0.0597
Mars	-7120-11-10 08:09 J	-878843.27	-878843.16	-878843.05	0.1692	0.0387
Saturn	-7120-12-18 05:16 J	-878805.37	-878805.28	-878805.19	0.0259	0.0229
Saturn	-7119-03-17 01:40 J	-878716.61	-878716.43	-878716.25	0.0259	0.0080
Saturn	-7119-06-13 22:19 J	-878627.76	-878627.57	-878627.39	0.0259	0.0071
Saturn	-7119-09-10 18:43 J	-878538.80	-878538.72	-878538.61	0.0259	0.0223
Mars	-7118-10-16 11:31 J	-878138.07	-878138.02	-878137.98	0.1673	0.1517
Jupiter	-7117-08-14 14:09 J	-877835.07	-877834.91	-877834.74	0.0501	0.0213
Earth	-7116-09-20 16:04 J	-877432.92	-877432.83	-877432.74	0.2718	0.1584
Moon	-7116-09-20 16:04 J	-877432.91	-877432.83	-877432.74	0.2725	0.1548 *
Venus	-7115-03-10 12:00 J	-877262.10	-877262.00	-877261.90	0.3689	0.0545
Moon	-7112-03-19 21:50 J	-876156.73	-876156.59	-876156.45	0.2619	0.1294
Earth	-7112-03-19 23:31 J	-876156.66	-876156.52	-876156.38	0.2615	0.1392 *
Jupiter	-7111-04-15 06:14 J	-875765.33	-875765.24	-875765.15	0.0525	0.0372

Mars	-7111-05-27 01:12 J	-875723.47	-875723.45	-875723.42	0.1826	0.1802
Jupiter	-7111-07-13 11:02 J	-875676.16	-875676.04	-875675.92	0.0524	0.0175
Mars	-7110-04-02 18:57 J	-875412.80	-875412.71	-875412.61	0.1697	0.0873
Venus	-7110-09-24 03:21 J	-875238.44	-875238.36	-875238.28	0.3691	0.2133
Moon	-7109-09-13 15:50 J	-874882.90	-874882.84	-874882.77	0.2714	0.2160
Earth	-7109-09-13 16:33 J	-874882.88	-874882.81	-874882.74	0.2717	0.2093 *
Mars	-7108-03-07 22:47 J	-874707.64	-874707.55	-874707.47	0.1677	0.1070
Jupiter	-7105-06-02 11:16 J	-873525.14	-873525.03	-873524.91	0.0501	0.0389
Jupiter	-7105-08-31 23:45 J	-873434.64	-873434.51	-873434.37	0.0502	0.0355
Saturn	-7105-10-14 19:55 J	-873390.78	-873390.67	-873390.55	0.0304	0.0142
Saturn	-7104-01-11 08:38 J	-873302.27	-873302.14	-873302.01	0.0304	0.0021
Saturn	-7104-04-09 21:07 J	-873213.72	-873213.62	-873213.51	0.0304	0.0183
Neptune	-7102-04-22 04:04 J	-872471.35	-872471.33	-872471.28	0.0088	0.0086
Neptune	-7102-07-19 07:55 J	-872383.26	-872383.17	-872383.07	0.0088	0.0076
Neptune	-7102-10-15 11:31 J	-872295.14	-872295.02	-872294.89	0.0088	0.0066
Venus	-7101-01-08 17:31 J	-872209.80	-872209.77	-872209.75	0.3684	0.3634
Neptune	-7101-01-11 15:07 J	-872207.01	-872206.87	-872206.72	0.0088	0.0056
Neptune	-7101-04-08 18:43 J	-872118.88	-872118.72	-872118.55	0.0088	0.0046
Neptune	-7101-07-05 22:19 J	-872030.74	-872030.57	-872030.39	0.0088	0.0036
Mars	-7101-08-23 06:00 J	-871982.32	-871982.25	-871982.19	0.1703	0.1364
Neptune	-7101-10-02 01:55 J	-871942.60	-871942.42	-871942.23	0.0088	0.0026
Neptune	-7101-12-29 05:31 J	-871854.46	-871854.27	-871854.07	0.0088	0.0017
Neptune	-7100-03-27 09:07 J	-871766.31	-871766.12	-871765.92	0.0088	0.0007
Neptune	-7100-06-23 12:57 J	-871678.16	-871677.96	-871677.77	0.0088	0.0004
Neptune	-7100-09-19 16:19 J	-871590.01	-871589.82	-871589.62	0.0088	0.0014
Neptune	-7100-12-16 19:55 J	-871501.85	-871501.67	-871501.47	0.0088	0.0024
Jupiter	-7099-02-01 10:19 J	-871455.09	-871455.07	-871455.04	0.0526	0.0512
Neptune	-7099-03-14 23:31 J	-871413.69	-871413.52	-871413.33	0.0088	0.0034
Jupiter	-7099-05-01 15:21 J	-871365.98	-871365.86	-871365.73	0.0524	0.0041
Neptune	-7099-06-11 03:07 J	-871325.53	-871325.37	-871325.19	0.0088	0.0044

Mars -7099-07-29 09:50 J -871277.20 -871277.09 -871276.98 0.1682 0.0606

Neptune -7099-09-07 06:43 J -871237.36 -871237.22 -871237.05 0.0088 0.0054

Neptune -7099-12-04 10:33 J -871149.19 -871149.06 -871148.92 0.0088 0.0064

Neptune -7098-03-02 14:09 J -871061.01 -871060.91 -871060.80 0.0088 0.0074

Neptune -7098-05-29 18:00 J -870972.80 -870972.75 -870972.70 0.0088 0.0084

Venus -7096-07-25 04:04 J -870185.47 -870185.33 -870185.20 0.3682 0.1926

Moon -7096-09-16 09:21 J -870132.21 -870132.11 -870132.01 0.2719 0.0856

Earth -7096-09-16 10:04 J -870132.19 -870132.08 -870131.98 0.2717 0.0786 *

Uranus -7096-10-26 10:33 J -870092.08 -870092.06 -870092.01 0.0141 0.0139

Uranus -7095-01-22 19:12 J -870003.82 -870003.70 -870003.57 0.0141 0.0107

Uranus -7095-04-21 03:36 J -869915.51 -869915.35 -869915.18 0.0141 0.0077

Uranus -7095-07-18 12:14 J -869827.18 -869826.99 -869826.80 0.0141 0.0045

Uranus -7095-10-14 20:38 J -869738.83 -869738.64 -869738.44 0.0141 0.0014

Uranus -7094-01-11 05:02 J -869650.48 -869650.29 -869650.09 0.0141 0.0017

Uranus -7094-04-09 13:26 J -869562.12 -869561.94 -869561.75 0.0141 0.0048

Uranus -7094-07-06 21:36 J -869473.75 -869473.60 -869473.42 0.0141 0.0079

Uranus -7094-10-03 06:14 J -869385.36 -869385.24 -869385.11 0.0140 0.0109

Uranus -7094-12-30 14:23 J -869296.91 -869296.90 -869296.86 0.0140 0.0139

Jupiter -7093-06-19 20:38 J -869124.82 -869124.64 -869124.47 0.0501 0.0172

Mars -7090-02-13 14:09 J -868156.06 -868155.91 -868155.75 0.1840 0.0797

Saturn -7090-08-04 00:57 J -867984.62 -867984.46 -867984.29 0.0259 0.0122

Saturn -7090-10-31 21:36 J -867895.79 -867895.60 -867895.41 0.0259 0.0028

Mars -7090-12-19 21:07 J -867846.74 -867846.62 -867846.51 0.1687 0.0152

Saturn -7089-01-28 18:14 J -867806.88 -867806.74 -867806.60 0.0259 0.0179

Jupiter -7087-02-17 19:40 J -867055.80 -867055.68 -867055.56 0.0525 0.0102

Pluto -7087-04-27 19:26 J -866986.73 -866986.69 -866986.61 0.0073 0.0068

Jupiter -7087-05-18 00:28 J -866966.55 -866966.48 -866966.42 0.0523 0.0441

Pluto -7087-07-24 21:07 J -866898.71 -866898.62 -866898.50 0.0072 0.0057

Pluto -7087-10-20 23:02 J -866810.66 -866810.54 -866810.41 0.0072 0.0047

Pluto -7086-01-17 00:43 J -866722.61 -866722.47 -866722.32 0.0072 0.0037

Pluto	-7086-04-15 02:23 J	-866634.56	-866634.40	-866634.24	0.0072	0.0026
Pluto	-7086-07-12 03:50 J	-866546.50	-866546.34	-866546.17	0.0072	0.0017
Pluto	-7086-10-08 05:31 J	-866458.43	-866458.27	-866458.10	0.0072	0.0007
Pluto	-7085-01-04 07:12 J	-866370.37	-866370.20	-866370.03	0.0072	0.0003
Pluto	-7085-04-01 08:38 J	-866282.30	-866282.14	-866281.97	0.0072	0.0013
Pluto	-7085-06-28 10:04 J	-866194.23	-866194.08	-866193.91	0.0071	0.0023
Pluto	-7085-09-24 11:31 J	-866106.16	-866106.02	-866105.86	0.0071	0.0032
Pluto	-7085-12-21 13:12 J	-866018.08	-866017.95	-866017.81	0.0071	0.0041
Pluto	-7084-03-19 14:23 J	-865930.00	-865929.90	-865929.77	0.0071	0.0051
Pluto	-7084-06-15 16:04 J	-865841.91	-865841.83	-865841.73	0.0071	0.0060
Pluto	-7084-09-11 17:31 J	-865753.79	-865753.77	-865753.73	0.0071	0.0069
Moon	-7083-09-19 03:07 J	-865381.47	-865381.37	-865381.26	0.2724	0.0465
Earth	-7083-09-19 03:21 J	-865381.46	-865381.36	-865381.25	0.2718	0.0535 *
Jupiter	-7081-04-07 17:02 J	-864814.98	-864814.79	-864814.60	0.0501	0.0013
Mars	-7081-07-05 07:55 J	-864726.33	-864726.17	-864726.00	0.1833	0.0468
Mars	-7080-05-11 07:55 J	-864416.28	-864416.17	-864416.05	0.1692	0.0342
Moon	-7079-03-17 19:55 J	-864105.82	-864105.67	-864105.52	0.2614	0.1090
Earth	-7079-03-17 21:36 J	-864105.75	-864105.60	-864105.44	0.2616	0.0897 *
Mars	-7078-04-16 11:31 J	-863711.06	-863711.02	-863710.99	0.1673	0.1571
Jupiter	-7076-12-07 00:28 J	-862745.59	-862745.48	-862745.37	0.0525	0.0233
Saturn	-7075-03-03 21:50 J	-862658.69	-862658.59	-862658.49	0.0303	0.0192
Jupiter	-7075-03-06 05:16 J	-862656.38	-862656.28	-862656.18	0.0524	0.0313
Saturn	-7075-05-31 10:19 J	-862570.19	-862570.07	-862569.94	0.0303	0.0030
Saturn	-7075-08-27 23:02 J	-862481.66	-862481.54	-862481.43	0.0303	0.0133
Saturn	-7075-11-24 11:31 J	-862393.05	-862393.02	-862392.99	0.0303	0.0293
Mars	-7072-11-25 01:55 J	-861296.48	-861296.42	-861296.37	0.1826	0.1706
Mars	-7071-10-01 18:57 J	-860985.81	-860985.71	-860985.61	0.1698	0.0817
Venus	-7070-09-16 02:38 J	-860636.48	-860636.39	-860636.31	0.3686	0.2096
Earth	-7070-09-21 20:52 J	-860630.71	-860630.63	-860630.56	0.2718	0.1849
Moon	-7070-09-21 20:52 J	-860630.70	-860630.63	-860630.55	0.2725	0.1939 *

Jupiter	-7069-01-25 12:14 J	-860505.16	-860504.99	-860504.82	0.0501	0.0212
Mars	-7069-09-05 22:33 J	-860280.64	-860280.56	-860280.47	0.1678	0.1118
Moon	-7066-03-21 04:33 J	-859354.43	-859354.31	-859354.18	0.2619	0.1678
Earth	-7066-03-21 06:14 J	-859354.35	-859354.24	-859354.13	0.2615	0.1930 *
Venus	-7064-03-31 18:00 J	-858612.85	-858612.75	-858612.65	0.3688	0.0485
Jupiter	-7064-09-25 05:16 J	-858435.37	-858435.28	-858435.19	0.0525	0.0362
Jupiter	-7064-12-23 10:04 J	-858346.19	-858346.08	-858345.96	0.0524	0.0187
Moon	-7063-09-14 20:38 J	-858080.71	-858080.64	-858080.57	0.2716	0.1962
Earth	-7063-09-14 21:21 J	-858080.69	-858080.61	-858080.53	0.2717	0.1830 *
Mars	-7061-02-22 06:00 J	-857555.32	-857555.25	-857555.18	0.1703	0.1302
Saturn	-7061-12-21 00:00 J	-857252.64	-857252.50	-857252.35	0.0258	0.0167
Saturn	-7060-03-19 20:38 J	-857163.84	-857163.64	-857163.45	0.0258	0.0019
Saturn	-7060-06-16 17:02 J	-857074.95	-857074.79	-857074.62	0.0258	0.0133
Mars	-7059-01-27 09:50 J	-856850.19	-856850.09	-856849.98	0.1682	0.0664
Venus	-7059-10-15 09:21 J	-856589.20	-856589.11	-856589.01	0.3690	0.1110
Jupiter	-7058-11-13 09:07 J	-856195.23	-856195.12	-856195.00	0.0501	0.0390
Jupiter	-7057-02-11 21:36 J	-856104.72	-856104.60	-856104.46	0.0502	0.0356
Venus	-7053-04-30 00:43 J	-854565.54	-854565.47	-854565.40	0.3691	0.2683
Jupiter	-7052-07-14 09:36 J	-854125.13	-854125.10	-854125.07	0.0526	0.0501
Jupiter	-7052-10-11 14:38 J	-854036.02	-854035.89	-854035.77	0.0524	0.0049
Uranus	-7052-10-11 13:26 J	-854035.99	-854035.94	-854035.89	0.0137	0.0125 *
Uranus	-7051-01-07 16:33 J	-853947.89	-853947.81	-853947.73	0.0137	0.0106
Uranus	-7051-04-05 19:26 J	-853859.78	-853859.69	-853859.58	0.0137	0.0089
Uranus	-7051-07-02 22:47 J	-853771.66	-853771.55	-853771.44	0.0137	0.0069
Mars	-7051-08-14 15:07 J	-853729.02	-853728.87	-853728.72	0.1840	0.0908
Uranus	-7051-09-29 01:55 J	-853683.54	-853683.42	-853683.30	0.0137	0.0050
Uranus	-7051-12-26 05:02 J	-853595.42	-853595.29	-853595.17	0.0137	0.0032
Uranus	-7050-03-24 08:09 J	-853507.29	-853507.16	-853507.03	0.0138	0.0013
Mars	-7050-06-19 21:07 J	-853419.74	-853419.62	-853419.51	0.1687	0.0207
Uranus	-7050-06-20 11:16 J	-853419.16	-853419.03	-853418.90	0.0138	0.0007

Uranus	-7050-09-16 14:09 J	-853331.03	-853330.91	-853330.78	0.0138	0.0025
Moon	-7050-09-17 14:09 J	-853330.01	-853329.91	-853329.81	0.2720	0.0613
Earth	-7050-09-17 14:52 J	-853329.99	-853329.88	-853329.78	0.2717	0.0531 *
Uranus	-7050-12-13 17:16 J	-853242.90	-853242.78	-853242.65	0.0138	0.0044
Uranus	-7049-03-10 20:23 J	-853154.76	-853154.65	-853154.53	0.0138	0.0063
Uranus	-7049-06-06 23:31 J	-853066.62	-853066.52	-853066.41	0.0138	0.0082
Uranus	-7049-09-03 02:38 J	-852978.47	-852978.39	-852978.30	0.0138	0.0101
Uranus	-7049-11-30 05:45 J	-852890.32	-852890.26	-852890.19	0.0138	0.0120
Saturn	-7046-07-21 22:19 J	-851926.63	-851926.57	-851926.50	0.0304	0.0254
Saturn	-7046-10-18 11:16 J	-851838.16	-851838.03	-851837.91	0.0304	0.0091
Jupiter	-7046-11-30 18:43 J	-851794.89	-851794.72	-851794.54	0.0502	0.0176
Saturn	-7045-01-14 23:45 J	-851749.63	-851749.51	-851749.38	0.0304	0.0072
Saturn	-7045-04-12 12:14 J	-851661.06	-851660.99	-851660.90	0.0304	0.0234
Venus	-7045-08-14 19:55 J	-851536.81	-851536.67	-851536.54	0.3684	0.1886
Mars	-7041-01-04 08:52 J	-850299.30	-850299.13	-850298.96	0.1833	0.0358
Mars	-7041-11-09 07:55 J	-849989.28	-849989.17	-849989.06	0.1692	0.0281
Jupiter	-7040-07-30 18:57 J	-849725.83	-849725.71	-849725.58	0.0525	0.0089
Jupiter	-7040-10-27 23:31 J	-849636.57	-849636.52	-849636.45	0.0523	0.0453
Mars	-7039-10-15 11:16 J	-849284.05	-849284.03	-849284.00	0.1673	0.1622
Moon	-7037-09-19 07:55 J	-848579.27	-848579.17	-848579.07	0.2725	0.0802
Earth	-7037-09-19 08:09 J	-848579.26	-848579.16	-848579.06	0.2718	0.0794 *
Jupiter	-7034-09-18 15:50 J	-847485.03	-847484.84	-847484.66	0.0501	0.0012
Moon	-7033-03-18 02:38 J	-847303.55	-847303.39	-847303.23	0.2616	0.0527
Earth	-7033-03-18 04:33 J	-847303.48	-847303.31	-847303.15	0.2616	0.0356 *
Mars	-7032-05-26 02:52 J	-846869.46	-846869.38	-846869.30	0.1826	0.1584
Mars	-7031-04-01 18:57 J	-846558.81	-846558.71	-846558.61	0.1697	0.0761
Saturn	-7031-05-09 22:33 J	-846520.66	-846520.56	-846520.45	0.0259	0.0215
Saturn	-7031-08-06 19:12 J	-846431.89	-846431.70	-846431.52	0.0259	0.0065
Saturn	-7031-11-03 15:36 J	-846343.03	-846342.85	-846342.66	0.0259	0.0085
Saturn	-7030-01-31 12:28 J	-846254.06	-846253.98	-846253.91	0.0259	0.0236

Mars -7029-03-06 22:33 J -845853.64 -845853.56 -845853.48 0.1677 0.1173

Jupiter -7028-05-18 23:16 J -845415.64 -845415.53 -845415.42 0.0525 0.0229

Jupiter -7028-08-16 04:04 J -845326.43 -845326.33 -845326.23 0.0524 0.0317

Earth -7024-09-22 01:40 J -843828.50 -843828.43 -843828.37 0.2718 0.2115

Moon -7024-09-22 01:55 J -843828.49 -843828.42 -843828.36 0.2724 0.2118 *

Jupiter -7022-07-07 12:14 J -843175.16 -843174.99 -843174.81 0.0501 0.0187

Mars -7022-08-23 05:45 J -843128.33 -843128.26 -843128.18 0.1703 0.1254

Neptune -7021-11-03 17:31 J -842689.80 -842689.77 -842689.72 0.0089 0.0085

Neptune -7020-01-30 18:57 J -842601.77 -842601.71 -842601.64 0.0089 0.0078

Moon -7020-03-21 11:31 J -842552.08 -842552.02 -842551.95 0.2619 0.2359

Earth -7020-03-21 13:12 J -842552.00 -842551.95 -842551.90 0.2615 0.2480 *

Neptune -7020-04-28 20:23 J -842513.73 -842513.65 -842513.57 0.0089 0.0071

Neptune -7020-07-25 21:36 J -842425.68 -842425.60 -842425.50 0.0089 0.0064

Mars -7020-07-28 09:50 J -842423.20 -842423.09 -842422.99 0.1682 0.0715

Neptune -7020-10-21 23:02 J -842337.64 -842337.54 -842337.44 0.0089 0.0056

Neptune -7019-01-18 00:14 J -842249.59 -842249.49 -842249.37 0.0089 0.0049

Neptune -7019-04-16 01:40 J -842161.54 -842161.43 -842161.31 0.0089 0.0042

Neptune -7019-07-13 02:52 J -842073.49 -842073.38 -842073.25 0.0089 0.0035

Venus -7019-10-07 08:23 J -841987.20 -841987.15 -841987.10 0.3685 0.3139

Neptune -7019-10-09 04:19 J -841985.44 -841985.32 -841985.19 0.0089 0.0028

Neptune -7018-01-05 05:31 J -841897.39 -841897.27 -841897.14 0.0089 0.0021

Neptune -7018-04-03 06:57 J -841809.34 -841809.21 -841809.08 0.0089 0.0014

Neptune -7018-06-30 08:23 J -841721.28 -841721.15 -841721.02 0.0089 0.0007

Neptune -7018-09-26 09:36 J -841633.23 -841633.10 -841632.97 0.0089 0.0001

Neptune -7018-12-23 11:02 J -841545.17 -841545.04 -841544.91 0.0089 0.0008

Neptune -7017-03-20 12:14 J -841457.12 -841456.99 -841456.86 0.0089 0.0015

Neptune -7017-06-16 13:40 J -841369.06 -841368.93 -841368.81 0.0089 0.0022

Neptune -7017-09-12 14:52 J -841281.00 -841280.88 -841280.75 0.0089 0.0029

Moon -7017-09-15 01:26 J -841278.53 -841278.44 -841278.36 0.2716 0.1615

Earth -7017-09-15 02:09 J -841278.50 -841278.41 -841278.33 0.2717 0.1569 *

Neptune	-7017-12-09 16:19 J	-841192.94	-841192.82	-841192.70	0.0089	0.0036
Saturn	-7016-03-06 12:43 J	-841106.09	-841105.97	-841105.86	0.0303	0.0144
Jupiter	-7016-03-07 04:04 J	-841105.42	-841105.33	-841105.24	0.0526	0.0359
Neptune	-7016-03-07 17:31 J	-841104.88	-841104.77	-841104.66	0.0089	0.0043
Saturn	-7016-06-03 01:26 J	-841017.57	-841017.44	-841017.31	0.0303	0.0020
Neptune	-7016-06-03 18:28 J	-841016.82	-841016.73	-841016.61	0.0089	0.0051
Jupiter	-7016-06-04 08:52 J	-841016.24	-841016.13	-841016.01	0.0524	0.0190
Saturn	-7016-08-30 13:55 J	-840929.02	-840928.92	-840928.82	0.0303	0.0180
Neptune	-7016-08-30 20:09 J	-840928.76	-840928.66	-840928.56	0.0089	0.0057
Neptune	-7016-11-26 21:07 J	-840840.70	-840840.62	-840840.52	0.0089	0.0064
Neptune	-7015-02-22 22:47 J	-840752.63	-840752.55	-840752.47	0.0089	0.0071
Neptune	-7015-05-22 00:00 J	-840664.56	-840664.50	-840664.44	0.0089	0.0078
Neptune	-7015-08-18 01:26 J	-840576.48	-840576.44	-840576.41	0.0089	0.0085
Venus	-7013-04-22 00:00 J	-839963.59	-839963.50	-839963.41	0.3687	0.1523
Uranus	-7012-11-15 18:43 J	-839390.78	-839390.72	-839390.62	0.0141	0.0129
Uranus	-7011-02-12 03:21 J	-839302.49	-839302.36	-839302.21	0.0141	0.0097
Mars	-7011-02-12 16:04 J	-839301.98	-839301.83	-839301.69	0.1840	0.1021
Uranus	-7011-05-11 12:00 J	-839214.17	-839214.00	-839213.82	0.0141	0.0066
Uranus	-7011-08-07 20:23 J	-839125.84	-839125.65	-839125.46	0.0141	0.0035
Uranus	-7011-11-04 04:47 J	-839037.49	-839037.30	-839037.10	0.0141	0.0005
Mars	-7011-12-18 20:52 J	-838992.74	-838992.63	-838992.51	0.1687	0.0251
Uranus	-7010-01-31 13:12 J	-838949.14	-838948.95	-838948.75	0.0141	0.0027
Jupiter	-7010-04-25 07:26 J	-838865.30	-838865.19	-838865.06	0.0501	0.0385
Uranus	-7010-04-29 21:36 J	-838860.77	-838860.60	-838860.41	0.0141	0.0057
Jupiter	-7010-07-24 20:09 J	-838774.79	-838774.66	-838774.53	0.0502	0.0359
Uranus	-7010-07-27 06:14 J	-838772.40	-838772.24	-838772.09	0.0140	0.0088
Uranus	-7010-10-23 14:23 J	-838684.00	-838683.90	-838683.79	0.0140	0.0118
Venus	-7008-11-05 15:21 J	-837939.96	-837939.86	-837939.76	0.3689	0.0122
Jupiter	-7005-12-24 08:52 J	-836795.17	-836795.13	-836795.08	0.0526	0.0488
Jupiter	-7004-03-23 13:55 J	-836706.04	-836705.92	-836705.79	0.0524	0.0063

Moon	**-7004-09-17 18:57 J**	**-836527.81**	**-836527.71**	**-836527.60**	**0.2721**	**0.0350**	
Earth	**-7004-09-17 19:26 J**	**-836527.79**	**-836527.69**	**-836527.58**	**0.2717**	**0.0268**	*****
Venus	**-7002-05-22 06:43 J**	**-835916.31**	**-835916.22**	**-835916.13**	**0.3690**	**0.1662**	
Mars	**-7002-07-05 09:36 J**	**-835872.27**	**-835872.10**	**-835871.93**	**0.1833**	**0.0258**	
Saturn	**-7002-12-24 17:45 J**	**-835699.93**	**-835699.76**	**-835699.58**	**0.0258**	**0.0112**	
Saturn	**-7001-03-22 14:23 J**	**-835611.09**	**-835610.90**	**-835610.71**	**0.0258**	**0.0037**	
Mars	**-7001-05-10 07:55 J**	**-835562.28**	**-835562.17**	**-835562.05**	**0.1692**	**0.0228**	
Saturn	**-7001-06-19 11:02 J**	**-835522.17**	**-835522.04**	**-835521.91**	**0.0258**	**0.0188**	

7TH MILLENNIUM BCE

This is a list of transits of Mercury in the 7th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Jupiter	**-6998-05-12 17:02 J**		**-834464.97**	**-834464.79**	**-834464.61**	**0.0502**	**0.0179**	
Venus	**-6997-12-04 22:04 J**		**-833892.62**	**-833892.58**	**-833892.53**	**0.3692**	**0.3234**	
Mars	**-6993-11-24 03:50 J**		**-832442.44**	**-832442.34**	**-832442.24**	**0.1827**	**0.1472**	
Jupiter	**-6992-01-09 18:28 J**		**-832395.86**	**-832395.73**	**-832395.61**	**0.0524**	**0.0074**	
Jupiter	**-6992-04-08 23:02 J**		**-832306.59**	**-832306.54**	**-832306.49**	**0.0523**	**0.0466**	
Mars	**-6992-09-30 18:57 J**		**-832131.81**	**-832131.71**	**-832131.61**	**0.1697**	**0.0706**	
Moon	**-6991-09-20 12:43 J**		**-831777.07**	**-831776.97**	**-831776.87**	**0.2725**	**0.1030**	
Earth	**-6991-09-20 12:57 J**		**-831777.06**	**-831776.96**	**-831776.86**	**0.2718**	**0.1061**	*****
Mars	**-6990-09-05 22:33 J**		**-831426.64**	**-831426.56**	**-831426.48**	**0.1677**	**0.1228**	
Venus	**-6988-03-21 22:19 J**		**-830863.73**	**-830863.57**	**-830863.41**	**0.3683**	**0.0123**	
Moon	**-6987-03-19 09:36 J**		**-830501.26**	**-830501.10**	**-830500.94**	**0.2617**	**0.0086**	

Earth	-6987-03-19 11:31 J	-830501.19	-830501.02	-830500.86	0.2616	0.0200 *
Saturn	-6987-07-24 12:57 J	-830374.05	-830373.96	-830373.87	0.0304	0.0211
Saturn	-6987-10-21 01:40 J	-830285.56	-830285.43	-830285.30	0.0304	0.0048
Saturn	-6986-01-17 14:23 J	-830197.02	-830196.90	-830196.78	0.0304	0.0115
Jupiter	-6986-02-28 14:09 J	-830155.10	-830154.91	-830154.72	0.0502	0.0006
Saturn	-6986-04-16 02:52 J	-830108.43	-830108.38	-830108.33	0.0304	0.0276
Moon	-6984-09-13 12:57 J	-829226.98	-829226.96	-829226.94	0.2712	0.2625
Earth	-6984-09-13 13:26 J	-829226.96	-829226.94	-829226.92	0.2717	0.2620 *
Mars	-6982-02-21 05:45 J	-828701.34	-828701.26	-828701.17	0.1702	0.1196
Jupiter	-6981-10-28 22:47 J	-828085.66	-828085.55	-828085.43	0.0525	0.0211
Jupiter	-6980-01-26 03:36 J	-827996.45	-827996.35	-827996.26	0.0523	0.0333
Mars	-6980-01-26 09:50 J	-827996.19	-827996.09	-827995.99	0.1682	0.0770
Earth	-6978-09-23 06:14 J	-827026.28	-827026.24	-827026.19	0.2718	0.2379
Moon	-6978-09-23 06:43 J	-827026.26	-827026.22	-827026.18	0.2723	0.2478 *
Jupiter	-6975-12-17 11:16 J	-825845.20	-825845.03	-825844.85	0.0501	0.0174
Mars	-6973-07-13 16:33 J	-825270.82	-825270.81	-825270.80	0.1708	0.1695
Saturn	-6972-05-12 16:04 J	-824967.98	-824967.83	-824967.68	0.0258	0.0163
Saturn	-6972-08-09 12:28 J	-824879.17	-824878.98	-824878.79	0.0258	0.0014
Mars	-6972-08-13 16:47 J	-824874.93	-824874.80	-824874.66	0.1840	0.1137
Saturn	-6972-11-06 09:07 J	-824790.28	-824790.12	-824789.96	0.0258	0.0137
Mars	-6971-06-18 20:52 J	-824565.74	-824565.63	-824565.52	0.1687	0.0304
Moon	-6971-09-16 06:14 J	-824476.33	-824476.24	-824476.15	0.2716	0.1461
Earth	-6971-09-16 06:57 J	-824476.31	-824476.21	-824476.12	0.2717	0.1311 *
Jupiter	-6969-08-17 03:07 J	-823775.47	-823775.37	-823775.28	0.0526	0.0352
Jupiter	-6969-11-14 07:55 J	-823686.29	-823686.17	-823686.05	0.0524	0.0196
Uranus	-6968-10-31 20:52 J	-823334.69	-823334.63	-823334.57	0.0137	0.0120
Uranus	-6967-01-28 00:00 J	-823246.59	-823246.50	-823246.41	0.0137	0.0101
Uranus	-6967-04-26 02:52 J	-823158.47	-823158.38	-823158.27	0.0137	0.0083
Uranus	-6967-07-23 06:00 J	-823070.36	-823070.25	-823070.13	0.0137	0.0065
Uranus	-6967-10-19 09:21 J	-822982.24	-822982.11	-822981.99	0.0137	0.0046

Uranus	-6966-01-15 12:14 J	-822894.11	-822893.99	-822893.86	0.0137	0.0027
Uranus	-6966-04-13 15:21 J	-822805.99	-822805.86	-822805.73	0.0138	0.0009
Uranus	-6966-07-10 18:28 J	-822717.86	-822717.73	-822717.60	0.0138	0.0012
Uranus	-6966-10-06 21:36 J	-822629.72	-822629.60	-822629.47	0.0138	0.0030
Uranus	-6965-01-03 00:43 J	-822541.59	-822541.47	-822541.35	0.0138	0.0049
Uranus	-6965-03-31 03:50 J	-822453.45	-822453.34	-822453.23	0.0138	0.0068
Uranus	-6965-06-27 06:43 J	-822365.31	-822365.22	-822365.11	0.0138	0.0088
Uranus	-6965-09-23 09:50 J	-822277.16	-822277.09	-822277.00	0.0138	0.0107
Uranus	-6965-12-20 12:57 J	-822189.00	-822188.96	-822188.90	0.0138	0.0126
Jupiter	-6963-10-05 07:55 J	-821535.29	-821535.17	-821535.03	0.0501	0.0355
Mars	-6962-01-03 10:33 J	-821445.23	-821445.06	-821444.89	0.1833	0.0133
Jupiter	-6962-01-03 20:23 J	-821444.76	-821444.65	-821444.52	0.0502	0.0390
Venus	-6962-05-14 06:00 J	-821314.33	-821314.25	-821314.18	0.3686	0.2575
Mars	-6962-11-09 07:55 J	-821135.28	-821135.17	-821135.06	0.1692	0.0170
Moon	-6958-09-18 23:45 J	-819725.61	-819725.51	-819725.40	0.2723	0.0058
Earth	-6958-09-19 00:14 J	-819725.60	-819725.49	-819725.38	0.2717	0.0018 *
Saturn	-6958-12-11 14:09 J	-819641.97	-819641.91	-819641.85	0.0303	0.0267
Saturn	-6957-03-09 02:52 J	-819553.50	-819553.38	-819553.26	0.0303	0.0104
Jupiter	-6957-06-05 07:55 J	-819465.22	-819465.17	-819465.13	0.0526	0.0482
Saturn	-6957-06-05 15:36 J	-819464.98	-819464.85	-819464.72	0.0303	0.0058
Saturn	-6957-09-02 04:04 J	-819376.41	-819376.33	-819376.24	0.0303	0.0219
Jupiter	-6957-09-02 12:43 J	-819376.09	-819375.97	-819375.84	0.0524	0.0072
Venus	-6957-11-26 21:21 J	-819290.71	-819290.61	-819290.51	0.3687	0.0958
Moon	-6954-03-17 07:55 J	-818450.23	-818450.17	-818450.10	0.2614	0.2391
Earth	-6954-03-17 09:36 J	-818450.20	-818450.10	-818450.00	0.2616	0.2100 *
Mars	-6953-05-25 04:33 J	-818015.42	-818015.31	-818015.20	0.1826	0.1367
Mars	-6952-03-31 18:57 J	-817704.82	-817704.71	-817704.60	0.1697	0.0649
Venus	-6951-06-12 12:43 J	-817267.07	-817266.97	-817266.87	0.3689	0.0641
Jupiter	-6951-10-22 15:36 J	-817135.02	-817134.85	-817134.67	0.0502	0.0188
Mars	-6950-03-06 22:33 J	-816999.63	-816999.56	-816999.49	0.1677	0.1279

Venus	-6946-12-27 04:04 J	-815243.41	-815243.33	-815243.25	0.3691	0.2216
Jupiter	-6945-06-21 17:45 J	-815065.88	-815065.76	-815065.63	0.0525	0.0059
Jupiter	-6945-09-18 22:33 J	-814976.61	-814976.56	-814976.52	0.0523	0.0483
Moon	-6945-09-20 17:31 J	-814974.86	-814974.77	-814974.67	0.2725	0.1324
Earth	-6945-09-20 17:45 J	-814974.86	-814974.76	-814974.67	0.2718	0.1327 *
Mars	-6943-08-22 05:45 J	-814274.34	-814274.26	-814274.17	0.1702	0.1139
Saturn	-6943-09-29 14:38 J	-814235.99	-814235.89	-814235.78	0.0258	0.0210
Saturn	-6943-12-27 11:02 J	-814147.22	-814147.04	-814146.85	0.0258	0.0062
Saturn	-6942-03-26 07:26 J	-814058.36	-814058.19	-814058.00	0.0258	0.0088
Saturn	-6942-06-23 04:04 J	-813969.40	-813969.33	-813969.25	0.0258	0.0238
Moon	-6941-03-19 16:33 J	-813698.97	-813698.81	-813698.65	0.2617	0.0614
Earth	-6941-03-19 18:28 J	-813698.89	-813698.73	-813698.58	0.2616	0.0748 *
Mars	-6941-07-27 09:36 J	-813569.19	-813569.10	-813569.00	0.1682	0.0826
Jupiter	-6939-08-10 12:43 J	-812825.16	-812824.97	-812824.79	0.0501	0.0013
Moon	-6938-09-14 17:31 J	-812424.81	-812424.77	-812424.73	0.2713	0.2489
Earth	-6938-09-14 18:14 J	-812424.79	-812424.74	-812424.69	0.2717	0.2354 *
Neptune	-6937-01-17 02:23 J	-812300.45	-812300.40	-812300.32	0.0088	0.0083
Neptune	-6937-04-14 06:00 J	-812212.34	-812212.25	-812212.13	0.0088	0.0073
Neptune	-6937-07-11 09:36 J	-812124.22	-812124.10	-812123.95	0.0088	0.0063
Neptune	-6937-10-07 13:12 J	-812036.09	-812035.95	-812035.78	0.0088	0.0053
Neptune	-6936-01-03 16:47 J	-811947.96	-811947.80	-811947.62	0.0088	0.0043
Neptune	-6936-04-01 20:38 J	-811859.82	-811859.64	-811859.46	0.0088	0.0033
Neptune	-6936-06-29 00:14 J	-811771.68	-811771.49	-811771.30	0.0088	0.0023
Neptune	-6936-09-25 03:50 J	-811683.53	-811683.34	-811683.14	0.0088	0.0013
Neptune	-6936-12-22 07:26 J	-811595.38	-811595.19	-811594.99	0.0088	0.0003
Neptune	-6935-03-20 11:02 J	-811507.23	-811507.04	-811506.84	0.0088	0.0007
Neptune	-6935-06-16 14:38 J	-811419.08	-811418.89	-811418.69	0.0088	0.0017
Neptune	-6935-09-12 18:28 J	-811330.92	-811330.73	-811330.54	0.0088	0.0027
Neptune	-6935-12-09 22:04 J	-811242.76	-811242.58	-811242.40	0.0088	0.0037
Neptune	-6934-03-08 01:40 J	-811154.59	-811154.43	-811154.26	0.0088	0.0047

Neptune -6934-06-04 04:47 J -811066.43 -811066.30 -811066.13 0.0088 0.0058

Neptune -6934-08-31 08:23 J -810978.25 -810978.15 -810978.00 0.0088 0.0068

Neptune -6934-11-27 12:14 J -810890.06 -810889.99 -810889.88 0.0088 0.0078

Mars -6933-01-12 16:33 J -810843.84 -810843.81 -810843.78 0.1708 0.1637

Neptune -6933-02-23 16:04 J -810801.83 -810801.83 -810801.81 0.0088 0.0088

Jupiter -6933-04-09 22:19 J -810755.69 -810755.57 -810755.45 0.0525 0.0194

Jupiter -6933-07-08 03:07 J -810666.47 -810666.37 -810666.28 0.0523 0.0350

Mars -6932-02-11 17:45 J -810447.88 -810447.76 -810447.63 0.1841 0.1252

Earth -6932-09-23 11:02 J -810224.06 -810224.04 -810224.01 0.2718 0.2643

Moon -6932-09-23 11:45 J -810224.02 -810224.01 -810224.01 0.2723 0.2703 *

Venus -6932-10-27 00:57 J -810190.61 -810190.46 -810190.32 0.3683 0.1662

Mars -6932-12-17 20:52 J -810138.74 -810138.63 -810138.52 0.1687 0.0361

Saturn -6928-07-27 03:07 J -808821.48 -808821.37 -808821.27 0.0304 0.0173

Saturn -6928-10-23 15:50 J -808732.97 -808732.84 -808732.71 0.0304 0.0013

Uranus -6928-12-06 03:21 J -808689.46 -808689.36 -808689.24 0.0141 0.0117

Saturn -6927-01-20 04:19 J -808644.43 -808644.32 -808644.21 0.0304 0.0152

Uranus -6927-03-04 11:45 J -808601.15 -808601.01 -808600.84 0.0141 0.0086

Jupiter -6927-05-29 09:50 J -808515.26 -808515.09 -808514.91 0.0501 0.0166

Uranus -6927-05-31 20:23 J -808512.82 -808512.65 -808512.46 0.0141 0.0055

Uranus -6927-08-28 05:02 J -808424.49 -808424.29 -808424.10 0.0141 0.0024

Uranus -6927-11-24 13:26 J -808336.14 -808335.94 -808335.74 0.0141 0.0007

Uranus -6926-02-20 21:50 J -808247.78 -808247.59 -808247.40 0.0141 0.0038

Pluto -6926-04-19 11:31 J -808190.05 -808190.02 -808189.96 0.0072 0.0068

Uranus -6926-05-20 06:00 J -808159.41 -808159.25 -808159.07 0.0141 0.0069

Pluto -6926-07-16 12:43 J -808102.04 -808101.97 -808101.88 0.0072 0.0059

Uranus -6926-08-16 14:23 J -808071.03 -808070.90 -808070.75 0.0140 0.0099

Pluto -6926-10-12 13:55 J -808014.02 -808013.92 -808013.81 0.0072 0.0051

Uranus -6926-11-12 22:47 J -807982.61 -807982.55 -807982.47 0.0140 0.0130

Pluto -6925-01-08 14:52 J -807925.99 -807925.88 -807925.75 0.0072 0.0042

Pluto -6925-04-05 15:50 J -807837.96 -807837.84 -807837.69 0.0072 0.0034

Pluto	-6925-07-02 17:02 J	-807749.92	-807749.79	-807749.64	0.0072	0.0025	
Moon	-6925-09-16 11:02 J	-807674.14	-807674.04	-807673.95	0.2717	0.1081	
Earth	-6925-09-16 11:31 J	-807674.11	-807674.02	-807673.92	0.2717	0.1052	*
Pluto	-6925-09-28 18:14 J	-807661.88	-807661.74	-807661.59	0.0073	0.0016	
Pluto	-6925-12-25 19:26 J	-807573.84	-807573.69	-807573.54	0.0073	0.0007	
Pluto	-6924-03-23 20:38 J	-807485.79	-807485.64	-807485.49	0.0073	0.0003	
Pluto	-6924-06-19 21:36 J	-807397.74	-807397.60	-807397.45	0.0073	0.0012	
Pluto	-6924-09-15 22:47 J	-807309.69	-807309.55	-807309.40	0.0073	0.0021	
Pluto	-6924-12-12 23:45 J	-807221.64	-807221.51	-807221.36	0.0073	0.0030	
Pluto	-6923-03-11 00:57 J	-807133.58	-807133.46	-807133.33	0.0073	0.0040	
Pluto	-6923-06-07 02:23 J	-807045.51	-807045.40	-807045.29	0.0073	0.0049	
Mars	-6923-07-04 11:31 J	-807018.19	-807018.02	-807017.85	0.1834	0.0015	
Pluto	-6923-09-03 03:07 J	-806957.44	-806957.37	-806957.26	0.0074	0.0059	
Pluto	-6923-11-30 04:33 J	-806869.36	-806869.31	-806869.25	0.0074	0.0068	
Mars	-6922-05-10 07:55 J	-806708.29	-806708.17	-806708.06	0.1692	0.0116	
Jupiter	-6921-01-28 02:38 J	-806445.48	-806445.39	-806445.29	0.0525	0.0331	
Jupiter	-6921-04-26 07:40 J	-806356.30	-806356.18	-806356.07	0.0524	0.0216	
Jupiter	-6915-03-17 07:12 J	-804205.34	-804205.20	-804205.06	0.0501	0.0341	
Jupiter	-6915-06-15 19:40 J	-804114.78	-804114.68	-804114.56	0.0502	0.0404	
Mars	-6914-11-24 05:16 J	-803588.40	-803588.28	-803588.16	0.1827	0.1258	
Saturn	-6913-05-15 08:52 J	-803415.30	-803415.13	-803414.95	0.0258	0.0115	
Saturn	-6913-08-12 05:31 J	-803326.46	-803326.27	-803326.08	0.0258	0.0035	
Mars	-6913-09-29 18:57 J	-803277.82	-803277.71	-803277.61	0.1697	0.0599	
Saturn	-6913-11-09 01:55 J	-803237.55	-803237.42	-803237.28	0.0258	0.0185	
Moon	-6912-09-19 04:33 J	-802923.41	-802923.31	-802923.20	0.2724	0.0166	
Earth	-6912-09-19 05:02 J	-802923.40	-802923.29	-802923.18	0.2717	0.0272	*
Venus	-6911-06-04 11:45 J	-802665.02	-802665.01	-802664.99	0.3685	0.3619	
Mars	-6911-09-04 22:19 J	-802572.63	-802572.57	-802572.50	0.1677	0.1332	
Jupiter	-6910-11-16 06:57 J	-802135.26	-802135.21	-802135.16	0.0526	0.0472	
Jupiter	-6909-02-13 12:00 J	-802046.13	-802046.00	-802045.88	0.0524	0.0078	

Moon	-6908-03-17 14:38 J	-801648.01	-801647.89	-801647.76	0.2615	0.1653
Earth	-6908-03-17 16:33 J	-801647.94	-801647.81	-801647.68	0.2616	0.1547 *
Venus	-6906-12-19 03:21 J	-800641.45	-800641.36	-800641.28	0.3686	0.1998
Mars	-6903-02-20 05:45 J	-799847.35	-799847.26	-799847.17	0.1702	0.1085
Jupiter	-6903-04-03 16:19 J	-799804.99	-799804.82	-799804.65	0.0502	0.0221
Mars	-6901-01-26 09:36 J	-799142.19	-799142.10	-799142.00	0.1682	0.0877
Venus	-6900-07-03 18:43 J	-798617.82	-798617.72	-798617.62	0.3688	0.0411
Earth	-6899-09-21 22:19 J	-798172.65	-798172.57	-798172.48	0.2718	0.1590
Moon	-6899-09-21 22:33 J	-798172.64	-798172.56	-798172.48	0.2724	0.1636 *
Saturn	-6899-12-14 04:04 J	-798089.41	-798089.33	-798089.24	0.0303	0.0231
Saturn	-6898-03-12 16:47 J	-798000.92	-798000.80	-798000.67	0.0303	0.0069
Saturn	-6898-06-09 05:31 J	-797912.39	-797912.27	-797912.15	0.0303	0.0095
Saturn	-6898-09-05 18:00 J	-797823.81	-797823.75	-797823.68	0.0303	0.0255
Jupiter	-6898-12-02 16:47 J	-797735.92	-797735.80	-797735.67	0.0525	0.0050
Jupiter	-6897-02-29 21:21 J	-797646.64	-797646.61	-797646.56	0.0523	0.0491
Moon	-6895-03-20 23:31 J	-796896.67	-796896.52	-796896.37	0.2617	0.0994
Earth	-6895-03-21 01:12 J	-796896.59	-796896.45	-796896.31	0.2616	0.1288 *
Venus	-6894-01-17 10:19 J	-796594.17	-796594.07	-796593.98	0.3689	0.1200
Mars	-6894-07-13 16:33 J	-796416.85	-796416.81	-796416.77	0.1708	0.1579
Mars	-6893-08-12 18:43 J	-796020.84	-796020.72	-796020.61	0.1840	0.1365
Mars	-6892-06-17 20:52 J	-795711.74	-795711.63	-795711.52	0.1687	0.0415
Moon	-6892-09-14 22:19 J	-795622.63	-795622.57	-795622.50	0.2713	0.2124
Earth	-6892-09-14 23:02 J	-795622.61	-795622.54	-795622.48	0.2717	0.2092 *
Jupiter	-6891-01-20 11:31 J	-795495.21	-795495.02	-795494.83	0.0501	0.0019
Venus	-6889-08-02 01:40 J	-794570.50	-794570.43	-794570.37	0.3691	0.2764
Jupiter	-6886-09-20 21:50 J	-793425.71	-793425.59	-793425.47	0.0525	0.0177
Jupiter	-6886-12-19 02:38 J	-793336.48	-793336.39	-793336.30	0.0524	0.0367
Uranus	-6884-08-25 00:43 J	-792721.48	-792721.47	-792721.44	0.0137	0.0135
Saturn	-6884-10-02 07:40 J	-792683.33	-792683.18	-792683.03	0.0258	0.0162
Uranus	-6884-11-21 03:50 J	-792633.40	-792633.34	-792633.27	0.0137	0.0117

Saturn -6884-12-30 04:04 J -792594.52 -792594.33 -792594.14 0.0258 0.0013

Mars -6883-01-02 12:00 J -792591.17 -792591.00 -792590.83 0.1834 0.0079

Uranus -6883-02-17 06:57 J -792545.30 -792545.21 -792545.12 0.0137 0.0098

Saturn -6883-03-29 00:28 J -792505.64 -792505.48 -792505.31 0.0258 0.0137

Uranus -6883-05-16 10:04 J -792457.18 -792457.08 -792456.97 0.0137 0.0079

Uranus -6883-08-12 13:12 J -792369.07 -792368.95 -792368.83 0.0137 0.0061

Mars -6883-11-08 07:55 J -792281.29 -792281.17 -792281.06 0.1692 0.0059

Uranus -6883-11-08 16:19 J -792280.94 -792280.82 -792280.70 0.0137 0.0042

Uranus -6882-02-04 19:26 J -792192.82 -792192.69 -792192.56 0.0137 0.0023

Uranus -6882-05-03 22:33 J -792104.69 -792104.56 -792104.43 0.0138 0.0006

Uranus -6882-07-31 01:26 J -792016.56 -792016.44 -792016.31 0.0138 0.0015

Uranus -6882-10-27 04:33 J -791928.43 -791928.31 -791928.18 0.0138 0.0034

Uranus -6881-01-23 07:40 J -791840.30 -791840.18 -791840.06 0.0138 0.0052

Uranus -6881-04-20 10:47 J -791752.16 -791752.05 -791751.94 0.0138 0.0071

Uranus -6881-07-17 13:55 J -791664.01 -791663.92 -791663.82 0.0138 0.0090

Uranus -6881-10-13 17:02 J -791575.86 -791575.79 -791575.71 0.0138 0.0109

Venus -6881-11-16 16:47 J -791541.93 -791541.80 -791541.68 0.3684 0.2143

Uranus -6880-01-09 20:09 J -791487.70 -791487.66 -791487.61 0.0138 0.0128

Jupiter -6880-11-08 08:23 J -791185.32 -791185.15 -791184.97 0.0501 0.0159

Moon -6879-09-17 15:50 J -790871.94 -790871.84 -790871.74 0.2720 0.0926

Earth -6879-09-17 16:19 J -790871.92 -790871.82 -790871.71 0.2717 0.0781 *

Venus -6875-06-03 03:36 J -789517.40 -789517.35 -789517.30 0.3682 0.3474

Mars -6874-05-25 06:28 J -789161.36 -789161.23 -789161.10 0.1827 0.1135

Jupiter -6874-07-10 02:09 J -789115.50 -789115.41 -789115.30 0.0525 0.0314

Jupiter -6874-10-07 07:12 J -789026.31 -789026.20 -789026.09 0.0524 0.0233

Mars -6873-03-30 18:57 J -788850.82 -788850.71 -788850.61 0.1697 0.0544

Mars -6871-03-05 22:33 J -788145.63 -788145.56 -788145.50 0.1677 0.1388

Saturn -6869-05-02 04:19 J -787357.34 -787357.32 -787357.31 0.0304 0.0300

Saturn -6869-07-29 17:02 J -787268.91 -787268.79 -787268.68 0.0304 0.0137

Saturn -6869-10-26 05:45 J -787180.39 -787180.26 -787180.13 0.0304 0.0026

Saturn -6868-01-22 18:14 J -787091.84 -787091.74 -787091.64 0.0304 0.0187

Jupiter -6868-08-27 05:45 J -786875.39 -786875.26 -786875.12 0.0501 0.0333

Jupiter -6868-11-25 18:28 J -786784.83 -786784.73 -786784.62 0.0502 0.0413

Moon -6866-09-20 09:21 J -786121.21 -786121.11 -786121.00 0.2723 0.0537

Earth -6866-09-20 09:50 J -786121.20 -786121.09 -786120.99 0.2717 0.0536 *

Mars -6864-08-21 05:45 J -785420.35 -785420.26 -785420.17 0.1702 0.1029

Moon -6862-03-18 21:36 J -784845.74 -784845.60 -784845.46 0.2616 0.1320

Earth -6862-03-18 23:31 J -784845.67 -784845.52 -784845.37 0.2616 0.0999 *

Jupiter -6862-04-28 06:43 J -784805.28 -784805.22 -784805.16 0.0526 0.0451

Jupiter -6862-07-26 11:31 J -784716.14 -784716.02 -784715.89 0.0524 0.0100

Mars -6862-07-27 09:36 J -784715.19 -784715.10 -784715.00 0.1682 0.0929

Neptune -6856-07-31 17:16 J -782518.82 -782518.78 -782518.72 0.0089 0.0083

Jupiter -6856-09-13 15:36 J -782475.02 -782474.85 -782474.69 0.0502 0.0235

Neptune -6856-10-27 18:28 J -782430.79 -782430.73 -782430.65 0.0089 0.0076

Neptune -6855-01-23 19:55 J -782342.74 -782342.67 -782342.58 0.0089 0.0068

Neptune -6855-04-21 21:07 J -782254.70 -782254.62 -782254.51 0.0089 0.0062

Neptune -6855-07-18 22:33 J -782166.65 -782166.56 -782166.45 0.0089 0.0054

Neptune -6855-10-15 00:00 J -782078.61 -782078.50 -782078.38 0.0089 0.0047

Venus -6854-01-09 09:21 J -781992.17 -781992.11 -781992.06 0.3685 0.3048

Neptune -6854-01-11 01:26 J -781990.56 -781990.44 -781990.32 0.0089 0.0040

Mars -6854-01-11 16:33 J -781989.86 -781989.81 -781989.76 0.1708 0.1525

Saturn -6854-02-19 05:16 J -781951.38 -781951.28 -781951.17 0.0258 0.0215

Neptune -6854-04-09 02:38 J -781902.51 -781902.39 -781902.26 0.0089 0.0033

Saturn -6854-05-19 01:40 J -781862.61 -781862.43 -781862.24 0.0258 0.0067

Neptune -6854-07-06 04:04 J -781814.46 -781814.33 -781814.20 0.0089 0.0026

Saturn -6854-08-15 22:19 J -781773.75 -781773.57 -781773.39 0.0258 0.0083

Neptune -6854-10-02 05:16 J -781726.40 -781726.28 -781726.15 0.0089 0.0019

Saturn -6854-11-12 18:43 J -781684.79 -781684.72 -781684.63 0.0258 0.0234

Neptune -6854-12-29 06:43 J -781638.35 -781638.22 -781638.09 0.0089 0.0011

Mars -6853-02-11 19:26 J -781593.79 -781593.69 -781593.59 0.1841 0.1478

Neptune -6853-03-26 07:55 J -781550.30 -781550.17 -781550.03 0.0089 0.0005

Neptune -6853-06-22 09:21 J -781462.24 -781462.11 -781461.98 0.0089 0.0003

Neptune -6853-09-18 10:33 J -781374.19 -781374.06 -781373.92 0.0089 0.0010

Earth -6853-09-22 03:07 J -781370.44 -781370.37 -781370.29 0.2718 0.1852

Moon -6853-09-22 03:21 J -781370.43 -781370.36 -781370.28 0.2724 0.1849 *

Neptune -6853-12-15 12:00 J -781286.13 -781286.00 -781285.87 0.0089 0.0017

Mars -6853-12-16 20:52 J -781284.74 -781284.63 -781284.52 0.1687 0.0470

Neptune -6852-03-13 13:12 J -781198.07 -781197.95 -781197.82 0.0089 0.0024

Neptune -6852-06-09 14:23 J -781110.02 -781109.90 -781109.77 0.0089 0.0031

Neptune -6852-09-05 15:36 J -781021.96 -781021.85 -781021.72 0.0089 0.0039

Neptune -6852-12-02 17:02 J -780933.90 -780933.79 -780933.67 0.0089 0.0045

Neptune -6851-02-28 18:14 J -780845.83 -780845.74 -780845.62 0.0089 0.0052

Neptune -6851-05-27 19:26 J -780757.77 -780757.69 -780757.58 0.0089 0.0060

Neptune -6851-08-23 20:52 J -780669.71 -780669.63 -780669.53 0.0089 0.0066

Neptune -6851-11-19 22:04 J -780581.64 -780581.58 -780581.49 0.0089 0.0074

Neptune -6850-02-15 23:16 J -780493.57 -780493.53 -780493.46 0.0089 0.0081

Jupiter -6850-05-14 15:50 J -780405.96 -780405.84 -780405.71 0.0525 0.0044

Neptune -6850-05-15 00:43 J -780405.49 -780405.47 -780405.43 0.0089 0.0087

Jupiter -6850-08-11 20:38 J -780316.68 -780316.64 -780316.61 0.0523 0.0500

Moon -6849-03-21 06:28 J -780094.34 -780094.23 -780094.11 0.2619 0.1768

Earth -6849-03-21 08:09 J -780094.27 -780094.16 -780094.04 0.2616 0.1841 *

Venus -6849-07-25 00:43 J -779968.56 -779968.47 -779968.37 0.3687 0.1432

Moon -6846-09-16 03:07 J -778820.44 -778820.37 -778820.30 0.2714 0.1949

Earth -6846-09-16 03:50 J -778820.42 -778820.34 -778820.27 0.2717 0.1829 *

Jupiter -6844-07-02 12:14 J -778165.18 -778164.99 -778164.81 0.0501 0.0053

Mars -6844-07-03 13:12 J -778164.12 -778163.95 -778163.78 0.1834 0.0209

Uranus -6844-09-29 03:07 J -778076.40 -778076.37 -778076.31 0.0141 0.0138

Uranus -6844-12-26 11:45 J -777988.13 -777988.01 -777987.87 0.0141 0.0106

Venus -6843-02-07 16:19 J -777944.93 -777944.82 -777944.72 0.3688 0.0208

Uranus -6843-03-24 20:09 J -777899.82 -777899.66 -777899.48 0.0141 0.0076

Mars	-6843-05-09 07:40 J	-777854.29	-777854.18	-777854.06	0.1692	0.0063
Uranus	-6843-06-21 04:47 J	-777811.48	-777811.30	-777811.11	0.0141	0.0044
Uranus	-6843-09-17 13:12 J	-777723.14	-777722.95	-777722.75	0.0141	0.0014
Uranus	-6843-12-14 21:36 J	-777634.79	-777634.60	-777634.40	0.0141	0.0018
Uranus	-6842-03-13 06:00 J	-777546.43	-777546.25	-777546.06	0.0141	0.0049
Uranus	-6842-06-09 14:38 J	-777458.06	-777457.89	-777457.73	0.0141	0.0079
Uranus	-6842-09-05 22:47 J	-777369.66	-777369.55	-777369.42	0.0140	0.0110
Uranus	-6842-12-03 07:12 J	-777281.20	-777281.20	-777281.18	0.0140	0.0140
Pluto	-6841-06-19 10:19 J	-777082.15	-777082.07	-777081.98	0.0072	0.0063
Pluto	-6841-09-15 12:00 J	-776994.11	-776994.00	-776993.88	0.0072	0.0053
Pluto	-6841-12-12 13:26 J	-776906.06	-776905.94	-776905.79	0.0072	0.0043
Pluto	-6840-03-10 15:07 J	-776818.01	-776817.87	-776817.71	0.0072	0.0033
Pluto	-6840-06-06 16:47 J	-776729.95	-776729.80	-776729.63	0.0072	0.0022
Pluto	-6840-09-02 18:28 J	-776641.89	-776641.73	-776641.56	0.0072	0.0012
Pluto	-6840-11-29 20:09 J	-776553.83	-776553.66	-776553.49	0.0072	0.0002
Saturn	-6840-12-16 18:00 J	-776536.84	-776536.75	-776536.65	0.0303	0.0195
Pluto	-6839-02-25 21:50 J	-776465.76	-776465.59	-776465.42	0.0072	0.0008
Saturn	-6839-03-15 06:57 J	-776448.34	-776448.21	-776448.09	0.0303	0.0033
Pluto	-6839-05-24 23:16 J	-776377.69	-776377.53	-776377.36	0.0072	0.0017
Saturn	-6839-06-11 19:26 J	-776359.80	-776359.69	-776359.57	0.0303	0.0130
Pluto	-6839-08-21 00:28 J	-776289.62	-776289.48	-776289.31	0.0071	0.0028
Saturn	-6839-09-08 07:55 J	-776271.20	-776271.17	-776271.13	0.0303	0.0290
Pluto	-6839-11-17 02:09 J	-776201.54	-776201.41	-776201.25	0.0071	0.0037
Pluto	-6838-02-13 03:36 J	-776113.46	-776113.35	-776113.21	0.0071	0.0046
Jupiter	-6838-03-02 20:38 J	-776095.75	-776095.64	-776095.52	0.0525	0.0171
Pluto	-6838-05-12 05:16 J	-776025.37	-776025.28	-776025.17	0.0071	0.0055
Jupiter	-6838-05-31 01:26 J	-776006.52	-776006.44	-776006.35	0.0524	0.0375
Pluto	-6838-08-08 06:28 J	-775937.28	-775937.23	-775937.14	0.0071	0.0065
Venus	-6838-08-24 07:40 J	-775921.27	-775921.18	-775921.09	0.3690	0.1747
Mars	-6835-11-23 06:57 J	-774734.35	-774734.21	-774734.07	0.1827	0.1041

Mars	-6834-09-29 18:43 J	-774423.82	-774423.72	-774423.61	0.1697	0.0490
Moon	-6833-09-17 20:38 J	-774069.75	-774069.64	-774069.54	0.2721	0.0555
Earth	-6833-09-17 21:07 J	-774069.72	-774069.62	-774069.51	0.2717	0.0516 *
Venus	-6832-03-08 23:02 J	-773897.58	-773897.54	-773897.50	0.3691	0.3312
Jupiter	-6832-04-20 07:12 J	-773855.37	-773855.20	-773855.01	0.0501	0.0149
Mars	-6832-09-03 22:19 J	-773718.63	-773718.57	-773718.51	0.1677	0.1437
Jupiter	-6827-12-20 01:40 J	-771785.53	-771785.43	-771785.33	0.0526	0.0299
Jupiter	-6826-03-19 06:28 J	-771696.34	-771696.23	-771696.12	0.0524	0.0249
Saturn	-6825-10-05 00:28 J	-771130.65	-771130.48	-771130.30	0.0259	0.0113
Saturn	-6824-01-01 21:07 J	-771041.81	-771041.62	-771041.43	0.0258	0.0037
Mars	-6824-02-19 05:45 J	-770993.35	-770993.26	-770993.17	0.1702	0.0969
Saturn	-6824-03-31 17:31 J	-770952.90	-770952.77	-770952.63	0.0258	0.0187
Venus	-6824-06-23 19:12 J	-770868.86	-770868.70	-770868.54	0.3684	0.0390
Mars	-6822-01-25 09:36 J	-770288.19	-770288.10	-770288.01	0.1682	0.0986
Jupiter	-6820-02-06 04:19 J	-769545.46	-769545.32	-769545.18	0.0501	0.0325
Jupiter	-6820-05-07 17:02 J	-769454.90	-769454.79	-769454.69	0.0502	0.0420
Moon	-6820-09-20 14:23 J	-769319.01	-769318.90	-769318.80	0.2724	0.0719
Earth	-6820-09-20 14:38 J	-769319.00	-769318.89	-769318.79	0.2718	0.0807 *
Moon	-6816-03-19 04:33 J	-768043.47	-768043.31	-768043.15	0.2615	0.0579
Earth	-6816-03-19 06:28 J	-768043.39	-768043.23	-768043.07	0.2616	0.0446 *
Mars	-6815-07-12 16:33 J	-767562.87	-767562.81	-767562.76	0.1708	0.1470
Jupiter	-6815-10-08 06:00 J	-767475.31	-767475.25	-767475.18	0.0526	0.0436
Jupiter	-6814-01-05 11:02 J	-767386.16	-767386.04	-767385.91	0.0524	0.0115
Mars	-6814-08-12 20:23 J	-767166.73	-767166.65	-767166.57	0.1841	0.1594
Mars	-6813-06-16 20:38 J	-766857.74	-766857.64	-766857.53	0.1686	0.0524
Saturn	-6810-05-05 18:14 J	-765804.80	-765804.74	-765804.67	0.0304	0.0261
Saturn	-6810-08-02 07:12 J	-765716.32	-765716.20	-765716.08	0.0304	0.0098
Saturn	-6810-10-29 19:55 J	-765627.80	-765627.67	-765627.55	0.0304	0.0065
Saturn	-6809-01-26 08:23 J	-765539.23	-765539.15	-765539.06	0.0304	0.0225
Jupiter	-6809-11-25 01:40 J	-765235.44	-765235.43	-765235.41	0.0500	0.0498

Jupiter	-6808-02-23 14:09 J	-765145.08	-765144.91	-765144.75	0.0502	0.0242
Earth	-6807-09-23 07:55 J	-764568.23	-764568.17	-764568.10	0.2718	0.2118
Moon	-6807-09-23 08:09 J	-764568.21	-764568.16	-764568.10	0.2725	0.2224 *
Mars	-6804-01-01 13:55 J	-763737.09	-763736.92	-763736.75	0.1834	0.0321
Mars	-6804-11-07 07:40 J	-763427.29	-763427.18	-763427.06	0.1692	0.0067
Moon	-6803-03-22 13:40 J	-763292.02	-763291.93	-763291.83	0.2620	0.2136
Earth	-6803-03-22 15:07 J	-763291.94	-763291.87	-763291.81	0.2616	0.2389 *
Jupiter	-6803-10-24 15:36 J	-763075.98	-763075.85	-763075.72	0.0524	0.0021
Jupiter	-6802-01-21 20:09 J	-762986.67	-762986.66	-762986.65	0.0523	0.0518
Uranus	-6800-09-14 07:55 J	-762020.20	-762020.17	-762020.13	0.0137	0.0131
Moon	-6800-09-16 07:55 J	-762018.26	-762018.17	-762018.09	0.2715	0.1642
Earth	-6800-09-16 08:23 J	-762018.23	-762018.15	-762018.06	0.2717	0.1571 *
Uranus	-6800-12-11 10:47 J	-761932.11	-761932.05	-761931.96	0.0137	0.0113
Uranus	-6799-03-09 14:09 J	-761844.00	-761843.91	-761843.81	0.0137	0.0094
Uranus	-6799-06-05 17:16 J	-761755.89	-761755.78	-761755.67	0.0137	0.0075
Uranus	-6799-09-01 20:09 J	-761667.77	-761667.66	-761667.53	0.0137	0.0057
Uranus	-6799-11-28 23:16 J	-761579.65	-761579.53	-761579.40	0.0137	0.0039
Uranus	-6798-02-25 02:23 J	-761491.52	-761491.40	-761491.27	0.0137	0.0020
Uranus	-6798-05-24 05:31 J	-761403.40	-761403.27	-761403.14	0.0138	0.0003
Venus	-6798-08-16 06:43 J	-761319.30	-761319.22	-761319.15	0.3685	0.2469
Uranus	-6798-08-20 08:38 J	-761315.27	-761315.14	-761315.01	0.0138	0.0018
Uranus	-6798-11-16 11:45 J	-761227.13	-761227.01	-761226.88	0.0138	0.0037
Uranus	-6797-02-12 14:52 J	-761139.00	-761138.88	-761138.76	0.0138	0.0056
Uranus	-6797-05-10 17:45 J	-761050.86	-761050.76	-761050.64	0.0138	0.0075
Uranus	-6797-08-06 20:52 J	-760962.72	-760962.63	-760962.53	0.0138	0.0094
Uranus	-6797-11-03 00:14 J	-760874.57	-760874.49	-760874.42	0.0138	0.0113
Jupiter	-6797-12-12 11:02 J	-760835.22	-760835.04	-760834.85	0.0501	0.0065
Uranus	-6796-01-30 03:21 J	-760786.40	-760786.36	-760786.33	0.0138	0.0132
Saturn	-6795-02-21 22:19 J	-760398.71	-760398.57	-760398.42	0.0259	0.0166
Saturn	-6795-05-21 18:57 J	-760309.90	-760309.71	-760309.52	0.0258	0.0017

Mars	-6795-05-24 08:09 J	-760307.31	-760307.16	-760307.02	0.1827	0.0918
Saturn	-6795-08-18 15:21 J	-760221.02	-760220.86	-760220.69	0.0258	0.0134
Mars	-6794-03-30 18:43 J	-759996.83	-759996.72	-759996.61	0.1697	0.0432
Venus	-6792-02-28 22:19 J	-759295.67	-759295.57	-759295.48	0.3687	0.0877
Mars	-6792-03-04 22:19 J	-759291.62	-759291.57	-759291.52	0.1677	0.1491
Jupiter	-6791-08-12 19:55 J	-758765.79	-758765.67	-758765.55	0.0525	0.0162
Jupiter	-6791-11-10 00:28 J	-758676.56	-758676.48	-758676.39	0.0523	0.0383
Venus	-6787-09-14 13:40 J	-757272.03	-757271.93	-757271.83	0.3689	0.0728
Moon	-6787-09-19 01:12 J	-757267.55	-757267.45	-757267.34	0.2721	0.0397
Earth	-6787-09-19 01:55 J	-757267.53	-757267.42	-757267.31	0.2717	0.0253 *
Mars	-6785-08-20 05:45 J	-756566.36	-756566.26	-756566.17	0.1702	0.0921
Jupiter	-6785-09-30 07:55 J	-756525.36	-756525.17	-756524.99	0.0501	0.0118
Mars	-6783-07-26 09:36 J	-755861.19	-755861.10	-755861.01	0.1682	0.1036
Venus	-6781-03-30 05:02 J	-755248.37	-755248.29	-755248.21	0.3690	0.2300
Saturn	-6781-12-19 08:23 J	-754984.26	-754984.15	-754984.03	0.0303	0.0153
Saturn	-6780-03-17 21:07 J	-754895.75	-754895.62	-754895.49	0.0303	0.0013
Saturn	-6780-06-14 09:50 J	-754807.20	-754807.09	-754806.99	0.0303	0.0171
Jupiter	-6779-06-01 00:28 J	-754455.58	-754455.48	-754455.37	0.0526	0.0293
Jupiter	-6779-08-29 05:31 J	-754366.38	-754366.27	-754366.16	0.0524	0.0255
Mars	-6775-01-10 16:33 J	-753135.87	-753135.81	-753135.75	0.1707	0.1410
Mars	-6774-02-10 21:07 J	-752739.68	-752739.62	-752739.55	0.1841	0.1703
Moon	-6774-09-21 19:12 J	-752516.80	-752516.70	-752516.60	0.2724	0.1111
Earth	-6774-09-21 19:26 J	-752516.79	-752516.69	-752516.60	0.2718	0.1071 *
Mars	-6774-12-16 20:38 J	-752430.75	-752430.64	-752430.53	0.1687	0.0575
Jupiter	-6773-07-19 03:07 J	-752215.51	-752215.37	-752215.22	0.0500	0.0316
Neptune	-6773-10-13 00:00 J	-752129.55	-752129.50	-752129.40	0.0088	0.0081
Jupiter	-6773-10-17 15:36 J	-752124.94	-752124.85	-752124.75	0.0502	0.0428
Neptune	-6772-01-09 03:36 J	-752041.44	-752041.35	-752041.21	0.0088	0.0071
Neptune	-6772-04-07 07:12 J	-751953.32	-751953.20	-751953.04	0.0088	0.0061
Neptune	-6772-07-04 11:02 J	-751865.19	-751865.04	-751864.87	0.0088	0.0051

Neptune -6772-09-30 14:38 J -751777.05 -751776.89 -751776.71 0.0088 0.0041

Neptune -6772-12-27 18:14 J -751688.91 -751688.74 -751688.55 0.0088 0.0031

Neptune -6771-03-25 21:50 J -751600.77 -751600.59 -751600.39 0.0088 0.0021

Neptune -6771-06-22 01:40 J -751512.62 -751512.43 -751512.23 0.0088 0.0011

Neptune -6771-09-18 05:16 J -751424.47 -751424.28 -751424.08 0.0088 0.0001

Neptune -6771-12-15 08:52 J -751336.32 -751336.13 -751335.93 0.0088 0.0010

Neptune -6770-03-13 12:28 J -751248.17 -751247.98 -751247.78 0.0088 0.0020

Moon -6770-03-20 11:31 J -751241.18 -751241.02 -751240.85 0.2616 0.0169

Earth -6770-03-20 13:26 J -751241.11 -751240.94 -751240.78 0.2616 0.0114 *

Neptune -6770-06-09 15:50 J -751160.01 -751159.84 -751159.64 0.0088 0.0030

Neptune -6770-09-05 19:26 J -751071.85 -751071.69 -751071.50 0.0088 0.0040

Neptune -6770-12-02 23:16 J -750983.68 -750983.53 -750983.36 0.0088 0.0050

Neptune -6769-02-29 02:52 J -750895.51 -750895.38 -750895.22 0.0088 0.0060

Neptune -6769-05-27 06:28 J -750807.33 -750807.23 -750807.10 0.0088 0.0070

Neptune -6769-08-23 10:04 J -750719.14 -750719.08 -750718.98 0.0088 0.0080

Venus -6767-01-28 21:50 J -750195.74 -750195.59 -750195.45 0.3683 0.1391

Jupiter -6767-03-20 05:16 J -750145.35 -750145.28 -750145.20 0.0526 0.0424

Jupiter -6767-06-17 10:19 J -750056.19 -750056.07 -750055.94 0.0525 0.0129

Earth -6767-09-14 19:55 J -749966.70 -749966.67 -749966.65 0.2716 0.2616

Moon -6767-09-14 19:26 J -749966.69 -749966.69 -749966.68 0.2710 0.2699 *

Saturn -6766-07-11 21:21 J -749666.71 -749666.61 -749666.49 0.0259 0.0209

Saturn -6766-10-08 18:00 J -749577.93 -749577.75 -749577.56 0.0259 0.0060

Saturn -6765-01-05 14:23 J -749489.07 -749488.90 -749488.71 0.0259 0.0090

Saturn -6765-04-03 11:02 J -749400.10 -749400.04 -749399.97 0.0259 0.0241

Mars -6765-07-02 14:38 J -749310.05 -749309.89 -749309.72 0.1834 0.0427

Mars -6764-05-08 07:55 J -749000.29 -749000.17 -749000.06 0.1691 0.0128

Jupiter -6761-05-07 00:14 J -747905.52 -747905.49 -747905.46 0.0500 0.0492

Jupiter -6761-08-05 12:14 J -747815.15 -747814.99 -747814.82 0.0502 0.0247

Earth -6761-09-23 12:43 J -747766.02 -747765.97 -747765.92 0.2718 0.2385

Moon -6761-09-23 13:12 J -747766.00 -747765.95 -747765.91 0.2724 0.2382 *

Uranus	-6760-10-19 10:19 J	-747375.13	-747375.07	-747374.98	0.0141	0.0131
Uranus	-6759-01-15 18:57 J	-747286.84	-747286.71	-747286.56	0.0141	0.0099
Uranus	-6759-04-14 03:21 J	-747198.52	-747198.36	-747198.18	0.0141	0.0069
Uranus	-6759-07-11 12:00 J	-747110.19	-747110.00	-747109.81	0.0141	0.0037
Uranus	-6759-10-07 20:23 J	-747021.84	-747021.65	-747021.45	0.0141	0.0007
Uranus	-6758-01-04 04:47 J	-746933.49	-746933.30	-746933.10	0.0141	0.0025
Uranus	-6758-04-02 13:12 J	-746845.12	-746844.95	-746844.76	0.0141	0.0056
Uranus	-6758-06-29 21:50 J	-746756.75	-746756.59	-746756.44	0.0141	0.0086
Uranus	-6758-09-26 06:00 J	-746668.35	-746668.25	-746668.13	0.0141	0.0117
Mars	-6756-11-22 08:52 J	-745880.28	-745880.13	-745879.98	0.1827	0.0806
Jupiter	-6755-04-05 14:52 J	-745746.00	-745745.88	-745745.75	0.0525	0.0012
Mars	-6755-09-28 18:43 J	-745569.83	-745569.72	-745569.61	0.1697	0.0377
Moon	-6754-09-17 12:28 J	-745216.07	-745215.98	-745215.88	0.2717	0.1394
Earth	-6754-09-17 13:12 J	-745216.04	-745215.95	-745215.85	0.2717	0.1307 *
Mars	-6753-09-02 22:19 J	-744864.61	-744864.57	-744864.53	0.1677	0.1545
Saturn	-6751-05-08 09:07 J	-744252.21	-744252.12	-744252.03	0.0303	0.0216
Saturn	-6751-08-04 21:50 J	-744163.72	-744163.59	-744163.47	0.0304	0.0054
Saturn	-6751-11-01 10:19 J	-744075.19	-744075.07	-744074.95	0.0304	0.0108
Saturn	-6750-01-28 22:47 J	-743986.60	-743986.55	-743986.49	0.0304	0.0268
Jupiter	-6749-05-24 09:21 J	-743505.29	-743505.11	-743504.92	0.0501	0.0070
Venus	-6747-09-06 12:43 J	-742670.00	-742669.97	-742669.95	0.3684	0.3512
Mars	-6745-02-19 05:45 J	-742139.36	-742139.26	-742139.17	0.1702	0.0864
Jupiter	-6743-01-22 19:26 J	-741435.81	-741435.69	-741435.57	0.0525	0.0145
Mars	-6743-01-24 09:36 J	-741434.19	-741434.10	-741434.02	0.1681	0.1091
Jupiter	-6743-04-22 00:00 J	-741346.58	-741346.50	-741346.42	0.0523	0.0399
Venus	-6741-03-22 04:04 J	-740646.41	-740646.33	-740646.24	0.3686	0.1902
Moon	-6741-09-19 06:00 J	-740465.35	-740465.25	-740465.14	0.2721	0.0120
Earth	-6741-09-19 06:43 J	-740465.33	-740465.22	-740465.12	0.2717	0.0059 *
Jupiter	-6737-03-12 06:28 J	-739195.41	-739195.23	-739195.04	0.0501	0.0109
Moon	-6737-03-17 09:50 J	-739190.16	-739190.09	-739190.02	0.2614	0.2347

Earth	-6737-03-17 11:31 J	-739190.11	-739190.02	-739189.93	0.2616	0.2193 *
Saturn	-6736-02-24 16:04 J	-738846.00	-738845.83	-738845.65	0.0259	0.0111
Saturn	-6736-05-24 12:43 J	-738757.16	-738756.97	-738756.78	0.0259	0.0039
Mars	-6736-07-11 16:33 J	-738708.88	-738708.81	-738708.75	0.1707	0.1360
Saturn	-6736-08-21 09:07 J	-738668.24	-738668.12	-738667.98	0.0259	0.0189
Venus	-6736-10-05 19:40 J	-738622.78	-738622.68	-738622.58	0.3687	0.0299
Mars	-6735-08-11 22:04 J	-738312.60	-738312.58	-738312.55	0.1841	0.1821
Mars	-6734-06-16 20:38 J	-738003.75	-738003.64	-738003.53	0.1686	0.0628
Jupiter	-6732-11-10 23:31 J	-737125.63	-737125.52	-737125.42	0.0525	0.0287
Jupiter	-6731-02-08 04:19 J	-737036.43	-737036.32	-737036.21	0.0524	0.0261
Venus	-6730-04-21 11:02 J	-736599.13	-736599.04	-736598.94	0.3689	0.1283
Moon	-6728-09-22 00:00 J	-735714.59	-735714.50	-735714.40	0.2725	0.1291
Earth	-6728-09-22 00:00 J	-735714.59	-735714.50	-735714.40	0.2718	0.1332 *
Jupiter	-6726-12-30 03:07 J	-734885.52	-734885.37	-734885.21	0.0501	0.0290
Mars	-6725-01-01 15:36 J	-734883.01	-734882.85	-734882.68	0.1834	0.0546
Jupiter	-6725-03-29 15:36 J	-734794.92	-734794.85	-734794.76	0.0502	0.0455
Venus	-6725-11-04 02:23 J	-734575.46	-734575.40	-734575.33	0.3691	0.2847
Mars	-6725-11-06 07:40 J	-734573.29	-734573.18	-734573.07	0.1692	0.0156
Moon	-6724-03-20 18:28 J	-734438.89	-734438.73	-734438.57	0.2618	0.0476
Earth	-6724-03-20 20:09 J	-734438.82	-734438.66	-734438.50	0.2616	0.0653 *
Saturn	-6722-09-25 10:33 J	-733520.11	-733520.06	-733519.99	0.0303	0.0267
Saturn	-6722-12-22 23:31 J	-733431.64	-733431.52	-733431.40	0.0303	0.0104
Saturn	-6721-03-20 12:00 J	-733343.12	-733343.00	-733342.87	0.0303	0.0059
Saturn	-6721-06-17 00:43 J	-733254.56	-733254.47	-733254.38	0.0303	0.0218
Moon	-6721-09-15 00:14 J	-733164.54	-733164.49	-733164.44	0.2711	0.2372
Earth	-6721-09-15 00:43 J	-733164.52	-733164.47	-733164.42	0.2716	0.2356 *
Jupiter	-6720-08-30 04:04 J	-732815.40	-732815.33	-732815.25	0.0526	0.0420
Jupiter	-6720-11-27 09:07 J	-732726.24	-732726.12	-732726.00	0.0524	0.0131
Venus	-6716-02-18 13:40 J	-731547.05	-731546.93	-731546.81	0.3685	0.2369
Mars	-6716-05-23 09:36 J	-731453.26	-731453.10	-731452.94	0.1827	0.0704

Uranus	-6716-10-04 15:07 J	-731318.91	-731318.87	-731318.82	0.0137	0.0127
Uranus	-6716-12-31 18:00 J	-731230.82	-731230.75	-731230.66	0.0137	0.0109
Mars	-6715-03-29 18:43 J	-731142.83	-731142.72	-731142.61	0.1697	0.0320
Uranus	-6715-03-29 21:21 J	-731142.71	-731142.61	-731142.52	0.0137	0.0090 *
Uranus	-6715-06-26 00:14 J	-731054.60	-731054.49	-731054.37	0.0137	0.0072
Uranus	-6715-09-22 03:21 J	-730966.48	-730966.36	-730966.24	0.0137	0.0053
Earth	-6715-09-24 17:31 J	-730963.79	-730963.77	-730963.75	0.2718	0.2649
Uranus	-6715-12-19 06:28 J	-730878.36	-730878.23	-730878.10	0.0137	0.0035
Uranus	-6714-03-17 09:36 J	-730790.23	-730790.10	-730789.97	0.0137	0.0016
Uranus	-6714-06-13 12:43 J	-730702.10	-730701.97	-730701.84	0.0137	0.0004
Uranus	-6714-09-09 15:36 J	-730613.97	-730613.85	-730613.72	0.0138	0.0022
Jupiter	-6714-10-17 22:33 J	-730575.59	-730575.56	-730575.51	0.0500	0.0486
Uranus	-6714-12-06 18:43 J	-730525.84	-730525.72	-730525.59	0.0138	0.0040
Jupiter	-6713-01-16 10:47 J	-730485.21	-730485.05	-730484.89	0.0501	0.0252
Uranus	-6713-03-03 21:50 J	-730437.71	-730437.59	-730437.47	0.0138	0.0059
Mars	-6713-03-03 22:19 J	-730437.61	-730437.57	-730437.54	0.1677	0.1596 *
Uranus	-6713-05-31 00:57 J	-730349.57	-730349.46	-730349.35	0.0138	0.0078
Uranus	-6713-08-27 03:50 J	-730261.42	-730261.34	-730261.24	0.0138	0.0098
Uranus	-6713-11-23 06:57 J	-730173.27	-730173.21	-730173.13	0.0138	0.0116
Uranus	-6712-02-19 10:04 J	-730085.10	-730085.08	-730085.05	0.0138	0.0135
Venus	-6711-09-05 00:14 J	-729522.56	-729522.49	-729522.41	0.3682	0.3183
Jupiter	-6708-09-15 13:55 J	-728416.05	-728415.92	-728415.79	0.0525	0.0002
Moon	-6708-09-17 17:16 J	-728413.87	-728413.78	-728413.68	0.2718	0.1165
Earth	-6708-09-17 18:00 J	-728413.85	-728413.75	-728413.65	0.2717	0.1039 *
Saturn	-6707-07-14 15:36 J	-728114.00	-728113.85	-728113.69	0.0259	0.0151
Saturn	-6707-10-11 12:14 J	-728025.18	-728024.99	-728024.80	0.0259	0.0004
Saturn	-6706-01-08 08:38 J	-727936.29	-727936.14	-727935.98	0.0259	0.0149
Mars	-6706-08-20 05:45 J	-727712.36	-727712.26	-727712.16	0.1702	0.0808
Mars	-6704-07-25 09:36 J	-727007.19	-727007.10	-727007.02	0.1682	0.1146
Jupiter	-6702-11-04 07:26 J	-726175.37	-726175.19	-726175.00	0.0501	0.0070

Mars -6696-01-09 16:33 J -724281.89 -724281.81 -724281.74 0.1707 0.1302

Jupiter -6696-07-04 18:28 J -724105.85 -724105.73 -724105.61 0.0525 0.0136

Jupiter -6696-10-01 23:02 J -724016.61 -724016.54 -724016.46 0.0524 0.0408

Moon -6695-09-20 11:02 J -723663.15 -723663.04 -723662.94 0.2722 0.0207

Earth -6695-09-20 11:31 J -723663.13 -723663.02 -723662.92 0.2717 0.0291 *

Mars -6695-12-15 20:38 J -723576.74 -723576.64 -723576.54 0.1686 0.0683

Saturn -6692-05-11 00:28 J -722699.58 -722699.48 -722699.37 0.0303 0.0160

Saturn -6692-08-07 13:12 J -722611.08 -722610.95 -722610.82 0.0303 0.0007

Saturn -6692-11-04 01:55 J -722522.53 -722522.42 -722522.31 0.0303 0.0162

Neptune -6691-01-29 15:36 J -722435.87 -722435.85 -722435.82 0.0089 0.0088

Moon -6691-03-18 16:33 J -722387.92 -722387.81 -722387.69 0.2614 0.1916

Earth -6691-03-18 18:28 J -722387.86 -722387.73 -722387.61 0.2616 0.1651 *

Neptune -6691-04-27 16:47 J -722347.84 -722347.80 -722347.73 0.0089 0.0081

Neptune -6691-07-24 18:14 J -722259.81 -722259.74 -722259.66 0.0089 0.0073

Neptune -6691-10-20 19:26 J -722171.77 -722171.69 -722171.59 0.0089 0.0067

Neptune -6690-01-16 20:52 J -722083.72 -722083.63 -722083.52 0.0089 0.0059

Venus -6690-04-13 10:04 J -721997.14 -721997.08 -721997.02 0.3685 0.2937

Neptune -6690-04-14 22:04 J -721995.67 -721995.58 -721995.46 0.0089 0.0053

Neptune -6690-07-11 23:31 J -721907.63 -721907.52 -721907.40 0.0089 0.0045

Jupiter -6690-08-23 04:33 J -721865.49 -721865.31 -721865.13 0.0501 0.0109

Neptune -6690-10-08 00:57 J -721819.58 -721819.46 -721819.34 0.0089 0.0038

Neptune -6689-01-04 02:23 J -721731.53 -721731.40 -721731.28 0.0089 0.0031

Neptune -6689-04-01 03:36 J -721643.47 -721643.35 -721643.22 0.0089 0.0024

Neptune -6689-06-28 05:02 J -721555.42 -721555.29 -721555.16 0.0089 0.0017

Neptune -6689-09-24 06:14 J -721467.37 -721467.24 -721467.11 0.0089 0.0010

Neptune -6689-12-21 07:40 J -721379.31 -721379.18 -721379.05 0.0089 0.0002

Neptune -6688-03-19 08:52 J -721291.26 -721291.13 -721290.99 0.0089 0.0005

Neptune -6688-06-15 10:19 J -721203.20 -721203.07 -721202.94 0.0089 0.0012

Neptune -6688-09-11 11:31 J -721115.15 -721115.02 -721114.89 0.0089 0.0019

Neptune -6688-12-08 12:43 J -721027.09 -721026.97 -721026.84 0.0089 0.0026

Neptune -6687-03-06 13:55 J -720939.03 -720938.92 -720938.79 0.0089 0.0034

Neptune -6687-06-02 15:21 J -720850.97 -720850.86 -720850.74 0.0089 0.0040

Neptune -6687-08-29 16:33 J -720762.91 -720762.81 -720762.69 0.0089 0.0047

Neptune -6687-11-25 17:45 J -720674.85 -720674.76 -720674.64 0.0089 0.0055

Neptune -6686-02-21 19:12 J -720586.79 -720586.70 -720586.60 0.0089 0.0061

Neptune -6686-05-20 20:23 J -720498.72 -720498.65 -720498.55 0.0089 0.0068

Mars -6686-07-02 16:47 J -720455.96 -720455.80 -720455.64 0.1834 0.0662

Neptune -6686-08-16 21:36 J -720410.65 -720410.60 -720410.51 0.0089 0.0076

Neptune -6686-11-12 23:02 J -720322.58 -720322.54 -720322.48 0.0089 0.0082

Neptune -6685-02-09 00:14 J -720234.49 -720234.49 -720234.47 0.0089 0.0089

Mars -6685-05-07 07:40 J -720146.29 -720146.18 -720146.07 0.1691 0.0212

Venus -6685-10-27 01:40 J -719973.53 -719973.43 -719973.34 0.3686 0.1334

Jupiter -6684-04-22 22:47 J -719795.66 -719795.55 -719795.44 0.0525 0.0274

Jupiter -6684-07-21 03:36 J -719706.45 -719706.35 -719706.24 0.0524 0.0273

Moon -6682-09-23 04:47 J -718912.38 -718912.30 -718912.21 0.2725 0.1647

Earth -6682-09-23 04:47 J -718912.38 -718912.30 -718912.21 0.2718 0.1594 *

Pluto -6680-03-15 02:23 J -718373.43 -718373.40 -718373.36 0.0072 0.0069

Pluto -6680-06-11 03:07 J -718285.43 -718285.37 -718285.28 0.0072 0.0061

Pluto -6680-09-07 04:19 J -718197.41 -718197.32 -718197.21 0.0072 0.0052

Pluto -6680-12-04 05:31 J -718109.38 -718109.27 -718109.15 0.0072 0.0044

Pluto -6679-03-02 06:43 J -718021.35 -718021.22 -718021.09 0.0072 0.0035

Venus -6679-05-12 17:02 J -717949.89 -717949.79 -717949.69 0.3688 0.0257

Pluto -6679-05-29 07:40 J -717933.31 -717933.18 -717933.04 0.0072 0.0026

Pluto -6679-08-25 08:38 J -717845.27 -717845.14 -717844.99 0.0073 0.0018

Pluto -6679-11-21 09:50 J -717757.23 -717757.09 -717756.93 0.0073 0.0009

Pluto -6678-02-17 11:02 J -717669.18 -717669.04 -717668.89 0.0073 0.0002

Moon -6678-03-22 01:26 J -717636.59 -717636.44 -717636.29 0.2619 0.1030

Earth -6678-03-22 03:07 J -717636.51 -717636.37 -717636.22 0.2616 0.1203 *

Pluto -6678-05-16 12:14 J -717581.14 -717580.99 -717580.84 0.0073 0.0010

Jupiter -6678-06-11 01:26 J -717555.59 -717555.44 -717555.28 0.0501 0.0287

Pluto -6678-08-12 13:26 J -717493.08 -717492.94 -717492.80 0.0073 0.0019

Jupiter -6678-09-09 14:09 J -717464.99 -717464.91 -717464.84 0.0502 0.0459

Pluto -6678-11-08 14:23 J -717405.03 -717404.90 -717404.76 0.0073 0.0029

Saturn -6678-12-01 14:09 J -717382.03 -717381.91 -717381.79 0.0259 0.0200

Pluto -6677-02-04 15:21 J -717316.97 -717316.86 -717316.72 0.0073 0.0039

Saturn -6677-02-28 10:33 J -717293.24 -717293.06 -717292.87 0.0259 0.0051

Pluto -6677-05-02 16:33 J -717228.91 -717228.81 -717228.68 0.0073 0.0048

Saturn -6677-05-27 07:12 J -717204.37 -717204.20 -717204.02 0.0259 0.0099

Pluto -6677-07-29 18:00 J -717140.84 -717140.75 -717140.65 0.0074 0.0057

Saturn -6677-08-24 03:36 J -717115.38 -717115.35 -717115.29 0.0259 0.0251

Pluto -6677-10-25 18:57 J -717052.76 -717052.71 -717052.63 0.0074 0.0067

Mars -6677-11-21 10:33 J -717026.23 -717026.06 -717025.90 0.1828 0.0593

Mars -6676-09-27 18:43 J -716715.84 -716715.72 -716715.61 0.1697 0.0270

Uranus -6676-11-08 17:16 J -716673.86 -716673.78 -716673.68 0.0142 0.0125

Uranus -6675-02-05 01:55 J -716585.56 -716585.42 -716585.27 0.0141 0.0093

Uranus -6675-05-04 10:19 J -716497.24 -716497.07 -716496.89 0.0141 0.0063

Uranus -6675-07-31 18:57 J -716408.90 -716408.71 -716408.52 0.0141 0.0031

Moon -6675-09-16 04:47 J -716362.36 -716362.30 -716362.24 0.2713 0.2225

Earth -6675-09-16 05:16 J -716362.34 -716362.28 -716362.21 0.2716 0.2095 *

Uranus -6675-10-28 03:21 J -716320.56 -716320.36 -716320.16 0.0141 0.0001

Uranus -6674-01-24 11:45 J -716232.20 -716232.01 -716231.81 0.0141 0.0031

Uranus -6674-04-22 19:55 J -716143.83 -716143.67 -716143.48 0.0141 0.0062

Uranus -6674-07-20 04:33 J -716055.45 -716055.31 -716055.16 0.0141 0.0092

Mars -6674-09-02 22:04 J -716010.59 -716010.58 -716010.56 0.1677 0.1648

Uranus -6674-10-16 12:43 J -715967.05 -715966.97 -715966.86 0.0141 0.0123

Venus -6674-11-26 08:23 J -715926.23 -715926.15 -715926.06 0.3690 0.1836

Jupiter -6672-02-09 02:52 J -715485.46 -715485.38 -715485.31 0.0526 0.0418

Jupiter -6672-05-09 07:55 J -715396.29 -715396.17 -715396.05 0.0524 0.0133

Venus -6668-06-10 23:45 J -713902.55 -713902.51 -713902.47 0.3691 0.3385

Mars -6667-04-13 05:02 J -713596.32 -713596.29 -713596.26 0.1820 0.1787

Mars	-6666-02-18 05:31 J	-713285.37	-713285.27	-713285.16	0.1702	0.0753
Jupiter	-6666-03-29 22:19 J	-713245.63	-713245.57	-713245.51	0.0500	0.0466
Jupiter	-6666-06-28 10:33 J	-713155.22	-713155.06	-713154.90	0.0502	0.0273
Mars	-6664-01-23 09:21 J	-712580.19	-712580.11	-712580.03	0.1681	0.1197
Saturn	-6663-09-28 02:23 J	-711967.49	-711967.40	-711967.30	0.0303	0.0208
Saturn	-6663-12-25 15:07 J	-711879.00	-711878.87	-711878.74	0.0303	0.0047
Saturn	-6662-03-24 03:50 J	-711790.46	-711790.34	-711790.22	0.0303	0.0114
Saturn	-6662-06-20 16:19 J	-711701.87	-711701.82	-711701.77	0.0303	0.0274
Moon	-6662-09-18 22:04 J	-711611.68	-711611.58	-711611.48	0.2718	0.0840
Earth	-6662-09-18 22:47 J	-711611.65	-711611.55	-711611.45	0.2717	0.0778 *
Jupiter	-6660-02-25 12:28 J	-711086.10	-711085.98	-711085.85	0.0525	0.0005
Venus	-6660-09-25 16:04 J	-710873.98	-710873.83	-710873.67	0.3684	0.0630
Mars	-6657-07-10 16:33 J	-709854.89	-709854.81	-709854.74	0.1707	0.1244
Mars	-6655-06-15 20:38 J	-709149.75	-709149.64	-709149.54	0.1686	0.0737
Jupiter	-6654-04-16 05:45 J	-708845.45	-708845.26	-708845.07	0.0501	0.0072
Moon	-6649-09-20 15:50 J	-706860.94	-706860.84	-706860.73	0.2724	0.0491
Earth	-6649-09-20 16:04 J	-706860.93	-706860.83	-706860.72	0.2717	0.0553 *
Jupiter	-6649-12-14 17:16 J	-706775.91	-706775.78	-706775.66	0.0526	0.0135
Jupiter	-6648-03-13 21:50 J	-706686.66	-706686.59	-706686.51	0.0524	0.0412
Saturn	-6648-04-19 14:09 J	-706649.98	-706649.91	-706649.83	0.0259	0.0236
Saturn	-6648-07-17 10:33 J	-706561.23	-706561.06	-706560.87	0.0259	0.0088
Saturn	-6648-10-14 07:12 J	-706472.38	-706472.20	-706472.01	0.0259	0.0063
Saturn	-6647-01-11 03:50 J	-706383.44	-706383.34	-706383.23	0.0259	0.0214
Mars	-6647-12-31 17:16 J	-706028.94	-706028.78	-706028.63	0.1835	0.0756
Mars	-6646-11-06 07:40 J	-705719.29	-705719.18	-705719.07	0.1691	0.0269
Moon	-6645-03-18 23:31 J	-705585.66	-705585.52	-705585.37	0.2615	0.1213
Earth	-6645-03-19 01:26 J	-705585.59	-705585.44	-705585.29	0.2616	0.1100 *
Jupiter	-6642-02-02 02:23 J	-704535.58	-704535.40	-704535.22	0.0500	0.0111
Mars	-6637-05-22 11:31 J	-702599.18	-702599.02	-702598.85	0.1828	0.0468
Jupiter	-6637-10-02 21:36 J	-702465.71	-702465.60	-702465.49	0.0526	0.0271

Jupiter -6637-12-31 02:23 J -702376.50 -702376.40 -702376.29 0.0524 0.0277

Mars -6636-03-28 18:43 J -702288.84 -702288.72 -702288.61 0.1696 0.0213

Earth -6636-09-23 09:36 J -702110.18 -702110.10 -702110.02 0.2718 0.1860

Moon -6636-09-23 09:50 J -702110.17 -702110.09 -702110.02 0.2724 0.1862 *

Venus -6634-11-18 07:26 J -701324.26 -701324.19 -701324.11 0.3685 0.2371

Saturn -6633-02-15 04:04 J -701235.39 -701235.33 -701235.26 0.0303 0.0257

Saturn -6633-05-13 16:47 J -701146.92 -701146.80 -701146.67 0.0303 0.0096

Saturn -6633-08-10 05:31 J -701058.40 -701058.27 -701058.14 0.0303 0.0066

Saturn -6633-11-06 18:00 J -700969.83 -700969.75 -700969.66 0.0303 0.0225

Moon -6632-03-22 08:23 J -700834.28 -700834.15 -700834.02 0.2619 0.1519

Earth -6632-03-22 10:04 J -700834.20 -700834.08 -700833.96 0.2616 0.1747 *

Uranus -6632-10-24 22:19 J -700617.62 -700617.57 -700617.50 0.0137 0.0122

Uranus -6631-01-21 01:40 J -700529.51 -700529.43 -700529.35 0.0137 0.0103

Uranus -6631-04-19 04:33 J -700441.40 -700441.31 -700441.20 0.0137 0.0085

Uranus -6631-07-16 07:40 J -700353.29 -700353.18 -700353.06 0.0137 0.0066

Uranus -6631-10-12 10:47 J -700265.17 -700265.05 -700264.93 0.0137 0.0048

Jupiter -6631-11-20 23:02 J -700225.68 -700225.54 -700225.38 0.0500 0.0292

Uranus -6630-01-08 13:55 J -700177.05 -700176.92 -700176.79 0.0137 0.0029

Jupiter -6630-02-19 11:45 J -700135.09 -700135.01 -700134.93 0.0502 0.0453

Uranus -6630-04-06 17:02 J -700088.92 -700088.79 -700088.66 0.0137 0.0011

Uranus -6630-07-03 20:09 J -700000.79 -700000.66 -700000.53 0.0137 0.0009

Uranus -6630-09-29 23:02 J -699912.66 -699912.54 -699912.41 0.0138 0.0027

Uranus -6630-12-27 02:09 J -699824.53 -699824.41 -699824.28 0.0138 0.0046

Uranus -6629-03-24 05:16 J -699736.39 -699736.28 -699736.16 0.0138 0.0065

Uranus -6629-06-20 08:09 J -699648.25 -699648.16 -699648.05 0.0138 0.0084

Moon -6629-09-16 09:21 J -699560.18 -699560.11 -699560.03 0.2715 0.1862

Earth -6629-09-16 10:04 J -699560.16 -699560.08 -699560.00 0.2717 0.1832 *

Uranus -6629-09-16 11:31 J -699560.10 -699560.02 -699559.93 0.0138 0.0102 *

Uranus -6629-12-13 14:38 J -699471.95 -699471.89 -699471.83 0.0138 0.0121

Venus -6628-06-02 23:02 J -699300.64 -699300.54 -699300.44 0.3687 0.0776

Mars	-6628-10-12 05:45 J	-699169.33	-699169.26	-699169.20	0.1821	0.1685
Mars	-6627-08-19 05:31 J	-698858.37	-698858.27	-698858.16	0.1702	0.0697
Jupiter	-6625-07-22 01:55 J	-698155.50	-698155.42	-698155.34	0.0526	0.0410
Mars	-6625-07-24 09:21 J	-698153.18	-698153.11	-698153.03	0.1681	0.1248
Jupiter	-6625-10-19 06:57 J	-698066.33	-698066.21	-698066.09	0.0524	0.0141
Venus	-6623-12-17 14:23 J	-697277.00	-697276.90	-697276.80	0.3688	0.0821
Jupiter	-6619-09-08 20:09 J	-695915.72	-695915.66	-695915.60	0.0500	0.0469
Saturn	-6619-12-04 09:36 J	-695829.26	-695829.10	-695828.94	0.0259	0.0133
Jupiter	-6619-12-08 08:23 J	-695825.31	-695825.15	-695824.99	0.0502	0.0271
Saturn	-6618-03-03 06:00 J	-695740.44	-695740.25	-695740.05	0.0259	0.0018
Saturn	-6618-05-31 02:52 J	-695651.53	-695651.38	-695651.24	0.0259	0.0167
Mars	-6617-01-09 16:19 J	-695427.90	-695427.82	-695427.74	0.1707	0.1192
Venus	-6617-07-02 05:45 J	-695253.33	-695253.26	-695253.18	0.3690	0.2381
Moon	-6616-09-19 02:52 J	-694809.48	-694809.38	-694809.28	0.2719	0.0651
Earth	-6616-09-19 03:36 J	-694809.46	-694809.35	-694809.25	0.2717	0.0522 *
Mars	-6616-12-14 20:23 J	-694722.75	-694722.65	-694722.55	0.1686	0.0791
Jupiter	-6613-08-07 11:02 J	-693756.17	-693756.04	-693755.91	0.0525	0.0003
Mars	-6608-06-01 03:07 J	-691997.38	-691997.37	-691997.36	0.1713	0.1693
Neptune	-6608-07-09 21:36 J	-691958.66	-691958.60	-691958.49	0.0088	0.0079
Neptune	-6608-10-06 01:26 J	-691870.55	-691870.44	-691870.31	0.0088	0.0069
Neptune	-6607-01-02 05:02 J	-691782.42	-691782.29	-691782.13	0.0088	0.0059
Neptune	-6607-03-31 08:38 J	-691694.29	-691694.14	-691693.97	0.0088	0.0049
Neptune	-6607-06-27 12:14 J	-691606.15	-691605.99	-691605.80	0.0088	0.0039
Mars	-6607-07-01 18:28 J	-691601.88	-691601.73	-691601.58	0.1835	0.0887
Neptune	-6607-09-23 15:50 J	-691518.01	-691517.84	-691517.64	0.0088	0.0029
Jupiter	-6607-09-26 04:47 J	-691515.49	-691515.30	-691515.12	0.0501	0.0085
Neptune	-6607-12-20 19:40 J	-691429.87	-691429.68	-691429.49	0.0088	0.0019
Neptune	-6606-03-18 23:16 J	-691341.72	-691341.53	-691341.33	0.0088	0.0009
Mars	-6606-05-07 07:40 J	-691292.30	-691292.18	-691292.07	0.1691	0.0325
Neptune	-6606-06-15 02:52 J	-691253.57	-691253.38	-691253.18	0.0088	0.0002

Neptune	-6606-09-11 06:28 J	-691165.42	-691165.23	-691165.03	0.0088	0.0011
Neptune	-6606-12-08 10:04 J	-691077.27	-691077.08	-691076.88	0.0088	0.0021
Neptune	-6605-03-05 13:55 J	-690989.11	-690988.92	-690988.74	0.0088	0.0031
Neptune	-6605-06-01 17:31 J	-690900.95	-690900.77	-690900.60	0.0088	0.0041
Neptune	-6605-08-28 20:38 J	-690812.78	-690812.64	-690812.46	0.0088	0.0052
Neptune	-6605-11-25 00:14 J	-690724.61	-690724.49	-690724.33	0.0088	0.0062
Neptune	-6604-02-21 03:50 J	-690636.43	-690636.34	-690636.20	0.0088	0.0072
Neptune	-6604-05-20 07:40 J	-690548.23	-690548.18	-690548.09	0.0088	0.0082
Saturn	-6604-07-04 06:28 J	-690503.24	-690503.23	-690503.21	0.0303	0.0299
Saturn	-6604-09-30 19:12 J	-690414.81	-690414.70	-690414.58	0.0303	0.0138
Saturn	-6604-12-28 07:55 J	-690326.30	-690326.17	-690326.04	0.0303	0.0023
Saturn	-6603-03-26 20:23 J	-690237.75	-690237.65	-690237.55	0.0303	0.0183
Venus	-6603-05-02 18:43 J	-690200.87	-690200.72	-690200.57	0.3683	0.1135
Moon	-6603-09-21 20:38 J	-690058.74	-690058.64	-690058.54	0.2724	0.0803
Earth	-6603-09-21 20:52 J	-690058.73	-690058.63	-690058.52	0.2717	0.0808 *
Jupiter	-6601-05-26 15:36 J	-689445.98	-689445.85	-689445.73	0.0525	0.0138
Jupiter	-6601-08-23 20:09 J	-689356.73	-689356.66	-689356.58	0.0524	0.0408
Moon	-6599-03-20 06:28 J	-688783.39	-688783.23	-688783.08	0.2617	0.0863
Earth	-6599-03-20 08:09 J	-688783.32	-688783.16	-688782.99	0.2616	0.0550 *
Mars	-6598-11-21 12:00 J	-688172.16	-688172.00	-688171.83	0.1828	0.0377
Mars	-6597-09-26 18:43 J	-687861.84	-687861.72	-687861.61	0.1697	0.0165
Pluto	-6595-05-15 23:45 J	-687265.57	-687265.51	-687265.43	0.0073	0.0066
Jupiter	-6595-07-15 00:14 J	-687205.67	-687205.49	-687205.31	0.0500	0.0113
Pluto	-6595-08-12 01:12 J	-687177.54	-687177.45	-687177.32	0.0072	0.0056
Pluto	-6595-11-08 03:21 J	-687089.49	-687089.36	-687089.23	0.0072	0.0045
Pluto	-6594-02-04 04:47 J	-687001.44	-687001.30	-687001.14	0.0072	0.0035
Pluto	-6594-05-03 06:28 J	-686913.38	-686913.23	-686913.06	0.0072	0.0025
Pluto	-6594-07-30 08:09 J	-686825.32	-686825.16	-686824.99	0.0072	0.0014
Pluto	-6594-10-26 09:50 J	-686737.26	-686737.09	-686736.92	0.0072	0.0004
Pluto	-6593-01-22 11:31 J	-686649.19	-686649.02	-686648.85	0.0072	0.0006

Pluto -6593-04-19 12:57 J -686561.12 -686560.96 -686560.79 0.0072 0.0015

Pluto -6593-07-16 14:38 J -686473.05 -686472.89 -686472.73 0.0071 0.0025

Pluto -6593-10-12 16:04 J -686384.97 -686384.83 -686384.68 0.0071 0.0034

Pluto -6592-01-08 17:16 J -686296.89 -686296.78 -686296.63 0.0071 0.0044

Pluto -6592-04-06 18:57 J -686208.81 -686208.71 -686208.59 0.0071 0.0054

Pluto -6592-07-03 20:09 J -686120.71 -686120.66 -686120.56 0.0071 0.0063

Uranus -6592-11-29 00:28 J -685972.58 -685972.48 -685972.36 0.0142 0.0118

Uranus -6591-02-25 09:07 J -685884.27 -685884.12 -685883.96 0.0141 0.0087

Uranus -6591-05-24 17:31 J -685795.94 -685795.77 -685795.58 0.0141 0.0056

Uranus -6591-08-21 02:09 J -685707.61 -685707.41 -685707.22 0.0141 0.0025

Uranus -6591-11-17 10:33 J -685619.26 -685619.06 -685618.86 0.0141 0.0006

Uranus -6590-02-13 18:57 J -685530.90 -685530.71 -685530.52 0.0141 0.0037

Uranus -6590-05-13 03:21 J -685442.53 -685442.36 -685442.19 0.0141 0.0068

Uranus -6590-08-09 11:31 J -685354.15 -685354.02 -685353.87 0.0141 0.0099

Earth -6590-09-24 14:23 J -685307.97 -685307.90 -685307.84 0.2718 0.2125

Moon -6590-09-24 14:38 J -685307.95 -685307.89 -685307.83 0.2724 0.2169 *

Uranus -6590-11-05 19:40 J -685265.73 -685265.68 -685265.58 0.0141 0.0130

Jupiter -6589-03-14 19:55 J -685135.78 -685135.67 -685135.56 0.0526 0.0275

Saturn -6589-04-22 10:04 J -685097.22 -685097.08 -685096.93 0.0260 0.0167

Jupiter -6589-06-12 00:57 J -685046.57 -685046.46 -685046.36 0.0525 0.0275

Saturn -6589-07-20 06:43 J -685008.42 -685008.22 -685008.03 0.0260 0.0018

Saturn -6589-10-17 03:07 J -684919.53 -684919.37 -684919.20 0.0260 0.0135

Mars -6588-04-12 06:28 J -684742.31 -684742.23 -684742.14 0.1821 0.1575

Mars -6587-02-17 05:31 J -684431.37 -684431.27 -684431.16 0.1701 0.0639

Moon -6586-03-23 15:21 J -684031.95 -684031.86 -684031.77 0.2619 0.2172

Earth -6586-03-23 17:02 J -684031.87 -684031.79 -684031.72 0.2616 0.2301 *

Mars -6585-01-23 09:21 J -683726.18 -683726.11 -683726.04 0.1681 0.1305

Jupiter -6583-05-02 20:38 J -682895.78 -682895.64 -682895.48 0.0500 0.0296

Jupiter -6583-08-01 09:07 J -682805.20 -682805.12 -682805.04 0.0501 0.0446

Moon -6583-09-17 14:09 J -682757.99 -682757.91 -682757.83 0.2715 0.1725

Earth	-6583-09-17 14:52 J	-682757.97	-682757.88	-682757.79	0.2717	0.1565 *
Venus	-6583-12-09 13:26 J	-682674.98	-682674.94	-682674.91	0.3684	0.3412
Mars	-6578-07-10 16:19 J	-681000.90	-681000.82	-681000.73	0.1707	0.1136
Jupiter	-6577-01-02 00:14 J	-680825.56	-680825.49	-680825.41	0.0526	0.0414
Jupiter	-6577-03-31 05:16 J	-680736.40	-680736.28	-680736.15	0.0525	0.0139
Venus	-6577-06-24 05:02 J	-680651.38	-680651.29	-680651.20	0.3686	0.1809
Mars	-6576-06-14 20:23 J	-680295.75	-680295.65	-680295.55	0.1686	0.0844
Saturn	-6574-02-17 21:21 J	-679682.71	-679682.61	-679682.50	0.0303	0.0180
Saturn	-6574-05-17 10:04 J	-679594.21	-679594.08	-679593.95	0.0303	0.0020
Saturn	-6574-08-13 22:33 J	-679505.67	-679505.56	-679505.44	0.0303	0.0141
Saturn	-6574-11-10 11:02 J	-679417.05	-679417.04	-679417.02	0.0303	0.0299
Venus	-6571-01-07 20:23 J	-678627.75	-678627.65	-678627.55	0.3687	0.0225
Jupiter	-6571-02-18 17:31 J	-678585.82	-678585.77	-678585.72	0.0500	0.0477
Jupiter	-6571-05-20 05:31 J	-678495.43	-678495.27	-678495.11	0.0501	0.0261
Moon	-6570-09-20 07:40 J	-678007.28	-678007.18	-678007.07	0.2721	0.0284
Earth	-6570-09-20 08:23 J	-678007.26	-678007.15	-678007.05	0.2717	0.0265 *
Mars	-6569-11-30 03:07 J	-677570.40	-677570.37	-677570.34	0.1713	0.1635
Mars	-6568-12-30 19:12 J	-677174.84	-677174.70	-677174.56	0.1835	0.0994
Mars	-6567-11-05 07:26 J	-676865.30	-676865.19	-676865.07	0.1691	0.0378
Venus	-6566-07-24 12:00 J	-676604.10	-676604.00	-676603.91	0.3689	0.1372
Jupiter	-6565-01-18 09:50 J	-676426.22	-676426.09	-676425.97	0.0525	0.0011
Venus	-6560-02-06 03:21 J	-674580.42	-674580.36	-674580.30	0.3690	0.2925
Saturn	-6560-09-09 09:21 J	-674365.22	-674365.11	-674364.99	0.0259	0.0209
Saturn	-6560-12-07 06:00 J	-674276.44	-674276.25	-674276.07	0.0259	0.0060
Saturn	-6559-03-06 02:23 J	-674187.57	-674187.40	-674187.21	0.0259	0.0092
Jupiter	-6559-03-08 02:09 J	-674185.59	-674185.41	-674185.22	0.0501	0.0078
Saturn	-6559-06-02 23:16 J	-674098.59	-674098.53	-674098.46	0.0259	0.0243
Mars	-6558-05-22 13:12 J	-673745.12	-673744.95	-673744.78	0.1828	0.0252
Mars	-6557-03-27 18:28 J	-673434.84	-673434.73	-673434.61	0.1696	0.0121
Moon	-6557-09-22 01:26 J	-673256.54	-673256.44	-673256.34	0.2724	0.1004

Earth	-6557-09-22 01:40 J	-673256.53	-673256.43	-673256.33	0.2717	0.1069 *
Jupiter	-6554-11-06 13:40 J	-672116.05	-672115.93	-672115.80	0.0525	0.0145
Jupiter	-6553-02-03 18:28 J	-672026.80	-672026.73	-672026.65	0.0524	0.0401
Moon	-6553-03-20 13:12 J	-671981.11	-671980.95	-671980.78	0.2618	0.0108
Earth	-6553-03-20 15:07 J	-671981.03	-671980.87	-671980.70	0.2616	0.0053 *
Venus	-6552-05-23 10:33 J	-671552.17	-671552.06	-671551.94	0.3685	0.2594
Moon	-6550-09-16 01:55 J	-670706.43	-670706.42	-670706.42	0.2711	0.2696
Earth	-6550-09-16 02:09 J	-670706.43	-670706.41	-670706.38	0.2716	0.2617 *
Mars	-6549-10-11 07:26 J	-670315.29	-670315.19	-670315.09	0.1821	0.1467
Uranus	-6548-08-18 02:52 J	-670004.40	-670004.38	-670004.36	0.0137	0.0135
Mars	-6548-08-18 05:31 J	-670004.38	-670004.27	-670004.17	0.1702	0.0591 *
Uranus	-6548-11-14 05:45 J	-669916.32	-669916.26	-669916.19	0.0137	0.0117
Jupiter	-6548-12-24 22:33 J	-669875.74	-669875.56	-669875.37	0.0501	0.0108
Uranus	-6547-02-10 09:07 J	-669828.21	-669828.12	-669828.03	0.0137	0.0098
Uranus	-6547-05-09 12:00 J	-669740.10	-669740.00	-669739.89	0.0137	0.0080
Uranus	-6547-08-05 15:07 J	-669651.98	-669651.87	-669651.75	0.0137	0.0061
Uranus	-6547-11-01 18:14 J	-669563.86	-669563.74	-669563.62	0.0137	0.0043
Venus	-6547-12-07 21:07 J	-669527.72	-669527.62	-669527.53	0.3683	0.2856
Uranus	-6546-01-28 21:21 J	-669475.74	-669475.61	-669475.48	0.0137	0.0024
Uranus	-6546-04-27 00:28 J	-669387.61	-669387.48	-669387.35	0.0137	0.0006
Uranus	-6546-07-24 03:21 J	-669299.48	-669299.36	-669299.23	0.0137	0.0014
Mars	-6546-07-24 09:21 J	-669299.18	-669299.11	-669299.05	0.1681	0.1355
Uranus	-6546-10-20 06:28 J	-669211.35	-669211.23	-669211.10	0.0138	0.0032
Uranus	-6545-01-16 09:36 J	-669123.22	-669123.10	-669122.98	0.0138	0.0051
Uranus	-6545-04-13 12:43 J	-669035.08	-669034.97	-669034.86	0.0138	0.0070
Saturn	-6545-07-07 00:00 J	-668950.58	-668950.50	-668950.41	0.0303	0.0219
Uranus	-6545-07-10 15:36 J	-668946.94	-668946.85	-668946.74	0.0138	0.0089
Saturn	-6545-10-03 12:43 J	-668862.09	-668861.97	-668861.84	0.0303	0.0058
Uranus	-6545-10-06 18:57 J	-668858.79	-668858.71	-668858.63	0.0138	0.0107
Saturn	-6545-12-31 01:26 J	-668773.56	-668773.44	-668773.32	0.0303	0.0102

Uranus -6544-01-02 22:04 J -668770.63 -668770.58 -668770.53 0.0138 0.0126

Saturn -6544-03-29 13:55 J -668684.98 -668684.92 -668684.86 0.0303 0.0261

Earth -6544-09-24 19:12 J -668505.75 -668505.70 -668505.66 0.2718 0.2389

Moon -6544-09-24 19:26 J -668505.73 -668505.69 -668505.65 0.2723 0.2476 *

Jupiter -6542-08-25 18:14 J -667805.85 -667805.74 -667805.64 0.0526 0.0282

Jupiter -6542-11-22 23:02 J -667716.64 -667716.54 -667716.43 0.0524 0.0267

Mars -6538-01-08 16:19 J -666573.90 -666573.82 -666573.73 0.1707 0.1077

Moon -6537-09-17 18:57 J -665955.80 -665955.71 -665955.62 0.2715 0.1335

Earth -6537-09-17 19:40 J -665955.77 -665955.68 -665955.59 0.2717 0.1300 *

Mars -6537-12-13 20:23 J -665868.74 -665868.65 -665868.55 0.1686 0.0897

Jupiter -6536-10-12 18:14 J -665565.88 -665565.74 -665565.59 0.0500 0.0302

Jupiter -6535-01-11 06:28 J -665475.31 -665475.23 -665475.14 0.0501 0.0439

Saturn -6530-01-27 10:04 J -663633.14 -663633.08 -663633.00 0.0260 0.0240

Saturn -6530-04-26 06:43 J -663544.39 -663544.22 -663544.04 0.0260 0.0091

Jupiter -6530-06-13 22:19 J -663495.64 -663495.57 -663495.49 0.0527 0.0424

Saturn -6530-07-24 03:21 J -663455.54 -663455.36 -663455.17 0.0260 0.0061

Jupiter -6530-09-11 03:36 J -663406.47 -663406.35 -663406.23 0.0525 0.0130

Saturn -6530-10-21 00:14 J -663366.60 -663366.49 -663366.38 0.0260 0.0212

Mars -6529-05-31 03:07 J -663143.41 -663143.37 -663143.33 0.1712 0.1580

Mars -6528-06-30 19:55 J -662747.80 -662747.67 -662747.53 0.1835 0.1102

Mars -6527-05-06 07:40 J -662438.30 -662438.18 -662438.07 0.1691 0.0437

Neptune -6527-10-26 14:52 J -662264.90 -662264.88 -662264.84 0.0089 0.0086

Neptune -6526-01-22 16:04 J -662176.87 -662176.83 -662176.75 0.0089 0.0080

Neptune -6526-04-20 17:31 J -662088.83 -662088.77 -662088.68 0.0089 0.0072

Venus -6526-07-16 10:47 J -662002.11 -662002.05 -662001.98 0.3684 0.2844

Neptune -6526-07-17 19:12 J -662000.79 -662000.70 -662000.61 0.0089 0.0065

Neptune -6526-10-13 20:23 J -661912.75 -661912.65 -661912.55 0.0089 0.0058

Neptune -6525-01-09 21:36 J -661824.70 -661824.60 -661824.48 0.0089 0.0051

Neptune -6525-04-06 23:02 J -661736.65 -661736.54 -661736.42 0.0089 0.0044

Neptune -6525-07-04 00:14 J -661648.60 -661648.49 -661648.36 0.0089 0.0037

Neptune -6525-09-30 01:40 J -661560.55 -661560.43 -661560.30 0.0089 0.0029

Neptune -6525-12-27 03:07 J -661472.50 -661472.37 -661472.24 0.0089 0.0022

Neptune -6524-03-25 04:19 J -661384.45 -661384.32 -661384.19 0.0089 0.0015

Neptune -6524-06-21 05:45 J -661296.39 -661296.26 -661296.13 0.0089 0.0008

Jupiter -6524-07-31 14:52 J -661255.92 -661255.88 -661255.84 0.0499 0.0484

Neptune -6524-09-17 06:57 J -661208.34 -661208.21 -661208.07 0.0089 0.0003

Moon -6524-09-20 12:43 J -661205.08 -661204.97 -661204.87 0.2722 0.0160

Earth -6524-09-20 13:12 J -661205.06 -661204.95 -661204.85 0.2717 0.0114 *

Jupiter -6524-10-30 02:52 J -661165.54 -661165.38 -661165.22 0.0501 0.0251

Neptune -6524-12-14 08:23 J -661120.28 -661120.15 -661120.02 0.0089 0.0006

Neptune -6523-03-12 09:36 J -661032.23 -661032.10 -661031.97 0.0089 0.0013

Neptune -6523-06-08 11:02 J -660944.17 -660944.04 -660943.91 0.0089 0.0020

Neptune -6523-09-04 12:14 J -660856.11 -660855.99 -660855.86 0.0089 0.0027

Neptune -6523-12-01 13:26 J -660768.05 -660767.94 -660767.81 0.0089 0.0035

Neptune -6522-02-27 14:38 J -660680.00 -660679.89 -660679.76 0.0089 0.0042

Neptune -6522-05-26 16:04 J -660591.93 -660591.83 -660591.71 0.0089 0.0048

Neptune -6522-08-22 17:16 J -660503.87 -660503.78 -660503.67 0.0089 0.0056

Neptune -6522-11-18 18:28 J -660415.81 -660415.73 -660415.62 0.0089 0.0063

Neptune -6521-02-14 19:55 J -660327.74 -660327.67 -660327.58 0.0089 0.0069

Neptune -6521-05-12 21:07 J -660239.68 -660239.62 -660239.54 0.0089 0.0077

Neptune -6521-08-08 22:19 J -660151.60 -660151.57 -660151.51 0.0089 0.0084

Venus -6520-01-29 02:23 J -659978.50 -659978.40 -659978.30 0.3686 0.1242

Moon -6520-03-18 11:45 J -659930.07 -659930.01 -659929.96 0.2615 0.2432

Earth -6520-03-18 13:26 J -659930.02 -659929.94 -659929.87 0.2617 0.2298 *

Mars -6519-11-20 14:09 J -659318.09 -659317.91 -659317.74 0.1828 0.0146

Jupiter -6518-06-30 07:55 J -659096.29 -659096.17 -659096.04 0.0525 0.0012

Mars -6518-09-26 18:28 J -659007.84 -659007.73 -659007.61 0.1696 0.0051

Saturn -6516-11-24 02:52 J -658218.45 -658218.38 -658218.31 0.0302 0.0255

Saturn -6515-02-20 15:36 J -658129.97 -658129.85 -658129.73 0.0302 0.0094

Saturn -6515-05-20 04:04 J -658041.45 -658041.33 -658041.20 0.0303 0.0067

Venus	-6515-08-14 18:00 J	-657954.86	-657954.75	-657954.65	0.3688	0.0380
Saturn	-6515-08-16 16:33 J	-657952.89	-657952.81	-657952.72	0.0303	0.0225
Jupiter	-6512-08-17 23:02 J	-656855.72	-656855.54	-656855.35	0.0501	0.0064
Moon	-6511-09-23 06:28 J	-656454.33	-656454.23	-656454.14	0.2724	0.1374
Earth	-6511-09-23 06:28 J	-656454.32	-656454.23	-656454.14	0.2717	0.1333 *
Venus	-6509-02-28 09:21 J	-655931.20	-655931.11	-655931.03	0.3689	0.1914
Mars	-6509-04-11 08:09 J	-655888.27	-655888.16	-655888.04	0.1821	0.1354
Mars	-6508-02-16 05:31 J	-655577.38	-655577.27	-655577.16	0.1701	0.0531
Uranus	-6508-09-22 00:14 J	-655359.52	-655359.49	-655359.45	0.0142	0.0139
Uranus	-6508-12-19 08:52 J	-655271.26	-655271.13	-655271.01	0.0142	0.0108
Uranus	-6507-03-17 17:16 J	-655182.94	-655182.78	-655182.61	0.0141	0.0077
Moon	-6507-03-21 20:09 J	-655178.82	-655178.66	-655178.49	0.2618	0.0237
Earth	-6507-03-21 22:04 J	-655178.74	-655178.58	-655178.42	0.2616	0.0560 *
Uranus	-6507-06-14 01:26 J	-655094.61	-655094.44	-655094.24	0.0141	0.0047
Uranus	-6507-09-10 10:04 J	-655006.27	-655006.08	-655005.88	0.0141	0.0015
Uranus	-6507-12-07 18:28 J	-654917.92	-654917.73	-654917.53	0.0141	0.0017
Mars	-6506-01-22 09:21 J	-654872.17	-654872.11	-654872.05	0.1681	0.1409
Uranus	-6506-03-06 02:52 J	-654829.56	-654829.38	-654829.19	0.0141	0.0047
Jupiter	-6506-04-18 12:14 J	-654786.11	-654785.99	-654785.86	0.0525	0.0147
Uranus	-6506-06-02 11:16 J	-654741.19	-654741.03	-654740.86	0.0141	0.0078
Jupiter	-6506-07-16 17:16 J	-654696.86	-654696.78	-654696.71	0.0524	0.0400
Uranus	-6506-08-29 19:40 J	-654652.80	-654652.68	-654652.55	0.0141	0.0108
Uranus	-6506-11-26 03:50 J	-654564.35	-654564.34	-654564.29	0.0141	0.0139
Venus	-6504-09-13 00:43 J	-653907.50	-653907.47	-653907.44	0.3691	0.3465
Moon	-6504-09-16 06:28 J	-653904.28	-653904.23	-653904.18	0.2712	0.2418
Earth	-6504-09-16 06:57 J	-653904.26	-653904.21	-653904.16	0.2716	0.2354 *
Saturn	-6501-09-12 06:28 J	-652812.39	-652812.23	-652812.06	0.0260	0.0131
Saturn	-6501-12-10 03:07 J	-652723.56	-652723.37	-652723.18	0.0259	0.0020
Saturn	-6500-03-08 23:45 J	-652634.65	-652634.51	-652634.36	0.0259	0.0171
Jupiter	-6500-06-05 19:40 J	-652545.86	-652545.68	-652545.50	0.0501	0.0119

Mars	-6499-07-09 16:19 J	-652146.91	-652146.82	-652146.73	0.1707	0.1025
Earth	-6498-09-25 23:45 J	-651703.52	-651703.51	-651703.49	0.2718	0.2657
Moon	-6498-09-26 00:14 J	-651703.50	-651703.49	-651703.47	0.2723	0.2692 *
Mars	-6497-06-13 20:23 J	-651441.74	-651441.65	-651441.56	0.1686	0.0950
Venus	-6496-12-28 12:57 J	-650879.11	-650878.96	-650878.81	0.3685	0.0898
Jupiter	-6494-02-04 16:19 J	-650475.93	-650475.82	-650475.72	0.0526	0.0291
Jupiter	-6494-05-04 21:07 J	-650386.72	-650386.62	-650386.51	0.0524	0.0259
Moon	-6491-09-18 23:45 J	-649153.60	-649153.51	-649153.41	0.2716	0.1172
Earth	-6491-09-19 00:28 J	-649153.58	-649153.48	-649153.38	0.2717	0.1036 *
Mars	-6490-11-30 03:07 J	-648716.42	-648716.37	-648716.32	0.1713	0.1524
Mars	-6489-12-29 20:52 J	-648320.75	-648320.63	-648320.50	0.1835	0.1219
Jupiter	-6488-03-24 16:04 J	-648235.97	-648235.83	-648235.68	0.0500	0.0303
Jupiter	-6488-06-23 04:33 J	-648145.40	-648145.31	-648145.22	0.0502	0.0439
Mars	-6488-11-04 07:26 J	-648011.30	-648011.19	-648011.08	0.1691	0.0481
Saturn	-6486-04-13 05:31 J	-647486.30	-647486.27	-647486.23	0.0302	0.0292
Saturn	-6486-07-10 18:14 J	-647397.85	-647397.74	-647397.62	0.0303	0.0131
Saturn	-6486-10-07 06:57 J	-647309.34	-647309.21	-647309.08	0.0303	0.0030
Saturn	-6485-01-03 19:26 J	-647220.78	-647220.69	-647220.59	0.0303	0.0189
Jupiter	-6483-11-23 20:23 J	-646165.72	-646165.65	-646165.58	0.0526	0.0432
Jupiter	-6482-02-21 01:40 J	-646076.56	-646076.43	-646076.31	0.0525	0.0121
Mars	-6479-05-21 14:38 J	-644891.06	-644890.89	-644890.72	0.1828	0.0049
Mars	-6478-03-27 18:28 J	-644580.84	-644580.73	-644580.61	0.1696	0.0034
Moon	-6478-09-21 17:16 J	-644402.88	-644402.78	-644402.67	0.2723	0.0294
Earth	-6478-09-21 17:45 J	-644402.86	-644402.76	-644402.65	0.2717	0.0301 *
Jupiter	-6476-01-10 12:00 J	-643926.02	-643926.00	-643925.96	0.0499	0.0493
Jupiter	-6476-04-11 00:00 J	-643835.66	-643835.50	-643835.33	0.0501	0.0243
Moon	-6474-03-19 18:28 J	-643127.84	-643127.73	-643127.62	0.2616	0.1976
Earth	-6474-03-19 20:23 J	-643127.77	-643127.65	-643127.53	0.2617	0.1741 *
Saturn	-6471-01-30 07:40 J	-642080.33	-642080.18	-642080.03	0.0260	0.0159
Saturn	-6471-04-29 04:19 J	-641991.51	-641991.32	-641991.13	0.0260	0.0009

Saturn	-6471-07-27 00:43 J	-641902.62	-641902.47	-641902.30	0.0260	0.0143
Jupiter	-6471-12-10 06:00 J	-641766.38	-641766.25	-641766.13	0.0526	0.0025
Mars	-6470-10-11 09:07 J	-641461.25	-641461.12	-641461.00	0.1821	0.1249
Venus	-6469-02-20 08:23 J	-641329.23	-641329.15	-641329.07	0.3685	0.2274
Mars	-6469-08-17 05:31 J	-641150.38	-641150.27	-641150.16	0.1701	0.0476
Mars	-6467-07-23 09:21 J	-640445.17	-640445.11	-640445.06	0.1681	0.1465
Earth	-6465-09-23 11:16 J	-639652.12	-639652.03	-639651.95	0.2717	0.1605
Moon	-6465-09-23 11:16 J	-639652.11	-639652.03	-639651.94	0.2724	0.1564 *
Jupiter	-6464-01-27 20:23 J	-639525.84	-639525.65	-639525.47	0.0500	0.0055
Venus	-6464-09-04 23:45 J	-639305.61	-639305.51	-639305.41	0.3686	0.0695
Uranus	-6464-09-07 10:19 J	-639303.10	-639303.07	-639303.02	0.0137	0.0129
Uranus	-6464-12-04 13:40 J	-639215.01	-639214.93	-639214.86	0.0137	0.0110
Uranus	-6463-03-02 16:33 J	-639126.90	-639126.81	-639126.71	0.0137	0.0092
Uranus	-6463-05-29 19:40 J	-639038.78	-639038.68	-639038.57	0.0137	0.0074
Uranus	-6463-08-25 22:47 J	-638950.67	-638950.55	-638950.43	0.0137	0.0055
Uranus	-6463-11-22 01:55 J	-638862.54	-638862.42	-638862.29	0.0137	0.0036
Uranus	-6462-02-18 05:02 J	-638774.42	-638774.29	-638774.16	0.0137	0.0018
Uranus	-6462-05-17 08:09 J	-638686.29	-638686.16	-638686.03	0.0137	0.0002
Uranus	-6462-08-13 11:02 J	-638598.16	-638598.04	-638597.90	0.0138	0.0021
Uranus	-6462-11-09 14:09 J	-638510.03	-638509.91	-638509.78	0.0138	0.0039
Uranus	-6461-02-05 17:16 J	-638421.89	-638421.78	-638421.66	0.0138	0.0058
Moon	-6461-03-22 03:21 J	-638376.52	-638376.36	-638376.21	0.2618	0.1006
Earth	-6461-03-22 05:02 J	-638376.44	-638376.29	-638376.14	0.2616	0.1108 *
Uranus	-6461-05-03 20:23 J	-638333.75	-638333.65	-638333.54	0.0138	0.0076
Uranus	-6461-07-30 23:31 J	-638245.61	-638245.52	-638245.42	0.0138	0.0095
Uranus	-6461-10-27 02:38 J	-638157.46	-638157.39	-638157.32	0.0138	0.0114
Uranus	-6460-01-23 05:45 J	-638069.29	-638069.26	-638069.23	0.0138	0.0133
Mars	-6459-01-07 16:19 J	-637719.92	-637719.82	-637719.73	0.1707	0.0968
Jupiter	-6459-09-28 10:19 J	-637456.19	-637456.07	-637455.95	0.0526	0.0157
Jupiter	-6459-12-26 15:07 J	-637366.95	-637366.87	-637366.79	0.0524	0.0389

Venus	-6458-03-21 15:21 J	-637281.96	-637281.86	-637281.76	0.3688	0.0899
Moon	-6458-09-17 11:16 J	-637102.10	-637102.03	-637101.97	0.2712	0.2163
Earth	-6458-09-17 11:45 J	-637102.08	-637102.01	-637101.94	0.2716	0.2091 *
Mars	-6458-12-13 20:23 J	-637014.74	-637014.65	-637014.56	0.1686	0.1004
Saturn	-6457-11-26 21:21 J	-636665.71	-636665.61	-636665.50	0.0302	0.0163
Saturn	-6456-02-23 10:04 J	-636577.21	-636577.08	-636576.95	0.0302	0.0004
Saturn	-6456-05-22 22:33 J	-636488.67	-636488.56	-636488.45	0.0302	0.0157
Venus	-6453-10-04 06:43 J	-635258.29	-635258.22	-635258.14	0.3690	0.2462
Jupiter	-6453-11-15 16:19 J	-635216.00	-635215.82	-635215.64	0.0500	0.0136
Mars	-6450-05-31 03:07 J	-634289.43	-634289.37	-634289.32	0.1712	0.1469
Mars	-6449-06-29 21:50 J	-633893.70	-633893.59	-633893.47	0.1835	0.1337
Mars	-6448-05-05 07:26 J	-633584.30	-633584.19	-633584.08	0.1691	0.0537
Jupiter	-6447-07-17 14:38 J	-633145.99	-633145.89	-633145.79	0.0526	0.0295
Jupiter	-6447-10-14 19:40 J	-633056.79	-633056.68	-633056.57	0.0524	0.0254
Moon	-6445-09-19 04:33 J	-632351.41	-632351.31	-632351.21	0.2719	0.0844
Earth	-6445-09-19 05:16 J	-632351.39	-632351.28	-632351.18	0.2717	0.0779 *
Neptune	-6443-01-07 15:50 J	-631875.85	-631875.84	-631875.82	0.0088	0.0087
Neptune	-6443-04-05 18:57 J	-631787.78	-631787.71	-631787.60	0.0088	0.0078
Neptune	-6443-07-02 22:33 J	-631699.66	-631699.56	-631699.42	0.0088	0.0068
Neptune	-6443-09-29 02:09 J	-631611.54	-631611.41	-631611.25	0.0088	0.0058
Neptune	-6443-12-26 05:45 J	-631523.41	-631523.26	-631523.08	0.0088	0.0048
Neptune	-6442-03-24 09:36 J	-631435.27	-631435.10	-631434.92	0.0088	0.0038
Saturn	-6442-06-19 07:26 J	-631348.30	-631348.19	-631348.06	0.0260	0.0198
Neptune	-6442-06-20 13:12 J	-631347.13	-631346.95	-631346.76	0.0088	0.0028
Saturn	-6442-09-16 04:19 J	-631259.51	-631259.32	-631259.14	0.0260	0.0048
Neptune	-6442-09-16 16:47 J	-631258.99	-631258.80	-631258.60	0.0088	0.0018
Neptune	-6442-12-13 20:23 J	-631170.84	-631170.65	-631170.45	0.0088	0.0008
Saturn	-6442-12-14 00:43 J	-631170.64	-631170.47	-631170.29	0.0259	0.0103 *
Neptune	-6441-03-11 00:14 J	-631082.69	-631082.49	-631082.30	0.0088	0.0003
Saturn	-6441-03-11 21:36 J	-631081.63	-631081.60	-631081.57	0.0259	0.0255

Neptune -6441-06-07 03:50 J -630994.54 -630994.34 -630994.15 0.0088 0.0012

Neptune -6441-09-03 07:26 J -630906.38 -630906.19 -630906.00 0.0088 0.0022

Jupiter -6441-09-03 12:57 J -630906.10 -630905.96 -630905.81 0.0500 0.0317 *

Neptune -6441-11-30 11:02 J -630818.22 -630818.04 -630817.86 0.0088 0.0032

Jupiter -6441-12-03 01:12 J -630815.54 -630815.45 -630815.35 0.0502 0.0425

Neptune -6440-02-26 14:38 J -630730.06 -630729.89 -630729.72 0.0088 0.0042

Neptune -6440-05-25 18:00 J -630641.89 -630641.75 -630641.58 0.0088 0.0053

Neptune -6440-08-21 21:36 J -630553.72 -630553.60 -630553.45 0.0088 0.0063

Neptune -6440-11-18 01:12 J -630465.54 -630465.45 -630465.32 0.0088 0.0073

Mars -6440-11-19 15:36 J -630464.02 -630463.85 -630463.68 0.1828 0.0082

Neptune -6439-02-14 04:47 J -630377.34 -630377.30 -630377.22 0.0088 0.0083

Venus -6439-08-04 15:21 J -630206.01 -630205.86 -630205.70 0.3684 0.0828

Mars -6439-09-25 18:28 J -630153.85 -630153.73 -630153.62 0.1696 0.0062

Jupiter -6435-05-05 18:28 J -628835.79 -628835.73 -628835.66 0.0526 0.0442

Jupiter -6435-08-02 23:45 J -628746.64 -628746.51 -628746.39 0.0525 0.0112

Pluto -6434-02-08 16:33 J -628556.82 -628556.81 -628556.77 0.0072 0.0071

Pluto -6434-05-07 17:45 J -628468.82 -628468.76 -628468.68 0.0072 0.0062

Pluto -6434-08-03 18:43 J -628380.80 -628380.72 -628380.61 0.0072 0.0054

Pluto -6434-10-30 19:55 J -628292.78 -628292.67 -628292.55 0.0072 0.0045

Pluto -6433-01-26 20:52 J -628204.75 -628204.63 -628204.49 0.0072 0.0037

Pluto -6433-04-23 22:04 J -628116.71 -628116.58 -628116.44 0.0072 0.0028

Pluto -6433-07-20 23:16 J -628028.67 -628028.53 -628028.38 0.0073 0.0019

Pluto -6433-10-17 00:28 J -627940.63 -627940.48 -627940.33 0.0073 0.0010

Pluto -6432-01-13 01:26 J -627852.58 -627852.44 -627852.29 0.0073 0.0002

Pluto -6432-04-11 02:38 J -627764.54 -627764.39 -627764.24 0.0073 0.0008

Pluto -6432-07-08 03:50 J -627676.49 -627676.34 -627676.20 0.0073 0.0017

Moon -6432-09-21 22:04 J -627600.68 -627600.58 -627600.47 0.2722 0.0449

Earth -6432-09-21 22:33 J -627600.66 -627600.56 -627600.45 0.2717 0.0550 *

Pluto -6432-10-04 04:47 J -627588.43 -627588.30 -627588.16 0.0073 0.0027

Pluto -6432-12-31 05:45 J -627500.38 -627500.26 -627500.12 0.0073 0.0037

Pluto -6431-03-29 07:12 J -627412.31 -627412.20 -627412.08 0.0073 0.0046

Pluto -6431-06-25 08:09 J -627324.25 -627324.16 -627324.05 0.0073 0.0055

Pluto -6431-09-21 09:21 J -627236.17 -627236.11 -627236.03 0.0074 0.0065

Mars -6430-04-11 10:04 J -627034.22 -627034.08 -627033.95 0.1821 0.1133

Mars -6429-02-16 05:16 J -626723.39 -626723.28 -626723.17 0.1701 0.0424

Jupiter -6429-06-22 09:36 J -626596.11 -626596.10 -626596.09 0.0500 0.0499

Jupiter -6429-09-20 21:36 J -626505.76 -626505.60 -626505.43 0.0501 0.0237

Moon -6428-03-20 01:12 J -626325.59 -626325.45 -626325.31 0.2616 0.1416

Earth -6428-03-20 03:07 J -626325.51 -626325.37 -626325.22 0.2617 0.1197 *

Mars -6427-01-21 09:07 J -626018.16 -626018.12 -626018.07 0.1681 0.1514

Saturn -6427-04-16 00:14 J -625933.58 -625933.49 -625933.39 0.0303 0.0199

Saturn -6427-07-13 12:57 J -625845.09 -625844.96 -625844.83 0.0303 0.0038

Saturn -6427-10-10 01:40 J -625756.55 -625756.43 -625756.32 0.0303 0.0122

Saturn -6426-01-06 14:09 J -625667.96 -625667.91 -625667.87 0.0303 0.0280

Uranus -6424-10-12 09:07 J -624658.20 -624658.12 -624658.03 0.0142 0.0127

Uranus -6423-01-08 17:31 J -624569.91 -624569.77 -624569.62 0.0142 0.0096

Uranus -6423-04-07 02:09 J -624481.59 -624481.41 -624481.24 0.0141 0.0065

Jupiter -6423-05-22 03:50 J -624436.46 -624436.34 -624436.21 0.0525 0.0035

Uranus -6423-07-04 10:19 J -624393.25 -624393.07 -624392.87 0.0141 0.0034

Jupiter -6423-08-19 08:38 J -624347.16 -624347.14 -624347.12 0.0524 0.0513

Uranus -6423-09-30 18:57 J -624304.91 -624304.71 -624304.51 0.0141 0.0003

Uranus -6423-12-28 03:21 J -624216.55 -624216.36 -624216.17 0.0141 0.0028

Uranus -6422-03-26 11:31 J -624128.19 -624128.02 -624127.83 0.0141 0.0059

Uranus -6422-06-22 20:09 J -624039.81 -624039.66 -624039.51 0.0141 0.0089

Uranus -6422-09-19 04:19 J -623951.41 -623951.32 -623951.21 0.0141 0.0120

Mars -6420-07-08 16:19 J -623292.92 -623292.82 -623292.72 0.1707 0.0910

Earth -6419-09-24 16:04 J -622849.91 -622849.83 -622849.76 0.2717 0.1869

Moon -6419-09-24 16:04 J -622849.90 -622849.83 -622849.75 0.2724 0.1963 *

Venus -6418-03-13 14:09 J -622679.95 -622679.91 -622679.86 0.3684 0.3312

Mars -6418-06-13 20:09 J -622587.74 -622587.66 -622587.57 0.1686 0.1059

Jupiter	-6417-07-09 17:31 J	-622195.96	-622195.77	-622195.58	0.0500	0.0044
Moon	-6415-03-23 10:33 J	-621574.20	-621574.06	-621573.93	0.2619	0.1422
Earth	-6415-03-23 12:00 J	-621574.13	-621574.00	-621573.87	0.2616	0.1667 *
Venus	-6413-09-26 05:45 J	-620656.35	-620656.26	-620656.17	0.3685	0.1706
Saturn	-6413-11-05 09:07 J	-620616.22	-620616.12	-620616.03	0.0260	0.0225
Saturn	-6412-02-02 05:31 J	-620527.45	-620527.27	-620527.09	0.0260	0.0076
Saturn	-6412-05-02 02:09 J	-620438.60	-620438.41	-620438.23	0.0260	0.0075
Saturn	-6412-07-29 22:47 J	-620349.64	-620349.55	-620349.46	0.0260	0.0227
Moon	-6412-09-17 16:04 J	-620299.91	-620299.83	-620299.76	0.2712	0.1925
Earth	-6412-09-17 16:33 J	-620299.89	-620299.81	-620299.73	0.2716	0.1827 *
Jupiter	-6411-03-10 08:09 J	-620126.28	-620126.16	-620126.04	0.0526	0.0172
Jupiter	-6411-06-07 12:57 J	-620037.04	-620036.96	-620036.87	0.0525	0.0376
Mars	-6411-11-29 03:07 J	-619862.44	-619862.37	-619862.31	0.1712	0.1413
Mars	-6410-12-29 22:33 J	-619466.67	-619466.56	-619466.46	0.1836	0.1436
Mars	-6409-11-03 07:26 J	-619157.30	-619157.19	-619157.08	0.1691	0.0593
Venus	-6407-04-11 21:21 J	-618632.71	-618632.61	-618632.51	0.3687	0.0145
Jupiter	-6405-04-27 13:40 J	-617886.11	-617885.93	-617885.75	0.0500	0.0143
Venus	-6402-10-26 12:43 J	-616609.06	-616608.97	-616608.88	0.3688	0.1450
Mars	-6400-05-20 16:47 J	-616036.97	-616036.80	-616036.63	0.1829	0.0204
Jupiter	-6400-12-27 12:28 J	-615816.08	-615815.98	-615815.88	0.0526	0.0310
Jupiter	-6399-03-26 17:31 J	-615726.88	-615726.77	-615726.66	0.0525	0.0241
Mars	-6399-03-26 18:28 J	-615726.85	-615726.73	-615726.62	0.1696	0.0122 *
Moon	-6399-09-20 09:21 J	-615549.21	-615549.11	-615549.01	0.2720	0.0606
Earth	-6399-09-20 10:04 J	-615549.19	-615549.08	-615548.98	0.2717	0.0520 *
Saturn	-6398-09-03 03:36 J	-615201.43	-615201.35	-615201.27	0.0302	0.0229
Saturn	-6398-11-30 16:19 J	-615112.95	-615112.82	-615112.70	0.0302	0.0069
Saturn	-6397-02-27 04:47 J	-615024.42	-615024.30	-615024.18	0.0302	0.0091
Saturn	-6397-05-25 17:16 J	-614935.85	-614935.78	-614935.71	0.0302	0.0249
Venus	-6396-05-11 04:04 J	-614585.39	-614585.33	-614585.27	0.3690	0.3001
Jupiter	-6393-02-14 09:36 J	-613576.23	-613576.10	-613575.96	0.0500	0.0334

Jupiter	-6393-05-14 21:50 J	-613485.69	-613485.59	-613485.48	0.0502	0.0407
Mars	-6391-10-10 10:47 J	-612607.19	-612607.05	-612606.91	0.1821	0.1030
Mars	-6390-08-17 05:16 J	-612296.39	-612296.28	-612296.17	0.1701	0.0369
Mars	-6388-07-22 09:07 J	-611591.16	-611591.12	-611591.08	0.1681	0.1566
Venus	-6388-08-25 07:40 J	-611557.28	-611557.18	-611557.08	0.3686	0.2827
Jupiter	-6388-10-15 16:47 J	-611505.86	-611505.80	-611505.73	0.0526	0.0447
Jupiter	-6387-01-12 22:04 J	-611416.70	-611416.58	-611416.46	0.0525	0.0106
Moon	-6386-09-23 03:07 J	-610798.47	-610798.37	-610798.27	0.2723	0.0810
Earth	-6386-09-23 03:21 J	-610798.46	-610798.36	-610798.26	0.2717	0.0810 *
Saturn	-6383-06-22 05:31 J	-609795.44	-609795.27	-609795.10	0.0260	0.0113
Saturn	-6383-09-19 02:09 J	-609706.60	-609706.41	-609706.22	0.0259	0.0037
Saturn	-6383-12-16 22:33 J	-609617.68	-609617.56	-609617.42	0.0259	0.0189
Venus	-6382-03-11 18:00 J	-609532.86	-609532.75	-609532.64	0.3683	0.2583
Moon	-6382-03-21 08:09 J	-609523.31	-609523.16	-609523.00	0.2616	0.0848
Earth	-6382-03-21 10:04 J	-609523.24	-609523.08	-609522.92	0.2617	0.0643 *
Jupiter	-6381-03-02 18:14 J	-609175.90	-609175.74	-609175.57	0.0501	0.0222
Mars	-6380-01-06 16:19 J	-608865.92	-608865.82	-608865.73	0.1707	0.0860
Uranus	-6380-09-27 17:45 J	-608601.80	-608601.76	-608601.69	0.0137	0.0124
Uranus	-6380-12-24 21:07 J	-608513.70	-608513.62	-608513.54	0.0137	0.0105
Uranus	-6379-03-23 00:00 J	-608425.59	-608425.50	-608425.39	0.0137	0.0087
Uranus	-6379-06-19 03:07 J	-608337.48	-608337.37	-608337.25	0.0137	0.0068
Uranus	-6379-09-15 06:14 J	-608249.36	-608249.24	-608249.11	0.0137	0.0050
Uranus	-6379-12-12 09:21 J	-608161.23	-608161.11	-608160.98	0.0137	0.0031
Mars	-6379-12-12 20:09 J	-608160.74	-608160.66	-608160.57	0.1686	0.1112
Uranus	-6378-03-10 12:28 J	-608073.11	-608072.98	-608072.85	0.0137	0.0012
Uranus	-6378-06-06 15:36 J	-607984.98	-607984.85	-607984.72	0.0137	0.0007
Uranus	-6378-09-02 18:43 J	-607896.85	-607896.72	-607896.59	0.0138	0.0025
Uranus	-6378-11-29 21:36 J	-607808.72	-607808.60	-607808.47	0.0138	0.0045
Uranus	-6377-02-26 00:43 J	-607720.58	-607720.47	-607720.35	0.0138	0.0063
Uranus	-6377-05-24 03:50 J	-607632.44	-607632.34	-607632.23	0.0138	0.0082

Uranus -6377-08-20 06:57 J -607544.29 -607544.21 -607544.12 0.0138 0.0101

Uranus -6377-11-16 10:04 J -607456.14 -607456.08 -607456.01 0.0138 0.0120

Jupiter -6376-11-01 02:09 J -607106.54 -607106.41 -607106.29 0.0525 0.0040

Jupiter -6375-01-29 06:43 J -607017.25 -607017.22 -607017.19 0.0523 0.0504

Earth -6373-09-24 20:38 J -606047.70 -606047.64 -606047.57 0.2717 0.2135

Moon -6373-09-24 20:52 J -606047.69 -606047.63 -606047.56 0.2724 0.2114 *

Mars -6371-05-30 03:07 J -605435.44 -605435.37 -605435.31 0.1712 0.1357

Mars -6370-06-29 23:45 J -605039.60 -605039.51 -605039.42 0.1836 0.1566

Jupiter -6370-12-20 14:52 J -604866.07 -604865.88 -604865.70 0.0501 0.0037

Moon -6369-03-23 17:31 J -604771.87 -604771.77 -604771.68 0.2621 0.2094

Earth -6369-03-23 18:43 J -604771.80 -604771.72 -604771.63 0.2616 0.2210 *

Mars -6369-05-04 07:26 J -604730.30 -604730.19 -604730.09 0.1691 0.0647

Saturn -6368-01-20 06:14 J -604469.30 -604469.24 -604469.18 0.0303 0.0268

Saturn -6368-04-18 18:57 J -604380.83 -604380.71 -604380.59 0.0303 0.0107

Saturn -6368-07-16 07:26 J -604292.31 -604292.19 -604292.06 0.0303 0.0054

Saturn -6368-10-12 20:09 J -604203.75 -604203.66 -604203.57 0.0303 0.0212

Moon -6366-09-18 20:38 J -603497.72 -603497.64 -603497.55 0.2714 0.1610

Earth -6366-09-18 21:21 J -603497.70 -603497.61 -603497.53 0.2716 0.1564 *

Jupiter -6364-08-20 06:14 J -602796.36 -602796.24 -602796.12 0.0526 0.0179

Jupiter -6364-11-17 11:02 J -602707.12 -602707.04 -602706.95 0.0524 0.0368

Neptune -6362-07-23 14:09 J -602093.94 -602093.91 -602093.86 0.0089 0.0085

Venus -6362-10-18 11:45 J -602007.08 -602007.01 -602006.94 0.3684 0.2741

Neptune -6362-10-19 15:21 J -602005.91 -602005.86 -602005.78 0.0089 0.0079

Neptune -6361-01-15 17:02 J -601917.87 -601917.79 -601917.71 0.0089 0.0071

Neptune -6361-04-12 18:28 J -601829.82 -601829.73 -601829.64 0.0089 0.0064

Neptune -6361-07-09 19:40 J -601741.78 -601741.68 -601741.57 0.0089 0.0057

Neptune -6361-10-05 21:07 J -601653.73 -601653.62 -601653.51 0.0089 0.0049

Mars -6361-11-18 17:16 J -601609.95 -601609.78 -601609.61 0.1829 0.0294

Neptune -6360-01-01 22:19 J -601565.68 -601565.57 -601565.45 0.0089 0.0042

Neptune -6360-03-30 23:45 J -601477.63 -601477.51 -601477.39 0.0089 0.0035

Neptune -6360-06-27 00:57 J -601389.58 -601389.46 -601389.33 0.0089 0.0029

Neptune -6360-09-23 02:23 J -601301.53 -601301.40 -601301.27 0.0089 0.0021

Mars -6360-09-24 18:28 J -601299.85 -601299.73 -601299.62 0.1696 0.0176

Neptune -6360-12-20 03:36 J -601213.47 -601213.35 -601213.21 0.0089 0.0015

Neptune -6359-03-18 05:02 J -601125.42 -601125.29 -601125.16 0.0089 0.0007

Neptune -6359-06-14 06:28 J -601037.36 -601037.23 -601037.10 0.0089 0.0002

Neptune -6359-09-10 07:40 J -600949.31 -600949.18 -600949.05 0.0089 0.0007

Neptune -6359-12-07 09:07 J -600861.25 -600861.12 -600860.99 0.0089 0.0014

Neptune -6358-03-05 10:19 J -600773.20 -600773.07 -600772.94 0.0089 0.0021

Neptune -6358-06-01 11:31 J -600685.14 -600685.02 -600684.89 0.0089 0.0029

Neptune -6358-08-28 12:57 J -600597.08 -600596.96 -600596.84 0.0089 0.0035

Jupiter -6358-10-08 11:02 J -600556.22 -600556.04 -600555.86 0.0500 0.0151

Neptune -6358-11-24 14:09 J -600509.02 -600508.91 -600508.79 0.0089 0.0042

Neptune -6357-02-20 15:21 J -600420.96 -600420.86 -600420.74 0.0089 0.0050

Neptune -6357-05-18 16:47 J -600332.90 -600332.80 -600332.70 0.0089 0.0056

Neptune -6357-08-14 18:00 J -600244.84 -600244.75 -600244.65 0.0089 0.0063

Neptune -6357-11-10 19:12 J -600156.77 -600156.70 -600156.61 0.0089 0.0071

Neptune -6356-02-06 20:23 J -600068.70 -600068.65 -600068.57 0.0089 0.0078

Venus -6356-05-03 03:07 J -599983.46 -599983.37 -599983.27 0.3686 0.1161

Neptune -6356-05-05 21:50 J -599980.62 -599980.59 -599980.54 0.0089 0.0084

Saturn -6354-11-09 06:43 J -599063.38 -599063.22 -599063.06 0.0260 0.0143

Saturn -6353-02-06 03:21 J -598974.56 -598974.36 -598974.17 0.0260 0.0009

Saturn -6353-05-04 23:45 J -598885.65 -598885.51 -598885.35 0.0260 0.0159

Moon -6353-09-20 14:09 J -598747.02 -598746.91 -598746.81 0.2720 0.0347

Earth -6353-09-20 14:38 J -598746.99 -598746.89 -598746.78 0.2717 0.0257 *

Jupiter -6352-06-08 10:19 J -598486.17 -598486.07 -598485.97 0.0527 0.0324

Jupiter -6352-09-05 15:21 J -598396.97 -598396.86 -598396.75 0.0525 0.0228

Mars -6351-04-10 11:45 J -598180.16 -598180.01 -598179.87 0.1822 0.0915

Venus -6351-11-16 18:43 J -597959.82 -597959.72 -597959.62 0.3687 0.0435

Mars -6350-02-15 05:16 J -597869.39 -597869.28 -597869.16 0.1701 0.0311

Pluto	-6349-04-10 13:40 J	-597448.98	-597448.93	-597448.85	0.0073	0.0067
Pluto	-6349-07-07 15:21 J	-597360.95	-597360.86	-597360.74	0.0072	0.0057
Pluto	-6349-10-03 17:02 J	-597272.91	-597272.79	-597272.65	0.0072	0.0046
Pluto	-6349-12-30 18:57 J	-597184.86	-597184.71	-597184.56	0.0072	0.0036
Mars	-6348-01-20 09:07 J	-597164.15	-597164.12	-597164.09	0.1681	0.1622
Pluto	-6348-03-28 20:38 J	-597096.80	-597096.64	-597096.48	0.0072	0.0025
Pluto	-6348-06-24 22:19 J	-597008.74	-597008.57	-597008.41	0.0072	0.0015
Pluto	-6348-09-20 23:45 J	-596920.67	-596920.51	-596920.34	0.0072	0.0006
Pluto	-6348-12-18 01:26 J	-596832.61	-596832.44	-596832.27	0.0072	0.0005
Pluto	-6347-03-16 02:52 J	-596744.54	-596744.38	-596744.21	0.0072	0.0015
Pluto	-6347-06-12 04:19 J	-596656.47	-596656.32	-596656.15	0.0071	0.0025
Pluto	-6347-09-08 06:14 J	-596568.39	-596568.24	-596568.09	0.0071	0.0034
Pluto	-6347-12-05 07:26 J	-596480.31	-596480.19	-596480.04	0.0071	0.0044
Pluto	-6346-03-03 08:52 J	-596392.23	-596392.13	-596392.00	0.0071	0.0053
Pluto	-6346-05-30 10:33 J	-596304.13	-596304.06	-596303.97	0.0071	0.0062
Jupiter	-6346-07-27 07:26 J	-596246.33	-596246.19	-596246.05	0.0500	0.0336
Jupiter	-6346-10-25 19:26 J	-596155.80	-596155.69	-596155.58	0.0501	0.0402
Venus	-6345-06-01 10:04 J	-595936.16	-595936.08	-595935.99	0.3689	0.1990
Mars	-6341-07-07 16:04 J	-594438.93	-594438.83	-594438.72	0.1707	0.0805
Jupiter	-6340-03-27 14:38 J	-594175.94	-594175.89	-594175.83	0.0527	0.0462
Jupiter	-6340-06-24 19:55 J	-594086.79	-594086.67	-594086.55	0.0525	0.0093
Moon	-6340-09-23 07:55 J	-593996.27	-593996.17	-593996.07	0.2724	0.1044
Earth	-6340-09-23 08:09 J	-593996.26	-593996.16	-593996.06	0.2717	0.1077 *
Uranus	-6340-11-01 18:00 J	-593956.85	-593956.75	-593956.62	0.0142	0.0114
Venus	-6340-12-16 01:26 J	-593912.46	-593912.44	-593912.41	0.3691	0.3541
Uranus	-6339-01-29 02:38 J	-593868.55	-593868.39	-593868.23	0.0142	0.0083
Uranus	-6339-04-27 11:02 J	-593780.22	-593780.04	-593779.85	0.0141	0.0052
Saturn	-6339-06-09 09:07 J	-593737.12	-593737.12	-593737.10	0.0302	0.0300
Mars	-6339-06-12 20:09 J	-593733.74	-593733.66	-593733.58	0.1685	0.1165
Uranus	-6339-07-24 19:26 J	-593691.88	-593691.69	-593691.49	0.0141	0.0021

Saturn	-6339-09-05 22:04 J	-593648.70	-593648.58	-593648.47	0.0302	0.0139
Uranus	-6339-10-21 04:04 J	-593603.53	-593603.33	-593603.14	0.0141	0.0010
Saturn	-6339-12-03 10:47 J	-593560.18	-593560.05	-593559.92	0.0302	0.0022
Uranus	-6338-01-17 12:14 J	-593515.17	-593514.99	-593514.79	0.0141	0.0041
Saturn	-6338-03-01 23:16 J	-593471.63	-593471.53	-593471.43	0.0302	0.0180
Uranus	-6338-04-15 20:38 J	-593426.80	-593426.64	-593426.46	0.0141	0.0072
Uranus	-6338-07-13 05:16 J	-593338.41	-593338.28	-593338.15	0.0141	0.0102
Uranus	-6338-10-09 13:26 J	-593249.99	-593249.94	-593249.87	0.0141	0.0133
Moon	-6336-03-21 15:07 J	-592721.03	-592720.87	-592720.70	0.2617	0.0355
Earth	-6336-03-21 17:02 J	-592720.96	-592720.79	-592720.63	0.2617	0.0100 *
Jupiter	-6334-08-13 15:07 J	-591846.04	-591845.87	-591845.70	0.0501	0.0206
Moon	-6333-09-16 08:09 J	-591446.18	-591446.16	-591446.13	0.2709	0.2601
Earth	-6333-09-16 08:38 J	-591446.16	-591446.14	-591446.11	0.2716	0.2618 *
Mars	-6332-11-28 02:52 J	-591008.45	-591008.38	-591008.30	0.1712	0.1301
Venus	-6331-04-01 10:04 J	-590884.23	-590884.08	-590883.93	0.3685	0.1128
Mars	-6331-12-29 00:28 J	-590612.55	-590612.48	-590612.41	0.1836	0.1670
Mars	-6330-11-03 07:12 J	-590303.30	-590303.20	-590303.09	0.1691	0.0702
Jupiter	-6328-04-13 00:28 J	-589776.61	-589776.48	-589776.35	0.0525	0.0041
Jupiter	-6328-07-11 05:16 J	-589687.31	-589687.28	-589687.25	0.0524	0.0501
Earth	-6327-09-26 01:26 J	-589245.48	-589245.44	-589245.39	0.2717	0.2398
Moon	-6327-09-26 01:40 J	-589245.47	-589245.43	-589245.39	0.2724	0.2492 *
Saturn	-6324-03-28 06:57 J	-588331.35	-588331.21	-588331.08	0.0259	0.0180
Saturn	-6324-06-25 03:21 J	-588242.55	-588242.36	-588242.17	0.0259	0.0031
Saturn	-6324-09-21 23:45 J	-588153.67	-588153.51	-588153.33	0.0259	0.0120
Moon	-6323-03-25 00:28 J	-587969.50	-587969.48	-587969.47	0.2621	0.2600
Jupiter	-6322-06-01 11:31 J	-587536.20	-587536.02	-587535.83	0.0501	0.0024
Mars	-6321-05-19 18:14 J	-587182.90	-587182.74	-587182.57	0.1829	0.0422
Mars	-6320-03-25 18:14 J	-586872.85	-586872.74	-586872.62	0.1696	0.0235
Moon	-6320-09-19 01:26 J	-586695.53	-586695.44	-586695.35	0.2716	0.1451
Earth	-6320-09-19 02:09 J	-586695.51	-586695.41	-586695.32	0.2716	0.1300 *

Jupiter	-6316-01-30 04:33 J	-585466.43	-585466.31	-585466.19	0.0526	0.0185
Jupiter	-6316-04-29 09:21 J	-585377.20	-585377.11	-585377.02	0.0524	0.0361
Mars	-6312-10-09 12:28 J	-583753.13	-583752.98	-583752.83	0.1822	0.0808
Mars	-6311-08-16 05:16 J	-583442.39	-583442.28	-583442.17	0.1701	0.0257
Jupiter	-6310-03-20 08:09 J	-583226.33	-583226.16	-583225.98	0.0500	0.0160
Saturn	-6309-01-24 00:28 J	-582916.58	-582916.48	-582916.38	0.0303	0.0180
Saturn	-6309-04-21 13:12 J	-582828.08	-582827.95	-582827.82	0.0303	0.0020
Saturn	-6309-07-19 01:40 J	-582739.54	-582739.43	-582739.31	0.0303	0.0140
Mars	-6309-07-21 09:07 J	-582737.13	-582737.12	-582737.12	0.1681	0.1672
Saturn	-6309-10-15 14:09 J	-582650.92	-582650.91	-582650.89	0.0303	0.0298
Moon	-6307-09-21 18:57 J	-581944.82	-581944.71	-581944.61	0.2720	0.0068
Earth	-6307-09-21 19:26 J	-581944.80	-581944.69	-581944.58	0.2717	0.0048 *
Venus	-6305-05-24 09:07 J	-581334.20	-581334.12	-581334.04	0.3685	0.2183
Jupiter	-6305-11-18 08:38 J	-581156.24	-581156.14	-581156.04	0.0526	0.0327
Jupiter	-6304-02-15 13:40 J	-581067.04	-581066.93	-581066.82	0.0525	0.0223
Earth	-6303-03-19 15:07 J	-580669.93	-580669.87	-580669.80	0.2617	0.2398
Mars	-6301-01-06 16:19 J	-580011.93	-580011.82	-580011.72	0.1706	0.0742
Venus	-6300-12-08 00:43 J	-579310.57	-579310.47	-579310.37	0.3686	0.0595
Mars	-6300-12-11 20:09 J	-579306.74	-579306.66	-579306.58	0.1686	0.1218
Jupiter	-6298-01-06 04:47 J	-578916.43	-578916.30	-578916.16	0.0500	0.0343
Jupiter	-6298-04-06 16:47 J	-578825.91	-578825.80	-578825.68	0.0501	0.0396
Uranus	-6296-07-21 22:19 J	-577988.57	-577988.57	-577988.55	0.0136	0.0136
Uranus	-6296-10-18 01:26 J	-577900.50	-577900.44	-577900.37	0.0137	0.0118
Uranus	-6295-01-14 04:33 J	-577812.39	-577812.31	-577812.22	0.0137	0.0099
Uranus	-6295-04-12 07:40 J	-577724.28	-577724.18	-577724.07	0.0137	0.0081
Uranus	-6295-07-09 10:47 J	-577636.16	-577636.05	-577635.93	0.0137	0.0062
Saturn	-6295-08-15 07:26 J	-577599.29	-577599.19	-577599.07	0.0260	0.0212
Uranus	-6295-10-05 13:55 J	-577548.04	-577547.92	-577547.80	0.0137	0.0043
Saturn	-6295-11-12 04:04 J	-577510.51	-577510.33	-577510.14	0.0260	0.0063
Uranus	-6294-01-01 17:02 J	-577459.92	-577459.79	-577459.66	0.0137	0.0025

Saturn -6294-02-09 00:43 J -577421.65 -577421.47 -577421.29 0.0260 0.0088

Uranus -6294-03-30 20:09 J -577371.79 -577371.66 -577371.53 0.0137 0.0008

Saturn -6294-05-08 21:21 J -577332.68 -577332.61 -577332.54 0.0260 0.0239

Venus -6294-06-23 16:04 J -577286.93 -577286.83 -577286.73 0.3688 0.0978

Uranus -6294-06-26 23:02 J -577283.67 -577283.54 -577283.41 0.0137 0.0013

Uranus -6294-09-23 02:09 J -577195.53 -577195.41 -577195.28 0.0138 0.0031

Moon -6294-09-24 12:43 J -577194.06 -577193.97 -577193.88 0.2724 0.1338

Earth -6294-09-24 12:57 J -577194.06 -577193.96 -577193.87 0.2717 0.1347 *

Uranus -6294-12-20 05:16 J -577107.40 -577107.28 -577107.16 0.0138 0.0050

Uranus -6293-03-17 08:23 J -577019.26 -577019.15 -577019.04 0.0138 0.0069

Uranus -6293-06-13 11:16 J -576931.12 -576931.03 -576930.92 0.0138 0.0088

Jupiter -6293-09-06 12:43 J -576846.02 -576845.97 -576845.92 0.0527 0.0473

Uranus -6293-09-09 14:23 J -576842.97 -576842.90 -576842.81 0.0138 0.0107

Jupiter -6293-12-04 18:00 J -576756.88 -576756.75 -576756.63 0.0525 0.0084

Uranus -6293-12-06 17:45 J -576754.81 -576754.76 -576754.71 0.0138 0.0126

Mars -6292-05-29 02:52 J -576581.45 -576581.38 -576581.30 0.1712 0.1246

Mars -6291-06-29 01:12 J -576185.48 -576185.45 -576185.41 0.1836 0.1782

Moon -6290-03-22 22:04 J -575918.74 -575918.58 -575918.41 0.2619 0.0347

Earth -6290-03-23 00:00 J -575918.66 -575918.50 -575918.34 0.2616 0.0458 *

Mars -6290-05-04 07:26 J -575876.30 -575876.19 -575876.09 0.1690 0.0758

Venus -6288-01-06 07:26 J -575263.26 -575263.19 -575263.11 0.3689 0.2537

Moon -6287-09-17 12:57 J -574644.00 -574643.96 -574643.92 0.2711 0.2463

Earth -6287-09-17 13:26 J -574643.99 -574643.94 -574643.89 0.2716 0.2351 *

Jupiter -6286-01-23 13:12 J -574516.12 -574515.95 -574515.78 0.0501 0.0207

Mars -6282-11-18 19:12 J -572755.86 -572755.70 -572755.53 0.1829 0.0534

Jupiter -6281-09-22 22:33 J -572446.69 -572446.56 -572446.44 0.0526 0.0055

Mars -6281-09-23 18:14 J -572445.85 -572445.74 -572445.63 0.1696 0.0280

Earth -6281-09-26 06:14 J -572443.25 -572443.24 -572443.22 0.2717 0.2665

Moon -6281-09-26 06:43 J -572443.23 -572443.22 -572443.21 0.2723 0.2702 *

Jupiter -6281-12-21 03:07 J -572357.40 -572357.37 -572357.32 0.0524 0.0491

Saturn -6280-06-12 03:21 J -572184.45 -572184.36 -572184.27 0.0302 0.0216

Saturn -6280-09-08 16:04 J -572095.96 -572095.83 -572095.70 0.0302 0.0056

Saturn -6280-12-06 04:33 J -572007.43 -572007.31 -572007.18 0.0303 0.0105

Saturn -6279-03-04 17:02 J -571918.85 -571918.79 -571918.72 0.0303 0.0263

Neptune -6279-10-04 12:28 J -571704.99 -571704.98 -571704.93 0.0088 0.0087

Neptune -6279-12-31 16:04 J -571616.90 -571616.83 -571616.72 0.0088 0.0077

Neptune -6278-03-29 19:55 J -571528.79 -571528.67 -571528.54 0.0088 0.0067

Neptune -6278-06-25 23:31 J -571440.66 -571440.52 -571440.37 0.0088 0.0057

Neptune -6278-09-22 03:07 J -571352.53 -571352.37 -571352.20 0.0088 0.0047

Neptune -6278-12-19 06:43 J -571264.39 -571264.22 -571264.04 0.0088 0.0037

Neptune -6277-03-16 10:19 J -571176.25 -571176.07 -571175.88 0.0088 0.0027

Neptune -6277-06-12 13:55 J -571088.11 -571087.92 -571087.73 0.0088 0.0017

Neptune -6277-09-08 17:31 J -570999.96 -570999.77 -570999.57 0.0088 0.0007

Neptune -6277-12-05 21:07 J -570911.81 -570911.62 -570911.42 0.0088 0.0003

Neptune -6276-03-04 00:43 J -570823.66 -570823.47 -570823.27 0.0088 0.0013

Neptune -6276-05-31 04:04 J -570735.51 -570735.33 -570735.13 0.0088 0.0023

Neptune -6276-08-27 07:40 J -570647.35 -570647.18 -570646.98 0.0088 0.0033

Neptune -6276-11-23 11:16 J -570559.19 -570559.03 -570558.84 0.0088 0.0043

Neptune -6275-02-19 14:52 J -570471.02 -570470.88 -570470.71 0.0088 0.0053

Neptune -6275-05-18 18:28 J -570382.85 -570382.73 -570382.58 0.0088 0.0063

Neptune -6275-08-14 22:19 J -570294.67 -570294.57 -570294.45 0.0088 0.0073

Venus -6275-11-06 12:14 J -570211.14 -570210.99 -570210.83 0.3684 0.0579

Neptune -6275-11-11 01:55 J -570206.47 -570206.42 -570206.35 0.0088 0.0083

Jupiter -6275-11-11 08:38 J -570206.33 -570206.14 -570205.95 0.0501 0.0011

Moon -6274-09-20 06:14 J -569893.34 -569893.24 -569893.15 0.2717 0.1076

Earth -6274-09-20 06:57 J -569893.31 -569893.21 -569893.12 0.2716 0.1041 *

Mars -6272-04-09 13:26 J -569326.10 -569325.94 -569325.78 0.1822 0.0693

Mars -6271-02-14 05:16 J -569015.39 -569015.28 -569015.17 0.1701 0.0199

Jupiter -6269-07-12 03:07 J -568136.49 -568136.37 -568136.25 0.0526 0.0186

Jupiter -6269-10-09 07:55 J -568047.26 -568047.17 -568047.08 0.0524 0.0361

Saturn	-6265-01-02 07:26 J	-566867.23	-566867.19	-566867.13	0.0259	0.0250
Saturn	-6265-03-31 04:04 J	-566778.51	-566778.33	-566778.16	0.0259	0.0101
Saturn	-6265-06-28 00:28 J	-566689.67	-566689.48	-566689.29	0.0259	0.0048
Saturn	-6265-09-24 20:52 J	-566600.74	-566600.63	-566600.50	0.0259	0.0199
Jupiter	-6263-08-30 05:16 J	-565896.45	-565896.28	-565896.10	0.0500	0.0171
Mars	-6262-07-07 16:04 J	-565584.93	-565584.83	-565584.72	0.1706	0.0692
Moon	-6261-09-21 23:45 J	-565142.62	-565142.51	-565142.40	0.2721	0.0182
Earth	-6261-09-22 00:14 J	-565142.60	-565142.49	-565142.38	0.2717	0.0286 *
Mars	-6260-06-11 20:09 J	-564879.73	-564879.66	-564879.59	0.1685	0.1270
Moon	-6257-03-19 20:23 J	-563867.76	-563867.65	-563867.54	0.2615	0.1935
Earth	-6257-03-19 22:04 J	-563867.69	-563867.58	-563867.46	0.2617	0.1850 *
Jupiter	-6257-04-30 07:12 J	-563826.30	-563826.20	-563826.10	0.0526	0.0329
Jupiter	-6257-07-28 12:14 J	-563737.10	-563736.99	-563736.88	0.0524	0.0221
Uranus	-6256-08-25 18:00 J	-563343.80	-563343.75	-563343.67	0.0142	0.0134
Uranus	-6256-11-22 02:23 J	-563255.52	-563255.40	-563255.25	0.0142	0.0103
Uranus	-6255-02-18 11:02 J	-563167.20	-563167.04	-563166.86	0.0142	0.0072
Uranus	-6255-05-17 19:26 J	-563078.87	-563078.69	-563078.49	0.0141	0.0041
Uranus	-6255-08-14 04:04 J	-562990.53	-562990.33	-562990.13	0.0141	0.0009
Uranus	-6255-11-10 12:28 J	-562902.17	-562901.98	-562901.78	0.0141	0.0022
Uranus	-6254-02-06 20:52 J	-562813.81	-562813.63	-562813.44	0.0141	0.0053
Uranus	-6254-05-06 05:16 J	-562725.43	-562725.28	-562725.12	0.0141	0.0083
Venus	-6254-06-15 14:52 J	-562684.92	-562684.88	-562684.83	0.3683	0.3224
Uranus	-6254-08-02 13:40 J	-562637.04	-562636.93	-562636.81	0.0141	0.0114
Mars	-6253-11-27 02:52 J	-562154.46	-562154.38	-562154.30	0.1712	0.1188
Jupiter	-6251-06-18 02:09 J	-561586.54	-561586.41	-561586.27	0.0500	0.0350
Jupiter	-6251-09-16 14:23 J	-561496.01	-561495.90	-561495.78	0.0502	0.0391
Saturn	-6251-10-30 05:02 J	-561452.35	-561452.29	-561452.22	0.0303	0.0265
Mars	-6251-11-02 07:12 J	-561449.30	-561449.20	-561449.10	0.1691	0.0805
Saturn	-6250-01-26 17:45 J	-561363.88	-561363.76	-561363.63	0.0303	0.0104
Saturn	-6250-04-25 06:28 J	-561275.35	-561275.23	-561275.10	0.0303	0.0058

Saturn	-6250-07-22 19:12 J	-561186.79	-561186.70	-561186.61	0.0303	0.0217
Venus	-6249-12-29 06:28 J	-560661.32	-560661.23	-560661.13	0.3685	0.1628
Moon	-6248-09-24 17:31 J	-560391.85	-560391.77	-560391.68	0.2724	0.1622
Earth	-6248-09-24 17:31 J	-560391.85	-560391.77	-560391.68	0.2717	0.1611 *
Jupiter	-6245-02-17 11:16 J	-559516.08	-559516.03	-559515.97	0.0526	0.0471
Jupiter	-6245-05-16 16:33 J	-559426.94	-559426.81	-559426.69	0.0525	0.0082
Moon	-6244-03-23 05:16 J	-559116.44	-559116.28	-559116.13	0.2620	0.0720
Earth	-6244-03-23 06:57 J	-559116.36	-559116.21	-559116.06	0.2617	0.1020 *
Mars	-6243-04-19 13:40 J	-558723.95	-558723.93	-558723.92	0.1718	0.1693
Venus	-6243-07-14 22:04 J	-558637.68	-558637.58	-558637.48	0.3687	0.0051
Mars	-6242-05-19 19:55 J	-558328.83	-558328.67	-558328.51	0.1829	0.0634
Mars	-6241-03-24 18:14 J	-558018.85	-558018.74	-558018.62	0.1696	0.0344
Moon	-6241-09-17 17:45 J	-557841.83	-557841.76	-557841.70	0.2712	0.2115
Earth	-6241-09-17 18:14 J	-557841.81	-557841.74	-557841.67	0.2716	0.2086 *
Jupiter	-6239-07-05 10:47 J	-557186.21	-557186.05	-557185.87	0.0501	0.0206
Venus	-6237-01-28 13:26 J	-556614.03	-556613.94	-556613.84	0.3688	0.1531
Saturn	-6236-08-18 04:19 J	-556046.48	-556046.32	-556046.15	0.0259	0.0136
Saturn	-6236-11-15 00:57 J	-555957.65	-555957.46	-555957.27	0.0259	0.0013
Saturn	-6235-02-11 21:21 J	-555868.75	-555868.61	-555868.46	0.0259	0.0163
Jupiter	-6233-03-04 20:38 J	-555116.76	-555116.64	-555116.51	0.0526	0.0060
Jupiter	-6233-06-02 01:26 J	-555027.48	-555027.44	-555027.39	0.0524	0.0484
Mars	-6233-10-08 14:09 J	-554899.07	-554898.91	-554898.75	0.1822	0.0586
Venus	-6232-08-13 05:02 J	-554590.35	-554590.29	-554590.24	0.3690	0.3073
Mars	-6232-08-15 05:16 J	-554588.40	-554588.28	-554588.17	0.1701	0.0146
Moon	-6228-09-20 11:02 J	-553091.14	-553091.04	-553090.94	0.2717	0.0935
Earth	-6228-09-20 11:31 J	-553091.12	-553091.02	-553090.91	0.2716	0.0773 *
Jupiter	-6227-04-23 07:12 J	-552876.38	-552876.20	-552876.01	0.0500	0.0021
Venus	-6224-11-27 04:33 J	-551562.39	-551562.31	-551562.23	0.3686	0.3070
Mars	-6223-02-28 08:52 J	-551469.16	-551469.13	-551469.09	0.1815	0.1765
Mars	-6222-01-05 16:04 J	-551157.93	-551157.83	-551157.72	0.1706	0.0635

Jupiter	-6222-12-23 01:12 J	-550806.56	-550806.45	-550806.33	0.0526	0.0194
Jupiter	-6221-03-21 06:14 J	-550717.33	-550717.24	-550717.15	0.0524	0.0354
Saturn	-6221-06-14 20:23 J	-550631.76	-550631.65	-550631.53	0.0302	0.0143
Saturn	-6221-09-11 09:07 J	-550543.25	-550543.12	-550542.99	0.0303	0.0018
Saturn	-6221-12-08 21:36 J	-550454.70	-550454.60	-550454.49	0.0303	0.0178
Mars	-6221-12-10 20:09 J	-550452.73	-550452.66	-550452.59	0.1685	0.1324
Venus	-6218-06-13 14:52 J	-549538.00	-549537.88	-549537.76	0.3684	0.2304
Jupiter	-6215-02-09 02:38 J	-548566.56	-548566.39	-548566.21	0.0500	0.0179
Moon	-6215-09-23 04:33 J	-548340.41	-548340.31	-548340.20	0.2723	0.0564
Earth	-6215-09-23 05:02 J	-548340.40	-548340.29	-548340.19	0.2717	0.0554 *
Mars	-6213-05-28 02:52 J	-547727.46	-547727.38	-547727.29	0.1712	0.1133
Uranus	-6212-08-11 05:45 J	-547287.29	-547287.26	-547287.22	0.0136	0.0131
Uranus	-6212-11-07 08:52 J	-547199.20	-547199.13	-547199.05	0.0136	0.0112
Uranus	-6211-02-03 12:00 J	-547111.09	-547111.00	-547110.90	0.0137	0.0094
Moon	-6211-03-21 03:21 J	-547065.49	-547065.36	-547065.23	0.2616	0.1584
Earth	-6211-03-21 05:02 J	-547065.43	-547065.29	-547065.14	0.2617	0.1288 *
Uranus	-6211-05-02 14:52 J	-547022.98	-547022.88	-547022.76	0.0137	0.0076
Mars	-6211-05-03 07:12 J	-547022.30	-547022.20	-547022.10	0.1690	0.0862
Uranus	-6211-07-29 18:14 J	-546934.86	-546934.74	-546934.62	0.0137	0.0057
Uranus	-6211-10-25 21:07 J	-546846.74	-546846.62	-546846.49	0.0137	0.0039
Uranus	-6210-01-22 00:14 J	-546758.62	-546758.49	-546758.36	0.0137	0.0020
Uranus	-6210-04-20 03:21 J	-546670.49	-546670.36	-546670.23	0.0137	0.0002
Uranus	-6210-07-17 06:28 J	-546582.36	-546582.23	-546582.10	0.0137	0.0017
Jupiter	-6210-10-11 06:00 J	-546496.35	-546496.25	-546496.15	0.0526	0.0325
Uranus	-6210-10-13 09:21 J	-546494.23	-546494.11	-546493.98	0.0137	0.0037
Jupiter	-6209-01-08 11:02 J	-546407.16	-546407.04	-546406.93	0.0524	0.0225
Uranus	-6209-01-09 12:43 J	-546406.09	-546405.97	-546405.86	0.0138	0.0055
Uranus	-6209-04-06 15:36 J	-546317.95	-546317.85	-546317.74	0.0138	0.0074
Uranus	-6209-07-03 18:43 J	-546229.81	-546229.72	-546229.62	0.0138	0.0092
Uranus	-6209-09-29 21:50 J	-546141.66	-546141.59	-546141.51	0.0138	0.0111

Uranus -6209-12-27 00:57 J -546053.50 -546053.46 -546053.42 0.0138 0.0130

Saturn -6206-01-05 04:04 J -545314.46 -545314.33 -545314.19 0.0259 0.0176

Saturn -6206-04-04 00:28 J -545225.67 -545225.48 -545225.29 0.0259 0.0028

Saturn -6206-07-01 20:52 J -545136.79 -545136.63 -545136.45 0.0259 0.0122

Mars -6204-10-18 13:26 J -544296.97 -544296.94 -544296.91 0.1718 0.1643

Jupiter -6204-11-27 23:31 J -544256.65 -544256.52 -544256.39 0.0500 0.0357

Jupiter -6203-02-26 11:45 J -544166.13 -544166.01 -544165.89 0.0502 0.0383

Mars -6203-11-17 20:52 J -543901.79 -543901.63 -543901.47 0.1829 0.0752

Mars -6202-09-23 18:14 J -543591.85 -543591.74 -543591.63 0.1695 0.0389

Moon -6202-09-25 22:33 J -543589.64 -543589.56 -543589.49 0.2724 0.1862

Earth -6202-09-25 22:19 J -543589.64 -543589.57 -543589.49 0.2717 0.1874 *

Moon -6198-03-24 12:00 J -542314.13 -542314.00 -542313.86 0.2620 0.1483

Earth -6198-03-24 13:40 J -542314.06 -542313.93 -542313.79 0.2616 0.1571 *

Jupiter -6198-07-30 10:04 J -542186.13 -542186.08 -542186.02 0.0526 0.0467

Jupiter -6198-10-27 15:21 J -542096.99 -542096.86 -542096.74 0.0525 0.0087

Venus -6197-01-20 12:28 J -542012.05 -542011.98 -542011.91 0.3684 0.2654

Neptune -6197-04-18 13:12 J -541922.98 -541922.95 -541922.90 0.0089 0.0085

Neptune -6197-07-15 14:52 J -541834.95 -541834.88 -541834.82 0.0089 0.0078

Neptune -6197-10-11 16:04 J -541746.91 -541746.83 -541746.75 0.0089 0.0071

Neptune -6196-01-07 17:16 J -541658.86 -541658.78 -541658.68 0.0089 0.0064

Neptune -6196-04-05 18:43 J -541570.82 -541570.72 -541570.61 0.0089 0.0056

Neptune -6196-07-02 19:55 J -541482.77 -541482.67 -541482.55 0.0089 0.0050

Neptune -6196-09-28 21:21 J -541394.72 -541394.61 -541394.48 0.0089 0.0042

Neptune -6196-12-25 22:47 J -541306.67 -541306.55 -541306.42 0.0089 0.0035

Neptune -6195-03-24 00:14 J -541218.62 -541218.49 -541218.36 0.0089 0.0028

Neptune -6195-06-20 01:26 J -541130.56 -541130.44 -541130.31 0.0089 0.0021

Neptune -6195-09-16 02:52 J -541042.51 -541042.38 -541042.25 0.0089 0.0014

Moon -6195-09-18 22:19 J -541039.64 -541039.57 -541039.49 0.2713 0.1944

Earth -6195-09-18 23:02 J -541039.62 -541039.54 -541039.46 0.2716 0.1822 *

Neptune -6195-12-13 04:04 J -540954.46 -540954.33 -540954.19 0.0089 0.0008

Neptune -6194-03-11 05:31 J -540866.40 -540866.27 -540866.14 0.0089 0.0001

Neptune -6194-06-07 06:43 J -540778.35 -540778.22 -540778.08 0.0089 0.0008

Neptune -6194-09-03 08:09 J -540690.29 -540690.16 -540690.03 0.0089 0.0015

Neptune -6194-11-30 09:21 J -540602.23 -540602.11 -540601.98 0.0089 0.0022

Neptune -6193-02-26 10:47 J -540514.17 -540514.05 -540513.93 0.0089 0.0029

Mars -6193-04-08 15:07 J -540472.03 -540471.87 -540471.70 0.1822 0.0473

Neptune -6193-05-24 12:00 J -540426.12 -540426.00 -540425.88 0.0089 0.0036

Neptune -6193-08-20 13:26 J -540338.06 -540337.94 -540337.83 0.0089 0.0043

Neptune -6193-11-16 14:23 J -540250.00 -540249.90 -540249.78 0.0089 0.0051

Neptune -6192-02-12 15:50 J -540161.93 -540161.84 -540161.73 0.0089 0.0057

Mars -6192-02-13 05:16 J -540161.40 -540161.28 -540161.17 0.1701 0.0102

Neptune -6192-05-11 17:16 J -540073.87 -540073.78 -540073.69 0.0089 0.0064

Venus -6192-08-05 04:04 J -539988.43 -539988.33 -539988.23 0.3685 0.1065

Neptune -6192-08-07 18:14 J -539985.80 -539985.74 -539985.65 0.0089 0.0071

Saturn -6192-11-01 21:50 J -539899.69 -539899.59 -539899.49 0.0303 0.0196

Neptune -6192-11-03 19:55 J -539897.73 -539897.67 -539897.61 0.0089 0.0078

Jupiter -6192-12-15 08:38 J -539856.31 -539856.14 -539855.97 0.0501 0.0203

Saturn -6191-01-29 10:33 J -539811.19 -539811.06 -539810.93 0.0303 0.0035

Neptune -6191-01-30 21:07 J -539809.65 -539809.62 -539809.58 0.0089 0.0085

Saturn -6191-04-27 23:16 J -539722.65 -539722.53 -539722.42 0.0303 0.0125

Saturn -6191-07-25 11:31 J -539634.05 -539634.02 -539633.97 0.0303 0.0285

Pluto -6188-01-04 07:55 J -538740.19 -538740.17 -538740.10 0.0072 0.0068

Pluto -6188-04-02 09:07 J -538652.19 -538652.12 -538652.02 0.0072 0.0059

Pluto -6188-06-29 10:19 J -538564.16 -538564.07 -538563.96 0.0072 0.0051

Pluto -6188-09-25 11:31 J -538476.14 -538476.02 -538475.90 0.0072 0.0042

Pluto -6188-12-22 12:28 J -538388.10 -538387.98 -538387.84 0.0072 0.0033

Pluto -6187-03-20 13:26 J -538300.07 -538299.94 -538299.79 0.0072 0.0025

Pluto -6187-06-16 14:38 J -538212.03 -538211.89 -538211.74 0.0073 0.0016

Pluto -6187-09-12 15:50 J -538123.98 -538123.84 -538123.69 0.0073 0.0007

Pluto -6187-12-09 17:02 J -538035.94 -538035.79 -538035.64 0.0073 0.0003

Venus	-6186-02-18 19:26 J	-537964.79	-537964.69	-537964.58	0.3687	0.0534
Pluto	-6186-03-07 18:00 J	-537947.89	-537947.75	-537947.60	0.0073	0.0012
Pluto	-6186-06-03 19:12 J	-537859.84	-537859.70	-537859.55	0.0073	0.0021
Jupiter	-6186-08-15 19:40 J	-537786.81	-537786.68	-537786.56	0.0525	0.0057
Pluto	-6186-08-30 20:23 J	-537771.78	-537771.65	-537771.51	0.0073	0.0030
Jupiter	-6186-11-13 00:14 J	-537697.53	-537697.49	-537697.44	0.0524	0.0489
Pluto	-6186-11-26 21:36 J	-537683.73	-537683.60	-537683.48	0.0073	0.0040
Pluto	-6185-02-22 22:33 J	-537595.66	-537595.56	-537595.44	0.0073	0.0049
Pluto	-6185-05-20 23:45 J	-537507.59	-537507.51	-537507.42	0.0074	0.0059
Pluto	-6185-08-17 00:43 J	-537419.51	-537419.47	-537419.40	0.0074	0.0069
Mars	-6184-08-29 09:21 J	-537042.17	-537042.11	-537042.04	0.1815	0.1673
Mars	-6183-07-06 16:04 J	-536730.93	-536730.83	-536730.72	0.1706	0.0577
Moon	-6182-09-21 15:50 J	-536288.95	-536288.84	-536288.74	0.2718	0.0546
Earth	-6182-09-21 16:19 J	-536288.92	-536288.82	-536288.71	0.2716	0.0504 *
Mars	-6181-06-10 20:09 J	-536025.73	-536025.66	-536025.60	0.1685	0.1379
Venus	-6181-09-03 11:02 J	-535941.13	-535941.04	-535940.96	0.3689	0.2072
Jupiter	-6180-10-03 05:31 J	-535546.46	-535546.27	-535546.09	0.0501	0.0024
Saturn	-6177-05-24 03:50 J	-534582.44	-534582.34	-534582.23	0.0259	0.0216
Saturn	-6177-08-21 00:14 J	-534493.67	-534493.49	-534493.30	0.0259	0.0068
Saturn	-6177-11-17 20:38 J	-534404.82	-534404.64	-534404.45	0.0259	0.0082
Saturn	-6176-02-14 17:02 J	-534315.86	-534315.79	-534315.69	0.0259	0.0233
Venus	-6175-03-20 02:23 J	-533917.42	-533917.40	-533917.38	0.3690	0.3610
Jupiter	-6174-06-03 23:45 J	-533476.63	-533476.51	-533476.40	0.0526	0.0197
Jupiter	-6174-09-01 04:33 J	-533387.40	-533387.31	-533387.22	0.0524	0.0351
Mars	-6174-11-27 02:52 J	-533300.47	-533300.38	-533300.29	0.1712	0.1076
Uranus	-6172-09-15 01:26 J	-532642.52	-532642.44	-532642.34	0.0142	0.0126
Mars	-6172-11-01 07:12 J	-532595.29	-532595.20	-532595.10	0.1690	0.0917
Uranus	-6172-12-12 10:04 J	-532554.22	-532554.08	-532553.93	0.0142	0.0095
Uranus	-6171-03-10 18:28 J	-532465.90	-532465.73	-532465.55	0.0142	0.0064
Uranus	-6171-06-07 03:07 J	-532377.56	-532377.37	-532377.18	0.0142	0.0032

Uranus	-6171-09-03 11:31 J	-532289.21	-532289.02	-532288.82	0.0141	0.0003
Uranus	-6171-11-30 19:55 J	-532200.86	-532200.67	-532200.47	0.0141	0.0030
Uranus	-6170-02-27 04:19 J	-532112.49	-532112.32	-532112.13	0.0141	0.0061
Uranus	-6170-05-26 12:43 J	-532024.11	-532023.97	-532023.81	0.0141	0.0092
Uranus	-6170-08-22 21:21 J	-531935.70	-531935.61	-531935.51	0.0141	0.0122
Moon	-6169-09-23 09:21 J	-531538.21	-531538.11	-531538.00	0.2723	0.0718
Earth	-6169-09-23 09:50 J	-531538.20	-531538.09	-531537.99	0.2717	0.0825 *
Jupiter	-6168-07-22 01:55 J	-531236.59	-531236.42	-531236.24	0.0500	0.0162
Venus	-6167-07-04 06:57 J	-530889.36	-530889.21	-530889.07	0.3686	0.1396
Moon	-6165-03-21 10:04 J	-530263.23	-530263.08	-530262.92	0.2618	0.0886
Earth	-6165-03-21 12:00 J	-530263.16	-530263.00	-530262.84	0.2617	0.0744 *
Mars	-6164-04-18 13:40 J	-529869.98	-529869.93	-529869.89	0.1717	0.1584
Mars	-6163-05-18 22:04 J	-529474.73	-529474.58	-529474.43	0.1830	0.0877
Saturn	-6162-03-21 23:45 J	-529167.58	-529167.51	-529167.43	0.0302	0.0242
Jupiter	-6162-03-23 04:19 J	-529166.42	-529166.32	-529166.22	0.0526	0.0329
Mars	-6162-03-24 18:14 J	-529164.85	-529164.74	-529164.63	0.1695	0.0444
Saturn	-6162-06-18 12:43 J	-529079.10	-529078.97	-529078.85	0.0303	0.0082
Jupiter	-6162-06-20 09:21 J	-529077.22	-529077.11	-529076.99	0.0525	0.0222
Saturn	-6162-09-15 01:12 J	-528990.57	-528990.45	-528990.32	0.0303	0.0079
Saturn	-6162-12-12 13:55 J	-528902.00	-528901.92	-528901.84	0.0303	0.0238
Jupiter	-6156-05-09 21:21 J	-526926.74	-526926.61	-526926.48	0.0500	0.0359
Jupiter	-6156-08-08 09:36 J	-526836.22	-526836.10	-526835.98	0.0502	0.0381
Earth	-6156-09-26 03:07 J	-526787.43	-526787.37	-526787.30	0.2717	0.2141
Moon	-6156-09-26 03:21 J	-526787.42	-526787.36	-526787.30	0.2723	0.2225 *
Mars	-6154-10-08 15:50 J	-526045.01	-526044.84	-526044.67	0.1822	0.0367
Mars	-6153-08-14 05:02 J	-525734.40	-525734.29	-525734.17	0.1701	0.0076
Moon	-6152-03-24 19:12 J	-525511.82	-525511.70	-525511.59	0.2620	0.1840
Earth	-6152-03-24 20:38 J	-525511.73	-525511.64	-525511.54	0.2616	0.2130 *
Jupiter	-6150-01-09 09:07 J	-524856.18	-524856.12	-524856.06	0.0527	0.0460
Jupiter	-6150-04-08 14:23 J	-524767.03	-524766.90	-524766.78	0.0525	0.0095

Moon	-6149-09-19 03:07 J	-524237.46	-524237.37	-524237.29	0.2713	0.1623
Earth	-6149-09-19 03:50 J	-524237.43	-524237.34	-524237.26	0.2716	0.1562 *
Saturn	-6148-10-11 03:36 J	-523850.38	-523850.35	-523850.33	0.0259	0.0256
Saturn	-6147-01-07 23:45 J	-523761.68	-523761.51	-523761.34	0.0259	0.0109
Saturn	-6147-04-06 20:09 J	-523672.85	-523672.66	-523672.47	0.0259	0.0039
Saturn	-6147-07-04 16:33 J	-523583.94	-523583.81	-523583.68	0.0259	0.0189
Mars	-6144-02-27 10:33 J	-522615.14	-522615.06	-522614.97	0.1815	0.1548
Jupiter	-6144-05-27 06:14 J	-522526.41	-522526.24	-522526.06	0.0501	0.0200
Mars	-6143-01-04 16:04 J	-522303.94	-522303.83	-522303.72	0.1706	0.0523
Mars	-6142-12-10 19:55 J	-521598.72	-521598.67	-521598.61	0.1685	0.1432
Venus	-6141-08-26 09:50 J	-521339.17	-521339.09	-521339.00	0.3684	0.2094
Jupiter	-6138-01-25 18:43 J	-520456.85	-520456.72	-520456.60	0.0525	0.0047
Jupiter	-6138-04-24 23:16 J	-520367.56	-520367.53	-520367.49	0.0523	0.0498
Moon	-6136-09-21 20:38 J	-519486.75	-519486.64	-519486.54	0.2720	0.0374
Earth	-6136-09-21 21:07 J	-519486.73	-519486.62	-519486.51	0.2716	0.0237 *
Venus	-6135-03-12 01:26 J	-519315.54	-519315.44	-519315.34	0.3686	0.0510
Mars	-6134-05-28 02:52 J	-518873.47	-518873.38	-518873.29	0.1712	0.1019
Saturn	-6133-08-08 00:28 J	-518435.48	-518435.48	-518435.46	0.0303	0.0302
Saturn	-6133-11-04 13:26 J	-518347.05	-518346.94	-518346.82	0.0303	0.0140
Saturn	-6132-02-01 02:09 J	-518258.53	-518258.41	-518258.28	0.0303	0.0023
Jupiter	-6132-03-15 03:21 J	-518216.55	-518216.36	-518216.17	0.0501	0.0023
Saturn	-6132-04-30 14:52 J	-518169.98	-518169.88	-518169.78	0.0303	0.0181
Mars	-6132-05-02 07:11 J	-518168.29	-518168.20	-518168.11	0.1690	0.0969
Venus	-6130-09-25 17:02 J	-517291.89	-517291.79	-517291.69	0.3687	0.1067
Uranus	-6128-08-31 13:40 J	-516585.99	-516585.93	-516585.88	0.0136	0.0124
Uranus	-6128-11-27 16:33 J	-516497.89	-516497.81	-516497.72	0.0136	0.0105
Uranus	-6127-02-23 19:26 J	-516409.78	-516409.69	-516409.58	0.0136	0.0088
Uranus	-6127-05-22 22:48 J	-516321.66	-516321.55	-516321.44	0.0137	0.0069
Uranus	-6127-08-19 01:40 J	-516233.54	-516233.43	-516233.30	0.0137	0.0051
Jupiter	-6127-11-13 23:02 J	-516146.66	-516146.54	-516146.43	0.0526	0.0185

Uranus -6127-11-15 05:02 J -516145.42 -516145.29 -516145.17 0.0137 0.0032

Jupiter -6126-02-11 03:50 J -516057.43 -516057.34 -516057.25 0.0524 0.0362

Uranus -6126-02-11 07:55 J -516057.30 -516057.17 -516057.04 0.0137 0.0014 *

Uranus -6126-05-10 11:02 J -515969.17 -515969.04 -515968.91 0.0137 0.0006

Uranus -6126-08-06 14:09 J -515881.04 -515880.91 -515880.78 0.0137 0.0024

Uranus -6126-11-02 17:16 J -515792.90 -515792.78 -515792.66 0.0137 0.0043

Uranus -6125-01-29 20:09 J -515704.77 -515704.66 -515704.54 0.0137 0.0062

Uranus -6125-04-26 23:16 J -515616.63 -515616.53 -515616.42 0.0138 0.0080

Uranus -6125-07-24 02:23 J -515528.48 -515528.40 -515528.31 0.0138 0.0099

Mars -6125-10-17 13:40 J -515442.98 -515442.93 -515442.88 0.1717 0.1526

Uranus -6125-10-20 05:31 J -515440.33 -515440.27 -515440.20 0.0138 0.0118

Uranus -6124-01-16 08:23 J -515352.15 -515352.15 -515352.12 0.0138 0.0137

Venus -6124-04-10 08:23 J -515268.22 -515268.15 -515268.08 0.3689 0.2614

Mars -6124-11-16 22:19 J -515047.71 -515047.57 -515047.42 0.1830 0.0965

Mars -6123-09-22 18:14 J -514737.85 -514737.74 -514737.63 0.1695 0.0500

Moon -6123-09-24 14:09 J -514736.00 -514735.91 -514735.81 0.2723 0.1111

Earth -6123-09-24 14:23 J -514735.99 -514735.90 -514735.80 0.2717 0.1092 *

Jupiter -6120-01-01 00:28 J -513906.66 -513906.48 -513906.30 0.0500 0.0156

Moon -6119-03-22 17:02 J -513460.95 -513460.79 -513460.63 0.2618 0.0465

Earth -6119-03-22 18:57 J -513460.88 -513460.71 -513460.55 0.2617 0.0189 *

Saturn -6118-05-27 22:33 J -513029.70 -513029.56 -513029.40 0.0259 0.0155

Saturn -6118-08-24 19:11 J -512940.89 -512940.70 -512940.51 0.0259 0.0006

Saturn -6118-11-21 15:36 J -512852.01 -512851.85 -512851.69 0.0259 0.0144

Earth -6116-09-17 15:07 J -512185.90 -512185.87 -512185.85 0.2715 0.2614

Moon -6116-09-17 14:38 J -512185.89 -512185.89 -512185.88 0.2710 0.2695 *

Jupiter -6115-09-02 03:07 J -511836.47 -511836.37 -511836.27 0.0526 0.0327

Jupiter -6115-11-30 08:09 J -511747.28 -511747.16 -511747.05 0.0525 0.0224

Mars -6114-04-08 17:02 J -511617.96 -511617.79 -511617.62 0.1823 0.0250

Neptune -6114-07-01 09:50 J -511534.11 -511534.09 -511534.04 0.0088 0.0086

Neptune -6114-09-27 13:26 J -511446.03 -511445.94 -511445.84 0.0088 0.0076

Neptune -6114-12-24 16:33 J -511357.91 -511357.81 -511357.66 0.0088 0.0067

Mars -6113-02-13 05:16 J -511307.40 -511307.28 -511307.17 0.1700 0.0065

Neptune -6113-03-21 20:23 J -511269.79 -511269.65 -511269.49 0.0088 0.0057

Neptune -6113-06-18 00:00 J -511181.65 -511181.50 -511181.33 0.0088 0.0047

Neptune -6113-09-14 03:36 J -511093.52 -511093.35 -511093.16 0.0088 0.0037

Neptune -6113-12-11 07:11 J -511005.38 -511005.20 -511005.01 0.0088 0.0027

Neptune -6112-03-09 10:48 J -510917.24 -510917.05 -510916.85 0.0088 0.0017

Neptune -6112-06-05 14:38 J -510829.09 -510828.89 -510828.70 0.0088 0.0007

Neptune -6112-09-01 18:00 J -510740.94 -510740.75 -510740.55 0.0088 0.0004

Neptune -6112-11-28 21:36 J -510652.79 -510652.60 -510652.40 0.0088 0.0013

Neptune -6111-02-25 01:11 J -510564.63 -510564.45 -510564.26 0.0088 0.0023

Neptune -6111-05-24 04:48 J -510476.48 -510476.30 -510476.11 0.0088 0.0033

Neptune -6111-08-20 08:23 J -510388.31 -510388.15 -510387.97 0.0088 0.0043

Neptune -6111-11-16 12:00 J -510300.15 -510300.00 -510299.84 0.0088 0.0053

Venus -6110-02-08 09:21 J -510216.27 -510216.11 -510215.95 0.3685 0.0316

Neptune -6110-02-12 15:36 J -510211.98 -510211.85 -510211.70 0.0088 0.0063

Neptune -6110-05-11 19:11 J -510123.80 -510123.70 -510123.58 0.0088 0.0073

Neptune -6110-08-07 22:48 J -510035.60 -510035.55 -510035.48 0.0088 0.0083

Earth -6110-09-27 07:55 J -509985.22 -509985.17 -509985.12 0.2717 0.2410

Moon -6110-09-27 08:23 J -509985.20 -509985.15 -509985.11 0.2723 0.2410 *

Jupiter -6109-10-19 21:07 J -509596.75 -509596.62 -509596.48 0.0500 0.0336

Jupiter -6108-01-18 09:21 J -509506.22 -509506.11 -509506.00 0.0501 0.0403

Mars -6105-08-28 11:31 J -508188.12 -508188.02 -508187.92 0.1815 0.1439

Mars -6104-07-05 16:04 J -507876.94 -507876.83 -507876.72 0.1706 0.0468

Pluto -6103-03-07 04:48 J -507632.36 -507632.30 -507632.20 0.0073 0.0064

Saturn -6103-03-24 15:07 J -507614.96 -507614.87 -507614.76 0.0303 0.0190

Pluto -6103-06-03 06:28 J -507544.33 -507544.23 -507544.10 0.0072 0.0053

Saturn -6103-06-21 04:04 J -507526.46 -507526.33 -507526.20 0.0303 0.0029

Jupiter -6103-06-21 07:40 J -507526.24 -507526.18 -507526.12 0.0527 0.0460 *

Pluto -6103-08-30 08:23 J -507456.28 -507456.15 -507456.01 0.0072 0.0043

Saturn	-6103-09-17 16:33 J	-507437.92	-507437.81	-507437.69	0.0303	0.0132
Jupiter	-6103-09-18 12:57 J	-507437.09	-507436.96	-507436.84	0.0525	0.0095
Moon	-6103-09-20 07:55 J	-507435.26	-507435.17	-507435.08	0.2714	0.1400
Earth	-6103-09-20 08:23 J	-507435.24	-507435.15	-507435.05	0.2716	0.1296 *
Pluto	-6103-11-26 10:04 J	-507368.23	-507368.08	-507367.92	0.0072	0.0032
Saturn	-6103-12-15 05:16 J	-507349.32	-507349.28	-507349.25	0.0303	0.0290
Pluto	-6102-02-22 11:45 J	-507280.17	-507280.01	-507279.85	0.0072	0.0022
Pluto	-6102-05-21 13:26 J	-507192.11	-507191.94	-507191.77	0.0072	0.0012
Mars	-6102-06-10 19:55 J	-507171.72	-507171.67	-507171.62	0.1685	0.1484
Pluto	-6102-08-17 15:07 J	-507104.04	-507103.87	-507103.70	0.0072	0.0002
Pluto	-6102-11-13 16:33 J	-507015.98	-507015.81	-507015.64	0.0072	0.0008
Pluto	-6101-02-09 18:14 J	-506927.90	-506927.74	-506927.58	0.0072	0.0018
Pluto	-6101-05-07 19:40 J	-506839.83	-506839.68	-506839.52	0.0071	0.0028
Pluto	-6101-08-03 21:07 J	-506751.75	-506751.62	-506751.47	0.0071	0.0037
Pluto	-6101-10-30 22:33 J	-506663.67	-506663.56	-506663.42	0.0071	0.0047
Pluto	-6100-01-27 00:14 J	-506575.58	-506575.49	-506575.38	0.0071	0.0056
Pluto	-6100-04-25 01:26 J	-506487.48	-506487.44	-506487.36	0.0071	0.0066
Jupiter	-6097-11-06 04:33 J	-505196.48	-505196.31	-505196.14	0.0501	0.0202
Mars	-6095-11-26 02:52 J	-504446.48	-504446.38	-504446.29	0.1712	0.0965
Mars	-6093-10-31 07:11 J	-503741.29	-503741.20	-503741.11	0.1690	0.1023
Jupiter	-6091-07-07 17:45 J	-503126.88	-503126.76	-503126.63	0.0525	0.0035
Jupiter	-6091-10-04 22:33 J	-503037.58	-503037.56	-503037.53	0.0524	0.0509
Venus	-6090-09-17 15:50 J	-502689.89	-502689.84	-502689.79	0.3683	0.3117
Moon	-6090-09-23 01:11 J	-502684.55	-502684.45	-502684.34	0.2721	0.0117
Earth	-6090-09-23 01:55 J	-502684.53	-502684.42	-502684.32	0.2716	0.0066 *
Saturn	-6089-10-13 21:50 J	-502297.70	-502297.59	-502297.46	0.0259	0.0197
Saturn	-6088-01-10 18:14 J	-502208.92	-502208.74	-502208.55	0.0259	0.0050
Saturn	-6088-04-09 14:38 J	-502120.06	-502119.89	-502119.71	0.0259	0.0099
Saturn	-6088-07-07 11:02 J	-502031.08	-502031.04	-502030.98	0.0259	0.0249
Uranus	-6088-10-05 08:52 J	-501941.23	-501941.13	-501941.01	0.0142	0.0118

Uranus	-6087-01-01 17:31 J	-501852.92	-501852.77	-501852.61	0.0142	0.0087
Uranus	-6087-03-31 01:55 J	-501764.59	-501764.42	-501764.23	0.0142	0.0056
Uranus	-6087-06-27 10:33 J	-501676.25	-501676.06	-501675.87	0.0142	0.0025
Uranus	-6087-09-23 18:57 J	-501587.90	-501587.71	-501587.51	0.0141	0.0007
Uranus	-6087-12-21 03:36 J	-501499.54	-501499.35	-501499.16	0.0141	0.0038
Uranus	-6086-03-19 12:00 J	-501411.17	-501411.00	-501410.83	0.0141	0.0069
Earth	-6086-03-20 17:02 J	-501409.84	-501409.79	-501409.75	0.2617	0.2506
Uranus	-6086-06-15 20:23 J	-501322.79	-501322.65	-501322.51	0.0141	0.0099
Uranus	-6086-09-12 04:48 J	-501234.37	-501234.30	-501234.22	0.0141	0.0130
Mars	-6085-04-17 13:26 J	-501015.99	-501015.94	-501015.88	0.1717	0.1472
Jupiter	-6085-08-25 01:26 J	-500886.63	-500886.44	-500886.25	0.0501	0.0023
Venus	-6084-04-02 07:26 J	-500666.28	-500666.19	-500666.10	0.3685	0.1526
Mars	-6084-05-17 23:45 J	-500620.65	-500620.51	-500620.38	0.1830	0.1096
Mars	-6083-03-23 18:14 J	-500310.85	-500310.74	-500310.64	0.1695	0.0555
Jupiter	-6079-04-25 22:19 J	-498816.69	-498816.57	-498816.46	0.0525	0.0172
Jupiter	-6079-07-24 03:07 J	-498727.46	-498727.37	-498727.29	0.0524	0.0375
Venus	-6079-10-16 23:02 J	-498642.65	-498642.54	-498642.44	0.3686	0.0129
Moon	-6077-09-24 19:11 J	-497933.79	-497933.70	-497933.61	0.2723	0.1282
Earth	-6077-09-24 19:11 J	-497933.79	-497933.70	-497933.60	0.2717	0.1355 *
Mars	-6075-10-07 17:45 J	-497190.93	-497190.76	-497190.59	0.1823	0.0146
Saturn	-6074-08-11 15:36 J	-496882.92	-496882.85	-496882.78	0.0303	0.0255
Mars	-6074-08-14 05:02 J	-496880.40	-496880.29	-496880.17	0.1701	0.0085
Saturn	-6074-11-08 04:19 J	-496794.44	-496794.32	-496794.19	0.0303	0.0094
Saturn	-6073-02-04 17:02 J	-496705.91	-496705.79	-496705.66	0.0303	0.0067
Moon	-6073-03-23 00:00 J	-496658.67	-496658.50	-496658.34	0.2618	0.0198
Earth	-6073-03-23 01:55 J	-496658.59	-496658.42	-496658.26	0.2617	0.0375 *
Venus	-6073-05-01 14:23 J	-496618.99	-496618.90	-496618.81	0.3688	0.1607
Saturn	-6073-05-03 05:45 J	-496617.35	-496617.26	-496617.18	0.0303	0.0227
Jupiter	-6073-06-12 22:33 J	-496576.73	-496576.56	-496576.38	0.0501	0.0153
Moon	-6070-09-18 19:26 J	-495383.74	-495383.69	-495383.64	0.2710	0.2370

Earth	-6070-09-18 19:55 J	-495383.72	-495383.67	-495383.62	0.2715	0.2351 *
Venus	-6068-11-15 05:45 J	-494595.31	-494595.26	-494595.21	0.3689	0.3150
Jupiter	-6067-02-12 02:23 J	-494506.50	-494506.40	-494506.29	0.0526	0.0311
Jupiter	-6067-05-12 07:26 J	-494417.30	-494417.19	-494417.07	0.0524	0.0240
Mars	-6065-02-27 12:00 J	-493761.11	-493761.00	-493760.88	0.1816	0.1343
Mars	-6064-01-03 16:04 J	-493449.94	-493449.83	-493449.72	0.1706	0.0408
Earth	-6064-09-27 12:43 J	-493182.99	-493182.97	-493182.96	0.2717	0.2673
Mars	-6063-12-09 19:55 J	-492744.71	-492744.67	-492744.62	0.1685	0.1538
Jupiter	-6061-03-31 19:55 J	-492266.81	-492266.67	-492266.52	0.0500	0.0326
Jupiter	-6061-06-30 08:09 J	-492176.26	-492176.16	-492176.05	0.0502	0.0414
Venus	-6059-03-01 01:40 J	-491567.50	-491567.43	-491567.36	0.3687	0.3281
Saturn	-6059-03-02 20:23 J	-491565.70	-491565.65	-491565.58	0.0259	0.0245
Saturn	-6059-05-30 16:48 J	-491476.97	-491476.80	-491476.62	0.0259	0.0098
Saturn	-6059-08-27 13:11 J	-491388.14	-491387.95	-491387.76	0.0259	0.0050
Saturn	-6059-11-24 09:36 J	-491299.22	-491299.10	-491298.97	0.0259	0.0200
Moon	-6057-09-20 12:28 J	-490633.07	-490632.98	-490632.88	0.2715	0.1138
Earth	-6057-09-20 13:11 J	-490633.05	-490632.95	-490632.85	0.2716	0.1030 *
Jupiter	-6056-12-01 06:28 J	-490196.29	-490196.23	-490196.16	0.0526	0.0454
Jupiter	-6055-02-28 11:45 J	-490107.13	-490107.01	-490106.89	0.0525	0.0100
Mars	-6055-05-27 02:52 J	-490019.48	-490019.38	-490019.29	0.1711	0.0911
Venus	-6054-09-15 11:45 J	-489543.14	-489543.01	-489542.88	0.3684	0.2032
Mars	-6053-05-01 07:11 J	-489314.29	-489314.20	-489314.12	0.1690	0.1079
Jupiter	-6049-04-18 04:48 J	-487866.47	-487866.30	-487866.13	0.0501	0.0231
Mars	-6046-10-17 13:26 J	-486589.00	-486588.94	-486588.87	0.1717	0.1414
Mars	-6045-11-16 00:28 J	-486193.60	-486193.48	-486193.35	0.1830	0.1211
Saturn	-6044-03-27 05:45 J	-486062.37	-486062.26	-486062.14	0.0303	0.0146
Saturn	-6044-06-23 18:28 J	-485973.86	-485973.73	-485973.60	0.0303	0.0017
Uranus	-6044-06-24 18:00 J	-485972.75	-485972.75	-485972.73	0.0136	0.0135
Saturn	-6044-09-20 07:11 J	-485885.30	-485885.20	-485885.09	0.0303	0.0174
Uranus	-6044-09-20 21:07 J	-485884.68	-485884.62	-485884.55	0.0136	0.0117

Mars -6044-09-21 18:00 J -485883.85 -485883.75 -485883.64 0.1695 0.0609

Moon -6044-09-23 06:00 J -485882.35 -485882.25 -485882.14 0.2721 0.0220

Earth -6044-09-23 06:43 J -485882.33 -485882.22 -485882.12 0.2716 0.0307 *

Jupiter -6044-12-17 16:33 J -485796.93 -485796.81 -485796.68 0.0525 0.0031

Uranus -6044-12-18 00:28 J -485796.57 -485796.48 -485796.40 0.0136 0.0099

Uranus -6043-03-16 03:21 J -485708.46 -485708.36 -485708.25 0.0136 0.0080

Jupiter -6043-03-16 21:21 J -485707.63 -485707.61 -485707.59 0.0524 0.0514

Uranus -6043-06-12 06:28 J -485620.34 -485620.23 -485620.11 0.0137 0.0062

Uranus -6043-09-08 09:36 J -485532.22 -485532.10 -485531.98 0.0137 0.0044

Uranus -6043-12-05 12:28 J -485444.10 -485443.98 -485443.84 0.0137 0.0026

Uranus -6042-03-03 15:36 J -485355.98 -485355.85 -485355.72 0.0137 0.0008

Uranus -6042-05-30 18:43 J -485267.85 -485267.72 -485267.59 0.0137 0.0012

Uranus -6042-08-26 21:50 J -485179.72 -485179.59 -485179.46 0.0137 0.0030

Uranus -6042-11-23 00:57 J -485091.58 -485091.46 -485091.34 0.0137 0.0049

Uranus -6041-02-19 04:04 J -485003.44 -485003.33 -485003.22 0.0137 0.0068

Uranus -6041-05-17 06:57 J -484915.30 -484915.21 -484915.10 0.0138 0.0087

Uranus -6041-08-13 10:04 J -484827.16 -484827.08 -484826.99 0.0138 0.0105

Uranus -6041-11-09 13:11 J -484739.00 -484738.95 -484738.89 0.0138 0.0124

Moon -6040-03-20 22:04 J -484607.66 -484607.58 -484607.50 0.2616 0.2244

Earth -6040-03-21 00:00 J -484607.61 -484607.50 -484607.39 0.2617 0.1947 *

Jupiter -6037-02-05 00:00 J -483556.69 -483556.50 -483556.31 0.0501 0.0030

Mars -6035-04-07 18:43 J -482763.90 -482763.72 -482763.55 0.1823 0.0052

Mars -6034-02-12 05:02 J -482453.40 -482453.29 -482453.17 0.1700 0.0138

Venus -6033-04-23 13:11 J -482017.02 -482016.95 -482016.87 0.3684 0.2560

Neptune -6032-01-13 12:00 J -481752.02 -481752.00 -481751.94 0.0089 0.0086

Neptune -6032-04-11 13:40 J -481663.99 -481663.93 -481663.86 0.0089 0.0078

Neptune -6032-07-08 15:07 J -481575.95 -481575.87 -481575.79 0.0089 0.0071

Neptune -6032-10-04 16:19 J -481487.90 -481487.82 -481487.72 0.0089 0.0064

Jupiter -6032-10-05 21:36 J -481486.72 -481486.60 -481486.48 0.0526 0.0157

Neptune -6032-12-31 17:45 J -481399.86 -481399.76 -481399.65 0.0089 0.0056

Jupiter -6031-01-03 02:23 J -481397.48 -481397.40 -481397.31 0.0524 0.0390

Neptune -6031-03-29 18:57 J -481311.81 -481311.71 -481311.59 0.0089 0.0050

Neptune -6031-06-25 20:23 J -481223.76 -481223.65 -481223.53 0.0089 0.0042

Neptune -6031-09-21 21:36 J -481135.71 -481135.60 -481135.47 0.0089 0.0036

Moon -6031-09-26 00:00 J -481131.58 -481131.50 -481131.41 0.2724 0.1662

Earth -6031-09-26 00:00 J -481131.58 -481131.50 -481131.41 0.2717 0.1615 *

Neptune -6031-12-18 23:16 J -481047.66 -481047.53 -481047.41 0.0089 0.0028

Neptune -6030-03-17 00:28 J -480959.60 -480959.48 -480959.35 0.0089 0.0021

Neptune -6030-06-13 01:55 J -480871.55 -480871.42 -480871.29 0.0089 0.0014

Neptune -6030-09-09 03:07 J -480783.50 -480783.37 -480783.23 0.0089 0.0007

Saturn -6030-10-17 15:36 J -480745.00 -480744.85 -480744.69 0.0259 0.0143

Neptune -6030-12-06 04:33 J -480695.44 -480695.31 -480695.18 0.0089 0.0001

Saturn -6029-01-14 12:00 J -480656.19 -480656.00 -480655.81 0.0259 0.0006

Neptune -6029-03-03 05:45 J -480607.39 -480607.26 -480607.12 0.0089 0.0008

Saturn -6029-04-12 08:23 J -480567.30 -480567.15 -480566.99 0.0259 0.0153

Neptune -6029-05-30 07:11 J -480519.33 -480519.20 -480519.07 0.0089 0.0015

Neptune -6029-08-26 08:23 J -480431.27 -480431.15 -480431.02 0.0089 0.0022

Neptune -6029-11-22 09:50 J -480343.22 -480343.09 -480342.97 0.0089 0.0029

Neptune -6028-02-18 11:02 J -480255.16 -480255.04 -480254.92 0.0089 0.0036

Neptune -6028-05-17 12:14 J -480167.10 -480166.99 -480166.87 0.0089 0.0043

Neptune -6028-08-13 13:26 J -480079.04 -480078.94 -480078.82 0.0089 0.0051

Venus -6028-11-07 04:48 J -479993.40 -479993.30 -479993.20 0.3685 0.0975

Neptune -6028-11-09 14:52 J -479990.97 -479990.88 -479990.77 0.0089 0.0057

Neptune -6027-02-05 16:04 J -479902.91 -479902.83 -479902.73 0.0089 0.0064

Moon -6027-03-24 06:57 J -479856.37 -479856.21 -479856.05 0.2618 0.0710

Earth -6027-03-24 08:38 J -479856.29 -479856.14 -479855.98 0.2617 0.0923 *

Neptune -6027-05-04 17:16 J -479814.84 -479814.78 -479814.69 0.0089 0.0072

Neptune -6027-07-31 18:57 J -479726.77 -479726.71 -479726.65 0.0089 0.0078

Neptune -6027-10-27 20:09 J -479638.69 -479638.66 -479638.62 0.0089 0.0085

Mars -6026-08-28 13:11 J -479334.08 -479333.95 -479333.83 0.1816 0.1225

Jupiter	-6026-11-23 21:07 J	-479246.80	-479246.62	-479246.44	0.0500	0.0147
Mars	-6025-07-04 16:04 J	-479022.95	-479022.83	-479022.72	0.1706	0.0364
Moon	-6024-09-19 00:14 J	-478581.56	-478581.49	-478581.43	0.2710	0.2206
Earth	-6024-09-19 00:43 J	-478581.54	-478581.47	-478581.41	0.2715	0.2087 *
Mars	-6023-06-09 19:55 J	-478317.70	-478317.67	-478317.64	0.1685	0.1589
Venus	-6022-05-23 20:23 J	-477969.75	-477969.65	-477969.55	0.3687	0.0598
Jupiter	-6020-07-25 01:55 J	-477176.52	-477176.42	-477176.31	0.0526	0.0294
Jupiter	-6020-10-22 06:57 J	-477087.32	-477087.21	-477087.10	0.0524	0.0255
Venus	-6017-12-06 11:45 J	-475946.09	-475946.01	-475945.93	0.3688	0.2151
Mars	-6016-11-25 02:52 J	-475592.48	-475592.38	-475592.28	0.1712	0.0851
Saturn	-6015-08-14 06:00 J	-475330.34	-475330.25	-475330.16	0.0303	0.0213
Saturn	-6015-11-10 18:43 J	-475241.84	-475241.72	-475241.59	0.0303	0.0053
Saturn	-6014-02-07 07:26 J	-475153.31	-475153.19	-475153.07	0.0303	0.0108
Saturn	-6014-05-06 19:55 J	-475064.72	-475064.67	-475064.60	0.0303	0.0267
Jupiter	-6014-09-11 18:28 J	-474936.87	-474936.73	-474936.59	0.0500	0.0320
Mars	-6014-10-31 06:57 J	-474887.29	-474887.21	-474887.12	0.1690	0.1130
Jupiter	-6014-12-11 06:28 J	-474846.32	-474846.23	-474846.12	0.0502	0.0422
Venus	-6011-06-22 03:07 J	-473922.37	-473922.37	-473922.36	0.3690	0.3676
Moon	-6011-09-21 17:16 J	-473830.88	-473830.78	-473830.68	0.2717	0.0823
Earth	-6011-09-21 18:00 J	-473830.85	-473830.75	-473830.65	0.2716	0.0765 *
Jupiter	-6008-05-13 06:14 J	-472866.31	-472866.24	-472866.17	0.0526	0.0433
Jupiter	-6008-08-10 11:31 J	-472777.15	-472777.02	-472776.90	0.0525	0.0120
Mars	-6006-04-17 13:26 J	-472162.00	-472161.94	-472161.87	0.1717	0.1355
Mars	-6005-05-17 01:11 J	-471766.57	-471766.45	-471766.33	0.1830	0.1310
Mars	-6004-03-22 18:14 J	-471456.85	-471456.74	-471456.64	0.1695	0.0668
Uranus	-6004-07-29 07:55 J	-471328.17	-471328.17	-471328.14	0.0142	0.0141
Uranus	-6004-10-25 16:33 J	-471239.92	-471239.81	-471239.68	0.0142	0.0110
Uranus	-6003-01-22 00:57 J	-471151.61	-471151.46	-471151.28	0.0142	0.0079
Uranus	-6003-04-20 09:36 J	-471063.28	-471063.10	-471062.91	0.0142	0.0048
Uranus	-6003-07-17 18:14 J	-470974.93	-470974.74	-470974.54	0.0142	0.0016

Venus	**-6003-10-06 04:04 J**	**-470894.47**	**-470894.33**	**-470894.19**	**0.3686**	**0.1612**	
Uranus	**-6003-10-14 02:38 J**	**-470886.58**	**-470886.39**	**-470886.19**	**0.0141**	**0.0015**	
Uranus	**-6002-01-10 11:02 J**	**-470798.22**	**-470798.04**	**-470797.84**	**0.0141**	**0.0047**	
Uranus	**-6002-04-08 19:26 J**	**-470709.84**	**-470709.69**	**-470709.51**	**0.0141**	**0.0078**	
Jupiter	**-6002-06-30 15:50 J**	**-470626.86**	**-470626.84**	**-470626.80**	**0.0500**	**0.0492**	
Uranus	**-6002-07-06 03:50 J**	**-470621.45**	**-470621.34**	**-470621.20**	**0.0141**	**0.0109**	
Jupiter	**-6002-09-29 03:50 J**	**-470536.51**	**-470536.34**	**-470536.18**	**0.0501**	**0.0244**	
Uranus	**-6002-10-02 12:14 J**	**-470533.00**	**-470532.99**	**-470532.94**	**0.0141**	**0.0139**	

6TH MILLENNIUM BCE

This is a list of transits of Mercury in the 6th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Saturn	**-6000-03-05 13:40 J**		**-470013.05**	**-470012.93**	**-470012.80**	**0.0259**	**0.0195**	
Saturn	**-6000-06-02 10:04 J**		**-469924.27**	**-469924.08**	**-469923.89**	**0.0259**	**0.0047**	
Saturn	**-6000-08-30 06:28 J**		**-469835.41**	**-469835.23**	**-469835.05**	**0.0259**	**0.0101**	
Saturn	**-6000-11-27 02:52 J**		**-469746.42**	**-469746.38**	**-469746.33**	**0.0259**	**0.0251**	
Moon	**-5998-09-24 10:48 J**		**-469080.15**	**-469080.05**	**-469079.94**	**0.2721**	**0.0516**	
Earth	**-5998-09-24 11:16 J**		**-469080.13**	**-469080.03**	**-469079.92**	**0.2716**	**0.0571**	*****
Jupiter	**-5996-05-29 15:36 J**		**-468466.97**	**-468466.85**	**-468466.72**	**0.0525**	**0.0025**	
Jupiter	**-5996-08-26 20:23 J**		**-468377.65**	**-468377.65**	**-468377.64**	**0.0524**	**0.0522**	
Mars	**-5996-10-06 19:26 J**		**-468336.86**	**-468336.69**	**-468336.52**	**0.1823**	**0.0087**	
Mars	**-5995-08-13 05:02 J**		**-468026.40**	**-468026.29**	**-468026.17**	**0.1700**	**0.0186**	
Moon	**-5994-03-22 04:48 J**		**-467805.43**	**-467805.30**	**-467805.16**	**0.2616**	**0.1529**	

Earth	-5994-03-22 06:43 J	-467805.35	-467805.22	-467805.08	0.2617	0.1403 *
Jupiter	-5990-07-18 00:28 J	-466226.66	-466226.48	-466226.29	0.0501	0.0062
Mars	-5986-02-26 14:09 J	-464907.05	-464906.91	-464906.78	0.1816	0.1112
Saturn	-5985-01-01 07:11 J	-464598.26	-464598.20	-464598.14	0.0302	0.0269
Mars	-5985-01-03 16:04 J	-464595.95	-464595.83	-464595.72	0.1706	0.0306
Saturn	-5985-03-29 19:55 J	-464509.79	-464509.67	-464509.54	0.0303	0.0109
Saturn	-5985-06-26 08:38 J	-464421.26	-464421.14	-464421.01	0.0303	0.0053
Saturn	-5985-09-22 21:21 J	-464332.70	-464332.61	-464332.52	0.0303	0.0211
Earth	-5985-09-26 04:48 J	-464329.38	-464329.30	-464329.22	0.2717	0.1882
Moon	-5985-09-26 04:48 J	-464329.37	-464329.30	-464329.22	0.2724	0.1882 *
Jupiter	-5984-03-17 20:23 J	-464156.77	-464156.65	-464156.53	0.0526	0.0151
Jupiter	-5984-06-15 01:26 J	-464067.52	-464067.44	-464067.36	0.0524	0.0396
Mars	-5984-12-08 19:55 J	-463890.69	-463890.67	-463890.65	0.1685	0.1643
Venus	-5982-05-15 19:11 J	-463367.72	-463367.70	-463367.68	0.3683	0.3596
Moon	-5981-03-24 14:09 J	-463054.06	-463053.91	-463053.77	0.2620	0.1266
Earth	-5981-03-24 15:36 J	-463053.98	-463053.85	-463053.71	0.2617	0.1476 *
Jupiter	-5978-05-05 19:55 J	-461916.85	-461916.67	-461916.49	0.0500	0.0138
Moon	-5978-09-20 04:48 J	-461779.38	-461779.30	-461779.22	0.2711	0.1834
Earth	-5978-09-20 05:16 J	-461779.35	-461779.28	-461779.20	0.2715	0.1822 *
Venus	-5977-11-28 10:48 J	-461344.14	-461344.05	-461343.97	0.3684	0.1998
Mars	-5976-05-26 02:52 J	-461165.49	-461165.38	-461165.28	0.1711	0.0798
Mars	-5974-05-01 06:57 J	-460460.29	-460460.21	-460460.13	0.1690	0.1186
Jupiter	-5972-01-04 01:26 J	-459846.55	-459846.44	-459846.34	0.0526	0.0280
Jupiter	-5972-04-03 06:14 J	-459757.34	-459757.24	-459757.13	0.0525	0.0272
Venus	-5971-06-14 02:23 J	-459320.51	-459320.40	-459320.30	0.3686	0.0452
Saturn	-5971-07-23 12:28 J	-459281.04	-459280.98	-459280.90	0.0259	0.0240
Saturn	-5971-10-20 08:52 J	-459192.31	-459192.13	-459191.95	0.0259	0.0093
Saturn	-5970-01-17 05:16 J	-459103.47	-459103.28	-459103.09	0.0259	0.0055
Saturn	-5970-04-16 01:40 J	-459014.54	-459014.43	-459014.31	0.0259	0.0204
Mars	-5967-10-16 13:26 J	-457735.01	-457734.94	-457734.87	0.1717	0.1303

Jupiter	-5966-02-21 17:02 J	-457606.94	-457606.79	-457606.65	0.0500	0.0313
Jupiter	-5966-05-23 05:02 J	-457516.38	-457516.29	-457516.19	0.0502	0.0428
Mars	-5966-11-16 02:09 J	-457339.51	-457339.41	-457339.30	0.1830	0.1429
Venus	-5966-12-28 17:45 J	-457296.86	-457296.76	-457296.66	0.3687	0.1139
Mars	-5965-09-20 18:00 J	-457029.85	-457029.75	-457029.65	0.1695	0.0715
Moon	-5965-09-21 22:04 J	-457028.68	-457028.58	-457028.48	0.2718	0.0644
Earth	-5965-09-21 22:48 J	-457028.66	-457028.55	-457028.45	0.2716	0.0498 *
Jupiter	-5961-10-23 05:45 J	-455536.33	-455536.26	-455536.18	0.0526	0.0416
Jupiter	-5960-01-20 11:02 J	-455447.17	-455447.04	-455446.92	0.0525	0.0137
Venus	-5960-07-13 09:07 J	-455273.18	-455273.12	-455273.05	0.3689	0.2685
Uranus	-5960-07-15 02:09 J	-455271.45	-455271.41	-455271.36	0.0136	0.0127
Uranus	-5960-10-11 05:02 J	-455183.36	-455183.29	-455183.20	0.0136	0.0110
Uranus	-5959-01-07 08:23 J	-455095.25	-455095.15	-455095.06	0.0136	0.0091
Uranus	-5959-04-05 11:16 J	-455007.13	-455007.03	-455006.91	0.0137	0.0073
Uranus	-5959-07-02 14:23 J	-454919.02	-454918.90	-454918.78	0.0137	0.0054
Uranus	-5959-09-28 17:31 J	-454830.89	-454830.77	-454830.64	0.0137	0.0036
Uranus	-5959-12-25 20:38 J	-454742.77	-454742.64	-454742.51	0.0137	0.0017
Uranus	-5958-03-23 23:45 J	-454654.64	-454654.51	-454654.38	0.0137	0.0003
Uranus	-5958-06-20 02:52 J	-454566.51	-454566.38	-454566.26	0.0137	0.0020
Uranus	-5958-09-16 05:45 J	-454478.38	-454478.26	-454478.13	0.0137	0.0039
Uranus	-5958-12-13 08:52 J	-454390.25	-454390.13	-454390.01	0.0137	0.0057
Uranus	-5957-03-10 12:00 J	-454302.11	-454302.00	-454301.89	0.0137	0.0076
Uranus	-5957-06-06 14:52 J	-454213.96	-454213.88	-454213.78	0.0138	0.0095
Uranus	-5957-09-02 18:00 J	-454125.81	-454125.75	-454125.67	0.0138	0.0114
Uranus	-5957-11-29 21:07 J	-454037.65	-454037.62	-454037.58	0.0138	0.0132
Mars	-5956-04-06 20:23 J	-453909.82	-453909.65	-453909.48	0.1823	0.0194
Saturn	-5956-08-16 19:55 J	-453777.77	-453777.67	-453777.56	0.0303	0.0177
Saturn	-5956-11-13 08:52 J	-453689.26	-453689.13	-453689.00	0.0303	0.0017
Saturn	-5955-02-09 21:21 J	-453600.72	-453600.61	-453600.49	0.0303	0.0144
Mars	-5955-02-11 05:02 J	-453599.40	-453599.29	-453599.18	0.1700	0.0240

Saturn -5955-05-09 09:50 J -453512.09 -453512.09 -453512.08 0.0303 0.0303

Jupiter -5955-12-10 14:38 J -453296.94 -453296.89 -453296.85 0.0500 0.0484

Jupiter -5954-03-11 02:23 J -453206.56 -453206.40 -453206.24 0.0501 0.0251

Moon -5952-09-24 15:50 J -452277.94 -452277.84 -452277.74 0.2722 0.0792

Earth -5952-09-24 16:04 J -452277.93 -452277.83 -452277.72 0.2716 0.0829 *

Neptune -5949-03-27 06:43 J -451363.24 -451363.22 -451363.17 0.0088 0.0086

Neptune -5949-06-23 10:19 J -451275.16 -451275.07 -451274.97 0.0088 0.0076

Neptune -5949-09-19 13:26 J -451187.04 -451186.94 -451186.79 0.0088 0.0067

Jupiter -5949-11-08 15:21 J -451136.99 -451136.86 -451136.73 0.0525 0.0002

Neptune -5949-12-16 17:02 J -451098.92 -451098.79 -451098.62 0.0088 0.0057

Neptune -5948-03-14 20:52 J -451010.79 -451010.63 -451010.46 0.0088 0.0047

Moon -5948-03-22 12:00 J -451003.15 -451003.00 -451002.85 0.2616 0.1151

Earth -5948-03-22 13:55 J -451003.08 -451002.92 -451002.77 0.2617 0.0836 *

Neptune -5948-06-11 00:28 J -450922.65 -450922.48 -450922.30 0.0088 0.0037

Neptune -5948-09-07 04:04 J -450834.51 -450834.33 -450834.14 0.0088 0.0027

Neptune -5948-12-04 07:40 J -450746.37 -450746.18 -450745.99 0.0088 0.0017

Neptune -5947-03-02 11:16 J -450658.22 -450658.03 -450657.83 0.0088 0.0007

Neptune -5947-05-29 14:52 J -450570.08 -450569.88 -450569.68 0.0088 0.0003

Neptune -5947-08-25 18:28 J -450481.92 -450481.73 -450481.54 0.0088 0.0013

Mars -5947-08-27 14:38 J -450480.03 -450479.89 -450479.75 0.1816 0.1014

Neptune -5947-11-21 21:50 J -450393.77 -450393.59 -450393.39 0.0088 0.0023

Neptune -5946-02-18 01:26 J -450305.61 -450305.44 -450305.25 0.0088 0.0033

Venus -5946-05-13 06:14 J -450221.39 -450221.24 -450221.08 0.3685 0.0111

Neptune -5946-05-17 05:02 J -450217.45 -450217.29 -450217.11 0.0088 0.0043

Mars -5946-07-04 16:04 J -450168.95 -450168.83 -450168.72 0.1706 0.0244

Neptune -5946-08-13 08:38 J -450129.29 -450129.14 -450128.97 0.0088 0.0053

Neptune -5946-11-09 12:14 J -450041.12 -450040.99 -450040.84 0.0088 0.0063

Neptune -5945-02-05 15:50 J -449952.94 -449952.84 -449952.72 0.0088 0.0073

Neptune -5945-05-03 19:26 J -449864.74 -449864.69 -449864.61 0.0088 0.0083

Pluto -5943-11-30 23:31 J -448923.56 -448923.52 -448923.44 0.0072 0.0065

Jupiter -5943-12-27 23:31 J -448896.70 -448896.52 -448896.33 0.0501 0.0076

Pluto -5942-02-27 00:57 J -448835.55 -448835.46 -448835.37 0.0072 0.0056

Pluto -5942-05-26 01:40 J -448747.53 -448747.43 -448747.31 0.0072 0.0048

Pluto -5942-08-22 02:52 J -448659.50 -448659.38 -448659.25 0.0072 0.0039

Pluto -5942-11-18 03:50 J -448571.46 -448571.34 -448571.19 0.0072 0.0031

Pluto -5941-02-14 05:02 J -448483.42 -448483.29 -448483.14 0.0072 0.0022

Saturn -5941-03-08 06:28 J -448460.38 -448460.23 -448460.07 0.0259 0.0147

Pluto -5941-05-12 06:14 J -448395.38 -448395.24 -448395.09 0.0073 0.0013

Saturn -5941-06-05 02:52 J -448371.57 -448371.38 -448371.19 0.0259 0.0003

Pluto -5941-08-08 07:26 J -448307.34 -448307.19 -448307.04 0.0073 0.0004

Saturn -5941-09-01 23:16 J -448282.68 -448282.53 -448282.37 0.0259 0.0149

Pluto -5941-11-04 08:23 J -448219.29 -448219.15 -448219.00 0.0073 0.0006

Pluto -5940-01-31 09:36 J -448131.24 -448131.10 -448130.95 0.0073 0.0015

Pluto -5940-04-29 10:33 J -448043.19 -448043.06 -448042.91 0.0073 0.0024

Pluto -5940-07-26 11:45 J -447955.14 -447955.01 -447954.87 0.0073 0.0034

Pluto -5940-10-22 12:43 J -447867.08 -447866.97 -447866.84 0.0073 0.0043

Pluto -5939-01-18 13:55 J -447779.01 -447778.92 -447778.81 0.0073 0.0053

Pluto -5939-04-16 15:21 J -447690.94 -447690.86 -447690.78 0.0074 0.0062

Pluto -5939-07-13 16:19 J -447602.84 -447602.82 -447602.78 0.0074 0.0072

Earth -5939-09-27 09:36 J -447527.17 -447527.10 -447527.04 0.2717 0.2149

Moon -5939-09-27 09:36 J -447527.16 -447527.10 -447527.04 0.2724 0.2193 *

Jupiter -5937-08-27 19:40 J -446826.81 -446826.68 -446826.56 0.0526 0.0142

Mars -5937-11-24 02:38 J -446738.49 -446738.39 -446738.28 0.1711 0.0742

Jupiter -5937-11-25 00:28 J -446737.56 -446737.48 -446737.40 0.0524 0.0405

Moon -5935-03-25 21:07 J -446251.73 -446251.62 -446251.51 0.2621 0.1940

Earth -5935-03-25 22:33 J -446251.66 -446251.56 -446251.46 0.2617 0.2030 *

Mars -5935-10-30 06:57 J -446033.28 -446033.21 -446033.13 0.1690 0.1240

Moon -5932-09-20 09:36 J -444977.19 -444977.10 -444977.02 0.2713 0.1698

Earth -5932-09-20 10:04 J -444977.17 -444977.08 -444976.99 0.2716 0.1553 *

Jupiter -5931-10-15 20:23 J -444586.83 -444586.65 -444586.47 0.0500 0.0105

Mars	-5927-04-16 13:26 J	-443308.02	-443307.94	-443307.86	0.1717	0.1244
Saturn	-5926-01-03 21:21 J	-443045.70	-443045.61	-443045.53	0.0302	0.0232
Saturn	-5926-04-02 10:04 J	-442957.21	-442957.08	-442956.95	0.0303	0.0071
Mars	-5926-05-17 03:21 J	-442912.45	-442912.36	-442912.27	0.1831	0.1553
Saturn	-5926-06-29 22:48 J	-442868.68	-442868.55	-442868.43	0.0303	0.0089
Saturn	-5926-09-26 11:16 J	-442780.10	-442780.03	-442779.95	0.0303	0.0247
Venus	-5926-12-20 16:33 J	-442694.86	-442694.81	-442694.75	0.3683	0.3031
Mars	-5925-03-21 18:00 J	-442602.85	-442602.75	-442602.65	0.1695	0.0770
Jupiter	-5925-06-16 00:14 J	-442516.59	-442516.49	-442516.38	0.0526	0.0272
Jupiter	-5925-09-13 05:16 J	-442427.38	-442427.28	-442427.17	0.0525	0.0278
Venus	-5920-07-05 08:09 J	-440671.25	-440671.16	-440671.06	0.3685	0.1443
Uranus	-5920-08-18 16:48 J	-440626.87	-440626.80	-440626.71	0.0142	0.0129
Uranus	-5920-11-15 01:11 J	-440538.57	-440538.45	-440538.29	0.0142	0.0098
Uranus	-5919-02-11 10:04 J	-440450.25	-440450.08	-440449.91	0.0142	0.0066
Uranus	-5919-05-10 18:28 J	-440361.92	-440361.73	-440361.53	0.0142	0.0035
Jupiter	-5919-08-03 15:50 J	-440276.99	-440276.84	-440276.69	0.0500	0.0302
Uranus	-5919-08-07 03:07 J	-440273.57	-440273.37	-440273.17	0.0142	0.0004
Moon	-5919-09-23 02:52 J	-440226.49	-440226.38	-440226.28	0.2718	0.0274
Earth	-5919-09-23 03:36 J	-440226.46	-440226.35	-440226.25	0.2716	0.0247 *
Jupiter	-5919-11-02 04:04 J	-440186.42	-440186.33	-440186.24	0.0501	0.0438
Uranus	-5919-11-03 11:31 J	-440185.21	-440185.02	-440184.82	0.0141	0.0027
Uranus	-5918-01-30 19:55 J	-440096.84	-440096.67	-440096.48	0.0141	0.0059
Uranus	-5918-04-29 04:19 J	-440008.46	-440008.32	-440008.16	0.0141	0.0090
Uranus	-5918-07-26 12:43 J	-439920.06	-439919.97	-439919.86	0.0141	0.0120
Mars	-5917-10-05 21:07 J	-439482.79	-439482.62	-439482.45	0.1823	0.0305
Mars	-5916-08-12 05:02 J	-439172.40	-439172.29	-439172.18	0.1700	0.0295
Venus	-5914-01-18 23:45 J	-438647.61	-438647.51	-438647.41	0.3686	0.0136
Jupiter	-5913-04-04 05:02 J	-438206.37	-438206.29	-438206.21	0.0527	0.0403
Jupiter	-5913-07-02 10:19 J	-438117.19	-438117.07	-438116.95	0.0525	0.0151
Saturn	-5912-07-26 05:31 J	-437728.39	-437728.27	-437728.14	0.0259	0.0192

Saturn	-5912-10-23 01:40 J	-437639.61	-437639.43	-437639.24	0.0259	0.0045
Saturn	-5911-01-19 22:04 J	-437550.75	-437550.58	-437550.40	0.0259	0.0104
Saturn	-5911-04-18 18:43 J	-437461.76	-437461.72	-437461.68	0.0259	0.0253
Venus	-5909-08-03 15:07 J	-436623.96	-436623.87	-436623.78	0.3688	0.1685
Mars	-5907-02-25 15:50 J	-436052.99	-436052.84	-436052.69	0.1816	0.0892
Jupiter	-5907-05-22 12:57 J	-435967.00	-435966.96	-435966.90	0.0500	0.0477
Jupiter	-5907-08-21 00:57 J	-435876.62	-435876.46	-435876.30	0.0501	0.0258
Mars	-5906-01-02 15:50 J	-435741.95	-435741.84	-435741.72	0.1706	0.0196
Moon	-5906-09-25 20:38 J	-435475.73	-435475.64	-435475.54	0.2723	0.1034
Earth	-5906-09-25 20:52 J	-435475.72	-435475.63	-435475.53	0.2717	0.1094 *
Venus	-5903-02-17 06:43 J	-434600.27	-434600.22	-434600.18	0.3689	0.3219
Moon	-5902-03-23 18:57 J	-434200.87	-434200.71	-434200.55	0.2618	0.0379
Earth	-5902-03-23 20:52 J	-434200.80	-434200.63	-434200.47	0.2617	0.0286 *
Jupiter	-5901-04-20 14:52 J	-433807.01	-433806.88	-433806.75	0.0525	0.0017
Moon	-5899-09-18 21:07 J	-432925.63	-432925.62	-432925.61	0.2708	0.2686
Earth	-5899-09-18 21:36 J	-432925.63	-432925.60	-432925.58	0.2715	0.2611 *
Saturn	-5897-05-22 21:21 J	-432313.62	-432313.61	-432313.59	0.0302	0.0299
Mars	-5897-05-25 02:38 J	-432311.49	-432311.39	-432311.28	0.1711	0.0685
Saturn	-5897-08-19 10:04 J	-432225.19	-432225.08	-432224.96	0.0303	0.0139
Saturn	-5897-11-15 22:48 J	-432136.67	-432136.55	-432136.42	0.0303	0.0025
Saturn	-5896-02-12 11:31 J	-432048.12	-432048.02	-432047.92	0.0303	0.0181
Mars	-5895-04-30 06:57 J	-431606.28	-431606.21	-431606.14	0.1690	0.1291
Venus	-5895-06-02 22:48 J	-431572.60	-431572.55	-431572.50	0.3687	0.3491
Jupiter	-5895-06-08 22:19 J	-431566.76	-431566.57	-431566.39	0.0501	0.0083
Earth	-5893-09-27 14:23 J	-430724.95	-430724.90	-430724.86	0.2717	0.2415
Moon	-5893-09-27 14:23 J	-430724.94	-430724.90	-430724.85	0.2724	0.2458 *
Venus	-5890-12-18 08:38 J	-429548.28	-429548.14	-429548.00	0.3685	0.1723
Jupiter	-5889-02-07 19:11 J	-429496.82	-429496.70	-429496.57	0.0525	0.0122
Moon	-5889-03-26 04:04 J	-429449.40	-429449.33	-429449.26	0.2621	0.2354
Earth	-5889-03-26 05:31 J	-429449.28	-429449.27	-429449.25	0.2617	0.2598 *

Jupiter	-5889-05-07 00:14 J	-429407.56	-429407.49	-429407.42	0.0524	0.0425
Mars	-5888-10-15 13:26 J	-428881.02	-428880.94	-428880.86	0.1717	0.1187
Mars	-5887-11-15 03:50 J	-428485.41	-428485.34	-428485.27	0.1831	0.1643
Mars	-5886-09-20 18:00 J	-428175.85	-428175.75	-428175.65	0.1695	0.0827
Moon	-5886-09-21 14:09 J	-428175.00	-428174.91	-428174.82	0.2715	0.1330
Earth	-5886-09-21 14:52 J	-428174.97	-428174.88	-428174.79	0.2715	0.1290 *
Jupiter	-5883-03-27 19:26 J	-427256.87	-427256.69	-427256.51	0.0501	0.0093
Saturn	-5883-12-13 03:07 J	-426996.42	-426996.37	-426996.31	0.0259	0.0246
Saturn	-5882-03-11 23:31 J	-426907.70	-426907.52	-426907.35	0.0259	0.0100
Saturn	-5882-06-08 19:40 J	-426818.86	-426818.68	-426818.49	0.0259	0.0049
Saturn	-5882-09-05 16:04 J	-426729.94	-426729.83	-426729.70	0.0259	0.0198
Mars	-5878-03-08 00:00 J	-425450.51	-425450.50	-425450.48	0.1723	0.1700
Jupiter	-5878-11-26 23:31 J	-425186.63	-425186.52	-425186.41	0.0526	0.0263
Jupiter	-5877-02-24 04:33 J	-425097.42	-425097.31	-425097.21	0.0524	0.0288
Mars	-5877-04-05 22:19 J	-425055.74	-425055.57	-425055.40	0.1824	0.0426
Mars	-5876-02-10 05:02 J	-424745.40	-424745.29	-424745.18	0.1700	0.0352
Uranus	-5876-08-04 09:50 J	-424570.13	-424570.09	-424570.02	0.0136	0.0121
Uranus	-5876-10-31 13:11 J	-424482.03	-424481.95	-424481.86	0.0136	0.0102
Uranus	-5875-01-27 16:04 J	-424393.92	-424393.83	-424393.72	0.0136	0.0084
Uranus	-5875-04-25 19:26 J	-424305.81	-424305.69	-424305.58	0.0137	0.0065
Uranus	-5875-07-22 22:19 J	-424217.69	-424217.57	-424217.44	0.0137	0.0047
Uranus	-5875-10-19 01:26 J	-424129.57	-424129.44	-424129.31	0.0137	0.0028
Uranus	-5874-01-15 04:33 J	-424041.44	-424041.31	-424041.18	0.0137	0.0010
Uranus	-5874-04-13 07:40 J	-423953.31	-423953.18	-423953.05	0.0137	0.0009
Uranus	-5874-07-10 10:33 J	-423865.18	-423865.06	-423864.93	0.0137	0.0028
Uranus	-5874-10-06 13:40 J	-423777.05	-423776.93	-423776.80	0.0137	0.0046
Uranus	-5873-01-02 16:48 J	-423688.91	-423688.80	-423688.68	0.0137	0.0065
Uranus	-5873-03-30 19:40 J	-423600.77	-423600.68	-423600.57	0.0138	0.0084
Uranus	-5873-06-26 23:02 J	-423512.63	-423512.54	-423512.46	0.0138	0.0102
Uranus	-5873-09-23 01:55 J	-423424.47	-423424.42	-423424.35	0.0138	0.0121

Moon -5873-09-23 07:40 J -423424.28 -423424.18 -423424.07 0.2719 0.0113

Earth -5873-09-23 08:23 J -423424.26 -423424.15 -423424.05 0.2716 0.0105 *

Jupiter -5871-01-13 16:19 J -422946.97 -422946.82 -422946.66 0.0500 0.0272

Jupiter -5871-04-14 04:33 J -422856.37 -422856.31 -422856.25 0.0502 0.0470

Earth -5869-03-20 18:57 J -422149.73 -422149.71 -422149.70 0.2618 0.2599

Venus -5869-07-26 14:09 J -422021.99 -422021.91 -422021.84 0.3683 0.2473

Mars -5868-08-26 16:33 J -421625.96 -421625.81 -421625.65 0.1816 0.0784

Neptune -5868-10-10 11:02 J -421581.07 -421581.04 -421580.99 0.0089 0.0086

Saturn -5867-01-06 11:16 J -421493.12 -421493.03 -421492.92 0.0302 0.0194

Neptune -5867-01-06 12:28 J -421493.03 -421492.98 -421492.91 0.0089 0.0078 *

Neptune -5867-04-04 13:40 J -421404.99 -421404.93 -421404.84 0.0089 0.0072

Saturn -5867-04-05 00:14 J -421404.62 -421404.49 -421404.36 0.0303 0.0033

Neptune -5867-07-01 15:07 J -421316.95 -421316.87 -421316.77 0.0089 0.0064

Saturn -5867-07-02 12:57 J -421316.08 -421315.96 -421315.85 0.0303 0.0126

Mars -5867-07-03 15:50 J -421314.95 -421314.84 -421314.72 0.1705 0.0139

Neptune -5867-09-27 16:48 J -421228.90 -421228.80 -421228.70 0.0089 0.0057

Saturn -5867-09-29 01:26 J -421227.48 -421227.44 -421227.40 0.0303 0.0284

Neptune -5867-12-24 18:00 J -421140.86 -421140.75 -421140.64 0.0089 0.0050

Neptune -5866-03-22 19:26 J -421052.81 -421052.69 -421052.57 0.0089 0.0043

Neptune -5866-06-18 20:38 J -420964.76 -420964.64 -420964.51 0.0089 0.0036

Neptune -5866-09-14 22:04 J -420876.70 -420876.58 -420876.45 0.0089 0.0028

Jupiter -5866-09-15 04:04 J -420876.41 -420876.33 -420876.25 0.0527 0.0396

Neptune -5866-12-11 23:16 J -420788.65 -420788.53 -420788.39 0.0089 0.0022

Jupiter -5866-12-13 09:21 J -420787.23 -420787.11 -420786.99 0.0525 0.0159

Neptune -5865-03-09 00:43 J -420700.60 -420700.47 -420700.34 0.0089 0.0014

Neptune -5865-06-05 02:09 J -420612.54 -420612.41 -420612.28 0.0089 0.0007

Neptune -5865-09-01 03:21 J -420524.49 -420524.36 -420524.22 0.0089 0.0003

Neptune -5865-11-28 04:48 J -420436.43 -420436.30 -420436.17 0.0089 0.0007

Neptune -5864-02-24 06:00 J -420348.38 -420348.25 -420348.12 0.0089 0.0015

Neptune -5864-05-23 07:26 J -420260.32 -420260.19 -420260.06 0.0089 0.0021

Neptune -5864-08-19 08:38 J -420172.26 -420172.14 -420172.01 0.0089 0.0029

Neptune -5864-11-15 10:04 J -420084.20 -420084.08 -420083.96 0.0089 0.0036

Venus -5863-02-09 05:45 J -419998.36 -419998.26 -419998.16 0.3685 0.0895

Neptune -5863-02-11 11:16 J -419996.14 -419996.03 -419995.91 0.0089 0.0043

Neptune -5863-05-10 12:43 J -419908.08 -419907.97 -419907.86 0.0089 0.0050

Neptune -5863-08-06 13:55 J -419820.02 -419819.92 -419819.82 0.0089 0.0057

Neptune -5863-11-02 15:21 J -419731.95 -419731.86 -419731.77 0.0089 0.0064

Neptune -5862-01-29 16:33 J -419643.89 -419643.81 -419643.73 0.0089 0.0071

Neptune -5862-04-27 17:45 J -419555.82 -419555.76 -419555.69 0.0089 0.0078

Neptune -5862-07-24 19:11 J -419467.74 -419467.70 -419467.66 0.0089 0.0085

Moon -5860-09-26 01:26 J -418673.53 -418673.44 -418673.35 0.2724 0.1394

Earth -5860-09-26 01:40 J -418673.52 -418673.43 -418673.34 0.2717 0.1358 *

Jupiter -5860-11-01 12:00 J -418637.06 -418637.00 -418636.94 0.0499 0.0466

Jupiter -5859-01-30 23:45 J -418546.67 -418546.51 -418546.35 0.0501 0.0268

Venus -5858-08-25 21:07 J -417974.72 -417974.62 -417974.52 0.3686 0.0682

Pluto -5858-11-04 18:00 J -417903.77 -417903.75 -417903.70 0.0073 0.0071

Mars -5858-11-24 02:38 J -417884.49 -417884.39 -417884.28 0.1711 0.0629

Pluto -5857-01-31 19:55 J -417815.76 -417815.67 -417815.57 0.0072 0.0060

Pluto -5857-04-28 21:36 J -417727.72 -417727.60 -417727.47 0.0072 0.0049

Pluto -5857-07-25 23:02 J -417639.67 -417639.54 -417639.38 0.0072 0.0040

Pluto -5857-10-22 00:43 J -417551.61 -417551.47 -417551.30 0.0072 0.0029

Pluto -5856-01-18 02:52 J -417463.55 -417463.38 -417463.22 0.0072 0.0018

Moon -5856-03-24 01:55 J -417398.58 -417398.42 -417398.25 0.2619 0.0049

Earth -5856-03-24 03:36 J -417398.51 -417398.35 -417398.18 0.2617 0.0288 *

Pluto -5856-04-16 04:19 J -417375.48 -417375.32 -417375.15 0.0072 0.0008

Pluto -5856-07-13 06:00 J -417287.42 -417287.25 -417287.08 0.0072 0.0002

Pluto -5856-10-09 07:40 J -417199.35 -417199.18 -417199.01 0.0072 0.0012

Mars -5856-10-29 06:57 J -417179.28 -417179.21 -417179.14 0.1689 0.1344

Pluto -5855-01-05 09:07 J -417111.28 -417111.12 -417110.95 0.0072 0.0022

Pluto -5855-04-03 10:33 J -417023.20 -417023.06 -417022.90 0.0071 0.0032

Pluto	-5855-06-30 12:00 J	-416935.12	-416935.00	-416934.85	0.0071	0.0042
Pluto	-5855-09-26 13:55 J	-416847.04	-416846.92	-416846.80	0.0071	0.0051
Pluto	-5855-12-23 15:07 J	-416758.94	-416758.87	-416758.77	0.0071	0.0060
Pluto	-5854-03-21 17:02 J	-416670.82	-416670.79	-416670.76	0.0071	0.0069
Jupiter	-5854-10-01 14:09 J	-416477.04	-416476.91	-416476.79	0.0526	0.0029
Saturn	-5853-07-28 22:33 J	-416175.72	-416175.56	-416175.40	0.0260	0.0143
Moon	-5853-09-19 01:55 J	-416123.47	-416123.42	-416123.37	0.2710	0.2374
Earth	-5853-09-19 02:09 J	-416123.46	-416123.41	-416123.35	0.2715	0.2348 *
Saturn	-5853-10-25 18:43 J	-416086.91	-416086.72	-416086.53	0.0259	0.0007
Saturn	-5852-01-22 15:07 J	-415998.02	-415997.87	-415997.71	0.0259	0.0154
Venus	-5852-03-10 12:43 J	-415951.05	-415950.97	-415950.89	0.3688	0.2224
Mars	-5848-04-15 13:26 J	-414454.03	-414453.94	-414453.85	0.1717	0.1131
Jupiter	-5848-11-18 20:38 J	-414236.83	-414236.64	-414236.46	0.0501	0.0088
Mars	-5847-05-16 05:02 J	-414058.33	-414058.29	-414058.25	0.1831	0.1776
Earth	-5847-09-28 18:57 J	-413922.72	-413922.71	-413922.69	0.2717	0.2683
Moon	-5847-09-28 19:26 J	-413922.70	-413922.69	-413922.69	0.2723	0.2713 *
Mars	-5846-03-21 18:00 J	-413748.85	-413748.75	-413748.65	0.1695	0.0880
Jupiter	-5842-07-20 18:43 J	-412166.85	-412166.72	-412166.60	0.0526	0.0107
Jupiter	-5842-10-17 23:31 J	-412077.59	-412077.52	-412077.45	0.0524	0.0439
Moon	-5840-09-21 18:57 J	-411372.81	-411372.71	-411372.61	0.2715	0.1173
Earth	-5840-09-21 19:40 J	-411372.78	-411372.68	-411372.58	0.2716	0.1023 *
Mars	-5839-09-06 00:00 J	-411023.53	-411023.50	-411023.46	0.1723	0.1642
Venus	-5838-01-08 00:57 J	-410899.60	-410899.46	-410899.33	0.3686	0.1866
Saturn	-5838-05-26 12:00 J	-410761.07	-410761.00	-410760.93	0.0302	0.0255
Saturn	-5838-08-23 00:43 J	-410672.59	-410672.47	-410672.35	0.0303	0.0096
Mars	-5838-10-05 23:02 J	-410628.71	-410628.54	-410628.38	0.1824	0.0527
Saturn	-5838-11-19 13:26 J	-410584.07	-410583.94	-410583.81	0.0303	0.0064
Saturn	-5837-02-16 01:55 J	-410495.50	-410495.42	-410495.33	0.0303	0.0222
Mars	-5837-08-11 05:02 J	-410318.40	-410318.29	-410318.18	0.1700	0.0407
Jupiter	-5836-09-06 17:45 J	-409926.94	-409926.76	-409926.57	0.0500	0.0089

Uranus	-5836-09-08 01:55 J	-409925.52	-409925.42	-409925.29	0.0142	0.0116
Uranus	-5836-12-05 10:33 J	-409837.21	-409837.06	-409836.90	0.0142	0.0084
Uranus	-5835-03-03 19:11 J	-409748.88	-409748.70	-409748.52	0.0142	0.0053
Uranus	-5835-05-31 03:36 J	-409660.54	-409660.35	-409660.15	0.0142	0.0022
Uranus	-5835-08-27 12:14 J	-409572.19	-409571.99	-409571.79	0.0142	0.0009
Uranus	-5835-11-23 20:38 J	-409483.83	-409483.64	-409483.45	0.0141	0.0040
Uranus	-5834-02-20 05:02 J	-409395.45	-409395.29	-409395.11	0.0141	0.0072
Uranus	-5834-05-19 13:26 J	-409307.07	-409306.94	-409306.80	0.0141	0.0103
Uranus	-5834-08-15 21:50 J	-409218.64	-409218.59	-409218.52	0.0141	0.0133
Venus	-5833-07-24 11:02 J	-408875.09	-408875.04	-408874.99	0.3684	0.3437
Jupiter	-5830-05-08 23:02 J	-407856.65	-407856.54	-407856.43	0.0526	0.0244
Jupiter	-5830-08-06 04:04 J	-407767.43	-407767.33	-407767.23	0.0524	0.0305
Mars	-5828-02-24 17:16 J	-407198.94	-407198.78	-407198.62	0.1817	0.0684
Mars	-5827-01-01 15:50 J	-406887.95	-406887.84	-406887.72	0.1705	0.0094
Moon	-5827-09-24 12:28 J	-406622.08	-406621.98	-406621.87	0.2720	0.0305
Earth	-5827-09-24 12:57 J	-406622.06	-406621.96	-406621.85	0.2716	0.0320 *
Jupiter	-5824-06-25 15:07 J	-405617.03	-405616.87	-405616.71	0.0500	0.0262
Jupiter	-5824-09-24 03:21 J	-405526.41	-405526.36	-405526.31	0.0502	0.0480
Saturn	-5824-12-15 20:09 J	-405443.78	-405443.66	-405443.53	0.0259	0.0197
Saturn	-5823-03-14 16:33 J	-405355.00	-405354.81	-405354.62	0.0259	0.0049
Moon	-5823-03-22 00:00 J	-405347.58	-405347.50	-405347.42	0.2615	0.2291
Earth	-5823-03-22 01:40 J	-405347.53	-405347.43	-405347.33	0.2618	0.2050 *
Saturn	-5823-06-11 12:57 J	-405266.13	-405265.96	-405265.78	0.0259	0.0100
Saturn	-5823-09-08 09:36 J	-405177.15	-405177.10	-405177.05	0.0259	0.0249
Jupiter	-5818-02-25 03:07 J	-403546.46	-403546.37	-403546.29	0.0526	0.0388
Mars	-5818-05-25 02:38 J	-403457.50	-403457.39	-403457.28	0.1711	0.0573
Jupiter	-5818-05-25 08:09 J	-403457.28	-403457.16	-403457.04	0.0525	0.0166 *
Venus	-5818-08-17 19:55 J	-403372.70	-403372.67	-403372.64	0.3682	0.3503
Mars	-5816-04-29 06:57 J	-402752.27	-402752.21	-402752.15	0.1689	0.1401
Moon	-5814-09-27 06:14 J	-401871.32	-401871.24	-401871.15	0.2724	0.1561

Earth	-5814-09-27 06:28 J	-401871.32	-401871.23	-401871.15	0.2716	0.1626 *
Venus	-5812-03-02 11:31 J	-401349.11	-401349.02	-401348.93	0.3684	0.1909
Jupiter	-5812-04-13 12:00 J	-401307.08	-401307.00	-401306.91	0.0500	0.0440
Jupiter	-5812-07-13 00:00 J	-401216.65	-401216.50	-401216.35	0.0501	0.0296
Moon	-5810-03-25 08:52 J	-400596.29	-400596.13	-400595.98	0.2620	0.0724
Earth	-5810-03-25 10:33 J	-400596.22	-400596.06	-400595.90	0.2617	0.0829 *
Mars	-5809-10-14 13:26 J	-400027.03	-400026.94	-400026.85	0.1717	0.1075
Saturn	-5808-01-09 02:09 J	-399940.52	-399940.41	-399940.29	0.0302	0.0148
Saturn	-5808-04-07 14:52 J	-399852.01	-399851.88	-399851.75	0.0302	0.0015
Saturn	-5808-07-05 03:36 J	-399763.46	-399763.35	-399763.25	0.0303	0.0171
Venus	-5807-09-16 03:07 J	-399325.47	-399325.37	-399325.27	0.3685	0.0336
Mars	-5807-09-19 18:00 J	-399321.85	-399321.75	-399321.66	0.1695	0.0934
Moon	-5807-09-20 06:28 J	-399321.29	-399321.23	-399321.17	0.2711	0.2147
Earth	-5807-09-20 06:57 J	-399321.28	-399321.21	-399321.14	0.2715	0.2081 *
Jupiter	-5807-12-14 07:40 J	-399236.19	-399236.18	-399236.17	0.0527	0.0523
Jupiter	-5806-03-13 12:57 J	-399147.09	-399146.96	-399146.83	0.0526	0.0034
Venus	-5801-03-31 18:43 J	-397301.82	-397301.72	-397301.63	0.3687	0.1226
Jupiter	-5800-04-30 19:11 J	-396906.88	-396906.70	-396906.51	0.0500	0.0096
Mars	-5799-03-07 00:00 J	-396596.54	-396596.50	-396596.46	0.1722	0.1587
Mars	-5798-04-06 00:00 J	-396201.66	-396201.50	-396201.34	0.1824	0.0644
Mars	-5797-02-10 05:02 J	-395891.40	-395891.29	-395891.18	0.1700	0.0463
Venus	-5796-10-15 10:04 J	-395278.15	-395278.08	-395278.01	0.3688	0.2759
Jupiter	-5795-12-30 17:45 J	-394836.89	-394836.76	-394836.64	0.0526	0.0099
Jupiter	-5794-03-29 22:33 J	-394747.62	-394747.56	-394747.50	0.0524	0.0449
Saturn	-5794-05-04 19:40 J	-394711.75	-394711.68	-394711.60	0.0260	0.0237
Saturn	-5794-08-01 16:04 J	-394623.01	-394622.83	-394622.66	0.0260	0.0090
Moon	-5794-09-22 23:45 J	-394570.61	-394570.51	-394570.41	0.2715	0.0813
Earth	-5794-09-23 00:28 J	-394570.58	-394570.48	-394570.38	0.2716	0.0759 *
Saturn	-5794-10-29 12:28 J	-394534.17	-394533.98	-394533.80	0.0260	0.0059
Saturn	-5793-01-26 08:38 J	-394445.24	-394445.14	-394445.02	0.0259	0.0209

Uranus -5792-05-28 14:52 J -393956.91 -393956.88 -393956.84 0.0136 0.0130

Uranus -5792-08-24 18:00 J -393868.82 -393868.75 -393868.67 0.0136 0.0112

Uranus -5792-11-20 21:07 J -393780.71 -393780.62 -393780.52 0.0136 0.0094

Uranus -5791-02-17 00:14 J -393692.60 -393692.49 -393692.38 0.0137 0.0076

Uranus -5791-05-16 03:07 J -393604.48 -393604.37 -393604.24 0.0137 0.0058

Uranus -5791-08-12 06:14 J -393516.36 -393516.24 -393516.11 0.0137 0.0039

Uranus -5791-11-08 09:21 J -393428.24 -393428.11 -393427.98 0.0137 0.0021

Uranus -5790-02-04 12:28 J -393340.11 -393339.98 -393339.85 0.0137 0.0002

Uranus -5790-05-03 15:36 J -393251.98 -393251.85 -393251.72 0.0137 0.0017

Uranus -5790-07-30 18:28 J -393163.85 -393163.73 -393163.60 0.0137 0.0035

Uranus -5790-10-26 21:36 J -393075.72 -393075.60 -393075.48 0.0137 0.0054

Uranus -5789-01-23 00:43 J -392987.58 -392987.47 -392987.36 0.0137 0.0072

Uranus -5789-04-20 03:50 J -392899.44 -392899.34 -392899.24 0.0138 0.0091

Uranus -5789-07-17 06:43 J -392811.29 -392811.22 -392811.14 0.0138 0.0110

Mars -5789-08-25 18:14 J -392771.90 -392771.74 -392771.57 0.1817 0.0566

Uranus -5789-10-13 09:50 J -392723.13 -392723.09 -392723.04 0.0138 0.0129

Jupiter -5788-02-16 16:04 J -392597.01 -392596.83 -392596.64 0.0500 0.0084

Mars -5788-07-02 15:50 J -392460.96 -392460.84 -392460.73 0.1705 0.0027

Neptune -5785-12-22 03:36 J -391192.37 -391192.35 -391192.29 0.0088 0.0086

Neptune -5784-03-20 07:11 J -391104.28 -391104.20 -391104.09 0.0088 0.0076

Neptune -5784-06-16 10:48 J -391016.17 -391016.05 -391015.91 0.0088 0.0066

Neptune -5784-09-12 14:23 J -390928.04 -390927.90 -390927.74 0.0088 0.0056

Neptune -5784-12-09 17:45 J -390839.91 -390839.76 -390839.58 0.0088 0.0047

Neptune -5783-03-07 21:21 J -390751.78 -390751.61 -390751.42 0.0088 0.0037

Neptune -5783-06-04 00:57 J -390663.64 -390663.46 -390663.27 0.0088 0.0027

Neptune -5783-08-31 04:33 J -390575.49 -390575.31 -390575.11 0.0088 0.0017

Jupiter -5783-10-18 22:04 J -390526.69 -390526.58 -390526.46 0.0526 0.0235

Neptune -5783-11-27 08:09 J -390487.35 -390487.16 -390486.96 0.0088 0.0007

Jupiter -5782-01-16 03:07 J -390437.47 -390437.37 -390437.27 0.0525 0.0315

Neptune -5782-02-23 11:45 J -390399.20 -390399.01 -390398.81 0.0088 0.0003

Neptune -5782-05-22 15:21 J -390311.05 -390310.86 -390310.66 0.0088 0.0013

Venus -5782-08-15 03:07 J -390226.52 -390226.37 -390226.21 0.3686 0.0231

Neptune -5782-08-18 18:57 J -390222.90 -390222.71 -390222.52 0.0088 0.0023

Neptune -5782-11-14 22:19 J -390134.74 -390134.57 -390134.38 0.0088 0.0033

Neptune -5781-02-11 01:55 J -390046.58 -390046.42 -390046.24 0.0088 0.0043

Neptune -5781-05-09 05:31 J -389958.42 -389958.27 -389958.10 0.0088 0.0053

Neptune -5781-08-05 09:07 J -389870.25 -389870.12 -389869.97 0.0088 0.0063

Moon -5781-09-24 17:31 J -389819.88 -389819.77 -389819.67 0.2722 0.0468

Earth -5781-09-24 17:45 J -389819.86 -389819.76 -389819.65 0.2716 0.0571 *

Neptune -5781-11-01 12:28 J -389782.07 -389781.98 -389781.85 0.0088 0.0073

Neptune -5780-01-28 16:04 J -389693.87 -389693.83 -389693.75 0.0088 0.0083

Mars -5779-01-15 12:57 J -389342.00 -389341.96 -389341.92 0.1809 0.1743

Saturn -5779-05-29 03:07 J -389208.46 -389208.37 -389208.28 0.0302 0.0205

Saturn -5779-08-25 15:50 J -389119.97 -389119.84 -389119.71 0.0302 0.0046

Saturn -5779-11-22 04:19 J -389031.43 -389031.32 -389031.19 0.0303 0.0114

Mars -5779-11-23 02:38 J -389030.50 -389030.39 -389030.28 0.1711 0.0515

Saturn -5778-02-18 16:48 J -388942.85 -388942.80 -388942.74 0.0303 0.0271

Moon -5777-03-22 06:57 J -388545.33 -388545.21 -388545.08 0.2617 0.1690

Earth -5777-03-22 08:38 J -388545.27 -388545.14 -388545.00 0.2618 0.1487 *

Mars -5777-10-28 06:43 J -388325.27 -388325.22 -388325.16 0.1689 0.1453

Jupiter -5777-12-05 13:26 J -388287.10 -388286.94 -388286.78 0.0500 0.0260

Jupiter -5776-03-06 01:26 J -388196.49 -388196.44 -388196.39 0.0502 0.0481

Jupiter -5771-08-07 02:23 J -386216.48 -386216.40 -386216.31 0.0526 0.0374

Jupiter -5771-11-04 07:40 J -386127.30 -386127.18 -386127.06 0.0525 0.0180

Mars -5769-04-14 13:26 J -385600.03 -385599.94 -385599.85 0.1716 0.1016

Moon -5768-09-27 11:16 J -385069.11 -385069.03 -385068.96 0.2723 0.1957

Earth -5768-09-27 11:16 J -385069.11 -385069.03 -385068.96 0.2717 0.1894 *

Mars -5767-03-20 18:00 J -384894.84 -384894.75 -384894.66 0.1694 0.0991

Jupiter -5765-09-23 10:33 J -383977.15 -383977.06 -383976.97 0.0500 0.0434

Saturn -5765-12-18 13:55 J -383891.07 -383890.92 -383890.76 0.0260 0.0142

Jupiter	-5765-12-22 22:19 J	-383886.71	-383886.57	-383886.42	0.0501	0.0302
Saturn	-5764-03-17 10:19 J	-383802.26	-383802.07	-383801.88	0.0259	0.0008
Moon	-5764-03-25 15:50 J	-383793.99	-383793.84	-383793.70	0.2620	0.1103
Earth	-5764-03-25 17:31 J	-383793.91	-383793.77	-383793.63	0.2617	0.1388 *
Saturn	-5764-06-14 06:57 J	-383713.36	-383713.21	-383713.06	0.0259	0.0156
Venus	-5761-03-23 17:31 J	-382699.83	-382699.77	-382699.71	0.3683	0.2940
Moon	-5761-09-20 11:02 J	-382519.11	-382519.04	-382518.96	0.2712	0.1924
Earth	-5761-09-20 11:45 J	-382519.09	-382519.01	-382518.93	0.2715	0.1817 *
Mars	-5760-09-05 00:00 J	-382169.55	-382169.50	-382169.45	0.1722	0.1531
Jupiter	-5759-05-26 06:28 J	-381906.25	-381906.23	-381906.21	0.0527	0.0519
Jupiter	-5759-08-23 11:45 J	-381817.13	-381817.01	-381816.88	0.0525	0.0038
Mars	-5759-10-05 00:57 J	-381774.62	-381774.46	-381774.31	0.1824	0.0758
Mars	-5758-08-11 04:48 J	-381464.40	-381464.30	-381464.19	0.1700	0.0517
Venus	-5756-10-07 09:07 J	-380676.22	-380676.12	-380676.03	0.3684	0.1354
Jupiter	-5753-10-10 18:57 J	-379576.89	-379576.71	-379576.52	0.0501	0.0119
Uranus	-5752-07-02 02:52 J	-379312.43	-379312.38	-379312.29	0.0142	0.0132
Uranus	-5752-09-28 11:31 J	-379224.14	-379224.02	-379223.87	0.0142	0.0101
Uranus	-5752-12-25 20:23 J	-379135.82	-379135.65	-379135.48	0.0142	0.0069
Uranus	-5751-03-24 04:48 J	-379047.49	-379047.30	-379047.11	0.0142	0.0038
Uranus	-5751-06-20 13:11 J	-378959.14	-378958.95	-378958.75	0.0142	0.0008
Uranus	-5751-09-16 21:36 J	-378870.79	-378870.60	-378870.40	0.0142	0.0025
Uranus	-5751-12-14 06:14 J	-378782.42	-378782.24	-378782.06	0.0141	0.0055
Uranus	-5750-03-12 14:38 J	-378694.04	-378693.89	-378693.73	0.0141	0.0086
Venus	-5750-04-23 00:28 J	-378652.58	-378652.48	-378652.37	0.3686	0.0257
Uranus	-5750-06-08 23:02 J	-378605.64	-378605.54	-378605.42	0.0141	0.0117
Saturn	-5750-10-16 04:48 J	-378476.37	-378476.30	-378476.23	0.0302	0.0254
Saturn	-5749-01-12 17:45 J	-378387.89	-378387.76	-378387.64	0.0302	0.0095
Mars	-5749-02-24 19:11 J	-378344.86	-378344.70	-378344.53	0.1817	0.0452
Saturn	-5749-04-10 06:14 J	-378299.36	-378299.24	-378299.11	0.0302	0.0065
Saturn	-5749-07-07 18:57 J	-378210.80	-378210.71	-378210.63	0.0303	0.0223

Mars	-5749-12-31 15:50 J	-378033.95	-378033.84	-378033.72	0.1705	0.0034
Moon	-5748-09-23 04:33 J	-377768.42	-377768.31	-377768.21	0.2717	0.0606
Earth	-5748-09-23 05:16 J	-377768.39	-377768.28	-377768.18	0.2716	0.0505 *
Jupiter	-5747-06-11 16:19 J	-377506.94	-377506.82	-377506.69	0.0526	0.0097
Jupiter	-5747-09-08 21:21 J	-377417.68	-377417.61	-377417.55	0.0524	0.0450
Venus	-5745-11-05 16:04 J	-376628.92	-376628.83	-376628.74	0.3687	0.1760
Jupiter	-5741-07-29 14:38 J	-375267.08	-375266.89	-375266.71	0.0500	0.0079
Mars	-5740-07-16 13:55 J	-374914.99	-374914.92	-374914.84	0.1810	0.1625
Venus	-5739-05-22 07:26 J	-374605.23	-374605.19	-374605.14	0.3689	0.3285
Mars	-5739-05-24 02:38 J	-374603.50	-374603.39	-374603.28	0.1711	0.0461
Mars	-5737-04-28 06:43 J	-373898.26	-373898.22	-373898.17	0.1689	0.1508
Jupiter	-5735-03-30 20:52 J	-373196.74	-373196.63	-373196.51	0.0527	0.0232
Saturn	-5735-05-07 13:55 J	-373159.05	-373158.92	-373158.78	0.0260	0.0179
Jupiter	-5735-06-28 01:55 J	-373107.51	-373107.42	-373107.32	0.0525	0.0320
Saturn	-5735-08-04 10:19 J	-373070.26	-373070.07	-373069.88	0.0260	0.0031
Moon	-5735-09-25 22:04 J	-373017.68	-373017.58	-373017.48	0.2722	0.0830
Earth	-5735-09-25 22:33 J	-373017.66	-373017.56	-373017.46	0.2716	0.0833 *
Saturn	-5735-11-01 06:43 J	-372981.39	-372981.22	-372981.05	0.0260	0.0118
Moon	-5731-03-23 13:40 J	-371743.08	-371742.93	-371742.78	0.2618	0.1121
Earth	-5731-03-23 15:36 J	-371743.00	-371742.85	-371742.69	0.2618	0.0937 *
Mars	-5730-10-14 13:26 J	-371173.04	-371172.94	-371172.85	0.1717	0.0965
Jupiter	-5729-05-17 11:31 J	-370957.18	-370957.02	-370956.86	0.0499	0.0259
Jupiter	-5729-08-15 23:31 J	-370866.57	-370866.52	-370866.47	0.0501	0.0480
Mars	-5728-09-18 17:45 J	-370467.85	-370467.76	-370467.67	0.1694	0.1041
Venus	-5725-03-21 05:45 J	-369553.41	-369553.26	-369553.12	0.3685	0.1476
Jupiter	-5723-01-17 01:11 J	-368886.53	-368886.45	-368886.36	0.0527	0.0370
Jupiter	-5723-04-16 06:28 J	-368797.35	-368797.23	-368797.11	0.0525	0.0185
Earth	-5722-09-28 15:50 J	-368266.90	-368266.84	-368266.77	0.2717	0.2162
Moon	-5722-09-28 16:04 J	-368266.89	-368266.83	-368266.76	0.2723	0.2138 *
Mars	-5720-03-06 00:00 J	-367742.55	-367742.50	-367742.44	0.1722	0.1469

Saturn	-5720-05-31 19:11 J	-367655.82	-367655.70	-367655.59	0.0302	0.0144
Saturn	-5720-08-28 07:55 J	-367567.30	-367567.17	-367567.04	0.0302	0.0016
Saturn	-5720-11-24 20:23 J	-367478.75	-367478.65	-367478.54	0.0302	0.0172
Mars	-5719-04-05 01:40 J	-367347.58	-367347.43	-367347.28	0.1824	0.0865
Mars	-5718-02-09 04:48 J	-367037.40	-367037.30	-367037.19	0.1700	0.0575
Moon	-5718-03-26 22:48 J	-366991.66	-366991.55	-366991.43	0.2620	0.1827
Earth	-5718-03-27 00:28 J	-366991.59	-366991.48	-366991.37	0.2617	0.1948 *
Jupiter	-5717-03-05 08:23 J	-366647.23	-366647.15	-366647.06	0.0499	0.0436
Jupiter	-5717-06-03 20:09 J	-366556.81	-366556.66	-366556.51	0.0501	0.0299
Moon	-5715-09-21 15:50 J	-365716.92	-365716.84	-365716.75	0.2711	0.1608
Earth	-5715-09-21 16:33 J	-365716.90	-365716.81	-365716.72	0.2715	0.1553 *
Jupiter	-5712-11-05 05:31 J	-364576.30	-364576.27	-364576.24	0.0527	0.0509
Jupiter	-5711-02-02 11:02 J	-364487.17	-364487.04	-364486.92	0.0525	0.0051
Mars	-5710-08-25 19:55 J	-363917.84	-363917.67	-363917.50	0.1817	0.0352
Mars	-5709-07-01 15:50 J	-363606.95	-363606.84	-363606.73	0.1705	0.0090
Uranus	-5708-06-17 22:48 J	-363255.60	-363255.55	-363255.50	0.0136	0.0123
Uranus	-5708-09-14 01:40 J	-363167.50	-363167.43	-363167.34	0.0136	0.0105
Uranus	-5708-12-11 04:48 J	-363079.39	-363079.30	-363079.20	0.0136	0.0087
Uranus	-5707-03-09 07:55 J	-362991.28	-362991.17	-362991.06	0.0136	0.0069
Uranus	-5707-06-05 11:02 J	-362903.16	-362903.04	-362902.92	0.0137	0.0051
Uranus	-5707-09-01 13:55 J	-362815.04	-362814.92	-362814.79	0.0137	0.0033
Uranus	-5707-11-28 17:02 J	-362726.92	-362726.79	-362726.66	0.0137	0.0014
Uranus	-5706-02-24 20:09 J	-362638.79	-362638.66	-362638.53	0.0137	0.0005
Uranus	-5706-05-23 23:16 J	-362550.66	-362550.53	-362550.40	0.0137	0.0023
Uranus	-5706-08-20 02:09 J	-362462.53	-362462.41	-362462.28	0.0137	0.0042
Saturn	-5706-09-24 12:14 J	-362427.07	-362426.99	-362426.89	0.0260	0.0228
Uranus	-5706-11-16 05:16 J	-362374.39	-362374.28	-362374.16	0.0137	0.0060
Saturn	-5706-12-22 08:38 J	-362338.32	-362338.14	-362337.95	0.0260	0.0080
Uranus	-5705-02-12 08:23 J	-362286.26	-362286.15	-362286.04	0.0137	0.0079
Saturn	-5705-03-20 05:16 J	-362249.47	-362249.28	-362249.10	0.0260	0.0069

Jupiter -5705-03-22 17:02 J -362246.97 -362246.79 -362246.60 0.0501 0.0119

Uranus -5705-05-10 11:16 J -362198.11 -362198.03 -362197.93 0.0138 0.0098

Saturn -5705-06-17 01:55 J -362160.52 -362160.42 -362160.32 0.0260 0.0219

Uranus -5705-08-06 14:23 J -362109.96 -362109.90 -362109.83 0.0138 0.0116

Venus -5705-10-28 14:52 J -362026.96 -362026.88 -362026.80 0.3683 0.2377

Uranus -5705-11-02 17:31 J -362021.79 -362021.77 -362021.74 0.0138 0.0135

Neptune -5703-07-07 09:50 J -361410.11 -361410.09 -361410.05 0.0089 0.0086

Neptune -5703-10-03 11:02 J -361322.08 -361322.04 -361321.96 0.0089 0.0080

Neptune -5703-12-30 12:43 J -361234.04 -361233.97 -361233.89 0.0089 0.0072

Neptune -5702-03-28 14:09 J -361146.00 -361145.91 -361145.82 0.0089 0.0065

Neptune -5702-06-24 15:21 J -361057.95 -361057.86 -361057.75 0.0089 0.0058

Neptune -5702-09-20 16:48 J -360969.91 -360969.80 -360969.69 0.0089 0.0050

Moon -5702-09-24 09:21 J -360966.22 -360966.11 -360966.01 0.2719 0.0321

Earth -5702-09-24 09:50 J -360966.19 -360966.09 -360965.98 0.2716 0.0247 *

Neptune -5702-12-17 18:00 J -360881.86 -360881.75 -360881.63 0.0089 0.0044

Neptune -5701-03-14 19:26 J -360793.81 -360793.69 -360793.56 0.0089 0.0036

Neptune -5701-06-10 20:38 J -360705.75 -360705.64 -360705.50 0.0089 0.0030

Neptune -5701-09-06 22:04 J -360617.70 -360617.58 -360617.44 0.0089 0.0022

Neptune -5701-12-03 23:31 J -360529.65 -360529.52 -360529.39 0.0089 0.0015

Mars -5700-01-14 14:52 J -360487.97 -360487.88 -360487.79 0.1810 0.1515

Neptune -5700-03-02 00:57 J -360441.59 -360441.46 -360441.33 0.0089 0.0008

Neptune -5700-05-29 02:09 J -360353.54 -360353.41 -360353.27 0.0089 0.0002

Neptune -5700-08-25 03:36 J -360265.48 -360265.35 -360265.22 0.0089 0.0007

Neptune -5700-11-21 04:48 J -360177.43 -360177.30 -360177.16 0.0089 0.0014

Jupiter -5700-11-21 14:52 J -360177.00 -360176.88 -360176.75 0.0526 0.0097

Mars -5700-11-22 02:38 J -360176.50 -360176.39 -360176.28 0.1711 0.0406

Neptune -5699-02-17 06:14 J -360089.37 -360089.24 -360089.11 0.0089 0.0021

Jupiter -5699-02-18 19:55 J -360087.73 -360087.67 -360087.61 0.0524 0.0450

Venus -5699-05-14 06:28 J -360003.33 -360003.23 -360003.13 0.3685 0.0804

Neptune -5699-05-16 07:26 J -360001.31 -360001.19 -360001.06 0.0089 0.0028

Neptune -5699-08-12 08:52 J -359913.25 -359913.13 -359913.01 0.0089 0.0035

Neptune -5699-11-08 10:04 J -359825.19 -359825.08 -359824.96 0.0089 0.0042

Neptune -5698-02-04 11:16 J -359737.13 -359737.03 -359736.91 0.0089 0.0049

Neptune -5698-05-03 12:43 J -359649.07 -359648.97 -359648.86 0.0089 0.0056

Neptune -5698-07-30 13:55 J -359561.00 -359560.92 -359560.82 0.0089 0.0063

Neptune -5698-10-26 15:07 J -359472.93 -359472.87 -359472.78 0.0089 0.0071

Mars -5698-10-28 06:43 J -359471.26 -359471.22 -359471.18 0.1689 0.1560

Neptune -5697-01-22 16:33 J -359384.86 -359384.81 -359384.74 0.0089 0.0077

Neptune -5697-04-19 17:45 J -359296.79 -359296.76 -359296.70 0.0089 0.0085

Pluto -5697-07-30 14:38 J -359194.92 -359194.89 -359194.82 0.0072 0.0067

Pluto -5697-10-26 16:04 J -359106.91 -359106.83 -359106.74 0.0072 0.0058

Pluto -5696-01-22 16:48 J -359018.89 -359018.80 -359018.68 0.0072 0.0050

Pluto -5696-04-20 18:00 J -358930.86 -358930.75 -358930.62 0.0072 0.0041

Pluto -5696-07-17 19:11 J -358842.83 -358842.70 -358842.56 0.0072 0.0032

Pluto -5696-10-13 20:09 J -358754.79 -358754.66 -358754.51 0.0072 0.0024

Pluto -5695-01-09 21:21 J -358666.75 -358666.61 -358666.46 0.0073 0.0014

Pluto -5695-04-07 22:33 J -358578.71 -358578.56 -358578.41 0.0073 0.0005

Pluto -5695-07-04 23:31 J -358490.66 -358490.52 -358490.37 0.0073 0.0004

Pluto -5695-10-01 00:43 J -358402.61 -358402.47 -358402.32 0.0073 0.0013

Pluto -5695-12-28 01:40 J -358314.56 -358314.43 -358314.28 0.0073 0.0022

Pluto -5694-03-26 02:52 J -358226.51 -358226.38 -358226.24 0.0073 0.0032

Pluto -5694-06-22 03:50 J -358138.45 -358138.34 -358138.20 0.0073 0.0041

Pluto -5694-09-18 05:02 J -358050.39 -358050.29 -358050.17 0.0073 0.0051

Venus -5694-11-27 22:04 J -357979.68 -357979.58 -357979.48 0.3686 0.0760

Pluto -5694-12-15 06:00 J -357962.32 -357962.25 -357962.15 0.0074 0.0061

Jupiter -5693-01-09 13:40 J -357937.11 -357936.93 -357936.74 0.0500 0.0065

Pluto -5693-03-12 07:26 J -357874.23 -357874.19 -357874.14 0.0074 0.0070

Saturn -5691-10-18 21:07 J -356923.71 -356923.62 -356923.51 0.0302 0.0189

Saturn -5690-01-15 10:04 J -356835.21 -356835.08 -356834.95 0.0302 0.0030

Saturn -5690-04-13 22:33 J -356746.67 -356746.56 -356746.44 0.0302 0.0129

Mars	-5690-04-14 13:26 J	-356746.04	-356745.94	-356745.85	0.1716	0.0906
Saturn	-5690-07-11 11:02 J	-356658.07	-356658.04	-356658.00	0.0302	0.0285
Moon	-5689-09-26 02:52 J	-356215.47	-356215.38	-356215.28	0.2722	0.1023
Earth	-5689-09-26 03:21 J	-356215.46	-356215.36	-356215.27	0.2716	0.1102 *
Mars	-5688-03-19 17:45 J	-356040.84	-356040.76	-356040.67	0.1694	0.1097
Venus	-5688-06-12 13:26 J	-355956.02	-355955.94	-355955.86	0.3688	0.2288
Jupiter	-5688-09-09 19:26 J	-355866.80	-355866.69	-355866.58	0.0526	0.0233
Jupiter	-5688-12-08 00:28 J	-355777.58	-355777.48	-355777.38	0.0525	0.0318
Moon	-5685-03-23 20:38 J	-354940.80	-354940.64	-354940.48	0.2618	0.0660
Earth	-5685-03-23 22:33 J	-354940.72	-354940.56	-354940.40	0.2618	0.0378 *
Moon	-5682-09-20 03:36 J	-353665.38	-353665.35	-353665.33	0.2709	0.2594
Earth	-5682-09-20 03:50 J	-353665.36	-353665.34	-353665.31	0.2715	0.2608 *
Jupiter	-5682-10-28 09:36 J	-353627.26	-353627.10	-353626.94	0.0499	0.0257
Jupiter	-5681-01-26 21:21 J	-353536.65	-353536.61	-353536.56	0.0501	0.0480
Mars	-5681-09-04 00:00 J	-353315.56	-353315.50	-353315.44	0.1722	0.1418
Mars	-5680-10-04 02:38 J	-352920.54	-352920.39	-352920.25	0.1824	0.0977
Mars	-5679-08-10 04:48 J	-352610.40	-352610.30	-352610.19	0.1699	0.0625
Saturn	-5676-05-10 09:07 J	-351606.29	-351606.12	-351605.95	0.0260	0.0114
Jupiter	-5676-06-28 23:45 J	-351556.60	-351556.51	-351556.42	0.0527	0.0372
Saturn	-5676-08-07 05:31 J	-351517.46	-351517.27	-351517.08	0.0260	0.0035
Jupiter	-5676-09-26 05:02 J	-351467.41	-351467.29	-351467.17	0.0526	0.0184
Earth	-5676-09-28 20:38 J	-351464.68	-351464.64	-351464.59	0.2717	0.2424
Moon	-5676-09-28 20:52 J	-351464.66	-351464.63	-351464.59	0.2723	0.2522 *
Saturn	-5676-11-04 01:55 J	-351428.54	-351428.42	-351428.28	0.0260	0.0185
Venus	-5674-04-11 22:04 J	-350904.71	-350904.58	-350904.45	0.3687	0.2089
Moon	-5672-03-27 06:00 J	-350189.32	-350189.25	-350189.18	0.2621	0.2331
Earth	-5672-03-27 07:11 J	-350189.24	-350189.20	-350189.15	0.2617	0.2494 *
Mars	-5670-02-23 20:52 J	-349490.80	-349490.63	-349490.46	0.1817	0.0236
Jupiter	-5670-08-16 06:14 J	-349317.32	-349317.24	-349317.15	0.0499	0.0437
Jupiter	-5670-11-14 17:45 J	-349226.90	-349226.76	-349226.60	0.0500	0.0296

Mars	-5670-12-31 15:50 J	-349179.96	-349179.84	-349179.73	0.1705	0.0147
Moon	-5669-09-21 20:38 J	-348914.73	-348914.64	-348914.55	0.2712	0.1412
Earth	-5669-09-21 21:21 J	-348914.71	-348914.61	-348914.52	0.2715	0.1284 *
Venus	-5669-10-26 08:09 J	-348880.24	-348880.16	-348880.08	0.3685	0.3167
Uranus	-5668-07-22 11:16 J	-348611.12	-348611.03	-348610.92	0.0142	0.0122
Uranus	-5668-10-18 19:55 J	-348522.82	-348522.67	-348522.52	0.0142	0.0090
Uranus	-5667-01-15 04:19 J	-348434.49	-348434.32	-348434.13	0.0142	0.0059
Uranus	-5667-04-13 12:57 J	-348346.15	-348345.96	-348345.77	0.0142	0.0028
Uranus	-5667-07-10 21:21 J	-348257.80	-348257.61	-348257.41	0.0142	0.0005
Uranus	-5667-10-07 06:00 J	-348169.44	-348169.25	-348169.06	0.0142	0.0035
Uranus	-5666-01-03 14:23 J	-348081.07	-348080.90	-348080.72	0.0142	0.0066
Uranus	-5666-04-01 22:48 J	-347992.69	-347992.55	-347992.40	0.0141	0.0097
Uranus	-5666-06-29 07:11 J	-347904.27	-347904.20	-347904.11	0.0141	0.0128
Jupiter	-5664-04-17 04:04 J	-347246.36	-347246.33	-347246.30	0.0527	0.0511
Jupiter	-5664-07-15 09:36 J	-347157.23	-347157.10	-347156.98	0.0526	0.0049
Saturn	-5661-03-06 23:16 J	-346191.61	-346191.53	-346191.45	0.0301	0.0233
Saturn	-5661-06-03 12:00 J	-346103.13	-346103.00	-346102.87	0.0302	0.0074
Mars	-5661-07-15 15:36 J	-346060.96	-346060.85	-346060.75	0.1810	0.1417
Saturn	-5661-08-31 00:43 J	-346014.60	-346014.47	-346014.35	0.0302	0.0084
Saturn	-5661-11-27 13:11 J	-345926.03	-345925.95	-345925.87	0.0302	0.0241
Mars	-5660-05-23 02:38 J	-345749.50	-345749.39	-345749.28	0.1711	0.0347
Mars	-5658-04-28 06:43 J	-345044.25	-345044.22	-345044.19	0.1689	0.1613
Jupiter	-5658-09-02 14:38 J	-344917.07	-344916.89	-344916.71	0.0500	0.0112
Moon	-5656-09-24 14:09 J	-344164.02	-344163.91	-344163.81	0.2720	0.0064
Earth	-5656-09-24 14:38 J	-344163.99	-344163.89	-344163.78	0.2716	0.0069 *
Venus	-5654-11-19 20:38 J	-343377.67	-343377.64	-343377.60	0.3682	0.3409
Jupiter	-5652-05-03 13:55 J	-342847.05	-342846.92	-342846.80	0.0526	0.0091
Jupiter	-5652-07-31 18:43 J	-342757.78	-342757.72	-342757.66	0.0524	0.0456
Mars	-5651-10-13 13:26 J	-342319.04	-342318.94	-342318.84	0.1716	0.0849
Mars	-5649-09-17 17:45 J	-341613.84	-341613.76	-341613.67	0.1694	0.1154

Venus	-5648-06-04 12:14 J	-341354.07	-341353.99	-341353.90	0.3684	0.1832
Saturn	-5647-09-27 08:09 J	-340874.31	-340874.16	-340874.01	0.0260	0.0159
Saturn	-5647-12-25 04:33 J	-340785.50	-340785.31	-340785.12	0.0260	0.0011
Saturn	-5646-03-24 01:11 J	-340696.61	-340696.45	-340696.29	0.0260	0.0139
Jupiter	-5646-06-21 11:31 J	-340607.21	-340607.02	-340606.84	0.0500	0.0069
Moon	-5643-09-27 07:55 J	-339413.26	-339413.17	-339413.08	0.2722	0.1354
Earth	-5643-09-27 08:09 J	-339413.26	-339413.16	-339413.07	0.2716	0.1368 *
Venus	-5643-12-19 03:50 J	-339330.44	-339330.34	-339330.23	0.3685	0.0285
Mars	-5641-03-05 00:00 J	-338888.57	-338888.50	-338888.43	0.1722	0.1358
Jupiter	-5640-02-19 17:45 J	-338536.87	-338536.76	-338536.64	0.0526	0.0237
Mars	-5640-04-04 03:36 J	-338493.48	-338493.35	-338493.21	0.1825	0.1099
Jupiter	-5640-05-19 22:48 J	-338447.65	-338447.55	-338447.45	0.0525	0.0314
Mars	-5639-02-08 04:48 J	-338183.40	-338183.30	-338183.19	0.1699	0.0680
Moon	-5639-03-25 03:36 J	-338138.52	-338138.35	-338138.19	0.2618	0.0058
Earth	-5639-03-25 05:31 J	-338138.44	-338138.27	-338138.11	0.2618	0.0183 *
Venus	-5637-07-03 19:26 J	-337306.79	-337306.69	-337306.59	0.3687	0.1292
Moon	-5636-09-20 08:09 J	-336863.20	-336863.16	-336863.11	0.2709	0.2458
Earth	-5636-09-20 08:38 J	-336863.19	-336863.14	-336863.09	0.2715	0.2341 *
Jupiter	-5634-04-09 08:09 J	-336297.32	-336297.16	-336297.00	0.0500	0.0250
Jupiter	-5634-07-08 20:09 J	-336206.70	-336206.66	-336206.62	0.0501	0.0490
Saturn	-5632-07-25 01:40 J	-335459.48	-335459.43	-335459.37	0.0302	0.0272
Saturn	-5632-10-21 14:23 J	-335371.01	-335370.90	-335370.77	0.0302	0.0114
Venus	-5631-01-17 10:48 J	-335283.11	-335283.05	-335282.98	0.3688	0.2824
Saturn	-5631-01-18 03:07 J	-335282.50	-335282.37	-335282.24	0.0302	0.0045
Saturn	-5631-04-16 15:36 J	-335193.94	-335193.85	-335193.75	0.0302	0.0202
Mars	-5631-08-24 21:50 J	-335063.76	-335063.59	-335063.42	0.1817	0.0126
Mars	-5630-07-01 15:50 J	-334752.96	-334752.84	-334752.73	0.1705	0.0209
Earth	-5630-09-30 01:26 J	-334662.45	-334662.44	-334662.43	0.2717	0.2692
Moon	-5630-09-30 01:40 J	-334662.43	-334662.43	-334662.42	0.2723	0.2706 *
Jupiter	-5629-12-08 22:04 J	-334226.67	-334226.58	-334226.49	0.0527	0.0377

Jupiter -5628-03-08 03:21 J -334137.48 -334137.36 -334137.24 0.0525 0.0178

Uranus -5624-04-11 03:07 J -332642.37 -332642.37 -332642.34 0.0136 0.0135

Uranus -5624-07-08 06:28 J -332554.29 -332554.23 -332554.16 0.0136 0.0116

Uranus -5624-10-04 09:36 J -332466.19 -332466.10 -332466.01 0.0136 0.0098

Uranus -5624-12-31 12:28 J -332378.08 -332377.98 -332377.87 0.0136 0.0080

Uranus -5623-03-29 15:36 J -332289.96 -332289.85 -332289.73 0.0136 0.0062

Uranus -5623-06-25 18:43 J -332201.84 -332201.72 -332201.60 0.0137 0.0044

Uranus -5623-09-21 21:50 J -332113.72 -332113.59 -332113.47 0.0137 0.0026

Moon -5623-09-23 01:26 J -332112.54 -332112.44 -332112.34 0.2714 0.1052

Earth -5623-09-23 02:09 J -332112.51 -332112.41 -332112.31 0.2715 0.1020 *

Uranus -5623-12-19 00:43 J -332025.60 -332025.47 -332025.34 0.0137 0.0008

Jupiter -5622-01-26 04:04 J -331987.41 -331987.33 -331987.24 0.0499 0.0440

Uranus -5622-03-17 03:50 J -331937.47 -331937.34 -331937.21 0.0137 0.0011

Jupiter -5622-04-26 15:36 J -331897.00 -331896.85 -331896.69 0.0500 0.0292

Uranus -5622-06-13 06:57 J -331849.34 -331849.21 -331849.09 0.0137 0.0030

Uranus -5622-09-09 09:50 J -331761.21 -331761.09 -331760.96 0.0137 0.0048

Uranus -5622-12-06 12:57 J -331673.07 -331672.96 -331672.84 0.0137 0.0067

Mars -5621-01-14 16:33 J -331633.93 -331633.81 -331633.70 0.1810 0.1304

Uranus -5621-03-03 15:50 J -331584.93 -331584.84 -331584.73 0.0137 0.0086

Uranus -5621-05-30 18:57 J -331496.79 -331496.71 -331496.62 0.0137 0.0104

Uranus -5621-08-26 22:04 J -331408.63 -331408.58 -331408.52 0.0138 0.0122

Mars -5621-11-21 02:38 J -331322.51 -331322.39 -331322.28 0.1710 0.0297

Neptune -5620-09-18 00:57 J -331021.50 -331021.46 -331021.42 0.0088 0.0085

Neptune -5620-12-15 04:04 J -330933.41 -330933.33 -330933.22 0.0088 0.0076

Neptune -5619-03-13 07:40 J -330845.29 -330845.18 -330845.04 0.0088 0.0066

Neptune -5619-06-09 11:16 J -330757.17 -330757.03 -330756.87 0.0088 0.0056

Neptune -5619-09-05 14:52 J -330669.04 -330668.88 -330668.71 0.0088 0.0046

Mars -5619-10-27 06:43 J -330617.23 -330617.22 -330617.21 0.1689 0.1665

Neptune -5619-12-02 18:14 J -330580.90 -330580.74 -330580.55 0.0088 0.0037

Neptune -5618-02-28 21:50 J -330492.76 -330492.59 -330492.39 0.0088 0.0027

Neptune -5618-05-28 01:26 J -330404.62 -330404.44 -330404.24 0.0088 0.0017

Neptune -5618-08-24 05:16 J -330316.48 -330316.28 -330316.09 0.0088 0.0007

Venus -5618-11-17 00:14 J -330231.64 -330231.49 -330231.33 0.3686 0.0462

Neptune -5618-11-20 08:52 J -330228.33 -330228.13 -330227.94 0.0088 0.0003

Saturn -5617-02-14 08:52 J -330142.25 -330142.13 -330141.99 0.0261 0.0190

Neptune -5617-02-16 12:28 J -330140.18 -330139.98 -330139.79 0.0088 0.0013

Saturn -5617-05-13 05:31 J -330053.46 -330053.27 -330053.09 0.0260 0.0042

Neptune -5617-05-14 15:50 J -330052.02 -330051.84 -330051.65 0.0088 0.0023

Saturn -5617-08-10 01:55 J -329964.59 -329964.42 -329964.25 0.0260 0.0108

Neptune -5617-08-10 19:26 J -329963.87 -329963.69 -329963.51 0.0088 0.0033

Jupiter -5617-09-27 02:09 J -329916.42 -329916.41 -329916.39 0.0528 0.0520

Neptune -5617-11-06 22:48 J -329875.71 -329875.55 -329875.37 0.0088 0.0043

Saturn -5617-11-06 22:19 J -329875.57 -329875.57 -329875.54 0.0260 0.0259 *

Jupiter -5617-12-25 07:40 J -329827.30 -329827.18 -329827.05 0.0526 0.0041

Neptune -5616-02-03 02:23 J -329787.54 -329787.40 -329787.23 0.0088 0.0053

Neptune -5616-05-02 06:00 J -329699.37 -329699.25 -329699.10 0.0088 0.0063

Neptune -5616-07-29 09:36 J -329611.20 -329611.10 -329610.98 0.0088 0.0073

Neptune -5616-10-25 13:11 J -329523.00 -329522.95 -329522.88 0.0088 0.0083

Pluto -5612-09-30 10:04 J -328087.15 -328087.08 -328086.98 0.0073 0.0063

Pluto -5612-12-27 11:45 J -327999.11 -327999.01 -327998.88 0.0072 0.0052

Pluto -5611-03-25 13:40 J -327911.06 -327910.93 -327910.78 0.0072 0.0042

Mars -5611-04-13 13:26 J -327892.05 -327891.94 -327891.84 0.1716 0.0795

Pluto -5611-06-21 15:21 J -327823.01 -327822.86 -327822.70 0.0072 0.0031

Pluto -5611-09-17 17:02 J -327734.95 -327734.79 -327734.62 0.0072 0.0021

Pluto -5611-12-14 18:43 J -327646.88 -327646.72 -327646.55 0.0072 0.0011

Jupiter -5610-02-12 12:00 J -327587.18 -327587.00 -327586.81 0.0500 0.0107

Pluto -5610-03-12 20:23 J -327558.82 -327558.65 -327558.48 0.0072 0.0001

Pluto -5610-06-08 21:50 J -327470.75 -327470.59 -327470.41 0.0072 0.0010

Pluto -5610-09-04 23:31 J -327382.68 -327382.52 -327382.35 0.0072 0.0019

Moon -5610-09-25 18:57 J -327361.82 -327361.71 -327361.61 0.2720 0.0211

Earth	-5610-09-25 19:26 J	-327361.80	-327361.69	-327361.58	0.2716	0.0310 *
Pluto	-5610-12-02 00:57 J	-327294.60	-327294.46	-327294.29	0.0071	0.0029
Pluto	-5609-02-28 02:23 J	-327206.52	-327206.40	-327206.24	0.0071	0.0039
Mars	-5609-03-18 17:45 J	-327186.84	-327186.76	-327186.68	0.1694	0.1204
Pluto	-5609-05-26 04:04 J	-327118.44	-327118.33	-327118.20	0.0071	0.0049
Pluto	-5609-08-22 05:31 J	-327030.35	-327030.27	-327030.16	0.0071	0.0058
Pluto	-5609-11-18 07:26 J	-326942.24	-326942.19	-326942.14	0.0071	0.0067
Moon	-5606-03-23 01:40 J	-326087.51	-326087.43	-326087.34	0.2617	0.2245
Earth	-5606-03-23 03:36 J	-326087.44	-326087.35	-326087.25	0.2618	0.2139 *
Jupiter	-5605-10-13 12:14 J	-325517.12	-325516.99	-325516.87	0.0526	0.0099
Jupiter	-5604-01-10 17:02 J	-325427.85	-325427.79	-325427.73	0.0525	0.0450
Saturn	-5602-03-10 17:02 J	-324638.90	-324638.79	-324638.67	0.0301	0.0151
Saturn	-5602-06-07 05:45 J	-324550.39	-324550.26	-324550.13	0.0302	0.0009
Saturn	-5602-09-03 18:14 J	-324461.84	-324461.74	-324461.63	0.0302	0.0165
Mars	-5602-09-04 00:00 J	-324461.57	-324461.50	-324461.43	0.1722	0.1300
Mars	-5601-10-03 04:04 J	-324066.45	-324066.33	-324066.20	0.1825	0.1196
Mars	-5600-08-09 04:48 J	-323756.40	-323756.30	-323756.20	0.1699	0.0733
Jupiter	-5599-12-01 08:38 J	-323277.33	-323277.14	-323276.96	0.0500	0.0080
Venus	-5597-06-25 18:14 J	-322704.81	-322704.74	-322704.68	0.3683	0.2853
Moon	-5597-09-27 12:43 J	-322611.05	-322610.97	-322610.88	0.2723	0.1645
Earth	-5597-09-27 12:43 J	-322611.05	-322610.97	-322610.88	0.2716	0.1636 *
Moon	-5593-03-25 10:48 J	-321336.22	-321336.05	-321335.89	0.2619	0.0456
Earth	-5593-03-25 12:28 J	-321336.14	-321335.98	-321335.83	0.2617	0.0740 *
Jupiter	-5593-08-01 16:33 J	-321206.93	-321206.81	-321206.70	0.0526	0.0236
Jupiter	-5593-10-29 21:36 J	-321117.70	-321117.60	-321117.50	0.0525	0.0315
Venus	-5591-01-09 09:50 J	-320681.19	-320681.09	-320680.99	0.3684	0.1275
Mars	-5591-02-22 22:33 J	-320636.73	-320636.56	-320636.39	0.1818	0.0020
Mars	-5591-12-30 15:50 J	-320325.96	-320325.84	-320325.73	0.1705	0.0259
Moon	-5590-09-21 12:57 J	-320061.03	-320060.96	-320060.89	0.2709	0.2075
Earth	-5590-09-21 13:26 J	-320061.01	-320060.94	-320060.87	0.2715	0.2077 *

Saturn	-5588-07-03 08:23 J	-319410.23	-319410.15	-319410.06	0.0260	0.0232
Saturn	-5588-09-30 04:48 J	-319321.47	-319321.30	-319321.12	0.0260	0.0084
Saturn	-5588-12-28 01:26 J	-319232.63	-319232.44	-319232.26	0.0260	0.0066
Saturn	-5587-03-26 22:04 J	-319143.69	-319143.58	-319143.48	0.0260	0.0216
Jupiter	-5587-09-19 05:16 J	-318967.44	-318967.28	-318967.12	0.0500	0.0260
Jupiter	-5587-12-18 17:16 J	-318876.83	-318876.78	-318876.73	0.0501	0.0480
Venus	-5586-07-26 01:26 J	-318657.54	-318657.44	-318657.34	0.3686	0.0300
Uranus	-5584-08-11 19:11 J	-317909.82	-317909.70	-317909.58	0.0142	0.0113
Uranus	-5584-11-08 03:36 J	-317821.50	-317821.35	-317821.18	0.0142	0.0081
Uranus	-5583-02-04 12:14 J	-317733.17	-317732.99	-317732.81	0.0142	0.0050
Uranus	-5583-05-03 20:38 J	-317644.83	-317644.64	-317644.44	0.0142	0.0019
Uranus	-5583-07-31 05:16 J	-317556.48	-317556.28	-317556.08	0.0142	0.0012
Uranus	-5583-10-27 13:40 J	-317468.11	-317467.93	-317467.74	0.0142	0.0044
Uranus	-5582-01-23 22:04 J	-317379.74	-317379.58	-317379.41	0.0142	0.0075
Uranus	-5582-04-22 06:28 J	-317291.35	-317291.23	-317291.09	0.0141	0.0106
Mars	-5582-07-15 17:31 J	-317206.89	-317206.77	-317206.64	0.1810	0.1185
Uranus	-5582-07-19 14:52 J	-317202.91	-317202.88	-317202.82	0.0141	0.0137
Jupiter	-5581-05-20 20:23 J	-316896.74	-316896.65	-316896.57	0.0527	0.0383
Mars	-5581-05-22 02:38 J	-316895.51	-316895.39	-316895.28	0.1710	0.0244
Jupiter	-5581-08-18 01:40 J	-316807.55	-316807.43	-316807.32	0.0525	0.0172
Venus	-5580-02-07 16:48 J	-316633.88	-316633.80	-316633.71	0.3687	0.1831
Moon	-5577-09-23 06:14 J	-315310.34	-315310.24	-315310.14	0.2716	0.0912
Earth	-5577-09-23 06:43 J	-315310.32	-315310.22	-315310.11	0.2715	0.0757 *
Jupiter	-5575-07-08 02:09 J	-314657.50	-314657.41	-314657.32	0.0499	0.0439
Venus	-5575-08-24 08:23 J	-314610.19	-314610.15	-314610.11	0.3689	0.3353
Jupiter	-5575-10-06 13:40 J	-314567.08	-314566.93	-314566.78	0.0501	0.0294
Saturn	-5573-07-27 19:40 J	-313906.78	-313906.68	-313906.58	0.0302	0.0189
Saturn	-5573-10-24 08:23 J	-313818.28	-313818.15	-313818.02	0.0302	0.0031
Saturn	-5572-01-20 21:07 J	-313729.74	-313729.62	-313729.51	0.0302	0.0127
Saturn	-5572-04-19 09:36 J	-313641.14	-313641.10	-313641.06	0.0302	0.0283

Mars	-5572-10-12 13:11 J	-313465.05	-313464.95	-313464.84	0.1716	0.0741
Mars	-5570-09-17 17:45 J	-312759.84	-312759.76	-312759.69	0.1694	0.1256
Jupiter	-5569-03-09 00:28 J	-312586.49	-312586.48	-312586.48	0.0527	0.0526
Jupiter	-5569-06-06 05:45 J	-312497.38	-312497.26	-312497.13	0.0526	0.0038
Moon	-5564-09-25 23:45 J	-310559.62	-310559.51	-310559.41	0.2720	0.0553
Earth	-5564-09-26 00:14 J	-310559.60	-310559.49	-310559.39	0.2716	0.0578 *
Jupiter	-5563-07-25 09:36 J	-310257.28	-310257.10	-310256.92	0.0500	0.0099
Mars	-5562-03-05 00:00 J	-310034.58	-310034.50	-310034.43	0.1722	0.1248
Mars	-5561-04-03 05:16 J	-309639.40	-309639.28	-309639.16	0.1825	0.1316
Venus	-5561-06-23 02:38 J	-309558.54	-309558.39	-309558.24	0.3686	0.1202
Mars	-5560-02-07 04:48 J	-309329.40	-309329.30	-309329.20	0.1699	0.0788
Moon	-5560-03-23 08:38 J	-309285.25	-309285.14	-309285.03	0.2617	0.1915
Earth	-5560-03-23 10:33 J	-309285.19	-309285.06	-309284.93	0.2618	0.1589 *
Saturn	-5559-11-20 09:36 J	-308678.10	-308678.10	-308678.08	0.0261	0.0260
Saturn	-5558-02-17 06:00 J	-308589.41	-308589.25	-308589.07	0.0261	0.0112
Saturn	-5558-05-17 02:38 J	-308500.58	-308500.39	-308500.20	0.0261	0.0038
Saturn	-5558-08-13 23:02 J	-308411.66	-308411.54	-308411.40	0.0260	0.0188
Jupiter	-5557-03-25 10:04 J	-308187.20	-308187.08	-308186.96	0.0527	0.0109
Jupiter	-5557-06-22 15:07 J	-308097.94	-308097.87	-308097.80	0.0525	0.0440
Mars	-5552-08-23 23:31 J	-306209.69	-306209.52	-306209.35	0.1818	0.0104
Jupiter	-5551-05-13 06:00 J	-305947.43	-305947.25	-305947.07	0.0499	0.0086
Mars	-5551-06-30 15:36 J	-305898.96	-305898.85	-305898.73	0.1705	0.0311
Moon	-5551-09-28 17:31 J	-305808.84	-305808.77	-305808.69	0.2724	0.1890
Earth	-5551-09-28 17:31 J	-305808.84	-305808.77	-305808.69	0.2716	0.1905 *
Moon	-5547-03-26 17:45 J	-304533.90	-304533.76	-304533.61	0.2621	0.1230
Earth	-5547-03-26 19:26 J	-304533.84	-304533.69	-304533.55	0.2617	0.1301 *
Jupiter	-5545-01-12 14:23 J	-303877.01	-303876.90	-303876.79	0.0527	0.0248
Jupiter	-5545-04-10 19:40 J	-303787.79	-303787.68	-303787.58	0.0525	0.0305
Moon	-5544-09-21 17:45 J	-303258.84	-303258.76	-303258.69	0.2710	0.1924
Earth	-5544-09-21 18:14 J	-303258.82	-303258.74	-303258.66	0.2715	0.1810 *

Saturn	-5544-12-14 22:48 J	-303174.64	-303174.55	-303174.46	0.0301	0.0221
Saturn	-5543-03-13 11:31 J	-303086.15	-303086.02	-303085.89	0.0301	0.0063
Saturn	-5543-06-10 00:14 J	-302997.62	-302997.49	-302997.37	0.0302	0.0094
Saturn	-5543-09-06 12:28 J	-302909.04	-302908.98	-302908.90	0.0302	0.0251
Mars	-5542-01-13 18:00 J	-302779.88	-302779.75	-302779.61	0.1810	0.1097
Mars	-5542-11-21 02:38 J	-302468.51	-302468.39	-302468.28	0.1710	0.0184
Venus	-5540-01-30 15:36 J	-302031.93	-302031.85	-302031.77	0.3683	0.2297
Uranus	-5540-05-01 11:16 J	-301941.07	-301941.03	-301940.99	0.0136	0.0127
Uranus	-5540-07-28 14:09 J	-301852.98	-301852.91	-301852.83	0.0136	0.0109
Uranus	-5540-10-24 17:16 J	-301764.87	-301764.78	-301764.68	0.0136	0.0091
Uranus	-5539-01-20 20:23 J	-301676.76	-301676.65	-301676.54	0.0136	0.0073
Jupiter	-5539-03-01 02:09 J	-301637.56	-301637.41	-301637.25	0.0499	0.0273
Uranus	-5539-04-18 23:16 J	-301588.64	-301588.53	-301588.41	0.0136	0.0055
Jupiter	-5539-05-30 14:09 J	-301546.98	-301546.91	-301546.84	0.0501	0.0465
Uranus	-5539-07-16 02:23 J	-301500.52	-301500.40	-301500.27	0.0136	0.0037
Uranus	-5539-10-12 05:31 J	-301412.40	-301412.27	-301412.14	0.0137	0.0018
Uranus	-5538-01-08 08:38 J	-301324.27	-301324.14	-301324.01	0.0137	0.0003
Neptune	-5538-04-03 08:52 J	-301239.16	-301239.13	-301239.10	0.0089	0.0087
Uranus	-5538-04-06 11:31 J	-301236.15	-301236.02	-301235.89	0.0137	0.0019
Neptune	-5538-06-30 10:04 J	-301151.13	-301151.08	-301151.01	0.0089	0.0080
Uranus	-5538-07-03 14:38 J	-301148.01	-301147.89	-301147.76	0.0137	0.0037
Neptune	-5538-09-26 11:31 J	-301063.09	-301063.02	-301062.94	0.0089	0.0072
Uranus	-5538-09-29 17:45 J	-301059.88	-301059.76	-301059.64	0.0137	0.0055
Neptune	-5538-12-23 12:43 J	-300975.05	-300974.97	-300974.87	0.0089	0.0066
Uranus	-5538-12-26 20:52 J	-300971.74	-300971.63	-300971.53	0.0137	0.0074
Neptune	-5537-03-20 14:09 J	-300887.00	-300886.91	-300886.80	0.0089	0.0058
Uranus	-5537-03-23 23:45 J	-300883.60	-300883.51	-300883.41	0.0137	0.0092
Neptune	-5537-06-16 15:50 J	-300798.95	-300798.84	-300798.74	0.0089	0.0051
Uranus	-5537-06-20 02:52 J	-300795.45	-300795.38	-300795.30	0.0137	0.0110
Neptune	-5537-09-12 17:02 J	-300710.90	-300710.79	-300710.67	0.0089	0.0044

Uranus -5537-09-16 05:45 J -300707.29 -300707.26 -300707.21 0.0137 0.0129

Neptune -5537-12-09 18:28 J -300622.85 -300622.73 -300622.61 0.0089 0.0037

Neptune -5536-03-07 19:40 J -300534.80 -300534.68 -300534.55 0.0089 0.0030

Neptune -5536-06-03 21:07 J -300446.75 -300446.62 -300446.49 0.0089 0.0022

Neptune -5536-08-30 22:19 J -300358.70 -300358.57 -300358.43 0.0089 0.0016

Neptune -5536-11-26 23:45 J -300270.64 -300270.51 -300270.38 0.0089 0.0008

Neptune -5535-02-23 01:11 J -300182.59 -300182.45 -300182.32 0.0089 0.0002

Neptune -5535-05-22 02:23 J -300094.53 -300094.40 -300094.27 0.0089 0.0006

Venus -5535-08-16 07:11 J -300008.30 -300008.20 -300008.10 0.3684 0.0732

Neptune -5535-08-18 03:50 J -300006.47 -300006.34 -300006.21 0.0089 0.0013

Neptune -5535-11-14 05:02 J -299918.42 -299918.29 -299918.16 0.0089 0.0020

Neptune -5534-02-10 06:28 J -299830.36 -299830.23 -299830.11 0.0089 0.0027

Neptune -5534-05-09 07:40 J -299742.30 -299742.18 -299742.05 0.0089 0.0035

Neptune -5534-08-05 09:07 J -299654.24 -299654.12 -299654.00 0.0089 0.0042

Jupiter -5534-10-31 18:43 J -299566.80 -299566.72 -299566.63 0.0527 0.0386

Neptune -5534-11-01 10:19 J -299566.18 -299566.07 -299565.96 0.0089 0.0049

Neptune -5533-01-28 11:31 J -299478.11 -299478.02 -299477.91 0.0089 0.0056

Jupiter -5533-01-29 00:00 J -299477.62 -299477.50 -299477.38 0.0525 0.0169

Neptune -5533-04-25 12:57 J -299390.05 -299389.96 -299389.86 0.0089 0.0063

Neptune -5533-07-22 14:09 J -299301.98 -299301.91 -299301.82 0.0089 0.0070

Neptune -5533-10-18 15:36 J -299213.91 -299213.85 -299213.78 0.0089 0.0077

Neptune -5532-01-14 16:48 J -299125.83 -299125.80 -299125.75 0.0089 0.0084

Mars -5532-04-12 13:11 J -299038.05 -299037.95 -299037.84 0.1716 0.0683

Moon -5531-09-24 10:48 J -298508.15 -298508.05 -298507.94 0.2717 0.0528

Earth -5531-09-24 11:31 J -298508.12 -298508.02 -298507.91 0.2715 0.0490 *

Mars -5530-03-18 17:45 J -298332.83 -298332.76 -298332.69 0.1694 0.1314

Venus -5529-02-29 22:48 J -297984.65 -297984.55 -297984.45 0.3686 0.0832

Saturn -5529-07-06 05:45 J -297857.40 -297857.26 -297857.10 0.0260 0.0152

Saturn -5529-10-03 02:23 J -297768.59 -297768.40 -297768.21 0.0260 0.0002

Saturn -5529-12-30 22:48 J -297679.70 -297679.55 -297679.39 0.0260 0.0148

Jupiter -5528-12-17 23:02 J -297327.61 -297327.54 -297327.46 0.0499 0.0452

Jupiter -5527-03-18 10:33 J -297237.21 -297237.06 -297236.90 0.0501 0.0281

Venus -5524-09-14 14:23 J -295960.98 -295960.90 -295960.83 0.3687 0.2366

Mars -5523-09-03 00:00 J -295607.59 -295607.50 -295607.42 0.1722 0.1191

Mars -5522-10-03 06:14 J -295212.34 -295212.24 -295212.14 0.1825 0.1432

Jupiter -5522-11-17 04:04 J -295167.46 -295167.33 -295167.21 0.0526 0.0025

Mars -5521-08-08 04:48 J -294902.40 -294902.30 -294902.20 0.1699 0.0842

Moon -5518-09-27 04:33 J -293757.41 -293757.31 -293757.21 0.2721 0.0739

Earth -5518-09-27 05:02 J -293757.39 -293757.29 -293757.19 0.2716 0.0848 *

Jupiter -5515-01-04 07:11 J -292927.38 -292927.20 -292927.02 0.0500 0.0095

Moon -5514-03-24 15:36 J -292483.00 -292482.85 -292482.70 0.2617 0.1152

Earth -5514-03-24 17:31 J -292482.92 -292482.77 -292482.62 0.2618 0.1030 *

Saturn -5514-05-04 01:26 J -292442.50 -292442.44 -292442.37 0.0301 0.0258

Saturn -5514-07-31 14:23 J -292354.02 -292353.90 -292353.78 0.0302 0.0099

Saturn -5514-10-28 02:52 J -292265.50 -292265.38 -292265.25 0.0302 0.0060

Mars -5513-01-24 10:33 J -292177.08 -292177.06 -292177.05 0.1728 0.1706

Saturn -5513-01-24 15:36 J -292176.94 -292176.85 -292176.76 0.0302 0.0216

Mars -5512-02-22 00:28 J -291782.65 -291782.48 -291782.31 0.1818 0.0209

Mars -5512-12-29 15:36 J -291471.96 -291471.85 -291471.73 0.1704 0.0367

Venus -5510-07-14 18:57 J -290909.83 -290909.71 -290909.59 0.3687 0.2342

Jupiter -5510-09-05 08:09 J -290857.28 -290857.16 -290857.03 0.0526 0.0118

Jupiter -5510-12-03 13:11 J -290768.02 -290767.95 -290767.88 0.0525 0.0431

Moon -5505-09-28 22:19 J -289006.63 -289006.57 -289006.51 0.2724 0.2227

Earth -5505-09-28 22:19 J -289006.63 -289006.57 -289006.51 0.2716 0.2170 *

Venus -5504-01-28 05:02 J -288885.39 -288885.29 -288885.19 0.3685 0.2872

Jupiter -5504-10-23 03:21 J -288617.54 -288617.36 -288617.18 0.0499 0.0094

Mars -5503-07-14 19:11 J -288352.84 -288352.70 -288352.56 0.1811 0.0975

Mars -5502-05-22 02:23 J -288041.51 -288041.40 -288041.28 0.1710 0.0140

Moon -5501-03-27 00:43 J -287731.60 -287731.47 -287731.34 0.2622 0.1574

Earth -5501-03-27 02:09 J -287731.52 -287731.41 -287731.29 0.2617 0.1853 *

Uranus	-5500-06-04 17:16 J	-287296.81	-287296.78	-287296.72	0.0142	0.0138
Uranus	-5500-09-01 01:40 J	-287208.54	-287208.43	-287208.29	0.0142	0.0107
Saturn	-5500-11-23 07:11 J	-287125.33	-287125.20	-287125.05	0.0261	0.0179
Uranus	-5500-11-28 10:33 J	-287120.22	-287120.06	-287119.89	0.0142	0.0075
Saturn	-5499-02-20 03:50 J	-287036.53	-287036.34	-287036.15	0.0261	0.0030
Uranus	-5499-02-24 18:57 J	-287031.89	-287031.71	-287031.52	0.0142	0.0044
Saturn	-5499-05-20 00:14 J	-286947.65	-286947.49	-286947.32	0.0260	0.0120
Uranus	-5499-05-24 03:36 J	-286943.55	-286943.35	-286943.15	0.0142	0.0013
Uranus	-5499-08-20 12:00 J	-286855.19	-286855.00	-286854.80	0.0142	0.0019
Uranus	-5499-11-16 20:23 J	-286766.83	-286766.65	-286766.46	0.0142	0.0050
Uranus	-5498-02-13 04:48 J	-286678.45	-286678.30	-286678.13	0.0142	0.0081
Uranus	-5498-05-12 13:11 J	-286590.05	-286589.95	-286589.81	0.0141	0.0112
Jupiter	-5498-06-24 12:14 J	-286547.10	-286546.99	-286546.88	0.0527	0.0262
Jupiter	-5498-09-21 17:31 J	-286457.88	-286457.77	-286457.67	0.0526	0.0292
Moon	-5498-09-22 22:19 J	-286456.65	-286456.57	-286456.48	0.2712	0.1601
Earth	-5498-09-22 23:02 J	-286456.63	-286456.54	-286456.46	0.2715	0.1545 *
Mars	-5493-10-11 13:11 J	-284611.05	-284610.95	-284610.84	0.1716	0.0627
Jupiter	-5492-08-10 23:45 J	-284307.66	-284307.51	-284307.35	0.0499	0.0278
Jupiter	-5492-11-09 11:31 J	-284217.09	-284217.02	-284216.95	0.0500	0.0457
Mars	-5491-09-16 17:45 J	-283905.83	-283905.76	-283905.70	0.1694	0.1364
Venus	-5489-02-21 21:36 J	-283382.65	-283382.60	-283382.56	0.3682	0.3323
Jupiter	-5486-04-12 16:33 J	-282236.89	-282236.81	-282236.73	0.0527	0.0401
Jupiter	-5486-07-10 21:50 J	-282147.71	-282147.59	-282147.47	0.0526	0.0156
Saturn	-5485-09-20 04:48 J	-281710.34	-281710.30	-281710.27	0.0301	0.0288
Moon	-5485-09-24 15:36 J	-281705.95	-281705.85	-281705.74	0.2717	0.0378
Earth	-5485-09-24 16:19 J	-281705.93	-281705.82	-281705.71	0.2715	0.0216 *
Saturn	-5485-12-17 17:31 J	-281621.89	-281621.77	-281621.65	0.0301	0.0130
Saturn	-5484-03-16 06:14 J	-281533.37	-281533.24	-281533.11	0.0301	0.0028
Saturn	-5484-06-12 18:43 J	-281444.82	-281444.72	-281444.62	0.0302	0.0184
Venus	-5484-09-06 13:11 J	-281359.04	-281358.95	-281358.86	0.3683	0.1741

Mars	-5483-03-04 00:00 J	-281180.59	-281180.50	-281180.41	0.1722	0.1128
Mars	-5482-04-03 06:57 J	-280785.30	-280785.21	-280785.12	0.1825	0.1535
Mars	-5481-02-07 04:48 J	-280475.40	-280475.30	-280475.21	0.1699	0.0899
Jupiter	-5480-05-29 19:40 J	-279997.73	-279997.68	-279997.61	0.0499	0.0467
Jupiter	-5480-08-28 07:11 J	-279907.35	-279907.20	-279907.03	0.0501	0.0265
Venus	-5478-03-23 04:48 J	-279335.40	-279335.30	-279335.20	0.3685	0.0185
Jupiter	-5474-04-29 02:23 J	-277837.53	-277837.40	-277837.27	0.0526	0.0020
Mars	-5474-07-25 10:19 J	-277750.10	-277750.07	-277750.03	0.1728	0.1653
Mars	-5473-08-23 01:11 J	-277355.62	-277355.45	-277355.28	0.1818	0.0312
Venus	-5473-10-05 20:23 J	-277311.75	-277311.65	-277311.56	0.3686	0.1379
Mars	-5472-06-29 15:36 J	-277044.96	-277044.85	-277044.74	0.1704	0.0423
Moon	-5472-09-27 09:21 J	-276955.20	-276955.11	-276955.01	0.2722	0.1139
Earth	-5472-09-27 09:36 J	-276955.19	-276955.10	-276955.00	0.2716	0.1115 *
Saturn	-5470-04-12 07:26 J	-276393.29	-276393.19	-276393.08	0.0261	0.0216
Saturn	-5470-07-10 03:50 J	-276304.52	-276304.34	-276304.16	0.0260	0.0068
Saturn	-5470-10-07 00:14 J	-276215.67	-276215.49	-276215.30	0.0260	0.0082
Saturn	-5469-01-03 20:52 J	-276126.71	-276126.63	-276126.54	0.0260	0.0232
Moon	-5468-03-24 22:33 J	-275680.72	-275680.56	-275680.40	0.2619	0.0743
Earth	-5468-03-25 00:14 J	-275680.65	-275680.49	-275680.32	0.2618	0.0481 *
Jupiter	-5468-06-16 03:50 J	-275597.52	-275597.34	-275597.15	0.0500	0.0081
Venus	-5467-04-21 11:45 J	-275288.07	-275288.01	-275287.95	0.3688	0.2895
Moon	-5465-09-20 10:04 J	-274405.10	-274405.08	-274405.06	0.2707	0.2640
Earth	-5465-09-20 10:19 J	-274405.10	-274405.07	-274405.04	0.2714	0.2607 *
Mars	-5463-01-12 19:55 J	-273925.81	-273925.67	-273925.52	0.1811	0.0867
Mars	-5463-11-20 02:23 J	-273614.51	-273614.40	-273614.28	0.1710	0.0078
Jupiter	-5462-02-15 06:14 J	-273527.36	-273527.24	-273527.11	0.0526	0.0127
Jupiter	-5462-05-15 11:16 J	-273438.10	-273438.03	-273437.95	0.0524	0.0422
Moon	-5459-09-30 03:21 J	-272204.41	-272204.36	-272204.32	0.2723	0.2420
Earth	-5459-09-30 03:07 J	-272204.41	-272204.37	-272204.32	0.2716	0.2437 *
Jupiter	-5456-04-04 00:28 J	-271287.66	-271287.48	-271287.29	0.0500	0.0103

Uranus -5456-05-21 18:57 J -271239.76 -271239.71 -271239.65 0.0136 0.0120

Uranus -5456-08-17 22:04 J -271151.66 -271151.58 -271151.49 0.0136 0.0102

Uranus -5456-11-14 00:57 J -271063.55 -271063.46 -271063.35 0.0136 0.0085

Uranus -5455-02-10 04:04 J -270975.44 -270975.33 -270975.21 0.0136 0.0066

Moon -5455-03-28 07:40 J -270929.25 -270929.18 -270929.11 0.2622 0.2355

Earth -5455-03-28 09:07 J -270929.18 -270929.12 -270929.06 0.2617 0.2412 *

Saturn -5455-05-06 20:09 J -270889.77 -270889.66 -270889.55 0.0302 0.0167

Uranus -5455-05-09 07:11 J -270887.32 -270887.20 -270887.08 0.0136 0.0048

Neptune -5455-06-14 21:36 J -270850.63 -270850.60 -270850.53 0.0088 0.0085

Saturn -5455-08-03 08:52 J -270801.26 -270801.13 -270801.00 0.0302 0.0009

Uranus -5455-08-05 10:19 J -270799.20 -270799.07 -270798.94 0.0136 0.0029

Neptune -5455-09-11 01:26 J -270762.53 -270762.44 -270762.33 0.0088 0.0075

Saturn -5455-10-30 21:21 J -270712.72 -270712.61 -270712.49 0.0302 0.0148

Uranus -5455-11-01 13:26 J -270711.07 -270710.94 -270710.81 0.0137 0.0012

Neptune -5455-12-08 05:02 J -270674.41 -270674.29 -270674.16 0.0088 0.0065

Uranus -5454-01-28 16:19 J -270622.95 -270622.82 -270622.69 0.0137 0.0008

Neptune -5454-03-06 08:09 J -270586.29 -270586.16 -270585.99 0.0088 0.0056

Uranus -5454-04-26 19:26 J -270534.82 -270534.69 -270534.56 0.0137 0.0026

Neptune -5454-06-02 11:45 J -270498.16 -270498.01 -270497.83 0.0088 0.0046

Uranus -5454-07-23 22:33 J -270446.68 -270446.56 -270446.44 0.0137 0.0044

Neptune -5454-08-29 15:36 J -270410.02 -270409.85 -270409.67 0.0088 0.0036

Uranus -5454-10-20 01:26 J -270358.55 -270358.44 -270358.32 0.0137 0.0063

Neptune -5454-11-25 19:11 J -270321.88 -270321.70 -270321.51 0.0088 0.0026

Uranus -5453-01-16 04:33 J -270270.41 -270270.31 -270270.20 0.0137 0.0081

Venus -5453-02-18 21:21 J -270236.76 -270236.61 -270236.45 0.3687 0.0699

Neptune -5453-02-21 22:48 J -270233.74 -270233.55 -270233.36 0.0088 0.0016

Mars -5453-04-11 13:11 J -270184.05 -270183.95 -270183.84 0.1716 0.0570

Uranus -5453-04-13 07:40 J -270182.27 -270182.18 -270182.09 0.0137 0.0099

Neptune -5453-05-20 02:23 J -270145.60 -270145.40 -270145.21 0.0088 0.0006

Uranus -5453-07-10 10:33 J -270094.11 -270094.06 -270093.99 0.0137 0.0118

Neptune -5453-08-16 06:00 J -270057.45 -270057.25 -270057.06 0.0088 0.0004

Uranus -5453-10-06 13:40 J -270005.93 -270005.93 -270005.91 0.0137 0.0137

Neptune -5453-11-12 09:21 J -269969.30 -269969.11 -269968.91 0.0088 0.0014

Neptune -5452-02-08 12:57 J -269881.14 -269880.96 -269880.77 0.0088 0.0024

Neptune -5452-05-07 16:19 J -269792.99 -269792.82 -269792.63 0.0088 0.0034

Neptune -5452-08-03 19:55 J -269704.83 -269704.67 -269704.49 0.0088 0.0044

Moon -5452-09-23 03:07 J -269654.46 -269654.37 -269654.28 0.2713 0.1382

Earth -5452-09-23 03:36 J -269654.44 -269654.35 -269654.25 0.2715 0.1281 *

Neptune -5452-10-30 23:16 J -269616.66 -269616.53 -269616.35 0.0088 0.0054

Neptune -5451-01-27 02:52 J -269528.49 -269528.38 -269528.23 0.0088 0.0064

Mars -5451-03-17 17:45 J -269478.82 -269478.76 -269478.70 0.1694 0.1420

Pluto -5451-03-30 05:31 J -269466.28 -269466.27 -269466.24 0.0072 0.0071

Neptune -5451-04-25 06:28 J -269440.32 -269440.23 -269440.10 0.0088 0.0074

Pluto -5451-06-26 06:43 J -269378.29 -269378.22 -269378.15 0.0072 0.0062

Neptune -5451-07-22 10:04 J -269352.12 -269352.08 -269352.00 0.0088 0.0084

Pluto -5451-09-22 07:26 J -269290.27 -269290.19 -269290.08 0.0072 0.0054

Jupiter -5451-12-04 10:19 J -269217.17 -269217.07 -269216.96 0.0527 0.0270

Pluto -5451-12-19 08:38 J -269202.24 -269202.14 -269202.02 0.0072 0.0045

Jupiter -5450-03-03 15:36 J -269127.96 -269127.85 -269127.75 0.0525 0.0284

Pluto -5450-03-17 09:50 J -269114.21 -269114.09 -269113.96 0.0072 0.0036

Pluto -5450-06-13 10:48 J -269026.18 -269026.05 -269025.91 0.0072 0.0028

Pluto -5450-09-09 12:00 J -268938.14 -268938.00 -268937.86 0.0073 0.0019

Pluto -5450-12-06 13:11 J -268850.10 -268849.95 -268849.81 0.0073 0.0010

Pluto -5449-03-03 14:09 J -268762.06 -268761.91 -268761.76 0.0073 0.0001

Pluto -5449-05-30 15:21 J -268674.01 -268673.86 -268673.71 0.0073 0.0008

Pluto -5449-08-26 16:19 J -268585.96 -268585.82 -268585.67 0.0073 0.0018

Pluto -5449-11-22 17:16 J -268497.90 -268497.78 -268497.63 0.0073 0.0028

Pluto -5448-02-18 18:28 J -268409.85 -268409.73 -268409.59 0.0073 0.0037

Pluto -5448-05-17 19:55 J -268321.79 -268321.67 -268321.56 0.0073 0.0046

Pluto -5448-08-13 20:38 J -268233.72 -268233.64 -268233.53 0.0073 0.0056

Pluto	-5448-11-09 22:04 J	-268145.64	-268145.58	-268145.51	0.0074	0.0065	
Jupiter	-5444-01-20 21:07 J	-266977.77	-266977.62	-266977.47	0.0499	0.0287	
Jupiter	-5444-04-21 08:38 J	-266887.22	-266887.14	-266887.05	0.0500	0.0448	
Mars	-5444-09-01 23:45 J	-266753.59	-266753.51	-266753.42	0.1722	0.1079	
Mars	-5443-10-02 07:55 J	-266358.24	-266358.17	-266358.10	0.1825	0.1648	
Mars	-5442-08-08 04:48 J	-266048.40	-266048.30	-266048.21	0.1699	0.0952	
Saturn	-5441-08-29 08:52 J	-265661.19	-265661.13	-265661.07	0.0261	0.0244	
Saturn	-5441-11-26 05:02 J	-265572.46	-265572.29	-265572.11	0.0261	0.0096	
Saturn	-5440-02-23 01:40 J	-265483.62	-265483.43	-265483.25	0.0260	0.0053	
Saturn	-5440-05-22 22:19 J	-265394.69	-265394.57	-265394.46	0.0260	0.0204	
Jupiter	-5439-09-22 14:23 J	-264906.98	-264906.90	-264906.83	0.0528	0.0416	
Moon	-5439-09-25 20:23 J	-264903.75	-264903.65	-264903.54	0.2718	0.0077	
Earth	-5439-09-25 21:07 J	-264903.73	-264903.62	-264903.51	0.2715	0.0059	*
Jupiter	-5439-12-20 19:40 J	-264817.80	-264817.68	-264817.56	0.0526	0.0142	
Mars	-5434-01-23 10:33 J	-263323.10	-263323.06	-263323.02	0.1728	0.1591	
Mars	-5433-02-22 02:09 J	-262928.58	-262928.41	-262928.24	0.1818	0.0428	
Venus	-5433-09-27 18:57 J	-262709.77	-262709.71	-262709.64	0.3682	0.2759	
Jupiter	-5433-11-08 17:45 J	-262667.82	-262667.76	-262667.70	0.0499	0.0469	
Mars	-5433-12-28 15:36 J	-262617.96	-262617.85	-262617.74	0.1704	0.0472	
Jupiter	-5432-02-07 04:48 J	-262577.45	-262577.30	-262577.13	0.0500	0.0260	
Venus	-5427-04-13 10:33 J	-260686.15	-260686.06	-260685.96	0.3684	0.1193	
Jupiter	-5427-10-09 00:14 J	-260507.62	-260507.49	-260507.37	0.0526	0.0010	
Saturn	-5426-09-23 23:31 J	-260157.62	-260157.52	-260157.42	0.0301	0.0197	
Moon	-5426-09-28 14:09 J	-260153.00	-260152.91	-260152.81	0.2723	0.1294	
Earth	-5426-09-28 14:24 J	-260152.99	-260152.90	-260152.81	0.2716	0.1381	*
Saturn	-5426-12-21 12:14 J	-260069.12	-260068.99	-260068.86	0.0301	0.0040	
Saturn	-5425-03-19 00:43 J	-259980.58	-259980.47	-259980.35	0.0302	0.0118	
Saturn	-5425-06-15 13:11 J	-259892.00	-259891.95	-259891.89	0.0302	0.0274	
Mars	-5424-07-13 20:38 J	-259498.79	-259498.64	-259498.48	0.1811	0.0767	
Mars	-5423-05-21 02:38 J	-259187.51	-259187.39	-259187.28	0.1710	0.0071	

Moon -5422-03-26 05:31 J -258878.44 -258878.27 -258878.11 0.2620 0.0107

Earth -5422-03-26 07:11 J -258878.36 -258878.20 -258878.03 0.2618 0.0093 *

Venus -5422-10-28 02:09 J -258662.51 -258662.41 -258662.31 0.3685 0.0378

Jupiter -5421-11-26 00:43 J -258267.66 -258267.47 -258267.29 0.0500 0.0066

Moon -5419-09-21 14:38 J -257602.94 -257602.89 -257602.84 0.2709 0.2354

Earth -5419-09-21 15:07 J -257602.92 -257602.87 -257602.82 0.2714 0.2340 *

Venus -5416-05-12 17:45 J -256638.85 -256638.76 -256638.68 0.3687 0.1903

Uranus -5416-06-25 01:26 J -256595.52 -256595.44 -256595.36 0.0142 0.0129

Uranus -5416-09-21 09:50 J -256507.22 -256507.09 -256506.94 0.0142 0.0098

Uranus -5416-12-18 18:14 J -256418.90 -256418.74 -256418.55 0.0142 0.0067

Uranus -5415-03-17 02:52 J -256330.56 -256330.38 -256330.18 0.0142 0.0035

Uranus -5415-06-13 11:31 J -256242.22 -256242.02 -256241.82 0.0142 0.0004

Jupiter -5415-07-28 04:48 J -256197.43 -256197.30 -256197.18 0.0526 0.0131

Uranus -5415-09-09 19:55 J -256153.86 -256153.67 -256153.47 0.0142 0.0028

Jupiter -5415-10-25 09:35 J -256108.17 -256108.10 -256108.02 0.0525 0.0419

Uranus -5415-12-07 04:19 J -256065.49 -256065.32 -256065.13 0.0142 0.0059

Uranus -5414-03-05 12:57 J -255977.11 -255976.96 -255976.81 0.0142 0.0090

Uranus -5414-06-01 21:21 J -255888.71 -255888.61 -255888.50 0.0141 0.0121

Mars -5414-10-11 13:11 J -255757.06 -255756.95 -255756.84 0.1716 0.0513

Earth -5413-09-30 07:55 J -255402.18 -255402.17 -255402.17 0.2716 0.2704

Mars -5412-09-15 17:45 J -255051.82 -255051.76 -255051.71 0.1693 0.1475

Saturn -5411-04-15 05:16 J -254840.44 -254840.28 -254840.12 0.0260 0.0133

Saturn -5411-07-13 01:40 J -254751.62 -254751.43 -254751.24 0.0260 0.0015

Saturn -5411-10-09 22:04 J -254662.72 -254662.58 -254662.43 0.0260 0.0165

Venus -5411-11-26 09:07 J -254615.15 -254615.12 -254615.08 0.3688 0.3422

Jupiter -5409-09-13 21:21 J -253957.79 -253957.61 -253957.43 0.0500 0.0117

Moon -5406-09-24 07:40 J -252852.27 -252852.18 -252852.08 0.2713 0.1115

Earth -5406-09-24 08:24 J -252852.25 -252852.15 -252852.05 0.2715 0.1014 *

Mars -5404-03-02 23:45 J -252326.60 -252326.51 -252326.41 0.1721 0.1021

Mars -5403-04-02 08:52 J -251931.16 -251931.13 -251931.09 0.1826 0.1771

Jupiter	-5403-05-16 08:38 J	-251887.24	-251887.14	-251887.03	0.0527	0.0275
Jupiter	-5403-08-13 13:55 J	-251798.03	-251797.92	-251797.82	0.0525	0.0277
Mars	-5402-02-06 04:33 J	-251621.40	-251621.31	-251621.21	0.1699	0.1006
Jupiter	-5397-07-02 18:14 J	-249647.89	-249647.74	-249647.59	0.0499	0.0297
Venus	-5397-09-24 23:45 J	-249563.66	-249563.51	-249563.36	0.3686	0.0950
Jupiter	-5397-10-01 06:00 J	-249557.34	-249557.25	-249557.16	0.0501	0.0440
Saturn	-5396-02-10 01:40 J	-249425.50	-249425.43	-249425.35	0.0302	0.0239
Saturn	-5396-05-09 14:38 J	-249337.02	-249336.89	-249336.77	0.0302	0.0080
Saturn	-5396-08-06 03:07 J	-249248.49	-249248.37	-249248.24	0.0302	0.0078
Saturn	-5396-11-02 15:35 J	-249159.92	-249159.85	-249159.76	0.0302	0.0235
Mars	-5395-07-24 10:19 J	-248896.12	-248896.07	-248896.02	0.1727	0.1538
Mars	-5394-08-23 03:07 J	-248501.54	-248501.37	-248501.21	0.1818	0.0539
Mars	-5393-06-28 15:35 J	-248190.96	-248190.85	-248190.74	0.1704	0.0527
Moon	-5393-09-26 01:11 J	-248101.55	-248101.45	-248101.34	0.2720	0.0244
Earth	-5393-09-26 01:55 J	-248101.53	-248101.42	-248101.32	0.2715	0.0331 *
Jupiter	-5391-03-04 12:43 J	-247577.04	-247576.97	-247576.89	0.0527	0.0419
Jupiter	-5391-06-01 18:00 J	-247487.87	-247487.75	-247487.63	0.0526	0.0138
Moon	-5389-03-23 03:35 J	-246827.39	-246827.35	-246827.30	0.2616	0.2507
Earth	-5389-03-23 05:16 J	-246827.36	-246827.28	-246827.19	0.2619	0.2253 *
Jupiter	-5385-04-20 15:07 J	-245337.92	-245337.87	-245337.82	0.0499	0.0476
Jupiter	-5385-07-20 02:24 J	-245247.56	-245247.40	-245247.24	0.0500	0.0253
Mars	-5384-01-11 21:35 J	-245071.76	-245071.60	-245071.44	0.1811	0.0653
Mars	-5384-11-19 02:24 J	-244760.51	-244760.40	-244760.28	0.1710	0.0041
Saturn	-5382-09-02 06:14 J	-244108.38	-244108.24	-244108.09	0.0261	0.0164
Saturn	-5382-11-30 02:38 J	-244019.58	-244019.39	-244019.20	0.0260	0.0016
Saturn	-5381-02-26 23:16 J	-243930.70	-243930.53	-243930.37	0.0260	0.0135
Moon	-5380-09-28 18:57 J	-243350.79	-243350.71	-243350.62	0.2723	0.1681
Earth	-5380-09-28 19:11 J	-243350.78	-243350.70	-243350.61	0.2716	0.1646 *
Jupiter	-5379-03-20 22:04 J	-243177.71	-243177.58	-243177.45	0.0526	0.0009
Moon	-5376-03-26 12:28 J	-242076.15	-242075.98	-242075.82	0.2621	0.0441

Earth -5376-03-26 14:09 J -242076.07 -242075.91 -242075.75 0.2618 0.0641 *

Venus -5376-05-04 16:33 J -242036.89 -242036.81 -242036.73 0.3683 0.2209

Mars -5375-06-03 16:48 J -241641.81 -241641.80 -241641.79 0.1804 0.1799

Mars -5374-04-11 13:11 J -241330.06 -241329.95 -241329.84 0.1716 0.0456

Neptune -5374-12-29 07:26 J -241068.20 -241068.19 -241068.15 0.0089 0.0088

Neptune -5373-03-26 09:07 J -240980.17 -240980.12 -240980.06 0.0089 0.0080

Jupiter -5373-05-07 22:48 J -240937.74 -240937.55 -240937.37 0.0500 0.0067

Neptune -5373-06-22 10:33 J -240892.13 -240892.06 -240891.98 0.0089 0.0073

Neptune -5373-09-18 11:45 J -240804.09 -240804.01 -240803.91 0.0089 0.0066

Moon -5373-09-21 19:26 J -240800.75 -240800.69 -240800.63 0.2710 0.2184

Earth -5373-09-21 19:55 J -240800.74 -240800.67 -240800.61 0.2714 0.2070 *

Neptune -5373-12-15 13:11 J -240716.05 -240715.95 -240715.85 0.0089 0.0058

Neptune -5372-03-13 14:24 J -240628.00 -240627.90 -240627.78 0.0089 0.0052

Uranus -5372-03-14 23:45 J -240626.53 -240626.51 -240626.47 0.0136 0.0131

Mars -5372-03-16 17:31 J -240624.81 -240624.77 -240624.72 0.1693 0.1525

Neptune -5372-06-09 15:50 J -240539.95 -240539.84 -240539.72 0.0089 0.0044

Uranus -5372-06-11 02:52 J -240538.44 -240538.38 -240538.30 0.0136 0.0113

Neptune -5372-09-05 17:02 J -240451.90 -240451.79 -240451.66 0.0089 0.0038

Uranus -5372-09-07 06:00 J -240450.34 -240450.25 -240450.15 0.0136 0.0095

Neptune -5372-12-02 18:43 J -240363.85 -240363.72 -240363.60 0.0089 0.0030

Uranus -5372-12-04 09:07 J -240362.23 -240362.12 -240362.01 0.0136 0.0076

Neptune -5371-02-28 19:55 J -240275.79 -240275.67 -240275.54 0.0089 0.0023

Uranus -5371-03-02 12:00 J -240274.11 -240274.00 -240273.88 0.0136 0.0059

Neptune -5371-05-27 21:21 J -240187.74 -240187.61 -240187.48 0.0089 0.0016

Uranus -5371-05-29 15:07 J -240185.99 -240185.87 -240185.74 0.0136 0.0040

Neptune -5371-08-23 22:33 J -240099.69 -240099.56 -240099.42 0.0089 0.0009

Uranus -5371-08-25 18:14 J -240097.87 -240097.74 -240097.61 0.0137 0.0022

Venus -5371-11-18 08:09 J -240013.26 -240013.16 -240013.06 0.3684 0.0643

Neptune -5371-11-20 00:00 J -240011.63 -240011.50 -240011.37 0.0089 0.0001

Uranus -5371-11-21 21:21 J -240009.74 -240009.61 -240009.48 0.0137 0.0004

Neptune -5370-02-16 01:11 J -239923.58 -239923.45 -239923.31 0.0089 0.0007

Uranus -5370-02-18 00:14 J -239921.62 -239921.49 -239921.36 0.0137 0.0016

Neptune -5370-05-15 02:38 J -239835.52 -239835.39 -239835.26 0.0089 0.0013

Uranus -5370-05-17 03:21 J -239833.48 -239833.36 -239833.23 0.0137 0.0033

Neptune -5370-08-11 03:50 J -239747.46 -239747.34 -239747.20 0.0089 0.0020

Uranus -5370-08-13 06:28 J -239745.35 -239745.23 -239745.11 0.0137 0.0052

Neptune -5370-11-07 05:16 J -239659.40 -239659.28 -239659.15 0.0089 0.0027

Uranus -5370-11-09 09:35 J -239657.21 -239657.10 -239656.99 0.0137 0.0070

Neptune -5369-02-03 06:28 J -239571.34 -239571.23 -239571.10 0.0089 0.0034

Uranus -5369-02-05 12:28 J -239569.07 -239568.98 -239568.88 0.0137 0.0089

Neptune -5369-05-01 07:40 J -239483.28 -239483.18 -239483.05 0.0089 0.0042

Uranus -5369-05-03 15:35 J -239480.93 -239480.85 -239480.77 0.0137 0.0107

Neptune -5369-07-28 09:07 J -239395.22 -239395.12 -239395.00 0.0089 0.0048

Uranus -5369-07-30 18:28 J -239392.77 -239392.73 -239392.67 0.0137 0.0126

Neptune -5369-10-24 10:19 J -239307.16 -239307.07 -239306.95 0.0089 0.0056

Neptune -5368-01-20 11:45 J -239219.09 -239219.01 -239218.91 0.0089 0.0062

Neptune -5368-04-18 12:57 J -239131.03 -239130.96 -239130.86 0.0089 0.0070

Neptune -5368-07-15 14:24 J -239042.96 -239042.90 -239042.82 0.0089 0.0076

Neptune -5368-10-11 15:35 J -238954.88 -238954.85 -238954.79 0.0089 0.0084

Jupiter -5367-01-07 02:38 J -238867.51 -238867.39 -238867.27 0.0527 0.0143

Jupiter -5367-04-06 07:40 J -238778.26 -238778.18 -238778.10 0.0525 0.0407

Saturn -5367-06-30 04:48 J -238693.35 -238693.30 -238693.24 0.0301 0.0271

Saturn -5367-09-26 17:31 J -238604.89 -238604.77 -238604.64 0.0301 0.0114

Saturn -5367-12-24 06:14 J -238516.37 -238516.24 -238516.11 0.0302 0.0045

Saturn -5366-03-22 18:43 J -238427.81 -238427.72 -238427.62 0.0302 0.0201

Pluto -5366-05-31 00:28 J -238358.55 -238358.48 -238358.42 0.0073 0.0067

Pluto -5366-08-27 01:40 J -238270.52 -238270.43 -238270.31 0.0072 0.0057

Pluto -5366-11-23 03:50 J -238182.47 -238182.34 -238182.21 0.0072 0.0046

Pluto -5365-02-19 05:16 J -238094.42 -238094.28 -238094.12 0.0072 0.0035

Pluto -5365-05-17 06:57 J -238006.36 -238006.21 -238006.04 0.0072 0.0025

Venus	-5365-06-02 23:45 J	-237989.61	-237989.51	-237989.42	0.3686	0.0917
Pluto	-5365-08-13 08:38 J	-237918.30	-237918.14	-237917.97	0.0072	0.0015
Mars	-5365-08-31 23:45 J	-237899.60	-237899.51	-237899.41	0.1721	0.0964
Pluto	-5365-11-09 10:19 J	-237830.24	-237830.07	-237829.90	0.0072	0.0005
Pluto	-5364-02-05 12:00 J	-237742.17	-237742.00	-237741.83	0.0072	0.0006
Pluto	-5364-05-04 13:26 J	-237654.10	-237653.94	-237653.77	0.0072	0.0016
Pluto	-5364-07-31 15:07 J	-237566.02	-237565.87	-237565.71	0.0072	0.0026
Pluto	-5364-10-27 16:33 J	-237477.95	-237477.81	-237477.65	0.0071	0.0036
Pluto	-5363-01-23 18:00 J	-237389.86	-237389.75	-237389.60	0.0071	0.0046
Pluto	-5363-04-21 19:26 J	-237301.78	-237301.69	-237301.56	0.0071	0.0055
Pluto	-5363-07-18 21:07 J	-237213.67	-237213.62	-237213.54	0.0071	0.0064
Mars	-5363-08-07 04:33 J	-237194.40	-237194.31	-237194.22	0.1699	0.1060
Jupiter	-5361-02-24 18:14 J	-236627.92	-236627.74	-236627.56	0.0500	0.0130
Moon	-5360-09-24 12:28 J	-236050.08	-236049.98	-236049.88	0.2714	0.0828
Earth	-5360-09-24 13:11 J	-236050.05	-236049.95	-236049.85	0.2715	0.0746 *
Venus	-5360-12-17 15:07 J	-235965.94	-235965.87	-235965.79	0.3687	0.2432
Jupiter	-5356-10-26 07:11 J	-234557.31	-234557.20	-234557.09	0.0527	0.0277
Mars	-5355-01-22 10:19 J	-234469.12	-234469.07	-234469.01	0.1727	0.1480
Jupiter	-5355-01-23 12:14 J	-234468.09	-234467.99	-234467.88	0.0525	0.0276
Mars	-5354-02-21 03:50 J	-234074.50	-234074.34	-234074.18	0.1819	0.0646
Mars	-5354-12-28 15:35 J	-233763.96	-233763.85	-233763.74	0.1704	0.0585
Saturn	-5352-01-19 06:14 J	-233376.35	-233376.24	-233376.11	0.0260	0.0201
Saturn	-5352-04-18 02:38 J	-233287.57	-233287.39	-233287.20	0.0260	0.0054
Saturn	-5352-07-15 23:02 J	-233198.71	-233198.54	-233198.36	0.0260	0.0096
Saturn	-5352-10-12 19:40 J	-233109.74	-233109.68	-233109.62	0.0260	0.0245
Jupiter	-5350-12-13 15:07 J	-232318.01	-232317.87	-232317.72	0.0499	0.0309
Jupiter	-5349-03-13 02:52 J	-232227.48	-232227.38	-232227.28	0.0501	0.0427
Moon	-5347-09-27 06:14 J	-231299.35	-231299.24	-231299.14	0.2721	0.0533
Earth	-5347-09-27 06:43 J	-231299.33	-231299.22	-231299.12	0.2715	0.0593 *
Venus	-5346-10-16 16:19 J	-230914.93	-230914.82	-230914.71	0.3688	0.2532

Mars	-5345-07-12 22:48 J	-230644.72	-230644.55	-230644.39	0.1811	0.0538
Mars	-5344-05-20 02:24 J	-230333.51	-230333.40	-230333.29	0.1710	0.0095
Jupiter	-5344-08-14 11:02 J	-230247.11	-230247.04	-230246.96	0.0527	0.0422
Jupiter	-5344-11-11 16:33 J	-230157.93	-230157.81	-230157.69	0.0525	0.0135
Moon	-5343-03-24 10:33 J	-230025.18	-230025.06	-230024.94	0.2618	0.1803
Earth	-5343-03-24 12:14 J	-230025.11	-230024.99	-230024.86	0.2619	0.1689 *
Venus	-5340-05-02 02:09 J	-228890.52	-228890.41	-228890.30	0.3685	0.2604
Jupiter	-5338-10-01 12:14 J	-228008.03	-228007.99	-228007.95	0.0499	0.0485
Jupiter	-5338-12-30 23:31 J	-227917.68	-227917.52	-227917.35	0.0501	0.0245
Saturn	-5337-02-13 19:26 J	-227872.79	-227872.69	-227872.57	0.0302	0.0159
Saturn	-5337-05-12 08:24 J	-227784.28	-227784.15	-227784.02	0.0302	0.0008
Saturn	-5337-08-08 20:52 J	-227695.74	-227695.63	-227695.52	0.0302	0.0157
Mars	-5336-12-02 17:31 J	-227214.82	-227214.77	-227214.72	0.1804	0.1697
Mars	-5335-10-10 13:11 J	-226903.06	-226902.95	-226902.84	0.1715	0.0403
Moon	-5334-09-30 00:00 J	-226548.58	-226548.50	-226548.43	0.2722	0.1875
Earth	-5334-09-30 00:00 J	-226548.57	-226548.50	-226548.43	0.2716	0.1911 *
Mars	-5333-09-14 17:31 J	-226197.81	-226197.77	-226197.73	0.1693	0.1577
Uranus	-5332-07-15 09:07 J	-225894.21	-225894.12	-225894.00	0.0142	0.0120
Jupiter	-5332-08-30 20:38 J	-225847.77	-225847.64	-225847.51	0.0526	0.0008
Uranus	-5332-10-11 17:45 J	-225805.91	-225805.76	-225805.60	0.0142	0.0088
Uranus	-5331-01-08 02:09 J	-225717.58	-225717.41	-225717.22	0.0142	0.0057
Uranus	-5331-04-06 10:48 J	-225629.24	-225629.05	-225628.85	0.0142	0.0026
Uranus	-5331-07-03 19:26 J	-225540.89	-225540.69	-225540.49	0.0142	0.0006
Uranus	-5331-09-30 03:50 J	-225452.53	-225452.34	-225452.15	0.0142	0.0037
Uranus	-5331-12-27 12:14 J	-225364.16	-225363.99	-225363.81	0.0142	0.0068
Uranus	-5330-03-25 20:38 J	-225275.77	-225275.64	-225275.49	0.0142	0.0099
Moon	-5330-03-27 19:11 J	-225273.85	-225273.70	-225273.54	0.2620	0.0978
Earth	-5330-03-27 21:07 J	-225273.77	-225273.62	-225273.48	0.2618	0.1200 *
Uranus	-5330-06-22 05:16 J	-225187.35	-225187.28	-225187.20	0.0141	0.0130
Moon	-5327-09-23 00:00 J	-223998.58	-223998.50	-223998.42	0.2710	0.1818

Earth	-5327-09-23 00:43 J	-223998.55	-223998.47	-223998.40	0.2714	0.1806 *
Jupiter	-5326-10-18 20:24 J	-223607.84	-223607.65	-223607.47	0.0500	0.0063
Mars	-5325-03-01 23:45 J	-223472.60	-223472.51	-223472.41	0.1721	0.0908
Venus	-5325-05-25 22:19 J	-223387.62	-223387.57	-223387.53	0.3682	0.3239
Mars	-5323-02-05 04:33 J	-222767.39	-222767.31	-222767.22	0.1699	0.1113
Saturn	-5323-06-08 06:57 J	-222644.28	-222644.21	-222644.13	0.0261	0.0235
Saturn	-5323-09-05 03:21 J	-222555.54	-222555.36	-222555.19	0.0260	0.0088
Saturn	-5323-12-02 23:45 J	-222466.70	-222466.51	-222466.33	0.0260	0.0061
Saturn	-5322-03-01 19:55 J	-222377.77	-222377.67	-222377.55	0.0260	0.0211
Jupiter	-5320-06-19 00:43 J	-221537.59	-221537.47	-221537.35	0.0527	0.0152
Jupiter	-5320-09-16 05:45 J	-221448.34	-221448.26	-221448.18	0.0525	0.0398
Venus	-5320-12-09 13:55 J	-221364.01	-221363.92	-221363.83	0.3683	0.1658
Mars	-5316-07-23 10:19 J	-220042.13	-220042.07	-220042.00	0.1727	0.1423
Mars	-5315-08-22 04:48 J	-219647.46	-219647.30	-219647.15	0.1819	0.0758
Venus	-5314-06-25 05:31 J	-219340.37	-219340.27	-219340.17	0.3685	0.0106
Mars	-5314-06-28 15:35 J	-219336.96	-219336.85	-219336.75	0.1704	0.0639
Jupiter	-5314-08-06 16:48 J	-219297.98	-219297.80	-219297.62	0.0499	0.0122
Moon	-5314-09-25 17:16 J	-219247.88	-219247.78	-219247.67	0.2715	0.0604
Earth	-5314-09-25 18:00 J	-219247.86	-219247.75	-219247.65	0.2715	0.0474 *
Venus	-5308-01-07 21:07 J	-217316.72	-217316.62	-217316.53	0.3686	0.1436
Jupiter	-5308-04-07 05:02 J	-217227.39	-217227.29	-217227.18	0.0527	0.0288
Saturn	-5308-07-02 22:19 J	-217140.67	-217140.57	-217140.47	0.0301	0.0195
Jupiter	-5308-07-05 10:19 J	-217138.18	-217138.07	-217137.96	0.0525	0.0266
Saturn	-5308-09-29 11:02 J	-217052.17	-217052.04	-217051.91	0.0302	0.0037
Saturn	-5308-12-26 23:45 J	-216963.63	-216963.51	-216963.39	0.0302	0.0120
Saturn	-5307-03-25 12:14 J	-216875.04	-216874.99	-216874.94	0.0302	0.0276
Mars	-5305-01-11 23:02 J	-216217.70	-216217.54	-216217.37	0.1811	0.0450
Mars	-5305-11-18 02:24 J	-215906.51	-215906.40	-215906.28	0.1710	0.0153
Venus	-5303-07-24 12:28 J	-215293.04	-215292.98	-215292.92	0.3688	0.2958
Jupiter	-5302-05-25 12:28 J	-214988.13	-214987.98	-214987.84	0.0499	0.0318

Jupiter -5302-08-24 00:00 J -214897.60 -214897.50 -214897.40 0.0501 0.0418

Moon -5301-09-27 11:02 J -214497.15 -214497.04 -214496.94 0.2721 0.0803

Earth -5301-09-27 11:16 J -214497.13 -214497.03 -214496.92 0.2715 0.0860 *

Moon -5297-03-24 17:16 J -213222.91 -213222.78 -213222.64 0.2619 0.1464

Earth -5297-03-24 19:11 J -213222.85 -213222.70 -213222.55 0.2618 0.1129 *

Jupiter -5296-01-24 09:50 J -212917.17 -212917.09 -212917.02 0.0527 0.0421

Jupiter -5296-04-23 15:07 J -212827.99 -212827.87 -212827.75 0.0526 0.0136

Mars -5296-06-02 18:28 J -212787.81 -212787.73 -212787.65 0.1804 0.1582

Mars -5295-04-10 13:11 J -212476.06 -212475.95 -212475.84 0.1715 0.0346

Saturn -5293-01-23 03:07 J -211823.53 -211823.37 -211823.20 0.0260 0.0127

Mars -5293-03-15 17:31 J -211770.79 -211770.77 -211770.74 0.1693 0.1636

Saturn -5293-04-20 23:31 J -211734.71 -211734.52 -211734.33 0.0260 0.0022

Saturn -5293-07-18 19:55 J -211645.81 -211645.67 -211645.53 0.0260 0.0170

Neptune -5290-03-11 18:57 J -210679.74 -210679.71 -210679.63 0.0088 0.0084

Jupiter -5290-03-13 09:21 J -210678.13 -210678.11 -210678.08 0.0499 0.0494

Neptune -5290-06-07 22:33 J -210591.64 -210591.56 -210591.44 0.0088 0.0074

Jupiter -5290-06-11 20:52 J -210587.80 -210587.63 -210587.47 0.0501 0.0236

Neptune -5290-09-04 02:24 J -210503.53 -210503.40 -210503.26 0.0088 0.0064

Neptune -5290-12-01 06:00 J -210415.40 -210415.25 -210415.10 0.0088 0.0054

Neptune -5289-02-27 09:07 J -210327.27 -210327.12 -210326.93 0.0088 0.0045

Venus -5289-05-22 18:28 J -210241.88 -210241.73 -210241.58 0.3687 0.0936

Neptune -5289-05-25 12:43 J -210239.13 -210238.97 -210238.78 0.0088 0.0035

Neptune -5289-08-21 16:33 J -210150.99 -210150.81 -210150.62 0.0088 0.0025

Neptune -5289-11-17 20:09 J -210062.85 -210062.66 -210062.47 0.0088 0.0015

Neptune -5288-02-13 23:45 J -209974.71 -209974.51 -209974.32 0.0088 0.0005

Uranus -5288-04-04 07:55 J -209925.22 -209925.17 -209925.12 0.0136 0.0123

Neptune -5288-05-13 03:21 J -209886.56 -209886.36 -209886.17 0.0088 0.0005

Uranus -5288-07-01 10:48 J -209837.13 -209837.05 -209836.96 0.0136 0.0105

Neptune -5288-08-09 06:43 J -209798.41 -209798.22 -209798.02 0.0088 0.0015

Uranus -5288-09-27 13:55 J -209749.02 -209748.92 -209748.82 0.0136 0.0087

Moon -5288-09-30 04:48 J -209746.36 -209746.30 -209746.24 0.2723 0.2219

Earth -5288-09-30 04:48 J -209746.36 -209746.30 -209746.24 0.2716 0.2178 *

Neptune -5288-11-05 10:19 J -209710.25 -209710.07 -209709.88 0.0088 0.0025

Uranus -5288-12-24 16:48 J -209660.90 -209660.80 -209660.68 0.0136 0.0070

Neptune -5287-02-01 13:40 J -209622.10 -209621.93 -209621.74 0.0088 0.0035

Uranus -5287-03-22 19:55 J -209572.78 -209572.67 -209572.54 0.0136 0.0051

Neptune -5287-04-30 17:16 J -209533.94 -209533.78 -209533.60 0.0088 0.0045

Uranus -5287-06-18 23:02 J -209484.66 -209484.54 -209484.41 0.0136 0.0033

Neptune -5287-07-27 20:52 J -209445.77 -209445.63 -209445.47 0.0088 0.0055

Uranus -5287-09-15 02:09 J -209396.54 -209396.41 -209396.28 0.0137 0.0014

Neptune -5287-10-24 00:14 J -209357.60 -209357.49 -209357.34 0.0088 0.0065

Uranus -5287-12-12 05:16 J -209308.41 -209308.28 -209308.15 0.0137 0.0005

Neptune -5286-01-20 03:50 J -209269.42 -209269.34 -209269.22 0.0088 0.0075

Uranus -5286-03-10 08:09 J -209220.28 -209220.16 -209220.03 0.0137 0.0023

Neptune -5286-04-18 07:26 J -209181.22 -209181.19 -209181.12 0.0088 0.0085

Uranus -5286-06-06 11:16 J -209132.15 -209132.03 -209131.91 0.0137 0.0041

Mars -5286-08-31 23:45 J -209045.61 -209045.51 -209045.41 0.1721 0.0851

Uranus -5286-09-02 14:24 J -209044.02 -209043.90 -209043.78 0.0137 0.0059

Uranus -5286-11-29 17:16 J -208955.88 -208955.78 -208955.67 0.0137 0.0078

Uranus -5285-02-25 20:24 J -208867.74 -208867.65 -208867.55 0.0137 0.0096

Uranus -5285-05-23 23:16 J -208779.59 -208779.53 -208779.45 0.0137 0.0116

Uranus -5285-08-20 02:38 J -208691.42 -208691.39 -208691.36 0.0137 0.0134

Jupiter -5284-02-09 19:26 J -208517.82 -208517.69 -208517.57 0.0526 0.0013

Moon -5284-03-28 02:24 J -208471.52 -208471.40 -208471.27 0.2621 0.1632

Earth -5284-03-28 04:04 J -208471.45 -208471.33 -208471.21 0.2618 0.1765 *

Mars -5284-08-06 04:33 J -208340.39 -208340.31 -208340.23 0.1698 0.1166

Moon -5281-09-23 04:48 J -207196.38 -207196.30 -207196.22 0.2710 0.1676

Earth -5281-09-23 05:16 J -207196.36 -207196.28 -207196.19 0.2714 0.1536 *

Saturn -5279-11-19 23:31 J -206408.58 -206408.52 -206408.44 0.0302 0.0248

Saturn -5278-02-16 12:28 J -206320.10 -206319.98 -206319.85 0.0302 0.0089

Jupiter	-5278-03-30 17:45 J	-206277.95	-206277.76	-206277.57	0.0500	0.0056
Saturn	-5278-05-16 01:11 J	-206231.58	-206231.45	-206231.32	0.0302	0.0069
Saturn	-5278-08-12 13:40 J	-206143.01	-206142.93	-206142.84	0.0302	0.0226
Mars	-5276-01-21 10:19 J	-205615.13	-205615.07	-205615.00	0.1727	0.1366
Mars	-5275-02-20 05:31 J	-205220.42	-205220.27	-205220.12	0.1819	0.0868
Mars	-5275-12-27 15:35 J	-204909.96	-204909.85	-204909.75	0.1704	0.0694
Jupiter	-5273-11-28 23:31 J	-204207.64	-204207.52	-204207.40	0.0526	0.0146
Jupiter	-5272-02-26 04:33 J	-204118.39	-204118.31	-204118.23	0.0525	0.0402
Venus	-5269-12-30 19:40 J	-202714.75	-202714.68	-202714.61	0.3682	0.2683
Moon	-5268-09-25 22:04 J	-202445.68	-202445.58	-202445.47	0.2717	0.0245
Earth	-5268-09-25 22:48 J	-202445.66	-202445.55	-202445.45	0.2715	0.0210 *
Jupiter	-5266-01-16 14:52 J	-201968.06	-201967.88	-201967.70	0.0500	0.0123
Mars	-5266-07-13 00:14 J	-201790.66	-201790.49	-201790.32	0.1812	0.0325
Mars	-5265-05-19 02:24 J	-201479.52	-201479.40	-201479.29	0.1710	0.0207
Saturn	-5264-06-11 02:52 J	-201091.52	-201091.38	-201091.23	0.0260	0.0165
Saturn	-5264-09-07 23:16 J	-201002.72	-201002.53	-201002.34	0.0260	0.0018
Saturn	-5264-12-05 19:40 J	-200913.84	-200913.68	-200913.51	0.0260	0.0131
Venus	-5263-07-16 11:31 J	-200691.12	-200691.02	-200690.93	0.3684	0.1123
Jupiter	-5261-09-17 03:21 J	-199897.46	-199897.36	-199897.25	0.0527	0.0293
Jupiter	-5261-12-15 08:38 J	-199808.24	-199808.14	-199808.03	0.0525	0.0262
Venus	-5257-01-30 02:52 J	-198667.48	-198667.38	-198667.27	0.3685	0.0466
Mars	-5257-12-01 19:11 J	-198360.80	-198360.70	-198360.61	0.1804	0.1486
Mars	-5256-10-09 13:11 J	-198049.07	-198048.95	-198048.84	0.1715	0.0293
Moon	-5255-09-28 15:50 J	-197694.94	-197694.84	-197694.75	0.2721	0.1054
Earth	-5255-09-28 16:04 J	-197694.92	-197694.83	-197694.73	0.2716	0.1126 *
Jupiter	-5255-11-04 11:31 J	-197658.17	-197658.02	-197657.87	0.0499	0.0303
Jupiter	-5254-02-02 23:02 J	-197567.63	-197567.54	-197567.44	0.0501	0.0431
Mars	-5254-09-14 17:31 J	-197343.78	-197343.77	-197343.76	0.1693	0.1684
Venus	-5252-08-14 18:28 J	-196643.81	-196643.73	-196643.64	0.3686	0.1967
Moon	-5251-03-26 00:14 J	-196420.65	-196420.49	-196420.33	0.2619	0.0675

Earth	-5251-03-26 02:09 J	-196420.57	-196420.41	-196420.25	0.2618	0.0566 *
Saturn	-5249-04-08 01:55 J	-195676.45	-195676.42	-195676.38	0.0301	0.0289
Saturn	-5249-07-05 14:52 J	-195587.99	-195587.88	-195587.76	0.0301	0.0130
Jupiter	-5249-07-06 07:55 J	-195587.24	-195587.17	-195587.09	0.0527	0.0428
Saturn	-5249-10-02 03:35 J	-195499.48	-195499.35	-195499.22	0.0302	0.0028
Jupiter	-5249-10-03 13:26 J	-195498.06	-195497.94	-195497.82	0.0526	0.0130
Saturn	-5249-12-29 16:04 J	-195410.92	-195410.83	-195410.72	0.0302	0.0185
Uranus	-5248-05-08 09:50 J	-195281.13	-195281.09	-195281.03	0.0142	0.0138
Uranus	-5248-08-04 18:14 J	-195192.86	-195192.74	-195192.60	0.0142	0.0107
Moon	-5248-09-21 16:19 J	-195144.83	-195144.82	-195144.80	0.2707	0.2675
Earth	-5248-09-21 16:48 J	-195144.83	-195144.80	-195144.78	0.2714	0.2599 *
Uranus	-5248-11-01 02:52 J	-195104.54	-195104.38	-195104.21	0.0142	0.0075
Uranus	-5247-01-28 11:16 J	-195016.21	-195016.03	-195015.83	0.0142	0.0044
Uranus	-5247-04-26 19:55 J	-194927.86	-194927.67	-194927.47	0.0142	0.0013
Uranus	-5247-07-24 04:19 J	-194839.51	-194839.32	-194839.12	0.0142	0.0019
Uranus	-5247-10-20 12:57 J	-194751.14	-194750.96	-194750.77	0.0142	0.0050
Uranus	-5246-01-16 21:21 J	-194662.77	-194662.61	-194662.44	0.0142	0.0081
Venus	-5246-02-28 10:04 J	-194620.11	-194620.08	-194620.05	0.3688	0.3484
Mars	-5246-03-01 23:45 J	-194618.61	-194618.51	-194618.40	0.1721	0.0792
Uranus	-5246-04-15 05:45 J	-194574.37	-194574.26	-194574.13	0.0142	0.0112
Mars	-5244-02-04 04:33 J	-193913.39	-193913.31	-193913.23	0.1698	0.1222
Jupiter	-5243-08-23 07:11 J	-193348.21	-193348.20	-193348.19	0.0499	0.0497
Jupiter	-5243-11-21 18:14 J	-193257.90	-193257.74	-193257.57	0.0500	0.0232
Earth	-5242-10-01 09:35 J	-192944.15	-192944.10	-192944.06	0.2716	0.2451
Moon	-5242-10-01 09:50 J	-192944.13	-192944.09	-192944.05	0.2723	0.2493 *
Moon	-5238-03-29 09:50 J	-191669.19	-191669.09	-191669.00	0.2622	0.2106
Earth	-5238-03-29 11:02 J	-191669.11	-191669.04	-191668.97	0.2618	0.2328 *
Mars	-5237-07-22 10:19 J	-191188.14	-191188.07	-191188.00	0.1727	0.1311
Jupiter	-5237-07-22 18:14 J	-191187.87	-191187.74	-191187.61	0.0526	0.0003
Mars	-5236-08-21 06:28 J	-190793.38	-190793.23	-190793.09	0.1819	0.0975

Mars -5235-06-27 15:21 J -190482.96 -190482.86 -190482.75 0.1704 0.0749

Moon -5235-09-24 09:35 J -190394.20 -190394.10 -190394.01 0.2711 0.1294

Earth -5235-09-24 10:04 J -190394.17 -190394.08 -190393.98 0.2714 0.1271 *

Saturn -5235-10-29 02:38 J -190359.50 -190359.39 -190359.27 0.0260 0.0205

Saturn -5234-01-25 23:02 J -190270.73 -190270.54 -190270.36 0.0260 0.0058

Saturn -5234-04-24 19:11 J -190181.87 -190181.70 -190181.52 0.0260 0.0090

Saturn -5234-07-22 15:35 J -190092.91 -190092.85 -190092.77 0.0259 0.0239

Venus -5233-12-27 20:38 J -189568.80 -189568.64 -189568.49 0.3686 0.0656

Jupiter -5231-09-09 15:21 J -188948.05 -188947.86 -188947.68 0.0500 0.0052

Mars -5226-01-11 01:11 J -187363.62 -187363.45 -187363.28 0.1812 0.0216

Mars -5226-11-18 02:24 J -187052.52 -187052.40 -187052.29 0.1710 0.0263

Jupiter -5225-05-10 22:33 J -186877.68 -186877.56 -186877.44 0.0526 0.0140

Jupiter -5225-08-08 03:21 J -186788.43 -186788.36 -186788.28 0.0524 0.0410

Moon -5222-09-27 02:52 J -185643.49 -185643.38 -185643.27 0.2718 0.0093

Earth -5222-09-27 03:35 J -185643.46 -185643.35 -185643.25 0.2715 0.0110 *

Saturn -5220-11-22 15:50 J -184855.94 -184855.84 -184855.74 0.0302 0.0187

Saturn -5219-02-19 04:33 J -184767.44 -184767.31 -184767.18 0.0302 0.0029

Saturn -5219-05-18 17:16 J -184678.90 -184678.78 -184678.66 0.0302 0.0129

Jupiter -5219-06-28 12:28 J -184638.16 -184637.98 -184637.80 0.0500 0.0125

Saturn -5219-08-15 05:45 J -184590.30 -184590.26 -184590.22 0.0303 0.0285

Mars -5217-06-01 20:09 J -183933.77 -183933.66 -183933.55 0.1804 0.1372

Mars -5216-04-09 13:11 J -183622.07 -183621.95 -183621.84 0.1715 0.0240

Jupiter -5213-02-28 02:38 J -182567.49 -182567.39 -182567.28 0.0527 0.0281

Jupiter -5213-05-27 07:55 J -182478.28 -182478.17 -182478.07 0.0525 0.0272

Venus -5212-08-06 17:16 J -182041.86 -182041.78 -182041.70 0.3682 0.2129

Neptune -5209-09-24 06:43 J -180897.24 -180897.22 -180897.18 0.0089 0.0087

Moon -5209-09-28 20:38 J -180892.73 -180892.64 -180892.55 0.2722 0.1397

Earth -5209-09-28 20:52 J -180892.72 -180892.63 -180892.54 0.2715 0.1391 *

Neptune -5209-12-21 08:09 J -180809.21 -180809.16 -180809.10 0.0089 0.0080

Neptune -5208-03-19 09:21 J -180721.17 -180721.11 -180721.02 0.0089 0.0073

Neptune -5208-06-15 10:48 J -180633.13 -180633.05 -180632.95 0.0089 0.0065

Neptune -5208-09-11 12:00 J -180545.09 -180545.00 -180544.89 0.0089 0.0059

Neptune -5208-12-08 13:40 J -180457.04 -180456.93 -180456.82 0.0089 0.0051

Neptune -5207-03-06 15:07 J -180368.99 -180368.87 -180368.76 0.0089 0.0044

Jupiter -5207-04-16 09:50 J -180328.24 -180328.09 -180327.94 0.0499 0.0299

Neptune -5207-06-02 16:19 J -180280.94 -180280.82 -180280.70 0.0089 0.0037

Jupiter -5207-07-15 21:21 J -180237.69 -180237.61 -180237.52 0.0501 0.0437

Neptune -5207-08-29 17:45 J -180192.89 -180192.76 -180192.64 0.0089 0.0030

Mars -5207-08-30 23:45 J -180191.61 -180191.51 -180191.41 0.1721 0.0742

Neptune -5207-11-25 18:57 J -180104.83 -180104.71 -180104.58 0.0089 0.0023

Venus -5206-02-20 08:52 J -180018.23 -180018.13 -180018.03 0.3684 0.0566

Neptune -5206-02-21 20:24 J -180016.78 -180016.65 -180016.52 0.0089 0.0015

Neptune -5206-05-20 21:50 J -179928.73 -179928.59 -179928.46 0.0089 0.0009

Neptune -5206-08-16 23:02 J -179840.67 -179840.54 -179840.41 0.0089 0.0002

Neptune -5206-11-13 00:28 J -179752.61 -179752.48 -179752.35 0.0089 0.0006

Neptune -5205-02-09 01:40 J -179664.56 -179664.43 -179664.30 0.0089 0.0013

Pluto -5205-02-23 21:50 J -179649.64 -179649.59 -179649.52 0.0072 0.0064

Saturn -5205-03-17 01:55 J -179627.47 -179627.42 -179627.36 0.0260 0.0248

Moon -5205-03-26 07:11 J -179618.36 -179618.20 -179618.03 0.2619 0.0338

Earth -5205-03-26 09:07 J -179618.28 -179618.12 -179617.95 0.2618 0.0006 *

Neptune -5205-05-07 02:52 J -179576.50 -179576.38 -179576.24 0.0089 0.0021

Pluto -5205-05-21 22:48 J -179561.63 -179561.55 -179561.45 0.0072 0.0056

Saturn -5205-06-13 22:04 J -179538.75 -179538.58 -179538.40 0.0260 0.0102

Neptune -5205-08-03 04:19 J -179488.44 -179488.32 -179488.19 0.0089 0.0027

Mars -5205-08-05 04:33 J -179486.39 -179486.31 -179486.24 0.1698 0.1274

Pluto -5205-08-17 23:45 J -179473.60 -179473.51 -179473.38 0.0072 0.0048

Saturn -5205-09-10 18:28 J -179449.92 -179449.73 -179449.54 0.0260 0.0046

Neptune -5205-10-30 05:31 J -179400.38 -179400.27 -179400.14 0.0089 0.0035

Pluto -5205-11-14 00:57 J -179385.57 -179385.46 -179385.33 0.0072 0.0038

Saturn -5205-12-08 14:52 J -179361.00 -179360.88 -179360.75 0.0260 0.0195

Neptune -5204-01-26 06:57 J -179312.32 -179312.21 -179312.09 0.0089 0.0041

Uranus -5204-01-26 12:14 J -179311.99 -179311.99 -179311.96 0.0136 0.0135

Pluto -5204-02-10 02:09 J -179297.54 -179297.41 -179297.27 0.0072 0.0029

Neptune -5204-04-24 08:09 J -179224.26 -179224.16 -179224.04 0.0089 0.0049

Uranus -5204-04-24 15:35 J -179223.91 -179223.85 -179223.78 0.0136 0.0116

Pluto -5204-05-09 03:07 J -179209.50 -179209.37 -179209.22 0.0073 0.0021

Neptune -5204-07-21 09:35 J -179136.20 -179136.10 -179135.99 0.0089 0.0055

Uranus -5204-07-21 18:43 J -179135.81 -179135.72 -179135.63 0.0136 0.0098

Pluto -5204-08-05 04:19 J -179121.46 -179121.32 -179121.17 0.0073 0.0012

Neptune -5204-10-17 10:48 J -179048.13 -179048.05 -179047.95 0.0089 0.0063

Uranus -5204-10-17 21:35 J -179047.70 -179047.60 -179047.49 0.0136 0.0080

Pluto -5204-11-01 05:31 J -179033.42 -179033.27 -179033.13 0.0073 0.0003

Neptune -5203-01-13 12:00 J -178960.07 -178960.00 -178959.90 0.0089 0.0070

Uranus -5203-01-14 00:43 J -178959.58 -178959.47 -178959.35 0.0136 0.0062

Pluto -5203-01-28 06:28 J -178945.37 -178945.23 -178945.08 0.0073 0.0007

Neptune -5203-04-11 13:26 J -178872.00 -178871.94 -178871.86 0.0089 0.0077

Uranus -5203-04-12 03:50 J -178871.46 -178871.34 -178871.22 0.0136 0.0044

Pluto -5203-04-26 07:26 J -178857.33 -178857.19 -178857.04 0.0073 0.0016

Neptune -5203-07-08 14:38 J -178783.92 -178783.89 -178783.83 0.0089 0.0084

Uranus -5203-07-09 06:57 J -178783.34 -178783.21 -178783.08 0.0136 0.0026

Pluto -5203-07-23 08:38 J -178769.27 -178769.14 -178769.00 0.0073 0.0025

Uranus -5203-10-05 09:50 J -178695.22 -178695.09 -178694.96 0.0137 0.0009

Pluto -5203-10-19 09:50 J -178681.22 -178681.09 -178680.96 0.0073 0.0035

Uranus -5202-01-01 12:57 J -178607.09 -178606.96 -178606.83 0.0137 0.0011

Pluto -5202-01-15 10:48 J -178593.16 -178593.05 -178592.92 0.0073 0.0044

Uranus -5202-03-30 16:04 J -178518.96 -178518.83 -178518.70 0.0137 0.0030

Pluto -5202-04-13 12:00 J -178505.10 -178505.00 -178504.90 0.0073 0.0054

Uranus -5202-06-26 18:57 J -178430.82 -178430.71 -178430.58 0.0137 0.0048

Pluto -5202-07-10 12:57 J -178417.02 -178416.96 -178416.87 0.0074 0.0064

Uranus -5202-09-22 22:04 J -178342.69 -178342.58 -178342.46 0.0137 0.0067

Moon	-5202-09-22 21:07 J	-178342.67	-178342.62	-178342.57	0.2707	0.2343 *
Earth	-5202-09-22 21:21 J	-178342.66	-178342.61	-178342.55	0.2714	0.2332 *
Pluto	-5202-10-06 14:09 J	-178328.92	-178328.91	-178328.88	0.0074	0.0073
Jupiter	-5202-12-17 06:28 J	-178257.30	-178257.23	-178257.15	0.0527	0.0427
Uranus	-5202-12-20 01:11 J	-178254.55	-178254.45	-178254.35	0.0137	0.0085
Jupiter	-5201-03-15 12:00 J	-178168.12	-178168.00	-178167.88	0.0526	0.0131
Uranus	-5201-03-17 04:19 J	-178166.40	-178166.32	-178166.24	0.0137	0.0103
Uranus	-5201-06-13 07:11 J	-178078.25	-178078.20	-178078.13	0.0137	0.0122
Venus	-5201-09-05 00:28 J	-177994.58	-177994.48	-177994.38	0.3685	0.0975
Mars	-5197-01-21 10:19 J	-176761.14	-176761.07	-176760.99	0.1727	0.1251
Mars	-5196-02-19 07:26 J	-176366.33	-176366.19	-176366.06	0.1819	0.1088
Mars	-5196-12-26 15:21 J	-176055.96	-176055.86	-176055.76	0.1704	0.0800
Jupiter	-5195-02-02 06:43 J	-176018.27	-176018.22	-176018.17	0.0499	0.0477
Venus	-5195-03-21 16:04 J	-175970.91	-175970.83	-175970.76	0.3687	0.2503
Jupiter	-5195-05-03 18:00 J	-175927.91	-175927.75	-175927.59	0.0500	0.0252
Saturn	-5190-04-11 17:45 J	-174123.84	-174123.76	-174123.68	0.0301	0.0233
Saturn	-5190-07-09 06:28 J	-174035.35	-174035.23	-174035.10	0.0302	0.0075
Saturn	-5190-10-05 19:11 J	-173946.82	-173946.70	-173946.57	0.0302	0.0083
Saturn	-5189-01-02 07:55 J	-173858.25	-173858.17	-173858.10	0.0302	0.0239
Jupiter	-5189-01-02 16:33 J	-173857.93	-173857.81	-173857.68	0.0526	0.0018
Moon	-5189-09-24 14:09 J	-173592.00	-173591.91	-173591.81	0.2713	0.1144
Earth	-5189-09-24 14:52 J	-173591.98	-173591.88	-173591.78	0.2714	0.1002 *
Mars	-5187-07-12 01:40 J	-172936.60	-172936.43	-172936.25	0.1812	0.0127
Mars	-5186-05-19 02:24 J	-172625.51	-172625.40	-172625.29	0.1709	0.0320
Jupiter	-5183-02-19 13:11 J	-171618.13	-171617.95	-171617.76	0.0500	0.0054
Venus	-5181-01-18 13:26 J	-170920.04	-170919.94	-170919.84	0.3688	0.2768
Jupiter	-5178-10-21 21:35 J	-169547.73	-169547.60	-169547.48	0.0527	0.0131
Mars	-5178-12-01 20:52 J	-169506.75	-169506.63	-169506.51	0.1805	0.1268
Jupiter	-5177-01-19 02:38 J	-169458.47	-169458.39	-169458.32	0.0525	0.0419
Mars	-5177-10-08 12:57 J	-169195.07	-169194.96	-169194.84	0.1715	0.0189

Venus	-5176-08-03 22:48 J	-168895.67	-168895.55	-168895.42	0.3686	0.2289
Moon	-5176-09-27 07:40 J	-168841.29	-168841.18	-168841.07	0.2718	0.0303
Earth	-5176-09-27 08:24 J	-168841.26	-168841.15	-168841.05	0.2715	0.0345 *
Saturn	-5176-10-31 21:35 J	-168806.76	-168806.60	-168806.44	0.0260	0.0143
Saturn	-5175-01-28 17:45 J	-168717.95	-168717.76	-168717.57	0.0260	0.0005
Saturn	-5175-04-27 14:09 J	-168629.06	-168628.91	-168628.75	0.0259	0.0152
Moon	-5172-03-24 05:16 J	-167567.29	-167567.28	-167567.26	0.2617	0.2594
Earth	-5172-03-24 07:11 J	-167567.27	-167567.20	-167567.13	0.2619	0.2340 *
Jupiter	-5172-12-08 10:19 J	-167308.25	-167308.07	-167307.89	0.0500	0.0125
Mars	-5167-02-28 23:45 J	-165764.62	-165764.51	-165764.41	0.1721	0.0683
Jupiter	-5166-08-10 01:55 J	-165237.53	-165237.42	-165237.31	0.0527	0.0270
Jupiter	-5166-11-07 06:57 J	-165148.31	-165148.21	-165148.10	0.0525	0.0283
Mars	-5165-02-04 04:19 J	-165059.38	-165059.32	-165059.25	0.1698	0.1328
Uranus	-5164-05-28 17:45 J	-164579.83	-164579.76	-164579.66	0.0142	0.0128
Uranus	-5164-08-25 02:24 J	-164491.53	-164491.40	-164491.24	0.0142	0.0096
Uranus	-5164-11-21 11:02 J	-164403.21	-164403.04	-164402.86	0.0142	0.0065
Uranus	-5163-02-17 19:40 J	-164314.87	-164314.68	-164314.49	0.0142	0.0034
Uranus	-5163-05-17 04:04 J	-164226.52	-164226.33	-164226.13	0.0142	0.0003
Uranus	-5163-08-13 12:43 J	-164138.17	-164137.97	-164137.78	0.0142	0.0029
Moon	-5163-09-30 01:26 J	-164090.52	-164090.44	-164090.35	0.2722	0.1598
Earth	-5163-09-30 01:40 J	-164090.51	-164090.43	-164090.35	0.2716	0.1657 *
Uranus	-5163-11-09 21:07 J	-164049.80	-164049.62	-164049.44	0.0142	0.0060
Uranus	-5162-02-06 05:45 J	-163961.41	-163961.26	-163961.11	0.0142	0.0091
Uranus	-5162-05-05 14:09 J	-163873.01	-163872.91	-163872.81	0.0141	0.0122
Venus	-5161-08-27 23:02 J	-163392.59	-163392.54	-163392.49	0.3681	0.3150
Saturn	-5161-08-28 18:14 J	-163391.76	-163391.74	-163391.72	0.0302	0.0296
Saturn	-5161-11-25 06:57 J	-163303.32	-163303.21	-163303.09	0.0302	0.0137
Saturn	-5160-02-21 19:55 J	-163214.80	-163214.67	-163214.54	0.0302	0.0023
Saturn	-5160-05-21 08:24 J	-163126.25	-163126.15	-163126.04	0.0303	0.0179
Jupiter	-5160-09-26 07:40 J	-162998.32	-162998.18	-162998.02	0.0500	0.0299

Jupiter	-5160-12-25 19:40 J	-162907.77	-162907.68	-162907.60	0.0501	0.0439
Moon	-5159-03-27 14:24 J	-162816.06	-162815.90	-162815.74	0.2620	0.0453
Earth	-5159-03-27 16:04 J	-162815.99	-162815.83	-162815.67	0.2618	0.0555 *
Mars	-5158-07-22 10:19 J	-162334.15	-162334.07	-162333.99	0.1727	0.1197
Mars	-5157-08-20 08:09 J	-161939.28	-161939.16	-161939.03	0.1819	0.1199
Mars	-5156-06-26 15:21 J	-161628.96	-161628.86	-161628.76	0.1704	0.0854
Moon	-5156-09-23 01:55 J	-161540.49	-161540.42	-161540.36	0.2708	0.2132
Earth	-5156-09-23 02:09 J	-161540.47	-161540.41	-161540.34	0.2714	0.2065 *
Venus	-5155-03-13 14:38 J	-161368.98	-161368.89	-161368.79	0.3683	0.1584
Jupiter	-5154-05-29 06:00 J	-160927.33	-160927.25	-160927.17	0.0527	0.0411
Jupiter	-5154-08-26 11:16 J	-160838.15	-160838.03	-160837.90	0.0525	0.0147
Venus	-5150-09-27 06:28 J	-159345.34	-159345.23	-159345.13	0.3684	0.0147
Mars	-5149-12-11 20:52 J	-158903.64	-158903.63	-158903.62	0.1733	0.1720
Jupiter	-5148-07-15 05:16 J	-158688.34	-158688.28	-158688.22	0.0499	0.0469
Jupiter	-5148-10-13 16:33 J	-158597.96	-158597.81	-158597.65	0.0501	0.0261
Mars	-5147-01-10 02:38 J	-158509.56	-158509.39	-158509.21	0.1812	0.0045
Mars	-5147-11-17 02:09 J	-158198.52	-158198.41	-158198.29	0.1709	0.0372
Saturn	-5146-03-20 20:09 J	-158074.78	-158074.66	-158074.53	0.0260	0.0191
Saturn	-5146-06-17 16:33 J	-157986.00	-157985.81	-157985.63	0.0260	0.0044
Saturn	-5146-09-14 12:43 J	-157897.14	-157896.97	-157896.79	0.0260	0.0104
Saturn	-5146-12-12 09:07 J	-157808.15	-157808.12	-157808.07	0.0259	0.0253
Venus	-5144-04-11 21:50 J	-157321.68	-157321.59	-157321.49	0.3686	0.1516
Moon	-5143-09-25 18:57 J	-156789.81	-156789.71	-156789.61	0.2715	0.0794
Earth	-5143-09-25 19:40 J	-156789.78	-156789.68	-156789.58	0.2714	0.0734 *
Jupiter	-5142-06-14 15:35 J	-156527.98	-156527.85	-156527.73	0.0526	0.0012
Venus	-5139-10-26 13:26 J	-155298.00	-155297.94	-155297.88	0.3687	0.3027
Mars	-5138-06-01 21:35 J	-155079.72	-155079.60	-155079.47	0.1804	0.1166
Mars	-5137-04-08 12:57 J	-154768.07	-154767.96	-154767.84	0.1715	0.0131
Jupiter	-5136-08-01 13:26 J	-154288.13	-154287.94	-154287.76	0.0500	0.0078
Saturn	-5131-04-14 08:38 J	-152571.23	-152571.14	-152571.03	0.0301	0.0187

Saturn -5131-07-11 21:35 J -152482.73 -152482.60 -152482.47 0.0302 0.0028

Saturn -5131-10-08 10:19 J -152394.19 -152394.07 -152393.96 0.0302 0.0129

Saturn -5130-01-04 22:48 J -152305.59 -152305.55 -152305.51 0.0302 0.0285

Jupiter -5130-04-02 20:09 J -152217.78 -152217.66 -152217.53 0.0527 0.0129

Jupiter -5130-07-01 01:11 J -152128.52 -152128.45 -152128.37 0.0525 0.0421

Moon -5130-09-28 12:28 J -152039.08 -152038.98 -152038.87 0.2719 0.0464

Earth -5130-09-28 12:57 J -152039.06 -152038.96 -152038.85 0.2715 0.0604 *

Mars -5128-08-29 23:45 J -151337.62 -151337.51 -151337.40 0.1721 0.0624

Moon -5126-03-25 12:14 J -150765.10 -150764.99 -150764.88 0.2617 0.1985

Earth -5126-03-25 14:09 J -150765.03 -150764.91 -150764.79 0.2619 0.1789 *

Mars -5126-08-05 04:19 J -150632.38 -150632.32 -150632.25 0.1698 0.1384

Neptune -5126-12-06 16:48 J -150508.86 -150508.80 -150508.73 0.0088 0.0082

Neptune -5125-03-03 19:55 J -150420.75 -150420.67 -150420.54 0.0088 0.0073

Neptune -5125-05-30 23:31 J -150332.64 -150332.52 -150332.37 0.0088 0.0063

Venus -5125-08-24 15:35 J -150247.00 -150246.85 -150246.70 0.3687 0.1187

Neptune -5125-08-27 03:21 J -150244.51 -150244.36 -150244.20 0.0088 0.0053

Neptune -5125-11-23 06:57 J -150156.38 -150156.21 -150156.04 0.0088 0.0043

Neptune -5124-02-19 10:04 J -150068.24 -150068.08 -150067.88 0.0088 0.0034

Neptune -5124-05-18 13:55 J -149980.10 -149979.92 -149979.73 0.0088 0.0024

Jupiter -5124-05-20 08:52 J -149978.31 -149978.13 -149977.95 0.0500 0.0120

Neptune -5124-08-14 17:31 J -149891.96 -149891.77 -149891.57 0.0088 0.0014

Neptune -5124-11-10 21:07 J -149803.81 -149803.62 -149803.42 0.0088 0.0004

Neptune -5123-02-07 00:43 J -149715.67 -149715.47 -149715.28 0.0088 0.0006

Neptune -5123-05-06 04:19 J -149627.52 -149627.32 -149627.13 0.0088 0.0016

Neptune -5123-08-02 07:40 J -149539.36 -149539.18 -149538.99 0.0088 0.0026

Neptune -5123-10-29 11:16 J -149451.20 -149451.03 -149450.85 0.0088 0.0036

Neptune -5122-01-25 14:52 J -149363.04 -149362.88 -149362.71 0.0088 0.0046

Neptune -5122-04-23 18:14 J -149274.88 -149274.74 -149274.58 0.0088 0.0056

Neptune -5122-07-20 21:50 J -149186.71 -149186.59 -149186.45 0.0088 0.0066

Neptune -5122-10-17 01:26 J -149098.52 -149098.44 -149098.33 0.0088 0.0076

Neptune -5121-01-13 05:02 J -149010.31 -149010.29 -149010.24 0.0088 0.0086

Pluto -5120-01-27 14:09 J -148629.93 -148629.91 -148629.84 0.0073 0.0070

Uranus -5120-02-15 19:55 J -148610.70 -148610.67 -148610.62 0.0136 0.0129

Pluto -5120-04-25 16:19 J -148541.91 -148541.82 -148541.72 0.0072 0.0059

Uranus -5120-05-14 23:02 J -148522.61 -148522.54 -148522.46 0.0136 0.0111

Pluto -5120-07-22 17:45 J -148453.87 -148453.76 -148453.62 0.0072 0.0049

Uranus -5120-08-11 02:09 J -148434.50 -148434.41 -148434.31 0.0136 0.0092

Pluto -5120-10-18 19:40 J -148365.82 -148365.68 -148365.53 0.0072 0.0038

Uranus -5120-11-07 05:16 J -148346.39 -148346.28 -148346.17 0.0136 0.0074

Pluto -5119-01-14 21:21 J -148277.76 -148277.61 -148277.44 0.0072 0.0027

Uranus -5119-02-03 08:09 J -148258.27 -148258.16 -148258.03 0.0136 0.0057

Pluto -5119-04-12 23:02 J -148189.70 -148189.54 -148189.37 0.0072 0.0017

Uranus -5119-05-02 11:16 J -148170.15 -148170.03 -148169.90 0.0136 0.0038

Pluto -5119-07-10 00:43 J -148101.63 -148101.47 -148101.29 0.0072 0.0007

Uranus -5119-07-29 14:24 J -148082.03 -148081.90 -148081.77 0.0136 0.0020

Pluto -5119-10-06 02:24 J -148013.57 -148013.40 -148013.23 0.0072 0.0004

Uranus -5119-10-25 17:31 J -147993.90 -147993.77 -147993.64 0.0137 0.0002

Pluto -5118-01-02 04:04 J -147925.50 -147925.33 -147925.16 0.0072 0.0014

Jupiter -5118-01-20 00:57 J -147907.57 -147907.46 -147907.35 0.0527 0.0259

Mars -5118-01-20 10:19 J -147907.16 -147907.07 -147906.98 0.1727 0.1139

Uranus -5118-01-21 20:38 J -147905.77 -147905.64 -147905.51 0.0137 0.0017

Pluto -5118-03-31 05:31 J -147837.42 -147837.27 -147837.10 0.0072 0.0024

Jupiter -5118-04-19 06:14 J -147818.34 -147818.24 -147818.14 0.0525 0.0295

Uranus -5118-04-19 23:31 J -147817.64 -147817.52 -147817.39 0.0137 0.0036

Pluto -5118-06-27 07:11 J -147749.34 -147749.20 -147749.04 0.0071 0.0034

Uranus -5118-07-17 02:38 J -147729.51 -147729.39 -147729.27 0.0137 0.0054

Pluto -5118-09-23 08:38 J -147661.26 -147661.14 -147660.99 0.0071 0.0044

Uranus -5118-10-13 05:45 J -147641.37 -147641.26 -147641.15 0.0137 0.0072

Pluto -5118-12-20 10:04 J -147573.18 -147573.08 -147572.95 0.0071 0.0053

Uranus -5117-01-09 08:38 J -147553.23 -147553.14 -147553.04 0.0137 0.0091

Mars -5117-02-19 09:07 J -147512.24 -147512.12 -147512.01 0.1820 0.1307

Pluto -5117-03-17 11:31 J -147485.08 -147485.02 -147484.92 0.0071 0.0063

Uranus -5117-04-06 11:45 J -147465.08 -147465.01 -147464.93 0.0137 0.0109

Uranus -5117-07-03 14:52 J -147376.92 -147376.88 -147376.83 0.0137 0.0128

Saturn -5117-08-06 19:26 J -147342.76 -147342.69 -147342.60 0.0260 0.0233

Moon -5117-09-30 06:14 J -147288.31 -147288.24 -147288.16 0.2723 0.1987

Earth -5117-09-30 06:28 J -147288.31 -147288.23 -147288.16 0.2715 0.1924 *

Saturn -5117-11-03 15:35 J -147254.02 -147253.85 -147253.67 0.0260 0.0087

Mars -5117-12-25 15:21 J -147201.95 -147201.86 -147201.76 0.1703 0.0910

Saturn -5116-01-31 11:45 J -147165.19 -147165.01 -147164.82 0.0260 0.0061

Saturn -5116-04-30 08:09 J -147076.26 -147076.16 -147076.04 0.0259 0.0208

Moon -5113-03-27 21:21 J -146013.76 -146013.61 -146013.45 0.2622 0.0866

Earth -5113-03-27 23:02 J -146013.69 -146013.54 -146013.39 0.2618 0.1115 *

Jupiter -5112-03-08 06:00 J -145668.40 -145668.25 -145668.10 0.0499 0.0295

Jupiter -5112-06-06 17:45 J -145577.85 -145577.76 -145577.67 0.0501 0.0441

Moon -5110-09-24 06:28 J -144738.30 -144738.23 -144738.15 0.2709 0.1865

Earth -5110-09-24 06:57 J -144738.29 -144738.21 -144738.13 0.2714 0.1798 *

Mars -5109-06-11 20:52 J -144476.66 -144476.63 -144476.60 0.1733 0.1664

Mars -5108-07-11 03:50 J -144082.51 -144082.34 -144082.17 0.1812 0.0119

Mars -5107-05-18 02:09 J -143771.52 -143771.41 -143771.30 0.1709 0.0425

Jupiter -5107-11-08 05:16 J -143597.36 -143597.28 -143597.19 0.0527 0.0397

Jupiter -5106-02-05 10:48 J -143508.17 -143508.05 -143507.93 0.0525 0.0160

Venus -5104-04-03 20:38 J -142719.71 -142719.64 -142719.57 0.3682 0.2594

Saturn -5102-09-01 08:52 J -141839.20 -141839.13 -141839.06 0.0302 0.0252

Saturn -5102-11-28 21:50 J -141750.72 -141750.59 -141750.47 0.0302 0.0094

Saturn -5101-02-25 10:33 J -141662.19 -141662.06 -141661.94 0.0302 0.0065

Saturn -5101-05-23 23:02 J -141573.62 -141573.54 -141573.45 0.0303 0.0221

Jupiter -5101-12-25 03:35 J -141358.41 -141358.35 -141358.28 0.0499 0.0466

Jupiter -5100-03-25 14:52 J -141268.03 -141267.88 -141267.72 0.0501 0.0266

Venus -5099-10-18 12:14 J -140696.09 -140695.99 -140695.89 0.3683 0.1028

Mars	-5099-11-30 22:33 J	-140652.70	-140652.56	-140652.43	0.1805	0.1060
Mars	-5098-10-08 12:57 J	-140341.07	-140340.96	-140340.84	0.1715	0.0072
Moon	-5097-09-25 23:45 J	-139987.62	-139987.51	-139987.41	0.2715	0.0596
Earth	-5097-09-26 00:28 J	-139987.59	-139987.48	-139987.38	0.2714	0.0470 *
Jupiter	-5095-11-24 15:07 J	-139198.00	-139197.87	-139197.74	0.0526	0.0022
Venus	-5093-05-03 03:50 J	-138672.44	-138672.34	-138672.24	0.3685	0.0514
Jupiter	-5088-01-11 12:14 J	-136958.17	-136957.99	-136957.80	0.0500	0.0090
Mars	-5088-02-27 23:45 J	-136910.62	-136910.51	-136910.41	0.1721	0.0574
Venus	-5088-11-16 19:26 J	-136648.78	-136648.69	-136648.61	0.3686	0.2040
Saturn	-5087-03-23 13:55 J	-136522.08	-136521.92	-136521.76	0.0260	0.0138
Saturn	-5087-06-20 10:04 J	-136433.27	-136433.08	-136432.89	0.0260	0.0009
Saturn	-5087-09-17 06:28 J	-136344.38	-136344.23	-136344.08	0.0259	0.0157
Mars	-5086-02-03 04:19 J	-136205.38	-136205.32	-136205.26	0.1698	0.1434
Moon	-5084-09-28 17:16 J	-135236.88	-135236.78	-135236.68	0.2720	0.0860
Earth	-5084-09-28 17:45 J	-135236.86	-135236.76	-135236.66	0.2715	0.0865 *
Jupiter	-5083-09-12 19:11 J	-134887.82	-134887.70	-134887.58	0.0526	0.0120
Jupiter	-5083-12-11 00:14 J	-134798.56	-134798.49	-134798.42	0.0525	0.0429
Venus	-5082-06-02 10:48 J	-134625.07	-134625.05	-134625.02	0.3688	0.3539
Moon	-5080-03-25 19:11 J	-133962.83	-133962.70	-133962.56	0.2618	0.1423
Earth	-5080-03-25 21:07 J	-133962.77	-133962.62	-133962.47	0.2619	0.1220 *
Uranus	-5080-06-18 01:40 J	-133878.52	-133878.43	-133878.31	0.0142	0.0118
Uranus	-5080-09-14 10:04 J	-133790.22	-133790.08	-133789.91	0.0142	0.0088
Uranus	-5080-12-11 18:57 J	-133701.89	-133701.71	-133701.53	0.0142	0.0056
Uranus	-5079-03-10 03:35 J	-133613.55	-133613.35	-133613.16	0.0142	0.0024
Uranus	-5079-06-06 12:00 J	-133525.20	-133525.00	-133524.80	0.0142	0.0007
Mars	-5079-07-21 10:19 J	-133480.16	-133480.07	-133479.98	0.1727	0.1082
Uranus	-5079-09-02 20:24 J	-133436.83	-133436.65	-133436.46	0.0142	0.0038
Uranus	-5079-11-30 04:48 J	-133348.46	-133348.30	-133348.12	0.0142	0.0070
Uranus	-5078-02-26 13:11 J	-133260.07	-133259.95	-133259.80	0.0142	0.0101
Uranus	-5078-05-25 21:50 J	-133171.65	-133171.59	-133171.51	0.0141	0.0131

Mars	-5078-08-20 09:50 J	-133085.19	-133085.09	-133084.98	0.1820	0.1417
Mars	-5077-06-25 15:21 J	-132774.96	-132774.86	-132774.77	0.1704	0.0961
Jupiter	-5077-10-30 09:07 J	-132648.30	-132648.12	-132647.93	0.0500	0.0091
Saturn	-5072-04-16 23:02 J	-131018.65	-131018.54	-131018.42	0.0302	0.0147
Saturn	-5072-07-14 12:00 J	-130930.13	-130930.00	-130929.87	0.0302	0.0015
Saturn	-5072-10-11 00:28 J	-130841.58	-130841.48	-130841.37	0.0302	0.0169
Jupiter	-5071-07-01 23:45 J	-130577.62	-130577.51	-130577.39	0.0527	0.0254
Jupiter	-5071-09-29 05:02 J	-130488.39	-130488.29	-130488.19	0.0525	0.0300
Moon	-5071-10-01 11:02 J	-130486.10	-130486.04	-130485.97	0.2723	0.2143
Earth	-5071-10-01 11:02 J	-130486.10	-130486.04	-130485.97	0.2716	0.2198 *
Mars	-5070-12-11 20:52 J	-130049.67	-130049.63	-130049.59	0.1732	0.1605
Mars	-5068-01-09 04:04 J	-129655.50	-129655.33	-129655.16	0.1812	0.0206
Venus	-5068-03-31 17:45 J	-129573.92	-129573.76	-129573.60	0.3687	0.0412
Mars	-5068-11-16 02:09 J	-129344.52	-129344.41	-129344.30	0.1709	0.0484
Moon	-5067-03-29 04:19 J	-129211.45	-129211.32	-129211.19	0.2622	0.1546
Earth	-5067-03-29 05:45 J	-129211.38	-129211.26	-129211.13	0.2618	0.1675 *
Jupiter	-5065-08-18 04:47 J	-128338.45	-128338.30	-128338.15	0.0499	0.0286
Jupiter	-5065-11-16 16:19 J	-128247.90	-128247.82	-128247.74	0.0501	0.0449
Moon	-5064-09-24 11:16 J	-127936.12	-127936.03	-127935.95	0.2711	0.1581
Earth	-5064-09-24 11:45 J	-127936.10	-127936.01	-127935.92	0.2714	0.1529 *
Jupiter	-5059-04-20 04:33 J	-126267.39	-126267.31	-126267.22	0.0527	0.0384
Mars	-5059-05-31 23:31 J	-126225.66	-126225.52	-126225.37	0.1805	0.0942
Jupiter	-5059-07-18 10:04 J	-126178.20	-126178.08	-126177.96	0.0526	0.0174
Mars	-5058-04-08 12:57 J	-125914.07	-125913.96	-125913.84	0.1715	0.0021
Saturn	-5058-08-10 12:57 J	-125790.09	-125789.96	-125789.82	0.0260	0.0181
Saturn	-5058-11-07 09:07 J	-125701.30	-125701.12	-125700.93	0.0260	0.0035
Saturn	-5057-02-04 05:31 J	-125612.44	-125612.27	-125612.10	0.0260	0.0113
Venus	-5053-04-25 02:24 J	-124070.42	-124070.40	-124070.39	0.3681	0.3621
Jupiter	-5053-06-06 02:09 J	-124028.48	-124028.41	-124028.34	0.0499	0.0459
Jupiter	-5053-09-04 13:26 J	-123938.10	-123937.94	-123937.78	0.0501	0.0271

Moon -5051-09-27 04:33 J -123185.42 -123185.31 -123185.21 0.2715 0.0290

Earth -5051-09-27 05:16 J -123185.39 -123185.28 -123185.18 0.2715 0.0229 *

Mars -5049-08-28 23:45 J -122483.62 -122483.51 -122483.41 0.1721 0.0520

Venus -5048-11-08 18:00 J -122046.83 -122046.75 -122046.66 0.3682 0.2046

Jupiter -5047-02-06 09:07 J -121957.14 -121957.12 -121957.11 0.0528 0.0522

Jupiter -5047-05-06 14:38 J -121868.02 -121867.89 -121867.77 0.0526 0.0040

Mars -5047-08-04 04:19 J -121778.37 -121778.32 -121778.27 0.1698 0.1486

Neptune -5044-06-21 05:45 J -120726.28 -120726.26 -120726.21 0.0089 0.0086

Neptune -5044-09-17 07:26 J -120638.25 -120638.19 -120638.13 0.0089 0.0079

Neptune -5044-12-14 08:38 J -120550.21 -120550.14 -120550.05 0.0089 0.0072

Neptune -5043-03-12 10:04 J -120462.17 -120462.08 -120461.99 0.0089 0.0065

Neptune -5043-06-08 11:16 J -120374.12 -120374.03 -120373.92 0.0089 0.0058

Saturn -5043-09-03 23:16 J -120286.62 -120286.53 -120286.44 0.0302 0.0213

Neptune -5043-09-04 12:43 J -120286.07 -120285.97 -120285.85 0.0089 0.0050

Saturn -5043-12-01 12:00 J -120198.13 -120198.00 -120197.87 0.0302 0.0055

Neptune -5043-12-01 14:09 J -120198.02 -120197.91 -120197.79 0.0089 0.0043 *

Neptune -5042-02-27 15:21 J -120109.97 -120109.86 -120109.73 0.0089 0.0036

Saturn -5042-02-28 00:43 J -120109.59 -120109.47 -120109.35 0.0302 0.0103

Venus -5042-05-25 09:35 J -120023.20 -120023.10 -120022.99 0.3684 0.0507

Neptune -5042-05-26 16:47 J -120021.92 -120021.80 -120021.67 0.0089 0.0029

Saturn -5042-05-27 13:12 J -120021.01 -120020.95 -120020.88 0.0303 0.0259

Neptune -5042-08-22 18:14 J -119933.87 -119933.74 -119933.61 0.0089 0.0022

Neptune -5042-11-18 19:40 J -119845.81 -119845.68 -119845.55 0.0089 0.0015

Neptune -5041-02-14 20:52 J -119757.76 -119757.63 -119757.49 0.0089 0.0008

Neptune -5041-05-12 22:19 J -119669.70 -119669.57 -119669.44 0.0089 0.0001

Jupiter -5041-06-23 10:47 J -119628.23 -119628.05 -119627.87 0.0500 0.0096

Neptune -5041-08-08 23:31 J -119581.65 -119581.52 -119581.38 0.0089 0.0007

Neptune -5041-11-05 00:57 J -119493.59 -119493.46 -119493.33 0.0089 0.0014

Neptune -5040-02-01 02:24 J -119405.53 -119405.40 -119405.27 0.0089 0.0021

Neptune -5040-04-30 03:35 J -119317.47 -119317.35 -119317.22 0.0089 0.0028

Neptune -5040-07-27 05:02 J -119229.41 -119229.29 -119229.17 0.0089 0.0035

Neptune -5040-10-23 06:14 J -119141.35 -119141.24 -119141.12 0.0089 0.0042

Neptune -5039-01-19 07:26 J -119053.29 -119053.19 -119053.07 0.0089 0.0049

Mars -5039-01-19 10:19 J -119053.16 -119053.07 -119052.98 0.1726 0.1028 *

Neptune -5039-04-17 08:38 J -118965.23 -118965.14 -118965.03 0.0089 0.0057

Neptune -5039-07-14 10:04 J -118877.16 -118877.08 -118876.98 0.0089 0.0063

Neptune -5039-10-10 11:16 J -118789.10 -118789.03 -118788.94 0.0089 0.0070

Neptune -5038-01-06 12:28 J -118701.03 -118700.98 -118700.90 0.0089 0.0078

Mars -5038-02-18 10:47 J -118658.14 -118658.05 -118657.96 0.1820 0.1525

Neptune -5038-04-04 14:09 J -118612.95 -118612.91 -118612.87 0.0089 0.0084

Moon -5038-09-29 22:19 J -118434.67 -118434.57 -118434.48 0.2721 0.1061

Earth -5038-09-29 22:33 J -118434.66 -118434.56 -118434.46 0.2715 0.1132 *

Mars -5038-12-25 15:21 J -118347.95 -118347.86 -118347.77 0.1703 0.1017

Venus -5037-12-08 01:12 J -117999.54 -117999.45 -117999.35 0.3685 0.1053

Uranus -5036-03-08 03:21 J -117909.40 -117909.36 -117909.29 0.0136 0.0123

Uranus -5036-06-04 06:28 J -117821.30 -117821.23 -117821.14 0.0136 0.0105

Uranus -5036-08-31 09:50 J -117733.19 -117733.09 -117732.99 0.0136 0.0086

Uranus -5036-11-27 12:43 J -117645.08 -117644.97 -117644.85 0.0136 0.0068

Jupiter -5035-02-22 18:57 J -117557.84 -117557.71 -117557.59 0.0526 0.0100

Uranus -5035-02-23 15:50 J -117556.96 -117556.84 -117556.72 0.0136 0.0050

Uranus -5035-05-22 18:57 J -117468.84 -117468.71 -117468.59 0.0136 0.0032

Jupiter -5035-05-23 00:00 J -117468.56 -117468.50 -117468.44 0.0524 0.0448

Uranus -5035-08-18 22:04 J -117380.71 -117380.58 -117380.45 0.0136 0.0014

Uranus -5035-11-15 00:57 J -117292.59 -117292.46 -117292.33 0.0136 0.0006

Uranus -5034-02-11 04:04 J -117204.46 -117204.33 -117204.20 0.0137 0.0023

Moon -5034-03-27 02:09 J -117160.56 -117160.41 -117160.25 0.2620 0.0926

Earth -5034-03-27 04:04 J -117160.49 -117160.33 -117160.17 0.2619 0.0664 *

Uranus -5034-05-10 06:57 J -117116.33 -117116.21 -117116.08 0.0137 0.0042

Uranus -5034-08-06 10:04 J -117028.19 -117028.08 -117027.96 0.0137 0.0060

Uranus -5034-11-02 13:12 J -116940.05 -116939.95 -116939.84 0.0137 0.0078

Uranus	-5033-01-29 16:19 J	-116851.91	-116851.82	-116851.73	0.0137	0.0096
Uranus	-5033-04-26 19:12 J	-116763.76	-116763.70	-116763.62	0.0137	0.0115
Uranus	-5033-07-23 22:19 J	-116675.59	-116675.57	-116675.54	0.0137	0.0133
Venus	-5031-06-23 16:47 J	-115975.87	-115975.80	-115975.73	0.3687	0.2558
Moon	-5031-09-22 23:02 J	-115884.58	-115884.54	-115884.51	0.2706	0.2551
Earth	-5031-09-22 23:02 J	-115884.57	-115884.54	-115884.51	0.2713	0.2589 *
Mars	-5030-06-11 20:38 J	-115622.68	-115622.64	-115622.59	0.1733	0.1552
Jupiter	-5029-04-11 08:09 J	-115318.34	-115318.16	-115317.97	0.0500	0.0078
Mars	-5029-07-10 05:31 J	-115228.44	-115228.27	-115228.11	0.1813	0.0331
Saturn	-5029-12-27 10:47 J	-115058.12	-115058.05	-115057.97	0.0260	0.0234
Saturn	-5028-03-26 06:57 J	-114969.39	-114969.21	-114969.03	0.0260	0.0088
Mars	-5028-05-17 02:09 J	-114917.52	-114917.41	-114917.30	0.1709	0.0533
Saturn	-5028-06-23 03:21 J	-114880.55	-114880.36	-114880.18	0.0260	0.0059
Saturn	-5028-09-19 23:45 J	-114791.63	-114791.51	-114791.40	0.0259	0.0207
Earth	-5025-10-01 15:50 J	-113683.88	-113683.84	-113683.79	0.2716	0.2463
Moon	-5025-10-01 16:04 J	-113683.87	-113683.83	-113683.80	0.2722	0.2538 *
Jupiter	-5024-12-11 23:02 J	-113247.65	-113247.54	-113247.43	0.0527	0.0243
Jupiter	-5023-03-11 04:19 J	-113158.42	-113158.32	-113158.22	0.0525	0.0310
Moon	-5021-03-29 11:16 J	-112409.13	-112409.03	-112408.93	0.2622	0.2040
Earth	-5021-03-29 12:43 J	-112409.05	-112408.97	-112408.88	0.2618	0.2245 *
Mars	-5020-11-30 00:00 J	-111798.65	-111798.50	-111798.35	0.1805	0.0853
Mars	-5019-10-07 12:57 J	-111487.08	-111486.96	-111486.85	0.1715	0.0045
Moon	-5018-09-25 15:50 J	-111133.93	-111133.84	-111133.75	0.2711	0.1395
Earth	-5018-09-25 16:33 J	-111133.90	-111133.81	-111133.72	0.2714	0.1257 *
Jupiter	-5017-01-29 05:16 J	-111008.44	-111008.28	-111008.12	0.0499	0.0255
Venus	-5017-04-21 10:33 J	-110925.15	-110925.06	-110924.97	0.3688	0.2977
Jupiter	-5017-04-28 16:47 J	-110917.84	-110917.80	-110917.74	0.0501	0.0482
Saturn	-5013-01-22 00:28 J	-109554.54	-109554.48	-109554.42	0.0301	0.0266
Saturn	-5013-04-19 13:26 J	-109466.06	-109465.94	-109465.82	0.0302	0.0108
Saturn	-5013-07-17 02:09 J	-109377.54	-109377.41	-109377.28	0.0302	0.0050

Saturn	**-5013-10-13 14:38 J**	**-109288.98**	**-109288.89**	**-109288.79**	**0.0302**	**0.0206**	
Jupiter	**-5012-09-30 03:35 J**	**-108937.44**	**-108937.35**	**-108937.26**	**0.0527**	**0.0377**	
Venus	**-5012-11-05 19:55 J**	**-108900.80**	**-108900.67**	**-108900.53**	**0.3686**	**0.2033**	
Jupiter	**-5012-12-28 08:52 J**	**-108848.24**	**-108848.13**	**-108848.01**	**0.0526**	**0.0182**	
Mars	**-5009-02-27 23:45 J**	**-108056.62**	**-108056.51**	**-108056.40**	**0.1720**	**0.0458**	
Mars	**-5007-02-02 04:19 J**	**-107351.37**	**-107351.32**	**-107351.28**	**0.1698**	**0.1542**	
Jupiter	**-5006-11-17 00:57 J**	**-106698.54**	**-106698.46**	**-106698.38**	**0.0499**	**0.0448**	
Jupiter	**-5005-02-15 12:14 J**	**-106608.14**	**-106607.99**	**-106607.84**	**0.0500**	**0.0281**	
Moon	**-5005-09-27 09:21 J**	**-106383.22**	**-106383.11**	**-106383.01**	**0.2716**	**0.0046**	
Earth	**-5005-09-27 09:50 J**	**-106383.19**	**-106383.09**	**-106382.98**	**0.2715**	**0.0121**	*****

5TH MILLENNIUM BCE

This is a list of transits of Mercury in the 5th millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Jupiter	**-5000-07-19 08:09 J**	**-104627.18**	**-104627.16**	**-104627.12**	**0.0528**	**0.0510**		
Mars	**-5000-07-20 10:19 J**	**-104626.17**	**-104626.07**	**-104625.98**	**0.1726**	**0.0974**		
Jupiter	**-5000-10-16 13:55 J**	**-104538.05**	**-104537.92**	**-104537.80**	**0.0526**	**0.0052**		
Saturn	**-4999-08-13 06:00 J**	**-104237.40**	**-104237.25**	**-104237.08**	**0.0260**	**0.0132**		
Mars	**-4999-08-19 11:45 J**	**-104231.09**	**-104231.01**	**-104230.94**	**0.1820**	**0.1638**		
Saturn	**-4999-11-10 02:24 J**	**-104148.59**	**-104148.40**	**-104148.21**	**0.0260**	**0.0016**		
Saturn	**-4998-02-06 22:33 J**	**-104059.70**	**-104059.56**	**-104059.40**	**0.0260**	**0.0164**		
Mars	**-4998-06-25 15:21 J**	**-103920.95**	**-103920.86**	**-103920.78**	**0.1703**	**0.1071**		
Venus	**-4997-11-29 23:45 J**	**-103397.56**	**-103397.51**	**-103397.45**	**0.3681**	**0.3066**		

Uranus	-4996-07-08 07:55 J	-103177.27	-103177.17	-103177.04	0.0142	0.0115
Uranus	-4996-10-04 16:19 J	-103088.96	-103088.82	-103088.64	0.0142	0.0084
Uranus	-4995-01-01 01:12 J	-103000.63	-103000.45	-103000.27	0.0142	0.0052
Uranus	-4995-03-30 09:50 J	-102912.29	-102912.09	-102911.90	0.0142	0.0020
Uranus	-4995-06-26 18:14 J	-102823.93	-102823.74	-102823.54	0.0142	0.0011
Uranus	-4995-09-23 02:52 J	-102735.57	-102735.38	-102735.20	0.0142	0.0042
Uranus	-4995-12-20 11:02 J	-102647.20	-102647.04	-102646.86	0.0142	0.0074
Uranus	-4994-03-18 19:26 J	-102558.81	-102558.69	-102558.54	0.0142	0.0105
Uranus	-4994-06-15 04:04 J	-102470.37	-102470.33	-102470.26	0.0141	0.0136
Jupiter	-4994-12-04 09:21 J	-102298.29	-102298.11	-102297.93	0.0500	0.0103
Moon	-4992-09-30 02:52 J	-101632.47	-101632.38	-101632.29	0.2722	0.1387
Earth	-4992-09-30 03:21 J	-101632.45	-101632.36	-101632.27	0.2715	0.1401 *
Venus	-4991-06-15 15:35 J	-101373.95	-101373.85	-101373.76	0.3683	0.1510
Mars	-4991-12-10 20:52 J	-101195.69	-101195.63	-101195.58	0.1732	0.1492
Mars	-4989-01-09 06:14 J	-100801.41	-100801.24	-100801.08	0.1813	0.0433
Mars	-4989-11-15 02:09 J	-100490.52	-100490.41	-100490.30	0.1709	0.0588
Moon	-4988-03-27 09:07 J	-100358.28	-100358.12	-100357.95	0.2621	0.0223
Earth	-4988-03-27 11:02 J	-100358.21	-100358.04	-100357.88	0.2619	0.0092 *
Jupiter	-4988-08-04 18:28 J	-100227.86	-100227.73	-100227.61	0.0526	0.0084
Jupiter	-4988-11-01 23:31 J	-100138.58	-100138.52	-100138.47	0.0525	0.0465
Venus	-4986-12-30 07:12 J	-99350.30	-99350.20	-99350.10	0.3684	0.0071
Moon	-4985-09-23 03:35 J	-99082.40	-99082.35	-99082.30	0.2707	0.2413
Earth	-4985-09-23 03:50 J	-99082.39	-99082.34	-99082.28	0.2713	0.2321 *
Saturn	-4984-09-06 13:26 J	-98734.04	-98733.94	-98733.83	0.0302	0.0174
Saturn	-4984-12-04 02:09 J	-98645.54	-98645.41	-98645.28	0.0302	0.0018
Saturn	-4983-03-02 14:52 J	-98556.99	-98556.88	-98556.77	0.0302	0.0140
Saturn	-4983-05-30 03:21 J	-98468.38	-98468.36	-98468.33	0.0302	0.0296
Jupiter	-4982-09-22 06:43 J	-97988.40	-97988.22	-97988.03	0.0500	0.0071
Mars	-4980-05-31 00:57 J	-97371.61	-97371.46	-97371.30	0.1805	0.0738
Venus	-4980-07-14 22:47 J	-97326.65	-97326.55	-97326.46	0.3686	0.1576

Mars -4979-04-07 12:57 J -97060.08 -97059.96 -97059.85 0.1715 0.0099

Jupiter -4976-05-23 22:47 J -95917.67 -95917.55 -95917.44 0.0527 0.0222

Jupiter -4976-08-21 03:50 J -95828.43 -95828.34 -95828.24 0.0525 0.0330

Venus -4974-01-28 14:09 J -95302.96 -95302.91 -95302.85 0.3687 0.3081

Moon -4972-09-25 20:38 J -94331.74 -94331.64 -94331.54 0.2711 0.1029

Earth -4972-09-25 21:21 J -94331.71 -94331.61 -94331.51 0.2714 0.0990 *

Jupiter -4970-07-11 04:04 J -93678.48 -93678.33 -93678.16 0.0499 0.0244

Mars -4970-08-28 23:31 J -93629.63 -93629.52 -93629.41 0.1721 0.0408

Jupiter -4970-10-09 16:04 J -93587.86 -93587.83 -93587.81 0.0501 0.0495

Saturn -4970-12-31 03:35 J -93505.47 -93505.35 -93505.21 0.0260 0.0186

Saturn -4969-03-29 00:00 J -93416.69 -93416.50 -93416.31 0.0260 0.0039

Saturn -4969-06-25 20:09 J -93327.83 -93327.66 -93327.48 0.0260 0.0109

Saturn -4969-09-22 16:33 J -93238.82 -93238.81 -93238.77 0.0260 0.0257

Mars -4968-08-03 04:19 J -92924.36 -92924.32 -92924.29 0.1698 0.1593

Jupiter -4964-03-12 02:38 J -91607.47 -91607.39 -91607.29 0.0527 0.0367

Jupiter -4964-06-09 08:09 J -91518.28 -91518.16 -91518.04 0.0526 0.0190

Neptune -4961-09-01 14:24 J -90337.96 -90337.90 -90337.80 0.0088 0.0080

Venus -4961-11-26 12:43 J -90252.12 -90251.97 -90251.83 0.3688 0.1436

Neptune -4961-11-28 18:14 J -90249.85 -90249.74 -90249.62 0.0088 0.0070

Mars -4960-01-18 10:19 J -90199.17 -90199.07 -90198.97 0.1726 0.0911

Neptune -4960-02-24 21:21 J -90161.73 -90161.61 -90161.45 0.0088 0.0061

Neptune -4960-05-24 00:57 J -90073.60 -90073.46 -90073.29 0.0088 0.0051

Neptune -4960-08-20 04:33 J -89985.47 -89985.31 -89985.13 0.0088 0.0041

Pluto -4960-10-23 12:14 J -89921.01 -89920.99 -89920.94 0.0072 0.0070

Neptune -4960-11-16 08:09 J -89897.33 -89897.16 -89896.97 0.0088 0.0031

Pluto -4959-01-19 13:12 J -89833.01 -89832.95 -89832.86 0.0072 0.0061

Neptune -4959-02-12 12:00 J -89809.19 -89809.00 -89808.82 0.0088 0.0021

Mars -4959-02-17 12:28 J -89804.02 -89803.98 -89803.93 0.1820 0.1745

Pluto -4959-04-17 14:24 J -89744.99 -89744.90 -89744.79 0.0072 0.0053

Neptune -4959-05-11 15:21 J -89721.05 -89720.86 -89720.66 0.0088 0.0011

Pluto -4959-07-14 15:21 J -89656.97 -89656.86 -89656.73 0.0072 0.0044

Neptune -4959-08-07 18:57 J -89632.90 -89632.71 -89632.51 0.0088 0.0001

Moon -4959-09-28 14:09 J -89581.02 -89580.91 -89580.80 0.2718 0.0233

Earth -4959-09-28 14:38 J -89580.99 -89580.89 -89580.78 0.2715 0.0346 *

Pluto -4959-10-10 16:19 J -89568.93 -89568.82 -89568.68 0.0072 0.0035

Neptune -4959-11-03 22:19 J -89544.76 -89544.57 -89544.37 0.0088 0.0009

Mars -4959-12-24 15:07 J -89493.95 -89493.87 -89493.78 0.1703 0.1125

Pluto -4958-01-06 17:31 J -89480.90 -89480.77 -89480.63 0.0072 0.0026

Neptune -4958-01-31 01:55 J -89456.60 -89456.42 -89456.22 0.0088 0.0019

Pluto -4958-04-04 18:28 J -89392.86 -89392.73 -89392.58 0.0073 0.0018

Jupiter -4958-04-29 01:26 J -89368.54 -89368.44 -89368.34 0.0499 0.0418

Neptune -4958-04-29 05:45 J -89368.45 -89368.26 -89368.08 0.0088 0.0028 *

Pluto -4958-07-01 19:40 J -89304.82 -89304.68 -89304.53 0.0073 0.0009

Neptune -4958-07-26 09:07 J -89280.29 -89280.12 -89279.94 0.0088 0.0038

Jupiter -4958-07-28 12:43 J -89278.11 -89277.97 -89277.82 0.0501 0.0312

Pluto -4958-09-27 20:52 J -89216.78 -89216.63 -89216.48 0.0073 0.0001

Neptune -4958-10-22 12:43 J -89192.13 -89191.97 -89191.80 0.0088 0.0048

Pluto -4958-12-24 21:50 J -89128.73 -89128.59 -89128.44 0.0073 0.0010

Neptune -4957-01-18 16:19 J -89103.96 -89103.82 -89103.67 0.0088 0.0058

Pluto -4957-03-21 23:02 J -89040.68 -89040.54 -89040.40 0.0073 0.0019

Neptune -4957-04-15 19:40 J -89015.79 -89015.68 -89015.55 0.0088 0.0068

Pluto -4957-06-18 00:00 J -88952.63 -88952.50 -88952.36 0.0073 0.0029

Neptune -4957-07-12 23:16 J -88927.61 -88927.53 -88927.43 0.0088 0.0078

Pluto -4957-09-14 00:57 J -88864.57 -88864.46 -88864.32 0.0073 0.0039

Pluto -4957-12-11 02:09 J -88776.51 -88776.41 -88776.29 0.0073 0.0048

Pluto -4956-03-09 03:07 J -88688.44 -88688.37 -88688.26 0.0074 0.0058

Pluto -4956-06-05 04:33 J -88600.36 -88600.31 -88600.24 0.0074 0.0067

Moon -4955-03-25 07:26 J -88307.23 -88307.19 -88307.15 0.2617 0.2523

Earth -4955-03-25 09:07 J -88307.18 -88307.12 -88307.06 0.2620 0.2435 *

Venus -4955-06-12 22:19 J -88227.57 -88227.57 -88227.56 0.3686 0.3676

Saturn	-4954-01-24 14:38 J	-88001.97	-88001.89	-88001.80	0.0301	0.0228
Saturn	-4954-04-23 03:35 J	-87913.48	-87913.35	-87913.22	0.0302	0.0070
Saturn	-4954-07-20 16:19 J	-87824.94	-87824.82	-87824.70	0.0302	0.0087
Saturn	-4954-10-17 04:47 J	-87736.37	-87736.30	-87736.22	0.0302	0.0243
Jupiter	-4953-12-29 07:12 J	-87297.23	-87297.20	-87297.16	0.0528	0.0502
Uranus	-4953-12-30 07:55 J	-87296.17	-87296.17	-87296.15	0.0136	0.0135
Uranus	-4952-03-28 11:02 J	-87208.10	-87208.04	-87207.97	0.0136	0.0117
Jupiter	-4952-03-28 12:43 J	-87208.09	-87207.97	-87207.84	0.0526	0.0061 *
Uranus	-4952-06-24 14:09 J	-87120.00	-87119.91	-87119.82	0.0136	0.0099
Uranus	-4952-09-20 17:02 J	-87031.88	-87031.79	-87031.68	0.0136	0.0081
Uranus	-4952-12-17 20:09 J	-86943.77	-86943.66	-86943.54	0.0136	0.0063
Uranus	-4951-03-15 23:16 J	-86855.65	-86855.53	-86855.40	0.0136	0.0045
Mars	-4951-06-10 20:38 J	-86768.70	-86768.64	-86768.57	0.1732	0.1436
Uranus	-4951-06-12 02:24 J	-86767.53	-86767.40	-86767.27	0.0136	0.0026
Uranus	-4951-09-08 05:31 J	-86679.40	-86679.27	-86679.14	0.0136	0.0008
Uranus	-4951-12-05 08:24 J	-86591.27	-86591.15	-86591.01	0.0136	0.0012
Uranus	-4950-03-03 11:31 J	-86503.14	-86503.02	-86502.89	0.0137	0.0029
Uranus	-4950-05-30 14:38 J	-86415.01	-86414.89	-86414.77	0.0137	0.0047
Mars	-4950-07-10 06:43 J	-86374.38	-86374.22	-86374.05	0.1813	0.0533
Uranus	-4950-08-26 17:45 J	-86326.88	-86326.76	-86326.65	0.0137	0.0065
Uranus	-4950-11-22 20:38 J	-86238.74	-86238.64	-86238.53	0.0137	0.0084
Uranus	-4949-02-18 23:45 J	-86150.59	-86150.51	-86150.42	0.0137	0.0102
Mars	-4949-05-16 02:09 J	-86063.52	-86063.41	-86063.30	0.1709	0.0645
Uranus	-4949-05-17 02:52 J	-86062.44	-86062.38	-86062.32	0.0137	0.0120
Jupiter	-4946-05-16 08:09 J	-84968.34	-84968.16	-84967.98	0.0500	0.0113
Moon	-4946-10-01 07:40 J	-84830.26	-84830.18	-84830.09	0.2722	0.1636
Earth	-4946-10-01 07:55 J	-84830.25	-84830.17	-84830.08	0.2715	0.1674 *
Moon	-4942-03-28 16:04 J	-83555.99	-83555.83	-83555.67	0.2621	0.0152
Earth	-4942-03-28 18:00 J	-83555.92	-83555.75	-83555.59	0.2619	0.0472 *
Mars	-4941-11-29 01:55 J	-82944.58	-82944.42	-82944.26	0.1806	0.0629

Jupiter	-4940-01-14 17:31 J	-82897.89	-82897.77	-82897.64	0.0527	0.0073
Jupiter	-4940-04-13 22:33 J	-82808.60	-82808.56	-82808.51	0.0525	0.0478
Saturn	-4940-05-19 02:52 J	-82773.46	-82773.38	-82773.28	0.0261	0.0228
Venus	-4940-07-06 21:21 J	-82724.69	-82724.61	-82724.54	0.3682	0.2517
Saturn	-4940-08-15 23:16 J	-82684.71	-82684.53	-82684.35	0.0260	0.0081
Mars	-4940-10-06 12:43 J	-82633.08	-82632.97	-82632.85	0.1714	0.0162
Saturn	-4940-11-12 19:26 J	-82595.87	-82595.69	-82595.50	0.0260	0.0066
Saturn	-4939-02-09 15:50 J	-82506.94	-82506.84	-82506.73	0.0260	0.0214
Moon	-4939-09-24 08:09 J	-82280.23	-82280.16	-82280.09	0.2708	0.2060
Earth	-4939-09-24 08:38 J	-82280.21	-82280.14	-82280.07	0.2713	0.2056 *
Venus	-4934-01-20 12:57 J	-80701.06	-80700.96	-80700.86	0.3683	0.0963
Jupiter	-4934-03-04 05:16 J	-80658.46	-80658.28	-80658.09	0.0499	0.0064
Mars	-4931-04-20 21:21 J	-79514.64	-79514.61	-79514.58	0.1798	0.1755
Mars	-4930-02-26 23:31 J	-79202.63	-79202.52	-79202.40	0.1720	0.0352
Venus	-4929-08-05 04:33 J	-78677.41	-78677.31	-78677.21	0.3685	0.0586
Jupiter	-4929-11-02 22:04 J	-78587.70	-78587.58	-78587.46	0.0527	0.0208
Jupiter	-4928-01-31 03:21 J	-78498.46	-78498.36	-78498.27	0.0525	0.0345
Mars	-4928-02-01 04:04 J	-78497.35	-78497.33	-78497.30	0.1698	0.1647
Moon	-4926-09-27 01:26 J	-77529.54	-77529.44	-77529.34	0.2712	0.0871
Earth	-4926-09-27 02:09 J	-77529.52	-77529.41	-77529.31	0.2714	0.0725 *
Saturn	-4925-06-12 15:07 J	-77269.90	-77269.87	-77269.83	0.0301	0.0289
Saturn	-4925-09-09 03:50 J	-77181.45	-77181.34	-77181.22	0.0301	0.0133
Saturn	-4925-12-06 16:47 J	-77092.93	-77092.80	-77092.67	0.0302	0.0026
Saturn	-4924-03-05 05:16 J	-77004.38	-77004.28	-77004.17	0.0302	0.0181
Venus	-4923-02-18 20:09 J	-76653.74	-76653.66	-76653.58	0.3686	0.2101
Jupiter	-4923-12-21 02:38 J	-76348.55	-76348.39	-76348.22	0.0499	0.0238
Jupiter	-4922-03-21 14:24 J	-76257.91	-76257.90	-76257.89	0.0501	0.0500
Mars	-4921-07-19 10:04 J	-75772.17	-75772.08	-75771.98	0.1726	0.0863
Mars	-4919-06-24 15:07 J	-75066.95	-75066.87	-75066.79	0.1703	0.1177
Venus	-4918-09-04 11:45 J	-74630.03	-74630.01	-74630.00	0.3687	0.3602

Jupiter	-4917-08-22 02:24 J	-74277.49	-74277.40	-74277.30	0.0527	0.0347
Jupiter	-4917-11-19 07:40 J	-74188.29	-74188.18	-74188.06	0.0525	0.0209
Moon	-4913-09-28 18:57 J	-72778.82	-72778.71	-72778.61	0.2720	0.0585
Earth	-4913-09-28 19:26 J	-72778.79	-72778.69	-72778.59	0.2715	0.0609 *
Uranus	-4912-05-01 06:00 J	-72564.26	-72564.25	-72564.20	0.0143	0.0141
Uranus	-4912-07-28 14:52 J	-72476.00	-72475.88	-72475.75	0.0142	0.0109
Uranus	-4912-10-24 23:16 J	-72387.69	-72387.53	-72387.36	0.0142	0.0078
Mars	-4912-12-09 20:38 J	-72341.71	-72341.64	-72341.57	0.1732	0.1380
Uranus	-4911-01-21 07:55 J	-72299.35	-72299.17	-72298.98	0.0142	0.0046
Uranus	-4911-04-19 16:33 J	-72211.01	-72210.81	-72210.62	0.0142	0.0015
Uranus	-4911-07-17 00:57 J	-72122.65	-72122.46	-72122.26	0.0142	0.0016
Jupiter	-4911-10-09 00:14 J	-72038.59	-72038.49	-72038.38	0.0499	0.0408
Uranus	-4911-10-13 09:21 J	-72034.29	-72034.11	-72033.92	0.0142	0.0048
Saturn	-4910-01-02 20:52 J	-71952.79	-71952.63	-71952.47	0.0260	0.0136
Jupiter	-4910-01-07 11:31 J	-71948.16	-71948.02	-71947.87	0.0501	0.0323
Mars	-4910-01-08 07:40 J	-71947.33	-71947.18	-71947.02	0.1813	0.0647
Uranus	-4910-01-09 17:45 J	-71945.91	-71945.76	-71945.58	0.0142	0.0079
Saturn	-4910-04-01 17:02 J	-71863.97	-71863.79	-71863.60	0.0260	0.0013
Uranus	-4910-04-08 02:24 J	-71857.52	-71857.40	-71857.27	0.0142	0.0110
Saturn	-4910-06-29 13:26 J	-71775.08	-71774.94	-71774.78	0.0260	0.0159
Uranus	-4910-07-05 10:47 J	-71769.05	-71769.05	-71769.02	0.0141	0.0141
Mars	-4910-11-15 01:55 J	-71636.52	-71636.42	-71636.31	0.1709	0.0696
Moon	-4909-03-25 14:09 J	-71504.99	-71504.91	-71504.81	0.2619	0.2173
Earth	-4909-03-25 16:04 J	-71504.94	-71504.83	-71504.72	0.2619	0.1866 *
Jupiter	-4905-06-10 06:28 J	-69967.28	-69967.23	-69967.19	0.0528	0.0493
Jupiter	-4905-09-07 12:00 J	-69878.13	-69878.00	-69877.88	0.0526	0.0070
Venus	-4904-07-03 14:52 J	-69579.04	-69578.88	-69578.73	0.3687	0.0157
Mars	-4901-05-30 02:38 J	-68517.55	-68517.39	-68517.23	0.1805	0.0528
Mars	-4900-04-06 12:57 J	-68206.08	-68205.96	-68205.85	0.1715	0.0215
Moon	-4900-10-01 12:43 J	-68028.04	-68027.97	-68027.90	0.2722	0.1920

Earth	-4900-10-01 12:43 J	-68028.04	-68027.97	-68027.89	0.2715	0.1943 *
Jupiter	-4899-10-26 08:24 J	-67638.33	-67638.15	-67637.97	0.0500	0.0142
Moon	-4896-03-28 23:02 J	-66753.69	-66753.54	-66753.39	0.2621	0.0926
Earth	-4896-03-29 00:43 J	-66753.62	-66753.47	-66753.31	0.2619	0.1028 *
Saturn	-4895-01-27 05:16 J	-66449.38	-66449.28	-66449.17	0.0301	0.0184
Saturn	-4895-04-25 18:14 J	-66360.87	-66360.74	-66360.61	0.0301	0.0029
Saturn	-4895-07-23 06:43 J	-66272.33	-66272.22	-66272.10	0.0302	0.0129
Saturn	-4895-10-19 19:26 J	-66183.73	-66183.69	-66183.65	0.0302	0.0284
Jupiter	-4893-06-26 16:33 J	-65567.94	-65567.81	-65567.69	0.0527	0.0067
Jupiter	-4893-09-23 21:36 J	-65478.65	-65478.60	-65478.55	0.0525	0.0483
Moon	-4893-09-24 12:57 J	-65478.04	-65477.96	-65477.89	0.2708	0.1907
Earth	-4893-09-24 13:26 J	-65478.02	-65477.94	-65477.86	0.2713	0.1785 *
Mars	-4892-10-19 21:50 J	-65087.65	-65087.59	-65087.52	0.1798	0.1662
Mars	-4891-08-27 23:31 J	-64775.63	-64775.52	-64775.40	0.1720	0.0295
Venus	-4889-07-28 03:07 J	-64075.40	-64075.37	-64075.35	0.3681	0.3540
Jupiter	-4887-08-14 04:04 J	-63328.51	-63328.33	-63328.14	0.0499	0.0055
Venus	-4883-02-10 18:43 J	-62051.80	-62051.72	-62051.63	0.3682	0.1974
Mars	-4881-01-18 10:04 J	-61345.18	-61345.08	-61344.97	0.1726	0.0806
Jupiter	-4881-04-14 21:07 J	-61257.74	-61257.62	-61257.50	0.0527	0.0200
Saturn	-4881-05-21 20:23 J	-61220.79	-61220.65	-61220.51	0.0261	0.0176
Jupiter	-4881-07-13 02:23 J	-61168.49	-61168.40	-61168.31	0.0526	0.0354
Saturn	-4881-08-18 16:33 J	-61131.99	-61131.81	-61131.62	0.0261	0.0030
Saturn	-4881-11-15 12:57 J	-61043.13	-61042.96	-61042.79	0.0260	0.0119
Moon	-4880-09-27 06:14 J	-60727.35	-60727.24	-60727.14	0.2714	0.0495
Earth	-4880-09-27 06:43 J	-60727.32	-60727.22	-60727.11	0.2714	0.0466 *
Mars	-4880-12-23 15:07 J	-60639.95	-60639.87	-60639.79	0.1703	0.1231
Neptune	-4879-03-18 05:31 J	-60555.31	-60555.27	-60555.24	0.0089	0.0085
Neptune	-4879-06-14 06:43 J	-60467.28	-60467.22	-60467.15	0.0089	0.0078
Neptune	-4879-09-10 07:55 J	-60379.24	-60379.17	-60379.08	0.0089	0.0071
Neptune	-4879-12-07 09:21 J	-60291.20	-60291.11	-60291.01	0.0089	0.0063

Neptune -4878-03-05 10:33 J -60203.15 -60203.06 -60202.94 0.0089 0.0057

Neptune -4878-06-01 12:00 J -60115.10 -60115.00 -60114.88 0.0089 0.0049

Venus -4878-08-27 10:33 J -60028.16 -60028.06 -60027.96 0.3684 0.0427

Neptune -4878-08-28 13:26 J -60027.05 -60026.94 -60026.82 0.0089 0.0042

Neptune -4878-11-24 14:52 J -59939.00 -59938.88 -59938.76 0.0089 0.0035

Neptune -4877-02-20 16:19 J -59850.95 -59850.82 -59850.69 0.0089 0.0028

Neptune -4877-05-18 17:31 J -59762.89 -59762.77 -59762.64 0.0089 0.0021

Neptune -4877-08-14 18:57 J -59674.84 -59674.71 -59674.58 0.0089 0.0013

Neptune -4877-11-10 20:23 J -59586.79 -59586.65 -59586.52 0.0089 0.0007

Neptune -4876-02-06 21:36 J -59498.73 -59498.60 -59498.46 0.0089 0.0002

Neptune -4876-05-05 23:02 J -59410.67 -59410.54 -59410.41 0.0089 0.0008

Neptune -4876-08-02 00:14 J -59322.62 -59322.49 -59322.35 0.0089 0.0015

Neptune -4876-10-29 01:26 J -59234.56 -59234.44 -59234.30 0.0089 0.0023

Neptune -4875-01-25 02:52 J -59146.50 -59146.38 -59146.25 0.0089 0.0029

Neptune -4875-04-23 04:04 J -59058.44 -59058.33 -59058.20 0.0089 0.0037

Jupiter -4875-06-02 01:12 J -59018.61 -59018.45 -59018.28 0.0499 0.0231

Neptune -4875-07-20 05:31 J -58970.38 -58970.27 -58970.15 0.0089 0.0043

Neptune -4875-10-16 06:43 J -58882.32 -58882.22 -58882.10 0.0089 0.0051

Pluto -4875-12-24 05:16 J -58813.34 -58813.28 -58813.20 0.0073 0.0066

Neptune -4874-01-12 08:09 J -58794.25 -58794.16 -58794.05 0.0089 0.0057

Pluto -4874-03-22 06:57 J -58725.30 -58725.21 -58725.08 0.0072 0.0055

Neptune -4874-04-10 09:21 J -58706.19 -58706.11 -58706.01 0.0089 0.0064

Pluto -4874-06-18 08:52 J -58637.26 -58637.13 -58636.99 0.0072 0.0045

Neptune -4874-07-07 10:33 J -58618.12 -58618.06 -58617.97 0.0089 0.0072

Pluto -4874-09-14 10:33 J -58549.20 -58549.06 -58548.90 0.0072 0.0034

Neptune -4874-10-03 12:00 J -58530.05 -58530.00 -58529.93 0.0089 0.0078

Pluto -4874-12-11 12:28 J -58461.14 -58460.98 -58460.82 0.0072 0.0023

Neptune -4874-12-30 13:12 J -58441.97 -58441.95 -58441.90 0.0089 0.0086

Pluto -4873-03-08 14:09 J -58373.08 -58372.91 -58372.74 0.0072 0.0013

Pluto -4873-06-04 15:50 J -58285.01 -58284.84 -58284.67 0.0072 0.0003

Pluto	-4873-08-31 17:16 J	-58196.94	-58196.78	-58196.60	0.0072	0.0008
Pluto	-4873-11-27 18:57 J	-58108.87	-58108.71	-58108.54	0.0072	0.0017
Pluto	-4872-02-23 20:23 J	-58020.80	-58020.65	-58020.48	0.0071	0.0028
Venus	-4872-03-12 02:09 J	-58004.51	-58004.41	-58004.31	0.3685	0.1118
Pluto	-4872-05-22 22:04 J	-57932.72	-57932.58	-57932.43	0.0071	0.0037
Mars	-4872-06-09 20:38 J	-57914.71	-57914.64	-57914.57	0.1732	0.1324
Pluto	-4872-08-18 23:31 J	-57844.63	-57844.52	-57844.38	0.0071	0.0047
Pluto	-4872-11-15 00:57 J	-57756.54	-57756.46	-57756.34	0.0071	0.0057
Pluto	-4871-02-11 02:52 J	-57668.43	-57668.38	-57668.32	0.0071	0.0066
Mars	-4871-07-09 08:52 J	-57520.29	-57520.13	-57519.98	0.1813	0.0762
Mars	-4870-05-16 01:55 J	-57209.52	-57209.42	-57209.31	0.1709	0.0752
Jupiter	-4869-02-02 01:40 J	-56947.53	-56947.43	-56947.34	0.0528	0.0337
Jupiter	-4869-05-01 06:57 J	-56858.32	-56858.21	-56858.10	0.0526	0.0220
Uranus	-4868-01-19 15:36 J	-56594.88	-56594.85	-56594.81	0.0136	0.0129
Uranus	-4868-04-17 18:43 J	-56506.79	-56506.72	-56506.64	0.0136	0.0111
Uranus	-4868-07-14 21:36 J	-56418.68	-56418.60	-56418.50	0.0136	0.0093
Uranus	-4868-10-11 00:43 J	-56330.57	-56330.47	-56330.35	0.0136	0.0075
Uranus	-4867-01-07 03:50 J	-56242.45	-56242.34	-56242.22	0.0136	0.0057
Uranus	-4867-04-05 06:57 J	-56154.33	-56154.21	-56154.08	0.0136	0.0038
Uranus	-4867-07-02 10:04 J	-56066.21	-56066.08	-56065.95	0.0136	0.0020
Venus	-4867-09-25 17:31 J	-55980.84	-55980.77	-55980.69	0.3686	0.2633
Uranus	-4867-09-28 12:57 J	-55978.09	-55977.96	-55977.82	0.0136	0.0005
Moon	-4867-09-29 23:45 J	-55976.62	-55976.51	-55976.41	0.2720	0.0757
Earth	-4867-09-30 00:14 J	-55976.59	-55976.49	-55976.39	0.2715	0.0879 *
Uranus	-4867-12-25 16:04 J	-55889.96	-55889.83	-55889.70	0.0136	0.0016
Uranus	-4866-03-23 19:12 J	-55801.83	-55801.70	-55801.58	0.0137	0.0035
Saturn	-4866-06-16 06:00 J	-55717.32	-55717.25	-55717.17	0.0301	0.0242
Uranus	-4866-06-19 22:19 J	-55713.69	-55713.57	-55713.45	0.0137	0.0053
Saturn	-4866-09-12 18:57 J	-55628.84	-55628.71	-55628.59	0.0301	0.0085
Uranus	-4866-09-16 01:12 J	-55625.56	-55625.45	-55625.34	0.0137	0.0071

Saturn	-4866-12-10 07:40 J	-55540.31	-55540.18	-55540.06	0.0302	0.0072
Uranus	-4866-12-13 04:04 J	-55537.42	-55537.33	-55537.22	0.0137	0.0090
Saturn	-4865-03-07 20:09 J	-55451.74	-55451.66	-55451.57	0.0302	0.0227
Uranus	-4865-03-10 07:12 J	-55449.27	-55449.20	-55449.11	0.0137	0.0108
Uranus	-4865-06-06 10:19 J	-55361.11	-55361.07	-55361.02	0.0137	0.0127
Jupiter	-4863-03-20 22:33 J	-54708.66	-54708.56	-54708.45	0.0499	0.0404
Moon	-4863-03-26 20:52 J	-54702.76	-54702.63	-54702.49	0.2620	0.1461
Earth	-4863-03-26 23:02 J	-54702.69	-54702.54	-54702.40	0.2619	0.1317 *
Jupiter	-4863-06-19 09:50 J	-54618.23	-54618.09	-54617.95	0.0500	0.0326
Mars	-4862-11-29 03:36 J	-54090.52	-54090.35	-54090.19	0.1806	0.0423
Mars	-4861-10-05 12:43 J	-53779.08	-53778.97	-53778.85	0.1714	0.0265
Jupiter	-4858-11-21 05:45 J	-52637.31	-52637.26	-52637.20	0.0528	0.0477
Jupiter	-4857-02-18 11:16 J	-52548.15	-52548.03	-52547.90	0.0526	0.0085
Earth	-4854-10-02 17:31 J	-51225.83	-51225.77	-51225.71	0.2715	0.2210
Moon	-4854-10-02 17:45 J	-51225.82	-51225.76	-51225.71	0.2722	0.2265 *
Venus	-4853-07-24 07:40 J	-50930.25	-50930.18	-50930.10	0.3689	0.3215
Mars	-4852-04-19 23:02 J	-50660.63	-50660.54	-50660.46	0.1798	0.1548
Saturn	-4852-10-08 18:14 J	-50488.83	-50488.74	-50488.65	0.0261	0.0230
Saturn	-4851-01-05 14:23 J	-50400.08	-50399.90	-50399.72	0.0261	0.0083
Mars	-4851-02-25 23:31 J	-50348.63	-50348.52	-50348.41	0.1720	0.0239
Saturn	-4851-04-04 10:47 J	-50311.24	-50311.05	-50310.87	0.0260	0.0065
Jupiter	-4851-04-07 06:57 J	-50308.39	-50308.21	-50308.03	0.0500	0.0149
Saturn	-4851-07-02 07:12 J	-50222.31	-50222.20	-50222.09	0.0260	0.0213
Moon	-4850-03-30 06:14 J	-49951.38	-49951.24	-49951.10	0.2622	0.1313
Earth	-4850-03-30 07:40 J	-49951.31	-49951.18	-49951.05	0.2619	0.1594 *
Venus	-4847-02-07 17:16 J	-48905.92	-48905.78	-48905.65	0.3687	0.1771
Moon	-4847-09-25 17:45 J	-48675.85	-48675.76	-48675.68	0.2708	0.1546
Earth	-4847-09-25 18:14 J	-48675.83	-48675.74	-48675.65	0.2713	0.1518 *
Jupiter	-4846-12-07 15:21 J	-48237.98	-48237.86	-48237.73	0.0526	0.0061
Jupiter	-4845-03-05 20:23 J	-48148.69	-48148.65	-48148.60	0.0525	0.0488

Mars	-4842-07-19 10:04 J	-46918.18	-46918.08	-46917.97	0.1726	0.0748
Mars	-4840-06-23 15:07 J	-46212.95	-46212.87	-46212.80	0.1703	0.1283
Jupiter	-4839-01-24 03:50 J	-45998.52	-45998.34	-45998.15	0.0500	0.0034
Saturn	-4837-11-02 07:55 J	-44985.20	-44985.17	-44985.14	0.0301	0.0290
Saturn	-4836-01-29 20:38 J	-44896.76	-44896.64	-44896.52	0.0301	0.0133
Saturn	-4836-04-28 09:21 J	-44808.24	-44808.11	-44807.98	0.0301	0.0024
Saturn	-4836-07-25 22:04 J	-44719.69	-44719.58	-44719.48	0.0302	0.0179
Jupiter	-4834-09-25 19:55 J	-43927.79	-43927.67	-43927.55	0.0527	0.0196
Moon	-4834-09-28 11:02 J	-43925.15	-43925.04	-43924.94	0.2716	0.0356
Earth	-4834-09-28 11:31 J	-43925.12	-43925.02	-43924.91	0.2714	0.0192 *
Jupiter	-4834-12-24 01:12 J	-43838.54	-43838.45	-43838.36	0.0525	0.0358
Mars	-4833-12-08 20:38 J	-43487.72	-43487.64	-43487.56	0.1732	0.1265
Venus	-4832-03-04 00:43 J	-43402.53	-43402.47	-43402.42	0.3681	0.2986
Mars	-4831-01-07 09:21 J	-43093.26	-43093.11	-43092.96	0.1813	0.0853
Mars	-4831-11-14 02:09 J	-42782.51	-42782.41	-42782.31	0.1708	0.0810
Uranus	-4828-05-21 13:12 J	-41863.01	-41862.95	-41862.89	0.0142	0.0135
Uranus	-4828-08-17 21:36 J	-41774.73	-41774.60	-41774.46	0.0142	0.0104
Jupiter	-4828-11-11 23:45 J	-41688.67	-41688.51	-41688.34	0.0499	0.0224
Uranus	-4828-11-14 06:00 J	-41686.41	-41686.25	-41686.08	0.0142	0.0073
Uranus	-4827-02-10 14:38 J	-41598.08	-41597.89	-41597.70	0.0142	0.0041
Uranus	-4827-05-09 23:16 J	-41509.73	-41509.53	-41509.34	0.0142	0.0010
Uranus	-4827-08-06 07:40 J	-41421.37	-41421.18	-41420.99	0.0142	0.0021
Venus	-4827-09-17 16:19 J	-41378.91	-41378.82	-41378.72	0.3682	0.1424
Uranus	-4827-11-02 16:04 J	-41333.01	-41332.83	-41332.64	0.0142	0.0053
Uranus	-4826-01-30 00:28 J	-41244.63	-41244.48	-41244.31	0.0142	0.0084
Uranus	-4826-04-28 08:52 J	-41156.23	-41156.13	-41156.00	0.0142	0.0115
Saturn	-4822-05-25 14:09 J	-39668.07	-39667.91	-39667.74	0.0261	0.0121
Mars	-4822-05-30 04:33 J	-39663.48	-39663.31	-39663.14	0.1806	0.0303
Jupiter	-4822-07-15 00:14 J	-39617.58	-39617.49	-39617.39	0.0528	0.0334
Saturn	-4822-08-22 10:33 J	-39579.25	-39579.06	-39578.87	0.0261	0.0027

Jupiter	-4822-10-12 05:45 J	-39528.37	-39528.26	-39528.15	0.0526	0.0225
Saturn	-4822-11-19 06:43 J	-39490.35	-39490.22	-39490.07	0.0261	0.0176
Venus	-4821-04-02 07:55 J	-39355.27	-39355.17	-39355.06	0.3684	0.0156
Mars	-4821-04-05 12:43 J	-39352.08	-39351.97	-39351.86	0.1714	0.0317
Moon	-4821-09-30 04:33 J	-39174.41	-39174.31	-39174.22	0.2720	0.1143
Earth	-4821-09-30 05:02 J	-39174.39	-39174.29	-39174.20	0.2715	0.1149 *
Moon	-4817-03-27 04:04 J	-37900.49	-37900.33	-37900.18	0.2619	0.1047
Earth	-4817-03-27 06:00 J	-37900.41	-37900.25	-37900.10	0.2619	0.0751 *
Jupiter	-4816-08-30 20:52 J	-37378.73	-37378.63	-37378.52	0.0498	0.0400
Venus	-4816-10-16 23:31 J	-37331.61	-37331.52	-37331.43	0.3685	0.1646
Jupiter	-4816-11-29 07:55 J	-37288.30	-37288.17	-37288.02	0.0500	0.0328
Moon	-4814-09-24 05:16 J	-36624.30	-36624.28	-36624.26	0.2706	0.2622
Earth	-4814-09-24 05:31 J	-36624.30	-36624.27	-36624.24	0.2713	0.2582 *
Mars	-4813-10-18 23:45 J	-36233.61	-36233.51	-36233.42	0.1798	0.1449
Mars	-4812-08-26 23:31 J	-35921.64	-35921.52	-35921.41	0.1720	0.0184
Venus	-4810-05-02 15:07 J	-35307.92	-35307.87	-35307.82	0.3687	0.3146
Jupiter	-4810-05-03 04:47 J	-35307.36	-35307.30	-35307.25	0.0528	0.0472
Jupiter	-4810-07-31 10:19 J	-35218.20	-35218.07	-35217.95	0.0526	0.0090
Moon	-4808-10-02 22:33 J	-34423.61	-34423.56	-34423.52	0.2723	0.2456
Earth	-4808-10-02 22:19 J	-34423.61	-34423.57	-34423.53	0.2715	0.2476 *
Saturn	-4807-06-18 22:04 J	-34164.69	-34164.58	-34164.48	0.0300	0.0185
Saturn	-4807-09-15 10:47 J	-34076.18	-34076.05	-34075.92	0.0301	0.0030
Saturn	-4807-12-12 23:16 J	-33987.65	-33987.53	-33987.41	0.0301	0.0127
Saturn	-4806-03-11 11:45 J	-33899.05	-33899.01	-33898.96	0.0302	0.0281
Moon	-4804-03-30 13:12 J	-33149.04	-33148.95	-33148.85	0.2623	0.2108
Earth	-4804-03-30 14:38 J	-33148.98	-33148.89	-33148.80	0.2618	0.2150 *
Jupiter	-4804-09-17 05:02 J	-32978.47	-32978.29	-32978.11	0.0500	0.0149
Mars	-4802-01-17 10:04 J	-32491.18	-32491.08	-32490.97	0.1726	0.0692
Moon	-4801-09-25 22:19 J	-31873.66	-31873.57	-31873.47	0.2710	0.1357
Earth	-4801-09-25 23:02 J	-31873.64	-31873.54	-31873.45	0.2713	0.1253 *

Mars	-4801-12-22 15:07 J	-31785.94	-31785.87	-31785.80	0.1703	0.1337
Jupiter	-4798-05-19 14:38 J	-30908.01	-30907.89	-30907.76	0.0527	0.0048
Jupiter	-4798-08-16 19:40 J	-30818.71	-30818.68	-30818.64	0.0525	0.0500
Venus	-4796-02-28 09:50 J	-30257.23	-30257.09	-30256.95	0.3688	0.1662
Neptune	-4796-03-02 09:07 J	-30255.13	-30255.12	-30255.08	0.0088	0.0087
Neptune	-4796-05-29 12:43 J	-30167.05	-30166.97	-30166.87	0.0088	0.0077
Neptune	-4796-08-25 15:50 J	-30078.94	-30078.84	-30078.70	0.0088	0.0068
Neptune	-4796-11-21 19:26 J	-29990.82	-29990.69	-29990.53	0.0088	0.0058
Neptune	-4795-02-17 23:16 J	-29902.69	-29902.53	-29902.37	0.0088	0.0048
Neptune	-4795-05-17 02:52 J	-29814.56	-29814.38	-29814.21	0.0088	0.0038
Neptune	-4795-08-13 06:00 J	-29726.42	-29726.25	-29726.05	0.0088	0.0029
Neptune	-4795-11-09 09:36 J	-29638.28	-29638.10	-29637.90	0.0088	0.0019
Neptune	-4794-02-05 13:26 J	-29550.14	-29549.94	-29549.75	0.0088	0.0009
Neptune	-4794-05-04 17:02 J	-29461.99	-29461.79	-29461.60	0.0088	0.0002
Neptune	-4794-07-31 20:23 J	-29373.84	-29373.65	-29373.45	0.0088	0.0011
Neptune	-4794-10-28 00:00 J	-29285.69	-29285.50	-29285.31	0.0088	0.0021
Neptune	-4793-01-24 03:21 J	-29197.53	-29197.36	-29197.17	0.0088	0.0031
Neptune	-4793-04-21 06:57 J	-29109.37	-29109.21	-29109.03	0.0088	0.0041
Mars	-4793-06-08 20:38 J	-29060.72	-29060.64	-29060.56	0.1732	0.1211
Neptune	-4793-07-18 10:19 J	-29021.21	-29021.07	-29020.89	0.0088	0.0051
Saturn	-4793-10-11 12:14 J	-28936.12	-28935.99	-28935.84	0.0261	0.0173
Neptune	-4793-10-14 13:55 J	-28933.04	-28932.92	-28932.76	0.0088	0.0061
Saturn	-4792-01-08 08:38 J	-28847.33	-28847.14	-28846.95	0.0261	0.0025
Neptune	-4792-01-10 17:31 J	-28844.87	-28844.77	-28844.64	0.0088	0.0071
Saturn	-4792-04-07 05:02 J	-28758.45	-28758.29	-28758.12	0.0260	0.0123
Neptune	-4792-04-08 21:07 J	-28756.68	-28756.62	-28756.53	0.0088	0.0081
Jupiter	-4792-07-06 02:09 J	-28668.60	-28668.41	-28668.22	0.0500	0.0029
Mars	-4792-07-08 10:33 J	-28666.21	-28666.06	-28665.92	0.1813	0.0978
Mars	-4791-05-15 01:55 J	-28355.52	-28355.42	-28355.32	0.1708	0.0858
Venus	-4791-09-14 19:26 J	-28232.75	-28232.69	-28232.63	0.3686	0.3379

Moon	-4788-09-28 15:36 J	-27122.95	-27122.85	-27122.74	0.2717	0.0061
Earth	-4788-09-28 16:19 J	-27122.93	-27122.82	-27122.71	0.2714	0.0084 *
Jupiter	-4786-03-07 18:43 J	-26597.84	-26597.72	-26597.61	0.0527	0.0194
Jupiter	-4786-06-04 23:45 J	-26508.60	-26508.51	-26508.42	0.0525	0.0360
Uranus	-4784-02-08 23:16 J	-25893.58	-25893.53	-25893.48	0.0136	0.0123
Uranus	-4784-05-08 02:23 J	-25805.48	-25805.40	-25805.32	0.0136	0.0105
Uranus	-4784-08-04 05:16 J	-25717.37	-25717.28	-25717.18	0.0136	0.0087
Uranus	-4784-10-31 08:23 J	-25629.26	-25629.15	-25629.04	0.0136	0.0069
Uranus	-4783-01-27 11:16 J	-25541.14	-25541.03	-25540.90	0.0136	0.0052
Uranus	-4783-04-25 14:23 J	-25453.02	-25452.90	-25452.77	0.0136	0.0033
Uranus	-4783-07-22 17:31 J	-25364.90	-25364.77	-25364.64	0.0136	0.0015
Uranus	-4783-10-18 20:38 J	-25276.77	-25276.64	-25276.51	0.0136	0.0004
Mars	-4783-11-28 05:02 J	-25236.46	-25236.29	-25236.12	0.1806	0.0216
Uranus	-4782-01-14 23:31 J	-25188.64	-25188.52	-25188.39	0.0137	0.0023
Uranus	-4782-04-13 02:38 J	-25100.51	-25100.39	-25100.26	0.0137	0.0040
Uranus	-4782-07-10 05:45 J	-25012.38	-25012.26	-25012.14	0.0137	0.0059
Mars	-4782-10-05 12:43 J	-24925.08	-24924.97	-24924.86	0.1714	0.0371
Uranus	-4782-10-06 08:38 J	-24924.24	-24924.14	-24924.03	0.0137	0.0077
Uranus	-4781-01-02 11:45 J	-24836.10	-24836.01	-24835.91	0.0137	0.0095
Uranus	-4781-03-30 14:38 J	-24747.95	-24747.89	-24747.81	0.0137	0.0114
Uranus	-4781-06-26 17:45 J	-24659.78	-24659.76	-24659.72	0.0137	0.0132
Jupiter	-4780-04-23 23:02 J	-24358.70	-24358.54	-24358.37	0.0499	0.0208
Saturn	-4778-11-05 23:45 J	-23432.59	-23432.51	-23432.42	0.0300	0.0230
Saturn	-4777-02-02 12:43 J	-23344.10	-23343.97	-23343.85	0.0301	0.0074
Saturn	-4777-05-01 01:11 J	-23255.57	-23255.45	-23255.32	0.0301	0.0082
Saturn	-4777-07-28 13:40 J	-23167.00	-23166.93	-23166.84	0.0301	0.0237
Venus	-4776-10-08 22:04 J	-22729.65	-22729.58	-22729.50	0.3681	0.2433
Moon	-4775-10-01 09:21 J	-22372.20	-22372.11	-22372.01	0.2721	0.1326
Earth	-4775-10-01 09:36 J	-22372.19	-22372.10	-22372.00	0.2715	0.1421 *
Jupiter	-4775-12-24 23:02 J	-22287.64	-22287.54	-22287.45	0.0528	0.0333

Jupiter	-4774-03-24 04:19 J	-22198.43	-22198.32	-22198.20	0.0526	0.0225
Mars	-4773-04-19 00:28 J	-21806.59	-21806.48	-21806.37	0.1799	0.1344
Mars	-4772-02-24 23:31 J	-21494.63	-21494.52	-21494.41	0.1720	0.0125
Moon	-4771-03-28 10:48 J	-21098.21	-21098.05	-21097.89	0.2620	0.0370
Earth	-4771-03-28 12:43 J	-21098.14	-21097.97	-21097.81	0.2619	0.0199 *
Venus	-4770-04-24 13:55 J	-20706.02	-20705.92	-20705.82	0.3683	0.0890
Jupiter	-4768-02-09 19:11 J	-20048.81	-20048.70	-20048.59	0.0498	0.0397
Jupiter	-4768-05-11 06:14 J	-19958.38	-19958.24	-19958.10	0.0500	0.0331
Moon	-4768-09-24 10:04 J	-19822.14	-19822.08	-19822.03	0.2706	0.2324
Earth	-4768-09-24 10:19 J	-19822.12	-19822.07	-19822.02	0.2713	0.2314 *
Venus	-4765-11-07 05:31 J	-18682.37	-18682.27	-18682.17	0.3684	0.0660
Saturn	-4763-02-28 12:28 J	-18204.08	-18203.98	-18203.86	0.0262	0.0208
Saturn	-4763-05-28 08:52 J	-18115.31	-18115.13	-18114.95	0.0261	0.0060
Mars	-4763-07-18 10:04 J	-18064.19	-18064.08	-18063.97	0.1726	0.0636
Saturn	-4763-08-25 05:16 J	-18026.46	-18026.28	-18026.10	0.0261	0.0088
Jupiter	-4763-10-13 03:07 J	-17977.42	-17977.37	-17977.31	0.0529	0.0475
Saturn	-4763-11-22 01:40 J	-17937.50	-17937.43	-17937.35	0.0261	0.0238
Jupiter	-4762-01-10 08:52 J	-17888.26	-17888.13	-17888.01	0.0527	0.0089
Mars	-4761-06-22 15:07 J	-17358.94	-17358.87	-17358.81	0.1703	0.1392
Venus	-4759-05-23 20:52 J	-16658.71	-16658.63	-16658.54	0.3686	0.2169
Moon	-4758-03-31 20:24 J	-16346.70	-16346.65	-16346.60	0.2624	0.2500
Jupiter	-4756-02-27 03:07 J	-15648.55	-15648.37	-15648.19	0.0499	0.0148
Moon	-4755-09-27 03:07 J	-15071.47	-15071.37	-15071.27	0.2712	0.1072
Earth	-4755-09-27 03:35 J	-15071.44	-15071.35	-15071.25	0.2714	0.0988 *
Venus	-4754-12-07 12:28 J	-14634.99	-14634.98	-14634.97	0.3687	0.3660
Mars	-4754-12-08 20:38 J	-14633.73	-14633.64	-14633.56	0.1732	0.1153
Mars	-4752-01-06 11:16 J	-14239.17	-14239.03	-14238.90	0.1813	0.1080
Mars	-4752-11-13 01:55 J	-13928.52	-13928.42	-13928.32	0.1708	0.0912
Jupiter	-4751-10-29 13:11 J	-13578.07	-13577.95	-13577.82	0.0527	0.0052
Jupiter	-4750-01-26 18:14 J	-13488.77	-13488.74	-13488.70	0.0525	0.0502

Saturn	-4748-03-25 01:40 J	-12700.47	-12700.43	-12700.37	0.0300	0.0274
Saturn	-4748-06-21 14:38 J	-12612.01	-12611.89	-12611.77	0.0300	0.0118
Saturn	-4748-09-18 03:07 J	-12523.49	-12523.37	-12523.24	0.0301	0.0038
Saturn	-4748-12-15 15:50 J	-12434.94	-12434.84	-12434.74	0.0301	0.0191
Jupiter	-4745-12-15 23:45 J	-11338.69	-11338.51	-11338.32	0.0499	0.0035
Mars	-4744-04-30 06:57 J	-11203.23	-11203.21	-11203.18	0.1738	0.1686
Uranus	-4744-06-10 21:07 J	-11161.71	-11161.62	-11161.53	0.0142	0.0126
Uranus	-4744-09-07 05:31 J	-11073.41	-11073.27	-11073.12	0.0142	0.0095
Uranus	-4744-12-04 13:55 J	-10985.09	-10984.92	-10984.74	0.0142	0.0064
Uranus	-4743-03-02 22:33 J	-10896.75	-10896.56	-10896.37	0.0142	0.0032
Mars	-4743-05-29 06:00 J	-10809.42	-10809.25	-10809.08	0.1806	0.0101
Uranus	-4743-05-30 06:57 J	-10808.40	-10808.21	-10808.01	0.0142	0.0002
Uranus	-4743-08-26 15:35 J	-10720.05	-10719.85	-10719.66	0.0142	0.0030
Uranus	-4743-11-23 00:00 J	-10631.68	-10631.50	-10631.32	0.0142	0.0061
Uranus	-4742-02-19 08:09 J	-10543.29	-10543.16	-10543.00	0.0142	0.0093
Mars	-4742-04-05 12:43 J	-10498.08	-10497.97	-10497.86	0.1714	0.0425
Uranus	-4742-05-18 16:33 J	-10454.89	-10454.81	-10454.70	0.0142	0.0124
Moon	-4742-09-29 20:24 J	-10320.75	-10320.65	-10320.54	0.2717	0.0224
Earth	-4742-09-29 21:07 J	-10320.73	-10320.62	-10320.52	0.2714	0.0353 *
Venus	-4740-10-05 12:00 J	-9584.15	-9584.00	-9583.84	0.3688	0.0131
Jupiter	-4739-08-17 17:31 J	-9267.88	-9267.77	-9267.65	0.0527	0.0187
Jupiter	-4739-11-14 22:48 J	-9178.64	-9178.55	-9178.46	0.0525	0.0367
Earth	-4738-03-26 11:02 J	-9047.08	-9047.04	-9047.00	0.2620	0.2522
Saturn	-4734-07-18 11:16 J	-7472.06	-7472.03	-7471.99	0.0261	0.0256
Saturn	-4734-10-15 07:26 J	-7383.36	-7383.19	-7383.02	0.0261	0.0109
Mars	-4734-10-19 01:26 J	-7379.57	-7379.44	-7379.32	0.1799	0.1239
Saturn	-4733-01-12 03:50 J	-7294.53	-7294.34	-7294.15	0.0261	0.0040
Saturn	-4733-04-10 00:14 J	-7205.61	-7205.49	-7205.35	0.0261	0.0189
Mars	-4733-08-25 23:31 J	-7067.64	-7067.52	-7067.41	0.1720	0.0093
Jupiter	-4733-10-03 20:52 J	-7028.79	-7028.63	-7028.46	0.0499	0.0210

Moon	-4729-10-01 14:24 J	-5569.98	-5569.90	-5569.82	0.2722	0.1722
Earth	-4729-10-01 14:24 J	-5569.98	-5569.90	-5569.81	0.2715	0.1686 *
Jupiter	-4727-06-05 21:35 J	-4957.70	-4957.60	-4957.51	0.0528	0.0334
Jupiter	-4727-09-03 02:52 J	-4868.49	-4868.38	-4868.27	0.0526	0.0224
Moon	-4725-03-28 18:00 J	-4295.91	-4295.75	-4295.59	0.2621	0.0173
Earth	-4725-03-28 19:40 J	-4295.84	-4295.68	-4295.52	0.2619	0.0371 *
Venus	-4725-10-30 03:50 J	-4080.37	-4080.34	-4080.31	0.3680	0.3454
Mars	-4723-01-16 10:04 J	-3637.19	-3637.08	-3636.97	0.1726	0.0577
Moon	-4722-09-25 14:52 J	-3019.95	-3019.88	-3019.82	0.2707	0.2122
Earth	-4722-09-25 15:07 J	-3019.94	-3019.87	-3019.80	0.2713	0.2044 *
Mars	-4722-12-22 14:52 J	-2931.93	-2931.88	-2931.82	0.1703	0.1445
Jupiter	-4721-07-22 18:00 J	-2718.87	-2718.75	-2718.64	0.0499	0.0387
Jupiter	-4721-10-21 05:02 J	-2628.42	-2628.29	-2628.15	0.0500	0.0342
Venus	-4719-05-15 19:40 J	-2056.77	-2056.68	-2056.59	0.3682	0.1894
Saturn	-4719-11-08 16:48 J	-1879.91	-1879.80	-1879.69	0.0300	0.0160
Saturn	-4718-02-05 05:31 J	-1791.40	-1791.27	-1791.14	0.0301	0.0006
Saturn	-4718-05-04 18:14 J	-1702.85	-1702.74	-1702.63	0.0301	0.0150
Jupiter	-4715-03-25 01:40 J	-647.48	-647.43	-647.38	0.0528	0.0476
Jupiter	-4715-06-22 07:11 J	-558.32	-558.20	-558.07	0.0527	0.0087
Neptune	-4715-12-13 04:33 J	-384.34	-384.31	-384.25	0.0089	0.0084
Neptune	-4714-03-11 06:14 J	-296.31	-296.24	-296.17	0.0089	0.0076
Neptune	-4714-06-07 07:26 J	-208.26	-208.19	-208.10	0.0089	0.0069
Mars	-4714-06-08 20:38 J	-206.73	-206.64	-206.55	0.1732	0.1098
Neptune	-4714-09-03 08:52 J	-120.22	-120.13	-120.03	0.0089	0.0062
Pluto	-4714-09-19 04:04 J	-104.38	-104.33	-104.25	0.0072	0.0064
Venus	-4714-11-29 11:16 J	-33.13	-33.03	-32.93	0.3683	0.0348
Neptune	-4714-11-30 10:19 J	-32.17	-32.07	-31.96	0.0089	0.0054
Pluto	-4714-12-16 05:16 J	-16.36	-16.28	-16.18	0.0072	0.0055
Neptune	-4713-02-26 11:31 J	55.88	55.98	56.10	0.0089	0.0048
Pluto	-4713-03-13 06:28 J	71.66	71.77	71.88	0.0072	0.0047

Neptune -4713-05-24 12:57 J 143.93 144.04 144.17 0.0089 0.0040

Pluto -4713-06-09 07:12 J 159.69 159.80 159.94 0.0072 0.0039

Mars -4713-07-07 11:45 J 187.87 187.99 188.12 0.1814 0.1182

Neptune -4713-08-20 14:23 J 231.98 232.10 232.23 0.0089 0.0033

Pluto -4713-09-05 08:23 J 247.73 247.85 247.99 0.0072 0.0029

Neptune -4713-11-16 15:50 J 320.03 320.16 320.29 0.0089 0.0026

Pluto -4713-12-02 09:35 J 335.76 335.90 336.04 0.0072 0.0020

Neptune -4712-02-12 17:16 J 408.09 408.22 408.35 0.0089 0.0019

Pluto -4712-02-28 10:33 J 423.80 423.94 424.09 0.0073 0.0012

Neptune -4712-05-11 18:28 J 496.14 496.27 496.41 0.0089 0.0012

Mars -4712-05-14 01:55 J 498.49 498.58 498.67 0.1708 0.0969

Pluto -4712-05-27 11:45 J 511.85 511.99 512.14 0.0073 0.0002

Neptune -4712-08-07 19:55 J 584.20 584.33 584.46 0.0089 0.0004

Pluto -4712-08-23 12:57 J 599.89 600.04 600.18 0.0073 0.0007

Neptune -4712-11-03 21:21 J 672.25 672.39 672.52 0.0089 0.0004

Pluto -4712-11-19 13:55 J 687.94 688.08 688.23 0.0073 0.0016

Neptune -4711-01-30 22:33 J 760.31 760.44 760.57 0.0089 0.0010

Pluto -4711-02-15 14:52 J 775.99 776.12 776.27 0.0073 0.0026

Neptune -4711-04-28 23:45 J 848.37 848.49 848.63 0.0089 0.0018

Pluto -4711-05-14 16:04 J 864.05 864.17 864.31 0.0073 0.0035

Neptune -4711-07-26 01:11 J 936.43 936.55 936.68 0.0089 0.0024

Pluto -4711-08-10 17:16 J 952.11 952.22 952.34 0.0073 0.0044

Neptune -4711-10-22 02:23 J 1024.49 1024.60 1024.73 0.0089 0.0032

Pluto -4711-11-06 18:00 J 1040.17 1040.25 1040.37 0.0073 0.0055

Neptune -4710-01-18 03:50 J 1112.54 1112.66 1112.78 0.0089 0.0038

Pluto -4710-02-02 19:26 J 1128.25 1128.31 1128.39 0.0074 0.0064

Neptune -4710-04-16 05:02 J 1200.61 1200.71 1200.83 0.0089 0.0045

Pluto -4710-05-01 20:38 J 1216.36 1216.36 1216.37 0.0074 0.0073

Neptune -4710-07-13 06:14 J 1288.67 1288.76 1288.88 0.0089 0.0053

Neptune -4710-10-09 07:40 J 1376.73 1376.82 1376.93 0.0089 0.0059

Neptune	-4709-01-05 08:52 J	1464.80	1464.87	1464.97	0.0089	0.0067
Neptune	-4709-04-02 10:19 J	1552.86	1552.93	1553.01	0.0089	0.0073
Neptune	-4709-06-29 11:31 J	1640.94	1640.98	1641.05	0.0089	0.0080
Jupiter	-4709-08-09 00:57 J	1681.36	1681.54	1681.72	0.0499	0.0147
Neptune	-4709-09-25 12:43 J	1729.02	1729.03	1729.07	0.0089	0.0088
Moon	-4709-09-27 07:40 J	1730.72	1730.82	1730.93	0.2713	0.0795
Earth	-4709-09-27 08:23 J	1730.75	1730.85	1730.96	0.2714	0.0714 *
Venus	-4708-06-14 02:52 J	1990.52	1990.62	1990.72	0.3685	0.1175
Mars	-4705-10-29 06:57 J	3223.75	3223.79	3223.83	0.1738	0.1628
Saturn	-4704-03-03 08:09 J	3348.68	3348.84	3349.00	0.0262	0.0141
Saturn	-4704-05-31 04:33 J	3437.50	3437.69	3437.88	0.0261	0.0009
Saturn	-4704-08-28 00:57 J	3526.39	3526.54	3526.69	0.0261	0.0157
Mars	-4704-11-27 06:57 J	3617.62	3617.79	3617.96	0.1806	0.0012
Jupiter	-4703-04-10 11:31 J	3751.85	3751.98	3752.11	0.0527	0.0054
Jupiter	-4703-07-08 16:33 J	3841.16	3841.19	3841.23	0.0526	0.0498
Mars	-4703-10-04 12:43 J	3928.92	3929.03	3929.14	0.1714	0.0480
Venus	-4703-12-28 18:28 J	4014.20	4014.27	4014.34	0.3686	0.2685
Uranus	-4701-12-03 03:50 J	4719.66	4719.66	4719.66	0.0136	0.0136
Uranus	-4700-03-01 06:43 J	4807.72	4807.78	4807.85	0.0136	0.0118
Uranus	-4700-05-28 09:35 J	4895.82	4895.90	4896.00	0.0136	0.0100
Uranus	-4700-08-24 12:43 J	4983.93	4984.03	4984.14	0.0136	0.0082
Uranus	-4700-11-20 15:50 J	5072.05	5072.16	5072.28	0.0136	0.0064
Uranus	-4699-02-16 18:57 J	5160.17	5160.29	5160.41	0.0136	0.0045
Uranus	-4699-05-15 22:04 J	5248.29	5248.42	5248.55	0.0136	0.0027
Uranus	-4699-08-12 00:57 J	5336.41	5336.54	5336.67	0.0136	0.0010
Uranus	-4699-11-08 04:04 J	5424.54	5424.67	5424.80	0.0137	0.0009
Uranus	-4698-02-04 07:12 J	5512.67	5512.80	5512.93	0.0137	0.0027
Uranus	-4698-05-03 10:04 J	5600.80	5600.92	5601.05	0.0137	0.0046
Uranus	-4698-07-30 13:12 J	5688.94	5689.05	5689.17	0.0137	0.0064
Uranus	-4698-10-26 16:19 J	5777.08	5777.18	5777.28	0.0137	0.0082

Uranus	-4697-01-22 19:12 J	5865.22	5865.30	5865.39	0.0137	0.0101
Uranus	-4697-04-19 22:19 J	5953.37	5953.43	5953.50	0.0137	0.0119
Jupiter	-4697-05-27 21:35 J	5991.22	5991.40	5991.59	0.0499	0.0036
Moon	-4696-09-30 01:12 J	6481.45	6481.55	6481.66	0.2718	0.0571
Earth	-4696-09-30 01:55 J	6481.47	6481.58	6481.68	0.2714	0.0625 *
Mars	-4694-04-19 02:09 J	7047.46	7047.59	7047.72	0.1799	0.1130
Mars	-4693-02-24 23:31 J	7359.36	7359.48	7359.59	0.1720	0.0053
Moon	-4692-03-26 16:04 J	7755.07	7755.17	7755.26	0.2618	0.2096
Earth	-4692-03-26 17:45 J	7755.14	7755.24	7755.35	0.2620	0.1970 *
Jupiter	-4691-01-27 15:50 J	8062.05	8062.16	8062.28	0.0528	0.0193
Jupiter	-4691-04-26 21:07 J	8151.29	8151.38	8151.47	0.0526	0.0363
Saturn	-4689-03-27 19:11 J	8852.21	8852.30	8852.40	0.0300	0.0199
Saturn	-4689-06-24 07:55 J	8940.70	8940.83	8940.96	0.0300	0.0044
Saturn	-4689-09-20 20:38 J	9029.24	9029.36	9029.48	0.0301	0.0111
Venus	-4689-10-26 05:02 J	9064.65	9064.71	9064.77	0.3689	0.3404
Saturn	-4689-12-18 09:07 J	9117.82	9117.88	9117.94	0.0301	0.0264
Jupiter	-4685-03-15 18:14 J	10301.10	10301.26	10301.43	0.0499	0.0218
Mars	-4684-07-17 10:04 J	10789.81	10789.92	10790.03	0.1726	0.0527
Venus	-4683-05-12 14:24 J	11088.95	11089.10	11089.24	0.3687	0.1511
Moon	-4683-10-02 19:11 J	11232.22	11232.30	11232.37	0.2722	0.1898
Earth	-4683-10-02 19:11 J	11232.23	11232.30	11232.37	0.2715	0.1954 *
Mars	-4682-06-22 14:52 J	11495.07	11495.12	11495.17	0.1702	0.1497
Jupiter	-4680-11-15 20:09 J	12372.24	12372.34	12372.44	0.0528	0.0332
Jupiter	-4679-02-13 01:40 J	12461.45	12461.57	12461.68	0.0526	0.0227
Moon	-4679-03-30 00:57 J	12506.39	12506.54	12506.70	0.2623	0.0716
Earth	-4679-03-30 02:38 J	12506.45	12506.61	12506.76	0.2619	0.0938 *
Moon	-4676-09-25 19:26 J	13782.23	13782.31	13782.39	0.2708	0.1782
Earth	-4676-09-25 19:55 J	13782.25	13782.33	13782.41	0.2713	0.1776 *
Saturn	-4675-07-21 07:11 J	14080.67	14080.80	14080.93	0.0262	0.0186
Saturn	-4675-10-18 03:35 J	14169.46	14169.65	14169.83	0.0261	0.0039

Mars	-4675-12-07 20:38 J	14220.27	14220.36	14220.45	0.1732	0.1042
Saturn	-4674-01-14 23:45 J	14258.33	14258.49	14258.67	0.0261	0.0111
Saturn	-4674-04-13 20:24 J	14347.35	14347.35	14347.36	0.0261	0.0260
Jupiter	-4673-01-02 15:21 J	14611.03	14611.14	14611.25	0.0499	0.0395
Mars	-4673-01-06 12:57 J	14614.92	14615.04	14615.15	0.1814	0.1296
Jupiter	-4673-04-02 02:24 J	14701.47	14701.60	14701.74	0.0500	0.0334
Mars	-4673-11-12 01:40 J	14925.48	14925.57	14925.67	0.1708	0.1021
Venus	-4668-06-06 01:26 J	16592.50	16592.56	16592.62	0.3681	0.2913
Jupiter	-4668-09-04 00:00 J	16682.45	16682.50	16682.55	0.0528	0.0480
Jupiter	-4668-12-02 05:31 J	16771.61	16771.73	16771.86	0.0526	0.0083
Mars	-4665-04-29 06:57 J	17650.75	17650.79	17650.84	0.1738	0.1567
Mars	-4664-05-28 07:40 J	18044.65	18044.82	18044.99	0.1806	0.0112
Mars	-4663-04-04 12:43 J	18355.92	18356.03	18356.14	0.1714	0.0537
Moon	-4663-09-28 12:28 J	18532.92	18533.02	18533.13	0.2713	0.0574
Earth	-4663-09-28 13:11 J	18532.95	18533.05	18533.16	0.2714	0.0441 *
Venus	-4663-12-20 17:02 J	18616.12	18616.21	18616.31	0.3682	0.1353
Jupiter	-4661-01-19 23:02 J	19011.29	19011.46	19011.64	0.0500	0.0151
Uranus	-4660-07-01 05:02 J	19539.60	19539.71	19539.82	0.0142	0.0117
Saturn	-4660-08-14 21:50 J	19584.33	19584.41	19584.49	0.0300	0.0237
Uranus	-4660-09-27 13:26 J	19627.90	19628.06	19628.21	0.0142	0.0086
Saturn	-4660-11-11 10:33 J	19672.81	19672.94	19673.07	0.0301	0.0082
Uranus	-4660-12-24 21:50 J	19716.23	19716.41	19716.59	0.0142	0.0055
Saturn	-4659-02-07 23:16 J	19761.34	19761.47	19761.59	0.0301	0.0074
Uranus	-4659-03-23 06:14 J	19804.57	19804.76	19804.96	0.0142	0.0024
Saturn	-4659-05-07 11:45 J	19849.91	19849.99	19850.07	0.0301	0.0227
Uranus	-4659-06-19 14:52 J	19892.92	19893.12	19893.31	0.0142	0.0008
Uranus	-4659-09-15 23:16 J	19981.28	19981.47	19981.66	0.0142	0.0039
Uranus	-4659-12-13 07:40 J	20069.65	20069.82	20070.00	0.0142	0.0070
Uranus	-4658-03-11 16:04 J	20158.04	20158.17	20158.32	0.0142	0.0101
Uranus	-4658-06-08 00:28 J	20246.46	20246.52	20246.60	0.0141	0.0132

Venus	-4657-07-05 08:38 J	20639.76	20639.86	20639.97	0.3684	0.0248	
Jupiter	-4656-09-20 09:50 J	21081.78	21081.91	21082.04	0.0527	0.0059	
Jupiter	-4656-12-18 14:52 J	21171.08	21171.12	21171.16	0.0525	0.0491	
Mars	-4655-10-18 02:52 J	21474.48	21474.62	21474.76	0.1799	0.1034	
Mars	-4654-08-25 23:31 J	21786.36	21786.48	21786.59	0.1719	0.0070	
Venus	-4651-01-19 00:14 J	22663.42	22663.51	22663.60	0.3685	0.1708	
Moon	-4650-10-01 06:14 J	23283.66	23283.76	23283.86	0.2719	0.0834	
Earth	-4650-10-01 06:43 J	23283.68	23283.78	23283.88	0.2714	0.0897	*
Jupiter	-4650-11-07 19:11 J	23321.12	23321.30	23321.49	0.0499	0.0042	
Moon	-4646-03-27 23:02 J	24557.34	24557.46	24557.58	0.2619	0.1707	
Earth	-4646-03-28 00:43 J	24557.40	24557.53	24557.67	0.2620	0.1402	*
Venus	-4646-08-04 15:50 J	24687.11	24687.16	24687.21	0.3686	0.3200	
Saturn	-4646-12-08 08:09 J	24812.74	24812.84	24812.95	0.0262	0.0216	
Saturn	-4645-03-06 04:33 J	24901.51	24901.69	24901.87	0.0262	0.0068	
Saturn	-4645-06-03 00:57 J	24990.36	24990.54	24990.72	0.0261	0.0081	
Saturn	-4645-08-30 21:21 J	25079.31	25079.39	25079.49	0.0261	0.0232	
Mars	-4644-01-15 10:04 J	25216.81	25216.92	25217.03	0.1726	0.0471	
Jupiter	-4644-07-09 13:55 J	25391.96	25392.08	25392.20	0.0528	0.0204	
Jupiter	-4644-10-06 19:11 J	25481.21	25481.30	25481.39	0.0526	0.0353	
Mars	-4643-12-21 14:52 J	25922.08	25922.12	25922.17	0.1702	0.1550	
Jupiter	-4638-08-26 16:04 J	27631.00	27631.17	27631.33	0.0498	0.0222	
Moon	-4637-10-03 00:00 J	28034.44	28034.50	28034.55	0.2722	0.2254	
Earth	-4637-10-03 00:00 J	28034.44	28034.50	28034.56	0.2715	0.2222	*
Mars	-4635-06-07 20:38 J	28647.26	28647.36	28647.45	0.1732	0.0986	
Mars	-4634-07-07 13:55 J	29041.97	29042.08	29042.18	0.1814	0.1412	
Moon	-4633-03-30 07:55 J	29308.69	29308.83	29308.97	0.2623	0.1383	
Earth	-4633-03-30 09:36 J	29308.76	29308.90	29309.03	0.2619	0.1505	*
Mars	-4633-05-13 01:55 J	29352.49	29352.58	29352.66	0.1708	0.1077	
Jupiter	-4632-04-27 18:14 J	29702.16	29702.26	29702.36	0.0528	0.0343	
Venus	-4632-06-02 07:11 J	29737.66	29737.80	29737.93	0.3689	0.1873	

Jupiter -4632-07-25 23:45 J 29791.37 29791.49 29791.60 0.0526 0.0217

Neptune -4632-11-27 07:11 J 29915.77 29915.80 29915.88 0.0088 0.0084

Neptune -4631-02-23 10:48 J 30003.87 30003.95 30004.07 0.0088 0.0074

Neptune -4631-05-22 14:38 J 30091.98 30092.11 30092.24 0.0088 0.0064

Neptune -4631-08-18 17:45 J 30180.11 30180.24 30180.41 0.0088 0.0055

Neptune -4631-11-14 21:21 J 30268.24 30268.39 30268.57 0.0088 0.0045

Saturn -4630-01-02 00:43 J 30316.48 30316.53 30316.59 0.0300 0.0270

Neptune -4630-02-11 00:57 J 30356.37 30356.54 30356.73 0.0088 0.0035

Saturn -4630-03-31 13:26 J 30404.94 30405.06 30405.18 0.0300 0.0115

Neptune -4630-05-10 04:33 J 30444.51 30444.69 30444.88 0.0088 0.0025

Saturn -4630-06-28 02:09 J 30493.46 30493.59 30493.72 0.0300 0.0040

Neptune -4630-08-06 08:09 J 30532.65 30532.84 30533.03 0.0088 0.0015

Saturn -4630-09-24 14:38 J 30582.01 30582.11 30582.21 0.0301 0.0194

Moon -4630-09-27 00:00 J 30584.42 30584.50 30584.59 0.2709 0.1644

Earth -4630-09-27 00:43 J 30584.44 30584.53 30584.61 0.2713 0.1510 *

Neptune -4630-11-02 11:31 J 30620.79 30620.98 30621.18 0.0088 0.0006

Neptune -4629-01-29 15:07 J 30708.94 30709.13 30709.33 0.0088 0.0005

Neptune -4629-04-26 18:43 J 30797.09 30797.28 30797.47 0.0088 0.0014

Neptune -4629-07-23 22:19 J 30885.24 30885.43 30885.62 0.0088 0.0024

Pluto -4629-08-22 19:26 J 30915.27 30915.31 30915.36 0.0073 0.0070

Neptune -4629-10-20 01:40 J 30973.40 30973.57 30973.76 0.0088 0.0034

Pluto -4629-11-18 20:52 J 31003.29 31003.37 31003.49 0.0073 0.0060

Neptune -4628-01-16 05:16 J 31061.56 31061.72 31061.89 0.0088 0.0044

Pluto -4628-02-14 22:48 J 31091.33 31091.45 31091.59 0.0072 0.0049

Neptune -4628-04-14 08:38 J 31149.72 31149.86 31150.03 0.0088 0.0054

Pluto -4628-05-14 00:43 J 31179.38 31179.53 31179.68 0.0072 0.0038

Neptune -4628-07-11 12:14 J 31237.89 31238.01 31238.16 0.0088 0.0064

Pluto -4628-08-10 02:09 J 31267.44 31267.59 31267.76 0.0072 0.0028

Neptune -4628-10-07 15:50 J 31326.07 31326.16 31326.28 0.0088 0.0074

Pluto -4628-11-06 03:50 J 31355.50 31355.66 31355.84 0.0072 0.0017

Neptune	-4627-01-03 19:26 J	31414.27	31414.31	31414.38	0.0088	0.0084
Pluto	-4627-02-02 05:45 J	31443.57	31443.74	31443.91	0.0072	0.0006
Pluto	-4627-05-01 07:26 J	31531.64	31531.81	31531.98	0.0072	0.0004
Pluto	-4627-07-28 09:07 J	31619.71	31619.88	31620.05	0.0072	0.0014
Pluto	-4627-10-24 10:33 J	31707.78	31707.94	31708.11	0.0072	0.0024
Venus	-4627-12-17 16:19 J	31762.10	31762.18	31762.27	0.3686	0.3067
Pluto	-4626-01-20 12:14 J	31795.86	31796.01	31796.16	0.0071	0.0034
Pluto	-4626-04-18 13:55 J	31883.95	31884.08	31884.21	0.0071	0.0044
Jupiter	-4626-06-14 12:28 J	31940.92	31941.02	31941.13	0.0498	0.0405
Pluto	-4626-07-15 15:21 J	31972.03	31972.14	31972.26	0.0071	0.0054
Jupiter	-4626-09-12 23:16 J	32031.34	32031.47	32031.62	0.0500	0.0322
Pluto	-4626-10-11 16:48 J	32060.14	32060.20	32060.29	0.0071	0.0063
Mars	-4626-10-29 06:57 J	32077.74	32077.79	32077.84	0.1738	0.1515
Mars	-4625-11-26 08:23 J	32471.68	32471.85	32472.02	0.1807	0.0222
Mars	-4624-10-03 12:28 J	32782.92	32783.02	32783.13	0.1714	0.0591
Jupiter	-4620-02-13 22:33 J	34012.39	34012.44	34012.49	0.0528	0.0483
Jupiter	-4620-05-14 04:04 J	34101.55	34101.67	34101.80	0.0527	0.0081
Moon	-4617-09-28 17:16 J	35335.11	35335.22	35335.33	0.2713	0.0230
Earth	-4617-09-28 18:00 J	35335.14	35335.25	35335.36	0.2714	0.0171 *
Uranus	-4617-12-23 11:02 J	35420.93	35420.96	35420.99	0.0136	0.0131
Uranus	-4616-03-21 13:40 J	35509.02	35509.07	35509.16	0.0136	0.0114
Saturn	-4616-04-26 07:40 J	35544.80	35544.82	35544.86	0.0262	0.0257
Uranus	-4616-06-17 17:02 J	35597.12	35597.21	35597.30	0.0136	0.0095
Saturn	-4616-07-24 04:04 J	35633.50	35633.67	35633.84	0.0261	0.0110
Uranus	-4616-09-13 20:09 J	35685.23	35685.34	35685.45	0.0136	0.0077
Saturn	-4616-10-21 00:28 J	35722.33	35722.52	35722.71	0.0261	0.0039
Uranus	-4616-12-10 23:02 J	35773.35	35773.46	35773.58	0.0136	0.0060
Saturn	-4615-01-17 21:07 J	35811.25	35811.38	35811.51	0.0261	0.0188
Uranus	-4615-03-09 02:09 J	35861.47	35861.59	35861.72	0.0136	0.0041
Mars	-4615-04-18 03:50 J	35901.51	35901.66	35901.81	0.1799	0.0922

Uranus	-4615-06-05 05:16 J	35949.59	35949.72	35949.85	0.0136	0.0023
Uranus	-4615-09-01 08:23 J	36037.72	36037.85	36037.98	0.0137	0.0005
Uranus	-4615-11-28 11:16 J	36125.84	36125.97	36126.10	0.0137	0.0014
Mars	-4614-02-23 23:16 J	36213.36	36213.47	36213.59	0.1720	0.0101
Uranus	-4614-02-24 14:23 J	36213.98	36214.10	36214.23	0.0137	0.0032
Uranus	-4614-05-23 17:31 J	36302.11	36302.23	36302.35	0.0137	0.0050
Jupiter	-4614-07-01 20:09 J	36341.16	36341.34	36341.52	0.0500	0.0139
Uranus	-4614-08-19 20:23 J	36390.24	36390.35	36390.47	0.0137	0.0069
Uranus	-4614-11-15 23:31 J	36478.38	36478.48	36478.58	0.0137	0.0087
Uranus	-4613-02-12 02:23 J	36566.53	36566.60	36566.69	0.0137	0.0106
Uranus	-4613-05-10 05:45 J	36654.68	36654.74	36654.79	0.0137	0.0124
Venus	-4611-01-10 22:47 J	37265.38	37265.45	37265.53	0.3681	0.2367
Jupiter	-4608-03-02 08:09 J	38411.71	38411.84	38411.96	0.0527	0.0068
Jupiter	-4608-05-30 13:12 J	38501.00	38501.05	38501.09	0.0525	0.0484
Venus	-4606-07-27 14:38 J	39289.01	39289.11	39289.21	0.3683	0.0813
Mars	-4605-07-16 10:04 J	39643.81	39643.92	39644.03	0.1725	0.0410
Moon	-4604-10-01 11:02 J	40085.86	40085.96	40086.06	0.2720	0.1090
Earth	-4604-10-01 11:16 J	40085.88	40085.97	40086.07	0.2714	0.1170 *
Mars	-4603-06-21 14:52 J	40349.09	40349.12	40349.16	0.1702	0.1603
Jupiter	-4602-04-19 17:02 J	40651.02	40651.21	40651.39	0.0499	0.0044
Saturn	-4601-08-17 16:04 J	41137.06	41137.17	41137.28	0.0300	0.0152
Saturn	-4601-11-14 04:47 J	41225.57	41225.70	41225.83	0.0301	0.0003
Venus	-4600-02-09 06:14 J	41312.66	41312.76	41312.86	0.3684	0.0714
Saturn	-4600-02-10 17:16 J	41314.11	41314.22	41314.33	0.0301	0.0158
Moon	-4600-03-28 05:45 J	41359.59	41359.74	41359.90	0.2621	0.0952
Earth	-4600-03-28 07:40 J	41359.66	41359.82	41359.97	0.2620	0.0850 *
Moon	-4597-09-24 11:45 J	42635.97	42635.99	42636.02	0.2705	0.2632
Earth	-4597-09-24 12:00 J	42635.97	42636.00	42636.03	0.2712	0.2573 *
Jupiter	-4597-12-19 12:14 J	42721.89	42722.01	42722.12	0.0528	0.0210
Jupiter	-4596-03-18 17:31 J	42811.13	42811.23	42811.32	0.0526	0.0346

Mars	-4596-12-06 20:38 J	43074.26	43074.36	43074.45	0.1731	0.0929
Venus	-4595-08-25 21:50 J	43336.33	43336.41	43336.49	0.3685	0.2223
Mars	-4594-01-05 14:23 J	43469.00	43469.10	43469.19	0.1814	0.1503
Mars	-4594-11-12 01:40 J	43779.49	43779.57	43779.66	0.1708	0.1133
Moon	-4591-10-04 04:47 J	44836.66	44836.70	44836.74	0.2722	0.2497
Earth	-4591-10-04 04:47 J	44836.66	44836.70	44836.74	0.2715	0.2493 *
Jupiter	-4590-02-05 13:26 J	44960.89	44961.06	44961.22	0.0498	0.0228
Moon	-4587-03-31 14:52 J	46111.01	46111.12	46111.24	0.2623	0.1821
Earth	-4587-03-31 16:33 J	46111.09	46111.19	46111.29	0.2619	0.2070 *
Saturn	-4587-12-11 05:16 J	46365.57	46365.72	46365.89	0.0262	0.0138
Saturn	-4586-03-10 01:55 J	46454.39	46454.58	46454.76	0.0262	0.0013
Mars	-4586-04-29 06:57 J	46504.73	46504.79	46504.85	0.1738	0.1456
Saturn	-4586-06-06 22:19 J	46543.28	46543.43	46543.58	0.0261	0.0160
Mars	-4585-05-27 09:36 J	46898.73	46898.90	46899.07	0.1807	0.0338
Jupiter	-4585-10-07 16:04 J	47032.08	47032.17	47032.26	0.0528	0.0357
Jupiter	-4584-01-04 21:36 J	47121.28	47121.40	47121.51	0.0527	0.0204
Mars	-4584-04-03 12:28 J	47209.92	47210.02	47210.13	0.1714	0.0645
Moon	-4584-09-27 04:47 J	47386.60	47386.70	47386.79	0.2710	0.1264
Earth	-4584-09-27 05:16 J	47386.63	47386.72	47386.82	0.2713	0.1240 *
Jupiter	-4579-11-24 10:04 J	49270.82	49270.92	49271.03	0.0498	0.0409
Jupiter	-4578-02-22 20:52 J	49361.23	49361.37	49361.52	0.0499	0.0316
Uranus	-4576-04-24 03:50 J	50152.64	50152.66	50152.72	0.0142	0.0139
Uranus	-4576-07-21 12:14 J	50240.90	50241.01	50241.15	0.0142	0.0109
Mars	-4576-10-17 04:33 J	50328.54	50328.69	50328.84	0.1799	0.0820
Uranus	-4576-10-17 20:52 J	50329.22	50329.37	50329.55	0.0142	0.0077
Venus	-4575-01-07 09:07 J	50410.73	50410.88	50411.04	0.3688	0.0345
Uranus	-4575-01-14 05:31 J	50417.55	50417.73	50417.92	0.0142	0.0046
Uranus	-4575-04-12 14:09 J	50505.89	50506.09	50506.28	0.0142	0.0015
Uranus	-4575-07-09 22:33 J	50594.25	50594.44	50594.64	0.0142	0.0016
Mars	-4575-08-24 23:16 J	50640.36	50640.47	50640.59	0.1719	0.0150

Uranus	-4575-10-06 06:57 J	50682.61	50682.79	50682.98	0.0142	0.0048
Uranus	-4574-01-02 15:21 J	50770.98	50771.14	50771.31	0.0142	0.0079
Uranus	-4574-03-31 23:45 J	50859.38	50859.49	50859.62	0.0142	0.0110
Uranus	-4574-06-28 08:09 J	50947.83	50947.84	50947.88	0.0141	0.0140
Jupiter	-4573-07-26 20:09 J	51342.31	51342.34	51342.38	0.0529	0.0498
Jupiter	-4573-10-24 01:55 J	51431.46	51431.58	51431.71	0.0527	0.0067
Saturn	-4571-01-04 19:26 J	51869.20	51869.31	51869.41	0.0300	0.0182
Saturn	-4571-04-03 07:55 J	51957.70	51957.83	51957.96	0.0300	0.0029
Saturn	-4571-06-30 20:38 J	52046.24	52046.36	52046.48	0.0301	0.0127
Saturn	-4571-09-27 09:07 J	52134.84	52134.88	52134.93	0.0301	0.0280
Moon	-4571-09-29 22:04 J	52137.32	52137.42	52137.53	0.2715	0.0091
Earth	-4571-09-29 22:47 J	52137.34	52137.45	52137.56	0.2714	0.0102 *
Jupiter	-4567-12-11 17:02 J	53671.03	53671.21	53671.39	0.0499	0.0125
Mars	-4565-01-15 10:04 J	54070.80	54070.92	54071.03	0.1725	0.0361
Mars	-4564-12-20 14:52 J	54776.10	54776.12	54776.14	0.1702	0.1657
Jupiter	-4561-08-12 06:28 J	55741.64	55741.77	55741.89	0.0527	0.0072
Jupiter	-4561-11-09 11:31 J	55830.93	55830.98	55831.03	0.0525	0.0480
Venus	-4560-02-01 04:33 J	55914.65	55914.69	55914.73	0.3680	0.3382
Moon	-4558-10-02 15:50 J	56888.07	56888.16	56888.25	0.2721	0.1417
Earth	-4558-10-02 16:04 J	56888.08	56888.17	56888.26	0.2714	0.1434 *
Saturn	-4557-04-29 05:16 J	57097.59	57097.72	57097.86	0.0262	0.0176
Saturn	-4557-07-27 01:40 J	57186.38	57186.57	57186.76	0.0261	0.0028
Saturn	-4557-10-23 22:04 J	57275.26	57275.42	57275.59	0.0261	0.0121
Mars	-4556-06-06 20:23 J	57501.26	57501.35	57501.45	0.1732	0.0874
Mars	-4555-07-06 15:36 J	57896.08	57896.15	57896.22	0.1814	0.1627
Venus	-4555-08-17 20:23 J	57938.26	57938.35	57938.44	0.3682	0.1821
Jupiter	-4555-09-29 13:40 J	57980.89	57981.07	57981.26	0.0499	0.0058
Moon	-4554-03-29 12:43 J	58161.87	58162.03	58162.19	0.2622	0.0603
Earth	-4554-03-29 14:38 J	58161.95	58162.11	58162.27	0.2620	0.0275 *
Mars	-4554-05-13 01:40 J	58206.49	58206.57	58206.65	0.1708	0.1181

Moon -4551-09-25 16:33 J 59438.13 59438.19 59438.24 0.2706 0.2307

Earth -4551-09-25 16:47 J 59438.14 59438.20 59438.25 0.2712 0.2307 *

Neptune -4550-06-13 02:52 J 59698.61 59698.62 59698.65 0.0089 0.0088

Neptune -4550-09-09 04:33 J 59786.63 59786.69 59786.74 0.0089 0.0081

Neptune -4550-12-06 05:45 J 59874.67 59874.74 59874.82 0.0089 0.0074

Venus -4549-03-02 12:00 J 59961.90 59962.00 59962.11 0.3683 0.0307

Neptune -4549-03-03 07:12 J 59962.72 59962.80 59962.89 0.0089 0.0066

Neptune -4549-05-30 08:23 J 60050.76 60050.85 60050.96 0.0089 0.0060

Jupiter -4549-05-31 10:19 J 60051.81 60051.93 60052.04 0.0527 0.0217

Neptune -4549-08-26 09:50 J 60138.81 60138.91 60139.03 0.0089 0.0052

Jupiter -4549-08-28 15:36 J 60141.05 60141.15 60141.25 0.0526 0.0338

Neptune -4549-11-22 11:16 J 60226.86 60226.97 60227.09 0.0089 0.0045

Neptune -4548-02-18 12:43 J 60314.91 60315.03 60315.15 0.0089 0.0038

Neptune -4548-05-17 14:09 J 60402.96 60403.09 60403.21 0.0089 0.0031

Neptune -4548-08-13 15:21 J 60491.02 60491.14 60491.27 0.0089 0.0024

Neptune -4548-11-09 16:47 J 60579.07 60579.20 60579.33 0.0089 0.0016

Neptune -4547-02-05 18:14 J 60667.13 60667.26 60667.39 0.0089 0.0009

Neptune -4547-05-04 19:40 J 60755.18 60755.32 60755.45 0.0089 0.0004

Neptune -4547-07-31 20:52 J 60843.24 60843.37 60843.50 0.0089 0.0005

Neptune -4547-10-27 22:19 J 60931.30 60931.43 60931.56 0.0089 0.0012

Mars -4547-10-28 06:57 J 60931.72 60931.79 60931.86 0.1737 0.1397

Neptune -4546-01-23 23:31 J 61019.35 61019.48 61019.61 0.0089 0.0019

Neptune -4546-04-22 00:57 J 61107.41 61107.54 61107.67 0.0089 0.0026

Neptune -4546-07-19 02:09 J 61195.47 61195.59 61195.72 0.0089 0.0033

Neptune -4546-10-15 03:21 J 61283.53 61283.64 61283.77 0.0089 0.0041

Mars -4546-11-26 10:04 J 61325.75 61325.92 61326.08 0.1807 0.0426

Neptune -4545-01-11 04:47 J 61371.59 61371.70 61371.82 0.0089 0.0048

Neptune -4545-04-08 06:00 J 61459.66 61459.75 61459.86 0.0089 0.0055

Neptune -4545-07-05 07:26 J 61547.72 61547.81 61547.91 0.0089 0.0062

Neptune -4545-10-01 08:38 J 61635.79 61635.86 61635.95 0.0089 0.0069

Mars	-4545-10-02 12:28 J	61636.92	61637.02	61637.13	0.1714	0.0700
Neptune	-4545-12-28 10:04 J	61723.86	61723.92	61723.99	0.0089	0.0075
Neptune	-4544-03-26 11:16 J	61811.93	61811.97	61812.03	0.0089	0.0083
Neptune	-4544-06-22 12:43 J	61900.03	61900.03	61900.04	0.0089	0.0089
Venus	-4544-09-16 03:36 J	61985.56	61985.65	61985.75	0.3685	0.1253
Jupiter	-4543-07-18 10:33 J	62290.78	62290.94	62291.11	0.0499	0.0237
Jupiter	-4543-10-16 22:04 J	62381.40	62381.42	62381.44	0.0500	0.0497
Saturn	-4542-05-24 21:50 J	62601.33	62601.41	62601.51	0.0300	0.0219
Saturn	-4542-08-21 10:47 J	62689.82	62689.95	62690.07	0.0301	0.0064
Saturn	-4542-11-17 23:16 J	62778.35	62778.47	62778.60	0.0301	0.0091
Saturn	-4541-02-14 12:00 J	62866.92	62867.00	62867.07	0.0301	0.0245
Moon	-4541-03-31 22:04 J	62913.39	62913.42	62913.45	0.2623	0.2575
Venus	-4538-04-01 19:12 J	64009.24	64009.30	64009.37	0.3686	0.2745
Moon	-4538-09-28 09:36 J	64188.80	64188.90	64188.99	0.2710	0.1121
Earth	-4538-09-28 10:04 J	64188.82	64188.92	64189.02	0.2713	0.0968 *
Jupiter	-4537-03-19 14:09 J	64362.00	64362.09	64362.19	0.0528	0.0363
Jupiter	-4537-06-16 19:40 J	64451.21	64451.32	64451.44	0.0526	0.0198
Mars	-4536-04-17 05:31 J	64755.57	64755.73	64755.88	0.1800	0.0712
Mars	-4535-02-22 23:16 J	65067.36	65067.47	65067.59	0.1719	0.0214
Uranus	-4532-01-12 17:45 J	66122.21	66122.24	66122.30	0.0136	0.0128
Uranus	-4532-04-10 21:07 J	66210.31	66210.38	66210.46	0.0136	0.0109
Uranus	-4532-07-08 00:14 J	66298.41	66298.51	66298.61	0.0136	0.0091
Uranus	-4532-10-04 03:07 J	66386.53	66386.63	66386.75	0.0136	0.0074
Uranus	-4532-12-31 06:14 J	66474.64	66474.76	66474.88	0.0136	0.0055
Uranus	-4531-03-29 09:21 J	66562.76	66562.89	66563.02	0.0136	0.0037
Jupiter	-4531-05-06 07:26 J	66600.71	66600.81	66600.91	0.0498	0.0417
Uranus	-4531-06-25 12:28 J	66650.89	66651.02	66651.15	0.0136	0.0019
Jupiter	-4531-08-04 18:14 J	66691.12	66691.26	66691.41	0.0499	0.0308
Uranus	-4531-09-21 15:21 J	66739.01	66739.14	66739.28	0.0136	0.0005
Uranus	-4531-12-18 18:28 J	66827.14	66827.27	66827.40	0.0137	0.0018

Uranus	-4530-03-16 21:35 J	66915.27	66915.40	66915.52	0.0137	0.0036
Uranus	-4530-06-13 00:28 J	67003.41	67003.52	67003.64	0.0137	0.0054
Uranus	-4530-09-09 03:35 J	67091.54	67091.65	67091.76	0.0137	0.0072
Uranus	-4530-12-06 06:28 J	67179.68	67179.77	67179.88	0.0137	0.0091
Uranus	-4529-03-03 09:35 J	67267.83	67267.90	67267.98	0.0137	0.0109
Uranus	-4529-05-30 12:43 J	67355.99	67356.03	67356.08	0.0137	0.0127
Saturn	-4528-09-16 06:43 J	67829.67	67829.78	67829.90	0.0262	0.0204
Saturn	-4528-12-14 03:07 J	67918.45	67918.63	67918.81	0.0262	0.0056
Saturn	-4527-03-12 23:31 J	68007.30	68007.48	68007.66	0.0261	0.0093
Saturn	-4527-06-09 19:55 J	68096.27	68096.33	68096.41	0.0261	0.0243
Mars	-4526-07-16 09:50 J	68497.80	68497.91	68498.03	0.1725	0.0305
Jupiter	-4525-01-06 18:00 J	68672.22	68672.25	68672.28	0.0529	0.0513
Jupiter	-4525-04-04 23:45 J	68761.37	68761.49	68761.62	0.0527	0.0052
Moon	-4525-09-30 02:52 J	68939.52	68939.62	68939.73	0.2717	0.0348
Earth	-4525-09-30 03:35 J	68939.54	68939.65	68939.75	0.2714	0.0375 *
Venus	-4524-01-28 02:24 J	69059.57	69059.60	69059.62	0.3689	0.3619
Jupiter	-4519-05-23 14:38 J	71000.93	71001.11	71001.29	0.0499	0.0121
Venus	-4519-08-14 11:16 J	71083.82	71083.97	71084.12	0.3687	0.1213
Mars	-4517-12-05 20:24 J	71928.25	71928.35	71928.45	0.1731	0.0818
Mars	-4515-01-04 16:19 J	72323.13	72323.18	72323.23	0.1814	0.1730
Mars	-4515-11-11 01:40 J	72633.49	72633.57	72633.65	0.1708	0.1234
Jupiter	-4513-01-23 04:04 J	73071.55	73071.67	73071.80	0.0527	0.0087
Jupiter	-4513-04-21 09:21 J	73160.84	73160.89	73160.95	0.0526	0.0467
Saturn	-4513-10-11 01:12 J	73333.48	73333.55	73333.63	0.0299	0.0248
Saturn	-4512-01-07 14:09 J	73421.96	73422.09	73422.21	0.0300	0.0093
Saturn	-4512-04-06 02:38 J	73510.49	73510.61	73510.74	0.0300	0.0062
Saturn	-4512-07-03 15:21 J	73599.05	73599.14	73599.23	0.0301	0.0215
Moon	-4512-10-02 20:38 J	73690.27	73690.36	73690.44	0.2720	0.1621
Earth	-4512-10-02 20:52 J	73690.29	73690.37	73690.45	0.2714	0.1701 *
Moon	-4508-03-29 19:40 J	74964.15	74964.32	74964.48	0.2622	0.0172

Earth	-4508-03-29 21:35 J	74964.23	74964.40	74964.56	0.2620	0.0288 *
Jupiter	-4507-03-11 10:33 J	75310.76	75310.94	75311.13	0.0499	0.0071
Mars	-4507-04-28 06:57 J	75358.72	75358.79	75358.86	0.1738	0.1344
Mars	-4506-05-27 11:02 J	75752.80	75752.96	75753.13	0.1807	0.0549
Mars	-4505-04-02 12:28 J	76063.92	76064.02	76064.12	0.1713	0.0753
Moon	-4505-09-25 21:07 J	76240.31	76240.38	76240.44	0.2707	0.2102
Earth	-4505-09-25 21:21 J	76240.33	76240.39	76240.46	0.2712	0.2038 *
Venus	-4504-09-08 02:09 J	76587.52	76587.59	76587.65	0.3681	0.2831
Jupiter	-4502-11-11 08:38 J	77381.74	77381.86	77381.97	0.0528	0.0222
Jupiter	-4501-02-08 13:55 J	77470.99	77471.08	77471.18	0.0526	0.0334
Saturn	-4498-02-03 06:57 J	78561.72	78561.79	78561.87	0.0262	0.0240
Venus	-4498-03-24 18:00 J	78611.15	78611.25	78611.34	0.3682	0.1281
Saturn	-4498-05-03 03:07 J	78650.46	78650.63	78650.81	0.0261	0.0094
Saturn	-4498-07-30 23:31 J	78739.30	78739.48	78739.67	0.0261	0.0055
Saturn	-4498-10-27 19:55 J	78828.22	78828.33	78828.46	0.0261	0.0204
Mars	-4497-10-16 06:14 J	79182.60	79182.76	79182.92	0.1800	0.0609
Mars	-4496-08-23 23:16 J	79494.36	79494.47	79494.58	0.1719	0.0258
Jupiter	-4496-12-28 07:26 J	79620.65	79620.81	79620.97	0.0499	0.0251
Jupiter	-4495-03-28 18:43 J	79711.23	79711.28	79711.33	0.0500	0.0482
Venus	-4493-10-07 09:35 J	80634.80	80634.90	80635.00	0.3683	0.0258
Uranus	-4492-05-14 10:19 J	80853.89	80853.93	80854.01	0.0142	0.0135
Uranus	-4492-08-10 18:57 J	80942.17	80942.29	80942.43	0.0142	0.0103
Moon	-4492-09-28 14:09 J	80990.99	80991.09	80991.20	0.2711	0.0744
Earth	-4492-09-28 14:52 J	80991.02	80991.12	80991.22	0.2713	0.0700 *
Uranus	-4492-11-07 03:21 J	81030.48	81030.64	81030.82	0.0142	0.0073
Uranus	-4491-02-03 12:00 J	81118.82	81119.00	81119.19	0.0142	0.0041
Uranus	-4491-05-02 20:38 J	81207.16	81207.36	81207.55	0.0142	0.0010
Uranus	-4491-07-30 05:02 J	81295.52	81295.71	81295.90	0.0142	0.0021
Uranus	-4491-10-26 13:26 J	81383.88	81384.06	81384.25	0.0142	0.0052
Uranus	-4490-01-22 21:50 J	81472.26	81472.41	81472.57	0.0142	0.0083

Uranus	-4490-04-21 06:14 J	81560.65	81560.76	81560.88	0.0142	0.0114
Jupiter	-4490-08-30 12:28 J	81691.93	81692.02	81692.11	0.0528	0.0369
Jupiter	-4490-11-27 18:00 J	81781.13	81781.25	81781.37	0.0526	0.0191
Mars	-4487-03-08 01:40 J	82612.53	82612.57	82612.61	0.1792	0.1725
Venus	-4487-04-23 01:12 J	82658.46	82658.55	82658.64	0.3685	0.1769
Mars	-4486-01-14 10:04 J	82924.80	82924.92	82925.03	0.1725	0.0247
Jupiter	-4484-10-16 04:33 J	83930.60	83930.69	83930.78	0.0498	0.0428
Jupiter	-4483-01-14 15:21 J	84020.99	84021.14	84021.29	0.0500	0.0298
Saturn	-4483-02-28 03:35 J	84065.62	84065.65	84065.68	0.0300	0.0288
Saturn	-4483-05-27 16:19 J	84154.07	84154.18	84154.30	0.0300	0.0133
Saturn	-4483-08-24 05:02 J	84242.58	84242.71	84242.84	0.0301	0.0023
Saturn	-4483-11-20 17:45 J	84331.13	84331.24	84331.34	0.0301	0.0176
Venus	-4482-11-06 16:47 J	84682.15	84682.20	84682.24	0.3686	0.3261
Moon	-4479-10-01 07:40 J	85741.72	85741.82	85741.93	0.2718	0.0494
Earth	-4479-10-01 08:24 J	85741.74	85741.85	85741.95	0.2714	0.0647 *
Jupiter	-4478-06-18 16:19 J	86002.16	86002.18	86002.21	0.0528	0.0516
Jupiter	-4478-09-15 22:04 J	86091.30	86091.42	86091.55	0.0527	0.0049
Mars	-4477-06-05 20:24 J	86355.25	86355.35	86355.45	0.1731	0.0761
Moon	-4475-03-27 17:45 J	87015.16	87015.24	87015.32	0.2620	0.2283
Earth	-4475-03-27 19:40 J	87015.22	87015.32	87015.42	0.2621	0.2065 *
Mars	-4475-05-12 01:40 J	87060.50	87060.57	87060.64	0.1707	0.1293
Jupiter	-4472-11-02 12:00 J	88330.82	88331.00	88331.18	0.0499	0.0114
Saturn	-4469-09-19 04:33 J	89382.53	89382.69	89382.86	0.0262	0.0122
Saturn	-4469-12-17 00:57 J	89471.35	89471.54	89471.73	0.0261	0.0026
Saturn	-4468-03-15 21:21 J	89560.25	89560.39	89560.53	0.0261	0.0175
Pluto	-4468-05-18 18:43 J	89624.26	89624.28	89624.34	0.0072	0.0069
Pluto	-4468-08-14 19:55 J	89712.26	89712.33	89712.42	0.0072	0.0060
Venus	-4468-09-04 04:19 J	89732.56	89732.68	89732.81	0.3689	0.2097
Mars	-4468-10-27 06:57 J	89785.71	89785.79	89785.86	0.1737	0.1286
Pluto	-4468-11-10 21:07 J	89800.28	89800.38	89800.48	0.0072	0.0052

Pluto -4467-02-06 21:50 J 89888.31 89888.41 89888.54 0.0072 0.0043

Pluto -4467-05-05 23:02 J 89976.34 89976.46 89976.59 0.0072 0.0034

Pluto -4467-08-02 00:00 J 90064.37 90064.50 90064.64 0.0072 0.0025

Neptune -4467-08-24 06:00 J 90086.69 90086.75 90086.85 0.0088 0.0080

Pluto -4467-10-29 01:12 J 90152.41 90152.55 90152.69 0.0072 0.0016

Neptune -4467-11-20 09:35 J 90174.80 90174.90 90175.03 0.0088 0.0070

Mars -4467-11-25 12:00 J 90179.84 90180.00 90180.16 0.1807 0.0657

Pluto -4466-01-25 02:09 J 90240.45 90240.59 90240.74 0.0073 0.0008

Neptune -4466-02-16 13:12 J 90262.92 90263.05 90263.20 0.0088 0.0060

Pluto -4466-04-23 03:21 J 90328.49 90328.64 90328.79 0.0073 0.0002

Neptune -4466-05-15 16:19 J 90351.04 90351.18 90351.36 0.0088 0.0051

Jupiter -4466-07-05 01:55 J 90401.46 90401.58 90401.71 0.0528 0.0100

Pluto -4466-07-20 04:19 J 90416.54 90416.68 90416.83 0.0073 0.0011

Neptune -4466-08-11 19:55 J 90439.17 90439.33 90439.52 0.0088 0.0041

Jupiter -4466-10-02 07:12 J 90490.74 90490.80 90490.86 0.0526 0.0454

Mars -4466-10-02 12:28 J 90490.92 90491.02 90491.12 0.1713 0.0806

Moon -4466-10-04 01:26 J 90492.49 90492.56 90492.63 0.2721 0.2007

Earth -4466-10-04 01:40 J 90492.50 90492.57 90492.64 0.2714 0.1969 *

Pluto -4466-10-16 05:31 J 90504.59 90504.73 90504.87 0.0073 0.0020

Neptune -4466-11-07 23:31 J 90527.31 90527.48 90527.67 0.0088 0.0031

Pluto -4465-01-12 06:14 J 90592.64 90592.76 90592.91 0.0073 0.0030

Neptune -4465-02-04 03:07 J 90615.45 90615.63 90615.82 0.0088 0.0021

Pluto -4465-04-09 07:26 J 90680.70 90680.81 90680.94 0.0073 0.0039

Neptune -4465-05-02 06:43 J 90703.59 90703.78 90703.97 0.0088 0.0011

Pluto -4465-07-06 08:38 J 90768.76 90768.86 90768.98 0.0073 0.0049

Neptune -4465-07-29 10:19 J 90791.73 90791.93 90792.12 0.0088 0.0002

Pluto -4465-10-02 09:35 J 90856.83 90856.90 90857.00 0.0073 0.0058

Neptune -4465-10-25 13:40 J 90879.88 90880.07 90880.27 0.0088 0.0009

Pluto -4465-12-29 10:47 J 90944.91 90944.95 90945.02 0.0074 0.0068

Neptune -4464-01-21 17:16 J 90968.03 90968.22 90968.41 0.0088 0.0018

Neptune	-4464-04-19 20:38	J	91056.18	91056.36	91056.55	0.0088	0.0028
Neptune	-4464-07-17 00:14	J	91144.34	91144.51	91144.69	0.0088	0.0038
Neptune	-4464-10-13 03:35	J	91232.50	91232.65	91232.83	0.0088	0.0048
Neptune	-4463-01-09 07:12	J	91320.67	91320.80	91320.96	0.0088	0.0058
Neptune	-4463-04-07 10:47	J	91408.84	91408.95	91409.09	0.0088	0.0068
Neptune	-4463-07-04 14:09	J	91497.02	91497.09	91497.20	0.0088	0.0078
Neptune	-4463-09-30 18:00	J	91585.25	91585.25	91585.27	0.0088	0.0088
Venus	-4462-03-21 13:26	J	91756.96	91757.06	91757.16	0.3687	0.2802
Moon	-4462-03-31 02:38	J	91766.45	91766.61	91766.77	0.2622	0.0562
Earth	-4462-03-31 04:33	J	91766.53	91766.69	91766.84	0.2619	0.0853 *
Jupiter	-4460-08-21 08:38	J	92640.67	92640.86	92641.04	0.0499	0.0071
Moon	-4459-09-27 01:40	J	93042.50	93042.57	93042.65	0.2707	0.1826
Earth	-4459-09-27 02:09	J	93042.51	93042.59	93042.67	0.2712	0.1767 *
Mars	-4457-04-16 07:12	J	93609.63	93609.80	93609.96	0.1800	0.0501
Mars	-4456-02-21 23:16	J	93921.36	93921.47	93921.58	0.1719	0.0315
Jupiter	-4454-04-23 06:14	J	94711.65	94711.76	94711.88	0.0528	0.0238
Jupiter	-4454-07-21 11:45	J	94800.89	94800.99	94801.09	0.0526	0.0320
Saturn	-4454-10-14 19:40	J	94886.21	94886.32	94886.43	0.0300	0.0163
Saturn	-4453-01-11 08:24	J	94974.72	94974.85	94974.98	0.0300	0.0008
Saturn	-4453-04-08 20:52	J	95063.26	95063.37	95063.49	0.0301	0.0147
Saturn	-4453-07-06 09:21	J	95151.89	95151.89	95151.91	0.0301	0.0299
Uranus	-4448-02-02 00:57	J	96823.50	96823.54	96823.60	0.0136	0.0124
Uranus	-4448-05-01 04:04	J	96911.60	96911.67	96911.76	0.0136	0.0106
Jupiter	-4448-06-09 04:19	J	96950.52	96950.68	96950.84	0.0499	0.0263
Uranus	-4448-07-28 07:12	J	96999.70	96999.80	96999.90	0.0136	0.0088
Mars	-4448-09-06 02:38	J	97039.54	97039.61	97039.68	0.1792	0.1615
Jupiter	-4448-09-07 15:35	J	97041.08	97041.15	97041.21	0.0500	0.0468
Uranus	-4448-10-24 10:04	J	97087.82	97087.92	97088.04	0.0136	0.0070
Uranus	-4447-01-20 13:12	J	97175.94	97176.05	97176.18	0.0136	0.0052
Venus	-4447-04-14 23:45	J	97260.41	97260.49	97260.57	0.3681	0.2285

Uranus	-4447-04-18 16:19 J	97264.06	97264.18	97264.31	0.0136	0.0034
Mars	-4447-07-15 09:50 J	97351.80	97351.91	97352.02	0.1725	0.0192
Uranus	-4447-07-15 19:26 J	97352.18	97352.31	97352.44	0.0136	0.0015
Uranus	-4447-10-11 22:33 J	97440.31	97440.44	97440.57	0.0136	0.0003
Uranus	-4446-01-08 01:26 J	97528.44	97528.56	97528.69	0.0137	0.0022
Uranus	-4446-04-06 04:33 J	97616.57	97616.69	97616.82	0.0137	0.0039
Uranus	-4446-07-03 07:26 J	97704.70	97704.81	97704.94	0.0137	0.0058
Uranus	-4446-09-29 10:33 J	97792.84	97792.94	97793.05	0.0137	0.0076
Moon	-4446-09-29 18:57 J	97793.19	97793.29	97793.40	0.2713	0.0555
Earth	-4446-09-29 19:40 J	97793.21	97793.32	97793.42	0.2713	0.0429 *
Uranus	-4446-12-26 13:40 J	97880.98	97881.07	97881.17	0.0137	0.0094
Uranus	-4445-03-23 16:47 J	97969.13	97969.20	97969.27	0.0137	0.0112
Uranus	-4445-06-19 19:40 J	98057.29	98057.32	98057.36	0.0137	0.0131
Jupiter	-4442-02-09 10:47 J	99021.86	99021.95	99022.04	0.0528	0.0373
Jupiter	-4442-05-09 16:19 J	99111.07	99111.18	99111.30	0.0526	0.0188
Venus	-4442-10-29 15:21 J	99284.04	99284.14	99284.24	0.3682	0.0744
Saturn	-4439-02-06 04:47 J	100114.55	100114.70	100114.85	0.0261	0.0158
Saturn	-4439-05-06 01:12 J	100203.36	100203.55	100203.73	0.0261	0.0012
Saturn	-4439-08-02 21:35 J	100292.24	100292.40	100292.56	0.0261	0.0137
Mars	-4438-12-05 20:24 J	100782.25	100782.35	100782.46	0.1731	0.0703
Jupiter	-4436-03-28 01:26 J	101260.48	101260.56	101260.64	0.0498	0.0440
Venus	-4436-05-14 06:57 J	101307.69	101307.79	101307.89	0.3684	0.0795
Jupiter	-4436-06-26 12:14 J	101350.86	101351.01	101351.16	0.0500	0.0285
Mars	-4436-11-10 01:40 J	101487.50	101487.57	101487.64	0.1708	0.1343
Moon	-4433-10-01 12:28 J	102543.92	102544.02	102544.12	0.2718	0.0886
Earth	-4433-10-01 12:57 J	102543.94	102544.04	102544.14	0.2714	0.0909 *
Venus	-4431-11-27 22:33 J	103331.36	103331.44	103331.52	0.3685	0.2290
Jupiter	-4431-11-28 14:38 J	103332.10	103332.11	103332.13	0.0528	0.0520
Jupiter	-4430-02-25 20:24 J	103421.23	103421.35	103421.48	0.0527	0.0046
Moon	-4429-03-28 00:28 J	103817.40	103817.52	103817.65	0.2620	0.1709

Earth	-4429-03-28 02:38 J	103817.47	103817.61	103817.74	0.2620	0.1506	*
Mars	-4428-04-27 06:57 J	104212.71	104212.79	104212.87	0.1737	0.1225	
Mars	-4427-05-26 12:43 J	104606.87	104607.03	104607.18	0.1807	0.0754	
Mars	-4426-04-02 12:28 J	104917.92	104918.02	104918.12	0.1713	0.0864	
Saturn	-4424-03-02 21:35 J	105618.31	105618.40	105618.50	0.0300	0.0206	
Jupiter	-4424-04-14 09:07 J	105660.70	105660.88	105661.06	0.0499	0.0104	
Saturn	-4424-05-30 10:33 J	105706.81	105706.94	105707.07	0.0301	0.0051	
Saturn	-4424-08-26 23:02 J	105795.34	105795.46	105795.59	0.0301	0.0104	
Saturn	-4424-11-23 11:31 J	105883.92	105883.98	105884.05	0.0301	0.0258	
Moon	-4420-10-04 06:28 J	107294.71	107294.77	107294.83	0.2721	0.2189	
Earth	-4420-10-04 06:28 J	107294.71	107294.77	107294.82	0.2714	0.2240	*
Jupiter	-4419-12-15 00:28 J	107731.40	107731.52	107731.65	0.0527	0.0100	
Jupiter	-4418-03-14 05:45 J	107820.68	107820.74	107820.80	0.0525	0.0453	
Mars	-4418-10-16 07:55 J	108036.66	108036.83	108036.99	0.1800	0.0400	
Mars	-4417-08-22 23:16 J	108348.36	108348.47	108348.58	0.1719	0.0371	
Moon	-4416-03-31 09:50 J	108568.77	108568.91	108569.05	0.2623	0.1288	
Earth	-4416-03-31 11:16 J	108568.83	108568.97	108569.11	0.2619	0.1407	*
Moon	-4413-09-27 06:28 J	109844.69	109844.77	109844.86	0.2707	0.1548	
Earth	-4413-09-27 06:57 J	109844.70	109844.79	109844.88	0.2712	0.1495	*
Jupiter	-4412-01-31 06:00 J	109970.57	109970.75	109970.94	0.0499	0.0077	
Venus	-4411-04-11 06:28 J	110405.61	110405.77	110405.92	0.3688	0.0573	
Saturn	-4410-06-26 05:31 J	110846.61	110846.73	110846.87	0.0262	0.0191	
Saturn	-4410-09-23 01:55 J	110935.40	110935.58	110935.77	0.0261	0.0043	
Saturn	-4410-12-20 22:19 J	111024.26	111024.43	111024.60	0.0261	0.0105	
Saturn	-4409-03-18 18:43 J	111113.25	111113.28	111113.33	0.0261	0.0254	
Mars	-4408-03-07 03:35 J	111466.56	111466.65	111466.74	0.1793	0.1505	
Uranus	-4408-06-03 16:19 J	111555.12	111555.18	111555.27	0.0142	0.0132	
Uranus	-4408-08-31 00:57 J	111643.41	111643.54	111643.68	0.0142	0.0101	
Uranus	-4408-11-27 09:21 J	111731.73	111731.89	111732.07	0.0142	0.0070	
Mars	-4407-01-13 09:50 J	111778.80	111778.91	111779.03	0.1725	0.0134	

Uranus	-4407-02-23 18:00 J	111820.06	111820.25	111820.44	0.0142	0.0038
Uranus	-4407-05-23 02:24 J	111908.41	111908.60	111908.80	0.0142	0.0008
Uranus	-4407-08-19 10:47 J	111996.76	111996.95	111997.15	0.0142	0.0024
Jupiter	-4407-10-03 04:19 J	112041.57	112041.68	112041.79	0.0528	0.0248
Uranus	-4407-11-15 19:12 J	112085.13	112085.30	112085.49	0.0142	0.0055
Jupiter	-4407-12-31 09:50 J	112130.81	112130.91	112131.01	0.0526	0.0310
Uranus	-4406-02-12 03:35 J	112173.51	112173.65	112173.82	0.0142	0.0086
Uranus	-4406-05-11 12:00 J	112261.91	112262.00	112262.13	0.0142	0.0117
Jupiter	-4401-11-19 02:52 J	114280.46	114280.62	114280.78	0.0498	0.0257
Jupiter	-4400-02-17 13:55 J	114371.02	114371.08	114371.14	0.0500	0.0472
Moon	-4400-09-29 23:45 J	114595.38	114595.49	114595.60	0.2715	0.0244
Earth	-4400-09-30 00:28 J	114595.41	114595.52	114595.63	0.2713	0.0161 *
Mars	-4398-06-05 20:24 J	115209.25	115209.35	115209.46	0.1731	0.0647
Venus	-4396-05-06 05:16 J	115909.68	115909.72	115909.77	0.3680	0.3304
Mars	-4396-05-11 01:40 J	115914.50	115914.57	115914.63	0.1707	0.1399
Saturn	-4395-07-21 00:43 J	116350.45	116350.53	116350.60	0.0300	0.0240
Jupiter	-4395-07-22 08:38 J	116351.78	116351.86	116351.95	0.0528	0.0386
Saturn	-4395-10-17 13:26 J	116438.93	116439.06	116439.19	0.0300	0.0085
Jupiter	-4395-10-19 14:24 J	116440.98	116441.10	116441.22	0.0527	0.0176
Saturn	-4394-01-14 02:09 J	116527.46	116527.59	116527.72	0.0300	0.0069
Saturn	-4394-04-12 14:38 J	116616.03	116616.11	116616.20	0.0301	0.0223
Venus	-4391-11-19 21:07 J	117933.29	117933.38	117933.47	0.3682	0.1745
Jupiter	-4389-09-06 22:33 J	118590.37	118590.44	118590.52	0.0498	0.0450
Mars	-4389-10-26 06:57 J	118639.70	118639.79	118639.87	0.1737	0.1176
Jupiter	-4389-12-06 09:21 J	118680.73	118680.89	118681.05	0.0500	0.0274
Mars	-4388-11-24 13:26 J	119033.92	119034.06	119034.21	0.1808	0.0866
Mars	-4387-10-01 12:28 J	119344.92	119345.02	119345.11	0.1713	0.0915
Moon	-4387-10-02 17:16 J	119346.13	119346.22	119346.32	0.2718	0.1066
Earth	-4387-10-02 17:45 J	119346.15	119346.24	119346.34	0.2714	0.1177 *
Neptune	-4385-03-09 02:38 J	119869.59	119869.61	119869.66	0.0089	0.0085

Venus -4385-06-04 12:57 J 119956.93 119957.04 119957.14 0.3683 0.0246

Neptune -4385-06-05 04:19 J 119957.62 119957.68 119957.74 0.0089 0.0078

Neptune -4385-09-01 05:31 J 120045.66 120045.73 120045.82 0.0089 0.0071

Neptune -4385-11-28 06:57 J 120133.70 120133.79 120133.89 0.0089 0.0064

Neptune -4384-02-24 08:24 J 120221.75 120221.85 120221.96 0.0089 0.0056

Neptune -4384-05-23 09:35 J 120309.80 120309.90 120310.02 0.0089 0.0050

Neptune -4384-08-19 11:02 J 120397.85 120397.96 120398.09 0.0089 0.0042

Neptune -4384-11-15 12:28 J 120485.90 120486.02 120486.15 0.0089 0.0035

Neptune -4383-02-11 13:55 J 120573.96 120574.08 120574.21 0.0089 0.0028

Moon -4383-03-29 07:40 J 120619.67 120619.82 120619.97 0.2620 0.1193

Earth -4383-03-29 09:35 J 120619.74 120619.90 120620.05 0.2620 0.0927 *

Neptune -4383-05-10 15:21 J 120662.01 120662.14 120662.27 0.0089 0.0021

Jupiter -4383-05-10 13:12 J 120662.04 120662.05 120662.07 0.0529 0.0521 *

Pluto -4383-07-19 10:19 J 120731.87 120731.93 120732.00 0.0073 0.0067

Neptune -4383-08-06 16:33 J 120750.06 120750.19 120750.33 0.0089 0.0014

Jupiter -4383-08-07 18:57 J 120751.17 120751.29 120751.42 0.0527 0.0045

Pluto -4383-10-15 12:14 J 120819.90 120820.01 120820.12 0.0072 0.0056

Neptune -4383-11-02 18:00 J 120838.12 120838.25 120838.38 0.0089 0.0006

Pluto -4382-01-11 13:40 J 120907.95 120908.07 120908.22 0.0072 0.0045

Neptune -4382-01-29 19:26 J 120926.18 120926.31 120926.44 0.0089 0.0001

Pluto -4382-04-09 15:35 J 120996.00 120996.15 120996.30 0.0072 0.0035

Neptune -4382-04-27 20:38 J 121014.23 121014.36 121014.50 0.0089 0.0009

Pluto -4382-07-06 17:16 J 121084.06 121084.22 121084.39 0.0072 0.0024

Neptune -4382-07-24 22:04 J 121102.29 121102.42 121102.55 0.0089 0.0015

Pluto -4382-10-02 18:57 J 121172.12 121172.29 121172.46 0.0072 0.0014

Neptune -4382-10-20 23:16 J 121190.35 121190.47 121190.60 0.0089 0.0022

Pluto -4382-12-29 20:38 J 121260.19 121260.36 121260.53 0.0072 0.0003

Neptune -4381-01-17 00:43 J 121278.41 121278.53 121278.66 0.0089 0.0029

Pluto -4381-03-26 22:19 J 121348.26 121348.43 121348.60 0.0072 0.0007

Neptune -4381-04-14 01:55 J 121366.47 121366.58 121366.71 0.0089 0.0037

Pluto -4381-06-22 23:45 J 121436.33 121436.49 121436.67 0.0072 0.0018

Neptune -4381-07-11 03:21 J 121454.53 121454.64 121454.76 0.0089 0.0043

Pluto -4381-09-19 01:26 J 121524.41 121524.56 121524.72 0.0072 0.0028

Neptune -4381-10-07 04:33 J 121542.59 121542.69 121542.81 0.0089 0.0051

Saturn -4381-11-12 05:45 J 121578.66 121578.74 121578.84 0.0262 0.0227

Pluto -4381-12-16 02:52 J 121612.49 121612.62 121612.78 0.0071 0.0038

Neptune -4380-01-03 06:00 J 121630.65 121630.75 121630.85 0.0089 0.0057

Saturn -4380-02-09 02:09 J 121667.41 121667.59 121667.77 0.0261 0.0080

Pluto -4380-03-14 04:33 J 121700.57 121700.69 121700.83 0.0071 0.0047

Neptune -4380-04-01 07:12 J 121718.72 121718.80 121718.90 0.0089 0.0065

Saturn -4380-05-08 22:19 J 121756.25 121756.43 121756.62 0.0261 0.0068

Pluto -4380-06-10 06:00 J 121788.67 121788.75 121788.87 0.0071 0.0057

Neptune -4380-06-28 08:24 J 121806.79 121806.85 121806.94 0.0089 0.0072

Saturn -4380-08-05 18:43 J 121845.18 121845.28 121845.39 0.0261 0.0216

Pluto -4380-09-06 07:26 J 121876.78 121876.81 121876.89 0.0071 0.0067

Neptune -4380-09-24 09:50 J 121894.86 121894.91 121894.98 0.0089 0.0078

Moon -4380-09-25 18:14 J 121896.22 121896.26 121896.29 0.2705 0.2527

Earth -4380-09-25 18:28 J 121896.23 121896.27 121896.30 0.2712 0.2565 *

Venus -4380-12-19 04:33 J 121980.59 121980.69 121980.78 0.3684 0.1308

Neptune -4380-12-21 11:02 J 121982.94 121982.96 121983.01 0.0089 0.0086

Mars -4379-03-18 17:16 J 122070.20 122070.22 122070.24 0.1744 0.1705

Mars -4378-04-16 08:52 J 122463.70 122463.87 122464.03 0.1800 0.0291

Mars -4377-02-21 23:16 J 122775.36 122775.47 122775.58 0.1719 0.0428

Jupiter -4377-09-24 06:14 J 122990.58 122990.76 122990.94 0.0499 0.0094

Venus -4374-07-04 20:09 J 124004.27 124004.34 124004.40 0.3686 0.2799

Earth -4374-10-05 11:02 J 124096.93 124096.96 124097.00 0.2714 0.2509

Moon -4374-10-05 11:16 J 124096.94 124096.97 124097.00 0.2722 0.2587 *

Jupiter -4371-05-26 23:16 J 125061.34 125061.47 125061.59 0.0527 0.0100

Jupiter -4371-08-24 04:19 J 125150.62 125150.68 125150.74 0.0525 0.0453

Moon -4370-04-01 17:02 J 125371.09 125371.21 125371.32 0.2624 0.1822

Earth	-4370-04-01 18:14 J	125371.15	125371.26	125371.37	0.2619	0.1980	*
Mars	-4369-09-05 04:04 J	125893.57	125893.67	125893.78	0.1793	0.1415	
Mars	-4368-07-14 09:50 J	126205.80	126205.91	126206.03	0.1725	0.0083	
Moon	-4367-09-28 11:16 J	126646.88	126646.97	126647.06	0.2709	0.1326	
Earth	-4367-09-28 11:45 J	126646.90	126646.99	126647.09	0.2712	0.1223	*
Saturn	-4366-12-08 02:09 J	127082.56	127082.59	127082.62	0.0300	0.0289	
Saturn	-4365-03-05 15:07 J	127171.01	127171.13	127171.24	0.0301	0.0134	
Saturn	-4365-06-02 03:50 J	127259.53	127259.66	127259.79	0.0301	0.0023	
Jupiter	-4365-07-13 03:21 J	127300.46	127300.64	127300.82	0.0499	0.0084	
Saturn	-4365-08-29 16:19 J	127348.08	127348.18	127348.29	0.0301	0.0176	
Uranus	-4364-02-22 08:09 J	127524.79	127524.84	127524.91	0.0136	0.0120	
Uranus	-4364-05-21 11:16 J	127612.89	127612.97	127613.06	0.0136	0.0102	
Uranus	-4364-08-17 14:24 J	127701.00	127701.10	127701.20	0.0136	0.0084	
Uranus	-4364-11-13 17:16 J	127789.11	127789.22	127789.34	0.0136	0.0066	
Uranus	-4363-02-09 20:24 J	127877.23	127877.35	127877.48	0.0136	0.0048	
Uranus	-4363-05-08 23:31 J	127965.35	127965.48	127965.61	0.0136	0.0030	
Uranus	-4363-08-05 02:38 J	128053.48	128053.61	128053.74	0.0136	0.0012	
Uranus	-4363-11-01 05:31 J	128141.60	128141.73	128141.87	0.0136	0.0009	
Uranus	-4362-01-28 08:38 J	128229.73	128229.86	128229.99	0.0137	0.0025	
Uranus	-4362-04-26 11:45 J	128317.87	128317.99	128318.11	0.0137	0.0043	
Uranus	-4362-07-23 14:38 J	128406.00	128406.11	128406.23	0.0137	0.0062	
Uranus	-4362-10-19 17:45 J	128494.14	128494.24	128494.35	0.0137	0.0080	
Uranus	-4361-01-15 20:52 J	128582.28	128582.37	128582.46	0.0137	0.0098	
Uranus	-4361-04-13 00:00 J	128670.43	128670.50	128670.57	0.0137	0.0116	
Uranus	-4361-07-10 02:52 J	128758.61	128758.62	128758.65	0.0137	0.0135	
Jupiter	-4359-03-15 03:07 J	129371.52	129371.63	129371.75	0.0528	0.0243	
Jupiter	-4359-06-12 08:38 J	129460.76	129460.86	129460.96	0.0526	0.0314	
Mars	-4359-12-04 20:24 J	129636.24	129636.35	129636.46	0.1731	0.0591	
Mars	-4357-11-09 01:40 J	130341.51	130341.57	130341.62	0.1707	0.1453	
Venus	-4355-11-16 08:24 J	131078.70	131078.85	131079.00	0.3688	0.0971	

Moon	-4354-10-01 04:33 J	131397.58	131397.69	131397.79	0.2715	0.0065
Earth	-4354-10-01 05:16 J	131397.61	131397.72	131397.82	0.2713	0.0147 *
Jupiter	-4353-05-01 00:28 J	131610.37	131610.52	131610.68	0.0498	0.0260
Jupiter	-4353-07-30 11:45 J	131700.93	131700.99	131701.05	0.0500	0.0471
Saturn	-4351-06-29 02:24 J	132399.43	132399.60	132399.77	0.0261	0.0117
Saturn	-4351-09-25 22:33 J	132488.25	132488.44	132488.63	0.0261	0.0031
Saturn	-4351-12-23 18:57 J	132577.16	132577.29	132577.43	0.0261	0.0179
Mars	-4349-04-26 06:57 J	133066.70	133066.79	133066.87	0.1737	0.1116
Mars	-4348-05-25 14:38 J	133460.97	133461.11	133461.25	0.1808	0.0985
Jupiter	-4347-01-01 06:57 J	133681.71	133681.79	133681.88	0.0528	0.0392
Jupiter	-4347-03-31 12:28 J	133770.90	133771.02	133771.14	0.0527	0.0171
Mars	-4347-04-01 12:28 J	133771.92	133772.02	133772.11	0.1713	0.0971
Jupiter	-4341-02-17 21:21 J	135920.31	135920.39	135920.48	0.0498	0.0438
Jupiter	-4341-05-18 08:09 J	136010.69	136010.84	136011.00	0.0499	0.0286
Moon	-4341-10-02 22:19 J	136148.34	136148.43	136148.51	0.2720	0.1434
Earth	-4341-10-02 22:33 J	136148.35	136148.44	136148.53	0.2714	0.1447 *
Mars	-4340-09-16 17:02 J	136497.18	136497.21	136497.25	0.1743	0.1653
Venus	-4340-12-11 02:52 J	136582.55	136582.62	136582.69	0.3681	0.2756
Mars	-4339-10-15 09:35 J	136890.73	136890.90	136891.07	0.1800	0.0185
Mars	-4338-08-22 23:16 J	137202.36	137202.47	137202.58	0.1719	0.0483
Moon	-4337-03-29 14:38 J	137421.95	137422.11	137422.27	0.2621	0.0516
Earth	-4337-03-29 16:33 J	137422.02	137422.19	137422.35	0.2620	0.0373 *
Saturn	-4336-07-23 17:45 J	137903.13	137903.24	137903.35	0.0300	0.0170
Saturn	-4336-10-20 06:28 J	137991.64	137991.77	137991.90	0.0300	0.0016
Saturn	-4335-01-16 18:57 J	138080.18	138080.29	138080.41	0.0301	0.0139
Jupiter	-4335-01-17 17:02 J	138081.09	138081.21	138081.34	0.0527	0.0039
Saturn	-4335-04-15 07:40 J	138168.79	138168.82	138168.85	0.0301	0.0291
Venus	-4334-06-26 18:43 J	138606.18	138606.28	138606.38	0.3682	0.1214
Moon	-4334-09-26 23:02 J	138698.41	138698.46	138698.50	0.2705	0.2376
Earth	-4334-09-26 23:02 J	138698.41	138698.46	138698.52	0.2712	0.2292 *

Jupiter	-4329-03-06 03:35 J	140320.47	140320.65	140320.84	0.0499	0.0088
Mars	-4329-03-06 05:16 J	140320.60	140320.72	140320.83	0.1793	0.1301 *
Venus	-4328-01-09 10:19 J	140629.83	140629.93	140630.03	0.3683	0.0320
Mars	-4328-01-12 09:50 J	140632.79	140632.91	140633.02	0.1725	0.0029
Moon	-4324-04-02 00:00 J	142173.44	142173.50	142173.56	0.2625	0.2410
Earth	-4324-04-02 01:11 J	142173.52	142173.55	142173.58	0.2619	0.2557 *
Uranus	-4324-06-23 22:19 J	142256.36	142256.43	142256.52	0.0142	0.0129
Uranus	-4324-09-20 06:43 J	142344.65	142344.78	142344.93	0.0142	0.0098
Jupiter	-4324-11-05 21:50 J	142391.29	142391.41	142391.53	0.0527	0.0096
Uranus	-4324-12-17 15:21 J	142432.97	142433.14	142433.31	0.0142	0.0067
Jupiter	-4323-02-03 03:07 J	142480.57	142480.63	142480.69	0.0526	0.0457
Uranus	-4323-03-15 23:45 J	142521.30	142521.49	142521.68	0.0142	0.0036
Uranus	-4323-06-12 08:24 J	142609.65	142609.85	142610.04	0.0142	0.0006
Venus	-4323-07-26 01:55 J	142653.49	142653.58	142653.67	0.3685	0.1825
Uranus	-4323-09-08 16:48 J	142698.00	142698.20	142698.39	0.0142	0.0026
Uranus	-4323-12-06 00:57 J	142786.37	142786.54	142786.73	0.0142	0.0057
Uranus	-4322-03-04 09:21 J	142874.75	142874.89	142875.06	0.0142	0.0088
Uranus	-4322-05-31 17:45 J	142963.15	142963.24	142963.36	0.0142	0.0119
Saturn	-4322-11-16 02:24 J	143131.45	143131.60	143131.75	0.0261	0.0154
Saturn	-4321-02-12 22:33 J	143220.25	143220.44	143220.63	0.0261	0.0008
Saturn	-4321-05-11 18:57 J	143309.13	143309.29	143309.45	0.0261	0.0140
Moon	-4321-09-28 15:50 J	143449.07	143449.16	143449.26	0.2710	0.0997
Earth	-4321-09-28 16:33 J	143449.09	143449.19	143449.29	0.2712	0.0954 *
Mars	-4319-06-04 20:24 J	144063.24	144063.35	144063.46	0.1731	0.0534
Jupiter	-4318-12-24 00:43 J	144630.35	144630.53	144630.71	0.0499	0.0090
Venus	-4317-02-08 17:31 J	144677.19	144677.23	144677.27	0.3686	0.3307
Mars	-4317-05-10 01:26 J	144768.51	144768.56	144768.61	0.1707	0.1504
Jupiter	-4312-08-25 01:55 J	146701.47	146701.58	146701.70	0.0528	0.0238
Jupiter	-4312-11-22 07:26 J	146790.71	146790.81	146790.91	0.0526	0.0319
Mars	-4310-10-26 06:57 J	147493.70	147493.79	147493.88	0.1737	0.1057

Mars	-4309-11-23 15:07 J	147887.99	147888.13	147888.27	0.1808	0.1073
Mars	-4308-09-30 12:28 J	148198.93	148199.02	148199.11	0.1713	0.1027
Moon	-4308-10-01 09:21 J	148199.78	148199.89	148199.99	0.2715	0.0284
Earth	-4308-10-01 09:50 J	148199.81	148199.91	148200.02	0.2713	0.0399 *
Saturn	-4307-12-10 18:28 J	148635.19	148635.27	148635.36	0.0300	0.0227
Saturn	-4306-03-09 07:26 J	148723.68	148723.81	148723.94	0.0301	0.0071
Saturn	-4306-06-05 20:09 J	148812.21	148812.34	148812.46	0.0301	0.0084
Saturn	-4306-09-02 08:38 J	148900.79	148900.86	148900.94	0.0302	0.0238
Jupiter	-4306-10-11 22:04 J	148940.27	148940.42	148940.58	0.0499	0.0265
Jupiter	-4305-01-10 09:07 J	149030.82	149030.88	149030.95	0.0500	0.0468
Venus	-4304-12-07 01:26 J	149727.45	149727.56	149727.68	0.3689	0.2342
Neptune	-4302-02-22 01:26 J	150169.53	150169.56	150169.62	0.0088	0.0085
Neptune	-4302-05-21 05:02 J	150257.62	150257.71	150257.81	0.0088	0.0075
Neptune	-4302-08-17 08:09 J	150345.73	150345.84	150345.99	0.0088	0.0066
Neptune	-4302-11-13 11:45 J	150433.85	150433.99	150434.15	0.0088	0.0056
Neptune	-4301-02-09 15:21 J	150521.98	150522.14	150522.31	0.0088	0.0046
Neptune	-4301-05-07 18:43 J	150610.12	150610.28	150610.47	0.0088	0.0037
Neptune	-4301-08-03 22:19 J	150698.25	150698.43	150698.62	0.0088	0.0027
Neptune	-4301-10-31 01:55 J	150786.39	150786.58	150786.77	0.0088	0.0017
Neptune	-4300-01-27 05:31 J	150874.53	150874.73	150874.92	0.0088	0.0007
Mars	-4300-03-17 17:02 J	150924.17	150924.21	150924.26	0.1743	0.1594
Neptune	-4300-04-25 08:52 J	150962.68	150962.87	150963.07	0.0088	0.0003
Jupiter	-4300-06-13 06:00 J	151011.67	151011.75	151011.84	0.0528	0.0381
Neptune	-4300-07-22 12:28 J	151050.83	151051.02	151051.21	0.0088	0.0013
Jupiter	-4300-09-10 11:31 J	151100.87	151100.98	151101.10	0.0526	0.0181
Neptune	-4300-10-18 15:50 J	151138.98	151139.16	151139.36	0.0088	0.0023
Neptune	-4299-01-14 19:26 J	151227.13	151227.31	151227.50	0.0088	0.0032
Neptune	-4299-04-12 23:02 J	151315.29	151315.46	151315.63	0.0088	0.0042
Mars	-4299-04-15 10:33 J	151317.77	151317.94	151318.11	0.1801	0.0076
Neptune	-4299-07-10 02:24 J	151403.45	151403.60	151403.77	0.0088	0.0052

Neptune -4299-10-06 06:00 J 151491.62 151491.75 151491.90 0.0088 0.0062

Neptune -4298-01-02 09:21 J 151579.80 151579.89 151580.02 0.0088 0.0072

Mars -4298-02-20 23:16 J 151629.36 151629.47 151629.57 0.1719 0.0540

Neptune -4298-03-31 12:57 J 151667.99 151668.04 151668.12 0.0088 0.0082

Venus -4298-06-23 10:33 J 151751.83 151751.94 151752.06 0.3687 0.2526

Moon -4295-10-04 03:07 J 152950.55 152950.63 152950.71 0.2721 0.1685

Earth -4295-10-04 03:21 J 152950.56 152950.64 152950.72 0.2714 0.1719 *

Jupiter -4294-07-30 19:26 J 153250.23 153250.31 153250.41 0.0498 0.0436

Jupiter -4294-10-29 06:14 J 153340.61 153340.76 153340.92 0.0500 0.0289

Saturn -4292-04-04 01:55 J 153863.46 153863.58 153863.71 0.0261 0.0196

Saturn -4292-07-01 22:04 J 153952.24 153952.42 153952.61 0.0261 0.0049

Saturn -4292-09-28 18:28 J 154041.09 154041.27 154041.44 0.0261 0.0098

Saturn -4292-12-26 14:38 J 154130.06 154130.11 154130.18 0.0261 0.0247

Moon -4291-03-30 21:50 J 154224.24 154224.41 154224.57 0.2622 0.0101

Earth -4291-03-30 23:31 J 154224.31 154224.48 154224.64 0.2620 0.0215 *

Mars -4290-09-05 06:00 J 154747.63 154747.75 154747.88 0.1793 0.1196

Mars -4289-07-13 09:50 J 155059.79 155059.91 155060.02 0.1725 0.0048

Jupiter -4288-06-29 15:35 J 155411.03 155411.15 155411.28 0.0527 0.0035

Moon -4288-09-27 03:35 J 155500.58 155500.65 155500.72 0.2705 0.1995

Earth -4288-09-27 03:50 J 155500.59 155500.66 155500.73 0.2712 0.2023 *

Venus -4283-07-18 00:28 J 157255.44 157255.52 157255.60 0.3681 0.2216

Jupiter -4282-08-17 03:07 J 157650.45 157650.63 157650.81 0.0499 0.0106

Uranus -4281-12-16 12:28 J 158138.00 158138.02 158138.03 0.0136 0.0134

Uranus -4280-03-14 15:21 J 158226.08 158226.14 158226.21 0.0136 0.0116

Uranus -4280-06-10 18:28 J 158314.18 158314.27 158314.36 0.0136 0.0098

Uranus -4280-09-06 21:35 J 158402.29 158402.40 158402.50 0.0136 0.0080

Mars -4280-12-03 20:24 J 158490.24 158490.35 158490.46 0.1731 0.0478

Uranus -4280-12-04 00:28 J 158490.41 158490.52 158490.64 0.0136 0.0062 *

Uranus -4279-03-02 03:35 J 158578.53 158578.65 158578.78 0.0136 0.0044

Uranus -4279-05-29 06:43 J 158666.65 158666.78 158666.91 0.0136 0.0026

Uranus	-4279-08-25 09:50 J	158754.78	158754.91	158755.04	0.0136	0.0008
Uranus	-4279-11-21 12:43 J	158842.90	158843.03	158843.16	0.0136	0.0012
Uranus	-4278-02-17 15:50 J	158931.03	158931.16	158931.29	0.0137	0.0029
Uranus	-4278-05-16 18:43 J	159019.17	159019.28	159019.41	0.0137	0.0048
Uranus	-4278-08-12 21:50 J	159107.30	159107.41	159107.53	0.0137	0.0066
Uranus	-4278-11-09 00:57 J	159195.44	159195.54	159195.65	0.0137	0.0084
Mars	-4278-11-09 01:26 J	159195.52	159195.56	159195.61	0.1707	0.1558 *
Venus	-4277-01-31 16:04 J	159279.07	159279.17	159279.27	0.3682	0.0688
Uranus	-4277-02-05 04:04 J	159283.59	159283.67	159283.76	0.0137	0.0102
Saturn	-4277-04-28 20:52 J	159367.31	159367.37	159367.43	0.0300	0.0268
Uranus	-4277-05-03 07:11 J	159371.74	159371.80	159371.86	0.0137	0.0121
Saturn	-4277-07-26 09:35 J	159455.78	159455.90	159456.03	0.0300	0.0113
Saturn	-4277-10-22 22:19 J	159544.31	159544.43	159544.56	0.0301	0.0044
Saturn	-4276-01-19 11:02 J	159632.86	159632.96	159633.06	0.0301	0.0196
Jupiter	-4276-04-17 20:09 J	159721.22	159721.34	159721.47	0.0527	0.0100
Jupiter	-4276-07-16 01:26 J	159810.50	159810.56	159810.62	0.0526	0.0453
Moon	-4275-09-29 20:38 J	160251.26	160251.36	160251.46	0.2711	0.0842
Earth	-4275-09-29 21:21 J	160251.29	160251.39	160251.49	0.2713	0.0683 *
Venus	-4272-08-16 07:55 J	161302.73	161302.83	161302.93	0.3684	0.0849
Mars	-4270-04-26 06:43 J	161920.69	161920.78	161920.88	0.1737	0.1004
Jupiter	-4270-06-04 22:33 J	161960.26	161960.44	161960.63	0.0499	0.0092
Mars	-4269-05-24 16:19 J	162315.05	162315.18	162315.31	0.1808	0.1197
Mars	-4268-03-31 12:14 J	162625.93	162626.01	162626.10	0.1713	0.1082
Venus	-4266-03-01 23:31 J	163326.40	163326.48	163326.55	0.3685	0.2344
Jupiter	-4264-02-04 00:57 J	164031.43	164031.54	164031.65	0.0528	0.0231
Jupiter	-4264-05-04 06:14 J	164120.67	164120.76	164120.86	0.0526	0.0326
Saturn	-4263-08-22 01:40 J	164595.50	164595.57	164595.66	0.0261	0.0234
Saturn	-4263-11-18 21:50 J	164684.23	164684.41	164684.59	0.0261	0.0089
Saturn	-4262-02-15 18:00 J	164773.07	164773.25	164773.44	0.0261	0.0058
Saturn	-4262-05-15 14:09 J	164861.98	164862.09	164862.21	0.0260	0.0206

Moon	-4262-10-02 14:09 J	165001.98	165002.09	165002.19	0.2716	0.0603
Earth	-4262-10-02 14:38 J	165002.01	165002.11	165002.22	0.2713	0.0656 *
Mars	-4261-09-15 17:16 J	165351.16	165351.22	165351.27	0.1743	0.1534
Mars	-4260-10-14 11:16 J	165744.80	165744.97	165745.14	0.1801	0.0037
Mars	-4259-08-21 23:02 J	166056.36	166056.46	166056.57	0.1719	0.0590
Jupiter	-4258-03-23 19:55 J	166270.17	166270.33	166270.49	0.0499	0.0266
Moon	-4258-03-28 19:40 J	166275.27	166275.32	166275.38	0.2619	0.2466
Earth	-4258-03-28 21:35 J	166275.30	166275.40	166275.49	0.2621	0.2153 *
Jupiter	-4258-06-22 06:57 J	166360.73	166360.79	166360.86	0.0500	0.0465
Jupiter	-4253-11-23 05:16 J	168341.63	168341.72	168341.81	0.0528	0.0372
Jupiter	-4252-02-20 10:48 J	168430.83	168430.95	168431.07	0.0526	0.0189
Mars	-4250-03-06 06:43 J	169174.64	169174.78	169174.91	0.1793	0.1101
Mars	-4249-01-12 09:50 J	169486.80	169486.91	169487.02	0.1724	0.0093
Moon	-4249-10-04 07:55 J	169752.76	169752.83	169752.90	0.2721	0.1959
Earth	-4249-10-04 08:09 J	169752.76	169752.84	169752.91	0.2714	0.1989 *
Saturn	-4248-12-13 10:19 J	170187.82	170187.93	170188.04	0.0301	0.0172
Saturn	-4247-03-11 23:02 J	170276.33	170276.46	170276.59	0.0301	0.0018
Saturn	-4247-06-08 11:45 J	170364.88	170364.99	170365.11	0.0301	0.0137
Venus	-4247-07-14 03:35 J	170400.50	170400.65	170400.80	0.3689	0.0826
Saturn	-4247-09-05 00:14 J	170453.48	170453.51	170453.55	0.0302	0.0291
Jupiter	-4246-01-09 17:31 J	170580.14	170580.23	170580.32	0.0498	0.0437
Jupiter	-4246-04-10 04:04 J	170670.53	170670.67	170670.83	0.0500	0.0288
Moon	-4245-03-31 04:33 J	171026.53	171026.69	171026.85	0.2624	0.0681
Earth	-4245-03-31 06:14 J	171026.60	171026.76	171026.92	0.2620	0.0758 *
Moon	-4242-09-28 08:09 J	172302.77	172302.84	172302.92	0.2707	0.1859
Earth	-4242-09-28 08:38 J	172302.78	172302.86	172302.94	0.2712	0.1752 *
Jupiter	-4241-09-11 09:21 J	172651.86	172651.89	172651.91	0.0528	0.0515
Jupiter	-4241-12-09 14:52 J	172741.00	172741.12	172741.25	0.0527	0.0053
Mars	-4240-06-03 20:24 J	172917.24	172917.35	172917.46	0.1731	0.0422
Uranus	-4240-07-14 05:02 J	172957.62	172957.71	172957.80	0.0142	0.0125

Uranus	-4240-10-10 13:11 J	173045.92	173046.05	173046.21	0.0142	0.0094
Uranus	-4239-01-06 21:35 J	173134.24	173134.40	173134.59	0.0142	0.0063
Uranus	-4239-04-05 06:14 J	173222.57	173222.76	173222.96	0.0142	0.0032
Uranus	-4239-07-02 14:52 J	173310.92	173311.12	173311.31	0.0142	0.0003
Uranus	-4239-09-28 23:16 J	173399.28	173399.47	173399.66	0.0142	0.0030
Uranus	-4239-12-26 07:40 J	173487.64	173487.82	173488.00	0.0142	0.0061
Uranus	-4238-03-24 16:04 J	173576.02	173576.17	173576.32	0.0142	0.0092
Mars	-4238-05-10 01:26 J	173622.53	173622.56	173622.60	0.1707	0.1616
Uranus	-4238-06-21 00:28 J	173664.43	173664.52	173664.62	0.0141	0.0123
Jupiter	-4234-01-27 01:40 J	174980.38	174980.57	174980.75	0.0499	0.0113
Saturn	-4233-04-06 20:38 J	175416.20	175416.36	175416.52	0.0261	0.0136
Saturn	-4233-07-04 16:48 J	175505.01	175505.20	175505.39	0.0261	0.0011
Saturn	-4233-10-01 12:57 J	175593.90	175594.04	175594.20	0.0261	0.0159
Venus	-4232-08-08 06:14 J	175904.71	175904.76	175904.80	0.3680	0.3231
Mars	-4231-10-25 06:43 J	176347.69	176347.78	176347.88	0.1737	0.0946
Mars	-4230-11-23 17:16 J	176742.10	176742.22	176742.33	0.1808	0.1306
Jupiter	-4229-09-27 18:57 J	177051.17	177051.29	177051.42	0.0527	0.0096
Mars	-4229-09-29 12:14 J	177052.93	177053.01	177053.10	0.1713	0.1132
Moon	-4229-09-30 01:26 J	177053.45	177053.56	177053.66	0.2711	0.0451
Earth	-4229-09-30 02:09 J	177053.48	177053.59	177053.69	0.2713	0.0421 *
Jupiter	-4229-12-26 00:14 J	177140.45	177140.51	177140.57	0.0526	0.0456
Venus	-4226-02-21 22:04 J	177928.32	177928.42	177928.51	0.3681	0.1680
Jupiter	-4223-11-14 22:33 J	179290.25	179290.44	179290.62	0.0499	0.0068
Pluto	-4222-01-16 09:50 J	179352.91	179352.91	179352.94	0.0072	0.0072
Pluto	-4222-04-14 10:48 J	179440.90	179440.95	179441.03	0.0072	0.0063
Pluto	-4222-07-11 12:00 J	179528.91	179529.00	179529.10	0.0072	0.0054
Pluto	-4222-10-07 13:11 J	179616.94	179617.05	179617.16	0.0072	0.0046
Pluto	-4221-01-03 13:55 J	179704.97	179705.08	179705.22	0.0072	0.0037
Mars	-4221-03-16 17:02 J	179778.16	179778.21	179778.27	0.1743	0.1480
Pluto	-4221-03-31 14:52 J	179793.00	179793.12	179793.27	0.0072	0.0029

Pluto -4221-06-27 16:04 J 179881.04 179881.17 179881.32 0.0072 0.0019

Venus -4221-09-06 13:40 J 179951.97 179952.07 179952.17 0.3683 0.0146

Neptune -4221-09-07 01:11 J 179952.55 179952.55 179952.57 0.0089 0.0089

Pluto -4221-09-23 17:16 J 179969.08 179969.22 179969.37 0.0073 0.0010

Neptune -4221-12-04 02:52 J 180040.57 180040.62 180040.67 0.0089 0.0082

Pluto -4221-12-20 18:14 J 180057.12 180057.26 180057.41 0.0073 0.0002

Neptune -4220-03-02 04:04 J 180128.61 180128.67 180128.75 0.0089 0.0075

Pluto -4220-03-18 19:26 J 180145.16 180145.31 180145.46 0.0073 0.0008

Mars -4220-04-14 12:14 J 180171.84 180172.01 180172.18 0.1801 0.0143

Neptune -4220-05-29 05:31 J 180216.65 180216.73 180216.82 0.0089 0.0068

Pluto -4220-06-14 20:24 J 180233.21 180233.35 180233.50 0.0073 0.0018

Neptune -4220-08-25 06:43 J 180304.70 180304.78 180304.89 0.0089 0.0061

Pluto -4220-09-10 21:21 J 180321.26 180321.39 180321.54 0.0073 0.0027

Neptune -4220-11-21 08:09 J 180392.74 180392.84 180392.96 0.0089 0.0053

Pluto -4220-12-07 22:33 J 180409.32 180409.44 180409.57 0.0073 0.0036

Neptune -4219-02-17 09:35 J 180480.79 180480.90 180481.02 0.0089 0.0046

Mars -4219-02-19 23:02 J 180483.36 180483.46 180483.57 0.1718 0.0646

Pluto -4219-03-05 23:45 J 180497.38 180497.49 180497.61 0.0073 0.0046

Neptune -4219-05-16 11:02 J 180568.85 180568.96 180569.08 0.0089 0.0039

Pluto -4219-06-02 00:43 J 180585.44 180585.53 180585.63 0.0073 0.0056

Neptune -4219-08-12 12:28 J 180656.90 180657.02 180657.15 0.0089 0.0032

Pluto -4219-08-29 01:55 J 180673.52 180673.58 180673.65 0.0074 0.0065

Neptune -4219-11-08 13:55 J 180744.95 180745.08 180745.21 0.0089 0.0025

Neptune -4218-02-04 15:07 J 180833.00 180833.13 180833.26 0.0089 0.0018

Saturn -4218-05-02 12:14 J 180919.92 180920.01 180920.10 0.0300 0.0218

Neptune -4218-05-03 16:33 J 180921.06 180921.19 180921.32 0.0089 0.0010

Saturn -4218-07-30 00:57 J 181008.41 181008.54 181008.67 0.0300 0.0063

Neptune -4218-07-30 18:00 J 181009.12 181009.25 181009.38 0.0089 0.0003

Saturn -4218-10-26 13:40 J 181096.95 181097.07 181097.20 0.0301 0.0091

Neptune -4218-10-26 19:11 J 181097.17 181097.30 181097.44 0.0089 0.0005 *

Neptune -4217-01-22 20:38 J 181185.23 181185.36 181185.49 0.0089 0.0011

Saturn -4217-01-23 02:24 J 181185.52 181185.60 181185.67 0.0301 0.0244

Neptune -4217-04-19 21:50 J 181273.29 181273.41 181273.55 0.0089 0.0019

Neptune -4217-07-16 23:16 J 181361.35 181361.47 181361.60 0.0089 0.0025

Jupiter -4217-07-16 23:31 J 181361.37 181361.48 181361.59 0.0528 0.0231 *

Neptune -4217-10-13 00:28 J 181449.41 181449.52 181449.65 0.0089 0.0033

Jupiter -4217-10-14 04:48 J 181450.61 181450.70 181450.80 0.0526 0.0327

Neptune -4216-01-09 01:55 J 181537.47 181537.58 181537.70 0.0089 0.0039

Neptune -4216-04-07 03:07 J 181625.53 181625.63 181625.75 0.0089 0.0047

Neptune -4216-07-04 04:33 J 181713.59 181713.69 181713.80 0.0089 0.0054

Neptune -4216-09-30 05:45 J 181801.66 181801.74 181801.85 0.0089 0.0061

Moon -4216-10-02 18:57 J 181804.19 181804.29 181804.39 0.2718 0.0803

Earth -4216-10-02 19:26 J 181804.21 181804.31 181804.41 0.2713 0.0922 *

Neptune -4216-12-27 07:11 J 181889.72 181889.80 181889.89 0.0089 0.0068

Venus -4215-03-23 05:16 J 181975.63 181975.72 181975.82 0.3684 0.1372

Neptune -4215-03-25 08:24 J 181977.79 181977.85 181977.93 0.0089 0.0075

Neptune -4215-06-21 09:50 J 182065.87 182065.91 182065.97 0.0089 0.0082

Neptune -4215-09-17 11:02 J 182153.96 182153.96 182153.99 0.0089 0.0089

Moon -4212-03-29 02:38 J 183077.49 183077.61 183077.74 0.2620 0.1710

Earth -4212-03-29 04:33 J 183077.56 183077.69 183077.82 0.2621 0.1586 *

Jupiter -4211-09-02 18:14 J 183600.10 183600.26 183600.41 0.0498 0.0263

Mars -4211-09-04 07:40 J 183601.68 183601.82 183601.96 0.1793 0.0988

Jupiter -4211-12-02 05:16 J 183690.65 183690.72 183690.78 0.0500 0.0467

Mars -4210-07-13 09:50 J 183913.79 183913.91 183914.02 0.1725 0.0157

Venus -4210-10-06 20:52 J 183999.31 183999.37 183999.43 0.3685 0.2858

Jupiter -4205-05-05 04:04 J 185671.58 185671.67 185671.77 0.0528 0.0364

Jupiter -4205-08-02 09:50 J 185760.79 185760.91 185761.03 0.0527 0.0199

Saturn -4204-08-24 19:55 J 186148.20 186148.33 186148.48 0.0261 0.0177

Saturn -4204-11-21 16:04 J 186236.99 186237.17 186237.36 0.0261 0.0031

Saturn -4203-02-18 12:28 J 186325.85 186326.02 186326.19 0.0261 0.0117

Moon	-4203-10-05 12:43 J	186554.97	186555.03	186555.08	0.2721	0.2263
Earth	-4203-10-05 12:43 J	186554.98	186555.03	186555.09	0.2714	0.2258 *
Mars	-4201-12-02 20:24 J	187344.24	187344.35	187344.46	0.1731	0.0363
Moon	-4199-04-01 11:31 J	187828.83	187828.98	187829.13	0.2624	0.1028
Earth	-4199-04-01 13:11 J	187828.91	187829.05	187829.19	0.2620	0.1331 *
Jupiter	-4199-06-21 15:35 J	187910.06	187910.15	187910.24	0.0498	0.0435
Jupiter	-4199-09-20 02:09 J	188000.44	188000.59	188000.75	0.0500	0.0290
Mars	-4199-11-08 01:26 J	188049.54	188049.56	188049.58	0.1707	0.1664
Uranus	-4196-01-05 19:26 J	188839.28	188839.31	188839.35	0.0136	0.0130
Uranus	-4196-04-03 22:33 J	188927.37	188927.44	188927.52	0.0136	0.0112
Uranus	-4196-07-01 01:40 J	189015.48	189015.57	189015.67	0.0136	0.0094
Uranus	-4196-09-27 04:48 J	189103.59	189103.70	189103.81	0.0136	0.0076
Moon	-4196-09-28 12:57 J	189104.95	189105.04	189105.13	0.2708	0.1518
Earth	-4196-09-28 13:26 J	189104.97	189105.06	189105.15	0.2712	0.1484 *
Uranus	-4196-12-24 07:40 J	189191.71	189191.82	189191.95	0.0136	0.0058
Uranus	-4195-03-22 10:48 J	189279.83	189279.95	189280.08	0.0136	0.0040
Uranus	-4195-06-18 13:55 J	189367.95	189368.08	189368.21	0.0136	0.0022
Uranus	-4195-09-14 17:02 J	189456.08	189456.21	189456.34	0.0136	0.0003
Uranus	-4195-12-11 20:09 J	189544.21	189544.34	189544.47	0.0137	0.0015
Uranus	-4194-03-09 23:02 J	189632.34	189632.46	189632.59	0.0137	0.0033
Uranus	-4194-06-06 02:09 J	189720.47	189720.59	189720.71	0.0137	0.0052
Uranus	-4194-09-02 05:16 J	189808.61	189808.72	189808.83	0.0137	0.0070
Uranus	-4194-11-29 08:24 J	189896.75	189896.85	189896.95	0.0137	0.0088
Jupiter	-4193-02-22 08:24 J	189981.82	189981.85	189981.89	0.0528	0.0503
Uranus	-4193-02-25 11:16 J	189984.90	189984.97	189985.05	0.0137	0.0107
Jupiter	-4193-05-21 14:09 J	190070.97	190071.09	190071.22	0.0527	0.0063
Uranus	-4193-05-23 14:24 J	190073.05	190073.10	190073.15	0.0137	0.0125
Mars	-4191-04-25 06:57 J	190774.69	190774.79	190774.88	0.1737	0.0886
Venus	-4190-02-18 05:45 J	191073.59	191073.74	191073.89	0.3688	0.0714
Mars	-4190-05-24 17:45 J	191169.14	191169.24	191169.35	0.1808	0.1403

Mars	-4189-03-30 12:14 J	191479.93	191480.01	191480.10	0.1713	0.1193
Saturn	-4189-09-18 12:14 J	191651.97	191652.01	191652.06	0.0300	0.0282
Saturn	-4189-12-16 01:11 J	191740.43	191740.55	191740.67	0.0301	0.0127
Saturn	-4188-03-14 13:55 J	191828.95	191829.08	191829.21	0.0301	0.0028
Saturn	-4188-06-11 02:38 J	191917.51	191917.61	191917.71	0.0301	0.0182
Jupiter	-4187-07-08 23:45 J	192310.31	192310.49	192310.67	0.0500	0.0115
Moon	-4183-10-01 06:14 J	193855.65	193855.76	193855.86	0.2712	0.0312
Earth	-4183-10-01 06:43 J	193855.68	193855.78	193855.89	0.2713	0.0174 *
Mars	-4182-09-15 17:02 J	194205.15	194205.21	194205.28	0.1743	0.1422
Jupiter	-4181-03-09 18:28 J	194381.15	194381.27	194381.40	0.0527	0.0078
Jupiter	-4181-06-06 23:45 J	194470.44	194470.49	194470.54	0.0525	0.0473
Mars	-4181-10-13 12:57 J	194598.87	194599.04	194599.21	0.1801	0.0244
Mars	-4180-08-20 23:02 J	194910.36	194910.46	194910.57	0.1718	0.0700
Venus	-4175-03-15 03:35 J	196577.58	196577.65	196577.72	0.3680	0.2684
Jupiter	-4175-04-26 21:07 J	196620.20	196620.38	196620.57	0.0499	0.0060
Saturn	-4174-01-11 18:14 J	196880.17	196880.26	196880.35	0.0261	0.0227
Saturn	-4174-04-10 14:24 J	196968.92	196969.10	196969.28	0.0261	0.0082
Saturn	-4174-07-08 10:33 J	197057.76	197057.94	197058.12	0.0261	0.0065
Saturn	-4174-10-05 06:57 J	197146.68	197146.79	197146.90	0.0260	0.0212
Mars	-4171-03-05 08:38 J	198028.71	198028.86	198029.00	0.1793	0.0879
Mars	-4170-01-11 09:50 J	198340.79	198340.91	198341.02	0.1724	0.0209
Venus	-4170-09-28 19:26 J	198601.21	198601.31	198601.41	0.3682	0.1139
Moon	-4170-10-03 23:45 J	198606.39	198606.49	198606.58	0.2719	0.1192
Earth	-4170-10-04 00:14 J	198606.41	198606.51	198606.60	0.2713	0.1192 *
Jupiter	-4170-12-27 22:33 J	198691.32	198691.44	198691.55	0.0528	0.0224
Jupiter	-4169-03-26 03:50 J	198780.57	198780.66	198780.76	0.0526	0.0333
Moon	-4166-03-30 09:21 J	199879.75	199879.89	199880.04	0.2622	0.1297
Earth	-4166-03-30 11:16 J	199879.82	199879.97	199880.12	0.2621	0.1030 *
Venus	-4164-04-13 11:16 J	200624.86	200624.97	200625.07	0.3683	0.0407
Jupiter	-4163-02-12 18:14 J	200930.10	200930.26	200930.43	0.0499	0.0236

Jupiter	-4163-05-14 05:31 J	201020.71	201020.73	201020.75	0.0500	0.0496
Moon	-4163-09-27 00:43 J	201156.50	201156.53	201156.56	0.2704	0.2542
Earth	-4163-09-27 00:43 J	201156.50	201156.53	201156.57	0.2711	0.2551 *
Mars	-4161-06-02 20:24 J	201771.23	201771.35	201771.46	0.1730	0.0312
Saturn	-4159-05-05 02:52 J	202472.51	202472.62	202472.72	0.0300	0.0176
Saturn	-4159-08-01 15:35 J	202561.02	202561.15	202561.28	0.0300	0.0021
Venus	-4159-10-28 02:52 J	202648.53	202648.62	202648.70	0.3684	0.1889
Saturn	-4159-10-29 04:19 J	202649.56	202649.68	202649.80	0.0301	0.0133
Saturn	-4158-01-25 16:48 J	202738.17	202738.20	202738.24	0.0301	0.0286
Jupiter	-4158-10-16 02:52 J	203001.53	203001.62	203001.72	0.0528	0.0360
Jupiter	-4157-01-13 08:38 J	203090.74	203090.86	203090.97	0.0527	0.0203
Moon	-4157-10-05 17:31 J	203357.19	203357.23	203357.27	0.2721	0.2501
Earth	-4157-10-05 17:31 J	203357.20	203357.23	203357.27	0.2714	0.2528 *
Uranus	-4156-08-03 12:00 J	203658.91	203659.00	203659.12	0.0142	0.0118
Uranus	-4156-10-30 20:24 J	203747.21	203747.35	203747.52	0.0142	0.0088
Uranus	-4155-01-27 05:02 J	203835.53	203835.71	203835.89	0.0142	0.0056
Uranus	-4155-04-25 13:26 J	203923.87	203924.06	203924.26	0.0142	0.0025
Uranus	-4155-07-22 21:50 J	204012.22	204012.41	204012.61	0.0142	0.0007
Uranus	-4155-10-19 06:14 J	204100.58	204100.76	204100.96	0.0142	0.0037
Uranus	-4154-01-15 14:38 J	204188.95	204189.11	204189.29	0.0142	0.0068
Uranus	-4154-04-13 23:02 J	204277.33	204277.46	204277.61	0.0141	0.0099
Uranus	-4154-07-11 07:26 J	204365.74	204365.81	204365.90	0.0141	0.0129
Moon	-4153-04-01 18:28 J	204631.16	204631.27	204631.39	0.2624	0.1827
Earth	-4153-04-01 20:09 J	204631.22	204631.34	204631.45	0.2620	0.1895 *
Venus	-4153-05-12 18:28 J	204672.23	204672.27	204672.30	0.3686	0.3369
Mars	-4152-10-24 06:43 J	205201.68	205201.78	205201.88	0.1737	0.0833
Jupiter	-4152-12-01 14:09 J	205240.00	205240.09	205240.19	0.0498	0.0427
Jupiter	-4151-03-02 00:43 J	205330.39	205330.53	205330.69	0.0500	0.0297
Mars	-4151-11-22 18:43 J	205596.19	205596.28	205596.37	0.1809	0.1517
Mars	-4150-09-29 12:14 J	205906.93	205907.01	205907.09	0.1713	0.1240

Moon -4150-09-29 17:31 J 205907.14 205907.23 205907.33 0.2708 0.1328

Earth -4150-09-29 18:14 J 205907.16 205907.26 205907.35 0.2712 0.1211 *

Jupiter -4146-08-04 07:40 J 207311.78 207311.82 207311.86 0.0529 0.0492

Jupiter -4146-11-01 13:26 J 207400.94 207401.06 207401.19 0.0527 0.0074

Saturn -4145-08-27 13:40 J 207700.91 207701.07 207701.24 0.0261 0.0123

Saturn -4145-11-24 09:50 J 207789.72 207789.91 207790.10 0.0261 0.0023

Saturn -4144-02-21 06:00 J 207878.61 207878.75 207878.90 0.0261 0.0170

Mars -4142-03-16 17:16 J 208632.15 208632.22 208632.29 0.1743 0.1359

Mars -4141-04-13 13:55 J 209025.91 209026.08 209026.25 0.1801 0.0353

Mars -4140-02-18 23:02 J 209337.36 209337.46 209337.56 0.1718 0.0756

Jupiter -4140-12-18 22:04 J 209640.24 209640.42 209640.60 0.0499 0.0120

Venus -4139-03-10 22:48 J 209722.34 209722.45 209722.56 0.3690 0.2546

Neptune -4138-11-19 00:28 J 210340.45 210340.52 210340.60 0.0088 0.0080

Neptune -4137-02-15 03:35 J 210428.56 210428.65 210428.79 0.0088 0.0071

Pluto -4137-03-18 00:00 J 210460.48 210460.50 210460.56 0.0073 0.0071

Neptune -4137-05-13 07:11 J 210516.68 210516.80 210516.95 0.0088 0.0061

Pluto -4137-06-14 01:55 J 210548.50 210548.58 210548.69 0.0072 0.0060

Neptune -4137-08-09 10:48 J 210604.80 210604.95 210605.12 0.0088 0.0051

Pluto -4137-09-10 03:35 J 210636.54 210636.65 210636.79 0.0072 0.0049

Moon -4137-10-01 11:02 J 210657.85 210657.96 210658.06 0.2714 0.0139

Earth -4137-10-01 11:31 J 210657.88 210657.98 210658.09 0.2713 0.0133 *

Neptune -4137-11-05 14:38 J 210692.94 210693.11 210693.28 0.0088 0.0041

Pluto -4137-12-07 05:31 J 210724.59 210724.73 210724.88 0.0072 0.0038

Neptune -4136-02-01 17:45 J 210781.07 210781.24 210781.43 0.0088 0.0032

Pluto -4136-03-05 07:26 J 210812.65 210812.81 210812.97 0.0072 0.0028

Neptune -4136-04-30 21:21 J 210869.21 210869.39 210869.58 0.0088 0.0022

Pluto -4136-06-01 09:07 J 210900.71 210900.88 210901.05 0.0072 0.0017

Neptune -4136-07-28 00:57 J 210957.35 210957.54 210957.73 0.0088 0.0012

Pluto -4136-08-28 10:48 J 210988.78 210988.95 210989.12 0.0072 0.0007

Neptune -4136-10-24 04:33 J 211045.49 211045.69 211045.88 0.0088 0.0002

Pluto -4136-11-24 12:28 J 211076.85 211077.02 211077.19 0.0072 0.0004

Neptune -4135-01-20 07:55 J 211133.64 211133.83 211134.03 0.0088 0.0008

Pluto -4135-02-20 14:09 J 211164.92 211165.09 211165.26 0.0072 0.0014

Neptune -4135-04-18 11:16 J 211221.79 211221.97 211222.17 0.0088 0.0018

Pluto -4135-05-19 15:35 J 211253.00 211253.15 211253.32 0.0072 0.0024

Neptune -4135-07-15 15:07 J 211309.94 211310.13 211310.31 0.0088 0.0027

Pluto -4135-08-15 17:02 J 211341.08 211341.21 211341.38 0.0071 0.0035

Neptune -4135-10-11 18:28 J 211398.10 211398.27 211398.45 0.0088 0.0037

Pluto -4135-11-11 18:43 J 211429.16 211429.28 211429.43 0.0071 0.0044

Neptune -4134-01-07 21:50 J 211486.26 211486.41 211486.59 0.0088 0.0047

Pluto -4134-02-07 20:09 J 211517.25 211517.34 211517.47 0.0071 0.0055

Neptune -4134-04-06 01:26 J 211574.42 211574.56 211574.72 0.0088 0.0057

Pluto -4134-05-06 21:50 J 211605.35 211605.41 211605.50 0.0071 0.0064

Neptune -4134-07-03 04:48 J 211662.59 211662.70 211662.84 0.0088 0.0067

Jupiter -4134-08-20 18:00 J 211711.12 211711.25 211711.37 0.0527 0.0064

Venus -4134-09-25 07:55 J 211746.71 211746.83 211746.95 0.3687 0.2261

Neptune -4134-09-29 08:24 J 211750.77 211750.85 211750.96 0.0088 0.0077

Jupiter -4134-11-17 23:02 J 211800.42 211800.46 211800.51 0.0525 0.0489

Neptune -4134-12-26 12:00 J 211838.99 211839.00 211839.04 0.0088 0.0087

Mars -4132-09-03 09:07 J 212455.73 212455.88 212456.03 0.1794 0.0787

Mars -4131-07-12 09:50 J 212767.79 212767.91 212768.02 0.1724 0.0263

Saturn -4130-09-22 02:52 J 213204.54 213204.62 213204.70 0.0300 0.0241

Saturn -4130-12-19 15:35 J 213293.03 213293.15 213293.28 0.0300 0.0087

Saturn -4129-03-17 04:19 J 213381.56 213381.68 213381.81 0.0301 0.0069

Saturn -4129-06-13 17:02 J 213470.12 213470.21 213470.30 0.0301 0.0221

Jupiter -4128-10-06 19:40 J 213950.13 213950.32 213950.50 0.0499 0.0053

Moon -4124-10-04 04:33 J 215408.60 215408.69 215408.78 0.2719 0.1341

Earth -4124-10-04 05:02 J 215408.62 215408.71 215408.80 0.2713 0.1464 *

Jupiter -4122-06-08 22:04 J 216021.31 216021.42 216021.54 0.0528 0.0204

Jupiter -4122-09-06 03:35 J 216110.56 216110.65 216110.74 0.0526 0.0353

Mars	-4122-12-02 20:24 J	216198.23	216198.35	216198.46	0.1730	0.0260
Moon	-4120-03-30 16:19 J	216682.02	216682.18	216682.34	0.2623	0.0653
Earth	-4120-03-30 18:14 J	216682.10	216682.26	216682.42	0.2621	0.0460 *
Venus	-4119-10-20 01:11 J	217250.47	217250.55	217250.64	0.3681	0.2138
Moon	-4117-09-27 05:16 J	217958.67	217958.72	217958.78	0.2705	0.2285
Earth	-4117-09-27 05:31 J	217958.68	217958.73	217958.79	0.2711	0.2278 *
Jupiter	-4116-07-25 17:16 J	218260.06	218260.22	218260.39	0.0499	0.0224
Saturn	-4115-01-14 11:16 J	218432.84	218432.97	218433.11	0.0261	0.0178
Saturn	-4115-04-13 07:26 J	218521.63	218521.81	218522.00	0.0261	0.0032
Saturn	-4115-07-11 03:50 J	218610.49	218610.66	218610.83	0.0261	0.0115
Venus	-4113-05-04 17:02 J	219274.11	219274.21	219274.31	0.3682	0.0611
Uranus	-4112-01-26 02:24 J	219540.57	219540.60	219540.66	0.0136	0.0127
Uranus	-4112-04-24 05:31 J	219628.66	219628.73	219628.82	0.0136	0.0109
Mars	-4112-04-24 06:43 J	219628.68	219628.78	219628.89	0.1736	0.0774 *
Uranus	-4112-07-21 08:52 J	219716.77	219716.87	219716.96	0.0136	0.0091
Uranus	-4112-10-17 11:45 J	219804.88	219804.99	219805.11	0.0136	0.0073
Uranus	-4111-01-13 14:52 J	219893.00	219893.12	219893.24	0.0136	0.0054
Uranus	-4111-04-11 18:00 J	219981.13	219981.25	219981.38	0.0136	0.0036
Mars	-4111-05-23 19:55 J	220023.26	220023.33	220023.40	0.1809	0.1637
Uranus	-4111-07-08 21:07 J	220069.25	220069.38	220069.51	0.0136	0.0018
Uranus	-4111-10-05 00:14 J	220157.38	220157.51	220157.64	0.0137	0.0003
Uranus	-4110-01-01 03:07 J	220245.51	220245.63	220245.76	0.0137	0.0019
Jupiter	-4110-03-28 02:09 J	220331.49	220331.59	220331.68	0.0528	0.0349
Uranus	-4110-03-30 06:14 J	220333.64	220333.76	220333.89	0.0137	0.0037
Mars	-4110-03-30 12:14 J	220333.94	220334.01	220334.08	0.1712	0.1297
Jupiter	-4110-06-25 07:40 J	220420.71	220420.82	220420.94	0.0526	0.0212
Uranus	-4110-06-26 09:21 J	220421.77	220421.89	220422.01	0.0137	0.0055
Uranus	-4110-09-22 12:14 J	220509.91	220510.01	220510.13	0.0137	0.0074
Uranus	-4110-12-19 15:21 J	220598.05	220598.14	220598.24	0.0137	0.0092
Uranus	-4109-03-16 18:28 J	220686.20	220686.27	220686.35	0.0137	0.0111

Uranus	-4109-06-12 21:21 J	220774.36	220774.39	220774.44	0.0137	0.0130
Venus	-4108-11-18 08:38 J	221297.76	221297.86	221297.96	0.3684	0.0909
Moon	-4107-04-03 01:40 J	221433.49	221433.57	221433.66	0.2624	0.2231
Earth	-4107-04-03 02:52 J	221433.57	221433.62	221433.68	0.2620	0.2458 *
Jupiter	-4104-05-13 14:38 J	222570.00	222570.11	222570.22	0.0498	0.0398
Jupiter	-4104-08-12 01:11 J	222660.42	222660.55	222660.70	0.0500	0.0328
Moon	-4104-09-29 22:19 J	222709.33	222709.43	222709.53	0.2708	0.1005
Earth	-4104-09-29 23:02 J	222709.36	222709.46	222709.56	0.2712	0.0942 *
Mars	-4103-09-14 17:02 J	223059.14	223059.21	223059.29	0.1743	0.1307
Venus	-4102-06-04 00:14 J	223321.43	223321.51	223321.59	0.3685	0.2393
Mars	-4102-10-13 14:38 J	223452.95	223453.11	223453.28	0.1801	0.0457
Mars	-4101-08-19 23:02 J	223764.36	223764.46	223764.56	0.1718	0.0810
Saturn	-4100-02-08 04:04 J	223936.65	223936.67	223936.70	0.0300	0.0293
Saturn	-4100-05-07 17:02 J	224025.10	224025.21	224025.33	0.0300	0.0138
Saturn	-4100-08-04 05:45 J	224113.61	224113.74	224113.87	0.0300	0.0018
Saturn	-4100-10-31 18:28 J	224202.16	224202.27	224202.38	0.0301	0.0170
Jupiter	-4098-01-14 06:28 J	224641.73	224641.77	224641.82	0.0529	0.0486
Jupiter	-4098-04-13 12:14 J	224730.89	224731.01	224731.14	0.0527	0.0082
Mars	-4092-03-04 10:04 J	226882.77	226882.92	226883.08	0.1794	0.0674
Jupiter	-4092-05-30 20:52 J	226970.19	226970.37	226970.55	0.0499	0.0129
Mars	-4091-01-10 09:35 J	227194.79	227194.90	227195.02	0.1724	0.0317
Moon	-4091-10-02 15:50 J	227460.05	227460.16	227460.26	0.2716	0.0295
Earth	-4091-10-02 16:19 J	227460.07	227460.18	227460.29	0.2713	0.0398 *
Jupiter	-4086-01-30 17:02 J	229041.09	229041.21	229041.34	0.0528	0.0053
Jupiter	-4086-04-29 22:19 J	229130.40	229130.43	229130.47	0.0526	0.0502
Saturn	-4086-06-03 10:33 J	229164.85	229164.94	229165.05	0.0262	0.0220
Saturn	-4086-08-31 06:43 J	229253.60	229253.78	229253.96	0.0261	0.0074
Saturn	-4086-11-28 02:52 J	229342.44	229342.62	229342.80	0.0261	0.0072
Saturn	-4085-02-24 23:02 J	229431.37	229431.46	229431.57	0.0261	0.0220
Mars	-4083-07-25 06:00 J	230312.73	230312.75	230312.76	0.1786	0.1771

Venus	-4083-10-16 00:57 J	230395.39	230395.54	230395.69	0.3689	0.1040
Mars	-4082-06-02 20:24 J	230625.23	230625.35	230625.46	0.1730	0.0199
Jupiter	-4080-03-18 18:14 J	231280.07	231280.26	231280.45	0.0499	0.0046
Moon	-4078-10-05 09:21 J	232210.81	232210.89	232210.97	0.2719	0.1743
Earth	-4078-10-05 09:50 J	232210.82	232210.91	232210.99	0.2713	0.1734 *
Jupiter	-4075-11-18 21:35 J	233351.28	233351.40	233351.52	0.0528	0.0188
Jupiter	-4074-02-16 02:52 J	233440.54	233440.62	233440.71	0.0526	0.0369
Moon	-4074-03-31 23:16 J	233484.30	233484.47	233484.63	0.2622	0.0132
Earth	-4074-04-01 01:11 J	233484.38	233484.55	233484.71	0.2621	0.0119 *
Mars	-4073-10-23 06:43 J	234055.68	234055.78	234055.89	0.1736	0.0716
Uranus	-4072-05-27 11:16 J	234271.95	234271.97	234272.01	0.0142	0.0141
Uranus	-4072-08-23 19:55 J	234360.21	234360.33	234360.45	0.0142	0.0110
Uranus	-4072-11-20 04:04 J	234448.52	234448.67	234448.84	0.0142	0.0079
Mars	-4072-11-21 20:24 J	234450.30	234450.35	234450.40	0.1809	0.1726
Uranus	-4071-02-16 12:28 J	234536.85	234537.02	234537.21	0.0142	0.0048
Uranus	-4071-05-15 21:07 J	234625.19	234625.38	234625.58	0.0142	0.0017
Uranus	-4071-08-12 05:31 J	234713.54	234713.73	234713.93	0.0142	0.0014
Saturn	-4071-09-24 17:16 J	234757.12	234757.22	234757.31	0.0300	0.0202
Moon	-4071-09-28 10:04 J	234760.85	234760.92	234760.98	0.2705	0.2092
Earth	-4071-09-28 10:19 J	234760.86	234760.93	234761.00	0.2711	0.2008 *
Mars	-4071-09-28 12:14 J	234760.94	234761.01	234761.08	0.1712	0.1353 *
Uranus	-4071-11-08 13:55 J	234801.90	234802.08	234802.27	0.0142	0.0045
Saturn	-4071-12-22 06:00 J	234845.62	234845.75	234845.88	0.0300	0.0048
Uranus	-4070-02-04 22:19 J	234890.27	234890.43	234890.60	0.0142	0.0076
Saturn	-4070-03-20 18:43 J	234934.16	234934.28	234934.40	0.0301	0.0106
Uranus	-4070-05-04 06:43 J	234978.66	234978.78	234978.92	0.0141	0.0106
Saturn	-4070-06-17 07:11 J	235022.74	235022.80	235022.87	0.0301	0.0258
Uranus	-4070-07-31 14:52 J	235067.10	235067.12	235067.18	0.0141	0.0138
Jupiter	-4068-01-04 15:50 J	235589.99	235590.16	235590.33	0.0499	0.0217
Venus	-4068-11-10 06:57 J	235899.74	235899.79	235899.84	0.3680	0.3152

Mars	-4063-03-15 17:02 J	237486.13	237486.21	237486.29	0.1743	0.1248
Jupiter	-4063-09-07 01:55 J	237661.48	237661.58	237661.68	0.0528	0.0328
Jupiter	-4063-12-05 07:26 J	237750.70	237750.81	237750.92	0.0526	0.0233
Mars	-4062-04-13 15:35 J	237879.99	237880.15	237880.31	0.1802	0.0571
Venus	-4062-05-26 22:48 J	237923.35	237923.45	237923.54	0.3681	0.1612
Mars	-4061-02-18 23:02 J	238191.36	238191.46	238191.56	0.1718	0.0866
Moon	-4058-10-01 03:07 J	239511.53	239511.63	239511.73	0.2709	0.0754
Earth	-4058-10-01 03:50 J	239511.55	239511.66	239511.76	0.2712	0.0678 *
Jupiter	-4057-10-23 13:26 J	239899.95	239900.06	239900.18	0.0498	0.0386
Venus	-4057-12-09 14:24 J	239947.00	239947.10	239947.21	0.3683	0.0137
Saturn	-4056-01-17 04:04 J	239985.51	239985.67	239985.84	0.0261	0.0131
Jupiter	-4056-01-22 00:14 J	239990.38	239990.51	239990.65	0.0500	0.0340
Saturn	-4056-04-16 00:14 J	240074.33	240074.51	240074.70	0.0261	0.0016
Neptune	-4056-06-04 01:11 J	240123.53	240123.55	240123.60	0.0089	0.0086
Saturn	-4056-07-13 20:38 J	240163.21	240163.36	240163.51	0.0261	0.0163
Neptune	-4056-08-31 02:38 J	240211.56	240211.61	240211.68	0.0089	0.0079
Neptune	-4056-11-27 04:04 J	240299.60	240299.67	240299.76	0.0089	0.0071
Neptune	-4055-02-23 05:16 J	240387.64	240387.72	240387.83	0.0089	0.0065
Neptune	-4055-05-22 06:57 J	240475.69	240475.79	240475.90	0.0089	0.0057
Neptune	-4055-08-18 08:24 J	240563.74	240563.85	240563.96	0.0089	0.0050
Neptune	-4055-11-14 09:35 J	240651.79	240651.90	240652.03	0.0089	0.0043
Neptune	-4054-02-10 11:02 J	240739.84	240739.96	240740.09	0.0089	0.0035
Neptune	-4054-05-09 12:28 J	240827.90	240828.02	240828.15	0.0089	0.0028
Neptune	-4054-08-05 13:40 J	240915.95	240916.07	240916.21	0.0089	0.0022
Neptune	-4054-11-01 15:07 J	241004.00	241004.13	241004.27	0.0089	0.0014
Neptune	-4053-01-28 16:33 J	241092.06	241092.19	241092.32	0.0089	0.0007
Neptune	-4053-04-25 18:00 J	241180.11	241180.25	241180.38	0.0089	0.0002
Neptune	-4053-07-22 19:11 J	241268.17	241268.30	241268.44	0.0089	0.0008
Mars	-4053-09-02 11:02 J	241309.80	241309.96	241310.12	0.1794	0.0567
Neptune	-4053-10-18 20:38 J	241356.23	241356.36	241356.49	0.0089	0.0014

Neptune -4052-01-14 21:50 J 241444.29 241444.41 241444.54 0.0089 0.0022

Neptune -4052-04-12 23:16 J 241532.35 241532.47 241532.60 0.0089 0.0029

Neptune -4052-07-10 00:43 J 241620.41 241620.53 241620.65 0.0089 0.0036

Mars -4052-07-11 09:35 J 241621.79 241621.90 241622.01 0.1724 0.0369

Neptune -4052-10-06 01:55 J 241708.47 241708.58 241708.70 0.0089 0.0043

Neptune -4051-01-02 03:21 J 241796.53 241796.64 241796.75 0.0089 0.0050

Neptune -4051-03-31 04:33 J 241884.59 241884.69 241884.80 0.0089 0.0057

Venus -4051-06-25 06:00 J 241970.66 241970.75 241970.85 0.3684 0.1427

Jupiter -4051-06-26 05:45 J 241971.69 241971.74 241971.79 0.0528 0.0474

Neptune -4051-06-27 06:00 J 241972.66 241972.75 241972.84 0.0089 0.0064

Neptune -4051-09-23 07:11 J 242060.73 242060.80 242060.88 0.0089 0.0071

Jupiter -4051-09-23 11:31 J 242060.85 242060.98 242061.10 0.0527 0.0090 *

Neptune -4051-12-20 08:38 J 242148.80 242148.86 242148.92 0.0089 0.0078

Neptune -4050-03-18 09:50 J 242236.88 242236.91 242236.96 0.0089 0.0085

Venus -4045-01-08 21:35 J 243994.34 243994.40 243994.47 0.3685 0.2908

Moon -4045-10-02 20:24 J 244262.25 244262.35 244262.46 0.2716 0.0615

Earth -4045-10-02 21:07 J 244262.28 244262.38 244262.48 0.2713 0.0669 *

Jupiter -4045-11-09 21:21 J 244300.21 244300.39 244300.57 0.0499 0.0161

Mars -4043-01-23 06:57 J 244739.73 244739.79 244739.84 0.1787 0.1663

Mars -4043-12-01 20:24 J 245052.23 245052.35 245052.46 0.1730 0.0150

Saturn -4041-02-11 18:28 J 245489.20 245489.27 245489.34 0.0299 0.0254

Moon -4041-03-28 21:35 J 245535.33 245535.40 245535.47 0.2621 0.2355

Earth -4041-03-28 23:31 J 245535.39 245535.48 245535.56 0.2622 0.2233 *

Saturn -4041-05-10 07:26 J 245577.68 245577.81 245577.93 0.0300 0.0100

Saturn -4041-08-06 19:55 J 245666.21 245666.33 245666.46 0.0300 0.0055

Saturn -4041-11-03 08:38 J 245754.77 245754.86 245754.95 0.0301 0.0207

Jupiter -4039-07-12 16:04 J 246371.04 246371.17 246371.30 0.0527 0.0044

Jupiter -4039-10-09 21:21 J 246460.36 246460.39 246460.42 0.0526 0.0508

Mars -4033-04-23 06:43 J 248482.67 248482.78 248482.89 0.1736 0.0660

Jupiter -4033-08-28 17:02 J 248610.03 248610.21 248610.40 0.0499 0.0037

Moon	-4032-10-05 14:24 J	249013.02	249013.10	249013.17	0.2720	0.1940
Earth	-4032-10-05 14:24 J	249013.03	249013.10	249013.17	0.2714	0.2006 *
Mars	-4031-03-29 12:14 J	249187.95	249188.01	249188.07	0.1712	0.1405
Uranus	-4028-02-15 09:35 J	250241.85	250241.90	250241.96	0.0136	0.0123
Moon	-4028-04-01 06:28 J	250286.60	250286.77	250286.93	0.2623	0.0468
Earth	-4028-04-01 08:09 J	250286.68	250286.84	250287.00	0.2620	0.0680 *
Uranus	-4028-05-14 12:43 J	250329.95	250330.03	250330.11	0.0136	0.0105
Uranus	-4028-08-10 15:50 J	250418.06	250418.16	250418.26	0.0136	0.0087
Uranus	-4028-11-06 18:43 J	250506.18	250506.28	250506.40	0.0136	0.0069
Uranus	-4027-02-02 21:50 J	250594.29	250594.41	250594.54	0.0136	0.0051
Jupiter	-4027-04-30 20:52 J	250681.25	250681.37	250681.49	0.0528	0.0178
Uranus	-4027-05-02 00:57 J	250682.42	250682.54	250682.67	0.0136	0.0033
Saturn	-4027-06-06 03:21 J	250717.51	250717.64	250717.78	0.0262	0.0173
Jupiter	-4027-07-29 02:09 J	250770.51	250770.59	250770.68	0.0526	0.0381
Uranus	-4027-07-29 04:04 J	250770.54	250770.67	250770.80	0.0136	0.0015 *
Saturn	-4027-09-02 23:31 J	250806.30	250806.48	250806.67	0.0262	0.0027
Uranus	-4027-10-25 07:11 J	250858.67	250858.80	250858.93	0.0137	0.0004
Saturn	-4027-11-30 19:55 J	250895.16	250895.33	250895.49	0.0261	0.0121
Uranus	-4026-01-21 10:19 J	250946.80	250946.93	250947.06	0.0137	0.0022
Uranus	-4026-04-19 13:11 J	251034.93	251035.05	251035.18	0.0137	0.0041
Venus	-4026-05-23 02:52 J	251068.47	251068.62	251068.78	0.3688	0.0480
Uranus	-4026-07-16 16:19 J	251123.07	251123.18	251123.30	0.0137	0.0059
Uranus	-4026-10-12 19:26 J	251211.21	251211.31	251211.42	0.0137	0.0077
Uranus	-4025-01-08 22:33 J	251299.35	251299.44	251299.53	0.0137	0.0095
Uranus	-4025-04-06 01:26 J	251387.50	251387.56	251387.64	0.0137	0.0114
Uranus	-4025-07-03 04:33 J	251475.67	251475.69	251475.73	0.0137	0.0132
Moon	-4025-09-28 14:38 J	251563.03	251563.11	251563.19	0.2705	0.1744
Earth	-4025-09-28 15:07 J	251563.05	251563.13	251563.21	0.2711	0.1741 *
Mars	-4024-09-13 17:02 J	251913.13	251913.21	251913.30	0.1743	0.1190
Mars	-4023-10-12 16:19 J	252307.02	252307.18	252307.34	0.1802	0.0668

Mars	**-4022-08-19 23:02 J**	**252618.36**	**252618.46**	**252618.55**	**0.1718**	**0.0921**		
Jupiter	**-4021-06-16 14:24 J**	**252919.94**	**252920.10**	**252920.27**	**0.0498**	**0.0209**		
Jupiter	**-4015-02-17 01:11 J**	**254991.45**	**254991.55**	**254991.65**	**0.0528**	**0.0314**		
Jupiter	**-4015-05-17 06:43 J**	**255080.67**	**255080.78**	**255080.89**	**0.0527**	**0.0248**		
Mars	**-4014-02-04 03:21 J**	**255343.63**	**255343.64**	**255343.65**	**0.1749**	**0.1730**		
Mars	**-4013-03-03 11:45 J**	**255736.82**	**255736.99**	**255737.15**	**0.1794**	**0.0468**		
Mars	**-4012-01-09 09:50 J**	**256048.80**	**256048.91**	**256049.02**	**0.1724**	**0.0432**		
Saturn	**-4012-09-27 07:40 J**	**256309.71**	**256309.82**	**256309.93**	**0.0300**	**0.0162**		
Moon	**-4012-10-01 07:55 J**	**256313.72**	**256313.83**	**256313.93**	**0.2712**	**0.0528**		
Earth	**-4012-10-01 08:24 J**	**256313.75**	**256313.85**	**256313.96**	**0.2712**	**0.0407**	*	
Saturn	**-4012-12-24 20:24 J**	**256398.22**	**256398.35**	**256398.48**	**0.0300**	**0.0009**		
Saturn	**-4011-03-23 08:52 J**	**256486.76**	**256486.87**	**256486.99**	**0.0301**	**0.0145**		
Venus	**-4011-06-17 04:19 J**	**256572.61**	**256572.68**	**256572.76**	**0.3680**	**0.2621**		
Saturn	**-4011-06-19 21:21 J**	**256575.38**	**256575.39**	**256575.42**	**0.0301**	**0.0297**		
Jupiter	**-4009-04-04 12:14 J**	**257229.89**	**257230.01**	**257230.13**	**0.0498**	**0.0379**		
Jupiter	**-4009-07-03 22:48 J**	**257320.32**	**257320.45**	**257320.59**	**0.0500**	**0.0346**		
Venus	**-4006-12-31 20:09 J**	**258596.24**	**258596.34**	**258596.44**	**0.3682**	**0.1081**		
Mars	**-4004-07-24 07:55 J**	**259166.75**	**259166.83**	**259166.91**	**0.1787**	**0.1553**		
Jupiter	**-4004-12-06 05:31 J**	**259301.67**	**259301.73**	**259301.79**	**0.0529**	**0.0454**		
Jupiter	**-4003-03-05 11:16 J**	**259390.84**	**259390.97**	**259391.09**	**0.0527**	**0.0111**		
Mars	**-4003-06-01 20:09 J**	**259479.23**	**259479.34**	**259479.46**	**0.1730**	**0.0104**		

4TH MILLENNIUM BCE

This is a list of transits of Mercury in the 4th millennium BCE.

FROM	MAX-	C	START	MAX	END	SUNRAD	DEPTH	S

	TRANSIT TIME					
Venus	**-4000-07-16 12:00 J**	**260619.90**	**260620.00**	**260620.10**	**0.3683**	**0.0447**
Moon	**-3999-10-04 01:11 J**	**261064.45**	**261064.55**	**261064.65**	**0.2716**	**0.0841**
Earth	**-3999-10-04 01:55 J**	**261064.48**	**261064.58**	**261064.68**	**0.2713**	**0.0941 ***
Saturn	**-3998-10-24 00:57 J**	**261449.45**	**261449.54**	**261449.62**	**0.0262**	**0.0229**
Saturn	**-3997-01-20 20:52 J**	**261538.20**	**261538.37**	**261538.55**	**0.0262**	**0.0084**
Saturn	**-3997-04-18 17:16 J**	**261627.03**	**261627.22**	**261627.40**	**0.0261**	**0.0064**
Jupiter	**-3997-04-21 20:09 J**	**261630.17**	**261630.34**	**261630.52**	**0.0499**	**0.0173**
Saturn	**-3997-07-16 13:26 J**	**261715.96**	**261716.06**	**261716.18**	**0.0261**	**0.0211**
Moon	**-3995-03-30 04:19 J**	**262337.58**	**262337.68**	**262337.78**	**0.2621**	**0.2016**
Earth	**-3995-03-30 06:14 J**	**262337.63**	**262337.76**	**262337.88**	**0.2621**	**0.1679 ***
Venus	**-3994-01-30 03:36 J**	**262643.56**	**262643.65**	**262643.74**	**0.3684**	**0.1935**
Mars	**-3994-10-23 06:43 J**	**262909.67**	**262909.78**	**262909.89**	**0.1736**	**0.0603**
Mars	**-3992-09-27 12:14 J**	**263614.95**	**263615.01**	**263615.06**	**0.1712**	**0.1459**
Jupiter	**-3992-12-22 15:21 J**	**263701.01**	**263701.14**	**263701.26**	**0.0527**	**0.0038**
Jupiter	**-3991-03-21 20:23 J**	**263790.34**	**263790.35**	**263790.37**	**0.0525**	**0.0518**
Venus	**-3989-08-14 19:11 J**	**264667.26**	**264667.30**	**264667.33**	**0.3686**	**0.3412**
Uranus	**-3988-06-16 18:28 J**	**264973.21**	**264973.27**	**264973.34**	**0.0142**	**0.0134**
Uranus	**-3988-09-13 02:38 J**	**265061.49**	**265061.61**	**265061.76**	**0.0142**	**0.0103**
Uranus	**-3988-12-10 11:16 J**	**265149.81**	**265149.97**	**265150.15**	**0.0142**	**0.0072**
Uranus	**-3987-03-08 19:40 J**	**265238.14**	**265238.32**	**265238.52**	**0.0142**	**0.0041**
Uranus	**-3987-06-05 04:19 J**	**265326.48**	**265326.68**	**265326.88**	**0.0142**	**0.0010**
Uranus	**-3987-09-01 12:43 J**	**265414.84**	**265415.03**	**265415.23**	**0.0142**	**0.0021**
Uranus	**-3987-11-28 21:07 J**	**265503.20**	**265503.38**	**265503.57**	**0.0142**	**0.0052**
Uranus	**-3986-02-25 05:31 J**	**265591.58**	**265591.73**	**265591.90**	**0.0141**	**0.0083**
Uranus	**-3986-05-24 13:55 J**	**265679.97**	**265680.08**	**265680.20**	**0.0141**	**0.0113**
Moon	**-3986-10-06 19:11 J**	**265815.25**	**265815.30**	**265815.35**	**0.2721**	**0.2308**
Earth	**-3986-10-06 19:11 J**	**265815.25**	**265815.30**	**265815.36**	**0.2714**	**0.2276 ***
Jupiter	**-3985-02-08 17:31 J**	**265940.04**	**265940.23**	**265940.41**	**0.0499**	**0.0012**

Mars	-3984-03-14 17:02 J	266340.13	266340.21	266340.30	0.1742	0.1134	
Mars	-3983-04-12 17:16 J	266734.07	266734.22	266734.38	0.1802	0.0784	
Saturn	-3982-02-14 08:52 J	267041.78	267041.87	267041.96	0.0299	0.0214	
Mars	-3982-02-17 23:02 J	267045.36	267045.46	267045.55	0.1718	0.0977	
Moon	-3982-04-02 13:26 J	267088.92	267089.06	267089.21	0.2624	0.1124	
Earth	-3982-04-02 14:52 J	267088.98	267089.12	267089.27	0.2620	0.1243	*
Saturn	-3982-05-13 21:36 J	267130.28	267130.40	267130.53	0.0300	0.0061	
Saturn	-3982-08-10 10:19 J	267218.81	267218.93	267219.06	0.0300	0.0094	
Saturn	-3982-11-06 23:02 J	267307.39	267307.46	267307.53	0.0301	0.0246	
Jupiter	-3980-10-10 19:40 J	268011.20	268011.32	268011.44	0.0528	0.0170	
Jupiter	-3979-01-08 01:11 J	268100.46	268100.55	268100.63	0.0526	0.0387	
Moon	-3979-09-29 19:26 J	268365.22	268365.31	268365.40	0.2706	0.1577	
Earth	-3979-09-29 19:55 J	268365.24	268365.33	268365.42	0.2711	0.1469	*
Pluto	-3977-12-12 01:11 J	269169.53	269169.55	269169.61	0.0072	0.0069	
Pluto	-3976-03-10 02:23 J	269257.53	269257.60	269257.69	0.0072	0.0060	
Pluto	-3976-06-06 03:21 J	269345.55	269345.64	269345.75	0.0072	0.0052	
Pluto	-3976-09-02 04:19 J	269433.58	269433.68	269433.81	0.0072	0.0043	
Pluto	-3976-11-29 05:31 J	269521.61	269521.73	269521.86	0.0072	0.0034	
Pluto	-3975-02-25 06:28 J	269609.64	269609.77	269609.92	0.0072	0.0026	
Pluto	-3975-05-24 07:40 J	269697.68	269697.82	269697.96	0.0072	0.0016	
Venus	-3975-06-12 20:23 J	269717.24	269717.35	269717.45	0.3690	0.2745	
Mars	-3975-08-05 03:21 J	269770.61	269770.64	269770.67	0.1749	0.1673	
Pluto	-3975-08-20 08:38 J	269785.72	269785.86	269786.01	0.0073	0.0008	
Pluto	-3975-11-16 09:50 J	269873.76	269873.91	269874.06	0.0073	0.0002	
Pluto	-3974-02-12 10:48 J	269961.81	269961.95	269962.10	0.0073	0.0011	
Pluto	-3974-05-11 12:00 J	270049.86	270050.00	270050.14	0.0073	0.0020	
Pluto	-3974-08-07 12:43 J	270137.91	270138.03	270138.18	0.0073	0.0031	
Mars	-3974-09-02 12:43 J	270163.86	270164.03	270164.20	0.1794	0.0355	
Pluto	-3974-11-03 13:55 J	270225.97	270226.08	270226.21	0.0073	0.0040	
Jupiter	-3974-11-27 13:26 J	270249.89	270250.06	270250.23	0.0498	0.0198	

Pluto -3973-01-30 15:21 J 270314.03 270314.14 270314.24 0.0073 0.0049

Pluto -3973-04-27 16:04 J 270402.09 270402.17 270402.27 0.0073 0.0059

Neptune -3973-05-18 19:55 J 270423.30 270423.33 270423.39 0.0088 0.0085

Mars -3973-07-10 09:36 J 270475.79 270475.90 270476.01 0.1724 0.0479

Pluto -3973-07-24 17:02 J 270490.18 270490.21 270490.28 0.0074 0.0069

Neptune -3973-08-14 23:02 J 270511.39 270511.46 270511.58 0.0088 0.0076

Neptune -3973-11-11 02:38 J 270599.50 270599.61 270599.75 0.0088 0.0066

Neptune -3972-02-07 06:14 J 270687.63 270687.76 270687.92 0.0088 0.0056

Neptune -3972-05-06 09:36 J 270775.75 270775.90 270776.08 0.0088 0.0047

Neptune -3972-08-02 13:11 J 270863.89 270864.05 270864.24 0.0088 0.0037

Neptune -3972-10-29 16:48 J 270952.02 270952.20 270952.39 0.0088 0.0027

Neptune -3971-01-25 20:23 J 271040.16 271040.35 271040.54 0.0088 0.0017

Neptune -3971-04-24 00:00 J 271128.31 271128.50 271128.69 0.0088 0.0007

Neptune -3971-07-21 03:21 J 271216.45 271216.64 271216.84 0.0088 0.0003

Neptune -3971-10-17 06:57 J 271304.60 271304.79 271304.98 0.0088 0.0012

Neptune -3970-01-13 10:33 J 271392.75 271392.94 271393.13 0.0088 0.0022

Neptune -3970-04-11 13:55 J 271480.90 271481.08 271481.27 0.0088 0.0032

Neptune -3970-07-08 17:16 J 271569.06 271569.22 271569.40 0.0088 0.0042

Neptune -3970-10-04 20:52 J 271657.22 271657.37 271657.54 0.0088 0.0052

Venus -3970-12-28 05:02 J 271741.58 271741.71 271741.84 0.3688 0.1969

Neptune -3969-01-01 00:14 J 271745.39 271745.51 271745.67 0.0088 0.0062

Neptune -3969-03-29 03:50 J 271833.57 271833.66 271833.79 0.0088 0.0072

Neptune -3969-06-25 07:26 J 271921.76 271921.81 271921.89 0.0088 0.0082

Saturn -3968-06-08 20:23 J 272270.19 272270.35 272270.52 0.0262 0.0124

Jupiter -3968-07-30 00:14 J 272321.41 272321.51 272321.61 0.0529 0.0306

Saturn -3968-09-05 16:33 J 272359.01 272359.19 272359.38 0.0262 0.0024

Jupiter -3968-10-27 05:45 J 272410.63 272410.74 272410.85 0.0527 0.0257

Saturn -3968-12-03 12:57 J 272447.90 272448.04 272448.18 0.0261 0.0171

Moon -3966-10-02 12:28 J 273115.92 273116.02 273116.13 0.2713 0.0194

Earth -3966-10-02 13:11 J 273115.94 273116.05 273116.16 0.2712 0.0135 *

Mars	-3964-01-22 08:23 J	273593.75	273593.85	273593.94	0.1787	0.1466	
Mars	-3964-11-30 20:23 J	273906.23	273906.35	273906.46	0.1730	0.0064	
Jupiter	-3962-09-15 10:48 J	274559.83	274559.95	274560.07	0.0498	0.0371	
Jupiter	-3962-12-14 21:21 J	274650.26	274650.39	274650.52	0.0499	0.0353	
Venus	-3960-07-08 10:04 J	275221.91	275221.92	275221.93	0.3679	0.3628	
Jupiter	-3956-05-18 04:33 J	276631.63	276631.69	276631.76	0.0529	0.0444	
Jupiter	-3956-08-15 10:19 J	276720.81	276720.93	276721.06	0.0527	0.0123	
Venus	-3954-01-22 01:55 J	277245.50	277245.58	277245.67	0.3681	0.2079	
Mars	-3954-04-23 06:43 J	277336.67	277336.78	277336.89	0.1736	0.0544	
Saturn	-3953-07-03 09:36 J	277773.85	277773.90	277773.96	0.0299	0.0270	
Saturn	-3953-09-29 22:33 J	277862.32	277862.44	277862.56	0.0300	0.0117	
Moon	-3953-10-04 06:14 J	277866.66	277866.76	277866.85	0.2717	0.1141	
Earth	-3953-10-04 06:43 J	277866.68	277866.78	277866.87	0.2713	0.1211	*
Saturn	-3953-12-27 11:16 J	277950.84	277950.97	277951.10	0.0300	0.0037	
Saturn	-3952-03-25 23:45 J	278039.39	278039.49	278039.59	0.0300	0.0188	
Mars	-3952-03-28 12:14 J	278041.96	278042.01	278042.06	0.1712	0.1517	
Jupiter	-3950-10-02 18:43 J	278960.10	278960.28	278960.45	0.0499	0.0177	
Moon	-3949-03-30 11:16 J	279139.82	279139.97	279140.11	0.2621	0.1227	
Earth	-3949-03-30 13:11 J	279139.90	279140.05	279140.20	0.2621	0.1116	*
Venus	-3949-08-06 17:45 J	279269.14	279269.24	279269.34	0.3682	0.0546	
Moon	-3946-09-28 07:11 J	280416.77	280416.80	280416.82	0.2703	0.2602	
Earth	-3946-09-28 07:11 J	280416.77	280416.80	280416.83	0.2710	0.2538	*
Mars	-3945-09-12 17:02 J	280767.12	280767.21	280767.30	0.1742	0.1076	
Uranus	-3944-03-07 16:19 J	280943.13	280943.18	280943.25	0.0136	0.0121	
Jupiter	-3944-06-03 14:52 J	281030.99	281031.12	281031.24	0.0527	0.0024	
Uranus	-3944-06-03 19:26 J	281031.23	281031.31	281031.40	0.0136	0.0103	*
Uranus	-3944-08-30 22:48 J	281119.34	281119.45	281119.55	0.0136	0.0084	
Mars	-3944-10-11 18:14 J	281161.11	281161.26	281161.41	0.1802	0.0892	
Uranus	-3944-11-27 01:40 J	281207.46	281207.57	281207.69	0.0136	0.0066	
Venus	-3943-02-20 09:21 J	281292.79	281292.89	281292.99	0.3683	0.0972	

Uranus -3943-02-23 04:48 J 281295.58 281295.70 281295.82 0.0136 0.0048

Uranus -3943-05-22 07:55 J 281383.70 281383.83 281383.96 0.0136 0.0030

Uranus -3943-08-18 11:02 J 281471.83 281471.96 281472.09 0.0136 0.0012

Mars -3943-08-18 23:02 J 281472.36 281472.46 281472.55 0.1718 0.1032

Uranus -3943-11-14 14:09 J 281559.96 281560.09 281560.22 0.0137 0.0008

Uranus -3942-02-10 17:02 J 281648.09 281648.21 281648.34 0.0137 0.0025

Uranus -3942-05-09 20:09 J 281736.22 281736.34 281736.46 0.0137 0.0043

Uranus -3942-08-05 23:16 J 281824.35 281824.47 281824.59 0.0137 0.0061

Uranus -3942-11-02 02:09 J 281912.49 281912.59 281912.70 0.0137 0.0080

Uranus -3941-01-29 05:16 J 282000.64 282000.72 282000.82 0.0137 0.0098

Uranus -3941-04-26 08:23 J 282088.79 282088.85 282088.92 0.0137 0.0116

Uranus -3941-07-23 11:31 J 282176.96 282176.98 282177.00 0.0137 0.0135

Moon -3940-10-07 00:00 J 282617.46 282617.50 282617.54 0.2721 0.2531

Earth -3940-10-07 00:00 J 282617.47 282617.50 282617.53 0.2714 0.2544 *

Saturn -3939-10-26 18:00 J 283002.11 283002.25 283002.38 0.0262 0.0180

Saturn -3938-01-23 14:09 J 283090.90 283091.09 283091.28 0.0262 0.0033

Saturn -3938-04-22 10:19 J 283179.77 283179.93 283180.11 0.0261 0.0115

Jupiter -3938-07-21 16:04 J 283269.99 283270.17 283270.36 0.0499 0.0005

Venus -3938-09-06 00:57 J 283316.47 283316.54 283316.62 0.3685 0.2452

Moon -3936-04-02 20:38 J 283891.23 283891.36 283891.49 0.2625 0.1573

Earth -3936-04-02 21:50 J 283891.29 283891.41 283891.53 0.2620 0.1808 *

Mars -3935-02-03 03:21 J 284197.60 284197.64 284197.68 0.1749 0.1614

Mars -3934-03-03 13:40 J 284590.90 284591.07 284591.23 0.1794 0.0251

Mars -3933-01-09 09:36 J 284902.79 284902.90 284903.01 0.1724 0.0537

Moon -3933-09-30 00:00 J 285167.41 285167.50 285167.60 0.2707 0.1214

Earth -3933-09-30 00:43 J 285167.43 285167.53 285167.62 0.2711 0.1204 *

Jupiter -3932-03-22 18:43 J 285341.16 285341.28 285341.40 0.0528 0.0161

Jupiter -3932-06-20 00:00 J 285430.42 285430.50 285430.59 0.0526 0.0395

Jupiter -3926-05-09 13:11 J 287579.88 287580.05 287580.23 0.0498 0.0174

Mars -3925-07-23 09:21 J 288020.78 288020.89 288021.00 0.1787 0.1351

Mars	-3924-05-31 20:09 J	288333.23	288333.34	288333.46	0.1730	0.0052
Saturn	-3923-02-17 00:00 J	288594.39	288594.50	288594.61	0.0299	0.0166
Saturn	-3923-05-16 12:43 J	288682.90	288683.03	288683.16	0.0300	0.0014
Saturn	-3923-08-13 01:26 J	288771.44	288771.56	288771.67	0.0300	0.0140
Saturn	-3923-11-09 13:55 J	288860.05	288860.08	288860.11	0.0301	0.0291
Jupiter	-3920-01-08 23:02 J	289651.36	289651.46	289651.57	0.0528	0.0300
Jupiter	-3920-04-08 04:33 J	289740.59	289740.69	289740.80	0.0527	0.0263
Moon	-3920-10-02 17:16 J	289918.11	289918.22	289918.33	0.2713	0.0028
Earth	-3920-10-02 18:00 J	289918.14	289918.25	289918.36	0.2712	0.0143 *
Venus	-3918-01-17 22:04 J	290390.28	290390.42	290390.57	0.3689	0.1291
Mars	-3915-10-22 06:43 J	291763.67	291763.78	291763.89	0.1736	0.0490
Jupiter	-3914-02-25 09:36 J	291889.77	291889.90	291890.03	0.0498	0.0362
Jupiter	-3914-05-26 19:55 J	291980.21	291980.33	291980.47	0.0499	0.0361
Venus	-3913-08-03 07:11 J	292414.75	292414.80	292414.84	0.3687	0.3505
Mars	-3913-09-26 12:00 J	292468.96	292469.00	292469.05	0.1712	0.1568
Saturn	-3909-03-14 17:45 J	293734.14	293734.24	293734.35	0.0263	0.0218
Saturn	-3909-06-11 13:55 J	293822.90	293823.08	293823.26	0.0262	0.0071
Saturn	-3909-09-08 10:04 J	293911.75	293911.92	293912.11	0.0262	0.0077
Jupiter	-3909-10-28 03:21 J	293961.57	293961.64	293961.71	0.0529	0.0440
Saturn	-3909-12-06 06:28 J	294000.68	294000.77	294000.87	0.0262	0.0225
Jupiter	-3908-01-25 09:21 J	294050.76	294050.89	294051.01	0.0528	0.0128
Moon	-3907-10-05 11:02 J	294668.87	294668.96	294669.05	0.2719	0.1458
Earth	-3907-10-05 11:16 J	294668.89	294668.97	294669.06	0.2713	0.1485 *
Mars	-3905-03-13 17:16 J	295194.12	295194.22	295194.31	0.1742	0.1014
Mars	-3904-04-11 18:57 J	295588.15	295588.29	295588.43	0.1802	0.0996
Uranus	-3904-07-07 00:43 J	295674.46	295674.53	295674.62	0.0142	0.0130
Uranus	-3904-10-03 09:21 J	295762.75	295762.89	295763.03	0.0142	0.0099
Uranus	-3904-12-30 17:31 J	295851.07	295851.23	295851.41	0.0142	0.0068
Venus	-3903-02-12 07:40 J	295894.76	295894.82	295894.87	0.3680	0.3084
Mars	-3903-02-16 22:48 J	295899.37	295899.45	295899.54	0.1718	0.1088

Uranus -3903-03-29 02:09 J 295939.40 295939.59 295939.78 0.0142 0.0037

Moon -3903-03-31 18:14 J 295942.11 295942.26 295942.41 0.2622 0.0870

Earth -3903-03-31 19:55 J 295942.17 295942.33 295942.49 0.2621 0.0557 *

Uranus -3903-06-25 10:33 J 296027.75 296027.94 296028.14 0.0142 0.0006

Uranus -3903-09-21 18:57 J 296116.10 296116.29 296116.49 0.0142 0.0025

Uranus -3903-12-19 03:21 J 296204.47 296204.64 296204.83 0.0142 0.0056

Jupiter -3902-03-14 17:02 J 296290.04 296290.21 296290.39 0.0499 0.0182

Uranus -3902-03-17 11:45 J 296292.85 296292.99 296293.15 0.0141 0.0087

Uranus -3902-06-13 20:09 J 296381.24 296381.34 296381.46 0.0141 0.0118

Moon -3900-09-28 11:45 J 297218.93 297218.99 297219.05 0.2703 0.2238

Earth -3900-09-28 12:00 J 297218.94 297219.00 297219.05 0.2711 0.2272 *

Venus -3898-08-28 23:31 J 297918.39 297918.48 297918.57 0.3681 0.1543

Jupiter -3897-11-13 13:40 J 298360.95 298361.07 298361.20 0.0528 0.0015

Mars -3896-08-04 03:21 J 298624.59 298624.64 298624.69 0.1748 0.1558

Mars -3895-09-01 14:09 J 299017.92 299018.09 299018.26 0.1795 0.0155

Saturn -3894-07-07 00:57 J 299326.46 299326.54 299326.64 0.0299 0.0219

Mars -3894-07-10 09:36 J 299329.80 299329.90 299330.01 0.1723 0.0594

Saturn -3894-10-03 13:55 J 299414.95 299415.08 299415.21 0.0299 0.0066

Saturn -3894-12-31 02:38 J 299503.48 299503.61 299503.73 0.0300 0.0087

Saturn -3893-03-28 14:52 J 299592.05 299592.12 299592.21 0.0300 0.0239

Venus -3892-03-13 15:21 J 299942.03 299942.14 299942.24 0.3682 0.0132

Neptune -3892-12-03 00:14 J 300206.50 300206.51 300206.52 0.0089 0.0089

Pluto -3891-02-11 14:52 J 300277.08 300277.12 300277.20 0.0073 0.0068

Neptune -3891-03-01 01:26 J 300294.52 300294.56 300294.62 0.0089 0.0082

Pluto -3891-05-10 16:48 J 300365.10 300365.20 300365.31 0.0072 0.0057

Neptune -3891-05-28 02:52 J 300382.55 300382.62 300382.70 0.0089 0.0074

Pluto -3891-08-06 18:43 J 300453.15 300453.28 300453.41 0.0072 0.0046

Neptune -3891-08-24 04:04 J 300470.60 300470.67 300470.77 0.0089 0.0068

Pluto -3891-11-02 20:09 J 300541.20 300541.34 300541.50 0.0072 0.0036

Neptune -3891-11-20 05:31 J 300558.64 300558.73 300558.84 0.0089 0.0060

Jupiter -3891-12-31 14:23 J 300599.91 300600.10 300600.28 0.0499 0.0007

Pluto -3890-01-29 22:04 J 300629.26 300629.42 300629.59 0.0072 0.0025

Neptune -3890-02-16 07:11 J 300646.69 300646.80 300646.91 0.0089 0.0053

Moon -3890-04-04 03:21 J 300693.57 300693.64 300693.72 0.2626 0.2332

Earth -3890-04-04 04:48 J 300693.63 300693.70 300693.77 0.2620 0.2372 *

Pluto -3890-04-27 23:45 J 300717.33 300717.49 300717.66 0.0072 0.0014

Neptune -3890-05-15 08:23 J 300734.74 300734.85 300734.97 0.0089 0.0046

Pluto -3890-07-25 01:26 J 300805.39 300805.56 300805.74 0.0072 0.0004

Neptune -3890-08-11 09:50 J 300822.79 300822.91 300823.03 0.0089 0.0039

Pluto -3890-10-21 03:07 J 300893.46 300893.63 300893.81 0.0072 0.0007

Neptune -3890-11-07 11:16 J 300910.85 300910.97 300911.09 0.0089 0.0031

Pluto -3889-01-17 04:48 J 300981.54 300981.70 300981.87 0.0072 0.0017

Neptune -3889-02-03 12:28 J 300998.90 300999.02 300999.15 0.0089 0.0025

Pluto -3889-04-14 06:14 J 301069.62 301069.76 301069.93 0.0072 0.0028

Neptune -3889-05-01 13:55 J 301086.95 301087.08 301087.21 0.0089 0.0017

Pluto -3889-07-11 07:55 J 301157.70 301157.83 301157.99 0.0071 0.0038

Neptune -3889-07-28 15:21 J 301175.01 301175.14 301175.27 0.0089 0.0010

Pluto -3889-10-07 09:36 J 301245.78 301245.90 301246.04 0.0071 0.0047

Neptune -3889-10-24 16:33 J 301263.06 301263.19 301263.33 0.0089 0.0005

Pluto -3888-01-03 11:02 J 301333.88 301333.96 301334.08 0.0071 0.0057

Neptune -3888-01-20 18:00 J 301351.12 301351.25 301351.38 0.0089 0.0004

Pluto -3888-04-01 12:28 J 301421.99 301422.02 301422.10 0.0071 0.0067

Neptune -3888-04-18 19:26 J 301439.18 301439.31 301439.44 0.0089 0.0011

Neptune -3888-07-15 20:38 J 301527.23 301527.36 301527.49 0.0089 0.0018

Neptune -3888-10-11 22:04 J 301615.29 301615.42 301615.55 0.0089 0.0025

Neptune -3887-01-07 23:16 J 301703.35 301703.47 301703.60 0.0089 0.0033

Neptune -3887-04-06 00:43 J 301791.41 301791.53 301791.65 0.0089 0.0039

Neptune -3887-07-03 01:55 J 301879.47 301879.58 301879.70 0.0089 0.0047

Venus -3887-09-27 06:57 J 301965.70 301965.79 301965.88 0.3684 0.1481

Neptune -3887-09-29 03:21 J 301967.54 301967.64 301967.75 0.0089 0.0053

Moon	-3887-10-01 04:48 J	301969.60	301969.70	301969.80	0.2709	0.1072	
Earth	-3887-10-01 05:16 J	301969.62	301969.72	301969.82	0.2711	0.0930	*
Neptune	-3887-12-26 04:33 J	302055.60	302055.69	302055.79	0.0089	0.0061	
Neptune	-3886-03-24 06:00 J	302143.67	302143.75	302143.84	0.0089	0.0067	
Neptune	-3886-06-20 07:11 J	302231.74	302231.80	302231.88	0.0089	0.0075	
Neptune	-3886-09-16 08:38 J	302319.81	302319.86	302319.92	0.0089	0.0081	
Neptune	-3886-12-13 09:50 J	302407.90	302407.91	302407.94	0.0089	0.0089	
Mars	-3885-01-22 10:19 J	302447.81	302447.93	302448.05	0.1787	0.1246	
Jupiter	-3885-09-01 18:00 J	302671.13	302671.25	302671.38	0.0528	0.0149	
Mars	-3885-11-29 20:09 J	302760.23	302760.34	302760.46	0.1730	0.0090	
Jupiter	-3885-11-29 23:31 J	302760.40	302760.48	302760.56	0.0526	0.0409	*
Venus	-3881-04-11 22:33 J	303989.38	303989.44	303989.50	0.3685	0.2959	
Saturn	-3880-10-29 11:45 J	304554.83	304554.99	304555.16	0.0262	0.0125	
Saturn	-3879-01-26 08:09 J	304643.65	304643.84	304644.02	0.0262	0.0023	
Saturn	-3879-04-25 04:19 J	304732.54	304732.68	304732.83	0.0261	0.0171	
Jupiter	-3879-10-19 11:45 J	304909.82	304909.99	304910.16	0.0498	0.0169	
Mars	-3875-04-22 06:43 J	306190.67	306190.78	306190.89	0.1736	0.0430	
Moon	-3874-10-03 22:04 J	306720.32	306720.42	306720.53	0.2713	0.0376	
Earth	-3874-10-03 22:48 J	306720.34	306720.45	306720.55	0.2712	0.0414	*
Mars	-3873-03-27 12:00 J	306895.97	306896.00	306896.04	0.1712	0.1623	
Jupiter	-3873-06-20 21:50 J	306981.31	306981.41	306981.52	0.0528	0.0296	
Jupiter	-3873-09-18 03:36 J	307070.54	307070.65	307070.76	0.0527	0.0266	
Jupiter	-3867-08-07 08:52 J	309219.74	309219.87	309220.01	0.0498	0.0344	
Jupiter	-3867-11-05 19:40 J	309310.20	309310.32	309310.44	0.0500	0.0381	
Mars	-3866-09-12 17:02 J	309621.12	309621.21	309621.31	0.1742	0.0963	
Mars	-3865-10-10 19:55 J	310015.19	310015.33	310015.46	0.1802	0.1103	
Saturn	-3865-11-23 02:52 J	310058.56	310058.62	310058.68	0.0299	0.0264	
Saturn	-3864-02-19 15:50 J	310147.03	310147.16	310147.28	0.0299	0.0112	
Saturn	-3864-05-19 04:19 J	310235.56	310235.68	310235.81	0.0300	0.0043	
Saturn	-3864-08-15 17:02 J	310324.11	310324.21	310324.31	0.0300	0.0193	

Mars -3864-08-17 22:48 J 310326.37 310326.45 310326.54 0.1717 0.1140

Venus -3862-08-25 00:14 J 311063.35 311063.51 311063.66 0.3689 0.0214

Jupiter -3861-04-09 02:09 J 311291.52 311291.59 311291.66 0.0529 0.0436

Jupiter -3861-07-07 07:55 J 311380.71 311380.83 311380.96 0.0527 0.0130

Moon -3861-10-05 15:50 J 311471.08 311471.16 311471.24 0.2720 0.1669

Earth -3861-10-05 16:04 J 311471.09 311471.17 311471.25 0.2713 0.1753 *

Uranus -3861-12-29 20:23 J 311556.35 311556.35 311556.36 0.0136 0.0135

Uranus -3860-03-27 23:16 J 311644.42 311644.47 311644.54 0.0136 0.0118

Uranus -3860-06-24 02:23 J 311732.52 311732.60 311732.69 0.0136 0.0100

Uranus -3860-09-20 05:31 J 311820.63 311820.73 311820.84 0.0136 0.0081

Uranus -3860-12-17 08:38 J 311908.75 311908.86 311908.98 0.0136 0.0063

Uranus -3859-03-15 11:45 J 311996.87 311996.99 311997.11 0.0136 0.0045

Uranus -3859-06-11 14:52 J 312084.99 312085.12 312085.25 0.0136 0.0027

Uranus -3859-09-07 17:45 J 312173.11 312173.24 312173.38 0.0136 0.0010

Uranus -3859-12-04 20:52 J 312261.24 312261.37 312261.50 0.0136 0.0010

Uranus -3858-03-03 00:00 J 312349.37 312349.50 312349.63 0.0137 0.0028

Uranus -3858-05-30 03:07 J 312437.51 312437.63 312437.75 0.0137 0.0046

Uranus -3858-08-26 06:14 J 312525.64 312525.76 312525.87 0.0137 0.0064

Uranus -3858-11-22 09:07 J 312613.78 312613.88 312613.99 0.0137 0.0082

Uranus -3857-02-18 12:00 J 312701.93 312702.00 312702.10 0.0137 0.0101

Moon -3857-04-01 01:11 J 312744.39 312744.55 312744.72 0.2624 0.0097

Earth -3857-04-01 02:52 J 312744.46 312744.62 312744.79 0.2621 0.0044 *

Uranus -3857-05-16 15:07 J 312790.08 312790.13 312790.20 0.0137 0.0119

Mars -3856-02-02 03:21 J 313051.58 313051.64 313051.70 0.1749 0.1498

Mars -3855-03-02 15:21 J 313444.97 313445.14 313445.31 0.1795 0.0052

Jupiter -3855-08-24 15:36 J 313619.98 313620.15 313620.32 0.0499 0.0187

Mars -3854-01-08 09:36 J 313756.79 313756.90 313757.01 0.1724 0.0645

Moon -3854-09-29 16:33 J 314021.12 314021.19 314021.26 0.2704 0.2056

Earth -3854-09-29 16:48 J 314021.13 314021.20 314021.27 0.2711 0.2000 *

Saturn -3850-03-18 11:45 J 315286.85 315286.99 315287.15 0.0263 0.0161

Saturn	-3850-06-15 08:09 J	315375.65	315375.84	315376.03	0.0262	0.0014
Saturn	-3850-09-12 04:33 J	315464.53	315464.69	315464.85	0.0262	0.0135
Jupiter	-3849-04-25 12:14 J	315690.89	315691.01	315691.14	0.0528	0.0022
Venus	-3847-09-19 05:16 J	316567.64	316567.72	316567.79	0.3680	0.2544
Mars	-3846-07-23 10:48 J	316874.82	316874.95	316875.08	0.1787	0.1151
Mars	-3845-05-30 20:09 J	317187.23	317187.34	317187.46	0.1730	0.0160
Jupiter	-3843-06-12 12:28 J	317929.84	317930.02	317930.21	0.0498	0.0015
Venus	-3841-04-03 21:07 J	318591.28	318591.38	318591.48	0.3681	0.1015
Moon	-3841-10-01 09:21 J	318771.79	318771.89	318772.00	0.2709	0.0708
Earth	-3841-10-01 10:04 J	318771.82	318771.92	318772.03	0.2712	0.0660 *
Jupiter	-3837-02-12 16:48 J	320001.08	320001.20	320001.32	0.0528	0.0146
Jupiter	-3837-05-11 22:19 J	320090.35	320090.43	320090.50	0.0527	0.0412
Venus	-3836-10-18 12:43 J	320614.93	320615.03	320615.13	0.3683	0.0515
Mars	-3836-10-21 06:43 J	320617.67	320617.78	320617.89	0.1736	0.0375
Saturn	-3835-07-09 17:31 J	320879.12	320879.23	320879.34	0.0299	0.0156
Saturn	-3835-10-06 06:14 J	320967.63	320967.76	320967.89	0.0299	0.0004
Saturn	-3834-01-02 18:43 J	321056.17	321056.28	321056.40	0.0300	0.0148
Saturn	-3834-04-01 07:11 J	321144.79	321144.80	321144.82	0.0300	0.0298
Mars	-3834-09-26 12:00 J	321322.99	321323.00	321323.02	0.1712	0.1679
Jupiter	-3831-03-31 09:36 J	322239.73	322239.90	322240.08	0.0498	0.0170
Venus	-3830-05-04 04:19 J	322638.60	322638.68	322638.77	0.3684	0.2000
Moon	-3828-10-04 02:52 J	323522.52	323522.62	323522.73	0.2715	0.0542
Earth	-3828-10-04 03:36 J	323522.54	323522.65	323522.75	0.2712	0.0688 *
Mars	-3826-03-13 17:02 J	324048.11	324048.21	324048.31	0.1742	0.0903
Jupiter	-3826-12-01 21:07 J	324311.27	324311.38	324311.48	0.0529	0.0286
Jupiter	-3825-02-29 02:38 J	324400.50	324400.61	324400.72	0.0527	0.0276
Mars	-3825-04-10 20:52 J	324442.25	324442.37	324442.49	0.1803	0.1219
Venus	-3825-11-16 19:55 J	324662.30	324662.33	324662.37	0.3685	0.3466
Mars	-3824-02-15 22:48 J	324753.37	324753.45	324753.53	0.1717	0.1194
Moon	-3824-03-29 23:16 J	324795.43	324795.47	324795.51	0.2620	0.2519

Earth	-3824-03-30 01:11 J	324795.47	324795.55	324795.62	0.2622	0.2341	*
Saturn	-3821-08-04 10:19 J	326018.82	326018.93	326019.04	0.0263	0.0211	
Saturn	-3821-11-01 06:28 J	326107.59	326107.77	326107.95	0.0262	0.0064	
Saturn	-3820-01-29 02:52 J	326196.44	326196.62	326196.80	0.0262	0.0084	
Saturn	-3820-04-27 23:02 J	326285.39	326285.46	326285.56	0.0262	0.0233	
Uranus	-3820-07-27 06:28 J	326375.70	326375.77	326375.87	0.0142	0.0127	
Uranus	-3820-10-23 14:52 J	326463.99	326464.12	326464.28	0.0142	0.0097	
Jupiter	-3819-01-17 06:57 J	326549.66	326549.79	326549.93	0.0498	0.0344	
Uranus	-3819-01-19 23:31 J	326552.31	326552.48	326552.66	0.0142	0.0065	
Jupiter	-3819-04-17 17:31 J	326640.12	326640.23	326640.35	0.0500	0.0381	
Uranus	-3819-04-18 07:55 J	326640.64	326640.83	326641.02	0.0142	0.0035	
Uranus	-3819-07-15 16:33 J	326728.99	326729.19	326729.38	0.0142	0.0005	
Uranus	-3819-10-12 00:43 J	326817.34	326817.53	326817.73	0.0142	0.0028	
Uranus	-3818-01-08 09:07 J	326905.71	326905.88	326906.07	0.0142	0.0059	
Uranus	-3818-04-06 17:45 J	326994.09	326994.24	326994.39	0.0141	0.0089	
Uranus	-3818-07-04 02:09 J	327082.49	327082.59	327082.70	0.0141	0.0120	
Mars	-3817-08-03 03:21 J	327478.58	327478.64	327478.70	0.1748	0.1442	
Mars	-3816-08-31 16:04 J	327872.00	327872.17	327872.34	0.1795	0.0070	
Mars	-3815-07-09 09:36 J	328183.80	328183.90	328184.00	0.1723	0.0702	
Moon	-3815-10-06 20:38 J	328273.29	328273.36	328273.43	0.2720	0.2042	
Earth	-3815-10-06 20:52 J	328273.30	328273.37	328273.44	0.2713	0.2020	*
Jupiter	-3814-09-20 00:43 J	328621.46	328621.53	328621.61	0.0529	0.0435	
Jupiter	-3814-12-18 06:43 J	328710.65	328710.78	328710.90	0.0527	0.0132	
Moon	-3811-04-02 08:09 J	329546.68	329546.84	329547.00	0.2625	0.0310	
Earth	-3811-04-02 09:50 J	329546.75	329546.91	329547.07	0.2621	0.0579	*
Venus	-3811-09-14 17:45 J	329712.15	329712.24	329712.32	0.3690	0.2958	
Neptune	-3808-02-12 18:57 J	330594.23	330594.29	330594.38	0.0088	0.0080	
Neptune	-3808-05-11 22:48 J	330682.34	330682.45	330682.56	0.0088	0.0070	
Neptune	-3808-08-08 01:55 J	330770.45	330770.58	330770.73	0.0088	0.0061	
Moon	-3808-09-29 21:07 J	330823.30	330823.38	330823.46	0.2705	0.1764	

Earth -3808-09-29 21:36 J 330823.31 330823.40 330823.48 0.2711 0.1728 *

Neptune -3808-11-04 05:31 J 330858.58 330858.73 330858.89 0.0088 0.0051

Neptune -3807-01-31 09:07 J 330946.71 330946.88 330947.05 0.0088 0.0041

Jupiter -3807-02-03 14:23 J 330949.93 330950.10 330950.28 0.0499 0.0200

Neptune -3807-04-29 12:14 J 331034.85 331035.01 331035.21 0.0088 0.0032

Neptune -3807-07-26 15:50 J 331122.98 331123.16 331123.36 0.0088 0.0022

Neptune -3807-10-22 19:26 J 331211.12 331211.31 331211.51 0.0088 0.0012

Neptune -3806-01-18 23:02 J 331299.27 331299.46 331299.66 0.0088 0.0002

Mars -3806-01-21 11:45 J 331301.85 331301.99 331302.13 0.1788 0.1042

Neptune -3806-04-17 02:23 J 331387.41 331387.60 331387.80 0.0088 0.0008

Neptune -3806-07-14 06:00 J 331475.56 331475.75 331475.94 0.0088 0.0018

Neptune -3806-10-10 09:36 J 331563.72 331563.90 331564.09 0.0088 0.0027

Saturn -3806-11-26 19:26 J 331611.22 331611.31 331611.41 0.0299 0.0200

Mars -3806-11-29 20:09 J 331614.23 331614.34 331614.45 0.1729 0.0197

Neptune -3805-01-06 12:57 J 331651.87 331652.04 331652.22 0.0088 0.0037

Saturn -3805-02-23 08:09 J 331699.72 331699.84 331699.97 0.0299 0.0049

Venus -3805-03-31 02:09 J 331736.46 331736.59 331736.73 0.3688 0.1716

Neptune -3805-04-03 16:33 J 331740.03 331740.19 331740.36 0.0088 0.0047

Saturn -3805-05-21 20:52 J 331788.25 331788.37 331788.49 0.0300 0.0104

Neptune -3805-06-30 19:55 J 331828.20 331828.33 331828.49 0.0088 0.0057

Saturn -3805-08-18 09:21 J 331876.83 331876.89 331876.96 0.0300 0.0255

Neptune -3805-09-26 23:31 J 331916.37 331916.48 331916.62 0.0088 0.0067

Neptune -3805-12-24 02:52 J 332004.55 332004.62 332004.73 0.0088 0.0077

Neptune -3804-03-22 06:28 J 332092.76 332092.77 332092.81 0.0088 0.0087

Jupiter -3802-10-06 10:48 J 333020.83 333020.95 333021.08 0.0528 0.0020

Mars -3796-04-21 06:43 J 335044.67 335044.78 335044.89 0.1736 0.0320

Venus -3796-10-10 10:48 J 335216.93 335216.95 335216.98 0.3679 0.3553

Jupiter -3796-11-22 10:48 J 335259.76 335259.95 335260.13 0.0498 0.0011

Moon -3795-10-02 14:09 J 335573.99 335574.09 335574.20 0.2709 0.0532

Earth -3795-10-02 14:52 J 335574.02 335574.12 335574.23 0.2712 0.0384 *

Saturn	-3792-12-22 11:02 J	336750.89	336750.96	336751.02	0.0263	0.0244
Saturn	-3791-03-21 06:57 J	336839.62	336839.79	336839.97	0.0263	0.0097
Saturn	-3791-06-18 03:21 J	336928.46	336928.64	336928.83	0.0263	0.0051
Saturn	-3791-09-14 23:45 J	337017.38	337017.49	337017.62	0.0262	0.0200
Venus	-3790-04-26 02:52 J	337240.53	337240.62	337240.70	0.3681	0.2013
Jupiter	-3790-07-25 15:07 J	337331.01	337331.13	337331.25	0.0529	0.0152
Jupiter	-3790-10-22 20:38 J	337420.28	337420.36	337420.44	0.0527	0.0408
Mars	-3787-09-11 17:02 J	338475.11	338475.21	338475.31	0.1742	0.0845
Mars	-3786-10-10 21:36 J	338869.28	338869.40	338869.51	0.1803	0.1315
Mars	-3785-08-16 22:48 J	339180.37	339180.45	339180.53	0.1717	0.1249
Venus	-3785-11-08 18:28 J	339264.17	339264.27	339264.38	0.3682	0.0492
Jupiter	-3784-09-10 07:40 J	339569.65	339569.82	339570.00	0.0498	0.0169
Moon	-3782-10-05 07:40 J	340324.72	340324.82	340324.92	0.2717	0.0939
Earth	-3782-10-05 08:23 J	340324.75	340324.85	340324.95	0.2712	0.0958 *
Venus	-3779-05-25 10:19 J	341287.83	341287.93	341288.03	0.3683	0.1025
Moon	-3778-03-31 06:14 J	341597.65	341597.76	341597.87	0.2622	0.1961
Earth	-3778-03-31 08:09 J	341597.72	341597.84	341597.96	0.2622	0.1771 *
Jupiter	-3778-05-13 19:26 J	341641.20	341641.31	341641.41	0.0529	0.0291
Jupiter	-3778-08-11 00:57 J	341730.44	341730.54	341730.65	0.0527	0.0273
Mars	-3777-02-02 03:21 J	341905.57	341905.64	341905.71	0.1748	0.1382
Uranus	-3776-01-19 03:07 J	342257.62	342257.63	342257.66	0.0136	0.0133
Mars	-3776-03-01 16:48 J	342299.03	342299.20	342299.37	0.1795	0.0171
Saturn	-3776-04-14 21:50 J	342343.34	342343.41	342343.49	0.0298	0.0238
Uranus	-3776-04-17 06:14 J	342345.70	342345.76	342345.84	0.0136	0.0115
Saturn	-3776-07-12 10:33 J	342431.82	342431.94	342432.07	0.0299	0.0087
Uranus	-3776-07-14 09:21 J	342433.81	342433.89	342433.99	0.0136	0.0097
Saturn	-3776-10-08 23:16 J	342520.34	342520.47	342520.60	0.0299	0.0065
Uranus	-3776-10-10 12:28 J	342521.92	342522.02	342522.13	0.0136	0.0079
Saturn	-3775-01-05 11:45 J	342608.90	342608.99	342609.08	0.0300	0.0215
Uranus	-3775-01-06 15:36 J	342610.03	342610.15	342610.27	0.0136	0.0060

Mars	-3775-01-07 09:36 J	342610.80	342610.90	342611.00	0.1723	0.0761
Uranus	-3775-04-04 18:43 J	342698.16	342698.28	342698.40	0.0136	0.0042
Uranus	-3775-07-01 21:50 J	342786.28	342786.41	342786.54	0.0136	0.0024
Uranus	-3775-09-28 00:43 J	342874.40	342874.53	342874.66	0.0136	0.0007
Uranus	-3775-12-25 03:50 J	342962.53	342962.66	342962.79	0.0137	0.0012
Uranus	-3774-03-23 06:57 J	343050.66	343050.79	343050.92	0.0137	0.0030
Uranus	-3774-06-19 09:50 J	343138.80	343138.91	343139.04	0.0137	0.0049
Uranus	-3774-09-15 12:57 J	343226.93	343227.04	343227.16	0.0137	0.0067
Venus	-3774-12-09 01:55 J	343311.50	343311.58	343311.65	0.3685	0.2504
Uranus	-3774-12-12 16:04 J	343315.07	343315.17	343315.27	0.0137	0.0085
Uranus	-3773-03-09 19:11 J	343403.22	343403.30	343403.38	0.0137	0.0104
Uranus	-3773-06-05 22:04 J	343491.37	343491.42	343491.48	0.0137	0.0122
Jupiter	-3772-06-29 04:33 J	343879.56	343879.69	343879.83	0.0498	0.0348
Jupiter	-3772-09-27 15:07 J	343970.01	343970.13	343970.25	0.0499	0.0375
Moon	-3769-10-07 01:26 J	345075.50	345075.56	345075.62	0.2720	0.2213
Earth	-3769-10-07 01:40 J	345075.51	345075.57	345075.62	0.2713	0.2290 *
Mars	-3767-07-22 12:43 J	345728.89	345729.03	345729.18	0.1788	0.0931
Jupiter	-3766-03-01 23:31 J	345951.41	345951.48	345951.56	0.0529	0.0431
Jupiter	-3766-05-30 05:31 J	346040.61	346040.73	346040.85	0.0527	0.0136
Mars	-3766-05-30 20:09 J	346041.23	346041.34	346041.45	0.1729	0.0252
Moon	-3765-04-02 15:07 J	346348.98	346349.13	346349.28	0.2625	0.1018
Earth	-3765-04-02 16:48 J	346349.05	346349.20	346349.35	0.2621	0.1150 *
Saturn	-3762-08-08 05:45 J	347571.59	347571.74	347571.90	0.0263	0.0144
Moon	-3762-10-01 01:40 J	347625.49	347625.57	347625.66	0.2706	0.1509
Earth	-3762-10-01 02:09 J	347625.50	347625.59	347625.68	0.2711	0.1457 *
Saturn	-3762-11-05 02:09 J	347660.40	347660.59	347660.78	0.0262	0.0004
Saturn	-3761-02-01 22:33 J	347749.29	347749.44	347749.59	0.0262	0.0152
Jupiter	-3760-07-16 12:14 J	348279.83	348280.01	348280.18	0.0499	0.0195
Mars	-3757-10-20 06:43 J	349471.66	349471.78	349471.89	0.1735	0.0266
Jupiter	-3754-03-18 09:21 J	350350.76	350350.89	350351.02	0.0528	0.0011

Venus	-3754-04-21 19:26 J	350385.17	350385.31	350385.46	0.3690	0.1504
Moon	-3749-10-02 18:57 J	352376.19	352376.29	352376.40	0.2710	0.0185
Earth	-3749-10-02 19:40 J	352376.21	352376.32	352376.43	0.2712	0.0111 *
Venus	-3749-11-05 04:19 J	352409.61	352409.68	352409.76	0.3688	0.3243
Jupiter	-3748-05-04 09:07 J	352589.69	352589.88	352590.07	0.0498	0.0015
Mars	-3747-03-12 17:02 J	352902.11	352902.21	352902.31	0.1742	0.0789
Saturn	-3747-09-02 00:14 J	353075.46	353075.51	353075.56	0.0298	0.0278
Saturn	-3747-11-29 12:57 J	353163.92	353164.04	353164.16	0.0299	0.0126
Saturn	-3746-02-26 01:40 J	353252.44	353252.57	353252.70	0.0299	0.0026
Mars	-3746-04-10 22:33 J	353296.34	353296.44	353296.54	0.1803	0.1433
Saturn	-3746-05-25 14:09 J	353340.99	353341.09	353341.20	0.0300	0.0177
Mars	-3745-02-15 22:48 J	353607.38	353607.45	353607.52	0.1717	0.1304
Jupiter	-3742-01-04 13:26 J	354660.94	354661.06	354661.18	0.0528	0.0154
Jupiter	-3742-04-03 18:57 J	354750.21	354750.29	354750.37	0.0527	0.0405
Venus	-3739-05-17 08:23 J	355889.79	355889.85	355889.91	0.3680	0.3014
Mars	-3738-08-03 03:21 J	356332.57	356332.64	356332.71	0.1748	0.1325
Mars	-3737-08-30 17:45 J	356726.07	356726.24	356726.41	0.1795	0.0280
Jupiter	-3736-02-20 05:31 J	356899.56	356899.73	356899.91	0.0497	0.0171
Mars	-3736-07-08 09:36 J	357037.80	357037.90	357038.00	0.1723	0.0812
Uranus	-3736-08-16 12:28 J	357076.94	357077.02	357077.12	0.0142	0.0125
Moon	-3736-10-05 12:28 J	357126.93	357127.02	357127.12	0.2718	0.1111
Earth	-3736-10-05 12:57 J	357126.95	357127.04	357127.14	0.2712	0.1232 *
Uranus	-3736-11-12 21:07 J	357165.24	357165.38	357165.53	0.0142	0.0093
Uranus	-3735-02-09 05:16 J	357253.56	357253.72	357253.91	0.0142	0.0063
Uranus	-3735-05-08 13:55 J	357341.89	357342.08	357342.27	0.0142	0.0032
Uranus	-3735-08-04 22:19 J	357430.24	357430.43	357430.63	0.0142	0.0003
Uranus	-3735-11-01 06:43 J	357518.59	357518.78	357518.98	0.0142	0.0030
Uranus	-3734-01-28 15:07 J	357606.96	357607.13	357607.31	0.0142	0.0061
Uranus	-3734-04-26 23:31 J	357695.34	357695.48	357695.64	0.0141	0.0092
Uranus	-3734-07-24 07:55 J	357783.74	357783.83	357783.94	0.0141	0.0122

Venus	-3734-12-01 00:14 J	357913.42	357913.51	357913.61	0.3681	0.1475
Saturn	-3733-12-25 06:43 J	358303.65	358303.78	358303.93	0.0263	0.0175
Saturn	-3732-03-24 03:07 J	358392.44	358392.63	358392.82	0.0263	0.0027
Moon	-3732-03-31 13:11 J	358399.91	358400.05	358400.18	0.2623	0.1484
Earth	-3732-03-31 14:52 J	358399.98	358400.12	358400.27	0.2622	0.1208 *
Saturn	-3732-06-20 23:31 J	358481.31	358481.48	358481.65	0.0263	0.0122
Jupiter	-3731-10-23 17:31 J	358971.12	358971.23	358971.33	0.0529	0.0301
Pluto	-3731-11-07 17:02 J	358986.16	358986.21	358986.28	0.0072	0.0065
Jupiter	-3730-01-20 23:02 J	359060.36	359060.46	359060.57	0.0528	0.0265
Pluto	-3730-02-03 18:14 J	359074.17	359074.26	359074.35	0.0072	0.0056
Pluto	-3730-05-02 18:57 J	359162.19	359162.29	359162.41	0.0072	0.0048
Pluto	-3730-07-29 19:55 J	359250.22	359250.33	359250.46	0.0072	0.0039
Pluto	-3730-10-25 21:07 J	359338.25	359338.38	359338.52	0.0072	0.0030
Pluto	-3729-01-21 22:04 J	359426.29	359426.42	359426.57	0.0072	0.0022
Pluto	-3729-04-18 23:16 J	359514.33	359514.47	359514.61	0.0073	0.0012
Pluto	-3729-07-16 00:14 J	359602.37	359602.51	359602.66	0.0073	0.0004
Moon	-3729-09-28 13:40 J	359677.03	359677.07	359677.11	0.2703	0.2481
Earth	-3729-09-28 13:40 J	359677.03	359677.07	359677.10	0.2710	0.2530 *
Pluto	-3729-10-12 01:26 J	359690.41	359690.56	359690.70	0.0073	0.0006
Pluto	-3728-01-08 02:23 J	359778.46	359778.60	359778.75	0.0073	0.0015
Pluto	-3728-04-06 03:21 J	359866.51	359866.64	359866.79	0.0073	0.0025
Venus	-3728-06-15 16:04 J	359937.07	359937.17	359937.27	0.3682	0.0069
Pluto	-3728-07-03 04:19 J	359954.56	359954.68	359954.82	0.0073	0.0035
Pluto	-3728-09-29 05:31 J	360042.62	360042.73	360042.86	0.0073	0.0044
Pluto	-3728-12-26 06:28 J	360130.69	360130.77	360130.89	0.0073	0.0054
Mars	-3727-01-20 13:11 J	360155.90	360156.05	360156.20	0.1788	0.0845
Pluto	-3727-03-24 07:55 J	360218.76	360218.83	360218.91	0.0074	0.0063
Pluto	-3727-06-20 08:52 J	360306.86	360306.87	360306.90	0.0074	0.0073
Neptune	-3727-08-30 00:00 J	360377.47	360377.50	360377.55	0.0089	0.0085
Neptune	-3727-11-26 01:40 J	360465.51	360465.57	360465.63	0.0089	0.0078

Mars -3727-11-28 20:09 J 360468.23 360468.34 360468.45 0.1729 0.0311

Neptune -3726-02-22 02:52 J 360553.55 360553.62 360553.71 0.0089 0.0071

Neptune -3726-05-21 04:19 J 360641.59 360641.68 360641.78 0.0089 0.0064

Neptune -3726-08-17 05:45 J 360729.64 360729.74 360729.85 0.0089 0.0056

Neptune -3726-11-13 06:57 J 360817.69 360817.79 360817.91 0.0089 0.0050

Neptune -3725-02-09 08:23 J 360905.74 360905.85 360905.98 0.0089 0.0042

Neptune -3725-05-07 09:50 J 360993.79 360993.91 360994.04 0.0089 0.0035

Neptune -3725-08-03 11:16 J 361081.85 361081.97 361082.10 0.0089 0.0028

Neptune -3725-10-30 12:43 J 361169.90 361170.03 361170.16 0.0089 0.0021

Jupiter -3725-12-09 02:23 J 361209.48 361209.60 361209.74 0.0497 0.0349

Neptune -3724-01-26 14:09 J 361257.95 361258.09 361258.22 0.0089 0.0014

Jupiter -3724-03-09 12:57 J 361299.92 361300.04 361300.16 0.0499 0.0372

Neptune -3724-04-24 15:21 J 361346.01 361346.14 361346.28 0.0089 0.0007

Neptune -3724-07-21 16:48 J 361434.07 361434.20 361434.33 0.0089 0.0001

Neptune -3724-10-17 18:00 J 361522.12 361522.25 361522.39 0.0089 0.0008

Neptune -3723-01-13 19:26 J 361610.18 361610.31 361610.44 0.0089 0.0015

Neptune -3723-04-11 20:38 J 361698.24 361698.36 361698.50 0.0089 0.0022

Neptune -3723-07-08 22:04 J 361786.30 361786.42 361786.55 0.0089 0.0029

Neptune -3723-10-04 23:16 J 361874.36 361874.47 361874.60 0.0089 0.0036

Earth -3723-10-08 06:28 J 361877.73 361877.77 361877.80 0.2713 0.2561

Moon -3723-10-08 06:14 J 361877.74 361877.76 361877.79 0.2720 0.2619 *

Venus -3723-12-30 07:40 J 361960.73 361960.82 361960.92 0.3684 0.1537

Neptune -3722-01-01 00:28 J 361962.42 361962.52 361962.65 0.0089 0.0044

Neptune -3722-03-30 01:55 J 362050.48 362050.58 362050.70 0.0089 0.0050

Neptune -3722-06-26 03:07 J 362138.54 362138.63 362138.75 0.0089 0.0058

Neptune -3722-09-22 04:33 J 362226.61 362226.69 362226.79 0.0089 0.0064

Neptune -3722-12-19 05:45 J 362314.68 362314.74 362314.83 0.0089 0.0072

Neptune -3721-03-16 07:11 J 362402.75 362402.80 362402.87 0.0089 0.0078

Neptune -3721-06-12 08:23 J 362490.83 362490.85 362490.90 0.0089 0.0086

Moon -3719-04-03 22:04 J 363151.29 363151.42 363151.56 0.2625 0.1505

Earth	-3719-04-03 23:45 J	363151.36	363151.49	363151.61	0.2621	0.1720	*
Jupiter	-3719-08-11 21:36 J	363281.34	363281.40	363281.47	0.0530	0.0441	
Jupiter	-3719-11-09 03:36 J	363370.53	363370.65	363370.77	0.0528	0.0127	
Saturn	-3717-04-17 15:50 J	363896.05	363896.16	363896.27	0.0298	0.0160	
Mars	-3717-04-20 06:43 J	363898.66	363898.78	363898.89	0.1735	0.0204	
Venus	-3717-07-14 23:16 J	363984.42	363984.47	363984.53	0.3685	0.3005	
Saturn	-3717-07-15 04:33 J	363984.55	363984.69	363984.82	0.0299	0.0012	
Saturn	-3717-10-11 17:02 J	364073.10	364073.21	364073.32	0.0299	0.0142	
Saturn	-3716-01-08 05:31 J	364161.70	364161.73	364161.76	0.0300	0.0292	
Moon	-3716-10-01 06:28 J	364427.68	364427.77	364427.86	0.2706	0.1284	
Earth	-3716-10-01 06:57 J	364427.70	364427.79	364427.89	0.2711	0.1185	*
Jupiter	-3713-12-26 09:21 J	365609.72	365609.89	365610.06	0.0499	0.0185	
Mars	-3708-09-10 17:02 J	367329.11	367329.21	367329.32	0.1742	0.0731	
Jupiter	-3707-08-28 07:55 J	367680.70	367680.83	367680.96	0.0528	0.0011	
Mars	-3707-10-09 23:31 J	367723.39	367723.48	367723.56	0.1803	0.1541	
Mars	-3706-08-16 22:48 J	368034.38	368034.45	368034.52	0.1717	0.1357	
Saturn	-3703-05-14 06:00 J	369035.66	369035.75	369035.86	0.0263	0.0218	
Saturn	-3703-08-11 02:23 J	369124.42	369124.60	369124.78	0.0263	0.0071	
Moon	-3703-10-03 23:45 J	369178.38	369178.49	369178.60	0.2713	0.0078	
Earth	-3703-10-04 00:28 J	369178.41	369178.52	369178.63	0.2712	0.0164	*
Saturn	-3703-11-07 22:33 J	369213.27	369213.44	369213.63	0.0262	0.0078	
Saturn	-3702-02-04 19:11 J	369302.21	369302.30	369302.40	0.0262	0.0226	
Jupiter	-3701-10-14 06:14 J	369919.58	369919.76	369919.95	0.0498	0.0011	
Mars	-3698-02-01 03:21 J	370759.56	370759.64	370759.72	0.1748	0.1267	
Venus	-3698-11-26 21:36 J	371058.24	371058.40	371058.55	0.3689	0.0096	
Mars	-3697-02-29 18:43 J	371153.11	371153.28	371153.44	0.1796	0.0388	
Mars	-3696-01-06 09:36 J	371464.80	371464.90	371465.00	0.1723	0.0869	
Jupiter	-3695-06-16 11:45 J	371990.87	371990.99	371991.11	0.0528	0.0159	
Jupiter	-3695-09-13 17:16 J	372080.14	372080.22	372080.30	0.0526	0.0399	
Uranus	-3692-02-08 10:04 J	372958.90	372958.92	372958.97	0.0136	0.0130	

Uranus	-3692-05-07 13:11 J	373046.99	373047.05	373047.13	0.0136	0.0112
Uranus	-3692-08-03 16:33 J	373135.09	373135.19	373135.28	0.0136	0.0093
Uranus	-3692-10-30 19:40 J	373223.21	373223.32	373223.43	0.0136	0.0075
Uranus	-3691-01-26 22:33 J	373311.33	373311.44	373311.56	0.0136	0.0057
Uranus	-3691-04-25 01:40 J	373399.45	373399.57	373399.70	0.0136	0.0039
Uranus	-3691-07-22 04:48 J	373487.57	373487.70	373487.83	0.0136	0.0021
Uranus	-3691-10-18 07:55 J	373575.70	373575.83	373575.96	0.0136	0.0004
Uranus	-3690-01-14 10:48 J	373663.83	373663.95	373664.08	0.0137	0.0016
Uranus	-3690-04-12 13:55 J	373751.96	373752.08	373752.21	0.0137	0.0034
Uranus	-3690-07-09 17:02 J	373840.09	373840.21	373840.33	0.0137	0.0052
Uranus	-3690-10-05 20:09 J	373928.23	373928.34	373928.45	0.0137	0.0070
Moon	-3690-10-06 17:16 J	373929.13	373929.22	373929.31	0.2718	0.1475
Earth	-3690-10-06 17:45 J	373929.15	373929.24	373929.33	0.2713	0.1500 *
Uranus	-3689-01-01 23:02 J	374016.37	374016.46	374016.56	0.0137	0.0089
Uranus	-3689-03-30 01:55 J	374104.51	374104.58	374104.67	0.0137	0.0107
Uranus	-3689-06-26 05:02 J	374192.67	374192.71	374192.77	0.0137	0.0125
Jupiter	-3689-08-02 03:21 J	374229.47	374229.64	374229.81	0.0498	0.0173
Mars	-3688-07-21 14:23 J	374582.94	374583.10	374583.25	0.1788	0.0726
Saturn	-3688-09-04 18:14 J	374628.16	374628.26	374628.36	0.0299	0.0198
Saturn	-3688-12-02 06:57 J	374716.66	374716.79	374716.92	0.0299	0.0046
Saturn	-3687-02-28 19:40 J	374805.20	374805.32	374805.44	0.0300	0.0105
Saturn	-3687-05-28 08:09 J	374893.77	374893.84	374893.90	0.0300	0.0255
Mars	-3687-05-29 20:09 J	374895.23	374895.34	374895.45	0.1729	0.0365
Moon	-3686-04-01 19:55 J	375202.18	375202.33	375202.49	0.2623	0.0781
Earth	-3686-04-01 21:50 J	375202.25	375202.41	375202.57	0.2622	0.0637 *
Jupiter	-3683-04-04 15:50 J	376301.05	376301.16	376301.26	0.0529	0.0304
Jupiter	-3683-07-02 21:21 J	376390.29	376390.39	376390.50	0.0527	0.0260
Moon	-3683-09-29 18:14 J	376479.21	376479.26	376479.31	0.2704	0.2328
Earth	-3683-09-29 18:14 J	376479.21	376479.26	376479.32	0.2710	0.2259 *
Venus	-3683-12-22 06:00 J	376562.67	376562.75	376562.82	0.3680	0.2477

Mars	-3678-10-20 06:43 J	378325.66	378325.78	378325.89	0.1736	0.0159
Jupiter	-3677-05-21 00:14 J	378539.38	378539.51	378539.64	0.0497	0.0353
Venus	-3677-07-06 21:50 J	378586.31	378586.41	378586.51	0.3681	0.0955
Jupiter	-3677-08-19 10:19 J	378629.81	378629.93	378630.06	0.0499	0.0367
Saturn	-3674-10-01 07:26 J	379767.75	379767.81	379767.87	0.0264	0.0247
Saturn	-3674-12-29 03:36 J	379856.48	379856.65	379856.82	0.0263	0.0100
Saturn	-3673-03-27 00:00 J	379945.31	379945.50	379945.68	0.0263	0.0049
Moon	-3673-04-04 05:16 J	379953.63	379953.72	379953.82	0.2625	0.2154
Earth	-3673-04-04 06:28 J	379953.70	379953.77	379953.85	0.2621	0.2292 *
Saturn	-3673-06-23 20:23 J	380034.23	380034.35	380034.47	0.0262	0.0198
Venus	-3671-01-20 13:26 J	380609.96	380610.06	380610.17	0.3683	0.0569
Jupiter	-3671-01-21 19:26 J	380611.25	380611.31	380611.38	0.0530	0.0455
Jupiter	-3671-04-21 01:26 J	380700.44	380700.56	380700.68	0.0528	0.0114
Moon	-3670-10-02 11:16 J	381229.87	381229.97	381230.07	0.2706	0.0951
Earth	-3670-10-02 11:45 J	381229.89	381229.99	381230.09	0.2711	0.0914 *
Mars	-3668-03-11 17:02 J	381756.11	381756.21	381756.32	0.1741	0.0673
Mars	-3667-04-10 00:14 J	382150.44	382150.51	382150.58	0.1803	0.1641
Mars	-3666-02-14 22:48 J	382461.39	382461.45	382461.51	0.1717	0.1414
Venus	-3666-08-06 05:16 J	382633.63	382633.72	382633.80	0.3684	0.2045
Jupiter	-3665-06-07 06:57 J	382939.62	382939.79	382939.97	0.0498	0.0182
Venus	-3660-02-18 20:52 J	384657.34	384657.37	384657.39	0.3685	0.3507
Jupiter	-3659-02-07 05:45 J	385010.62	385010.74	385010.87	0.0528	0.0025
Mars	-3659-08-02 03:21 J	385186.56	385186.64	385186.72	0.1748	0.1211
Saturn	-3658-01-22 21:36 J	385360.31	385360.40	385360.48	0.0298	0.0227
Saturn	-3658-04-21 10:19 J	385448.80	385448.93	385449.05	0.0298	0.0076
Saturn	-3658-07-18 22:48 J	385537.33	385537.45	385537.58	0.0299	0.0075
Mars	-3658-08-30 19:26 J	385580.14	385580.31	385580.47	0.1796	0.0488
Saturn	-3658-10-15 11:16 J	385625.89	385625.97	385626.06	0.0299	0.0225
Mars	-3657-07-07 09:36 J	385891.80	385891.90	385891.99	0.1723	0.0925
Moon	-3657-10-04 04:33 J	385980.58	385980.69	385980.80	0.2714	0.0319

Earth -3657-10-04 05:16 J 385980.61 385980.72 385980.82 0.2712 0.0440 *

Jupiter -3653-03-26 03:21 J 387249.45 387249.64 387249.82 0.0498 0.0008

Uranus -3652-09-05 19:11 J 387778.21 387778.30 387778.42 0.0142 0.0120

Uranus -3652-12-03 03:50 J 387866.51 387866.66 387866.81 0.0142 0.0089

Uranus -3651-03-01 12:00 J 387954.83 387955.00 387955.19 0.0142 0.0058

Uranus -3651-05-28 20:38 J 388043.17 388043.36 388043.55 0.0142 0.0027

Uranus -3651-08-25 05:02 J 388131.51 388131.71 388131.91 0.0142 0.0004

Uranus -3651-11-21 13:26 J 388219.87 388220.06 388220.25 0.0142 0.0035

Uranus -3650-02-17 21:36 J 388308.24 388308.40 388308.59 0.0142 0.0066

Uranus -3650-05-17 06:00 J 388396.62 388396.75 388396.91 0.0141 0.0096

Uranus -3650-08-13 14:38 J 388485.03 388485.11 388485.20 0.0141 0.0127

Mars -3648-01-19 15:07 J 389009.98 389010.13 389010.29 0.1788 0.0622

Jupiter -3648-11-26 10:04 J 389320.80 389320.92 389321.04 0.0529 0.0163

Mars -3648-11-27 20:09 J 389322.23 389322.34 389322.45 0.1729 0.0421

Jupiter -3647-02-23 15:36 J 389410.07 389410.15 389410.24 0.0527 0.0397

Venus -3647-12-17 14:52 J 389707.05 389707.12 389707.20 0.3691 0.3186

Pluto -3645-01-08 06:14 J 390093.69 390093.76 390093.86 0.0073 0.0063

Pluto -3645-04-05 08:09 J 390181.73 390181.84 390181.97 0.0072 0.0052

Pluto -3645-07-02 10:04 J 390269.78 390269.92 390270.06 0.0072 0.0041

Pluto -3645-09-28 11:31 J 390357.83 390357.98 390358.15 0.0072 0.0030

Pluto -3645-12-25 13:26 J 390445.89 390446.06 390446.23 0.0072 0.0019

Pluto -3644-03-23 15:07 J 390533.96 390534.13 390534.30 0.0072 0.0009

Saturn -3644-05-17 03:21 J 390588.48 390588.64 390588.80 0.0263 0.0140

Pluto -3644-06-19 16:48 J 390622.03 390622.20 390622.37 0.0072 0.0002

Neptune -3644-08-13 14:23 J 390677.08 390677.10 390677.17 0.0088 0.0085

Saturn -3644-08-13 23:31 J 390677.29 390677.48 390677.67 0.0263 0.0008

Pluto -3644-09-15 18:28 J 390710.10 390710.27 390710.44 0.0072 0.0012

Moon -3644-10-06 22:04 J 390731.34 390731.42 390731.51 0.2718 0.1696

Earth -3644-10-06 22:33 J 390731.36 390731.44 390731.52 0.2712 0.1770 *

Neptune -3644-11-09 18:00 J 390765.17 390765.25 390765.37 0.0088 0.0075

Saturn -3644-11-10 19:55 J 390766.18 390766.33 390766.49 0.0262 0.0156

Pluto -3644-12-12 19:55 J 390798.18 390798.33 390798.50 0.0072 0.0022

Neptune -3643-02-05 21:50 J 390853.28 390853.41 390853.54 0.0088 0.0065

Pluto -3643-03-10 21:36 J 390886.25 390886.40 390886.56 0.0071 0.0032

Neptune -3643-05-05 00:57 J 390941.41 390941.54 390941.70 0.0088 0.0056

Pluto -3643-06-06 23:02 J 390974.34 390974.46 390974.61 0.0071 0.0043

Neptune -3643-08-01 04:33 J 391029.54 391029.69 391029.86 0.0088 0.0046

Pluto -3643-09-03 00:43 J 391062.43 391062.53 391062.66 0.0071 0.0053

Neptune -3643-10-28 08:09 J 391117.67 391117.84 391118.02 0.0088 0.0036

Pluto -3643-11-30 02:09 J 391150.53 391150.59 391150.69 0.0071 0.0063

Neptune -3642-01-24 11:31 J 391205.80 391205.98 391206.17 0.0088 0.0027

Neptune -3642-04-22 15:07 J 391293.94 391294.13 391294.32 0.0088 0.0017

Neptune -3642-07-19 18:43 J 391382.09 391382.28 391382.47 0.0088 0.0007

Neptune -3642-10-15 22:04 J 391470.23 391470.42 391470.62 0.0088 0.0003

Neptune -3641-01-12 01:40 J 391558.38 391558.57 391558.76 0.0088 0.0013

Jupiter -3641-01-13 00:14 J 391559.34 391559.51 391559.69 0.0498 0.0185

Neptune -3641-04-09 05:02 J 391646.53 391646.71 391646.90 0.0088 0.0023

Venus -3641-07-02 23:31 J 391731.34 391731.48 391731.62 0.3689 0.1452

Neptune -3641-07-06 08:23 J 391734.68 391734.85 391735.04 0.0088 0.0033

Neptune -3641-10-02 12:14 J 391822.84 391823.01 391823.18 0.0088 0.0042

Neptune -3641-12-29 15:36 J 391911.00 391911.15 391911.31 0.0088 0.0052

Neptune -3640-03-27 19:11 J 391999.17 391999.30 391999.44 0.0088 0.0062

Moon -3640-04-02 02:52 J 392004.46 392004.62 392004.78 0.2623 0.0384

Earth -3640-04-02 04:48 J 392004.53 392004.70 392004.86 0.2622 0.0085 *

Neptune -3640-06-23 22:33 J 392087.34 392087.44 392087.56 0.0088 0.0072

Neptune -3640-09-20 02:09 J 392175.54 392175.59 392175.67 0.0088 0.0082

Mars -3639-06-11 11:16 J 392439.92 392439.97 392440.02 0.1781 0.1697

Mars -3638-04-20 06:43 J 392752.66 392752.78 392752.89 0.1735 0.0101

Moon -3637-09-29 22:48 J 393281.38 393281.45 393281.52 0.2704 0.1958

Earth -3637-09-29 23:02 J 393281.39 393281.46 393281.54 0.2710 0.1985 *

Jupiter	-3636-09-14 13:55 J	393630.98	393631.08	393631.19	0.0529	0.0311
Jupiter	-3636-12-12 19:40 J	393720.21	393720.32	393720.43	0.0527	0.0252
Venus	-3631-01-12 11:31 J	395211.95	395211.98	395212.01	0.3679	0.3491
Jupiter	-3630-10-31 21:36 J	395869.27	395869.40	395869.52	0.0498	0.0361
Jupiter	-3629-01-30 07:40 J	395959.70	395959.82	395959.96	0.0499	0.0361
Saturn	-3629-06-11 00:00 J	396092.44	396092.50	396092.56	0.0298	0.0265
Saturn	-3629-09-07 12:43 J	396180.91	396181.03	396181.15	0.0299	0.0113
Mars	-3629-09-09 17:02 J	396183.10	396183.21	396183.32	0.1742	0.0619
Saturn	-3629-12-05 01:26 J	396269.43	396269.56	396269.69	0.0299	0.0038
Saturn	-3628-03-03 13:55 J	396357.98	396358.08	396358.18	0.0300	0.0189
Mars	-3628-10-09 00:57 J	396577.51	396577.54	396577.58	0.1803	0.1751
Mars	-3627-08-15 22:48 J	396888.39	396888.45	396888.50	0.1717	0.1466
Venus	-3626-07-29 03:36 J	397235.56	397235.65	397235.73	0.3680	0.1950
Jupiter	-3624-07-03 17:45 J	397941.18	397941.24	397941.31	0.0529	0.0459
Jupiter	-3624-09-30 23:45 J	398030.37	398030.49	398030.61	0.0528	0.0110
Moon	-3624-10-02 16:04 J	398032.06	398032.17	398032.27	0.2708	0.0775
Earth	-3624-10-02 16:33 J	398032.09	398032.19	398032.29	0.2711	0.0637 *
Venus	-3620-02-10 19:11 J	399259.20	399259.30	399259.41	0.3682	0.0450
Mars	-3619-01-31 03:21 J	399613.56	399613.64	399613.73	0.1748	0.1149
Mars	-3618-02-28 20:23 J	400007.19	400007.35	400007.51	0.1796	0.0600
Jupiter	-3618-11-18 04:33 J	400269.51	400269.69	400269.86	0.0498	0.0175
Mars	-3617-01-06 09:36 J	400318.80	400318.90	400318.99	0.1723	0.0980
Venus	-3615-08-27 11:02 J	401282.86	401282.96	401283.06	0.3683	0.1071
Saturn	-3615-10-04 04:33 J	401320.55	401320.69	401320.84	0.0263	0.0169
Saturn	-3614-01-01 00:57 J	401409.35	401409.54	401409.73	0.0263	0.0021
Saturn	-3614-03-30 21:21 J	401498.23	401498.39	401498.55	0.0263	0.0128
Jupiter	-3612-07-20 03:36 J	402340.52	402340.65	402340.78	0.0529	0.0039
Jupiter	-3612-10-17 08:52 J	402429.86	402429.87	402429.90	0.0527	0.0518
Moon	-3611-10-05 09:21 J	402782.78	402782.89	402782.99	0.2715	0.0642
Earth	-3611-10-05 09:50 J	402782.81	402782.91	402783.02	0.2712	0.0708 *

Mars	-3610-06-23 13:26 J	403044.04	403044.06	403044.09	0.1754	0.1698
Venus	-3609-03-12 02:38 J	403306.54	403306.61	403306.69	0.3684	0.2553
Mars	-3609-07-20 15:50 J	403437.00	403437.16	403437.32	0.1788	0.0528
Uranus	-3608-02-28 17:02 J	403660.18	403660.21	403660.27	0.0136	0.0127
Uranus	-3608-05-27 20:09 J	403748.27	403748.34	403748.43	0.0136	0.0109
Mars	-3608-05-28 20:09 J	403749.23	403749.34	403749.45	0.1729	0.0480
Uranus	-3608-08-23 23:31 J	403836.38	403836.48	403836.57	0.0136	0.0091
Uranus	-3608-11-20 02:38 J	403924.50	403924.61	403924.72	0.0136	0.0073
Uranus	-3607-02-16 05:31 J	404012.61	404012.73	404012.85	0.0136	0.0055
Earth	-3607-03-31 02:52 J	404055.57	404055.62	404055.68	0.2623	0.2427
Uranus	-3607-05-15 08:38 J	404100.74	404100.86	404100.99	0.0136	0.0036
Uranus	-3607-08-11 11:45 J	404188.86	404188.99	404189.12	0.0137	0.0018
Uranus	-3607-11-07 14:52 J	404276.99	404277.12	404277.25	0.0137	0.0002
Uranus	-3606-02-03 18:00 J	404365.12	404365.25	404365.38	0.0137	0.0019
Uranus	-3606-05-02 20:52 J	404453.25	404453.37	404453.50	0.0137	0.0037
Uranus	-3606-07-30 00:00 J	404541.38	404541.50	404541.62	0.0137	0.0055
Jupiter	-3606-09-06 01:11 J	404579.36	404579.55	404579.73	0.0498	0.0013
Uranus	-3606-10-26 03:07 J	404629.52	404629.63	404629.74	0.0137	0.0073
Uranus	-3605-01-22 06:14 J	404717.66	404717.76	404717.85	0.0137	0.0092
Uranus	-3605-04-19 09:07 J	404805.81	404805.88	404805.96	0.0137	0.0110
Uranus	-3605-07-16 12:00 J	404893.97	404894.00	404894.06	0.0137	0.0129
Jupiter	-3600-05-08 07:55 J	406650.71	406650.83	406650.95	0.0529	0.0178
Jupiter	-3600-08-05 13:26 J	406739.98	406740.06	406740.15	0.0527	0.0383
Saturn	-3600-10-29 03:21 J	406824.62	406824.64	406824.66	0.0298	0.0292
Mars	-3600-12-10 12:00 J	406866.93	406867.00	406867.07	0.1781	0.1599
Saturn	-3599-01-25 16:04 J	406913.06	406913.17	406913.29	0.0298	0.0141
Saturn	-3599-04-24 04:48 J	407001.57	407001.70	407001.83	0.0299	0.0010
Saturn	-3599-07-21 17:16 J	407090.11	407090.22	407090.33	0.0299	0.0160
Mars	-3599-10-19 06:43 J	407179.66	407179.78	407179.89	0.1735	0.0075
Moon	-3598-10-08 03:07 J	407533.56	407533.63	407533.70	0.2719	0.2013

Earth	-3598-10-08 03:21 J	407533.57	407533.64	407533.71	0.2713	0.2040 *
Moon	-3594-04-03 10:04 J	408806.75	408806.92	408807.08	0.2624	0.0402
Earth	-3594-04-03 11:45 J	408806.83	408806.99	408807.15	0.2622	0.0499 *
Jupiter	-3594-06-24 21:07 J	408889.22	408889.38	408889.55	0.0498	0.0198
Moon	-3591-10-01 03:36 J	410083.57	410083.65	410083.73	0.2704	0.1813
Earth	-3591-10-01 03:50 J	410083.58	410083.66	410083.75	0.2710	0.1712 *
Venus	-3590-07-24 16:48 J	410380.07	410380.20	410380.34	0.3690	0.1739
Mars	-3589-03-10 17:02 J	410610.10	410610.21	410610.32	0.1741	0.0559
Jupiter	-3588-02-24 12:14 J	410960.91	410961.01	410961.11	0.0529	0.0316
Jupiter	-3588-05-24 18:00 J	411050.14	411050.25	411050.36	0.0527	0.0248
Mars	-3587-02-13 22:48 J	411315.40	411315.45	411315.50	0.1717	0.1522
Saturn	-3585-02-21 04:33 J	412052.59	412052.69	412052.81	0.0263	0.0207
Saturn	-3585-05-20 00:57 J	412141.36	412141.54	412141.72	0.0263	0.0059
Saturn	-3585-08-16 21:21 J	412230.21	412230.39	412230.56	0.0262	0.0089
Saturn	-3585-11-13 17:45 J	412319.16	412319.24	412319.32	0.0262	0.0237
Venus	-3584-02-07 01:40 J	412404.47	412404.57	412404.66	0.3688	0.2954
Jupiter	-3582-04-12 18:14 J	413199.15	413199.26	413199.39	0.0497	0.0374
Jupiter	-3582-07-12 04:33 J	413289.56	413289.69	413289.83	0.0499	0.0347
Mars	-3580-08-01 03:21 J	414040.55	414040.64	414040.73	0.1748	0.1095
Mars	-3579-08-29 21:07 J	414434.23	414434.38	414434.54	0.1796	0.0706
Mars	-3578-07-07 09:21 J	414745.80	414745.89	414745.99	0.1723	0.1035
Moon	-3578-10-03 20:38 J	414834.26	414834.36	414834.47	0.2710	0.0401
Earth	-3578-10-03 21:21 J	414834.28	414834.39	414834.49	0.2711	0.0369 *
Jupiter	-3577-12-13 16:04 J	415271.11	415271.17	415271.23	0.0529	0.0465
Jupiter	-3576-03-12 22:04 J	415360.29	415360.42	415360.54	0.0528	0.0105
Venus	-3575-08-19 09:07 J	415884.82	415884.88	415884.94	0.3679	0.2951
Mars	-3571-12-22 13:26 J	417471.03	417471.06	417471.10	0.1754	0.1642
Jupiter	-3570-04-30 01:26 J	417599.39	417599.56	417599.74	0.0499	0.0166
Saturn	-3570-06-14 18:28 J	417645.17	417645.27	417645.37	0.0299	0.0180
Saturn	-3570-09-11 07:11 J	417733.67	417733.80	417733.93	0.0299	0.0028

Saturn -3570-12-08 19:40 J 417822.21 417822.32 417822.44 0.0300 0.0123

Mars -3569-01-19 16:48 J 417864.03 417864.20 417864.36 0.1789 0.0419

Venus -3569-03-04 00:57 J 417908.45 417908.54 417908.64 0.3681 0.1419

Saturn -3569-03-06 08:23 J 417910.80 417910.85 417910.90 0.0300 0.0272

Mars -3569-11-26 20:09 J 418176.23 418176.34 418176.44 0.1729 0.0534

Uranus -3568-09-26 02:38 J 418479.50 418479.61 418479.73 0.0142 0.0112

Uranus -3568-12-23 10:48 J 418567.81 418567.95 418568.12 0.0142 0.0082

Uranus -3567-03-21 19:26 J 418656.13 418656.31 418656.50 0.0142 0.0051

Uranus -3567-06-18 03:50 J 418744.47 418744.66 418744.86 0.0142 0.0020

Uranus -3567-09-14 12:14 J 418832.82 418833.01 418833.21 0.0142 0.0011

Uranus -3567-12-11 20:38 J 418921.18 418921.36 418921.55 0.0142 0.0041

Uranus -3566-03-10 05:02 J 419009.55 419009.71 419009.88 0.0142 0.0072

Uranus -3566-06-06 13:26 J 419097.93 419098.06 419098.20 0.0141 0.0103

Uranus -3566-09-02 21:36 J 419186.35 419186.40 419186.48 0.0141 0.0133

Moon -3565-10-05 14:09 J 419584.99 419585.09 419585.19 0.2715 0.0854

Earth -3565-10-05 14:38 J 419585.01 419585.11 419585.21 0.2712 0.0977 *

Jupiter -3565-12-30 01:55 J 419670.46 419670.58 419670.71 0.0528 0.0042

Jupiter -3564-03-29 07:11 J 419759.78 419759.80 419759.83 0.0526 0.0514

Venus -3564-09-17 16:48 J 419932.10 419932.20 419932.30 0.3682 0.0107

Neptune -3562-02-27 22:48 J 420460.44 420460.45 420460.48 0.0089 0.0088

Neptune -3562-05-27 00:14 J 420548.47 420548.51 420548.57 0.0089 0.0081

Neptune -3562-08-23 01:55 J 420636.50 420636.58 420636.65 0.0089 0.0074

Neptune -3562-11-19 03:07 J 420724.55 420724.63 420724.72 0.0089 0.0067

Neptune -3561-02-15 04:33 J 420812.59 420812.69 420812.79 0.0089 0.0060

Moon -3561-03-31 07:55 J 420857.72 420857.83 420857.93 0.2622 0.2003

Earth -3561-03-31 09:50 J 420857.80 420857.91 420858.02 0.2623 0.1868 *

Neptune -3561-05-13 05:45 J 420900.64 420900.74 420900.86 0.0089 0.0053

Neptune -3561-08-09 07:11 J 420988.69 420988.80 420988.92 0.0089 0.0045

Neptune -3561-11-05 08:38 J 421076.74 421076.86 421076.99 0.0089 0.0038

Neptune -3560-02-01 10:04 J 421164.80 421164.92 421165.05 0.0089 0.0031

Neptune -3560-04-30 11:31 J 421252.85 421252.98 421253.11 0.0089 0.0024

Mars -3560-06-10 12:57 J 421293.95 421294.04 421294.13 0.1781 0.1497

Neptune -3560-07-27 12:57 J 421340.90 421341.04 421341.17 0.0089 0.0017

Neptune -3560-10-23 14:09 J 421428.96 421429.09 421429.22 0.0089 0.0010

Neptune -3559-01-19 15:36 J 421517.01 421517.15 421517.28 0.0089 0.0003

Neptune -3559-04-17 16:48 J 421605.07 421605.20 421605.34 0.0089 0.0005

Mars -3559-04-19 06:28 J 421606.66 421606.77 421606.89 0.1735 0.0071

Neptune -3559-07-14 18:14 J 421693.13 421693.26 421693.39 0.0089 0.0012

Neptune -3559-10-10 19:40 J 421781.19 421781.32 421781.45 0.0089 0.0019

Neptune -3558-01-06 20:52 J 421869.25 421869.37 421869.50 0.0089 0.0026

Jupiter -3558-02-15 22:33 J 421909.25 421909.44 421909.62 0.0498 0.0019

Venus -3558-04-03 08:38 J 421955.76 421955.86 421955.95 0.3683 0.1592

Neptune -3558-04-04 22:19 J 421957.31 421957.43 421957.55 0.0089 0.0033

Neptune -3558-07-01 23:16 J 422045.37 422045.47 422045.60 0.0089 0.0041

Neptune -3558-09-28 00:57 J 422133.43 422133.54 422133.65 0.0089 0.0047

Neptune -3558-12-25 02:23 J 422221.49 422221.60 422221.70 0.0089 0.0054

Neptune -3557-03-22 03:36 J 422309.56 422309.65 422309.75 0.0089 0.0061

Neptune -3557-06-18 05:02 J 422397.62 422397.71 422397.79 0.0089 0.0068

Neptune -3557-09-14 06:14 J 422485.69 422485.76 422485.83 0.0089 0.0075

Neptune -3557-12-11 07:26 J 422573.77 422573.81 422573.87 0.0089 0.0082

Neptune -3556-03-09 08:52 J 422661.86 422661.87 422661.89 0.0089 0.0089

Saturn -3556-07-10 06:00 J 422784.67 422784.75 422784.84 0.0263 0.0235

Saturn -3556-10-07 02:09 J 422873.42 422873.59 422873.77 0.0263 0.0089

Saturn -3555-01-03 22:33 J 422962.26 422962.44 422962.62 0.0263 0.0059

Saturn -3555-04-02 18:43 J 423051.18 423051.28 423051.41 0.0262 0.0209

Venus -3553-10-17 00:14 J 423979.45 423979.51 423979.56 0.3685 0.3057

Jupiter -3553-10-18 05:45 J 423980.62 423980.74 423980.85 0.0529 0.0193

Jupiter -3552-01-15 11:16 J 424069.88 424069.97 424070.06 0.0527 0.0369

Moon -3552-10-08 07:55 J 424335.78 424335.83 424335.88 0.2720 0.2323

Earth -3552-10-08 08:09 J 424335.78 424335.84 424335.89 0.2713 0.2312 *

Mars	-3550-09-09 17:02 J	425037.10	425037.21	425037.32	0.1741	0.0501
Moon	-3548-04-03 17:02 J	425609.06	425609.21	425609.37	0.2625	0.0786
Earth	-3548-04-03 18:28 J	425609.12	425609.27	425609.42	0.2621	0.1059 *
Mars	-3548-08-14 22:48 J	425742.40	425742.45	425742.49	0.1717	0.1577
Jupiter	-3547-12-04 19:11 J	426219.13	426219.30	426219.47	0.0497	0.0197
Moon	-3545-10-01 08:23 J	426885.76	426885.85	426885.94	0.2704	0.1440
Earth	-3545-10-01 08:38 J	426885.77	426885.86	426885.95	0.2710	0.1442 *
Jupiter	-3541-08-06 09:50 J	428290.82	428290.91	428291.01	0.0529	0.0333
Saturn	-3541-10-31 21:50 J	428377.32	428377.41	428377.50	0.0298	0.0208
Jupiter	-3541-11-03 15:50 J	428380.04	428380.16	428380.27	0.0528	0.0234
Saturn	-3540-01-28 10:33 J	428465.81	428465.94	428466.07	0.0298	0.0057
Mars	-3540-01-30 03:21 J	428467.55	428467.64	428467.73	0.1747	0.1037
Saturn	-3540-04-26 23:16 J	428554.34	428554.47	428554.59	0.0299	0.0094
Saturn	-3540-07-24 11:45 J	428642.92	428642.99	428643.06	0.0299	0.0243
Mars	-3539-02-27 21:50 J	428861.26	428861.41	428861.57	0.1796	0.0808
Mars	-3538-01-05 09:36 J	429172.81	429172.90	429172.98	0.1722	0.1092
Jupiter	-3535-09-22 15:21 J	430529.02	430529.14	430529.25	0.0497	0.0386
Jupiter	-3535-12-22 01:26 J	430619.42	430619.56	430619.70	0.0499	0.0333
Venus	-3533-02-28 18:57 J	431053.13	431053.29	431053.44	0.3689	0.0295
Moon	-3532-10-04 01:26 J	431636.45	431636.56	431636.66	0.2711	0.0264
Earth	-3532-10-04 02:09 J	431636.48	431636.59	431636.69	0.2711	0.0125 *
Mars	-3531-06-22 13:26 J	431898.02	431898.06	431898.11	0.1754	0.1584
Mars	-3530-07-20 17:45 J	432291.07	432291.24	432291.41	0.1789	0.0307
Jupiter	-3529-05-25 14:23 J	432601.04	432601.10	432601.15	0.0530	0.0471
Mars	-3529-05-27 19:55 J	432603.23	432603.33	432603.44	0.1729	0.0590
Jupiter	-3529-08-22 20:23 J	432690.22	432690.35	432690.47	0.0528	0.0100
Saturn	-3526-02-24 02:23 J	433605.44	433605.60	433605.77	0.0263	0.0125
Saturn	-3526-05-23 22:33 J	433694.26	433694.44	433694.63	0.0263	0.0023
Saturn	-3526-08-20 18:57 J	433783.15	433783.29	433783.44	0.0262	0.0170
Uranus	-3524-03-21 00:00 J	434361.46	434361.50	434361.56	0.0136	0.0124

Uranus	-3524-06-17 03:07 J	434449.56	434449.63	434449.72	0.0136	0.0106
Uranus	-3524-09-13 06:28 J	434537.67	434537.77	434537.87	0.0136	0.0088
Uranus	-3524-12-10 09:21 J	434625.78	434625.89	434626.01	0.0136	0.0070
Uranus	-3523-03-08 12:28 J	434713.90	434714.02	434714.15	0.0136	0.0052
Uranus	-3523-06-04 15:36 J	434802.03	434802.15	434802.28	0.0136	0.0033
Uranus	-3523-08-31 18:43 J	434890.15	434890.28	434890.41	0.0137	0.0015
Jupiter	-3523-10-09 22:19 J	434929.25	434929.43	434929.61	0.0499	0.0152
Uranus	-3523-11-27 21:50 J	434978.28	434978.41	434978.54	0.0137	0.0004
Uranus	-3522-02-24 00:57 J	435066.41	435066.54	435066.67	0.0137	0.0022
Uranus	-3522-05-23 03:50 J	435154.54	435154.66	435154.79	0.0137	0.0040
Uranus	-3522-08-19 06:57 J	435242.67	435242.79	435242.91	0.0137	0.0058
Uranus	-3522-11-15 10:04 J	435330.81	435330.92	435331.03	0.0137	0.0076
Uranus	-3521-02-11 13:11 J	435418.96	435419.05	435419.14	0.0137	0.0095
Uranus	-3521-05-09 16:04 J	435507.10	435507.17	435507.25	0.0137	0.0113
Uranus	-3521-08-05 19:11 J	435595.27	435595.30	435595.34	0.0137	0.0131
Mars	-3521-12-09 13:40 J	435720.97	435721.07	435721.17	0.1781	0.1396
Mars	-3520-10-18 06:28 J	436033.66	436033.77	436033.89	0.1735	0.0101
Moon	-3519-10-06 18:57 J	436387.19	436387.29	436387.38	0.2716	0.1222
Earth	-3519-10-06 19:26 J	436387.22	436387.31	436387.40	0.2712	0.1244 *
Venus	-3518-03-26 06:43 J	436557.70	436557.78	436557.86	0.3680	0.2411
Jupiter	-3517-06-11 00:14 J	437000.39	437000.51	437000.64	0.0528	0.0047
Jupiter	-3517-09-08 05:45 J	437089.71	437089.74	437089.77	0.0526	0.0508
Moon	-3515-04-01 14:52 J	437659.99	437660.12	437660.25	0.2622	0.1587
Earth	-3515-04-01 16:48 J	437660.06	437660.20	437660.34	0.2623	0.1293 *
Venus	-3513-10-08 22:33 J	438581.34	438581.44	438581.54	0.3681	0.0885
Moon	-3512-09-29 19:55 J	438937.29	438937.33	438937.37	0.2702	0.2500
Earth	-3512-09-29 19:55 J	438937.30	438937.33	438937.37	0.2709	0.2513 *
Saturn	-3511-03-21 00:00 J	439109.43	439109.50	439109.56	0.0298	0.0251
Saturn	-3511-06-17 12:43 J	439197.90	439198.03	439198.15	0.0299	0.0099
Jupiter	-3511-07-28 19:26 J	439239.13	439239.31	439239.50	0.0498	0.0027

Saturn	-3511-09-14 01:26 J	439286.43	439286.56	439286.68	0.0299	0.0053
Saturn	-3511-12-11 13:55 J	439374.98	439375.08	439375.17	0.0300	0.0202
Mars	-3510-03-10 17:02 J	439464.10	439464.21	439464.32	0.1741	0.0446
Mars	-3508-02-12 22:33 J	440169.41	440169.44	440169.48	0.1716	0.1630
Venus	-3507-04-24 14:23 J	440605.00	440605.10	440605.20	0.3682	0.0620
Moon	-3506-10-09 12:43 J	441138.00	441138.03	441138.06	0.2720	0.2545
Earth	-3506-10-09 12:43 J	441138.00	441138.03	441138.06	0.2713	0.2585 *
Jupiter	-3505-03-30 04:19 J	441310.56	441310.68	441310.80	0.0529	0.0192
Jupiter	-3505-06-27 09:50 J	441399.82	441399.91	441400.00	0.0527	0.0368
Moon	-3502-04-05 00:00 J	442411.37	442411.50	442411.63	0.2626	0.1582
Earth	-3502-04-05 01:26 J	442411.43	442411.56	442411.69	0.2621	0.1629 *
Venus	-3502-11-08 06:00 J	442628.67	442628.75	442628.84	0.3684	0.2099
Mars	-3501-07-31 03:21 J	442894.55	442894.64	442894.73	0.1748	0.0979
Mars	-3500-08-28 22:48 J	443288.31	443288.45	443288.60	0.1796	0.0916
Jupiter	-3499-05-16 16:33 J	443549.03	443549.19	443549.36	0.0498	0.0203
Mars	-3499-07-06 09:21 J	443599.81	443599.89	443599.98	0.1723	0.1140
Moon	-3499-10-02 12:57 J	443687.95	443688.04	443688.14	0.2706	0.1267
Earth	-3499-10-02 13:26 J	443687.96	443688.06	443688.16	0.2710	0.1166 *
Saturn	-3497-07-13 03:21 J	444337.49	444337.64	444337.79	0.0263	0.0157
Saturn	-3497-10-09 23:31 J	444426.30	444426.48	444426.67	0.0263	0.0011
Saturn	-3496-01-06 19:55 J	444515.17	444515.33	444515.49	0.0262	0.0138
Venus	-3496-05-23 21:36 J	444652.38	444652.40	444652.43	0.3685	0.3553
Jupiter	-3493-01-17 07:55 J	445620.73	445620.83	445620.92	0.0529	0.0344
Jupiter	-3493-04-15 13:40 J	445709.96	445710.07	445710.19	0.0528	0.0222
Mars	-3492-12-21 13:40 J	446325.01	446325.07	446325.12	0.1754	0.1523
Mars	-3490-01-18 18:14 J	446718.09	446718.26	446718.43	0.1789	0.0221
Mars	-3490-11-26 20:09 J	447030.23	447030.34	447030.44	0.1729	0.0648
Jupiter	-3487-03-04 13:40 J	447858.95	447859.07	447859.19	0.0497	0.0381
Jupiter	-3487-06-02 23:45 J	447949.35	447949.49	447949.63	0.0499	0.0337
Moon	-3486-10-05 06:00 J	448438.65	448438.75	448438.86	0.2711	0.0179

Earth -3486-10-05 06:43 J 448438.68 448438.78 448438.89 0.2711 0.0205 *

Pluto -3485-10-03 07:40 J 448802.78 448802.82 448802.90 0.0072 0.0065

Pluto -3485-12-30 08:52 J 448890.79 448890.87 448890.97 0.0072 0.0056

Pluto -3484-03-28 10:04 J 448978.82 448978.92 448979.03 0.0072 0.0047

Pluto -3484-06-24 11:02 J 449066.84 449066.96 449067.09 0.0072 0.0038

Uranus -3484-07-20 01:55 J 449092.52 449092.58 449092.64 0.0142 0.0135

Pluto -3484-09-20 12:00 J 449154.88 449155.00 449155.14 0.0072 0.0030

Uranus -3484-10-16 10:04 J 449180.80 449180.92 449181.06 0.0142 0.0104

Pluto -3484-12-17 13:11 J 449242.91 449243.05 449243.19 0.0072 0.0021

Uranus -3483-01-12 18:43 J 449269.11 449269.28 449269.45 0.0142 0.0073

Pluto -3483-03-15 14:09 J 449330.95 449331.09 449331.24 0.0073 0.0012

Uranus -3483-04-11 02:52 J 449357.44 449357.62 449357.82 0.0142 0.0043

Pluto -3483-06-11 15:21 J 449418.99 449419.14 449419.28 0.0073 0.0003

Uranus -3483-07-08 11:31 J 449445.78 449445.98 449446.17 0.0142 0.0012

Pluto -3483-09-07 16:19 J 449507.04 449507.18 449507.33 0.0073 0.0007

Uranus -3483-10-04 19:55 J 449534.13 449534.33 449534.52 0.0142 0.0019

Pluto -3483-12-04 17:16 J 449595.08 449595.22 449595.37 0.0073 0.0016

Uranus -3482-01-01 04:04 J 449622.49 449622.67 449622.86 0.0142 0.0049

Pluto -3482-03-02 18:28 J 449683.13 449683.27 449683.41 0.0073 0.0025

Venus -3482-03-21 12:28 J 449701.96 449702.02 449702.08 0.3691 0.3364

Uranus -3482-03-30 12:28 J 449710.87 449711.02 449711.19 0.0141 0.0080

Pluto -3482-05-29 19:11 J 449771.19 449771.30 449771.44 0.0073 0.0035

Uranus -3482-06-26 20:38 J 449799.26 449799.36 449799.50 0.0141 0.0111

Saturn -3482-08-08 02:52 J 449841.59 449841.62 449841.67 0.0298 0.0281

Pluto -3482-08-25 20:23 J 449859.24 449859.35 449859.48 0.0073 0.0044

Uranus -3482-09-23 05:16 J 449887.71 449887.72 449887.74 0.0141 0.0141

Saturn -3482-11-04 15:50 J 449930.04 449930.16 449930.28 0.0298 0.0129

Jupiter -3482-11-05 12:00 J 449930.96 449931.00 449931.05 0.0530 0.0485

Pluto -3482-11-21 21:36 J 449947.31 449947.40 449947.50 0.0073 0.0054

Saturn -3481-02-01 04:33 J 450018.56 450018.69 450018.82 0.0299 0.0022

Jupiter -3481-02-02 18:00 J 450020.13 450020.25 450020.38 0.0528 0.0088

Pluto -3481-02-17 22:33 J 450035.38 450035.44 450035.52 0.0074 0.0064

Saturn -3481-04-29 17:02 J 450107.11 450107.21 450107.32 0.0299 0.0172

Pluto -3481-05-15 23:45 J 450123.49 450123.49 450123.51 0.0074 0.0073

Mars -3481-06-09 14:38 J 450147.99 450148.11 450148.23 0.1782 0.1286

Mars -3480-04-18 06:28 J 450460.66 450460.77 450460.89 0.1735 0.0149

Neptune -3479-05-10 13:40 J 450848.01 450848.07 450848.17 0.0088 0.0080

Neptune -3479-08-06 17:16 J 450936.12 450936.22 450936.35 0.0088 0.0070

Neptune -3479-11-02 20:52 J 451024.24 451024.37 451024.51 0.0088 0.0060

Neptune -3478-01-30 00:00 J 451112.36 451112.50 451112.67 0.0088 0.0051

Neptune -3478-04-28 03:36 J 451200.49 451200.65 451200.83 0.0088 0.0041

Neptune -3478-07-25 07:11 J 451288.62 451288.80 451288.98 0.0088 0.0031

Neptune -3478-10-21 10:33 J 451376.76 451376.94 451377.14 0.0088 0.0022

Neptune -3477-01-17 14:09 J 451464.90 451465.09 451465.28 0.0088 0.0012

Neptune -3477-04-14 17:45 J 451553.04 451553.24 451553.43 0.0088 0.0002

Neptune -3477-07-11 21:07 J 451641.19 451641.38 451641.58 0.0088 0.0008

Venus -3477-10-04 20:52 J 451726.22 451726.37 451726.52 0.3689 0.1210

Neptune -3477-10-08 00:28 J 451729.34 451729.52 451729.72 0.0088 0.0018

Neptune -3476-01-04 03:50 J 451817.49 451817.66 451817.86 0.0088 0.0028

Neptune -3476-04-02 07:40 J 451905.65 451905.82 451906.00 0.0088 0.0037

Neptune -3476-06-29 11:02 J 451993.81 451993.96 451994.13 0.0088 0.0047

Neptune -3476-09-25 14:38 J 452081.97 452082.11 452082.26 0.0088 0.0057

Neptune -3476-12-22 18:00 J 452170.14 452170.25 452170.39 0.0088 0.0067

Neptune -3475-03-20 21:36 J 452258.32 452258.40 452258.50 0.0088 0.0077

Jupiter -3475-03-21 19:26 J 452259.13 452259.31 452259.49 0.0498 0.0141

Neptune -3475-06-17 00:57 J 452346.53 452346.54 452346.59 0.0088 0.0087

Moon -3473-10-06 23:45 J 453189.40 453189.49 453189.58 0.2717 0.1401

Earth -3473-10-07 00:14 J 453189.42 453189.51 453189.60 0.2712 0.1516 *

Mars -3471-09-08 17:02 J 453891.10 453891.21 453891.32 0.1741 0.0390

Jupiter -3470-11-21 22:48 J 454330.32 454330.45 454330.57 0.0528 0.0051

Jupiter	-3469-02-19 04:04 J	454419.64	454419.67	454419.70	0.0526	0.0507
Moon	-3469-04-01 21:50 J	454462.26	454462.41	454462.56	0.2624	0.0905
Earth	-3469-04-01 23:31 J	454462.33	454462.48	454462.64	0.2622	0.0736 *
Mars	-3469-08-13 22:33 J	454596.42	454596.44	454596.46	0.1716	0.1681
Saturn	-3468-11-30 03:36 J	455069.53	455069.65	455069.79	0.0263	0.0192
Saturn	-3467-02-27 00:00 J	455158.31	455158.50	455158.68	0.0263	0.0046
Venus	-3467-04-16 12:28 J	455206.98	455207.02	455207.05	0.3679	0.3418
Saturn	-3467-05-26 20:09 J	455247.17	455247.34	455247.51	0.0262	0.0101
Saturn	-3467-08-23 16:33 J	455336.14	455336.19	455336.25	0.0262	0.0249
Moon	-3466-10-01 00:43 J	455739.47	455739.53	455739.59	0.2702	0.2236
Earth	-3466-10-01 00:43 J	455739.48	455739.53	455739.59	0.2709	0.2239 *
Jupiter	-3463-01-07 16:33 J	456569.00	456569.19	456569.37	0.0498	0.0040
Venus	-3462-10-31 04:19 J	457230.59	457230.68	457230.77	0.3680	0.1876
Mars	-3461-01-30 03:21 J	457321.54	457321.64	457321.74	0.1747	0.0922
Mars	-3460-02-26 23:45 J	457715.35	457715.49	457715.63	0.1797	0.1023
Mars	-3459-01-04 09:21 J	458026.81	458026.89	458026.97	0.1722	0.1198
Jupiter	-3458-09-10 02:38 J	458640.50	458640.61	458640.73	0.0528	0.0194
Jupiter	-3458-12-08 08:23 J	458729.76	458729.85	458729.94	0.0527	0.0367
Moon	-3456-04-05 06:57 J	459213.69	459213.79	459213.90	0.2627	0.1960
Earth	-3456-04-05 08:23 J	459213.76	459213.85	459213.94	0.2621	0.2205 *
Venus	-3456-05-15 20:09 J	459254.24	459254.34	459254.44	0.3682	0.0370
Moon	-3453-10-02 17:31 J	460490.13	460490.23	460490.33	0.2707	0.0967
Earth	-3453-10-02 18:14 J	460490.16	460490.26	460490.36	0.2710	0.0891 *
Saturn	-3452-03-23 17:31 J	460662.12	460662.23	460662.34	0.0299	0.0176
Saturn	-3452-06-20 06:14 J	460750.63	460750.76	460750.89	0.0299	0.0025
Mars	-3452-06-21 13:26 J	460752.00	460752.06	460752.12	0.1754	0.1469
Saturn	-3452-09-16 18:43 J	460839.17	460839.28	460839.40	0.0300	0.0127
Jupiter	-3452-10-26 13:40 J	460878.91	460879.07	460879.24	0.0498	0.0213
Saturn	-3452-12-14 07:26 J	460927.76	460927.81	460927.86	0.0300	0.0276
Mars	-3451-07-19 19:26 J	461145.14	461145.31	461145.48	0.1789	0.0106

Venus	-3451-11-29 11:45 J	461277.90	461277.99	461278.09	0.3683	0.1138
Mars	-3450-05-27 19:55 J	461457.23	461457.33	461457.44	0.1728	0.0700
Jupiter	-3446-06-29 06:43 J	462950.68	462950.78	462950.87	0.0529	0.0340
Jupiter	-3446-09-26 12:28 J	463039.90	463040.02	463040.13	0.0527	0.0225
Venus	-3445-06-14 03:36 J	463301.57	463301.65	463301.72	0.3684	0.2599
Mars	-3442-12-09 15:07 J	464575.01	464575.13	464575.26	0.1781	0.1197
Mars	-3441-10-17 06:28 J	464887.66	464887.77	464887.89	0.1735	0.0190
Uranus	-3440-04-10 06:57 J	465062.74	465062.79	465062.85	0.0136	0.0121
Uranus	-3440-07-07 10:04 J	465150.84	465150.92	465151.01	0.0136	0.0103
Jupiter	-3440-08-14 11:16 J	465188.86	465188.97	465189.09	0.0497	0.0385
Uranus	-3440-10-03 13:11 J	465238.95	465239.05	465239.15	0.0136	0.0085
Moon	-3440-10-05 11:02 J	465240.85	465240.96	465241.06	0.2712	0.0321
Earth	-3440-10-05 11:31 J	465240.88	465240.98	465241.09	0.2711	0.0454 *
Jupiter	-3440-11-12 21:21 J	465279.25	465279.39	465279.53	0.0499	0.0334
Uranus	-3440-12-30 16:04 J	465327.06	465327.17	465327.29	0.0136	0.0068
Uranus	-3439-03-28 19:11 J	465415.18	465415.30	465415.43	0.0136	0.0049
Uranus	-3439-06-24 22:19 J	465503.31	465503.43	465503.56	0.0136	0.0031
Uranus	-3439-09-21 01:26 J	465591.43	465591.56	465591.69	0.0137	0.0013
Uranus	-3439-12-18 04:33 J	465679.56	465679.69	465679.82	0.0137	0.0005
Uranus	-3438-03-16 07:40 J	465767.69	465767.82	465767.95	0.0137	0.0024
Saturn	-3438-04-19 04:19 J	465801.59	465801.68	465801.77	0.0263	0.0228
Uranus	-3438-06-12 10:48 J	465855.82	465855.95	465856.07	0.0137	0.0042
Saturn	-3438-07-17 00:14 J	465890.34	465890.51	465890.69	0.0263	0.0082
Uranus	-3438-09-08 13:40 J	465943.96	465944.07	465944.19	0.0137	0.0060
Saturn	-3438-10-13 20:38 J	465979.17	465979.36	465979.54	0.0262	0.0066
Uranus	-3438-12-05 16:48 J	466032.10	466032.20	466032.31	0.0137	0.0079
Saturn	-3437-01-10 16:48 J	466068.10	466068.20	466068.31	0.0262	0.0214
Uranus	-3437-03-02 19:40 J	466120.24	466120.32	466120.42	0.0137	0.0097
Uranus	-3437-05-29 22:48 J	466208.39	466208.45	466208.53	0.0137	0.0116
Uranus	-3437-08-26 01:55 J	466296.56	466296.58	466296.62	0.0137	0.0134

Jupiter	-3434-04-17 10:19 J	467260.88	467260.93	467260.97	0.0530	0.0493
Jupiter	-3434-07-15 16:19 J	467350.05	467350.18	467350.30	0.0528	0.0079
Mars	-3431-03-09 17:02 J	468318.10	468318.21	468318.32	0.1741	0.0329
Jupiter	-3428-08-31 18:00 J	469589.08	469589.25	469589.43	0.0498	0.0151
Moon	-3427-10-08 04:33 J	469991.61	469991.69	469991.77	0.2719	0.1804
Earth	-3427-10-08 05:02 J	469991.63	469991.71	469991.79	0.2712	0.1788 *
Venus	-3426-10-26 14:23 J	470374.97	470375.10	470375.23	0.3690	0.1933
Moon	-3423-04-03 05:02 J	471264.54	471264.71	471264.87	0.2625	0.0354
Earth	-3423-04-03 06:43 J	471264.61	471264.78	471264.94	0.2622	0.0167 *
Saturn	-3423-08-10 20:23 J	471394.26	471394.35	471394.44	0.0298	0.0210
Saturn	-3423-11-07 09:07 J	471482.75	471482.88	471483.01	0.0299	0.0059
Saturn	-3422-02-03 21:50 J	471571.28	471571.41	471571.53	0.0299	0.0092
Saturn	-3422-05-03 10:19 J	471659.86	471659.93	471660.01	0.0300	0.0242
Jupiter	-3422-05-03 20:38 J	471660.24	471660.36	471660.49	0.0528	0.0059
Mars	-3422-07-31 03:21 J	471748.54	471748.64	471748.74	0.1747	0.0867
Jupiter	-3422-08-01 02:09 J	471749.55	471749.59	471749.63	0.0527	0.0497
Mars	-3421-08-28 00:28 J	472142.39	472142.52	472142.65	0.1797	0.1127
Venus	-3420-05-11 22:48 J	472399.35	472399.45	472399.56	0.3688	0.2688
Mars	-3420-07-05 09:21 J	472453.82	472453.89	472453.97	0.1722	0.1254
Moon	-3420-10-01 05:31 J	472541.66	472541.73	472541.80	0.2703	0.2005
Earth	-3420-10-01 05:31 J	472541.66	472541.73	472541.81	0.2709	0.1967 *
Jupiter	-3416-06-19 13:40 J	473898.89	473899.07	473899.26	0.0498	0.0047
Mars	-3413-12-20 13:26 J	475179.00	475179.06	475179.13	0.1754	0.1409
Mars	-3411-01-17 20:09 J	475572.17	475572.34	475572.51	0.1789	0.0016
Venus	-3411-11-21 09:50 J	475879.85	475879.91	475879.98	0.3679	0.2884
Mars	-3411-11-25 19:55 J	475884.23	475884.33	475884.43	0.1728	0.0753
Jupiter	-3410-02-20 01:11 J	475970.43	475970.55	475970.67	0.0529	0.0193
Jupiter	-3410-05-20 06:57 J	476059.70	476059.79	476059.88	0.0527	0.0368
Saturn	-3409-09-05 04:33 J	476533.69	476533.69	476533.70	0.0263	0.0263
Saturn	-3409-12-03 00:28 J	476622.36	476622.52	476622.69	0.0263	0.0118

Saturn	-3408-03-01 20:38 J	476711.18	476711.36	476711.55	0.0262	0.0030
Saturn	-3408-05-29 17:02 J	476800.07	476800.21	476800.35	0.0262	0.0176
Moon	-3407-10-03 22:19 J	477292.33	477292.43	477292.53	0.2707	0.0714
Earth	-3407-10-03 23:02 J	477292.35	477292.46	477292.56	0.2710	0.0622 *
Venus	-3405-06-06 01:40 J	477903.48	477903.57	477903.67	0.3681	0.1366
Jupiter	-3404-04-07 11:02 J	478208.80	478208.96	478209.13	0.0498	0.0221
Mars	-3402-06-09 16:04 J	479002.04	479002.17	479002.31	0.1782	0.1087
Mars	-3401-04-17 06:28 J	479314.66	479314.77	479314.89	0.1734	0.0249
Uranus	-3400-08-09 08:38 J	479793.80	479793.86	479793.96	0.0142	0.0129
Uranus	-3400-11-05 17:16 J	479882.08	479882.22	479882.36	0.0142	0.0098
Pluto	-3400-12-03 20:38 J	479910.27	479910.36	479910.44	0.0073	0.0063
Venus	-3400-12-20 17:31 J	479927.13	479927.23	479927.34	0.3682	0.0201
Uranus	-3399-02-02 01:40 J	479970.40	479970.57	479970.74	0.0142	0.0067
Pluto	-3399-03-01 21:50 J	479998.31	479998.41	479998.55	0.0072	0.0053
Uranus	-3399-05-01 10:04 J	480058.73	480058.92	480059.11	0.0142	0.0036
Pluto	-3399-05-28 23:45 J	480086.36	480086.49	480086.65	0.0072	0.0042
Uranus	-3399-07-28 18:28 J	480147.07	480147.27	480147.47	0.0142	0.0006
Pluto	-3399-08-25 01:40 J	480174.42	480174.57	480174.74	0.0072	0.0030
Uranus	-3399-10-25 02:52 J	480235.43	480235.62	480235.81	0.0142	0.0025
Pluto	-3399-11-21 03:21 J	480262.48	480262.64	480262.82	0.0072	0.0020
Jupiter	-3399-12-09 05:16 J	480280.63	480280.72	480280.82	0.0529	0.0337
Uranus	-3398-01-21 11:02 J	480323.79	480323.96	480324.15	0.0142	0.0056
Pluto	-3398-02-17 05:16 J	480350.55	480350.72	480350.89	0.0072	0.0009
Jupiter	-3398-03-08 11:02 J	480369.85	480369.96	480370.08	0.0527	0.0229
Uranus	-3398-04-19 19:26 J	480412.16	480412.31	480412.47	0.0141	0.0086
Pluto	-3398-05-16 06:57 J	480438.62	480438.79	480438.97	0.0072	0.0002
Uranus	-3398-07-17 03:50 J	480500.56	480500.66	480500.78	0.0141	0.0117
Pluto	-3398-08-12 08:38 J	480526.69	480526.86	480527.03	0.0072	0.0012
Pluto	-3398-11-08 10:04 J	480614.77	480614.92	480615.10	0.0072	0.0023
Neptune	-3398-11-24 23:02 J	480631.42	480631.46	480631.50	0.0089	0.0085

Pluto -3397-02-04 11:45 J 480702.85 480702.99 480703.15 0.0071 0.0033

Neptune -3397-02-21 00:14 J 480719.45 480719.51 480719.58 0.0089 0.0078

Pluto -3397-05-02 13:26 J 480790.93 480791.06 480791.21 0.0071 0.0043

Neptune -3397-05-19 01:40 J 480807.50 480807.57 480807.66 0.0089 0.0070

Pluto -3397-07-29 15:07 J 480879.02 480879.13 480879.25 0.0071 0.0053

Neptune -3397-08-15 03:07 J 480895.54 480895.63 480895.73 0.0089 0.0063

Pluto -3397-10-25 16:48 J 480967.12 480967.20 480967.28 0.0071 0.0063

Neptune -3397-11-11 04:19 J 480983.59 480983.68 480983.80 0.0089 0.0057

Neptune -3396-02-07 06:00 J 481071.64 481071.75 481071.86 0.0089 0.0049

Neptune -3396-05-06 07:26 J 481159.69 481159.81 481159.93 0.0089 0.0042

Neptune -3396-08-02 08:38 J 481247.74 481247.86 481247.99 0.0089 0.0035

Neptune -3396-10-29 10:04 J 481335.80 481335.92 481336.05 0.0089 0.0027

Neptune -3395-01-25 11:31 J 481423.85 481423.98 481424.11 0.0089 0.0020

Neptune -3395-04-23 12:43 J 481511.91 481512.03 481512.17 0.0089 0.0014

Neptune -3395-07-20 14:09 J 481599.96 481600.09 481600.23 0.0089 0.0006

Neptune -3395-10-16 15:36 J 481688.02 481688.15 481688.28 0.0089 0.0001

Neptune -3394-01-12 17:02 J 481776.07 481776.21 481776.34 0.0089 0.0008

Neptune -3394-04-10 18:14 J 481864.13 481864.26 481864.39 0.0089 0.0016

Venus -3394-07-06 09:21 J 481950.80 481950.89 481950.98 0.3683 0.1635

Neptune -3394-07-07 19:40 J 481952.19 481952.32 481952.45 0.0089 0.0022

Neptune -3394-10-03 20:52 J 482040.25 482040.37 482040.50 0.0089 0.0030

Moon -3394-10-06 15:50 J 482043.05 482043.16 482043.26 0.2714 0.0679

Earth -3394-10-06 16:19 J 482043.08 482043.18 482043.28 0.2711 0.0725 *

Saturn -3394-12-28 21:21 J 482126.33 482126.39 482126.45 0.0298 0.0263

Neptune -3394-12-30 22:19 J 482128.31 482128.43 482128.55 0.0089 0.0037

Saturn -3393-03-26 10:19 J 482214.81 482214.93 482215.05 0.0299 0.0111

Neptune -3393-03-27 23:31 J 482216.37 482216.48 482216.60 0.0089 0.0044

Saturn -3393-06-22 23:02 J 482303.33 482303.46 482303.59 0.0300 0.0041

Neptune -3393-06-24 00:57 J 482304.44 482304.54 482304.65 0.0089 0.0051

Saturn -3393-09-19 11:31 J 482391.88 482391.98 482392.08 0.0300 0.0191

Neptune -3393-09-20 02:09 J 482392.50 482392.59 482392.70 0.0089 0.0058

Neptune -3393-12-17 03:36 J 482480.56 482480.65 482480.75 0.0089 0.0065

Jupiter -3392-01-24 08:38 J 482518.75 482518.86 482518.97 0.0497 0.0393

Neptune -3392-03-15 04:48 J 482568.63 482568.70 482568.79 0.0089 0.0072

Jupiter -3392-04-24 18:43 J 482609.14 482609.28 482609.42 0.0499 0.0327

Neptune -3392-06-11 06:14 J 482656.71 482656.76 482656.83 0.0089 0.0079

Neptune -3392-09-07 07:26 J 482744.79 482744.81 482744.86 0.0089 0.0086

Mars -3392-09-07 17:02 J 482745.09 482745.21 482745.32 0.1741 0.0285

Earth -3390-04-01 04:48 J 483315.66 483315.70 483315.75 0.2623 0.2513

Venus -3388-01-19 00:57 J 483974.49 483974.54 483974.59 0.3685 0.3094

Jupiter -3387-09-27 09:21 J 484590.84 484590.89 484590.94 0.0529 0.0483

Jupiter -3387-12-25 15:21 J 484680.01 484680.14 484680.26 0.0528 0.0087

Mars -3382-01-29 03:21 J 486175.54 486175.64 486175.74 0.1747 0.0804

Mars -3381-02-27 01:26 J 486569.44 486569.56 486569.68 0.1797 0.1235

Moon -3381-10-08 09:21 J 486793.82 486793.89 486793.96 0.2719 0.1964

Earth -3381-10-08 09:50 J 486793.84 486793.91 486793.97 0.2712 0.2065 *

Mars -3380-01-03 09:21 J 486880.82 486880.89 486880.96 0.1722 0.1306

Jupiter -3380-02-10 16:04 J 486918.99 486919.17 486919.35 0.0498 0.0151

Saturn -3379-04-22 00:14 J 487354.37 487354.51 487354.67 0.0263 0.0158

Saturn -3379-07-19 20:23 J 487443.17 487443.35 487443.54 0.0262 0.0013

Saturn -3379-10-16 16:48 J 487532.04 487532.20 487532.36 0.0262 0.0136

Moon -3377-04-03 11:45 J 488066.83 488066.99 488067.15 0.2626 0.0175

Earth -3377-04-03 13:26 J 488066.90 488067.06 488067.22 0.2622 0.0409 *

Jupiter -3375-10-13 19:11 J 488990.17 488990.30 488990.42 0.0528 0.0064

Jupiter -3374-01-11 00:28 J 489079.48 489079.52 489079.56 0.0527 0.0495

Moon -3374-10-02 10:04 J 489343.83 489343.92 489344.00 0.2704 0.1698

Earth -3374-10-02 10:19 J 489343.85 489343.93 489344.01 0.2710 0.1695 *

Mars -3373-06-20 13:26 J 489605.99 489606.06 489606.14 0.1753 0.1351

Mars -3372-07-18 20:38 J 489999.19 489999.36 489999.53 0.1789 0.0106

Mars -3371-05-26 19:55 J 490311.23 490311.33 490311.43 0.1728 0.0814

Venus	-3369-06-01 16:19 J	491048.02	491048.18	491048.33	0.3690	0.0502
Jupiter	-3369-11-29 12:57 J	491228.86	491229.04	491229.23	0.0498	0.0030
Saturn	-3364-08-13 12:43 J	492946.92	492947.03	492947.15	0.0298	0.0149
Saturn	-3364-11-10 01:40 J	493035.44	493035.57	493035.70	0.0299	0.0006
Saturn	-3363-02-06 14:09 J	493123.98	493124.09	493124.21	0.0299	0.0154
Jupiter	-3363-08-01 23:31 J	493300.36	493300.48	493300.60	0.0529	0.0200
Jupiter	-3363-10-30 05:02 J	493389.62	493389.71	493389.80	0.0527	0.0363
Mars	-3363-12-08 17:02 J	493429.07	493429.21	493429.35	0.1782	0.0986
Mars	-3362-10-17 06:28 J	493741.66	493741.77	493741.88	0.1734	0.0299
Moon	-3361-10-04 03:07 J	494094.52	494094.63	494094.73	0.2708	0.0451
Earth	-3361-10-04 03:50 J	494094.55	494094.66	494094.76	0.2710	0.0366 *
Jupiter	-3357-09-17 08:52 J	495538.70	495538.87	495539.03	0.0498	0.0224
Uranus	-3356-04-30 13:40 J	495764.02	495764.07	495764.14	0.0136	0.0119
Uranus	-3356-07-27 16:48 J	495852.12	495852.20	495852.29	0.0136	0.0101
Uranus	-3356-10-23 19:55 J	495940.23	495940.33	495940.44	0.0136	0.0083
Uranus	-3355-01-19 23:02 J	496028.35	496028.46	496028.58	0.0136	0.0065
Uranus	-3355-04-18 02:09 J	496116.47	496116.59	496116.71	0.0136	0.0047
Uranus	-3355-07-15 05:16 J	496204.59	496204.72	496204.85	0.0136	0.0029
Uranus	-3355-10-11 08:09 J	496292.72	496292.84	496292.98	0.0137	0.0012
Uranus	-3354-01-07 11:16 J	496380.84	496380.97	496381.10	0.0137	0.0009
Uranus	-3354-04-05 14:23 J	496468.97	496469.10	496469.23	0.0137	0.0026
Venus	-3354-06-28 07:26 J	496552.73	496552.81	496552.89	0.3680	0.2355
Uranus	-3354-07-02 17:31 J	496557.11	496557.23	496557.35	0.0137	0.0044
Uranus	-3354-09-28 20:23 J	496645.24	496645.35	496645.47	0.0137	0.0063
Uranus	-3354-12-25 23:31 J	496733.38	496733.48	496733.59	0.0137	0.0081
Uranus	-3353-03-23 02:38 J	496821.53	496821.61	496821.70	0.0137	0.0099
Uranus	-3353-06-19 05:45 J	496909.68	496909.74	496909.81	0.0137	0.0117
Uranus	-3353-09-15 08:52 J	496997.86	496997.87	496997.89	0.0137	0.0136
Mars	-3352-03-08 17:02 J	497172.09	497172.21	497172.32	0.1741	0.0219
Jupiter	-3351-05-21 04:04 J	497610.57	497610.67	497610.77	0.0529	0.0334

Jupiter	-3351-08-18 09:50 J	497699.80	497699.91	497700.03	0.0528	0.0233
Saturn	-3350-09-09 00:28 J	498086.40	498086.52	498086.65	0.0263	0.0194
Saturn	-3350-12-06 20:38 J	498175.17	498175.36	498175.54	0.0262	0.0048
Saturn	-3349-03-04 16:48 J	498264.02	498264.20	498264.37	0.0262	0.0098
Saturn	-3349-06-01 12:57 J	498352.98	498353.04	498353.11	0.0262	0.0245
Venus	-3348-01-10 23:16 J	498576.37	498576.47	498576.57	0.3681	0.0836
Moon	-3348-10-06 20:38 J	498845.26	498845.36	498845.46	0.2715	0.0906
Earth	-3348-10-06 21:07 J	498845.28	498845.38	498845.48	0.2711	0.0995 *
Jupiter	-3345-07-06 06:14 J	499848.65	499848.76	499848.87	0.0497	0.0396
Jupiter	-3345-10-04 16:19 J	499939.04	499939.18	499939.32	0.0499	0.0322
Moon	-3344-04-01 10:04 J	500117.84	500117.92	500118.00	0.2623	0.2252
Earth	-3344-04-01 11:45 J	500117.88	500117.99	500118.10	0.2623	0.1940 *
Venus	-3343-07-27 15:07 J	500600.03	500600.13	500600.23	0.3682	0.0665
Mars	-3343-07-30 03:21 J	500602.53	500602.64	500602.74	0.1747	0.0754
Mars	-3342-08-28 02:09 J	500996.48	500996.59	500996.70	0.1797	0.1340
Mars	-3341-07-04 09:21 J	501307.82	501307.89	501307.96	0.1722	0.1360
Moon	-3341-09-29 21:50 J	501395.40	501395.41	501395.42	0.2702	0.2675
Jupiter	-3339-03-09 08:09 J	501920.79	501920.84	501920.90	0.0529	0.0476
Jupiter	-3339-06-06 14:09 J	502009.97	502010.09	502010.22	0.0528	0.0095
Venus	-3337-02-10 06:43 J	502623.70	502623.78	502623.87	0.3683	0.2141
Moon	-3335-10-09 14:09 J	503596.04	503596.09	503596.14	0.2718	0.2353
Earth	-3335-10-09 14:23 J	503596.05	503596.10	503596.16	0.2712	0.2337 *
Saturn	-3335-12-31 13:40 J	503678.97	503679.07	503679.16	0.0299	0.0205
Saturn	-3334-03-30 02:23 J	503767.47	503767.60	503767.73	0.0299	0.0053
Saturn	-3334-06-26 15:07 J	503856.00	503856.13	503856.25	0.0300	0.0098
Saturn	-3334-09-23 03:36 J	503944.58	503944.65	503944.72	0.0300	0.0248
Mars	-3334-12-20 13:26 J	504032.99	504033.06	504033.14	0.1754	0.1295
Jupiter	-3333-07-23 13:40 J	504248.89	504249.07	504249.25	0.0499	0.0147
Mars	-3332-01-16 21:36 J	504426.24	504426.40	504426.57	0.1790	0.0211
Venus	-3332-08-25 22:19 J	504647.42	504647.43	504647.45	0.3685	0.3594

Mars -3332-11-24 19:55 J 504738.23 504738.33 504738.43 0.1728 0.0862

Moon -3331-04-04 18:43 J 504869.13 504869.28 504869.43 0.2625 0.0835

Earth -3331-04-04 20:23 J 504869.20 504869.35 504869.50 0.2622 0.0983 *

Moon -3328-10-02 14:38 J 506146.02 506146.11 506146.20 0.2704 0.1537

Earth -3328-10-02 15:07 J 506146.04 506146.13 506146.22 0.2710 0.1421 *

Jupiter -3327-03-25 18:28 J 506320.14 506320.27 506320.39 0.0528 0.0052

Jupiter -3327-06-22 23:45 J 506409.46 506409.49 506409.52 0.0526 0.0506

Mars -3323-06-08 17:45 J 507856.09 507856.24 507856.38 0.1782 0.0885

Mars -3322-04-17 06:28 J 508168.66 508168.77 508168.88 0.1735 0.0358

Jupiter -3321-05-11 11:16 J 508558.78 508558.97 508559.16 0.0498 0.0026

Saturn -3320-01-25 23:31 J 508818.41 508818.48 508818.56 0.0263 0.0239

Saturn -3320-04-24 19:40 J 508907.14 508907.32 508907.49 0.0263 0.0093

Saturn -3320-07-22 15:50 J 508995.97 508996.16 508996.34 0.0262 0.0053

Saturn -3320-10-19 12:00 J 509084.89 509085.00 509085.13 0.0262 0.0200

Venus -3318-06-23 09:50 J 509696.88 509696.91 509696.95 0.3691 0.3555

Uranus -3316-08-29 15:07 J 510495.05 510495.13 510495.23 0.0142 0.0124

Uranus -3316-11-25 23:16 J 510583.34 510583.47 510583.63 0.0142 0.0094

Jupiter -3315-01-11 22:04 J 510630.31 510630.42 510630.54 0.0529 0.0198

Uranus -3315-02-22 07:55 J 510671.66 510671.83 510672.01 0.0142 0.0063

Jupiter -3315-04-11 03:50 J 510719.57 510719.66 510719.75 0.0527 0.0364

Uranus -3315-05-21 16:04 J 510759.99 510760.17 510760.37 0.0142 0.0033

Uranus -3315-08-18 00:43 J 510848.33 510848.53 510848.72 0.0142 0.0002

Moon -3315-10-05 07:55 J 510896.72 510896.83 510896.93 0.2709 0.0161

Earth -3315-10-05 08:23 J 510896.75 510896.85 510896.96 0.2711 0.0116 *

Neptune -3315-11-08 09:36 J 510930.86 510930.90 510930.97 0.0088 0.0084

Uranus -3315-11-14 09:07 J 510936.69 510936.88 510937.07 0.0142 0.0029

Neptune -3314-02-04 12:43 J 511018.95 511019.03 511019.15 0.0088 0.0075

Uranus -3314-02-10 17:16 J 511025.05 511025.22 511025.41 0.0142 0.0060

Neptune -3314-05-03 16:19 J 511107.07 511107.18 511107.32 0.0088 0.0065

Uranus -3314-05-10 01:26 J 511113.43 511113.56 511113.73 0.0141 0.0091

Neptune -3314-07-30 19:55 J 511195.19 511195.33 511195.49 0.0088 0.0055

Uranus -3314-08-06 10:04 J 511201.83 511201.92 511202.03 0.0141 0.0121

Neptune -3314-10-26 23:16 J 511283.32 511283.47 511283.64 0.0088 0.0046

Neptune -3313-01-23 02:52 J 511371.45 511371.62 511371.80 0.0088 0.0036

Neptune -3313-04-20 06:28 J 511459.58 511459.77 511459.95 0.0088 0.0026

Neptune -3313-07-17 09:36 J 511547.72 511547.90 511548.10 0.0088 0.0017

Mars -3313-09-06 17:02 J 511599.09 511599.21 511599.32 0.1740 0.0163

Neptune -3313-10-13 13:11 J 511635.86 511636.05 511636.25 0.0088 0.0007

Venus -3312-01-06 18:00 J 511721.10 511721.25 511721.40 0.3689 0.0923

Neptune -3312-01-09 16:48 J 511724.01 511724.20 511724.39 0.0088 0.0003

Neptune -3312-04-07 20:09 J 511812.15 511812.34 511812.54 0.0088 0.0013

Neptune -3312-07-04 23:31 J 511900.30 511900.48 511900.68 0.0088 0.0023

Neptune -3312-10-01 02:52 J 511988.46 511988.62 511988.82 0.0088 0.0033

Neptune -3312-12-28 06:43 J 512076.61 512076.78 512076.95 0.0088 0.0042

Neptune -3311-03-26 10:04 J 512164.78 512164.92 512165.09 0.0088 0.0052

Neptune -3311-06-22 13:40 J 512252.94 512253.07 512253.21 0.0088 0.0062

Neptune -3311-09-18 17:02 J 512341.12 512341.21 512341.33 0.0088 0.0072

Neptune -3311-12-15 20:38 J 512429.30 512429.36 512429.44 0.0088 0.0082

Jupiter -3309-02-28 08:23 J 512868.68 512868.85 512869.02 0.0498 0.0203

Saturn -3305-05-19 15:36 J 514411.08 514411.15 514411.22 0.0298 0.0248

Saturn -3305-08-16 04:19 J 514499.56 514499.68 514499.81 0.0299 0.0097

Saturn -3305-11-12 17:16 J 514588.09 514588.22 514588.34 0.0299 0.0055

Saturn -3304-02-09 05:45 J 514676.65 514676.74 514676.84 0.0300 0.0205

Jupiter -3304-10-31 02:23 J 514940.51 514940.60 514940.70 0.0529 0.0336

Mars -3303-01-28 03:21 J 515029.53 515029.64 515029.74 0.1747 0.0697

Jupiter -3303-01-28 08:23 J 515029.74 515029.85 515029.96 0.0528 0.0231 *

Venus -3303-07-19 13:11 J 515202.01 515202.05 515202.09 0.3679 0.3360

Mars -3302-02-26 02:52 J 515423.53 515423.62 515423.72 0.1798 0.1445

Moon -3302-10-08 01:11 J 515647.46 515647.55 515647.65 0.2716 0.1190

Earth -3302-10-08 01:55 J 515647.48 515647.58 515647.67 0.2711 0.1265 *

Mars	-3301-01-03 09:21 J	515734.82	515734.89	515734.95	0.1722	0.1416
Moon	-3298-04-02 16:48 J	516920.06	516920.20	516920.33	0.2624	0.1494
Earth	-3298-04-02 18:28 J	516920.14	516920.27	516920.41	0.2623	0.1386 *
Jupiter	-3298-12-17 04:19 J	517178.57	517178.68	517178.80	0.0497	0.0394
Venus	-3297-02-02 05:02 J	517225.62	517225.71	517225.80	0.3680	0.1826
Jupiter	-3297-03-16 14:23 J	517268.96	517269.10	517269.24	0.0499	0.0324
Earth	-3295-10-01 02:23 J	518197.56	518197.60	518197.64	0.2709	0.2497
Moon	-3295-10-01 02:23 J	518197.57	518197.60	518197.64	0.2702	0.2537 *
Mars	-3294-06-20 13:26 J	518459.98	518460.06	518460.14	0.1753	0.1237
Mars	-3293-07-17 22:48 J	518853.28	518853.45	518853.61	0.1790	0.0322
Mars	-3292-05-25 19:55 J	519165.23	519165.33	519165.43	0.1728	0.0919
Venus	-3292-08-17 20:52 J	519249.27	519249.37	519249.47	0.3681	0.0315
Jupiter	-3292-08-19 06:57 J	519250.74	519250.79	519250.85	0.0530	0.0471
Jupiter	-3292-11-16 13:11 J	519339.92	519340.05	519340.17	0.0528	0.0101
Saturn	-3291-09-11 19:40 J	519639.16	519639.32	519639.48	0.0263	0.0131
Saturn	-3291-12-09 15:36 J	519727.97	519728.15	519728.34	0.0262	0.0016
Saturn	-3290-03-08 11:45 J	519816.85	519816.99	519817.15	0.0262	0.0162
Moon	-3289-10-09 19:11 J	520398.27	520398.30	520398.33	0.2719	0.2577
Earth	-3289-10-09 19:11 J	520398.28	520398.30	520398.33	0.2712	0.2605 *
Venus	-3286-03-03 12:43 J	521272.93	521273.03	521273.12	0.3683	0.1187
Jupiter	-3285-01-03 11:45 J	521578.81	521578.99	521579.16	0.0498	0.0147
Moon	-3285-04-05 01:55 J	521671.44	521671.58	521671.72	0.2626	0.1314
Earth	-3285-04-05 03:21 J	521671.51	521671.64	521671.77	0.2622	0.1553 *
Mars	-3284-12-07 18:28 J	522283.12	522283.27	522283.42	0.1782	0.0784
Mars	-3283-10-16 06:28 J	522595.66	522595.77	522595.88	0.1734	0.0411
Moon	-3282-10-03 19:26 J	522948.21	522948.31	522948.40	0.2704	0.1156
Earth	-3282-10-03 19:55 J	522948.23	522948.33	522948.42	0.2710	0.1151 *
Venus	-3281-09-16 04:19 J	523296.61	523296.68	523296.75	0.3684	0.2641
Jupiter	-3280-09-04 17:31 J	523650.10	523650.23	523650.36	0.0528	0.0038
Jupiter	-3280-12-02 23:02 J	523739.44	523739.46	523739.48	0.0526	0.0517

Saturn	**-3275-01-03 04:47 J**	**525231.59**	**525231.70**	**525231.81**	**0.0299**	**0.0156**
Saturn	**-3275-04-01 17:31 J**	**525320.10**	**525320.23**	**525320.37**	**0.0299**	**0.0010**
Saturn	**-3275-06-29 06:14 J**	**525408.65**	**525408.76**	**525408.87**	**0.0300**	**0.0145**
Saturn	**-3275-09-25 18:43 J**	**525497.27**	**525497.28**	**525497.31**	**0.0300**	**0.0295**
Jupiter	**-3274-10-22 09:21 J**	**525888.70**	**525888.89**	**525889.07**	**0.0498**	**0.0027**
Mars	**-3273-03-07 16:47 J**	**526026.09**	**526026.20**	**526026.32**	**0.1741**	**0.0127**
Uranus	**-3272-02-21 17:16 J**	**526377.22**	**526377.22**	**526377.25**	**0.0136**	**0.0135**
Uranus	**-3272-05-20 20:23 J**	**526465.30**	**526465.35**	**526465.43**	**0.0136**	**0.0117**
Uranus	**-3272-08-16 23:31 J**	**526553.40**	**526553.48**	**526553.58**	**0.0136**	**0.0099**
Uranus	**-3272-11-13 02:38 J**	**526641.51**	**526641.61**	**526641.72**	**0.0136**	**0.0081**
Uranus	**-3271-02-09 05:45 J**	**526729.63**	**526729.74**	**526729.86**	**0.0136**	**0.0063**
Uranus	**-3271-05-08 08:52 J**	**526817.75**	**526817.87**	**526818.00**	**0.0136**	**0.0044**
Uranus	**-3271-08-04 12:00 J**	**526905.87**	**526906.00**	**526906.13**	**0.0136**	**0.0026**
Uranus	**-3271-10-31 15:07 J**	**526994.00**	**526994.13**	**526994.26**	**0.0136**	**0.0008**
Uranus	**-3270-01-27 18:14 J**	**527082.13**	**527082.26**	**527082.39**	**0.0137**	**0.0011**
Uranus	**-3270-04-25 21:07 J**	**527170.26**	**527170.38**	**527170.51**	**0.0137**	**0.0029**
Uranus	**-3270-07-23 00:14 J**	**527258.39**	**527258.51**	**527258.63**	**0.0137**	**0.0047**
Uranus	**-3270-10-19 03:21 J**	**527346.53**	**527346.64**	**527346.75**	**0.0137**	**0.0065**
Uranus	**-3269-01-15 06:28 J**	**527434.67**	**527434.77**	**527434.87**	**0.0137**	**0.0083**
Uranus	**-3269-04-12 09:36 J**	**527522.81**	**527522.90**	**527522.98**	**0.0137**	**0.0101**
Uranus	**-3269-07-09 12:28 J**	**527610.96**	**527611.02**	**527611.09**	**0.0137**	**0.0120**
Moon	**-3269-10-05 12:28 J**	**527698.92**	**527699.02**	**527699.13**	**0.2711**	**0.0130**
Earth	**-3269-10-05 13:12 J**	**527698.95**	**527699.05**	**527699.16**	**0.2711**	**0.0201** *
Jupiter	**-3268-06-23 21:36 J**	**527960.28**	**527960.40**	**527960.52**	**0.0529**	**0.0181**
Jupiter	**-3268-09-21 03:21 J**	**528049.55**	**528049.64**	**528049.72**	**0.0527**	**0.0380**
Mars	**-3264-07-29 03:21 J**	**529456.53**	**529456.64**	**529456.74**	**0.1747**	**0.0638**
Mars	**-3263-08-27 03:50 J**	**529850.58**	**529850.66**	**529850.75**	**0.1797**	**0.1552**
Mars	**-3262-07-04 09:07 J**	**530161.83**	**530161.88**	**530161.94**	**0.1722**	**0.1468**
Jupiter	**-3262-08-10 06:57 J**	**530198.62**	**530198.79**	**530198.96**	**0.0498**	**0.0196**
Venus	**-3261-01-28 11:45 J**	**530369.86**	**530369.99**	**530370.11**	**0.3690**	**0.2162**

Saturn	-3261-01-29 18:00 J	530371.12	530371.25	530371.38	0.0263	0.0181	
Saturn	-3261-04-27 13:55 J	530459.90	530460.08	530460.27	0.0262	0.0036	
Saturn	-3261-07-25 10:19 J	530548.76	530548.93	530549.10	0.0262	0.0111	
Saturn	-3261-10-22 06:28 J	530637.75	530637.77	530637.80	0.0262	0.0258	
Jupiter	-3256-04-12 01:26 J	532270.46	532270.56	532270.66	0.0529	0.0329	
Jupiter	-3256-07-10 07:12 J	532359.69	532359.80	532359.92	0.0527	0.0237	
Venus	-3256-08-13 19:55 J	532394.22	532394.33	532394.45	0.3689	0.2393	
Moon	-3256-10-08 06:00 J	532449.67	532449.75	532449.84	0.2716	0.1482	
Earth	-3256-10-08 06:43 J	532449.69	532449.78	532449.86	0.2712	0.1539	*
Mars	-3255-12-19 13:26 J	532886.98	532887.06	532887.15	0.1753	0.1178	
Mars	-3253-01-16 23:02 J	533280.30	533280.46	533280.63	0.1790	0.0408	
Mars	-3253-11-23 19:55 J	533592.24	533592.33	533592.42	0.1728	0.0976	
Moon	-3252-04-02 23:31 J	533722.34	533722.48	533722.63	0.2624	0.1155	
Earth	-3252-04-03 01:26 J	533722.41	533722.56	533722.72	0.2623	0.0814	*
Jupiter	-3250-05-29 04:19 J	534508.56	534508.68	534508.81	0.0497	0.0369	
Jupiter	-3250-08-27 14:23 J	534598.97	534599.10	534599.24	0.0499	0.0350	
Moon	-3249-10-01 06:57 J	534999.73	534999.79	534999.86	0.2702	0.2194	
Earth	-3249-10-01 07:12 J	534999.74	534999.80	534999.86	0.2709	0.2223	*
Venus	-3246-02-23 10:33 J	535874.88	535874.94	535875.01	0.3679	0.2823	
Saturn	-3246-05-23 06:43 J	535963.68	535963.78	535963.88	0.0298	0.0202	
Saturn	-3246-08-19 19:26 J	536052.18	536052.31	536052.44	0.0299	0.0051	
Saturn	-3246-11-16 08:09 J	536140.72	536140.84	536140.96	0.0299	0.0100	
Saturn	-3245-02-12 20:38 J	536229.30	536229.36	536229.44	0.0300	0.0250	
Mars	-3245-05-10 23:31 J	536317.47	536317.48	536317.50	0.1760	0.1734	
Jupiter	-3244-01-29 05:45 J	536580.68	536580.74	536580.80	0.0530	0.0468	
Jupiter	-3244-04-28 11:45 J	536669.87	536669.99	536670.12	0.0528	0.0104	
Mars	-3244-06-07 19:26 J	536710.15	536710.31	536710.47	0.1783	0.0674	
Mars	-3243-04-16 06:28 J	537022.66	537022.77	537022.88	0.1734	0.0468	
Venus	-3241-09-08 02:38 J	537898.51	537898.61	537898.70	0.3680	0.1300	
Moon	-3239-04-06 08:52 J	538473.78	538473.87	538473.97	0.2627	0.2082	

Earth -3239-04-06 10:04 J 538473.83 538473.92 538474.02 0.2622 0.2121 *

Pluto -3239-08-29 23:31 J 538619.41 538619.48 538619.54 0.0072 0.0063

Pluto -3239-11-26 00:00 J 538707.42 538707.50 538707.61 0.0072 0.0055

Pluto -3238-02-22 01:12 J 538795.45 538795.55 538795.67 0.0072 0.0046

Pluto -3238-05-21 02:09 J 538883.48 538883.59 538883.72 0.0072 0.0037

Jupiter -3238-06-15 10:04 J 538908.75 538908.92 538909.10 0.0498 0.0153

Pluto -3238-08-17 03:07 J 538971.51 538971.63 538971.77 0.0072 0.0029

Pluto -3238-11-13 04:19 J 539059.54 539059.68 539059.82 0.0072 0.0019

Pluto -3237-02-09 05:16 J 539147.58 539147.72 539147.87 0.0073 0.0011

Pluto -3237-05-07 06:28 J 539235.62 539235.77 539235.91 0.0073 0.0001

Pluto -3237-08-03 07:26 J 539323.67 539323.81 539323.96 0.0073 0.0008

Pluto -3237-10-30 08:23 J 539411.71 539411.85 539412.00 0.0073 0.0018

Pluto -3236-01-26 09:21 J 539499.76 539499.89 539500.04 0.0073 0.0027

Pluto -3236-04-24 10:33 J 539587.82 539587.94 539588.07 0.0073 0.0036

Pluto -3236-07-21 11:45 J 539675.88 539675.99 539676.10 0.0073 0.0046

Moon -3236-10-04 00:14 J 539750.41 539750.51 539750.60 0.2705 0.1014

Earth -3236-10-04 00:43 J 539750.42 539750.53 539750.63 0.2710 0.0882 *

Pluto -3236-10-17 12:28 J 539763.94 539764.02 539764.13 0.0073 0.0056

Pluto -3235-01-13 13:55 J 539852.02 539852.08 539852.15 0.0074 0.0065

Venus -3235-03-24 18:28 J 539922.16 539922.27 539922.37 0.3682 0.0232

Mars -3235-10-28 15:36 J 540140.12 540140.15 540140.19 0.1775 0.1737

Mars -3234-09-06 16:47 J 540453.09 540453.20 540453.32 0.1740 0.0069

Neptune -3233-05-24 21:21 J 540714.39 540714.39 540714.42 0.0089 0.0089

Neptune -3233-08-20 22:47 J 540802.41 540802.45 540802.51 0.0089 0.0081

Neptune -3233-11-17 00:14 J 540890.45 540890.51 540890.59 0.0089 0.0074

Neptune -3232-02-13 01:55 J 540978.49 540978.58 540978.67 0.0089 0.0067

Jupiter -3232-02-14 16:33 J 540980.07 540980.19 540980.32 0.0529 0.0030

Neptune -3232-05-12 03:07 J 541066.54 541066.63 541066.74 0.0089 0.0060

Saturn -3232-06-17 17:45 J 541103.14 541103.24 541103.34 0.0263 0.0219

Neptune -3232-08-08 04:33 J 541154.59 541154.69 541154.80 0.0089 0.0052

Saturn -3232-09-14 13:40 J 541191.89 541192.07 541192.25 0.0263 0.0075

Uranus -3232-09-18 21:07 J 541196.29 541196.38 541196.48 0.0142 0.0122

Neptune -3232-11-04 05:45 J 541242.64 541242.74 541242.87 0.0089 0.0046

Saturn -3232-12-12 09:50 J 541280.73 541280.91 541281.09 0.0262 0.0072

Uranus -3232-12-16 05:16 J 541284.58 541284.72 541284.88 0.0142 0.0091

Neptune -3231-01-31 07:12 J 541330.69 541330.80 541330.93 0.0089 0.0039

Saturn -3231-03-11 06:14 J 541369.66 541369.76 541369.86 0.0262 0.0218

Uranus -3231-03-14 13:55 J 541372.90 541373.08 541373.25 0.0142 0.0061

Neptune -3231-04-29 08:52 J 541418.74 541418.87 541418.99 0.0089 0.0031

Uranus -3231-06-10 22:04 J 541461.24 541461.42 541461.62 0.0142 0.0030

Neptune -3231-07-26 10:04 J 541506.80 541506.92 541507.05 0.0089 0.0024

Uranus -3231-09-07 06:28 J 541549.58 541549.77 541549.97 0.0142 0.0004

Neptune -3231-10-22 11:31 J 541594.85 541594.98 541595.11 0.0089 0.0017

Uranus -3231-12-04 14:52 J 541637.93 541638.12 541638.32 0.0142 0.0032

Neptune -3230-01-18 12:57 J 541682.91 541683.04 541683.17 0.0089 0.0010

Uranus -3230-03-02 23:02 J 541726.30 541726.46 541726.65 0.0142 0.0063

Neptune -3230-04-16 14:23 J 541770.96 541771.10 541771.23 0.0089 0.0004

Uranus -3230-05-30 07:40 J 541814.68 541814.82 541814.97 0.0141 0.0093

Neptune -3230-07-13 15:36 J 541859.02 541859.15 541859.29 0.0089 0.0005

Uranus -3230-08-26 15:50 J 541903.08 541903.16 541903.27 0.0141 0.0124

Venus -3230-10-08 10:04 J 541945.83 541945.92 541946.01 0.3683 0.1692

Neptune -3230-10-09 17:02 J 541947.08 541947.21 541947.34 0.0089 0.0012

Neptune -3229-01-05 18:14 J 542035.13 542035.26 542035.39 0.0089 0.0019

Neptune -3229-04-02 19:40 J 542123.19 542123.32 542123.45 0.0089 0.0026

Neptune -3229-06-29 20:52 J 542211.26 542211.37 542211.50 0.0089 0.0033

Neptune -3229-09-25 22:19 J 542299.32 542299.43 542299.55 0.0089 0.0040

Neptune -3229-12-22 23:31 J 542387.38 542387.48 542387.60 0.0089 0.0047

Neptune -3228-03-21 00:57 J 542475.44 542475.54 542475.65 0.0089 0.0054

Neptune -3228-06-17 02:09 J 542563.51 542563.59 542563.70 0.0089 0.0062

Neptune -3228-09-13 03:36 J 542651.57 542651.65 542651.74 0.0089 0.0068

Neptune -3228-12-10 04:47 J 542739.64 542739.70 542739.78 0.0089 0.0075

Neptune -3227-03-08 06:00 J 542827.72 542827.75 542827.82 0.0089 0.0083

Neptune -3227-06-04 07:40 J 542915.81 542915.82 542915.83 0.0089 0.0089

Jupiter -3226-04-03 07:26 J 543218.63 543218.81 543219.00 0.0498 0.0025

Mars -3224-01-27 03:21 J 543883.53 543883.64 543883.74 0.1747 0.0583

Venus -3224-04-23 01:55 J 543969.52 543969.58 543969.63 0.3684 0.3146

Mars -3223-02-25 04:47 J 544277.63 544277.70 544277.76 0.1798 0.1658

Moon -3223-10-06 17:16 J 544501.12 544501.22 544501.33 0.2713 0.0435

Earth -3223-10-06 18:00 J 544501.15 544501.25 544501.36 0.2711 0.0467 *

Mars -3222-01-02 09:21 J 544588.83 544588.89 544588.94 0.1722 0.1525

Jupiter -3221-12-03 20:52 J 545290.25 545290.37 545290.49 0.0529 0.0168

Jupiter -3220-03-03 02:38 J 545379.53 545379.61 545379.69 0.0527 0.0394

Saturn -3217-10-09 06:43 J 546695.73 546695.78 546695.84 0.0298 0.0265

Saturn -3216-01-05 19:40 J 546784.20 546784.32 546784.44 0.0299 0.0114

Saturn -3216-04-04 08:23 J 546872.72 546872.85 546872.98 0.0299 0.0037

Saturn -3216-07-01 20:52 J 546961.27 546961.37 546961.47 0.0300 0.0187

Mars -3215-06-19 13:26 J 547313.97 547314.06 547314.15 0.1753 0.1123

Jupiter -3214-01-20 05:16 J 547528.55 547528.72 547528.89 0.0498 0.0192

Mars -3214-07-18 00:14 J 547707.35 547707.51 547707.67 0.1790 0.0525

Mars -3213-05-24 19:55 J 548019.23 548019.33 548019.42 0.1728 0.1029

Moon -3210-10-09 11:02 J 549251.88 549251.96 549252.04 0.2716 0.1727

Earth -3210-10-09 11:16 J 549251.90 549251.97 549252.05 0.2711 0.1815 *

Jupiter -3209-09-22 01:12 J 549600.44 549600.55 549600.65 0.0529 0.0309

Jupiter -3209-12-20 06:57 J 549689.68 549689.79 549689.90 0.0527 0.0256

Moon -3206-04-04 06:28 J 550524.61 550524.77 550524.93 0.2624 0.0368

Earth -3206-04-04 08:23 J 550524.68 550524.85 550525.01 0.2623 0.0258 *

Mars -3206-11-09 23:31 J 550744.45 550744.48 550744.52 0.1760 0.1674

Venus -3205-09-03 13:40 J 551042.92 551043.07 551043.22 0.3690 0.0748

Mars -3205-12-06 19:55 J 551137.17 551137.33 551137.49 0.1782 0.0587

Mars -3204-10-15 06:28 J 551449.66 551449.77 551449.88 0.1734 0.0523

Moon	-3203-10-02 11:45 J	551801.92	551801.99	551802.06	0.2702	0.2010	
Earth	-3203-10-02 12:00 J	551801.93	551802.00	551802.07	0.2709	0.1949	*
Jupiter	-3203-11-08 03:07 J	551838.51	551838.63	551838.76	0.0497	0.0360	
Saturn	-3202-02-01 11:31 J	551923.82	551923.98	551924.15	0.0263	0.0128	
Jupiter	-3202-02-06 13:12 J	551928.93	551929.05	551929.18	0.0499	0.0360	
Saturn	-3202-05-01 07:40 J	552012.63	552012.82	552013.01	0.0262	0.0018	
Saturn	-3202-07-29 03:50 J	552101.52	552101.66	552101.81	0.0262	0.0165	
Jupiter	-3197-07-11 04:47 J	553910.64	553910.70	553910.77	0.0529	0.0458	
Jupiter	-3197-10-08 10:47 J	553999.83	553999.95	554000.08	0.0528	0.0113	
Mars	-3195-04-28 16:33 J	554567.12	554567.19	554567.25	0.1775	0.1638	
Mars	-3194-03-07 17:02 J	554880.09	554880.21	554880.32	0.1740	0.0058	
Moon	-3193-04-06 16:04 J	555276.12	555276.17	555276.22	0.2628	0.2480	
Jupiter	-3191-11-25 10:19 J	556238.76	556238.93	556239.11	0.0498	0.0182	
Venus	-3190-09-30 08:09 J	556547.76	556547.84	556547.92	0.3679	0.2291	
Moon	-3190-10-05 04:47 J	556552.60	556552.70	556552.80	0.2707	0.0630	
Earth	-3190-10-05 05:16 J	556552.62	556552.72	556552.83	0.2710	0.0611	*
Uranus	-3188-03-14 00:14 J	557078.49	557078.51	557078.55	0.0136	0.0132	
Uranus	-3188-06-10 03:36 J	557166.58	557166.65	557166.72	0.0136	0.0113	
Uranus	-3188-09-06 06:43 J	557254.69	557254.78	557254.87	0.0136	0.0095	
Uranus	-3188-12-03 09:50 J	557342.80	557342.91	557343.02	0.0136	0.0077	
Uranus	-3187-03-01 12:43 J	557430.92	557431.03	557431.15	0.0136	0.0059	
Saturn	-3187-05-25 21:07 J	557516.27	557516.38	557516.49	0.0298	0.0162	
Uranus	-3187-05-28 15:50 J	557519.04	557519.16	557519.29	0.0136	0.0041	
Saturn	-3187-08-22 10:04 J	557604.78	557604.92	557605.05	0.0299	0.0014	
Uranus	-3187-08-24 18:57 J	557607.16	557607.29	557607.42	0.0136	0.0023	
Saturn	-3187-11-18 22:33 J	557693.33	557693.44	557693.56	0.0299	0.0139	
Uranus	-3187-11-20 22:04 J	557695.29	557695.42	557695.55	0.0136	0.0005	
Saturn	-3186-02-15 11:02 J	557781.93	557781.96	557782.00	0.0300	0.0289	
Uranus	-3186-02-17 01:12 J	557783.42	557783.55	557783.68	0.0137	0.0014	
Uranus	-3186-05-16 04:19 J	557871.55	557871.68	557871.80	0.0137	0.0032	

Uranus	-3186-08-12 07:12 J	557959.68	557959.80	557959.93	0.0137	0.0050
Uranus	-3186-11-08 10:19 J	558047.82	558047.93	558048.05	0.0137	0.0068
Uranus	-3185-02-04 13:12 J	558135.96	558136.05	558136.16	0.0137	0.0087
Uranus	-3185-05-02 16:19 J	558224.11	558224.18	558224.27	0.0137	0.0105
Jupiter	-3185-07-27 15:21 J	558310.01	558310.14	558310.27	0.0528	0.0024
Mars	-3185-07-28 03:07 J	558310.52	558310.63	558310.74	0.1747	0.0526
Uranus	-3185-07-29 19:26 J	558312.26	558312.31	558312.37	0.0137	0.0123
Venus	-3184-04-15 00:14 J	558571.40	558571.51	558571.61	0.3681	0.0787
Mars	-3184-08-26 05:31 J	558704.70	558704.73	558704.76	0.1798	0.1764
Mars	-3183-07-03 09:07 J	559015.84	559015.88	559015.93	0.1721	0.1578
Jupiter	-3179-09-13 06:14 J	560548.58	560548.76	560548.95	0.0498	0.0013
Venus	-3179-10-29 15:50 J	560595.06	560595.16	560595.27	0.3682	0.0733
Moon	-3177-10-06 22:04 J	561303.32	561303.42	561303.53	0.2713	0.0583
Earth	-3177-10-06 22:47 J	561303.35	561303.45	561303.55	0.2711	0.0742 *
Mars	-3176-12-18 13:26 J	561740.97	561741.06	561741.15	0.1753	0.1063
Mars	-3174-01-16 00:57 J	562134.38	562134.54	562134.70	0.1790	0.0625
Mars	-3174-11-23 19:40 J	562446.24	562446.32	562446.41	0.1728	0.1083
Earth	-3173-04-01 06:43 J	562575.76	562575.78	562575.80	0.2624	0.2593
Venus	-3173-05-14 07:40 J	562618.74	562618.82	562618.90	0.3683	0.2190
Jupiter	-3173-05-15 20:09 J	562620.21	562620.34	562620.46	0.0529	0.0158
Saturn	-3173-06-20 11:02 J	562655.82	562655.96	562656.11	0.0263	0.0168
Jupiter	-3173-08-13 01:40 J	562709.49	562709.57	562709.65	0.0527	0.0405
Saturn	-3173-09-17 07:12 J	562744.61	562744.80	562744.99	0.0263	0.0023
Saturn	-3173-12-15 03:21 J	562833.48	562833.64	562833.81	0.0262	0.0124
Venus	-3168-11-27 23:16 J	564642.46	564642.47	564642.48	0.3685	0.3637
Jupiter	-3167-07-02 03:50 J	564858.49	564858.66	564858.83	0.0497	0.0185
Mars	-3166-05-10 23:31 J	565171.44	565171.48	565171.52	0.1760	0.1620
Mars	-3165-06-06 20:52 J	565564.21	565564.37	565564.54	0.1783	0.0476
Mars	-3164-04-15 06:28 J	565876.66	565876.77	565876.87	0.1734	0.0580
Moon	-3164-10-09 15:50 J	566054.10	566054.16	566054.23	0.2718	0.2095

Earth	-3164-10-09 16:04 J	566054.11	566054.17	566054.24	0.2712	0.2082 *
Jupiter	-3161-03-04 00:28 J	566930.41	566930.52	566930.62	0.0529	0.0295
Jupiter	-3161-06-01 06:14 J	567019.65	567019.76	567019.87	0.0527	0.0271
Moon	-3160-04-04 13:40 J	567326.91	567327.07	567327.23	0.2625	0.0052
Earth	-3160-04-04 15:21 J	567326.98	567327.14	567327.30	0.2623	0.0329 *
Saturn	-3158-10-12 21:21 J	568248.31	568248.39	568248.48	0.0298	0.0223
Saturn	-3157-01-09 10:04 J	568336.80	568336.92	568337.05	0.0299	0.0073
Saturn	-3157-04-06 22:47 J	568425.33	568425.45	568425.58	0.0299	0.0078
Saturn	-3157-07-04 11:31 J	568513.89	568513.98	568514.06	0.0300	0.0227
Moon	-3157-10-02 16:33 J	568604.10	568604.19	568604.27	0.2702	0.1685
Earth	-3157-10-02 16:47 J	568604.11	568604.20	568604.28	0.2709	0.1677 *
Mars	-3156-10-27 17:16 J	568994.14	568994.22	568994.31	0.1775	0.1535
Jupiter	-3155-04-20 01:40 J	569168.44	569168.57	569168.70	0.0497	0.0354
Jupiter	-3155-07-19 11:31 J	569258.86	569258.98	569259.11	0.0499	0.0366
Mars	-3155-09-05 16:47 J	569307.09	569307.20	569307.32	0.1740	0.0062
Pluto	-3154-08-03 09:21 J	569638.87	569638.89	569638.90	0.0073	0.0072
Pluto	-3154-10-30 11:02 J	569726.87	569726.96	569727.05	0.0073	0.0061
Pluto	-3153-01-26 12:28 J	569814.91	569815.02	569815.16	0.0072	0.0050
Pluto	-3153-04-23 14:23 J	569902.96	569903.10	569903.25	0.0072	0.0039
Pluto	-3153-07-20 16:19 J	569991.02	569991.18	569991.34	0.0072	0.0028
Pluto	-3153-10-16 17:45 J	570079.09	570079.24	570079.42	0.0072	0.0018
Pluto	-3152-01-12 19:40 J	570167.15	570167.32	570167.50	0.0072	0.0007
Pluto	-3152-04-10 21:36 J	570255.22	570255.40	570255.57	0.0072	0.0004
Pluto	-3152-07-07 23:02 J	570343.30	570343.46	570343.64	0.0072	0.0014
Pluto	-3152-10-04 00:43 J	570431.37	570431.53	570431.70	0.0072	0.0024
Pluto	-3152-12-31 02:23 J	570519.45	570519.60	570519.76	0.0071	0.0035
Pluto	-3151-03-29 04:04 J	570607.54	570607.67	570607.81	0.0071	0.0045
Pluto	-3151-06-25 05:45 J	570695.63	570695.74	570695.85	0.0071	0.0055
Pluto	-3151-09-21 07:26 J	570783.74	570783.81	570783.88	0.0071	0.0065
Neptune	-3150-08-05 08:52 J	571101.79	571101.87	571101.95	0.0088	0.0079

Neptune -3150-11-01 11:45 J 571189.90 571189.99 571190.12 0.0088 0.0070

Jupiter -3150-12-22 04:33 J 571240.62 571240.69 571240.76 0.0529 0.0437

Neptune -3149-01-28 15:36 J 571278.01 571278.15 571278.29 0.0088 0.0060

Jupiter -3149-03-20 10:33 J 571329.82 571329.94 571330.07 0.0528 0.0133

Neptune -3149-04-25 18:43 J 571366.14 571366.28 571366.45 0.0088 0.0051

Neptune -3149-07-22 22:19 J 571454.27 571454.43 571454.61 0.0088 0.0041

Neptune -3149-10-19 01:55 J 571542.40 571542.58 571542.76 0.0088 0.0031

Neptune -3148-01-15 05:02 J 571630.54 571630.71 571630.91 0.0088 0.0022

Venus -3148-04-10 15:21 J 571715.99 571716.14 571716.29 0.3689 0.0692

Neptune -3148-04-13 08:38 J 571718.67 571718.86 571719.06 0.0088 0.0012

Neptune -3148-07-10 12:14 J 571806.82 571807.01 571807.20 0.0088 0.0002

Neptune -3148-10-06 15:36 J 571894.96 571895.15 571895.35 0.0088 0.0008

Uranus -3148-10-09 03:07 J 571897.54 571897.63 571897.75 0.0142 0.0119

Neptune -3147-01-02 19:12 J 571983.11 571983.30 571983.49 0.0088 0.0017

Uranus -3147-01-05 11:45 J 571985.84 571985.99 571986.14 0.0142 0.0088

Neptune -3147-03-31 22:33 J 572071.26 572071.44 572071.63 0.0088 0.0027

Uranus -3147-04-03 19:55 J 572074.16 572074.33 572074.52 0.0142 0.0057

Neptune -3147-06-28 01:55 J 572159.41 572159.58 572159.77 0.0088 0.0037

Uranus -3147-07-01 04:19 J 572162.49 572162.68 572162.88 0.0142 0.0027

Neptune -3147-09-24 05:16 J 572247.57 572247.72 572247.90 0.0088 0.0047

Uranus -3147-09-27 12:43 J 572250.84 572251.03 572251.23 0.0142 0.0006

Neptune -3147-12-21 08:38 J 572335.73 572335.86 572336.03 0.0088 0.0057

Uranus -3147-12-24 21:07 J 572339.19 572339.38 572339.57 0.0142 0.0035

Neptune -3146-03-19 12:14 J 572423.90 572424.01 572424.15 0.0088 0.0067

Uranus -3146-03-23 05:31 J 572427.56 572427.73 572427.91 0.0142 0.0066

Neptune -3146-06-15 16:04 J 572512.08 572512.17 572512.27 0.0088 0.0076

Uranus -3146-06-19 13:40 J 572515.94 572516.07 572516.23 0.0141 0.0097

Neptune -3146-09-11 19:40 J 572600.29 572600.32 572600.36 0.0088 0.0086

Uranus -3146-09-15 22:19 J 572604.35 572604.43 572604.52 0.0141 0.0127

Mars -3145-01-27 03:21 J 572737.52 572737.64 572737.75 0.1747 0.0467

Moon	-3144-10-05 09:36 J	573354.79	573354.90	573355.00	0.2709	0.0468
Earth	-3144-10-05 10:04 J	573354.82	573354.92	573355.03	0.2710	0.0337 *
Saturn	-3144-11-07 08:38 J	573387.77	573387.86	573387.95	0.0263	0.0224
Mars	-3143-01-01 09:07 J	573442.85	573442.88	573442.91	0.1722	0.1629
Saturn	-3143-02-04 04:33 J	573476.52	573476.69	573476.87	0.0263	0.0079
Saturn	-3143-05-04 00:43 J	573565.35	573565.53	573565.71	0.0262	0.0067
Jupiter	-3143-05-07 09:21 J	573568.72	573568.89	573569.06	0.0499	0.0193
Saturn	-3143-07-31 20:52 J	573654.27	573654.37	573654.49	0.0262	0.0214
Venus	-3139-10-21 13:55 J	575197.03	575197.08	575197.12	0.3679	0.3289
Jupiter	-3137-01-07 14:38 J	575639.98	575640.11	575640.23	0.0528	0.0016
Mars	-3136-06-18 13:26 J	576167.97	576168.06	576168.15	0.1753	0.1007
Mars	-3135-07-17 01:40 J	576561.41	576561.57	576561.72	0.1790	0.0721
Mars	-3134-05-24 19:55 J	576873.24	576873.33	576873.41	0.1728	0.1141
Venus	-3133-05-06 05:45 J	577220.65	577220.74	577220.83	0.3680	0.1761
Jupiter	-3131-02-23 06:43 J	577878.59	577878.78	577878.96	0.0498	0.0020
Moon	-3131-10-08 02:52 J	578105.52	578105.62	578105.72	0.2713	0.0985
Earth	-3131-10-08 03:36 J	578105.55	578105.65	578105.75	0.2711	0.1015 *
Saturn	-3128-02-28 22:33 J	578980.40	578980.44	578980.50	0.0298	0.0274
Saturn	-3128-05-28 11:31 J	579068.86	579068.98	579069.10	0.0298	0.0123
Saturn	-3128-08-25 00:14 J	579157.38	579157.51	579157.64	0.0299	0.0027
Venus	-3128-11-19 21:36 J	579244.30	579244.40	579244.51	0.3681	0.0266
Saturn	-3128-11-21 12:57 J	579245.93	579246.04	579246.14	0.0299	0.0177
Moon	-3127-04-02 11:45 J	579377.90	579377.99	579378.07	0.2623	0.2241
Earth	-3127-04-02 13:40 J	579377.97	579378.07	579378.17	0.2624	0.2027 *
Mars	-3127-11-08 23:31 J	579598.43	579598.48	579598.53	0.1760	0.1561
Jupiter	-3126-10-26 18:57 J	579950.17	579950.29	579950.41	0.0529	0.0150
Mars	-3126-12-06 21:50 J	579991.24	579991.41	579991.57	0.1783	0.0371
Jupiter	-3125-01-24 00:43 J	580039.45	580039.53	580039.60	0.0527	0.0411
Mars	-3125-10-14 06:28 J	580303.66	580303.77	580303.87	0.1734	0.0636
Venus	-3122-06-05 13:26 J	581267.96	581268.06	581268.16	0.3683	0.1225

Jupiter	-3120-12-12 02:38 J	582188.44	582188.61	582188.79	0.0497	0.0175
Moon	-3118-10-10 20:38 J	582856.31	582856.36	582856.42	0.2719	0.2278
Earth	-3118-10-10 20:52 J	582856.32	582856.37	582856.42	0.2712	0.2354 *
Venus	-3117-12-19 05:02 J	583291.64	583291.71	583291.78	0.3684	0.2689
Mars	-3116-04-27 18:14 J	583421.16	583421.26	583421.35	0.1775	0.1433
Mars	-3115-03-06 16:47 J	583734.09	583734.20	583734.32	0.1740	0.0121
Moon	-3114-04-05 20:38 J	584129.21	584129.36	584129.52	0.2627	0.0776
Earth	-3114-04-05 22:19 J	584129.27	584129.43	584129.58	0.2623	0.0898 *
Saturn	-3114-06-24 04:04 J	584208.51	584208.67	584208.84	0.0263	0.0120
Jupiter	-3114-08-14 23:31 J	584260.38	584260.48	584260.59	0.0530	0.0286
Saturn	-3114-09-21 00:14 J	584297.32	584297.51	584297.70	0.0263	0.0026
Jupiter	-3114-11-12 05:31 J	584349.62	584349.73	584349.83	0.0528	0.0282
Saturn	-3114-12-18 20:23 J	584386.21	584386.35	584386.50	0.0262	0.0174
Moon	-3111-10-03 21:07 J	585406.29	585406.38	585406.47	0.2703	0.1450
Earth	-3111-10-03 21:36 J	585406.31	585406.40	585406.49	0.2709	0.1404 *
Jupiter	-3108-09-30 00:14 J	586498.39	586498.51	586498.65	0.0497	0.0345
Jupiter	-3108-12-29 10:19 J	586588.81	586588.93	586589.05	0.0499	0.0373
Mars	-3106-07-28 03:07 J	587164.52	587164.63	587164.74	0.1746	0.0413
Uranus	-3104-04-03 07:12 J	587779.77	587779.80	587779.85	0.0136	0.0129
Uranus	-3104-06-30 10:33 J	587867.87	587867.94	587868.01	0.0136	0.0110
Mars	-3104-07-02 09:07 J	587869.86	587869.88	587869.90	0.1721	0.1683
Uranus	-3104-09-26 13:40 J	587955.97	587956.07	587956.16	0.0136	0.0092
Uranus	-3104-12-23 16:47 J	588044.09	588044.20	588044.31	0.0136	0.0074
Uranus	-3103-03-21 19:40 J	588132.21	588132.32	588132.45	0.0136	0.0057
Uranus	-3103-06-17 22:47 J	588220.33	588220.45	588220.58	0.0136	0.0038
Uranus	-3103-09-14 01:55 J	588308.45	588308.58	588308.71	0.0136	0.0020
Uranus	-3103-12-11 05:02 J	588396.58	588396.71	588396.84	0.0136	0.0004
Uranus	-3102-03-09 08:09 J	588484.71	588484.84	588484.97	0.0137	0.0017
Jupiter	-3102-06-03 03:50 J	588570.59	588570.66	588570.74	0.0530	0.0424
Uranus	-3102-06-05 11:16 J	588572.84	588572.97	588573.10	0.0137	0.0035

Jupiter	-3102-08-31 09:50 J	588659.79	588659.91	588660.04	0.0528	0.0148
Uranus	-3102-09-01 14:23 J	588660.98	588661.10	588661.22	0.0137	0.0053
Uranus	-3102-11-28 17:16 J	588749.12	588749.22	588749.34	0.0137	0.0072
Uranus	-3101-02-24 20:23 J	588837.26	588837.35	588837.45	0.0137	0.0090
Uranus	-3101-05-22 23:31 J	588925.41	588925.48	588925.56	0.0137	0.0108
Uranus	-3101-08-19 02:38 J	589013.56	589013.61	589013.66	0.0137	0.0126
Saturn	-3099-10-15 11:45 J	589800.89	589800.99	589801.10	0.0298	0.0184
Saturn	-3098-01-12 00:28 J	589889.39	589889.52	589889.66	0.0298	0.0035
Saturn	-3098-04-10 13:12 J	589977.93	589978.05	589978.17	0.0299	0.0116
Saturn	-3098-07-08 01:40 J	590066.52	590066.57	590066.63	0.0299	0.0265
Moon	-3098-10-06 14:09 J	590156.99	590157.09	590157.20	0.2709	0.0148
Earth	-3098-10-06 14:52 J	590157.02	590157.12	590157.23	0.2710	0.0080 *
Venus	-3097-05-01 09:07 J	590364.77	590364.88	590365.00	0.3691	0.2364
Mars	-3097-12-17 13:26 J	590594.96	590595.06	590595.16	0.1753	0.0949
Jupiter	-3096-10-17 07:55 J	590898.66	590898.83	590899.00	0.0498	0.0199
Mars	-3095-01-15 02:38 J	590988.46	590988.61	590988.76	0.1790	0.0833
Mars	-3095-11-22 19:40 J	591300.24	591300.32	591300.40	0.1728	0.1190
Venus	-3092-11-15 17:31 J	592389.10	592389.23	592389.35	0.3689	0.2146
Jupiter	-3090-06-19 14:23 J	592969.97	592970.10	592970.22	0.0528	0.0020
Mars	-3087-05-09 23:31 J	594025.43	594025.48	594025.54	0.1759	0.1499
Mars	-3086-06-06 22:33 J	594418.27	594418.44	594418.61	0.1783	0.0275
Mars	-3085-04-14 06:28 J	594730.66	594730.77	594730.87	0.1734	0.0693
Moon	-3085-10-08 07:40 J	594907.73	594907.82	594907.92	0.2714	0.1164
Earth	-3085-10-08 08:23 J	594907.75	594907.85	594907.94	0.2711	0.1292 *
Saturn	-3085-11-10 01:26 J	594940.42	594940.56	594940.69	0.0263	0.0178
Saturn	-3084-02-06 21:21 J	595029.21	595029.39	595029.58	0.0263	0.0032
Saturn	-3084-05-06 17:31 J	595118.07	595118.23	595118.40	0.0262	0.0115
Jupiter	-3084-08-05 05:31 J	595208.54	595208.73	595208.91	0.0498	0.0028
Venus	-3082-05-28 11:16 J	595869.91	595869.97	595870.04	0.3679	0.2768
Moon	-3081-04-02 18:43 J	596180.16	596180.28	596180.40	0.2623	0.1713

Earth -3081-04-02 20:23 J 596180.22 596180.35 596180.49 0.2624 0.1464 *

Jupiter -3078-04-07 18:14 J 597280.14 597280.26 597280.38 0.0529 0.0139

Jupiter -3078-07-05 23:45 J 597369.42 597369.49 597369.57 0.0527 0.0422

Moon -3078-10-02 08:52 J 597457.82 597457.87 597457.91 0.2701 0.2421

Earth -3078-10-02 08:52 J 597457.83 597457.87 597457.91 0.2708 0.2479 *

Mars -3077-10-26 18:43 J 597848.17 597848.28 597848.39 0.1776 0.1343

Venus -3077-12-11 03:21 J 597893.54 597893.64 597893.74 0.3680 0.1237

Mars -3076-09-04 16:47 J 598161.09 598161.20 598161.32 0.1740 0.0177

Jupiter -3072-05-24 02:52 J 599518.45 599518.62 599518.80 0.0498 0.0147

Moon -3072-10-11 01:26 J 599658.55 599658.56 599658.58 0.2719 0.2676

Earth -3072-10-11 01:40 J 599658.55 599658.57 599658.59 0.2712 0.2627 *

Venus -3071-06-26 19:12 J 599917.19 599917.30 599917.40 0.3682 0.0263

Saturn -3069-03-03 13:12 J 600532.97 600533.05 600533.13 0.0298 0.0233

Saturn -3069-05-31 02:09 J 600621.46 600621.59 600621.71 0.0298 0.0083

Saturn -3069-08-27 14:38 J 600709.99 600710.11 600710.24 0.0299 0.0067

Saturn -3069-11-24 03:21 J 600798.55 600798.64 600798.73 0.0299 0.0216

Neptune -3068-02-18 21:21 J 600885.36 600885.39 600885.44 0.0089 0.0085

Moon -3068-04-06 03:50 J 600931.52 600931.66 600931.80 0.2627 0.1296

Earth -3068-04-06 05:02 J 600931.58 600931.71 600931.85 0.2622 0.1475 *

Neptune -3068-05-17 23:02 J 600973.39 600973.46 600973.52 0.0089 0.0078

Neptune -3068-08-14 00:14 J 601061.44 601061.51 601061.60 0.0089 0.0071

Neptune -3068-11-10 01:40 J 601149.48 601149.57 601149.67 0.0089 0.0063

Neptune -3067-02-06 02:52 J 601237.53 601237.62 601237.74 0.0089 0.0057

Neptune -3067-05-05 04:19 J 601325.58 601325.68 601325.80 0.0089 0.0050

Neptune -3067-08-01 06:00 J 601413.63 601413.75 601413.87 0.0089 0.0042

Neptune -3067-10-28 07:26 J 601501.68 601501.81 601501.93 0.0089 0.0035

Neptune -3066-01-24 08:38 J 601589.74 601589.86 601589.99 0.0089 0.0028

Jupiter -3066-01-24 22:33 J 601590.33 601590.44 601590.55 0.0529 0.0278

Mars -3066-01-26 03:07 J 601591.52 601591.63 601591.74 0.1746 0.0354

Neptune -3066-04-22 10:04 J 601677.79 601677.92 601678.05 0.0089 0.0020

Jupiter -3066-04-24 04:19 J 601679.58 601679.68 601679.79 0.0528 0.0288

Neptune -3066-07-19 11:31 J 601765.85 601765.98 601766.11 0.0089 0.0013

Neptune -3066-10-15 12:57 J 601853.90 601854.04 601854.17 0.0089 0.0006

Venus -3065-01-10 10:47 J 601940.86 601940.95 601941.05 0.3683 0.1736

Neptune -3065-01-11 14:09 J 601941.96 601942.09 601942.23 0.0089 0.0003

Neptune -3065-04-08 15:36 J 602030.02 602030.15 602030.28 0.0089 0.0008

Neptune -3065-07-05 17:02 J 602118.08 602118.21 602118.34 0.0089 0.0015

Neptune -3065-10-01 18:14 J 602206.14 602206.26 602206.39 0.0089 0.0023

Moon -3065-10-04 01:55 J 602208.48 602208.58 602208.67 0.2704 0.1213

Earth -3065-10-04 02:23 J 602208.50 602208.60 602208.69 0.2709 0.1134 *

Neptune -3065-12-28 19:40 J 602294.20 602294.32 602294.45 0.0089 0.0029

Neptune -3064-03-26 20:52 J 602382.26 602382.37 602382.50 0.0089 0.0037

Neptune -3064-06-22 22:19 J 602470.32 602470.43 602470.55 0.0089 0.0043

Neptune -3064-09-18 23:45 J 602558.38 602558.49 602558.60 0.0089 0.0050

Uranus -3064-10-29 10:04 J 602598.82 602598.92 602599.05 0.0142 0.0113

Neptune -3064-12-16 00:57 J 602646.45 602646.54 602646.65 0.0089 0.0058

Uranus -3063-01-25 18:43 J 602687.13 602687.28 602687.44 0.0142 0.0081

Neptune -3063-03-14 02:23 J 602734.51 602734.60 602734.69 0.0089 0.0064

Uranus -3063-04-24 03:07 J 602775.45 602775.63 602775.81 0.0142 0.0051

Neptune -3063-06-10 03:36 J 602822.58 602822.65 602822.74 0.0089 0.0072

Uranus -3063-07-21 11:31 J 602863.79 602863.98 602864.17 0.0142 0.0020

Neptune -3063-09-06 04:47 J 602910.65 602910.70 602910.77 0.0089 0.0079

Uranus -3063-10-17 19:55 J 602952.13 602952.33 602952.52 0.0142 0.0010

Neptune -3063-12-03 06:14 J 602998.73 602998.76 602998.81 0.0089 0.0086

Uranus -3062-01-14 04:19 J 603040.49 603040.68 603040.87 0.0142 0.0041

Uranus -3062-04-12 12:28 J 603128.86 603129.02 603129.20 0.0142 0.0072

Uranus -3062-07-09 20:52 J 603217.24 603217.37 603217.51 0.0141 0.0102

Uranus -3062-10-06 05:31 J 603305.66 603305.73 603305.79 0.0141 0.0133

Jupiter -3060-03-11 23:16 J 603828.34 603828.47 603828.61 0.0497 0.0334

Jupiter -3060-06-10 09:07 J 603918.77 603918.88 603919.00 0.0498 0.0384

Venus	-3060-07-26 02:38 J	603964.56	603964.61	603964.66	0.3684	0.3180
Mars	-3057-06-17 13:26 J	605021.96	605022.06	605022.16	0.1753	0.0892
Mars	-3056-07-16 03:36 J	605415.51	605415.65	605415.79	0.1791	0.0944
Saturn	-3055-03-30 00:43 J	605672.44	605672.53	605672.64	0.0264	0.0218
Mars	-3055-05-23 19:40 J	605727.24	605727.32	605727.40	0.1727	0.1246
Saturn	-3055-06-26 20:52 J	605761.19	605761.37	605761.55	0.0264	0.0072
Saturn	-3055-09-23 17:02 J	605850.03	605850.21	605850.39	0.0263	0.0075
Jupiter	-3055-11-13 02:52 J	605900.54	605900.62	605900.70	0.0530	0.0417
Saturn	-3055-12-21 13:12 J	605938.96	605939.05	605939.16	0.0263	0.0223
Jupiter	-3054-02-10 08:52 J	605989.75	605989.87	605989.99	0.0529	0.0156
Moon	-3052-10-06 18:57 J	606959.19	606959.29	606959.40	0.2709	0.0113
Earth	-3052-10-06 19:40 J	606959.21	606959.32	606959.43	0.2710	0.0221 *
Jupiter	-3048-03-29 06:28 J	608228.60	608228.77	608228.94	0.0498	0.0207
Mars	-3048-11-07 23:31 J	608452.41	608452.48	608452.54	0.1759	0.1448
Mars	-3047-12-05 23:16 J	608845.30	608845.47	608845.64	0.1783	0.0173
Mars	-3046-10-14 06:14 J	609157.66	609157.76	609157.87	0.1734	0.0743
Jupiter	-3043-11-29 13:26 J	610299.93	610300.06	610300.19	0.0529	0.0020
Venus	-3041-12-06 11:02 J	611037.81	611037.96	611038.10	0.3690	0.0988
Saturn	-3040-07-21 13:55 J	611265.05	611265.08	611265.11	0.0297	0.0289
Saturn	-3040-10-18 02:38 J	611353.50	611353.61	611353.73	0.0298	0.0140
Saturn	-3039-01-14 15:21 J	611442.01	611442.14	611442.27	0.0298	0.0010
Saturn	-3039-04-13 04:04 J	611530.56	611530.67	611530.78	0.0299	0.0158
Moon	-3039-10-09 12:43 J	611709.94	611710.03	611710.11	0.2716	0.1544
Earth	-3039-10-09 12:57 J	611709.96	611710.04	611710.13	0.2711	0.1566 *
Mars	-3037-04-26 19:40 J	612275.20	612275.32	612275.44	0.1776	0.1233
Jupiter	-3036-01-15 04:04 J	612538.48	612538.67	612538.85	0.0498	0.0035
Mars	-3036-03-05 16:47 J	612588.08	612588.20	612588.31	0.1740	0.0230
Moon	-3035-04-04 01:26 J	612982.42	612982.56	612982.72	0.2625	0.1043
Earth	-3035-04-04 03:21 J	612982.48	612982.64	612982.79	0.2624	0.0903 *
Venus	-3035-06-22 19:26 J	613062.28	613062.31	613062.34	0.3688	0.3615

Moon	-3032-10-02 13:40 J	614260.01	614260.07	614260.12	0.2701	0.2250
Earth	-3032-10-02 13:40 J	614260.01	614260.07	614260.13	0.2708	0.2207 *
Jupiter	-3031-09-17 17:45 J	614610.12	614610.24	614610.36	0.0529	0.0120
Jupiter	-3031-12-15 23:31 J	614699.41	614699.48	614699.54	0.0527	0.0440
Mars	-3027-07-27 03:07 J	616018.52	616018.63	616018.75	0.1746	0.0298
Saturn	-3026-11-13 18:00 J	616493.10	616493.25	616493.42	0.0264	0.0131
Venus	-3025-01-02 08:52 J	616542.79	616542.87	616542.96	0.3679	0.2236
Saturn	-3025-02-10 14:23 J	616581.91	616582.10	616582.28	0.0263	0.0017
Saturn	-3025-05-09 10:33 J	616670.80	616670.94	616671.09	0.0263	0.0164
Jupiter	-3025-11-03 01:40 J	616848.39	616848.57	616848.75	0.0498	0.0137
Moon	-3022-04-07 10:33 J	617733.83	617733.94	617734.05	0.2627	0.1879
Earth	-3022-04-07 12:00 J	617733.90	617734.00	617734.10	0.2622	0.2034 *
Uranus	-3020-04-23 14:23 J	618481.06	618481.10	618481.16	0.0136	0.0125
Venus	-3020-07-18 00:57 J	618566.43	618566.54	618566.64	0.3681	0.0737
Uranus	-3020-07-20 17:31 J	618569.16	618569.23	618569.32	0.0136	0.0107
Uranus	-3020-10-16 20:52 J	618657.27	618657.37	618657.47	0.0136	0.0089
Uranus	-3019-01-13 00:00 J	618745.39	618745.50	618745.61	0.0136	0.0070
Uranus	-3019-04-11 02:52 J	618833.51	618833.62	618833.75	0.0136	0.0053
Jupiter	-3019-07-06 21:36 J	618920.29	618920.40	618920.51	0.0529	0.0268
Uranus	-3019-07-08 06:00 J	618921.63	618921.75	618921.88	0.0136	0.0034
Jupiter	-3019-10-04 03:21 J	619009.54	619009.64	619009.75	0.0527	0.0298
Uranus	-3019-10-04 09:07 J	619009.75	619009.88	619010.01	0.0136	0.0016 *
Moon	-3019-10-05 06:28 J	619010.67	619010.77	619010.87	0.2705	0.0896
Earth	-3019-10-05 06:57 J	619010.69	619010.79	619010.89	0.2709	0.0860 *
Uranus	-3019-12-31 12:14 J	619097.88	619098.01	619098.14	0.0137	0.0003
Uranus	-3018-03-29 15:21 J	619186.01	619186.14	619186.27	0.0137	0.0021
Uranus	-3018-06-25 18:28 J	619274.15	619274.27	619274.40	0.0137	0.0039
Uranus	-3018-09-21 21:36 J	619362.28	619362.40	619362.52	0.0137	0.0057
Mars	-3018-12-17 13:26 J	619448.96	619449.06	619449.16	0.1753	0.0833
Uranus	-3018-12-19 00:28 J	619450.42	619450.52	619450.64	0.0137	0.0076

Uranus	-3017-03-16 03:36 J	619538.56	619538.65	619538.75	0.0137	0.0094
Uranus	-3017-06-12 06:43 J	619626.71	619626.78	619626.86	0.0137	0.0112
Uranus	-3017-09-08 09:50 J	619714.88	619714.91	619714.95	0.0137	0.0130
Mars	-3016-01-14 04:04 J	619842.53	619842.67	619842.81	0.1791	0.1030
Mars	-3016-11-21 19:40 J	620154.25	620154.32	620154.40	0.1727	0.1303
Venus	-3014-01-31 16:33 J	620590.09	620590.19	620590.30	0.3682	0.0777
Jupiter	-3013-08-21 23:16 J	621158.33	621158.47	621158.61	0.0497	0.0310
Jupiter	-3013-11-20 09:07 J	621248.78	621248.88	621248.99	0.0499	0.0410
Saturn	-3010-03-07 04:04 J	622085.57	622085.67	622085.77	0.0297	0.0189
Saturn	-3010-06-03 16:47 J	622174.07	622174.20	622174.33	0.0298	0.0040
Saturn	-3010-08-31 05:31 J	622262.61	622262.73	622262.85	0.0299	0.0110
Saturn	-3010-11-27 18:00 J	622351.19	622351.25	622351.32	0.0299	0.0258
Venus	-3009-08-16 08:23 J	622613.77	622613.85	622613.93	0.3683	0.2229
Mars	-3008-05-08 23:31 J	622879.41	622879.48	622879.55	0.1759	0.1387
Jupiter	-3007-04-25 01:55 J	623230.50	623230.58	623230.66	0.0530	0.0409
Mars	-3007-06-06 00:14 J	623272.34	623272.51	623272.68	0.1783	0.0063
Jupiter	-3007-07-23 07:55 J	623319.71	623319.83	623319.95	0.0528	0.0162
Mars	-3006-04-14 06:14 J	623584.66	623584.76	623584.86	0.1733	0.0798
Moon	-3006-10-07 23:45 J	623761.39	623761.49	623761.60	0.2710	0.0401
Earth	-3006-10-08 00:28 J	623761.41	623761.52	623761.62	0.2710	0.0492 *
Venus	-3003-03-02 00:00 J	624637.50	624637.50	624637.51	0.3684	0.3674
Jupiter	-3001-06-09 19:55 J	625468.31	625468.33	625468.35	0.0496	0.0492
Jupiter	-3001-09-08 05:16 J	625558.55	625558.72	625558.89	0.0498	0.0217

3RD MILLENNIUM BCE

This is a list of transits of Mercury in the 3rd millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Mars	**-2998-10-26 20:23**	**J**	**626702.22**	**626702.35**	**626702.48**	**0.1776**	**0.1136**	
Mars	**-2997-09-03 16:47**	**J**	**627015.08**	**627015.20**	**627015.31**	**0.1740**	**0.0287**	
Saturn	**-2996-04-01 17:45**	**J**	**627225.11**	**627225.24**	**627225.39**	**0.0264**	**0.0169**	
Saturn	**-2996-06-29 13:55**	**J**	**627313.90**	**627314.08**	**627314.27**	**0.0264**	**0.0024**	
Saturn	**-2996-09-26 10:19**	**J**	**627402.77**	**627402.93**	**627403.10**	**0.0263**	**0.0125**	
Jupiter	**-2995-05-11 12:14**	**J**	**627629.89**	**627630.01**	**627630.14**	**0.0529**	**0.0030**	
Pluto	**-2993-07-25 13:40**	**J**	**628436.02**	**628436.07**	**628436.14**	**0.0072**	**0.0065**	
Moon	**-2993-10-09 17:31**	**J**	**628512.15**	**628512.23**	**628512.31**	**0.2717**	**0.1756**	
Earth	**-2993-10-09 17:45**	**J**	**628512.17**	**628512.24**	**628512.32**	**0.2711**	**0.1835**	*****
Pluto	**-2993-10-21 14:38**	**J**	**628524.03**	**628524.11**	**628524.21**	**0.0072**	**0.0056**	
Pluto	**-2992-01-17 15:50**	**J**	**628612.06**	**628612.16**	**628612.27**	**0.0072**	**0.0047**	
Pluto	**-2992-04-15 16:47**	**J**	**628700.08**	**628700.20**	**628700.33**	**0.0072**	**0.0039**	
Pluto	**-2992-07-12 18:00**	**J**	**628788.12**	**628788.25**	**628788.38**	**0.0072**	**0.0030**	
Pluto	**-2992-10-08 18:57**	**J**	**628876.15**	**628876.29**	**628876.43**	**0.0072**	**0.0021**	
Pluto	**-2991-01-04 19:55**	**J**	**628964.19**	**628964.33**	**628964.48**	**0.0072**	**0.0012**	
Pluto	**-2991-04-02 20:52**	**J**	**629052.23**	**629052.37**	**629052.52**	**0.0073**	**0.0004**	
Pluto	**-2991-06-29 22:04**	**J**	**629140.27**	**629140.42**	**629140.56**	**0.0073**	**0.0007**	
Pluto	**-2991-09-25 23:02**	**J**	**629228.32**	**629228.46**	**629228.60**	**0.0073**	**0.0016**	
Pluto	**-2991-12-23 00:00**	**J**	**629316.37**	**629316.50**	**629316.64**	**0.0073**	**0.0025**	
Pluto	**-2990-03-21 00:57**	**J**	**629404.42**	**629404.54**	**629404.68**	**0.0073**	**0.0035**	
Pluto	**-2990-06-17 02:09**	**J**	**629492.48**	**629492.59**	**629492.71**	**0.0073**	**0.0044**	
Pluto	**-2990-09-13 03:21**	**J**	**629580.54**	**629580.64**	**629580.74**	**0.0073**	**0.0054**	
Pluto	**-2990-12-10 04:19**	**J**	**629668.62**	**629668.68**	**629668.76**	**0.0073**	**0.0064**	
Pluto	**-2989-03-07 05:16**	**J**	**629756.72**	**629756.72**	**629756.74**	**0.0074**	**0.0074**	
Moon	**-2989-04-04 08:38**	**J**	**629784.70**	**629784.86**	**629785.02**	**0.2626**	**0.0626**	
Earth	**-2989-04-04 10:19**	**J**	**629784.77**	**629784.93**	**629785.09**	**0.2623**	**0.0325**	*****

Jupiter -2989-06-27 02:38 J 629868.42 629868.61 629868.79 0.0497 0.0041

Mars -2987-01-25 03:07 J 630445.52 630445.63 630445.74 0.1746 0.0240

Moon -2986-10-03 18:14 J 631062.18 631062.26 631062.34 0.2702 0.1891

Earth -2986-10-03 18:28 J 631062.19 631062.27 631062.34 0.2708 0.1938 *

Neptune -2985-02-03 04:19 J 631184.63 631184.68 631184.73 0.0088 0.0084

Neptune -2985-05-01 07:26 J 631272.73 631272.81 631272.92 0.0088 0.0075

Neptune -2985-07-28 11:02 J 631360.84 631360.96 631361.09 0.0088 0.0065

Neptune -2985-10-24 14:09 J 631448.96 631449.09 631449.25 0.0088 0.0056

Neptune -2984-01-20 17:45 J 631537.09 631537.24 631537.41 0.0088 0.0046

Neptune -2984-04-18 21:07 J 631625.22 631625.38 631625.56 0.0088 0.0037

Venus -2984-07-13 12:57 J 631710.88 631711.04 631711.19 0.3690 0.0457

Neptune -2984-07-16 00:43 J 631713.35 631713.53 631713.72 0.0088 0.0027

Neptune -2984-10-12 04:04 J 631801.49 631801.67 631801.86 0.0088 0.0017

Neptune -2983-01-08 07:40 J 631889.63 631889.82 631890.01 0.0088 0.0008

Jupiter -2983-02-27 16:47 J 631940.07 631940.20 631940.32 0.0529 0.0113

Neptune -2983-04-06 11:02 J 631977.77 631977.96 631978.16 0.0088 0.0002

Jupiter -2983-05-27 22:19 J 632029.37 632029.43 632029.50 0.0527 0.0449

Neptune -2983-07-03 14:23 J 632065.92 632066.10 632066.30 0.0088 0.0012

Neptune -2983-09-29 17:45 J 632154.06 632154.24 632154.44 0.0088 0.0022

Neptune -2983-12-26 21:07 J 632242.21 632242.38 632242.58 0.0088 0.0032

Neptune -2982-03-25 00:57 J 632330.37 632330.54 632330.71 0.0088 0.0041

Neptune -2982-06-21 04:19 J 632418.53 632418.68 632418.84 0.0088 0.0051

Neptune -2982-09-17 07:40 J 632506.69 632506.82 632506.97 0.0088 0.0061

Neptune -2982-12-14 11:02 J 632594.86 632594.96 632595.09 0.0088 0.0071

Neptune -2981-03-11 14:23 J 632683.05 632683.10 632683.20 0.0088 0.0081

Saturn -2981-07-24 05:16 J 632817.64 632817.72 632817.80 0.0297 0.0240

Saturn -2981-10-20 18:00 J 632906.12 632906.25 632906.38 0.0297 0.0091

Saturn -2980-01-17 06:43 J 632994.65 632994.78 632994.91 0.0298 0.0058

Saturn -2980-04-15 19:12 J 633083.21 633083.30 633083.39 0.0299 0.0206

Uranus -2980-08-22 09:36 J 633211.85 633211.90 633211.98 0.0142 0.0134

Uranus	-2980-11-18 18:00 J	633300.13	633300.25	633300.39	0.0142	0.0104
Uranus	-2979-02-15 02:23 J	633388.44	633388.60	633388.77	0.0142	0.0073
Uranus	-2979-05-14 10:47 J	633476.77	633476.95	633477.14	0.0142	0.0042
Uranus	-2979-08-10 19:12 J	633565.11	633565.30	633565.50	0.0142	0.0012
Uranus	-2979-11-07 03:36 J	633653.46	633653.65	633653.85	0.0142	0.0019
Uranus	-2978-02-03 12:00 J	633741.82	633742.00	633742.19	0.0142	0.0050
Uranus	-2978-05-02 20:09 J	633830.19	633830.34	633830.51	0.0141	0.0081
Mars	-2978-06-17 13:26 J	633875.96	633876.06	633876.16	0.1753	0.0780
Uranus	-2978-07-30 04:47 J	633918.58	633918.70	633918.82	0.0141	0.0111
Uranus	-2978-10-26 13:12 J	634007.05	634007.05	634007.06	0.0141	0.0141
Jupiter	-2977-04-15 00:00 J	634178.33	634178.50	634178.68	0.0497	0.0133
Mars	-2977-07-15 05:02 J	634269.59	634269.71	634269.85	0.1791	0.1150
Moon	-2976-04-07 17:45 J	634536.19	634536.24	634536.28	0.2627	0.2498
Earth	-2976-04-07 18:57 J	634536.27	634536.29	634536.30	0.2622	0.2609 *
Mars	-2976-05-22 19:40 J	634581.25	634581.32	634581.39	0.1727	0.1353
Venus	-2974-01-23 14:38 J	635192.06	635192.11	635192.15	0.3678	0.3238
Moon	-2973-10-05 11:16 J	635812.86	635812.97	635813.07	0.2705	0.0721
Earth	-2973-10-05 11:45 J	635812.89	635812.99	635813.10	0.2709	0.0585 *
Jupiter	-2972-12-16 21:07 J	636250.27	636250.38	636250.49	0.0529	0.0253
Jupiter	-2971-03-16 02:52 J	636339.52	636339.62	636339.72	0.0528	0.0313
Venus	-2969-08-08 06:28 J	637215.68	637215.77	637215.86	0.3680	0.1709
Mars	-2969-11-06 23:31 J	637306.41	637306.48	637306.55	0.1759	0.1327
Mars	-2968-12-05 00:43 J	637699.36	637699.53	637699.70	0.1783	0.0035
Saturn	-2967-08-19 15:21 J	637957.05	637957.14	637957.24	0.0264	0.0225
Mars	-2967-10-13 06:14 J	638011.66	638011.76	638011.86	0.1734	0.0853
Saturn	-2967-11-16 11:31 J	638045.80	638045.98	638046.16	0.0264	0.0079
Saturn	-2966-02-13 07:40 J	638134.64	638134.82	638135.01	0.0263	0.0068
Saturn	-2966-05-13 04:04 J	638223.57	638223.67	638223.78	0.0263	0.0216
Jupiter	-2965-02-01 21:50 J	638488.26	638488.41	638488.55	0.0497	0.0303
Jupiter	-2965-05-02 07:40 J	638578.72	638578.82	638578.92	0.0499	0.0416

Venus	-2963-02-21 22:19 J	639239.33	639239.43	639239.54	0.3681	0.0241
Jupiter	-2960-10-05 00:43 J	640560.45	640560.53	640560.62	0.0530	0.0402
Moon	-2960-10-08 04:33 J	640563.59	640563.69	640563.79	0.2712	0.0697
Earth	-2960-10-08 05:16 J	640563.61	640563.72	640563.82	0.2710	0.0768 *
Jupiter	-2959-01-02 06:43 J	640649.67	640649.78	640649.90	0.0528	0.0169
Mars	-2958-04-26 21:07 J	641129.25	641129.38	641129.52	0.1776	0.1037
Venus	-2958-09-07 14:09 J	641262.99	641263.09	641263.19	0.3682	0.1272
Mars	-2957-03-04 16:47 J	641442.09	641442.20	641442.31	0.1739	0.0344
Jupiter	-2954-11-20 19:26 J	642798.26	642798.31	642798.36	0.0497	0.0474
Jupiter	-2953-02-19 04:47 J	642888.54	642888.70	642888.87	0.0498	0.0238
Venus	-2952-03-23 06:00 J	643286.68	643286.75	643286.81	0.3684	0.2731
Saturn	-2952-12-11 06:57 J	643549.76	643549.79	643549.82	0.0297	0.0286
Saturn	-2951-03-09 19:40 J	643638.20	643638.32	643638.44	0.0297	0.0137
Saturn	-2951-06-06 08:23 J	643726.72	643726.85	643726.98	0.0298	0.0012
Saturn	-2951-09-02 20:52 J	643815.26	643815.37	643815.48	0.0299	0.0160
Mars	-2948-07-26 03:07 J	644872.51	644872.63	644872.74	0.1746	0.0188
Jupiter	-2948-10-21 11:02 J	644959.84	644959.96	644960.09	0.0529	0.0033
Moon	-2947-10-10 22:04 J	645314.36	645314.42	645314.49	0.2717	0.2071
Earth	-2947-10-10 22:33 J	645314.37	645314.44	645314.51	0.2711	0.2105 *
Moon	-2943-04-05 15:21 J	646586.98	646587.14	646587.30	0.2627	0.0142
Earth	-2943-04-05 17:02 J	646587.05	646587.21	646587.38	0.2623	0.0235 *
Jupiter	-2942-12-08 01:12 J	647198.37	647198.55	647198.74	0.0497	0.0049
Moon	-2940-10-03 22:47 J	647864.37	647864.45	647864.53	0.2703	0.1750
Earth	-2940-10-03 23:16 J	647864.38	647864.47	647864.55	0.2708	0.1661 *
Mars	-2939-12-16 13:26 J	648302.95	648303.06	648303.16	0.1752	0.0721
Saturn	-2937-01-06 15:21 J	648689.12	648689.14	648689.17	0.0265	0.0262
Mars	-2937-01-14 06:00 J	648696.63	648696.75	648696.87	0.1791	0.1250
Saturn	-2937-04-04 11:31 J	648777.81	648777.98	648778.15	0.0264	0.0116
Saturn	-2937-07-02 07:40 J	648866.64	648866.82	648867.01	0.0264	0.0032
Saturn	-2937-09-29 04:04 J	648955.54	648955.67	648955.81	0.0263	0.0179

Mars	-2937-11-20 19:40 J	649008.25	649008.32	649008.38	0.1727	0.1408
Uranus	-2936-05-13 21:36 J	649182.34	649182.40	649182.46	0.0136	0.0121
Jupiter	-2936-08-09 15:21 J	649270.02	649270.14	649270.26	0.0530	0.0112
Uranus	-2936-08-10 00:43 J	649270.45	649270.53	649270.61	0.0136	0.0103
Uranus	-2936-11-06 03:50 J	649358.56	649358.66	649358.76	0.0136	0.0085
Jupiter	-2936-11-06 21:07 J	649359.32	649359.38	649359.44	0.0528	0.0451
Uranus	-2935-02-02 06:43 J	649446.67	649446.78	649446.90	0.0136	0.0068
Uranus	-2935-05-01 09:50 J	649534.80	649534.91	649535.04	0.0136	0.0050
Uranus	-2935-07-28 12:57 J	649622.92	649623.04	649623.17	0.0136	0.0032
Uranus	-2935-10-24 16:04 J	649711.05	649711.17	649711.31	0.0137	0.0014
Uranus	-2934-01-20 19:12 J	649799.17	649799.30	649799.44	0.0137	0.0007
Uranus	-2934-04-18 22:19 J	649887.30	649887.43	649887.56	0.0137	0.0024
Uranus	-2934-07-16 01:26 J	649975.44	649975.56	649975.69	0.0137	0.0042
Uranus	-2934-10-12 04:33 J	650063.57	650063.69	650063.81	0.0137	0.0060
Uranus	-2933-01-08 07:26 J	650151.71	650151.81	650151.93	0.0137	0.0079
Uranus	-2933-04-05 10:33 J	650239.86	650239.94	650240.04	0.0137	0.0097
Uranus	-2933-07-02 13:40 J	650328.01	650328.07	650328.15	0.0137	0.0116
Venus	-2933-08-03 06:28 J	650359.67	650359.77	650359.88	0.3691	0.2594
Uranus	-2933-09-28 16:47 J	650416.18	650416.20	650416.23	0.0137	0.0134
Jupiter	-2930-09-25 22:33 J	651508.26	651508.44	651508.62	0.0497	0.0127
Mars	-2929-05-07 23:31 J	651733.40	651733.48	651733.56	0.1759	0.1274
Mars	-2928-06-05 01:55 J	652126.41	652126.58	652126.74	0.1784	0.0150
Venus	-2927-02-17 14:52 J	652383.98	652384.12	652384.25	0.3689	0.1883
Mars	-2927-04-13 06:14 J	652438.66	652438.76	652438.86	0.1733	0.0909
Moon	-2927-10-06 16:04 J	652615.06	652615.17	652615.27	0.2706	0.0354
Earth	-2927-10-06 16:33 J	652615.08	652615.19	652615.30	0.2709	0.0311 *
Jupiter	-2924-05-28 19:40 J	653580.21	653580.32	653580.43	0.0530	0.0251
Jupiter	-2924-08-26 01:40 J	653669.47	653669.57	653669.67	0.0528	0.0317
Saturn	-2922-07-27 21:21 J	654370.29	654370.39	654370.49	0.0297	0.0183
Saturn	-2922-10-24 10:04 J	654458.79	654458.92	654459.05	0.0297	0.0035

Saturn	-2921-01-20 22:33 J	654547.32	654547.44	654547.56	0.0298	0.0113
Saturn	-2921-04-18 11:02 J	654635.90	654635.96	654636.02	0.0298	0.0260
Mars	-2919-10-25 22:04 J	655556.27	655556.42	655556.56	0.1776	0.0937
Jupiter	-2918-07-14 19:55 J	655818.18	655818.33	655818.47	0.0497	0.0302
Venus	-2918-08-30 12:14 J	655864.94	655865.01	655865.07	0.3679	0.2710
Mars	-2918-09-03 16:33 J	655869.08	655869.19	655869.31	0.1740	0.0398
Jupiter	-2918-10-13 05:45 J	655908.64	655908.74	655908.84	0.0498	0.0416
Moon	-2914-10-09 09:21 J	657365.79	657365.89	657365.99	0.2714	0.0907
Earth	-2914-10-09 09:50 J	657365.82	657365.91	657366.01	0.2710	0.1043 *
Venus	-2912-03-15 04:04 J	657888.57	657888.67	657888.77	0.3680	0.1185
Jupiter	-2912-03-17 00:00 J	657890.41	657890.50	657890.58	0.0530	0.0392
Jupiter	-2912-06-14 06:00 J	657979.63	657979.75	657979.87	0.0528	0.0179
Moon	-2910-04-03 13:40 J	658637.99	658638.07	658638.15	0.2625	0.2260
Earth	-2910-04-03 15:21 J	658638.05	658638.14	658638.24	0.2625	0.2124 *
Mars	-2908-01-24 03:07 J	659299.52	659299.63	659299.75	0.1746	0.0126
Saturn	-2908-08-22 09:21 J	659509.75	659509.89	659510.03	0.0264	0.0170
Pluto	-2908-09-24 23:45 J	659543.44	659543.49	659543.59	0.0073	0.0065
Saturn	-2908-11-19 05:31 J	659598.55	659598.73	659598.92	0.0264	0.0023
Pluto	-2908-12-22 01:40 J	659631.47	659631.57	659631.71	0.0072	0.0054
Saturn	-2907-02-16 01:55 J	659687.42	659687.58	659687.75	0.0263	0.0125
Pluto	-2907-03-20 03:36 J	659719.52	659719.65	659719.80	0.0072	0.0042
Pluto	-2907-06-16 05:31 J	659807.58	659807.73	659807.89	0.0072	0.0031
Pluto	-2907-09-12 07:26 J	659895.64	659895.81	659895.97	0.0072	0.0020
Venus	-2907-09-28 19:55 J	659912.23	659912.33	659912.43	0.3681	0.0308
Pluto	-2907-12-09 09:07 J	659983.71	659983.88	659984.05	0.0072	0.0010
Pluto	-2906-03-07 10:47 J	660071.78	660071.95	660072.12	0.0072	0.0001
Jupiter	-2906-05-02 17:31 J	660128.18	660128.23	660128.29	0.0497	0.0471
Pluto	-2906-06-03 12:28 J	660159.85	660160.02	660160.19	0.0072	0.0011
Jupiter	-2906-08-01 03:07 J	660218.47	660218.63	660218.79	0.0498	0.0240
Pluto	-2906-08-30 14:09 J	660247.93	660248.09	660248.26	0.0072	0.0022

Pluto -2906-11-26 15:50 J 660336.01 660336.16 660336.32 0.0071 0.0032

Pluto -2905-02-22 17:16 J 660424.09 660424.22 660424.37 0.0071 0.0042

Pluto -2905-05-20 18:57 J 660512.18 660512.29 660512.42 0.0071 0.0052

Pluto -2905-08-16 20:23 J 660600.29 660600.35 660600.45 0.0071 0.0063

Neptune -2904-08-19 19:55 J 660968.33 660968.33 660968.34 0.0089 0.0089

Neptune -2904-11-15 21:07 J 661056.34 661056.38 661056.44 0.0089 0.0082

Neptune -2903-02-11 22:47 J 661144.38 661144.45 661144.52 0.0089 0.0075

Neptune -2903-05-11 00:00 J 661232.42 661232.50 661232.60 0.0089 0.0068

Neptune -2903-08-07 01:26 J 661320.47 661320.56 661320.67 0.0089 0.0061

Neptune -2903-11-03 02:52 J 661408.52 661408.62 661408.73 0.0089 0.0053

Neptune -2902-01-30 04:19 J 661496.57 661496.68 661496.80 0.0089 0.0046

Neptune -2902-04-28 05:31 J 661584.62 661584.73 661584.86 0.0089 0.0040

Neptune -2902-07-25 07:12 J 661672.67 661672.80 661672.92 0.0089 0.0032

Neptune -2902-10-21 08:38 J 661760.73 661760.86 661760.99 0.0089 0.0025

Neptune -2901-01-17 09:50 J 661848.78 661848.91 661849.05 0.0089 0.0018

Venus -2901-04-13 11:45 J 661935.90 661935.99 661936.08 0.3683 0.1777

Neptune -2901-04-14 11:16 J 661936.84 661936.97 661937.10 0.0089 0.0010

Neptune -2901-07-11 12:43 J 662024.90 662025.03 662025.16 0.0089 0.0003

Neptune -2901-10-07 14:09 J 662112.95 662113.09 662113.22 0.0089 0.0004

Moon -2901-10-11 03:07 J 662116.58 662116.63 662116.68 0.2717 0.2348

Earth -2901-10-11 03:21 J 662116.59 662116.64 662116.69 0.2711 0.2379 *

Neptune -2900-01-03 15:21 J 662201.01 662201.14 662201.28 0.0089 0.0011

Neptune -2900-04-01 16:47 J 662289.07 662289.20 662289.33 0.0089 0.0018

Jupiter -2900-04-02 09:50 J 662289.79 662289.91 662290.04 0.0529 0.0035

Neptune -2900-06-28 18:00 J 662377.13 662377.25 662377.38 0.0089 0.0026

Neptune -2900-09-24 19:26 J 662465.19 662465.31 662465.44 0.0089 0.0032

Neptune -2900-12-21 20:52 J 662553.25 662553.37 662553.49 0.0089 0.0039

Neptune -2899-03-19 22:04 J 662641.32 662641.42 662641.54 0.0089 0.0047

Neptune -2899-06-15 23:31 J 662729.38 662729.48 662729.59 0.0089 0.0053

Mars -2899-06-16 13:26 J 662729.95 662730.06 662730.16 0.1752 0.0666

Neptune -2899-09-12 00:43 J 662817.44 662817.53 662817.64 0.0089 0.0061

Neptune -2899-12-09 02:09 J 662905.51 662905.59 662905.68 0.0089 0.0067

Neptune -2898-03-07 03:21 J 662993.58 662993.64 662993.72 0.0089 0.0075

Neptune -2898-06-03 04:47 J 663081.66 663081.70 663081.76 0.0089 0.0081

Mars -2898-07-15 06:43 J 663123.67 663123.78 663123.89 0.1791 0.1349

Neptune -2898-08-30 06:00 J 663169.75 663169.75 663169.78 0.0089 0.0089

Moon -2897-04-05 22:19 J 663389.27 663389.43 663389.59 0.2626 0.0504

Earth -2897-04-06 00:00 J 663389.34 663389.50 663389.66 0.2623 0.0812 *

Mars -2897-05-21 19:40 J 663435.26 663435.32 663435.38 0.1727 0.1466

Uranus -2896-09-11 17:45 J 663913.16 663913.24 663913.34 0.0142 0.0124

Venus -2896-10-28 03:21 J 663959.59 663959.64 663959.69 0.3684 0.3225

Uranus -2896-12-09 02:23 J 664001.45 664001.60 664001.74 0.0142 0.0094

Uranus -2895-03-07 10:33 J 664089.77 664089.94 664090.12 0.0142 0.0063

Uranus -2895-06-03 18:57 J 664178.10 664178.29 664178.48 0.0142 0.0032

Uranus -2895-08-31 03:21 J 664266.45 664266.64 664266.84 0.0142 0.0002

Uranus -2895-11-27 11:45 J 664354.80 664354.99 664355.18 0.0142 0.0029

Uranus -2894-02-23 19:55 J 664443.16 664443.33 664443.52 0.0142 0.0060

Jupiter -2894-05-20 00:14 J 664528.33 664528.51 664528.70 0.0498 0.0063

Uranus -2894-05-23 04:33 J 664531.54 664531.69 664531.84 0.0141 0.0090

Uranus -2894-08-19 12:43 J 664619.94 664620.03 664620.14 0.0141 0.0121

Moon -2894-10-05 03:36 J 664666.56 664666.65 664666.74 0.2703 0.1383

Earth -2894-10-05 03:50 J 664666.57 664666.66 664666.76 0.2709 0.1387 *

Saturn -2893-12-13 23:02 J 665102.38 665102.46 665102.55 0.0297 0.0227

Saturn -2892-03-12 12:00 J 665190.87 665191.00 665191.12 0.0297 0.0078

Saturn -2892-06-09 00:28 J 665279.40 665279.52 665279.65 0.0298 0.0070

Saturn -2892-09-05 12:57 J 665367.96 665368.04 665368.13 0.0299 0.0218

Mars -2890-11-06 23:31 J 666160.40 666160.48 666160.56 0.1759 0.1215

Mars -2889-12-04 02:38 J 666553.44 666553.61 666553.78 0.1784 0.0244

Jupiter -2888-01-19 14:09 J 666599.96 666600.09 666600.21 0.0529 0.0110

Jupiter -2888-04-18 19:40 J 666689.26 666689.32 666689.39 0.0527 0.0452

Mars	-2888-10-12 06:14 J	666865.66	666865.76	666865.85	0.1733	0.0963
Jupiter	-2882-03-07 20:52 J	668838.19	668838.37	668838.55	0.0497	0.0123
Moon	-2881-10-06 20:38 J	669417.26	669417.36	669417.47	0.2708	0.0213
Earth	-2881-10-06 21:21 J	669417.28	669417.39	669417.50	0.2710	0.0033 *
Mars	-2879-04-25 22:47 J	669983.30	669983.45	669983.60	0.1776	0.0833
Saturn	-2878-01-09 09:50 J	670241.80	670241.91	670242.03	0.0265	0.0204
Mars	-2878-03-04 16:47 J	670296.08	670296.20	670296.31	0.1739	0.0458
Saturn	-2878-04-08 06:00 J	670330.57	670330.75	670330.93	0.0264	0.0057
Saturn	-2878-07-06 02:23 J	670419.42	670419.60	670419.77	0.0264	0.0091
Saturn	-2878-10-02 22:47 J	670508.38	670508.45	670508.53	0.0263	0.0240
Jupiter	-2877-11-07 18:00 J	670910.14	670910.25	670910.36	0.0530	0.0256
Jupiter	-2876-02-05 00:00 J	670999.40	670999.50	670999.60	0.0528	0.0313
Venus	-2876-03-10 08:23 J	671032.71	671032.85	671032.99	0.3691	0.1199
Venus	-2871-09-24 16:47 J	673057.14	673057.20	673057.26	0.3688	0.3330
Jupiter	-2871-12-24 18:14 J	673148.11	673148.26	673148.41	0.0496	0.0297
Jupiter	-2870-03-25 04:04 J	673238.57	673238.67	673238.76	0.0498	0.0418
Mars	-2869-07-25 03:07 J	673726.51	673726.63	673726.74	0.1746	0.0091
Moon	-2868-10-09 14:09 J	674167.99	674168.09	674168.18	0.2714	0.1280
Earth	-2868-10-09 14:38 J	674168.02	674168.11	674168.21	0.2710	0.1313 *
Jupiter	-2865-08-26 22:19 J	675220.35	675220.43	675220.52	0.0530	0.0396
Jupiter	-2865-11-24 04:33 J	675309.57	675309.69	675309.81	0.0529	0.0178
Moon	-2864-04-03 20:23 J	675440.24	675440.35	675440.47	0.2626	0.1832
Earth	-2864-04-03 22:19 J	675440.30	675440.43	675440.56	0.2624	0.1552 *
Saturn	-2863-05-03 01:26 J	675834.50	675834.56	675834.62	0.0296	0.0265
Saturn	-2863-07-30 14:09 J	675922.97	675923.09	675923.21	0.0297	0.0117
Saturn	-2863-10-27 02:52 J	676011.49	676011.62	676011.75	0.0297	0.0031
Saturn	-2862-01-23 15:21 J	676100.04	676100.14	676100.24	0.0298	0.0177
Venus	-2861-04-05 09:50 J	676537.82	676537.91	676537.99	0.3679	0.2179
Moon	-2861-10-02 15:21 J	676718.09	676718.14	676718.19	0.2701	0.2418
Earth	-2861-10-02 15:21 J	676718.09	676718.14	676718.18	0.2707	0.2460 *

Mars -2860-12-15 13:26 J 677156.95 677157.06 677157.17 0.1752 0.0607

Jupiter -2859-10-12 15:21 J 677458.09 677458.14 677458.20 0.0496 0.0473

Jupiter -2858-01-11 00:43 J 677548.37 677548.53 677548.70 0.0498 0.0237

Mars -2858-01-13 07:26 J 677550.72 677550.81 677550.91 0.1791 0.1460

Mars -2858-11-20 19:26 J 677862.26 677862.31 677862.37 0.1727 0.1516

Venus -2856-10-20 01:40 J 678561.47 678561.57 678561.67 0.3680 0.0666

Moon -2855-10-12 07:55 J 678918.81 678918.83 678918.86 0.2718 0.2614

Earth -2855-10-12 08:09 J 678918.82 678918.84 678918.86 0.2711 0.2651 *

Jupiter -2853-09-12 08:52 J 679619.74 679619.87 679619.99 0.0529 0.0040

Uranus -2852-03-07 01:26 J 679795.56 679795.56 679795.57 0.0136 0.0136

Uranus -2852-06-03 04:33 J 679883.63 679883.69 679883.76 0.0136 0.0118

Uranus -2852-08-30 07:40 J 679971.74 679971.82 679971.91 0.0136 0.0100

Uranus -2852-11-26 11:02 J 680059.85 680059.96 680060.06 0.0136 0.0082

Uranus -2851-02-22 13:55 J 680147.97 680148.08 680148.20 0.0136 0.0064

Moon -2851-04-07 05:16 J 680191.58 680191.72 680191.86 0.2627 0.1308

Earth -2851-04-07 06:43 J 680191.65 680191.78 680191.92 0.2623 0.1375 *

Uranus -2851-05-21 17:02 J 680236.09 680236.21 680236.34 0.0136 0.0045

Uranus -2851-08-17 20:09 J 680324.21 680324.34 680324.47 0.0136 0.0027

Uranus -2851-11-13 23:16 J 680412.34 680412.47 680412.60 0.0137 0.0009

Uranus -2850-02-10 02:23 J 680500.47 680500.60 680500.73 0.0137 0.0009

Venus -2850-05-05 17:31 J 680585.13 680585.23 680585.33 0.3682 0.0818

Mars -2850-05-07 23:31 J 680587.39 680587.48 680587.57 0.1759 0.1153

Uranus -2850-05-09 05:31 J 680588.60 680588.73 680588.86 0.0137 0.0028

Uranus -2850-08-05 08:23 J 680676.73 680676.85 680676.98 0.0137 0.0046

Uranus -2850-11-01 11:31 J 680764.87 680764.98 680765.10 0.0137 0.0064

Uranus -2849-01-28 14:38 J 680853.01 680853.11 680853.22 0.0137 0.0082

Uranus -2849-04-25 17:45 J 680941.15 680941.24 680941.33 0.0137 0.0100

Saturn -2849-05-28 08:09 J 680973.80 680973.84 680973.90 0.0265 0.0254

Mars -2849-06-04 03:21 J 680980.47 680980.64 680980.80 0.1784 0.0341

Uranus -2849-07-22 20:52 J 681029.31 681029.37 681029.43 0.0137 0.0119

Saturn	-2849-08-25 04:19 J	681062.52	681062.68	681062.85	0.0264	0.0107
Uranus	-2849-10-18 23:45 J	681117.49	681117.49	681117.50	0.0137	0.0137
Saturn	-2849-11-22 00:43 J	681151.34	681151.53	681151.71	0.0264	0.0040
Saturn	-2848-02-18 21:07 J	681240.25	681240.38	681240.51	0.0263	0.0189
Mars	-2848-04-12 06:14 J	681292.67	681292.76	681292.85	0.1733	0.1020
Moon	-2848-10-05 08:23 J	681468.75	681468.85	681468.94	0.2703	0.1217
Earth	-2848-10-05 08:38 J	681468.77	681468.86	681468.96	0.2709	0.1109 *
Jupiter	-2847-10-29 22:04 J	681858.23	681858.42	681858.60	0.0498	0.0060
Venus	-2845-11-18 09:07 J	682608.80	682608.88	682608.96	0.3683	0.2281
Jupiter	-2841-07-01 12:43 J	683929.90	683930.03	683930.15	0.0529	0.0110
Mars	-2841-09-27 09:21 J	684017.87	684017.89	684017.91	0.1765	0.1722
Jupiter	-2841-09-28 18:14 J	684019.20	684019.26	684019.33	0.0527	0.0452
Mars	-2840-10-24 23:31 J	684410.32	684410.48	684410.63	0.1776	0.0740
Mars	-2839-09-02 16:33 J	684723.08	684723.19	684723.30	0.1739	0.0512
Jupiter	-2835-08-17 19:26 J	686168.13	686168.31	686168.49	0.0497	0.0116
Moon	-2835-10-08 01:26 J	686219.45	686219.56	686219.67	0.2710	0.0204
Earth	-2835-10-08 02:09 J	686219.48	686219.59	686219.69	0.2710	0.0246 *
Saturn	-2834-12-17 16:19 J	686655.07	686655.18	686655.29	0.0297	0.0158
Saturn	-2833-03-15 05:02 J	686743.58	686743.71	686743.84	0.0298	0.0012
Saturn	-2833-06-11 17:31 J	686832.12	686832.23	686832.35	0.0298	0.0137
Saturn	-2833-09-08 06:00 J	686920.72	686920.75	686920.79	0.0299	0.0284
Mars	-2830-03-16 20:23 J	687840.34	687840.35	687840.36	0.1769	0.1763
Mars	-2829-01-24 03:07 J	688153.51	688153.63	688153.74	0.1746	0.0037
Jupiter	-2829-04-19 16:33 J	688240.08	688240.19	688240.31	0.0530	0.0255
Jupiter	-2829-07-17 22:33 J	688329.34	688329.44	688329.54	0.0528	0.0313
Jupiter	-2823-06-05 16:19 J	690478.03	690478.18	690478.32	0.0496	0.0296
Jupiter	-2823-09-04 01:55 J	690568.48	690568.58	690568.68	0.0498	0.0419
Moon	-2822-10-10 18:57 J	690970.20	690970.29	690970.38	0.2714	0.1451
Earth	-2822-10-10 19:26 J	690970.23	690970.31	690970.40	0.2710	0.1586 *
Neptune	-2821-10-30 02:23 J	691355.55	691355.60	691355.70	0.0088	0.0081

Neptune -2820-01-26 06:14 J 691443.65 691443.76 691443.87 0.0088 0.0071

Neptune -2820-04-24 09:21 J 691531.77 691531.89 691532.04 0.0088 0.0062

Mars -2820-06-15 13:26 J 691583.95 691584.06 691584.16 0.1752 0.0555

Neptune -2820-07-21 12:57 J 691619.89 691620.04 691620.20 0.0088 0.0052

Venus -2820-10-15 10:19 J 691705.78 691705.93 691706.08 0.3690 0.0223

Neptune -2820-10-17 16:33 J 691708.02 691708.19 691708.36 0.0088 0.0042

Saturn -2819-01-12 05:16 J 691794.56 691794.72 691794.88 0.0265 0.0139

Neptune -2819-01-13 19:40 J 691796.15 691796.32 691796.51 0.0088 0.0033

Saturn -2819-04-11 01:26 J 691883.38 691883.56 691883.75 0.0264 0.0011

Neptune -2819-04-11 23:16 J 691884.29 691884.47 691884.66 0.0088 0.0023

Saturn -2819-07-08 21:50 J 691972.26 691972.41 691972.56 0.0264 0.0158

Neptune -2819-07-09 02:38 J 691972.43 691972.61 691972.81 0.0088 0.0014 *

Mars -2819-07-14 08:23 J 691977.77 691977.85 691977.93 0.1792 0.1568

Neptune -2819-10-05 06:14 J 692060.57 692060.76 692060.95 0.0088 0.0004

Neptune -2818-01-01 09:36 J 692148.71 692148.90 692149.10 0.0088 0.0006

Neptune -2818-03-30 12:57 J 692236.86 692237.04 692237.24 0.0088 0.0016

Moon -2818-04-05 03:21 J 692242.49 692242.64 692242.79 0.2625 0.1161

Earth -2818-04-05 05:16 J 692242.57 692242.72 692242.87 0.2624 0.0974 *

Mars -2818-05-21 19:26 J 692289.27 692289.31 692289.36 0.1727 0.1572

Neptune -2818-06-26 16:19 J 692325.01 692325.18 692325.38 0.0088 0.0026

Neptune -2818-09-22 19:55 J 692413.16 692413.33 692413.51 0.0088 0.0035

Neptune -2818-12-19 23:16 J 692501.31 692501.47 692501.65 0.0088 0.0045

Jupiter -2817-02-06 20:23 J 692550.27 692550.35 692550.43 0.0531 0.0405

Neptune -2817-03-17 02:38 J 692589.48 692589.61 692589.78 0.0088 0.0055

Jupiter -2817-05-06 02:38 J 692639.49 692639.61 692639.73 0.0529 0.0169

Neptune -2817-06-13 06:00 J 692677.64 692677.75 692677.90 0.0088 0.0065

Neptune -2817-09-09 09:36 J 692765.82 692765.90 692766.02 0.0088 0.0075

Neptune -2817-12-06 13:26 J 692854.01 692854.06 692854.11 0.0088 0.0084

Moon -2815-10-03 19:55 J 693520.27 693520.33 693520.39 0.2701 0.2186

Earth -2815-10-03 20:09 J 693520.27 693520.34 693520.40 0.2707 0.2188 *

Uranus -2812-10-02 01:12 J 694614.45 694614.55 694614.67 0.0142 0.0116

Uranus -2812-12-29 09:50 J 694702.75 694702.91 694703.06 0.0142 0.0086

Jupiter -2811-03-24 13:40 J 694788.01 694788.07 694788.12 0.0496 0.0470

Uranus -2811-03-27 18:00 J 694791.08 694791.25 694791.43 0.0142 0.0055

Jupiter -2811-06-22 22:47 J 694878.29 694878.45 694878.61 0.0497 0.0237

Uranus -2811-06-24 02:23 J 694879.41 694879.60 694879.80 0.0142 0.0024

Uranus -2811-09-20 10:47 J 694967.76 694967.95 694968.15 0.0142 0.0006

Mars -2811-11-05 23:16 J 695014.39 695014.47 695014.56 0.1759 0.1105

Uranus -2811-12-17 19:12 J 695056.11 695056.30 695056.49 0.0142 0.0037

Uranus -2810-03-16 03:21 J 695144.48 695144.64 695144.82 0.0142 0.0068

Venus -2810-04-27 15:21 J 695187.09 695187.14 695187.19 0.3678 0.3172

Uranus -2810-06-12 11:45 J 695232.86 695232.99 695233.14 0.0141 0.0098

Uranus -2810-09-08 20:09 J 695321.27 695321.34 695321.43 0.0141 0.0129

Mars -2810-12-04 04:04 J 695407.51 695407.67 695407.83 0.1784 0.0443

Mars -2809-10-11 06:00 J 695719.67 695719.75 695719.84 0.1733 0.1073

Jupiter -2805-02-23 06:57 J 696949.66 696949.79 696949.92 0.0529 0.0031

Moon -2805-04-07 12:43 J 696993.91 696994.03 696994.15 0.2628 0.1745

Earth -2805-04-07 13:55 J 696993.97 696994.08 696994.18 0.2623 0.1960 *

Venus -2805-11-10 07:12 J 697210.71 697210.80 697210.90 0.3680 0.1657

Saturn -2804-05-05 18:57 J 697387.19 697387.29 697387.39 0.0296 0.0193

Saturn -2804-08-02 07:40 J 697475.69 697475.82 697475.95 0.0297 0.0045

Saturn -2804-10-29 20:09 J 697564.22 697564.34 697564.47 0.0297 0.0103

Saturn -2803-01-26 08:38 J 697652.80 697652.86 697652.94 0.0298 0.0249

Moon -2802-10-06 12:57 J 698270.94 698271.04 698271.15 0.2703 0.0866

Earth -2802-10-06 13:26 J 698270.96 698271.06 698271.16 0.2709 0.0836 *

Mars -2801-03-28 09:36 J 698444.86 698444.90 698444.93 0.1765 0.1658

Mars -2800-04-25 00:28 J 698837.36 698837.52 698837.68 0.1776 0.0631

Mars -2799-03-03 16:33 J 699150.08 699150.19 699150.30 0.1739 0.0564

Jupiter -2799-04-10 19:26 J 699188.13 699188.31 699188.50 0.0497 0.0054

Venus -2799-05-26 23:16 J 699234.36 699234.47 699234.57 0.3681 0.0214

Venus	-2794-12-10 14:52 J	701258.03	701258.12	701258.22	0.3682	0.1329
Jupiter	-2794-12-12 11:16 J	701259.84	701259.97	701260.09	0.0529	0.0109
Jupiter	-2793-03-10 17:02 J	701349.14	701349.21	701349.27	0.0528	0.0454
Mars	-2791-09-14 20:52 J	702267.32	702267.37	702267.42	0.1769	0.1680
Saturn	-2790-06-01 04:19 J	702526.55	702526.68	702526.81	0.0265	0.0184
Mars	-2790-07-25 03:07 J	702580.51	702580.63	702580.74	0.1746	0.0050
Saturn	-2790-08-29 00:28 J	702615.34	702615.52	702615.71	0.0264	0.0037
Saturn	-2790-11-25 20:52 J	702704.20	702704.37	702704.54	0.0264	0.0111
Saturn	-2789-02-22 17:16 J	702793.20	702793.22	702793.25	0.0263	0.0260
Moon	-2789-10-08 06:14 J	703021.65	703021.76	703021.86	0.2711	0.0368
Earth	-2789-10-08 06:57 J	703021.68	703021.79	703021.89	0.2710	0.0525 *
Venus	-2788-06-25 06:43 J	703281.71	703281.78	703281.84	0.3683	0.2764
Jupiter	-2787-01-27 16:47 J	703498.02	703498.20	703498.38	0.0497	0.0122
Jupiter	-2782-09-30 15:07 J	705570.02	705570.13	705570.24	0.0530	0.0258
Jupiter	-2782-12-28 20:52 J	705659.27	705659.37	705659.47	0.0528	0.0309
Mars	-2781-12-14 13:26 J	706010.95	706011.06	706011.17	0.1752	0.0497
Mars	-2779-01-12 08:52 J	706404.81	706404.87	706404.94	0.1792	0.1657
Mars	-2779-11-19 19:26 J	706716.28	706716.31	706716.35	0.1727	0.1628
Moon	-2776-10-10 23:45 J	707772.41	707772.49	707772.57	0.2715	0.1854
Earth	-2776-10-11 00:14 J	707772.43	707772.51	707772.59	0.2711	0.1857 *
Jupiter	-2776-11-15 14:09 J	707807.94	707808.09	707808.24	0.0497	0.0297
Jupiter	-2775-02-13 23:45 J	707898.40	707898.49	707898.60	0.0498	0.0420
Saturn	-2775-09-22 21:21 J	708119.31	708119.39	708119.47	0.0297	0.0231
Saturn	-2775-12-20 10:04 J	708207.79	708207.92	708208.05	0.0297	0.0083
Saturn	-2774-03-18 22:47 J	708296.32	708296.45	708296.57	0.0298	0.0065
Saturn	-2774-06-15 11:16 J	708384.88	708384.97	708385.06	0.0298	0.0212
Moon	-2772-04-05 10:19 J	709044.77	709044.93	709045.09	0.2625	0.0650
Earth	-2772-04-05 12:00 J	709044.84	709045.00	709045.16	0.2624	0.0416 *
Mars	-2771-05-06 23:31 J	709441.38	709441.48	709441.57	0.1759	0.1043
Mars	-2770-06-04 05:02 J	709834.55	709834.71	709834.87	0.1784	0.0559

Jupiter	-2770-07-19 18:43 J	709880.21	709880.28	709880.37	0.0530	0.0407
Jupiter	-2770-10-17 00:57 J	709969.42	709969.54	709969.66	0.0529	0.0167
Mars	-2769-04-11 06:00 J	710146.67	710146.75	710146.84	0.1733	0.1129
Moon	-2769-10-04 00:43 J	710322.45	710322.53	710322.60	0.2701	0.1948
Earth	-2769-10-04 00:43 J	710322.46	710322.53	710322.61	0.2708	0.1913 *
Venus	-2769-11-05 04:19 J	710354.58	710354.68	710354.77	0.3691	0.2778
Uranus	-2768-03-27 08:23 J	710496.83	710496.85	710496.88	0.0136	0.0133
Uranus	-2768-06-23 11:31 J	710584.92	710584.98	710585.06	0.0136	0.0115
Uranus	-2768-09-19 14:38 J	710673.02	710673.11	710673.21	0.0136	0.0097
Uranus	-2768-12-16 17:45 J	710761.14	710761.24	710761.35	0.0136	0.0079
Uranus	-2767-03-14 20:52 J	710849.26	710849.37	710849.49	0.0136	0.0060
Uranus	-2767-06-11 00:00 J	710937.38	710937.50	710937.63	0.0136	0.0042
Uranus	-2767-09-07 03:07 J	711025.50	711025.63	711025.76	0.0136	0.0024
Uranus	-2767-12-04 06:14 J	711113.63	711113.76	711113.89	0.0136	0.0006
Uranus	-2766-03-02 09:21 J	711201.76	711201.89	711202.02	0.0137	0.0012
Uranus	-2766-05-29 12:14 J	711289.89	711290.01	711290.14	0.0137	0.0031
Uranus	-2766-08-25 15:21 J	711378.02	711378.14	711378.26	0.0137	0.0049
Uranus	-2766-11-21 18:28 J	711466.16	711466.27	711466.38	0.0137	0.0067
Uranus	-2765-02-17 21:21 J	711554.30	711554.39	711554.50	0.0137	0.0085
Uranus	-2765-05-16 00:28 J	711642.44	711642.52	711642.61	0.0137	0.0103
Uranus	-2765-08-12 03:36 J	711730.60	711730.65	711730.71	0.0137	0.0122
Jupiter	-2764-09-03 11:16 J	712117.92	712117.97	712118.03	0.0496	0.0473
Jupiter	-2764-12-02 20:23 J	712208.19	712208.35	712208.52	0.0497	0.0235
Venus	-2763-05-22 12:14 J	712378.87	712379.01	712379.15	0.3689	0.1630
Mars	-2762-09-27 09:21 J	712871.85	712871.89	712871.94	0.1765	0.1605
Saturn	-2761-10-18 05:16 J	713258.63	713258.72	713258.84	0.0265	0.0214
Mars	-2761-10-24 01:12 J	713264.39	713264.55	713264.71	0.1777	0.0534
Saturn	-2760-01-15 01:40 J	713347.39	713347.57	713347.75	0.0265	0.0067
Saturn	-2760-04-13 22:04 J	713436.24	713436.42	713436.59	0.0264	0.0082
Saturn	-2760-07-11 18:28 J	713525.18	713525.27	713525.36	0.0264	0.0230

Mars	-2760-09-01 16:33 J	713577.08	713577.19	713577.30	0.1739	0.0619
Moon	-2759-04-08 19:40 J	713796.28	713796.32	713796.37	0.2629	0.2496
Earth	-2759-04-08 20:38 J	713796.33	713796.36	713796.40	0.2623	0.2534 *
Jupiter	-2758-08-05 04:47 J	714279.58	714279.70	714279.83	0.0530	0.0023
Moon	-2756-10-06 17:45 J	715073.13	715073.24	715073.34	0.2705	0.0648
Earth	-2756-10-06 18:14 J	715073.16	715073.26	715073.37	0.2709	0.0558 *
Venus	-2754-12-02 12:57 J	715859.97	715860.04	715860.11	0.3679	0.2643
Jupiter	-2752-09-20 17:31 J	716518.04	716518.23	716518.41	0.0497	0.0054
Mars	-2751-03-15 21:50 J	716694.34	716694.41	716694.49	0.1769	0.1570
Mars	-2750-01-23 03:07 J	717007.51	717007.63	717007.74	0.1745	0.0117
Venus	-2748-06-17 04:47 J	717883.60	717883.70	717883.80	0.3680	0.1138
Pluto	-2747-06-21 04:19 J	718252.64	718252.68	718252.75	0.0072	0.0066
Pluto	-2747-09-17 05:16 J	718340.65	718340.72	718340.82	0.0072	0.0057
Pluto	-2747-12-14 06:28 J	718428.67	718428.77	718428.88	0.0072	0.0048
Pluto	-2746-03-12 07:12 J	718516.69	718516.80	718516.93	0.0072	0.0040
Jupiter	-2746-05-24 09:07 J	718589.76	718589.88	718590.01	0.0530	0.0121
Pluto	-2746-06-08 08:09 J	718604.72	718604.84	718604.99	0.0072	0.0032
Jupiter	-2746-08-21 14:52 J	718679.06	718679.12	718679.19	0.0528	0.0443
Pluto	-2746-09-04 09:21 J	718692.76	718692.89	718693.03	0.0072	0.0022
Pluto	-2746-12-01 10:33 J	718780.80	718780.94	718781.08	0.0072	0.0013
Saturn	-2745-02-10 00:28 J	718851.46	718851.52	718851.58	0.0296	0.0260
Pluto	-2745-02-27 11:31 J	718868.84	718868.98	718869.13	0.0073	0.0004
Saturn	-2745-05-08 13:12 J	718939.93	718940.05	718940.18	0.0296	0.0113
Pluto	-2745-05-25 12:28 J	718956.88	718957.02	718957.17	0.0073	0.0006
Saturn	-2745-08-05 01:55 J	719028.45	719028.58	719028.71	0.0297	0.0035
Pluto	-2745-08-21 13:26 J	719044.93	719045.06	719045.21	0.0073	0.0015
Saturn	-2745-11-01 14:23 J	719117.00	719117.10	719117.20	0.0298	0.0181
Pluto	-2745-11-17 14:38 J	719132.97	719133.11	719133.25	0.0073	0.0024
Pluto	-2744-02-13 15:36 J	719221.03	719221.15	719221.29	0.0073	0.0034
Pluto	-2744-05-12 16:33 J	719309.08	719309.19	719309.32	0.0073	0.0043

Pluto -2744-08-08 17:45 J 719397.15 719397.24 719397.35 0.0073 0.0053

Pluto -2744-11-04 18:43 J 719485.22 719485.28 719485.37 0.0073 0.0062

Pluto -2743-01-31 19:55 J 719573.31 719573.33 719573.36 0.0074 0.0072

Moon -2743-10-09 11:02 J 719823.85 719823.96 719824.06 0.2711 0.0742

Earth -2743-10-09 11:31 J 719823.88 719823.98 719824.09 0.2710 0.0794 *

Venus -2743-12-31 20:38 J 719907.26 719907.36 719907.47 0.3681 0.0372

Mars -2741-06-14 13:12 J 720437.94 720438.05 720438.16 0.1752 0.0440

Jupiter -2740-07-09 13:55 J 720827.90 720828.08 720828.26 0.0497 0.0132

Mars -2740-07-13 10:04 J 720831.90 720831.92 720831.94 0.1792 0.1777

Neptune -2739-05-16 19:26 J 721139.29 721139.31 721139.36 0.0089 0.0087

Mars -2739-05-20 19:26 J 721143.29 721143.31 721143.33 0.1727 0.1678

Neptune -2739-08-12 20:52 J 721227.32 721227.37 721227.45 0.0089 0.0080

Neptune -2739-11-08 22:33 J 721315.37 721315.44 721315.52 0.0089 0.0072

Neptune -2738-02-05 00:00 J 721403.41 721403.50 721403.59 0.0089 0.0065

Neptune -2738-05-04 01:12 J 721491.46 721491.55 721491.66 0.0089 0.0058

Neptune -2738-07-31 02:38 J 721579.51 721579.61 721579.73 0.0089 0.0051

Neptune -2738-10-27 04:04 J 721667.56 721667.67 721667.79 0.0089 0.0043

Neptune -2737-01-23 05:31 J 721755.61 721755.73 721755.86 0.0089 0.0036

Neptune -2737-04-20 06:57 J 721843.67 721843.79 721843.92 0.0089 0.0029

Venus -2737-07-16 12:28 J 721930.93 721931.02 721931.11 0.3682 0.1815

Neptune -2737-07-17 08:23 J 721931.72 721931.85 721931.98 0.0089 0.0022

Neptune -2737-10-13 09:50 J 722019.77 722019.91 722020.04 0.0089 0.0015

Neptune -2736-01-09 11:02 J 722107.83 722107.96 722108.10 0.0089 0.0008

Neptune -2736-04-07 12:28 J 722195.89 722196.02 722196.16 0.0089 0.0001

Neptune -2736-07-04 13:55 J 722283.95 722284.08 722284.21 0.0089 0.0007

Neptune -2736-09-30 15:07 J 722372.00 722372.13 722372.27 0.0089 0.0014

Neptune -2736-12-27 16:33 J 722460.06 722460.19 722460.32 0.0089 0.0021

Neptune -2735-03-25 17:45 J 722548.12 722548.24 722548.38 0.0089 0.0029

Neptune -2735-06-21 19:12 J 722636.18 722636.30 722636.43 0.0089 0.0035

Neptune -2735-09-17 20:23 J 722724.25 722724.35 722724.48 0.0089 0.0043

Neptune -2735-12-14 21:50 J 722812.31 722812.41 722812.53 0.0089 0.0049

Jupiter -2734-03-12 13:26 J 722899.95 722900.06 722900.17 0.0530 0.0261

Neptune -2734-03-12 23:16 J 722900.37 722900.47 722900.58 0.0089 0.0056

Neptune -2734-06-09 00:28 J 722988.44 722988.52 722988.62 0.0089 0.0064

Jupiter -2734-06-09 19:26 J 722989.21 722989.31 722989.41 0.0528 0.0308

Neptune -2734-09-05 01:55 J 723076.51 723076.58 723076.67 0.0089 0.0070

Neptune -2734-12-02 03:07 J 723164.58 723164.63 723164.71 0.0089 0.0078

Neptune -2733-02-28 04:33 J 723252.66 723252.69 723252.74 0.0089 0.0084

Mars -2732-11-04 23:31 J 723868.38 723868.48 723868.57 0.1758 0.0981

Venus -2731-01-30 04:04 J 723954.63 723954.67 723954.72 0.3684 0.3257

Saturn -2731-03-07 05:02 J 723990.67 723990.71 723990.76 0.0265 0.0255

Saturn -2731-06-04 01:12 J 724079.38 724079.55 724079.72 0.0265 0.0109

Saturn -2731-08-31 21:36 J 724168.21 724168.40 724168.58 0.0264 0.0039

Saturn -2731-11-28 17:45 J 724257.12 724257.24 724257.38 0.0264 0.0188

Mars -2731-12-03 05:31 J 724261.58 724261.73 724261.89 0.1784 0.0644

Mars -2730-10-11 06:00 J 724573.67 724573.75 724573.84 0.1733 0.1186

Moon -2730-10-12 04:47 J 724574.63 724574.70 724574.77 0.2717 0.2040

Earth -2730-10-12 05:02 J 724574.65 724574.71 724574.77 0.2711 0.2133 *

Jupiter -2728-04-27 11:16 J 725137.83 725137.97 725138.11 0.0497 0.0307

Uranus -2728-07-25 23:45 J 725227.48 725227.49 725227.53 0.0142 0.0141

Jupiter -2728-07-26 20:52 J 725228.27 725228.37 725228.48 0.0498 0.0409

Uranus -2728-10-22 08:09 J 725315.73 725315.84 725315.97 0.0142 0.0110

Uranus -2727-01-18 16:33 J 725404.04 725404.19 725404.36 0.0142 0.0080

Uranus -2727-04-17 00:57 J 725492.36 725492.54 725492.73 0.0142 0.0049

Uranus -2727-07-14 09:21 J 725580.70 725580.89 725581.09 0.0142 0.0018

Uranus -2727-10-10 17:45 J 725669.05 725669.24 725669.44 0.0142 0.0013

Uranus -2726-01-07 02:09 J 725757.41 725757.59 725757.78 0.0142 0.0043

Uranus -2726-04-05 10:33 J 725845.78 725845.94 725846.11 0.0142 0.0074

Moon -2726-04-06 17:16 J 725847.06 725847.22 725847.39 0.2627 0.0078

Earth -2726-04-06 18:57 J 725847.13 725847.29 725847.45 0.2624 0.0159 *

Uranus	-2726-07-02 18:43 J	725934.16	725934.28	725934.42	0.0142	0.0105
Uranus	-2726-09-29 03:21 J	726022.59	726022.64	726022.70	0.0141	0.0135
Moon	-2723-10-05 05:31 J	727124.64	727124.73	727124.81	0.2701	0.1629
Earth	-2723-10-05 05:31 J	727124.65	727124.73	727124.82	0.2708	0.1637 *
Jupiter	-2723-12-29 17:02 J	727210.14	727210.21	727210.29	0.0530	0.0412
Mars	-2722-03-28 09:21 J	727298.84	727298.89	727298.95	0.1765	0.1545
Jupiter	-2722-03-28 23:16 J	727299.35	727299.47	727299.59	0.0528	0.0161
Mars	-2721-04-24 01:55 J	727691.42	727691.58	727691.75	0.1777	0.0431
Mars	-2720-03-02 16:33 J	728004.09	728004.19	728004.30	0.1739	0.0678
Jupiter	-2716-02-13 08:38 J	729447.82	729447.86	729447.91	0.0496	0.0480
Jupiter	-2716-05-14 18:00 J	729538.09	729538.25	729538.42	0.0498	0.0229
Saturn	-2716-09-25 15:36 J	729672.04	729672.15	729672.26	0.0297	0.0151
Saturn	-2716-12-23 04:19 J	729760.55	729760.68	729760.81	0.0297	0.0006
Saturn	-2715-03-21 16:47 J	729849.09	729849.20	729849.32	0.0298	0.0144
Saturn	-2715-06-18 05:16 J	729937.69	729937.72	729937.75	0.0299	0.0290
Venus	-2712-06-12 06:00 J	731027.61	731027.75	731027.89	0.3691	0.1399
Mars	-2712-09-13 22:33 J	731121.35	731121.44	731121.54	0.1769	0.1472
Mars	-2711-07-24 02:52 J	731434.51	731434.62	731434.74	0.1745	0.0162
Jupiter	-2710-01-15 03:21 J	731609.51	731609.64	731609.76	0.0529	0.0022
Moon	-2710-10-07 22:19 J	731875.33	731875.43	731875.54	0.2707	0.0395
Earth	-2710-10-07 23:02 J	731875.35	731875.46	731875.57	0.2709	0.0287 *
Venus	-2707-12-27 13:55 J	733052.00	733052.08	733052.17	0.3689	0.3031
Jupiter	-2704-03-02 14:52 J	733847.94	733848.12	733848.31	0.0497	0.0048
Venus	-2703-12-23 18:28 J	734509.26	734509.27	734509.28	0.3678	0.3648
Saturn	-2702-10-22 02:38 J	734811.45	734811.61	734811.77	0.0265	0.0137
Mars	-2702-12-14 13:12 J	734864.94	734865.05	734865.17	0.1752	0.0384
Saturn	-2701-01-18 22:47 J	734900.27	734900.45	734900.64	0.0264	0.0013
Saturn	-2701-04-16 19:12 J	734989.16	734989.30	734989.45	0.0264	0.0159
Jupiter	-2699-11-03 06:57 J	735919.67	735919.79	735919.91	0.0530	0.0135
Jupiter	-2698-01-31 12:43 J	736008.96	736009.03	736009.10	0.0528	0.0430

Venus	-2697-07-08 10:33 J	736532.85	736532.94	736533.02	0.3679	0.2130
Moon	-2697-10-09 15:50 J	736626.06	736626.16	736626.26	0.2711	0.0941
Earth	-2697-10-09 16:19 J	736626.09	736626.18	736626.28	0.2710	0.1066 *
Moon	-2693-04-03 15:21 J	737898.10	737898.14	737898.19	0.2624	0.2523
Earth	-2693-04-03 17:16 J	737898.13	737898.22	737898.31	0.2625	0.2199 *
Jupiter	-2693-12-19 12:00 J	738157.82	738158.00	738158.17	0.0496	0.0133
Mars	-2692-05-05 23:16 J	738295.38	738295.47	738295.57	0.1759	0.0930
Venus	-2691-01-22 02:23 J	738556.50	738556.60	738556.70	0.3680	0.0625
Mars	-2691-06-03 06:43 J	738688.62	738688.78	738688.93	0.1785	0.0760
Mars	-2690-04-11 06:00 J	739000.67	739000.75	739000.83	0.1733	0.1238
Moon	-2690-10-03 17:02 J	739176.19	739176.21	739176.23	0.2700	0.2628
Jupiter	-2687-08-22 11:02 J	740229.85	740229.96	740230.07	0.0530	0.0277
Jupiter	-2687-11-19 17:02 J	740319.11	740319.21	740319.32	0.0529	0.0294
Saturn	-2686-02-12 18:57 J	740404.19	740404.29	740404.40	0.0296	0.0177
Saturn	-2686-05-12 07:40 J	740492.69	740492.82	740492.95	0.0297	0.0031
Venus	-2686-08-07 18:14 J	740580.16	740580.26	740580.36	0.3682	0.0857
Saturn	-2686-08-08 20:09 J	740581.23	740581.34	740581.47	0.0297	0.0118
Saturn	-2686-11-05 08:38 J	740669.81	740669.86	740669.93	0.0298	0.0263
Uranus	-2684-04-16 15:50 J	741198.12	741198.16	741198.20	0.0136	0.0128
Uranus	-2684-07-13 18:57 J	741286.21	741286.29	741286.36	0.0136	0.0110
Uranus	-2684-10-09 21:50 J	741374.32	741374.41	741374.51	0.0136	0.0092
Moon	-2684-10-12 09:36 J	741376.85	741376.90	741376.94	0.2717	0.2426
Earth	-2684-10-12 09:50 J	741376.86	741376.91	741376.95	0.2710	0.2404 *
Uranus	-2683-01-06 00:57 J	741462.43	741462.54	741462.65	0.0136	0.0074
Uranus	-2683-04-04 04:04 J	741550.55	741550.67	741550.79	0.0136	0.0056
Uranus	-2683-07-01 07:12 J	741638.68	741638.80	741638.93	0.0136	0.0038
Mars	-2683-09-26 09:21 J	741725.83	741725.89	741725.96	0.1765	0.1486
Uranus	-2683-09-27 10:19 J	741726.80	741726.93	741727.06	0.0136	0.0020
Uranus	-2683-12-24 13:26 J	741814.93	741815.06	741815.19	0.0136	0.0003
Uranus	-2682-03-22 16:33 J	741903.06	741903.19	741903.32	0.0137	0.0017

Uranus -2682-06-18 19:26 J 741991.19 741991.31 741991.44 0.0137 0.0035

Uranus -2682-09-14 22:33 J 742079.32 742079.44 742079.56 0.0137 0.0053

Mars -2682-10-24 02:38 J 742118.45 742118.61 742118.78 0.1777 0.0334

Uranus -2682-12-12 01:26 J 742167.46 742167.56 742167.68 0.0137 0.0071

Uranus -2681-03-09 04:33 J 742255.60 742255.69 742255.80 0.0137 0.0089

Uranus -2681-06-05 07:40 J 742343.75 742343.82 742343.91 0.0137 0.0107

Mars -2681-08-31 16:33 J 742431.08 742431.19 742431.29 0.1739 0.0728

Uranus -2681-09-01 10:47 J 742431.90 742431.95 742432.00 0.0137 0.0125

Jupiter -2681-10-07 08:09 J 742467.71 742467.84 742467.99 0.0496 0.0318

Jupiter -2680-01-05 17:45 J 742558.14 742558.24 742558.36 0.0498 0.0397

Venus -2680-02-20 10:04 J 742603.84 742603.92 742604.00 0.3683 0.2314

Moon -2680-04-07 00:14 J 742649.36 742649.51 742649.67 0.2628 0.0620

Earth -2680-04-07 01:55 J 742649.42 742649.58 742649.73 0.2624 0.0727 *

Moon -2677-10-05 10:04 J 743926.83 743926.92 743927.01 0.2702 0.1441

Earth -2677-10-05 10:19 J 743926.84 743926.93 743927.02 0.2708 0.1362 *

Jupiter -2675-06-10 15:21 J 744540.06 744540.14 744540.22 0.0531 0.0417

Jupiter -2675-09-07 21:36 J 744629.28 744629.40 744629.52 0.0529 0.0157

Saturn -2672-03-10 02:38 J 745543.48 745543.61 745543.75 0.0265 0.0175

Mars -2672-03-14 23:16 J 745548.37 745548.47 745548.57 0.1769 0.1382

Saturn -2672-06-06 22:47 J 745632.27 745632.45 745632.64 0.0264 0.0029

Saturn -2672-09-03 19:12 J 745721.13 745721.30 745721.47 0.0264 0.0120

Mars -2671-01-22 03:07 J 745861.51 745861.63 745861.74 0.1745 0.0219

Jupiter -2669-07-26 05:31 J 746777.72 746777.73 746777.76 0.0496 0.0491

Jupiter -2669-10-24 14:52 J 746867.95 746868.12 746868.29 0.0498 0.0216

Moon -2664-10-08 03:07 J 748677.52 748677.63 748677.74 0.2707 0.0099

Earth -2664-10-08 03:50 J 748677.55 748677.66 748677.76 0.2709 0.0090 *

Jupiter -2663-06-27 01:26 J 748939.44 748939.56 748939.69 0.0529 0.0015

Mars -2662-06-14 13:12 J 749291.94 749292.05 749292.17 0.1752 0.0326

Pluto -2662-08-21 13:55 J 749360.02 749360.08 749360.17 0.0073 0.0066

Pluto -2662-11-17 15:36 J 749448.06 749448.15 749448.28 0.0072 0.0055

Pluto	-2661-02-13 17:31 J	749536.11	749536.23	749536.38	0.0072	0.0044
Pluto	-2661-05-11 19:26 J	749624.16	749624.31	749624.47	0.0072	0.0032
Pluto	-2661-08-07 21:21 J	749712.22	749712.39	749712.56	0.0072	0.0021
Pluto	-2661-11-03 23:02 J	749800.29	749800.46	749800.63	0.0072	0.0011
Pluto	-2660-01-31 00:43 J	749888.36	749888.53	749888.71	0.0072	0.0001
Pluto	-2660-04-29 02:23 J	749976.43	749976.60	749976.78	0.0072	0.0011
Pluto	-2660-07-26 04:04 J	750064.51	750064.67	750064.84	0.0072	0.0021
Pluto	-2660-10-22 05:31 J	750152.59	750152.73	750152.90	0.0072	0.0032
Pluto	-2659-01-18 07:26 J	750240.67	750240.81	750240.95	0.0071	0.0042
Pluto	-2659-04-16 09:07 J	750328.76	750328.88	750329.00	0.0071	0.0052
Pluto	-2659-07-13 10:19 J	750416.87	750416.93	750417.03	0.0071	0.0062
Saturn	-2657-07-01 21:21 J	751136.30	751136.39	751136.48	0.0297	0.0215
Jupiter	-2657-08-12 12:00 J	751177.82	751178.00	751178.19	0.0497	0.0039
Saturn	-2657-09-28 10:04 J	751224.79	751224.92	751225.05	0.0297	0.0068
Saturn	-2657-12-25 22:47 J	751313.32	751313.45	751313.57	0.0298	0.0080
Saturn	-2656-03-24 11:16 J	751401.89	751401.97	751402.05	0.0298	0.0226
Neptune	-2656-04-29 21:36 J	751438.39	751438.40	751438.43	0.0088	0.0087
Neptune	-2656-07-27 00:43 J	751526.47	751526.53	751526.64	0.0088	0.0078
Neptune	-2656-10-23 04:19 J	751614.57	751614.68	751614.81	0.0088	0.0068
Venus	-2655-01-17 07:40 J	751700.67	751700.82	751700.97	0.3690	0.0067
Neptune	-2655-01-19 07:40 J	751702.69	751702.82	751702.98	0.0088	0.0059
Neptune	-2655-04-17 11:16 J	751790.82	751790.97	751791.13	0.0088	0.0049
Neptune	-2655-07-14 14:52 J	751878.95	751879.12	751879.29	0.0088	0.0039
Neptune	-2655-10-10 18:00 J	751967.08	751967.25	751967.44	0.0088	0.0030
Neptune	-2654-01-06 21:36 J	752055.22	752055.40	752055.59	0.0088	0.0020
Neptune	-2654-04-05 00:57 J	752143.35	752143.54	752143.74	0.0088	0.0011
Neptune	-2654-07-02 04:33 J	752231.50	752231.69	752231.88	0.0088	0.0001
Neptune	-2654-09-28 07:55 J	752319.64	752319.83	752320.02	0.0088	0.0009
Neptune	-2654-12-25 11:16 J	752407.79	752407.97	752408.16	0.0088	0.0019
Neptune	-2653-03-22 14:38 J	752495.94	752496.11	752496.30	0.0088	0.0029

Neptune -2653-06-18 18:14 J 752584.09 752584.26 752584.44 0.0088 0.0038

Neptune -2653-09-14 21:36 J 752672.25 752672.40 752672.57 0.0088 0.0048

Mars -2653-11-03 23:16 J 752722.38 752722.47 752722.57 0.1758 0.0872

Neptune -2653-12-12 00:57 J 752760.41 752760.54 752760.70 0.0088 0.0058

Neptune -2652-03-10 04:19 J 752848.58 752848.68 752848.82 0.0088 0.0068

Neptune -2652-06-06 07:40 J 752936.76 752936.82 752936.93 0.0088 0.0078

Neptune -2652-09-02 11:31 J 753024.98 753024.98 753025.01 0.0088 0.0088

Mars -2652-12-02 07:26 J 753115.66 753115.81 753115.96 0.1785 0.0862

Jupiter -2651-04-15 05:16 J 753249.60 753249.72 753249.85 0.0530 0.0138

Jupiter -2651-07-13 11:16 J 753338.89 753338.97 753339.04 0.0528 0.0427

Mars -2651-10-10 06:00 J 753427.68 753427.75 753427.82 0.1733 0.1290

Moon -2651-10-10 20:38 J 753428.26 753428.36 753428.45 0.2713 0.1266

Earth -2651-10-10 21:07 J 753428.29 753428.38 753428.47 0.2710 0.1338 *

Moon -2647-04-04 22:19 J 754700.31 754700.43 754700.55 0.2625 0.1739

Earth -2647-04-05 00:14 J 754700.38 754700.51 754700.64 0.2625 0.1632 *

Venus -2646-07-30 16:04 J 755182.11 755182.17 755182.22 0.3678 0.3121

Jupiter -2645-05-31 09:21 J 755487.71 755487.89 755488.06 0.0497 0.0139

Uranus -2644-08-15 06:28 J 755928.73 755928.77 755928.84 0.0142 0.0136

Earth -2644-10-03 21:36 J 755978.36 755978.40 755978.45 0.2707 0.2441

Moon -2644-10-03 21:50 J 755978.37 755978.41 755978.45 0.2699 0.2477 *

Uranus -2644-11-11 14:38 J 756017.00 756017.11 756017.26 0.0142 0.0106

Uranus -2643-02-07 23:16 J 756105.31 756105.47 756105.64 0.0142 0.0074

Mars -2643-03-27 09:21 J 756152.83 756152.89 756152.96 0.1765 0.1429

Uranus -2643-05-07 07:40 J 756193.64 756193.82 756194.01 0.0142 0.0044

Saturn -2643-07-28 03:50 J 756275.56 756275.66 756275.79 0.0265 0.0204

Uranus -2643-08-03 16:04 J 756281.98 756282.17 756282.37 0.0142 0.0013

Saturn -2643-10-25 00:14 J 756364.33 756364.51 756364.69 0.0265 0.0057

Uranus -2643-10-31 00:28 J 756370.33 756370.52 756370.72 0.0142 0.0018

Saturn -2642-01-21 20:23 J 756453.18 756453.35 756453.53 0.0264 0.0091

Uranus -2642-01-27 08:52 J 756458.69 756458.87 756459.05 0.0142 0.0048

Saturn	-2642-04-20 17:02 J	756542.13	756542.21	756542.28	0.0264	0.0239
Mars	-2642-04-24 03:36 J	756545.48	756545.65	756545.82	0.1777	0.0227
Uranus	-2642-04-25 17:16 J	756547.06	756547.22	756547.38	0.0142	0.0079
Uranus	-2642-07-23 01:26 J	756635.45	756635.56	756635.69	0.0142	0.0110
Uranus	-2642-10-19 10:04 J	756723.90	756723.92	756723.95	0.0141	0.0140
Mars	-2641-03-01 16:33 J	756858.09	756858.19	756858.29	0.1739	0.0786
Venus	-2640-02-12 07:55 J	757205.74	757205.83	757205.93	0.3679	0.1609
Jupiter	-2639-02-01 08:52 J	757559.76	757559.87	757559.98	0.0530	0.0291
Jupiter	-2639-05-01 14:52 J	757649.02	757649.12	757649.23	0.0529	0.0280
Moon	-2638-10-13 14:23 J	758179.07	758179.10	758179.12	0.2718	0.2615
Earth	-2638-10-13 14:38 J	758179.09	758179.11	758179.12	0.2711	0.2679 *
Venus	-2635-08-29 00:00 J	759229.39	759229.50	759229.60	0.3681	0.0156
Moon	-2634-04-08 07:26 J	759451.66	759451.81	759451.96	0.2629	0.1057
Earth	-2634-04-08 08:52 J	759451.72	759451.87	759452.01	0.2624	0.1308 *
Jupiter	-2633-03-19 06:28 J	759797.63	759797.77	759797.91	0.0496	0.0316
Jupiter	-2633-06-17 15:50 J	759888.05	759888.16	759888.27	0.0498	0.0396
Mars	-2633-09-13 00:14 J	759975.39	759975.51	759975.62	0.1770	0.1274
Mars	-2632-07-23 02:52 J	760288.51	760288.62	760288.74	0.1745	0.0268
Moon	-2631-10-06 14:38 J	760729.01	760729.11	760729.21	0.2703	0.1093
Earth	-2631-10-06 15:07 J	760729.03	760729.13	760729.23	0.2708	0.1089 *
Venus	-2629-03-13 15:50 J	761253.06	761253.16	761253.25	0.3682	0.1366
Saturn	-2628-11-19 00:43 J	761868.46	761868.53	761868.61	0.0296	0.0242
Jupiter	-2628-11-20 12:57 J	761869.97	761870.04	761870.12	0.0531	0.0434
Saturn	-2627-02-15 13:26 J	761956.94	761957.06	761957.19	0.0296	0.0096
Jupiter	-2627-02-17 19:12 J	761959.18	761959.30	761959.43	0.0529	0.0143
Saturn	-2627-05-15 02:09 J	762045.46	762045.59	762045.72	0.0297	0.0052
Saturn	-2627-08-11 14:38 J	762134.02	762134.11	762134.21	0.0298	0.0198
Venus	-2624-09-27 07:26 J	763276.75	763276.81	763276.88	0.3683	0.2805
Mars	-2623-12-13 13:12 J	763718.94	763719.05	763719.17	0.1752	0.0267
Jupiter	-2621-04-05 11:45 J	764197.82	764197.99	764198.16	0.0497	0.0203

Moon	-2618-10-09 07:55 J	765479.72	765479.83	765479.93	0.2707	0.0144
Earth	-2618-10-09 08:38 J	765479.75	765479.86	765479.96	0.2709	0.0288 *
Jupiter	-2616-12-06 23:45 J	766269.36	766269.49	766269.62	0.0529	0.0005
Saturn	-2614-12-15 04:19 J	767007.61	767007.68	767007.77	0.0265	0.0239
Saturn	-2613-03-13 00:28 J	767096.35	767096.52	767096.70	0.0264	0.0093
Mars	-2613-05-04 23:31 J	767149.38	767149.48	767149.58	0.1758	0.0809
Saturn	-2613-06-09 20:52 J	767185.18	767185.37	767185.55	0.0264	0.0054
Saturn	-2613-09-06 17:02 J	767274.10	767274.21	767274.33	0.0264	0.0202
Mars	-2612-06-02 08:09 J	767542.69	767542.84	767542.98	0.1785	0.0957
Mars	-2611-04-10 06:00 J	767854.68	767854.75	767854.82	0.1732	0.1349
Jupiter	-2609-01-23 08:52 J	768507.69	768507.87	768508.06	0.0497	0.0025
Moon	-2605-10-11 01:26 J	770230.47	770230.56	770230.65	0.2715	0.1557
Earth	-2605-10-11 01:55 J	770230.49	770230.58	770230.67	0.2710	0.1608 *
Venus	-2604-02-07 01:40 J	770349.49	770349.57	770349.66	0.3691	0.2980
Jupiter	-2604-09-25 03:36 J	770579.53	770579.65	770579.78	0.0530	0.0142
Mars	-2604-09-25 09:21 J	770579.82	770579.89	770579.96	0.1765	0.1371
Jupiter	-2604-12-23 09:21 J	770668.82	770668.89	770668.97	0.0528	0.0422
Mars	-2603-10-23 04:19 J	770972.51	770972.68	770972.85	0.1777	0.0128
Mars	-2602-08-31 16:33 J	771285.09	771285.19	771285.29	0.1739	0.0842
Moon	-2601-04-05 05:16 J	771502.58	771502.72	771502.86	0.2626	0.1379
Earth	-2601-04-05 06:57 J	771502.64	771502.79	771502.94	0.2625	0.1070 *
Uranus	-2600-05-06 22:33 J	771899.40	771899.44	771899.50	0.0136	0.0125
Uranus	-2600-08-03 01:40 J	771987.50	771987.57	771987.66	0.0136	0.0107
Uranus	-2600-10-30 04:47 J	772075.61	772075.70	772075.81	0.0136	0.0089
Uranus	-2599-01-26 08:09 J	772163.73	772163.84	772163.95	0.0136	0.0070
Uranus	-2599-04-24 11:16 J	772251.85	772251.97	772252.09	0.0136	0.0052
Uranus	-2599-07-21 14:23 J	772339.97	772340.10	772340.22	0.0136	0.0035
Venus	-2599-08-24 09:21 J	772373.75	772373.89	772374.04	0.3690	0.1353
Uranus	-2599-10-17 17:31 J	772428.10	772428.23	772428.36	0.0136	0.0017
Uranus	-2598-01-13 20:23 J	772516.22	772516.35	772516.49	0.0136	0.0005

Saturn	-2598-04-08 02:52 J	772600.58	772600.62	772600.65	0.0296	0.0284	
Uranus	-2598-04-11 23:31 J	772604.35	772604.48	772604.61	0.0137	0.0020	
Saturn	-2598-07-05 15:36 J	772689.03	772689.15	772689.27	0.0297	0.0136	
Uranus	-2598-07-09 02:38 J	772692.48	772692.61	772692.74	0.0137	0.0038	
Saturn	-2598-10-02 04:19 J	772777.55	772777.68	772777.81	0.0298	0.0012	
Moon	-2598-10-05 02:38 J	772780.54	772780.61	772780.67	0.2700	0.2095	
Earth	-2598-10-05 02:23 J	772780.54	772780.60	772780.67	0.2707	0.2165	*
Uranus	-2598-10-05 05:45 J	772780.62	772780.74	772780.86	0.0137	0.0056	*
Jupiter	-2598-11-11 06:14 J	772817.59	772817.76	772817.94	0.0497	0.0151	
Saturn	-2598-12-29 16:47 J	772866.09	772866.20	772866.31	0.0298	0.0159	
Uranus	-2597-01-01 08:52 J	772868.76	772868.87	772868.98	0.0137	0.0074	
Uranus	-2597-03-29 11:45 J	772956.90	772956.99	772957.09	0.0137	0.0093	
Uranus	-2597-06-25 14:38 J	773045.05	773045.11	773045.20	0.0137	0.0111	
Uranus	-2597-09-21 17:45 J	773133.21	773133.24	773133.29	0.0137	0.0129	
Mars	-2593-03-14 00:57 J	774402.42	774402.54	774402.67	0.1770	0.1172	
Mars	-2592-01-21 02:52 J	774715.51	774715.62	774715.74	0.1745	0.0326	
Jupiter	-2592-07-14 07:26 J	774889.71	774889.81	774889.92	0.0530	0.0290	
Jupiter	-2592-10-11 13:26 J	774978.96	774979.06	774979.17	0.0528	0.0279	
Venus	-2589-03-05 13:40 J	775854.99	775855.07	775855.14	0.3678	0.2591	
Moon	-2588-04-08 14:09 J	776253.98	776254.09	776254.21	0.2628	0.1807	
Earth	-2588-04-08 15:36 J	776254.04	776254.15	776254.26	0.2624	0.1872	*
Jupiter	-2586-08-30 03:36 J	777127.52	777127.65	777127.80	0.0496	0.0324	
Jupiter	-2586-11-28 13:12 J	777217.94	777218.05	777218.17	0.0498	0.0390	
Moon	-2585-10-06 19:26 J	777531.21	777531.31	777531.41	0.2704	0.0949	
Earth	-2585-10-06 19:55 J	777531.23	777531.33	777531.43	0.2708	0.0810	*
Saturn	-2584-07-31 01:26 J	777828.40	777828.56	777828.73	0.0265	0.0125	
Venus	-2584-09-19 05:31 J	777878.63	777878.73	777878.83	0.3680	0.1091	
Saturn	-2584-10-27 21:50 J	777917.22	777917.41	777917.59	0.0264	0.0023	
Saturn	-2583-01-24 18:00 J	778006.11	778006.25	778006.40	0.0264	0.0171	
Mars	-2583-06-13 13:12 J	778145.94	778146.05	778146.17	0.1752	0.0211	

Jupiter -2580-05-02 10:47 J 779199.89 779199.95 779200.02 0.0531 0.0447

Jupiter -2580-07-30 17:16 J 779289.09 779289.22 779289.34 0.0529 0.0130

Venus -2578-04-04 21:36 J 779902.29 779902.40 779902.50 0.3681 0.0424

Neptune -2574-02-10 19:26 J 781310.27 781310.31 781310.35 0.0089 0.0084

Neptune -2574-05-09 20:52 J 781398.30 781398.37 781398.44 0.0089 0.0077

Neptune -2574-08-05 22:04 J 781486.34 781486.42 781486.51 0.0089 0.0070

Jupiter -2574-09-16 10:04 J 781527.75 781527.92 781528.09 0.0497 0.0207

Neptune -2574-11-01 23:31 J 781574.39 781574.48 781574.58 0.0089 0.0062

Mars -2574-11-03 23:16 J 781576.37 781576.47 781576.58 0.1758 0.0757

Neptune -2573-01-29 00:57 J 781662.44 781662.54 781662.65 0.0089 0.0055

Neptune -2573-04-26 02:09 J 781750.49 781750.59 781750.72 0.0089 0.0049

Neptune -2573-07-23 03:50 J 781838.54 781838.66 781838.78 0.0089 0.0041

Venus -2573-10-18 13:12 J 781925.97 781926.05 781926.14 0.3682 0.1867

Neptune -2573-10-19 05:16 J 781926.59 781926.72 781926.84 0.0089 0.0034

Mars -2573-12-01 08:52 J 781969.74 781969.87 781970.01 0.1785 0.1067

Neptune -2572-01-15 06:28 J 782014.65 782014.77 782014.90 0.0089 0.0027

Neptune -2572-04-13 07:55 J 782102.70 782102.83 782102.97 0.0089 0.0020

Neptune -2572-07-10 09:21 J 782190.76 782190.89 782191.02 0.0089 0.0012

Neptune -2572-10-06 10:47 J 782278.82 782278.95 782279.08 0.0089 0.0005

Mars -2572-10-09 06:00 J 782281.68 782281.75 782281.81 0.1732 0.1400

Moon -2572-10-09 12:43 J 782281.92 782282.03 782282.13 0.2708 0.0497

Earth -2572-10-09 13:12 J 782281.95 782282.05 782282.16 0.2709 0.0545 *

Neptune -2571-01-02 12:14 J 782366.87 782367.01 782367.14 0.0089 0.0003

Neptune -2571-03-31 13:26 J 782454.93 782455.06 782455.20 0.0089 0.0009

Neptune -2571-06-27 14:52 J 782542.99 782543.12 782543.25 0.0089 0.0016

Neptune -2571-09-23 16:04 J 782631.05 782631.17 782631.31 0.0089 0.0024

Neptune -2571-12-20 17:31 J 782719.11 782719.23 782719.36 0.0089 0.0030

Neptune -2570-03-18 18:57 J 782807.17 782807.29 782807.41 0.0089 0.0037

Neptune -2570-06-14 20:09 J 782895.23 782895.34 782895.46 0.0089 0.0045

Neptune -2570-09-10 21:36 J 782983.30 782983.40 782983.51 0.0089 0.0051

Neptune -2570-12-07 22:47 J 783071.36 783071.45 783071.56 0.0089 0.0059

Neptune -2569-03-05 00:14 J 783159.43 783159.51 783159.61 0.0089 0.0065

Neptune -2569-06-01 01:26 J 783247.50 783247.56 783247.65 0.0089 0.0073

Neptune -2569-08-28 02:52 J 783335.57 783335.62 783335.69 0.0089 0.0079

Saturn -2569-11-21 18:57 J 783421.18 783421.29 783421.40 0.0296 0.0163

Neptune -2569-11-24 04:04 J 783423.65 783423.67 783423.72 0.0089 0.0087

Saturn -2568-02-18 07:40 J 783509.69 783509.82 783509.95 0.0297 0.0017

Saturn -2568-05-17 20:23 J 783598.23 783598.35 783598.46 0.0297 0.0131

Jupiter -2568-05-18 21:21 J 783599.27 783599.39 783599.52 0.0530 0.0021

Saturn -2568-08-14 08:52 J 783686.82 783686.87 783686.91 0.0298 0.0276

Venus -2567-05-04 05:02 J 783949.67 783949.71 783949.75 0.3684 0.3295

Mars -2564-03-26 09:36 J 785006.82 785006.90 785006.97 0.1765 0.1307

Mars -2563-04-23 05:16 J 785399.55 785399.72 785399.89 0.1777 0.0036

Mars -2562-03-01 16:33 J 785712.09 785712.19 785712.28 0.1739 0.0898

Jupiter -2562-07-05 06:00 J 785837.56 785837.75 785837.93 0.0497 0.0016

Uranus -2560-09-04 13:55 J 786630.00 786630.08 786630.17 0.0142 0.0129

Uranus -2560-12-01 22:04 J 786718.29 786718.42 786718.57 0.0142 0.0098

Uranus -2559-02-28 06:43 J 786806.61 786806.78 786806.95 0.0142 0.0068

Uranus -2559-05-27 14:52 J 786894.94 786895.12 786895.31 0.0142 0.0037

Uranus -2559-08-23 23:16 J 786983.28 786983.47 786983.67 0.0142 0.0007

Moon -2559-10-12 06:14 J 787032.68 787032.76 787032.84 0.2715 0.1785

Earth -2559-10-12 06:43 J 787032.70 787032.78 787032.85 0.2710 0.1881 *

Uranus -2559-11-20 07:40 J 787071.63 787071.82 787072.02 0.0142 0.0024

Uranus -2558-02-16 16:04 J 787159.99 787160.17 787160.35 0.0142 0.0055

Uranus -2558-05-16 00:14 J 787248.37 787248.51 787248.68 0.0142 0.0086

Uranus -2558-08-12 08:52 J 787336.76 787336.87 787336.98 0.0142 0.0116

Jupiter -2556-03-07 01:55 J 787909.46 787909.58 787909.70 0.0530 0.0146

Jupiter -2556-06-04 07:40 J 787998.75 787998.82 787998.90 0.0528 0.0419

Moon -2555-04-06 12:14 J 788304.85 788305.01 788305.17 0.2628 0.0612

Earth -2555-04-06 13:55 J 788304.92 788305.08 788305.24 0.2625 0.0499 *

Saturn	-2555-12-18 02:09 J	788560.44	788560.59	788560.74	0.0265	0.0158
Saturn	-2554-03-16 22:19 J	788649.24	788649.43	788649.61	0.0264	0.0013
Saturn	-2554-06-13 18:28 J	788738.11	788738.27	788738.43	0.0264	0.0135
Mars	-2554-09-13 01:26 J	788829.43	788829.56	788829.70	0.1770	0.1087
Mars	-2553-07-22 02:52 J	789142.51	789142.62	789142.74	0.1745	0.0386
Moon	-2552-10-05 07:12 J	789582.72	789582.80	789582.87	0.2700	0.1932
Earth	-2552-10-05 07:12 J	789582.73	789582.80	789582.88	0.2707	0.1887 *
Jupiter	-2550-04-23 03:07 J	790147.46	790147.63	790147.81	0.0497	0.0162
Venus	-2548-09-14 03:36 J	791022.51	791022.65	791022.78	0.3691	0.1626
Jupiter	-2545-12-24 05:45 J	792219.64	792219.74	792219.85	0.0530	0.0293
Jupiter	-2544-03-23 12:00 J	792308.89	792309.00	792309.10	0.0528	0.0277
Mars	-2544-12-12 13:12 J	792572.94	792573.05	792573.16	0.1751	0.0152
Venus	-2542-03-31 11:31 J	793046.88	793046.98	793047.08	0.3689	0.2772
Moon	-2542-04-09 21:21 J	793056.31	793056.39	793056.48	0.2628	0.2221
Earth	-2542-04-09 22:33 J	793056.38	793056.44	793056.49	0.2624	0.2449 *
Saturn	-2539-04-10 20:38 J	794153.27	794153.36	794153.45	0.0297	0.0209
Saturn	-2539-07-08 09:21 J	794241.76	794241.89	794242.02	0.0297	0.0061
Saturn	-2539-10-04 22:04 J	794330.29	794330.42	794330.54	0.0298	0.0086
Moon	-2539-10-08 00:00 J	794333.40	794333.50	794333.61	0.2704	0.0561
Earth	-2539-10-08 00:43 J	794333.42	794333.53	794333.63	0.2708	0.0539 *
Saturn	-2538-01-01 10:33 J	794418.86	794418.94	794419.02	0.0298	0.0233
Jupiter	-2538-02-09 00:43 J	794457.40	794457.53	794457.67	0.0496	0.0335
Venus	-2538-03-27 19:12 J	794504.28	794504.30	794504.32	0.3678	0.3589
Jupiter	-2538-05-10 10:19 J	794547.81	794547.93	794548.05	0.0498	0.0380
Mars	-2534-05-04 23:31 J	796003.37	796003.48	796003.58	0.1758	0.0697
Mars	-2533-06-01 10:04 J	796396.79	796396.92	796397.05	0.1785	0.1180
Venus	-2533-10-10 11:16 J	796527.88	796527.97	796528.05	0.3679	0.2067
Jupiter	-2533-10-12 09:36 J	796529.83	796529.90	796529.97	0.0530	0.0442
Jupiter	-2532-01-09 15:50 J	796619.04	796619.16	796619.29	0.0529	0.0133
Mars	-2532-04-09 06:00 J	796708.69	796708.75	796708.81	0.1732	0.1457

Venus	-2527-04-26 03:07 J	798551.53	798551.63	798551.73	0.3680	0.0573
Jupiter	-2526-02-26 07:26 J	798857.65	798857.81	798857.99	0.0497	0.0204
Moon	-2526-10-10 17:31 J	799084.12	799084.23	799084.33	0.2711	0.0667
Earth	-2526-10-10 18:00 J	799084.15	799084.25	799084.35	0.2709	0.0817 *
Saturn	-2525-05-06 02:23 J	799292.49	799292.60	799292.74	0.0265	0.0194
Saturn	-2525-08-02 22:47 J	799381.26	799381.45	799381.63	0.0264	0.0048
Mars	-2525-09-24 09:21 J	799433.81	799433.89	799433.97	0.1765	0.1255
Saturn	-2525-10-30 18:57 J	799470.12	799470.29	799470.46	0.0264	0.0100
Saturn	-2524-01-27 15:07 J	799559.08	799559.13	799559.20	0.0263	0.0248
Mars	-2524-10-22 06:00 J	799826.58	799826.75	799826.92	0.1778	0.0083
Mars	-2523-08-30 16:33 J	800139.09	800139.19	800139.28	0.1738	0.0953
Venus	-2522-11-09 18:57 J	800575.19	800575.29	800575.39	0.3681	0.0912
Jupiter	-2521-10-28 19:40 J	800929.19	800929.32	800929.44	0.0529	0.0025
Venus	-2516-05-25 10:47 J	802598.87	802598.95	802599.03	0.3683	0.2353
Uranus	-2516-05-27 06:00 J	802600.70	802600.75	802600.82	0.0136	0.0120
Uranus	-2516-08-23 09:07 J	802688.80	802688.88	802688.98	0.0136	0.0102
Uranus	-2516-11-19 12:28 J	802776.92	802777.02	802777.12	0.0136	0.0083
Uranus	-2515-02-15 15:36 J	802865.03	802865.15	802865.26	0.0136	0.0065
Uranus	-2515-05-14 18:43 J	802953.15	802953.28	802953.40	0.0136	0.0048
Uranus	-2515-08-10 21:50 J	803041.28	803041.41	803041.53	0.0136	0.0030
Uranus	-2515-11-07 00:43 J	803129.40	803129.53	803129.66	0.0136	0.0012
Jupiter	-2515-12-15 04:33 J	803167.51	803167.69	803167.88	0.0497	0.0022
Uranus	-2514-02-03 03:50 J	803217.53	803217.66	803217.79	0.0137	0.0008
Mars	-2514-03-14 02:38 J	803256.47	803256.61	803256.75	0.1770	0.0974
Uranus	-2514-05-02 06:57 J	803305.66	803305.79	803305.92	0.0137	0.0025
Uranus	-2514-07-29 10:04 J	803393.80	803393.92	803394.04	0.0137	0.0043
Uranus	-2514-10-25 13:12 J	803481.93	803482.05	803482.16	0.0137	0.0061
Mars	-2513-01-21 02:52 J	803569.51	803569.62	803569.73	0.1745	0.0434
Uranus	-2513-01-21 16:04 J	803570.07	803570.17	803570.28	0.0137	0.0080
Uranus	-2513-04-18 19:12 J	803658.21	803658.30	803658.39	0.0137	0.0098

Uranus	-2513-07-15 22:04 J	803746.36	803746.42	803746.50	0.0137	0.0116
Uranus	-2513-10-12 01:12 J	803834.54	803834.55	803834.59	0.0137	0.0134
Moon	-2513-10-12 11:02 J	803834.89	803834.96	803835.02	0.2715	0.2136
Earth	-2513-10-12 11:31 J	803834.91	803834.98	803835.04	0.2710	0.2156 *
Saturn	-2510-08-28 23:45 J	804885.41	804885.49	804885.57	0.0296	0.0239
Saturn	-2510-11-25 12:28 J	804973.90	804974.02	804974.15	0.0297	0.0092
Saturn	-2509-02-22 01:12 J	805062.42	805062.55	805062.68	0.0297	0.0055
Moon	-2509-04-06 18:57 J	805107.13	805107.29	805107.46	0.2628	0.0230
Earth	-2509-04-06 20:52 J	805107.20	805107.37	805107.53	0.2625	0.0091 *
Saturn	-2509-05-20 13:40 J	805150.98	805151.07	805151.17	0.0298	0.0202
Jupiter	-2509-08-16 23:45 J	805239.37	805239.49	805239.62	0.0530	0.0159
Jupiter	-2509-11-14 05:45 J	805328.66	805328.74	805328.82	0.0528	0.0407
Moon	-2506-10-06 11:45 J	806384.90	806384.99	806385.07	0.2701	0.1624
Earth	-2506-10-06 12:00 J	806384.91	806385.00	806385.09	0.2707	0.1615 *
Mars	-2504-06-12 13:12 J	806999.94	807000.05	807000.17	0.1752	0.0095
Jupiter	-2503-10-03 00:28 J	807477.35	807477.52	807477.70	0.0497	0.0170
Pluto	-2501-05-16 18:28 J	808069.25	808069.27	808069.32	0.0072	0.0070
Pluto	-2501-08-12 19:26 J	808157.25	808157.31	808157.40	0.0072	0.0061
Pluto	-2501-11-08 20:38 J	808245.27	808245.36	808245.46	0.0072	0.0052
Pluto	-2500-02-04 21:36 J	808333.29	808333.40	808333.52	0.0072	0.0043
Pluto	-2500-05-03 22:33 J	808421.32	808421.44	808421.57	0.0072	0.0035
Pluto	-2500-07-30 23:45 J	808509.35	808509.49	808509.62	0.0072	0.0026
Pluto	-2500-10-27 00:43 J	808597.39	808597.53	808597.67	0.0072	0.0017
Pluto	-2499-01-23 01:40 J	808685.43	808685.57	808685.71	0.0073	0.0008
Pluto	-2499-04-21 02:38 J	808773.47	808773.61	808773.76	0.0073	0.0002
Pluto	-2499-07-18 03:36 J	808861.51	808861.65	808861.80	0.0073	0.0011
Pluto	-2499-10-14 04:47 J	808949.56	808949.70	808949.84	0.0073	0.0020
Pluto	-2498-01-10 05:31 J	809037.61	809037.73	809037.88	0.0073	0.0030
Pluto	-2498-04-08 06:43 J	809125.66	809125.78	809125.91	0.0073	0.0039
Pluto	-2498-07-05 07:55 J	809213.72	809213.83	809213.94	0.0073	0.0049

Pluto -2498-10-01 08:38 J 809301.79 809301.86 809301.96 0.0073 0.0059

Pluto -2498-12-28 10:04 J 809389.87 809389.92 809389.98 0.0073 0.0068

Jupiter -2497-06-05 04:19 J 809549.57 809549.68 809549.79 0.0530 0.0295

Jupiter -2497-09-02 10:19 J 809638.83 809638.93 809639.04 0.0529 0.0276

Saturn -2496-09-23 03:07 J 810024.54 810024.63 810024.73 0.0265 0.0227

Saturn -2496-12-20 23:02 J 810113.29 810113.46 810113.64 0.0264 0.0083

Saturn -2495-03-19 19:12 J 810202.13 810202.30 810202.49 0.0264 0.0065

Saturn -2495-06-16 15:36 J 810291.04 810291.15 810291.26 0.0263 0.0211

Mars -2495-11-02 23:31 J 810430.37 810430.48 810430.58 0.1758 0.0639

Mars -2494-12-01 10:33 J 810823.82 810823.94 810824.06 0.1785 0.1265

Moon -2493-10-08 04:47 J 811135.60 811135.70 811135.81 0.2704 0.0402

Earth -2493-10-08 05:31 J 811135.62 811135.73 811135.83 0.2708 0.0278 *

Mars -2493-10-08 06:00 J 811135.69 811135.75 811135.80 0.1732 0.1513 *

Neptune -2491-01-24 19:26 J 811609.28 811609.31 811609.38 0.0088 0.0085

Venus -2491-04-21 05:16 J 811695.57 811695.72 811695.87 0.3690 0.0266

Neptune -2491-04-22 23:02 J 811697.38 811697.46 811697.57 0.0088 0.0075

Neptune -2491-07-20 02:09 J 811785.49 811785.59 811785.74 0.0088 0.0066

Jupiter -2491-07-21 22:04 J 811787.29 811787.42 811787.55 0.0496 0.0343

Neptune -2491-10-16 05:45 J 811873.61 811873.74 811873.90 0.0088 0.0056

Jupiter -2491-10-20 07:26 J 811877.69 811877.81 811877.93 0.0498 0.0370

Neptune -2490-01-12 09:21 J 811961.73 811961.89 811962.06 0.0088 0.0046

Neptune -2490-04-10 12:43 J 812049.86 812050.03 812050.21 0.0088 0.0037

Neptune -2490-07-07 16:04 J 812138.00 812138.17 812138.36 0.0088 0.0027

Neptune -2490-10-03 19:26 J 812226.13 812226.31 812226.51 0.0088 0.0018

Neptune -2490-12-30 23:02 J 812314.27 812314.46 812314.65 0.0088 0.0008

Neptune -2489-03-28 02:38 J 812402.41 812402.61 812402.80 0.0088 0.0003

Neptune -2489-06-24 06:00 J 812490.56 812490.75 812490.94 0.0088 0.0012

Neptune -2489-09-20 09:07 J 812578.71 812578.88 812579.08 0.0088 0.0022

Neptune -2489-12-17 12:57 J 812666.86 812667.04 812667.22 0.0088 0.0031

Neptune -2488-03-15 16:04 J 812755.01 812755.17 812755.35 0.0088 0.0041

Neptune	-2488-06-11 19:26	J	812843.17	812843.31	812843.48	0.0088	0.0051
Neptune	-2488-09-07 23:02	J	812931.33	812931.46	812931.61	0.0088	0.0061
Neptune	-2488-12-05 02:23	J	813019.50	813019.60	813019.73	0.0088	0.0071
Neptune	-2487-03-03 06:14	J	813107.69	813107.76	813107.84	0.0088	0.0080
Jupiter	-2485-03-24 08:23	J	813859.78	813859.85	813859.92	0.0530	0.0441
Mars	-2485-03-25 09:21	J	813860.81	813860.89	813860.98	0.1765	0.1195
Jupiter	-2485-06-21 14:38	J	813948.98	813949.11	813949.23	0.0529	0.0135
Mars	-2484-04-22 06:43	J	814253.62	814253.78	814253.95	0.1778	0.0188
Mars	-2483-02-28 16:33	J	814566.09	814566.19	814566.28	0.1738	0.1010
Venus	-2482-11-01 16:47	J	815177.14	815177.20	815177.26	0.3678	0.3057
Saturn	-2480-01-15 00:57	J	815617.52	815617.54	815617.57	0.0296	0.0289
Saturn	-2480-04-13 13:40	J	815705.96	815706.07	815706.19	0.0297	0.0142
Saturn	-2480-07-11 02:38	J	815794.47	815794.61	815794.74	0.0298	0.0011
Saturn	-2480-10-07 15:07	J	815883.02	815883.13	815883.24	0.0298	0.0153
Moon	-2480-10-10 22:19	J	815886.33	815886.43	815886.52	0.2712	0.1068
Earth	-2480-10-10 22:47	J	815886.35	815886.45	815886.55	0.2709	0.1089 *
Jupiter	-2479-08-08 04:47	J	816187.53	816187.70	816187.87	0.0498	0.0194
Moon	-2476-04-04 17:16	J	817158.17	817158.22	817158.28	0.2626	0.2465
Earth	-2476-04-04 19:12	J	817158.22	817158.30	817158.38	0.2626	0.2277 *
Venus	-2476-05-17 08:52	J	817200.77	817200.87	817200.96	0.3679	0.1554
Mars	-2476-08-15 19:26	J	817291.30	817291.31	817291.31	0.1771	0.1764
Uranus	-2476-09-24 21:50	J	817331.31	817331.41	817331.51	0.0142	0.0120
Uranus	-2476-12-22 06:00	J	817419.61	817419.75	817419.91	0.0142	0.0090
Uranus	-2475-03-20 14:23	J	817507.93	817508.10	817508.28	0.0142	0.0059
Uranus	-2475-06-16 22:47	J	817596.26	817596.45	817596.64	0.0142	0.0028
Mars	-2475-09-12 03:21	J	817683.49	817683.64	817683.79	0.1770	0.0874
Uranus	-2475-09-13 07:12	J	817684.60	817684.80	817684.99	0.0142	0.0002
Uranus	-2475-12-10 15:21	J	817772.96	817773.14	817773.34	0.0142	0.0033
Uranus	-2474-03-08 23:45	J	817861.32	817861.49	817861.67	0.0142	0.0064
Uranus	-2474-06-05 08:09	J	817949.70	817949.84	817949.99	0.0142	0.0094

Mars -2474-07-22 02:52 J 817996.51 817996.62 817996.73 0.1745 0.0491

Uranus -2474-09-01 16:19 J 818038.10 818038.18 818038.29 0.0142 0.0125

Jupiter -2473-04-09 18:28 J 818259.15 818259.27 818259.40 0.0529 0.0019

Earth -2473-10-03 23:16 J 818436.47 818436.47 818436.48 0.2706 0.2694

Moon -2473-10-03 23:31 J 818436.47 818436.48 818436.50 0.2700 0.2656 *

Venus -2471-12-01 00:43 J 819224.43 819224.53 819224.63 0.3681 0.0060

Jupiter -2467-05-27 02:23 J 820497.41 820497.60 820497.78 0.0497 0.0021

Moon -2467-10-13 15:50 J 820637.11 820637.16 820637.21 0.2716 0.2341

Earth -2467-10-13 16:04 J 820637.13 820637.17 820637.22 0.2710 0.2433 *

Saturn -2466-05-09 23:02 J 820845.30 820845.46 820845.62 0.0264 0.0122

Saturn -2466-08-06 19:12 J 820934.11 820934.30 820934.48 0.0264 0.0025

Saturn -2466-11-03 15:21 J 821023.00 821023.14 821023.29 0.0263 0.0172

Venus -2465-06-15 16:33 J 821248.09 821248.19 821248.28 0.3682 0.1398

Mars -2465-12-11 13:12 J 821426.94 821427.05 821427.17 0.1751 0.0038

Moon -2463-04-08 02:09 J 821909.43 821909.59 821909.75 0.2627 0.0527

Earth -2463-04-08 03:50 J 821909.50 821909.66 821909.82 0.2625 0.0657 *

Jupiter -2461-01-27 22:04 J 822569.30 822569.42 822569.54 0.0530 0.0163

Jupiter -2461-04-26 04:04 J 822658.59 822658.67 822658.75 0.0528 0.0403

Moon -2460-10-06 16:19 J 823187.09 823187.18 823187.28 0.2701 0.1395

Earth -2460-10-06 16:47 J 823187.11 823187.20 823187.29 0.2707 0.1341 *

Venus -2460-12-30 08:23 J 823271.78 823271.85 823271.91 0.3683 0.2846

Jupiter -2455-03-14 23:31 J 824807.31 824807.48 824807.66 0.0497 0.0157

Mars -2455-05-03 23:16 J 824857.36 824857.47 824857.58 0.1758 0.0583

Mars -2454-06-01 11:31 J 825250.88 825250.98 825251.09 0.1786 0.1384

Mars -2453-04-08 05:45 J 825562.70 825562.74 825562.79 0.1732 0.1567

Saturn -2451-08-31 16:33 J 826438.08 826438.19 826438.30 0.0296 0.0176

Saturn -2451-11-28 05:16 J 826526.59 826526.72 826526.85 0.0297 0.0028

Saturn -2450-02-24 18:00 J 826615.13 826615.25 826615.37 0.0298 0.0119

Saturn -2450-05-24 06:28 J 826703.71 826703.77 826703.83 0.0298 0.0264

Jupiter -2450-11-16 02:23 J 826879.50 826879.60 826879.70 0.0530 0.0304

Jupiter	-2449-02-13 08:23 J	826968.75	826968.85	826968.96	0.0529	0.0268
Moon	-2447-10-09 09:36 J	827937.79	827937.90	827938.01	0.2706	0.0038
Earth	-2447-10-09 10:19 J	827937.82	827937.93	827938.03	0.2708	0.0106 *
Mars	-2446-09-24 09:21 J	828287.81	828287.89	828287.98	0.1765	0.1136
Mars	-2445-10-21 07:26 J	828680.65	828680.81	828680.98	0.1778	0.0282
Mars	-2444-08-29 16:19 J	828993.09	828993.18	828993.27	0.1738	0.1063
Jupiter	-2444-12-31 19:40 J	829117.19	829117.32	829117.45	0.0496	0.0347
Jupiter	-2443-04-01 05:02 J	829207.58	829207.71	829207.83	0.0498	0.0365
Venus	-2440-05-11 23:31 J	830344.40	830344.48	830344.55	0.3692	0.3160
Jupiter	-2438-09-04 06:43 J	831189.72	831189.78	831189.86	0.0531	0.0441
Jupiter	-2438-12-02 13:12 J	831278.93	831279.05	831279.17	0.0529	0.0136
Saturn	-2437-09-25 23:16 J	831577.33	831577.47	831577.63	0.0265	0.0157
Saturn	-2437-12-23 19:26 J	831666.13	831666.31	831666.50	0.0264	0.0011
Mars	-2436-02-13 19:26 J	831718.28	831718.31	831718.34	0.1771	0.1701
Saturn	-2436-03-22 15:36 J	831754.99	831755.15	831755.31	0.0264	0.0135
Mars	-2435-03-13 04:04 J	832110.52	832110.67	832110.82	0.1770	0.0782
Venus	-2435-11-26 06:57 J	832368.64	832368.79	832368.94	0.3690	0.1106
Mars	-2434-01-20 02:52 J	832423.52	832423.62	832423.73	0.1745	0.0556
Moon	-2434-10-12 02:52 J	832688.53	832688.62	832688.72	0.2712	0.1213
Earth	-2434-10-12 03:36 J	832688.56	832688.65	832688.74	0.2709	0.1362 *
Uranus	-2432-03-20 10:19 J	833213.91	833213.93	833213.96	0.0136	0.0133
Uranus	-2432-06-16 13:26 J	833302.00	833302.06	833302.13	0.0136	0.0115
Uranus	-2432-09-12 16:33 J	833390.10	833390.19	833390.28	0.0136	0.0097
Uranus	-2432-12-09 19:40 J	833478.22	833478.32	833478.43	0.0136	0.0079
Jupiter	-2431-01-18 02:09 J	833517.42	833517.59	833517.77	0.0497	0.0189
Uranus	-2431-03-07 22:47 J	833566.33	833566.45	833566.57	0.0136	0.0061
Uranus	-2431-06-04 01:55 J	833654.46	833654.58	833654.70	0.0136	0.0043
Uranus	-2431-08-31 05:02 J	833742.58	833742.71	833742.84	0.0136	0.0025
Uranus	-2431-11-27 08:09 J	833830.71	833830.84	833830.97	0.0136	0.0008
Uranus	-2430-02-23 11:16 J	833918.83	833918.97	833919.10	0.0137	0.0012

Moon	-2430-04-06 00:14 J	833960.40	833960.51	833960.61	0.2627	0.1996
Earth	-2430-04-06 02:09 J	833960.46	833960.59	833960.71	0.2626	0.1713 *
Uranus	-2430-05-22 14:09 J	834006.97	834007.09	834007.22	0.0137	0.0030
Uranus	-2430-08-18 17:16 J	834095.10	834095.22	834095.35	0.0137	0.0047
Uranus	-2430-11-14 20:23 J	834183.24	834183.35	834183.47	0.0137	0.0066
Uranus	-2429-02-10 23:16 J	834271.38	834271.47	834271.58	0.0137	0.0084
Uranus	-2429-05-09 02:23 J	834359.52	834359.60	834359.69	0.0137	0.0102
Uranus	-2429-08-05 05:31 J	834447.68	834447.73	834447.80	0.0137	0.0120
Moon	-2427-10-05 04:19 J	835238.63	835238.68	835238.73	0.2700	0.2363
Earth	-2427-10-05 04:04 J	835238.63	835238.67	835238.72	0.2706	0.2419 *
Jupiter	-2426-09-20 17:16 J	835589.10	835589.22	835589.35	0.0529	0.0019
Venus	-2425-06-07 14:23 J	835850.02	835850.10	835850.17	0.3679	0.2544
Mars	-2425-06-11 13:12 J	835853.93	835854.05	835854.16	0.1751	0.0033
Saturn	-2421-01-18 17:16 J	837170.14	837170.22	837170.30	0.0297	0.0230
Saturn	-2421-04-16 06:00 J	837258.63	837258.75	837258.88	0.0297	0.0083
Saturn	-2421-07-13 18:43 J	837347.15	837347.28	837347.41	0.0298	0.0065
Saturn	-2421-10-10 07:12 J	837435.72	837435.80	837435.90	0.0298	0.0211
Earth	-2421-10-13 20:52 J	837439.37	837439.37	837439.38	0.2710	0.2704
Jupiter	-2420-11-05 23:45 J	837827.31	837827.49	837827.68	0.0497	0.0020
Venus	-2420-12-22 06:14 J	837873.66	837873.76	837873.86	0.3680	0.1046
Moon	-2417-04-08 09:07 J	838711.73	838711.88	838712.03	0.2628	0.1024
Earth	-2417-04-08 10:33 J	838711.80	838711.94	838712.09	0.2624	0.1220 *
Pluto	-2416-07-17 02:38 J	839176.60	839176.61	839176.64	0.0073	0.0072
Pluto	-2416-10-13 04:19 J	839264.60	839264.68	839264.79	0.0073	0.0061
Mars	-2416-11-01 23:16 J	839284.36	839284.47	839284.58	0.1758	0.0526
Pluto	-2415-01-09 06:14 J	839352.64	839352.76	839352.90	0.0072	0.0050
Pluto	-2415-04-07 07:55 J	839440.70	839440.83	839440.99	0.0072	0.0039
Pluto	-2415-07-04 09:50 J	839528.76	839528.91	839529.08	0.0072	0.0028
Pluto	-2415-09-30 11:45 J	839616.82	839616.99	839617.16	0.0072	0.0016
Mars	-2415-11-30 12:28 J	839677.93	839678.02	839678.11	0.1786	0.1487

Pluto -2415-12-27 13:26 J 839704.89 839705.06 839705.24 0.0072 0.0006

Pluto -2414-03-25 15:21 J 839792.96 839793.14 839793.31 0.0072 0.0005

Pluto -2414-06-21 16:47 J 839881.04 839881.20 839881.38 0.0072 0.0016

Venus -2414-07-07 22:19 J 839897.32 839897.43 839897.53 0.3681 0.0459

Jupiter -2414-07-09 21:21 J 839899.27 839899.39 839899.51 0.0530 0.0150

Pluto -2414-09-17 18:28 J 839969.12 839969.27 839969.44 0.0072 0.0026

Jupiter -2414-10-07 03:07 J 839988.56 839988.63 839988.71 0.0528 0.0415

Moon -2414-10-07 21:07 J 839989.28 839989.38 839989.48 0.2701 0.1118

Earth -2414-10-07 21:36 J 839989.30 839989.40 839989.50 0.2707 0.1064 *

Mars -2414-10-08 05:45 J 839989.70 839989.74 839989.78 0.1732 0.1619

Pluto -2414-12-14 19:55 J 840057.20 840057.33 840057.49 0.0071 0.0037

Pluto -2413-03-11 21:50 J 840145.29 840145.41 840145.55 0.0071 0.0047

Pluto -2413-06-07 23:31 J 840233.38 840233.48 840233.59 0.0071 0.0057

Pluto -2413-09-04 00:43 J 840321.50 840321.53 840321.61 0.0071 0.0067

Neptune -2410-08-11 17:16 J 841393.22 841393.22 841393.24 0.0089 0.0089

Neptune -2410-11-07 18:57 J 841481.24 841481.29 841481.34 0.0089 0.0082

Neptune -2409-02-03 20:09 J 841569.28 841569.34 841569.42 0.0089 0.0075

Neptune -2409-05-01 21:36 J 841657.32 841657.40 841657.50 0.0089 0.0068

Neptune -2409-07-28 23:02 J 841745.37 841745.46 841745.57 0.0089 0.0060

Neptune -2409-10-25 00:28 J 841833.42 841833.52 841833.63 0.0089 0.0053

Venus -2408-01-20 13:55 J 841921.00 841921.08 841921.17 0.3682 0.1899

Neptune -2408-01-21 01:40 J 841921.47 841921.57 841921.70 0.0089 0.0047

Neptune -2408-04-19 03:21 J 842009.52 842009.64 842009.76 0.0089 0.0039

Neptune -2408-07-16 04:47 J 842097.58 842097.70 842097.83 0.0089 0.0032

Jupiter -2408-08-24 21:36 J 842137.23 842137.40 842137.58 0.0497 0.0155

Neptune -2408-10-12 06:14 J 842185.63 842185.76 842185.89 0.0089 0.0024

Neptune -2407-01-08 07:26 J 842273.69 842273.81 842273.95 0.0089 0.0018

Saturn -2407-02-12 22:19 J 842309.32 842309.43 842309.56 0.0265 0.0202

Neptune -2407-04-06 08:52 J 842361.74 842361.87 842362.01 0.0089 0.0010

Saturn -2407-05-12 18:28 J 842398.09 842398.27 842398.45 0.0264 0.0056

Neptune -2407-07-03 10:19 J 842449.80 842449.93 842450.06 0.0089 0.0003

Saturn -2407-08-09 14:38 J 842486.94 842487.11 842487.29 0.0264 0.0090

Neptune -2407-09-29 11:45 J 842537.86 842537.99 842538.12 0.0089 0.0004

Saturn -2407-11-06 10:47 J 842575.88 842575.95 842576.04 0.0263 0.0237

Neptune -2407-12-26 12:57 J 842625.91 842626.04 842626.18 0.0089 0.0012

Neptune -2406-03-24 14:23 J 842713.97 842714.10 842714.23 0.0089 0.0018

Mars -2406-03-25 09:21 J 842714.80 842714.89 842714.98 0.1764 0.1079

Neptune -2406-06-20 15:50 J 842802.03 842802.16 842802.29 0.0089 0.0025

Neptune -2406-09-16 17:02 J 842890.09 842890.21 842890.34 0.0089 0.0032

Neptune -2406-12-13 18:28 J 842978.15 842978.27 842978.39 0.0089 0.0039

Neptune -2405-03-10 19:40 J 843066.22 843066.32 843066.44 0.0089 0.0047

Mars -2405-04-21 08:23 J 843107.69 843107.85 843108.02 0.1778 0.0390

Neptune -2405-06-06 21:07 J 843154.28 843154.38 843154.49 0.0089 0.0053

Neptune -2405-09-02 22:19 J 843242.34 843242.43 843242.54 0.0089 0.0061

Neptune -2405-11-29 23:45 J 843330.41 843330.49 843330.58 0.0089 0.0067

Neptune -2404-02-26 00:57 J 843418.48 843418.54 843418.63 0.0089 0.0075

Mars -2404-02-27 16:19 J 843420.10 843420.18 843420.27 0.1738 0.1122

Neptune -2404-05-25 02:23 J 843506.56 843506.60 843506.66 0.0089 0.0081

Neptune -2404-08-21 03:36 J 843594.65 843594.65 843594.68 0.0089 0.0089

Venus -2403-08-06 05:45 J 843944.70 843944.74 843944.78 0.3683 0.3323

Jupiter -2402-04-28 00:57 J 844209.44 844209.54 844209.65 0.0530 0.0302

Jupiter -2402-07-26 06:57 J 844298.69 844298.79 844298.90 0.0528 0.0270

Moon -2401-10-09 14:23 J 844739.99 844740.10 844740.20 0.2708 0.0196

Earth -2401-10-09 14:52 J 844740.02 844740.12 844740.23 0.2708 0.0305 *

Mars -2397-08-14 19:26 J 846145.27 846145.31 846145.35 0.1771 0.1646

Jupiter -2396-06-12 18:57 J 846447.16 846447.29 846447.43 0.0496 0.0329

Mars -2396-09-11 05:02 J 846537.55 846537.71 846537.86 0.1771 0.0674

Jupiter -2396-09-11 04:19 J 846537.57 846537.68 846537.80 0.0498 0.0385 *

Mars -2395-07-21 02:52 J 846850.51 846850.62 846850.73 0.1745 0.0603

Saturn -2392-06-06 19:26 J 847902.27 847902.31 847902.37 0.0296 0.0269

Uranus	-2392-07-18 22:04 J	847944.39	847944.42	847944.47	0.0143	0.0139
Saturn	-2392-09-03 08:23 J	847990.73	847990.85	847990.97	0.0297	0.0121
Uranus	-2392-10-15 06:14 J	848032.65	848032.76	848032.90	0.0142	0.0109
Saturn	-2392-11-30 21:07 J	848079.25	848079.38	848079.51	0.0297	0.0027
Uranus	-2391-01-11 14:38 J	848120.96	848121.11	848121.28	0.0142	0.0078
Saturn	-2391-02-27 09:50 J	848167.80	848167.91	848168.01	0.0298	0.0172
Uranus	-2391-04-09 23:02 J	848209.28	848209.46	848209.65	0.0142	0.0048
Uranus	-2391-07-07 07:26 J	848297.62	848297.81	848298.00	0.0142	0.0017
Uranus	-2391-10-03 15:50 J	848385.96	848386.16	848386.35	0.0142	0.0014
Uranus	-2391-12-31 00:00 J	848474.32	848474.50	848474.69	0.0142	0.0044
Jupiter	-2390-02-14 05:02 J	848519.65	848519.71	848519.78	0.0531	0.0445
Uranus	-2390-03-29 08:09 J	848562.69	848562.84	848563.02	0.0142	0.0075
Jupiter	-2390-05-14 11:31 J	848608.86	848608.98	848609.10	0.0529	0.0132
Uranus	-2390-06-25 16:47 J	848651.07	848651.20	848651.33	0.0142	0.0105
Uranus	-2390-09-22 00:57 J	848739.50	848739.54	848739.61	0.0142	0.0136
Moon	-2388-10-12 07:40 J	849490.74	849490.82	849490.91	0.2712	0.1604
Earth	-2388-10-12 08:23 J	849490.76	849490.85	849490.93	0.2709	0.1633 *
Mars	-2386-02-01 01:40 J	849967.53	849967.57	849967.61	0.1763	0.1704
Mars	-2386-12-11 13:12 J	850280.94	850281.05	850281.16	0.1751	0.0078
Moon	-2384-04-06 06:57 J	850762.65	850762.79	850762.93	0.2626	0.1304
Earth	-2384-04-06 08:52 J	850762.73	850762.87	850763.02	0.2626	0.1147 *
Jupiter	-2384-06-30 00:14 J	850847.34	850847.51	850847.68	0.0497	0.0188
Venus	-2384-12-17 00:57 J	851017.41	851017.54	851017.67	0.3691	0.1858
Moon	-2381-10-05 08:52 J	852040.81	852040.87	852040.93	0.2699	0.2190
Earth	-2381-10-05 08:52 J	852040.81	852040.87	852040.93	0.2706	0.2144 *
Jupiter	-2378-03-02 16:04 J	852919.05	852919.17	852919.30	0.0530	0.0018
Saturn	-2378-07-02 22:47 J	853041.37	853041.45	853041.53	0.0265	0.0237
Venus	-2378-07-03 08:52 J	853041.76	853041.87	853041.98	0.3690	0.2505
Saturn	-2378-09-29 18:43 J	853130.11	853130.28	853130.45	0.0264	0.0092
Saturn	-2378-12-27 14:38 J	853218.93	853219.11	853219.30	0.0264	0.0054

Saturn	-2377-03-25 11:02 J	853307.84	853307.96	853308.08	0.0263	0.0200
Mars	-2376-05-02 23:31 J	853711.36	853711.48	853711.59	0.1757	0.0466
Mars	-2375-05-31 13:12 J	854104.97	854105.05	854105.12	0.1786	0.1584
Mars	-2374-04-08 06:00 J	854416.72	854416.75	854416.77	0.1732	0.1680
Venus	-2374-06-29 19:55 J	854499.30	854499.33	854499.35	0.3678	0.3544
Jupiter	-2372-04-17 21:50 J	855157.22	855157.41	855157.59	0.0497	0.0017
Moon	-2371-04-09 16:19 J	855514.06	855514.18	855514.31	0.2629	0.1657
Earth	-2371-04-09 17:31 J	855514.11	855514.23	855514.35	0.2624	0.1796 *
Venus	-2368-01-12 12:00 J	856522.91	856523.00	856523.08	0.3679	0.2027
Moon	-2368-10-08 01:55 J	856791.48	856791.58	856791.68	0.2702	0.0823
Earth	-2368-10-08 02:23 J	856791.49	856791.60	856791.70	0.2707	0.0792 *
Mars	-2367-09-23 09:21 J	857141.80	857141.89	857141.99	0.1764	0.1021
Jupiter	-2367-12-19 20:23 J	857229.23	857229.35	857229.48	0.0530	0.0142
Jupiter	-2366-03-19 02:23 J	857318.52	857318.60	857318.67	0.0528	0.0424
Mars	-2366-10-21 09:21 J	857534.72	857534.89	857535.05	0.1778	0.0491
Mars	-2365-08-28 16:19 J	857847.10	857847.18	857847.27	0.1738	0.1175
Venus	-2363-07-29 03:50 J	858546.56	858546.66	858546.77	0.3680	0.0532
Saturn	-2362-01-21 08:52 J	858722.77	858722.87	858722.98	0.0297	0.0179
Saturn	-2362-04-19 21:50 J	858811.27	858811.41	858811.54	0.0297	0.0033
Saturn	-2362-07-17 10:19 J	858899.81	858899.93	858900.05	0.0298	0.0115
Saturn	-2362-10-13 22:47 J	858988.39	858988.45	858988.52	0.0298	0.0261
Jupiter	-2360-02-03 19:26 J	859467.14	859467.31	859467.49	0.0497	0.0157
Venus	-2357-02-11 19:40 J	860570.22	860570.32	860570.42	0.3681	0.0945
Mars	-2357-02-13 19:26 J	860572.26	860572.31	860572.36	0.1771	0.1584
Mars	-2356-03-12 05:45 J	860964.58	860964.74	860964.90	0.1771	0.0572
Mars	-2355-01-19 02:52 J	861277.51	861277.62	861277.73	0.1744	0.0661
Jupiter	-2355-10-08 00:28 J	861539.41	861539.52	861539.63	0.0530	0.0286
Moon	-2355-10-10 18:57 J	861542.19	861542.29	861542.40	0.2709	0.0468
Earth	-2355-10-10 19:40 J	861542.22	861542.32	861542.43	0.2708	0.0566 *
Jupiter	-2354-01-05 06:28 J	861628.67	861628.77	861628.88	0.0528	0.0285

Venus -2352-08-27 11:31 J 862593.90 862593.98 862594.06 0.3683 0.2386

Jupiter -2349-11-22 17:31 J 863777.09 863777.23 863777.37 0.0496 0.0323

Saturn -2348-02-15 17:02 J 863862.06 863862.21 863862.37 0.0264 0.0143

Jupiter -2348-02-21 02:52 J 863867.51 863867.62 863867.74 0.0498 0.0391

Uranus -2348-04-09 17:45 J 863915.21 863915.24 863915.29 0.0136 0.0128

Saturn -2348-05-15 13:12 J 863950.86 863951.05 863951.23 0.0264 0.0004

Uranus -2348-07-06 20:52 J 864003.30 864003.37 864003.45 0.0136 0.0110

Saturn -2348-08-12 09:21 J 864039.74 864039.89 864040.04 0.0263 0.0149

Uranus -2348-10-03 00:00 J 864091.41 864091.50 864091.60 0.0136 0.0092

Uranus -2348-12-30 03:07 J 864179.52 864179.63 864179.74 0.0136 0.0074

Uranus -2347-03-28 06:14 J 864267.64 864267.76 864267.88 0.0136 0.0056

Uranus -2347-06-24 09:21 J 864355.77 864355.89 864356.02 0.0136 0.0038

Mars -2347-08-02 02:38 J 864394.54 864394.61 864394.68 0.1763 0.1597

Uranus -2347-09-20 12:28 J 864443.89 864444.02 864444.15 0.0136 0.0020

Uranus -2347-12-17 15:36 J 864532.02 864532.15 864532.28 0.0136 0.0003

Uranus -2346-03-15 18:43 J 864620.15 864620.28 864620.41 0.0137 0.0017

Mars -2346-06-11 13:12 J 864707.93 864708.05 864708.16 0.1751 0.0138

Uranus -2346-06-11 21:36 J 864708.28 864708.40 864708.53 0.0137 0.0035

Uranus -2346-09-08 00:43 J 864796.41 864796.53 864796.65 0.0137 0.0053

Uranus -2346-12-05 03:50 J 864884.55 864884.66 864884.77 0.0137 0.0071

Uranus -2345-03-02 06:57 J 864972.69 864972.79 864972.89 0.0137 0.0089

Uranus -2345-05-29 10:04 J 865060.84 865060.92 865061.00 0.0137 0.0107

Uranus -2345-08-25 13:12 J 865149.00 865149.05 865149.10 0.0137 0.0126

Jupiter -2343-07-27 04:04 J 865849.60 865849.67 865849.74 0.0531 0.0438

Jupiter -2343-10-24 10:19 J 865938.81 865938.93 865939.05 0.0529 0.0138

Moon -2342-10-13 12:43 J 866292.95 866293.03 866293.10 0.2714 0.1811

Earth -2342-10-13 13:12 J 866292.97 866293.05 866293.12 0.2709 0.1912 *

Moon -2338-04-07 13:55 J 867564.93 867565.08 867565.24 0.2627 0.0878

Earth -2338-04-07 15:50 J 867565.00 867565.16 867565.32 0.2625 0.0581 *

Jupiter -2337-09-10 15:07 J 868087.12 868087.13 868087.15 0.0496 0.0493

Mars -2337-10-31 23:16 J 868138.36 868138.47 868138.58 0.1758 0.0411

Jupiter -2337-12-10 00:00 J 868177.34 868177.50 868177.67 0.0497 0.0212

Mars -2336-11-29 14:09 J 868532.04 868532.09 868532.14 0.1786 0.1695

Moon -2335-10-06 13:26 J 868842.98 868843.06 868843.14 0.2699 0.1820

Earth -2335-10-06 13:40 J 868842.99 868843.07 868843.14 0.2706 0.1871 *

Mars -2335-10-07 05:45 J 868843.74 868843.74 868843.74 0.1732 0.1728

Saturn -2333-06-09 10:47 J 869454.87 869454.95 869455.04 0.0296 0.0222

Saturn -2333-09-05 23:45 J 869543.36 869543.49 869543.62 0.0297 0.0075

Saturn -2333-12-03 12:28 J 869631.89 869632.02 869632.14 0.0297 0.0073

Saturn -2332-03-02 00:57 J 869720.45 869720.54 869720.63 0.0298 0.0218

Jupiter -2331-08-12 14:38 J 870248.99 870249.11 870249.24 0.0530 0.0020

Mars -2327-03-24 09:36 J 871568.80 871568.90 871568.99 0.1764 0.0957

Venus -2327-07-24 02:38 J 871690.46 871690.61 871690.76 0.3691 0.0506

Neptune -2327-10-21 17:16 J 871780.18 871780.22 871780.30 0.0088 0.0083

Neptune -2326-01-17 20:52 J 871868.27 871868.37 871868.48 0.0088 0.0073

Neptune -2326-04-16 00:00 J 871956.39 871956.50 871956.65 0.0088 0.0064

Mars -2326-04-21 10:04 J 871961.76 871961.92 871962.08 0.1778 0.0591

Neptune -2326-07-13 03:36 J 872044.51 872044.65 872044.81 0.0088 0.0054

Neptune -2326-10-09 06:43 J 872132.63 872132.78 872132.96 0.0088 0.0045

Neptune -2325-01-05 10:19 J 872220.76 872220.93 872221.11 0.0088 0.0035

Mars -2325-02-27 16:19 J 872274.10 872274.18 872274.26 0.1738 0.1231

Neptune -2325-04-02 13:40 J 872308.90 872309.07 872309.26 0.0088 0.0026

Moon -2325-04-09 23:16 J 872316.39 872316.47 872316.55 0.2630 0.2294

Earth -2325-04-10 00:14 J 872316.44 872316.51 872316.58 0.2624 0.2360 *

Neptune -2325-06-29 17:16 J 872397.03 872397.22 872397.41 0.0088 0.0016

Neptune -2325-09-25 20:38 J 872485.17 872485.36 872485.56 0.0088 0.0007

Jupiter -2325-09-27 20:09 J 872487.15 872487.34 872487.52 0.0497 0.0021

Neptune -2325-12-23 00:14 J 872573.32 872573.51 872573.70 0.0088 0.0004

Neptune -2324-03-21 03:36 J 872661.46 872661.65 872661.84 0.0088 0.0013

Neptune -2324-06-17 06:57 J 872749.61 872749.79 872749.98 0.0088 0.0023

Neptune -2324-09-13 10:19 J 872837.76 872837.93 872838.12 0.0088 0.0033

Neptune -2324-12-10 13:40 J 872925.92 872926.07 872926.25 0.0088 0.0043

Neptune -2323-03-08 17:31 J 873014.07 873014.23 873014.38 0.0088 0.0052

Neptune -2323-06-04 20:52 J 873102.24 873102.37 873102.51 0.0088 0.0062

Neptune -2323-09-01 00:14 J 873190.41 873190.51 873190.63 0.0088 0.0072

Neptune -2323-11-28 03:36 J 873278.60 873278.65 873278.73 0.0088 0.0082

Moon -2322-10-09 06:28 J 873593.67 873593.77 873593.88 0.2704 0.0637

Earth -2322-10-09 06:57 J 873593.69 873593.79 873593.90 0.2707 0.0528 *

Jupiter -2319-05-31 19:26 J 874559.18 874559.31 874559.43 0.0530 0.0135

Saturn -2319-07-05 17:02 J 874594.08 874594.21 874594.35 0.0265 0.0180

Jupiter -2319-08-29 01:12 J 874648.48 874648.55 874648.62 0.0528 0.0432

Saturn -2319-10-02 12:57 J 874682.86 874683.04 874683.23 0.0264 0.0035

Saturn -2319-12-30 09:07 J 874771.71 874771.88 874772.05 0.0264 0.0111

Saturn -2318-03-29 05:16 J 874860.70 874860.72 874860.76 0.0263 0.0258

Mars -2318-08-14 19:26 J 874999.25 874999.31 874999.36 0.1771 0.1528

Venus -2317-02-03 17:31 J 875172.17 875172.23 875172.29 0.3678 0.3016

Mars -2317-09-10 06:14 J 875391.60 875391.76 875391.93 0.1771 0.0484

Mars -2316-07-20 02:52 J 875704.52 875704.62 875704.72 0.1744 0.0719

Jupiter -2313-07-16 17:45 J 876797.06 876797.24 876797.41 0.0496 0.0153

Venus -2312-08-19 09:36 J 877195.80 877195.90 877195.99 0.3679 0.1510

Moon -2309-10-10 23:45 J 878344.39 878344.49 878344.59 0.2709 0.0745

Earth -2309-10-11 00:28 J 878344.42 878344.52 878344.62 0.2708 0.0836 *

Uranus -2308-08-08 06:28 J 878645.70 878645.77 878645.87 0.0143 0.0128

Uranus -2308-11-04 14:38 J 878733.99 878734.11 878734.27 0.0142 0.0098

Mars -2307-01-31 03:36 J 878821.56 878821.65 878821.73 0.1764 0.1496

Uranus -2307-01-31 23:16 J 878822.30 878822.47 878822.64 0.0142 0.0067

Jupiter -2307-03-19 23:31 J 878869.38 878869.48 878869.59 0.0530 0.0275

Uranus -2307-04-30 07:26 J 878910.63 878910.81 878911.01 0.0142 0.0037

Jupiter -2307-06-17 05:45 J 878958.63 878958.74 878958.84 0.0528 0.0296

Uranus -2307-07-27 16:04 J 878998.97 878999.17 878999.36 0.0142 0.0007

Uranus -2307-10-24 00:14 J 879087.32 879087.51 879087.70 0.0142 0.0025

Mars -2307-12-10 13:12 J 879134.93 879135.05 879135.16 0.1751 0.0194

Uranus -2306-01-20 08:23 J 879175.68 879175.85 879176.04 0.0142 0.0056

Venus -2306-03-05 01:26 J 879219.46 879219.56 879219.67 0.3680 0.0037

Uranus -2306-04-18 16:47 J 879264.05 879264.20 879264.36 0.0142 0.0086

Uranus -2306-07-16 00:57 J 879352.45 879352.54 879352.67 0.0142 0.0117

Saturn -2304-10-27 11:02 J 880186.93 880186.96 880187.00 0.0296 0.0281

Saturn -2303-01-24 00:00 J 880275.38 880275.50 880275.62 0.0297 0.0134

Saturn -2303-04-22 12:43 J 880363.90 880364.03 880364.16 0.0297 0.0013

Saturn -2303-07-20 01:12 J 880452.44 880452.55 880452.66 0.0298 0.0159

Jupiter -2301-05-04 15:36 J 881107.02 881107.15 881107.29 0.0496 0.0321

Jupiter -2301-08-03 00:57 J 881197.43 881197.54 881197.66 0.0498 0.0393

Venus -2301-09-17 17:16 J 881243.13 881243.22 881243.32 0.3682 0.1437

Mars -2297-05-01 23:16 J 882565.36 882565.47 882565.59 0.1757 0.0354

Moon -2296-10-13 17:31 J 883095.17 883095.23 883095.29 0.2715 0.2149

Earth -2296-10-13 17:45 J 883095.18 883095.24 883095.31 0.2709 0.2183 *

Jupiter -2295-01-06 03:36 J 883179.58 883179.65 883179.73 0.0531 0.0419

Venus -2295-04-03 09:07 J 883266.82 883266.88 883266.94 0.3683 0.2875

Jupiter -2295-04-05 09:50 J 883268.79 883268.91 883269.04 0.0529 0.0158

Moon -2292-04-07 21:07 J 884367.21 884367.38 884367.54 0.2628 0.0106

Earth -2292-04-07 22:33 J 884367.28 884367.44 884367.61 0.2625 0.0069 *

Saturn -2290-11-22 14:52 J 885326.04 885326.12 885326.21 0.0265 0.0233

Saturn -2289-02-19 10:47 J 885414.78 885414.95 885415.13 0.0264 0.0089

Jupiter -2289-02-21 13:40 J 885417.04 885417.07 885417.11 0.0496 0.0485

Saturn -2289-05-18 06:57 J 885503.61 885503.79 885503.97 0.0264 0.0057

Jupiter -2289-05-21 22:47 J 885507.28 885507.45 885507.62 0.0498 0.0221

Saturn -2289-08-15 03:21 J 885592.52 885592.64 885592.75 0.0263 0.0204

Moon -2289-10-06 18:14 J 885645.18 885645.26 885645.35 0.2699 0.1666

Earth -2289-10-06 18:28 J 885645.18 885645.27 885645.35 0.2706 0.1594 *

Mars -2288-09-22 09:21 J 885995.79 885995.89 885995.99 0.1764 0.0905

Mars -2287-10-20 10:47 J 886388.80 886388.95 886389.11 0.1779 0.0694

Mars -2286-08-28 16:19 J 886701.11 886701.18 886701.26 0.1738 0.1284

Jupiter -2283-01-22 13:55 J 887578.95 887579.08 887579.20 0.0529 0.0021

Mars -2278-02-12 19:26 J 889426.24 889426.31 889426.37 0.1771 0.1467

Jupiter -2277-03-09 20:09 J 889817.16 889817.34 889817.53 0.0497 0.0045

Mars -2277-03-11 07:26 J 889818.64 889818.81 889818.97 0.1771 0.0368

Mars -2276-01-18 02:52 J 890131.51 890131.62 890131.72 0.1744 0.0773

Venus -2276-08-13 20:52 J 890339.31 890339.37 890339.43 0.3692 0.3374

Moon -2276-10-09 11:16 J 890395.86 890395.97 890396.08 0.2705 0.0277

Earth -2276-10-09 11:45 J 890395.89 890395.99 890396.10 0.2708 0.0262 *

Saturn -2274-06-13 01:40 J 891007.46 891007.57 891007.67 0.0296 0.0180

Saturn -2274-09-09 14:23 J 891095.97 891096.10 891096.23 0.0297 0.0033

Saturn -2274-12-07 03:07 J 891184.51 891184.63 891184.75 0.0298 0.0113

Saturn -2273-03-04 15:36 J 891273.09 891273.15 891273.21 0.0298 0.0259

Jupiter -2272-11-10 18:14 J 891889.13 891889.26 891889.38 0.0530 0.0131

Jupiter -2271-02-08 00:00 J 891978.43 891978.50 891978.57 0.0528 0.0436

Venus -2270-02-28 04:33 J 892363.54 892363.69 892363.83 0.3690 0.0867

Mars -2268-08-01 04:04 J 893248.57 893248.67 893248.77 0.1763 0.1405

Mars -2267-06-10 13:12 J 893561.94 893562.05 893562.16 0.1751 0.0250

Jupiter -2266-12-27 16:19 J 894127.01 894127.18 894127.36 0.0496 0.0145

Uranus -2264-04-30 00:57 J 894616.50 894616.54 894616.60 0.0136 0.0124

Uranus -2264-07-27 04:04 J 894704.60 894704.67 894704.76 0.0136 0.0106

Uranus -2264-10-23 07:12 J 894792.71 894792.80 894792.91 0.0136 0.0088

Uranus -2263-01-19 10:19 J 894880.82 894880.93 894881.05 0.0136 0.0070

Uranus -2263-04-17 13:26 J 894968.94 894969.06 894969.19 0.0136 0.0052

Uranus -2263-07-14 16:33 J 895057.06 895057.19 895057.32 0.0136 0.0034

Uranus -2263-10-10 19:40 J 895145.19 895145.32 895145.45 0.0136 0.0015

Moon -2263-10-12 04:33 J 895146.59 895146.69 895146.79 0.2710 0.0990

Earth -2263-10-12 05:16 J 895146.62 895146.72 895146.82 0.2709 0.1110 *

Uranus -2262-01-06 22:47 J 895233.32 895233.45 895233.58 0.0136 0.0003

Uranus	-2262-04-05 01:55 J	895321.45	895321.58	895321.71	0.0136	0.0021	
Uranus	-2262-07-02 04:47 J	895409.58	895409.70	895409.83	0.0137	0.0039	
Uranus	-2262-09-28 07:55 J	895497.71	895497.83	895497.95	0.0137	0.0057	
Uranus	-2262-12-25 11:02 J	895585.85	895585.96	895586.07	0.0137	0.0075	
Uranus	-2261-03-22 14:09 J	895674.00	895674.09	895674.18	0.0137	0.0093	
Uranus	-2261-06-18 17:16 J	895762.14	895762.22	895762.29	0.0137	0.0111	
Venus	-2261-09-09 15:07 J	895845.05	895845.13	895845.20	0.3678	0.2493	
Uranus	-2261-09-14 20:23 J	895850.31	895850.35	895850.39	0.0137	0.0130	
Saturn	-2260-07-08 10:33 J	896146.78	896146.94	896147.11	0.0265	0.0128	
Jupiter	-2260-08-29 22:33 J	896199.33	896199.44	896199.55	0.0531	0.0267	
Saturn	-2260-10-05 06:43 J	896235.59	896235.78	896235.96	0.0264	0.0018	
Jupiter	-2260-11-27 04:47 J	896288.60	896288.70	896288.80	0.0529	0.0306	
Saturn	-2259-01-02 02:38 J	896324.48	896324.61	896324.77	0.0264	0.0165	
Moon	-2259-04-05 19:12 J	896418.25	896418.30	896418.35	0.2625	0.2485	
Earth	-2259-04-05 21:07 J	896418.31	896418.38	896418.45	0.2627	0.2363	*
Mars	-2258-10-31 23:16 J	896992.36	896992.47	896992.59	0.1757	0.0298	
Earth	-2256-10-05 05:45 J	897696.73	897696.74	897696.75	0.2705	0.2673	
Moon	-2256-10-05 06:00 J	897696.74	897696.75	897696.76	0.2699	0.2674	*
Venus	-2255-03-26 07:12 J	897868.70	897868.80	897868.90	0.3680	0.0997	
Pluto	-2255-07-09 09:36 J	897973.85	897973.90	897973.95	0.0072	0.0066	
Pluto	-2255-10-05 10:19 J	898061.86	898061.93	898062.03	0.0072	0.0058	
Pluto	-2254-01-01 11:16 J	898149.88	898149.97	898150.09	0.0072	0.0049	
Pluto	-2254-03-30 12:14 J	898237.90	898238.01	898238.14	0.0072	0.0040	
Pluto	-2254-06-26 13:26 J	898325.93	898326.06	898326.19	0.0072	0.0031	
Pluto	-2254-09-22 14:23 J	898413.97	898414.10	898414.24	0.0072	0.0022	
Jupiter	-2254-10-15 14:09 J	898436.95	898437.09	898437.24	0.0496	0.0314	
Pluto	-2254-12-19 15:21 J	898502.00	898502.14	898502.29	0.0072	0.0014	
Jupiter	-2253-01-13 23:31 J	898527.37	898527.48	898527.59	0.0498	0.0398	
Pluto	-2253-03-16 16:33 J	898590.04	898590.19	898590.33	0.0073	0.0004	
Pluto	-2253-06-12 17:31 J	898678.09	898678.23	898678.38	0.0073	0.0005	

Pluto -2253-09-08 18:28 J 898766.13 898766.27 898766.42 0.0073 0.0015

Pluto -2253-12-05 19:26 J 898854.18 898854.31 898854.45 0.0073 0.0024

Pluto -2252-03-03 20:38 J 898942.23 898942.36 898942.49 0.0073 0.0033

Pluto -2252-05-30 21:21 J 899030.29 899030.39 899030.52 0.0073 0.0043

Pluto -2252-08-26 22:33 J 899118.35 899118.44 899118.55 0.0073 0.0053

Pluto -2252-11-22 23:31 J 899206.42 899206.48 899206.57 0.0073 0.0062

Pluto -2251-02-19 00:43 J 899294.51 899294.53 899294.57 0.0074 0.0072

Venus -2250-10-09 23:02 J 899892.36 899892.46 899892.56 0.3681 0.0487

Moon -2250-10-14 22:19 J 899897.38 899897.43 899897.47 0.2716 0.2420

Earth -2250-10-14 22:33 J 899897.40 899897.44 899897.48 0.2709 0.2453 *

Mars -2248-03-23 09:21 J 900422.79 900422.89 900422.99 0.1764 0.0845

Jupiter -2248-06-18 02:52 J 900509.54 900509.62 900509.70 0.0531 0.0407

Jupiter -2248-09-15 09:21 J 900598.77 900598.89 900599.01 0.0529 0.0170

Mars -2247-04-20 11:45 J 900815.84 900815.99 900816.14 0.1779 0.0805

Mars -2246-02-26 16:19 J 901128.11 901128.18 901128.25 0.1737 0.1342

Moon -2246-04-09 04:04 J 901169.51 901169.67 901169.83 0.2630 0.0277

Earth -2246-04-09 05:31 J 901169.57 901169.73 901169.89 0.2625 0.0559 *

Neptune -2245-05-07 16:47 J 901564.18 901564.20 901564.23 0.0089 0.0088

Neptune -2245-08-03 18:00 J 901652.21 901652.25 901652.32 0.0089 0.0081

Saturn -2245-10-30 01:40 J 901739.50 901739.57 901739.66 0.0296 0.0240

Neptune -2245-10-30 19:26 J 901740.25 901740.31 901740.40 0.0089 0.0074

Saturn -2244-01-26 14:38 J 901827.99 901828.11 901828.24 0.0297 0.0093

Neptune -2244-01-26 21:07 J 901828.29 901828.38 901828.47 0.0089 0.0066

Venus -2244-04-24 14:52 J 901916.03 901916.12 901916.21 0.3682 0.1935

Neptune -2244-04-24 22:33 J 901916.34 901916.44 901916.54 0.0089 0.0059

Saturn -2244-04-25 03:21 J 901916.51 901916.64 901916.77 0.0297 0.0053 *

Neptune -2244-07-22 00:00 J 902004.39 902004.50 902004.61 0.0089 0.0051

Saturn -2244-07-22 15:50 J 902005.07 902005.16 902005.26 0.0298 0.0199

Neptune -2244-10-18 01:12 J 902092.44 902092.55 902092.68 0.0089 0.0045

Neptune -2243-01-14 02:38 J 902180.50 902180.61 902180.74 0.0089 0.0037

Neptune -2243-04-12 04:04 J 902268.55 902268.67 902268.80 0.0089 0.0030

Neptune -2243-07-09 05:31 J 902356.60 902356.73 902356.86 0.0089 0.0023

Neptune -2243-10-05 06:57 J 902444.66 902444.79 902444.92 0.0089 0.0016

Moon -2243-10-07 23:02 J 902447.36 902447.46 902447.55 0.2700 0.1292

Earth -2243-10-07 23:16 J 902447.37 902447.47 902447.56 0.2707 0.1317 *

Neptune -2242-01-01 08:23 J 902532.72 902532.85 902532.98 0.0089 0.0009

Neptune -2242-03-30 09:50 J 902620.77 902620.91 902621.04 0.0089 0.0002

Neptune -2242-06-26 11:02 J 902708.83 902708.96 902709.10 0.0089 0.0006

Jupiter -2242-08-03 12:14 J 902746.97 902747.01 902747.06 0.0496 0.0480

Neptune -2242-09-22 12:28 J 902796.89 902797.02 902797.15 0.0089 0.0013

Jupiter -2242-11-01 21:07 J 902837.22 902837.38 902837.55 0.0498 0.0226

Neptune -2242-12-19 13:55 J 902884.95 902885.08 902885.21 0.0089 0.0020

Neptune -2241-03-16 15:21 J 902973.01 902973.14 902973.26 0.0089 0.0027

Neptune -2241-06-12 16:33 J 903061.07 903061.19 903061.32 0.0089 0.0034

Neptune -2241-09-08 18:00 J 903149.13 903149.25 903149.37 0.0089 0.0041

Neptune -2241-12-05 19:12 J 903237.19 903237.30 903237.42 0.0089 0.0048

Neptune -2240-03-03 20:38 J 903325.26 903325.36 903325.47 0.0089 0.0055

Neptune -2240-05-30 22:04 J 903413.32 903413.42 903413.51 0.0089 0.0062

Neptune -2240-08-26 23:16 J 903501.39 903501.47 903501.56 0.0089 0.0069

Neptune -2240-11-23 00:43 J 903589.46 903589.53 903589.60 0.0089 0.0076

Neptune -2239-02-19 01:55 J 903677.54 903677.58 903677.63 0.0089 0.0083

Mars -2239-08-13 19:26 J 903853.24 903853.31 903853.38 0.1770 0.1408

Venus -2239-11-08 06:43 J 903939.74 903939.78 903939.81 0.3683 0.3365

Mars -2238-09-10 08:09 J 904245.67 904245.84 904246.01 0.1771 0.0269

Mars -2237-07-19 02:52 J 904558.52 904558.62 904558.72 0.1744 0.0830

Jupiter -2236-07-04 13:26 J 904908.94 904909.06 904909.19 0.0529 0.0032

Saturn -2231-11-25 08:09 J 906878.71 906878.84 906878.97 0.0265 0.0184

Saturn -2230-02-22 04:04 J 906967.49 906967.67 906967.85 0.0264 0.0039

Saturn -2230-05-22 00:14 J 907056.34 907056.51 907056.68 0.0264 0.0107

Saturn -2230-08-18 20:23 J 907145.31 907145.35 907145.40 0.0263 0.0254

Jupiter	-2230-08-20 18:57 J	907147.11	907147.29	907147.48	0.0497	0.0056
Moon	-2230-10-10 16:04 J	907198.06	907198.17	907198.27	0.2705	0.0163
Earth	-2230-10-10 16:33 J	907198.09	907198.19	907198.30	0.2708	0.0074 *
Mars	-2228-01-30 05:02 J	907675.59	907675.71	907675.82	0.1764	0.1303
Mars	-2228-12-09 13:12 J	907988.93	907989.05	907989.16	0.1751	0.0308
Jupiter	-2224-04-22 17:16 J	909219.10	909219.22	909219.35	0.0530	0.0119
Jupiter	-2224-07-20 23:16 J	909308.40	909308.47	909308.53	0.0528	0.0446
Uranus	-2224-08-28 14:23 J	909347.01	909347.10	909347.22	0.0143	0.0119
Uranus	-2224-11-24 22:47 J	909435.31	909435.45	909435.61	0.0143	0.0088
Uranus	-2223-02-21 07:12 J	909523.63	909523.80	909523.98	0.0142	0.0057
Uranus	-2223-05-20 15:36 J	909611.96	909612.15	909612.34	0.0142	0.0027
Uranus	-2223-08-17 00:00 J	909700.30	909700.50	909700.69	0.0142	0.0004
Uranus	-2223-11-13 08:09 J	909788.66	909788.84	909789.04	0.0142	0.0035
Uranus	-2222-02-09 16:33 J	909877.02	909877.19	909877.37	0.0142	0.0065
Uranus	-2222-05-09 00:57 J	909965.40	909965.54	909965.69	0.0142	0.0096
Uranus	-2222-08-05 09:07 J	910053.81	910053.88	910053.98	0.0142	0.0127
Venus	-2219-03-20 22:33 J	911012.32	911012.44	911012.57	0.3691	0.2051
Mars	-2218-05-01 23:16 J	911419.36	911419.47	911419.59	0.1757	0.0238
Jupiter	-2218-06-08 16:33 J	911457.01	911457.19	911457.37	0.0497	0.0117
Moon	-2217-10-12 09:21 J	911948.80	911948.89	911948.98	0.2712	0.1346
Earth	-2217-10-12 10:04 J	911948.82	911948.92	911949.01	0.2709	0.1386 *
Saturn	-2215-03-19 03:07 J	912471.61	912471.63	912471.66	0.0296	0.0288
Saturn	-2215-06-15 16:04 J	912560.05	912560.17	912560.29	0.0296	0.0142
Saturn	-2215-09-12 04:47 J	912648.57	912648.70	912648.83	0.0297	0.0005
Saturn	-2215-12-09 17:31 J	912737.11	912737.23	912737.34	0.0298	0.0151
Saturn	-2214-03-08 06:00 J	912825.74	912825.75	912825.76	0.0298	0.0296
Venus	-2214-10-05 06:28 J	913036.65	913036.77	913036.89	0.3690	0.2257
Moon	-2213-04-06 02:09 J	913220.49	913220.59	913220.69	0.2626	0.2073
Earth	-2213-04-06 03:50 J	913220.55	913220.66	913220.78	0.2627	0.1796 *
Jupiter	-2212-02-08 21:36 J	913529.29	913529.40	913529.51	0.0530	0.0259

Jupiter	-2212-05-09 03:36 J	913618.55	913618.65	913618.76	0.0529	0.0312
Venus	-2210-10-01 20:38 J	914494.33	914494.36	914494.39	0.3677	0.3483
Earth	-2210-10-06 10:33 J	914498.89	914498.94	914498.98	0.2705	0.2399
Moon	-2210-10-06 10:33 J	914498.89	914498.94	914499.00	0.2698	0.2338 *
Mars	-2209-09-21 09:36 J	914849.79	914849.90	914850.00	0.1764	0.0784
Mars	-2208-10-19 12:28 J	915242.88	915243.02	915243.17	0.1779	0.0899
Mars	-2207-08-27 16:19 J	915555.11	915555.18	915555.25	0.1738	0.1396
Jupiter	-2206-03-27 12:57 J	915766.90	915767.04	915767.19	0.0496	0.0304
Jupiter	-2206-06-25 22:19 J	915857.33	915857.43	915857.54	0.0497	0.0408
Venus	-2204-04-16 12:43 J	916517.94	916518.03	916518.12	0.3679	0.1971
Moon	-2204-10-15 03:07 J	916699.62	916699.63	916699.64	0.2716	0.2679
Saturn	-2201-04-13 07:40 J	917610.73	917610.82	917610.92	0.0265	0.0223
Saturn	-2201-07-11 03:50 J	917699.48	917699.66	917699.83	0.0265	0.0078
Saturn	-2201-10-07 23:45 J	917788.32	917788.49	917788.67	0.0264	0.0068
Jupiter	-2201-11-28 01:55 J	917839.50	917839.58	917839.66	0.0531	0.0399
Saturn	-2200-01-04 19:55 J	917877.23	917877.33	917877.45	0.0264	0.0215
Jupiter	-2200-02-25 08:23 J	917928.73	917928.85	917928.97	0.0530	0.0179
Moon	-2200-04-09 11:02 J	917971.81	917971.96	917972.10	0.2630	0.1077
Earth	-2200-04-09 12:28 J	917971.87	917972.02	917972.16	0.2625	0.1136 *
Mars	-2199-02-11 19:26 J	918280.24	918280.31	918280.38	0.1770	0.1347
Venus	-2199-10-31 04:47 J	918541.59	918541.70	918541.80	0.3680	0.0502
Mars	-2198-03-11 08:52 J	918672.70	918672.87	918673.04	0.1771	0.0175
Mars	-2197-01-18 02:52 J	918985.52	918985.62	918985.72	0.1744	0.0890
Moon	-2197-10-08 03:36 J	919249.55	919249.65	919249.75	0.2701	0.1134
Earth	-2197-10-08 04:04 J	919249.57	919249.67	919249.77	0.2707	0.1042 *
Jupiter	-2194-01-13 11:02 J	920076.91	920076.96	920077.02	0.0496	0.0470
Jupiter	-2194-04-13 19:40 J	920167.16	920167.32	920167.49	0.0497	0.0234
Venus	-2193-05-15 20:38 J	920565.26	920565.36	920565.46	0.3681	0.0989
Mars	-2189-07-31 06:00 J	922102.62	922102.75	922102.87	0.1764	0.1197
Jupiter	-2189-12-14 12:43 J	922238.91	922239.03	922239.16	0.0530	0.0043

Mars	-2188-06-09 13:12 J	922415.93	922416.05	922416.16	0.1750	0.0365
Venus	-2188-11-29 12:28 J	922588.94	922589.02	922589.09	0.3682	0.2428
Saturn	-2186-11-02 16:33 J	923292.09	923292.19	923292.29	0.0296	0.0199
Saturn	-2185-01-30 05:16 J	923380.59	923380.72	923380.85	0.0296	0.0053
Saturn	-2185-04-27 17:45 J	923469.12	923469.24	923469.37	0.0297	0.0093
Saturn	-2185-07-25 06:28 J	923557.69	923557.77	923557.85	0.0298	0.0237
Moon	-2184-10-10 20:38 J	924000.26	924000.36	924000.47	0.2705	0.0296
Earth	-2184-10-10 21:21 J	924000.28	924000.39	924000.50	0.2708	0.0315 *
Jupiter	-2182-01-30 17:31 J	924477.05	924477.23	924477.42	0.0497	0.0062
Uranus	-2180-02-21 05:31 J	925229.73	925229.73	925229.73	0.0135	0.0135
Uranus	-2180-05-20 08:23 J	925317.80	925317.85	925317.92	0.0136	0.0118
Uranus	-2180-08-16 11:31 J	925405.90	925405.98	925406.08	0.0136	0.0100
Uranus	-2180-11-12 14:38 J	925494.01	925494.11	925494.22	0.0136	0.0082
Uranus	-2179-02-08 17:45 J	925582.13	925582.24	925582.36	0.0136	0.0064
Uranus	-2179-05-07 20:52 J	925670.25	925670.37	925670.50	0.0136	0.0046
Uranus	-2179-08-04 00:00 J	925758.37	925758.50	925758.63	0.0136	0.0028
Mars	-2179-10-30 23:16 J	925846.36	925846.47	925846.59	0.1757	0.0182
Uranus	-2179-10-31 03:07 J	925846.50	925846.63	925846.76	0.0136	0.0010 *
Uranus	-2178-01-27 06:14 J	925934.63	925934.76	925934.89	0.0136	0.0008
Uranus	-2178-04-25 09:21 J	926022.76	926022.89	926023.02	0.0136	0.0026
Uranus	-2178-07-22 12:14 J	926110.89	926111.01	926111.14	0.0136	0.0045
Uranus	-2178-10-18 15:21 J	926199.03	926199.14	926199.26	0.0137	0.0063
Uranus	-2177-01-14 18:28 J	926287.17	926287.27	926287.38	0.0137	0.0081
Uranus	-2177-04-11 21:21 J	926375.31	926375.39	926375.49	0.0137	0.0099
Uranus	-2177-07-09 00:28 J	926463.46	926463.52	926463.60	0.0137	0.0117
Jupiter	-2177-10-02 17:02 J	926549.08	926549.21	926549.33	0.0530	0.0098
Uranus	-2177-10-05 03:36 J	926551.64	926551.65	926551.68	0.0137	0.0135
Jupiter	-2177-12-30 22:47 J	926638.40	926638.45	926638.51	0.0528	0.0467
Saturn	-2172-11-28 00:43 J	928431.38	928431.53	928431.70	0.0265	0.0137
Saturn	-2171-02-24 20:52 J	928520.19	928520.37	928520.56	0.0264	0.0011

Saturn	-2171-05-24 17:02 J	928609.07	928609.21	928609.37	0.0264	0.0156
Moon	-2171-10-13 14:09 J	928751.01	928751.09	928751.18	0.2713	0.1532
Earth	-2171-10-13 14:38 J	928751.03	928751.11	928751.20	0.2709	0.1668 *
Jupiter	-2171-11-18 15:21 J	928786.97	928787.14	928787.33	0.0497	0.0107
Pluto	-2170-09-08 16:47 J	929081.15	929081.20	929081.28	0.0073	0.0067
Pluto	-2170-12-05 18:43 J	929169.18	929169.28	929169.40	0.0072	0.0056
Pluto	-2169-03-02 20:38 J	929257.23	929257.36	929257.50	0.0072	0.0044
Mars	-2169-03-22 09:21 J	929276.79	929276.89	929277.00	0.1764	0.0729
Pluto	-2169-05-29 22:19 J	929345.29	929345.43	929345.60	0.0072	0.0034
Pluto	-2169-08-26 00:14 J	929433.35	929433.51	929433.68	0.0072	0.0023
Pluto	-2169-11-22 01:55 J	929521.42	929521.58	929521.76	0.0072	0.0012
Pluto	-2168-02-18 03:50 J	929609.49	929609.66	929609.83	0.0072	0.0001
Mars	-2168-04-19 13:26 J	929669.92	929670.06	929670.20	0.1779	0.1010
Pluto	-2168-05-17 05:31 J	929697.56	929697.73	929697.91	0.0072	0.0010
Pluto	-2168-08-13 06:57 J	929785.64	929785.79	929785.97	0.0072	0.0021
Pluto	-2168-11-09 08:52 J	929873.72	929873.87	929874.03	0.0071	0.0031
Pluto	-2167-02-05 10:19 J	929961.80	929961.93	929962.09	0.0071	0.0041
Mars	-2167-02-25 16:19 J	929982.12	929982.18	929982.24	0.1737	0.1453
Moon	-2167-04-07 09:07 J	930022.74	930022.88	930023.01	0.2628	0.1411
Earth	-2167-04-07 10:47 J	930022.81	930022.95	930023.09	0.2626	0.1228 *
Pluto	-2167-05-04 12:00 J	930049.90	930050.00	930050.13	0.0071	0.0052
Pluto	-2167-07-31 13:40 J	930138.00	930138.07	930138.17	0.0071	0.0062
Jupiter	-2165-07-21 20:38 J	930859.25	930859.36	930859.48	0.0530	0.0248
Jupiter	-2165-10-19 02:52 J	930948.52	930948.62	930948.72	0.0528	0.0323
Earth	-2164-10-06 15:21 J	931301.07	931301.14	931301.20	0.2706	0.2123
Moon	-2164-10-06 15:21 J	931301.08	931301.14	931301.21	0.2699	0.2113 *
Venus	-2163-10-26 00:14 J	931685.36	931685.51	931685.66	0.3691	0.0719
Neptune	-2162-07-18 15:07 J	931951.07	931951.13	931951.21	0.0088	0.0081
Neptune	-2162-10-14 18:14 J	932039.17	932039.26	932039.39	0.0088	0.0072
Neptune	-2161-01-10 21:50 J	932127.28	932127.41	932127.55	0.0088	0.0062

Neptune -2161-04-08 00:57 J 932215.41 932215.54 932215.71 0.0088 0.0053

Neptune -2161-07-05 04:33 J 932303.53 932303.69 932303.86 0.0088 0.0043

Neptune -2161-10-01 07:55 J 932391.66 932391.83 932392.01 0.0088 0.0034

Neptune -2161-12-28 11:16 J 932479.80 932479.97 932480.16 0.0088 0.0024

Neptune -2160-03-26 14:52 J 932567.93 932568.12 932568.31 0.0088 0.0014

Neptune -2160-06-22 18:14 J 932656.07 932656.26 932656.45 0.0088 0.0005

Mars -2160-08-12 19:26 J 932707.23 932707.31 932707.39 0.1771 0.1291

Neptune -2160-09-18 21:50 J 932744.21 932744.41 932744.60 0.0088 0.0005

Neptune -2160-12-16 00:57 J 932832.36 932832.54 932832.74 0.0088 0.0015

Neptune -2159-03-14 04:33 J 932920.51 932920.69 932920.88 0.0088 0.0024

Neptune -2159-06-10 07:55 J 933008.66 933008.83 933009.01 0.0088 0.0034

Neptune -2159-09-06 11:16 J 933096.81 933096.97 933097.15 0.0088 0.0044

Jupiter -2159-09-06 13:12 J 933096.90 933097.05 933097.20 0.0496 0.0277 *

Mars -2159-09-09 09:50 J 933099.74 933099.91 933100.08 0.1772 0.0067

Neptune -2159-12-03 14:38 J 933184.97 933185.11 933185.28 0.0088 0.0054

Jupiter -2159-12-05 22:33 J 933187.35 933187.44 933187.53 0.0498 0.0437

Neptune -2158-03-01 18:00 J 933273.14 933273.25 933273.40 0.0088 0.0064

Neptune -2158-05-28 21:50 J 933361.31 933361.41 933361.52 0.0088 0.0073

Mars -2158-07-19 02:38 J 933412.52 933412.61 933412.71 0.1744 0.0941

Neptune -2158-08-25 01:12 J 933449.50 933449.55 933449.62 0.0088 0.0083

Venus -2157-05-11 08:09 J 933709.82 933709.84 933709.86 0.3689 0.3642

Saturn -2156-03-21 17:45 J 934024.17 934024.24 934024.32 0.0296 0.0248

Saturn -2156-06-18 06:43 J 934112.65 934112.78 934112.90 0.0296 0.0102

Saturn -2156-09-14 19:26 J 934201.18 934201.31 934201.44 0.0297 0.0045

Saturn -2156-12-12 07:55 J 934289.73 934289.83 934289.93 0.0298 0.0189

Moon -2154-04-10 18:00 J 934774.11 934774.25 934774.38 0.2630 0.1452

Earth -2154-04-10 19:12 J 934774.18 934774.30 934774.42 0.2625 0.1709 *

Venus -2153-05-07 18:14 J 935167.20 935167.26 935167.32 0.3678 0.2961

Jupiter -2153-05-10 00:57 J 935169.45 935169.54 935169.62 0.0531 0.0390

Jupiter -2153-08-07 07:12 J 935258.68 935258.80 935258.92 0.0529 0.0187

Moon	-2151-10-09 08:09 J	936051.74	936051.84	936051.95	0.2702	0.0808
Earth	-2151-10-09 08:38 J	936051.76	936051.86	936051.97	0.2707	0.0773 *
Mars	-2149-01-30 06:28 J	936529.64	936529.77	936529.90	0.1764	0.1112
Mars	-2149-12-08 13:12 J	936842.94	936843.05	936843.16	0.1750	0.0422
Venus	-2148-11-21 10:19 J	937190.83	937190.93	937191.02	0.3679	0.1457
Jupiter	-2147-06-25 10:04 J	937406.85	937406.92	937406.99	0.0495	0.0458
Jupiter	-2147-09-23 18:43 J	937497.12	937497.28	937497.44	0.0497	0.0245
Saturn	-2142-04-17 00:28 J	939163.39	939163.52	939163.66	0.0266	0.0176
Venus	-2142-06-07 02:09 J	939214.49	939214.59	939214.70	0.3680	0.0052
Saturn	-2142-07-14 20:38 J	939252.18	939252.36	939252.54	0.0265	0.0030
Saturn	-2142-10-11 16:47 J	939341.04	939341.20	939341.37	0.0265	0.0116
Saturn	-2141-01-08 12:57 J	939430.04	939430.04	939430.06	0.0264	0.0264
Jupiter	-2141-05-26 11:45 J	939568.86	939568.99	939569.12	0.0530	0.0050
Uranus	-2140-06-21 13:40 J	939960.05	939960.07	939960.10	0.0143	0.0141
Uranus	-2140-09-17 21:50 J	940048.30	940048.41	940048.54	0.0143	0.0111
Uranus	-2140-12-15 06:00 J	940136.60	940136.75	940136.92	0.0143	0.0081
Uranus	-2139-03-13 14:38 J	940224.93	940225.11	940225.29	0.0142	0.0050
Mars	-2139-04-30 23:31 J	940273.36	940273.48	940273.59	0.1757	0.0131
Uranus	-2139-06-09 23:02 J	940313.27	940313.46	940313.65	0.0142	0.0019
Uranus	-2139-09-06 07:12 J	940401.61	940401.80	940402.00	0.0142	0.0012
Uranus	-2139-12-03 15:36 J	940489.97	940490.15	940490.34	0.0142	0.0042
Uranus	-2138-03-02 00:00 J	940578.34	940578.50	940578.67	0.0142	0.0073
Uranus	-2138-05-29 08:09 J	940666.72	940666.84	940666.99	0.0142	0.0104
Uranus	-2138-08-25 16:47 J	940755.14	940755.20	940755.27	0.0142	0.0134
Moon	-2138-10-12 01:26 J	940802.46	940802.56	940802.67	0.2707	0.0443
Earth	-2138-10-12 02:09 J	940802.48	940802.59	940802.69	0.2708	0.0590 *
Venus	-2137-12-20 18:00 J	941238.16	941238.25	941238.35	0.3682	0.1483
Jupiter	-2135-07-12 16:19 J	941807.00	941807.18	941807.36	0.0497	0.0072
Venus	-2131-07-06 09:50 J	943261.85	943261.91	943261.97	0.3683	0.2900
Mars	-2130-09-21 09:21 J	943703.79	943703.89	943704.00	0.1764	0.0670

Jupiter	-2129-03-14 16:04 J	943879.05	943879.17	943879.30	0.0530	0.0090
Jupiter	-2129-06-11 22:04 J	943968.37	943968.42	943968.47	0.0528	0.0479
Mars	-2129-10-18 14:09 J	944096.96	944097.09	944097.23	0.1780	0.1115
Mars	-2128-08-26 16:19 J	944409.12	944409.18	944409.23	0.1737	0.1506
Saturn	-2127-11-05 07:12 J	944844.69	944844.80	944844.91	0.0296	0.0158
Saturn	-2126-02-01 19:55 J	944933.20	944933.33	944933.46	0.0296	0.0012
Saturn	-2126-05-01 08:23 J	945021.74	945021.85	945021.97	0.0297	0.0133
Saturn	-2126-07-28 20:52 J	945110.33	945110.37	945110.42	0.0298	0.0277
Moon	-2125-10-13 18:57 J	945553.22	945553.29	945553.37	0.2714	0.1929
Earth	-2125-10-13 19:26 J	945553.24	945553.31	945553.39	0.2709	0.1939 *
Jupiter	-2123-04-30 14:09 J	946116.91	946117.09	946117.27	0.0496	0.0099
Moon	-2121-04-07 15:50 J	946825.01	946825.16	946825.32	0.2629	0.0863
Earth	-2121-04-07 17:45 J	946825.08	946825.24	946825.39	0.2626	0.0659 *
Mars	-2120-02-10 19:26 J	947134.23	947134.31	947134.39	0.1770	0.1229
Mars	-2119-03-10 10:33 J	947526.77	947526.94	947527.11	0.1772	0.0047
Mars	-2118-01-17 02:52 J	947839.52	947839.62	947839.71	0.1744	0.1001
Moon	-2118-10-07 19:55 J	948103.26	948103.33	948103.41	0.2699	0.1854
Earth	-2118-10-07 20:09 J	948103.26	948103.34	948103.41	0.2706	0.1848 *
Jupiter	-2117-01-01 20:23 J	948189.24	948189.35	948189.47	0.0530	0.0228
Jupiter	-2117-03-31 02:23 J	948278.51	948278.60	948278.70	0.0529	0.0343
Saturn	-2113-09-02 21:36 J	949895.33	949895.40	949895.49	0.0266	0.0235
Saturn	-2113-11-30 17:45 J	949984.07	949984.24	949984.42	0.0265	0.0089
Saturn	-2112-02-27 13:55 J	950072.90	950073.08	950073.26	0.0265	0.0057
Saturn	-2112-05-27 10:19 J	950161.81	950161.93	950162.05	0.0264	0.0204
Venus	-2112-11-15 18:43 J	950334.24	950334.28	950334.31	0.3692	0.3551
Jupiter	-2111-02-16 12:00 J	950426.85	950427.00	950427.16	0.0496	0.0267
Jupiter	-2111-05-17 21:21 J	950517.31	950517.39	950517.47	0.0498	0.0447
Mars	-2110-07-31 07:26 J	950956.67	950956.81	950956.95	0.1764	0.1000
Mars	-2109-06-08 13:12 J	951269.94	951270.05	951270.16	0.1750	0.0478
Moon	-2108-04-11 00:57 J	951576.46	951576.54	951576.63	0.2630	0.2234

Earth	-2108-04-11 02:09 J	951576.51	951576.59	951576.67	0.2625	0.2286 *
Venus	-2106-06-02 01:55 J	952358.43	952358.58	952358.73	0.3691	0.0639
Jupiter	-2106-10-21 00:00 J	952499.42	952499.50	952499.59	0.0531	0.0379
Jupiter	-2105-01-18 06:28 J	952588.65	952588.77	952588.89	0.0529	0.0197
Moon	-2105-10-09 12:57 J	952853.94	952854.04	952854.15	0.2702	0.0587
Earth	-2105-10-09 13:26 J	952853.96	952854.06	952854.17	0.2707	0.0494 *
Mars	-2100-10-29 23:16 J	954700.36	954700.47	954700.59	0.1757	0.0067
Jupiter	-2100-12-05 09:50 J	954736.83	954736.91	954737.00	0.0496	0.0435
Jupiter	-2099-03-05 18:43 J	954827.13	954827.28	954827.44	0.0497	0.0271
Saturn	-2097-03-24 08:38 J	955576.77	955576.86	955576.96	0.0295	0.0205
Saturn	-2097-06-20 21:21 J	955665.26	955665.39	955665.52	0.0296	0.0060
Saturn	-2097-09-17 10:04 J	955753.79	955753.92	955754.04	0.0297	0.0085
Venus	-2097-12-12 15:50 J	955840.08	955840.16	955840.24	0.3678	0.2440
Saturn	-2097-12-14 22:33 J	955842.36	955842.44	955842.52	0.0297	0.0230
Uranus	-2096-03-13 12:43 J	955931.00	955931.03	955931.07	0.0135	0.0130
Uranus	-2096-06-09 15:50 J	956019.10	956019.16	956019.24	0.0135	0.0113
Uranus	-2096-09-05 18:57 J	956107.20	956107.29	956107.39	0.0136	0.0095
Uranus	-2096-12-02 22:04 J	956195.32	956195.42	956195.53	0.0136	0.0077
Uranus	-2095-03-01 01:12 J	956283.44	956283.55	956283.67	0.0136	0.0059
Uranus	-2095-05-28 04:19 J	956371.56	956371.68	956371.81	0.0136	0.0041
Uranus	-2095-08-24 07:26 J	956459.68	956459.81	956459.94	0.0136	0.0023
Uranus	-2095-11-20 10:33 J	956547.81	956547.94	956548.07	0.0136	0.0005
Uranus	-2094-02-16 13:40 J	956635.94	956636.07	956636.20	0.0136	0.0013
Uranus	-2094-05-15 16:47 J	956724.07	956724.20	956724.32	0.0136	0.0032
Jupiter	-2094-08-09 04:04 J	956809.66	956809.67	956809.69	0.0531	0.0523
Uranus	-2094-08-11 19:40 J	956812.20	956812.32	956812.45	0.0136	0.0050
Jupiter	-2094-11-06 10:47 J	956898.82	956898.95	956899.07	0.0530	0.0059
Uranus	-2094-11-07 22:47 J	956900.34	956900.45	956900.57	0.0136	0.0067
Uranus	-2093-02-04 01:55 J	956988.48	956988.58	956988.68	0.0137	0.0085
Uranus	-2093-05-02 04:47 J	957076.63	957076.70	957076.79	0.0137	0.0104

Uranus -2093-07-29 07:55 J 957164.78 957164.83 957164.89 0.0137 0.0122

Moon -2092-10-12 06:14 J 957604.66 957604.76 957604.86 0.2709 0.0810

Earth -2092-10-12 06:57 J 957604.69 957604.79 957604.89 0.2708 0.0864 *

Venus -2091-06-28 07:55 J 957863.72 957863.83 957863.93 0.3680 0.0962

Mars -2090-03-22 09:36 J 958130.79 958130.90 958131.01 0.1763 0.0607

Mars -2089-04-18 15:07 J 958524.00 958524.13 958524.25 0.1779 0.1213

Mars -2088-02-24 16:19 J 958836.13 958836.18 958836.23 0.1737 0.1563

Jupiter -2088-12-22 15:07 J 959136.95 959137.13 959137.32 0.0496 0.0083

Venus -2085-01-11 23:45 J 959887.39 959887.49 959887.59 0.3681 0.0521

Saturn -2083-04-19 17:31 J 960716.07 960716.23 960716.39 0.0266 0.0128

Saturn -2083-07-17 13:40 J 960804.89 960805.07 960805.26 0.0265 0.0019

Saturn -2083-10-14 09:50 J 960893.77 960893.91 960894.06 0.0265 0.0166

Jupiter -2082-08-25 15:07 J 961209.00 961209.13 961209.25 0.0531 0.0084

Jupiter -2082-11-22 20:52 J 961298.33 961298.37 961298.42 0.0529 0.0485

Mars -2081-08-11 19:26 J 961561.22 961561.31 961561.39 0.1770 0.1173

Neptune -2080-02-01 16:04 J 961735.14 961735.17 961735.20 0.0089 0.0087

Neptune -2080-04-30 17:16 J 961823.17 961823.22 961823.29 0.0089 0.0080

Venus -2080-07-27 15:36 J 961911.06 961911.15 961911.24 0.3682 0.1966

Neptune -2080-07-27 18:43 J 961911.21 961911.28 961911.37 0.0089 0.0072 *

Mars -2080-09-08 11:16 J 961953.80 961953.97 961954.14 0.1772 0.0131

Neptune -2080-10-23 20:09 J 961999.26 961999.34 961999.44 0.0089 0.0065

Neptune -2079-01-19 21:50 J 962087.31 962087.41 962087.51 0.0089 0.0058

Neptune -2079-04-17 23:02 J 962175.36 962175.46 962175.58 0.0089 0.0051

Neptune -2079-07-15 00:28 J 962263.41 962263.52 962263.64 0.0089 0.0044

Mars -2079-07-18 02:52 J 962266.53 962266.62 962266.71 0.1743 0.1058

Neptune -2079-10-11 01:55 J 962351.46 962351.58 962351.71 0.0089 0.0036

Moon -2079-10-14 23:45 J 962355.43 962355.49 962355.56 0.2714 0.2083

Earth -2079-10-15 00:14 J 962355.45 962355.51 962355.57 0.2709 0.2209 *

Neptune -2078-01-07 03:21 J 962439.52 962439.64 962439.77 0.0089 0.0029

Neptune -2078-04-05 04:47 J 962527.57 962527.70 962527.83 0.0089 0.0022

Neptune -2078-07-02 06:14 J 962615.63 962615.76 962615.89 0.0089 0.0015

Neptune -2078-09-28 07:40 J 962703.68 962703.82 962703.95 0.0089 0.0008

Neptune -2078-12-25 09:07 J 962791.74 962791.88 962792.01 0.0089 0.0003

Neptune -2077-03-22 10:19 J 962879.80 962879.93 962880.07 0.0089 0.0007

Neptune -2077-06-18 11:45 J 962967.86 962967.99 962968.12 0.0089 0.0014

Neptune -2077-09-14 13:12 J 963055.92 963056.05 963056.18 0.0089 0.0021

Neptune -2077-12-11 14:23 J 963143.98 963144.10 963144.23 0.0089 0.0028

Neptune -2076-03-09 15:50 J 963232.04 963232.16 963232.28 0.0089 0.0035

Neptune -2076-06-05 17:16 J 963320.10 963320.22 963320.34 0.0089 0.0042

Neptune -2076-09-01 18:14 J 963408.16 963408.26 963408.39 0.0089 0.0050

Jupiter -2076-10-10 12:57 J 963446.85 963447.04 963447.22 0.0496 0.0090

Neptune -2076-11-28 19:55 J 963496.23 963496.33 963496.43 0.0089 0.0056

Neptune -2075-02-24 21:21 J 963584.29 963584.39 963584.48 0.0089 0.0063

Moon -2075-04-08 22:33 J 963627.28 963627.44 963627.61 0.2629 0.0338

Earth -2075-04-09 00:28 J 963627.35 963627.52 963627.68 0.2626 0.0100 *

Neptune -2075-05-23 22:33 J 963672.36 963672.44 963672.52 0.0089 0.0070

Neptune -2075-08-20 00:00 J 963760.43 963760.50 963760.57 0.0089 0.0077

Neptune -2075-11-16 01:12 J 963848.51 963848.55 963848.60 0.0089 0.0084

Venus -2074-02-10 07:26 J 963934.77 963934.81 963934.84 0.3683 0.3384

Moon -2072-10-08 00:43 J 964905.44 964905.53 964905.61 0.2699 0.1565

Earth -2072-10-08 00:43 J 964905.45 964905.53 964905.62 0.2706 0.1575 *

Mars -2071-01-02 05:16 J 964991.70 964991.72 964991.74 0.1777 0.1744

Mars -2070-01-29 08:23 J 965383.70 965383.85 965383.99 0.1764 0.0899

Jupiter -2070-06-13 19:26 J 965519.19 965519.31 965519.42 0.0531 0.0221

Jupiter -2070-09-11 01:26 J 965608.47 965608.56 965608.66 0.0529 0.0351

Mars -2070-12-08 12:57 J 965696.94 965697.04 965697.15 0.1750 0.0536

Saturn -2068-08-11 09:50 J 966308.84 966308.91 966308.97 0.0295 0.0255

Saturn -2068-11-07 22:33 J 966397.32 966397.44 966397.56 0.0295 0.0110

Saturn -2067-02-04 11:02 J 966485.83 966485.96 966486.10 0.0296 0.0036

Saturn -2067-05-03 23:31 J 966574.38 966574.48 966574.59 0.0297 0.0179

Jupiter	-2064-07-29 10:33 J	967756.78	967756.94	967757.10	0.0496	0.0260
Jupiter	-2064-10-27 19:40 J	967847.25	967847.32	967847.40	0.0498	0.0452
Mars	-2060-04-29 23:16 J	969127.36	969127.47	969127.59	0.1757	0.0061
Moon	-2059-10-10 17:45 J	969656.13	969656.24	969656.35	0.2702	0.0286
Earth	-2059-10-10 18:14 J	969656.15	969656.26	969656.37	0.2707	0.0213 *
Jupiter	-2058-04-01 23:31 J	969829.39	969829.48	969829.57	0.0531	0.0363
Jupiter	-2058-06-30 05:45 J	969918.63	969918.74	969918.86	0.0529	0.0214
Uranus	-2056-07-11 20:38 J	970661.31	970661.36	970661.44	0.0143	0.0135
Uranus	-2056-10-08 05:02 J	970749.59	970749.71	970749.85	0.0143	0.0104
Uranus	-2055-01-04 13:26 J	970837.90	970838.06	970838.23	0.0143	0.0073
Uranus	-2055-04-02 21:50 J	970926.23	970926.41	970926.60	0.0143	0.0043
Venus	-2055-06-22 20:09 J	971007.23	971007.34	971007.46	0.3692	0.2249
Uranus	-2055-06-30 06:14 J	971014.57	971014.76	971014.96	0.0142	0.0012
Uranus	-2055-09-26 14:38 J	971102.92	971103.11	971103.31	0.0142	0.0019
Uranus	-2055-12-23 23:02 J	971191.28	971191.46	971191.64	0.0142	0.0050
Uranus	-2054-03-22 07:26 J	971279.65	971279.81	971279.97	0.0142	0.0080
Uranus	-2054-06-18 15:36 J	971368.04	971368.15	971368.28	0.0142	0.0111
Saturn	-2054-09-06 14:52 J	971447.99	971448.12	971448.25	0.0266	0.0186
Uranus	-2054-09-15 00:00 J	971456.50	971456.50	971456.52	0.0142	0.0142
Saturn	-2054-12-04 11:02 J	971536.77	971536.96	971537.14	0.0265	0.0040
Saturn	-2053-03-02 07:12 J	971625.63	971625.80	971625.97	0.0265	0.0107
Saturn	-2053-05-30 03:21 J	971714.61	971714.64	971714.70	0.0264	0.0255
Jupiter	-2052-05-17 08:38 J	972066.77	972066.86	972066.95	0.0496	0.0427
Jupiter	-2052-08-15 17:16 J	972157.07	972157.22	972157.38	0.0497	0.0279
Mars	-2051-09-20 09:21 J	972557.78	972557.89	972558.00	0.1763	0.0555
Mars	-2050-10-18 15:50 J	972951.05	972951.16	972951.28	0.1780	0.1319
Venus	-2049-01-07 03:36 J	973031.52	973031.65	973031.78	0.3690	0.1969
Mars	-2049-08-25 16:19 J	973263.14	973263.18	973263.22	0.1737	0.1617
Jupiter	-2046-01-19 03:07 J	974139.60	974139.63	974139.66	0.0531	0.0514
Jupiter	-2046-04-18 09:50 J	974228.78	974228.91	974229.03	0.0530	0.0068

Moon	-2046-10-13 11:02 J	974406.86	974406.96	974407.06	0.2710	0.1014
Earth	-2046-10-13 11:45 J	974406.89	974406.99	974407.08	0.2708	0.1142 *
Venus	-2045-01-03 21:21 J	974489.35	974489.39	974489.42	0.3678	0.3437
Earth	-2042-04-06 22:47 J	975678.40	975678.45	975678.51	0.2627	0.2451
Mars	-2041-02-10 19:26 J	975988.22	975988.31	975988.40	0.1770	0.1110
Mars	-2040-03-09 12:14 J	976380.85	976381.01	976381.18	0.1772	0.0246
Jupiter	-2040-06-03 14:52 J	976466.94	976467.12	976467.30	0.0497	0.0104
Venus	-2040-07-19 13:26 J	976512.97	976513.06	976513.15	0.3679	0.1930
Mars	-2039-01-16 02:38 J	976693.53	976693.61	976693.70	0.1744	0.1111
Earth	-2039-10-06 12:00 J	976956.99	976957.00	976957.02	0.2705	0.2659
Moon	-2039-10-06 12:28 J	976956.99	976957.02	976957.05	0.2699	0.2547 *
Saturn	-2038-03-28 00:00 J	977129.39	977129.50	977129.61	0.0295	0.0157
Saturn	-2038-06-24 12:43 J	977217.90	977218.03	977218.16	0.0296	0.0012
Saturn	-2038-09-21 01:12 J	977306.44	977306.55	977306.67	0.0297	0.0132
Saturn	-2038-12-18 13:40 J	977395.03	977395.07	977395.12	0.0297	0.0276
Venus	-2034-02-02 05:16 J	978536.62	978536.72	978536.83	0.3680	0.0467
Jupiter	-2034-02-04 13:55 J	978538.95	978539.08	978539.21	0.0530	0.0075
Jupiter	-2034-05-04 19:55 J	978628.28	978628.33	978628.37	0.0528	0.0491
Moon	-2033-10-15 04:47 J	979157.66	979157.70	979157.74	0.2714	0.2489
Earth	-2033-10-15 05:02 J	979157.67	979157.71	979157.75	0.2709	0.2481 *
Mars	-2032-07-03 05:16 J	979418.69	979418.72	979418.76	0.1777	0.1684
Mars	-2031-07-30 08:52 J	979810.72	979810.87	979811.02	0.1764	0.0810
Mars	-2030-06-08 13:12 J	980123.94	980124.05	980124.15	0.1750	0.0593
Moon	-2029-04-09 05:45 J	980429.58	980429.74	980429.90	0.2629	0.0328
Earth	-2029-04-09 07:26 J	980429.64	980429.81	980429.97	0.2626	0.0483 *
Venus	-2029-08-17 21:21 J	980560.29	980560.39	980560.49	0.3681	0.1020
Jupiter	-2028-03-22 11:31 J	980776.80	980776.98	980777.17	0.0496	0.0081
Moon	-2026-10-09 05:16 J	981707.63	981707.72	981707.81	0.2699	0.1377
Earth	-2026-10-09 05:31 J	981707.64	981707.73	981707.83	0.2706	0.1297 *
Saturn	-2024-01-23 14:38 J	982180.03	982180.11	982180.22	0.0266	0.0224

Saturn -2024-04-22 11:02 J 982268.78 982268.96 982269.13 0.0266 0.0077

Saturn -2024-07-20 07:12 J 982357.62 982357.80 982357.98 0.0265 0.0070

Saturn -2024-10-17 03:36 J 982446.55 982446.65 982446.75 0.0265 0.0218

Venus -2023-03-03 13:12 J 982583.97 982584.05 982584.12 0.3682 0.2455

Jupiter -2023-11-23 18:00 J 982849.13 982849.25 982849.37 0.0531 0.0220

Jupiter -2022-02-21 00:14 J 982938.42 982938.51 982938.60 0.0529 0.0354

Mars -2021-10-28 23:16 J 983554.36 983554.47 983554.59 0.1756 0.0070

Jupiter -2016-01-08 09:21 J 985086.73 985086.89 985087.04 0.0495 0.0252

Jupiter -2016-04-08 18:14 J 985177.20 985177.26 985177.33 0.0497 0.0459

Moon -2013-10-10 22:19 J 986458.33 986458.43 986458.54 0.2704 0.0093

Earth -2013-10-10 23:02 J 986458.35 986458.46 986458.57 0.2707 0.0067 *

Uranus -2012-04-02 20:38 J 986632.31 986632.36 986632.41 0.0135 0.0124

Uranus -2012-06-29 23:45 J 986720.41 986720.49 986720.57 0.0135 0.0106

Uranus -2012-09-26 02:52 J 986808.52 986808.62 986808.72 0.0136 0.0088

Uranus -2012-12-23 06:00 J 986896.63 986896.75 986896.86 0.0136 0.0070

Uranus -2011-03-21 09:07 J 986984.75 986984.88 986985.00 0.0136 0.0052

Mars -2011-03-21 09:21 J 986984.78 986984.89 986985.00 0.1763 0.0495 *

Uranus -2011-06-17 12:00 J 987072.88 987073.00 987073.13 0.0136 0.0034

Jupiter -2011-09-11 22:19 J 987159.34 987159.43 987159.52 0.0532 0.0360

Uranus -2011-09-13 15:07 J 987161.00 987161.13 987161.26 0.0136 0.0016

Jupiter -2011-12-10 04:33 J 987248.58 987248.69 987248.81 0.0530 0.0219

Uranus -2011-12-10 18:14 J 987249.13 987249.26 987249.39 0.0136 0.0003

Uranus -2010-03-08 21:21 J 987337.26 987337.39 987337.52 0.0136 0.0020

Mars -2010-04-18 16:47 J 987378.11 987378.20 987378.30 0.1780 0.1433

Uranus -2010-06-05 00:28 J 987425.39 987425.52 987425.64 0.0136 0.0038

Uranus -2010-09-01 03:21 J 987513.53 987513.64 987513.77 0.0136 0.0056

Uranus -2010-11-28 06:28 J 987601.67 987601.77 987601.88 0.0137 0.0074

Uranus -2009-02-24 09:36 J 987689.81 987689.90 987690.00 0.0137 0.0092

Mars -2009-02-24 16:19 J 987690.15 987690.18 987690.21 0.1737 0.1674

Uranus -2009-05-22 12:43 J 987777.96 987778.03 987778.11 0.0137 0.0110

Saturn	-2009-08-14 01:26 J	987861.47	987861.56	987861.66	0.0295	0.0203
Uranus	-2009-08-18 15:50 J	987866.12	987866.16	987866.20	0.0137	0.0128
Pluto	-2009-08-30 23:16 J	987878.43	987878.47	987878.54	0.0072	0.0067
Saturn	-2009-11-10 14:23 J	987949.97	987950.10	987950.23	0.0295	0.0059
Pluto	-2009-11-27 00:28 J	987966.44	987966.52	987966.61	0.0072	0.0058
Saturn	-2008-02-07 02:52 J	988038.49	988038.62	988038.75	0.0296	0.0086
Pluto	-2008-02-23 01:26 J	988054.46	988054.56	988054.67	0.0072	0.0049
Saturn	-2008-05-06 15:21 J	988127.06	988127.14	988127.22	0.0297	0.0229
Pluto	-2008-05-22 02:23 J	988142.49	988142.60	988142.72	0.0072	0.0040
Pluto	-2008-08-18 03:36 J	988230.52	988230.65	988230.78	0.0072	0.0032
Pluto	-2008-11-14 04:33 J	988318.55	988318.69	988318.82	0.0072	0.0023
Pluto	-2007-02-10 05:31 J	988406.59	988406.73	988406.87	0.0072	0.0014
Pluto	-2007-05-09 06:28 J	988494.63	988494.77	988494.92	0.0073	0.0005
Pluto	-2007-08-05 07:26 J	988582.67	988582.81	988582.96	0.0073	0.0005
Pluto	-2007-11-01 08:23 J	988670.71	988670.85	988671.00	0.0073	0.0014
Pluto	-2006-01-28 09:36 J	988758.76	988758.90	988759.04	0.0073	0.0023
Pluto	-2006-04-26 10:19 J	988846.81	988846.93	988847.07	0.0073	0.0033
Pluto	-2006-07-23 11:31 J	988934.87	988934.98	988935.11	0.0073	0.0042
Pluto	-2006-10-19 12:28 J	989022.93	989023.02	989023.13	0.0073	0.0052
Pluto	-2005-01-15 13:40 J	989111.00	989111.07	989111.15	0.0073	0.0062
Pluto	-2005-04-12 14:38 J	989199.09	989199.11	989199.15	0.0074	0.0072
Jupiter	-2005-10-27 06:57 J	989396.69	989396.79	989396.88	0.0495	0.0423
Jupiter	-2004-01-25 15:36 J	989487.00	989487.15	989487.30	0.0497	0.0281
Mars	-2002-08-11 19:26 J	990415.22	990415.31	990415.40	0.1770	0.1054
Mars	-2001-09-07 12:57 J	990807.88	990808.04	990808.21	0.1772	0.0345

2ND MILLENNIUM BCE

This is a list of transits of Mercury in the 2nd millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Mars	**-2000-07-17 02:38**	**J**	**991120.53**	**991120.61**	**991120.70**	**0.1743**	**0.1167**	
Moon	**-2000-10-13 15:50**	**J**	**991209.06**	**991209.16**	**991209.25**	**0.2710**	**0.1341**	
Earth	**-2000-10-13 16:19**	**J**	**991209.09**	**991209.18**	**991209.27**	**0.2708**	**0.1417**	*****
Jupiter	**-1999-07-01 02:23**	**J**	**991469.56**	**991469.60**	**991469.64**	**0.0532**	**0.0503**	
Jupiter	**-1999-09-28 08:52**	**J**	**991558.75**	**991558.87**	**991559.00**	**0.0530**	**0.0081**	
Venus	**-1998-01-27 21:50**	**J**	**991680.26**	**991680.41**	**991680.55**	**0.3691**	**0.0957**	
Neptune	**-1997-04-13 12:28**	**J**	**992121.95**	**992122.02**	**992122.10**	**0.0088**	**0.0080**	
Neptune	**-1997-07-10 15:36**	**J**	**992210.06**	**992210.15**	**992210.28**	**0.0088**	**0.0071**	
Neptune	**-1997-10-06 18:43**	**J**	**992298.17**	**992298.28**	**992298.44**	**0.0088**	**0.0062**	
Neptune	**-1996-01-02 22:19**	**J**	**992386.29**	**992386.43**	**992386.60**	**0.0088**	**0.0052**	
Neptune	**-1996-04-01 01:40**	**J**	**992474.42**	**992474.57**	**992474.75**	**0.0088**	**0.0043**	
Moon	**-1996-04-07 03:50**	**J**	**992480.55**	**992480.66**	**992480.76**	**0.2628**	**0.2000**	
Earth	**-1996-04-07 05:45**	**J**	**992480.63**	**992480.74**	**992480.85**	**0.2627**	**0.1887**	*****
Neptune	**-1996-06-28 05:16**	**J**	**992562.55**	**992562.72**	**992562.90**	**0.0088**	**0.0033**	
Neptune	**-1996-09-24 08:23**	**J**	**992650.68**	**992650.85**	**992651.05**	**0.0088**	**0.0024**	
Neptune	**-1996-12-21 12:00**	**J**	**992738.82**	**992739.00**	**992739.19**	**0.0088**	**0.0014**	
Neptune	**-1995-03-19 15:36**	**J**	**992826.96**	**992827.15**	**992827.34**	**0.0088**	**0.0004**	
Neptune	**-1995-06-15 18:57**	**J**	**992915.10**	**992915.29**	**992915.48**	**0.0088**	**0.0006**	
Saturn	**-1995-09-09 08:23**	**J**	**993000.70**	**993000.85**	**993001.02**	**0.0266**	**0.0133**	
Neptune	**-1995-09-11 22:19**	**J**	**993003.24**	**993003.43**	**993003.62**	**0.0088**	**0.0015**	
Saturn	**-1995-12-07 04:47**	**J**	**993089.51**	**993089.70**	**993089.88**	**0.0265**	**0.0014**	
Neptune	**-1995-12-09 01:40**	**J**	**993091.39**	**993091.57**	**993091.76**	**0.0088**	**0.0025**	

Saturn -1994-03-06 00:57 J 993178.40 993178.54 993178.69 0.0265 0.0162

Neptune -1994-03-07 05:02 J 993179.54 993179.71 993179.89 0.0088 0.0035

Neptune -1994-06-03 08:23 J 993267.70 993267.85 993268.03 0.0088 0.0045

Neptune -1994-08-30 12:00 J 993355.86 993356.00 993356.16 0.0088 0.0054

Neptune -1994-11-26 15:21 J 993444.02 993444.14 993444.28 0.0088 0.0064

Neptune -1993-02-22 18:43 J 993532.19 993532.28 993532.40 0.0088 0.0074

Neptune -1993-05-20 22:04 J 993620.38 993620.42 993620.50 0.0088 0.0084

Venus -1993-08-13 05:31 J 993704.67 993704.73 993704.79 0.3689 0.3342

Earth -1993-10-06 16:47 J 993759.16 993759.20 993759.25 0.2705 0.2379

Moon -1993-10-06 17:02 J 993759.17 993759.21 993759.26 0.2699 0.2399 *

Jupiter -1993-11-13 13:12 J 993796.87 993797.05 993797.23 0.0497 0.0108

Mars -1992-01-01 05:16 J 993845.68 993845.72 993845.76 0.1777 0.1628

Mars -1991-01-28 09:50 J 994237.75 994237.91 994238.06 0.1765 0.0705

Mars -1991-12-07 12:57 J 994550.94 994551.04 994551.15 0.1750 0.0647

Venus -1989-08-09 18:57 J 995162.22 995162.29 995162.35 0.3678 0.2916

Jupiter -1987-07-17 12:43 J 995868.91 995869.03 995869.16 0.0530 0.0072

Jupiter -1987-10-14 18:43 J 995958.24 995958.28 995958.32 0.0528 0.0496

Moon -1987-10-16 09:36 J 995959.89 995959.90 995959.91 0.2715 0.2698

Venus -1983-02-23 11:02 J 997185.86 997185.96 997186.05 0.3679 0.1417

Moon -1983-04-10 12:43 J 997231.88 997232.03 997232.19 0.2630 0.0813

Earth -1983-04-10 14:09 J 997231.94 997232.09 997232.24 0.2626 0.1045 *

Mars -1982-06-20 07:12 J 997667.76 997667.80 997667.83 0.1757 0.1705

Mars -1981-04-28 23:16 J 997981.36 997981.47 997981.59 0.1757 0.0117

Jupiter -1981-09-01 10:47 J 998106.76 998106.95 998107.13 0.0496 0.0066

Moon -1980-10-09 10:04 J 998509.82 998509.92 998510.02 0.2699 0.1007

Earth -1980-10-09 10:19 J 998509.83 998509.93 998510.03 0.2706 0.1020 *

Saturn -1979-01-01 03:21 J 998593.57 998593.64 998593.71 0.0295 0.0246

Saturn -1979-03-30 16:04 J 998682.05 998682.17 998682.30 0.0295 0.0101

Saturn -1979-06-27 04:47 J 998770.57 998770.70 998770.83 0.0296 0.0044

Saturn -1979-09-23 17:16 J 998859.12 998859.22 998859.32 0.0297 0.0187

Venus -1978-09-09 02:52 J 999209.52 999209.62 999209.73 0.3680 0.0123

Jupiter -1975-05-05 16:47 J 1000179.09 1000179.20 1000179.32 0.0531 0.0214

Jupiter -1975-08-02 23:02 J 1000268.37 1000268.46 1000268.55 0.0529 0.0358

Venus -1972-03-24 18:57 J 1001233.19 1001233.29 1001233.38 0.3681 0.1519

Uranus -1972-08-01 04:33 J 1001362.61 1001362.69 1001362.79 0.0143 0.0126

Mars -1972-09-19 09:36 J 1001411.78 1001411.90 1001412.01 0.1763 0.0434

Uranus -1972-10-28 12:57 J 1001450.90 1001451.04 1001451.19 0.0143 0.0095

Uranus -1971-01-24 21:21 J 1001539.22 1001539.39 1001539.57 0.0143 0.0064

Uranus -1971-04-23 05:45 J 1001627.55 1001627.74 1001627.93 0.0142 0.0034

Uranus -1971-07-20 14:09 J 1001715.90 1001716.09 1001716.29 0.0142 0.0003

Uranus -1971-10-16 22:19 J 1001804.25 1001804.43 1001804.63 0.0142 0.0029

Mars -1971-10-17 17:31 J 1001805.14 1001805.23 1001805.32 0.1780 0.1523

Uranus -1970-01-13 06:57 J 1001892.61 1001892.79 1001892.97 0.0142 0.0058

Uranus -1970-04-11 15:07 J 1001980.99 1001981.13 1001981.29 0.0142 0.0089

Uranus -1970-07-08 23:31 J 1002069.39 1002069.48 1002069.59 0.0142 0.0120

Mars -1970-08-25 16:19 J 1002117.17 1002117.18 1002117.18 0.1737 0.1729

Jupiter -1969-06-20 07:40 J 1002416.67 1002416.82 1002416.98 0.0495 0.0245

Jupiter -1969-09-18 16:33 J 1002507.14 1002507.19 1002507.26 0.0497 0.0465

Venus -1967-10-08 10:33 J 1003256.88 1003256.94 1003257.00 0.3683 0.2939

Moon -1967-10-12 03:07 J 1003260.52 1003260.63 1003260.74 0.2706 0.0199

Earth -1967-10-12 03:50 J 1003260.55 1003260.66 1003260.76 0.2707 0.0343 *

Saturn -1965-01-27 08:52 J 1003732.73 1003732.87 1003733.01 0.0267 0.0168

Saturn -1965-04-25 05:02 J 1003821.53 1003821.71 1003821.90 0.0266 0.0021

Saturn -1965-07-23 01:26 J 1003910.39 1003910.56 1003910.72 0.0265 0.0127

Jupiter -1963-02-21 20:38 J 1004489.27 1004489.36 1004489.45 0.0532 0.0364

Jupiter -1963-05-22 03:07 J 1004578.51 1004578.63 1004578.75 0.0530 0.0215

Mars -1962-02-09 19:26 J 1004842.22 1004842.31 1004842.40 0.1770 0.0994

Mars -1961-03-08 13:40 J 1005234.91 1005235.07 1005235.24 0.1773 0.0440

Mars -1960-01-15 02:52 J 1005547.54 1005547.62 1005547.70 0.1743 0.1227

Jupiter -1957-04-08 05:31 J 1006726.63 1006726.73 1006726.83 0.0495 0.0415

Jupiter -1957-07-07 13:55 J 1006816.93 1006817.08 1006817.23 0.0496 0.0287

Moon -1954-10-14 20:38 J 1008011.27 1008011.36 1008011.44 0.2711 0.1596

Earth -1954-10-14 21:07 J 1008011.30 1008011.38 1008011.47 0.2708 0.1689 *

Mars -1953-07-02 05:16 J 1008272.67 1008272.72 1008272.77 0.1777 0.1568

Mars -1952-07-29 10:47 J 1008664.79 1008664.95 1008665.11 0.1765 0.0596

Jupiter -1952-12-11 00:43 J 1008799.50 1008799.53 1008799.57 0.0532 0.0506

Jupiter -1951-03-10 07:26 J 1008888.69 1008888.81 1008888.94 0.0530 0.0078

Mars -1951-06-07 12:57 J 1008977.94 1008978.04 1008978.15 0.1750 0.0703

Moon -1950-04-08 10:47 J 1009282.82 1009282.95 1009283.08 0.2628 0.1648

Earth -1950-04-08 12:43 J 1009282.89 1009283.03 1009283.17 0.2627 0.1312 *

Saturn -1950-05-21 05:31 J 1009325.70 1009325.73 1009325.76 0.0294 0.0285

Saturn -1950-08-17 18:14 J 1009414.14 1009414.26 1009414.37 0.0295 0.0141

Saturn -1950-11-14 06:43 J 1009502.65 1009502.78 1009502.92 0.0295 0.0010

Saturn -1949-02-10 19:12 J 1009591.19 1009591.30 1009591.42 0.0296 0.0146

Saturn -1949-05-09 07:55 J 1009679.80 1009679.83 1009679.85 0.0297 0.0288

Moon -1947-10-07 21:36 J 1010561.34 1010561.40 1010561.47 0.2698 0.2036

Earth -1947-10-07 21:36 J 1010561.34 1010561.40 1010561.47 0.2705 0.2100 *

Jupiter -1945-04-25 11:02 J 1011126.78 1011126.96 1011127.14 0.0496 0.0108

Mars -1943-12-19 07:40 J 1012094.76 1012094.82 1012094.89 0.1757 0.1611

Venus -1942-09-03 23:31 J 1012353.33 1012353.48 1012353.63 0.3691 0.0379

Mars -1942-10-28 23:16 J 1012408.36 1012408.47 1012408.59 0.1756 0.0177

Jupiter -1940-12-27 11:45 J 1013198.86 1013198.99 1013199.12 0.0530 0.0062

Jupiter -1939-03-26 17:45 J 1013288.20 1013288.24 1013288.27 0.0529 0.0504

Moon -1937-04-10 19:55 J 1014034.20 1014034.33 1014034.46 0.2631 0.1596

Earth -1937-04-10 21:07 J 1014034.25 1014034.38 1014034.51 0.2626 0.1624 *

Saturn -1936-06-15 06:57 J 1014464.69 1014464.79 1014464.90 0.0267 0.0220

Saturn -1936-09-12 03:07 J 1014553.45 1014553.63 1014553.81 0.0266 0.0074

Saturn -1936-12-09 23:16 J 1014642.30 1014642.47 1014642.65 0.0265 0.0074

Saturn -1935-03-08 19:40 J 1014731.23 1014731.32 1014731.43 0.0265 0.0222

Moon -1934-10-10 14:52 J 1015312.01 1015312.12 1015312.22 0.2700 0.0856

Earth -1934-10-10 15:07 J 1015312.03 1015312.13 1015312.23 0.2706 0.0740 *

Jupiter -1933-02-12 08:38 J 1015436.68 1015436.86 1015437.04 0.0496 0.0065

Venus -1932-03-16 16:33 J 1015835.11 1015835.19 1015835.27 0.3678 0.2395

Mars -1932-03-20 09:21 J 1015838.78 1015838.89 1015839.00 0.1763 0.0379

Mars -1931-04-17 18:28 J 1016232.21 1016232.27 1016232.34 0.1780 0.1635

Uranus -1928-01-25 01:12 J 1017245.55 1017245.55 1017245.55 0.0135 0.0135

Uranus -1928-04-23 04:04 J 1017333.62 1017333.67 1017333.74 0.0135 0.0118

Uranus -1928-07-20 07:12 J 1017421.72 1017421.80 1017421.90 0.0136 0.0100

Jupiter -1928-10-15 15:21 J 1017509.03 1017509.14 1017509.26 0.0531 0.0213

Uranus -1928-10-16 10:19 J 1017509.83 1017509.93 1017510.04 0.0136 0.0082

Uranus -1927-01-12 13:26 J 1017597.95 1017598.06 1017598.18 0.0136 0.0064

Jupiter -1927-01-12 21:36 J 1017598.31 1017598.40 1017598.49 0.0529 0.0359

Uranus -1927-04-10 16:33 J 1017686.07 1017686.19 1017686.32 0.0136 0.0046

Uranus -1927-07-07 19:40 J 1017774.19 1017774.32 1017774.45 0.0136 0.0028

Venus -1927-09-30 08:38 J 1017858.76 1017858.86 1017858.96 0.3679 0.0910

Uranus -1927-10-03 22:47 J 1017862.32 1017862.45 1017862.58 0.0136 0.0010

Uranus -1927-12-31 01:55 J 1017950.45 1017950.58 1017950.71 0.0136 0.0008

Uranus -1926-03-29 05:02 J 1018038.58 1018038.71 1018038.84 0.0136 0.0026

Uranus -1926-06-25 07:55 J 1018126.71 1018126.83 1018126.96 0.0136 0.0045

Uranus -1926-09-21 11:02 J 1018214.85 1018214.96 1018215.08 0.0136 0.0062

Uranus -1926-12-18 14:09 J 1018302.99 1018303.09 1018303.20 0.0137 0.0080

Uranus -1925-03-15 17:02 J 1018391.13 1018391.21 1018391.31 0.0137 0.0099

Uranus -1925-06-11 20:23 J 1018479.29 1018479.35 1018479.42 0.0137 0.0116

Uranus -1925-09-07 23:31 J 1018567.46 1018567.48 1018567.50 0.0137 0.0134

Pluto -1924-10-31 05:45 J 1018985.70 1018985.74 1018985.81 0.0073 0.0069

Pluto -1923-01-27 07:26 J 1019073.72 1019073.81 1019073.94 0.0072 0.0058

Pluto -1923-04-25 09:21 J 1019161.77 1019161.89 1019162.04 0.0072 0.0046

Pluto -1923-07-22 11:02 J 1019249.83 1019249.96 1019250.13 0.0072 0.0036

Mars -1923-08-10 19:26 J 1019269.21 1019269.31 1019269.41 0.1770 0.0936

Pluto -1923-10-18 12:57 J 1019337.89 1019338.04 1019338.22 0.0072 0.0024

Pluto -1922-01-14 14:52 J 1019425.95 1019426.12 1019426.30 0.0072 0.0013

Pluto -1922-04-12 16:47 J 1019514.02 1019514.20 1019514.37 0.0072 0.0002

Pluto -1922-07-09 18:28 J 1019602.10 1019602.27 1019602.44 0.0072 0.0008

Mars -1922-09-07 14:38 J 1019661.95 1019662.11 1019662.27 0.1773 0.0550

Pluto -1922-10-05 20:09 J 1019690.17 1019690.34 1019690.51 0.0072 0.0019

Jupiter -1922-12-01 06:14 J 1019746.60 1019746.76 1019746.92 0.0496 0.0238

Pluto -1921-01-01 21:36 J 1019778.25 1019778.40 1019778.57 0.0072 0.0030

Jupiter -1921-02-29 15:21 J 1019837.09 1019837.14 1019837.20 0.0497 0.0475

Pluto -1921-03-29 23:31 J 1019866.34 1019866.48 1019866.63 0.0071 0.0040

Venus -1921-04-15 00:28 J 1019882.42 1019882.52 1019882.63 0.3681 0.0566

Pluto -1921-06-26 00:57 J 1019954.43 1019954.54 1019954.67 0.0071 0.0050

Mars -1921-07-16 02:38 J 1019974.53 1019974.61 1019974.69 0.1743 0.1275

Pluto -1921-09-22 02:38 J 1020042.53 1020042.61 1020042.71 0.0071 0.0061

Moon -1921-10-12 07:55 J 1020062.72 1020062.83 1020062.93 0.2707 0.0568

Earth -1921-10-12 08:38 J 1020062.75 1020062.86 1020062.96 0.2707 0.0619 *

Pluto -1921-12-19 04:33 J 1020130.67 1020130.69 1020130.71 0.0071 0.0070

Saturn -1920-01-03 20:09 J 1020146.24 1020146.34 1020146.44 0.0295 0.0183

Saturn -1920-04-02 08:52 J 1020234.74 1020234.87 1020235.00 0.0296 0.0039

Saturn -1920-06-29 21:21 J 1020323.27 1020323.39 1020323.51 0.0296 0.0105

Saturn -1920-09-26 09:50 J 1020411.84 1020411.91 1020411.98 0.0297 0.0248

Jupiter -1916-08-03 19:26 J 1021819.21 1021819.31 1021819.40 0.0531 0.0360

Neptune -1916-10-29 14:52 J 1021906.10 1021906.12 1021906.17 0.0089 0.0086

Venus -1916-10-29 16:19 J 1021906.10 1021906.18 1021906.27 0.3682 0.2007 *

Jupiter -1916-11-01 01:40 J 1021908.46 1021908.57 1021908.69 0.0530 0.0218

Neptune -1915-01-25 16:33 J 1021994.13 1021994.19 1021994.25 0.0089 0.0079

Neptune -1915-04-23 18:00 J 1022082.17 1022082.25 1022082.33 0.0089 0.0072

Neptune -1915-07-20 19:12 J 1022170.22 1022170.30 1022170.40 0.0089 0.0065

Neptune -1915-10-16 20:38 J 1022258.27 1022258.36 1022258.47 0.0089 0.0058

Neptune -1914-01-12 22:04 J 1022346.32 1022346.42 1022346.54 0.0089 0.0050

Neptune -1914-04-10 23:45 J 1022434.37 1022434.49 1022434.61 0.0089 0.0043

Neptune -1914-07-08 01:12 J 1022522.43 1022522.55 1022522.67 0.0089 0.0036

Neptune -1914-10-04 02:23 J 1022610.48 1022610.60 1022610.74 0.0089 0.0029

Neptune -1914-12-31 03:50 J 1022698.54 1022698.66 1022698.80 0.0089 0.0022

Mars -1913-01-01 05:31 J 1022699.67 1022699.73 1022699.79 0.1776 0.1504

Neptune -1913-03-28 05:16 J 1022786.59 1022786.72 1022786.86 0.0089 0.0014

Neptune -1913-06-24 06:43 J 1022874.65 1022874.78 1022874.92 0.0089 0.0007

Neptune -1913-09-20 08:09 J 1022962.71 1022962.84 1022962.97 0.0089 0.0000

Neptune -1913-12-17 09:36 J 1023050.76 1023050.90 1023051.03 0.0089 0.0007

Mars -1912-01-27 11:16 J 1023091.81 1023091.97 1023092.13 0.1765 0.0512

Neptune -1912-03-15 10:47 J 1023138.82 1023138.95 1023139.09 0.0089 0.0015

Neptune -1912-06-11 12:14 J 1023226.88 1023227.01 1023227.14 0.0089 0.0021

Neptune -1912-09-07 13:40 J 1023314.94 1023315.07 1023315.20 0.0089 0.0028

Neptune -1912-12-04 14:52 J 1023403.00 1023403.12 1023403.25 0.0089 0.0036

Mars -1912-12-06 13:12 J 1023404.94 1023405.05 1023405.15 0.1750 0.0763

Neptune -1911-03-02 16:19 J 1023491.07 1023491.18 1023491.30 0.0089 0.0043

Neptune -1911-05-29 17:31 J 1023579.13 1023579.23 1023579.35 0.0089 0.0050

Neptune -1911-08-25 18:57 J 1023667.19 1023667.29 1023667.40 0.0089 0.0057

Neptune -1911-11-21 20:23 J 1023755.26 1023755.35 1023755.44 0.0089 0.0064

Neptune -1910-02-17 21:36 J 1023843.33 1023843.40 1023843.49 0.0089 0.0071

Venus -1910-05-15 08:09 J 1023929.80 1023929.84 1023929.88 0.3683 0.3415

Neptune -1910-05-16 23:02 J 1023931.40 1023931.46 1023931.53 0.0089 0.0078

Neptune -1910-08-13 00:14 J 1024019.48 1024019.51 1024019.56 0.0089 0.0085

Jupiter -1910-09-19 03:36 J 1024056.55 1024056.65 1024056.75 0.0495 0.0412

Jupiter -1910-12-18 12:00 J 1024146.86 1024147.00 1024147.16 0.0496 0.0290

Moon -1908-10-15 01:26 J 1024813.48 1024813.56 1024813.64 0.2712 0.1872

Earth -1908-10-15 01:55 J 1024813.51 1024813.58 1024813.65 0.2708 0.1961 *

Saturn -1907-11-02 07:40 J 1025196.77 1025196.82 1025196.88 0.0267 0.0253

Saturn -1906-01-30 03:36 J 1025285.49 1025285.65 1025285.83 0.0266 0.0108

Saturn -1906-04-29 00:00 J 1025374.32 1025374.50 1025374.68 0.0266 0.0041

Saturn -1906-07-26 20:09 J 1025463.22 1025463.34 1025463.48 0.0265 0.0190

Moon -1904-04-08 17:45 J 1026085.08 1026085.24 1026085.39 0.2628 0.0856

Earth -1904-04-08 19:26 J 1026085.15 1026085.31 1026085.47 0.2627 0.0746 *

Jupiter -1904-05-22 22:47 J 1026129.43 1026129.45 1026129.49 0.0532 0.0514

Jupiter -1904-08-20 05:45 J 1026218.61 1026218.74 1026218.86 0.0531 0.0073

Mars -1903-06-19 08:38 J 1026521.78 1026521.86 1026521.94 0.1758 0.1508

Mars -1902-04-28 23:16 J 1026835.36 1026835.47 1026835.59 0.1756 0.0235

Earth -1901-10-08 02:23 J 1027363.52 1027363.60 1027363.68 0.2705 0.1823

Moon -1901-10-08 02:23 J 1027363.53 1027363.60 1027363.68 0.2698 0.1868 *

Jupiter -1898-10-06 09:21 J 1028456.71 1028456.89 1028457.07 0.0496 0.0111

Mars -1893-09-18 09:21 J 1030265.78 1030265.89 1030266.01 0.1763 0.0322

Jupiter -1892-06-08 09:50 J 1030528.79 1030528.91 1030529.04 0.0531 0.0071

Jupiter -1892-09-05 15:50 J 1030618.13 1030618.16 1030618.20 0.0529 0.0499

Mars -1892-10-16 19:26 J 1030659.28 1030659.31 1030659.34 0.1781 0.1741

Moon -1891-04-12 02:52 J 1030836.52 1030836.62 1030836.73 0.2632 0.1973

Earth -1891-04-12 03:50 J 1030836.58 1030836.66 1030836.75 0.2626 0.2201 *

Saturn -1891-05-23 22:47 J 1030878.36 1030878.45 1030878.54 0.0294 0.0216

Saturn -1891-08-20 11:31 J 1030966.85 1030966.98 1030967.11 0.0295 0.0073

Venus -1891-09-24 17:45 J 1031002.13 1031002.24 1031002.35 0.3692 0.2458

Saturn -1891-11-17 00:14 J 1031055.38 1031055.51 1031055.63 0.0295 0.0071

Saturn -1890-02-13 12:28 J 1031143.94 1031144.02 1031144.12 0.0296 0.0213

Uranus -1888-08-21 12:57 J 1032063.94 1032064.04 1032064.17 0.0143 0.0115

Moon -1888-10-10 19:26 J 1032114.20 1032114.31 1032114.41 0.2702 0.0479

Earth -1888-10-10 19:55 J 1032114.22 1032114.33 1032114.44 0.2706 0.0462 *

Uranus -1888-11-17 21:36 J 1032152.25 1032152.40 1032152.56 0.0143 0.0084

Uranus -1887-02-14 05:45 J 1032240.57 1032240.74 1032240.93 0.0143 0.0054

Uranus -1887-05-13 14:23 J 1032328.90 1032329.10 1032329.29 0.0142 0.0023

Uranus -1887-08-09 22:33 J 1032417.25 1032417.44 1032417.64 0.0142 0.0009

Uranus -1887-11-06 06:57 J 1032505.61 1032505.79 1032505.98 0.0142 0.0039

Uranus -1886-02-02 15:21 J 1032593.97 1032594.14 1032594.31 0.0142 0.0069

Uranus -1886-05-01 23:45 J 1032682.36 1032682.49 1032682.63 0.0142 0.0100

Jupiter -1886-07-25 06:28 J 1032766.58 1032766.77 1032766.95 0.0496 0.0070

Uranus -1886-07-29 07:55 J 1032770.77 1032770.83 1032770.92 0.0142 0.0131

Venus -1885-04-10 01:12 J 1033026.42 1033026.55 1033026.68 0.3690 0.1720

Mars -1883-02-08 19:26 J 1033696.21 1033696.31 1033696.41 0.1769 0.0876

Mars -1882-03-08 15:36 J 1034088.99 1034089.15 1034089.31 0.1773 0.0652

Mars -1881-01-15 02:38 J 1034401.54 1034401.61 1034401.68 0.1743 0.1336

Venus -1881-04-06 22:04 J 1034484.38 1034484.42 1034484.45 0.3677 0.3389

Jupiter -1880-03-27 14:09 J 1034838.97 1034839.09 1034839.21 0.0531 0.0210

Jupiter -1880-06-24 20:23 J 1034928.26 1034928.35 1034928.44 0.0529 0.0363

Saturn -1877-06-18 02:23 J 1036017.46 1036017.60 1036017.75 0.0266 0.0155

Saturn -1877-09-14 22:33 J 1036106.26 1036106.44 1036106.63 0.0266 0.0009

Saturn -1877-12-12 18:57 J 1036195.13 1036195.29 1036195.45 0.0265 0.0140

Venus -1876-10-21 14:09 J 1036508.00 1036508.09 1036508.18 0.3679 0.1878

Moon -1875-10-13 12:43 J 1036864.92 1036865.03 1036865.13 0.2707 0.0737

Earth -1875-10-13 13:26 J 1036864.95 1036865.06 1036865.16 0.2707 0.0898 *

Jupiter -1874-05-13 03:50 J 1037076.51 1037076.66 1037076.83 0.0496 0.0242

Mars -1874-07-02 05:16 J 1037126.66 1037126.72 1037126.79 0.1776 0.1450

Jupiter -1874-08-11 12:57 J 1037166.99 1037167.04 1037167.10 0.0497 0.0470

Mars -1873-07-28 12:14 J 1037518.85 1037519.01 1037519.18 0.1765 0.0398

Mars -1872-06-06 12:57 J 1037831.94 1037832.04 1037832.14 0.1749 0.0817

Venus -1870-05-07 06:14 J 1038531.65 1038531.76 1038531.86 0.3680 0.0417

Jupiter -1868-01-13 17:45 J 1039149.15 1039149.24 1039149.34 0.0531 0.0362

Jupiter -1868-04-13 00:14 J 1039238.40 1039238.51 1039238.63 0.0529 0.0216

Venus -1865-11-19 22:04 J 1040555.32 1040555.42 1040555.52 0.3681 0.1058

Mars -1864-12-18 09:21 J 1040948.79 1040948.89 1040948.98 0.1758 0.1416

Mars -1863-10-27 23:16 J 1041262.36 1041262.47 1041262.58 0.1756 0.0283

Jupiter -1862-03-01 01:26 J 1041386.47 1041386.56 1041386.67 0.0495 0.0413

Jupiter -1862-05-30 10:04 J 1041476.78 1041476.92 1041477.08 0.0497 0.0292

Saturn -1862-10-11 00:57 J 1041610.48 1041610.54 1041610.61 0.0294 0.0256

Moon -1862-10-16 06:14 J 1041615.70 1041615.76 1041615.82 0.2714 0.2226

Earth	-1862-10-16 06:43 J	1041615.72	1041615.78	1041615.84	0.2708	0.2236	*
Saturn	-1861-01-07 13:40 J	1041698.95	1041699.07	1041699.19	0.0295	0.0112	
Saturn	-1861-04-05 02:23 J	1041787.47	1041787.60	1041787.73	0.0296	0.0032	
Saturn	-1861-07-02 14:52 J	1041876.01	1041876.12	1041876.22	0.0296	0.0175	
Venus	-1859-06-05 13:55 J	1042579.00	1042579.08	1042579.16	0.3682	0.2483	
Moon	-1858-04-10 00:43 J	1042887.37	1042887.53	1042887.69	0.2630	0.0435	
Earth	-1858-04-10 02:23 J	1042887.44	1042887.60	1042887.76	0.2627	0.0171	*
Jupiter	-1857-11-01 21:36 J	1043459.37	1043459.40	1043459.43	0.0532	0.0512	
Jupiter	-1856-01-30 04:19 J	1043548.55	1043548.68	1043548.80	0.0530	0.0072	
Moon	-1855-10-09 07:12 J	1044165.71	1044165.80	1044165.89	0.2698	0.1512	
Earth	-1855-10-09 07:12 J	1044165.71	1044165.80	1044165.89	0.2705	0.1546	*
Mars	-1853-03-19 09:36 J	1044692.78	1044692.90	1044693.01	0.1763	0.0261	
Jupiter	-1850-03-18 07:12 J	1045786.62	1045786.80	1045786.98	0.0496	0.0111	
Saturn	-1848-11-05 03:21 J	1046749.52	1046749.64	1046749.77	0.0267	0.0187	
Saturn	-1847-02-01 23:31 J	1046838.30	1046838.48	1046838.67	0.0266	0.0040	
Saturn	-1847-05-01 19:55 J	1046927.16	1046927.33	1046927.50	0.0266	0.0109	
Saturn	-1847-07-29 16:19 J	1047016.14	1047016.18	1047016.23	0.0265	0.0257	
Jupiter	-1845-11-18 07:55 J	1047858.70	1047858.83	1047858.96	0.0531	0.0080	
Uranus	-1844-02-14 08:52 J	1047946.84	1047946.87	1047946.92	0.0135	0.0128	
Jupiter	-1844-02-15 13:55 J	1047948.04	1047948.08	1047948.13	0.0529	0.0489	
Uranus	-1844-05-13 12:00 J	1048034.93	1048035.00	1048035.08	0.0135	0.0111	
Uranus	-1844-08-09 15:07 J	1048123.04	1048123.13	1048123.23	0.0136	0.0093	
Mars	-1844-08-09 19:26 J	1048123.21	1048123.31	1048123.41	0.1769	0.0819	*
Uranus	-1844-11-05 18:14 J	1048211.16	1048211.26	1048211.37	0.0136	0.0075	
Uranus	-1843-02-01 21:21 J	1048299.27	1048299.39	1048299.51	0.0136	0.0057	
Uranus	-1843-05-01 00:28 J	1048387.40	1048387.52	1048387.65	0.0136	0.0039	
Uranus	-1843-07-28 03:36 J	1048475.52	1048475.65	1048475.78	0.0136	0.0021	
Mars	-1843-09-06 16:19 J	1048516.02	1048516.18	1048516.33	0.1773	0.0749	
Uranus	-1843-10-24 06:43 J	1048563.65	1048563.78	1048563.91	0.0136	0.0003	
Uranus	-1842-01-20 09:50 J	1048651.78	1048651.91	1048652.04	0.0136	0.0015	

Uranus -1842-04-18 12:43 J 1048739.91 1048740.03 1048740.16 0.0136 0.0034

Uranus -1842-07-15 15:50 J 1048828.04 1048828.16 1048828.29 0.0136 0.0051

Mars -1842-07-16 02:38 J 1048828.55 1048828.61 1048828.68 0.1743 0.1393

Uranus -1842-10-11 18:57 J 1048916.18 1048916.29 1048916.41 0.0137 0.0069

Moon -1842-10-12 00:00 J 1048916.40 1048916.50 1048916.61 0.2703 0.0338 *

Earth -1842-10-12 00:43 J 1048916.42 1048916.53 1048916.64 0.2706 0.0189 *

Uranus -1841-01-07 21:50 J 1049004.32 1049004.41 1049004.52 0.0137 0.0088

Uranus -1841-04-05 00:57 J 1049092.47 1049092.54 1049092.63 0.0137 0.0106

Uranus -1841-07-02 04:19 J 1049180.62 1049180.68 1049180.73 0.0137 0.0123

Jupiter -1838-01-04 04:33 J 1050096.51 1050096.69 1050096.87 0.0495 0.0067

Mars -1835-12-31 05:16 J 1051553.65 1051553.72 1051553.79 0.1776 0.1388

Venus -1834-05-01 19:26 J 1051675.17 1051675.31 1051675.46 0.3691 0.1154

Mars -1833-01-27 13:12 J 1051945.88 1051946.05 1051946.21 0.1765 0.0302

Jupiter -1833-09-06 12:00 J 1052168.89 1052169.00 1052169.12 0.0531 0.0222

Jupiter -1833-12-04 18:14 J 1052258.17 1052258.26 1052258.36 0.0530 0.0353

Mars -1833-12-05 12:57 J 1052258.94 1052259.04 1052259.14 0.1749 0.0872

Neptune -1832-01-08 09:21 J 1052292.84 1052292.89 1052292.99 0.0088 0.0080

Saturn -1832-02-27 04:04 J 1052342.64 1052342.67 1052342.70 0.0293 0.0285

Neptune -1832-04-06 13:12 J 1052380.94 1052381.05 1052381.16 0.0088 0.0070

Saturn -1832-05-26 16:47 J 1052431.08 1052431.20 1052431.32 0.0294 0.0142

Neptune -1832-07-03 16:19 J 1052469.05 1052469.18 1052469.33 0.0088 0.0061

Saturn -1832-08-23 05:31 J 1052519.59 1052519.73 1052519.86 0.0295 0.0008

Neptune -1832-09-29 19:55 J 1052557.18 1052557.33 1052557.48 0.0088 0.0051

Saturn -1832-11-19 18:00 J 1052608.13 1052608.25 1052608.36 0.0296 0.0144

Neptune -1832-12-26 23:02 J 1052645.30 1052645.46 1052645.64 0.0088 0.0042

Saturn -1831-02-16 06:14 J 1052696.73 1052696.76 1052696.80 0.0296 0.0286

Neptune -1831-03-25 02:38 J 1052733.43 1052733.61 1052733.78 0.0088 0.0032

Neptune -1831-06-21 05:45 J 1052821.56 1052821.74 1052821.93 0.0088 0.0023

Neptune -1831-09-17 09:21 J 1052909.70 1052909.89 1052910.08 0.0088 0.0013

Neptune -1831-12-14 12:43 J 1052997.84 1052998.03 1052998.22 0.0088 0.0004

Neptune -1830-03-12 16:04 J 1053085.98 1053086.17 1053086.36 0.0088 0.0006

Neptune -1830-06-08 19:26 J 1053174.12 1053174.31 1053174.50 0.0088 0.0016

Neptune -1830-09-04 22:47 J 1053262.27 1053262.45 1053262.64 0.0088 0.0025

Neptune -1830-12-02 02:09 J 1053350.42 1053350.59 1053350.77 0.0088 0.0035

Neptune -1829-02-28 05:31 J 1053438.57 1053438.73 1053438.90 0.0088 0.0045

Neptune -1829-05-26 08:38 J 1053526.73 1053526.86 1053527.03 0.0088 0.0055

Neptune -1829-08-22 12:28 J 1053614.90 1053615.02 1053615.16 0.0088 0.0064

Moon -1829-10-13 17:31 J 1053667.13 1053667.23 1053667.32 0.2708 0.1134

Earth -1829-10-13 18:00 J 1053667.16 1053667.25 1053667.35 0.2707 0.1172 *

Venus -1829-11-15 03:07 J 1053699.55 1053699.63 1053699.71 0.3690 0.3089

Neptune -1829-11-18 15:50 J 1053703.07 1053703.16 1053703.27 0.0088 0.0074

Neptune -1828-02-14 19:12 J 1053791.26 1053791.30 1053791.37 0.0088 0.0084

Jupiter -1827-10-23 01:12 J 1054406.40 1054406.55 1054406.71 0.0495 0.0249

Jupiter -1826-01-21 10:19 J 1054496.86 1054496.93 1054497.00 0.0497 0.0461

Earth -1825-04-07 00:43 J 1054938.49 1054938.53 1054938.58 0.2628 0.2526

Venus -1825-11-11 19:40 J 1055157.25 1055157.32 1055157.38 0.3678 0.2863

Mars -1824-06-18 10:04 J 1055375.81 1055375.92 1055376.03 0.1758 0.1314

Mars -1823-04-27 23:16 J 1055689.36 1055689.47 1055689.59 0.1756 0.0345

Earth -1822-10-07 18:28 J 1056217.25 1056217.27 1056217.29 0.2704 0.2631

Moon -1822-10-07 18:43 J 1056217.26 1056217.28 1056217.31 0.2697 0.2599 *

Jupiter -1821-06-25 16:19 J 1056479.08 1056479.18 1056479.27 0.0532 0.0364

Jupiter -1821-09-22 22:47 J 1056568.33 1056568.45 1056568.56 0.0530 0.0216

Venus -1819-05-28 11:45 J 1057180.89 1057180.99 1057181.09 0.3679 0.1371

Saturn -1818-03-25 02:38 J 1057481.53 1057481.61 1057481.71 0.0267 0.0230

Saturn -1818-06-21 22:47 J 1057570.28 1057570.45 1057570.63 0.0266 0.0084

Saturn -1818-09-18 19:12 J 1057659.12 1057659.30 1057659.48 0.0266 0.0064

Saturn -1818-12-16 15:21 J 1057748.04 1057748.14 1057748.26 0.0265 0.0212

Moon -1816-10-16 11:02 J 1058417.92 1058417.96 1058418.01 0.2715 0.2414

Earth -1816-10-16 11:31 J 1058417.94 1058417.98 1058418.01 0.2708 0.2514 *

Jupiter -1815-08-10 22:47 J 1058716.36 1058716.45 1058716.55 0.0495 0.0420

Jupiter -1815-11-09 07:26 J 1058806.66 1058806.81 1058806.96 0.0497 0.0283

Mars -1814-09-18 09:21 J 1059119.78 1059119.89 1059120.01 0.1763 0.0206

Venus -1814-12-12 03:50 J 1059204.55 1059204.66 1059204.76 0.3680 0.0175

Moon -1812-04-10 07:40 J 1059689.66 1059689.82 1059689.98 0.2631 0.0265

Earth -1812-04-10 09:07 J 1059689.72 1059689.88 1059690.04 0.2627 0.0395 *

Jupiter -1809-04-13 19:55 J 1060789.30 1060789.33 1060789.36 0.0532 0.0516

Jupiter -1809-07-12 02:38 J 1060878.48 1060878.61 1060878.73 0.0530 0.0069

Moon -1809-10-09 11:45 J 1060967.90 1060967.99 1060968.09 0.2699 0.1311

Earth -1809-10-09 12:00 J 1060967.90 1060968.00 1060968.09 0.2705 0.1270 *

Venus -1808-06-26 19:40 J 1061228.22 1061228.32 1061228.41 0.3681 0.1543

Mars -1804-02-07 19:26 J 1062550.21 1062550.31 1062550.42 0.1769 0.0757

Uranus -1804-06-14 13:55 J 1062677.02 1062677.08 1062677.17 0.0143 0.0132

Uranus -1804-09-10 22:19 J 1062765.30 1062765.43 1062765.57 0.0143 0.0101

Uranus -1804-12-08 06:43 J 1062853.62 1062853.78 1062853.95 0.0143 0.0071

Uranus -1803-03-06 15:07 J 1062941.95 1062942.13 1062942.32 0.0143 0.0040

Mars -1803-03-07 17:16 J 1062943.07 1062943.22 1062943.37 0.1773 0.0858

Uranus -1803-06-02 23:31 J 1063030.29 1063030.48 1063030.68 0.0142 0.0009

Jupiter -1803-08-28 04:47 J 1063116.52 1063116.70 1063116.88 0.0496 0.0106

Uranus -1803-08-30 07:55 J 1063118.64 1063118.83 1063119.02 0.0142 0.0022

Saturn -1803-10-13 18:57 J 1063163.19 1063163.29 1063163.40 0.0295 0.0180

Uranus -1803-11-26 16:19 J 1063207.00 1063207.18 1063207.36 0.0142 0.0052

Saturn -1802-01-10 07:40 J 1063251.69 1063251.82 1063251.95 0.0295 0.0036

Venus -1802-01-10 11:31 J 1063251.92 1063251.98 1063252.04 0.3683 0.2966 *

Mars -1802-01-14 02:38 J 1063255.55 1063255.61 1063255.67 0.1743 0.1445

Uranus -1802-02-23 00:28 J 1063295.37 1063295.52 1063295.69 0.0142 0.0083

Saturn -1802-04-08 20:09 J 1063340.22 1063340.34 1063340.47 0.0296 0.0107

Uranus -1802-05-22 08:52 J 1063383.76 1063383.87 1063384.00 0.0142 0.0114

Saturn -1802-07-06 08:38 J 1063428.80 1063428.86 1063428.93 0.0297 0.0250

Jupiter -1797-04-30 06:28 J 1065188.64 1065188.77 1065188.89 0.0531 0.0082

Jupiter -1797-07-28 12:28 J 1065277.97 1065278.02 1065278.06 0.0529 0.0487

Moon	-1796-10-12 04:47 J	1065718.59	1065718.70	1065718.81	0.2703	0.0042
Earth	-1796-10-12 05:31 J	1065718.62	1065718.73	1065718.83	0.2706	0.0118 *
Mars	-1795-07-01 05:16 J	1065980.65	1065980.72	1065980.80	0.1776	0.1329
Mars	-1794-07-28 13:40 J	1066372.90	1066373.07	1066373.24	0.1765	0.0208
Mars	-1793-06-05 13:12 J	1066685.95	1066686.05	1066686.14	0.1749	0.0934
Jupiter	-1791-06-16 02:09 J	1067426.41	1067426.59	1067426.77	0.0496	0.0071
Saturn	-1789-08-11 04:04 J	1068213.63	1068213.67	1068213.71	0.0267	0.0259
Saturn	-1789-11-08 00:00 J	1068302.34	1068302.50	1068302.67	0.0267	0.0114
Saturn	-1788-02-04 20:24 J	1068391.16	1068391.35	1068391.53	0.0266	0.0034
Saturn	-1788-05-04 16:33 J	1068480.06	1068480.19	1068480.33	0.0266	0.0183
Jupiter	-1785-02-17 09:50 J	1069498.80	1069498.91	1069499.03	0.0532	0.0236
Jupiter	-1785-05-16 16:04 J	1069588.08	1069588.17	1069588.27	0.0530	0.0340
Mars	-1785-12-17 10:47 J	1069802.83	1069802.95	1069803.07	0.1758	0.1217
Mars	-1784-10-26 23:16 J	1070116.36	1070116.47	1070116.58	0.1756	0.0399
Moon	-1783-10-14 22:19 J	1070469.34	1070469.43	1070469.52	0.2710	0.1299
Earth	-1783-10-14 22:47 J	1070469.36	1070469.45	1070469.54	0.2707	0.1444 *
Jupiter	-1779-04-03 23:31 J	1071736.32	1071736.48	1071736.63	0.0495	0.0246
Moon	-1779-04-08 06:00 J	1071740.66	1071740.75	1071740.83	0.2628	0.2210
Earth	-1779-04-08 07:40 J	1071740.71	1071740.82	1071740.93	0.2628	0.1958 *
Jupiter	-1779-07-03 08:09 J	1071826.78	1071826.84	1071826.91	0.0497	0.0461
Venus	-1778-12-06 21:07 J	1072348.23	1072348.38	1072348.53	0.3691	0.0157
Earth	-1776-10-07 23:16 J	1073019.42	1073019.47	1073019.52	0.2704	0.2354
Moon	-1776-10-07 23:31 J	1073019.43	1073019.48	1073019.54	0.2697	0.2283 *
Mars	-1774-03-19 09:21 J	1073546.78	1073546.89	1073547.01	0.1762	0.0154
Jupiter	-1774-12-06 13:55 J	1073808.99	1073809.08	1073809.17	0.0532	0.0380
Saturn	-1773-03-01 22:19 J	1073895.34	1073895.43	1073895.53	0.0294	0.0206
Jupiter	-1773-03-04 20:24 J	1073898.24	1073898.35	1073898.47	0.0530	0.0201
Saturn	-1773-05-29 11:16 J	1073983.84	1073983.97	1073984.10	0.0295	0.0063
Saturn	-1773-08-25 23:45 J	1074072.36	1074072.49	1074072.62	0.0295	0.0080
Saturn	-1773-11-22 12:14 J	1074160.93	1074161.01	1074161.10	0.0296	0.0222

Venus	-1768-06-18 17:16 J	1075830.14	1075830.22	1075830.30	0.3678	0.2358
Jupiter	-1767-01-20 20:09 J	1076046.25	1076046.34	1076046.43	0.0495	0.0428
Jupiter	-1767-04-21 04:33 J	1076136.54	1076136.69	1076136.85	0.0496	0.0272
Moon	-1766-04-11 14:38 J	1076491.95	1076492.11	1076492.26	0.2631	0.0773
Earth	-1766-04-11 16:04 J	1076492.02	1076492.17	1076492.32	0.2626	0.0976 *
Mars	-1765-08-08 19:26 J	1076977.21	1076977.31	1076977.42	0.1769	0.0701
Mars	-1764-09-05 18:00 J	1077370.11	1077370.25	1077370.39	0.1773	0.0957
Mars	-1763-07-15 02:38 J	1077682.55	1077682.61	1077682.67	0.1743	0.1500
Moon	-1763-10-10 16:19 J	1077770.08	1077770.18	1077770.28	0.2700	0.1051
Earth	-1763-10-10 16:47 J	1077770.10	1077770.20	1077770.30	0.2705	0.0993 *
Pluto	-1763-10-23 12:43 J	1077783.02	1077783.03	1077783.06	0.0072	0.0071
Venus	-1762-01-02 09:21 J	1077853.79	1077853.89	1077853.99	0.3679	0.0869
Pluto	-1762-01-19 13:55 J	1077871.01	1077871.08	1077871.15	0.0072	0.0062
Pluto	-1762-04-17 14:24 J	1077959.02	1077959.10	1077959.21	0.0072	0.0054
Pluto	-1762-07-14 15:35 J	1078047.05	1078047.15	1078047.27	0.0072	0.0045
Jupiter	-1762-09-24 18:00 J	1078119.23	1078119.25	1078119.28	0.0532	0.0522
Pluto	-1762-10-10 16:33 J	1078135.07	1078135.19	1078135.32	0.0072	0.0036
Jupiter	-1762-12-23 00:57 J	1078208.41	1078208.54	1078208.66	0.0530	0.0066
Pluto	-1761-01-06 17:31 J	1078223.11	1078223.23	1078223.37	0.0072	0.0027
Pluto	-1761-04-03 18:28 J	1078311.14	1078311.27	1078311.42	0.0072	0.0019
Pluto	-1761-06-30 19:40 J	1078399.18	1078399.32	1078399.47	0.0072	0.0009
Pluto	-1761-09-26 20:38 J	1078487.22	1078487.36	1078487.51	0.0073	0.0002
Pluto	-1761-12-23 21:35 J	1078575.26	1078575.40	1078575.55	0.0073	0.0010
Uranus	-1760-03-06 16:33 J	1078648.14	1078648.19	1078648.26	0.0135	0.0122
Pluto	-1760-03-21 22:33 J	1078663.31	1078663.44	1078663.59	0.0073	0.0019
Uranus	-1760-06-02 19:55 J	1078736.25	1078736.33	1078736.41	0.0135	0.0104
Pluto	-1760-06-17 23:45 J	1078751.36	1078751.49	1078751.63	0.0073	0.0028
Uranus	-1760-08-29 23:02 J	1078824.36	1078824.46	1078824.56	0.0136	0.0086
Pluto	-1760-09-14 00:28 J	1078839.41	1078839.52	1078839.66	0.0073	0.0038
Uranus	-1760-11-26 02:09 J	1078912.47	1078912.59	1078912.70	0.0136	0.0068

Pluto -1760-12-11 01:40 J 1078927.47 1078927.57 1078927.69 0.0073 0.0047

Uranus -1759-02-22 05:02 J 1079000.59 1079000.71 1079000.84 0.0136 0.0050

Pluto -1759-03-09 02:52 J 1079015.53 1079015.62 1079015.71 0.0073 0.0057

Saturn -1759-03-28 00:00 J 1079034.35 1079034.50 1079034.65 0.0267 0.0153

Uranus -1759-05-21 08:09 J 1079088.72 1079088.84 1079088.97 0.0136 0.0032

Pluto -1759-06-05 03:50 J 1079103.61 1079103.66 1079103.73 0.0073 0.0067

Saturn -1759-06-24 20:09 J 1079123.15 1079123.34 1079123.52 0.0266 0.0007

Uranus -1759-08-17 11:16 J 1079176.84 1079176.97 1079177.10 0.0136 0.0014

Saturn -1759-09-21 16:19 J 1079212.03 1079212.18 1079212.34 0.0266 0.0142

Uranus -1759-11-13 14:24 J 1079264.97 1079265.10 1079265.23 0.0136 0.0004

Uranus -1758-02-09 17:31 J 1079353.10 1079353.23 1079353.36 0.0136 0.0022

Uranus -1758-05-08 20:38 J 1079441.23 1079441.36 1079441.48 0.0136 0.0040

Uranus -1758-08-04 23:31 J 1079529.36 1079529.48 1079529.60 0.0136 0.0058

Uranus -1758-11-01 02:38 J 1079617.50 1079617.61 1079617.72 0.0137 0.0075

Uranus -1757-01-28 05:31 J 1079705.65 1079705.73 1079705.83 0.0137 0.0094

Uranus -1757-04-25 08:38 J 1079793.79 1079793.86 1079793.94 0.0137 0.0112

Venus -1757-07-18 01:12 J 1079877.45 1079877.55 1079877.66 0.3681 0.0599

Uranus -1757-07-22 11:31 J 1079881.96 1079881.98 1079882.03 0.0137 0.0130

Mars -1756-12-30 05:16 J 1080407.64 1080407.72 1080407.80 0.1776 0.1271

Jupiter -1755-02-07 01:55 J 1080446.40 1080446.58 1080446.76 0.0496 0.0095

Mars -1754-01-26 14:38 J 1080799.94 1080800.11 1080800.28 0.1766 0.0102

Mars -1754-12-05 12:57 J 1081112.95 1081113.04 1081113.14 0.1749 0.0983

Venus -1751-01-31 17:02 J 1081901.13 1081901.21 1081901.30 0.3682 0.2030

Neptune -1751-07-26 13:40 J 1082077.05 1082077.07 1082077.12 0.0089 0.0087

Neptune -1751-10-22 15:07 J 1082165.08 1082165.13 1082165.21 0.0089 0.0080

Neptune -1750-01-18 16:47 J 1082253.13 1082253.20 1082253.28 0.0089 0.0072

Neptune -1750-04-16 18:14 J 1082341.17 1082341.26 1082341.36 0.0089 0.0065

Neptune -1750-07-13 19:40 J 1082429.22 1082429.32 1082429.43 0.0089 0.0057

Neptune -1750-10-09 21:07 J 1082517.27 1082517.38 1082517.49 0.0089 0.0050

Jupiter -1750-10-11 04:33 J 1082518.57 1082518.69 1082518.82 0.0531 0.0088

Moon -1750-10-13 09:35 J 1082520.79 1082520.90 1082521.01 0.2703 0.0238

Earth -1750-10-13 10:19 J 1082520.82 1082520.93 1082521.03 0.2706 0.0377 *

Neptune -1749-01-05 22:19 J 1082605.33 1082605.43 1082605.56 0.0089 0.0044

Jupiter -1749-01-08 10:47 J 1082607.90 1082607.95 1082608.00 0.0529 0.0482

Neptune -1749-04-03 00:00 J 1082693.38 1082693.50 1082693.63 0.0089 0.0036

Neptune -1749-06-30 01:26 J 1082781.43 1082781.56 1082781.69 0.0089 0.0029

Neptune -1749-09-26 02:52 J 1082869.49 1082869.62 1082869.75 0.0089 0.0021

Neptune -1749-12-23 04:19 J 1082957.55 1082957.68 1082957.81 0.0089 0.0014

Neptune -1748-03-21 05:45 J 1083045.60 1083045.74 1083045.87 0.0089 0.0007

Neptune -1748-06-17 06:57 J 1083133.66 1083133.79 1083133.93 0.0089 0.0003

Neptune -1748-09-13 08:24 J 1083221.72 1083221.85 1083221.99 0.0089 0.0007

Neptune -1748-12-10 09:50 J 1083309.78 1083309.91 1083310.04 0.0089 0.0014

Neptune -1747-03-08 11:16 J 1083397.84 1083397.97 1083398.10 0.0089 0.0021

Neptune -1747-06-04 12:28 J 1083485.90 1083486.02 1083486.15 0.0089 0.0029

Neptune -1747-08-31 13:55 J 1083573.96 1083574.08 1083574.20 0.0089 0.0036

Neptune -1747-11-27 15:21 J 1083662.02 1083662.14 1083662.26 0.0089 0.0043

Neptune -1746-02-23 16:33 J 1083750.09 1083750.19 1083750.31 0.0089 0.0050

Neptune -1746-05-22 18:00 J 1083838.15 1083838.25 1083838.36 0.0089 0.0057

Venus -1746-08-17 08:52 J 1083924.84 1083924.87 1083924.91 0.3683 0.3439

Neptune -1746-08-18 19:12 J 1083926.22 1083926.30 1083926.40 0.0089 0.0064

Neptune -1746-11-14 20:38 J 1084014.29 1084014.36 1084014.45 0.0089 0.0071

Neptune -1745-02-10 22:04 J 1084102.36 1084102.42 1084102.49 0.0089 0.0078

Neptune -1745-05-08 23:16 J 1084190.44 1084190.47 1084190.52 0.0089 0.0085

Mars -1745-06-17 11:45 J 1084229.86 1084229.99 1084230.12 0.1758 0.1116

Mars -1744-04-26 23:16 J 1084543.36 1084543.47 1084543.58 0.1756 0.0458

Saturn -1744-07-20 00:43 J 1084627.46 1084627.53 1084627.60 0.0294 0.0244

Saturn -1744-10-16 13:26 J 1084715.93 1084716.06 1084716.18 0.0295 0.0101

Jupiter -1744-11-25 23:16 J 1084756.29 1084756.47 1084756.65 0.0496 0.0080

Saturn -1743-01-13 01:55 J 1084804.45 1084804.58 1084804.72 0.0296 0.0044

Saturn -1743-04-11 14:24 J 1084893.00 1084893.10 1084893.21 0.0296 0.0186

Jupiter	-1738-07-30 08:24 J	1086828.74	1086828.85	1086828.96	0.0531	0.0236
Jupiter	-1738-10-27 14:38 J	1086918.02	1086918.11	1086918.21	0.0529	0.0338
Moon	-1737-10-15 03:07 J	1087271.54	1087271.63	1087271.71	0.2711	0.1688
Earth	-1737-10-15 03:35 J	1087271.57	1087271.65	1087271.73	0.2707	0.1713 *
Mars	-1735-09-17 09:21 J	1087973.78	1087973.89	1087974.01	0.1762	0.0111
Moon	-1733-04-08 12:43 J	1088542.90	1088543.03	1088543.16	0.2630	0.1524
Earth	-1733-04-08 14:24 J	1088542.97	1088543.10	1088543.24	0.2628	0.1396 *
Jupiter	-1732-09-13 20:52 J	1089066.21	1089066.37	1089066.53	0.0495	0.0252
Jupiter	-1732-12-13 05:31 J	1089156.67	1089156.73	1089156.81	0.0497	0.0456
Saturn	-1730-08-15 01:12 J	1089766.42	1089766.55	1089766.69	0.0267	0.0183
Earth	-1730-10-09 04:04 J	1089821.60	1089821.67	1089821.74	0.2704	0.2077
Moon	-1730-10-09 04:19 J	1089821.61	1089821.68	1089821.74	0.2698	0.2082 *
Saturn	-1730-11-11 21:21 J	1089855.21	1089855.39	1089855.57	0.0266	0.0036
Saturn	-1729-02-08 17:31 J	1089944.07	1089944.23	1089944.40	0.0266	0.0112
Saturn	-1729-05-07 13:55 J	1090033.06	1090033.08	1090033.12	0.0265	0.0260
Venus	-1727-12-27 15:21 J	1090997.04	1090997.14	1090997.25	0.3692	0.2672
Jupiter	-1726-05-18 11:45 J	1091138.90	1091138.99	1091139.07	0.0532	0.0394
Jupiter	-1726-08-15 18:14 J	1091228.14	1091228.26	1091228.38	0.0530	0.0187
Mars	-1725-02-07 19:26 J	1091404.20	1091404.31	1091404.42	0.1769	0.0642
Mars	-1724-03-06 18:43 J	1091797.15	1091797.28	1091797.42	0.1774	0.1057
Mars	-1723-01-13 02:38 J	1092109.56	1092109.61	1092109.66	0.1742	0.1559
Venus	-1721-07-12 22:47 J	1093021.31	1093021.45	1093021.59	0.3690	0.1470
Moon	-1720-04-11 21:35 J	1093294.26	1093294.40	1093294.53	0.2631	0.1391
Earth	-1720-04-11 22:47 J	1093294.32	1093294.45	1093294.59	0.2626	0.1546 *
Jupiter	-1720-07-02 18:14 J	1093376.17	1093376.26	1093376.35	0.0495	0.0426
Uranus	-1720-07-04 22:33 J	1093378.35	1093378.44	1093378.56	0.0143	0.0120
Jupiter	-1720-10-01 02:38 J	1093466.46	1093466.61	1093466.76	0.0496	0.0273
Uranus	-1720-10-01 07:12 J	1093466.65	1093466.80	1093466.95	0.0143	0.0089 *
Uranus	-1720-12-28 15:21 J	1093554.97	1093555.14	1093555.33	0.0143	0.0059
Uranus	-1719-03-27 00:00 J	1093643.31	1093643.50	1093643.69	0.0143	0.0028

Uranus	-1719-06-23 08:24 J	1093731.65	1093731.85	1093732.04	0.0143	0.0004
Uranus	-1719-09-19 16:33 J	1093820.01	1093820.19	1093820.39	0.0142	0.0034
Uranus	-1719-12-17 00:57 J	1093908.37	1093908.54	1093908.72	0.0142	0.0065
Uranus	-1718-03-15 09:21 J	1093996.75	1093996.89	1093997.04	0.0142	0.0095
Uranus	-1718-06-11 17:31 J	1094085.16	1094085.23	1094085.34	0.0142	0.0127
Venus	-1717-07-09 22:33 J	1094479.40	1094479.44	1094479.49	0.3677	0.3349
Moon	-1717-10-10 21:07 J	1094572.28	1094572.38	1094572.48	0.2700	0.0753
Earth	-1717-10-10 21:35 J	1094572.29	1094572.40	1094572.50	0.2705	0.0716 *
Mars	-1716-06-30 05:16 J	1094834.64	1094834.72	1094834.81	0.1776	0.1212
Mars	-1715-07-27 15:35 J	1095226.98	1095227.15	1095227.32	0.1766	0.0009
Saturn	-1715-12-07 04:04 J	1095359.63	1095359.67	1095359.73	0.0294	0.0269
Saturn	-1714-03-05 17:02 J	1095448.09	1095448.21	1095448.33	0.0294	0.0126
Saturn	-1714-06-02 05:31 J	1095536.60	1095536.73	1095536.87	0.0295	0.0019
Jupiter	-1714-06-03 22:33 J	1095538.31	1095538.44	1095538.56	0.0531	0.0047
Mars	-1714-06-05 12:57 J	1095539.95	1095540.04	1095540.13	0.1749	0.1041
Saturn	-1714-08-29 18:00 J	1095625.15	1095625.25	1095625.37	0.0296	0.0160
Venus	-1711-01-23 14:52 J	1096503.03	1096503.12	1096503.21	0.3679	0.1845
Jupiter	-1708-07-19 22:47 J	1097776.27	1097776.45	1097776.63	0.0496	0.0084
Venus	-1706-08-09 06:57 J	1098526.68	1098526.79	1098526.89	0.3680	0.0383
Mars	-1706-12-17 12:28 J	1098656.88	1098657.02	1098657.15	0.1758	0.1023
Mars	-1705-10-25 23:16 J	1098970.36	1098970.47	1098970.58	0.1756	0.0513
Moon	-1704-10-13 14:24 J	1099322.99	1099323.10	1099323.20	0.2705	0.0564
Earth	-1704-10-13 14:52 J	1099323.02	1099323.12	1099323.23	0.2706	0.0652 *
Jupiter	-1702-03-23 02:52 J	1099848.49	1099848.62	1099848.74	0.0531	0.0092
Jupiter	-1702-06-20 08:52 J	1099937.82	1099937.87	1099937.92	0.0529	0.0477
Saturn	-1700-01-01 01:40 J	1100498.47	1100498.57	1100498.68	0.0267	0.0218
Venus	-1700-02-21 22:47 J	1100550.35	1100550.45	1100550.55	0.3681	0.1084
Saturn	-1700-03-30 21:35 J	1100587.23	1100587.40	1100587.58	0.0266	0.0072
Saturn	-1700-06-27 17:45 J	1100676.07	1100676.24	1100676.42	0.0266	0.0076
Saturn	-1700-09-24 14:09 J	1100765.00	1100765.09	1100765.20	0.0265	0.0223

Jupiter -1696-05-07 20:09 J 1102086.16 1102086.34 1102086.52 0.0496 0.0092

Mars -1695-03-18 09:21 J 1102400.78 1102400.89 1102401.01 0.1762 0.0041

Venus -1695-09-07 14:38 J 1102574.04 1102574.11 1102574.19 0.3682 0.2509

Moon -1691-10-16 07:40 J 1104073.75 1104073.82 1104073.90 0.2712 0.1870

Earth -1691-10-16 08:24 J 1104073.78 1104073.85 1104073.92 0.2707 0.1990 *

Jupiter -1690-01-09 06:43 J 1104158.66 1104158.78 1104158.89 0.0531 0.0241

Jupiter -1690-04-08 12:57 J 1104247.94 1104248.04 1104248.14 0.0529 0.0333

Moon -1687-04-09 19:40 J 1105345.17 1105345.32 1105345.46 0.2630 0.1141

Earth -1687-04-09 21:21 J 1105345.23 1105345.39 1105345.54 0.2628 0.0826 *

Mars -1686-08-08 19:26 J 1105831.20 1105831.31 1105831.42 0.1769 0.0583

Saturn -1685-07-22 18:57 J 1106180.18 1106180.29 1106180.40 0.0295 0.0166

Mars -1685-09-04 19:40 J 1106224.19 1106224.32 1106224.45 0.1774 0.1165

Saturn -1685-10-19 07:40 J 1106268.69 1106268.82 1106268.95 0.0295 0.0023

Saturn -1684-01-15 20:09 J 1106357.22 1106357.34 1106357.46 0.0296 0.0121

Jupiter -1684-02-23 17:45 J 1106396.09 1106396.24 1106396.40 0.0495 0.0264

Saturn -1684-04-14 08:38 J 1106445.81 1106445.86 1106445.92 0.0297 0.0263

Jupiter -1684-05-25 02:38 J 1106486.53 1106486.61 1106486.69 0.0497 0.0444

Mars -1684-07-14 02:38 J 1106536.57 1106536.61 1106536.65 0.1743 0.1611

Moon -1684-10-09 08:52 J 1106623.79 1106623.87 1106623.95 0.2698 0.1740

Earth -1684-10-09 08:52 J 1106623.79 1106623.87 1106623.95 0.2704 0.1798 *

Jupiter -1679-10-28 10:19 J 1108468.84 1108468.93 1108469.02 0.0532 0.0392

Jupiter -1678-01-25 16:47 J 1108558.08 1108558.20 1108558.32 0.0530 0.0187

Pluto -1677-03-20 19:55 J 1108978.25 1108978.33 1108978.43 0.0073 0.0062

Pluto -1677-06-16 21:35 J 1109066.29 1109066.40 1109066.54 0.0072 0.0051

Pluto -1677-09-12 23:31 J 1109154.34 1109154.48 1109154.63 0.0072 0.0040

Pluto -1677-12-10 01:26 J 1109242.40 1109242.56 1109242.72 0.0072 0.0028

Uranus -1677-12-28 21:21 J 1109261.37 1109261.39 1109261.42 0.0135 0.0132

Mars -1677-12-29 05:31 J 1109261.64 1109261.73 1109261.81 0.1775 0.1147

Pluto -1676-03-08 03:07 J 1109330.46 1109330.63 1109330.80 0.0072 0.0017

Uranus -1676-03-27 00:28 J 1109349.46 1109349.52 1109349.59 0.0135 0.0115

Pluto -1676-06-04 04:47 J 1109418.53 1109418.70 1109418.88 0.0072 0.0007

Uranus -1676-06-23 03:35 J 1109437.56 1109437.65 1109437.74 0.0135 0.0097

Pluto -1676-08-31 06:43 J 1109506.60 1109506.78 1109506.95 0.0072 0.0004

Uranus -1676-09-19 06:43 J 1109525.67 1109525.78 1109525.89 0.0136 0.0079

Pluto -1676-11-27 08:24 J 1109594.68 1109594.85 1109595.02 0.0072 0.0015

Uranus -1676-12-16 09:35 J 1109613.79 1109613.90 1109614.03 0.0136 0.0062

Mars -1675-01-25 16:04 J 1109654.00 1109654.17 1109654.34 0.1766 0.0095

Pluto -1675-02-23 09:50 J 1109682.76 1109682.91 1109683.09 0.0072 0.0026

Uranus -1675-03-14 12:43 J 1109701.91 1109702.03 1109702.16 0.0136 0.0044

Pluto -1675-05-22 11:31 J 1109770.84 1109770.98 1109771.14 0.0071 0.0036

Uranus -1675-06-10 15:50 J 1109790.04 1109790.16 1109790.30 0.0136 0.0026

Pluto -1675-08-18 13:12 J 1109858.93 1109859.05 1109859.19 0.0071 0.0047

Uranus -1675-09-06 18:57 J 1109878.16 1109878.29 1109878.43 0.0136 0.0009

Pluto -1675-11-14 15:07 J 1109947.03 1109947.13 1109947.24 0.0071 0.0057

Uranus -1675-12-03 22:04 J 1109966.29 1109966.42 1109966.55 0.0136 0.0010

Mars -1675-12-04 12:57 J 1109966.96 1109967.04 1109967.13 0.1749 0.1102

Pluto -1674-02-10 16:19 J 1110035.14 1110035.18 1110035.26 0.0071 0.0067

Uranus -1674-03-02 01:12 J 1110054.42 1110054.55 1110054.68 0.0136 0.0028

Moon -1674-04-13 04:47 J 1110096.60 1110096.70 1110096.80 0.2631 0.2028

Earth -1674-04-13 05:45 J 1110096.65 1110096.74 1110096.84 0.2626 0.2122 *

Uranus -1674-05-29 04:04 J 1110142.55 1110142.67 1110142.80 0.0136 0.0047

Uranus -1674-08-25 07:12 J 1110230.69 1110230.80 1110230.92 0.0136 0.0064

Uranus -1674-11-21 10:04 J 1110318.83 1110318.92 1110319.04 0.0136 0.0083

Uranus -1673-02-17 13:26 J 1110406.97 1110407.06 1110407.15 0.0137 0.0100

Uranus -1673-05-15 16:19 J 1110495.12 1110495.18 1110495.25 0.0137 0.0118

Uranus -1673-08-11 19:26 J 1110583.30 1110583.31 1110583.33 0.0137 0.0136

Jupiter -1673-12-12 15:35 J 1110706.07 1110706.15 1110706.24 0.0495 0.0433

Jupiter -1672-03-13 00:00 J 1110796.34 1110796.50 1110796.66 0.0496 0.0267

Saturn -1671-05-21 02:38 J 1111230.56 1111230.61 1111230.68 0.0267 0.0249

Saturn -1671-08-17 22:47 J 1111319.28 1111319.45 1111319.62 0.0266 0.0103

Moon -1671-10-12 01:55 J 1111374.47 1111374.58 1111374.68 0.2700 0.0539

Earth -1671-10-12 02:24 J 1111374.49 1111374.60 1111374.70 0.2706 0.0440 *

Saturn -1671-11-14 18:57 J 1111408.11 1111408.29 1111408.47 0.0266 0.0044

Saturn -1670-02-11 15:07 J 1111497.01 1111497.13 1111497.27 0.0265 0.0191

Venus -1670-08-03 17:02 J 1111670.07 1111670.21 1111670.35 0.3692 0.1389

Neptune -1668-10-05 06:57 J 1112463.72 1112463.79 1112463.88 0.0088 0.0079

Neptune -1667-01-01 10:04 J 1112551.82 1112551.92 1112552.05 0.0088 0.0070

Neptune -1667-03-30 13:40 J 1112639.94 1112640.07 1112640.21 0.0088 0.0060

Mars -1667-05-21 15:07 J 1112692.11 1112692.13 1112692.15 0.1783 0.1736

Neptune -1667-06-26 16:47 J 1112728.06 1112728.20 1112728.37 0.0088 0.0051

Neptune -1667-09-22 20:24 J 1112816.18 1112816.35 1112816.52 0.0088 0.0041

Jupiter -1667-11-13 20:24 J 1112868.22 1112868.35 1112868.47 0.0531 0.0035

Neptune -1667-12-19 23:31 J 1112904.31 1112904.48 1112904.67 0.0088 0.0032

Neptune -1666-03-18 03:07 J 1112992.45 1112992.63 1112992.82 0.0088 0.0022

Neptune -1666-06-14 06:28 J 1113080.58 1113080.77 1113080.96 0.0088 0.0013

Mars -1666-06-17 13:26 J 1113083.91 1113084.06 1113084.20 0.1759 0.0918

Neptune -1666-09-10 09:50 J 1113168.72 1113168.91 1113169.10 0.0088 0.0003

Neptune -1666-12-07 13:12 J 1113256.86 1113257.05 1113257.24 0.0088 0.0006

Neptune -1665-03-04 16:33 J 1113345.00 1113345.19 1113345.38 0.0088 0.0016

Mars -1665-04-25 23:16 J 1113397.36 1113397.47 1113397.58 0.1755 0.0571

Neptune -1665-05-31 19:55 J 1113433.15 1113433.33 1113433.52 0.0088 0.0026

Neptune -1665-08-27 23:31 J 1113521.30 1113521.48 1113521.65 0.0088 0.0035

Neptune -1665-11-24 02:38 J 1113609.45 1113609.61 1113609.78 0.0088 0.0045

Venus -1664-02-17 00:28 J 1113694.42 1113694.52 1113694.62 0.3690 0.2806

Neptune -1664-02-20 06:00 J 1113697.61 1113697.75 1113697.91 0.0088 0.0055

Neptune -1664-05-19 09:07 J 1113785.78 1113785.88 1113786.03 0.0088 0.0065

Neptune -1664-08-15 12:57 J 1113873.95 1113874.04 1113874.15 0.0088 0.0074

Neptune -1664-11-11 16:19 J 1113962.14 1113962.18 1113962.25 0.0088 0.0084

Jupiter -1661-12-29 21:07 J 1115106.20 1115106.38 1115106.56 0.0496 0.0087

Venus -1660-02-13 20:24 J 1115152.28 1115152.35 1115152.41 0.3678 0.2833

Moon -1658-10-14 19:12 J 1116125.19 1116125.30 1116125.40 0.2707 0.0841

Earth -1658-10-14 19:40 J 1116125.22 1116125.32 1116125.42 0.2707 0.0920 *

Mars -1656-09-16 09:21 J 1116827.78 1116827.89 1116828.01 0.1762 0.0034

Saturn -1656-12-09 22:33 J 1116912.34 1116912.44 1116912.54 0.0294 0.0191

Saturn -1655-03-08 11:16 J 1117000.84 1117000.97 1117001.10 0.0295 0.0048

Saturn -1655-06-04 23:45 J 1117089.37 1117089.49 1117089.62 0.0295 0.0095

Venus -1655-08-30 12:28 J 1117175.92 1117176.02 1117176.12 0.3679 0.1338

Saturn -1655-09-01 12:14 J 1117177.94 1117178.01 1117178.09 0.0296 0.0237

Jupiter -1655-09-02 00:28 J 1117178.39 1117178.52 1117178.65 0.0531 0.0108

Jupiter -1655-11-30 06:43 J 1117267.72 1117267.78 1117267.84 0.0529 0.0462

Venus -1649-03-15 04:33 J 1119199.58 1119199.69 1119199.79 0.3680 0.0199

Jupiter -1649-10-17 17:16 J 1119416.04 1119416.22 1119416.40 0.0496 0.0103

Mars -1646-02-06 19:26 J 1120258.20 1120258.31 1120258.42 0.1769 0.0526

Mars -1645-03-05 20:24 J 1120651.24 1120651.35 1120651.47 0.1774 0.1268

Moon -1645-10-16 12:28 J 1120875.97 1120876.02 1120876.08 0.2712 0.2228

Earth -1645-10-16 13:12 J 1120875.99 1120876.05 1120876.10 0.2708 0.2267 *

Mars -1644-01-12 02:38 J 1120963.58 1120963.61 1120963.64 0.1742 0.1668

Venus -1644-09-28 20:24 J 1121223.26 1121223.35 1121223.44 0.3681 0.1573

Jupiter -1643-06-21 04:47 J 1121488.59 1121488.70 1121488.82 0.0531 0.0247

Jupiter -1643-09-18 11:16 J 1121577.87 1121577.97 1121578.06 0.0530 0.0329

Saturn -1641-01-04 23:31 J 1122051.32 1122051.48 1122051.64 0.0266 0.0136

Saturn -1641-04-02 19:40 J 1122140.13 1122140.32 1122140.50 0.0266 0.0011

Moon -1641-04-10 02:24 J 1122147.44 1122147.60 1122147.76 0.2630 0.0366

Earth -1641-04-10 04:04 J 1122147.51 1122147.67 1122147.84 0.2627 0.0266 *

Saturn -1641-06-30 15:50 J 1122229.01 1122229.16 1122229.31 0.0265 0.0157

Venus -1638-04-14 12:14 J 1123246.95 1123247.01 1123247.07 0.3682 0.2990

Moon -1638-10-10 13:26 J 1123425.98 1123426.06 1123426.15 0.2698 0.1593

Earth -1638-10-10 13:40 J 1123425.98 1123426.07 1123426.16 0.2704 0.1518 *

Mars -1637-06-29 05:16 J 1123688.63 1123688.72 1123688.81 0.1776 0.1095

Jupiter -1637-08-05 14:52 J 1123725.97 1123726.12 1123726.27 0.0495 0.0276

Jupiter -1637-11-03 23:31 J 1123816.39 1123816.48 1123816.57 0.0497 0.0432

Uranus -1636-04-27 22:47 J 1123991.42 1123991.45 1123991.50 0.0143 0.0139

Uranus -1636-07-25 06:57 J 1124079.68 1124079.79 1124079.93 0.0143 0.0109

Mars -1636-07-26 17:02 J 1124081.04 1124081.21 1124081.38 0.1766 0.0206

Uranus -1636-10-21 15:35 J 1124167.99 1124168.15 1124168.31 0.0143 0.0078

Uranus -1635-01-18 00:00 J 1124256.32 1124256.50 1124256.68 0.0143 0.0047

Uranus -1635-04-16 08:24 J 1124344.66 1124344.85 1124345.04 0.0143 0.0017

Mars -1635-06-04 12:57 J 1124393.96 1124394.04 1124394.13 0.1749 0.1152

Uranus -1635-07-13 16:47 J 1124433.00 1124433.20 1124433.39 0.0143 0.0014

Uranus -1635-10-10 00:57 J 1124521.36 1124521.54 1124521.73 0.0142 0.0045

Uranus -1634-01-06 09:35 J 1124609.73 1124609.90 1124610.06 0.0142 0.0076

Uranus -1634-04-04 17:45 J 1124698.12 1124698.24 1124698.38 0.0142 0.0107

Uranus -1634-07-02 02:09 J 1124786.55 1124786.59 1124786.65 0.0142 0.0137

Jupiter -1631-04-09 08:38 J 1125798.78 1125798.86 1125798.95 0.0532 0.0396

Jupiter -1631-07-07 15:07 J 1125888.02 1125888.13 1125888.25 0.0530 0.0185

Moon -1628-04-13 11:45 J 1126898.96 1126898.99 1126899.03 0.2632 0.2548

Mars -1628-11-19 15:07 J 1127119.10 1127119.13 1127119.17 0.1782 0.1672

Mars -1627-12-16 13:55 J 1127510.93 1127511.08 1127511.23 0.1758 0.0828

Saturn -1626-04-29 00:14 J 1127644.43 1127644.51 1127644.59 0.0294 0.0236

Saturn -1626-07-26 12:57 J 1127732.91 1127733.04 1127733.16 0.0295 0.0092

Saturn -1626-10-23 01:40 J 1127821.44 1127821.57 1127821.70 0.0296 0.0052

Mars -1626-10-25 23:16 J 1127824.36 1127824.47 1127824.57 0.1756 0.0626

Saturn -1625-01-19 14:09 J 1127909.99 1127910.09 1127910.19 0.0296 0.0194

Jupiter -1625-05-24 12:28 J 1128035.95 1128036.02 1128036.11 0.0495 0.0445

Jupiter -1625-08-22 20:52 J 1128126.22 1128126.37 1128126.53 0.0497 0.0255

Moon -1625-10-12 06:28 J 1128176.67 1128176.77 1128176.88 0.2701 0.0220

Earth -1625-10-12 07:12 J 1128176.69 1128176.80 1128176.90 0.2706 0.0188 *

Jupiter -1619-04-25 19:12 J 1130198.17 1130198.30 1130198.42 0.0530 0.0042

Mars -1616-03-17 09:35 J 1131254.78 1131254.90 1131255.01 0.1762 0.0109

Venus -1613-03-09 18:43 J 1132343.13 1132343.28 1132343.43 0.3691 0.0092

Jupiter -1613-06-10 18:28 J 1132436.09 1132436.27 1132436.46 0.0496 0.0082

Saturn -1612-05-24 00:00 J 1132783.37 1132783.50 1132783.65 0.0266 0.0171

Saturn -1612-08-20 20:09 J 1132872.16 1132872.34 1132872.53 0.0266 0.0025

Moon -1612-10-14 23:45 J 1132927.39 1132927.49 1132927.59 0.2708 0.1066

Earth -1612-10-15 00:28 J 1132927.43 1132927.52 1132927.62 0.2707 0.1194 *

Saturn -1612-11-17 16:19 J 1132961.02 1132961.18 1132961.35 0.0265 0.0123

Earth -1608-04-08 02:52 J 1134198.60 1134198.62 1134198.64 0.2629 0.2600

Jupiter -1607-02-11 22:33 J 1134508.31 1134508.44 1134508.56 0.0531 0.0118

Jupiter -1607-05-12 04:33 J 1134597.63 1134597.69 1134597.76 0.0529 0.0453

Mars -1607-08-07 19:26 J 1134685.20 1134685.31 1134685.42 0.1769 0.0468

Mars -1606-09-04 21:07 J 1135078.28 1135078.38 1135078.49 0.1774 0.1366

Mars -1605-07-13 02:38 J 1135390.60 1135390.61 1135390.62 0.1742 0.1724

Earth -1605-10-08 00:57 J 1135477.51 1135477.54 1135477.56 0.2703 0.2604

Moon -1605-10-08 01:12 J 1135477.53 1135477.55 1135477.58 0.2698 0.2594 *

Venus -1604-09-20 18:00 J 1135825.17 1135825.25 1135825.33 0.3678 0.2313

Jupiter -1601-03-29 15:50 J 1136745.98 1136746.16 1136746.34 0.0495 0.0096

Moon -1599-10-17 17:31 J 1137678.19 1137678.23 1137678.27 0.2713 0.2478

Earth -1599-10-17 17:45 J 1137678.21 1137678.24 1137678.28 0.2708 0.2541 *

Venus -1598-04-06 10:04 J 1137848.82 1137848.92 1137849.02 0.3679 0.0827

Mars -1598-12-29 05:31 J 1138115.63 1138115.73 1138115.82 0.1775 0.1033

Saturn -1597-09-15 03:21 J 1138376.59 1138376.64 1138376.71 0.0294 0.0263

Saturn -1597-12-12 16:19 J 1138465.06 1138465.18 1138465.30 0.0295 0.0119

Mars -1596-01-24 17:45 J 1138508.08 1138508.24 1138508.41 0.1766 0.0308

Saturn -1596-03-11 05:02 J 1138553.58 1138553.71 1138553.84 0.0295 0.0024

Saturn -1596-06-07 17:31 J 1138642.12 1138642.23 1138642.34 0.0296 0.0166

Jupiter -1596-12-01 02:38 J 1138818.50 1138818.61 1138818.72 0.0532 0.0262

Mars -1596-12-03 12:57 J 1138820.96 1138821.04 1138821.12 0.1749 0.1208

Jupiter -1595-02-28 08:52 J 1138907.77 1138907.87 1138907.98 0.0530 0.0316

Moon -1595-04-11 09:35 J 1138949.73 1138949.90 1138950.06 0.2630 0.0058

Earth -1595-04-11 11:02 J 1138949.80 1138949.96 1138950.12 0.2627 0.0327 *

Venus -1593-10-20 02:09 J 1139872.48 1139872.59 1139872.69 0.3680 0.0648

Uranus -1592-01-18 05:02 J 1139962.67 1139962.71 1139962.76 0.0135 0.0125

Uranus -1592-04-16 07:55 J 1140050.77 1140050.83 1140050.92 0.0135 0.0109

Uranus -1592-07-13 11:16 J 1140138.87 1140138.97 1140139.07 0.0135 0.0090

Uranus -1592-10-09 14:24 J 1140226.99 1140227.10 1140227.21 0.0135 0.0072

Moon -1592-10-10 18:14 J 1140228.16 1140228.26 1140228.35 0.2697 0.1209

Earth -1592-10-10 18:28 J 1140228.17 1140228.27 1140228.36 0.2704 0.1243 *

Uranus -1591-01-05 17:31 J 1140315.11 1140315.23 1140315.35 0.0136 0.0055

Uranus -1591-04-03 20:38 J 1140403.23 1140403.36 1140403.48 0.0136 0.0037

Uranus -1591-06-30 23:31 J 1140491.36 1140491.48 1140491.62 0.0136 0.0020

Uranus -1591-09-27 02:38 J 1140579.48 1140579.61 1140579.74 0.0136 0.0003

Uranus -1591-12-24 05:45 J 1140667.61 1140667.74 1140667.87 0.0136 0.0017

Uranus -1590-03-22 08:38 J 1140755.74 1140755.86 1140755.99 0.0136 0.0035

Uranus -1590-06-18 12:00 J 1140843.87 1140844.00 1140844.12 0.0136 0.0053

Uranus -1590-09-14 14:52 J 1140932.01 1140932.12 1140932.23 0.0136 0.0070

Uranus -1590-12-11 17:45 J 1141020.15 1141020.24 1141020.35 0.0136 0.0089

Jupiter -1589-01-16 12:00 J 1141055.85 1141056.00 1141056.15 0.0495 0.0284

Uranus -1589-03-08 20:52 J 1141108.30 1141108.37 1141108.46 0.0136 0.0106

Jupiter -1589-04-15 20:38 J 1141146.27 1141146.36 1141146.46 0.0497 0.0422

Uranus -1589-06-05 00:00 J 1141196.45 1141196.50 1141196.56 0.0137 0.0124

Mars -1588-05-20 15:07 J 1141546.08 1141546.13 1141546.17 0.1782 0.1617

Venus -1587-05-05 18:00 J 1141896.16 1141896.25 1141896.33 0.3682 0.2062

Mars -1587-06-16 14:52 J 1141937.97 1141938.12 1141938.27 0.1759 0.0722

Neptune -1586-04-22 12:43 J 1142248.01 1142248.03 1142248.07 0.0089 0.0087

Mars -1586-04-25 23:16 J 1142251.36 1142251.47 1142251.58 0.1755 0.0685

Neptune -1586-07-19 14:09 J 1142336.04 1142336.09 1142336.16 0.0089 0.0079

Neptune -1586-10-15 15:21 J 1142424.08 1142424.14 1142424.23 0.0089 0.0073

Neptune -1585-01-11 16:47 J 1142512.12 1142512.20 1142512.31 0.0089 0.0066

Neptune -1585-04-08 18:28 J 1142600.17 1142600.27 1142600.38 0.0089 0.0058

Neptune -1585-07-05 19:55 J 1142688.22 1142688.33 1142688.45 0.0089 0.0051

Neptune -1585-10-01 21:21 J 1142776.28 1142776.39 1142776.51 0.0089 0.0043

Neptune -1585-12-28 22:47 J 1142864.33 1142864.45 1142864.58 0.0089 0.0036

Neptune -1584-03-27 00:14 J 1142952.39 1142952.51 1142952.64 0.0089 0.0029

Neptune -1584-06-23 01:40 J 1143040.44 1143040.57 1143040.70 0.0089 0.0022

Neptune -1584-09-19 03:07 J 1143128.50 1143128.63 1143128.76 0.0089 0.0015

Jupiter -1584-09-19 06:57 J 1143128.71 1143128.79 1143128.87 0.0532 0.0401 *

Neptune -1584-12-16 04:33 J 1143216.55 1143216.69 1143216.82 0.0089 0.0008

Jupiter -1584-12-17 13:26 J 1143217.95 1143218.06 1143218.18 0.0530 0.0182

Neptune -1583-03-14 06:00 J 1143304.61 1143304.75 1143304.88 0.0089 0.0002

Neptune -1583-06-10 07:12 J 1143392.67 1143392.80 1143392.94 0.0089 0.0008

Neptune -1583-09-06 08:38 J 1143480.73 1143480.86 1143480.99 0.0089 0.0014

Saturn -1583-10-11 00:57 J 1143515.43 1143515.54 1143515.66 0.0267 0.0202

Neptune -1583-12-03 10:04 J 1143568.79 1143568.92 1143569.05 0.0089 0.0021

Saturn -1582-01-07 20:52 J 1143604.19 1143604.37 1143604.55 0.0266 0.0057

Neptune -1582-03-01 11:16 J 1143656.85 1143656.97 1143657.10 0.0089 0.0029

Saturn -1582-04-06 17:02 J 1143693.04 1143693.21 1143693.39 0.0265 0.0089

Neptune -1582-05-28 12:43 J 1143744.91 1143745.03 1143745.16 0.0089 0.0035

Saturn -1582-07-04 13:12 J 1143781.98 1143782.05 1143782.14 0.0265 0.0236

Neptune -1582-08-24 14:09 J 1143832.98 1143833.09 1143833.21 0.0089 0.0042

Venus -1582-11-19 09:50 J 1143919.88 1143919.91 1143919.94 0.3683 0.3469

Neptune -1582-11-20 15:21 J 1143921.04 1143921.14 1143921.26 0.0089 0.0050

Neptune -1581-02-16 16:47 J 1144009.10 1144009.20 1144009.31 0.0089 0.0057

Neptune -1581-05-14 18:14 J 1144097.17 1144097.26 1144097.36 0.0089 0.0063

Neptune -1581-08-10 19:26 J 1144185.24 1144185.31 1144185.40 0.0089 0.0071

Neptune -1581-11-06 20:52 J 1144273.31 1144273.37 1144273.44 0.0089 0.0078

Neptune -1580-02-02 22:04 J 1144361.39 1144361.42 1144361.48 0.0089 0.0085

Moon -1579-10-13 11:16 J 1144978.86 1144978.97 1144979.08 0.2703 0.0039

Earth -1579-10-13 12:00 J 1144978.89 1144979.00 1144979.10 0.2706 0.0166 *

Jupiter -1578-11-04 09:50 J 1145365.84 1145365.91 1145365.98 0.0495 0.0454

Mars -1578-11-06 12:14 J 1145367.98 1145368.01 1145368.05 0.1751 0.1709

Jupiter	-1577-02-02 18:00 J	1145456.09	1145456.25	1145456.41	0.0496	0.0245	
Mars	-1577-09-15 09:21 J	1145681.78	1145681.89	1145682.00	0.1762	0.0142	
Jupiter	-1572-10-05 17:31 J	1147528.11	1147528.23	1147528.36	0.0530	0.0040	
Mars	-1567-02-05 19:26 J	1149112.20	1149112.31	1149112.43	0.1769	0.0409	
Saturn	-1567-05-01 17:31 J	1149197.13	1149197.23	1149197.35	0.0295	0.0167	
Saturn	-1567-07-29 06:28 J	1149285.63	1149285.77	1149285.90	0.0296	0.0025	
Saturn	-1567-10-25 18:57 J	1149374.17	1149374.29	1149374.41	0.0296	0.0120	
Saturn	-1566-01-22 07:26 J	1149462.75	1149462.81	1149462.87	0.0297	0.0262	
Mars	-1566-03-05 22:04 J	1149505.33	1149505.42	1149505.51	0.1774	0.1472	
Moon	-1566-10-16 04:33 J	1149729.60	1149729.69	1149729.78	0.2708	0.1409	
Earth	-1566-10-16 05:16 J	1149729.63	1149729.72	1149729.81	0.2707	0.1469	*
Jupiter	-1566-11-21 15:35 J	1149765.97	1149766.15	1149766.33	0.0496	0.0071	
Venus	-1562-03-31 13:12 J	1150991.96	1150992.05	1150992.15	0.3692	0.2845	
Moon	-1562-04-09 07:40 J	1151000.75	1151000.82	1151000.90	0.2629	0.2324	
Earth	-1562-04-09 09:35 J	1151000.80	1151000.90	1151001.00	0.2629	0.2031	*
Jupiter	-1560-07-24 21:21 J	1151838.27	1151838.39	1151838.52	0.0531	0.0112	
Jupiter	-1560-10-22 03:35 J	1151927.59	1151927.65	1151927.71	0.0529	0.0459	
Moon	-1559-10-09 06:00 J	1152279.69	1152279.75	1152279.80	0.2697	0.2260	
Earth	-1559-10-09 05:45 J	1152279.69	1152279.74	1152279.79	0.2703	0.2329	*
Mars	-1558-06-29 05:16 J	1152542.63	1152542.72	1152542.82	0.1775	0.0976	
Mars	-1557-07-25 18:28 J	1152935.11	1152935.27	1152935.43	0.1766	0.0397	
Venus	-1557-10-14 20:24 J	1153016.21	1153016.35	1153016.49	0.3691	0.1233	
Mars	-1556-06-03 12:57 J	1153247.96	1153248.04	1153248.12	0.1749	0.1269	
Jupiter	-1554-09-09 13:26 J	1154075.88	1154076.06	1154076.24	0.0496	0.0099	
Saturn	-1553-02-28 00:57 J	1154247.47	1154247.54	1154247.62	0.0267	0.0241	
Saturn	-1553-05-26 20:52 J	1154336.21	1154336.37	1154336.55	0.0266	0.0096	
Saturn	-1553-08-23 17:02 J	1154425.03	1154425.21	1154425.40	0.0266	0.0051	
Venus	-1553-10-11 23:31 J	1154474.43	1154474.48	1154474.52	0.3677	0.3299	
Saturn	-1553-11-20 13:26 J	1154513.94	1154514.06	1154514.18	0.0265	0.0197	
Uranus	-1552-05-18 06:00 J	1154692.69	1154692.75	1154692.84	0.0143	0.0132	

Uranus -1552-08-14 14:38 J 1154780.98 1154781.11 1154781.25 0.0143 0.0101

Uranus -1552-11-10 22:47 J 1154869.29 1154869.45 1154869.63 0.0143 0.0071

Uranus -1551-02-07 07:12 J 1154957.62 1154957.80 1154957.99 0.0143 0.0040

Uranus -1551-05-06 15:35 J 1155045.96 1155046.15 1155046.35 0.0143 0.0010

Uranus -1551-08-03 00:00 J 1155134.31 1155134.50 1155134.70 0.0143 0.0022

Uranus -1551-10-30 08:24 J 1155222.67 1155222.85 1155223.03 0.0143 0.0053

Uranus -1550-01-26 16:33 J 1155311.05 1155311.19 1155311.36 0.0142 0.0084

Uranus -1550-04-25 00:57 J 1155399.44 1155399.54 1155399.67 0.0142 0.0114

Moon -1549-04-11 16:33 J 1155752.04 1155752.19 1155752.34 0.2631 0.0833

Earth -1549-04-11 18:00 J 1155752.09 1155752.25 1155752.40 0.2627 0.0893 *

Mars -1549-11-18 15:07 J 1155973.08 1155973.13 1155973.18 0.1782 0.1556

Jupiter -1548-05-13 00:43 J 1156148.43 1156148.53 1156148.65 0.0531 0.0268

Jupiter -1548-08-10 07:12 J 1156237.70 1156237.80 1156237.90 0.0530 0.0310

Mars -1548-12-15 15:35 J 1156364.99 1156365.15 1156365.31 0.1759 0.0624

Venus -1547-04-27 15:35 J 1156498.06 1156498.15 1156498.24 0.3678 0.1798

Mars -1547-10-24 23:16 J 1156678.36 1156678.47 1156678.57 0.1755 0.0740

Moon -1546-10-11 23:02 J 1157030.36 1157030.46 1157030.56 0.2698 0.1052

Earth -1546-10-11 23:16 J 1157030.37 1157030.47 1157030.57 0.2705 0.0965 *

Jupiter -1542-06-28 10:47 J 1158385.80 1158385.95 1158386.11 0.0495 0.0273

Jupiter -1542-09-26 19:40 J 1158476.23 1158476.32 1158476.41 0.0497 0.0434

Venus -1542-11-11 07:40 J 1158521.71 1158521.82 1158521.92 0.3680 0.0326

Mars -1538-05-07 13:12 J 1159794.99 1159795.05 1159795.11 0.1752 0.1610

Saturn -1538-09-18 20:24 J 1159929.26 1159929.35 1159929.46 0.0294 0.0198

Saturn -1538-12-16 09:21 J 1160017.76 1160017.89 1160018.02 0.0295 0.0055

Saturn -1537-03-13 21:50 J 1160106.29 1160106.41 1160106.54 0.0296 0.0089

Mars -1537-03-16 09:21 J 1160108.78 1160108.89 1160109.01 0.1762 0.0205

Saturn -1537-06-10 10:19 J 1160194.86 1160194.93 1160195.02 0.0296 0.0231

Jupiter -1536-03-01 04:47 J 1160458.62 1160458.70 1160458.78 0.0532 0.0411

Venus -1536-05-26 23:31 J 1160545.38 1160545.48 1160545.58 0.3681 0.1125

Jupiter -1536-05-29 11:31 J 1160547.86 1160547.98 1160548.10 0.0530 0.0171

Moon	-1533-10-13 16:04 J	1161781.06	1161781.17	1161781.27	0.2704	0.0376
Earth	-1533-10-13 16:33 J	1161781.09	1161781.19	1161781.30	0.2706	0.0403 *
Venus	-1531-12-10 15:35 J	1162569.07	1162569.15	1162569.22	0.3682	0.2546
Jupiter	-1530-04-16 07:12 J	1162695.74	1162695.80	1162695.87	0.0495	0.0459
Jupiter	-1530-07-15 15:21 J	1162785.99	1162786.14	1162786.31	0.0496	0.0239
Mars	-1528-08-06 19:26 J	1163539.20	1163539.31	1163539.42	0.1768	0.0352
Mars	-1527-09-03 22:47 J	1163932.38	1163932.45	1163932.53	0.1774	0.1574
Jupiter	-1524-03-17 16:04 J	1164858.04	1164858.17	1164858.30	0.0531	0.0036
Saturn	-1524-10-13 21:50 J	1165068.25	1165068.41	1165068.57	0.0266	0.0128
Saturn	-1523-01-10 17:45 J	1165157.06	1165157.24	1165157.43	0.0266	0.0018
Saturn	-1523-04-09 13:55 J	1165245.94	1165246.08	1165246.23	0.0265	0.0164
Moon	-1520-10-16 09:21 J	1166531.81	1166531.89	1166531.98	0.2709	0.1610
Earth	-1520-10-16 10:04 J	1166531.84	1166531.92	1166532.00	0.2707	0.1746 *
Mars	-1519-12-28 05:16 J	1166969.63	1166969.72	1166969.82	0.1775	0.0918
Jupiter	-1518-05-03 12:57 J	1167095.86	1167096.04	1167096.23	0.0496	0.0065
Mars	-1517-01-24 19:26 J	1167362.15	1167362.31	1167362.47	0.1767	0.0505
Mars	-1517-12-02 12:57 J	1167674.97	1167675.04	1167675.11	0.1748	0.1320
Pluto	-1516-03-13 01:55 J	1167775.58	1167775.58	1167775.63	0.0072	0.0071
Moon	-1516-04-09 14:38 J	1167802.98	1167803.11	1167803.23	0.2629	0.1648
Earth	-1516-04-09 16:19 J	1167803.05	1167803.18	1167803.32	0.2629	0.1473 *
Pluto	-1516-06-09 03:07 J	1167863.57	1167863.63	1167863.71	0.0072	0.0062
Pluto	-1516-09-05 04:04 J	1167951.59	1167951.67	1167951.78	0.0072	0.0053
Pluto	-1516-12-02 05:02 J	1168039.61	1168039.71	1168039.83	0.0072	0.0044
Pluto	-1515-02-28 06:14 J	1168127.64	1168127.76	1168127.89	0.0072	0.0035
Pluto	-1515-05-27 07:12 J	1168215.67	1168215.80	1168215.93	0.0072	0.0026
Pluto	-1515-08-23 08:09 J	1168303.70	1168303.84	1168303.98	0.0072	0.0017
Pluto	-1515-11-19 09:07 J	1168391.74	1168391.88	1168392.03	0.0072	0.0008
Pluto	-1514-02-15 10:04 J	1168479.78	1168479.92	1168480.07	0.0073	0.0002
Pluto	-1514-05-14 11:02 J	1168567.82	1168567.96	1168568.11	0.0073	0.0010
Pluto	-1514-08-10 12:00 J	1168655.87	1168656.00	1168656.15	0.0073	0.0020

Pluto -1514-11-06 12:57 J 1168743.92 1168744.04 1168744.18 0.0073 0.0029

Pluto -1513-02-02 14:09 J 1168831.97 1168832.09 1168832.22 0.0073 0.0038

Pluto -1513-04-30 14:52 J 1168920.03 1168920.12 1168920.24 0.0073 0.0048

Pluto -1513-07-27 16:04 J 1169008.09 1169008.17 1169008.27 0.0073 0.0058

Moon -1513-10-09 10:33 J 1169081.87 1169081.94 1169082.01 0.2696 0.2041

Earth -1513-10-09 10:33 J 1169081.87 1169081.94 1169082.01 0.2703 0.2050 *

Pluto -1513-10-23 17:02 J 1169096.17 1169096.21 1169096.28 0.0073 0.0067

Jupiter -1512-01-03 20:09 J 1169168.22 1169168.34 1169168.47 0.0531 0.0107

Jupiter -1512-04-03 02:24 J 1169257.54 1169257.60 1169257.66 0.0529 0.0463

Mars -1509-05-19 15:07 J 1170400.07 1170400.13 1170400.19 0.1782 0.1493

Saturn -1508-02-04 21:21 J 1170661.33 1170661.39 1170661.47 0.0294 0.0249

Uranus -1508-02-07 12:57 J 1170663.98 1170664.04 1170664.10 0.0135 0.0118

Saturn -1508-05-04 10:19 J 1170749.80 1170749.93 1170750.05 0.0295 0.0106

Uranus -1508-05-06 16:04 J 1170752.08 1170752.17 1170752.26 0.0135 0.0101

Mars -1508-06-15 16:19 J 1170792.02 1170792.18 1170792.34 0.1759 0.0528

Saturn -1508-07-31 23:02 J 1170838.33 1170838.46 1170838.59 0.0296 0.0038

Uranus -1508-08-02 18:57 J 1170840.19 1170840.29 1170840.40 0.0135 0.0083

Saturn -1508-10-28 11:31 J 1170926.88 1170926.98 1170927.09 0.0296 0.0180

Uranus -1508-10-29 22:04 J 1170928.31 1170928.42 1170928.54 0.0135 0.0065

Uranus -1507-01-26 01:12 J 1171016.43 1171016.55 1171016.68 0.0136 0.0048

Uranus -1507-04-24 04:19 J 1171104.55 1171104.68 1171104.81 0.0136 0.0030

Mars -1507-04-24 23:16 J 1171105.37 1171105.47 1171105.57 0.1755 0.0799

Uranus -1507-07-21 07:26 J 1171192.68 1171192.81 1171192.94 0.0136 0.0012

Uranus -1507-10-17 10:33 J 1171280.81 1171280.94 1171281.07 0.0136 0.0006

Uranus -1506-01-13 13:26 J 1171368.94 1171369.06 1171369.19 0.0136 0.0024

Jupiter -1506-02-19 10:47 J 1171405.77 1171405.95 1171406.13 0.0496 0.0106

Uranus -1506-04-11 16:33 J 1171457.07 1171457.19 1171457.32 0.0136 0.0042

Uranus -1506-07-08 19:40 J 1171545.20 1171545.32 1171545.44 0.0136 0.0059

Uranus -1506-10-04 22:33 J 1171633.34 1171633.44 1171633.55 0.0136 0.0078

Venus -1506-11-05 14:52 J 1171664.98 1171665.12 1171665.25 0.3692 0.1582

Uranus -1505-01-01 01:40 J 1171721.48 1171721.57 1171721.67 0.0136 0.0095

Uranus -1505-03-29 04:47 J 1171809.63 1171809.70 1171809.77 0.0136 0.0113

Uranus -1505-06-25 07:55 J 1171897.80 1171897.83 1171897.86 0.0137 0.0131

Moon -1503-04-12 23:45 J 1172554.35 1172554.49 1172554.63 0.2632 0.1257

Earth -1503-04-13 00:43 J 1172554.40 1172554.53 1172554.67 0.2627 0.1470 *

Neptune -1503-07-02 03:50 J 1172634.60 1172634.66 1172634.76 0.0088 0.0079

Neptune -1503-09-28 07:40 J 1172722.71 1172722.82 1172722.93 0.0088 0.0069

Neptune -1503-12-25 10:33 J 1172810.82 1172810.94 1172811.09 0.0088 0.0060

Neptune -1502-03-23 13:55 J 1172898.94 1172899.08 1172899.25 0.0088 0.0051

Neptune -1502-06-19 17:31 J 1172987.07 1172987.23 1172987.40 0.0088 0.0041

Neptune -1502-09-15 20:38 J 1173075.19 1173075.36 1173075.55 0.0088 0.0032

Neptune -1502-12-13 00:14 J 1173163.33 1173163.51 1173163.70 0.0088 0.0022

Neptune -1501-03-10 03:35 J 1173251.46 1173251.65 1173251.84 0.0088 0.0013

Neptune -1501-06-06 06:57 J 1173339.60 1173339.79 1173339.98 0.0088 0.0003

Neptune -1501-09-02 10:19 J 1173427.74 1173427.93 1173428.12 0.0088 0.0007

Jupiter -1501-10-23 00:00 J 1173478.39 1173478.50 1173478.61 0.0531 0.0255

Neptune -1501-11-29 13:40 J 1173515.88 1173516.07 1173516.26 0.0088 0.0016

Jupiter -1500-01-20 06:28 J 1173567.67 1173567.77 1173567.87 0.0529 0.0321

Neptune -1500-02-25 16:47 J 1173604.03 1173604.20 1173604.39 0.0088 0.0026

Venus -1500-05-21 22:04 J 1173689.31 1173689.42 1173689.53 0.3690 0.2553

Neptune -1500-05-24 20:09 J 1173692.18 1173692.34 1173692.53 0.0088 0.0036

Neptune -1500-08-20 23:45 J 1173780.33 1173780.49 1173780.66 0.0088 0.0045

Moon -1500-10-12 03:35 J 1173832.55 1173832.65 1173832.76 0.2699 0.0693

Earth -1500-10-12 04:04 J 1173832.56 1173832.67 1173832.77 0.2705 0.0691 *

Neptune -1500-11-17 02:52 J 1173868.49 1173868.62 1173868.79 0.0088 0.0055

Neptune -1499-02-13 06:14 J 1173956.65 1173956.76 1173956.91 0.0088 0.0065

Neptune -1499-05-12 09:50 J 1174044.82 1174044.91 1174045.02 0.0088 0.0074

Neptune -1499-08-08 13:12 J 1174133.01 1174133.05 1174133.12 0.0088 0.0084

Mars -1499-11-05 13:40 J 1174221.99 1174222.07 1174222.15 0.1752 0.1526

Mars -1498-09-15 09:21 J 1174535.78 1174535.89 1174536.01 0.1762 0.0265

Venus	-1496-05-18 21:07 J	1175147.31	1175147.38	1175147.44	0.3678	0.2784
Jupiter	-1495-12-08 08:52 J	1175715.72	1175715.87	1175716.02	0.0495	0.0273
Saturn	-1494-03-02 21:07 J	1175800.24	1175800.38	1175800.52	0.0266	0.0171
Jupiter	-1494-03-08 17:31 J	1175806.15	1175806.23	1175806.32	0.0497	0.0435
Saturn	-1494-05-30 17:02 J	1175889.03	1175889.21	1175889.40	0.0266	0.0027
Saturn	-1494-08-27 13:12 J	1175977.89	1175978.05	1175978.22	0.0265	0.0120
Venus	-1491-12-02 13:12 J	1177170.95	1177171.05	1177171.15	0.3679	0.1292
Jupiter	-1489-08-11 03:21 J	1177788.56	1177788.64	1177788.72	0.0532	0.0412
Jupiter	-1489-11-08 10:04 J	1177877.80	1177877.92	1177878.04	0.0530	0.0170
Mars	-1488-02-04 19:26 J	1177966.20	1177966.31	1177966.42	0.1768	0.0292
Mars	-1487-03-04 23:45 J	1178359.43	1178359.49	1178359.54	0.1775	0.1676
Moon	-1487-10-14 20:38 J	1178583.26	1178583.36	1178583.47	0.2705	0.0512
Earth	-1487-10-14 21:21 J	1178583.29	1178583.39	1178583.50	0.2706	0.0672 *
Venus	-1485-06-17 05:16 J	1179194.61	1179194.72	1179194.82	0.3680	0.0209
Jupiter	-1483-09-26 06:28 J	1180025.70	1180025.77	1180025.86	0.0495	0.0443
Jupiter	-1483-12-25 14:52 J	1180115.96	1180116.12	1180116.27	0.0496	0.0256
Venus	-1480-12-31 21:07 J	1181218.29	1181218.38	1181218.47	0.3681	0.1605
Saturn	-1479-06-25 00:00 J	1181393.47	1181393.50	1181393.54	0.0294	0.0284
Mars	-1479-06-28 05:16 J	1181396.62	1181396.72	1181396.83	0.1775	0.0859
Saturn	-1479-09-21 12:57 J	1181481.92	1181482.04	1181482.16	0.0295	0.0140
Saturn	-1479-12-19 01:40 J	1181570.44	1181570.57	1181570.70	0.0295	0.0004
Saturn	-1478-03-17 14:09 J	1181658.98	1181659.09	1181659.21	0.0296	0.0145
Saturn	-1478-06-14 02:38 J	1181747.59	1181747.61	1181747.64	0.0297	0.0287
Mars	-1478-07-25 20:24 J	1181789.19	1181789.35	1181789.51	0.1767	0.0612
Mars	-1477-06-02 12:57 J	1182101.97	1182102.04	1182102.11	0.1748	0.1377
Jupiter	-1477-08-27 14:24 J	1182187.97	1182188.10	1182188.22	0.0531	0.0033
Venus	-1474-07-17 12:57 J	1183241.98	1183242.04	1183242.10	0.3682	0.3010
Moon	-1474-10-17 14:09 J	1183334.02	1183334.09	1183334.16	0.2711	0.2009
Earth	-1474-10-17 14:52 J	1183334.05	1183334.12	1183334.19	0.2707	0.2023 *
Jupiter	-1471-10-13 10:47 J	1184425.77	1184425.95	1184426.14	0.0496	0.0064

Moon -1470-04-10 21:35 J 1184605.25 1184605.40 1184605.54 0.2630 0.1120

Earth -1470-04-10 23:16 J 1184605.32 1184605.47 1184605.62 0.2628 0.0902 *

Mars -1470-11-18 15:07 J 1184827.06 1184827.13 1184827.20 0.1782 0.1440

Mars -1469-12-14 17:02 J 1185219.05 1185219.21 1185219.37 0.1759 0.0432

Uranus -1468-06-07 13:55 J 1185393.99 1185394.08 1185394.19 0.0143 0.0123

Uranus -1468-09-03 22:33 J 1185482.29 1185482.44 1185482.58 0.0143 0.0092

Mars -1468-10-23 23:16 J 1185532.37 1185532.47 1185532.57 0.1755 0.0854

Uranus -1468-12-01 06:43 J 1185570.61 1185570.78 1185570.96 0.0143 0.0062

Uranus -1467-02-27 15:07 J 1185658.94 1185659.13 1185659.32 0.0143 0.0031

Uranus -1467-05-26 23:31 J 1185747.29 1185747.48 1185747.67 0.0143 0.0000

Uranus -1467-08-23 07:55 J 1185835.64 1185835.83 1185836.02 0.0143 0.0031

Moon -1467-10-10 15:21 J 1185884.06 1185884.14 1185884.22 0.2696 0.1759

Earth -1467-10-10 15:21 J 1185884.06 1185884.14 1185884.22 0.2704 0.1772 *

Uranus -1467-11-19 16:04 J 1185924.00 1185924.17 1185924.35 0.0143 0.0062

Uranus -1466-02-16 00:28 J 1186012.38 1186012.52 1186012.68 0.0142 0.0092

Uranus -1466-05-15 09:07 J 1186100.78 1186100.88 1186100.98 0.0142 0.0123

Jupiter -1465-06-15 18:43 J 1186498.16 1186498.28 1186498.41 0.0531 0.0107

Saturn -1465-07-19 21:35 J 1186532.29 1186532.40 1186532.52 0.0267 0.0205

Jupiter -1465-09-13 00:57 J 1186587.48 1186587.54 1186587.60 0.0529 0.0466

Saturn -1465-10-16 17:31 J 1186621.06 1186621.23 1186621.41 0.0266 0.0060

Saturn -1464-01-13 13:40 J 1186709.90 1186710.07 1186710.25 0.0266 0.0086

Saturn -1464-04-12 09:50 J 1186798.83 1186798.91 1186799.00 0.0265 0.0232

Mars -1459-05-06 14:38 J 1188649.02 1188649.11 1188649.21 0.1752 0.1417

Jupiter -1459-08-01 08:38 J 1188735.68 1188735.86 1188736.04 0.0496 0.0108

Mars -1458-03-16 09:21 J 1188962.78 1188962.89 1188963.00 0.1762 0.0315

Moon -1457-04-13 06:28 J 1189356.67 1189356.77 1189356.87 0.2633 0.1984

Earth -1457-04-13 07:26 J 1189356.71 1189356.81 1189356.92 0.2627 0.2035 *

Moon -1454-10-13 08:09 J 1190634.74 1190634.84 1190634.95 0.2700 0.0507

Earth -1454-10-13 08:38 J 1190634.76 1190634.86 1190634.97 0.2705 0.0420 *

Jupiter -1453-04-03 23:02 J 1190808.34 1190808.46 1190808.57 0.0531 0.0249

Jupiter	-1453-07-02 05:16 J	1190897.62	1190897.72	1190897.82	0.0530	0.0328
Saturn	-1449-02-08 13:26 J	1192213.96	1192214.06	1192214.16	0.0294	0.0195
Saturn	-1449-05-07 02:09 J	1192302.46	1192302.59	1192302.72	0.0295	0.0053
Venus	-1449-06-11 16:19 J	1192338.03	1192338.18	1192338.33	0.3691	0.0309
Saturn	-1449-08-03 14:52 J	1192391.00	1192391.12	1192391.25	0.0296	0.0090
Mars	-1449-08-05 19:26 J	1192393.20	1192393.31	1192393.43	0.1768	0.0236
Saturn	-1449-10-31 03:21 J	1192479.56	1192479.64	1192479.72	0.0296	0.0232
Jupiter	-1447-05-20 06:28 J	1193045.62	1193045.77	1193045.93	0.0495	0.0277
Jupiter	-1447-08-18 15:07 J	1193136.05	1193136.13	1193136.23	0.0497	0.0431
Jupiter	-1441-01-22 02:52 J	1195118.53	1195118.62	1195118.70	0.0532	0.0396
Jupiter	-1441-04-20 09:21 J	1195207.77	1195207.89	1195208.01	0.0530	0.0186
Moon	-1441-10-15 01:26 J	1195385.46	1195385.56	1195385.66	0.2705	0.0904
Earth	-1441-10-15 02:09 J	1195385.49	1195385.59	1195385.69	0.2706	0.0947 *
Venus	-1440-12-23 18:43 J	1195820.20	1195820.28	1195820.36	0.3678	0.2271
Mars	-1440-12-27 05:31 J	1195823.62	1195823.73	1195823.83	0.1775	0.0798
Mars	-1438-01-23 20:38 J	1196216.21	1196216.36	1196216.52	0.1767	0.0695
Mars	-1438-12-02 12:57 J	1196528.98	1196529.04	1196529.10	0.1748	0.1434
Saturn	-1436-12-06 20:24 J	1197264.30	1197264.35	1197264.40	0.0267	0.0253
Saturn	-1435-03-05 16:04 J	1197353.01	1197353.17	1197353.34	0.0266	0.0109
Jupiter	-1435-03-08 04:47 J	1197355.62	1197355.70	1197355.79	0.0495	0.0440
Saturn	-1435-06-02 12:14 J	1197441.83	1197442.01	1197442.19	0.0266	0.0037
Jupiter	-1435-06-06 12:57 J	1197445.89	1197446.04	1197446.20	0.0497	0.0260
Saturn	-1435-08-30 08:24 J	1197530.72	1197530.85	1197530.99	0.0265	0.0183
Venus	-1434-07-09 10:47 J	1197843.85	1197843.95	1197844.05	0.3679	0.0802
Pluto	-1431-08-09 07:55 J	1198970.76	1198970.83	1198970.92	0.0073	0.0064
Pluto	-1431-11-05 09:35 J	1199058.80	1199058.90	1199059.04	0.0072	0.0053
Pluto	-1430-02-01 11:31 J	1199146.85	1199146.98	1199147.13	0.0072	0.0041
Pluto	-1430-04-30 13:26 J	1199234.91	1199235.06	1199235.23	0.0072	0.0030
Mars	-1430-05-19 15:07 J	1199254.06	1199254.13	1199254.20	0.1782	0.1379
Pluto	-1430-07-27 15:07 J	1199322.97	1199323.13	1199323.31	0.0072	0.0019

Pluto -1430-10-23 17:02 J 1199411.04 1199411.21 1199411.39 0.0072 0.0008

Pluto -1429-01-19 18:57 J 1199499.11 1199499.29 1199499.46 0.0072 0.0003

Jupiter -1429-02-07 12:57 J 1199517.92 1199518.04 1199518.17 0.0530 0.0040

Pluto -1429-04-16 20:24 J 1199587.19 1199587.35 1199587.53 0.0072 0.0014

Mars -1429-06-14 18:00 J 1199646.09 1199646.25 1199646.42 0.1760 0.0325

Pluto -1429-07-13 22:04 J 1199675.27 1199675.42 1199675.60 0.0072 0.0025

Pluto -1429-10-10 00:00 J 1199763.35 1199763.50 1199763.65 0.0071 0.0035

Pluto -1428-01-06 01:26 J 1199851.44 1199851.56 1199851.71 0.0071 0.0045

Venus -1428-01-22 02:52 J 1199867.51 1199867.62 1199867.72 0.3680 0.0675

Pluto -1428-04-04 03:21 J 1199939.54 1199939.64 1199939.75 0.0071 0.0056

Mars -1428-04-23 23:16 J 1199959.37 1199959.47 1199959.56 0.1755 0.0912

Pluto -1428-07-01 04:33 J 1200027.65 1200027.69 1200027.78 0.0071 0.0066

Moon -1428-10-17 19:12 J 1200136.24 1200136.30 1200136.36 0.2712 0.2178

Earth -1428-10-17 19:40 J 1200136.26 1200136.32 1200136.37 0.2707 0.2300 *

Uranus -1425-12-01 17:31 J 1201277.20 1201277.23 1201277.28 0.0135 0.0129

Uranus -1424-02-27 20:38 J 1201365.30 1201365.36 1201365.44 0.0135 0.0111

Moon -1424-04-11 04:33 J 1201407.53 1201407.69 1201407.85 0.2631 0.0547

Earth -1424-04-11 06:00 J 1201407.59 1201407.75 1201407.92 0.2628 0.0335 *

Uranus -1424-05-26 23:45 J 1201453.40 1201453.49 1201453.59 0.0135 0.0094

Uranus -1424-08-23 02:52 J 1201541.52 1201541.62 1201541.73 0.0135 0.0076

Uranus -1424-11-19 06:00 J 1201629.63 1201629.75 1201629.87 0.0135 0.0058

Uranus -1423-02-15 09:07 J 1201717.76 1201717.88 1201718.01 0.0136 0.0040

Jupiter -1423-03-25 10:33 J 1201755.76 1201755.94 1201756.12 0.0496 0.0084

Uranus -1423-05-14 12:14 J 1201805.88 1201806.01 1201806.14 0.0136 0.0023

Venus -1423-08-07 18:43 J 1201891.19 1201891.28 1201891.36 0.3681 0.2083

Uranus -1423-08-10 15:21 J 1201894.00 1201894.14 1201894.27 0.0136 0.0006

Uranus -1423-11-06 18:14 J 1201982.13 1201982.26 1201982.39 0.0136 0.0014

Uranus -1422-02-02 21:21 J 1202070.26 1202070.39 1202070.52 0.0136 0.0031

Uranus -1422-05-02 00:28 J 1202158.40 1202158.52 1202158.64 0.0136 0.0049

Uranus -1422-07-29 03:35 J 1202246.53 1202246.65 1202246.76 0.0136 0.0067

Uranus -1422-10-25 06:28 J 1202334.67 1202334.77 1202334.88 0.0136 0.0084

Neptune -1421-01-17 11:16 J 1202418.96 1202418.97 1202419.01 0.0089 0.0088

Uranus -1421-01-21 09:21 J 1202422.82 1202422.89 1202422.99 0.0136 0.0103

Neptune -1421-04-14 12:43 J 1202506.99 1202507.03 1202507.10 0.0089 0.0080

Uranus -1421-04-18 12:43 J 1202510.97 1202511.03 1202511.09 0.0136 0.0120

Neptune -1421-07-11 14:24 J 1202595.03 1202595.10 1202595.18 0.0089 0.0073

Neptune -1421-10-07 15:50 J 1202683.07 1202683.16 1202683.25 0.0089 0.0066

Moon -1421-10-10 20:09 J 1202686.25 1202686.34 1202686.43 0.2697 0.1477

Earth -1421-10-10 20:09 J 1202686.25 1202686.34 1202686.43 0.2704 0.1496 *

Neptune -1420-01-03 17:02 J 1202771.12 1202771.21 1202771.32 0.0089 0.0059

Neptune -1420-04-01 18:28 J 1202859.17 1202859.27 1202859.39 0.0089 0.0052

Saturn -1420-06-27 15:35 J 1202946.07 1202946.15 1202946.23 0.0294 0.0235

Neptune -1420-06-28 20:09 J 1202947.23 1202947.34 1202947.46 0.0089 0.0044

Saturn -1420-09-24 04:33 J 1203034.56 1203034.69 1203034.81 0.0295 0.0092

Neptune -1420-09-24 21:35 J 1203035.28 1203035.40 1203035.52 0.0089 0.0037

Mars -1420-11-04 15:21 J 1203076.03 1203076.14 1203076.25 0.1752 0.1324

Saturn -1420-12-21 17:02 J 1203123.08 1203123.21 1203123.34 0.0295 0.0052

Neptune -1420-12-21 23:02 J 1203123.33 1203123.46 1203123.59 0.0089 0.0029 *

Neptune -1419-03-20 00:28 J 1203211.39 1203211.52 1203211.65 0.0089 0.0022

Saturn -1419-03-20 05:45 J 1203211.64 1203211.74 1203211.84 0.0296 0.0193 *

Neptune -1419-06-16 01:55 J 1203299.45 1203299.58 1203299.71 0.0089 0.0015

Neptune -1419-09-12 03:21 J 1203387.50 1203387.64 1203387.77 0.0089 0.0008

Mars -1419-09-14 09:21 J 1203389.78 1203389.89 1203390.00 0.1761 0.0373

Neptune -1419-12-09 04:33 J 1203475.56 1203475.69 1203475.83 0.0089 0.0003

Neptune -1418-03-07 06:00 J 1203563.62 1203563.75 1203563.89 0.0089 0.0007

Neptune -1418-06-03 07:26 J 1203651.68 1203651.81 1203651.94 0.0089 0.0013

Neptune -1418-08-30 08:52 J 1203739.74 1203739.87 1203740.00 0.0089 0.0021

Neptune -1418-11-26 10:19 J 1203827.80 1203827.93 1203828.06 0.0089 0.0028

Jupiter -1418-11-26 17:16 J 1203828.09 1203828.22 1203828.35 0.0531 0.0107

Venus -1417-02-21 10:33 J 1203914.91 1203914.94 1203914.97 0.3683 0.3481

Neptune -1417-02-22 11:31 J 1203915.86 1203915.98 1203916.11 0.0089 0.0035

Jupiter -1417-02-23 23:31 J 1203917.42 1203917.48 1203917.54 0.0529 0.0465

Neptune -1417-05-20 12:57 J 1204003.93 1204004.04 1204004.16 0.0089 0.0042

Neptune -1417-08-16 14:24 J 1204091.99 1204092.10 1204092.21 0.0089 0.0049

Neptune -1417-11-12 15:50 J 1204180.06 1204180.16 1204180.26 0.0089 0.0056

Neptune -1416-02-08 16:47 J 1204268.12 1204268.20 1204268.31 0.0089 0.0064

Neptune -1416-05-07 18:14 J 1204356.19 1204356.26 1204356.35 0.0089 0.0070

Neptune -1416-08-03 19:55 J 1204444.27 1204444.33 1204444.40 0.0089 0.0077

Neptune -1416-10-30 21:21 J 1204532.35 1204532.39 1204532.43 0.0089 0.0084

Jupiter -1411-01-11 06:43 J 1206065.61 1206065.78 1206065.96 0.0495 0.0106

Moon -1411-04-14 13:26 J 1206159.01 1206159.06 1206159.12 0.2632 0.2456

Earth -1411-04-14 14:24 J 1206159.10 1206159.10 1206159.11 0.2627 0.2619 *

Mars -1409-02-04 19:26 J 1206820.20 1206820.31 1206820.43 0.1768 0.0176

Moon -1408-10-13 12:57 J 1207436.93 1207437.04 1207437.15 0.2701 0.0217

Earth -1408-10-13 13:26 J 1207436.96 1207437.06 1207437.17 0.2705 0.0147 *

Saturn -1406-07-23 16:19 J 1208085.03 1208085.18 1208085.34 0.0267 0.0145

Jupiter -1406-09-14 21:35 J 1208138.29 1208138.40 1208138.52 0.0532 0.0245

Saturn -1406-10-20 12:28 J 1208173.83 1208174.02 1208174.20 0.0266 0.0002

Jupiter -1406-12-13 04:04 J 1208227.58 1208227.67 1208227.77 0.0530 0.0334

Saturn -1405-01-17 08:24 J 1208262.70 1208262.85 1208263.01 0.0265 0.0147

Mars -1400-06-27 05:16 J 1210250.62 1210250.72 1210250.83 0.1775 0.0743

Jupiter -1400-10-30 04:47 J 1210375.55 1210375.70 1210375.85 0.0495 0.0273

Jupiter -1399-01-28 13:12 J 1210465.97 1210466.05 1210466.15 0.0497 0.0432

Mars -1399-07-24 21:50 J 1210643.26 1210643.41 1210643.56 0.1767 0.0810

Mars -1398-06-02 12:43 J 1210955.98 1210956.03 1210956.09 0.1748 0.1487

Venus -1398-07-03 11:02 J 1210986.88 1210986.96 1210987.04 0.3693 0.3036

Moon -1395-10-16 06:14 J 1212187.66 1212187.76 1212187.86 0.2706 0.1088

Earth -1395-10-16 06:57 J 1212187.69 1212187.79 1212187.88 0.2706 0.1225 *

Jupiter -1394-07-04 01:55 J 1212448.49 1212448.58 1212448.67 0.0532 0.0386

Jupiter -1394-10-01 08:38 J 1212537.74 1212537.86 1212537.97 0.0530 0.0196

Venus	-1392-01-16 17:45 J	1213011.10	1213011.24	1213011.39	0.3691	0.0957
Saturn	-1391-11-14 16:04 J	1213678.15	1213678.17	1213678.19	0.0294	0.0290
Mars	-1391-11-17 15:07 J	1213681.06	1213681.13	1213681.21	0.1782	0.1316
Saturn	-1390-02-11 04:47 J	1213766.59	1213766.70	1213766.82	0.0294	0.0148
Saturn	-1390-05-10 17:31 J	1213855.10	1213855.23	1213855.37	0.0295	0.0008
Saturn	-1390-08-07 06:14 J	1213943.64	1213943.76	1213943.87	0.0296	0.0137
Saturn	-1390-11-03 18:28 J	1214032.24	1214032.27	1214032.32	0.0297	0.0279
Mars	-1390-12-14 18:28 J	1214073.11	1214073.27	1214073.44	0.1759	0.0241
Mars	-1389-10-22 23:02 J	1214386.37	1214386.46	1214386.56	0.1755	0.0968
Venus	-1388-01-14 00:00 J	1214469.46	1214469.50	1214469.55	0.3677	0.3261
Jupiter	-1388-08-18 02:52 J	1214685.54	1214685.62	1214685.71	0.0495	0.0439
Earth	-1388-10-09 07:26 J	1214737.78	1214737.81	1214737.84	0.2703	0.2580
Moon	-1388-10-09 07:40 J	1214737.78	1214737.82	1214737.86	0.2696	0.2464 *
Jupiter	-1388-11-16 11:02 J	1214775.81	1214775.96	1214776.12	0.0496	0.0260
Uranus	-1384-06-27 21:35 J	1216095.30	1216095.40	1216095.52	0.0143	0.0115
Uranus	-1384-09-24 06:00 J	1216183.60	1216183.75	1216183.91	0.0143	0.0084
Uranus	-1384-12-21 14:09 J	1216271.92	1216272.09	1216272.28	0.0143	0.0054
Uranus	-1383-03-19 22:47 J	1216360.26	1216360.45	1216360.64	0.0143	0.0023
Uranus	-1383-06-16 07:12 J	1216448.60	1216448.80	1216448.99	0.0143	0.0008
Venus	-1383-07-30 16:19 J	1216493.09	1216493.18	1216493.27	0.3678	0.1768
Uranus	-1383-09-12 15:21 J	1216536.96	1216537.14	1216537.33	0.0143	0.0039
Uranus	-1383-12-09 23:45 J	1216625.33	1216625.49	1216625.66	0.0143	0.0069
Uranus	-1382-03-08 07:55 J	1216713.71	1216713.83	1216713.98	0.0142	0.0101
Uranus	-1382-06-04 16:33 J	1216802.12	1216802.19	1216802.27	0.0142	0.0131
Jupiter	-1382-07-20 12:43 J	1216847.90	1216848.03	1216848.15	0.0530	0.0054
Moon	-1382-10-18 23:45 J	1216938.46	1216938.49	1216938.53	0.2713	0.2577
Earth	-1382-10-19 00:14 J	1216938.48	1216938.51	1216938.54	0.2707	0.2572 *
Mars	-1380-05-05 16:04 J	1217503.05	1217503.17	1217503.29	0.1752	0.1232
Mars	-1379-03-15 09:21 J	1217816.78	1217816.89	1217817.00	0.1761	0.0437
Moon	-1378-04-12 11:16 J	1218209.81	1218209.97	1218210.13	0.2632	0.0122

Earth	-1378-04-12 12:57 J	1218209.87	1218210.04	1218210.20	0.2628	0.0244	*
Venus	-1377-02-13 08:24 J	1218516.74	1218516.85	1218516.95	0.3680	0.0316	
Saturn	-1377-12-09 14:24 J	1218816.98	1218817.10	1218817.22	0.0267	0.0198	
Saturn	-1376-03-08 10:19 J	1218905.75	1218905.93	1218906.11	0.0266	0.0053	
Saturn	-1376-06-05 06:28 J	1218994.60	1218994.77	1218994.94	0.0265	0.0093	
Saturn	-1376-09-02 02:38 J	1219083.54	1219083.61	1219083.69	0.0265	0.0239	
Jupiter	-1376-09-04 09:07 J	1219085.70	1219085.88	1219086.06	0.0496	0.0091	
Moon	-1375-10-12 00:43 J	1219488.43	1219488.53	1219488.62	0.2697	0.1264	
Earth	-1375-10-12 00:57 J	1219488.44	1219488.54	1219488.63	0.2704	0.1219	*
Venus	-1372-08-29 00:14 J	1220540.42	1220540.51	1220540.61	0.3681	0.1151	
Jupiter	-1370-05-08 16:19 J	1221158.05	1221158.18	1221158.31	0.0531	0.0098	
Mars	-1370-08-05 19:26 J	1221247.19	1221247.31	1221247.42	0.1768	0.0121	
Jupiter	-1370-08-05 22:33 J	1221247.38	1221247.44	1221247.49	0.0529	0.0472	*
Venus	-1366-03-14 16:19 J	1222564.10	1222564.18	1222564.25	0.3682	0.2566	
Jupiter	-1364-06-23 06:43 J	1223395.60	1223395.78	1223395.96	0.0496	0.0081	
Moon	-1362-10-14 17:45 J	1224239.13	1224239.24	1224239.34	0.2701	0.0112	
Earth	-1362-10-14 18:14 J	1224239.15	1224239.26	1224239.37	0.2705	0.0148	*
Saturn	-1361-06-30 06:28 J	1224498.68	1224498.77	1224498.88	0.0294	0.0192	
Saturn	-1361-09-26 19:26 J	1224587.18	1224587.31	1224587.44	0.0295	0.0048	
Saturn	-1361-12-24 07:55 J	1224675.71	1224675.83	1224675.96	0.0296	0.0095	
Mars	-1361-12-26 05:16 J	1224677.62	1224677.72	1224677.83	0.1775	0.0683	
Saturn	-1360-03-22 20:38 J	1224764.28	1224764.36	1224764.44	0.0296	0.0235	
Mars	-1359-01-22 22:33 J	1225070.30	1225070.44	1225070.59	0.1767	0.0910	
Mars	-1359-12-01 12:43 J	1225382.98	1225383.03	1225383.09	0.1748	0.1543	
Jupiter	-1358-02-24 20:24 J	1225468.24	1225468.35	1225468.47	0.0532	0.0241	
Jupiter	-1358-05-25 02:52 J	1225557.52	1225557.62	1225557.72	0.0530	0.0336	
Jupiter	-1352-04-11 03:21 J	1227705.49	1227705.64	1227705.79	0.0495	0.0267	
Jupiter	-1352-07-10 11:45 J	1227795.91	1227795.99	1227796.08	0.0497	0.0438	
Mars	-1351-05-18 15:07 J	1228108.05	1228108.13	1228108.21	0.1782	0.1261	
Mars	-1350-06-14 19:26 J	1228500.15	1228500.31	1228500.48	0.1760	0.0134	

Mars -1349-04-22 23:02 J 1228813.37 1228813.46 1228813.56 0.1755 0.1025

Moon -1349-10-16 11:02 J 1228989.87 1228989.96 1228990.05 0.2708 0.1427

Earth -1349-10-16 11:45 J 1228989.90 1228989.99 1228990.08 0.2706 0.1500 *

Saturn -1347-04-28 14:09 J 1229549.02 1229549.09 1229549.19 0.0267 0.0236

Saturn -1347-07-26 10:19 J 1229637.76 1229637.93 1229638.10 0.0267 0.0090

Saturn -1347-10-23 06:14 J 1229726.58 1229726.76 1229726.95 0.0266 0.0056

Jupiter -1347-12-14 00:43 J 1229778.44 1229778.53 1229778.62 0.0532 0.0381

Saturn -1346-01-20 02:38 J 1229815.49 1229815.61 1229815.73 0.0265 0.0202

Jupiter -1346-03-13 07:26 J 1229867.69 1229867.81 1229867.93 0.0531 0.0203

Moon -1345-04-09 09:35 J 1230260.82 1230260.90 1230260.99 0.2630 0.2226

Earth -1345-04-09 11:31 J 1230260.88 1230260.98 1230261.07 0.2629 0.2122 *

Earth -1342-10-10 12:14 J 1231539.95 1231540.01 1231540.06 0.2703 0.2302

Moon -1342-10-10 12:28 J 1231539.96 1231540.02 1231540.07 0.2696 0.2309 *

Venus -1341-02-07 12:28 J 1231659.89 1231660.02 1231660.15 0.3692 0.1798

Mars -1341-11-03 16:47 J 1231930.08 1231930.20 1231930.33 0.1752 0.1133

Uranus -1341-12-22 01:40 J 1231978.51 1231978.57 1231978.63 0.0135 0.0121

Jupiter -1340-01-28 01:26 J 1232015.48 1232015.56 1232015.65 0.0495 0.0432

Uranus -1340-03-20 04:33 J 1232066.62 1232066.69 1232066.78 0.0135 0.0104

Jupiter -1340-04-28 09:35 J 1232105.74 1232105.90 1232106.05 0.0496 0.0265

Uranus -1340-06-16 07:40 J 1232154.73 1232154.82 1232154.93 0.0135 0.0086

Uranus -1340-09-12 10:47 J 1232242.84 1232242.95 1232243.07 0.0135 0.0069

Mars -1340-09-13 09:21 J 1232243.78 1232243.89 1232244.00 0.1761 0.0486

Uranus -1340-12-09 13:55 J 1232330.96 1232331.08 1232331.21 0.0136 0.0051

Uranus -1339-03-07 17:02 J 1232419.08 1232419.21 1232419.34 0.0136 0.0033

Uranus -1339-06-03 20:09 J 1232507.21 1232507.34 1232507.47 0.0136 0.0015

Uranus -1339-08-30 23:16 J 1232595.34 1232595.47 1232595.60 0.0136 0.0004

Uranus -1339-11-27 02:09 J 1232683.46 1232683.59 1232683.72 0.0136 0.0021

Neptune -1339-12-30 22:19 J 1232717.42 1232717.43 1232717.45 0.0088 0.0087

Uranus -1338-02-23 05:16 J 1232771.60 1232771.72 1232771.85 0.0136 0.0038

Neptune -1338-03-29 01:26 J 1232805.49 1232805.56 1232805.66 0.0088 0.0078

Uranus -1338-05-22 08:24 J 1232859.73 1232859.85 1232859.97 0.0136 0.0056

Neptune -1338-06-25 04:33 J 1232893.59 1232893.69 1232893.83 0.0088 0.0069

Uranus -1338-08-18 11:16 J 1232947.87 1232947.97 1232948.09 0.0136 0.0074

Neptune -1338-09-21 08:09 J 1232981.71 1232981.84 1232981.98 0.0088 0.0059

Uranus -1338-11-14 14:24 J 1233036.01 1233036.10 1233036.20 0.0136 0.0092

Neptune -1338-12-18 11:16 J 1233069.83 1233069.97 1233070.14 0.0088 0.0050

Uranus -1337-02-10 17:31 J 1233124.16 1233124.23 1233124.31 0.0136 0.0110

Neptune -1337-03-15 14:52 J 1233157.95 1233158.12 1233158.29 0.0088 0.0040

Uranus -1337-05-08 20:24 J 1233212.32 1233212.35 1233212.40 0.0137 0.0128

Neptune -1337-06-11 18:00 J 1233246.08 1233246.25 1233246.44 0.0088 0.0031

Neptune -1337-09-07 21:21 J 1233334.21 1233334.39 1233334.58 0.0088 0.0022

Neptune -1337-12-05 00:57 J 1233422.35 1233422.54 1233422.73 0.0088 0.0012

Neptune -1336-03-03 04:19 J 1233510.49 1233510.68 1233510.87 0.0088 0.0003

Neptune -1336-05-30 07:40 J 1233598.63 1233598.82 1233599.01 0.0088 0.0007

Venus -1336-08-23 19:26 J 1233684.20 1233684.31 1233684.43 0.3690 0.2280

Neptune -1336-08-26 10:47 J 1233686.77 1233686.95 1233687.15 0.0088 0.0017

Neptune -1336-11-22 14:09 J 1233774.92 1233775.09 1233775.28 0.0088 0.0027

Neptune -1335-02-18 17:31 J 1233863.06 1233863.23 1233863.41 0.0088 0.0036

Neptune -1335-05-17 20:52 J 1233951.22 1233951.37 1233951.54 0.0088 0.0046

Neptune -1335-08-14 00:28 J 1234039.37 1234039.52 1234039.67 0.0088 0.0055

Jupiter -1335-10-02 05:02 J 1234088.69 1234088.71 1234088.73 0.0532 0.0523

Neptune -1335-11-10 03:35 J 1234127.54 1234127.65 1234127.79 0.0088 0.0065

Jupiter -1335-12-30 11:45 J 1234177.87 1234177.99 1234178.12 0.0531 0.0067

Neptune -1334-02-06 06:57 J 1234215.71 1234215.79 1234215.91 0.0088 0.0075

Neptune -1334-05-05 10:47 J 1234303.90 1234303.95 1234304.00 0.0088 0.0084

Moon -1332-04-12 18:14 J 1235012.10 1235012.26 1235012.42 0.2632 0.0551

Earth -1332-04-12 19:40 J 1235012.17 1235012.32 1235012.48 0.2628 0.0808 *

Venus -1332-08-20 21:50 J 1235142.34 1235142.41 1235142.47 0.3678 0.2748

Saturn -1332-11-17 06:57 J 1235230.72 1235230.79 1235230.86 0.0294 0.0248

Saturn -1331-02-13 19:40 J 1235319.20 1235319.32 1235319.45 0.0294 0.0106

Saturn	-1331-05-13 08:24 J	1235407.72	1235407.85	1235407.98	0.0295	0.0036
Saturn	-1331-08-09 20:52 J	1235496.27	1235496.37	1235496.48	0.0296	0.0178
Mars	-1330-02-03 19:26 J	1235674.20	1235674.31	1235674.43	0.1768	0.0064
Moon	-1329-10-12 05:16 J	1236290.62	1236290.72	1236290.82	0.2698	0.0926
Earth	-1329-10-12 05:31 J	1236290.63	1236290.73	1236290.83	0.2704	0.0940 *
Jupiter	-1328-02-14 07:26 J	1236415.63	1236415.81	1236415.99	0.0496	0.0095
Venus	-1326-03-06 13:55 J	1237165.98	1237166.08	1237166.18	0.3679	0.1259
Jupiter	-1323-10-18 16:04 J	1238488.04	1238488.17	1238488.29	0.0531	0.0080
Jupiter	-1322-01-15 22:04 J	1238577.38	1238577.42	1238577.47	0.0529	0.0492
Mars	-1321-06-26 05:16 J	1239104.62	1239104.72	1239104.83	0.1775	0.0625
Venus	-1321-09-19 06:00 J	1239189.64	1239189.75	1239189.85	0.3680	0.0211
Mars	-1320-07-23 23:16 J	1239497.33	1239497.47	1239497.61	0.1767	0.1002
Mars	-1319-06-01 12:57 J	1239809.99	1239810.04	1239810.08	0.1748	0.1602
Saturn	-1318-12-13 07:40 J	1240369.67	1240369.82	1240369.97	0.0267	0.0148
Saturn	-1317-03-11 03:35 J	1240458.47	1240458.65	1240458.84	0.0266	0.0004
Saturn	-1317-06-07 23:45 J	1240547.34	1240547.49	1240547.65	0.0265	0.0144
Jupiter	-1317-12-03 05:31 J	1240725.55	1240725.73	1240725.91	0.0496	0.0072
Moon	-1316-10-14 22:33 J	1241041.33	1241041.44	1241041.54	0.2702	0.0333
Earth	-1316-10-14 23:02 J	1241041.35	1241041.46	1241041.57	0.2705	0.0424 *
Venus	-1315-04-04 21:50 J	1241213.32	1241213.41	1241213.51	0.3681	0.1636
Mars	-1312-11-16 15:07 J	1242535.05	1242535.13	1242535.22	0.1782	0.1201
Jupiter	-1311-08-06 19:40 J	1242798.20	1242798.32	1242798.43	0.0531	0.0230
Jupiter	-1311-11-04 01:55 J	1242887.49	1242887.58	1242887.68	0.0530	0.0347
Mars	-1311-12-13 20:09 J	1242927.18	1242927.34	1242927.51	0.1760	0.0054
Venus	-1310-10-19 13:40 J	1243237.02	1243237.07	1243237.13	0.3682	0.3043
Mars	-1310-10-22 23:02 J	1243240.37	1243240.46	1243240.55	0.1754	0.1076
Jupiter	-1305-09-21 03:21 J	1245035.48	1245035.64	1245035.80	0.0495	0.0241
Jupiter	-1305-12-20 12:00 J	1245125.94	1245126.00	1245126.06	0.0497	0.0466
Moon	-1303-10-17 15:50 J	1245792.08	1245792.16	1245792.24	0.2710	0.1691
Earth	-1303-10-17 16:33 J	1245792.11	1245792.19	1245792.27	0.2706	0.1779 *

Saturn -1302-07-03 21:21 J 1246051.27 1246051.39 1246051.50 0.0294 0.0151

Saturn -1302-09-30 10:04 J 1246139.79 1246139.92 1246140.05 0.0295 0.0010

Saturn -1302-12-27 22:33 J 1246228.33 1246228.44 1246228.56 0.0296 0.0133

Saturn -1301-03-25 11:02 J 1246316.92 1246316.96 1246317.01 0.0296 0.0274

Mars -1301-05-04 17:45 J 1246357.10 1246357.24 1246357.37 0.1752 0.1034

Mars -1300-03-14 09:21 J 1246670.78 1246670.89 1246671.00 0.1761 0.0545

Uranus -1300-04-20 22:04 J 1246708.37 1246708.42 1246708.51 0.0143 0.0134

Uranus -1300-07-18 06:43 J 1246796.65 1246796.78 1246796.91 0.0143 0.0103

Uranus -1300-10-14 14:52 J 1246884.96 1246885.12 1246885.29 0.0143 0.0072

Uranus -1299-01-10 23:16 J 1246973.29 1246973.47 1246973.66 0.0143 0.0041

Uranus -1299-04-09 07:40 J 1247061.63 1247061.82 1247062.01 0.0143 0.0011

Moon -1299-04-10 16:33 J 1247063.08 1247063.19 1247063.30 0.2631 0.1861

Earth -1299-04-10 18:14 J 1247063.13 1247063.26 1247063.39 0.2629 0.1546 *

Jupiter -1299-05-25 23:45 J 1247108.40 1247108.49 1247108.58 0.0532 0.0374

Uranus -1299-07-06 16:04 J 1247149.98 1247150.17 1247150.36 0.0143 0.0020

Jupiter -1299-08-23 06:14 J 1247197.65 1247197.76 1247197.88 0.0530 0.0209

Uranus -1299-10-03 00:14 J 1247238.33 1247238.51 1247238.70 0.0143 0.0051

Uranus -1299-12-30 08:38 J 1247326.71 1247326.86 1247327.02 0.0143 0.0082

Uranus -1298-03-28 16:47 J 1247415.10 1247415.20 1247415.33 0.0142 0.0113

Moon -1296-10-10 17:02 J 1248342.14 1248342.21 1248342.29 0.2696 0.1929

Earth -1296-10-10 17:02 J 1248342.14 1248342.21 1248342.28 0.2703 0.2026 *

Jupiter -1293-07-10 00:14 J 1249345.42 1249345.51 1249345.61 0.0494 0.0422

Jupiter -1293-10-08 08:09 J 1249435.69 1249435.84 1249436.00 0.0496 0.0275

Mars -1291-08-04 19:26 J 1250101.19 1250101.31 1250101.42 0.1768 0.0024

Saturn -1288-05-01 07:26 J 1251101.68 1251101.81 1251101.94 0.0267 0.0186

Saturn -1288-07-29 03:21 J 1251190.46 1251190.64 1251190.82 0.0267 0.0041

Saturn -1288-10-25 23:31 J 1251279.31 1251279.48 1251279.65 0.0266 0.0105

Saturn -1287-01-22 19:55 J 1251368.27 1251368.33 1251368.38 0.0266 0.0252

Jupiter -1287-03-14 03:50 J 1251418.63 1251418.66 1251418.69 0.0533 0.0517

Jupiter -1287-06-11 10:47 J 1251507.82 1251507.95 1251508.08 0.0531 0.0072

Moon	-1286-04-14 01:12 J	1251814.41	1251814.55	1251814.69	0.2632	0.1306
Earth	-1286-04-14 02:38 J	1251814.47	1251814.61	1251814.74	0.2628	0.1378 *
Venus	-1285-09-13 13:55 J	1252332.93	1252333.08	1252333.23	0.3691	0.0543
Moon	-1283-10-13 10:04 J	1253092.81	1253092.92	1253093.02	0.2698	0.0778
Earth	-1283-10-13 10:19 J	1253092.83	1253092.93	1253093.04	0.2704	0.0659 *
Mars	-1282-12-26 05:16 J	1253531.61	1253531.72	1253531.83	0.1775	0.0566
Jupiter	-1281-07-27 06:00 J	1253745.57	1253745.75	1253745.93	0.0496	0.0104
Mars	-1280-01-22 00:14 J	1253924.38	1253924.51	1253924.64	0.1768	0.1109
Mars	-1280-11-30 12:43 J	1254237.00	1254237.03	1254237.07	0.1748	0.1651
Venus	-1279-03-30 21:21 J	1254357.36	1254357.39	1254357.42	0.3690	0.3605
Venus	-1275-03-27 19:26 J	1255815.22	1255815.31	1255815.39	0.3678	0.2233
Jupiter	-1275-03-30 15:07 J	1255818.00	1255818.13	1255818.26	0.0531	0.0066
Jupiter	-1275-06-27 21:21 J	1255907.36	1255907.39	1255907.43	0.0529	0.0505
Saturn	-1273-11-19 21:35 J	1256783.31	1256783.40	1256783.50	0.0293	0.0208
Saturn	-1272-02-16 10:33 J	1256871.81	1256871.94	1256872.07	0.0294	0.0066
Saturn	-1272-05-15 23:02 J	1256960.33	1256960.46	1256960.59	0.0295	0.0076
Mars	-1272-05-17 15:07 J	1256962.05	1256962.13	1256962.22	0.1781	0.1140
Saturn	-1272-08-12 11:31 J	1257048.90	1257048.98	1257049.07	0.0296	0.0217
Mars	-1271-06-13 20:52 J	1257354.20	1257354.37	1257354.54	0.1760	0.0070
Mars	-1270-04-22 23:02 J	1257667.38	1257667.46	1257667.55	0.1755	0.1136
Venus	-1270-10-11 11:31 J	1257838.88	1257838.98	1257839.08	0.3679	0.0757
Moon	-1270-10-16 03:07 J	1257843.53	1257843.63	1257843.74	0.2704	0.0654
Earth	-1270-10-16 03:50 J	1257843.56	1257843.66	1257843.76	0.2705	0.0703 *
Pluto	-1270-10-28 16:04 J	1257856.12	1257856.17	1257856.23	0.0072	0.0065
Pluto	-1269-01-24 16:47 J	1257944.12	1257944.20	1257944.30	0.0072	0.0057
Pluto	-1269-04-21 17:45 J	1258032.15	1258032.24	1258032.36	0.0072	0.0048
Jupiter	-1269-05-15 04:04 J	1258055.49	1258055.67	1258055.85	0.0495	0.0065
Pluto	-1269-07-18 18:43 J	1258120.17	1258120.28	1258120.41	0.0072	0.0039
Pluto	-1269-10-14 19:40 J	1258208.20	1258208.32	1258208.46	0.0072	0.0030
Pluto	-1268-01-10 20:38 J	1258296.23	1258296.36	1258296.51	0.0072	0.0022

Pluto -1268-04-08 21:50 J 1258384.27 1258384.41 1258384.55 0.0072 0.0012

Pluto -1268-07-05 22:47 J 1258472.31 1258472.45 1258472.60 0.0072 0.0003

Pluto -1268-10-01 23:45 J 1258560.35 1258560.49 1258560.64 0.0073 0.0007

Pluto -1268-12-29 00:43 J 1258648.40 1258648.53 1258648.68 0.0073 0.0016

Pluto -1267-03-27 01:40 J 1258736.44 1258736.57 1258736.71 0.0073 0.0025

Pluto -1267-06-23 02:52 J 1258824.49 1258824.62 1258824.75 0.0073 0.0034

Pluto -1267-09-19 03:35 J 1258912.55 1258912.65 1258912.78 0.0073 0.0044

Pluto -1267-12-16 04:47 J 1259000.61 1259000.70 1259000.80 0.0073 0.0054

Pluto -1266-03-14 05:45 J 1259088.68 1259088.74 1259088.82 0.0073 0.0063

Pluto -1266-06-10 06:43 J 1259176.78 1259176.78 1259176.81 0.0073 0.0073

Venus -1264-04-26 03:35 J 1259862.54 1259862.65 1259862.75 0.3680 0.0695

Jupiter -1263-01-16 19:12 J 1260128.19 1260128.30 1260128.42 0.0532 0.0210

Jupiter -1263-04-16 01:40 J 1260217.48 1260217.57 1260217.66 0.0530 0.0367

Mars -1263-10-08 00:43 J 1260392.51 1260392.53 1260392.56 0.1788 0.1735

Mars -1262-11-03 18:14 J 1260784.12 1260784.26 1260784.40 0.1753 0.0946

Mars -1261-09-12 09:21 J 1261097.78 1261097.89 1261098.00 0.1761 0.0603

Saturn -1259-09-18 04:19 J 1261833.62 1261833.68 1261833.76 0.0267 0.0247

Venus -1259-11-09 19:26 J 1261886.23 1261886.31 1261886.40 0.3681 0.2115

Saturn -1259-12-16 00:14 J 1261922.35 1261922.51 1261922.69 0.0267 0.0102

Saturn -1258-03-14 20:24 J 1262011.17 1262011.35 1262011.54 0.0266 0.0045

Saturn -1258-06-11 16:33 J 1262100.07 1262100.19 1262100.33 0.0266 0.0192

Jupiter -1257-03-03 02:09 J 1262365.43 1262365.59 1262365.76 0.0495 0.0230

Jupiter -1257-06-01 10:47 J 1262455.90 1262455.95 1262456.00 0.0497 0.0477

Neptune -1257-10-13 10:19 J 1262589.91 1262589.93 1262589.96 0.0089 0.0088

Uranus -1257-10-15 06:14 J 1262591.75 1262591.76 1262591.80 0.0135 0.0132

Moon -1257-10-17 20:38 J 1262594.29 1262594.36 1262594.43 0.2710 0.1958

Earth -1257-10-17 21:21 J 1262594.32 1262594.39 1262594.45 0.2706 0.2058 *

Neptune -1256-01-09 11:31 J 1262677.94 1262677.98 1262678.05 0.0089 0.0081

Uranus -1256-01-11 09:21 J 1262679.83 1262679.89 1262679.97 0.0135 0.0114

Neptune -1256-04-07 12:57 J 1262765.98 1262766.04 1262766.13 0.0089 0.0074

Uranus -1256-04-09 12:28 J 1262767.94 1262768.02 1262768.12 0.0135 0.0097

Neptune -1256-07-04 14:24 J 1262854.02 1262854.10 1262854.20 0.0089 0.0066

Uranus -1256-07-06 15:50 J 1262856.05 1262856.16 1262856.26 0.0135 0.0079

Neptune -1256-09-30 16:04 J 1262942.07 1262942.17 1262942.27 0.0089 0.0059

Uranus -1256-10-02 18:43 J 1262944.17 1262944.28 1262944.40 0.0135 0.0061

Neptune -1256-12-27 17:31 J 1263030.12 1263030.23 1263030.34 0.0089 0.0052

Uranus -1256-12-29 21:50 J 1263032.29 1263032.41 1263032.54 0.0136 0.0043

Neptune -1255-03-25 18:43 J 1263118.17 1263118.28 1263118.41 0.0089 0.0045

Uranus -1255-03-28 00:57 J 1263120.41 1263120.54 1263120.67 0.0136 0.0025

Neptune -1255-06-21 20:09 J 1263206.23 1263206.34 1263206.47 0.0089 0.0038

Uranus -1255-06-24 04:04 J 1263208.54 1263208.67 1263208.80 0.0136 0.0008

Neptune -1255-09-17 21:35 J 1263294.28 1263294.40 1263294.54 0.0089 0.0031

Uranus -1255-09-20 07:12 J 1263296.67 1263296.80 1263296.93 0.0136 0.0010

Neptune -1255-12-14 23:16 J 1263382.34 1263382.47 1263382.60 0.0089 0.0023

Uranus -1255-12-17 10:19 J 1263384.80 1263384.93 1263385.05 0.0136 0.0028

Neptune -1254-03-13 00:43 J 1263470.39 1263470.53 1263470.66 0.0089 0.0016

Uranus -1254-03-15 13:12 J 1263472.93 1263473.05 1263473.18 0.0136 0.0046

Neptune -1254-06-09 01:55 J 1263558.45 1263558.58 1263558.72 0.0089 0.0009

Uranus -1254-06-11 16:19 J 1263561.06 1263561.18 1263561.30 0.0136 0.0064

Neptune -1254-09-05 03:21 J 1263646.51 1263646.64 1263646.78 0.0089 0.0003

Uranus -1254-09-07 19:26 J 1263649.20 1263649.31 1263649.41 0.0136 0.0081

Neptune -1254-12-02 04:47 J 1263734.57 1263734.70 1263734.84 0.0089 0.0006

Uranus -1254-12-04 22:19 J 1263737.35 1263737.43 1263737.52 0.0136 0.0099

Neptune -1253-02-28 06:14 J 1263822.63 1263822.76 1263822.89 0.0089 0.0013

Uranus -1253-03-02 01:12 J 1263825.50 1263825.55 1263825.63 0.0136 0.0118

Moon -1253-04-10 23:16 J 1263865.33 1263865.47 1263865.62 0.2632 0.1092

Earth -1253-04-11 01:12 J 1263865.40 1263865.55 1263865.70 0.2629 0.0973 *

Venus -1253-05-25 11:16 J 1263909.94 1263909.97 1263910.00 0.3683 0.3506

Neptune -1253-05-26 07:26 J 1263910.69 1263910.81 1263910.95 0.0089 0.0021

Uranus -1253-05-29 04:33 J 1263913.67 1263913.69 1263913.71 0.0137 0.0135

Neptune -1253-08-22 08:52 J 1263998.75 1263998.87 1263999.00 0.0089 0.0027

Neptune -1253-11-18 10:19 J 1264086.81 1264086.93 1264087.06 0.0089 0.0034

Neptune -1252-02-14 11:45 J 1264174.87 1264174.99 1264175.11 0.0089 0.0041

Neptune -1252-05-13 12:57 J 1264262.94 1264263.04 1264263.16 0.0089 0.0049

Neptune -1252-08-09 14:24 J 1264351.00 1264351.10 1264351.21 0.0089 0.0056

Jupiter -1252-11-04 22:47 J 1264438.36 1264438.45 1264438.55 0.0532 0.0362

Neptune -1252-11-05 15:50 J 1264439.07 1264439.16 1264439.26 0.0089 0.0062

Neptune -1251-02-01 17:02 J 1264527.14 1264527.21 1264527.31 0.0089 0.0070

Jupiter -1251-02-02 05:31 J 1264527.62 1264527.73 1264527.85 0.0530 0.0221

Mars -1251-02-02 19:26 J 1264528.19 1264528.31 1264528.42 0.1768 0.0056

Neptune -1251-04-30 18:28 J 1264615.21 1264615.27 1264615.35 0.0089 0.0077

Neptune -1251-07-27 19:55 J 1264703.29 1264703.33 1264703.38 0.0089 0.0083

Earth -1250-10-11 21:35 J 1265144.32 1265144.40 1265144.49 0.2703 0.1745

Moon -1250-10-11 21:50 J 1265144.33 1265144.41 1265144.49 0.2696 0.1778 *

Jupiter -1246-12-21 00:14 J 1266675.41 1266675.51 1266675.62 0.0495 0.0397

Jupiter -1245-03-20 08:24 J 1266765.70 1266765.85 1266766.00 0.0496 0.0302

Saturn -1243-04-08 23:02 J 1267515.40 1267515.46 1267515.53 0.0293 0.0254

Saturn -1243-07-06 11:45 J 1267603.87 1267603.99 1267604.12 0.0294 0.0113

Saturn -1243-10-03 00:28 J 1267692.39 1267692.52 1267692.65 0.0295 0.0029

Saturn -1243-12-30 12:57 J 1267780.94 1267781.04 1267781.15 0.0295 0.0170

Mars -1242-06-26 05:16 J 1267958.61 1267958.72 1267958.83 0.1774 0.0508

Mars -1241-07-23 00:57 J 1268351.42 1268351.54 1268351.67 0.1768 0.1216

Moon -1240-04-14 08:38 J 1268616.74 1268616.86 1268616.97 0.2633 0.1757

Earth -1240-04-14 09:35 J 1268616.79 1268616.90 1268617.00 0.2628 0.1970 *

Mars -1240-05-31 12:43 J 1268664.01 1268664.03 1268664.05 0.1748 0.1708

Jupiter -1240-08-24 02:52 J 1268748.58 1268748.62 1268748.66 0.0532 0.0507

Jupiter -1240-11-21 09:50 J 1268837.78 1268837.91 1268838.03 0.0531 0.0081

Moon -1237-10-13 14:38 J 1269895.01 1269895.11 1269895.22 0.2698 0.0387

Earth -1237-10-13 15:07 J 1269895.02 1269895.13 1269895.24 0.2704 0.0382 *

Venus -1234-10-05 08:52 J 1270981.80 1270981.87 1270981.94 0.3693 0.3220

Jupiter	-1233-01-07 05:02 J	1271075.53	1271075.71	1271075.89	0.0495	0.0115
Mars	-1233-11-15 15:07 J	1271389.04	1271389.13	1271389.22	0.1782	0.1086
Mars	-1232-12-12 21:35 J	1271781.24	1271781.40	1271781.57	0.1760	0.0169
Mars	-1231-10-21 23:02 J	1272094.38	1272094.46	1272094.54	0.1754	0.1188
Saturn	-1229-05-04 00:14 J	1272654.35	1272654.51	1272654.66	0.0267	0.0141
Saturn	-1229-07-31 20:09 J	1272743.16	1272743.34	1272743.52	0.0267	0.0005
Saturn	-1229-10-28 16:19 J	1272832.03	1272832.18	1272832.33	0.0266	0.0152
Venus	-1228-04-20 15:35 J	1273006.00	1273006.15	1273006.30	0.3691	0.0738
Jupiter	-1228-09-09 14:09 J	1273147.96	1273148.09	1273148.21	0.0532	0.0060
Jupiter	-1228-12-07 20:24 J	1273237.32	1273237.35	1273237.38	0.0530	0.0513
Venus	-1224-04-18 00:43 J	1274464.48	1274464.53	1274464.58	0.3677	0.3217
Moon	-1224-10-16 07:55 J	1274645.73	1274645.83	1274645.93	0.2706	0.0826
Earth	-1224-10-16 08:38 J	1274645.76	1274645.86	1274645.96	0.2705	0.0981 *
Mars	-1223-04-08 00:57 J	1274819.50	1274819.54	1274819.57	0.1788	0.1672
Mars	-1222-05-04 19:12 J	1275211.15	1275211.30	1275211.45	0.1753	0.0839
Jupiter	-1222-10-26 02:52 J	1275385.44	1275385.62	1275385.80	0.0495	0.0055
Mars	-1221-03-13 09:21 J	1275524.78	1275524.89	1275524.99	0.1761	0.0659
Venus	-1219-11-01 17:02 J	1276488.12	1276488.21	1276488.30	0.3678	0.1724
Uranus	-1216-05-11 06:57 J	1277409.69	1277409.79	1277409.89	0.0143	0.0122
Jupiter	-1216-06-28 18:28 J	1277458.15	1277458.27	1277458.39	0.0532	0.0199
Uranus	-1216-08-07 15:07 J	1277497.99	1277498.13	1277498.28	0.0143	0.0091
Jupiter	-1216-09-26 00:57 J	1277547.45	1277547.54	1277547.62	0.0530	0.0379
Uranus	-1216-11-03 23:16 J	1277586.31	1277586.47	1277586.66	0.0143	0.0061
Uranus	-1215-01-31 07:40 J	1277674.64	1277674.82	1277675.02	0.0143	0.0030
Uranus	-1215-04-29 16:04 J	1277762.98	1277763.17	1277763.37	0.0143	0.0003
Uranus	-1215-07-27 00:28 J	1277851.33	1277851.52	1277851.71	0.0143	0.0031
Uranus	-1215-10-23 08:52 J	1277939.70	1277939.87	1277940.05	0.0143	0.0062
Uranus	-1214-01-19 17:16 J	1278028.07	1278028.22	1278028.37	0.0143	0.0093
Uranus	-1214-04-18 01:26 J	1278116.47	1278116.56	1278116.66	0.0142	0.0124
Saturn	-1214-11-23 12:28 J	1278335.91	1278336.02	1278336.13	0.0293	0.0166

Saturn	-1213-02-20 01:12 J	1278424.42	1278424.55	1278424.68	0.0294	0.0025
Venus	-1213-05-17 09:07 J	1278511.77	1278511.88	1278511.98	0.3680	0.0263
Saturn	-1213-05-18 13:40 J	1278512.95	1278513.07	1278513.19	0.0295	0.0116
Saturn	-1213-08-15 02:09 J	1278601.53	1278601.59	1278601.66	0.0295	0.0256
Mars	-1212-08-03 19:26 J	1278955.19	1278955.31	1278955.42	0.1768	0.0115
Moon	-1211-10-19 01:26 J	1279396.50	1279396.56	1279396.62	0.2710	0.2279
Earth	-1211-10-19 01:55 J	1279396.53	1279396.58	1279396.64	0.2706	0.2332 *
Jupiter	-1210-08-14 00:43 J	1279695.37	1279695.53	1279695.70	0.0495	0.0223
Jupiter	-1210-11-12 09:21 J	1279785.85	1279785.89	1279785.93	0.0497	0.0484
Venus	-1208-12-01 01:12 J	1280535.45	1280535.55	1280535.65	0.3681	0.1181
Moon	-1207-04-12 06:14 J	1280667.60	1280667.76	1280667.92	0.2631	0.0706
Earth	-1207-04-12 07:55 J	1280667.67	1280667.83	1280667.99	0.2629	0.0409 *
Jupiter	-1204-04-16 22:33 J	1281768.34	1281768.44	1281768.54	0.0532	0.0342
Jupiter	-1204-07-15 05:02 J	1281857.60	1281857.71	1281857.83	0.0530	0.0241
Moon	-1204-10-12 02:24 J	1281946.51	1281946.60	1281946.69	0.2696	0.1437
Earth	-1204-10-12 02:24 J	1281946.51	1281946.60	1281946.69	0.2703	0.1466 *
Mars	-1203-12-25 05:16 J	1282385.61	1282385.72	1282385.84	0.1774	0.0450
Venus	-1202-06-16 17:02 J	1282559.14	1282559.21	1282559.28	0.3682	0.2584
Mars	-1201-01-22 01:26 J	1282778.45	1282778.56	1282778.68	0.1768	0.1299
Saturn	-1200-09-20 20:52 J	1283386.26	1283386.37	1283386.50	0.0268	0.0202
Saturn	-1200-12-18 17:02 J	1283475.03	1283475.21	1283475.39	0.0267	0.0056
Saturn	-1199-03-17 13:12 J	1283563.88	1283564.05	1283564.23	0.0266	0.0091
Saturn	-1199-06-14 09:35 J	1283652.82	1283652.90	1283652.98	0.0266	0.0238
Jupiter	-1198-06-01 23:02 J	1284005.35	1284005.46	1284005.58	0.0495	0.0386
Jupiter	-1198-08-31 07:12 J	1284095.66	1284095.80	1284095.94	0.0496	0.0313
Moon	-1194-04-15 15:35 J	1285419.12	1285419.15	1285419.18	0.2634	0.2571
Earth	-1194-04-15 16:19 J	1285419.14	1285419.18	1285419.22	0.2628	0.2540 *
Mars	-1193-05-16 15:07 J	1285816.04	1285816.13	1285816.23	0.1781	0.1024
Jupiter	-1192-02-03 02:09 J	1286078.54	1286078.59	1286078.63	0.0532	0.0495
Jupiter	-1192-05-03 08:52 J	1286167.75	1286167.87	1286168.00	0.0531	0.0094

Mars -1192-06-12 22:47 J 1286208.28 1286208.45 1286208.61 0.1761 0.0274

Mars -1191-04-21 23:02 J 1286521.38 1286521.46 1286521.54 0.1754 0.1246

Moon -1191-10-14 19:26 J 1286697.20 1286697.31 1286697.42 0.2699 0.0226

Earth -1191-10-14 19:55 J 1286697.22 1286697.33 1286697.44 0.2704 0.0099 *

Jupiter -1186-06-19 04:47 J 1288405.53 1288405.70 1288405.88 0.0496 0.0141

Pluto -1185-12-27 19:12 J 1288963.26 1288963.30 1288963.37 0.0073 0.0069

Pluto -1184-03-25 20:52 J 1289051.28 1289051.37 1289051.50 0.0072 0.0058

Saturn -1184-04-11 13:55 J 1289067.99 1289068.08 1289068.17 0.0293 0.0213

Pluto -1184-06-21 23:16 J 1289139.33 1289139.47 1289139.60 0.0072 0.0046

Saturn -1184-07-09 02:38 J 1289156.48 1289156.61 1289156.74 0.0294 0.0072

Pluto -1184-09-18 00:57 J 1289227.39 1289227.54 1289227.70 0.0072 0.0035

Saturn -1184-10-05 15:07 J 1289245.01 1289245.13 1289245.26 0.0295 0.0070

Mars -1184-10-07 00:43 J 1289246.49 1289246.53 1289246.58 0.1788 0.1616

Pluto -1184-12-15 02:52 J 1289315.45 1289315.62 1289315.78 0.0072 0.0023

Saturn -1183-01-02 03:50 J 1289333.57 1289333.66 1289333.75 0.0295 0.0210

Pluto -1183-03-13 04:33 J 1289403.52 1289403.69 1289403.86 0.0072 0.0012

Pluto -1183-06-09 06:14 J 1289491.59 1289491.76 1289491.94 0.0072 0.0003

Pluto -1183-09-05 07:55 J 1289579.67 1289579.83 1289580.01 0.0072 0.0010

Mars -1183-11-02 19:55 J 1289638.18 1289638.33 1289638.48 0.1753 0.0746

Pluto -1183-12-02 09:50 J 1289667.74 1289667.91 1289668.08 0.0072 0.0020

Pluto -1182-02-28 11:31 J 1289755.83 1289755.98 1289756.14 0.0072 0.0031

Pluto -1182-05-27 12:57 J 1289843.91 1289844.04 1289844.20 0.0071 0.0042

Pluto -1182-08-23 14:52 J 1289932.01 1289932.12 1289932.24 0.0071 0.0052

Mars -1182-09-12 09:21 J 1289951.78 1289951.89 1289951.99 0.1761 0.0716

Pluto -1182-11-19 16:19 J 1290020.11 1290020.18 1290020.28 0.0071 0.0062

Jupiter -1180-02-19 13:12 J 1290477.92 1290478.05 1290478.17 0.0531 0.0052

Jupiter -1180-05-19 19:26 J 1290567.29 1290567.31 1290567.32 0.0529 0.0521

Moon -1178-10-17 12:43 J 1291447.93 1291448.03 1291448.12 0.2706 0.1220

Earth -1178-10-17 13:26 J 1291447.96 1291448.06 1291448.15 0.2705 0.1257 *

Venus -1177-05-11 10:19 J 1291654.80 1291654.93 1291655.05 0.3692 0.1997

Jupiter -1174-04-07 01:55 J 1292715.39 1292715.58 1292715.76 0.0495 0.0044

Neptune -1174-09-26 19:12 J 1292888.30 1292888.30 1292888.35 0.0088 0.0087

Neptune -1174-12-23 23:02 J 1292976.37 1292976.46 1292976.55 0.0088 0.0077

Neptune -1173-03-21 01:55 J 1293064.48 1293064.58 1293064.71 0.0088 0.0068

Mars -1173-03-24 17:45 J 1293068.21 1293068.24 1293068.26 0.1746 0.1714

Neptune -1173-06-17 05:16 J 1293152.59 1293152.72 1293152.87 0.0088 0.0059

Neptune -1173-09-13 08:52 J 1293240.71 1293240.87 1293241.03 0.0088 0.0049

Uranus -1173-11-04 14:09 J 1293293.05 1293293.09 1293293.14 0.0135 0.0125

Neptune -1173-12-10 12:00 J 1293328.84 1293329.00 1293329.18 0.0088 0.0040

Uranus -1172-01-31 17:16 J 1293381.15 1293381.22 1293381.30 0.0135 0.0107

Mars -1172-02-01 19:26 J 1293382.19 1293382.31 1293382.42 0.1767 0.0173

Neptune -1172-03-08 15:35 J 1293416.97 1293417.15 1293417.33 0.0088 0.0030

Uranus -1172-04-29 20:24 J 1293469.26 1293469.35 1293469.45 0.0135 0.0089

Neptune -1172-06-04 18:43 J 1293505.10 1293505.28 1293505.47 0.0088 0.0021

Uranus -1172-07-26 23:31 J 1293557.37 1293557.48 1293557.59 0.0135 0.0072

Neptune -1172-08-31 22:04 J 1293593.24 1293593.42 1293593.61 0.0088 0.0011

Uranus -1172-10-23 02:38 J 1293645.49 1293645.61 1293645.73 0.0135 0.0054

Venus -1172-11-25 17:16 J 1293679.09 1293679.22 1293679.34 0.3691 0.2032

Neptune -1172-11-28 01:26 J 1293681.37 1293681.56 1293681.76 0.0088 0.0003

Uranus -1171-01-19 05:45 J 1293733.61 1293733.74 1293733.87 0.0136 0.0036

Neptune -1171-02-24 04:47 J 1293769.51 1293769.70 1293769.89 0.0088 0.0008

Uranus -1171-04-17 08:52 J 1293821.74 1293821.87 1293822.00 0.0136 0.0018

Neptune -1171-05-23 08:09 J 1293857.66 1293857.84 1293858.03 0.0088 0.0018

Uranus -1171-07-14 12:00 J 1293909.86 1293910.00 1293910.13 0.0136 0.0005

Neptune -1171-08-19 11:31 J 1293945.80 1293945.98 1293946.17 0.0088 0.0027

Uranus -1171-10-10 14:52 J 1293997.99 1293998.12 1293998.25 0.0136 0.0017

Earth -1171-10-10 13:40 J 1293998.04 1293998.07 1293998.10 0.2702 0.2555 *

Moon -1171-10-10 14:09 J 1293998.05 1293998.09 1293998.13 0.2697 0.2484 *

Neptune -1171-11-15 14:38 J 1294033.95 1294034.11 1294034.30 0.0088 0.0037

Uranus -1170-01-06 18:00 J 1294086.12 1294086.25 1294086.38 0.0136 0.0035

Saturn -1170-02-07 20:52 J 1294118.29 1294118.37 1294118.45 0.0268 0.0241

Neptune -1170-02-11 18:28 J 1294122.10 1294122.27 1294122.43 0.0088 0.0046

Uranus -1170-04-04 21:07 J 1294174.26 1294174.38 1294174.50 0.0136 0.0053

Saturn -1170-05-07 16:47 J 1294207.03 1294207.20 1294207.37 0.0268 0.0095

Neptune -1170-05-10 21:35 J 1294210.26 1294210.40 1294210.56 0.0088 0.0056

Uranus -1170-07-02 00:00 J 1294262.39 1294262.50 1294262.62 0.0136 0.0071

Saturn -1170-08-04 12:57 J 1294295.86 1294296.04 1294296.22 0.0267 0.0052

Neptune -1170-08-07 00:43 J 1294298.42 1294298.53 1294298.68 0.0088 0.0066

Uranus -1170-09-28 03:07 J 1294350.53 1294350.63 1294350.73 0.0136 0.0089

Saturn -1170-11-01 08:52 J 1294384.76 1294384.87 1294385.01 0.0266 0.0200

Neptune -1170-11-03 04:33 J 1294386.60 1294386.69 1294386.79 0.0088 0.0075

Uranus -1170-12-25 06:14 J 1294438.68 1294438.76 1294438.84 0.0136 0.0106

Neptune -1169-01-30 07:40 J 1294474.79 1294474.82 1294474.88 0.0088 0.0085

Uranus -1169-03-22 09:07 J 1294526.84 1294526.88 1294526.94 0.0136 0.0124

Jupiter -1169-12-08 17:16 J 1294788.10 1294788.22 1294788.34 0.0532 0.0195

Jupiter -1168-03-07 23:45 J 1294877.40 1294877.49 1294877.57 0.0531 0.0385

Venus -1168-11-22 22:19 J 1295137.37 1295137.43 1295137.51 0.3678 0.2708

Moon -1165-10-19 06:14 J 1296198.73 1296198.76 1296198.80 0.2711 0.2510

Earth -1165-10-19 06:43 J 1296198.76 1296198.78 1296198.81 0.2706 0.2606 *

Mars -1163-06-25 05:16 J 1296812.61 1296812.72 1296812.83 0.1775 0.0391

Jupiter -1162-01-23 23:45 J 1297025.33 1297025.49 1297025.66 0.0495 0.0211

Jupiter -1162-04-24 08:09 J 1297115.83 1297115.84 1297115.86 0.0496 0.0493

Venus -1162-06-08 14:38 J 1297161.01 1297161.11 1297161.21 0.3679 0.1230

Mars -1162-07-23 02:38 J 1297205.51 1297205.61 1297205.71 0.1768 0.1416

Moon -1161-04-12 13:12 J 1297469.89 1297470.05 1297470.21 0.2632 0.0044

Earth -1161-04-12 14:52 J 1297469.95 1297470.12 1297470.28 0.2629 0.0167 *

Moon -1158-10-13 06:57 J 1298748.70 1298748.79 1298748.89 0.2696 0.1232

Earth -1158-10-13 07:12 J 1298748.70 1298748.80 1298748.90 0.2703 0.1184 *

Jupiter -1157-09-26 21:21 J 1299098.30 1299098.39 1299098.49 0.0533 0.0335

Venus -1157-12-22 06:43 J 1299184.67 1299184.78 1299184.88 0.3680 0.0234

Jupiter	-1157-12-25 04:04 J	1299187.56	1299187.67	1299187.79	0.0531	0.0250
Saturn	-1155-08-29 14:52 J	1299800.07	1299800.12	1299800.18	0.0292	0.0263
Saturn	-1155-11-26 03:35 J	1299888.53	1299888.65	1299888.77	0.0293	0.0122
Saturn	-1154-02-22 16:19 J	1299977.05	1299977.18	1299977.31	0.0294	0.0019
Saturn	-1154-05-22 04:47 J	1300065.59	1300065.70	1300065.81	0.0295	0.0158
Mars	-1154-11-15 15:07 J	1300243.04	1300243.13	1300243.23	0.1781	0.0964
Mars	-1153-12-11 23:16 J	1300635.30	1300635.47	1300635.63	0.1760	0.0357
Mars	-1152-10-20 23:02 J	1300948.38	1300948.46	1300948.53	0.1754	0.1302
Venus	-1151-07-07 22:33 J	1301208.35	1301208.44	1301208.54	0.3681	0.1652
Jupiter	-1151-11-11 21:50 J	1301335.29	1301335.41	1301335.52	0.0494	0.0378
Jupiter	-1150-02-10 05:45 J	1301425.60	1301425.74	1301425.88	0.0496	0.0320
Venus	-1145-01-21 14:38 J	1303232.05	1303232.11	1303232.16	0.3682	0.3058
Jupiter	-1145-07-16 01:26 J	1303408.51	1303408.56	1303408.62	0.0533	0.0478
Jupiter	-1145-10-13 08:24 J	1303497.73	1303497.85	1303497.98	0.0531	0.0110
Moon	-1145-10-15 00:14 J	1303499.40	1303499.51	1303499.61	0.2701	0.0171
Earth	-1145-10-15 00:43 J	1303499.42	1303499.53	1303499.64	0.2704	0.0178 *
Mars	-1144-04-07 00:43 J	1303673.48	1303673.53	1303673.59	0.1788	0.1555
Mars	-1143-05-03 20:38 J	1304065.20	1304065.36	1304065.51	0.1753	0.0653
Mars	-1142-03-13 09:21 J	1304378.79	1304378.89	1304378.99	0.1760	0.0774
Saturn	-1141-09-23 13:55 J	1304938.93	1304939.08	1304939.22	0.0268	0.0155
Saturn	-1141-12-21 09:50 J	1305027.73	1305027.91	1305028.10	0.0267	0.0010
Saturn	-1140-03-20 06:00 J	1305116.60	1305116.75	1305116.91	0.0266	0.0139
Jupiter	-1139-11-29 03:35 J	1305735.48	1305735.65	1305735.83	0.0496	0.0150
Mars	-1134-09-23 18:28 J	1307495.21	1307495.27	1307495.33	0.1746	0.1618
Jupiter	-1133-08-01 12:14 J	1307807.88	1307808.01	1307808.14	0.0531	0.0040
Mars	-1133-08-02 19:12 J	1307809.19	1307809.30	1307809.42	0.1767	0.0236
Uranus	-1132-03-04 06:57 J	1308022.77	1308022.79	1308022.85	0.0143	0.0141
Uranus	-1132-05-31 15:35 J	1308111.03	1308111.15	1308111.28	0.0143	0.0110
Uranus	-1132-08-27 23:45 J	1308199.34	1308199.49	1308199.66	0.0143	0.0079
Moon	-1132-10-17 17:31 J	1308250.14	1308250.23	1308250.32	0.2706	0.1371

Earth -1132-10-17 18:14 J 1308250.17 1308250.26 1308250.34 0.2705 0.1537 *

Uranus -1132-11-24 08:09 J 1308287.67 1308287.84 1308288.03 0.0143 0.0049

Uranus -1131-02-20 16:33 J 1308376.00 1308376.19 1308376.39 0.0143 0.0018

Uranus -1131-05-20 00:57 J 1308464.35 1308464.54 1308464.73 0.0143 0.0013

Uranus -1131-08-16 09:21 J 1308552.70 1308552.89 1308553.07 0.0143 0.0044

Uranus -1131-11-12 17:31 J 1308641.07 1308641.23 1308641.40 0.0143 0.0075

Uranus -1130-02-09 01:55 J 1308729.46 1308729.58 1308729.72 0.0142 0.0106

Uranus -1130-05-08 10:04 J 1308817.89 1308817.92 1308817.99 0.0142 0.0137

Moon -1128-04-10 11:31 J 1309520.93 1309520.98 1309521.04 0.2630 0.2460

Earth -1128-04-10 13:26 J 1309520.97 1309521.06 1309521.15 0.2630 0.2185 *

Jupiter -1127-09-17 01:26 J 1310045.38 1310045.56 1310045.74 0.0495 0.0022

Saturn -1125-04-14 05:02 J 1310620.60 1310620.71 1310620.82 0.0293 0.0169

Saturn -1125-07-11 17:45 J 1310709.11 1310709.24 1310709.37 0.0294 0.0028

Saturn -1125-10-08 06:14 J 1310797.64 1310797.76 1310797.88 0.0295 0.0113

Moon -1125-10-10 18:43 J 1310800.22 1310800.28 1310800.34 0.2696 0.2211

Earth -1125-10-10 18:28 J 1310800.22 1310800.27 1310800.33 0.2702 0.2276 *

Saturn -1124-01-04 18:43 J 1310886.22 1310886.28 1310886.35 0.0295 0.0252

Mars -1124-12-24 05:16 J 1311239.61 1311239.72 1311239.84 0.1774 0.0333

Mars -1122-01-21 03:21 J 1311632.55 1311632.64 1311632.72 0.1768 0.1514

Jupiter -1121-05-20 16:19 J 1312118.06 1312118.18 1312118.30 0.0532 0.0185

Jupiter -1121-08-17 22:47 J 1312207.36 1312207.45 1312207.53 0.0530 0.0393

Venus -1121-12-16 11:31 J 1312327.84 1312327.98 1312328.13 0.3692 0.0777

Moon -1115-04-13 20:24 J 1314272.19 1314272.35 1314272.50 0.2633 0.0560

Earth -1115-04-13 21:35 J 1314272.24 1314272.40 1314272.56 0.2629 0.0731 *

Venus -1115-07-02 18:57 J 1314352.23 1314352.29 1314352.35 0.3690 0.3338

Jupiter -1115-07-05 22:33 J 1314355.28 1314355.44 1314355.61 0.0494 0.0201

Mars -1114-05-16 15:07 J 1314670.03 1314670.13 1314670.23 0.1781 0.0908

Mars -1113-06-12 00:00 J 1315062.34 1315062.50 1315062.67 0.1761 0.0466

Mars -1112-04-20 23:02 J 1315375.39 1315375.46 1315375.53 0.1754 0.1357

Moon -1112-10-13 11:45 J 1315550.89 1315550.99 1315551.09 0.2696 0.0922

Earth -1112-10-13 12:00 J 1315550.90 1315551.00 1315551.10 0.2703 0.0908 *

Saturn -1111-02-10 13:55 J 1315670.95 1315671.08 1315671.20 0.0268 0.0193

Saturn -1111-05-10 09:50 J 1315759.73 1315759.91 1315760.09 0.0268 0.0047

Venus -1111-06-29 19:55 J 1315810.25 1315810.33 1315810.42 0.3678 0.2207

Saturn -1111-08-07 06:00 J 1315848.58 1315848.75 1315848.93 0.0267 0.0101

Saturn -1111-11-04 02:24 J 1315937.54 1315937.60 1315937.67 0.0266 0.0249

Jupiter -1109-03-08 20:09 J 1316428.24 1316428.34 1316428.44 0.0533 0.0333

Jupiter -1109-06-06 02:52 J 1316517.51 1316517.62 1316517.73 0.0531 0.0252

Venus -1105-01-13 12:14 J 1317833.91 1317834.01 1317834.11 0.3679 0.0729

Mars -1105-10-06 00:43 J 1318100.47 1318100.53 1318100.60 0.1788 0.1496

Mars -1104-11-01 21:21 J 1318492.23 1318492.39 1318492.55 0.1753 0.0554

Jupiter -1103-04-23 20:38 J 1318665.24 1318665.36 1318665.48 0.0494 0.0367

Jupiter -1103-07-23 04:33 J 1318755.55 1318755.69 1318755.83 0.0496 0.0329

Mars -1103-09-11 09:07 J 1318805.78 1318805.88 1318805.98 0.1761 0.0826

Venus -1100-07-29 04:19 J 1319857.57 1319857.68 1319857.78 0.3680 0.0720

Moon -1099-10-16 04:47 J 1320301.59 1320301.70 1320301.81 0.2702 0.0331

Earth -1099-10-16 05:31 J 1320301.62 1320301.73 1320301.83 0.2704 0.0458 *

Jupiter -1098-12-27 00:14 J 1320738.46 1320738.51 1320738.57 0.0533 0.0475

Jupiter -1097-03-25 07:12 J 1320827.68 1320827.80 1320827.93 0.0531 0.0115

Saturn -1096-09-01 06:28 J 1321352.69 1321352.77 1321352.87 0.0292 0.0213

Saturn -1096-11-28 19:12 J 1321441.17 1321441.30 1321441.43 0.0293 0.0073

Saturn -1095-02-25 07:55 J 1321529.70 1321529.83 1321529.96 0.0294 0.0067

Saturn -1095-05-24 20:09 J 1321618.25 1321618.34 1321618.44 0.0295 0.0207

Venus -1094-02-11 20:09 J 1321881.26 1321881.34 1321881.43 0.3681 0.2130

Mars -1094-03-24 18:57 J 1321922.21 1321922.29 1321922.37 0.1746 0.1532

Mars -1093-02-01 19:26 J 1322236.20 1322236.31 1322236.42 0.1767 0.0289

Neptune -1092-07-10 09:07 J 1322760.86 1322760.88 1322760.91 0.0089 0.0088

Neptune -1092-10-06 10:33 J 1322848.89 1322848.94 1322849.00 0.0089 0.0081

Neptune -1091-01-02 12:00 J 1322936.93 1322937.00 1322937.08 0.0089 0.0073

Neptune -1091-03-31 13:12 J 1323024.98 1323025.05 1323025.16 0.0089 0.0067

Jupiter -1091-05-11 01:55 J 1323065.41 1323065.58 1323065.76 0.0495 0.0155

Neptune -1091-06-27 14:52 J 1323113.02 1323113.12 1323113.23 0.0089 0.0059

Neptune -1091-09-23 16:19 J 1323201.08 1323201.18 1323201.29 0.0089 0.0052

Neptune -1091-12-20 17:45 J 1323289.13 1323289.24 1323289.36 0.0089 0.0045

Neptune -1090-03-18 19:12 J 1323377.18 1323377.30 1323377.43 0.0089 0.0037

Neptune -1090-06-14 20:38 J 1323465.24 1323465.36 1323465.49 0.0089 0.0030

Neptune -1090-09-10 22:04 J 1323553.29 1323553.42 1323553.55 0.0089 0.0023

Neptune -1090-12-07 23:31 J 1323641.35 1323641.48 1323641.61 0.0089 0.0016

Neptune -1089-03-05 00:57 J 1323729.41 1323729.54 1323729.67 0.0089 0.0009

Neptune -1089-06-01 02:24 J 1323817.46 1323817.60 1323817.73 0.0089 0.0002

Venus -1089-08-27 12:00 J 1323904.98 1323905.00 1323905.03 0.3682 0.3522

Neptune -1089-08-28 03:50 J 1323905.52 1323905.66 1323905.79 0.0089 0.0006

Neptune -1089-11-24 05:02 J 1323993.58 1323993.71 1323993.85 0.0089 0.0013

Uranus -1089-11-24 21:50 J 1323994.36 1323994.41 1323994.48 0.0135 0.0118

Neptune -1088-02-20 06:28 J 1324081.64 1324081.77 1324081.91 0.0089 0.0020

Uranus -1088-02-21 00:57 J 1324082.46 1324082.54 1324082.64 0.0135 0.0100

Neptune -1088-05-19 07:55 J 1324169.71 1324169.83 1324169.96 0.0089 0.0027

Uranus -1088-05-20 04:04 J 1324170.57 1324170.67 1324170.78 0.0135 0.0082

Neptune -1088-08-15 09:07 J 1324257.77 1324257.88 1324258.01 0.0089 0.0035

Uranus -1088-08-16 07:12 J 1324258.69 1324258.80 1324258.92 0.0135 0.0065

Neptune -1088-11-11 10:33 J 1324345.83 1324345.94 1324346.07 0.0089 0.0041

Uranus -1088-11-12 10:19 J 1324346.81 1324346.93 1324347.06 0.0135 0.0047

Neptune -1087-02-07 12:00 J 1324433.89 1324434.00 1324434.12 0.0089 0.0048

Uranus -1087-02-08 13:26 J 1324434.93 1324435.06 1324435.19 0.0135 0.0029

Neptune -1087-05-06 13:26 J 1324521.96 1324522.06 1324522.17 0.0089 0.0055

Uranus -1087-05-07 16:33 J 1324523.06 1324523.19 1324523.32 0.0136 0.0011

Neptune -1087-08-02 14:38 J 1324610.03 1324610.11 1324610.22 0.0089 0.0063

Uranus -1087-08-03 19:40 J 1324611.19 1324611.32 1324611.45 0.0136 0.0007

Neptune -1087-10-29 16:04 J 1324698.10 1324698.17 1324698.26 0.0089 0.0070

Uranus -1087-10-30 22:33 J 1324699.32 1324699.44 1324699.58 0.0136 0.0025

Neptune -1086-01-25 17:16 J 1324786.17 1324786.22 1324786.30 0.0089 0.0077

Uranus -1086-01-27 01:40 J 1324787.45 1324787.57 1324787.70 0.0136 0.0042

Neptune -1086-04-23 18:43 J 1324874.25 1324874.28 1324874.34 0.0089 0.0084

Uranus -1086-04-25 04:47 J 1324875.58 1324875.70 1324875.82 0.0136 0.0060

Uranus -1086-07-22 07:55 J 1324963.72 1324963.83 1324963.94 0.0136 0.0077

Uranus -1086-10-18 10:47 J 1325051.87 1325051.95 1325052.05 0.0136 0.0096

Moon -1086-10-18 22:19 J 1325052.35 1325052.43 1325052.51 0.2707 0.1779

Earth -1086-10-18 22:47 J 1325052.38 1325052.45 1325052.53 0.2705 0.1814 *

Jupiter -1085-01-12 11:31 J 1325137.85 1325137.98 1325138.11 0.0532 0.0026

Uranus -1085-01-14 13:55 J 1325140.01 1325140.08 1325140.16 0.0136 0.0113

Uranus -1085-04-11 16:47 J 1325228.18 1325228.20 1325228.25 0.0136 0.0131

Mars -1084-06-24 05:16 J 1325666.61 1325666.72 1325666.84 0.1774 0.0274

Mars -1083-07-22 03:50 J 1326059.60 1326059.66 1326059.73 0.1768 0.1608

Moon -1082-04-11 18:28 J 1326323.15 1326323.27 1326323.38 0.2630 0.1781

Earth -1082-04-11 20:09 J 1326323.22 1326323.34 1326323.47 0.2630 0.1625 *

Saturn -1082-06-30 11:02 J 1326402.91 1326402.96 1326403.03 0.0268 0.0251

Saturn -1082-09-27 07:12 J 1326491.63 1326491.80 1326491.97 0.0268 0.0105

Saturn -1082-12-25 03:21 J 1326580.46 1326580.64 1326580.82 0.0267 0.0042

Saturn -1081-03-22 23:31 J 1326669.36 1326669.48 1326669.62 0.0267 0.0190

Jupiter -1079-02-27 00:00 J 1327375.31 1327375.50 1327375.68 0.0495 0.0017

Earth -1079-10-11 23:16 J 1327602.40 1327602.47 1327602.54 0.2702 0.1992

Moon -1079-10-11 23:31 J 1327602.41 1327602.48 1327602.55 0.2695 0.2005 *

Mars -1075-11-14 15:07 J 1329097.03 1329097.13 1329097.23 0.1781 0.0848

Jupiter -1074-10-31 15:07 J 1329448.01 1329448.13 1329448.26 0.0532 0.0178

Mars -1074-12-12 00:57 J 1329489.38 1329489.54 1329489.70 0.1761 0.0562

Jupiter -1073-01-28 21:35 J 1329537.32 1329537.40 1329537.48 0.0530 0.0399

Mars -1073-10-19 22:47 J 1329802.39 1329802.45 1329802.52 0.1754 0.1412

Venus -1069-01-07 06:28 J 1330976.72 1330976.77 1330976.82 0.3693 0.3423

Moon -1069-04-14 03:21 J 1331074.50 1331074.64 1331074.79 0.2634 0.1165

Earth -1069-04-14 04:33 J 1331074.55 1331074.69 1331074.83 0.2628 0.1313 *

Jupiter	-1068-12-15 21:50 J	1331685.24	1331685.41	1331685.58	0.0495	0.0185
Saturn	-1066-01-19 07:55 J	1332084.78	1332084.83	1332084.90	0.0292	0.0258
Saturn	-1066-04-17 20:52 J	1332173.25	1332173.37	1332173.49	0.0293	0.0117
Saturn	-1066-07-15 09:35 J	1332261.76	1332261.90	1332262.03	0.0294	0.0025
Saturn	-1066-10-11 22:04 J	1332350.31	1332350.42	1332350.53	0.0295	0.0163
Moon	-1066-10-14 16:33 J	1332353.08	1332353.19	1332353.29	0.2697	0.0663
Earth	-1066-10-14 16:47 J	1332353.10	1332353.20	1332353.30	0.2703	0.0629 *
Mars	-1065-04-06 00:43 J	1332527.47	1332527.53	1332527.60	0.1788	0.1436
Mars	-1064-05-02 22:04 J	1332919.26	1332919.42	1332919.59	0.1753	0.0455
Venus	-1064-07-23 13:12 J	1333000.90	1333001.05	1333001.20	0.3691	0.0501
Mars	-1063-03-12 09:07 J	1333232.79	1333232.88	1333232.98	0.1760	0.0888
Jupiter	-1062-08-19 18:57 J	1333758.19	1333758.29	1333758.40	0.0532	0.0325
Jupiter	-1062-11-17 01:40 J	1333847.46	1333847.57	1333847.68	0.0531	0.0259
Venus	-1060-07-21 01:26 J	1334459.51	1334459.56	1334459.61	0.3677	0.3182
Jupiter	-1056-10-03 19:12 J	1335995.18	1335995.30	1335995.43	0.0494	0.0359
Jupiter	-1055-01-02 03:07 J	1336085.50	1336085.63	1336085.77	0.0495	0.0337
Mars	-1055-09-22 19:55 J	1336349.23	1336349.33	1336349.42	0.1746	0.1431
Venus	-1054-02-03 17:45 J	1336483.14	1336483.24	1336483.33	0.3678	0.1704
Mars	-1054-08-02 19:12 J	1336663.19	1336663.30	1336663.42	0.1767	0.0346
Moon	-1053-10-16 09:35 J	1337103.79	1337103.90	1337104.00	0.2702	0.0652
Earth	-1053-10-16 10:19 J	1337103.82	1337103.93	1337104.03	0.2704	0.0734 *
Saturn	-1052-02-13 07:26 J	1337223.66	1337223.81	1337223.97	0.0268	0.0141
Saturn	-1052-05-13 03:35 J	1337312.47	1337312.65	1337312.83	0.0268	0.0006
Saturn	-1052-08-09 23:45 J	1337401.35	1337401.49	1337401.65	0.0267	0.0154
Jupiter	-1050-06-07 22:33 J	1338068.39	1338068.44	1338068.50	0.0533	0.0478
Jupiter	-1050-09-05 05:45 J	1338157.61	1338157.74	1338157.86	0.0532	0.0113
Venus	-1049-08-19 09:50 J	1338506.80	1338506.91	1338507.01	0.3679	0.0237
Uranus	-1048-03-24 14:38 J	1338724.04	1338724.11	1338724.18	0.0143	0.0133
Uranus	-1048-06-20 22:47 J	1338812.32	1338812.45	1338812.59	0.0143	0.0102
Uranus	-1048-09-17 07:12 J	1338900.64	1338900.80	1338900.97	0.0143	0.0072

Uranus	-1048-12-14 15:21 J	1338988.96	1338989.14	1338989.33	0.0143	0.0042
Uranus	-1047-03-13 00:00 J	1339077.30	1339077.50	1339077.69	0.0143	0.0010
Uranus	-1047-06-09 08:09 J	1339165.65	1339165.84	1339166.04	0.0143	0.0021
Uranus	-1047-09-05 16:33 J	1339254.01	1339254.19	1339254.38	0.0143	0.0051
Uranus	-1047-12-03 00:43 J	1339342.39	1339342.53	1339342.70	0.0143	0.0083
Uranus	-1046-03-01 09:21 J	1339430.78	1339430.89	1339431.01	0.0142	0.0113
Mars	-1045-12-23 05:16 J	1340093.61	1340093.72	1340093.84	0.1774	0.0216
Jupiter	-1044-10-21 00:43 J	1340395.35	1340395.53	1340395.70	0.0495	0.0163
Mars	-1043-01-20 04:47 J	1340486.66	1340486.70	1340486.74	0.1769	0.1714
Venus	-1043-03-05 01:55 J	1340530.48	1340530.58	1340530.67	0.3680	0.1204
Moon	-1040-10-19 03:07 J	1341854.56	1341854.63	1341854.70	0.2709	0.1966
Earth	-1040-10-19 03:35 J	1341854.59	1341854.65	1341854.72	0.2705	0.2086 *
Jupiter	-1038-06-24 10:04 J	1342467.79	1342467.92	1342468.05	0.0532	0.0029
Venus	-1038-09-18 17:45 J	1342554.17	1342554.24	1342554.31	0.3682	0.2603
Saturn	-1037-09-03 22:47 J	1342905.34	1342905.45	1342905.57	0.0292	0.0157
Saturn	-1037-12-01 11:31 J	1342993.85	1342993.98	1342994.11	0.0293	0.0018
Saturn	-1036-02-28 00:00 J	1343082.38	1343082.50	1343082.62	0.0294	0.0122
Moon	-1036-04-12 01:26 J	1343125.42	1343125.56	1343125.70	0.2632	0.1345
Earth	-1036-04-12 03:07 J	1343125.48	1343125.63	1343125.78	0.2630	0.1057 *
Saturn	-1036-05-27 12:14 J	1343170.96	1343171.01	1343171.08	0.0295	0.0261
Mars	-1035-05-15 15:07 J	1343524.03	1343524.13	1343524.24	0.1781	0.0787
Mars	-1034-06-12 01:40 J	1343916.41	1343916.57	1343916.72	0.1761	0.0657
Mars	-1033-04-19 23:02 J	1344229.40	1344229.46	1344229.52	0.1754	0.1471
Moon	-1033-10-12 04:04 J	1344404.59	1344404.67	1344404.76	0.2695	0.1643
Earth	-1033-10-12 04:04 J	1344404.59	1344404.67	1344404.75	0.2702	0.1713 *
Jupiter	-1032-08-08 22:04 J	1344705.24	1344705.42	1344705.60	0.0495	0.0013
Jupiter	-1026-04-12 14:09 J	1346777.97	1346778.09	1346778.21	0.0532	0.0169
Jupiter	-1026-07-10 20:38 J	1346867.28	1346867.36	1346867.44	0.0530	0.0409
Mars	-1026-10-06 00:43 J	1346954.46	1346954.53	1346954.60	0.1788	0.1378
Mars	-1025-10-31 22:47 J	1347346.29	1347346.45	1347346.61	0.1754	0.0362

Mars -1024-09-10 09:21 J 1347659.79 1347659.89 1347659.98 0.1760 0.0945

Pluto -1023-03-18 04:19 J 1347848.67 1347848.68 1347848.70 0.0071 0.0071

Moon -1023-04-15 10:04 J 1347876.81 1347876.92 1347877.04 0.2634 0.1788

Earth -1023-04-15 11:16 J 1347876.86 1347876.97 1347877.08 0.2628 0.1878 *

Pluto -1023-06-14 05:02 J 1347936.66 1347936.71 1347936.79 0.0072 0.0063

Saturn -1023-07-03 05:16 J 1347955.60 1347955.72 1347955.85 0.0268 0.0195

Pluto -1023-09-10 06:00 J 1348024.67 1348024.75 1348024.86 0.0072 0.0054

Saturn -1023-09-30 01:26 J 1348044.38 1348044.56 1348044.74 0.0268 0.0048

Pluto -1023-12-07 06:57 J 1348112.69 1348112.79 1348112.91 0.0072 0.0045

Saturn -1023-12-27 21:35 J 1348133.23 1348133.40 1348133.57 0.0267 0.0099

Pluto -1022-03-05 07:55 J 1348200.72 1348200.83 1348200.96 0.0072 0.0036

Saturn -1022-03-26 18:00 J 1348222.19 1348222.25 1348222.32 0.0267 0.0247

Pluto -1022-06-01 09:07 J 1348288.75 1348288.88 1348289.01 0.0072 0.0027

Pluto -1022-08-28 10:04 J 1348376.78 1348376.92 1348377.06 0.0072 0.0018

Pluto -1022-11-24 11:02 J 1348464.82 1348464.96 1348465.11 0.0072 0.0009

Pluto -1021-02-20 12:00 J 1348552.86 1348553.00 1348553.15 0.0072 0.0002

Pluto -1021-05-18 12:57 J 1348640.90 1348641.04 1348641.19 0.0073 0.0010

Pluto -1021-08-14 13:55 J 1348728.95 1348729.08 1348729.23 0.0073 0.0019

Pluto -1021-11-10 14:52 J 1348817.00 1348817.12 1348817.26 0.0073 0.0028

Pluto -1020-02-06 15:50 J 1348905.05 1348905.16 1348905.29 0.0073 0.0038

Pluto -1020-05-05 16:47 J 1348993.10 1348993.20 1348993.32 0.0073 0.0048

Jupiter -1020-05-27 19:55 J 1349015.16 1349015.33 1349015.50 0.0495 0.0182

Pluto -1020-08-01 18:14 J 1349081.17 1349081.26 1349081.35 0.0073 0.0057

Moon -1020-10-14 21:07 J 1349155.27 1349155.38 1349155.49 0.2699 0.0444

Earth -1020-10-14 21:35 J 1349155.29 1349155.40 1349155.51 0.2703 0.0345 *

Pluto -1020-10-28 18:57 J 1349169.24 1349169.29 1349169.36 0.0073 0.0067

Mars -1015-03-23 20:38 J 1350776.25 1350776.36 1350776.47 0.1746 0.1332

Jupiter -1014-01-29 17:45 J 1351088.14 1351088.24 1351088.35 0.0532 0.0321

Mars -1014-01-31 19:12 J 1351090.19 1351090.30 1351090.42 0.1767 0.0404

Jupiter -1014-04-29 00:28 J 1351177.41 1351177.52 1351177.63 0.0531 0.0262

Venus -1013-08-13 07:55 J 1351649.71 1351649.83 1351649.95 0.3692 0.2216

Neptune -1009-06-22 17:16 J 1353059.18 1353059.22 1353059.26 0.0088 0.0085

Neptune -1009-09-18 20:24 J 1353147.27 1353147.35 1353147.45 0.0088 0.0076

Neptune -1009-12-15 23:31 J 1353235.37 1353235.48 1353235.62 0.0088 0.0067

Neptune -1008-03-14 02:38 J 1353323.49 1353323.61 1353323.77 0.0088 0.0058

Jupiter -1008-03-15 18:00 J 1353325.12 1353325.25 1353325.38 0.0494 0.0350

Neptune -1008-06-10 06:14 J 1353411.61 1353411.76 1353411.93 0.0088 0.0048

Jupiter -1008-06-14 01:55 J 1353415.45 1353415.58 1353415.71 0.0496 0.0348

Neptune -1008-09-06 09:21 J 1353499.74 1353499.89 1353500.08 0.0088 0.0039

Neptune -1008-12-03 12:57 J 1353587.87 1353588.04 1353588.22 0.0088 0.0029

Saturn -1007-01-22 00:43 J 1353637.43 1353637.53 1353637.63 0.0293 0.0199

Venus -1007-02-27 14:52 J 1353673.99 1353674.12 1353674.25 0.3691 0.1774

Neptune -1007-03-01 16:19 J 1353676.00 1353676.18 1353676.37 0.0088 0.0020

Saturn -1007-04-20 13:26 J 1353725.93 1353726.06 1353726.19 0.0293 0.0059

Neptune -1007-05-28 19:40 J 1353764.13 1353764.32 1353764.51 0.0088 0.0010

Saturn -1007-07-18 01:55 J 1353814.45 1353814.58 1353814.71 0.0294 0.0081

Neptune -1007-08-24 23:02 J 1353852.27 1353852.46 1353852.65 0.0088 0.0001

Saturn -1007-10-14 14:24 J 1353903.01 1353903.10 1353903.19 0.0295 0.0220

Moon -1007-10-17 14:24 J 1353906.00 1353906.10 1353906.20 0.2703 0.0907

Earth -1007-10-17 15:07 J 1353906.03 1353906.13 1353906.23 0.2705 0.1016 *

Neptune -1007-11-21 02:24 J 1353940.41 1353940.60 1353940.79 0.0088 0.0009

Neptune -1006-02-17 05:31 J 1354028.55 1354028.73 1354028.93 0.0088 0.0019

Neptune -1006-05-16 09:07 J 1354116.70 1354116.88 1354117.06 0.0088 0.0028

Neptune -1006-08-12 12:14 J 1354204.85 1354205.01 1354205.19 0.0088 0.0038

Neptune -1006-11-08 15:21 J 1354293.00 1354293.14 1354293.32 0.0088 0.0048

Neptune -1005-02-04 18:57 J 1354381.16 1354381.29 1354381.45 0.0088 0.0057

Neptune -1005-05-02 22:19 J 1354469.32 1354469.43 1354469.57 0.0088 0.0067

Mars -1005-06-23 05:16 J 1354520.61 1354520.72 1354520.84 0.1774 0.0159

Neptune -1005-07-30 02:09 J 1354557.49 1354557.59 1354557.68 0.0088 0.0076

Uranus -1005-09-18 02:24 J 1354607.57 1354607.60 1354607.65 0.0135 0.0129

Neptune	**-1005-10-26 05:16 J**	**1354645.69**	**1354645.72**	**1354645.76**	**0.0088**	**0.0086**		
Uranus	**-1005-12-15 05:31 J**	**1354695.67**	**1354695.73**	**1354695.81**	**0.0135**	**0.0111**		
Uranus	**-1004-03-13 08:38 J**	**1354783.77**	**1354783.86**	**1354783.96**	**0.0135**	**0.0093**		
Uranus	**-1004-06-09 12:00 J**	**1354871.89**	**1354872.00**	**1354872.11**	**0.0135**	**0.0076**		
Uranus	**-1004-09-05 14:52 J**	**1354960.01**	**1354960.12**	**1354960.25**	**0.0135**	**0.0058**		
Uranus	**-1004-12-02 18:00 J**	**1355048.13**	**1355048.25**	**1355048.38**	**0.0135**	**0.0040**		
Venus	**-1003-02-24 23:02 J**	**1355132.39**	**1355132.46**	**1355132.53**	**0.3677**	**0.2673**		
Uranus	**-1003-02-28 21:07 J**	**1355136.25**	**1355136.38**	**1355136.51**	**0.0135**	**0.0023**		
Uranus	**-1003-05-28 00:14 J**	**1355224.38**	**1355224.51**	**1355224.64**	**0.0135**	**0.0005**		
Uranus	**-1003-08-24 03:21 J**	**1355312.51**	**1355312.64**	**1355312.77**	**0.0136**	**0.0013**		
Jupiter	**-1003-11-17 21:35 J**	**1355398.34**	**1355398.40**	**1355398.46**	**0.0533**	**0.0471**		
Uranus	**-1003-11-20 06:28 J**	**1355400.64**	**1355400.77**	**1355400.90**	**0.0136**	**0.0031**		
Jupiter	**-1002-02-15 04:33 J**	**1355487.56**	**1355487.69**	**1355487.81**	**0.0531**	**0.0118**		
Uranus	**-1002-02-16 09:21 J**	**1355488.77**	**1355488.89**	**1355489.02**	**0.0136**	**0.0049**		
Uranus	**-1002-05-15 12:28 J**	**1355576.91**	**1355577.02**	**1355577.14**	**0.0136**	**0.0066**		
Uranus	**-1002-08-11 15:35 J**	**1355665.05**	**1355665.15**	**1355665.25**	**0.0136**	**0.0084**		
Uranus	**-1002-11-07 18:28 J**	**1355753.19**	**1355753.27**	**1355753.36**	**0.0136**	**0.0102**		
Uranus	**-1001-02-03 21:50 J**	**1355841.35**	**1355841.41**	**1355841.47**	**0.0136**	**0.0120**		

1ST MILLENNIUM BCE

This is a list of transits of Mercury in the 1st millennium BCE.

FROM	MAX-TRANSIT TIME	C	START	MAX	END	SUNRAD	DEPTH	S
Moon	**-1000-10-10 15:50 J**	**1356456.15**	**1356456.16**	**1356456.17**	**0.2696**	**0.2679**		

Venus	-998-09-10 15:21 J	1357156.04	1357156.14	1357156.24	0.3679	0.1200
Jupiter	-996-04-01 23:02 J	1357725.29	1357725.46	1357725.63	0.0495	0.0168
Mars	-996-11-13 15:07 J	1357951.02	1357951.13	1357951.23	0.1781	0.0733
Mars	-995-12-11 02:24 J	1358343.45	1358343.60	1358343.75	0.1761	0.0758
Mars	-994-10-19 22:47 J	1358656.40	1358656.45	1358656.51	0.1754	0.1524
Moon	-994-10-20 07:55 J	1358656.78	1358656.83	1358656.88	0.2711	0.2321
Earth	-994-10-20 08:24 J	1358656.80	1358656.85	1358656.90	0.2706	0.2360 *
Saturn	-994-11-20 06:00 J	1358687.66	1358687.75	1358687.84	0.0269	0.0229
Saturn	-993-02-17 01:55 J	1358776.41	1358776.58	1358776.76	0.0268	0.0083
Saturn	-993-05-15 22:04 J	1358865.25	1358865.42	1358865.60	0.0268	0.0065
Saturn	-993-08-12 18:28 J	1358954.17	1358954.27	1358954.38	0.0267	0.0213
Venus	-992-03-26 07:26 J	1359179.70	1359179.81	1359179.91	0.3680	0.0259
Jupiter	-991-12-04 08:09 J	1359797.72	1359797.84	1359797.97	0.0532	0.0037
Moon	-990-04-13 08:24 J	1359927.69	1359927.85	1359928.00	0.2633	0.0570
Earth	-990-04-13 09:50 J	1359927.75	1359927.91	1359928.07	0.2630	0.0488 *
Venus	-987-10-09 23:31 J	1361203.38	1361203.48	1361203.57	0.3681	0.1685
Moon	-987-10-13 08:52 J	1361206.78	1361206.87	1361206.96	0.2695	0.1474
Earth	-987-10-13 08:52 J	1361206.78	1361206.87	1361206.96	0.2702	0.1431 *
Mars	-986-04-06 00:57 J	1361381.46	1361381.54	1361381.61	0.1788	0.1314
Mars	-985-05-01 23:45 J	1361773.32	1361773.49	1361773.65	0.1754	0.0259
Jupiter	-984-01-18 20:38 J	1362035.18	1362035.36	1362035.54	0.0494	0.0007
Mars	-984-03-11 09:07 J	1362086.79	1362086.88	1362086.98	0.1760	0.0997
Venus	-981-04-24 15:21 J	1363227.08	1363227.14	1363227.19	0.3682	0.3075
Jupiter	-979-09-22 12:28 J	1364107.90	1364108.02	1364108.14	0.0533	0.0175
Jupiter	-979-12-20 18:57 J	1364197.21	1364197.29	1364197.37	0.0531	0.0405
Saturn	-978-06-11 03:21 J	1364369.56	1364369.64	1364369.72	0.0292	0.0232
Saturn	-978-09-07 16:04 J	1364458.04	1364458.17	1364458.29	0.0292	0.0093
Saturn	-978-12-05 04:33 J	1364546.56	1364546.69	1364546.82	0.0293	0.0046
Saturn	-977-03-02 17:02 J	1364635.11	1364635.21	1364635.31	0.0294	0.0185
Moon	-977-04-15 17:16 J	1364679.14	1364679.22	1364679.29	0.2634	0.2298

Earth	-977-04-15 18:14 J	1364679.20	1364679.26	1364679.31	0.2628	0.2462 *
Mars	-976-09-21 21:07 J	1365203.26	1365203.38	1365203.49	0.1746	0.1251
Mars	-975-08-01 19:26 J	1365517.20	1365517.31	1365517.42	0.1767	0.0462
Moon	-974-10-16 01:55 J	1365957.47	1365957.58	1365957.69	0.2699	0.0118
Earth	-974-10-16 02:24 J	1365957.49	1365957.60	1365957.71	0.2703	0.0066 *
Jupiter	-973-11-06 18:00 J	1366345.08	1366345.25	1366345.42	0.0494	0.0183
Jupiter	-967-07-11 16:33 J	1368418.09	1368418.19	1368418.29	0.0533	0.0317
Jupiter	-967-10-08 23:16 J	1368507.36	1368507.47	1368507.58	0.0531	0.0267
Mars	-966-12-23 05:16 J	1368947.61	1368947.72	1368947.84	0.1774	0.0099
Uranus	-964-04-13 21:50 J	1369425.33	1369425.41	1369425.51	0.0143	0.0125
Saturn	-964-07-06 00:28 J	1369508.36	1369508.52	1369508.68	0.0268	0.0132
Uranus	-964-07-11 06:14 J	1369513.62	1369513.76	1369513.91	0.0143	0.0095
Saturn	-964-10-02 20:38 J	1369597.17	1369597.36	1369597.54	0.0268	0.0015
Uranus	-964-10-07 14:24 J	1369601.94	1369602.10	1369602.29	0.0143	0.0065
Saturn	-964-12-30 16:47 J	1369686.06	1369686.20	1369686.35	0.0267	0.0162
Uranus	-963-01-03 23:02 J	1369690.27	1369690.46	1369690.65	0.0143	0.0033
Uranus	-963-04-02 07:26 J	1369778.61	1369778.81	1369779.00	0.0143	0.0003
Uranus	-963-06-29 15:35 J	1369866.97	1369867.15	1369867.35	0.0143	0.0029
Uranus	-963-09-26 00:00 J	1369955.33	1369955.50	1369955.68	0.0143	0.0059
Uranus	-963-12-23 08:38 J	1370043.71	1370043.86	1370044.01	0.0143	0.0090
Uranus	-962-03-21 16:47 J	1370132.11	1370132.20	1370132.31	0.0142	0.0121
Jupiter	-961-08-25 15:50 J	1370655.03	1370655.16	1370655.29	0.0494	0.0351
Moon	-961-10-17 19:12 J	1370708.20	1370708.30	1370708.39	0.2705	0.1182
Earth	-961-10-17 19:55 J	1370708.23	1370708.33	1370708.42	0.2705	0.1296 *
Jupiter	-961-11-23 23:45 J	1370745.36	1370745.49	1370745.62	0.0496	0.0346
Venus	-956-03-20 09:21 J	1372322.75	1372322.89	1372323.04	0.3692	0.0978
Mars	-956-05-14 15:07 J	1372378.03	1372378.13	1372378.24	0.1781	0.0670
Jupiter	-955-04-29 20:09 J	1372728.28	1372728.34	1372728.40	0.0533	0.0471
Mars	-955-06-11 03:21 J	1372770.49	1372770.64	1372770.79	0.1762	0.0868
Jupiter	-955-07-28 03:07 J	1372817.51	1372817.63	1372817.75	0.0531	0.0118

Mars	-954-04-19 22:47 J	1373083.41	1373083.45	1373083.50	0.1753	0.1580
Earth	-954-10-11 20:09 J	1373258.30	1373258.34	1373258.37	0.2701	0.2524
Moon	-954-10-11 20:24 J	1373258.32	1373258.35	1373258.39	0.2695	0.2516 *
Venus	-952-03-18 04:33 J	1373781.68	1373781.69	1373781.69	0.3677	0.3658
Venus	-951-10-04 16:33 J	1374347.10	1374347.19	1374347.27	0.3690	0.3064
Jupiter	-949-09-11 21:07 J	1375055.21	1375055.38	1375055.56	0.0495	0.0172
Saturn	-949-10-28 05:02 J	1375101.67	1375101.71	1375101.76	0.0292	0.0273
Saturn	-948-01-24 17:45 J	1375190.13	1375190.24	1375190.37	0.0293	0.0134
Saturn	-948-04-23 06:28 J	1375278.64	1375278.77	1375278.91	0.0294	0.0008
Saturn	-948-07-20 18:57 J	1375367.18	1375367.29	1375367.41	0.0294	0.0145
Saturn	-948-10-17 07:26 J	1375455.78	1375455.81	1375455.84	0.0295	0.0283
Moon	-948-10-20 12:43 J	1375459.00	1375459.03	1375459.06	0.2711	0.2560
Earth	-948-10-20 13:12 J	1375459.03	1375459.05	1375459.07	0.2706	0.2641 *
Venus	-947-10-01 20:38 J	1375805.28	1375805.36	1375805.45	0.3678	0.2171
Mars	-947-10-05 00:43 J	1375808.45	1375808.53	1375808.61	0.1787	0.1260
Mars	-946-11-01 00:14 J	1376200.35	1376200.51	1376200.68	0.1754	0.0172
Mars	-945-09-09 09:07 J	1376513.79	1376513.88	1376513.97	0.1760	0.1053
Moon	-944-04-13 15:21 J	1376729.98	1376730.14	1376730.30	0.2634	0.0216
Earth	-944-04-13 16:47 J	1376730.03	1376730.20	1376730.36	0.2630	0.0097 *
Jupiter	-943-05-16 06:57 J	1377127.66	1377127.79	1377127.92	0.0532	0.0030
Venus	-941-04-16 12:57 J	1377828.94	1377829.04	1377829.14	0.3679	0.0697
Moon	-941-10-13 13:40 J	1378008.97	1378009.07	1378009.16	0.2696	0.1116
Earth	-941-10-13 13:40 J	1378008.97	1378009.07	1378009.17	0.2702	0.1154 *
Pluto	-938-08-14 06:57 J	1379043.75	1379043.79	1379043.87	0.0073	0.0068
Pluto	-938-11-10 08:38 J	1379131.78	1379131.86	1379132.00	0.0072	0.0057
Pluto	-937-02-06 11:02 J	1379219.82	1379219.96	1379220.10	0.0072	0.0045
Pluto	-937-05-04 12:43 J	1379307.88	1379308.03	1379308.19	0.0072	0.0034
Jupiter	-937-06-30 18:43 J	1379365.09	1379365.28	1379365.46	0.0494	0.0009
Pluto	-937-07-31 14:38 J	1379395.95	1379396.11	1379396.28	0.0072	0.0022
Pluto	-937-10-27 16:33 J	1379484.01	1379484.19	1379484.36	0.0072	0.0011

Pluto	-936-01-23 18:14 J	1379572.08	1379572.26	1379572.44	0.0072	0.0000
Mars	-936-03-22 22:04 J	1379630.29	1379630.42	1379630.55	0.1747	0.1144
Pluto	-936-04-21 19:55 J	1379660.16	1379660.33	1379660.51	0.0072	0.0011
Pluto	-936-07-18 21:35 J	1379748.24	1379748.40	1379748.57	0.0072	0.0021
Pluto	-936-10-14 23:31 J	1379836.32	1379836.48	1379836.63	0.0071	0.0032
Venus	-936-10-31 05:02 J	1379852.61	1379852.71	1379852.81	0.3680	0.0745
Pluto	-935-01-11 00:57 J	1379924.41	1379924.54	1379924.69	0.0071	0.0043
Mars	-935-01-30 19:12 J	1379944.19	1379944.30	1379944.41	0.1767	0.0513
Pluto	-935-04-09 02:24 J	1380012.51	1380012.60	1380012.74	0.0071	0.0054
Pluto	-935-07-06 04:19 J	1380100.61	1380100.68	1380100.77	0.0071	0.0063
Saturn	-935-11-23 01:12 J	1380240.42	1380240.55	1380240.70	0.0269	0.0165
Saturn	-934-02-19 21:21 J	1380329.21	1380329.39	1380329.58	0.0268	0.0020
Saturn	-934-05-19 17:45 J	1380418.08	1380418.24	1380418.40	0.0268	0.0130
Jupiter	-931-03-04 10:19 J	1381437.81	1381437.93	1381438.05	0.0533	0.0185
Jupiter	-931-06-01 17:02 J	1381527.13	1381527.21	1381527.29	0.0531	0.0396
Venus	-930-05-16 20:52 J	1381876.29	1381876.37	1381876.46	0.3681	0.2160
Moon	-928-10-16 06:43 J	1382759.67	1382759.78	1382759.88	0.2699	0.0136
Earth	-928-10-16 07:12 J	1382759.69	1382759.80	1382759.91	0.2704	0.0218 *
Neptune	-927-04-06 07:55 J	1382931.82	1382931.83	1382931.86	0.0089	0.0088
Neptune	-927-07-03 09:21 J	1383019.84	1383019.89	1383019.96	0.0089	0.0081
Neptune	-927-09-29 10:47 J	1383107.89	1383107.95	1383108.04	0.0089	0.0073
Neptune	-927-12-26 12:28 J	1383195.93	1383196.02	1383196.11	0.0089	0.0066
Neptune	-926-03-24 13:55 J	1383283.98	1383284.08	1383284.18	0.0089	0.0059
Neptune	-926-06-20 15:07 J	1383372.03	1383372.13	1383372.25	0.0089	0.0052
Mars	-926-06-23 05:16 J	1383374.61	1383374.72	1383374.84	0.1774	0.0042
Neptune	-926-09-16 16:33 J	1383460.08	1383460.19	1383460.32	0.0089	0.0045
Neptune	-926-12-13 18:00 J	1383548.14	1383548.25	1383548.38	0.0089	0.0038
Neptune	-925-03-10 19:40 J	1383636.19	1383636.32	1383636.45	0.0089	0.0030
Jupiter	-925-04-18 16:19 J	1383675.01	1383675.18	1383675.35	0.0494	0.0178
Neptune	-925-06-06 21:07 J	1383724.25	1383724.38	1383724.51	0.0089	0.0023

Neptune	-925-09-02 22:33 J	1383812.31	1383812.44	1383812.57	0.0089	0.0016
Venus	-925-11-29 12:57 J	1383900.01	1383900.04	1383900.06	0.3682	0.3543
Neptune	-925-11-30 00:00 J	1383900.36	1383900.50	1383900.63	0.0089	0.0009
Neptune	-924-02-26 01:12 J	1383988.42	1383988.55	1383988.69	0.0089	0.0004
Neptune	-924-05-25 02:38 J	1384076.48	1384076.61	1384076.75	0.0089	0.0007
Neptune	-924-08-21 04:04 J	1384164.54	1384164.67	1384164.81	0.0089	0.0013
Neptune	-924-11-17 05:31 J	1384252.60	1384252.73	1384252.86	0.0089	0.0020
Neptune	-923-02-13 06:43 J	1384340.66	1384340.78	1384340.92	0.0089	0.0028
Neptune	-923-05-12 08:09 J	1384428.72	1384428.84	1384428.97	0.0089	0.0035
Neptune	-923-08-08 09:35 J	1384516.79	1384516.90	1384517.02	0.0089	0.0042
Neptune	-923-11-04 11:02 J	1384604.85	1384604.96	1384605.08	0.0089	0.0048
Neptune	-922-01-31 12:14 J	1384692.92	1384693.01	1384693.13	0.0089	0.0056
Neptune	-922-04-29 13:40 J	1384780.98	1384781.07	1384781.17	0.0089	0.0063
Neptune	-922-07-26 15:07 J	1384869.05	1384869.13	1384869.22	0.0089	0.0070
Neptune	-922-10-22 16:19 J	1384957.13	1384957.18	1384957.26	0.0089	0.0077
Neptune	-921-01-18 17:45 J	1385045.21	1385045.24	1385045.30	0.0089	0.0084
Uranus	-921-10-08 10:19 J	1385308.88	1385308.93	1385308.99	0.0135	0.0122
Uranus	-920-01-04 13:26 J	1385396.98	1385397.06	1385397.15	0.0135	0.0104
Uranus	-920-04-02 16:33 J	1385485.09	1385485.19	1385485.29	0.0135	0.0086
Uranus	-920-06-29 19:26 J	1385573.21	1385573.31	1385573.43	0.0135	0.0069
Uranus	-920-09-25 22:47 J	1385661.33	1385661.45	1385661.57	0.0135	0.0051
Jupiter	-920-12-21 14:24 J	1385748.00	1385748.10	1385748.20	0.0533	0.0329
Uranus	-920-12-23 01:55 J	1385749.45	1385749.58	1385749.71	0.0135	0.0033
Jupiter	-919-03-20 21:21 J	1385837.28	1385837.39	1385837.50	0.0531	0.0257
Uranus	-919-03-21 05:02 J	1385837.58	1385837.71	1385837.84	0.0135	0.0016
Saturn	-919-06-13 20:52 J	1385922.27	1385922.37	1385922.49	0.0292	0.0163
Uranus	-919-06-17 07:55 J	1385925.70	1385925.83	1385925.97	0.0135	0.0005
Saturn	-919-09-10 09:35 J	1386010.77	1386010.90	1386011.03	0.0293	0.0024
Uranus	-919-09-13 11:02 J	1386013.83	1386013.96	1386014.09	0.0136	0.0020
Saturn	-919-12-07 22:04 J	1386099.30	1386099.42	1386099.55	0.0293	0.0115

Uranus	-919-12-10 14:09 J	1386101.97	1386102.09	1386102.22	0.0136	0.0038
Saturn	-918-03-06 10:33 J	1386187.88	1386187.94	1386188.01	0.0294	0.0253
Uranus	-918-03-08 17:02 J	1386190.10	1386190.21	1386190.34	0.0136	0.0056
Uranus	-918-06-04 20:24 J	1386278.24	1386278.35	1386278.46	0.0136	0.0073
Uranus	-918-08-31 23:16 J	1386366.38	1386366.47	1386366.57	0.0136	0.0091
Uranus	-918-11-28 02:09 J	1386454.53	1386454.59	1386454.68	0.0136	0.0109
Uranus	-917-02-24 05:31 J	1386542.68	1386542.73	1386542.78	0.0136	0.0126
Mars	-917-11-12 15:07 J	1386805.02	1386805.13	1386805.24	0.1780	0.0611
Mars	-916-12-10 03:50 J	1387197.52	1387197.66	1387197.80	0.1761	0.0950
Moon	-915-10-19 00:00 J	1387510.41	1387510.50	1387510.58	0.2707	0.1519
Mars	-915-10-18 22:47 J	1387510.42	1387510.45	1387510.49	0.1753	0.1636 *
Earth	-915-10-19 00:28 J	1387510.44	1387510.52	1387510.61	0.2705	0.1571 *
Jupiter	-913-02-05 13:26 J	1387984.93	1387985.06	1387985.18	0.0494	0.0355
Jupiter	-913-05-05 21:07 J	1388075.25	1388075.38	1388075.51	0.0495	0.0340
Moon	-911-04-11 13:40 J	1388781.03	1388781.07	1388781.11	0.2632	0.2521
Earth	-911-04-11 15:21 J	1388781.06	1388781.14	1388781.22	0.2631	0.2257 *
Jupiter	-908-10-09 18:28 J	1390058.22	1390058.27	1390058.33	0.0533	0.0472
Earth	-908-10-12 00:57 J	1390060.48	1390060.54	1390060.60	0.2701	0.2242
Moon	-908-10-12 01:12 J	1390060.49	1390060.55	1390060.62	0.2695	0.2139 *
Jupiter	-907-01-07 01:40 J	1390147.44	1390147.57	1390147.69	0.0532	0.0119
Mars	-907-04-05 00:43 J	1390235.45	1390235.53	1390235.62	0.1787	0.1199
Mars	-906-05-02 01:12 J	1390627.38	1390627.55	1390627.72	0.1754	0.0072
Mars	-905-03-10 09:07 J	1390940.80	1390940.88	1390940.97	0.1760	0.1113
Venus	-905-04-10 04:19 J	1390971.65	1390971.68	1390971.71	0.3693	0.3595
Saturn	-905-04-11 00:28 J	1390972.41	1390972.52	1390972.64	0.0269	0.0209
Saturn	-905-07-08 20:38 J	1391061.18	1391061.36	1391061.54	0.0268	0.0063
Saturn	-905-10-05 16:47 J	1391150.02	1391150.20	1391150.37	0.0268	0.0084
Saturn	-904-01-02 13:12 J	1391238.96	1391239.05	1391239.14	0.0267	0.0232
Jupiter	-901-02-22 18:43 J	1392385.10	1392385.28	1392385.45	0.0495	0.0166
Venus	-900-10-25 11:02 J	1392995.81	1392995.96	1392996.11	0.3691	0.0285

Moon	-898-04-14 22:04 J	1393532.26	1393532.42	1393532.58	0.2634	0.0597
Earth	-898-04-14 23:31 J	1393532.33	1393532.48	1393532.64	0.2629	0.0671 *
Mars	-897-09-20 22:47 J	1394057.32	1394057.45	1394057.59	0.1747	0.1048
Mars	-896-07-31 19:12 J	1394371.19	1394371.30	1394371.41	0.1767	0.0570
Venus	-896-10-23 02:09 J	1394454.54	1394454.59	1394454.64	0.3677	0.3141
Jupiter	-896-10-26 05:16 J	1394457.59	1394457.72	1394457.85	0.0532	0.0034
Moon	-895-10-14 18:14 J	1394811.16	1394811.26	1394811.36	0.2696	0.0961
Earth	-895-10-14 18:28 J	1394811.17	1394811.27	1394811.37	0.2702	0.0873 *
Venus	-890-05-08 18:28 J	1396478.17	1396478.27	1396478.36	0.3678	0.1665
Saturn	-890-10-31 23:02 J	1396654.37	1396654.46	1396654.56	0.0292	0.0201
Jupiter	-890-12-11 16:19 J	1396695.00	1396695.18	1396695.36	0.0495	0.0008
Saturn	-889-01-28 11:45 J	1396742.86	1396742.99	1396743.12	0.0293	0.0061
Saturn	-889-04-26 00:14 J	1396831.39	1396831.51	1396831.64	0.0294	0.0079
Saturn	-889-07-23 12:43 J	1396919.95	1396920.03	1396920.12	0.0295	0.0217
Mars	-887-12-22 05:16 J	1397801.61	1397801.72	1397801.84	0.1773	0.0019
Venus	-885-11-21 10:33 J	1398501.84	1398501.94	1398502.05	0.3679	0.0204
Jupiter	-884-08-14 09:07 J	1398767.76	1398767.88	1398768.00	0.0532	0.0183
Jupiter	-884-11-11 15:35 J	1398857.07	1398857.15	1398857.23	0.0530	0.0396
Moon	-882-10-17 11:16 J	1399561.87	1399561.97	1399562.08	0.2700	0.0469
Earth	-882-10-17 12:00 J	1399561.89	1399562.00	1399562.10	0.2704	0.0493 *
Uranus	-880-05-04 04:47 J	1400126.60	1400126.70	1400126.81	0.0143	0.0120
Uranus	-880-07-31 12:57 J	1400214.90	1400215.04	1400215.20	0.0143	0.0089
Uranus	-880-10-27 21:07 J	1400303.22	1400303.38	1400303.57	0.0143	0.0060
Uranus	-879-01-24 05:45 J	1400391.55	1400391.74	1400391.93	0.0143	0.0028
Uranus	-879-04-22 14:09 J	1400479.90	1400480.09	1400480.28	0.0143	0.0003
Venus	-879-06-07 02:38 J	1400525.51	1400525.61	1400525.71	0.3681	0.1225
Uranus	-879-07-19 22:19 J	1400568.25	1400568.43	1400568.63	0.0143	0.0034
Uranus	-879-10-16 06:43 J	1400656.62	1400656.78	1400656.96	0.0143	0.0065
Uranus	-878-01-12 15:07 J	1400745.00	1400745.13	1400745.28	0.0143	0.0096
Uranus	-878-04-10 23:16 J	1400833.40	1400833.47	1400833.58	0.0142	0.0127

Jupiter	-878-09-29 13:55 J	1401004.91	1401005.08	1401005.25	0.0494	0.0180
Mars	-877-05-13 15:07 J	1401232.02	1401232.13	1401232.24	0.1781	0.0556
Mars	-876-06-10 04:47 J	1401624.57	1401624.70	1401624.83	0.1762	0.1061
Saturn	-876-08-29 01:40 J	1401704.49	1401704.57	1401704.65	0.0269	0.0240
Saturn	-876-11-25 21:35 J	1401793.23	1401793.40	1401793.57	0.0268	0.0094
Saturn	-875-02-22 17:45 J	1401882.06	1401882.24	1401882.42	0.0268	0.0053
Mars	-875-04-18 22:47 J	1401937.43	1401937.45	1401937.48	0.1753	0.1690
Saturn	-875-05-22 14:09 J	1401970.97	1401971.09	1401971.21	0.0267	0.0201
Venus	-874-12-21 18:28 J	1402549.20	1402549.27	1402549.34	0.3682	0.2629
Jupiter	-872-06-02 12:14 J	1403077.92	1403078.01	1403078.11	0.0533	0.0342
Jupiter	-872-08-30 19:12 J	1403167.19	1403167.30	1403167.41	0.0532	0.0245
Moon	-869-10-19 04:33 J	1404312.61	1404312.69	1404312.78	0.2708	0.1703
Earth	-869-10-19 05:16 J	1404312.64	1404312.72	1404312.80	0.2705	0.1845 *
Mars	-868-10-04 00:43 J	1404662.45	1404662.53	1404662.62	0.1787	0.1139
Mars	-867-10-31 01:55 J	1405054.41	1405054.58	1405054.75	0.1754	0.0032
Jupiter	-866-07-18 11:45 J	1405314.86	1405314.99	1405315.11	0.0494	0.0351
Mars	-866-09-09 09:07 J	1405367.79	1405367.88	1405367.96	0.1760	0.1164
Jupiter	-866-10-16 19:12 J	1405405.17	1405405.30	1405405.44	0.0495	0.0343
Moon	-865-04-11 20:24 J	1405583.24	1405583.35	1405583.47	0.2633	0.1883
Earth	-865-04-11 22:19 J	1405583.30	1405583.43	1405583.55	0.2631	0.1692 *
Earth	-862-10-13 05:45 J	1406862.67	1406862.74	1406862.81	0.2701	0.1963
Moon	-862-10-13 06:00 J	1406862.68	1406862.75	1406862.82	0.2695	0.1946 *
Saturn	-860-03-20 02:24 J	1407386.52	1407386.60	1407386.69	0.0292	0.0227
Jupiter	-860-03-21 16:19 J	1407388.13	1407388.18	1407388.23	0.0534	0.0488
Saturn	-860-06-16 15:07 J	1407475.01	1407475.13	1407475.26	0.0292	0.0088
Jupiter	-860-06-18 23:16 J	1407477.35	1407477.47	1407477.60	0.0532	0.0106
Saturn	-860-09-13 03:50 J	1407563.53	1407563.66	1407563.79	0.0293	0.0051
Saturn	-860-12-10 16:04 J	1407652.08	1407652.17	1407652.28	0.0294	0.0190
Mars	-858-02-24 10:33 J	1408092.91	1408092.94	1408092.96	0.1794	0.1733
Mars	-857-03-21 23:31 J	1408484.34	1408484.48	1408484.61	0.1747	0.0962

Mars	-856-01-29 19:26 J	1408798.20	1408798.31	1408798.41	0.1767	0.0636
Jupiter	-854-08-04 15:50 J	1409714.99	1409715.16	1409715.34	0.0495	0.0158
Moon	-852-04-15 05:02 J	1410334.56	1410334.71	1410334.86	0.2634	0.0985
Earth	-852-04-15 06:14 J	1410334.62	1410334.76	1410334.91	0.2629	0.1234 *
Moon	-849-10-14 22:47 J	1411613.35	1411613.45	1411613.56	0.2696	0.0601
Earth	-849-10-14 23:16 J	1411613.36	1411613.47	1411613.57	0.2703	0.0595 *
Venus	-849-11-15 05:45 J	1411644.63	1411644.74	1411644.85	0.3693	0.2391
Jupiter	-848-04-07 03:35 J	1411787.52	1411787.65	1411787.78	0.0532	0.0037
Mars	-847-06-22 05:16 J	1412228.60	1412228.72	1412228.83	0.1773	0.0076
Saturn	-846-04-14 21:21 J	1412525.24	1412525.39	1412525.55	0.0268	0.0135
Saturn	-846-07-12 17:31 J	1412614.05	1412614.23	1412614.41	0.0268	0.0012
Saturn	-846-10-09 13:55 J	1412702.93	1412703.08	1412703.22	0.0267	0.0160
Neptune	-844-03-19 14:38 J	1413230.07	1413230.11	1413230.18	0.0088	0.0084
Neptune	-844-06-15 17:45 J	1413318.17	1413318.24	1413318.36	0.0088	0.0075
Neptune	-844-09-11 21:21 J	1413406.27	1413406.39	1413406.53	0.0088	0.0065
Neptune	-844-12-09 00:28 J	1413494.39	1413494.52	1413494.68	0.0088	0.0056
Neptune	-843-03-07 03:50 J	1413582.51	1413582.66	1413582.83	0.0088	0.0047
Venus	-843-06-01 12:28 J	1413668.89	1413669.02	1413669.16	0.3691	0.1536
Neptune	-843-06-03 07:12 J	1413670.64	1413670.80	1413670.98	0.0088	0.0037
Neptune	-843-08-30 10:33 J	1413758.77	1413758.94	1413759.13	0.0088	0.0028
Neptune	-843-11-26 13:55 J	1413846.90	1413847.08	1413847.27	0.0088	0.0018
Neptune	-842-02-22 17:16 J	1413935.04	1413935.22	1413935.41	0.0088	0.0009
Neptune	-842-05-21 20:38 J	1414023.17	1414023.36	1414023.55	0.0088	0.0002
Jupiter	-842-05-23 13:26 J	1414024.88	1414025.06	1414025.25	0.0495	0.0018
Neptune	-842-08-18 00:00 J	1414111.31	1414111.50	1414111.69	0.0088	0.0011
Neptune	-842-11-14 03:21 J	1414199.46	1414199.64	1414199.83	0.0088	0.0020
Neptune	-841-02-10 06:28 J	1414287.60	1414287.77	1414287.96	0.0088	0.0030
Neptune	-841-05-08 09:50 J	1414375.75	1414375.91	1414376.09	0.0088	0.0040
Neptune	-841-08-04 13:26 J	1414463.91	1414464.06	1414464.22	0.0088	0.0049
Neptune	-841-10-31 16:33 J	1414552.07	1414552.19	1414552.35	0.0088	0.0059

Neptune -840-01-27 20:24 J 1414640.23 1414640.35 1414640.47 0.0088 0.0068

Neptune -840-04-25 23:31 J 1414728.40 1414728.48 1414728.58 0.0088 0.0078

Neptune -840-07-23 02:52 J 1414816.62 1414816.62 1414816.64 0.0088 0.0088

Venus -839-05-29 23:45 J 1415127.42 1415127.49 1415127.56 0.3678 0.2637

Mars -838-11-12 15:07 J 1415659.02 1415659.13 1415659.24 0.1780 0.0495

Uranus -837-08-01 14:52 J 1415922.11 1415922.12 1415922.15 0.0135 0.0133

Uranus -837-10-28 18:00 J 1416010.19 1416010.25 1416010.32 0.0135 0.0115

Mars -837-12-09 05:31 J 1416051.61 1416051.73 1416051.86 0.1762 0.1164

Jupiter -836-01-24 07:26 J 1416097.69 1416097.81 1416097.93 0.0532 0.0187

Uranus -836-01-24 21:07 J 1416098.30 1416098.38 1416098.48 0.0135 0.0098

Uranus -836-04-23 00:14 J 1416186.41 1416186.51 1416186.62 0.0135 0.0080

Jupiter -836-04-23 13:55 J 1416187.00 1416187.08 1416187.16 0.0530 0.0392

Uranus -836-07-20 03:21 J 1416274.53 1416274.64 1416274.76 0.0135 0.0062

Uranus -836-10-16 06:28 J 1416362.65 1416362.77 1416362.90 0.0135 0.0045

Moon -836-10-17 16:04 J 1416364.06 1416364.17 1416364.27 0.2702 0.0620

Earth -836-10-17 16:33 J 1416364.09 1416364.19 1416364.30 0.2704 0.0779 *

Mars -836-10-17 22:47 J 1416364.44 1416364.45 1416364.46 0.1753 0.1743

Uranus -835-01-12 09:35 J 1416450.77 1416450.90 1416451.03 0.0135 0.0027

Uranus -835-04-10 12:43 J 1416538.90 1416539.03 1416539.16 0.0135 0.0009

Uranus -835-07-07 15:50 J 1416627.03 1416627.16 1416627.29 0.0136 0.0009

Uranus -835-10-03 18:43 J 1416715.16 1416715.28 1416715.41 0.0136 0.0027

Uranus -835-12-30 21:50 J 1416803.29 1416803.41 1416803.54 0.0136 0.0044

Uranus -834-03-29 00:57 J 1416891.42 1416891.54 1416891.66 0.0136 0.0062

Uranus -834-06-25 03:50 J 1416979.56 1416979.66 1416979.77 0.0136 0.0080

Uranus -834-09-21 06:57 J 1417067.71 1417067.79 1417067.89 0.0136 0.0097

Venus -834-12-13 16:04 J 1417151.07 1417151.17 1417151.27 0.3679 0.1161

Uranus -834-12-18 10:04 J 1417155.86 1417155.92 1417155.99 0.0136 0.0115

Uranus -833-03-15 13:12 J 1417244.03 1417244.05 1417244.08 0.0136 0.0133

Saturn -831-08-07 04:33 J 1418118.64 1418118.69 1418118.75 0.0292 0.0265

Saturn -831-11-03 17:16 J 1418207.10 1418207.22 1418207.34 0.0293 0.0126

Saturn	-830-01-31 06:00 J	1418295.61	1418295.75	1418295.88	0.0293	0.0014
Jupiter	-830-03-11 11:16 J	1418334.80	1418334.97	1418335.14	0.0494	0.0188
Saturn	-830-04-29 18:28 J	1418384.16	1418384.27	1418384.38	0.0294	0.0152
Saturn	-830-07-27 06:43 J	1418472.77	1418472.78	1418472.81	0.0295	0.0290
Mars	-828-04-04 00:43 J	1419089.44	1419089.53	1419089.63	0.1787	0.1080
Venus	-828-06-28 08:09 J	1419174.73	1419174.84	1419174.94	0.3680	0.0280
Mars	-827-05-01 02:38 J	1419481.45	1419481.61	1419481.78	0.1754	0.0141
Mars	-826-03-10 09:07 J	1419794.80	1419794.88	1419794.96	0.1760	0.1225
Jupiter	-825-11-12 11:02 J	1420407.86	1420407.96	1420408.05	0.0533	0.0340
Jupiter	-824-02-09 17:45 J	1420497.13	1420497.24	1420497.35	0.0531	0.0246
Moon	-823-10-20 09:21 J	1421114.83	1421114.89	1421114.96	0.2708	0.2088
Earth	-823-10-20 10:04 J	1421114.86	1421114.92	1421114.98	0.2705	0.2118 *
Venus	-822-01-12 00:14 J	1421198.42	1421198.51	1421198.60	0.3681	0.1703
Moon	-819-04-13 03:07 J	1422385.49	1422385.63	1422385.77	0.2633	0.1351
Earth	-819-04-13 05:02 J	1422385.56	1422385.71	1422385.85	0.2631	0.1130 *
Mars	-819-08-25 10:19 J	1422519.89	1422519.93	1422519.97	0.1794	0.1678
Jupiter	-819-12-28 09:07 J	1422644.76	1422644.88	1422645.01	0.0494	0.0356
Jupiter	-818-03-28 16:47 J	1422735.07	1422735.20	1422735.34	0.0495	0.0338
Mars	-818-09-21 00:14 J	1422911.37	1422911.51	1422911.66	0.1747	0.0859
Venus	-817-07-27 16:04 J	1423222.12	1423222.17	1423222.22	0.3682	0.3088
Mars	-817-07-30 19:12 J	1423225.19	1423225.30	1423225.41	0.1767	0.0682
Saturn	-817-08-31 22:33 J	1423257.30	1423257.44	1423257.58	0.0269	0.0165
Saturn	-817-11-28 18:43 J	1423346.10	1423346.28	1423346.46	0.0268	0.0019
Saturn	-816-02-25 14:52 J	1423434.96	1423435.12	1423435.28	0.0267	0.0129
Earth	-816-10-13 10:33 J	1423664.85	1423664.94	1423665.02	0.2701	0.1685
Moon	-816-10-13 10:33 J	1423664.86	1423664.94	1423665.03	0.2695	0.1661 *
Jupiter	-813-08-31 13:55 J	1424718.04	1424718.08	1424718.13	0.0533	0.0502
Jupiter	-813-11-28 21:07 J	1424807.26	1424807.38	1424807.51	0.0532	0.0091
Mars	-808-12-21 05:16 J	1426655.60	1426655.72	1426655.83	0.1774	0.0133
Jupiter	-806-01-14 14:09 J	1427044.91	1427045.09	1427045.26	0.0495	0.0160

Moon	-806-04-16 12:14 J	1427136.89	1427137.01	1427137.13	0.2634	0.1765
Earth	-806-04-16 13:12 J	1427136.93	1427137.05	1427137.17	0.2629	0.1811 *
Moon	-803-10-16 03:35 J	1428415.55	1428415.65	1428415.76	0.2696	0.0407
Earth	-803-10-16 04:04 J	1428415.56	1428415.67	1428415.77	0.2703	0.0320 *
Saturn	-802-12-25 08:09 J	1428850.83	1428850.84	1428850.86	0.0291	0.0288
Saturn	-801-03-22 20:52 J	1428939.26	1428939.37	1428939.49	0.0292	0.0149
Saturn	-801-06-19 09:35 J	1429027.77	1429027.90	1429028.03	0.0293	0.0010
Saturn	-801-09-15 22:04 J	1429116.30	1429116.42	1429116.54	0.0293	0.0128
Jupiter	-801-09-17 01:12 J	1429117.42	1429117.55	1429117.68	0.0532	0.0053
Saturn	-801-12-13 10:33 J	1429204.89	1429204.94	1429204.99	0.0294	0.0265
Jupiter	-801-12-15 07:40 J	1429206.80	1429206.82	1429206.84	0.0531	0.0523
Mars	-798-05-13 15:07 J	1430086.02	1430086.13	1430086.25	0.1780	0.0435
Mars	-797-06-09 06:14 J	1430478.64	1430478.76	1430478.88	0.1762	0.1256
Uranus	-796-02-25 04:19 J	1430739.66	1430739.68	1430739.72	0.0143	0.0141
Uranus	-796-05-24 12:28 J	1430827.91	1430828.02	1430828.15	0.0143	0.0111
Uranus	-796-08-20 20:52 J	1430916.22	1430916.37	1430916.54	0.0143	0.0080
Uranus	-796-11-17 05:02 J	1431004.54	1431004.71	1431004.90	0.0143	0.0051
Uranus	-795-02-13 13:40 J	1431092.88	1431093.07	1431093.26	0.0143	0.0019
Uranus	-795-05-12 22:04 J	1431181.22	1431181.42	1431181.61	0.0143	0.0012
Uranus	-795-08-09 06:14 J	1431269.58	1431269.76	1431269.95	0.0143	0.0043
Jupiter	-795-11-02 10:33 J	1431354.76	1431354.94	1431355.13	0.0495	0.0027
Uranus	-795-11-05 14:24 J	1431357.95	1431358.10	1431358.28	0.0143	0.0074
Uranus	-794-02-01 23:02 J	1431446.33	1431446.46	1431446.60	0.0143	0.0104
Uranus	-794-05-01 07:26 J	1431534.76	1431534.81	1431534.88	0.0142	0.0135
Venus	-792-06-22 07:12 J	1432317.66	1432317.80	1432317.94	0.3692	0.1177
Moon	-790-10-18 20:38 J	1433166.27	1433166.36	1433166.46	0.2704	0.1005
Earth	-790-10-18 21:21 J	1433166.29	1433166.39	1433166.49	0.2704	0.1049 *
Jupiter	-789-07-06 05:31 J	1433427.61	1433427.73	1433427.85	0.0533	0.0194
Mars	-789-10-03 00:43 J	1433516.44	1433516.53	1433516.63	0.1787	0.1022
Jupiter	-789-10-03 12:00 J	1433516.92	1433517.00	1433517.09	0.0531	0.0387

Venus	-788-06-20 05:02 J	1433776.70	1433776.71	1433776.73	0.3677	0.3629
Mars	-788-10-30 03:21 J	1433908.47	1433908.64	1433908.81	0.1755	0.0228
Saturn	-787-01-18 23:02 J	1433989.34	1433989.46	1433989.58	0.0269	0.0201
Saturn	-787-04-17 18:57 J	1434078.11	1434078.29	1434078.47	0.0268	0.0055
Saturn	-787-07-15 15:07 J	1434166.96	1434167.13	1434167.30	0.0268	0.0091
Mars	-787-09-08 09:07 J	1434221.80	1434221.88	1434221.96	0.1760	0.1280
Saturn	-787-10-12 11:16 J	1434255.90	1434255.97	1434256.06	0.0267	0.0239
Venus	-786-01-06 13:55 J	1434341.98	1434342.08	1434342.18	0.3690	0.2774
Jupiter	-783-08-21 08:24 J	1435664.68	1435664.85	1435665.01	0.0494	0.0199
Venus	-782-01-03 21:21 J	1435800.31	1435800.39	1435800.48	0.3678	0.2137
Mars	-779-02-23 10:33 J	1436946.89	1436946.94	1436946.98	0.1794	0.1615
Mars	-778-03-22 01:12 J	1437338.40	1437338.55	1437338.70	0.1747	0.0761
Mars	-777-01-29 19:12 J	1437652.20	1437652.30	1437652.40	0.1766	0.0742
Jupiter	-777-04-24 09:07 J	1437737.79	1437737.88	1437737.98	0.0533	0.0345
Venus	-777-07-19 13:40 J	1437823.96	1437824.07	1437824.17	0.3679	0.0679
Jupiter	-777-07-22 16:04 J	1437827.05	1437827.17	1437827.28	0.0531	0.0241
Moon	-777-10-20 14:09 J	1437917.04	1437917.09	1437917.15	0.2708	0.2265
Earth	-777-10-20 14:52 J	1437917.07	1437917.12	1437917.17	0.2705	0.2400 *
Pluto	-776-01-28 17:31 J	1438017.17	1438017.23	1438017.30	0.0072	0.0064
Pluto	-776-04-26 18:14 J	1438105.19	1438105.26	1438105.36	0.0072	0.0056
Pluto	-776-07-23 19:12 J	1438193.21	1438193.30	1438193.42	0.0072	0.0047
Pluto	-776-10-19 20:09 J	1438281.23	1438281.34	1438281.47	0.0072	0.0038
Pluto	-775-01-15 21:21 J	1438369.26	1438369.39	1438369.52	0.0072	0.0029
Pluto	-775-04-13 22:19 J	1438457.30	1438457.43	1438457.57	0.0072	0.0020
Pluto	-775-07-10 23:16 J	1438545.33	1438545.47	1438545.61	0.0072	0.0011
Pluto	-775-10-07 00:14 J	1438633.37	1438633.51	1438633.66	0.0072	0.0002
Pluto	-774-01-03 01:12 J	1438721.41	1438721.55	1438721.70	0.0073	0.0008
Pluto	-774-04-01 02:09 J	1438809.46	1438809.59	1438809.74	0.0073	0.0017
Pluto	-774-06-28 03:07 J	1438897.50	1438897.63	1438897.77	0.0073	0.0026
Pluto	-774-09-24 04:04 J	1438985.55	1438985.67	1438985.81	0.0073	0.0036

Pluto	-774-12-21 05:02 J	1439073.61	1439073.71	1439073.84	0.0073	0.0045
Pluto	-773-03-18 06:14 J	1439161.67	1439161.76	1439161.86	0.0073	0.0055
Moon	-773-04-13 10:04 J	1439187.77	1439187.92	1439188.07	0.2633	0.0785
Earth	-773-04-13 11:45 J	1439187.83	1439187.99	1439188.15	0.2630	0.0560 *
Pluto	-773-06-14 07:12 J	1439249.74	1439249.80	1439249.88	0.0073	0.0064
Saturn	-772-08-09 22:47 J	1439671.35	1439671.45	1439671.56	0.0292	0.0189
Saturn	-772-11-06 11:31 J	1439759.85	1439759.98	1439760.12	0.0293	0.0050
Venus	-771-02-02 05:45 J	1439847.64	1439847.74	1439847.84	0.3680	0.0763
Saturn	-771-02-03 00:00 J	1439848.38	1439848.50	1439848.63	0.0294	0.0090
Saturn	-771-05-02 12:28 J	1439936.94	1439937.02	1439937.11	0.0295	0.0228
Jupiter	-771-06-09 06:14 J	1439974.64	1439974.76	1439974.88	0.0494	0.0367
Jupiter	-771-09-07 13:40 J	1440064.94	1440065.07	1440065.22	0.0496	0.0328
Moon	-770-10-14 15:21 J	1440467.04	1440467.14	1440467.23	0.2694	0.1387
Earth	-770-10-14 15:21 J	1440467.05	1440467.14	1440467.23	0.2702	0.1403 *
Mars	-769-08-10 23:02 J	1440768.44	1440768.46	1440768.48	0.1740	0.1717
Mars	-768-06-21 05:16 J	1441082.60	1441082.72	1441082.83	0.1773	0.0191
Venus	-766-08-18 21:35 J	1441871.32	1441871.40	1441871.49	0.3681	0.2175
Jupiter	-765-02-11 12:43 J	1442047.99	1442048.03	1442048.07	0.0533	0.0499
Jupiter	-765-05-10 19:55 J	1442137.20	1442137.33	1442137.45	0.0531	0.0094
Neptune	-762-01-01 07:12 J	1443102.78	1443102.80	1443102.84	0.0089	0.0087
Neptune	-762-03-30 08:38 J	1443190.81	1443190.86	1443190.93	0.0089	0.0080
Neptune	-762-06-26 10:04 J	1443278.85	1443278.92	1443279.01	0.0089	0.0072
Neptune	-762-09-22 11:45 J	1443366.90	1443366.99	1443367.08	0.0089	0.0065
Neptune	-762-12-19 12:57 J	1443454.94	1443455.04	1443455.15	0.0089	0.0058
Neptune	-761-03-16 14:24 J	1443543.00	1443543.10	1443543.22	0.0089	0.0051
Neptune	-761-06-12 15:50 J	1443631.05	1443631.16	1443631.29	0.0089	0.0044
Neptune	-761-09-08 17:16 J	1443719.10	1443719.22	1443719.35	0.0089	0.0036
Neptune	-761-12-05 18:57 J	1443807.16	1443807.29	1443807.41	0.0089	0.0029
Venus	-760-03-03 13:40 J	1443895.04	1443895.07	1443895.09	0.3682	0.3552
Neptune	-760-03-03 20:24 J	1443895.21	1443895.35	1443895.48	0.0089	0.0022

Moon -760-04-16 19:26 J 1443939.23 1443939.31 1443939.38 0.2635 0.2274

Earth -760-04-16 19:55 J 1443939.27 1443939.33 1443939.40 0.2629 0.2380 *

Neptune -760-05-30 21:35 J 1443983.27 1443983.40 1443983.54 0.0089 0.0015

Neptune -760-08-26 23:02 J 1444071.33 1444071.46 1444071.60 0.0089 0.0008

Neptune -760-11-23 00:28 J 1444159.39 1444159.52 1444159.66 0.0089 0.0002

Neptune -759-02-19 01:55 J 1444247.45 1444247.58 1444247.72 0.0089 0.0007

Neptune -759-05-18 03:21 J 1444335.51 1444335.64 1444335.77 0.0089 0.0014

Jupiter -759-06-26 11:31 J 1444374.81 1444374.98 1444375.15 0.0495 0.0154

Neptune -759-08-14 04:33 J 1444423.57 1444423.69 1444423.83 0.0089 0.0022

Neptune -759-11-10 06:00 J 1444511.63 1444511.75 1444511.88 0.0089 0.0029

Mars -759-11-11 15:07 J 1444513.02 1444513.13 1444513.24 0.1780 0.0380

Neptune -758-02-06 07:26 J 1444599.69 1444599.81 1444599.94 0.0089 0.0035

Neptune -758-05-05 08:52 J 1444687.76 1444687.87 1444687.99 0.0089 0.0042

Saturn -758-06-08 00:00 J 1444721.41 1444721.50 1444721.59 0.0269 0.0233

Neptune -758-08-01 10:04 J 1444775.82 1444775.92 1444776.04 0.0089 0.0050

Saturn -758-09-04 19:55 J 1444810.16 1444810.33 1444810.50 0.0268 0.0088

Neptune -758-10-28 11:31 J 1444863.89 1444863.98 1444864.09 0.0089 0.0057

Saturn -758-12-02 16:04 J 1444898.99 1444899.17 1444899.35 0.0268 0.0059

Mars -758-12-09 07:12 J 1444905.69 1444905.80 1444905.90 0.1762 0.1360

Neptune -757-01-24 12:57 J 1444951.95 1444952.04 1444952.14 0.0089 0.0063

Saturn -757-02-29 12:14 J 1444987.90 1444988.01 1444988.13 0.0267 0.0207

Neptune -757-04-21 14:09 J 1445040.02 1445040.09 1445040.18 0.0089 0.0071

Neptune -757-07-18 15:35 J 1445128.09 1445128.15 1445128.22 0.0089 0.0077

Neptune -757-10-14 16:47 J 1445216.17 1445216.20 1445216.26 0.0089 0.0085

Moon -757-10-16 08:24 J 1445217.74 1445217.85 1445217.96 0.2698 0.0102

Earth -757-10-16 08:52 J 1445217.76 1445217.87 1445217.97 0.2703 0.0114 *

Jupiter -753-02-27 23:02 J 1446447.34 1446447.46 1446447.59 0.0532 0.0066

Jupiter -753-05-27 05:31 J 1446536.70 1446536.73 1446536.76 0.0531 0.0510

Uranus -753-08-21 22:47 J 1446623.41 1446623.45 1446623.49 0.0135 0.0126

Uranus -753-11-18 01:40 J 1446711.50 1446711.57 1446711.66 0.0135 0.0109

Uranus	-752-02-14 04:47 J	1446799.61	1446799.70	1446799.81	0.0135	0.0091
Uranus	-752-05-13 08:09 J	1446887.73	1446887.84	1446887.95	0.0135	0.0073
Uranus	-752-08-09 11:16 J	1446975.85	1446975.97	1446976.09	0.0135	0.0056
Uranus	-752-11-05 14:09 J	1447063.97	1447064.09	1447064.22	0.0135	0.0038
Uranus	-751-02-01 17:16 J	1447152.09	1447152.22	1447152.35	0.0135	0.0021
Uranus	-751-04-30 20:24 J	1447240.22	1447240.35	1447240.48	0.0136	0.0003
Uranus	-751-07-27 23:31 J	1447328.35	1447328.48	1447328.61	0.0136	0.0015
Uranus	-751-10-24 02:38 J	1447416.48	1447416.61	1447416.74	0.0136	0.0033
Uranus	-750-01-20 05:31 J	1447504.61	1447504.73	1447504.86	0.0136	0.0051
Uranus	-750-04-18 08:38 J	1447592.75	1447592.86	1447592.98	0.0136	0.0069
Uranus	-750-07-15 11:45 J	1447680.89	1447680.99	1447681.09	0.0136	0.0086
Uranus	-750-10-11 14:38 J	1447769.04	1447769.11	1447769.20	0.0136	0.0104
Uranus	-749-01-07 18:00 J	1447857.19	1447857.25	1447857.30	0.0136	0.0122
Mars	-749-04-03 00:57 J	1447943.44	1447943.54	1447943.63	0.1787	0.0957
Mars	-748-04-30 04:19 J	1448335.51	1448335.68	1448335.84	0.1755	0.0330
Mars	-747-03-09 09:07 J	1448648.81	1448648.88	1448648.95	0.1760	0.1335
Jupiter	-747-04-14 08:52 J	1448684.69	1448684.87	1448685.05	0.0494	0.0023
Moon	-744-10-19 01:26 J	1449968.47	1449968.56	1449968.66	0.2704	0.1176
Earth	-744-10-19 02:09 J	1449968.50	1449968.59	1449968.68	0.2704	0.1324 *
Saturn	-743-12-28 02:24 J	1450403.52	1450403.60	1450403.70	0.0292	0.0213
Saturn	-742-03-26 15:07 J	1450492.01	1450492.13	1450492.26	0.0292	0.0074
Saturn	-742-06-23 03:50 J	1450580.53	1450580.66	1450580.79	0.0293	0.0065
Saturn	-742-09-19 16:19 J	1450669.09	1450669.18	1450669.27	0.0294	0.0203
Jupiter	-742-12-17 03:07 J	1450757.51	1450757.63	1450757.75	0.0533	0.0211
Jupiter	-741-03-15 09:50 J	1450846.82	1450846.91	1450847.00	0.0531	0.0371
Mars	-740-08-24 10:19 J	1451373.88	1451373.93	1451373.99	0.1794	0.1556
Mars	-739-09-20 01:40 J	1451765.41	1451765.57	1451765.72	0.1747	0.0677
Mars	-738-07-30 19:12 J	1452079.20	1452079.30	1452079.40	0.1766	0.0802
Earth	-737-10-12 02:38 J	1452518.57	1452518.61	1452518.65	0.2700	0.2491
Moon	-737-10-12 02:52 J	1452518.58	1452518.62	1452518.67	0.2695	0.2377 *

Venus	-735-01-27 08:38 J	1452990.71	1452990.86	1452991.01	0.3691	0.0096
Jupiter	-735-01-31 05:31 J	1452994.56	1452994.73	1452994.89	0.0494	0.0209
Jupiter	-735-05-01 13:26 J	1453085.04	1453085.06	1453085.08	0.0496	0.0492
Venus	-731-01-25 02:52 J	1454449.56	1454449.62	1454449.67	0.3677	0.3121
Moon	-731-10-21 19:12 J	1454719.29	1454719.30	1454719.31	0.2710	0.2671
Earth	-731-10-21 19:40 J	1454719.31	1454719.32	1454719.33	0.2705	0.2675 *
Jupiter	-730-10-05 07:12 J	1455067.71	1455067.80	1455067.90	0.0533	0.0353
Jupiter	-729-01-02 14:09 J	1455156.98	1455157.09	1455157.21	0.0531	0.0235
Mars	-729-02-09 23:45 J	1455195.44	1455195.49	1455195.55	0.1740	0.1621
Saturn	-729-10-25 00:43 J	1455453.51	1455453.53	1455453.56	0.0269	0.0265
Mars	-729-12-20 05:16 J	1455509.61	1455509.72	1455509.83	0.1773	0.0249
Saturn	-728-01-21 20:38 J	1455542.20	1455542.36	1455542.52	0.0268	0.0121
Saturn	-728-04-20 16:33 J	1455631.01	1455631.19	1455631.38	0.0268	0.0026
Saturn	-728-07-18 12:43 J	1455719.90	1455720.03	1455720.18	0.0267	0.0172
Moon	-727-04-14 17:02 J	1455990.05	1455990.21	1455990.37	0.2633	0.0133
Earth	-727-04-14 18:43 J	1455990.11	1455990.28	1455990.44	0.2630	0.0051 *
Venus	-726-08-10 18:57 J	1456473.20	1456473.29	1456473.39	0.3678	0.1643
Moon	-724-10-14 19:55 J	1457269.24	1457269.33	1457269.43	0.2694	0.1162
Earth	-724-10-14 20:09 J	1457269.24	1457269.34	1457269.44	0.2702	0.1120 *
Jupiter	-724-11-19 03:21 J	1457304.52	1457304.64	1457304.75	0.0494	0.0378
Jupiter	-723-02-17 10:47 J	1457394.81	1457394.95	1457395.09	0.0495	0.0315
Venus	-720-02-23 11:16 J	1458496.86	1458496.97	1458497.07	0.3679	0.0195
Mars	-719-05-12 15:07 J	1458940.02	1458940.13	1458940.24	0.1780	0.0317
Mars	-718-06-09 08:09 J	1459332.75	1459332.84	1459332.93	0.1762	0.1469
Jupiter	-718-07-24 11:02 J	1459377.92	1459377.96	1459378.00	0.0533	0.0503
Jupiter	-718-10-21 18:14 J	1459467.13	1459467.26	1459467.38	0.0532	0.0090
Venus	-715-09-09 03:21 J	1460520.54	1460520.64	1460520.74	0.3680	0.1242
Saturn	-713-05-16 04:04 J	1461135.61	1461135.67	1461135.74	0.0292	0.0255
Saturn	-713-08-12 17:02 J	1461224.09	1461224.21	1461224.33	0.0293	0.0115
Saturn	-713-11-09 05:31 J	1461312.60	1461312.73	1461312.87	0.0294	0.0026

Saturn	-712-02-05 18:00 J	1461401.15	1461401.25	1461401.37	0.0294	0.0163	
Uranus	-712-03-17 12:14 J	1461440.95	1461441.01	1461441.09	0.0143	0.0132	
Uranus	-712-06-13 20:24 J	1461529.23	1461529.35	1461529.49	0.0143	0.0102	
Uranus	-712-09-10 04:47 J	1461617.54	1461617.70	1461617.87	0.0143	0.0072	
Jupiter	-712-12-06 08:24 J	1461704.68	1461704.85	1461705.03	0.0495	0.0141	
Uranus	-712-12-07 12:57 J	1461705.86	1461706.04	1461706.23	0.0143	0.0041	
Uranus	-711-03-05 21:21 J	1461794.20	1461794.39	1461794.59	0.0143	0.0011	
Uranus	-711-06-02 05:45 J	1461882.55	1461882.74	1461882.93	0.0143	0.0021	
Uranus	-711-08-29 14:09 J	1461970.91	1461971.09	1461971.27	0.0143	0.0051	
Moon	-711-10-17 12:57 J	1462019.93	1462020.04	1462020.15	0.2699	0.0175	
Earth	-711-10-17 13:26 J	1462019.96	1462020.06	1462020.17	0.2703	0.0266	*
Uranus	-711-11-25 22:19 J	1462059.28	1462059.43	1462059.60	0.0143	0.0082	
Uranus	-710-02-22 06:43 J	1462147.67	1462147.78	1462147.91	0.0142	0.0113	
Mars	-710-10-03 00:43 J	1462370.43	1462370.53	1462370.63	0.1787	0.0904	
Venus	-709-03-24 19:12 J	1462544.23	1462544.30	1462544.37	0.3681	0.2645	
Mars	-709-10-29 05:02 J	1462762.54	1462762.71	1462762.87	0.1755	0.0427	
Mars	-708-09-07 09:07 J	1463075.81	1463075.88	1463075.95	0.1759	0.1392	
Jupiter	-706-08-09 21:50 J	1463777.28	1463777.41	1463777.54	0.0532	0.0062	
Jupiter	-706-11-07 04:04 J	1463866.65	1463866.67	1463866.71	0.0530	0.0514	
Mars	-700-02-22 10:19 J	1465800.87	1465800.93	1465801.00	0.1794	0.1496	
Jupiter	-700-09-24 06:14 J	1466014.58	1466014.76	1466014.95	0.0495	0.0030	
Mars	-699-03-21 02:38 J	1466192.45	1466192.61	1466192.77	0.1747	0.0566	
Saturn	-699-06-10 21:07 J	1466274.24	1466274.38	1466274.53	0.0268	0.0156	
Saturn	-699-09-07 17:16 J	1466363.04	1466363.22	1466363.40	0.0268	0.0010	
Saturn	-699-12-05 13:26 J	1466451.90	1466452.06	1466452.22	0.0267	0.0137	
Mars	-698-01-28 19:12 J	1466506.20	1466506.30	1466506.40	0.1766	0.0856	
Moon	-698-10-20 06:14 J	1466770.67	1466770.76	1466770.85	0.2704	0.1536	
Earth	-698-10-20 06:57 J	1466770.71	1466770.79	1466770.88	0.2704	0.1600	*
Moon	-694-04-12 15:35 J	1468041.09	1468041.15	1468041.21	0.2632	0.2438	
Earth	-694-04-12 17:31 J	1468041.15	1468041.23	1468041.30	0.2632	0.2326	*

Jupiter	-694-05-29 00:57 J	1468087.43	1468087.54	1468087.66	0.0533	0.0222
Jupiter	-694-08-26 07:40 J	1468176.73	1468176.82	1468176.92	0.0531	0.0361
Pluto	-691-03-30 18:28 J	1469124.23	1469124.27	1469124.32	0.0073	0.0070
Pluto	-691-06-26 20:09 J	1469212.25	1469212.34	1469212.46	0.0072	0.0059
Pluto	-691-09-22 22:19 J	1469300.30	1469300.43	1469300.57	0.0072	0.0047
Earth	-691-10-13 07:26 J	1469320.75	1469320.81	1469320.87	0.2700	0.2210
Moon	-691-10-13 07:40 J	1469320.76	1469320.82	1469320.88	0.2694	0.2216 *
Pluto	-691-12-20 00:00 J	1469388.36	1469388.50	1469388.66	0.0072	0.0036
Pluto	-690-03-18 01:55 J	1469476.42	1469476.58	1469476.75	0.0072	0.0024
Pluto	-690-06-14 03:50 J	1469564.49	1469564.66	1469564.83	0.0072	0.0013
Mars	-690-08-11 00:28 J	1469622.44	1469622.52	1469622.60	0.1740	0.1533
Pluto	-690-09-10 05:31 J	1469652.56	1469652.73	1469652.91	0.0072	0.0003
Pluto	-690-12-07 07:12 J	1469740.63	1469740.80	1469740.98	0.0072	0.0009
Pluto	-689-03-04 08:52 J	1469828.71	1469828.87	1469829.05	0.0072	0.0020
Pluto	-689-05-31 10:33 J	1469916.79	1469916.94	1469917.11	0.0072	0.0031
Mars	-689-06-20 05:16 J	1469936.61	1469936.72	1469936.83	0.1773	0.0308
Pluto	-689-08-27 12:28 J	1470004.88	1470005.02	1470005.17	0.0071	0.0041
Pluto	-689-11-23 13:55 J	1470092.97	1470093.08	1470093.21	0.0071	0.0052
Pluto	-688-02-19 15:21 J	1470181.08	1470181.14	1470181.25	0.0071	0.0062
Jupiter	-688-07-13 03:50 J	1470324.50	1470324.66	1470324.83	0.0494	0.0202
Venus	-684-02-17 03:35 J	1471639.55	1471639.65	1471639.76	0.3693	0.2588
Saturn	-684-10-03 07:40 J	1471867.79	1471867.82	1471867.86	0.0292	0.0280
Saturn	-684-12-30 20:24 J	1471956.24	1471956.35	1471956.47	0.0292	0.0141
Saturn	-683-03-29 09:07 J	1472044.75	1472044.88	1472045.01	0.0293	0.0003
Saturn	-683-06-25 21:35 J	1472133.29	1472133.40	1472133.52	0.0294	0.0137
Saturn	-683-09-22 10:04 J	1472221.88	1472221.92	1472221.97	0.0294	0.0274
Jupiter	-682-03-17 05:02 J	1472397.61	1472397.71	1472397.80	0.0533	0.0368
Jupiter	-682-06-14 12:00 J	1472486.88	1472487.00	1472487.11	0.0532	0.0221
Moon	-681-04-15 00:14 J	1472792.35	1472792.51	1472792.67	0.2635	0.0353
Earth	-681-04-15 01:26 J	1472792.40	1472792.56	1472792.72	0.2630	0.0582 *

Mars -680-11-10 15:07 J 1473367.02 1473367.13 1473367.25 0.1780 0.0259

Neptune -680-12-14 12:28 J 1473400.98 1473401.02 1473401.11 0.0088 0.0082

Neptune -679-03-12 16:19 J 1473489.07 1473489.18 1473489.28 0.0088 0.0072

Neptune -679-06-08 19:12 J 1473577.18 1473577.30 1473577.44 0.0088 0.0063

Venus -679-09-03 10:04 J 1473663.78 1473663.92 1473664.06 0.3691 0.1264

Neptune -679-09-04 22:33 J 1473665.30 1473665.44 1473665.60 0.0088 0.0054

Neptune -679-12-02 01:40 J 1473753.42 1473753.57 1473753.75 0.0088 0.0045

Mars -679-12-08 08:38 J 1473759.78 1473759.86 1473759.93 0.1762 0.1552

Neptune -678-02-28 05:02 J 1473841.55 1473841.71 1473841.89 0.0088 0.0035

Neptune -678-05-27 08:24 J 1473929.68 1473929.85 1473930.04 0.0088 0.0026

Neptune -678-08-23 12:00 J 1474017.81 1474018.00 1474018.18 0.0088 0.0016

Moon -678-10-16 00:43 J 1474071.43 1474071.53 1474071.63 0.2695 0.0814

Earth -678-10-16 00:57 J 1474071.43 1474071.54 1474071.64 0.2702 0.0843 *

Neptune -678-11-19 15:07 J 1474105.95 1474106.13 1474106.32 0.0088 0.0007

Neptune -677-02-15 18:28 J 1474194.08 1474194.27 1474194.46 0.0088 0.0003

Neptune -677-05-13 21:50 J 1474282.22 1474282.41 1474282.60 0.0088 0.0013

Neptune -677-08-10 01:12 J 1474370.37 1474370.55 1474370.74 0.0088 0.0022

Neptune -677-11-06 04:19 J 1474458.51 1474458.68 1474458.87 0.0088 0.0032

Neptune -676-02-02 07:55 J 1474546.66 1474546.83 1474547.00 0.0088 0.0041

Jupiter -676-05-01 00:28 J 1474634.41 1474634.52 1474634.63 0.0494 0.0386

Neptune -676-05-01 11:02 J 1474634.82 1474634.96 1474635.13 0.0088 0.0051

Neptune -676-07-28 14:24 J 1474722.98 1474723.10 1474723.25 0.0088 0.0061

Jupiter -676-07-30 07:55 J 1474724.69 1474724.83 1474724.98 0.0495 0.0306

Neptune -676-10-24 18:00 J 1474811.14 1474811.25 1474811.37 0.0088 0.0070

Neptune -675-01-20 21:07 J 1474899.32 1474899.38 1474899.48 0.0088 0.0080

Venus -675-09-01 00:28 J 1475122.45 1475122.52 1475122.59 0.3677 0.2610

Jupiter -670-01-03 09:07 J 1476707.85 1476707.88 1476707.91 0.0534 0.0510

Jupiter -670-04-02 16:19 J 1476797.05 1476797.18 1476797.31 0.0532 0.0083

Mars -670-04-03 00:43 J 1476797.43 1476797.53 1476797.64 0.1787 0.0842

Saturn -670-10-28 22:04 J 1477006.30 1477006.42 1477006.56 0.0269 0.0187

Saturn	-669-01-25 18:00 J	1477095.07	1477095.25	1477095.44	0.0268	0.0042
Venus	-669-03-16 16:47 J	1477146.10	1477146.20	1477146.30	0.3678	0.1140
Saturn	-669-04-23 14:09 J	1477183.92	1477184.09	1477184.26	0.0267	0.0105
Mars	-669-04-29 05:45 J	1477189.58	1477189.74	1477189.90	0.1755	0.0530
Saturn	-669-07-21 10:33 J	1477272.88	1477272.94	1477273.00	0.0267	0.0251
Uranus	-669-09-11 06:28 J	1477324.71	1477324.77	1477324.82	0.0135	0.0120
Uranus	-669-12-08 09:21 J	1477412.81	1477412.89	1477412.98	0.0135	0.0103
Uranus	-668-03-06 12:28 J	1477500.92	1477501.02	1477501.13	0.0135	0.0085
Mars	-668-03-08 09:07 J	1477502.82	1477502.88	1477502.94	0.1759	0.1450
Uranus	-668-06-02 15:35 J	1477589.04	1477589.15	1477589.27	0.0135	0.0068
Uranus	-668-08-29 18:43 J	1477677.16	1477677.28	1477677.41	0.0135	0.0050
Uranus	-668-11-25 21:50 J	1477765.29	1477765.41	1477765.54	0.0135	0.0032
Uranus	-667-02-22 00:57 J	1477853.41	1477853.54	1477853.67	0.0136	0.0014
Uranus	-667-05-21 04:04 J	1477941.54	1477941.67	1477941.80	0.0136	0.0003
Uranus	-667-08-17 07:12 J	1478029.67	1478029.80	1478029.93	0.0136	0.0021
Uranus	-667-11-13 10:04 J	1478117.80	1478117.92	1478118.05	0.0136	0.0039
Uranus	-666-02-09 13:12 J	1478205.93	1478206.05	1478206.17	0.0136	0.0057
Uranus	-666-05-08 16:19 J	1478294.07	1478294.18	1478294.29	0.0136	0.0074
Uranus	-666-08-04 19:12 J	1478382.21	1478382.30	1478382.40	0.0136	0.0092
Uranus	-666-10-31 22:04 J	1478470.36	1478470.42	1478470.51	0.0136	0.0111
Uranus	-665-01-28 01:26 J	1478558.52	1478558.56	1478558.61	0.0136	0.0127
Moon	-665-10-17 17:45 J	1478822.13	1478822.24	1478822.34	0.2700	0.0411
Earth	-665-10-17 18:14 J	1478822.16	1478822.26	1478822.37	0.2703	0.0532 *
Jupiter	-664-05-18 05:31 J	1479034.55	1479034.73	1479034.91	0.0495	0.0131
Venus	-664-09-30 08:52 J	1479169.76	1479169.87	1479169.97	0.3680	0.0303
Mars	-661-08-23 10:33 J	1480227.87	1480227.94	1480228.00	0.1794	0.1435
Mars	-660-09-19 03:21 J	1480619.48	1480619.64	1480619.80	0.1748	0.0470
Mars	-659-07-29 19:12 J	1480933.20	1480933.30	1480933.40	0.1766	0.0913
Jupiter	-658-01-19 20:24 J	1481107.22	1481107.35	1481107.47	0.0532	0.0065
Venus	-658-04-16 00:57 J	1481193.45	1481193.54	1481193.63	0.3681	0.1720

Jupiter	-658-04-19 02:38 J	1481196.58	1481196.61	1481196.64	0.0530	0.0512
Saturn	-654-05-19 21:50 J	1482688.31	1482688.41	1482688.51	0.0292	0.0186
Saturn	-654-08-16 10:33 J	1482776.81	1482776.94	1482777.07	0.0293	0.0047
Saturn	-654-11-12 23:02 J	1482865.34	1482865.46	1482865.59	0.0294	0.0092
Saturn	-653-02-09 11:31 J	1482953.90	1482953.98	1482954.06	0.0295	0.0230
Venus	-653-10-29 16:47 J	1483217.15	1483217.20	1483217.26	0.3682	0.3110
Jupiter	-652-03-06 03:21 J	1483344.46	1483344.64	1483344.82	0.0495	0.0040
Moon	-652-10-20 11:02 J	1483572.88	1483572.96	1483573.04	0.2705	0.1772
Earth	-652-10-20 11:45 J	1483572.91	1483572.99	1483573.07	0.2704	0.1879 *
Mars	-650-02-09 01:12 J	1484049.46	1484049.55	1484049.64	0.1740	0.1436
Mars	-650-12-20 05:16 J	1484363.61	1484363.72	1484363.83	0.1773	0.0365
Moon	-648-04-12 22:19 J	1484843.34	1484843.43	1484843.53	0.2632	0.2086
Earth	-648-04-13 00:14 J	1484843.39	1484843.51	1484843.63	0.2632	0.1763 *
Jupiter	-647-11-08 00:00 J	1485417.38	1485417.50	1485417.62	0.0532	0.0214
Jupiter	-646-02-05 06:43 J	1485506.69	1485506.78	1485506.87	0.0531	0.0367
Earth	-645-10-13 12:14 J	1486122.93	1486123.01	1486123.08	0.2700	0.1935
Moon	-645-10-13 12:14 J	1486122.94	1486123.01	1486123.09	0.2693	0.1837 *
Jupiter	-641-12-23 01:26 J	1487654.40	1487654.56	1487654.73	0.0494	0.0206
Saturn	-640-03-16 22:19 J	1487738.34	1487738.43	1487738.53	0.0269	0.0225
Jupiter	-640-03-23 09:21 J	1487744.89	1487744.89	1487744.90	0.0496	0.0495
Mars	-640-05-11 15:07 J	1487794.01	1487794.13	1487794.24	0.1780	0.0203
Saturn	-640-06-13 18:14 J	1487827.09	1487827.26	1487827.43	0.0268	0.0080
Saturn	-640-09-10 14:09 J	1487915.92	1487916.09	1487916.27	0.0267	0.0066
Saturn	-640-12-08 10:19 J	1488004.83	1488004.93	1488005.05	0.0267	0.0213
Mars	-639-06-08 09:35 J	1488186.85	1488186.90	1488186.95	0.1763	0.1668
Moon	-635-04-16 07:12 J	1489594.65	1489594.80	1489594.94	0.2636	0.1128
Earth	-635-04-16 08:24 J	1489594.70	1489594.85	1489594.99	0.2630	0.1161 *
Jupiter	-635-08-27 03:07 J	1489727.54	1489727.63	1489727.72	0.0533	0.0374
Jupiter	-635-11-24 10:04 J	1489816.81	1489816.92	1489817.04	0.0531	0.0214
Moon	-632-10-16 05:16 J	1490873.62	1490873.72	1490873.83	0.2696	0.0657

Earth	-632-10-16 05:45 J	1490873.63	1490873.74	1490873.84	0.2702	0.0571 *
Mars	-631-10-02 00:57 J	1491224.43	1491224.54	1491224.64	0.1787	0.0778
Mars	-630-10-29 06:28 J	1491616.62	1491616.77	1491616.93	0.1755	0.0625
Mars	-629-09-06 09:07 J	1491929.82	1491929.88	1491929.93	0.1759	0.1505
Jupiter	-629-10-10 23:16 J	1491964.36	1491964.47	1491964.59	0.0494	0.0377
Jupiter	-628-01-09 06:43 J	1492054.64	1492054.78	1492054.92	0.0495	0.0316
Uranus	-628-04-06 20:38 J	1492142.27	1492142.36	1492142.47	0.0143	0.0121
Uranus	-628-07-04 04:47 J	1492230.56	1492230.70	1492230.86	0.0143	0.0091
Venus	-628-09-24 05:02 J	1492312.57	1492312.71	1492312.85	0.3692	0.1395
Uranus	-628-09-30 13:12 J	1492318.88	1492319.05	1492319.23	0.0143	0.0061
Uranus	-628-12-27 21:35 J	1492407.21	1492407.40	1492407.59	0.0143	0.0030
Uranus	-627-03-26 06:00 J	1492495.55	1492495.75	1492495.94	0.0143	0.0002
Uranus	-627-06-22 14:09 J	1492583.91	1492584.09	1492584.28	0.0143	0.0032
Uranus	-627-09-18 22:19 J	1492672.27	1492672.43	1492672.62	0.0143	0.0063
Uranus	-627-12-16 06:57 J	1492760.65	1492760.79	1492760.94	0.0143	0.0093
Uranus	-626-03-14 15:07 J	1492849.05	1492849.13	1492849.24	0.0142	0.0124
Saturn	-625-10-06 00:57 J	1493420.45	1493420.54	1493420.63	0.0292	0.0215
Saturn	-624-01-02 13:40 J	1493508.94	1493509.07	1493509.20	0.0293	0.0076
Saturn	-624-04-01 02:24 J	1493597.47	1493597.60	1493597.73	0.0293	0.0063
Saturn	-624-06-28 14:52 J	1493686.02	1493686.12	1493686.21	0.0294	0.0201
Venus	-624-09-22 05:45 J	1493771.72	1493771.74	1493771.76	0.3677	0.3593
Jupiter	-623-06-15 06:57 J	1494037.77	1494037.79	1494037.81	0.0533	0.0522
Jupiter	-623-09-12 14:09 J	1494126.97	1494127.09	1494127.22	0.0532	0.0073
Venus	-622-04-10 11:45 J	1494336.88	1494336.99	1494337.10	0.3691	0.2528
Mars	-621-02-22 10:33 J	1494654.86	1494654.94	1494655.01	0.1793	0.1372
Mars	-620-03-20 03:50 J	1495046.50	1495046.66	1495046.83	0.1748	0.0383
Mars	-619-01-27 19:12 J	1495360.21	1495360.30	1495360.40	0.1766	0.0976
Moon	-619-10-18 22:19 J	1495624.33	1495624.43	1495624.54	0.2700	0.0753
Earth	-619-10-18 23:02 J	1495624.36	1495624.46	1495624.57	0.2703	0.0805 *
Venus	-618-04-07 22:04 J	1495795.34	1495795.42	1495795.51	0.3678	0.2104

Jupiter	-617-10-28 02:52 J	1496364.45	1496364.62	1496364.80	0.0495	0.0125
Venus	-613-10-21 14:24 J	1497819.00	1497819.10	1497819.20	0.3679	0.0642
Jupiter	-611-07-01 18:43 J	1498437.15	1498437.28	1498437.40	0.0532	0.0068
Saturn	-611-08-03 23:16 J	1498470.42	1498470.47	1498470.53	0.0269	0.0255
Mars	-611-08-10 02:09 J	1498476.48	1498476.59	1498476.69	0.1741	0.1336
Jupiter	-611-09-29 01:12 J	1498526.52	1498526.55	1498526.58	0.0531	0.0510
Saturn	-611-10-31 19:12 J	1498559.13	1498559.30	1498559.46	0.0268	0.0111
Saturn	-610-01-28 15:07 J	1498647.95	1498648.13	1498648.31	0.0268	0.0034
Saturn	-610-04-27 11:16 J	1498736.84	1498736.97	1498737.11	0.0267	0.0181
Mars	-610-06-20 05:16 J	1498790.61	1498790.72	1498790.83	0.1773	0.0423
Venus	-607-05-07 06:28 J	1499842.67	1499842.77	1499842.87	0.3680	0.0789
Moon	-606-10-21 15:50 J	1500375.10	1500375.16	1500375.23	0.2708	0.2071
Earth	-606-10-21 16:33 J	1500375.13	1500375.19	1500375.25	0.2704	0.2159 *
Jupiter	-605-08-16 00:43 J	1500674.35	1500674.53	1500674.71	0.0494	0.0047
Moon	-602-04-14 05:16 J	1501645.58	1501645.72	1501645.86	0.2633	0.1305
Earth	-602-04-14 06:57 J	1501645.65	1501645.79	1501645.93	0.2631	0.1197 *
Venus	-602-11-20 22:33 J	1501866.36	1501866.44	1501866.52	0.3681	0.2194
Mars	-601-11-09 15:07 J	1502221.02	1502221.13	1502221.25	0.1780	0.0141
Jupiter	-599-04-19 22:33 J	1502747.32	1502747.44	1502747.56	0.0533	0.0212
Jupiter	-599-07-18 05:16 J	1502836.63	1502836.72	1502836.81	0.0531	0.0369
Earth	-599-10-14 17:02 J	1502925.12	1502925.21	1502925.29	0.2701	0.1654
Moon	-599-10-14 17:02 J	1502925.13	1502925.21	1502925.30	0.2694	0.1678 *
Neptune	-598-09-28 06:14 J	1503273.74	1503273.76	1503273.81	0.0089	0.0086
Neptune	-598-12-25 07:40 J	1503361.77	1503361.82	1503361.90	0.0089	0.0079
Neptune	-597-03-22 09:35 J	1503449.82	1503449.90	1503449.98	0.0089	0.0071
Neptune	-597-06-18 10:47 J	1503537.86	1503537.95	1503538.05	0.0089	0.0064
Neptune	-597-09-14 12:14 J	1503625.91	1503626.01	1503626.12	0.0089	0.0057
Neptune	-597-12-11 13:40 J	1503713.97	1503714.07	1503714.19	0.0089	0.0049
Neptune	-596-03-09 15:21 J	1503802.02	1503802.14	1503802.26	0.0089	0.0042
Neptune	-596-06-05 16:47 J	1503890.07	1503890.20	1503890.32	0.0089	0.0035

Venus -596-06-05 14:24 J 1503890.08 1503890.10 1503890.12 0.3682 0.3568 *

Neptune -596-09-01 18:14 J 1503978.13 1503978.26 1503978.39 0.0089 0.0028

Neptune -596-11-28 19:40 J 1504066.19 1504066.32 1504066.45 0.0089 0.0020

Saturn -595-02-23 01:55 J 1504152.53 1504152.58 1504152.64 0.0292 0.0263

Neptune -595-02-24 21:07 J 1504154.24 1504154.38 1504154.51 0.0089 0.0013

Saturn -595-05-22 14:52 J 1504241.00 1504241.12 1504241.24 0.0293 0.0124

Neptune -595-05-23 22:33 J 1504242.30 1504242.44 1504242.57 0.0089 0.0006

Saturn -595-08-19 03:21 J 1504329.51 1504329.64 1504329.78 0.0293 0.0018

Neptune -595-08-19 23:45 J 1504330.36 1504330.49 1504330.63 0.0089 0.0004

Saturn -595-11-15 16:04 J 1504418.06 1504418.17 1504418.28 0.0294 0.0153

Neptune -595-11-16 01:12 J 1504418.42 1504418.55 1504418.69 0.0089 0.0009

Neptune -594-02-12 02:38 J 1504506.48 1504506.61 1504506.75 0.0089 0.0016

Saturn -594-02-12 04:19 J 1504506.67 1504506.68 1504506.71 0.0295 0.0291 *

Neptune -594-05-11 04:04 J 1504594.54 1504594.67 1504594.80 0.0089 0.0022

Neptune -594-08-07 05:31 J 1504682.60 1504682.73 1504682.86 0.0089 0.0030

Neptune -594-11-03 06:43 J 1504770.67 1504770.78 1504770.91 0.0089 0.0037

Neptune -593-01-30 08:09 J 1504858.73 1504858.84 1504858.96 0.0089 0.0044

Neptune -593-04-27 09:35 J 1504946.79 1504946.90 1504947.01 0.0089 0.0051

Jupiter -593-06-03 22:47 J 1504984.29 1504984.45 1504984.61 0.0494 0.0215

Neptune -593-07-24 11:02 J 1505034.86 1505034.96 1505035.06 0.0089 0.0058

Jupiter -593-09-02 06:28 J 1505074.75 1505074.77 1505074.81 0.0496 0.0486

Neptune -593-10-20 12:14 J 1505122.93 1505123.01 1505123.11 0.0089 0.0065

Neptune -592-01-16 13:40 J 1505211.00 1505211.07 1505211.15 0.0089 0.0072

Neptune -592-04-14 15:07 J 1505299.07 1505299.13 1505299.19 0.0089 0.0079

Neptune -592-07-11 16:19 J 1505387.16 1505387.18 1505387.23 0.0089 0.0086

Mars -591-04-02 00:57 J 1505651.43 1505651.54 1505651.64 0.1786 0.0723

Mars -590-04-29 07:26 J 1506043.65 1506043.81 1506043.96 0.1755 0.0728

Mars -589-03-07 09:07 J 1506356.83 1506356.88 1506356.93 0.1759 0.1563

Moon -589-04-16 13:55 J 1506396.95 1506397.08 1506397.21 0.2635 0.1493

Earth -589-04-16 15:07 J 1506397.01 1506397.13 1506397.25 0.2630 0.1732 *

Jupiter	-587-02-06 02:24 J	1507057.50	1507057.60	1507057.69	0.0533	0.0363
Jupiter	-587-05-06 09:07 J	1507146.77	1507146.88	1507147.00	0.0531	0.0225
Moon	-586-10-17 10:04 J	1507675.81	1507675.92	1507676.02	0.2697	0.0303
Earth	-586-10-17 10:19 J	1507675.83	1507675.93	1507676.04	0.2702	0.0295 *
Uranus	-585-07-05 10:47 J	1507937.93	1507937.95	1507937.97	0.0135	0.0132
Uranus	-585-10-01 13:40 J	1508026.01	1508026.07	1508026.15	0.0135	0.0115
Uranus	-585-12-28 16:47 J	1508114.12	1508114.20	1508114.30	0.0135	0.0097
Uranus	-584-03-26 20:09 J	1508202.23	1508202.34	1508202.44	0.0135	0.0079
Uranus	-584-06-22 23:02 J	1508290.35	1508290.46	1508290.58	0.0135	0.0062
Uranus	-584-09-19 02:09 J	1508378.47	1508378.59	1508378.72	0.0135	0.0044
Uranus	-584-12-16 05:16 J	1508466.59	1508466.72	1508466.85	0.0135	0.0027
Uranus	-583-03-14 08:24 J	1508554.72	1508554.85	1508554.98	0.0136	0.0009
Uranus	-583-06-10 11:31 J	1508642.85	1508642.98	1508643.11	0.0136	0.0009
Uranus	-583-09-06 14:38 J	1508730.98	1508731.11	1508731.24	0.0136	0.0027
Uranus	-583-12-03 17:31 J	1508819.11	1508819.23	1508819.36	0.0136	0.0045
Uranus	-582-03-01 20:38 J	1508907.25	1508907.36	1508907.48	0.0136	0.0062
Uranus	-582-05-28 23:45 J	1508995.39	1508995.49	1508995.60	0.0136	0.0080
Mars	-582-08-23 10:33 J	1509081.86	1509081.94	1509082.01	0.1794	0.1317
Uranus	-582-08-25 02:52 J	1509083.53	1509083.62	1509083.71	0.0136	0.0097
Uranus	-582-11-21 05:45 J	1509171.68	1509171.74	1509171.81	0.0136	0.0115
Uranus	-581-02-17 08:38 J	1509259.85	1509259.86	1509259.90	0.0136	0.0134
Saturn	-581-03-19 18:28 J	1509291.13	1509291.27	1509291.42	0.0268	0.0155
Jupiter	-581-03-22 21:07 J	1509294.27	1509294.38	1509294.50	0.0494	0.0378
Saturn	-581-06-16 14:24 J	1509379.92	1509380.10	1509380.29	0.0268	0.0011
Jupiter	-581-06-21 04:33 J	1509384.55	1509384.69	1509384.83	0.0495	0.0315
Saturn	-581-09-13 10:33 J	1509468.79	1509468.94	1509469.10	0.0267	0.0136
Mars	-581-09-18 04:47 J	1509473.54	1509473.70	1509473.87	0.1748	0.0278
Mars	-580-07-28 19:12 J	1509787.20	1509787.30	1509787.39	0.1766	0.1026
Jupiter	-576-11-25 05:31 J	1511367.71	1511367.73	1511367.75	0.0533	0.0523
Jupiter	-575-02-22 12:43 J	1511456.90	1511457.03	1511457.16	0.0532	0.0070

Moon	-573-10-19 03:07 J	1512426.53	1512426.63	1512426.74	0.2701	0.0943
Earth	-573-10-19 03:50 J	1512426.56	1512426.66	1512426.76	0.2703	0.1080 *
Mars	-571-02-08 02:38 J	1512903.50	1512903.61	1512903.72	0.1740	0.1250
Venus	-571-05-01 06:28 J	1512985.62	1512985.77	1512985.92	0.3692	0.0193
Mars	-571-12-19 05:16 J	1513217.61	1513217.72	1513217.83	0.1773	0.0483
Jupiter	-569-04-09 01:55 J	1513694.41	1513694.58	1513694.76	0.0495	0.0139
Venus	-567-04-29 03:35 J	1514444.59	1514444.65	1514444.70	0.3677	0.3083
Saturn	-566-10-09 17:31 J	1514973.12	1514973.23	1514973.34	0.0292	0.0156
Moon	-566-10-13 04:33 J	1514976.69	1514976.69	1514976.70	0.2694	0.2687
Saturn	-565-01-06 06:14 J	1515061.63	1515061.76	1515061.90	0.0293	0.0018
Saturn	-565-04-03 18:57 J	1515150.17	1515150.29	1515150.41	0.0294	0.0121
Saturn	-565-07-01 07:12 J	1515238.75	1515238.80	1515238.87	0.0294	0.0259
Jupiter	-564-12-11 16:47 J	1515767.07	1515767.20	1515767.32	0.0532	0.0075
Jupiter	-563-03-10 23:16 J	1515856.43	1515856.47	1515856.51	0.0531	0.0503
Venus	-562-11-12 19:55 J	1516468.23	1516468.33	1516468.42	0.3678	0.1606
Mars	-561-05-10 15:07 J	1516648.02	1516648.13	1516648.25	0.1779	0.0093
Moon	-560-10-21 20:52 J	1517177.32	1517177.37	1517177.41	0.2709	0.2395
Earth	-560-10-21 21:21 J	1517177.34	1517177.39	1517177.43	0.2704	0.2435 *
Jupiter	-557-01-26 22:33 J	1518004.25	1518004.44	1518004.62	0.0494	0.0051
Moon	-556-04-14 12:14 J	1518447.86	1518448.01	1518448.16	0.2635	0.0885
Earth	-556-04-14 13:40 J	1518447.92	1518448.07	1518448.23	0.2631	0.0631 *
Venus	-556-05-28 12:00 J	1518491.89	1518492.00	1518492.10	0.3679	0.0158
Moon	-553-10-14 21:50 J	1519727.31	1519727.41	1519727.50	0.2694	0.1303
Earth	-553-10-14 21:35 J	1519727.31	1519727.40	1519727.50	0.2701	0.1372 *
Saturn	-552-08-06 19:26 J	1520023.18	1520023.31	1520023.44	0.0269	0.0186
Jupiter	-552-09-29 21:07 J	1520077.26	1520077.38	1520077.50	0.0533	0.0214
Mars	-552-10-01 00:43 J	1520078.43	1520078.53	1520078.64	0.1787	0.0666
Saturn	-552-11-03 15:21 J	1520111.96	1520112.14	1520112.32	0.0268	0.0042
Jupiter	-552-12-28 03:50 J	1520166.57	1520166.66	1520166.75	0.0531	0.0370
Saturn	-551-01-31 11:16 J	1520200.80	1520200.97	1520201.14	0.0267	0.0104

Saturn	-551-04-30 07:26 J	1520289.76	1520289.81	1520289.88	0.0267	0.0251
Mars	-551-10-28 08:09 J	1520470.69	1520470.84	1520470.99	0.1756	0.0825
Venus	-551-12-12 04:04 J	1520515.57	1520515.67	1520515.77	0.3680	0.1265
Mars	-550-09-06 08:52 J	1520783.83	1520783.87	1520783.92	0.1759	0.1619
Jupiter	-546-11-14 20:24 J	1522314.19	1522314.35	1522314.52	0.0494	0.0218
Jupiter	-545-02-13 04:04 J	1522404.64	1522404.67	1522404.72	0.0496	0.0482
Venus	-545-06-26 19:55 J	1522539.26	1522539.33	1522539.41	0.3682	0.2657
Uranus	-544-04-27 04:04 J	1522843.56	1522843.67	1522843.79	0.0143	0.0114
Uranus	-544-07-24 12:14 J	1522931.87	1522932.01	1522932.18	0.0143	0.0083
Uranus	-544-10-20 20:38 J	1523020.19	1523020.36	1523020.55	0.0143	0.0053
Uranus	-543-01-17 05:02 J	1523108.52	1523108.71	1523108.90	0.0143	0.0022
Uranus	-543-04-15 13:26 J	1523196.86	1523197.06	1523197.25	0.0143	0.0009
Moon	-543-04-17 20:52 J	1523199.30	1523199.37	1523199.45	0.2635	0.2308
Earth	-543-04-17 21:50 J	1523199.34	1523199.41	1523199.49	0.2630	0.2313 *
Uranus	-543-07-12 21:35 J	1523285.22	1523285.40	1523285.59	0.0143	0.0039
Uranus	-543-10-09 06:00 J	1523373.58	1523373.75	1523373.92	0.0143	0.0070
Uranus	-542-01-05 14:09 J	1523461.97	1523462.09	1523462.24	0.0143	0.0101
Mars	-542-02-21 10:33 J	1523508.86	1523508.94	1523509.02	0.1793	0.1251
Uranus	-542-04-03 22:19 J	1523550.38	1523550.43	1523550.52	0.0142	0.0132
Mars	-541-03-19 05:45 J	1523900.57	1523900.74	1523900.90	0.1748	0.0180
Mars	-540-01-26 19:12 J	1524214.21	1524214.30	1524214.39	0.1766	0.1087
Jupiter	-540-07-19 00:57 J	1524387.45	1524387.54	1524387.64	0.0533	0.0359
Jupiter	-540-10-16 07:55 J	1524476.72	1524476.83	1524476.95	0.0531	0.0231
Moon	-540-10-17 14:38 J	1524478.00	1524478.11	1524478.22	0.2697	0.0142
Earth	-540-10-17 15:07 J	1524478.02	1524478.13	1524478.24	0.2702	0.0052 *
Saturn	-536-02-25 18:14 J	1525705.17	1525705.26	1525705.36	0.0292	0.0208
Saturn	-536-05-25 06:57 J	1525793.66	1525793.79	1525793.92	0.0293	0.0070
Saturn	-536-08-21 19:40 J	1525882.19	1525882.32	1525882.45	0.0294	0.0069
Saturn	-536-11-18 08:09 J	1525970.75	1525970.84	1525970.93	0.0294	0.0207
Jupiter	-534-09-02 18:43 J	1526624.17	1526624.28	1526624.39	0.0494	0.0383

Jupiter	-534-12-02 02:09 J	1526714.44	1526714.59	1526714.73	0.0495	0.0309
Mars	-532-08-09 03:35 J	1527330.52	1527330.65	1527330.77	0.1741	0.1147
Mars	-531-06-19 05:16 J	1527644.61	1527644.72	1527644.83	0.1772	0.0539
Pluto	-530-09-15 05:16 J	1528097.69	1528097.72	1528097.77	0.0071	0.0069
Pluto	-530-12-12 06:14 J	1528185.69	1528185.76	1528185.84	0.0072	0.0060
Pluto	-529-03-09 06:57 J	1528273.71	1528273.79	1528273.90	0.0072	0.0052
Pluto	-529-06-05 07:55 J	1528361.73	1528361.83	1528361.96	0.0072	0.0043
Pluto	-529-09-01 08:52 J	1528449.76	1528449.87	1528450.01	0.0072	0.0034
Pluto	-529-11-28 09:50 J	1528537.79	1528537.91	1528538.06	0.0072	0.0025
Pluto	-528-02-24 11:02 J	1528625.82	1528625.96	1528626.10	0.0072	0.0016
Jupiter	-528-05-07 04:47 J	1528697.66	1528697.70	1528697.73	0.0533	0.0509
Pluto	-528-05-23 12:00 J	1528713.86	1528714.00	1528714.14	0.0072	0.0007
Jupiter	-528-08-04 12:00 J	1528786.87	1528787.00	1528787.13	0.0532	0.0084
Pluto	-528-08-19 12:57 J	1528801.90	1528802.04	1528802.19	0.0072	0.0003
Pluto	-528-11-15 13:55 J	1528889.94	1528890.08	1528890.23	0.0073	0.0012
Pluto	-527-02-11 14:52 J	1528977.99	1528978.12	1528978.26	0.0073	0.0021
Pluto	-527-05-10 15:50 J	1529066.04	1529066.16	1529066.30	0.0073	0.0030
Pluto	-527-08-06 16:47 J	1529154.09	1529154.20	1529154.33	0.0073	0.0040
Moon	-527-10-20 07:55 J	1529228.74	1529228.83	1529228.93	0.2703	0.1323
Earth	-527-10-20 08:38 J	1529228.77	1529228.86	1529228.95	0.2703	0.1358 *
Pluto	-527-11-02 18:00 J	1529242.15	1529242.25	1529242.36	0.0073	0.0049
Pluto	-526-01-29 18:43 J	1529330.21	1529330.28	1529330.38	0.0073	0.0059
Pluto	-526-04-27 20:09 J	1529418.29	1529418.34	1529418.39	0.0073	0.0069
Saturn	-523-12-24 18:00 J	1530755.17	1530755.25	1530755.35	0.0269	0.0234
Saturn	-522-03-23 13:55 J	1530843.91	1530844.08	1530844.26	0.0268	0.0090
Saturn	-522-06-20 10:04 J	1530932.74	1530932.92	1530933.10	0.0267	0.0056
Saturn	-522-09-17 06:14 J	1531021.64	1531021.76	1531021.88	0.0267	0.0202
Jupiter	-522-09-20 00:14 J	1531024.33	1531024.51	1531024.68	0.0495	0.0141
Mars	-522-11-09 15:07 J	1531075.01	1531075.13	1531075.24	0.1780	0.0041
Venus	-520-05-22 01:26 J	1531634.47	1531634.56	1531634.66	0.3693	0.2773

Earth -520-10-13 08:52 J 1531778.83 1531778.87 1531778.92 0.2699 0.2464

Moon -520-10-13 09:21 J 1531778.84 1531778.89 1531778.94 0.2694 0.2389 *

Jupiter -516-05-23 15:21 J 1533097.02 1533097.14 1533097.27 0.0532 0.0073

Jupiter -516-08-20 21:50 J 1533186.38 1533186.41 1533186.45 0.0530 0.0506

Neptune -515-06-14 08:09 J 1533483.84 1533483.84 1533483.84 0.0088 0.0088

Neptune -515-09-10 10:47 J 1533571.89 1533571.95 1533572.05 0.0088 0.0079

Venus -515-12-06 07:55 J 1533658.68 1533658.83 1533658.97 0.3691 0.1033

Neptune -515-12-07 14:09 J 1533659.99 1533660.09 1533660.22 0.0088 0.0070

Neptune -514-03-05 17:31 J 1533748.11 1533748.23 1533748.38 0.0088 0.0060

Neptune -514-06-01 20:38 J 1533836.22 1533836.36 1533836.53 0.0088 0.0051

Neptune -514-08-29 00:00 J 1533924.35 1533924.50 1533924.68 0.0088 0.0042

Moon -514-10-23 01:26 J 1533979.54 1533979.56 1533979.59 0.2709 0.2599

Neptune -514-11-25 03:21 J 1534012.47 1534012.64 1534012.82 0.0088 0.0032

Neptune -513-02-21 06:43 J 1534100.60 1534100.78 1534100.97 0.0088 0.0023

Neptune -513-05-19 10:04 J 1534188.74 1534188.92 1534189.11 0.0088 0.0013

Neptune -513-08-15 13:26 J 1534276.87 1534277.06 1534277.25 0.0088 0.0004

Neptune -513-11-11 16:47 J 1534365.01 1534365.20 1534365.39 0.0088 0.0006

Neptune -512-02-07 20:09 J 1534453.15 1534453.34 1534453.53 0.0088 0.0015

Mars -512-04-01 00:57 J 1534505.43 1534505.54 1534505.65 0.1786 0.0597

Neptune -512-05-06 23:16 J 1534541.29 1534541.47 1534541.66 0.0088 0.0025

Neptune -512-08-03 02:24 J 1534629.44 1534629.60 1534629.79 0.0088 0.0035

Neptune -512-10-30 06:00 J 1534717.59 1534717.75 1534717.92 0.0088 0.0044

Neptune -511-01-26 09:07 J 1534805.75 1534805.88 1534806.05 0.0088 0.0054

Neptune -511-04-24 12:43 J 1534893.91 1534894.03 1534894.17 0.0088 0.0063

Mars -511-04-28 08:52 J 1534897.73 1534897.87 1534898.02 0.1756 0.0926

Neptune -511-07-21 16:04 J 1534982.08 1534982.17 1534982.29 0.0088 0.0073

Neptune -511-10-17 19:12 J 1535070.26 1535070.30 1535070.38 0.0088 0.0083

Venus -511-12-04 01:12 J 1535117.47 1535117.55 1535117.62 0.3677 0.2576

Mars -510-03-07 08:52 J 1535210.84 1535210.87 1535210.91 0.1759 0.1675

Moon -510-04-15 18:57 J 1535250.13 1535250.29 1535250.45 0.2635 0.0200

Earth	-510-04-15 20:38 J	1535250.19	1535250.36	1535250.52	0.2631	0.0083 *
Jupiter	-510-07-08 21:50 J	1535334.23	1535334.41	1535334.60	0.0495	0.0032
Saturn	-507-07-15 20:24 J	1536437.29	1536437.35	1536437.43	0.0292	0.0245
Saturn	-507-10-12 09:21 J	1536525.77	1536525.89	1536526.02	0.0293	0.0106
Moon	-507-10-16 02:24 J	1536529.50	1536529.60	1536529.70	0.2694	0.1124
Earth	-507-10-16 02:24 J	1536529.50	1536529.60	1536529.70	0.2701	0.1092 *
Saturn	-506-01-08 22:04 J	1536614.29	1536614.42	1536614.55	0.0293	0.0033
Saturn	-506-04-07 10:33 J	1536702.84	1536702.94	1536703.05	0.0294	0.0171
Venus	-505-06-18 17:31 J	1537141.13	1537141.23	1537141.33	0.3679	0.1127
Jupiter	-504-03-11 19:26 J	1537407.19	1537407.31	1537407.43	0.0533	0.0216
Jupiter	-504-06-09 02:09 J	1537496.50	1537496.59	1537496.68	0.0531	0.0367
Mars	-503-08-22 10:33 J	1537935.85	1537935.94	1537936.02	0.1793	0.1193
Mars	-502-09-18 06:14 J	1538327.59	1538327.76	1538327.93	0.1748	0.0090
Uranus	-501-07-25 17:45 J	1538639.21	1538639.24	1538639.29	0.0135	0.0128
Mars	-501-07-27 19:12 J	1538641.21	1538641.30	1538641.39	0.1766	0.1147
Uranus	-501-10-21 21:07 J	1538727.31	1538727.38	1538727.46	0.0135	0.0110
Uranus	-500-01-18 00:14 J	1538815.42	1538815.51	1538815.61	0.0135	0.0092
Uranus	-500-04-16 03:21 J	1538903.53	1538903.64	1538903.75	0.0135	0.0075
Uranus	-500-07-13 06:28 J	1538991.65	1538991.77	1538991.89	0.0135	0.0057
Uranus	-500-10-09 09:35 J	1539079.77	1539079.90	1539080.03	0.0135	0.0039
Venus	-499-01-02 09:35 J	1539164.80	1539164.90	1539165.00	0.3680	0.0326
Uranus	-499-01-05 12:43 J	1539167.90	1539168.03	1539168.16	0.0135	0.0022
Uranus	-499-04-03 15:50 J	1539256.02	1539256.16	1539256.29	0.0135	0.0005
Uranus	-499-06-30 18:43 J	1539344.15	1539344.28	1539344.42	0.0136	0.0015
Uranus	-499-09-26 21:50 J	1539432.29	1539432.41	1539432.54	0.0136	0.0032
Uranus	-499-12-24 00:57 J	1539520.42	1539520.54	1539520.66	0.0136	0.0049
Uranus	-498-03-22 03:50 J	1539608.55	1539608.66	1539608.78	0.0136	0.0067
Jupiter	-498-04-26 18:28 J	1539644.11	1539644.27	1539644.44	0.0494	0.0217
Uranus	-498-06-18 06:57 J	1539696.69	1539696.79	1539696.90	0.0136	0.0085
Jupiter	-498-07-26 02:09 J	1539734.56	1539734.59	1539734.64	0.0495	0.0483

Uranus	-498-09-14 10:04 J	1539784.84	1539784.92	1539785.01	0.0136	0.0102
Uranus	-498-12-11 12:57 J	1539872.99	1539873.04	1539873.11	0.0136	0.0120
Venus	-494-07-19 01:40 J	1541188.48	1541188.57	1541188.66	0.3681	0.1732
Moon	-494-10-18 19:26 J	1541280.20	1541280.31	1541280.42	0.2697	0.0260
Earth	-494-10-18 19:55 J	1541280.22	1541280.33	1541280.44	0.2702	0.0281 *
Mars	-493-01-12 19:55 J	1541366.33	1541366.33	1541366.34	0.1800	0.1798
Saturn	-493-05-12 18:43 J	1541487.27	1541487.28	1541487.31	0.0269	0.0267
Saturn	-493-08-09 14:38 J	1541575.95	1541576.11	1541576.27	0.0268	0.0123
Saturn	-493-11-06 10:33 J	1541664.76	1541664.94	1541665.12	0.0268	0.0022
Jupiter	-493-12-28 23:45 J	1541717.39	1541717.49	1541717.58	0.0534	0.0358
Saturn	-492-02-03 06:28 J	1541753.64	1541753.77	1541753.92	0.0267	0.0169
Mars	-492-02-07 04:19 J	1541757.55	1541757.68	1541757.81	0.1741	0.1050
Jupiter	-492-03-28 06:43 J	1541806.67	1541806.78	1541806.90	0.0532	0.0232
Mars	-492-12-18 05:16 J	1542071.61	1542071.72	1542071.83	0.1772	0.0598
Venus	-488-01-31 17:31 J	1543212.18	1543212.23	1543212.29	0.3682	0.3116
Jupiter	-486-02-12 16:47 J	1543954.09	1543954.20	1543954.32	0.0494	0.0381
Jupiter	-486-05-14 00:00 J	1544044.36	1544044.50	1544044.65	0.0495	0.0310
Mars	-482-05-10 15:07 J	1545502.02	1545502.13	1545502.25	0.1779	0.0041
Jupiter	-481-10-17 03:35 J	1546027.62	1546027.65	1546027.70	0.0534	0.0503
Moon	-481-10-20 12:43 J	1546030.94	1546031.03	1546031.12	0.2705	0.1484
Earth	-481-10-20 13:26 J	1546030.98	1546031.06	1546031.14	0.2703	0.1639 *
Jupiter	-480-01-14 11:02 J	1546116.83	1546116.96	1546117.08	0.0532	0.0092
Saturn	-477-02-29 09:50 J	1547257.80	1547257.91	1547258.03	0.0292	0.0159
Earth	-477-04-12 19:12 J	1547301.24	1547301.30	1547301.37	0.2633	0.2407
Saturn	-477-05-27 22:33 J	1547346.31	1547346.44	1547346.58	0.0293	0.0022
Saturn	-477-08-24 11:16 J	1547434.85	1547434.97	1547435.09	0.0294	0.0118
Saturn	-477-11-20 23:45 J	1547523.43	1547523.49	1547523.55	0.0294	0.0255
Jupiter	-474-03-01 22:04 J	1548354.24	1548354.42	1548354.60	0.0495	0.0140
Earth	-474-10-14 13:40 J	1548581.01	1548581.07	1548581.13	0.2700	0.2183
Moon	-474-10-14 14:09 J	1548581.02	1548581.09	1548581.16	0.2694	0.2105 *

Mars	-473-09-30 00:43 J	1548932.43	1548932.53	1548932.64	0.1786	0.0549
Mars	-472-10-27 09:35 J	1549324.77	1549324.90	1549325.04	0.1756	0.1026
Mars	-471-09-05 08:52 J	1549637.86	1549637.87	1549637.89	0.1759	0.1731
Jupiter	-469-11-02 14:52 J	1550427.00	1550427.12	1550427.25	0.0532	0.0056
Jupiter	-468-01-30 21:21 J	1550516.38	1550516.39	1550516.41	0.0530	0.0522
Moon	-464-04-16 01:55 J	1552052.42	1552052.58	1552052.74	0.2635	0.0296
Earth	-464-04-16 03:21 J	1552052.48	1552052.64	1552052.80	0.2631	0.0508 *
Venus	-464-12-27 02:38 J	1552307.48	1552307.61	1552307.75	0.3692	0.1622
Saturn	-464-12-27 12:43 J	1552307.89	1552308.03	1552308.16	0.0269	0.0176
Mars	-463-02-20 10:33 J	1552362.85	1552362.94	1552363.03	0.1793	0.1130
Saturn	-463-03-26 08:38 J	1552396.68	1552396.86	1552397.04	0.0268	0.0031
Saturn	-463-06-23 04:33 J	1552485.53	1552485.69	1552485.86	0.0267	0.0115
Saturn	-463-09-20 00:57 J	1552574.51	1552574.54	1552574.57	0.0267	0.0261
Jupiter	-463-12-18 20:24 J	1552664.16	1552664.35	1552664.53	0.0495	0.0028
Mars	-462-03-19 07:12 J	1552754.63	1552754.80	1552754.97	0.1748	0.0027
Mars	-461-01-26 19:12 J	1553068.21	1553068.30	1553068.38	0.1765	0.1200
Moon	-461-10-16 06:57 J	1553331.69	1553331.79	1553331.90	0.2694	0.0834
Earth	-461-10-16 07:12 J	1553331.70	1553331.80	1553331.90	0.2701	0.0811 *
Uranus	-460-02-18 02:52 J	1553456.58	1553456.62	1553456.68	0.0143	0.0138
Uranus	-460-05-17 11:02 J	1553544.85	1553544.96	1553545.10	0.0143	0.0107
Uranus	-460-08-13 19:12 J	1553633.15	1553633.30	1553633.48	0.0143	0.0077
Uranus	-460-11-10 03:50 J	1553721.48	1553721.66	1553721.84	0.0143	0.0046
Venus	-460-12-25 06:28 J	1553766.75	1553766.77	1553766.79	0.3677	0.3560
Uranus	-459-02-06 12:00 J	1553809.81	1553810.00	1553810.20	0.0143	0.0016
Uranus	-459-05-05 20:24 J	1553898.16	1553898.35	1553898.54	0.0143	0.0015
Uranus	-459-08-02 04:33 J	1553986.51	1553986.69	1553986.88	0.0143	0.0046
Uranus	-459-10-29 12:43 J	1554074.88	1554075.03	1554075.21	0.0143	0.0077
Uranus	-458-01-25 21:21 J	1554163.27	1554163.39	1554163.52	0.0143	0.0107
Uranus	-458-04-24 05:31 J	1554251.69	1554251.73	1554251.79	0.0142	0.0138
Venus	-458-07-13 09:21 J	1554331.78	1554331.89	1554332.01	0.3691	0.2277

Jupiter	-457-08-21 18:28 J	1554737.15	1554737.27	1554737.39	0.0533	0.0209
Jupiter	-457-11-19 01:12 J	1554826.46	1554826.55	1554826.64	0.0531	0.0374
Venus	-454-07-10 22:47 J	1555790.36	1555790.45	1555790.54	0.3678	0.2082
Mars	-454-07-13 19:55 J	1555793.31	1555793.33	1555793.36	0.1800	0.1736
Mars	-453-08-08 04:47 J	1556184.57	1556184.70	1556184.84	0.1741	0.0964
Mars	-452-06-18 05:16 J	1556498.61	1556498.72	1556498.83	0.1772	0.0657
Jupiter	-451-10-06 18:14 J	1556974.10	1556974.26	1556974.43	0.0494	0.0195
Venus	-448-01-23 15:07 J	1557814.02	1557814.13	1557814.23	0.3679	0.0633
Saturn	-448-07-18 11:45 J	1557989.90	1557989.99	1557990.09	0.0292	0.0200
Saturn	-448-10-15 00:28 J	1558078.39	1558078.52	1558078.66	0.0293	0.0062
Moon	-448-10-19 00:14 J	1558082.40	1558082.51	1558082.62	0.2698	0.0434
Earth	-448-10-19 00:43 J	1558082.43	1558082.53	1558082.64	0.2702	0.0558 *
Saturn	-447-01-11 13:12 J	1558166.92	1558167.05	1558167.18	0.0293	0.0077
Saturn	-447-04-10 01:40 J	1558255.48	1558255.57	1558255.66	0.0294	0.0215
Jupiter	-445-06-09 22:19 J	1559047.34	1559047.43	1559047.53	0.0533	0.0355
Jupiter	-445-09-07 05:16 J	1559136.61	1559136.72	1559136.84	0.0532	0.0234
Pluto	-444-02-10 06:14 J	1559292.70	1559292.76	1559292.84	0.0073	0.0067
Pluto	-444-05-09 07:55 J	1559380.73	1559380.83	1559380.96	0.0072	0.0055
Pluto	-444-08-05 10:04 J	1559468.78	1559468.92	1559469.06	0.0072	0.0044
Pluto	-444-11-01 11:45 J	1559556.84	1559556.99	1559557.16	0.0072	0.0032
Pluto	-443-01-28 13:40 J	1559644.91	1559645.07	1559645.24	0.0072	0.0021
Pluto	-443-04-26 15:35 J	1559732.97	1559733.15	1559733.32	0.0072	0.0010
Pluto	-443-07-23 17:16 J	1559821.05	1559821.22	1559821.40	0.0072	0.0002
Venus	-443-08-09 07:12 J	1559837.70	1559837.80	1559837.90	0.3680	0.0803
Pluto	-443-10-19 19:12 J	1559909.12	1559909.30	1559909.47	0.0072	0.0012
Mars	-443-11-08 15:07 J	1559929.02	1559929.13	1559929.25	0.1779	0.0097
Pluto	-442-01-15 20:52 J	1559997.20	1559997.37	1559997.54	0.0072	0.0023
Pluto	-442-04-13 22:19 J	1560085.29	1560085.43	1560085.60	0.0071	0.0034
Pluto	-442-07-11 00:00 J	1560173.38	1560173.50	1560173.65	0.0071	0.0045
Pluto	-442-10-07 01:26 J	1560261.47	1560261.56	1560261.70	0.0071	0.0056

Pluto -441-01-03 03:21 J 1560349.59 1560349.64 1560349.72 0.0071 0.0065

Jupiter -439-07-25 15:21 J 1561284.02 1561284.14 1561284.25 0.0493 0.0375

Jupiter -439-10-23 22:33 J 1561374.30 1561374.44 1561374.58 0.0495 0.0315

Venus -437-02-22 23:16 J 1561861.38 1561861.47 1561861.55 0.3681 0.2201

Moon -435-10-21 17:31 J 1562833.15 1562833.23 1562833.31 0.2706 0.1880

Earth -435-10-21 18:14 J 1562833.18 1562833.26 1562833.33 0.2703 0.1915 *

Saturn -434-05-16 12:57 J 1563039.94 1563040.04 1563040.16 0.0269 0.0210

Saturn -434-08-13 08:52 J 1563128.69 1563128.87 1563129.05 0.0268 0.0066

Saturn -434-11-10 04:47 J 1563217.53 1563217.70 1563217.88 0.0268 0.0080

Saturn -433-02-07 00:57 J 1563306.45 1563306.54 1563306.65 0.0267 0.0226

Jupiter -433-03-29 02:24 J 1563357.56 1563357.60 1563357.65 0.0534 0.0499

Mars -433-03-31 00:57 J 1563359.43 1563359.54 1563359.65 0.1786 0.0482

Neptune -433-06-24 05:45 J 1563444.71 1563444.74 1563444.80 0.0089 0.0084

Jupiter -433-06-26 09:50 J 1563446.78 1563446.91 1563447.03 0.0532 0.0097

Neptune -433-09-20 07:12 J 1563532.74 1563532.80 1563532.88 0.0089 0.0077

Neptune -433-12-17 08:38 J 1563620.79 1563620.86 1563620.96 0.0089 0.0070

Neptune -432-03-15 10:19 J 1563708.84 1563708.93 1563709.03 0.0089 0.0062

Mars -432-04-27 10:33 J 1563751.82 1563751.94 1563752.07 0.1756 0.1133

Neptune -432-06-11 11:45 J 1563796.89 1563796.99 1563797.10 0.0089 0.0055

Neptune -432-09-07 13:12 J 1563884.94 1563885.05 1563885.17 0.0089 0.0047

Venus -432-09-07 15:07 J 1563885.11 1563885.13 1563885.15 0.3682 0.3573 *

Neptune -432-12-04 14:38 J 1563973.00 1563973.11 1563973.24 0.0089 0.0040

Neptune -431-03-02 16:19 J 1564061.05 1564061.18 1564061.30 0.0089 0.0033

Moon -431-04-14 00:14 J 1564103.41 1564103.51 1564103.62 0.2634 0.1972

Earth -431-04-14 02:09 J 1564103.47 1564103.59 1564103.70 0.2632 0.1840 *

Neptune -431-05-29 17:45 J 1564149.11 1564149.24 1564149.37 0.0089 0.0026

Neptune -431-08-25 18:57 J 1564237.16 1564237.29 1564237.43 0.0089 0.0019

Neptune -431-11-21 20:24 J 1564325.22 1564325.35 1564325.49 0.0089 0.0012

Neptune -430-02-17 21:50 J 1564413.28 1564413.41 1564413.55 0.0089 0.0005

Neptune -430-05-16 23:16 J 1564501.34 1564501.47 1564501.61 0.0089 0.0005

Neptune -430-08-13 00:43 J 1564589.40 1564589.53 1564589.67 0.0089 0.0011

Neptune -430-11-09 02:09 J 1564677.46 1564677.59 1564677.72 0.0089 0.0017

Neptune -429-02-05 03:35 J 1564765.52 1564765.65 1564765.78 0.0089 0.0024

Neptune -429-05-03 05:02 J 1564853.58 1564853.71 1564853.84 0.0089 0.0031

Neptune -429-07-30 06:14 J 1564941.65 1564941.76 1564941.89 0.0089 0.0039

Neptune -429-10-26 07:40 J 1565029.71 1565029.82 1565029.94 0.0089 0.0046

Neptune -428-01-22 09:07 J 1565117.78 1565117.88 1565117.99 0.0089 0.0053

Neptune -428-04-20 10:33 J 1565205.84 1565205.94 1565206.04 0.0089 0.0060

Neptune -428-07-17 11:45 J 1565293.91 1565293.99 1565294.09 0.0089 0.0067

Neptune -428-10-13 13:12 J 1565381.98 1565382.05 1565382.13 0.0089 0.0074

Earth -428-10-14 18:28 J 1565383.20 1565383.27 1565383.35 0.2700 0.1900

Moon -428-10-14 18:43 J 1565383.21 1565383.28 1565383.36 0.2694 0.1876 *

Neptune -427-01-09 14:24 J 1565470.06 1565470.10 1565470.17 0.0089 0.0081

Neptune -427-04-07 15:50 J 1565558.15 1565558.16 1565558.19 0.0089 0.0088

Jupiter -427-08-11 20:24 J 1565684.18 1565684.35 1565684.53 0.0495 0.0145

Mars -424-08-21 10:33 J 1566789.85 1566789.94 1566790.03 0.1793 0.1071

Mars -423-09-17 07:55 J 1567181.66 1567181.83 1567182.00 0.1748 0.0117

Mars -422-07-27 19:12 J 1567495.22 1567495.30 1567495.38 0.1765 0.1258

Jupiter -421-04-14 13:55 J 1567756.96 1567757.08 1567757.21 0.0533 0.0048

Saturn -419-12-05 12:14 J 1568721.95 1568722.01 1568722.08 0.0291 0.0253

Saturn -418-03-04 01:12 J 1568810.42 1568810.55 1568810.67 0.0292 0.0115

Moon -418-04-17 08:52 J 1568854.72 1568854.87 1568855.02 0.2635 0.0925

Earth -418-04-17 10:04 J 1568854.77 1568854.92 1568855.07 0.2631 0.1074 *

Saturn -418-05-31 13:40 J 1568898.94 1568899.07 1568899.21 0.0293 0.0025

Saturn -418-08-28 02:09 J 1568987.49 1568987.59 1568987.71 0.0294 0.0161

Uranus -417-08-15 01:12 J 1569340.51 1569340.55 1569340.61 0.0135 0.0123

Uranus -417-11-11 04:19 J 1569428.61 1569428.68 1569428.77 0.0135 0.0105

Uranus -416-02-07 07:40 J 1569516.72 1569516.82 1569516.92 0.0135 0.0087

Uranus -416-05-06 10:33 J 1569604.83 1569604.94 1569605.06 0.0135 0.0070

Uranus -416-08-02 13:40 J 1569692.95 1569693.07 1569693.20 0.0135 0.0052

Uranus	-416-10-29 16:47 J	1569781.08	1569781.20	1569781.33	0.0135	0.0035
Uranus	-415-01-25 19:55 J	1569869.20	1569869.33	1569869.46	0.0135	0.0017
Uranus	-415-04-23 23:02 J	1569957.33	1569957.46	1569957.59	0.0135	0.0001
Jupiter	-415-05-30 18:28 J	1569994.09	1569994.27	1569994.45	0.0494	0.0024
Uranus	-415-07-21 02:09 J	1570045.46	1570045.59	1570045.72	0.0136	0.0019
Uranus	-415-10-17 05:02 J	1570133.59	1570133.71	1570133.84	0.0136	0.0037
Moon	-415-10-17 11:45 J	1570133.88	1570133.99	1570134.10	0.2694	0.0561
Earth	-415-10-17 12:00 J	1570133.90	1570134.00	1570134.11	0.2701	0.0530 *
Mars	-414-01-11 19:55 J	1570220.29	1570220.33	1570220.37	0.1800	0.1678
Uranus	-414-01-13 08:09 J	1570221.72	1570221.84	1570221.97	0.0136	0.0054
Uranus	-414-04-11 11:16 J	1570309.86	1570309.97	1570310.08	0.0136	0.0071
Uranus	-414-07-08 14:24 J	1570398.00	1570398.10	1570398.20	0.0136	0.0089
Uranus	-414-10-04 17:16 J	1570486.15	1570486.22	1570486.31	0.0136	0.0107
Uranus	-414-12-31 20:24 J	1570574.31	1570574.35	1570574.41	0.0136	0.0124
Mars	-413-02-07 05:45 J	1570611.59	1570611.74	1570611.88	0.1741	0.0863
Mars	-413-12-17 05:16 J	1570925.61	1570925.72	1570925.82	0.1772	0.0714
Jupiter	-409-02-01 18:00 J	1572067.13	1572067.25	1572067.37	0.0533	0.0189
Jupiter	-409-05-01 00:43 J	1572156.45	1572156.53	1572156.62	0.0531	0.0393
Venus	-407-08-03 04:04 J	1572980.52	1572980.67	1572980.82	0.3692	0.0425
Saturn	-405-10-02 10:19 J	1573771.92	1573771.93	1573771.96	0.0269	0.0268
Saturn	-405-12-30 06:14 J	1573860.60	1573860.76	1573860.93	0.0269	0.0123
Saturn	-404-03-29 02:24 J	1573949.41	1573949.60	1573949.78	0.0268	0.0023
Saturn	-404-06-25 22:19 J	1574038.30	1574038.43	1574038.58	0.0267	0.0169
Jupiter	-403-03-18 16:47 J	1574304.04	1574304.20	1574304.37	0.0494	0.0187
Mars	-403-05-09 15:07 J	1574356.02	1574356.13	1574356.24	0.1779	0.0153
Venus	-403-08-01 04:04 J	1574439.62	1574439.67	1574439.73	0.3677	0.3057
Moon	-402-10-20 04:47 J	1574884.60	1574884.70	1574884.81	0.2700	0.0771
Earth	-402-10-20 05:31 J	1574884.63	1574884.73	1574884.83	0.2702	0.0835 *
Venus	-401-02-17 11:02 J	1575004.91	1575004.96	1575005.00	0.3690	0.3520
Jupiter	-398-11-20 21:21 J	1576377.30	1576377.39	1576377.49	0.0533	0.0345

Venus	-397-02-14 20:24 J	1576463.26	1576463.35	1576463.45	0.3678	0.1588
Jupiter	-397-02-18 04:33 J	1576466.57	1576466.69	1576466.80	0.0531	0.0245
Mars	-394-09-30 00:57 J	1577786.43	1577786.54	1577786.65	0.1786	0.0418
Mars	-393-10-26 11:16 J	1578178.85	1578178.97	1578179.09	0.1756	0.1224
Venus	-392-08-30 12:43 J	1578486.92	1578487.03	1578487.13	0.3679	0.0149
Jupiter	-391-01-04 15:07 J	1578614.01	1578614.13	1578614.26	0.0494	0.0352
Jupiter	-391-04-04 22:19 J	1578704.30	1578704.43	1578704.57	0.0495	0.0341
Saturn	-389-07-21 02:52 J	1579542.51	1579542.62	1579542.73	0.0292	0.0158
Saturn	-389-10-17 15:35 J	1579631.01	1579631.15	1579631.28	0.0293	0.0021
Moon	-389-10-21 22:19 J	1579635.36	1579635.43	1579635.50	0.2706	0.2043
Earth	-389-10-21 23:02 J	1579635.40	1579635.46	1579635.52	0.2703	0.2194 *
Saturn	-388-01-14 04:04 J	1579719.55	1579719.67	1579719.79	0.0294	0.0118
Saturn	-388-04-12 16:33 J	1579808.13	1579808.19	1579808.26	0.0294	0.0255
Venus	-386-03-16 04:47 J	1580510.60	1580510.70	1580510.80	0.3680	0.1280
Jupiter	-386-09-09 01:12 J	1580687.51	1580687.55	1580687.60	0.0534	0.0493
Jupiter	-386-12-07 08:38 J	1580776.73	1580776.86	1580776.98	0.0532	0.0102
Moon	-385-04-14 07:12 J	1580905.67	1580905.80	1580905.92	0.2634	0.1588
Earth	-385-04-14 08:52 J	1580905.73	1580905.87	1580906.01	0.2632	0.1273 *
Mars	-384-02-19 10:33 J	1581216.85	1581216.94	1581217.04	0.1793	0.1009
Mars	-383-03-18 08:38 J	1581608.69	1581608.86	1581609.02	0.1749	0.0208
Mars	-382-01-25 19:12 J	1581922.23	1581922.30	1581922.38	0.1765	0.1319
Moon	-382-10-15 23:31 J	1582185.39	1582185.48	1582185.56	0.2693	0.1549
Earth	-382-10-15 23:16 J	1582185.39	1582185.47	1582185.56	0.2700	0.1617 *
Venus	-381-09-28 20:52 J	1582534.30	1582534.37	1582534.44	0.3681	0.2670
Jupiter	-379-01-21 19:12 J	1583014.12	1583014.30	1583014.47	0.0494	0.0154
Uranus	-376-03-10 08:52 J	1584157.82	1584157.87	1584157.95	0.0143	0.0135
Uranus	-376-06-06 17:31 J	1584246.10	1584246.23	1584246.36	0.0143	0.0104
Uranus	-376-09-03 01:40 J	1584334.41	1584334.57	1584334.74	0.0143	0.0073
Uranus	-376-11-30 09:50 J	1584422.73	1584422.91	1584423.10	0.0143	0.0043
Uranus	-375-02-26 18:14 J	1584511.07	1584511.26	1584511.45	0.0143	0.0012

Saturn	-375-05-19 06:14 J	1584592.62	1584592.76	1584592.91	0.0269	0.0160
Uranus	-375-05-26 02:38 J	1584599.41	1584599.61	1584599.80	0.0143	0.0018
Mars	-375-07-12 19:55 J	1584647.29	1584647.33	1584647.38	0.1800	0.1617
Saturn	-375-08-16 02:24 J	1584681.42	1584681.60	1584681.78	0.0268	0.0015
Uranus	-375-08-22 10:47 J	1584687.77	1584687.95	1584688.13	0.0143	0.0049
Saturn	-375-11-12 22:19 J	1584770.28	1584770.43	1584770.60	0.0268	0.0132
Uranus	-375-11-18 18:57 J	1584776.14	1584776.29	1584776.46	0.0143	0.0080
Uranus	-374-02-15 03:21 J	1584864.53	1584864.64	1584864.77	0.0143	0.0110
Uranus	-374-05-14 11:31 J	1584952.97	1584952.98	1584953.03	0.0142	0.0141
Mars	-374-08-08 06:43 J	1585038.63	1585038.78	1585038.93	0.1741	0.0759
Jupiter	-374-09-25 12:57 J	1585086.91	1585087.04	1585087.16	0.0533	0.0040
Mars	-373-06-17 05:16 J	1585352.61	1585352.72	1585352.82	0.1772	0.0772
Moon	-372-04-17 16:04 J	1585657.04	1585657.17	1585657.30	0.2636	0.1587
Earth	-372-04-17 17:02 J	1585657.08	1585657.21	1585657.33	0.2631	0.1654 *
Moon	-369-10-17 16:33 J	1586936.08	1586936.19	1586936.30	0.2695	0.0311
Earth	-369-10-17 16:47 J	1586936.09	1586936.20	1586936.31	0.2701	0.0248 *
Jupiter	-368-11-09 17:16 J	1587324.04	1587324.22	1587324.40	0.0494	0.0015
Mars	-365-12-28 04:47 J	1588468.67	1588468.70	1588468.73	0.1734	0.1705
Mars	-364-11-07 15:07 J	1588783.02	1588783.13	1588783.25	0.1779	0.0214
Jupiter	-362-07-14 17:02 J	1589397.09	1589397.21	1589397.34	0.0533	0.0179
Jupiter	-362-10-11 23:45 J	1589486.42	1589486.49	1589486.58	0.0531	0.0405
Saturn	-360-12-08 03:07 J	1590274.55	1590274.63	1590274.73	0.0291	0.0212
Saturn	-359-03-06 16:04 J	1590363.04	1590363.17	1590363.30	0.0292	0.0074
Saturn	-359-06-03 04:33 J	1590451.56	1590451.69	1590451.82	0.0293	0.0063
Saturn	-359-08-30 17:02 J	1590540.12	1590540.21	1590540.31	0.0294	0.0200
Venus	-356-08-23 23:16 J	1591629.39	1591629.47	1591629.56	0.3693	0.2977
Jupiter	-356-08-28 15:21 J	1591633.97	1591634.14	1591634.31	0.0494	0.0181
Moon	-356-10-20 09:35 J	1591686.80	1591686.90	1591687.00	0.2702	0.1017
Earth	-356-10-20 10:19 J	1591686.83	1591686.93	1591687.03	0.2702	0.1116 *
Mars	-354-03-31 00:57 J	1592213.42	1592213.54	1592213.65	0.1786	0.0363

Mars	-353-04-26 12:14 J	1592605.90	1592606.01	1592606.12	0.1756	0.1330
Venus	-350-03-10 05:45 J	1593653.59	1593653.74	1593653.88	0.3691	0.0805
Neptune	-350-03-11 06:00 J	1593654.73	1593654.75	1593654.82	0.0088	0.0085
Jupiter	-350-05-02 21:07 J	1593707.28	1593707.38	1593707.48	0.0533	0.0324
Neptune	-350-06-07 09:07 J	1593742.81	1593742.88	1593743.00	0.0088	0.0076
Jupiter	-350-07-31 04:04 J	1593796.56	1593796.67	1593796.78	0.0532	0.0264
Neptune	-350-09-03 12:43 J	1593830.92	1593831.03	1593831.16	0.0088	0.0066
Neptune	-350-11-30 15:50 J	1593919.03	1593919.16	1593919.32	0.0088	0.0057
Neptune	-349-02-26 19:12 J	1594007.15	1594007.30	1594007.47	0.0088	0.0048
Neptune	-349-05-24 22:33 J	1594095.28	1594095.44	1594095.61	0.0088	0.0038
Neptune	-349-08-21 01:40 J	1594183.40	1594183.57	1594183.76	0.0088	0.0029
Moon	-349-10-13 11:02 J	1594236.93	1594236.96	1594236.99	0.2695	0.2563
Neptune	-349-11-17 05:02 J	1594271.53	1594271.71	1594271.90	0.0088	0.0020
Neptune	-348-02-13 08:24 J	1594359.67	1594359.85	1594360.04	0.0088	0.0010
Neptune	-348-05-12 11:45 J	1594447.80	1594447.99	1594448.18	0.0088	0.0001
Neptune	-348-08-08 15:07 J	1594535.94	1594536.13	1594536.32	0.0088	0.0009
Neptune	-348-11-04 18:28 J	1594624.08	1594624.27	1594624.45	0.0088	0.0018
Neptune	-347-01-31 21:35 J	1594712.23	1594712.40	1594712.59	0.0088	0.0028
Neptune	-347-04-30 00:43 J	1594800.37	1594800.53	1594800.72	0.0088	0.0038
Neptune	-347-07-27 04:19 J	1594888.53	1594888.68	1594888.85	0.0088	0.0047
Neptune	-347-10-23 07:26 J	1594976.68	1594976.81	1594976.97	0.0088	0.0057
Neptune	-346-01-19 11:02 J	1595064.84	1595064.96	1595065.09	0.0088	0.0066
Venus	-346-03-08 01:55 J	1595112.50	1595112.58	1595112.65	0.3677	0.2553
Neptune	-346-04-17 14:09 J	1595153.01	1595153.09	1595153.20	0.0088	0.0076
Neptune	-346-07-14 17:31 J	1595241.21	1595241.23	1595241.29	0.0088	0.0086
Saturn	-346-10-06 03:21 J	1595324.55	1595324.64	1595324.75	0.0269	0.0220
Saturn	-345-01-02 23:31 J	1595413.30	1595413.48	1595413.65	0.0269	0.0075
Saturn	-345-03-31 19:26 J	1595502.14	1595502.31	1595502.49	0.0268	0.0072
Saturn	-345-06-28 15:35 J	1595591.05	1595591.15	1595591.26	0.0267	0.0218
Mars	-345-08-20 10:33 J	1595643.84	1595643.94	1595644.04	0.1793	0.0951

Jupiter -344-06-16 13:55 J 1595943.95 1595944.08 1595944.21 0.0494 0.0342

Jupiter -344-09-14 21:21 J 1596034.26 1596034.39 1596034.51 0.0495 0.0351

Mars -344-09-16 09:35 J 1596035.73 1596035.90 1596036.06 0.1749 0.0314

Mars -343-07-26 19:12 J 1596349.22 1596349.30 1596349.37 0.1765 0.1371

Moon -343-10-23 03:07 J 1596437.58 1596437.63 1596437.67 0.2706 0.2427

Earth -343-10-23 03:35 J 1596437.61 1596437.65 1596437.70 0.2704 0.2470 *

Venus -341-09-20 18:14 J 1597136.15 1597136.26 1597136.36 0.3678 0.1103

Moon -339-04-15 13:55 J 1597707.93 1597708.08 1597708.24 0.2634 0.0811

Earth -339-04-15 15:50 J 1597708.00 1597708.16 1597708.31 0.2632 0.0706 *

Jupiter -338-02-19 00:28 J 1598017.47 1598017.52 1598017.58 0.0533 0.0480

Jupiter -338-05-19 07:55 J 1598106.70 1598106.83 1598106.95 0.0532 0.0115

Moon -336-10-16 04:04 J 1598987.58 1598987.67 1598987.76 0.2693 0.1388

Earth -336-10-16 04:04 J 1598987.58 1598987.67 1598987.76 0.2700 0.1337 *

Mars -335-01-10 20:09 J 1599074.28 1599074.34 1599074.40 0.1800 0.1547

Venus -335-04-06 10:19 J 1599159.83 1599159.93 1599160.04 0.3679 0.0348

Mars -334-02-06 07:12 J 1599465.64 1599465.80 1599465.95 0.1741 0.0675

Mars -334-12-17 05:16 J 1599779.62 1599779.72 1599779.82 0.1772 0.0833

Uranus -333-09-04 08:38 J 1600041.80 1600041.86 1600041.92 0.0135 0.0118

Uranus -333-12-01 11:31 J 1600129.90 1600129.98 1600130.08 0.0135 0.0101

Uranus -332-02-27 14:52 J 1600218.02 1600218.12 1600218.22 0.0135 0.0083

Uranus -332-05-26 18:00 J 1600306.13 1600306.25 1600306.37 0.0135 0.0065

Jupiter -332-07-03 19:12 J 1600344.13 1600344.30 1600344.47 0.0495 0.0179

Uranus -332-08-22 20:52 J 1600394.25 1600394.37 1600394.50 0.0135 0.0048

Uranus -332-11-19 00:14 J 1600482.38 1600482.51 1600482.64 0.0135 0.0030

Uranus -331-02-15 03:07 J 1600570.50 1600570.63 1600570.77 0.0135 0.0014

Uranus -331-05-14 06:14 J 1600658.63 1600658.76 1600658.90 0.0135 0.0006

Uranus -331-08-10 09:21 J 1600746.76 1600746.89 1600747.02 0.0136 0.0023

Uranus -331-11-06 12:28 J 1600834.89 1600835.02 1600835.14 0.0136 0.0041

Uranus -330-02-02 15:35 J 1600923.03 1600923.15 1600923.27 0.0136 0.0058

Saturn -330-04-27 04:47 J 1601006.64 1601006.70 1601006.76 0.0291 0.0257

Uranus	-330-05-01 18:28 J	1601011.17	1601011.27	1601011.38	0.0136	0.0076
Saturn	-330-07-24 17:31 J	1601095.11	1601095.23	1601095.35	0.0292	0.0119
Uranus	-330-07-28 21:21 J	1601099.31	1601099.39	1601099.50	0.0136	0.0094
Venus	-330-10-21 02:24 J	1601183.51	1601183.60	1601183.69	0.3680	0.1752
Saturn	-330-10-21 06:14 J	1601183.62	1601183.76	1601183.89	0.0293	0.0021 *
Uranus	-330-10-25 00:43 J	1601187.46	1601187.53	1601187.60	0.0136	0.0111
Saturn	-329-01-17 18:43 J	1601272.17	1601272.28	1601272.39	0.0293	0.0156
Uranus	-329-01-21 03:35 J	1601275.62	1601275.65	1601275.70	0.0136	0.0129
Saturn	-329-04-15 06:57 J	1601360.79	1601360.79	1601360.81	0.0294	0.0292
Jupiter	-326-03-07 11:45 J	1602416.87	1602416.99	1602417.12	0.0533	0.0034
Moon	-326-04-18 23:02 J	1602459.36	1602459.46	1602459.56	0.2637	0.2077
Earth	-326-04-18 23:45 J	1602459.40	1602459.49	1602459.57	0.2631	0.2226 *
Mars	-325-06-28 05:31 J	1602895.67	1602895.73	1602895.79	0.1734	0.1611
Venus	-324-05-05 18:28 J	1603207.21	1603207.27	1603207.32	0.3682	0.3134
Mars	-324-05-08 15:07 J	1603210.02	1603210.13	1603210.25	0.1779	0.0277
Moon	-323-10-18 21:07 J	1603738.28	1603738.38	1603738.49	0.2696	0.0102
Earth	-323-10-18 21:35 J	1603738.29	1603738.40	1603738.51	0.2701	0.0042 *
Jupiter	-320-04-21 16:04 J	1604653.99	1604654.17	1604654.35	0.0494	0.0005
Saturn	-316-02-22 03:35 J	1606056.60	1606056.65	1606056.70	0.0270	0.0257
Saturn	-316-05-21 23:16 J	1606145.31	1606145.47	1606145.64	0.0269	0.0113
Saturn	-316-08-18 19:26 J	1606234.13	1606234.31	1606234.49	0.0269	0.0033
Saturn	-316-11-15 15:35 J	1606323.02	1606323.15	1606323.29	0.0268	0.0180
Mars	-315-09-29 00:57 J	1606640.42	1606640.54	1606640.65	0.1786	0.0306
Jupiter	-315-12-24 15:50 J	1606727.04	1606727.16	1606727.29	0.0534	0.0175
Jupiter	-314-03-23 22:47 J	1606816.37	1606816.45	1606816.53	0.0532	0.0411
Mars	-314-10-26 12:57 J	1607032.95	1607033.04	1607033.14	0.1757	0.1432
Moon	-310-10-21 14:24 J	1608489.00	1608489.10	1608489.19	0.2702	0.1282
Earth	-310-10-21 15:07 J	1608489.04	1608489.13	1608489.22	0.2702	0.1398 *
Jupiter	-308-02-07 14:24 J	1608963.93	1608964.10	1608964.27	0.0494	0.0170
Mars	-305-02-19 10:33 J	1610070.84	1610070.94	1610071.04	0.1792	0.0889

Mars	-304-03-17 10:19 J	1610462.77	1610462.93	1610463.10	0.1749	0.0416
Mars	-303-01-24 19:12 J	1610776.23	1610776.30	1610776.36	0.1765	0.1432
Jupiter	-303-10-12 20:09 J	1611037.24	1611037.34	1611037.44	0.0534	0.0315
Earth	-303-10-14 15:21 J	1611039.09	1611039.14	1611039.18	0.2699	0.2433
Moon	-303-10-14 15:50 J	1611039.11	1611039.16	1611039.20	0.2694	0.2413 *
Jupiter	-302-01-10 03:07 J	1611126.53	1611126.63	1611126.74	0.0532	0.0276
Saturn	-301-12-10 18:14 J	1611827.15	1611827.26	1611827.37	0.0291	0.0170
Saturn	-300-03-09 06:57 J	1611915.66	1611915.79	1611915.92	0.0292	0.0033
Saturn	-300-06-05 19:26 J	1612004.19	1612004.31	1612004.44	0.0293	0.0104
Saturn	-300-09-02 07:55 J	1612092.76	1612092.83	1612092.91	0.0293	0.0239
Venus	-299-03-31 00:43 J	1612302.40	1612302.53	1612302.66	0.3692	0.1809
Moon	-297-10-23 07:55 J	1613239.82	1613239.83	1613239.85	0.2708	0.2665
Jupiter	-297-11-26 12:28 J	1613273.89	1613274.02	1613274.16	0.0494	0.0334
Jupiter	-296-02-24 19:40 J	1613364.20	1613364.32	1613364.45	0.0495	0.0358
Mars	-296-07-11 19:55 J	1613501.27	1613501.33	1613501.40	0.1800	0.1497
Venus	-295-03-29 07:12 J	1613761.77	1613761.80	1613761.82	0.3677	0.3532
Mars	-295-08-07 08:09 J	1613892.68	1613892.84	1613893.00	0.1742	0.0570
Mars	-294-06-17 05:16 J	1614206.62	1614206.72	1614206.82	0.1772	0.0888
Venus	-294-10-15 07:12 J	1614326.67	1614326.80	1614326.92	0.3691	0.2028
Moon	-293-04-15 21:07 J	1614510.22	1614510.38	1614510.54	0.2635	0.0419
Earth	-293-04-15 22:33 J	1614510.28	1614510.44	1614510.60	0.2632	0.0143 *
Uranus	-292-03-30 15:50 J	1614859.08	1614859.16	1614859.24	0.0143	0.0130
Uranus	-292-06-27 00:00 J	1614947.36	1614947.50	1614947.64	0.0143	0.0099
Uranus	-292-09-23 08:09 J	1615035.68	1615035.84	1615036.01	0.0143	0.0069
Uranus	-292-12-20 16:19 J	1615124.00	1615124.18	1615124.37	0.0143	0.0039
Uranus	-291-03-19 00:43 J	1615212.34	1615212.53	1615212.72	0.0143	0.0008
Uranus	-291-06-15 08:52 J	1615300.68	1615300.87	1615301.07	0.0143	0.0023
Jupiter	-291-08-01 00:00 J	1615347.44	1615347.50	1615347.57	0.0534	0.0461
Uranus	-291-09-11 17:16 J	1615389.04	1615389.22	1615389.40	0.0143	0.0053
Jupiter	-291-10-29 07:26 J	1615436.68	1615436.81	1615436.93	0.0532	0.0134

Uranus	-291-12-09 01:26 J	1615477.41	1615477.56	1615477.72	0.0143	0.0083
Uranus	-290-03-07 09:50 J	1615565.80	1615565.91	1615566.03	0.0143	0.0114
Venus	-290-10-12 23:31 J	1615785.39	1615785.48	1615785.57	0.3678	0.2051
Moon	-290-10-17 08:52 J	1615789.77	1615789.87	1615789.97	0.2693	0.0994
Earth	-290-10-17 08:52 J	1615789.77	1615789.87	1615789.97	0.2700	0.1057 *
Saturn	-287-10-08 20:09 J	1616877.21	1616877.34	1616877.48	0.0269	0.0174
Saturn	-286-01-05 16:04 J	1616965.99	1616966.17	1616966.36	0.0269	0.0029
Saturn	-286-04-04 12:14 J	1617054.85	1617055.01	1617055.18	0.0268	0.0118
Saturn	-286-07-02 08:24 J	1617143.84	1617143.85	1617143.88	0.0267	0.0266
Mars	-286-12-28 06:14 J	1617322.68	1617322.76	1617322.84	0.1734	0.1518
Mars	-285-11-06 15:07 J	1617637.02	1617637.13	1617637.24	0.1779	0.0328
Jupiter	-285-12-13 18:00 J	1617674.08	1617674.25	1617674.42	0.0495	0.0190
Venus	-284-04-27 15:50 J	1617809.05	1617809.16	1617809.26	0.3679	0.0605
Pluto	-283-07-28 16:47 J	1618266.20	1618266.20	1618266.23	0.0071	0.0071
Pluto	-283-10-24 18:00 J	1618354.18	1618354.25	1618354.32	0.0072	0.0062
Pluto	-282-01-20 18:43 J	1618442.20	1618442.28	1618442.38	0.0072	0.0054
Pluto	-282-04-18 19:40 J	1618530.22	1618530.32	1618530.44	0.0072	0.0045
Pluto	-282-07-15 20:38 J	1618618.24	1618618.36	1618618.49	0.0072	0.0036
Pluto	-282-10-11 21:35 J	1618706.27	1618706.40	1618706.54	0.0072	0.0027
Pluto	-281-01-07 22:33 J	1618794.31	1618794.44	1618794.58	0.0072	0.0018
Pluto	-281-04-04 23:31 J	1618882.34	1618882.48	1618882.63	0.0072	0.0009
Pluto	-281-07-02 00:28 J	1618970.38	1618970.52	1618970.67	0.0072	0.0002
Pluto	-281-09-28 01:26 J	1619058.42	1619058.56	1619058.71	0.0073	0.0010
Pluto	-281-12-25 02:24 J	1619146.47	1619146.60	1619146.74	0.0073	0.0019
Pluto	-280-03-23 03:21 J	1619234.51	1619234.64	1619234.78	0.0073	0.0029
Pluto	-280-06-19 04:19 J	1619322.57	1619322.68	1619322.81	0.0073	0.0038
Pluto	-280-09-15 05:31 J	1619410.62	1619410.73	1619410.84	0.0073	0.0047
Pluto	-280-12-12 06:14 J	1619498.68	1619498.76	1619498.86	0.0073	0.0057
Pluto	-279-03-10 07:26 J	1619586.76	1619586.81	1619586.87	0.0073	0.0067
Jupiter	-279-08-17 11:02 J	1619746.83	1619746.96	1619747.09	0.0532	0.0018

Venus -279-11-11 07:55 J 1619832.73 1619832.83 1619832.93 0.3680 0.0827

Moon -277-10-19 01:55 J 1620540.47 1620540.58 1620540.69 0.2697 0.0186

Earth -277-10-19 02:24 J 1620540.49 1620540.60 1620540.71 0.2701 0.0315 *

Mars -275-03-30 00:57 J 1621067.43 1621067.54 1621067.66 0.1786 0.0240

Mars -274-04-26 13:40 J 1621459.99 1621460.07 1621460.16 0.1757 0.1532

Venus -273-05-27 00:00 J 1621856.42 1621856.50 1621856.58 0.3681 0.2218

Jupiter -273-10-01 15:50 J 1621983.98 1621984.16 1621984.35 0.0494 0.0024

Saturn -271-04-29 19:26 J 1622559.23 1622559.31 1622559.41 0.0291 0.0216

Saturn -271-07-27 08:24 J 1622647.72 1622647.85 1622647.98 0.0292 0.0079

Saturn -271-10-23 20:52 J 1622736.24 1622736.37 1622736.50 0.0293 0.0058

Saturn -270-01-20 09:21 J 1622824.79 1622824.89 1622824.99 0.0293 0.0194

Neptune -269-12-23 03:50 J 1623527.66 1623527.66 1623527.69 0.0089 0.0089

Neptune -268-03-21 05:16 J 1623615.68 1623615.72 1623615.79 0.0089 0.0082

Neptune -268-06-17 06:57 J 1623703.72 1623703.79 1623703.87 0.0089 0.0074

Neptune -268-09-13 08:24 J 1623791.77 1623791.85 1623791.95 0.0089 0.0067

Neptune -268-12-10 09:50 J 1623879.82 1623879.91 1623880.02 0.0089 0.0059

Venus -268-12-10 15:50 J 1623880.14 1623880.16 1623880.18 0.3682 0.3588

Neptune -267-03-08 11:16 J 1623967.87 1623967.97 1623968.09 0.0089 0.0052

Neptune -267-06-04 12:57 J 1624055.92 1624056.04 1624056.16 0.0089 0.0045

Jupiter -267-06-05 15:07 J 1624057.00 1624057.13 1624057.25 0.0533 0.0163

Neptune -267-08-31 14:24 J 1624143.98 1624144.10 1624144.23 0.0089 0.0037

Jupiter -267-09-02 21:50 J 1624146.33 1624146.41 1624146.49 0.0531 0.0420

Neptune -267-11-27 15:50 J 1624232.04 1624232.16 1624232.29 0.0089 0.0030

Neptune -266-02-23 17:16 J 1624320.09 1624320.22 1624320.35 0.0089 0.0023

Neptune -266-05-22 18:43 J 1624408.15 1624408.28 1624408.42 0.0089 0.0016

Neptune -266-08-18 20:09 J 1624496.21 1624496.34 1624496.48 0.0089 0.0009

Mars -266-08-20 10:33 J 1624497.84 1624497.94 1624498.05 0.1792 0.0830

Neptune -266-11-14 21:35 J 1624584.27 1624584.40 1624584.54 0.0089 0.0002

Neptune -265-02-10 23:02 J 1624672.33 1624672.46 1624672.60 0.0089 0.0006

Neptune -265-05-09 00:28 J 1624760.39 1624760.52 1624760.65 0.0089 0.0013

Neptune -265-08-05 01:55 J 1624848.45 1624848.58 1624848.71 0.0089 0.0020

Mars -265-09-15 11:02 J 1624889.80 1624889.96 1624890.12 0.1749 0.0505

Neptune -265-11-01 03:07 J 1624936.51 1624936.63 1624936.77 0.0089 0.0028

Neptune -264-01-28 04:33 J 1625024.57 1625024.69 1625024.82 0.0089 0.0034

Neptune -264-04-26 06:00 J 1625112.64 1625112.75 1625112.87 0.0089 0.0041

Neptune -264-07-23 07:12 J 1625200.70 1625200.80 1625200.93 0.0089 0.0049

Mars -264-07-25 19:12 J 1625203.24 1625203.30 1625203.36 0.1765 0.1490

Neptune -264-10-19 08:38 J 1625288.77 1625288.86 1625288.98 0.0089 0.0056

Moon -264-10-21 19:12 J 1625291.21 1625291.30 1625291.38 0.2702 0.1597

Earth -264-10-21 19:55 J 1625291.24 1625291.33 1625291.41 0.2703 0.1675 *

Neptune -263-01-15 10:04 J 1625376.83 1625376.92 1625377.02 0.0089 0.0063

Neptune -263-04-13 11:31 J 1625464.90 1625464.98 1625465.07 0.0089 0.0069

Neptune -263-07-10 12:43 J 1625552.98 1625553.03 1625553.11 0.0089 0.0077

Neptune -263-10-06 14:09 J 1625641.06 1625641.09 1625641.15 0.0089 0.0083

Jupiter -261-07-20 13:12 J 1626293.88 1626294.05 1626294.23 0.0493 0.0157

Earth -260-04-13 21:21 J 1626561.34 1626561.39 1626561.45 0.2633 0.2465

Saturn -257-02-25 19:55 J 1627609.23 1627609.33 1627609.45 0.0270 0.0213

Saturn -257-05-24 16:04 J 1627697.99 1627698.17 1627698.34 0.0269 0.0067

Saturn -257-08-21 12:00 J 1627786.83 1627787.00 1627787.18 0.0269 0.0080

Earth -257-10-14 20:09 J 1627841.27 1627841.34 1627841.40 0.2699 0.2153

Moon -257-10-14 20:24 J 1627841.28 1627841.35 1627841.42 0.2693 0.2055 *

Saturn -257-11-18 08:09 J 1627875.76 1627875.84 1627875.95 0.0268 0.0228

Mars -256-01-09 20:09 J 1627928.27 1627928.34 1627928.41 0.1799 0.1429

Mars -255-02-05 08:52 J 1628319.71 1628319.87 1628320.03 0.1742 0.0472

Jupiter -255-03-24 18:57 J 1628367.18 1628367.29 1628367.39 0.0534 0.0311

Jupiter -255-06-22 01:55 J 1628456.48 1628456.58 1628456.69 0.0532 0.0281

Mars -255-12-16 05:16 J 1628633.62 1628633.72 1628633.81 0.1772 0.0946

Jupiter -249-05-08 11:31 J 1630603.85 1630603.98 1630604.12 0.0493 0.0321

Uranus -249-06-28 12:28 J 1630655.01 1630655.02 1630655.06 0.0135 0.0132

Jupiter -249-08-06 18:43 J 1630694.16 1630694.28 1630694.40 0.0495 0.0369

Uranus -249-09-24 15:50 J 1630743.10 1630743.16 1630743.23 0.0135 0.0114

Uranus -249-12-21 18:57 J 1630831.20 1630831.29 1630831.39 0.0135 0.0096

Uranus -248-03-19 22:04 J 1630919.32 1630919.42 1630919.53 0.0135 0.0079

Uranus -248-06-16 01:12 J 1631007.44 1631007.55 1631007.67 0.0135 0.0061

Uranus -248-09-12 04:19 J 1631095.56 1631095.68 1631095.81 0.0135 0.0043

Uranus -248-12-09 07:26 J 1631183.68 1631183.81 1631183.94 0.0135 0.0026

Uranus -247-03-07 10:33 J 1631271.81 1631271.94 1631272.07 0.0135 0.0008

Moon -247-04-17 04:04 J 1631312.51 1631312.67 1631312.83 0.2636 0.0382

Earth -247-04-17 05:16 J 1631312.56 1631312.72 1631312.88 0.2632 0.0431 *

Uranus -247-06-03 13:40 J 1631359.94 1631360.07 1631360.20 0.0136 0.0010

Uranus -247-08-30 16:33 J 1631448.07 1631448.19 1631448.33 0.0136 0.0028

Uranus -247-11-26 19:40 J 1631536.20 1631536.32 1631536.45 0.0136 0.0045

Uranus -246-02-22 22:47 J 1631624.34 1631624.45 1631624.57 0.0136 0.0063

Uranus -246-05-22 01:55 J 1631712.48 1631712.58 1631712.68 0.0136 0.0080

Mars -246-06-28 06:57 J 1631749.70 1631749.79 1631749.89 0.1735 0.1420

Uranus -246-08-18 04:47 J 1631800.62 1631800.70 1631800.80 0.0136 0.0098

Uranus -246-11-14 07:55 J 1631888.77 1631888.83 1631888.90 0.0136 0.0116

Uranus -245-02-10 11:02 J 1631976.94 1631976.96 1631976.99 0.0136 0.0133

Mars -245-05-07 15:07 J 1632064.02 1632064.13 1632064.24 0.1778 0.0392

Moon -244-10-17 13:40 J 1632591.96 1632592.07 1632592.17 0.2693 0.0842

Earth -244-10-17 13:40 J 1632591.97 1632592.07 1632592.17 0.2700 0.0774 *

Jupiter -243-01-10 23:02 J 1632677.40 1632677.46 1632677.53 0.0534 0.0453

Jupiter -243-04-10 06:28 J 1632766.64 1632766.77 1632766.89 0.0533 0.0143

Venus -243-11-05 01:55 J 1632975.44 1632975.58 1632975.73 0.3692 0.0637

Saturn -242-09-16 20:38 J 1633291.31 1633291.36 1633291.42 0.0290 0.0263

Saturn -242-12-14 09:21 J 1633379.77 1633379.89 1633380.01 0.0291 0.0127

Saturn -241-03-11 22:04 J 1633468.28 1633468.42 1633468.55 0.0292 0.0011

Saturn -241-06-08 10:33 J 1633556.82 1633556.94 1633557.05 0.0292 0.0145

Saturn -241-09-04 22:47 J 1633645.42 1633645.45 1633645.49 0.0293 0.0280

Venus -239-11-03 04:47 J 1634434.64 1634434.70 1634434.76 0.3677 0.3024

Jupiter	-237-02-25 09:50 J	1634913.88	1634913.91	1634913.94	0.0493	0.0485
Venus	-237-05-21 08:38 J	1634999.79	1634999.86	1634999.93	0.3690	0.3256
Jupiter	-237-05-25 16:33 J	1635004.02	1635004.19	1635004.36	0.0495	0.0197
Mars	-236-09-28 00:57 J	1635494.42	1635494.54	1635494.65	0.1786	0.0184
Mars	-235-10-25 14:38 J	1635887.05	1635887.11	1635887.17	0.1757	0.1632
Venus	-233-05-18 21:07 J	1636458.29	1636458.38	1636458.48	0.3678	0.1559
Jupiter	-231-01-27 10:33 J	1637076.81	1637076.94	1637077.07	0.0533	0.0007
Moon	-231-10-20 06:28 J	1637342.67	1637342.77	1637342.88	0.2698	0.0568
Earth	-231-10-20 07:12 J	1637342.69	1637342.80	1637342.90	0.2701	0.0593 *
Saturn	-228-10-11 12:57 J	1638429.88	1638430.04	1638430.20	0.0270	0.0129
Venus	-228-12-02 13:26 J	1638481.95	1638482.06	1638482.16	0.3679	0.0118
Saturn	-227-01-08 08:52 J	1638518.69	1638518.87	1638519.06	0.0269	0.0018
Saturn	-227-04-07 05:16 J	1638607.57	1638607.72	1638607.86	0.0268	0.0165
Mars	-226-02-18 10:33 J	1638924.84	1638924.94	1638925.05	0.1793	0.0769
Jupiter	-225-03-13 14:38 J	1639313.93	1639314.11	1639314.30	0.0494	0.0031
Mars	-225-03-16 12:00 J	1639316.84	1639317.00	1639317.16	0.1749	0.0613
Mars	-224-01-23 19:12 J	1639630.24	1639630.30	1639630.35	0.1765	0.1544
Venus	-222-06-18 05:31 J	1640505.63	1640505.73	1640505.83	0.3680	0.1292
Jupiter	-220-11-15 14:09 J	1641386.97	1641387.09	1641387.22	0.0533	0.0152
Jupiter	-219-02-12 20:52 J	1641476.30	1641476.37	1641476.45	0.0531	0.0431
Moon	-218-10-23 00:00 J	1642093.42	1642093.50	1642093.58	0.2704	0.1820
Earth	-218-10-23 00:28 J	1642093.45	1642093.52	1642093.60	0.2703	0.1956 *
Mars	-217-07-10 20:09 J	1642355.27	1642355.34	1642355.41	0.1799	0.1367
Venus	-217-12-31 21:35 J	1642529.33	1642529.40	1642529.47	0.3681	0.2683
Mars	-216-08-06 09:35 J	1642746.73	1642746.90	1642747.06	0.1742	0.0386
Mars	-215-06-16 05:16 J	1643060.63	1643060.72	1643060.81	0.1772	0.1007
Moon	-214-04-15 02:24 J	1643363.50	1643363.60	1643363.70	0.2634	0.2078
Earth	-214-04-15 04:04 J	1643363.56	1643363.67	1643363.78	0.2633	0.1910 *
Jupiter	-214-12-31 12:43 J	1643623.86	1643624.03	1643624.21	0.0494	0.0138
Saturn	-212-05-02 10:47 J	1644111.84	1644111.95	1644112.06	0.0291	0.0172

Saturn -212-07-29 23:31 J 1644200.34 1644200.48 1644200.61 0.0292 0.0036

Saturn -212-10-26 12:00 J 1644288.87 1644289.00 1644289.12 0.0293 0.0101

Saturn -211-01-23 00:14 J 1644377.44 1644377.51 1644377.59 0.0293 0.0237

Earth -211-10-16 00:57 J 1644643.46 1644643.54 1644643.61 0.2699 0.1868

Moon -211-10-16 01:12 J 1644643.47 1644643.55 1644643.63 0.2692 0.1850 *

Uranus -208-04-19 22:33 J 1645560.35 1645560.44 1645560.54 0.0143 0.0124

Uranus -208-07-17 06:43 J 1645648.64 1645648.78 1645648.93 0.0143 0.0094

Jupiter -208-09-03 18:00 J 1645697.15 1645697.25 1645697.36 0.0534 0.0300

Uranus -208-10-13 14:52 J 1645736.95 1645737.12 1645737.30 0.0143 0.0064

Jupiter -208-12-02 00:57 J 1645786.44 1645786.54 1645786.65 0.0532 0.0290

Uranus -207-01-09 23:02 J 1645825.28 1645825.46 1645825.65 0.0143 0.0034

Uranus -207-04-08 07:26 J 1645913.62 1645913.81 1645914.00 0.0143 0.0003

Uranus -207-07-05 15:50 J 1646001.97 1646002.16 1646002.35 0.0143 0.0027

Uranus -207-10-01 23:45 J 1646090.32 1646090.49 1646090.68 0.0143 0.0058

Mars -207-12-27 07:40 J 1646176.72 1646176.82 1646176.93 0.1735 0.1329

Uranus -207-12-29 08:09 J 1646178.69 1646178.84 1646179.00 0.0143 0.0088

Uranus -206-03-27 16:19 J 1646267.09 1646267.18 1646267.30 0.0142 0.0119

Mars -206-11-06 15:07 J 1646491.02 1646491.13 1646491.24 0.1778 0.0452

Jupiter -202-10-19 10:33 J 1647933.80 1647933.94 1647934.08 0.0493 0.0310

Jupiter -201-01-17 17:31 J 1648024.12 1648024.23 1648024.35 0.0494 0.0380

Moon -201-04-17 11:02 J 1648114.80 1648114.96 1648115.11 0.2637 0.0785

Earth -201-04-17 12:00 J 1648114.85 1648115.00 1648115.15 0.2632 0.1013 *

Saturn -198-02-28 12:43 J 1649161.90 1649162.03 1649162.18 0.0270 0.0167

Saturn -198-05-28 08:52 J 1649250.69 1649250.87 1649251.05 0.0269 0.0021

Saturn -198-08-25 05:02 J 1649339.55 1649339.71 1649339.87 0.0269 0.0127

Moon -198-10-18 18:14 J 1649394.15 1649394.26 1649394.37 0.2694 0.0479

Earth -198-10-18 18:28 J 1649394.16 1649394.27 1649394.38 0.2700 0.0495 *

Pluto -198-12-24 16:47 J 1649461.15 1649461.20 1649461.25 0.0073 0.0069

Pluto -197-03-21 18:28 J 1649549.17 1649549.27 1649549.39 0.0072 0.0058

Pluto -197-06-17 20:09 J 1649637.22 1649637.34 1649637.50 0.0072 0.0046

Pluto -197-09-13 22:19 J 1649725.28 1649725.43 1649725.59 0.0072 0.0035

Pluto -197-12-11 00:14 J 1649813.34 1649813.51 1649813.68 0.0072 0.0023

Pluto -196-03-09 01:55 J 1649901.41 1649901.58 1649901.76 0.0072 0.0012

Mars -196-03-29 00:57 J 1649921.43 1649921.54 1649921.66 0.1785 0.0121

Pluto -196-06-05 03:50 J 1649989.49 1649989.66 1649989.84 0.0072 0.0001

Jupiter -196-06-22 21:35 J 1650007.34 1650007.40 1650007.47 0.0535 0.0453

Pluto -196-09-01 05:45 J 1650077.56 1650077.74 1650077.91 0.0072 0.0010

Jupiter -196-09-20 05:02 J 1650096.59 1650096.71 1650096.83 0.0533 0.0145

Pluto -196-11-28 07:26 J 1650165.64 1650165.81 1650165.98 0.0072 0.0021

Pluto -195-02-24 09:07 J 1650253.73 1650253.88 1650254.04 0.0071 0.0032

Mars -195-04-25 15:35 J 1650314.13 1650314.15 1650314.17 0.1757 0.1740

Pluto -195-05-23 10:33 J 1650341.81 1650341.94 1650342.09 0.0071 0.0043

Pluto -195-08-19 12:14 J 1650429.91 1650430.01 1650430.14 0.0071 0.0053

Pluto -195-11-15 14:09 J 1650518.02 1650518.09 1650518.17 0.0071 0.0064

Venus -192-11-25 21:21 J 1651624.31 1651624.39 1651624.46 0.3693 0.3149

Jupiter -190-08-07 08:52 J 1652243.82 1652243.87 1652243.92 0.0493 0.0472

Jupiter -190-11-05 15:21 J 1652333.98 1652334.14 1652334.31 0.0494 0.0209

Mars -187-08-19 10:33 J 1653351.84 1653351.94 1653352.05 0.1792 0.0711

Venus -186-06-12 03:35 J 1653648.50 1653648.65 1653648.79 0.3692 0.0585

Mars -186-09-15 12:43 J 1653743.88 1653744.03 1653744.18 0.1749 0.0710

Neptune -186-12-06 04:47 J 1653825.65 1653825.70 1653825.79 0.0088 0.0081

Neptune -185-03-03 07:55 J 1653913.75 1653913.83 1653913.96 0.0088 0.0072

Neptune -185-05-30 11:31 J 1654001.86 1654001.98 1654002.12 0.0088 0.0062

Mars -185-07-24 19:12 J 1654057.25 1654057.30 1654057.34 0.1765 0.1602

Neptune -185-08-26 14:38 J 1654089.97 1654090.11 1654090.27 0.0088 0.0053

Moon -185-10-20 11:16 J 1654144.87 1654144.97 1654145.08 0.2698 0.0716

Earth -185-10-20 12:00 J 1654144.90 1654145.00 1654145.10 0.2702 0.0875 *

Neptune -185-11-22 17:45 J 1654178.09 1654178.24 1654178.42 0.0088 0.0044

Neptune -184-02-18 21:21 J 1654266.22 1654266.39 1654266.56 0.0088 0.0034

Neptune -184-05-18 00:28 J 1654354.35 1654354.52 1654354.71 0.0088 0.0025

Jupiter -184-07-09 09:21 J 1654406.76 1654406.89 1654407.02 0.0533 0.0006

Neptune -184-08-14 03:50 J 1654442.48 1654442.66 1654442.85 0.0088 0.0016

Neptune -184-11-10 07:12 J 1654530.61 1654530.80 1654530.99 0.0088 0.0006

Neptune -183-02-06 10:33 J 1654618.75 1654618.94 1654619.13 0.0088 0.0003

Neptune -183-05-05 13:40 J 1654706.89 1654707.07 1654707.26 0.0088 0.0013

Neptune -183-08-01 17:02 J 1654795.03 1654795.21 1654795.40 0.0088 0.0022

Saturn -183-09-19 12:14 J 1654843.92 1654844.01 1654844.10 0.0290 0.0216

Neptune -183-10-28 20:09 J 1654883.17 1654883.34 1654883.53 0.0088 0.0032

Saturn -183-12-17 00:57 J 1654932.41 1654932.54 1654932.67 0.0291 0.0080

Neptune -182-01-24 23:45 J 1654971.32 1654971.49 1654971.66 0.0088 0.0041

Saturn -182-03-15 13:26 J 1655020.93 1655021.06 1655021.19 0.0292 0.0056

Neptune -182-04-23 02:52 J 1655059.47 1655059.62 1655059.78 0.0088 0.0051

Venus -182-06-10 02:24 J 1655107.53 1655107.60 1655107.68 0.3677 0.2531

Saturn -182-06-12 01:55 J 1655109.48 1655109.58 1655109.68 0.0292 0.0191

Neptune -182-07-20 06:28 J 1655147.63 1655147.77 1655147.91 0.0088 0.0060

Neptune -182-10-16 09:35 J 1655235.80 1655235.90 1655236.02 0.0088 0.0070

Neptune -181-01-12 12:43 J 1655323.97 1655324.03 1655324.13 0.0088 0.0080

Jupiter -178-08-24 13:12 J 1656643.87 1656644.05 1656644.23 0.0494 0.0037

Mars -177-01-09 20:09 J 1656782.26 1656782.34 1656782.42 0.1799 0.1309

Venus -177-12-23 18:43 J 1657131.18 1657131.28 1657131.39 0.3678 0.1079

Mars -176-02-04 10:19 J 1657173.77 1657173.93 1657174.10 0.1742 0.0281

Mars -176-12-15 05:16 J 1657487.63 1657487.72 1657487.81 0.1771 0.1062

Jupiter -172-04-27 13:26 J 1658716.94 1658717.06 1658717.19 0.0533 0.0137

Jupiter -172-07-25 20:09 J 1658806.28 1658806.34 1658806.41 0.0531 0.0446

Moon -172-10-23 04:47 J 1658895.64 1658895.70 1658895.76 0.2706 0.2202

Earth -172-10-23 05:16 J 1658895.66 1658895.72 1658895.78 0.2703 0.2229 *

Venus -171-07-09 11:02 J 1659154.85 1659154.96 1659155.06 0.3679 0.0360

Saturn -169-07-17 09:50 J 1659893.82 1659893.91 1659894.01 0.0270 0.0227

Saturn -169-10-14 06:00 J 1659982.58 1659982.75 1659982.92 0.0270 0.0081

Saturn -168-01-11 02:09 J 1660071.41 1660071.59 1660071.76 0.0269 0.0066

Saturn -168-04-09 22:19 J 1660160.33 1660160.43 1660160.55 0.0268 0.0214

Moon -168-04-15 09:21 J 1660165.76 1660165.89 1660166.02 0.2635 0.1543

Earth -168-04-15 10:47 J 1660165.82 1660165.95 1660166.09 0.2633 0.1347 *

Mars -167-06-27 08:38 J 1660603.74 1660603.86 1660603.97 0.1735 0.1229

Mars -166-05-07 15:07 J 1660918.02 1660918.13 1660918.24 0.1779 0.0508

Jupiter -166-06-12 11:16 J 1660953.80 1660953.97 1660954.15 0.0494 0.0130

Venus -165-01-23 03:07 J 1661178.54 1661178.63 1661178.72 0.3681 0.1762

Uranus -165-07-18 19:40 J 1661356.29 1661356.32 1661356.37 0.0135 0.0128

Uranus -165-10-14 23:02 J 1661444.39 1661444.46 1661444.54 0.0135 0.0110

Earth -165-10-16 05:45 J 1661445.65 1661445.74 1661445.82 0.2699 0.1587

Moon -165-10-16 06:00 J 1661445.66 1661445.75 1661445.84 0.2692 0.1529 *

Uranus -164-01-11 02:09 J 1661532.50 1661532.59 1661532.69 0.0135 0.0092

Uranus -164-04-09 05:16 J 1661620.61 1661620.72 1661620.83 0.0135 0.0075

Uranus -164-07-06 08:24 J 1661708.73 1661708.85 1661708.97 0.0135 0.0057

Uranus -164-10-02 11:31 J 1661796.86 1661796.98 1661797.11 0.0135 0.0039

Uranus -164-12-29 14:38 J 1661884.98 1661885.11 1661885.24 0.0135 0.0022

Uranus -163-03-27 17:45 J 1661973.11 1661973.24 1661973.37 0.0136 0.0004

Uranus -163-06-23 20:52 J 1662061.24 1662061.37 1662061.50 0.0136 0.0014

Uranus -163-09-20 00:00 J 1662149.37 1662149.50 1662149.63 0.0136 0.0032

Uranus -163-12-17 02:52 J 1662237.50 1662237.62 1662237.75 0.0136 0.0050

Uranus -162-03-15 06:00 J 1662325.64 1662325.75 1662325.87 0.0136 0.0067

Uranus -162-06-11 09:07 J 1662413.78 1662413.88 1662413.98 0.0136 0.0085

Uranus -162-09-07 12:14 J 1662501.93 1662502.01 1662502.10 0.0136 0.0102

Uranus -162-12-04 15:07 J 1662590.08 1662590.13 1662590.20 0.0136 0.0120

Jupiter -160-02-13 17:02 J 1663027.10 1663027.21 1663027.32 0.0533 0.0291

Jupiter -160-05-14 00:00 J 1663116.40 1663116.50 1663116.61 0.0532 0.0298

Venus -160-08-07 19:12 J 1663202.24 1663202.30 1663202.35 0.3682 0.3138

Mars -157-09-27 00:57 J 1664348.43 1664348.54 1664348.66 0.1785 0.0078

Moon -155-04-18 17:45 J 1664917.11 1664917.24 1664917.37 0.2637 0.1516

Earth -155-04-18 18:43 J 1664917.15 1664917.28 1664917.41 0.2631 0.1574 *

Jupiter	-154-03-31 09:35 J	1665263.76	1665263.90	1665264.05	0.0493	0.0295
Jupiter	-154-06-29 16:47 J	1665354.10	1665354.20	1665354.31	0.0495	0.0398
Saturn	-153-02-06 13:40 J	1665576.01	1665576.07	1665576.13	0.0290	0.0260
Saturn	-153-05-05 02:24 J	1665664.48	1665664.60	1665664.72	0.0291	0.0124
Saturn	-153-08-01 15:07 J	1665752.99	1665753.13	1665753.26	0.0292	0.0014
Saturn	-153-10-29 03:35 J	1665841.53	1665841.65	1665841.76	0.0293	0.0147
Saturn	-152-01-25 15:50 J	1665930.13	1665930.16	1665930.20	0.0293	0.0282
Moon	-152-10-18 22:47 J	1666196.35	1666196.45	1666196.56	0.2695	0.0308
Earth	-152-10-18 23:16 J	1666196.36	1666196.47	1666196.58	0.2700	0.0215 *
Jupiter	-149-12-02 20:38 J	1667337.29	1667337.36	1667337.44	0.0534	0.0442
Jupiter	-148-03-02 04:04 J	1667426.55	1667426.67	1667426.79	0.0532	0.0154
Mars	-147-02-17 10:33 J	1667778.84	1667778.94	1667779.05	0.1792	0.0650
Mars	-146-03-16 13:26 J	1668170.91	1668171.06	1668171.21	0.1750	0.0805
Mars	-145-01-23 19:12 J	1668484.26	1668484.30	1668484.33	0.1764	0.1663
Jupiter	-142-01-17 07:40 J	1669573.76	1669573.82	1669573.88	0.0493	0.0463
Jupiter	-142-04-17 14:09 J	1669663.93	1669664.09	1669664.25	0.0494	0.0218
Saturn	-140-12-04 10:04 J	1670625.89	1670625.92	1670625.96	0.0271	0.0264
Saturn	-139-03-03 06:00 J	1670714.59	1670714.75	1670714.92	0.0270	0.0118
Saturn	-139-05-31 02:09 J	1670803.41	1670803.59	1670803.77	0.0270	0.0029
Saturn	-139-08-27 22:19 J	1670892.30	1670892.43	1670892.58	0.0269	0.0177
Moon	-139-10-21 16:04 J	1670947.07	1670947.17	1670947.27	0.2699	0.1119
Earth	-139-10-21 16:47 J	1670947.10	1670947.20	1670947.29	0.2702	0.1156 *
Mars	-138-07-10 20:09 J	1671209.26	1671209.34	1671209.42	0.1799	0.1246
Mars	-137-08-05 11:16 J	1671600.80	1671600.97	1671601.14	0.1742	0.0176
Jupiter	-137-12-19 07:55 J	1671736.70	1671736.83	1671736.95	0.0533	0.0017
Mars	-136-06-15 05:16 J	1671914.63	1671914.72	1671914.80	0.1771	0.1121
Venus	-135-07-02 22:33 J	1672297.32	1672297.44	1672297.56	0.3693	0.2002
Earth	-132-10-14 16:47 J	1673497.20	1673497.20	1673497.21	0.2698	0.2684
Moon	-132-10-14 17:31 J	1673497.21	1673497.23	1673497.24	0.2693	0.2640 *
Venus	-131-07-01 07:40 J	1673756.79	1673756.82	1673756.85	0.3677	0.3512

Jupiter	-130-02-03 12:00 J	1673973.82	1673974.00	1673974.18	0.0494	0.0048
Venus	-129-01-17 04:47 J	1674321.57	1674321.70	1674321.83	0.3691	0.1753
Mars	-128-12-26 09:07 J	1675030.76	1675030.88	1675031.01	0.1735	0.1140
Mars	-127-11-05 15:07 J	1675345.02	1675345.13	1675345.24	0.1778	0.0566
Moon	-126-10-24 09:35 J	1675697.85	1675697.90	1675697.95	0.2707	0.2363
Earth	-126-10-24 10:04 J	1675697.88	1675697.92	1675697.96	0.2703	0.2507 *
Venus	-125-01-15 00:14 J	1675780.42	1675780.51	1675780.59	0.3678	0.2033
Jupiter	-125-10-07 12:00 J	1676046.88	1676047.00	1676047.13	0.0534	0.0138
Jupiter	-124-01-04 18:57 J	1676136.22	1676136.29	1676136.35	0.0532	0.0447
Uranus	-124-05-10 05:45 J	1676261.65	1676261.74	1676261.86	0.0143	0.0117
Uranus	-124-08-06 13:55 J	1676349.94	1676350.08	1676350.25	0.0143	0.0087
Saturn	-124-09-22 04:33 J	1676396.58	1676396.69	1676396.80	0.0290	0.0163
Uranus	-124-11-02 22:19 J	1676438.26	1676438.43	1676438.61	0.0143	0.0057
Saturn	-124-12-19 17:02 J	1676485.08	1676485.21	1676485.35	0.0291	0.0028
Uranus	-123-01-30 06:43 J	1676526.59	1676526.78	1676526.97	0.0143	0.0026
Saturn	-123-03-18 05:31 J	1676573.61	1676573.73	1676573.86	0.0292	0.0108
Uranus	-123-04-28 14:52 J	1676614.93	1676615.12	1676615.31	0.0143	0.0004
Saturn	-123-06-14 18:00 J	1676662.18	1676662.25	1676662.32	0.0292	0.0242
Uranus	-123-07-25 23:02 J	1676703.28	1676703.46	1676703.65	0.0143	0.0035
Uranus	-123-10-22 07:26 J	1676791.64	1676791.81	1676791.98	0.0143	0.0065
Uranus	-122-01-18 15:21 J	1676880.01	1676880.14	1676880.30	0.0143	0.0096
Moon	-122-04-16 16:04 J	1676968.02	1676968.17	1676968.32	0.2637	0.1019
Earth	-122-04-16 17:31 J	1676968.08	1676968.23	1676968.39	0.2633	0.0788 *
Uranus	-122-04-17 00:00 J	1676968.41	1676968.50	1676968.59	0.0142	0.0126
Venus	-120-07-30 16:33 J	1677804.08	1677804.19	1677804.29	0.3679	0.0601
Earth	-119-10-17 10:33 J	1678247.84	1678247.94	1678248.03	0.2699	0.1305
Moon	-119-10-17 10:33 J	1678247.85	1678247.94	1678248.04	0.2693	0.1280 *
Jupiter	-119-11-22 09:50 J	1678283.73	1678283.91	1678284.08	0.0493	0.0124
Mars	-117-03-28 00:57 J	1678775.43	1678775.54	1678775.66	0.1785	0.0016
Venus	-114-02-13 08:38 J	1679827.76	1679827.86	1679827.96	0.3680	0.0833

Jupiter -113-07-26 16:04 J 1680357.06 1680357.17 1680357.28 0.0534 0.0281

Jupiter -113-10-23 23:02 J 1680446.36 1680446.46 1680446.57 0.0532 0.0309

Saturn -110-07-21 03:35 J 1681446.52 1681446.65 1681446.79 0.0270 0.0174

Saturn -110-10-17 23:45 J 1681535.31 1681535.49 1681535.67 0.0270 0.0028

Saturn -109-01-14 19:55 J 1681624.17 1681624.33 1681624.50 0.0269 0.0119

Saturn -109-04-12 16:04 J 1681713.17 1681713.17 1681713.20 0.0268 0.0268

Moon -109-04-19 00:43 J 1681719.43 1681719.53 1681719.63 0.2637 0.1997

Earth -109-04-19 01:40 J 1681719.48 1681719.57 1681719.66 0.2631 0.2150 *

Venus -109-08-29 00:43 J 1681851.45 1681851.53 1681851.61 0.3681 0.2227

Mars -108-08-18 10:47 J 1682205.84 1682205.95 1682206.05 0.1792 0.0589

Jupiter -107-09-10 07:55 J 1682593.69 1682593.83 1682593.98 0.0493 0.0290

Mars -107-09-14 14:24 J 1682597.95 1682598.10 1682598.24 0.1750 0.0912

Jupiter -107-12-09 15:07 J 1682684.03 1682684.13 1682684.24 0.0495 0.0402

Mars -106-07-24 18:57 J 1682911.27 1682911.29 1682911.32 0.1764 0.1716

Moon -106-10-20 03:35 J 1682998.54 1682998.65 1682998.76 0.2695 0.0037

Earth -106-10-20 04:04 J 1682998.56 1682998.67 1682998.78 0.2701 0.0088 *

Neptune -104-09-19 03:35 J 1683698.63 1683698.65 1683698.70 0.0089 0.0086

Neptune -104-12-16 05:02 J 1683786.66 1683786.71 1683786.79 0.0089 0.0079

Neptune -103-03-14 06:28 J 1683874.70 1683874.77 1683874.87 0.0089 0.0072

Venus -103-03-14 16:33 J 1683875.18 1683875.19 1683875.21 0.3682 0.3594

Neptune -103-06-10 08:09 J 1683962.75 1683962.84 1683962.94 0.0089 0.0064

Neptune -103-09-06 09:35 J 1684050.80 1684050.90 1684051.01 0.0089 0.0057

Neptune -103-12-03 11:02 J 1684138.86 1684138.96 1684139.08 0.0089 0.0049

Neptune -102-03-01 12:43 J 1684226.91 1684227.03 1684227.15 0.0089 0.0042

Neptune -102-05-28 14:09 J 1684314.97 1684315.09 1684315.22 0.0089 0.0035

Neptune -102-08-24 15:35 J 1684403.02 1684403.15 1684403.28 0.0089 0.0027

Neptune -102-11-20 17:02 J 1684491.08 1684491.21 1684491.34 0.0089 0.0020

Neptune -101-02-16 18:28 J 1684579.14 1684579.27 1684579.41 0.0089 0.0013

Neptune -101-05-14 19:55 J 1684667.20 1684667.33 1684667.47 0.0089 0.0006

Jupiter -101-05-14 19:40 J 1684667.24 1684667.32 1684667.39 0.0534 0.0436 *

Neptune -101-08-10 21:21 J 1684755.26 1684755.39 1684755.53 0.0089 0.0001

Jupiter -101-08-12 02:52 J 1684756.50 1684756.62 1684756.74 0.0532 0.0160

Neptune -101-11-06 22:47 J 1684843.32 1684843.45 1684843.58 0.0089 0.0008

Neptune -100-02-03 00:14 J 1684931.38 1684931.51 1684931.64 0.0089 0.0016

Neptune -100-05-02 01:40 J 1685019.44 1685019.57 1685019.70 0.0089 0.0023

Neptune -100-07-29 03:07 J 1685107.50 1685107.63 1685107.75 0.0089 0.0030

Neptune -100-10-25 04:33 J 1685195.56 1685195.69 1685195.81 0.0089 0.0037

Neptune -99-01-21 05:31 J 1685283.63 1685283.73 1685283.86 0.0089 0.0045

Neptune -99-04-19 06:57 J 1685371.69 1685371.79 1685371.91 0.0089 0.0052

Neptune -99-07-16 08:24 J 1685459.76 1685459.85 1685459.96 0.0089 0.0058

Neptune -99-10-12 09:50 J 1685547.83 1685547.91 1685548.01 0.0089 0.0065

Neptune -98-01-08 11:02 J 1685635.90 1685635.96 1685636.05 0.0089 0.0073

Mars -98-01-08 20:24 J 1685636.26 1685636.35 1685636.43 0.1799 0.1182

Neptune -98-04-06 12:28 J 1685723.98 1685724.02 1685724.10 0.0089 0.0080

Neptune -98-07-03 14:09 J 1685812.06 1685812.09 1685812.13 0.0089 0.0086

Mars -97-02-04 11:45 J 1686027.82 1686027.99 1686028.16 0.1742 0.0094

Mars -97-12-14 05:16 J 1686341.63 1686341.72 1686341.80 0.1771 0.1181

Jupiter -95-06-29 06:14 J 1686903.70 1686903.76 1686903.83 0.0493 0.0454

Jupiter -95-09-27 12:57 J 1686993.88 1686994.04 1686994.20 0.0494 0.0230

Saturn -94-02-09 06:00 J 1687128.66 1687128.75 1687128.85 0.0290 0.0205

Saturn -94-05-08 18:43 J 1687217.15 1687217.28 1687217.41 0.0291 0.0069

Saturn -94-08-05 07:12 J 1687305.67 1687305.80 1687305.93 0.0292 0.0067

Saturn -94-11-01 19:40 J 1687394.23 1687394.32 1687394.42 0.0293 0.0201

Moon -93-10-21 20:52 J 1687749.27 1687749.37 1687749.46 0.2701 0.1290

Earth -93-10-21 21:21 J 1687749.30 1687749.39 1687749.49 0.2702 0.1434 *

Jupiter -89-05-31 06:43 J 1689066.65 1689066.78 1689066.91 0.0533 0.0015

Mars -89-05-31 05:31 J 1689066.73 1689066.73 1689066.73 0.1806 0.1803 *

Mars -88-06-26 10:04 J 1689457.79 1689457.92 1689458.05 0.1735 0.1040

Mars -87-05-06 15:07 J 1689772.03 1689772.13 1689772.24 0.1778 0.0629

Earth -86-10-15 21:50 J 1690299.36 1690299.41 1690299.45 0.2698 0.2403

Moon	-86-10-15 22:19 J	1690299.37	1690299.43	1690299.48	0.2692	0.2273 *
Jupiter	-83-07-16 10:33 J	1691303.76	1691303.94	1691304.12	0.0493	0.0055
Uranus	-81-08-08 02:52 J	1692057.58	1692057.62	1692057.68	0.0135	0.0124
Uranus	-81-11-04 06:00 J	1692145.68	1692145.75	1692145.84	0.0135	0.0107
Saturn	-81-12-07 03:50 J	1692178.56	1692178.66	1692178.78	0.0271	0.0211
Uranus	-80-01-31 09:21 J	1692233.79	1692233.89	1692233.99	0.0135	0.0088
Saturn	-80-03-06 00:00 J	1692267.33	1692267.50	1692267.68	0.0270	0.0064
Uranus	-80-04-29 12:28 J	1692321.91	1692322.02	1692322.13	0.0135	0.0071
Saturn	-80-06-02 20:09 J	1692356.17	1692356.34	1692356.52	0.0269	0.0084
Uranus	-80-07-26 15:35 J	1692410.03	1692410.15	1692410.27	0.0135	0.0053
Saturn	-80-08-30 16:33 J	1692445.10	1692445.19	1692445.29	0.0269	0.0232
Uranus	-80-10-22 18:43 J	1692498.15	1692498.28	1692498.41	0.0135	0.0035
Uranus	-79-01-18 21:50 J	1692586.28	1692586.41	1692586.54	0.0136	0.0018
Uranus	-79-04-17 00:57 J	1692674.41	1692674.54	1692674.67	0.0136	0.0001
Uranus	-79-07-14 04:04 J	1692762.54	1692762.67	1692762.80	0.0136	0.0018
Uranus	-79-10-10 07:12 J	1692850.67	1692850.80	1692850.92	0.0136	0.0036
Uranus	-78-01-06 10:04 J	1692938.81	1692938.92	1692939.05	0.0136	0.0054
Venus	-78-02-06 23:45 J	1692970.35	1692970.49	1692970.64	0.3692	0.0854
Uranus	-78-04-04 13:12 J	1693026.94	1693027.05	1693027.17	0.0136	0.0071
Uranus	-78-07-01 16:19 J	1693115.09	1693115.18	1693115.28	0.0136	0.0089
Mars	-78-09-27 00:57 J	1693202.43	1693202.54	1693202.66	0.1785	0.0059
Uranus	-78-09-27 19:26 J	1693203.23	1693203.31	1693203.39	0.0136	0.0107
Uranus	-78-12-24 22:19 J	1693291.39	1693291.43	1693291.49	0.0136	0.0125
Jupiter	-77-03-19 10:19 J	1693376.80	1693376.93	1693377.05	0.0534	0.0143
Jupiter	-77-06-16 17:02 J	1693466.15	1693466.21	1693466.28	0.0532	0.0444
Moon	-76-04-16 22:47 J	1693770.29	1693770.45	1693770.61	0.2637	0.0347
Earth	-76-04-17 00:28 J	1693770.35	1693770.52	1693770.68	0.2633	0.0227 *
Venus	-74-02-05 05:31 J	1694429.67	1694429.73	1694429.79	0.3677	0.3008
Venus	-73-08-23 06:14 J	1694994.68	1694994.76	1694994.85	0.3691	0.2973
Moon	-73-10-17 15:21 J	1695050.04	1695050.14	1695050.24	0.2693	0.1046

Earth	-73-10-17 15:21 J	1695050.04	1695050.14	1695050.24	0.2699	0.1021 *
Jupiter	-71-05-04 08:24 J	1695613.68	1695613.85	1695614.03	0.0493	0.0115
Venus	-69-08-20 21:50 J	1696453.31	1696453.41	1696453.51	0.3678	0.1539
Mars	-68-02-16 10:47 J	1696632.84	1696632.95	1696633.06	0.1792	0.0525
Mars	-67-03-15 15:07 J	1697024.99	1697025.13	1697025.27	0.1750	0.1012
Jupiter	-65-01-06 14:24 J	1697686.99	1697687.10	1697687.20	0.0534	0.0287
Jupiter	-65-04-04 21:21 J	1697776.29	1697776.39	1697776.50	0.0533	0.0305
Saturn	-65-06-28 08:38 J	1697860.79	1697860.86	1697860.93	0.0289	0.0238
Saturn	-65-09-24 21:21 J	1697949.26	1697949.39	1697949.51	0.0290	0.0104
Saturn	-65-12-22 09:50 J	1698037.78	1698037.91	1698038.04	0.0291	0.0031
Saturn	-64-03-20 22:19 J	1698126.32	1698126.43	1698126.54	0.0292	0.0166
Venus	-63-03-06 14:09 J	1698476.98	1698477.09	1698477.19	0.3679	0.0127
Moon	-60-10-20 08:24 J	1699800.74	1699800.85	1699800.95	0.2695	0.0283
Earth	-60-10-20 08:52 J	1699800.76	1699800.87	1699800.97	0.2701	0.0363 *
Jupiter	-59-02-20 06:00 J	1699923.61	1699923.75	1699923.90	0.0493	0.0288
Jupiter	-59-05-21 12:57 J	1700013.94	1700014.04	1700014.15	0.0494	0.0402
Mars	-59-07-09 20:09 J	1700063.25	1700063.34	1700063.43	0.1799	0.1127
Mars	-58-08-05 12:43 J	1700454.86	1700455.03	1700455.20	0.1743	0.0015
Venus	-58-09-20 06:14 J	1700500.66	1700500.76	1700500.86	0.3680	0.1305
Mars	-57-06-14 05:16 J	1700768.64	1700768.72	1700768.80	0.1771	0.1236
Jupiter	-54-10-25 18:14 J	1701997.19	1701997.26	1701997.34	0.0534	0.0432
Jupiter	-53-01-23 01:40 J	1702086.45	1702086.57	1702086.69	0.0533	0.0165
Venus	-52-04-04 22:19 J	1702524.36	1702524.43	1702524.50	0.3681	0.2690
Saturn	-51-04-26 02:24 J	1702910.56	1702910.60	1702910.65	0.0271	0.0261
Saturn	-51-07-23 22:19 J	1702999.27	1702999.43	1702999.59	0.0270	0.0116
Saturn	-51-10-20 18:28 J	1703088.09	1703088.27	1703088.45	0.0270	0.0031
Saturn	-50-01-17 14:38 J	1703176.98	1703177.11	1703177.25	0.0269	0.0179
Mars	-50-11-30 05:45 J	1703493.71	1703493.74	1703493.77	0.1806	0.1737
Mars	-49-12-25 10:47 J	1703884.81	1703884.95	1703885.09	0.1735	0.0948
Mars	-48-11-04 15:07 J	1704199.02	1704199.13	1704199.24	0.1778	0.0682

Jupiter -48-12-09 04:19 J 1704233.61 1704233.68 1704233.75 0.0493 0.0452

Jupiter -47-03-09 10:47 J 1704323.79 1704323.95 1704324.12 0.0494 0.0230

Moon -47-10-23 01:26 J 1704551.48 1704551.56 1704551.65 0.2703 0.1646

Earth -47-10-23 02:09 J 1704551.51 1704551.59 1704551.68 0.2702 0.1712 *

Earth -43-04-14 23:16 J 1705821.43 1705821.47 1705821.51 0.2634 0.2541

Jupiter -42-11-11 05:31 J 1706396.60 1706396.73 1706396.85 0.0533 0.0024

Uranus -40-03-03 05:02 J 1706874.68 1706874.71 1706874.77 0.0143 0.0140

Uranus -40-05-30 13:26 J 1706962.94 1706963.06 1706963.18 0.0143 0.0109

Uranus -40-08-26 21:35 J 1707051.24 1707051.40 1707051.56 0.0143 0.0079

Earth -40-10-16 02:38 J 1707101.54 1707101.61 1707101.67 0.2698 0.2117

Moon -40-10-16 03:07 J 1707101.56 1707101.63 1707101.69 0.2693 0.2099 *

Uranus -40-11-23 05:45 J 1707139.56 1707139.74 1707139.92 0.0143 0.0049

Uranus -39-02-19 13:55 J 1707227.89 1707228.08 1707228.28 0.0143 0.0019

Uranus -39-05-18 22:19 J 1707316.24 1707316.43 1707316.62 0.0143 0.0012

Uranus -39-08-15 06:28 J 1707404.59 1707404.77 1707404.96 0.0143 0.0042

Uranus -39-11-11 14:38 J 1707492.95 1707493.11 1707493.28 0.0143 0.0072

Uranus -38-02-07 23:02 J 1707581.33 1707581.46 1707581.60 0.0142 0.0103

Mars -38-03-28 01:12 J 1707629.43 1707629.55 1707629.66 0.1785 0.0131

Uranus -38-05-07 07:12 J 1707669.74 1707669.80 1707669.88 0.0142 0.0133

Pluto -36-09-06 04:33 J 1708522.66 1708522.69 1708522.76 0.0071 0.0068

Saturn -36-11-15 10:19 J 1708592.90 1708592.93 1708592.96 0.0290 0.0279

Pluto -36-12-03 05:31 J 1708610.67 1708610.73 1708610.83 0.0072 0.0059

Jupiter -36-12-26 08:52 J 1708633.69 1708633.87 1708634.05 0.0494 0.0060

Saturn -35-02-11 23:02 J 1708681.35 1708681.46 1708681.58 0.0291 0.0144

Pluto -35-03-01 06:43 J 1708698.68 1708698.78 1708698.89 0.0072 0.0050

Saturn -35-05-11 11:45 J 1708769.85 1708769.99 1708770.12 0.0291 0.0010

Pluto -35-05-28 07:40 J 1708786.71 1708786.82 1708786.94 0.0072 0.0041

Saturn -35-08-08 00:14 J 1708858.39 1708858.51 1708858.63 0.0292 0.0126

Pluto -35-08-24 08:38 J 1708874.74 1708874.86 1708874.99 0.0072 0.0032

Saturn -35-11-04 12:28 J 1708946.97 1708947.02 1708947.08 0.0293 0.0260

Pluto -35-11-20 09:35 J 1708962.77 1708962.90 1708963.04 0.0072 0.0023

Pluto -34-02-16 10:33 J 1709050.80 1709050.94 1709051.08 0.0072 0.0014

Pluto -34-05-15 11:31 J 1709138.84 1709138.98 1709139.12 0.0072 0.0005

Pluto -34-08-11 12:28 J 1709226.88 1709227.02 1709227.16 0.0072 0.0004

Pluto -34-11-07 13:26 J 1709314.92 1709315.06 1709315.20 0.0073 0.0013

Pluto -33-02-03 14:24 J 1709402.97 1709403.10 1709403.24 0.0073 0.0023

Pluto -33-05-01 15:21 J 1709491.01 1709491.14 1709491.27 0.0073 0.0032

Pluto -33-07-28 16:04 J 1709579.07 1709579.17 1709579.30 0.0073 0.0042

Pluto -33-10-24 17:16 J 1709667.13 1709667.22 1709667.33 0.0073 0.0051

Pluto -32-01-20 18:14 J 1709755.19 1709755.26 1709755.35 0.0073 0.0061

Pluto -32-04-18 19:26 J 1709843.28 1709843.31 1709843.35 0.0073 0.0071

Moon -30-04-18 05:45 J 1710572.58 1710572.74 1710572.90 0.2637 0.0113

Earth -30-04-18 07:12 J 1710572.64 1710572.80 1710572.96 0.2633 0.0366 *

Jupiter -30-08-30 09:07 J 1710706.75 1710706.88 1710707.00 0.0533 0.0137

Jupiter -30-11-27 15:50 J 1710796.10 1710796.16 1710796.23 0.0532 0.0448

Mars -29-08-17 10:47 J 1711059.83 1711059.95 1711060.06 0.1792 0.0472

Mars -28-09-13 15:35 J 1711452.03 1711452.15 1711452.29 0.1750 0.1105

Venus -27-02-27 19:12 J 1711619.24 1711619.30 1711619.36 0.3693 0.3335

Moon -27-10-18 19:55 J 1711852.23 1711852.33 1711852.43 0.2693 0.0716

Earth -27-10-18 20:09 J 1711852.23 1711852.34 1711852.44 0.2699 0.0741 *

Jupiter -24-10-14 06:43 J 1712943.60 1712943.78 1712943.95 0.0493 0.0112

Venus -22-09-14 01:12 J 1713643.40 1713643.55 1713643.70 0.3691 0.0325

Saturn -22-12-10 23:02 J 1713731.31 1713731.46 1713731.61 0.0271 0.0150

Saturn -21-03-08 19:12 J 1713820.11 1713820.30 1713820.48 0.0270 0.0006

Neptune -21-06-05 00:28 J 1713908.50 1713908.52 1713908.57 0.0088 0.0086

Saturn -21-06-05 15:07 J 1713908.99 1713909.13 1713909.30 0.0269 0.0146

Neptune -21-09-01 03:35 J 1713996.58 1713996.65 1713996.76 0.0088 0.0077

Neptune -21-11-28 07:26 J 1714084.69 1714084.81 1714084.92 0.0088 0.0067

Neptune -20-02-24 10:19 J 1714172.80 1714172.93 1714173.08 0.0088 0.0058

Neptune -20-05-23 13:26 J 1714260.92 1714261.06 1714261.23 0.0088 0.0049

Neptune -20-08-19 16:33 J 1714349.04 1714349.19 1714349.38 0.0088 0.0040

Neptune -20-11-15 20:09 J 1714437.17 1714437.34 1714437.52 0.0088 0.0030

Mars -19-01-07 20:09 J 1714490.25 1714490.34 1714490.44 0.1799 0.1064

Neptune -19-02-11 23:16 J 1714525.30 1714525.47 1714525.66 0.0088 0.0021

Neptune -19-05-11 02:38 J 1714613.43 1714613.61 1714613.80 0.0088 0.0012

Neptune -19-08-07 06:00 J 1714701.56 1714701.75 1714701.94 0.0088 0.0002

Neptune -19-11-03 09:21 J 1714789.70 1714789.89 1714790.08 0.0088 0.0007

Neptune -18-01-30 12:28 J 1714877.84 1714878.02 1714878.21 0.0088 0.0017

Mars -18-02-03 13:26 J 1714881.90 1714882.06 1714882.23 0.1743 0.0120

Neptune -18-04-28 15:35 J 1714965.98 1714966.15 1714966.35 0.0088 0.0027

Jupiter -18-06-18 12:14 J 1715016.91 1715017.01 1715017.12 0.0534 0.0296

Neptune -18-07-25 19:12 J 1715054.13 1715054.30 1715054.48 0.0088 0.0036

Venus -18-09-12 03:07 J 1715102.56 1715102.63 1715102.71 0.3677 0.2508

Jupiter -18-09-15 19:26 J 1715106.21 1715106.31 1715106.42 0.0533 0.0297

Neptune -18-10-21 22:19 J 1715142.28 1715142.43 1715142.60 0.0088 0.0046

Mars -18-12-14 05:02 J 1715195.64 1715195.71 1715195.79 0.1771 0.1294

Neptune -17-01-18 01:40 J 1715230.43 1715230.57 1715230.73 0.0088 0.0055

Neptune -17-04-15 04:47 J 1715318.59 1715318.70 1715318.85 0.0088 0.0065

Neptune -17-07-12 08:24 J 1715406.76 1715406.85 1715406.96 0.0088 0.0074

Neptune -17-10-08 11:31 J 1715494.95 1715494.98 1715495.06 0.0088 0.0084

Moon -14-10-21 12:57 J 1716602.94 1716603.04 1716603.15 0.2696 0.0551

Earth -14-10-21 13:40 J 1716602.96 1716603.07 1716603.17 0.2701 0.0640 *

Venus -12-03-27 19:26 J 1717126.21 1717126.31 1717126.41 0.3678 0.1053

Jupiter -12-08-02 04:33 J 1717253.55 1717253.69 1717253.84 0.0493 0.0280

Jupiter -12-10-31 11:31 J 1717343.88 1717343.98 1717344.08 0.0494 0.0408

Mars -10-05-31 05:31 J 1717920.69 1717920.73 1717920.77 0.1806 0.1680

Mars -9-06-25 11:31 J 1718311.84 1718311.98 1718312.13 0.1736 0.0848

Mars -8-05-05 15:07 J 1718626.03 1718626.13 1718626.24 0.1778 0.0747

Venus -7-10-11 11:45 J 1719149.88 1719149.99 1719150.09 0.3679 0.0378

Jupiter -6-04-06 16:19 J 1719327.11 1719327.18 1719327.25 0.0535 0.0443

Saturn	**-6-07-02 02:09 J**	**1719413.48**	**1719413.59**	**1719413.70**	**0.0290**	**0.0173**
Jupiter	**-6-07-04 23:45 J**	**1719416.37**	**1719416.49**	**1719416.61**	**0.0533**	**0.0156**
Saturn	**-6-09-28 14:38 J**	**1719501.98**	**1719502.11**	**1719502.25**	**0.0290**	**0.0040**
Saturn	**-6-12-26 03:07 J**	**1719590.51**	**1719590.63**	**1719590.76**	**0.0291**	**0.0097**
Saturn	**-5-03-23 15:35 J**	**1719679.07**	**1719679.15**	**1719679.23**	**0.0292**	**0.0230**
Venus	**-1-04-26 03:50 J**	**1721173.57**	**1721173.66**	**1721173.75**	**0.3680**	**0.1775**
Moon	**-1-10-23 06:14 J**	**1721353.69**	**1721353.76**	**1721353.84**	**0.2703**	**0.1877**
Earth	**-1-10-23 06:57 J**	**1721353.72**	**1721353.79**	**1721353.86**	**0.2702**	**0.1992** *****